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All data, including phase data, are available on CD-ROM and from the internet - http://www.isc.ac.uk

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*ISCJB **01** 00:34:26.1±1.0,2.°09S±0.°09×138.°3E±0.°3,h10ᵏᵐ,mb4.0/5, Error ellipse: s-maj=42.2km s-min=13.2km az=3.9*

*IDC **01** 00:34:26.2±1.1,2.°05S×138.°43E,h0ᵏᵐ,mb3.9/6, mb1 4.1/7,mb1mx3.9/18,mbtmp3.9/7,ML3.6/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/28,Error ellipse: s-maj=50.9km s-min=19.0km az=90.0*

ISC 01 00:34:27.8±1.1,2.°2S±0.°1×138.°1E±0.°4,h10ᵏᵐ,n8,σ1§54/8, mb4.2/5,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.07**	**192**	P		**Pn**		**00 38 39.4**	**+0.2**
	0.2nm,0.3s,baz=12,slow=12,SNR=10								
WRA				S		Sn		00 41 52.9	-8.2
	baz=17,slow=22,SNR=3.4								
WRA				LR		LR		00 44 47.0	
	comp=Z,68nm,20.9s,baz=245,slow=34								
FITZ	**Fitzroy Crossi**	**20.04**	**217**	P		Pn		00 39 04.8	+1.8
	0.5nm,0.3s,baz=38,slow=12,SNR=6.3								
FITZ				S		S		00 42 37.7	-9.0
	1.9nm,0.8s,baz=96,slow=19,SNR=3.7								
ASAR	**Alice Springs**	**21.78**	**191**	P		**P**		**00 39 21.0**	**+1.0**
	1.7nm,0.6s,baz=15,slow=12,SNR=11								
ASAR				S		**S**		**00 43 18.6**	**-2.5**
	0.7nm,0.7s,baz=12,slow=24,SNR=4.2								
STKA	**Stephens Creek**	**29.75**	**174**	P		**P**		**00 40 35.8**	**+1.2**
	1.1nm,0.6s,baz=328,slow=15,SNR=2.8								
MKAR	**Makanchi Array**	**69.00**	**322**	P		**P**		**00 45 34.7**	**+1.0**
	2.5nm,0.6s,baz=105,slow=7.5,SNR=22								
ZALV	**Zalesovo Beam**	**71.17**	**330**	P		**P**		**00 45 46.6**	**-0.1**
	1.4nm,0.6s,baz=112,slow=7.2,SNR=6.1								
ILAR	**Eielson Array**	**85.56**	**25**	P		**P**		**00 47 05.3**	**-0.8**
	1.2nm,0.7s,baz=262,slow=4.4,SNR=11								
TORD	**Torodi Ar. Bea**	**135.55**	**287**	PKP		**PKPdf**		**00 53 48.2**	**-1.2**
	0.3nm,0.9s,baz=107,slow=1.2,SNR=2.9								

*MOS **01** 00:53:01.8±1.9,20.°42S×68.°15E,h10ᵏᵐ,mb4.8/40, MS4.9/15,Error ellipse: s-maj=10.9km s-min=7.0km az=107.6*

*IDC **01** 00:53:01.3±0.4,20.°34S×68.°01E,h0ᵏᵐ,mb4.3/24, mb1 4.4/25,mb1mx4.4/30,mbtmp4.3/25,ML3.6/1,MS4.9/26, Ms1 4.9/26,ms1mx4.7/38,Error ellipse: s-maj=14.3km s-min=13.5km az=17.0*

*ISCJB **01** 00:53:02.2±0.3,20.°40S±0.°05×68.°05E±0.°05,h15ᵏᵐ, mb4.7/64,MS4.9/46,Error ellipse: s-maj=7.1km s-min=6.0km az=146.0*

*NEIC **01** 00:53:03.1±0.2,20.°33S×68.°07E,h10ᵏᵐ,mb4.9/25,Error ellipse: s-maj=7.9km s-min=6.4km az=178.0*

*BJI **01** 00:53:05.7,19.°60S×67.°96E,h10ᵏᵐ,mB5.3/24,mb4.8/32, Ms5.3/25,Ms7 5.0/25*

*GCMT **01** 00:53:08.2±0.1,20.°28S×67.°90E,h12ᵏᵐ,MW5.4,Moment Tensor Solution. s73,c114; s99,c215; Moment tensor: Scale 10¹⁷Nm; Mrr=0.11±.02; Mθθ 1.24±.02; Mϕϕ-1.13±.02; Mrθ 0.05±.04; Mθϕ-0.68±.02; Mϕr 0.20±.04; Best double couple: M₀1.40000×10¹⁷ NP1:ϕs 150.00000°,δ84.00000°, λ-7.00000°. NP2:ϕs 240.00000°,δ83.00000°, λ-174.00000°. Principal axes: T 1.4200, Plg 0.0000°, Azm 195.0000°; N -0.0800, Plg 81.0000°, Azm 286.0000°; P -1.3500, Plg 9.0000°, Azm 105.0000°; Data Used: II IU CU G CN IC. Surface waves from 120 sta.*

ISC 01 00:53:04.4±0.3,20.°45S±0.°05×68.°05E±0.°05,h15ᵏᵐ,n237, σ1§60/234,mb4.8/64,MS5.0/46,18C-3D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**9.90**	**269**	*e*Pn		**Pn**		**00 55 25.0**	**-1.4**
H08S1	**Diego Carcia H**	**13.43**	**19**	T		T		01 09 49.1	
	baz=200,slow=76,SNR=396								
H08S2	**Diego Garcia H**	**13.43**	**19**	T		T		01 09 52.5	
	baz=200,slow=76,SNR=1492								
H08S3	**Diego Garcia H**	**13.45**	**19**	T		T		01 09 51.4	
	baz=200,slow=76,SNR=596								
H08N3	**Diego Garcia H**	**14.31**	**12**	T		T		01 10 57.6	
	baz=217								
H08N1	**Diego Carcia H**	**14.31**	**12**	T		T		01 10 59.9	
	baz=217								
H08N2	**Diego Garcia H**	**14.33**	**12**	T		T		01 11 02.4	
	baz=217								
ABPO	**Ambohimpanom**	**19.65**	**271**	*e*P		**P**		**00 57 33.6**	**+0.5**
ABPO				pmax		pmax			
	comp=Z,46nm,1.5s								
ABPO	**Ambohimpanom**	**19.65**	**271**	*e*P		**P**		**00 57 33.6**	**+0.5**
	comp=Z,46nm,1.5s								
OPO	**Ambohidratompo**	**19.75**	**272**	P		**P**		**00 57 33.4**	**-0.7**
OPO	**Ambohidratompo**	**19.75**	**272**	P		**P**		**00 57 33.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=78,slow=11,SNR=4.6								
OPO				LR		LR		01 03 18.7	
	comp=Z,7μm,19.1s,baz=102,slow=31								
MSEY	**Mahe Island**	**19.88**	**320**	*e*P		**P**		**00 57 34.4**	**-1.1**
	comp=Z,77nm,1.6s								
KMBO	**Kilima Mbogo**	**35.70**	**299**	*e*P		**P**		**01 00 03.6**	**+0.7**
	comp=Z,10nm,1.2s								
KMBO	**Kilima Mbogo**	**35.70**	**299**	P		**P**		**01 00 02.8**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=130,slow=8.5,SNR=6.7								
LSZ	**Lusaka**	**38.22**	**271**	*e*P		**P**		**01 00 22.6**	**-1.6**
	comp=Z,47nm,1.7s								
LSZ	**Lusaka**	**38.22**	**271**	P		**P**		**01 00 22.3**	**-2.0**
	comp=Z,3.4nm,0.7s,baz=87,slow=8.8,SNR=12								
LSZ				LR		LR		01 14 16.0	
	comp=Z,870nm,21.4s,baz=116,slow=33								
HYB	**Hyderabad**	**39.02**	**16**	*i* P		P		01 00 26.0	-4.6
HYB				eS		**S**		**01 06 28.0**	**-1.3**
LBTB	**Lobatse**	**39.30**	**255**	*e*P		**P**		**01 00 32.9**	**-0.3**
	comp=Z,59nm,1.6s								
LBTB	**Lobatse**	**39.30**	**255**	P		**P**		**01 00 32.1**	**-1.1**
	comp=Z,5.5nm,1.0s,baz=112,slow=9.4,SNR=4.3								
LBTB				LR		LR		01 14 21.6	
	comp=Z,1μm,19.0s,baz=108,slow=33								
BOSA	**Boshof**	**39.60**	**250**	P		**P**		**01 00 33.4**	**-2.3**
BOSA	**Boshof**	**39.60**	**250**	P		**P**		**01 00 33.4**	**-2.3**
	comp=Z,4.2nm,0.7s,baz=66,slow=14,SNR=10								
BOSA				LR		LR		01 14 53.4	
	comp=Z,517nm,18.4s,baz=91,slow=33								
H01W2	**Cape Leeuwin H**	**42.91**	**120**	T		T		01 46 58.0	
	baz=279,slow=75,SNR=8.4								
H01W3	**Cape Leeuwin H**	**42.91**	**120**	T		T		01 46 58.0	
	baz=279,slow=75,SNR=11								
H01W1	**Cape Leeuwin H**	**42.92**	**120**	T		T		01 46 58.6	
	baz=279,slow=75,SNR=8.9								
MAW	**Mawson**	**47.26**	**183**	P		**P**		**01 01 37.2**	**+0.5**
MAW	**Mawson**	**47.26**	**183**	P		**P**		**01 01 37.2**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=0.7,slow=9.8,SNR=4.5								
MAW				LR		LR		01 16 33.6	
	comp=Z,2μm,21.8s,baz=351,slow=30								
TSUM	**Tsumeb**	**47.34**	**262**	LR		LR		01 19 22.8	
	comp=Z,2μm,20.0s,baz=99,slow=33								
SBUM	**Sibu**	**48.91**	**67**	P		**P**		**01 01 48.6**	**-1.6**
SBUM	**Sibu**	**48.91**	**67**	P		P		01 01 56.2	+6.0
	comp=Z,19nm,1.5s								
CM31	**Chiang Mai Arr**	**49.12**	**40**	*e*P		**P**		**01 01 50.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**49.12**	**40**	P		**P**		**01 01 51.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**49.12**	**40**	P		**P**		**01 01 51.0**	**-0.7**
	comp=Z,5.1nm,0.7s,baz=236,slow=8.6,SNR=20								
CMAR				LR		LR		01 21 08.3	
	comp=Z,904nm,18.1s,baz=221,slow=34								
CHTO	**Chiang Mai**	**49.39**	**40**	*e*P		**P**		**01 01 52.3**	**-1.5**
CHTO				pmax		pmax			
	comp=Z,2.0nm,1.1s								
CHTO	**Chiang Mai**	**49.39**	**40**	P		**P**		**01 01 55.9**	**+2.1**
	comp=Z,37nm,1.3s								
CHTO	**Chiang Mai**	**49.39**	**40**	*e*P		**P**		**01 01 52.2**	**-1.5**
	comp=Z,2.4nm,1.1s								
KOLN	**Koldanda**	**50.24**	**18**	*e*P		**P**		**01 02 00.0**	**-0.3**
	comp=Z,53nm,1.1s								
KOLN	**Koldanda**	**50.24**	**18**	*e*P		**P**		**01 02 00.0**	**-0.3**
PYUN	**Piuthan**	**50.38**	**17**	*e*P		**P**		**01 02 01.0**	**-0.4**
	comp=Z,33nm,0.8s								
PYUN	**Piuthan**	**50.38**	**17**	*e*P		**P**		**01 02 01.0**	**-0.4**
RAMN	**Ramite**	**50.43**	**22**	*e*P		**P**		**01 02 01.8**	**0.0**
	comp=Z,54nm,1.0s								
RAMN	**Ramite**	**50.43**	**22**	*e*P		**P**		**01 02 01.8**	**0.0**
DMN	**Daman**	**50.55**	**20**	*e*P		**P**		**01 02 02.7**	**0.0**
	comp=Z,47nm,0.9s								
DMN	**Daman**	**50.55**	**20**	*e*P		**P**		**01 02 02.7**	**0.0**
PKI	**Pulchoki**	**50.61**	**20**	*e*P		**P**		**01 02 02.6**	**-0.7**
PKI	**Pulchoki**	**50.61**	**20**	*e*P		**P**		**01 02 02.6**	**-0.7**
PKI	**Pulchoki**	**50.61**	**20**	*e*P		**P**		**01 02 02.6**	**-0.7**
PKIN	**Phulchoki**	**50.61**	**20**	*e*P		**P**		**01 02 02.3**	**-0.9**
ODAN	**Odare**	**50.62**	**23**	*e*P		**P**		**01 02 03.5**	**+0.2**
ODAN	**Odare**	**50.62**	**23**	*e*P		**P**		**01 02 03.5**	**+0.2**
GKN	**Gorkha**	**50.77**	**19**	*e*P		**P**		**01 02 03.9**	**-0.4**
	comp=Z,32nm,0.9s								
GKN	**Gorkha**	**50.77**	**19**	*e*P		**P**		**01 02 03.9**	**-0.4**
KKN	**Kakani**	**50.77**	**20**	*e*P		**P**		**01 02 03.9**	**-0.5**
	comp=Z,48nm,0.9s								
KKN	**Kakani**	**50.77**	**20**	*e*P		**P**		**01 02 03.9**	**-0.5**
KKN	**Kakani**	**50.77**	**20**	*e*P		**P**		**01 02 03.9**	**-0.5**
DANN	**Dangsing**	**50.83**	**18**	*e*P		**P**		**01 02 03.8**	**-1.1**
	comp=Z,36nm,0.9s								
DANN	**Dangsing**	**50.83**	**18**	*e*P		**P**		**01 02 03.8**	**-1.1**
JIRN	**Jiri**	**50.94**	**21**	*e*P		**P**		**01 02 05.6**	**-0.3**
	comp=Z,25nm,0.9s								
JIRN	**Jiri**	**50.94**	**21**	*e*P		**P**		**01 02 05.6**	**-0.3**
GUN	**Gumba**	**51.07**	**20**	*e*P		**P**		**01 02 06.5**	**-0.3**
	comp=Z,50nm,0.9s								
GUN	**Gumba**	**51.07**	**20**	*e*P		**P**		**01 02 06.5**	**-0.3**
TAPN	**Taplejung**	**51.19**	**23**	*e*P		**P**		**01 02 07.3**	**-0.3**
	comp=Z,56nm,1.2s								
TAPN	**Taplejung**	**51.19**	**23**	*e*P		**P**		**01 02 07.3**	**-0.3**
SHL	**Shillong**	**51.27**	**28**	*e*P		**P**		**01 02 10.0**	**+1.9**
SHL				*e*S		**S**		**01 09 32.0**	**+5.3**
SYO	**Syowa Base**	**51.61**	**193**	⇓*e*P		**P**		**01 02 09.8**	**-0.1**
IPAR	**Pars**	**52.05**	**343**	*e*P		**P**		**01 02 12.9**	**-1.1**
KAPI	**Kappang**	**52.47**	**80**	*e*P		**P**		**01 02 16.2**	**-1.0**
	comp=Z,57nm,0.9s								
ICHK	**Chekchek**	**54.00**	**346**	*e*P		**P**		**01 02 30.4**	**+2.1**
FITZ	**Fitzroy Crossi**	**54.17**	**98**	LR		LR		01 21 40.1	
	comp=Z,710nm,21.8s,baz=165,slow=32								
SLVN	**Son La**	**54.34**	**42**	*e*P		**P**		**01 02 28.9**	**-1.9**
LSA	**Lhasa**	**54.60**	**25**	P		**P**		**01 02 33.7**	**+0.7**
SDKM	**Sandakan**	**54.79**	**67**	P		**P**		**01 02 35.5**	**+1.4**
IZEF	**Zefreh**	**55.13**	**344**	*e*P		**P**		**01 02 38.0**	**+1.5**
KMI	**Kunming**	**56.47**	**38**	P		**P**		**01 02 47.0**	**+0.7**
KMI				pP		**pP**		**01 02 51.4**	**+0.3**
KMI				sP		**sP**		**01 02 53.4**	**+0.5**
KMI				S		**S**		**01 10 41.5**	**+4.2**
KMI				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KMI				pmax		pmax			
	comp=Z,120nm,3.8s								
KMI				LR		LR			
	comp=Z,630nm,17.1s								
KMI				LR		LR			
	comp=Z,730nm,17.1s								
KMI				LR		LR			
	comp=Z,990nm,23.4s								
QIZ	**Qiongzhong**	**56.71**	**49**	P		**P**		**01 02 46.4**	**-1.4**
QIZ				S		**S**		**01 10 38.4**	**-1.8**
QIZ				SS		**SS**		**01 14 27.8**	**-0.7**
QIZ				LR		LR			
	comp=Z,690nm,21.1s								
QIZ				LR		LR			
	comp=Z,800nm,19.4s								
IMYA	**Miami**	**56.98**	**352**	*e*P		**P**		**01 02 48.8**	**-0.8**
IKRD	**Kardeh**	**57.62**	**351**	*e*P		**P**		**01 02 52.2**	**-2.0**
IKIA	**Kiasar**	**57.96**	**346**	*e*P		**P**		**01 02 59.3**	**+2.7**
IRAZ	**Razeghan**	**58.15**	**343**	*e*P		**P**		**01 02 55.0**	**-2.9**
IGHG	**Ghaleghazi**	**58.18**	**339**	*e*P		P		01 02 54.2	-4.0
ISHV	**Shirvan**	**58.49**	**350**	*e*P		P		01 03 03.7	+3.5
IDHR	**Dehrash**	**58.58**	**339**	*e*P		**P**		**01 02 58.9**	**-2.0**
NVL	**N'lazarevskaya**	**59.97**	**199**	*e*S		**S**		**01 11 26.6**	**+5.2**
NVL				pmax		pmax			
	comp=Z,3.0nm,0.5s								
NVL				MLR		MLR			
	comp=Z,555nm,14.0s								
KSH	**Kashi**	**60.11**	**7**	P		P		01 03 06.6	-4.7
KSH				pP		pP		01 03 14.2	-1.9
KSH				sP		sP		01 03 17.0	-0.9
KSH				PcP		**PcP**		**01 03 56.8**	**-0.2**
KSH				PP		**PP**		**01 05 24.1**	**-0.1**
KSH				S		S		01 11 17.8	-6.3
KSH				sS		sS		01 11 27.8	-4.2
KSH				ScS		SKKSac		01 12 56.6	-4.7
KSH				pmax		pmax			
	comp=Z,24nm,1.1s								
KSH				pmax		pmax			
	comp=Z,210nm,4.8s								
KSH				LR		LR			
	comp=Z,920nm,17.8s								
KSH				LR		LR			
	comp=Z,1μm,16.6s								
KSH				LR		LR			
	comp=Z,2μm,19.6s								
ASAR	**Alice Springs**	**60.64**	**106**	P		**P**		**01 03 14.6**	**-0.7**
ASAR	**Alice Springs**	**60.64**	**106**	P		**P**		**01 03 14.6**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=261,slow=6.7,SNR=21								
ASAR				LR		LR		01 26 02.4	
	comp=Z,3μm,20.2s,baz=274,slow=33								
AS31	**Alice Springs**	**60.64**	**106**	*e*P		**P**		**01 03 14.4**	**-0.9**
CD2	**Chengdu**	**61.51**	**35**	*e*P		**P**		**01 03 23.0**	**+2.0**
CD2				pmax		pmax			
	comp=Z,20nm,1.1s								
WRA	**Warramunga Arr**	**61.80**	**102**	P		**P**		**01 03 22.7**	**-0.5**
WRA	**Warramunga Arr**	**61.80**	**102**	P		**P**		**01 03 22.7**	**-0.5**
	comp=Z,5.8nm,0.9s,baz=259,slow=6.3,SNR=24								
WRAB	**Tennant Creek**	**61.81**	**102**	*i* P		**P**		**01 03 21.7**	**-1.6**
WRAB				pmax		pmax			
	comp=Z,27nm,1.1s								
WRAB	**Tennant Creek**	**61.81**	**102**	*e*P		**P**		**01 03 23.0**	**-0.3**
	comp=Z,103nm,2.1s								
EKS2	**Erkin-Say**	**63.01**	**5**	*e*P		**P**		**01 03 30.6**	**-0.3**
EKS2				pmax		pmax			
	comp=Z,14nm,1.2s								
EKS2	**Erkin-Say**	**63.01**	**5**	*e*P		**P**		**01 03 30.6**	**-0.3**
	comp=Z,14nm,1.2s								
AAK	**Ala-Archa**	**63.05**	**5**	⇑*e*P		**P**		**01 03 29.4**	**-1.7**
AAK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
AAK				MLR		MLR			
	comp=Z,891nm,14.0s								
AAK	**Ala-Archa**	**63.05**	**5**	*e*P		**P**		**01 03 29.9**	**-1.3**
	comp=Z,9.8nm,1.1s								
KKAR	**Karatay Array**	**63.27**	**2**	*e*P		**P**		**01 03 30.3**	**-2.1**
KKAR				pmax		pmax			
	comp=Z,11nm,1.3s								
KKAR	**Karatay Array**	**63.27**	**2**	*e*P		**P**		**01 03 30.3**	**-2.1**
	comp=Z,11nm,1.3s								
TKM2	**Tokmak 2**	**63.43**	**6**	*e*P		**P**		**01 03 32.7**	**-1.0**
TKM2				pmax		pmax			
	comp=Z,14nm,1.0s								
TKM2	**Tokmak 2**	**63.43**	**6**	*e*P		**P**		**01 03 32.7**	**-1.0**
	comp=Z,14nm,1.0s								
GNI	**Garni**	**64.08**	**340**	*e*P		**P**		**01 03 37.1**	**-0.9**
	comp=Z,163nm,2.5s								
ENH	**Enshi**	**64.28**	**39**	*e*P		**P**		**01 03 37.5**	**-1.8**
	comp=Z,5.8nm,0.7s								
SNAA	**Sanae**	**64.75**	**199**	*e*P		**P**		**01 03 42.1**	**+0.1**
SNAA	**Sanae**	**64.75**	**199**	*e*pP		pP		01 03 46.8	0.0
SNAA	**Sanae**	**64.75**	**199**	*e*P		**P**		**01 03 42.0**	**+0.1**
	comp=Z,6.7nm,0.9s								
SNAA	**Sanae**	**64.75**	**199**	P		**P**		**01 03 41.2**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=89,slow=5.5,SNR=9.9								
LZH	**Lanzhou**	**65.64**	**31**	*e*P		P		01 03 52.8	+4.5
LZH				pP		pP		01 03 55.9	+2.8
LZH				sP		sP		01 03 58.1	+3.1
LZH				pmax		pmax			
	comp=Z,48nm,1.5s								
LZH				pmax		pmax			
	comp=Z,220nm,4.3s								
LZH				LR		LR			
	comp=Z,1μm,16.6s								
LZH				LR		LR			
	comp=Z,730nm,15.6s								
LZH				LR		LR			
	comp=Z,1μm,19.1s								
STKA	**Stephens Creek**	**65.89**	**117**	*e*P		**P**		**01 03 49.2**	**-0.8**
	comp=Z,20nm,2.3s								
STKA	**Stephens Creek**	**65.89**	**117**	P		**P**		**01 03 49.1**	**-0.8**
	comp=Z,4.8nm,1.0s,baz=278,slow=3.7,SNR=3.3								
STKA				LR		LR		01 28 13.8	
	comp=Z,2μm,21.9s,baz=234,slow=32								
VNA2	**Neumayer--Watz**	**66.08**	**200**	*e*P		**P**		**01 03 51.1**	**+0.6**
VNA2	**Neumayer--Watz**	**66.08**	**200**	*e*pP		pP		01 03 55.2	-0.1
VNA2	**Neumayer--Watz**	**66.08**	**200**	*e*PcP		**PcP**		**01 04 17.3**	**-3.6**
VNA1	**Neumayer--Stat**	**66.33**	**201**	*e*P		**P**		**01 03 54.3**	**+2.2**
WMQ	**Urumqi**	**66.44**	**15**	P		**P**		**01 03 54.0**	**+0.8**
WMQ				sP		**sP**		**01 04 01.0**	**+1.2**
WMQ				PcP		**PcP**		**01 04 24.0**	**+1.3**
WMQ				PP		**PP**		**01 06 23.0**	**+3.2**
WMQ				S		**S**		**01 12 42.0**	**-1.0**
WMQ				ScS		**SKSac**		**01 13 46.0**	**-3.1**
WMQ				pmax		pmax			
	comp=Z,13nm,1.0s								
WMQ				pmax		pmax			
	comp=Z,140nm,5.0s								
WMQ				LR		LR			
	comp=Z,1μm,16.0s								
WMQ				LR		LR			
	comp=Z,990nm,16.0s								
WMQ				LR		LR			
	comp=Z,1μm,16.0s								
GTA	**Gaotai**	**66.54**	**26**	*e*P		**P**		**01 03 53.7**	**-0.3**
GTA				pP		**pP**		**01 03 58.4**	**-0.4**
GTA				sP		**sP**		**01 04 00.8**	**+0.2**
GTA				S		**S**		**01 12 44.1**	**-0.4**
GTA				sS		**sS**		**01 12 52.4**	**-0.1**
GTA				pmax		pmax			
	comp=Z,13nm,1.1s								
GTA				pmax		pmax			
	comp=Z,190nm,5.2s								
GTA				LR		LR			
	comp=Z,650nm,17.6s								
GTA				LR		LR			
	comp=Z,540nm,18.5s								
GTA				LR		LR			
	comp=Z,970nm,18.5s								
XAN	**Xi'an**	**66.71**	**36**	P		**P**		**01 03 53.2**	**-1.9**
XAN				pP		**pP**		**01 04 03.9**	**+4.0**
XAN				sP		sP		01 04 07.0	+5.3
XAN				pmax		pmax			
	comp=Z,3.0nm,1.1s								
XAN				pmax		pmax			
	comp=Z,32nm,4.8s								
XAN				LR		LR			
	comp=Z,1μm,15.8s								
XAN				LR		LR			
	comp=Z,120nm,16.5s								
XAN				LR		LR			
	comp=Z,180nm,13.0s								
ZEI	**Tsey**	**66.74**	**341**	*e*P		**P**		**01 03 55.5**	**+0.2**
ZEI				pmax		pmax			
	comp=Z,23nm,2.2s								
KBZ	**Khabaz**	**67.91**	**341**	P		**P**		**01 04 01.1**	**-1.2**
KBZ				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KBZ	**Khabaz**	**67.91**	**341**	P		**P**		**01 04 01.1**	**-1.2**
KBZ	**Khabaz**	**67.91**	**341**	P		**P**		**01 04 01.1**	**-1.2**
	comp=Z,2.8nm,1.1s,baz=162,slow=3.2,SNR=2.8								
KBZ				LR		LR		01 33 16.3	
	comp=Z,287nm,18.7s,baz=332,slow=36								
BR131	**Keskin Array S**	**67.94**	**332**	*e*P		**P**		**01 04 01.4**	**-1.4**
	comp=Z,4.2nm,0.9s								
BRTR	**Keskin Array B**	**67.94**	**332**	P		**P**		**01 04 00.6**	**-2.2**
BRTR	**Keskin Array B**	**67.94**	**332**	P		**P**		**01 04 00.6**	**-2.2**
	comp=Z,1.4nm,0.9s,baz=149,slow=3.4,SNR=6.0								
BRTR				LR		LR		01 34 06.9	
	comp=Z,278nm,18.2s,baz=261,slow=36								
MKAR	**Makanchi Array**	**68.15**	**10**	P		**P**		**01 04 01.5**	**-2.3**
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MKAR				MLR		MLR			
	comp=Z,1μm,18.0s								
MKAR	**Makanchi Array**	**68.15**	**10**	*e*P		**P**		**01 04 02.8**	**-1.1**
MKAR	**Makanchi Array**	**68.15**	**10**	P		**P**		**01 04 01.5**	**-2.3**
	comp=Z,3.5nm,0.8s,baz=190,slow=6.2,SNR=18								
MKAR				LR		LR		01 33 44.9	
	comp=Z,1μm,18.0s,baz=196,slow=36								
KIV	**Kislovodsk**	**68.18**	**341**	*e*P		**P**		**01 04 04.2**	**0.0**
KIV				eS		**S**		**01 13 04.7**	**+0.8**
KIV				pmax		pmax			
	comp=Z,7.0nm,1.0s								
SOC	**Sochi**	**68.82**	**338**	*e*P		**P**		**01 04 06.4**	**-1.7**
SOC				eS		**S**		**01 13 09.5**	**-1.9**
SOC				*e*				01 14 07.9	
SOC				MLR		MLR			
	comp=Z,321nm,12.0s								
QSPA	**South Pole Qui**	**69.66**	**180**	*e*P		**P**		**01 04 14.0**	**+0.7**
	comp=Z,48nm,1.6s								
QSPA	**South Pole Qui**	**69.66**	**180**	P		**P**		**01 04 13.8**	**+0.5**
	comp=Z,4.5nm,0.6s,baz=256,slow=1.4,SNR=14								
ABKAR	**Akbulak array**	**69.76**	**354**	*e*P		**P**		**01 04 12.4**	**-1.3**
VNDA	**Vanda**	**71.01**	**167**	P		**P**		**01 04 22.1**	**+1.0**
VNDA	**Vanda**	**71.01**	**167**	P		**P**		**01 04 22.1**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=274,slow=5.0,SNR=2.8								
VNDA				LR		LR		01 33 43.1	
	comp=Z,800nm,18.5s,baz=255,slow=34								
KURK	**Kurchatov**	**71.46**	**7**	*e*P		**P**		**01 04 22.3**	**-1.8**
KURK				pmax		pmax			
	comp=Z,11nm,0.9s								
KURK	**Kurchatov**	**71.46**	**7**	*e*P		**P**		**01 04 22.3**	**-1.8**
	comp=Z,11nm,0.9s								
CTA	**Charters Tower**	**72.62**	**105**	LR		LR		01 34 20.3	
	comp=Z,2μm,20.3s,baz=186,slow=34								
CTAO	**Charters Tower**	**72.62**	**105**	*e*P		**P**		**01 04 31.1**	**-0.8**
CTAO				pmax		pmax			
	comp=

NVS				pmax	pmax			
	comp=N,39nm,2.5s							
NVS				pmax	pmax			
	comp=E,18nm,2.5s							
NVS				pmax	pmax			
	comp=Z,40nm,2.8s							
NVS				pmax	pmax			
	comp=N,26nm,2.7s							
NVS				pmax	pmax			
	comp=E,24nm,2.7s							
NVS				smax	smax			
	comp=N,12nm,2.5s							
NVS				smax	smax			
	comp=E,51nm,3.0s							
SONM	**Songino Array**	**76.18**	**25**	P	**P**		**01 04 50.6**	**-1.4**
SONM	**Songino Array**	**76.18**	**25**	P	**P**		**01 04 50.6**	**-1.4**
	comp=E,3.0nm,0.8s,baz=208,slow=4.9,SNR=9.1							
SONM				LR	LR		01 37 28.3	
	comp=E,1μm,20.5s,baz=200,slow=35							
KIC	**Kosan Boka**	**76.26**	**282**	*e*P	**P**		**01 04 53.5**	**+0.4**
	comp=E,57nm,1.4s							
VOIR		**76.33**	**330**	⇑P	**P**		**01 04 51.3**	**-1.6**
VOIR		**76.33**	**330**	⇑*i*P	**P**		**01 04 51.3**	**-1.6**
LIC	**Lamto**	**76.47**	**282**	*e*P	**P**		**01 04 54.6**	**+0.3**
	comp=E,30nm,0.9s							
ULN	**Ulaanbaatar**	**76.47**	**26**	*e*P	**P**		**01 04 52.6**	**-1.1**
	comp=E,4.4nm,0.9s							
DBIC	**Dimbokro**	**76.48**	**282**	*e*P	**P**		**01 04 55.3**	**+0.9**
	comp=E,48nm,1.8s							
DBIC	**Dimbokro**	**76.48**	**282**	P	**P**		**01 04 53.3**	**-1.0**
	comp=E,2.5nm,0.7s,baz=111,slow=6.5,SNR=4.0							
DBIC				LR	LR		01 36 52.3	
	comp=E,1μm,18.9s,baz=98,slow=34							
TIC	**Toumodi**	**76.62**	**282**	*e*P	**P**		**01 04 55.4**	**+0.2**
	comp=E,23nm,1.0s							
PMG	**Port Moresby**	**76.63**	**95**	P	**P**		**01 04 54.5**	**-0.7**
PMG	**Port Moresby**	**76.63**	**95**	P	**P**		**01 04 54.5**	**-0.7**
	comp=E,3.7nm,0.5s,baz=252,slow=9.6,SNR=2.4							
PMG				LR	LR		01 35 48.3	
	comp=E,986nm,21.4s,baz=223,slow=34							
ARU	**Arti**	**76.99**	**355**	*i* P	**P**		**01 04 55.4**	**-0.8**
ARU				pmax	pmax			
	comp=Z,12nm,1.7s							
ARU				MLR	MLR			
	comp=Z,575nm,19.0s							
ARU	**Arti**	**76.99**	**355**	*e*P	**P**		**01 04 55.1**	**-1.1**
	comp=Z,14nm,1.3s							
SVE	**Sverdlovsk**	**77.22**	**356**	*e*P	**P**		**01 05 00.3**	**+2.8**
SVE				pmax	pmax			
	comp=Z,22nm,1.6s							
SVE				MLR	MLR			
	comp=Z,1μm,20.0s							
GZR	**Gura Zlata**	**77.38**	**329**	⇑P	P		01 05 03.1	+4.4
GZR	**Gura Zlata**	**77.38**	**329**	⇑*i*P	P		01 05 03.1	+4.4
DRGR		**78.43**	**330**	⇑P	P		01 05 08.2	+3.6
DRGR		**78.43**	**330**	⇑*i*P	P		01 05 08.2	+3.6
AKASG	**Malin Array Be**	**78.67**	**336**	P	**P**		**01 05 04.2**	**-1.4**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
AKASG	**Malin Array Be**	**78.67**	**336**	P	**P**		**01 05 04.2**	**-1.4**
AKASG	**Malin Array Be**	**78.67**	**336**	P	**P**		**01 05 04.2**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=141,slow=4.8,SNR=6.5							
KEST	**Kesra**	**78.79**	**315**	LR	LR		01 39 10.6	
	comp=Z,179nm,18.7s,baz=82,slow=35							
OBN	**Obninsk**	**79.91**	**342**	*e*P	**P**		**01 05 14.3**	**+2.0**
OBN				*e*			01 08 13.7	
OBN				*e*S	**S**		**01 15 17.4**	**+2.3**
OBN				*e*SS	**SS**		**01 20 30.1**	**+4.8**
OBN				pmax	pmax			
	comp=Z,20nm,1.6s							
UZH	**Uzhgorod**	**79.97**	**331**	*e*P	**P**		**01 05 13.4**	**+0.6**
UZH				*i*			01 05 16.2	
UZH				*i*			01 05 23.2	
LVV	**L'vov**	**80.08**	**333**	*e*P	P		01 05 18.2	+4.7
SOKR	**Solikamsk**	**80.28**	**354**	*e*P	**P**		**01 05 17.2**	**+3.0**
SOKR				pmax	pmax			
	comp=Z,20nm,1.5s							
SOKR				MLR	MLR			
	comp=Z,560nm,17.0s							
KWP	**Kalwaria Pacla**	**80.52**	**332**	⇑P	**P**		**01 05 14.3**	**-1.5**
KWP	**Kalwaria Pacla**	**80.52**	**332**	⇑*i*P	**P**		**01 05 14.3**	**-1.5**
CRVS	**Cervenica-Dubn**	**80.54**	**331**	*e*P	P		01 05 19.5	+3.5
KSRS	**Korea Array**	**80.55**	**44**	LR	LR		01 39 39.6	
	comp=Z,535nm,20.5s,baz=236,slow=35							
STHS	**Stebnicka Huta**	**81.02**	**331**	*e*P	P		01 05 23.6	+5.1
OKC	**Ostrava-Krasne**	**82.74**	**330**	*e*P	P		01 05 30.7	+3.2
OKC				*e*			01 05 36.5	
OKC	**Ostrava-Krasne**	**82.74**	**330**	*e*P	P		01 05 30.7	+3.2
OKC				*ex*	x		01 05 36.5	
CN2	**Changchun**	**82.74**	**38**	*e*P	**P**		**01 05 28.1**	**+0.4**
CN2				*es*P	**sP**		**01 05 35.0**	**+0.5**
CN2				*e*S	**S**		**01 15 44.5**	**-0.6**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=Z,200nm,20.0s							
CN2				LR	LR			
	comp=Z,300nm,20.0s							
CN2				LR	LR			
	comp=Z,300nm,22.0s							
MORC	**Moravsky Berou**	**82.98**	**330**	*e*P	**P**		**01 05 28.5**	**-0.4**
MORC				pmax	pmax			
	comp=Z,30nm,1.8s							
MORC	**Moravsky Berou**	**82.98**	**330**	*e*P	**P**		**01 05 28.5**	**-0.4**
	comp=Z,30nm,1.8s							
KRLC	**Kraliky**	**83.54**	**330**	*e*P	P		01 05 40.1	+8.3
TREC	**Trest**	**83.65**	**328**	*e*P	**P**		**01 05 34.9**	**+2.6**
TREC				*e*			01 05 41.0	
TREC	**Trest**	**83.65**	**328**	*e*P	**P**		**01 05 34.9**	**+2.6**
TREC				*ex*	x		01 05 41.0	
UPC	**Upice**	**84.20**	**330**	*e*P	P		01 05 38.3	+3.2
UPC	**Upice**	**84.20**	**330**	*e*P	P		01 05 38.3	+3.2
KLMR	**Klimovskoe**	**84.23**	**346**	*e*P	**P**		**01 05 36.3**	**+1.4**
KLMR				pmax	pmax			
	comp=Z,36nm,1.2s							
KLMR				MLR	MLR			
	comp=Z,802nm,19.0s							
GERES	**GERESS Array B**	**84.24**	**327**	P	**P**		**01 05 36.0**	**+0.6**
GERES	**GERESS Array B**	**84.24**	**327**	P	**P**		**01 05 36.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=158,slow=6.1,SNR=3.7							
KHC	**Kasperske Hory**	**84.49**	**328**	*i* P	**P**		**01 05 38.7**	**+2.1**
KHC				pmax	pmax			
	comp=Z,120nm,4.2s							
KHC	**Kasperske Hory**	**84.49**	**328**	*e*P	**P**		**01 05 38.2**	**+1.6**
PRU	**Pruhonice**	**84.56**	**329**	*e*P	P		01 05 45.2	+8.3
MDJ	**Mudanjiang**	**85.64**	**39**	P	**P**		**01 05 41.9**	**-0.5**
MDJ				pP	**PcP**		**01 05 44.9**	**-0.4**
MDJ				PP	**PP**		**01 08 59.8**	**-1.9**
MDJ				S	**S**		**01 16 14.9**	**+0.8**
MDJ				sS	**sS**		**01 16 20.0**	**-2.4**
MDJ				pmax	pmax			
	comp=Z,15nm,1.4s							
MDJ				pmax	pmax			
	comp=Z,630nm,7.6s							
MDJ				LR	LR			
	comp=Z,85nm,7.6s							
MDJ				LR	LR			
	comp=Z,290nm,13.2s							
MDJ				LR	LR			
	comp=Z,310nm,16.4s							
NKC	**Novy Kostel**	**85.76**	**328**	*e*P	**P**		**01 05 45.4**	**+2.5**
NKC				*e*			01 05 49.6	
NKC				*e*			01 05 52.4	
NKC	**Novy Kostel**	**85.76**	**328**	*e*P	**P**		**01 05 45.4**	**+2.5**
NKC				*ex*	x		01 05 49.6	
NKC				*ex*	x		01 05 52.4	
CLL	**Collm**	**86.17**	**329**	*e*P	P		01 05 49.0	+4.1
CLL				*e*S	**S**		**01 16 23.0**	**+4.1**
CLL				MLR	MLR			
	comp=Z,200nm,18.7s							
USRK	**Ussuriysk Arra**	**86.84**	**40**	LR	LR		01 48 02.1	
	comp=Z,222nm,18.3s,baz=233,slow=38							
FINES	**FINESS Array B**	**88.26**	**341**	P	**P**		**01 05 55.2**	**+0.5**
FINES				PKKPbc	**PKKPdf**		**01 23 38.0**	**+1.6**
FINES	**FINESS Array B**	**88.26**	**341**	P	**P**		**01 05 55.2**	**+0.5**
	comp=Z,4.9nm,1.1s,baz=128,slow=9.0,SNR=3.1							
FINES				PKKPbc	**PKKPdf**		**01 23 38.0**	**+1.6**
	comp=Z,5.1nm,1.0s,baz=297,slow=1.3,SNR=6.1							
DZM	**Mont Dzumac**	**89.84**	**113**	*e*SS	SS		01 22 56.3	+3.6
	comp=Z,380nm,26.9s							
DZM	**Mont Dzumac**	**89.84**	**113**	*e*LR	LR		01 34 47.7	
	comp=Z,2μm,22.6s							
DZM	**Mont Dzumac**	**89.84**	**113**	LR	LR		01 43 44.0	
	comp=Z,1μm,19.5s,baz=216,slow=34							
ESDC	**Sonseca Array**	**89.85**	**313**	LR	LR		01 48 02.0	
	comp=Z,193nm,18.5s,baz=120,slow=37							
ARCES	**ARCESS Array B**	**94.71**	**346**	P	**P**		**01 06 21.8**	**-2.8**
ARCES	**ARCESS Array B**	**94.71**	**346**	P	**P**		**01 06 21.8**	**-2.8**
	comp=Z,2.6nm,0.8s,baz=137,slow=1.8,SNR=3.8							
ARCES				LR	LR		01 49 19.7	
	comp=Z,631nm,21.1s,baz=143,slow=36							
YUK	**Yuzh-Kuril'sk**	**95.61**	**45**	*e*P	P		01 06 23.7	-5.5
YUK				S	**SKSac**		**01 17 04.5**	**-0.3**
YUK				MLR	MLR			
	comp=N,362nm,18.0s							
YUK				MLR	MLR			
	comp=Z,385nm,18.0s							
PPT2	**Papeete2**	**127.16**	**133**	*e*LR	LR		01 52 06.4	
	comp=Z,354nm,28.2s							
ILAR	**Eielson Array**	**130.03**	**19**	PKP	**PKPdf**		**01 12 14.4**	**+1.3**
ILAR	**Eielson Array**	**130.03**	**19**	PKP	**PKPdf**		**01 12 14.4**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=285,slow=3.5,SNR=3.8							
RKT	**Rikitea**	**131.22**	**151**	*e*LR	LR		01 53 54.9	
	comp=Z,501nm,24.2s							
YKA	**Yellowknife Ar**	**137.95**	**2**	PKP	**PKPdf**		**01 12 29.4**	**+1.4**
YKA	**Yellowknife Ar**	**137.95**	**2**	PKP	**PKPdf**		**01 12 29.4**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=344,slow=3.1,SNR=3.1							
FFC	**Flin Flon**	**144.95**	**350**	*e*PKIKP	**PKPab**		**01 12 38.7**	**-1.3**
FFC	**Flin Flon**	**144.95**	**350**	*e*PKPdf	**PKPab**		**01 12 38.7**	**-1.3**
EDM	**Edmonton**	**147.27**	**2**	*e*PKP2	**PKPdf**		**01 12 44.8**	**-0.1**
EDM	**Edmonton**	**147.27**	**2**	*e*PKPdf	**PKPdf**		**01 12 44.8**	**-0.1**
ULM	**Lac du Bonnet**	**147.65**	**341**	PKPbc	**PKPdf**		**01 12 46.7**	**+1.2**
ULM	**Lac du Bonnet**	**147.65**	**341**	PKPbc	**PKPdf**		**01 12 46.7**	**+1.2**
	comp=Z,5.4nm,0.8s,baz=341,slow=1.5,SNR=6.8							
PDAR	**Pinedale Array**	**157.66**	**355**	PKP	**PKPdf**		**01 13 00.3**	**-0.4**
PDAR				PKPab	**PKPab**		**01 13 32.3**	**-0.5**
PDAR	**Pinedale Array**	**157.66**	**355**	PKP	**PKPdf**		**01 13 00.3**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=71,slow=3.9,SNR=2.9							
PDAR				PKPab	**PKPab**		**01 13 32.3**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=235,slow=3.2,SNR=3.1							
NVAR	**Mina Array Bea**	**161.25**	**16**	PKP	**PKPdf**		**01 13 06.4**	**+1.4**
NVAR				PKPab	**PKPab**		**01 13 50.3**	**+1.8**
NVAR	**Mina Array Bea**	**161.25**	**16**	PKP	**PKPdf**		**01 13 06.4**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=353,slow=3.0,SNR=2.7							
NVAR				PKPab	**PKPab**		**01 13 50.3**	**+1.8**
	comp=Z,1.1nm,1.1s,baz=355,slow=4.8,SNR=2.9							

NIED ***01*** *00:57:00, 32.˚10N×129.˚20E, h5km, Mw4.4 Best double couple: M0 5.17000×10^15 NP1:ϕs 204.00000°, δ71.00000°, λ-132.00000°. NP2:ϕs 93.00000°, δ45.00000°, λ-28.00000°.*

IDC ***01*** *00:57:39.6±0.7, 32.˚10N×129.˚21E, h0km, mb4.0/12, mb1 4.3/14, mb1mx4.2/27, mbtmp4.1/14, ML4.0/2, MS3.4/4, Ms1 3.4/4, ms1mx3.3/37, Error ellipse: s-maj=15.7km s-min=14.0km az=109.0*

ISCJB ***01*** *00:57:40.9±0.7, 32.˚09N±0.˚03×129.˚23E±0.˚04, h21km±6km, mb4.1/17, MS3.8/2, Error ellipse: s-maj=7.1km s-min=4.6km az=143.8*

JMA ***01*** *00:57:40.0, 32.˚06N×129.˚18E, h16km±2km, M4.4*

JMA Felt I J1.

NEIC ***01*** *00:57:44.2±0.3, 32.˚12N×129.˚27E, h35km, mb4.3/4, Error ellipse: s-maj=8.4km s-min=6.8km az=76.0*

NEIC Recorded [1 JMA] in Nagasaki.

ISC 01 00:57:42.0±0.8, 32.˚15N±0.˚04×129.˚25E±0.˚03, h15km±4km, n66, σ1°33/76, mb4.2/17, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.61**	**140**	⇑P		Pg		00 57 51.1	-2.9
JSJ				S		**Sg**		**00 57 59.8**	**-2.3**
JFU	**Fukue jima 2**	**0.66**	**320**	⇑P		**Pb**		**00 57 53.4**	**-1.8**
JFU				S		**Sn**		**00 58 03.3**	**-3.6**
NGSJ	**Nagasakinomoza**	**0.67**	**44**	P		**Pb**		**00 57 54.7**	**-0.6**
NGSJ				S		**Sn**		**00 58 05.3**	**-1.7**
JHD	**Hondo**	**0.81**	**67**	P		**Pg**		**00 57 56.8**	**-0.9**
JHD				S		**Sb**		**00 58 09.1**	**+0.6**
JZO	**Okuchi**	**1.14**	**90**	P		**Pb**		**00 58 01.7**	**-1.7**
JZO				S		**Sb**		**00 58 17.6**	**-0.4**
JSU	**Suzuyama**	**1.21**	**122**	⇓P		Pn		00 58 01.8	-2.5
JSU				S		**Sb**		**00 58 17.9**	**-2.0**
JNU	**Nakatsue**	**1.68**	**54**	Pn		**Pn**		**00 58 10.2**	**-0.6**
JNU				Sn		**Sg**		**00 58 36.6**	**+0.6**
JNU	**Nakatsue**	**1.68**	**54**	Pn		**Pn**		**00 58 10.2**	**-0.6**
	50nm,0.3s,baz=248,slow=6.7,SNR=165								
JNU				Pg		**Pg**		**00 58 12.8**	**-1.4**
	50nm,0.3s,baz=229,slow=11,SNR=191								
JNU				Sn		**Sg**		**00 58 36.6**	**+0.6**
	157nm,0.3s,baz=97,slow=8.2,SNR=13								
KSAR	**Wonju Array Be**	**5.40**	**348**	Pn		**Pn**		**00 59 02.2**	**+0.4**
KSAR				Pg		Pg		00 59 19.6	-5.7
KSAR				Sn		**Sn**		**01 00 04.6**	**+0.9**
KSAR				Lg		Lg		01 00 30.1	
KSRS	**Korea Array**	**5.41**	**349**	Pn		**Pn**		**00 59 02.2**	**+0.3**
	8.3nm,0.3s,baz=164,slow=14,SNR=22								
KSRS				Pg		Pg		00 59 19.6	-5.8
	5.2nm,0.3s,baz=168,slow=16,SNR=22								
KSRS				Sn		**Sn**		**01 00 04.6**	**+0.8**
	5.9nm,0.3s,baz=171,slow=28,SNR=5.3								
KSRS				Lg		Lg		01 00 30.1	
	18nm,0.3s,baz=166,slow=32,SNR=11								
KSRS				LR		LR		01 01 33.9	
	comp=Z,160nm,19.5s,baz=67,slow=43								
INCN	**Inchon**	**5.74**	**339**	*e*Pn		**Pn**		**00 59 06.0**	**-0.6**
	34nm,0.6s								
INCN				*e*Sg		**Sg**		**01 00 41.3**	**-4.9**
USRK	**Ussuriysk Arra**	**12.22**	**9**	LR		LR		01 04 58.3	
	comp=Z,69nm,20.5s,baz=176,slow=36								
ASAJ	**Asahikawa**	**15.88**	**37**	Pn		**Pn**		**01 01 26.0**	**+1.2**
ASAJ	**Asahikawa**	**15.88**	**37**	Pn		**Pn**		**01 01 26.0**	**+1.2**
	0.7nm,0.3s,baz=227,slow=19,SNR=4.6								
ASAJ				LR		LR		01 06 57.8	
	comp=Z,190nm,20.7s,baz=176,slow=35								
GYA	**Guiyang**	**20.48**	**260**	⇑*i*P		Pn		01 02 25.8	+4.2
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
ULN	**Ulaanbaatar**	**23.02**	**319**	*e*P		**P**		**01 02 46.5**	**+0.1**
	comp=Z,21nm,1.5s								
SONM	**Songino Array**	**23.37**	**319**	P		**P**		**01 02 50.3**	**+0.3**
SONM	**Songino Array**	**23.37**	**319**	P		**P**		**01 02 50.3**	**+0.3**
	comp=Z,8.1nm,1.0s,baz=131,slow=7.0,SNR=16								
SONM				LR		LR		01 12 40.6	
	comp=Z,294nm,19.5s,baz=197,slow=38								
GTA	**Gaotai**	**24.89**	**295**	*e*P		**P**		**01 03 06.6**	**+2.4**
GTA				pP		**pP**		**01 03 10.1**	**+1.2**
GTA				sP		**sP**		**01 03 12.7**	**+1.9**
GTA				S		S		01 07 06.9	-20
GTA				sS		sS		01 07 13.8	-21
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,87nm,4.0s								
GTA				LR		LR			
	comp=N,560nm,19.9s								
GTA				LR		LR			
	comp=E,180nm,19.9s								
GTA				LR		LR			
	comp=Z,240nm,20.9s								
ODAN	**Odare**	**36.65**	**273**	*e*P		P		01 04 51.3	+3.1
ODAN	**Odare**	**36.65**	**273**	*e*P		P		01 04 51.3	+3.1
JIRN	**Jiri**	**37.42**	**275**	*e*P		**P**		**01 04 55.8**	**+0.9**
	comp=Z,20nm,0.8s								
JIRN	**Jiri**	**37.42**	**275**	*e*P		**P**		**01 04 55.8**	**+0.9**
GUN	**Gumba**	**37.60**	**275**	*e*P		**P**		**01 04 56.6**	**+0.1**
	comp=Z,81nm,0.9s								
GUN	**Gumba**	**37.60**	**275**	*e*P		**P**		**01 04 56.6**	**+0.1**
PKI	**Pulchoki**	**38.10**	**275**	*e*P		**P**		**01 05 01.6**	**+0.9**
	comp=Z,72nm,1.3s								
PKI	**Pulchoki**	**38.10**	**275**	*e*P		**P**		**01 05 01.6**	**+0.9**
KKN	**Kakani**	**38.15**	**275**	*e*P		**P**		**01 05 01.8**	**+0.9**
	comp=Z,42nm,1.0s								
KKN	**Kakani**	**38.15**	**275**	*e*P		**P**		**01 05 01.8**	**+0.9**
MKAR	**Makanchi Array**	**38.51**	**306**	P		**P**		**01 05 02.9**	**-0.7**
MKAR				PcP		**PcP**		**01 07 18.7**	**+2.5**
MKAR	**Makanchi Array**	**38.51**	**306**	P		**P**		**01 05 02.9**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=82,slow=10,SNR=2.0								
MKAR				PcP		**PcP**		**01 07 18.7**	**+2.5**
	comp=Z,1.5nm,0.9s,baz=101,slow=4.6,SNR=3.9								
DANN	**Dangsing**	**39.26**	**277**	*e*P		**P**		**01 05 10.4**	**0.0**
	comp=Z,40nm,1.0s								
DANN	**Dangsing**	**39.26**	**277**	*e*P		**P**		**01 05 10.4**	**0.0**
KOLN	**Koldanda**	**39.57**	**276**	*e*P		**P**		**01 05 13.5**	**+0.6**
	comp=Z,19nm,0.8s								
KOLN	**Koldanda**	**39.57**	**276**	*e*P		**P**		**01 05 13.5**	**+0.6**
PYUN	**Piuthan**	**39.98**	**277**	*e*P		**P**		**01 05 16.5**	**+0.2**
	comp=Z,72nm,1.0s								
PYUN	**Piuthan**	**39.98**	**277**	*e*P		**P**		**01 05 16.5**	**+0.2**
KKAR	**Karatay Array**	**46.93**	**301**	*e*P		**P**		**01 06 11.1**	**-0.8**
	comp=Z,2.6nm,0.7s								
WRAB	**Tennant Creek**	**52.02**	**174**	*e*P		**P**		**01 06 50.1**	**-0.7**
	comp=Z,2.4nm,0.8s								
WRA	**Warramunga Arr**	**52.02**	**174**	P		**P**		**01 06 49.2**	**-1.7**
WRA	**Warramunga Arr**	**52.02**	**174**	P		**P**		**01 06 49.2**	**-1.7**
	comp=Z,1.4nm,1.1s,baz=353,slow=7.8,SNR=6.2								
ABKAR	**Akbulak array**	**53.39**	**310**	*e*P		**P**		**01 07 00.1**	**-0.6**
AS31	**Alice Springs**	**55.68**	**175**	*e*P		**P**		**01 07 16.4**	**-1.2**
ASAR	**Alice Springs**	**55.68**	**175**	P		**P**		**01 07 17.0**	**-0.6**
ASAR	**Alice Springs**	**55.68**	**175**	P		**P**		**01 07 17.0**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=357,slow=7.2,SNR=13								
ILAR	**Eielson Array**	**58.85**	**30**	P		**P**		**01 07 39.0**	**-0.5**
ILAR	**Eielson Array**	**58.85**	**30**	P		**P**		**01 07 39.1**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=281,slow=7.1,SNR=4.7								
KBZ	**Khabaz**	**66.18**	**308**	P		**P**		**01 08 28.9**	**0.0**
KBZ	**Khabaz**	**66.18**	**308**	P		**P**		**01 08 28.9**	**0.0**
	comp=Z,4.2nm,0.8s,baz=90,slow=5.5,SNR=7.0								
KIV	**Kislovodsk**	**66.24**	**308**	*e*P		**P**		**01 08 28.9**	**-0.5**
	comp=Z,12nm,1.0s								
FINES	**FINESS Array B**	**68.19**	**330**	P		P		**01 08 42.0**	**+0.7**
FINES	**FINESS Array B**	**68.19**	**330**	P		P		**01 08 42.0**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=100,slow=5.8,SNR=4.8								
AKASG	**Malin Array Be**	**71.66**	**319**	P		**P**		**01 09 03.0**	**+0.2**
AKASG	**Malin Array Be**	**71.66**	**319**	P		**P**		**01 09 03.0**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=52,slow=6.2,SNR=6.0								
YKA	**Yellowknife Ar**	**72.81**	**26**	P		**P**		**01 09 09.0**	**-0.5**
YKA	**Yellowknife Ar**	**72.81**	**26**	P		**P**		**01 09 09.0**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=308,slow=5.5,SNR=3.2								
BRTR	**Keskin Array B**	**74.15**	**307**	P		**P**		**01 09 17.9**	**-0.2**
BRTR	**Keskin Array B**	**74.15**	**307**	P		**P**		**01 09 17.9**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=96,slow=4.8,SNR=15								
NVAR	**Mina Array Bea**	**85.79**	**47**	P		**P**		**01 10 21.0**	**0.0**
NVAR	**Mina Array Bea**	**85.79**	**47**	P		**P**		**01 10 21.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=310,slow=5.8,SNR=3.4								
PDAR	**Pinedale Array**	**88.01**	**39**	P		P		**01 10 31.4**	**-0.4**
PDAR	**Pinedale Array**	**88.01**	**39**	P		**P**		**01 10 31.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=287,slow=1.1,SNR=5.7								
TORD	**Torodi Ar. Bea**	**112.58**	**303**	PKiKP		**PKiKP**		**01 16 20.8**	**+2.5**
TORD	**Torodi Ar. Bea**	**112.58**	**303**	PKiKP		**PKiKP**		**01 16 20.8**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=284,slow=0.4,SNR=4.3								
QSPA	**South Pole Qui**	**121.91**	**180**	PKP		**PKPdf**		**01 16 36.9**	**+2.2**
QSPA	**South Pole Qui**	**121.91**	**180**	PKP		**PKPdf**		**01 16 36.9**	**+2.2**
	comp=Z,1.3nm,0.2s,baz=349,slow=0.8,SNR=2.5								

AUST ***01*** *01:01:55.0±1.2, 16.˚12S×167.˚84E, h188km, Error ellipse: s-maj=1.4km s-min=0.9km az=227.0*

IDC ***01*** *01:01:55.3±0.6, 16.˚32S×167.˚94E, h188km±4km, mb4.3/24, mb1 4.4/26, mb1mx4.3/29, mbtmp4.4/26, Error ellipse: s-maj=11.4km s-min=7.7km az=82.0*

MOS ***01*** *01:01:55.9±1.0, 16.˚30S×167.˚80E, h204km, mb5.0/11, Error ellipse: s-maj=12.7km s-min=10.0km az=28.0*

ISCJB ***01*** *01:01:56.5±0.9, 16.˚34S±0.˚04×167.˚85E±0.˚06, h213km±9km, mb4.8/54, Error ellipse: s-maj=9.5km s-min=6.7km az=164.9*

NEIC ***01*** *01:01:56.1±0.5, 16.˚32S×167.˚86E, h195km±4km, mb5.1/28, Error ellipse: s-maj=6.3km s-min=4.9km az=70.0*

BJI ***01*** *01:01:59.1, 15.˚57S×167.˚61E, h199km, mB5.1/28, mb4.8/38*

ISC 01 01:01:56.3±0.4, 16.˚30S±0.˚04×167.˚95E±0.˚06, h198km±2km, h198km:pP-P, n169, σ1°36/237, mb4.8/54, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.91**	**194**	P		**Pn**		**01 03 21.5**	**-1.0**
DZM				S		**Sn**		**01 04 30.9**	**+0.3**
DZM	**Mont Dzumac**	**5.91**	**194**	P		**Pn**		**01 03 21.5**	**-1.0**
	26nm,0.3s,baz=37,slow=21,SNR=56								
DZM				S		**Sn**		**01 04 30.9**	**+0.3**
	2.0nm,0.3s,baz=347,slow=19,SNR=6.0								
NOUC	**Port Laguerre**	**5.97**	**195**	*e*P		**Pn**		**01 03 23.

WRA	**Warramunga Arr**	**32.12 258**	P	**P**	**01 08 03.8**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=80,slow=6.3,SNR=16					
WRA			PP	**PP**	**01 09 22.8**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=81,slow=6.3,SNR=5.6					
WRA			PcP	**PcP**	**01 10 48.2**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=80,slow=2.9,SNR=6.3					
WRA			ScP	**ScP**	**01 14 16.6**	**+2.1**
	comp=Z,2.7nm,0.8s,baz=83,slow=3.7,SNR=15					
AS31	**Alice Springs**	**32.76 252**	*e*P	**P**	**01 08 10.0**	**-0.8**
ASAR	**Alice Springs**	**32.76 252**	P	**P**	**01 08 10.1**	**-0.7**
ASAR			pP	**pP**	**01 08 50.4**	**-1.2**
ASAR			PcP	**PcP**	**01 10 51.1**	**-0.3**
ASAR			ScP	**ScP**	**01 14 18.3**	**+1.6**
ASAR	**Alice Springs**	**32.76 252**	P	**P**	**01 08 10.1**	**-0.7**
	comp=Z,22nm,0.7s,baz=76,slow=9.3,SNR=70					
ASAR			pP	**pP**	**01 08 50.4**	**-1.2**
	comp=Z,6.7nm,0.7s,baz=75,slow=9.3,SNR=2.9					
ASAR			PcP	**PcP**	**01 10 51.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=100,slow=2.8,SNR=4.5					
ASAR			ScP	**ScP**	**01 14 18.3**	**+1.6**
	comp=Z,4.4nm,0.8s,baz=94,slow=3.6,SNR=16					
BBOO	**Buckleboo**	**33.17 234**	*e*P	**P**	**01 08 14.0**	**-0.1**
	comp=Z,408nm,0.6s					
BBOO	**Buckleboo**	**33.17 234**	P	**P**	**01 08 13.9**	**-0.3**
	baz=33,SNR=20					
FORT	**Forrest**	**39.09 241**	*e*P	**P**	**01 09 03.0**	**-1.4**
	comp=Z,34nm,0.6s					
FORT	**Forrest**	**39.09 241**	P	**P**	**01 09 04.3**	**-0.1**
	baz=39,SNR=13					
PALU	**Palau**	**40.61 303**	P	**P**	**01 09 14.0**	**-3.1**
	baz=40,SNR=3.4					
MBWA	**Marble Bar**	**45.78 256**	*e*P	**P**	**01 09 58.1**	**-0.4**
	comp=Z,8.4nm,0.5s					
MEEK	**Meekatharra**	**46.80 249**	P	**P**	**01 10 06.0**	**-0.3**
	baz=47,SNR=9.5					
NWAO	**Narrogin (SRO)**	**48.52 240**	P	**P**	**01 10 18.1**	**-1.3**
NWAO	**Narrogin (SRO)**	**48.52 240**	P	**P**	**01 10 18.1**	**-1.3**
	comp=Z,22nm,0.9s,baz=92,slow=8.3,SNR=6.0					
MORW	**Morawa**	**49.20 246**	P	**P**	**01 10 24.3**	**-0.4**
	baz=49,SNR=3.4					
CBIJ	**Chichi jima**	**49.87 330**	P	**P**	**01 10 29.1**	**-0.5**
JCJ	**Chichijima**	**49.87 330**	P	**P**	**01 10 29.1**	**-0.5**
	comp=Z,55nm,0.5s,baz=278,slow=19,SNR=5.1					
MAJO	**Matsushiro**	**59.60 332**	*e*P	**P**	**01 11 38.5**	**-0.8**
MAJO			pmax	pmax		
	comp=Z,30nm,1.0s					
MAJO	**Matsushiro**	**59.60 332**	*e*P	**P**	**01 11 38.5**	**-0.8**
	comp=Z,30nm,1.0s					
MAT	**Matsushiro**	**59.60 332**	P	**P**	**01 11 38.5**	**-0.8**
JNU	**Nakatsue**	**60.58 324**	*e*P	**P**	**01 11 45.9**	**-0.2**
	comp=Z,101nm,2.5s					
JNU	**Nakatsue**	**60.58 324**	P	**P**	**01 11 45.8**	**-0.2**
	comp=Z,15nm,0.7s,baz=141,slow=4.4,SNR=7.4					
VNDA	**Vanda**	**61.31 182**	*e*P	**P**	**01 11 50.6**	**+0.3**
	comp=Z,66nm,1.7s					
VNDA	**Vanda**	**61.31 182**	P	**P**	**01 11 50.6**	**+0.3**
	comp=Z,7.6nm,0.7s,baz=9.2,slow=6.2,SNR=17					
SBA	**Scott Base**	**61.57 180**	*e*P	**P**	**01 11 53.8**	**+1.8**
SBA	**Scott Base**	**61.57 180**	*e*P	**P**	**01 11 53.8**	**+1.8**
ERM	**Erimo**	**62.38 339**	*e*P	**P**	**01 11 58.9**	**+1.0**
ERM			pmax	pmax		
	comp=Z,21nm,0.9s					
ERM	**Erimo**	**62.38 339**	*e*P	**P**	**01 11 58.9**	**+1.0**
	comp=Z,21nm,0.9s					
ASAJ	**Asahikawa**	**64.44 340**	*e*P	**P**	**01 12 11.9**	**+0.6**
	comp=Z,16nm,0.7s					
ASAJ	**Asahikawa**	**64.44 340**	P	**P**	**01 12 12.4**	**+1.1**
	comp=Z,37nm,0.7s,baz=216,slow=8.9,SNR=25					
KSRS	**Korea Array**	**65.40 326**	P	**P**	**01 12 18.0**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=141,slow=6.8,SNR=7.0					
KSAR	**Wonju Array Be**	**65.41 326**	P	**P**	**01 12 18.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**66.92 342**⇑	*i*P	**P**	**01 12 28.0**	**+0.9**
YSS			pmax	pmax		
	comp=Z,60nm,1.0s					
NJ2	**Nanjing**	**67.25 316**	*e*P	**P**	**01 12 31.8**	**+2.2**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
NJ2			LR	LR		
	comp=Z,310nm,9.7s					
NJ2			LR	LR		
	comp=Z,390nm,11.3s					
NJ2			LR	LR		
	comp=Z,600nm,15.9s					
USRK	**Ussuriysk Arra**	**68.58 333**	P	**P**	**01 12 38.1**	**+0.6**
	comp=Z,6.0nm,0.7s,baz=125,slow=6.5,SNR=16					
USRK			pP	**pP**	**01 13 22.8**	**-1.3**
	comp=Z,3.8nm,0.9s,baz=142,slow=6.5,SNR=2.6					
WHN	**Wuhan**	**69.48 312**	P	P	01 12 40.1	-3.3
WHN			pP	pP	01 13 26.8	-3.3
WHN			S	**S**	**01 21 38.6**	**+3.8**
WHN			LR	LR		
	comp=Z,1μm,18.8s					
PETK	**Petropavlovsk-**	**69.69 353**	P	**P**	**01 12 44.3**	**+0.1**
PETK	**Petropavlovsk-**	**69.69 353**	P	**P**	**01 12 44.3**	**+0.1**
PETK	**Petropavlovsk-**	**69.69 353**	P	**P**	**01 12 44.3**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=173,slow=7.1,SNR=12					
MDJ	**Mudanjiang**	**69.97 332**	P	**P**	**01 12 46.9**	**+0.8**
MDJ			pP	**pP**	**01 13 32.3**	**-0.6**
MDJ			sP	**sP**	**01 13 52.6**	**-1.5**
MDJ			PP	**PP**	**01 15 23.6**	**-0.3**
MDJ			ScS	**ScS**	**01 22 28.8**	**-0.4**
MDJ			pmax	pmax		
	comp=Z,18nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,140nm,5.3s					
MDJ	**Mudanjiang**	**69.97 332**	*e*P	**P**	**01 12 46.2**	**+0.1**
	comp=Z,15nm,0.8s					
HABR	**Khabarovsk**	**70.83 338**	*e*P	**P**	**01 12 50.1**	**-1.1**
HABR			*SP	**sP**	**01 13 58.9**	**-0.4**
HABR			*e*		01 15 29.3	
HABR			*e*PPP	PPP	01 17 13.3	
HABR			S	**S**	**01 21 49.3**	**-0.5**
HABR			*e*		01 22 33.9	
HABR			*e*		01 22 44.8	
HABR			*e*SS	**SS**	**01 26 26.0**	**-1.0**
HABR			pmax	pmax		
	comp=Z,97nm,1.8s					
HABR			MLR	MLR		
	comp=Z,416nm,20.0s					
CN2	**Changchun**	**71.32 329**	⇑P	**P**	**01 12 55.1**	**+0.8**
CN2			*e*pP	**pP**	**01 13 42.5**	**+1.2**
CN2			*e*S	**S**	**01 21 56.0**	**+0.3**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
KLR	**Kul'dur**	**72.70 336**	*e*P	**P**	**01 13 00.0**	**-2.4**
GYA	**Guiyang**	**73.14 305**	P	**P**	**01 13 08.0**	**+2.4**
GYA			pP	**pP**	**01 13 56.8**	**+4.0**
GYA			sP	**sP**	**01 14 18.1**	**+4.1**
GYA			PP	**PP**	**01 15 55.3**	**+3.8**
GYA			S	**SKiKP**	**01 22 18.9**	**+1.6**
GYA			SKS	**SKSac**	**01 22 50.0**	**-2.9**
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,120nm,5.2s					
QSPA	**South Pole Qui**	**73.73 180**	P	**P**	**01 13 08.8**	**+0.4**
QSPA	**South Pole Qui**	**73.73 180**	P	**P**	**01 13 08.8**	**+0.4**
	comp=Z,47nm,0.9s,baz=14,slow=1.6,SNR=89					
BJT	**Baijiatuan**	**73.89 321**	*e*P	**P**	**01 13 09.6**	**+0.1**
	comp=Z,16nm,0.3s					
BJI	**Beijing**	**73.89 321**	P	**P**	**01 13 10.1**	**+0.6**
BJI			pmax	pmax		
	comp=Z,15nm,0.8s					
KMI	**Kunming**	**75.69 302**	P	**P**	**01 13 21.8**	**+1.4**
KMI			pP	**pP**	**01 14 11.6**	**+3.7**
KMI			sP	sP	01 14 34.5	+5.5
KMI			pmax	pmax		
	comp=Z,17nm,0.7s					
CMAR	**Chiang Mai Arr**	**76.19 294**	P	**P**	**01 13 24.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**76.19 294**	P	**P**	**01 13 24.1**	**+1.0**
	comp=Z,2.1nm,0.4s,baz=130,slow=5.3,SNR=10.0					
CHTO	**Chiang Mai**	**76.32 294**	*e*P	**P**	**01 13 24.7**	**+0.8**
CHTO			pmax	pmax		
	comp=Z,4.0nm,0.7s					
CHTO	**Chiang Mai**	**76.32 294**	*e*P	**P**	**01 13 24.7**	**+0.8**
	comp=Z,3.7nm,0.7s					
HHC	**Hu-ho-hao-te**	**77.20 320**	*e*P	**P**	**01 13 29.8**	**+1.3**
HHC			pP	**pP**	**01 14 15.1**	**-1.0**
HHC			S	**S**	**01 23 02.2**	**+0.7**
HHC			pmax	pmax		
	comp=Z,29nm,1.3s					
HHC			pmax	pmax		
	comp=Z,250nm,6.7s					

CD2	**Chengdu**	**77.48 308**	pP	**pP**	**01 14 20.8**	**+2.9**
CD2			sP	sP	01 14 42.3	+3.4
CD2			PP	**PP**	**01 16 31.2**	**+3.3**
CD2			S	**S**	**01 23 04.7**	**-0.1**
CD2	**Chengdu**	**77.48 308**	ScS	**ScS**	**01 23 27.8**	**-2.4**
CD2	**Chengdu**	**77.48 308**	sS	sS	01 24 30.1	+2.1
CD2	**Chengdu**	**77.48 308**	SS	SS	01 28 11.8	+3.0
CD2			pmax	pmax		
	comp=Z,10.0nm,1.4s					
CD2			pmax	pmax		
	comp=Z,50nm,6.8s					
LZH	**Lanzhou**	**79.86 312**	*e*P	**P**	**01 13 44.8**	**+1.6**
LZH			PcP	**PcP**	**01 13 52.8**	**+2.7**
LZH			pP	**pP**	**01 14 33.7**	**+2.6**
LZH			sP	sP	01 14 58.6	+6.5
LZH			*e*S	**S**	**01 23 30.0**	**-0.1**
LZH			pmax	pmax		
	comp=Z,18nm,1.0s					
LZH			pmax	pmax		
	comp=Z,120nm,4.0s					
MAW	**Mawson**	**80.68 202**	*e*P	**P**	**01 13 47.1**	**+0.4**
MAW	**Mawson**	**80.68 202**	P	**P**	**01 13 47.2**	**+0.4**
	comp=Z,12nm,0.9s,baz=114,slow=6.8,SNR=11					
YAK	**Yakutsk**	**83.72 343**	*e*P	**P**	**01 14 01.7**	**-0.8**
YAK			pmax	pmax		
	comp=Z,19nm,0.9s					
ULN	**Ulaanbaatar**	**83.78 324**	*e*P	**P**	**01 14 03.7**	**+0.3**
	comp=Z,8.0nm,0.8s					
ULN			*e*		01 14 52.5	
SONM	**Songino Array**	**84.14 323**	P	**P**	**01 14 05.5**	**+0.4**
SONM			pP	**pP**	**01 14 53.0**	**-0.7**
SONM	**Songino Array**	**84.14 323**	P	**P**	**01 14 05.5**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=150,slow=6.4,SNR=18					
SONM			pP	**pP**	**01 14 53.0**	**-0.7**
	comp=Z,3.6nm,0.9s,baz=123,slow=3.8,SNR=2.6					
GTA	**Gaotai**	**84.22 314**	P	**P**	**01 14 07.1**	**+1.3**
GTA			pP	**pP**	**01 14 53.0**	**-1.2**
GTA			sP	**sP**	**01 15 14.8**	**-0.3**
GTA			SKS	**SKSac**	**01 24 07.3**	**-3.2**
GTA			S	**S**	**01 24 13.9**	**-0.5**
GTA			pmax	pmax		
	comp=Z,13nm,1.1s					
GTA			pmax	pmax		
	comp=Z,130nm,6.6s					
GTA			LR	LR		
	comp=Z,200nm,16.6s					
GTA			LR	LR		
	comp=Z,210nm,16.2s					
GTA			LR	LR		
	comp=Z,250nm,16.2s					
YBH	**Yreka Blue Hor**	**86.07 45**	pP	pP	01 15 02.9	-0.6
YBH	**Yreka Blue Hor**	**86.07 45**	pP	pP	01 15 02.9	-0.6
	comp=Z,5.7nm,1.0s,baz=225,slow=2.9,SNR=6.6					
NVAR	**Mina Array Bea**	**87.80 49**	P	**P**	**01 14 24.0**	**+0.6**
NVAR			pP	**pP**	**01 15 10.0**	**-2.3**
NVAR	**Mina Array Bea**	**87.80 49**	P	**P**	**01 14 24.0**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=233,slow=7.0,SNR=6.4					
NVAR			pP	**pP**	**01 15 10.0**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=225,slow=7.2,SNR=3.8					
ILAR	**Eielson Array**	**87.82 18**	P	**P**	**01 14 20.9**	**-1.7**
ILAR			pP	**pP**	**01 15 07.5**	**-3.9**
ILAR	**Eielson Array**	**87.82 18**	P	**P**	**01 14 20.9**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=239,slow=5.3,SNR=9.8					
ILAR			pP	**pP**	**01 15 07.5**	**-3.9**
	comp=Z,2.6nm,0.8s,baz=236,slow=5.8,SNR=8.9					
SNAA	**Sanae**	**92.02 183**	*e*P	**P**	**01 14 41.7**	**-0.6**
SNAA	**Sanae**	**92.02 183**	*e*P	**P**	**01 14 41.1**	**-1.2**
	comp=Z,40nm,1.4s					
SNAA	**Sanae**	**92.02 183**	P	**P**	**01 14 41.7**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=198,slow=4.0,SNR=45					
VNA2	**Neumayer--Wstat**	**92.93 182**	*e*P	**P**	**01 14 46.3**	**-0.2**
VNA1	**Neumayer--Stat**	**93.23 181**	*e*P	**P**	**01 14 47.5**	**-0.3**
WMQ	**Urumqi**	**94.29 314**	P	**P**	**01 14 53.0**	**-0.2**
WMQ			pP	**pP**	**01 15 44.0**	**+1.7**
WMQ			sP	**sP**	**01 16 06.0**	**+3.0**
WMQ			PP	**PP**	**01 18 45.0**	**+1.8**
WMQ			pmax	pmax		
	comp=Z,13nm,1.0s					
WMQ			pmax	pmax		
	comp=Z,130nm,6.0s					
PDAR	**Pinedale Array**	**95.53 47**	PKKPbc	PKKPbc	01 31 49.2	-1.9
PDAR	**Pinedale Array**	**95.53 47**	PKKPbc	PKKPbc	01 31 49.2	-1.9
	comp=Z,0.7nm,0.9s,baz=66,slow=5.0,SNR=4.5					
MKAR	**Makanchi Array**	**98.79 316**	P	**P**	**01 15 13.1**	**-0.3**
MKAR			*PP	**pP**	**01 16 00.0**	**-2.6**
MKAR	**Makanchi Array**	**98.79 316**	P	**P**	**01 15 13.1**	**-0.3**
MKAR			pP	**pP**	**01 16 00.0**	**-2.6**
MKAR	**Makanchi Array**	**98.79 316**	P	**P**	**01 15 13.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=94,slow=7.3,SNR=8.7					
MKAR			pP	**pP**	**01 16 00.0**	**-2.6**
	comp=Z,1.0nm,0.9s,baz=119,slow=9.9,SNR=2.9					
ZALV	**Zalesovo Beam**	**99.04 324**	*i* P	**Pdif**	**01 15 14.3**	**0.0**
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ZALV	**Zalesovo Beam**	**99.04 324**	P	**Pdif**	**01 15 13.7**	**-0.6**
ZALV			pP	**pP**	**01 16 02.2**	**-1.4**
ZALV	**Zalesovo Beam**	**99.04 324**	P	**Pdif**	**01 15 13.7**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=123,slow=5.3,SNR=4.2					
ZALV			pP	**pP**	**01 16 02.2**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=111,slow=6.5,SNR=2.2					
ARCES	**ARCESS Array B**	**121.93 345**	PKP	**PKPdf**	**01 20 26.1**	**-0.2**
ARCES			PKKPbc	**PKKPab**	**01 30 24.4**	**-0.2**
ARCES	**ARCESS Array B**	**121.93 345**	PKP	**PKPdf**	**01 20 26.1**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=55,slow=2.1,SNR=30					
ARCES			PKKPbc	**PKKPab**	**01 30 24.4**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=211,slow=1.6,SNR=3.5					
BOSA	**Boshof**	**122.59 219**	PKP	**PKPdf**	**01 20 28.7**	**-0.3**
BOSA	**Boshof**	**122.59 219**	PKP	**PKPdf**	**01 20 28.7**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=282,slow=4.2,SNR=4.9					
LBTB	**Lobatse**	**124.93 223**	PKP	**PKPdf**	**01 20 33.5**	**-0.1**
LBTB	**Lobatse**	**124.93 223**	PKP	**PKPdf**	**01 20 33.5**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=198,slow=3.2,SNR=5.6					
FINES	**FINESS Array B**	**127.42 338**	PKP	**PKPdf**	**01 20 36.9**	**-0.1**
FINES	**FINESS Array B**	**127.42 338**	PKP	**PKPdf**	**01 20 36.9**	**-0.1**
	comp=Z,6.5nm,1.1s,baz=85,slow=4.0,SNR=6.4					
KMBO	**Kilima Mbogo**	**128.36 255**	*e*PKPdf	**PKPdf**	**01 20 37.4**	**-3.2**
SJG	**San Juan**	**128.44 80**	PKP	**PKPdf**	**01 20 39.5**	**-0.7**
SJG	**San Juan**	**128.44 80**	PKP	**PKPdf**	**01 20 39.5**	**-0.7**
	comp=Z,11nm,0.7s,baz=262,slow=7.1,SNR=3.7					
LSZ	**Lusaka**	**129.38 234**	PKP	**PKPdf**	**01 20 41.5**	**-0.8**
LSZ			SKPbc	SKPbc	01 23 48.9	+3.7
LSZ	**Lusaka**	**129.38 234**	PKP	**PKPdf**	**01 20 41.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=121,slow=5.9,SNR=2.5					
LSZ			SKPbc	SKPbc	01 23 48.9	+3.7
	comp=Z,1.2nm,0.7s,baz=108,slow=13,SNR=3.8					
NB2	**NORSAR Subarra**	**132.31 345**	SKPb	**SKPab**	**01 23 57.5**	**+1.8**
	comp=Z,6.5nm,0.8s,baz=32,slow=3.3					
NB2	**NORSAR Subarra**	**132.31 345**	SKPb	**SKPab**	**01 23 57.5**	**+1.8**
	baz=32,slow=3.3					
NOA	**NORSAR Array B**	**132.31 345**	SKPbc	**SKPab**	**01 23 56.9**	**+1.2**
NOA	**NORSAR Array B**	**132.31 345**	SKPbc	**SKPab**	**01 23 56.9**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=30,slow=3.2,SNR=11					
BDFB	**Brasilia**	**132.38 130**	PKP	**PKPdf**	**01 20 47.8**	**-0.2**
BDFB			SKPbc	**SKPbc**	**01 23 56.9**	**+0.7**
BDFB	**Brasilia**	**132.38 130**	PKP	**PKPdf**	**01 20 47.8**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=305,slow=1.3,SNR=3.9					
BDFB			SKPbc	**SKPbc**	**01 23 56.9**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=230,slow=3.1,SNR=5.5					
AKASG	**Malin Array Be**	**132.40 325**	SKPbc	**SKPab**	**01 23 56.6**	**+0.3**
AKASG	**Malin Array Be**	**132.40 325**	SKPbc	**SKPab**	**01 23 56.6**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=48,slow=4.2,SNR=9.6					
BRTR	**Keskin Array B**	**134.02 310**	PKP	**PKPdf**	**01 20 49.5**	**-1.0**
BRTR			SKPbc	**SKPab**	**01 24 03.1**	**-1.0**
BRTR	**Keskin Array B**	**134.02 310**	PKP	**PKPdf**	**01 20 49.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=321,slow=2.7,SNR=4.3					
BRTR			SKPbc	**SKPab**	**01 24 03.1**	**-1.0**
	comp=Z,1.2nm,1.0s,baz=349,slow=2.5,SNR=6.2					
TSUM	**Tsumeb**	**134.23 221**	PKP	**PKPdf**	**01 20 51.0**	**-0.4**
TSUM	**Tsumeb**	**134.23 221**	PKP	**PKPdf**	**01 20 51.0**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=153,slow=2.3,SNR=3.1					
CRVS	**Cervenica-Dubn**	**137.56 327**	*e*PKP	**PKPdf**	**01 20 57.8**	**+1.3**
GERES	**GERESS Array B**	**141.34 333**	PKPpre	PKPpre	01 20 56.7	
GERES			PKP	**PKiKP**	**01 21 06.1**	**-0.2**
GERES			SKPbc	**SKiKP**	**01 24 23.8**	**+0.1**
GERES	**GERESS Array B**	**141.34 333**	PKhKP	PKPpre	01 20 56.7	
	comp=Z,0.5nm,0.6s,baz=28,slow=4.4,SNR=3.0					
GERES			PKP	**PKiKP**	**01 21 06.1**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=24,slow=3.6,SNR=4.5					
GERES			SKPbc	**SKiKP**	**01 24 23.8**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=38,slow=4.0,SNR=4.7					
ABTA	**Abfaltersbach**	**143.43 331**⇑	*i*PKPdf	PKPbc	01 21 04.6	-0.4
	comp=Z,6.2nm,0.7s,SNR=5.3					
BFO	**Black Forest**	**143.95 337**	*i* PKIKP	**PKPdf**	**01 21 07.3**	**-0.8**
DAVOX	**Davos/Dischmat**	**144.57 334**	PKP	**PKPdf**	**01 21 09.5**	**+0.1**
DAVOX	**Davos/Dischmat**	**144.57 334**	PKP	**PKPdf**	**01 21 09.5**	**+0.1**

	comp=Z,13nm,0.6s,baz=343,slow=2.5					
TUE	**Stuetta**	**145.04 334**	*e*PKPdf	**PKPdf**	**01 21 10.3**	**+0.1**
SHEL	**Horse Pasture**	**147.34 191**	*i* PKP2	**PKPab**	**01 21 18.9**	**-0.8**
ESDC	**Sonseca Array**	**155.67 345**	PKPab	**PKPab**	**01 21 54.5**	**+0.7**
ESDC	**Sonseca Array**	**155.67 345**	PKPab	**PKPab**	**01 21 54.5**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=14,slow=4.2,SNR=8.4					
TORD	**Torodi Ar. Bea**	**166.34 259**	PKP	**PKPdf**	**01 21 38.0**	**-0.6**
TORD			PKPab	**PKPab**	**01 22 39.4**	**-1.8**
TORD	**Torodi Ar. Bea**	**166.34 259**	PKP	**PKPdf**	**01 21 38.0**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=45,slow=0.5,SNR=8.6					
TORD			PKPab	**PKPab**	**01 22 39.4**	**-1.8**
	comp=Z,1.1nm,1.1s,baz=128,slow=2.4,SNR=4.2					
DBIC	**Dimbokro**	**168.11 217**	PKP	**PKPdf**	**01 21 39.4**	**-0.6**
DBIC			PKPab	**PKPab**	**01 22 48.7**	**-0.1**
DBIC	**Dimbokro**	**168.11 217**	PKP	**PKPdf**	**01 21 39.4**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=282,slow=3.9,SNR=3.2					
DBIC			PKPab	**PKPab**	**01 22 48.7**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=104,slow=4.2,SNR=4.9					

IDC 01 01:19:53.0±3.9, 8.47S×149.36E, h97km±32km, mb3.9/6, mb1 4.0/8, mb1mx3.7/17, mbtmp3.8/8, Error ellipse: s-maj=40.1km s-min=25.4km az=108.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**2.37**	**247**	P		Pn	01 20 30.7	+0.4
	14nm,0.3s,baz=72,slow=8.1,SNR=26							
PMG				S		Sn	01 21 04.8	+6.0
	17nm,0.3s,baz=245,slow=8.3,SNR=4.9							
WRA	**Warramunga Arr**	**18.48**	**230**	P		P	01 24 01.6	+0.1
	0.4nm,0.3s,baz=57,slow=11,SNR=16							
ASAR	**Alice Springs**	**21.15**	**223**	P		P	01 24 30.0	-0.5
	3.4nm,0.6s,baz=58,slow=8.7,SNR=23							
STKA	**Stephens Creek**	**24.38**	**196**	P		P	01 25 02.7	+0.4
	3.3nm,0.7s,baz=356,slow=9.5,SNR=7.1							
FITZ	**Fitzroy Crossi**	**24.96**	**245**	P		P	01 25 07.3	-0.4
	4.0nm,0.7s,baz=89,slow=9.1,SNR=19							
VNDA	**Vanda**	**69.33**	**177**	P		P	01 30 49.7	0.0
	2.5nm,0.6s,baz=296,slow=7.9,SNR=7.3							
MAW	**Mawson**	**80.89**	**203**	P		P	01 31 55.4	-0.7
	2.6nm,0.6s,baz=77,slow=8.5,SNR=4.9							
ILAR	**Eielson Array**	**86.83**	**23**	P		P	01 32 25.9	-0.5
	1.2nm,0.6s,baz=258,slow=4.5,SNR=16							
TORD	**Torodi Ar. Bea**	**147.92**	**281**	PKPbc		PKPbc	01 39 28.3	+0.2
	0.5nm,0.3s,baz=116,slow=2.8,SNR=19							
TORD				pPKPbc		pPKPbc	01 39 54.8	+0.2
	0.4nm,0.5s,baz=70,slow=2.7,SNR=3.5							
BDFB	**Brasilia**	**150.50**	**144**	PKPbc		PKPbc	01 39 34.7	+0.1
	0.9nm,0.4s,baz=186,slow=5.2,SNR=3.5							

*IDC **01** 01:34:17.3±1.9, 10.04S×119.50E, h0km, mb3.7/2, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, ML3.3/4, Error ellipse: s-maj=89.9km s-min=22.0km az=59.0*

ISC 01 01:34:23.2±1.4, 9.8S±0.2×120.3E±0.3, h35km, n6, σ2s40/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAPI	**Kappang**	**4.76**	**354**	Pn		**Pn**	**01 35 32.1**	**-0.4**
	1.5nm,0.3s,baz=170,slow=14,SNR=2.6							
KAPI				Sn		Sn	01 36 43.8	+17
	baz=120,slow=20,SNR=1.9							
FITZ	**Fitzroy Crossi**	**9.79**	**148**	Pn		**Pn**	**01 36 40.2**	**-1.2**
	0.3nm,0.3s,baz=328,slow=11,SNR=11							
FITZ				Sn		Sn	01 38 20.9	-9.3
	0.1nm,0.3s,baz=174,slow=19,SNR=4.5							
WRA	**Warramunga Arr**	**16.94**	**128**	P		**P**	**01 38 20.4**	**+1.1**
	0.1nm,0.3s,baz=297,slow=13,SNR=3.6							
WRA				S		**Sn**	**01 41 22.7**	**-2.3**
	0.1nm,0.3s,baz=303,slow=30,SNR=3.2							
ASAR	**Alice Springs**	**18.99**	**138**	P		**Pn**	**01 38 45.9**	**+3.0**
	0.2nm,0.3s,baz=314,slow=15,SNR=5.7							
SONM	**Songino Array**	**58.66**	**349**	P		**P**	**01 44 18.7**	**+1.6**
	0.5nm,0.5s,baz=170,slow=8.8,SNR=3.8							
**MKA

WRA	**Warramunga Arr**	**61.93**	**102**	P		**P**	**01 49 51.2**	**+0.3**
	2.2nm,0.8s,baz=261,slow=6.4,SNR=14							
WRA				LR		LR	02 13 18.6	
	comp=Z,132nm,20.8s,baz=280,slow=33							
WRAB	**Tennant Creek**	**61.94**	**102**	*eP*		**P**	**01 49 51.1**	**+0.1**
	5.0nm,1.0s							
AAK	**Ala-Archa**	**63.17**	**5**	P		**P**	**01 49 58.7**	**0.0**
AAK	**Ala-Archa**	**63.17**	**5**	P		**P**	**01 49 58.7**	**0.0**
	1.3nm,0.7s,baz=169,slow=10,SNR=2.3							
SNAA	**Sanae**	**64.60**	**199**	P		**P**	**01 50 07.8**	**0.0**
SNAA	**Sanae**	**64.60**	**199**	P		**P**	**01 50 07.8**	**0.0**
	0.7nm,0.9s,baz=94,slow=6.9,SNR=5.2							
STKA	**Stephens Creek**	**65.98**	**117**	LR		LR	02 13 40.4	
	comp=Z,174nm,21.5s,baz=206,slow=31							
BRTR	**Keskin Array B**	**67.96**	**332**	P		**P**	**01 50 29.3**	**-0.5**
BRTR	**Keskin Array B**	**67.96**	**332**	P		**P**	**01 50 29.3**	**-0.5**
	0.7nm,1.1s,baz=132,slow=8.3,SNR=3.3							
MKAR	**Makanchi Array**	**68.28**	**11**	P		**P**	**01 50 31.3**	**-0.2**
MKAR	**Makanchi Array**	**68.28**	**11**	P		**P**	**01 50 31.3**	**-0.2**
	1.1nm,0.7s,baz=208,slow=7.5,SNR=5.1							
MKAR				LR		LR	02 18 57.9	
	comp=Z,81nm,19.3s,baz=333,slow=35							
QSPA	**South Pole Qui**	**69.56**	**180**	P		**P**	**01 50 39.8**	**+0.3**
QSPA	**South Pole Qui**	**69.56**	**180**	P		**P**	**01 50 39.7**	**+0.3**
	1.1nm,0.2s,baz=260,slow=4.8,SNR=3.2							
ABKAR	**Akbulak array**	**69.85**	**354**	*eP*		**P**	**01 50 44.1**	**+2.9**
	5.0nm,1.1s							
AKTO	**Aktyubinsk**	**71.21**	**353**	LR		LR	02 19 09.9	
	comp=Z,85nm,20.3s,baz=239,slow=34							
KURK	**Kurchatov**	**71.59**	**7**	P		**P**	**01 50 51.8**	**+0.1**
	4.3nm,1.0s							
TORD	**Torodi Ar. Bea**	**73.16**	**291**	P		**P**	**01 51 01.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**73.16**	**291**	P		**P**	**01 51 01.4**	**-0.6**
	1.0nm,0.9s,baz=117,slow=4.3,SNR=6.1							
TORD				LR		LR	02 21 50.8	
	comp=Z,78nm,18.1s,baz=330,slow=35							
BVAR	**Borovoye Array**	**73.30**	**2**	P		**P**	**01 51 00.8**	**-1.1**
BVAR	**Borovoye Array**	**73.30**	**2**	P		**P**	**01 51 00.8**	**-1.1**
	1.0nm,0.8s,baz=152,slow=7.5,SNR=4.7							
BVAR				LR		LR	02 21 17.2	
	comp=Z,123nm,18.9s,baz=350,slow=34							
ZAA0	**Zalesovo Array**	**75.62**	**10**	*eP*		**P**	**01 51 14.1**	**-1.2**
ZALV	**Zalesovo Beam**	**75.62**	**10**	P		**P**	**01 51 14.5**	**-0.8**
ZALV	**Zalesovo Beam**	**75.62**	**10**	P		**P**	**01 51 14.5**	**-0.8**
	2.8nm,0.5s,baz=240,slow=2.9,SNR=5.2							
SONM	**Songino Array**	**76.34**	**26**	P		**P**	**01 51 19.6**	**-0.1**
SONM	**Songino Array**	**76.34**	**26**	P		**P**	**01 51 19.6**	**-0.1**
	1.0nm,0.8s,baz=207,slow=6.2,SNR=3.8							
DBIC	**Dimbokro**	**76.36**	**283**	P		**P**	**01 51 20.3**	**-0.1**
DBIC	**Dimbokro**	**76.36**	**283**	P		**P**	**01 51 20.3**	**-0.1**
	1.1nm,0.7s,baz=151,slow=10,SNR=2.2							
DBIC				LR		LR	02 21 33.5	
	comp=Z,103nm,19.5s,baz=34,slow=33							
PMG	**Port Moresby**	**76.78**	**95**	LR		LR	02 20 58.6	
	comp=Z,113nm,19.9s,baz=216,slow=32							
AKASG	**Malin Array Be**	**78.70**	**336**	P		**P**	**01 51 33.6**	**+1.0**
AKASG	**Malin Array Be**	**78.70**	**336**	P		**P**	**01 51 33.6**	**+1.0**
	0.3nm,0.3s,baz=137,slow=4.8,SNR=4.2							
KSAR	**Wonju Array Be**	**80.70**	**44**	P		**P**	**01 51 42.4**	**-1.5**
KSRS	**Korea Array**	**80.73**	**44**	P		**P**	**01 51 42.4**	**-1.7**
	0.6nm,0.5s,baz=238,slow=4.8,SNR=3.0							
HNR	**Honiara**	**88.65**	**99**	LR		LR	02 26 28.9	
	comp=Z,64nm,18.9s,baz=316,slow=32							

IDC 01 01:57:02.6±9.9, 16°.14S×179°.85E, h520km±109km, mb2.9/5, mb1 3.3/5, mb1mx3.1/18, mbtmp2.9/5, Error ellipse: s-maj=143.7km s-min=34.0km az=150.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.34**	**258**	P	P	02 04 18.4	-0.5
	0.2nm,0.2s,baz=89,slow=7.7,SNR=9.5						
ASAR	**Alice Springs**	**43.69**	**253**	P	P	02 04 21.7	+0.1
	2.2nm,0.4s,baz=86,slow=8.6,SNR=23						
NVAR	**Mina Array Bea**	**79.33**	**45**	P	P	02 08 14.5	-0.1
	0.4nm,0.5s,baz=222,slow=7.4,SNR=4.8						
ILAR	**Eielson Array**	**84.56**	**14**	P	P	02 08 40.4	+0.1
	0.6nm,0.8s,baz=229,slow=5.3,SNR=7.0						
PDAR	**Pinedale Array**	**87.24**	**44**	P	P	02 08 53.9	-0.1
	0.2nm,0.5s,baz=239,slow=8.3,SNR=4.4						
ARCES	**ARCESS Array B**	**124.29**	**349**	PKP	PKPdf	02 15 02.0	+0.4
	26nm,1.4s,baz=29,slow=2.1,SNR=4.8						
BRTR	**Keskin Array B**	**142.36**	**315**	PKP	PKPdf	02 15 34.6	-1.8
	0.3nm,0.6s,baz=109,slow=2.0,SNR=3.0						

*IDC **01** 02:01:11.0±8.9, 16°.08S×176°.37W, h329km±91km, mb3.3/8, mb1 3.6/8, mb1mx3.4/20, mbtmp3.3/8, Error ellipse: s-maj=36.8km s-min=21.9km az=157.0*

*ISCJB **01** 02:01:14.5±0.8, 16°.2S±0°.2×176°.5W±0°.2, h382km, mb3.6/8, Error ellipse: s-maj=33.1km s-min=17.1km az=40.4*

ISC 01 02:01:15.8±1.0, 16°.2S±0°.2×176°.4W±0°.2, h382km, n11, σ0s63/11, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.72**	**193**	P	**P**	**02 05 45.6**	**-0.5**
	4.5nm,0.6s,baz=351,slow=8.5,SNR=3.9						
WRA	**Warramunga Arr**	**46.85**	**258**	P	**P**	**02 09 09.4**	**-0.2**
	0.4nm,0.4s,baz=96,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**47.12**	**253**	P	**P**	**02 09 12.3**	**+0.8**
	1.8nm,0.4s,baz=91,slow=7.6,SNR=22						
PETK	**Petropavlovsk-**	**72.54**	**344**	P	**P**	**02 12 01.5**	**-0.5**
	1.0nm,0.6s,baz=138,slow=9.4,SNR=5.4						
YBH	**Yreka Blue Hor**	**75.99**	**38**	P	**P**	**02 12 23.1**	**+1.0**
	1.5nm,0.5s,baz=207,slow=2.3,SNR=3.8						
NVAR	**Mina Array Bea**	**76.86**	**43**	P	**P**	**02 12 27.5**	**+0.3**
	0.9nm,0.7s,baz=233,slow=9.0,SNR=10						
ILAR	**Eielson Array**	**83.80**	**12**	P	**P**	**02 13 01.9**	**-0.9**
	0.8nm,0.6s,baz=218,slow=5.4,SNR=19						
PDAR	**Pinedale Array**	**84.79**	**43**	P	**P**	**02 13 08.4**	**-0.2**
	0.4nm,0.8s,baz=258,slow=4.4,SNR=3.5						
ARCES	**ARCESS Array B**	**124.95**	**351**	PKP	**PKPdf**	**02 19 30.6**	**+0.1**
	1.4nm,0.7s,baz=0.0,slow=2.8,SNR=5.8						
BRTR	**Keskin Array B**	**144.87**	**318**	PKP	**PKPab**	**02 20 09.3**	**+0.4**
	0.4nm,0.3s,baz=54,slow=2.2,SNR=9.3						
GERES	**GERESS Array B**	**146.39**	**348**	PKPbc	**PKPbc**	**02 20 12.8**	**+0.2**
	0.3nm,0.5s,baz=25,slow=3.5,SNR=4.4						

DJA 01 02:08:37.8±1.0, 6°S±5°×107°.4E±°, h10km, M3.8/6, MLv3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.64**	**52**	P	Pg	02 08 49.0	-1.2
KASI				S	Sg	02 08 58.0	-0.6
LWLI	**Liwa**	**0.90**	**4**	P	Pg	02 08 53.5	-1.8
LWLI				S	Sg	02 09 05.9	-1.2
KLI	**Kotabumi**	**1.36**	**39**	P	Pn	02 09 02.2	-0.7
KLI				S	Sg	02 09 21.7	+0.1
BLSI	**Bandar Lampung**	**1.36**	**66**	S	Sb	02 09 20.7	-0.3
KLSI		**1.43**	**31**	P	Pn	02 09 02.4	-1.4
KLSI				S	Sg	02 09 23.5	-0.3
MDSI	**Maura Dua**	**1.44**	**8**	P	Pn	02 09 02.6	-1.3
MDSI				S	Sn	02 09 22.0	-0.9
LHSI	**Lahat**	**2.13**	**347**	P	Pn	02 09 14.2	+0.7

IDC 01 02:09:48.4±25.0, 6°.49S×143°.64E, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=408.5km s-min=107.3km az=171.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.13**	**213**	Pn	Pn	02 13 35.1	-1.7
	0.3nm,0.3s,baz=29,slow=12,SNR=15						
ASAR	**Alice Springs**	**19.47**	**208**	P	Pn	02 14 18.0	-0.2
	0.3nm,0.3s,baz=39,slow=11,SNR=14						
STKA	**Stephens Creek**	**25.33**	**184**	P	P	02 15 16.8	-0.2
	0.9nm,0.6s,baz=0.0,slow=7.1,SNR=3.4						

IDC 01 02:13:42.7±2.3, 13°.44N×92°.99E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/27, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=63.0km s-min=31.2km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.60**	**48**	Pn	Pn	02 15 34.6	-0.2
	0.6nm,0.3s,baz=244,slow=15,SNR=7.9						
MKAR	**Makanchi Array**	**34.45**	**347**	P	P	02 20 33.7	+1.6
	1.6nm,1.0s,baz=169,slow=8.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**38.91**	**345**	P	P	02 21 08.8	-1.3
	0.7nm,0.7s,baz=164,slow=7.9,SNR=7.8						
WRA	**Warramunga Arr**	**52.49**	**128**	P	P	02 22 57.9	-0.1
	0.5nm,0.8s,baz=307,slow=7.3,SNR=2.8						

*ISCJB **01** 03:06:51.3±0.8, 13°.10N±0°.07×49°.14E±0°.06, h10km, mb3.7/5, MS3.1/1, Error ellipse: s-maj=10.3km s-min=7.8km az=172.3*

*DHMR **01** 03:06:51.8±1.1, 13°.19N×48°.90E, h2km±620km, ML3.6*

*IDC **01** 03:06:51.4±1.4, 13°.04N×49°.13E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=47.5km s-min=35.5km az=166.0*

ISC 01 03:06:53.0±1.1, 13°.17N±0°.10×49°.13E±0°.08, h10km, n10, σ0s95/12, mb3.7/5, 2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.30**	**356**	*i* P	**Pn**	**03 07 16.0**	**-1.2**
MUKL				*i* S	**Sb**	**03 07 34.1**	**-0.2**
BDHA	**Al Bayda'**	**3.55**	**283**	*i* P	**Pn**	**03 07 48.3**	**-0.2**
BDHA				AML	AML	03 07 54.1	
	comp=E,246nm,0.3s						
BDHA				*i* S	**Sn**	**03 08 32.1**	**+1.4**
LBOS		**3.84**	**281**	*i* P	**Pn**	**03 07 51.6**	**-0.9**
LBOS				*i* S	**Sn**	**03 08 38.0**	**+0.2**
TRBA	**At Turbah**	**4.88**	**271**	*i* P	**Pn**	**03 08 05.1**	**-1.6**
EIL	**Eilat**	**21.03**	**324**	LR	LR	03 19 53.5	
	comp=E,68nm,18.5s,baz=87,slow=37						
MKAR	**Makanchi Array**	**43.55**	**33**	P	**P**	**03 14 58.0**	**+0.9**
	comp=E,1.2nm,0.9s,baz=222,slow=8.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**46.13**	**276**	P	**P**	**03 15 18.1**	**0.0**
	comp=E,0.3nm,0.7s,baz=89,slow=7.2,SNR=3.0						
SONM	**Songino Array**	**58.52**	**42**	P	**P**	**03 16 50.2**	**+0.4**
	comp=E,0.2nm,0.5s,baz=258,slow=7.2,SNR=3.0						
WRA	**Warramunga Arr**	**90.02**	**110**	P	**P**	**03 19 53.2**	**-0.3**
	comp=E,0.6nm,0.6s,baz=299,slow=3.7,SNR=5.2						
ASAR	**Alice Springs**	**90.52**	**114**	P	**P**	**03 19 55.8**	**-0.1**
	comp=E,0.3nm,0.6s,baz=288,slow=4.8,SNR=5.1						

IDC 01 03:21:50.6±4.4, 15°.82S×172°.61W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/20, mbtmp3.6/3, Error ellipse: s-maj=263.0km s-min=31.4km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.72**	**328**	T	T	04 09 57.7	
	baz=150,slow=76,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**39.73**	**328**	T	T	04 09 58.7	
	baz=150,slow=76,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**39.73**	**328**	T	T	04 09 56.6	
	baz=150,slow=76,SNR=6.7						
WRA	**Warramunga Arr**	**50.49**	**257**	P	P	03 30 50.4	-0.5
	0.4nm,0.7s,baz=92,slow=7.3,SNR=3.6						
ASAR	**Alice Springs**	**50.71**	**252**	P	P	03 30 52.5	-0.1
	0.7nm,0.6s,baz=88,slow=8.5,SNR=12						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	P	03 33 28.8	-0.5
	0.4nm,0.8s,baz=225,slow=6.0,SNR=2.9						
GERES	**GERESS Array B**	**146.66**	**352**	PKPbc	PKPbc	03 41 33.9	-0.6
	1.3nm,0.7s,baz=26,slow=3.4,SNR=10						
BRTR	**Keskin Array B**	**146.96**	**321**	PKPbc	PKPbc	03 41 35.2	-0.4
	2.6nm,1.0s,baz=45,slow=2.2,SNR=12						

IDC 01 03:22:53.4±11.0, 21°.03S×69°.50W, h0km, mb4.0/2, mb1 3.9/3, mb1mx3.6/17, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=286.5km s-min=41.7km az=86.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.89**	**16**	Pn	Pn	03 24 09.4	+0.3
	3.5nm,0.3s,baz=203,slow=11,SNR=36						
LPAZ				Sn	Sn	03 25 06.7	-0.3
	0.4nm,0.3s,baz=272,slow=23,SNR=3.8						
DBIC	**Dimbokro**	**69.13**	**74**	P	P	03 34 02.3	+0.2
	2.3nm,1.1s,baz=220,slow=6.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**77.72**	**71**	P	P	03 34 52.6	-0.1
	0.3nm,0.3s,baz=255,slow=5.3,SNR=18						

MAN 01 03:39:13, 10°.44N×125°.64E, h32km, mb4.7, ML3.6, MS3.5, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.67**	**193**	*eP*	Pb	03 39 26.8	+0.5
SCPH				*eS*	Sn	03 39 37.5	+1.9
MSLP	**Maasin**	**0.82**	**249**	*eP*	Pb	03 39 29.8	+0.8
MSLP				*eS*	Sb	03 39 41.6	+1.9
PLP	**Palo**	**0.97**	**318**	*eP*	Pb	03 39 31.1	-0.3
PLP				*eS*	Sb	03 39 43.8	-0.1
BESP	**Borongan**	**1.17**	**350**	*eP*	Pb	03 39 35.1	+0.3
CNP	**Catarman**	**2.27**	**335**	*eP*	Pn	03 39 49.2	+0.9
BUKP	**Musuan**	**2.60**	**193**	*eP*	Pn	03 39 54.3	+1.3
PVCP	**Virac**	**3.46**	**335**	*eP*	Pb	03 40 09.6	-4.0

*ISCJB **01** 03:58:20.7±0.7, 24°.17S±0°.06×66°.78W±0°.1, h181km, mb3.4/3, Error ellipse: s-maj=15.9km s-min=8.7km az=174.1*

*IDC **01** 03:58:21.6±1.8, 24°.17S×66°.80W, h185km±16km, mb3.3/3, mb1 3.4/8, mb1mx3.3/20, mbtmp3.2/8, Error ellipse: s-maj=22.9km s-min=17.4km az=77.0*

ISC 01 03:58:21.2±0.7, 24°.22S±0°.06×66°.9W±0°.1, h181km, n11, σ2s11/13, mb3.4/3, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.46**	**189**	P	**Pn**	**04 00 07.5**	**+0.1**
	0.2nm,0.3s,baz=350,slow=12,SNR=25						
CFAA				S	**Sn**	**04 01 27.1**	**-4.4**
	0.5nm,0.3s,baz=143,slow=18,SNR=14						
LPAZ	**La Paz**	**7.98**	**351**	P	**Pn**	**04 00 16.1**	**+1.2**
	0.6nm,0.3s,baz=164,slow=7.9,SNR=11						
LPAZ				S	**Sn**	**04 01 42.5**	**-2.2**
	0.2nm,0.3s,baz=255,slow=22,SNR=7.2						
CPUP	**Villa Florida**	**8.87**	**106**	P	**Pn**	**04 00 27.1**	**+1.2**
	0.4nm,0.3s,baz=270,slow=16,SNR=3.3						
SIV	**San Ignacio**	**9.82**	**35**	P	**Pn**	**04 00 37.7**	**-0.7**
	0.8nm,0.3s,baz=220,slow=13,SNR=16						
PLCA	**Paso Flores**	**16.76**	**190**	P	**Pn**	**04 02 08.8**	**+3.3**
	0.3nm,0.3s,baz=9.8,slow=12,SNR=4.0						
BDFB	**Brasilia**	**19.64**	**68**	P	**P**	**04 02 36.3**	**0.0**
	0.6nm,0.3s,baz=258,slow=6.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**04 09 50.8**	**-1.0**
	0.4nm,0.5s,baz=266,slow=5.8,SNR=20						
NVAR	**Mina Array Bea**	**78.79**	**321**	P	**P**	**04 10 05.5**	**+1.4**
	0.2nm,0.5s,baz=134,slow=5.2,SNR=2.3						
YKA	**Yellowknife Ar**	**94.37**	**340**	P	**P**	**04 11 18.2**	**-1.5**
	0.5nm,0.6s,baz=137,slow=4.6,SNR=4.6						
WRA	**Warramunga Arr**	**131.50**	**207**	PKP	**PKPdf**	**04 17 13.2**	**+0.3**
	0.3nm,0.4s,baz=149,slow=1.8,SNR=3.8						
MKAR	**Makanchi Array**	**146.60**	**40**	PKPbc	**PKPdf**	**04 17 40.4**	**+0.9**
	1.2nm,0.7s,baz=310,slow=3.3,SNR=7.2						

*AUST **01** 04:06:08.6±0.0, 17°.83S×177°.37W, h613km, Error ellipse: s-maj=2.2km s-min=1.6km az=15.0*

*ISCJB **01** 04:06:12.1±0.3, 18°.08S±0°.08×178°.45W±0°.06, h579km, mb4.2/32, Error ellipse: s-maj=11.0km s-min=6.7km az=149.2*

*BJI **01** 04:06:14.3, 18°.10S×178°.50W, h604km, mb4.3/2*

*NEIC **01** 04:06:15.2±0.8, 18°.12S×178°.48W, h604km±8km, mb4.1/16, Error ellipse: s-maj=18.0km s-min=8.0km az=148.0*

*IDC **01** 04:06:16.6±1.9, 18°.11S×178°.49W, h623km±22km, mb3.6/16, mb1 3.8/17, mb1mx3.7/23, mbtmp3.6/17, Error ellipse: s-maj=14.5km s-min=10.8km az=153.0*

ISC 01 04:06:12.9±0.5, 18°.10S±0°.09×178°.38W±0°.08, h579km, n74, σ1s28/77, mb4.1/32, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.42**	**276**	*eP*	P	04 07 36.8	+3.7
MSVF				*eS*	S	04 08 47.7	+9.4
NIUE	**Niue**	**8.07**	**98**	P	P	04 08 01.3	-11
	baz=7.2,SNR=3.3						
DZM	**Mont Dzumac**	**14.79**	**252**	P	**P**	**04 09 21.7**	**+1.8**
	0.6nm,0.3s,baz=83,slow=8.1,SNR=7.8						

RAR	**Rarotonga**	**17.79**	**103**	P		**P**	**04 09 47.3**	**-0.3**
	8.0nm,0.3s,baz=270,slow=9.1,SNR=4.2							
URZ	**Urewera**	**20.47**	**190**	P		**P**	**04 10 13.2**	**+1.5**
	2.8nm,0.5s,baz=349,slow=5.2,SNR=3.6							
EIDS	**Eidsvold**	**29.23**	**250**	*eP*		**P**	**04 11 28.4**	**-0.8**
	9.6nm,0.6s							
EIDS	**Eidsvold**	**29.23**	**250**	P		**P**	**04 11 29.3**	**0.0**
	baz=30,SNR=4.9							
ARMA	**Armidale**	**29.87**	**240**	P		**P**	**04 11 36.2**	**+1.4**
	baz=31,SNR=5.3							
CNB	**Canberra Magne**	**33.33**	**233**	P		**P**	**04 12 05.5**	**+1.3**
	baz=34,SNR=18							
CTAO	**Charters Tower**	**33.44**	**261**	*eP*		**P**	**04 12 04.8**	**-0.5**
	15nm,0.7s							
PATS	**Pohnpei**	**33.82**	**315**	P		**P**	**04 12 09.7**	**+1.3**
	baz=34,SNR=3.2							
PMG	**Port Moresby**	**34.52**	**280**	*eP*		**P**	**04 12 15.0**	**+0.7**
	39nm,0.8s							
PMG	**Port Moresby**	**34.52**	**280**	P		**P**	**04 12 14.8**	**+0.5**
	38nm,0.7s,baz=102,slow=7.5,SNR=17							
CMSA	**Cobar Meteorol**	**35.08**	**241**	P		**P**	**04 12 19.4**	**+0.7**
	baz=36,SNR=19							
QLP	**Quilpie**	**35.49**	**249**	P		**P**	**04 12 22.4**	**+0.2**
	baz=36,SNR=18							
TOO	**Toolangi**	**37.07**	**231**	P		**P**	**04 12 36.0**	**+1.0**
	baz=38,SNR=8.1							
COEN	**Coen**	**37.13**	**271**	*eP*		**P**	**04 12 36.4**	**+0.5**
	221nm,0.7s							
COEN	**Coen**	**37.13**	**271**	P		**P**	**04 12 36.5**	**+0.7**
	baz=38,SNR=77							
STKA	**Stephens Creek**	**38.56**	**241**	*eP*		**P**	**04 12 47.8**	**+0.6**
	4.4nm,0.9s							
STKA	**Stephens Creek**	**38.56**	**241**	P		**P**	**04 12 47.2**	**0.0**
	20nm,0.8s,baz=88,slow=9.1,SNR=36							
STKA	**Stephens Creek**	**38.56**	**241**	P		**P**	**04 12 48.1**	**+0.9**
	baz=40,SNR=14							
H11N3	**WAKE ISLAND Hy**	**40.27**	**338**	T		T	04 56 33.2	
	baz=153,slow=77,SNR=12							
H11N1	**WAKE ISLAND Hy**	**40.27**	**338**	T		T	04 56 27.0	
	baz=153,slow=77,SNR=11							
H11N2	**WAKE ISLAND Hy**	**40.28**	**338**	T		T	04 56 35.8	
	baz=153,slow=77,SNR=12							
HTT	**Hallett**	**41.07**	**240**	P		**P**	**04 13 07.9**	**+0.6**
	baz=42,SNR=12							
BBOO	**Buckleboo**	**43.34**	**241**	*eP*		**P**	**04 13 25.2**	**+0.2**
	342nm,0.8s							
BBOO	**Buckleboo**	**43.34**	**241**	P		**P**	**04 13 25.3**	**+0.3**
	baz=44,SNR=33							
WRAB	**Tennant Creek**	**44.62**	**260**	*eP*		**P**	**04 13 34.1**	**-0.9**
	17nm,0.6s							
WRA	**Warramunga Arr**	**44.62**	**260**	P		**P**	**04 13 34.2**	**-0.9**
	11nm,0.5s,baz=96,slow=7.2,SNR=317							
WRA				PcP		**PcP**	**04 15 04.7**	**-0.6**
	1.2nm,0.4s,baz=91,slow=3.6,SNR=5.0							
WRA				S		**S**	**04 19 26.5**	**-3.6**
	0.8nm,0.8s,baz=101,slow=12,SNR=4.1							
AS31	**Alice Springs**	**44.77**	**254**	*eP*		**P**	**04 13 36.1**	**-0.1**
ASAR	**Alice Springs**	**44.77**	**254**	P		**P**	**04 13 36.1**	**-0.1**
	60nm,0.6s,baz=87,slow=8.6,SNR=704							
ASAR				PcP		**PcP**	**04 15 05.2**	**-0.6**
	3.4nm,0.7s,baz=100,slow=3.5,SNR=6.5							
ASAR				S		**S**	**04 19 29.4**	**-2.6**
	0.9nm,0.9s,baz=88,slow=14,SNR=6.5							
KDU	**Kakadu**	**47.58**	**269**	P		**P**	**04 13 57.1**	**-0.4**
	baz=48,SNR=17							
FORT	**Forrest**	**49.95**	**245**	P		**P**	**04 14 14.2**	**-0.7**
	baz=51,SNR=18							
KNRA	**Kununurra**	**50.50**	**264**	P		**P**	**04 14 18.4**	**-0.6**
	baz=52,SNR=7.5							
MBWA	**Marble Bar**	**58.05**	**256**	*eP*		**P**	**04 15 11.0**	**-0.9**
	7.4nm,0.6s							
MEEK	**Meekatharra**	**58.39**	**249**	P		**P**	**04 15 13.0**	**-1.2**
	baz=59,SNR=5.6							
KLBR	**Kellerberrin**	**58.77**	**244**	⇑P		**P**	**04 15 16.1**	**-0.5**
	baz=60,SNR=11							
VNDA	**Vanda**	**60.25**	**185**	P		**P**	**04 15 26.2**	**+0.6**
	1.5nm,0.6s,baz=10,slow=11,SNR=4.8							
MORW	**Morawa**	**60.43**	**246**	P		**P**	**04 15 26.8**	**-0.8**
	baz=61,SNR=3.9							
GIRL	**Giralia**	**62.87**	**253**	P		**P**	**04 15 44.3**	**+0.8**
	baz=64,SNR=3.6							
QSPA	**South Pole Qui**	**71.95**	**180**	*eP*		**P**	**04 16 39.1**	**+0.7**
	5.1nm,0.8s							
KSM	**Kuching**	**72.74**	**277**	*eP*		**P**	**04 16 44.0**	**+0.3**
	24nm,0.9s							
PETK	**Petropavlovsk-**	**73.88**	**345**	P		**P**	**04 16 49.1**	**-0.2**
	2.8nm,0.8s,baz=148,slow=8.5,SNR=3.5							
KSRS	**Korea Array**	**74.86**	**318**	P		**P**	**04 16 56.3**	**+1.1**
	0.5nm,0.4s,baz=74,slow=7.8,SNR=2.8							
ISA	**Isabella**	**77.93**	**46**	*eP*		**P**	**04 17 12.2**	**0.0**
	0.6nm,0.7s							
CMB	**Columbia Colle**	**77

Error ellipse: s-maj=13.9km s-min=7.1km az=71.0
*DJA **01** 04:17:01.2±3.9,8˚N±34˚×9˚5E±2˚4,h135km±71km,M4.6/5, mb4.5/4,mB4.8/2,MLv4.6/5,Mw(mB)4.0/2*
ISC 01 04:16:53.9±0.4,**7˚63N**±0˚05×**94˚36E**±0˚05,**h24km**,**n140,** σ1§**48**/135,**mb4.4**/37,**MS4.0**/14,**2C-4D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.75**	**215**	⇓*iP*		**P**	**Pb**	**04 17 06.1**	**-2.3**
CMBY				*e*S		**S**	**Sb**	**04 17 15.5**	**-2.8**
CMBY				AML		AML	AML	04 17 20.1	
	comp=N,47μm,0.5s								
CMBY				AML		AML	AML	04 17 20.5	
	comp=E,31μm,0.5s								
LHMI	**Lhok Sumawe**	**3.50**	**133**	P		**Pn**		**04 17 47.7**	**+0.8**
LHMI				S		**Sn**		**04 18 29.2**	**+1.5**
PKDT	**Phuket**	**3.94**	**86**	P		**Pn**		**04 17 54.3**	**+1.3**
SURT	**Suratani**	**4.58**	**73**	P		**Pn**		**04 18 03.8**	**+2.1**
TPTI		**5.17**	**147**	P		**Pn**		**04 18 12.9**	**+3.1**
KCSI	**Kotacane, Aceh**	**5.31**	**140**	P		**Pn**		**04 18 14.6**	**+2.8**
	comp=E,86nm,0.7s,comp=E,806mcomp=E,0.4nm								
SURA	**Surathani**	**5.43**	**73**	P		**Pn**		**04 18 14.9**	**+1.5**
	comp=E,214nm,0.6s,comp=E,1.0nm								
DGPR	**DIGLIPUR**	**5.69**	**346**	*e*S		Pb		04 18 27.2	-5.4
PSI	**Prapat**	**6.61**	**136**	P		**Pn**		**04 18 32.7**	**+3.0**
	comp=E,39nm,1.6s,comp=E,0.2nm								
PSI	**Prapat**	**6.61**	**136**	Pn		**Pn**		**04 18 31.0**	**+1.3**
PSI	**Prapat**	**6.61**	**136**	Pn		**Pn**		**04 18 31.0**	**+1.3**
	comp=E,5.7nm,0.3s,baz=300,slow=11,SNR=10.0								
PSI				Sn		**Sn**		**04 19 47.8**	**+3.4**
	comp=E,0.7nm,0.3s,baz=338,slow=19,SNR=2.8								
PSI				LR		LR		04 21 24.2	
	comp=E,781nm,19.7s,baz=303,slow=42								
KULM	**Kulim**	**6.67**	**110**	P		**Pn**		**04 18 30.5**	**+0.1**
KULM	**Kulim**	**6.67**	**110**	*e*Pn		**Pn**		**04 18 30.2**	**-0.2**
	comp=E,62nm,0.7s								
KULM				*e*S		**Sn**		**04 19 43.8**	**-1.9**
GSI	**Gunungsitoli**	**7.05**	**153**	P		**Pn**		**04 18 38.4**	**+2.6**
IPM	**Ipoh**	**7.33**	**115**	P		**Pn**		**04 18 37.4**	**-2.1**
IPM	**Ipoh**	**7.33**	**115**	P		**Pn**		**04 18 37.9**	**-1.6**
	comp=E,159nm,0.6s,comp=E,2μmcomp=E,0.6nm								
IPM	**Ipoh**	**7.33**	**115**	*e*Pn		**Pn**		**04 18 38.1**	**-1.4**
	comp=E,109nm,0.6s								
IPM				*e*S		**Sn**		**04 19 58.4**	**-3.7**
FRIM	**Kepong**	**8.44**	**121**	P		**Pn**		**04 18 54.3**	**-0.6**
MNSI	**Mandailing Nat**	**8.55**	**142**	S		Px		04 19 47.8	
UTHA	**Uthaitani**	**9.32**	**32**	P		Pn		04 19 10.7	+3.9
	comp=E,5.3nm,0.8s,comp=E,232nm								
PBKT	**Sadao Pong**	**10.98**	**35**	P		**Pn**		**04 19 32.8**	**+3.2**
	comp=E,24nm,0.8s,comp=E,4μm								
MHMT	**Maesarieng**	**11.04**	**18**	P		Pn		04 19 37.2	+6.7
	comp=E,8.8nm,1.0s,comp=E,401nm								
CHAI	**Chaiyaphum**	**11.10**	**42**	P		Pn		04 19 37.1	+5.8
	comp=E,5.5nm,0.4s								
CMAR	**Chiang Mai Arr**	**11.65**	**22**	Pn		**Pn**		**04 19 41.5**	**+2.7**
CMAR	**Chiang Mai Arr**	**11.65**	**22**	Pn		**Pn**		**04 19 41.5**	**+2.7**
	comp=E,1.2nm,0.3s,baz=207,slow=15,SNR=9.2								
CMAR				LR		LR		04 24 14.7	
	comp=E,210nm,19.5s,baz=309,slow=39								
CHTO	**Chiang Mai**	**11.97**	**21**	*e*P		**Pn**		**04 19 43.8**	**+0.5**
CHTO				pmax		pmax			
	comp=E,3.0nm,0.6s								
CHTO	**Chiang Mai**	**11.97**	**21**	*e*Pn		**Pn**		**04 19 43.8**	**+0.5**
	comp=E,3.3nm,0.6s								
CMAI	**Chiengmai2**	**13.04**	**20**	P		P		04 20 03.7	-4.5
	comp=E,30nm,0.7s								
SLVN	**Son La**	**16.45**	**33**	*e*Pn		**P**		**04 20 48.1**	**+2.2**
KSM	**Kuching**	**17.02**	**110**	P		**P**		**04 20 53.2**	**+0.9**
KSM	**Kuching**	**17.02**	**110**	*e*Pn		**P**		**04 20 54.6**	**+2.3**
	comp=E,37nm,1.1s								
RAMN	**Ramite**	**20.58**	**340**	*e*P		Pn		04 21 32.9	-1.0
	comp=E,70nm,0.6s								
RAMN	**Ramite**	**20.58**	**340**	*e*P		Pn		04 21 32.9	-1.0
TAPN	**Taplejung**	**20.60**	**343**	*e*P		**P**		**04 21 32.6**	**+0.8**
	comp=E,75nm,0.9s								
TAPN	**Taplejung**	**20.60**	**343**	*e*P		**P**		**04 21 32.6**	**+0.8**
JIRN	**Jiri**	**21.37**	**340**	*e*P		**P**		**04 21 40.7**	**+0.5**
	comp=E,33nm,0.7s								
JIRN	**Jiri**	**21.37**	**340**	*e*P		**P**		**04 21 40.7**	**+0.5**
PKI	**Pulchoki**	**21.57**	**338**	*e*P		**P**		**04 21 43.8**	**+1.5**
PKI	**Pulchoki**	**21.57**	**338**	*e*P		**P**		**04 21 43.8**	**+1.5**
PKI	**Pulchoki**	**21.57**	**338**	*e*P		**P**		**04 21 43.8**	**+1.5**
PKIN	**Phulchoki**	**21.58**	**338**	*e*P		**P**		**04 21 43.7**	**+1.4**
	comp=E,33nm,0.8s								
GUN	**Gumba**	**21.71**	**339**	*e*P		**P**		**04 21 43.5**	**-0.3**
	comp=E,55nm,0.8s								
GUN	**Gumba**	**21.71**	**339**	*e*P		**P**		**04 21 43.5**	**-0.3**
DMN	**Daman**	**21.72**	**337**	*e*P		**P**		**04 21 45.1**	**+1.3**
DMN	**Daman**	**21.72**	**337**	*e*P		**P**		**04 21 45.1**	**+1.3**
KKN	**Kakani**	**21.82**	**338**	*e*P		**P**		**04 21 45.0**	**+0.2**
KKN	**Kakani**	**21.82**	**338**	*e*P		**P**		**04 21 45.0**	**+0.2**
KKN	**Kakani**	**21.82**	**338**	*e*P		**P**		**04 21 45.0**	**+0.2**
GKN	**Gorkha**	**22.25**	**337**	*e*P		**P**		**04 21 49.2**	**-0.2**
GKN	**Gorkha**	**22.25**	**337**	*e*P		**P**		**04 21 49.2**	**-0.2**
KOLN	**Koldanda**	**22.47**	**334**	*e*P		**P**		**04 21 51.9**	**+0.1**
	comp=E,24nm,0.6s								
KOLN	**Koldanda**	**22.47**	**334**	*e*P		**P**		**04 21 51.9**	**+0.1**
SDKM	**Sandakan**	**22.76**	**94**	P		**P**		**04 21 54.6**	**-0.3**
DANN	**Dangsing**	**22.91**	**335**	*e*P		**P**		**04 21 56.3**	**-0.3**
	comp=E,50nm,0.9s								
DANN	**Dangsing**	**22.91**	**335**	*e*P		**P**		**04 21 56.3**	**-0.3**
PYUN	**Piuthan**	**23.03**	**334**	*e*P		**P**		**04 21 58.4**	**+0.8**
	comp=E,41nm,0.4s								
H08S3	**Diego Garcia H**	**26.57**	**236**	T		T		04 48 59.7	
	baz=56,slow=75,SNR=178								
H08S2	**Diego Garcia H**	**26.57**	**236**	T		T		04 48 59.8	
	baz=56,slow=75,SNR=237								
H08S1	**Diego Garcia H**	**26.58**	**236**	T		T		04 49 01.0	
	baz=56,slow=75,SNR=129								
AAK	**Ala-Archa**	**39.01**	**337**	⇑*iP*		**P**		**04 24 20.9**	**+2.1**
AAK				pmax		pmax			
	comp=E,9.0nm,0.8s								
AAK				MLR		MLR			
	comp=Z,347nm,20.0s								
AAK	**Ala-Archa**	**39.01**	**337**	*e*P		**P**		**04 24 20.4**	**+1.5**
	comp=Z,4.7nm,0.9s								
AAK	**Ala-Archa**	**39.01**	**337**	LR		LR		04 42 06.3	
	comp=Z,160nm,19.5s,baz=141,slow=39								
FITZ	**Fitzroy Crossi**	**40.09**	**130**	P		**P**		**04 24 25.6**	**-2.3**
FITZ	**Fitzroy Crossi**	**40.09**	**130**	P		**P**		**04 24 25.6**	**-2.3**
	comp=Z,1.7nm,0.9s,baz=333,slow=14,SNR=2.7								
MK31	**Makanchi Array**	**40.37**	**347**	*e*P		**P**		**04 24 30.0**	**+0.1**
MK31	**Makanchi Array**	**40.37**	**347**	*e*P		**P**		**04 24 29.9**	**+0.1**
MKAR	**Makanchi Array**	**40.37**	**347**	P		**P**		**04 24 30.0**	**+0.1**
MKAR				pmax		pmax			
	comp=E,6.0nm,0.7s								
MKAR	**Makanchi Array**	**40.37**	**347**	P		**P**		**04 24 30.0**	**+0.1**
MKAR	**Makanchi Array**	**40.37**	**347**	P		**P**		**04 24 30.0**	**+0.1**
	comp=E,6.0nm,0.7s,baz=166,slow=8.3,SNR=28								
SONM	**Songino Array**	**41.35**	**12**	PcP		**PcP**		**04 26 37.0**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=210,slow=5.0,SNR=2.5								
SONM				LR		LR		04 43 08.8	
	comp=Z,72nm,19.1s,baz=198,slow=38								
KSRS	**Korea Array**	**42.50**	**41**	LR		LR		04 44 16.5	
	comp=Z,90nm,18.1s,baz=33,slow=39								
ZAA0	**Zalesovo Array**	**46.83**	**352**	*e*P		**P**		**04 25 22.9**	**+1.2**
ZALV	**Zalesovo Beam**	**46.83**	**352**	P		**P**		**04 25 22.9**	**+1.2**
ZALV				pmax		pmax			
	comp=Z,8.0nm,0.7s								
ZALV	**Zalesovo Beam**	**46.83**	**352**	P		**P**		**04 25 22.9**	**+1.2**
ZALV	**Zalesovo Beam**	**46.83**	**352**	P		**P**		**04 25 22.9**	**+1.2**
	comp=Z,7.5nm,0.7s,baz=172,slow=7.7,SNR=24								
NVS	**Novosibirsk**	**47.92**	**351**	*e*P		**P**		**04 25 27.9**	**-2.3**
NVS				pmax		pmax			
	comp=N,8.0nm,1.5s								
NVS				pmax		pmax			
	comp=Z,11nm,1.5s								
NVS				pmax		pmax			
	comp=E,10.0nm,1.7s								
WRA	**Warramunga Arr**	**47.94**	**126**	P		**P**		**04 25 29.7**	**-1.2**
WRA				PcP		**PcP**		**04 26 59.4**	**+0.2**
WRA	**Warramunga Arr**	**47.94**	**126**	P		**P**		**04 25 29.7**	**-1.2**
	comp=E,0.7nm,0.6s,baz=302,slow=9.0,SNR=12								
WRA				PcP		**PcP**		**04 26 59.4**	**+0.2**
	comp=E,0.4nm,0.7s,baz=308,slow=2.7,SNR=2.3								
WRAB	**Tennant Creek**	**47.94**	**125**	*i* P		**P**		**04 25 30.0**	**-1.0**
WRAB				pmax		pmax			
	comp=Z,27nm,2.0s								
BRVK	**Borovoye**	**49.35**	**341**	⇓*eP*		**P**		**04 25 40.2**	**-1.1**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
ASAR	**Alice Springs**	**49.59**	**130**	P		**P**		**04 25 41.3**	**-2.3**
ASAR				PcP		**PcP**		**04 27 05.2**	**+0.2**
ASAR	**Alice Springs**	**49.59**	**130**	P		**P**		**04 25 41.3**	**-2.3**
	comp=Z,1.3nm,0.8s,baz=306,slow=7.3,SNR=12								
ASAR				PcP		**PcP**		**04 27 05.2**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=304,slow=3.0,SNR=5.6								
ABKAR	**Akbulak array**	**50.55**	**331**	*e*P		**P**		**04 25 50.5**	**+0.1**
	comp=Z,1.3nm,0.4s								
OPO	**Ambohidratompo**	**53.32**	**240**	P		**P**		**04 26 13.6**	**+1.9**
OPO	**Ambohidratompo**	**53.32**	**240**	P		**P**		**04 26 13.6**	**+1.9**
	comp=Z,7.7nm,0.6s,baz=67,slow=7.7,SNR=3.1								
SVE	**Sverdlovsk**	**55.71**	**338**	*e*P		**P**		**04 26 28.9**	**+0.6**
SVE				pmax		pmax			
	comp=Z,18nm,0.9s								
ARU	**Arti**	**56.20**	**337**	*i* P		**P**		**04 26 32.4**	**+0.6**
ARU				pmax		pmax			
	comp=Z,9.0nm,1.5s								
ARU				MLR		MLR			
	comp=Z,121nm,20.0s								
KBZ	**Khabaz**	**57.42**	**318**	P		**P**		**04 26 41.4**	**+0.7**
KBZ				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KBZ	**Khabaz**	**57.42**	**318**	P		**P**		**04 26 41.4**	**+0.7**
KBZ	**Khabaz**	**57.42**	**318**	P		**P**		**04 26 41.4**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=135,slow=7.1,SNR=3.0								
KMBO	**Kilima Mbogo**	**57.62**	**264**	*e*P		**P**		**04 26 44.2**	**+1.3**
	comp=Z,2.6nm,0.8s								
KMBO	**Kilima Mbogo**	**57.62**	**264**	P		**P**		**04 26 44.7**	**+1.8**
	comp=Z,2.3nm,0.6s,baz=61,slow=13,SNR=9.8								
KIV	**Kislovodsk**	**57.65**	**318**	*e*P		**P**		**04 26 41.3**	**-1.1**
KIV				pmax		pmax			
	comp=Z,8.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,44nm,17.0s								
SOKR	**Solikamsk**	**59.12**	**339**	*e*P		P		04 26 48.6	-3.7
SOKR				pmax		pmax			
	comp=Z,7.0nm,0.6s								
STKA	**Stephens Creek**	**59.78**	**134**	P		**P**		**04 26 55.6**	**-1.7**
STKA	**Stephens Creek**	**59.78**	**134**	P		**P**		**04 26 55.7**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=304,slow=18,SNR=3.0								
STKA				LR		LR		04 55 44.2	
	comp=Z,78nm,19.9s,baz=207,slow=39								
VRHR	**Novokhopersk**	**61.26**	**325**	*e*P		**P**		**04 27 05.4**	**-1.7**
VRHR				pmax		pmax			
	comp=N,6.0nm,0.6s								
VRHR				pmax		pmax			
	comp=E,7.0nm,0.6s								
VRHR				pmax		pmax			
	comp=Z,9.0nm,0.6s								
VORD	**Divnogorie**	**62.54**	**324**	*e*P		**P**		**04 27 14.5**	**-1.2**
VORD				pmax		pmax			
	comp=N,20nm,0.6s								
VORD				pmax		pmax			
	comp=E,30nm,0.6s								
VORD				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**62.72**	**324**	*e*P		**P**		**04 27 18.1**	**+1.2**
VSR				pmax		pmax			
	comp=N,8.0nm,0.8s								
VSR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
VSR				pmax		pmax			
	comp=E,1.0nm,0.4s								
BRTR	**Keskin Array B**	**62.75**	**311**	P		**P**		**04 27 16.2**	**-1.4**
BRTR	**Keskin Array B**	**62.75**	**311**	P		**P**		**04 27 16.2**	**-1.4**
	comp=E,1.3nm,0.6s,baz=134,slow=7.4,SNR=11								
BRTR				LR		LR		04 57 35.1	
	comp=E,34nm,20.0s,baz=268,slow=39								
BR131	**Keskin Array S**	**62.76**	**311**	*e*P		**P**		**04 27 15.9**	**-1.7**
	comp=E,1.1nm,0.6s								
OBN	**Obninsk**	**65.70**	**328**	⇓*iP*		**P**		**04 27 36.4**	**0.0**
OBN				*e*S		**S**		**04 36 16.5**	**-4.5**
OBN				pmax		pmax			
	comp=Z,27nm,1.7s								
OBN				MLR		MLR			
	comp=Z,100nm,17.0s								
TIXI	**Tiksi**	**67.43**	**11**	⇓*iP*		**P**		**04 27 47.2**	**+0.1**
TIXI				pmax		pmax			
	comp=Z,9.0nm,1.7s								
TIXI				MLR		MLR			
	comp=Z,1μm,28.0s								
TIXI	**Tiksi**	**67.43**	**11**	*e*P		**P**		**04 27 46.1**	**-1.0**
	comp=Z,5.8nm,0.6s								
AKASG	**Malin Array Be**	**68.48**	**322**	*ce*P		**P**		**04 27 56.2**	**+2.0**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
AKASG	**Malin Array Be**	**68.48**	**322**	P		**P**		**04 27 53.5**	**-0.7**
AKASG	**Malin Array Be**	**68.48**	**322**	P		**P**		**04 27 53.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=91,slow=4.9,SNR=4.7								
LSZ	**Lusaka**	**69.40**	**251**	P		**P**		**04 28 00.1**	**-0.5**
LSZ	**Lusaka**	**69.40**	**251**	P		**P**		**04 28 00.1**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=72,slow=7.5,SNR=4.7								
FINES	**FINESS Array B**	**73.03**	**332**	P		**P**		**04 28 21.3**	**-0.3**
FINES	**FINESS Array B**	**73.03**	**332**	P		**P**		**04 28 21.3**	**-0.3**
	comp=Z,4.8nm,0.7s,baz=119,slow=7.0,SNR=9.4								
FINES				LR		LR		05 04 02.3	
	comp=Z,94nm,18.2s,baz=357,slow=39								
LBTB	**Lobatse**	**74.32**	**241**	P		**P**		**04 28 30.4**	**+0.3**
LBTB	**Lobatse**	**74.32**	**241**	P		**P**		**04 28 30.4**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=99,slow=8.2,SNR=6.0								
ARCES	**ARCESS Array B**	**75.57**	**340**	P		**P**		**04 28 36.9**	**+0.5**
ARCES	**ARCESS Array B**	**75.57**	**340**	P		**P**		**04 28 36.9**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=117,slow=6.9,SNR=6.2								
ARCES				LR		LR		05 04 44.3	
	comp=Z,98nm,18.3s,baz=341,slow=38								
BOSA	**Boshof**	**75.64**	**238**	P		**P**		**04 28 37.9**	**+0.2**
BOSA	**Boshof**	**75.64**	**238**	P		**P**		**04 28 37.9**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=180,slow=17,SNR=5.2								
DPC	**Dobruska-Polom**	**76.53**	**320**	*e*P		**P**		**04 28 44.9**	**+2.6**
DPC	**Dobruska-Polom**	**76.53**	**320**	*e*P		**P**		**04 28 44.9**	**+2.6**
GERES	**GERESS Array B**	**78.15**	**318**	P		**P**		**04 28 51.0**	**-0.5**
GERES	**GERESS Array B**	**78.15**	**318**	P		**P**		**04 28 51.0**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=90,slow=5.3,SNR=9.2								
KHC	**Kasperske Hory**	**78.25**	**319**	*e*P		**P**		**04 28 51.0**	**-0.9**
KHC	**Kasperske Hory**	**78.25**	**319**	*e*P		**P**		**04 28 51.0**	**-0.9**
MAW	**Mawson**	**78.34**	**192**	P		**P**		**04 28 53.5**	**+1.7**
MAW	**Mawson**	**78.34**	**192**	P		**P**		**04 28 53.5**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=312,slow=12,SNR=4.3								
NB2	**NORSAR Subarra**	**80.05**	**331**	P		**P**		**04 29 00.8**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=91,slow=5.9								
NOA	**NORSAR Array B**	**80.05**	**331**	P		**P**		**04 29 01.0**	**-0.5**
NOA	**NORSAR Array B**	**80.05**	**331**	P		**P**		**04 29 01.0**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=94,slow=5.2,SNR=6.3								
NOA				LR		LR		05 08 06.6	
	comp=Z,61nm,18.9s,baz=100,slow=38								
SUR	**Sutherland**	**80.38**	**235**	P		**P**		**04 29 06.4**	**+2.4**
SUR	**Sutherland**	**80.38**	**235**	P		**P**		**04 29 06.4**	**+2.4**
	comp=Z,5.8nm,0.8s,baz=67,slow=7.7,SNR=2.8								
TORD	**Torodi Ar. Bea**	**90.87**	**283**	P		**P**		**04 29 56.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**90.87**	**283**	P		**P**		**04 29 56.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=100,slow=4.6,SNR=4.1								
TORD				LR		LR		05 07 57.1	
	comp=Z,63nm,19.9s,baz=340,slow=34								
ESDC	**Sonseca Array**	**91.54**	**310**	P		**P**		**04 29 58.7**	**-0.3**
ESDC	**Sonseca Array**	**91.54**	**310**	P		**P**		**04 29 58.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=55,slow=5.0,SNR=4.0								
ILAR	**Eielson Array**	**94.88**	**22**	P		**P**		**04 30 13.4**	**-0.4**
ILAR	**Eielson Array**	**94.88**	**22**	P		**P**		**04 30 13.4**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=292,slow=4.8,SNR=2.9								
DBIC	**Dimbokro**	**98.20**	**278**	LR		LR		05 14 57.3	
	comp=Z,81nm,18.0s,baz=156,slow=36								
CPUP	**Villa Florida**	**147.29**	**232**	PKPbc		**PKPbc**		**04 36 36.3**	**+0.1**
CPUP	**Villa Florida**	**147.29**	**232**	PKPbc		**PKPbc**		**04 36 36.3**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=76,slow=4.2,SNR=5.4								

*IDC **01** 04:27:08.5±5.5,52˚52N×170˚69W,h33km±40km,mb4.0/25, mb1 4.1/27,mb1mx4.1/33,mbtmp4.0/27,ML4.3/2,MS3.6/4, Ms1 3.6/4,ms1mx3.2/42,Error ellipse: s-maj=19.2km s-min=10.6km az=177.0*

*ISCJB **01** 04:27:09.8±0.5,52˚50N±0˚09×170˚66W±0˚06,h62km±4km, mb4.2/30,Error ellipse: s-maj=15.0km s-min=3.4km az=162.5*

*NEIC **01** 04:27:09.0,52˚20N×170˚46W,h35km,mb4.1/4, ML4.1(AEIC),After AEIC.*

ISC 01 04:27:10.6±1.1,**52˚5N**±0˚1×**170˚63W**±0˚04,**h54**km±9km, **n110,** σ0§**95**/134,**mb4.1**/30,**MS3.5**/4,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.18**	**65**	P		**Pn**		**04 27 29.2**	**-1.7**
NIKH				S		**Sn**		**04 27 44.3**	**-1.6**
OKWR	**Okmok West Rim**	**1.75**	**56**	P		**Pn**		**04 27 39.6**	**+1.0**
OKWR				S		**Sn**		**04 28 03.0**	**+3.2**
OKAK	**Okmok**	**1.75**	**51**	P		**Pn**		**04 27 38.4**	**-0.2**
OKAK				S		**Sn**		**04 28 01.1**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**1.80**	**59**	P		**Pn**		**04 27 39.6**	**+0.3**
OKFG	**Magazine Ridge**	**1.89**	**60**	P		**Pn**		**04 27 40.3**	**-0.1**
OKFG				S		**Sn**		**04 28 05.0**	**+2.1**
MGOD	**Makushin Gods**	**2.61**	**59**	P		**Pn**		**04 27 50.5**	**+0.1**
MGOD				S		**Sn**		**04 28 21.6**	**+0.7**
MCIR	**Makushin Cirqu**	**2.68**	**56**	P		**Pn**		**04 27 52.6**	**+1.3**
MREP	**Makushin Rep't**	**2.69**	**59**	P		**Pn**		**04 27 52.2**	**+0.9**
MTBL	**Makushin Table**	**2.80**	**57**	P		**Pn**		**04 27 54.2**	**+1.2**
MTBL				S		**Sn**		**04 28 26.4**	**+0.9**
UNV	**Unalaska Valle**	**2.83**	**60**	*e*Pn		**Pn**		**04 27 53.3**	**0.0**
UNV				*e*S		**Sn**		**04 28 23.4**	**-2.8**
AKRB	**Akutan Reef Bi**	**3.19**	**57**	P		**Pn**		**04 27 58.8**	**+0.6**
ZRO	**Akutan Zero**	**3.22**	**58**	P		**Pn**		**04 27 59.7**	**+1.1**
AKGG	**Akutan Green G**	**3.26**	**57**	P		**Pn**		**04 28 00.2**	**+0.9**
AKUT	**Akutan**	**3.35**	**59**	*e*Pn		**Pn**		**04 28 00.5**	**+0.1**
AKUT				*e*S		**Sn**		**04 28 41.1**	**+2.3**
GSMY	**Great Sitkin M**	**3.36**	**264**	P		**Pn**		**04 28 01.7**	**+1.1**
GSTD	**Great Sitkin T**	**3.41**	**265**	P		**Pn**		**04 28 02.7**	**+1.3**
GSTD				S		**Sn**		**04 28 42.8**	**+2.2**
ETKA	**Kagalaska Isla**	**3.61**	**262**	P		**Pn**		**04 28 05.3**	**+1.4**
ADK	**Adak**	**3.77**	**263**	*e*Pn		**Pn**		**04 28 05.7**	**-0.5**
ADK				*e*S		**Sn**		**04 28 50.3**	**+1.0**
FALS	**False Pass**	**4.90**	**58**	*e*Pn		**Pn**		**04 28 21.2**	**-0.4**
FALS				*e*S		**Sn**		**04 29 18.9**	**+2.0**
AMKA	**Amchitka**	**6.33**	**264**	*e*Pn		**Pn**		**04 28 39.9**	**-1.2**
AMKA				*e*S		**Sn**		**04 29 53.6**	**+1.7**
SDPT	**Sand Point**	**6.64**	**60**	*e*Pn		**Pn**		**04 28 46.2**	**+0.7**
SDPT				*e*S		**Sn**		**04 29 57.4**	**-2.4**
CHGN	**Chignik**	**8.08**	**57**	*e*Pn		**Pn**		**04 29 04.8**	**-0.3**
TNA	**Tin City**	**13.18**	**5**	*e*Pn		Pn		04 30 17.9	+3.3
SEW	**Seward**	**13.96**	**49**	*e*Pn		**Pn**		**04 30 24.0**	**-1.3**
ILAR	**Eielson Array**	**17.29**	**35**	P		Pn		**04 31 06.8**	**-1.1**
ILAR				P		PcP		**04 35 47.9**	**+0.3**
ILAR	**Eielson Array**	**17.29**	**35**	P		**Pn**		**04 31 06.8**	**-1.1**
	0.2nm,0.3s,baz=236,slow=9.8,SNR=17								
ILAR				P		PcP		**04 35 47.9**	**+0.3**
	0.1nm,0.3s,baz=260,slow=3.3,SNR=6.9								
PETK	**Petropavlovsk-**	**19.08**	**284**	P		**Pn**		**04 31 29.2**	**-0.5**
PETK	**Petropavlovsk-**	**19.08**	**284**	P		**Pn**		**04 31 29.2**	**-0.5**
	2.5nm,0.3s,baz=89,slow=13,SNR=49								
DLBC	**Dease Lake**	**23.49**	**59**	P		**P**		**04 32 16.5**	**+1.2**
DLBC				P		PcP		**04 36 00.4**	**+1.1**
DLBC	**Dease Lake**	**23.49**	**59**	P		**P**		**04 32 16.5**	**+1.2**
	5.1nm,0.8s,baz=267,slow=7.7,SNR=14								
DLBC				P		PcP		**04 36 00.4**	**+1.1**
	2.5nm,0.7s,baz=128,slow=11,SNR=5.2								
INK	**Inuvik**	**23.67**

comp=Z,0.8nm,0.8s,baz=20,slow=4.3,SNR=5.9
WRA Warramunga Arr 86.48 231 P **P** **04 39 45.9 -1.4**
WRA Warramunga Arr 86.48 231 P **P** **04 39 45.9 -1.4**
comp=Z,0.7nm,0.8s,baz=33,slow=5.9,SNR=4.8
ESDC Sonseca Array 87.48 10 P **P** **04 39 52.3 +0.1**
ESDC Sonseca Array 87.48 10 P **P** **04 39 52.3 +0.1**
comp=Z,1.0nm,0.7s,baz=360,slow=4.0,SNR=5.2
ASAR Alice Springs 89.89 229 P **P** **04 40 03.0 -0.5**
ASAR Alice Springs 89.89 229 P **P** **04 40 03.0 -0.5**
comp=Z,1.8nm,0.6s,baz=31,slow=4.8,SNR=18
ROSC El Rosal 90.02 82 P **P** **04 40 06.2 +1.3**
ROSC El Rosal 90.02 82 P **P** **04 40 06.2 +1.3**
comp=Z,2.9nm,0.4s,baz=94,slow=22,SNR=3.7
TORD Torodi Ar. Bea 114.29 8 PKiKP **PKiKP** **04 45 43.5 -0.7**
TORD Torodi Ar. Bea 114.29 8 PKiKP **PKiKP** **04 45 43.5 -0.7**
comp=Z,0.2nm,0.7s,baz=324,slow=1.7,SNR=3.1
H03N2 Juan Fernandez 116.69 111 T T 06 53 03.2
baz=315,slow=75,SNR=40
H03N1 Juan Fernandez 116.70 111 T T 06 53 06.3
baz=315,slow=75,SNR=32
H03N3 Juan Fernandez 116.71 111 T T 06 53 11.8
baz=315,slow=75,SNR=47
PLCA Paso Flores 126.56 111 PKP **PKPdf** **04 46 06.1 -0.9**
PLCA Paso Flores 126.56 111 PKP **PKPdf** **04 46 06.1 -0.9**
comp=Z,2.3nm,0.9s,baz=50,slow=4.6,SNR=3.0
TSUM Tsumeb 146.16 346 PKPbc **PKPbc** **04 46 45.0 +0.1**
TSUM Tsumeb 146.16 346 PKPbc **PKPbc** **04 46 45.0 +0.1**
comp=Z,3.7nm,0.6s,baz=9.0,slow=3.1,SNR=7.0
LBTB Lobatse 149.93 330 PKPbc **PKPbc** **04 46 55.5 +0.7**
LBTB Lobatse 149.93 330 PKPbc **PKPbc** **04 46 55.5 +0.7**
comp=Z,5.5nm,0.6s,baz=328,slow=1.7,SNR=16
MAW Mawson 150.49 219 PKPbc **PKPbc** **04 46 54.2 -0.4**
MAW Mawson 150.49 219 PKPbc **PKPbc** **04 46 54.2 -0.4**
comp=Z,2.2nm,0.7s,baz=110,slow=7.1,SNR=4.3
BOSA Boshof 153.38 328 PKPbc **PKPbc** **04 47 02.6 0.0**
BOSA PKPab **PKPab** **04 47 13.7 -1.2**
BOSA Boshof 153.38 328 PKPbc **PKPbc** **04 47 02.6 0.0**
comp=Z,1.6nm,0.5s,baz=6.3,slow=5.2,SNR=6.7
BOSA PKPab **PKPab** **04 47 13.6 -1.2**
comp=Z,0.7nm,0.5s,baz=121,slow=18,SNR=2.4

*ISCJB **01** 04:27:25.9±0.4, 10.°11S±0.°04×33.°73E±0.°05, h10km, mb3.8/10, MS3.8/1, Error ellipse: s-maj=7.5km s-min=5.7km az=34.9*
*IDC **01** 04:27:26.8±0.7, 10.°02S×33.°78E, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.9/30, mbtmp4.0/13, ML3.1/2, MS3.4/4, Ms1 3.5/4, ms1mx3.1/31, Error ellipse: s-maj=24.6km s-min=13.9km az=126.0*
*NEIC **01** 04:27:28.0±0.5, 9.°94S×33.°79E, h10km, mb4.2/3, Error ellipse: s-maj=12.3km s-min=8.7km az=104.0*
ISC 01 04:27:27.7±0.5, 10.°05S±0.°05×33.°73E±0.°06, h10km, n43, σ2s 90°/52, mb3.9/10, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**4.33**	**28**	*i* P	**Pn**	**04 28 31.3**	**-2.4**
DODT				*i* S	**Sb**	**04 29 34.2**	**-2.0**
LSZ	**Lusaka**	**7.50**	**226**	*e*Pn	Pn	04 29 21.3	+4.0
	69nm,0.4s						
LSZ				*e*S	**Sn**	**04 30 44.0**	**+1.5**
LSZ				Lg	Lg	04 31 25.6	
LSZ				*e*Sg	**Sg**	**04 31 26.7**	**-1.8**
LSZ	**Lusaka**	**7.50**	**226**	Pn	**Pn**	**04 29 20.3**	**+3.0**
	22nm,0.3s,baz=49,slow=12,SNR=211						
LSZ				Pg	**Pg**	**04 29 49.3**	**-2.0**
	3.3nm,0.3s,baz=41,slow=12,SNR=5.1						
LSZ				Sn	**Sn**	**04 30 44.8**	**+2.3**
	8.6nm,0.3s,baz=125,slow=19,SNR=4.2						
LSZ				Lg	Lg	04 31 25.6	
	14nm,0.3s,baz=327,slow=5.4,SNR=10						
LSZ				LR	LR	04 32 27.5	
	comp=Z,163nm,18.9s,baz=339,slow=40						
MAUS	**Longido**	**7.84**	**22**	*i* P	**Pn**	**04 29 20.0**	**-2.0**
MAUS				*i* S	Sb	04 31 24.2	+6.8
KMBO	**Kilima Mbogo**	**9.53**	**22**	*e*Pn	Pn	04 29 41.8	-3.5
	12nm,0.6s						
KMBO				*e*S	Sn	04 31 23.1	-10
KMBO				Lg	Lg	04 32 16.6	
KMBO	**Kilima Mbogo**	**9.53**	**22**	Pn	**Pn**	**04 29 42.1**	**-3.2**
	3.9nm,0.3s,baz=197,slow=15,SNR=36						
KMBO				Sn	Sn	04 31 24.0	-8.7
	2.9nm,0.3s,baz=40,slow=24,SNR=7.8						
KMBO				Lg	Lg	04 32 16.6	
	1.9nm,0.3s,baz=90,slow=22,SNR=6.5						
MBAR	**Mbarara**	**9.84**	**342**	Pn	Pn	04 29 45.9	-3.7
MBAR	**Mbarara**	**9.84**	**342**	Pn	Pn	04 29 45.9	-3.7
	5.4nm,0.3s,baz=332,slow=22,SNR=13						
MSNA	**Messina**	**12.73**	**196**	P	**Pn**	**04 30 29.5**	**+0.6**
MSNA				S	**Sn**	**04 32 46.5**	**-4.4**
OPO	**Ambohidratompo**	**15.54**	**125**	Pn	**Pn**	**04 31 07.3**	**0.0**
OPO				Sn	**Sn**	**04 33 58.7**	**-1.1**
OPO	**Ambohidratompo**	**15.54**	**125**	Pn	**Pn**	**04 31 07.3**	**0.0**
	0.6nm,0.3s,baz=295,slow=13,SNR=5.6						
OPO				Sn	**Sn**	**04 33 58.7**	**-1.1**
	0.2nm,0.3s,baz=330,slow=20,SNR=2.7						
OPO				LR	LR	04 37 14.4	
	comp=Z,88nm,20.0s,baz=283,slow=38						
RUDU	**RUNDU**	**15.67**	**239**	P	**Pn**	**04 31 07.1**	**-1.8**
RUDU				S	**S**	**04 34 19.2**	**+1.2**
ABPO	**Ambohimpanom**	**15.81**	**126**	*e*Pn	**Pn**	**04 31 10.8**	**0.0**
	21nm,1.1s						
ABPO				*e*S	**Sn**	**04 34 10.2**	**+4.0**
SLR	**Silverton**	**16.43**	**198**	P	Pn	04 31 12.3	-6.3
SLR				S	**Sn**	**04 34 16.6**	**-4.7**
LBTB	**Lobatse**	**16.77**	**206**	*e*Pn	**P**	**04 31 24.8**	**-0.4**
LBTB				Sn	**Sn**	**04 34 33.4**	**+3.9**
LBTB				Lg	Lg	04 36 12.5	
LBTB	**Lobatse**	**16.77**	**206**	Pn	**Pn**	**04 31 24.1**	**+1.2**
	8.1nm,0.3s,baz=37,slow=13,SNR=65						
LBTB				Sn	**Sn**	**04 34 33.4**	**+3.9**
	0.4nm,0.3s,baz=127,slow=20,SNR=2.4						
LBTB				Lg	Lg	04 36 12.5	
	0.1nm,0.3s,baz=108,slow=23,SNR=3.0						
PRYS	**Parys**	**17.83**	**199**	P	**Pn**	**04 31 34.4**	**-1.8**
PRYS				S	Sn	04 34 45.3	-10
TSUM	**Tsumeb**	**18.06**	**238**	*e*Pn	**P**	**04 31 40.1**	**+0.6**
	8.0nm,0.7s						
TSUM				*e*S	Sn	04 34 52.8	-8.1
TSUM				Lg	Lg	04 37 02.7	
TSUM	**Tsumeb**	**18.06**	**238**	P	**P**	**04 31 40.3**	**+0.8**
	1.6nm,0.3s,baz=40,slow=11,SNR=12						
TSUM				S	**Sn**	**04 34 56.0**	**-4.9**
	baz=170,slow=4.7,SNR=4.5						
TSUM				Lg	Lg	04 37 02.7	
	0.2nm,0.3s,baz=92,slow=5.6,SNR=3.5						
TSUM				LR	LR	04 38 51.9	
	comp=Z,131nm,19.7s,baz=36,slow=38						
SEK	**Senekal**	**19.06**	**197**	P	**P**	**04 31 47.7**	**-2.8**
SEK				S	Sn	04 35 14.3	-11
BOSA	**Boshof**	**20.11**	**202**	*e*P	**P**	**04 32 02.2**	**+0.3**
	9.8nm,0.8s						
BOSA				Lg	Lg	04 37 56.6	
BOSA	**Boshof**	**20.11**	**202**	P	**P**	**04 32 02.3**	**+0.5**
	4.9nm,0.5s,baz=28,slow=11,SNR=14						
BOSA				Lg	Lg	04 37 56.6	
	9.8nm,0.8s,baz=103,slow=22,SNR=4.0						
TOAO	**Torodi Ar. Sit**	**39.27**	**305**	*e*P	**P**	**04 34 57.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**39.27**	**305**	P	**P**	**04 34 57.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**39.27**	**305**	P	**P**	**04 34 57.8**	**+0.8**
	0.7nm,0.6s,baz=115,slow=7.6,SNR=7.8						
BRTR	**Keskin Array B**	**49.52**	**360**	P	**P**	**04 36 20.1**	**+1.4**
BRTR	**Keskin Array B**	**49.52**	**360**	P	**P**	**04 36 20.1**	**+1.4**
	0.9nm,0.9s,baz=176,slow=11,SNR=4.3						
AKASG	**Malin Array Be**	**60.62**	**357**	P	**P**	**04 37 39.5**	**+1.0**
AKASG	**Malin Array Be**	**60.62**	**357**	P	**P**	**04 37 39.6**	**+1.0**
	0.2nm,0.3s,baz=201,slow=9.9,SNR=3.4						
GERES	**GERESS Array B**	**61.24**	**345**	P	**P**	**04 37 43.3**	**+0.3**
GERES	**GERESS Array B**	**61.24**	**345**	P	**P**	**04 37 43.3**	**+0.3**
	0.6nm,0.8s,baz=141,slow=6.6,SNR=3.6						
BVAR	**Borovoye Array**	**70.18**	**23**	P	**P**	**04 38 40.9**	**+0.4**
BVAR	**Borovoye Array**	**70.18**	**23**	P	**P**	**04 38 40.9**	**+0.4**
	0.6nm,0.6s,baz=206,slow=9.6,SNR=2.7						
CMAR	**Chiang Mai Arr**	**70.28**	**66**	P	**P**	**04 38 43.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**70.28**	**66**	P	**P**	**04 38 43.5**	**+1.6**
	0.8nm,0.4s,baz=266,slow=6.5,SNR=4.3						
CMAR				LR	LR	05 04 11.4	
	comp=Z,52nm,19.7s,baz=158,slow=31						
MKAR	**Makanchi Array**	**71.22**	**33**	P	**P**	**04 38 46.7**	**-0.3**
MKAR	**Makanchi Array**	**71.22**	**33**	P	**P**	**04 38 46.7**	**-0.3**
	1.2nm,0.8s,baz=225,slow=6.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**71.85**	**28**	P	**P**	**04 38 51.4**	**+0.7**
	0.5nm,0.4s,baz=231,slow=6.8,SNR=5.4						
KURK	**Kurchatov**	**71.96**	**28**	P	**P**	**04 38 51.4**	**+0.1**
ZALV	**Zalesovo Beam**	**76.95**	**28**	P	**P**	**04 39 19.7**	**-0.6**
ZALV	**Zalesovo Beam**	**76.95**	**28**	P	**P**	**04 39 19.7**	**-0.6**
	0.3nm,0.3s,baz=219,slow=8.9,SNR=2.3						
ASAR	**Alice Springs**	**95.18**	**115**	P	**P**	**04 40 52.8**	**+0.6**
ASAR	**Alice Springs**	**95.18**	**115**	P	**P**	**04 40 52.8**	**+0.6**
	0.5nm,0.7s,baz=263,slow=4.3,SNR=7.5						

MAN 01 04:57:55.9±25.N×125.°50E, h3km, mb4.2, ML3.0, MS2.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.31**	**157**	*e*P	Pg	04 58 01.6	+0.6
BUTP				*e*S	Sb	04 58 07.6	-1.0
SCPH	**Surigao**	**0.53**	**359**	*e*P	Pg	04 58 05.5	+0.4
SCPH				*e*S	Sg	04 58 13.4	+1.4
MSLP	**Maasin**	**1.08**	**324**	*e*P	Pg	04 58 15.2	-0.5
CGP	**Cagayan de Oro**	**1.12**	**225**	*e*P	Pg	04 58 16.4	-0.1
CGP				*i* S	Sn	04 58 33.4	-0.2
BUKP	**Musuan**	**1.43**	**198**	*e*P	Pn	04 58 22.0	0.0
PAGZ	**Pagadian**	**2.52**	**236**	*e*P	Pn	04 58 37.8	+1.0

*MOS **01** 05:11:15.8±0.9, 4.°88S×152.°04E, h33km, mb5.3/17, Error ellipse: s-maj=15.2km s-min=8.2km az=62.9*
*IDC **01** 05:11:17.7±0.5, 5.°04S×152.°26E, h42km±4km, mb4.5/16, mb1 4.7/19, mb1mx4.6/22, mbtmp4.5/19, ML3.8/3, MS4.0/13, Ms1 4.0/13, ms1mx3.9/20, Error ellipse: s-maj=15.9km s-min=11.2km az=117.0*
*AUST **01** 05:11:18.3±1.7, 4.°68S×152.°56E, h101km, Error ellipse: s-maj=3.0km s-min=1.5km az=243.0*
*BJI **01** 05:11:18.9, 5.°07S×152.°17E, h71km, mB5.2/18, mb4.8/25, Ms4.9/13, Ms7 4.5/13*
*ISCJB **01** 05:11:19.5±0.8, 5.°00S±0.°04×152.°00E±0.°04, h65km±7km, mb4.9/76, Error ellipse: s-maj=7.9km s-min=5.3km az=142.4*
*NEIC **01** 05:11:22.1±1.1, 5.°09S×152.°06E, h81km±10km, mb5.2/48, Error ellipse: s-maj=7.5km s-min=6.3km az=142.0*
ISC 01 05:11:21.8±0.4, 5.°10S±0.°05×152.°09E±0.°06, h78km±2km, h78km:pP-P, n280, σ1s 07°/304, mb5.0/68, 53C-45D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.91**	**5**	P	Pn	05 11 35.1	-4.6
	baz=0.6,SNR=215						
MANU	**Manus Island**	**5.61**	**303**	P	Pn	05 12 46.0	+3.3
	baz=5.8,SNR=6.8						
PMG	**Port Moresby**	**6.49**	**229**	P	**Pn**	**05 12 55.0**	**+0.3**
PMG				S	**Sn**	**05 14 09.3**	**+1.9**
PMG	**Port Moresby**	**6.49**	**229**	P	**Pn**	**05 12 55.0**	**+0.3**
	3.9nm,0.3s,baz=30,slow=13,SNR=39						
PMG				S	**Sn**	**05 14 09.3**	**+1.9**
	16nm,0.3s,baz=156,slow=19,SNR=9.1						
HNR	**Honiara**	**8.90**	**119**	P	Pn	05 13 22.1	-5.6
HNR	**Honiara**	**8.90**	**119**	P	Pn	05 13 22.1	-5.6
	3.9nm,0.3s,baz=321,slow=14,SNR=1.7						
COEN	**Coen**	**12.43**	**224**	*e*Pn	**Pn**	**05 14 17.8**	**+2.0**
COEN	**Coen**	**12.43**	**224**	P	**Pn**	**05 14 16.9**	**+1.1**
	baz=13,SNR=5.1						
CTA	**Charters Tower**	**15.94**	**200**	P	**Pn**	**05 15 00.7**	**-0.8**
CTA	**Charters Tower**	**15.94**	**200**	P	**Pn**	**05 15 00.7**	**-0.8**
	0.3nm,0.3s,baz=36,slow=13,SNR=3.4						
CTAO	**Charters Tower**	**15.94**	**200**	*e*P	**Pn**	**05 15 02.3**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,15nm,1.1s						
CTAO	**Charters Tower**	**15.94**	**200**	*e*Pn	**Pn**	**05 15 02.3**	**+0.8**
	comp=Z,15nm,1.1s						
EIDS	**Eidsvold**	**20.18**	**183**	*e*P	**P**	**05 15 50.0**	**0.0**
	comp=Z,29nm,1.1s						
KDU	**Kakadu**	**20.78**	**247**	P	**P**	**05 15 57.0**	**+0.3**
	baz=21,SNR=12						
PALU	**Palau**	**21.49**	**305**	P	P	05 15 56.2	-8.1
	baz=22,SNR=4.0						
RMQ	**Roma**	**21.50**	**188**	P	**P**	**05 16 05.3**	**+1.0**
	baz=22,SNR=6.8						
DZM	**Mont Dzumac**	**21.86**	**142**	P	**P**	**05 16 06.1**	**-2.2**
DZM	**Mont Dzumac**	**21.86**	**142**	P	**P**	**05 16 06.1**	**-2.2**
	comp=Z,22nm,0.8s,baz=338,slow=11,SNR=15						
DZM				LR	LR	05 23 24.3	
	comp=Z,468nm,19.6s,baz=22,slow=33						
MTN	**Manton Dam**	**22.07**	**248**	P	**P**	**05 16 12.1**	**+1.7**
	baz=23,SNR=3.1						
QLP	**Quilpie**	**22.64**	**199**	P	**P**	**05 16 16.8**	**+0.3**
	baz=23,SNR=18						
WRAB	**Tennant Creek**	**22.70**	**228**	*e*P	**P**	**05 16 16.9**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,64nm,1.2s						
WRAB	**Tennant Creek**	**22.70**	**228**	*e*P	**P**	**05 16 16.9**	**-0.3**
	comp=Z,64nm,1.2s						
WRAB	**Tennant Creek**	**22.70**	**228**	P	**P**	**05 16 16.9**	**-0.3**
	comp=Z,225nm,0.6s,SNR=52						
WRA	**Warramunga Arr**	**22.71**	**228**	P	**P**	**05 16 17.1**	**-0.3**
WRA				pP	**pP**	**05 16 28.6**	**-4.9**
WRA				PcP	**PcP**	**05 20 08.9**	**+1.9**
WRA	**Warramunga Arr**	**22.71**	**228**	P	**P**	**05 16 17.1**	**-0.3**
	comp=Z,13nm,0.4s,baz=52,slow=10,SNR=113						
WRA				pP	**pP**	**05 16 28.6**	**-4.9**
	comp=Z,25nm,0.8s,baz=53,slow=10.0,SNR=12						
WRA				PcP	**PcP**	**05 20 08.9**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=34,slow=1.7,SNR=4.5						
WRA				LR	LR	05 25 25.3	
	comp=Z,209nm,20.0s,baz=55,slow=37						
KNRA	**Kununurra**	**25.20**	**244**	P	**P**	**05 16 41.4**	**+1.0**
	baz=26,SNR=7.4						
AS31	**Alice Springs**	**25.45**	**222**	*e*P	**P**	**05 16 42.8**	**+0.2**
ASAR	**Alice Springs**	**25.45**	**222**	P	**P**	**05 16 42.8**	**+0.2**
ASAR				PcP	**PcP**	**05 20 12.9**	**0.0**
ASAR	**Alice Springs**	**25.45**	**222**	P	**P**	**05 16 42.8**	**+0.2**
	comp=Z,11nm,0.7s,baz=57,slow=8.4,SNR=50						
ASAR				PcP	**PcP**	**05 20 12.9**	**0.0**
	comp=Z,2.1nm,0.7s,baz=46,slow=3.2,SNR=4.2						
ASAR				LR	LR	05 26 34.9	
	comp=Z,215nm,20.6s,baz=24,slow=36						
CMSA	**Cobar Meteorol**	**26.98**	**192**	P	**P**	**05 16 58.4**	**+2.2**
	baz=28,SNR=7.3						
STKA	**Stephens Creek**	**28.39**	**199**	P	**P**	**05 17 09.4**	**+0.5**
STKA	**Stephens Creek**	**28.39**	**199**	P	**P**	**05 17 09.4**	**+0.5**
	comp=Z,4.9nm,0.6s,baz=351,slow=13,SNR=3.1						
STKA				LR	LR	05 28 42.6	
	comp=Z,291nm,18.1s,baz=26,slow=37						
FITZ	**Fitzroy Crossi**	**28.89**	**241**	P	**P**	**05 17 13.4**	**0.0**
FITZ	**Fitzroy Crossi**	**28.89**	**241**	P	**P**	**05 17 13.4**	**0.0**
	comp=Z,18nm,0.7s,baz=82,slow=7.9,SNR=44						
FITZ				LR	LR	05 30 14.1	
	comp=Z,208nm,18.8s,baz=58,slow=39						
MBWA	**Marble Bar**	**35.20**	**240**	*e*P	**P**	**05 18 08.8**	**0.0**
	comp=Z,17nm,0.7s						
MEEK	**Meekatharra**	**38.46**	**233**	P	**P**	**05 18 36.4**	**+0.1**
	baz=39,SNR=22						
GIRL	**Giralia**	**40.50**	**241**	P	**P**	**05 18 54.2**	**+0.9**
	baz=41,SNR=5.3						
KLBR	**Kellerberrin**	**41.58**	**226**	P	**P**	**05 19 01.5**	**-0.6**
	baz=42,SNR=5.8						
MORW	**Morawa**	**41.60**	**231**	P	**P**	**05 19 01.9**	**-0.4**
	baz=42,SNR=5.8						
BLDU	**Ballidu**	**41.85**	**228**	P	**P**	**05 19 03.9**	**-0.4**
	baz=42,SNR=5.9						
KSRS	**Korea Array**	**47.95**	**334**	P	**P**	**05 19 52.3**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=148,slow=8.2,SNR=7.4						
KSAR	**Wonju Array Be**	**47.96**	**334**	P	**P**	**05 19 52.3**	**-0.4**
QIZ	**Qiongzhong**	**48.01**	**301**	P	**P**	**05 19 52.9**	**-0.5**
QIZ				S	**S**	**05 26 43.9**	**-2.1**
NJ2	**Nanjing**	**48.63**	**322**	*e*P	**P**	**05 19 57.7**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
IPM	**Ipoh**	**51.88**	**280**	*e*P	**P**	**05 20 22.2**	**-0.6**
	comp=Z,16nm,0.9s						
MDJ	**Mudanjiang**	**53.46**	**340**	P	**P**	**05 20 33.9**	**0.0**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA	**Guiyang**	**54.01**	**308**	P	**P**	**05 20 39.8**	**+1.4**
GYA				pP	**pP**	**05 20 58.6**	**+0.5**
GYA				sP	**sP**	**05 21 07.2**	**+0.3**
GYA				PP	**PP**	**05 22 43.0**	**+2.3**
GYA				ScP	**ScP**	**05 25 33.8**	**-0.2**
GYA				PcS	**PcS**	**05 25 43.0**	**+0.6**
GYA				S	**S**	**05 28 07.2**	**-1.7**
GYA				sS	**sS**	**05 28 40.0**	**-2.5**
GYA				SS	**SS**	**05 31 49.2**	**-2.4**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=Z,550nm,18.9s						
GYA				LR	LR		
	comp=Z,490nm,20.0s						
GYA				LR	LR		
	comp=Z,510nm,19.7s						
CN2	**Changchun**	**54.28**	**336**	*e*P	**P**	**05 20 42.1**	**+2.2**
CN2				*e*sP	**sP**	**05 21 09.0**	**+0.6**
CN2				*e*S	**S**	**05 28 12.2**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,17.0s						
HABR	**Khabarovsk**	**55.40**	**346**	*e*P	**P**	**05 20 45.3**	**-2.5**
HABR				*e*		05 21 45.9	
HABR				*e*		05 22 48.9	
HABR				*e*S	**S**	**05 28 25.2**	**-1.3**
HABR				*e**SS	sS	05 28 48.8	-11
HABR				*e*		05 30 29.6	
HABR				*e*SS	**SS**	**05 32 11.6**	**-0.8**
HABR				pmax	pmax		
	comp=Z,79nm,1.4s						
HABR				MLR	MLR		
	comp=Z,121nm,18.0s						
BJI	**Beijing**	**55.75**	**327**	P	P	05 20 59.5	+8.9
BJI				S	S	05 28 45.5	+14
BJI	**Beijing**	**55.75**	**327**	SS	SS	05 32 33.5	+15
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJI				LR	LR		
	comp=Z,94nm,24.6s						
KMI	**Kunming**	**56.57**	**305**	P	**P**	**05 20 57.3**	**+0.4**
KMI				pP	**pP**	**05 21 16.9**	**+0.1**
KMI				sP	**sP**	**05 21 24.8**	**-0.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.36**	**296**	P	**P**	**05 21 04.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**57.36**	**296**	P	**P**	**05 21 04.0**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=111,slow=5.0,SNR=7.8						
CMAR				LR	LR	05 43 16.0	
	comp=Z,38nm,19.6s,baz=110,slow=33						
PETK	**Petropavlovsk-**	**58.19**	**4**	P	**P**	**05 21 07.6**	**+0.1**
PETK	**Petropavlovsk-**	**58.19**	**4**	P	**P**	**05 21 07.6**	**+0.1**
PETK	**Petropavlovsk-**	**58.19**	**4**	P	**P**	**05 21 07.6**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=167,slow=10.0,SNR=4.5						
PETK				LR	LR	05 40 32.7	
	comp=Z,124nm,21.8s,baz=241,slow=30						
CD2	**Chengdu**	**58.40**	**311**	*e*P	**P**	**05 21 09.8**	**+0.3**
CD2				pP	**pP**	**05 21 29.2**	**-0.2**
CD2				sP	**sP**	**05 21 37.5**	**-0.6**
CD2				S	**S**	**05 29 05.0**	**-1.7**
CD2				sS	**sS**	**05 29 37.5**	**-3.1**
CD2				SS	**SS**	**05 32 59.2**	**-1.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,120nm,6.2s						
CD2				LR	LR		
	comp=Z,240nm,15.4s						
CD2				LR	LR		
	comp=Z,240nm,15.4s						
CD2				LR	LR		
	comp=Z,240nm,17.8s						
HHC	**Hu-ho-hao-te**	**58.88**	**325**	*e*P	**P**	**05 21 12.6**	**-0.1**
HHC				pP	**pP**	**05 21 32.2**	**-0.5**
HHC				sP	**sP**	**05 21 42.7**	**+1.3**
HHC				PP	**PP**	**05 29 26.1**	**+2.3**
HHC				S	**S**	**05 29 11.1**	**-1.7**
HHC				SS	**SS**	**05 33 07.1**	**-0.6**
HHC				pmax	pmax		
	comp=Z,29nm,1.0s						
HHC				pmax	pmax		
	comp=Z,290nm,6.3s						
HHC				LR	LR		
	comp=Z,240nm,16.0s						
HHC				LR	LR		
	comp=Z,330nm,16.3s						
HHC				LR	LR		
	comp=Z,280nm,16.7s						
LZH	**Lanzhou**	**60.95**	**316**	*e*P	**P**	**05 21 28.6**	**+1.5**
LZH				pP	**pP**	**05 21 46.4**	**-0.8**
LZH				sP	**sP**	**05 21 55.9**	**0.0**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,6.5s						
GTA	**Gaotai**	**65.40**	**318**	*e*P	**P**	**05 21 57.8**	**+1.4**
GTA				pP	**pP**	**05 22 17.6**	**+0.9**
GTA				sP	**sP**	**05 22 29.6**	**+4.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SHL	**Shillong**	**65.85**	**301**	*e*P	**P**	**05 21 59.0**	**-0.7**
SONM	**Songino Array**	**66.20**	**328**	P	**P**	**05 22 01.4**	**0.0**
SONM				sP	sP	05 22 19.8	-11
SONM	**Songino Array**	**66.20**	**328**	P	**P**	**05 22 01.4**	**0.0**
	comp=Z,1.5nm,0.5s,baz=144,slow=5.6,SNR=12						
SONM				sP	sP	05 22 19.8	-11
	comp=Z,1.6nm,0.6s,baz=144,slow=4.6,SNR=5.1						
SONM				LR	LR	05 49 36.5	
	comp=Z,101nm,19.7s,baz=169,slow=35						
ZAK	**Zakamensk**	**69.38**	**329**	*e*P	**P**	**05 22 20.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
VNDA	**Vanda**	**72.56**	**178**	LR	LR	05

COLA	College	82.39	22	eP		P	05 23 33.9	-1.0	
COLA	comp=Z,7.0nm,0.9s			pmax		pmax			
COLA	College	82.39	22	eP		P	05 23 33.9	-1.0	
KSH	comp=Z,7.4nm,0.9s Kashi	82.59	311	P		P	05 23 39.1	+2.4	
KSH				pP		pP	05 23 58.9	+1.2	
KSH				sP		sP	05 24 07.9	+1.7	
ILAR	Eielson Array	82.70	22	P		P	05 23 34.9	-1.7	
ILAR				sP		sP	05 23 53.0	-13	
ILAR	Eielson Array comp=Z,14nm,0.8s,baz=246,slow=5.5,SNR=100	82.70	22	P		P	05 23 34.9	-1.7	
ILAR	comp=Z,5.3nm,0.8s,baz=250,slow=5.0,SNR=5.1			sP		sP	05 23 53.0	-13	
ILAR				LR		LR	06 00 21.8		
COLD	comp=Z,130nm,19.6s,baz=248,slow=36 Coldfoot	82.78	19	eP		P	05 23 37.0	+0.1	
MENT	comp=Z,7.9nm,1.0s Mentasta	83.12	25	eP		P	05 23 38.5	-0.4	
DOT	Dot Lake	83.29	24	eP		P	05 23 39.3	-0.4	
KURK	comp=Z,21nm,0.8s Kurchatov	83.57	322	eP		P	05 23 40.5	-0.8	
KURK				pmax		pmax			
KURK	comp=Z,3.0nm,1.1s Kurchatov	83.57	322	eP		P	05 23 40.5	-0.8	
KURK	comp=Z,3.0nm,1.1s Kurchatov	83.57	322	P		P	05 23 41.2	-0.1	
TKM2	comp=Z,31nm,1.0s,SNR=5.3 Tokmak 2	83.63	314	eP		P	05 23 41.5	-0.6	
TKM2	Tokmak 2	83.63	314	eP		P	05 23 41.5	-0.6	
AAK	Ala-Archa	84.36	314	⇓eP		P	05 23 45.2	-0.6	
AAK	comp=Z,13nm,1.3s			pmax		pmax			
AAK	Ala-Archa comp=Z,2.9nm,0.8s	84.36	314	eP		P	05 23 44.8	-1.0	
MAW	Mawson comp=Z,2.8nm,1.1s	85.02	203	eP		P	05 23 48.2	-0.1	
MAW	Mawson comp=Z,12nm,1.0s,baz=92,slow=5.0,SNR=11	85.02	203	P		P	05 23 49.1	+0.8	
MAW				LR		LR	05 57 48.3		
DLBC	comp=Z,78nm,18.6s,baz=277,slow=33 Dease Lake	88.00	31	eP		P	05 24 03.5	+0.3	
INK	Inuvik comp=Z,14nm,1.1s	88.99	21	eP		P	05 24 06.7	-0.8	
L02D	Cave Junction, baz=89	89.18	48	⇓P		P	05 24 09.5	+0.4	
I03D	Drain, OR baz=90	89.56	46	⇑P		P	05 24 11.2	+0.4	
M02C	Callahan baz=90	89.64	49	⇓P		P	05 24 12.1	+0.8	
N02D	Trinity Center baz=90	89.70	49	⇑P		P	05 24 12.3	+0.7	
HUMO	Hull Mountain comp=Z,13nm,0.8s	89.71	47	eP		P	05 24 12.2	+0.7	
YBH	Yreka Blue Hor comp=Z,6.6nm,0.9s	89.78	48	eP		P	05 24 13.3	+1.4	
I04A	Tendick Farm, baz=90	90.25	46	⇑P		P	05 24 14.2	+0.1	
J04D	Umpqua Nationa baz=90	90.40	47	⇑P		P	05 24 15.3	+0.3	
M04C	Macdoel baz=90	90.44	48	⇓P		P	05 24 15.6	+0.5	
H04A	Detroit Lake comp=Z,163nm,3.0s	90.51	45	eP		P	05 24 15.1	-0.1	
K04D	Chiloquin, OR baz=91	90.59	47	⇑P		P	05 24 16.2	+0.5	
J05D	Fort Rock, OR baz=91	91.04	47	⇑P		P	05 24 18.5	+0.6	
I05D	Terrebonne, OR baz=91	91.08	46	⇑P		P	05 24 18.3	+0.4	
CMB	Columbia Colle	91.16	52	eP		P	05 24 19.3	+0.9	
CMB	comp=Z,4.0nm,0.9s			pmax		pmax			
CMB	Columbia Colle comp=Z,3.9nm,0.9s	91.16	52	eP		P	05 24 19.3	+0.9	
G05D	Wamic, OR baz=91	91.19	45	⇓P		P	05 24 18.7	+0.3	
K05A	Summer Lake comp=Z,26nm,0.9s	91.24	47	eP		P	05 24 19.6	+0.7	
PKM	Peak Mountain baz=91	91.32	55	⇓P		P	05 24 20.2	+0.8	
MOD	Modoc comp=Z,3.2nm,0.9s	91.59	48	eP		P	05 24 20.4	0.0	
WAKR	Walker	91.95	52	eP		P	05 24 23.1	+0.9	
PAHR	Pah Rah Range comp=Z,11nm,1.2s	92.09	51	eP		P	05 24 22.9	+0.1	
E07A	Sunnyside comp=Z,11nm,1.0s	92.33	44	eP		P	05 24 23.8	+0.2	
I07A	Izee comp=Z,17nm,0.9s	92.37	46	eP		P	05 24 24.0	0.0	
ISA	Isabella baz=92	92.48	55	⇓P		P	05 24 25.1	+0.4	
HAWA	Hanford comp=Z,11nm,1.0s	92.54	44	eP		P	05 24 24.9	+0.3	
MWC	Mount Wilson	92.72	56	eP		P	05 24 26.0	+0.1	
MWC	comp=Z,13nm,0.8s			pmax		pmax			
MWC	Mount Wilson comp=Z,13nm,0.8s	92.72	56	eP		P	05 24 25.9	+0.1	
EDW2	Edwards Air Fo baz=93	92.82	55	⇑P		P	05 24 27.0	+0.8	
NVAR	Mina Array Bea	92.83	52	P		P	05 24 26.9	+0.5	
NVAR	Mina Array Bea comp=Z,9.0nm,0.8s,baz=263,slow=6.8,SNR=64	92.83	52	P		P	05 24 26.9	+0.5	
G08A	Pilot Rock comp=Z,12nm,1.0s	92.85	45	eP		P	05 24 26.3	+0.1	
WVOR	Wild Horse Val	92.87	48	eP		P	05 24 26.6	+0.3	
WVOR	comp=Z,11nm,0.9s			pmax		pmax			
WVOR	Wild Horse Val comp=Z,11nm,0.9s	92.87	48	eP		P	05 24 26.6	+0.3	
NV11	Mina Array Sit	92.95	52	eP		P	05 24 26.7	-0.1	
BFSC	Mount Baldy Ra baz=93	93.05	56	⇑P		P	05 24 27.7	+0.3	
J08A	Circle Bar Ran comp=Z,13nm,0.8s	93.06	47	eP		P	05 24 27.2	+0.1	
LRMC	Laurel Mountai baz=93,SNR=5.9	93.11	55	⇓P		P	05 24 28.2	+0.6	
SYO	Syowa Base	93.15	199	⇑eP		P	05 24 25.4	-1.4	
MPMC	Manual Prospec baz=93,SNR=8.6	93.31	54	⇓P		P	05 24 28.8	+0.2	
MURC	Murrieta baz=93	93.38	57	⇑P		P	05 24 29.0	+0.2	
GRAC	Grapevine Rang baz=94	93.47	53	⇑P		P	05 24 29.4	+0.3	
E09A	Wood Farm, Sta comp=Z,17nm,0.9s	93.50	44	eP		P	05 24 29.2	+0.3	
BBRC	Big Bear Solar baz=94	93.66	56	⇑P		P	05 24 30.4	+0.1	
GSC	Goldstone baz=94	93.82	55	⇓P		P	05 24 31.0	+0.1	
FURC	Furnace Creek, baz=94,SNR=6.5	93.84	54	⇓P		P	05 24 31.2	+0.5	
MONP	Monument Peak baz=94	93.99	57	⇓P		P	05 24 32.1	+0.3	
BMO	Blue Mountains	93.99	45	eP		P	05 24 31.0	-0.4	
BMO	comp=Z,11nm,0.9s			pmax		pmax			
BMO	Blue Mountains comp=Z,12nm,0.9s	93.99	45	eP		P	05 24 30.9	-0.4	
PFO	Pinyon Flat Ob baz=94	94.00	57	⇑P		P	05 24 32.0	+0.3	
F10A	Beach Ranch, E comp=Z,13nm,0.8s	94.11	44	eP		P	05 24 31.8	-0.1	
HEC	Hector,Ludlow baz=94	94.18	56	⇑P		P	05 24 32.7	+0.2	
SHOC	Shoshone baz=94,SNR=8.9	94.28	54	⇓P		P	05 24 32.9	+0.1	
NEW	Newport comp=Z,8.6nm,1.0s	94.30	42	eP		P	05 24 32.6	-0.1	
NEW	Newport baz=94,SNR=7.3	94.30	42	⇑P		P	05 24 32.3	-0.4	
TPNV	Topopah Spring	94.36	53	eP		P	05 24 34.0	+0.6	
TPNV	comp=Z,10.0nm,1.0s			pmax		pmax			
TPNV	Topopah Spring comp=Z,9.7nm,1.0s	94.36	53	eP		P	05 24 34.0	+0.6	
TPNV	Topopah Spring baz=94,SNR=13	94.36	53	⇓P		P	05 24 33.5	+0.1	
BELC	Belle Mtn. Jos baz=94	94.41	56	⇑P		P	05 24 34.0	+0.4	
TUQ	Turquoise Moun baz=95,SNR=6.8	94.55	55	⇑P		P	05 24 34.5	+0.3	
GMRC	Granite Mounta baz=95,SNR=5.5	94.73	56	⇑P		P	05 24 35.4	+0.3	
BC3	Big Chuckawall baz=95	94.84	57	⇑P		P	05 24 36.1	+0.6	
R11A	Troy Canyon, C comp=Z,6.0nm,1.1s	94.96	52	eP		P	05 24 36.5	+0.4	
R11A	Troy Canyon, C baz=95,SNR=7.3	94.96	52	⇑P		P	05 24 36.5	+0.4	
MFID	Camas Ranch comp=Z,4.9nm,1.0s	94.99	47	eP		P	05 24 36.9	+0.9	
IRM	Iron Mountain baz=95	95.12	56	⇓P		P	05 24 37.7	+1.0	
SHPR	Shep Range	95.21	54	eP		P	05 24 38.3	+1.0	
Y12C	Blythe baz=96	95.62	57	⇓P		P	05 24 40.2	+1.3	
HLID	Hailey comp=Z,54nm,2.8s	96.02	47	eP		P	05 24 40.7	-0.1	
HLID	Hailey baz=96,SNR=7.2	96.02	47	⇑P		P	05 24 40.4	-0.4	
YKA	Yellowknife Ar	96.02	28	P		P	05 24 39.6	-0.5	
YKA	Yellowknife Ar comp=Z,2.1nm,0.8s,baz=271,slow=4.7,SNR=7.7	96.02	28	P		P	05 24 39.6	-0.5	
W13A	Hualapai Mount baz=96	96.20	55	⇑P		P	05 24 42.5	+0.7	
113A	Mohawk Valley, baz=96	96.22	58	⇑P		P	05 24 42.0	+0.3	
WALA	Waterton Lakes comp=Z,0.4nm,0.9s	96.45	41	eP		P	05 24 42.9	+0.3	
ARUT	Antelope Range	96.63	53	eP		P	05 24 43.6	-0.1	
ARUT	comp=Z,80nm,1.1s			pmax		pmax			
ARUT	Antelope Range comp=Z,80nm,1.1s	96.63	53	eP		P	05 24 43.6	-0.1	
CCUT	Cedar City comp=Z,7.7nm,1.1s	96.69	53	eP		P	05 24 45.2	+1.1	
EDM	Edmonton	96.79	37	eP		P	05 24 44.3	+0.4	
EDM	Edmonton	96.79	37	eP		P	05 24 44.3	+0.4	
214A	Organ Pipe Nat baz=97	97.00	59	⇓P		P	05 24 46.9	+1.6	
DUG	Dugway baz=97	97.16	50	⇑P		Pdif	05 24 46.3	+0.2	
HVU	Hansel Valley	97.20	49	eP		Pdif	05 24 46.4	+0.1	
HVU	comp=Z,9.0nm,0.9s			pmax		pmax			
HVU	Hansel Valley comp=Z,9.1nm,0.9s	97.20	49	eP		Pdif	05 24 46.4	+0.1	
U15A	North Rim baz=98	97.52	54	⇑P		Pdif	05 24 48.6	+0.6	
BOZ	Bozeman (W)	98.02	45	eP		Pdif	05 24 49.8	0.0	
BOZ	comp=Z,74nm,2.8s			pmax		pmax			
BOZ	Bozeman (W) comp=Z,74nm,2.8s	98.02	45	eP		Pdif	05 24 49.8	+0.1	
WUAZ	Wupatki comp=Z,4.6nm,0.9s	98.26	55	eP		Pdif	05 24 52.9	+1.8	
WUAZ	Wupatki baz=98	98.26	55	⇓Pdiff		Pdif	05 24 51.8	+0.6	
TMUT	Trail Mountain comp=Z,8.1nm,0.9s	98.39	51	eP		Pdif	05 24 52.8	+1.0	
FXWY	Fox Creek comp=Z,4.5nm,1.0s	98.48	47	eP		Pdif	05 24 52.1	+0.1	
YMR	Madison River comp=Z,97nm,2.7s	98.50	46	eP		Pdif	05 24 53.2	+1.2	
YFT	Old Faithful comp=Z,11nm,0.7s	98.60	46	eP		Pdif	05 24 53.9	+1.3	
MOOW	Moose Ponds comp=Z,3.1nm,0.8s	98.68	47	eP		Pdif	05 24 53.3	+0.4	
H17A	Grant Village comp=Z,5.5nm,0.8s	98.79	46	eP		Pdif	05 24 55.3	+1.9	
H17A	Grant Village baz=99	98.79	46	⇓Pdiff		Pdif	05 24 54.6	+1.3	
I17A	Pilgrim Ck. baz=99	98.80	46	⇑Pdiff		Pdif	05 24 53.8	+0.4	
X18A	Snowflake baz=100	99.43	56	⇓Pdiff		Pdif	05 24 57.0	+0.6	
H18A	Shoshone NF, C baz=100	99.43	46	⇑Pdiff		Pdif	05 24 56.3	+0.1	
BW06	Boulder Array comp=Z,5.0nm,0.9s	99.58	48	ePdif		Pdif	05 24 56.3	-0.6	
PDAR	Pinedale Array	99.58	48	P		Pdif	05 24 55.9	-1.0	
PDAR	Pinedale Array comp=Z,4.2nm,0.8s,baz=241,slow=2.4,SNR=31	99.58	48	P		Pdif	05 24 55.9	-1.0	
PDAR				LR		LR	06 00 05.3		
W18A	comp=Z,144nm,21.5s,baz=250,slow=30 Petrified Fore baz=100	99.60	55	⇓Pdiff		Pdif	05 24 58.2	+1.1	
B19A	Brinkman Farms baz=100	99.75	42	⇑Pdiff		Pdif	05 24 57.4	+0.2	
A19A	Klindworth Far baz=100	99.85	41	⇓Pdiff		Pdif	05 24 57.7	-0.1	
F19A	Roth Farm, Mol baz=100	99.89	44	⇓Pdiff		Pdif	05 24 58.1	+0.1	
H19A	Powell baz=100	99.92	46	⇑Pdiff		Pdif	05 24 58.2	0.0	
J19A	Crowheart baz=100	99.93	47	⇓Pdiff		Pdif	05 24 58.8	+0.4	
I19A	Meeteetse baz=100	99.94	46	⇑Pdiff		Pdif	05 24 59.0	+0.6	
E19A	Rath Farm, Rou baz=100	99.97	44	⇓Pdiff		Pdif	05 24 58.2	-0.1	
PV04	Paradox Valley	100.21	52	ePdif		Pdif	05 25 00.6	+0.9	
E20A	Meyer Farm, Mu baz=100	100.42	44	⇓Pdiff		Pdif	05 24 60.0	-0.4	
MVCO	Mesa Verde baz=101	100.56	53	⇓Pdiff		Pdif	05 25 01.5	+0.1	
N20A	Spence Gulch, baz=101	100.62	50	⇑Pdiff		Pdif	05 25 00.5	-1.1	
H20A	Greybull baz=101	100.63	46	⇑Pdiff		Pdif	05 25 00.7	-0.7	
J20A	Shoshoni baz=101	100.63	47	⇓Pdiff		Pdif	05 25 00.5	-0.9	
O20A	White River Ci baz=101	100.66	50	⇓Pdiff		Pdif	05 25 01.4	-0.3	
J21A	Lysite baz=101	101.10	47	⇓Pdiff		Pdif	05 25 03.3	-0.3	
I21A	Big Trails, Te baz=101	101.18	46	⇓Pdiff		Pdif	05 25 03.4	-0.5	
K21A	Alcova baz=101	101.28	48	⇑Pdiff		Pdif	05 25 04.3	-0.1	
SMCO	Snowmass	101.68	51	ePdif		Pdif	05 25 07.1	+0.5	
D22A	Cohagen baz=102	101.70	43	⇓Pdiff		Pdif	05 25 05.9	-0.1	
I22A	9 Mile Ranch, baz=102	101.76	46	⇑Pdiff		Pdif	05 25 06.4	0.0	
F22A	Rosebud baz=102	101.77	44	⇑Pdiff		Pdif	05 25 06.7	+0.3	
G22A	Birney baz=102	101.79	45	⇓Pdiff		Pdif	05 25 06.8	+0.2	
J22A	Midwest baz=102	101.80	47	⇑Pdiff		Pdif	05 25 06.8	+0.2	
H22A	Clearmont baz=102	101.80	46	⇓Pdiff		Pdif	05 25 07.5	+0.9	
K22A	Casper baz=102	101.81	48	⇑Pdiff		Pdif	05 25 06.7	-0.1	
P22A	Eagle baz=102	101.83	51	⇓Pdiff		Pdif	05 25 07.0	+0.1	
S22A	4UR Ranch, Cre baz=102	101.87	53	⇓Pdiff		Pdif	05 25 07.7	+0.4	
C23A	Lambert baz=102	102.31	42	⇑Pdiff		Pdif	05 25 08.8	+0.1	
F23A	Volborg baz=102	102.37	44	⇓Pdiff		Pdif	05 25 09.1	0.0	
N23A	Red Feather La baz=102	102.37	49	⇑Pdiff		Pdif	05 25 09.4	0.0	
G23A	Biddle baz=102	102.43	45	⇓Pdiff		Pdif	05 25 09.1	-0.2	
U23A	El Rito baz=102	102.45	54	⇑Pdiff		Pdif	05 25 10.3	+0.5	
ISCO	Idaho Springs baz=103	102.70	50	⇑Pdiff		Pdif	05 25 10.2	-0.8	
H24A	Dirks Ranch, A baz=103	103.06	45	⇑Pdiff		Pdif	05 25 12.2	0.0	
N24A	Carr baz=103	103.18	49	⇑Pdiff		Pdif	05 25 13.2	+0.3	
224A	Conudas Mount baz=103	103.19	58	⇓Pdiff		Pdif	05 25 14.8	+1.7	
R24A	Sanders Place, baz=103	103.20	52	⇓Pdiff		Pdif	05 25 13.4	+0.3	
124A	Stringfield Ra baz=103	103.22	58	⇑Pdiff		Pdif	05 25 12.9	-0.5	
V24A	Rampart Ranch, baz=103	103.22	55	⇑Pdiff		Pdif	05 25 14.2	+0.9	
I25A	Rochford baz=104	103.72	46	⇑Pdiff		Pdif	05 25 14.6	-0.6	
V25A	Rancho No Teng baz=104	103.75	54	⇓Pdiff		Pdif	05 25 16.1	+0.5	
H25A	Fruitdale baz=104	103.75	45	⇓Pdiff		Pdif	05 25 15.2	0.0	
S25A	Robets Cordova baz=104	103.77	53	⇑Pdiff		Pdif	05 25 15.7	+0.1	
Y25A	Mesa, Roswell baz=104	103.80	56	⇓Pdiff		Pdif	05 25 15.9	+0.1	
U25A	Circle Dot Ran baz=104	103.88	54	⇑Pdiff		Pdif	05 25 16.2	0.0	
GDL2	Guadalupe Moun	104.16	58	ePdif		Pdif	05 25 15.0	-2.4	
J26A	Sides Ranch, S baz=104	104.28	47	⇑Pdiff		Pdif	05 25 17.8	+0.2	
S26A	Kim baz=105	104.53	53	⇑Pdiff		Pdif	05 25 19.3	+0.3	
H27A	Howes baz=105	104.83	45	⇓Pdiff		Pdif	05 25 19.7	-0.2	
N27A	Anderson Farm, baz=105	104.95	49	⇓Pdiff		Pdif	05 25 20.4	-0.3	
627A	Terlingua Ranc baz=105	105.14	61	⇑Pdiff		PKiKP	05 29 36.2	+0.2	
ARCES	ARCESS Array B	106.95	343		PKiKP	PKiKP	05 29 38.1	+0.1	
ARCES	ARCESS Array B comp=Z,2.1nm,0.7s,baz=106,slow=1.6,SNR=5.5	106.95	343		PKiKP	PKiKP	05 29 38.1	+0.1	
434A	Burnet baz=110	109.46	59	⇑Pdiff		PKiKP	05 29 43.3	-0.6	
AKASG	Malin Array Be	114.32	324		PKIKP	PKPdf	05 29 52.3	-0.2	
AKASG	Malin Array Be	114.32	324		PKP	PKPdf	05 29 52.3	-0.2	
AKASG	Malin Array Be comp=Z,0.4nm,0.4s,baz=56,slow=2.7,SNR=3.2	114.32	324		PKP	PKPdf	05 29 52.3	-0.2	
NB2	NORSAR Subarra	116.95	340		PKPdf	PKPdf	05 29 55.7	-1.6	
NOA	comp=Z,0.6nm,0.7s,baz=44,slow=1.9 NORSAR Array B	116.95	340		PKP	PKPdf	05 29 57.2	-0.1	
NOA	NORSAR Array B comp=Z,1.3nm,0.7s,baz=46,slow=1.7,SNR=5.3	116.95	340		PKP	PKPdf	05 29 57.2	-0.1	
KOLS	Kolonicke sedl	119.14	325	e	PKP	PKPdf	05 30 02.3	+0.4	
UZH	Uzhgorod	119.28	324	e	PKiKP	PKPdf	05 30 03.8	+1.7	
GERES	GERESS Array B	123.94	328		PKP	PKPdf	05 30 11.3	+0.1	
GERES	GERESS Array B comp=Z,1.4nm,0.5s,baz=82,slow=1.8,SNR=11	123.94	328		PKP	PKPdf	05 30 11.3	+0.1	
ESK	Eskdalemuir	126.14	343	i	PKiKP	PKPdf	05 30 08.2	-6.9	
ROSC	El Rosal	133.77	88	e	PKPdf	PKPdf	05 30 32.1	+0.9	
ROSC					PKP	PKPdf	05 30 32.3	+1.0	
ROSC	El Rosal comp=Z,3.5nm,0.5s,baz=95,slow=20,SNR=9.0	133.77	88		PKP	PKPdf	05 30 32.3	+1.0	
LPAZ	La Paz	134.90	119	e	PKPdf	PKPdf	05 30 33.9	+0.4	
LPAZ					PKP	PKPdf	05 30 34.5	+0.9	
LPAZ	La Paz comp=Z,2.2nm,0.8s,baz=260,slow=0.9,SNR=7.3	134.90	119		PKP	PKPdf	05 30 34.5	+0.9	
SDV	Santo Domingo	137.45	82	e	PKPdf	PKPdf	05 30 38.4	+0.6	
CDVI	St. Croix	141.85	68	e	PKPdf	PKPdf	05 30 46.2	+0.8	
PTGA	Pitinga	147.47	99	e	PKPdf	PKPdf	05 30 55.7	+0.4	
PTGA				e	PKPbc	PKPbc	05 30 57.7	-0.3	
TOA0	Torodi Ar. Sit	149.72	287	e	PKPbc	PKPbc	05 31 03.1	-0.6	
TORD	Torodi Ar. Bea	149.72	287		PKPbc	PKPbc	05 31 03.5	-0.2	
TORD					pPKPbc	pPKPdf	05 31 15.9	-5.2	
TORD	Torodi Ar. Bea comp=Z,20nm,0.7s,baz=93,slow=3.0,SNR=140	149.72	287		PKPbc	PKPbc	05 31 03.5	-0.2	
TORD					pPKPbc	pPKPdf	05 31 15.9	-5.2	
BDFB	comp=Z,7.2nm,0.8s,baz=35,slow=1.9,SNR=7.3 Brasilia	151.35	136		PKPbc	PKPbc	05 31 08.0	+0.3	
BDFB					PKPab	PKPab	05 31 14.8	-1.1	
BDFB	Brasilia comp=Z,8.0nm,0.8s,baz=219,slow=2.3,SNR=14	151.35	136		PKPbc	PKPbc	05 31 08.0	+0.3	
BDFB					PKPab	PKPab	05 31 14.8	-1.1	
DBIC	comp=Z,8.5nm,1.0s,baz=189,slow=5.5,SNR=3.6 Dimbokro	157.01	275		pPKP	pPKPdf	05 31 23.4	-8.3	
DBIC					PKPab	PKPab	05 31 40.7	+0.6	
DBIC	Dimbokro comp=Z,2.7nm,0.8s,baz=166,slow=1.8,SNR=3.0	157.01	275		pPKP	pPKPdf	05 31 23.3	-8.3	
DBIC					PKPab	PKPab	05 31 40.7	+0.6	
	comp=Z,2.6nm,0.7s,baz=24,slow=3.4,SNR=6.2								

NNC 01 05:17:10.3±4.4, 53.66N×86.54E, h0km, mb3.7, mpv3.4, 6C-5D, Error ellipse: s-maj=33.5km s-min=24.1km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KURK	Kurchatov	5.69	242	⇑Pn		Pn	05 18 37.8	+1.7
KURK	0.9nm,0.6s			⇑Sn		Sn	05 19 46.1	+4.0
KURK	0.5nm,0.6s			⇓Lg		Lg	05 20 15.5	
KURBB	2.6nm,1.0s Kurchatov Arra	5.79	241	⇓Pn		Pn	05 18 38.8	+1.4
KURBB	4.7nm,0.5s			⇓Sn		Sn	05 19 45.1	+0.6
KURBB	2.3nm,0.6s			⇑Lg		Lg	05 20 16.3	
MK31	7.1nm,0.8s Makanchi Array	7.40	203	⇑Pn		Pn	05 19 02.9	+3.3
MK31	1.2nm,0.6s,baz=25,slow=13,SNR=37			⇑Sn		Sn	05 20 29.2	+5.1
MK31	6.1nm,1.2s,baz=22,slow=27,SNR=5.2			⇑Lg		Lg	05 21 06.5	
VOSK	4.4nm,1.1s,baz=31,slow=32,SNR=4.2 Vostochnaya	9.39	271	⇓Pn		Pn	05 19 22.6	-4.1
VOSK	0.7nm,0.7s			⇓Sn		Sn	05 21 09.4	-3.6
	1.8nm,0.7s							

WEL 01 05:19:05.1±0.2, 38.22S×178.30E, h20km±2km, ML3.6/4, 1C-4D, Error ellipse: s-maj=3.0km s-min=1.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PUZ	Puketiti	0.15	348	⇓P*		Pb	05 19 08.3	-0.5
PUZ				S*		Sb	05 19 11.2	0.0
PUZ				S*		Sg	05 19 11.5	-1.2
CNGZ	Carnagh Statio	0.27	195	P*		Pg	05 19 11.8	+0.5
MWZ	Matawai	0.61	259	⇓P*		Pb	05 19 16.6	-0.6
MWZ				S*		Sg	05 19 25.8	0.0
MWZ				AML	AML		05 19 26.0	
MWZ				AML	AML		05 19 26.2	
MWZ				AML	AML		05 19 26.3	
RIGZ	Rimuhau	0.64	221	⇑P*		Pg	05 19 18.3	+0.4
MXZ	Matakaoa Point	0.66	1	⇓P*		Pb	05 19 17.8	-0.1
MXZ				S*		Sg	05 19 27.7	+0.6
MXZ				AML	AML		05 19 30.9	
MXZ				AML	AML		05 19 32.3	
MXZ				AML	AML		05 19 32.3	
PRGZ	Paritu Road	0.77	205	P*		Pb	05 19 19.9	0.0
KNZ	Kokohu	0.93	211	P*		Pb	05 19 21.6	-1.0
SNGZ	Shannon Statio	0.93	233	P*		Pb	05 19 22.4	-0.2
URZ	Urewera	0.94	267	⇓P*		Pb	05 19 22.2	-0.5
URZ				AML	AML		05 19 43.4	
URZ				AML	AML		05 19 48.9	
MHGZ	Mahia Peninsul	0.98	198	P*		Pb	05 19 22.6	-0.8
TARZ	Mount Tarawera	1.41	269	PN		Pn	05 19 29.4	-0.4
OPRZ	Ohinepanea	1.43	285	PN		Pn	05 19 28.9	-0.9
MCHZ	McNeill Hill	1.75	225	PN		Pn	05 19 33.4	-0.9
KAHZ	Kahuranaki	1.92	215	PN		Pn	05 19 34.8	-2.0
PXZ	Pawanui	2.12	211	PN		Pn	05 19 36.5	-2.9
BFZ	Birch Farm	2.92	212	PN		Pn	05 19 47.2	-3.2
TMWZ	Te Maipa	3.43	212	PN		Pn	05 19 53.6	-3.9

*IDC **01** 05:29:54.8±2

*IDC **01** 05:45:26.1±1.6, 13°.29N×90°.34W, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.7/24, mbtmp3.9/5, ML4.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/38, Error ellipse: s-maj=37.8km s-min=16.7km az=82.0*

*ISCJB **01** 05:45:28.2±0.6, 13°.17N±0°.05×90°.31W±0°.04, h36km±12km, mb4.2/2, MS3.2/1, Error ellipse: s-maj=9.3km s-min=4.0km az=39.4*

*CASC **01** 05:45:29.3±1.7, 13°.27N×90°.21W, h23km±6km, MD4.0, ML4.8*

*NEIC **01** 05:45:29.3, 13°.29N×90°.21W, h30km, MD4.9(SNET), After SNET.*

NEIC Felt [III] at Santa Ana.

*MEX **01** 05:45:32.6±0.4, 12°.82N×90°.97W, h15km±156km, MD4.2*

ISC 01 05:45:29.5±1.6, 13°24N±0°.05×90°19W±0°.05, h30km±13km, n69, σ1°$ 45/78, 19C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBLS	San Blas	0.81	43	⇑*i*	P	Pb	05 45 44.9	-0.3
SBLS	San Blas	0.81	43	⇑*i*	P	Pb	05 45 44.9	-0.3
RTR	El Retiro	0.84	39	⇑*i*	P	Pb	05 45 45.5	-0.2
RTR	El Retiro	0.84	39	⇑*i*	P	Pb	05 45 45.5	-0.2
SNJE	San Jose	0.84	42	⇑*i*	P	Pb	05 45 45.4	-0.4
SNJE	San Jose	0.84	42	⇑*i*	P	Pb	05 45 45.4	-0.4
RBDL	Robledal	0.99	29	⇑*i*	P	Pn	05 45 47.6	0.0
RBDL	Robledal	0.99	29	⇑*i*	P	Pn	05 45 47.6	0.0
BOQS	Boqueron	1.01	61	⇓*i*	P	Pn	05 45 47.9	+0.1
BOQS				*e*	S	Sn	05 46 02.4	+1.2
BOQS	Boqueron	1.01	61	⇓*i*	P	Pn	05 45 47.9	+0.1
BOQS				*e*	S	Sn	05 46 02.4	+1.2
SNET	Serv Nac Est T	1.03	64	*e*	P	Pn	05 45 47.9	-0.1
SNET					AML	AML	05 45 49.7	
	comp=Z,38μm,0.3s							
SNET	Serv Nac Est T	1.03	64	*e*	P	Pn	05 45 47.9	-0.1
LFRS	El Faro	1.16	71	⇑*i*	P	Pn	05 45 49.6	-0.2
LFRS	El Faro	1.16	71	⇑*i*	P	Pn	05 45 49.6	-0.2
LFU	La Fuente	1.16	64	⇑*e*	P	Pn	05 45 50.1	+0.3
LFU	La Fuente	1.16	64	⇑*e*	P	Pn	05 45 50.1	+0.3
PCG	Pacaya	1.22	340	*e*	P	Pn	05 45 50.4	-0.4
PCG				*e*	S	Sn	05 46 05.6	-0.7
LBRS	Las Brisas	1.22	66	⇑*i*	P	Pn	05 45 50.9	+0.3
LBRS	Las Brisas	1.22	66	⇑*i*	P	Pn	05 45 50.9	+0.3
NBG	Las Nubes	1.35	353	⇓*e*	P	Pn	05 45 53.5	+1.0
NBG				*e*	S	Sn	05 46 11.2	+1.6
SNVI	San Vicente	1.36	74	⇑*e*	P	Pn	05 45 53.0	+0.3
SNVI	San Vicente	1.36	74	⇑*e*	P	Pn	05 45 53.0	+0.3
GCG	Guatemala City	1.38	346	*e*	P	Pn	05 45 53.5	+0.6
JAT	Jato	1.77	307	⇓*e*	P	Pn	05 45 57.8	-0.3
APG	El Apazote	1.77	351	Pg		Pn	05 45 56.6	-1.8
APG				Lg		Lg	05 46 20.5	
APG	El Apazote	1.77	351	Pg		Pn	05 45 56.6	-1.8
	comp=Z,387nm,0.3s,baz=121,slow=12,SNR=1505							
APG				Lg		Lg	05 46 20.5	
	comp=Z,564nm,0.3s,baz=135,slow=19,SNR=24							
VSM	San Miguel	1.87	84	*e*	P	Pn	05 46 00.2	+0.4
VSM	San Miguel	1.87	84	*e*	P	Pn	05 46 00.2	+0.4
MRL	Marmol	1.88	15	*e*	P	Pn	05 46 01.1	+1.3
CAHU	Cacacuatique	1.99	74	*e*	P	Pn	05 46 01.7	+0.4
CAHU	Cacacuatique	1.99	74	*e*	P	Pn	05 46 01.7	+0.4
CNCH	Conchagua	2.29	89	*e*	P	Pn	05 46 05.8	+0.4
CNCH	Conchagua	2.29	89	*e*	P	Pn	05 46 05.8	+0.4
THIG		2.61	310	*i*	P	Pn	05 46 08.8	-0.9
THIG				*i*	S	Sn	05 46 37.2	-3.1
TGUH	Tegucigalpa,Un	2.95	74	⇑*e*	P	Pn	05 46 14.3	0.0
TGUH	Tegucigalpa,Un	2.95	74	*e*	Pn	Pn	05 46 14.2	-0.1
COPN	Copaltepe	3.67	106	*e*	P	Pn	05 46 23.8	-0.4
COPN	Copaltepe	3.67	106	*e*	P	Pn	05 46 23.8	-0.4
PCIG		3.82	310	*i*	P	Pn	05 46 25.7	-0.6
PCIG				*i*	S	Sn	05 47 06.5	-3.8
HUEN		4.02	102	*e*	P	Pn	05 46 29.4	+0.3
GBS2	Las Lilas	5.21	117	*i*	P	Pn	05 46 46.9	+1.3
GBS2				*i*	S	Sn	05 47 41.6	-3.0
NY14	Universidad de	5.23	119	*i*	P	Pn	05 46 47.3	+1.5
GB1A	Borinquen Arri	5.27	117	*i*	P	Pn	05 46 47.7	+1.3
BUEV	Buena Vista	5.27	117	*i*	P	Pn	05 46 47.3	+0.9
BUEV				*i*	S	Sn	05 47 43.4	-2.8
VCR	Vista de Mar	5.43	124	⇑*e*	P	Pn	05 46 50.0	+1.4
MESS	Mesas	5.48	116	*i*	P	Pn	05 46 49.8	+0.5
AMAS	Alto Masis	5.72	117	*i*	P	Pn	05 46 53.1	+0.6
JTS	JuntasAbangare	5.91	119	Pn		Pn	05 46 56.7	+1.6
JTS				Sn		Sn	05 47 58.6	-3.2
JTS	JuntasAbangare	5.91	119	Pn		Pn	05 46 56.7	+1.6
	comp=Z,9.1nm,0.3s,baz=308,slow=20,SNR=169							
JTS				Sn		Sn	05 47 58.6	-3.2
	comp=Z,5.9nm,0.3s,baz=280,slow=19,SNR=2.7							
JTS				LR		LR	05 49 36.9	
	comp=Z,129nm,19.6s,baz=134,slow=41							
JCR	Jicaral	6.01	124	*e*	P	Pn	05 46 58.3	+1.8
HUIG	Huatulco	6.26	294	*e*	P	Pn	05 46 55.5	-4.3
HUIG				*i*	S	Sn	05 48 01.0	-9.5
CGA2	Cerro Gallo 2	6.46	119	*e*	P	Pn	05 47 05.3	+2.5
CGA2				*e*	S	Sn	05 48 11.8	-3.7
QCR	Quepos	7.02	122	*e*	P	Pn	05 47 12.8	+2.5
URSC	Urasca	7.14	118	*e*	P	Pn	05 47 14.5	+2.4
TEIG	Tepich	7.18	15	*e*	Pn	Pn	05 47 13.0	+0.5
	comp=Z,21nm,0.4s							
TEIG				Sn		Sn	05 48 25.0	-8.1
TEIG	Tepich	7.18	15	Pn		Pn	05 47 13.5	+1.0
	comp=Z,3.5nm,0.3s,baz=147,slow=3.5,SNR=43							
TEIG				Sn		Sn	05 48 25.0	-8.1
	comp=Z,0.8nm,0.3s,baz=210,slow=20,SNR=2.2							
BUS	Buena Vista	7.29	120	⇑*e*	P	Pn	05 47 17.3	+2.8
BUS				*e*	S	Sn	05 48 33.4	-3.1
VHO	Vista Hermosa	7.38	302	*i*	P	Pn	05 47 14.0	-1.5
VHO				*i*	S	Sn	05 48 32.2	-6.0
PNIG	Pinotepa	8.29	293	*e*	P	Pn	05 47 26.8	-1.0
UTMO	Huajuapan	8.64	303	*i*	P	Pn	05 47 36.0	+3.3
TXAR	Lajitas Array	20.32	324		P	P	05 50 03.2	-0.1
TXAR	Lajitas Array	20.32	324		P	P	05 50 03.2	-0.1
	comp=Z,0.2nm,0.4s,baz=148,slow=12,SNR=4.4							
SJG	San Juan	23.64	75	LR		LR	06 00 01.0	
	comp=Z,83nm,21.4s,baz=90,slow=37							
NVAR	Mina Array Bea	35.37	320		P	P	05 52 22.4	-0.4
NVAR	Mina Array Bea	35.37	320		P	P	05 52 22.4	-0.4
	comp=Z,1.0nm,0.7s,baz=125,slow=7.9,SNR=8.5							
PETK	Petropavlovsk-	92.26	326		P	P	05 58 37.2	+0.5
PETK	Petropavlovsk-	92.26	326		P	P	05 58 37.2	+0.5
	comp=Z,2.1nm,0.8s,baz=108,slow=3.3,SNR=4.1							
WRA	Warramunga Arr	136.91	255	PKP		PKPdf	06 04 51.4	+1.2
WRA	Warramunga Arr	136.91	255	PKP		PKPdf	06 04 51.4	+1.2
	comp=Z,0.3nm,0.8s,baz=90,slow=2.7,SNR=3.4							

*CSEM **01** 06:24:50.3±0.1, 43°.79N×19°.02E, h2km, Ms3.7, Error ellipse: s-maj=2.9km s-min=2.6km az=65.0*

*LDG **01** 06:24:51.5±0.1, 43°.79N×19°.08E, h15km, Ml3.5/5, Error ellipse: s-maj=2.2km s-min=1.5km az=2.0*

*BEO **01** 06:24:51.5±0.2, 43°.76N×19°.09E, h8km±2km*

*PDG **01** 06:24:51.3±0.3, 43°.76N×19°.09E, h14km, MD3.7/11, ML3.7/11, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*

*PRU **01** 06:24:53.2, 43°.83N×19°.10E, h8km*

*VIE **01** 06:24:53.1±0.5, 43°.86N×18°.90E, h10km, mb3.1/9, ML3.1/7, Ms3.7/1, Error ellipse: s-maj=4.9km s-min=3.5km az=75.0*

39 km E of Sarajevo

ISC 01 06:24:51.0±1.0, 43°79N±0°.01×19°09E±0°.02, h12km±8km, n163, σ1°$ 29/236, 38C-50D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BBLS	Lazići	0.24	71	⇓*i*	Pg	Pb	06 24 57.5	+0.1
BBLS				*e*	Sg	Sb	06 25 01.5	+2.0
BBLS	Lazići	0.24	71	⇓*i*	Pg	Pb	06 24 57.5	+0.1
BBLS				*e*	Sg	Sb	06 25 01.5	+2.0
PLE	Pljevlja	0.51	154	⇑*i*	Pg	Pg	06 25 01.2	+0.2
PLE				*e*	Sg	Sg	06 25 07.9	+0.2
PLE	Pljevlja	0.51	154	⇑*i*	Pg	Pg	06 25 01.2	+0.2
PLE				*e*	Sg	Sg	06 25 07.9	+0.2
UPM	Unac-Piva	0.60	193	⇑*i*	Pg	Pg	06 25 02.2	-0.5
UPM				*e*	Sg	Sg	06 25 10.5	-0.2
UPM	Unac-Piva	0.60	193	⇑*i*	Pg	Pg	06 25 02.2	-0.5
UPM				*e*	Sg	Sg	06 25 10.5	-0.2
DIVS	Divibare	0.72	64	⇓*i*	Pg	Pb	06 25 06.0	+0.4
DIVS				*e*	Sg	Sb	06 25 15.7	+0.2
DIVS	Divibare	0.72	64	⇓*i*	Pg	Pb	06 25 06.0	+0.4
DIVS				*e*	Sg	Sb	06 25 15.7	+0.2
IVAS	Ivanjica	0.80	105	⇑*i*	Pg	Pg	06 25 06.4	-0.1
IVAS				*e*	Sg	Sg	06 25 16.0	-0.9
IVAS	Ivanjica	0.80	105	⇑*i*	Pg	Pg	06 25 06.4	-0.1
IVAS				*e*	Sg	Sg	06 25 16.0	-0.9
SJES	Sjenica	0.83	129	⇑*i*	Pg	Pg	06 25 05.4	-1.7
SJES				*e*	Sg	Sg	06 25 16.5	-1.5
BRY	Bratogost	0.97	205	⇓*i*	Pg	Pb	06 25 08.5	-1.4
BRY				*e*	Sg	Sn	06 25 24.0	-0.4
BRY	Bratogost	0.97	205	⇓*i*	Pg	Pb	06 25 08.5	-1.4
NKY	Niksic	0.98	184	⇑*i*	Pg	Pb	06 25 08.9	-1.0
NKY				*e*	Sg	Sb	06 25 23.2	+0.3
NKY	Niksic	0.98	184	⇑*i*	Pg	Pb	06 25 08.9	-1.0
NKY				*e*	Sg	Sb	06 25 23.2	+0.3
NKME	Niksic	1.03	186	⇓*i*	Pg	Pb	06 25 10.0	-0.7
NKME				*e*	Sg	Sn	06 25 25.6	0.0
NKME	Niksic	1.03	186	⇓*i*	Pg	Pb	06 25 10.0	-0.7
NKME				*e*	Sg	Sn	06 25 25.6	0.0
TRUS	Trudelj	1.04	65	*e*	Pg	Pb	06 25 10.8	-0.2
TRUS				*e*	Sg	Sn	06 25 25.9	-0.1
TRUS	Trudelj	1.04	65	*e*	Pg	Pb	06 25 10.8	-0.2
TRUS				*e*	Sg	Sn	06 25 25.9	-0.1
BEY	Berane	1.09	147	⇑*i*	Pg	Pb	06 25 11.3	-0.5
BEY				*e*	Sg	Sn	06 25 27.6	+0.4
IVA	Berane	1.09	147	⇑*i*	Pg	Pb	06 25 11.3	-0.5
IVA				*e*	Sg	Sn	06 25 27.6	+0.4
GRUS	Gruza	1.18	85	*e*	Pg	Pb	06 25 13.9	+0.6
GRUS				*e*	Sg	Sn	06 25 29.7	+0.3
GRUS	Gruza	1.18	85	*e*	Pg	Pb	06 25 13.9	+0.6
GRUS				*e*	Sg	Sn	06 25 29.7	+0.3
TREB	Trebinje	1.20	207	*e*	Pg	Pn	06 25 12.4	-1.2
TREB				*e*	Sg	Sn	06 25 29.7	-0.1
TREB	Trebinje	1.20	207	*e*	Pg	Pn	06 25 12.4	-1.2
TREB				*e*	Sg	Sn	06 25 29.7	-0.1
PVY	Plav	1.35	152	⇓*i*	Pg	Pn	06 25 15.8	0.0
PVY				*e*	Sg	Sn	06 25 36.9	+2.3
PVY	Plav	1.35	152	⇓*i*	Pg	Pn	06 25 15.8	0.0
PVY				*e*	Sg	Sn	06 25 36.9	+2.3
PDG	Podgorica	1.36	175	*e*	Pg	Pn	06 25 15.8	0.0
PDG				*e*	Sg	Sb	06 25 34.2	+0.4
PDG	Podgorica	1.36	175	⇑*i*	Pg	Pn	06 25 16.0	+0.2
PDG				*e*	Sg	Sg	06 25 36.5	+1.6
TTG	Podgorica	1.36	175	⇑*i*	Pg	Pn	06 25 16.0	+0.2
TTG				*e*	Sg	Sg	06 25 36.5	+1.6
STON	Ston	1.37	228	*i*	Pg	Pn	06 25 15.4	-0.4
STON					Sg	Sb	06 25 34.1	+0.2
STON	Ston	1.37	228	⇑*i*	Pg	Pn	06 25 15.6	-0.3
STON				*e*	Sg	Sb	06 25 34.4	+0.5
STON	Ston	1.37	228	⇑*i*	Pg	Pn	06 25 15.6	-0.3
STON					Sg	Sb	06 25 34.1	+0.2
HCY	Herceg Novi	1.41	198	⇑*i*	Pg	Pb	06 25 17.2	0.0
HCY				*e*	Sg	Sg	06 25 38.2	+1.8
HCY	Herceg Novi	1.41	198	⇑*i*	Pg	Pb	06 25 17.2	0.0
BEO	Beograd	1.42	44	*e*	Pg	Pn	06 25 16.1	-0.6
BEO				*e*	Sg	Sg	06 25 37.6	+0.8
BEO	Beograd	1.42	44	*e*	Pg	Pn	06 25 16.1	-0.6
BEO				*e*	Sg	Sg	06 25 37.6	+0.8
FGSL	Fruska Gora	1.46	20	⇓*i*	Pg	Pn	06 25 17.8	+0.6
FRGS	Fruska Gora	1.46	20	⇓*i*	Pg	Pn	06 25 17.8	+0.6
BUM	Brajici-Budva	1.50	186	⇓*i*	Pg	Pb	06 25 18.8	+0.1
BUM				*e*	Sg	Sg	06 25 40.1	+1.0
BUM	Brajici-Budva	1.50	186	⇓*i*	Pg	Pb	06 25 18.8	+0.1
BUM				*e*	Sg	Sg	06 25 40.1	+1.0
SELS	Selova	1.58	110	⇓*i*	Pg	Pn	06 25 19.8	+0.9
SELS				*e*	Sg	Sg	06 25 42.9	+1.0
BCI	Bajram Curri	1.59	153	*i*	PG	Pb	06 25 20.5	+0.1
BCI				*i*	PN	Sb	06 25 40.4	-0.1
BCI	Bajram Curri	1.59	153	*i*	Pg	Pb	06 25 20.5	+0.1
SVIS	Svilajnac	1.61	72	*e*	Pg	Pb	06 25 20.3	-0.3
SVIS				*e*	Sg	Sb	06 25 41.0	+0.2
BLY	Banja Luka	1.67	306	*e*	Pg	Pb	06 25 21.1	-0.6
BLY	Banja Luka	1.67	306	*e*	Pg	Pb	06 25 21.1	-0.6
ULC	Ulcinj	1.83	176	⇓*i*	Pn	Pb	06 25 24.1	-0.3
ULC				*e*	Sn	Sb	06 25 47.9	+0.7
ULC	Ulcinj	1.83	176	⇓*i*	Pn	Pb	06 25 24.1	-0.3
ULC				*e*	Sn	Sb	06 25 47.9	+0.7
PUK	Puka	1.84	161	*i*	PN	Pb	06 25 25.4	+0.7
PUK				*i*	SN	Sg	06 25 51.4	+1.2
PUK	Puka	1.84	161	*i*	Pn	Pb	06 25 25.4	+0.7
PUK				*i*	Sn	Sg	06 25 51.4	+1.2
BOVS	Bovan	1.90	94	⇓*i*	Pg	Pn	06 25 24.5	+1.2
BOLS	Boljevac	2.07	88	⇑*i*	Pn	Pn	06 25 25.5	-0.1
BOLS				*e*	Sg	Sg	06 25 56.7	-0.9
BOLS	Boljevac	2.07	88	⇑*i*	Pn	Pn	06 25 25.5	-0.1
BOLS				*e*	Sg	Sg	06 25 56.7	-0.9
PHP	Peshkopia	2.33	154	*i*	PN	Pb	06 25 33.2	+0.3
PHP				*i*	SN	Sb	06 26 04.2	+2.6
PHP	Peshkopia	2.33	154	*i*	Pn	Pb	06 25 33.2	+0.3
PHP				*i*	Sn	Sb	06 26 04.2	+2.6
PKSM	Moragy	2.44	353	*e*	Pn	Pn	06 25 31.3	+0.6
PKSM	Moragy	2.44	353	⇓*i*	P	Pn	06 25 31.3	+0.6
PKSM	Moragy	2.44	353	⇓*i*	P	Pn	06 25 31.3	+0.6
PKSM	Moragy	2.44	353	⇓*epn*		Pn	06 25 31.5	+0.8
PKSM				*esn*		Sn	06 25 59.4	-1.1
UDBI	Udbina	2.50	288	*e*	Pn	Pn	06 25 33.4	+1.8
UDBI					Sn	Sb	06 26 06.0	-0.7
UDBI	Udbina	2.50	288	*e*	Pn	Pn	06 25 33.4	+1.8
UDBI					Sn	Sb	06 26 06.0	-0.7
SKO	Skopje	2.51	136	*e*	Pn	Pn	06 25 31.6	0.0
SKO	Skopje	2.51	136	*e*	Pn	Pn	06 25 31.7	+0.2
SKO	Skopje	2.51	136	*e*	Pn	Pn	06 25 31.6	0.0
BZS	Buzias	2.57	44	*e*	Pn	Pn	06 25 32.8	+0.4
BZS	Buzias	2.57	44	⇓*i*	P	Pn	06 25 33.0	+0.6
BZS	Buzias	2.57	44	⇓*i*	P	Pn	06 25 33.0	+0.6
DJES	Djerdap	2.62	69	*e*	Pn	Pn	06 25 35.7	+2.6
DJES	Djerdap	2.62	69	*e*	Pn	Pn	06 25 35.7	+2.6
ZAPS	Zavoj	2.63	100	⇑*i*	Pn	Pn	06 25 35.2	+1.9
PKS6	Bocsa	2.83	7	*e*		Pn	06 25 36.4	+0.4
PKS6				*e*			06 26 26.4	
PKS9	Tamasi	2.85	349	⇑*epn*		Pn	06 25 37.6	+1.2
PKS9				*esn*		Sg	06 26 31.5	+8.8
GZR	Gura Zlata	3.08	57	⇓*i*	Pn	Pn	06 25 40.5	+0.9
GZR	Gura Zlata	3.08	57	⇑*i*	P	Pn	06 25 40.9	+1.3
GZR	Gura Zlata	3.08	57	⇓*i*	Pn	Pn	06 25 40.5	+0.9
GZR	Gura Zlata	3.08	57	⇑*i*	P	Pn	06 25 40.9	+1.3
NVLJ	Novalja	3.13	286	*e*	Pn	Pn	06 25 41.8	+1.6
NVLJ					Sn	Sn	06 26 20.7	+3.2
NVLJ	Novalja	3.13	286	*e*	Pn	Pn	06 25 41.7	+1.6
NVLJ					Sn	Sn	06 26 20.6	+3.2
BEHE	Becsehely	3.14	329	⇓*e*		Pn	06 25 42.1	+1.8
PKSN	Nyarlorinc	3.16	10	*e*		Sg	06 26 32.1	-0.2
BIA	Bitola	3.23	148	*e*	Pn	Pb	06 25 48.7	+0.5
VTS	Vitosha	3.24	110	*e*	Pn	Pn	06 25 43.7	+1.9
VTS	Vitosha	3.24	110	⇓*i*	P	Pn	06 25 43.7	+1.9
VTS	Vitosha	3.24	110	⇓*i*	P	Pn	06 25 43.7	+1.9
KOGS	Kog	3.33	324	*i*	Pn	Pn	06 25 44.0	+1.1
KBN	Korca	3.41	158	*i*	PN	Pb	06 25 51.6	+0.3
DEV	Deva	3.43	51	⇑*i*	P	Pg	06 26 03.7	+7.1
PKST	T"s	3.55	348	*epn*		Pn	06 25 47.1	+1.2
PKST				*esn*		Sn	06 26 26.2	-1.6
VAY	Valandovo	3.56	133	*e*	Pn	Pn	06 25 47.6	+1.5
VAY	Valandovo	3.56	133	*e*	Pn	Pb	06 25 56.0	+2.1
VAY	Valandovo	3.56	133	*e*	Pn	Pn	06 25 47.6	+1.5
VISS	Visnje	3.63	305	*i*	Pn	Pn	06 25 48.9	+1.8
PKSG		3.64	352	*epn*		Pn	06 25 48.4	+1.3
PKSG				*esn*		Sn	06 26 28.4	-1.5
DRGR		3.94	39	⇓*i*	Pn	Pn	06 25 51.9	+0.5
DRGR		3.94	39	⇓*i*	P	Pn	06 25 51.9	+0.5
DRGR		3.94	39	⇓*i*	P	Pn	06 25 51.9	+0.5
MMB	Musomiste	4.07	121	⇓*i*	P	Pg	06 26 08.6	-0.2
SOKA	Soboth	4.07	317	⇑*i*	Pn	Pn	06 25 53.7	+0.6
SOKA				⇑*i*	Sn	Sn	06 26 39.7	-1.0
SOKA	Soboth	4.07	317	Pn		Pn	06 25 53.7	+0.6
SOKA				Sn		Sn	06 26 39.7	-1.0
PSZ	Piszkesteto	4.17	7	⇓*i*	P	Pn	06 25 55.1	+0.6
PSZ	Piszkesteto	4.17	7	⇓*i*	P	Pn	06 25 55.1	+0.6
PSZ	Piszkesteto	4.17	7	⇓*epn*		Pn	06 25 55.2	+0.7
OBKA	Obir	4.21	312	⇓*i*	Pn	Pn	06 25 56.1	+1.1
OBKA				⇑*i*	Sn	Sn	06 26 44.1	0.0
OBKA	Obir	4.21	312	Pn		Pn	06 25 56.1	+1.1
OBKA				Sn		Sn	06 26 44.1	0.0
ARR	Arges	4.26	66	⇓*i*	P	Pn	06 25 57.8	+2.0
ARR	Arges	4.26	66	⇓*i*	P	Pn	06 25 57.8	+2.0
ARSA	Arzberg	4.27	325	⇑*i*	Pn	Pn	06 25 56.8	+0.9
ARSA				⇑*i*	Sn	Sn	06 26 44.6	-1.0
ARSA	Arzberg	4.27	325	⇓*i*	Pn	Pn	06 25 57.2	+1.3
ARSA	Arzberg	4.27	325	Pn		Pn	06 25 56.8	+0.9
ARSA				Sn		Sn	06 26 44.6	-1.0
VOY	Vojsko	4.32	303	*ePn*		Pn	06 25 57.8	+1.3
VOY				*eSn*		Sn	06 26 48.4	+1.5
VOIR		4.56	67	⇓*i*	P	Pn	06 26 01.8	+1.9
VOIR		4.56	67	⇓*i*	P	Pn	06 26 01.8	+1.9
CONA	Conrad Observa	4.71	333	⇓*i*	Pn	Pn	06 26 02.7	+0.8
CONA				⇑*i*	Sn	Sn	06 26 57.0	+0.4
CONA	Conrad Observa	4.71	333		Pn	Pn	06 26 02.7	+0.8
CONA					Sn	Sn	06 26 57.0	+0.4
MYKA	Terra Mystica	4.78	308	⇓*i*	Pn	Pn	06 26 03.5	+0.6
MYKA				⇓*i*	Sg	Sg	06 27 26.6	+2.1
	11nm,0.9s							
MYKA	Terra Mystica	4.78	308		Pn	Pn	06 26 03.5	+0.6
MYKA					Sg	Sg	06 27 26.6	+2.1
	11nm,0.9s							
KECS	Kecovo	4.79	11	*e*	PN	Pn	06 26 04.3	+1.3
KECS				*e*	SN	Sn	06 26 56.7	-1.8
KECS	Kecovo	4.79	11	*e*	Pn	Pn	06 26 04.3	+1.3
KECS				*e*	Sn	Sn	06 26 56.7	-1.8
KDZ	Kurdzhali	5.13	112	⇓*i*	P	Pg	06 26 26.8	-2.4
MLR	Muntele Rosu	5.18	68	⇓*i*	P	Pn	06 26 10.7	+2.3
MLR	Muntele Rosu	5.18	68	⇓*i*	P	Pn	06 26 10.7	+2.3
MOA	Molln	5.28	322	⇑*i*	Pn	Pn	06 26 10.1	+0.5
MOA				⇑*i*	Sn	Sn	06 27 09.6	-0.8
MOA	Molln	5.28	322		Pn	Pn	06 26 10.1	+0.5
MOA					Sn	Sn	06 27 09.6	-0.8
CRVS	Cervenica-Dubn	5.37	17	*e*	PN	Pn	06 26 12.2	+1.3
CRVS	Cervenica-Dubn	5.37	17	*e*	Pn	Pn	06 26 12.3	+1.3
ABTA	Abfaltersbach	5.50	305	⇓*i*	Pn	Pn	06 26 13.1	+0.3
ABTA	Abfaltersbach	5.50	305		Pn	Pn	06 26 13.1	+0.3
KOLS	Kolonicke sedl	5.60	22	*e*	PN	Pn	06 26 15.8	+1.8
KOLS				*e*	SG	Sg	06 27 54.0	+3.5
KOLS	Kolonicke sedl	5.60	22	*e*	Pn	Pn	06 26 15.8	+1.8
KOLS				*e*	Sg	Sg	06 27 54.0	+3.5
BURAR	Bucovina Array	5.75	46	⇑*i*	P	Pn	06 26 17.5	+1.3
BURAR	Bucovina Array	5.75	46	⇑*i*	P	Pn	06 26 17.5	+1.3
STHS	Stebnicka Huta	5.82	14	*e*	PN	Pn	06 26 19.6	+2.5
STHS	Stebnicka Huta	5.82	14	*e*	Pn	Pn	06 26 19.6	+2.5
MORC	Moravsky Berou	6.08	350	⇑*i*	P	Pn	06 26 19.9	-0.8
MORC	Moravsky Berou	6.08	350	⇑*i*	P	Pn	06 26 19.9	-0.8
WTTA	Wattenberg	6.28	306	⇑*i*	Pn	Pn	06 26 23.2	-0.4
WTTA	Wattenberg	6.28	306		Pn	Pn	06 26 23.2	-0.4
WATA	Walderalm	6.35	307	⇑*i*	Pn	Pn	06 26 24.8	+0.2
WATA	Walderalm	6.35	307		Pn	Pn	06 26 24.8	+0.2
KHC	Kasperske Hory	6.56	326

	baz=16						
433A	**Art**	15.72	347	⇓P	P	06 35 28.4	-2.5
	baz=16						
628A	**Black Gap, Mar**	15.78	334	⇑P	P	06 35 29.6	-1.9
	baz=16,SNR=8.3						
530A	**J-C Ranch, Com**	15.78	339	⇓P	P	06 35 29.2	-2.2
	baz=16						
335A	**Moody**	15.95	352	⇓P	P	06 35 31.5	-1.8
	baz=16						
627A	**Terlingua Ranc**	15.97	332	⇓P	P	06 35 32.6	-1.0
	baz=16,SNR=10						
TXAR	**Lajitas Array**	15.99	331	P	P	06 35 32.0	-1.9
TXAR	**Lajitas Array**	15.99	331	P	P	06 35 32.0	-1.9
	0.1nm,0.3s,baz=148,slow=12,SNR=10						
432A	**Menard**	16.00	345	⇓P	P	06 35 31.9	-2.1
	baz=16						
431A	**Sonora**	16.04	342	⇑P	P	06 35 32.5	-1.9
	baz=16						
BCIP	**Isla Barro Col**	16.06	111	Pn	Pn	06 35 31.4	-0.3
529A	**Stev Forest Ra**	16.07	337	⇓P	P	06 35 33.0	-1.8
	baz=16						
334A	**Lometa**	16.12	350	⇓P	P	06 35 33.7	-1.5
	baz=16						
333A	**Richland Sprin**	16.25	348	⇓P	P	06 35 34.8	-1.9
	baz=16						
528A	**Cox Ranch, San**	16.33	335	⇑P	P	06 35 36.5	-1.2
	baz=16						
430A	**Baggett Ranch,**	16.33	341	⇑P	P	06 35 36.1	-1.6
	baz=16						
626A	**Big Bend Ranch**	16.40	331	⇑P	P	06 35 37.9	-0.5
	baz=16						
429A	**Davenport Ranc**	16.41	339	⇑P	P	06 35 36.9	-1.6
	baz=16						
332A	**Millersview**	16.48	346	⇓P	P	06 35 37.6	-1.6
	baz=16						
331A	**San Angelo**	16.58	344	⇑P	Pn	06 35 38.5	+0.2
	baz=16						
WHTX	**Lake Whitney**	16.65	353	*e*Pn	Pn	06 35 38.9	-0.2
WHTX	**Lake Whitney**	16.65	353	⇑P	P	06 35 40.7	-0.5
	baz=16						
527A	**Woodward Ranch**	16.66	333	⇓P	P	06 35 40.6	-0.8
	baz=17,SNR=14						
526A	**Mary Lane Ranc**	16.80	332	⇓P	P	06 35 42.7	-0.2
	baz=17,SNR=5.5						
330A	**Mertzon**	16.89	342	⇑P	P	06 35 42.4	-1.4
	baz=17,SNR=6.7						
232A	**Coleman**	16.94	346	⇑P	Pn	06 35 42.7	0.0
	baz=17						
231A	**Bronte**	17.15	345	⇓P	P	06 35 46.6	0.0
	baz=17,SNR=8.1						
427A	**Hayter Ranch,**	17.18	335	⇓P	P	06 35 46.2	-0.9
	baz=17,SNR=5.3						
135A	**Vickery Place,**	17.21	353	⇑P	P	06 35 46.5	-0.8
	baz=17						
329A	**Wagon Wheel Ra**	17.22	339	⇓P	P	06 35 46.5	-1.0
	baz=17						
426A	**McDonald Obser**	17.29	333	⇑P	P	06 35 49.0	+0.6
	baz=17						
134A	**White-Moore Ra**	17.31	351	⇑P	P	06 35 48.0	-0.4
	baz=17						
230A	**Sterling City**	17.32	342	⇓P	P	06 35 47.4	-1.2
	baz=17						
328A	**Wristen Ranch,**	17.42	337	⇓P	P	06 35 50.2	+0.5
	baz=17						
133A	**Hamilton Ranch**	17.48	349	⇓P	P	06 35 51.6	+1.2
	baz=17						
229A	**Bryant Ranch,**	17.61	341	⇑P	P	06 35 54.0	+2.2
	baz=18						
ABTX	**Abilene, Hawle**	17.65	347	*e*Pn	P	06 35 51.6	-0.5
ABTX	**Abilene, Hawle**	17.65	347	⇑P	P	06 35 51.6	-0.5
	baz=18						
425A	**Indio Mountain**	17.83	331	⇑P	P	06 35 55.9	+1.6
	baz=18						
326A	**Caldwell Ranch**	17.83	334	⇑P	P	06 35 55.0	+0.7
	baz=18						
131A	**Roby**	17.87	345	⇑P	P	06 35 54.7	+0.1
	baz=18						
130A	**Snyder**	17.95	343	⇓P	P	06 35 55.5	+0.1
	baz=18						
Z35A	**Perchaven, San**	17.95	354	⇓P	P	06 35 57.4	+1.9
	baz=18						
228A	**UT Block 9, Go**	18.01	339	⇑P	P	06 35 56.7	+0.5
	baz=18						
Z34A	**Collier Ranch,**	18.07	352	⇓P	P	06 35 58.8	+1.9
	baz=18						
Z33A	**Whitaker Ranch**	18.12	350	⇑P	Pn	06 35 58.7	+1.5
	baz=18						
227A	**Bennet, Jal**	18.17	337	⇑P	Pn	06 35 58.9	+1.0
	baz=18						
129A	**Stewart Farms,**	18.24	341	⇓P	Pn	06 35 58.6	-0.3
	baz=18						
Z32A	**Haskell**	18.27	348	⇓P	Pn	06 35 59.4	+0.2
	baz=18						
Z31A	**Sharp Cattle R**	18.43	346	⇓P	Pn	06 36 00.8	-0.2
	baz=18,SNR=5.4						
128A	**Castleberry Fa**	18.43	340	⇑P	Pn	06 36 01.5	+0.4
	baz=18						
226B	**Tecolote Peak,**	18.57	335	⇑P	Pn	06 36 03.9	+1.1
	baz=18,SNR=5.0						
Y34A	**Reagan Ranch,**	18.63	353	⇓P	Pn	06 36 04.0	+0.6
	baz=18						
Z30A	**Sanderson Ranc**	18.64	344	⇑P	Pn	06 36 02.9	-0.8
	baz=18						
Z29A	**Hungry Hill Ra**	18.78	342	⇑P	Pn	06 36 05.0	-0.3
	baz=19						
127A	**Arkansas Junct**	18.79	338	⇑P	Pn	06 36 05.5	0.0
	baz=19						
Y33A	**Hilltop Ranch,**	18.80	351	⇓P	Pn	06 36 05.8	+0.3
	baz=19						
225A	**Deer Hill, Car**	18.88	333	⇑P	Pn	06 36 07.7	+1.1
	baz=19						
Y32A	**R-V Farms, Ver**	18.94	349	⇓P	Pn	06 36 07.4	+0.2
	baz=19						
126A	**Clayton Basin,**	19.01	336	⇑P	Pn	06 36 08.7	+0.6
	baz=19						
Z28A	**Tucker Farm, M**	19.01	341	⇓P	Pn	06 36 08.1	-0.1
	baz=19						
Y31A	**Rekieta Farm,**	19.07	347	⇓P	Pn	06 36 08.8	0.0
	baz=19						
Y30A	**Stafford Cattl**	19.14	345	⇓P	Pn	06 36 09.1	-0.5
	baz=19						
224A	**Cornudas Mount**	19.16	332	⇑P	Pn	06 36 10.1	+0.1
	baz=19						
X34A	**Smith Ranch, M**	19.27	353	⇑P	Pn	06 36 09.9	-1.3
	baz=19						
125A	**Gardner Draw,**	19.28	335	⇓P	Pn	06 36 10.8	-0.6
	baz=19						
X33A	**Lawton**	19.30	351	⇑P	Pn	06 36 10.3	-1.2
	baz=19						
Z27A	**Tatum**	19.31	339	⇓P	Pn	06 36 10.9	-0.9
	baz=19,SNR=8.8						
X32A	**Elmer**	19.32	349	⇑P	P	06 36 10.2	-0.2
	baz=19						
Y29A	**Porterfield Fa**	19.33	343	⇓P	P	06 36 10.5	-0.2
	baz=19						
Y28A	**McKinney Farm,**	19.54	342	⇑P	Pn	06 36 13.5	-1.1
	baz=20,SNR=5.3						
Z26A	**Caprock**	19.55	337	⇓P	P	06 36 12.9	-0.2
	baz=20						
X31A	**McDonald Ranch**	19.65	348	⇑P	Pn	06 36 15.5	-0.3
	baz=20,SNR=5.7						
124A	**Stringfield Ra**	19.66	333	⇓P	Pn	06 36 16.4	+0.4
	baz=20						
X30A	**Coker Ranch, T**	19.68	345	⇑P	P	06 36 14.1	-0.4
	baz=20						
MSTX	**Muleshoe**	19.76	341	*e*P	Pn	06 36 16.6	-0.6
MSTX	**Muleshoe**	19.76	341	⇓P	Pn	06 36 16.7	-0.4
	baz=20						
Y27A	**Causey**	19.81	340	⇑P	Pn	06 36 17.4	-0.4
	baz=20						
Z25A	**Roswell**	19.85	335	⇑P	Pn	06 36 18.0	-0.1
	baz=20						
W33A	**Caddo, Fort Co**	19.90	352	⇓P	Pn	06 36 18.7	0.0
	baz=20						
222A	**Williams Famil**	19.94	329	⇓P	Pn	06 36 20.8	+1.5
	baz=20,SNR=7.2						
W32A	**Sentinel**	19.99	350	⇑P	Pn	06 36 19.5	-0.3
	baz=20						
Y26A	**Elida**	20.08	338	⇑P	Pn	06 36 20.4	-0.5
	baz=20						
X28A	**Dimmitt**	20.10	342	⇓P	Pn	06 36 20.1	-1.0
	baz=20						
320A	**Kipp Ranch, An**	20.10	324	⇑P	Pn	06 36 24.4	+3.1
	baz=20						
Z24A	**Sheeppen Canyo**	20.16	334	⇓P	Pn	06 36 21.8	-0.1
	baz=20						
W31A	**Holland Ranch,**	20.18	348	⇓P	Pn	06 36 21.2	-0.9
	baz=20						
AMTX	**Amarillo**	20.30	344	⇑P	Pn	06 36 22.5	-0.9
	baz=20						
Y25A	**Mesa, Roswell**	20.40	336	⇓P	Pn	06 36 24.9	+0.2
	baz=20,SNR=8.4						
TUL1	**Tulsa**	20.43	358	⇓P	Pn	06 36 25.4	+0.6
	baz=20						
Z23A	**Rita Site, Whi**	20.48	332	⇓P	Pn	06 36 25.7	+0.1
	baz=20						
X27A	**F and S Farms,**	20.49	341	⇓P	Pn	06 36 24.5	-1.2
	baz=20						
220A	**Playas Peak, P**	20.53	325	⇓P	Pn	06 36 27.3	+1.1
	baz=20						
V33A	**Lossen Ranch,**	20.54	352	⇓P	Pn	06 36 24.9	-1.2
	baz=20						
319A	**Douglas**	20.56	323	⇓P	Pn	06 36 27.6	+1.1
	baz=21						
121A	**Cookes Peak, D**	20.63	328	*e*P	Pn	06 36 27.6	+0.3
121A	**Cookes Peak, D**	20.63	328	⇑P	Pn	06 36 27.4	0.0
	baz=21						
Y24A	**Capitan**	20.70	335	⇓P	Pn	06 36 27.4	-0.9
	baz=21						
V31A	**Spring Creek L**	20.73	349	⇑P	Pn	06 36 27.7	-0.7
	baz=21						
Z22A	**Elephant Butte**	20.81	331	⇓P	Pn	06 36 27.9	-1.6
	baz=21						
W27A	**Bowe Ranch, En**	20.86	341	⇓P	Pn	06 36 27.9	-2.1
	baz=21						
V30A	**Spur Ranch, Mi**	20.89	347	⇓P	P	06 36 27.7	+0.1
	baz=21						
X25A	**Clemmons Ranch**	20.93	337	⇓P	Pn	06 36 29.4	-1.4
	baz=21						
Y23A	**Lovelace Mesa,**	20.97	334	⇑P	P	06 36 30.8	+2.2
	baz=21						
120A	**U Bar Ranch, L**	21.08	326	⇓P	P	06 36 33.5	+3.6
	baz=21						
W26A	**Owens Ranch, T**	21.11	340	⇑P	P	06 36 31.4	+1.2
	baz=21						
U32A	**Winter Ranch,**	21.18	351	⇑P	P	06 36 32.4	+1.7
	baz=21						
Z21A	**St. Cloud Mine**	21.19	329	⇓P	P	06 36 34.1	+3.1
	baz=21						
X24A	**Lazy VL Ranch,**	21.26	336	⇓P	P	06 36 33.3	+1.5
	baz=21						
Y22A	**Socorro**	21.37	332	⇓P	P	06 36 35.4	+2.4
	baz=21						
BNM	**Barren Site**	21.40	333	*e*P	P	06 36 35.2	+1.9
	8.4nm,1.1s						
W25A	**X Bar L Ranch,**	21.47	338	⇓P	P	06 36 35.5	+1.5
	baz=21						
Z20A	**Nine Sixteen R**	21.50	327	⇓P	P	06 36 37.8	+3.5
	baz=22						
X23A	**Hourglass Bar**	21.58	334	⇑P	P	06 36 36.9	+1.7
	baz=22						
U30A	**WK&E Inc. Balk**	21.63	348	⇓P	P	06 36 37.6	+2.1
	baz=22						
Y21A	**Point of Rocks**	21.76	331	⇑P	P	06 36 40.4	+3.2
	baz=22						
V26A	**Tequesquite Ra**	21.77	340	⇑P	P	06 36 38.3	+1.2
	baz=22						
W24A	**Lazy 6 Ranch,**	21.81	337	⇑P	P	06 36 39.7	+2.0
	baz=22						
LAZ	**Ladron**	21.84	332	*e*P	P	06 36 40.6	+2.6
	3.9nm,1.0s						
U28A	**Mallet**	21.85	344	⇑P	P	06 36 39.2	+1.2
	baz=22						
T32A	**Huddler Ranch,**	21.96	352	⇑P	P	06 36 41.2	+2.2
	baz=22						
T31A	**Randall Ranch,**	21.99	350	⇑P	P	06 36 40.8	+1.4
	baz=22						
ANMO	**Albuquerque**	22.00	334	P	P	06 36 41.8	+2.1
ANMO	**Albuquerque**	22.00	334	P	P	06 36 41.8	+2.1
	1.1nm,0.7s,baz=186,slow=9.2,SNR=4.4						
Y20A	**Horse Springs,**	22.02	329	⇓P	P	06 36 42.6	+2.6
	baz=22						
U27A	**Thompson Grove**	22.05	343	⇑P	P	06 36 40.9	+0.7
	baz=22						
V25A	**Rancho No Teng**	22.08	339	⇓P	P	06 36 41.5	+0.9
	baz=22,SNR=12						
TUC	**Tucson**	22.12	322	*e*P	P	06 36 43.0	+2.2
	6.1nm,1.1s						
X21A	**Alamocita Cree**	22.17	331	⇓P	P	06 36 43.6	+2.0
	baz=22						
V24A	**Rampart Ranch,**	22.22	337	⇓P	P	06 36 43.4	+1.3
	baz=22						
U26A	**Atchley Ranch,**	22.30	341	⇑P	P	06 36 43.7	+0.8
	baz=22,SNR=5.5						
S31A	**Mullinville**	22.47	351	⇓P	P	06 36 46.8	+2.2
	baz=22						
U25A	**Circle Dot Ran**	22.52	340	⇑P	P	06 36 45.8	+0.5
	baz=22,SNR=5.7						
TKL	**Tuckaleechee C**	22.53	24	LR	LR	06 47 55.1	
	comp=Z,183nm,19.9s,baz=304,slow=43						
V23A	**Ortiz Mt. (NFS**	22.59	336	⇓P	P	06 36 48.4	+2.4
	baz=22						
T27A	**Campo**	22.63	344	⇑P	P	06 36 47.6	+1.2
	baz=22						
S30A	**Montezuma**	22.66	349	⇓P	P	06 36 48.5	+1.9
	baz=22						
U24A	**Moreno Valley**	22.83	338	⇓P	P	06 36 52.2	+3.5
	baz=23						
ROSC	**El Rosal**	22.87	115	*e*P	P	06 36 53.1	+3.8
ROSC	**El Rosal**	22.87	115	P	P	06 36 51.2	+1.9
	2.5nm,0.6s,baz=270,slow=20,SNR=4.3						
S28A	**Manter**	22.92	346	⇓P	P	06 36 52.3	+3.0
	baz=23						
R33A	**Olander Ranch,**	22.96	354	⇓P	P	06 36 53.4	+3.7
	baz=23						
T26A	**Comanche Natio**	22.98	342	⇓P	P	06 36 52.7	+2.7
	baz=23						
V22A	**San Miguel Ran**	23.02	335	⇑P	P	06 36 52.9	+2.3
	baz=23						
U23A	**El Rito**	23.10	336	⇑P	P	06 36 53.3	+1.9
	baz=23						
R31A	**Burdett**	23.13	351	⇑P	P	06 36 53.4	+2.0
	baz=23						
R32A	**Long Quarter,**	23.15	353	⇑P	P	06 36 54.1	+2.5
	baz=23						
T25A	**Trinidad**	23.20	341	⇑P	P	06 36 53.7	+1.4
	baz=23,SNR=6.0						
R30A	**Dighton**	23.25	349	⇓P	P	06 36 54.9	+2.3
	baz=23						
X18A	**Snowflake**	23.31	327	⇓P	P	06 36 57.9	+4.5
	baz=23						
S26A	**Kim**	23.36	343	⇑P	P	06 36 55.8	+2.0
	baz=23						
T24B	**San Luis**	23.45	339	⇑P	P	06 36 57.3	+2.4
	baz=23						
R28A	**Tribune**	23.62	347	⇑P	P	06 36 59.2	+3.0
	baz=24						
Q33A	**Connelly Farm,**	23.63	354	⇓P	P	06 36 59.4	+3.2
	baz=24						
T23A	**Casias Ranch,**	23.66	338	⇑P	P	06 36 58.9	+2.0
	baz=24						
S25A	**Robets Cordova**	23.68	341	⇑P	P	06 36 58.8	+1.9
	baz=24						
R27A	**Eads**	23.80	345	⇓P	P	06 37 00.2	+2.3
	baz=24						
S24A	**Huchin Ranch,**	23.91	340	⇑P	P	06 37 01.0	+1.7
	baz=24						
Q30A	**Quinter**	23.92	350	⇓P	P	06 37 01.1	+2.1
	baz=24						
Q29A	**Oakley**	23.97	348	⇓P	P	06 37 01.5	+2.0
	baz=24						
R26A	**Arlington**	23.99	343	⇑P	P	06 37 01.2	+1.5
	baz=24						
R25A	**Fountain Ranch**	24.08	342	⇓P	P	06 37 02.8	+2.1
	baz=24						
S23A	**Nye Farm, Mont**	24.25	338	⇓P	P	06 37 05.4	+3.1
	baz=24						
P31A	**Stockton**	24.32	352	⇓P	P	06 37 05.3	+2.6
	baz=24						
P32A	**Huiting Farm,**	24.32	353	⇓P	P	06 37 04.7	+2.0
	baz=24						
R24A	**Sanders Place,**	24.42	340	⇓P	P	06 37 07.0	+3.2
	baz=24						
P30A	**Selden**	24.48	350	⇑P	P	06 37 06.9	+2.7
	baz=24						
Y14A	**Wickenburg**	24.58	322	⇑P	P	06 37 09.6	+4.4
	baz=25						
S22A	**4UR Ranch, Cre**	24.59	337	⇑P	P	06 37 08.1	+2.7
	baz=24						
Q26A	**Hugo**	24.59	344	⇑P	P	06 37 07.7	+2.4
	baz=24						
R23A	**Moffat**	24.62	339	⇓P	P	06 37 07.9	+2.2
	baz=25						
P29A	**Atwood**	24.65	349	⇑P	P	06 37 08.2	+2.5
	baz=24						
P28A	**Saint Francis**	24.79	347	⇑P	P	06 37 10.5	+3.5
	baz=25						
MVCO	**Mesa Verde**	24.80	334	⇓P	P	06 37 09.5	+2.2
	baz=25						
WUAZ	**Wupatki**	24.81	327	*e*P	P	06 37 10.5	+3.1
	7.0nm,1.0s						
WUAZ	**Wupatki**	24.81	327	⇑P	P	06 37 10.6	+3.3
	baz=25						
O32A	**Brockman Farm,**	24.92	354	⇑P	P	06 37 10.3	+2.2
	baz=25						
O31A	**Woolen Ranch,**	24.93	352	⇓P	P	06 37 11.7	+3.4
	baz=25						
O30A	**MW Ranch, Wils**	25.07	351	⇓P	P	06 37 13.0	+3.6
	baz=25						
Q23A	**Hartsel**	25.27	340	⇑P	P	06 37 16.2	+4.6
	baz=25						
P25A	**Willow Gulch B**	25.32	343	⇓P	P	06 37 15.9	+4.0
	baz=25						
PV01	**Paradox Valley**	25.61	335	*e*P	P	06 37 17.2	+2.6
	592nm,1.1s						
BC3	**Big Chuckawall**	25.91	318	⇑P	P	06 37 26.1	+8.8
	baz=26						
U15A	**North Rim**	25.99	327	⇓P	P	06 37 24.3	+6.2
	baz=26						
M31A	**Lambtecht Ranc**	26.07	353	⇑P	P	06 37 23.5	+5.0
	baz=26						
P22A	**Eagle**	26.20	339	⇑P	P	06 37 24.3	+4.3
	baz=26						
PFO	**Pinyon Flat Ob**	26.54	317	LR	LR	06 47 15.0	
	comp=Z,156nm,21.8s,baz=135,slow=35						
PDAR	**Pinedale Array**	29.99	338	P	P	06 37 56.2	+2.5
PDAR	**Pinedale Array**	29.99	338	P	P	06 37 56.2	+2.5
	0.6nm,1.0s,baz=89,slow=6.1,SNR=2.8						
NVAR	**Mina Array Bea**	30.77	323	P	P	06 38 03.1	+2.4
NVAR	**Mina Array Bea**	30.77	323	P	P	06 38 03.1	+2.4
	0.6nm,0.7s,baz=142,slow=8.0,SNR=4.0						
NVAR				LR	LR	06 51 47.7	
	comp=Z,186nm,19.9s,baz=53,slow=39						
LPAZ	**La Paz**	41.18	139	LR	LR	06 56 35.8	
	comp=Z,48nm,19.5s,baz=76,slow=36						
SIV	**San Ignacio**	45.78	131	P	P	06 40 07.2	+0.4
SIV	**San Ignacio**	45.78	131	P	P	06 40 07.2	+0.4
	1.0nm,0.6s,baz=323,slow=9.1,SNR=3.8						
YKA	**Yellowknife Ar**	49.02	348	P	P	06 40 32.7	+1.4
YKA	**Yellowknife Ar**	49.02	348	P	P	06 40 32.7	+1.4
	1.2nm,1.0s,baz=156,slow=7.8,SNR=2.9						
CPUP	**Villa Florida**	55.35	138	LR	LR	07 03 43.8	
	comp=Z,52nm,18.5s,baz=130,slow=35						
BDFB	**Brasilia**	55.73	122	LR	LR	07 03 11.5	
	comp=Z,50nm,21.1s,baz=208,slow=34						
SONM	**Songino Array**	114.19	344	PKP	PKPdf	06 50 24.6	+0.3
SONM	**Songino Array**	114.19	344	PKP	PKPdf	06 50 24.6	+0.3
	0.4nm,0.6s,baz=33,slow=5.5,SNR=3.1						

MOS ***01*** *06:44:02.8±2.0, 46°.89N×152°.59E, h56km, mb4.2/6, Error ellipse: s-maj=14.2km s-min=9.2km az=57.4*
ISCJB ***01*** *06:44:03.7±0.8, 46°.80N±0°.09×152°.7E±0°.1, h67km, mb3.7/10, Error ellipse: s-maj=15.9km s-min=5.5km az=143.2*
SKHL ***01*** *06:44:05.5±0.4, 47°.04N×152°.46E, h74km±4km*
IDC ***01*** *06:44:07.2±3.0, 46°.75N×152°.57E, h73km±27km, mb3.4/8, mb1 3.5/11, mb1mx3.4/28, mbtmp3.4/11, MS2.7/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=30.5km s-min=18.0km az=143.0*

ISC 01 06:44:05.6±0.8, 46°.82N±0°.10×152°.70E±0°.09, h67km, n56, σ1s76/50, mb3.9/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.73**	**246**	PN	**Pn**	**06 45 00.5**	**-0.1**
KUR				*e*S	**Sn**	**06 45 40.8**	**-2.4**
KUR				smax	smax		
	comp=N,110nm,0.6s						
KUR				smax	smax		
	comp=E,160nm,0.8s						
KUR	**Kuril'sk**	**3.73**	**246**	*e*P	**Pn**	**06 44 59.8**	**-0.8**
KUR				*e*S	**Sn**	**06 45 40.8**	**-2.4**
KUR				A	A	06 45 49.0	
	comp=E,110nm,0.7s						
KUR				A	A	06 45 49.0	
	comp=E,160nm,0.7s						
SKR	**Severo-Kuril's**	**4.47**	**29**	*e*PN	**Pn**	**06 45 09.4**	**-1.4**
SKR				*e*		06 45 57.0	
SKR	**Severo-Kuril's**	**4.47**	**29**	*e*P	**Pn**	**06 45 09.4**	**-1.4**
SKR				*e*S	**Sn**	**06 45 57.0**	**-4.5**
SKR				A	A	06 46 15.0	
	comp=E,30nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.56**	**242**	*e*PN	**Pn**	**06 45 23.8**	**-2.0**
YUK				*i* S	**Sn**	**06 46 28.9**	**+0.6**
YUK				pmax	pmax		
	comp=N,13nm,0.1s						
YUK				pmax	pmax		
	comp=Z,52nm,0.1s						
YUK				pmax	pmax		
	comp=E,37nm,0.2s						
YUK				smax	smax		
	comp=N,33nm,0.1s						
YUK				smax	smax		
	comp=E,59nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**5.56**	**242**	*e*P	**Pn**	**06 45 23.9**	**-1.9**
YUK				*i* S	**Sn**	**06 46 29.0**	**+0.6**
YUK				A	A	06 46 32.9	
	comp=E,30nm,0.2s						
YUK				A	A	06 46 32.9	
	comp=E,90nm,0.2s						
YSS	**Yuzh-Sakhalins**	**6.82**	**275**	PN	**Pn**	**06 45 44.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**6.82**	**275**	*e*P	**Pn**	**06 45 42.5**	**-0.4**
PETK	**Petropavlovsk-**	**7.07**	**25**	PN	**Pn**	**06 45 48.9**	**+2.7**
PETK	**Petropavlovsk-**	**7.07**	**25**	P	**Pn**	**06 45 48.9**	**+2.7**
	comp=E,0.2nm,0.3s,baz=194,slow=16,SNR=4.6						
PET	**Petropavlovsk**	**7.30**	**30**	*i* PN	Pn	06 45 44.8	-4.6
PET	**Petropavlovsk**	**7.30**	**30**	*i* P	Pn	06 45 44.8	-4.6
JKA	**Kamikawa-asahi**	**7.60**	**253**	*e*P	**Pn**	**06 45 53.2**	**-0.4**
JKA				*e*S	**Sn**	**06 47 21.2**	**+3.0**
ASAJ	**Asahikawa**	**7.60**	**253**	P	**Pn**	**06 45 53.2**	**-0.5**
	comp=E,1.6nm,0.3s,baz=83,slow=15,SNR=4.6						
ASAJ				LR	LR	06 48 53.5	
	comp=E,52nm,19.8s,baz=358,slow=38						
ERM	**Erimo**	**8.35**	**238**	*i* PN	**Pn**	**06 46 01.4**	**-2.5**
ERM	**Erimo**	**8.35**	**238**	*i* P	**Pn**	**06 46 01.4**	**-2.5**
EKMR	**Ekimchan**	**14.15**	**303**	*e*P	**Pn**	**06 47 21.5**	**-1.0**
USRK	**Ussuriysk Arra**	**14.76**	**267**	P	**Pn**	**06 47 31.0**	**+0.5**
	comp=E,0.3nm,0.3s,baz=78,slow=11,SNR=3.4						
VLA	**Vladivostok**	**15.19**	**263**	*i* P	Pn	06 47

comp=Z,1.0nm,0.5s,baz=19,slow=8.1,SNR=7.3
NB2 NORSAR Subarra 68.07 341 P **P** **06 54 58.0 +0.4**
comp=Z,1.3nm,0.6s,baz=30,slow=6.5
NOA NORSAR Array B 68.07 341 *eP* **P** **06 54 58.3 +0.7**
NOA NORSAR Array B 68.07 341 P **P** **06 54 58.4 +0.7**
comp=Z,1.2nm,0.6s,baz=29,slow=6.3,SNR=4.3
AKASG Malin Array Be 71.33 326 P **P** **06 55 17.9 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.33 326 P **P** **06 55 17.9 +0.1**
comp=Z,1.1nm,0.4s,baz=36,slow=6.4,SNR=4.7
ASAR Alice Springs 72.19 198 *eP* **P** **06 55 23.1 -0.1**
ASAR Alice Springs 72.19 198 P **P** **06 55 23.1 -0.1**
comp=Z,0.1nm,0.3s,baz=14,slow=4.4,SNR=4.2
TXAR Lajitas Array 77.70 60 *eP* **P** **06 55 57.2 +2.0**
TXAR Lajitas Array 77.70 60 P **P** **06 55 57.2 +2.0**
comp=Z,0.2nm,0.7s,baz=306,slow=4.6,SNR=4.4
TXAR pP **pP** **06 56 11.5 -1.9**
comp=Z,0.4nm,0.5s,baz=289,slow=3.3,SNR=4.9
H03N2 Juan Fernandez 139.03 90 T T 09 38 47.4
baz=305,slow=75,SNR=17
H03N1 Juan Fernandez 139.05 90 T T 09 38 49.5
baz=305,slow=75,SNR=20
H03N3 Juan Fernandez 139.05 90 T T 09 38 51.1
baz=305,slow=75,SNR=20

IDC 01 06:52:29.2±9.4, 23°.82S×176°.52W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=216.7km s-min=40.7km az=40.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.71**	**248**	P		P	P	06 59 46.2	-0.5
	0.9nm,0.4s,baz=79,slow=10,SNR=6.3								
ASAR	**Alice Springs**	**45.19**	**260**	P		P	P	07 00 48.1	-0.1
	0.4nm,0.3s,baz=91,slow=7.2,SNR=10								
WRA	**Warramunga Arr**	**45.59**	**265**	P		P	P	07 00 51.5	+0.1
	0.4nm,0.3s,baz=104,slow=8.1,SNR=14								
VNDA	**Vanda**	**54.75**	**186**	P		P	P	07 02 00.0	-0.1
	1.7nm,1.0s,baz=52,slow=9.1,SNR=2.6								

IDC 01 07:13:41.8±9.0, 15°.32S×172°.50W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/21, mbtmp4.0/4, Error ellipse: s-maj=200.6km s-min=147.5km az=133.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.03**	**248**	P		P	P	07 18 27.4	-0.1
	4.5nm,0.7s,baz=72,slow=19,SNR=6.9								
STKA	**Stephens Creek**	**44.83**	**240**	P		P	P	07 21 57.9	-0.1
	0.7nm,0.5s,baz=87,slow=8.4,SNR=4.5								
WRA	**Warramunga Arr**	**50.71**	**257**	P		P	P	07 22 43.5	-0.2
	0.4nm,0.5s,baz=93,slow=7.0,SNR=9.2								
ASAR	**Alice Springs**	**50.96**	**252**	P		P	P	07 22 45.5	-0.1
	3.8nm,0.6s,baz=88,slow=8.1,SNR=61								

IDC 01 07:15:20.0±2.0, 50°.74N×173°.02W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.5/5, MS3.8/1, Ms1 3.8/1, ms1mx3.0/35, Error ellipse: s-maj=55.6km s-min=28.1km az=6.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**19.58**	**34**	P		P	P	07 19 48.9	-0.4
	0.1nm,0.3s,baz=234,slow=10,SNR=7.8								
INK	**Inuvik**	**25.95**	**33**	P		P	P	07 20 54.1	+0.4
	1.4nm,0.7s,baz=247,slow=7.5,SNR=5.0								
JCJ	**Chichijima**	**41.26**	**252**	LR		LR		07 36 36.7	
	comp=Z,126nm,20.3s,baz=4.7,slow=31								
PDAR	**Pinedale Array**	**42.99**	**75**	P		P	P	07 23 20.9	-0.2
	1.0nm,0.7s,baz=316,slow=6.3,SNR=8.3								
SONM	**Songino Array**	**50.16**	**300**	P		P	P	07 24 16.9	-0.2
	0.7nm,0.8s,baz=64,slow=6.6,SNR=3.0								
TXAR	**Lajitas Array**	**55.11**	**85**	P		P	P	07 24 53.8	-0.2
	0.2nm,0.8s,baz=316,slow=6.3,SNR=3.0								

IDC 01 07:18:41.9±1.9, 1°.56N×127°.13E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=118.4km s-min=23.9km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.59**	**184**	P		P	P	07 23 11.9	+0.1
	0.1nm,0.3s,baz=17,slow=11,SNR=3.1								
WRA	**Warramunga Arr**	**22.51**	**162**	P		P	P	07 23 42.3	-1.0
	0.7nm,0.3s,baz=340,slow=11,SNR=15								
ASAR	**Alice Springs**	**25.93**	**166**	P		P	P	07 24 16.9	+0.8
	0.1nm,0.3s,baz=346,slow=12,SNR=4.2								
MKAR	**Makanchi Array**	**59.56**	**326**	P		P	P	07 28 47.3	-0.1
	0.3nm,0.5s,baz=134,slow=8.4,SNR=3.8								

*TIR **01** 07:26:57.9±0.4, 41°.74N×19°.75E, h20km±8km, ML2.5*
*PDG **01** 07:26:59.1±0.1, 41°.76N×19°.73E, h11km, ML2.5/9, Error ellipse: s-maj=0.2km s-min=0.1km az=90.0*
*CSEM **01** 07:26:59.2±0.4, 41°.84N×19°.78E, h2km, ML2.5, Error ellipse: s-maj=7.9km s-min=4.4km az=11.0*
*BEO **01** 07:27:01.7±0.6, 41°.90N×19°.83E, h6km±5km, ML2.4/7*
ISC 01 07:26:59.5±1.0, 41°.81N±0°.04×19°.78E±0°.02, h12km±8km, n43, σ1°.24/80, 8C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.24**	**20**	*e*PG		**Pb**	**Pb**	**07 27 05.3**	**-0.7**
PUK				*i* SG			**Sg**	**07 27 10.9**	**+2.8**
PUK	**Puka**	**0.24**	**20**	*e*Pg		**Pb**	**Pb**	**07 27 05.3**	**-0.7**
	SNR=108								
ULC	**Ulcinj**	**0.43**	**291**	⇑*i*Pg		**Pg**	**Pg**	**07 27 06.9**	**-1.1**
ULC				*e*Sg		**Sg**	**Sg**	**07 27 13.6**	**-0.1**
ULC	**Ulcinj**	**0.43**	**291**	⇑*i*Pg		**Pg**	**Pg**	**07 27 06.9**	**-1.1**
ULC				*e*Sg		**Sg**	**Sg**	**07 27 13.6**	**-0.1**
PHP	**Peshkopia**	**0.51**	**105**	*e*PG		**Pg**	**Pg**	**07 27 09.0**	**-0.5**
PHP				*i* SG		**Sg**	**Sg**	**07 27 16.9**	**+0.7**
PHP	**Peshkopia**	**0.51**	**105**	*e*Pg		**Pg**	**Pg**	**07 27 09.0**	**-0.5**
	SNR=91								
PHP				*i* Sg		**Sg**	**Sg**	**07 27 16.9**	**+0.7**
	SNR=91								
BCI	**Bajram Curri**	**0.59**	**21**	*i* PG		**Pb**	**Pb**	**07 27 11.5**	**-0.4**
BCI				*i* PG		Pn	Pn	07 27 22.7	+8.9
BCI	**Bajram Curri**	**0.59**	**21**	*i* Pg		**Pb**	**Pb**	**07 27 11.5**	**-0.4**
	SNR=90								
PDG	**Podgorica**	**0.73**	**328**	*e*Pg		**Pg**	**Pg**	**07 27 13.1**	**-0.5**
PDG				*e*Sg		**Sn**	**Sn**	**07 27 25.2**	**-1.6**
PDG	**Podgorica**	**0.73**	**328**	⇓*i*Pg		**Pg**	**Pg**	**07 27 13.2**	**-0.4**
PDG				*e*Sg		**Sn**	**Sn**	**07 27 25.1**	**-1.7**
TTG	**Podgorica**	**0.73**	**328**	⇓*i*Pg		**Pg**	**Pg**	**07 27 13.2**	**-0.4**
TTG				*e*Sg		**Sn**	**Sn**	**07 27 25.1**	**-1.7**
BUM	**Brajici-Budva**	**0.82**	**307**	⇑*i*Pg		**Pg**	**Pg**	**07 27 14.3**	**-1.1**
BUM				*e*Sg		**Sb**	**Sb**	**07 27 27.2**	**+0.3**
BUM	**Brajici-Budva**	**0.82**	**307**	⇑*i*Pg		**Pg**	**Pg**	**07 27 14.3**	**-1.1**
BUM				*e*Sg		**Sb**	**Sb**	**07 27 27.2**	**+0.3**
BEY	**Berane**	**1.06**	**4**	⇓*i*Pg		**Pn**	**Pn**	**07 27 19.8**	**-0.5**
BEY				*e*Sg		**Sn**	**Sn**	**07 27 37.6**	**+2.5**
IVA	**Berane**	**1.06**	**4**	⇓*i*Pg		**Pn**	**Pn**	**07 27 19.8**	**-0.5**
IVA				*e*Sg		**Sn**	**Sn**	**07 27 37.6**	**+2.5**
NKME	**Niksic**	**1.13**	**327**	⇑*i*Pg		**Pb**	**Pb**	**07 27 20.5**	**-0.6**
NKME				*e*Sg		**Sn**	**Sn**	**07 27 38.8**	**+2.0**
NKME	**Niksic**	**1.13**	**327**	⇑*i*Pg		**Pb**	**Pb**	**07 27 20.5**	**-0.6**
NKME				*e*Sg		**Sn**	**Sn**	**07 27 38.8**	**+2.0**
HCY	**Herceg Novi**	**1.15**	**304**	⇓*i*Pg		**Pb**	**Pb**	**07 27 20.1**	**-1.2**
HCY				*e*Sg		**Sn**	**Sn**	**07 27 38.2**	**+1.1**
HCY	**Herceg Novi**	**1.15**	**304**	⇓*i*Pg		**Pb**	**Pb**	**07 27 20.1**	**-1.2**
HCY				*e*Sg		**Sn**	**Sn**	**07 27 38.2**	**+1.1**
NKY	**Niksic**	**1.16**	**330**	⇓*i*Pg		**Pn**	**Pn**	**07 27 21.2**	**-0.5**
NKY				*e*Sg		**Sn**	**Sn**	**07 27 39.8**	**+2.3**
NKY	**Niksic**	**1.16**	**330**	⇓*i*Pg		**Pn**	**Pn**	**07 27 21.2**	**-0.5**
NKY				*e*Sg		**Sn**	**Sn**	**07 27 39.8**	**+2.3**
SKO	**Skopje**	**1.25**	**82**	*e*Pg		**Pb**	**Pb**	**07 27 23.0**	**0.0**
SKO				*e*Sg		**Sg**	**Sg**	**07 27 40.6**	**+0.9**
SKO	**Skopje**	**1.25**	**82**	*e*Pg		**Pb**	**Pb**	**07 27 23.0**	**0.0**
SKO				*e*Sg		**Sg**	**Sg**	**07 27 40.6**	**+0.9**
TREB	**Trebinje**	**1.40**	**311**	*e*Pg		**Pb**	**Pb**	**07 27 25.1**	**-0.4**
TREB				*e*Sg		**Sg**	**Sg**	**07 27 45.8**	**+1.4**
TREB	**Trebinje**	**1.40**	**311**	*e*Pg		**Pb**	**Pb**	**07 27 25.1**	**-0.4**
TREB				*e*Sg		**Sg**	**Sg**	**07 27 45.8**	**+1.4**
BRY	**Bratogost**	**1.43**	**320**	⇑*i*Pg		**Pb**	**Pb**	**07 27 25.8**	**-0.3**
BRY				*e*Sg		**Sg**	**Sg**	**07 27 47.8**	**+2.4**
BRY	**Bratogost**	**1.43**	**320**	⇑*i*Pg		**Pb**	**Pb**	**07 27 25.8**	**-0.3**
BRY				*e*Sg		**Sg**	**Sg**	**07 27 47.8**	**+2.4**
SJES	**Sjenica**	**1.45**	**6**	*e*Pg		**Pb**	**Pb**	**07 27 25.9**	**-0.7**
SJES				*e*Sg		**Sb**	**Sb**	**07 27 44.5**	**-0.6**
SJES	**Sjenica**	**1.45**	**6**	*e*Pg		**Pb**	**Pb**	**07 27 25.9**	**-0.7**
SJES				*e*Sg		**Sb**	**Sb**	**07 27 44.5**	**-0.6**
UPM	**Unac-Piva**	**1.53**	**335**	*e*Pg		**Pb**	**Pb**	**07 27 27.8**	**-0.2**
UPM				*e*Sg		**Sg**	**Sg**	**07 27 50.6**	**+1.8**
UPM	**Unac-Piva**	**1.53**	**335**	*e*Pg		**Pb**	**Pb**	**07 27 27.8**	**-0.2**
UPM				*e*Sg		**Sg**	**Sg**	**07 27 50.6**	**+1.8**
PLE	**Pljevlja**	**1.54**	**349**	⇓*i*Pn		**Pg**	**Pg**	**07 27 28.3**	**-0.8**
PLE				*e*Sn		**Sg**	**Sg**	**07 27 51.4**	**+2.2**
PLE	**Pljevlja**	**1.54**	**349**	⇓*i*Pn		**Pg**	**Pg**	**07 27 28.3**	**-0.8**
SELS	**Selova**	**1.72**	**35**	*e*Pg		**Pn**	**Pn**	**07 27 29.7**	**+0.4**
SELS				*e*Sg		**Sg**	**Sg**	**07 27 54.9**	**+0.2**
IVAS	**Ivanjica**	**1.78**	**9**	*e*Pg		**Pb**	**Pb**	**07 27 31.8**	**-0.4**
IVAS				*e*Sg		**Sg**	**Sg**	**07 27 56.0**	**-0.8**
IVAS	**Ivanjica**	**1.78**	**9**	*e*Pg		**Pb**	**Pb**	**07 27 31.8**	**-0.4**
IVAS				*e*Sg		**Sg**	**Sg**	**07 27 56.0**	**-0.8**
BBLS	**Lazići**	**2.07**	**352**	*e*Pg		**Pb**	**Pb**	**07 27 37.2**	**+0.1**
BBLS	**Lazići**	**2.07**	**352**	*e*Pg		**Pb**	**Pb**	**07 27 37.2**	**+0.1**
GRUS	**Gruza**	**2.18**	**18**	*e*Pn		**Pb**	**Pb**	**07 27 38.2**	**-0.8**
GRUS				*e*Sg		**Sg**	**Sg**	**07 28 08.3**	**-1.4**
GRUS	**Gruza**	**2.18**	**18**	*e*Pn		**Pb**	**Pb**	**07 27 38.2**	**-0.8**
GRUS				*e*Sg		**Sg**	**Sg**	**07 28 08.3**	**-1.4**
DIVS	**Divibare**	**2.29**	**4**	*e*Pn		**Pb**	**Pb**	**07 27 38.9**	**-1.9**
DIVS				*e*Sg		**Sb**	**Sb**	**07 28 10.2**	**+1.1**
DIVS	**Divibare**	**2.29**	**4**	*e*Pn		**Pb**	**Pb**	**07 27 38.9**	**-1.9**
DIVS				*e*Sg		**Sb**	**Sb**	**07 28 10.2**	**+1.1**
BOVS	**Bovan**	**2.31**	**37**	*e*Pg		**Pg**	**Pg**	**07 27 42.8**	**-0.9**
BOVS				*e*Sg		**Sg**	**Sg**	**07 28 11.3**	**-2.3**

DJA 01 07:31:10.6±0.9, 8°S±6°×107°8E±°, h10km±8km, M3.5/9, MLv3.5/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.65**	**353**	P		P	Pb	07 31 23.8	-0.3
CMJI	**Cimerak**	**0.68**	**53**	P		P	Pg	07 31 21.7	-2.1
CLJI	**Cilicap**	**1.20**	**67**	P		P	Pb	07 31 33.1	-0.4
KPJI	**Karang Pucung**	**1.34**	**50**	P		P	Pn	07 31 33.9	-1.4
LEM	**Lembang**	**1.39**	**348**	P		P	Pn	07 31 34.4	-1.9
TGJI	**Tegal**	**1.79**	**43**	P		P	Pn	07 31 39.7	-1.9
BJII	**Banjamegara**	**1.99**	**64**	P		P	Pn	07 31 44.5	+0.1
UGM	**Wanagama**	**2.61**	**84**	P		P	Pn	07 31 53.0	0.0
PCJI	**Pacitan**	**3.24**	**90**	P		P	Pn	07 32 01.8	+0.2

*AUST **01** 08:06:59.6±0.0, 17°.03S×178°.55W, h579km, Error ellipse: s-maj=2.1km s-min=1.5km az=352.0*
*ISCJB **01** 08:07:00.8±0.5, 17°.9S±0°.1×178°.66W±0°.10, h579km, mb4.2/11, Error ellipse: s-maj=17.6km s-min=9.7km az=152.2*
*IDC **01** 08:07:00.0±2.4, 17°.83S×178°.67W, h548km±28km, mb3.6/11, mb1 3.8/12, mb1mx3.6/22, mbtmp4.5/12, Error ellipse: s-maj=24.1km s-min=14.1km az=153.0*
ISC 01 08:07:00.9±0.8, 17°.9S±0°.2×178°.5W±0°.1, h579km, n33, σ1°.14/32, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.24**	**100**	P		P	**P**	**08 09 01.1**	**-0.7**
	baz=8.5,SNR=3.9								
DZM	**Mont Dzumac**	**14.75**	**251**	P		P	**P**	**08 10 05.3**	**-2.1**
	1.4nm,0.3s,baz=71,slow=16,SNR=19								
URZ	**Urewera**	**20.68**	**190**	P		P	**P**	**08 11 01.5**	**-0.1**
	9.9nm,0.9s,baz=239,slow=5.0,SNR=5.7								
EIDS	**Eidsvold**	**29.19**	**250**	P		P	**P**	**08 12 16.5**	**-0.4**
	baz=29,SNR=5.9								
ARMA	**Armidale**	**29.88**	**240**	P		P	**P**	**08 12 23.8**	**+0.9**
	baz=30,SNR=10								
RMQ	**Roma**	**31.43**	**248**	P		P	**P**	**08 12 36.7**	**+0.6**
	baz=32,SNR=9.0								
CTA	**Charters Tower**	**33.36**	**260**	P		P	**P**	**08 12 51.8**	**-0.7**
	7.3nm,0.6s,baz=75,slow=8.4,SNR=13								
CNB	**Canberra Magne**	**33.38**	**232**	P		P	P	08 12 53.9	+1.4
	baz=34,SNR=12								
PMG	**Port Moresby**	**34.35**	**280**	P		P	**P**	**08 13 01.4**	**+0.5**
	19nm,0.8s,baz=77,slow=6.5,SNR=9.6								
CMSA	**Cobar Meteorol**	**35.09**	**240**	P		P	**P**	**08 13 07.2**	**+0.4**
	baz=36,SNR=27								
QLP	**Quilpie**	**35.46**	**249**	P		P	**P**	**08 13 09.7**	**-0.2**
	baz=36,SNR=20								
COEN	**Coen**	**37.01**	**270**	P		P	**P**	**08 13 22.8**	**0.0**
	baz=37,SNR=21								
TOO	**Toolangi**	**37.12**	**231**	P		P	**P**	**08 13 24.8**	**+1.4**
	baz=38,SNR=12								
STKA	**Stephens Creek**	**38.57**	**241**	P		P	**P**	**08 13 35.9**	**+0.6**
	10nm,0.5s,baz=90,slow=9.3,SNR=48								
STKA	**Stephens Creek**	**38.57**	**241**	P		P	**P**	**08 13 36.2**	**+0.9**
	baz=39,SNR=22								
ARPS	**Mount Arapiles**	**39.60**	**233**	P		P	**P**	**08 13 44.4**	**+1.0**
	baz=40,SNR=4.7								
HTT	**Hallett**	**41.09**	**239**	P		P	**P**	**08 13 56.2**	**+0.8**
	baz=42,SNR=22								
BBOO	**Buckleboo**	**43.34**	**241**	P		P	**P**	**08 14 13.6**	**+0.5**
	baz=44,SNR=68								
WRA	**Warramunga Arr**	**44.54**	**259**	P		P	**P**	**08 14 21.3**	**-1.2**
	6.7nm,0.5s,baz=94,slow=7.0,SNR=169								
WRA					PcP		**PcP**	**08 15 54.5**	**+1.5**
	1.2nm,0.7s,baz=90,slow=3.4,SNR=4.8								
ASAR	**Alice Springs**	**44.71**	**254**	P		P	**P**	**08 14 23.6**	**-0.2**
	67nm,0.6s,baz=88,slow=8.2,SNR=1107								
ASAR					PcP		**PcP**	**08 15 54.7**	**+1.2**
	0.9nm,0.4s,baz=102,slow=3.9,SNR=4.3								
ASAR					ScP		**ScP**	**08 18 54.5**	**+3.3**
	0.8nm,0.8s,baz=102,slow=5.0,SNR=4.2								
KDU	**Kakadu**	**47.46**	**269**	P		P	**P**	**08 14 44.2**	**-0.4**
	baz=47,SNR=7.4								
MTN	**Manton Dam**	**48.70**	**268**	P		P	**P**	**08 14 53.4**	**-0.4**
	baz=49,SNR=3.1								
FORT	**Forrest**	**49.94**	**245**	P		P	**P**	**08 15 02.5**	**-0.2**
	baz=50,SNR=14								
KNRA	**Kununurra**	**50.40**	**264**	P		P	**P**	**08 15 06.0**	**-0.3**
	baz=50,SNR=7.9								
FITZ	**Fitzroy Crossi**	**52.94**	**261**	P		P	**P**	**08 15 24.7**	**+0.2**
	2.1nm,0.4s,baz=101,slow=5.9,SNR=17								
MEEK	**Meekatharra**	**58.36**	**249**	P		P	**P**	**08 16 01.7**	**-0.2**
	baz=59,SNR=7.6								
KLBR	**Kellerberrin**	**58.76**	**244**	P		P	**P**	**08 16 04.7**	**+0.1**
	baz=59,SNR=6.2								
PETK	**Petropavlovsk-**	**73.61**	**345**	P		P	**P**	**08 17 36.5**	**+0.8**
	1.7nm,0.6s,baz=142,slow=7.2,SNR=3.6								
NVAR	**Mina Array Bea**	**79.46**	**44**	P		P		08 18 10.8	+2.5
	1.9nm,0.7s,baz=229,slow=8.4,SNR=18						**P**	**08 18 40.0**	**+0.5**
ILAR	**Eielson Array**	**85.86**	**13**	P		P			
	1.0nm,0.4s,baz=227,slow=5.1,SNR=18						**P**		
TXAR	**Lajitas Array**	**86.05**	**58**	P		P		08 18 44.7	+3.2
	1.6nm,0.8s,baz=224,slow=6.2,SNR=16						**P**		
PDAR	**Pinedale Array**	**87.39**	**43**	P		P		08 18 49.9	+2.3
	1.1nm,0.5s,baz=200,slow=3.0,SNR=14						**P**		
GERES	**GERESS Array B**	**147.54**	**345**	PKPbc			**PKPab**	**08 25 42.2**	**-2.7**
	0.5nm,0.5s,baz=37,slow=3.3,SNR=6.6								

IDC 01 08:25:22.6±54.0, 22°.89S×174°.61W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=1008.0km s-min=172.2km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.69**	**247**	P		P	P	08 32 56.9	+0.1
	1.0nm,0.5s,baz=90,slow=6.1,SNR=4.7								
ASAR	**Alice Springs**	**47.09**	**258**	P		P	P	08 33 56.2	-0.4
	0.5nm,0.5s,baz=99,slow=7.2,SNR=7.0								
WRA	**Warramunga Arr**	**47.43**	**263**	P		P	P	08 33 59.2	-0.1
	1.5nm,0.5s,baz=103,slow=8.2,SNR=17								

FUNV 01 08:30:44.7, 9°.55N×69°.29W, h5km, MW4.0, 8C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANV	**Sanarito**	**0.25**	**258**	⇑*i*P		Pg		08 30 48.7	-1.0
SANV				*e*S		Sg		08 30 53.3	+0.1
TEPV	**Terepaima**	**0.42**	**13**	⇑*i*P		Pg		08 30 51.8	-1.1
TEPV				*e*S		Sg		08 30 57.3	-1.1
CURV	**Curarigua**	**0.80**	**305**	⇓*i*P		Pg		08 30 58.9	-1.4
MAPV	**Macapo**	**0.86**	**71**	⇑*e*P		Pg		08 30 59.8	-1.6
MAPV				*e*S		Sg		08 31 12.9	+0.2
SIQV	**Siquisique**	**1.20**	**335**	*e*S		Sg		08 31 23.7	+0.2
BAUV	**El Baul**	**1.37**	**116**	⇓*i*P		Pn		08 31 08.7	-1.8
BAUV				*e*S		Sb		08 31 27.2	-1.5
QARV	**Quebrada Arrib**	**1.38**	**298**	⇓*e*P		Pn		08 31 10.3	-0.4
QARV				*e*S		Sn		08 31 29.5	+0.1
JACV	**Jacura**	**1.59**	**16**	*e*P		Pn		08 31 13.0	-0.6
JACV				*e*S		Sb		08 31 35.5	+0.4
TURV	**Turiamo**	**1.68**	**58**	⇑*e*P		Pn		08 31 14.6	-0.3
TURV				*e*S		Sn		08 31 36.7	0.0
DABV	**Dabajuro**	**1.90**	**316**	*e*P		Pn		08 31 18.0	+0.2
SOCV	**Socops**	**2.00**	**231**	*e*P		Pn		08 31 17.5	-1.7
SOCV				*e*S		Sn		08 31 44.0	-0.6
FDCV	**FORTIN DE LA C**	**2.50**	**67**	⇑*e*P		Pn		08 31 25.4	-0.9
ELOV	**Elorza**	**2.54**	**184**	*e*P		Pn		08 31 25.6	-1.1
ELOV				*e*S		Sn		08 31 57.5	-0.5
FUNV	**FUNVISIS**	**2.61**	**69**	⇑*e*P		Pn		08 31 27.0	-0.7
FUNV				*e*S		Sn		08 31 59.5	-0.3
MERV	**Las Mercedes**	**2.97**	**96**	*e*P		Pn		08 31 31.7	-0.8
MERV				*e*S		Sn		08 32 07.1	-1.4
CAPV	**Capacho**	**3.43**	**241**	*e*P		Pn		08 31 39.0	-0.1
CAPV				*e*S		Sn		08 32 16.8	-3.6
CUPV	**Cœpira**	**3.49**	**81**	⇑*e*P		Pn		08 31 39.0	-0.8
CUPV				*e*S		Sn		08 32 18.2	-3.3
PCRV	**Puerto La Cruz**	**4.63**	**82**	*e*P		Pn		08 31 54.8	-0.6
PRGV	**PARIAGUAN**	**4.65**	**99**	*e*P		Pn		08 31 54.4	-1.3
GUNV	**Guanoco**	**6.28**	**84**	⇑*e*P		Pn		08 32 16.6	-1.5
GUIV	**Guiria**	**7.04**	**81**	*e*P		Pn		08 32 27.0	-1.5
LUEV	**Luepa**	**8.59**	**115**	*e*P		Pn		08 32 46.5	-3.5

*CSEM **01** 08:48:13.1, 39°.39N×28°.12E, h7km, MD2.6, After DDA*
DDA 01 08:48:13.1, 39°.39N×28°.12E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.35**	**53**	*i* P		P	Pg	08 48 19.8	-0.2
DURS				*i* S		Sg	Sg	08 48 25.5	+0.7
DURS	**Dursunbey**	**0.35**	**53**	*i* P		P	Pg	08 48 19.8	-0.2
DURS				*i* S		Sg	Sg	08 48 25.5	+0.8
BALY	**Balya**	**0.52**	**312**	*i* P		P	Pg	08 48 23.6	+0.3
BALY	**Balya**	**0.52**	**312**	*i* P		P	Pg	08 48 23.6	+0.4
AKHS	**Akhisar**	**0.56**	**205**	*i* P		P	Pg	08 48 24.0	0.0
AKHS				*i* S		Sb	Sb	08 48 32.8	-0.8
AKHS	**Akhisar**	**0.56**	**205**	*i* P		P	Pg	08 48 24.0	0.0
AKHS				*i* S		Sb	Sb	08 48 32.8	-0.8
MANT	**Manisa**	**0.96**	**159**	*i* P		P	Pb	08 48 32.2	-0.2
MANT				*i* S		Sg	Sg	08 48 43.8	-0.8
MANT	**Manisa**	**0.96**	**159**	*i* P		P	Pb	08 48 32.2	-0.2
MANT				*i* S		Sg	Sg	08 48 43.8	-0.8
ULDT	**Uludag**	**1.09**	**46**	*i* P		P	Pg	08 48 34.1	-0.1
ULDT				*i* S		Sg	Sg	08 48 47.5	-1.0
ULDT	**Uludag**	**1.09**	**46**	*i* P		P	Pg	08 48 34.1	-0.1
ULDT				*i* S		Sg	Sg	08 48 47.5	-1.0
GDZ	**Gediz**	**1.10**	**105**	*i* P		P	Pn	08 48 35.1	-0.1
GDZ				*i* S		Sb	Sb	08 48 49.2	-0.1
GDZ	**Gediz**	**1.10**	**105**	*i* P		P	Pn	08 48 35.1	0.0
GDZ				*i* S		Sb	Sb	08 48 49.2	-0.2

*ISK **01** 08:49:53.1, 37°.55N×35°.68E, h5km, MD2.4*
*CSEM **01** 08:49:54.3±0.2, 37°.53N×35°.69E, h2km, MD2.4, Error ellipse: s-maj=5.5km s-min=4.1km az=175.0*
**DD

1C-5D, Error ellipse: s-maj=2.1km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**89**	⇓P*	Pb	08 59 19.4	-0.2
DCZ				S*	Sb	08 59 25.0	-0.2
DCZ				AML	AML	09 02 15.7	
DCZ				AML	AML	09 02 15.8	
DCZ				AML	AML	09 02 17.2	
DCZ	**Deep Cove**	**0.40**	**89**	⇓Pg	Pb	08 59 19.4	-0.2
DCZ				Sg	Sb	08 59 25.0	-0.2
PYZ	**Puysegur Point**	**0.68**	**175**	P*	Pb	08 59 23.6	-0.9
PYZ				S*	Sb	08 59 32.9	-0.6
WHZ	**Wether Hill Ro**	**1.03**	**114**	⇓PN	Pb	08 59 30.1	-0.4
WHZ				S*	Sn	08 59 44.7	+0.2
WHZ				AML	AML	08 59 46.3	
WHZ	**Wether Hill Ro**	**1.03**	**114**	P*	Pb	08 59 30.1	-0.4
MLZ	**Mavora Lakes**	**1.12**	**83**	⇓PN	Pn	08 59 30.9	-1.1
MLZ				SN	Sb	08 59 45.5	-0.8
MLZ				AML	AML	08 59 46.1	
MLZ	**Mavora Lakes**	**1.12**	**83**	P*	Pn	08 59 30.9	-1.1
MSZ	**Milford Sound**	**1.25**	**50**	PN	Pn	08 59 32.7	-0.9
MSZ				AML	AML	08 59 55.4	
MSZ				AML	AML	08 59 57.6	
APZ	**The Paps**	**1.66**	**145**	PN	Pn	08 59 40.0	+0.7
APZ				AML	AML	09 00 04.9	
APZ				AML	AML	09 00 10.8	
APZ	**The Paps**	**1.66**	**145**	Pn	Pn	08 59 40.0	+0.7
WKZ	**Wanaka**	**1.84**	**70**	PN	Pn	08 59 42.8	+1.0
WKZ				AML	AML	09 00 16.6	
WKZ				AML	AML	09 00 17.1	
WKZ	**Wanaka**	**1.84**	**70**	Pn	Pn	08 59 42.8	+1.0
EAZ	**Earnscleugh**	**1.93**	**83**	⇓PN	Pn	08 59 44.3	+1.3
EAZ	**Earnscleugh**	**1.93**	**83**	Pn	Pn	08 59 44.3	+1.3
SYZ	**Scrubby Hill**	**2.06**	**121**	AML	AML	09 00 16.1	
SYZ				AML	AML	09 00 17.8	
SYZ				AML	AML	09 00 17.9	
SYZ				AML	AML	09 00 18.7	
SYZ	**Scrubby Hill**	**2.06**	**121**	Pn	Pb	08 59 47.0	-1.0
JCZ	**Jackson Bay**	**2.10**	**48**	PN	Pn	08 59 46.6	+1.2
JCZ				AML	AML	09 00 20.5	
JCZ				AML	AML	09 00 25.3	
JCZ	**Jackson Bay**	**2.10**	**48**	Pn	Pn	08 59 46.6	+1.2
TUZ	**Tuapeka**	**2.18**	**103**	PN	Pn	08 59 48.1	+1.7
TUZ				AML	AML	09 00 21.1	
TUZ				AML	AML	09 00 24.6	
TUZ	**Tuapeka**	**2.18**	**103**	Pn	Pn	08 59 48.1	+1.7
LBZ	**Lake Benmore**	**2.78**	**68**	PN	Pn	08 59 55.0	+0.3
LBZ				AML	AML	09 00 34.5	
LBZ				AML	AML	09 00 48.6	
LBZ	**Lake Benmore**	**2.78**	**68**	Pn	Pn	08 59 55.0	+0.3
HHSZ	**Highcliff Hill**	**2.84**	**99**	PN	Pn	08 59 57.1	+1.7
ODZ	**Otahua Downs**	**2.90**	**83**	⇑PN	Pn	08 59 56.5	+0.2
ODZ	**Otahua Downs**	**2.90**	**83**	Pn	Pn	08 59 56.5	+0.2
FOZ	**Fox Glacier**	**2.94**	**50**	PN	Pn	08 59 58.4	+1.6
FOZ				AML	AML	09 03 41.6	
FOZ				AML	AML	09 03 41.6	
FOZ	**Fox Glacier**	**2.94**	**50**	Pn	Pn	08 59 58.4	+1.6
RPZ	**Rata Peaks**	**3.65**	**63**	PN	Pn	09 00 07.0	+0.4
RPZ				AML	AML	09 01 12.2	
RPZ				AML	AML	09 01 14.0	
RPZ	**Rata Peaks**	**3.65**	**63**	Pn	Pn	09 00 07.0	+0.4
WVZ	**Waitaha Valley**	**3.83**	**52**	PN	Pn	09 00 09.2	+0.1
WVZ				AML	AML	09 01 15.3	
WVZ	**Waitaha Valley**	**3.83**	**52**	Pn	Pn	09 00 09.2	+0.1
OXZ	**Oxford**	**4.46**	**63**	PN	Pn	09 00 17.9	+0.1
MQZ	**McQueen's Vall**	**4.68**	**70**	PN	Pn	09 00 20.9	+0.1
MQZ	**McQueen's Vall**	**4.68**	**70**	Pn	Pn	09 00 20.9	+0.1
LTZ	**Lake Taylor**	**4.90**	**59**	PN	Pn	09 00 24.2	+0.3
LTZ	**Lake Taylor**	**4.90**	**59**	Pn	Pn	09 00 24.2	+0.3
DSZ	**Denniston Nort**	**5.32**	**47**	PN	Pn	09 00 30.2	+0.5
DSZ	**Denniston Nort**	**5.32**	**47**	Pn	Pn	09 00 30.2	+0.6

*NEIC **01** 09:01:59.9, 45°.47S×166°.33E, h5km, ML4.0(WEL), After WEL.*

WEL 01 09:02:02.3±0.4, 45°.51S×166°.51E, h12km, ML3.9/10, 2D, Error ellipse: s-maj=3.1km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.67**	**170**	⇓P*	Pg	09 02 14.3	-1.0
PYZ				S*	Sg	09 02 23.1	-1.0
PYZ	**Puysegur Point**	**0.67**	**170**	P*	Pg	09 02 14.3	-1.0
PYZ				S*	Sg	09 02 23.1	-1.0
WHZ	**Wether Hill Ro**	**1.07**	**111**	*e*Pg	Pb	09 02 20.6	-2.3
WHZ				*e*Sg	Sn	09 02 39.2	+1.1
MSZ	**Milford Sound**	**1.31**	**51**	PN	Pn	09 02 23.8	-2.6
MSZ				SN	Sb	09 02 43.1	-0.4
MSZ				AML	AML	09 02 45.8	
MSZ	**Milford Sound**	**1.31**	**51**	Pn	Pn	09 02 23.8	-2.6
MSZ				Sn	Sb	09 02 43.1	-0.4
WKZ	**Wanaka**	**1.90**	**70**	PN	Pn	09 02 33.9	-0.6
WKZ				SN	Sn	09 02 58.1	-0.4
WKZ				AML	AML	09 03 04.6	
WKZ	**Wanaka**	**1.90**	**70**	Pn	Pn	09 02 33.9	-0.6
EAZ	**Earnscleugh**	**1.99**	**83**	AML	AML	09 03 04.3	
EAZ				AML	AML	09 03 05.8	
SYZ	**Scrubby Hill**	**2.10**	**120**	⇓PN	Pn	09 02 37.6	+0.4
SYZ				SN	Sn	09 03 04.3	+1.1
SYZ				SN	Sb	09 03 04.9	-1.4
SYZ				AML	AML	09 03 07.7	
SYZ				AML	AML	09 03 08.3	
SYZ	**Scrubby Hill**	**2.10**	**120**	Pn	Pn	09 02 37.6	+0.4
SYZ				Sn	Sb	09 03 04.9	-1.4
JCZ	**Jackson Bay**	**2.15**	**49**	PN	Pn	09 02 37.3	-0.8
JCZ				AML	AML	09 03 10.2	
JCZ				AML	AML	09 03 11.3	
JCZ	**Jackson Bay**	**2.15**	**49**	Pn	Pn	09 02 37.3	-0.8
TUZ	**Tuapeka**	**2.23**	**103**	PN	Pn	09 02 38.6	-0.4
TUZ				SN	Sn	09 03 07.4	+0.9
TUZ				AML	AML	09 03 13.3	
TUZ	**Tuapeka**	**2.23**	**103**	Pn	Pn	09 02 38.6	-0.4
TUZ				Sn	Sn	09 03 07.4	+0.9
LBZ	**Lake Benmore**	**2.84**	**68**	PN	Pn	09 02 45.4	-2.1
LBZ				AML	AML	09 03 34.9	
LBZ				AML	AML	09 03 42.3	
LBZ	**Lake Benmore**	**2.84**	**68**	Pn	Pn	09 02 45.4	-2.1
HHSZ	**Highcliff Hill**	**2.89**	**99**	PN	Pn	09 02 48.1	-0.1
ODZ	**Otahua Downs**	**2.95**	**82**	*e*Pn	Pn	09 02 47.1	-1.9
ODZ				*e*Sn	Sn	09 03 25.9	+1.5
RPZ	**Rata Peaks**	**3.71**	**63**	AML	AML	09 03 44.8	
RPZ				AML	AML	09 03 47.7	
RPZ	**Rata Peaks**	**3.71**	**63**	*e*Pn	Pn	09 02 58.1	-1.3
RPZ				*e*Sn	Sn	09 03 44.0	+1.0

MEX 01 09:11:20.6±0.5, 15°.54N×94°.12W, h48km±23km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.89**	**79**	*e*P	Pn	09 11 34.9	-1.9
PCIG				*i* S	Sn	09 11 46.9	-1.8
THIG		**1.90**	**109**	*e*P	Pn	09 11 49.3	-1.3
THIG				*i* S	Sn	09 12 11.4	-1.9
HUIG	**Huatulco**	**1.93**	**277**	*i* P	Pn	09 11 49.5	-1.4
HUIG				*i* S	Sn	09 12 11.8	-2.2
VHO	**Vista Hermosa**	**2.93**	**302**	*e*P	Pn	09 12 04.3	-0.7
VHO				*i* S	Sn	09 12 37.6	-1.6
PNIG	**Pinotepa**	**3.94**	**283**	*e*P	Pn	09 12 17.6	-1.0
PNIG				*i* S	Sn	09 13 01.7	-2.0
TPIG	**Tehuac#an**	**4.22**	**313**	*e*P	Pn	09 12 20.8	-1.8
TPIG				*i* S	Sn	09 13 08.3	-2.5

IDC 01 09:42:42.8±5.3, 0°.69S×100°.38E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=290.1km s-min=27.1km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H** baz=77,slow=75,SNR=44	**28.64**	**255**	T	T	10 17 45.8	
H08S3	**Diego Garcia H** baz=77,slow=75,SNR=42	**28.64**	**255**	T	T	10 17 42.2	
H08S1	**Diego Garcia H** baz=77,slow=75,SNR=33	**28.65**	**255**	T	T	10 17 46.4	
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=301,slow=8.8,SNR=6.8	**38.35**	**122**	P	P	09 50 06.5	+0.7
ASAR	**Alice Springs** 0.3nm,0.6s,baz=302,slow=7.5,SNR=3.5	**39.73**	**128**	P	P	09 50 16.5	-0.9
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=155,slow=7.9,SNR=3.6	**49.88**	**344**	P	P	09 51 38.0	0.0
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=204,slow=1.6,SNR=3.3	**143.44**	**37**	PKP	PKPdf	10 02 19.0	-1.2

IDC 01 10:01:55.3±6.3, 16°.52S×74°.11W, h131km±45km, mb3.3/2, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=104.7km s-min=38.9km az=27.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.7nm,0.3s,baz=277,slow=8.6,SNR=16	**5.75**	**89**	P	Pn	10 03 19.1	-0.2
LPAZ				S	Sn	10 04 35.7	+11
	baz=218,slow=19,SNR=1.9						
H03N1	**Juan Fernandez** baz=14,slow=75,SNR=2255	**17.39**	**194**	T	T	10 24 27.4	
H03N2	**Juan Fernandez** baz=14,slow=75,SNR=1514	**17.40**	**194**	T	T	10 24 27.6	
H03N3	**Juan Fernandez** baz=14,slow=75,SNR=1587	**17.41**	**194**	T	T	10 24 28.6	
TXAR	**Lajitas Array** 0.3nm,0.3s,baz=142,slow=9.0,SNR=3.2	**53.78**	**328**	P	P	10 11 04.5	-0.1
TORD	**Torodi Ar. Bea** 1.1nm,0.7s,baz=253,slow=5.6,SNR=6.1	**80.49**	**73**	P	P	10 13 53.4	+0.1
WRA	**Warramunga Arr** 0.3nm,1.0s,baz=142,slow=1.7,SNR=3.1	**134.23**	**219**	PKP	PKPdf	10 20 57.9	-0.5

*ISCJB **01** 10:37:42.6±1.6, 5°.7S×150°.2E×152°.0E±0°.3, h45km, mb3.9/4, Error ellipse: s-maj=49.0km s-min=10.2km az=36.9*
*IDC **01** 10:37:46.5±6.3, 5°.38S×151°.64E, h62km±51km, mb3.7/4, mb1 3.9/5, mb1mx3.5/18, mbtmp3.7/5, ML2.4/1, Error ellipse: s-maj=97.8km s-min=34.9km az=130.0*
ISC 01 10:37:43.7±1.8, 5°.7S×152°.1E±0°.3, h45km, n7, σ0°.91/8, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul** baz=9.1,SNR=32	**1.45**	**4**	P	**Pn**	**10 38 08.1**	**+0.6**
PMG	**Port Moresby** 0.6nm,0.3s,baz=34,slow=12,SNR=4.2	**6.13**	**232**	P	**Pn**	**10 39 12.7**	**+0.9**
PMG				S	**Sn**	**10 40 20.7**	**+0.1**
	1.7nm,0.3s,baz=118,slow=19,SNR=3.5						
WRA	**Warramunga Arr** 3.5nm,0.6s,baz=52,slow=9.9,SNR=50	**22.34**	**229**	P	**P**	**10 42 37.1**	**-0.8**
ASAR	**Alice Springs** 3.1nm,0.6s,baz=57,slow=8.8,SNR=59	**25.03**	**222**	P	**P**	**10 43 04.4**	**+0.6**
FITZ	**Fitzroy Crossi** 1.9nm,0.6s,baz=60,slow=8.3,SNR=8.0	**28.61**	**242**	P	**P**	**10 43 35.0**	**-1.1**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=251,slow=5.6,SNR=3.3	**83.22**	**22**	P	**P**	**10 50 05.3**	**+0.3**
TORD	**Torodi Ar. Bea** 0.4nm,0.6s,baz=94,slow=2.3,SNR=5.0	**149.86**	**286**	PKPbc	**PKPbc**	**10 57 29.2**	**-0.8**

MEX 01 10:38:34.4±1.1, 16°.12N×97°.54W, h16km±12km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**296**	*e*P	Pg	10 38 44.0	-2.8
PNIG				*i* S	Sg	10 38 52.3	-2.9
VHO	**Vista Hermosa**	**1.22**	**39**	*e*P	Pn	10 38 52.9	-4.2
VHO				*i* S	Sb	10 39 07.7	-5.5
HUIG	**Huatulco**	**1.42**	**104**	*e*P	Pn	10 38 56.6	-2.9
HUIG				*i* S	Sn	10 39 12.0	-6.0
UTMO	**Huajuapan**	**1.72**	**352**	*i* P	Pn	10 39 01.0	-3.0
UTMO				*i* S	Sn	10 39 21.1	-4.7
TPIG	**Tehuac#an**	**2.29**	**4**	*i* P	Pn	10 39 09.2	-2.7
TPIG				*i* S	Sn	10 39 35.3	-4.6
PCIG		**4.18**	**95**	*i* P	Pn	10 39 34.9	-2.6

MEX 01 11:17:18.1±0.6, 16°.38N×101°.08W, h15km±103km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.02**	**49**	*i* P	Pb	11 17 33.6	-3.9
CAIG				*i* S	Sb	11 17 46.9	-3.9
ACX	**Acapulco**	**1.27**	**67**	*i* P	Pn	11 17 34.8	-6.5
ACX				*i* S	Sb	11 17 49.9	-7.9
ARIG	**Puente Sto Nin**	**2.01**	**20**	*i* P	Pn	11 17 48.8	-2.9
ARIG				*i* S	Sn	11 18 11.6	-5.0
MEIG	**Mezcala**	**2.07**	**42**	*e*P	Pn	11 17 49.4	-3.2
MEIG				*i* S	Sn	11 18 13.6	-4.7
PLIG	**Platanillo**	**2.50**	**37**	*i* P	Pn	11 17 55.6	-2.9
PLIG				*i* S	Sn	11 18 24.6	-4.2
TLIG	**Tlapa**	**2.67**	**64**	*e*P	Pn	11 17 58.6	-2.3
TLIG				*i* S	Sn	11 18 28.4	-4.8
YAIG	**Yautepec**	**3.12**	**38**	*e*P	Pn	11 18 04.2	-2.9
YAIG				*i* S	Sn	11 18 39.7	-4.6

*ISCJB **01** 11:23:26.6±0.5, 27°.41N±0°.07×91°.6E±0°.2, h10km, mb3.9/12, Error ellipse: s-maj=21.6km s-min=6.6km az=157.4*
*IDC **01** 11:23:26.6±0.9, 27°.31N×91°.45E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.7/30, mbtmp3.8/13, ML4.1/1, Error ellipse: s-maj=43.7km s-min=15.1km az=57.0*
*NEIC **01** 11:23:28.4±0.6, 27°.27N×91°.46E, h10km, mb4.2/3, Error ellipse: s-maj=26.5km s-min=8.5km az=58.0*
ISC 01 11:23:28.5±0.6, 27°.35N±0°.07×91°.5E±0°.2, h10km, n34, σ0°.68/32, mb3.9/11, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.81**	**169**	*i* PN	**Pg**	**11 24 03.5**	**+0.1**
SHL				*i* SN	**Sg**	**11 24 28.0**	**+1.1**
LSA	**Lhasa**	**2.36**	**353**	*e*Pn	**Pb**	**11 24 11.4**	**0.0**
LSA				*e*Sg	**Sb**	**11 24 42.6**	**+1.8**
IMP	**Imphal**	**3.38**	**139**	*e*P	Pb	11 24 24.0	-4.5
CMAR	**Chiang Mai Arr**	**11.20**	**141**	Pn	**Pn**	**11 26 09.1**	**+0.2**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=322,slow=13,SNR=7.1	**11.20**	**141**	Pn	**Pn**	**11 26 09.1**	**+0.2**
TKM2	**Tokmak 2** 8.6nm,0.6s	**20.20**	**324**	*e*P	Pn	11 28 04.8	-0.8
AAK	**Ala-Archa**	**20.58**	**322**	*e*P	Pn	11 28 09.7	-0.4
AAK	**Ala-Archa** 1.4nm,0.5s,baz=160,slow=11,SNR=6.3	**20.58**	**322**	P	Pn	11 28 09.1	-1.0
MK31	**Makanchi Array**	**20.72**	**342**	*e*P	**P**	**11 28 09.3**	**+0.3**
MKAR	**Makanchi Array**	**20.72**	**342**	P	**P**	**11 28 09.1**	**+0.1**
MKAR	**Makanchi Array** 5.6nm,0.6s,baz=152,slow=11,SNR=42	**20.72**	**342**	P	**P**	**11 28 09.1**	**+0.1**
EKS2	**Erkin-Say** 3.4nm,0.6s	**21.00**	**321**	*e*P	**P**	**11 28 14.1**	**+1.8**
SONM	**Songino Array**	**23.54**	**26**	P	**P**	**11 28 38.7**	**-0.3**
SONM	**Songino Array** 1.1nm,0.6s,baz=214,slow=11,SNR=10.0	**23.54**	**26**	P	**P**	**11 28 38.7**	**-0.3**
KURBB	**Kurchatov Arra** 1.5nm,0.5s,baz=156,slow=10,SNR=12	**25.25**	**340**	P	**P**	**11 28 54.4**	**-0.3**
KURK	**Kurchatov**	**25.31**	**341**	*e*P	**P**	**11 28 54.7**	**-0.5**
ZAA0	**Zalesovo Array**	**27.02**	**351**	*e*P	**P**	**11 29 10.8**	**+0.2**
ZALV	**Zalesovo Beam**	**27.02**	**351**	P	**P**	**11 29 10.8**	**+0.2**
ZALV	**Zalesovo Beam** 2.4nm,0.6s,baz=174,slow=7.6,SNR=12	**27.02**	**351**	P	**P**	**11 29 10.8**	**+0.2**
BVAR	**Borovoye Array**	**30.06**	**334**	P	**P**	**11 29 38.0**	**+0.3**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=144,slow=10,SNR=5.3	**30.06**	**334**	P	**P**	**11 29 38.0**	**+0.3**
AKASG	**Malin Array Be**	**51.98**	**314**	P	**P**	**11 32 36.8**	**-0.9**
AKASG	**Malin Array Be** 1.4nm,0.5s,baz=81,slow=6.6,SNR=6.7	**51.98**	**314**	P	**P**	**11 32 36.8**	**-0.9**
FINES	**FINESS Array B**	**54.64**	**328**	P	**P**	**11 32 56.7**	**-0.5**
FINES	**FINESS Array B** 2.5nm,0.7s,baz=112,slow=8.8,SNR=5.6	**54.64**	**328**	P	**P**	**11 32 56.7**	**-0.5**
ARCES	**ARCESS Array B**	**56.28**	**337**	P	**P**	**11 33 08.5**	**-0.4**
ARCES	**ARCESS Array B** 1.7nm,0.9s,baz=101,slow=7.7,SNR=6.3	**56.28**	**337**	P	**P**	**11 33 08.5**	**-0.4**
NOA	**NORSAR Array B**	**61.81**	**327**	P	**P**	**11 33 46.5**	**-0.9**
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=99,slow=7.7,SNR=3.5	**61.81**	**327**	P	**P**	**11 33 46.5**	**-0.9**
WRA	**Warramunga Arr**	**62.71**	**134**	P	**P**	**11 33 53.5**	**-0.5**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=319,slow=6.9,SNR=2.9	**62.71**	**134**	P	**P**	**11 33 53.5**	**-0.5**
WRAB	**Tennant Creek** 2.8nm,1.0s	**62.71**	**134**	P	**P**	**11 33 53.9**	**0.0**
ASAR	**Alice Springs**	**65.19**	**137**	P	**P**	**11 34 10.0**	**-0.2**
ASAR	**Alice Springs** 0.1nm,0.5s,baz=329,slow=6.0,SNR=2.7	**65.19**	**137**	P	**P**	**11 34 10.0**	**-0.2**

*SZGRF **01** 11:40:40.1, 12°.58N×93°.21E, h35km, mb5.1, Andaman Islands, India, region*
*ISCJB **01** 11:40:41.9±0.7, 13°.66N±0°.02×92°.80E±0°.02, h17km±5km, mb5.2/216, MS4.7/116, Error ellipse: s-maj=3.5km s-min=2.7km az=33.0*
*BJI **01** 11:40:43.6, 13°.61N×92°.79E, h34km, mB5.2/47, mb5.0/55, Ms4.9/65, Ms7 4.5/59*
*MOS **01** 11:40:43.9±1.0, 13°.64N×92°.87E, h33km, mb5.6/75, MS4.6/23, Error ellipse: s-maj=6.5km s-min=3.9km az=116.4*
*BKK **01** 11:40:44.5±0.2, 14°N±2°×93°3E±°, h10km, M5.2/40, mB5.6/23, mb5.3/40, MLv5.6/11, Mw(mB)5.1/23*
*IDC **01** 11:40:45.6±0.3, 13°.60N×92°.84E, h33km±2km, mb4.7/46, mb1 4.8/48, mb1mx4.8/49, mbtmp4.9/48, ML4.8/2, MS4.5/28, Ms1 4.5/28, ms1mx4.4/39, Error ellipse: s-maj=8.6km s-min=7.6km az=53.0*
*NEIC **01** 11:40:45.7±1.1, 13°.62N×92°.79E, h34km±8km, mb5.4/88, Error ellipse: s-maj=4.0km s-min=3.0km az=47.0*
*DJA **01** 11:40:47.0±1.2, 14°N±3°×93°3E±°, h33km±10km, M5.4/42, mB5.7/22, mb5.3/42, MLv6.2/1, Mw(mB)5.2/22*
*GCMT **01** 11:40:47.6±0.1, 13°.62N×92°.81E, h27km, MW5.3, Moment Tensor Solution. s70,c117; s99,c183; Moment tensor: Scale 10^16Nm; Mrr-1.75±.18; Mθθ-3.71±.15; Mϕϕ5.45±.15; Mrθ3.00±.30; Mθϕ7.87±.14; Mϕr-1.83±.29; Best double couple: Mₒ9.90000×10^16 NP1:ϕ₁347.00000°, δ74.00000°, λ-162.00000°. NP2:ϕ₂252.00000°, δ73.00000°, λ-17.00000°. Principal axes: T 9.9800, Plg0.0000°, Azm120.0000°; N -0.2100, Plg66.0000°, Azm29.0000°; P -9.7700, Plg24.0000°, Azm210.0000°; Data Used: II IU IC G CN CU. Surface waves from 100 sta.*
*AUST **01** 11:40:48.9±1.6, 13°.22N×92°.36E, h80km±15km Error ellipse: s-maj=19.5km s-min=6.0km az=53.0*
ISC 01 11:40:45.9±0.2, 13°.62N±0°.02×92°.83E±0°.03, h34km, h34km:pP-P, n1018, σ1°.25/1172, mb5.3/216, MS4.6/117, 151C-163D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.45**	**167**	*e*P	**Pn**	**11 40 56.9**	**+0.8**
DGPR				*e*S	**Sb**	**11 41 02.6**	**0.0**
PBA	**Port Blair**	**1.95**	**183**	*e*P	**Pn**	**11 41 17.2**	**+0.6**
PBA				*ex*	x	11 41 28.3	
PBA				*e*S	**Sn**	**11 41 40.5**	**+0.6**
KHLT	**Khaolaem Dam** 461nm,1.0s,3μm1.4nm	**5.71**	**77**	P	**Pn**	**11 42 09.1**	**+0.8**
SRDT	**SRDT** 1μm,0.7s,17μm4.6nm	**6.15**	**82**	P	**Pn**	**11 42 15.4**	**+1.0**
CMBY	**CAMPBELL BAY**	**6.65**	**171**	*ex*	Pn	11 42 28.8	+7.5
MHMT	**Maesarieng** 457nm,0.9s,4μm1.9nm	**6.68**	**47**	P	**Pn**	**11 42 20.6**	**-1.1**
SURT	**Suratani** 111nm,0.9s,890nm0.4nm	**7.46**	**128**	P	**Pn**	**11 42 35.0**	**+2.6**
CM31	**Chiang Mai Arr** 83nm,0.6s	**7.59**	**50**	*e*Pn	**Pn**	**11 42 33.5**	**-0.8**
CM31				*e*Sn	**Sn**	**11 43 56.2**	**-3.1**
CMAR	**Chiang Mai Arr**	**7.59**	**50**	Pn	**Pn**	**11 42 33.4**	**-0.9**
CMAR				Sn	**Sn**	**11 43 53.6**	**-5.6**
CMAR	**Chiang Mai Arr** 6.8nm,0.3s,baz=240,slow=15,SNR=176	**7.59**	**50**	Pn	**Pn**	**11 42 33.4**	**-0.9**
CMAR				Sn	**Sn**	**11 43 53.6**	**-5.6**
	16nm,0.3s,baz=237,slow=23,SNR=8.7						
CMAR				LR	LR	11 46 10.5	
	comp=Z,3μm,20.3s,baz=222,slow=43						
CHTO	**Chiang Mai** SNR=46	**7.82**	**48**	P	**Pn**	**11 42 37.0**	**-0.3**
CHTO	**Chiang Mai**	**7.82**	**48**	*e*P	**Pn**	**11 42 36.2**	**-1.2**
CHTO				*e*		11 44 01.1	
CHTO	**Chiang Mai** 1μm,0.8s,10μm5.3nm	**7.82**	**48**	P	**Pn**	**11 42 37.1**	**-0.3**
CHTO				S	**Sn**	**11 44 01.0**	**-3.8**
	1μm,0.8s,10μm5.3nm						
CHTO	**Chiang Mai**	**7.82**	**48**	*e*Pn	**Pn**	**11 42 36.2**	**-1.2**
CHTO				*e*Sn	**Sn**	**11 44 01.1**	**-3.7**
CHTO	**Chiang Mai** 534nm,0.9s,9μm5.3nm	**7.82**	**48**	P	**Pn**	**11 42 36.3**	**-1.2**
CMMT	**Chiang Mai** 273nm,0.8s,2μm1.2nm	**7.82**	**48**	P	**Pn**	**11 42 36.2**	**-1.2**
PKDT	**Phuket** 416nm,0.8s,1.2nm	**7.85**	**136**	P	**Pn**	**11 42 40.7**	**+2.9**
SRIT	**Nakonsritamara** 151nm,0.8s,0.5nm	**8.31**	**126**	P	**Pn**	**11 42 46.4**	**+2.3**
PBKT	**Sadao Pong** 329nm,0.8s,2μm0.9nm	**8.39**	**68**	P	**Pn**	**11 42 46.0**	**+0.8**
CMAI	**Chiengmai2** 148nm,0.8s,3μm0.8nm	**8.65**	**43**	P	**Pn**	**11 42 48.4**	**-0.5**
CHAI	**Chaiyaphum** 82nm,0.9s,609nm	**9.14**	**74**	P	**Pn**	**11 42 58.4**	**+2.9**
LHMI	**Lhok Sumawe** 468nm,0.9s,5μm	**9.27**	**154**	P	Pn	11 43 00.8	+3.5
CRAI	**Chiangrai** 70nm,1.1s,8μm	**9.76**	**47**	P	**Pn**	**11 43 04.5**	**+0.5**
VIS	**Vishakhapatnam**	**10.02**	**295**	*i* P	**Pn**	**11 43 06.2**	**-1.4**
VIS				AMB	AMB	11 43 06.9	
	comp=Z,934nm,1.3s						
VIS				*i* S	Sn	11 44 47.7	-11
TPTI		**11.15**	**157**	P	**Pn**	**11 43 20.2**	**-2.9**
	comp=Z,40nm,1.1s,comp=Z,8μm						
KCSI	**Kotacane, Aceh** comp=Z,202nm,0.9s,comp=Z,2μm	**11.15**	**154**	P	**Pn**	**11 43 23.5**	**+0.4**
IMP	**Imphal**	**11.16**	**5**	*e*P9	Px	11 43 32.0	
IMP				*e*S	**Sn**	**11 45 21.0**	**-5.8**
KULM	**Kulim**	**11.31**	**136**	P	Pn	11 43 28.4	+3.2
KULM	**Kulim** comp=Z,117nm,1.4s	**11.31**	**136**	P	**Pn**	**11 43 27.2**	**+2.0**
KULM	**Kulim**	**11.31**	**136**	*e*Pn	**Pn**	**11 43 26.5**	**+1.3**
KULM				*e*Sn	**Sn**	**11 45 31.7**	**+1.2**
SHL	**Shillong**	**11

KMI S Sn 11 47 02.3 +7.0
KMI sS **S** **11 47 12.7 -0.4**
KMI pmax pmax
comp=Z,270nm,3.9s
KMI LR LR
comp=Z,2μm,12.6s
KMI LR LR
comp=Z,2μm,16.6s
KMI LR LR
comp=Z,3μm,15.3s
NGP **Nagpur** **15.13 302** *e*P **Pn** **11 44 14.8 -2.5**
NGP *e* 11 46 50.4
JIRN **Jiri** **15.29 337** *e*P Pn 11 44 14.2 -5.4
JIRN **Jiri** **15.29 337** *e*P Pn 11 44 14.2 -5.4
JBP **Jabalpur** **15.44 310** ⇓*i*P **Pn** **11 44 18.0 -3.3**
JBP *ex* Sn 11 46 58.1 -13
BKNI **Bangkinang** **15.51 148** P **P** **11 44 26.0 -0.3**
comp=Z,154nm,1.2s,comp=Z,3μm
KGM **Kluang** **15.51 137** P **P** **11 44 27.3 +1.0**
PKI **Pulchoki** **15.52 335** *e*P Pn 11 44 17.1 -5.5
comp=Z,326nm,0.6s
PKI **Pulchoki** **15.52 335** *e*P Pn 11 44 17.1 -5.5
PKI **Pulchoki** **15.52 335** *e*P Pn 11 44 17.1 -5.5
PKIN **Phulchoki** **15.53 335** *e*P Pn 11 44 17.0 -5.7
comp=Z,321nm,0.6s
ALBI **Allahabad** **15.59 320** *e* Pn 11 44 18.0 -5.2
GUN **Gumba** **15.63 337** *e*P Pn 11 44 18.8 -5.3
comp=Z,342nm,0.8s
GUN **Gumba** **15.63 337** *e*P Pn 11 44 18.8 -5.3
DMN **Daman** **15.68 334** *e*P Pn 11 44 19.5 -5.1
DMN **Daman** **15.68 334** *e*P Pn 11 44 19.5 -5.1
KKN **Kakani** **15.76 335** *e*P Pn 11 44 20.6 -5.1
comp=Z,167nm,0.7s
KKN **Kakani** **15.76 335** *e*P Pn 11 44 20.6 -5.1
KKN **Kakani** **15.76 335** *e*P Pn 11 44 20.6 -5.1
PPI **Padang Panjang** **15.87 151** P **Pn** **11 44 26.7 -0.1**
comp=Z,34nm,0.7s
MYKOM **Kota Tinggi** **16.03 136** P **P** **11 44 32.9 +0.9**
MYKOM **Kota Tinggi** **16.03 136** P **P** **11 44 33.1 +1.1**
comp=Z,228nm,1.2s,comp=Z,2μm
MYKOM **Kota Tinggi** **16.03 136** *e*P **P** **11 44 31.4 -0.6**
comp=Z,246nm,1.1s
LSA **Lhasa** **16.08 355** P **P** **11 44 32.5 -0.5**
LSA S **Sn** **11 47 29.9 +2.4**
LSA LR LR
comp=Z,1μm,27.2s
LSA LR LR
comp=Z,2μm,25.4s
LSA LR LR
comp=Z,2μm,25.4s
LSA **Lhasa** **16.08 355** *e*P **Pn** **11 44 27.7 -2.3**
LSA *e* 11 47 20.8
LSA pmax pmax
comp=Z,108nm,0.6s
LSA **Lhasa** **16.08 355** *e*Pn **Pn** **11 44 27.7 -2.3**
comp=Z,108nm,0.6s
LSA *e*Sn **Sn** **11 47 20.8 -6.7**
GKN **Gorkha** **16.22 333** *e*P Pn 11 44 26.6 -4.9
comp=Z,416nm,0.5s
GKN **Gorkha** **16.22 333** *e*P Pn 11 44 26.6 -4.9
BTDF **Bukit Timah Da** **16.30 137** ⇓P **P** **11 44 35.2 +0.2**
baz=16,SNR=4.7
BTDF ⇓P **P** **11 44 35.2 +0.2**
baz=16,SNR=4.7
TRD **Trivandrum** **16.38 254** *e*P **Pn** **11 44 32.8 -0.6**
TRD AMB AMB 11 44 38.3
comp=Z,69nm,1.9s
TRD ⇑*ex* x 11 44 44.6
TRD *i* 11 47 42.6
KOLN **Koldanda** **16.51 330** *e*P Pn 11 44 30.0 -5.2
KOLN **Koldanda** **16.51 330** *e*P Pn 11 44 30.0 -5.2
RGRI **Rengat** **16.77 145** P P 11 44 51.7 +11
DANN **Dangsing** **16.92 331** *e*P Pn 11 44 34.8 -5.6
comp=Z,416nm,0.8s
DANN **Dangsing** **16.92 331** *e*P Pn 11 44 34.8 -5.6
PYUN **Piuthan** **17.08 329** *e*P **Pn** **11 44 37.7 -4.7**
PYUN **Piuthan** **17.08 329** *e*P **Pn** **11 44 37.7 -4.7**
QIZ **Qiongzhong** **17.19 70** P **Pn** **11 44 44.0 +0.4**
QIZ pP **pP** **11 44 53.1 -0.7**
QIZ sP **sP** **11 47 57.2 -1.0**
QIZ S **Sn** **11 47 52.6 -1.2**
QIZ pmax pmax
comp=Z,410nm,4.5s
QIZ LR LR
comp=Z,2μm,26.6s
QIZ LR LR
comp=Z,3μm,15.1s
BHPL **Bhopal** **17.46 305** *e*P **Pn** **11 44 45.2 -1.8**
BHPL AMB AMB 11 44 48.9
comp=Z,176nm,1.2s
GYA **Guiyang** **18.20 43** ⇓*i*P **P** **11 44 55.6 -0.6**
GYA pP **pP** **11 45 04.8 -0.3**
GYA PP **PnPn** **11 45 14.0 +6.2**
GYA S **Sn** **11 48 19.9 +1.4**
GYA sS **S** **11 48 29.5 +6.6**
GYA pmax pmax
comp=Z,70nm,0.8s
GYA pmax pmax
comp=Z,540nm,6.8s
GYA LR LR
comp=Z,1μm,14.9s
GYA LR LR
comp=Z,1μm,13.0s
GYA LR LR
comp=Z,2μm,13.7s
KAD **Karad** **18.34 284** *i*P **P** **11 44 56.5 -1.2**
KAD *i* 11 48 31.9
GOA **Goa** **18.49 278** *ex* P 11 44 50.8 -8.5
GOA AMB AMB 11 45 10.5
comp=Z,152nm,0.9s
JMBI **JAMBI** **18.56 144** P **Pn** **11 45 01.4 +0.9**
comp=Z,985nm,0.8s,comp=Z,13μm
POO **Poona** **18.88 287** ⇓*i*P **P** **11 45 03.0 -0.6**
comp=Z,568nm,1.2s
POO *e*P **Pn** **11 45 03.4 -1.0**
POO AMB AMB 11 45 05.0
comp=Z,130nm,0.5s
POO *i* x x 11 48 18.0
MASI **Maura Aman, Be** **19.09 150** P **Pn** **11 45 07.3 +0.4**
comp=Z,373nm,1.0s
PTH **Pithoragarh** **19.70 326** *ex* P 11 45 20.0 +7.4
PTH *ex* x 11 48 33.7
CD2 **Chengdu** **19.94 29** *e*P **P** **11 45 15.2 +0.1**
CD2 pP **pP** **11 45 26.2 +2.1**
CD2 sP **sP** **11 45 30.2 +1.8**
CD2 PP **PnPn** **11 45 36.2 +4.6**
CD2 S **S** **11 48 54.2 -3.5**
CD2 sS **sS** **11 49 08.2 -3.8**
CD2 SS **SnSn** **11 49 20.8 +5.8**
CD2 pmax pmax
comp=Z,290nm,0.7s
CD2 pmax pmax
comp=Z,560nm,5.8s
CD2 LR LR
comp=Z,2μm,16.7s
CD2 LR LR
comp=Z,2μm,11.9s
CD2 LR LR
comp=Z,2μm,14.2s
PMBI **Palembang** **20.26 143** P Pn 11 45 30.5 +10
LHSI **Lahat** **20.32 148** P **P** **11 45 16.9 -2.4**
comp=Z,135nm,0.9s
NDI **New Delhi** **20.86 318** *ex* S 11 49 04.0 -12
KSM **Kuching** **21.09 123** P **P** **11 45 27.7 +0.1**
KSM **Kuching** **21.09 123** P **P** **11 45 27.7 +0.1**
comp=Z,62nm,1.4s,comp=Z,980nm
KSM **Kuching** **21.09 123** *e*P **P** **11 45 26.9 -0.7**
comp=Z,90nm,1.2s
KSM LR LR
comp=Z,1μm,20.0s
MDSI **Maura Dua** **21.22 147** P **P** **11 45 25.9 -3.1**
comp=Z,57nm,0.8s
DDI **Dehra Dun** **21.50 323** *e*P **P** **11 45 30.7 -1.3**
DDI *e*P pP 11 45 32.0 -9.1
DDI AMB AMB 11 45 36.3
comp=Z,447nm,1.5s
DDI *e*S **S** **11 49 28.8 0.0**
LWLI **Liwa** **21.61 148** P **P** **11 45 36.2 +2.9**
comp=Z,144nm,0.7s
KLSI **21.69 146** P **P** **11 45 31.6 -2.4**
comp=Z,52nm,0.9s
SBUM **Sibu** **22.15 118** P **P** **11 45 39.0 0.0**
SBUM **Sibu** **22.15 118** P **P** **11 45 38.4 -0.6**
comp=Z,32nm,1.4s,comp=Z,736nm
SBUM **Sibu** **22.15 118** *e*P **P** **11 45 38.4 -0.6**
comp=Z,71nm,1.2s
BTM **Bintulu** **22.52 116** P **P** **11 45 44.4 +1.4**
SMLA **Simla** **22.61 323** *e*P **P** **11 45 43.7 -0.1**
SMLA AMB AMB 11 45 47.0
comp=Z,205nm,1.3s
SMLA *i* x x 11 49 44.2
SDNR **Sundarnagar** **23.00 323** *ex* x 11 45 59.0
SDNR *e* 11 50 35.5
BHK **Bhakra** **23.26 322** *e*P **P** **11 45 50.1 -0.5**
KAAM **Kaadhehdhoo** **23.57 238** P **P** **11 45 56.9 +3.2**
comp=Z,198nm,1.3s,comp=Z,3μm
DHRM **DHARAMSHALA** **23.93 324** *e*P **P** **11 45 57.5 +0.3**
DHRM AMB AMB 11 46 09.0
comp=Z,417nm,0.6s
BHJ **Bhuj** **23.95 297** *e*P **P** **11 45 57.1 -0.1**
BHJ AMB AMB 11 45 59.5
comp=Z,56nm,1.0s
KKM **Kota Kinabalu** **24.22 106** P **P** **11 45 59.9 0.0**
KKM **Kota Kinabalu** **24.22 106** PFAKE 11 46 10.0 +10
KKM LR LR
comp=Z,2μm,19.0s
LZH **Lanzhou** **24.47 22** ⇓P **P** **11 46 02.5 +0.5**
LZH pP **pP** **11 46 11.9 +0.1**
LZH sP **sP** **11 46 15.5 -0.4**
LZH PP **PnPn** **11 46 38.5 +4.9**
LZH S **S** **11 50 18.1 -2.0**
LZH sS **sS** **11 50 34.0 -2.2**
LZH SS **SnSn** **11 51 13.1 +7.0**
LZH pmax pmax
comp=Z,210nm,1.4s
LZH pmax pmax
comp=Z,1μm,5.1s
LZH LR LR
comp=Z,2μm,15.6s
LZH LR LR
comp=Z,1μm,11.3s
LZH LR LR
comp=Z,3μm,17.3s
KDM **Kudat** **24.52 103** P **P** **11 46 02.8 +0.2**
XAN **Xi'an** **25.03 33** P **P** **11 46 05.9 -1.1**
XAN pP **pP** **11 46 14.8 -2.0**
XAN sP **sP** **11 46 19.2 -1.7**
XAN S **S** **11 50 35.2 +6.1**
XAN sS **sS** **11 50 45.8 +0.6**
XAN pmax pmax
comp=Z,21nm,1.1s
XAN LR LR
comp=Z,760nm,24.6s
XAN LR LR
comp=Z,430nm,24.6s
XAN LR LR
comp=Z,330nm,16.8s
LEM **Lembang** **25.06 143** P P 11 46 19.1 +12
SDKM **Sandakan** **25.27 106** P **P** **11 46 09.9 +0.5**
COCO **West Island** **25.95 171** PFAKE 11 46 30.0 +15
COCO LR LR
comp=Z,909nm,19.0s
TGJI **Tegal** **26.00 141** P **P** **11 46 18.0 +2.1**
comp=Z,57nm,0.9s
WHN **Wuhan** **26.02 46** P **P** **11 46 15.5 -0.5**
WHN LR LR
comp=Z,3μm,11.5s
WHN LR LR
comp=Z,2μm,10.1s
WHN LR LR
comp=Z,3μm,16.2s
KPJI **Karang Pucung** **26.24 142** P **P** **11 46 21.9 +3.8**
comp=Z,67nm,0.9s
GTA **Gaotai** **26.42 12** ⇓P **P** **11 46 20.2 +0.5**
GTA pP **pP** **11 46 31.6 +2.2**
GTA sP **sP** **11 46 37.4 +3.8**
GTA S **S** **11 50 52.5 +1.4**
GTA pmax pmax
comp=Z,25nm,1.3s
GTA pmax pmax
comp=Z,240nm,5.0s
GTA LR LR
comp=Z,850nm,21.4s
GTA LR LR
comp=Z,920nm,20.9s
GTA LR LR
comp=Z,1μm,20.4s
BJII **Banjamegara** **26.72 140** P P 11 46 29.0 +6.5
QZH **Quanzhou** **26.75 61** P **P** **11 46 24.5 +1.9**
QZH S **S** **11 50 55.8 -0.5**
QZH LR LR
comp=Z,1μm,12.1s
QZH LR LR
comp=Z,2μm,15.2s
QZH LR LR
comp=Z,3μm,17.3s
NGJI **Ngawi** **27.87 137** P P 11 46 44.5 +12
TGJ **Pinlang** **28.30 67** *e*P **P** **11 46 38.8 +2.3**
comp=Z,396nm,1.2s
SSLB **Suanglung** **28.44 65** *e*P **P** **11 46 39.4 +1.5**
comp=Z,96nm,1.0s
YULB **Yu-li** **28.64 66** *e*P **P** **11 46 41.7 +2.1**
comp=Z,65nm,1.0s
YHNB **Yeheng** **29.06 64** *e*P **P** **11 46 42.2 -1.2**
comp=Z,62nm,1.0s
YHNB LR LR
comp=Z,1μm,21.0s
H08S3 **Diego Garcia H** **29.22 225** T T 12 16 35.1
baz=43,slow=76,SNR=663
H08S2 **Diego Garcia H** **29.22 225** T T 12 16 32.2
baz=43,slow=76,SNR=706
H08S1 **Diego Garcia H** **29.23 225** T T 12 16 32.4
baz=43,slow=76,SNR=665
TATO **Taipei** **29.25 63** PFAKE 11 47 00.0 +15
TATO LR LR
comp=Z,1μm,22.0s
H08N2 **Diego Garcia H** **29.36 229** T T 12 17 38.6
baz=23,slow=75,SNR=10
H08N1 **Diego Garcia H** **29.37 229** T T 12 17 45.7
baz=23,slow=75,SNR=15
H08N3 **Diego Garcia H** **29.39 229** T T 12 17 40.2
baz=23,slow=75,SNR=15
BLJI **Banyuglugur** **29.59 135** P **P** **11 46 51.0 +3.0**
comp=Z,76nm,0.9s,comp=Z,5μm
KSH **Kashi** **29.77 333** P **P** **11 46 48.4 -1.2**
KSH pP **pP** **11 46 58.5 -0.9**
KSH sP **sP** **11 47 02.1 -1.4**
KSH PP **PnPn** **11 47 44.6 -1.3**
KSH PcP **PcP** **11 49 52.7 -0.1**
KSH S **S** **11 51 44.9 +1.0**
KSH sS **sS** **11 52 01.2 +1.1**
KSH pmax pmax
comp=Z,20nm,0.7s
KSH pmax pmax
comp=Z,180nm,4.8s
KSH LR LR
comp=Z,380nm,6.3s
KSH LR LR
comp=Z,560nm,12.4s
KSH LR LR
comp=Z,700nm,8.9s
GMJI **Gumukmas** **29.86 136** P P 11 47 01.7 +11
KBL **Kabul** **29.95 318** *e*P **P** **11 46 50.7 -0.6**
KBL pmax pmax
comp=Z,64nm,1.0s
KBL **Kabul** **29.95 318** *e*P **P** **11 46 50.7 -0.6**
comp=Z,64nm,1.0s
KBL **Kabul** **29.95 318** ⇑P **P** **11 46 51.5 +0.1**
baz=30,SNR=3.2
NJ2 **Nanjing** **30.07 48** *e*P **P** **11 46 52.0 -0.1**
NJ2 pP **pP** **11 47 01.0 -0.9**
NJ2 sP **sP** **11 47 05.8 -0.3**
NJ2 S **S** **11 51 49.0 +0.6**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 LR LR
comp=Z,2μm,15.4s
NJ2 LR LR
comp=Z,2μm,20.0s
NJ2 LR LR
comp=Z,3μm,17.2s
WMQ **Urumqi** **30.42 353** P **P** **11 46 56.0 +0.8**
WMQ pP **pP** **11 47 06.0 +1.0**
WMQ sP **sP** **11 47 10.0 +0.8**
WMQ PP **PnPn** **11 47 56.0 +1.6**
WMQ PcP **PcP** **11 49 56.0 +1.7**
WMQ S **S** **11 51 54.0 +0.2**
WMQ sS **sS** **11 52 08.0 -2.1**
WMQ SS **ScP** **11 53 34.0 -0.4**
WMQ pmax pmax
comp=Z,36nm,1.0s
WMQ pmax pmax
comp=Z,230nm,4.0s
WMQ LR LR
comp=Z,940nm,14.0s
WMQ LR LR
comp=Z,1μm,14.0s
WMQ LR LR
comp=Z,1μm,14.0s
MMSI **Mamuju** **30.52 120** P P 11 47 09.4 +13
SRBI **Singaraja** **30.96 133** P **P** **11 47 00.6 +0.4**
comp=Z,73nm,1.0s
TIA **Tai'an** **31.32 40** *e*P **P** **11 47 02.9 -0.3**
TIA pmax pmax
comp=Z,30nm,0.8s
SSE **Sheshan** **31.33 52** *e*P **P** **11 47 03.7 +0.4**
SSE pP **pP** **11 47 14.4 +1.3**
SSE sP **sP** **11 47 19.5 +2.3**
SSE S **S** **11 52 09.3 +1.1**
SSE sS **sS** **11 52 27.5 +3.0**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,110nm,4.6s
SSE LR LR
comp=Z,1μm,18.2s
SSE LR LR
comp=Z,930nm,21.3s
KHKI **Kahang-Kahang** **31.44 133** P **P** **11 47 02.3 -2.0**
TTSI **Tana Toraja** **31.48 120** P **P** **11 47 05.9 +1.1**
comp=Z,38nm,1.3s
MRSI **Marisa** **31.64 112** P **P** **11 47 05.8 -0.4**
comp=Z,48nm,1.1s,comp=Z,765nm
HHC **Hu-ho-hao-te** **31.69 28** *e*P **P** **11 47 06.1 -0.4**
HHC sP **sP** **11 47 20.7 +0.2**
HHC PP **PnPn** **11 48 12.0 +1.0**
HHC S **S** **11 52 12.2 -1.7**
HHC sS **sS** **11 52 27.2 -2.9**
HHC SS **SnSn** **11 54 03.7 +1.7**
HHC pmax pmax
comp=Z,70nm,0.8s
HHC pmax pmax
comp=Z,510nm,5.1s
HHC LR LR
comp=Z,1μm,13.4s
HHC LR LR
comp=Z,1μm,13.1s
HHC LR LR
comp=Z,1μm,14.1s
SPSI **Sidrap Palu** **31.94 121** P **P** **11 47 09.9 +1.1**
comp=Z,40nm,1.3s,comp=Z,733nm
ULHL **Ulahol** **31.95 336** *i*P **P** **11 47 09.2 +0.4**
ULHL **Ulahol** **31.95 336** P **P** **11 47 09.3 +0.4**
SNR=5.3
KZA **Kyzart** **32.20 335** *i*P **P** **11 47 11.9 +0.7**
KZA **Kyzart** **32.20 335** P **P** **11 47 12.0 +0.7**
SNR=8.4
BNSI **Bone** **32.46 122** P **P** **11 47 13.9 +0.6**
comp=Z,42nm,1.1s
KAPI **Kappang** **32.51 123** LR LR 12 02 36.3
comp=Z,1μm,19.6s,baz=187,slow=40
GTOI **Gorontalo** **32.54 111** P **P** **11 47 12.2 -1.9**
comp=Z,96nm,0.9s
UCH **Uchtor** **32.63 334** *i*P **P** **11 47 15.6 +0.5**
UCH **Uchtor** **32.63 334** P **P** **11 47 15.7 +0.5**
SNR=13
TKM2 **Tokmak 2** **32.77 336** *e*P **P** **11 47 15.9 -0.1**
TKM2 pmax pmax
comp=Z,24nm,0.9s
TKM2 MLR MLR
comp=Z,794nm,22.0s
TKM2 **Tokmak 2** **32.77 336** P **P** **11 47 16.2 +0.1**
SNR=10
TKM2 **Tokmak 2** **32.77 336** *e*P **P** **11 47 15.9 -0.1**
comp=Z,24nm,0.9s
TKM2 LR LR
comp=Z,794nm,22.0s
KBK **Karagaybulak** **32.81 335** *i*P **P** **11 47 17.4 +1.1**
KBK **Karagaybulak** **32.81 335** P **P** **11 47 17.4 +1.1**
SNR=9.4
AML **Almayashu** **32.90 333** *i*P **P** **11 47 18.3 +0.9**
AML **Almayashu** **32.90 333** P **P** **11 47 18.3 +0.9**
SNR=19
AAK **Ala-Archa** **32.97 335** P **P** **11 47 19.0 +1.3**
SNR=30
AAK **Ala-Archa** **32.97 335** *e*P **P** **11 47 18.6 +0.9**
AAK *PP **pP** **11 47 28.4 +0.8**
AAK pmax pmax
comp=Z,69nm,1.3s
AAK **Ala-Archa** **32.97 335** P **P** **11 47 18.8 +1.0**
SNR=12
AAK **Ala-Archa** **32.97 335** *e*P **P** **11 47 18.6 +0.9**
comp=Z,69nm,1.3s
AAK pP **pP** **11 47 28.4 +0.8**
AAK **Ala-Archa** **32.97 335** P **P** **11 47 18.9 +1.1**
comp=Z,233nm,1.3s,SNR=10
AAK **Ala-Archa** **32.97 335** P **P** **11 47 18.4 +0.6**
comp=Z,11nm,1.0s,baz=147,slow=8.8,SNR=21
AAK pP **pP** **11 47 28.4 +0.8**
comp=Z,45nm,1.1s,baz=128,slow=7.0,SNR=21
AAK LR LR 12 02 25.0
comp=Z,1μm,21.3s,baz=141,slow=39
BKSI **Bulukumba** **32.99 123** P **P** **11 47 19.1 +1.1**
comp=Z,40nm,0.8s,comp=Z,465nm
LUWI **Luwuk** **33.06 114** P **P** **11 47 17.9 -0.7**
comp=Z,154nm,1.1s,comp=Z,2μm
FRU **Bishkek** **33.09 335** *e*P **P** **11 47 19.0 +0.4**
FRU *e* 11 47 28.0
FRU *e* 11 50 09.0
FRU *e*S **S** **11 52 36.0 +0.5**
FRU pmax pmax
comp=Z,100nm,1.9s
FRU MLR MLR
comp=Z,1μm,20.0s
FRU MLR MLR
comp=E,1μm,19.0s
CHMS **Chumysh** **33.17 335** *i*P **P** **11 47 19.8 +0.5**
CHMS **Chumysh** **33.17 335** P **P** **11 47 19.9 +0.5**
SNR=7.1
EKS2 **Erkin-Say** **33.30 334** *e*P **P** **11 47 21.3 +0.7**
EKS2 *e*PP **pP** **11 47 32.6 +2.2**
EKS2 pmax pmax
comp=Z,37nm,0.8s
EKS2 MLR MLR
comp=Z,1μm,20.0s
EKS2 **Erkin-Say** **33.30 334** P **P** **11 47 21.6 +1.0**
SNR=18
EKS2 **Erkin-Say** **33.30 334** *e*P **P** **11 47 21.3 +0.7**
comp=Z,36nm,0.8s
EKS2 *e*pP **pP** **11 47 32.6 +2.2**
EKS2 LR LR
comp=Z,1μm,20.0s
WBK **Wadi Bani Khal** **33.34 290** P pP 11 47 33.4 +2.5
SNR=6.0
BJT **Baijiatuau** **33.34 34** *e*P **P** **11 47 22.0 +1.2**
comp=Z,26nm,0.6s
BJT LR LR
comp=Z,1μm,20.0s
BJI **Beijing** **33.36 34** P **P** **11 47 21.5 +0.5**
BJI pP **pP** **11 47 31.4 +0.6**
BJI PP **PP** **11 48 37.7 +0.9**
BJI S **S** **11 52 41.7 +2.1**
BJI pmax pmax
comp=Z,31nm,0.9s
BJI LR LR
comp=Z,810nm,23.7s
BJI LR LR
comp=Z,890nm,24.2s
BJI LR LR
comp=Z,350nm,29.1s
KMSI **Cibinong** **33.45 110** P pP 11 47 32.7 +0.8
USP **Ospenovka** **33.50 335** *i*P **P** **11 47 22.7 +0.6**
USP **Ospenovka** **33.50 335** P **P** **11 47 22.8 +0.6**
SNR=22
JMDO **Jabal Madar** **34.09 290** P pP 11 47 39.8 +2.3
SNR=5.6
MK31 **Makanchi Array** **34.24 347** *e*P **P** **11 47 28.9 +0.3**
MK31 *e*PP **pP** **11 47 39.4 +1.0**
MK31 **Makanchi Array** **34.24 347** *e*P **P** **11 47 28.9 +0.3**
MK31 *e*pP **pP** **11 47 39.4 +1.0**
MKAR **Makanchi Array** **34.24 347** P **P** **11 47 28.4 -0.1**
MKAR *PP **pP** **11 47 38.5 0.0**
MKAR 11 50 04.1
MKAR **Makanchi Array** **34.24 347** P **P** **11 47 28.4 -0.1**
MKAR pP **pP** **11 47 38.5 0.0**
MKAR PcP **PcP** **11 50 04.0 -0.6**

MKAR Makanchi Array 34.24 347 P **P** **11 47 28.4 -0.1**
comp=Z,18nm,0.8s,baz=163,slow=8.5,SNR=83
MKAR pP **pP** **11 47 38.4 0.0**
comp=Z,22nm,0.7s,baz=158,slow=8.4,SNR=16
MKAR PcP **PcP** **11 50 04.0 -0.6**
comp=Z,4.3nm,0.8s,baz=190,slow=2.6,SNR=2.5
MKAR LR LR 12 05 02.9
comp=Z,742nm,20.0s,baz=161,slow=42
SMDO Samad 34.25 291 P **P** **11 47 31.6 +2.6**
SNR=8.2
LBFI Labuhan Bajo, 34.69 128 P **P** **11 47 33.2 +0.4**
comp=Z,72nm,0.9s,comp=Z,535nm
BSY Bisya 34.97 290 P **P** **11 47 37.9 +2.7**
SNR=19
HOQ Hoqain 35.01 292 P pP 11 47 47.9 +2.5
SNR=6.7
KKAR Karatay Array 35.11 331 *e*P **P** **11 47 36.3 +0.1**
KKAR *e**PP **pP** **11 47 47.5 +1.4**
KKAR Karatay Array 35.11 331 *e*P **P** **11 47 36.3 +0.1**
KKAR *e*pP **pP** **11 47 47.5 +1.4**
JOW Kunigami 35.63 63 P **P** **11 47 41.1 +0.3**
JOW Kunigami 35.63 63 P **P** **11 47 41.1 +0.3**
comp=Z,1.9nm,0.4s,baz=31,slow=5.9,SNR=11
JOW LR LR 12 03 29.7
comp=Z,147nm,20.5s,baz=286,slow=38
SONM Songino Array 35.94 16 P **P** **11 47 43.5 +0.2**
SONM pP **pP** **11 47 52.8 -0.5**
SONM PcP **PcP** **11 50 09.8 +0.1**
SONM Songino Array 35.94 16 P **P** **11 47 43.5 +0.2**
comp=Z,15nm,1.0s,baz=199,slow=8.2,SNR=62
SONM pP **pP** **11 47 52.8 -0.5**
comp=Z,16nm,0.8s,baz=201,slow=7.7,SNR=12
SONM PcP **PcP** **11 50 09.8 +0.1**
comp=Z,4.2nm,0.7s,baz=209,slow=4.2,SNR=4.1
SONM LR LR 12 05 15.2
comp=Z,681nm,19.8s,baz=200,slow=41
IKOO Kooshah 36.11 307 *e*P pP 11 47 55.2 +0.1
ULN Ulaanbaatar 36.14 16 P **P** **11 47 45.4 +0.4**
SNR=16
ULN Ulaanbaatar 36.14 16 P **P** **11 47 45.0 -0.1**
comp=Z,26nm,1.5s,comp=Z,572nm
ULN Ulaanbaatar 36.14 16 *e*P **P** **11 47 45.2 +0.1**
comp=Z,28nm,0.8s
ULN *e*pP **pP** **11 47 55.1 +0.1**
UOSS Wadi Hilu 36.25 294 P **P** **11 47 48.5 +2.3**
comp=Z,291nm,1.1s,SNR=5.0
ASHO Ashiyiah 36.33 293 P **P** **11 47 49.8 +2.9**
SNR=28
IMYA Miami 37.02 314 *e*P **P** **11 47 52.0 -0.8**
ZAK Zakamensk 37.64 11 ⇓*i*P **P** **11 47 57.7 -0.1**
ZAK *e* 11 48 08.3
ZAK *e* 11 50 15.0
ZAK pmax pmax
comp=Z,5.0nm,1.7s
IPAY Payeh 37.86 313 *e*P **P** **11 47 59.3 -0.6**
IAKL Akhelmad 38.10 313 *e*P **P** **11 48 01.9 -0.1**
TJN Taejon 38.32 48 *i*P **P** **11 48 03.2 -0.4**
INCN Inchon 38.33 46 PFAKE 11 48 20.0 +16
INCN LR LR
comp=Z,862nm,21.0s
MOY Mondy 38.52 8 *e*P pP 11 48 17.2 +2.1
IEMG Emamgholi 38.56 314 *e*P **P** **11 48 06.6 +0.7**
KURBB Kurchatov Arra 38.70 345 P **P** **11 48 06.4 -0.1**
comp=Z,24nm,1.0s,baz=163,slow=7.7,SNR=145
KURBB pP **pP** **11 48 16.6 +0.1**
comp=Z,46nm,0.8s,baz=163,slow=8.0,SNR=21
SNY Shenyang 38.75 38 ⇓P **P** **11 48 06.6 -0.4**
SNY S **S** **11 53 58.3 -3.7**
SNY pmax pmax
comp=Z,12nm,1.0s
SNY pmax pmax
comp=Z,110nm,7.2s
SNY LR LR
comp=Z,420nm,22.2s
SNY LR LR
comp=Z,810nm,16.8s
SNY LR LR
comp=Z,670nm,18.6s
KURK Kurchatov 38.76 346 P **P** **11 48 07.6 +0.6**
SNR=44
KURK Kurchatov 38.76 346 *e*P **P** **11 48 06.8 -0.2**
KURK *PP **pP** **11 48 16.6 -0.4**
KURK *e**PP **pwP** **11 48 19.6 +2.6**
KURK pmax pmax
comp=Z,65nm,1.1s
KURK MLR MLR
comp=Z,626nm,19.0s
KURK Kurchatov 38.76 346 *e*P **P** **11 48 06.8 -0.2**
comp=Z,66nm,1.1s
KURK pP **pP** **11 48 16.6 -0.4**
KURK *e*pP **pwP** **11 48 19.6 +2.6**
KURK LR LR
comp=Z,626nm,19.0s
KURK Kurchatov 38.76 346 P **P** **11 48 07.9 +0.9**
comp=Z,180nm,1.1s,SNR=16
KSAR Wonju Array Be 39.19 46 P **P** **11 48 10.3 -0.5**
KSAR pP **pP** **11 48 19.9 -0.9**
KSRS Korea Array 39.22 46 P **P** **11 48 10.3 -0.7**
comp=Z,8.3nm,0.7s,baz=242,slow=8.5,SNR=44
KSRS pP **pP** **11 48 19.9 -1.2**
comp=Z,28nm,0.8s,baz=244,slow=9.2,SNR=24
KSRS LR LR 12 06 49.6
comp=Z,1μm,18.4s,baz=345,slow=40
IMEH Mehriz 39.24 303 *e*P **P** **11 48 12.1 +0.5**
IRK Irkutsk 39.61 11 *e*P P 11 48 20.9 +6.8
IRK pmax pmax
comp=Z,74nm,2.3s
JNU Nakatsue 39.67 54 *e*P **P** **11 48 16.1 +1.2**
comp=Z,27nm,1.3s
JNU *e*pP **pP** **11 48 25.7 +0.7**
JNU Nakatsue 39.67 54 P **P** **11 48 15.3 +0.4**
comp=Z,10.0nm,0.9s,baz=240,slow=8.3,SNR=5.4
JNU LR LR 12 07 10.9
comp=Z,764nm,18.5s,baz=250,slow=40
IPAR Pars 40.09 300 *e*P **P** **11 48 19.9 +1.1**
ISAD Sadrabad 40.15 304 *e*P **P** **11 48 19.8 +0.5**
ZAA0 Zalesovo Array 40.73 353 *e*P **P** **11 48 23.1 -0.3**
ZALV Zalesovo Beam 40.73 353 *i*P **P** **11 48 23.2 -0.2**
ZALV pmax pmax
comp=Z,22nm,0.6s
ZALV Zalesovo Beam 40.73 353 P **P** **11 48 23.1 -0.2**
ZALV Zalesovo Beam 40.73 353 P **P** **11 48 23.1 -0.2**
comp=Z,22nm,0.6s,baz=177,slow=8.6,SNR=114
ZALV LR LR 12 08 45.9
comp=Z,693nm,19.7s,baz=317,slow=41
CN2 Changchun 41.04 36 ⇑P **P** **11 48 26.3 +0.3**
CN2 *e*S **S** **11 54 36.8 +0.5**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 41.29 246 PFAKE 11 48 40.0 +11
MSEY LR LR
comp=Z,739nm,20.0s
IKIA Kiasar 41.63 310 *e*P **P** **11 48 32.5 +1.1**
NVS Novosibirsk 41.81 352 *e*P **P** **11 48 30.6 -1.6**
NVS *e*S S 11 54 38.0 -9.4
NVS pmax pmax
comp=N,15nm,1.3s
NVS pmax pmax
comp=Z,33nm,1.3s
NVS pmax pmax
comp=E,14nm,1.4s
NVS smax smax
comp=N,32nm,2.6s
NVS smax smax
comp=E,58nm,3.0s
HIA Hailar 41.87 26 *e*P **P** **11 48 33.0 +0.2**
comp=E,19nm,0.7s
HIA *e*pP **pP** **11 48 43.1 +0.2**
HIA LR LR
comp=Z,599nm,22.0s
ISFB Sefidab 42.08 307 *e*P **P** **11 48 35.7 +0.9**
IFIR Firoozkooh 42.12 309 *e*P **P** **11 48 36.3 +0.9**
IALA Alasht 42.24 309 *e*P **P** **11 48 38.1 +1.7**
IPRN Peran 42.66 309 *e*P **P** **11 48 40.7 +1.1**
BVA0 Borovoye Array 43.18 340 P **P** **11 48 42.3 -1.1**
BVA0 pmax pmax
comp=Z,37nm,1.3s
BVAR Borovoye Array 43.18 340 P **P** **11 48 43.0 -0.4**
BVAR *PP **pP** **11 48 52.9 -0.6**
BVAR Borovoye Array 43.18 340 P **P** **11 48 43.0 -0.4**
BVAR pP **pP** **11 48 52.9 -0.6**
BVAR Borovoye Array 43.18 340 P **P** **11 48 43.0 -0.4**
comp=Z,6.6nm,0.8s,baz=136,slow=9.3,SNR=18
BVAR pP **pP** **11 48 52.9 -0.6**
comp=Z,12nm,0.8s,baz=131,slow=6.1,SNR=12
BVAR LR LR 12 10 59.9
comp=Z,437nm,20.6s,baz=337,slow=42
BRVK Borovoye 43.24 340 P pP 11 48 53.8 -0.1
SNR=12
BRVK Borovoye 43.24 340 *e*P **P** **11 48 43.6 -0.3**
BRVK pmax pmax
comp=Z,47nm,1.1s
BRVK MLR MLR
comp=Z,688nm,19.0s
BRVK Borovoye 43.24 340 *e*P **P** **11 48 43.6 -0.3**
comp=Z,48nm,1.1s
BRVK LR LR
comp=Z,688nm,19.0s
MBWA Marble Bar 43.50 142 *e*P **P** **11 48 44.5 -1.9**
comp=Z,43nm,1.1s
MBWA *e*pP **pP** **11 48 55.4 -1.0**
MDJ Mudanjiang 43.94 38 P **P** **11 48 49.6 -0.1**
MDJ pP **pP** **11 48 58.3 -1.5**
MDJ sP **sP** **11 49 02.7 -1.1**
MDJ PP **PP** **11 50 33.8 +1.4**
MDJ PcS **PcS** **11 54 27.4 -0.7**
MDJ S **S** **11 55 20.7 +1.6**
MDJ pmax pmax
comp=Z,8.0nm,1.1s
MDJ pmax pmax
comp=Z,120nm,4.7s
MDJ LR LR
comp=Z,730nm,16.4s
MDJ LR LR
comp=Z,440nm,13.1s
MDJ LR LR
comp=Z,520nm,10.9s
MDJ Mudanjiang 43.94 38 PFAKE 11 49 00.0 +10
MDJ LR LR
comp=Z,549nm,19.0s
TLE Tual 43.99 113 P **P** **11 48 49.7 -0.8**
comp=Z,60nm,0.9s
VLA Vladivostok 44.59 41 *e*P **P** **11 48 55.0 +0.2**
VLA pmax pmax
comp=Z,14nm,1.0s
AB31 Akbulak array 44.63 330 *i*P **P** **11 48 55.2 +0.1**
AB31 pmax pmax
comp=Z,36nm,0.6s
ABKAR Akbulak array 44.63 330 *e*P **P** **11 48 55.3 +0.2**
comp=Z,48nm,0.7s
ABKAR *e*pP **pP** **11 49 06.2 +1.1**
ABKAR *e*sP **sP** **11 49 09.0 -0.3**
FITZ Fitzroy Crossi 45.17 133 P **P** **11 48 58.3 -1.5**
FITZ Fitzroy Crossi 45.17 133 P **P** **11 48 58.3 -1.5**
baz=322,slow=9.0
FITZ LR LR 12 08 25.9
comp=Z,320nm,21.1s,baz=310,slow=37
USRK Ussuriysk Arra 45.19 40 P **P** **11 48 59.2 -0.4**
comp=Z,5.2nm,0.7s,baz=254,slow=8.8,SNR=13
USRK pP **pP** **11 49 10.0 +0.2**
comp=Z,6.7nm,0.8s,baz=226,slow=6.9,SNR=6.9
USRK LR LR 12 11 39.3
comp=Z,731nm,18.5s,baz=69,slow=41
AKTO Aktyubinsk 46.34 330 P **P** **11 49 08.5 -0.1**
AKTO *PP **pP** **11 49 19.2 +0.4**
AKTO Aktyubinsk 46.34 330 P **P** **11 49 08.5 -0.1**
AKTO pP **pP** **11 49 19.2 +0.4**
AKTO Aktyubinsk 46.34 330 P **P** **11 49 08.5 -0.1**
comp=Z,14nm,0.6s,baz=117,slow=8.4,SNR=49
AKTO pP **pP** **11 49 19.2 +0.4**
comp=Z,40nm,0.8s,baz=117,slow=12,SNR=18
AKTO LR LR 12 09 12.5
comp=Z,308nm,21.9s,baz=140,slow=37
MAJO Matsushiro 46.47 52 *e*P **P** **11 49 10.1 +0.2**
MAJO *e**PP **pP** **11 49 20.1 +0.1**
MAJO pmax pmax
comp=Z,38nm,0.8s
MAJO MLR MLR
comp=Z,779nm,20.0s
MAJO Matsushiro 46.47 52 *e*P **P** **11 49 10.1 +0.2**
comp=Z,38nm,0.8s
MAJO *e*pP **pP** **11 49 20.1 +0.1**
MAJO LR LR
comp=Z,779nm,20.0s
MAT Matsushiro 46.47 52 P **P** **11 49 09.6 -0.3**
IDHR Dehrash 46.80 305 *e*P **P** **11 49 12.1 -0.6**
MEEK Meekatharra 47.21 148 ⇓P **P** **11 49 14.4 -1.3**
baz=47,SNR=4.5
IBST Bostanabad 47.25 309 *e*P **P** **11 49 15.9 -0.4**
KLR Kul'dur 47.74 34 *e*P P 11 49 25.0 +5.5
KLR pmax pmax
comp=Z,56nm,1.8s
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s
JCJ Chichijima 47.89 66 LR LR 12 10 53.2
comp=Z,276nm,18.2s,baz=98,slow=38
MAK Makhachkala 48.65 316 P **P** **11 49 26.9 +0.2**
MAK *e* 11 51 18.4
MAK *e*PPP PPP 11 52 10.0
MAK *e*S **S** **11 56 22.9 -3.7**
MAK *e*SSS SSS 12 01 07.4
MAK pmax pmax
comp=Z,103nm,0.8s
MAK MLR MLR
comp=Z,498nm,15.0s
HABR Khabarovsk 49.17 36*c e*P **P** **11 49 28.5 -2.1**
HABR *e**PP **pP** **11 49 38.2 -2.6**
HABR *e* 11 49 42.3
HABR 11 50 51.5
HABR *e* 11 51 22.1
HABR *e*PPP PPP 11 52 14.1
HABR *e*S **S** **11 56 32.4 -1.4**
HABR *e**SS **sS** **11 56 48.4 -2.2**
HABR *e* 11 59 17.6
HABR *e*SS **SS** **12 00 04.9 -0.4**
HABR *e*SSS SSS 12 01 22.4
HABR pmax pmax
comp=N,61nm,2.3s
HABR pmax pmax
comp=Z,52nm,2.3s
HABR pmax pmax
comp=E,59nm,2.3s
HABR MLR MLR
comp=Z,650nm,17.0s
DGRG David-gareji 49.58 313 P **P** **11 49 35.4 +1.5**
CLNS Chul'man 49.59 23 *e*P **P** **11 49 33.7 0.0**
CLNS *e*S **pP** **11 49 44.8 +0.9**
CLNS pmax pmax
comp=Z,23nm,0.9s
CLNS pmax pmax
comp=N,15nm,0.8s
CLNS pmax pmax
comp=E,18nm,0.9s
GNI Garni 49.61 312 P **P** **11 49 36.5 +2.2**
SNR=26
GNI Garni 49.61 312 *e*P **P** **11 49 34.7 +0.4**
comp=E,174nm,1.1s
GNI LR LR
comp=Z,486nm,19.0s
BLDU Ballidu 49.62 153 P **P** **11 49 33.6 -0.6**
baz=50,SNR=5.5
SVE Sverdlovsk 49.63 337⇑ *e*P **P** **11 49 34.4 +0.5**
SVE pmax pmax
comp=Z,38nm,0.9s
SVE MLR MLR
comp=Z,618nm,18.0s
TBLG Delisi 50.12 313 P **P** **11 49 39.0 +1.0**
ARU Arti 50.14 336 *e*P **P** **11 49 36.6 -1.2**
ARU pmax pmax
comp=Z,32nm,1.7s
ARU Arti 50.14 336 *e*P **P** **11 49 37.2 -0.6**
comp=Z,34nm,0.7s
ARU *e*pP **pP** **11 49 48.5 +0.4**
ARU LR LR
comp=Z,656nm,19.0s
DUS Dusheti 50.26 314 P **P** **11 49 40.5 +1.4**
KLBR Kellerberrin 50.91 152 P **P** **11 49 43.0 -0.9**
baz=51,SNR=14
ZEI Tsey 51.06 314 *e*P **P** **11 49 46.1 +0.8**
ZEI pmax pmax
comp=Z,85nm,1.4s
ONI Oni 51.30 314 P **P** **11 49 48.1 +1.1**
ERM Erimo 51.79 47 PFAKE 11 50 00.0 +10
ERM LR LR
comp=Z,716nm,22.0s
NWAO Narrogin (SRO) 51.82 154 P **P** **11 49 49.9 -0.9**
NWAO pP **pP** **11 50 00.1 -1.0**
NWAO LR LR
comp=Z,1.0nm,20.0s
NWAO Narrogin (SRO) 51.82 154 P **P** **11 49 49.9 -0.9**
comp=Z,19nm,0.7s,baz=328,slow=7.7,SNR=20
NWAO pP **pP** **11 50 00.1 -1.0**
comp=Z,64nm,0.9s,baz=318,slow=9.2,SNR=12
KBZ Khabaz 52.06 315 P **P** **11 49 52.8 +0.3**
KBZ Khabaz 52.06 315 P **P** **11 49 52.8 +0.3**
KBZ Khabaz 52.06 315 P **P** **11 49 52.8 +0.3**
comp=Z,4.2nm,0.7s,baz=118,slow=7.1,SNR=6.5
ASAJ Asahikawa 52.08 44 P **P** **11 49 52.6 0.0**
ASAJ Asahikawa 52.08 44 P **P** **11 49 52.6 0.0**
comp=Z,13nm,0.8s,baz=150,slow=6.6,SNR=7.8
ASAJ LR LR 12 15 10.1
comp=Z,611nm,18.4s,baz=180,slow=40
KIV Kislovodsk 52.28 316 P **P** **11 49 55.1 +0.9**
SNR=20
KIV Kislovodsk 52.28 316 *e*P **P** **11 49 54.8 +0.6**
KIV *e* 11 51 54.0
KIV *e*S **S** **11 57 18.3 +1.0**
KIV pmax pmax
comp=Z,49nm,1.1s
KIV pmax pmax
comp=Z,67nm,5.4s
KIV MLR MLR
comp=Z,353nm,16.0s
KIV Kislovodsk 52.28 316 *e*P **P** **11 49 55.1 +0.9**
comp=Z,104nm,0.9s
KIV LR LR
comp=Z,478nm,20.0s
GOF Gofitskoye 52.42 317 *e*P **P** **11 49 54.9 -0.2**
GOF pmax pmax
comp=Z,70nm,1.3s
KMBL Kambalda 52.71 149 P **P** **11 49 56.4 -1.0**
baz=53,SNR=6.8
WRA Warramunga Arr 52.73 128 P **P** **11 49 56.4 -1.3**
WRA PcP **PcP** **11 51 06.7 -0.5**
WRA ScP **ScP** **11 54 59.4 -2.7**
WRA S S 11 57 17.1 -6.7
WRA ⇑*e* 12 20 40.7
WRA Warramunga Arr 52.73 128 P **P** **11 49 56.4 -1.3**
comp=Z,45nm,0.8s,baz=307,slow=8.2,SNR=361
WRA PcP **PcP** **11 51 06.7 -0.5**
comp=Z,6.8nm,0.6s,baz=314,slow=2.9,SNR=5.4
WRA ScP **ScP** **11 54 59.4 -2.7**
comp=Z,1.3nm,0.9s,baz=307,slow=6.1,SNR=4.7
WRA S S 11 57 17.1 -6.7
comp=Z,14nm,1.1s,baz=302,slow=14,SNR=15
WRA PKP2bc 12 20 40.7
comp=Z,0.9nm,1.0s,baz=125,slow=2.1,SNR=3.3
WRAB Tennant Creek 52.73 128*c i*P **P** **11 49 56.4 -1.3**
WRAB pmax pmax
comp=Z,128nm,0.6s
WRAB Tennant Creek 52.73 128 *e*P **P** **11 49 56.4 -1.3**
comp=Z,54nm,0.8s
WRAB LR LR
comp=Z,565nm,19.0s
WRAB Tennant Creek 52.73 128 P **P** **11 49 56.9 -0.8**
comp=Z,460nm,0.7s,SNR=58
SOKR Solikamsk 53.04 338*d i*P **P** **11 49 59.5 +0.1**
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR MLR MLR
comp=Z,370nm,16.0s
YSS Yuzh-Sakhalins 53.19 41 *e*P **P** **11 50 02.8 +2.1**
YSS *e* 11 50 11.0
YSS *e*S **S** **11 57 31.0 +1.7**
YSS MLR MLR
comp=E,400nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
SOC Sochi 54.21 314 *e*P **P** **11 50 10.6 +2.3**
SOC *e* 11 52 11.2
SOC *e*S **S** **11 57 45.3 +2.0**
SOC *e*SS **SS** **12 01 28.0 +2.6**
SOC MLR MLR
comp=Z,190nm,14.0s
AS31 Alice Springs 54.64 132 *e*P **P** **11 50 10.7 -1.1**
ASAR Alice Springs 54.64 132 P **P** **11 50 10.5 -1.3**
ASAR PcP **PcP** **11 51 14.1 -0.4**
ASAR ScP **ScP** **11 55 07.9 -2.6**
ASAR S **S** **11 57 44.0 -5.6**
ASAR P'P' 12 20 19.6
ASAR Alice Springs 54.64 132 P **P** **11 50 10.5 -1.3**
comp=Z,21nm,0.6s,baz=310,slow=6.7,SNR=432
ASAR PcP **PcP** **11 51 14.1 -0.4**
comp=Z,3.6nm,0.6s,baz=314,slow=5.7,SNR=1.9
ASAR ScP **ScP** **11 55 07.9 -2.6**
comp=Z,3.2nm,0.9s,baz=305,slow=4.5,SNR=5.2
ASAR S **S** **11 57 44.0 -5.6**
comp=Z,1.4nm,0.8s,baz=302,slow=13,SNR=12
ASAR LR LR 12 16 29.1
comp=Z,188nm,19.2s,baz=297,slow=39
ASAR PKPPKP **P'P'df** **12 20 19.6 -2.4**
comp=Z,0.5nm,0.9s,baz=141,slow=1.3,SNR=4.2
AS05 Alice Springs 54.66 132 ⇑P **P** **11 50 11.1 -0.8**
baz=55
YAK Yakutsk 55.03 20 *e*P **P** **11 50 12.3 -1.6**
YAK pmax pmax
comp=Z,34nm,0.8s
YAK Yakutsk 55.03 20 *e*P **P** **11 50 13.1 -0.9**
comp=Z,35nm,0.5s
OPO Ambohidratompo 55.20 236 P **P** **11 50 15.2 -0.8**
OPO Ambohidratompo 55.20 236 P **P** **11 50 15.2 -0.8**
comp=Z,12nm,0.7s,baz=48,slow=5.7,SNR=27
ABPO Ambohimpanom 55.41 235 *e*P **P** **11 50 18.2 +0.7**
ABPO pmax pmax
comp=Z,32nm,1.1s
ABPO MLR MLR
comp=Z,763nm,20.0s
ABPO Ambohimpanom 55.41 235 *e*P **P** **11 50 18.2 +0.7**
comp=Z,32nm,1.1s
ABPO LR LR
comp=Z,763nm,20.0s
VRHR Novokhopersk 55.55 323 *e*P **P** **11 50 16.9 -1.0**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=E,5.0nm,0.3s
FORT Forrest 55.64 143 *e*P **P** **11 50 18.4 -0.3**
comp=E,46nm,0.8s
FORT *e*pP **pP** **11 50 29.4 +0.3**
VORD Divnogorie 56.87 323 *e*P **P** **11 50 26.1 -1.1**
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
COEN Coen 56.89 117 *e*P **P** **11 50 26.1 -1.8**
comp=Z,107nm,1.0s
KMBO Kilima Mbogo 56.98 260 *e*P **P** **11 50 29.8 +0.8**
comp=Z,3.3nm,0.7s
KMBO LR LR
comp=Z,516nm,22.0s
KMBO Kilima Mbogo 56.98 260 P **P** **11 50 29.1 +0.2**
comp=Z,2.8nm,0.6s,baz=42,slow=12,SNR=10
VSR Storozhevoye 57.03 323 *e*P **P** **11 50 27.8 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,0.4s
VSR pmax pmax
comp=E,9.0nm,0.4s
VOR Voronezh 57.20 323 P P 11 50 35.0 +5.4
VOR pmax pmax
comp=Z,300nm,1.0s
CSS Prodhromos 57.40 303 *e*P **P** **11 50 30.8 -0.6**
comp=Z,5.7nm,0.9s
CSS *e*pP **pP** **11 50 42.7 +1.0**
CSS LR LR
comp=Z,127nm,19.0s
BR131 Keskin Array S 57.80 308 *e*P **P** **11 50 33.5 -0.8**
comp=Z,20nm,0.6s
BRTR Keskin Array B 57.80 308 P **P** **11 50 33.4 -0.8**
BRTR pP **pP** **11 50 43.8 -0.8**
BRTR Keskin Array B 57.80 308 P **P** **11 50 33.4 -0.9**
comp=Z,14nm,0.7s,baz=120,slow=7.8,SNR=84

BRTR pP **pP** **11 50 43.8 -0.8**
comp=Z,26nm,0.8s,baz=128,slow=7.0,SNR=18
BRTR LR LR 12 19 01.4
comp=Z,473nm,20.2s,baz=98,slow=40
SIM Simferopol' **58.45 315** *eP* P 11 50 48.1 +10
SIM *eS* **S** **11 58 39.0 -0.5**
SIM pmax pmax
comp=Z,63nm,1.0s
SIM MLR MLR
comp=Z,10.0nm,0.5s
ANTO Ankara **58.46 309** P pP 11 50 49.2 0.0
SNR=5.4
ANTO Ankara **58.46 309** *eP* **P** **11 50 38.3 -0.5**
ANTO *e*PP **pP** **11 50 49.3 +0.1**
ANTO pmax pmax
comp=Z,39nm,0.8s
ANTO MLR MLR
comp=Z,434nm,20.0s
ANTO Ankara **58.46 309** *eP* **P** **11 50 38.3 -0.5**
comp=Z,40nm,0.8s
ANTO *ep*P **pP** **11 50 49.3 +0.1**
ANTO LR LR
comp=Z,434nm,20.0s
PMG Port Moresby **58.57 110** P **P** **11 50 39.5 -0.3**
PMG LR LR
comp=Z,295nm,22.0s
PMG Port Moresby **58.57 110** P **P** **11 50 39.5 -0.3**
comp=Z,51nm,0.8s,baz=283,slow=7.6,SNR=42
MOS Moscow **59.56 327** *eP* P 11 50 55.0 +9.0
MOS pmax pmax
comp=Z,94nm,1.0s
OBN Obninsk **59.89 326**⇑ *eP* **P** **11 50 46.9 -1.3**
OBN *e* 11 53 01.6
OBN *eS* **S** **11 58 54.0 -3.7**
OBN *eSS* **SS** **12 03 00.7 +6.5**
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,500nm,18.0s
OBN Obninsk **59.89 326** PFAKE 11 51 00.0 +12
OBN LR LR
comp=Z,661nm,19.0s
ISP Isparta **59.96 306** PFAKE 11 51 00.0 +11
ISP LR LR
comp=Z,631nm,22.0s
KLMR Klimovskoe **60.77 333** *eP* P 11 51 03.5 +9.3
KLMR pmax pmax
comp=Z,48nm,1.1s
KLMR MLR MLR
comp=Z,562nm,16.0s
BBOO Buckleboo **61.94 139** *eP* **P** **11 51 01.5 -1.0**
comp=Z,929nm,1.4s
BBOO *ep*P **pP** **11 51 13.0 0.0**
TLCR **62.18 314**⇑ *iP* pP 11 51 21.4 +6.9
CTA Charters Tower **62.31 122** P **P** **11 51 04.7 -0.6**
CTA Charters Tower **62.31 122** P **P** **11 51 04.7 -0.6**
comp=Z,7.3nm,0.7s,baz=305,slow=8.0,SNR=7.9
CTAO Charters Tower **62.31 122** *eP* **P** **11 51 04.5 -0.8**
CTAO pmax pmax
comp=Z,30nm,1.1s
CTAO MLR MLR
comp=Z,297nm,19.0s
CTAO Charters Tower **62.31 122** *eP* **P** **11 51 04.5 -0.8**
comp=Z,30nm,1.1s
CTAO LR LR
comp=Z,297nm,19.0s
TIRR Tirgusor **62.36 313** *eP* **P** **11 51 04.9 -0.3**
TIRR *e*PP **pP** **11 51 16.8 +1.1**
TIRR pmax pmax
comp=Z,45nm,0.9s
TIRR Tirgusor **62.36 313**⇑ *iP* pP 11 51 19.4 +3.7
TIRR Tirgusor **62.36 313** *eP* **P** **11 51 04.9 -0.3**
comp=Z,45nm,0.9s
TIRR *ep*P **pP** **11 51 16.8 +1.1**
KIS Kishinev **62.47 316** *eP* **pP** **11 51 19.0 +2.6**
KIS *eS* **S** **11 59 30.0 -0.9**
KIS LRM MLR 12 22 46.0
comp=Z,500nm,17.0s
KIS Kishinev **62.47 316** *eP* **pP** **11 51 19.0 +2.6**
KIS *eS* **S** **11 59 30.0 -0.9**
KIS MLR MLR
comp=Z,600nm,17.0s
TLB Topalu **62.64 313**⇓ *iP* pP 11 51 21.3 +3.8
CFR Carcaliu **62.66 314**⇑ *iP* **P** **11 51 07.1 -0.1**
TMCR Tamitsa **62.88 336** *eP* **pP** **11 51 22.4 +3.6**
TMCR pmax pmax
comp=Z,34nm,1.0s
AKASG Malin Array Be **62.91 320** P **P** **11 51 07.3 -1.5**
AKASG *PP **pP** **11 51 18.2 -1.1**
AKASG Malin Array Be **62.91 320** P **P** **11 51 07.3 -1.5**
AKASG pP **pP** **11 51 18.2 -1.1**
AKASG Malin Array Be **62.91 320** P **P** **11 51 07.3 -1.5**
comp=Z,1.5nm,0.5s,baz=88,slow=5.0,SNR=9.3
AKASG pP **pP** **11 51 18.2 -1.1**
comp=Z,5.7nm,0.6s,baz=90,slow=4.8,SNR=9.1
KIEV Kiev **62.92 320** *eP* **P** **11 51 07.7 -1.1**
KIEV *e*PP **pP** **11 51 18.5 -0.8**
KIEV pmax pmax
comp=Z,28nm,0.8s
KIEV Kiev **62.92 320** *eP* **P** **11 51 07.7 -1.1**
comp=Z,28nm,0.8s
KIEV *ep*P **pP** **11 51 18.5 -0.8**
MBAR Mbarara **63.09 262** P **P** **11 51 10.1 -0.7**
MBAR LR LR
comp=Z,518nm,22.0s
MBAR Mbarara **63.09 262** P **P** **11 51 10.1 -0.7**
comp=Z,3.9nm,0.2s,baz=71,slow=9.6,SNR=4.7
PGOR Pogoanele **63.43 314**⇓ *iP* pP 11 51 28.6 +5.8
JMB Yambol **63.44 311**⇓ *iP* **P** **11 51 13.3 +0.8**
VRI Vrincioaia **63.73 315**⇑ *iP* **P** **11 51 14.9 +0.5**
PLOR Plostina **63.78 315**⇓ *iP* **P** **11 51 15.6 +0.8**
TESR Tescani **63.87 315**⇑ *iP* **P** **11 51 15.5 +0.2**
SANT Santorini **63.89 304** *eP* **P** **11 51 14.2 -1.5**
comp=Z,53nm,0.6s
SANT *ep*P **pP** **11 51 25.5 -0.6**
SANT LR LR
comp=Z,230nm,20.0s
PETK Petropavlovsk- **64.18 37** P **P** **11 51 16.2 -1.0**
PETK *PP **pP** **11 51 26.8 -0.9**
PETK Petropavlovsk- **64.18 37** P **P** **11 51 16.2 -1.0**
PETK pP **pP** **11 51 26.8 -0.9**
PETK Petropavlovsk- **64.18 37** P **P** **11 51 16.2 -1.0**
comp=Z,2.4nm,0.8s,baz=212,slow=5.1,SNR=5.1
PETK pP **pP** **11 51 26.7 -0.9**
comp=Z,5.4nm,0.8s,baz=232,slow=6.5,SNR=4.1
PETK LR LR 12 23 39.3
comp=Z,367nm,19.1s,baz=340,slow=40
MLR Muntele Rosu **64.23 314**⇓ *iP* **P** **11 51 18.5 +0.7**
MLR Muntele Rosu **64.23 314** P **P** **11 51 17.7 -0.1**
MLR Muntele Rosu **64.23 314** P **P** **11 51 17.7 -0.1**
baz=117,slow=9.2
KDZ Kurdzhali **64.23 310**⇓ *iP* **P** **11 51 17.9 +0.2**
SEY Seymchan **64.32 26** P **P** **11 51 17.4 -0.5**
SEY Seymchan **64.32 26** P **P** **11 51 17.4 -0.5**
SEY Seymchan **64.32 26** P **P** **11 51 17.4 -0.5**
comp=Z,2.5nm,0.8s,baz=289,slow=7.7,SNR=7.3
MICGM Minsk **64.52 324**⇓ *eP* P 11 51 29.0 +10
MNK Minsk **64.55 324**⇓ *eP* P 11 51 29.0 +9.5
MNK pmax pmax
comp=Z,90nm,1.0s
DOPR Dopca **64.67 315**⇑ *iP* **P** **11 51 21.2 +0.6**
PET Petropavlovsk **64.72 38** *eP* **P** **11 51 21.2 +0.5**
PET pmax pmax
comp=Z,30nm,1.3s
PET Petropavlovsk **64.72 38** PFAKE 11 51 30.0 +9.3
PET LR LR
comp=Z,711nm,21.0s
VOIR **64.85 314**⇑ *iP* pP 11 51 36.0 +3.7
BURAR Bucovina Array **64.99 316**⇓ *iP* **P** **11 51 22.9 +0.2**
BUR08 Bucovina Ar. S **65.00 316** *eP* **P** **11 51 22.8 +0.1**
STKA Stephens Creek **65.02 135** *eP* **P** **11 51 22.7 -0.2**
comp=Z,5.5nm,1.0s
STKA *ep*P **pP** **11 51 33.5 0.0**
STKA *es*P **sP** **11 51 37.9 +0.5**
STKA Stephens Creek **65.02 135** P **P** **11 51 22.6 -0.4**
comp=Z,8.8nm,0.7s,baz=307,slow=7.9,SNR=21
STKA LR LR 12 20 09.4
comp=Z,459nm,21.1s,baz=124,slow=36
ARR Arges **65.14 314**⇓ *iP* **P** **11 51 23.4 -0.2**
NACGM Naroch **65.23 324** *e* **P** **11 51 27.0 +3.0**
IDID Didziasalis **65.34 325** *eP* **P** **11 51 24.8 +0.2**
IDID AMB AMB 11 51 39.1
comp=Z,24nm,0.9s
IIGN Ignalina **65.64 325** *eP* **P** **11 51 26.8 +0.2**
IIGN AMB AMB 11 51 40.5
comp=Z,22nm,1.1s
ISAL Salakas **65.74 325** *eP* **P** **11 51 27.3 +0.1**
ISAL AMB AMB 11 51 43.3
comp=Z,24nm,1.2s
LOT Lotru **65.75 314**⇓ *iP* **P** **11 51 26.1 -1.6**
LVZ Lovozero **65.76 339** PFAKE 11 51 40.0 +13
LVZ LR LR
comp=Z,643nm,19.0s
VTS Vitosha **65.94 311**⇑ *iP* **P** **11 51 26.2 -2.8**
LVV L'vov **66.05 319** *eP* P 11 51 37.4 +8.1
VAY Valandovo **66.35 309** *eP* P 11 51 37.4 +6.0
DRGR **66.60 315**⇑ *iP* **P** **11 51 33.1 +0.1**
TRPA Tarpa **66.84 317**⇑ *iP* **P** **11 51 34.3 -0.1**
TRPA Tarpa **66.84 317**⇓ *eP* **P** **11 51 34.5 +0.1**
KWP Kalwaria Pacla **66.88 318** *eP* **P** **11 51 34.6 -0.1**
KWP *e*PP **pP** **11 51 45.2 0.0**
KWP *e*SP **sP** **11 51 50.1 +0.9**
KWP pmax pmax
comp=Z,72nm,1.0s
KWP Kalwaria Pacla **66.88 318** *eP* **P** **11 51 34.6 -0.1**
KWP *ep*P **pP** **11 51 45.4 +0.2**
KWP Kalwaria Pacla **66.88 318** *eP* **P** **11 51 34.6 -0.1**
comp=Z,72nm,1.0s
KWP *ep*P **pP** **11 51 45.2 0.0**
KWP *es*P **sP** **11 51 50.1 +0.9**
UZH Uzhgorod **67.05 317** *eP* **P** **11 51 37.8 +2.1**
UZH *e* 11 51 45.2
UZH *e* 11 51 55.0
UZH *eS* **S** **12 00 25.6 -1.6**
FIA1 FINESS Array S **67.07 331** *eP* **P** **11 51 34.9 -0.7**
FIA1 *ep*P **pP** **11 51 45.9 -0.2**
FINES FINESS Array B **67.07 331** P **P** **11 51 35.3 -0.4**
FINES pP **pP** **11 51 46.0 -0.2**
FINES FINESS Array B **67.07 331** P **P** **11 51 35.3 -0.4**
comp=Z,13nm,0.8s,baz=92,slow=6.4,SNR=23
FINES pP **pP** **11 51 46.0 -0.2**
comp=Z,30nm,0.7s,baz=116,slow=8.7,SNR=14
FINES LR LR 12 23 27.4
comp=Z,398nm,19.5s,baz=266,slow=38
KOLS Kolonicke sedl **67.09 318** *eP* **P** **11 51 37.5 +1.5**
KOLS Kolonicke sedl **67.09 318** *eP* **P** **11 51 37.5 +1.5**
KAF Kangasniemi **67.14 332** *eP* **pP** **11 51 46.1 -0.5**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi **67.14 332** *ep* pP 11 51 46.1 -0.5
comp=Z,1.4nm,0.3s
CRVS Cervenica-Dubn **67.62 317** *eP* **P** **11 51 39.7 +0.3**
CRVS pmax pmax
comp=Z,9.0nm,1.0s
CRVS Cervenica-Dubn **67.62 317** *eP* **P** **11 51 39.7 +0.3**
STHS Stebnicka Huta **67.81 318** *eP* **P** **11 51 39.9 -0.7**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta **67.81 318** *e* **P** **11 51 39.9 -0.7**
KECS Kecovo **68.23 317** *eP* **P** **11 51 43.4 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.6s
KECS Kecovo **68.23 317** *eP* **P** **11 51 43.4 +0.2**
NIE Niedzica **68.41 318** *eP* pP 11 51 54.8 -0.2
NIE Niedzica **68.41 318** *eP* pP 11 51 54.8 -0.2
PSZ Piszkesteto **68.59 316** *eP* **P** **11 51 45.4 -0.2**
PSZ *e*PP **pP** **11 51 56.0 -0.1**
PSZ pmax pmax
comp=Z,29nm,1.0s
PSZ Piszkesteto **68.59 316**⇓ *iP* **P** **11 51 45.5 -0.2**
PSZ Piszkesteto **68.59 316** *eP* **P** **11 51 45.4 -0.2**
comp=Z,29nm,1.0s
PSZ *ep*P **pP** **11 51 56.0 -0.1**
PSZ Piszkesteto **68.59 316**⇓ *eP* **P** **11 51 45.4 -0.2**
OJC Ojcow **68.80 319** *eP* pP 11 51 55.6 -1.7
OJC Ojcow **68.80 319** *eP* pP 11 51 55.6 -1.7
KEV Kevo **69.03 340** *eP* **P** **11 51 46.8 -1.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo **69.03 340** *ep* **P** **11 51 46.8 -1.0**
comp=Z,1.3nm,0.4s
PKSM Moragy **69.37 314**⇓ *iP* **P** **11 51 50.1 -0.3**
PKSM Moragy **69.37 314**⇓ *iP* **P** **11 51 50.1 -0.3**
PKSM Moragy **69.37 314**⇓ *eP* **P** **11 51 49.9 -0.5**
ARCES ARCESS Array B **69.46 340** P **P** **11 51 50.5 -0.1**
ARCES ARCESS Array B **69.46 340** P **P** **11 51 50.5 -0.1**
comp=Z,10nm,0.7s,baz=90,slow=6.6,SNR=54
ARCES LR LR 12 27 30.0
comp=Z,769nm,18.1s,baz=111,slow=40
ARE0 ARCESS Array S **69.46 340** *eP* **P** **11 51 50.5 0.0**
ARE0 *ep*P **pP** **11 51 02.1 +0.1**
OKC Ostrava-Krasne **69.84 318** *eP* **P** **11 51 55.7 +2.5**
OKC *e*PP **pP** **11 52 03.8 0.0**
OKC Ostrava-Krasne **69.84 318** *eP* **P** **11 51 55.7 +2.5**
OKC *ep*P **pP** **11 52 03.8 0.0**
LSZ Lusaka **70.09 248** P **P** **11 51 56.3 +0.9**
SNR=9.2
LSZ Lusaka **70.09 248** P **P** **11 51 55.2 -0.1**
LSZ LR LR
comp=Z,833nm,20.0s
LSZ Lusaka **70.09 248** P **P** **11 51 55.2 -0.1**
comp=Z,16nm,0.8s,baz=55,slow=8.1,SNR=34
MORC Moravsky Berou **70.23 318** *eP* **P** **11 51 55.3 -0.4**
MORC *e*PP **pP** **11 52 06.1 -0.1**
MORC *e*SP **sP** **11 52 11.2 +1.0**
MORC pmax pmax
comp=Z,33nm,0.9s
MORC Moravsky Berou **70.23 318**⇓ *iP* **P** **11 51 55.9 +0.2**
MORC Moravsky Berou **70.23 318** *eP* **P** **11 51 55.3 -0.4**
comp=Z,32nm,0.9s
MORC *ep*P **pP** **11 52 06.1 -0.1**
MORC *es*P **sP** **11 52 11.2 +1.0**
HNR Honiara **70.43 105** PFAKE 11 52 10.0 +13
HNR LR LR
comp=Z,61nm,20.0s
BEHE Becsehely **70.67 315**⇓ *e* pP 11 52 08.4 -0.5
KRLC Kraliky **70.73 319** *eP* pP 11 52 09.8 +0.5
KRLC Kraliky **70.73 319** *ep*P pP 11 52 09.8 +0.5
TIP Timpagrande **70.79 307** PFAKE 11 52 10.0 +11
TIP LR LR
comp=Z,135nm,19.0s
SOP Sopron **70.83 316**⇓ *eP* **P** **11 51 59.2 -0.1**
KOGS Kog **71.03 315** *i* P **P** **11 52 00.3 -0.2**
KOGS *e* 11 52 10.6
DPC Dobruska-Polom **71.04 319** *eP* **P** **11 52 01.3 +0.7**
DPC *e*PP **pP** **11 52 11.3 +0.1**
DPC Dobruska-Polom **71.04 319** *eP* **P** **11 52 01.3 +0.7**
DPC *ep*P **pP** **11 52 11.3 +0.1**
KSP Ksiaz **71.07 319**⇓ *eP* **P** **11 52 00.7 0.0**
KSP *e*PP **pP** **11 52 11.2 -0.1**
KSP Ksiaz **71.07 319** *eP* **P** **11 52 00.9 +0.2**
KSP *ep*P **pP** **11 52 11.4 +0.1**
UPC Upice **71.24 319** *eP* pP 11 52 11.9 -0.4
UPC Upice **71.24 319** *ep*P pP 11 52 11.9 -0.4
CONA Conrad Observa **71.30 316**⇓ *iP* **P** **11 52 02.0 -0.2**
comp=Z,10nm,1.1s
CEL Celeste **71.50 306** *eP* **P** **11 52 03.3 -0.4**
comp=Z,104nm,1.0s
CEL *ep*P **pP** **11 52 14.1 -0.2**
ARMA Armidale **71.50 129** *eP* **P** **11 52 05.2 +1.5**
comp=Z,25nm,0.8s
ARMA *ep*P **pP** **11 52 16.0 +1.7**
TREC Trest **71.56 318** *eP* P 11 52 14.5 +11
TREC Trest **71.56 318** *ep*P pP 11 52 14.5 +0.2
BOJS Bojanci **71.74 314** *i* P **P** **11 52 04.4 -0.4**
PDKS Podkum **71.91 314** *i* P **P** **11 52 05.8 -0.1**
PDKS *e* 11 52 16.1
CAN Canberra **72.06 134** PFAKE 11 52 20.0 +13
CAN LR LR
comp=Z,652nm,19.0s
PVCC Panska Ves **72.16 319** *eP* pP 11 52 18.3 +0.4
PVCC Panska Ves **72.16 319** *ep*P pP 11 52 18.3 +0.4
PRU Pruhonice **72.18 318** *eP* **P** **11 52 07.6 +0.2**
PRU *e*PP **pP** **11 52 17.8 -0.2**
PRU Pruhonice **72.18 318** *eP* **P** **11 52 07.6 +0.2**
PRU *ep*P **pP** **11 52 17.8 -0.2**
OBKA Obir **72.21 315**⇑ *iP* **P** **11 52 07.3 -0.4**
comp=Z,23nm,0.9s
PRA Prague **72.25 318** P **P** **11 52 08.0 +0.2**
MOA Molln **72.38 316**⇑ *iP* **P** **11 52 07.9 -0.7**
comp=Z,36nm,1.1s
BRG Berggiesshubel **72.56 319** *eP* **P** **11 52 09.9 +0.3**
comp=Z,9.8nm,0.8s
BRG *i* 11 52 19.4
comp=Z,22nm,0.9s
BRG Berggiesshubel **72.56 319** *eP* **P** **11 52 09.9 +0.3**
BRG *i* 11 52 19.4
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG pmax pmax
comp=Z,22nm,0.9s
BRG Berggiesshubel **72.56 319** *eP* **P** **11 52 09.8 +0.2**
comp=Z,10.0nm,0.8s
RUE Ruedersdorf **72.66 321** *epP* pP 11 52 20.7 -0.1
VOY Vojsko **72.67 314** *eP* **P** **11 52 09.6 -0.9**
VOY *e* 11 52 20.2
VOY *e* 11 52 25.8
GEC2 GERESS Array S **72.74 317** *eP* **P** **11 52 10.8 -0.1**
comp=Z,10.0nm,0.6s
GEC2 *epP* **pP** **11 52 21.3 -0.2**
GERES GERESS Array B **72.74 317** P **P** **11 52 10.8 -0.1**
GERES pP **pP** **11 52 21.1 -0.4**
GERES GERESS Array B **72.74 317** P **P** **11 52 10.8 -0.1**
comp=Z,7.2nm,0.5s,baz=86,slow=5.9,SNR=52
GERES pP **pP** **11 52 21.1 -0.4**
comp=Z,21nm,0.8s,baz=77,slow=5.9,SNR=21
GERES LR LR 12 31 21.1
comp=Z,217nm,18.3s,baz=265,slow=42
KHC Kasperske Hory **72.81 318** *eP* **P** **11 52 11.1 -0.2**
KHC *e*PP **pP** **11 52 21.9 0.0**
KHC pmax pmax
comp=Z,19nm,0.9s
KHC Kasperske Hory **72.81 318** *eP* **P** **11 52 11.0 -0.2**
KHC *epP* **pP** **11 52 21.3 -0.6**
KHC *esP* **sP** **11 52 25.5 -0.3**
KHC Kasperske Hory **72.81 318** *eP* **P** **11 52 11.1 -0.2**
comp=Z,19nm,0.9s
KHC *epP* **pP** **11 52 21.9 0.0**
HFS Hagfors **72.89 329** P **P** **11 52 11.0 -0.4**
HFS Hagfors **72.89 329** P **P** **11 52 11.0 -0.4**
comp=Z,2nm,0.7s,baz=100,slow=6.0,SNR=2.7
FBE Freiberg **72.93 319** *eP* **P** **11 52 12.2 +0.4**
comp=Z,17nm,0.8s
CLL Collm **73.15 320** *i* P **pP** **11 52 22.9 -0.8**
CLL *i* 11 52 26.0
CLL *eS* **SKiKP** **12 01 41.0 -1.8**
CLL pmax pmax
comp=Z,16nm,0.9s
CLL MLR MLR
comp=Z,300nm,19.1s
CLL Collm **73.15 320** *eP* **P** **11 52 13.1 0.0**
comp=Z,6.0nm,0.7s
CLL *epP* **pP** **11 52 23.0 -0.8**
CLL Collm **73.15 320** *i* P **P** **11 52 12.9 -0.2**
comp=Z,6.0nm,0.7s
CLL *i* pP **pP** **11 52 22.9 -0.8**
comp=Z,16nm,0.9s
CLL *i* sP **sP** **11 52 26.0 -1.7**
CLL *i* 11 52 34.6
CLL *eS* **SKiKP** **12 01 41.0 -1.8**
CLL *eSS* **SS** **12 06 24.0 +4.1**
CLL *e* 12 07 24.0
CLL *eSSS* SSS 12 09 54.0
CLL LmH 12 29 00.0
comp=N,200nm,18.9s
CLL LmH 12 29 00.0
comp=E,200nm,21.1s
CLL LmV 12 31 00.0
comp=Z,300nm,19.1s
AQU L'Aquila **73.19 310** PFAKE 11 52 30.0 +16
AQU LR LR
comp=Z,355nm,20.0s
WET Wettzell **73.27 318** *epP* pP 11 52 24.4 -0.2
FX1 Attu Island--F **73.44 39** P **P** **11 52 14.2 -0.6**
FX1 Attu Island--F **73.44 39** P **P** **11 52 14.2 -0.6**
comp=Z,26nm,0.6s,baz=107,slow=5.8,SNR=3.8
NKC Novy Kostel **73.52 319** *eP* **P** **11 52 16.3 +0.9**
NKC *e*PP **pP** **11 52 25.8 -0.2**
NKC Novy Kostel **73.52 319** *eP* **P** **11 52 16.3 +0.9**
NKC *ep*P **pP** **11 52 25.8 -0.2**
WERD Werda **73.61 319** *eP* **P** **11 52 15.8 -0.1**
comp=Z,9.0nm,1.0s
CLTB Caltabellotta **73.66 305** PFAKE 11 52 30.0 +13
CLTB LR LR
comp=Z,502nm,22.0s
SPITS Spitsbergen Ar **73.99 348** P **P** **11 52 17.4 -0.2**
SPITS Spitsbergen Ar **73.99 348** P **P** **11 52 17.4 -0.2**
comp=Z,6.4nm,0.6s,baz=96,slow=10,SNR=4.8
NB2 NORSAR Subarra **74.14 330** P **P** **11 52 17.5 -1.3**
comp=Z,4.4nm,0.6s,baz=89,slow=5.9
NOA NORSAR Array B **74.14 330** P **P** **11 52 17.8 -1.0**
NOA NORSAR Array B **74.14 330** P **P** **11 52 17.8 -1.0**
comp=Z,5.9nm,0.6s,baz=90,slow=5.7,SNR=25
NOA LR LR 12 30 23.4
comp=Z,295nm,18.9s,baz=95,slow=40
WTTA Wattenberg **74.18 316**⇑ *iP* **P** **11 52 17.8 -1.7**
comp=Z,25nm,0.8s,SNR=9.1
WATA Walderalm **74.21 316**⇑ *iP* **P** **11 52 18.1 -1.6**
comp=Z,15nm,0.6s
GRF Grafenberg Arr **74.33 318** *epP* pP 11 52 29.8 -1.0
MOTA Moosalm **74.53 316**⇓ *iP* **P** **11 52 20.3 -1.2**
comp=Z,20nm,0.8s
RETA Reutte **74.76 316**⇑ *iP* **P** **11 52 21.6 -1.1**
comp=Z,24nm,0.9s
CLZ Clausthal **74.77 320** *eP* **P** **11 52 22.6 -0.1**
comp=Z,12nm,0.8s
FETA Feichten **74.81 315**⇑ *iP* **P** **11 52 22.1 -1.0**
comp=Z,27nm,1.3s
KONO Kongsberg **74.95 329** *eP* **P** **11 52 23.1 -0.3**
KONO Kongsberg **74.95 329** *eP* **P** **11 52 23.1 -0.3**
KBS Kingsbay **74.97 349** PFAKE 11 52 30.0 +6.7
KBS LR LR
comp=Z,743nm,22.0s
TAU Tasmania Unive **75.16 142** PFAKE 11 52 40.0 +15
TAU LR LR
comp=Z,2µm,22.0s
DAVA Damuels **75.37 316**⇑ *iP* **P** **11 52 25.4 -0.9**
comp=Z,42nm,0.8s
TUE Stuetta **75.80 315** *eP* **P** **11 52 28.5 -0.4**
comp=Z,18nm,0.8s
TUE *epP* **pP** **11 52 38.7 -0.8**
LBTB Lobatse **75.94 240** *eP* **P** **11 52 30.4 +0.6**
comp=Z,47nm,0.8s
LBTB Lobatse **75.94 240** P **P** **11 52 29.8 0.0**
comp=Z,32nm,0.6s,baz=92,slow=5.0,SNR=45
BFO Black Forest **76.33 317** *eP* **P** **11 52 30.9 -0.7**
BFO *e*PP **pP** **11 52 41.6 -0.7**
BFO pmax pmax
comp=Z,29nm,1.4s
BFO Black Forest **76.33 317** *eP* **P** **11 52 30.9 -0.7**
comp=Z,29nm,1.4s
BFO *epP* **pP** **11 52 41.5 -0.7**
PGF Pioggiola **76.42 311** *eP* **P** **11 52 31.4 -1.0**
comp=Z,67nm,1.1s
PGF Pioggiola **76.42 311** *eP* **P** **11 52 31.4 -1.0**
PGF pmax pmax
comp=Z,67nm,1.1s
PGF Pioggiola **76.42 311** *eP* **P** **11 52 31.4 -1.0**
comp=Z,67nm,1.1s
FELD Feldberg im Sc **76.58 316** *eP* **P** **11 52 33.0 -0.2**
LANF Langenberg **76.61 318** *eP* **P** **11 52 33.3 +0.1**
KEST Kesra **76.95 304** *eP* **P** **11 52 35.5 0.0**
KEST Kesra **76.95 304** P **P** **11 52 35.5 0.0**
comp=Z,3.5nm,0.8s,baz=58,slow=3.6,SNR=4.3
CDF Champ du Feu **77.02 317** *eP* **P** **11 52 34.5 -1.1**
comp=Z,33nm,0.9s
CDF Champ du Feu **77.02 317** *eP* **P** **11 52 34.5 -1.1**
CDF pmax pmax
comp=Z,33nm,0.9s
CDF Champ du Feu **77.02 317** *eP* **P** **11 52 34.5 -1.1**
comp=Z,33nm,0.9s
ECH Echery **77.12 317** *eP* **P** **11 52 35.3 -0.8**
ECH *e*PP **PcP** **11 52 47.3 +0.4**
ECH Echery **77.12 317** *eP* **P** **11 52 35.3 -0.8**
ECH *ep*P **PcP** **11 52 47.2 +0.4**
MOF Molkenrain **77.17 316** *eP* **P** **11 52 37.8 +1.3**
HINF Hinteralfeld **77.36 316** *eP* **P** **11 52 36.6 -0.9**
comp=Z,37nm,1.1s
HINF Hinteralfeld **77.36 316** *eP* **P** **11 52 36.6 -0.9**
HINF pmax pmax
comp=Z,37nm,1.1s
HINF Hinteralfeld **77.36 316** *eP* **P** **11 52 36.6 -0.9**
comp=Z,37nm,1.1s
SBF Sospel **77.41 312** *eP* **P** **11 52 37.0 -0.9**
comp=Z,58nm,0.9s
SBF Sospel **77.41 312** *eP* **P** **11 52 37.0 -0.9**
SBF pmax pmax
comp=Z,58nm,0.9s
SBF Sospel **77.41 312** *eP* **P** **11 52 37.0 -0.9**
comp=Z,58nm,0.9s
BOSA Boshof **77.61 236** P **P** **11 52 39.4 +0.2**
BOSA Boshof **77.61 236** P **P** **11 52 39.4 +0.2**
comp=Z,58nm,0.6s,baz=75,slow=6.3,SNR=71

BOSA LR LR 12 26 11.7
comp=Z,274nm,19.1s,baz=314,slow=35
HAU Haudompre 77.68 317 *e*P **P 11 52 38.2 -1.0**
comp=Z,76nm,1.0s
HAU *e*R
comp=Z,280nm,21.5s
HAU Haudompre 77.68 317 *e*P **P 11 52 38.2 -1.0**
HAU pmax pmax
comp=Z,76nm,1.0s
HAU Haudompre 77.68 317 *e*P **P 11 52 38.2 -1.0**
comp=Z,76nm,1.0s
LPG La Plagne 77.70 314 *e*P **P 11 52 39.3 -0.4**
comp=Z,94nm,0.7s
LPG La Plagne 77.70 314 *e*P **P 11 52 39.3 -0.4**
LPG pmax pmax
comp=Z,94nm,0.7s
LPG La Plagne 77.70 314 *e*P **P 11 52 39.3 -0.4**
comp=Z,94nm,0.7s
LPL La Plagne 77.71 314 *e*P **P 11 52 39.4 -0.3**
comp=Z,109nm,0.7s
LPL La Plagne 77.71 314 *e*P **P 11 52 39.4 -0.3**
LPL pmax pmax
comp=Z,109nm,0.7s
LPL La Plagne 77.71 314 *e*P **P 11 52 39.4 -0.3**
comp=Z,109nm,0.7s
MBDF Montbardon 77.78 313 *e*P **P 11 52 38.8 -1.2**
comp=Z,61nm,1.0s
MBDF Montbardon 77.78 313 *e*P **P 11 52 38.8 -1.2**
MBDF pmax pmax
comp=Z,61nm,1.0s
MBDF Montbardon 77.78 313 *e*P **P 11 52 38.8 -1.2**
comp=Z,61nm,1.0s
BNI Bardonecchia 77.80 314 *e*P **P 11 52 40.2 0.0**
BNI pmax pmax
comp=Z,40nm,1.0s
BNI Bardonecchia 77.80 314 *e*P **P 11 52 40.2 0.0**
comp=Z,40nm,1.0s
FRF La Foret Royal 78.01 312 *e*P **P 11 52 40.5 -0.7**
comp=Z,58nm,0.9s
FRF La Foret Royal 78.01 312 *e*P **P 11 52 40.5 -0.7**
FRF pmax pmax
comp=Z,58nm,0.9s
FRF La Foret Royal 78.01 312 *e*P **P 11 52 40.5 -0.7**
comp=Z,58nm,0.9s
CABF La Chapelle 78.02 315 *e*P **P 11 52 40.6 -0.7**
comp=Z,51nm,0.9s
CABF La Chapelle 78.02 315 *e*P **P 11 52 40.6 -0.7**
CABF pmax pmax
comp=Z,51nm,0.9s
CABF La Chapelle 78.02 315 *e*P **P 11 52 40.6 -0.7**
comp=Z,51nm,0.9s
PAGF Fort de Pagny 78.03 317 *e*P **P 11 52 40.4 -0.7**
comp=Z,6.5nm,0.7s
PAGF Fort de Pagny 78.03 317 *e*P **P 11 52 40.4 -0.7**
comp=Z,6.5nm,0.7s
LMR La Mourre 78.14 312 *e*P **P 11 52 41.1 -0.8**
LMR La Mourre 78.14 312 *e*P **P 11 52 41.1 -0.8**
LMR La Mourre 78.14 312 *e*P **P 11 52 41.1 -0.8**
ORIF Oris-en-Rattie 78.38 314 *e*P **P 11 52 42.2 -1.1**
ORIF comp=Z,29nm,0.8s *e*R
comp=Z,281nm,20.2s
ORIF Oris-en-Rattie 78.38 314 *e*P **P 11 52 42.2 -1.1**
ORIF pmax pmax
comp=Z,29nm,0.8s
ORIF Oris-en-Rattie 78.38 314 *e*P **P 11 52 42.2 -1.1**
comp=Z,29nm,0.8s
GIVF Givet 78.42 319 *e*P **P 11 52 42.7 -0.6**
comp=Z,16nm,0.8s
GIVF Givet 78.42 319 *e*P **P 11 52 42.7 -0.6**
GIVF pmax pmax
comp=Z,16nm,0.8s
GIVF Givet 78.42 319 *e*P **P 11 52 42.7 -0.6**
comp=Z,16nm,0.8s
MEZF Maizieres J'vi 78.48 317 *e*P **P 11 52 43.1 -0.5**
MEZF Maizieres J'vi 78.48 317 *e*P **P 11 52 43.1 -0.5**
SFTF Sexfontaines 78.53 317 *e*P **P 11 52 43.1 -0.8**
comp=Z,44nm,0.9s
SFTF Sexfontaines 78.53 317 *e*P **P 11 52 43.1 -0.8**
comp=Z,44nm,0.9s
BAIF Baives 78.82 319 *e*P **P 11 52 45.1 -0.3**
comp=Z,59nm,1.0s
BAIF Baives 78.82 319 *e*P **P 11 52 45.1 -0.3**
BAIF pmax pmax
comp=Z,59nm,1.0s
BAIF Baives 78.82 319 *e*P **P 11 52 45.1 -0.3**
comp=Z,59nm,1.0s
VIVF Saint-Julien-l 79.24 314 *e*P **P 11 52 47.3 -0.6**
comp=Z,84nm,1.1s
VIVF Saint-Julien-l 79.24 314 *e*P **P 11 52 47.3 -0.6**
VIVF pmax pmax
comp=Z,84nm,1.1s
VIVF Saint-Julien-l 79.24 314 *e*P **P 11 52 47.3 -0.6**
comp=Z,84nm,1.1s
LOR Lormes 79.44 316 *e*P **P 11 52 48.0 -1.0**
comp=Z,99nm,1.4s
LOR *e*R
comp=Z,264nm,18.0s
LOR Lormes 79.44 316 *e*P **P 11 52 48.0 -1.0**
comp=Z,99nm,1.4s
SMF Signal de Mont 79.55 316 *e*P **P 11 52 48.6 -1.0**
comp=Z,67nm,1.1s
SMF Signal de Mont 79.55 316 *e*P **P 11 52 48.6 -1.0**
SMF pmax pmax
comp=Z,67nm,1.1s
SMF Signal de Mont 79.55 316 *e*P **P 11 52 48.6 -1.0**
comp=Z,67nm,1.1s
SSF Saint Saulge 79.71 316 *e*P **P 11 52 49.6 -0.8**
comp=Z,54nm,1.1s
SSF Saint Saulge 79.71 316 *e*P **P 11 52 49.6 -0.8**
SSF pmax pmax
comp=Z,54nm,1.1s
SSF Saint Saulge 79.71 316 *e*P **P 11 52 49.6 -0.8**
comp=Z,54nm,1.1s
PLDF La Plantade 79.81 315⇑ *e*P **P 11 52 52.0 +1.0**
AVF Avril sur Loir 79.86 316 *e*P **P 11 52 50.3 -0.9**
comp=Z,42nm,0.9s
AVF Avril sur Loir 79.86 316 *e*P **P 11 52 50.3 -0.9**
AVF pmax pmax
comp=Z,43nm,0.9s
AVF Avril sur Loir 79.86 316 *e*P **P 11 52 50.3 -0.9**
comp=Z,42nm,0.9s
LASF Ste Croix 79.94 313 *e*P **P 11 52 51.5 -0.2**
comp=Z,130nm,1.3s
LASF Ste Croix 79.94 313 *e*P **P 11 52 51.5 -0.2**
comp=Z,130nm,1.3s
TARA Tarawa 80.05 91 PFAKE 11 53 00.0 +7.1
TARA LR LR
comp=Z,3µm,22.0s
AGO Saint Agoulin 80.13 315⇑ *e*P **P 11 52 53.7 +1.0**
LBL Lubilhac 80.18 314⇑ *e*P **P 11 52 54.2 +1.1**
BGF Bois d'Agland 80.24 316 *e*P **P 11 52 52.9 -0.4**
comp=Z,63nm,1.0s
BGF Bois d'Agland 80.24 316 *e*P **P 11 52 52.9 -0.4**
BGF pmax pmax
comp=Z,63nm,1.0s
BGF Bois d'Agland 80.24 316 *e*P **P 11 52 52.9 -0.4**
comp=Z,63nm,1.0s
PYM Petit Puy Mans 80.26 315⇑ *e*P **P 11 52 54.5 +1.0**
DZM Mont Dzumac 80.39 115 *e*P **P 11 52 55.9 +1.3**
comp=Z,23nm,1.1s
DZM *e*pP **pP 11 53 05.7 +0.4**
DZM Mont Dzumac 80.39 115 P **P 11 52 55.5 +0.9**
comp=Z,4.5nm,0.7s,baz=256,slow=4.2,SNR=3.1
TCF Toulx Ste Croi 80.72 315 *e*P **P 11 52 55.3 -0.6**
comp=Z,60nm,1.1s
TCF Toulx Ste Croi 80.72 315 *e*P **P 11 52 55.3 -0.6**
TCF pmax pmax
comp=Z,60nm,1.1s
TCF Toulx Ste Croi 80.72 315 *e*P **P 11 52 55.3 -0.6**
comp=Z,60nm,1.1s
CASY Casey 80.75 173 PFAKE 11 53 10.0 +15
CASY LR LR
comp=Z,716nm,19.0s
TSUM Tsumeb 80.94 248 *e*P **P 11 52 57.7 +0.1**
comp=Z,10nm,1.1s
TSUM LR LR
comp=Z,606nm,21.0s
TSUM Tsumeb 80.94 248 P **P 11 52 57.9 +0.3**
comp=Z,7.0nm,0.8s,baz=49,slow=5.1,SNR=12
MTLF Montolieu 81.23 312 *e*P **P 11 52 58.3 -0.4**
comp=Z,56nm,1.1s
MTLF Montolieu 81.23 312 *e*P **P 11 52 58.3 -0.4**
MTLF pmax pmax
comp=Z,56nm,1.1s
MTLF Montolieu 81.23 312 *e*P **P 11 52 58.3 -0.4**
comp=Z,56nm,1.1s

RJF Les Rejaudoux 81.37 314 *e*P **P 11 52 59.2 -0.2**
comp=Z,62nm,1.1s
RJF *e*R
comp=Z,205nm,18.2s
RJF Les Rejaudoux 81.37 314 *e*P **P 11 52 59.2 -0.2**
RJF pmax pmax
comp=Z,63nm,1.1s
RJF Les Rejaudoux 81.37 314 *e*P **P 11 52 59.2 -0.2**
comp=Z,62nm,1.1s
LDF La Druitiere 81.85 318 *e*P **P 11 53 01.0 -0.8**
comp=Z,46nm,0.8s
LDF La Druitiere 81.85 318 *e*P **P 11 53 01.0 -0.8**
LDF pmax pmax
comp=Z,46nm,0.8s
LDF La Druitiere 81.85 318 *e*P **P 11 53 01.0 -0.8**
comp=Z,46nm,0.8s
FLN La Foliniere 82.06 318 *e*P **P 11 53 02.1 -0.8**
FLN *e*R
comp=Z,321nm,23.0s
FLN La Foliniere 82.06 318 *e*P **P 11 53 02.1 -0.8**
FLN La Foliniere 82.06 318 *e*P **P 11 53 02.1 -0.8**
MFF Saint Martin d 82.26 316 *e*P **P 11 53 03.2 -0.8**
comp=Z,60nm,1.0s
MFF Saint Martin d 82.26 316 *e*P **P 11 53 03.2 -0.8**
MFF pmax pmax
comp=Z,61nm,1.0s
MFF Saint Martin d 82.26 316 *e*P **P 11 53 03.2 -0.8**
comp=Z,60nm,1.0s
TAM Tamanrasset 82.40 292 *e*P **P 11 53 05.9 +0.5**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM MLR MLR
comp=Z,409nm,20.0s
TAM Tamanrasset 82.40 292 *e*P **P 11 53 05.9 +0.5**
comp=Z,7.0nm,0.9s
TAM LR LR
comp=Z,409nm,20.0s
SUR Sutherland 82.57 234 *e*P **P 11 53 07.8 +1.7**
comp=Z,16nm,0.7s
SUR LR LR
comp=Z,572nm,19.0s
SUR Sutherland 82.57 234 P **P 11 53 07.1 +1.1**
comp=Z,32nm,0.9s,baz=76,slow=6.7,SNR=12
EPF Esparros 82.64 312 *e*P **P 11 53 05.0 -1.1**
EPF Esparros 82.64 312 *e*P **P 11 53 05.0 -1.1**
EPF Esparros 82.64 312 *e*P **P 11 53 05.0 -1.1**
SGMF Saint Gilles 83.51 318 *e*P **P 11 53 09.6 -0.8**
comp=Z,48nm,1.0s
SGMF Saint Gilles 83.51 318 *e*P **P 11 53 09.6 -0.8**
SGMF pmax pmax
comp=Z,48nm,1.0s
SGMF Saint Gilles 83.51 318 *e*P **P 11 53 09.6 -0.8**
comp=Z,48nm,1.0s
MAW Mawson 83.87 191 P **P 11 53 12.2 +0.5**
MAW Mawson 83.87 191 P **P 11 53 12.2 +0.5**
comp=Z,12nm,0.7s,baz=14,slow=5.5,SNR=23
MAW LR LR 12 23 12.3
comp=Z,238nm,22.0s,baz=25,slow=30
ROSF Rostrenen 83.96 318 *e*P **P 11 53 12.0 -0.7**
comp=Z,230nm,1.5s
ROSF Rostrenen 83.96 318 *e*P **P 11 53 12.0 -0.7**
ROSF pmax pmax
comp=Z,230nm,1.5s
ROSF Rostrenen 83.96 318 *e*P **P 11 53 12.0 -0.7**
comp=Z,230nm,1.5s
ESDC Sonseca Array 86.56 310 P **P 11 53 25.8 -0.3**
ESDC pP **pP 11 53 36.5 -0.3**
ESDC Sonseca Array 86.56 310 P **P 11 53 25.8 -0.3**
comp=Z,3.2nm,0.7s,baz=54,slow=4.2,SNR=9.0
ESDC pP **pP 11 53 36.5 -0.3**
comp=Z,6.8nm,0.7s,baz=51,slow=4.5,SNR=8.3
IM04 Indian Mountai 86.82 22 *e*P **P 11 53 27.0 +0.3**
IM04 *e*pP **pP 11 53 38.0 +0.5**
IM04 *es*P **sP 11 53 43.2 +1.8**
COLD Coldfoot 87.49 20 *e*P **P 11 53 29.2 -0.7**
comp=Z,8.9nm,1.2s
COLD *e*pP **pP 11 53 41.0 +0.3**
TOA0 Torodi Ar. Sit 88.05 283 *e*P **P 11 53 33.3 -0.2**
TOA0 *e*pP **pP 11 53 43.9 -0.5**
TORD Torodi Ar. Bea 88.05 283 P **P 11 53 33.4 -0.2**
TORD pP **pP 11 53 43.6 -0.8**
TORD PP **PP 11 57 01.8 +1.4**
TORD Torodi Ar. Bea 88.05 283 P **P 11 53 33.4 -0.2**
comp=Z,6.3nm,0.7s,baz=82,slow=4.5,SNR=40
TORD pP **pP 11 53 43.6 -0.8**
comp=Z,5.1nm,0.7s,baz=84,slow=4.4,SNR=12
TORD PP **PP 11 57 01.8 +1.4**
comp=Z,1.8nm,0.9s,baz=86,slow=7.5,SNR=2.9
TORD LR LR 12 33 57.3
comp=Z,255nm,19.6s,baz=85,slow=36
SUMG Summit 88.29 347 *e*P **P 11 53 33.8 -0.3**
SUMG *e**PP **pP 11 53 44.8 -0.2**
SUMG *e**SP **sP 11 53 49.3 +0.4**
SUMG pmax pmax
comp=Z,43nm,1.0s
SUMG Summit 88.29 347 *i* P **P 11 53 33.6 -0.5**
SUMG *i* 11 53 43.9
SUMG Summit 88.29 347 *e*P **P 11 53 33.8 -0.3**
comp=Z,43nm,1.0s
SUMG *e*pP **pP 11 53 44.8 -0.2**
SUMG *es*P **sP 11 53 49.2 +0.4**
MVO Moncorvo 88.41 312 *e*P **P 11 53 35.1 +0.2**
comp=Z,41nm,1.7s
FUNA Funafuti 88.48 99 PFAKE 11 53 50.0 +14
FUNA LR LR
comp=Z,8µm,19.0s
BPAW Bear Paw Mtn. 88.75 23 *e*P **P 11 53 36.2 +0.3**
comp=Z,57nm,1.1s
BPAW *e*pP **pP 11 53 47.8 +1.0**
PPLA Purkeypile 88.86 25 *e*P **P 11 53 37.0 +0.4**
comp=Z,27nm,0.7s
PPLA *e*pP **pP 11 53 47.9 +0.4**
POLO Lamas de Olo 88.90 312 *e*P **P 11 53 37.8 +0.5**
comp=Z,18nm,1.9s
PGAV Gavieira, Arco 89.07 313 *e*P **P 11 53 37.8 -0.2**
comp=Z,79nm,1.7s
PBAR Barrancos 89.28 309 *e*P **P 11 53 38.9 0.0**
comp=Z,25nm,1.1s
PBAR *e*pP **pP 11 53 51.0 +1.2**
COLA College 89.53 22 *e*P **P 11 53 40.2 +0.7**
COLA pmax pmax
comp=Z,18nm,1.2s
MCK McKinley 89.72 23 *e*P **P 11 53 40.5 0.0**
MCK *e**PP **pP 11 53 51.7 +0.3**
MCK pmax pmax
comp=Z,36nm,0.9s
MCK McKinley 89.72 23 *e*P **P 11 53 40.5 0.0**
comp=Z,36nm,0.9s
MCK *e*pP **pP 11 53 51.7 +0.3**
PMTG Montargil 89.90 310 *e*P **P 11 53 42.0 +0.2**
comp=Z,28nm,1.5s
ILAR Eielson Array 89.93 22 P **P 11 53 40.5 -1.0**
ILAR pP **pP 11 53 50.6 -1.7**
ILAR PP **PP 11 57 14.7 +0.7**
ILAR Eielson Array 89.93 22 P **P 11 53 40.5 -1.0**
comp=Z,2.8nm,0.7s,baz=298,slow=4.5,SNR=26
ILAR pP **pP 11 53 50.6 -1.7**
comp=Z,3.9nm,0.7s,baz=296,slow=4.5,SNR=10
ILAR PP **PP 11 57 14.7 +0.7**
comp=Z,0.9nm,0.7s,baz=304,slow=6.4,SNR=4.1
ILAR LR LR 12 37 27.0
comp=Z,280nm,18.8s,baz=304,slow=38
KULLO Kullorsuaq 90.00 352 *i* P **P 11 53 41.1 -0.5**
KULLO *i* 11 53 51.6
KULLO Kullorsuaq 90.00 352 *i* P **P 11 53 41.1 -0.5**
KULLO *i* 11 53 51.6
PVAQ Vaqueiros 90.01 308 *e*P **P 11 53 43.0 +0.6**
comp=Z,31nm,1.3s
PBDV Barranco-do-Ve 90.22 308 *e*P **P 11 53 44.3 +0.9**
comp=Z,37nm,1.6s
PBDV *e*pP pP 11 54 00.8 +6.5
PNCL Nicolau / Gran 90.42 309 *e*P **P 11 53 44.0 -0.3**
comp=Z,56nm,1.4s
SYO Syowa Base 90.49 197⇑ *e*X 11 53 42.5
PMR Palmer 90.75 25 *e*P **P 11 53 45.4 +0.1**
PMR *e**PP **pP 11 53 56.6 +0.4**
PMR *e**SP **sP 11 53 59.4 -0.7**
PMR pmax pmax
comp=Z,28nm,0.8s
PMR Palmer 90.75 25 *e*P **P 11 53 45.4 +0.1**
comp=Z,28nm,0.8s
PMR *e*pP **pP 11 53 56.5 +0.4**
PMR *es*P **sP 11 53 59.4 -0.7**
RC01 Rabbit Creek A 90.76 26 *e*P **P 11 53 45.6 +0.2**
comp=Z,91nm,0.9s
RC01 *e*pP **pP 11 53 56.7 +0.5**
RES Resolute Bay 91.75 2 P **P 11 53 49.6 -0.1**
RES Resolute Bay 91.75 2 P **P 11 53 49.6 -0.1**
comp=Z,3.6nm,0.8s,baz=320,slow=5.9,SNR=4.8
INK Inuvik 91.85 16 P **P 11 53 50.2 0.0**
INK Inuvik 91.85 16 P **P 11 53 50.2 0.0**
comp=Z,2.4nm,0.6s,baz=267,slow=4.5,SNR=15
MENT Mentasta 92.13 22 *e*P **P 11 53 53.0 +1.2**
MENT *e*pP **pP 11 54 03.7 +1.1**
SNZO South Karori 92.88 132 PFAKE 11 54 10.0 +15
SNZO LR LR
comp=Z,227nm,20.0s
DAWY Dawson 92.97 20 *e*P **P 11 53 55.8 +0.2**
DAWY *e*pP **pP 11 54 07.1 +0.6**
DAWY *es*P **sP 11 54 10.8 +0.4**
DBIC Dimbokro 95.86 278 P **P 11 54 09.8 0.0**
DBIC Dimbokro 95.86 278 P **P 11 54 09.8 0.0**
comp=Z,3.4nm,1.0s,baz=70,slow=4.8,SNR=3.9
VNDA Vanda 98.78 168 LR LR 12 37 38.6
comp=Z,173nm,18.4s,baz=302,slow=35
YKA Yellowknife Ar 101.16 13 P **Pdif 11 54 32.1 -0.5**
YKA PP **PP 11 58 45.6 +5.0**
YKA Yellowknife Ar 101.16 13 P **Pdif 11 54 32.1 -0.5**
comp=Z,0.7nm,0.8s,baz=332,slow=3.5,SNR=2.8
YKA PP **PP 11 58 45.6 +5.0**
comp=Z,0.4nm,0.7s,baz=339,slow=8.6,SNR=2.5
QSPA South Pole Qui 103.48 180 PFAKE 11 54 50.0 +7.1
QSPA LR LR
comp=Z,365nm,22.0s
ASCN Ascension 108.46 266 PFAKE 11 59 20.0
ASCN LR LR
comp=Z,591nm,21.0s
I05D Terrebonne, OR 114.47 26 ⇓P PKPdf 11 59 23.0 +0.3
baz=114
J04D Umpqua Nationa 115.01 28 ⇓P **PKPdf 11 59 23.7 -0.3**
baz=115
MSO Missoula 115.21 20 ⇓P **PKPdf 11 59 23.3 -0.8**
baz=115
J05D Fort Rock, OR 115.36 27 ⇑P **PKPdf 11 59 24.5 -0.1**
baz=115
BMO Blue Mountains 115.70 23 PFAKE 11 59 40.0 +15
BMO LR LR
comp=Z,321nm,21.0s
C20A Veseth Ranch, 116.17 16 ⇑P **PKPdf 11 59 27.4 +1.5**
baz=116
A28A Rude Farm, Bot 116.68 10 ⇓P **PKPdf 11 59 26.4 -0.4**
baz=116
D20A Manuel Ranch, 116.71 16 ⇓P **PKPdf 11 59 26.5 -0.4**
baz=116
BOZ Bozeman (W) 117.01 19 PFAKE 11 59 40.0 +12
BOZ LR LR
comp=Z,631nm,19.0s
D21A La Casta Ranch 117.03 15 ⇓P **PKPdf 11 59 26.6 -0.9**
baz=117
E19A Rath Farm, Rou 117.12 17 ⇓P **PKPdf 11 59 27.3 -0.5**
baz=117
D22A Cohagen 117.16 14 ⇓P **PKPdf 11 59 27.1 -0.7**
baz=117
MFID Camas Ranch 117.48 23 *e*PKPdf **PKPdf 11 59 28.7 +0.1**
MFID *ep*PKPdf **pPKPdf 11 59 38.8 -1.0**
F19A Roth Farm, Mol 117.63 17 ⇓P **PKPdf 11 59 28.5 -0.3**
baz=117
E22A Miles City 117.88 15 ⇓P **PKPdf 11 59 28.8 -0.5**
baz=118
HLID Hailey 117.89 22 PFAKE 11 59 40.0 +11
HLID LR LR
comp=Z,344nm,20.0s
HLID Hailey 117.89 22 ⇓P **PKPdf 11 59 28.9 -0.6**
baz=118
E24A Baker 118.15 13 ⇑P **PKPdf 11 59 29.6 -0.1**
baz=118
G20A Bridger 118.41 17 ⇑P **PKPdf 11 59 29.7 -0.7**
baz=118
G21A Lodge Grass 118.69 16 ⇓P **PKPdf 11 59 30.8 -0.1**
baz=118
F24A Ekalaka 118.79 14 ⇓P **PKPdf 11 59 30.9 -0.2**
baz=118
G22A Birney 118.93 15 ⇓P **PKPdf 11 59 30.6 -0.7**
baz=119
G23A Biddle 119.17 15 ⇑P **PKPdf 11 59 31.4 -0.4**
baz=119
H22A Clearmont 119.50 16 ⇑P **PKPdf 11 59 31.7 -0.7**
baz=119
I20A Worland 119.60 17 ⇑P **PKPdf 11 59 32.6 -0.1**
baz=119
G25A Newell 119.64 13 ⇑P **PKPdf 11 59 31.6 -1.0**
baz=119
AHID Auburn Hatcher 119.75 20 PFAKE 11 59 40.0 +6.9
AHID LR LR
comp=Z,416nm,19.0s
H24A Dirks Ranch, A 119.81 14 ⇓P **PKPdf 11 59 32.4 -0.6**
baz=120
J19A Crowheart 119.95 18 ⇓P **PKPdf 11 59 33.2 -0.2**
baz=120
I21A Big Trails, Te 119.97 17 ⇓P **PKPdf 11 59 32.9 -0.6**
baz=120
ELK Elko 119.98 24 PKP **PKPdf 11 59 33.6 0.0**
ELK pPKP **pPKPdf 11 59 45.4 +0.5**
ELK Elko 119.98 24 PKP **PKPdf 11 59 33.6 0.0**
comp=Z,1.8nm,0.7s,baz=360,slow=3.6,SNR=8.5
ELK pPKP **pPKPdf 11 59 45.4 +0.5**
comp=Z,3.0nm,0.8s,baz=135,slow=1.1,SNR=9.6
WAKR Walker 120.00 29 *e*PKPdf **PKPdf 11 59 34.4 +0.7**
WAKR *ep*PKPdf **pPKPdf 11 59 45.5 +0.6**
I22A 9 Mile Ranch, 120.11 16 ⇑P **PKPdf 11 59 32.5 -1.2**
baz=120
J20A Shoshoni 120.16 18 ⇑P **PKPdf 11 59 33.0 -0.8**
baz=120
PDAR Pinedale Array 120.25 19 PKP **PKPdf 11 59 33.4 -0.7**
PDAR Pinedale Array 120.25 19 PKP **PKPdf 11 59 33.4 -0.7**
comp=Z,1.9nm,0.6s,baz=112,slow=0.6,SNR=17
G28A Parade 120.27 11 ⇓P **PKPdf 11 59 33.2 -0.6**
baz=120
H26A Fairpoint 120.33 13 ⇑P **PKPdf 11 59 33.6 -0.4**
baz=120
G29A Hoven 120.34 10 ⇓P **PKPdf 11 59 33.6 -0.4**
baz=120
J21A Lysite 120.35 17 ⇑P **PKPdf 11 59 33.5 -0.8**
baz=120
H27A Howes 120.47 12 ⇑P **PKPdf 11 59 33.6 -0.7**
baz=120
G30A Faulkton 120.53 10 ⇑P **PKPdf 11 59 33.8 -0.5**
baz=120
NVAR Mina Array Bea 120.58 28 PKP **PKPdf 11 59 35.2 +0.3**
NVAR Mina Array Bea 120.58 28 PKP **PKPdf 11 59 35.2 +0.3**
comp=Z,3.0nm,0.7s,baz=310,slow=2.0,SNR=35
I24A Kuemmerle Ranc 120.62 15 ⇓P **PKPdf 11 59 33.5 -1.2**
baz=120
H28A Mission Ridge 120.64 11 ⇑P **PKPdf 11 59 33.6 -0.9**
baz=120
NV11 Mina Array Sit 120.65 28 *e*PKPdf **PKPdf 11 59 35.7 +0.8**
NV11 *ep*PKPdf **pPKPdf 11 59 47.0 +1.0**
I25A Rochford 120.69 14 ⇑P **PKPdf 11 59 34.0 -0.9**
baz=120
I26A New Underwood 120.87 13 ⇓P **PKPdf 11 59 34.7 -0.3**
baz=121
MLAC Mammoth Lakes 120.98 29 ⇑P **PKPdf 11 59 35.4 -0.3**
baz=121
I27A Quinn 121.01 12 ⇑P **PKPdf 11 59 34.9 -0.5**
baz=121
K21A Alcova 121.06 17 ⇓P **PKPdf 11 59 35.1 -0.6**
baz=121
J24A Dixon Ranch, L 121.11 15 ⇓P **PKPdf 11 59 34.8 -0.8**
baz=121
SPMN St. Paul 121.22 5 ⇓P **PKPdf 11 59 35.0 -0.6**
baz=121
BRSD Miller 121.23 10 *e*PKPdf **PKPdf 11 59 34.9 -0.8**
BRSD Miller 121.23 10 ⇓P **PKPdf 11 59 35.0 -0.6**
baz=121
K22A Casper 121.25 17 ⇑P **PKPdf 11 59 35.2 -0.8**
baz=121
I28A Midland 121.26 12 ⇑P **PKPdf 11 59 35.2 -0.6**
baz=121
J25A Sunshine Ranch 121.26 14 ⇓P **PKPdf 11 59 35.4 -0.5**
baz=121
DUG Dugway 121.40 23 *e*PKIKP **PKPdf 11 59 36.6 +0.3**
DUG *e* 11 59 47.6
DUG Dugway 121.40 23 *e*PKPdf **PKPdf 11 59 36.6 +0.3**
DUG *ep*PKPdf **pPKPdf 11 59 47.5 +0.1**
DUG Dugway 121.40 23 ⇓P **PKPdf 11 59 35.9 -0.4**
baz=121
I29A Vivian Onida 121.40 11 ⇑P **PKPdf 11 59 35.5 -0.5**
baz=121
K23A Bowen Ranch, D 121.40 16 ⇓P **PKPdf 11 59 35.1 -1.1**
baz=121
J26A Sides Ranch, S 121.51 14 ⇑P **PKPdf 11 59 35.9 -0.4**
baz=121

I30A	Oacoma	121.67	10	⇓P		PKPdf	11 59 36.0	-0.5	
	baz=121								
J28A	Allard Ranch,	121.80	12	⇓P		PKPdf	11 59 36.4	-0.5	
	baz=122								
J27A	Elkhorn Farm,	121.80	13	⇓P		PKPdf	11 59 36.6	-0.3	
	baz=122								
R11A	Troy Canyon, C	121.86	26	⇑P		PKPdf	11 59 37.3	0.0	
	baz=122								
L23A	Garrett	121.98	16	⇑P		PKPdf	11 59 36.6	-0.9	
	baz=122								
J29A	Okreek	121.99	11	⇑P		PKPdf	11 59 35.9	-1.3	
	baz=122								
K26A	Motz Farm, Whi	122.06	14	⇓P		PKPdf	11 59 36.6	-0.8	
	baz=122								
J30A	Dallas	122.22	11	⇓P		PKPdf	11 59 37.3	-0.3	
	baz=122								
ECSD	EROS Data Cent	122.28	8	*e*PKPdf		PKPdf	11 59 37.0	-0.7	
ECSD				*ep*PKPdf		pPKPdf	11 59 48.2	-0.7	
N20A	Spence Gulch,	122.41	19	⇓P		PKPdf	11 59 37.7	-0.7	
	baz=122								
M23A	Laramie	122.57	16	⇑P		PKPdf	11 59 37.7	-0.9	
	baz=122								
ISA	Isabella	122.73	30	⇓P		PKPdf	11 59 38.5	-0.4	
	baz=122								
TPNV	Topopah Spring	122.73	28	⇓P		PKPdf	11 59 38.6	-0.4	
	baz=122								
M24A	Cheyenne	122.82	16	⇓P		PKPdf	11 59 38.6	-0.5	
	baz=123								
FURC	Furnace Creek,	122.84	28	⇓P		PKPdf	11 59 39.2	+0.3	
	baz=123								
N22A	Wattenberg Ran	122.98	17	⇓P		PKPdf	11 59 38.9	-0.6	
	baz=123								
M25A	Palm-Egli Farm	123.05	15	⇑P		PKPdf	11 59 38.8	-0.7	
	baz=123								
O20A	White River Ci	123.05	19	*e*PKPdf		PKPdf	11 59 39.2	-0.3	
O20A				*ep*PKPdf		pPKPdf	11 59 50.4	-0.3	
O20A	White River Ci	123.05	19	⇓P		PKPdf	11 59 39.0	-0.5	
	baz=123								
L29A	Maesberg Ranch	123.26	12	⇑P		PKPdf	11 59 39.1	-0.6	
	baz=123								
LRMC	Laurel Mountai	123.26	30	⇓P		PKPdf	11 59 39.6	-0.4	
	baz=123								
M27A	Reverse DX Ran	123.36	14	⇑P		PKPdf	11 59 39.1	-0.9	
	baz=123								
SHOC	Shoshone	123.58	28	⇑P		PKPdf	11 59 40.8	+0.4	
	baz=123								
SHPR	Sheep Range	123.58	27	*e*PKPdf		PKPdf	11 59 41.5	+0.9	
SHPR				*ep*PKPdf		pPKPdf	11 59 52.6	+0.8	
EDW2	Edwards Air Fo	123.59	30	⇓P		PKPdf	11 59 40.7	+0.2	
	baz=123								
BLG	Laguna Peak	123.66	32	⇑P		PKPdf	11 59 40.3	-0.4	
	baz=124								
O23A	Lake Granby, G	123.68	17	⇓P		PKPdf	11 59 40.7	-0.2	
	baz=123								
GSC	Goldstone	123.82	29	⇓P		PKPdf	11 59 41.2	+0.2	
	baz=124								
N26A	Koester Ranch,	123.83	15	⇓P		PKPdf	11 59 40.4	-0.5	
	baz=124								
OGNE	Ogallala	124.00	14	⇓P		PKPdf	11 59 40.7	-0.5	
	baz=124								
P22A	Eagle	124.00	18	⇓P		PKPdf	11 59 40.6	-0.8	
	baz=124								
N27A	Anderson Farm,	124.01	14	⇓P		PKPdf	11 59 40.2	-1.0	
	baz=124								
ISCO	Idaho Springs	124.15	17	⇑P		PKPdf	11 59 40.8	-1.1	
	baz=124								
M31A	Lambtecht Ranc	124.24	11	⇓P		PKPdf	11 59 40.9	-0.7	
	baz=124								
BGNE	Belgrade	124.32	10	*e*PKPdf		PKPdf	11 59 41.1	-0.6	
BGNE				*ep*PKPdf		pPKPdf	11 59 52.0	-0.9	
BGNE	Belgrade	124.32	10	⇓P		PKPdf	11 59 41.2	-0.5	
	baz=124								
N28A	Pribbeno Ranch	124.35	13	⇑P		PKPdf	11 59 41.6	-0.3	
	baz=124								
HEC	Hector,Ludlow	124.43	29	⇓P		PKPdf	11 59 42.5	+0.3	
	baz=124								
P23A	Jefferson	124.48	18	⇓P		PKPdf	11 59 42.1	-0.4	
	baz=124								
O27A	Beecher Island	124.61	14	⇓P		PKPdf	11 59 41.6	-0.8	
	baz=124								
BBRC	Big Bear Solar	124.61	30	⇓P		PKPdf	11 59 42.8	+0.1	
	baz=124								
GMRC	Granite Mounta	124.79	29	⇓P		PKPdf	11 59 43.6	+0.7	
	baz=125								
P25A	Willow Gulch B	124.82	16	⇑P		PKPdf	11 59 43.1	+0.2	
	baz=125								
U15A	North Rim	124.86	25	⇑P		PKPdf	11 59 43.6	+0.4	
	baz=125								
P26A	Davis Ranch, A	124.99	15	⇑P		PKPdf	11 59 42.5	-0.8	
	baz=125								
Q24A	Divide	125.06	17	⇓P		PKPdf	11 59 42.6	-1.0	
	baz=125								
O30A	MW Ranch, Wils	125.16	12	⇓P		PKPdf	11 59 42.4	-1.0	
	baz=125								
P27A	Ficken Ranch,	125.19	15	⇑P		PKPdf	11 59 42.6	-1.0	
	baz=125								
BELC	Belle Mtn. Jos	125.27	29	⇑P		PKPdf	11 59 44.4	+0.5	
	baz=125								
W13A	Hualapai Mount	125.33	27	⇑P		PKPdf	11 59 44.9	+0.8	
	baz=125,SNR=5.4								
O31A	Woolen Ranch,	125.33	11	⇓P		PKPdf	11 59 43.0	-0.7	
	baz=125								
PFO	Pinyon Flat Ob	125.37	30	PKP		PKPdf	11 59 45.0	+0.9	
PFO				pPKP		pPKPdf	11 59 56.1	+0.9	
PFO	Pinyon Flat Ob	125.37	30	PKP		PKPdf	11 59 45.0	+0.9	
	comp=Z,2.8nm,1.0s,baz=217,slow=5.1,SNR=2.6								
PFO				pPKP		pPKPdf	11 59 56.1	+0.9	
	comp=Z,4.7nm,0.8s,baz=299,slow=0.3,SNR=3.5								
P28A	Saint Francis	125.37	14	⇓P		PKPdf	11 59 43.4	-0.4	
	baz=125								
O32A	Brockman Farm,	125.41	10	⇑P		PKPdf	11 59 43.1	-0.7	
	baz=125								
P29A	Atwood	125.53	13	⇓P		PKPdf	11 59 43.6	-0.5	
	baz=125								
IRM	Iron Mountain	125.54	29	⇓P		PKPdf	11 59 44.8	+0.6	
	baz=125								
Q26A	Hugo	125.55	16	⇑P		PKPdf	11 59 44.0	-0.3	
	baz=125								
R23A	Moffat	125.58	18	⇓P		PKPdf	11 59 44.5	-0.1	
	baz=125								
MVCO	Mesa Verde	125.61	21	⇓P		PKPdf	11 59 44.7	+0.1	
	baz=125								
S22A	4UR Ranch, Cre	125.67	19	⇓P		PKPdf	11 59 44.7	-0.1	
	baz=125								
KSCO	Kaye Shedlock'	125.69	15	⇑P		PKPdf	11 59 44.4	-0.1	
	baz=125								
R24A	Sanders Place,	125.75	17	⇓P		PKPdf	11 59 44.3	-0.5	
	baz=126								
BC3	Big Chuckawall	125.81	29	⇑P		PKPdf	11 59 45.7	+0.8	
	baz=126								
Q28A	Sharon Springs	125.84	14	⇓P		PKPdf	11 59 44.4	-0.3	
	baz=126								
PDMCI	Parker Dam,Lak	125.88	28	⇑P		PKPdf	11 59 45.3	+0.5	
	baz=126								
P31A	Stockton	125.93	12	⇓P		PKPdf	11 59 44.6	-0.3	
	baz=126								
MONP	Monument Peak	125.97	31	⇓P		PKPdf	11 59 45.5	+0.2	
	baz=126								
S23A	Nye Farm, Mont	125.97	18	⇑P		PKPdf	11 59 45.6	+0.3	
	baz=126								
P32A	Huiting Farm,	125.98	11	⇑P		PKPdf	11 59 44.6	-0.4	
	baz=126								
WUAZ	Wupatki	126.02	24	*e*PKPdf		PKPdf	11 59 46.0	+0.7	
WUAZ				*ep*PKPdf		pPKPdf	11 59 57.0	+0.5	
WUAZ	Wupatki	126.02	24	⇑P		PKPdf	11 59 45.6	+0.3	
	baz=126								
R25A	Fountain Ranch	126.07	17	⇓P		PKPdf	11 59 44.9	-0.4	
	baz=126								
SDCO	Great Sand Dun	126.09	18	PFAKE			12 00 00.0	+14	
SDCO				LR		LR			
	comp=Z,305nm,22.0s								
R26A	Arlington	126.15	16	⇑P		PKPdf	11 59 44.8	-0.6	
	baz=126								
Y12C	Blythe	126.17	28	⇑P		PKPdf	11 59 45.9	+0.5	
	baz=126								
Q29A	Oakley	126.20	13	⇑P		PKPdf	11 59 45.2	-0.2	
	baz=126								
SWSC	Sam W. Stewart	126.23	30	⇑P		PKPdf	11 59 44.8	-0.8	
	baz=126								
S24A	Houchin Ranch,	126.27	18	⇓P		PKPdf	11 59 45.3	-0.6	
	baz=126								
Q30A	Quinter	126.28	13	⇓P		PKPdf	11 59 45.3	-0.3	
	baz=126								
SFIN	Scholer Farm	126.28	360	⇑P		PKPdf	11 59 45.1	-0.3	
	baz=126								
R27A	Eads	126.33	15	⇑P		PKPdf	11 59 45.1	-0.6	
	baz=126								
S25A	Robets Cordova	126.48	17	⇑P		PKPdf	11 59 45.3	-0.9	
	baz=126								
R28A	Tribune	126.53	14	⇓P		PKPdf	11 59 45.8	-0.4	
	baz=126								
T23A	Casias Ranch,	126.58	19	⇑P		PKPdf	11 59 46.5	0.0	
	baz=126								
GLA	Glamis	126.60	29	*e*PKIKP		PKPdf	11 59 47.6	+1.3	
GLA				*e*			11 59 59.0		
GLA	Glamis	126.60	29	*e*PKPdf		PKPdf	11 59 47.6	+1.3	
GLA				*ep*PKPdf		pPKPdf	11 59 59.0	+1.5	
GLA	Glamis	126.60	29	⇓P		PKPdf	11 59 47.0	+0.6	
	baz=126								
Y14A	Wickenburg	126.69	27	⇑P		PKPdf	11 59 47.0	+0.5	
	baz=126								
Q33A	Connelly Farm,	126.72	10	⇓P		PKPdf	11 59 46.4	0.0	
	baz=126								
T24B	San Luis	126.75	18	⇓P		PKPdf	11 59 46.3	-0.5	
	baz=126								
S26A	Kim	126.78	16	⇑P		PKPdf	11 59 46.5	-0.2	
	baz=126								
U22A	Llaves	126.92	20	⇑P		PKPdf	11 59 47.5	+0.4	
	baz=127								
R30A	Dighton	126.93	13	⇑P		PKPdf	11 59 46.4	-0.4	
	baz=127								
X16A	Lo Mia Camp, P	126.95	25	⇓P		PKPdf	11 59 47.7	+0.6	
	baz=127								
T25A	Trinidad	126.97	17	⇓P		PKPdf	11 59 47.2	+0.1	
	baz=127								
R31A	Burdett	127.09	12	⇓P		PKPdf	11 59 47.2	+0.1	
	baz=127								
R32A	Long Quarter,	127.12	11	⇓P		PKPdf	11 59 47.2	+0.1	
	baz=127								
T26A	Comanche Natio	127.17	16	⇓P		PKPdf	11 59 47.4	-0.1	
	baz=127								
U23A	El Rito	127.18	19	⇓P		PKPdf	11 59 47.8	+0.2	
	baz=127								
Z14A	Wintersburg	127.20	27	⇑P		PKPdf	11 59 48.0	+0.6	
	baz=127								
V22A	San Miguel Ran	127.32	20	⇓P		PKPdf	11 59 48.4	+0.5	
	baz=127								
113A	Mohawk Valley,	127.33	28	⇓P		PKPdf	11 59 48.2	+0.6	
	baz=127								
R33A	Olander Ranch,	127.36	11	⇓P		PKPdf	11 59 47.7	+0.1	
	baz=127								
U24A	Moreno Valley	127.39	18	⇑P		PKPdf	11 59 48.4	+0.3	
	baz=127								
X18A	Snowflake	127.45	24	⇑P		PKPdf	11 59 48.7	+0.6	
	baz=127								
T27A	Campo	127.51	16	⇓P		PKPdf	11 59 48.0	-0.1	
	baz=127								
U25A	Circle Dot Ran	127.66	18	⇓P		PKPdf	11 59 49.0	+0.6	
	baz=127								
V23A	Ortiz Mt. (NFS	127.71	20	⇓P		PKPdf	11 59 49.9	+1.3	
	baz=128								
S31A	Mullinville	127.74	12	⇓P		PKPdf	11 59 48.1	-0.3	
	baz=128								
T29A	Huston	127.78	14	⇑P		PKPdf	11 59 48.6	+0.1	
	baz=128								
U26A	Atchley Ranch,	127.86	17	⇑P		PKPdf	11 59 48.4	-0.4	
	baz=128								
V24A	Rampart Ranch,	128.02	19	⇓P		PKPdf	11 59 49.5	+0.2	
	baz=128								
U27A	Thompson Grove	128.08	16	⇓P		PKPdf	11 59 48.8	-0.3	
	baz=128								
V25A	Rancho No Teng	128.12	18	⇓P		PKPdf	11 59 49.3	-0.1	
	baz=128								
W23A	Werner Place,	128.26	20	⇑P		PKPdf	11 59 49.9	+0.3	
	baz=128								
X21A	Alamocita Cree	128.34	22	⇑P		PKPdf	11 59 50.7	+0.8	
	baz=128,SNR=5.9								
ANMO	Albuquerque	128.35	20	PKP		PKPdf	11 59 50.5	+0.6	
ANMO	Albuquerque	128.35	20	PKP		PKPdf	11 59 50.5	+0.6	
	comp=Z,2.7nm,0.7s,baz=268,slow=1.5,SNR=14								
V26A	Tequesquite Ra	128.40	17	⇓P		PKPdf	11 59 49.7	-0.1	
	baz=128								
214A	Organ Pipe Nat	128.45	28	⇓P		PKPdf	11 59 50.5	+0.6	
	baz=128								
W24A	Lazy 6 Ranch,	128.45	19	⇑P		PKPdf	11 59 50.5	+0.5	
	baz=128								
U30A	WK&E Inc. Balk	128.53	14	⇓P		PKPdf	11 59 50.3	+0.3	
	baz=128								
Y20A	Horse Springs,	128.60	23	⇑P		PKPdf	11 59 50.6	+0.2	
	baz=128								
LAZ	Ladron	128.61	21	*e*PKPdf		PKPdf	11 59 49.3	-1.0	
LAZ				*ep*PKPdf		pPKPdf	12 00 02.2	+0.7	
V27A	Dan Oppiter Fa	128.71	16	⇑P		PKPdf	11 59 50.5	+0.1	
	baz=128								
W25A	X Bar L Ranch,	128.74	18	⇑P		PKPdf	11 59 50.7	+0.2	
	baz=128								
Y21A	Point of Rocks	128.77	22	⇑P		PKPdf	11 59 51.4	+0.7	
	baz=128								
X23A	Hourglass Bar	128.77	20	⇑P		PKPdf	11 59 51.0	+0.4	
	baz=128								
LENM	Lemitar	128.88	21	*e*PKPdf		PKPdf	11 59 52.2	+1.4	
LENM				*ep*PKPdf		pPKPdf	12 00 02.9	+0.9	
BNM	Barren Site	129.02	21	*e*PKPdf		PKPdf	11 59 52.5	+1.3	
BNM				*ep*PKPdf		pPKPdf	12 00 03.3	+0.9	
X24A	Lazy VL Ranch,	129.04	19	⇓P		PKPdf	11 59 51.4	+0.2	
	baz=129								
TUC	Tucson	129.04	26	*e*PKIKP		PKPdf	11 59 50.5	-0.6	
TUC				*e*			12 00 02.4		
TUC	Tucson	129.04	26	*e*PKPdf		PKPdf	11 59 50.5	-0.6	
TUC				*ep*PKPdf		pPKPdf	12 00 02.4	+0.2	
BLA	Blacksburg	129.05	353	PFAKE			12 00 00.0	+9.1	
BLA				LR		LR			
	comp=Z,553nm,19.0s								
Y22A	Socorro	129.09	21	⇑P		PKPdf	11 59 51.8	+0.5	
	baz=129,SNR=5.4								
Z20A	Nine Sixteen R	129.23	23	⇓P		PKPdf	11 59 52.5	+1.0	
	baz=129								
U34A	Anderson Ranch	129.26	11	⇓P		PKPdf	11 59 51.7	+0.4	
	baz=129								
W27A	Bowe Ranch, En	129.29	17	⇑P		PKPdf	11 59 51.9	+0.4	
	baz=129								
X25A	Clemmons Ranch	129.32	19	⇑P		PKPdf	11 59 51.9	+0.3	
	baz=129								
Z21A	St. Cloud Mine	129.40	22	⇓P		PKPdf	11 59 52.9	+1.0	
	baz=129,SNR=5.9								
Y23A	Lovelace Mesa,	129.41	20	⇑P		PKPdf	11 59 52.6	+0.7	
	baz=129,SNR=5.8								
V31A	Spring Creek L	129.44	13	⇑P		PKPdf	11 59 52.3	+0.6	
	baz=129								
X26A	CR and CF Fran	129.56	18	⇓P		PKPdf	11 59 52.4	+0.3	
	baz=129								
Y24A	Capitan	129.62	20	⇑P		PKPdf	11 59 52.4	+0.1	
	baz=129								
V32A	Arapaho	129.66	13	⇑P		PKPdf	11 59 52.3	+0.2	
	baz=129								
Z22A	Elephant Butte	129.71	22	⇑P		PKPdf	11 59 52.8	+0.4	
	baz=130,SNR=5.2								
120A	U Bar Ranch, L	129.71	24	⇑P		PKPdf	11 59 53.0	+0.5	
	baz=130								
V34A	Guthrie	129.85	11	⇓P		PKPdf	11 59 52.5	+0.1	
	baz=130								
Y25A	Mesa, Roswell	129.87	19	⇓P		PKPdf	11 59 52.7	+0.1	
	baz=130,SNR=6.4								
Z23A	Rita Site, Whi	129.96	21	⇓P		PKPdf	11 59 53.3	+0.4	
	baz=130								
121A	Cookes Peak, D	130.05	23	⇓P		PKPdf	11 59 53.6	+0.5	
	baz=130								
TUL1	Tulsa	130.07	9	*e*Pdif		Pdif	11 56 41.8	0.0	
TUL1	Tulsa	130.07	9	⇓P		PKPdf	11 59 53.1	+0.3	
	baz=130								
Y26A	Elida	130.13	18	⇓P		PKPdf	11 59 53.2	+0.1	
	baz=130								
W32A	Sentinel	130.19	13	⇑P		PKPdf	11 59 53.1	0.0	
	baz=130								
Z24A	Sheeppen Canyo	130.19	20	⇓P		PKPdf	11 59 53.6	+0.2	
	baz=130								
220A	Playas Peak, P	130.32	24	⇓P		PKPdf	11 59 53.7	+0.1	
	baz=130								
Y27A	Causey	130.37	18	⇑P		PKPdf	11 59 53.9	+0.3	
	baz=130								
W34A	Bridge Creek,	130.39	11	⇓P		PKPdf	11 59 53.7	+0.2	
	baz=130								
MSTX	Muleshoe	130.40	17	*e*PKPdf		PKPdf	11 59 53.1	-0.5	
MSTX				*ep*PKPdf		pPKPdf	12 00 05.2	+0.3	
MSTX	Muleshoe	130.40	17	⇓P		PKPdf	11 59 53.6	0.0	
	baz=130								
Z25A	Roswell	130.45	19	⇑P		PKPdf	11 59 54.3	+0.6	
	baz=130								
319A	Douglas	130.48	25	⇓P		PKPdf	11 59 54.3	+0.4	
	baz=130								
X31A	McDonald Ranch	130.50	14	⇑P		PKPdf	11 59 53.8	+0.1	
	baz=130								
Y28A	McKinney Farm,	130.60	17	⇓P		PKPdf	11 59 54.2	+0.2	
	baz=130								
Z26A	Caprock	130.69	19	⇓P		PKPdf	11 59 54.5	+0.3	
	baz=130								
124A	Stringfield Ra	130.74	20	⇓P		PKPdf	11 59 54.6	+0.2	
	baz=130								
Y29A	Porterfield Fa	130.81	16	⇑P		PKPdf	11 59 54.6	+0.2	
	baz=131								
320A	Kipp Ranch, An	130.82	24	⇓P		PKPdf	11 59 54.9	+0.4	
	baz=131								
Z27A	Tatum	130.88	18	⇑P		PKPdf	11 59 54.6	+0.1	
	baz=131,SNR=12								
125A	Gardner Draw,	131.04	20	⇑P		PKPdf	11 59 55.1	+0.2	
	baz=131								
Z28A	Tucker Farm, M	131.15	17	⇑P		PKPdf	11 59 55.1	+0.1	
	baz=131								
126A	Clayton Basin,	131.26	19	⇑P		PKPdf	11 59 55.4	+0.1	
	baz=131								
Z29A	Hungry Hill Ra	131.37	16	⇓P		PKPdf	11 59 55.0	-0.4	
	baz=131,SNR=5.8								
Y33A	Hilltop Ranch,	131.40	13	⇓P		PKPdf	11 59 55.5	+0.1	
	baz=131								
127A	Arkansas Junct	131.44	18	⇑P		PKPdf	11 59 55.8	+0.2	
	baz=131								
Y34A	Reagan Ranch,	131.63	12	⇑P		PKPdf	11 59 56.0	+0.2	
	baz=131								
MNTX	Cornudas Mount	131.68	21	PFAKE			12 00 10.0	+14	
MNTX				LR		LR			
	comp=Z,379nm,21.0s								
Z31A	Sharp Cattle R	131.71	15	⇑P		PKPdf	11 59 55.9	-0.1	
	baz=132								
MIAR	Mount Ida	131.72	7	*e*PKIKP		PKPdf	11 59 57.1	+1.1	
MIAR				*e*			12 00 06.9		
MIAR	Mount Ida	131.72	7	*e*PKPdf		PKPdf	11 59 57.1	+1.1	
MIAR				*ep*PKPdf		pPKPdf	12 00 06.9	-0.3	
226B	Tecolote Peak,	131.74	19	⇓P		PKPdf	11 59 56.0	-0.2	
	baz=132								
128A	Castleberry Fa	131.75	17	⇑P		PKPdf	11 59 56.3	+0.1	
	baz=132								
Z32A	Haskell	131.88	14	⇓P		PKPdf	11 59 55.9	-0.5	
	baz=132,SNR=7.1								
129A	Stewart Farms,	131.91	17	⇑P		PKPdf	11 59 56.3	-0.2	
	baz=132								
Z33A	Whitaker Ranch	132.06	13	⇑P		PKPdf	11 59 56.5	-0.2	
	baz=132								
130A	Snyder	132.19	16	⇑P		PKPdf	11 59 57.0	0.0	
	baz=132								
131A	Roby	132.27	15	⇑P		PKPdf	11 59 57.4	+0.2	
	baz=132								
Z35A	Perchaven, San	132.34	11	⇓P		PKPdf	11 59 57.2	+0.1	
	baz=132								
326A	Caldwell Ranch	132.50	20	⇓P		PKPdf	11 59 57.7	0.0	
	baz=132								
ABTX	Abilene, Hawle	132.50	14	⇑P		PKPdf	11 59 57.7	+0.1	
	baz=132								
425A	Indio Mountain	132.64	21	⇑P		PKPdf	11 59 58.2	+0.2	
	baz=132								
133A	Hamilton Ranch	132.68	14	⇑P		PKPdf	11 59 58.0	+0.1	
	baz=132								
328A	Wristen Ranch,	132.81	18	⇓P		PKPdf	11 59 58.0	-0.2	
	baz=133								
230A	Sterling City	132.82	16	⇓P		PKPdf	11 59 58.0	-0.2	
	baz=133								
134A	White-Moore Ra	132.90	13	⇑P		PKPdf	11 59 58.5	+0.3	
	baz=133								
426A	McDonald Obser	133.08	20	⇓P		PKPdf	11 59 59.1	+0.2	
	baz=133								
427A	Hayter Ranch,	133.12	19	⇑P		PKPdf	11 59 59.2	+0.4	
	baz=133								
232A	Coleman	133.20	15	⇑P		PKPdf	11 59 59.1	+0.2	
	baz=133								
330A	Mertzon	133.26	17	⇓P		PKPdf	11 59 59.2	+0.2	
	baz=133								
331A	San Angelo	133.55	16	⇑P		PKPdf	11 59 59.9	+0.3	
	baz=133								
WHTX	Lake Whitney	133.59	12	⇓P		PKPdf	12 00 00.5	+0.9	
	baz=133								
332A	Millersview	133.66	15	⇓P		PKPdf	12 00 00.2	+0.5	
	baz=133								
429A	Davenport Ranc	133.79	18	⇓P		PKPdf	12 00 00.1	0.0	
	baz=134								
430A	Baggett Ranch,	133.83	17	⇑P		PKPdf	12 00 00.3	+0.1	
	baz=134								
333A	Richland Sprin	133.90	14	⇑P		PKPdf	12 00 00.8	+0.6	
	baz=134								
334A	Lometa	134.06	13	⇑P		PKPdf	12 00 00.6	+0.1	
	baz=134								
626A	Big Bend Ranch	134.06	21	⇑P		PKPdf	12 00 00.6	0.0	
	baz=134								
431A	Sonora	134.10	16	⇓P		PKPdf	12 00 00.7	0.0	
	baz=134								
432A	Menard	134.13	15	⇑P		PKPdf	12 00 01.0	+0.3	
	baz=134								
530A	J-C Ranch, Com	134.40	17	⇑P		PKPdf	12 00 01.3	+0.1	
	baz=134								
627A	Terlingua Ranc	134.41	20	⇑P		PKPdf	12 00 01.4	+0.1	
	baz=134								
433A	Art	134.42	14	⇓P		PKPdf	12 00 01.0

	comp=Z,0.2nm,0.3s,baz=63,slow=2.3,SNR=3.8						
SAML	**Samuel**	**156.03 279**	*e*PKPdf	**PKPdf**	**12 00 37.2**	**-0.6**
SAML			*ep*PKPdf	**pPKPdf**	**12 00 46.6**	**-2.4**
SAML			LR	LR		
	comp=Z,390nm,22.0s					
JTS	**JuntasAbangare**	**156.15 355**	PFAKE		12 00 50.0	+12
JTS			LR	LR		
	comp=Z,298nm,19.0s					
ROSC	**El Rosal**	**157.66 324**	PKP	**PKPdf**	**12 00 40.1**	**-0.3**
ROSC	**El Rosal**	**157.66 324**	PKP	**PKPdf**	**12 00 40.1**	**-0.3**
	comp=Z,5.9nm,0.4s,baz=253,slow=19,SNR=3.6					
LCO	**Las Campanas**	**158.36 222**	PFAKE		12 00 50.0	+9.3
LCO			LR	LR		
	comp=Z,319nm,21.0s					
LPAZ	**La Paz**	**161.41 259**	PKP	**PKPdf**	**12 00 44.3**	**-0.5**
LPAZ			*e*PKPdf	**PKPdf**	**12 00 44.5**	**-0.4**
LPAZ			*ep*PKPdf	**pPKPdf**	**12 00 55.8**	**-0.3**
LPAZ			PKPab	**PKPab**	**12 01 28.1**	**-1.1**
LPAZ			*ep*PKPab	pPKPab	12 01 28.4	-12
LPAZ	**La Paz**	**161.41 259**	PKP	**PKPdf**	**12 00 44.3**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=58,slow=3.5,SNR=7.2					
LPAZ			PKPab	**PKPab**	**12 01 28.1**	**-1.1**
	comp=Z,8.2nm,0.9s,baz=62,slow=3.2,SNR=7.9					
OTAV	**Otavalo**	**163.75 327**	*e*PKPdf	**PKPdf**	**12 00 47.4**	**+0.3**
OTAV			*ep*PKPdf	**pPKPdf**	**12 00 58.7**	**+0.4**
OTAV			*e*PKPab	**PKPab**	**12 01 36.7**	**-2.4**
OTAV			LR	LR		
	comp=Z,207nm,19.0s					

*KRSC **01** 11:57:43.9±2.6, 55°.41N×166°.33E, h22km±22km, ML3.8*
*IDC **01** 11:57:43.5±1.7, 55°.54N×166°.40E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/28, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=35.5km s-min=28.8km az=10.0*
*ISCJB **01** 11:57:45.3±0.7, 55°.36N±0°.04×166°.33E±0°.06, h30km±5km, mb3.4/3, Error ellipse: s-maj=7.0km s-min=5.4km az=159.1*

ISC 01 11:57:45.2±1.5, **55°.44N**±0°.06×**166°.36E**±0°.06, **h16**km±9km, **n32**, σ1**9**22/49, **mb3.4**/3, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**0.33**	**223**	P		**Pg**	**11 57 51.7**	**-0.3**
BKI				S		**Sg**	**11 57 56.9**	**+0.3**
KBTR	**Krutoberegovo**	**2.14**	**292**	P		**Pn**	**11 58 18.0**	**-2.2**
KBTR				S		**Sn**	**11 58 43.4**	**-3.1**
KBG	**Krutoberegovo**	**2.22**	**293**	P		**Pn**	**11 58 19.5**	**-1.7**
KBG				S		**Sn**	**11 58 46.5**	**-1.8**
MKZ	**Mys Kozlova**	**2.81**	**254**	P		**Pn**	**11 58 28.7**	**-0.7**
MKZ				S		**Sn**	**11 59 01.1**	**-1.8**
SMKR	**Semkarok**	**2.98**	**295**	P		**Pn**	**11 58 31.5**	**-0.3**
SMKR				S		**Sn**	**11 59 07.5**	**+0.4**
BDR	**Baidarnaya**	**3.11**	**293**	P		**Pn**	**11 58 34.4**	**+0.8**
BDR				S		**Sn**	**11 59 12.4**	**+2.0**
SRKR	**Sorokina**	**3.16**	**295**	P		**Pn**	**11 58 34.1**	**-0.1**
SRKR				S		**Sn**	**11 59 11.6**	**0.0**
KLY	**Klyuchi**	**3.33**	**288**	P		**Pn**	**11 58 35.2**	**-1.4**
KZV	**Kizimen**	**3.49**	**267**	P		**Pn**	**11 58 39.0**	**+0.1**
KZV				S		**Sn**	**11 59 19.7**	**-0.2**
KMNR	**Kamenistaya**	**3.49**	**278**	P		**Pn**	**11 58 39.7**	**+0.9**
TUMR	**Tumrok**	**3.55**	**270**	P		**Pn**	**11 58 40.6**	**+0.9**
TUMR				S		**Sn**	**11 59 22.8**	**+1.4**
SRDR	**Sredinnyy**	**3.84**	**286**	P		**Pn**	**11 58 44.0**	**+0.3**
SRDR				S		**Sn**	**11 59 29.3**	**+0.8**
SPN	**Mys Shipunski**	**4.40**	**240**	S		**Sn**	**11 59 39.4**	**-2.6**
FX1	**Attu Island--F**	**4.75**	**120**	Pn		**Pn**	**11 58 54.5**	**-1.5**
	2.6nm,0.3s,baz=266,slow=15,SNR=3.6							
SDLR	**Sedlovina**	**4.88**	**247**	P		**Pn**	**11 58 58.6**	**+0.6**
SDLR				S		**Sn**	**11 59 53.3**	**-0.9**
SMAR	**Somma**	**4.93**	**247**	P		**Pn**	**11 58 59.5**	**+0.7**
KRER	**Koryakskii**	**4.94**	**247**	P		**Pn**	**11 58 59.5**	**+0.7**
KRER				S		**Sn**	**11 59 54.9**	**-0.8**
UGLR	**Uglovaya**	**4.95**	**246**	P		**Pn**	**11 58 59.8**	**+0.9**
UGLR				S		**Sn**	**11 59 55.3**	**-0.5**
AVH	**Avacha**	**4.96**	**247**	P		**Pn**	**11 59 00.0**	**+0.9**
AVH				S		**Sn**	**11 59 56.0**	**-0.1**
KRX	**Arik**	**4.97**	**248**	P		**Pn**	**11 58 59.9**	**+0.7**
KRX				S		**Sn**	**11 59 55.3**	**-1.0**
KOK	**Koryaka**	**5.00**	**248**	P		**Pn**	**11 59 00.2**	**+0.6**
KOK				S		**Sn**	**11 59 56.4**	**-0.8**
PET	**Petropavlovsk**	**5.13**	**245**	P		**Pn**	**11 59 01.3**	**+0.1**
PET				S		**Sn**	**11 59 57.7**	**-2.4**
PETK	**Petropavlovsk-**	**5.59**	**249**	Pn		**Pn**	**11 59 08.4**	**+0.9**
	1.5nm,0.3s,baz=78,slow=17,SNR=47							
PETK				Sn		**Sn**	**12 00 11.8**	**+0.3**
	1.1nm,0.3s,baz=85,slow=20,SNR=6.4							
MTVR	**Mutnovka**	**5.67**	**242**	P		**Pn**	**11 59 09.5**	**+0.7**
MTVR				S		**Sn**	**12 00 12.0**	**-1.5**
ASAK	**Asacha**	**5.87**	**242**	P		**Pn**	**11 59 12.8**	**+1.4**
ASAK				S		**Sn**	**12 00 18.3**	**0.0**
APC	**Apacha**	**5.96**	**249**	P		**Pn**	**11 59 14.2**	**+1.5**
ILAR	**Eielson Array**	**24.52**	**49**	P		**P**	**12 03 03.0**	**-0.5**
	0.8nm,0.8s,baz=252,slow=8.4,SNR=4.5							
H11N2	**WAKE ISLAND Hy**	**35.66**	**179**	T		T	12 42 19.2	
	baz=0.9,slow=76,SNR=23							
H11N3	**WAKE ISLAND Hy**	**35.67**	**179**	T		T	12 42 17.4	
	baz=0.9,slow=76,SNR=20							
H11N1	**WAKE ISLAND Hy**	**35.67**	**179**	T		T	12 42 28.2	
	baz=0.9,slow=76,SNR=24							
NVAR	**Mina Array Bea**	**51.54**	**76**	P		**P**	**12 06 51.1**	**+0.9**
	0.3nm,0.7s,baz=297,slow=10.0,SNR=2.4							
TXAR	**Lajitas Array**	**66.37**	**72**	P		**P**	**12 08 34.0**	**+0.7**
	0.3nm,0.5s,baz=298,slow=4.1,SNR=10							

IDC 01 12:03:12.9±2.4, **5°.25N**×**124°.15E**, **h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.3**/23, **mbtmp3.4**/3, **Error ellipse: s-maj=261.5km s-min=26.9km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**26.97**	**158**	P		P	12 08 56.6	+0.2
ASAR	**Alice Springs**	**30.28**	**162**	P		P	12 09 25.8	-0.2
	0.2nm,0.4s,baz=336,slow=8.0,SNR=5.9							
MKAR	**Makanchi Array**	**54.85**	**326**	P		P	12 12 45.0	-0.1
	0.2nm,0.3s,baz=125,slow=7.4,SNR=5.5							

*JMA **01** 12:18:33.7±0.1, 24°.78N×122°.87E, h18km, M1.5*
*TAP **01** 12:18:34.5, 24°.22N×122°.75E, h12km±1km, ML2.6, C*

ISC 01 12:18:33.9±1.4, **24°.24N**±0°.10×**122°.79E**±0°.03, **h17**km±11km, **n11**, σ0**65**/19, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	**Yonaguni jima**	**0.30**	**43**	P		**Pb**	**12 18 40.7**	**-0.1**
YOJ				eS		**Sb**	**12 18 45.6**	**+0.2**
IRIF	**Iriomote-Funau**	**0.86**	**84**	P		**Pb**	**12 18 50.2**	**-0.2**
IRIF				eS		**Sb**	**12 19 02.6**	**+1.0**
TWC	**Suao**	**0.93**	**293**	*e*P		**Pn**	**12 18 51.7**	**-0.5**
	baz=310							
TWC				eS		**Sn**	**12 19 04.6**	**-0.6**
	baz=310							
ENA	**Nanau**	**0.97**	**281**	P		**Pb**	**12 18 52.2**	**-0.2**
	baz=274							
ILA	**Ilan**	**1.08**	**299**	*e*P		**Pn**	**12 18 56.0**	**+1.7**
	baz=301							
JKRS	**Kuro-shima**	**1.11**	**90**	P		**Pb**	**12 18 54.9**	**+0.2**
JKRS				eS		**Sb**	**12 19 09.4**	**+0.5**
TWE	**Neicheng**	**1.13**	**295**	P		**Pg**	**12 18 55.6**	**-0.1**
	baz=309							
TWE				eS		**Sn**	**12 19 09.2**	**-0.9**
	baz=309							
ENTT	**Nioudou**	**1.18**	**290**	P		**Pg**	**12 18 56.6**	**-0.2**
	baz=292							
ENTT				eS		**Sg**	**12 19 12.3**	**0.0**
	baz=292							
JIJ	**Ishigaki jima**	**1.24**	**84**	P		**Pn**	**12 18 56.1**	**-0.3**
JIJ				eS		**Sb**	**12 19 12.2**	**-0.3**
NSK	**Sanguang**	**1.38**	**289**	*e*P		**Pg**	**12 19 00.3**	**-0.1**
	baz=306							
NSK				eS		**Sg**	**12 19 18.4**	**0.0**
	baz=306							
WHF	**Hehuan Shan**	**1.40**	**266**	P		**Pn**	**12 18 59.5**	**+0.5**
	baz=268							

*ISCJB **01** 12:36:42.6±0.8, 13°.9N±0°.2×91°.48W±0°.08, h109km±16km, Error ellipse: s-maj=29.4km s-min=5.5km az=22.5*
*CASC **01** 12:36:44.4±1.9, 13°.99N×91°.33W, h102km±18km, MD3.7*
*MEX **01** 12:36:46.0±0.2, 13°.70N×91°.67W, h76km±10km, MD4.1*

ISC 01 12:36:43.3±1.6, **13°.9N**±0°.2×**91°.42W**±0°.07, **h109**km±15km, **n14**, σ0**88**/21, **1C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAT	**Jato**	**0.43**	**331**	⇑*e*P		**Pn**	**12 37 00.0**	**+0.4**
PCG	**Pacaya**	**0.91**	**60**	*e*P		**Pn**	**12 37 02.9**	**-0.9**
PCG				eS		**Sn**	**12 37 19.6**	**+0.4**
THIG		**1.27**	**320**	*i* P		**Pn**	**12 37 07.7**	**+0.4**
THIG				*i* S		**Sn**	**12 37 24.6**	**-0.9**
RBDL	**Robledal**	**1.69**	**84**	*e*P		**Pn**	**12 37 11.9**	**-0.6**
RTR	**El Retiro**	**1.73**	**91**	*e*P		**Pn**	**12 37 13.1**	**+0.2**
SBLS	**San Blas**	**1.75**	**93**	*e*P		**Pn**	**12 37 13.6**	**+0.3**
SBLS				eS		**Sn**	**12 37 36.4**	**+0.2**
SNJE	**San Jose**	**1.77**	**92**	*e*P		**Pn**	**12 37 13.8**	**+0.3**
MRL	**Marmol**	**2.02**	**56**	*e*P		**Pn**	**12 37 16.4**	**-0.3**
BOQS	**Boqueron**	**2.09**	**95**	*e*P		**Pn**	**12 37 18.0**	**+0.4**
LFRS	**El Faro**	**2.31**	**97**	*e*P		**Pn**	**12 37 21.5**	**+1.1**
PCIG		**2.47**	**316**	*e*P		**Pn**	**12 37 23.2**	**+0.9**
PCIG				*i* S		**Sn**	**12 37 52.2**	**-0.1**
HUIG	**Huatulco**	**4.88**	**292**	*i* P		**Pn**	**12 37 54.8**	**+0.2**
HUIG				*i* S		**Sn**	**12 38 48.4**	**-1.6**
PNIG	**Pinotepa**	**6.92**	**292**	*e*P		**Pn**	**12 38 22.7**	**+0.6**
PNIG				*i* S		**Sn**	**12 39 37.7**	**-1.7**
UTMO	**Huajuapan**	**7.26**	**303**	*i* P		**Pn**	**12 38 28.3**	**+1.3**
UTMO				*i* S		**Sn**	**12 39 48.8**	**+0.8**

*DJA **01** 12:47:41.5±1.5, 0°.N±6°×12°.6E±1°.5, h10km, M4.6/9, mb4.5/5, MLv4.6/9*
*IDC **01** 12:47:42.0±0.6, 0°.39N×125°.86E, h0km, mb4.2/13, mb1 4.2/14, mb1mx4.1/24, mbtmp4.1/14, ML3.7/1, Error ellipse: s-maj=30.7km s-min=12.5km az=70.0*
*ISCJB **01** 12:47:46.4±0.3, 0°.44N±0°.04×126°.07E±0°.05, h44km, mb4.2/18, Error ellipse: s-maj=7.1km s-min=5.6km az=166.7*
*NEIC **01** 12:47:51.8±2.2, 0°.41N×126°.11E, h80km±22km, mb4.5/5, Error ellipse: s-maj=18.7km s-min=8.2km az=53.0*
*AUST **01** 12:47:55.7±0.0, 0°.23S×126°.06E, h77km, Error ellipse: s-maj=1.3km s-min=0.9km az=0.0*

ISC 01 12:47:48.4±0.4, **0°.41N**±0°.06×**126°.03E**±0°.07, **h44**km, **n61**, σ1**9**21/68, **mb4.2**/18, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMSI	**Cibinong**	**2.06**	**275**	P		**Pn**	**12 48 20.6**	**0.0**
GTOI	**Gorontalo**	**3.03**	**274**	P		Pn	12 48 39.4	+5.5
SGSI	**Sangihe**	**3.30**	**351**	P		**Pn**	**12 48 35.7**	**-1.9**
LUWI	**Luwuk**	**3.56**	**246**	P		**Pn**	**12 48 43.1**	**+1.9**
LUWI	**Luwuk**	**3.56**	**246**	P		Pn	12 48 45.5	+4.2
	baz=3.4,SNR=12							
MRSI	**Marisa**	**4.09**	**271**	P		Pn	12 48 52.6	+4.1
FAKI	**Fak Fak**	**7.04**	**118**	P		**Pn**	**12 49 30.8**	**+1.8**
	baz=6.7,SNR=4.6							
TTSI	**Tana Toraja**	**7.09**	**241**	P		**Pn**	**12 49 31.0**	**+1.2**
	40nm,0.6s,0.1nm							
BNSI	**Bone**	**7.61**	**231**	P		**Pn**	**12 49 36.7**	**-0.1**
	29nm,0.7s,0.1nm							
SPSI	**Sidrap Palu**	**7.62**	**235**	P		**Pn**	**12 49 38.4**	**+1.5**
	31nm,0.9s,0.1nm							
MMSI	**Mamuju**	**7.76**	**247**	P		**Pn**	**12 49 40.3**	**+1.4**
	16nm,0.7s,0.1nm							
BKSI	**Bulukumba**	**8.20**	**226**	P		**Pn**	**12 49 46.1**	**+1.2**
KAPI	**Kappang**	**8.27**	**229**	*e*Pn		Pn	12 49 49.8	+4.0
KAPI				*e*Sn		**Sn**	**12 51 13.4**	**-4.6**
KAPI	**Kappang**	**8.27**	**229**	Pn		**Pn**	**12 49 48.6**	**+2.7**
	5.1nm,0.3s,baz=38,slow=17,SNR=8.9							
KAPI				Sn		**Sn**	**12 51 18.2**	**+0.2**
	3.7nm,0.3s,baz=306,slow=19,SNR=4.1							
MTN	**Manton Dam**	**14.10**	**159**	P		**Pn**	**12 51 04.9**	**-0.7**
	baz=14,SNR=6.0							
KDU	**Kakadu**	**14.49**	**154**	P		**Pn**	**12 51 09.1**	**-1.8**
	baz=14,SNR=5.6							
KSM	**Kuching**	**15.76**	**274**	*e*P		**P**	**12 51 32.3**	**+1.5**
	47nm,1.0s							
KSM	**Kuching**	**15.76**	**274**	P		**P**	**12 51 32.5**	**+1.7**
	baz=16,SNR=7.5							
KNRA	**Kununurra**	**16.21**	**171**	P		**Pn**	**12 51 34.3**	**+1.2**
	baz=16,SNR=6.8							
FITZ	**Fitzroy Crossi**	**18.40**	**181**	P		**P**	**12 51 59.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.40**	**181**	P		**P**	**12 51 59.6**	**-0.3**
	0.2nm,0.3s,baz=7.2,slow=11,SNR=7.1							
WRAB	**Tennant Creek**	**21.79**	**158**	*e*P		**P**	**12 52 35.7**	**-1.1**
	20nm,0.8s							
WRA	**Warramunga Arr**	**21.80**	**159**	P		**P**	**12 52 35.9**	**-0.9**
WRA	**Warramunga Arr**	**21.80**	**159**	P		**P**	**12 52 35.9**	**-0.9**
	10nm,0.7s,baz=336,slow=11,SNR=66							
COEN	**Coen**	**22.18**	**131**	*e*P		**P**	**12 52 40.6**	**-0.4**
	44nm,0.8s							
COEN	**Coen**	**22.18**	**131**	P		**P**	**12 52 40.4**	**-0.6**
	baz=22,SNR=3.8							
PMG	**Port Moresby**	**23.18**	**115**	P		**P**	**12 52 53.5**	**+2.0**
PMG	**Port Moresby**	**23.18**	**115**	P		**P**	**12 52 53.5**	**+2.0**
	2.9nm,0.6s,baz=264,slow=9.2,SNR=3.4							
AS31	**Alice Springs**	**25.12**	**163**	*e*P		**P**	**12 53 10.7**	**+1.2**
ASAR	**Alice Springs**	**25.12**	**163**	P		**P**	**12 53 08.7**	**-0.7**
ASAR				PcP		**PcP**	**12 56 43.1**	**+0.1**
ASAR	**Alice Springs**	**25.12**	**163**	P		**P**	**12 53 08.7**	**-0.7**
	4.3nm,0.7s,baz=352,slow=15,SNR=55							
ASAR				PcP		**PcP**	**12 56 43.1**	**+0.1**
	0.3nm,0.3s,baz=348,slow=2.3,SNR=4.3							
CMAR	**Chiang Mai Arr**	**32.09**	**306**	P		**P**	**12 54 11.2**	**-0.4**
CMAR				PcP		**PcP**	**12 57 01.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**32.09**	**306**	P		**P**	**12 54 11.2**	**-0.4**
	0.5nm,0.3s,baz=148,slow=7.8,SNR=5.6							
CMAR				PcP		**PcP**	**12 57 01.9**	**+1.4**
	0.3nm,0.3s,baz=187,slow=1.3,SNR=5.0							
BBOO	**Buckleboo**	**34.37**	**165**	P		**P**	**12 54 31.2**	**-0.1**
	baz=34,SNR=7.1							
STKA	**Stephens Creek**	**35.33**	**157**	*e*P		**P**	**12 54 39.5**	**-0.1**
STKA	**Stephens Creek**	**35.33**	**157**	P		**P**	**12 54 39.2**	**-0.4**
	5.2nm,0.6s,baz=324,slow=7.7,SNR=25							
STKA	**Stephens Creek**	**35.33**	**157**	P		**P**	**12 54 39.5**	**-0.1**
	baz=35,SNR=15							
KSAR	**Wonju Array Be**	**36.89**	**2**	P		**P**	**12 54 52.5**	**-0.3**
KSRS	**Korea Array**	**36.91**	**3**	P		**P**	**12 54 52.5**	**-0.4**
	1.5nm,0.7s,baz=179,slow=10,SNR=8.8							
ARPS	**Mount Arapiles**	**39.79**	**160**	P		**P**	**12 55 18.3**	**+1.1**
	baz=39,SNR=4.7							
HHC	**Hu-ho-hao-te**	**42.34**	**344**	*e*P		**P**	**12 55 39.8**	**+1.4**
HHC				S		**S**	**13 01 58.6**	**+2.0**
HHC				pmax	pmax			
	comp=Z,17nm,0.9s							
HHC				pmax	pmax			
	comp=Z,300nm,5.9s							
USRK	**Ussuriysk Arra**	**43.93**	**6**	P		**P**	**12 55 51.0**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=186,slow=8.7,SNR=6.8							
LSA	**Lhasa**	**44.18**	**314**	*e*P		**P**	**12 55 53.8**	**0.0**
	comp=Z,3.2nm,0.6s							
ASAJ	**Asahikawa**	**45.95**	**17**	P		**P**	**12 56 07.0**	**-0.1**
ASAJ	**Asahikawa**	**45.95**	**17**	P		**P**	**12 56 07.0**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=234,slow=8.7,SNR=5.4							
SONM	**Songino Array**	**50.23**	**343**	P		**P**	**12 56 39.5**	**-0.7**
SONM				PcP		**PcP**	**12 57 58.9**	**+0.1**
SONM	**Songino Array**	**50.23**	**343**	P		**P**	**12 56 39.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=156,slow=9.0,SNR=9.3							
SONM				PcP		**PcP**	**12 57 58.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=170,slow=4.5,SNR=4.5							
MK31	**Makanchi Array**	**59.90**	**327**	*e*P		**P**	**12 57 49.0**	**-0.9**
MKAR	**Makanchi Array**	**59.90**	**327**	P		**P**	**12 57 49.1**	**-0.9**
MKAR				PcP		**PcP**	**12 58 35.8**	**-0.2**
MKAR	**Makanchi Array**	**59.90**	**327**	P		**P**	**12 57 49.1**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=122,slow=7.8,SNR=33							
MKAR				PcP		**PcP**	**12 58 35.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=121,slow=4.5,SNR=2.1							
ZALV	**Zalesovo Beam**	**63.24**	**334**	P		**P**	**12 58 10.8**	**-1.5**
ZALV	**Zalesovo Beam**	**63.24**	**334**	P		**P**	**12 58 10.8**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=160,slow=6.4,SNR=5.0							
ABKAR	**Akbulak array**	**74.28**	**322**	*e*P		**P**	**12 59 20.9**	**-0.3**
	comp=Z,1.2nm,0.6s							
VNDA	**Vanda**	**80.24**	**173**	P		**P**	**12 59 53.8**	**-0.1**
VNDA	**Vanda**	**80.24**	**173**	P		**P**	**12 59 53.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=317,slow=6.8,SNR=6.5							
BRTR	**Keskin Array B**	**91.59**	**310**	P		**P**	**13 00 49.9**	**-1.3**
BRTR	**Keskin Array B**	**91.59**	**310**	P		**P**	**13 00 49.9**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=145,slow=4.5,SNR=4.4							
TORD	**Torodi Ar. Bea**	**123.22**	**286**	PKP		**PKPdf**	**13 06 42.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**123.22**	**286**	PKP		**PKPdf**	**13 06 42.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=26,slow=2.0,SNR=3.8							
TXAR	**Lajitas Array**	**124.15**	**54**	PKP		**PKPdf**	**13 06 43.1**	**0.0**
TXAR	**Lajitas Array**	**124.15**	**54**	PKP		**PKPdf**	**13 06 43.1**	**0.0**
	comp=Z,0.2nm,0.6s,baz=274,slow=2.6,SNR=4.0							

*ISCJB **01** 13:32:08.5±0.4, 37°.36N±0°.03×72°.13E±0°.07, h176km, mb3.6/4, Error ellipse: s-maj=8.8km s-min=3.5km az=160.0*
*IDC **01** 13:32:09.1±4.8, 37°.37N×72°.18E, h168km±42km, mb3.3/4, mb1 3.5/9, mb1mx3.2/30, mbtmp3.5/9, MS3.0/1, Ms1 3.0/1, ms1mx2.4/24, Error ellipse: s-maj=49.3km s-min=36.4km az=126.0*
*NNC **01** 13:32:20.4±5.0, 38°.26N×72°.38E, h226km±36km, mb3.2, mpv4.2, Error ellipse: s-maj=47.6km s-min=23.5km az=13.0*

ISC 01 13:32:09.6±0.6, **37°.45N**±0°.05×**72°.35E**±0°.08, **h176**km, **n52**, σ1**9**84/54, **mb3.5**/4, **7C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CEP	**Cherat**	**3.64**	**186**	P		Pn	13 33 09.3	+3.1
CEP				S		**Sn**	**13 33 54.0**	**+3.8**
CHCP	**Chirah Chowk**	**3.85**	**169**	P		Pn	13 33 13.1	+4.3
THW	**Thamme Wali**	**4.67**	**186**	⇓P		Pn	13 33 21.8	+2.5
AML	**Almayashu**	**4.79**	**12**	P		**Pn**	**13 33 22.9**	**+1.9**
	SNR=448							
UCH	**Uchtor**	**5.05**	**19**	P		**Pn**	**13 33 26.6**	**+2.0**
	SNR=90							
KZA	**Kyzart**	**5.13**	**25**	P		**Pn**	**13 33 27.1**	**+1.6**
	SNR=46							
EKS2	**Erkin-Say**	**5.32**	**11**	P		**Pn**	**13 33 29.7**	**+2.0**
	SNR=101							
AAK	**Ala-Archa**	**5.43**	**17**	P		**Pn**	**13 33 31.6**	**+2.4**
	SNR=74							
AAK	**Ala-Archa**	**5.43**	**17**	P		**Pn**	**13 33 31.6**	**+2.4**
	26nm,0.3s,baz=171,slow=7.3,SNR=277							
AAK				S		**Sn**	**13 34 32.7**	**+1.0**
	3.6nm,0.3s,baz=316,slow=22,SNR=11							
SARP	**Sargodha**	**5.52**	**177**	P		**Pn**	**13 33 32.0**	**+1.7**
KBK	**Karagaybulak**	**5.57**	**20**	P		**Pn**	**13 33 33.9**	**+2.9**
	SNR=38							
ULHL	**Ulahol**	**5.65**	**31**	P		**Pn**	**13 33 33.9**	**+1.8**
	SNR=32							
KK31	**Karatay Array**	**5.82**	**347**	P		**Pn**	**13 33 35.2**	**+1.1**
	14nm,0.5s,baz=157,slow=11,SNR=355							
KK31				S		**Sn**	**13 34 37.5**	**-3.2**
	22nm,0.3s,baz=156,slow=21,SNR=19							
CHMS	**Chumysh**	**5.84**	**18**	P		**Pn**	**13 33 36.3**	**+1.9**
	SNR=32							
TKM2	**Tokmak 2**	**6.00**	**23**	P		**Pn**	**13 33 38.8**	**+2.0**
	SNR=55							
TKM2	**Tokmak 2**	**6.00**	**23**	⇑P		**Pn**	**13 33 38.6**	**+1.9**
	33nm,0.8s							
TKM2				⇑S		Sn	13 34 40.8	-4.4
	8.6nm,0.6s							
USP	**Ospenovka**	**6.04**	**15**	P		**Pn**	**13 33 38.3**	**+1.3**
	SNR=14							
DHRM	**DHARAMSHALA**	**6.12**	**147**	*e*P		**Pn**	**13 33 39.0**	**+0.6**
DHRM				eS		**Sn**	**13 34 46.4**	**-1.7**
DHRM				AML	AML		13 34 51.4	
	comp=N,569nm,0.1s							
DHRM				AML	AML		13 34 51.8	
	comp=E,769nm,0.6s							
SMLA	**Simla**	**7.46**	**146**	*i* P		**Pn**	**13 33 57.7**	**+2.0**
SMLA				eS		**Sn**	**13 35 15.3**	**-4.3**
SMLA				AML	AML		13 35 22.3	
	comp=N,222nm,0.2s							
SMLA				AML	AML		13 35 23.0	
	comp=E,337nm,0.2s							
DDI	**Dehra Dun**	**8.54**	**145**	*e*S		**Sn**	**13 35 41.5**	**-4.1**
KHET	**Khetri**	**9.79**	**162**	*e*P		**Pn**	**13 34 25.4**	**-1.1**
KHET				eS		Sn	13 36 07.3	-8.1
KHET				AML	AML		13 36 24.0	
	comp=E,84nm,0.1s							
KHET				AML	AML		13 36 24.6	
	comp=N,130nm,0.1s							
KUDL	**Kundal**	**9.91**	**158**	*e*P		**Pn**	**13 34 27.3**	**-0.8**
KUDL				eS		Sn	13 36 10.1	-8.2
KUDL				AML	AML		13 36 14.0	
	comp=E,26nm,0.7s							
KUDL				AML	AML		13 36 14.2	
	comp=N,16nm,0.6s							
SONA	**Sohna**	**10.00**	**

ellipse: s-maj=122.9km s-min=29.4km az=55.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.65**	**255**	P	P	13 39 44.7	-0.3
	0.4nm,0.3s,baz=94,slow=18,SNR=6.1						
URZ	**Urewera**	**19.99**	**193**	P	P	13 40 24.1	-0.2
	1.1nm,0.3s,baz=341,slow=20,SNR=12						
CTA	**Charters Tower**	**34.42**	**262**	P	P	13 42 30.0	-0.4
	3.8nm,0.7s,baz=65,slow=14,SNR=6.0						
PMG	**Port Moresby**	**35.73**	**280**	P	P	13 42 41.7	+0.4
	4.8nm,0.7s,baz=89,slow=3.8,SNR=5.4						
STKA	**Stephens Creek**	**39.20**	**242**	P	P	13 43 09.8	+0.6
	1.3nm,0.4s,baz=87,slow=12,SNR=12						
WRA	**Warramunga Arr**	**45.59**	**260**	P	P	13 43 58.7	-0.7
	2.4nm,0.4s,baz=97,slow=8.0,SNR=11						
ASAR	**Alice Springs**	**45.64**	**255**	P	P	13 43 59.4	-0.4
	4.2nm,0.7s,baz=89,slow=7.9,SNR=42						
FITZ	**Fitzroy Crossi**	**54.00**	**261**	P	P	13 45 00.8	-0.2
	0.8nm,0.2s,baz=127,slow=5.1,SNR=3.0						

PRE 01 13:44:42.5±3.6, 32°69S×31°42E, h10km, ML4.2, 6C-5D, Off coast of South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSD	**Kokstad**	**2.74**	**321**	⇑*iP*	Pn	13 45 29.0	+2.2
KSD				*eS*	Sn	13 46 00.4	+0.2
KSD				AML	AML	13 46 01.4	
	comp=Z,281nm,0.3s						
GRM	**Grahamstown**	**4.17**	**260**	⇓*iP*	Pn	13 45 46.1	-0.3
GRM				*eS*	Sn	13 46 32.7	-2.6
GRM				AML	AML	13 46 34.9	
	comp=Z,141nm,0.5s						
POGA	**Pongola**	**5.31**	**2**	⇓*iP*	Pn	13 46 02.3	+0.4
POGA				*eS*	Sn	13 46 58.1	-5.1
POGA				AML	AML	13 47 02.5	
	comp=Z,148nm,0.3s						
SEK	**Senekal**	**5.45**	**322**	*eP*	Pn	13 46 05.7	+1.6
SEK				*eS*	Sn	13 47 04.6	-2.3
SEK				AML	AML	13 47 26.6	
	comp=Z,73nm,0.4s						
HVD	**Gariep Dam**	**5.46**	**291**	*eP*	Pn	13 46 07.1	+2.9
HVD				*eS*	Sn	13 47 05.9	-1.4
HVD				AML	AML	13 47 24.2	
	comp=Z,106nm,0.6s						
BUFB	**Buffelsbos**	**5.77**	**254**	*eP*	Pn	13 46 07.4	-0.8
BUFB				*eS*	Sn	13 47 09.2	-5.3
BUFB				AML	AML	13 47 52.3	
	comp=Z,25nm,0.2s						
BOSA	**Boshof**	**6.69**	**306**	⇓*iP*	Pn	13 46 23.0	+2.0
BOSA				*eS*	Sn	13 47 33.0	-4.4
BOSA				AML	AML	13 48 05.0	
	comp=Z,45nm,0.4s						
PRYS	**Parys**	**6.74**	**327**	⇑*iP*	Pn	13 46 23.7	+1.9
PRYS				*eS*	Sn	13 47 36.9	-1.9
PRYS				AML	AML	13 48 07.6	
	comp=Z,14nm,0.4s						
ERPM	**east rand prop**	**6.91**	**336**	⇑*iP*	Pn	13 46 27.4	+3.3
ERPM				*eS*	Sn	13 47 44.3	+1.4
ERPM				AML	AML	13 47 45.6	
	comp=Z,22nm,0.6s						
OBSV	**Observatory**	**7.11**	**335**	*eP*	Pn	13 46 28.9	+1.9
OBSV				*eS*	Sn	13 47 44.8	-3.2
OBSV				AML	AML	13 48 18.0	
	comp=Z,23nm,0.4s						
SLR	**Silverton**	**7.46**	**338**	⇑*iP*	Pn	13 46 32.7	+1.2
SLR				*eS*	Sn	13 47 52.7	-3.7
SLR				AML	AML	13 48 21.8	
	comp=Z,34nm,0.5s						
SWZ	**Schweizer**	**7.62**	**315**	⇓*iP*	Pn	13 46 35.8	+2.0
SWZ				*eS*	Sn	13 47 56.7	-3.6
SWZ				AML	AML	13 48 33.3	
	comp=Z,29nm,0.4s						
KSR	**Koster**	**7.88**	**329**	*eP*	Pn	13 46 38.6	+1.2
KSR				*eS*	Sn	13 48 01.3	-5.5
KSR				AML	AML	13 48 46.2	
	comp=Z,10nm,0.6s						
SUR	**Sutherland**	**8.96**	**269**	⇑*iP*	Pn	13 46 53.9	+1.6
SUR				*eS*	Sn	13 48 30.6	-2.9
SUR				AML	AML	13 49 18.3	
	comp=Z,21nm,0.6s						
LBTB	**Lobatse**	**9.20**	**325**	⇓*iP*	Pn	13 46 56.6	+1.2
LBTB				*eS*	Sn	13 48 33.3	-5.8
LBTB				AML	AML	13 49 25.8	
	comp=Z,18nm,0.7s						
MSNA	**Messina**	**10.38**	**353**	⇑*iP*	Pn	13 47 11.0	-0.6
MSNA				*eS*	Sn	13 48 57.4	-11
MSNA				AML	AML	13 49 03.5	
	comp=Z,18nm,0.2s						
KOMG	**Komaggas**	**12.27**	**280**	*eP*	Pn	13 47 37.4	0.0
KOMG				*eS*	Sn	13 49 45.1	-9.2
KOMG				AML	AML	13 51 10.6	
	comp=Z,23nm,0.7s						

*KRSC **01** 13:46:18.6±4.5, 54°.50N×163°.20E, h33km±32km, ML4.1*
*MOS **01** 13:46:19.8±0.5, 54°.53N×163°.14E, h33km, mb4.3/1, Error ellipse: s-maj=19.2km s-min=12.6km az=90.1*
ISC 01 13:46:19.2±2.1, 54°49N±0°.03×163°21E±0°.04, h25km±18km, n48, σ1°26/68, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.86**	**275**	PN	Pn	13 46 35.4	-0.3
MKZ				S	**Sb**	**13 46 46.0**	**-0.6**
MKZ	**Mys Kozlova**	**0.86**	**275**	P	Pn	13 46 35.4	-0.3
MKZ				S	**Sb**	**13 46 46.0**	**-0.6**
KBTR	**Krutoberegovo**	**1.73**	**353**	PN	Pn	13 46 47.0	-0.7
KBTR				S	**Sn**	**13 47 07.1**	**-1.8**
KBTR	**Krutoberegovo**	**1.73**	**353**	P	Pn	13 46 47.0	-0.7
KBTR				S	**Sn**	**13 47 07.1**	**-1.8**
BKI	**Bering**	**1.75**	**65**	PN	**Pn**	**13 46 48.8**	**+0.9**
BKI				S	**Sn**	**13 47 08.9**	**-0.4**
BKI	**Bering**	**1.75**	**65**	P	**Pn**	**13 46 48.8**	**+0.9**
BKI				S	**Sn**	**13 47 08.9**	**-0.4**
KBG	**Krutoberegovo**	**1.79**	**351**	PN	Pn	13 46 48.1	-0.3
KBG				S	**Sn**	**13 47 09.5**	**-0.8**
KBG	**Krutoberegovo**	**1.79**	**351**	P	Pn	13 46 48.1	-0.3
KBG				S	**Sn**	**13 47 09.5**	**-0.8**
KZV	**Kizimen**	**1.80**	**291**	P	Pn	13 46 48.7	0.0
KZV				S	**Sn**	**13 47 10.1**	**-0.6**
TUMR	**Tumrok**	**1.94**	**295**	P	**Pn**	**13 46 51.1**	**+0.5**
TUMR				S	**Sn**	**13 47 14.6**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.04**	**316**	S	**Sn**	**13 47 16.9**	**+0.2**
ZLN	**Zelenaya**	**2.06**	**319**	S	**Sn**	**13 47 18.3**	**+1.3**
BZMR	**Bezymyannaya**	**2.12**	**314**	S	**Sn**	**13 47 17.8**	**-1.0**
KMNR	**Kamenistaya**	**2.12**	**308**	P	Pn	13 46 53.3	+0.2
KMNR				S	**Sn**	**13 47 19.0**	**+0.3**
KIRR	**Kirishev**	**2.20**	**313**	S	**Sn**	**13 47 20.5**	**-0.1**
KPT	**Kopyto**	**2.26**	**312**	P	**Pn**	**13 46 55.4**	**+0.4**
KPT				S	**Sn**	**13 47 23.7**	**+1.7**
KRSR	**Krestovskiy**	**2.29**	**320**	S	**Sn**	**13 47 22.2**	**-0.7**
SMKR	**Semkarok**	**2.31**	**335**	P	Pn	13 46 55.9	+0.2
SMKR				S	**Sn**	**13 47 24.2**	**+0.8**
KLY	**Klyuchi**	**2.33**	**322**	PN	Pn	13 46 55.2	-0.7
KLY				S	**Sn**	**13 47 22.2**	**-1.5**
KLY	**Klyuchi**	**2.33**	**322**	P	Pn	13 46 55.2	-0.7
KLY				S	**Sn**	**13 47 22.2**	**-1.5**
SPN	**Mys Shipunski**	**2.35**	**235**	S	**Sn**	**13 47 21.5**	**-2.6**
BDR	**Baidarnaya**	**2.37**	**332**	P	**Pn**	**13 46 57.0**	**+0.5**
BDR				S	**Sn**	**13 47 25.6**	**+0.8**
SRKR	**Sorokina**	**2.46**	**333**	P	**Pn**	**13 46 58.0**	**+0.3**
SRKR				S	**Sn**	**13 47 26.4**	**-0.5**
KOZR	**Kozyr**	**2.46**	**311**	PN	**Pn**	**13 46 58.4**	**+0.7**
KOZR				S	**Sn**	**13 47 28.3**	**+1.3**
KOZ	**Kozyrevsk**	**2.47**	**311**	P	**Pn**	**13 46 58.4**	**+0.6**
KOZ				S	**Sn**	**13 47 28.3**	**+1.2**
NLC	**Nalytchevo**	**2.64**	**242**	PN	Pn	13 47 00.4	+0.3
NLC				S	**Sn**	**13 47 29.5**	**-1.9**
NLC	**Nalytchevo**	**2.64**	**242**	P	Pn	13 47 00.4	+0.3
NLC				S	**Sn**	**13 47 29.5**	**-1.9**
SRDR	**Sredinnyy**	**2.70**	**314**	P	Pn	13 47 01.1	+0.1
SRDR				S	**Sn**	**13 47 30.4**	**-2.5**
SDLR	**Sedlovina**	**2.83**	**246**	P	**Pn**	**13 47 03.8**	**+0.9**
SDLR				S	**Sn**	**13 47 35.5**	**-0.7**
SMAR	**Somma**	**2.88**	**246**	P	**Pn**	**13 47 04.8**	**+1.1**
SMAR				S	**Sn**	**13 47 36.9**	**-0.7**
KRER	**Koryakskii**	**2.89**	**247**	P	**Pn**	**13 47 05.0**	**+1.2**
KRER				S	**Sn**	**13 47 37.5**	**-0.4**
UGLR	**Uglovaya**	**2.90**	**245**	P	**Pn**	**13 47 04.7**	**+0.9**
UGLR				S	**Sn**	**13 47 37.0**	**-0.8**
AVH	**Avacha**	**2.92**	**247**	P	**Pn**	**13 47 05.3**	**+1.3**
AVH				S	**Sn**	**13 47 37.9**	**-0.4**
KRX	**Arik**	**2.92**	**249**	P	**Pn**	**13 47 05.1**	**+0.9**
KRX				S	**Sn**	**13 47 37.3**	**-1.2**
ESO	**Esso**	**2.95**	**301**	PN	Pn	13 47 04.3	-0.2
ESO				S	**Sn**	**13 47 37.5**	**-1.6**
ESO	**Esso**	**2.95**	**301**	P	Pn	13 47 04.3	-0.2
ESO				S	**Sn**	**13 47 37.5**	**-1.6**
KOK	**Koryaka**	**2.96**	**248**	P	**Pn**	**13 47 05.8**	**+1.2**
KOK				S	**Sn**	**13 47 38.8**	**-0.5**
PET	**Petropavlovsk**	**3.08**	**243**	*e*PN	**Pn**	**13 47 07.4**	**+1.3**
PET	**Petropavlovsk**	**3.08**	**243**	P	**Pn**	**13 47 07.0**	**+0.9**
PET				S	**Sn**	**13 47 40.4**	**-1.7**
RUS	**Russkaya**	**3.48**	**236**	PN	**Pn**	**13 47 12.6**	**+0.9**
RUS	**Russkaya**	**3.48**	**236**	P	**Pn**	**13 47 12.6**	**+0.9**
RUS				S	**Sn**	**13 47 49.8**	**-2.2**
MTVR	**Mutnovka**	**3.61**	**238**	P	**Pn**	**13 47 14.9**	**+1.3**
MTVR				S	**Sn**	**13 47 54.3**	**-1.2**
GRL	**Gorelyy**	**3.63**	**240**	S	**Sn**	**13 47 57.0**	**+1.1**
ASAK	**Asacha**	**3.81**	**238**	P	**Pn**	**13 47 18.1**	**+1.8**
ASAK				S	**Sn**	**13 48 00.5**	**+0.2**
APC	**Apacha**	**3.92**	**249**	P	**Pn**	**13 47 19.7**	**+2.0**
APC				S	**Sn**	**13 48 03.2**	**+0.3**
MIPR	**Malaya Ipel'ka**	**4.45**	**243**	P	**Pn**	**13 47 26.3**	**+1.3**
OSSR	**Ossora**	**4.77**	**359**	S	**Sn**	**13 48 21.1**	**-2.6**
SKR	**Severo-Kuril's**	**5.76**	**231**	S	**Sn**	**13 48 46.2**	**-2.0**

*IDC **01** 14:03:29.5±1.8, 5°.11S×153°.19E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, Error ellipse: s-maj=58.3km s-min=19.9km az=120.0*
ISC 01 14:03:35.5±1.7, 5°.2S±0°.3×153°.2E±0°.3, h43km, n11, σ0s95/11, mb3.7/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.32**	**234**	Pn	Pn	14 05 24.2	+4.3
	1.4nm,0.3s,baz=48,slow=8.5,SNR=5.8						
PMG				S	**Sn**	**14 06 42.2**	**+0.4**
	1.0nm,0.3s,baz=135,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**23.51**	**230**	P	**P**	**14 08 42.2**	**+0.5**
	1.2nm,0.5s,baz=52,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**26.16**	**223**	P	**P**	**14 09 07.1**	**+1.1**
	0.4nm,0.4s,baz=56,slow=8.9,SNR=7.3						
FITZ	**Fitzroy Crossi**	**29.83**	**242**	P	**P**	**14 09 37.6**	**-1.2**
	2.1nm,0.4s,baz=61,slow=7.6,SNR=15						
PETK	**Petropavlovsk-**	**58.17**	**3**	P	**P**	**14 13 24.6**	**-0.2**
	5.1nm,1.1s,baz=168,slow=7.4,SNR=6.7						
CMAR	**Chiang Mai Arr**	**58.37**	**295**	P	**P**	**14 13 25.9**	**-1.1**
	1.0nm,0.8s,baz=116,slow=5.1,SNR=5.8						
SONM	**Songino Array**	**66.83**	**328**	P	**P**	**14 14 24.4**	**+1.4**
	0.1nm,0.4s,baz=117,slow=3.2,SNR=3.3						
MKAR	**Makanchi Array**	**80.84**	**319**	P	**P**	**14 15 45.5**	**+0.5**
	0.4nm,0.5s,baz=96,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**81.66**	**326**	P	**P**	**14 15 49.4**	**+0.4**
	0.4nm,0.4s,baz=114,slow=6.5,SNR=2.4						
ILAR	**Eielson Array**	**82.34**	**22**	P	**P**	**14 15 52.1**	**-0.3**
	0.6nm,0.7s,baz=245,slow=5.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**150.78**	**288**	PKPbc	**PKPbc**	**14 23 24.0**	**-0.3**
	0.5nm,0.4s,baz=79,slow=2.1,SNR=12						

DJA 01 14:11:28.8±0.7, 9°S±11°×12°1E±°, h23km±27km, M3.5/3, MLv3.5/3, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.01**	**50**	P	Pn	14 11 46.3	-1.3
MMRI				S	Sb	14 12 00.7	+0.1
WSI	**Waingapu**	**1.20**	**252**	P	Pn	14 11 49.9	-0.3
WSI				S	Sn	14 12 05.1	-0.6
LBFI	**Labuhan Bajo,**	**1.74**	**297**	P	Pn	14 11 57.5	-0.1
LBFI				S	Sn	14 12 19.8	+0.7

IDC 01 14:14:19.2±7.0, 0°.79S×100°.07E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/22, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/27, Error ellipse: s-maj=343.0km s-min=28.2km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.31**	**255**	T	T	14 48 04.4	
	baz=78,slow=75,SNR=15						
H08S3	**Diego Garcia H**	**28.32**	**255**	T	T	14 48 00.0	
	baz=78,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**28.33**	**255**	T	T	14 48 01.4	
	baz=78,slow=75,SNR=12						
WRA	**Warramunga Arr**	**38.55**	**122**	P	P	14 21 44.0	0.0
	0.5nm,0.5s,baz=300,slow=9.1,SNR=9.8						
MKAR	**Makanchi Array**	**49.90**	**344**	P	P	14 23 14.7	+0.2
	0.4nm,0.4s,baz=154,slow=8.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**56.01**	**349**	P	P	14 23 59.3	-0.1
	0.7nm,0.4s,baz=181,slow=5.8,SNR=5.3						
ASAJ	**Asahikawa**	**58.59**	**35**	LR	LR	14 52 38.2	
	comp=Z,45nm,18.7s,baz=345,slow=39						
TXAR	**Lajitas Array**	**143.70**	**36**	PKP	PKPbc	14 33 55.2	+0.7
	0.2nm,0.5s,baz=251,slow=2.8,SNR=3.8						

*ISCJB **01** 14:18:12.5±1.1, 39°.37N±0°.08×71°.09E±0°.09, h10km, Error ellipse: s-maj=11.5km s-min=9.6km az=32.6*
*NNC **01** 14:18:15.1±2.9, 39°.52N×71°.32E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=23.0km s-min=13.8km az=14.0*
ISC 01 14:18:15.0±1.4, 39°45N±0°.08×71°22E±0°.10, h10km, n13, σ1s25/16, 6C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.27**	**34**	P	**Pn**	**14 19 07.5**	**+0.8**
	SNR=46						
KK31	**Karatay Array**	**3.69**	**352**	Pn	Pb	14 19 15.9	-4.3
	4.1nm,0.4s,baz=167,slow=12,SNR=43						
KK31				⇓Sn	**Sb**	**14 20 02.2**	**-2.7**
	5.4nm,0.5s,baz=169,slow=26,SNR=3.9						
KK31				⇑Lg	Lg	14 20 12.2	
	14nm,0.7s,baz=160,slow=29,SNR=6.8						
UCH	**Uchtor**	**3.73**	**41**	P	**Pn**	**14 19 13.3**	**+0.2**
	SNR=18						
EKS2	**Erkin-Say**	**3.74**	**30**	P	**Pn**	**14 19 14.7**	**+1.7**
	SNR=8.2						
AAK	**Ala-Archa**	**4.03**	**37**	P	**Pn**	**14 19 18.6**	**+1.7**
	SNR=11						
KZA	**Kyzart**	**4.03**	**48**	P	**Pn**	**14 19 17.4**	**+0.2**
	SNR=32						
KBK	**Karagaybulak**	**4.26**	**40**	P	**Pn**	**14 19 21.1**	**+0.9**
	SNR=10						
CHMS	**Chumysh**	**4.43**	**36**	P	**Pn**	**14 19 23.1**	**+0.8**
	SNR=7.3						
USP	**Ospenovka**	**4.54**	**32**	P	**Pn**	**14 19 24.4**	**+0.6**
	SNR=13						
TKM2	**Tokmak 2**	**4.79**	**42**	P	**Pn**	**14 19 27.4**	**0.0**
	SNR=5.2						
TKM2	**Tokmak 2**	**4.79**	**42**	⇑Pn	**Pn**	**14 19 27.0**	**-0.4**
	2.5nm,0.5s						
TKM2				⇑Pg	**Pb**	**14 19 38.4**	**-0.7**
	2.6nm,0.5s						
TKM2				⇑Sn	**Sn**	**14 20 24.5**	**+1.5**
	1.9nm,0.7s						
TKM2				⇑Lg	Lg	14 20 40.0	
	2.4nm,0.6s						
THN	**Thein Dam**	**7.90**	**151**	*e*P	**Pn**	**14 20 09.5**	**-0.4**
THN				*e*S	Sn	14 21 06.0	-33
AB31	**Akbulak array**	**12.68**	**324**	Pn	**Pn**	**14 21 15.3**	**0.0**
	0.9nm,0.7s,baz=22,slow=22,SNR=15						
AB31				⇑Sn	**Sn**	**14 23 37.8**	**+1.3**
	baz=134,slow=23,SNR=3.4						

*IDC **01** 14:24:29.1±5.8, 15°.21S×75°.02W, h79km±48km, mb3.2/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/10, Error ellipse: s-maj=72.9km s-min=33.0km az=27.0*
ISC 01 14:24:22.0±1.5, 15°4S±0°.4×75°2W±0°.2, h26km, n16, σ0s36/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.90**	**98**	P	Pn	14 26 07.2	+5.2
	0.7nm,0.3s,baz=278,slow=9.3,SNR=10						
LPAZ				S	**Sn**	**14 27 20.3**	**+0.1**
	0.8nm,0.3s,baz=200,slow=24,SNR=21						
ATAH	**Atahualpa**	**8.79**	**339**	LR	LR	14 29 36.7	
	comp=Z,44nm,20.0s,baz=128,slow=35						
H03N1	**Juan Fernandez**	**18.26**	**190**	T	T	14 47 20.6	
	baz=12,slow=76,SNR=1440						
H03N2	**Juan Fernandez**	**18.26**	**190**	T	T	14 47 20.5	
	baz=12,slow=76,SNR=1202						
H03N3	**Juan Fernandez**	**18.27**	**190**	T	T	14 47 21.7	
	baz=12,slow=76,SNR=1172						
TXAR	**Lajitas Array**	**52.27**	**328**	P	**P**	**14 33 31.6**	**+0.2**
	0.1nm,0.5s,baz=153,slow=6.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**81.22**	**74**	P	**P**	**14 36 36.1**	**-0.2**
	0.7nm,0.6s,baz=241,slow=4.0,SNR=5.6						
H11N3	**WAKE ISLAND Hyl**	**20.86**	**284**	T	T	16 55 22.2	
	baz=100,slow=74,SNR=46						
H11N2	**WAKE ISLAND Hyl**	**20.88**	**284**	T	T	16 55 23.8	
	baz=100,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hyl**	**20.88**	**284**	T	T	16 55 23.3	
	baz=100,slow=74,SNR=31						
H11S2	**WAKE ISLAND Hyl**	**20.91**	**283**	T	T	16 55 31.9	
	baz=100,slow=72,SNR=26						
H11S1	**WAKE ISLAND Hyl**	**20.92**	**283**	T	T	16 55 26.6	
	baz=100,slow=72,SNR=29						
H11S3	**WAKE ISLAND Hyl**	**20.93**	**283**	T	T	16 55 29.1	
	baz=100,slow=72,SNR=20						
ASAR	**Alice Springs**	**131.83**	**217**	PKP	**PKPdf**	**14 43 33.8**	**0.0**
	0.3nm,0.8s,baz=111,slow=1.7,SNR=4.1						
WRA	**Warramunga Arr**	**134.39**	**221**	PKP	**PKPdf**	**14 43 38.9**	**+0.3**
	0.3nm,0.6s,baz=131,slow=1.7,SNR=6.5						
SONM	**Songino Array**	**147.64**	**358**	PKPbc	**PKPbc**	**14 44 03.9**	**-0.4**
	0.4nm,0.9s,baz=344,slow=2.1,SNR=2.3						

IDC 01 14:27:54.0±3.6, 61°.56S×152°.67E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.9/11, mbtmp3.8/4, ML3.7/1, MS3.5/6, Ms1 3.6/6, ms1mx3.3/19, Error ellipse: s-maj=260.8km s-min=37.8km az=77.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.31**	**173**	Pn	Pn	14 31 44.1	+0.1
	0.3nm,0.3s,baz=340,slow=11,SNR=10.0						
VNDA				Sn	Sn	14 34 39.5	-5.7
	0.1nm,0.3s,baz=229,slow=11,SNR=2.7						
VNDA				LR	LR	14 37 23.7	
	comp=Z,212nm,21.2s,baz=353,slow=35						
RPZ	**Rata Peaks**	**20.93**	**40**	LR	LR	14 39 16.3	
	comp=Z,108nm,21.9s,baz=207,slow=33						
URZ	**Urewera**	**27.81**	**44**	LR	LR	14 42 47.8	
	comp=Z,95nm,20.6s,baz=351,slow=32						
QSPA	**South Pole Qui**	**28.53**	**180**	LR	LR	14 44 49.7	
	comp=Z,118nm,21.6s,baz=26,slow=36						
STKA	**Stephens Creek**	**30.56**	**341**	P	P	14 34 09.2	+0.2
	1.5nm,0.8s,baz=145,slow=16,SNR=2.6						
MAW	**Mawson**	**35.75**	**221**	LR	LR	14 49 46.6	
	comp=Z,127nm,20.4s,baz=118,slow=37						
H01W1	**Cape Leeuwin H**	**36.11**	**300**	T	T	15 14 00.5	
	baz=147,slow=75,SNR=37						
H01W2	**Cape Leeuwin H**	**36.11**	**300**	T	T	15 14 00.8	
	baz=147,slow=75,SNR=34						
H01W3	**Cape Leeuwin H**	**36.13**	**300**	T	T	15 14 01.9	
	baz=147,slow=75,SNR=37						
ASAR	**Alice Springs**	**40.00**	**333**	P	P	14 35 30.8	+0.4
	1.0nm,0.9s,baz=169,slow=8.8,SNR=11						
WRA	**Warramunga Arr**	**43.52**	**335**	P	P	14 35 58.2	-0.8
	0.5nm,0.5s,baz=163,slow=7.3,SNR=11						
H08S2	**Diego Garcia H**	**78.64**	**275**	T	T	16 07 34.4	
	baz=151,slow=75,SNR=6.7						
H08S1	**Diego Carcia H**	**78.65**	**275**	T	T	16 07 35.7	
	baz=151,slow=75,SNR=5.0						
H08S3	**Diego Garcia H**	**78.66**	**275**	T	T	16 07 36.7	
	baz=151,slow=75,SNR=8.7						
CMAR	**Chiang Mai Arr**	**90.43**	**310**	LR	LR	15 17 15.8	
	comp=Z,25nm,19.9s,baz=220,slow=33						

IGQ 01 14:29:35.2, 1°32S×81°37W, h10km±93km, Mb4.1, Ms3.9, 2D, Error ellipse: s-maj=12.8km s-min=4.6km az=5.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.73**	**94**	S	Sn	14 30 55.1	+1.4
IGUA	**Igualata**	**2.73**	**94**	P	Pn	14 30 21.4	+1.4
BMAS	**Trigal station**	**2.89**	**94**	⇓P	Pn	14 30 23.8	+1.9
BMAS	**Trigal station**	**2.89**	**94**	⇓S	Sn	14 30 58.8	+1.7
ARRY	**Arrayan**	**2.92**	**94**	S	Sn	14 30 58.6	+0.9
ARRY	**Arrayan**	**2.92**	**94**	P	Pn	14 30 24.1	+1.8
PAT1	**Patacocha**	**2.94**	**94**	S	Sn	14 30 59.6	+1.2
PAT1	**Patacocha**	**2.94**	**94**	P	Pn	14 30 24.9	+2.3
BPAT	**Tungurahua Vol**	**2.94**	**94**	S	Sn	14 30 59.4	+0.9
BPAT	**Tungurahua Vol**	**2.94**	**94**	P	Pn	14 30 24.2	+1.5
BULB	**Ulba Tungurahu**	**2.96**	**92**	S	Sn	14 31 00.3	+1.5
BULB	**Ulba Tungurahu**	**2.96**	**92**	P	Pn	14 30 25.2	+2.4
ULBA	**Ulba**	**2.96**	**93**	P	Pn	14 30 25.2	+2.3
PISA	**Pisayambo**	**2.99**	**85**	S	Sn	14 31 02.0	+2.1
PISA	**Pisayambo**	**2.99**	**85**	P	Pn	14 30 25.4	+1.9
BTAM	**Cotopaxi Volca**	**3.04**	**78**	P	Pn	14 30 26.5	+2.3
VC1	**Cotopaxi 1**	**3.04**	**77**	P	Pn	14 30 25.7	+1.5

*IDC **01** 14:42:22.4±2.6, 24°.94N×123°.37E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/25, mbtmp3.4/3, Error ellipse: s-maj=340.4km s-min=26.9km az=70.0*
*ISCJB **01** 14:42:24.8±0.6, 24°.84N±0°.03×122°.51E±0°.02, h9km±4km, mb3.4/3, Error ell

WHF				*e*S	**Sg**	**14 43 06.1**	**-0.7**	
	baz=236							
TWT	**Tachien**	**1.35 247**	*e*P	**Pn**	**14 42 50.0**	**+0.1**		
	baz=243							
TWT				*e*S	**Sg**	**14 43 07.5**	**0.0**	
	baz=243							
HATJ	**Hateruma jima**	**1.37 122**	S		**Sg**	**14 43 08.0**	**-0.2**	
ESL	**Shilin**	**1.40 226**	P		**Pn**	**14 42 50.5**	**+0.1**	
	baz=220							
ESL				*e*S	**Sg**	**14 43 09.8**	**+0.7**	
	baz=220							
NSTT	**Nanjuang**	**1.40 264**	P		**Pn**	**14 42 50.5**	**0.0**	
	baz=263							
NSTT				*e*S	**Sg**	**14 43 07.4**	**-1.9**	
	baz=263							
JKRS	**Kuro-shima**	**1.45 112**	P		**Pn**	**14 42 50.9**	**-0.2**	
JKRS				*e*S	**Sb**	**14 43 09.3**	**-1.2**	
JIJ	**Ishigaki jima**	**1.52 106**	P		**Pn**	**14 42 52.2**	**+0.1**	
JIJ				*e*S	**Sb**	**14 43 13.5**	**+0.9**	
TWQ1	**Liyutan**	**1.66 255**	*e*P		**Pn**	**14 42 55.0**	**+1.0**	
	baz=253							
EHY	**Hungye**	**1.69 221**	*e*P		**Pn**	**14 42 55.0**	**+0.5**	
	baz=215							
SMLT	**Sun Moon Lake**	**1.75 239**	*e*P		**Pb**	**14 42 57.0**	**+0.3**	
	baz=235							
SMLT				*e*S	**Sn**	**14 43 17.6**	**-0.3**	
	baz=235							
TYC	**Yuchr**	**1.77 240**	P		**Pn**	**14 42 56.3**	**+0.9**	
	baz=237							
TYC				*e*S	**Sn**	**14 43 18.9**	**+0.5**	
	baz=237							
TWF1	**Yuli**	**1.83 219**	*e*P		**Pb**	**14 42 58.1**	**0.0**	
	baz=213							
YUS	**Yu-Shan**	**1.94 228**	*e*P		**Pn**	**14 42 59.3**	**+1.0**	
	baz=224							
YUS				*e*S	**Sn**	**14 43 23.1**	**-0.2**	
	baz=224							
ALS	**Alishan**	**2.03 231**	*e*P		**Pn**	**14 43 00.6**	**+1.3**	
	baz=227							
CHN5	**Tsauling**	**2.07 235**	*e*P		**Pn**	**14 43 01.4**	**+1.7**	
	baz=232							
CHN5				*e*S	**Sn**	**14 43 25.9**	**0.0**	
	baz=232							
WTP	**Ta-pu**	**2.34 229**	*e*P		**Pn**	**14 43 04.9**	**+1.6**	
	baz=225							
WTP				*e*S	**Sn**	**14 43 33.2**	**+0.7**	
	baz=225							
TWG	**Pinlang**	**2.38 215**	*e*P		**Pb**	**14 43 07.4**	**0.0**	
	baz=210							
TWK	**Hsinying**	**2.41 231**	*e*P		**Pn**	**14 43 06.1**	**+1.7**	
	baz=228							
TWK				*e*S	**Sn**	**14 43 34.4**	**+0.1**	
	baz=228							
CHN1	**Nanshi**	**2.44 229**	*e*P		**Pb**	**14 43 07.7**	**-0.8**	
	baz=226							
CHN1				*e*S	**Sn**	**14 43 36.1**	**+1.2**	
	baz=226							
SGST	**Jiashian**	**2.47 227**	*e*P		**Pn**	**14 43 06.8**	**+1.7**	
	baz=223							
SGST				*e*S	**Sn**	**14 43 37.1**	**+1.5**	
	baz=223							
EAST	**Anshuo**	**2.85 213**	*e*P		**Pb**	**14 43 13.9**	**-1.7**	
	baz=209							
SONM	**Songino Array**	**26.31 335**	P		**P**	**14 48 01.7**	**+0.7**	
	0.9nm,0.8s,baz=147,slow=10,SNR=7.8							
WRA	**Warramunga Arr**	**45.93 164**	P		**P**	**14 50 46.8**	**-1.3**	
	0.5nm,0.8s,baz=346,slow=8.9,SNR=4.4							
ASAR	**Alice Springs**	**49.42 166**	P		**P**	**14 51 13.6**	**-1.6**	
	0.2nm,0.7s,baz=359,slow=8.8,SNR=3.3							

*ROM **01** 14:59:55.9±0.1,41°.89N×15°.66E,h1km,Ml3.2/30,Error ellipse: s-maj=1.5km s-min=0.8km az=29.0*
*CSEM **01** 14:59:56.9±0.2,41°.87N×15°.64E,h5km,ML4.2/15,Error ellipse: s-maj=4.0km s-min=2.9km az=16.0*
ISC 01 14:59:57.0±1.0,**41°.87N**±0°.02×**15°.62E**±0°.02,**h8**km±8km,
n99,σ0961/146,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.14 140**		Pg	**Pg**	**14 59 59.9**	**-0.2**
SGRT				Sg	**Sg**	**15 00 02.2**	**0.0**
	12µm,0.2s						
SGRT	**San Giovanni R**	**0.14 140**		Pg	**Pg**	**14 59 59.9**	**-0.2**
MSAG	**Monte S. Angel**	**0.27 125**		Pg	**Pg**	**15 00 02.0**	**-0.3**
MSAG				Sg	**Sg**	**15 00 05.9**	**+0.1**
MSAG	**Monte S. Angel**	**0.27 125**		Pg	**Pg**	**15 00 02.0**	**-0.3**
MSAG				Sg	**Sg**	**15 00 05.9**	**+0.1**
MELA	**Melanico ??? S**	**0.40 247**		Pg	**Pg**	**15 00 05.3**	**+0.5**
MELA				Sg	**Sb**	**15 00 12.5**	**-0.2**
	5µm,0.5s						
MELA	**Melanico ??? S**	**0.40 247**		Pg	**Pg**	**15 00 05.3**	**+0.5**
MELA				Sg	**Sb**	**15 00 12.5**	**-0.2**
	5µm,0.5s						
CIGN	**Sant'Elia a Pi**	**0.57 249**		Pg	**Pb**	**15 00 08.9**	**-0.4**
CIGN				Sg	**Sb**	**15 00 18.4**	**+0.7**
	396nm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.57 249**		Pg	**Pb**	**15 00 08.9**	**-0.4**
CIGN				Sg	**Sb**	**15 00 18.4**	**+0.7**
	396nm,0.4s						
MOCO	**Biccari - m.te**	**0.60 215**		Pg	**Pb**	**15 00 09.4**	**-0.5**
MOCO				Sg	**Sb**	**15 00 19.7**	**+1.1**
	343nm,0.5s						
GATE	**Gambatesa**	**0.64 237**		Pg	**Pb**	**15 00 10.3**	**-0.1**
GATE				Sg	**Sb**	**15 00 20.7**	**+1.2**
	351nm,0.8s						
GATE	**Gambatesa**	**0.64 237**		Pg	**Pb**	**15 00 10.3**	**-0.1**
GATE				Sg	**Sb**	**15 00 20.7**	**+1.2**
	351nm,0.8s						
FRES	**Fresagrandinar**	**0.72 279**		Pg	**Pg**	**15 00 10.8**	**0.0**
FRES				Sg	**Sn**	**15 00 23.1**	**-1.6**
FRES	**Fresagrandinar**	**0.72 279**		Pg	**Pg**	**15 00 10.8**	**0.0**
FRES				Sg	**Sn**	**15 00 23.1**	**-1.6**
SGTA	**Sant Agata di**	**0.76 195**		Pg	**Pb**	**15 00 12.2**	**-0.2**
SGTA				Sg	**Sb**	**15 00 24.1**	**+1.2**
	660nm,0.3s						
SGTA	**Sant Agata di**	**0.76 195**		Pg	**Pb**	**15 00 12.2**	**-0.2**
SGTA				Sg	**Sb**	**15 00 24.1**	**+1.2**
	660nm,0.3s						
TRIV	**Trivento**	**0.81 263**		Pg	**Pb**	**15 00 12.9**	**-0.4**
TRIV	**Trivento**	**0.81 263**		Pg	**Pb**	**15 00 12.9**	**-0.4**
SACR	**S. Croce Del S**	**0.83 236**		Pg	**Pb**	**15 00 13.3**	**-0.4**
SACR				Sg	**Sn**	**15 00 26.4**	**-1.2**
SACR	**S. Croce Del S**	**0.83 236**		Pg	**Pb**	**15 00 13.3**	**-0.4**
SACR				Sg	**Sn**	**15 00 26.4**	**-1.2**
BSSO	**Busso**	**0.83 248**		Pg	**Pg**	**15 00 13.1**	**+0.1**
BSSO				Sg	**Sb**	**15 00 25.9**	**+0.7**
BSSO	**Busso**	**0.83 248**		Pg	**Pg**	**15 00 13.1**	**+0.1**
BSSO				Sg	**Sb**	**15 00 25.9**	**+0.7**
IPES	**Pescosannita**	**0.86 223**		Pg	**Pg**	**15 00 13.5**	**-0.1**
IPES				Sg	**Sn**	**15 00 28.3**	**0.0**
MRB1	**Monte Rocchett**	**0.88 214**		Pg	**Pb**	**15 00 14.3**	**-0.3**
MRB1				Sg	**Sn**	**15 00 28.1**	**-0.8**
	708nm,0.4s						
MRB1	**Monte Rocchett**	**0.88 214**		Pg	**Pb**	**15 00 14.3**	**-0.3**
MRB1				Sg	**Sn**	**15 00 28.1**	**-0.8**
	708nm,0.4s						
PSB1	**Pescosannita**	**0.88 224**		Pg	**Pg**	**15 00 13.6**	**-0.3**
PSB1				Sg	**Sn**	**15 00 28.4**	**-0.4**
	379nm,0.5s						
PSB1	**Pescosannita**	**0.88 224**		Pg	**Pg**	**15 00 13.6**	**-0.3**
PSB1				Sg	**Sn**	**15 00 28.4**	**-0.4**
	379nm,0.5s						
CAFE	**Carife**	**0.89 199**		Pg	**Pb**	**15 00 14.6**	**-0.1**
CAFE	**Carife**	**0.89 199**		Pg	**Pb**	**15 00 14.6**	**-0.1**
VULT	**Monte Vulture**	**0.91 180**		Pg	**Pb**	**15 00 14.9**	**-0.2**
VULT				Sg	**Sn**	**15 00 29.1**	**-0.5**
	2µm,0.5s						
VULT	**Monte Vulture**	**0.91 180**		Pg	**Pb**	**15 00 14.9**	**-0.2**
VULT				Sg	**Sn**	**15 00 29.1**	**-0.5**
	2µm,0.5s						
MRVN	**Minervino Murg**	**0.91 152**		Pg	**Pg**	**15 00 14.3**	**-0.2**
MRVN				Sg	**Sb**	**15 00 27.9**	**+0.4**
	794nm,0.3s						
MRVN	**Minervino Murg**	**0.91 152**		Pg	**Pg**	**15 00 14.3**	**-0.2**
MRVN				Sg	**Sb**	**15 00 27.9**	**+0.4**
	794nm,0.3s						
PALZ	**Palazzo San Ge**	**0.96 164**		Pg	**Pg**	**15 00 14.8**	**-0.5**
PALZ				Sg	**Sb**	**15 00 28.7**	**0.0**
	1µm,0.6s						
PALZ	**Palazzo San Ge**	**0.96 164**		Pg	**Pg**	**15 00 14.8**	**-0.5**
PALZ				Sg	**Sb**	**15 00 28.7**	**0.0**
	1µm,0.6s						
PTRJ	**Pietraroja**	**0.96 239**		Pg	**Pb**	**15 00 15.6**	**-0.3**
PTRJ				Sg	**Sb**	**15 00 29.6**	**+0.8**
	1µm,0.4s						
PTRJ	**Pietraroja**	**0.96 239**		Pg	**Pb**	**15 00 15.6**	**-0.3**
PTRJ				Sg	**Sb**	**15 00 29.6**	**+0.8**
	1µm,0.4s						
SNAL	**S. Angelo Dei**	**0.99 198**		Pg	**Pb**	**15 00 16.3**	**-0.1**
SNAL	**S. Angelo Dei**	**0.99 198**		Pg	**Pb**	**15 00 16.3**	**-0.1**
MIDA	**Miranda**	**1.05 258**		Pg	**Pb**	**15 00 17.2**	**-0.2**
MIDA				Sg	**Sn**	**15 00 32.5**	**-0.4**
	439nm,0.5s						
MIDA	**Miranda**	**1.05 258**		Pg	**Pb**	**15 00 17.2**	**-0.2**
MIDA				Sg	**Sn**	**15 00 32.5**	**-0.4**
	439nm,0.5s						
SGG	**Gregorio Mates**	**1.05 243**		Pg	**Pb**	**15 00 17.1**	**-0.3**
SGG				Sg	**Sn**	**15 00 33.1**	**+0.2**
	435nm,0.6s						
SGG	**Gregorio Mates**	**1.05 243**		Pg	**Pb**	**15 00 17.1**	**-0.3**
SGG				Sg	**Sn**	**15 00 33.1**	**+0.2**
	435nm,0.6s						
LPEL	**Lama dei Pelig**	**1.09 280**		Pg	**Pg**	**15 00 17.0**	**-0.8**
LPEL				Sg	**Sn**	**15 00 34.2**	**+0.3**
	401nm,0.3s						
LPEL	**Lama dei Pelig**	**1.09 280**		Pg	**Pg**	**15 00 17.0**	**-0.8**
LPEL				Sg	**Sn**	**15 00 34.2**	**+0.3**
	401nm,0.3s						
ACER	**Acerenza**	**1.11 167**		Pg	**Pb**	**15 00 18.5**	**+0.1**
ACER				Sg	**Sn**	**15 00 33.9**	**-0.4**
ACER	**Acerenza**	**1.11 167**		Pg	**Pb**	**15 00 18.5**	**+0.1**
ACER				Sg	**Sn**	**15 00 33.9**	**-0.4**
RNI2	**Rionero Sannit**	**1.11 262**		Pg	**Pn**	**15 00 19.1**	**+0.2**
RNI2				Sg	**Sn**	**15 00 34.9**	**+0.4**
RNI2	**Rionero Sannit**	**1.11 262**		Pg	**Pn**	**15 00 19.1**	**+0.2**
RNI2				Sg	**Sn**	**15 00 34.9**	**+0.4**
MRLC	**Muro Lucano**	**1.11 185**		Pg	**Pg**	**15 00 18.1**	**-0.2**
MRLC				Sg	**Sn**	**15 00 34.6**	**+0.1**
	1µm,0.8s						
MRLC	**Muro Lucano**	**1.11 185**		Pg	**Pg**	**15 00 18.1**	**-0.2**
MRLC				Sg	**Sn**	**15 00 34.6**	**+0.1**
	1µm,0.8s						
VAGA	**Valle Agricola**	**1.13 247**		Pg	**Pg**	**15 00 18.4**	**-0.3**
VAGA				Sg	**Sn**	**15 00 35.5**	**+0.5**
	387nm,0.4s						
VAGA	**Valle Agricola**	**1.13 247**		Pg	**Pg**	**15 00 18.4**	**-0.3**
VAGA				Sg	**Sn**	**15 00 35.5**	**+0.5**
	387nm,0.4s						
MCRV	**Calabrutti - M**	**1.14 198**		Pg	**Pg**	**15 00 18.1**	**-0.6**
MCRV				Sg	**Sn**	**15 00 35.6**	**+0.5**
	695nm,0.5s						
MCRV	**Calabrutti - M**	**1.14 198**		Pg	**Pg**	**15 00 18.1**	**-0.6**
MCRV				Sg	**Sn**	**15 00 35.6**	**+0.5**
	695nm,0.5s						
AMUR	**Altamura**	**1.21 142**		Pg	**Pb**	**15 00 19.4**	**-0.8**
	576nm,0.5s						
AMUR	**Altamura**	**1.21 142**		Pg	**Pb**	**15 00 19.4**	**-0.8**
	576nm,0.5s						
CERA	**Filignano**	**1.23 258**		Pg	**Pg**	**15 00 20.4**	**-0.1**
	604nm,0.6s						
CERA	**Filignano**	**1.23 258**		Pg	**Pg**	**15 00 20.4**	**-0.1**
	604nm,0.6s						
INTR	**Introdacqua**	**1.29 277**		Pg	**Pn**	**15 00 20.3**	**-1.1**
	942nm,0.8s						
INTR	**Introdacqua**	**1.29 277**		Pg	**Pn**	**15 00 20.3**	**-1.1**
	942nm,0.8s						
SDI	**San Donato**	**1.36 264**		Pg	**Pn**	**15 00 21.8**	**-0.6**
	49nm,0.3s						
SDI	**San Donato**	**1.36 264**		Pg	**Pn**	**15 00 21.8**	**-0.6**
	49nm,0.3s						
PTRP	**Pietrapertosa**	**1.38 166**		Pg	**Pg**	**15 00 23.5**	**0.0**
	243nm,3.5s						
PTRP	**Pietrapertosa**	**1.38 166**		Pg	**Pg**	**15 00 23.5**	**0.0**
	243nm,3.5s						
CDRU	**Civita di Ruta**	**1.40 190**		Pg	**Pn**	**15 00 22.2**	**-0.7**
	155nm,0.4s						
CDRU	**Civita di Ruta**	**1.40 190**		Pg	**Pn**	**15 00 22.2**	**-0.7**
	155nm,0.4s						
MIGL	**Miglionico**	**1.41 154**		Pg	**Pn**	**15 00 22.1**	**-0.8**
MIGL	**Miglionico**	**1.41 154**		Pg	**Pn**	**15 00 22.1**	**-0.8**
VCEL	**Villa Celiera**	**1.43 292**		Pg	**Pn**	**15 00 24.1**	**-0.2**
VCEL	**Villa Celiera**	**1.43 292**		Pg	**Pg**	**15 00 24.1**	**-0.2**
POFI	**Posta Fibreno**	**1.43 265**		Pg	**Pn**	**15 00 23.1**	**-0.3**
	134nm,0.4s						
POFI	**Posta Fibreno**	**1.43 265**		Pg	**Pn**	**15 00 23.1**	**-0.3**
	134nm,0.4s						
MATE	**Matera**	**1.47 146**		Pg	**Pn**	**15 00 23.2**	**-0.5**
	531nm,0.4s						
MATE	**Matera**	**1.47 146**		Pg	**Pn**	**15 00 23.2**	**-0.5**
	531nm,0.4s						
LTRZ	**Laterza**	**1.55 144**		Pg	**Pn**	**15 00 25.1**	**+0.1**
	311nm,0.7s						
LTRZ	**Laterza**	**1.55 144**		Pg	**Pn**	**15 00 25.1**	**+0.1**
	311nm,0.7s						
FAGN	**Fagnano**	**1.57 285**		Pg	**Pb**	**15 00 26.2**	**-0.1**
	379nm,0.5s						
FAGN	**Fagnano**	**1.57 285**		Pg	**Pb**	**15 00 26.2**	**-0.1**
	379nm,0.5s						
CRAC	**Craco**	**1.62 157**		Pg	**Pb**	**15 00 27.1**	**-0.1**
CRAC	**Craco**	**1.62 157**		Pg	**Pb**	**15 00 27.1**	**-0.1**
PTQR	**Pietraquaria**	**1.66 276**		Pg	**Pb**	**15 00 28.1**	**+0.2**
	7.0nm,0.4s						
PTQR	**Pietraquaria**	**1.66 276**		Pg	**Pb**	**15 00 28.1**	**+0.2**
	7.0nm,0.4s						
SIRI	**Monte Sirino -**	**1.69 174**		Pg	**Pn**	**15 00 27.6**	**+0.6**
SIRI	**Monte Sirino -**	**1.69 174**		Pg	**Pn**	**15 00 27.6**	**+0.6**
GUAR	**Guarcino**	**1.73 268**		Pg	**Pb**	**15 00 28.5**	**-0.5**
GUAR	**Guarcino**	**1.73 268**		Pg	**Pb**	**15 00 28.5**	**-0.5**
STON	**Ston**	**1.84 56**	*e*Pn		**Pg**	**15 00 31.5**	**-0.7**
STON	**Ston**	**1.84 56**	*e*Pn		**Pg**	**15 00 31.5**	**-0.7**
SMA1	**SAN MARTINO**	**1.86 295**		Pg	**Pb**	**15 00 30.9**	**-0.4**
	147nm,0.7s						
LNSS	**Leonessa**	**2.05 292**		Pg	**Pb**	**15 00 33.1**	**-1.5**
	92nm,0.5s						
LNSS	**Leonessa**	**2.05 292**		Pg	**Pb**	**15 00 33.1**	**-1.5**
	92nm,0.5s						
NRCA	**Norcia**	**2.09 298**		Pg	**Pn**	**15 00 33.5**	**+1.0**
	59nm,0.6s						
NRCA	**Norcia**	**2.09 298**		Pg	**Pn**	**15 00 33.5**	**+1.0**
	59nm,0.6s						
TREB	**Trebinje**	**2.20 66**	*e*Pn		**Pn**	**15 00 33.8**	**0.0**
NVLJ	**Novalja**	**2.75 349**	*e*Pn		**Pn**	**15 00 41.5**	**0.0**
NVLJ	**Novalja**	**2.75 349**	*e*Pn		**Pn**	**15 00 41.4**	**0.0**
IVAS	**Ivanjica**	**3.75 61**	*e*Pn		**Pn**	**15 00 56.9**	**+1.7**
DIVS	**Divibare**	**3.91 54**	*e*Pn		**Pn**	**15 00 59.4**	**+2.0**
SELS	**Selova**	**4.28 70**	*e*Pn		**Pn**	**15 01 03.5**	**+1.0**

*IDC **01** 15:19:55.9±1.3,7°.84S×122°.83E,h262km±12km,mb3.5/11,mb1 3.6/15,mb1mx3.5/24,mbtmp3.5/15,Error ellipse: s-maj=25.9km s-min=7.4km az=63.0*
*AUST **01** 15:19:56.1±0.5,7°.95S×122°.73E,h261km,Error ellipse: s-maj=1.2km s-min=0.8km az=236.0*
*DJA **01** 15:19:57.5±1.1,8°.5S×122°.3E°,h255km,9km,M4.1/8,mb4.2/4,mB4.3/2,MLv4.0/8,Mw(mB)3.5/2*
ISC 01 15:19:52.0±0.5,**7°.77S**±0°.07×**123°.06E**±0°.09,**h221**km,**n53,**
σ1976/46,mb3.8/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.18 223**		P	Pn	15 20 31.6	+6.4
MMRI				S	S	15 20 59.8	+8.8
LBFI	**Labuhan Bajo,**	**3.21 257**		P	**Pn**	**15 20 46.8**	**+1.5**
BKSI	**Bulukumba**	**3.80 310**		P	Pn	15 20 56.1	+3.9
KAPI	**Kappang**	**4.28 310**		P	Pn	15 21 02.0	+3.9
	3.6nm,0.3s,baz=140,slow=8.9,SNR=11						
KAPI				S	**S**	**15 21 54.5**	**+4.6**
	2.2nm,0.3s,baz=144,slow=19,SNR=2.6						
BNSI	**Bone**	**4.45 319**		P	Pn	15 21 06.5	+6.3
SPSI	**Sidrap Palu**	**5.00 319**		P	Pn	15 21 11.3	+4.3
TTSI	**Tana Toraja**	**5.69 325**		P	Pn	15 21 21.0	+5.2
	28nm,0.9s,0.1nm						
NLAI	**Namlea**	**6.04 42**		P	Pn	15 21 32.5	+12
MMSI	**Mamuju**	**6.52 321**		P	Pn	15 21 32.1	+5.7
	30nm,0.7s,260nm0.1nm						
MTNI	**Mataram**	**6.87 262**		P	**Pn**	**15 21 29.9**	**-0.9**
	24nm,1.1s,0.1nm						
MTN	**Manton Dam**	**9.41 123**		P	**P**	**15 22 09.1**	**-2.3**
	baz=9.6,SNR=199						
KNRA	**Kununurra**	**9.64 145**		P	P	15 22 09.8	-4.1
	baz=9.7,SNR=383						
TLE	**Tual**	**9.85 78**		P	**P**	**15 22 17.4**	**+1.1**
	baz=10,SNR=6.0						
KDU	**Kakadu**	**10.47 119**		P	**P**	**15 22 22.5**	**-1.0**
	baz=11,SNR=73						
FITZ	**Fitzroy Crossi**	**10.57 166**		P	**Pn**	**15 22 20.1**	**+1.8**
	0.4nm,0.3s,baz=350,slow=9.3,SNR=26						
FITZ				S	**S**	**15 24 19.0**	**+2.1**
	2.3nm,0.3s,baz=259,slow=21,SNR=8.4						
KKM	**Kota Kinabalu**	**15.33 333**		P	**Pn**	**15 23 20.4**	**+2.9**
	baz=15,SNR=3.6						
WRA	**Warramunga Arr**	**16.31 139**		P	**Pn**	**15 23 31.3**	**+2.1**
	1.6nm,0.3s,baz=314,slow=12,SNR=125						
WRA				S	**S**	**15 26 27.5**	**-0.4**
	0.2nm,0.3s,baz=312,slow=24,SNR=3.7						
GIRL	**Giralia**	**17.05 209**		P	**P**	**15 23 36.4**	**+0.3**
	baz=17,SNR=6.8						
ASAR	**Alice Springs**	**18.92 148**		P	**Pn**	**15 24 00.1**	**+0.2**
	0.8nm,0.3s,baz=332,slow=13,SNR=63						
ASAR				S	**S**	**15 27 19.0**	**-0.8**
	baz=336,slow=24,SNR=11						
MEEK	**Meekatharra**	**19.23 192**		P	**P**	**15 23 59.5**	**-0.4**
	baz=19,SNR=38						
MORW	**Morawa**	**22.19 196**		P	**P**	**15 24 29.1**	**-1.2**
	baz=22,SNR=15						
BLDU	**Ballidu**	**23.49 194**		P	**P**	**15 24 40.8**	**-1.3**
	baz=23,SNR=33						
KLBR	**Kellerberrin**	**24.21 191**		P	**P**	**15 24 47.5**	**-1.1**
	baz=24,SNR=8.1						
NWAO	**Narrogin (SRO)**	**25.61 191**		P	**P**	**15 25 00.8**	**-0.4**
	6.9nm,0.7s,baz=44,slow=6.8,SNR=8.2						
BBOO	**Buckleboo**	**27.68 156**		P	**P**	**15 25 20.9**	**+1.2**
	baz=28,SNR=12						
HTT	**Hallett**	**29.45 152**		P	**P**	**15 25 37.7**	**+2.3**
	baz=30,SNR=7.3						
STKA	**Stephens Creek**	**29.55 147**		P	**P**	**15 25 38.1**	**+1.8**
	0.9nm,0.4s,baz=316,slow=9.6,SNR=6.3						
STKA	**Stephens Creek**	**29.55 147**		P	**P**	**15 25 38.6**	**+2.3**
	baz=30,SNR=5.1						
ARPS	**Mount Arapiles**	**33.55 152**		P	P	15 26 13.8	+2.6
	baz=34,SNR=6.6						
CMAR	**Chiang Mai Arr**	**35.29 318**		P	**P**	**15 26 25.8**	**-0.4**
	0.7nm,0.7s,baz=147,slow=6.7,SNR=9.9						
PATS	**Pohnpei**	**38.04 68**		P	P	15 26 43.0	-6.5
	baz=38,SNR=3.4						
ODAN	**Odare**	**48.79 316**	*e*P		**P**	**15 28 14.0**	**-1.4**
	9.4nm,0.7s						
TAPN	**Taplejung**	**48.89 317**	*e*P		**P**	**15 28 14.9**	**-1.3**
	13nm,0.4s						
RAMN	**Ramite**	**49.39 316**	*e*P		**P**	**15 28 18.3**	**-1.6**
	27nm,0.5s						
JIRN	**Jiri**	**50.12 316**	*e*P		**P**	**15 28 24.0**	**-1.6**
	18nm,0.5s						
GUN	**Gumba**	**50.49 316**	*e*P		**P**	**15 28 26.7**	**-1.6**
	21nm,0.5s						
PKI	**Pulchoki**	**50.61 315**	*e*P		**P**	**15 28 27.1**	**-2.1**
	22nm,0.5s						
PKIN	**Phulchoki**	**50.62 315**	*e*P		**P**	**15 28 26.8**	**-2.4**
KKN	**Kakani**	**50.83 316**	*e*P		**P**	**15 28 29.0**	**-1.7**
	7.6nm,0.4s						
DMN	**Daman**	**50.84 315**	*e*P		**P**	**15 28 28.9**	**-1.9**
GKN	**Gorkha**	**51.41 315**	*e*P		**P**	**15 28 32.5**	**-2.4**
	16nm,0.4s						
KOLN	**Koldanda**	**52.00 314**	*e*P		**P**	**15 28 36.8**	**-2.5**
DANN	**Dangsing**	**52.23 315**	*e*P		**P**	**15 28 39.2**	**-2.0**
	49nm,0.5s						
USRK	**Ussuriysk Arra**	**52.35 8**		P	**P**	**15 28 42.1**	**+0.7**
	0.8nm,0.5s,baz=195,slow=4.4,SNR=4.4						
PYUN	**Piuthan**	**52.62 314**	*e*P		**P**	**15 28 42.3**	**-1.6**
	102nm,0.4s						
SONM	**Songino Array**	**57.29 347**	P		**P**	**15 29 16.7**	**-0.1**
	0.2nm,0.5s,baz=161,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**65.29 330**	P		**P**	**15 30 09.7**	**-0.6**
	1.7nm,0.5s,baz=142,slow=7.0,SNR=23						
AAK	**Ala-Archa**	**66.84 323**	P		**P**	**15 30 19.9**	**-0.6**
	2.6nm,0.4s,baz=124,slow=5.2,SNR=16						
ZALV	**Zalesovo Beam**	**69.41 337**	P		**P**	**15 30 34.2**	**-1.7**
	0.9nm,0.3s,baz=141,slow=5.2,SNR=6.7						
MAW	**Mawson**	**71.77 200**	P		**P**	**15 30 49.0**	**-0.9**
	1.1nm,0.6s,baz=79,slow=16,SNR=3.6						
VNDA	**Vanda**	**72.60 172**	P		**P**	**15 30 54.7**	**-0.1**
	2.4nm,0.9s,baz=311,slow=8.0,SNR=4.2						
KBZ	**Khabaz**	**88.27 314**	P		**P**	**15 32 16.9**	**-1.5**
	0.4nm,0.3s,baz=100,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.19 281**	PKP		**PKPdf**	**15 38 18.9**	**-2.6**
	0.5nm,0.6s,baz=53,slow=2.5,SNR=5.0						

*IDC **01** 15:37:32.5±33.0,19°.01S×179°.14W,h674km±188km,mb3.4/6,mb1 3.4/7,mb1mx3.0/21,mbtmp3.4/7,Error ellipse: s-maj=416.1km s-min=53.3km az=81.0*
ISC 01 15:37:28.6±10.0,**18°.8S**±0°.4×**17°.9W**±°,**h650**km,**n17,**
σ092/17,mb4.3/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.24 254**		P	**P**	**15 40 27.0**	**-1.1**
	0.5nm,0.3s,baz=107,slow=14,SNR=7.6						
LHI	**Lord Howe Isla**	**23.68 233**		P	P	15 41 55.2	+2.4

211nm,0.2s
PBDV Barranco-do-Ve 1.29 38⇑ *i*P Pg 15 42 01.3 +3.3
PBDV *e*S **Sg 15 42 17.7 +2.9**
211nm,0.2s
PTEO Sao Teotonio 1.33 7 *e*P Pg 15 42 00.6 +1.9
PTEO *e*S **Sg 15 42 17.2 +1.2**
PTEO A A 15 42 18.6
435nm,0.6s
PTEO Sao Teotonio 1.33 7 *e*P Pg 15 42 00.6 +1.9
PTEO *e*S **Sg 15 42 17.2 +1.2**
435nm,0.6s
PVAQ Vaqueiros 1.53 39⇑ *i*P Pg 15 42 04.3 +1.9
PVAQ *e*S **Sg 15 42 23.6 +1.4**
PVAQ A A 15 42 24.6
513nm,0.2s
PVAQ Vaqueiros 1.53 39⇑ *i*P Pg 15 42 04.3 +1.9
PVAQ *e*S **Sg 15 42 23.6 +1.4**
513nm,0.2s
PCVE Castro Verde 1.58 26⇑ *i*P Pg 15 42 04.7 +1.3
PCVE *e*S **Sg 15 42 24.0 +0.2**
PCVE A A 15 42 25.6
318nm,0.4s
PCVE Castro Verde 1.58 26⇑ *i*P Pg 15 42 04.7 +1.3
PCVE *e*S **Sg 15 42 24.0 +0.2**
318nm,0.4s
MESJ Messejana 1.71 19 *e*P Pg 15 42 06.2 +0.3
MESJ *e*S **Sb 15 42 26.7 +0.5**
MESJ AML AML 15 42 27.8
comp=N,749nm,0.3s
MESJ Messejana 1.71 19 P Pg 15 42 06.3 +0.3
SNR=7.9
MESJ S **Sb 15 42 26.7 +0.5**
SNR=7.9
MESJ Messejana 1.71 19 P Pg 15 42 06.3 +0.3
SNR=7.9
MESJ S **Sb 15 42 26.7 +0.5**
SNR=7.9
EGRO El Granado 1.75 41 ⇑P Pg 15 42 07.4 +0.8
comp=N,35nm,0.3s,SNR=18
EGRO S **Sb 15 42 28.5 +1.3**
comp=N,126nm,0.3s,SNR=10.0
EGRO El Granado 1.75 41 P Pg 15 42 07.4 +0.8
comp=N,35nm,0.3s,SNR=18
EGRO S **Sb 15 42 28.5 +1.3**
comp=N,126nm,0.3s,SNR=10.0
PNCL Nicolau / Gran 1.91 9 *e*Pn Pb 15 42 08.4 +0.3
PNCL *e*Sn **Sb 15 42 31.0 -1.0**
PNCL A A 15 42 32.7
comp=N,178nm,0.1s
PNCL Nicolau / Gran 1.91 9 *e*Pn Pb 15 42 08.4 +0.3
PNCL *e*Sn **Sb 15 42 31.0 -1.0**
comp=N,178nm,0.1s
PBEJ Beja 1.99 25 *e*Pn Pb 15 42 09.9 +0.5
PBEJ *e*Sn **Sb 15 42 33.6 -0.7**
PBEJ A A 15 42 35.5
comp=N,265nm,0.2s
PBEJ Beja 1.99 25 *e*Pn Pb 15 42 09.9 +0.5
PBEJ *e*Sn **Sb 15 42 33.6 -0.7**
comp=N,265nm,0.2s
EMIN Mina Concepcio 2.37 49 ⇑P Pb 15 42 15.6 -0.4
comp=N,2.6nm,0.3s,SNR=18
EMIN S **Sn 15 42 42.9 +1.7**
comp=N,34nm,0.3s,SNR=8.7
EMIN Mina Concepcio 2.37 49 P Pb 15 42 15.6 -0.4
comp=N,2.6nm,0.3s,SNR=18
EMIN S **Sn 15 42 42.9 +1.7**
comp=N,34nm,0.3s,SNR=8.7
EVOP Sao Brissos 2.39 15 *e*Pn Pb 15 42 15.5 -0.7
EVOP *e*Sn **Sn 15 42 42.3 +0.7**
comp=N,94nm,0.2s
EVO Evora 2.42 17 *e*Pn Pb 15 42 15.5 -1.1
EVO *e*Sn **Sn 15 42 42.3 -0.1**
comp=N,188nm,0.2s
EVO Evora 2.42 17 *e*Pn Pb 15 42 15.6 -1.1
EVO *e*Sn **Sn 15 42 43.8 +1.4**
EVO A A 15 42 44.8
comp=N,264nm,0.3s
EVO Evora 2.42 17 *e*Pn Pb 15 42 15.6 -1.1
EVO *e*Sn **Sn 15 42 43.8 +1.4**
comp=N,264nm,0.3s
PBAR Barrancos 2.46 37 *e*Pn Pb 15 42 16.6 -0.9
PBAR *e*Sn **Sb 15 42 46.0 -1.9**
PBAR A A 15 42 48.0
comp=N,96nm,0.2s
PBAR Barrancos 2.46 37 *e*Pn Pb 15 42 16.6 -0.9
PBAR *e*Sn **Sb 15 42 46.0 -1.9**
comp=N,96nm,0.2s
LIS Lisbon 2.50 356 *e*P Pb 15 42 16.5 -1.6
LIS *e*S **Sn 15 42 44.2 0.0**
LIS AML AML 15 42 46.5
comp=E,784nm,0.2s
LIS Lisbon 2.50 356 P Pb 15 42 16.3 -1.8
SNR=7.9
LIS S **Sn 15 42 44.6 +0.3**
SNR=7.9
PACT Alcochete 2.54 2 *e*Pn Pb 15 42 17.6 -1.2
PACT *e*Sn **Sn 15 42 47.3 +1.9**
PACT A A 15 42 53.3
comp=E,142nm,0.2s
PACT Alcochete 2.54 2 *e*Pn Pb 15 42 17.6 -1.2
PACT *e*Sn **Sn 15 42 47.3 +1.9**
comp=E,142nm,0.2s
ESPR Espera 2.55 74 P Pb 15 42 18.6 -0.4
comp=E,14nm,0.3s,SNR=25
ESPR S **Sb 15 42 48.7 -1.8**
comp=E,37nm,0.3s,SNR=32
ESPR Espera 2.55 74 P Pb 15 42 18.6 -0.4
comp=E,14nm,0.3s,SNR=25
ESPR S **Sb 15 42 48.7 -1.8**
comp=E,37nm,0.3s,SNR=32
PMAFR Mafra 2.74 354 P Pb 15 42 19.6 -2.6
comp=E,77nm,0.3s,SNR=161
PMAFR S **Sn 15 42 49.6 -0.8**
comp=E,216nm,0.3s
PMAFR Mafra 2.74 354 *e*Pn Pb 15 42 19.7 -2.6
PMAFR *e*Sn **Sn 15 42 50.8 +0.4**
PMAFR A A 15 42 53.7
comp=E,596nm,0.2s
PMAFR Mafra 2.74 354 *e*Pn Pb 15 42 19.7 -2.6
PMAFR S **Sn 15 42 49.6 -0.8**
comp=E,216nm,0.3s
PMAFR *e*Sn **Sn 15 42 50.8 +0.4**
comp=E,596nm,0.2s
EJIF Jimena Fronter 2.80 84 P Pb 15 42 22.7 -0.5
comp=E,4.1nm,0.2s,SNR=7.9
EJIF S **Sn 15 42 53.6 +1.8**
comp=E,22nm,0.4s,SNR=7.9
EJIF Jimena Fronter 2.80 84 P Pb 15 42 22.7 -0.5
comp=E,4.1nm,0.2s,SNR=7.9
EJIF S **Sn 15 42 53.6 +1.8**
comp=E,22nm,0.4s,SNR=7.9
PESTR Estremoz 2.85 21 *e*Pn Pb 15 42 21.4 -2.6
PESTR *e*Sn **Sn 15 42 53.7 +0.7**
PESTR A A 15 42 54.8
comp=E,51nm,0.4s
PESTR Estremoz 2.85 21 *e*Pn Pb 15 42 21.4 -2.6
PESTR *e*Sn **Sn 15 42 53.7 +0.7**
comp=E,51nm,0.4s
PMTG Montargil 2.90 11 *e*Pn Pn 15 42 21.9 +2.6
PMTG *e*Sn **Sn 15 42 54.1 -0.1**
PMTG A A 15 42 56.5
comp=E,100nm,0.2s
PMTG Montargil 2.90 11 *e*Pn Pn 15 42 21.9 +2.6
PMTG *e*Sn **Sn 15 42 54.1 -0.1**
comp=E,100nm,0.2s
LIJA Lijar 2.92 75 P Pb 15 42 23.0 -2.2
LIJA S **Sn 15 42 55.5 +0.7**
LIJA Lijar 2.92 75 *e*P Pb 15 42 23.0 -2.2
LIJA *e*S **Sn 15 42 55.5 +0.7**
ALMR Almeirim 2.94 5 *e*P Pb 15 42 22.8 -2.9
ALMR *e*S **Sn 15 42 55.1 -0.1**
ALMR AML AML 15 42 58.1
comp=E,233nm,0.4s
ALMR Almeirim 2.94 5 P Pb 15 42 22.7 -2.9
SNR=7.9
ALMR S **Sn 15 42 55.5 +0.2**
SNR=7.9
ALMR Almeirim 2.94 5 P Pb 15 42 22.7 -2.9
SNR=7.9
ALMR S **Sn 15 42 55.5 +0.2**
SNR=7.9
EBAD Badajoz 2.95 30 ⇑P Pn 15 42 22.9 +2.9
comp=E,2.8nm,0.3s,SNR=18
EBAD S **Sn 15 42 57.1 +1.6**
comp=E,38nm,0.3s,SNR=18
EBAD Badajoz 2.95 30 P Pn 15 42 22.9 +2.9
comp=E,2.8nm,0.3s,SNR=18
EBAD S **Sn 15 42 57.1 +1.6**
comp=E,38nm,0.3s,SNR=18
ECAB El Cabril 3.36 56 P Pn 15 42 29.2 +3.6
comp=E,2.0nm,0.3s,SNR=16
ECAB S **Sn 15 43 06.0 +0.4**
comp=E,18nm,0.4s,SNR=6.0
ECAB El Cabril 3.36 56 P Pn 15 42 29.2 +3.6
comp=E,2.0nm,0.3s,SNR=16
ECAB S **Sn 15 43 06.0 +0.4**
comp=E,18nm,0.4s,SNR=6.0
EMIJ Mijas 3.37 83 P Pb 15 42 30.2 -2.7
comp=E,2.1nm,0.3s,SNR=7.9
EMIJ S **Sn 15 43 07.3 +1.5**
comp=E,6.4nm,0.3s,SNR=6.1
EMIJ Mijas 3.37 83 P Pb 15 42 30.2 -2.7
comp=E,2.1nm,0.3s,SNR=7.9
EMIJ S **Sn 15 43 07.3 +1.5**
comp=E,6.4nm,0.3s,SNR=6.1
PTOM Tomar 3.42 7 *e*Pn Pn 15 42 29.1 +2.7
PTOM *e*Sn **Sn 15 43 07.5 +0.5**
PTOM A A 15 43 09.3
comp=E,115nm,0.2s
PTOM Tomar 3.42 7 *e*Pn Pn 15 42 29.1 +2.7
PTOM *e*Sn **Sn 15 43 07.5 +0.5**
comp=E,115nm,0.2s
PMRV Marv??o 3.42 20 *e*Pn Pn 15 42 29.4 +2.8
PMRV *e*Sn **Sn 15 43 07.5 +0.3**
PMRV A A 15 43 10.4
comp=E,85nm,0.2s
PMRV Marv??o 3.42 20 *e*Pn Pn 15 42 29.4 +2.8
PMRV *e*Sn **Sn 15 43 07.5 +0.3**
comp=E,85nm,0.2s
PCAS Casmilo, Conde 3.84 5 *e*Pn Pn 15 42 34.9 +2.6
PCAS *e*Sn **Sn 15 43 16.6 -0.9**
PCAS A A 15 43 21.8
comp=E,58nm,0.3s
PCAS Casmilo, Conde 3.84 5 *e*Pn Pn 15 42 34.9 +2.6
PCAS *e*Sn **Sn 15 43 16.6 -0.9**
comp=E,58nm,0.3s
ELUQ Luque 3.97 69 S Sn 15 43 21.5 +0.9
comp=E,11nm,0.1s,SNR=7.9
ELUQ Luque 3.97 69 S Sn 15 43 21.5 +0.9
comp=E,11nm,0.1s,SNR=7.9
EADA Adamuz 3.98 59 P Pn 15 42 37.9 +3.7
comp=E,3.8nm,0.3s,SNR=31
EADA S **Sn 15 43 21.8 +0.9**
comp=E,18nm,0.3s,SNR=9.8
EADA Adamuz 3.98 59 P Pn 15 42 37.9 +3.7
comp=E,3.8nm,0.3s,SNR=31
EADA S **Sn 15 43 21.8 +0.9**
comp=E,18nm,0.3s,SNR=9.8
MIF Mishlifen 4.14 132 P Pn 15 42 39.5 +2.9
MIF S **Sn 15 43 25.0 -0.1**
MIF Mishlifen 4.14 132 *i* P Pn 15 42 39.5 +2.9
MIF *i* S **Sn 15 43 25.0 -0.1**
SELV Sierra Elvira 4.30 75 S Sn 15 43 30.1 +1.3
comp=E,10.0nm,0.4s,SNR=7.9
SELV Sierra Elvira 4.30 75 S Sn 15 43 30.1 +1.3
comp=E,10.0nm,0.4s,SNR=7.9
MTE Manteigas 4.31 14 *e*Pn Pn 15 42 41.7 +2.9
MTE *e*Sn **Sn 15 43 28.9 -0.2**
MTE A A 15 43 30.6
comp=E,117nm,0.3s
MTE Manteigas 4.31 14 *e*Pn Pn 15 42 41.7 +2.9
MTE *e*Sn **Sn 15 43 28.9 -0.2**
comp=E,117nm,0.3s
KIB El Ksiba 4.35 146 P Pn 15 42 41.0 +1.6
KIB S **Sn 15 43 27.5 -2.7**
KIB El Ksiba 4.35 146 *i* P Pn 15 42 41.0 +1.6
EGUA Guajares 4.36 80 P Pn 15 42 44.0 +4.6
comp=E,7.0nm,0.3s,SNR=7.9
EGUA S **Sn 15 43 31.9 +1.6**
comp=E,48nm,0.6s,SNR=7.9
EGUA Guajares 4.36 80 P Pn 15 42 44.0 +4.6
comp=E,7.0nm,0.3s,SNR=7.9
EGUA S **Sn 15 43 31.9 +1.6**
comp=E,48nm,0.6s,SNR=7.9
TZK Tazeka 4.43 117 P Pn 15 42 42.5 +1.9
TZK S **Sn 15 43 30.0 -2.3**
TZK Tazeka 4.43 117 *i* P Pn 15 42 42.5 +1.9
TZK *i* S **Sn 15 43 30.0 -2.3**
ECOG Cogollos-Vega 4.43 75 S Sn 15 43 33.3 +1.1
comp=E,8.0nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 4.43 75 S Sn 15 43 33.3 +1.1
comp=E,8.0nm,0.2s,SNR=7.9
EPLA Plasencia 4.44 29 P Pn 15 42 43.5 +2.9
comp=E,2.2nm,0.3s,SNR=12
EPLA S **Sn 15 43 32.2 -0.2**
comp=E,69nm,0.1s,SNR=29
EPLA Plasencia 4.44 29 P Pn 15 42 43.5 +2.9
comp=E,2.2nm,0.3s,SNR=12
EPLA S **Sn 15 43 32.2 -0.2**
comp=E,69nm,0.1s,SNR=29
CZD Col de Zad 4.51 134 P Pn 15 42 45.0 +3.2
CZD S **Sn 15 43 32.0 -2.4**
CZD Col de Zad 4.51 134 *i* P Pn 15 42 45.0 +3.2
CZD *i* S **Sn 15 43 32.0 -2.4**
EQUE Quentar 4.51 76 P Pn 15 42 46.1 +4.5
comp=E,3.7nm,0.3s,SNR=4.0
EQUE S **Sn 15 43 35.5 +1.3**
comp=E,5.9nm,0.2s,SNR=7.9
EQUE Quentar 4.51 76 P Pn 15 42 46.1 +4.5
comp=E,3.7nm,0.3s,SNR=4.0
EQUE S **Sn 15 43 35.5 +1.3**
comp=E,5.9nm,0.2s,SNR=7.9
TZC Tazercounte 4.54 153 P Pn 15 42 44.0 +2.0
TZC S **Sn 15 43 31.5 -3.4**
TZC Tazercounte 4.54 153 *i* P Pn 15 42 44.0 +2.0
PVIS Viseu 4.56 10 *e*Pn Pn 15 42 45.0 +2.8
PVIS *e*Sn **Sn 15 43 34.6 -0.7**
PVIS A A 15 43 37.3
comp=E,68nm,0.1s
PVIS Viseu 4.56 10 *e*Pn Pn 15 42 45.0 +2.8
PVIS *e*Sn **Sn 15 43 34.6 -0.7**
comp=E,68nm,0.1s
CIA Chichaoua 4.65 178 P Pn 15 42 45.0 +1.6
CIA S **Sn 15 43 32.0 -5.4**
CIA Chichaoua 4.65 178 *i* P Pn 15 42 45.0 +1.6
PTO Porto 4.92 3 *e*Pn Pn 15 42 50.0 +3.0
PTO *e*Sn **Sn 15 43 42.0 -1.9**
PTO Porto 4.92 3 *e*Pn Pn 15 42 50.0 +3.0
PTO *e*Sn **Sn 15 43 42.0 -1.9**
EQES Quesada 4.94 70 P Pn 15 42 51.3 +3.7
comp=E,0.1nm,0.1s,SNR=7.9
EQES S **Sn 15 43 46.0 +1.2**
comp=E,10nm,0.3s,SNR=7.9
EQES Quesada 4.94 70 P Pn 15 42 51.3 +3.7
comp=E,0.1nm,0.1s,SNR=7.9
EQES S **Sn 15 43 46.0 +1.2**
comp=E,10nm,0.3s,SNR=7.9
OUK Oukaimeden 5.08 170 P Pn 15 42 51.0 +1.4
OUK S **Sn 15 43 44.0 -4.4**
OUK Oukaimeden 5.08 170 *i* P Pn 15 42 51.0 +1.4
PVRL Vila Real 5.13 10 *e*Pn Pn 15 42 53.2 +3.1
PVRL *e*Sn **Sn 15 43 48.0 -1.4**
PVRL A A 15 43 51.6
comp=E,66nm,0.2s
PVRL Vila Real 5.13 10 *e*Pn Pn 15 42 53.2 +3.1
PVRL *e*Sn **Sn 15 43 48.0 -1.4**
comp=E,66nm,0.2s
MVO Moncorvo 5.15 16 P Pn 15 42 52.7 +2.4
comp=E,4.4nm,0.3s,SNR=14
MVO S **Sn 15 43 48.4 -1.5**
comp=E,14nm,0.3s,SNR=11
MVO Moncorvo 5.15 16 *e*Pn Pn 15 42 52.8 +2.4
MVO *e*Sn **Sn 15 43 49.2 -0.7**
MVO A A 15 43 53.1
comp=E,33nm,0.2s
MVO Moncorvo 5.15 16 P Pn 15 42 52.7 +2.4
comp=E,4.4nm,0.3s,SNR=14
MVO S **Sn 15 43 48.4 -1.5**
comp=E,14nm,0.3s,SNR=11
MVO *e*Sn **Sn 15 43 49.2 -0.7**
comp=E,33nm,0.2s
ESDC Sonseca Array 5.22 47 P Pn 15 42 54.9 +3.6
comp=E,2.8nm,0.2s,baz=237,slow=13,SNR=19
ESDC S **Sn 15 43 50.5 -1.1**
comp=E,7.8nm,0.2s,baz=233,slow=24,SNR=153
ESDC Sonseca Array 5.22 47 P Pn 15 42 54.9 +3.6
comp=E,2.8nm,0.2s,SNR=19
ESDC S **Sn 15 43 50.5 -1.1**
comp=E,7.8nm,0.2s,SNR=153
POLO Lamas de Olo 5.22 9 *e*Pn Pn 15 42 54.1 +2.8
POLO *e*Sn **Sn 15 43 50.4 -1.2**
POLO A A 15 43 51.6
comp=E,14nm,0.4s
POLO Lamas de Olo 5.22 9 *e*Pn Pn 15 42 54.1 +2.8
POLO *e*Sn **Sn 15 43 50.4 -1.2**
comp=E,14nm,0.4s
EHUE Huescar 5.31 71 S Sn 15 43 53.7 -0.2
comp=E,3.1nm,0.2s,SNR=7.9
EHUE Huescar 5.31 71 S Sn 15 43 53.7 -0.2
comp=E,3.1nm,0.2s,SNR=7.9
SESP Santiago Espad 5.43 68 S Sn 15 43 56.9 -0.1
comp=E,7.1nm,0.1s,SNR=7.9
SESP Santiago Espad 5.43 68 S Sn 15 43 56.9 -0.1
comp=E,7.1nm,0.1s,SNR=7.9
PCAB Cabril 5.53 7 *e*Pn Pn 15 42 57.9 +2.5
PCAB *e*Sn **Sn 15 43 56.8 -2.2**
PCAB A A 15 44 03.0
comp=E,35nm,0.5s
PCAB Cabril 5.53 7 *e*Pn Pn 15 42 57.9 +2.5
PCAB *e*Sn **Sn 15 43 56.8 -2.2**
comp=E,35nm,0.5s
ZFT Errachidia 5.64 136 P Pn 15 43 00.0 +2.8
ZFT S **Sn 15 43 59.0 -3.2**
ZFT Errachidia 5.64 136 *i* P Pn 15 43 00.0 +2.8
EVIA Vianos 5.65 63 P Pn 15 43 01.0 +3.8
comp=E,4.9nm,0.1s,SNR=4.0
EVIA S **Sn 15 44 01.5 -0.8**
comp=E,14nm,0.1s,SNR=7.9
EVIA Vianos 5.65 63 P Pn 15 43 01.0 +3.8
comp=E,4.9nm,0.1s,SNR=4.0
EVIA S **Sn 15 44 01.5 -0.8**
comp=E,14nm,0.1s,SNR=7.9
ELOB Lobios 5.68 7 P Pn 15 42 59.7 +2.1
comp=E,5.8nm,0.2s,SNR=30
ELOB S **Sn 15 44 00.1 -2.8**
comp=E,20nm,0.3s,SNR=16
ELOB Lobios 5.68 7 P Pn 15 42 59.7 +2.1
comp=E,5.8nm,0.2s,SNR=30
ELOB S **Sn 15 44 00.1 -2.8**
comp=E,20nm,0.3s,SNR=16
PGAV Gavieira, Arco 5.76 5 *e*Pn Pn 15 43 00.7 +2.0
PGAV *e*Sn **Sn 15 44 02.5 -2.4**
PGAV A A 15 44 08.9
comp=E,21nm,0.6s
PGAV Gavieira, Arco 5.76 5 *e*Pn Pn 15 43 00.7 +2.0
PGAV *e*Sn **Sn 15 44 02.5 -2.4**
comp=E,21nm,0.6s
GUD Guadarrama 5.79 39 P Pn 15 43 02.6 +3.4
comp=E,1.5nm,0.3s,SNR=5.7
GUD S **Sn 15 44 05.1 -0.6**
comp=E,11nm,0.3s,SNR=12
GUD Guadarrama 5.79 39 P Pn 15 43 02.6 +3.4
comp=E,1.5nm,0.3s,SNR=5.7
GUD S **Sn 15 44 05.1 -0.6**
comp=E,11nm,0.3s,SNR=12
PBRG Braganca 5.83 16 *e*Pn Pn 15 43 02.9 +3.3
PBRG *e*Sn **Sn 15 44 04.8 -1.7**
PBRG A A 15 44 07.8
comp=E,31nm,0.2s
PBRG Braganca 5.83 16 *e*Pn Pn 15 43 02.9 +3.3
PBRG *e*Sn **Sn 15 44 04.8 -1.7**
comp=E,31nm,0.2s
ECAL Calabor 5.96 16 P Pn 15 43 04.5 +3.0
comp=E,5.9nm,0.3s,SNR=11
ECAL S **Sn 15 44 08.1 -1.7**
comp=E,31nm,0.3s,SNR=10
ECAL Calabor 5.96 16 P Pn 15 43 04.5 +3.0
comp=E,5.9nm,0.3s,SNR=11
ECAL S **Sn 15 44 08.1 -1.7**
comp=E,31nm,0.3s,SNR=10
ETOB Tobarra 6.35 65 P Pn 15 43 10.0 +3.2
comp=E,1.7nm,0.2s,SNR=7.6
ETOB S **Sn 15 44 18.3 -1.1**
comp=E,4.1nm,0.3s,SNR=7.5
ETOB Tobarra 6.35 65 P Pn 15 43 10.0 +3.2
comp=E,1.7nm,0.2s,SNR=7.6
ETOB S **Sn 15 44 18.3 -1.1**
comp=E,4.1nm,0.3s,SNR=7.5
EMUR La Murta 6.36 73 S Sn 15 44 19.3 -0.2
comp=E,6.9nm,0.4s,SNR=4.0
EMUR La Murta 6.36 73 S Sn 15 44 19.3 -0.2
comp=E,6.9nm,0.4s,SNR=4.0
STS Santiago 6.66 2 S Sn 15 44 22.9 -4.0
comp=E,3.5nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.72 360 P Pn 15 43 13.8 +2.0
comp=E,6.4nm,0.4s,SNR=10
EMAZ S **Sn 15 44 24.1 -4.3**
comp=E,12nm,0.3s,SNR=7.2
EMAZ Mazaricos 6.72 360 P Pn 15 43 13.8 +2.0
comp=E,6.4nm,0.4s,SNR=10
ETOR Torete 7.08 47 P Pn 15 43 20.7 +3.9
comp=E,8.6nm,0.3s,SNR=8.3
ETOR S **Sn 15 44 34.9 -2.4**
comp=E,34nm,0.4s,SNR=8.7
ETOR Torete 7.08 47 P Pn 15 43 20.7 +3.9
comp=E,8.6nm,0.3s,SNR=8.3
ETOR S **Sn 15 44 34.9 -2.4**
comp=E,34nm,0.4s,SNR=8.7
EPON Pontenova 7.23 10 P Pn 15 43 21.5 +2.7
comp=E,1.2nm,0.1s,SNR=4.0
EPON S **Sn 15 44 36.7 -4.2**
comp=E,5.1nm,0.1s,SNR=7.9
EPON Pontenova 7.23 10 P Pn 15 43 21.5 +2.7
comp=E,1.2nm,0.1s,SNR=4.0
EBEN Beniarda 7.35 68 S Sn 15 44 42.7 -1.3
comp=E,2.3nm,0.2s,SNR=7.9
EBEN Beniarda 7.35 68 S Sn 15 44 42.7 -1.3
comp=E,2.3nm,0.2s,SNR=7.9
EARI Arriondas 7.63 21 P Pn 15 43 28.9 +4.6
comp=E,0.7nm,0.3s,SNR=7.9
EARI S **Sn 15 44 48.0 -2.8**
comp=E,7.2nm,0.8s,SNR=6.1
EARI Arriondas 7.63 21 S Sn 15 44 48.0 -2.8
comp=E,7.2nm,0.8s,SNR=6.1
EMOS Mosqueruela 7.83 56 P Pn 15 43 31.7 +4.5
comp=E,0.9nm,0.3s,SNR=4.0
EMOS S **Sn 15 44 53.7 -2.3**
comp=E,3.5nm,0.1s,SNR=15
ELAN Lanestosa 8.18 29 S Sn 15 45 00.4 -3.8
comp=E,1.8nm,0.3s,SNR=4.0
IZUN Zunzarren 8.79 39 S Sn 15 45 16.0 -3.3
comp=E,1.9nm,0.2s,SNR=7.9
IZUN Zunzarren 8.79 39 S Sn 15 45 16.0 -3.3
comp=E,1.9nm,0.2s,SNR=7.9
IEPA Eparoz 8.82 40 S Sn 15 45 18.3 -1.9
comp=E,4.9nm,0.3s,SNR=7.9
IEPA Eparoz 8.82 40 S Sn 15 45 18.3 -1.9
comp=E,4.9nm,0.3s,SNR=7.9
IELO Elcoad 8.88 40 P Pn 15 43 46.1 +4.5
comp=E,1.2nm,0.4s,SNR=4.0
IELO S **Sn 15 45 17.8 -4.0**
comp=E,18nm,0.5s,SNR=7.9
EALK Alkurruntz 9.02 37 P Pn 15 43 46.4 +3.0
comp=E,0.6nm,0.2s,SNR=4.0
EALK S **Sn 15 45 20.8 -4.2**
comp=E,6.2nm,0.2s,SNR=7.9
EALK Alkurruntz 9.02 37 P Pn 15 43 46.4 +3.0
comp=E,0.6nm,0.2s,SNR=4.0
SJPF Ste Jean 9.09 38 *e*Pn Pn 15 43 48.0 +3.7
SJPF *e*Sn **Sn 15 45 22.9 -3.7**
comp=E,12nm,0.4s
SJPF Ste Jean 9.09 38 P Pn 15 43 48.0 +3.7
SJPF S **Sn 15 45 22.9 -3.7**
comp=E,2.9nm,0.4s
ETSF Etsaut 9.28 42 *e*Pn Pn 15 43 49.8 +2.8
ETSF *e*Sn **Sn 15 45 27.8 -3.7**
comp=E,6.6nm,0.4s
ETSF Etsaut 9.28 42 P Pn 15 43 49.8 +2.8
ETSF S **Sn 15 45 27.8 -3.7**
comp=E,1.7nm,0.4s
ATE Arette 9.34 40 P Pn 15 43 51.2 +3.5
comp=E,0.5nm,0.2s,SNR=7.9
EBIE Bielsa 9.53 45 P Pn 15 43 54.7 +4.1
comp=E,0.5nm,0.3s,SNR=7.9
EBIE S **Sn 15 45 33.7 -4.1**
comp=E,2.2nm,0.2s,SNR=7.9
EPF Esparros 9.86 44 *e*Pn Pn 15 43 57.5 +2.6
EPF *e*Sn **Sn 15 45 41.8 -3.9**
comp=E,7.7nm,0.4s
EPF Esparros 9.86 44 P Pn 15 43 57.5 +2.6
EPF S **Sn 15 45 41.8 -3.9**
comp=E,1.9nm,0.4s

DJA 01 15:44:39.0±1.0,2°N±5°×12°2E±°,h10km,M4.2/7,mb4.6/2, mB4.5/1,MLv4.0/7,Mw(mB)3.6/1,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.10**	**197**	P	Pb	15 44 58.0	-2.2
MRSI				S	Sg	15 45 13.0	-1.6
GTOI	**Gorontalo**	**1.17**	**140**	P	Pb	15 44 57.5	-3.8
GTOI				S	Sb	15 45 10.1	-6.5
TOLI	**Toli-Toli**	**1.52**	**254**	P	Pn	15 45 05.1	-1.2
KMSI	**Cibinong**	**1.97**	**119**	P	Pb	15 45 14.3	-0.7
KMSI				S	Sn	15 45 35.6	-1.6
LUWI	**Luwuk**	**2.62**	**169**	P	Pn	15 45 22.9	+1.6
LUWI				S	Sb	15 45 57.0	-1.2
TTSI	**Tana Toraja** 48nm,0.7s,0.2nm	**5.17**	**208**	P	Pn	15 45 55.0	-1.5
MMSI	**Mamuju**	**5.37**	**219**	P	Pn	15 45 58.8	-0.5

BJI ***01*** *16:11:03.2, 4˚.51N×127˚.54E, h91km, mB5.3/44, mb5.0/56*
MOS ***01*** *16:11:09.7±1.1, 5˚.10N×127˚.34E, h111km, mb5.2/46, Error ellipse: s-maj=10.8km s-min=5.1km az=117.6*
NEIC ***01*** *16:11:09.1±0.1, 5˚.09N×127˚.43E, mb5.3/48, Error ellipse: s-maj=5.5km s-min=3.8km az=66.0*
ISCJB ***01*** *16:11:10.5±0.3, 5˚.11N±0˚.02×127˚.40E±0˚.03, h118km±3km, mb5.1/134, Error ellipse: s-maj=4.4km s-min=2.7km az=163.4*
AUST ***01*** *16:11:11.4±0.4, 5˚.06N×127˚.48E, h115km±3km, Error ellipse: s-maj=3.6km s-min=2.1km az=63.0*
GCMT ***01*** *16:11:12.2±0.2, 5˚.10N×127˚.38E, h121km±1km, MW5.2, Moment Tensor Solution. s70,c103; s96,c181; Moment tensor: Scale 10^{16}Nm; M_{rr}5.42±.15; $M_{\theta\theta}$0.57±.14; $M_{\phi\phi}$-5.99±.16; $M_{r\theta}$-2.75±.11; $M_{\theta\phi}$1.17±.15; $M_{\phi r}$-4.01±.13; Best double couple: $M_0$7.60000×10^{16} NP1:ϕ_s195.00000°, δ65.00000°, λ114.00000°. NP2:ϕ_s328.00000°, δ34.00000°, λ48.00000°. Principal axes: T 7.9000, Plg62.0000°, Azm143.0000°; N -0.6300, Plg22.0000°, Azm5.0000°; P -7.2700, Plg17.0000°, Azm268.0000°; Data Used: II IU IC G CN CU.*
IDC ***01*** *16:11:12.6±0.6, 5˚.11N×127˚.33E, h122km±5km, mb4.7/37, mb1 4.8/39, mb1mx4.8/40, mbtmp4.7/39, MS3.9/20, Ms1 3.9/20, ms1mx3.8/34 Error ellipse: s-maj=11.7km s-min=6.9km az=72.0*
MAN ***01*** *16:11:13, 5˚.29N×127˚.32E, h109km, mb5.8, ML4.8, MS5.3*
DJA ***01*** *16:11:15.3±0.5, 5˚N±4˚×12˚7E±˚, h89km±10km, M5.4/27, mB5.7/26, mb5.5/27, MLv6.0/4, Mw(mB)5.3/26, Mwp5.3/1*
ISC 01 16:11:10.5±0.3, 5˚.14N±0˚.03×127˚.40E±0˚.04, h104km±1km, h104km:pP-P,n461,σ1?48/593, mb5.1/134, 34C-25D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.13**	**328**	*eP*	**Pn**	**16 11 45.8**	**+0.9**
MATI				*eS*	Sn	16 11 56.1	-15
SGSI	**Sangihe**	**2.36**	**232**	P	**Pn**	**16 11 48.9**	**+1.0**
SGSI				S	**Sn**	**16 12 16.7**	**+0.2**
GSPH	**General Santos**	**2.62**	**291**	⇓*iP*	**Pn**	**16 11 50.9**	**-0.5**
GSPH				*i* S	**Sn**	**16 12 21.9**	**-0.9**
DAV	**Davao City (W)** SNR=49	**2.64**	**317**	Pn	**Pn**	**16 11 54.3**	**+2.7**
DAV	**Davao City (W)**	**2.64**	**317**	P	**Pn**	**16 11 54.8**	**+3.2**
DAV	**Davao City (W)**	**2.64**	**317**	*eP*	**Pn**	**16 11 54.0**	**+2.4**
DMPH	**Davao City--Mi**	**2.70**	**316**	⇓*eP*	**Pn**	**16 11 55.1**	**+2.7**
DMPH				*eS*	**Sn**	**16 12 26.3**	**+1.7**
KCP	**Kidapawan**	**2.96**	**309**	⇑*eP*	**Pn**	**16 11 57.3**	**+1.5**
KCP				*i* S	**Sn**	**16 12 33.9**	**+3.1**
BIPH	**Bislig**	**3.20**	**341**	⇓*iP*	**Pn**	**16 11 59.5**	**+0.4**
BIPH				*i* S	**Sn**	**16 12 32.7**	**-3.8**
BUKP	**Musuan**	**3.58**	**320**	*eP*	**Pn**	**16 12 06.5**	**+2.3**
CTBH	**Cotabato--PC H**	**3.76**	**304**	⇑*iP*	**Pn**	**16 12 07.3**	**+0.8**
CTBH				*i* S	**Sn**	**16 12 51.6**	**+1.8**
BUTP	**Butuan**	**4.20**	**335**	*eP*	Pn	16 12 15.8	+3.3
CGP	**Cagayan de Oro**	**4.25**	**321**	*eP*	**Pn**	**16 12 14.6**	**+1.4**
CGP				*i* S	**Sn**	**16 13 01.1**	**-0.7**
TNTI	**Ternate**	**4.33**	**180**	P	**Pn**	**16 12 16.4**	**+2.1**
PAGZ	**Pagadian**	**4.82**	**304**	*eP*	**Pn**	**16 12 21.8**	**+1.0**
SCPH	**Surigao**	**4.99**	**338**	⇓*eP*	**Pn**	**16 12 25.3**	**+2.1**
DCPH	**Dipolog City**	**5.28**	**311**	*eP*	**Pn**	**16 12 29.9**	**+2.8**
IPIL	**Ipil**	**5.47**	**299**	*eP*	**Pn**	**16 12 31.2**	**+1.5**
MSLP	**Maasin**	**5.57**	**333**	*eP*	**Pn**	**16 12 33.1**	**+2.1**
ZMPH	**Zamboanga City**	**5.61**	**289**	⇓*eP*	**Pn**	**16 12 31.1**	**-0.4**
KMSI	**Cibinong** 4μm,1.1s,50μm28nm	**5.67**	**217**	P	**Pn**	**16 12 33.9**	**+1.5**
SNPH	**Sibulan**	**5.88**	**316**	*eP*	**Pn**	**16 12 33.1**	**-2.2**
SNPH				*i* S	Sn	16 13 28.4	-13
LLP	**Lapu-Lapu**	**6.17**	**327**	*eP*	**Pn**	**16 12 41.0**	**+1.8**
LLP				*eS*	**Sn**	**16 13 45.6**	**-2.8**
GTOI	**Gorontalo** 1μm,1.4s,15μm	**6.26**	**225**	P	**Pn**	**16 12 41.5**	**+1.1**
PLP	**Palo**	**6.45**	**338**	⇓*eP*	**Pn**	**16 12 44.4**	**+1.3**
PLP				*eS*	Sn	16 13 41.1	-14
OCLP	**Ormoc**	**6.49**	**335**	*eP*	**Pn**	**16 12 46.0**	**+2.5**
MRSI	**Marisa** 4μm,0.6s,33μm	**7.15**	**230**	P	**Pn**	**16 12 54.4**	**+1.9**
MRSI				S	**Sn**	**16 14 09.3**	**-3.0**
GUIM	**Jordan** 4μm,0.6s,33μm	**7.24**	**319**	*eP*	**Pn**	**16 12 55.0**	**+1.3**
PALU	**Palau** baz=7.3,SNR=71	**7.37**	**72**	⇑P	**Pn**	**16 12 55.4**	**0.0**
LUWI	**Luwuk** 1μm,1.2s,11μm	**7.68**	**217**	P	**Pn**	**16 13 01.1**	**+1.3**
LUWI	**Luwuk** baz=7.7	**7.68**	**217**	⇑P	**Pn**	**16 13 01.3**	**+1.6**
TOLI	**Toli-Toli** 544nm,1.0s,7μm6μm	**7.71**	**239**	P	**Pn**	**16 13 00.5**	**+0.4**
RCP	**Roxas**	**7.87**	**324**	⇓*eP*	**Pn**	**16 13 04.5**	**+2.2**
APSI	**Ampana** 635nm,1.1s,6μm2.4nm	**8.31**	**224**	P	**Pn**	**16 13 10.8**	**+2.5**
NLAI	**Namlea** 749nm,0.8s,12μm	**8.32**	**182**	P	**Pn**	**16 13 09.1**	**+0.6**
FAKI	**Fak Fak** 227nm,0.7s,3μm	**9.35**	**149**	P	**Pn**	**16 13 24.7**	**+2.2**
FAKI	**Fak Fak** baz=9.3	**9.35**	**149**	⇓P	**Pn**	**16 13 24.6**	**+2.1**
TSM	**Tawau**	**9.53**	**265**	P	**Pn**	**16 13 27.0**	**+2.1**
BNDI	**Bandanaira** 293nm,1.5s,4μm	**9.91**	**165**	P	Pn	16 13 34.1	+4.0
SDKM	**Sandakan**	**10.17**	**273**	P	**Pn**	**16 13 35.2**	**+1.5**
KDM	**Kudat**	**10.66**	**280**	P	**Pn**	**16 13 43.0**	**+2.8**
BAKI	**Biak** 1μm,1.1s,11μm	**10.73**	**126**	P	Pn	16 13 45.5	+4.3
KKSI	**Kolaka, Sulawe** 80nm,0.7s,4μm	**10.88**	**212**	P	**Pn**	**16 13 43.4**	**+0.1**
TGY	**Tagaytay City**	**10.95**	**325**	P	**Pn**	**16 13 44.1**	**-0.1**
TGY	**Tagaytay City** 15nm,0.3s,baz=327,slow=10.0,SNR=5.7	**10.95**	**325**	P	**Pn**	**16 13 44.1**	**-0.1**
TTSI	**Tana Toraja** 108nm,1.2s,2μm	**11.11**	**223**	P	**Pn**	**16 13 46.6**	**+0.3**
KKM	**Kota Kinabalu**	**11.17**	**275**	P	**Pn**	**16 13 48.8**	**+1.5**
KKM	**Kota Kinabalu** 132nm,1.6s,2μm	**11.17**	**275**	P	**Pn**	**16 13 48.7**	**+1.5**
KKM	**Kota Kinabalu** 316nm,1.4s	**11.17**	**275**	*eP*	**Pn**	**16 13 48.2**	**+1.0**
KKM	**Kota Kinabalu** baz=11,SNR=14	**11.17**	**275**	⇓P	**Pn**	**16 13 48.4**	**+1.1**
SRPI	**Serui, Papua** 707nm,0.9s,6μm	**11.24**	**128**	P	P	16 13 54.4	-3.7
SGKI	**Sangatta, Kali** 483nm,1.3s,6μm	**11.29**	**240**	P	Pn	16 13 44.7	-4.0
MMSI	**Mamuju** 322nm,0.8s,2μm	**11.51**	**228**	P	**Pn**	**16 13 52.2**	**+0.6**
SPSI	**Sidrap Palu** 78nm,0.9s,1μm	**11.82**	**220**	P	**Pn**	**16 13 55.3**	**-0.6**
BNSI	**Bone** 81nm,0.9s,1μm	**11.95**	**218**	P	**Pn**	**16 14 00.2**	**+2.7**
TLE	**Tual** 119nm,1.1s	**11.96**	**153**	P	**Pn**	**16 13 58.8**	**+1.2**
TLE	**Tual** baz=12	**11.96**	**153**	⇓P	**Pn**	**16 13 58.5**	**+0.9**
BKB	**Balikpapan** 618nm,1.7s,9μm	**12.27**	**239**	P	**Pn**	**16 14 03.3**	**+1.6**
KAPI	**Kappang** SNR=9.2	**12.65**	**217**	Pn	**Pn**	**16 14 06.9**	**+0.1**
KAPI	**Kappang**	**12.65**	**217**	P	**Pn**	**16 14 06.4**	**-0.4**
KAPI	**Kappang** 504nm,1.2s,SNR=8.8	**12.65**	**217**	Pn	**Pn**	**16 14 06.2**	**-0.6**
KAPI	**Kappang** 4.2nm,0.3s,baz=22,slow=7.3,SNR=15	**12.65**	**217**	P	**Pn**	**16 14 06.4**	**-0.4**
KAPI	comp=Z,680nm,19.4s,baz=50,slow=40			LR	LR	16 19 37.2	
BKSI	**Bulukumba** 68nm,0.9s,701nm	**12.68**	**215**	P	**Pn**	**16 14 07.3**	**+0.1**
MTKI	**Muara Teweh, K** 211nm,1.4s,3μm	**13.87**	**245**	P	**Pn**	**16 14 23.8**	**+1.0**
BTM	**Bintulu**	**14.41**	**263**	P	**Pn**	**16 14 31.1**	**+1.5**
MMRI	**Maumere**	**14.62**	**201**	P	**P**	**16 14 38.6**	**+2.8**
GENI	**Genyem** 175nm,0.7s,5μm	**14.89**	**121**	P	**P**	**16 14 40.2**	**+1.3**
JAY	**Jayapura** baz=15,SNR=7.5	**15.31**	**119**	⇑P	**Pn**	**16 14 42.2**	**+1.0**
SBUM	**Sibu**	**15.38**	**261**	P	**P**	**16 14 44.1**	**-0.3**
SBUM	**Sibu** 652nm,1.1s,6μm	**15.38**	**261**	P	**Pn**	**16 14 42.9**	**+0.9**
LBFI	**Labuhan Bajo,** 200nm,0.7s,2μm	**15.46**	**209**	P	**P**	**16 14 46.2**	**+1.0**
WSI	**Waingapu** 274nm,1.1s,5μm	**16.32**	**206**	P	**P**	**16 14 58.0**	**+3.3**
KSM	**Kuching**	**17.44**	**259**	P	**Pn**	**16 15 09.2**	**+1.7**
KSM	**Kuching** 424nm,1.1s	**17.44**	**259**	*eP*	**Pn**	**16 15 07.7**	**+0.3**
KSM	**Kuching** baz=18,SNR=84	**17.44**	**259**	⇑P	**Pn**	**16 15 08.4**	**+0.9**
MTNI	**Mataram**	**17.68**	**219**	P	**Pn**	**16 15 10.4**	**+0.1**
SRBI	**Singaraja**	**17.89**	**223**	P	Pn	16 15 21.7	+8.8
MTN	**Manton Dam** baz=18,SNR=117	**18.24**	**168**	P	**P**	**16 15 15.4**	**-0.5**
KDU	**Kakadu** baz=18,SNR=75	**18.41**	**164**	⇑P	**P**	**16 15 17.3**	**-0.4**
TPUB	**Ta-pu** 64nm,0.8s	**19.20**	**341**	*eP*	**P**	**16 15 26.1**	**-0.3**
SSLB	**Suanglung** 23nm,0.6s	**19.56**	**342**	*eP*	**Pn**	**16 15 31.6**	**-0.9**
YHNB	**Yeheng** 35nm,0.6s	**20.27**	**344**	*eP*	Pn	16 15 40.1	-0.8
KNRA	**Kununurra** baz=21,SNR=407	**20.72**	**176**	⇑P	**P**	**16 15 43.8**	**+1.0**
SMRI	**Semarang** baz=21	**20.81**	**235**	⇓P	**P**	**16 15 45.0**	**+1.2**
QZH	**Quanzhou**	**21.43**	**338**	P	**P**	**16 15 49.2**	**-1.2**
QZH				S	S	16 19 35.2	-7.2
QZH	comp=Z,780nm,18.2s			LR	LR		
QIZ	**Qiongzhong**	**22.00**	**310**	P	**P**	**16 15 54.7**	**-1.7**
QIZ				pP	**pP**	**16 16 14.2**	**-2.2**
QIZ				sP	**sP**	**16 16 26.4**	**-3.0**
QIZ				S	**S**	**16 19 50.8**	**-2.2**
QIZ				sS	**sS**	**16 20 22.8**	**-4.1**
QIZ	comp=Z,43nm,1.1s			pmax	pmax		
QIZ	comp=Z,250nm,4.2s			pmax	pmax		
QIZ	comp=N,850nm,17.5s			LR	LR		
QIZ	comp=Z,820nm,23.0s			LR	LR		
QIZ	**Qiongzhong** 42nm,0.9s	**22.00**	**310**	*eP*	**P**	**16 15 56.3**	**-0.1**
LEM	**Lembang** baz=23,SNR=8.1	**23.04**	**239**	⇑P	**P**	**16 16 07.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.16**	**184**	P	**P**	**16 16 08.2**	**+0.2**
FITZ				S	**S**	**16 20 10.6**	**-1.1**
FITZ	**Fitzroy Crossi** 217nm,0.9s,baz=15,slow=10,SNR=127	**23.16**	**184**	P	**P**	**16 16 08.2**	**+0.2**
FITZ	6.2nm,0.9s,baz=346,slow=19,SNR=1.9			S	**S**	**16 20 10.6**	**-1.1**
FITZ	**Fitzroy Crossi** baz=23	**23.16**	**184**	⇑P	**P**	**16 16 07.9**	**-0.2**
CISI	**Cisompet, Garu** baz=23	**23.25**	**237**	⇑P	**P**	**16 16 08.4**	**-0.7**
MYKOM	**Kota Tinggi**	**23.74**	**263**	P	**P**	**16 16 13.6**	**+0.1**
UBPT	**Khong Chiam** 77nm,1.3s	**23.79**	**297**	P	**P**	**16 16 13.0**	**-1.0**
BTDF	**Bukit Timah Da** baz=24,SNR=7.6	**23.88**	**262**	P	**P**	**16 16 14.8**	**0.0**
BTDF	baz=24,SNR=7.6			P	**P**	**16 16 14.8**	**0.0**
KGM	**Kluang**	**24.23**	**264**	P	**P**	**16 16 19.2**	**+1.3**
PMG	**Port Moresby**	**24.42**	**126**	*eP*	**P**	**16 16 18.8**	**-2.8**
PMG	**Port Moresby** 6.8nm,0.7s,baz=315,slow=5.7,SNR=6.1	**24.42**	**126**	P	**P**	**16 16 16.9**	**-2.8**
COEN	**Coen** 152nm,0.7s	**24.60**	**141**	*eP*	**P**	**16 16 19.8**	**-1.4**
COEN	**Coen** baz=25,SNR=40	**24.60**	**141**	⇓P	**P**	**16 16 19.9**	**-1.3**
WB0	**Warramunga Arr** baz=26	**25.69**	**165**	⇑P	**P**	**16 16 30.7**	**-0.4**
WB7	**Warramunga Arr** baz=26	**25.75**	**165**	⇑P	**P**	**16 16 31.2**	**-0.5**
FRIM	**Kepong**	**25.77**	**267**	P	**P**	**16 16 31.9**	**0.0**
WC1	**Warramunga Arr** baz=26	**25.82**	**165**	⇑P	**P**	**16 16 32.0**	**-0.3**
WRAB	**Tennant Creek**	**25.83**	**165**	*c iP*	**P**	**16 16 31.9**	**-0.5**
WRAB	comp=Z,232nm,0.7s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,940nm,0.5s,SNR=62	**25.83**	**165**	P	**P**	**16 16 31.6**	**-0.8**
WRA	**Warramunga Arr**	**25.84**	**165**	P	**P**	**16 16 32.0**	**-0.4**
WRA	**Warramunga Arr** comp=Z,127nm,0.8s,baz=342,slow=10,SNR=216	**25.84**	**165**	P	**P**	**16 16 32.0**	**-0.4**
WR3	**Warramunga Arr** baz=26	**25.86**	**165**	⇑P	**P**	**16 16 32.3**	**-0.3**
CBIJ	**Chichi jima**	**25.99**	**31**	P	**P**	**16 16 33.2**	**-0.6**
JCJ	**Chichijima** comp=Z,215nm,0.8s,baz=121,slow=21,SNR=10	**25.99**	**31**	P	**P**	**16 16 33.2**	**-0.6**
JCJ	comp=Z,250nm,18.1s,baz=131,slow=34			LR	LR	16 26 12.2	
IPM	**Ipoh**	**26.29**	**270**	P	**P**	**16 16 36.5**	**-0.2**
IPM	**Ipoh** comp=Z,128nm,0.8s	**26.29**	**270**	P	**P**	**16 16 35.4**	**-1.3**
SSE	**Sheshan**	**26.48**	**348**	*eP*	**P**	**16 16 40.1**	**+2.0**
SSE				sP	**sP**	**16 17 12.3**	**-0.7**
SSE				S	**S**	**16 21 07.9**	**+3.5**
SSE				sS	**sS**	**16 21 43.1**	**-1.4**
SSE	comp=Z,27nm,0.7s			pmax	pmax		
SSE	comp=Z,80nm,5.8s			pmax	pmax		
SSE	comp=Z,29nm,19.8s			LR	LR		
SSE	comp=Z,83nm,19.8s			LR	LR		
SSE	comp=Z,110nm,24.2s			LR	LR		
KULM	**Kulim**	**26.64**	**272**	P	**P**	**16 16 39.9**	**+0.2**
KULM	**Kulim** comp=Z,71nm,0.8s	**26.64**	**272**	*eP*	**P**	**16 16 39.2**	**-0.5**
CHAI	**Chaiyaphum** comp=Z,8.2nm,0.8s,comp=Z,117nm	**27.14**	**295**	P	**P**	**16 16 43.9**	**-0.3**
MBWA	**Marble Bar** SNR=12	**27.19**	**196**	P	**P**	**16 16 45.2**	**+0.6**
MBWA	**Marble Bar** comp=Z,183nm,1.3s	**27.19**	**196**	*eP*	**P**	**16 16 44.5**	**-0.1**
NJ2	**Nanjing**	**27.95**	**344**	*eP*	**P**	**16 16 54.3**	**+3.1**
NJ2	comp=Z,30nm,0.8s			pmax	pmax		
JNU	**Nakatsue**	**28.03**	**6**	*eP*	**P**	**16 16 52.9**	**+0.9**
JNU				*ep*P	**pP**	**16 17 13.9**	**-1.1**
JNU	**Nakatsue** comp=Z,20nm,0.8s,baz=177,slow=3.9,SNR=8.1	**28.03**	**6**	P	**P**	**16 16 52.8**	**+0.8**
JNU	comp=Z,117nm,19.2s,baz=196,slow=33			LR	LR	16 26 32.6	
WHN	**Wuhan**	**28.10**	**336**	⇓P	**P**	**16 16 55.4**	**+2.8**
WHN				S	**S**	**16 21 29.3**	**-0.8**
WHN	comp=Z,50nm,0.9s			pmax	pmax		
WHN	comp=Z,740nm,22.5s			LR	LR		
PBKT	**Sadao Pong** comp=Z,54nm,0.9s	**28.29**	**296**	P	**P**	**16 16 54.3**	**-0.1**
PSI	**Prapat**	**28.50**	**266**	P	**P**	**16 16 55.2**	**-1.3**
PSI				PcP	**PcP**	**16 20 05.8**	**-0.3**
PSI	**Prapat** comp=Z,28nm,0.7s,baz=87,slow=3.1,SNR=19	**28.50**	**266**	P	**P**	**16 16 55.2**	**-1.3**
PSI	comp=Z,9.8nm,0.9s,baz=173,slow=7.1,SNR=4.0			PcP	**PcP**	**16 20 05.8**	**-0.3**
PSI	**Prapat** baz=29,SNR=13	**28.50**	**266**	⇓P	**P**	**16 16 55.8**	**-0.7**
GYA	**Guiyang**	**29.02**	**319**	⇓*iP*	**P**	**16 17 01.4**	**+0.4**
GYA				pP	**pP**	**16 17 23.6**	**-0.5**
GYA				sP	**sP**	**16 17 34.7**	**-1.4**
GYA				PP	**PnPn**	**16 18 01.0**	**+2.7**
GYA				PcP	**PcP**	**16 20 08.9**	**+1.7**
GYA				S	**S**	**16 21 48.3**	**+3.4**
GYA				sS	**sS**	**16 22 24.2**	**-0.9**
GYA				ScP	**ScP**	**16 23 40.9**	**+1.5**
GYA				PcS	**PcS**	**16 23 50.7**	**+0.4**
GYA				ScS	**ScS**	**16 27 33.5**	**-0.3**
GYA	comp=Z,20nm,1.0s			pmax	pmax		
GYA				pmax	pmax		
GYA	comp=Z,130nm,4.9s			LR	LR		
GYA	comp=Z,890nm,14.5s			LR	LR		
GYA	comp=Z,710nm,13.6s			LR	LR		
GYA	comp=Z,990nm,13.9s			LR	LR		
SRDT	**SRDT** comp=Z,224nm,1.0s,comp=Z,22μm	**29.30**	**290**	P	**P**	**16 17 04.2**	**+0.7**
AS31	**Alice Springs**	**29.32**	**168**	*eP*	**P**	**16 17 03.0**	**-0.5**
ASAR	**Alice Springs**	**29.32**	**168**	P	**P**	**16 17 03.4**	**-0.2**
ASAR				PcP	**PcP**	**16 20 07.8**	**-0.1**
ASAR				ScP	**ScP**	**16 23 40.1**	**-0.2**
ASAR	**Alice Springs** comp=Z,17nm,0.7s,baz=348,slow=7.2,SNR=196	**29.32**	**168**	P	**P**	**16 17 03.4**	**-0.2**
ASAR	comp=Z,2.6nm,0.4s,baz=342,slow=2.2,SNR=3.7			PcP	**PcP**	**16 20 07.8**	**-0.1**
ASAR	comp=Z,2.0nm,0.9s,baz=9.5,slow=2.8,SNR=3.5			ScP	**ScP**	**16 23 40.1**	**-0.2**
NANT	**Nan** comp=Z,210nm,0.7s,comp=Z,2μm	**29.37**	**300**	P	**P**	**16 17 03.8**	**-0.3**
KHLT	**Khaolaem Dam** comp=Z,31nm,1.1s,comp=Z,738nm	**29.92**	**291**	P	**P**	**16 17 09.6**	**+0.7**
UMPA	**Umpang Tak**	**30.08**	**294**	P	P	16 17 23.4	+13
ENH	**Enshi** comp=Z,49nm,0.8s	**30.17**	**328**	*eP*	**P**	**16 17 12.1**	**+1.0**
ENH				*ep*P	**pP**	**16 17 32.9**	**-1.3**
CRAI	**Chiangrai** comp=Z,139nm,0.9s	**30.26**	**302**	P	**P**	**16 17 11.8**	**-0.1**
LHMI	**Lhok Sumawe** baz=30,SNR=7.6	**30.33**	**272**	P	**P**	**16 17 12.8**	**+0.2**
CM31	**Chiang Mai Arr** comp=Z,24nm,0.7s	**30.77**	**298**	*eP*	**P**	**16 17 16.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.77**	**298**	P	**P**	**16 17 16.8**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,24nm,0.8s,baz=108,slow=7.0,SNR=184	**30.77**	**298**	P	**P**	**16 17 16.8**	**+0.3**
CMAR	comp=Z,298nm,20.0s,baz=354,slow=36			LR	LR	16 29 36.1	
KMI	**Kunming**	**30.90**	**313**	P	**P**	**16 17 18.9**	**+1.2**
KMI				pP	**pP**	**16 17 41.1**	**+0.2**
KMI				sP	**sP**	**16 17 51.4**	**-1.5**
KMI				S	**S**	**16 22 14.3**	**-0.3**
KMI				sS	**sS**	**16 22 54.6**	**-0.2**
KMI				SS	**SnSn**	**16 24 09.4**	**+3.8**
KMI	comp=Z,32nm,0.8s			pmax	pmax		
KMI	comp=Z,130nm,4.7s			pmax	pmax		
KMI	comp=Z,430nm,19.4s			LR	LR		
KMI	comp=Z,290nm,20.6s			LR	LR		
KMI	comp=Z,420nm,18.1s			LR	LR		
CMMT	**Chiang Mai** comp=Z,73nm,1.0s,comp=Z,749nm	**30.90**	**299**	P	**P**	**16 17 17.3**	**-0.3**
CHTO	**Chiang Mai** SNR=16	**30.91**	**299**	P	**P**	**16 17 17.8**	**+0.2**
CHTO	**Chiang Mai**	**30.91**	**299**	*eP*	**P**	**16 17 16.4**	**-1.2**
CHTO	comp=Z,48nm,0.8s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,48nm,0.8s	**30.91**	**299**	*eP*	**P**	**16 17 16.4**	**-1.2**
CHTO	**Chiang Mai** comp=Z,324nm,1.0s,comp=Z,3μm	**30.91**	**299**	P	**P**	**16 17 17.4**	**-0.2**
CTA	**Charters Tower**	**31.18**	**144**	P	**P**	**16 17 20.1**	**+0.2**
CTA				PcP	**PcP**	**16 20 13.2**	**+0.5**
CTA	**Charters Tower** comp=Z,26nm,0.7s,baz=326,slow=11,SNR=40	**31.18**	**144**	P	**P**	**16 17 20.1**	**+0.2**
CTA	comp=Z,5.8nm,0.8s,baz=304,slow=7.3,SNR=2.6			PcP	**PcP**	**16 20 13.2**	**+0.5**
CTAO	**Charters Tower**	**31.18**	**144**	*eP*	**P**	**16 17 19.8**	**-0.2**
CTAO	comp=Z,25nm,0.8s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,25nm,0.8s	**31.18**	**144**	*eP*	**P**	**16 17 19.8**	**-0.2**
CMAI	**Chiengmai2** comp=Z,123nm,0.9s	**31.26**	**301**	P	**P**	**16 17 20.8**	**-0.1**
MHMT	**Maesariang** comp=Z,49nm,0.9s,comp=Z,349nm	**31.57**	**297**	P	**P**	**16 17 23.7**	**+0.3**
KSAR	**Wonju Array Be**	**32.16**	**1**	P	**P**	**16 17 29.9**	**+1.5**
KSAR				PcP	**PcP**	**16 20 15.2**	**+0.2**
KSAR				ScP	**ScP**	**16 23 48.4**	**-1.0**
KSRS	**Korea Array** comp=Z,12nm,0.8s,baz=177,slow=9.7,SNR=59	**32.17**	**1**	P	**P**	**16 17 29.9**	**+1.4**
KSRS	comp=Z,2.9nm,0.7s,baz=182,slow=2.7,SNR=9.6			PcP	**PcP**	**16 20 15.2**	**+0.2**
KSRS	comp=Z,1.8nm,0.9s,baz=189,slow=3.8,SNR=4.3			ScP	**ScP**	**16 23 48.4**	**-1.0**
KSRS	comp=Z,75nm,18.6s,baz=0.8,slow=37			LR	LR	16 31 03.2	
MEEK	**Meekatharra** baz=33,SNR=142	**32.71**	**195**	⇑P	**P**	**16 17 33.8**	**+0.5**
MAJO	**Matsushiro**	**32.79**	**16**	*eP*	**P**	**16 17 34.0**	**+0.1**
MAJO				*e*		16 17 55.3	
MAJO	comp=Z,11nm,0.8s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,11nm,0.8s	**32.79**	**16**	*eP*	**P**	**16 17 34.0**	**+0.1**
MAJO				*e*		16 17 55.3	
XAN	**Xi'an**	**33.49**	**332**	P	**P**	**16 17 40.7**	**+0.6**
XAN	comp=Z,19nm,0.8s			pmax	pmax		
XAN	comp=Z,39nm,6.8s			pmax	pmax		
CD2	**Chengdu**	**33.93**	**322**	⇓*iP*	**P**	**16 17 44.8**	**+0.8**
CD2				pP	**pP**	**16 18 07.8**	**+0.5**
CD2				PP	**PP**	**16 19 02.8**	**0.0**
CD2				PcP	**PcP**	**16 20 20.5**	**+0.3**
CD2				S	**S**	**16 23 03.5**	**+2.2**
CD2				sS	**sS**	**16 23 41.8**	**0.0**
CD2				PcS	**PcS**	**16 24 06.5**	**0.0**
CD2				SS	**SnSn**	**16 25 17.2**	**-1.5**
CD2				ScS	**ScS**	**16 27 56.2**	**-1.7**
CD2	comp=Z,10.0nm,0.9s			pmax	pmax		
CD2	comp=Z,210nm,4.8s			pmax	pmax		
CD2	comp=Z,530nm,15.5s			LR	LR		
CD2	comp=Z,490nm,13.2s			LR	LR		
CD2	comp=Z,530nm,14.2s			LR	LR		
DL2	**Dalian**	**34.02**	**352**	P	P	16 17 50.0	+5.5
DL2				S	S	16 23 12.6	+10
DL2	comp=Z,54nm,0.8s			pmax	pmax		
DL2	comp=Z,140nm,4.9s			pmax	pmax		
DL2	comp=Z,210nm,18.6s			LR	LR		
QLP	**Quilpie** baz=36,SNR=45	**35.50**	**153**	⇑P	**P**	**16 17 56.6**	**-0.8**
HNR	**Honiara**	**35.52**	**114**	P	**P**	**16 17 58.4**	**+0.6**
HNR	**Honiara** comp=Z,25nm,0.8s,baz=238,slow=13,SNR=2.8	**35.52**	**114**	P	**P**	**16 17 58.4**	**+0.6**
FORT	**Forrest** comp=Z,194nm,0.8s	**35.72**	**179**	*eP*	**P**	**16 17 59.3**	**+0.1**
FORT	**Forrest** baz=36,SNR=63	**35.72**	**179

LZH SS **SS** 16 26 42.0 -5.5
LZH pmax pmax
comp=Z,110nm,1.0s
LZH pmax pmax
comp=Z,290nm,4.0s
KLBR Kellerberrin 37.66 194 P **P** 16 18 16.0 +0.3
baz=38,SNR=65
VLA Vladivostok 38.03 5 *e*P **P** 16 18 20.2 +1.5
VLA pmax pmax
comp=Z,19nm,1.2s
EIDS Eidsvold 38.06 144 *e*P **P** 16 18 17.9 -1.3
comp=Z,52nm,1.2s
EIDS Eidsvold 38.06 144 ⇓P **P** 16 18 18.4 -0.8
baz=38,SNR=7.2
HHC Hu-ho-hao-te 38.29 340 *e*P **P** 16 18 21.9 +0.8
HHC pP **pP** 16 18 44.8 0.0
HHC sP **sP** 16 18 57.8 +1.1
HHC S **ScP** 16 24 10.6 -1.1
HHC sS **sS** 16 24 48.0 -0.7
HHC SS **SS** 16 26 56.4 -4.0
HHC pmax pmax
comp=Z,43nm,0.9s
HHC pmax pmax
comp=Z,250nm,5.1s
HHC LR LR
comp=Z,420nm,14.6s
HHC LR LR
comp=Z,280nm,14.4s
HHC LR LR
comp=Z,350nm,14.5s
CN2 Changchun 38.55 358 *e*P **P** 16 18 23.9 +0.9
CN2 *es*P **sP** 16 18 56.1 -2.5
CN2 *e*S **ScP** 16 24 14.0 +1.6
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
BBOO Buckleboo 38.62 168 *e*P **P** 16 18 23.5 -0.3
comp=Z,363nm,0.6s
BBOO Buckleboo 38.62 168 ⇑P **P** 16 18 23.8 0.0
baz=39,SNR=42
USRK Ussuriysk Arra 39.12 5 P **P** 16 18 28.2 +0.5
comp=Z,4.6nm,0.6s,baz=183,slow=7.2,SNR=23
USRK pP pP 16 18 58.3 +6.8
comp=Z,20nm,0.9s,baz=187,slow=7.9,SNR=8.9
USRK PcP **PcP** 16 20 36.1 +0.7
comp=Z,1.4nm,0.5s,baz=137,slow=2.3,SNR=3.5
USRK LR LR 16 33 19.8
comp=Z,79nm,19.0s,baz=311,slow=34
STKA Stephens Creek 39.21 161 *e*P **P** 16 18 28.4 -0.3
comp=Z,22nm,0.7s
STKA Stephens Creek 39.21 161 P **P** 16 18 29.0 +0.2
comp=Z,130nm,0.8s,baz=337,slow=8.0,SNR=309
STKA LR LR 16 36 12.9
comp=Z,132nm,18.6s,baz=265,slow=38
STKA Stephens Creek 39.21 161 ⇓P **P** 16 18 28.7 0.0
baz=39,SNR=282
ERM Erimo 39.32 19 *e*P **P** 16 18 31.6 +2.2
ERM pmax pmax
comp=Z,33nm,1.2s
MDJ Mudanjiang 39.37 2 P **P** 16 18 31.1 +1.3
MDJ pP **pP** 16 18 52.1 -1.5
MDJ sP **sP** 16 19 00.7 -4.8
MDJ PP **PnPn** 16 20 04.7 -1.4
MDJ PcP **PcP** 16 20 36.3 0.0
MDJ S **S** 16 24 28.2 +4.7
MDJ pmax pmax
comp=Z,27nm,1.0s
MDJ pmax pmax
comp=Z,74nm,4.5s
MDJ LR LR
comp=Z,170nm,6.3s
MDJ LR LR
comp=Z,85nm,7.1s
MDJ LR LR
comp=Z,190nm,5.5s
MDJ Mudanjiang 39.37 2 *e*P **P** 16 18 30.9 +1.1
comp=Z,27nm,1.0s
MDJ pP **pP** 16 18 52.5 -1.2
MDJ *es*P **sP** 16 19 00.7 -4.8
SHL Shillong 39.61 305 *i*P **P** 16 18 34.0 +1.6
SHL *i*S **S** 16 24 25.0 -3.0
HTT Hallett 39.88 165 ⇓P **P** 16 18 34.6 +0.3
baz=40,SNR=15
CMSA Cobar Meteorol 40.43 156 ⇑P **P** 16 18 38.8 0.0
baz=40,SNR=62
RKGY Rocky Gully 40.74 193 ⇑P **P** 16 18 42.5 +1.2
baz=41,SNR=60
ASAJ Asahikawa 41.06 17 P **P** 16 18 44.4 +0.6
ASAJ Asahikawa 41.06 17 P **P** 16 18 44.4 +0.6
comp=Z,46nm,0.8s,baz=233,slow=15,SNR=32
LSA Lhasa 42.04 310 P **P** 16 18 53.4 +0.9
LSA pmax pmax
comp=Z,10.0nm,1.3s
LSA Lhasa 42.04 310 *e*P **P** 16 18 53.5 +0.9
LSA pmax pmax
comp=Z,29nm,0.6s
LSA Lhasa 42.04 310 *e*P **P** 16 18 53.5 +0.9
comp=Z,29nm,0.6s
ARMA Armidale 42.28 148 *e*P **P** 16 18 54.5 +0.3
comp=Z,57nm,1.0s
ARMA Armidale 42.28 148 P **P** 16 18 54.5 +0.3
baz=42,SNR=30
HABR Khabarovsk 43.67 7 *ce*P **P** 16 19 04.5 -0.4
HABR *e**PP **pP** 16 19 27.6 -1.5
HABR 16 19 39.3
HABR 16 20 50.1
HABR *e*PPP PPP 16 21 24.9
HABR *e*S **S** 16 25 26.5 -0.4
HABR *e* 16 26 07.0
HABR *e* 16 28 53.4
HABR *e*SSS SSS 16 29 30.4
HABR pmax pmax
comp=E,41nm,2.3s
HABR pmax pmax
comp=N,46nm,2.0s
HABR pmax pmax
comp=Z,90nm,1.4s
HABR MLR MLR
comp=Z,110nm,20.0s
YSS Yuzh-Sakhalins 43.72 15 *i*P **P** 16 19 06.6 +1.3
YSS pmax pmax
comp=Z,28nm,0.5s
TAPN Taplejung 43.75 305 *e*P **P** 16 19 06.4 +0.1
comp=Z,61nm,0.6s
TAPN Taplejung 43.75 305 *e*P **P** 16 19 06.4 +0.1
ARPS Mount Arapiles 43.82 163 P **P** 16 19 06.9 +0.6
baz=44,SNR=30
ODAN Odare 43.82 304 *e*P **P** 16 19 06.7 -0.1
comp=Z,143nm,0.9s
ODAN Odare 43.82 304 *e*P **P** 16 19 06.7 -0.1
YNG Young 43.95 155 ⇓P **P** 16 19 07.7 +0.3
baz=44,SNR=8.1
KLR Kul'dur 44.09 4 *e*P **P** 16 19 05.4 -2.9
KLR pmax pmax
comp=Z,57nm,1.4s
HIA Hailar 44.45 353 P **P** 16 19 12.0 +0.8
comp=Z,9.5nm,0.8s
RAMN Ramite 44.51 304 *e*P **P** 16 19 12.6 +0.3
comp=Z,134nm,0.8s
RAMN Ramite 44.51 304 *e*P **P** 16 19 12.6 +0.3
CAN Canberra 45.08 155 *e*P **P** 16 19 16.8 +0.4
CAN pmax pmax
comp=Z,40nm,0.9s
CAN Canberra 45.08 155 *e*P **P** 16 19 16.8 +0.4
comp=Z,40nm,0.9s
JIRN Jiri 45.11 304 *e*P **P** 16 19 17.3 +0.1
comp=Z,159nm,0.7s
JIRN Jiri 45.11 304 *e*P **P** 16 19 17.3 +0.1
CNB Canberra Magne 45.23 154 ⇓P **P** 16 19 18.4 +0.8
baz=45,SNR=9.4
GUN Gumba 45.46 305 *e*P **P** 16 19 20.0 +0.1
comp=Z,179nm,0.7s
GUN Gumba 45.46 305 *e*P **P** 16 19 20.0 +0.1
TOO Toolangi 45.71 160 P **P** 16 19 22.3 +1.0
baz=46,SNR=15
PKI Pulchoki 45.72 304 *e*P **P** 16 19 21.6 -0.4
comp=Z,47nm,0.7s
PKI Pulchoki 45.72 304 *e*P **P** 16 19 21.6 -0.4
PKI Pulchoki 45.72 304 *e*P **P** 16 19 21.6 -0.4
PKIN Phulchoki 45.74 304 *e*P **P** 16 19 21.5 -0.5
comp=Z,24nm,0.6s
KKN Kakani 45.91 304 *e*P **P** 16 19 22.9 -0.4
comp=Z,78nm,0.9s
KKN Kakani 45.91 304 *e*P **P** 16 19 22.9 -0.4
KKN Kakani 45.91 304 *e*P **P** 16 19 22.9 -0.4

DMN Daman 45.99 304 *e*P **P** 16 19 23.7 -0.3
comp=Z,82nm,0.8s
DMN Daman 45.99 304 *e*P **P** 16 19 23.7 -0.3
ULN Ulaanbaatar 46.01 341 P **P** 16 19 25.4 +1.7
SNR=6.9
ULN Ulaanbaatar 46.01 341 *e*P **P** 16 19 24.0 +0.4
comp=Z,31nm,1.1s
SONM Songino Array 46.20 340 P **P** 16 19 26.1 +1.0
SONM ScP **ScP** 16 24 41.6 -1.6
SONM Songino Array 46.20 340 P **P** 16 19 26.1 +1.0
comp=Z,6.7nm,0.7s,baz=163,slow=7.4,SNR=28
SONM ScP **ScP** 16 24 41.6 -1.6
comp=Z,1.0nm,0.9s,baz=163,slow=5.4,SNR=3.7
SONM LR LR 16 41 17.4
comp=Z,127nm,18.8s,baz=197,slow=39
GKN Gorkha 46.52 304 *e*P **P** 16 19 27.5 -0.5
comp=Z,48nm,0.7s
GKN Gorkha 46.52 304 *e*P **P** 16 19 27.5 -0.5
MILA Mila 46.63 156 ⇑P **P** 16 19 29.7 +1.1
baz=47,SNR=6.2
DZM Mont Dzumac 46.82 127 P **P** 16 19 29.5 -0.8
DZM Mont Dzumac 46.82 127 P **P** 16 19 29.5 -0.8
comp=Z,21nm,0.6s,baz=262,slow=8.2,SNR=33
DZM Mont Dzumac 46.82 127 *e*P **P** 16 19 27.4 -2.9
KOLN Koldanda 47.29 303 *e*P **P** 16 19 34.3 +0.2
comp=Z,168nm,0.7s
KOLN Koldanda 47.29 303 *e*P **P** 16 19 34.3 +0.2
DANN Dangsing 47.36 304 *e*P **P** 16 19 34.8 +0.1
comp=Z,225nm,0.6s
DANN Dangsing 47.36 304 *e*P **P** 16 19 34.8 +0.1
PYUN Piuthan 47.91 304 *e*P **P** 16 19 39.2 +0.3
comp=Z,112nm,0.4s
HYB Hyderabad 49.29 288 *i*P **P** 16 19 48.0 -1.4
comp=Z,50nm,1.0s
ZAK Zakamensk 49.43 340 *e*P **P** 16 19 50.0 0.0
ZAK *e* 16 20 17.8
ZAK pmax pmax
comp=Z,3.0nm,1.6s
MOO Moorlands 50.66 161 ⇑P **P** 16 20 00.1 +0.9
baz=51
IRK Irkutsk 50.70 342 *e*P **P** 16 20 00.1 +0.6
IRK *e* 16 20 27.8
IRK pmax pmax
comp=Z,44nm,2.0s
MOY Mondy 51.30 339 *e*P **P** 16 20 06.6 +2.5
CLNS Chul'man 51.60 358 *e*P **P** 16 20 05.7 -0.4
CLNS pmax pmax
comp=Z,21nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.0s
WMQ Urumqi 51.97 324 P **P** 16 20 11.0 +1.8
WMQ pP **pP** 16 20 35.0 +0.9
WMQ sP **sP** 16 20 46.0 +0.3
WMQ PcP **PcP** 16 21 22.0 +1.7
WMQ PP **PP** 16 22 11.0 +2.8
WMQ ScP **ScP** 16 25 09.0 +1.1
WMQ S **S** 16 27 25.0 +0.3
WMQ sS **sS** 16 28 07.0 -0.4
WMQ ScS **ScS** 16 29 48.0 -1.3
WMQ SS **SS** 16 31 02.0 -1.0
WMQ pmax pmax
comp=N,26nm,1.0s
WMQ pmax pmax
comp=N,200nm,4.0s
WMQ LR LR
comp=N,230nm,18.0s
WMQ LR LR
comp=N,300nm,18.0s
WMQ LR LR
comp=N,220nm,18.0s
PEA0B Petropavlovsk- 53.88 22 *e*P **P** 16 20 24.2 +1.2
PETK Petropavlovsk- 53.88 22 P **P** 16 20 23.8 +0.8
PETK Petropavlovsk- 53.88 22 P **P** 16 20 23.8 +0.8
PETK Petropavlovsk- 53.88 22 P **P** 16 20 23.8 +0.8
comp=N,80nm,0.7s,baz=191,slow=6.1,SNR=96
PETK LR LR 16 39 29.9
comp=N,76nm,21.2s,baz=216,slow=32
PET Petropavlovsk 54.18 23 *e*P **P** 16 20 26.4 +1.3
PET pmax pmax
comp=Z,83nm,0.7s
YAK Yakutsk 56.80 1 *e*P **P** 16 20 42.7 -0.9
YAK pmax pmax
comp=Z,137nm,0.9s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,56nm,1.0s
YAK Yakutsk 56.80 1 *e*P **P** 16 20 44.0 +0.3
comp=N,145nm,0.9s
MK31 Makanchi Array 56.80 324 *i*P **P** 16 20 44.9 +0.9
MK31 pmax pmax
comp=Z,8.0nm,0.4s
MK31 Makanchi Array 56.80 324 *e*P **P** 16 20 45.3 +1.2
MKAR Makanchi Array 56.80 324 *ce*P **P** 16 20 45.2 +1.2
MKAR pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 56.80 324 P **P** 16 20 45.2 +1.2
MKAR ScP **ScP** 16 25 25.4 -3.5
MKAR Makanchi Array 56.80 324 P **P** 16 20 45.2 +1.2
comp=Z,20nm,0.6s,baz=117,slow=7.7,SNR=202
MKAR ScP **ScP** 16 25 25.4 -3.5
comp=Z,2.2nm,1.0s,baz=101,slow=2.9,SNR=4.2
MKAR LR LR 16 47 29.2
comp=Z,113nm,19.1s,baz=275,slow=38
MKAR Makanchi Array 56.80 324 ⇓P **P** 16 20 45.3 +1.3
baz=57
KSH Kashi 57.54 314 P **P** 16 20 51.7 +2.2
KSH pP **pP** 16 21 15.2 +0.4
KSH sP **sP** 16 21 28.0 +1.7
KSH PcP **PcP** 16 21 44.6 +2.7
KSH PP **PP** 16 23 01.0 +2.8
KSH S **S** 16 28 41.9 +2.5
KSH sS **sS** 16 29 24.8 +2.0
KSH ScS **ScS** 16 30 29.7 +0.3
KSH pmax pmax
comp=Z,15nm,0.9s
KSH pmax pmax
comp=Z,140nm,5.1s
KSH LR LR
comp=Z,130nm,6.1s
KSH LR LR
comp=Z,170nm,6.9s
KSH LR LR
comp=Z,220nm,5.3s
ULHL Ulahol 58.44 317 *i*P **P** 16 20 57.2 +1.4
ULHL Ulahol 58.44 317 P **P** 16 20 57.3 +1.4
SNR=7.2
KZA Kyzart 59.05 317 *i*P **P** 16 21 02.1 +1.8
KZA Kyzart 59.05 317 P **P** 16 21 02.1 +1.8
SNR=18
TKM2 Tokmak 2 59.15 318 *e*P **P** 16 21 01.5 +0.7
TKM2 pmax pmax
comp=Z,11nm,0.6s
TKM2 Tokmak 2 59.15 318 P **P** 16 21 02.0 +1.3
SNR=23
TKM2 Tokmak 2 59.15 318 *e*P **P** 16 21 01.5 +0.7
comp=Z,11nm,0.6s
KBK Karagaybulak 59.48 317 P **P** 16 21 04.5 +1.5
SNR=16
UCH Uchtor 59.61 317 *i*P **P** 16 21 05.5 +1.3
UCH Uchtor 59.61 317 P **P** 16 21 05.5 +1.3
SNR=31
ZAA0 Zalesovo Array 59.65 332 *e*P **P** 16 21 02.4 -1.3
ZALV Zalesovo Beam 59.65 332 *i*P **P** 16 21 03.2 -0.5
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 59.65 332 P **P** 16 21 02.6 -1.1
ZALV ⇑*e* 16 50 40.0
ZALV Zalesovo Beam 59.65 332 P **P** 16 21 02.6 -1.1
comp=Z,5.3nm,0.6s,baz=126,slow=6.6,SNR=31
ZALV LR LR 16 48 28.6
comp=Z,93nm,21.4s,baz=63,slow=38
ZALV PKP2bc 16 50 40.0
comp=Z,0.9nm,0.7s,baz=308,slow=4.7,SNR=4.1
CHMS Chumysh 59.75 318 *i*P **P** 16 21 05.1 +0.5
CHMS Chumysh 59.75 318 P **P** 16 21 05.2 +0.5
SNR=8.1
AAK Ala-Archa 59.78 317 P P 16 21 09.8 +4.8
SNR=5.7
AAK Ala-Archa 59.78 317 *c**i*P **P** 16 21 05.9 +0.9
AAK pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 59.78 317 P **P** 16 21 06.0 +0.9
SNR=9.9
AAK Ala-Archa 59.78 317 P **P** 16 21 06.6 +1.6
comp=Z,63nm,0.5s,SNR=9.3
AAK Ala-Archa 59.78 317 LR LR 16 48 54.2
comp=Z,160nm,18.8s,baz=89,slow=38
USP Ospenovka 60.03 318 *i*P **P** 16 21 07.2 +0.7
USP Ospenovka 60.03 318 P **P** 16 21 07.3 +0.7
SNR=29
AML Almayashu 60.13 316 P **P** 16 21 09.3 +1.6
SNR=21
EKS2 Erkin-Say 60.28 317 *e*P **P** 16 21 09.4 +1.0
EKS2 pmax pmax
comp=Z,28nm,0.9s
EKS2 Erkin-Say 60.28 317 P **P** 16 21 09.8 +1.4
SNR=22
EKS2 Erkin-Say 60.28 317 *e*P **P** 16 21 09.4 +1.0
comp=Z,28nm,0.9s
KURK Kurchatov 60.93 327 P **P** 16 21 13.2 +0.8
SNR=20
KURK Kurchatov 60.93 327 P **P** 16 21 12.6 +0.1
KURK pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 60.93 327 P **P** 16 21 12.3 -0.2
comp=Z,356nm,0.6s,SNR=40
KURBB Kurchatov Arra 60.93 327 PKPPKP **P'P'df** 16 50 24.9 -4.8
comp=Z,0.3nm,0.8s,baz=288,slow=4.5,SNR=4.1
KURBB PKP2bc 16 50 37.6
comp=Z,0.3nm,0.5s,baz=298,slow=3.5,SNR=4.7
NVS Novosibirsk 60.93 333 ⇑*i*P **P** 16 21 11.2 -1.2
NVS *e*S **S** 16 29 19.0 -3.4
NVS *e**SS sS 16 29 54.3 -12
NVS pmax pmax
comp=Z,20nm,1.0s
NVS pmax pmax
comp=N,8.0nm,1.1s
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS smax smax
comp=E,45nm,2.5s
KBL Kabul 61.21 307 *e*P **P** 16 21 15.1 +0.1
KBL pmax pmax
comp=Z,30nm,0.8s
KBL Kabul 61.21 307 *e*P **P** 16 21 15.1 +0.1
comp=Z,30nm,0.8s
KBL Kabul 61.21 307 P **P** 16 21 15.4 +0.4
baz=61,SNR=15
RPZ Rata Peaks 62.53 146 *e*P **P** 16 21 22.2 -1.1
comp=Z,35nm,0.8s
KK31 Karatay Array 62.67 316 *i*P **P** 16 21 24.7 +0.3
KK31 pmax pmax
comp=Z,8.0nm,0.6s
URZ Urewera 63.12 138 P **P** 16 21 26.7 -0.6
URZ Urewera 63.12 138 P **P** 16 21 26.7 -0.6
comp=Z,4.1nm,0.4s,baz=217,slow=3.7,SNR=6.1
BVA0 Borovoye Array 66.52 326 P **P** 16 21 47.8 -1.4
BVA0 pmax pmax
comp=Z,12nm,0.7s
BVAR Borovoye Array 66.52 326 P **P** 16 21 48.7 -0.5
BVAR Borovoye Array 66.52 326 P **P** 16 21 48.7 -0.5
BVAR Borovoye Array 66.52 326 P **P** 16 21 48.7 -0.5
comp=Z,8.1nm,0.6s,baz=130,slow=7.8,SNR=7.9
BRVK Borovoye 66.59 326 P **P** 16 21 50.4 +0.8
SNR=17
BRVK Borovoye 66.59 326 *e*P **P** 16 21 49.8 +0.2
BRVK pmax pmax
comp=Z,85nm,1.4s
BRVK Borovoye 66.59 326 *e*P **P** 16 21 49.8 +0.2
comp=Z,85nm,1.4s
BRVK Borovoye 66.59 326 P **P** 16 21 49.8 +0.2
comp=Z,180nm,1.1s,SNR=20
WSAR Wadi Sarin 68.49 293 ⇑P **P** 16 22 02.0 -0.2
baz=69
AB31 Akbulak array 71.50 320 *i*P **P** 16 22 19.7 -0.3
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 71.50 320 *e*P **P** 16 22 19.8 -0.2
comp=Z,12nm,0.8s
ABKAR Akbulak array 71.50 320 ⇓P **P** 16 22 20.5 +0.5
baz=72
UNV Unalaska Valle 71.89 35 *e*P **P** 16 22 21.8 -0.5
comp=Z,67nm,0.7s
AKTO Aktyubinsk 72.98 321 P **P** 16 22 28.2 -0.7
AKTO pmax pmax
comp=Z,45nm,1.4s
AKTO Aktyubinsk 72.98 321 P **P** 16 22 29.0 +0.1
AKTO Aktyubinsk 72.98 321 P **P** 16 22 29.0 +0.1
comp=Z,17nm,0.8s,baz=97,slow=7.2,SNR=34
MRIV Mauritius Mete 73.11 247 *e*P **P** 16 22 30.3 +0.1
SVE Sverdlovsk 73.12 328 ⇑*i*P **P** 16 22 30.0 +0.4
SVE pmax pmax
comp=Z,45nm,1.1s
FALS False Pass 73.91 34 *e*P **P** 16 22 34.3 +0.2
comp=Z,108nm,1.0s
ARU Arti 74.11 327 P **P** 16 22 34.8 -0.6
comp=Z,100nm,0.8s,SNR=7.7
ARU Arti 74.11 327 ⇑*i*P **P** 16 22 33.8 -1.6
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 74.11 327 *e*P **P** 16 22 34.7 -0.7
comp=Z,20nm,0.8s
ARU pP **pP** 16 22 58.7 -3.1
CHGN Chignik 76.99 33 *e*P **P** 16 22 51.5 -0.2
KDAK Kodiak Island 80.35 32 *e*P **P** 16 23 10.5 +0.3
comp=Z,62nm,0.8s
KDAK Kodiak Island 80.35 32 P **P** 16 23 11.3 +1.1
comp=Z,450nm,0.8s,SNR=11
RSO Redoubt South 80.55 30 *e*P **P** 16 23 11.2 -0.3
comp=Z,68nm,1.0s
RAYN Ar Rayn 80.55 293 P **P** 16 23 12.1 0.0
comp=Z,475nm,0.7s,SNR=38
IM04 Indian Mountai 80.78 24 *e*P **P** 16 23 12.7 +0.3
PPLA Purkeypile 81.08 27 *e*P **P** 16 23 14.8 +0.6
comp=Z,24nm,0.8s
GNI Garni 81.10 310 P **P** 16 23 16.9 +2.1
SNR=5.6
GNI Garni 81.10 310 *e*P **P** 16 23 15.9 +1.1
GNI Garni 81.10 310 P **P** 16 23 14.7 -0.1
comp=Z,3.2nm,0.6s,baz=218,slow=5.6,SNR=8.0
BPAW Bear Paw Mtn. 81.74 26 *e*P **P** 16 23 18.1 +0.7
comp=Z,115nm,1.1s
BPAW *ep*P **pP** 16 23 40.0 -4.3
BPAW *es*P **sP** 16 23 51.4 -4.1
ZEI Tsey 81.77 312 *e*P **P** 16 23 18.7 +0.4
ZEI pmax pmax
comp=Z,21nm,0.9s
TRF Thorofare Moun 81.99 27 *e*P **P** 16 23 19.2 +0.2
comp=Z,100nm,1.2s
AKH Akhalkalaki 82.06 311 P **P** 16 23 20.7 +0.9
SEW Seward 82.16 30 *e*P **P** 16 23 19.4 -0.3
COLD Coldfoot 82.35 23 *e*P **P** 16 23 21.9 +1.4
comp=Z,85nm,1.3s
KBZ Khabaz 82.50 313 P **P** 16 23 21.9 0.0
KBZ Khabaz 82.50 313 P **P** 16 23 21.9 0.0
KBZ Khabaz 82.50 313 P **P** 16 23 21.9 0.0
comp=Z,4.7nm,0.8s,baz=147,slow=7.5,SNR=12
KBZ LR LR 17 08 15.9
comp=Z,63nm,19.0s,baz=62,slow=42
MCK McKinley 82.61 26 *e*P **P** 16 23 21.8 -0.2
MCK pmax pmax
comp=Z,150nm,1.1s
MCK McKinley 82.61 26 *e*P **P** 16 23 21.8 -0.2
comp=Z,150nm,1.1s
KIV Kislovodsk 82.66 314 *e*P **P** 16 23 24.1 +1.3
KIV *e*S **S** 16 33 34.8 +2.8
KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,58nm,19.0s
SML Sawmill 82.79 28 *e*P P 16 23 11.0 -12
SML Sawmill 82.79 28 *e*P P 16 23 11.0 -12
COLA College 83.15 25 *e*P **P** 16 23 24.6 -0.1
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 83.15 25 *e*P **P** 16 23 24.6 -0.1
comp=Z,14nm,0.8s
VRHR Novokhopersk 83.38 321 *e*P **P** 16 23 25.1 -1.1
VRHR pmax pmax
comp=Z,30nm,1.2s
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.2s
ILAR Eielson Array 83.56 25 P **P** 16 23 25.9 -1.0
ILAR PKKPbc **PKKPbc** 16 41 44.0 -3.3
ILAR Eielson Array 83.56 25 P **P** 16 23 25.9 -1.0
comp=E,19nm,0.9s,baz=244,slow=4.9,SNR=88

ILAR PKKPbc **PKKPbc** 16 41 44.0 -3.3
comp=E,0.8nm,0.9s,baz=41,slow=2.9,SNR=4.4
DIV Divide 84.00 29 *e*P **P** 16 23 29.3 0.0
comp=E,193nm,1.1s
KLMR Klimovskoe 84.52 331 *e*P **P** 16 23 30.0 -1.8
KLMR pmax pmax
comp=Z,39nm,1.5s
BMRM Bremner River 84.57 29 *e*P **P** 16 23 32.9 +0.8
comp=Z,126nm,1.2s
VNDA Vanda 84.73 173 *e*P **P** 16 23 31.8 -0.7
comp=Z,13nm,1.1s
VNDA Vanda 84.73 173 P **P** 16 23 32.3 -0.2
comp=Z,12nm,0.9s,baz=310,slow=6.0,SNR=20
VNDA LR LR 16 57 09.5
comp=Z,118nm,20.8s,baz=333,slow=32
SOC Sochi 84.82 313 *e*P **P** 16 23 32.7 -1.0
SOC *e* 16 26 49.7
SOC *e*S S 16 33 44.5 -9.0
SOC *e*SSS SSS 16 43 01.9
SOC pmax pmax
comp=Z,25nm,0.9s
VORD Divnogorie 84.85 321 *e*P **P** 16 23 33.4 -0.3
VORD pmax pmax
comp=N,20nm,0.5s
VORD pmax pmax
comp=E,50nm,0.5s
VORD pmax pmax
comp=Z,30nm,0.5s
VSR Storozhevoye 84.92 321 *e*P **P** 16 23 33.5 -0.5
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,30nm,1.1s
VSR pmax pmax
comp=Z,40nm,1.1s
MENT Mentasta 84.95 27 *e*P **P** 16 23 34.8 +0.8
MAW Mawson 85.30 200 *e*P **P** 16 23 35.4 0.0
comp=Z,27nm,1.8s
MAW Mawson 85.30 200 P **P** 16 23 35.8 +0.3
comp=Z,20nm,0.9s,baz=62,slow=4.8,SNR=25
MAW LR LR 16 58 07.8
comp=Z,52nm,18.6s,baz=337,slow=33
MOS Moscow 85.67 325 *e*P **P** 16 23 34.9 -2.7
MOS pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 86.30 325⇑ *i*P **P** 16 23 40.4 -0.3
OBN *e**PP **pP** 16 24 11.7 +3.9
OBN *e*S **S** 16 34 03.0 -4.5
OBN pmax pmax
comp=Z,23nm,1.5s
OBN MLR MLR
comp=Z,100nm,18.0s
ANN Anapa 86.40 314 *e*P **P** 16 23 42.6 +1.2
ANN *e**PP **pP** 16 24 08.9 +0.4
ANN *e*S **SKSac** 16 33 58.3 -0.2
ANN pmax pmax
comp=Z,43nm,0.8s
DAWY Dawson 86.83 26 *e*P **P** 16 23 43.4 +0.2
INK Inuvik 88.62 22 *e*P **P** 16 23 50.9 -0.7
comp=Z,19nm,1.1s
KEV Kevo 88.81 340 *e*P **P** 16 23 52.5 +0.1
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 88.81 340 *ep* **P** 16 23 52.5 +0.1
comp=Z,0.5nm,0.4s
MMAI Mount Meron Ar 88.91 303 P **P** 16 23 54.2 +0.3
MMAI pP pP 16 24 26.4 +5.3
MMAI Mount Meron Ar 88.91 303 P **P** 16 23 54.2 +0.3
comp=Z,3.0nm,0.6s,baz=88,slow=7.6,SNR=7.7
MMAI pP pP 16 24 26.4 +5.3
comp=Z,14nm,1.0s,baz=110,slow=8.9,SNR=5.7
ARCES ARCESS Array B 89.37 340 P **P** 16 23 53.8 -1.3
ARCES ARCESS Array B 89.37 340 P **P** 16 23 53.8 -1.3
comp=Z,8.3nm,0.7s,baz=74,slow=6.0,SNR=14
ARCES LR LR 17 07 44.2
comp=Z,93nm,20.4s,baz=57,slow=38
EIL Elat 89.61 300 P **P** 16 23 57.6 +0.5
EIL pP **pP** 16 24 29.0 +4.7
EIL Elat 89.61 300 P **P** 16 23 57.6 +0.5
comp=Z,10nm,0.9s,baz=87,slow=5.1,SNR=9.8
EIL pP **pP** 16 24 29.0 +4.7
comp=Z,21nm,1.0s,baz=339,slow=3.9,SNR=6.0
BR131 Keskin Array S 89.64 310 *e*P **P** 16 23 56.0 -1.2
comp=Z,6.7nm,0.8s
BRTR Keskin Array B 89.64 310 P **P** 16 23 56.0 -1.2
BRTR Keskin Array B 89.64 310 P **P** 16 23 56.0 -1.2
comp=Z,7.1nm,0.8s,baz=104,slow=4.8,SNR=17
KMBO Kilima Mbogo 90.25 269 *e*P **P** 16 24 01.1 +0.4
KMBO *ep*P **pP** 16 24 26.9 -1.0
KMBO Kilima Mbogo 90.25 269 P **P** 16 24 00.4 -0.3
comp=Z,5.7nm,1.0s,baz=56,slow=7.5,SNR=12
KAF Kangasniemi 90.67 333 *e*P P 16 23 54.3 -7.0
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 90.67 333 *ep* P 16 23 54.3 -7.0
comp=Z,1.0nm,0.4s
FINES FINESS Array B 90.92 332 P **P** 16 24 01.3 -1.1
FINES FINESS Array B 90.92 332 P **P** 16 24 01.3 -1.1
comp=Z,3.6nm,0.8s,baz=72,slow=6.2,SNR=6.6
FINES LR LR 17 07 57.7
comp=Z,97nm,18.1s,baz=85,slow=38
AKASG Malin Array Be 91.23 321 P **P** 16 24 02.1 -2.0
AKASG Malin Array Be 91.23 321 P **P** 16 24 02.1 -2.0
AKASG Malin Array Be 91.23 321 P **P** 16 24 02.1 -2.0
comp=Z,1.0nm,0.4s,baz=71,slow=4.1,SNR=14
AKASG LR LR 17 11 11.6
comp=Z,60nm,18.2s,baz=290,slow=40
KIEV Kiev 91.24 321 *e*P **P** 16 24 02.9 -1.3
AK02 Malin Array Si 91.25 321 *e*P **P** 16 24 03.0 -1.3
SYO Syowa Base 93.97 201⇓ *e*P **P** 16 24 15.2 -1.1
SYO Syowa Base 93.97 201⇑ *ep*P pP 16 24 39.2 -4.4
MLR Muntele Rosu 94.35 316 P **P** 16 24 17.3 -1.6
MLR Muntele Rosu 94.35 316 P **P** 16 24 17.3 -1.6
comp=Z,1.8nm,0.9s,baz=200,slow=3.7,SNR=6.9
BUR08 Bucovina Ar. S 94.41 318 *e*P **P** 16 24 17.3 -1.7
QSPA South Pole Qui 95.03 180 LR LR 17 07 11.1
comp=Z,89nm,19.2s,baz=28,slow=35
UZH Uzhgorod 96.06 320 *e*P **P** 16 24 26.3 -0.1
UZH *e*S **S** 16 35 33.1 -3.5
HFS Hagfors 97.09 332 P **P** 16 24 29.1 -1.7
HFS Hagfors 97.09 332 P **P** 16 24 29.1 -1.7
comp=Z,3.2nm,0.7s,baz=90,slow=5.9,SNR=7.7
NB2 NORSAR Subarra 97.83 334 P **P** 16 24 31.8 -2.4
comp=Z,4.8nm,1.1s,baz=66,slow=4.6
NB2 NORSAR Subarra 97.83 334 P **P** 16 24 31.8 -2.4
baz=66,slow=4.6
NOA NORSAR Array B 97.83 334 P **P** 16 24 32.6 -1.6
NOA pP **pP** 16 25 05.7 +4.1
NOA NORSAR Array B 97.83 334 P **P** 16 24 32.6 -1.6
comp=Z,1.7nm,0.8s,baz=66,slow=4.5,SNR=4.4
NOA pP **pP** 16 25 05.7 +4.1
comp=Z,3.2nm,0.8s,baz=66,slow=4.6,SNR=5.8
NOA LR LR 17 12 03.5
comp=Z,134nm,18.6s,baz=65,slow=37
YKA Yellowknife Ar 97.95 24 P **P** 16 24 34.3 -0.3
YKA Yellowknife Ar 97.95 24 P **P** 16 24 34.3 -0.3
comp=Z,3.2nm,0.8s,baz=299,slow=4.8,SNR=12
CLL Collm 100.89 324 *e*SS SS 16 43 18.0 +1.0
GERES GERESS Array B 101.40 322 P **Pdif** 16 24 50.3 -0.2
GERES GERESS Array B 101.40 322 P **Pdif** 16 24 50.3 -0.2
comp=Z,1.3nm,1.0s,baz=52,slow=5.1,SNR=4.9
BOSA Boshof 103.10 242 PKKPbc PKKPbc 16 40 56.1 +1.1
BOSA Boshof 103.10 242 PKKPbc PKKPbc 16 40 56.1 +1.1
comp=Z,1.2nm,0.8s,baz=14,slow=4.2,SNR=4.0
NVAR Mina Array Bea 105.48 48 Pdif **Pdif** 16 25 10.0 +1.0
NVAR PKKPbc **PKKPbc** 16 40 47.5 -0.8
NVAR PKKPab **PKKPab** 16 41 04.5 -1.1
NVAR Mina Array Bea 105.48 48 Pdiff **Pdif** 16 25 10.0 +1.0
comp=Z,1.7nm,0.9s,baz=272,slow=5.3,SNR=11
NVAR PKKPbc **PKKPbc** 16 40 47.5 -0.8
comp=Z,1.4nm,0.8s,baz=140,slow=3.5,SNR=9.0
NVAR PKKPab **PKKPab** 16 41 04.5 -1.1
comp=Z,1.3nm,0.7s,baz=124,slow=4.8,SNR=11
PDAR Pinedale Array 109.86 41 Pdif **Pdif** 16 25 30.9 +2.5
PDAR PKiKP **PKiKP** 16 29 30.4 +0.2
PDAR PKKPbc **PKKPbc** 16 40 32.3 -2.5
PDAR PKKPab **PKKPab** 16 40 43.6 -2.6
PDAR Pinedale Array 109.86 41 Pdiff **Pdif** 16 25 30.9 +2.5
comp=Z,0.2nm,0.4s,baz=180,slow=26,SNR=3.2
PDAR PKiKP **PKiKP** 16 29 30.4 +0.2
comp=Z,0.4nm,0.6s,baz=270,slow=0.9,SNR=3.8
PDAR PKKPbc **PKKPbc** 16 40 32.3 -2.5
comp=Z,1.0nm,0.8s,baz=122,slow=6.5,SNR=6.5
PDAR PKKPab **PKKPab** 16 40 43.6 -2.6
comp=Z,3.2nm,0.8s,baz=116,slow=6.1,SNR=16

SCHQ Schefferville 119.08 9 PKP **PKPdf** 16 29 47.1 -0.1
SCHQ Schefferville 119.08 9 PKP **PKPdf** 16 29 47.1 -0.1
comp=Z,4.8nm,0.8s,baz=243,slow=4.5,SNR=3.8
TXAR Lajitas Array 120.21 52 PKP **PKPdf** 16 29 50.4 +0.1
TXAR PKKPbc **PKKPbc** 16 39 58.1 -0.4
TXAR Lajitas Array 120.21 52 PKP **PKPdf** 16 29 50.4 +0.1
comp=Z,1.8nm,0.7s,baz=274,slow=1.9,SNR=22
TXAR PKKPbc **PKKPbc** 16 39 58.1 -0.4
comp=Z,0.7nm,0.7s,baz=114,slow=5.6,SNR=5.8
JCT Junction City 122.64 49 *e*PKIKP **PKPdf** 16 29 54.7 -0.1
JCT Junction City 122.64 49 *e*PKPdf **PKPdf** 16 29 54.7 -0.1
TOA0 Torodi Ar. Sit 123.10 289 *e*PKPdf **PKPdf** 16 29 55.2 -0.8
TORD Torodi Ar. Bea 123.10 289 PKP **PKPdf** 16 29 55.3 -0.7
TORD pPKP **pPKPdf** 16 30 29.0 +4.5
TORD PKKPbc **PKKPab** 16 39 48.1 +0.4
TORD Torodi Ar. Bea 123.10 289 PKP **PKPdf** 16 29 55.3 -0.7
comp=Z,3.6nm,0.8s,baz=42,slow=2.1,SNR=24
TORD pPKP **pPKPdf** 16 30 29.0 +4.5
comp=Z,3.3nm,0.8s,baz=39,slow=1.7,SNR=4.4
TORD PKKPbc **PKKPab** 16 39 48.1 +0.4
comp=Z,2.8nm,0.8s,baz=274,slow=3.9,SNR=15
MIAR Mount Ida 124.79 41 *e*PKIKP **PKPdf** 16 29 59.3 +0.5
MIAR Mount Ida 124.79 41 *e*PKPdf **PKPdf** 16 29 59.3 +0.5
KIC Kosan Boka 130.88 283 *e*PKIKP **PKPdf** 16 30 11.3 +0.4
comp=Z,13nm,1.0s
DBIC Dimbokro 130.92 283 PKP **PKPdf** 16 30 10.8 -0.1
DBIC SKPbc **SKPbc** 16 33 24.4 -1.8
DBIC SKP 16 33 34.9
DBIC Dimbokro 130.92 283 PKP **PKPdf** 16 30 10.8 -0.1
comp=Z,3.9nm,0.8s,baz=298,slow=1.7,SNR=4.1
DBIC SKPbc **SKPbc** 16 33 24.4 -1.8
comp=Z,5.8nm,0.9s,baz=63,slow=4.1,SNR=5.3
DBIC SKP 16 33 34.9
comp=Z,3.4nm,0.8s,baz=163,slow=19,SNR=8.0
TIC Toumodi 131.09 283 *e*PKIKP **PKPdf** 16 30 11.6 +0.3
comp=Z,13nm,0.7s
LIC Lamto 131.19 283 *e*PKIKP **PKPdf** 16 30 11.8 +0.3
comp=Z,31nm,1.0s
SHEL Horse Pasture 132.81 253 *i* PKIKP **PKPdf** 16 30 18.1 +3.6
PLCA Paso Flores 141.07 158 PKPpre PKPpre 16 30 25.2
PLCA Paso Flores 141.07 158 PKhKP PKPpre 16 30 25.2
comp=Z,4.1nm,0.7s,baz=179,slow=3.5,SNR=4.8
TRQA Tornquist 146.14 167 *e*PKPbc **PKPbc** 16 30 38.9 -0.3
GTBY Guantanamo Bay 146.68 41 *e*PKPbc **PKPbc** 16 30 41.7 +0.5
BCIP Isla Barro Col 149.36 62 *e*PKPbc **PKPbc** 16 30 49.0 +0.5
SDDR Presa de Saban 149.78 37 *e*PKPbc **PKPbc** 16 30 49.7 +0.2
CFAA Coronel Fontan 149.86 153 PKP **PKPdf** 16 30 44.9 +0.5
CFAA PKPbc **PKPbc** 16 30 49.0 -0.3
CFAA Coronel Fontan 149.86 153 PKP **PKPdf** 16 30 44.9 +0.5
comp=Z,3.8nm,0.8s,baz=211,slow=5.9,SNR=6.3
CFAA PKPbc **PKPbc** 16 30 49.0 -0.3
comp=Z,3.5nm,0.7s,baz=239,slow=2.4,SNR=19
LCO Las Campanas 150.71 146 *e*PKPbc **PKPbc** 16 30 51.7 0.0
SJG San Juan 153.31 30 PKPbc **PKPbc** 16 30 57.4 -0.1
SJG San Juan 153.31 30 PKPbc **PKPbc** 16 30 57.4 -0.1
comp=Z,19nm,0.5s,baz=270,slow=2.4,SNR=5.5
MTP Monte Pirata 153.61 29 PKPdf **PKPdf** 16 30 51.8 +1.4
MTP *e*PKPbc **PKPbc** 16 30 58.0 -0.2
MTP *e*PKPab **PKPab** 16 31 10.7 -0.2
OTAV Otavalo 153.64 79 PKPdf **PKPdf** 16 30 52.2 +1.1
OTAV *e*PKPab **PKPab** 16 31 13.1 +1.2
ATAH Atahualpa 154.28 96 PKP **PKPdf** 16 30 52.9 +0.9
ATAH PKPbc **PKiKP** 16 31 02.1 +1.9
ATAH PKPab **PKPab** 16 31 14.6 0.0
ATAH Atahualpa 154.28 96 PKP **PKPdf** 16 30 52.9 +0.9
comp=Z,5.3nm,0.8s,baz=273,slow=16,SNR=3.7
ATAH PKPbc **PKiKP** 16 31 02.1 +1.9
comp=Z,6.8nm,0.6s,baz=137,slow=7.8,SNR=5.8
ATAH PKPab **PKPab** 16 31 14.6 0.0
comp=Z,17nm,0.9s,baz=219,slow=3.8,SNR=5.0
ROSC El Rosal 156.14 66 PKP **PKPdf** 16 30 55.6 +1.2
ROSC PKPab **PKPab** 16 31 24.5 +2.0
ROSC El Rosal 156.14 66 PKP **PKPdf** 16 30 55.6 +1.2
comp=Z,3.7nm,0.3s,baz=254,slow=22,SNR=3.7
ROSC PKPab **PKPab** 16 31 24.5 +2.0
comp=Z,4.4nm,0.3s,baz=287,slow=12,SNR=6.0
SDV Santo Domingo 157.26 52 *e*PKPdf **PKPdf** 16 30 55.5 -0.1
CPUP Villa Florida 158.44 168 PKPab **PKPab** 16 31 31.3 -0.1
CPUP Villa Florida 158.44 168 PKPab **PKPab** 16 31 31.3 -0.1
comp=Z,4.5nm,0.7s,baz=158,slow=6.1,SNR=8.7
LPAZ La Paz 161.16 127 *e*PKPdf **PKPdf** 16 31 01.1 +0.5
LPAZ PKP **PKPdf** 16 31 01.3 +0.7
LPAZ PKPab **PKPab** 16 31 45.1 +0.7
LPAZ La Paz 161.16 127 PKP **PKPdf** 16 31 01.3 +0.7
comp=Z,3.1nm,0.8s,baz=48,slow=7.0,SNR=12
LPAZ PKPab **PKPab** 16 31 45.1 +0.7
comp=Z,9.5nm,0.8s,baz=242,slow=2.2,SNR=13
SIV San Ignacio 166.38 143 PKP **PKPdf** 16 31 05.0 +0.3
SIV PKPab **PKPab** 16 32 05.1 -1.4
SIV San Ignacio 166.38 143 PKP **PKPdf** 16 31 05.0 +0.3
comp=Z,3.8nm,0.8s,baz=193,slow=4.0,SNR=9.1
SIV PKPab **PKPab** 16 32 05.1 -1.4
comp=Z,1.2nm,0.7s,baz=187,slow=8.5,SNR=4.2
BDFB Brasilia 168.63 203 PKPab **PKPab** 16 32 16.5 +0.1
BDFB Brasilia 168.63 203 PKPab **PKPab** 16 32 16.5 +0.1
comp=Z,4.0nm,0.8s,baz=6.0,slow=1.9,SNR=4.0
SAML Samuel 168.84 110 *e*PKPdf **PKPdf** 16 31 05.9 -0.5

*IDC **01** 16:53:30.8±0.8, 18°.79N×107°.54W, h0km, mb4.1/10, mb1 4.2/13, mb1mx4.1/25, mbtmp4.0/13, ML3.7/3, MS3.8/16, Ms1 3.9/16, ms1mx3.7/41, Error ellipse: s-maj=24.2km s-min=14.9km az=57.0*

*GCMT **01** 16:53:33.8±0.5, 18°.82N×107°.35W, h24km±1km, MW4.9, Moment Tensor Solution. s19,c22; s76,c106; Moment tensor: Scale 10^16Nm; Mrr=0.13±.17; Mθθ-1.56±.12; Mφφ 1.69±.13; Mrθ-0.41±.16; Mrφ-2.04±.10; Mθφ 0.67±.17; Best double couple: M0 2.70000×10^16 NP1:ϕs288.00000°, δ81.00000°, λ168.00000°. NP2:ϕs20.00000°, δ78.00000°, λ9.00000°. Principal axes: T 2.8800, Plg15.0000°, Azm244.0000°; N -0.3300, Plg75.0000°, Azm72.0000°; P -2.5500, Plg2.0000°, Azm335.0000°; Data Used: IU II G CN IC CU.*

*NEIC **01** 16:53:33.6±0.7, 18°.69N×107°.36W, h10km, mb4.1/19 Error ellipse: s-maj=15.3km s-min=7.6km az=61.0*

ISC 01 16:53:35.6±0.6, 18°.66N±0°.07×107°.68W±0°.06, h35km, n234, σ1§15/222, mb4.3/17, MS4.0/11, 89C-75D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**3.08**	**273**	Pn	**Pn**	**16 54 20.9**	**-1.0**
H06E1				Sn	**Sn**	**16 54 55.1**	**-2.4**
H06E1				T	T	16 57 52.8	
	SNR=887						
H06S1	**SOCORRO T**	**3.11**	**272**	Pn	**Pn**	**16 54 21.4**	**-0.8**
H06S1				Sn	**Sn**	**16 54 55.4**	**-2.8**
H06S1				T	T	16 57 50.5	
	SNR=122						
H06N1	**SOCORRO T-PHAS**	**3.14**	**274**	T	T	16 57 54.9	
	SNR=11						
LPIG	**La Paz**	**5.94**	**336**	LR	LR	16 56 50.2	
	comp=Z,1μm,21.0s,baz=187,slow=34						
TXAR	**Lajitas Array**	**11.23**	**18**	Pn	**Pn**	**16 56 11.3**	**-2.5**
TXAR	**Lajitas Array**	**11.23**	**18**	Pn	**Pn**	**16 56 11.3**	**-2.5**
	0.3nm,0.3s,baz=198,slow=14,SNR=18						
TXAR				LR	LR	17 00 09.1	
	comp=Z,601nm,20.4s,baz=300,slow=36						
626A	**Big Bend Ranch**	**11.31**	**16**⇑	P	**Pn**	**16 56 14.4**	**-0.4**
	baz=11,SNR=10.0						
627A	**Terlingua Ranc**	**11.43**	**19**⇑	P	**Pn**	**16 56 15.4**	**-1.1**
	baz=11						
628A	**Black Gap, Mar**	**11.62**	**21**⇑	P	**Pn**	**16 56 18.6**	**-0.5**
	baz=12,SNR=8.4						
526A	**Mary Lane Ranc**	**11.81**	**15**⇓	P	**Pn**	**16 56 21.2**	**-0.4**
	baz=12,SNR=14						
527A	**Woodward Ranch**	**12.01**	**17**⇓	P	**Pn**	**16 56 25.0**	**+0.5**
	baz=12,SNR=7.7						
732A	**Laxson Ranch,**	**12.25**	**34**⇓	P	**Pn**	**16 56 27.2**	**-0.4**
	baz=12,SNR=5.4						
528A	**Cox Ranch, San**	**12.28**	**20**⇓	P	**Pn**	**16 56 28.2**	**+0.1**
	baz=12						
425A	**Indio Mountain**	**12.31**	**11**⇓	P	**Pn**	**16 56 29.1**	**+0.5**
	baz=12,SNR=8.8						
426A	**McDonald Obser**	**12.40**	**15**⇓	P	**Pn**	**16 56 30.0**	**+0.1**
	baz=12						
529A	**Stev Forest Ra**	**12.44**	**22**⇑	P	**Pn**	**16 56 30.6**	**+0.3**
	baz=12						
631A	**Perdido Creek**	**12.51**	**30**⇓	P	**Pn**	**16 56 30.3**	**-0.9**
	baz=12,SNR=20						
320A	**Kipp Ranch, An**	**12.64**	**357**⇑	P	**Pn**	**16 56 34.2**	**+1.1**
	baz=13,SNR=13						
427A	**Hayter Ranch,**	**12.74**	**17**⇓	P	**Pn**	**16 56 34.3**	**0.0**
	baz=13						
319A	**Douglas**	**12.74**	**354**⇑	P	**Pn**	**16 56 35.7**	**+1.3**
	baz=13,SNR=16						
530A	**J-C Ranch, Com**	**12.80**	**26**⇑	P	**Pn**	**16 56 35.0**	**-0.2**
	baz=13						
429A	**Davenport Ranc**	**13.01**	**23**⇑	P	**Pn**	**16 56 38.7**	**+0.6**
	baz=13,SNR=7.2						
326A	**Caldwell Ranch**	**13.03**	**14**⇓	P	**Pn**	**16 56 38.4**	**0.0**
	baz=13						
MNTX	**Cornudas Mount**	**13.14**	**9**	P	**Pn**	**16 56 39.3**	**-0.5**
	4.5nm,0.6s						
531A	**Rocksprings**	**13.16**	**28**⇓	P	**Pn**	**16 56 39.5**	**-0.6**
	baz=13						
220A	**Playas Peak, P**	**13.21**	**357**⇑	P	**Pn**	**16 56 42.1**	**+1.3**
	baz=13,SNR=31						
221A	**Mesquite Ranch**	**13.29**	**360**⇓	P	**Pn**	**16 56 43.0**	**+1.1**
	baz=13,SNR=11						
328A	**Wristen Ranch,**	**13.41**	**18**⇓	P	**Pn**	**16 56 43.7**	**+0.2**
	baz=13						
430A	**Baggett Ranch,**	**13.41**	**25**⇑	P	**Pn**	**16 56 43.9**	**+0.4**
	baz=13,SNR=18						
532A	**Rocksprings**	**13.42**	**30**⇓	P	**Pn**	**16 56 43.3**	**-0.4**
	baz=13,SNR=21						
431A	**Sonora**	**13.57**	**27**⇑	P	**Pn**	**16 56 45.5**	**-0.3**
	baz=14,SNR=5.9						
225A	**Deer Hill, Car**	**13.63**	**10**⇑	P	**Pn**	**16 56 47.1**	**+0.4**
	baz=14						
226B	**Tecolote Peak,**	**13.73**	**13**⇑	P	**Pn**	**16 56 48.2**	**+0.4**
	baz=14						
JCT	**Junction City**	**13.77**	**30**	P	**Pn**	**16 56 48.4**	**+0.1**
	81nm,1.4s						
JCT	**Junction City**	**13.77**	**30**⇑	P	**Pn**	**16 56 47.9**	**-0.5**
	baz=14,SNR=10						
121A	**Cookes Peak, D**	**13.81**	**360**	P	**Pn**	**16 56 50.5**	**+1.4**
	31nm,1.1s						
121A	**Cookes Peak, D**	**13.81**	**360**⇑	P	**Pn**	**16 56 49.6**	**+0.5**
	baz=14,SNR=16						
533A	**Kerrville**	**13.81**	**33**⇑	P	**Pn**	**16 56 48.5**	**-0.4**
	baz=14						
120A	**U Bar Ranch, L**	**13.85**	**357**⇑	P	**Pn**	**16 56 50.4**	**+0.8**
	baz=14,SNR=8.1						
TUC	**Tucson**	**13.87**	**349**	P	**Pn**	**16 56 51.7**	**+1.8**
	20nm,1.1s						
330A	**Mertzon**	**13.98**	**24**⇑	P	**Pn**	**16 56 51.4**	**+0.1**
	baz=14						
122A	**Conniff Cattle**	**13.99**	**2**⇑	P	**Pn**	**16 56 53.1**	**+1.6**
	baz=14						
214A	**Organ Pipe Nat**	**14.02**	**342**⇑	P	**Pn**	**16 56 53.9**	**+2.0**
	baz=14,SNR=5.9						
534A	**Blanco**	**14.07**	**35**⇑	P	**Pn**	**16 56 51.3**	**-1.3**
	baz=14,SNR=5.3						
432A	**Menard**	**14.10**	**29**⇓	P	**Pn**	**16 56 53.4**	**+0.4**
	baz=14,SNR=29						
124A	**Stringfield Ra**	**14.12**	**8**⇑	P	**Pn**	**16 56 54.5**	**+1.1**
	baz=14,SNR=16						
228A	**UT Block 9, Go**	**14.16**	**18**⇑	P	**Pn**	**16 56 54.5**	**+0.7**
	baz=14						
331A	**San Angelo**	**14.20**	**26**⇑	P	**Pn**	**16 56 54.9**	**+0.7**
	baz=14,SNR=7.9						
229A	**Bryant Ranch,**	**14.26**	**21**⇓	P	**Pn**	**16 56 55.7**	**+0.6**
	baz=14						
126A	**Clayton Basin,**	**14.31**	**13**⇑	P	**Pn**	**16 56 56.6**	**+0.9**
	baz=14						
433A	**Art**	**14.34**	**31**⇓	P	**Pn**	**16 56 55.3**	**-0.8**
	baz=14,SNR=22						
Z20A	**Nine Sixteen R**	**14.41**	**357**⇓	P	**Pn**	**16 56 59.0**	**+1.8**
	baz=14						
Z22A	**Elephant Butte**	**14.55**	**2**⇓	P	**Pn**	**16 57 00.5**	**+1.5**
	baz=15,SNR=13						
332A	**Millersview**	**14.55**	**28**⇑	P	**Pn**	**16 56 58.8**	**-0.2**
	baz=14,SNR=7.1						
Z21A	**St. Cloud Mine**	**14.59**	**0**⇑	P	**Pn**	**16 57 00.7**	**+1.1**
	baz=15						
Z23A	**Rita Site, Whi**	**14.60**	**5**⇓	P	**Pn**	**16 57 00.8**	**+1.0**
	baz=15						
128A	**Castleberry Fa**	**14.66**	**18**⇑	P	**Pn**	**16 57 01.1**	**+0.5**
	baz=15						
Z24A	**Sheeppen Canyo**	**14.75**	**8**⇓	P	**Pn**	**16 57 03.1**	**+1.2**
	baz=15,SNR=6.6						
231A	**Bronte**	**14.79**	**25**⇓	P	**Pn**	**16 57 02.3**	**+0.1**
	baz=15						
434A	**Burnet**	**14.80**	**33**⇑	P	**Pn**	**16 57 01.9**	**-0.5**
	baz=15						
129A	**Stewart Farms,**	**14.86**	**19**⇓	P	**Pn**	**16 57 03.5**	**+0.4**
	baz=15						
333A	**Richland Sprin**	**14.86**	**30**⇓	P	**Pn**	**16 57 03.4**	**+0.2**
	baz=15,SNR=13						
Z26A	**Caprock**	**14.92**	**12**⇑	P	**Pn**	**16 57 04.7**	**+0.6**
	baz=15						
232A	**Coleman**	**15.03**	**27**⇑	P	**Pn**	**16 57 05.5**	**0.0**
	baz=15						
113A	**Mohawk Valley,**	**15.07**	**340**⇑	P	**Pn**	**16 57 08.2**	**+2.2**
	baz=15,SNR=5.5						
130A	**Snyder**	**15.13**	**22**⇑	P	**Pn**	**16 57 07.7**	**+0.9**
	baz=15						
Z27A	**Tatum**	**15.13**	**14**⇑	P	**Pn**	**16 57 07.1**	**+0.3**
	baz=15,SNR=5.7						
Y20A	**Horse Springs,**	**15.20**	**358**⇑	P	**Pn**	**16 57 09.5**	**+1.6**
	baz=15,SNR=8.5						
Y22A	**Socorro**	**15.22**	**2**⇓	P	**Pn**	**16 57 09.3**	**+1.2**
	baz=15						
334A	**Lometa**	**15.23**	**32**⇑	P	**Pn**	**16 57 06.5**	**-1.6**
	baz=15,SNR=12						
Y23A	**Lovelace Mesa,**	**15.28**	**5**⇓	P	**Pn**	**16 57 09.8**	**+1.0**
	baz=15						
Y21A	**Point of Rocks**	**15.28**	**0**⇓	P	**Pn**	**16 57 10.3**	**+1.3**
	baz=15						
Z28A	**Tucker Farm, M**	**15.32**	**17**⇑	P	**Pn**	**16 57 09.9**	**+0.6**
	baz=15						
Y24A	**Capitan**	**15.33**	**7**⇑	P	**Pn**	**16 57 10.2**	**+0.7**
	baz=15						
Z14A	**Wintersburg**	**15.38**	**343**⇑	P	**Pn**	**16 57 12.0**	**+1.9**
	baz=16						
131A	**Roby**	**15.41**	**24**⇓	P	**Pn**	**16 57 10.6**	**+0.1**
	baz=15						
Y25A	**Mesa, Roswell**	**15.43**	**9**⇑	P	**Pn**	**16 57 11.6**	**+0.8**
	baz=15						
BNM	**Barren Site**	**15.45**	**3**	P	**Pn**	**16 57 12.5**	**+1.3**
	13nm,1.2s						
Z29A	**Hungry Hill Ra**	**15.49**	**19**⇓	P	**Pn**	**16 57 11.6**	**0.0**
	baz=15						
HKT	**Hockley**	**15.57**	**42**	P	**Pn**	**16 57 09.2**	**-3.2**
	84nm,1.6s						
Y26A	**Elida**	**15.58**	**12**⇑	P	**Pn**	**16 57 13.5**	**+0.7**
	baz=16,SNR=5.8						
335A	**Moody**	**15.61**	**34**⇑	P	**Pn**	**16 57 12.3**	**-0.8**
	baz=16						
ABTX	**Abilene, Hawle**	**15.66**	**26**	P	**Pn**	**16 57 14.2**	**+0.5**
	4.8nm,0.6s						
ABTX	**Abilene, Hawle**	**15.66**	**26**⇑	P	**Pn**	**16 57 13.6**	**-0.1**
	baz=16						
Y27A	**Causey**	**15.69**	**14**⇓	P	**Pn**	**16 57 14.1**	**0.0**
	baz=16						
GLA	**Glamis**	**15.70**	**337**	P	**P**	**16 57 16.9**	**-0.9**
	8.5nm,1.2s						
GLA	**Glamis**	**15.70**	**337**⇑	P	**P**	**16 57 16.5**	**-1.4**
	baz=16,SNR=7.0						
Z30A	**Sanderson Ranc**	**15.70**	**21**⇑	P	**Pn**	**16 57 14.7**	**+0.5**
	baz=16						
X21A	**Alamocita Cree**	**15.72**	**360**⇓	P	**Pn**	**16 57 15.9**	**+1.3**
	baz=16,SNR=7.5						
X22A	**Bernardo**	**15.79**	**2**⇓	P	**Pn**	**16 57 16.8**	**+1.3**
	baz=16						

ANMO	Albuquerque	16.25	4	Pn	Pn	16 57 18.5	-2.9		
ANMO	Albuquerque	16.25	4	Pn	Pn	16 57 18.5	-2.9		
	0.1nm,0.3s,baz=185,slow=11,SNR=2.5								
ANMO				LR	LR	17 03 14.4			
	comp=Z,246nm,21.6s,baz=193,slow=36								
134A	White-Moore Ra	16.32	30	⇓P	Pn	16 57 21.8	-0.2		
	baz=16								
Z32A	Haskell	16.33	25	⇑P	Pn	16 57 22.3	+0.1		
	baz=16								
BC3	Big Chuckawall	16.47	337	⇓P	P	16 57 26.4	-0.1		
	baz=17,SNR=5.2								
W23A	Werner Place,	16.49	4	⇓P	P	16 57 26.3	-0.5		
	baz=16								
W24A	Lazy 6 Ranch,	16.60	7	⇓P	Pn	16 57 26.9	+1.0		
	baz=17								
PDMCI	Parker Dam,Lak	16.61	341	⇓P	P	16 57 28.4	+0.6		
	baz=17								
Y31A	Rekieta Farm,	16.61	22	⇑P	Pn	16 57 26.1	+0.3		
	baz=16								
W26A	Owens Ranch, T	16.73	11	⇑P	Pn	16 57 28.1	+0.7		
	baz=17								
W25A	X Bar L Ranch,	16.73	9	⇑P	Pn	16 57 28.5	+1.1		
	baz=17								
IRM	Iron Mountain	16.81	338	⇑P	P	16 57 30.7	+0.5		
	baz=17								
PFO	Pinyon Flat Ob	16.83	334	Pn	P	16 57 31.6	+1.1		
PFO	Pinyon Flat Ob	16.83	334	⇓P	P	16 57 31.9	+1.4		
	baz=17,SNR=6.8								
PFO	Pinyon Flat Ob	16.83	334	Pn	P	16 57 31.6	+1.1		
	baz=150,slow=12,SNR=10								
PFO				LR	LR	17 03 10.7			
	comp=Z,476nm,20.2s,baz=140,slow=35								
APG	El Apazote	16.87	100	Pn	Pn	16 57 26.7	-2.7		
APG	El Apazote	16.87	100	Pn	Pn	16 57 26.7	-2.7		
	0.2nm,0.3s,baz=280,slow=17,SNR=7.5								
Y32A	R-V Farms, Ver	16.95	24	⇑P	Pn	16 57 30.6	+0.5		
	baz=17								
BELC	Belle Mtn. Jos	16.99	336	⇑P	P	16 57 33.4	+1.2		
	baz=17,SNR=13								
AMTX	Amarillo	17.01	17	⇑P	Pn	16 57 31.3	+0.4		
	baz=17								
V23A	Ortiz Mt. (NFS	17.07	4	⇑P	P	16 57 33.3	+0.1		
	baz=17								
WUAZ	Wupatki	17.10	350	P	P	16 57 33.9	+0.4		
	15nm,1.2s								
WUAZ	Wupatki	17.10	350	⇑P	P	16 57 34.2	+0.6		
	baz=17,SNR=5.6								
V24A	Rampart Ranch,	17.13	7	⇓P	P	16 57 33.5	-0.4		
	baz=17								
MURC	Murrieta	17.14	332	⇓P	P	16 57 35.3	+1.4		
	baz=17								
V22A	San Miguel Ran	17.20	2	⇓P	P	16 57 35.0	+0.3		
	baz=17,SNR=11								
V25A	Rancho No Teng	17.32	8	⇓P	Pn	16 57 35.1	+0.2		
	baz=17								
X32A	Elmer	17.38	24	⇑P	Pn	16 57 35.4	0.0		
	baz=17								
V26A	Tequesquite Ra	17.41	11	⇓P	Pn	16 57 35.7	-0.2		
	baz=17								
GMRC	Granite Mounta	17.55	338	⇓P	P	16 57 39.3	+0.8		
	baz=18								
Y34A	Reagan Ranch,	17.62	28	⇑P	Pn	16 57 37.5	-0.8		
	baz=18								
HEC	Hector,Ludlow	17.84	336	⇑P	P	16 57 43.5	+1.9		
	baz=18								
BFSC	Mount Baldy Ra	17.88	332	⇓P	P	16 57 44.6	+2.5		
	baz=18								
U25A	Circle Dot Ran	17.90	9	⇓P	P	16 57 42.6	+0.2		
	baz=18								
U26A	Atchley Ranch,	18.00	10	⇑P	P	16 57 44.4	+0.9		
	baz=18								
W32A	Sentinel	18.02	23	⇑P	Pn	16 57 43.4	+0.1		
	baz=18								
X34A	Smith Ranch, M	18.13	27	⇓P	P	16 57 45.1	+0.4		
	baz=18								
U15A	North Rim	18.16	348	⇓P	P	16 57 47.1	+1.7		
	baz=18								
TUQ	Turquoise Moun	18.23	338	⇑P	Pn	16 57 48.3	+2.2		
	baz=18								
W33A	Caddo, Fort Co	18.34	25	⇓P	Pn	16 57 47.6	+0.4		
	baz=18								
T23A	Casias Ranch,	18.36	4	⇑P	Pn	16 57 48.8	+1.1		
	baz=18								
TEIG	Tepich	18.36	82	LR	LR	17 05 17.2			
	comp=Z,88nm,21.0s,baz=140,slow=39								
T24B	San Luis	18.44	6	⇑P	Pn	16 57 49.4	+0.7		
	baz=18								
GSC	Goldstone	18.44	336	P	Pn	16 57 51.1	+2.6		
	2.8nm,1.2s								
GSC	Goldstone	18.44	336	⇑P	Pn	16 57 50.4	+1.9		
	baz=19								
MVCO	Mesa Verde	18.49	358	⇓P	Pn	16 57 50.4	+1.2		
	baz=18								
EDW2	Edwards Air Fo	18.57	332	⇓P	Pn	16 57 52.4	+2.4		
	baz=19								
T25A	Trinidad	18.63	8	⇑P	Pn	16 57 51.6	+0.7		
	baz=19								
T26A	Comanche Natio	18.79	10	⇓P	Pn	16 57 52.8	0.0		
	baz=19								
T27A	Campo	18.84	12	⇑P	Pn	16 57 54.0	+0.6		
	baz=19								
LRMC	Laurel Mountai	18.95	334	⇑P	Pn	16 57 55.5	+0.8		
	baz=19								
SHPR	Sheep Range	18.96	341	P	Pn	16 57 56.3	+1.5		
	16nm,1.5s								
S22A	4UR Ranch, Cre	19.03	2	⇓P	Pn	16 57 56.4	+0.6		
	baz=19,SNR=5.8								
S24A	Houchin Ranch,	19.03	6	⇑P	P	16 57 55.4	+0.5		
	baz=19								
SDCO	Great Sand Dun	19.11	5	P	Pn	16 57 57.8	+1.0		
	23nm,1.8s								
S25A	Robets Cordova	19.14	8	⇓P	Pn	16 57 58.2	+1.2		
	baz=19								
S26A	Kim	19.24	10	⇓P	Pn	16 57 58.0	-0.2		
	baz=19								
MPMC	Manual Prospec	19.38	335	⇓P	Pn	16 58 01.5	+1.6		
	baz=20								
ISA	Isabella	19.44	333	P	Pn	16 58 03.3	+2.7		
	3.0nm,1.4s								
ISA	Isabella	19.44	333	⇓P	Pn	16 58 01.6	+1.0		
	baz=20								
CCUT	Cedar City	19.46	346	P	Pn	16 58 03.0	+2.0		
	16nm,1.5s								
R23A	Moffat	19.52	4	⇑P	Pn	16 58 01.5	-0.2		
	baz=20								
R24A	Sanders Place,	19.62	6	⇓P	P	16 58 01.8	+0.5		
	baz=20								
R25A	Fountain Ranch	19.64	8	⇓P	Pn	16 58 02.6	-0.4		
	baz=20								
ARUT	Antelope Range	19.71	346	eP	Pn	16 58 04.7	+0.9		
	134nm,1.4s								
TPNV	Topopah Spring	19.71	339	⇓P	Pn	16 58 03.7	-0.1		
	baz=20								
R26A	Arlington	19.91	10	⇓P	P	16 58 03.7	-0.6		
	baz=20								
R27A	Eads	20.01	11	⇑P	P	16 58 05.2	-0.1		
	baz=20								
Q23A	Hartsel	20.23	4	⇓P	P	16 58 08.6	+0.6		
	baz=20								
R28A	Tribune	20.26	13	⇓P	P	16 58 08.3	+0.1		
	baz=20								
R29A	Marienthal	20.50	15	⇑P	P	16 58 10.7	0.0		
	baz=20								
P23A	Jefferson	20.70	4	⇑P	P	16 58 13.6	+0.4		
	baz=21								
TMUT	Trail Mountain	20.79	352	eP	P	16 58 15.1	+1.1		
	16nm,1.2s								
R11A	Troy Canyon, C	20.79	342	⇓P	P	16 58 14.9	+0.9		
	baz=21,SNR=5.7								
Q29A	Oakley	20.98	15	⇓P	P	16 58 15.4	-0.5		
	baz=21								
ISCO	Idaho Springs	21.14	4	P	P	16 58 18.1	+0.3		
	8.3nm,1.1s								
ISCO	Idaho Springs	21.14	4	⇓P	P	16 58 18.4	+0.6		
	baz=21								
O20A	White River Ci	21.40	359	⇑P	P	16 58 21.1	+0.6		
	baz=22								
O23A	Lake Granby, G	21.53	4	⇑P	P	16 58 22.5	+0.5		
	baz=22								
NVAR	Mina Array Bea	21.76	337	P	P	16 58 26.3	+1.9		
NVAR	Mina Array Bea	21.76	337	P	P	16 58 26.3	+1.9		
	1.2nm,0.7s,baz=157,slow=10,SNR=9.4								
NVAR				LR	LR	17 06 31.0			
	comp=Z,148nm,20.1s,baz=281,slow=36								
P30A	Selden	21.78	16	⇑P	P	16 58 25.6	+1.1		
	baz=22								
DAU	Daniels Canyon	21.89	353	P	P	16 58 26.9	+0.9		
	3.7nm,1.6s								
DUG	Dugway	21.91	349	P	P	16 58 27.2	+1.2		
	34nm,1.6s								
DUG	Dugway	21.91	349	⇑P	P	16 58 26.5	+0.6		
	baz=22								
N22A	Wattenberg Ran	22.09	2	⇑P	P	16 58 28.0	0.0		
	baz=22								
N20A	Spence Gulch,	22.10	359	⇓P	P	16 58 28.0	-0.1		
	baz=22								
N23A	Red Feather La	22.21	3	⇑P	P	16 58 29.4	+0.2		
	baz=22								
WAKR	Walker	22.27	335	P	P	16 58 32.0	+2.2		
	24nm,1.5s								
M23A	Laramie	22.79	4	⇑P	P	16 58 36.1	+0.7		
	baz=23								
ELK	Elko	22.95	345	P	P	16 58 36.6	-0.4		
ELK	Elko	22.95	345	P	P	16 58 36.6	-0.4		
	1.6nm,0.8s,baz=165,slow=14,SNR=3.5								
ELK				LR	LR	17 06 41.0			
	comp=Z,148nm,21.7s,baz=183,slow=35								
K21A	Alcova	23.90	1	⇑P	P	16 58 46.6	+0.3		
	baz=24								
K22A	Casper	23.93	2	⇓P	P	16 58 46.6	+0.1		
	baz=24								
PDAR	Pinedale Array	24.08	357	P	P	16 58 47.1	-0.9		
PDAR	Pinedale Array	24.08	357	P	P	16 58 47.1	-0.9		
	0.9nm,0.7s,baz=159,slow=8.9,SNR=7.2								
J19A	Crowheart	24.55	358	⇓P	P	16 58 52.9	+0.7		
	baz=25								
I21A	Big Trails, Te	25.07	1	⇑P	P	16 58 57.7	+0.8		
	baz=25								
I22A	9 Mile Ranch,	25.17	2	⇑P	P	16 58 58.4	+0.6		
	baz=25								
YBH	Yreka Blue Hor	26.33	334	LR	LR	17 08 48.3			
	comp=Z,206nm,20.2s,baz=162,slow=35								
D20A	Manuel Ranch,	28.35	359	⇓P	P	16 59 26.5	+0.2		
	baz=28								
C23A	Lambert	29.14	3	⇑P	P	16 59 33.6	+0.3		
	baz=29								
ULM	Lac du Bonnet	32.90	14	P	P	17 00 04.7	-1.6		
ULM	Lac du Bonnet	32.90	14	P	P	17 00 04.7	-1.6		
	1.1nm,0.3s,baz=205,slow=9.1,SNR=2.5								
OTAV	Otavalo	34.04	119	P	P	17 00 21.3	+4.1		
	14nm,1.2s								
ATAH	Atahualpa	38.62	129	P	P	17 00 57.2	+1.0		
ATAH	Atahualpa	38.62	129	P	P	17 00 57.2	+1.0		
	5.5nm,0.6s,baz=333,slow=13,SNR=3.6								
YKA	Yellowknife Ar	44.05	355	P	P	17 01 39.2	-0.5		
YKA	Yellowknife Ar	44.05	355	P	P	17 01 39.2	-0.5		
	0.7nm,0.8s,baz=164,slow=7.9,SNR=2.8								
SAML	Samuel	51.76	118	P	P	17 02 40.9	+0.8		
	7.3nm,1.4s								
LPAZ	La Paz	52.16	129	P	P	17 02 42.5	-1.2		
LPAZ	La Paz	52.16	129	P	P	17 02 42.5	-1.2		
	3.1nm,0.8s,baz=334,slow=8.1,SNR=9.5								
LPAZ				LR	LR	17 21 06.1			
	comp=Z,77nm,21.1s,baz=142,slow=32								
ILAR	Eielson Array	52.97	340	P	P	17 02 48.0	-0.3		
ILAR	Eielson Array	52.97	340	P	P	17 02 48.0	-0.3		
	1.8nm,1.0s,baz=156,slow=5.6,SNR=9.1								
H03N2	Juan Fernandez	58.63	152	T	T	18 06 46.4			
	baz=329,slow=76,SNR=104								
H03N1	Juan Fernandez	58.64	152	T	T	18 06 51.4			
	baz=329,slow=76,SNR=138								
H03N3	Juan Fernandez	58.65	152	T	T	18 06 47.7			
	baz=329,slow=76,SNR=149								
RAR	Rarotonga	64.60	235	LR	LR	17 25 12.9			
	comp=Z,281nm,18.7s,baz=75,slow=29								
CPUP	Villa Florida	66.26	131	P	P	17 04 20.9	+0.4		
CPUP	Villa Florida	66.26	131	P	P	17 04 20.9	+0.4		
	2.5nm,0.7s,baz=280,slow=6.1,SNR=3.9								
BDFB	Brasilia	67.91	116	P	P	17 04 31.0	-0.3		
BDFB	Brasilia	67.91	116	P	P	17 04 31.0	-0.3		
	2.7nm,0.6s,baz=321,slow=14,SNR=3.4								
PLCA	Paso Flores	68.43	150	P	P	17 04 35.8	+1.7		
PLCA	Paso Flores	68.43	150	P	P	17 04 35.8	+1.7		
	2.9nm,0.9s,baz=302,slow=6.9,SNR=2.1								
PLCA				LR	LR	17 27 46.2			
	comp=Z,89nm,19.4s,baz=240,slow=30								
ARCES	ARCESS Array B	86.01	15	LR	LR	17 44 36.7			
	comp=Z,97nm,19.4s,baz=316,slow=36								
NOA	NORSAR Array B	86.85	25	LR	LR	17 48 30.9			
	comp=Z,58nm,18.4s,baz=315,slow=38								
URZ	Urewera	90.33	230	LR	LR	17 38 13.0			
	comp=Z,86nm,21.0s,baz=347,slow=30								
MDT	Midelt	90.51	55	LR	LR	17 47 44.3			
	comp=Z,49nm,18.8s,baz=149,slow=36								
GERES	GERESS Array B	95.01	34	LR	LR	17 45 50.6			
	comp=Z,85nm,19.7s,baz=98,slow=33								
WRA	Warramunga Arr	121.76	258	PKP	PKPdf	17 12 30.1	+3.4		
WRA	Warramunga Arr	121.76	258	PKP	PKPdf	17 12 30.1	+3.4		
	0.5nm,0.7s,baz=84,slow=2.3,SNR=4.7								

IDC 01 17:19:02.0±3.9, 16°29S×175°89W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/18, mbtmp4.1/3, Error ellipse: s-maj=161.6km s-min=78.9km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	41.52	240	P	P	17 26 51.3	0.0
	1.3nm,0.5s,baz=85,slow=13,SNR=7.9						
WRA	Warramunga Arr	47.31	258	P	P	17 27 37.6	-0.2
	0.6nm,0.5s,baz=94,slow=7.2,SNR=33						
WRA				PcP	PcP	17 29 08.9	-0.2
	0.1nm,0.4s,baz=92,slow=3.3,SNR=2.5						
ASAR	Alice Springs	47.56	253	P	P	17 27 39.6	-0.1
	5.7nm,0.6s,baz=88,slow=8.4,SNR=216						
ASAR				PcP	PcP	17 29 09.5	-0.4
	0.2nm,0.6s,baz=99,slow=4.0,SNR=3.9						

*IDC **01** 17:30:53.3±1.0, 38°13N×22°79E, h0km, mb3.5/9, mb1 3.6/12, mb1mx3.6/30, mbtmp3.5/12, ML3.4/3, Error ellipse: s-maj=20.9km s-min=17.4km az=69.0*
*ATH **01** 17:30:55.9, 38°25N×22°66E, h15km±1km, MD3.1/25, ML3.3*
*ISCJB **01** 17:30:56.3±0.2, 38°25N±0°02×22°66E±0°02, h26km±2km, mb3.5/8, Error ellipse: s-maj=2.8km s-min=2.2km az=8.6*
*THE **01** 17:30:56.3, 38°25N×22°67E, h3km±2km, ML3.7/13, Error ellipse: s-maj=2.0km s-min=0.3km az=29.0*
*CSEM **01** 17:30:56.5±0.1, 38°23N×22°67E, h20km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.7km az=9.0*

ISC 01 17:30:56.0±0.8, 38°25N±0°01×22°67E±0°01, h15km±5km, n132, σ0=0.976/190, mb3.5/8, 1C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DESF	Desfina	0.19	327	ePB	Pg	17 31 00.2	-0.3
DESF				eSB	Sg	17 31 03.8	+0.2
DESF	Desfina	0.19	327	ePb	Pg	17 31 00.2	-0.3
DESF				eSb	Sg	17 31 03.8	+0.2
DSF	Desfina	0.19	326	P	Pg	17 31 00.3	-0.2
DSF				S	Sg	17 31 03.5	0.0
DSF	Desfina	0.19	326	ePB	Pg	17 31 00.4	-0.1
DSF				eSB	Sg	17 31 03.6	0.0
DSF	Desfina	0.19	326	P	Pg	17 31 00.4	-0.1
DSF				eSb	Sg	17 31 03.6	0.0
LTK	Loutraki	0.33	134	P	Pg	17 31 02.4	-0.4
LTK				S	Sg	17 31 07.6	+0.2
LTK	Loutraki	0.33	134	ePB	Pg	17 31 02.4	-0.4
LTK				eSB	Sg	17 31 07.7	+0.3
LTK	Loutraki	0.33	134	P	Pg	17 31 02.4	-0.4
LTK				eSb	Sg	17 31 07.7	+0.3
GUR	Goura	0.41	219	P	Pg	17 31 03.9	-0.2
GUR	Goura	0.41	219	ePB	Pg	17 31 04.0	-0.2
GUR	Goura	0.41	219	ePb	Pg	17 31 04.0	-0.2
KALE	Kalithea	0.44	289	P	Pg	17 31 04.5	-0.2
KALE				S	Sb	17 31 11.6	-0.3
KALE	Kalithea	0.44	289	ePB	Pg	17 31 04.5	-0.2
KALE				eSB	Sg	17 31 11.3	+0.6
KALE	Kalithea	0.44	289	P	Pg	17 31 04.5	-0.2
KALE				eSb	Sg	17 31 11.3	+0.6
KLV	Kalavryta, Ach	0.46	243	P	Pg	17 31 05.0	-0.1
KLV				S	Sg	17 31 11.4	+0.2
KLV	Kalavryta, Ach	0.46	243	ePN	Pb	17 31 06.1	+0.3
KLV				eSN	Sb	17 31 14.1	+1.7
KLV	Kalavryta, Ach	0.46	243	P	Pg	17 31 05.0	-0.1
KLV	Kalavryta, Ach	0.46	243	ePn	Pb	17 31 06.1	+0.3
KLV				S	Sg	17 31 11.2	0.0
VIL2	Platees	0.48	95	ePN	Pb	17 31 05.8	-0.3
VIL2				eSN	Sb	17 31 14.4	+1.5
LKR	Lokris	0.48	33	P	Pg	17 31 04.7	-0.7
LKR				S	Sg	17 31 11.9	0.0
LKR	Lokris	0.48	33	ePB	Pg	17 31 04.7	-0.7
LKR	Lokris	0.48	33	P	Pg	17 31 04.7	-0.7
LKR				S	Sg	17 31 12.3	+0.4
AXAR	Agios Charalam	0.51	359	P	Pg	17 31 05.7	-0.4
AXAR				S	Sb	17 31 14.5	+0.4
AXAR	Agios Charalam	0.51	359	P	Pg	17 31 05.8	-0.4
AXAR				S	Sb	17 31 14.5	+0.4
VILL	Villia	0.52	100	P	Pg	17 31 06.0	-0.2
VILL				S	Sb	17 31 13.9	-0.2
VILL	Villia	0.52	100	P	Pg	17 31 06.0	-0.2
VILL				S	Sb	17 31 13.9	-0.2
VILL				eSn	Sg	17 31 14.4	+1.3
LAKA	Lakka	0.54	269	P	Pg	17 31 06.7	0.0
LAKA	Lakka	0.54	269	ePN	Pg	17 31 06.7	0.0
LAKA	Lakka	0.54	269	P	Pg	17 31 06.7	0.0
PSA1	Psathopyrgos	0.62	277	ePN	Pg	17 31 08.1	0.0
PSA1				eSN	Sb	17 31 17.4	+0.4
UPR	University Cam	0.69	273	P	Pb	17 31 09.8	0.0
SMIA	Simia	0.76	34	P	Pg	17 31 10.6	-0.1
SMIA				S	Sb	17 31 22.0	+0.9
SMIA	Simia	0.76	34	ePN	Pg	17 31 10.6	-0.1
SMIA	Simia	0.76	34	P	Pg	17 31 10.6	-0.1
SMIA				S	Sb	17 31 22.0	+0.9
DRO	Drossia	0.81	249	P	Pg	17 31 11.6	-0.2
DRO				S	Sb	17 31 23.1	+0.5
DRO	Drossia	0.81	249	ePN	Pg	17 31 11.3	-0.4
DRO	Drossia	0.81	249	P	Pg	17 31 11.5	-0.2
DRO				S	Sb	17 31 23.1	+0.5
AGG	Agios Georgios	0.81	341	P	Pb	17 31 12.0	+0.1
AGG	Agios Georgios	0.81	341	P	Pb	17 31 12.0	+0.1
NAIG	Nisos Aigina	0.81	127	ePN	Pg	17 31 11.5	-0.3
NAIG	Nisos Aigina	0.81	127	ePn	Pg	17 31 11.5	-0.3
MRKA	Markates	0.85	58	ePN	Pb	17 31 12.6	+0.1
MRKA	Markates	0.85	58	ePn	Pb	17 31 12.6	+0.1
MRKA	Markates	0.85	58	P	Pn	17 31 13.2	-0.3
MRKA				S	Sn	17 31 25.3	-0.5
MAKR	Makrakomi, Fth	0.87	331	P	Pg	17 31 12.7	-0.1
MAKR				S	Sn	17 31 25.6	-0.6
MAKR	Makrakomi, Fth	0.87	331	ePN	Pg	17 31 12.3	-0.5
MAKR	Makrakomi, Fth	0.87	331	ePn	Pg	17 31 12.3	-0.5
MAKR	Makrakomi, Fth	0.87	331	P	Pg	17 31 12.7	-0.1
MAKR				S	Sn	17 31 25.6	-0.6
DID	Didima	0.87	149	P	Pg	17 31 12.3	-0.5
DID				S	Sb	17 31 25.3	+1.0
DID	Didima	0.87	149	ePN	Pg	17 31 12.4	-0.4
DID	Didima	0.87	149	P	Pg	17 31 12.3	-0.5
DID				S	Sg	17 31 24.2	-0.1
ATH	Athens Observa	0.88	108	P	Pg	17 31 13.0	+0.1
ATH				S	Sn	17 31 25.7	-0.5
ATH	Athens Observa	0.88	108	ePN	Pg	17 31 13.0	+0.1
ATH				eSN	Sb	17 31 25.3	+0.9
ATH	Athens Observa	0.88	108	P	Pg	17 31 13.0	+0.1
ATH				eSn	Sb	17 31 25.3	+0.9
VLX	Vlachokerasia	0.91	195	P	Pb	17 31 13.0	-0.5
VLX				S	Sg	17 31 26.3	+0.8
VLX	Vlachokerasia	0.91	195	ePB	Pb	17 31 12.7	-0.8
VLX	Vlachokerasia	0.91	195	ePb	Pb	17 31 12.7	-0.8
VLX				S	Sb	17 31 24.0	-1.5
ERET	Eretria	0.92	78	P	Pb	17 31 12.8	-0.8
ERET				S	Sn	17 31 27.2	-0.2
ERET	Eretria	0.92	78	P	Pb	17 31 12.8	-0.8
ERET				S	Sn	17 31 27.2	-0.2
ATHU	Athens Univers	0.93	108	P	Pg	17 31 13.9	0.0
ATHU				S	Sn	17 31 27.5	-0.1
ATHU	Athens Univers	0.93	108	P	Pg	17 31 13.9	0.0
ATHU				S	Sn	17 31 27.5	-0.1
EVR	Evrytania	0.94	315	P	Pb	17 31 13.7	-0.4
EVR				S	Sn	17 31 28.2	0.0
EVR	Evrytania	0.94	315	ePN	Pb	17 31 14.2	+0.1
EVR	Evrytania	0.94	315	P	Pb	17 31 14.0	-0.1
EVR				S	Sn	17 31 28.2	0.0
RLS	Riolos of Patr	0.96	259	P	Pb	17 31 14.4	0.0
RLS				S	Sn	17 31 28.6	+0.1
RLS	Riolos of Patr	0.96	259	ePN	Pb	17 31 14.2	-0.2
RLS	Riolos of Patr	0.96	259	ePn	Pb	17 31 14.2	-0.2
RLS				S	Sn	17 31 28.6	+0.1
PTL	Penteli	0.97	102	P	Pn	17 31 15.0	-0.1
PTL				S	Sn	17 31 28.1	-0.5
PTL	Penteli	0.97	102	ePN	Pb	17 31 14.4	-0.1
PTL	Penteli	0.97	102	ePn	Pb	17 31 14.4	-0.1
PTL	Penteli	0.97	102	P	Pn	17 31 15.0	-0.1
PTL				S	Sn	17 31 28.1	-0.5
PVO	Paravola	0.97	293	P	Pg	17 31 14.9	+0.2
PVO				S	Sn	17 31 28.8	+0.3
PVO	Paravola	0.97	293	P	Pg	17 31 14.9	+0.2
PVO				S	Sn	17 31 28.8	+0.3
AMT	Artemida-Makis	1.04	227	P	Pb	17 31 15.8	0.0
AMT				S	Sn	17 31 30.9	+0.4
AMT	Artemida-Makis	1.04	227	P	Pb	17 31 15.8	0.0
AMT				S	Sn	17 31 30.9	+0.4
SKIA	Skiathos	1.11	34	P	Pn	17 31 17.1	+0.1
SKIA				S	Sn	17 31 32.8	+0.7
SKIA	Skiathos	1.11	34	ePN	Pg	17 31 17.3	0.0
SKIA	Skiathos	1.11	34	P	Pn	17 31 17.1	+0.1
SKIA				S	Sn	17 31 32.8	+0.7
NEO	Neokhori	1.14	22	P	Pb	17 31 17.3	-0.1
NEO	Neokhori	1.14	22	ePN

0.4nm,0.6s,baz=29,slow=9.1,SNR=3.6
MKAR Makanchi Array 43.82 59 P **P** **17 39 00.7 -0.6**
0.6nm,0.6s,baz=267,slow=6.7,SNR=7.6
ZALV Zalesovo Beam 44.38 48 P **P** **17 39 05.7 0.0**
1.0nm,0.5s,baz=281,slow=9.5,SNR=4.9
SONM Songino Array 59.10 51 P **P** **17 40 54.2 -1.6**
0.2nm,0.5s,baz=292,slow=6.8,SNR=2.9
ILAR Eielson Array 76.98 355 P **P** **17 42 48.0 +0.3**
0.2nm,0.7s,baz=357,slow=3.8,SNR=3.3
ASAR Alice Springs 120.50 97 PKP **PKPdf** **17 49 46.1 -1.2**
0.2nm,0.8s,baz=313,slow=1.9,SNR=2.9

*BJI **01** 17:41:29.4, 36°.05N×70°.16E, h60km, mb4.2/10, ML4.4/3*
*MOS **01** 17:41:32.6±1.0, 35°.87N×70°.49E, h90km, mb4.2/13, Error ellipse: s-maj=11.3km s-min=5.3km az=84.0*
*ISCJB **01** 17:41:33.6±0.3, 35°.86N±0°.03×70°.74E±0°.05, h110km, mb3.8/21, Error ellipse: s-maj=5.8km s-min=3.1km az=148.7*
*IDC **01** 17:41:35.0±2.6, 35°.99N×70°.58E, h98km±24km, mb3.6/19, mb1 3.7/24, mb1mx3.6/33, mbtmp3.6/24, Error ellipse: s-maj=13.9km s-min=11.5km az=3.0*
*NNC **01** 17:41:40.1±5.2, 36°.40N×70°.21E, h124km±60km, mb3.8, mpv4.8, Error ellipse: s-maj=41.2km s-min=26.4km az=28.0*

ISC 01 17:41:35.4±0.5, 35°.91N±0°.05×70°.71E±0°.06, h110km, n94, σ1§61/103, mb3.8/21, 7C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSH	**Kashi**	**5.51**	**48**	P		**Pn**	**17 42 52.0**	**-3.2**
KSH				S		Sn	17 43 48.6	-8.8
KSH				smax		smax		
	comp=N,480nm,0.8s							
KSH				smax		smax		
	comp=E,380nm,0.9s							
DHRM	**DHARAMSHALA**	**5.91**	**127**	*e*P		**Pn**	**17 43 01.0**	**+0.3**
DHRM				*e*S		**Sn**	**17 44 05.7**	**-1.4**
DHRM				AML		AML	17 44 09.3	
	comp=N,537nm,0.2s							
DHRM				AML		AML	17 44 09.8	
	comp=E,712nm,0.3s							
AML	**Almayashu**	**6.63**	**20**	*i* PN		**Pn**	**17 43 10.7**	**+0.1**
AML	**Almayashu**	**6.63**	**20**	P		**Pn**	**17 43 10.7**	**+0.1**
	SNR=194							
SDNR	**Sundarnagar**	**6.83**	**128**	*ex*		Pn	17 43 19.0	+6.1
SDNR				*e*S		**Sn**	**17 44 26.0**	**-3.2**
UCH	**Uchtor**	**6.97**	**24**	*i* PN		**Pn**	**17 43 15.4**	**+0.2**
UCH	**Uchtor**	**6.97**	**24**	P		**Pn**	**17 43 15.4**	**+0.2**
	SNR=81							
KZA	**Kyzart**	**7.10**	**28**	*i* PN		**Pn**	**17 43 17.8**	**+0.9**
KZA	**Kyzart**	**7.10**	**28**	P		**Pn**	**17 43 17.9**	**+0.9**
	SNR=30							
EKS2	**Erkin-Say**	**7.15**	**19**	*i* PN		**Pn**	**17 43 17.6**	**+0.3**
EKS2	**Erkin-Say**	**7.15**	**19**	P		**Pn**	**17 43 17.6**	**+0.3**
	SNR=98							
KK31	**Karatay Array**	**7.18**	**359**	PN		**Pn**	**17 43 16.7**	**-1.0**
KK31				pmax		pmax		
	comp=Z,28nm,0.2s							
KK31	**Karatay Array**	**7.18**	**359**	⇑P		**Pn**	**17 43 16.7**	**-1.0**
	comp=Z,14nm,0.3s,baz=180,slow=12,SNR=894							
KK31				⇑S		**Sn**	**17 44 32.8**	**-4.9**
	comp=Z,16nm,0.3s,baz=192,slow=24,SNR=6.4							
SMLA	**Simla**	**7.20**	**130**	*i* P		**Pn**	**17 43 18.1**	**+0.2**
SMLA				*i* S		**Sn**	**17 44 35.4**	**-2.8**
SMLA				*i* S		**Sn**	**17 44 35.4**	**-2.8**
SMLA				*i* S		**Sn**	**17 44 36.1**	**-2.0**
SMLA				AML		AML	17 44 38.8	
	comp=E,221nm,0.6s							
SMLA				AML		AML	17 44 39.0	
	comp=N,274nm,0.2s							
AAK	**Ala-Archa**	**7.33**	**22**	PN		**Pn**	**17 43 19.3**	**-0.5**
AAK				pmax		pmax		
	comp=Z,16nm,0.3s							
AAK	**Ala-Archa**	**7.33**	**22**	P		**Pn**	**17 43 20.2**	**+0.4**
	SNR=92							
AAK	**Ala-Archa**	**7.33**	**22**	P		**Pn**	**17 43 19.3**	**-0.5**
	comp=Z,16nm,0.3s,baz=180,slow=6.3,SNR=133							
AAK				S		**Sn**	**17 44 39.4**	**-2.0**
	comp=Z,8.8nm,0.3s,baz=322,slow=22,SNR=15							
KBK	**Karagaybulak**	**7.50**	**25**	P		**Pn**	**17 43 23.1**	**+1.1**
	SNR=31							
ULHL	**Ulahol**	**7.65**	**33**	*i* PN		**Pn**	**17 43 25.8**	**+1.6**
ULHL	**Ulahol**	**7.65**	**33**	P		**Pn**	**17 43 25.8**	**+1.6**
	SNR=6.6							
CHMS	**Chumysh**	**7.74**	**23**	*i* PN		**Pn**	**17 43 25.8**	**+0.6**
CHMS	**Chumysh**	**7.74**	**23**	P		**Pn**	**17 43 25.8**	**+0.6**
	SNR=20							
USP	**Ospenovka**	**7.91**	**21**	*i* PN		**Pn**	**17 43 28.1**	**+0.6**
USP	**Ospenovka**	**7.91**	**21**	P		**Pn**	**17 43 28.1**	**+0.6**
	SNR=42							
TKM2	**Tokmak 2**	**7.96**	**27**	*i* PN		**Pn**	**17 43 29.0**	**+0.7**
TKM2	**Tokmak 2**	**7.96**	**27**	P		**Pn**	**17 43 29.1**	**+0.7**
	SNR=13							
TKM2	**Tokmak 2**	**7.96**	**27**	⇓P		**Pn**	**17 43 28.8**	**+0.4**
	comp=Z,37nm,0.7s							
TKM2				⇑S		**Sn**	**17 44 56.9**	**+0.1**
	comp=Z,43nm,0.8s							
DDI	**Dehra Dun**	**8.31**	**130**	*e*S		**Sn**	**17 45 01.5**	**-3.7**
KNDC	**Almaty**	**8.75**	**32**	⇓P		**Pn**	**17 43 40.6**	**+1.6**
	comp=Z,25nm,0.5s							
KHET	**Khetri**	**8.93**	**150**	*e*S		Sn	17 45 10.5	-10
KHET				AML		AML	17 45 16.2	
	comp=N,302nm,0.2s							
KHET				AML		AML	17 45 16.9	
	comp=E,344nm,0.1s							
NDI	**New Delhi**	**9.07**	**141**	*e*P		**Pn**	**17 43 43.0**	**-0.3**
NDI				*ex*		x	17 45 18.5	
KUDL	**Kundal**	**9.17**	**146**	*e*P		**Pn**	**17 43 43.3**	**-1.3**
KUDL				*e*S		Sn	17 45 18.3	-7.7
KUDL				AML		AML	17 45 19.8	
	comp=E,40nm,0.8s							
KUDL				AML		AML	17 45 26.5	
	comp=N,37nm,0.7s							
SONA	**Sohna**	**9.36**	**143**	*e*P		**Pn**	**17 43 46.6**	**-0.6**
SONA				*e*S		Sn	17 45 23.5	-7.1
SONA				AML		AML	17 45 29.5	
	comp=E,85nm,0.8s							
SONA				AML		AML	17 45 29.8	
	comp=N,34nm,0.3s							
PYUN	**Piuthan**	**13.00**	**123**	*e*P		**Pn**	**17 44 33.5**	**-2.7**
DANN	**Dangsing**	**13.38**	**121**	*e*P		**Pn**	**17 44 38.7**	**-2.4**
	comp=N,17nm,0.3s							
DANN				*e*S		Sn	17 46 57.5	-11
KOLN	**Koldanda**	**13.63**	**123**	*e*P		**Pn**	**17 44 41.6**	**-2.7**
BHPL	**Bhopal**	**13.91**	**153**	*e*P		**Pn**	**17 44 46.2**	**-1.6**
BHPL				*ex*		x	17 47 03.8	
MKAR	**Makanchi Array**	**13.91**	**35**	P		**Pn**	**17 44 47.5**	**-0.1**
MKAR	**Makanchi Array**	**13.91**	**35**	P		**Pn**	**17 44 47.5**	**-0.1**
	comp=N,0.3nm,0.3s,baz=196,slow=13,SNR=8.8							
GKN	**Gorkha**	**14.20**	**120**	*e*P		**Pn**	**17 44 49.2**	**-2.5**
	comp=N,16nm,0.3s							
DMN	**Daman**	**14.77**	**120**	*e*P		**Pn**	**17 44 56.9**	**-2.1**
	comp=N,12nm,0.3s							
KKN	**Kakani**	**14.79**	**119**	*e*P		**Pn**	**17 44 57.4**	**-1.7**
	comp=N,20nm,0.5s							
PKIN	**Phulchoki**	**14.99**	**120**	*e*P		**Pn**	**17 44 59.6**	**-2.2**
	comp=N,16nm,0.4s							
PKI	**Pulchoki**	**15.01**	**120**	*e*P		**Pn**	**17 44 59.5**	**-2.5**
	comp=N,12nm,0.3s							
GUN	**Gumba**	**15.14**	**118**	*e*P		**Pn**	**17 45 01.9**	**-1.9**
	comp=N,16nm,0.3s							
WMQ	**Urumqi**	**15.23**	**54**	P		**Pn**	**17 45 03.8**	**-0.7**
WMQ				pmax		pmax		
	comp=N,12nm,1.0s							
AB31	**Akbulak array**	**15.49**	**333**	*i* P		**Pn**	**17 45 05.9**	**-1.7**
AB31				pmax		pmax		
	comp=Z,3.0nm,0.2s							
AB31	**Akbulak array**	**15.49**	**333**	⇑P		**Pn**	**17 45 05.9**	**-1.7**
	comp=Z,6.4nm,0.5s,baz=152,slow=13,SNR=192							
AB31				⇑S		Sn	17 47 45.0	-14
	comp=Z,4.4nm,0.5s,baz=150,slow=24,SNR=10							
JIRN	**Jiri**	**15.51**	**118**	*e*P		**Pn**	**17 45 06.7**	**-1.7**
	comp=Z,43nm,0.4s							
KURBB	**Kurchatov Arra**	**15.76**	**19**	P		**Pn**	**17 45 08.8**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=8.3							
KURBB	**Kurchatov Arra**	**15.76**	**19**	⇓P		**Pn**	**17 45 07.9**	**-3.0**
	comp=Z,4.2nm,0.7s							
KURK	**Kurchatov**	**15.86**	**19**	P		**P**	**17 45 14.3**	**+0.6**
KURK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KURK	**Kurchatov**	**15.86**	**19**	⇓P		**Pn**	**17 45 12.0**	**-0.2**
	comp=Z,2.5nm,0.8s							
RAMN	**Ramite**	**16.23**	**119**	*e*P		**Pn**	**17 45 15.2**	**-2.0**
	comp=Z,20nm,0.3s							
TAPN	**Taplejung**	**16.79**	**116**	*e*P		**Pn**	**17 45 23.2**	**-1.0**
VOSK	**Vostochnaya**	**16.81**	**1**	⇓P		**Pn**	**17 45 22.1**	**-1.8**
	comp=Z,3.0nm,0.8s							
ODAN	**Odare**	**16.84**	**118**	*e*P		**Pn**	**17 45 24.4**	**-0.3**
	comp=Z,18nm,0.5s							
BVA0	**Borovoye Array**	**17.11**	**359**	P		**P**	**17 45 25.9**	**-1.6**
BVA0				pmax		pmax		
	comp=Z,2.0nm,0.5s							
BVA0	**Borovoye Array**	**17.11**	**359**	⇑P		**P**	**17 45 25.9**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=172,slow=10,SNR=17							
BVAR	**Borovoye Array**	**17.11**	**359**	P		**P**	**17 45 25.8**	**-1.7**
BVAR				S		Sn	17 48 29.5	-8.4
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**17.11**	**359**	P		**P**	**17 45 25.8**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=169,slow=12,SNR=18							
BVAR				S		Sn	17 48 29.5	-8.4
	comp=Z,0.2nm,0.3s,baz=176,slow=20,SNR=2.6							
BRVK	**Borovoye**	**17.15**	**359**	*e*P		**Pn**	**17 45 30.3**	**+2.3**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
AKTO	**Aktyubinsk**	**17.18**	**332**	P		**Pn**	**17 45 28.9**	**+0.6**
AKTO				S		Sn	17 48 25.7	-14
AKTO				pmax		pmax		
	comp=Z,6.0nm,0.8s							
AKTO				smax		smax		
	comp=Z,9.0nm,1.2s							
AKTO	**Aktyubinsk**	**17.18**	**332**	P		**P**	**17 45 27.2**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=144,slow=14,SNR=18							
AKTO				S		Sn	17 48 28.9	-11
	comp=Z,0.8nm,0.3s,baz=135,slow=18,SNR=7.4							
AKTO	**Aktyubinsk**	**17.18**	**332**	⇓P		**Pn**	**17 45 29.0**	**+0.6**
	comp=Z,6.0nm,0.8s							
AKTO				⇑S		Sn	17 48 25.7	-14
	comp=Z,0.9nm,0.4s							
ZALV	**Zalesovo Beam**	**20.55**	**24**	P		**P**	**17 46 05.7**	**+0.8**
ZALV				S		**S**	**17 49 47.8**	**-0.7**
ZALV				pmax		pmax		
	comp=Z,13nm,0.6s							
ZALV				smax		smax		
	comp=N,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**20.55**	**24**	P		**P**	**17 46 05.7**	**+0.8**
	comp=N,13nm,0.6s,baz=214,slow=11,SNR=61							
ZALV				S		**S**	**17 49 47.8**	**-0.7**
	comp=N,0.6nm,0.7s,baz=217,slow=16,SNR=2.9							
GNI	**Garni**	**20.86**	**290**	P		**P**	**17 46 07.2**	**-1.4**
	comp=N,2.5nm,0.5s,baz=40,slow=16,SNR=1.9							
ARU	**Arti**	**22.11**	**342**	*e*P		**P**	**17 46 23.0**	**+1.4**
ARU				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KBZ	**Khabaz**	**22.67**	**299**	P		**P**	**17 46 25.3**	**-2.0**
KBZ				pmax		pmax		
	comp=Z,1.0nm,0.9s							
KBZ	**Khabaz**	**22.67**	**299**	P		**P**	**17 46 25.2**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=134,slow=6.3,SNR=4.0							
GTA	**Gaotai**	**23.26**	**73**	*e*P		P	17 46 41.0	+7.7
GTA				pP		pP	17 46 48.2	-7.0
GTA				sP		sP	17 46 52.2	-17
GTA				pmax		pmax		
	comp=Z,5.0nm,1.6s							
SONM	**Songino Array**	**28.87**	**55**	P		**P**	**17 47 25.6**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=256,slow=8.3,SNR=3.3							
BRTR	**Keskin Array B**	**29.39**	**289**	P		**P**	**17 47 28.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=116,slow=8.4,SNR=3.8							
OBN	**Obninsk**	**30.23**	**320**	*e*P		**P**	**17 47 36.3**	**+1.0**
OBN				*e**PP		pP	17 48 05.0	+5.4
OBN				*e*S		**S**	**17 52 28.8**	**+2.2**
OBN				*e*SS		**SS**	**17 54 39.2**	**-0.4**
OBN				pmax		pmax		
	comp=Z,20nm,2.2s							
CMAR	**Chiang Mai Arr**	**30.39**	**117**	P		**P**	**17 47 39.5**	**+2.4**
	comp=Z,1.2nm,0.5s,baz=294,slow=8.6,SNR=11							
AKASG	**Malin Array Be**	**33.13**	**310**	P		**P**	**17 48 01.1**	**+0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**33.13**	**310**	P		**P**	**17 48 01.1**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=85,slow=7.0,SNR=8.5							
UZH	**Uzhgorod**	**37.40**	**305**	*e*P		**P**	**17 48 34.7**	**-2.7**
UZH				*e*			17 48 53.5	
FINES	**FINESS Array B**	**37.84**	**327**	P		**P**	**17 48 42.2**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=117,slow=8.9,SNR=9.0							
KEV	**Kevo**	**41.26**	**339**	*e*P		**P**	**17 49 10.2**	**+1.0**
KEV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KEV	**Kevo**	**41.26**	**339**	*ep*		**P**	**17 49 10.2**	**+1.0**
	comp=Z,1.1nm,0.3s							
ARCES	**ARCESS Array B**	**41.60**	**338**	P		**P**	**17 49 13.5**	**+1.5**
	comp=Z,3.8nm,0.7s,baz=108,slow=7.3,SNR=18							
HFS	**Hagfors**	**43.38**	**322**	P		**P**	**17 49 27.1**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=98,slow=11,SNR=8.4							
NB2	**NORSAR Subarra**	**44.71**	**323**	P		**P**	**17 49 37.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.71**	**323**	P		**P**	**17 49 37.4**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=98,slow=7.8,SNR=4.3							
KSRS	**Korea Array**	**45.30**	**70**	P		**P**	**17 49 44.0**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=276,slow=6.8,SNR=4.5							
ESDC	**Sonseca Array**	**57.52**	**298**	P		**P**	**17 51 12.0**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=56,slow=7.3,SNR=3.1							
TORD	**Torodi Ar. Bea**	**65.47**	**269**	P		**P**	**17 52 06.0**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=47,slow=6.2,SNR=18							
ILAR	**Eielson Array**	**75.41**	**16**	P		**P**	**17 53 07.2**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=282,slow=4.2,SNR=4.1							
BOSA	**Boshof**	**77.14**	**220**	P		**P**	**17 53 18.0**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=9.3,slow=10,SNR=4.1							
YKA	**Yellowknife Ar**	**81.84**	**2**	P		**P**	**17 53 43.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=348,slow=5.6,SNR=3.9							
WRA	**Warramunga Arr**	**81.88**	**122**	P		**P**	**17 53 44.4**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=325,slow=4.9,SNR=50							
ASAR	**Alice Springs**	**84.11**	**125**	P		**P**	**17 53 55.4**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=310,slow=4.9,SNR=25							

IDC 01 17:43:47.7±27.0, 33°.97S×56°.06E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/24, mbtmp3.9/3, MS3.4/2, Ms1 3.3/2, ms1mx2.9/35, Error ellipse: s-maj=723.2km s-min=58.4km az=75.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OPO	**Ambohidratompo**	**17.27**	**330**	LR		LR	17 53 45.8	
	comp=Z,86nm,18.6s,baz=196,slow=35							
H08S1	**Diego Garcia H**	**30.27**	**34**	T		T	18 20 16.6	
	baz=208,slow=75,SNR=10.0							
H08S2	**Diego Garcia H**	**30.28**	**34**	T		T	18 20 22.9	
	baz=208,slow=75,SNR=4.3							
H08S3	**Diego Garcia H**	**30.29**	**34**	T		T	18 20 19.0	
	baz=208,slow=75,SNR=6.7							
H08N3	**Diego Garcia H**	**30.78**	**30**	T		T	18 20 50.6	
	baz=205,slow=76,SNR=4.9							
H08N1	**Diego Garcia H**	**30.79**	**30**	T		T	18 20 53.5	
	baz=205,slow=76,SNR=4.1							
H08N2	**Diego Garcia H**	**30.80**	**30**	T		T	18 20 52.7	
	baz=205,slow=76,SNR=4.5							
MAW	**Mawson**	**33.90**	**175**	LR		LR	18 01 03.2	
	comp=Z,77nm,19.1s,baz=274,slow=30							
CMAR	**Chiang Mai Arr**	**66.24**	**45**	P		P	17 54 37.8	0.0
	0.8nm,0.8s,baz=225,slow=6.9,SNR=6.8							
ASAR	**Alice Springs**	**67.52**	**104**	P		P	17 54 45.9	-0.1
	0.8nm,0.7s,baz=236,slow=5.9,SNR=11							
WRA	**Warramunga Arr**	**69.67**	**101**	P		P	17 54 59.7	+0.2
	1.6nm,0.7s,baz=236,slow=5.4,SNR=13							

*DDA **01** 17:53:58.8, 35°.77N×26°.64E, h28km, ML4.7*
*BJI **01** 17:54:00.0, 35°.93N×26°.81E, h126km, mB5.2/4, mb4.7/19*
*ISCJB **01** 17:54:01.8±0.1, 36°.21N±0°.02×26°.92E±0°.02, h133km±1km, mb4.3/47, Error ellipse: s-maj=2.7km s-min=2.1km az=11.0*
*MOS **01** 17:54:01.4±1.2, 36°.13N×26°.79E, h130km, mb4.3/27, Error ellipse: s-maj=5.5km s-min=4.3km az=117.3*
*IDC **01** 17:54:02.9±0.7, 36°.29N×26°.87E, h124km±7km, mb4.0/15, mb1 3.9/21, mb1mx3.8/33, mbtmp3.9/21, Error ellipse: s-maj=16.0km s-min=7.3km az=153.0*
*CSEM **01** 17:54:02.6±0.1, 36°.23N×26°.90E, h123km, mb4.2/21, Error ellipse: s-maj=2.8km s-min=2.1km az=27.0*
*ATH **01** 17:54:03.3, 36°.29N×26°.86E, h123km±2km*
*ISK **01** 17:54:03.7, 36°.35N×26°.89E, h124km, ML4.1*
*NEIC **01** 17:54:03.2±0.4, 36°.19N×26°.84E, h132km±4km, mb4.3/18, Error ellipse: s-maj=6.3km s-min=3.6km az=183.0*
*THE **01** 17:54:05.1, 36°.30N×26°.73E, h0km±1km, ML3.7/3, Error ellipse: s-maj=1.7km s-min=1.3km az=81.0*
*NIC **01** 17:54:05.3±0.3, 36°.59N×27°.29E, h81km, mb4.5, ML4.1, MW3.5*
*HLW **01** 17:54:06.9, 35°.85N×27°.18E, h32km±58km, Md0.0, Ml4.4*

ISC 01 17:54:03.1±0.4, 36°.23N±0°.03×26°.95E±0°.03, h128km±3km, h127km:pP-P, n560, σ1§17/638, mb4.3/47, 4C-6D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARP	**Karpathos**	**0.70**	**166**	*e*P		**Pn**	**17 54 24.0**	**+0.7**
KARP				*e*S		**Sn**	**17 54 39.0**	**+0.5**
KARP	**Karpathos**	**0.70**	**166**	*e*P		**Pn**	**17 54 24.0**	**+0.7**
KARP				*e*S		**Sn**	**17 54 39.0**	**+0.5**
DAT	**Datca**	**0.71**	**45**	*e*PG		**Pn**	**17 54 23.8**	**+0.4**
DAT	**Datca**	**0.71**	**45**	*e*Pg		**Pn**	**17 54 23.8**	**+0.4**
BODT	**Bodrum**	**0.88**	**19**	*e*PG		**Pn**	**17 54 24.7**	**0.0**
BODT				*e*SG		**Sn**	**17 54 40.1**	**-1.0**
BODT	**Bodrum**	**0.88**	**19**	*e*Pg		**Pn**	**17 54 24.7**	**0.0**
BODT				*e*Sg		**Sn**	**17 54 40.1**	**-1.0**
BDRM	**Kayabasi**	**0.93**	**25**	*i* P		**Pn**	**17 54 25.4**	**+0.3**
BDRM				*i* S		**Sn**	**17 54 41.4**	**-0.4**
BDRM	**Kayabasi**	**0.93**	**25**	*i* P		**Pn**	**17 54 25.4**	**+0.3**
BDRM				*i* S		**Sn**	**17 54 41.4**	**-0.4**
ARG	**Arkhangelos**	**0.95**	**90**	P		**Pn**	**17 54 26.5**	**+1.3**
ARG				S		**Sn**	**17 54 42.8**	**+0.7**
ARG	**Arkhangelos**	**0.95**	**90**	*e*P		**Pn**	**17 54 26.5**	**+1.3**
ARG	**Arkhangelos**	**0.95**	**90**	P		**Pn**	**17 54 26.5**	**+1.3**
ARG				S		**Sn**	**17 54 42.8**	**+0.7**
SANT	**Santorini**	**1.21**	**277**	*e*P		**Pn**	**17 54 28.1**	**+0.2**
SANT				*e*S		**Sn**	**17 54 45.6**	**-1.2**
SANT	**Santorini**	**1.21**	**277**	*e*Pn		**Pn**	**17 54 27.9**	**0.0**
SANT				*e*Sn		**Sn**	**17 54 45.0**	**-1.8**
SANT	**Santorini**	**1.21**	**277**	*e*Pn		**Pn**	**17 54 27.9**	**0.0**
SANT				*e*Sn		**Sn**	**17 54 45.0**	**-1.8**
ZKR	**Zakros**	**1.26**	**209**	P		**Pn**	**17 54 29.6**	**+1.2**
ZKR				S		**Sn**	**17 54 46.4**	**-1.2**
ZKR	**Zakros**	**1.26**	**209**	*e*P		**Pn**	**17 54 29.6**	**+1.2**
ZKR				*e*S		**Sn**	**17 54 48.5**	**+0.9**
ZKR	**Zakros**	**1.26**	**209**	P		**Pn**	**17 54 29.6**	**+1.2**
ZKR				*e*S		**Sn**	**17 54 48.5**	**+0.9**
YER	**Yerkesik**	**1.40**	**49**	*e*PN		**Pn**	**17 54 30.7**	**+0.8**
YER	**Yerkesik**	**1.40**	**49**	*e*Pn		**Pn**	**17 54 30.7**	**+0.8**
APE	**Apeiranthos**	**1.42**	**307**	*e*PN		**Pn**	**17 54 29.9**	**-0.1**
APE	**Apeiranthos**	**1.42**	**307**	P		**Pn**	**17 54 30.1**	**0.0**
APE				S		**Sn**	**17 54 46.9**	**-3.8**
APE	**Apeiranthos**	**1.42**	**307**	*d*iP		**Pn**	**17 54 30.0**	**-0.1**
APE	**Apeiranthos**	**1.42**	**307**	*e*P		**Pn**	**17 54 30.1**	**0.0**
APE	**Apeiranthos**	**1.42**	**307**	*i* P		**Pn**	**17 54 30.0**	**-0.1**
APE				S		**Sn**	**17 54 46.9**	**-3.8**
NPS	**Neapolis**	**1.45**	**229**	P		**Pn**	**17 54 30.8**	**+0.3**
NPS				S		**Sn**	**17 54 50.4**	**-0.9**
NPS	**Neapolis**	**1.45**	**229**	*e*P		**Pn**	**17 54 30.9**	**+0.4**
NPS	**Neapolis**	**1.45**	**229**	P		**Pn**	**17 54 30.8**	**+0.3**
NPS				S		**Sn**	**17 54 50.4**	**-0.9**
TURN	**Turunc**	**1.48**	**64**	*i* P		**Pn**	**17 54 28.1**	**-2.6**
TURN				*i* S		Sn	17 54 45.1	-6.6
TURN	**Turunc**	**1.48**	**64**	*i* P		**Pn**	**17 54 28.1**	**-2.6**
SMG	**Samos**	**1.48**	**356**	P		**Pn**	**17 54 30.7**	**-0.1**
SMG				S		**Sn**	**17 54 50.4**	**-1.5**
SMG	**Samos**	**1.48**	**356**	*e*P		**Pn**	**17 54 30.7**	**-0.1**
SMG	**Samos**	**1.48**	**356**	P		**Pn**	**17 54 30.7**	**-0.1**
SMG				S		**Sn**	**17 54 50.4**	**-1.5**
DALY	**Dalyan (Mu¨la**	**1.49**	**66**	*e*PN		**Pn**	**17 54 32.0**	**+1.2**
DALY	**Dalyan (Mu¨la**	**1.49**	**66**	*e*Pn		**Pn**	**17 54 32.0**	**+1.2**
LAST	**Lasithi**	**1.60**	**229**	P		**Pn**	**17 54 32.5**	**+0.3**
LAST				S		**Sn**	**17 54 53.9**	**-0.6**
LAST	**Lasithi**	**1.60**	**229**	*e*P		**Pn**	**17 54 32.6**	**+0.3**
LAST	**Lasithi**	**1.60**	**229**	P		**Pn**	**17 54 32.5**	**+0.3**
LAST				S		**Sn**	**17 54 53.9**	**-0.6**
AYDN	**Tasoluk**	**1.61**	**27**	*i* P		**Pn**	**17 54 33.6**	**+1.3**
AYDN				*i* S		**Sn**	**17 54 53.8**	**-0.9**
AYDN	**Tasoluk**	**1.61**	**27**	*i* P		**Pn**	**17 54 33.6**	**+1.3**
AYDN				*i* S		**Sn**	**17 54 53.8**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.87**	**23**	*e*PN		**Pn**	**17 54 35.6**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.87**	**23**	*e*Pn		**Pn**	**17 54 35.6**	**+0.2**
IDI	**Anoyia**	**1

KCTX **Karacabey (Bur** 4.18 15 *e*PN **Pn** 17 55 04.3 -0.8
KCTX **Karacabey (Bur** 4.18 15 *e*Pn **Pn** 17 55 04.3 -0.8
KLV **Kalavryta, Ach** 4.24 297 *e*P **Pn** 17 55 07.7 +1.7
KLV **Kalavryta, Ach** 4.24 297 *e*P **Pn** 17 55 07.7 +1.7
AKMC **Akamas** 4.54 104 P **Pn** 17 55 09.2 -0.8
baz=292
AKMC **Akamas** 4.54 104 P **Pn** 17 55 09.2 -0.8
PPCY **Paphos** 4.60 105 P **Pn** 17 55 10.7 0.0
baz=293
PPCY **Paphos** 4.60 105 P **Pn** 17 55 10.7 0.0
ALFC **Alevga** 4.72 101 P **Pn** 17 55 12.0 -0.4
baz=289
ALFC S **Sn** 17 56 03.7 -2.5
ALFC **Alevga** 4.72 101 P **Pn** 17 55 12.0 -0.4
ALFC S **Sn** 17 56 03.7 -2.5
LTBQ **Tobruq** 4.86 212 *i* P **Pn** 17 55 14.8 +0.6
SNR=23
LTBQ *e*S **Sn** 17 56 05.2 -4.4
299nm,0.4s,SNR=23
SLUM 4.94 198 S Sn 17 56 05.7 -5.8
baz=202
SLUM 4.94 198 P **Pn** 17 55 15.5 +0.2
SZAC **Souni-Zanaja** 5.06 105 P **Pn** 17 55 16.2 -0.7
baz=293
SZAC S **Sn** 17 56 13.0 -1.4
SZAC **Souni-Zanaja** 5.06 105 P **Pn** 17 55 16.2 -0.7
SZAC S **Sn** 17 56 13.0 -1.4
MAMC **Mammari** 5.21 100 P **Pn** 17 55 19.4 +0.5
CSS **Prodhromos** 5.35 102 *e*Pn **Pn** 17 55 20.1 -0.7
CSS *e*Sn Sn 17 56 09.4 -12
CSS **Prodhromos** 5.35 102 *e*Pn **Pn** 17 55 20.1 -0.7
CSS **Prodhromos** 5.35 102 P **Pn** 17 55 23.4 +2.6
ANTO **Ankara** 5.87 50 *e*P **Pn** 17 55 29.5 +1.7
ANTO *e* 17 56 33.6
ANTO **Ankara** 5.87 50 *e*Pn **Pn** 17 55 29.5 +1.7
ANTO *e*Sn **Sn** 17 56 33.6 -0.4
ANTO **Ankara** 5.87 50 *e*P **Pn** 17 55 29.5 +1.7
ANTO *e*S **Sn** 17 56 33.6 -0.4
HBRG **Burj al 'Arab** 6.13 156 P **Pn** 17 55 30.5 -0.8
baz=156
BR131 **Keskin Array S** 6.33 55 *e*Pn **Pn** 17 55 35.0 +0.9
22nm,0.8s
BR131 *e*Sn **Sn** 17 56 45.5 +0.3
BR131 **Keskin Array S** 6.33 55 *e*Pn **Pn** 17 55 35.0 +0.9
22nm,0.8s
BR131 *e*Sn **Sn** 17 56 45.5 +0.3
BRTR **Keskin Array B** 6.33 55 P **Pn** 17 55 35.1 +1.1
BRTR S **Sn** 17 56 45.6 +0.5
BRTR **Keskin Array B** 6.33 55 P **Pn** 17 55 35.2 +1.1
1.0nm,0.3s
BRTR S **Sn** 17 56 45.7 +0.5
1.0nm,0.3s
BRTR **Keskin Array B** 6.33 55 P **Pn** 17 55 35.1 +1.1
0.9nm,0.3s,baz=230,slow=14,SNR=175
BRTR S **Sn** 17 56 45.6 +0.5
1.2nm,0.3s,baz=215,slow=23,SNR=13
SWA2 7.08 191 P **Pn** 17 55 43.3 -0.8
baz=193
SWA2 S Sn 17 56 56.4 -6.7
baz=193
SWA2 7.08 191 P **Pn** 17 55 43.3 -0.8
HMYD **Mayadein** 7.18 152 P **Pn** 17 55 44.0 -1.5
baz=152
HMYD **Mayadein** 7.18 152 P **Pn** 17 55 44.0 -1.5
SQR 7.26 149 P **Pn** 17 55 46.4 -0.1
baz=149
SQR 7.26 149 P **Pn** 17 55 46.4 -0.1
FYM **Al Fayyum** 7.37 151 P **Pn** 17 55 46.5 -1.5
baz=151
FYM **Al Fayyum** 7.37 151 P **Pn** 17 55 46.5 -1.5
KOT **Kottamia** 7.50 146 P **Pn** 17 55 49.2 -0.6
baz=145
KOT **Kottamia** 7.50 146 P **Pn** 17 55 49.2 -0.6
BHL **Bhannes** 7.50 105 *e*P Pn 17 55 46.4 -3.5
HHAG **Hagoal** 7.60 144 P **Pn** 17 55 51.4 +0.2
baz=143
HHAG **Hagoal** 7.60 144 P **Pn** 17 55 51.4 +0.2
HWQ **Hawqa** 7.61 102 *e*P **Pn** 17 55 50.1 -1.2
AMAG **Maghara** 7.64 135 P **Pn** 17 55 50.1 -1.6
baz=134
AMAG **Maghara** 7.64 135 P **Pn** 17 55 50.1 -1.6
HSAF **As Saff** 7.64 148 P **Pn** 17 55 51.7 0.0
baz=148
HSAF **As Saff** 7.64 148 P **Pn** 17 55 51.7 0.0
MMA0 **Mount Meron ar** 7.67 112 Pn **Pn** 17 55 50.2 -1.9
MMAI **Mount Meron Ar** 7.67 112 P **Pn** 17 55 51.1 -1.0
MMAI S **Sn** 17 57 13.2 -4.2
MMAI **Mount Meron Ar** 7.67 112 P **Pn** 17 55 51.1 -1.0
MMAI **Mount Meron Ar** 7.67 112 P **Pn** 17 55 51.1 -1.0
2.6nm,0.3s,baz=301,slow=12,SNR=13
MMAI S **Sn** 17 57 13.2 -4.2
37nm,0.3s,baz=291,slow=2.3,SNR=22
RSH 7.71 131 P **Pn** 17 55 51.5 -1.1
baz=129
RSH 7.71 131 P **Pn** 17 55 51.5 -1.1
LJBD **Adjabya** 7.73 229 *i* P **Pn** 17 55 52.0 -0.9
SNR=22
GLL **Jalalah** 7.74 148 P **Pn** 17 55 52.9 -0.2
baz=147
GLL **Jalalah** 7.74 148 P **Pn** 17 55 52.9 -0.2
KSDI **Kefar Szold** 7.78 110 Pn **Pn** 17 55 51.4 -2.1
SLTI **Sal'it** 7.79 118 Pn **Pn** 17 55 51.8 -1.9
MMLI **Mount Malkishu** 7.96 116 Pn **Pn** 17 55 54.7 -1.3
AWBH 8.05 168 P **Pn** 17 55 56.6 -0.7
baz=168
AWBH 8.05 168 P **Pn** 17 55 56.6 -0.7
HMDT **Nahal Hemdat** 8.13 117 Pn **Pn** 17 55 56.7 -1.5
KZIT **Kziot** 8.17 128 Pn **Pn** 17 55 58.2 -0.6
MZDA **Masada** 8.55 123 Pn **Pn** 17 56 03.2 -0.6
TIP **Timpagrande** 8.60 293 *e*Pn Pn 17 56 01.4 -3.2
RMNI **Mount Ramon** 8.61 128 Pn **Pn** 17 56 04.4 -0.4
HNKL **Nakhl** 8.61 135 P **Pn** 17 56 03.9 -0.9
baz=134
HNKL **Nakhl** 8.61 135 P **Pn** 17 56 03.9 -0.9
KRMI **Paran Flat** 8.92 131 Pn **Pn** 17 56 08.3 -0.6
PRNI **Paran** 8.93 129 Pn **Pn** 17 56 08.6 -0.4
HFRF **Wahat Farafira** 9.12 172 P **Pn** 17 56 10.8 -0.9
baz=173
HFRF **Wahat Farafira** 9.12 172 P **Pn** 17 56 10.8 -0.9
HRFI **Mount Harif** 9.17 130 Pn **Pn** 17 56 11.7 -0.5
MBRI **Mt Berech** 9.26 132 Pn **Pn** 17 56 12.8 -0.8
GRB **Gharib** 9.34 146 P **Pn** 17 56 14.6 -0.1
baz=146
GRB **Gharib** 9.34 146 P **Pn** 17 56 14.6 -0.1
EIL **Elat** 9.37 132 P **Pn** 17 56 15.4 +0.4
EIL S **Sn** 17 57 54.1 -4.6
EIL **Elat** 9.37 132 Pn **Pn** 17 56 14.3 -0.7
EIL **Elat** 9.37 132 P **Pn** 17 56 15.4 +0.4
EIL **Elat** 9.37 132 P **Pn** 17 56 15.4 +0.4
1.0nm,0.3s,baz=335,slow=14,SNR=5.1
EIL S **Sn** 17 57 54.1 -4.6
9.6nm,0.3s,baz=41,slow=12,SNR=13
CUC **Castrocucco** 9.55 297 *e*Pn **Pn** 17 56 14.6 -2.7
CUC *e*Sn Sn 17 57 48.2 -15
HBST **Basata** 9.58 135 P **Pn** 17 56 17.6 -0.2
baz=134
HBST **Basata** 9.58 135 P **Pn** 17 56 17.6 -0.2
TR2 9.69 142 P **Pn** 17 56 19.0 -0.3
baz=141
TR2 9.69 142 P **Pn** 17 56 19.0 -0.3
STON **Ston** 9.75 316 *i* Pn **Pn** 17 56 16.9 -2.9
HDHB **Dhahab** 9.89 137 P **Pn** 17 56 22.4 +0.5
baz=136
HDHB **Dhahab** 9.89 137 P **Pn** 17 56 22.4 +0.5
TR1 10.12 142 P **Pn** 17 56 24.6 -0.4
baz=141
TR1 10.12 142 P **Pn** 17 56 24.6 -0.4
HHRG **Al Ghardaqah** 10.60 146 P **Pn** 17 56 32.7 +1.3
baz=146
HHRG **Al Ghardaqah** 10.60 146 P **Pn** 17 56 32.7 +1.3
UDBI **Udbina** 11.89 318 *i* Pn **Pn** 17 56 47.1 -1.4
UDBI **Udbina** 11.89 318 *i* Pn **Pn** 17 56 47.0 -1.4
AQU **L'Aquila** 12.14 304 *e*Pn **Pn** 17 56 49.6 -2.2
AQU **L'Aquila** 12.14 304 *e*Pn **Pn** 17 56 49.6 -2.2
NVLJ **Novalja** 12.40 316 *e*Pn **Pn** 17 56 52.7 -2.4
NVLJ Sn Sn 17 59 02.1 -10
NVLJ **Novalja** 12.40 316 *e*Pn **Pn** 17 56 52.7 -2.4
PSZ **Piszkesteto** 12.80 338 P **Pn** 17 57 02.9 +2.6
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ **Piszkesteto** 12.80 338 Pn **Pn** 17 57 02.9 +2.6
comp=Z,7.5nm,1.0s
PSZ **Piszkesteto** 12.80 338 P **Pn** 17 57 02.9 +2.6
comp=Z,8.0nm,1.0s

UZH **Uzhgorod** 12.86 346 *e*P **Pn** 17 57 00.3 -0.7
UZH **Uzhgorod** 12.86 346 *e*P **Pn** 17 57 00.3 -0.7
KWP **Kalwaria Pacla** 13.75 348 P Pn 17 57 06.3 -6.2
KWP pmax pmax
comp=Z,30nm,0.3s
KWP **Kalwaria Pacla** 13.75 348 Pn Pn 17 57 06.3 -6.2
comp=Z,30nm,0.3s
KEST **Kesra** 14.27 273 P **P** 17 57 21.9 -0.8
KEST S Sn 17 59 49.3 -7.7
KEST **Kesra** 14.27 273 P **P** 17 57 21.9 -0.8
KEST **Kesra** 14.27 273 P **P** 17 57 21.9 -0.8
comp=Z,0.2nm,0.3s,baz=332,slow=1.9,SNR=12
KEST S Sn 17 59 49.3 -7.7
comp=Z,0.1nm,0.3s,baz=59,slow=20,SNR=5.7
KIV **Kislovodsk** 14.29 53 *e*P **P** 17 57 24.4 +1.5
KIV pmax pmax
comp=Z,31nm,1.1s
KIV **Kislovodsk** 14.29 53 *e*Pn **P** 17 57 24.1 +1.2
KIV **Kislovodsk** 14.29 53 *e*P **P** 17 57 24.4 +1.5
comp=Z,31nm,1.1s
KBZ **Khabaz** 14.32 54 P **P** 17 57 23.2 0.0
KBZ pmax pmax
comp=Z,2.0nm,0.3s
KBZ **Khabaz** 14.32 54 P **P** 17 57 23.1 0.0
KBZ **Khabaz** 14.32 54 P **P** 17 57 23.2 0.0
comp=Z,2.0nm,0.3s
KBZ **Khabaz** 14.32 54 P **P** 17 57 23.1 0.0
comp=Z,1.5nm,0.3s,baz=237,slow=7.0,SNR=72
AK02 **Malin Array Si** 14.52 6 *e*Pn **P** 17 57 24.8 -0.4
GNI **Garni** 14.53 69 *e*Pn **P** 17 57 24.5 -1.2
comp=Z,8.8nm,0.8s
GNI **Garni** 14.53 69 *e*Pn **P** 17 57 24.5 -1.2
comp=Z,8.8nm,0.8s
GNI **Garni** 14.53 69 *e*P **P** 17 57 25.7 0.0
comp=Z,26nm,1.7s
GNI **Garni** 14.53 69 P **P** 17 57 24.8 -0.9
comp=Z,0.6nm,0.3s,baz=342,slow=6.3,SNR=5.9
AK01 **Malin Array Si** 14.55 6 *e*Pn **P** 17 57 25.1 -0.5
AK01 **Malin Array Si** 14.55 6 *e*Pn **P** 17 57 25.1 -0.5
KIEV **Kiev** 14.55 6 *e*P **P** 17 57 25.7 +0.1
KIEV **Kiev** 14.55 6 *e*Pn **P** 17 57 25.6 +0.1
KIEV **Kiev** 14.55 6 *e*P **P** 17 57 25.7 +0.1
AKASG **Malin Array Be** 14.56 6 *ce*P **P** 17 57 25.1 -0.6
AKASG pmax pmax
comp=Z,20nm,0.6s
AKASG **Malin Array Be** 14.56 6 P **P** 17 57 24.5 -1.2
AKASG **Malin Array Be** 14.56 6 *e*P **P** 17 57 25.1 -0.6
comp=Z,20nm,0.6s
AKASG **Malin Array Be** 14.56 6 P **P** 17 57 24.5 -1.2
comp=Z,4.2nm,0.3s,baz=194,slow=11,SNR=23
AKBB **Malin Array Si** 14.56 6 *e*P **P** 17 57 25.2 -0.5
AKBB **Malin Array Si** 14.56 6 *e*Pn **P** 17 57 25.2 -0.5
AKBB **Malin Array Si** 14.56 6 *e*P **P** 17 57 25.2 -0.5
ZEI **Tsey** 14.62 58 *e*P **P** 17 57 26.9 +0.2
ZEI pmax pmax
comp=Z,9.0nm,0.6s
OKC **Ostrava-Krasne** 15.03 338 *e*P **P** 17 57 34.0 +3.0
OKC **Ostrava-Krasne** 15.03 338 *e*P **P** 17 57 34.0 +3.0
ABTA **Abfaltersbach** 15.06 319⇑ *i*Pn **Pn** 17 57 28.5 -0.7
comp=Z,3.0nm,0.5s
ABTA **Abfaltersbach** 15.06 319 Pn **Pn** 17 57 28.5 -0.7
comp=Z,3.0nm,0.5s
PGF **Pioggiola** 15.24 300 *e*P **Pn** 17 57 32.1 +0.6
PGF **Pioggiola** 15.24 300 *e*P **Pn** 17 57 32.1 +0.6
PGF **Pioggiola** 15.24 300 *e*P **Pn** 17 57 32.1 +0.6
PGF **Pioggiola** 15.24 300 *e*P **Pn** 17 57 32.1 +0.6
WTTA **Wattenberg** 15.85 319⇓ *i*P **P** 17 57 40.4 +0.1
comp=Z,3.3nm,0.5s
WTTA **Wattenberg** 15.85 319 P **P** 17 57 40.4 +0.1
comp=Z,3.3nm,0.5s
GERES **GERESS Array B** 15.92 326 P **Pn** 17 57 40.0 +0.2
GERES ScP **ScP** 18 05 49.9 -2.1
GERES **GERESS Array B** 15.92 326 P **Pn** 17 57 40.0 +0.2
GERES **GERESS Array B** 15.92 326 P **Pn** 17 57 40.0 +0.2
comp=Z,0.2nm,0.3s,baz=137,slow=12,SNR=22
GERES ScP **ScP** 18 05 49.9 -2.1
comp=Z,0.1nm,0.3s,baz=147,slow=2.0,SNR=5.1
DPC **Dobruska-Polom** 16.07 335 *e*P **P** 17 57 42.8 +0.2
DPC **Dobruska-Polom** 16.07 335 *e*P **P** 17 57 42.8 +0.2
DPC **Dobruska-Polom** 16.07 335 *e*P **P** 17 57 42.8 +0.2
KHC **Kasperske Hory** 16.18 327 *e*P **P** 17 57 43.2 -0.6
KHC pmax pmax
comp=Z,8.0nm,1.0s
KHC **Kasperske Hory** 16.18 327 *i* P **P** 17 57 43.3 -0.6
KHC **Kasperske Hory** 16.18 327 *e*Pn **P** 17 57 43.2 -0.6
comp=Z,8.2nm,1.0s
KHC **Kasperske Hory** 16.18 327 *e*P **P** 17 57 43.2 -0.6
comp=Z,8.0nm,1.0s
MOTA **Moosalm** 16.19 318⇓ *i*P **Pn** 17 57 43.3 +0.1
comp=Z,3.9nm,0.6s
MOTA **Moosalm** 16.19 318 P **Pn** 17 57 43.3 +0.1
comp=Z,3.9nm,0.6s
FETA **Feichten** 16.20 317⇑ *i*P **P** 17 57 44.6 +0.5
comp=Z,17nm,0.8s
FETA **Feichten** 16.20 317 P **P** 17 57 44.6 +0.5
comp=Z,17nm,0.8s
UPC **Upice** 16.31 334 *e*P **Pn** 17 57 44.6 0.0
UPC **Upice** 16.31 334 *e*P **Pn** 17 57 44.6 0.0
UPC **Upice** 16.31 334 *e*P **Pn** 17 57 44.6 0.0
RETA **Reutte** 16.46 316⇓ *i*P **P** 17 57 46.5 -0.4
comp=Z,5.4nm,0.8s
RETA **Reutte** 16.46 318 P **P** 17 57 46.5 -0.4
comp=Z,5.4nm,0.8s
DAVOX **Davos/Dischmat** 16.54 315 P **P** 17 57 48.0 +0.1
DAVOX **Davos/Dischmat** 16.54 315 P **P** 17 57 48.0 +0.1
comp=Z,1.0nm,0.3s
DAVOX **Davos/Dischmat** 16.54 315 P **P** 17 57 48.0 +0.1
comp=Z,0.6nm,0.3s,baz=166,slow=16,SNR=6.1
SBF **Sospel** 16.75 303 *e*P **Pn** 17 57 48.4 -1.7
comp=Z,20nm,0.6s
SBF **Sospel** 16.75 303 *e*P **Pn** 17 57 48.4 -1.7
SBF pmax pmax
comp=Z,20nm,0.6s
SBF **Sospel** 16.75 303 *e*P **Pn** 17 57 48.4 -1.7
comp=Z,20nm,0.6s
SBF **Sospel** 16.75 303 *e*P **Pn** 17 57 48.4 -1.7
comp=Z,9.9nm,0.6s
DAVA **Damuels** 16.82 316⇓ *i*Pn **P** 17 57 51.1 +0.1
comp=Z,6.3nm,0.7s
DAVA **Damuels** 16.82 316 P **P** 17 57 51.1 +0.1
comp=Z,6.3nm,0.7s
FRF **La Foret Royal** 17.19 301 *e*P **P** 17 57 54.0 -0.9
FRF **La Foret Royal** 17.19 301 *e*P **P** 17 57 54.0 -0.9
FRF **La Foret Royal** 17.19 301 *e*P **P** 17 57 54.0 -0.9
FRF **La Foret Royal** 17.19 301 *e*P **P** 17 57 54.0 -0.9
VSR **Storozhevoye** 17.35 26 *e*P **P** 17 57 56.5 -0.1
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,3.0nm,0.5s
VSR pmax pmax
comp=Z,7.0nm,0.5s
VSR **Storozhevoye** 17.35 26 *e*P **P** 17 57 56.5 -0.1
MBDF **Montbardon** 17.51 305 *e*P **P** 17 57 56.8 -1.8
comp=Z,25nm,0.6s
MBDF **Montbardon** 17.51 305 *e*P **P** 17 57 56.8 -1.8
MBDF pmax pmax
comp=Z,25nm,0.6s
MBDF **Montbardon** 17.51 305 *e*P **P** 17 57 56.8 -1.8
comp=Z,25nm,0.6s
MBDF **Montbardon** 17.51 305 *e*P **P** 17 57 56.8 -1.8
comp=Z,12nm,0.6s
BNI **Bardonecchia** 17.70 306 P **P** 17 58 00.0 -0.6
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI **Bardonecchia** 17.70 306 Pn **P** 17 58 00.0 -0.6
comp=Z,10nm,1.0s
BNI **Bardonecchia** 17.70 306 P **P** 17 58 00.0 -0.6
comp=Z,10.0nm,1.0s
LPG **La Plagne** 17.83 308 *e*P **P** 17 58 01.8 -0.4
comp=Z,15nm,0.7s
LPG **La Plagne** 17.83 308 *e*P **P** 17 58 01.8 -0.4
LPG pmax pmax
comp=Z,15nm,0.7s
LPG **La Plagne** 17.83 308 *e*P **P** 17 58 01.8 -0.4
comp=Z,15nm,0.7s
LPG **La Plagne** 17.83 308 *e*P **P** 17 58 01.8 -0.4
comp=Z,7.3nm,0.7s
LPL **La Plagne** 17.85 308 *e*P **P** 17 58 02.0 -0.3
comp=Z,12nm,0.6s
LPL **La Plagne** 17.85 308 *e*P **P** 17 58 02.0 -0.3
LPL pmax pmax
comp=Z,12nm,0.6s
LPL **La Plagne** 17.85 308 *e*P **P** 17 58 02.0 -0.3
comp=Z,12nm,0.6s

LPL **La Plagne** 17.85 308 *e*P **P** 17 58 02.0 -0.3
comp=Z,5.8nm,0.6s
SENIN **Lac Senin/Sane** 17.86 311 *e*P **P** 17 58 01.9 -0.6
comp=Z,12nm,0.5s
SENIN **Lac Senin/Sane** 17.86 311 *e*P **P** 17 58 01.9 -0.6
comp=Z,12nm,0.5s
SMRF **Simiane la Rot** 18.06 302 *e*P **P** 17 58 03.9 -0.6
SMRF **Simiane la Rot** 18.06 302 *e*P **P** 17 58 03.9 -0.6
SMRF **Simiane la Rot** 18.06 302 *e*P **P** 17 58 03.9 -0.6
ORIF **Oris-en-Rattie** 18.17 305 *e*P **P** 17 58 04.1 -1.6
ORIF **Oris-en-Rattie** 18.17 305 *e*P **P** 17 58 04.1 -1.6
ORIF **Oris-en-Rattie** 18.17 305 *e*P **P** 17 58 04.1 -1.6
ORIF **Oris-en-Rattie** 18.17 305 *e*P **P** 17 58 04.1 -1.6
VRHR **Novokhopersk** 18.21 31 *e*P **Pn** 17 58 07.2 -0.2
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR **Novokhopersk** 18.21 31 *e*P **Pn** 17 58 07.2 -0.2
CABF **La Chapelle** 18.72 310 *e*P **P** 17 58 10.2 -1.5
comp=Z,26nm,0.7s
CABF **La Chapelle** 18.72 310 *e*P **P** 17 58 10.2 -1.5
CABF pmax pmax
comp=Z,26nm,0.7s
CABF **La Chapelle** 18.72 310 *e*P **P** 17 58 10.2 -1.5
comp=Z,26nm,0.7s
CABF **La Chapelle** 18.72 310 *e*P **P** 17 58 10.2 -1.5
comp=Z,13nm,0.7s
HINF **Hinteralfeld** 18.83 314 *e*P **P** 17 58 11.9 -1.0
HINF **Hinteralfeld** 18.83 314 *e*P **P** 17 58 11.9 -1.0
HINF **Hinteralfeld** 18.83 314 *e*P **P** 17 58 11.9 -1.0
HINF **Hinteralfeld** 18.83 314 *e*P **P** 17 58 11.9 -1.0
CDF **Champ du Feu** 18.91 316 *e*P **P** 17 58 13.4 -0.3
comp=Z,14nm,0.8s
CDF **Champ du Feu** 18.91 316 *e*P **P** 17 58 13.4 -0.3
CDF pmax pmax
comp=Z,14nm,0.8s
CDF **Champ du Feu** 18.91 316 *e*P **P** 17 58 13.4 -0.3
comp=Z,14nm,0.8s
CDF **Champ du Feu** 18.91 316 *e*P **P** 17 58 13.4 -0.3
comp=Z,6.8nm,0.8s
VIVF **Saint-Julien-l** 18.95 304 *e*P **P** 17 58 13.4 -0.8
comp=Z,30nm,0.6s
VIVF **Saint-Julien-l** 18.95 304 *e*P **P** 17 58 13.4 -0.8
VIVF pmax pmax
comp=Z,30nm,0.6s
VIVF **Saint-Julien-l** 18.95 304 *e*P **P** 17 58 13.4 -0.8
comp=Z,30nm,0.6s
VIVF **Saint-Julien-l** 18.95 304 *e*P **P** 17 58 13.4 -0.8
comp=Z,15nm,0.6s
HAU **Haudompre** 19.22 314 *e*P **P** 17 58 15.9 -1.2
comp=Z,6.9nm,0.4s
HAU **Haudompre** 19.22 314 *e*P **P** 17 58 15.9 -1.2
HAU pmax pmax
comp=Z,7.0nm,0.4s
HAU **Haudompre** 19.22 314 *e*P **P** 17 58 15.9 -1.2
comp=Z,6.9nm,0.4s
HAU **Haudompre** 19.22 314 *e*P **P** 17 58 15.9 -1.2
comp=Z,3.5nm,0.4s
PAGF **Fort de Pagny** 19.86 315 *e*P **P** 17 58 22.5 -1.5
comp=Z,2.0nm,0.6s
PAGF **Fort de Pagny** 19.86 315 *e*P **P** 17 58 22.5 -1.5
comp=Z,2.0nm,0.6s
PAGF **Fort de Pagny** 19.86 315 *e*P **P** 17 58 22.5 -1.5
comp=Z,1.0nm,0.6s
OBN **Obninsk** 20.01 16⇑ *e*P **P** 17 58 26.8 +1.3
OBN *i* S **S** 18 02 06.3 +3.0
OBN pmax pmax
comp=Z,28nm,2.5s
OBN **Obninsk** 20.01 16 *e*P **P** 17 58 26.8 +1.3
comp=Z,28nm,2.5s
SFTF **Sexfontaines** 20.09 313 *e*P **P** 17 58 25.6 -0.8
comp=Z,11nm,0.5s
SFTF **Sexfontaines** 20.09 313 *e*P **P** 17 58 25.6 -0.8
comp=Z,11nm,0.5s
SFTF **Sexfontaines** 20.09 313 *e*P **P** 17 58 25.6 -0.8
comp=Z,5.6nm,0.5s
SMF **Signal de Mont** 20.14 308 *e*P **P** 17 58 25.5 -1.5
comp=Z,18nm,0.7s
SMF **Signal de Mont** 20.14 308 *e*P **P** 17 58 25.5 -1.5
SMF pmax pmax
comp=Z,18nm,0.7s
SMF **Signal de Mont** 20.14 308 *e*P **P** 17 58 25.5 -1.5
comp=Z,18nm,0.7s
SMF **Signal de Mont** 20.14 308 *e*P **P** 17 58 25.5 -1.5
comp=Z,9.1nm,0.7s
MEZF **Maizieres J'vi** 20.22 314 *e*P **P** 17 58 26.6 -1.2
comp=Z,11nm,0.6s
MEZF **Maizieres J'vi** 20.22 314 *e*P **P** 17 58 26.6 -1.2
comp=Z,11nm,0.6s
MEZF **Maizieres J'vi** 20.22 314 *e*P **P** 17 58 26.6 -1.2
comp=Z,5.3nm,0.6s
MTLF **Montolieu** 20.25 298 *e*P **P** 17 58 26.7 -1.5
comp=Z,8.6nm,0.7s
MTLF **Montolieu** 20.25 298 *e*P **P** 17 58 26.7 -1.5
MTLF pmax pmax
comp=Z,9.0nm,0.7s
MTLF **Montolieu** 20.25 298 *e*P **P** 17 58 26.7 -1.5
comp=Z,8.0nm,0.7s
MTLF **Montolieu** 20.25 298 *e*P **P** 17 58 26.7 -1.5
comp=Z,4.3nm,0.7s
LOR **Lormes** 20.38 310 *e*P **P** 17 58 28.0 -1.6
comp=Z,10nm,0.8s
LOR **Lormes** 20.38 310 *e*P **P** 17 58 28.0 -1.6
comp=Z,10nm,0.8s
LOR **Lormes** 20.38 310 *e*P **P** 17 58 28.0 -1.6
comp=Z,5.2nm,0.8s
AVF **Avril sur Loir** 20.51 308 *e*P **P** 17 58 29.3 -1.6
AVF **Avril sur Loir** 20.51 308 *e*P **P** 17 58 29.3 -1.6
AVF **Avril sur Loir** 20.51 308 *e*P **P** 17 58 29.3 -1.6
AVF **Avril sur Loir** 20.51 308 *e*P **P** 17 58 29.3 -1.6
SSF **Saint Saulge** 20.52 309 *e*P **P** 17 58 29.7 -1.3
comp=Z,21nm,0.6s
SSF **Saint Saulge** 20.52 309 *e*P **P** 17 58 29.7 -1.3
SSF pmax pmax
comp=Z,21nm,0.6s
SSF **Saint Saulge** 20.52 309 *e*P **P** 17 58 29.7 -1.3
comp=Z,21nm,0.6s
SSF **Saint Saulge** 20.52 309 *e*P **P** 17 58 29.7 -1.3
comp=Z,10nm,0.6s
CAF **Calviac** 20.74 302 *e*P **P** 17 58 32.4 -1.1
comp=Z,20nm,0.9s
CAF **Calviac** 20.74 302 *e*P **P** 17 58 32.4 -1.1
CAF pmax pmax
comp=Z,20nm,0.9s
CAF **Calviac** 20.74 302 *e*P **P** 17 58 32.4 -1.1
comp=Z,20nm,0.9s
CAF **Calviac** 20.74 302 *e*P **P** 17 58 32.4 -1.1
comp=Z,10nm,0.9s
BGF **Bois d'Agland** 20.75 307 *e*P **P** 17 58 32.3 -1.2
comp=Z,15nm,0.6s
BGF **Bois d'Agland** 20.75 307 *e*P **P** 17 58 32.3 -1.2
BGF pmax pmax
comp=Z,15nm,0.6s
BGF **Bois d'Agland** 20.75 307 *e*P **P** 17 58 32.3 -1.2
comp=Z,15nm,0.6s
BGF **Bois d'Agland** 20.75 307 *e*P **P** 17 58 32.3 -1.2
comp=Z,7.7nm,0.6s
TCF **Toulx Ste Croi** 21.06 306 *e*P **P** 17 58 36.9 0.0
comp=Z,10nm,0.7s
TCF **Toulx Ste Croi** 21.06 306 *e*P **P** 17 58 36.9 0.0
TCF pmax pmax
comp=Z,10.0nm,0.7s
TCF **Toulx Ste Croi** 21.06 306 *e*P **P** 17 58 36.9 0.0
comp=Z,10nm,0.7s
TCF **Toulx Ste Croi** 21.06 306 *e*P **P** 17 58 36.9 0.0
comp=Z,5.1nm,0.7s
GIVF **Givet** 21.17 318 *e*P **P** 17 58 36.9 -1.1
GIVF **Givet** 21.17 318 *e*P **P** 17 58 36.9 -1.1
GIVF **Givet** 21.17 318 *e*P **P** 17 58 36.9 -1.1
GIVF **Givet** 21.17 318 *e*P **P** 17 58 36.9 -1.1
RJF **Les Rejaudoux** 21.22 303 *e*P **P** 17 58 37.5 -1.1
comp=Z,13nm,0.7s
RJF **Les Rejaudoux** 21.22 303 *e*P **P** 17 58 37.5 -1.1
RJF pmax pmax
comp=Z,13nm,0.7s
RJF **Les Rejaudoux** 21.22 303 *e*P **P** 17 58 37.5 -1.1
comp=Z,13nm,0.7s
RJF **Les Rejaudoux** 21.22 303 *e*P **P** 17 58 37.5 -1.1
comp=Z,6.3nm,0.7s
BAIF **Baives** 21.49 317 *e*P **P** 17 58 39.8 -1.6
comp=Z,6.8nm,0.6s
BAIF **Baives** 21.49 317 *e*P **P** 17 58 39.8 -1.6
BAIF pmax pmax

	comp=Z,7.0nm,0.6s								
BAIF	**Baives**	**21.49**	**317**	*e*P		**P**	**17 58 39.8**	**-1.6**
	comp=Z,6.8nm,0.6s								
BAIF	**Baives**	**21.49**	**317**	*e*P		**P**	**17 58 39.8**	**-1.6**
	comp=Z,3.4nm,0.6s								
EPF	**Esparros**	**21.54**	**297**	*e*P		**P**	**17 58 41.3**	**-0.8**
EPF	**Esparros**	**21.54**	**297**	*e*P		**P**	**17 58 41.3**	**-0.8**
EPF	**Esparros**	**21.54**	**297**	*e*P		**P**	**17 58 41.3**	**-0.8**
EPF	**Esparros**	**21.54**	**297**	*e*P		**P**	**17 58 41.3**	**-0.8**
LFF	**La Frestale**	**21.65**	**302**	*e*P		**P**	**17 58 42.3**	**-0.9**
LFF	**La Frestale**	**21.65**	**302**	*e*P		**P**	**17 58 42.3**	**-0.9**
LFF	**La Frestale**	**21.65**	**302**	*e*P		**P**	**17 58 42.3**	**-0.9**
LFF	**La Frestale**	**21.65**	**302**	*e*P		**P**	**17 58 42.3**	**-0.9**
ETSF	**Etsaut**	**22.17**	**296**	*e*P		**P**	**17 58 47.9**	**-0.8**
ETSF	**Etsaut**	**22.17**	**296**	*e*P		**P**	**17 58 47.9**	**-0.8**
ETSF	**Etsaut**	**22.17**	**296**	*e*P		**P**	**17 58 47.9**	**-0.8**
ETSF	**Etsaut**	**22.17**	**296**	*e*P		**P**	**17 58 47.9**	**-0.8**
VSU	**Vasula**	**22.25**	**360**	*e*P		**P**	**17 58 49.6**	**+0.4**
VSU					pmax	pmax			
	comp=Z,19nm,0.8s								
VSU	**Vasula**	**22.25**	**360**	*e*P		**P**	**17 58 49.6**	**+0.4**
	comp=Z,19nm,0.8s								
SJPF	**Ste Jean**	**22.68**	**296**	*e*P		**P**	**17 58 52.7**	**-1.0**
SJPF	**Ste Jean**	**22.68**	**296**	*e*P		**P**	**17 58 52.7**	**-1.0**
SJPF	**Ste Jean**	**22.68**	**296**	*e*P		**P**	**17 58 52.7**	**-1.0**
SJPF	**Ste Jean**	**22.68**	**296**	*e*P		**P**	**17 58 52.7**	**-1.0**
MFF	**Saint Martin d**	**22.71**	**306**	*e*P		**P**	**17 58 51.9**	**-2.0**
	comp=Z,14nm,0.6s								
MFF	**Saint Martin d**	**22.71**	**306**	*e*P		**P**	**17 58 51.9**	**-2.0**
MFF					pmax	pmax			
	comp=Z,14nm,0.6s								
MFF	**Saint Martin d**	**22.71**	**306**	*e*P		**P**	**17 58 51.9**	**-2.0**
	comp=Z,14nm,0.6s								
MFF	**Saint Martin d**	**22.71**	**306**	*e*P		**P**	**17 58 51.9**	**-2.0**
	comp=Z,7.2nm,0.6s								
TAM	**Tamanrasset**	**22.89**	**240**	*e*P		**P**	**17 58 57.4**	**+1.4**
TAM					pmax	pmax			
	comp=Z,5.0nm,0.6s								
TAM	**Tamanrasset**	**22.89**	**240**	*e*Pn		**P**	**17 58 57.4**	**+1.4**
	comp=Z,5.4nm,0.6s								
TAM	**Tamanrasset**	**22.89**	**240**	*e*P		**P**	**17 58 57.4**	**+1.4**
	comp=Z,5.0nm,0.6s								
LDF	**La Druitiere**	**23.36**	**310**	*e*P		**P**	**17 58 58.3**	**-1.7**
	comp=Z,12nm,0.6s								
LDF	**La Druitiere**	**23.36**	**310**	*e*P		**P**	**17 58 58.3**	**-1.7**
LDF					pmax	pmax			
	comp=Z,12nm,0.6s								
LDF	**La Druitiere**	**23.36**	**310**	*e*P		**P**	**17 58 58.3**	**-1.7**
	comp=Z,12nm,0.6s								
LDF	**La Druitiere**	**23.36**	**310**	*e*P		**P**	**17 58 58.3**	**-1.7**
	comp=Z,5.8nm,0.6s								
FLN	**La Foliniere**	**23.65**	**311**	*e*P		**P**	**17 59 00.6**	**-2.0**
	comp=Z,13nm,0.6s								
FLN	**La Foliniere**	**23.65**	**311**	*e*P		**P**	**17 59 00.6**	**-2.0**
FLN					pmax	pmax			
	comp=Z,13nm,0.6s								
FLN	**La Foliniere**	**23.65**	**311**	*e*P		**P**	**17 59 00.6**	**-2.0**
	comp=Z,13nm,0.6s								
FLN	**La Foliniere**	**23.65**	**311**	*e*P		**P**	**17 59 00.6**	**-2.0**
	comp=Z,6.3nm,0.6s								
GRR	**Gorron**	**23.75**	**309**	*e*P		**P**	**17 59 01.5**	**-1.9**
GRR	**Gorron**	**23.75**	**309**	*e*P		**P**	**17 59 01.5**	**-1.9**
GRR	**Gorron**	**23.75**	**309**	*e*P		**P**	**17 59 01.5**	**-1.9**
GRR	**Gorron**	**23.75**	**309**	*e*P		**P**	**17 59 01.5**	**-1.9**
ESDC	**Sonseca Array**	**24.56**	**287**	P		**P**	**17 59 10.7**	**-0.3**
ESDC	**Sonseca Array**	**24.56**	**287**	P		**P**	**17 59 10.7**	**-0.3**
ESDC	**Sonseca Array**	**24.56**	**287**	P		**P**	**17 59 10.7**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=75,slow=9.4,SNR=10								
QUIF	**Quistinic**	**25.06**	**307**	*e*P		**P**	**17 59 15.8**	**+0.5**
QUIF	**Quistinic**	**25.06**	**307**	*e*P		**P**	**17 59 15.8**	**+0.5**
QUIF	**Quistinic**	**25.06**	**307**	*e*P		**P**	**17 59 15.8**	**+0.5**
QUIF	**Quistinic**	**25.06**	**307**	*e*P		**P**	**17 59 15.8**	**+0.5**
FINES	**FINESS Array B**	**25.24**	**359**	P		**P**	**17 59 16.6**	**-0.2**
FINES					ScP	**ScP**	**18 06 12.1**	**-1.8**
FINES	**FINESS Array B**	**25.24**	**359**	P		**P**	**17 59 16.6**	**-0.2**
	comp=Z,2.0nm,1.0s								
FINES	**FINESS Array B**	**25.24**	**359**	P		**P**	**17 59 16.6**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=162,slow=13,SNR=4.4								
FINES					ScP	**ScP**	**18 06 12.1**	**-1.8**
	comp=Z,2.3nm,1.0s,baz=164,slow=3.4,SNR=4.3								
ROSF	**Rostrenen**	**25.25**	**308**	*e*P		**P**	**17 59 17.0**	**-0.1**
ROSF	**Rostrenen**	**25.25**	**308**	*e*P		**P**	**17 59 17.0**	**-0.1**
ROSF	**Rostrenen**	**25.25**	**308**	*e*P		**P**	**17 59 17.0**	**-0.1**
ROSF	**Rostrenen**	**25.25**	**308**	*e*P		**P**	**17 59 17.0**	**-0.1**
MDT	**Midelt**	**26.17**	**272**	P		**P**	**17 59 26.0**	**+0.3**
MDT	**Midelt**	**26.17**	**272**	P		**P**	**17 59 26.0**	**+0.3**
MDT	**Midelt**	**26.17**	**272**	P		**P**	**17 59 26.0**	**+0.3**
	comp=Z,7nm,0.8s,baz=117,slow=9.8,SNR=4.7								
AKTK	**Aktyubinsk**	**26.46**	**48**	P		**P**	**17 59 27.8**	**-0.1**
	comp=Z,2.0nm,0.4s								
AKTO	**Aktyubinsk**	**26.46**	**48**	P		**P**	**17 59 27.8**	**-0.1**
AKTO					pmax	pmax			
	comp=Z,2.0nm,0.4s								
AKTO	**Aktyubinsk**	**26.46**	**48**	P		**P**	**17 59 27.8**	**-0.1**
AKTO	**Aktyubinsk**	**26.46**	**48**	P		**P**	**17 59 27.8**	**-0.1**
AKTO	**Aktyubinsk**	**26.46**	**48**	P		**P**	**17 59 27.8**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=250,slow=8.1,SNR=12								
AB31	**Akbulak array**	**27.27**	**51**	*e*P		**P**	**17 59 35.3**	**+0.1**
AB31					pmax	pmax			
	comp=Z,1.0nm,0.2s								
AB31	**Akbulak array**	**27.27**	**51**	*e*P		**P**	**17 59 35.3**	**+0.1**
	comp=Z,1.0nm,0.2s								
ABKAR	**Akbulak array**	**27.27**	**51**	*e*P		**P**	**17 59 34.0**	**-1.2**
ABKAR	**Akbulak array**	**27.27**	**51**	*e*P		**P**	**17 59 34.0**	**-1.2**
ARU	**Arti**	**29.33**	**36**	*e*P		**P**	**17 59 52.8**	**-0.6**
ARU					pmax	pmax			
	comp=Z,2.0nm,0.4s								
ARU	**Arti**	**29.33**	**36**	*e*P		**P**	**17 59 52.8**	**-0.6**
	comp=Z,2.2nm,0.4s								
ARU	**Arti**	**29.33**	**36**	*e*P		**P**	**17 59 52.8**	**-0.6**
	comp=Z,2.2nm,0.4s								
TOA0	**Torodi Ar. Sit**	**32.29**	**231**	*e*P		**P**	**18 00 20.1**	**+0.2**
TOA0				*e*pP		**pP**	**18 00 47.1**	**-0.5**
TOA0	**Torodi Ar. Sit**	**32.29**	**231**	*e*P		**P**	**18 00 20.1**	**+0.2**
TOA0				*e*pP		**pP**	**18 00 47.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**32.29**	**231**	P		**P**	**18 00 20.5**	**+0.6**
TORD				PcP		**PcP**	**18 03 05.4**	**+0.3**
TORD				ScP		**ScP**	**18 06 36.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**32.29**	**231**	P		**P**	**18 00 20.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**32.29**	**231**	P		**P**	**18 00 20.5**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=33,slow=8.8,SNR=78								
TORD				PcP		**PcP**	**18 03 05.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=26,slow=1.9,SNR=4.6								
TORD				ScP		**ScP**	**18 06 36.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=39,slow=1.9,SNR=2.9								
ARCES	**ARCESS Array B**	**33.37**	**359**	P		**P**	**18 00 27.3**	**-1.5**
ARCES	**ARCESS Array B**	**33.37**	**359**	P		**P**	**18 00 27.3**	**-1.5**
	comp=Z,2.0nm,0.9s								
ARCES	**ARCESS Array B**	**33.37**	**359**	P		**P**	**18 00 27.3**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=172,slow=7.3,SNR=4.4								
KK31	**Karatay Array**	**33.93**	**65**	*e*P		**P**	**18 00 34.8**	**+0.9**
KK31					pmax	pmax			
	comp=Z,2.0nm,0.4s								
KK31	**Karatay Array**	**33.93**	**65**	*e*P		**P**	**18 00 34.8**	**+0.9**
	comp=Z,2.0nm,0.4s								
KKAR	**Karatay Array**	**33.93**	**65**	*e*P		**P**	**18 00 34.8**	**+0.9**
KKAR	**Karatay Array**	**33.93**	**65**	*e*P		**P**	**18 00 34.8**	**+0.9**
KKAR	**Karatay Array**	**33.93**	**65**	*e*P		**P**	**18 00 34.8**	**+0.9**
KBL	**Kabul**	**34.17**	**80**	P		**P**	**18 00 35.2**	**-1.1**
KBL					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KBL	**Kabul**	**34.17**	**80**	P		**P**	**18 00 35.2**	**-1.1**
	comp=Z,2.3nm,0.6s								
KBL	**Kabul**	**34.17**	**80**	P		**P**	**18 00 35.2**	**-1.1**
	comp=Z,2.3nm,0.6s								
BRVK	**Borovoye**	**34.50**	**47**	*e*P		**P**	**18 00 39.9**	**+1.2**
BRVK					pmax	pmax			
	comp=Z,3.0nm,1.7s								
BRVK	**Borovoye**	**34.50**	**47**	*e*P		**P**	**18 00 38.8**	**+0.1**
	comp=Z,3.6nm,0.8s								
BRVK	**Borovoye**	**34.50**	**47**	*e*P		**P**	**18 00 38.8**	**+0.1**
	comp=Z,3.6nm,0.8s								
BVAR	**Borovoye Array**	**34.55**	**47**	P		**P**	**18 00 39.2**	**0.0**
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**34.55**	**47**	P		**P**	**18 00 39.2**	**0.0**
BVAR	**Borovoye Array**	**34.55**	**47**	P		**P**	**18 00 39.2**	**0.0**
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**34.55**	**47**	P		**P**	**18 00 39.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=243,slow=6.5,SNR=8.2								
EKS2	**Erkin-Say**	**36.35**	**65**	*e*P		**P**	**18 00 56.2**	**+1.4**
EKS2					pmax	pmax			
	comp=Z,11nm,0.9s								
EKS2	**Erkin-Say**	**36.35**	**65**	P		**P**	**18 00 56.5**	**+1.7**
	SNR=6.2								
EKS2	**Erkin-Say**	**36.35**	**65**	*e*P		**P**	**18 00 56.2**	**+1.4**
	comp=Z,11nm,0.9s								
EKS2	**Erkin-Say**	**36.35**	**65**	*e*P		**P**	**18 00 56.2**	**+1.4**
	comp=Z,11nm,0.9s								
AAK	**Ala-Archa**	**36.88**	**65**	*d* iP		**P**	**18 01 00.9**	**+1.5**
AAK					pmax	pmax			
	comp=Z,16nm,0.7s								
AAK	**Ala-Archa**	**36.88**	**65**	P		**P**	**18 01 01.1**	**+1.8**
	SNR=13								
AAK	**Ala-Archa**	**36.88**	**65**	*e*P		**P**	**18 01 00.5**	**+1.1**
	comp=Z,8.7nm,0.5s								
AAK	**Ala-Archa**	**36.88**	**65**	*e*P		**P**	**18 01 00.4**	**+1.1**
	comp=Z,8.7nm,0.5s								
UCH	**Uchtor**	**36.94**	**66**	*i* P		**P**	**18 01 01.6**	**+1.4**
UCH	**Uchtor**	**36.94**	**66**	P		**P**	**18 01 01.6**	**+1.4**
	SNR=6.6								
UCH	**Uchtor**	**36.94**	**66**	*i* P		**P**	**18 01 01.6**	**+1.4**
CHMS	**Chumysh**	**37.03**	**64**	*i* P		**P**	**18 01 01.7**	**+1.3**
CHMS	**Chumysh**	**37.03**	**64**	P		**P**	**18 01 01.8**	**+1.3**
	SNR=7.4								
CHMS	**Chumysh**	**37.03**	**64**	*i* P		**P**	**18 01 01.7**	**+1.3**
KZA	**Kyzart**	**37.51**	**66**	*i* P		**P**	**18 01 07.0**	**+2.1**
KZA	**Kyzart**	**37.51**	**66**	P		**P**	**18 01 07.0**	**+2.1**
	SNR=9.4								
KZA	**Kyzart**	**37.51**	**66**	*i* P		**P**	**18 01 07.0**	**+2.1**
TKM2	**Tokmak 2**	**37.66**	**64**	*e*P		**P**	**18 01 06.6**	**+0.7**
TKM2				*e**PP		**pP**	**18 01 35.4**	**+1.2**
TKM2					pmax	pmax			
	comp=Z,5.0nm,0.6s								
TKM2	**Tokmak 2**	**37.66**	**64**	P		**P**	**18 01 07.1**	**+1.2**
	SNR=8.9								
TKM2	**Tokmak 2**	**37.66**	**64**	*e*P		**P**	**18 01 06.6**	**+0.7**
	comp=Z,5.3nm,0.6s								
TKM2				*e*pP		**pP**	**18 01 35.4**	**+1.2**
TKM2	**Tokmak 2**	**37.66**	**64**	*e*P		**P**	**18 01 06.6**	**+0.7**
	comp=Z,5.3nm,0.6s								
ULHL	**Ulahol**	**38.21**	**65**	*i* P		**P**	**18 01 12.4**	**+1.8**
ULHL	**Ulahol**	**38.21**	**65**	P		**P**	**18 01 12.4**	**+1.8**
	SNR=8.4								
ULHL	**Ulahol**	**38.21**	**65**	*i* P		**P**	**18 01 12.4**	**+1.8**
KSH	**Kashi**	**38.46**	**70**	P		**P**	**18 01 12.4**	**-0.2**
KSH				pP		**pP**	**18 01 40.2**	**-0.7**
KSH				sP		**sP**	**18 01 55.2**	**-0.2**
KSH				PP		**PnPn**	**18 02 46.4**	**+0.1**
KSH				PcP		**PcP**	**18 03 26.8**	**+3.7**
KSH				S		**S**	**18 06 55.3**	**-3.2**
KSH				sS		**sS**	**18 07 45.4**	**-2.3**
KSH				SS		SS	18 09 41.8	-11
KSH				pmax	pmax			
	comp=Z,8.0nm,0.4s								
KSH					pmax	pmax			
	comp=Z,310nm,5.3s								
KURK	**Kurchatov**	**39.38**	**52**	*e*P		**P**	**18 01 20.3**	**+0.4**
KURK					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KURK	**Kurchatov**	**39.38**	**52**	*e*P		**P**	**18 01 20.3**	**+0.4**
	comp=Z,5.7nm,0.9s								
KURK	**Kurchatov**	**39.38**	**52**	*e*P		**P**	**18 01 20.3**	**+0.4**
	comp=Z,5.7nm,0.9s								
DBIC	**Dimbokro**	**41.37**	**232**	*e*P		**P**	**18 01 36.7**	**0.0**
	comp=Z,4.6nm,0.4s								
DBIC	**Dimbokro**	**41.37**	**232**	P		**P**	**18 01 37.0**	**+0.3**
	comp=Z,4.4nm,0.3s,baz=24,slow=9.0,SNR=24								
TIC	**Toumodi**	**41.50**	**233**	*e*P		**P**	**18 01 37.6**	**-0.2**
	comp=Z,5.2nm,0.2s								
KIC	**Kosan Boka**	**41.53**	**232**	*e*P		**P**	**18 01 38.1**	**+0.1**
	comp=Z,4.0nm,0.2s								
LIC	**Lamto**	**41.82**	**232**	*e*P		**P**	**18 01 40.1**	**-0.3**
	comp=Z,8.7nm,0.5s								
LIC	**Lamto**	**41.82**	**232**	*e*P		**P**	**18 01 40.4**	**0.0**
	comp=Z,16nm,0.5s								
LIC	**Lamto**	**41.82**	**232**	*e*P		**P**	**18 01 40.1**	**-0.3**
	comp=Z,8.7nm,0.5s								
MK31	**Makanchi Array**	**41.97**	**58**	*e*P		**P**	**18 01 42.0**	**+0.7**
MK31					pmax	pmax			
	comp=Z,7.0nm,0.3s								
MK31	**Makanchi Array**	**41.97**	**58**	*e*P		**P**	**18 01 42.1**	**+0.7**
MKAR	**Makanchi Array**	**41.97**	**58**	P		**P**	**18 01 42.2**	**+0.9**
MKAR					pmax	pmax			
	comp=Z,15nm,0.5s								
MKAR					pmax	pmax			
	comp=N,1.0nm,0.6s								
MKAR	**Makanchi Array**	**41.97**	**58**	P		**P**	**18 01 42.2**	**+0.9**
MKAR				ScP		**ScP**	**18 07 12.1**	**-0.6**
MKAR	**Makanchi Array**	**41.97**	**58**	P		**P**	**18 01 42.2**	**+0.9**
	comp=N,15nm,0.5s,baz=270,slow=8.2,SNR=188								
MKAR				ScP		**ScP**	**18 07 12.1**	**-0.6**
	comp=N,0.9nm,0.6s,baz=271,slow=3.3,SNR=7.4								
NVS	**Novosibirsk**	**42.30**	**46**	*e*P		**P**	**18 01 43.0**	**-0.8**
ZAA0	**Zalesovo Array**	**43.21**	**47**	*e*P		**P**	**18 01 50.8**	**-0.3**
ZAA0				*e*			18 02 07.0	
ZALV	**Zalesovo Beam**	**43.21**	**47**	P		**P**	**18 01 51.1**	**-0.1**
ZALV					pmax	pmax			
	comp=Z,11nm,0.4s								
ZALV	**Zalesovo Beam**	**43.21**	**47**	P		**P**	**18 01 51.1**	**-0.1**
ZALV	**Zalesovo Beam**	**43.21**	**47**	P		**P**	**18 01 51.1**	**-0.1**
	comp=Z,11nm,0.4s,baz=270,slow=8.6,SNR=66								
WMQ	**Urumqi**	**46.21**	**61**	*e*P		**P**	**18 02 17.0**	**+1.8**
WMQ					pmax	pmax			
	comp=Z,10.0nm,0.9s								
DANN	**Dangsing**	**48.08**	**82**	*e*P		**P**	**18 02 31.7**	**+1.5**
	comp=Z,57nm,0.8s								
DANN	**Dangsing**	**48.08**	**82**	*e*P		**P**	**18 02 31.7**	**+1.5**
KOLN	**Koldanda**	**48.19**	**83**	*e*P		**P**	**18 02 31.8**	**+0.8**
	comp=Z,6.5nm,0.6s								
KOLN	**Koldanda**	**48.19**	**83**	*e*P		**P**	**18 02 31.8**	**+0.8**
GKN	**Gorkha**	**48.93**	**82**	*e*P		**P**	**18 02 37.2**	**+0.7**
	comp=Z,15nm,0.6s								
GKN	**Gorkha**	**48.93**	**82**	*e*P		**P**	**18 02 37.2**	**+0.7**
DMN	**Daman**	**49.47**	**83**	*e*P		**P**	**18 02 41.7**	**+0.9**
	comp=Z,12nm,0.6s								
DMN	**Daman**	**49.47**	**83**	*e*P		**P**	**18 02 41.7**	**+0.9**
KKN	**Kakani**	**49.53**	**82**	*e*P		**P**	**18 02 41.7**	**+0.5**
	comp=Z,6.6nm,0.6s								
KKN	**Kakani**	**49.53**	**82**	*e*P		**P**	**18 02 41.7**	**+0.5**
KKN	**Kakani**	**49.53**	**82**	*e*P		**P**	**18 02 41.7**	**+0.5**
PKIN	**Phulchoki**	**49.72**	**83**	*e*P		**P**	**18 02 42.9**	**+0.3**
	comp=Z,6.0nm,0.7s								
PKI	**Pulchoki**	**49.73**	**83**	*e*P		**P**	**18 02 43.2**	**+0.4**
	comp=Z,11nm,0.9s								
PKI	**Pulchoki**	**49.73**	**83**	*e*P		**P**	**18 02 43.2**	**+0.4**
PKI	**Pulchoki**	**49.73**	**83**	*e*P		**P**	**18 02 43.2**	**+0.4**
GUN	**Gumba**	**49.96**	**82**	*e*P		**P**	**18 02 45.2**	**+0.6**
GUN	**Gumba**	**49.96**	**82**	*e*P		**P**	**18 02 45.2**	**+0.6**
JIRN	**Jiri**	**50.32**	**82**	*e*P		**P**	**18 02 48.0**	**+0.7**
JIRN	**Jiri**	**50.32**	**82**	*e*P		**P**	**18 02 48.0**	**+0.7**
RAMN	**Ramite**	**50.95**	**83**	*e*P		**P**	**18 02 52.1**	**+0.2**
	comp=Z,7.1nm,0.6s								
RAMN	**Ramite**	**50.95**	**83**	*e*P		**P**	**18 02 52.1**	**+0.2**
TAPN	**Taplejung**	**51.67**	**82**	*e*P		**P**	**18 02 57.8**	**+0.5**
	comp=Z,8.8nm,0.8s								
TAPN	**Taplejung**	**51.67**	**82**	*e*P		**P**	**18 02 57.8**	**+0.5**
ZAK	**Zakamensk**	**54.95**	**49**	*e*P		P	18 03 15.5	-5.2
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.3s								
GTA	**Gaotai**	**56.18**	**63**	*e*P		**P**	**18 03 30.8**	**+1.1**
GTA				pP		**pP**	**18 04 01.1**	**+1.2**
GTA				sP		**sP**	**18 04 14.9**	**+0.9**
GTA				pmax	pmax			
	comp=Z,4.0nm,1.0s								
SONM	**Songino Array**	**57.68**	**52**	P		**P**	**18 03 40.9**	**+0.7**
SONM	**Songino Array**	**57.68**	**52**	P		**P**	**18 03 40.9**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=289,slow=7.6,SNR=32								
ULN	**Ulaanbaatar**	**58.09**	**51**	*e*P		**P**	**18 03 43.0**	**0.0**
	comp=Z,2.8nm,0.7s								
LZH	**Lanzhou**	**60.42**	**65**	*e*P		**P**	**18 04 00.6**	**+1.3**
LZH				pP		**pP**	**18 04 32.0**	**+2.1**
LZH				sP		**sP**	**18 04 43.3**	**-0.5**
LZH				pmax	pmax			
	comp=Z,12nm,1.0s								
CD2	**Chengdu**	**62.65**	**70**	*e*P		**P**	**18 04 15.2**	**+1.0**
CD2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
SCHQ	**Schefferville**	**63.32**	**320**	P		**P**	**18 04 15.8**	**-2.3**
SCHQ	**Schefferville**	**63.32**	**320**	P		**P**	**18 04 15.8**	**-2.3**
	comp=Z,2.5nm,0.5s,baz=55,slow=7.2,SNR=4.9								
KMI	**Kunming**	**64.64**	**77**	P		**P**	**18 04 28.3**	**+0.8**
KMI					pmax	pmax			
	comp=Z,7.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**65.01**	**85**	P		**P**	**18 04 30.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**65.01**	**85**	P		**P**	**18 04 30.6**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=301,slow=7.8,SNR=18								
GYA	**Guiyang**	**67.03**	**73**	*e*P		**P**	**18 04 42.8**	**+0.1**
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
BJI	**Beijing**	**67.33**	**56**	P		**P**	**18 04 44.8**	**+0.6**
BJI					pmax	pmax			
	comp=Z,4.0nm,0.8s								
CN2	**Changchun**	**71.38**	**49**	*e*P		**P**	**18 05 09.9**	**+0.8**
USRK	**Ussuriysk Arra**	**75.05**	**46**	P		**P**	**18 05 30.4**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=283,slow=3.3,SNR=5.1								
KSAR	**Wonju Array Be**	**76.46**	**53**	P		**P**	**18 05 39.1**	**+0.4**
KSRS	**Korea Array**	**76.48**	**53**	P		**P**	**18 05 39.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=312,slow=4.5,SNR=8.1								
ASAR	**Alice Springs**	**116.81**	**101**	PKP		**PKPdf**	**18 12 32.4**	**-0.3**
ASAR	**Alice Springs**	**116.81**	**101**	PKP		**PKPdf**	**18 12 32.4**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=310,slow=1.5,SNR=5.2								

ISCJB ***01*** *18:03:46.0±0.3,34˚.79S±0˚.06×54˚.64E±0˚.07,h10km, mb4.6/39,MS4.2/27,Error ellipse: s-maj=9.2km s-min=8.3km az=137.9*

IDC ***01*** *18:03:46.1±0.5,34˚.78S×54˚.66E,h0km,mb4.4/19, mb1 4.5/20,mb1mx4.3/31,mbtmp4.4/20,ML4.1/1,MS4.1/21, Ms1 4.2/21,ms1mx4.1/25,Error ellipse: s-maj=16.8km s-min=13.0km az=37.0*

NEIC ***01*** *18:03:47.6±0.2,34˚.80S×54˚.61E,h10km,mb4.7/18,Error ellipse: s-maj=8.4km s-min=6.5km az=54.0*

BJI ***01*** *18:03:47.3,34˚.35S×54˚.22E,h10km,mB5.2/13,mb4.8/18, Ms5.0/10,Ms7 4.5/11*

DJA ***01*** *18:03:47.9±0.4,35˚S±6˚×5˚4E±˚,h10km,M4.7/14,mB5.6/1, mb4.7/14,Mw(mB)5.1/1*

GCMT ***01*** *18:03:49.2±0.3,34˚.72S×54˚.51E,h12km,MW4.9,Moment Tensor Solution. s29,c36; s76,c110; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.28±.10; $M_{\theta\theta}$2.94±.08; $M_{\phi\phi}$0.35±.11; $M_{r\theta}$0.31±.34; $M_{\theta\phi}$-0.13±.09; $M_{\phi r}$-0.20±.44; Best double couple: M_o3.10000×10^{16} NP1:ϕ_s276.00000°,δ48.00000°, λ-86.00000°. NP2:ϕ_s90.00000°,δ42.00000°,λ-94.00000°. Principal axes: T 2.9600, Plg3.0000°, Azm3.0000°; N 0.3500, Plg3.0000°, Azm93.0000°; P -3.3100, Plg86.0000°, Azm228.0000°; Data Used: IU II G CN IC CU.*

ISC 01 18:03:47.8±0.4,34˚.85S±0˚.06×54˚.53E±0˚.07,h10km,n120,
σ1s50/133,mb4.6/39,MS4.3/27,1C,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**14.73**	**11**	*e*Pn			**Pn**	**18 07 14.9**	**-1.4**
ABPO	**Ambohimpanom**	**17.05**	**336**	*e*Pn			**Pn**	**18 07 44.7**	**-1.9**
	20nm,1.0s								
OPO	**Ambohidratompo**	**17.47**	**336**	P			**Pn**	**18 07 50.0**	**-1.9**
OPO	**Ambohidratompo**	**17.47**	**336**	P			**Pn**	**18 07 50.0**	**-1.9**
	0.7nm,0.3s,baz=150,slow=11,SNR=15								
OPO					LR		LR	18 12 59.8	
	comp=Z,1μm,21.6s,baz=169,slow=32								
BOSA	**Boshof**	**25.61**	**276**	*e*P			**P**	**18 09 18.0**

comp=Z,248nm,18.1s,baz=115,slow=36
TAPN Taplejung 69.37 31 *e*P **P 18 14 54.7 -1.4**
35nm,1.5s
TAPN Taplejung 69.37 31 *e*P **P 18 14 54.7 -1.4**
DBIC Dimbokro 69.48 294 P **P 18 14 58.0 +1.2**
DBIC Dimbokro 69.48 294 P **P 18 14 58.0 +1.2**
3.9nm,0.9s,baz=132,slow=6.4,SNR=6.6
DBIC LR LR 18 44 07.8
comp=Z,85nm,18.9s,baz=113,slow=35
KBL Kabul 70.35 13 P **P 18 15 00.9 -1.0**
STKA Stephens Creek 70.44 116 *e*P **P 18 15 01.8 -0.7**
2.0nm,1.1s
STKA Stephens Creek 70.44 116 P **P 18 15 02.0 -0.6**
5.1nm,0.9s,baz=281,slow=5.8,SNR=8.6
WRA Warramunga Arr 70.75 101 P **P 18 15 04.5 -0.2**
WRA Warramunga Arr 70.75 101 P **P 18 15 04.5 -0.2**
8.8nm,0.8s,baz=234,slow=5.4,SNR=73
WRA LR LR 18 43 07.4
comp=Z,45nm,20.8s,baz=205,slow=33
WRAB Tennant Creek 70.76 101 *e*P **P 18 15 04.4 -0.2**
15nm,0.9s
LSA Lhasa 72.91 33 *e*P **P 18 15 16.7 -1.1**
19nm,1.5s
TAM Tamanrasset 73.81 314 *e*P **P 18 15 24.3 +1.5**
1.8nm,0.7s
QIZ Qiongzhong 75.02 54 P **P 18 15 29.8 0.0**
QIZ S **S 18 25 11.2 +3.3**
QIZ LR LR
comp=Z,99nm,31.9s
KMI Kunming 75.13 44 P P 18 15 33.9 +3.4
KMI S **S 18 25 13.0 +3.7**
KMI pmax pmax
comp=Z,5.0nm,0.9s
KMI LR LR
comp=N,210nm,22.6s
KMI LR LR
comp=E,120nm,24.2s
KMI LR LR
comp=Z,210nm,18.9s
KSH Kashi 76.60 17 P **P 18 15 35.7 -2.8**
KSH pP **pP 18 15 40.0 -1.8**
KSH sP **sP 18 15 43.6 +0.6**
KSH PcP **PcP 18 15 49.7 -0.3**
KSH S **S 18 25 23.6 -1.2**
KSH sS **sS 18 25 30.8 +0.6**
KSH SKS **SKSac 18 25 43.1 -7.1**
KSH ScS **SKKSac 18 25 50.6 -0.1**
KSH pmax pmax
comp=Z,23nm,1.6s
KSH pmax pmax
comp=Z,240nm,5.2s
KSH LR LR
comp=N,210nm,4.8s
KSH LR LR
comp=E,310nm,6.2s
KSH LR LR
comp=Z,180nm,7.6s
BR131 Keskin Array S 76.67 344 *e*P **P 18 15 37.5 -1.4**
3.7nm,1.0s
BRTR Keskin Array B 76.67 344 P **P 18 15 37.9 -1.1**
BRTR Keskin Array B 76.67 344 P **P 18 15 37.9 -1.1**
1.9nm,1.0s,baz=157,slow=6.7,SNR=10
BRTR LR LR 18 46 30.8
comp=Z,109nm,19.4s,baz=150,slow=34
GYA Guiyang 78.43 46 *e*P **P 18 15 50.4 +1.3**
GYA PP **PP 18 18 50.7 +3.9**
GYA S **S 18 25 46.5 +1.3**
GYA SKS **SKSac 18 26 01.0 -3.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,80nm,5.0s
GYA LR LR
comp=N,340nm,21.4s
GYA LR LR
comp=E,260nm,22.0s
GYA LR LR
comp=Z,320nm,20.6s
KKAR Karatay Array 78.94 12 *e*P **P 18 15 51.0 -0.3**
EKS2 Erkin-Say 79.12 14 *e*P **P 18 15 53.8 +1.3**
12nm,1.4s
AAK Ala-Archa 79.24 15 *e*P **P 18 15 53.2 +0.1**
21nm,1.5s
TKM2 Tokmak 2 79.75 16 *e*P **P 18 15 55.3 -0.8**
11nm,1.4s
CTA Charters Tower 80.16 108 P **P 18 15 58.6 0.0**
CTA Charters Tower 80.16 108 P **P 18 15 58.6 0.0**
2.6nm,0.6s,baz=229,slow=13,SNR=3.6
CTAO Charters Tower 80.16 108 P **P 18 15 59.0 +0.4**
CD2 Chengdu 80.16 41 *e*P **P 18 16 00.1 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,30nm,4.8s
KEST Kesra 81.89 324 LR LR 18 55 25.5
comp=Z,106nm,18.4s,baz=291,slow=38
ABKAR Akbulak array 83.87 4 *e*P **P 18 16 17.1 -0.2**
26nm,1.7s
WMQ Urumqi 83.92 23 P **P 18 16 19.0 +1.2**
WMQ sP **sP 18 16 26.0 +3.7**
WMQ S **S 18 26 41.0 -0.4**
WMQ sS **sS 18 26 49.0 +2.1**
WMQ SS **SS 18 32 12.0 +1.8**
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,88nm,7.0s
WMQ LR LR
comp=N,130nm,18.0s
WMQ LR LR
comp=E,140nm,20.0s
WMQ LR LR
comp=Z,190nm,20.0s
LZH Lanzhou 84.22 38 *e*P **P 18 16 20.3 +0.7**
LZH pP **PcP 18 16 23.6 +0.2**
LZH sP **sP 18 16 25.2 +1.1**
LZH pmax pmax
comp=Z,14nm,1.0s
GTA Gaotai 84.91 34 *e*P **P 18 16 23.0 0.0**
GTA pP **pP 18 16 30.3 +4.0**
GTA sP sP 18 16 34.0 +6.5
GTA S **S 18 26 50.2 -1.4**
GTA sS **ScS 18 27 03.3 +0.8**
GTA SS **SS 18 32 27.3 +2.2**
GTA pmax pmax
comp=Z,6.0nm,1.8s
GTA pmax pmax
comp=Z,200nm,6.7s
GTA LR LR
comp=N,210nm,17.1s
GTA LR LR
comp=E,180nm,16.2s
GTA LR LR
comp=Z,120nm,18.5s
MK31 Makanchi Array 85.02 19 P **P 18 16 22.9 -0.3**
MKAR Makanchi Array 85.02 19 P **P 18 16 22.1 -1.1**
MKAR Makanchi Array 85.02 19 P **P 18 16 22.1 -1.1**
1.7nm,0.9s,baz=289,slow=3.7,SNR=6.5
KIEV Kiev 88.06 344 *e*P **P 18 16 39.4 +1.5**
32nm,1.5s
AKASG Malin Array Be 88.06 344 P **P 18 16 36.6 -1.3**
AKASG Malin Array Be 88.06 344 P **P 18 16 36.6 -1.3**
2.4nm,0.9s,baz=175,slow=4.5,SNR=18
AKASG LR LR 18 57 28.8
comp=Z,59nm,19.5s,baz=340,slow=37
CONA Conrad Observa 89.37 335 I/P **P 18 16 43.3 -1.0**
16nm,2.0s
PLCA Paso Flores 89.40 218 LR LR 18 50 11.7
comp=Z,172nm,20.0s,baz=98,slow=31
ESDC Sonseca Array 91.71 319 LR LR 18 59 50.6
comp=Z,224nm,18.7s,baz=145,slow=37
HHC Hu-ho-hao-te 91.78 40 *e*P **P 18 16 54.4 -1.4**
HHC S **S 18 27 53.6 -3.1**
HHC sS **sS 18 28 02.6 +0.4**
HHC SS **SS 18 34 04.4 -0.8**
HHC pmax pmax
comp=Z,28nm,1.3s
HHC pmax pmax
comp=Z,280nm,8.0s
HHC LR LR
comp=N,320nm,17.7s
HHC LR LR
comp=E,360nm,17.3s
HHC LR LR
comp=Z,230nm,17.2s
BJI Beijing 93.70 43 P **P 18 17 05.8 +1.3**
BJI SKS **SKSac 18 27 38.5 -0.4**
BJI S **S 18 28 12.5 -1.0**
BJI SS **SS 18 34 34.1 +1.6**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI pmax pmax
comp=Z,95nm,3.6s
BJI LR LR
comp=N,200nm,21.7s
BJI LR LR
comp=E,140nm,20.9s
BJI LR LR
comp=Z,130nm,26.0s
DZM Mont Dzumac 94.14 120 LR LR 18 53 53.3
comp=Z,131nm,19.3s,baz=201,slow=32
JNU Nakatsue 98.42 56 LR LR 18 55 28.1
comp=Z,36nm,19.9s,baz=144,slow=32
CN2 Changchun 101.40 44 *e*P **Pdif 18 17 41.1 +1.9**
IM04 Indian Mountai 144.63 20 *e*PKPdf **PKPdf 18 23 24.1 +0.3**
TIGA Tifton 144.95 276 *e*PKPdf **PKPab 18 23 23.6 -1.1**
INK Inuvik 146.18 5 PKPbc **PKPdf 18 23 26.2 -0.1**
INK Inuvik 146.18 5 PKPbc **PKPdf 18 23 26.2 -0.1**
7.0nm,1.1s,baz=360,slow=7.0,SNR=11
ILAR Eielson Array 147.36 17 PKPbc **PKPbc 18 23 29.7 -1.2**
ILAR Eielson Array 147.36 17 PKPbc **PKPbc 18 23 29.7 -1.2**
1.0nm,0.8s,baz=316,slow=4.0,SNR=8.1
YKA Yellowknife Ar 151.50 349 PKPbc **PKPbc 18 23 41.0 -0.3**
YKA Yellowknife Ar 151.50 349 PKPbc **PKPbc 18 23 40.9 -0.3**
0.9nm,0.6s,baz=15,slow=1.9,SNR=7.7
PDAR Pinedale Array 165.30 307 PKP **PKPdf 18 23 52.0 -0.6**
PDAR PKPab **PKPab 18 24 51.1 +0.8**
PDAR Pinedale Array 165.30 307 PKP **PKPdf 18 23 52.0 -0.6**
0.6nm,0.9s,baz=97,slow=3.8,SNR=3.5
PDAR PKPab **PKPab 18 24 51.1 +0.8**
0.3nm,0.7s,baz=79,slow=4.7,SNR=2.9

*ISCJB **01** 18:06:00.4±0.8, 34.8°S±0.2°×54.6°E±0.2°, h10km, mb4.0/8, Error ellipse: s-maj=31.4km s-min=22.7km az=144.9*
*IDC **01** 18:06:00.5±0.9, 34.72°S×54.59°E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/25, mbtmp4.0/8, Error ellipse: s-maj=37.1km s-min=25.1km az=49.0*
ISC 01 18:06:02.1±0.9, 34.7°S±0.2°×54.6°E±0.2°, h10km, n11, σ0.6°s8/11, mb4.1/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**55.44**	**180**	P	**P**	**18 15 36.1**	**-0.4**
	4.0nm,0.9s,baz=253,slow=1.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**67.62**	**46**	P	**P**	**18 16 58.8**	**-0.4**
	1.5nm,0.9s,baz=237,slow=6.6,SNR=4.1						
ASAR	**Alice Springs**	**68.47**	**104**	P	**P**	**18 17 05.6**	**+0.8**
	0.6nm,0.7s,baz=235,slow=6.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**69.19**	**304**	P	**P**	**18 17 10.0**	**+0.9**
	0.8nm,0.9s,baz=123,slow=7.0,SNR=3.0						
WRA	**Warramunga Arr**	**70.69**	**101**	P	**P**	**18 17 19.0**	**+0.5**
	1.4nm,0.7s,baz=237,slow=5.4,SNR=9.2						
BRTR	**Keskin Array B**	**76.59**	**344**	P	**P**	**18 17 52.5**	**-0.2**
	0.9nm,0.8s,baz=145,slow=3.0,SNR=3.9						
MKAR	**Makanchi Array**	**84.90**	**19**	P	**P**	**18 18 37.2**	**+0.4**
	0.9nm,0.8s,baz=211,slow=3.7,SNR=3.5						
AKASG	**Malin Array Be**	**87.98**	**344**	P	**P**	**18 18 51.5**	**-0.3**
	1.0nm,0.9s,baz=175,slow=4.6,SNR=3.3						
INK	**Inuvik**	**146.07**	**5**	PKPbc	**PKPdf**	**18 25 40.4**	**+0.1**
	1.8nm,1.0s,baz=49,slow=4.2,SNR=2.9						
ILAR	**Eielson Array**	**147.23**	**17**	PKPbc	**PKPbc**	**18 25 43.6**	**-1.1**
	0.5nm,0.8s,baz=316,slow=3.8,SNR=3.5						
YKA	**Yellowknife Ar**	**151.41**	**350**	PKPbc	**PKPbc**	**18 25 55.0**	**-0.2**
	1.0nm,0.7s,baz=13,slow=2.4,SNR=4.6						

IDC 01 18:12:15.2±32.0, 16.35°N×144.35°E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.5/23, mbtmp4.0/3, Error ellipse: s-maj=586.3km s-min=166.8km az=1.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**21.42**	**81**	T	T	18 39 08.1	
	baz=263,slow=64,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**21.44**	**81**	T	T	18 39 08.8	
	baz=263,slow=64,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**21.44**	**81**	T	T	18 39 10.0	
	baz=263,slow=64,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**21.70**	**78**	T	T	18 39 23.7	
	baz=260,slow=75,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**21.70**	**78**	T	T	18 39 24.3	
	baz=260,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**21.71**	**78**	T	T	18 39 25.1	
	baz=260,slow=75,SNR=7.1						
WRA	**Warramunga Arr**	**37.38**	**196**	P	P	18 19 29.9	0.0
	2.0nm,0.6s,baz=17,slow=9.5,SNR=28						
ASAR	**Alice Springs**	**41.06**	**195**	P	P	18 20 00.9	+0.3
	0.7nm,0.7s,baz=19,slow=8.0,SNR=27						
STKA	**Stephens Creek**	**48.02**	**183**	P	P	18 20 55.5	-0.7
	1.4nm,0.5s,baz=21,slow=8.5,SNR=8.1						

KRSC 01 18:20:03.1±7.6, 49.45N×156.52E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.26**	**348**	P	Pn	18 20 28.1	+0.7
SKR				S	Sn	18 20 45.4	+0.7
PAU	**Pauzhetka**	**2.03**	**5**	P	Pn	18 20 38.9	+1.0
PAU				S	Sb	18 21 05.0	-0.9
MIPR	**Malaya Ipel'ka**	**2.83**	**3**	P	Pn	18 20 48.5	-0.5
ASAK	**Asacha**	**3.06**	**16**	S	Sn	18 21 30.4	+1.0
MTVR	**Mutnovka**	**3.21**	**18**	P	Pn	18 20 57.2	+2.8
MTVR				S	Sn	18 21 35.7	+2.5
RUS	**Russkaya**	**3.24**	**22**	P	Pn	18 20 56.6	+2.0
RUS				S	Sn	18 21 34.9	+1.4
PET	**Petropavlovsk**	**3.82**	**20**	P	Pn	18 21 05.1	+2.6
UGLR	**Uglovaya**	**4.03**	**20**	P	Pn	18 21 08.2	+2.6
AVH	**Avacha**	**4.07**	**19**	P	Pn	18 21 09.1	+3.1
KOK	**Koryaka**	**4.07**	**18**	P	Pn	18 21 09.2	+3.1
SMAR	**Somma**	**4.08**	**20**	P	Pn	18 21 09.0	+2.6
KRER	**Koryakskii**	**4.10**	**19**	P	Pn	18 21 09.4	+2.7
SDLR	**Sedlovina**	**4.11**	**20**	P	Pn	18 21 08.2	+1.5
SDLR				S	Sn	18 21 55.1	-0.1
KRX	**Arik**	**4.13**	**18**	P	Pn	18 21 09.2	+2.1
KRX				S	Sn	18 21 56.6	+0.7
SPN	**Mys Shipunski**	**4.26**	**30**	S	Sn	18 21 59.5	+0.8
MKZ	**Mys Kozlova**	**6.04**	**30**	P	Pn	18 21 34.4	+1.4
MKZ				S	Sn	18 22 41.2	-1.2
KZV	**Kizimen**	**6.13**	**21**	P	Pn	18 21 37.6	+3.2
TUMR	**Tumrok**	**6.25**	**19**	P	Pn	18 21 38.7	+2.6
KBTR	**Krutoberegovo**	**7.77**	**27**	P	Pn	18 21 58.0	+1.3

CASC 01 18:23:14.0±1.0, 11.79N×88.29W, h6km±14km, MD3.8, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.54**	**17**	*e*P	Pn	18 23 41.4	-0.8
VSM	**San Miguel**	**1.62**	**1**	*e*P	Pn	18 23 43.2	-0.4
BLLM	**Bellamira**	**1.64**	**2**	*e*P	Pn	18 23 42.9	-0.6
BLLM				*e*S	Sn	18 24 05.2	+0.3
LFRS	**El Faro**	**1.97**	**338**	*e*P	Pn	18 23 47.1	-1.0
LFRS				*e*S	Sn	18 24 13.5	+0.3
BQQS	**Boqueron**	**2.16**	**334**	*e*P	Pn	18 23 50.1	-0.7
SBLS	**San Blas**	**2.41**	**328**	*e*P	Pn	18 23 53.6	-0.7
SNJE	**San Jose**	**2.43**	**328**	*e*P	Pn	18 23 53.9	-0.6
RTR	**El Retiro**	**2.47**	**328**	*e*P	Pn	18 23 54.7	-0.4
RBDL	**Robledal**	**2.68**	**330**	*e*P	Pn	18 23 57.9	0.0
IXG	**Ixpaco**	**3.17**	**319**	*e*P	Pn	18 24 04.7	0.0
IXG				*e*S	Sn	18 24 44.1	+1.1
MRL	**Marmol**	**3.53**	**337**	*e*P	Pn	18 24 10.7	+1.2

IDC 01 18:24:05.3±48.0, 51.02S×124.94E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, MS3.6/1, Ms1 3.5/1, ms1mx3.0/18, Error ellipse: s-maj=816.4km s-min=117.4km az=5.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**22.74**	**39**	P	P	18 29 08.9	+0.1
	5.6nm,1.0s,baz=214,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**28.17**	**18**	P	P	18 29 59.0	-0.3
	1.8nm,0.8s,baz=188,slow=9.0,SNR=11						
WRA	**Warramunga Arr**	**31.88**	**17**	P	P	18 30 32.5	+0.3
	0.7nm,0.9s,baz=194,slow=10,SNR=4.7						
MAW	**Mawson**	**33.96**	**217**	LR	LR	18 41 51.2	
	comp=Z,91nm,18.7s,baz=284,slow=31						

*ISCJB **01** 18:39:17.1±0.5, 6.92S±0.05°×129.57E±0.08°, h139km, mb3.9/5, Error ellipse: s-maj=10.9km s-min=6.3km az=166.0*
*AUST **01** 18:39:18.9, 7.02S×129.70E, h20km*
*IDC **01** 18:39:19.8±2.7, 6.95S×129.61E, h149km±26km, mb3.6/6, mb1 3.7/9, mb1mx3.5/20, mbtmp3.6/9, Error ellipse: s-maj=33.6km s-min=15.3km az=58.0*
ISC 01 18:39:18.4±0.7, 7.08S±0.07°×129.64E±0.10°, h139km, n19, σ1.9s72/21, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**3.40**	**65**	P	**Pn**	**18 40 10.5**	**0.0**
	baz=3.3,SNR=88						
MTN	**Manton Dam**	**5.91**	**166**	P	Pn	18 40 47.2	+3.4
	baz=6.0,SNR=53						
KDU	**Kakadu**	**6.23**	**154**	P	**Pn**	**18 40 50.6**	**+2.6**
	baz=6.3,SNR=387						
KNRA	**Kununurra**	**8.58**	**186**	P	Pn	18 41 22.9	+3.3
	baz=8.7,SNR=14						
FITZ	**Fitzroy Crossi**	**11.62**	**199**	P	**Pn**	**18 42 01.6**	**+1.5**
	0.9nm,0.3s,baz=41,slow=11,SNR=28						
FITZ				S	**Sn**	**18 44 08.2**	**-0.2**
	1.9nm,0.3s,baz=69,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**13.57**	**161**	P	**Pn**	**18 42 25.4**	**0.0**
	1.1nm,0.3s,baz=339,slow=13,SNR=42						
WRA				S	**Sn**	**18 44 51.0**	**-4.4**
	2.7nm,0.3s,baz=342,slow=21,SNR=9.7						
ASAR	**Alice Springs**	**16.99**	**166**	P	**Pn**	**18 43 10.3**	**+2.5**
	1.0nm,0.3s,baz=348,slow=10,SNR=172						
ASAR				S	**S**	**18 46 15.5**	**-2.0**
	0.6nm,0.3s,baz=353,slow=26,SNR=5.9						
ASAR				ScP	**ScP**	**18 51 05.8**	**-2.0**
	0.1nm,0.3s,baz=360,slow=1.9,SNR=4.2						
PMG	**Port Moresby**	**17.50**	**99**	P	**Pn**	**18 43 13.8**	**-0.2**
	0.9nm,0.3s,baz=280,slow=3.5,SNR=7.6						
PMG				S	S	18 46 19.2	-9.0
	0.5nm,0.3s,baz=342,slow=20,SNR=5.4						
CTA	**Charters Tower**	**20.66**	**130**	P	**P**	**18 43 48.9**	**+1.6**
	3.6nm,0.9s,baz=292,slow=9.7,SNR=4.6						
STKA	**Stephens Creek**	**27.07**	**157**	P	**P**	**18 44 50.0**	**+1.9**
	0.8nm,0.3s,baz=283,slow=14,SNR=6.1						
CMAR	**Chiang Mai Arr**	**39.51**	**310**	P	**P**	**18 46 35.3**	**-0.5**
	0.7nm,0.5s,baz=133,slow=7.7,SNR=6.3						
TAPN	**Taplejung**	**53.07**	**312**	*e*P	**P**	**18 48 21.1**	**-0.9**
RAMN	**Ramite**	**53.68**	**311**	*e*P	**P**	**18 48 26.0**	**-0.4**
JIRN	**Jiri**	**54.37**	**311**	*e*P	**P**	**18 48 30.8**	**-0.7**
	2.8nm,0.4s						
GUN	**Gumba**	**54.74**	**311**	*e*P	**P**	**18 48 33.4**	**-0.7**
	3.9nm,0.4s						
SONM	**Songino Array**	**58.41**	**342**	P	**P**	**18 48 59.1**	**-0.3**
	0.5nm,0.4s,baz=155,slow=6.7,SNR=6.6						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**18 50 03.0**	**-0.2**
	2.5nm,0.4s,baz=117,slow=7.9,SNR=60						
ZALV	**Zalesovo Beam**	**71.50**	**334**	P	**P**	**18 50 22.4**	**-1.3**
	1.1nm,0.4s,baz=134,slow=5.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**128.47**	**281**	PKP	**PKPdf**	**18 58 10.2**	**+0.4**
	0.4nm,0.7s,baz=38,slow=2.6,SNR=4.9						

*NOU **01** 19:42:55.6±1.0, 17.14S×168.47E, h30km, MD3.9, ML3.3, MS4.3*
*BJI **01** 19:42:55.5, 16.98S×168.21E, h35km, mB5.4/40, mb5.1/46, Ms5.3/47, Ms7 4.9/47*
*MOS **01** 19:42:57.9±1.5, 17.00S×167.54E, h37km, mb5.3/49, MS4.8/30, Error ellipse: s-maj=8.6km s-min=8.3km az=22.2*
*ISCJB **01** 19:42:57.7±0.1, 17.10S±0.03°×167.54E±0.03, h40km, mb5.3/108, MS5.0/150, Error ellipse: s-maj=4.4km s-min=3.4km az=144.5*
*NEIC **01** 19:42:59.0±0.3, 17.08S×167.64E, h40km±2km, mb5.5/65, MS5.1/108, MW5.6, Error ellipse: s-maj=5.6km s-min=4.7km az=137.0*
NEIC Felt [II] at Port-Vila.
*IDC **01** 19:42:59.8±0.5, 17.01S×167.59E, h43km±3km, mb4.6/21, mb1 4.7/22, mb1mx4.7/23, mbtmp4.7/22, ML6.1/1, MS4.8/24, Ms1 4.8/24, ms1mx4.7/33, Error ellipse: s-maj=13.4km s-min=9.7km az=81.0*
*AUST **01** 19:43:00.3±1.7, 16.97S×167.71E, h55km±14km, Error ellipse: s-maj=8.7km s-min=5.6km az=69.0*
*GCMT **01** 19:43:01.6±0.1, 17.00S×167.40E, h27km, MW5.5, Moment Tensor Solution. s93,c169; s48,c54; Moment tensor: Scale 10^{17}Nm; M_{rr}=0.33±.03; $M_{\theta\theta}$=-1.35±.03; $M_{\phi\phi}$=1.68±.03; $M_{r\theta}$=0.67±.06; $M_{r\phi}$=1.81±.02; $M_{\theta\phi}$=-0.45±.06; Best double couple: M_o=2.50000×10^{17} NP1:ϕ_s=250.00000°, δ=90.00000°, λ=18.00000°. NP2:ϕ_s=160.00000°, δ=72.00000°, λ=180.00000°. Principal axes: T 2.6900, Plg13.0000°, Azm116.0000°; N -0.4000, Plg72.0000°, Azm251.0000°; P -2.2900, Plg13.0000°, Azm23.0000°; Data Used: II IU CN CU IC G. Surface waves: sta=126, comp=246, per=50.*
*NEIC **01** 19:43:14.8±0.0, 16.84S×167.83E, h32km, Moment Tensor Solution. s144 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.62; $M_{\theta\theta}$=1.17; $M_{\phi\phi}$=1.79; $M_{r\theta}$=1.32; $M_{\theta\phi}$=1.76; $M_{r\phi}$=0.32; Best double couple: M_o=2.70000×10^{17} NP1:ϕ_s=163.00000°, δ=58.00000°, λ=-167.00000°. NP2:ϕ_s=66.00000°, δ=80.00000°, λ=-32.00000°. Principal axes: T 2.8300, Plg14.0000°, Azm118.0000°; N -0.2300, Plg56.0000°, Azm231.0000°; P -2.6000, Plg29.0000°, Azm19.0000°;*
*DJA **01** 19:43:34.3±4.5, 18.3S±13.1°×176.6E±2.9, h264km±36km, M4.7/11, mB5.2/6, mb4.8/11, Mw(mB)4.6/6, Mwp5.6/1*
ISC 01 19:42:59.3±0.3, 17.10S±0.04°×167.56E±0.04°, h35km, h35km:pP-P, n611, σ1.9s60/577, mb5.4/107, MS5.0/150, 59C-49D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.05**	**192**	*e*Pn	**Pn**	**19 44 10.6**	**-2.2**
	606nm,0.2s						
DZM				*e*Sn	**Sn**	**19 45 05.2**	**-4.8**
	650nm,0.2s						
DZM				*e*LR	LR	19 45 17.0	
	12μm,24.9s						
DZM	**Mont Dzumac**	**5.05**	**192**	P	**Pn**	**19 44 11.1**	**-1.6**
DZM				S	Sn	19 45 04.7	-5.3
DZM	**Mont Dzumac**	**5.05**	**192**	P	**Pn**	**19 44 11.1**	**-1.6**
	297nm,0.3s,baz=24,slow=19,SNR=653						
DZM				S	Sn	19 45 04.7	-5.3
	18nm,0.3s,baz=120,slow=20,SNR=2.2						
DZM				LR	LR	19 46 02.7	
	comp=Z,9μm,21.1s,baz=32,slow=36						
DZM	**Mont Dzumac**	**5.05**	**192**	*e*P	**Pn**	**19 44 10.5**	**-2.2**
DZM				*e*S	**Sn**	**19 45 06.7**	**-3.3**
DZM				AMP		19 45 12.8	
	comp=Z,10μm,15.6s						
BAYA	**Yate Dam**	**5.07**	**187**	*e*P	**Pn**	**19 44 10.9**	**-1.9**
BAYA				AMP		19 45 11.5	
	comp=Z,96nm,2.1s						
NOUC	**Port Laguerre**	**5.11**	**193**	*e*S	**Sn**	**19 45 09.4**	**-1.9**
NOUC				AMP		19 45 17.0	
	comp=Z,226nm,8.0s						
NORM	**Noumea**	**5.20**	**191**	*e*P	**Pn**	**19 44 12.4**	**-2.2**
NORM				*e*S	**Sn**	**19 45 09.9**	**-3.5**
PLUM	**Mont Dore**	**5.22**	**189**	*e*P	**Pn**	**19 44 13.0**	**-1.9**
PLUM				*e*S	**Sn**	**19 45 09.5**	**-4.4**
HNR	**Honiara**	**10.63**	**315**	P	**Pn**	**19 45 27.9**	**-1.3**
HNR				S	**Sn**	**19 47 24.4**	**-2.7**
HNR	**Honiara**	**10.63**	**315**	P	**Pn**	**19 45 27.9**	**-1.3**
	comp=Z,131nm,0.3s,baz=160,slow=7.4,SNR=54						
HNR				S	**Sn**	**19 47 24.4**	**-2.7**
	comp=Z,22nm,0.3s,baz=66,slow=19,SNR=3.9						
HNR				LR	LR	19 49 08.9	
	comp=Z,6μm,21.0s,baz=5.7,slow=35						
FUNA	**Funafuti**	**14.19**	**55**	*e*Pn	**Pn**	**19 46 18.0**	**+0.1**
EIDS	**Eidsvold**	**17.41**	**239**	*e*P	**P**	**19 47 01.3**	**+0.7**
	comp=Z,158nm,1.2s						
EIDS	**Eidsvold**	**17.41**	**239**	⇑P	**P**	**19 47 01.9**	**+1.3**
	baz=18						
RAO	**Raoul Island**	**17.99**	**135**	LR	LR	19 52 46.6	
	comp=Z,2μm,21.5s,baz=123,slow=32						
OUZ	**Omahuta**	**18.83**	**165**	*e*Pn	**Pn**	**19 47 17.1**	**+0.2**
	comp=Z,116nm,1.1s						
ARMA	**Armidale**	**19.67**	**225**	*e*P	**Pn**	**19 47 27.9**	**+0.7**
	comp=Z,503nm,1.7s						
ARMA	**Armidale**	**19.67**	**225**	⇑P	**Pn**	**19 47 28.6**	**+1.5**

baz=20
RMQ Roma 19.77 239 ⇑P **Pn** **19 47 29.0 +0.7**
baz=20
AFI Afiamalu 20.16 84 P **P** **19 47 29.5 -1.5**
AFI *e*Pn Pn 19 47 31.9 -1.2
AFI Afiamalu 20.16 84 P **P** **19 47 29.5 -1.5**
comp=Z,51nm,0.8s,baz=302,slow=17,SNR=5.4
AFI LR LR 19 53 34.1
comp=Z,3µm,21.4s,baz=88,slow=32
CTA Charters Tower 20.41 258 P **P** **19 47 34.9 +1.4**
CTA Charters Tower 20.41 258 P **P** **19 47 34.9 +1.4**
comp=Z,24nm,0.9s,baz=89,slow=12,SNR=31
CTA LR LR 19 54 27.9
comp=Z,3µm,18.5s,baz=82,slow=34
CTA Charters Tower 20.41 258 ⇑P **P** **19 47 35.1 +1.5**
baz=21
CTAO Charters Tower 20.41 258 *e*P **P** **19 47 34.9 +1.4**
CTAO pmax pmax
comp=Z,69nm,0.9s
CTAO MLR MLR
comp=Z,3µm,19.0s
CTAO Charters Tower 20.41 258 *e*P **P** **19 47 34.9 +1.4**
comp=Z,69nm,0.9s
CTAO LR LR
comp=Z,3µm,19.0s
PMG Port Moresby 21.26 288 P **P** **19 47 47.2 +4.4**
comp=Z,98nm,2.1s,comp=Z,3µmcomp=Z,7µm
PMG Port Moresby 21.26 288 P **P** **19 47 44.0 +1.2**
PMG Port Moresby 21.26 288 P **P** **19 47 44.0 +1.2**
comp=Z,6.3nm,0.7s,baz=88,slow=11,SNR=24
PMG LR LR 19 55 14.6
comp=Z,7µm,18.1s,baz=255,slow=35
URZ Urewera 22.68 160 *e*P **P** **19 47 57.2 -0.5**
comp=Z,891nm,1.7s
URZ S **S** **19 52 06.8 +2.9**
URZ Urewera 22.68 160 P **P** **19 47 57.3 -0.5**
comp=Z,34nm,0.7s,baz=342,slow=6.0,SNR=16
URZ S **S** **19 52 06.8 +2.9**
comp=Z,4.7nm,0.7s,baz=165,slow=20,SNR=3.9
BKZ Black Stump Fm 23.33 162 *e*P **P** **19 48 04.2 -0.2**
comp=Z,316nm,1.1s
QLP Quilpie 23.58 242 ⇑P **P** **19 48 07.1 +0.2**
baz=24
COEN Coen 23.69 274 *e*P **P** **19 48 08.2 +0.1**
comp=Z,711nm,1.3s
YNG Young 24.24 221 ⇑P **P** **19 48 14.2 +1.1**
baz=24
CNB Canberra Magne 24.33 218 ⇑P **P** **19 48 14.7 +0.7**
baz=25
CMSA Cobar Meteorol 24.50 230 ⇑P **P** **19 48 16.2 +0.7**
baz=25
CAN Canberra 24.55 219 *e*P **P** **19 48 16.3 +0.3**
CAN pmax pmax
comp=Z,99nm,1.0s
CAN MLR MLR
comp=Z,2µm,21.0s
CAN Canberra 24.55 219 *e*P **P** **19 48 16.3 +0.3**
comp=Z,99nm,1.0s
CAN LR LR
comp=Z,2µm,21.0s
CAN Canberra 24.55 219 ⇑P **P** **19 48 17.0 +1.0**
baz=25
BFZ Birch Farm 24.67 164 *e*P **P** **19 48 15.7 -1.2**
comp=Z,303nm,1.3s
KNTN Kanton 24.84 57 *e*P **P** **19 48 19.1 +0.4**
comp=Z,218nm,1.1s
SNZO South Karori 24.90 167 PFAKE 19 48 30.0 +11
SNZO LR LR
comp=Z,4µm,19.0s
PATS Pohnpei 25.48 338 ⇑P **P** **19 48 23.5 -0.9**
baz=26
MILA Mila 25.67 216 ⇓P **P** **19 48 27.5 +1.4**
baz=26
KHZ Kahutara 25.75 170 *e*P **P** **19 48 26.0 -0.6**
comp=Z,267nm,1.1s
RPZ Rata Peaks 26.70 174 P **P** **19 48 34.6 -0.7**
comp=Z,83nm,1.0s
RPZ Rata Peaks 26.70 174 P **P** **19 48 36.1 +0.9**
comp=Z,11nm,0.7s,baz=27,slow=14,SNR=4.7
STKA Stephens Creek 27.73 233 *e*P **P** **19 48 44.8 +0.1**
comp=Z,20nm,1.2s
STKA pP pP 19 48 57.5 +2.9
STKA pPcP 19 52 13.9
STKA Stephens Creek 27.73 233 P **P** **19 48 44.8 +0.1**
comp=Z,24nm,0.7s,baz=59,slow=7.6,SNR=64
STKA pP pP 19 48 57.5 +2.9
comp=Z,64nm,1.0s,baz=68,slow=8.4,SNR=16
STKA pPcP 19 52 13.9
comp=Z,15nm,0.9s,baz=346,slow=5.4,SNR=3.5
STKA LR LR 19 59 33.6
comp=Z,1µm,18.0s,baz=58,slow=36
STKA Stephens Creek 27.73 233 P **P** **19 48 45.1 +0.4**
baz=28,SNR=34
TOO Toolangi 28.15 219 P **P** **19 48 49.4 +1.0**
baz=28,SNR=5.1
DCZ Deep Cove 28.29 181 *e*P **P** **19 48 48.2 -1.2**
comp=Z,118nm,1.0s
WHZ Wether Hill Ro 28.71 179 *e*P **P** **19 48 52.9 -0.3**
comp=Z,82nm,1.1s
HTT Hallett 30.44 232 P **P** **19 49 09.0 +0.2**
baz=31,SNR=4.9
MOO Moorlands 30.66 210 P **P** **19 49 11.8 +1.3**
baz=31,SNR=3.4
TAU Tasmania Unive 30.96 210 *e*P **P** **19 49 13.3 +0.2**
TAU pmax pmax
comp=Z,104nm,1.6s
TAU MLR MLR
comp=Z,2µm,22.0s
TAU Tasmania Unive 30.96 210 *e*P **P** **19 49 13.3 +0.2**
comp=Z,104nm,1.6s
TAU LR LR
comp=Z,2µm,22.0s
WR0 Warramunga Arr 31.41 260 ⇑P **P** **19 49 16.7 -0.7**
baz=32
WR6 Warramunga Arr 31.49 260 ⇓P **P** **19 49 17.4 -0.7**
baz=32
WR4 Warramunga Arr 31.53 260 ⇓P **P** **19 49 17.6 -0.9**
baz=32
WB6 Warramunga Arr 31.57 260 ⇓P **P** **19 49 17.9 -0.9**
baz=32
WC2 Warramunga Arr 31.57 260 ⇓P **P** **19 49 18.2 -0.7**
baz=32
WRAB Tennant Creek 31.58 260 *e*P **P** **19 49 17.4 -1.6**
WRAB pmax pmax
comp=Z,53nm,1.1s
WRAB MLR MLR
comp=Z,2µm,20.0s
WRAB Tennant Creek 31.58 260 *e*P **P** **19 49 17.4 -1.6**
comp=Z,53nm,1.1s
WRAB LR LR
comp=Z,2µm,20.0s
WRAB Tennant Creek 31.58 260 P **P** **19 49 18.9 -0.1**
comp=Z,148nm,0.7s,SNR=7.5
WC4 Warramunga Arr 31.59 260 ⇑P **P** **19 49 18.4 -0.7**
baz=32
WRA Warramunga Arr 31.59 260 P **P** **19 49 17.8 -1.3**
comp=Z,8.8nm,0.7s,baz=88,slow=8.9,SNR=125
WRA pP **pP** **19 49 30.9 +1.9**
comp=Z,24nm,0.8s,baz=88,slow=8.3,SNR=17
WRA PcP **PcP** **19 52 11.8 +0.7**
comp=Z,3.2nm,0.9s,baz=110,slow=2.6,SNR=2.7
WRA pPcP 19 52 23.8
comp=Z,13nm,0.8s,baz=88,slow=2.5,SNR=10
WRA LR LR 20 00 47.8
comp=Z,2µm,19.1s,baz=105,slow=34
AS31 Alice Springs 32.16 253 *e*P **P** **19 49 22.8 -1.3**
ASAR Alice Springs 32.16 253 P **P** **19 49 23.1 -0.9**
ASAR pP **pP** **19 49 35.8 +1.7**
ASAR PcP **PcP** **19 52 11.7 -1.0**
ASAR pPcP 19 52 25.0
ASAR PKiKP **PKiKP** **19 59 39.0 -1.7**
ASAR Alice Springs 32.16 253 P **P** **19 49 23.1 -0.9**
comp=Z,23nm,0.6s,baz=81,slow=8.4,SNR=431
ASAR pP **pP** **19 49 35.8 +1.7**
comp=Z,69nm,0.8s,baz=79,slow=8.7,SNR=17
ASAR PcP **PcP** **19 52 11.7 -1.0**
comp=Z,3.2nm,0.8s,baz=83,slow=3.8,SNR=3.4
ASAR pPcP 19 52 25.0
comp=Z,12nm,0.9s,baz=93,slow=2.7,SNR=8.0
ASAR PKiKP **PKiKP** **19 59 39.0 -1.7**
comp=Z,0.4nm,0.7s,baz=100,slow=1.1,SNR=4.6
ASAR LR LR 20 01 39.9
comp=Z,4µm,19.0s,baz=84,slow=35
BBOO Buckleboo 32.40 235 *e*P **P** **19 49 25.3 -0.7**
comp=Z,1µm,1.3s
BBOO *e* 19 49 38.0
BBOO Buckleboo 32.40 235 P **P** **19 49 25.8 -0.2**
baz=33,SNR=11
KDU Kakadu 34.16 273 P **P** **19 49 40.7 -0.7**
baz=34,SNR=4.6
TLE Tual 35.91 284 P **P** **19 49 54.9 -1.8**
TLE Tual 35.91 284 ⇑P **P** **19 49 57.4 +0.7**
baz=36,SNR=6.4
KNRA Kununurra 37.20 266 ⇑P **P** **19 50 06.4 -1.2**
baz=37,SNR=30
GUMO Guam 37.84 322 PFAKE
GUMO LR LR 19 50 20.0 +7.1
comp=Z,3µm,20.0s
FORT Forrest 38.38 242 *e*P **P** **19 50 16.8 -0.6**
comp=Z,59nm,0.7s
FORT Forrest 38.38 242 ⇑P **P** **19 50 17.5 +0.1**
baz=38
FITZ Fitzroy Crossi 39.91 262 LR LR 20 06 24.5
comp=Z,2µm,19.5s,baz=93,slow=35
FITZ Fitzroy Crossi 39.91 262 P **P** **19 50 30.4 +0.1**
baz=40
TBI Tubuai 40.70 106 *e*S **S** **19 56 49.5 +4.5**
comp=Z,714nm,25.8s
TBI *e*LQ LQ 20 00 02.5
comp=Z,2µm,30.5s
TBI *e*LR LR 20 01 48.2
comp=Z,3µm,27.5s
PALU Palau 40.74 304 ⇑P **P** **19 50 37.3 +0.1**
baz=41
PPT2 Papeete2 40.86 97 *e*S **S** **19 56 52.6 +5.0**
comp=Z,526nm,24.0s
PPT2 *e*LQ LQ 20 00 09.8
comp=Z,6µm,33.5s
PPT2 *e*LR LR 20 01 54.6
comp=Z,4µm,27.8s
PPT Papeete 40.86 97 LR LR 20 03 55.3
comp=Z,2µm,18.0s,baz=93,slow=31
PMOR Pomariorio Ree 42.80 94 *e*P **P** 19 50 57.7 +3.6
comp=Z,312nm,1.3s
VAH Vaihoa 43.02 94 *e*P **P** 19 50 59.2 +3.4
comp=Z,156nm,1.3s
KMBL Kambalda 43.70 242 P **P** **19 51 00.8 -0.4**
baz=44,SNR=9.9
MMRI Maumere 44.88 275 P **P** **19 51 08.3 -2.6**
MBWA Marble Bar 45.23 257 *e*P **P** **19 51 13.9 +0.3**
comp=Z,94nm,0.9s
MBWA LR LR
comp=Z,1µm,21.0s
MEEK Meekatharra 46.17 249 P **P** **19 51 20.6 -0.4**
baz=46,SNR=74
KMSI Cibinong 46.38 288 P **P** **19 51 21.7 -1.0**
KKSI Kolaka, Sulawe 46.78 281 P **P** **19 51 26.8 +1.0**
LUWI Luwuk 46.85 285 P **P** **19 51 25.0 -1.4**
KLBR Kellerberrin 47.23 243 P **P** **19 51 28.4 -0.8**
baz=47,SNR=8.5
NWAO Narrogin (SRO) 47.81 241 P **P** **19 51 32.8 -0.8**
NWAO pP **pP** **19 51 45.4 +1.5**
NWAO Narrogin (SRO) 47.81 241 P **P** **19 51 32.8 -0.8**
comp=Z,32nm,0.7s,baz=92,slow=7.5,SNR=21
NWAO pP **pP** **19 51 45.4 +1.5**
comp=Z,45nm,0.8s,baz=86,slow=6.6,SNR=8.0
NWAO LR LR 20 12 11.3
comp=Z,1µm,18.8s,baz=267,slow=37
BKSI Bulukumba 47.85 278 P **P** **19 51 33.4 -0.8**
comp=Z,45nm,1.1s,comp=Z,496nmcomp=Z,0.1nm
BLDU Ballidu 48.04 244 P **P** **19 51 34.7 -0.7**
baz=48,SNR=5.4
BNSI Bone 48.16 280 P **P** **19 51 36.4 -0.2**
MRSI Marisa 48.20 287 P **P** **19 51 35.2 -1.7**
RKGY Rocky Gully 48.23 239 ⇓P **P** **19 51 36.7 -0.2**
baz=48,SNR=5.0
KAPI Kappang 48.30 279 *e*P **P** **19 51 38.4 +0.7**
comp=Z,2µm,2.2s
KAPI Kappang 48.30 279 LR LR 20 12 00.5
comp=Z,1µm,21.0s,baz=238,slow=36
MORW Morawa 48.53 246 P **P** **19 51 38.7 -0.6**
baz=49,SNR=16
SPSI Sidrap Palu 48.62 280 P **P** **19 51 38.1 -2.0**
comp=Z,40nm,1.2s,comp=Z,542nmcomp=Z,0.2nm
TTSI Tana Toraja 48.88 281 P **P** **19 51 42.7 +0.6**
MJSI Majene 49.49 280 P **P** **19 51 47.6 +0.7**
comp=Z,116nm,1.2s,comp=Z,2µmcomp=Z,0.5nm
MMSI Mamuju 49.85 281 P **P** **19 51 49.4 -0.2**
DRV Dumont d'Urvil 52.71 193 P **P** 19 52 19.0 +8.8
DRV S S 19 59 25.0 -10
DRV SS **SS** **20 03 19.0 +5.0**
DRV L L 20 05 00.0
DRV R 20 07 00.0
TSM Tawau 53.47 289 P **P** **19 52 15.8 -0.8**
RKT Rikitea 54.02 106 *e*S **S** **19 59 59.4 +4.9**
comp=Z,588nm,30.5s
RKT *e*SS **SS** **20 03 41.3 +5.1**
comp=Z,512nm,28.5s
RKT *e*LR LR 20 08 01.0
comp=Z,2µm,28.0s
SDKM Sandakan 54.65 290 P **P** **19 52 24.9 -0.3**
KDM Kudat 55.52 291 P **P** **19 52 32.1 +0.7**
KKM Kota Kinabalu 55.70 290 P **P** **19 52 31.9 -1.0**
KKM Kota Kinabalu 55.70 290 *e*P **P** 19 52 39.2 +6.4
comp=Z,329nm,1.6s
KKM LR LR
comp=Z,568nm,22.0s
KKM Kota Kinabalu 55.70 290 ⇓P **P** **19 52 32.6 -0.3**
baz=56,SNR=5.7
BTM Bintulu 57.41 285 P **P** **19 52 45.3 +0.4**
TGJI Tegal 57.87 273 P **P** **19 52 48.1 -0.2**
SBUM Sibu 57.92 284 P **P** **19 52 49.3 +0.7**
KPJI Karang Pucung 57.93 272 P **P** **19 52 48.9 +0.3**
CISI Cisompet, Garu 58.94 271 P **P** **19 52 55.5 -0.2**
CISI Cisompet, Garu 58.94 271 P **P** **19 52 55.6 -0.2**
baz=59
LEM Lembang 59.32 272 P P 19 52 53.8 -4.7
LEM Lembang 59.32 272 ⇓P **P** **19 52 58.5 -0.1**
baz=60,SNR=4.9
KSM Kuching 59.35 282 P **P** **19 52 58.6 0.0**
KSM Kuching 59.35 282 *e*P **P** **19 52 58.2 -0.4**
comp=Z,100nm,1.3s
KSM LR LR
comp=Z,400nm,20.0s
KSM Kuching 59.35 282 P **P** **19 52 58.7 +0.2**
baz=60,SNR=6.5
MAJO Matsushiro 60.13 333 *e*P **P** **19 53 01.6 -1.8**
MAJO pmax pmax
comp=Z,53nm,1.0s
MAJO MLR MLR
comp=Z,676nm,19.0s
MAJO Matsushiro 60.13 333 *e*P **P** **19 53 01.6 -1.8**
comp=Z,53nm,1.0s
MAJO LR LR
comp=Z,676nm,19.0s
MAT Matsushiro 60.13 333 P P 19 53 00.5 -2.9
MAT S **S** **20 01 13.8 -0.7**
VNDA Vanda 60.51 181 *e*P **P** **19 53 05.5 0.0**
comp=Z,69nm,1.4s
VNDA Vanda 60.51 181 P **P** **19 53 05.4 0.0**
comp=Z,7.1nm,1.1s,baz=4.1,slow=4.1,SNR=6.8
VNDA LR LR 20 17 17.3
comp=Z,721nm,18.5s,baz=14,slow=34
SBA Scott Base 60.78 180 *e*P **P** **19 53 08.9 +1.6**
SBA pmax pmax
comp=Z,173nm,1.1s
SBA MLR MLR
comp=Z,583nm,19.0s
SBA Scott Base 60.78 180 *e*P **P** **19 53 08.9 +1.6**
comp=Z,173nm,1.1s
SBA LR LR
comp=Z,583nm,19.0s
NACB Ninganchiao 60.78 311 *e*P **P** **19 53 06.5 -1.6**
comp=Z,129nm,1.1s
JNU Nakatsue 61.01 325 *e*P **P** **19 53 08.5 -1.1**
comp=Z,29nm,0.8s
SSLB Suanglung 61.01 310 *e*P **P** **19 53 08.4 -1.3**
comp=Z,71nm,1.0s
YHNB Yeheng 61.24 312 *e*P **P** **19 53 11.3 -0.1**
comp=Z,160nm,1.0s
YHNB LR LR
comp=Z,685nm,20.0s
TATO Taipei 61.35 312 P **P** **19 53 14.6 +2.6**
CASY Casey 61.45 203 PFAKE 19 53 20.0 +8.0
CASY LR LR
comp=Z,944nm,22.0s
KASI Kota Agung 62.66 273 P **P** **19 53 18.9 -2.1**
ERM Erimo 62.99 340 PFAKE 19 53 30.0 +7.4
ERM LR LR
comp=Z,865nm,20.0s
LWLI Liwa 63.22 273 P **P** **19 53 25.1 +0.2**
comp=Z,77nm,1.5s,comp=Z,2µmcomp=Z,0.3nm
MDSI Maura Dua 63.26 274 P **P** **19 53 22.9 -2.1**
comp=Z,36nm,1.8s,comp=Z,1µmcomp=Z,0.1nm
QZH Quanzhou 63.42 310 P **P** **19 53 28.8 +3.0**
QZH S **S** **20 01 57.0 +0.5**
QZH LR LR
comp=Z,880nm,12.6s
YUK Yuzh-Kuril'sk 64.00 343*c* iP P 19 53 26.5 -2.7
YUK *i* 19 54 10.0
YUK *i* 19 55 56.6
YUK *i* S S 20 01 55.5 -7.4
YUK *i* 20 03 18.3
YUK MLR MLR
comp=E,337nm,18.0s
YUK MLR MLR
comp=Z,595nm,18.0s
ASAJ Asahikawa 65.06 340 *e*P **P** **19 53 36.4 +0.3**
comp=Z,75nm,1.5s
SSE Sheshan 65.43 317 *e*P **P** **19 53 39.3 +0.5**
SSE pP **pP** **19 53 50.3 +0.9**
SSE sP sP 19 53 56.7 +3.2
SSE PcP **PcP** **19 54 11.3 +0.7**
SSE S **S** **20 02 21.4 +0.3**
SSE pmax pmax
comp=Z,28nm,0.8s
SSE pmax pmax
comp=Z,99nm,3.8s
SSE LR LR
comp=Z,230nm,19.6s
SSE LR LR
comp=Z,450nm,19.6s
SSE LR LR
comp=Z,730nm,21.0s
MYKOM Kota Tinggi 65.52 280 P **P** **19 53 38.7 -1.1**
KSRS Korea Array 65.85 326 P **P** **19 53 40.8 -0.6**
comp=Z,6.3nm,0.8s,baz=145,slow=7.4,SNR=19
KSRS pP **pP** **19 53 52.6 +0.6**
comp=Z,14nm,0.7s,baz=142,slow=6.8,SNR=24
KSRS LR LR 20 20 59.8
comp=Z,399nm,20.7s,baz=131,slow=35
KSAR Wonju Array Be 65.86 326 P **P** **19 53 40.8 -0.7**
KSAR pP **pP** **19 53 52.6 +0.5**
KGM Kluang 66.10 280 P **P** **19 53 42.9 -0.7**
INCN Inchon 66.56 325 PFAKE 19 54 00.0 +14
INCN LR LR
comp=Z,533nm,19.0s
QIZ Qiongzhong 67.14 300 PFAKE 19 54 00.0 +10
QIZ LR LR
comp=Z,716nm,20.0s
YSS Yuzh-Sakhalins 67.56 342⇑ *i*P **P** **19 53 52.6 +0.5**
YSS *i* *PP **pP** **19 54 03.0 +0.3**
YSS *e*S S 20 02 36.0 -10
YSS MLR MLR
comp=N,700nm,19.0s
YSS MLR MLR
comp=Z,800nm,19.0s
NJ2 Nanjing 67.57 316 *e*P **P** **19 53 52.7 +0.2**
NJ2 pP **pP** **19 54 03.5 +0.4**
NJ2 sP **sP** **19 54 06.0 -1.2**
NJ2 S **S** **20 02 51.0 +4.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
NJ2 LR LR
comp=Z,2µm,17.4s
NJ2 LR LR
comp=Z,1µm,21.0s
NJ2 LR LR
comp=Z,2µm,18.2s
FRIM Kepong 68.10 281 P **P** **19 53 54.9 -1.4**
COCO West Island 68.28 263 PFAKE 19 54 10.0 +13
COCO LR LR
comp=Z,1µm,19.0s
VLA Vladivostok 68.30 333 *e*P **P** **19 53 56.0 -0.8**
VLA pmax pmax
comp=Z,28nm,1.2s
IPM Ipoh 69.08 282 P **P** **19 54 01.8 -0.6**
IPM Ipoh 69.08 282 *e*P **P** **19 54 01.4 -1.1**
comp=Z,443nm,2.2s
USRK Ussuriysk Arra 69.12 333 P **P** **19 54 01.7 -0.2**
comp=Z,12nm,0.8s,baz=134,slow=5.5,SNR=32
USRK pP **pP** **19 54 14.3 +1.7**
comp=Z,46nm,0.8s,baz=155,slow=4.5,SNR=24
USRK LR LR 20 22 26.6
comp=Z,414nm,18.9s,baz=137,slow=34
KULM Kulim 69.71 282 P **P** **19 54 06.0 -0.3**
KULM Kulim 69.71 282 P **P** **19 54 06.7 +0.5**
comp=Z,104nm,1.4s
KULM LR LR
comp=Z,383nm,21.0s
WHN Wuhan 69.73 313 ⇑P **P** **19 54 06.2 +0.2**
WHN LR LR
comp=Z,1µm,16.3s
PET Petropavlovsk 70.26 354 *e*P P 19 54 19.2 +10
PET pmax pmax
comp=Z,40nm,1.3s
PET pmax pmax
comp=Z,200nm,14.4s
PET Petropavlovsk 70.26 354 PFAKE 19 54 20.0 +11
PET LR LR
comp=Z,1µm,21.0s
DL2 Dalian 70.36 323 P P 19 54 15.1 +5.5
DL2 pmax pmax
comp=Z,55nm,0.7s
DL2 pmax pmax
comp=Z,200nm,5.9s
DL2 LR LR
comp=Z,280nm,19.6s
DL2 LR LR
comp=Z,370nm,16.7s
PEA0B Petropavlovsk- 70.44 354 *e*P **P** **19 54 08.3 -1.5**
PETK Petropavlovsk- 70.44 354 P **P** **19 54 08.4 -1.4**
PETK *PP **pP** **19 54 21.3 +0.7**
PETK pmax pmax
comp=Z,10.0nm,0.9s
PETK pmax pmax
comp=Z,42nm,0.9s
PETK MLR MLR
comp=Z,611nm,19.4s
PETK Petropavlovsk- 70.44 354 P **P** **19 54 08.4 -1.4**
PETK pP **pP** **19 54 21.3 +0.7**
PETK Petropavlovsk- 70.44 354 P **P** **19 54 08.4 -1.4**
comp=Z,10nm,0.9s,baz=158,slow=9.3,SNR=9.6
PETK pP **pP** **19 54 21.3 +0.7**
comp=Z,42nm,0.9s,baz=142,slow=7.3,SNR=19
PETK LR LR 20 20 29.6
comp=Z,611nm,19.4s,baz=157,slow=32
MDJ Mudanjiang 70.50 332 P **P** **19 54 10.2 -0.2**
MDJ pP **pP** **19 54 20.2 -0.9**
MDJ sP **sP** **19 54 21.8 -3.3**
MDJ PP **PP** **19 56 45.3 -1.8**
MDJ S **S** **20 03 25.6 +4.4**
MDJ sS **sS** **20 03 35.8 -3.1**
MDJ pmax pmax
comp=Z,34nm,1.2s
MDJ pmax pmax
comp=Z,190nm,4.1s
MDJ LR LR
comp=Z,710nm,24.1s
MDJ LR LR
comp=Z,660nm,21.9s
MDJ LR LR
comp=Z,460nm,17.5s
MDJ Mudanjiang 70.50 332 *e*P **P** **19 54 09.7 -0.7**
comp=Z,77nm,1.0s
MDJ LR LR
comp=Z,459nm,19.0s
PSI Prapat 70.50 279 P **P** **19 54 10.7 -0.5**
baz=71,SNR=8.7
GSI Gunungsitoli 71.30 277 ⇓P **P** **19 54 16.2 +0.2**
baz=71
SNY Shenyang 71.33 327 ⇓P P 19 54 26.3 +11
SNY S SKiKP 20 03 46.1 -7.2
SNY Shenyang 71.33 327 SS SS 20 08 11.4 +5.2
SNY pmax pmax
comp=Z,54nm,1.0s
SNY pmax pmax
comp=Z,13nm,0.9s
SNY LR LR
comp=N,610nm,18.3s
SNY LR LR
comp=E,220nm,13.8s
SNY LR LR
comp=Z,490nm,19.8s
HABR Khabarovsk 71.42 338*ce*P P 19 54 22.5 +6.6
HABR *e**PP **PcP** **19 54 36.8 +1.5**
HABR *e* 19 54 40.5
HABR *e* 19 57 02.8

HABR *e* 20 03 58.6
HABR *e* 20 04 05.4
HABR pmax pmax
comp=N,49nm,1.7s
HABR pmax pmax
comp=E,52nm,1.7s
HABR pmax pmax
comp=Z,43nm,1.2s
HABR MLR MLR
comp=Z,259nm,17.0s
CN2 Changchun 71.81 329 ⇑P **P** **19 54 18.3 -0.1**
CN2 *es*P **sP** **19 54 34.3 +1.2**
CN2 *eS* **S** **20 03 35.2 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,600nm,19.0s
SURA Surathani 72.03 286 P P 19 54 34.9 +15
SURT Suratani 72.72 285 P P 19 54 38.3 +14
QSPA South Pole Qui 72.94 180 *eP* **P** **19 54 25.2 +0.1**
comp=Z,144nm,1.1s
QSPA LR LR
comp=Z,696nm,20.0s
QSPA South Pole Qui 72.94 180 P **P** **19 54 25.4 +0.4**
comp=Z,85nm,1.0s,baz=355,slow=2.4,SNR=4.3
ENH Enshi 73.08 310 *eP* **P** **19 54 24.9 -1.5**
comp=Z,47nm,1.0s
ENH LR LR
comp=Z,63nm,19.0s
KLR Kul'dur 73.28 336 *eP* P 19 54 23.1 -3.9
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,110nm,1.8s
KLR MLR MLR
comp=Z,700nm,12.5s
GYA Guiyang 73.29 305 ⇓*iP* **P** **19 54 28.1 +0.3**
GYA pP **PcP** **19 54 41.6 -2.4**
GYA sP sP 19 54 46.4 +3.9
GYA PP **PP** **19 57 15.0 +3.5**
GYA S **S** **20 03 53.7 -0.6**
GYA sS sS 20 04 15.9 +3.8
GYA SKS **SKSac** **20 04 27.2 -4.5**
GYA SS **SS** **20 08 40.0 +3.0**
GYA pmax pmax
comp=Z,30nm,1.1s
GYA pmax pmax
comp=Z,160nm,5.6s
GYA LR LR
comp=Z,840nm,20.8s
GYA LR LR
comp=Z,760nm,22.4s
GYA LR LR
comp=Z,920nm,20.9s
PBKT Sadao Pong 73.64 293 P P 19 54 35.6 +5.8
comp=Z,25nm,2.3s,comp=Z,2µm
BJT Baijiatuan 74.27 321 P **P** **19 54 34.6 +1.6**
comp=Z,14nm,0.4s
BJT LR LR
comp=Z,629nm,19.0s
BJI Beijing 74.28 321 P **P** **19 54 33.3 +0.2**
BJI pP **pP** **19 54 44.2 +0.4**
BJI PP **PP** **19 57 19.6 +0.1**
BJI S **S** **20 04 06.9 +2.3**
BJI SS **SS** **20 08 53.6 +2.3**
BJI pmax pmax
comp=Z,25nm,1.5s
BJI LR LR
comp=Z,490nm,26.5s
BJI LR LR
comp=Z,520nm,26.0s
BJI LR LR
comp=Z,850nm,30.7s
SRDT SRDT 74.41 291 P P 19 54 48.3 +14
NANT Nan 74.78 295 P **P** **19 54 36.8 +0.3**
comp=Z,77nm,0.8s,comp=Z,861nm
KHLT Khaolaem Dam 75.06 291 P P 19 54 52.0 +14
XAN Xi'an 75.49 313 P **P** **19 54 39.5 -0.8**
XAN pP **pP** **19 54 49.3 -1.8**
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,33nm,6.7s
XAN LR LR
comp=Z,290nm,19.9s
XAN LR LR
comp=Z,140nm,20.6s
XAN LR LR
comp=Z,150nm,19.9s
CRAI Chiangrai 75.65 297 P **P** **19 54 42.6 +1.1**
comp=Z,252nm,1.9s
KMI Kunming 75.79 302 P **P** **19 54 42.5 +0.1**
KMI pP **PcP** **19 54 55.7 +0.7**
KMI sP sP 19 54 59.8 +2.6
KMI PP **PP** **19 57 37.6 +4.7**
KMI S **S** **20 04 22.1 -0.5**
KMI sS sS 20 04 42.4 +2.0
KMI SS **SS** **20 09 18.3 +3.0**
KMI pmax pmax
comp=Z,16nm,1.0s
KMI pmax pmax
comp=Z,220nm,6.7s
KMI LR LR
comp=Z,220nm,21.8s
KMI LR LR
comp=Z,260nm,25.3s
KMI LR LR
comp=Z,510nm,26.3s
CM31 Chiang Mai Arr 76.17 294 *eP* **P** **19 54 44.5 0.0**
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 76.17 294 P **P** **19 54 44.9 +0.4**
CMAR Chiang Mai Arr 76.17 294 P **P** **19 54 44.9 +0.4**
comp=Z,4.6nm,0.8s,baz=128,slow=4.4,SNR=26
CMAR LR LR 20 25 41.4
comp=Z,265nm,21.1s,baz=115,slow=34
CMMT Chiang Mai 76.31 295 P **P** **19 54 46.5 +1.3**
comp=Z,30nm,2.4s,comp=Z,515nm
CHTO Chiang Mai 76.31 295 *eP* **P** **19 54 44.8 -0.5**
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CHTO MLR MLR
comp=Z,232nm,20.0s
CHTO Chiang Mai 76.31 295 *eP* **P** **19 54 44.8 -0.5**
comp=Z,8.3nm,1.1s
CHTO LR LR
comp=Z,232nm,20.0s
CHTO Chiang Mai 76.31 295 P **P** **19 54 46.5 +1.3**
comp=Z,137nm,2.4s,comp=Z,2µm
CMAI Chiengmai2 76.67 296 P **P** **19 54 48.7 +1.2**
comp=Z,81nm,1.0s
MHMT Maesarieng 76.94 294 P P 19 54 58.1 +9.3
HHC Hu-ho-hao-te 77.56 320 *eP* **P** **19 54 51.2 -0.8**
HHC sP sP 19 55 11.2 +4.4
HHC PP **PP** **19 57 49.1 +1.7**
HHC S **S** **20 04 38.3 -2.8**
HHC sS **SKSac** **20 05 01.8 -1.1**
HHC SS **SS** **20 09 44.4 +3.0**
HHC pmax pmax
comp=Z,49nm,1.2s
HHC pmax pmax
comp=Z,320nm,7.4s
HHC LR LR
comp=Z,760nm,17.5s
HHC LR LR
comp=Z,420nm,17.7s
HHC LR LR
comp=Z,580nm,18.5s
CD2 Chengdu 77.67 308 P **P** **19 54 53.6 +0.9**
CD2 pP **pP** **19 55 06.0 +2.5**
CD2 sP sP 19 55 09.9 +2.4
CD2 PP **PP** **19 57 51.2 +2.8**
CD2 S **S** **20 04 41.9 -0.6**
CD2 SKS **SKSac** **20 04 59.6 -4.3**
CD2 sS **SKKSac** **20 05 03.0 -1.8**
CD2 SS **SS** **20 09 45.8 +2.5**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,400nm,10.2s
CD2 LR LR
comp=Z,700nm,16.6s
CD2 LR LR
comp=Z,360nm,19.0s
CD2 LR LR
comp=Z,590nm,19.0s
HIA Hailar 78.47 330 *eP* **P** **19 54 56.9 +0.2**
comp=Z,11nm,0.9s
HIA LR LR
comp=Z,553nm,19.0s
MAW Mawson 79.80 202 P **P** **19 55 03.8 +0.1**
MAW pP **pP** **19 55 16.4 +1.8**
MAW *e* 19 55 16.6
MAW Mawson 79.80 202 P **P** **19 55 03.8 +0.1**
comp=Z,6.7nm,0.8s,baz=119,slow=6.9,SNR=9.6
MAW pP **pP** **19 55 16.4 +1.8**
comp=Z,24nm,1.0s,baz=111,slow=8.0,SNR=12
MAW LR LR 20 26 30.8
comp=Z,537nm,19.9s,baz=98,slow=33
LZH Lanzhou 80.11 313 ⇑P **P** **19 55 07.8 +1.6**
LZH pP **pP** **19 55 18.9 +1.9**
LZH sP sP 19 55 24.3 +3.3
LZH PP **PP** **19 58 12.2 +3.3**
LZH *eS* **S** **20 05 12.2 +3.5**
LZH sS **ScS** **20 05 28.3 -0.8**
LZH SS **SS** **20 10 25.2 +5.2**
LZH pmax pmax
comp=Z,53nm,1.3s
LZH pmax pmax
comp=Z,230nm,5.6s
LZH LR LR
comp=Z,1µm,19.5s
LZH LR LR
comp=Z,780nm,19.0s
LZH LR LR
comp=Z,2µm,19.2s
CIT Chita 83.25 330 *eP* **P** **19 55 21.1 -1.1**
CIT *e* 19 55 28.9
RSO Redoubt South 83.64 19 *epP* pP 19 55 36.2 +1.1
ULN Ulaanbaatar 84.20 324 *eP* **P** **19 55 26.9 -0.4**
comp=Z,117nm,1.6s
ULN LR LR
comp=Z,453nm,22.0s
YAK Yakutsk 84.37 343 *eP* **P** **19 55 26.1 -1.4**
YAK pmax pmax
comp=Z,98nm,1.3s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,31nm,1.3s
YAK Yakutsk 84.37 343 *eP* **P** **19 55 26.7 -0.8**
comp=N,87nm,1.0s
YAK *e* 19 55 37.6
YAK LR LR
comp=Z,773nm,21.0s
SONM Songino Array 84.56 324 P **P** **19 55 28.2 -0.9**
SONM pP **pP** **19 55 40.7 +0.7**
SONM Songino Array 84.56 324 P **P** **19 55 28.2 -0.9**
comp=Z,7.7nm,0.8s,baz=148,slow=6.8,SNR=61
SONM pP **pP** **19 55 40.7 +0.7**
comp=Z,12nm,0.9s,baz=136,slow=5.4,SNR=14
SONM LR LR 20 30 30.5
comp=Z,477nm,19.3s,baz=120,slow=34
HOPS Hopland 85.45 47 P **P** **19 55 32.2 -1.3**
PKM Peak Mountain 86.08 52 ⇓P **P** **19 55 38.1 +1.0**
baz=86
WDC Whiskeytown Da 86.51 46 *eP* **P** **19 55 38.8 0.0**
WDC pmax pmax
comp=Z,29nm,1.6s
WDC Whiskeytown Da 86.51 46 *eP* **P** **19 55 38.8 0.0**
comp=Z,29nm,1.6s
SYO Syowa Base 86.52 197 ⇑*eP* **P** **19 55 36.6 -1.8**
SYO Syowa Base 86.52 197 ⇑*epP* P 19 55 41.4 +3.0
N02D Trinity Center 86.57 45 ⇑P **P** **19 55 40.1 +0.9**
baz=87
M02C Callahan 86.65 45 ⇑P **P** **19 55 40.4 +0.8**
baz=87
OHCM Honcut 86.71 47 *eP* **P** **19 55 39.5 -0.2**
OHCM *epP* **pP** **19 55 47.7 -3.0**
YBH Yreka Blue Hor 86.90 45 *eP* **P** **19 55 41.7 +1.0**
comp=Z,121nm,2.7s
CMB Columbia Colle 86.94 49 *eP* **P** **19 55 39.1 -1.9**
CMB pmax pmax
comp=Z,32nm,1.3s
CMB Columbia Colle 86.94 49 *eP* **P** **19 55 39.1 -1.9**
comp=Z,32nm,1.3s
LSA Lhasa 87.05 302 P **P** **19 55 41.8 -0.5**
LSA Lhasa 87.05 302 *eP* **P** **19 55 42.2 -0.1**
LSA pmax pmax
comp=Z,15nm,1.0s
LSA MLR MLR
comp=Z,256nm,20.0s
LSA Lhasa 87.05 302 *eP* **P** **19 55 42.2 -0.1**
comp=Z,15nm,1.0s
LSA LR LR
comp=Z,256nm,20.0s
MWC Mount Wilson 87.15 53 *eP* P 19 55 38.8 -3.5
MWC *e* 19 55 51.4
MWC pmax pmax
comp=Z,55nm,1.4s
MWC Mount Wilson 87.15 53 *eP* P 19 55 38.8 -3.5
comp=Z,55nm,1.4s
MWC *e* 19 55 51.4
ISA Isabella 87.40 52 *eP* **P** **19 55 41.3 -2.0**
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella 87.40 52 *eP* **P** **19 55 41.3 -2.0**
comp=Z,9.2nm,1.1s
ISA Isabella 87.40 52 ⇑P **P** **19 55 42.4 -1.0**
baz=88
EDW2 Edwards Air Fo 87.46 52 ⇑P **P** **19 55 42.4 -1.3**
baz=88,SNR=6.7
ZAK Zakamensk 87.64 325 ⇑*iP* **P** **19 55 43.6 -0.6**
ZAK *e* 19 59 16.5
ZAK pmax pmax
comp=Z,22nm,1.5s
BEKR Beckworth 87.72 47 *eP* P 19 55 41.2 -3.7
comp=Z,9.6nm,1.2s
WAKR Walker 87.82 49 *eP* **P** **19 55 44.0 -1.4**
LRMC Laurel Mountai 87.92 52 ⇓P **P** **19 55 44.7 -1.2**
baz=88
MONP Monument Peak 87.92 55 ⇑P **P** **19 55 44.9 -1.2**
baz=88
CWC Cottonwood Cre 87.99 51 ⇓P **P** **19 55 44.9 -1.3**
baz=88
MTUM Tungsten Hills 87.99 50 *eP* **P** **19 55 45.4 -0.9**
PFO Pinyon Flat Ob 88.16 54 *epP* pP 19 55 58.0 -0.1
PFO Pinyon Flat Ob 88.16 54 ⇓P **P** **19 55 46.0 -1.1**
baz=88
PFO Pinyon Flat Ob 88.16 54 LR LR 20 25 34.5
comp=Z,626nm,21.4s,baz=202,slow=29
MPMC Manual Prospec 88.29 52 ⇓P **P** **19 55 46.6 -1.2**
baz=88,SNR=5.0
PAHR Pah Rah Range 88.34 48 *eP* **P** **19 55 45.4 -2.4**
comp=Z,63nm,1.7s
COLA College 88.48 17 P P 19 55 44.5 -3.1
COLA MLR MLR
comp=Z,943nm,22.0s
COLA College 88.48 17 P P 19 55 44.5 -3.1
COLA LR LR
comp=Z,943nm,22.0s
GSC Goldstone 88.52 52 *eP* **P** **19 55 48.9 +0.2**
GSC *e* 19 55 58.2
GSC pmax pmax
comp=Z,7.0nm,1.3s
GSC Goldstone 88.52 52 *eP* **P** **19 55 48.9 +0.2**
comp=Z,7.1nm,1.3s
GSC *e* 19 55 58.2
GSC Goldstone 88.52 52 ⇓P **P** **19 55 48.6 -0.1**
baz=89,SNR=5.3
J05D Fort Rock, OR 88.55 44 ⇓P **P** **19 55 48.2 -0.6**
baz=89
MOD Modoc 88.60 45 *eP* **P** **19 55 48.5 -0.5**
comp=Z,18nm,1.4s
BELC Belle Mtn. Jos 88.65 54 ⇑P **P** **19 55 48.5 -0.9**
baz=89
ILAR Eielson Array 88.69 18 P P 19 55 45.2 -3.4
ILAR pP pP 19 55 56.5 -3.1
ILAR Eielson Array 88.69 18 P P 19 55 45.2 -3.4
comp=Z,0.9nm,0.7s,baz=240,slow=4.9,SNR=12
ILAR pP pP 19 55 56.5 -3.1
comp=Z,2.8nm,0.8s,baz=235,slow=6.1,SNR=12
ILAR LR LR 20 30 52.2
comp=Z,652nm,18.8s,baz=69,slow=32
NLWA Neilton Lookou 88.69 39 *epP* pP 19 56 06.7 +6.5
NLWA LR LR
comp=Z,807nm,19.0s
HEC Hector,Ludlow 88.70 53 ⇓P **P** **19 55 48.5 -1.1**
baz=89,SNR=6.5
NV11 Mina Array Sit 88.71 49 *eP* **P** **19 55 47.7 -1.9**
NV11 *e* 19 55 59.1
FURC Furnace Creek, 88.92 51 ⇑P **P** **19 55 49.1 -1.2**
baz=89
I05D Terrebonne, OR 88.93 43 ⇑P **P** **19 55 50.0 -0.4**
baz=89
BC3 Big Chuckawall 88.95 54 ⇑P **P** **19 55 49.6 -1.2**
baz=89
PALK Pallekele 89.12 278 P **P** **19 55 51.8 -0.1**
comp=Z,140nm,2.0s
GMRC Granite Mounta 89.20 53 ⇓P **P** **19 55 50.8 -1.1**
baz=89,SNR=5.7
GLA Glamis 89.22 55 P **P** **19 55 53.1 +1.1**
GLA *e* 19 56 00.0
GLA Glamis 89.22 55 P **P** **19 55 53.1 +1.1**
GLA *e* 19 56 00.0
TUQ Turquoise Moun 89.24 53 ⇓P **P** **19 55 51.1 -1.0**
baz=89,SNR=5.6
TPH Tonopah 89.25 50 *eP* **P** **19 55 50.7 -1.5**
TPH pmax pmax
comp=Z,19nm,1.1s
TPH Tonopah 89.25 50 *eP* **P** **19 55 50.7 -1.5**
comp=Z,19nm,1.1s
IRM Iron Mountain 89.37 54 ⇓P **P** **19 55 52.0 -0.7**
baz=89,SNR=7.0
PMSA Palmer Station 89.45 160 PFAKE 19 56 00.0 +7.6
PMSA LR LR
comp=Z,376nm,19.0s
MOY Mondy 89.53 325 *eP* P 19 56 05.1 +12
TPNV Topopah Spring 89.55 51 *eP* **P** **19 55 52.6 -1.0**
TPNV pmax pmax
comp=Z,29nm,1.1s
TPNV Topopah Spring 89.55 51 *eP* **P** **19 55 52.5 -1.0**
comp=Z,29nm,1.1s
TPNV Topopah Spring 89.55 51 ⇑P **P** **19 55 52.6 -1.0**
baz=90
Y12C Blythe 89.71 55 ⇑P **P** **19 55 53.4 -0.8**
baz=90,SNR=7.5
D05A Enumclaw 89.74 40 *epP* pP 19 56 06.5 +1.4
WVOR Wild Horse Val 89.95 45 PFAKE 19 56 10.0 +15
WVOR LR LR
comp=Z,399nm,19.0s
I07A Izee 90.03 44 *eP* **P** **19 55 54.6 -1.0**
comp=Z,53nm,1.8s
PDMCI Parker Dam,Lak 90.20 54 ⇓P **P** **19 55 55.3 -1.1**
baz=90,SNR=8.1
SHPR Sheep Range 90.20 52 *eP* **P** **19 55 55.4 -1.2**
comp=Z,59nm,1.4s
SHPR *e* 19 56 06.9
J08A Circle Bar Ran 90.42 45 *eP* **P** **19 55 56.5 -1.0**
comp=Z,19nm,1.0s
214A Organ Pipe Nat 90.44 57 P **P** **19 55 56.7 -1.0**
214A Organ Pipe Nat 90.44 57 ⇓P **P** **19 55 57.0 -0.7**
baz=90,SNR=7.8
R11A Troy Canyon, C 90.55 50 ⇓P **P** **19 55 57.2 -1.1**
baz=91
W13A Hualapai Mount 90.67 53 ⇓P **P** **19 55 57.8 -1.2**
baz=91,SNR=7.1
NVL N'lazarevskaya 90.75 188 *eP* **pP** **19 56 11.7 +2.3**
NVL *e* 19 56 20.0
NVL *i* 20 01 36.6
NVL *eS* **SKSac** **20 06 23.9 -3.4**
NVL *e* 20 06 49.5
NVL pmax pmax
comp=Z,43nm,0.8s
NVL MLR MLR
comp=Z,813nm,18.0s
Z14A Wintersburg 90.81 55 ⇓P **P** **19 55 59.1 -0.2**
baz=91
G08A Pilot Rock 90.87 43 *eP* **P** **19 55 58.2 -1.3**
comp=Z,13nm,1.0s
HAWA Hanford 90.94 41 PFAKE 19 56 10.0 +10
HAWA LR LR
comp=Z,471nm,19.0s
SNAA Sanae 91.21 183 *eP* **P** **19 55 59.3 -1.3**
SNAA Sanae 91.21 183 *epP* pP 19 56 10.6 -1.0
SNAA Sanae 91.21 183 *ePKiKP* **PKiKP** **20 00 50.5 -2.5**
SNAA Sanae 91.21 183 *eP* **P** **19 55 58.6 -2.0**
comp=Z,31nm,1.0s
SNAA Sanae 91.21 183 P **P** **19 55 59.7 -1.0**
comp=Z,4.3nm,0.9s,baz=191,slow=4.8,SNR=26
BMO Blue Mountains 91.78 43 *eP* **P** **19 56 02.8 -0.9**
BMO *e**PP **pP** **19 56 13.9 -0.8**
BMO pmax pmax
comp=Z,24nm,1.8s
BMO MLR MLR
comp=Z,591nm,19.0s
BMO Blue Mountains 91.78 43 *eP* **P** **19 56 02.8 -0.9**
comp=Z,24nm,1.8s
BMO *epP* **pP** **19 56 13.9 -0.8**
BMO LR LR
comp=Z,591nm,19.0s
E09A Wood Farm, Sta 91.87 42 *epP* pP 19 56 14.2 -0.8
CCUT Cedar City 91.91 51 *eP* **P** **19 56 04.8 +0.1**
comp=Z,18nm,1.4s
ARUT Antelope Range 91.94 51 *eP* **P** **19 56 03.3 -1.4**
ARUT pmax pmax
comp=Z,39nm,0.4s
ARUT Antelope Range 91.94 51 *eP* **P** **19 56 03.3 -1.4**
comp=Z,39nm,0.4s
VNA2 Neumayer--Watz 92.13 182 *eP* **P** **19 56 04.2 -0.6**
VNA2 Neumayer--Watz 92.13 182 *epP* pP 19 56 13.8 -2.0
VNA2 Neumayer--Watz 92.13 182 *esP* sP 19 56 17.9 -1.9
VNA2 Neumayer--Watz 92.13 182 *ePKiKP* **PKiKP** **20 00 50.3 -4.2**
TUC Tucson 92.18 57 *eP* **P** **19 56 04.7 -1.2**
TUC *e* 19 56 16.8
TUC pmax pmax
comp=Z,18nm,1.1s
TUC MLR MLR
comp=Z,392nm,20.0s
TUC Tucson 92.18 57 *eP* **P** **19 56 04.7 -1.2**
comp=Z,18nm,1.1s
TUC *e* 19 56 16.8
TUC LR LR
comp=Z,392nm,20.0s
MFID Camas Ranch 92.23 45 *epP* pP 19 56 23.4 +6.5
F10A Beach Ranch, E 92.25 42 *eP* **P** **19 56 05.8 -0.1**
comp=Z,20nm,1.3s
X16A Lo Mia Camp, P 92.34 55 ⇑P **P** **19 56 06.1 -0.6**
baz=92,SNR=6.2
U15A North Rim 92.34 53 ⇓P **P** **19 56 05.9 -0.9**
baz=92
VNA1 Neumayer--Stat 92.43 181 *eP* **P** **19 56 06.9 +0.7**
VNA1 Neumayer--Stat 92.43 181 *esP* sP 19 56 20.5 -0.6
WUAZ Wupatki 92.75 54 *eP* **P** **19 56 08.0 -0.4**
comp=Z,20nm,1.3s
WUAZ LR LR
comp=Z,639nm,19.0s
WUAZ Wupatki 92.75 54 ⇑P **P** **19 56 08.1 -0.4**
baz=93
319A Douglas 93.10 58 ⇓P **P** **19 56 09.4 -0.8**
baz=93,SNR=7.3
NEW Newport 93.18 40 PFAKE 19 56 20.0 +10
NEW LR LR
comp=Z,526nm,21.0s
DUG Dugway 93.21 49 PFAKE 19 56 20.0 +9.5
DUG LR LR
comp=Z,698nm,20.0s
HLID Hailey 93.24 45 *epP* pP 19 56 25.6 +4.0
HLID LR LR
comp=Z,450nm,20.0s
HLID Hailey 93.24 45 ⇓P **P** **19 56 10.1 -0.5**
baz=93
X18A Snowflake 93.54 55 ⇓P **P** **19 56 11.8 -0.4**
baz=94
320A Kipp Ranch, An 93.70 58 ⇑P **P** **19 56 11.8 -1.2**
baz=94,SNR=6.3
HVU Hansel Valley 93.77 48 *eP* **P** **19 56 12.6 -0.5**
HVU pmax pmax
comp=Z,14nm,1.3s
HVU Hansel Valley 93.77 48 *eP* **P** **19 56 12.6 -0.5**
comp=Z,14nm,1.3s
220A Playas Peak, P 93.87 58 ⇓P **P** **19 56 13.3 -0.4**
baz=94
Z20A Nine Sixteen R 94.18 57 ⇑P **P** **19 56 14.6 -0.5**
baz=94
WMQ Urumqi 94.58 314 P **P** **19 56 16.0 -0.6**
WMQ pP **pP** **19 56 30.0 +2.4**
WMQ sP sP 19 56 35.0 +3.4
WMQ PP **PP** **20 00 06.0 +0.9**
WMQ SKS **SKSac** **20 06 46.0 -3.4**
WMQ S S 20 07 22.0 -5.0
WMQ sS **sS** **20 07 44.0 -1.4**
WMQ SS **SS** **20 13 51.0 +0.1**

WMQ pmax pmax
comp=Z,31nm,1.2s
WMQ pmax pmax
comp=Z,220nm,6.0s
WMQ LR LR
comp=Z,400nm,20.0s
WMQ LR LR
comp=Z,440nm,22.0s
WMQ LR LR
comp=Z,520nm,20.0s
121A Cookes Peak, D 94.66 58 P **P 19 56 16.4 -1.0**
Y21A Point of Rocks 95.18 56 ⇓P **P 19 56 18.0 -1.8**
baz=95
AHID Auburn Hatcher 95.26 47 PFAKE 19 56 30.0 +10
AHID LR LR
comp=Z,607nm,19.0s
MVCO Mesa Verde 95.48 53 PFAKE 19 56 30.0 +8.9
MVCO LR LR
comp=Z,637nm,20.0s
BOZ Bozeman (W) 95.81 44 PFAKE 19 56 30.0 +7.7
BOZ LR LR
comp=Z,218nm,21.0s
BW06 Boulder Array 96.34 47 PFAKE 19 56 30.0 +5.1
BW06 LR LR
comp=Z,573nm,20.0s
PDAR Pinedale Array 96.35 47 P P 19 56 22.0 -2.9
PDAR pP pP 19 56 34.6 -1.3
PDAR PP **PP 20 00 19.1 +0.1**
PDAR Pinedale Array 96.35 47 P P 19 56 22.0 -2.9
comp=Z,0.4nm,0.7s,baz=159,slow=4.6,SNR=3.8
PDAR pP pP 19 56 34.6 -1.3
comp=Z,0.7nm,0.8s,baz=180,slow=2.4,SNR=4.3
PDAR PP **PP 20 00 19.1 +0.1**
comp=Z,0.9nm,1.0s,baz=325,slow=1.8,SNR=4.3
MNTX Cornudas Mount 96.38 59 PFAKE 19 56 30.0 +5.0
MNTX LR LR
comp=Z,289nm,19.0s
ANMO Albuquerque 96.41 56 PFAKE 19 56 40.0 +15
ANMO LR LR
comp=Z,594nm,19.0s
S22A 4UR Ranch, Cre 96.90 53 ⇓P **P 19 56 27.1 -0.5**
baz=97
TXAR Lajitas Array 97.16 62 pP pP 19 56 39.4 -0.4
TXAR Lajitas Array 97.16 62 pP **pP 19 56 39.4 -0.4**
comp=Z,1.0nm,0.9s,baz=267,slow=5.0,SNR=4.1
TXAR LR LR 20 34 36.3
comp=Z,384nm,18.4s,baz=0.0,slow=32
EGMT Eagleton 97.75 42 PFAKE 19 56 40.0 +9.0
EGMT LR LR
comp=Z,288nm,19.0s
SDCO Great Sand Dun 97.92 53 PFAKE 19 56 40.0 +7.7
SDCO LR LR
comp=Z,556nm,19.0s
N22A Wattenberg Ran 98.02 50 ⇑P **P 19 56 32.0 -0.6**
baz=98
ISCO Idaho Springs 98.37 51 PFAKE 19 56 40.0 +5.7
ISCO LR LR
comp=Z,495nm,22.0s
MKAR Makanchi Array 99.10 316 P **Pdif 19 56 35.7 -1.3**
MKAR 20 00 39.7
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 99.10 316 P **Pdif 19 56 35.7 -1.3**
MKAR PP **PP 20 00 39.7 -0.1**
MKAR Makanchi Array 99.10 316 P **Pdif 19 56 35.7 -1.3**
comp=Z,1.9nm,0.8s,baz=95,slow=6.1,SNR=10.0
MKAR PP **PP 20 00 39.7 -0.1**
comp=Z,2.6nm,1.0s,baz=122,slow=11,SNR=4.7
ZAA0 Zalesovo Array 99.46 324 *e*Pdif **Pdif 19 56 37.0 -1.3**
ZALV Zalesovo Beam 99.46 324 P **Pdif 19 56 36.1 -2.2**
ZALV *PP **pP 19 56 48.6 -0.7**
ZALV 20 00 38.8
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,245nm,21.7s
ZALV Zalesovo Beam 99.46 324 P **Pdif 19 56 36.1 -2.2**
ZALV pP **pP 19 56 48.6 -0.7**
ZALV PP **PP 20 00 38.8 -3.4**
ZALV Zalesovo Beam 99.46 324 P **Pdif 19 56 36.1 -2.2**
comp=Z,1.9nm,0.7s,baz=108,slow=4.8,SNR=12
ZALV pP **pP 19 56 48.6 -0.7**
comp=Z,4.1nm,0.8s,baz=20,slow=4.7,SNR=9.5
ZALV PP **PP 20 00 38.8 -3.4**
comp=Z,0.5nm,0.5s,baz=101,slow=8.0,SNR=3.9
ZALV LR LR 20 37 04.1
comp=Z,245nm,21.7s,baz=80,slow=33
YKA Yellowknife Ar 99.52 27 pP pP 19 56 47.9 -1.5
YKA Yellowknife Ar 99.52 27 pP pP 19 56 47.8 -1.5
comp=Z,2.6nm,1.1s,baz=244,slow=4.9,SNR=6.2
NVS Novosibirsk 100.58 324 ⇑*i*P **Pdif 19 56 41.2 -2.1**
NVS pmax pmax
comp=E,10.0nm,1.6s
NVS pmax pmax
comp=Z,16nm,1.6s
NVS pmax pmax
comp=Z,28nm,2.3s
NVS pmax pmax
comp=E,28nm,2.5s
JCT Junction City 100.69 61 PFAKE 19 56 50.0 +5.5
JCT LR LR
comp=Z,505nm,19.0s
OGNE Ogallala 101.30 51 PFAKE 19 57 00.0 +13
OGNE LR LR
comp=Z,768nm,22.0s
PAYG Puerto Ayora 101.42 94 PFAKE 19 57 00.0 +12
PAYG LR LR
comp=Z,2μm,19.0s
KURK Kurchatov 102.38 319 PKKPbc PKKPbc 20 12 51.8 -2.8
KURK LR LR
comp=Z,311nm,21.0s
KURBB Kurchatov Arra 102.41 319 PKKPbc PKKPbc 20 12 51.8 -2.7
comp=Z,0.4nm,0.7s,baz=288,slow=3.1,SNR=4.8
WMOK Wichita Mounta 102.48 57 PFAKE 19 57 00.0 +7.7
WMOK LR LR
comp=Z,420nm,20.0s
TKM2 Tokmak 2 102.85 311 PFAKE 19 57 00.0 +6.0
TKM2 LR LR
comp=Z,457nm,22.0s
FFC Flin Flon 104.04 37 PFAKE 19 57 10.0 +11
FFC LR LR
comp=Z,717nm,21.0s
EKS2 Erkin-Say 104.11 311 PFAKE 19 57 10.0 +11
EKS2 LR LR
comp=Z,544nm,20.0s
KSU1 Kansas State U 105.03 53 PFAKE 19 57 10.0 +6.5
KSU1 LR LR
comp=Z,572nm,20.0s
KKAR Karatay Array 106.55 311 *e*PKPdf **PKiKP 20 01 19.3 -1.5**
MIAR Mount Ida 106.66 58 PFAKE 20 01 30.0
MIAR LR LR
comp=Z,779nm,22.0s
BRVK Borovoye 107.83 321 PFAKE 20 01 30.0
BRVK LR LR
comp=Z,682nm,22.0s
TGUH Tegucigalpa,Un 108.27 81 PFAKE 20 01 40.0
TGUH LR LR
comp=Z,493nm,21.0s
TEIG Tepich 108.68 74 PFAKE 20 01 40.0
TEIG LR LR
comp=Z,2μm,21.0s
MSEY Mahe Island 109.55 259 PFAKE 20 01 40.0
MSEY LR LR
comp=Z,538nm,19.0s
JTS JuntasAbangare 109.56 85 PFAKE 20 01 40.0
JTS LR LR
comp=Z,390nm,19.0s
JFWS Jewell Farm 110.29 50 PFAKE 20 01 40.0
JFWS LR LR
comp=Z,1μm,19.0s
HDIL Hopedale 110.80 53 PFAKE 20 01 40.0
HDIL LR LR
comp=Z,435nm,19.0s
ABPO Ambohimpanom 111.24 241 PFAKE 20 01 40.0
ABPO LR LR
comp=Z,686nm,20.0s
LVC Limon Verde 112.11 124 PFAKE 20 01 40.0
LVC LR LR
comp=Z,663nm,20.0s
OTAV Otavalo 112.96 97 PFAKE 20 01 40.0
OTAV LR LR
comp=Z,808nm,19.0s
BCIP Isla Barro Col 114.16 87 PFAKE 20 01 50.0 +14
BCIP LR LR
comp=Z,767nm,22.0s
ABKAR Akbulak array 114.23 317 *e*PKPdf PKPdf 20 01 34.4 -0.7
ARU Arti 114.58 325 *i* PKIKP PKPdf 20 01 39.0 +3.4
ARU Arti 114.58 325 *e*PKPdf PKPdf 20 01 33.6 -2.0
ARU LR LR
comp=Z,571nm,22.0s
AAM Ann Arbor 115.12 51 PFAKE 20 01 50.0 +13
AAM LR LR
comp=Z,524nm,19.0s
AKTO Aktyubinsk 115.42 318 PKIKP **PKPdf 20 01 37.0 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 115.42 318 PKP **PKPdf 20 01 37.0 -0.4**
AKTO Aktyubinsk 115.42 318 PKP **PKPdf 20 01 37.0 -0.4**
comp=Z,2.4nm,0.6s,baz=85,slow=3.2,SNR=12
BLA Blacksburg 117.53 57 PFAKE 20 01 50.0 +8.1
BLA LR LR
comp=Z,739nm,20.0s
MTDJ Mount Denham 118.27 78 PFAKE 20 01 50.0 +6.1
MTDJ LR LR
comp=Z,1μm,20.0s
CNNC Cliffs of the 119.55 59 PFAKE 20 02 00.0 +14
CNNC LR LR
comp=Z,961nm,20.0s
CBN Corbin 119.95 55 PFAKE 20 02 00.0 +14
CBN LR LR
comp=Z,875nm,22.0s
GTBY Guantanamo Bay 120.81 77 PFAKE 20 02 00.0 +11
GTBY LR LR
comp=Z,2μm,19.0s
LVZ Lovozero 121.13 341 PFAKE 20 02 00.0 +12
LVZ LR LR
comp=Z,707nm,22.0s
SUR Sutherland 121.39 213 PFAKE 20 02 00.0 +10
SUR LR LR
comp=Z,523nm,19.0s
LONY Lake Ozonia 121.58 48 PFAKE 20 02 00.0 +11
LONY LR LR
comp=Z,620nm,19.0s
NCB Newcomb 121.92 49 PFAKE 20 02 00.0 +10
NCB LR LR
comp=Z,586nm,19.0s
KEV Kevo 122.08 345 *e*PKIKP **PKPdf 20 01 48.7 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 122.08 345 *ep* **PKPdf 20 01 48.7 -0.9**
comp=Z,0.7nm,0.4s
ARCES ARCESS Array B 122.60 345 PKP **PKPdf 20 01 48.6 -2.1**
ARCES ARCESS Array B 122.60 345 PKP **PKPdf 20 01 48.6 -2.1**
comp=Z,10nm,0.7s,baz=60,slow=1.8,SNR=15
SDV Santo Domingo 122.89 90 *e*PKPdf **PKPdf 20 01 49.1 -4.0**
KLMR Klimovskoe 122.91 333 *e*PKIKP **PKPdf 20 01 49.9 -1.5**
KLMR pmax pmax
comp=Z,53nm,1.6s
LBNH Lisbon 123.52 48 PFAKE 20 02 00.0 +6.8
LBNH LR LR
comp=Z,872nm,20.0s
SAML Samuel 123.56 113 PFAKE 20 02 00.0 +5.9
SAML LR LR
comp=Z,398nm,21.0s
SDDR Presa de Saban 124.24 78 PFAKE 20 02 10.0 +15
SDDR LR LR
comp=Z,1μm,21.0s
GRTK Grand Turk 124.70 75 PFAKE 20 02 10.0 +14
GRTK LR LR
comp=Z,1μm,19.0s
DGRG David-gareji 125.15 309 P **PKPdf 20 01 56.8 +0.4**
VRHR Novokhopersk 125.50 321 *e*PKIKP **PKPdf 20 01 55.2 -1.5**
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
TBLG Delisi 125.58 309 P **PKPdf 20 01 58.3 +1.1**
GNI Garni 125.80 307 pPKP pPKPdf 20 02 10.7 +1.5
comp=Z,6.9nm,0.8s,baz=4.8,slow=14,SNR=3.8
ZEI Tsey 126.01 311 *e*PKIKP **PKPdf 20 01 58.1 -0.2**
ZEI pmax pmax
comp=Z,12nm,1.2s
ONI Oni 126.37 311 P **PKPdf 20 01 58.8 0.0**
KBZ Khabaz 126.55 312 PKIKP **PKPdf 20 01 58.6 -0.4**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 126.55 312 PKP **PKPdf 20 01 58.5 -0.4**
KBZ Khabaz 126.55 312 PKP **PKPdf 20 01 58.5 -0.4**
comp=Z,1.6nm,0.9s,baz=97,slow=8.3,SNR=5.5
KIV Kislovodsk 126.66 312 *i* PKIKP **PKPdf 20 02 00.6 +1.3**
KIV *e* 20 03 57.6
KIV *e*PS **PS 20 14 02.4 +1.8**
KIV *e*SS SS 20 21 01.6 +1.8
KIV *e*SSS SSS 20 25 42.4
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,230nm,20.0s
KIV Kislovodsk 126.66 312 *e*PKPdf **PKPdf 20 01 59.8 +0.5**
KIV LR LR
comp=Z,300nm,20.0s
OBN Obninsk 126.84 327 ⇑*i*PKIKP **PKPdf 20 01 58.0 -1.1**
OBN *e* 20 04 04.1
OBN pmax pmax
comp=Z,26nm,1.6s
OBN Obninsk 126.84 327 PFAKE 20 02 10.0 +11
OBN LR LR
comp=Z,529nm,21.0s
VSR Storozhevoye 126.92 322 *e*PKIKP **PKPdf 20 01 58.3 -1.1**
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=E,2.0nm,0.4s
VSR pmax pmax
comp=Z,7.0nm,0.4s
VORD Divnogorie 126.94 322 *e*PKIKP **PKPdf 20 01 58.6 -0.8**
VORD pmax pmax
comp=Z,10.0nm,1.6s
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,1.6s
SPB Sao Paulo 127.05 139 PFAKE 20 02 10.0 +9.4
SPB LR LR
comp=Z,368nm,19.0s
CHVG Ch'k'valeri 127.34 311 P **PKPdf 20 02 01.5 +0.9**
KAF Kangasniemi 127.49 338 *e*PKIKP **PKPdf 20 01 57.8 -2.4**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 127.49 338 *ep* **PKPdf 20 01 57.8 -2.4**
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 127.79 255 *e*PKPdf **PKPdf 20 01 59.0 -3.6**
KMBO LR LR
comp=Z,417nm,19.0s
FINES FINESS Array B 128.01 338 PKP **PKPdf 20 01 60.0 -1.2**
FINES FINESS Array B 128.01 338 PKP **PKPdf 20 01 60.0 -1.2**
comp=Z,4.0nm,0.9s,baz=92,slow=1.2,SNR=6.6
LSZ Lusaka 128.60 234 *e*PKPdf **PKPdf 20 02 03.3 -0.6**
LSZ LR LR
comp=Z,341nm,20.0s
SJG San Juan 128.95 80 *e*PKPdf **PKPdf 20 02 01.6 -2.7**
SJG LR LR
comp=Z,561nm,19.0s
PTGA Pitinga 129.94 106 *e*PKPdf **PKPdf 20 02 02.7 -3.7**
PTGA LR LR
comp=Z,327nm,21.0s
ANN Anapa 130.09 315 *i* PKIKP PKPdf 20 02 12.0 +6.3
ANN pmax pmax
comp=Z,29nm,1.1s
MALT Malatya 130.94 306 ⇓PKIKP **PKPdf 20 02 08.6 +0.9**
MALT Malatya 130.94 306 ⇓*i*P **PKPdf 20 02 08.6 +0.9**
BDFB Brasilia 132.15 131 PKP **PKPdf 20 02 09.4 -1.2**
BDFB Brasilia 132.15 131 PKP **PKPdf 20 02 09.4 -1.2**
comp=Z,3.3nm,0.8s,baz=27,slow=4.8,SNR=4.4
GRGR Grenville 132.22 89 PFAKE 20 02 20.0 +9.4
GRGR LR LR
comp=Z,406nm,20.0s
AKASG Malin Array Be 132.83 325 PKIKP **PKPdf 20 02 09.5 -1.2**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 132.83 325 PKP **PKPdf 20 02 09.5 -1.2**
AKASG Malin Array Be 132.83 325 PKP **PKPdf 20 02 09.5 -1.2**
comp=Z,4.4nm,0.8s,baz=57,slow=2.0,SNR=16
AK01 Malin Array Si 132.84 325 *e*PKPdf **PKPdf 20 02 10.2 -0.5**
KIEV Kiev 132.84 325 *i* PKIKP **PKPdf 20 02 10.6 -0.1**
KIEV Kiev 132.84 325 PFAKE 20 02 20.0 +9.3
KIEV LR LR
comp=Z,534nm,19.0s
NB2 NORSAR Subarra 132.97 345 PKPdf **PKPdf 20 02 09.6 -1.1**
comp=Z,1.4nm,0.8s,baz=31,slow=1.9
NOA NORSAR Array B 132.97 345 PKP **PKPdf 20 02 09.4 -1.3**
NOA NORSAR Array B 132.97 345 PKP **PKPdf 20 02 09.4 -1.3**
comp=Z,2.7nm,0.7s,baz=32,slow=2.0,SNR=11
HFS Hagfors 133.06 342 PKP **PKPdf 20 02 08.8 -2.0**
HFS Hagfors 133.06 342 PKP **PKPdf 20 02 08.8 -2.0**
comp=Z,3.5nm,0.8s,baz=338,slow=3.2,SNR=4.3
FDF Fort de France 133.19 86 PFAKE 20 02 20.0 +7.6
FDF LR LR
comp=Z,408nm,20.0s
MBAR Mbarara 133.97 252 PFAKE 20 02 30.0 +16
MBAR LR LR
comp=Z,570nm,20.0s
BR131 Keskin Array S 134.24 309 *e*PKPdf **PKPdf 20 02 15.3 +1.4**
BRTR Keskin Array B 134.24 309 PKP **PKPdf 20 02 13.9 +0.1**
BRTR pPKP **pPKPdf 20 02 27.0 +1.8**
BRTR PP **PP 20 04 46.6 +1.1**
BRTR Keskin Array B 134.24 309 PKP **PKPdf 20 02 13.9 +0.1**
comp=Z,1.5nm,0.7s,baz=56,slow=2.1,SNR=8.4
BRTR pPKP **pPKPdf 20 02 27.0 +1.8**
comp=Z,4.4nm,0.9s,baz=126,slow=1.7,SNR=11
BRTR PP **PP 20 04 46.6 +1.1**
comp=Z,0.7nm,0.9s,baz=134,slow=5.3,SNR=3.9
MMAI Mount Meron Ar 134.25 300 PKP **PKPdf 20 02 14.6 +0.6**
MMAI pPKP **pPKPdf 20 02 28.0 +2.7**
MMAI Mount Meron Ar 134.25 300 PKP **PKPdf 20 02 14.6 +0.6**
comp=Z,2.8nm,0.6s,baz=52,slow=5.7,SNR=5.1
MMAI pPKP **pPKPdf 20 02 28.0 +2.7**
comp=Z,4.7nm,0.7s,baz=356,slow=11,SNR=4.7
ANTO Ankara 134.82 310 PFAKE 20 02 30.0 +15
ANTO LR LR
comp=Z,288nm,20.0s
EIL Elat 135.02 295 PKP **PKPdf 20 02 15.7 +0.2**
EIL Elat 135.02 295 PKP **PKPdf 20 02 15.7 +0.2**
comp=Z,4.4nm,0.6s,baz=92,slow=18,SNR=4.9
CSS Prodhromos 135.61 303 PFAKE 20 02 30.0 +14
CSS LR LR
comp=Z,66nm,19.0s
EFOR EFORIE 136.24 317 ⇓*i*P **PKPdf 20 02 21.5 +4.3**
VRI Vrincioaia 136.65 320 ⇑PKIKP **PKPdf 20 02 21.0 +3.0**
VRI Vrincioaia 136.65 320 ⇑*i*P **PKPdf 20 02 21.0 +3.0**
BURAR Bucovina Array 136.67 323 ⇑PKIKP **PKPdf 20 02 17.0 -1.1**
BURAR Bucovina Array 136.67 323 ⇑*i*P **PKPdf 20 02 17.0 -1.1**
KWP Kalwaria Pacla 136.93 327 *e*PKIKP **PKPdf 20 02 19.6 +1.1**
KWP Kalwaria Pacla 136.93 327 *e*PKP **PKPdf 20 02 19.5 +1.1**
ISP Isparta 137.11 308 PFAKE 20 02 30.0 +11
ISP LR LR
comp=Z,240nm,20.0s
MLR Muntele Rosu 137.31 320 ⇓*i*P **PKPdf 20 02 19.5 +0.1**
MLR Muntele Rosu 137.31 320 PKP **PKPdf 20 02 18.9 -0.5**
MLR Muntele Rosu 137.31 320 PKP **PKPdf 20 02 18.9 -0.5**
comp=Z,0.6nm,0.7s,baz=359,slow=7.4,SNR=5.8
KOLS Kolonicke sedl 137.57 326 *e*PKIKP **PKPdf 20 02 19.4 -0.2**
KOLS Kolonicke sedl 137.57 326 *e*PKP **PKPdf 20 02 19.4 -0.2**
UZH Uzhgorod 137.74 326 *e*PKHKP PKPpre 20 02 11.7
STHS Stebnicka Huta 137.82 327 *e*PKIKP **PKPdf 20 02 20.5 +0.4**
STHS Stebnicka Huta 137.82 327 *e*PKP **PKPdf 20 02 20.5 +0.4**
VOIR 137.88 320 ⇓PKIKP **PKPdf 20 02 16.0 -4.4**
VOIR 137.88 320 ⇓*i*P **PKPdf 20 02 16.0 -4.4**
TRPA Tarpa 137.90 325 ⇑*i*P **PKPdf 20 02 17.6 -2.6**
CRVS Cervenica-Dubn 138.02 327 *e*PKIKP **PKPdf 20 02 20.9 +0.4**
CRVS Cervenica-Dubn 138.02 327 *e*PKP **PKPdf 20 02 20.8 +0.3**
ARR Arges 138.17 320 ⇑*i*P **PKPdf 20 02 22.0 +1.1**
LOT Lotru 138.66 321 ⇑*i*P PKPdf 20 02 14.6 -7.3
OKC Ostrava-Krasne 139.09 330 *e*PKIKP **PKPdf 20 02 23.1 +0.7**
OKC *e* 20 02 32.2
OKC Ostrava-Krasne 139.09 330 *e*PKP **PKPdf 20 02 23.1 +0.7**
OKC *ep*PKP **pPKPdf 20 02 32.2 -1.5**
KSP Ksiaz 139.26 332 *e*PKIKP **PKPdf 20 02 23.5 +0.9**
KSP Ksiaz 139.26 332 *e*PKP **PKPdf 20 02 23.9 +1.3**
MORC Moravsky Berou 139.42 330 ⇓PKIKP **PKPdf 20 02 19.1 -4.0**
MORC Moravsky Berou 139.42 330 ⇓*i*P **PKPdf 20 02 19.1 -4.0**
MORC Moravsky Berou 139.42 330 *e*PKPdf **PKPdf 20 02 24.0 +0.9**
KRLC Kraliky 139.58 331 *e*PKIKP **PKPdf 20 02 25.5 +2.2**
KRLC *e* 20 02 32.7
KRLC Kraliky 139.58 331 *e*PKP **PKPdf 20 02 25.5 +2.2**
KRLC *ep*PKP **pPKPdf 20 02 32.7 -1.9**
DPC Dobruska-Polom 139.59 332 *e*PKIKP **PKPdf 20 02 20.6 -2.7**
DPC *e* 20 02 31.6
DPC Dobruska-Polom 139.59 332 *e*PKP **PKPdf 20 02 20.6 -2.7**
DPC *ex* x 20 02 25.3
DPC *ep*PKP **pPKPdf 20 02 31.6 -3.1**
DPC *e*PKS PKSdf 20 06 13.0 +14
UPC Upice 139.62 332 *e*PKIKP **PKPdf 20 02 25.8 +2.5**
UPC *e* 20 02 35.9
UPC Upice 139.62 332 *e*PKP **PKPdf 20 02 25.8 +2.5**
UPC *ep*PKP **pPKPdf 20 02 35.9 +1.2**
BZS Buzias 139.84 322 ⇓PKIKP **PKPdf 20 02 22.9 -1.0**
BZS Buzias 139.84 322 ⇓*i*P **PKPdf 20 02 22.9 -1.0**
VRAC Vranov 140.19 330 ⇓*i*P **PKPdf 20 02 22.6 -1.8**
PVCC Panska Ves 140.25 333 *e*PKIKP **PKPdf 20 02 25.4 +1.0**
PVCC *e* 20 02 33.0
PVCC Panska Ves 140.25 333 *e*PKP **PKPdf 20 02 25.4 +1.0**
PVCC *ep*PKP **pPKPdf 20 02 33.0 -2.8**
BRG Berggiesshubel 140.26 334 *e*PKP **PKPdf 20 02 20.3 -4.2**
comp=Z,6.7nm,1.0s
BRG *e* 20 02 26.2
comp=Z,7.1nm,0.8s
BRG *e* 20 02 32.2
comp=Z,11nm,1.0s
BRG Berggiesshubel 140.26 334 *e*PKIKP PKPpre 20 02 20.3
BRG *e* 20 02 26.2
BRG *e* 20 02 32.2
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG pmax pmax
comp=Z,11nm,1.0s
CLL Collm 140.32 335 *e*PKHKP PKPpre 20 02 17.0
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL MLR MLR
comp=Z,400nm,21.9s
CLL Collm 140.32 335 *e*PKPpre PKPpre 20 02 17.0
CLL *e*PKiKP **PKiKP 20 02 27.0 -0.1**
comp=Z,7.0nm,0.8s
CLL *e* 20 02 32.0
CLL *i* pPKiKP pPKiKP 20 02 37.9 -0.5
CLL *i* sPKiKP sPKiKP 20 02 43.0 +0.7
CLL *e*PP **PP 20 05 25.0 +2.7**
CLL *e*PKSdf PKSdf 20 05 54.0 -6.3
CLL *e*PPS PPS 20 17 36.0
CLL *e*SS SS 20 23 54.0 +11
CLL *e*SSS SSS 20 29 06.0
CLL *e* 20 31 00.0
CLL *e*SSSS 20 32 30.0
CLL *e* 20 34 30.0
CLL Lm MLR 21 03 00.0
comp=Z,400nm,21.9s
VTS Vitosha 140.44 317 ⇑PKHKP PKPpre 20 02 17.6
VTS Vitosha 140.44 317 ⇑*i*P PKPpre 20 02 17.6
MMB Musomiste 140.57 316 ⇑PKIKP **PKPdf 20 02 21.4 -4.0**
MMB Musomiste 140.57 316 ⇑*i*P **PKPdf 20 02 21.4 -4.0**
PRA Prague 140.64 333 PKP **PKPdf 20 02 26.0 +0.8**
PRU Pruhonice 140.65 332 *e*PKIKP **PKPdf 20 02 25.8 +0.6**
PRU *e* 20 02 39.1
PRU Pruhonice 140.65 332 *e*PKP **PKPdf 20 02 25.8 +0.6**
PRU *ep*PKP **pPKPdf 20 02 39.1 +2.6**
TREC Trest 140.72 331 *e*PKIKP **PKPdf 20 02 25.7 +0.3**
TREC *e* 20 02 34.9
TREC Trest 140.72 331 *e*PKP **PKPdf 20 02 25.7 +0.3**
TREC *ep*PKP **pPKPdf 20 02 34.9 -1.8**
PKSM Moragy 141.17 325 ⇓PKHKP PKPpre 20 02 20.3
PKSM Moragy 141.17 325 ⇓*i*P PKPpre 20 02 20.3
EKA Eskdalemuir Ar 141.18 352 PKPpre PKPpre 20 02 22.3
EKA Eskdalemuir Ar 141.18 352 PKhKP PKPpre 20 02 22.3
comp=Z,1.6nm,0.7s,baz=56,slow=0.3,SNR=3.5
NKC Novy Kostel 141.37 334 *e*PKIKP **PKPdf 20 02 23.7 -2.8**
NKC *e* 20 02 33.7
NKC Novy Kostel 141.37 334 *e*PKP **PKPdf 20 02 23.7 -2.8**
NKC *ex* x 20 02 33.7
SANT Santorini 141.41 307 PFAKE 20 02 40.0 +13
SANT LR LR
comp=Z,189nm,19.0s
CONA Conrad Observa 141.50 329 ⇑*i*PKPdf PKPdf 20 02 21.6 -5.4

	comp=Z,13nm,1.7s							
KHC	**Kasperske Hory**	**141.71**	**332**	*e*PKIKP		**PKPdf**	**20 02 23.1**	**-4.1**
KHC				*e*			20 02 29.7	
KHC				*e*			20 02 36.3	
KHC	**Kasperske Hory**	**141.71**	**332**	*e*PKP	PKPpre		20 02 19.5	
KHC				*ex*	x		20 02 23.1	
KHC				*ex*	x		20 02 29.7	
KHC				*ep*PKP	pPKPdf		20 02 36.3	-2.2
KHC	**Kasperske Hory**	**141.71**	**332**	*e*PKPbc	PKPpre		20 02 20.6	
GERES	**GERESS Array B**	**141.86**	**332**	PKPpre	PKPpre		20 02 22.7	
GERES	**GERESS Array B**	**141.86**	**332**	PKhKP	PKPpre		20 02 22.7	
	comp=Z,1.7nm,0.8s,baz=29,slow=3.0,SNR=14							
KOGS	**Kog**	**142.30**	**327**	*i* PKPdf		**PKPdf**	**20 02 27.6**	**-0.6**
SOKA	**Soboth**	**142.76**	**328** ⇑	*i* PKPdf		**PKPdf**	**20 02 25.3**	**-3.9**
	comp=Z,7.5nm,0.9s							
MEM	**Membach**	**143.44**	**340**	PKP	PKPbc		20 02 28.0	+0.6
BOJS	**Bojanci**	**143.44**	**327**	*e*PKPdf	PKPbc		20 02 27.9	+0.3
LJU	**Ljubljana**	**143.45**	**328**	*e*PKPdf	PKPbc		20 02 27.8	+0.2
VOY	**Vojsko**	**143.78**	**328**	*e*PKPdf	PKPab		20 02 27.5	-0.5
VOY				*e*			20 02 39.8	
VOY				*e*			20 02 53.5	
BCLA	**Clavier**	**143.83**	**341**	PKP	**PKPdf**		**20 02 30.6**	**-0.2**
ABTA	**Abfaltersbach**	**143.94**	**330** ⇑	*i* PKPdf	PKPab		20 02 28.1	-0.5
	comp=Z,36nm,1.2s,SNR=10							
WTTA	**Wattenberg**	**143.97**	**332** ⇑	*i* PKPdf	**PKPdf**		**20 02 30.9**	**-0.6**
	comp=Z,49nm,1.7s,SNR=7.2							
MOTA	**Moosalm**	**144.14**	**332** ⇓	*i* PKPdf	**PKPab**		**20 02 29.1**	**-0.2**
	comp=Z,21nm,1.0s,SNR=9.3							
LANF	**Langenberg**	**144.19**	**337**	PKP	**PKPab**		**20 02 29.8**	**+0.5**
WLF	**Walferdange**	**144.21**	**339**	PKP	**PKPdf**		**20 02 31.1**	**-0.4**
DOU	**Dourbes**	**144.34**	**341**	PKP	**PKPab**		**20 02 29.6**	**-0.2**
BFO	**Black Forest**	**144.53**	**336**	*e*PKIKP	**PKPab**		**20 02 29.8**	**-0.8**
BFO	**Black Forest**	**144.53**	**336**	*e*PKPdf	**PKPab**		**20 02 29.8**	**-0.8**
FETA	**Feichten**	**144.56**	**332** ⇓	*i* PKPdf	**PKPab**		**20 02 30.9**	**0.0**
	comp=Z,33nm,0.9s,SNR=6.4							
DAVA	**Damuels**	**144.72**	**333** ⇑	*i* PKPdf	**PKPab**		**20 02 31.4**	**-0.1**
	comp=Z,59nm,1.3s,SNR=11							
FELD	**Feldberg im Sc**	**145.02**	**336**	PKP	**PKPbc**		**20 02 32.2**	**-0.4**
ECH	**Echery**	**145.07**	**337**	PKP	**PKPbc**		**20 02 32.2**	**-0.3**
ECH	**Echery**	**145.07**	**337**	*e*PKIKP	**PKPbc**		**20 02 31.8**	**-0.7**
ECH	**Echery**	**145.07**	**337**	*e*PKPdf	**PKPbc**		**20 02 31.8**	**-0.7**
DAVOX	**Davos/Dischmat**	**145.11**	**333**	PKPbc	**PKPbc**		**20 02 32.5**	**-0.4**
DAVOX				pPKPbc	pPKPbc		20 02 45.3	+0.9
DAVOX	**Davos/Dischmat**	**145.11**	**333**	PKPbc	**PKPbc**		**20 02 32.5**	**-0.4**
	comp=Z,61nm,0.8s,baz=62,slow=1.0,SNR=76							
DAVOX				pPKPbc	pPKPbc		20 02 45.3	+0.9
	comp=Z,60nm,0.6s,baz=108,slow=10,SNR=14							
MOF	**Molkenrain**	**145.38**	**337**	PKP	**PKPbc**		**20 02 32.6**	**-1.0**
HEX	**Exmoor**	**145.42**	**350**	*e*P	**PKPbc**		**20 02 32.5**	**-1.0**
THEF	**They Montfort**	**145.49**	**338**	PKP	**PKPdf**		**20 02 33.9**	**+0.1**
TUE	**Stuetta**	**145.59**	**333**	*e*PKPdf	**PKPdf**		**20 02 32.9**	**-1.4**
TUE				LR	LR			
	comp=Z,489nm,20.0s							
HTL	**Hartland**	**145.59**	**351**	*e*P	**PKPdf**		**20 02 33.3**	**-0.6**
LOMF	**Lomont**	**145.91**	**336**	PKP	**PKPdf**		**20 02 35.2**	**+0.5**
DYA	**Yadsworthy**	**146.05**	**350**	*e*P	**PKPdf**		**20 02 35.3**	**+0.7**
TIP	**Timpagrande**	**146.38**	**317**	*e*PKPbc	**PKPdf**		**20 02 35.7**	**0.0**
TIP				LR	LR			
	comp=Z,421nm,19.0s							
SHEL	**Horse Pasture**	**146.49**	**192**	*e*PKP2	**PKPdf**		**20 02 36.0**	**-0.5**
SHEL	**Horse Pasture**	**146.49**	**192**	*e*PKPdf	**PKPdf**		**20 02 36.0**	**-0.5**
AQU	**L'Aquila**	**146.53**	**324**	*e*PKPdf	**PKPdf**		**20 02 36.7**	**+0.9**
AQU				LR	LR			
	comp=Z,722nm,20.0s							
CUC	**Castrocucco**	**146.54**	**319**	PFAKE			20 02 50.0	+12
CUC				LR	LR			
	comp=Z,420nm,21.0s							
OG01	**Vacheresse**	**146.81**	**335**	PKP	**PKPbc**		**20 02 37.9**	**-0.1**
VLC	**Villacollemand**	**146.86**	**329**	PFAKE			20 02 50.0	+11
VLC				LR	LR			
	comp=Z,592nm,21.0s							
RSL	**Roselend**	**147.35**	**335**	PKP	**PKPbc**		**20 02 39.5**	**-0.2**
CEL	**Celeste**	**147.44**	**316**	*e*PKPbc	**PKPbc**		**20 02 39.3**	**-0.7**
CEL				LR	LR			
	comp=Z,383nm,20.0s							
RCBR	**Riachuelo**	**147.50**	**133**	PFAKE			20 02 50.0	+7.2
RCBR				LR	LR			
	comp=Z,429nm,20.0s							
BNI	**Bardonecchia**	**147.85**	**334**	*e*PKP2	**PKPbc**		**20 02 40.8**	**-0.2**
BNI	**Bardonecchia**	**147.85**	**334**	*e*PKPbc	**PKPbc**		**20 02 40.8**	**-0.2**
PLDF	**La Plantade**	**148.25**	**338**	PKP	**PKPbc**		**20 02 41.3**	**-0.7**
SAOF	**Saorge**	**148.32**	**332**	PKP	**PKPbc**		**20 02 41.7**	**-0.4**
AGO	**Saint Agoulin**	**148.35**	**339**	PKP	**PKPbc**		**20 02 41.0**	**-1.2**
AUTN	**L'Aution**	**148.37**	**332**	PKP	**PKPbc**		**20 02 41.9**	**-0.6**
TOUF	**Mont Tournerai**	**148.43**	**332**	PKP	**PKPbc**		**20 02 42.1**	**-0.6**
SSB	**Saint Sauveur**	**148.51**	**337**	*e*PKP2	**PKPbc**		**20 02 42.6**	**0.0**
SSB	**Saint Sauveur**	**148.51**	**337**	*e*PKPbc	**PKPbc**		**20 02 42.6**	**0.0**
CALN	**Calern**	**148.80**	**332**	PKP	**PKPbc**		**20 02 43.2**	**-0.3**
LBL	**Lubilhac**	**149.03**	**338**	PKP	**PKPdf**		**20 02 40.6**	**+0.7**
CLTB	**Caltabellotta**	**149.58**	**317**	PFAKE			20 02 50.0	-0.7
CLTB				LR	LR			
	comp=Z,392nm,21.0s							
VSL	**Villasalto**	**150.70**	**324**	*e*PKPbc	**PKPbc**		**20 02 47.2**	**-0.9**
KEST	**Kesra**	**153.18**	**318**	PKPbc	**PKPbc**		**20 02 54.3**	**+0.3**
KEST				PKPab	**PKPab**		**20 03 05.5**	**-0.2**
KEST	**Kesra**	**153.18**	**318**	PKPbc	**PKPbc**		**20 02 54.3**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=117,slow=4.5,SNR=2.7							
KEST				PKPab	**PKPab**		**20 03 05.5**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=299,slow=2.5,SNR=4.8							
PBRG	**Braganca**	**154.90**	**350**	*ep*PKPab	pPKPab		20 03 23.3	-0.4
PGAV	**Gavieira, Arco**	**154.96**	**353**	*ep*PKPab	pPKPab		20 03 24.4	+0.3
ASCN	**Ascension**	**155.05**	**175**	PFAKE			20 03 00.0	+10
ASCN				LR	LR			
	comp=Z,528nm,22.0s							
POLO	**Lamas de Olo**	**155.48**	**352**	*e*PKPab	**PKPab**		**20 03 15.3**	**+0.1**
POLO				*ep*PKPab	**pPKPab**		**20 03 26.4**	**+0.1**
PVRL	**Vila Real**	**155.57**	**351**	*e*PKPab	**PKPab**		**20 03 15.1**	**-0.4**
PVRL				*ep*PKPab	**pPKPab**		**20 03 26.8**	**+0.2**
MVO	**Moncorvo**	**155.57**	**350**	*e*PKPab	pPKPab		20 03 26.3	-0.3
ESDC	**Sonseca Array**	**156.33**	**344**	PKPab	**PKPab**		**20 03 18.1**	**-0.8**
ESDC				pPKPab	**pPKPab**		**20 03 30.3**	**+0.4**
ESDC	**Sonseca Array**	**156.33**	**344**	PKPab	**PKPab**		**20 03 18.1**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=2.4,slow=3.6,SNR=4.6							
ESDC				pPKPab	**pPKPab**		**20 03 30.3**	**+0.4**
	comp=Z,7.0nm,1.0s,baz=10,slow=3.6,SNR=7.9							
MTE	**Manteigas**	**156.40**	**351**	PFAKE			20 03 00.0	+9.2
MTE				LR	LR			
	comp=Z,392nm,20.0s							
PCAS	**Casmilo, Conde**	**156.88**	**352**	*e*PKPab	**PKPab**		**20 03 21.5**	**+0.4**
PCAS				*ep*PKPab	**pPKPab**		**20 03 32.9**	**+0.7**
PMRV	**Marv??o**	**157.32**	**350**	*ep*PKPab	pPKPab		20 03 34.5	+0.4
PESTR	**Estremoz**	**157.90**	**350**	*e*PKPab	**PKPab**		**20 03 24.6**	**-1.0**
PESTR				*ep*PKPab	**pPKPab**		**20 03 37.3**	**+0.6**
PBEJ	**Beja**	**158.77**	**350**	*e*PKPab	**PKPab**		**20 03 29.3**	**0.0**
PBEJ				*ep*PKPab	**pPKPab**		**20 03 41.3**	**+0.9**
PNCL	**Nicolau / Gran**	**158.79**	**351**	*ep*PKPab	pPKPab		20 03 40.3	-0.2
PCVE	**Castro Verde**	**159.18**	**350**	*ep*PKPab	pPKPab		20 03 42.5	+0.3
PVAQ	**Vaqueiros**	**159.35**	**349**	*ep*PKPab	pPKPab		20 03 43.5	+0.6
MORF	**Marmelete**	**159.60**	**351**	*e*PKPab	**PKPab**		**20 03 33.8**	**+0.8**
MORF				*ep*PKPab	**pPKPab**		**20 03 45.1**	**+1.0**
TAM	**Tamanrasset**	**162.19**	**291**	PFAKE			20 03 10.0	+12
TAM				LR	LR			
	comp=Z,388nm,20.0s							
RTC	**Rabat Centre**	**162.45**	**344**	PFAKE			20 03 10.0	+12
RTC				LR	LR			
	comp=Z,544nm,20.0s							
TOA0	**Torodi Ar. Sit**	**165.80**	**256**	*e*PKPdf	**PKPdf**		**20 02 59.7**	**-1.7**
TOA0				*e*PKPab	**PKPab**		**20 04 00.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**165.80**	**256**	PKP	**PKPdf**		**20 02 59.9**	**-1.6**
TORD				PKPab	**PKPab**		**20 04 00.4**	**-0.6**
TORD				pPKPab	**pPKPab**		**20 04 14.1**	**+2.1**
TORD	**Torodi Ar. Bea**	**165.80**	**256**	PKP	**PKPdf**		**20 02 59.9**	**-1.6**
	comp=Z,2.6nm,0.8s,baz=343,slow=1.5,SNR=17							
TORD				PKPab	**PKPab**		**20 04 00.4**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=106,slow=2.5,SNR=6.4							
TORD				pPKPab	**pPKPab**		**20 04 14.1**	**+2.1**
	comp=Z,11nm,1.1s,baz=102,slow=4.0,SNR=6.0							
KIC	**Kosan Boka**	**166.94**	**216**	*e*PKP2	PKPab		20 04 13.4	+7.6
	comp=Z,78nm,1.5s							
LIC	**Lamto**	**166.98**	**215**	*e*PKP2	PKPab		20 04 12.2	+6.2
	comp=Z,35nm,1.0s							
DBIC	**Dimbokro**	**167.25**	**216**	*e*PKPdf	**PKPdf**		**20 03 01.3**	**-1.4**
DBIC				PKP			20 03 01.5	
DBIC				pPKPab	**pPKPab**		**20 04 18.8**	**+0.5**
DBIC	**Dimbokro**	**167.25**	**216**	PKP	**PKPdf**		**20 03 01.5**	**-1.1**
	comp=Z,4.1nm,0.9s,baz=348,slow=1.6,SNR=5.3							
DBIC				pPKPab	**pPKPab**		**20 04 18.8**	**+0.5**
	comp=Z,6.1nm,1.0s,baz=138,slow=5.6,SNR=3.2							
TIC	**Toumodi**	**167.32**	**216**	*e*PKP2	PKPab		20 04 13.6	+6.1
	comp=Z,22nm,0.7s							

*IDC **01** 19:58:42.0±1.2, 5°.56N×127°.57E, h0km, mb3.8/9,*

mb1 3.9/9, mb1mx3.7/25, mbtmp3.8/9, MS4.4/2, Ms1 4.4/2, ms1mx3.6/28, Error ellipse: s-maj=80.4km s-min=14.3km az=73.0

*ISCJB **01** 19:58:46.9±1.0, 5°.6N±0°.2×127°.7E±0°.5, h53km, mb3.8/9, MS4.4/2, Error ellipse: s-maj=67.6km s-min=12.5km az=163.8*

ISC 01 19:58:49.0±1.2, **5°.5N**±0°.2×**127°.6E**±0°.5, **h53**km, **n11, σ0°40/9, mb3.9/9, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.55**	**185**	P	**P**	**20 03 55.5**	**+0.7**
	1.8nm,0.4s,baz=13,slow=2.6,SNR=13						
WRA	**Warramunga Arr**	**26.16**	**165**	P	**P**	**20 04 18.6**	**0.0**
	0.5nm,0.4s,baz=339,slow=10,SNR=11						
JNU	**Nakatsue**	**27.64**	**6**	LR	LR	20 15 34.8	
	comp=Z,369nm,19.0s,baz=131,slow=37						
ASAR	**Alice Springs**	**29.66**	**168**	P	**P**	**20 04 49.9**	**+0.1**
	0.3nm,0.3s,baz=340,slow=7.0,SNR=10						
NWAO	**Narrogin (SRO)**	**39.48**	**194**	P	**P**	**20 06 14.0**	**-0.4**
	2.9nm,0.6s,baz=33,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**39.51**	**161**	P	**P**	**20 06 14.6**	**-0.1**
	0.8nm,0.4s,baz=343,slow=15,SNR=6.1						
SONM	**Songino Array**	**45.90**	**340**	P	**P**	**20 07 06.7**	**+0.3**
	0.5nm,0.7s,baz=153,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**56.60**	**324**	P	**P**	**20 08 26.6**	**0.0**
	0.6nm,0.4s,baz=112,slow=7.8,SNR=23						
ZALV	**Zalesovo Beam**	**59.40**	**332**	P	**P**	**20 08 46.0**	**0.0**
	0.4nm,0.5s,baz=122,slow=7.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**60.71**	**327**	P	**P**	**20 08 54.5**	**-0.5**
	0.9nm,0.6s,baz=128,slow=6.5,SNR=12						
KMBO	**Kilima Mbogo**	**90.44**	**269**	LR	LR	20 53 46.0	
	comp=Z,341nm,19.2s,baz=277,slow=36						

*BJI **01** 20:31:57.8, 2°.48N×126°.59E, h8km, mB5.3/37, mb5.0/55, Ms4.6/36, Ms7 4.4/37*

*ISCJB **01** 20:32:00.5±0.2, 2°.85N±0°.02×126°.74E±0°.03, h10km, mb5.1/107, MS4.1/19, Error ellipse: s-maj=4.3km s-min=2.9km az=165.3*

*AUST **01** 20:32:00.1±3.0, 2°.82N×126°.91E, h0km, Error ellipse: s-maj=1.2km s-min=0.6km az=239.0*

*NEIC **01** 20:32:02.1±3.2, 2°.87N×126°.72E, h11km±20km, mb5.2/46, Error ellipse: s-maj=8.7km s-min=4.6km az=70.0*

*MOS **01** 20:32:04.0±0.8, 2°.77N×126°.52E, h34km, mb5.4/41, Error ellipse: s-maj=13.3km s-min=5.4km az=120.4*

*DJA **01** 20:32:05.9±0.6, 3°N±4°×12°7E±°, h10km, MS.0/15, mB5.4/13, mb5.1/15, MLv5.4/7, Mw(mB)4.9/13*

*IDC **01** 20:32:06.5±2.4, 2°.67N×126°.48E, h39km±19km, mb4.5/23, mb1 4.6/23, mb1mx4.6/25, mbtmp4.5/23, MS3.9/6, Ms1 4.0/6, ms1mx3.7/30, Error ellipse: s-maj=19.8km s-min=8.2km az=77.0*

ISC 01 20:32:03.2±0.4, **2.78N**±0°.03×**126°.67E**±0°.04, **h16**km±1km, **n327, σ1§41/369, mb5.1/106, MS4.1/19, 14C-11D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.45**	**308**	P	**Pb**	**20 32 29.9**	**0.0**
SGSI				S	**Sn**	**20 32 47.4**	**-0.3**
TNTI	**Ternate**	**2.11**	**161**	P	**Pb**	**20 32 41.1**	**-0.1**
TNTI				S	**Sg**	**20 33 11.4**	**+0.2**
KMSI	**Cibinong**	**3.47**	**231**	P	**Pn**	**20 32 59.4**	**+2.8**
KMSI				S	**Sb**	**20 33 47.0**	**+0.7**
GSPH	**General Santos**	**3.71**	**332** ⇑	*i* P	**Pn**	**20 33 01.7**	**+1.7**
MATI	**Mati**	**4.16**	**354**	*e*P	Pn	20 33 09.8	+3.6
MATI				*e*S	Sn	20 33 28.6	-26
GTOI	**Gorontalo**	**4.24**	**240**	P	**Pn**	**20 33 09.3**	**+2.1**
DAV	**Davao City (W)**	**4.40**	**346**	*e*Pn	Pn	20 33 05.0	-4.4
KCP	**Kidapawan**	**4.49**	**339**	*e*P	Pn	20 33 14.4	+3.8
MRSI	**Marisa**	**5.25**	**244**	P	**Pn**	**20 33 23.8**	**+2.6**
	678nm,0.8s,7μm2.6nm						
MRSI				S	**Sn**	**20 34 24.3**	**+2.8**
	678nm,0.8s,7μm2.6nm						
BUKP	**Musuan**	**5.31**	**343**	*e*P	Pn	20 33 25.3	+3.3
BIPH	**Bislig**	**5.38**	**357**	*e*P	Pn	20 33 27.2	+4.3
BIPH				*e*S	**Sn**	**20 34 30.1**	**+5.6**
LUWI	**Luwuk**	**5.44**	**226**	P	Pn	20 33 28.2	+4.4
	972nm,1.0s,9μm4.0nm						
NLAI	**Namlea**	**5.99**	**176**	P	Pn	20 33 37.4	+6.0
	72nm,0.4s,3μm1.0nm						
PAGZ	**Pagadian**	**6.01**	**327**	*e*P	**Pn**	**20 33 34.2**	**+2.7**
TOLI	**Toli-Toli**	**6.10**	**254**	P	**Pn**	**20 33 33.8**	**+1.0**
ZMPH	**Zamboanga City**	**6.19**	**312** ⇓	*e*P	**Pn**	**20 33 35.2**	**+1.2**
ZMPH				*e*S	**Pb**	**20 33 49.3**	**-1.4**
BUTP	**Butuan**	**6.24**	**350**	*e*P	Pn	20 33 39.2	+4.5
IPIL	**Ipil**	**6.44**	**321**	*e*P	**Pn**	**20 33 39.6**	**+2.2**
MSLP	**Maasin**	**7.53**	**346**	*e*P	Pn	20 33 57.2	+4.8
KKSI	**Kolaka, Sulawe**	**8.54**	**216**	P	Pn	20 34 11.3	+5.0
	189nm,1.2s,3μm0.8nm						
TSM	**Tawau**	**8.91**	**280**	P	**Pn**	**20 34 13.9**	**+2.5**
TTSI	**Tana Toraja**	**8.97**	**230**	P	Pn	20 34 16.7	+4.5
	375nm,1.3s,4μm						
PALU	**Palau**	**9.00**	**59**	P	Pn	20 34 20.8	+8.2
	baz=8.8,SNR=3.6						
MMSI	**Mamuju**	**9.47**	**235**	P	Pn	20 34 24.3	+5.1
	66nm,0.9s,504nm						
SPSI	**Sidrap Palu**	**9.62**	**226**	P	Pn	20 34 27.0	+5.9
	130nm,1.0s,1μm						
BNSI	**Bone**	**9.69**	**223**	P	Pn	20 34 29.9	+7.8
SDKM	**Sandakan**	**9.87**	**287**	P	**Pn**	**20 34 26.9**	**+2.3**
TLE	**Tual**	**10.32**	**144**	P	Pn	20 34 39.2	+8.4
	114nm,0.8s						
BKSI	**Bulukumba**	**10.37**	**219**	P	Pn	20 34 38.9	+7.4
	41nm,1.1s,562nm						
KAPI	**Kappang**	**10.38**	**222**	*e*Pn	**Pn**	**20 34 34.4**	**+2.8**
KAPI				Sn	**Sn**	**20 36 28.6**	**+0.9**
KAPI	**Kappang**	**10.38**	**222**	Pn	**Pn**	**20 34 34.1**	**+2.6**
	11nm,0.3s,baz=57,slow=5.1,SNR=3.9						
KAPI				Sn	**Sn**	**20 36 28.6**	**+0.9**
	baz=229,slow=19,SNR=1.3						
BKB	**Balikpapan**	**10.56**	**248**	P	Pn	20 34 40.4	+6.3
KDM	**Kudat**	**10.63**	**293**	P	**Pn**	**20 34 36.3**	**+1.3**
KKM	**Kota Kinabalu**	**10.92**	**288**	P	**Pn**	**20 34 40.1**	**+1.1**
KKM	**Kota Kinabalu**	**10.92**	**288**	P	Pn	20 34 45.3	+6.2
KKM	**Kota Kinabalu**	**10.92**	**288**	*e*Pn	Pn	20 34 43.5	+4.4
KKM	**Kota Kinabalu**	**10.92**	**288**	P	Pn	20 34 44.0	+5.0
	baz=11,SNR=10						
MMRI	**Maumere**	**12.17**	**201**	P	P	20 35 15.2	+6.5
MTKI	**Muara Teweh, K**	**12.34**	**253**	P	Pn	20 35 03.1	+4.7
	68nm,1.7s,8μm						
TGY	**Tagaytay City**	**12.60**	**334**	LR	LR	20 41 48.2	
	comp=Z,29nm,19.5s,baz=120,slow=46						
LBFI	**Labuhan Bajo,**	**13.07**	**211**	P	P	20 35 24.9	+6.2
BTM	**Bintulu**	**13.58**	**272**	P	P	20 35 20.9	-3.4
SBUM	**Sibu**	**14.44**	**269**	P	**Pn**	**20 35 30.1**	**+3.0**
SBUM	**Sibu**	**14.44**	**269**	P	**P**	**20 35 31.7**	**-2.2**
	86nm,1.4s,1μm						
SBUM	**Sibu**	**14.44**	**269**	*e*Pn	P	20 35 30.5	-3.5
MTNI	**Mataram**	**15.44**	**223**	P	**P**	**20 35 46.1**	**+1.1**
	87nm,1.2s,1μm						
KHKI	**Kahang-Kahang**	**15.63**	**225**	P	P	20 35 53.1	+6.0
SRBI	**Singaraja**	**15.72**	**227**	P	**P**	**20 35 50.9**	**+2.7**
	79nm,1.1s,1μm						
MTN	**Manton Dam**	**16.14**	**164**	P	**Pn**	**20 35 49.2**	**-0.4**
	baz=16,SNR=41						
KSM	**Kuching**	**16.40**	**266**	P	**P**	**20 35 56.3**	**+0.6**
KSM	**Kuching**	**16.40**	**266**	P	**P**	**20 35 58.3**	**+2.5**
	84nm,1.2s,1μm						
KSM	**Kuching**	**16.40**	**266**	*e*Pn	**P**	**20 35 57.4**	**+1.7**
	100nm,1.2s						
KSM	**Kuching**	**16.40**	**266**	P	**P**	**20 35 57.6**	**+1.8**
	baz=17,SNR=7.0						
KDU	**Kakadu**	**16.41**	**160**	P	**Pn**	**20 35 51.5**	**-1.5**
	baz=16,SNR=54						
GMJI	**Gumukmas**	**17.16**	**230**	P	P	20 36 09.8	+5.6
KNRA	**Kununurra**	**18.45**	**174**	P	**P**	**20 36 18.6**	**+0.2**
	baz=19,SNR=59						
TWG	**Pinlang**	**20.65**	**345**	*e*P	**P**	**20 36 39.9**	**-2.5**
	242nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.77**	**183**	P	**P**	**20 36 43.6**	**-0.2**
FITZ				S	**S**	**20 40 31.3**	**-4.0**
FITZ	**Fitzroy Crossi**	**20.77**	**183**	P	**P**	**20 36 43.6**	**-0.2**
	16nm,0.7s,baz=29,slow=9.6,SNR=38						
FITZ				S	**S**	**20 40 31.3**	**-4.0**
	5.4nm,1.1s,baz=333,slow=18,SNR=7.9						
YULB	**Yu-li**	**21.14**	**346**	*e*P	**P**	**20 36 44.0**	**-3.7**
	68nm,1.3s						
TPUB	**Ta-pu**	**21.22**	**344**	*e*P	**P**	**20 36 46.1**	**-2.5**
	82nm,1.0s						
LEM	**Lembang**	**21.28**	**243**	P	P	20 36 54.6	+5.2
	baz=22,SNR=5.4						

SSLB	**Suanglung**	**21.60**	**346**	*e*P		**P**	**20 36 50.4**	**-2.3**
	36nm,0.9s							
NACB	**Ninganchiao**	**21.83**	**347**	*e*P		**P**	**20 36 53.8**	**-1.3**
	290nm,2.2s							
YHNB	**Yeheng**	**22.35**	**347**	*e*P		**P**	**20 36 59.2**	**-1.6**
	291nm,2.0s							
MYKOM	**Kota Tinggi**	**22.82**	**268**	P		**P**	**20 37 05.1**	**-0.7**
MYKOM	**Kota Tinggi**	**22.82**	**268**	*e*P		**P**	**20 37 06.1**	**+0.3**
	158nm,1.9s							
QIZ	**Qiongzhong**	**23.06**	**316**	P		P	20 37 07.5	-0.8
QIZ				sP		**sP**	**20 37 11.9**	**-2.9**
QIZ				S		**S**	**20 41 18.9**	**+0.1**
QIZ				sS		**sS**	**20 41 24.2**	**-2.5**
QIZ				pmax	pmax			
	comp=Z,33nm,1.2s							
QIZ				LR	LR			
	comp=N,650nm,18.5s							
QIZ				LR	LR			
	comp=Z,580nm,21.4s							
COEN	**Coen**	**23.33**	**136**	*e*P		**P**	**20 37 10.6**	**-0.4**
	134nm,1.1s							
COEN	**Coen**	**23.33**	**136**	P		P	**20 37 12.9**	**+1.9**
	baz=23,SNR=3.9							
KGM	**Kluang**	**23.34**	**269**	P		**P**	**20 37 09.8**	**-1.4**
WRAB	**Tennant Creek**	**23.80**	**162**	*e*P		**P**	**20 37 14.9**	**-0.6**
WRAB				*e*S		**S**	**20 41 28.6**	**-2.2**
WRAB				pmax	pmax			
	comp=Z,43nm,0.8s							
WRAB	**Tennant Creek**	**23.80**	**162**	*e*P		**P**	**20 37 14.9**	**-0.6**
	comp=Z,43nm,0.8s							
WRAB				*e*S		**S**	**20 41 28.6**	**-2.2**
WRAB				*e*PcP		PcS	20 44 28.2	-11
WRAB	**Tennant Creek**	**23.80**	**162**	P		P	**20 37 15.2**	**-0.3**
	comp=Z,360nm,1.1s,SNR=91							
WRA	**Warramunga Arr**	**23.80**	**162**	P		**P**	**20 37 14.6**	**-1.0**
WRA				S		**S**	**20 41 28.1**	**-2.7**
WRA	**Warramunga Arr**	**23.80**	**162**	P		**P**	**20 37 14.6**	**-1.0**
	comp=Z,24nm,0.5s,baz=332,slow=11,SNR=201							
WRA				S		**S**	**20 41 28.1**	**-2.7**
	comp=Z,6.7nm,1.0s,baz=333,slow=20,SNR=6.4							
MBWA	**Marble Bar**	**24.74**	**196**	*e*P		**P**	**20 37 24.3**	**0.0**
	comp=Z,40nm,0.9s							
FRIM	**Kepong**	**25.02**	**272**	P		P	**20 37 25.3**	**-1.5**
IPM	**Ipoh**	**25.65**	**275**	P		P	**20 37 30.7**	**-1.9**
IPM	**Ipoh**	**25.65**	**275**	*e*P		P	**20 37 31.4**	**-1.1**
KULM	**Kulim**	**26.07**	**276**	P		P	**20 37 36.0**	**-0.4**
AS31	**Alice Springs**	**27.21**	**165**	*e*P		P	**20 37 45.9**	**-0.7**
AS31				*e*S		S	20 42 33.5	+8.3
ASAR	**Alice Springs**	**27.21**	**165**	P		P	**

baz=36,SNR=20
MAJO Matsushiro 35.24 16 *e*P **P** **20 38 56.6 -0.5**
MAJO pmax pmax
comp=Z,329nm,2.7s
MAJO Matsushiro 35.24 16 *e*P **P** **20 38 56.6 -0.5**
comp=Z,329nm,2.7s
MAT Matsushiro 35.24 16 P P 20 38 53.7 -3.5
CD2 Chengdu 35.38 325⇑ *i*P **P** **20 38 57.7 -0.7**
CD2 pP **pP** **20 39 01.9 -1.4**
CD2 sP **sP** **20 39 05.2 0.0**
CD2 PP **PnPn** **20 40 17.5 +0.5**
CD2 S **S** **20 44 32.8 +0.2**
CD2 sS **sS** **20 44 39.8 -0.7**
CD2 SS **SnSn** **20 46 50.5 -1.2**
CD2 pmax pmax
comp=Z,50nm,1.2s
CD2 pmax pmax
comp=Z,250nm,7.2s
CD2 LR LR
comp=Z,500nm,19.0s
CD2 LR LR
comp=Z,510nm,14.2s
CD2 LR LR
comp=Z,310nm,13.2s
DL2 Dalian 36.25 353 P **P** **20 39 06.9 +1.2**
DL2 S **S** **20 44 44.4 -1.2**
DL2 pmax pmax
comp=Z,130nm,1.0s
DL2 pmax pmax
comp=Z,170nm,5.4s
DL2 LR LR
comp=Z,210nm,19.6s
BBOO Buckleboo 36.50 167 *e*P **P** **20 39 07.6 -0.3**
comp=Z,289nm,0.8s
BBOO Buckleboo 36.50 167 P **P** **20 39 07.9 0.0**
baz=37,SNR=55
EIDS Eidsvold 36.65 141 *e*P **P** **20 39 09.6 +0.3**
comp=Z,50nm,1.4s
EIDS Eidsvold 36.65 141 P **P** **20 39 11.0 +1.7**
baz=37,SNR=11
STKA Stephens Creek 37.27 159 *e*P **P** **20 39 14.6 +0.1**
comp=Z,3.3nm,0.8s
STKA Stephens Creek 37.27 159 P **P** **20 39 14.0 -0.5**
comp=Z,5.6nm,0.3s,baz=341,slow=7.8,SNR=54
STKA Stephens Creek 37.27 159 P **P** **20 39 14.8 +0.3**
baz=37,SNR=48
HTT Hallett 37.83 163 P **P** **20 39 21.1 +1.8**
baz=38,SNR=5.6
BJT Baijiatuan 38.27 347 *e*P **P** **20 39 22.9 0.0**
comp=Z,37nm,0.8s
BJI Beijing 38.29 347 P **P** **20 39 22.8 -0.2**
BJI S **S** **20 45 21.1 +4.5**
BJI pmax pmax
comp=Z,43nm,0.9s
BJI LR LR
comp=Z,180nm,25.4s
BJI LR LR
comp=Z,220nm,16.5s
BJI LR LR
comp=Z,190nm,25.6s
RKGY Rocky Gully 38.29 193 P **P** **20 39 25.0 +1.9**
baz=39,SNR=14
CMSA Cobar Meteorol 38.63 154 P **P** **20 39 27.9 +1.9**
baz=39,SNR=7.2
SNY Shenyang 38.97 356⇓ P **P** **20 39 29.8 +1.1**
SNY pmax pmax
comp=Z,52nm,1.0s
SNY pmax pmax
comp=Z,250nm,7.2s
SNY LR LR
comp=Z,340nm,19.2s
SNY LR LR
comp=Z,200nm,17.1s
SNY LR LR
comp=Z,230nm,18.0s
LZH Lanzhou 39.29 330⇑ P **P** **20 39 31.9 +0.2**
LZH pP **pP** **20 39 36.5 -0.1**
LZH sP **sP** **20 39 37.9 -0.6**
LZH pmax pmax
comp=Z,120nm,1.3s
LZH pmax pmax
comp=Z,350nm,4.0s
HHC Hu-ho-hao-te 40.28 342 *e*P **P** **20 39 39.3 -0.5**
HHC sP **sP** **20 39 46.3 -0.3**
HHC PP **PP** **20 41 14.4 +1.8**
HHC S **S** **20 45 46.8 0.0**
HHC pmax pmax
comp=Z,44nm,1.0s
HHC pmax pmax
comp=Z,380nm,5.7s
HHC LR LR
comp=Z,610nm,15.6s
HHC LR LR
comp=Z,380nm,15.1s
HHC LR LR
comp=Z,690nm,15.4s
SHL Shillong 40.40 307 *i*P **P** **20 39 42.0 +0.9**
VLA Vladivostok 40.43 6⇓ *e*P **P** **20 39 39.2 -1.7**
VLA *e* 20 41 13.3
VLA *e*S **S** **20 45 46.9 -1.8**
VLA pmax pmax
comp=Z,74nm,1.1s
ARMA Armidale 40.71 146 *e*P **P** **20 39 42.0 -1.5**
comp=Z,113nm,2.0s
ARMA Armidale 40.71 146 P **P** **20 39 44.7 +1.2**
baz=41,SNR=4.3
CN2 Changchun 40.86 359 *e*P **P** **20 39 45.0 +0.6**
CN2 *e*sP **sP** **20 39 52.0 +0.7**
CN2 *e*S **S** **20 45 56.0 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,600nm,18.0s
USRK Ussuriysk Arra 41.51 6 P **P** **20 39 51.3 +1.6**
comp=Z,57nm,0.9s,baz=190,slow=7.7,SNR=95
USRK LR LR 20 56 14.8
comp=Z,150nm,20.7s,baz=13,slow=35
MDJ Mudanjiang 41.74 3 P **P** **20 39 53.1 +1.5**
MDJ PP **PP** **20 41 29.2 +0.9**
MDJ PcP **PcP** **20 41 48.9 +1.0**
MDJ ScP **ScP** **20 45 39.8 +2.0**
MDJ S **S** **20 46 12.4 +4.2**
MDJ ScS **ScS** **20 49 56.7 +2.3**
MDJ pmax pmax
comp=Z,56nm,1.3s
MDJ pmax pmax
comp=Z,91nm,3.5s
MDJ LR LR
comp=Z,180nm,9.8s
MDJ LR LR
comp=Z,51nm,6.0s
MDJ LR LR
comp=Z,240nm,7.6s
MDJ Mudanjiang 41.74 3 *e*P **P** **20 39 53.2 +1.6**
comp=Z,82nm,1.3s
ARPS Mount Arapiles 41.81 162 P **P** **20 39 54.3 +2.0**
baz=42,SNR=8.0
H11S3 WAKE ISLAND Hy 42.17 65 T T 21 25 11.4
baz=253,slow=72,SNR=9.4
H11S2 WAKE ISLAND Hy 42.19 65 T T 21 25 12.1
baz=253,slow=72,SNR=8.7
H11S1 WAKE ISLAND Hy 42.19 65 T T 21 25 12.4
baz=253,slow=72,SNR=5.2
LSA Lhasa 43.02 312 P **P** **20 40 02.1 -0.8**
LSA pmax pmax
comp=Z,20nm,1.5s
LSA Lhasa 43.02 312 *e*P **P** **20 40 02.7 -0.2**
LSA *e* 20 41 53.9
LSA pmax pmax
comp=Z,42nm,1.4s
LSA Lhasa 43.02 312 *e*P **P** **20 40 02.7 -0.2**
comp=Z,42nm,1.4s
LSA *e*PcP **PcP** **20 41 53.9 +0.7**
ASAJ Asahikawa 43.51 17 *e*P **P** **20 40 07.7 +1.6**
comp=Z,18nm,1.2s
ASAJ Asahikawa 43.51 17 P **P** **20 40 07.4 +1.4**
comp=Z,12nm,0.6s,baz=229,slow=17,SNR=12
ASAJ LR LR 20 58 42.3
comp=Z,190nm,18.5s,baz=198,slow=36
TAPN Taplejung 44.53 307 *e*P **P** **20 40 13.9 -1.0**
TAPN Taplejung 44.53 307 *e*P **P** **20 40 13.9 -1.0**
ODAN Odare 44.58 306 *e*P **P** **20 40 14.0 -1.2**
ODAN Odare 44.58 306 *e*P **P** **20 40 14.0 -1.2**
RAMN Ramite 45.25 306 *e*P **P** **20 40 19.4 -1.2**
comp=Z,103nm,1.2s
RAMN Ramite 45.25 306 *e*P **P** **20 40 19.4 -1.2**
JIRN Jiri 45.88 307 *e*P **P** **20 40 24.7 -1.0**
JIRN Jiri 45.88 307 *e*P **P** **20 40 24.7 -1.0**
HABR Khabarovsk 46.09 8 *e*P **P** **20 40 27.1 +0.6**
HABR *e* 20 40 39.1
HABR *e* 20 42 00.5
HABR *e*S **S** **20 47 11.9 +0.4**
HABR *e* 20 47 25.7
HABR *e* 20 50 17.8
HABR *e*SSS SSS 20 51 30.1
HABR pmax pmax
comp=N,53nm,1.8s
HABR pmax pmax
comp=Z,94nm,1.2s
HABR pmax pmax
comp=E,37nm,1.6s
HABR MLR MLR
comp=Z,152nm,22.0s
GUN Gumba 46.24 307 *e*P **P** **20 40 27.5 -1.0**
comp=Z,114nm,0.9s
GUN Gumba 46.24 307 *e*P **P** **20 40 27.5 -1.0**
PKI Pulchoki 46.47 306 *e*P **P** **20 40 28.7 -1.6**
PKI Pulchoki 46.47 306 *e*P **P** **20 40 28.7 -1.6**
PKI Pulchoki 46.47 306 *e*P **P** **20 40 28.7 -1.6**
KLR Kul'dur 46.48 5 *e*P **P** **20 40 27.0 -2.6**
KLR pmax pmax
comp=Z,130nm,1.6s
PKIN Phulchoki 46.49 306 *e*P **P** **20 40 28.7 -1.6**
KKN Kakani 46.67 306 *e*P **P** **20 40 30.3 -1.4**
comp=Z,90nm,1.2s
KKN Kakani 46.67 306 *e*P **P** **20 40 30.3 -1.4**
KKN Kakani 46.67 306 *e*P **P** **20 40 30.3 -1.4**
HIA Hailar 46.69 354 *e*P **P** **20 40 31.9 +0.6**
comp=Z,67nm,1.4s
DMN Daman 46.73 306 *e*P **P** **20 40 30.9 -1.4**
comp=Z,74nm,1.1s
DMN Daman 46.73 306 *e*P **P** **20 40 30.9 -1.4**
GKN Gorkha 47.27 306 *e*P **P** **20 40 34.7 -1.7**
comp=Z,74nm,1.1s
GKN Gorkha 47.27 306 *e*P **P** **20 40 34.7 -1.7**
ULN Ulaanbaatar 48.00 342 *e*P **P** **20 40 41.6 -0.1**
comp=Z,30nm,1.1s
KOLN Koldanda 48.02 306 *e*P **P** **20 40 41.3 -0.9**
KOLN Koldanda 48.02 306 *e*P **P** **20 40 41.3 -0.9**
DANN Dangsing 48.12 306 *e*P **P** **20 40 42.0 -1.1**
DANN Dangsing 48.12 306 *e*P **P** **20 40 42.0 -1.1**
SONM Songino Array 48.17 342 P **P** **20 40 42.8 -0.2**
SONM PcP **PcP** **20 42 09.4 -0.8**
SONM Songino Array 48.17 342 P **P** **20 40 42.8 -0.2**
comp=Z,11nm,0.8s,baz=151,slow=8.9,SNR=70
SONM PcP **PcP** **20 42 09.4 -0.8**
comp=Z,2.4nm,0.8s,baz=150,slow=3.8,SNR=3.0
SONM LR LR 21 04 21.9
comp=Z,179nm,19.2s,baz=15,slow=40
PYUN Piuthan 48.65 306 *e*P **P** **20 40 46.2 -0.9**
comp=Z,61nm,0.3s
HYB Hyderabad 49.39 291 *i*P **P** **20 40 51.0 -1.7**
CIT Chita 50.28 349 *e*P **P** **20 41 00.0 +1.1**
CIT *e* 20 41 15.6
CIT pmax pmax
comp=Z,163nm,1.7s
ZAK Zakamensk 51.40 341⇓ *i*P **P** **20 41 07.1 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
IRK Irkutsk 52.71 343 *e*P **P** **20 41 17.0 -0.1**
IRK pmax pmax
comp=Z,44nm,2.2s
MOY Mondy 53.25 340 *e*P **P** **20 41 21.3 +0.1**
WMQ Urumqi 53.47 325 P **P** **20 41 23.0 +0.1**
WMQ sP **sP** **20 41 30.0 +0.2**
WMQ PcP **PcP** **20 42 30.0 +0.2**
WMQ PP **PP** **20 43 25.0 +1.5**
WMQ ScP **ScP** **20 46 26.0 -1.3**
WMQ S **S** **20 48 53.0 -2.0**
WMQ ScS **ScS** **20 51 09.0 -3.1**
WMQ SS **SS** **20 52 33.0 -2.4**
WMQ pmax pmax
comp=Z,41nm,1.0s
WMQ pmax pmax
comp=Z,210nm,4.0s
WMQ LR LR
comp=Z,300nm,17.0s
WMQ LR LR
comp=Z,160nm,16.0s
WMQ LR LR
comp=Z,260nm,17.0s
PETK Petropavlovsk- 56.33 22 P **P** **20 41 44.8 +1.5**
PETK Petropavlovsk- 56.33 22 P **P** **20 41 44.8 +1.5**
PETK Petropavlovsk- 56.33 22 P **P** **20 41 44.8 +1.5**
comp=Z,7.3nm,0.7s,baz=199,slow=8.6,SNR=8.3
PETK LR LR 21 03 45.8
comp=Z,113nm,21.2s,baz=226,slow=34
MK31 Makanchi Array 58.30 326 *e*P **P** **20 41 56.7 -0.7**
MK31 pmax pmax
comp=Z,5.0nm,0.4s
MK31 Makanchi Array 58.30 326 *e*P **P** **20 41 56.7 -0.7**
MK31 *e*PcP **PcP** **20 42 48.7 +0.2**
MKAR Makanchi Array 58.30 326*e*P **P** **20 41 56.5 -1.0**
MKAR pmax pmax
comp=Z,5.0nm,0.3s
MKAR Makanchi Array 58.30 326 *e*P **P** **20 41 57.1 -0.3**
MKAR PcP **PcP** **20 42 47.5 -1.0**
MKAR Makanchi Array 58.30 326 P **P** **20 41 56.5 -1.0**
comp=Z,5.1nm,0.3s,baz=119,slow=7.4,SNR=97
MKAR PcP **PcP** **20 42 47.5 -1.0**
comp=Z,3.3nm,0.6s,baz=134,slow=5.2,SNR=4.7
KSH Kashi 58.67 316 P **P** **20 42 00.9 +0.6**
KSH pP **pP** **20 42 06.0 +0.6**
KSH sP **sP** **20 42 08.1 +0.8**
KSH PcP **PcP** **20 42 50.8 +0.6**
KSH PP **PP** **20 44 13.9 +3.7**
KSH S **S** **20 50 05.0 +0.4**
KSH sS **sS** **20 50 15.1 +2.2**
KSH ScS **ScS** **20 51 48.8 -1.2**
KSH SS **SS** **20 54 01.2 +3.5**
KSH pmax pmax
comp=Z,26nm,1.0s
KSH pmax pmax
comp=Z,260nm,5.2s
KSH LR LR
comp=Z,170nm,6.2s
KSH LR LR
comp=Z,280nm,5.3s
KSH LR LR
comp=Z,440nm,6.3s
YAK Yakutsk 59.15 2 *e*P **P** **20 42 03.9 +0.9**
YAK pmax pmax
comp=Z,64nm,0.8s
YAK Yakutsk 59.15 2 *e*P **P** **20 42 03.0 0.0**
comp=Z,69nm,1.0s
ULHL Ulahol 59.69 318 *i*P **P** **20 42 07.2 -0.2**
ULHL Ulahol 59.69 318 P **P** **20 42 07.2 -0.2**
SNR=8.3
KZA Kyzart 60.27 318 *i*P **P** **20 42 11.5 -0.1**
KZA Kyzart 60.27 318 P **P** **20 42 11.6 -0.1**
SNR=23
TKM2 Tokmak 2 60.42 319 *e*P **P** **20 42 11.9 -0.5**
TKM2 pmax pmax
comp=Z,15nm,0.9s
TKM2 Tokmak 2 60.42 319 P **P** **20 42 12.1 -0.3**
SNR=18
TKM2 Tokmak 2 60.42 319 *e*P **P** **20 42 11.9 -0.5**
comp=Z,15nm,0.9s
KBK Karagaybulak 60.73 318 P **P** **20 42 14.7 +0.2**
SNR=17
UCH Uchtor 60.83 318 *i*P **P** **20 42 15.8 +0.3**
UCH Uchtor 60.83 318 P **P** **20 42 15.8 +0.3**
SNR=38
CHMS Chumysh 61.01 319 *i*P **P** **20 42 16.3 +0.1**
CHMS Chumysh 61.01 319 P **P** **20 42 16.3 +0.1**
SNR=6.9
AAK Ala-Archa 61.02 318 *e*P **P** **20 42 15.9 -0.5**
AAK pmax pmax
comp=Z,16nm,1.1s
AAK Ala-Archa 61.02 318 P **P** **20 42 16.4 0.0**
SNR=10
AAK Ala-Archa 61.02 318 *e*P **P** **20 42 15.9 -0.5**
comp=Z,16nm,1.1s
AAK Ala-Archa 61.02 318 P **P** **20 42 16.4 0.0**
comp=Z,66nm,1.3s,SNR=8.7
FRU Bishkek 61.02 318 *e*P **P** **20 42 16.0 -0.3**
USP Ospenovka 61.29 319 *i*P **P** **20 42 18.4 +0.3**
USP Ospenovka 61.29 319 P **P** **20 42 18.5 +0.3**
SNR=24
AML Almayashu 61.34 317 P **P** **20 42 19.0 +0.1**
SNR=37
ZAA0 Zalesovo Array 61.40 333 *e*P **P** **20 42 17.1 -1.5**
ZALV Zalesovo Beam 61.40 333 *i*P **P** **20 42 17.3 -1.3**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 61.40 333 P **P** **20 42 17.4 -1.2**
ZALV Zalesovo Beam 61.40 333 P **P** **20 42 17.4 -1.2**
comp=Z,3.7nm,0.4s,baz=116,slow=6.8,SNR=38
EKS2 Erkin-Say 61.51 318 *e*P **P** **20 42 19.3 -0.4**
EKS2 pmax pmax
comp=Z,22nm,0.9s
EKS2 Erkin-Say 61.51 318 P **P** **20 42 19.8 0.0**
SNR=19
EKS2 Erkin-Say 61.51 318 *e*P **P** **20 42 19.3 -0.4**
comp=Z,22nm,0.9s
SNZO South Karori 61.87 141 *e*P **P** **20 42 22.1 +0.2**
comp=Z,94nm,1.2s
BKZ Black Stump Fm 61.92 138 *e*P **P** **20 42 22.3 -0.2**
comp=Z,120nm,2.3s
KBL Kabul 62.05 308 *e*P **P** **20 42 22.6 -1.0**
KBL pmax pmax
comp=Z,21nm,1.0s
KBL Kabul 62.05 308 *e*P **P** **20 42 22.6 -1.0**
comp=Z,21nm,1.0s
KBL Kabul 62.05 308 P **P** **20 42 23.1 -0.5**
baz=62,SNR=10.0
KURK Kurchatov 62.51 328 *e*P **P** **20 42 25.1 -1.0**
KURK pmax pmax
comp=Z,19nm,0.7s
KURK Kurchatov 62.51 328 *e*P **P** **20 42 25.1 -1.0**
comp=Z,19nm,0.7s
KURK Kurchatov 62.51 328 P **P** **20 42 25.8 -0.2**
comp=Z,325nm,0.7s,SNR=38
NVS Novosibirsk 62.69 333⇓ *i*P **P** **20 42 25.0 -2.2**
NVS *e*S S 20 50 48.7 -6.3
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS pmax pmax
comp=Z,11nm,0.9s
NVS smax smax
comp=E,12nm,1.5s
KK31 Karatay Array 63.88 317 *i*P **P** **20 42 34.3 -1.1**
KK31 pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 63.88 317 *e*P **P** **20 42 34.5 -0.9**
KKAR Karatay Array 63.88 317 *e*P **P** **20 42 34.5 -0.9**
BVA0 Borovoye Array 68.08 327 P **P** **20 43 00.4 -1.8**
BVA0 pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 68.15 327 *e*P **P** **20 43 02.1 -0.5**
BRVK pmax pmax
comp=Z,25nm,1.2s
BRVK Borovoye 68.15 327 *e*P **P** **20 43 01.0 -1.6**
comp=Z,17nm,1.0s
BRVK Borovoye 68.15 327 P **P** **20 43 01.7 -0.9**
comp=Z,103nm,0.9s,SNR=9.4
DRV Dumont d'Urvil 69.94 174 SS SS 20 57 45.0 +53
DRV L L 21 03 00.0
DRV R 21 05 00.0
AB31 Akbulak array 72.84 321 *e*P **P** **20 43 30.3 -1.1**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 72.84 321 *e*P **P** **20 43 30.6 -0.8**
AKTO Aktyubinsk 74.36 322 P **P** **20 43 39.4 -0.9**
AKTO pmax pmax
comp=Z,19nm,1.0s
SVE Sverdlovsk 74.73 329⇓ *i*P **P** **20 43 42.1 -0.2**
SVE pmax pmax
comp=Z,51nm,1.3s
ARU Arti 75.70 328 P **P** **20 43 46.6 -1.3**
comp=Z,152nm,0.9s,SNR=8.2
ARU Arti 75.70 328 *e*P **P** **20 43 47.5 -0.4**
ARU pmax pmax
comp=Z,38nm,1.7s
ARU Arti 75.70 328 *e*P **P** **20 43 45.7 -2.2**
comp=Z,27nm,1.0s
SOKR Solikamsk 77.51 331 *e*P **P** **20 43 57.2 -0.8**
SOKR pmax pmax
comp=Z,40nm,1.8s
RAYN Ar Rayn 80.80 293 P **P** **20 44 16.3 -0.6**
comp=Z,75nm,0.7s,SNR=8.5
ABPO Ambohimpanom 80.94 250 *e*P **P** **20 44 17.0 -0.8**
ABPO pmax pmax
comp=Z,14nm,1.0s
ABPO Ambohimpanom 80.94 250 *e*P **P** **20 44 17.0 -0.8**
comp=Z,14nm,1.0s
GNI Garni 82.04 310 P **P** **20 44 23.6 +0.3**
comp=Z,6.7nm,0.9s
VNDA Vanda 82.50 173 *e*P **P** **20 44 25.3 +0.6**
comp=Z,83nm,2.5s
VNDA Vanda 82.50 173 P **P** **20 44 25.4 +0.8**
comp=Z,4.1nm,0.7s,baz=312,slow=6.5,SNR=22
ZEI Tsey 82.81 313 *e*P **P** **20 44 26.0 -1.3**
ZEI pmax pmax
comp=Z,12nm,1.3s
IM04 Indian Mountai 83.21 24 *e*P **P** **20 44 29.7 +1.1**
SPU Mount Spurr 83.36 29 *e*P **P** **20 44 30.9 +1.4**
KBZ Khabaz 83.59 314 P **P** **20 44 30.8 -0.2**
KBZ Khabaz 83.59 314 P **P** **20 44 30.8 -0.2**
KBZ Khabaz 83.59 314 P **P** **20 44 30.8 -0.2**
comp=Z,2.8nm,0.8s,baz=133,slow=3.2,SNR=7.6
KIV Kislovodsk 83.75 314 *e*P **P** **20 44 31.2 -0.8**
KIV pmax pmax
comp=Z,7.0nm,1.1s
RC01 Rabbit Creek A 84.47 29 *e*P **P** **20 44 36.8 +1.7**
comp=Z,30nm,0.9s
VRHR Novokhopersk 84.73 321 *e*P **P** **20 44 35.7 -1.0**
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,1.0s
VRHR pmax pmax
comp=Z,50nm,1.0s
COLD Coldfoot 84.78 23 *e*P **P** **20 44 38.1 +1.5**
comp=Z,27nm,1.2s
PMR Palmer 84.80 29 *e*P **P** **20 44 37.9 +1.2**
PMR pmax pmax
comp=Z,54nm,1.1s
PMR Palmer 84.80 29 *e*P **P** **20 44 37.9 +1.2**
comp=Z,54nm,1.1s
MCK McKinley 85.03 26 *e*P **P** **20 44 38.3 +0.3**
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 85.03 26 *e*P **P** **20 44 38.3 +0.3**
comp=Z,8.1nm,1.0s
SML Sawmill 85.19 28 *e*P P 20 44 28.0 -11
SML pmax pmax
comp=Z,31nm,1.5s
SML Sawmill 85.19 28 *e*P P 20 44 28.0 -11
comp=Z,31nm,1.5s
SOC Sochi 85.89 313 *e*P **P** **20 44 41.0 -1.6**
SOC *e*S **SKSac** **20 55 03.2 -4.8**
SOC *e*SS **SS** **21 00 56.5 +3.5**
SOC pmax pmax
comp=Z,30nm,0.9s
ILAR Eielson Array 85.98 25 P **P** **20 44 41.9 -0.8**
ILAR Eielson Array 85.98 25 P **P** **20 44 41.9 -0.8**
comp=Z,0.6nm,0.4s,baz=245,slow=5.0,SNR=9.1
KLMR Klimovskoe 86.20 331 *e*P **P** **20 44 42.8 -0.9**
KLMR pmax pmax
comp=Z,44nm,1.0s
VORD Divnogorie 86.20 321 *e*P **P** **20 44 43.4 -0.6**
VORD pmax pmax
comp=Z,60nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,40nm,1.0s
VOR Voronezh 86.27 321 *e*P **P** **20 44 43.0 -1.3**
VOR pmax pmax
comp=Z,270nm,1.2s
VSR Storozhevoye 86.28 321 *e*P **P** **20 44 43.7 -0.7**
VSR pmax pmax
comp=Z,70nm,1.2s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,40nm,1.2s
MOS Moscow 87.18 326 *e*P **P** **20 44 47.0 -1.7**

MOS				pmax	pmax			
	comp=Z,46nm,0.9s							
ANN	**Anapa**	**87.52**	**315**	*e*P	**P**	**20**	**44**	**50.0 -0.5**
ANN				*e*		20	55	25.6
ANN				pmax	pmax			
	comp=Z,37nm,1.0s							
OBN	**Obninsk**	**87.80**	**325**	P	**P**	**20**	**44**	**50.6 -1.0**
	comp=Z,232nm,0.8s,SNR=6.2							
OBN	**Obninsk**	**87.80**	**325**⇑	*e*P	**P**	**20**	**44**	**50.3 -1.3**
OBN				*e*		20	48	13.6
OBN				*e*S	**SKSac**	**20**	**55**	**18.9 -0.3**
OBN				pmax	pmax			
	comp=Z,77nm,1.7s							
OBN	**Obninsk**	**87.80**	**325**	*e*P	**P**	**20**	**44**	**50.6 -1.0**
	comp=Z,158nm,1.8s							
KMBO	**Kilima Mbogo**	**89.47**	**269**	*e*P	**P**	**20**	**45**	**01.0 +0.2**
	comp=Z,14nm,1.4s							
KMBO	**Kilima Mbogo**	**89.47**	**269**	P	**P**	**20**	**45**	**01.2 +0.5**
	comp=Z,6.4nm,1.0s,baz=38,slow=7.2,SNR=10							
BR131	**Keskin Array S**	**90.58**	**310**	*e*P	**P**	**20**	**45**	**03.8 -1.5**
	comp=Z,4.4nm,0.8s							
BRTR	**Keskin Array B**	**90.58**	**310**	P	**P**	**20**	**45**	**04.0 -1.3**
BRTR	**Keskin Array B**	**90.58**	**310**	P	**P**	**20**	**45**	**04.0 -1.3**
	comp=Z,5.4nm,0.9s,baz=115,slow=5.6,SNR=18							
KEV	**Kevo**	**90.76**	**340**	*e*P	P	20	44	56.4 -8.8
KEV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KEV	**Kevo**	**90.76**	**340**	*e*p	P	20	44	56.4 -8.8
	comp=Z,0.6nm,0.3s							
ARCES	**ARCESS Array B**	**91.31**	**340**	P	**P**	**20**	**45**	**07.0 -0.8**
ARCES	**ARCESS Array B**	**91.31**	**340**	P	**P**	**20**	**45**	**07.0 -0.8**
	comp=Z,3.9nm,0.8s,baz=80,slow=3.9,SNR=8.4							
KAF	**Kangasniemi**	**92.41**	**332**	*e*P	P	20	45	02.6 -10
KAF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**92.41**	**332**	*e*p	P	20	45	02.6 -10
	comp=Z,0.6nm,0.3s							
AKASG	**Malin Array Be**	**92.59**	**321**	*c*e*e*P	**P**	**20**	**45**	**13.5 -0.6**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**92.59**	**321**	P	**P**	**20**	**45**	**12.6 -1.5**
AKASG	**Malin Array Be**	**92.59**	**321**	P	**P**	**20**	**45**	**12.6 -1.5**
	comp=Z,2.9nm,0.6s,baz=72,slow=4.1,SNR=16							
FINES	**FINESS Array B**	**92.64**	**332**	P	**P**	**20**	**45**	**14.1 -0.1**
FINES	**FINESS Array B**	**92.64**	**332**	P	**P**	**20**	**45**	**14.1 -0.1**
	comp=Z,1.1nm,0.4s,baz=98,slow=4.3,SNR=13							
TESR	**Tescani**	**94.89**	**317**⇑	*i*P	**P**	**20**	**45**	**24.4 -0.5**
VRI	**Vrincioaia**	**94.94**	**316**	⇓P	**P**	**20**	**45**	**22.4 -2.7**
VRI	**Vrincioaia**	**94.94**	**316**	⇓*i*P	**P**	**20**	**45**	**22.4 -2.7**
PLOR	**Plostina**	**94.99**	**316**	⇑P	**P**	**20**	**45**	**24.7 -0.7**
PLOR	**Plostina**	**94.99**	**316**	⇑*i*P	**P**	**20**	**45**	**24.7 -0.7**
MLR	**Muntele Rosu**	**95.54**	**316**	⇓*i*P	**P**	**20**	**45**	**26.3 -1.7**
BURAR	**Bucovina Array**	**95.67**	**318**	⇓P	**P**	**20**	**45**	**28.3 -0.2**
BURAR	**Bucovina Array**	**95.67**	**318**	⇓*i*P	**P**	**20**	**45**	**28.3 -0.2**
BUR08	**Bucovina Array**	**95.67**	**318**	*e*P	**P**	**20**	**45**	**27.9 -0.7**
KWP	**Kalwaria Pacla**	**96.90**	**321**	⇑P	**P**	**20**	**45**	**33.2 -0.7**
KWP	**Kalwaria Pacla**	**96.90**	**321**	⇑*i*P	**P**	**20**	**45**	**33.2 -0.7**
UZH	**Uzhgorod**	**97.38**	**320**	*e*P	**P**	**20**	**45**	**35.4 -0.7**
UZH				*e*		20	45	51.7
DRGR		**97.50**	**318**	⇑P	**P**	**20**	**45**	**35.9 -0.9**
DRGR		**97.50**	**318**	⇑*i*P	**P**	**20**	**45**	**35.9 -0.9**
NOA	**NORSAR Array B**	**99.61**	**334**	P	**Pdif**	**20**	**45**	**44.6 -1.3**
NOA	**NORSAR Array B**	**99.61**	**334**	P	**Pdif**	**20**	**45**	**44.6 -1.3**
	comp=Z,1.3nm,0.8s,baz=122,slow=4.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**123.15**	**288**	PKP	**PKPdf**	**20**	**50**	**59.7 -0.6**
TORD	**Torodi Ar. Bea**	**123.15**	**288**	PKP	**PKPdf**	**20**	**50**	**59.7 -0.6**
	comp=Z,3.4nm,1.0s,baz=80,slow=1.8,SNR=25							
CFAA	**Coronel Fontan**	**148.07**	**155**	PKPbc	**PKPbc**	**20**	**51**	**49.1 +0.2**
CFAA	**Coronel Fontan**	**148.07**	**155**	PKPbc	**PKPbc**	**20**	**51**	**49.1 +0.2**
	comp=Z,0.8nm,0.6s,baz=222,slow=3.3,SNR=11							

*IDC **01** 20:40:46.5±0.8, 11.89N×85.92W, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/23, mbtmp3.9/8, ML3.1/1, Error ellipse: s-maj=65.0km s-min=11.2km az=57.0*
*ISCJB **01** 20:40:50.3±0.6, 11.15N±0.09×86.64W±0.08, h65km, mb4.1/15, Error ellipse: s-maj=16.5km s-min=3.4km az=38.4*
*CASC **01** 20:40:50.0±2.7, 11.09N×86.75W, h35km±13km, MD4.3*
*NEIC **01** 20:40:52.3±1.2, 11.45N×86.33W, h48km±11km, mb4.6/8, Error ellipse: s-maj=26.2km s-min=8.9km az=52.0*

ISC 01 20:40:53.2±0.6, **11.34N**±0.09×**86.55W**±0.08, **h65**km, **n59,** σ1§**65**/56, **mb4.2**/15, **1C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
COPN	**Copaltepe**	**0.83**	**357**⇓	*e*P	**Pn**	**20**	**41**	**09.2**	**-0.2**
GBS2	**Las Lilas**	**1.19**	**115**	*i* P	**Pn**	**20**	**41**	**11.7**	**-2.2**
GBS2				*i* S	**Sn**	**20**	**41**	**28.4**	**-1.0**
GBS3	**Finca Las Im˜¡**	**1.21**	**117**	*i* P	Pn	20	41	11.0	-3.1
LAPC	**Finca la Perla**	**1.23**	**118**⇑	*i*P	Pn	20	41	11.1	-3.4
GB1A	**Boringuen Arri**	**1.24**	**115**	*i* P	**Pn**	**20**	**41**	**11.8**	**-2.8**
BUEV	**Buena Vista**	**1.24**	**116**	*i* P	Pn	20	41	11.7	-3.0
BUEV				*i* S	**Sn**	**20**	**41**	**32.2**	**+1.4**
GPS2	**Hotel Rinc˜‡n**	**1.31**	**116**	*i* P	Pn	20	41	12.6	-3.0
LIM1	**Limonal**	**1.42**	**117**	*i* P	**Pn**	**20**	**41**	**14.1**	**-2.9**
MESS	**Mesas**	**1.46**	**114**	*i* P	**Pn**	**20**	**41**	**15.5**	**-2.0**
VCR	**Vista de Mar**	**1.51**	**143**	*e*P	Pn	20	41	12.4	-5.8
CUI	**Cuipilapa**	**1.52**	**117**	*i* P	**Pn**	**20**	**41**	**15.4**	**-2.9**
PTEN	**Parque Tenorio**	**1.65**	**112**	*i* P	Pn	**20**	**41**	**18.9**	**-1.3**
AMAS	**Alto Masis**	**1.69**	**115**	*i* P	**Pn**	**20**	**41**	**19.6**	**-1.1**
JTS	**JuntasAbangare**	**1.88**	**124**	Pn	Pn	20	41	19.9	-3.3
JTS				Lg	Lg	20	41	45.7	
JTS	**JuntasAbangare**	**1.88**	**124**	Pn	Pn	20	41	19.9	-3.3
	33nm,0.3s,baz=316,slow=11,SNR=79								
JTS				Lg	Lg	20	41	45.7	
	46nm,0.3s,baz=267,slow=19,SNR=9.6								
JCR	**Jicaral**	**2.05**	**136**	*e*P	Pn	20	41	20.7	-4.8
CNCH	**Conchagua**	**2.30**	**327**	*e*P	**Pn**	**20**	**41**	**27.7**	**-1.1**
CGA2	**Cerro Gallo 2**	**2.43**	**123**	*e*P	**Pn**	**20**	**41**	**28.9**	**-1.9**
BLLM	**Bellamira**	**2.66**	**322**	*e*P	**Pn**	**20**	**41**	**33.1**	**-0.7**
VSM	**San Miguel**	**2.67**	**321**	*e*P	**Pn**	**20**	**41**	**33.5**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.79**	**345**	*e*Pn	**Pn**	**20**	**41**	**36.2**	**+0.8**
QCR	**Quepos**	**3.02**	**129**	*e*P	**Pn**	**20**	**41**	**36.2**	**-2.4**
BUS	**Buena Vista**	**3.27**	**123**	*e*P	**Pn**	**20**	**41**	**42.1**	**-0.3**
LFRS	**El Faro**	**3.34**	**313**	*e*P	**Pn**	**20**	**41**	**41.4**	**-1.8**
LFRS				*e*S	**Sn**	**20**	**42**	**20.4**	**-1.3**
SBLS	**San Blas**	**3.90**	**310**	*e*P	**Pn**	**20**	**41**	**50.3**	**-0.5**
SBLS				*e*S	**Sn**	**20**	**42**	**32.1**	**-3.3**
APG	**El Apazote**	**5.27**	**314**	Pn	**Pn**	**20**	**42**	**08.1**	**-1.5**
APG	**El Apazote**	**5.27**	**314**	Pn	**Pn**	**20**	**42**	**08.1**	**-1.5**
	0.7nm,0.3s,baz=116,slow=13,SNR=5.6								
OXF	**Oxford**	**23.21**	**354**	*e*P	**P**	**20**	**45**	**56.0**	**+1.4**
	22nm,0.8s								
MIAR	**Mount Ida**	**23.97**	**346**	*e*P	**P**	**20**	**46**	**01.7**	**+0.2**
	6.5nm,0.7s								
TXAR	**Lajitas Array**	**23.99**	**321**	P	**P**	**20**	**46**	**02.9**	**+1.0**
TXAR	**Lajitas Array**	**23.99**	**321**	P	**P**	**20**	**46**	**02.9**	**+1.0**
	2.8nm,0.7s,baz=134,slow=9.0,SNR=19								
ANWB	**Willy Bob**	**24.77**	**72**	P	**P**	**20**	**46**	**07.4**	**-1.6**
	68nm,0.8s								
WMOK	**Wichita Mounta**	**25.82**	**336**	*e*P	**P**	**20**	**46**	**20.9**	**+2.5**
	20nm,1.0s								
SDCO	**Great Sand Dun**	**31.30**	**330**	*e*P	**P**	**20**	**47**	**09.7**	**+2.2**
	0.9nm,0.7s								
PV10	**Paradox Valley**	**33.59**	**327**	*e*P	**P**	**20**	**47**	**28.3**	**+0.8**
SIV	**San Ignacio**	**37.06**	**137**	P	**P**	**20**	**47**	**58.4**	**+1.2**
SIV	**San Ignacio**	**37.06**	**137**	P	**P**	**20**	**47**	**58.4**	**+1.2**
	1.7nm,0.8s,baz=329,slow=9.5,SNR=5.2								
PDAR	**Pinedale Array**	**37.16**	**332**	P	**P**	**20**	**47**	**58.2**	**+0.1**
PDAR				PcP	**PcP**	**20**	**50**	**19.1**	**+1.9**
PDAR	**Pinedale Array**	**37.16**	**332**	P	**P**	**20**	**47**	**58.2**	**+0.1**
	0.5nm,0.8s,baz=123,slow=11,SNR=4.4								
PDAR				PcP	**PcP**	**20**	**50**	**19.1**	**+1.9**
	0.6nm,0.8s,baz=103,slow=4.7,SNR=3.9								
AGMN	**Agassiz Nation**	**37.66**	**350**	*e*P	**P**	**20**	**48**	**01.1**	**-0.8**
	8.8nm,0.8s								
NVAR	**Mina Array Bea**	**39.11**	**319**	PcP	**PcP**	**20**	**50**	**26.2**	**+3.0**
NVAR	**Mina Array Bea**	**39.11**	**319**	PcP	**PcP**	**20**	**50**	**26.2**	**+3.0**
	2.4nm,0.7s,baz=135,slow=3.8,SNR=17								
ULM	**Lac du Bonnet**	**39.55**	**351**	P	**P**	**20**	**48**	**15.6**	**-2.1**
ULM	**Lac du Bonnet**	**39.55**	**351**	P	**P**	**20**	**48**	**15.6**	**-2.1**
	5.8nm,0.8s,baz=186,slow=8.6,SNR=6.5								
HLID	**Hailey**	**40.14**	**328**	P	**P**	**20**	**48**	**24.8**	**+1.8**
BDFB	**Brasilia**	**46.63**	**124**	P	**P**	**20**	**49**	**15.0**	**-0.5**
BDFB	**Brasilia**	**46.63**	**124**	P	**P**	**20**	**49**	**15.0**	**-0.5**
	1.1nm,0.4s,baz=350,slow=12,SNR=3.4								
CPUP	**Villa Florida**	**47.01**	**143**	P	P	20	49	22.2	+4.1
	0.3nm,1.0s								
PLCA	**Paso Flores**	**53.89**	**165**	P	**P**	**20**	**50**	**12.2**	**+2.3**
	6.9nm,1.1s								
YKA	**Yellowknife Ar**	**54.91**	**345**	P	**P**	**20**	**50**	**16.6**	**-0.3**
YKA	**Yellowknife Ar**	**54.91**	**345**	P	**P**	**20**	**50**	**16.6**	**-0.3**
	1.4nm,0.8s,baz=134,slow=7.5,SNR=8.0								
ILAR	**Eielson Array**	**67.38**	**336**	P	**P**	**20**	**51**	**41.6**	**+0.2**
ILAR	**Eielson Array**	**67.38**	**336**	P	**P**	**20**	**51**	**41.6**	**+0.2**
	0.8nm,0.8s,baz=105,slow=5.3,SNR=7.7								
KURK	**Kurchatov**	**116.86**	**11**	PKP	**PKPdf**	**20**	**59**	**30.8**	**+0.4**
KURBB	**Kurchatov Arra**	**116.94**	**11**	PKP	**PKPdf**	**20**	**59**	**30.8**	**+0.2**
	0.1nm,0.6s,baz=72,slow=3.0,SNR=2.8								
SONM	**Songino Array**	**119.97**	**350**	PKP	**PKPdf**	**20**	**59**	**37.9**	**+1.2**
SONM	**Songino Array**	**119.97**	**350**	PKP	**PKPdf**	**20**	**59**	**37.9**	**+1.2**
	0.4nm,0.6s,baz=318,slow=1.9,SNR=4.0								
CMAR	**Chiang Mai Arr**	**149.90**	**350**	PKPbc	**PKPbc**	**21**	**00**	**38.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**149.90**	**350**	PKPbc	**PKPbc**	**21**	**00**	**38.4**	**+1.3**
	1.5nm,1.0s,baz=337,slow=3.2,SNR=7.6								

*MDD **01** 20:41:58.8±3.2, 37.03N×11.91W, h33km±73km, mb4.1/10, Error ellipse: s-maj=44.3km s-min=15.5km az=58.0, PRXIMO*
*IGIL **01** 20:41:59.9, 37.02N×11.71W, h10km, ML2.0*
*INMG **01** 20:42:00.1±1.2, 36.98N×11.87W, h31km, ML2.1, Error ellipse: s-maj=5.9km s-min=5.5km az=93.0*
*CSEM **01** 20:42:01.4±0.4, 37.17N×11.64W, h30km, ML3.2/15, Error ellipse: s-maj=6.8km s-min=5.8km az=54.0*

ISC 01 20:41:56.8±3.4, **37.10N**±0.09×**11.7W**±0.2, **h10**km, **n63,** σ1§**39**/121, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
PFVI	**Vila Bisbo**	**2.32**	**88**	P	**Pn**	**20**	**42**	**35.9**	**+1.0**
	2.3nm,0.1s,SNR=7.9								
PFVI				S	**Sn**	**20**	**43**	**03.1**	**-0.5**
	7.6nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**2.32**	**88**	*e*Pn	**Pn**	**20**	**42**	**36.0**	**+1.0**
PFVI				*e*Sn	**Sn**	**20**	**43**	**03.0**	**-0.5**
PFVI				A	A	20	43	04.8	
	5.7nm,0.3s								
PFVI	**Vila Bisbo**	**2.32**	**88**	*e*Pn	**Pn**	**20**	**42**	**36.0**	**+1.0**
PFVI				S	**Sn**	**20**	**43**	**03.1**	**-0.5**
	7.6nm,0.1s,SNR=7.9								
PTEO	**Sao Teotonio**	**2.44**	**79**	*e*Pn	**Pn**	**20**	**42**	**37.9**	**+1.3**
PTEO				*e*Sn	**Sn**	**20**	**43**	**06.1**	**-0.3**
PTEO				A	A	20	43	17.6	
	8.3nm,0.7s								
PTEO	**Sao Teotonio**	**2.44**	**79**	*e*Pn	**Pn**	**20**	**42**	**37.9**	**+1.3**
PTEO				*e*Sn	**Sn**	**20**	**43**	**06.1**	**-0.3**
	8.3nm,0.7s								
MORF	**Marmelete**	**2.46**	**84**	P	**Pn**	**20**	**42**	**38.0**	**+0.9**
	SNR=7.9								
MORF				S	**Sn**	**20**	**43**	**06.4**	**-0.9**
	SNR=7.9								
MORF	**Marmelete**	**2.46**	**84**	*e*Pn	**Pn**	**20**	**42**	**38.3**	**+1.2**
MORF				*e*Sn	**Sn**	**20**	**43**	**06.6**	**-0.7**
MORF				A	A	20	43	11.6	
	7.5nm,0.1s								
MORF	**Marmelete**	**2.46**	**84**	P	**Pn**	**20**	**42**	**38.0**	**+0.9**
	SNR=7.9								
MORF	**Marmelete**	**2.46**	**84**	*e*Pn	**Pn**	**20**	**42**	**38.3**	**+1.2**
MORF				*e*Sn	**Sn**	**20**	**43**	**06.6**	**-0.7**
	7.5nm,0.1s								
PMAFR	**Mafra**	**2.67**	**45**	P	**Pn**	**20**	**42**	**41.1**	**+1.3**
	5.7nm,0.1s,SNR=7.9								
PMAFR				S	**Sn**	**20**	**43**	**12.1**	**-0.3**
	14nm,0.2s,SNR=7.9								
PMAFR	**Mafra**	**2.67**	**45**	*e*Pn	**Pn**	**20**	**42**	**41.2**	**+1.3**
PMAFR				*e*Sn	**Sn**	**20**	**43**	**06.6**	**-0.7**
	14nm,0.6s								
PMAFR	**Mafra**	**2.67**	**45**	*e*Pn	**Pn**	**20**	**42**	**41.2**	**+1.3**
PMAFR				S	**Sn**	**20**	**43**	**12.1**	**-0.3**
	14nm,0.2s,SNR=7.9								
PMAFR				*e*Sn	**Sn**	**20**	**43**	**13.2**	**+0.8**
	14nm,0.6s								
PNCL	**Nicolau / Gran**	**2.73**	**67**	*e*Pn	**Pn**	**20**	**42**	**41.9**	**+1.2**
PNCL				*e*Sn	**Sn**	**20**	**43**	**14.0**	**+0.2**
PNCL				A	A	20	43	17.2	
	4.2nm,0.1s								
PNCL	**Nicolau / Gran**	**2.73**	**67**	*e*Pn	**Pn**	**20**	**42**	**41.9**	**+1.2**
PNCL				*e*Sn	**Sn**	**20**	**43**	**14.0**	**+0.2**
	4.2nm,0.1s								
PACT	**Alcochete**	**2.83**	**53**	*e*Pn	**Pn**	**20**	**42**	**43.9**	**+1.9**
PACT				*e*Sn	**Sn**	**20**	**43**	**18.3**	**+2.1**
PACT				A	A	20	43	20.5	
	13nm,0.4s								
PACT	**Alcochete**	**2.83**	**53**	*e*Pn	**Pn**	**20**	**42**	**43.9**	**+1.9**
PACT				*e*Sn	**Sn**	**20**	**43**	**18.3**	**+2.1**
	13nm,0.4s								
MESJ	**Messejana**	**2.89**	**74**	*e*P	**Pn**	**20**	**42**	**44.3**	**+1.5**
MESJ				*e*S	**Sn**	**20**	**43**	**16.9**	**-0.8**
MESJ				AML	AML	20	43	20.0	
	comp=E,3.7nm,0.1s								
MESJ	**Messejana**	**2.89**	**74**	P	**Pn**	**20**	**42**	**44.0**	**+1.2**
	SNR=7.9								
MESJ				S	**Sn**	**20**	**43**	**16.8**	**-0.8**
	SNR=7.9								
MESJ	**Messejana**	**2.89**	**74**	P	**Pn**	**20**	**42**	**44.0**	**+1.2**
	SNR=7.9								
MESJ				S	**Sn**	**20**	**43**	**16.8**	**-0.8**
	SNR=7.9								
PCVE	**Castro Verde**	**2.99**	**79**	*e*Pn	**Pn**	**20**	**42**	**45.8**	**+1.6**
PCVE				*e*Sn	**Sn**	**20**	**43**	**19.3**	**-0.8**
PCVE				A	A	20	43	25.9	
	comp=E,2.3nm,0.1s								
PCVE	**Castro Verde**	**2.99**	**79**	*e*Pn	**Pn**	**20**	**42**	**45.8**	**+1.6**
PCVE				*e*Sn	**Sn**	**20**	**43**	**19.3**	**-0.8**
	comp=E,2.3nm,0.1s								
PBDV	**Barranco-do-Ve**	**3.04**	**86**	*e*Pn	**Pn**	**20**	**42**	**46.6**	**+1.7**
PBDV				*e*Sn	**Sn**	**20**	**43**	**20.4**	**-0.9**
PBDV				A	A	20	43	26.3	
	comp=E,3.1nm,0.1s								
PBDV	**Barranco-do-Ve**	**3.04**	**86**	*e*Pn	**Pn**	**20**	**42**	**46.6**	**+1.7**
PBDV				*e*Sn	**Sn**	**20**	**43**	**20.4**	**-0.9**
	comp=E,3.1nm,0.1s								
PBEJ	**Beja**	**3.20**	**72**	*e*Pn	**Pn**	**20**	**42**	**49.9**	**+2.7**
PBEJ				*e*Sn	**Sn**	**20**	**43**	**24.5**	**-0.9**
PBEJ				A	A	20	43	28.7	
	comp=E,3.2nm,0.1s								
PBEJ	**Beja**	**3.20**	**72**	*e*Pn	**Pn**	**20**	**42**	**49.9**	**+2.7**
PBEJ				*e*Sn	**Sn**	**20**	**43**	**24.5**	**-0.9**
	comp=E,3.2nm,0.1s								
PVAQ	**Vaqueiros**	**3.21**	**83**	*e*Pn	**Pn**	**20**	**42**	**49.0**	**+1.7**
PVAQ				*e*Sn	**Sn**	**20**	**43**	**24.7**	**-1.0**
PVAQ				A	A	20	43	29.9	
	comp=E,5.5nm,0.1s								
PVAQ	**Vaqueiros**	**3.21**	**83**	*e*Pn	**Pn**	**20**	**42**	**49.0**	**+1.7**
PVAQ				*e*Sn	**Sn**	**20**	**43**	**24.7**	**-1.0**
	comp=E,5.5nm,0.1s								
EVO	**Evora**	**3.27**	**63**	*e*Pn	**Pn**	**20**	**42**	**49.3**	**+1.2**
EVO				*e*Sn	**Sn**	**20**	**43**	**26.8**	**-0.3**
EVO				A	A	20	43	30.7	
	comp=E,8.5nm,0.1s								
EVO	**Evora**	**3.27**	**63**	*e*Pn	**Pn**	**20**	**42**	**49.3**	**+1.2**
EVO				*e*Sn	**Sn**	**20**	**43**	**26.8**	**-0.3**
	comp=E,8.5nm,0.1s								
PMTG	**Montargil**	**3.39**	**54**	*e*Pn	**Pn**	**20**	**42**	**50.8**	**+1.0**
PMTG				*e*Sn	**Sn**	**20**	**43**	**30.2**	**+0.2**
PMTG				A	A	20	43	34.5	
	comp=E,1.6nm,0.1s								
PMTG	**Montargil**	**3.39**	**54**	*e*Pn	**Pn**	**20**	**42**	**50.8**	**+1.0**
PMTG				*e*Sn	**Sn**	**20**	**43**	**30.2**	**+0.2**
	comp=E,1.6nm,0.1s								
EGRO	**El Granado**	**3.41**	**81**	P	**Pn**	**20**	**42**	**51.8**	**+1.8**
	comp=E,1.6nm,0.1s,SNR=12								
EGRO				S	**Sn**	**20**	**43**	**28.7**	**-1.8**
	comp=E,2.0nm,0.2s,SNR=7.2								
EGRO	**El Granado**	**3.41**	**81**	P	**Pn**	**20**	**42**	**51.8**	**+1.8**
	comp=E,1.6nm,0.1s,SNR=12								
EGRO				S	**Sn**	**20**	**43**	**28.7**	**-1.8**
	comp=E,2.0nm,0.2s,SNR=7.2								
PESTR	**Estremoz**	**3.71**	**60**	*e*Pn	**Pn**	**20**	**42**	**56.3**	**+2.1**
PESTR				*e*Sn	**Sn**	**20**	**43**	**37.8**	**-0.2**
PESTR				A	A	20	43	41.6	
	comp=E,1.2nm,0.1s								
PESTR	**Estremoz**	**3.71**	**60**	*e*Pn	**Pn**	**20**	**42**	**56.3**	**+2.1**
PESTR				*e*Sn	**Sn**	**20**	**43**	**37.8**	**-0.2**
	comp=E,1.2nm,0.1s								
PBAR	**Barrancos**	**3.87**	**73**	*e*Pn	**Pn**	**20**	**42**	**58.5**	**+2.1**
PBAR				*e*Sn	**Sn**	**20**	**43**	**40.9**	**-1.0**
PBAR				A	A	20	43	45.4	
	comp=E,1.7nm,0.1s								
PBAR	**Barrancos**	**3.87**	**73**	*e*Pn	**Pn**	**20**	**42**	**58.5**	**+2.1**
PBAR				*e*Sn	**Sn**	**20**	**43**	**40.9**	**-1.0**
	comp=E,1.7nm,0.1s								
EBAD	**Badajoz**	**4.08**	**65**	P	**Pn**	**20**	**43**	**00.6**	**+1.4**
	comp=E,1.1nm,0.1s,SNR=13								
EBAD				S	**Sn**	**20**	**43**	**46.1**	**-0.8**
	comp=E,1.4nm,0.3s,SNR=6.0								
EBAD	**Badajoz**	**4.08**	**65**	P	**Pn**	**20**	**43**	**00.6**	**+1.4**
	comp=E,1.1nm,0.1s,SNR=13								
EBAD				S	**Sn**	**20**	**43**	**46.1**	**-0.8**
	comp=E,1.4nm,0.3s,SNR=6.0								
EMIN	**Mina Concepcio**	**4.08**	**79**	P	**Pn**	**20**	**43**	**00.7**	**+1.5**
	comp=E,0.2nm,0.0s,SNR=9.1								
EMIN				S	**Sn**	**20**	**43**	**45.6**	**-1.4**
	comp=E,2.2nm,0.4s,SNR=7.6								
EMIN	**Mina Concepcio**	**4.08**	**79**	P	**Pn**	**20**	**43**	**00.7**	**+1.5**
	comp=E,0.2nm,0.0s,SNR=9.1								
EMIN				S	**Sn**	**20**	**43**	**45.6**	**-1.4**
	comp=E,2.2nm,0.4s,SNR=7.6								
PMRV	**Marv??o**	**4.13**	**54**	*e*Pn	**Pn**	**20**	**43**	**00.9**	**+1.0**
PMRV				*e*Sn	**Sn**	**20**	**43**	**47.8**	**-0.5**
PMRV				A	A	20	43	49.5	
	comp=E,1.4nm,0.1s								
PMRV	**Marv??o**	**4.13**	**54**	*e*Pn	**Pn**	**20**	**43**	**00.9**	**+1.0**
PMRV				*e*Sn	**Sn**	**20**	**43**	**47.8**	**-0.5**
	comp=E,1.4nm,0.1s								
PCBR	**Castelo Branco**	**4.31**	**49**	*e*Pn	**Pn**	**20**	**43**	**04.1**	**+1.7**
PCBR				*e*Sn	**Sn**	**20**	**43**	**52.4**	**-0.4**
PCBR	**Castelo Branco**	**4.31**	**49**	*e*Pn	**Pn**	**20**	**43**	**04.1**	**+1.7**
PCBR				*e*Sn	**Sn**	**20**	**43**	**52.4**	**-0.4**
ESPR	**Espera**	**4.71**	**91**	P	**Pn**	**20**	**43**	**08.7**	**+0.9**
	comp=E,0.7nm,0.1s,SNR=7.9								
ESPR				S	**Sn**	**20**	**44**	**01.3**	**-1.2**
	comp=E,4.9nm,0.4s,SNR=7.9								
ESPR	**Espera**	**4.71**	**91**	P	**Pn**	**20**	**43**	**08.7**	**+0.9**
	comp=E,0.7nm,0.1s,SNR=7.9								
ESPR				S	**Sn**	**20**	**44**	**01.3**	**-1.2**
	comp=E,4.9nm,0.4s,SNR=7.9								
EPLA	**Plasencia**	**5.32**	**55**	P	**Pn**	**20**	**43**	**17.4**	**+1.1**
	comp=E,0.3nm,0.1s,SNR=7.9								
EPLA				S	**Sn**	**20**	**44**	**15.6**	**-2.1**
	comp=E,3.3nm,0.4s,SNR=7.9								
EPLA	**Plasencia**	**5.32**	**55**	P	**Pn**	**20**	**43**	**17.5**	**+1.1**
	comp=E,0.3nm,0.1s,SNR=7.9								
EPLA				S	**Sn**	**20**	**44**	**15.6**	**-2.1**
	comp=E,3.3nm,0.4s,SNR=7.9								
MVO	**

SBLS **San Blas** 3.94 309 *e*P Pn 20 46 40.3 +0.1
RBDL **Robledal** 4.16 312 *e*P Pn 20 46 42.7 -0.4
ACR **Cerro Adams** 4.23 129 *e*P Pn 20 46 45.7 +1.8
ACR **Cerro Adams** 4.23 129 *e*P Pn 20 46 45.7 +1.8
CTCR **Cotoan** 4.41 123 *e*P Pn 20 46 47.5 +0.9
BRU **Baru** 4.62 123 *e*P Pn 20 46 50.7 +1.0
BRU **Baru** 4.62 123 *e*P Pn 20 46 50.7 +1.0
APG **El Apazote** 5.31 314 Pn Pn 20 46 58.0 -1.0
APG **El Apazote** 5.31 314 Pn Pn 20 46 58.0 -1.0
1.3nm,0.3s,baz=89,slow=5.9,SNR=6.8
BCIP **Isla Barro Col** 6.90 108 *e*Pn Pn 20 47 20.4 -0.2
TEIG **Tepich** 9.00 349 LR LR 20 51 58.4
comp=Z,2µm,18.3s,baz=155,slow=43
OTAV **Otavalo** 13.62 144 Pn P 20 48 57.8 -2.5
ROSC **El Rosal** 13.65 117 Pn Pn 20 48 48.3 -5.1
ROSC **El Rosal** 13.65 117 Pn Pn 20 48 48.3 -5.1
2.6nm,0.3s,baz=282,slow=19,SNR=2.0
ROSC LR LR 20 54 08.6
comp=Z,700nm,18.1s,baz=338,slow=38
GTBY **Guantanamo Bay** 13.89 51 Pn Pn 20 48 55.8 -0.4
SDV **Santo Domingo** 15.80 97 *e*Pn P 20 49 25.0 +0.7
6.2nm,1.0s
SDDR **Presa de Saban** 16.52 61 *e*Pn P 20 49 31.2 -0.9
22nm,1.0s
ATAH **Atahualpa** 20.05 156 LR LR 20 57 02.0
comp=Z,1µm,19.0s,baz=338,slow=34
TIGA **Tifton** 20.18 7 *e*P Pn 20 50 15.0 +0.5
84nm,1.0s
TIGA **Tifton** 20.18 7 ⇑P Pn 20 50 15.4 +0.9
baz=20
CELP **Cerrillos** 20.38 68 *e*P P 20 50 12.0 -2.5
HKT **Hockley** 20.46 336 *e*P Pn 20 50 16.6 -1.0
64nm,1.1s
SJG **San Juan** 20.79 69 LR LR 20 57 57.8
comp=Z,670nm,18.8s,baz=180,slow=36
VBMS **Vicksburg** 21.11 350 *e*P P 20 50 26.3 +4.2
87nm,1.0s
732A **Laxson Ranch,** 21.40 326 ⇑P P 20 50 25.9 +0.6
baz=22,SNR=13
LRAL **Lakeview Retre** 21.60 359 *e*P P 20 50 30.5 +3.1
215nm,2.3s
534A **Blanco** 21.68 331 ⇓P P 20 50 28.7 +0.3
baz=22
533A **Kerrville** 21.99 330 ⇓P P 20 50 31.7 +0.1
baz=22
434A **Burnet** 22.24 332 ⇑P P 20 50 33.8 -0.6
baz=22
631A **Perdido Creek** 22.27 326 P P 20 50 35.5 +0.9
baz=22,SNR=9.9
335A **Moody** 22.27 335 ⇑P P 20 50 34.7 0.0
baz=22
532A **Rocksprings** 22.47 328 ⇓P P 20 50 37.7 +0.8
baz=23,SNR=9.3
433A **Art** 22.58 331 ⇓P P 20 50 38.3 +0.3
baz=23,SNR=11
334A **Lometa** 22.67 333 P P 20 50 39.6 +0.7
baz=23,SNR=14
JCT **Junction City** 22.70 329 *e*P P 20 50 38.8 -0.6
17nm,0.9s
JCT **Junction City** 22.70 329 ⇑P P 20 50 39.5 +0.2
baz=23
531A **Rocksprings** 22.84 327 ⇑P P 20 50 40.1 -0.7
baz=23
WHTX **Lake Whitney** 22.91 335 *e*P P 20 50 40.8 -0.6
52nm,0.7s
WHTX **Lake Whitney** 22.91 335 ⇑P P 20 50 40.0 -1.4
baz=23,SNR=8.1
333A **Richland Sprin** 23.00 332 ⇓P P 20 50 41.9 -0.5
baz=23,SNR=11
432A **Menard** 23.02 330 ⇓P P 20 50 41.9 -0.7
baz=23
OXF **Oxford** 23.22 354 *e*P P 20 50 44.2 -0.2
82nm,0.8s
530A **J-C Ranch, Com** 23.25 326 ⇑P P 20 50 44.9 0.0
baz=23
431A **Sonora** 23.28 328 ⇑P P 20 50 44.4 -0.8
baz=23,SNR=13
JSC **Jenkinsville** 23.33 11 *e*P P 20 50 47.0 +1.4
135A **Vickery Place,** 23.38 336 ⇓P P 20 50 45.9 -0.2
baz=24
332A **Millersview** 23.41 330 ⇑P P 20 50 45.4 -0.9
baz=24,SNR=29
628A **Black Gap, Mar** 23.65 322 ⇓P P 20 50 48.2 -0.5
baz=24,SNR=9.2
134A **White-Moore Ra** 23.67 335 ⇓P P 20 50 48.4 -0.3
baz=24
331A **San Angelo** 23.69 329 ⇓P P 20 50 48.4 -0.5
baz=24,SNR=11
430A **Baggett Ranch,** 23.69 327 ⇓P P 20 50 49.0 0.0
baz=24
529A **Stev Forest Ra** 23.73 324 ⇓P P 20 50 49.0 -0.4
baz=24
SWET **Sewanee** 23.77 1 P P 20 50 46.5 -3.2
14nm,0.6s
232A **Coleman** 23.78 331 ⇓P P 20 50 49.2 -0.6
baz=24,SNR=19
429A **Davenport Ranc** 23.92 326 ⇓P P 20 50 51.3 +0.1
baz=24,SNR=15
627A **Terlingua Ranc** 23.93 321 ⇑P P 20 50 51.3 0.0
baz=24,SNR=36
MIAR **Mount Ida** 23.98 346 *e*P P 20 50 51.3 -0.3
34nm,0.8s
Z35A **Perchaven, San** 24.01 337 ⇓P P 20 50 52.1 +0.3
baz=24
TXAR **Lajitas Array** 24.02 321 P P 20 50 52.0 -0.1
TXAR PcP PcP 20 54 32.8 -0.2
TXAR **Lajitas Array** 24.02 321 P P 20 50 52.0 -0.1
9.6nm,0.7s,baz=136,slow=8.2,SNR=55
TXAR PcP PcP 20 54 32.8 -0.2
3.0nm,0.8s,baz=132,slow=1.9,SNR=8.3
TXAR LR LR 21 02 36.5
comp=Z,222nm,18.7s,baz=5.0,slow=42
133A **Hamilton Ranch** 24.06 334 ⇑P P 20 50 52.1 -0.2
baz=24,SNR=8.9
CPCT **Cooper Cave** 24.07 4 *e*P P 20 50 53.1 +0.8
231A **Bronte** 24.14 330 ⇓P P 20 50 53.1 0.0
baz=24
330A **Mertzon** 24.15 328 ⇓P P 20 50 52.8 -0.4
baz=24,SNR=5.8
Z34A **Collier Ranch,** 24.30 336 ⇓P P 20 50 54.5 0.0
baz=24
TKL **Tuckaleechee C** 24.34 5 LR LR 21 00 39.4
comp=Z,553nm,18.3s,baz=20,slow=37
ABTX **Abilene, Hawle** 24.39 332 *e*P P 20 50 54.5 -0.9
24nm,0.9s
ABTX PcP PcP 20 54 34.5 +0.9
ABTX **Abilene, Hawle** 24.39 332 ⇓P P 20 50 55.2 -0.2
baz=24,SNR=7.2
428A **Kincaid Ranch,** 24.45 325 ⇓P P 20 50 56.5 +0.5
baz=25,SNR=6.9
626A **Big Bend Ranch** 24.46 320 P P 20 50 56.7 +0.5
baz=25,SNR=18
230A **Sterling City** 24.50 329 ⇓P P 20 50 56.0 -0.3
baz=25,SNR=7.0
527A **Woodward Ranch** 24.56 322 ⇓P P 20 50 57.3 +0.2
baz=25,SNR=7.3
Z33A **Whitaker Ranch** 24.57 335 ⇓P P 20 50 57.5 +0.5
baz=25,SNR=12
329A **Wagon Wheel Ra** 24.64 327 P P 20 50 57.5 -0.1
baz=25,SNR=7.3
H06E1 **SOCORRO T-PHAS** 24.70 290 T T 21 16 31.7
SNR=12
WVT **Waverly** 24.71 357 *e*P P 20 50 57.7 -0.5
13nm,0.9s
H06S1 **SOCORRO T** 24.72 290 T T 21 16 29.5
SNR=8.3
Y34A **Reagan Ranch,** 24.76 337 ⇑P P 20 50 58.6 0.0
baz=25,SNR=14
131A **Roby** 24.78 331 ⇑P P 20 50 58.9 0.0
baz=25
526A **Mary Lane Ranc** 24.79 321 ⇓P P 20 51 00.0 +0.8
baz=25,SNR=14
Z32A **Haskell** 24.90 333 ⇓P P 20 51 01.0 +1.0
baz=25,SNR=26
229A **Bryant Ranch,** 24.92 328 ⇑P P 20 51 00.7 +0.4
baz=25
427A **Hayter Ranch,** 24.95 324 ⇓P P 20 50 59.4 -1.2
baz=25
130A **Snyder** 25.00 330 ⇓P P 20 51 00.9 0.0
baz=25
328A **Wristen Ranch,** 25.01 325 P P 20 51 01.5 +0.5
baz=25,SNR=13
Y33A **Hilltop Ranch,** 25.14 336 ⇓P P 20 51 02.7 +0.6
baz=25,SNR=9.6
426A **McDonald Obser** 25.19 322 ⇑P P 20 51 03.1 +0.3
baz=25
Z31A **Sharp Cattle R** 25.20 332 ⇓P P 20 51 03.7 +0.9
baz=25,SNR=12
X34A **Smith Ranch, M** 25.36 338 ⇑P P 20 51 04.6 +0.5
baz=26,SNR=7.1
PARMO **Parma** 25.38 354 *e*P P 20 51 04.9 +0.7
228A **UT Block 9, Go** 25.45 327 ⇑P P 20 51 05.5 +0.4
baz=26
129A **Stewart Farms,** 25.47 329 ⇓P P 20 51 05.7 +0.5
baz=26
Y32A **R-V Farms, Ver** 25.48 334 ⇓P P 20 51 05.4 +0.2
baz=26,SNR=6.1
X33A **Lawton** 25.56 337 ⇓P P 20 51 05.6 -0.3
baz=26,SNR=10
326A **Caldwell Ranch** 25.63 324 P P 20 51 06.8 +0.1
baz=26,SNR=7.9
Z30A **Sanderson Ranc** 25.64 331 ⇓P P 20 51 06.3 -0.4
baz=26,SNR=6.6
227A **Bennet, Jal** 25.75 326 ⇑P P 20 51 07.6 -0.2
baz=26
X32A **Elmer** 25.77 335 ⇓P P 20 51 08.0 +0.1
baz=26,SNR=5.1
128A **Castleberry Fa** 25.79 328 ⇓P P 20 51 08.0 -0.1
baz=26,SNR=8.4
Y31A **Rekieta Farm,** 25.80 333 ⇑P P 20 51 08.8 +0.7
baz=26,SNR=8.9
WMOK **Wichita Mounta** 25.84 336 *e*P P 20 51 09.0 +0.5
88nm,1.0s
WMOK *e* 20 51 20.3
TUL1 **Tulsa** 25.87 343 *e*P P 20 51 07.9 -0.9
TUL1 **Tulsa** 25.87 343 ⇑P P 20 51 08.5 -0.2
baz=26,SNR=6.8
Z29A **Hungry Hill Ra** 25.90 330 ⇓P P 20 51 08.9 -0.2
baz=26,SNR=6.1
W34A **Bridge Creek,** 25.90 338 ⇓P P 20 51 09.7 +0.7
baz=26,SNR=10
LPIG **La Paz** 25.94 302 LR LR 21 02 19.0
comp=Z,343nm,19.8s,baz=205,slow=38
Y30A **Stafford Cattl** 26.02 332 ⇑P P 20 51 10.5 +0.3
baz=26,SNR=10
W33A **Caddo, Fort Co** 26.09 337 ⇑P P 20 51 11.6 +0.9
baz=26,SNR=6.8
X31A **McDonald Ranch** 26.24 334 ⇑P P 20 51 12.3 +0.1
baz=26,SNR=5.6
Z28A **Tucker Farm, M** 26.26 329 ⇓P P 20 51 12.7 +0.3
baz=26
226B **Tecolote Peak,** 26.29 324 ⇑P P 20 51 13.1 +0.3
baz=26,SNR=11
127A **Arkansas Junct** 26.29 326 ⇓P P 20 51 13.6 +0.9
baz=26
V34A **Guthrie** 26.35 340 ⇑P P 20 51 12.8 -0.3
baz=26
W32A **Sentinel** 26.36 336 ⇓P P 20 51 13.9 +0.6
baz=26,SNR=7.5
Y29A **Porterfield Fa** 26.37 331 ⇓P P 20 51 13.4 +0.1
baz=26
VWCC **Virginia Weste** 26.45 12 *e*P P 20 51 09.8 -4.2
X30A **Coker Ranch, T** 26.48 333 ⇓P P 20 51 14.2 -0.1
baz=27
V33A **Lossen Ranch,** 26.61 338 ⇓P P 20 51 15.4 0.0
baz=27
324A **Moseley Ranch,** 26.61 322 ⇑P P 20 51 15.3 -0.3
baz=27
126A **Clayton Basin,** 26.64 325 P P 20 51 17.5 +1.7
baz=27,SNR=8.3
Y28A **McKinney Farm,** 26.69 330 ⇓P P 20 51 16.9 +0.6
baz=27
225A **Deer Hill, Car** 26.70 324 ⇑P P 20 51 17.5 +1.1
baz=27,SNR=8.6
W31A **Holland Ranch,** 26.70 335 ⇓P P 20 51 17.2 +0.9
baz=27
Z27A **Tatum** 26.71 328 ⇓P P 20 51 16.5 0.0
baz=27,SNR=6.3
MNTX **Cornudas Mount** 26.73 322 *e*P P 20 51 17.8 +1.2
9.0nm,1.2s
WCI **Wyandotte Cave** 26.78 0 *e*P P 20 51 17.8 +0.9
41nm,0.8s
V32A **Arapaho** 26.81 337 ⇓P P 20 51 17.8 +0.5
baz=27,SNR=6.2
X29A **Tulia** 26.86 331 ⇑P P 20 51 18.5 +0.8
baz=27,SNR=8.8
U34A **Anderson Ranch** 26.90 340 ⇑P P 20 51 18.1 0.0
baz=27
MSTX **Muleshoe** 27.00 329 *e*P P 20 51 17.5 -1.5
MSTX *e*PcP PcP 20 54 40.5 +0.8
MSTX **Muleshoe** 27.00 329 ⇓P P 20 51 19.2 +0.2
baz=27
125A **Gardner Draw,** 27.00 325 ⇓P P 20 51 19.2 +0.1
baz=27,SNR=8.0
224A **Cornudas Mount** 27.08 323 ⇓P P 20 51 20.8 +0.9
baz=27
Z26A **Caprock** 27.09 326 ⇑P P 20 51 20.1 +0.2
baz=27
Y27A **Causey** 27.13 328 ⇓P P 20 51 20.3 +0.1
baz=27,SNR=5.6
V31A **Spring Creek L** 27.17 336 ⇓P P 20 51 22.1 +1.6
baz=27,SNR=9.3
AMTX **Amarillo** 27.21 332 *e*P P 20 51 20.6 -0.3
20nm,0.8s
AMTX *e*PcP PcP 20 54 41.6 +1.5
AMTX **Amarillo** 27.21 332 ⇑P P 20 51 21.9 +0.9
baz=27
U32A **Winter Ranch,** 27.37 338 ⇑P P 20 51 24.1 +1.8
baz=28
124A **Stringfield Ra** 27.49 324 P P 20 51 25.5 +1.9
baz=28,SNR=12
Z25A **Roswell** 27.50 325 ⇑P P 20 51 25.0 +1.4
baz=28,SNR=11
Y26A **Elida** 27.50 328 ⇓P P 20 51 24.4 +0.8
baz=28
Z24A **Sheeppen Canyo** 27.90 325 P P 20 51 28.6 +1.3
baz=28,SNR=7.5
Y25A **Mesa, Roswell** 27.96 326 ⇓P P 20 51 29.3 +1.5
baz=28
X26A **CR and CF Fran** 27.98 328 ⇓P P 20 51 28.3 +0.4
baz=28
W27A **Bowe Ranch, En** 28.01 330 ⇓P P 20 51 28.6 +0.4
baz=28
T32A **Huddler Ranch,** 28.05 339 ⇓P P 20 51 29.0 +0.6
baz=28
222A **Williams Famil** 28.07 321 ⇑P P 20 51 29.3 +0.7
baz=28
U30A **WK&E Inc. Balk** 28.15 335 ⇑P P 20 51 30.4 +1.1
baz=28
T31A **Randall Ranch,** 28.26 337 ⇑P P 20 51 31.0 +0.8
baz=28
Z23A **Rita Site, Whi** 28.35 323 ⇓P P 20 51 33.0 +1.8
baz=28
Y24A **Capitan** 28.38 325 ⇑P P 20 51 32.7 +1.2
baz=28,SNR=12
X25A **Clemmons Ranch** 28.41 327 ⇓P P 20 51 31.8 0.0
baz=28,SNR=8.6
320A **Kipp Ranch, An** 28.48 318 ⇓P P 20 51 33.8 +1.4
baz=29
S31A **Mullinville** 28.65 338 ⇑P P 20 51 34.8 +1.1
baz=29
Y23A **Lovelace Mesa,** 28.73 325 P P 20 51 35.5 +0.9
baz=29,SNR=9.7
R33A **Olander Ranch,** 28.75 341 ⇑P P 20 51 35.2 +0.6
baz=29
Z22A **Elephant Butte** 28.77 323 ⇑P P 20 51 36.0 +1.0
baz=29
121A **Cookes Peak, D** 28.78 320 *e*P P 20 51 36.0 +0.9
17nm,1.1s
121A *e*PcP PcP 20 54 45.1 +1.0
121A **Cookes Peak, D** 28.78 320 ⇑P P 20 51 36.1 +1.0
baz=29
W25A **X Bar L Ranch,** 28.84 328 ⇑P P 20 51 36.0 +0.6
baz=29
220A **Playas Peak, P** 28.84 319 ⇑P P 20 51 37.2 +1.6
baz=29
SFIN **Scholer Farm** 28.93 359 *e*P P 20 51 35.7 -0.3
48nm,0.9s
SFIN **Scholer Farm** 28.93 359 ⇓P P 20 51 36.4 +0.4
baz=29
ACSO **Alum Creek Sta** 28.94 6 P P 20 51 35.3 -0.9
V26A **Tequesquite Ra** 28.95 330 ⇓P P 20 51 37.4 +0.9
baz=29
U27A **Thompson Grove** 29.00 332 ⇑P P 20 51 38.1 +1.1
baz=29
319A **Douglas** 29.00 317 ⇓P P 20 51 38.3 +1.3
baz=29
KSU1 **Kansas State U** 29.08 344 *e*P P 20 51 36.4 -1.1
30nm,0.6s
R32A **Long Quarter,** 29.10 340 ⇑P P 20 51 38.4 +0.8
baz=29
HDIL **Hopedale** 29.20 356 *e*P P 20 51 38.4 -0.1
69nm,0.7s
BNM **Barren Site** 29.21 324 *e*P P 20 51 39.8 +0.8
5.8nm,0.9s
Y22A **Socorro** 29.26 323 ⇓P P 20 51 40.3 +1.0
baz=29
R31A **Burdett** 29.26 339 ⇓P P 20 51 40.4 +1.3
baz=29
W24A **Lazy 6 Ranch,** 29.32 327 ⇓P P 20 51 40.5 +0.6
baz=29
120A **U Bar Ranch, L** 29.33 319 ⇓P P 20 51 41.5 +1.6
baz=30
Q33A **Connelly Farm,** 29.34 342 ⇓P P 20 51 40.6 +0.9
baz=29,SNR=6.2
V25A **Rancho No Teng** 29.40 329 ⇑P P 20 51 41.0 +0.4
baz=30
U26A **Atchley Ranch,** 29.41 331 ⇑P P 20 51 40.9 +0.2
baz=30
R30A **Dighton** 29.53 338 ⇑P P 20 51 42.3 +0.8
baz=30
Q32A **Meitler Ranch,** 29.56 341 ⇑P P 20 51 42.5 +0.8
baz=30
V24A **Rampart Ranch,** 29.65 328 ⇓P P 20 51 43.5 +0.7
baz=30
Z20A **Nine Sixteen R** 29.67 320 ⇑P P 20 51 44.5 +1.5
baz=30
W23A **Werner Place,** 29.69 326 ⇑P P 20 51 44.4 +1.3
baz=30
ANMO **Albuquerque** 29.70 326 P P 20 51 43.5 +0.3
ANMO PcP PcP 20 54 47.0 +0.6
ANMO **Albuquerque** 29.70 326 P P 20 51 43.5 +0.3
4.6nm,0.8s,baz=140,slow=8.2,SNR=12
ANMO PcP PcP 20 54 47.0 +0.6
1.7nm,0.8s,baz=244,slow=2.2,SNR=4.7
P33A **Williams Farm,** 29.70 342 ⇑P P 20 51 43.9 +0.9
baz=30
Y21A **Point of Rocks** 29.72 323 ⇓P P 20 51 44.8 +1.3
baz=30
U25A **Circle Dot Ran** 29.74 330 ⇑P P 20 51 44.5 +1.0
baz=30
Q31A **Ellis** 29.85 340 ⇑P P 20 51 45.8 +1.4
baz=30
MVL **Millersville** 29.93 16 *e*P P 20 51 47.5 +2.6
126nm,2.2s
T26A **Comanche Natio** 29.97 332 ⇓P P 20 51 46.6 +1.0
baz=30
Y20A **Horse Springs,** 30.08 322 ⇑P P 20 51 48.1 +1.4
baz=30
S27A **Las Animas** 30.08 333 ⇓P P 20 51 47.1 +0.6
baz=30
X21A **Alamocita Cree** 30.10 323 ⇑P P 20 51 48.1 +1.3
baz=30
P32A **Huiting Farm,** 30.15 341 ⇑P P 20 51 47.7 +0.8
baz=30
SSPA **Standing Stone** 30.15 13 *e*P P 20 51 48.5 +1.6
18nm,0.8s
R28A **Tribune** 30.18 336 ⇑P P 20 51 48.1 +0.8
baz=30
P31A **Stockton** 30.31 340 ⇓P P 20 51 49.9 +1.5
baz=30
Q29A **Oakley** 30.32 337 ⇓P P 20 51 49.4 +0.8
baz=30
T25A **Trinidad** 30.33 331 ⇓P P 20 51 49.3 +0.6
baz=30
R27A **Eads** 30.54 334 ⇓P P 20 51 51.3 +0.8
baz=31
TUC **Tucson** 30.59 317 *e*P P 20 51 51.8 +0.8
7.3nm,1.0s
TUC *e*PcP PcP 20 54 50.2 +1.5
U23A **El Rito** 30.59 328 ⇓P P 20 51 51.9 +0.8
baz=31
O32A **Brockman Farm,** 30.63 342 ⇑P P 20 51 51.6 +0.4
baz=31
V22A **San Miguel Ran** 30.66 326 ⇑P P 20 51 52.2 +0.5
baz=31
SAML **Samuel** 30.72 130 *e*P P 20 51 50.6 -1.6
6.1nm,1.2s
SAML *e*PcP PcP 20 54 48.8 -0.4
S25A **Robets Cordova** 30.76 331 ⇓P P 20 51 53.5 +1.0
baz=31
Q28A **Sharon Springs** 30.80 336 ⇑P P 20 51 54.4 +1.6
baz=31
O31A **Woolen Ranch,** 30.86 341 ⇑P P 20 51 54.0 +0.8
baz=31
P29A **Atwood** 30.93 338 ⇓P P 20 51 54.2 +0.3
baz=31
U22A **Llaves** 30.98 327 ⇓P P 20 51 54.9 +0.3
baz=31
R25A **Fountain Ranch** 31.08 332 ⇓P P 20 51 56.8 +1.4
baz=31
S24A **Houchin Ranch,** 31.11 330 ⇑P P 20 51 56.8 +1.0
baz=31
P28A **Saint Francis** 31.21 337 ⇓P P 20 51 57.5 +1.1
baz=31
SDCO **Great Sand Dun** 31.33 330 *e*P P 20 51 58.0 +0.2
4.7nm,0.7s
SDCO *e*PcP PcP 20 54 52.1 +1.3
X18A **Snowflake** 31.46 321 ⇓P P 20 52 00.3 +1.6
baz=32
R24A **Sanders Place,** 31.53 331 ⇑P P 20 52 00.8 +1.4
baz=32
JFWS **Jewell Farm** 31.63 355 *e*P P 20 51 59.3 -0.6
48nm,0.9s
W18A **Petrified Fore** 31.72 322 *e*P P 20 52 03.0 +1.9
W18A **Petrified Fore** 31.72 322 ⇓P P 20 52 02.6 +1.6
baz=32
R23A **Moffat** 31.84 330 ⇓P P 20 52 03.0 +0.8
baz=32,SNR=6.5
N29A **Votaw Ranch, W** 31.90 339 ⇑P P 20 52 04.8 +2.4
baz=32
S22A **4UR Ranch, Cre** 32.00 329 ⇓P P 20 52 04.6 +1.0
baz=32
BINY **Binghamton** 32.09 15 *e*P P 20 52 04.7 +0.8
824nm,3.0s
P25A **Willow Gulch B** 32.15 334 ⇓P P 20 52 06.0 +1.2
baz=32
X16A **Lo Mia Camp, P** 32.32 319 P P 20 52 07.7 +1.3
baz=32,SNR=13
Q23A **Hartsel** 32.41 331 ⇓P P 20 52 08.7 +1.5
baz=32
M29A **Burnside Ranch** 32.48 340 ⇓P P 20 52 08.9 +1.4
baz=33
MVCO **Mesa Verde** 32.48 326 *e*P P 20 52 07.9 +0.1
7.3nm,0.8s
MVCO *e*PcP PcP 20 54 54.6 +0.8
MVCO **Mesa Verde** 32.48 326 ⇑P P 20 52 09.1 +1.4
baz=33
P23A **Jefferson** 32.79 332 ⇓P P 20 52 11.5 +0.9
baz=33
LPAZ **La Paz** 32.92 146 P P 20 52 16.9 +4.7
LPAZ **La Paz** 32.92 146 LR LR 21 06 31.4
comp=Z,350nm,20.0s,baz=299,slow=38
WUAZ **Wupatki** 32.99 321 *e*P P 20 52 13.0 +0.9
7.1nm,1.0s
WUAZ *e*PcP PcP 20 54 56.6 +1.4
WUAZ **Wupatki** 32.99 321 ⇑P P 20 52 13.7 +1.6
baz=33
ISCO **Idaho Springs** 33.02 332 *e*PcP PcP 20 54 57.3 +1.9
ISCO **Idaho Springs** 33.02 332 ⇑P P 20 52 13.2 +0.7
baz=33
SMCO **Snowmass** 33.17 330 *e*P P 20 52 14.7 +0.7
8.8nm,1.3s
SMCO *e*PcP PcP 20 54 58.5 +2.6
PV01 **Paradox Valley** 33.19 327 P P 20 52 15.9 +1.9
K30A **Basset** 33.24 342 ⇓P P 20 52 14.8 +0.7
baz=33
ECSD **EROS Data Cent** 33.44 347 *e*P P 20 52 14.2 -1.6
28nm,0.9s
ECSD *e*PcP PcP 20 54 55.8 -0.3
K29A **Lazy Trails An** 33.54 341 ⇑P P 20 52 17.7 +1.0
baz=34
PV04 **Paradox Valley** 33.56 327 *e*P P 20 52 18.0 +0.9
L27A **T5 Ranch, Ells** 33.61 338 ⇑P P 20 52 18.3 +1.0
baz=34
PV10 **Paradox Valley** 33.62 327 *e*P P 20 52 17.3 -0.4
170nm,0.7s
GLA **Glamis** 33.79 314 ⇓P P 20 52 20.6 +1.6
baz=34
J30A **Dallas** 33.80 343 ⇑P P 20 52 19.7 +0.7
baz=34
K28A **Ten Mile Ranch** 33.84 340 ⇓P P 20 52 19.7 +0.4
baz=34
SADO **Sadowa** 33.91 9 P P 20 52 18.6 -1.2
SADO **Sadowa** 33.91 9 P P 20 52 18.6 -1.2
20nm,0.8s,baz=239,slow=5.2,SNR=9.5
PDMCI **Parker Dam,Lak** 34.02 317 ⇓P P 20 52 22.3 +1.3
baz=34
M24A **Cheyenne** 34.05 335 ⇑P P 20 52 22.4 +1.1
baz=34
K27A **Flueckinger Fa** 34.12 339 ⇑P P 20 52 23.0 +1.1
baz=34
J29A **Okreek** 34.13 342 ⇓P P 20 52 22.5 +0.8

	baz=34									
U15A	North Rim	34.14	321	⇑P		P	20	52	23.4	+1.1
	baz=34									
PHWY	Pilot Hill	34.18	334	ℯPcP		PcP	20	54	59.9	+1.2
SPMN	St. Paul	34.20	352	ℯP		P	20	52	20.9	-1.4
W13A	Hualapai Mount	34.33	318	⇑P		P	20	52	24.4	+0.6
	baz=34									
J28A	Allard Ranch,	34.43	341	⇑P		P	20	52	25.2	+0.8
	baz=34									
BC3	Big Chuckawall	34.56	315	⇑P		P	20	52	27.1	+1.3
	baz=35									
PTN	Potsdam (NY)	34.56	15	ℯP		P	20	52	26.3	+0.8
	444nm,1.9s									
I29A	Vivian Onida	34.68	342	⇓P		P	20	52	26.9	+0.3
	baz=35									
BRSD	Miller	34.69	344	ℯP		P	20	52	25.2	-1.3
	78nm,0.9s									
LONY	Lake Ozonia	34.71	15	ℯP		P	20	52	27.5	+0.7
	133nm,2.0s									
COWI	Conover	34.72	357	ℯP		P	20	52	25.7	-1.1
	31nm,0.8s									
MONP	Monument Peak	34.84	313	⇓P		P	20	52	29.4	+1.1
	baz=35									
L23A	Garrett	34.95	335	⇑P		P	20	52	29.9	+0.7
	baz=35									
SRU	San Rafael	34.95	326	ℯP		P	20	52	29.4	+0.2
	25nm,1.5s									
SRU				ℯPcP		PcP	20	55	02.6	+1.9
N20A	Spence Gulch,	35.08	331	⇑P		P	20	52	31.1	+0.8
	baz=35									
L22A	Ellis Ranch, M	35.20	334	⇑P		P	20	52	32.3	+1.1
	baz=35									
PFO	Pinyon Flat Ob	35.24	314	P		P	20	52	31.1	-0.6
PFO	Pinyon Flat Ob	35.24	314	P		P	20	52	31.1	-0.6
	3.5nm,0.8s,baz=104,slow=13,SNR=3.7									
RWWY	Rawlins	35.26	333	ℯPcP		PcP	20	55	09.6	+7.8
J25A	Sunshine Ranch	35.28	338	⇑P		P	20	52	32.7	+0.9
	baz=35									
GMRC	Granite Mounta	35.33	316	⇓P		P	20	52	33.4	+1.1
	baz=36									
K23A	Bowen Ranch, D	35.45	335	⇓P		P	20	52	34.6	+1.2
	baz=36									
CCUT	Cedar City	35.52	322	ℯP		P	20	52	36.9	+2.8
	73nm,3.0s									
J24A	Dixon Ranch, L	35.56	337	⇑P		P	20	52	35.7	+1.5
	baz=36									
ARUT	Antelope Range	35.72	322	ℯP		P	20	52	36.2	+0.4
	57nm,0.8s									
K22A	Casper	35.74	334	⇓P		P	20	52	36.5	+0.7
	baz=36									
MURC	Murrieta	35.77	313	⇑P		P	20	52	37.2	+1.1
	baz=36									
I25A	Rochford	35.80	339	⇑P		P	20	52	37.1	+0.8
	baz=36									
RSSD	Black Hills	36.00	338	ℯP		P	20	52	38.5	+0.4
	5.7nm,0.8s									
RSSD				ℯPcP		PcP	20	55	04.3	+0.6
K21A	Alcova	36.04	334	⇓P		P	20	52	39.8	+1.3
	baz=36									
DAU	Daniels Canyon	36.28	327	ℯP		P	20	52	41.5	+0.8
DAU				ℯPcP		PcP	20	55	06.8	+2.0
J22A	Midwest	36.35	335	⇑P		P	20	52	42.0	+1.0
	baz=36									
G27A	Dupree	36.40	342	⇑P		P	20	52	42.0	+0.7
	baz=36									
BFSC	Mount Baldy Ra	36.42	314	⇓P		P	20	52	42.8	+1.0
	baz=37									
JLU	Jordanelle	36.52	327	ℯP		P	20	52	44.7	+2.0
	5.1nm,0.9s									
J21A	Lysite	36.70	334	⇓P		P	20	52	44.9	+0.8
	baz=37									
G25A	Newell	36.72	340	⇑P		P	20	52	44.8	+0.7
	baz=37									
H24A	Dirks Ranch, A	36.73	338	⇓P		P	20	52	44.3	+0.1
	baz=37,SNR=6.9									
EYMN	Ely	36.73	354	ℯP		P	20	52	42.6	-1.4
	14nm,0.9s									
I22A	9 Mile Ranch,	36.75	336	⇓P		P	20	52	44.8	+0.4
	baz=37									
TPNV	Topopah Spring	36.96	319	ℯP		P	20	52	48.2	+1.8
	27nm,1.9s									
TPNV				ℯPcP		PcP	20	55	08.7	+1.9
TPNV	Topopah Spring	36.96	319	⇓P		P	20	52	47.7	+1.3
	baz=37									
DUG	Dugway	36.97	326	ℯP		P	20	52	48.3	+1.9
	8.3nm,1.2s									
DUG				ℯPcP		PcP	20	55	08.8	+2.1
DUG	Dugway	36.97	326	⇑P		P	20	52	47.6	+1.2
	baz=37									
J20A	Shoshoni	36.98	334	⇓P		P	20	52	47.3	+0.9
	baz=37									
EDW2	Edwards Air Fo	36.99	314	⇑P		P	20	52	47.6	+1.1
	baz=37									
I21A	Big Trails, Te	37.01	335	⇓P		P	20	52	47.3	+0.6
	baz=37									
SIV	San Ignacio	37.02	137	P		P	20	52	45.0	-1.9
SIV				PcP		PcP	20	55	07.3	+0.2
SIV	San Ignacio	37.02	137	P		P	20	52	45.0	-1.9
	13nm,0.8s,baz=320,slow=8.6,SNR=34									
SIV				PcP		PcP	20	55	07.3	+0.2
	3.5nm,0.7s,baz=341,slow=3.7,SNR=5.3									
D30A	Buchanan	37.13	346	⇓P		P	20	52	46.6	-0.8
	baz=37,SNR=6.4									
BW06	Boulder Array	37.19	331	ℯP		P	20	52	48.8	+0.6
	23nm,2.1s									
PDAR	Pinedale Array	37.19	331	P		P	20	52	48.0	-0.2
PDAR				PcP		PcP	20	55	08.0	+0.5
PDAR	Pinedale Array	37.19	331	P		P	20	52	48.0	-0.2
	2.5nm,0.8s,baz=128,slow=10,SNR=18									
PDAR				PcP		PcP	20	55	08.0	+0.5
	2.6nm,0.8s,baz=134,slow=4.9,SNR=8.8									
PDAR				LR		LR	21	11	44.9	
	comp=Z,318nm,20.2s,baz=289,slow=42									
J19A	Crowheart	37.34	332	⇑P		P	20	52	49.2	-0.4
	baz=38									
F25A	Bowman	37.38	340	⇓P		P	20	52	50.3	+0.7
	baz=38									
R11A	Troy Canyon, C	37.39	321	ℯPcP		PcP	20	55	09.6	+1.6
G23A	Biddle	37.42	338	⇑P		P	20	52	50.9	+0.9
	baz=38									
I20A	Worland	37.48	334	⇑P		P	20	52	51.1	+0.5
	baz=38									
SPUT	South Promonto	37.55	327	ℯP		P	20	52	51.9	+0.6
	7.4nm,1.1s									
SPUT				ℯPcP		PcP	20	55	09.8	+1.3
H21A	Big Horn, Sher	37.58	336	⇓P		P	20	52	51.6	+0.2
	baz=38									
BGU	Big Grassy Mou	37.59	326	ℯP		P	20	52	53.3	+1.7
	6.1nm,1.3s									
C30A	Mose, Pekin	37.62	347	⇑P		P	20	52	50.7	-0.9
	baz=38,SNR=5.1									
F24A	Ekalaka	37.64	339	⇓P		P	20	52	51.9	0.0
	baz=38									
D28A	Regan	37.66	344	⇓P		P	20	52	51.6	-0.3
	baz=38									
AGMN	Agassiz Nation	37.67	350	ℯP		P	20	52	50.7	-1.2
	42nm,1.0s									
ISA	Isabella	37.74	315	ℯP		P	20	52	53.5	+0.7
G22A	Birney	37.78	337	⇑P		P	20	52	52.2	-0.8
	baz=38									
D27A	Center	37.84	343	⇑P		P	20	52	53.5	0.0
	baz=38									
H20A	Greybull	37.86	335	⇑P		P	20	52	53.1	-0.7
	baz=38									
E25A	Miller Ranch,	37.87	341	⇓P		P	20	52	54.0	+0.2
	baz=38									
F23A	Volborg	37.87	338	⇑P		P	20	52	53.7	-0.1
	baz=38									
LVC	Limon Verde	37.89	153	ℯP		P	20	52	55.5	+1.1
I19A	Meeteetse	37.92	333	⇓P		P	20	52	53.9	-0.6
	baz=38									
D26A	Manning	38.04	342	⇓P		P	20	52	54.4	-0.7
	baz=38									
HVU	Hansel Valley	38.06	328	ℯP		P	20	52	56.5	+0.9
	7.7nm,0.9s									
HVU				ℯPcP		PcP	20	55	10.6	+0.6
C28A	Hausauer Farms	38.09	345	⇓P		P	20	52	55.3	-0.3
	baz=38									
E24A	Baker	38.22	340	⇑P		P	20	52	56.5	-0.2
	baz=38,SNR=6.5									
F22A	Rosebud	38.24	338	⇓P		P	20	52	56.4	-0.5
	baz=38									
REDW	Red Top Meadow	38.26	331	ℯP		P	20	52	57.4	+0.1
	20nm,0.9s									
PKM	Peak Mountain	38.29	313	⇑P		P	20	52	58.1	+0.5
	baz=38									
B30A	Myrvik Farm, E	38.30	347	⇓P		P	20	52	56.9	-0.3
	baz=38,SNR=14									
LOHW	Long Hollow	38.33	331	ℯP		P	20	52	57.6	-0.3
	85nm,2.9s									
TPAW	Teton Pass	38.40	331	ℯP		P	20	53	00.6	+2.1
	8.1nm,0.8s									
H19A	Powell	38.42	334	⇑P		P	20	52	59.2	+0.6
	baz=38									
MOOW	Moose Ponds	38.50	331	ℯP		P	20	52	59.4	+0.1
	114nm,3.0s									
E23A	Ismay	38.50	339	⇓P		P	20	52	59.0	-0.1
	baz=39									
B29A	Wagenman Farm,	38.54	346	⇓P		P	20	52	59.3	0.0
	baz=39,SNR=5.9									
G20A	Bridger	38.54	335	⇑P		P	20	53	00.1	+0.5
	baz=39									
FXWY	Fox Creek	38.55	331	ℯP		P	20	52	59.8	0.0
	71nm,2.9s									
FXWY				ℯPcP		PcP	20	55	13.4	+1.8
I17A	Pilgrim Ck.	38.55	332	⇓P		P	20	53	00.2	+0.5
	baz=39									
E22A	Miles City	38.68	338	⇓P		P	20	53	00.5	-0.1
	baz=39									
IMW	Indian Meadow	38.70	331	ℯPcP		PcP	20	55	13.6	+1.5
ELK	Elko	38.71	324	ℯP		P	20	53	02.1	+0.9
	5.0nm,1.1s									
D24A	Glendive	38.71	340	⇑P		P	20	53	00.6	-0.2
	baz=39,SNR=7.7									
MTUM	Tungsten Hills	38.71	317	ℯPcP		PcP	20	55	12.2	0.0
H18A	Shoshone NF, C	38.73	333	⇓P		P	20	53	01.2	0.0
	baz=39									
FLWY	Flagg Ranch	38.73	332	ℯP		P	20	53	02.4	+1.1
	13nm,1.2s									
A30A	Hoffart Farm,	38.75	348	P		P	20	52	59.9	-1.2
	baz=39,SNR=9.2									
C25A	Freed Ranch, W	38.90	342	⇑P		P	20	53	02.3	0.0
	baz=39									
A29A	Manning Farm,	38.94	347	P		P	20	53	01.9	-0.8
	baz=39,SNR=14									
F20A	Billings	38.99	336	⇑P		P	20	53	03.3	0.0
	baz=39									
D23A	Lindsay	39.05	340	⇓P		P	20	53	04.1	+0.4
	baz=39									
YFT	Old Faithful	39.08	332	ℯPcP		PcP	20	55	16.4	+3.2
NVAR	Mina Array Bea	39.15	319	P		P	20	53	05.5	+0.7
NVAR				PcP		PcP	20	55	15.2	+1.7
NVAR	Mina Array Bea	39.15	319	P		P	20	53	05.5	+0.7
	4.2nm,0.7s,baz=132,slow=6.4,SNR=21									
NVAR				PcP		PcP	20	55	15.2	+1.7
	12nm,0.7s,baz=132,slow=3.8,SNR=40									
E21A	Keefer Ranch,	39.18	337	⇓P		P	20	53	04.8	0.0
	baz=39									
YMR	Madison River	39.30	332	ℯP		P	20	53	07.6	+1.6
	18nm,1.3s									
F19A	Roth Farm, Mol	39.36	335	⇑P		P	20	53	06.2	-0.1
	baz=40									
B25A	Knox Farm, Ray	39.37	342	⇑P		P	20	53	06.5	+0.2
	baz=40									
D22A	Cohagen	39.37	339	⇑P		P	20	53	06.6	+0.3
	baz=40									
ULM	Lac du Bonnet	39.56	351	ℯP		P	20	53	05.5	-2.3
	26nm,0.9s									
ULM	Lac du Bonnet	39.56	351	P		P	20	53	06.0	-1.8
	24nm,0.8s,baz=166,slow=8.2,SNR=28									
ULM				LR		LR	21	11	25.0	
	comp=Z,222nm,18.5s,baz=236,slow=39									
E20A	Meyer Farm, Mu	39.56	336	⇑P		P	20	53	08.1	+0.2
	baz=40,SNR=11									
C23A	Lambert	39.59	340	⇑P		P	20	53	08.3	+0.2
	baz=40,SNR=6.0									
D21A	La Casta Ranch	39.59	338	⇑P		P	20	53	08.5	+0.2
	baz=40									
GCMT	Greycliff	39.61	334	ℯP		P	20	53	07.8	-0.7
	4.0nm,0.7s									
C22A	Vida	39.78	340	⇑P		P	20	53	10.2	+0.5
	baz=40									
E19A	Rath Farm, Rou	39.78	336	⇑P		P	20	53	10.1	+0.3
	baz=40									
DGMT	Dagmar	39.86	342	ℯP		P	20	53	10.6	+0.2
	33nm,0.5s									
DGMT	Dagmar	39.86	342	P		P	20	53	10.6	+0.2
	baz=40,SNR=6.2									
WAKR	Walker	39.92	318	ℯP		P	20	53	12.7	+1.4
	3.8nm,1.0s									
D20A	Mauel Ranch,	40.05	337	⇑P		P	20	53	12.2	+0.3
	baz=40									
B23A	Brockton	40.11	341	⇑P		P	20	53	13.1	+0.7
	baz=40									
HLID	Hailey	40.17	328	ℯP		P	20	53	13.6	+0.4
	4.2nm,0.8s									
HLID				ℯPcP		PcP	20	55	18.7	+2.1
HLID	Hailey	40.17	328	⇓P		P	20	53	13.6	+0.4
	baz=40,SNR=6.7									
A24A	Westby	40.20	342	⇑P		P	20	53	13.6	+0.4
	baz=40									
C21A	Desert Coulee	40.27	338	⇑P		P	20	53	14.0	+0.1
	baz=40									
CMB	Columbia Colle	40.30	317	ℯPcP		PcP	20	55	18.9	+1.9
B22A	Reddig Ranch S	40.30	340	⇑P		P	20	53	14.1	+0.1
	baz=40									
BOZ	Bozeman (W)	40.35	333	ℯP		P	20	53	14.9	+0.2
	7.6nm,0.8s									
D19A	Cripps Ranch,	40.40	336	⇓P		P	20	53	15.0	+0.1
	40nm,SNR=7.3									
C20A	Veseth Ranch,	40.51	338	⇓P		P	20	53	16.2	+0.4
	baz=41									
DLMT	Dillon	40.58	332	ℯP		P	20	53	19.7	+3.1
	6.0nm,1.0s									
DLMT				ℯPcP		PcP	20	55	19.9	+2.0
MFID	Camas Ranch	40.82	327	ℯPcP		PcP	20	55	20.6	+2.0
LRM	Limekiln Ridge	40.86	332	ℯP		P	20	53	18.9	0.0
LRM				ℯPcP		PcP	20	55	19.2	+0.3
A22A	Carney Farms,	40.87	340	⇑P		P	20	53	19.1	+0.3
	baz=41									
A21A	Bergtoll Ranch	41.21	340	⇓P		P	20	53	22.0	+0.5
	baz=41									
EGMT	Eagleton	41.44	336	⇓P		P	20	53	23.8	+0.3
	baz=42									
A20A	Cobblestone Ra	41.46	339	⇓P		P	20	53	24.0	+0.4
	baz=42									
B19A	Brinkman Farms	41.48	337	⇑P		P	20	53	24.1	+0.4
	baz=42									
OHCM	Honcut	41.72	318	ℯPcP		PcP	20	55	23.3	+1.8
WVOR	Wild Horse Val	41.75	324	ℯP		P	20	53	26.0	-0.1
	8.4nm,0.9s									
WVOR				ℯPcP		PcP	20	55	24.1	+2.3
A19A	Klindworth Far	41.80	338	⇑P		P	20	53	26.5	+0.2
	baz=42									
J08A	Circle Bar Ran	42.23	325	ℯP		P	20	53	31.2	+1.1
	7.9nm,1.1s									
J08A				ℯPcP		PcP	20	55	25.2	+1.9
MSO	Missoula	42.30	332	⇓P		P	20	53	30.7	+0.2
	baz=42									
MOD	Modoc	42.41	322	ℯPcP		PcP	20	55	26.0	+2.0
BMO	Blue Mountains	42.57	327	ℯP		P	20	53	31.9	-0.8
	4.6nm,0.8s									
K05A	Summer Lake	43.25	323	ℯPcP		PcP	20	55	29.8	+2.9
I07A	Izee	43.27	325	ℯP		P	20	53	39.0	+0.5
	69nm,2.5s									
I07A				ℯPcP		PcP	20	55	28.6	+1.9
F10A	Beach Ranch, E	43.29	329	ℯP		P	20	53	38.5	0.0
	95nm,2.7s									
F10A				ℯPcP		PcP	20	55	28.2	+1.4
G08A	Pilot Rock	43.74	327	ℯPcP		PcP	20	55	29.9	+1.6
YBH	Yreka Blue Hor	43.80	320	ℯP		P	20	53	45.8	+3.1
	108nm,3.0s									
YBH				PcP		PcP	20	55	28.9	+0.3
YBH	Yreka Blue Hor	43.80	320	PcP		PcP	20	55	28.9	+0.3
	3.4nm,0.7s,baz=75,slow=6.7,SNR=7.8									
E09A	Wood Farm, Sta	44.12	329	ℯP		P	20	53	45.5	+0.4
	18nm,1.4s									
HAWA	Hanford	44.76	328	ℯP		P	20	53	49.9	-0.4
	8.0nm,0.8s									
I04A	Tendick Farm,	44.77	323	⇑P		P	20	53	50.6	+0.2
	baz=45									
D08A	Wollman Farm,	44.88	329	ℯP		P	20	53	51.2	0.0
	13nm,1.2s									
FFC	Flin Flon	44.98	347	ℯP		P	20	53	51.1	-0.7
	4.9nm,0.8s									
G05D	Wamic, OR	45.00	325	⇑P		P	20	53	53.3	+1.1
	baz=45									
E07A	Sunnyside	45.04	328	ℯP		P	20	53	52.5	+0.1
C09A	Chrisman Ranch	45.06	330	ℯPcP		PcP	20	55	34.0	+1.3
B08A	Colville Reser	45.96	330	ℯP		P	20	53	59.9	+0.2
	6.3nm,1.1s									
B08A				ℯPcP		PcP	20	55	37.3	+1.5
SCHQ	Schefferville	46.08	16	ℯP		P	20	53	58.8	-1.7
	4.8nm,0.4s,baz=241,slow=9.6,SNR=22									
SCHQ				PcP		PcP	20	55	35.9	-0.2
	3.3nm,0.6s,baz=59,slow=1.9,SNR=3.5									
SCHQ				LR		LR	21	13	18.6	
	comp=Z,573nm,18.8s,baz=201,slow=36									
G03D	McMinnville, O	46.09	324	⇓P		P	20	54	02.0	+1.2
	baz=46									
LON	Longmire	46.20	327	ℯP		P	20	54	01.6	-0.1
	3.3nm,0.9s									
LON				ℯPcP		PcP	20	55	36.8	+0.1
BDFB	Brasilia	46.58	124	P		P	20	54	03.4	-1.7
BDFB	Brasilia	46.58	124	P		P	20	54	03.4	-1.7
	12nm,0.9s,baz=286,slow=8.0,SNR=14									
BDFB				LR		LR	21	14	24.7	
	comp=Z,243nm,19.7s,baz=142,slow=37									
CPUP	Villa Florida	46.97	143	ℯP		P	20	54	06.7	-1.2
	0.3nm,0.6s									
CPUP	Villa Florida	46.97	143	P		P	20	54	06.8	-1.1
	2.8nm,0.6s,baz=312,slow=8.8,SNR=9.4									
CPUP				LR		LR	21	14	15.6	
	comp=Z,208nm,19.5s,baz=311,slow=37									
EDM	Edmonton	46.98	338	ℯP		P	20	54	06.5	-1.2
B06A	Marblemount	47.15	329	ℯP		P	20	54	09.3	+0.4
	14nm,0.8s									
PLCA	Paso Flores	53.87	165	P		P	20	55	01.6	+1.8
PLCA	Paso Flores	53.87	165	P		P	20	55	01.6	+1.8
	2.7nm,0.8s,baz=331,slow=6.6,SNR=3.3									
YKA	Yellowknife Ar	54.92	344	P		P	20	55	06.0	-1.1
YKA				PcP		PcP	20	56	08.8	+0.4
YKA	Yellowknife Ar	54.92	344	P		P	20	55	05.9	-1.1
	6.1nm,0.8s,baz=138,slow=7.3,SNR=33									
YKA				PcP		PcP	20	56	08.8	+0.4
	0.8nm,0.6s,baz=145,slow=4.1,SNR=7.0									
YKW3	Yellowknife Ar	54.98	345	ℯP		P	20	55	05.7	-1.8
	0.2nm,0.9s									
DLBC	Dease Lake	57.31	335	ℯP		P	20	55	23.6	-0.7
RKT	Rikitea	58.52	234	ℯLR		LR	21	12	54.9	
	265nm,26.5s									
PMOR	Pomariorio Ree	66.21	248	ℯT		T	22	08	01.2	
	3.9nm,0.2s									
ILAR	Eielson Array	67.41	336	P		P	20	56	30.1	-1.4
ILAR	Eielson Array	67.41	336	P		P	20	56	30.1	-1.4
	4.1nm,0.8s,baz=110,slow=4.9,SNR=40									
MCK	McKinley	67.86	335	ℯP		P	20	56	34.2	-0.3
	13nm,0.9s									
BPAW	Bear Paw Mtn.	68.84	335	ℯP		P	20	56	39.7	-0.9
	17nm,1.0s									
COLD	Coldfoot	69.57	338	ℯP		P	20	56	45.7	+0.7
	7.1nm,0.9s									
TBI	Tubuai	70.57	240	ℯLR		LR	21	18	25.5	
	143nm,22.5s									
ESDC	Sonseca Array	77.14	52	P		P	20	57	28.4	-1.9
ESDC	Sonseca Array	77.14	52	P		P	20	57	28.4	-1.9
	0.3nm,0.4s,baz=285,slow=3.7,SNR=3.3									
ARCES	ARCESS Array B	86.92	19	P		P	20	58	19.4	-1.5
ARCES	ARCESS Array B	86.92	19	P		P	20	58	19.4	-1.5
	2.7nm,0.9s,baz=308,slow=7.8,SNR=3.3									
GERES	GERESS Array B	88.17	41	LR		LR	21	35	21.6	
	comp=Z,225nm,18.5s,baz=355,slow=34									
AKASG	Malin Array Be	96.89	35	LR		LR	21	41	10.2	
	comp=Z,156nm,18.7s,baz=220,slow=34									
BOSA	Boshof	114.37	116	PKP		PKPdf	21	04	16.1	-0.5
BOSA	Boshof	114.37	116	PKP		PKPdf	21	04	16.1	-0.5
	2.6nm,0.8s,baz=219,slow=2.0,SNR=4.0									
ZALV	Zalesovo Beam	114.55	6	PKP		PKPdf	21	04	15.2	-0.9
ZALV	Zalesovo Beam	114.55	6	PKP		PKPdf	21	04	15.2	-0.9
	0.6nm,0.5s,baz=287,slow=1.7,SNR=4.9									
KURK	Kurchatov	116.86	11	PKP		PKPdf	21	04	19.9	-0.8
KURBB	Kurchatov Arra	116.93	11	PKP		PKPdf	21	04	19.9	-0.9
	1.0nm,0.7s,baz=349,slow=1.9,SNR=15									
SONM	Songino Array	119.98	350	PKP		PKPdf	21	04	26.5	-0.5
SONM	Songino Array	119.98	350	PKP		PKPdf	21	04	26.5	-0.5
	1.7nm,0.7s,baz=338,slow=1.3,SNR=14									
MKAR	Makanchi Array	121.27	9	PKP		PKPdf	21	04	28.4

TPTI				S	Sn	20 52 36.0	-0.8
KCSI	Kotacane, Aceh	1.79	124	S	Sn	20 52 42.4	-0.5
PSI	Prapat	3.14	123	P	Pn	20 52 42.4	+2.3
PSI	Prapat	3.14	123	Pn	Pn	20 52 42.5	+2.5
	6.5nm,0.3s,baz=299,slow=13,SNR=12						
PSI				Sn	Sb	20 53 26.1	+0.1
	14nm,0.3s,baz=85,slow=18,SNR=6.9						
GSI	Gunungsitoli	3.45	158	P	Pn	20 52 44.7	+0.5
IPM	Ipoh	4.73	90	P	Pn	20 53 01.2	-0.6
CMAR	Chiang Mai Arr	14.09	10	Pn	P	20 55 16.4	-1.1
	0.1nm,0.3s,baz=201,slow=12,SNR=2.9						
H08S2	Diego Garcia H	26.64	243	T	T	21 24 46.6	
	baz=57						
H08S3	Diego Garcia H	26.64	243	T	T	21 24 58.0	
	baz=57						
H08S1	Diego Carcia H	26.66	243	T	T	21 24 50.8	
	baz=57						
FITZ	Fitzroy Crossi	36.65	129	P	P	20 58 55.4	-1.2
	0.7nm,0.7s,baz=225,slow=13,SNR=2.8						
MKAR	Makanchi Array	43.82	346	P	P	20 59 56.7	+1.1
	0.6nm,0.8s,baz=156,slow=9.6,SNR=4.5						
WRA	Warramunga Arr	44.61	124	P	P	21 00 02.1	-0.2
	1.0nm,0.6s,baz=302,slow=9.2,SNR=10						
ASAR	Alice Springs	46.15	129	P	P	21 00 14.6	0.0
	0.5nm,0.4s,baz=307,slow=7.7,SNR=12						
KURBB	Kurchatov Arra	48.30	345	P	P	21 00 31.6	+0.8
	0.1nm,0.3s,baz=166,slow=6.5,SNR=4.1						

ISCJB ***01*** *21:04:45.6±0.3,51°.47N±0'.02×6°.42E±0'.03,h0km,Error ellipse: s-maj=3.1km s-min=2.2km az=35.5*
CSEM ***01*** *21:04:46.7±0.2,51°.48N×6°.52E,h1km,ML3.5/20,Error ellipse: s-maj=3.7km s-min=2.7km az=135.0*
BUG ***01*** *21:04:46.6,51°.47N×6°.57E,h1km,ML2.5*
BNS ***01*** *21:04:47.8±0.7,51°.47N×6°.56E,h1km,ML2.6*
LDG ***01*** *21:04:48.1±0.1,51°.47N×6°.60E,h1km,Md3.3/3,Ml3.4/24, Error ellipse: s-maj=1.9km s-min=1.3km az=143.0, Suspected Mining induced.*
BGR ***01*** *21:04:49.8±0.7,51°.44N×6°.72E,h1km,ML2.7/5,Error ellipse: s-maj=11.1km s-min=5.6km az=119.0*
STR ***01*** *21:04:49.5±0.3,51°.39N×6°.40E,h5km,Ml3.1,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
PRU ***01*** *21:04:50.0,51°.47N×6°.66E,h7km,Moers*
ISC 01 21:04:45.7±0.7,51°.50N±0'.02×6°.45E±0'.02,h0km,n149,
σ18.39/243,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRHE	Rheinberg	0.08	77	Pg	Pg	21 04 47.9	+0.7
BRHE				Sg	Sg	21 04 49.0	+0.9
BRHE	Rheinberg	0.08	77	Pg	Pg	21 04 47.9	+0.7
BRHE				Sg	Sg	21 04 49.0	+0.9
LAUG	Laupendahl	0.34	115	*e*Pg	Pg	21 04 52.7	+0.5
LAUG	Laupendahl	0.34	115	Pg	Pg	21 04 52.7	+0.5
RWB	Wassenberg	0.44	205	*e*Sg	Sb	21 05 03.6	+0.2
	506nm,0.2s						
RWB	Wassenberg	0.44	205	Sg	Sb	21 05 03.6	+0.2
	506nm,0.2s						
JCK	Jackerath	0.46	182	*e*Pg	Pb	21 04 56.7	0.0
JCK				*e*Sg	Sb	21 05 03.3	-0.8
	715nm,0.2s						
JCK	Jackerath	0.46	182	Pg	Pb	21 04 56.7	0.0
JCK				Sg	Sb	21 05 03.3	-0.8
	715nm,0.2s						
BUG	Bochum--Univer	0.52	96	*e*Pg	Pg	21 04 55.9	+0.4
BUG				Sg	Sg	21 05 02.6	+0.4
WTSB	Winterswijk	0.52	25	*e*Pg	Pb	21 04 57.2	-0.4
	25nm,0.4s						
WTSB				*e*Sn	Sg	21 05 04.1	+1.8
WTSB				*e*Sg	Sb	21 05 05.0	-0.6
WTSB	Winterswijk	0.52	25	*e*Pg	Pb	21 04 57.2	-0.4
	25nm,0.4s						
WTSB				*e*Sn	Sg	21 05 04.1	+1.8
WTSB				*e*Sg	Sb	21 05 05.0	-0.6
PLH	Pulheim	0.55	155	*e*Pg	Pg	21 04 57.3	+1.2
PLH				*e*Sg	Sg	21 05 04.4	+1.2
	433nm,0.3s						
PLH	Pulheim	0.55	155	Pg	Pg	21 04 57.3	+1.2
PLH				Sg	Sg	21 05 04.4	+1.2
	433nm,0.3s						
ENTS	Ennepetalsperr	0.65	113	*e*Pg	Pg	21 04 58.5	+0.3
ENTS				*e*Sg	Sg	21 05 06.3	-0.4
ENTS	Ennepetalsperr	0.65	113	Pg	Pg	21 04 58.5	+0.3
ENTS				Sg	Sg	21 05 06.3	-0.4
BNS	Bensberg	0.70	139	*e*Pg	Pg	21 05 00.2	+1.1
BNS	Bensberg	0.70	139	Pg	Pg	21 05 00.2	+1.1
HOBG	Hohbusch	0.76	133	*e*Pg	Pg	21 05 01.1	+0.9
HOBG	Hohbusch	0.76	133	Pg	Pg	21 05 01.1	+0.9
GSH	Grosshau	0.77	183	*e*Pg	Pb	21 05 02.2	+0.3
GSH				*e*Sg	Sb	21 05 12.9	+0.1
	117nm,0.1s						
GSH	Grosshau	0.77	183	Pg	Pb	21 05 02.2	+0.3
GSH				Sg	Sb	21 05 12.9	+0.1
	117nm,0.1s						
HGN	Heimansgroeve	0.81	204	*e*Pn	Pb	21 05 03.3	+0.8
	12nm,0.3s						
HGN				*e*Pg	Pn	21 05 04.7	+0.4
	178nm,0.2s						
HGN				*e*Sn	Sb	21 05 14.3	+0.4
HGN				*e*Sg	Sn	21 05 16.8	-0.2
HGN	Heimansgroeve	0.81	204	*e*Pn	Pb	21 05 03.3	+0.8
	12nm,0.3s						
DREG	Dreilaegerbach	0.85	189	*e*Pg	Pb	21 05 03.6	+0.3
DREG	Dreilaegerbach	0.85	189	Pg	Pb	21 05 03.6	+0.3
BEBN	Eben Emael	0.86	215	P	Pn	21 05 05.1	+0.1
BEBN	Eben Emael	0.86	215	P	Pn	21 05 05.0	+0.1
KLL	Kalltalsperre	0.86	186	*e*Pg	Pb	21 05 03.7	+0.3
KLL	Kalltalsperre	0.86	186	Pg	Pb	21 05 03.7	+0.3
WBS	Wahnbachtalspe	0.87	143	*e*Pg	Pg	21 05 03.1	+0.8
WBS				*e*Sg	Sg	21 05 13.9	+0.4
	119nm,0.2s						
MEM	Membach	0.93	198	P	Pb	21 05 05.3	+0.6
MEM	Membach	0.93	198	P	Pb	21 05 05.3	+0.6
STB	Steinbach	0.94	165	*e*Pg	Pg	21 05 04.9	+1.3
STB				*e*Sg	Sg	21 05 17.2	+1.4
	204nm,0.4s						
STB	Steinbach	0.94	165	Pg	Pg	21 05 04.9	+1.3
STB				Sg	Sg	21 05 17.2	+1.4
	204nm,0.4s						
TDN	Todenfeld	0.98	161	*e*Pg	Pg	21 05 05.5	+1.1
TDN				*e*Sg	Sg	21 05 18.1	+1.1
	98nm,0.2s						
TDN	Todenfeld	0.98	161	Pg	Pg	21 05 05.5	+1.1
TDN				Sg	Sg	21 05 18.1	+1.1
	98nm,0.2s						
OLFT	Oleftalsperre	1.01	181	*e*Pg	Pb	21 05 06.5	+0.5
OLFT				*e*Sg	Sb	21 05 20.0	+0.2
OLFT	Oleftalsperre	1.01	181	Pg	Pb	21 05 06.5	+0.5
OLFT				Sg	Sb	21 05 20.0	+0.2
IBBN	Ibbenburen	1.14	44	*e*Pg	Pb	21 05 08.8	+0.5
IBBN				*e*Sg	Sb	21 05 24.3	+0.6
IBBN	Ibbenburen	1.14	44	Pg	Pb	21 05 08.8	+0.5
IBBN				Sg	Sb	21 05 24.3	+0.6
HILG	Hillesheim	1.22	173	*e*Pg	Pg	21 05 10.0	+1.0
HILG	Hillesheim	1.22	173	Pg	Pg	21 05 10.0	+1.0
BHE	Schloss Buerre	1.24	158	*e*Pg	Pg	21 05 10.2	+0.9
BHE				*e*Sg	Sg	21 05 25.9	+0.5
BHE	Schloss Buerre	1.24	158	Pg	Pg	21 05 10.2	+0.9
BHE				Sg	Sg	21 05 25.9	+0.5
BCLA	Clavier	1.30	214	P	Pn	21 05 12.3	+1.2
BCLA	Clavier	1.30	214	P	Pn	21 05 12.3	+1.2
LOH	Wallersheim-Lo	1.32	178	*e*Pg	Pb	21 05 12.1	+0.8
LOH				*e*Sg	Sb	21 05 29.6	+0.8
	79nm,0.2s						
LOH	Wallersheim-Lo	1.32	178	Pg	Pb	21 05 12.1	+0.8
LOH				Sg	Sb	21 05 29.6	+0.8
	79nm,0.2s						
KOE	Koeppel	1.34	143	*e*Pg	Pg	21 05 11.5	0.0
KOE	Koeppel	1.34	143	Pg	Pg	21 05 11.5	0.0
SNF	Seneffe	1.69	235	P	Pg	21 05 18.5	+0.5
SNF	Seneffe	1.69	235	P	Pg	21 05 18.5	+0.5
GIVF	Givet	1.74	217	*e*Pn	Pn	21 05 17.7	+0.6
	SNR=1.0						
GIVF	Givet	1.74	217	*e*P	Pg	21 05 20.4	+1.4
GIVF				*e*Sn	Sn	21 05 39.8	-0.2
GIVF				*e*Sg	Sg	21 05 43.8	+2.3
	129nm,0.3s,SNR=1.0						
GIVF	Givet	1.74	217	*e*Pn	Pn	21 05 17.7	+0.6
	SNR=1.0						
GIVF	Givet	1.74	217	*e*P	Pg	21 05 20.4	+1.4
GIVF				*e*Sn	Sn	21 05 39.8	-0.2
GIVF				*e*Sg	Sg	21 05 43.8	+2.3
	64nm,0.3s,SNR=1.0						
ABH	Alteburg	1.76	156	Pn	Pn	21 05 17.6	+0.1
ABH	Alteburg	1.76	156	Pg	Pg	21 05 21.8	+2.4
ABH				Sg	Sg	21 05 44.3	+2.0
DOU	Dourbes	1.83	221	P	Pb	21 05 20.0	-0.1
DOU	Dourbes	1.83	221	P	Pb	21 05 20.0	-0.1
RUP	Ruppelstein	1.84	168	Pn	Pn	21 05 18.5	-0.1
RUP	Ruppelstein	1.84	168	Pg	Pg	21 05 23.2	+2.3
RUP				Sg	Sg	21 05 46.0	+1.2
WLF	Walferdange	1.85	186	P	Pb	21 05 21.0	+0.7
WLF	Walferdange	1.85	186	*e*Pg	Pg	21 05 21.8	+0.8
WLF	Walferdange	1.85	186	P	Pb	21 05 20.9	+0.7
WLF	Walferdange	1.85	186	Pg	Pg	21 05 21.8	+0.8
BAIF	Baives	2.03	226	*e*Pn	Pn	21 05 22.3	+1.2
	SNR=1.0						
BAIF	Baives	2.03	226	*e*Pg	Pg	21 05 26.6	+2.1
BAIF				*e*Sn	Sn	21 05 47.3	+0.2
	70nm,0.4s,SNR=1.0						
BAIF	Baives	2.03	226	*e*Pn	Pn	21 05 22.3	+1.2
	SNR=1.0						
BAIF	Baives	2.03	226	*e*Pg	Pg	21 05 26.6	+2.1
BAIF				*e*Sn	Sn	21 05 47.3	+0.2
	35nm,0.4s,SNR=1.0						
GTTG	Gvttingen	2.19	87	*e*Sg	Sb	21 05 53.9	-0.1
GTTG	Gvttingen	2.19	87	Sg	Sb	21 05 53.9	-0.1
TOD	Tromm	2.42	141	Pn	Pn	21 05 26.7	+0.2
KTD	Kalmit	2.42	154	Pn	Pn	21 05 27.8	+1.3
CLZ	Clausthal	2.46	80	*e*Pg	Pb	21 05 31.8	+0.9
CLZ	Clausthal	2.46	80	Pg	Pb	21 05 31.8	+0.9
LANF	Langenberg	2.67	160	Pn	Pn	21 05 30.4	+0.5
LANF				Sg	Sg	21 06 13.3	+2.0
LANF	Langenberg	2.67	160	Pn	Pn	21 05 30.4	+0.5
LANF				Sg	Sg	21 06 13.3	+2.0
PAGF	Fort de Pagny	2.98	189	*e*Pn	Pn	21 05 34.3	+0.1
	baz=12						
PAGF	Fort de Pagny	2.98	189	*e*Pg	Pg	21 05 42.9	+0.1
PAGF				*e*Sn	Sn	21 06 08.5	-2.2
PAGF				*e*Sg	Sg	21 06 21.4	-0.1
	9.2nm,0.4s						
PAGF	Fort de Pagny	2.98	189	*e*Pn	Pn	21 05 34.3	+0.1
PAGF	Fort de Pagny	2.98	189	*e*Pg	Pg	21 05 42.9	+0.1
PAGF				*e*Sn	Sn	21 06 08.5	-2.2
PAGF				*e*Sg	Sg	21 06 21.4	-0.1
	4.6nm,0.4s						
MEZF	Maizieres J'vi	3.13	197	*e*Pn	Pn	21 05 36.9	+0.6
	baz=25						
MEZF				*e*Sg	Sg	21 06 26.0	-0.3
	57nm,0.5s						
MEZF	Maizieres J'vi	3.13	197	*e*Pn	Pn	21 05 36.9	+0.6
MEZF				*e*Sg	Sg	21 06 26.0	-0.3
	29nm,0.5s						
CDF	Champ du Feu	3.13	170	*e*Pn	Pn	21 05 36.4	0.0
	SNR=1.0						
CDF	Champ du Feu	3.13	170	*e*Pg	Pg	21 05 45.2	-0.6
CDF				*e*Sn	Sn	21 06 10.8	-3.8
	SNR=1.0						
CDF				*e*Sg	Sb	21 06 23.5	+2.4
	14nm,0.4s,SNR=1.0						
CDF	Champ du Feu	3.13	170	*e*Pn	Pn	21 05 36.4	0.0
	SNR=1.0						
CDF	Champ du Feu	3.13	170	*e*Pg	Pg	21 05 45.2	-0.6
CDF				*e*Sn	Sn	21 06 10.8	-3.8
	SNR=1.0						
CDF				*e*Sg	Sb	21 06 23.5	+2.4
	7.1nm,0.4s,SNR=1.0						
THEF	They Montfort	3.29	185	Pn	Pn	21 05 38.6	+0.1
THEF	They Montfort	3.29	185	Pg	Pg	21 05 48.7	0.0
THEF				Sg	Sg	21 06 33.0	+1.7
THEF	They Montfort	3.29	185	Pn	Pn	21 05 38.6	+0.1
THEF	They Montfort	3.29	185	Pg	Pg	21 05 48.7	0.0
THEF				Sg	Sg	21 06 33.0	+1.7
ECH	Echery	3.32	172	Pn	Pn	21 05 38.9	0.0
ECH				Sg	Sg	21 06 35.2	+3.0
ECH	Echery	3.32	172	Pn	Pn	21 05 38.9	0.0
ECH				Sg	Sg	21 06 35.2	+3.0
SFTF	Sexfontaines	3.42	196	*e*Pn	Pn	21 05 41.0	+0.7
SFTF	Sexfontaines	3.42	196	*e*Pg	Pg	21 05 51.3	+0.1
SFTF				*e*Sg	Sg	21 06 35.9	+0.4
	28nm,0.4s						
SFTF	Sexfontaines	3.42	196	*e*Pn	Pn	21 05 41.0	+0.7
SFTF	Sexfontaines	3.42	196	*e*Pg	Pg	21 05 51.3	+0.1
SFTF				*e*Sg	Sg	21 06 35.9	+0.4
	14nm,0.4s						
HAU	Haudompre	3.50	181	*e*Pn	Pn	21 05 41.0	-0.3
HAU	Haudompre	3.50	181	*e*Pg	Pg	21 05 52.2	-0.5
HAU				*e*Sg	Sg	21 06 36.8	-1.2
	42nm,0.6s						
HAU	Haudompre	3.50	181	*e*Pn	Pn	21 05 41.0	-0.3
HAU	Haudompre	3.50	181	*e*Pg	Pg	21 05 52.2	-0.5
HAU				*e*Sg	Sg	21 06 36.8	-1.2
	21nm,0.6s						
MOF	Molkenrain	3.68	173	Pn	Pn	21 05 44.1	+0.2
MOF	Molkenrain	3.68	173	Pn	Pn	21 05 44.1	+0.2
HINF	Hinteralfeld	3.69	176	*e*Pn	Pn	21 05 43.8	-0.3
HINF	Hinteralfeld	3.69	176	*e*Pg	Pg	21 05 55.8	-0.7
HINF				*e*Sg	Sg	21 06 43.1	-1.2
	14nm,0.5s,SNR=1.0						
HINF	Hinteralfeld	3.69	176	*e*Pn	Pn	21 05 43.8	-0.3
HINF	Hinteralfeld	3.69	176	*e*Pg	Pg	21 05 55.8	-0.7
HINF				*e*Sg	Sg	21 06 43.1	-1.2
	7.1nm,0.5s,SNR=1.0						
FELD	Feldberg im Sc	3.76	164	Pn	Pn	21 05 45.2	+0.1
FELD	Feldberg im Sc	3.76	164	Pn	Pn	21 05 45.2	+0.1
NKC	Novy Kostel	4.00	106	*e*PN	Pn	21 05 49.5	+1.2
NKC				*e*PG	Pb	21 05 59.5	+2.4
NKC				*e*SG	Sg	21 06 52.4	-1.9
	9.9nm,0.8s						
NKC	Novy Kostel	4.00	106	Pn	Pn	21 05 49.5	+1.2
CLL	Collm	4.11	90	*e*Pg	Pb	21 06 02.0	+3.2
CLL				*e*Sg	Sb	21 06 53.0	+4.1
	comp=Z,13nm,1.1s						
CLL				Lm	MLR	21 36 00.0	
	comp=Z,200nm,20.5s						
LOMF	Lomont	4.16	176	Pn	Pn	21 05 50.6	+0.1
LOMF	Lomont	4.16	176	Pn	Pn	21 05 50.6	+0.1
LOR	Lormes	4.56	203	*e*Pn	Pn	21 05 56.4	+0.5
	baz=37,SNR=1.0						
LOR				*e*Sn	Sn	21 06 46.7	-2.9
	SNR=1.0						
LOR				*e*Sg	Sg	21 07 11.2	-0.9
	comp=Z,16nm,0.3s,SNR=1.0						
LOR	Lormes	4.56	203	*e*Pn	Pn	21 05 56.4	+0.5
	SNR=1.0						
LOR				*e*Sn	Sn	21 06 46.7	-2.9
	SNR=1.0						
LOR				*e*Sg	Sg	21 07 11.2	-0.9
	comp=Z,8.0nm,0.3s,SNR=1.0						
BRG	Berggiesshubel	4.75	95	PG	Pb	21 06 12.6	+2.8
BRG				SG	Sg	21 07 15.4	-2.9
	comp=Z,4.1nm,0.8s						
SSF	Saint Saulge	4.84	205	*e*Pn	Pn	21 06 00.0	+0.2
	SNR=1.0						
SSF				*e*Sn	Sn	21 06 54.1	-2.4
	comp=Z,15nm,0.5s,SNR=1.0						
SSF				*e*Sg	Sg	21 07 20.2	-0.9
	comp=Z,34nm,0.6s						
SSF	Saint Saulge	4.84	205	*e*Pn	Pn	21 06 00.0	+0.2
	SNR=1.0						
SSF				*e*Sn	Sn	21 06 54.1	-2.4
	comp=Z,7.4nm,0.5s,SNR=1.0						
SSF				*e*Sg	Sg	21 07 20.2	-0.9
	comp=Z,17nm,0.6s						
CABF	La Chapelle	4.90	183	*e*Pn	Pn	21 06 00.4	-0.2
	SNR=1.0						
CABF				*e*Sg	Sg	21 07 21.2	-1.8
	comp=Z,25nm,0.7s						
CABF	La Chapelle	4.90	183	*e*Pn	Pn	21 06 00.4	-0.2
	SNR=1.0						
CABF				*e*Sg	Sg	21 07 21.2	-1.8
	comp=Z,12nm,0.7s						
HYF	Humbligny	4.91	212	*e*Pn	Pn	21 06 00.6	-0.1
HYF				*e*Sn	Sn	21 06 55.3	-2.9
HYF				*e*Sg	Sg	21 07 22.7	-0.7
HYF	Humbligny	4.91	212	*e*Pn	Pn	21 06 00.6	-0.1
HYF				*e*Sn	Sn	21 06 55.3	-2.9
HYF				*e*Sg	Sg	21 07 22.7	-0.7
AVF	Avril sur Loir	5.13	205	*e*Pn	Pn	21 06 03.9	+0.2
	SNR=1.0						
AVF				*e*Sn	Sn	21 07 00.6	-3.0
	comp=Z,4.6nm,0.5s,SNR=1.0						
AVF				*e*Sg	Sg	21 07 28.6	-1.9
	comp=Z,11nm,0.5s						
AVF	Avril sur Loir	5.13	205	*e*Pn	Pn	21 06 03.9	+0.2
	SNR=1.0						
AVF				*e*Sn	Sn	21 07 00.6	-3.0
	comp=Z,2.3nm,0.5s,SNR=1.0						
AVF				*e*Sg	Sg	21 07 28.6	-1.9
	comp=Z,5.3nm,0.5s						
LDF	La Druitiere	5.14	238	*e*Pn	Pn	21 06 05.1	+1.3
	SNR=1.0						
LDF				*e*Sn	Sn	21 07 01.1	-2.7
	comp=Z,8.7nm,0.4s,SNR=1.0						
LDF	La Druitiere	5.14	238	*e*Pn	Pn	21 06 05.1	+1.3
	SNR=1.0						
LDF				*e*Sn	Sn	21 07 01.1	-2.7
	comp=Z,4.3nm,0.4s,SNR=1.0						
KHC	Kasperske Hory	5.14	115	*e*PN	Pn	21 06 05.0	+1.0
KHC				*e*PG	Pb	21 06 20.9	+4.4
KHC				*e*SG	Sg	21 07 28.8	-2.0
KHC	Kasperske Hory	5.14	115	Pn	Pn	21 06 05.0	+1.0
SMF	Signal de Mont	5.15	200	*e*Pn	Pn	21 06 04.0	0.0
	SNR=1.0						
SMF				*e*Sg	Sg	21 07 29.4	-1.7
	comp=Z,15nm,0.3s						
SMF	Signal de Mont	5.15	200	*e*Pn	Pn	21 06 04.0	0.0
	SNR=1.0						
SMF				*e*Sg	Sg	21 07 29.4	-1.7
	comp=Z,7.6nm,0.3s						
PVCC	Panska Ves	5.22	98	*e*SG	Sg	21 07 31.7	-1.4
	comp=Z,12nm,0.6s						
PVCC	Panska Ves	5.22	98	Sg	Sg	21 07 31.7	-1.4
	comp=Z,12nm,0.6s						
FLN	La Foliniere	5.23	241	*e*Pn	Pn	21 06 06.0	+0.9
	SNR=1.0						
FLN				*e*Sn	Sn	21 07 03.8	-2.3
	comp=Z,14nm,0.4s,SNR=1.0						
FLN	La Foliniere	5.23	241	*e*Pn	Pn	21 06 06.0	+0.9
	SNR=1.0						
FLN				*e*Sn	Sn	21 07 03.8	-2.3
	comp=Z,6.8nm,0.4s,SNR=1.0						
PRU	Pruhonice	5.36	103	*e*SG	Sg	21 07 35.5	-2.1
PRU	Pruhonice	5.36	103	Sg	Sg	21 07 35.5	-2.1
BGF	Bois d'Agland	5.48	207	*e*Pn	Pn	21 06 09.1	+0.5
	SNR=1.0						
BGF				*e*Sn	Sn	21 07 08.8	-3.5
BGF				*e*Sg	Sg	21 07 40.3	-1.4
	comp=Z,32nm,0.4s						
BGF	Bois d'Agland	5.48	207	*e*Pn	Pn	21 06 09.1	+0.5
	SNR=1.0						
GRR	Gorron	5.65	239	*e*Sn	Sn	21 07 12.7	-3.8
	comp=Z,24nm,0.4s						
TCF	Toulx Ste Croi	5.92	210	*e*Pn	Pn	21 06 14.7	+0.1
	SNR=1.0						
TCF				*e*Sn	Sn	21 07 19.4	-3.6
TCF				*e*Sg	Sg	21 07 53.9	-1.7
	comp=Z,6.8nm,0.4s						
TCF	Toulx Ste Croi	5.92	210	*e*Pn	Pn	21 06 14.7	+0.1
	SNR=1.0						
UPC	Upice	6.12	96	*e*SG	Sg	21 07 59.7	-2.3
UPC	Upice	6.12	96	Sg	Sg	21 07 59.7	-2.3
DPC	Dobruska-Polom	6.35	97	*e*SG	Sg	21 08 06.6	-2.8
MFF	Saint Martin d	6.54	224	*e*Sn	Sn	21 07 34.2	-4.2
	comp=Z,4.2nm,0.4s,SNR=1.0						
ORIF	Oris-en-Rattie	6.60	184	*e*Pn	Pn	21 06 24.5	+0.5
	SNR=1.0						
ORIF	Oris-en-Rattie	6.60	184	*e*Pn	Pn	21 06 24.5	+0.5
	SNR=1.0						

TAP ***01*** *21:07:49.0,24°.10N×122°.25E,h12km±1km,ML3.4,D*
JMA ***01*** *21:07:49.2±0.1,24°.02N×122°.28E,h23km±2km,M2.9*
ISC 01 21:07:48.5±1.2,24°.06N±0'.03×122°.28E±0'.02,h14km±9km,
n47,σ0.56/88,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	Nanau	0.61	307	P	Pg	21 08 00.3	-0.2
	baz=305						
ENA				S	Sg	21 08 09.1	+0.5
	baz=305						
HWA	Hwalien	0.62	262	*e*P	Pb	21 08 01.4	+0.2
	baz=258						
HWA				*e*S	Sb	21 08 09.8	+0.1
	baz=258						
TWD	Chiawan	0.62	272	*e*P	Pb	21 08 01.7	+0.5
	baz=268						
TWD				*e*S	Sb	21 08 10.2	+0.4
	baz=268						
TWC	Suao	0.67	324	*e*P	Pb	21 08 00.9	-1.1
	baz=325						
TWC				*e*S	Sg	21 08 09.5	-1.1
	baz=325						
YOJ	Yonaguni jima	0.78	59	P	Pb	21 08 04.0	+0.1
YOJ				*e*S	Sb	21 08 14.5	+0.2
ESL	Shilin	0.81	253	*e*P	Pb	21 08 04.2	-0.3
	baz=249						
ESL				*e*S	Sg	21 08 15.3	+0.4
	baz=249						
EGS		0.84	338	P	Pb	21 08 04.7	-0.2
	baz=339						
EGS				S	Sb	21 08 15.4	-0.7
	baz=339						
ILA	Ilan	0.85	326	P	Pb	21 08 05.2	0.0
	baz=325						
ILA				*e*S	Sb	21 08 16.4	0.0
	baz=325						
ENTT	Nioudou	0.87	312	*i* P	Pb	21 08 05.1	-0.3
	baz=311						
ENTT				S	Sb	21 08 17.0	+0.1
	baz=311						
NNS	Nan Shan	0.91	295	P	Pb	21 08 06.0	-0.1
	baz=293						
NNS				*e*S	Sg	21 08 18.5	+0.5
	baz=293						
WHF	Hehuan Shan	0.93	275	*e*P	Pb	21 08 06.6	-0.1
	baz=273

YUS	**Yu-Shan**	**1.34**	**245**	*e*P	**Pn**	**21 08 13.3**	**0.0**
	baz=242						
YUS				*e*S	**Sn**	**21 08 30.0**	**-1.2**
	baz=242						
IRIF	**Iriomote-Funau**	**1.35**	**78**	P	**Pn**	**21 08 13.3**	**+0.3**
IRIF				*e*S	**Sn**	**21 08 30.7**	**-0.1**
TWY	**Chenhua**	**1.36**	**333**	*e*P	**Pb**	**21 08 14.2**	**+0.4**
	baz=333						
HATJ	**Hateruma jima**	**1.40**	**90**	*e*S	**Sn**	**21 08 31.5**	**-0.3**
TWQ1	**Liyutan**	**1.40**	**282**	*e*P	**Pb**	**21 08 14.7**	**+0.2**
	baz=280						
TWQ1				*e*S	**Sb**	**21 08 33.0**	**+0.6**
	baz=280						
NSY	**Sanyi**	**1.43**	**285**	*e*P	**Pb**	**21 08 14.8**	**-0.2**
	baz=283						
NSY				*e*S	**Sb**	**21 08 32.8**	**-0.2**
	baz=283						
ALS	**Alishan**	**1.46**	**248**	*i* P	**Pn**	**21 08 15.2**	**+0.5**
	baz=246						
ALS				S	**Sb**	**21 08 34.0**	**-0.1**
	baz=246						
CHN5	**Tsauling**	**1.54**	**253**	*i* P	**Pb**	**21 08 16.4**	**-0.4**
	baz=250						
CHN5				*e*S	**Sb**	**21 08 36.8**	**+0.6**
	baz=250						
JKRS	**Kuro-shima**	**1.59**	**83**	P	**Pb**	**21 08 17.6**	**-0.1**
JKRS				*e*S	**Sb**	**21 08 37.6**	**-0.1**
WGK	**Gukeng**	**1.61**	**257**	*e*P	**Pb**	**21 08 17.7**	**-0.4**
	baz=255						
WGK				*e*S	**Sb**	**21 08 38.3**	**-0.1**
	baz=255						
TWG	**Pinlang**	**1.66**	**222**	*e*P	**Pn**	**21 08 16.4**	**-0.8**
	baz=220						
WTP	**Ta-pu**	**1.73**	**242**	*e*P	**Pb**	**21 08 19.4**	**-0.6**
	baz=240						
WTP				*e*S	**Sb**	**21 08 41.6**	**0.0**
	baz=240						
JIJ	**Ishigaki jima**	**1.73**	**80**	P	**Pn**	**21 08 18.0**	**-0.2**
JIJ				*e*S	**Sn**	**21 08 39.2**	**-0.8**
TWK	**Hsinying**	**1.82**	**245**	*e*P	**Pb**	**21 08 20.9**	**-0.8**
	baz=242						
TWK				*e*S	**Sb**	**21 08 43.3**	**-1.1**
	baz=242						
CHN1	**Nanshi**	**1.83**	**242**	*e*P	**Pb**	**21 08 21.0**	**-0.7**
	baz=240						
CHN1				*e*S	**Sb**	**21 08 44.2**	**-0.3**
	baz=240						
SGST	**Jiashian**	**1.83**	**238**	*e*P	**Pb**	**21 08 21.1**	**-0.8**
	baz=236						
SGST				*e*S	**Sb**	**21 08 43.5**	**-1.2**
	baz=236						
WTCT	**Ta-ch'eng**	**1.84**	**264**	*e*P	**Pb**	**21 08 22.1**	**+0.2**
	baz=262						
ECL	**Taimali**	**1.90**	**220**	*e*P	**Pn**	**21 08 20.1**	**-0.3**
	baz=218						
TWM1	**Shoushan**	**2.10**	**235**	*e*P	**Pb**	**21 08 25.9**	**-0.6**
	baz=232						
TWM1				*e*S	**Sn**	**21 08 50.0**	**+0.7**
	baz=232						
EAST	**Anshuo**	**2.13**	**219**	*e*P	**Pn**	**21 08 24.1**	**+0.4**
	baz=216						
EAST				*e*S	**Sn**	**21 08 51.0**	**+1.1**
	baz=216						
SCZT	**Fangliau**	**2.27**	**223**	*e*P	**Pn**	**21 08 27.1**	**+1.5**
	baz=220						
SCZT				*e*S	**Sn**	**21 08 54.8**	**+1.4**
	baz=220						
JTJ	**Tarama**	**2.29**	**75**	P	**Pn**	**21 08 26.5**	**+0.7**
JTJ				*e*S	**Sn**	**21 08 53.9**	**+0.1**

*ISCJB **01** 21:20:52.6±0.7, 3.1N±0.1×123.1E±0.4, h489km, mb3.4/9, Error ellipse: s-maj=49.6km s-min=11.5km az=165.6*
*IDC **01** 21:20:54.6±5.4, 3.11N×123.21E, h496km±77km, mb2.9/9, mb1 3.0/9, mb1mx2.9/23, mbtmp2.9/9, Error ellipse: s-maj=48.7km s-min=12.9km az=81.0*

ISC 01 21:20:54.2±0.9, **3.2N**±0.1×**123.2E**±0.4, **h489**km, **n9,** σ0.84/10, **mb3.5/9, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.25**	**174**	P		**P**		**21 25 04.5**	**-0.3**
	0.9nm,0.4s,baz=0.0,slow=5.1,SNR=6.0								
WRA	**Warramunga Arr**	**25.43**	**155**	P		**P**		**21 25 41.4**	**-0.8**
	0.6nm,0.4s,baz=337,slow=9.7,SNR=14								
ASAR	**Alice Springs**	**28.62**	**159**	P		**P**		**21 26 10.0**	**-0.3**
	0.4nm,0.5s,baz=334,slow=6.9,SNR=11								
KSRS	**Korea Array**	**34.42**	**7**	P		**P**		**21 27 00.4**	**+0.7**
	0.8nm,0.6s,baz=187,slow=9.3,SNR=3.8								
STKA	**Stephens Creek**	**38.98**	**155**	P		**P**		**21 27 38.3**	**+0.7**
	0.6nm,0.3s,baz=333,slow=6.8,SNR=3.3								
USRK	**Uesuriysk Arra**	**41.62**	**10**	P		**P**		**21 27 58.3**	**-0.3**
	0.5nm,0.4s,baz=200,slow=7.3,SNR=4.3								
SONM	**Songino Array**	**46.82**	**345**	P		**P**		**21 28 39.3**	**+0.2**
	1.4nm,0.7s,baz=158,slow=9.3,SNR=15								
MKAR	**Makanchi Array**	**56.07**	**327**	P		**P**		**21 29 46.8**	**+0.7**
	1.4nm,0.4s,baz=122,slow=7.8,SNR=44								
MKAR				PcP		**PcP**		**21 30 37.2**	**-0.1**
	1.4nm,1.1s,baz=104,slow=4.2,SNR=2.5								
ZALV	**Zalesovo Beam**	**59.55**	**335**	P		**P**		**21 30 08.1**	**-1.6**
	0.5nm,0.5s,baz=138,slow=4.7,SNR=4.2								

IDC 01 21:22:10.8±6.0, **15.19S×173.11W, h0**km, **mb3.5**/2, **mb1 3.7**/2, **mb1mx3.5**/20, **mbtmp3.5**/2, **Error ellipse: s-maj=327.4km s-min=25.1km az=145.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.81**	**46**	Pn		Pn		21 22 42.5	-0.9
	27nm,0.3s,baz=260,slow=5.7,SNR=15								
AFI				Sn		Sn		21 23 00.9	-6.3
	82nm,0.3s,baz=225,slow=23,SNR=18								
H11S2	**WAKE ISLAND Hy**	**38.93**	**329**	T		T		22 10 56.0	
	baz=152,slow=76,SNR=3.9								
H11S3	**WAKE ISLAND Hy**	**38.94**	**329**	T		T		22 10 49.3	
	baz=152,slow=76,SNR=3.8								
H11S1	**WAKE ISLAND Hy**	**38.95**	**329**	T		T		22 10 53.5	
	baz=152,slow=76,SNR=4.1								
H11N3	**WAKE ISLAND Hy**	**39.87**	**330**	T		T		22 12 25.4	
	baz=152,slow=64								
H11N1	**WAKE ISLAND Hy**	**39.88**	**330**	T		T		22 12 22.9	
	baz=152,slow=64								
H11N2	**WAKE ISLAND Hy**	**39.89**	**330**	T		T		22 12 26.6	
	baz=152,slow=64								
WRA	**Warramunga Arr**	**50.16**	**257**	P		P		21 31 07.0	-1.5
	0.3nm,0.9s,baz=91,slow=7.4,SNR=3.3								
ASAR	**Alice Springs**	**50.44**	**252**	P		P		21 31 11.0	+0.4
	0.9nm,0.7s,baz=86,slow=8.1,SNR=9.7								
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc		PKPab		21 41 54.1	0.0
	0.3nm,0.7s,baz=71,slow=4.2,SNR=2.3								

*NIED **01** 21:26:00, 23.70N×122.60E, h38km, Mw3.8 Best double couple: M0 5.82000×10^14 NP1:φ=293.00000°, δ=80.00000°, λ=-75.00000°. NP2:φ=57.00000°, δ=18.00000°, λ=-144.00000°.*
*JMA **01** 21:26:21.9±0.1, 23.73N×122.61E, h36km, M3.7*
*ISCJB **01** 21:26:22.4±0.2, 23.76N±0.02×122.67E±0.02, h50km±4km, mb3.6/11, MS3.8/1, Error ellipse: s-maj=3.4km s-min=2.2km az=156.1*
*TAP **01** 21:26:22.2, 23.76N×122.55E, h17km±1km, ML4.1, D*
*IDC **01** 21:26:29.1±5.8, 23.83N×122.54E, h97km±55km, mb3.4/11, mb1 3.6/12, mb1mx3.4/26, mbtmp3.4/12, MS3.8/1, Ms1 3.8/1, ms1mx2.8/24, Error ellipse: s-maj=26.7km s-min=15.5km az=72.0*

ISC 01 21:26:23.4±0.8, **23.75N**±0.03×**122.67E**±0.02, **h48**km±9km, **n84,** σ1.31/143, **mb3.7**/11, **8C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.78**	**24**	P		**Pn**		**21 26 37.1**	**-1.0**
YOJ				*e*S		**Sn**		**21 26 47.7**	**-1.1**
HWA	**Hwalien**	**1.00**	**284**	*e*P		Pn		21 26 36.8	-4.3
	baz=283								
HWA				S		**Sn**		**21 26 52.0**	**-2.0**
	baz=283								
TEGC	**Jichi Village**	**1.03**	**268**	*e*P		**Pn**		**21 26 40.3**	**-1.2**
	baz=266								
TWD	**Chiawan**	**1.03**	**289**	⇑*i*P		**Pn**		**21 26 39.8**	**-1.7**
	baz=290								
TWD				*e*S		**Sn**		**21 26 51.8**	**-3.1**
	baz=290								
ESF	**Shoufeng Towns**	**1.07**	**277**	*e*P		**Pn**		**21 26 40.9**	**-1.1**
	baz=276								
ENA	**Nanau**	**1.08**	**309**	*i* P		**Pn**		**21 26 41.4**	**-0.8**
	baz=312								
ENA				*e*S		**Sn**		**21 26 54.8**	**-1.4**
	baz=312								
HATJ	**Hateruma jima**	**1.09**	**73**	P		**Pn**		**21 26 41.9**	**-0.3**
HATJ				*e*S		**Sn**		**21 26 56.1**	**-0.1**
ESL	**Shilin**	**1.13**	**274**	P		**Pn**		**21 26 40.9**	**-1.9**
	baz=272								
ESL				*e*S		**Sn**		**21 26 53.8**	**-3.5**
	baz=272								
IRIF	**Iriomote-Funau**	**1.14**	**59**	P		**Pn**		**21 26 42.6**	**-0.3**
IRIF				*e*S		**Sn**		**21 26 57.7**	**+0.3**
TWC	**Suao**	**1.14**	**319**	P		**Pn**		**21 26 41.7**	**-1.2**
	baz=323								
TWC				*e*S		**Sn**		**21 26 54.8**	**-2.6**
	baz=323								
EHY	**Hungye**	**1.25**	**259**	⇑*i*P		**Pn**		**21 26 43.3**	**-1.2**
	baz=257								
EHY				*e*S		**Sn**		**21 26 58.1**	**-2.2**
	baz=257								
EGS		**1.28**	**329**	P		**Pn**		**21 26 44.6**	**-0.3**
	baz=332								
EGS				S		**Sn**		**21 27 00.8**	**-0.2**
	baz=332								
ILA	**Ilan**	**1.32**	**321**	*e*P		**Pn**		**21 26 45.2**	**-0.2**
	baz=323								
ILA				*e*S		**Sn**		**21 27 02.0**	**+0.2**
	baz=323								
TWF1	**Yuli**	**1.32**	**253**	⇑*i*P		**Pn**		**21 26 44.1**	**-1.2**
	baz=250								
TWF1				*e*S		**Sn**		**21 27 00.1**	**-1.7**
	baz=250								
JKRS	**Kuro-shima**	**1.32**	**68**	P		**Pn**		**21 26 45.4**	**0.0**
JKRS				*e*S		**Sn**		**21 27 03.0**	**+1.1**
ENTT	**Nioudou**	**1.34**	**312**	*i* P		**Pn**		**21 26 45.2**	**-0.6**
	baz=314								
ENTT				*e*S		**Sn**		**21 27 01.4**	**-1.1**
	baz=314								
WHF	**Hehuan Shan**	**1.34**	**288**	*i* P		**Pn**		**21 26 44.7**	**-1.4**
	baz=287								
WHF				*e*S		**Sn**		**21 27 00.9**	**-2.1**
	baz=287								
CHKT	**Chengkung**	**1.36**	**242**	P		**Pn**		**21 26 44.2**	**-1.7**
	baz=238								
CHKT				*e*S		**Sn**		**21 26 59.5**	**-3.3**
	baz=238								
NNS	**Nan Shan**	**1.37**	**301**	P		**Pn**		**21 26 45.4**	**-0.8**
	baz=302								
NNS				S		**Sn**		**21 27 01.9**	**-1.4**
	baz=302								
TWB1	**Santiao Chiao**	**1.40**	**334**	P		**Pn**		**21 26 45.7**	**-0.8**
	baz=337								
TWB1				*e*S		**Sn**		**21 27 01.8**	**-2.1**
	baz=337								
TWT	**Tachien**	**1.45**	**291**	⇑*i*P		**Pn**		**21 26 47.0**	**-0.4**
	baz=290								
TWT				*e*S		**Sn**		**21 27 03.9**	**-1.5**
	baz=290								
JIJ	**Ishigaki jima**	**1.48**	**65**	P		**Pn**		**21 26 47.1**	**-0.5**
JIJ				*e*S		**Sn**		**21 27 05.0**	**-0.9**
NSK	**Sanguang**	**1.51**	**308**	⇓*i*P		**Pn**		**21 26 47.7**	**-0.4**
	baz=310								
NSK				*e*S		**Sn**		**21 27 04.8**	**-1.9**
	baz=310								
NWF	**Wu-fen Shan**	**1.55**	**329**	*i* P		**Pn**		**21 26 48.0**	**-0.6**
	baz=331								
TWA	**Mucha**	**1.58**	**321**	P		**Pn**		**21 26 48.8**	**-0.2**
	baz=324								
TWA				*e*S		**Sn**		**21 27 07.9**	**-0.3**
	baz=324								
YUS	**Yu-Shan**	**1.59**	**261**	⇑*i*P		**Pn**		**21 26 49.1**	**-0.5**
	baz=259								
YUS				S		**Sn**		**21 27 07.8**	**-1.4**
	baz=259								
SMLT	**Sun Moon Lake**	**1.62**	**275**	P		**Pn**		**21 26 49.0**	**-0.6**
	baz=274								
SMLT				S		**Sn**		**21 27 08.5**	**-1.0**
	baz=274								
TAP1	**Taipei**	**1.66**	**321**	*e*P		**Pn**		**21 26 49.8**	**-0.2**
	baz=323								
TAP1				*e*S		**Sn**		**21 27 09.7**	**-0.4**
	baz=323								
TYC	**Yuchr**	**1.66**	**276**	⇑*i*P		**Pn**		**21 26 49.8**	**-0.4**
	baz=275								
TYC				*e*S		**Sn**		**21 27 09.2**	**-1.1**
	baz=275								
TAP	**Taipei**	**1.67**	**321**	*e*P		**Pn**		**21 26 49.9**	**-0.2**
	baz=323								
TAP				S		**Sn**		**21 27 10.9**	**+0.5**
	baz=323								
TTN	**Taitung**	**1.71**	**235**	*e*P		**Pn**		**21 26 50.4**	**-0.4**
	baz=231								
TTN				*e*S		**Sn**		**21 27 10.9**	**-0.5**
	baz=231								
ALS	**Alishan**	**1.72**	**263**	⇑*i*P		**Pn**		**21 26 51.2**	**0.0**
	baz=261								
ALS				*e*S		**Sn**		**21 27 11.3**	**-0.9**
	baz=261								
TWG	**Pinlang**	**1.73**	**238**	⇑*i*P		**Pn**		**21 26 50.0**	**-1.1**
	baz=235								
TWG				*e*S		**Sn**		**21 27 09.7**	**-2.2**
	baz=235								
NSTT	**Nanjuang**	**1.76**	**300**	P		**Pn**		**21 26 52.2**	**+0.8**
	baz=301								
NSTT				S		**Sn**		**21 27 12.1**	**-0.5**
	baz=301								
TWS1	**Kuangyinshan**	**1.77**	**320**	P		**Pn**		**21 26 51.4**	**-0.1**
	baz=322								
TWS1				*e*S		**Sn**		**21 27 12.8**	**0.0**
	baz=322								
TWY	**Chenhua**	**1.81**	**328**	*e*P		**Pn**		**21 26 52.3**	**+0.2**
	baz=330								
TWY				*e*S		**Sn**		**21 27 13.6**	**-0.2**
	baz=330								
WNT	**Mingjian**	**1.82**	**275**	P		**Pn**		**21 26 53.1**	**+0.8**
	baz=273								
WNT				*e*S		**Sn**		**21 27 15.2**	**+1.0**
	baz=273								
CHN5	**Tsauling**	**1.83**	**266**	P		**Pn**		**21 26 53.0**	**+0.6**
	baz=264								
CHN5				*e*S		**Sn**		**21 27 15.5**	**+1.0**
	baz=264								
TWQ1	**Liyutan**	**1.83**	**289**	P		**Pn**		**21 26 53.4**	**+1.0**
	baz=289								
TWQ1				*e*S		**Sn**		**21 27 15.9**	**+1.4**
	baz=289								
NSY	**Sanyi**	**1.86**	**291**	*e*P		**Pn**		**21 26 54.0**	**+1.2**
	baz=291								
NSY				*e*S		**Sn**		**21 27 16.7**	**+1.5**
	baz=291								
TCU	**Taichung**	**1.86**	**283**	*e*P		**Pn**		**21 26 54.0**	**+1.2**
	baz=282								
TCU				*e*S		**Sn**		**21 27 17.0**	**+1.8**
	baz=282								
HSN	**Hsinchu**	**1.87**	**305**	*e*P		**Pn**		**21 26 52.6**	**-0.3**
	baz=307								
HSN				*e*S		**Sn**		**21 27 14.4**	**-1.0**
	baz=307								
WGK	**Gukeng**	**1.93**	**269**	*e*P		**Pn**		**21 26 55.1**	**+1.4**
	baz=267								
WGK				*e*S		**Sn**		**21 27 17.6**	**+0.7**
	baz=267								
ECL	**Taimali**	**1.95**	**234**	*e*P		**Pn**		**21 26 52.6**	**-1.4**
	baz=231								
ECL				*e*S		**Sn**		**21 27 14.2**	**-3.1**
	baz=231								
WTP	**Ta-pu**	**1.95**	**256**	P		**Pn**		**21 26 54.4**	**+0.3**
	baz=253								
WTP				*e*S		**Sn**		**21 27 18.1**	**+0.7**
	baz=253								
PCYT	**Pengchaiyu**	**1.95**	**344**	*e*P		**Pn**		**21 26 53.6**	**-0.5**
	baz=346								
LAY	**Lan-yu**	**1.99**	**211**	*e*P		**Pn**		**21 26 52.8**	**-1.8**
	baz=208								
LAY				*e*S		**Sn**		**21 27 14.7**	**-3.6**
	baz=208								
CHN2	**Minshiung**	**2.02**	**264**	*e*P		**Pn**		**21 26 56.5**	**+1.5**
	baz=263								
CHN2				*e*S		**Sn**		**21 27 21.7**	**+2.6**
	baz=263								
SGST	**Jiashian**	**2.02**	**251**	P		**Pn**		**21 26 55.7**	**+0.6**
	baz=249								
SGST				*e*S		**Sn**		**21 27 18.8**	**-0.4**
	baz=249								
CHN1	**Nanshi**	**2.04**	**255**	P		**Pn**		**21 26 56.4**	**+1.1**
	baz=252								
CHN1				*e*S		**Sn**		**21 27 21.8**	**+2.2**
	baz=252								
TWK	**Hsinying**	**2.06**	**257**	P		**Pn**		**21 26 56.4**	**+0.8**
	baz=255								
TWK				*e*S		**Sn**		**21 27 21.6**	**+1.5**
	baz=255								
JTJ	**Tarama**	**2.06**	**64**	P		**Pn**		**21 26 55.2**	**-0.4**
JTJ				*e*S		**Sn**		**21 27 19.7**	**-0.4**
CHY	**Chiayi**	**2.07**	**264**	*e*P		**Pn**		**21 26 55.5**	**-0.1**
	baz=262								
CHY				*e*S		**Sn**		**21 27 19.9**	**-0.4**
	baz=262								
TAW	**Tawu**	**2.14**	**230**	*e*P		**Pn**		**21 26 55.5**	**-1.0**
	baz=227								
TAW				*e*S		**Sn**		**21 27 19.5**	**-2.4**
	baz=227								
EAST	**Anshuo**	**2.15**	**231**	P		**Pn**		**21 26 56.1**	**-0.8**
	baz=228								
WTCT	**Ta-ch'eng**	**2.19**	**274**	*e*P		**Pn**		**21 26 58.6**	**+1.3**
	baz=272								
WSF	**Szhu**	**2.24**	**268**	*e*P		**Pn**		**21 26 59.1**	**+1.1**
	baz=266								
WSF				*e*S		**Sn**		**21 27 26.1**	**+1.6**
	baz=266								
SGLT	**Jiouru**	**2.24**	**243**	*e*P		**Pn**		**21 27 00.2**	**+2.1**
	baz=241								
TWM1	**Shoushan**	**2.26**	**246**	*e*P		**Pn**		**21 27 01.0**	**+2.7**
	baz=244								
CHN8	**Yiju**	**2.29**	**260**	*e*P		**Pn**		**21 26 59.5**	**+0.9**
	baz=259								
CHN8				*e*S		**Sn**		**21 27 26.1**	**+0.5**
	baz=259								
SCZT	**Fangliau**	**2.33**	**234**	*e*P		**Pn**		**21 26 59.3**	**+0.1**
	baz=231								
SCZT				*e*S		**Sn**		**21 27 26.9**	**+0.2**
	baz=231								
TSEB	**Hengchuen, Pin**	**2.46**	**222**	*e*P		**Pn**		**21 27 01.2**	**+0.2**
	baz=220								
TSEB				*e*S		**Sn**		**21 27 31.0**	**+1.2**
	baz=220								
HEN	**Hengchun**	**2.48**	**226**	*e*P		**Pn**		**21 27 01.8**	**+0.5**
	baz=223								
HEN				*e*S		**Sn**		**21 27 30.8**	**+0.3**
	baz=223								
TWK1	**Hengchun**	**2.48**	**224**	*e*P		**Pn**		**21 27 02.3**	**+1.0**
	baz=221								
TWK1				*e*S		**Sn**		**21 27 30.4**	**-0.1**
	baz=221								
TWP	**Hsiaoliuchiu**	**2.54**	**237**	*e*P		Pn		21 27 05.6	+3.5
	baz=234								
JMJ	**Miyako jima 2**	**2.62**	**66**	*e*S		**Sn**		**21 27 33.9**	**0.0**
JOGS	**Gusukube**	**2.70**	**67**	P		**Pn**		**21 27 03.9**	**-0.4**
JOGS				*e*S		**Sn**		**21 27 35.8**	**+0.1**
WDGT	**Dungji**	**2.80**	**261**	*e*P		**Pn**		**21 27 05.6**	**-0.1**
	baz=259								
WDGT				*e*S		**Sn**		**21 27 38.4**	**+0.1**
	baz=259								
PNG	**Penghu**	**2.86**	**267**	P		**Pn**		**21 27 06.6**	**+0.1**
	baz=265								
PNG				*e*S		**Sn**		**21 27 39.7**	**+0.1**
	baz=265								
KNM	**Kinmen**	**3.92**	**281**	*e*P		**Pn**		**21 27 22.1**	**+0.9**
	baz=279								
KNM				*e*S		**Sn**		**21 28 05.2**	**-0.8**
	baz=279								
JKE	**Kume jima 2**	**4.54**	**55**	P		**Pn**		**21 27 28.6**	**-0.9**
JKE				*e*S		**Sn**		**21 28 19.2**	**-1.8**
KSRS	**Korea Array**	**14.39**	**17**	P		**P**		**21 29 49.1**	**-1.0**
	0.6nm,0.3s,baz=196,slow=11,SNR=9.4								
CMAR	**Chiang Mai Arr**	**22.74**	**261**	P		**P**		**21 31 21.9**	**+0.3**
	0.3nm,0.5s,baz=68,slow=7.9,SNR=4.2								
SONM	**Songino Array**	**27.31**	**336**	P		**P**		**21 32 03.0**	**-0.6**
	1.0nm,0.6s,baz=150,slow=9.9,SNR=12								
MKAR	**Makanchi Array**	**39.59**	**316**	P		**P**		**21 33 50.3**	**+0.2**
	0.6nm,0.5s,baz=100,slow=9.4,SNR=16								
MKAR				pP		**pP**		**21 34 07.5**	**+4.6**
	0.3nm,0.5s,baz=105,slow=10,SNR=1.8								
PMG	**Port Moresby**	**40.73**	**141**	LR		LR		21 50 22.1	
	comp=Z,123nm,18.0s,baz=247,slow=35								
ZALV	**Zalesovo Beam**	**41.35**	**327**	P		**P**		**21 34 03.0**	**-1.5**
	1.0nm,0.6s,baz=99,slow=9.2,SNR=5.4								
WRA	**Warramunga Arr**	**44.89**	**164**	P		**P**		**21 34 34.6**	**+1.2**
	0.6nm,0.7s,baz=345,slow=8.9,SNR=3.3								
ASAR	**Alice Springs**	**48.38**	**166**	P		**P**		**21 35 02.5**	**+1.8**
	0.1nm,0.4s,baz=352,slow=13,SNR=3.5								
ILAR	**Eielson Array**	**68.98**	**27**	P		**P**		**21 37 22.6**	**-0.8**
	0.2nm,0.6s,baz=282,slow=5.3,SNR=4.8								
ARCES	**ARCESS Array B**	**70.45**	**338**	P		**P**		**21 37 32.0**	**-0.4**
	2.7nm,0.9s,baz=67,slow=5.0,SNR=6.5								
FINES	**FINESS Array B**	**72.50**	**330**	P		**P**		**21 37 45.2**	**+0.3**
	1.4nm,0.7s,baz=42,slow=6.4,SNR=9.9								
NOA	**NORSAR Array B**	**79.24**	**333**	P		**P**		**21 38 22.7**	**-0.7**
	0.8nm,0.7s,baz=56,slow=5.6,SNR=2.7								
YKA	**Yellowknife Ar**	**82.84**	**23**	P		**P**		**21 38 42.6**	**+0.2**
	1.2nm,0.8s,baz=305,slow=5.6,SNR=7.9								

IDC 01 21:28:04.1±29.0, **24.44S×174.91W, h0**km, **mb3.7**/4, **mb1 3.9**/4, **mb1mx3.7**/18, **mbtmp3.7**/4, **Error ellipse: s-maj=528.3km s-min=156.5km az=79.0, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.12**	**269**	P		P		21 35 09.2	+1.1
	1.5nm,0.3s,baz=83,slow=8.1,SNR=3.2								
STKA	**Stephens Creek**	**38.85**	**249**	P		P		21 35 32.8	+1.5
	0.6nm,0.4s,baz=90,slow=10,SNR=2.9								
ASAR	**Alice Springs**	**46.53**	**260**	P		P		21 36 33.0	-0.7
	0.2nm,0.5s,baz=95,slow=6.6,SNR=3.5								
WRA	**Warramunga Arr**	**47.00**	**265**	P		P		21 36 35.8	-1.6
	0.3nm,0.5s,baz=106,slow=8.6,SNR=14								

*IGIL **01** 21:34:03.8, 36.98N×11.68W, h5km, ML1.9*
*INMG **01** 21:34:04.9±1.2, 36.99N×11.67W, h10km, ML2.0, Error ellipse: s-maj=6.9km s-min=5.5km az=85.0*
*MDD **01** 21:34:04.3±2.8, 37.08N×11.79W, h25km±130km, mb3.8/9, Error ellipse: s-maj=138.0km s-min=17.4km az=64.0, PRXIMO*
*CSEM **01** 21:34:05.9±0.4, 37.17N×11.55W, h20km, ML3.0/18, Error ellipse: s-maj=6.6km s-min=5.5km az=56.0*

ISC 01 21:34:03.2±3.5, **37.14N**±0.09×**11.6W**±0.2, **h10**km, **n63,** σ1.21/124, **Azores-Cape St. Vincent Ridge**

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

PMAFR	**Mafra**	**2.58**	**45**	*e*Pn	**Pn**	**21 34 45.7**	**+0.7**
PMAFR				*e*Sn	**Sn**	**21 35 18.1**	**+1.7**
PMAFR				A	A	21 35 19.5	
	19nm,0.8s						
PMAFR	**Mafra**	**2.58**	**45**	*e*Pn	**Pn**	**21 34 45.7**	**+0.7**
PMAFR				S	**Sn**	**21 35 16.4**	**0.0**
	5.3nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**21 35 18.1**	**+1.7**
	19nm,0.8s						
PNCL	**Nicolau / Gran**	**2.63**	**68**	*e*Pn	**Pn**	**21 34 46.4**	**+0.7**
PNCL				*e*Sn	**Sn**	**21 35 18.1**	**+0.4**
PNCL				A	A	21 35 22.4	
	3.2nm,0.1s						
PNCL	**Nicolau / Gran**	**2.63**	**68**	*e*Pn	**Pn**	**21 34 46.4**	**+0.7**
PNCL				*e*Sn	**Sn**	**21 35 18.1**	**+0.4**
	3.2nm,0.1s						
PACT	**Alcochete**	**2.73**	**53**	*e*Pn	**Pn**	**21 34 48.4**	**+1.3**
PACT				A	A	21 35 36.7	
	14nm,0.6s						
PACT	**Alcochete**	**2.73**	**53**	*e*Pn	**Pn**	**21 34 48.4**	**+1.3**
	14nm,0.6s						
MESJ	**Messejana**	**2.79**	**75**	*e*P	**Pn**	**21 34 48.5**	**+0.7**
MESJ				*e*S	**Sn**	**21 35 21.3**	**-0.2**
MESJ				AML	AML	21 35 25.5	
	comp=E,3.1nm,0.2s						
MESJ	**Messejana**	**2.79**	**75**	P	**Pn**	**21 34 48.3**	**+0.5**
	SNR=7.9						
MESJ				S	**Sn**	**21 35 21.4**	**-0.1**
	SNR=7.9						
MESJ	**Messejana**	**2.79**	**75**	P	**Pn**	**21 34 48.3**	**+0.5**
	SNR=7.9						
MESJ				S	**Sn**	**21 35 21.4**	**-0.1**
	SNR=7.9						
PCVE	**Castro Verde**	**2.89**	**79**	*e*Pn	**Pn**	**21 34 50.8**	**+1.6**
PCVE				*e*Sn	**Sn**	**21 35 23.8**	**-0.2**
PCVE				A	A	21 35 28.0	
	comp=E,1.9nm,0.1s						
PCVE	**Castro Verde**	**2.89**	**79**	*e*Pn	**Pn**	**21 34 50.8**	**+1.6**
PCVE				*e*Sn	**Sn**	**21 35 23.8**	**-0.2**
	comp=E,1.9nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.94**	**87**	*e*Pn	**Pn**	**21 34 51.7**	**+1.7**
PBDV				*e*Sn	**Sn**	**21 35 24.9**	**-0.5**
PBDV				A	A	21 35 31.7	
	comp=E,3.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.94**	**87**	*e*Pn	**Pn**	**21 34 51.7**	**+1.7**
PBDV				*e*Sn	**Sn**	**21 35 24.9**	**-0.5**
	comp=E,3.1nm,0.3s						
PBEJ	**Beja**	**3.10**	**72**	*e*Pn	**Pn**	**21 34 54.6**	**+2.4**
PBEJ				*e*Sn	**Sn**	**21 35 29.2**	**-0.2**
PBEJ				A	A	21 35 33.2	
	comp=E,2.2nm,0.1s						
PBEJ	**Beja**	**3.10**	**72**	*e*Pn	**Pn**	**21 34 54.6**	**+2.4**
PBEJ				*e*Sn	**Sn**	**21 35 29.2**	**-0.2**
	comp=E,2.2nm,0.1s						
PVAQ	**Vaqueiros**	**3.12**	**84**	*e*Pn	**Pn**	**21 34 53.5**	**+1.1**
PVAQ				*e*Sn	**Sn**	**21 35 29.3**	**-0.4**
PVAQ				A	A	21 35 34.2	
	comp=E,4.0nm,0.1s						
PVAQ	**Vaqueiros**	**3.12**	**84**	*e*Pn	**Pn**	**21 34 53.5**	**+1.1**
PVAQ				*e*Sn	**Sn**	**21 35 29.3**	**-0.4**
	comp=E,4.0nm,0.1s						
EVO	**Evora**	**3.17**	**63**	*e*Pn	**Pn**	**21 34 53.1**	**0.0**
EVO				*e*Sn	**Sn**	**21 35 31.3**	**+0.3**
EVO				A	A	21 35 33.1	
	comp=E,5.3nm,0.1s						
EVO	**Evora**	**3.17**	**63**	*e*Pn	**Pn**	**21 34 53.1**	**0.0**
EVO				*e*Sn	**Sn**	**21 35 31.3**	**+0.3**
	comp=E,5.3nm,0.1s						
PMTG	**Montargil**	**3.29**	**53**	*e*Pn	**Pn**	**21 34 55.3**	**+0.5**
PMTG				*e*Sn	**Sn**	**21 35 34.9**	**+0.9**
PMTG				A	A	21 35 37.0	
	comp=E,1.1nm,0.1s						
PMTG	**Montargil**	**3.29**	**53**	*e*Pn	**Pn**	**21 34 55.3**	**+0.5**
PMTG				*e*Sn	**Sn**	**21 35 34.9**	**+0.9**
	comp=E,1.1nm,0.1s						
EGRO	**El Granado**	**3.31**	**82**	P	**Pn**	**21 34 56.0**	**+0.9**
	comp=E,0.3nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**21 35 33.0**	**-1.5**
	comp=E,1.0nm,0.1s,SNR=6.0						
EGRO	**El Granado**	**3.31**	**82**	P	**Pn**	**21 34 56.0**	**+0.9**
	comp=E,0.3nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**21 35 33.0**	**-1.5**
	comp=E,1.0nm,0.1s,SNR=6.0						
PTOM	**Tomar**	**3.53**	**45**	*e*Pn	**Pn**	**21 34 59.4**	**+1.4**
PTOM				*e*Sn	**Sn**	**21 35 41.1**	**+1.3**
PTOM				A	A	21 35 43.4	
	comp=E,3.1nm,0.1s						
PTOM	**Tomar**	**3.53**	**45**	*e*Pn	**Pn**	**21 34 59.4**	**+1.4**
PTOM				*e*Sn	**Sn**	**21 35 41.1**	**+1.3**
	comp=E,3.1nm,0.1s						
PESTR	**Estremoz**	**3.61**	**60**	*e*Pn	**Pn**	**21 35 00.7**	**+1.5**
PESTR				*e*Sn	**Sn**	**21 35 42.1**	**+0.1**
PESTR				A	A	21 35 48.5	
	comp=E,1.1nm,0.3s						
PESTR	**Estremoz**	**3.61**	**60**	*e*Pn	**Pn**	**21 35 00.7**	**+1.5**
PESTR				*e*Sn	**Sn**	**21 35 42.1**	**+0.1**
	comp=E,1.1nm,0.3s						
PBAR	**Barrancos**	**3.77**	**73**	*e*Pn	**Pn**	**21 35 03.0**	**+1.6**
PBAR				*e*Sn	**Sn**	**21 35 45.2**	**-0.7**
PBAR				A	A	21 35 49.9	
	comp=E,1.4nm,0.3s						
PBAR	**Barrancos**	**3.77**	**73**	*e*Pn	**Pn**	**21 35 03.0**	**+1.6**
PBAR				*e*Sn	**Sn**	**21 35 45.2**	**-0.7**
	comp=E,1.4nm,0.3s						
PCAS	**Casmilo, Conde**	**3.79**	**39**	*e*Pn	**Pn**	**21 35 02.5**	**+0.8**
PCAS				*e*Sn	**Sn**	**21 35 47.3**	**+0.9**
PCAS				A	A	21 35 52.2	
	comp=E,2.1nm,0.5s						
PCAS	**Casmilo, Conde**	**3.79**	**39**	*e*Pn	**Pn**	**21 35 02.5**	**+0.8**
PCAS				*e*Sn	**Sn**	**21 35 47.3**	**+0.9**
	comp=E,2.1nm,0.5s						
EBAD	**Badajoz**	**3.98**	**65**	P	**Pn**	**21 35 05.4**	**+1.2**
	comp=E,0.7nm,0.1s,SNR=9.8						
EBAD				S	**Sn**	**21 35 50.1**	**-0.7**
	comp=E,2.3nm,0.2s,SNR=5.8						
EBAD	**Badajoz**	**3.98**	**65**	P	**Pn**	**21 35 05.4**	**+1.2**
	comp=E,0.7nm,0.1s,SNR=9.8						
EBAD				S	**Sn**	**21 35 50.1**	**-0.7**
	comp=E,2.3nm,0.2s,SNR=5.8						
EMIN	**Mina Concepcio**	**3.98**	**80**	P	**Pn**	**21 35 05.2**	**+0.9**
	comp=E,0.5nm,0.1s,SNR=8.6						
EMIN				S	**Sn**	**21 35 48.9**	**-2.1**
	comp=E,0.4nm,0.1s,SNR=7.3						
EMIN	**Mina Concepcio**	**3.98**	**80**	P	**Pn**	**21 35 05.2**	**+0.9**
	comp=E,0.5nm,0.1s,SNR=8.6						
EMIN				S	**Sn**	**21 35 48.9**	**-2.1**
	comp=E,0.4nm,0.1s,SNR=7.3						
PMRV	**Marv??o**	**4.03**	**54**	*e*Pn	**Pn**	**21 35 05.3**	**+0.4**
PMRV				*e*Sn	**Sn**	**21 35 52.4**	**+0.2**
PMRV				A	A	21 35 54.5	
	comp=E,0.8nm,0.1s						
PMRV	**Marv??o**	**4.03**	**54**	*e*Pn	**Pn**	**21 35 05.3**	**+0.4**
PMRV				*e*Sn	**Sn**	**21 35 52.4**	**+0.2**
	comp=E,0.8nm,0.1s						
PCBR	**Castelo Branco**	**4.22**	**49**	*e*Pn	**Pn**	**21 35 08.5**	**+1.0**
PCBR				*e*Sn	**Sn**	**21 35 57.6**	**+0.8**
PCBR	**Castelo Branco**	**4.22**	**49**	*e*Pn	**Pn**	**21 35 08.5**	**+1.0**
PCBR				*e*Sn	**Sn**	**21 35 57.6**	**+0.8**
PVIS	**Viseu**	**4.60**	**38**	*e*Pn	**Pn**	**21 35 13.5**	**+0.7**
PVIS				*e*Sn	**Sn**	**21 36 04.4**	**-1.8**
PVIS				A	A	21 36 08.7	
	comp=E,3.1nm,0.1s						
PVIS	**Viseu**	**4.60**	**38**	*e*Pn	**Pn**	**21 35 13.5**	**+0.7**
PVIS				*e*Sn	**Sn**	**21 36 04.4**	**-1.8**
	comp=E,3.1nm,0.1s						
ESPR	**Espera**	**4.62**	**92**	P	**Pn**	**21 35 14.2**	**+1.2**
	comp=E,0.6nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**21 36 05.3**	**-1.3**
	comp=E,1.5nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.62**	**92**	P	**Pn**	**21 35 14.2**	**+1.2**
	comp=E,0.6nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**21 36 05.3**	**-1.3**
	comp=E,1.5nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**5.22**	**54**	P	**Pn**	**21 35 21.4**	**+0.1**
	comp=E,0.6nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**21 36 19.6**	**-2.1**
	comp=E,0.3nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.22**	**54**	P	**Pn**	**21 35 21.5**	**+0.1**
	comp=E,0.6nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**21 36 19.6**	**-2.1**
	comp=E,0.3nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.37**	**40**	P	**Pn**	**21 35 23.1**	**-0.3**
	comp=E,2.2nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**21 36 21.8**	**-3.5**
	comp=E,0.5nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.37**	**40**	*e*Pn	**Pn**	**21 35 23.6**	**+0.2**
MVO				*e*Sn	**Sn**	**21 36 23.0**	**-2.3**
MVO				A	A	21 36 27.5	
	comp=E,1.0nm,0.1s						
MVO	**Moncorvo**	**5.37**	**40**	P	**Pn**	**21 35 23.1**	**-0.3**
	comp=E,2.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.37**	**40**	*e*Pn	**Pn**	**21 35 23.6**	**+0.2**
MVO				S	**Sn**	**21 36 21.8**	**-3.5**
	comp=E,0.5nm,0.2s,SNR=7.9						
MVO				*e*Sn	**Sn**	**21 36 23.0**	**-2.3**
	comp=E,1.0nm,0.1s						
ELOB	**Lobios**	**5.46**	**29**	S	**Sn**	**21 36 24.3**	**-3.2**
	comp=E,0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.68**	**78**	P	**Pn**	**21 35 28.8**	**+1.2**
	comp=E,0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 36 30.1**	**-2.7**
	comp=E,0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.68**	**78**	P	**Pn**	**21 35 28.8**	**+1.2**
	comp=E,0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 36 30.1**	**-2.7**
	comp=E,0.2nm,0.2s,SNR=7.9						

IDC 01 21:49:33.0±49.0, **16°54S**×**178°45W**, **h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/18, **mbtmp3.9**/3, **Error ellipse: s-maj=906.1km s-min=149.8km az=77.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.27**	**240**	P	P	21 57 03.8	+0.1
	0.7nm,0.5s,baz=95,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**44.86**	**258**	P	P	21 57 49.3	-0.2
	0.2nm,0.3s,baz=93,slow=8.0,SNR=11						
ASAR	**Alice Springs**	**45.14**	**253**	P	P	21 57 51.5	-0.3
	2.3nm,0.4s,baz=88,slow=8.1,SNR=56						

*ISCJB **01** 22:05:49.4±0.8, 30°.91S±0°.07×178°.2W±0°.1, h46km, mb4.6/7, MS3.8/3, Error ellipse: s-maj=19.1km s-min=8.9km az=17.0*
*NEIC **01** 22:05:51.5±2.4, 30°.85S×178°.15W, h55km±18km, mb4.6/5, Error ellipse: s-maj=27.8km s-min=14.2km az=156.0*
*IDC **01** 22:05:52.5±2.9, 30°.79S×178°.19W, h59km±24km, mb4.5/4, mb1 4.7/4, mb1mx3.9/18, mbtmp4.5/4, MS3.8/4, Ms1 3.8/4, ms1mx3.4/24, Error ellipse: s-maj=29.0km s-min=23.1km az=139.0*

ISC 01 22:05:50.5±0.7, **30°.94S**±0°.08×**178°.2W**±0°.1, **h46**km, **n44, σ1$16/40, mb4.7/7, MS3.9**/3, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.70**	**8**	P	**Pn**	**22 06 17.6**	**-0.1**
RAO				S	**Sn**	**22 06 36.9**	**-1.3**
RAO	**Raoul Island**	**1.70**	**8**	P	**Pn**	**22 06 17.6**	**-0.1**
	472nm,0.3s,baz=107,slow=16,SNR=11						
RAO				S	**Sn**	**22 06 36.9**	**-1.3**
	1μm,0.3s,baz=160,slow=19,SNR=13						
RAO				LR	LR	22 06 56.0	
	comp=Z,952nm,20.8s,baz=35,slow=41						
URZ	**Urewera**	**8.27**	**207**	*e*Pn	Pn	22 07 42.3	-5.6
URZ				*e*Sn	Sn	22 09 10.3	-10
URZ	**Urewera**	**8.27**	**207**	P	Pn	22 07 43.2	-4.7
	1.8nm,0.3s,baz=165,slow=7.5,SNR=10.0						
URZ				S	**Sn**	**22 09 15.9**	**-4.0**
	7.9nm,0.3s,baz=217,slow=23,SNR=20						
DZM	**Mont Dzumac**	**16.34**	**299**	LR	LR	22 14 33.5	
	comp=Z,267nm,21.0s,baz=223,slow=32						
PPT	**Papeete**	**29.18**	**69**	LR	LR	22 20 54.4	
	comp=Z,295nm,18.9s,baz=301,slow=31						
HNR	**Honiara**	**29.54**	**312**	LR	LR	22 20 51.2	
	comp=Z,72nm,19.6s,baz=40,slow=30						
CTAO	**Charters Tower**	**33.74**	**280**	*e*P	**P**	**22 12 28.5**	**+0.7**
	4.9nm,0.5s						
STKA	**Stephens Creek**	**34.21**	**258**	*e*P	**P**	**22 12 33.3**	**+1.5**
	0.8nm,0.4s						
STKA	**Stephens Creek**	**34.21**	**258**	P	**P**	**22 12 33.5**	**+1.7**
	4.2nm,0.4s,baz=99,slow=11,SNR=30						
AS31	**Alice Springs**	**42.93**	**268**	*e*P	**P**	**22 13 44.8**	**-0.3**
ASAR	**Alice Springs**	**42.93**	**268**	P	**P**	**22 13 45.2**	**+0.1**
ASAR	**Alice Springs**	**42.93**	**268**	P	**P**	**22 13 45.2**	**+0.1**
	8.4nm,0.5s,baz=105,slow=7.2,SNR=192						
WRAB	**Tennant Creek**	**43.97**	**273**	*e*P	**P**	**22 13 53.4**	**0.0**
	9.1nm,0.6s						
WRA	**Warramunga Arr**	**43.97**	**273**	P	**P**	**22 13 53.3**	**-0.1**
WRA	**Warramunga Arr**	**43.97**	**273**	P	**P**	**22 13 53.3**	**-0.1**
	7.2nm,0.4s,baz=113,slow=7.8,SNR=94						
MBWA	**Marble Bar**	**56.02**	**264**	P	**P**	**22 15 25.0**	**+0.2**
QSPA	**South Pole Qui**	**59.17**	**180**	*e*P	**P**	**22 15 48.0**	**+1.5**
	4.8nm,0.6s						
QSPA	**South Pole Qui**	**59.17**	**180**	P	**P**	**22 15 48.4**	**+1.9**
	4.2nm,0.5s,baz=329,slow=1.3,SNR=6.4						
SNAA	**Sanae**	**77.62**	**178**	*e*P	**P**	**22 17 41.1**	**-0.4**
SNAA	**Sanae**	**77.62**	**178**	*e*P	**P**	**22 17 41.6**	**0.0**
	6.4nm,1.2s						
VNA2	**Neumayer--Watz**	**78.21**	**177**	*e*P	**P**	**22 17 45.2**	**+0.5**
VNA1	**Neumayer--Stat**	**78.44**	**177**	*e*P	P	22 17 42.1	-3.9
PLCA	**Paso Flores**	**82.25**	**133**	LR	LR	22 44 52.1	
	comp=Z,84nm,21.3s,baz=145,slow=28						
MKAR	**Makanchi Array**	**118.00**	**310**	PKP	**PKPdf**	**22 24 30.7**	**-1.2**
MKAR	**Makanchi Array**	**118.00**	**310**	PKP	**PKPdf**	**22 24 30.7**	**-1.2**
	0.3nm,0.4s,baz=222,slow=2.1,SNR=13						
ZALV	**Zalesovo Beam**	**118.33**	**318**	PKP	**PKPdf**	**22 24 34.3**	**+2.0**
ZALV	**Zalesovo Beam**	**118.33**	**318**	PKP	**PKPdf**	**22 24 34.3**	**+2.0**
	0.3nm,0.3s,baz=48,slow=2.1,SNR=2.8						
ARCES	**ARCESS Array B**	**139.08**	**348**	PKPpre	PKPpre	22 25 03.0	
ARCES	**ARCESS Array B**	**139.08**	**348**	PKhKP	PKPpre	22 25 03.0	
	4.3nm,0.9s,baz=50,slow=1.4,SNR=4.4						
KAF	**Kangasniemi**	**145.01**	**340**	*ep*	**PKPbc**	**22 25 19.7**	**-1.6**
	2.0nm,0.3s						
KBZ	**Khabaz**	**145.28**	**303**	PKPbc	**PKPbc**	**22 25 22.8**	**0.0**
KBZ	**Khabaz**	**145.28**	**303**	PKPbc	**PKPbc**	**22 25 22.8**	**0.0**
	0.8nm,0.5s,baz=45,slow=1.4,SNR=2.5						
FINES	**FINESS Array B**	**145.60**	**340**	PKPbc	**PKPdf**	**22 25 22.4**	**-0.6**
FINES	**FINESS Array B**	**145.60**	**340**	PKPbc	**PKPdf**	**22 25 22.4**	**-0.6**
	6.9nm,0.4s,baz=50,slow=4.3,SNR=94						
NB2	**NORSAR Subarra**	**149.26**	**351**	PKP	**PKPbc**	**22 25 32.8**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**149.26**	**351**	PKPbc	**PKPbc**	**22 25 33.1**	**-0.3**
NOA	**NORSAR Array B**	**149.26**	**351**	PKPbc	**PKPbc**	**22 25 33.1**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=15,slow=4.1,SNR=9.4						
AKASG	**Malin Array Be**	**151.63**	**322**	PKPbc	**PKPbc**	**22 25 38.6**	**-0.7**
AKASG	**Malin Array Be**	**151.63**	**322**	PKPbc	**PKPbc**	**22 25 38.6**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=45,slow=3.6,SNR=6.3						
BRTR	**Keskin Array B**	**152.72**	**298**	PKPbc	**PKPbc**	**22 25 41.9**	**-0.5**
BRTR	**Keskin Array B**	**152.72**	**298**	PKPbc	**PKPbc**	**22 25 41.9**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=136,slow=4.6,SNR=12						
TORD	**Torodi Ar. Bea**	**162.29**	**180**	PKP	**PKPdf**	**22 25 48.4**	**+0.7**
TORD				PKPab	**PKPab**	**22 26 34.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**162.29**	**180**	PKP	**PKPdf**	**22 25 48.4**	**+0.7**
	comp=Z,1.2nm,1.2s,baz=301,slow=0.7,SNR=3.3						
TORD				PKPab	**PKPab**	**22 26 34.5**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=176,slow=4.1,SNR=22						

*IDC **01** 22:35:22.2±1.1, 37°.92N×21°.47E, h0km, mb3.9/7, mb1 3.8/12, mb1mx3.6/32, mbtmp3.7/12, ML3.3/4, Error ellipse: s-maj=21.0km s-min=17.8km az=56.0*
*ISCJB **01** 22:35:23.3±0.5, 37°.83N±0°.02×21°.27E±0°.02, h9km±3km, mb3.8/8, Error ellipse: s-maj=3.2km s-min=2.6km az=44.9*
*ATH **01** 22:35:24.6, 37°.88N×21°.40E, h15km±1km, MD3.4/33, ML3.4*
*THE **01** 22:35:24.7, 37°.83N×21°.39E, h0km±1km, ML3.7/16, Error ellipse: s-maj=1.3km s-min=0.5km az=245.0*
*CSEM **01** 22:35:24.5±0.2, 37°.84N×21°.36E, h8km, ML3.7, Error ellipse: s-maj=3.8km s-min=2.8km az=49.0*

ISC 01 22:35:24.7±0.8, **37°.83N**±0°.02×**21°.39E**±0°.02, **h15**km±5km, **n166, σ1$30**/233, **mb3.9**/8, **1C, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.18**	**298**	P	Pg	22 35 30.5	+1.4
RLS	**Riolos of Patr**	**0.23**	**15**	P	**Pg**	**22 35 30.1**	**+0.1**
RLS				S	**Sg**	**22 35 34.3**	**+0.8**
RLS	**Riolos of Patr**	**0.23**	**15**	*e*PB	**Pg**	**22 35 29.4**	**-0.6**
RLS				*e*SB	**Sg**	**22 35 32.9**	**-0.6**
RLS	**Riolos of Patr**	**0.23**	**15**	*e*Pb	**Pg**	**22 35 29.4**	**-0.6**
RLS	**Riolos of Patr**	**0.23**	**15**	P	**Pg**	**22 35 30.0**	**+0.1**
RLS				*e*Sb	Sb	22 35 32.9	-1.8
RLS				S	**Sg**	**22 35 34.1**	**+0.6**
DRO	**Drossia**	**0.28**	**64**	P	**Pg**	**22 35 30.7**	**0.0**
DRO				S	**Sb**	**22 35 35.4**	**-0.6**
DRO	**Drossia**	**0.28**	**64**	*e*PB	**Pg**	**22 35 30.8**	**0.0**
DRO				*e*SB	**Sg**	**22 35 34.5**	**-0.4**
DRO	**Drossia**	**0.28**	**64**	*e*Pb	**Pg**	**22 35 30.8**	**0.0**
DRO				*e*Sb	**Sg**	**22 35 34.5**	**-0.4**
DRO				S	**Sb**	**22 35 35.5**	**-0.6**
AMT	**Artemida-Makis**	**0.39**	**140**	P	**Pb**	**22 35 32.8**	**-0.5**
AMT				S	**Sb**	**22 35 38.7**	**-0.4**
AMT	**Artemida-Makis**	**0.39**	**140**	*e*PB	**Pb**	**22 35 32.8**	**-0.5**
AMT				*e*SB	**Sb**	**22 35 39.5**	**+0.4**
AMT	**Artemida-Makis**	**0.39**	**140**	P	**Pb**	**22 35 32.8**	**-0.5**
AMT				S	**Sb**	**22 35 39.1**	**0.0**
UPR	**University Cam**	**0.55**	**35**	P	**Pg**	**22 35 35.5**	**-0.1**
UPR				S	**Sb**	**22 35 44.1**	**+0.4**
UPR	**University Cam**	**0.55**	**35**	P	**Pg**	**22 35 35.5**	**-0.1**
UPR				S	**Sb**	**22 35 44.1**	**+0.4**
KFL	**Anninata**	**0.55**	**301**	P	**Pg**	**22 35 35.3**	**-0.3**
KFL				S	**Sb**	**22 35 43.5**	**-0.3**
KFL	**Anninata**	**0.55**	**301**	P	**Pg**	**22 35 35.3**	**-0.3**
KFL				S	**Sb**	**22 35 43.5**	**-0.3**
LAKA	**Lakka**	**0.62**	**48**	P	**Pg**	**22 35 36.0**	**-0.9**
LAKA	**Lakka**	**0.62**	**48**	*e*PN	**Pg**	**22 35 36.1**	**-0.9**
LAKA	**Lakka**	**0.62**	**48**	P	**Pg**	**22 35 36.0**	**-0.9**
PSA1	**Psathopyrgos**	**0.63**	**38**	*e*PN	**Pg**	**22 35 36.2**	**-0.9**
KLV	**Kalavryta, Ach**	**0.64**	**70**	P	**Pg**	**22 35 36.3**	**-1.0**
KLV				S	**Sg**	**22 35 46.2**	**+0.5**
KLV	**Kalavryta, Ach**	**0.64**	**70**	*e*PN	**Pg**	**22 35 35.4**	**-1.9**
KLV				*e*SN	**Sg**	**22 35 42.5**	**-3.2**
KLV	**Kalavryta, Ach**	**0.64**	**70**	*e*Pn	**Pg**	**22 35 35.4**	**-1.9**
KLV	**Kalavryta, Ach**	**0.64**	**70**	P	**Pg**	**22 35 36.3**	**-1.0**
KLV				*e*Sn	**Sg**	**22 35 42.5**	**-3.2**
KLV				S	**Sg**	**22 35 46.2**	**+0.5**
SFD	**Strofades**	**0.65**	**207**	*e*PN	**Pb**	**22 35 38.7**	**+1.0**
SFD	**Strofades**	**0.65**	**207**	*e*Pn	**Pb**	**22 35 38.7**	**+1.0**
VLS	**Valsamata**	**0.72**	**299**	P	**Pg**	**22 35 37.9**	**-0.9**
VLS				S	**Sb**	**22 35 49.4**	**+0.7**
VLS	**Valsamata**	**0.72**	**299**	*e*PN	**Pg**	**22 35 38.0**	**-0.9**
VLS	**Valsamata**	**0.72**	**299**	P	**Pg**	**22 35 37.9**	**-0.9**
VLS				S	**Sb**	**22 35 49.4**	**+0.7**
GUR	**Goura**	**0.76**	**82**	P	**Pg**	**22 35 38.5**	**-1.1**
GUR				S	**Sg**	**22 35 49.8**	**+0.2**
GUR	**Goura**	**0.76**	**82**	*e*PB	**Pg**	**22 35 38.4**	**-1.1**
GUR	**Goura**	**0.76**	**82**	P	**Pg**	**22 35 38.5**	**-1.1**
GUR				S	**Sg**	**22 35 49.8**	**+0.2**
ITM	**Ithomi**	**0.78**	**147**	P	**Pg**	**22 35 39.5**	**-0.3**
ITM				S	**Sb**	**22 35 51.1**	**+0.8**
ITM	**Ithomi**	**0.78**	**147**	*e*PN	**Pb**	**22 35 39.9**	**0.0**
ITM	**Ithomi**	**0.78**	**147**	P	**Pg**	**22 35 39.5**	**-0.3**
ITM	**Ithomi**	**0.78**	**147**	*e*Pn	**Pb**	**22 35 39.9**	**0.0**
ITM				S	**Sb**	**22 35 51.1**	**+0.8**
PDO	**Prodromos**	**0.78**	**348**	P	**Pg**	**22 35 39.4**	**-0.6**
PDO	**Prodromos**	**0.78**	**348**	*e*PN	**Pg**	**22 35 39.2**	**-0.8**
PDO	**Prodromos**	**0.78**	**348**	P	**Pg**	**22 35 39.4**	**-0.6**
PVO	**Paravola**	**0.79**	**8**	P	**Pg**	**22 35 39.8**	**-0.4**
PVO				S	**Sb**	**22 35 51.4**	**+0.7**
PVO	**Paravola**	**0.79**	**8**	P	**Pg**	**22 35 39.8**	**-0.4**
PVO				S	**Sb**	**22 35 51.4**	**+0.7**
KALE	**Kalithea**	**0.81**	**46**	P	**Pg**	**22 35 39.4**	**-1.2**
KALE				S	**Sb**	**22 35 52.3**	**+0.9**
KALE	**Kalithea**	**0.81**	**46**	*e*PN	**Pg**	**22 35 39.4**	**-1.2**
KALE	**Kalithea**	**0.81**	**46**	*e*Pn	**Pg**	**22 35 39.4**	**-1.2**
KALE				S	**Sb**	**22 35 51.8**	**+0.4**
VLX	**Vlachokerasia**	**0.91**	**120**	P	**Pg**	**22 35 42.1**	**-0.3**
VLX	**Vlachokerasia**	**0.91**	**120**	*e*PN	**Pg**	**22 35 42.1**	**-0.3**
VLX	**Vlachokerasia**	**0.91**	**120**	P	**Pg**	**22 35 42.1**	**-0.3**
PYL	**PYLOS**	**0.97**	**163**	P	**Pg**	**22 35 42.5**	**-1.1**
PYL				S	**Sb**	**22 35 57.4**	**+1.5**
PYL	**PYLOS**	**0.97**	**163**	*e*PB	**Pg**	**22 35 43.2**

MRKA	**Markates**	**1.94**	**63**	P		**Pn**	**22 35 58.5**	**+1.3**		
MRKA				S		**Sb**	**22 36 24.5**	**+0.8**		
MRKA	**Markates**	**1.94**	**63**	*e*PN		**Pn**	**22 35 58.4**	**+1.3**		
MRKA	**Markates**	**1.94**	**63**	*e*Pn		**Pn**	**22 35 58.4**	**+1.3**		
MRKA				S		**Sb**	**22 36 24.5**	**+0.8**		
PTL	**Penteli**	**1.97**	**83**	P		**Pn**	**22 35 58.2**	**+0.7**		
PTL				S		**Sb**	**22 36 25.6**	**+1.0**		
PTL	**Penteli**	**1.97**	**83**	*e*PB		**Pn**	**22 35 58.5**	**+1.0**		
PTL	**Penteli**	**1.97**	**83**	P		**Pn**	**22 35 58.2**	**+0.7**		
PTL	**Penteli**	**1.97**	**83**	*e*Pb		**Pn**	**22 35 58.5**	**+1.0**		
PTL				S		**Sb**	**22 36 25.6**	**+1.0**		
ERET	**Eretria**	**2.00**	**71**	P		**Pn**	**22 35 59.2**	**+1.2**		
ERET				S		**Sn**	**22 36 25.7**	**+2.9**		
ERET	**Eretria**	**2.00**	**71**	P		**Pn**	**22 35 59.2**	**+1.2**		
ERET				S		**Sn**	**22 36 25.7**	**+2.9**		
KYTH	**Kithira**	**2.03**	**139**	*e*PN		**Pb**	**22 36 01.0**	**-0.3**		
KYTH	**Kithira**	**2.03**	**139**	*e*Pn		**Pb**	**22 36 01.0**	**-0.3**		
NEO	**Neokhori**	**2.06**	**44**	P		**Pn**	**22 35 59.4**	**+0.7**		
NEO	**Neokhori**	**2.06**	**44**	*e*PB		**Pn**	**22 35 59.5**	**+0.7**		
NEO	**Neokhori**	**2.06**	**44**	P		**Pn**	**22 35 59.4**	**+0.7**		
SKIA	**Skiathos**	**2.10**	**50**	*e*PN		**Pn**	**22 36 00.8**	**+1.4**		
SKIA	**Skiathos**	**2.10**	**50**	*e*Pn		**Pn**	**22 36 00.8**	**+1.4**		
KEK	**Kerkira**	**2.25**	**327**	*e*PN		**Pn**	**22 36 03.3**	**+1.9**		
KEK	**Kerkira**	**2.25**	**327**	*e*Pn		**Pn**	**22 36 03.3**	**+1.9**		
LIT	**Litokhoron**	**2.42**	**20**	P		**Pn**	**22 36 05.0**	**+1.2**		
LIT	**Litokhoron**	**2.42**	**20**	P		**Pn**	**22 36 05.0**	**+1.2**		
NEST	**Nestorio**	**2.59**	**354**	*e*PB		**Pb**	**22 36 10.6**	**-0.4**		
NEST	**Nestorio**	**2.59**	**354**	*e*Pb		**Pb**	**22 36 10.6**	**-0.4**		
SOH	**Sokhos**	**3.35**	**26**	*e*PN		**Pn**	**22 36 18.9**	**+2.3**		
SOH	**Sokhos**	**3.35**	**26**	*e*Pn		**Pn**	**22 36 18.9**	**+2.3**		
KNT	**Kendrikon**	**3.53**	**19**	*e*PN		**Pn**	**22 36 21.4**	**+2.5**		
KNT	**Kendrikon**	**3.53**	**19**	*e*Pn		**Pn**	**22 36 21.4**	**+2.5**		
VAY	**Valandovo**	**3.60**	**14**	*e*PN		**Pn**	**22 36 19.9**	**0.0**		
VAY				*e*Sg		Sg	22 37 30.2	+10		
VAY	**Valandovo**	**3.60**	**14**	*e*Pn		**Pn**	**22 36 20.4**	**+0.4**		
IDI	**Anoyia**	**3.79**	**131**	Pn		**Pn**	**22 36 23.5**	**+0.9**		
	1.3nm,0.3s,baz=341,slow=9.6,SNR=10									
IDI				Sn		**Sn**	**22 37 06.1**	**-0.9**		
	2.7nm,0.3s,baz=302,slow=18,SNR=4.0									
STON	**Ston**	**5.77**	**332**	*e*Pn		**Pn**	**22 36 48.4**	**-1.3**		
STON				Sn		Sn	22 37 51.5	-4.1		
STON	**Ston**	**5.77**	**332**	*e*Pn		**Pn**	**22 36 48.4**	**-1.3**		
IVAS	**Ivanjica**	**5.82**	**351**	*e*Pn		**Pn**	**22 36 50.9**	**+0.5**		
GRUS	**Gruza**	**6.07**	**355**	*e*Pn		**Pn**	**22 36 53.9**	**0.0**		
BBLS	**Lazići**	**6.21**	**347**	*e*Pn		**Pn**	**22 36 56.9**	**+1.0**		
DIVS	**Divibare**	**6.35**	**351**	*e*Pn		**Pn**	**22 36 56.8**	**-1.0**		
FGSL	**Fruska Gora**	**7.42**	**351**	*e*PN		**Pn**	**22 37 11.8**	**-0.5**		
UDBI	**Udbina**	**7.92**	**329**	*e*Pn		**Pn**	**22 37 19.9**	**+0.6**		
UDBI				Sn		**Sn**	**22 38 46.1**	**-2.5**		
UDBI	**Udbina**	**7.92**	**329**	*e*PN		**Pn**	**22 37 19.9**	**+0.6**		
NVLJ	**Novalja**	**8.33**	**326**	*e*Pn		**Pn**	**22 37 23.8**	**-1.0**		
NVLJ				Sn		Sn	22 38 52.5	-6.0		
NVLJ	**Novalja**	**8.33**	**326**	*e*Pn		**Pn**	**22 37 23.8**	**-1.0**		
MLR	**Muntele Rosu**	**8.38**	**23**	⇑*i*P		Pb	22 37 39.3	-10		
MLR	**Muntele Rosu**	**8.38**	**23**	Pn		Pn	22 37 32.9	+7.2		
	0.0nm,0.3s,baz=207,slow=11,SNR=3.6									
CRES	**Cresnjev**	**9.13**	**333**	*e*Pn		**Pn**	**22 37 35.4**	**-0.4**		
BRTR	**Keskin Array B**	**9.75**	**75**	Pn		**Pn**	**22 37 42.9**	**-1.6**		
	0.1nm,0.3s,baz=253,slow=12,SNR=2.7									
GERES	**GERESS Array B**	**12.34**	**336**	Pn		**Pn**	**22 38 19.5**	**-0.3**		
	0.1nm,0.3s,baz=158,slow=14,SNR=4.6									
GERES				Sn		Sn	22 40 28.8	-8.4		
	0.1nm,0.3s,baz=151,slow=22,SNR=2.4									
MMAI	**Mount Meron Ar**	**12.40**	**109**	Pn		**Pn**	**22 38 18.6**	**-2.0**		
	0.4nm,0.3s,baz=287,slow=10,SNR=3.1									
ESDC	**Sonseca Array**	**19.84**	**283**	P		**P**	**22 39 56.2**	**+1.2**		
	0.1nm,0.3s,baz=77,slow=12,SNR=5.4									
HFS	**Hagfors**	**22.86**	**350**	P		**P**	**22 40 26.4**	**-0.7**		
	3.4nm,0.4s,baz=152,slow=10,SNR=24									
FINES	**FINESS Array B**	**23.82**	**6**	P		**P**	**22 40 34.9**	**-1.9**		
	0.8nm,0.4s,baz=182,slow=13,SNR=9.7									
NB2	**NORSAR Subarra**	**24.10**	**348**	P		**P**	**22 40 38.4**	**-1.1**		
	comp=Z,1.8nm,0.8s,baz=154,slow=9.3									
NB2	**NORSAR Subarra**	**24.10**	**348**	P		**P**	**22 40 38.4**	**-1.1**		
	comp=Z,1.8nm,0.8s,SNR=5.5									
NOA	**NORSAR Array B**	**24.10**	**348**	P		**P**	**22 40 38.4**	**-1.1**		
	comp=Z,0.7nm,0.6s,baz=156,slow=8.8,SNR=8.0									
EKA	**Eskdalemuir Ar**	**24.11**	**324**	P		**P**	**22 40 40.1**	**+0.6**		
	comp=Z,2.0nm,0.6s,baz=126,slow=10,SNR=5.4									
KAF	**Kangasniemi**	**24.50**	**6**	*ep*		**P**	**22 40 42.3**	**-0.7**		
	comp=Z,0.5nm,0.4s									
TORD	**Torodi Ar. Bea**	**30.20**	**221**	P		**P**	**22 41 34.6**	**+0.1**		
	comp=Z,1.6nm,0.6s,baz=30,slow=9.0,SNR=23									
ARCES	**ARCESS Array B**	**31.84**	**3**	P		**P**	**22 41 47.3**	**-1.2**		
	comp=Z,2.6nm,0.8s,baz=188,slow=7.4,SNR=7.2									
MKAR	**Makanchi Array**	**44.90**	**58**	P		**P**	**22 43 37.6**	**-1.0**		
	comp=Z,0.9nm,0.6s,baz=272,slow=7.4,SNR=10									

*NNC **01** 22:39:32.2±2.1,39°.15N×70°.68E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=15.9km s-min=11.7km az=13.0*
ISC 01 22:39:38.4±2.8,39°.3N±0°.2×70°.72E±0°.10,h30km,n13, σ1§37/16,4C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**3.63**	**38**	P		**Pn**	**22 40 32.6**	**-0.2**
	SNR=35							
KK31	**Karatay Array**	**3.81**	**358**	⇓Pn		**Pn**	**22 40 36.8**	**+1.8**
	1.7nm,0.3s,baz=175,slow=13,SNR=167							
KK31				S		**Sb**	**22 41 27.7**	**-2.9**
	6.4nm,0.4s,baz=185,slow=19,SNR=5.7							
KK31				⇓Lg		Lg	22 41 39.2	
	15nm,0.5s,baz=176,slow=28,SNR=6.2							
EKS2	**Erkin-Say**	**4.08**	**34**	P		**Pn**	**22 40 40.3**	**+1.4**
	SNR=14							
UCH	**Uchtor**	**4.11**	**43**	P		**Pn**	**22 40 39.2**	**-0.4**
	SNR=29							
AAK	**Ala-Archa**	**4.39**	**39**	P		**Pn**	**22 40 43.2**	**0.0**
	SNR=34							
KZA	**Kyzart**	**4.43**	**50**	P		**Pn**	**22 40 43.5**	**-0.4**
	SNR=25							
KBK	**Karagaybulak**	**4.64**	**42**	P		**Pn**	**22 40 47.7**	**+1.1**
	SNR=11							
CHMS	**Chumysh**	**4.79**	**38**	P		**Pn**	**22 40 48.7**	**+0.1**
	SNR=21							
USP	**Ospenovka**	**4.89**	**34**	P		**Pn**	**22 40 50.0**	**+0.1**
	SNR=28							
ULHL	**Ulahol**	**5.13**	**53**	P		**Pn**	**22 40 53.1**	**-0.3**
	SNR=7.0							
TKM2	**Tokmak 2**	**5.17**	**44**	P		**Pn**	**22 40 53.5**	**-0.4**
	SNR=21							
TKM2	**Tokmak 2**	**5.17**	**44**	⇓Pn		**Pn**	**22 40 53.1**	**-0.8**
	5.8nm,0.4s							
TKM2				⇑Sn		**Sn**	**22 41 55.5**	**+2.9**
	3.4nm,0.5s							
TKM2				⇑Lg		Lg	22 42 19.1	
	11nm,1.0s							
AB31	**Akbulak array**	**12.59**	**326**	⇑Pn		**Pn**	**22 42 34.6**	**-0.6**
	0.3nm,0.3s,baz=69,slow=11,SNR=24							
AB31				⇑Sn		**Sn**	**22 44 54.6**	**+0.3**
	1.0nm,0.5s,baz=140,slow=22,SNR=6.5							

*IDC **01** 23:21:34.0±1.9, 18°.66S×177°.65W,h624km±21km, mb3.3/8, mb1 3.6/10,mb1mx3.3/20,mbtmp3.4/10, Error ellipse: s-maj=45.0km s-min=15.1km az=145.0*
ISC 01 23:21:27.4±1.1,18°.5S±0°.3×177°.4W±0°.2,h550km,n30, σ1§16/28,mb4.0/8,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.07**	**50**	P		P	23 23 28.0	+12
	4.8nm,0.3s,baz=31,slow=22,SNR=6.0							
AFI				S		S	23 25 00.9	+16
	1.8nm,0.3s,baz=217,slow=20,SNR=2.5							
DZM	**Mont Dzumac**	**15.60**	**254**	P		**P**	**23 24 45.5**	**+2.4**
	1.2nm,0.3s,baz=72,slow=17,SNR=7.7							
DZM	**Mont Dzumac**	**15.60**	**254**	*e*S		**P**	**23 24 44.0**	**+0.8**
DZM	**Mont Dzumac**	**15.60**	**254**	*e*S		**P**	**23 24 44.0**	**+0.8**
ARMA	**Armidale**	**30.50**	**241**	P		**P**	**23 26 57.2**	**+0.8**
	baz=26,SNR=5.8							
CNB	**Canberra Magne**	**33.85**	**234**	P		**P**	**23 27 25.4**	**+0.7**
	baz=30,SNR=20							
CMSA	**Cobar Meteorol**	**35.72**	**242**	P		**P**	**23 27 40.7**	**+0.5**
	baz=32,SNR=7.7							
QLP	**Quilpie**	**36.26**	**250**	P		**P**	**23 27 44.6**	**-0.1**
	baz=32,SNR=19							
COEN	**Coen**	**38.11**	**271**	P		**P**	**23 28 00.9**	**+0.9**
	baz=34,SNR=24							
STKA	**Stephens Creek**	**39.21**	**242**	P		**P**	**23 28 08.6**	**-0.1**
	3.1nm,0.5s,baz=92,slow=5.3,SNR=7.8							
STKA	**Stephens Creek**	**39.21**	**242**	P		**P**	**23 28 09.2**	**+0.5**
	baz=35,SNR=5.5							
BBOO	**Buckleboo**	**43.98**	**242**	P		**P**	**23 28 45.8**	**-0.6**
	baz=40,SNR=9.8							
WRA	**Warramunga Arr**	**45.51**	**260**	P		**P**	**23 28 57.2**	**-1.1**
	2.9nm,0.3s,baz=97,slow=7.3,SNR=20							
ASAR	**Alice Springs**	**45.59**	**255**	P		**P**	**23 28 58.1**	**-0.8**
	5.3nm,0.7s,baz=88,slow=7.9,SNR=47							
ASAR				S		S	23 34 52.6	-8.9
	0.8nm,0.7s,baz=93,slow=18,SNR=9.1							
PETK	**Petropavlovsk-**	**74.55**	**345**	P		**P**	**23 32 10.7**	**+0.7**
	4.1nm,0.6s,baz=128,slow=9.7,SNR=10							
USRK	**Ussuriysk Arra**	**77.70**	**325**	P		**P**	**23 32 28.3**	**+0.8**
	0.6nm,0.4s,baz=129,slow=4.0,SNR=4.3							
TXAR	**Lajitas Array**	**85.49**	**57**	P		**P**	**23 33 10.3**	**+2.4**
	0.4nm,0.7s,baz=228,slow=6.1,SNR=4.6							
ILAR	**Eielson Array**	**86.28**	**13**	P		**P**	**23 33 10.8**	**+0.2**
	0.7nm,0.4s,baz=226,slow=5.1,SNR=22							
CMAR	**Chiang Mai Arr**	**90.04**	**289**	P		**P**	**23 33 28.6**	**-0.7**
	0.8nm,0.4s,baz=103,slow=2.3,SNR=4.4							
MKAR	**Makanchi Array**	**110.29**	**314**	PKiKP		**PKiKP**	**23 38 54.7**	**-2.4**
	0.3nm,0.5s,baz=133,slow=1.1,SNR=11							
BVAR	**Borovoye Array**	**117.97**	**321**	PKP		**PKPdf**	**23 39 10.0**	**-1.6**
	0.5nm,0.4s,baz=154,slow=1.9,SNR=6.5							
ARCES	**ARCESS Array B**	**127.11**	**350**	PKP		**PKPdf**	**23 39 27.5**	**-1.2**
	7.7nm,1.1s,baz=5.7,slow=2.4,SNR=4.9							
FINES	**FINESS Array B**	**134.07**	**345**	PKhKP		PKPpre	23 39 36.7	
	11nm,1.3s,baz=343,slow=1.5,SNR=3.3							
FINES				PKP		**PKPdf**	**23 39 41.5**	**-0.5**
	4.5nm,1.1s,baz=184,slow=3.1,SNR=6.0							
AKASG	**Malin Array Be**	**141.58**	**333**	PKhKP		PKPpre	23 39 50.3	
	1.0nm,0.3s,baz=38,slow=4.1,SNR=11							
BRTR	**Keskin Array B**	**145.94**	**315**	PKPbc		**PKPdf**	**23 40 04.3**	**+0.1**
	1.2nm,0.6s,baz=140,slow=4.7,SNR=8.0							
MMAI	**Mount Meron Ar**	**147.33**	**303**	PKPbc		**PKPbc**	**23 40 09.2**	**-0.8**
	1.5nm,0.5s,baz=57,slow=5.3,SNR=5.8							
GERES	**GERESS Array B**	**148.47**	**346**	PKPbc		**PKPbc**	**23 40 11.7**	**-0.7**
	0.9nm,0.6s,baz=48,slow=2.0,SNR=9.8							
WATA	**Walderalm**	**150.36**	**348**	⇓*i*PKPbc		**PKPbc**	**23 40 16.2**	**-0.8**
	4.2nm,0.4s,SNR=4.3							
WTTA	**Wattenberg**	**150.42**	**348**	*i* PKPbc		**PKPbc**	**23 40 16.5**	**-0.7**
	5.9nm,0.4s,SNR=6.8							
ABTA	**Abfaltersbach**	**150.72**	**346**	⇓*i*PKPbc		**PKPbc**	**23 40 16.5**	**-1.3**
	6.0nm,0.5s							

IDC 01 23:22:41.6±2.2,18°.35S×177°.77W,h614km±27km, mb3.1/5,mb1 3.4/6,mb1mx3.1/19,mbtmp3.2/6,Error ellipse: s-maj=109.5km s-min=15.9km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.26**	**53**	P		P	23 24 34.9	+0.1
	3.8nm,0.3s,baz=286,slow=20,SNR=3.1							
STKA	**Stephens Creek**	**38.95**	**242**	P		P	23 29 16.9	0.0
	2.5nm,0.5s,baz=85,slow=7.9,SNR=5.1							
WRA	**Warramunga Arr**	**45.15**	**260**	P		P	23 30 05.3	-0.2
	2.5nm,0.3s,baz=96,slow=7.7,SNR=12							
ASAR	**Alice Springs**	**45.26**	**255**	P		P	23 30 06.3	0.0
	3.5nm,0.6s,baz=87,slow=8.0,SNR=13							
NVAR	**Mina Array Bea**	**79.32**	**44**	P		P	23 33 45.1	-0.3
	0.1nm,0.4s,baz=218,slow=4.0,SNR=2.3							
ILAR	**Eielson Array**	**86.18**	**13**	P		P	23 34 18.9	+0.1
	0.3nm,0.3s,baz=227,slow=5.2,SNR=7.9							
ARCES	**ARCESS Array B**	**126.85**	**350**	PKP		PKPdf	23 40 36.2	+0.1
	1.6nm,0.7s,baz=14,slow=4.1,SNR=2.9							

*NEIC **01** 23:35:27.9±0.5, 17°.23S×69°.72W,h125km±5km,mb4.3/8, Error ellipse: s-maj=7.0km s-min=5.8km az=53.0*
*ISCJB **01** 23:35:31.5±0.4, 17°.17S±0°.06×69°.57W±0°.06,h173km, mb4.2/19,Error ellipse: s-maj=9.1km s-min=7.4km az=150.1*
*IDC **01** 23:35:31.1±1.4, 17°.22S×69°.68W,h151km±11km,mb4.0/14, mb1 4.2/14,mb1mx4.1/20,mbtmp4.0/14, Error ellipse: s-maj=18.5km s-min=14.2km az=43.0*
ISC 01 23:35:33.1±0.5, 17°.14S±0°.08×69°.51W±0°.07,h173km,n64, σ1§46/60,mb4.4/19,1C,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**1.57**	**58**	*e*Pn		**Pn**	**23 36 04.7**	**-1.1**
LPAZ				*e*Sn		**Sn**	**23 36 27.2**	**-3.9**
LPAZ	**La Paz**	**1.57**	**58**	P		**Pn**	**23 36 04.8**	**-1.1**
	105nm,0.3s,baz=255,slow=7.0,SNR=2175							
LPAZ				S		**Sn**	**23 36 29.7**	**-1.4**
	31nm,0.3s,baz=2.8,slow=21,SNR=14							
ARE	**Arequipa**	**2.01**	**289**	⇑*i*P		Pn	23 36 01.0	-9.2
ARE				*e*S		Sn	23 36 26.1	-13
LVC	**Limon Verde**	**5.48**	**174**	*e*Pn		Pn	23 36 46.5	-7.0
	86nm,0.4s							
LVC				*e*Sn		Sn	23 37 43.8	-13
SIV	**San Ignacio**	**8.17**	**83**	P		**Pn**	**23 37 26.7**	**-2.1**
SIV				S		**Sn**	**23 38 59.3**	**-1.1**
SIV	**San Ignacio**	**8.17**	**83**	P		**Pn**	**23 37 26.7**	**-2.1**
	20nm,0.3s,baz=279,slow=11,SNR=169							
SIV				S		**Sn**	**23 38 59.3**	**-1.1**
	2.2nm,0.3s,baz=357,slow=19,SNR=3.1							
NNA	**Nana**	**8.75**	**305**	*e*Pn		Pn	23 37 29.0	-7.4
NNA				*e*Sn		Sn	23 38 58.6	-16
NNA	**Nana**	**8.75**	**305**	P		Pn	23 37 29.3	-7.1
	3.1nm,0.3s,baz=158,slow=12,SNR=5.9							
NNA				S		Sn	23 38 57.9	-16
	2.2nm,0.3s,baz=217,slow=19,SNR=3.9							
SAML	**Samuel**	**10.21**	**38**	*e*Pn		**Pn**	**23 37 53.3**	**-2.2**
	14nm,0.5s							
SAML				*e*Sn		**Sn**	**23 39 50.1**	**+1.0**
LCO	**Las Campanas**	**11.87**	**185**	*e*Pn		Pn	23 38 06.3	-11
LCO				*e*Sn		Sn	23 40 12.2	-17
CFAA	**Coronel Fontan**	**14.45**	**176**	P		Pn	23 38 42.1	-7.6
CFAA	**Coronel Fontan**	**14.45**	**176**	P		Pn	23 38 42.1	-7.6
	0.2nm,0.3s,baz=9.5,slow=14,SNR=9.5							
H03N1	**Juan Fernandez**	**18.31**	**206**	T		T	23 57 25.8	
	baz=26,slow=75,SNR=11							
H03N2	**Juan Fernandez**	**18.32**	**206**	T		T	23 57 27.5	
	baz=26,slow=75,SNR=12							
H03N3	**Juan Fernandez**	**18.33**	**206**	T		T	23 57 30.9	
	baz=26,slow=75,SNR=14							
PTGA	**Pitinga**	**18.82**	**31**	*e*P		**P**	**23 39 40.8**	**+1.0**
	11nm,0.4s							
OTAV	**Otavalo**	**19.38**	**332**	*e*P		**P**	**23 39 45.1**	**-1.3**
	1.8nm,0.4s							
BDFB	**Brasilia**	**20.68**	**89**	P		**P**	**23 40 00.2**	**+0.3**
BDFB	**Brasilia**	**20.68**	**89**	P		**P**	**23 40 00.2**	**+0.3**
	14nm,0.5s,baz=258,slow=10.0,SNR=35							
TRQA	**Tornquist**	**21.87**	**164**	*e*P		**P**	**23 40 10.4**	**-1.8**
	19nm,1.4s							
PLCA	**Paso Flores**	**23.53**	**182**	*e*P		**P**	**23 40 25.5**	**-2.2**
	5.2nm,0.6s							
PLCA	**Paso Flores**	**23.53**	**182**	P		**P**	**23 40 25.9**	**-1.8**
	6.5nm,0.7s,baz=357,slow=11,SNR=10							
RCBR	**Riachuelo**	**34.73**	**75**	P		**P**	**23 42 08.9**	**+1.8**
RCBR	**Riachuelo**	**34.73**	**75**	P		**P**	**23 42 08.9**	**+1.8**
	6.9nm,0.7s,baz=128,slow=4.7,SNR=5.1							
TXAR	**Lajitas Array**	**56.76**	**324**	P		**P**	**23 44 58.6**	**-0.7**
TXAR				PcP		**PcP**	**23 45 53.9**	**+0.6**
TXAR	**Lajitas Array**	**56.76**	**324**	P		**P**	**23 44 58.6**	**-0.7**
	0.6nm,0.5s,baz=152,slow=10,SNR=12							
TXAR				PcP		**PcP**	**23 45 53.9**	**+0.6**
	0.2nm,0.4s,baz=72,slow=2.9,SNR=4.7							
WMOK	**Wichita Mounta**	**58.61**	**332**	*e*P		**P**	**23 45 10.8**	**-1.2**
	0.9nm,0.4s							
SNAA	**Sanae**	**66.57**	**162**	*e*P		**P**	**23 46 04.0**	**-0.3**
	2.8nm,0.7s							
LIC	**Lamto**	**67.79**	**76**	*e*P		**P**	**23 46 13.6**	**+0.7**
	24nm,0.9s							
TIC	**Toumodi**	**67.95**	**75**	*e*P		**P**	**23 46 15.1**	**+1.2**
	4.2nm,0.2s							
KIC	**Kosan Boka**	**68.11**	**76**	*e*P		**P**	**23 46 15.8**	**+0.9**
	17nm,0.4s							
DBIC	**Dimbokro**	**68.11**	**75**	P		**P**	**23 46 15.8**	**+0.9**
DBIC	**Dimbokro**	**68.11**	**75**	P		**P**	**23 46 15.8**	**+0.9**
	6.1nm,0.5s,baz=221,slow=7.3,SNR=19							
PDAR	**Pinedale Array**	**70.07**	**330**	P		**P**	**23 46 26.2**	**-0.4**
PDAR	**Pinedale Array**	**70.07**	**330**	P		**P**	**23 46 26.2**	**-0.4**
	0.6nm,0.4s,baz=126,slow=8.6,SNR=6.5							
ULM	**Lac du Bonnet**	**71.01**	**342**	P		**P**	**23 46 31.5**	**-0.3**
ULM	**Lac du Bonnet**	**71.01**	**342**	P		**P**	**23 46 31.5**	**-0.3**
	6.0nm,0.5s,baz=152,slow=6.1,SNR=30							
NVAR	**Mina Array Bea**	**71.73**	**322**	P		**P**	**23 46 37.5**	**+0.8**
NVAR	**Mina Array Bea**	**71.73**	**322**	P		**P**	**23 46 37.5**	**+0.8**
	1.1nm,0.6s,baz=142,slow=5.2,SNR=10							
TOA0	**Torodi Ar. Sit**	**76.47**	**72**	*e*P		**P**	**23 47 05.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**76.47**	**72**	P		**P**	**23 47 05.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**76.47**	**72**	P		**P**	**23 47 05.6**	**+1.2**
	3.4nm,0.5s,baz=262,slow=5.4,SNR=74							
VNDA	**Vanda**	**81.03**	**190**	P		**P**	**23 47 28.9**	**+0.7**
VNDA	**Vanda**	**81.03**	**190**	P		**P**	**23 47 28.9**	**+0.7**
	1.6nm,0.9s,baz=114,slow=2.9,SNR=3.6							
ESDC	**Sonseca Array**	**83.15**	**45**	P		**P**	**23 47 42.4**	**+2.5**
ESDC	**Sonseca Array**	**83.15**	**45**	P		**P**	**23 47 42.4**	**+2.5**
	0.2nm,0.4s,baz=290,slow=5.3,SNR=3.9							
YKA	**Yellowknife Ar**	**86.90**	**341**	P		**P**	**23 47 58.5**	**+0.5**
YKA				pP		**pP**	**23 48 37.3**	**-3.7**
YKA	**Yellowknife Ar**	**86.90**	**341**	P		**P**	**23 47 58.4**	**+0.5**
	3.3nm,0.6s,baz=133,slow=5.0,SNR=45							
YKA				pP		**pP**	**23 48 37.3**	**-3.7**
	0.8nm,0.8s,baz=136,slow=4.9,SNR=2.2							
MAW	**Mawson**	**88.65**	**164**	P		**P**	**23 48 07.0**	**+0.7**
MAW	**Mawson**	**88.65**	**164**	P		**P**	**23 48 07.0**	**+0.7**
	2.2nm,0.5s,baz=205,slow=8.0,SNR=5.4							
DLBC	**Dease Lake**	**90.09**	**333**	P		**P**	**23 48 14.2**	**+1.1**
DLBC	**Dease Lake**	**90.09**	**333**	P		**P**	**23 48 14.2**	**+1.1**
	3.7nm,0.9s,baz=183,slow=9.6,SNR=2.7							
H11S2	**WAKE ISLAND Hyl**	**26.65**	**281**	T		T	02 13 03.2	
	baz=101							
H11S1	**WAKE ISLAND Hyl**	**26.65**	**281**	T		T	02 12 57.9	
	baz=101							
H11S3	**WAKE ISLAND Hyl**	**26.66**	**281**	T		T	02 12 58.0	
	baz=101							
ASAR	**Alice Springs**	**133.44**	**210**	PKP		**PKPdf**	**23 54 28.9**	**-0.7**
ASAR	**Alice Springs**	**133.44**	**210**	PKP		**PKPdf**	**23 54 28.9**	**-0.7**
	0.3nm,0.5s,baz=139,slow=1.8,SNR=5.6							
WRA	**Warramunga Arr**	**136.34**	**213**	PKP		**PKPdf**	**23 54 35.0**	**0.0**
WRA	**Warramunga Arr**	**136.34**	**213**	PKP		**PKPdf**	**23 54 35.0**	**0.0**
	0.4nm,0.4s,baz=153,slow=1.7,SNR=4.1							
ZALV	**Zalesovo Beam**	**138.21**	**23**	PKP		**PKPdf**	**23 54 37.8**	**+0.4**
ZALV	**Zalesovo Beam**	**138.21**	**23**	PKP		**PKPdf**	**23 54 37.8**	**+0.4**
	1.4nm,0.5s,baz=298,slow=3.1,SNR=6.8							
USRK	**Ussuriysk Arra**	**147.49**	**331**	PKPbc		**PKPab**	**23 54 58.0**	**-1.3**
	2.0nm,0.7s,baz=205,slow=1.6,SNR=6.6							
SONM	**Songino Array**	**149.20**	**5**	PKPbc		**PKPbc**	**23 55 02.8**	**+1.5**
SONM				pPKPbc		pPKPbc	23 55 38.6	-7.8
SONM	**Songino Array**	**149.20**	**5**	PKPbc

0.6nm,0.7s,baz=60,slow=9.1,SNR=10
ASAR PcP **PcP** **00 31 55.2 -0.4**
0.4nm,0.7s,baz=50,slow=3.0,SNR=3.2
H11S3 WAKE ISLAND Hy 27.43 24 T T 00 57 07.9
baz=203,slow=76,SNR=49
H11S2 WAKE ISLAND Hy 27.43 24 T T 00 57 02.0
baz=203,slow=76,SNR=46
H11S1 WAKE ISLAND Hy 27.44 24 T T 00 57 10.2
baz=203,slow=76,SNR=26
H11N1 WAKE ISLAND Hy 28.61 23 T T 00 58 49.0
baz=203
H11N3 WAKE ISLAND Hy 28.62 23 T T 00 59 03.5
baz=203
H11N2 WAKE ISLAND Hy 28.62 23 T T 00 59 04.8
baz=203
RPZ Rata Peaks 39.45 162 LR LR 00 46 25.2
comp=Z,15nm,28.6s,baz=1.5,slow=36
KSRS Korea Array 50.74 332 P **P** **00 31 53.2 -0.2**
0.5nm,0.3s,baz=128,slow=7.9,SNR=3.5
PETK Petropavlovsk- 59.57 2 P **P** **00 32 56.4 -0.4**
3.1nm,0.9s,baz=195,slow=9.0,SNR=2.9
CMAR Chiang Mai Arr 60.84 295 P **P** **00 33 07.0 +0.9**
6.2nm,0.8s,baz=121,slow=5.1,SNR=25
SONM Songino Array 69.17 327 P **P** **00 34 00.3 +0.4**
0.8nm,0.6s,baz=136,slow=6.1,SNR=7.3
TAPN Taplejung 73.42 301 *eP* **P** **00 34 26.8 +0.7**
ODAN Odare 73.55 300 *eP* **P** **00 34 27.6 +0.7**
27nm,0.6s
RAMN Ramite 74.26 300 *eP* **P** **00 34 31.2 +0.2**
4.9nm,0.4s
JIRN Jiri 74.80 301 *eP* **P** **00 34 34.7 +0.4**
9.9nm,0.6s
GUN Gumba 75.14 301 *eP* **P** **00 34 36.6 +0.4**
22nm,0.7s
PKI Pulchoki 75.44 301 *eP* **P** **00 34 37.9 0.0**
6.7nm,0.6s
PKIN Phulchoki 75.46 301 *eP* **P** **00 34 38.0 +0.1**
6.1nm,0.5s
KKN Kakani 75.61 301 *eP* **P** **00 34 39.0 +0.2**
14nm,0.7s
DMN Daman 75.71 301 *eP* **P** **00 34 39.9 +0.5**
18nm,0.7s
GKN Gorkha 76.22 301 *eP* **P** **00 34 42.3 +0.2**
KOLN Koldanda 77.05 300 *eP* **P** **00 34 46.9 0.0**
DANN Dangsing 77.06 301 *eP* **P** **00 34 46.9 -0.1**
PYUN Piuthan 77.65 301 *eP* **P** **00 34 49.9 -0.3**
7.7nm,0.4s
ILAR Eielson Array 82.97 21 P **P** **00 35 17.6 -0.2**
0.8nm,0.6s,baz=238,slow=5.6,SNR=12
MKAR Makanchi Array 83.30 319 P **P** **00 35 19.7 -0.2**
1.0nm,0.9s,baz=101,slow=4.4,SNR=4.6
ZALV Zalesovo Beam 84.02 326 P **P** **00 35 22.0 -1.4**
0.3nm,0.3s,baz=96,slow=5.8,SNR=2.3
NVAR Mina Array Bea 91.33 52 P **P** **00 36 00.6 +1.3**
1.0nm,0.9s,baz=264,slow=6.1,SNR=5.6
YKA Yellowknife Ar 95.93 28 P **P** **00 36 20.3 +0.8**
1.1nm,0.9s,baz=261,slow=4.5,SNR=9.3
GERES **GERESS Array B 126.88 329** PKP **PKPdf** **00 41 56.8 0.0**
0.3nm,0.6s,baz=60,slow=2.4,SNR=3.9
BDFB Brasilia 148.06 134 PKPbc **PKPbc** **00 42 39.3 -0.2**
5.0nm,0.7s,baz=239,slow=2.5,SNR=8.7
TORD Torodi Ar. Bea 153.15 286 PKPbc **PKPbc** **00 42 50.6 -1.0**
1.1nm,0.7s,baz=70,slow=1.0,SNR=8.5
TORD PKPab **PKPab** **00 43 02.7 -0.7**
0.8nm,0.5s,baz=92,slow=3.3,SNR=7.2

UPP 02 00:30:49.8, 67.86N×20.19E, h1km, ML1.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.44**	**271**	P		Pg	00 30 58.0	-0.2
SALU	**Saltoluokta**	**0.81**	**234**	P		Pg	00 31 04.7	-0.6

*CSEM **02** 00:30:56.4±0.2, 67.88N×20.21E, h1km, ML1.2, Error ellipse: s-maj=8.5km s-min=4.2km az=156.0, Mining explosion.*
*HEL **02** 00:30:59.1±0.2, 67.94N×20.40E, h0km, ML1.7, ML1.2(UPP), Explosion*

UPP 02 00:30:56.9, 67.86N×20.19E, h1km, ML1.2, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**32**	*i* P		Pg	00 30 59.0	0.0
KUA				*i* S		Sg	00 31 00.6	+0.2
KUA	**Kurravaara**	**0.11**	**32**	P		Pg	00 30 59.0	0.0
KUA				S		Sg	00 31 00.6	+0.2
NIKU	**Nikkaluokta**	**0.44**	**271**	*i* P		Pg	00 31 05.1	-0.2
NIKU	**Nikkaluokta**	**0.44**	**271**	P		Pg	00 31 05.1	-0.2
LANU	**Lannavaara**	**0.70**	**74**	*i* P		Pg	00 31 10.0	-0.4
LANU	**Lannavaara**	**0.70**	**74**	P		Pg	00 31 10.0	-0.4
SALU	**Saltoluokta**	**0.81**	**234**	*i* P		Pg	00 31 11.8	-0.6
SALU	**Saltoluokta**	**0.81**	**234**	P		Pg	00 31 11.8	-0.6
KIF	**Kilpisjarvi**	**1.17**	**11**	*eP*		Pg	00 31 19.2	-0.1
KIF				*eS*		Sg	00 31 33.6	-0.8
KIF				MSG			00 31 38.8	
	comp=Z,12nm,0.2s							
KIF	**Kilpisjarvi**	**1.17**	**11**	P		Pg	00 31 19.1	-0.1
HEF	**Hetta**	**1.41**	**66**	*eP*		Pn	00 31 22.6	-1.1
HEF				*eS*		Sg	00 31 39.0	-3.2
HEF				MSG			00 31 46.7	
	comp=Z,6.2nm,0.2s							
HEF	**Hetta**	**1.41**	**66**	P		Pn	00 31 22.5	-1.2
HEF				S		Sg	00 31 39.0	-3.2
SGF	**Sodankyl**	**2.46**	**97**	*eP*		Pn	00 31 39.6	+1.5
SGF				*eS*		Sn	00 32 08.1	-0.6
SGF	**Sodankyl**	**2.46**	**97**	P		Pn	00 31 39.5	+1.4
ARA0	**ARCESS Array S**	**2.57**	**47**	*eP*		Pn	00 31 40.9	+1.3
ARA0				*eS*		Sn	00 32 10.0	-1.4
ARA0	**ARCESS Array S**	**2.57**	**47**	P		Pn	00 31 40.9	+1.3
RNF	**Rovaniemi**	**2.59**	**116**	*eP*		Pn	00 31 41.7	+1.8
RNF				*eS*		Sn	00 32 13.1	+1.1
RNF	**Rovaniemi**	**2.59**	**116**	P		Pn	00 31 41.7	+1.8
KEV	**Kevo**	**3.12**	**49**	*eP*		Pn	00 31 48.8	+1.7
KEV				*eS*		Sn	00 32 22.9	-2.0
KEV	**Kevo**	**3.12**	**49**	P		Pn	00 31 48.7	+1.6

*NIED **02** 00:32:00, 37.30N×141.30E, h74km, Mw3.9 Best double couple: M0 7.34000×10^14 NP1:φs9.00000°, δ51.00000°, λ-100.00000°. NP2:φs204.00000°, δ40.00000°, λ-78.00000°.*
*ISCJB **02** 00:32:55.2±0.7, 37.32N±0.04×141.39E±0.07, h88km±4km, mb3.7/9, Error ellipse: s-maj=10.7km s-min=5.7km az=28.9*
*JMA **02** 00:32:56.5±0.1, 37.33N×141.32E, h83km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs4.00000°, δ49.00000°, λ-100.00000°. NP2:φs199.00000°, δ42.00000°, λ-79.00000°. Principal axes: T Plg3.0000°, Azm101.0000°; N Plg7.0000°, Azm11.0000°; P Plg82.0000°, Azm214.0000°;*
JMA Felt II J1.
*IDC **02** 00:32:59.7±4.1, 37.31N×141.20E, h114km±37km, mb3.5/9, mb1 3.7/11, mb1mx3.5/26, mbtmp3.5/11 Error ellipse: s-maj=24.6km s-min=16.3km az=86.0*

ISC 02 00:32:56.4±0.8, 37.33N±0.05×141.37E±0.07, h83km±6km, n34, σ0.84/41, mb3.8/9, 4C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.39**	**276**	⇓P		**Pn**	**00 33 09.4**	**-0.3**
JFK				S		**Sn**	**00 33 19.1**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.50**	**244**	⇓P		**Pn**	**00 33 10.3**	**-0.3**
ONAJ				S		**Sn**	**00 33 20.4**	**-0.6**
JMM	**Marumori**	**0.71**	**320**	⇓P		**Pn**	**00 33 12.5**	**+0.1**
JMM				S		**Sn**	**00 33 24.2**	**0.0**
JFT	**Otama**	**0.84**	**284**	⇑P		**Pn**	**00 33 13.8**	**0.0**
JFT				S		**Sn**	**00 33 26.5**	**-0.3**
JIO	**Ouri**	**1.13**	**359**	P		**Pn**	**00 33 17.2**	**0.0**
JIO				S		**Sn**	**00 33 32.0**	**-0.7**
JOU	**Okura**	**1.18**	**332**	⇓P		**Pn**	**00 33 17.5**	**-0.3**
JOU				S		**Sn**	**00 33 33.3**	**-0.6**
JFY	**Yanaizu**	**1.32**	**274**	⇑P		**Pn**	**00 33 19.3**	**-0.3**
JFY				S		**Sn**	**00 33 36.6**	**-0.5**
JYS	**Shirataka**	**1.36**	**311**	P		**Pn**	**00 33 20.4**	**+0.3**
JYS				S		**Sn**	**00 33 38.6**	**+0.6**
JMK	**Ichinoseki**	**1.63**	**356**	P		**Pn**	**00 33 23.6**	**+0.1**
JMK				S		**Sn**	**00 33 43.8**	**-0.2**
JNS	**Sasagawa**	**1.70**	**287**	P		**Pn**	**00 33 23.9**	**-0.5**
JNS				S		**Sn**	**00 33 43.1**	**-2.6**
JAG	**Ashikaga**	**1.78**	**240**	⇑P		**Pn**	**00 33 25.3**	**-0.1**
JAG				S		**Sn**	**00 33 46.3**	**-1.2**
JYK	**Kaneyama**	**1.78**	**334**	⇑P		**Pn**	**00 33 25.6**	**+0.1**
JYK				S		**Sn**	**00 33 47.6**	**+0.1**
JKT	**Katashina**	**1.78**	**252**	P		**Pn**	**00 33 25.9**	**+0.3**
JKT				S		**Sn**	**00 33 48.5**	**+0.7**
MAT	**Matsushiro**	**2.65**	**254**	P		**Pn**	**00 33 37.5**	**+0.4**
MAT				S		**Sn**	**00 34 10.1**	**+1.8**
USRK	**Ussuriysk Arra**	**9.88**	**317**	P		**Pn**	**00 35 17.1**	**+1.6**
	0.3nm,0.3s,baz=130,slow=14,SNR=6.6							
KSRS	**Korea Array**	**10.70**	**275**	P		**Pn**	**00 35 28.4**	**+1.7**
	0.4nm,0.3s,baz=90,slow=14,SNR=11							
SONM	**Songino Array**	**27.59**	**304**	P		**P**	**00 38 36.3**	**+0.5**
	0.4nm,0.5s,baz=108,slow=9.4,SNR=4.8							
H11N2	**WAKE ISLAND Hy 28.33**	**121**		T		T	01 09 07.4	
	baz=317,slow=76,SNR=99							
H11N1	**WAKE ISLAND Hy 28.34**	**121**		T		T	01 09 08.1	
	baz=317,slow=76,SNR=195							
H11N3	**WAKE ISLAND Hy 28.35**	**121**		T		T	01 09 08.8	
	baz=317,slow=76,SNR=141							
H11S1	**WAKE ISLAND Hy 29.05**	**123**		T		T	01 10 02.7	
	baz=321,slow=76,SNR=105							
H11S3	**WAKE ISLAND Hy 29.05**	**123**		T		T	01 10 21.0	
	baz=321,slow=76,SNR=78							
H11S2	**WAKE ISLAND Hy 29.07**	**123**		T		T	01 10 22.1	
	baz=321,slow=76,SNR=74							
ZALV	**Zalesovo Beam**	**41.69**	**312**	P		**P**	**00 40 36.6**	**-0.1**
	0.7nm,0.4s,baz=91,slow=7.2,SNR=4.9							
MKAR	**Makanchi Array**	**43.33**	**302**	P		**P**	**00 40 54.3**	**-0.6**
	0.9nm,0.6s,baz=86,slow=8.8,SNR=7.0							
ILAR	**Eielson Array**	**49.27**	**32**	P		**P**	**00 41 36.7**	**+0.4**
	0.7nm,0.8s,baz=269,slow=5.5,SNR=7.6							
WRA	**Warramunga Arr**	**57.34**	**188**	P		**P**	**00 42 35.5**	**-0.5**
	2.1nm,0.4s,baz=5.3,slow=7.3,SNR=14							
WRA				pP		**pP**	**00 42 57.1**	**+0.3**
	1.2nm,0.5s,baz=6.4,slow=7.5,SNR=3.9							
ASAR	**Alice Springs**	**61.07**	**188**	P		**P**	**00 43 01.3**	**-0.3**
	1.4nm,0.8s,baz=5.0,slow=6.5,SNR=15							
ASAR				pP		**pP**	**00 43 23.2**	**+0.6**
	0.9nm,0.8s,baz=14,slow=8.0,SNR=5.5							
FINES	**FINESS Array B**	**68.54**	**332**	P		**P**	**00 43 48.3**	**-1.3**
	2.4nm,0.8s,baz=72,slow=8.9,SNR=2.8							
AKASG	**Malin Array Be**	**74.04**	**322**	P		**P**	**00 44 22.1**	**-0.9**
	0.7nm,0.4s,baz=45,slow=6.6,SNR=4.6							
NVAR	**Mina Array Bea**	**74.84**	**53**	P		**P**	**00 44 29.4**	**+1.2**
	0.2nm,0.6s,baz=316,slow=3.8,SNR=2.2							
H03N2	**Juan Fernandez**	**147.09**	**96**	T		T	03 37 41.8	
	baz=288,slow=75,SNR=5.9							
H03N3	**Juan Fernandez**	**147.10**	**96**	T		T	03 37 42.5	
	baz=288,slow=75,SNR=4.9							
H03N1	**Juan Fernandez**	**147.11**	**96**	T		T	03 37 43.0	
	baz=288,slow=75,SNR=6.9							

GUC 02 00:40:40.9±0.7, 21.78S×68.63W, h127km±5km, ML3.5, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.57**	**268**	⇑*i* P		Pn	00 41 00.9	+0.6
PB09				*i* S		Sn	00 41 15.7	+0.7
PB09				AML		AML	00 41 18.7	
	comp=E,2μm,0.4s							
PB01	**Plate Boundary**	**1.08**	**313**	⇑*i* P		Pn	00 41 05.2	+0.7
PB01				*i* S		Sn	00 41 23.2	+0.8
PB01				AML		AML	00 41 24.8	
	comp=N,819nm,0.3s							
MACH	**Maria Elena**	**1.12**	**248**	⇑*i* P		Pn	00 41 05.5	+0.4
MACH				*i* S		Sn	00 41 24.4	+0.9
PB07	**Plate Boundary**	**1.17**	**272**	⇑*i* P		Pn	00 41 06.2	+0.7
PB07				*i* S		Sn	00 41 25.1	+1.0
PB07				AML		AML	00 41 26.2	
	comp=N,1μm,0.2s							
PATCX	**Punta Patache**	**1.71**	**304**	⇑*i* P		Pn	00 41 12.3	+0.9
PATCX				*i* S		Sn	00 41 35.9	+1.2
PATCX				AML		AML	00 41 42.0	
	comp=E,519nm,0.4s							
HMBC	**Humberstone**	**1.90**	**322**	⇑*i* P		Pn	00 41 14.2	+0.4
HMBC				*i* S		Sn	00 41 39.9	+1.1
HMBC				AML		AML	00 41 42.5	
	comp=N,407nm,0.2s							
CEN1	**Los Morros**	**2.16**	**222**	*eP*		Pn	00 41 19.5	+2.6
ANCH	**Antofagasta**	**2.50**	**221**	⇑*i* P		Pn	00 41 22.0	+1.0
ANCH				*eS*		Sn	00 41 51.0	-0.9
PSGC	**Pisagua**	**2.58**	**327**	⇑*i* P		Pn	00 41 21.9	-0.3
PSGC				*i* S		Sn	00 41 54.7	+0.7
PSGC				AML		AML	00 42 01.2	
	comp=E,115nm,0.3s							
MNMC	**Minimini**	**2.79**	**341**	⇑*i* P		Pn	00 41 26.2	+1.1
MNMC				*i* S		Sn	00 42 00.5	+1.4
MNMC				AML		AML	00 42 03.5	
	comp=E,267nm,0.3s							

IDC 02 00:42:31.3±9.2, 18.22S×173.08W, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.9/22, mbtmp4.3/5, ML4.3/1, Error ellipse: s-maj=165.6km s-min=153.0km az=46.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.59**	**255**	P		P	00 47 01.5	+0.2
	1.0nm,0.3s,baz=74,slow=18,SNR=10							
CTA	**Charters Tower**	**38.39**	**260**	P		P	00 49 54.5	-0.2
	4.1nm,0.6s,baz=91,slow=11,SNR=5.5							
STKA	**Stephens Creek**	**42.95**	**243**	P		P	00 50 31.8	-0.5
	2.0nm,0.6s,baz=84,slow=10,SNR=4.6							
WRA	**Warramunga Arr**	**49.55**	**259**	P		P	00 51 24.2	-0.2
	0.9nm,0.3s,baz=96,slow=7.2,SNR=8.7							
ASAR	**Alice Springs**	**49.58**	**254**	P		P	00 51 24.8	+0.2
	1.9nm,0.6s,baz=94,slow=8.4,SNR=32							

*IDC **02** 01:22:09.5±1.0, 18.12N×60.28E, h0km, mb4.0/21, mb1 4.1/21, mb1mx4.0/34, mbtmp4.0/21, MS3.5/8, Ms1 3.5/8, ms1mx3.3/40, Error ellipse: s-maj=22.2km s-min=16.7km az=7.0*
*ISCJB **02** 01:22:10.4±0.3, 18.36N±0.04×60.14E±0.03, h10km, mb4.3/43, MS3.5/8, Error ellipse: s-maj=6.4km s-min=3.8km az=20.0*
*NEIC **02** 01:22:11.4±0.4, 18.20N×60.20E, h10km, mb4.4/15, Error ellipse: s-maj=8.8km s-min=6.8km az=178.0*
*CSEM **02** 01:22:13.8±0.2, 18.33N×60.16E, h20km, mb4.7/22, Ms4.2, Error ellipse: s-maj=6.7km s-min=4.4km az=15.0*
*OMAN **02** 01:22:15.1±1.3, 18.56N×60.02E, h10km±13km, Error ellipse: s-maj=10.7km s-min=6.8km az=125.0*

ISC 02 01:22:12.3±0.5, 18.38N±0.06×60.21E±0.06, h10km, n220, σ1.14/221, mb4.2/43, MS3.4/8, 7C-4D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WBK	**Wadi Bani Khal**	**4.36**	**345**	P		**Pn**	**01 23 18.0**	**-0.7**
	SNR=96							
WBK				ml			01 23 29.6	
	SNR=75							
WBK				ml			01 24 17.6	
	SNR=268							
WBK	**Wadi Bani Khal**	**4.36**	**345**	P		**Pn**	**01 23 18.0**	**-0.7**
	SNR=96							
JMDO	**Jabal Madar**	**4.43**	**334**	⇑P		**Pn**	**01 23 19.5**	**-0.2**
	SNR=662							
JMDO				ml			01 23 22.1	
	SNR=144							
JMDO				⇓S		**Sn**	**01 24 10.0**	**-1.3**
JMDO				ml			01 24 15.2	
	SNR=563							
JMDO	**Jabal Madar**	**4.43**	**334**	P		**Pn**	**01 23 19.5**	**-0.2**
	SNR=662							
JMDO				S		**Sn**	**01 24 10.0**	**-1.3**
SMDO	**Samad**	**5.07**	**337**	⇑P		**Pn**	**01 23 28.3**	**-0.3**
	SNR=113							
SMDO				ml			01 23 45.2	
	SNR=78							
SMDO				ml			01 24 30.7	
	SNR=120							
SMDO	**Samad**	**5.07**	**337**	P		**Pn**	**01 23 28.3**	**-0.3**
	SNR=113							
BSYO	**Bisya**	**5.14**	**328**	P		**Pn**	**01 23 29.6**	**+0.1**
	SNR=149							
BSYO				S		**Sn**	**01 24 27.8**	**-1.1**
BSY	**Bisya**	**5.18**	**327**	⇑P		**Pn**	**01 23 29.6**	**-0.3**
	SNR=149							
BSY				⇑S		**Sn**	**01 24 27.8**	**-1.9**
BSY				ml			01 24 32.5	
	SNR=230							
RBK	**Rabkut**	**5.79**	**262**	⇑P		**Pn**	**01 23 38.0**	**-0.3**
	SNR=8.4							
RBK	**Rabkut**	**5.79**	**262**	P		**Pn**	**01 23 38.0**	**-0.3**
	SNR=8.4							
HOQ	**Hoqain**	**5.84**	**333**	P		**Pn**	**01 23 39.6**	**+0.6**
	SNR=22							
HOQ	**Hoqain**	**5.84**	**333**	P		**Pn**	**01 23 39.6**	**+0.6**
	SNR=22							
ARQ	**Araqi**	**6.01**	**326**	⇓P		**Pn**	**01 23 42.0**	**+0.6**
	SNR=15							
ARQ	**Araqi**	**6.01**	**326**	P		**Pn**	**01 23 42.0**	**+0.6**
	SNR=15							
ABTO	**Aybut**	**6.67**	**262**	⇓P		**Pn**	**01 23 51.0**	**+0.6**
	SNR=15							
ABTO	**Aybut**	**6.67**	**262**	P		**Pn**	**01 23 51.0**	**+0.6**
	SNR=15							
ASHO	**Ashiyiah**	**7.36**	**329**	⇓P		**Pn**	**01 24 01.5**	**+1.5**
ASHO	**Ashiyiah**	**7.36**	**329**	P		**Pn**	**01 24 00.5**	**+0.5**
	SNR=30							
HATD	**Hatta, Dubai**	**7.45**	**330**	P		**Pn**	**01 24 02.6**	**+1.5**
HATD				S		Sn	01 25 14.3	-11
FAQ	**Al Faqa, Dubai**	**7.65**	**327**	P		**Pn**	**01 24 03.9**	**0.0**
ASUD	**Al Ashush, Dub**	**7.70**	**325**	P		**Pn**	**01 24 04.8**	**+0.3**
NAZ	**Nazwa, Dubai**	**7.81**	**328**	P		**Pn**	**01 24 07.1**	**+1.0**
	SNR=7.8							
BANOM	**Banah**	**8.33**	**335**	⇑P		**Pn**	**01 24 13.1**	**-0.1**
BANOM				⇑S		**Sn**	**01 25 42.0**	**-5.5**
BANOM	**Banah**	**8.33**	**335**	P		**Pn**	**01 24 13.3**	**0.0**
	SNR=12							
BANOM				S		**Sn**	**01 25 42.0**	**-5.5**
BHJ	**Bhuj**	**10.07**	**60**	*eP*		**Pn**	**01 24 37.3**	**+0.3**
BHJ				AMB		AMB	01 24 42.5	
	comp=Z,40nm,3.1s							
POO	**Poona**	**12.94**	**87**	*eP*		**Pn**	**01 25 16.1**	**-0.3**
POO				AMB		AMB	01 27 28.2	
	comp=Z,19nm,0.5s							
BHPL	**Bhopal**	**16.80**	**70**	*eP*		**Pn**	**01 26 08.1**	**+0.3**
BHPL				AMB		AMB	01 26 11.1	
	comp=Z,62nm,1.6s							
HYB	**Hyderabad**	**17.48**	**90**	*i* P		**Pn**	**01 26 15.0**	**-1.4**
THW	**Thamme Wali**	**17.70**	**34**	P		**P**	**01 26 21.7**	**+1.8**
KBL	**Kabul**	**17.91**	**24**	*eP*		**Pn**	**01 26 21.8**	**0.0**
	comp=Z,15nm,0.9s							
KBL	**Kabul**	**17.91**	**24**	*eP*		**Pn**	**01 26 21.8**	**0.0**
	comp=Z,15nm,0.9s							
NGP	**Nagpur**	**17.94**	**78**	*eP*		**Pn**	**01 26 21.6**	**-0.5**
NGP				AMB		AMB	01 26 22.6	
	comp=Z,13nm,1.7s							
CEP	**Cherat**	**18.60**	**32**	P		**Pn**	**01 26 31.2**	**+1.1**
NDI	**New Delhi**	**18.64**	**54**	*eP*		**P**	**01 26 29.0**	**-1.3**
CHCP	**Chirah Chowk**	**19.18**	**35**	P		**P**	**01 26 34.2**	**-2.0**
SMLA	**Simla**	**19.92**	**47**	*eP*		**P**	**01 26 43.0**	**-1.2**
SMLA				AMB		AMB	01 26 45.2	
	comp=Z,24nm,0.6s							
DHRM	**DHARAMSHALA**	**20.02**	**43**	*eP*		**P**	**01 26 45.9**	**+0.3**
PALK	**Pallekele**	**22.80**	**116**	*eP*		**P**	**01 27 14.1**	**-1.4**
	comp=Z,16nm,1.2s							
PALK	**Pallekele**	**22.80**	**116**	*eP*		**P**	**01 27 14.1**	**-1.4**
	comp=Z,16nm,1.2s							
PYUN	**Piuthan**	**23.02**	**61**	*eP*		**P**	**01 27 18.3**	**+0.4**
	comp=Z,99nm,0.7s							
PYUN	**Piuthan**	**23.02**	**61**	*eP*		**P**	**01 27 18.3**	**+0.4**
PYUN	**Piuthan**	**23.02**	**61**	*eP*		**P**	**01 27 18.3**	**+0.4**
KOLN	**Koldanda**	**23.42**	**62**	*eP*		**P**	**01 27 22.1**	**+0.1**
	comp=Z,73nm,1.2s							
KOLN	**Koldanda**	**23.42**	**62**	*eP*		**P**	**01 27 22.1**	**+0.1**
KOLN	**Koldanda**	**23.42**	**62**	*eP*		**P**	**01 27 22.1**	**+0.1**
DANN	**Dangsing**	**23.74**	**61**	*eP*		**P**	**01 27 26.2**	**+1.0**
	comp=Z,91nm,1.2s							
DANN	**Dangsing**	**23.74**	**61**	*eP*		**P**	**01 27 26.2**	**+1.0**
DANN	**Dangsing**	**23.74**	**61**	*eP*		**P**	**01 27 26.2**	**+1.0**
GKN	**Gorkha**	**24.37**	**62**	*eP*		**P**	**01 27 31.2**	**+0.3**
GKN	**Gorkha**	**24.37**	**62**	*eP*		**P**	**01 27 31.2**	**+0.3**
GKN	**Gorkha**	**24.37**	**62**	*eP*		**P**	**01 27 31.2**	**+0.3**
BOK	**Bokaro**	**24.53**	**73**	*eP*		**P**	**01 27 32.2**	**-0.1**
BOK				AMB		AMB	01 27 47.0	
	comp=Z,12nm,2.5s							
DMN	**Daman**	**24.65**	**64**	*eP*		**P**	**01 27 34.4**	**+0.8**
	comp=Z,36nm,1.0s							
DMN	**Daman**	**24.65**	**64**	*eP*		**P**	**01 27 34.4**	**+0.8**
DMN	**Daman**	**24.65**	**64**	*eP*		**P**	**01 27 34.4**	**+0.8**
KKN	**Kakani**	**24.85**	**63**	*eP*		**P**	**01 27 36.3**	**+1.0**
	comp=Z,57nm,1.0s							
KKN	**Kakani**	**24.85**	**63**	*eP*		**P**	**01 27 36.3**	**+1.0**
KKN	**Kakani**	**24.85**	**63**	*eP*		**P**	**01 27 36.3**	**+1.0**
PKIN	**Phulchoki**	**24.89**	**64**	*eP*		**P**	**01 27 35.9**	**+0.1**
PKI	**Pulchoki**	**24.89**	**64**	*eP*		**P**	**01 27 36.1**	**+0.2**
	comp=Z,63nm,1.1s							
PKI	**Pulchoki**	**24.89**	**64**	*eP*		**P**	**01 27 36.1**	**+0.2**
PKI	**Pulchoki**	**24.89**	**64**	*eP*		**P**	**01 27 36.1**	**+0.2**
GUN	**Gumba**	**25.39**	**63**	*eP*		**P**	**01 27 41.5**	**+1.1**
	comp=Z,156nm,1.1s							
GUN	**Gumba**	**25.39**	**63**	*eP*		**P**	**01 27 41.5**	**+1.1**
GUN	**Gumba**	**25.39**	**63**	*eP*		**P**	**01 27 41.5**	**+1.1**
GNI	**Garni**	**25.47**	**332**	P		**P**	**01 27 43.1**	**+2.3**
GNI	**Garni**	**25.47**	**332**	P		**P**	**01 27 43.1**	**+2.3**
GNI	**Garni**	**25.47**	**332**	P		**P**	**01 27 43.1**	**+2.3**
	comp=Z,2.1nm,0.4s,baz=142,slow=19,SNR=5.2							
GNI				LR		LR	01 39 52.4	
	comp=Z,91nm,20.2s,baz=300,slow=41							
JIRN	**Jiri**	**25.59**	**64**	*eP*		**P**	**01 27 42.6**	**+0.4**
JIRN	**Jiri**	**25.59**	**64**	*eP*		**P**	**01 27 42.6**	**+0.4**
JIRN	**Jiri**	**25.59**	**64**	*eP*		**P**	**01 27 42.6**	**+0.4**
EIL	**Elat**	**25.60**	**301**	P		**P**	**01 27 43.8**	**+1.8**
EIL	**Elat**	**25.60**	**301**	P		**P**	**01 27 43.8**	**+1.8**
	comp=Z,2.4nm,0.7s,baz=135,slow=10.0,SNR=2.5							
RAMN	**Ramite**	**25.76**	**66**	*eP*		**P**	**01 27 44.3**	**+0.6**
RAMN	**Ramite**	**25.76**	**66**	*eP*		**P**	**01 27 44.3**	**+0.6**
RAMN	**Ramite**	**25.76**	**66**	*eP*		**P**	**01 27 44

BRTR Keskin Array B 31.29 318 P P 01 28 33.9 +1.1
BRTR Keskin Array B 31.29 318 P P 01 28 33.9 +1.1
comp=Z,0.9nm,0.7s,baz=140,slow=10,SNR=6.8
AKTO Aktyubinsk 32.02 357 P P 01 28 39.5 +0.6
AKTO Aktyubinsk 32.02 357 P P 01 28 39.5 +0.6
AKTO Aktyubinsk 32.02 357 P P 01 28 39.5 +0.6
comp=Z,3.7nm,0.4s,baz=160,slow=10,SNR=28
MK31 Makanchi Array 33.66 28 eP P 01 28 54.4 +1.1
MK31 Makanchi Array 33.66 28 eP P 01 28 54.4 +1.1
MKAR Makanchi Array 33.66 28 P P 01 28 54.3 +1.0
MKAR Makanchi Array 33.66 28 P P 01 28 54.3 +1.0
MKAR Makanchi Array 33.66 28 P P 01 28 54.3 +1.0
comp=Z,2.3nm,0.7s,baz=216,slow=9.2,SNR=18
KURBB Kurchatov Arra 35.33 20 P P 01 29 08.9 +1.3
comp=Z,0.8nm,0.6s,baz=218,slow=8.2,SNR=19
KURK Kurchatov 35.44 20 eP P 01 29 09.2 +0.7
comp=Z,3.2nm,1.2s
KURK Kurchatov 35.44 20 eP P 01 29 09.2 +0.7
comp=Z,3.2nm,1.2s
BVAR Borovoye Array 35.47 11 P P 01 29 09.8 +1.0
BVAR Borovoye Array 35.47 11 P P 01 29 09.8 +1.0
BVAR Borovoye Array 35.47 11 P P 01 29 09.8 +1.0
comp=Z,0.7nm,0.5s,baz=200,slow=9.1,SNR=6.3
BVAR LR LR 01 43 44.9
comp=Z,92nm,19.9s,baz=191,slow=36
CMAR Chiang Mai Arr 36.70 84 LR LR 01 45 23.8
comp=Z,46nm,19.0s,baz=260,slow=38
ARU Arti 38.00 359 eP P 01 29 30.7 +0.3
comp=Z,8.1nm,0.9s
ARU Arti 38.00 359 eP P 01 29 30.7 +0.3
comp=Z,8.1nm,0.9s
ZAA0 Zalesovo Array 40.25 22 eP P 01 29 49.7 +0.5
ZAA0 Zalesovo Array 40.25 22 eP P 01 29 49.7 +0.5
ZALV Zalesovo Beam 40.25 22 P P 01 29 49.6 +0.4
ZALV Zalesovo Beam 40.25 22 P P 01 29 49.7 +0.4
ZALV Zalesovo Beam 40.25 22 P P 01 29 49.6 +0.4
comp=Z,3.3nm,0.6s,baz=223,slow=8.9,SNR=18
AKASG Malin Array Be 40.57 330 P P 01 29 52.0 +0.1
AKASG Malin Array Be 40.57 330 P P 01 29 52.0 +0.1
AKASG Malin Array Be 40.57 330 P P 01 29 52.0 +0.1
comp=Z,0.3nm,0.3s,baz=129,slow=7.6,SNR=6.1
BUR08 Bucovina Ar. S 40.81 324 eP P 01 29 55.2 +1.1
BUR08 Bucovina Ar. S 40.81 324 eP P 01 29 55.2 +1.1
MORC Moravsky Berou 46.27 323 eP P 01 30 37.8 -0.2
comp=Z,5.3nm,1.2s
MORC Moravsky Berou 46.27 323 eP P 01 30 37.8 -0.2
comp=Z,5.3nm,1.2s
SONM Songino Array 47.58 41 P P 01 30 48.9 +0.6
SONM Songino Array 47.58 41 P P 01 30 48.9 +0.6
SONM Songino Array 47.58 41 P P 01 30 48.9 +0.6
comp=Z,0.6nm,0.5s,baz=244,slow=8.1,SNR=7.3
GERES GERESS Array B 48.16 320 P P 01 30 53.4 +0.6
GERES GERESS Array B 48.16 320 P P 01 30 53.4 +0.6
GERES GERESS Array B 48.16 320 P P 01 30 53.4 +0.6
comp=Z,0.4nm,0.6s,baz=101,slow=6.9,SNR=4.6
GERES LR LR 01 54 57.7
comp=Z,86nm,18.9s,baz=112,slow=41
KHC Kasperske Hory 48.34 320 eP P 01 30 53.5 -0.6
KHC ex x 01 31 02.0
KHC Kasperske Hory 48.34 320 eP P 01 30 53.6 -0.6
comp=Z,38nm,1.9s
KHC Kasperske Hory 48.34 320 eP P 01 30 53.6 -0.6
comp=Z,38nm,1.9s
FINES FINESS Array B 49.26 339 P P 01 31 00.8 -0.1
FINES FINESS Array B 49.26 339 P P 01 31 00.8 -0.1
FINES FINESS Array B 49.26 339 P P 01 31 00.8 -0.1
comp=Z,1.8nm,0.4s,baz=133,slow=8.2,SNR=24
FINES LR LR 01 56 47.0
comp=Z,109nm,18.4s,baz=278,slow=42
PGF Pioggiola 49.40 311 eP P 01 31 03.2 +0.7
comp=Z,76nm,1.1s
PGF Pioggiola 49.40 311 eP P 01 31 03.2 +0.7
comp=Z,76nm,1.1s
PGF Pioggiola 49.40 311 eP P 01 31 03.2 +0.7
comp=Z,76nm,1.1s
SBF Sospel 50.80 312 eP P 01 31 12.6 -0.5
comp=Z,60nm,1.1s
SBF Sospel 50.80 312 eP P 01 31 12.6 -0.5
comp=Z,60nm,1.1s
SBF Sospel 50.80 312 eP P 01 31 12.6 -0.5
comp=Z,60nm,1.1s
TAM Tamanrasset 51.15 285 eP P 01 31 15.2 -0.9
comp=Z,1.6nm,0.9s
TAM Tamanrasset 51.15 285 eP P 01 31 15.2 -0.9
comp=Z,1.6nm,0.9s
LPG La Plagne 51.65 314 eP P 01 31 18.5 -1.1
comp=Z,25nm,1.3s
LPG La Plagne 51.65 314 eP P 01 31 18.5 -1.1
comp=Z,25nm,1.3s
LPG La Plagne 51.65 314 eP P 01 31 18.5 -1.1
comp=Z,25nm,1.3s
LPL La Plagne 51.67 314 eP P 01 31 19.0 -0.7
LPL La Plagne 51.67 314 eP P 01 31 19.0 -0.7
LPL La Plagne 51.67 314 eP P 01 31 19.0 -0.7
CDF Champ du Feu 52.04 318 eP P 01 31 21.7 -0.6
comp=Z,8.2nm,1.0s
CDF Champ du Feu 52.04 318 eP P 01 31 21.7 -0.6
comp=Z,8.2nm,1.0s
CDF Champ du Feu 52.04 318 eP P 01 31 21.7 -0.6
comp=Z,8.2nm,1.0s
ORIF Oris-en-Rattie 52.12 313 eP P 01 31 21.6 -1.3
ORIF Oris-en-Rattie 52.12 313 eP P 01 31 21.6 -1.3
ORIF Oris-en-Rattie 52.12 313 eP P 01 31 21.6 -1.3
CABF La Chapelle 52.36 315 eP P 01 31 23.6 -1.1
CABF La Chapelle 52.36 315 eP P 01 31 23.6 -1.1
CABF La Chapelle 52.36 315 eP P 01 31 23.6 -1.1
SMF Signal de Mont 53.88 315 eP P 01 31 35.2 -0.6
comp=Z,14nm,1.0s
SMF Signal de Mont 53.88 315 eP P 01 31 35.2 -0.6
comp=Z,14nm,1.0s
SMF Signal de Mont 53.88 315 eP P 01 31 35.2 -0.6
comp=Z,14nm,1.0s
AVF Avril sur Loir 54.23 315 eP P 01 31 37.7 -0.6
comp=Z,12nm,1.0s
AVF Avril sur Loir 54.23 315 eP P 01 31 37.7 -0.6
comp=Z,12nm,1.0s
AVF Avril sur Loir 54.23 315 eP P 01 31 37.7 -0.6
comp=Z,12nm,1.0s
BGF Bois d'Agland 54.53 314 eP P 01 31 40.4 -0.1
BGF Bois d'Agland 54.53 314 eP P 01 31 40.4 -0.1
BGF Bois d'Agland 54.53 314 eP P 01 31 40.4 -0.1
LBTB Lobatse 54.74 219 eP P 01 31 42.4 -0.1
comp=Z,6.6nm,1.0s
LBTB Lobatse 54.74 219 eP P 01 31 42.3 -0.1
comp=Z,6.6nm,1.0s
NOA NORSAR Array B 54.76 333 P P 01 31 40.8 -1.1
NOA NORSAR Array B 54.76 333 P P 01 31 40.8 -1.1
NOA NORSAR Array B 54.76 333 P P 01 31 40.8 -1.1
comp=Z,1.1nm,0.7s,baz=115,slow=7.3,SNR=2.8
CAF Calviac 54.79 312 eP P 01 31 41.3 -1.1
CAF Calviac 54.79 312 eP P 01 31 41.3 -1.1
CAF Calviac 54.79 312 eP P 01 31 41.3 -1.1
KEV Kevo 55.22 347 ep P 01 31 45.1 0.0
comp=Z,0.9nm,0.5s
KEV Kevo 55.22 347 eP P 01 31 45.1 0.0
comp=Z,0.9nm,0.5s
RJF Les Rejaudoux 55.23 313 eP P 01 31 45.1 -0.5
RJF Les Rejaudoux 55.23 313 eP P 01 31 45.1 -0.5
RJF Les Rejaudoux 55.23 313 eP P 01 31 45.1 -0.5
ARCES ARCESS Array B 55.39 346 P P 01 31 46.1 -0.2
ARCES ARCESS Array B 55.39 346 P P 01 31 46.1 -0.2
ARCES ARCESS Array B 55.39 346 P P 01 31 46.1 -0.2
comp=Z,3.0nm,0.7s,baz=145,slow=8.6,SNR=10.0
LFF La Frestale 55.72 312 eP P 01 31 48.6 -0.5
LFF La Frestale 55.72 312 eP P 01 31 48.6 -0.5
LFF La Frestale 55.72 312 eP P 01 31 48.6 -0.5
EPF Esparros 55.76 310 eP P 01 31 49.5 0.0
comp=Z,25nm,1.2s
EPF Esparros 55.76 310 eP P 01 31 49.5 0.0
comp=Z,25nm,1.2s
EPF Esparros 55.76 310 eP P 01 31 49.5 0.0
comp=Z,25nm,1.2s
TOA0 Torodi Ar. Sit 56.36 274 eP P 01 31 54.1 -0.1
TOA0 Torodi Ar. Sit 56.36 274 eP P 01 31 54.1 -0.1
TORD Torodi Ar. Bea 56.36 274 P P 01 31 53.6 -0.6
TORD Torodi Ar. Bea 56.36 274 P P 01 31 53.6 -0.6
TORD Torodi Ar. Bea 56.36 274 P P 01 31 53.6 -0.6
comp=Z,2.3nm,0.9s,baz=64,slow=6.1,SNR=13
SJPF Ste Jean 56.91 310 eP P 01 31 57.0 -0.7
comp=Z,61nm,1.5s
SJPF Ste Jean 56.91 310 eP P 01 31 57.0 -0.7
comp=Z,61nm,1.5s
SJPF Ste Jean 56.91 310 eP P 01 31 57.0 -0.7
comp=Z,61nm,1.5s
ESDC Sonseca Array 58.76 306 P P 01 32 10.7 -0.1
ESDC Sonseca Array 58.76 306 P P 01 32 10.7 -0.1
comp=Z,0.4nm,0.5s,baz=83,slow=6.3,SNR=5.9
WRA Warramunga Arr 82.06 114 P P 01 34 31.4 -2.0
WRA Warramunga Arr 82.06 114 P P 01 34 31.4 -2.0
WRA Warramunga Arr 82.06 114 P P 01 34 31.4 -2.0
comp=Z,1.0nm,0.7s,baz=305,slow=4.3,SNR=8.0
WRAB Tennant Creek 82.07 114 eP P 01 34 32.0 -1.5
comp=Z,12nm,1.3s
WRAB Tennant Creek 82.07 114 eP P 01 34 32.0 -1.5
comp=Z,12nm,1.3s
ASAR Alice Springs 83.14 118 P P 01 34 36.7 -2.3
ASAR Alice Springs 83.14 118 P P 01 34 36.7 -2.3
ASAR Alice Springs 83.14 118 P P 01 34 36.7 -2.3
comp=Z,0.6nm,0.7s,baz=300,slow=4.9,SNR=5.9

*IDC **02** 01:31:52.6±1.3, 35.34N×81.44E, h0km, mb3.3/4, mb1 3.5/9, mb1mx3.4/30, mbtmp3.4/9, ML3.2/5, Error ellipse: s-maj=28.8km s-min=20.2km az=57.0*
*ISCJB **02** 01:31:53.6±1.0, 35.5N±0.1×81.6E±0.2, h15km, mb3.3/4, Error ellipse: s-maj=20.1km s-min=12.7km az=148.8*
*BJI **02** 01:31:54.0, 35.22N×81.35E, h8km, ML3.9/5*
*NNC **02** 01:32:11.3±10.0, 36.64N×80.97E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=91.5km s-min=60.0km az=164.0*
ISC 02 01:31:56.1±1.2, 35.6N±0.1×81.7E±0.1, h15km, n12, σ2s48/13, mb3.5/4, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	8.73	329	⇓Pn		Pn	Pn	01 34 04.5	+2.5
	4.9nm,1.4s								
TKM2				⇑Pg				01 34 28.2	
	2.8nm,0.6s								
TKM2				⇑Lg		Lg		01 36 12.2	
	15nm,1.1s								
AAK	Ala-Archa	9.00	324	Pn		Pn	Pn	01 34 06.5	+0.8
	0.0nm,0.3s,baz=132,slow=14,SNR=2.1								
AAK				Pg				01 34 39.3	
	0.5nm,0.3s,baz=132,slow=12,SNR=8.7								
AAK				Lg		Lg		01 36 39.0	
	0.3nm,0.3s,baz=170,slow=18,SNR=3.4								
MK31	Makanchi Array	11.23	2	Pn		Pn		01 34 37.9	+1.8
	5.0nm,1.0s,baz=179,slow=11,SNR=13								
MK31				⇑Sn		Sn		01 36 36.4	-5.0
	4.2nm,1.0s,baz=182,slow=22								
MKAR	Makanchi Array	11.23	2	Pn		Pn		01 34 38.0	+1.9
	0.3nm,0.3s,baz=181,slow=13,SNR=11								
KK31	Karatay Array	11.46	314	⇑Pn		Pn		01 34 40.5	+1.2
	1.0nm,0.8s,baz=124,slow=11,SNR=5.8								
KK31				⇓Sn		Sn		01 36 33.7	-13
	0.4nm,0.5s,baz=167,slow=24,SNR=4.3								
KURBB	Kurchatov Arra	15.23	352	Pn		Pn		01 35 29.4	-1.2
	0.0nm,0.3s,baz=175,slow=12,SNR=8.3								
ZALV	Zalesovo Beam	18.52	6	P		Pn		01 36 12.8	+0.9
	0.1nm,0.3s,baz=194,slow=10,SNR=8.1								
BVAR	Borovoye Array	19.20	339	P		Pn		01 36 21.0	+0.8
	0.1nm,0.3s,baz=150,slow=13,SNR=4.5								
SONM	Songino Array	22.05	49	P		P		01 36 53.9	+3.5
	0.3nm,0.8s,baz=240,slow=11,SNR=3.0								
CMAR	Chiang Mai Arr	22.89	134	P		P		01 36 57.6	-1.7
	0.9nm,0.3s,baz=303,slow=8.4,SNR=3.5								
ILAR	Eielson Array	73.03	20	P		P		01 43 24.0	-1.0
	0.3nm,0.9s,baz=302,slow=5.2,SNR=3.8								
TORD	Torodi Ar. Bea	74.40	275	P		P		01 43 32.4	-1.4
	0.3nm,0.4s,baz=54,slow=5.4,SNR=3.7								

IDC 02 01:51:41.2±1.6, 43.11S×72.51W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.7/5, ML4.1/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/23, Error ellipse: s-maj=41.9km s-min=35.2km az=137.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	2.78	32	Pn		Pn	Pn	01 52 26.6	-0.6
	7.1nm,0.3s,baz=215,slow=14,SNR=69								
PLCA				Sn		Sb		01 53 04.2	-2.6
	25nm,0.3s,baz=88,slow=23,SNR=14								
PLCA				LR		LR		01 53 36.6	
	comp=Z,348nm,18.2s,baz=272,slow=41								
LPAZ	La Paz	26.99	9	P		P		01 57 25.3	-0.2
	2.1nm,1.2s,baz=198,slow=6.4,SNR=4.3								
SIV	San Ignacio	28.74	23	LR		LR		02 11 19.7	
	comp=Z,119nm,18.2s,slow=41								
TXAR	Lajitas Array	77.56	332	P		P		02 03 40.2	+1.3
	0.1nm,0.4s,baz=142,slow=10,SNR=4.2								
TXAR				LR		LR		02 31 16.8	
	comp=Z,84nm,20.2s,baz=5.0,slow=31								
TORD	Torodi Ar. Bea	87.69	70	P		P		02 04 31.1	-0.9
	0.4nm,0.9s,baz=239,slow=4.3,SNR=2.9								
PDAR	Pinedale Array	91.73	334	P		P		02 04 48.9	-1.6
	0.3nm,0.7s,baz=145,slow=6.4,SNR=2.8								
AKTO	Aktyubinsk	145.87	60	PKPbc		PKPbc		02 11 21.9	+0.1
	5.3nm,1.2s,baz=225,slow=4.3,SNR=8.3								

*ISCJB **02** 01:59:31.1±0.4, 11.38S±0.05×115.93E±0.06, h33km, mb4.1/15, Error ellipse: s-maj=9.0km s-min=5.2km az=142.5*
*NEIC **02** 01:59:35.2±0.4, 11.14S×116.02E, mb4.3/9, Error ellipse: s-maj=16.1km s-min=6.1km az=49.0*
*IDC **02** 01:59:35.5±1.0, 11.04S×116.14E, h41km±6km, mb3.8/7, mb1 3.9/9, mb1mx3.7/21, mbtmp3.8/9, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/37, Error ellipse: s-maj=25.1km s-min=16.4km az=56.0*
*DJA **02** 01:59:38.7±2.1, 11.5S±26.2×11.6E±., h76km±106km, M4.3/12, mb4.3/2, MLv4.3/12*
*AUST **02** 01:59:41.4, 12.47S×116.90E, h0km*
ISC 02 01:59:34.1±0.6, 11.21S±0.07×116.02E±0.07, h35km, h35km:pP-P, n51, σ1s31/52, mb4.3/15, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTNI	Mataram	2.56	3	P		Pn	Pn	02 00 16.6	+3.4
DNP	Denpasar	2.64	342	P		Pn	Pn	02 00 14.6	+0.3
SRBI	Singaraja	3.20	346	P		Pn	Pn	02 00 23.5	+1.5
BYJI	Banyuwangi	3.40	331	P		Pn	Pn	02 00 25.9	+1.2
ABJI	Asem Bagus	3.82	332	P		Pn	Pn	02 00 30.9	+0.4
GMJI	Gumukmas	3.87	319	P		Pn	Pn	02 00 29.9	-1.3
BLJI	Banyuglugur	4.19	325	P		Pn	Pn	02 00 35.7	+0.1
KMMI	Kalianget	4.60	334	P		Pn	Pn	02 00 41.2	-0.1
LBFI	Labuhan Bajo,	4.68	55	P		Pn	Pn	02 00 42.4	+0.1
PWJI	Pagerwojo	5.22	307	P		Pn	Pn	02 00 48.8	-1.0
PCJI	Pacitan	5.63	302	P		Pn	Pn	02 00 50.9	-4.6
UGM	Wanagama	6.33	301	P		Pn	Pn	02 01 05.8	+0.7
	132nm,1.9s,0.8nm								
BKSI	Bulukumba	7.12	35	P		Pn	Pn	02 01 18.0	+2.1
KAPI	Kappang	7.18	31	P		Pn	Pn	02 01 16.9	+0.2
KAPI				S		Sn	Sn	02 02 33.5	-3.6
KAPI	Kappang	7.18	31	P		Pn	Pn	02 01 16.9	+0.2
	3.1nm,0.3s,baz=229,slow=11,SNR=6.6								
KAPI				S		Sn	Sn	02 02 33.5	-3.6
	3.7nm,0.3s,baz=252,slow=20,SNR=10								
KAPI				LR		LR		02 03 59.4	
	comp=Z,289nm,19.7s,baz=105,slow=38								
KPJI	Karang Pucung	7.99	298	P		Pn	Pn	02 01 27.7	-0.1
MBWA	Marble Bar	10.52	161	eP		Pn	Pn	02 01 56.2	-6.3
	23nm,0.4s								
GIRL	Giralia	11.50	188	P		Pn	Pn	02 02 09.9	-6.0
	baz=10,SNR=18								
FITZ	Fitzroy Crossi	11.55	127	P		Pn	Pn	02 02 11.1	-5.6
FITZ				S		Sn	Sn	02 04 11.0	-14
FITZ	Fitzroy Crossi	11.55	127	P		Pn	Pn	02 02 11.1	-5.6
	1.0nm,0.3s,baz=307,slow=8.7,SNR=53								
FITZ				S		Sn	Sn	02 04 11.0	-14
	2.1nm,0.3s,baz=351,slow=19,SNR=13								
MTN	Manton Dam	14.87	98	P		Pn	Pn	02 03 01.1	-0.9
	baz=14,SNR=3.5								
MEEK	Meekatharra	15.54	171	P		Pn	Pn	02 03 04.8	-6.0
	baz=14,SNR=41								
KKM	Kota Kinabalu	17.14	1	eP		Pn	Pn	02 03 22.0	-9.2
MORW	Morawa	17.77	180	P		Pn	Pn	02 03 36.0	-2.9
	baz=17,SNR=3.5								
BLDU	Balliduu	19.32	178	P		P	P	02 03 53.9	-2.5
	baz=18,SNR=7.0								
WRA	Warramunga Arr	19.65	118	P		P	P	02 04 00.9	+0.7
WRA				S		S	S	02 07 24.0	-16
WRA	Warramunga Arr	19.65	118	P		P	P	02 04 00.9	+0.7
	0.3nm,0.3s,baz=298,slow=11,SNR=14								
WRA				S		S	S	02 07 24.0	-16
	0.4nm,0.3s,baz=292,slow=22,SNR=6.9								
WRAB	Tennant Creek	19.66	118	eP		P	P	02 04 00.9	+0.7
	3.7nm,0.7s								
AS31 Alice Springs 21.05 128 eP P 02 04 15.8 +0.4
ASAR Alice Springs 21.05 128 P P 02 04 15.8 +0.5
ASAR S S 02 07 57.3 -11
ASAR Alice Springs 21.05 128 P P 02 04 15.8 +0.5
2.6nm,0.6s,baz=302,slow=10,SNR=32
ASAR S S 02 07 57.3 -11
1.3nm,0.7s,baz=303,slow=21,SNR=4.7
KULM Kulim 22.42 316 eP P 02 04 30.4 +0.4
12nm,0.9s
FORT Forrest 22.45 152 eP P 02 04 31.4 +1.2
24nm,0.9s
CTAO Charters Tower 30.38 111 eP P 02 05 44.5 +1.3
15nm,1.4s
STKA Stephens Creek 31.30 135 P P 02 05 52.9 +1.8
STKA Stephens Creek 31.30 135 P P 02 05 52.9 +1.8
1.1nm,0.7s,baz=330,slow=14,SNR=3.1
CMAR Chiang Mai Arr 33.95 330 P P 02 06 15.9 +1.4
CMAR Chiang Mai Arr 33.95 330 P P 02 06 15.9 +1.4
1.4nm,0.4s,baz=153,slow=7.7,SNR=4.6
SONM Songino Array 59.40 352 P P 02 09 32.5 -0.7
SONM pP pP 02 09 44.8 +0.9
SONM Songino Array 59.40 352 P P 02 09 32.5 -0.7
0.3nm,0.6s,baz=167,slow=8.3,SNR=3.4
SONM pP pP 02 09 44.8 +0.9
1.3nm,0.9s,baz=178,slow=7.3,SNR=7.0
MK31 Makanchi Array 65.14 335 eP P 02 10 11.4 -0.2
MKAR Makanchi Array 65.14 335 P P 02 10 11.8 +0.2
MKAR pP pP 02 10 23.8 +1.5
MKAR Makanchi Array 65.14 335 P P 02 10 11.8 +0.2
1.0nm,0.5s,baz=149,slow=7.6,SNR=30
MKAR pP pP 02 10 23.8 +1.5
0.4nm,0.3s,baz=149,slow=7.0,SNR=3.1
TKM2 Tokmak 2 65.31 328 eP P 02 10 12.8 -0.1
3.0nm,1.0s
AAK Ala-Archa 65.69 328 eP P 02 10 14.5 -0.8
2.6nm,1.0s
EKS2 Erkin-Say 66.08 327 eP P 02 10 13.5 -4.3
3.5nm,1.0s
KURBB Kurchatov Arra 69.69 336 P P 02 10 40.1 -0.1
1.0nm,0.8s,baz=148,slow=5.3,SNR=10
KURBB pP pP 02 10 52.5 +1.5
1.3nm,0.7s,baz=150,slow=5.2,SNR=7.5
KURK Kurchatov 69.73 336 eP P 02 10 40.4 0.0
2.0nm,1.0s
KURK pP pP 02 10 52.5 +1.2
ZALV Zalesovo Beam 70.10 341 P P 02 10 42.2 -0.5
ZALV pP pP 02 10 54.6 +1.1
ZALV Zalesovo Beam 70.10 341 P P 02 10 42.2 -0.5
2.1nm,0.5s,baz=144,slow=5.3,SNR=12
ZALV pP pP 02 10 54.6 +1.1
1.9nm,0.6s,baz=153,slow=6.0,SNR=4.1
ABKAR Akbulak array 77.71 326 eP P 02 11 25.9 -1.4
1.6nm,0.8s

*ISCJB **02** 02:14:17.9±0.7, 48.4N±0.1×153.1E±0.2, h150km, mb3.4/10, Error ellipse: s-maj=23.4km s-min=9.6km az=150.3*
*IDC **02** 02:14:18.7±2.4, 48.30N×153.07E, h144km±22km, mb3.3/10, mb1 3.6/13, mb1mx3.4/30, mbtmp3.3/13, Error ellipse: s-maj=24.6km s-min=12.5km az=153.0*
ISC 02 02:14:19.3±0.9, 48.4N±0.2×153.1E±0.1, h150km, n22, σ0s71/13, mb3.5/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.58	30	P		Pn	Pn	02 15 39.2	-1.0
	0.9nm,0.3s,baz=199,slow=15,SNR=14								
ASAJ	Asahikawa	8.41	243	P		Pn	Pn	02 16 18.7	+0.6
	2.2nm,0.3s,baz=72,slow=12,SNR=17								
USRK	Ussuriysk Arra	15.15	262	P		Pn	Pn	02 17 45.6	+0.2
	0.5nm,0.3s,baz=64,slow=13,SNR=18								
KSRS	Korea Array	21.31	249	P		P	P	02 18 53.9	-0.2
	2.2nm,0.7s,baz=46,slow=11,SNR=7.3								
H11N2	WAKE ISLAND Hy	30.69	154	T		T		02 52 14.1	
	baz=343,slow=76,SNR=22								
H11N1	WAKE ISLAND Hy	30.70	154	T		T		02 52 13.4	
	baz=343,slow=76,SNR=25								
H11N3	WAKE ISLAND Hy	30.70	154	T		T		02 52 13.9	
	baz=343,slow=76,SNR=14								
H11S1	WAKE ISLAND Hy	31.79	155	T		T		02 53 53.7	
	baz=340								
H11S3	WAKE ISLAND Hy	31.80	155	T		T		02 53 42.6	
	baz=340								
H11S2	WAKE ISLAND Hy	31.81	155	T		T		02 53 42.4	
	baz=340								
ILAR	Eielson Array	35.31	40	P		P	P	02 20 59.4	-0.1
	0.5nm,0.6s,baz=286,slow=6.5,SNR=13								
MKAR	Makanchi Array	46.18	296	P		P	P	02 22 28.5	-0.3
	0.8nm,0.7s,baz=68,slow=6.6,SNR=5.3								
KURBB	Kurchatov Arra	46.55	302	P		P	P	02 22 31.2	-0.3
	0.3nm,0.5s,baz=68,slow=8.1,SNR=6.2								
YKA	Yellowknife Ar	49.64	38	P		P	P	02 22 55.6	+0.6
	0.9nm,0.7s,baz=298,slow=6.9,SNR=4.9								
BVAR	Borovoye Array	49.81	308	P		P	P	02 22 57.2	+0.7
	0.3nm,0.4s,baz=262,slow=40,SNR=2.9								
NVAR	Mina Array Bea	61.71	63	P		P	P	02 24 22.4	+0.6
	0.7nm,0.4s,baz=300,slow=7.9,SNR=9.9								
PDAR	Pinedale Array	63.82	54	P		P	P	02 24 36.4	+0.8
	1.0nm,0.8s,baz=274,slow=2.4,SNR=7.6								
WRA	Warramunga Arr	70.04	199	P		P	P	02 25 13.5	-1.2
	0.1nm,0.3s,baz=16,slow=7.1,SNR=7.0								
TXAR	Lajitas Array	76.72	61	P		P	P	02 25 54.4	+0.3
	0.5nm,0.5s,baz=297,slow=4.0,SNR=9.9								
H03N2	Juan Fernandez	138.76	88	T		T		05 07 50.5	
	baz=310,slow=75								
H03N1	Juan Fernandez	138.78	88	T		T		05 07 50.6	
	baz=310,slow=75								
H03N3	Juan Fernandez	138.78	88	T		T		05 07 52.2	
	baz=310,slow=75								

*ISCJB **02** 02:29:45.3±0.3, 38.74N±0.05×15.44E±0.07, h226km±2km, mb3.4/12, Error ellipse: s-maj=10.0km s-min=6.3km az=28.9*
*IDC **02** 02:29:46.7±1.5, 38.87N×15.30E, h229km±17km, mb3.1/13, mb1 3.1/19, mb1mx3.0/36, mbtmp3.0/19, Error ellipse: s-maj=13.5km s-min=11.0km az=120.0*
*CSEM **02** 02:29:46.3, 38.68N×15.45E, h219km, After ROM*
*ROM **02** 02:29:46.3±0.3, 38.68N×15.45E, h219km±3km, MI3.4/21, Error ellipse: s-maj=5.6km s-min=2.6km az=110.0*
ISC 02 02:29:45.6±0.6, 38.72N±0.05×15.43E±0.07, h221km±5km, n67, σ1s14/91, mb3.4/12, 8D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSRU	Castanea	0.46	172	⇓iPg		Pn	Pn	02 30 15.3	+0.2
MSRU				Sg		S	S	02 30 37.6	-0.5
	356nm,0.4s								
MSRU	Castanea	0.46	172	⇓iPg		Pn	Pn	02 30 15.3	+0.2
MSRU				Sg		S	S	02 30 37.6	-0.5
	356nm,0.4s								
MILZ	Milazzo	0.47	199	⇓iPg		Pn	Pn	02 30 15.5	+0.4
MILZ				Sg		S	S	02 30 38.1	+0.1
	282nm,0.5s								
MILZ	Milazzo	0.47	199	⇓iPg		Pn	Pn	02 30 15.5	+0.4
MILZ				Sg		S	S	02 30 38.1	+0.1
	282nm,0.5s								
VPL	Vulcano Piano	0.49	226	Pg		Pn	Pn	02 30 16.0	+0.8
	277nm,0.3s								
VPL	Vulcano Piano	0.49	226	Pg		Pn	Pn	02 30 16.0	+0.8
	277nm,0.3s								
CEL	Celeste	0.58	141	⇓iPg		Pn	Pn	02 30 16.0	+0.4
CEL				Sg		S	S	02 30 37.4	-1.5
	153nm,0.2s								
CEL	Celeste	0.58	141	⇓iPg		Pn	Pn	02 30 16.0	+0.4
CEL				Sg		S	S	02 30 37.4	-1.5
	153nm,0.2s								
MTTG	Motta San Giov	0.74	164	Pg		Pn	Pn	02 30 17.1	+0.8
	164nm,0.5s								
MTTG	Motta San Giov	0.74	164	Pg		Pn	Pn	02 30 17.1	+0.8

PLAC				Sg		**S**	**02 30 39.7**	**-1.1**
	195nm,0.5s							
PLAC	**Placanica**	**0.83**	**108**	Pg		**Pn**	**02 30 17.5**	**+0.8**
PLAC				Sg		**S**	**02 30 39.7**	**-1.1**
	195nm,0.5s							
MPAZ	**Palizzi**	**0.89**	**149**	Pg		**Pn**	**02 30 17.7**	**+0.7**
MPAZ				Sg		**S**	**02 30 41.5**	**+0.1**
	237nm,0.2s							
MPAZ	**Palizzi**	**0.89**	**149**	Pg		**Pn**	**02 30 17.7**	**+0.7**
MPAZ				Sg		**S**	**02 30 41.5**	**+0.1**
	237nm,0.2s							
SERS	**Sersale**	**1.03**	**72**	⇓*i*Pg		**Pn**	**02 30 19.1**	**+1.2**
SERS				Sg		**S**	**02 30 42.6**	**-0.4**
SERS	**Sersale**	**1.03**	**72**	⇓*i*Pg		**Pn**	**02 30 19.1**	**+1.2**
SERS				Sg		**S**	**02 30 42.6**	**-0.4**
TIP	**Timpagrande**	**1.13**	**66**	Pg		**Pn**	**02 30 19.7**	**+1.2**
TIP				Sg		**S**	**02 30 43.7**	**-0.4**
	98nm,0.7s							
TIP	**Timpagrande**	**1.13**	**66**	Pg		**Pn**	**02 30 19.7**	**+1.2**
TIP				Sg		**S**	**02 30 43.7**	**-0.4**
	98nm,0.7s							
GALF	**Gagliano Caste**	**1.22**	**214**	Pg		**Pn**	**02 30 21.3**	**+2.2**
	103nm,0.7s							
GALF	**Gagliano Caste**	**1.22**	**214**	Pg		**Pn**	**02 30 21.3**	**+2.2**
	103nm,0.7s							
MMN	**Mormanno**	**1.25**	**20**	Pg		**Pn**	**02 30 20.3**	**+1.2**
	60nm,0.2s							
MMN	**Mormanno**	**1.25**	**20**	Pg		**Pn**	**02 30 20.3**	**+1.2**
	60nm,0.2s							
CUC	**Castrocucco**	**1.31**	**13**	Pg		**Pn**	**02 30 21.0**	**+1.3**
CUC				Sg		**S**	**02 30 46.0**	**-0.3**
	118nm,0.9s							
CUC	**Castrocucco**	**1.31**	**13**	Pg		**Pn**	**02 30 21.0**	**+1.3**
CUC				Sg		**S**	**02 30 46.0**	**-0.3**
	118nm,0.9s							
PIPA	**Pietrapaola**	**1.32**	**54**	Pg		**Pn**	**02 30 21.1**	**+1.3**
	329nm,0.2s							
PIPA	**Pietrapaola**	**1.32**	**54**	Pg		**Pn**	**02 30 21.1**	**+1.3**
	329nm,0.2s							
GIB	**Gibilmanna**	**1.32**	**237**	Pg		**Pn**	**02 30 21.0**	**+1.1**
	254nm,1.1s							
GIB	**Gibilmanna**	**1.32**	**237**	Pg		**Pn**	**02 30 21.0**	**+1.1**
	254nm,1.1s							
CSLB	**Castelbuono**	**1.33**	**235**	Pg		**Pn**	**02 30 21.1**	**+1.2**
	9.0nm,0.2s							
CSLB	**Castelbuono**	**1.33**	**235**	Pg		**Pn**	**02 30 21.1**	**+1.2**
	9.0nm,0.2s							
SALB	**San Lorenzo Be**	**1.36**	**31**	Pg		**Pn**	**02 30 21.9**	**+1.7**
SALB				Sg		**S**	**02 30 47.9**	**+0.8**
	151nm,0.5s							
SALB	**San Lorenzo Be**	**1.36**	**31**	Pg		**Pn**	**02 30 21.9**	**+1.7**
SALB				Sg		**S**	**02 30 47.9**	**+0.8**
	151nm,0.5s							
HCRL	**Carlentini**	**1.47**	**193**	Pg		**Pn**	**02 30 21.8**	**+0.8**
HCRL	**Carlentini**	**1.47**	**193**	Pg		**Pn**	**02 30 21.8**	**+0.8**
ORI	**Oriolo Calabro**	**1.56**	**30**	Pg		**Pn**	**02 30 23.2**	**+1.6**
ORI				Sg		**S**	**02 30 49.6**	**-0.2**
	288nm,0.5s							
ORI	**Oriolo Calabro**	**1.56**	**30**	Pg		**Pn**	**02 30 23.2**	**+1.6**
ORI				Sg		**S**	**02 30 49.6**	**-0.2**
	288nm,0.5s							
SCHR	**S. Chirico Rap**	**1.56**	**18**	Pg		**Pn**	**02 30 23.7**	**+1.9**
	76nm,0.9s							
SCHR	**S. Chirico Rap**	**1.56**	**18**	Pg		**Pn**	**02 30 23.7**	**+1.9**
	76nm,0.9s							
SSY	**Sortino**	**1.59**	**190**	Pg		**Pn**	**02 30 22.6**	**+0.6**
	614nm,1.4s							
SSY	**Sortino**	**1.59**	**190**	Pg		**Pn**	**02 30 22.6**	**+0.6**
	614nm,1.4s							
HVZN	**Vizzini**	**1.64**	**200**	Pg		**Pn**	**02 30 23.6**	**+1.1**
	370nm,0.9s							
HVZN	**Vizzini**	**1.64**	**200**	Pg		**Pn**	**02 30 23.6**	**+1.1**
	370nm,0.9s							
HAVL	**Avola**	**1.77**	**188**	Pg		**Pn**	**02 30 23.8**	**+0.1**
	259nm,0.3s							
HAVL	**Avola**	**1.77**	**188**	Pg		**Pn**	**02 30 23.8**	**+0.1**
	259nm,0.3s							
KEST	**Kesra**	**5.70**	**240**	P		**Pn**	**02 31 12.5**	**+3.1**
	0.2nm,0.3s,baz=295,slow=3.2,SNR=10							
IDI	**Anoyia**	**8.30**	**111**	P		**Pn**	**02 31 44.4**	**+1.6**
	0.6nm,0.3s,baz=293,slow=13,SNR=5.6							
GERES	**GERESS Array B**	**10.20**	**354**	P		**Pn**	**02 32 07.8**	**+0.7**
	0.1nm,0.3s,baz=170,slow=12,SNR=8.3							
MLR	**Muntele Rosu**	**10.33**	**46**	P		**Pn**	**02 32 10.7**	**+1.9**
	0.0nm,0.3s,baz=231,slow=14,SNR=3.0							
BRTR	**Keskin Array B**	**14.15**	**80**	P		**P**	**02 32 58.7**	**+0.7**
	0.0nm,0.3s,baz=264,slow=13,SNR=4.5							
MMAI	**Mount Meron Ar**	**17.15**	**103**	P		**P**	**02 33 31.6**	**+0.8**
	0.4nm,0.3s,baz=299,slow=9.7,SNR=3.1							
EKA	**Eskdalemuir Ar**	**20.79**	**329**	P		**P**	**02 34 07.3**	**-2.4**
	0.2nm,0.3s,baz=141,slow=12,SNR=5.1							
HFS	**Hagfors**	**21.46**	**358**	P		**P**	**02 34 14.5**	**-2.0**
	1.3nm,0.6s,baz=171,slow=10,SNR=6.8							
NOA	**NORSAR Array B**	**22.50**	**355**	P		**P**	**02 34 23.7**	**-2.7**
	0.5nm,0.7s,baz=163,slow=10,SNR=2.7							
FINES	**FINESS Array B**	**23.69**	**13**	P		**P**	**02 34 36.3**	**-0.7**
	2.1nm,0.4s,baz=186,slow=8.3,SNR=15							
TORD	**Torodi Ar. Bea**	**28.23**	**209**	P		**P**	**02 35 18.4**	**+0.1**
	0.3nm,1.0s,baz=18,slow=9.0,SNR=2.8							
ARCES	**ARCESS Array B**	**31.35**	**7**	P		**P**	**02 35 43.4**	**-1.7**
	2.6nm,0.8s,baz=189,slow=9.6,SNR=6.2							
DBIC	**Dimbokro**	**36.80**	**215**	P		**P**	**02 36 33.5**	**+1.0**
	2.1nm,1.0s,baz=21,slow=8.6,SNR=2.4							
BVAR	**Borovoye Array**	**39.85**	**51**	P		**P**	**02 36 58.6**	**+1.2**
	0.4nm,0.3s,baz=252,slow=4.2,SNR=3.5							
KURBB	**Kurchatov Arra**	**45.12**	**53**	P		**P**	**02 37 40.3**	**+0.5**
	0.2nm,0.4s,baz=288,slow=8.8,SNR=3.5							
ZALV	**Zalesovo Beam**	**48.30**	**48**	P		**P**	**02 38 04.3**	**-0.1**
	1.0nm,0.4s,baz=283,slow=8.4,SNR=4.1							
MKAR	**Makanchi Array**	**48.41**	**58**	P		**P**	**02 38 05.7**	**+0.3**
	1.3nm,0.8s,baz=285,slow=7.4,SNR=9.5							
YKA	**Yellowknife Ar**	**71.45**	**338**	P		**P**	**02 40 41.6**	**0.0**
	0.3nm,0.4s,baz=37,slow=5.6,SNR=10							
ILAR	**Eielson Array**	**75.91**	**352**	P		**P**	**02 41 07.5**	**+0.1**
	0.1nm,0.4s,baz=11,slow=5.8,SNR=4.2							

IDC ***02*** *02:31:22.9±0.6,5˚.36N×126˚.26E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/28, mbtmp4.1/18, ML4.1/1, MS3.1/4, Ms1 3.2/4, ms1mx2.8/41, Error ellipse: s-maj=38.0km s-min=12.6km az=76.0*

ISCJB ***02*** *02:31:29.6±0.4, 5˚.26N±0˚.05×126˚.22E±0˚.07, h66km, mb4.0/23, Error ellipse: s-maj=11.0km s-min=6.2km az=160.5*

NEIC ***02*** *02:31:29.1±1.9, 5˚.32N×126˚.24E, h45km±18km, mb4.5/6, Error ellipse: s-maj=17.3km s-min=6.2km az=62.0*

DJA ***02*** *02:32:45.6±1.4, 0˚N±4˚×12˚3E±1˚4, h10km, M2.5/3, MLv2.5/3*

ISC 02 02:31:31.4±0.5,**5˚22N**±0˚.06×**126˚13E**±0˚.09,**h66**km,**n58,**
σ0**81**/58,**mb4.2**/23,**1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.46**	**306**	⇓*i*P	**Pn**	**02 31 55.1**	**-0.7**
GSPH				*i* S	**Sn**	**02 32 15.2**	**+1.1**
BIPH	**Bislig**	**2.95**	**4**	*e*P	**Pn**	**02 32 16.4**	**+0.4**
BIPH				*e*S	**Sn**	**02 32 52.0**	**+1.7**
MRSI	**Marisa**	**6.30**	**222**	P	Pn	02 33 07.8	+6.1
LUWI	**Luwuk**	**7.07**	**208**	P	**Pn**	**02 33 14.2**	**+2.0**
KAPI	**Kappang**	**11.99**	**212**	Pn	**Pn**	**02 34 19.0**	**-0.6**
KAPI	**Kappang**	**11.99**	**212**	Pn	**Pn**	**02 34 19.0**	**-0.6**
	1.2nm,0.3s,baz=56,slow=11,SNR=2.3						
FITZ	**Fitzroy Crossi**	**23.18**	**181**	P	**P**	**02 36 33.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.18**	**181**	P	**P**	**02 36 33.4**	**+0.8**
	0.6nm,0.4s,baz=5.0,slow=8.1,SNR=8.0						
COEN	**Coen**	**25.48**	**139**	*e*P	**P**	**02 36 52.2**	**-1.4**
PMG	**Port Moresby**	**25.50**	**125**	LR	LR	02 45 49.7	
	comp=Z,67nm,20.2s,baz=121,slow=34						
WRAB	**Tennant Creek**	**26.27**	**162**	*e*P	**P**	**02 37 02.5**	**+1.8**
	29nm,1.5s						
WRA	**Warramunga Arr**	**26.28**	**162**	P	**P**	**02 37 01.6**	**+0.8**
WRA	**Warramunga Arr**	**26.28**	**162**	P	**P**	**02 37 01.6**	**+0.8**
	2.4nm,0.8s,baz=342,slow=10,SNR=15						
CMAR	**Chiang Mai Arr**	**29.62**	**299**	LR	LR	02 48 36.0	
	comp=Z,37nm,19.1s,baz=200,slow=35						
ASAR	**Alice Springs**	**29.70**	**165**	P	**P**	**02 37 30.8**	**-0.5**
ASAR	**Alice Springs**	**29.70**	**165**	P	**P**	**02 37 30.8**	**-0.5**
	0.3nm,0.5s,baz=342,slow=7.4,SNR=6.7						
KSAR	**Wonju Array Be**	**32.11**	**3**	P	**P**	**02 37 50.9**	**-1.5**
KSRS	**Korea Array**	**32.13**	**3**	P	**P**	**02 37 50.9**	**-1.6**
	1.2nm,0.5s,baz=194,slow=9.2,SNR=7.2						
KSRS				LR	LR	02 49 48.9	
	comp=Z,32nm,19.6s,baz=180,slow=35						
USRK	**Ussuriysk Arra**	**39.16**	**7**	P	**P**	**02 38 52.0**	**-0.7**
	1.4nm,0.7s,baz=205,slow=9.7,SNR=4.3						
STKA	**Stephens Creek**	**39.73**	**159**	P	**P**	**02 38 58.7**	**+1.1**
STKA	**Stephens Creek**	**39.73**	**159**	P	**P**	**02 38 58.7**	**+1.1**
	1.8nm,0.6s,baz=330,slow=9.7,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**42.19**	**66**	T	T	03 23 50.8	
	baz=252						
H11N2	**WAKE ISLAND Hy**	**42.20**	**66**	T	T	03 23 49.4	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**42.21**	**66**	T	T	03 23 50.0	
	baz=252						
ULN	**Ulaanbaatar**	**45.53**	**342**	*e*P	**P**	**02 39 45.2**	**+0.7**
	11nm,1.3s						
SONM	**Songino Array**	**45.70**	**341**	P	**P**	**02 39 46.0**	**+0.1**
SONM				PcP	**PcP**	**02 41 23.2**	**+0.2**
SONM	**Songino Array**	**45.70**	**341**	P	**P**	**02 39 46.0**	**+0.1**
	0.9nm,0.7s,baz=158,slow=8.8,SNR=8.9						
SONM				PcP	**PcP**	**02 41 23.2**	**+0.2**
	1.2nm,0.8s,baz=164,slow=2.5,SNR=5.4						
DZM	**Mont Dzumac**	**47.88**	**126**	*e*P	**P**	**02 40 03.0**	**-0.3**
	9.3nm,1.0s						
MK31	**Makanchi Array**	**56.00**	**325**	*e*P	**P**	**02 41 03.4**	**+0.2**
MKAR	**Makanchi Array**	**56.00**	**325**	P	**P**	**02 41 03.8**	**+0.5**
MKAR				PcP	**PcP**	**02 42 01.4**	**+0.5**
MKAR	**Makanchi Array**	**56.00**	**325**	P	**P**	**02 41 03.8**	**+0.5**
	1.2nm,0.6s,baz=119,slow=7.9,SNR=13						
MKAR				PcP	**PcP**	**02 42 01.4**	**+0.5**
	1.7nm,0.8s,baz=113,slow=5.7,SNR=5.1						
AAK	**Ala-Archa**	**58.86**	**317**	*e*P	**P**	**02 41 23.8**	**+0.2**
	1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**59.00**	**333**	P	**P**	**02 41 23.4**	**-0.7**
ZALV	**Zalesovo Beam**	**59.00**	**333**	P	**P**	**02 41 23.4**	**-0.7**
	0.8nm,0.5s,baz=134,slow=8.2,SNR=4.6						
EKS2	**Erkin-Say**	**59.35**	**317**	*e*P	**P**	**02 41 27.3**	**+0.4**
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**60.17**	**327**	P	**P**	**02 41 32.1**	**-0.1**
	2.3nm,0.7s,baz=123,slow=6.8,SNR=18						
KURK	**Kurchatov**	**60.17**	**327**	P	**P**	**02 41 32.1**	**-0.1**
BVAR	**Borovoye Array**	**65.75**	**327**	P	**P**	**02 42 09.5**	**+0.2**
BVAR	**Borovoye Array**	**65.75**	**327**	P	**P**	**02 42 09.5**	**+0.2**
	1.2nm,0.8s,baz=111,slow=7.9,SNR=4.2						
BRVK	**Borovoye**	**65.82**	**327**	*e*P	**P**	**02 42 09.8**	**0.0**
	4.1nm,0.9s						
ABKAR	**Akbulak array**	**70.62**	**321**	*e*P	**P**	**02 42 39.9**	**+0.1**
AKTO	**Aktyubinsk**	**72.13**	**321**	P	**P**	**02 42 49.1**	**+0.2**
AKTO	**Aktyubinsk**	**72.13**	**321**	P	**P**	**02 42 49.1**	**+0.2**
	0.9nm,0.6s,baz=118,slow=8.4,SNR=5.0						
ILAR	**Eielson Array**	**84.03**	**25**	P	**P**	**02 43 53.6**	**-0.8**
ILAR	**Eielson Array**	**84.03**	**25**	P	**P**	**02 43 53.6**	**-0.8**
	0.4nm,0.7s,baz=260,slow=5.4,SNR=4.5						
ARCES	**ARCESS Array B**	**88.85**	**340**	P	**P**	**02 44 17.9**	**-0.1**
ARCES	**ARCESS Array B**	**88.85**	**340**	P	**P**	**02 44 17.9**	**-0.1**
	4.3nm,0.9s,baz=81,slow=5.6,SNR=4.3						
SPITS	**Spitsbergen Ar**	**88.91**	**349**	P	**P**	**02 44 18.6**	**+0.5**
SPITS	**Spitsbergen Ar**	**88.91**	**349**	P	**P**	**02 44 18.6**	**+0.5**
	6.8nm,0.8s,baz=86,slow=6.2,SNR=2.9						
FINES	**FINESS Array B**	**90.24**	**332**	P	**P**	**02 44 23.9**	**-0.7**
FINES	**FINESS Array B**	**90.24**	**332**	P	**P**	**02 44 23.9**	**-0.7**
	1.5nm,0.7s,baz=73,slow=4.8,SNR=5.2						
NOA	**NORSAR Array B**	**97.19**	**334**	P	**P**	**02 44 55.3**	**-1.3**
NOA	**NORSAR Array B**	**97.19**	**334**	P	**P**	**02 44 55.3**	**-1.3**
	0.7nm,0.6s,baz=64,slow=4.6,SNR=2.8						
NOA				LR	LR	03 33 18.1	
	comp=Z,6.3nm,19.8s,baz=295,slow=38						
TOA0	**Torodi Ar. Sit**	**121.88**	**289**	*e*PKPdf	**PKPdf**	**02 50 19.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**121.88**	**289**	PKP	**PKPdf**	**02 50 19.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**121.88**	**289**	PKP	**PKPdf**	**02 50 19.1**	**-0.1**
	0.5nm,0.6s,baz=97,slow=2.9,SNR=3.9						
CFAA	**Coronel Fontan**	**150.50**	**155**	PKPbc	**PKPbc**	**02 51 16.6**	**+0.3**
CFAA	**Coronel Fontan**	**150.50**	**155**	PKPbc	**PKPbc**	**02 51 16.6**	**+0.3**
	0.3nm,0.8s,baz=176,slow=1.6,SNR=6.3						

ISCJB ***02*** *03:04:40.6±0.7, 26˚.0S±0˚.2×70˚.5E±0˚.1, h10km, mb3.8/9, MS3.6/4, Error ellipse: s-maj=24.6km s-min=16.2km az=4.2*

IDC ***02*** *03:04:40.9±0.8, 25˚.97S×70˚.45E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/26, mbtmp3.8/9, MS3.6/4, Ms1 3.6/4, ms1mx3.2/37, Error ellipse: s-maj=27.0km s-min=19.6km az=7.0*

ISC 02 03:04:42.6±0.9,**26˚.0S**±0˚.2×**70˚.4E**±0˚.1,**h10**km,**n18,**
σ0**67**/9,**mb3.7**/9,**MS3.6**/4,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.34**	**6**	T	T	03 27 39.8	
	baz=186,slow=76,SNR=21						
H08S2	**Diego Garcia H**	**18.34**	**6**	T	T	03 27 36.2	
	baz=186,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**18.36**	**6**	T	T	03 27 38.8	
	baz=186,slow=76,SNR=23						
OPO	**Ambohidrampo**	**22.73**	**284**	P	**P**	**03 09 44.6**	**-0.4**
	2.9nm,0.4s,baz=264,slow=2.4,SNR=5.6						
H01W2	**Cape Leeuwin H**	**38.45**	**114**	T	T	03 52 46.4	
	baz=271,slow=75,SNR=35						
H01W3	**Cape Leeuwin H**	**38.45**	**114**	T	T	03 52 46.6	
	baz=271,slow=75,SNR=23						
H01W1	**Cape Leeuwin H**	**38.47**	**114**	T	T	03 52 47.7	
	baz=271,slow=75,SNR=22						
BOSA	**Boshof**	**40.06**	**256**	LR	LR	03 25 21.9	
	comp=Z,76nm,19.5s,baz=256,slow=31						
LSZ	**Lusaka**	**40.80**	**277**	P	**P**	**03 12 25.5**	**+0.9**
	0.9nm,0.6s,baz=92,slow=8.3,SNR=4.0						
MAW	**Mawson**	**41.90**	**184**	LR	LR	03 25 05.5	
	comp=Z,85nm,19.3s,baz=84,slow=29						
CMAR	**Chiang Mai Arr**	**52.14**	**35**	P	**P**	**03 13 54.0**	**+0.7**
	1.0nm,0.3s,baz=212,slow=8.5,SNR=5.7						
CMAR				LR	LR	03 31 36.8	
	comp=Z,47nm,18.9s,baz=176,slow=31						
ASAR	**Alice Springs**	**57.13**	**102**	P	**P**	**03 14 29.3**	**-0.5**
	1.2nm,0.9s,baz=253,slow=6.7,SNR=8.8						
WRA	**Warramunga Arr**	**58.65**	**98**	P	**P**	**03 14 40.2**	**-0.2**
	1.4nm,0.9s,baz=253,slow=7.2,SNR=6.4						
SNAA	**Sanae**	**60.31**	**200**	P	**P**	**03 14 51.4**	**+0.3**
	0.5nm,1.1s,baz=319,slow=20,SNR=3.8						
TGY	**Tagaytay City**	**63.25**	**57**	LR	LR	03 38 35.5	
	comp=Z,54nm,20.1s,baz=122,slow=32						
MKAR	**Makanchi Array**	**73.22**	**8**	P	**P**	**03 16 13.8**	**+0.2**
	0.6nm,0.9s,baz=183,slow=6.2,SNR=3.2						
BRTR	**Keskin Array B**	**73.83**	**331**	P	**P**	**03 16 16.9**	**-0.6**
	0.5nm,0.8s,baz=158,slow=5.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**77.33**	**291**	P	**P**	**03 16 37.3**	**-0.6**
	0.6nm,0.9s,baz=111,slow=5.3,SNR=3.5						

LDG ***02*** *03:06:06.7±0.2, 36˚.55N×9˚.85W, h10km, Md3.6/1, Ml3.4/4, Error ellipse: s-maj=3.2km s-min=2.2km az=47.0*

MDD ***02*** *03:06:06.4±1.2, 36˚.55N×9˚.89W, h20km, mbLg3.1/41, Error ellipse: s-maj=11.5km s-min=7.5km az=46.0, PRXIMO*

INMG ***02*** *03:06:07.6±1.2, 36˚.57N×9˚.78W, h12km±4km, MD2.6, ML2.9, Error ellipse: s-maj=4.5km s-min=2.8km az=52.0*

CSEM ***02*** *03:06:07.8±0.3, 36˚.71N×9˚.61W, h10km, ML3.6/21, Error ellipse: s-maj=6.2km s-min=3.7km az=47.0*

IGIL ***02*** *03:06:08.0, 36˚.56N×9˚.75W, h14km, ML3.0*

ISC 02 03:06:04.4±2.1,**36˚56N**±0˚.07×**9˚83W**±0˚.08,**h10**km,**n140,**
σ1**80**/242,**1C-7D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.98**	**54**	⇓P	**Pg**	**03 06 24.9**	**+1.6**
	32nm,0.1s,SNR=18						
PFVI				S	**Sb**	**03 06 37.8**	**+1.3**
	286nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**0.98**	**54**	⇓*e*P	**Pg**	**03 06 24.9**	**+1.6**
PFVI				*e*S	**Sb**	**03 06 37.1**	**+0.5**
PFVI				A	A	03 06 38.9	
	146nm,0.3s						
PFVI	**Vila Bisbo**	**0.98**	**54**	P	**Pg**	**03 06 24.9**	**+1.6**
	32nm,0.1s,SNR=18						
PFVI				S	**Sb**	**03 06 37.8**	**+1.3**
	286nm,0.3s,SNR=7.9						
MORF	**Marmelete**	**1.20**	**51**	P	**Pb**	**03 06 28.5**	**+1.2**
	SNR=7.9						
MORF				S	**Sb**	**03 06 43.5**	**+0.7**
	SNR=7.9						
MORF	**Marmelete**	**1.20**	**51**	⇓*e*P	**Pb**	**03 06 28.0**	**+0.7**
MORF				*e*S	**Sb**	**03 06 43.3**	**+0.5**
MORF				A	A	03 06 45.8	
	138nm,0.4s						
MORF	**Marmelete**	**1.20**	**51**	P	**Pb**	**03 06 28.5**	**+1.2**
	SNR=7.9						
MORF				S	**Sb**	**03 06 43.5**	**+0.7**
	SNR=7.9						
PTEO	**Sao Teotonio**	**1.32**	**42**	*e*P	**Pn**	**03 06 29.8**	**+0.9**
PTEO				*e*S	**Sb**	**03 06 46.2**	**0.0**
	118nm,0.3s						
PTEO				A	A	03 06 48.4	
	118nm,0.3s						
PTEO	**Sao Teotonio**	**1.32**	**42**	*e*P	**Pn**	**03 06 29.8**	**+0.9**
PTEO				*e*S	**Sb**	**03 06 46.2**	**0.0**
	118nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.66**	**65**	⇓*e*P	**Pn**	**03 06 34.5**	**+0.8**
PBDV				*e*S	**Sn**	**03 06 53.5**	**-1.6**
PBDV				A	A	03 06 58.0	
	29nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.66**	**65**	⇓*e*P	**Pn**	**03 06 34.5**	**+0.8**
PBDV				*e*S	**Sn**	**03 06 53.5**	**-1.6**
	29nm,0.2s						
PCVE	**Castro Verde**	**1.78**	**53**	*e*Pn	**Pn**	**03 06 36.4**	**+1.1**
PCVE				*e*Sn	**Sn**	**03 06 57.6**	**-0.4**
PCVE				A	A	03 06 59.7	
	73nm,0.4s						
PCVE	**Castro Verde**	**1.78**	**53**	*e*Pn	**Pn**	**03 06 36.4**	**+1.1**
PCVE				*e*Sn	**Sn**	**03 06 57.6**	**-0.4**
	73nm,0.4s						
MESJ	**Messejana**	**1.81**	**45**	*e*P	**Pn**	**03 06 36.5**	**+0.9**
MESJ				*e*S	**Sn**	**03 06 57.5**	**-1.1**
MESJ				AML	AML	03 06 59.6	
	comp=N,67nm,0.2s						
MESJ	**Messejana**	**1.81**	**45**	P	**Pn**	**03 06 36.5**	**+0.9**
	SNR=7.9						
MESJ				S	**Sn**	**03 06 57.4**	**-1.2**
	SNR=7.9						
MESJ	**Messejana**	**1.81**	**45**	P	**Pn**	**03 06 36.5**	**+0.9**
	SNR=7.9						
MESJ				S	**Sn**	**03 06 57.4**	**-1.2**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**1.86**	**33**	*e*Pn	**Pn**	**03 06 37.2**	**+0.9**
PNCL				*e*Sn	**Sn**	**03 06 59.5**	**-0.4**
PNCL				A	A	03 07 03.6	
	comp=N,48nm,0.3s						
PNCL	**Nicolau / Gran**	**1.86**	**33**	*e*Pn	**Pn**	**03 06 37.2**	**+0.9**
PNCL				*e*Sn	**Sn**	**03 06 59.5**	**-0.4**
	comp=N,48nm,0.3s						
PVAQ	**Vaqueiros**	**1.88**	**63**	⇓*e*Pn	**Pn**	**03 06 37.4**	**+0.7**
PVAQ				*e*Sn	**Sn**	**03 06 59.5**	**-1.0**
PVAQ				A	A	03 07 01.2	
	comp=N,40nm,0.2s						
PVAQ	**Vaqueiros**	**1.88**	**63**	⇓*e*Pn	**Pn**	**03 06 37.4**	**+0.7**
PVAQ				*e*Sn	**Sn**	**03 06 59.5**	**-1.0**
	comp=N,40nm,0.2s						
EGRO	**El Granado**	**2.11**	**62**	P	**Pn**	**03 06 40.4**	**+0.5**
	comp=N,1.5nm,0.1s,SNR=38						
EGRO				S	**Sn**	**03 07 05.5**	**-0.6**
	comp=N,30nm,0.1s						
EGRO	**El Granado**	**2.11**	**62**	P	**Pn**	**03 06 40.3**	**+0.5**
	comp=N,1.5nm,0.1s,SNR=38						
EGRO				S	**Sn**	**03 07 05.5**	**-0.6**
	comp=N,30nm,0.1s						
PBEJ	**Beja**	**2.14**	**46**	*e*Pn	**Pn**	**03 06 40.7**	**+0.5**
PBEJ				*e*Sn	**Sn**	**03 07 05.5**	**-1.3**
PBEJ				A	A	03 07 08.8	
	comp=N,29nm,0.2s						
PBEJ	**Beja**	**2.14**	**46**	*e*Pn	**Pn**	**03 06 40.7**	**+0.5**
PBEJ				*e*Sn	**Sn**	**03 07 05.5**	**-1.3**
	comp=N,29nm,0.2s						
LIS	**Lisbon**	**2.21**	**14**	*e*P	**Pn**	**03 06 41.8**	**+0.6**
LIS				*e*S	**Sn**	**03 07 07.8**	**-0.8**
LIS				AML	AML	03 07 11.2	
	comp=E,191nm,0.3s						
LIS	**Lisbon**	**2.21**	**14**	P	**Pn**	**03 06 41.2**	**0.0**
	SNR=7.9						
LIS				S	**Sn**	**03 07 07.2**	**-1.5**
	SNR=7.9						
PACT	**Alcochete**	**2.34**	**19**	*e*Pn	**Pn**	**03 06 44.2**	**+1.3**
PACT				*e*Sn	**Sn**	**03 07 11.6**	**-0.1**
PACT				A	A	03 07 14.2	
	comp=E,24nm,0.2s						

	comp=N,23nm,0.5s								
PMRV	**Marv??o**	**3.44**	**33**	*e*Pn	**Pn**	**03 06 58.8**	**+0.6**
PMRV				*e*Sn	**Sn**	**03 07 37.1**	**-2.0**
	comp=N,23nm,0.5s						
EJIF	**Jimena Fronter**	**3.51**	**91**	P	**Pn**	**03 06 59.8**	**+0.7**
	comp=N,2.8nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**03 07 39.7**	**-1.0**
	comp=N,4.9nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.51**	**91**	P	**Pn**	**03 06 59.8**	**+0.7**
	comp=N,2.8nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**03 07 39.7**	**-1.0**
	comp=N,4.9nm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**3.64**	**16**	*e*Pn	**Pn**	**03 07 01.5**	**+0.7**
PCAS				*e*Sn	**Sn**	**03 07 42.8**	**-1.0**
PCAS				A	A	03 07 45.7	
	comp=N,16nm,0.2s						
PCAS	**Casmilo, Conde**	**3.64**	**16**	*e*Pn	**Pn**	**03 07 01.5**	**+0.7**
PCAS				*e*Sn	**Sn**	**03 07 42.8**	**-1.0**
	comp=N,16nm,0.2s						
EMIJ	**Mijas**	**4.07**	**88**	P	**Pn**	**03 07 06.5**	**-0.3**
	comp=N,1.1nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**03 07 51.9**	**-2.5**
	comp=N,6.8nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**4.07**	**88**	P	**Pn**	**03 07 06.5**	**-0.3**
	comp=N,1.1nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**4.23**	**24**	*e*Pn	**Pn**	**03 07 09.7**	**+0.7**
MTE				*e*Sn	**Sn**	**03 07 56.2**	**-2.2**
MTE				A	A	03 07 59.8	
	comp=N,12nm,0.2s						
MTE	**Manteigas**	**4.23**	**24**	*e*Pn	**Pn**	**03 07 09.7**	**+0.7**
MTE				*e*Sn	**Sn**	**03 07 56.2**	**-2.2**
	comp=N,12nm,0.2s						
PVIS	**Viseu**	**4.41**	**19**	*e*Pn	**Pn**	**03 07 11.8**	**+0.3**
PVIS				*e*Sn	**Sn**	**03 08 00.6**	**-2.4**
PVIS				A	A	03 08 03.9	
	comp=N,8.9nm,0.1s						
PVIS	**Viseu**	**4.41**	**19**	*e*Pn	**Pn**	**03 07 11.8**	**+0.3**
PVIS				*e*Sn	**Sn**	**03 08 00.6**	**-2.4**
	comp=N,8.9nm,0.1s						
EADA	**Adamuz**	**4.48**	**67**	P	**Pn**	**03 07 13.1**	**+0.7**
	comp=N,4.6nm,0.2s,SNR=38						
EADA				S	**Sn**	**03 08 01.8**	**-2.7**
	comp=N,11nm,0.1s						
EADA	**Adamuz**	**4.48**	**67**	P	**Pn**	**03 07 13.1**	**+0.7**
	comp=N,4.6nm,0.2s,SNR=38						
EADA				S	**Sn**	**03 08 01.8**	**-2.7**
	comp=N,11nm,0.1s						
ELUQ	**Luque**	**4.55**	**76**	P	**Pn**	**03 07 14.3**	**+0.8**
	comp=N,2.3nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**03 08 04.1**	**-2.4**
	comp=N,11nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.55**	**76**	P	**Pn**	**03 07 14.3**	**+0.8**
	comp=N,2.3nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**03 08 04.1**	**-2.4**
	comp=N,11nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**4.57**	**39**	P	**Pn**	**03 07 14.1**	**+0.5**
	comp=N,2.1nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**03 08 04.1**	**-2.7**
	comp=N,12nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**4.57**	**39**	P	**Pn**	**03 07 14.1**	**+0.5**
	comp=N,2.1nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**03 08 04.1**	**-2.7**
	comp=N,12nm,0.2s,SNR=7.9						
PTO	**Porto**	**4.67**	**11**	*e*Sn	**Sn**	**03 08 06.6**	**-2.5**
PTO				A	A	03 08 11.0	
	comp=N,11nm,0.4s						
PTO	**Porto**	**4.67**	**11**	*e*Sn	**Sn**	**03 08 06.6**	**-2.5**
	comp=N,11nm,0.4s						
SELV	**Sierra Elvira**	**4.93**	**80**	S	**Sn**	**03 08 13.3**	**-2.5**
	comp=N,1.9nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**4.93**	**80**	S	**Sn**	**03 08 13.3**	**-2.5**
	comp=N,1.9nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**4.98**	**19**	*e*Pn	**Pn**	**03 07 19.4**	**0.0**
PVRL				*e*Sn	**Sn**	**03 08 12.4**	**-4.6**
PVRL				A	A	03 08 16.8	
	comp=N,22nm,0.3s						
PVRL	**Vila Real**	**4.98**	**19**	*e*Pn	**Pn**	**03 07 19.4**	**0.0**
PVRL				*e*Sn	**Sn**	**03 08 12.4**	**-4.6**
	comp=N,22nm,0.3s						
EGUA	**Guajares**	**5.04**	**85**	P	**Pn**	**03 07 21.0**	**+0.9**
	comp=N,21nm,0.5s,SNR=7.9						
EGUA				S	**Sn**	**03 08 16.0**	**-2.3**
	comp=N,15nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**5.04**	**85**	P	**Pn**	**03 07 21.0**	**+0.9**
	comp=N,21nm,0.5s,SNR=7.9						
EGUA				S	**Sn**	**03 08 16.0**	**-2.3**
	comp=N,15nm,0.4s,SNR=7.9						
POLO	**Lamas de Olo**	**5.06**	**18**	*e*Pn	**Pn**	**03 07 20.7**	**+0.3**
POLO				*e*Sn	**Sn**	**03 08 15.5**	**-3.4**
POLO				A	A	03 08 19.5	
	comp=N,5.0nm,0.4s						
POLO	**Lamas de Olo**	**5.06**	**18**	*e*Pn	**Pn**	**03 07 20.7**	**+0.3**
POLO				*e*Sn	**Sn**	**03 08 15.5**	**-3.4**
	comp=N,5.0nm,0.4s						
ECOG	**Cogollos-Vega**	**5.07**	**80**	P	**Pn**	**03 07 20.9**	**+0.3**
	comp=N,0.9nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**03 08 15.7**	**-3.5**
	comp=N,1.8nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**5.07**	**80**	P	**Pn**	**03 07 20.9**	**+0.3**
	comp=N,0.9nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**03 08 15.7**	**-3.5**
	comp=N,1.8nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.08**	**25**	P	**Pn**	**03 07 21.1**	**+0.3**
	comp=N,17nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**03 08 16.2**	**-3.4**
	comp=N,10nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.08**	**25**	*e*Pn	**Pn**	**03 07 21.1**	**+0.3**
MVO				*e*Sn	**Sn**	**03 08 16.4**	**-3.2**
MVO				A	A	03 08 20.3	
	comp=N,11nm,0.3s						
MVO	**Moncorvo**	**5.08**	**25**	P	**Pn**	**03 07 21.1**	**+0.3**
	comp=N,17nm,0.2s,SNR=7.9						
MVO				*e*Sn	**Sn**	**03 08 16.4**	**-3.2**
	comp=N,11nm,0.3s						
PCAB	**Cabril**	**5.33**	**15**	*e*Pn	**Pn**	**03 07 24.3**	**+0.3**
PCAB				*e*Sn	**Sn**	**03 08 21.8**	**-3.6**
PCAB				A	A	03 08 29.0	
	comp=N,13nm,0.4s						
PCAB	**Cabril**	**5.33**	**15**	*e*Pn	**Pn**	**03 07 24.3**	**+0.3**
PCAB				*e*Sn	**Sn**	**03 08 21.8**	**-3.6**
	comp=N,13nm,0.4s						
ELOB	**Lobios**	**5.47**	**14**	P	**Pn**	**03 07 26.1**	**0.0**
	comp=N,1.8nm,0.3s,SNR=5.7						
ELOB				S	Sn	03 08 24.3	-4.8
	comp=N,8.4nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**5.47**	**14**	P	**Pn**	**03 07 26.1**	**0.0**
	comp=N,1.8nm,0.3s,SNR=5.7						
ELOB				S	Sn	03 08 24.3	-4.8
	comp=N,8.4nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**5.50**	**78**	S	**Sn**	**03 08 27.0**	**-3.0**
	comp=N,7.2nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**5.50**	**78**	S	**Sn**	**03 08 27.0**	**-3.0**
	comp=N,7.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.53**	**75**	P	**Pn**	**03 07 26.8**	**-0.2**
	comp=N,0.5nm,0.1s,SNR=12						
EQES				S	**Sn**	**03 08 27.6**	**-3.1**
	comp=N,10nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.53**	**75**	P	**Pn**	**03 07 26.8**	**-0.2**
	comp=N,0.5nm,0.1s,SNR=12						
EQES				S	**Sn**	**03 08 27.6**	**-3.1**
	comp=N,10nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**5.57**	**54**	P	**Pn**	**03 07 27.8**	**+0.4**
	comp=N,3.6nm,0.1s,baz=242,slow=13,SNR=43						
ESDC				S	**Sn**	**03 08 27.9**	**-3.5**
	comp=N,12nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**5.57**	**54**	P	**Pn**	**03 07 27.8**	**+0.4**
	comp=N,3.6nm,0.1s,SNR=43						
ESDC				S	**Sn**	**03 08 27.9**	**-3.5**
	comp=N,12nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.58**	**85**	P	**Pn**	**03 07 28.6**	**+0.9**
	comp=N,2.0nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**03 08 28.4**	**-3.6**
	comp=N,5.7nm,0.4s,SNR=7.9						
EBER	**Berja**	**5.58**	**85**	P	**Pn**	**03 07 28.6**	**+0.9**
	comp=N,2.0nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**03 08 28.4**	**-3.6**
	comp=N,5.7nm,0.4s,SNR=7.9						
PBRG	**Braganca**	**5.75**	**24**	*e*Pn	**Pn**	**03 07 30.6**	**+0.6**
PBRG				*e*Sn	**Sn**	**03 08 32.3**	**-3.8**
PBRG				A	A	03 08 36.0	
	comp=N,5.9nm,0.9s						
PBRG	**Braganca**	**5.75**	**24**	*e*Pn	**Pn**	**03 07 30.6**	**+0.6**
PBRG				*e*Sn	**Sn**	**03 08 32.3**	**-3.8**
	comp=N,5.9nm,0.9s						
ECAL	**Calabor**	**5.88**	**23**	P	**Pn**	**03 07 32.1**	**+0.4**
	comp=N,2.8nm,0.2s,SNR=10						
ECAL				S	**Sn**	**03 08 35.7**	**-3.5**
	comp=N,17nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**5.88**	**23**	P	**Pn**	**03 07 32.1**	**+0.4**
	comp=N,2.8nm,0.2s,SNR=10						
ECAL				S	**Sn**	**03 08 35.7**	**-3.5**
	comp=N,17nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**5.91**	**76**	P	**Pn**	**03 07 32.9**	**+0.8**
	comp=N,0.7nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**03 08 36.4**	**-3.5**
	comp=N,2.6nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.91**	**76**	P	**Pn**	**03 07 32.9**	**+0.8**
	comp=N,0.7nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**03 08 36.4**	**-3.5**
	comp=N,2.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.00**	**73**	P	**Pn**	**03 07 33.6**	**+0.1**
	comp=N,0.8nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**03 08 38.9**	**-3.5**
	comp=N,7.4nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**6.00**	**73**	P	**Pn**	**03 07 33.6**	**+0.1**
	comp=N,0.8nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**03 08 38.9**	**-3.5**
	comp=N,7.4nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**6.03**	**46**	P	**Pn**	**03 07 34.2**	**+0.5**
	comp=N,3.4nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**03 08 39.1**	**-3.7**
	comp=N,16nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**6.03**	**46**	P	**Pn**	**03 07 34.2**	**+0.5**
	comp=N,3.4nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**03 08 39.2**	**-3.7**
	comp=N,16nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**6.17**	**68**	P	**Pn**	**03 07 36.0**	**+0.3**
	comp=N,1.5nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**03 08 41.9**	**-4.5**
	comp=N,4.6nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**6.17**	**68**	P	**Pn**	**03 07 36.0**	**+0.3**
	comp=N,1.5nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**03 08 41.9**	**-4.5**
	comp=N,4.6nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.41**	**6**	P	**Pn**	**03 07 38.3**	**-0.6**
	comp=N,3.3nm,0.2s,SNR=5.1						
EMAZ				S	Sn	03 08 45.4	-6.8
	comp=N,3.5nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.41**	**6**	P	**Pn**	**03 07 38.3**	**-0.6**
	comp=N,3.3nm,0.2s,SNR=5.1						
ETOB	**Tobarra**	**6.89**	**70**	P	**Pn**	**03 07 45.4**	**-0.2**
	comp=N,2.1nm,0.4s,SNR=6.3						
ETOB				S	Sn	03 08 58.9	-5.2
	comp=N,3.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.89**	**70**	P	**Pn**	**03 07 45.4**	**-0.2**
	comp=N,2.1nm,0.4s,SNR=6.3						
ETOB				S	Sn	03 08 58.9	-5.2
	comp=N,3.0nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**6.97**	**77**	P	**Pn**	**03 07 46.4**	**-0.2**
	comp=N,0.8nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**03 09 01.9**	**-4.1**
	comp=N,3.6nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**6.97**	**77**	P	**Pn**	**03 07 46.4**	**-0.2**
	comp=N,0.8nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**03 09 01.9**	**-4.1**
	comp=N,3.6nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**7.06**	**16**	P	**Pn**	**03 07 47.8**	**0.0**
	comp=N,1.5nm,0.3s,SNR=4.0						
EPON				S	Sn	03 09 03.3	-4.8
	comp=N,3.3nm,0.3s,SNR=4.0						
EPON	**Pontenova**	**7.06**	**16**	P	**Pn**	**03 07 47.8**	**0.0**
	comp=N,1.5nm,0.3s,SNR=4.0						
EPON				S	Sn	03 09 03.3	-4.8
	comp=N,3.3nm,0.3s,SNR=4.0						
ETOR	**Torete**	**7.41**	**53**	P	**Pn**	**03 07 53.2**	**+0.5**
	comp=N,6.3nm,0.2s,SNR=7.9						
ETOR				S	Sn	03 09 11.6	-5.3
	comp=N,11nm,0.3s,SNR=7.9						
ETOR	**Torete**	**7.41**	**53**	P	**Pn**	**03 07 53.2**	**+0.5**
	comp=N,6.3nm,0.2s,SNR=7.9						
ETOR				S	Sn	03 09 11.6	-5.3
	comp=N,11nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**7.60**	**26**	P	**Pn**	**03 07 56.6**	**+1.3**
	comp=N,1.1nm,0.3s,SNR=7.9						
EARI				S	**Sn**	**03 09 16.9**	**-4.7**
	comp=N,6.2nm,0.7s,SNR=7.9						
EARI	**Arriondas**	**7.60**	**26**	P	**Pn**	**03 07 56.6**	**+1.3**
	comp=N,1.1nm,0.3s,SNR=7.9						
EARI				S	**Sn**	**03 09 16.9**	**-4.7**
	comp=N,6.2nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**8.26**	**60**	P	**Pn**	**03 08 05.9**	**+1.5**
	comp=N,1.0nm,0.3s,SNR=7.9						
EMOS				S	Sn	03 09 31.7	-6.1
	comp=N,3.7nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**8.27**	**34**	P	**Pn**	**03 08 05.3**	**+0.9**
	comp=N,0.6nm,0.2s,SNR=7.9						
ELAN				S	Sn	03 09 32.0	-5.9
	comp=N,0.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.27**	**34**	P	**Pn**	**03 08 05.3**	**+0.9**
	comp=N,0.6nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**9.05**	**44**	P	**Pn**	**03 08 16.5**	**+1.3**
	comp=N,1.0nm,0.2s,SNR=7.9						
IEPA				S	Sn	03 09 50.9	-6.3
	comp=N,3.9nm,0.4s,SNR=7.9						
IEPA	**Eparoz**	**9.05**	**44**	P	**Pn**	**03 08 16.5**	**+1.3**
	comp=N,1.0nm,0.2s,SNR=7.9						
IELO	**Elcad**	**9.11**	**44**	P	**Pn**	**03 08 17.3**	**+1.3**
	comp=N,0.7nm,0.1s,SNR=7.9						
IELO				S	Sn	03 09 52.7	-6.0
	comp=N,2.0nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**9.11**	**44**	P	**Pn**	**03 08 17.3**	**+1.3**
	comp=N,0.7nm,0.1s,SNR=7.9						
IELO				S	Sn	03 09 52.7	-6.0
	comp=N,2.0nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**9.22**	**41**	S	Sn	03 09 56.1	-4.9
	comp=N,3.8nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**9.22**	**41**	S	Sn	03 09 56.2	-4.9
	comp=N,3.8nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**9.30**	**43**	*e*Pn	**Pn**	**03 08 19.0**	**+0.5**
SJPF				*e*Sn	Sn	03 09 57.3	-5.9
	comp=N,1.0nm,0.2s						
SJPF	**Ste Jean**	**9.30**	**43**	P	**Pn**	**03 08 19.0**	**+0.5**
SJPF				S	Sn	03 09 57.3	-5.9
	comp=N,0.2nm,0.2s						
ETSF	**Etsaut**	**9.53**	**46**	*e*Pn	**Pn**	**03 08 22.2**	**+0.4**
ETSF				*e*Sn	Sn	03 10 02.4	-6.6
	comp=N,0.6nm,0.2s						
ETSF	**Etsaut**	**9.53**	**46**	P	**Pn**	**03 08 22.2**	**+0.4**
ATE	**Arette**	**9.57**	**44**	P	**Pn**	**03 08 22.8**	**+0.5**
	comp=N,3.5nm,0.6s,SNR=7.9						
ATE				S	**Sn**	**03 10 05.1**	**-4.8**
	comp=N,2.3nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**9.82**	**48**	P	**Pn**	**03 08 25.5**	**-0.4**
	comp=N,0.9nm,0.3s,SNR=7.9						
EBIE				S	Sn	03 10 10.1	-6.2
	comp=N,1.8nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**9.82**	**48**	P	**Pn**	**03 08 25.5**	**-0.4**
	comp=N,0.9nm,0.3s,SNR=7.9						
EBIE				S	Sn	03 10 10.1	-6.2
	comp=N,1.8nm,0.3s,SNR=7.9						
EPF	**Esparros**	**10.14**	**47**	*e*Pn	**Pn**	**03 08 30.3**	**+0.2**
EPF				*e*Sn	Sn	03 10 18.3	-5.5
	comp=N,1.9nm,0.3s						
EPF	**Esparros**	**10.14**	**47**	P	**Pn**	**03 08 30.3**	**+0.2**
EPF				*e*Sn	Sn	03 10 18.3	-5.5
	comp=N,0.9nm,0.3s						
CSOR	**Sort**	**10.26**	**52**	P	**Pn**	**03 08 32.8**	**+0.9**
	comp=N,0.1nm,0.1s,SNR=7.9						
CSOR				S	Sn	03 10 19.5	-7.5
	comp=N,0.3nm,0.2s,SNR=7.9						
CSOR	**Sort**	**10.26**	**52**	P	**Pn**	**03 08 32.8**	**+0.9**
	comp=N,0.1nm,0.1s,SNR=7.9						

ISCJB ***02*** *03:19:37.5±0.6, 13.27N±0.07×90.30W±0.04, h74km±6km, mb3.8/8, Error ellipse: s-maj=12.0km s-min=4.0km az=21.1*

CASC ***02*** *03:19:37.3±1.1, 13.21N×90.28W, h18km±4km, MD3.8, ML4.6*

MEX ***02*** *03:19:42.8±0.4, 14.51N×89.87W, h24km±999km, MD4.4*

IDC ***02*** *03:19:42.1±1.9, 13.71N×89.75W, h69km±16km, mb3.5/9, mb1 3.9/10, mb1mx3.6/25, mbtmp3.6/10, MS3.4/6, Ms1 3.4/6, ms1mx3.1/36, Error ellipse: s-maj=43.8km s-min=12.9km az=41.0*

ISC 02 03:19:39.3±1.1, 13.38N±0.08×90.23W±0.04, h68km±9km, n40, σ1°67/48, mb3.7/8, 4C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.74**	**52**	⇓*i*	**Pn**	**03 19 53.9**	**-0.9**
RTR	**El Retiro**	**0.77**	**48**	⇓*i*	**Pn**	**03 19 54.4**	**-0.6**
SNJE	**San Jose**	**0.78**	**51**	⇓*i*	**Pn**	**03 19 54.4**	**-0.7**
RBDL	**Robledal**	**0.90**	**36**	⇓*i*	**Pn**	**03 19 56.5**	**-0.1**
BOQS	**Boqueron**	**0.99**	**69**	⇑*i*	**Pn**	**03 19 57.1**	**-0.6**
BOQS				*e*S	**Sn**	**03 20 12.7**	**+1.3**
SNET	**Serv Nac Est T**	**1.02**	**72**	*i* P	**Pn**	**03 19 57.0**	**-0.9**
SNET				*e*S	**Sn**	**03 20 12.7**	**+0.9**
SNET				AML	AML	03 20 16.4	
	comp=Z,18μm,0.4s						
PCG	**Pacaya**	**1.07**	**340**	*e*P	**Pn**	**03 19 58.7**	**-0.2**
LFU	**La Fuente**	**1.14**	**71**	*i* P	**Pn**	**03 19 59.5**	**-0.1**
LFU				*e*S	**Sn**	**03 20 17.9**	**+3.2**
LFRS	**El Faro**	**1.16**	**78**	⇑*i* P	**Pn**	**03 19 59.1**	**-0.7**
LBRS	**Las Brisas**	**1.21**	**73**	⇓*i* P	**Pn**	**03 20 00.2**	**-0.1**
NBG	**Las Nubes**	**1.21**	**354**	⇓*e* P	**Pn**	**03 20 02.0**	**+1.4**
SNVI	**San Vicente**	**1.37**	**80**	*i* P	**Pn**	**03 20 02.6**	**0.0**
SNVI				*e*S	**Sn**	**03 20 22.7**	**+2.6**
APG	**El Apazote**	**1.63**	**352**	P	**Pn**	**03 20 05.1**	**-1.0**
	comp=Z,181nm,0.3s,baz=178,slow=11,SNR=1536						
APG				S	**Sn**	**03 20 27.6**	**+1.1**
	comp=Z,91nm,0.3s,baz=273,slow=18,SNR=16						
JAT	**Jato**	**1.66**	**304**	*e*P	**Pn**	**03 20 05.8**	**-0.4**
MRL	**Marmol**	**1.76**	**17**	*i* P	**Pn**	**03 20 09.2**	**+1.4**
MRL				⇑*e*P		03 20 09.9	
VSM	**San Miguel**	**1.90**	**88**	*i* P	**Pn**	**03 20 10.3**	**+0.5**
CAHU	**Cacacuatique**	**2.00**	**79**	*i* P	**Pn**	**03 20 11.4**	**+0.3**
CNCH	**Conchagua**	**2.33**	**92**	⇑*i* P	**Pn**	**03 20 15.6**	**+0.1**
CNCH				*e*S	**Sn**	**03 20 44.4**	**+1.3**
THIG		**2.49**	**308**	*e*P	**Pn**	**03 20 18.0**	**+0.5**
THIG				*i* S	**Sn**	**03 20 44.9**	**-2.1**
PCIG		**3.71**	**309**	*e*P	**Pn**	**03 20 32.5**	**-1.6**
PCIG				*i* S	**Sn**	**03 21 12.6**	**-4.0**
COPN	**Copaltepe**	**3.74**	**108**	*i* P	**Pn**	**03 20 35.0**	**+0.4**
JTS	**JuntasAbangare**	**6.01**	**120**	P	**Pn**	**03 21 06.2**	**+0.6**
	comp=Z,4.2nm,0.3s,baz=304,slow=22,SNR=32						
JTS				S	**Sn**	**03 22 12.1**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=268,slow=18,SNR=2.0						
JTS				LR	LR	03 23 40.4	
	comp=Z,71nm,18.2s,baz=52,slow=41						
HUIG	**Huatulco**	**6.17**	**293**	*e*P	**Pn**	**03 21 11.0**	**+3.2**
HUIG				*i* S	**Sn**	**03 22 19.5**	**+2.5**
TEIG	**Tepich**	**7.06**	**15**	P	**Pn**	**03 21 21.8**	**+1.8**
	comp=Z,6.6nm,0.3s,baz=360,slow=24,SNR=29						
TEIG				LR	LR	03 24 34.0	
	comp=Z,236nm,18.9s,baz=169,slow=44						
VHO	**Vista Hermosa**	**7.27**	**301**	*i* P	**Pn**	**03 21 23.3**	**+0.2**
VHO				*i* S	**Sn**	**03 22 43.4**	**-1.0**
PNIG	**Pinotepa**	**8.20**	**292**	*i* P	Pn	03 21 40.5	+4.8
PNIG				*i* S	**Sn**	**03 23 11.8**	**+4.9**
TPIG	**Tehuac#an**	**8.50**	**307**	*i* P	**Pn**	**03 21 40.2**	**+0.4**
TPIG				*i* S	**Sn**	**03 23 11.2**	**-3.1**
UTMO	**Huajuapan**	**8.54**	**302**	*i* P	**Pn**	**03 21 41.8**	**+1.5**
UTMO				*i* S	**Sn**	**03 23 14.5**	**-0.8**
ROSC	**El Rosal**	**17.82**	**117**	LR	LR	03 31 27.0	
	comp=Z,47nm,18.9s,baz=187,slow=40						
TXAR	**Lajitas Array**	**20.19**	**324**	P	Pn	03 24 12.8	+1.7
	comp=Z,1.1nm,0.6s,baz=143,slow=12,SNR=17						
TKL	**Tuckaleechee C**	**22.93**	**14**	P	**P**	**03 24 38.0**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=184,slow=12,SNR=5.7						
TKL				LR	LR	03 34 12.6	
	comp=Z,165nm,18.4s,baz=208,slow=39						
NVAR	**Mina Array Bea**	**35.24**	**320**	P	P	03 26 31.7	+4.1
	comp=Z,5.2nm,0.7s,baz=130,slow=9.6,SNR=51						
SCHQ	**Schefferville**	**45.23**	**19**	P	**P**	**03 27 49.1**	**-0.5**
	comp=Z,3.4nm,0.5s,baz=236,slow=7.3,SNR=11						
YKA	**Yellowknife Ar**	**52.03**	**346**	P	**P**	**03 28 41.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=143,slow=6.8,SNR=5.6						
FRB	**Frobisher Bay**	**52.55**	**12**	LR	LR	03 51 38.3	
	comp=Z,143nm,18.4s,baz=322,slow=37						
ILAR	**Eielson Array**	**64.09**	**337**	P	**P**	**03 30 08.0**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=179,slow=3.7,SNR=3.9						
EKA	**Eskdalemuir Ar**	**77.46**	**36**	P	**P**	**03 31 25.3**	**-2.0**
	comp=Z,2.8nm,0.9s,baz=269,slow=7.4,SNR=3.6						
ESDC	**Sonseca Array**	**78.75**	**52**	P	**P**	**03 31 34.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=289,slow=5.1,SNR=3.2

HUMR				*i* S		Sn	03 26 51.7	-1.8	
HUMR	**Humele**	**1.65**	**223**	*i* P		Pn	03 26 29.2	0.0	
HUMR				*i* S		Sn	03 26 51.7	-1.8	
TLCR		**1.68**	**108**	*i* P		Pn	03 26 29.7	+0.1	
TLCR		**1.68**	**108**	*i* P		Pn	03 26 29.7	+0.1	
TLCR				*i* S		Sn	03 26 53.0	-1.2	
TLCR		**1.68**	**108**	*i* P		Pn	03 26 29.7	+0.1	
TLCR				*i* S		Sn	03 26 53.0	-1.2	
TIRR	**Tirgusor**	**1.83**	**134**	*i* P		Pn	03 26 31.0	-0.3	
TIRR	**Tirgusor**	**1.83**	**134**	*i* P		Pn	03 26 31.0	-0.3	
TIRR				*i* S		Sn	03 26 54.3	-2.8	
TIRR	**Tirgusor**	**1.83**	**134**	*i* P		Pn	03 26 31.0	-0.3	
TIRR				*i* S		Sn	03 26 54.3	-2.8	
MSAB	**Monastry St. A**	**1.88**	**151**	*i* P		Pn	03 26 31.6	-0.2	
MSAB	**Monastry St. A**	**1.88**	**151**	*i* P		Pn	03 26 31.6	-0.2	
MSAB				*i* S		Sn	03 26 56.5	-1.5	
MSAB	**Monastry St. A**	**1.88**	**151**	*i* P		Pn	03 26 31.6	-0.2	
MSAB				*i* S		Sn	03 26 56.5	-1.5	

MEX 02 03:47:38.6±0.7, 16°.89N×99°.56W, h26km±17km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.29**	**266**	*eP*	Pb	03 47 39.8	-5.8
ACX				*i* S	Sb	03 47 44.8	-5.6
CAIG	**El Cayaco**	**0.69**	**283**	*eP*	Pb	03 47 49.6	-2.5
CAIG				*i* S	Sb	03 47 59.2	-2.1
MEIG	**Mezcala**	**1.03**	**357**	*eP*	Pn	03 47 54.5	-3.0
MEIG				*eS*	Sn	03 48 07.7	-3.5
TLIG	**Tlapa**	**1.16**	**55**	*eP*	Pn	03 47 57.4	-1.9
TLIG				*i* S	Sn	03 48 10.4	-4.0
PNIG	**Pinotepa**	**1.46**	**110**	*eP*	Pn	03 48 00.9	-2.4
PNIG				*i* S	Sn	03 48 18.3	-3.3
PLIG	**Platanillo**	**1.50**	**2**	*eP*	Pn	03 48 01.1	-2.8
PLIG				*i* S	Sn	03 48 19.9	-2.8
ARIG	**Puente Sto Nin**	**1.57**	**332**	*eP*	Pn	03 48 02.5	-2.3
ARIG				*eS*	Sn	03 48 21.3	-3.2
UTMO	**Huajuapan**	**1.92**	**61**	*i* P	Pn	03 48 08.4	-1.5
UTMO				*i* S	Sn	03 48 31.1	-2.2
ZIIG	**Zihuatanejo**	**1.96**	**292**	*i* P	Pn	03 48 08.1	-2.0
ZIIG				*i* S	Sn	03 48 31.6	-2.2
YAIG	**Yautepec**	**2.02**	**13**	*eP*	Pn	03 48 08.3	-2.9
YAIG				*i* S	Sn	03 48 32.9	-2.8
PPM	**Popocatepetl**	**2.34**	**22**	*i* P	Pn	03 48 14.7	-1.4
PPM				*i* S	Sn	03 48 40.5	-3.9
MOIG	**Morelia**	**3.17**	**331**	*i* P	Pn	03 48 29.2	+2.0

DJA 02 03:58:59.7±1.3, 2°.N±8°× 12°.2E±°, h20km, M3.7/3, MLv3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.06**	**190**	P	Pb	03 59 16.9	-2.5
MRSI				S	Sb	03 59 30.6	-2.3
GTOI	**Gorontalo**	**1.26**	**135**	P	Pn	03 59 17.6	-4.6
GTOI				S	Sn	03 59 31.7	-6.8
APSI	**Ampana**	**2.47**	**191**	P	Pn	03 59 40.6	+1.8
APSI				S	Sn	03 59 56.2	-12
LUWI	**Luwuk**	**2.64**	**166**	P	Pn	03 59 41.7	+0.6
LUWI				S	Sb	04 00 17.1	-1.1

IDC ***02*** *04:08:43.7±2.0, 6°.50S×129°.50E, h0km, mb4.1/1, mb1 4.2/4, mb1mx3.7/19, mbtmp4.1/4, ML4.0/3, Error ellipse: s-maj=89.7km s-min=26.5km az=76.0*

ISCJB ***02*** *04:08:56.1±1.0, 6°.95S±0°.06×129°.54E±0°.10, h139km, mb3.8/1, Error ellipse: s-maj=14.8km s-min=6.3km az=24.8*

DJA ***02*** *04:09:02.8±0.9, 7°.5S±4°×13°.0E±1°.0, h201km±10km, M4.4/4, mb4.0/2, mB5.2/1, MLv4.6/4, Mw(mB)4.6/1*

ISC 02 04:08:57.0±1.0, 7°.16S±0°.07×129°.6E±0°.1, h139km, n7, σ3§13/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.46**	**64**	P	Pn	04 09 54.7	+4.8
TLE				S	**Sn**	**04 10 31.3**	**+0.5**
FAKI	**Fak Fak**	**4.96**	**32**	P	**Pn**	**04 10 09.5**	**-0.3**
FAKI				S	**Sn**	**04 11 02.8**	**-3.7**
KMPI	**Kaimana, Papua**	**5.36**	**50**	P	**Pn**	**04 10 17.9**	**+2.9**
KMPI				S	**Sn**	**04 11 13.2**	**-2.6**
FITZ	**Fitzroy Crossi**	**11.55**	**199**	Pn	**Pn**	**04 11 39.7**	**+2.0**
	0.8nm,0.3s,baz=22,slow=10,SNR=50						
FITZ				Sn	**Sn**	**04 13 41.0**	**-4.2**
	0.7nm,0.3s,baz=180,slow=9.1,SNR=32						
WRA	**Warramunga Arr**	**13.51**	**161**	Pn	**Pn**	**04 12 04.3**	**+1.1**
	0.6nm,0.3s,baz=341,slow=13,SNR=7.8						
WRA				Sn	**Sn**	**04 14 28.7**	**-4.0**
	1.3nm,0.3s,baz=332,slow=24,SNR=9.1						
ASAR	**Alice Springs**	**16.93**	**166**	P	**Pn**	**04 12 49.9**	**+4.2**
	0.7nm,0.3s,baz=346,slow=11,SNR=47						
ASAR				S	**S**	**04 15 53.2**	**-1.5**
	0.2nm,0.3s,baz=349,slow=27,SNR=4.4						
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**04 19 41.9**	**-0.2**
	0.9nm,0.5s,baz=120,slow=7.9,SNR=21						

BJI ***02*** *04:20:30.7,20°.86S×64°.03E, h10km, mB5.4/32, mb5.0/46, Ms5.1/24, Ms7 4.7/25*

IDC ***02*** *04:20:34.9±0.4, 20°.44S×64°.60E, h0km, mb4.8/28, mb1 4.9/29, mb1mx4.9/31, mbtmp4.8/29, ML3.5/1, MS4.5/25, Ms1 4.5/25, ms1mx4.4/36, Error ellipse: s-maj=13.9km s-min=11.1km az=28.0*

MOS ***02*** *04:20:35.7±1.1, 20°.38S×64°.59E, h10km, mb5.2/43, Error ellipse: s-maj=10.2km s-min=5.7km az=108.2*

ISCJB ***02*** *04:20:35.9±2.7, 20°.51S±0°.04×64°.57E±0°.03, h15km±18km, mb5.0/126, MS4.6/34, Error ellipse: s-maj=6.8km s-min=5.2km az=8.2*

NEIC ***02*** *04:20:36.6±2.1, 20°.52S×64°.52E, h10km±3km, mb5.3/48, Error ellipse: s-maj=15.2km s-min=13.2km az=184.0*

NEIC Felt at Albion and Lalmatie.

DJA ***02*** *04:20:38.4±2.6, 21°.S±6°×6°.5E±°, h13km±17km, M5.4/25, mB5.9/4, mb5.1/25, MLv5.6/1, Mw(mB)5.5/4*

GCMT ***02*** *04:20:41.5±0.2, 20°.55S×64°.43E, h19km, MW5.2, Moment Tensor Solution. s70,c100; s88,c142; Moment tensor: Scale 10^16 Nm; Mrr-6.42±.20; Mθθ4.55±.16; Mφφ1.86±.14; Mrθ1.53±.30; Mrφ3.49±.11; Mθφ2.57±.29; Best double couple: Mo7.30000×10^16 NP1:φ225.00000°, δ57.00000°, λ-102.00000°. NP2:φ66.00000°, δ35.00000°, λ-72.00000°. Principal axes: T 7.4800, Plg11.0000°, Azm324.0000°; N -0.3200, Plg10.0000°, Azm232.0000°; P -7.1800, Plg75.0000°, Azm101.0000°; Data Used: II IU CU G CN IC.*

ISC 02 04:20:37.3±0.4, 20°.55S±0°.05×64°.44E±0°.04, h14km±2km, n628, σ1§10/674, mb5.2/127, MS4.7/34, 31C-14D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**6.52**	**271**	*ePn*	**Pn**	**04 22 10.9**	**-1.9**
MRIV				*eSn*	**Sn**	**04 23 23.4**	**-3.6**
H08S1	**Diego Carcia H**	**15.00**	**32**	T	T	04 39 19.3	
	baz=215,slow=76,SNR=409						
H08S2	**Diego Garcia H**	**15.01**	**32**	T	T	04 39 42.8	
	baz=215,slow=76,SNR=247						
H08S3	**Diego Garcia H**	**15.02**	**32**	T	T	04 39 22.0	
	baz=207,slow=76,SNR=214						
H08N3	**Diego Garcia H**	**15.49**	**25**	T	T	04 40 00.3	
	baz=207,slow=76,SNR=1658						
H08N1	**Diego Carcia H**	**15.50**	**25**	T	T	04 39 44.6	
	baz=207,slow=76,SNR=1573						
H08N2	**Diego Garcia H**	**15.51**	**25**	T	T	04 39 49.4	
	baz=207,slow=76,SNR=245						
ABPO	**Ambohimpanom**	**16.28**	**272**	*eP*	**Pn**	**04 24 26.8**	**+1.1**
ABPO				*e*		04 27 25.4	
ABPO				pmax	pmax		
	comp=Z,64nm,1.3s						
ABPO	**Ambohimpanom**	**16.28**	**272**	*ePn*	**Pn**	**04 24 26.8**	**+1.1**
	comp=Z,64nm,1.3s						
ABPO				*e*Sn	**Sn**	**04 27 25.4**	**-0.9**
OPO	**Ambohidratompo**	**16.38**	**274**	*ePn*	**Pn**	**04 24 27.7**	**+0.6**
OPO				*e*Sn	Sn	04 27 20.2	-8.6
OPO				*e*PcP	**PcP**	**04 29 17.8**	**-2.1**
OPO	**Ambohidratompo**	**16.38**	**274**	Pn	**Pn**	**04 24 27.7**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=97,slow=15,SNR=8.0						
OPO				Sn	Sn	04 27 20.2	-8.6
	comp=Z,0.5nm,0.3s,baz=102,slow=20,SNR=2.5						
OPO				LR	LR	04 29 17.8	
	comp=Z,1μm,21.1s,baz=99,slow=32						
MSEY	**Mahe Island**	**18.03**	**330**	Pn	**P**	**04 24 49.9**	**+1.9**
	SNR=20						
MSEY	**Mahe Island**	**18.03**	**330**	*e*Pn	**P**	**04 24 49.3**	**+1.2**
	comp=Z,248nm,1.5s						
MSEY	**Mahe Island**	**18.03**	**330**	P	**P**	**04 24 49.1**	**+1.1**
	comp=Z,415nm,1.4s,SNR=8.5						
KMBO	**Kilima Mbogo**	**32.84**	**303**	P	**P**	**04 27 13.4**	**+2.4**
	SNR=16						
KMBO	**Kilima Mbogo**	**32.84**	**303**	*eP*	**P**	**04 27 12.8**	**+1.8**
	comp=Z,46nm,1.3s						
KMBO	**Kilima Mbogo**	**32.84**	**303**	P	**P**	**04 27 12.5**	**+1.5**
	comp=Z,17nm,1.1s,baz=112,slow=9.2,SNR=28						
KMBO				LR	LR	04 38 07.0	
	comp=Z,964nm,19.3s,baz=94,slow=32						
LSZ	**Lusaka**	**34.84**	**273**	*eP*	**P**	**04 27 28.2**	**-0.1**
	comp=Z,13nm,1.1s						
LBTB	**Lobatse**	**36.01**	**255**	*eP*	**P**	**04 27 40.1**	**+1.9**
	comp=Z,22nm,0.9s						
LBTB	**Lobatse**	**36.01**	**255**	P	**P**	**04 27 39.6**	**+1.3**
	comp=Z,16nm,0.9s,baz=100,slow=11,SNR=18						
BOSA	**Boshof**	**36.40**	**249**	*eP*	**P**	**04 27 43.1**	**+1.5**
BOSA	**Boshof**	**36.40**	**249**	P	**P**	**04 27 43.1**	**+1.5**
	comp=Z,6.9nm,0.7s,baz=82,slow=8.7,SNR=13						
BOSA				LR	LR	04 40 05.4	
	comp=Z,263nm,18.6s,baz=95,slow=32						
MBAR	**Mbarara**	**38.45**	**297**	*eP*	**P**	**04 28 00.1**	**+1.0**
	comp=Z,26nm,1.5s						
ABTO	**Aybut**	**39.23**	**343**	P	**P**	**04 28 06.6**	**+1.2**
	SNR=6.4						
DAMY	**Dhamar**	**40.08**	**329**	*eP*	**P**	**04 28 14.8**	**+2.0**
HYB	**Hyderabad**	**40.19**	**21**	*i* P	**P**	**04 28 13.0**	**-0.4**
PPI	**Padang Panjang**	**40.42**	**65**	P	**P**	**04 28 16.4**	**+1.0**
	comp=Z,37nm,1.5s						
PSI	**Prapat**	**41.01**	**60**	P	**P**	**04 28 20.8**	**+0.4**
	comp=Z,19nm,1.4s						
KLSI		**42.20**	**74**	P	P	04 28 24.7	-5.3
	comp=Z,20nm,1.9s						
FRIM	**Kepong**	**43.46**	**61**	P	**P**	**04 28 37.8**	**-2.5**
BSY	**Bisya**	**43.61**	**350**	P	**P**	**04 28 42.0**	**+0.7**
	SNR=8.7						
IPM	**Ipoh**	**43.68**	**59**	P	**P**	**04 28 39.7**	**-2.3**
IPM	**Ipoh**	**43.68**	**59**	P	**P**	**04 28 42.5**	**+0.4**
	comp=Z,34nm,1.2s						
IPM	**Ipoh**	**43.68**	**59**	*eP*	**P**	**04 28 42.0**	**-0.1**
	comp=Z,38nm,1.1s						
SMDO	**Samad**	**43.79**	**351**	P	**P**	**04 28 43.5**	**+0.7**
	SNR=5.3						
KULM	**Kulim**	**43.86**	**58**	P	**P**	**04 28 41.2**	**-2.3**
KULM	**Kulim**	**43.86**	**58**	*eP*	**P**	**04 28 43.2**	**-0.2**
	comp=Z,44nm,1.2s						
KGM	**Kluang**	**44.20**	**64**	P	**P**	**04 28 46.5**	**+0.3**
MYKOM	**Kota Tinggi**	**44.53**	**65**	P	**P**	**04 28 48.1**	**-0.7**
MYKOM	**Kota Tinggi**	**44.53**	**65**	P	**P**	**04 28 48.9**	**+0.1**
	comp=Z,37nm,1.0s						
MYKOM	**Kota Tinggi**	**44.53**	**65**	*eP*	**P**	**04 28 48.5**	**-0.3**
	comp=Z,25nm,0.8s						
ASHO	**Ashiyiah**	**45.70**	**349**	P	**P**	**04 28 58.0**	**+0.1**
	SNR=6.5						
H01W2	**Cape Leeuwin H**	**45.81**	**119**	T	T	05 17 43.9	
	baz=275,slow=75,SNR=9.5						
H01W3	**Cape Leeuwin H**	**45.81**	**119**	T	T	05 17 45.2	
	baz=275,slow=75,SNR=8.0						
H01W1	**Cape Leeuwin H**	**45.82**	**119**	T	T	05 17 46.0	
	baz=275,slow=75,SNR=8.6						
MAW	**Mawson**	**47.05**	**181**	P	**P**	**04 29 09.4**	**+1.4**
	comp=Z,32nm,1.0s,baz=349,slow=7.5,SNR=10						
MAW				LR	LR	04 44 05.9	
	comp=Z,783nm,19.6s,baz=355,slow=30						
RAYN	**Ar Rayn**	**47.54**	**336**	*eP*	**P**	**04 29 12.7**	**+0.3**
	comp=Z,30nm,1.5s						
NWAO	**Narrogin (SRO)**	**48.28**	**116**	P	**P**	**04 29 17.6**	**-0.6**
	comp=Z,22nm,1.1s,baz=270,slow=9.1,SNR=4.5						
KHLT	**Khaolaem Dam**	**48.58**	**46**	P	**P**	**04 29 21.8**	**+1.3**
	comp=Z,12nm,1.3s						
KSM	**Kuching**	**49.95**	**70**	P	**P**	**04 29 29.5**	**-1.6**
KSM	**Kuching**	**49.95**	**70**	P	**P**	**04 29 30.8**	**-0.3**
	comp=Z,26nm,1.1s						
MHMT	**Maesarieng**	**50.59**	**43**	P	**P**	**04 29 37.6**	**+1.8**
	comp=Z,13nm,1.3s						
SYO	**Syowa Base**	**50.80**	**191**	*eP*	**P**	**04 29 36.8**	**0.0**
IPAR	**Pars**	**51.29**	**347**	*eP*	**P**	**04 29 41.3**	**0.0**
CM01	**Chiang Mai Arr**	**51.43**	**43**	*eP*	**P**	**04 29 41.8**	**-0.4**
MBWA	**Marble Bar**	**51.44**	**101**	*eP*	**P**	**04 29 41.8**	**-0.6**
	comp=Z,81nm,1.5s						
CM31	**Chiang Mai Arr**	**51.45**	**43**	*eP*	**P**	**04 29 41.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**51.45**	**43**	P	**P**	**04 29 41.9**	**-0.4**
	comp=Z,8.3nm,0.8s,baz=236,slow=7.9,SNR=40						
CMAR				LR	LR	04 49 17.0	
	comp=Z,206nm,18.2s,baz=59,slow=34						
PBKT	**Sadao Pong**	**51.45**	**47**	P	**P**	**04 29 42.4**	**+0.1**
	comp=Z,32nm,1.2s						
KOLN	**Koldanda**	**51.49**	**22**	*eP*	**P**	**04 29 43.0**	**+0.3**
	comp=Z,33nm,0.9s						
IKAZ	**Kaun**	**51.49**	**346**	*eP*	**P**	**04 29 42.7**	**-0.1**
CHTO	**Chiang Mai**	**51.71**	**43**	*eP*	**P**	**04 29 44.1**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CHTO	**Chiang Mai**	**51.71**	**43**	P	**P**	**04 29 44.0**	**-0.2**
	comp=Z,60nm,1.3s						
CHTO	**Chiang Mai**	**51.71**	**43**	*eP*	**P**	**04 29 44.1**	**-0.2**
	comp=Z,3.7nm,1.1s						
CHTO	**Chiang Mai**	**51.71**	**43**	P	**P**	**04 29 44.5**	**+0.2**
	comp=Z,60nm,1.3s						
CMMT	**Chiang Mai**	**51.71**	**43**	P	**P**	**04 29 44.5**	**+0.2**
	comp=Z,13nm,1.3s						
RAMN	**Ramite**	**51.87**	**25**	*eP*	**P**	**04 29 46.2**	**+0.6**
	comp=Z,72nm,1.1s						
DMN	**Daman**	**51.89**	**23**	*eP*	**P**	**04 29 45.9**	**+0.2**
PKI	**Pulchoki**	**51.97**	**24**	*eP*	**P**	**04 29 46.2**	**-0.2**
PKIN	**Phulchoki**	**51.97**	**24**	*eP*	**P**	**04 29 46.0**	**-0.3**
GKN	**Gorkha**	**52.07**	**23**	*eP*	**P**	**04 29 47.1**	**+0.1**
	comp=Z,39nm,0.8s						
DANN	**Dangsing**	**52.08**	**22**	*eP*	**P**	**04 29 47.2**	**0.0**
	comp=Z,37nm,0.8s						
SBUM	**Sibu**	**52.09**	**70**	P	**P**	**04 29 45.6**	**-1.7**
SBUM	**Sibu**	**52.09**	**70**	P	**P**	**04 29 47.1**	**-0.2**
	comp=Z,40nm,1.4s						
SBUM	**Sibu**	**52.09**	**70**	*eP*	**P**	**04 29 47.1**	**-0.2**
	comp=Z,25nm,0.9s						
KKN	**Kakani**	**52.12**	**24**	*eP*	**P**	**04 29 47.5**	**+0.1**
	comp=Z,50nm,1.2s						
ODAN	**Odare**	**52.12**	**26**	*eP*	**P**	**04 29 47.5**	**+0.1**
JIRN	**Jiri**	**52.34**	**25**	*eP*	**P**	**04 29 49.4**	**+0.1**
	comp=Z,15nm,0.6s						
GUN	**Gumba**	**52.45**	**24**	*eP*	**P**	**04 29 50.2**	**+0.2**
	comp=Z,49nm,0.9s						
IMEH	**Mehriz**	**52.50**	**349**	*eP*	**P**	**04 29 49.7**	**-0.5**
CMAI	**Chiengmai2**	**52.59**	**42**	P	**P**	**04 29 51.9**	**+0.9**
	comp=Z,15nm,1.7s						
TAPN	**Taplejung**	**52.68**	**26**	*eP*	**P**	**04 29 51.7**	**0.0**
IKOO	**Kooshah**	**52.93**	**354**	*eP*	**P**	**04 29 53.1**	**-0.3**
SHL	**Shillong**	**53.03**	**31**	*eP*	**P**	**04 29 54.0**	**-0.2**
IDAH	**Dahanechah**	**53.17**	**355**	*eP*	**P**	**04 29 55.2**	**0.0**
BTM	**Bintulu**	**53.21**	**69**	P	P	04 29 52.4	-3.1
KBL	**Kabul**	**54.96**	**5**	*eP*	**P**	**04 30 09.0**	**+0.8**
KBL				pmax	pmax		
	comp=Z,38nm,1.5s						
KBL	**Kabul**	**54.96**	**5**	*eP*	**P**	**04 30 09.0**	**+0.8**
	comp=Z,38nm,1.5s						
KAPI	**Kappang**	**55.83**	**82**	P	**P**	**04 30 13.0**	**-1.7**
	comp=Z,136nm,1.4s						
KAPI	**Kappang**	**55.83**	**82**	*eP*	**P**	**04 30 12.9**	**-1.7**
	comp=Z,162nm,1.5s						
LSA	**Lhasa**	**56.20**	**28**	*eP*	**P**	**04 30 18.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,45nm,1.6s						
LSA	**Lhsa**	**56.20**	**28**	*eP*	**P**	**04 30 18.7**	**+1.3**
	comp=Z,45nm,1.6s						
IMYA	**Miami**	**56.73**	**356**	*eP*	**P**	**04 30 19.9**	**-0.9**
ISRO	**Mashad**	**56.75**	**355**	*eP*	**P**	**04 30 20.5**	**-0.3**
IAKL	**Akhelmad**	**57.10**	**355**	*eP*	**P**	**04 30 22.4**	**-1.1**
IKRD	**Kardeh**	**57.29**	**354**	*eP*	**P**	**04 30 23.6**	**-1.2**
KKM	**Kota Kinabalu**	**57.30**	**68**	P	**P**	**04 30 24.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**57.51**	**99**	P	**P**	**04 30 25.6**	**-0.8**
	comp=Z,33nm,1.0s,baz=248,slow=5.8,SNR=33						
FORT	**Forrest**	**57.58**	**114**	*eP*	**P**	**04 30 26.9**	**+0.1**
	comp=Z,99nm,1.0s						
SDKM	**Sandakan**	**57.97**	**69**	P	P	04 30 26.2	-3.6
KDM	**Kudat**	**58.26**	**68**	P	P	04 30 28.7	-3.1
KMI	**Kunming**	**58.71**	**41**	P	**P**	**04 30 35.3**	**+0.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIZ	**Qiongzhong**	**59.38**	**52**	P	**P**	**04 30 40.8**	**+1.4**
QIZ				S	**S**	**04 38 48.1**	**0.0**
QIZ				pmax	pmax		
	comp=Z,290nm,4.7s						
QIZ				LR	LR		
	comp=Z,370nm,16.2s						
KSH	**Kashi**	**60.72**	**10**	P	P	04 30 45.1	-3.3
KSH				pP	pP	04 30 49.0	-4.1
KSH				sP	sP	04 30 52.3	-2.5
KSH				PcP	**PcP**	**04 31 29.1**	**-3.3**
KSH				S	S	04 38 55.4	-10
KSH				sS	sS	04 39 07.1	-5.5
KSH				ScS	SKKSac	04 40 36.2	-2.7
KSH				SS	**SS**	**04 43 03.0**	**-1.2**
KSH				pmax	pmax		
	comp=Z,31nm,0.9s						
KSH				pmax	pmax		
	comp=Z,160nm,2.6s						
KSH				LR	LR		
	comp=Z,300nm,6.6s						
KSH				LR	LR		
	comp=Z,290nm,6.8s						
KSH				LR	LR		
	comp=Z,500nm,7.6s						
GYA	**Guiyang**	**62.13**	**43**	P	**P**	**04 31 01.2**	**+3.0**
GYA				PcP	**PcP**	**04 31 39.8**	**+1.4**
GYA				PP	**PP**	**04 33 19.0**	**+3.8**
GYA				ScP	**ScP**	**04 35 40.2**	**+0.2**
GYA				S	**S**	**04 39 24.5**	**+1.2**
GYA				SKS	**SKSac**	**04 40 49.7**	**-0.5**
GYA				SS	**SS**	**04 43 29.2**	**+2.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.1s						
GYA				LR	LR		
	comp=Z,570nm,19.0s						
GYA				LR	LR		
	comp=Z,520nm,20.5s						
GYA				LR	LR		
	comp=Z,560nm,18.9s						
AML	**Almayashu**	**62.95**	**8**	P	**P**	**04 31 03.5**	**-0.3**
	SNR=9.1						
GNI	**Garni**	**63.12**	**343**	P	**P**	**04 31 06.7**	**+2.1**
	SNR=8.9						
GNI	**Garni**	**63.12**	**343**	*eP*	**P**	**04 31 06.4**	**+1.8**
	comp=Z,37nm,1.0s						
EKS2	**Erkin-Say**	**63.48**	**8**	*eP*	**P**	**04 31 07.0**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,22nm,1.2s						
EKS2	**Erkin-Say**	**63.48**	**8**	P	**P**	**04 31 07.7**	**+0.8**
	SNR=7.7						
EKS2	**Erkin-Say**	**63.48**	**8**	*eP*	**P**	**04 31 07.0**	**+0.1**
	comp=Z,22nm,1.2s						
SNAA	**Sanae**	**63.54**	**199**	*eP*	**P**	**04 31 08.1**	**+1.1**
SNAA	**Sanae**	**63.54**	**199**	*eP*	**P**	**04 31 08.0**	**+1.0**
	comp=Z,49nm,1.4s						
SNAA	**Sanae**	**63.54**	**199**	P	**P**	**04 31 08.1**	**+1.1**
	comp=Z,6.0nm,1.1s,baz=81,slow=5.3,SNR=26						
AAK	**Ala-Archa**	**63.55**	**8**	P	**P**	**04 31 08.3**	**+0.9**
	SNR=7.9						
AAK	**Ala-Archa**	**63.55**	**8**	*i* P	**P**	**04 31 07.8**	**+0.4**
AAK	**Ala-Archa**	**63.55**	**8**	P	**P**	**04 31 07.9**	**+0.4**
	SNR=10.0						
AAK	**Ala-Archa**	**63.55**	**8**	*eP*	**P**	**04 31 07.8**	**+0.4**
	comp=Z,19nm,1.1s						
AAK	**Ala-Archa**	**63.55**	**8**	P	**P**	**04 31 07.9**	**+0.5**
	comp=Z,73nm,1.1s,SNR=9.2						
KKAR	**Karatay Array**	**63.58**	**5**	*eP*	**P**	**04 31 07.5**	**+0.1**
KKAR	**Karatay Array**	**63.58**	**5**	*eP*	**P**	**04 31 07.5**	**+0.1**
CD2	**Chengdu**	**63.59**	**37**	*eP*	**P**	**04 31 07.5**	**-0.3**
CD2				pP	**pP**	**04 31 14.5**	**+2.0**
CD2				sP	sP	04 31 17.9	+3.7
CD2				PP	**PP**	**04 33 32.8**	**+4.8**
CD2				S	**S**	**04 39 43.2**	**+1.9**
CD2				sS	**sS**	**04 39 51.6**	**+2.5**
CD2				SS	**SS**	**04 43 54.8**	**+5.5**
CD2				pmax	pmax		
	comp=Z,40nm,1.2s						
CD2				pmax	pmax		
	comp=Z,210nm,4.8s						
CD2				LR	LR		
	comp=Z,350nm,17.8s						
CD2				LR	LR		
	comp=Z,250nm,15.5s						
AS12	**Alice Springs**	**63.85**	**107**	*eP*	**P**	**04 31 08.7**	**-1.1**
ASAR	**Alice Springs**	**63.85**	**107**	P	**P**	**04 31 08.7**	**-1.1**
	comp=Z,41nm,0.8s,baz=258,slow=6.4,SNR=282						
ASAR				LR	LR	04 54 45.9	
	comp=Z,652nm,19.7s,baz=263,slow=32						
AS01	**Alice Springs**	**63.89**	**107**	*eP*	**P**	**04 31 08.9**	**-1.1**
TKM2	**Tokmak 2**	**63.99**	**9**	*eP*	**P**	**04 31 10.0**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,11nm,0.8s						
TKM2	**Tokmak 2**	**63.99**	**9**	P	**P**	**04 31 09.9**	**-0.4**
	SNR=16						
TKM2	**Tokmak 2**	**63.99**	**9**	*eP*	**P**	**04 31 10.0**	**-0.4**
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	**64.08**	**117**	*eP*	**P**	**04 31 10.5**	**-0.6**
	comp=Z,423nm,1.4s						
USP	**Ospenovka**	**64.17**	**8**	*i* P	**P**	**04 31 11.2**	**-0.1**
USP	**Ospenovka**	**64.17**	**8**	P	**P**	**04 31 11.2**	**-0.1**
	SNR=11						
VNA2	**Neumayer--Watz**	**64.81**	**200**

LZH sP **sP** **04 31 38.3 -1.6**
LZH PP **PP** **04 34 05.0 +2.3**
LZH *e*S **S** **04 40 28.0 -1.8**
LZH SS **SS** **04 44 52.0 +1.0**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.4s
SOC **Sochi** **67.74 341** *e*P **P** **04 31 34.1 -0.1**
SOC *e* 04 34 09.1
SOC *e*S **S** **04 40 27.4 -4.0**
SOC *e*SS **SS** **04 44 49.9 -3.4**
SOC pmax pmax
comp=Z,23nm,0.9s
SOC MLR MLR
comp=Z,217nm,15.0s
XAN **Xi'an** **68.85 39** P **P** **04 31 40.1 -1.4**
XAN pP pP 04 31 50.5 +4.3
XAN sP sP 04 31 53.1 +5.1
XAN pmax pmax
comp=Z,7.0nm,1.5s
XAN pmax pmax
comp=Z,35nm,5.9s
STKA **Stephens Creek** **68.86 117** *e*P **P** **04 31 41.1 -0.6**
comp=Z,8.6nm,1.3s
STKA **Stephens Creek** **68.86 117** P **P** **04 31 40.9 -0.8**
comp=Z,23nm,1.1s,baz=259,slow=5.9,SNR=18
STKA LR LR 04 57 42.7
comp=Z,832nm,19.2s,baz=215,slow=32
MK01 **Makanchi Array** **68.92 13** *e*P **P** **04 31 41.0 -0.7**
MK31 **Makanchi Array** **68.94 13** *i*P **P** **04 31 40.8 -0.9**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK32 **Makanchi Array** **68.94 13** *e*P **P** **04 31 40.9 -0.9**
MKAR **Makanchi Array** **68.94 13** *e*P **P** **04 31 41.1 -0.6**
MKAR **Makanchi Array** **68.94 13** *e*P **P** **04 31 41.1 -0.6**
MKAR **Makanchi Array** **68.94 13** P **P** **04 31 40.9 -0.9**
comp=Z,7.3nm,1.0s,baz=189,slow=5.6,SNR=15
MKAR LR LR 05 00 30.0
comp=Z,132nm,20.7s,baz=297,slow=35
QSPA **South Pole Qui** **69.56 180** *e*P **P** **04 31 46.2 +0.6**
comp=Z,137nm,1.3s
AB31 **Akbulak array** **69.61 357** *i*P **P** **04 31 45.0 -0.7**
AB31 pmax pmax
comp=Z,38nm,1.4s
ABKAR **Akbulak array** **69.61 357** *e*P **P** **04 31 45.4 -0.3**
WHN **Wuhan** **69.87 45** ⇑P **P** **04 31 48.0 +0.2**
WHN S S 04 40 49.4 -7.8
WHN pmax pmax
comp=Z,130nm,1.4s
TOA0 **Torodi Ar. Sit** **70.18 293** *e*P **P** **04 31 50.5 +0.4**
TOA0 *e*PP **PP** **04 34 21.9 -3.6**
TORD **Torodi Ar. Bea** **70.18 293** P **P** **04 31 50.0 0.0**
comp=Z,3.1nm,1.1s,baz=132,slow=4.4,SNR=12
TORD PP PP 04 34 19.8 -5.8
comp=Z,0.9nm,1.1s,baz=120,slow=8.5,SNR=3.1
TORD LR LR 05 02 16.6
comp=Z,556nm,18.1s,baz=120,slow=36
AKTO **Aktyubinsk** **70.90 356** P **P** **04 31 52.8 -0.9**
AKTO pmax pmax
comp=Z,16nm,1.3s
KDZ **Kurdzhali** **71.67 330** ⇑P **P** **04 31 59.0 +0.5**
KDZ **Kurdzhali** **71.67 330** ⇑*i*P **P** **04 31 59.0 +0.5**
VNDA **Vanda** **71.68 167** *e*P **P** **04 31 58.9 +0.8**
comp=Z,65nm,1.5s
VNDA **Vanda** **71.68 167** P **P** **04 31 58.4 +0.3**
comp=Z,16nm,1.1s,baz=261,slow=7.3,SNR=27
VNDA LR LR 04 59 52.4
comp=Z,778nm,20.0s,baz=246,slow=33
PRD **Provadia** **72.01 332** ⇑P **P** **04 32 01.1 +0.6**
KURK **Kurchatov** **72.05 9** P **P** **04 32 01.0 +0.5**
SNR=6.7
KURK **Kurchatov** **72.05 9** *e*P **P** **04 32 00.0 -0.5**
KURK pmax pmax
comp=Z,9.0nm,1.1s
KURK **Kurchatov** **72.05 9** *e*P **P** **04 31 60.0 -0.5**
comp=Z,8.6nm,1.1s
KURK **Kurchatov** **72.05 9** P **P** **04 32 00.1 -0.5**
comp=Z,73nm,1.0s,SNR=7.3
SBA **Scott Base** **72.62 167** *e*P **P** **04 32 05.7 +2.0**
SBA pmax pmax
comp=Z,154nm,2.0s
SBA **Scott Base** **72.62 167** *e*P **P** **04 32 05.7 +2.0**
comp=Z,154nm,2.0s
TLB **Topalu** **72.85 334** ⇑P **P** **04 32 05.5 0.0**
TLB **Topalu** **72.85 334** ⇑*i*P **P** **04 32 05.5 0.0**
KIC **Kosan Boka** **72.99 284** *e*P P 04 32 11.2 +4.2
comp=Z,39nm,1.2s
VOSK **Vostochnaya** **73.19 4** *e*P **P** **04 32 06.5 -0.8**
VOSK pmax pmax
comp=Z,18nm,1.5s
VOSK **Vostochnaya** **73.19 4** *e*P **P** **04 32 06.5 -0.8**
comp=Z,18nm,1.5s
LIC **Lamto** **73.19 283** *e*P **P** **04 32 08.7 +0.5**
comp=Z,36nm,1.2s
LIC **Lamto** **73.19 283** *e*P **P** **04 32 08.5 +0.3**
comp=Z,39nm,1.2s
DBIC **Dimbokro** **73.22 284** *e*P **P** **04 32 10.3 +2.0**
comp=Z,15nm,1.1s
DBIC **Dimbokro** **73.22 284** P **P** **04 32 09.4 +1.0**
comp=Z,6.0nm,0.9s,baz=120,slow=8.1,SNR=7.7
DBIC LR LR 05 03 04.1
comp=Z,417nm,18.4s,baz=88,slow=35
CFR **Carcaliu** **73.30 334** ⇑P **P** **04 32 08.3 +0.2**
CFR **Carcaliu** **73.30 334** ⇑*i*P **P** **04 32 08.3 +0.2**
TIC **Toumodi** **73.35 284** *e*P **P** **04 32 10.1 +0.9**
comp=Z,22nm,1.0s
VTS **Vitosha** **73.44 329** ⇓P **P** **04 32 09.6 +0.4**
VTS **Vitosha** **73.44 329** ⇓*i*P **P** **04 32 09.6 +0.4**
BVA0 **Borovoye Array** **73.45 4** P **P** **04 32 07.3 -1.6**
BVA0 pmax pmax
comp=Z,41nm,2.4s
BRVK **Borovoye** **73.47 4** P P 04 32 12.5 +3.5
SNR=6.6
BRVK **Borovoye** **73.47 4** ⇓*i*P **P** **04 32 08.5 -0.5**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK **Borovoye** **73.47 4** *e*P **P** **04 32 08.5 -0.5**
comp=Z,15nm,1.2s
NJ2 **Nanjing** **73.81 46** *e*P **P** **04 32 09.5 -1.9**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 LR LR
comp=Z,240nm,18.0s
VRHR **Novokhopersk** **74.11 345** *e*P **P** **04 32 13.0 +0.3**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
VRI **Vrincioaia** **74.44 334** ⇑P **P** **04 32 15.7 +0.9**
VRI **Vrincioaia** **74.44 334** ⇑*i*P **P** **04 32 15.7 +0.9**
PLOR **Plostina** **74.46 334** ⇓P **P** **04 32 15.5 +0.5**
PLOR **Plostina** **74.46 334** ⇓*i*P **P** **04 32 15.5 +0.5**
MLR **Muntele Rosu** **74.47 333** ⇑*i*P **P** **04 32 15.4 +0.3**
VORD **Divnogorie** **74.57 344** *e*P **P** **04 32 14.8 -0.6**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VOIR **74.81 332** ⇑P **P** **04 32 16.9 -0.2**
VOIR **74.81 332** ⇑*i*P **P** **04 32 16.9 -0.2**
VSR **Storozhevoye** **74.83 344** *e*P **P** **04 32 15.5 -1.4**
VSR pmax pmax
comp=N,30nm,1.2s
VSR pmax pmax
comp=E,20nm,1.2s
VSR pmax pmax
comp=Z,30nm,1.2s
COEN **Coen** **74.84 99** *e*P **P** **04 32 15.1 -2.9**
comp=Z,276nm,1.6s
HHC **Hu-ho-hao-te** **75.15 35** *e*P **P** **04 32 18.5 -0.7**
HHC sP **sP** **04 32 27.0 +1.3**
HHC PP **PP** **04 35 08.2 +0.4**
HHC S **S** **04 41 55.9 -1.5**
HHC sS **sS** **04 42 04.2 -1.1**
HHC pmax pmax
comp=Z,38nm,1.3s
HHC pmax pmax
comp=Z,560nm,7.6s
HHC LR LR
comp=Z,390nm,16.8s
HHC LR LR
comp=Z,570nm,17.5s
HHC LR LR
comp=Z,300nm,17.1s
GZR **Gura Zlata** **75.78 331** ⇓P **P** **04 32 23.1 +0.4**
GZR **Gura Zlata** **75.78 331** ⇓*i*P **P** **04 32 23.1 +0.4**
CTA **Charters Tower** **75.84 106** *e*P **P** **04 32 23.4 -0.2**
CTA **Charters Tower** **75.84 106** P **P** **04 32 23.4 -0.2**
comp=Z,33nm,1.1s,baz=250,slow=6.4,SNR=21
CTAO **Charters Tower** **75.84 106** *e*P **P** **04 32 23.8 +0.2**
CTAO pmax pmax
comp=Z,53nm,1.1s
CTAO **Charters Tower** **75.84 106** *e*P **P** **04 32 23.8 +0.2**
comp=Z,52nm,1.1s
ZAA0 **Zalesovo Array** **76.25 12** *e*P **P** **04 32 24.0 -1.0**
ZALV **Zalesovo Beam** **76.25 12** P **P** **04 32 24.1 -0.9**
comp=Z,13nm,0.9s,baz=195,slow=6.5,SNR=24
ZALV LR LR 05 04 48.9
comp=Z,128nm,20.2s,baz=248,slow=35
BURAR **Bucovina Array** **76.46 334** ⇑P **P** **04 32 28.3 +1.8**
BURAR **Bucovina Array** **76.46 334** ⇑*i*P **P** **04 32 28.3 +1.8**
BUR04 **Bucovina Ar. S** **76.46 334** *e*P **P** **04 32 27.7 +1.1**
BZS **Buzias** **76.48 331** ⇓P **P** **04 32 27.0 +0.5**
BZS **Buzias** **76.48 331** ⇓*i*P **P** **04 32 27.0 +0.5**
KEST **Kesra** **76.50 317** LR LR 05 05 49.8
comp=Z,277nm,19.9s,baz=32,slow=36
NVS **Novosibirsk** **76.79 11** *e*P **P** **04 32 26.5 -1.6**
NVS pmax pmax
comp=N,37nm,2.2s
NVS pmax pmax
comp=Z,67nm,2.2s
ARU **Arti** **76.84 357** *d i*P **P** **04 32 28.3 0.0**
ARU 04 35 19.4
ARU S **S** **04 42 15.4 +0.3**
ARU SS **SS** **04 47 11.6 -0.5**
ARU pmax pmax
comp=Z,17nm,1.2s
DRGR **76.88 332** ⇑P **P** **04 32 29.5 +0.6**
DRGR **76.88 332** ⇑*i*P **P** **04 32 29.5 +0.6**
SIRR **Siria** **76.95 331** ⇑*i*P **P** **04 32 29.8 +0.6**
SVE **Sverdlovsk** **77.14 358** *e*P **P** **04 32 30.4 +0.4**
SVE pmax pmax
comp=Z,57nm,2.0s
BJI **Beijing** **77.18 38** P **P** **04 32 30.1 -0.5**
BJI pmax pmax
comp=Z,10.0nm,0.9s
AKASG **Malin Array Be** **77.44 338** P **P** **04 32 31.1 -0.7**
comp=Z,13nm,0.9s,baz=148,slow=4.9,SNR=53
AKASG PP **PP** **04 35 24.4 -2.3**
comp=Z,0.8nm,0.7s,baz=144,slow=7.6,SNR=5.9
AKASG LR LR 05 04 54.8
comp=Z,307nm,21.9s,baz=155,slow=34
AKBB **Malin Array Si** **77.44 338** *e*P **P** **04 32 31.1 -0.7**
AKBB *e* 04 35 24.4
AKBB **Malin Array Si** **77.44 338** *e*P **P** **04 32 31.1 -0.7**
AKBB *e*PP **PP** **04 35 24.4 -2.4**
KIEV **Kiev** **77.44 338** *e*P **P** **04 32 31.4 -0.4**
KIEV pmax pmax
comp=Z,26nm,1.0s
KIEV **Kiev** **77.44 338** *e*P **P** **04 32 31.4 -0.4**
comp=Z,26nm,1.0s
AK11 **Malin Array Si** **77.44 338** *e*P **P** **04 32 30.9 -0.9**
ARMA **Armidale** **77.55 118** *e*P **P** **04 32 33.9 +0.7**
comp=Z,39nm,1.2s
SONA0 **Songino Array** **77.78 27** *e*P **P** **04 32 33.6 -0.3**
SONM **Songino Array** **77.78 27** P **P** **04 32 33.6 -0.3**
comp=Z,6.2nm,0.9s,baz=215,slow=5.5,SNR=36
SONM LR LR 05 05 28.7
comp=Z,512nm,18.8s,baz=190,slow=35
SONA1 **Songino Array** **77.79 27** *e*P **P** **04 32 33.6 -0.5**
TRPA **Tarpa** **77.99 333** ⇑*i*P P 04 32 38.1 +3.2
ULN **Ulaanbaatar** **78.09 28** P **P** **04 32 35.5 -0.2**
comp=Z,13nm,1.7s
ULN **Ulaanbaatar** **78.09 28** *e*P **P** **04 32 35.3 -0.4**
comp=Z,24nm,1.4s
PKSM **Moragy** **78.31 329** ⇑P **P** **04 32 36.8 0.0**
PKSM **Moragy** **78.31 329** ⇑*i*P **P** **04 32 36.8 0.0**
UZH **Uzhgorod** **78.48 333** *e*P **P** **04 32 37.8 +0.2**
UZH *e* 04 32 52.4
ZAK **Zakamensk** **78.51 24** *e*P **P** **04 32 36.4 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.8s
EIDS **Eidsvold** **78.56 113** *e*P **P** **04 32 38.9 +0.1**
comp=Z,48nm,1.2s
LVV **L'vov** **78.68 335** *e*P **P** **04 32 39.3 +0.6**
PSZ **Piszkesteto** **78.99 331** ⇑P P 04 32 34.9 -5.7
PSZ **Piszkesteto** **78.99 331** ⇑*i*P P 04 32 34.8 -5.8
OBN **Obninsk** **79.03 344** *e*P **P** **04 32 39.8 -0.7**
OBN *i* 04 32 47.3
OBN *i* 04 35 41.4
OBN *e*S **S** **04 42 34.4 -4.4**
OBN *i* SS **SS** **04 47 50.2 +5.0**
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,300nm,18.0s
CRVS **Cervenica-Dubn** **79.04 333** *e*P **P** **04 32 41.3 +0.5**
CRVS pmax pmax
comp=Z,10.0nm,1.2s
CRVS **Cervenica-Dubn** **79.04 333** *e*P **P** **04 32 41.3 +0.5**
KWP **Kalwaria Pacla** **79.07 334** ⇑P **P** **04 32 41.1 +0.1**
KWP **Kalwaria Pacla** **79.07 334** *e*P **P** **04 32 41.0 +0.1**
KWP **Kalwaria Pacla** **79.07 334** ⇑*i*P **P** **04 32 41.0 +0.1**
KECS **Kecovo** **79.15 332** *e*P **P** **04 32 40.8 -0.5**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS **Kecovo** **79.15 332** *e*P **P** **04 32 40.8 -0.5**
MOS **Moscow** **79.33 345** *e*P **P** **04 32 41.4 -0.7**
MOS *e* 04 35 43.4
MOS pmax pmax
comp=Z,60nm,0.9s
STHS **Stebnicka Huta** **79.52 333** *e*P **P** **04 32 43.8 +0.4**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS **Stebnicka Huta** **79.52 333** *e*P **P** **04 32 43.8 +0.4**
PMG **Port Moresby** **79.98 96** P **P** **04 32 47.2 +0.5**
PMG **Port Moresby** **79.98 96** *e*P **P** **04 32 46.3 -0.4**
comp=Z,34nm,1.1s
PMG **Port Moresby** **79.98 96** P **P** **04 32 46.5 -0.3**
comp=Z,17nm,0.8s,baz=269,slow=6.4,SNR=11
SOKR **Solikamsk** **80.10 356** *e*P **P** **04 32 47.6 +1.4**
SOKR pmax pmax
comp=Z,30nm,1.1s
SOKA **Soboth** **80.40 328** ⇑*i*P **P** **04 32 48.3 0.0**
comp=Z,11nm,1.4s
ARSA **Arzberg** **80.56 329** ⇑*i*P **P** **04 32 48.8 -0.3**
comp=Z,15nm,1.4s
CONA **Conrad Observa** **80.87 329** ⇑*i*P **P** **04 32 50.9 +0.1**
comp=Z,27nm,1.3s
OKC **Ostrava-Krasne** **81.18 332** *e*P **P** **04 32 52.1 -0.2**
OKC **Ostrava-Krasne** **81.18 332** *e*P **P** **04 32 52.1 -0.2**
MORC **Moravsky Berou** **81.41 331** *e*P **P** **04 32 53.2 -0.4**
MORC pmax pmax
comp=Z,108nm,2.7s
MORC **Moravsky Berou** **81.41 331** ⇑*i*P **P** **04 32 54.2 +0.6**
MORC **Moravsky Berou** **81.41 331** *e*P **P** **04 32 53.1 -0.4**
comp=Z,108nm,2.7s
VRAC **Vranov** **81.50 331** LR LR 05 09 18.4
comp=Z,184nm,19.7s,baz=176,slow=36
MOA **Molln** **81.59 328** ⇑*i*P **P** **04 32 55.2 +0.6**
comp=Z,16nm,1.3s
ABTA **Abfaltersbach** **81.72 327** ⇓*i*P **P** **04 32 56.0 +0.6**
comp=Z,17nm,1.1s
SUW **Suwalki** **82.30 337** *e*P **P** **04 32 58.3 +0.2**
SUW pmax pmax
comp=Z,52nm,1.2s
SUW **Suwalki** **82.30 337** *e*P **P** **04 32 58.6 +0.6**
SUW **Suwalki** **82.30 337** *e*P **P** **04 32 58.3 +0.2**
comp=Z,52nm,1.2s
DPC **Dobruska-Polom** **82.37 331** *e*P **P** **04 32 59.3 +0.7**
DPC **Dobruska-Polom** **82.37 331** *e*P **P** **04 32 59.3 +0.7**
GEC2 **GERESS Array S** **82.55 329** *e*P **P** **04 32 58.7 -0.9**
GEC2 **GERESS Array S** **82.55 329** *e*P **P** **04 32 58.7 -0.9**
GERES **GERESS Array B** **82.55 329** P **P** **04 32 58.7 -0.9**
comp=Z,1.6nm,0.9s,baz=131,slow=5.4,SNR=6.1
GERES LR LR 05 09 38.2
comp=Z,250nm,19.2s,baz=102,slow=36
UPC **Upice** **82.62 331** *e*P P 04 33 03.3 +3.4
UPC **Upice** **82.62 331** *e*P P 04 33 03.3 +3.4
SBF **Sospel** **82.64 322** *e*P **P** **04 33 00.1 -0.1**
comp=Z,82nm,1.3s
KSP **Ksiaz** **82.73 332** ⇓*e*P **P** **04 33 01.5 +1.1**
KSP **Ksiaz** **82.73 332** *e*P **P** **04 33 02.0 +1.6**
FUORN **Ofenpass-Fuorn** **82.81 326** *e*P **P** **04 33 01.8 +0.5**
comp=Z,161nm,2.5s
FETA **Feichten** **82.82 326** ⇓*i*P **P** **04 33 01.1 -0.1**
comp=Z,10nm,1.1s
LMR **La Mourre** **82.86 321** *e*P **P** **04 33 01.7 +0.5**
PRU **Pruhonice** **82.93 330** *e*P **P** **04 33 04.6 +3.1**
PRU **Pruhonice** **82.93 330** *e*P **P** **04 33 04.6 +3.1**
KS15 **Wonju Array Si** **82.98 46** *e*P **P** **04 33 01.2 -0.8**
KS01 **Wonju Array Si** **83.00 46** *e*P **P** **04 33 01.4 -0.7**
KSRS **Korea Array** **83.01 46** P **P** **04 33 01.2 -0.9**
comp=Z,16nm,0.9s,baz=239,slow=5.3,SNR=51
KSRS LR LR 05 09 22.2
comp=Z,111nm,19.0s,baz=58,slow=35
TUE **Stuetta** **83.20 325** *e*P **P** **04 33 03.2 0.0**
comp=Z,18nm,1.1s
PVCC **Panska Ves** **83.29 331** *e*P **P** **04 33 05.9 +2.6**
PVCC **Panska Ves** **83.29 331** *e*P **P** **04 33 05.9 +2.6**
MBDF **Montbardon** **83.54 323** *e*P **P** **04 33 05.7 +0.7**
comp=Z,53nm,1.4s
KLMR **Klimovskoe** **83.59 348** *e*P **P** **04 33 03.9 -0.7**
KLMR pmax pmax
comp=Z,42nm,1.5s
BRG **Berggiesshubel** **83.82 331** *e*P **P** **04 33 05.4 -0.6**
comp=Z,9.9nm,1.4s
BRG **Berggiesshubel** **83.82 331** *e*P **P** **04 33 05.4 -0.6**
BRG pmax pmax
comp=Z,10.0nm,1.4s
LPG **La Plagne** **84.02 323** *e*P **P** **04 33 07.8 +0.2**
comp=Z,39nm,1.5s
LPL **La Plagne** **84.04 323** *e*P **P** **04 33 07.9 +0.3**
comp=Z,30nm,1.3s
NKC **Novy Kostel** **84.09 329** *e*P **P** **04 33 08.4 +1.0**
NKC **Novy Kostel** **84.09 329** *e*P **P** **04 33 08.4 +1.0**
ORIF **Oris-en-Rattie** **84.17 322** *e*P **P** **04 33 06.5 -1.6**
comp=Z,86nm,1.8s
WHZ **Wether Hill Ro** **84.44 137** *e*P **P** **04 33 10.2 +0.7**
CLL **Collm** **84.55 330** *e*P **P** **04 33 12.0 +2.3**
CLL *e*S **S** **04 43 37.0 +1.0**
CLL pmax pmax
comp=Z,57nm,2.3s
CLL MLR MLR
comp=Z,200nm,20.9s
CLL **Collm** **84.55 330** *e*P **P** **04 33 12.0 +2.3**
comp=Z,57nm,2.3s
CLL *e*S **S** **04 43 37.0 +1.0**
CLL *e*(SP) 04 44 20.0
CLL *e*PPS PPS 04 45 01.0
CLL *e*SS SS 04 49 18.0 +10
CLL Lm MLR 05 10 00.0
comp=Z,200nm,20.9s
LASF **Ste Croix** **84.85 321** *e*P **P** **04 33 12.4 +0.9**
comp=Z,44nm,1.3s
BFO **Black Forest** **84.91 326** *e*P **P** **04 33 13.8 +2.1**
BFO pmax pmax
comp=Z,260nm,3.0s
BFO **Black Forest** **84.91 326** *e*P **P** **04 33 13.8 +2.1**
comp=Z,260nm,3.0s
CN2 **Changchun** **84.94 39** ⇓P **P** **04 33 10.4 -1.5**
CN2 *e*sP **sP** **04 33 17.0 -1.4**
CN2 *e*S **SKSac** **04 43 37.6 +1.7**
CN2 pmax pmax
comp=Z,20nm,1.0s
MTLF **Montolieu** **85.42 320** *e*P **P** **04 33 14.2 -0.1**
comp=Z,31nm,1.2s
EPF **Esparros** **86.40 319** *e*P **P** **04 33 19.9 +0.7**
comp=Z,73nm,1.8s
AVF **Avril sur Loir** **86.69 323** *e*P **P** **04 33 22.7 +2.2**
WLF **Walferdange** **86.86 326** *e*P **P** **04 33 20.2 -1.0**
WLF pmax pmax
comp=Z,128nm,2.2s
WLF **Walferdange** **86.86 326** *e*P **P** **04 33 20.2 -1.0**
comp=Z,128nm,2.2s
FIA0 **FINESS Array S** **87.31 343** *e*P **P** **04 33 24.5 +1.4**
FIA0 **FINESS Array S** **87.31 343** *e*P **P** **04 33 24.5 +1.4**
FINES **FINESS Array B** **87.31 343** P **P** **04 33 24.5 +1.4**
comp=Z,2.6nm,1.0s,baz=146,slow=8.4,SNR=3.4
FINES LR LR 05 10 22.8
comp=Z,275nm,19.5s,baz=334,slow=34
ES19 **SONSECA Array** **87.43 314** *e*P **P** **04 33 25.0 +0.6**
ESDC **Sonseca Array** **87.46 314** *e*P **P** **04 33 24.3 -0.2**
ESDC **Sonseca Array** **87.46 314** P **P** **04 33 24.3 -0.2**
comp=Z,4.0nm,0.9s,baz=114,slow=4.5,SNR=9.6
ESDC LR LR 05 12 46.6
comp=Z,284nm,19.6s,baz=120,slow=36
MDJ **Mudanjiang** **87.88 40** P **P** **04 33 25.6 -0.7**
MDJ pP **PcP** **04 33 28.8 +0.7**
MDJ sP **sP** **04 33 30.0 -2.9**
MDJ S **S** **04 44 10.4 +1.6**
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ pmax pmax
comp=Z,89nm,5.8s
MDJ LR LR
comp=Z,66nm,25.0s
MDJ LR LR
comp=Z,37nm,22.0s
MDJ LR LR
comp=Z,77nm,23.0s
USRK **Ussuriysk Arra** **89.14 42** P **P** **04 33 30.2 -2.1**
comp=Z,5.4nm,0.8s,baz=256,slow=4.0,SNR=10
MAJO **Matsushiro** **89.77 51** *e*P **P** **04 33 34.9 -0.5**
MAJO pmax pmax
comp=Z,59nm,1.9s
MAJO **Matsushiro** **89.77 51** *e*P **P** **04 33 34.9 -0.5**
comp=Z,59nm,1.9s
KLR **Kul'dur** **91.52 37** *e*P P 04 33 39.0 -4.3
NB200 **NORSAR Array S** **91.83 337** *e*P **P** **04 33 43.7 -0.7**
NOA **NORSAR Array B** **91.83 337** P **P** **04 33 43.7 -0.7**
comp=Z,1.9nm,0.9s,baz=118,slow=4.6,SNR=3.6
NOA LR LR 05 17 23.3
comp=Z,192nm,18.4s,baz=145,slow=37
DZM **Mont Dzumac** **92.89 115** *e*SS SS 04 51 11.0 +1.4
comp=Z,217nm,29.1s
DZM **Mont Dzumac** **92.89 115** *e*LR LR 05 03 38.4
comp=Z,782nm,23.3s
ARCES **ARCESS Array B** **94.03 347** LR LR 05 15 20.3
comp=Z,289nm,18.5s,baz=239,slow=35
TBI **Tubuai** **125.26 141** *e*LR LR 05 18 33.3
comp=Z,230nm,23.5s
PPT2 **Papeete2** **129.50 136** *e*SS SS 04 59 23.9 +6.8
comp=Z,116nm,25.8s
PPT2 **Papeete2** **129.50 136** *e*LR LR 05 20 32.9
comp=Z,428nm,29.0s
INK **Inuvik** **130.95 9** *e*PKPdf **PKPdf** **04 39 47.9 +0.2**
IL1 **Eielson Array** **131.18 17** *e*PKPdf **PKPdf** **04 39 47.5 -0.7**
ILAR **Eielson Array** **131.18 17** PKP **PKPdf** **04 39 46.8 -1.5**
comp=Z,2.2nm,1.1s,baz=309,slow=3.3,SNR=10
ILB **Eielson Array** **131.18 17** *e*PKPdf **PKPdf** **04 39 46.8 -1.5**
RKT **Rikitea** **132.64 155** *e*LR LR 05 22 06.2
comp=Z,254nm,37.5s
YKA **Yellowknife Ar** **138.09 359** PKP **PKPdf** **04 39 58.9 -2.3**
comp=Z,1.9nm,0.9s,baz=358,slow=2.1,SNR=9.4
YKB5 **Yellowknife Ar** **138.09 359** *e*PKPdf **PKPdf** **04 40 00.6 -0.6**
OTAV **Otavalo** **138.49 246** *e*PKPdf **PKPdf** **04 40 05.3 +1.2**
FFC **Flin Flon** **144.36 346** *e*PKIKP **PKPab** **04 40 10.4 -0.4**
FFC **Flin Flon** **144.36 346** *e*PKPdf **PKPab** **04 40 10.4 -0.4**
AAM **Ann Arbor** **145.51 316** *e*PKIKP **PKPab** **04 40 15.5 +0.1**
AAM **Ann Arbor** **145.51 316** *e*PKPdf **PKPab** **04 40 15.5 +0.1**
ACSO **Alum Creek Sta** **146.01 313** *e*PKPdf **PKPbc** **04 40 16.9 +0.1**
ULM **Lac du Bonnet** **146.52 337** *e*PKPdf **PKPdf** **04 40 16.1 -0.5**
ULM **Lac du Bonnet** **146.52 337** PKPbc **PKPdf** **04 40 15.4 -1.1**
comp=Z,12nm,0.9s,baz=60,slow=3.6,SNR=8.2
KMSC **Kings Mountain** **146.62 303** *e*PKPdf **PKPdf** **04 40 16.9 -0.4**
KMSC **Kings Mountain** **146.62 303** P **PKPdf** **04 40 16.7 -0.5**
baz=147
EDM **Edmonton** **147.34 358** *e*PKIKP **PKPdf** **04 40 18.3 +0.4**
EDM **Edmonton** **147.34 358** *e*PKPdf **PKPdf** **04 40 18.3 +0.4**
AGMN **Agassiz Nation** **148.10 335** *e*PKPdf **PKPbc** **04 40 22.0 -0.5**
A30A **Hoffart Farm,** **148.48 338** P **PKPdf** **04 40 19.8 -0.1**
baz=148
SFIN **Scholer Farm** **148.71 315** *e*PKPbc **PKPbc** **04 40 24.9 +0.5**
A29A **Manning Farm,** **148.82 339** P **PKPdf** **04 40 20.1 -0.4**
baz=149
B30A **Myrvik Farm, E** **148.91 338** P **PKPdf** **04 40 19.1 -1.5**
baz=149
SPMN **St. Paul** **149.05 328** *e*PKPbc **PKPbc** **04 40 24.9 -0.1**
SPMN **St. Paul** **149.05 328** P **PKPdf** **04 40 19.6 -1.4**
baz=149
A28A **Rude Farm, Bot** **149.17 340** P **PKPdf** **04 40 19.7 -1.4**
baz=149
JFWS **Jewell Farm** **149.22 322** *e*PKP2 **PKPbc** **04 40 25.2 -0.3**
JFWS **Jewell Farm** **149.22 322** *e*PKPbc **PKPbc** **04 40 25.2 -0.3**
B29A **Wagenman Farm,** **149.25 339** P **PKPdf** **04 40 19.8 -1.3**
baz=149
C30A **Mose, Pekin** **149.59 337** P **PKPdf** **04 40 21.7 0.0**
baz=150

A26A	Wade Farm, Ken baz=150	149.71	342	P		PKPdf	04 40 22.0	+0.1
SWET	Sewanee	150.15	306	ePKPbc		PKPbc	04 40 28.3	+0.2
D30A	Buchanan baz=150	150.19	337	P		PKPdf	04 40 23.4	+0.7
A24A	Westby baz=150	150.22	345	P		PKPdf	04 40 22.8	+0.1
A22A	Carney Farms, baz=150	150.59	347	P		PKPdf	04 40 22.8	-0.5
DGMT	Dagmar	150.68	344	ePKPbc		PKPbc	04 40 29.0	+0.1
DGMT	Dagmar baz=151	150.68	344	P		PKPdf	04 40 23.4	0.0
A21A	Bergtoll Ranch baz=151	150.79	348	P		PKPdf	04 40 22.7	-0.9
A20A	Cobblestone Ra baz=151	151.08	350	P		PKPdf	04 40 23.6	-0.5
D27A	Center baz=151	151.15	340	P		PKPdf	04 40 23.3	-0.9
A19A	Klindworth Far baz=151	151.16	351	P		PKPdf	04 40 24.0	-0.2
WVT	Waverly	151.21	309	ePKIKP		PKPdf	04 40 23.8	-0.8
WVT				e			04 40 29.2	
WVT	Waverly	151.21	309	ePKPdf		PKPdf	04 40 23.8	-0.8
WVT				ePKPbc		PKPbc	04 40 29.1	-1.4
B22A	Reddig Ranch S baz=151	151.26	347	P		PKPdf	04 40 24.8	+0.5
E28A	Huff baz=151	151.34	338	P		PKPdf	04 40 24.1	-0.4
B21A	Ellsworth Farm baz=151	151.35	348	P		PKPdf	04 40 24.2	-0.3
WALA	Waterton Lakes	151.53	358	ePKPbc		PKPbc	04 40 30.7	-0.3
C23A	Lambert baz=152	151.55	345	P		PKPdf	04 40 25.3	+0.5
B19A	Brinkman Farms baz=152	151.66	351	P		PKPdf	04 40 24.8	-0.2
B06A	Marblemount	151.69	8	ePKPbc		PKPbc	04 40 31.2	0.0
RPW	Rockport	151.76	8	ePKPbc		PKPbc	04 40 31.2	-0.3
C22A	Vida baz=152	151.76	346	P		PKPdf	04 40 24.3	-0.8
E27A	Carson baz=152	151.76	339	P		PKPdf	04 40 24.7	-0.5
JCW	Jim Creek	151.95	9	ePKPbc		PKPbc	04 40 32.1	+0.2
D24A	Glendive baz=152	151.97	344	P		PKPdf	04 40 25.5	0.0
OOW	Octopus West	151.99	12	ePKPbc		PKPbc	04 40 33.3	+1.3
ECSD	EROS Data Cent	152.00	330	ePKPbc		PKPbc	04 40 31.8	-0.3
E26A	Carlson Angus baz=152	152.01	341	P		PKPdf	04 40 24.8	-0.8
B08A	Colville Reser	152.09	5	ePKPbc		PKPbc	04 40 31.8	-0.4
D23A	Lindsay baz=152	152.14	345	P		PKPdf	04 40 25.7	0.0
EGMT	Eagleton	152.19	352	ePKPdf		PKPdf	04 40 26.3	+0.4
EGMT				ePKPbc		PKiKP	04 40 32.8	-0.1
EGMT	Eagleton baz=152	152.19	352	P		PKPdf	04 40 24.8	-1.0
C20A	Veseth Ranch, baz=152	152.22	349	P		PKPdf	04 40 25.4	-0.4
E25A	Miller Ranch, baz=152	152.27	342	P		PKPdf	04 40 25.6	-0.3
NEW	Newport	152.32	2	ePKPdf		PKPdf	04 40 25.3	-0.7
NEW				ePKPbc		PKiKP	04 40 33.0	-0.1
NEW	Newport baz=152	152.32	2	P		PKPdf	04 40 25.5	-0.4
NLWA	Neilton Lookou	152.39	12	ePKPbc		PKPbc	04 40 33.6	+0.7
D22A	Cohagen baz=152	152.39	346	P		PKPdf	04 40 26.0	-0.1
F27A	Lemmon baz=152	152.40	339	P		PKPdf	04 40 26.0	-0.1
E24A	Baker baz=152	152.47	343	P		PKPdf	04 40 26.1	-0.1
D21A	La Casta Ranch baz=153	152.65	347	P		PKPdf	04 40 27.0	+0.5
WTV	Waterville	152.69	6	ePKPbc		PKPbc	04 40 33.4	-0.2
YBMT	Yellow Bay	152.73	358	ePKPbc		PKPbc	04 40 33.9	+0.1
C09A	Chrisman Ranch	152.73	4	ePKPbc		PKPbc	04 40 34.0	+0.3
ETW	Entiat	152.74	7	ePKPbc		PKPbc	04 40 33.4	-0.4
BSMT	Bassoo Peak	152.76	359	ePKPbc		PKPbc	04 40 33.8	-0.1
LAO	LASA Array	152.84	346	ePKPdf		PKPdf	04 40 28.6	+1.8
LAO				ePKPbc		PKiKP	04 40 34.9	+0.8
D20A	Manuel Ranch, baz=153	152.85	349	P		PKPdf	04 40 26.6	-0.2
JTMT	Jette	152.85	358	ePKPbc		PKPbc	04 40 34.1	0.0
LTY	Liberty	153.04	8	ePKPbc		PKPbc	04 40 33.7	-0.7
SWMT	Swartz Lake	153.08	358	ePKPdf		PKPdf	04 40 27.5	+0.3
SWMT				ePKPbc		PKPbc	04 40 34.5	0.0
TBM	Table Mountain	153.13	8	ePKPbc		PKPbc	04 40 34.6	0.0
SLMT	Seeley Lake	153.32	357	ePKPdf		PKPdf	04 40 26.7	-0.9
SLMT				ePKPbc		PKPbc	04 40 35.1	0.0
SLMT				ePKPab		PKPab	04 40 43.3	-3.7
LON	Longmire	153.37	10	ePKIKP		PKPbc	04 40 35.4	+0.2
LON	Longmire	153.37	10	ePKPbc		PKPbc	04 40 35.4	+0.2
E20A	Meyer Farm, Mu baz=153	153.41	348	P		PKPdf	04 40 27.1	-0.6
F23A	Volborg baz=154	153.54	344	P		PKPdf	04 40 28.1	+0.2
E19A	Rath Farm, Rou baz=154	153.57	349	P		PKPdf	04 40 28.5	+0.6
CHMT	Chamberlain Mo	153.64	356	ePKPdf		PKPdf	04 40 27.7	-0.5
CHMT				ePKPbc		PKPbc	04 40 35.6	-0.3
I28A	Midland baz=154	153.72	336	P		PKPdf	04 40 27.6	-0.6
MSO	Missoula	153.76	357	ePKPdf		PKPdf	04 40 28.5	+0.4
MSO				ePKPbc		PKPbc	04 40 35.5	-0.5
MSO	Missoula baz=154	153.76	357	P		PKPdf	04 40 27.5	-0.7
H26A	Fairpoint baz=154	153.76	339	P		PKPdf	04 40 27.4	-0.8
E07A	Sunnyside	153.82	7	ePKPbc		PKPbc	04 40 36.7	+0.7
J29A	Okreek baz=154	153.89	334	P		PKPdf	04 40 27.7	-0.7
I27A	Quinn baz=154	153.99	337	P		PKPdf	04 40 27.7	-0.8
HAWA	Hanford	154.02	6	ePKPdf		PKPdf	04 40 28.4	0.0
HAWA				ePKPbc		PKiKP	04 40 37.0	+0.5
G23A	Biddle baz=154	154.02	343	P		PKPdf	04 40 28.3	-0.3
F19A	Roth Farm, Mol baz=154	154.19	349	P		PKPdf	04 40 29.2	+0.4
K30A	Basset baz=154	154.19	332	P		PKPdf	04 40 28.1	-0.7
H24A	Dirks Ranch, A baz=154	154.20	342	P		PKPdf	04 40 28.1	-0.8
G21A	Lodge Grass baz=154	154.44	346	P		PKPdf	04 40 28.0	-1.2
I25A	Rochford baz=154	154.61	340	P		PKPdf	04 40 28.8	-0.8
RSSD	Black Hills	154.61	340	ePKIKP		PKPdf	04 40 28.7	-0.9
RSSD	Black Hills	154.61	340	ePKPdf		PKPdf	04 40 28.7	-0.9
RSSD				ePKPbc		PKPbc	04 40 37.6	-0.5
G20A	Bridger baz=155	154.66	348	P		PKPdf	04 40 28.5	-1.0
BOZ	Bozeman (W)	154.76	354	ePKIKP		PKPdf	04 40 30.0	+0.3
BOZ				e			04 40 38.2	
BOZ	Bozeman (W)	154.76	354	ePKPdf		PKPdf	04 40 30.0	+0.3
BOZ				ePKPbc		PKPbc	04 40 38.2	-0.1
DLMT	Dillon	155.14	355	ePKPdf		PKPdf	04 40 30.6	+0.4
DLMT				ePKPbc		PKPbc	04 40 39.5	
G08A	Pilot Rock	155.17	6	ePKPdf		PKPdf	04 40 30.7	+0.5
J25A	Sunshine Ranch baz=155	155.19	339	P		PKPdf	04 40 29.4	-0.9
H18A	Shoshone NF, C baz=155	155.45	350	P		PKPdf	04 40 29.9	-0.9
I22A	9 Mile Ranch, baz=156	155.53	344	P		PKPdf	04 40 29.9	-0.8
YMR	Madison River	155.65	352	ePKPdf		PKPdf	04 40 31.4	+0.3
I21A	Big Trails, Te baz=156	155.80	345	P		PKPdf	04 40 30.2	-1.0
I20A	Worland baz=156	155.86	347	P		PKPdf	04 40 30.7	-0.5
J22A	Midwest baz=156	155.97	344	P		PKPdf	04 40 30.6	-0.8
FXWY	Fox Creek	156.67	352	ePKPdf		PKPdf	04 40 33.1	+0.7
K22A	Casper	156.69	343	ePKPdf		PKPdf	04 40 30.1	-2.3
K22A				ePKPab		PKPab	04 41 04.9	+3.3
K22A	Casper baz=157	156.69	343	P		PKPdf	04 40 31.3	-1.1
J19A	Crowheart baz=157	156.71	348	P		PKPdf	04 40 32.4	0.0
TPAW	Teton Pass	156.81	351	ePKPdf		PKPdf	04 40 30.9	-1.8
J05D	Fort Rock, OR baz=157	156.84	11	P		PKPdf	04 40 32.5	-0.1
TUL1	Tulsa baz=157	156.89	316	P		PKPdf	04 40 32.5	-0.2
K21A	Alcova baz=157	156.90	344	P		PKPdf	04 40 32.4	-0.3
L23A	Garrett baz=157	156.95	341	P		PKPdf	04 40 31.8	-1.0
HLID	Hailey	157.04	358	ePKPdf		PKPdf	04 40 33.3	+0.5
HLID				ePKPab		PKPab	04 40 57.6	-5.3
HLID	Hailey baz=157	157.04	358	P		PKPdf	04 40 33.2	+0.3
J08A	Circle Bar Ran	157.13	5	ePKPab		PKPab	04 41 03.0	-0.3
HUMO	Hull Mountain	157.15	14	ePKPdf		PKPdf	04 40 33.7	+0.9
MFID	Camas Ranch	157.20	1	ePKPdf		PKPdf	04 40 33.7	+0.7
MFID				ePKPab		PKPab	04 41 03.5	-0.1
L22A	Ellis Ranch, M baz=157	157.24	342	P		PKPdf	04 40 32.7	-0.5
BW06	Boulder Array	157.28	349	ePKPdf		PKPdf	04 40 32.7	-0.5
PD31	Pinedale Array	157.28	349	ePKPdf		PKPdf	04 40 31.8	-1.5
PDAR	Pinedale Array	157.28	349	PKP		PKPdf	04 40 31.8	-1.5
	comp=Z,3.9nm,1.1s,baz=119,slow=1.1,SNR=16							
PHWY	Pilot Hill	157.61	340	ePKPdf		PKPdf	04 40 33.8	0.0
V34A	Guthrie baz=158	158.04	318	P		PKPdf	04 40 34.1	0.0
N23A	Red Feather La baz=158	158.13	340	P		PKPdf	04 40 34.4	0.0
M04C	Macdoel baz=158	158.18	13	P		PKPdf	04 40 34.4	+0.1
P26A	Davis Ranch, A baz=158	158.35	334	P		PKPdf	04 40 34.3	-0.2
P25A	Willow Gulch B baz=159	158.72	335	P		PKPdf	04 40 35.5	+0.5
N20A	Spence Gulch, baz=159	158.85	345	P		PKPdf	04 40 35.2	0.0
ISCO	Idaho Springs baz=159	159.01	338	P		PKPdf	04 40 35.4	-0.1
R26A	Arlington baz=159	159.44	332	P		PKPdf	04 40 35.4	-0.4
P23A	Jefferson baz=159	159.46	338	P		PKPdf	04 40 35.7	-0.5
O20A	White River Ci	159.50	344	ePKPdf		PKPdf	04 40 35.2	-0.8
O20A	White River Ci baz=159	159.50	344	P		PKPdf	04 40 35.2	-0.8
WMOK	Wichita Mounta	159.54	317	ePKIKP		PKPdf	04 40 35.1	-0.8
WMOK				e			04 41 13.9	
WMOK	Wichita Mounta	159.54	317	ePKPdf		PKPdf	04 40 35.1	-0.8
WMOK				ePKPab		PKPab	04 41 13.9	-0.1
P22A	Eagle baz=160	159.57	340	P		PKPdf	04 40 35.8	-0.3
Q24A	Divide baz=160	159.57	336	P		PKPdf	04 40 35.7	-0.5
W32A	Sentinel baz=160	159.58	319	P		PKPdf	04 40 36.2	+0.2
JLU	Jordanelle	159.71	351	ePKPdf		PKPdf	04 40 34.5	-1.8
DAU	Daniels Canyon	159.87	350	ePKIKP		PKPdf	04 40 37.6	+1.1
DAU	Daniels Canyon	159.87	350	ePKPdf		PKPdf	04 40 37.6	+1.1
DAU				ePKPab		PKPab	04 41 20.6	+5.2
ELK	Elko	159.87	359	ePKPdf		PKPdf	04 40 36.1	-0.3
ELK				ePKPab		PKPab	04 41 12.7	-2.6
R25A	Fountain Ranch baz=160	159.93	333	P		PKPdf	04 40 36.4	0.0
S26A	Kim baz=160	160.01	331	P		PKPdf	04 40 37.1	+0.5
DUG	Dugway	160.28	354	ePKIKP		PKPdf	04 40 37.3	+0.6
DUG	Dugway	160.28	354	ePKPdf		PKPdf	04 40 37.3	+0.6
DUG				ePKPab		PKPab	04 41 17.7	+0.7
DUG	Dugway baz=160	160.28	354	P		PKPdf	04 40 37.0	+0.2
S25A	Robets Cordova baz=161	160.41	333	P		PKPdf	04 40 36.7	-0.4
ROA	Roan Cliffs	160.44	348	ePKPdf		PKPdf	04 40 37.0	-0.2
R23A	Moffat baz=160	160.51	336	P		PKPdf	04 40 36.6	-0.6
335A	Moody baz=161	160.53	307	P		PKPdf	04 40 37.5	+0.4
PAHR	Pah Rah Range	160.63	9	ePKPdf		PKPdf	04 40 37.5	+0.3
U27A	Thompson Grove baz=161	160.66	328	P		PKPdf	04 40 37.8	+0.5
T25A	Trinidad baz=161	160.83	332	P		PKPdf	04 40 37.8	+0.2
Z32A	Haskell baz=161	160.88	315	P		PKPdf	04 40 37.7	+0.2
133A	Hamilton Ranch baz=161	160.91	312	P		PKPdf	04 40 38.2	+0.7
SRU	San Rafael	161.00	348	ePKIKP		PKPdf	04 40 37.4	-0.2
SRU	San Rafael	161.00	348	ePKPdf		PKPdf	04 40 37.4	-0.2
SRU				ePKPab		PKPab	04 41 23.3	+3.0
334A	Lometa baz=161	161.11	308	P		PKPdf	04 40 38.4	+0.6
S22A	4UR Ranch, Cre baz=161	161.27	338	P		PKPdf	04 40 38.2	+0.1
Z31A	Sharp Cattle R baz=161	161.31	316	P		PKPdf	04 40 37.3	-0.7
PV04	Paradox Valley	161.31	343	ePKPdf		PKPdf	04 40 37.9	-0.1
PV04				ePKPab		PKPab	04 41 23.4	+1.7
434A	Burnet baz=161	161.39	307	P		PKPdf	04 40 37.9	-0.2
ABTX	Abilene, Hawle baz=161	161.40	314	P		PKPdf	04 40 38.3	+0.3
U25A	Circle Dot Ran baz=161	161.44	331	P		PKPdf	04 40 38.2	0.0
X29A	Tulia baz=162	161.52	321	P		PKPdf	04 40 37.9	-0.3
333A	Richland Sprin baz=162	161.66	309	P		PKPdf	04 40 38.4	+0.1
232A	Coleman baz=162	161.83	312	P		PKPdf	04 40 38.3	-0.3
W27A	Bowe Ranch, En baz=162	161.83	325	P		PKPdf	04 40 38.1	-0.4
Y29A	Porterfield Fa baz=162	161.91	320	P		PKPdf	04 40 39.2	+0.6
534A	Blanco baz=162	161.92	305	P		PKPdf	04 40 38.5	-0.2
V25A	Rancho No Teng baz=162	162.00	330	P		PKPdf	04 40 38.5	-0.3
NV01	Mina Array Sit	162.03	7	ePKPdf		PKPdf	04 40 39.5	+0.7
NV01				ePKPab		PKPab	04 41 24.7	-0.1
433A	Art baz=162	162.03	308	P		PKPdf	04 40 38.8	+0.1
332A	Millersview baz=162	162.18	310	P		PKPdf	04 40 38.8	0.0
Y28A	McKinney Farm, baz=162	162.22	321	P		PKPdf	04 40 38.7	-0.2
231A	Bronte baz=162	162.26	313	P		PKPdf	04 40 38.9	0.0
R11A	Troy Canyon, C	162.26	0	ePKPdf		PKPdf	04 40 38.8	-0.2
R11A				ePKPab		PKPab	04 41 26.1	+0.3
R11A				ePP		PP	04 45 14.1	+5.3
R11A	Troy Canyon, C baz=162	162.26	0	P		PKPdf	04 40 38.9	-0.1
U23A	El Rito baz=162	162.27	334	P		PKPdf	04 40 38.9	-0.2
130A	Snyder baz=162	162.30	316	P		PKPdf	04 40 38.9	-0.1
533A	Kerrville baz=162	162.33	306	P		PKPdf	04 40 39.7	+0.7
Z29A	Hungry Hill Ra baz=162	162.34	319	P		PKPdf	04 40 39.0	-0.1
V24A	Rampart Ranch, baz=163	162.39	331	P		PKPdf	04 40 40.1	+0.8
W25A	X Bar L Ranch, baz=162	162.42	329	P		PKPdf	04 40 39.7	+0.5
432A	Menard baz=162	162.49	309	P		PKPdf	04 40 39.2	-0.1
U22A	Llaves baz=162	162.49	336	P		PKPdf	04 40 39.6	+0.3
X26A	CR and CF Fran baz=163	162.62	326	P		PKPdf	04 40 39.7	+0.3
JCT	Junction City	162.70	308	ePKIKP		PKPdf	04 40 39.3	-0.1
JCT	Junction City	162.70	308	ePKPdf		PKPdf	04 40 39.3	-0.1
JCT	Junction City baz=163	162.70	308	P		PKPdf	04 40 39.8	+0.4
331A	San Angelo baz=163	162.70	311	P		PKPdf	04 40 39.9	+0.5
Y27A	Causey baz=163	162.76	323	P		PKPdf	04 40 39.7	+0.2
V23A	Ortiz Mt. (NFS baz=163	162.77	333	P		PKPdf	04 40 41.1	+1.5
230A	Sterling City baz=163	162.83	314	P		PKPdf	04 40 39.6	0.0
129A	Stewart Farms, baz=163	162.86	317	P		PKPdf	04 40 39.5	-0.1
W24A	Lazy 6 Ranch, baz=163	162.88	331	P		PKPdf	04 40 39.8	+0.1
CCUT	Cedar City	162.95	354	ePKPdf		PKPdf	04 40 41.1	+1.3
532A	Rocksprings baz=163	162.96	307	P		PKPdf	04 40 39.7	0.0
Y26A	Elida baz=163	163.10	324	P		PKPdf	04 40 39.8	0.0
330A	Mertzon baz=163	163.17	313	P		PKPdf	04 40 39.9	0.0
431A	Sonora baz=163	163.18	310	P		PKPdf	04 40 40.0	+0.1
Z27A	Tatum baz=163	163.21	322	P		PKPdf	04 40 39.6	-0.3
128A	Castleberry Fa baz=163	163.25	319	P		PKPdf	04 40 40.1	+0.1
Y25A	Mesa, Roswell baz=164	163.56	326	P		PKPdf	04 40 40.4	+0.1
ANMO	Albuquerque	163.57	333	ePKPdf		PKPdf	04 40 41.3	+0.9
430A	Baggett Ranch, baz=164	163.57	311	P		PKPdf	04 40 40.3	0.0
329A	Wagon Wheel Ra baz=164	163.66	315	P		PKPdf	04 40 40.8	+0.4
Z26A	Caprock baz=164	163.68	323	P		PKPdf	04 40 40.3	-0.1
127A	Arkansas Junct baz=164	163.75	320	P		PKPdf	04 40 40.9	+0.4
X23A	Hourglass Bar baz=164	163.76	331	P		PKPdf	04 40 41.0	+0.4
U15A	North Rim baz=164	163.93	350	P		PKPdf	04 40 42.2	+1.4
Y24A	Capitan baz=164	163.94	328	P		PKPdf	04 40 41.3	+0.5
530A	J-C Ranch, Com baz=164	164.00	309	P		PKPdf	04 40 41.7	+1.0
Z25A	Roswell baz=164	164.07	325	P		PKPdf	04 40 41.3	+0.5
FURC	Furnace Creek, baz=164	164.10	4	P		PKPdf	04 40 41.9	+1.4
429A	Davenport Ranc baz=164	164.12	312	P		PKPdf	04 40 41.3	+0.4
227A	Bennet, Jal baz=164	164.17	319	P		PKPdf	04 40 41.4	+0.6
Y23A	Lovelace Mesa, baz=164	164.23	330	P		PKPdf	04 40 41.8	+0.9
LAZ	Ladron	164.32	333	ePKPdf		PKPdf	04 40 39.1	-2.0
Z24A	Sheeppen Canyo baz=164	164.38	327	P		PKPdf	04 40 41.8	+0.6
125A	Gardner Draw, baz=164	164.51	323	P		PKPdf	04 40 41.6	+0.4
X21A	Alamocita Cree baz=164	164.55	335	P		PKPdf	04 40 41.6	+0.3
428A	Kincaid Ranch, baz=165	164.61	314	P		PKPdf	04 40 41.8	+0.5
529A	Stev Forest Ra baz=165	164.64	311	P		PKPdf	04 40 41.6	+0.3
WUAZ	Wupatki	164.64	347	ePKPdf		PKPdf	04 40 41.4	+0.1
WUAZ				ePKPab		PKPab	04 41 39.8	+3.4
WUAZ	Wupatki baz=165	164.64	347	P		PKPdf	04 40 41.6	+0.4
Y22A	Socorro baz=165	164.65	332	P		PKPdf	04 40 42.2	+0.9
SHOC	Shoshone baz=165	164.69	2	P		PKPdf	04 40 41.7	+0.6
Y21A	Point of Rocks baz=165	164.88	334	P		PKPdf	04 40 43.0	+1.3
124A	Stringfield Ra baz=165	164.91	325	P		PKPdf	04 40 42.7	+1.0
BAKC	Calstate	164.94	11	ePKPab		PKPab	04 41 36.2	-1.1
427A	Hayter Ranch, baz=165	165.01	316	P		PKPdf	04 40 42.0	+0.4
225A	Deer Hill, Car baz=165	165.01	322	P		PKPdf	04 40 41.9	+0.2
LRMC	Laurel Mountai baz=165	165.01	7	P		PKPdf	04 40 42.4	+0.8
528A	Cox Ranch, San baz=165	165.02	312	P		PKPdf	04 40 42.2	+0.5
326A	Caldwell Ranch baz=165	165.07	318	P		PKPdf	04 40 42.1	+0.4
Z22A	Elephant Butte baz=165	165.22	331	P		PKPdf	04 40 42.6	+0.8
Y20A	Horse Springs, baz=165	165.25	336	P		PKPdf	04 40 42.6	+0.7
GSC	Goldstone	165.26	4	ePKIKP		PKPdf	04 40 43.0	+1.3
GSC				e			04 41 37.7	
GSC	Goldstone	165.26	4	ePKPdf		PKPdf	04 40 43.0	+1.3
GSC				ePKPab		PKPab	04 41 37.7	-1.3
GSC	Goldstone baz=165	165.26	4	P		PKPdf	04 40 42.4	+0.7
224A	Cornudas Mount baz=165	165.43	324	P		PKPdf	04 40 43.0	+1.0
628A	Black Gap, Mar baz=166	165.49	310	P		PKPdf	04 40 42.2	+0.2
Z21A	St. Cloud Mine baz=166	165.49	333	P		PKPdf	04 40 43.4	+1.3
426A	McDonald Obser baz=166	165.53	316	P		PKPdf	04 40 42.5	+0.3
527A	Woodward Ranch baz=166	165.59	314	P		PKPdf	04 40 42.4	+0.2
MNTX	Cornudas Mount	165.63	323	ePKPdf		PKPdf	04 40 42.3	+0.3
MNTX				ePKPab		PKPab	04 41 41.1	+0.4
X16A	Lo Mia Camp, P baz=166	165.72	346	P		PKPdf	04 40 43.2	+1.0
GMRC	Granite Mounta baz=166	165.83	0	P		PKPdf	04 40 43.6	+1.4
627A	Terlingua Ranc baz=166	165.86	311	P		PKPdf	04 40 42.8	+0.4
324A	Moseley Ranch, baz=166	165.88	322	P		PKPdf	04 40 42.8	+0.4
526A	Mary Lane Ranc baz=166	165.97	315	P		PKPdf	04 40 43.0	+0.5
Z20A	Nine Sixteen R baz=166	166.04	335	P		PKPdf	04 40 42.9	+0.4
LTX	Lajitas	166.12	311	ePKIKP		PKPdf	04 40 43.1	+0.5
LTX				e			04 41 43.8	
LTX	Lajitas	166.12	311	ePKPdf		PKPdf	04 40 43.1	+0.5
LTX				ePKPab		PKPab	04 41 43.8	+0.7
TXAR	Lajitas Array	166.12	311	PKP		PKPdf	04 40 43.1	+0.5
	comp=Z,2.2nm,1.1s,baz=180,slow=1.3,SNR=11							
TXAR				PKPab		PKPab	04 41 43.8	+0.7
	comp=Z,0.9nm,1.0s,baz=54,slow=3.6,SNR=4.3							
TX31	Lajitas Ar. Si	166.13	311	ePKPdf		PKPdf	04 40 43.0	+0.4
TX31				ePKPab		PKPab	04 41 44.0	+0.8
PDMCI	Parker Dam,Lak baz=166	166.25	355	P		PKPdf	04 40 43.0	+0.6
626A	Big Bend Ranch baz=166	166.32	313	P		PKPdf	04 40 42.9	+0.2
IRM	Iron Mountain baz=166	166.44	359	P		PKPdf	04 40 43.6	+1.0
Y14A	Wickenburg baz=166	166.47	351	P		PKPdf	04 40 43.5	+0.8
120A	U Bar Ranch, L baz=166	166.55	334	P		PKPdf	04 40 43.8	+0.9
BC3	Big Chuckawall baz=167	166.95	360	P		PKPdf	04 40 44.1	+1.0
220A	Playas Peak, P baz=167	167.06	332	P		PKPdf	04 40 44.0	+0.7
TUC	Tucson	167.54	341	ePKIKP		PKPdf	04 40 44.4	+0.9
TUC				e			04 41 49.4	
TUC	Tucson	167.54	341	ePKPdf		PKPdf	04 40 44.4	+0.9
TUC				ePKPab		PKPab	04 41 49.4	+0.3
320A	Kipp Ranch, An baz=168	167.54	331	P		PKPdf	04 40 44.7	+1.0
319A	Douglas baz=168	167.84	334	P		PKPdf	04 40 45.1	+1.3
214A	Organ Pipe Nat baz=168	168.38	348	P		PKPdf	04 40 44.3	+0.2

IDC 02 04:35:12.7±9.2, 16°96S×175°55E, h0km, mb4.4/4, mb1 4.6/5, mb1mx4.0/19, mbtmpg4.4/5, ML4.3/1, Error ellipse: s-maj=164.2km s-min=92.9km az=98.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.98	238	Pn	Pn	Pn	04 37 37.6	+0.1
	2.6nm,0.3s,baz=63,slow=18,SNR=16							
CTA	Charters Tower	27.94	259	P	P	P	04 41 05.0	0.0
	1.1nm,0.3s,baz=82,slow=14,SNR=3.3							
STKA	Stephens Creek	34.13	238	P	P	P	04 42 00.2	+0.7
	4.2nm,0.7s,baz=64,slow=9.5,SNR=11							
WRA	Warramunga Arr	39.14	259	P	P	P	04 42 42.0	-0.4
	0.9nm,0.4s,baz=96,slow=8.5,SNR=42							
ASAR	Alice Springs	39.52	253	P	P	P	04 42 44.9	-0.6
	9.3nm,0.5s,baz=83,slow=9.0,SNR=162							

SKHL 02 04:47:28.9±0.5, 51°14N×142°22E, h10km, mb4.3/2, (II) at Khoye, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TYV	Tymovskoe	0.39	135	ePg	Pg	Pg	04 47 37.

TYV					A	A	04 47 51.5		
	490nm,0.5s								
UGL	**Uglegorsk**	**2.07**	**183**	*e*Sg	Sg	04 48 39.0	+3.7		
UGL					A	A	04 48 40.0		
	92nm,0.5s								
NKL	**Nikolayevsk**	**2.23**	**335**	*e*Pg	Pg	04 48 13.3	+1.8		
NKL				AMB	AMB	04 48 14.0			
	60nm,0.4s								
NKL				*i* Sg	Sg	04 48 44.7	+4.3		
NKL					A	A	04 48 47.7		
	52nm,0.4s								
NKL					A	A	04 48 47.7		
	90nm,0.4s								
OKH	**Okha**	**2.45**	**10**	*e*Sg	Sg	04 48 54.8	+7.1		
GRNR	**Gornyy**	**3.69**	**266**	*e*Pg	Pg	04 48 42.0	+2.5		
GRNR				*e*Sg	Sg	04 49 31.5	+4.2		
EKMR	**Ekimchan**	**6.03**	**292**	*e*Sg	Sg	04 50 50.5	+8.0		
EKMR					A	A	04 50 54.0		
	13nm,0.5s								

ISCJB **02** *04:50:44.5±1.3, 18°.4S±0°.2×71°.2W±0°.2, h41km, mb3.9/3, Error ellipse: s-maj=29.8km s-min=21.4km az=136.2*
IDC **02** *04:50:50.2±4.3, 18°.55S×71°.08W, h80km±35km, mb3.7/3, mb1 3.8/5, mb1mx3.5/19, mbtmp3.9/5, MS3.4/3, Ms1 3.4/3, ms1mx3.0/33, Error ellipse: s-maj=50.1km s-min=29.6km az=104.0*

ISC 02 04:50:45.5±1.2, 18°.4S±0°.2×71°.3W±0°.2, h41km, n14, σ0s89/6, mb4.1/3, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.73**	**56**	P	Pn	04 51 45.0	+3.9
	0.7nm,0.3s,baz=231,slow=12,SNR=39						
LPAZ				LR	LR	04 53 29.0	
	comp=Z,389nm,18.5s,baz=252,slow=44						
SIV	**San Ignacio**	**10.10**	**78**	P	**Pn**	**04 53 08.6**	**+0.4**
	1.2nm,0.3s,baz=272,slow=13,SNR=11						
SIV				LR	LR	04 57 28.9	
	comp=Z,15nm,28.6s,baz=303,slow=40						
ATAH	**Atahualpa**	**13.16**	**328**	LR	LR	04 59 20.9	
	comp=Z,125nm,19.5s,baz=152,slow=38						
H03N1	**Juan Fernandez**	**16.42**	**203**	T	T	05 12 23.9	
	baz=26,slow=75,SNR=81						
H03N2	**Juan Fernandez**	**16.43**	**203**	T	T	05 12 24.6	
	baz=26,slow=75,SNR=94						
H03N3	**Juan Fernandez**	**16.44**	**203**	T	T	05 12 26.4	
	baz=26,slow=75,SNR=69						
PLCA	**Paso Flores**	**22.24**	**178**	P	**P**	**04 55 39.2**	**+0.3**
	1.4nm,0.6s,baz=340,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**78.53**	**72**	P	**P**	**05 02 42.5**	**-0.7**
	1.9nm,0.9s,baz=260,slow=4.8,SNR=11						
YKA	**Yellowknife Ar**	**87.55**	**341**	P	**P**	**05 03 29.5**	**+0.8**
	1.2nm,0.8s,baz=128,slow=4.6,SNR=8.8						
H11S2	**WAKE ISLAND Hyd**	**25.17**	**280**	T	T	07 27 36.5	
	baz=102,slow=72,SNR=40						
H11S1	**WAKE ISLAND Hyd**	**25.17**	**280**	T	T	07 27 35.0	
	baz=102,slow=72,SNR=20						
H11S3	**WAKE ISLAND Hyd**	**25.18**	**280**	T	T	07 27 34.3	
	baz=102,slow=72,SNR=17						
MKAR	**Makanchi Array**	**144.36**	**32**	PKP	**PKPdf**	**05 10 16.3**	**-1.0**
	1.3nm,0.9s,baz=306,slow=2.7,SNR=3.8						
SONM	**Songino Array**	**150.61**	**3**	PKPbc	**PKPbc**	**05 10 33.2**	**-0.1**
	0.7nm,0.7s,baz=319,slow=4.2,SNR=3.3						

ISCJB **02** *05:00:19.8±0.3, 34°.81S±0°.07×54°.55E±0°.09, h10km, mb4.4/26, MS4.0/26, Error ellipse: s-maj=11.6km s-min=8.7km az=137.0*
IDC **02** *05:00:20.0±0.4, 34°.74S×54°.58E, h0km, mb4.4/23, mb1 4.5/24, mb1mx4.4/33, mbtmp4.4/24, ML4.0/1, MS4.0/27, Ms1 4.0/27, ms1mx3.9/38, Error ellipse: s-maj=15.4km s-min=12.1km az=37.0*
NEIC **02** *05:00:21.5±0.3, 34°.79S×54°.54E, h10km, mb4.6/5, Error ellipse: s-maj=9.9km s-min=7.2km az=45.0*

ISC 02 05:00:21.7±0.4, 34°.76S±0°.09×54°.58E±0°.10, h10km, n88, σ0s85/75, mb4.5/26, MS4.1/26, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABPO	**Ambohimpanom**	**16.99**	**336**	*e*Pn	**Pn**	**05 04 19.6**	**-0.1**
	17nm,0.9s						
OPO	**Ambohidratompo**	**17.42**	**336**	P	**Pn**	**05 04 25.0**	**0.0**
OPO	**Ambohidratompo**	**17.42**	**336**	P	**Pn**	**05 04 25.0**	**0.0**
	0.5nm,0.3s,baz=149,slow=11,SNR=9.4						
OPO				LR	LR	05 09 31.6	
	comp=Z,591nm,20.7s,baz=170,slow=32						
BOSA	**Boshof**	**25.64**	**276**	P	**P**	**05 05 49.8**	**-1.9**
BOSA	**Boshof**	**25.64**	**276**	P	**P**	**05 05 49.8**	**-1.9**
	5.4nm,1.1s,baz=154,slow=21,SNR=3.3						
BOSA				LR	LR	05 13 42.0	
	comp=Z,171nm,18.2s,baz=126,slow=31						
LBTB	**Lobatse**	**26.86**	**283**	P	**P**	**05 06 02.1**	**-0.6**
LBTB	**Lobatse**	**26.86**	**283**	P	**P**	**05 06 02.1**	**-0.6**
	6.5nm,1.1s,baz=114,slow=10.0,SNR=4.3						
LBTB				LR	LR	05 14 01.3	
	comp=Z,149nm,21.3s,baz=120,slow=31						
SUR	**Sutherland**	**28.16**	**265**	P	**P**	**05 06 13.7**	**-0.8**
SUR	**Sutherland**	**28.16**	**265**	P	**P**	**05 06 13.7**	**-0.8**
	13nm,0.9s,baz=124,slow=7.3,SNR=3.8						
SUR				LR	LR	05 14 50.2	
	comp=Z,58nm,21.0s,baz=355,slow=31						
H08S1	**Diego Garcia H**	**31.61**	**36**	T	T	05 39 59.4	
	baz=207,SNR=75						
H08S2	**Diego Garcia H**	**31.62**	**36**	T	T	05 39 49.6	
	baz=207,SNR=33						
H08S3	**Diego Garcia H**	**31.63**	**36**	T	T	05 40 00.4	
	baz=207,SNR=68						
H08N3	**Diego Garcia H**	**32.08**	**32**	T	T	05 40 21.3	
	baz=206,slow=76,SNR=14						
H08N1	**Diego Garcia H**	**32.09**	**32**	T	T	05 40 24.0	
	baz=206,slow=76,SNR=12						
H08N2	**Diego Garcia H**	**32.10**	**32**	T	T	05 40 24.5	
	baz=206,slow=76,SNR=15						
MAW	**Mawson**	**33.23**	**174**	P	**P**	**05 06 58.5**	**0.0**
MAW				PcP	**PcP**	**05 09 41.5**	**+0.8**
MAW	**Mawson**	**33.23**	**174**	P	**P**	**05 06 58.5**	**0.0**
	3.8nm,0.8s,baz=307,slow=12,SNR=3.7						
MAW				PcP	**PcP**	**05 09 41.5**	**+0.8**
	2.0nm,0.7s,baz=323,slow=2.8,SNR=3.2						
MAW				LR	LR	05 17 05.2	
	comp=Z,408nm,19.6s,baz=57,slow=30						
TSUM	**Tsumeb**	**36.20**	**286**	P	**P**	**05 07 24.5**	**-0.4**
TSUM	**Tsumeb**	**36.20**	**286**	P	**P**	**05 07 24.5**	**-0.4**
	1.6nm,0.6s,baz=140,slow=9.8,SNR=3.4						
KMBO	**Kilima Mbogo**	**37.17**	**330**	P	**P**	**05 07 32.5**	**-0.8**
KMBO	**Kilima Mbogo**	**37.17**	**330**	P	**P**	**05 07 32.5**	**-0.8**
	1.1nm,0.6s,baz=196,slow=15,SNR=3.1						
KMBO				LR	LR	05 20 22.7	
	comp=Z,281nm,21.9s,baz=277,slow=32						
SNAA	**Sanae**	**47.26**	**201**	*e*P	**P**	**05 08 54.2**	**-0.5**
SNAA	**Sanae**	**47.26**	**201**	*e*	P	05 09 00.7	+6.0
SNAA	**Sanae**	**47.26**	**201**	*e*P	**P**	**05 08 53.9**	**-0.9**
SNAA				PcP	**PcP**	**05 10 25.2**	**-0.5**
SNAA	**Sanae**	**47.26**	**201**	P	**P**	**05 08 53.8**	**-0.9**
	2.6nm,0.9s,baz=81,slow=5.0,SNR=17						
SNAA				PcP	**PcP**	**05 10 25.2**	**-0.5**
	0.4nm,0.7s,baz=344,slow=7.4,SNR=3.7						
SNAA				LR	LR	05 23 37.2	
	comp=Z,42nm,19.4s,baz=208,slow=30						
VNA2	**Neumayer--Watz**	**48.45**	**203**	*e*P	**P**	**05 09 04.4**	**+0.5**
VNA2	**Neumayer--Watz**	**48.45**	**203**	*e*	P	05 09 09.7	+5.8
NWAO	**Narrogin (SRO)**	**51.30**	**107**	LR	LR	05 26 44.6	
	comp=Z,182nm,20.9s,baz=299,slow=31						
QSPA	**South Pole Qui**	**55.42**	**180**	P	**P**	**05 09 56.0**	**0.0**
QSPA	**South Pole Qui**	**55.42**	**180**	P	**P**	**05 09 55.9**	**-0.1**
	18nm,0.9s,baz=268,slow=4.4,SNR=32						
VNDA	**Vanda**	**59.95**	**166**	P	**P**	**05 10 26.3**	**-1.2**
VNDA	**Vanda**	**59.95**	**166**	P	**P**	**05 10 26.3**	**-1.2**
	3.2nm,0.9s,baz=237,slow=5.5,SNR=6.7						
FITZ	**Fitzroy Crossi**	**64.56**	**95**	P	**P**	**05 10 59.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**64.56**	**95**	P	**P**	**05 10 59.4**	**+0.1**
	4.0nm,0.8s,baz=218,slow=4.7,SNR=5.7						
FITZ				LR	LR	05 34 15.5	
	comp=Z,72nm,20.0s,baz=188,slow=32						
CMAR	**Chiang Mai Arr**	**67.66**	**46**	P	**P**	**05 11 17.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**67.66**	**46**	P	**P**	**05 11 17.9**	**-1.2**
	3.4nm,0.8s,baz=236,slow=6.9,SNR=13						
CMAR				LR	LR	05 36 52.2	
	comp=Z,88nm,18.0s,baz=169,slow=32						
ASAR	**Alice Springs**	**68.50**	**104**	P	**P**	**05 11 24.5**	**-0.1**
ASAR	**Alice Springs**	**68.50**	**104**	P	**P**	**05 11 24.5**	**-0.1**
	4.0nm,0.7s,baz=234,slow=5.8,SNR=42						
ASAR				LR	LR	05 36 44.8	
	comp=Z,111nm,18.9s,baz=166,slow=32						
AS31	**Alice Springs**	**68.50**	**104**	*e*P	**P**	**05 11 24.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**69.17**	**304**	P	**P**	**05 11 29.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**69.17**	**304**	P	**P**	**05 11 29.7**	**+1.1**
	4.3nm,1.2s,baz=138,slow=4.7,SNR=14						
TORD				LR	LR	05 42 01.1	
	comp=Z,113nm,18.7s,baz=295,slow=36						
DBIC	**Dimbokro**	**69.49**	**294**	P	**P**	**05 11 32.0**	**+1.4**
DBIC	**Dimbokro**	**69.49**	**294**	P	**P**	**05 11 32.0**	**+1.4**
	4.1nm,1.1s,baz=115,slow=9.2,SNR=3.3						
DBIC				LR	LR	05 37 50.7	
	comp=Z,83nm,19.7s,baz=66,slow=32						
STKA	**Stephens Creek**	**70.44**	**116**	P	**P**	**05 11 36.0**	**-0.3**
STKA	**Stephens Creek**	**70.44**	**116**	P	**P**	**05 11 36.7**	**+0.3**
	4.9nm,0.8s,baz=256,slow=5.4,SNR=7.6						
STKA				LR	LR	05 36 55.2	
	comp=Z,122nm,18.3s,baz=204,slow=31						
WRA	**Warramunga Arr**	**70.72**	**101**	P	**P**	**05 11 38.6**	**+0.3**
WRA	**Warramunga Arr**	**70.72**	**101**	P	**P**	**05 11 38.6**	**+0.3**
	11nm,0.8s,baz=236,slow=5.1,SNR=61						
WRAB	**Tennant Creek**	**70.73**	**101**	*e*P	**P**	**05 11 38.1**	**-0.2**
	14nm,0.9s						
BR131	**Keskin Array S**	**76.60**	**344**	*e*P	**P**	**05 12 12.5**	**+0.1**
	4.2nm,1.0s						
BRTR	**Keskin Array B**	**76.60**	**344**	P	**P**	**05 12 12.2**	**-0.2**
BRTR	**Keskin Array B**	**76.60**	**344**	P	**P**	**05 12 12.2**	**-0.2**
	2.6nm,1.0s,baz=166,slow=6.4,SNR=12						
BRTR				LR	LR	05 43 34.8	
	comp=Z,66nm,19.4s,baz=107,slow=34						
KBZ	**Khabaz**	**78.84**	**351**	P	**P**	**05 12 23.1**	**-1.4**
KBZ	**Khabaz**	**78.84**	**351**	P	**P**	**05 12 23.1**	**-1.4**
	2.2nm,1.1s,baz=245,slow=14,SNR=1.9						
KBZ				LR	LR	05 45 44.8	
	comp=Z,107nm,19.7s,baz=202,slow=35						
KKAR	**Karatay Array**	**78.85**	**12**	*e*P	**P**	**05 12 26.1**	**+1.4**
	4.3nm,1.1s						
AAK	**Ala-Archa**	**79.15**	**15**	*e*P	**P**	**05 12 28.5**	**+2.0**
	22nm,1.7s						
CTA	**Charters Tower**	**80.14**	**108**	P	**P**	**05 12 33.2**	**+0.8**
CTA	**Charters Tower**	**80.14**	**108**	P	**P**	**05 12 33.2**	**+0.8**
	5.3nm,0.8s,baz=255,slow=9.0						
CTAO	**Charters Tower**	**80.14**	**108**	*e*P	**P**	**05 12 32.7**	**+0.3**
KEST	**Kesra**	**81.85**	**324**	LR	LR	05 48 57.2	
	comp=Z,81nm,20.2s,baz=260,slow=36						
RPZ	**Rata Peaks**	**82.83**	**139**	LR	LR	05 41 41.9	
	comp=Z,203nm,19.6s,baz=196,slow=30						
MKAR	**Makanchi Array**	**84.93**	**19**	P	**P**	**05 12 56.8**	**+0.2**
MKAR	**Makanchi Array**	**84.93**	**19**	P	**P**	**05 12 56.8**	**+0.2**
	2.0nm,1.0s,baz=231,slow=9.2,SNR=4.7						
MDT	**Midelt**	**87.20**	**314**	LR	LR	05 49 50.3	
	comp=Z,112nm,19.4s,baz=289,slow=34						
KURBB	**Kurchatov Arra**	**87.61**	**15**	P	**P**	**05 13 09.8**	**+0.1**
	0.2nm,0.3s,baz=214,slow=5.3,SNR=5.5						
KURK	**Kurchatov**	**87.72**	**15**	P	**P**	**05 13 09.8**	**-0.4**
AKASG	**Malin Array Be**	**87.99**	**344**	P	**P**	**05 13 10.5**	**-0.9**
AKASG	**Malin Array Be**	**87.99**	**344**	P	**P**	**05 13 10.5**	**-0.9**
	1.1nm,0.7s,baz=171,slow=4.4,SNR=10						
AKASG				LR	LR	05 57 01.9	
	comp=Z,39nm,18.2s,baz=280,slow=39						
PLCA	**Paso Flores**	**89.49**	**218**	LR	LR	05 47 27.2	
	comp=Z,69nm,18.2s,baz=144,slow=32						
URZ	**Urewera**	**89.91**	**138**	LR	LR	05 44 36.3	
	comp=Z,125nm,20.3s,baz=205,slow=30						
VRAC	**Vranov**	**90.25**	**336**	LR	LR	05 54 19.9	
	comp=Z,73nm,20.7s,baz=323,slow=36						
DAVOX	**Davos/Dischmat**	**90.58**	**331**	LR	LR	05 52 42.6	
	comp=Z,62nm,19.7s,baz=93,slow=35						
GERES	**GERESS Array B**	**90.85**	**334**	LR	LR	05 58 19.2	
	comp=Z,90nm,20.4s,baz=272,slow=38						
BDFB	**Brasilia**	**91.20**	**250**	P	**P**	**05 13 28.6**	**+0.9**
BDFB	**Brasilia**	**91.20**	**250**	P	**P**	**05 13 28.6**	**+0.9**
	1.9nm,0.8s,baz=123,slow=11,SNR=3.4						
ESDC	**Sonseca Array**	**91.68**	**319**	LR	LR	05 56 24.3	
	comp=Z,139nm,21.5s,baz=130,slow=37						
ZALV	**Zalesovo Beam**	**92.14**	**17**	LR	LR	05 51 09.0	
	comp=Z,58nm,18.0s,baz=159,slow=33						
INK	**Inuvik**	**146.09**	**5**	PKPbc	**PKPbc**	**05 20 00.9**	**0.0**
INK	**Inuvik**	**146.09**	**5**	PKPbc	**PKPbc**	**05 20 00.9**	**0.0**
	3.8nm,0.9s,baz=10,slow=6.3,SNR=15						
ILAR	**Eielson Array**	**147.27**	**17**	PKPbc	**PKPdf**	**05 20 02.5**	**+0.4**
ILAR	**Eielson Array**	**147.27**	**17**	PKPbc	**PKPdf**	**05 20 02.5**	**+0.4**
	1.0nm,0.8s,baz=295,slow=2.9,SNR=8.4						
YKA	**Yellowknife Ar**	**151.42**	**350**	PKPbc	**PKPbc**	**05 20 14.6**	**-0.3**
YKA	**Yellowknife Ar**	**151.42**	**350**	PKPbc	**PKPbc**	**05 20 14.6**	**-0.3**
	1.3nm,0.6s,baz=20,slow=2.0,SNR=34						
TXAR	**Lajitas Array**	**160.80**	**260**	PKP	**PKPdf**	**05 20 22.1**	**-0.2**
TXAR				PKPab	**PKPab**	**05 21 05.9**	**+1.3**
TXAR	**Lajitas Array**	**160.80**	**260**	PKP	**PKPdf**	**05 20 22.1**	**-0.2**
	0.5nm,0.8s,baz=149,slow=2.6,SNR=7.4						
TXAR				PKPab	**PKPab**	**05 21 05.9**	**+1.3**
	0.4nm,0.8s,baz=125,slow=7.8,SNR=3.9						
PDAR	**Pinedale Array**	**165.29**	**308**	PKP	**PKPdf**	**05 20 25.6**	**-0.8**
PDAR	**Pinedale Array**	**165.29**	**308**	PKP	**PKPdf**	**05 20 25.7**	**-0.8**
	0.5nm,0.8s,baz=141,slow=5.8,SNR=3.2						
NVAR	**Mina Array Bea**	**173.21**	**305**	PKP	**PKPdf**	**05 20 33.0**	**+1.5**
NVAR	**Mina Array Bea**	**173.21**	**305**	PKP	**PKPdf**	**05 20 33.0**	**+1.5**
	0.3nm,0.6s,baz=225,slow=1.5,SNR=3.7						

IDC 02 05:15:01.8±4.8, 30°.14S×138°.61E, h0km, mb1 2.9/3, mb1mx2.9/15, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=160.1km s-min=17.9km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.10**	**125**	Pn	Pn	05 15 51.8	-0.2
	0.4nm,0.3s,baz=292,slow=11,SNR=5.9						
STKA				Sn	Sn	05 16 30.6	+0.9
	1.5nm,0.3s,baz=217,slow=17,SNR=4.0						
STKA				Lg	Lg	05 16 40.5	
	1.6nm,0.3s,baz=15,slow=23,SNR=7.5						
ASAR	**Alice Springs**	**7.69**	**326**	Pn	Pn	05 16 54.6	-0.5
	0.1nm,0.3s,baz=148,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**10.86**	**338**	Pn	Pn	05 17 39.3	+0.6
	0.1nm,0.3s,baz=157,slow=11,SNR=4.8						

IDC 02 05:16:28.3±2.6, 12°.10N×139°.76E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.5/4, MS3.9/1, Ms1 3.9/1, ms1mx2.9/23, Error ellipse: s-maj=349.1km s-min=23.9km az=106.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**18.20**	**325**	LR	LR	05 26 48.3	
	comp=Z,7.7nm,18.8s,baz=309,slow=34						
H11S3	**WAKE ISLAND Hy**	**26.72**	**73**	T	T	05 50 42.1	
	baz=238,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**26.73**	**73**	T	T	05 50 34.4	
	baz=238,slow=75,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**26.74**	**73**	T	T	05 50 37.3	
	baz=238,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.14**	**70**	T	T	05 51 14.5	
	baz=257,slow=75,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**27.15**	**70**	T	T	05 51 13.0	
	baz=257,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**27.16**	**70**	T	T	05 51 15.0	
	baz=257,slow=75,SNR=7.8						
WRA	**Warramunga Arr**	**32.29**	**190**	P	P	05 22 58.6	-0.5
	0.5nm,0.6s,baz=9.1,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**36.01**	**189**	P	P	05 23 31.7	+0.3
	0.1nm,0.4s,baz=19,slow=12,SNR=3.6						
ILAR	**Eielson Array**	**72.04**	**26**	P	P	05 27 53.9	-0.1
	0.3nm,0.6s,baz=252,slow=6.1,SNR=7.0						
SPITS	**Spitsbergen Ar**	**84.67**	**350**	LR	LR	06 10 16.9	
	comp=Z,63nm,18.1s,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**86.44**	**27**	P	P	05 29 12.8	+0.2
	0.5nm,0.6s,baz=290,slow=4.9,SNR=5.1						

IDC **02** *05:29:14.8±3.2, 43°.42N×148°.25E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/26, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=86.4km s-min=35.8km az=167.0*
JMA **02** *05:29:17.8±0.3, 43°.61N×147°.41E, h14km, M3.9*
SKHL **02** *05:29:19.4±0.3, 43°.72N×147°.49E, h55km±4km, mb4.6/2*
MOS **02** *05:29:20.6±3.0, 43°.94N×147°.64E, h52km, mb3.8/1, Error ellipse: s-maj=33.5km s-min=23.7km az=62.6*

ISC 02 05:29:15.5±2.0, 43°.70N±0°.08×147°.53E±0°.06, h11km±13km, n29, σ1s48/32, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.25**	**286**	*c* iPN	**Pn**	**05 29 39.3**	**+0.3**
YUK				*i* S	**Sb**	**05 29 54.6**	**-0.7**
YUK				pmax	pmax		
	comp=N,57nm,0.3s						
YUK				pmax	pmax		
	comp=E,72nm,0.3s						
YUK				pmax	pmax		
	comp=Z,271nm,0.3s						
YUK				smax	smax		
	comp=N,569nm,0.6s						
YUK				smax	smax		
	comp=E,481nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.25**	**286**	*i* iP	**Pb**	**05 29 39.4**	**+0.2**
YUK				AMB	AMB	05 29 39.9	
	comp=E,6μm,0.3s						
YUK				AMB	AMB	05 29 39.9	
	comp=E,60nm,0.3s						
YUK				AMB	AMB	05 29 39.9	
	comp=E,70nm,0.3s						
YUK				AMB	AMB	05 29 39.9	
	comp=E,270nm,0.3s						
YUK				*i* S	**Sb**	**05 29 54.6**	**-0.7**
YUK				A	A	05 29 54.9	
	comp=E,600nm,0.8s						
YUK				A	A	05 29 55.1	
	comp=E,570nm,0.6s						
YUK				A	A	05 29 55.1	
	comp=E,480nm,0.6s						
NEM2	**Nemuro 2**	**1.34**	**256**	P	**Pg**	**05 29 40.5**	**-0.8**
NEM2				*e*S	**Sn**	**05 29 56.5**	**-1.5**
KUR	**Kuril'sk**	**1.55**	**9**	*e*PN	**Pn**	**05 29 43.8**	**+0.7**
KUR				S	Sn	05 30 00.5	-2.8
KUR				pmax	pmax		
	comp=Z,155nm,0.4s						
KUR				pmax	pmax		
	comp=E,99nm,0.3s						
KUR				smax	smax		
	comp=E,318nm,0.4s						
KUR				smax	smax		
	comp=N,198nm,0.3s						
KUR	**Kuril'sk**	**1.55**	**9**	*e*P	**Pn**	**05 29 43.8**	**+0.7**
KUR				AMB	AMB	05 29 45.0	
	comp=N,100nm,0.4s						
KUR				AMB	AMB	05 29 45.0	
	comp=N,160nm,0.4s						
KUR				*e*S	**Sn**	**05 30 01.9**	**-1.4**
KUR				A	A	05 30 03.2	
	comp=N,200nm,0.4s						
KUR				A	A	05 30 03.2	
	comp=N,320nm,0.4s						
JRA	**Rausu**	**1.76**	**279**	P	**Pb**	**05 29 47.0**	**-0.8**
JRA				*e*S	**Sb**	**05 30 09.3**	**-0.6**
JNK	**Nakash**	**2.04**	**268**	P	**Pn**	**05 29 50.9**	**+1.0**
JNK				*e*S	**Sn**	**05 30 15.2**	**-0.2**
JAK	**Akkeshi**	**2.18**	**252**	P	**Pn**	**05 29 52.6**	**+0.8**
JTKR	**Abashiri--Toko**	**2.63**	**277**	P	**Pn**	**05 29 59.9**	**+1.9**
JAR	**Ashorobuto**	**2.77**	**263**	P	**Pn**	**05 30 01.8**	**+2.0**
JAR				*e*S	**Sn**	**05 30 33.3**	**+0.1**
JOB	**Onbets**	**2.81**	**255**	P	**Pn**	**05 30 01.9**	**+1.5**
JOB				*e*S	**Sb**	**05 30 35.8**	**-4.4**
JMP	**Maruseppu**	**3.03**	**277**	P	**Pn**	**05 30 05.7**	**+2.2**
HRK	**Horoka**	**3.21**	**267**	*e*P	**Pn**	**05 30 08.6**	**+2.7**
JCH	**Churui**	**3.24**	**252**	P	**Pn**	**05 30 08.2**	**+1.9**
JKA	**Kamikawa-asahi**	**3.59**	**278**	*e*P	**Pb**	**05 30 19.5**	**+0.5**
ASAJ	**Asahikawa**	**3.59**	**278**	Pn	**Pb**	**05 30 19.5**	**+0.5**
	comp=N,3.7nm,0.3s,baz=125,slow=10,SNR=8.5						
ASAJ				Sn	**Sb**	**05 31 03.6**	**+1.0**
	comp=N,1.9nm,0.3s,baz=342,slow=20,SNR=3.6						
JNBK	**Urakawa-nobuka**	**3.78**	**250**	P	**Pn**	**05 30 15.6**	**+1.9**
PETK	**Petropavlovsk-**	**11.58**	**32**	PN	**Pn**	**05 32 01.6**	**+0.9**
PETK	**Petropavlovsk-**	**11.58**	**32**	Pn	**Pn**	**05 32 01.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=206,slow=16,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.88**	**140**	T	T	06 05 51.6	
	baz=333,slow=76,SNR=138						
H11N1	**WAKE ISLAND Hy**	**28.89**	**140**	T	T	06 05 52.5	
	baz=333,slow=76,SNR=149						
H11N3	**WAKE ISLAND Hy**	**28.90**	**140**	T	T	06 05 52.9	
	baz=333,slow=76,SNR=139						
H11S1	**WAKE ISLAND Hy**	**29.85**	**141**	T	T	06 07 01.2	
	baz=335,slow=77,SNR=180						
H11S3	**WAKE ISLAND Hy**	**29.86**	**141**	T	T	06 07 02.2	
	baz=335,slow=77,SNR=120						
H11S2	**WAKE ISLAND Hy**	**29.87**	**141**	T	T	06 07 02.4	
	baz=335,slow=77,SNR=92						
ILAR	**Eielson Array**	**41.37**	**36**	*e*P	**P**	**05 37 00.9**	**-0.3**
ILAR	**Eielson Array**	**41.37**	**36**	P	**P**	**05 37 00.8**	**-0.3**
	comp=N,0.4nm,0.5s,baz=263,slow=7.9,SNR=5.1						
TXAR	**Lajitas Array**	**82.45**	**56**	*e*P	**P**	**05 41 38.0**	**-0.2**
TXAR	**Lajitas Array**	**82.45**	**56**	P	**P**	**05 41 38.0**	**-0.2**
	comp=

1.7nm,0.6s,baz=248,slow=8.2,SNR=15
NVAR Mina Array Bea 36.18 93 P **P** **06 18 55.7 +1.3**
0.6nm,0.7s,baz=310,slow=7.0,SNR=4.0
TXAR Lajitas Array 51.26 91 P **P** **06 20 56.7 +1.1**
0.3nm,0.7s,baz=299,slow=5.9,SNR=5.2
FINES FINESS Array B 65.91 353 P **P** **06 22 35.8 -1.3**
2.0nm,0.8s,baz=20,slow=8.9,SNR=5.4

NIED ***02*** *06:14:00,37˚.10N×141˚.60E,h41km,Mw5.0 Best double couple: M0 3.89000×10^16 NP1:φs 23.00000°,δ72.00000°, λ92.00000°. NP2:φs 195.00000°,δ19.00000°,λ83.00000°.*

BJI ***02*** *06:14:24.1,37˚.19N×141˚.76E,h48km,mB5.2/43,mb5.0/51, Ms4.6/53,Ms7 4.5/51*

JMA ***02*** *06:14:26.2±0.1,37˚.15N×141˚.48E,h48km±2km,M4.9 Broadband fault plane solution: P waves. NP1: φs 20.00000°,δ65.00000°,λ87.00000°. NP2:φs 207.00000°, δ25.00000°,λ97.00000°. Principal axes: T Plg70.0000°, Azm283.0000°; N Plg3.0000°, Azm21.0000°; P Plg20.0000°, Azm112.0000°;*

JMA Felt III J1.

IDC ***02*** *06:14:27.2±0.4,37˚.17N×141˚.43E,h41km±3km,mb4.4/27, mb1 4.5/30,mb1mx4.5/33,mbtmp4.4/30,ML4.2/3,MS4.4/29, Ms1 4.4/29,ms1mx4.2/42 Error ellipse: s-maj=12.4km s-min=10.4km az=105.0*

ISCJB ***02*** *06:14:27.3±0.3,37˚.22N±0˚.03×141˚.35E±0˚.02,h51km±2km, mb4.9/138,MS4.5/38,Error ellipse: s-maj=4.6km s-min=2.8km az=159.0*

MOS ***02*** *06:14:28.2±0.8,37˚.50N×141˚.29E,h49km,mb5.2/61, MS4.4/15,Error ellipse: s-maj=7.3km s-min=4.8km az=113.3*

NEIC ***02*** *06:14:29.6±0.5,37˚.22N×141˚.36E,h60km±4km,mb5.0/58, MW5.0(NIED),Error ellipse: s-maj=4.3km s-min=3.3km az=145.0*

NEIC Felt at Ichinoseki, Sendai, Tsukuba and Utsunomiya. Recorded [3 JMA] in Fukushima; [2 JMA] in Ibaraki, Iwate, Miyagi and Tochigi; [1 JMA] in Gumma and Yamagata.

GCMT ***02*** *06:14:29.9±0.2,37˚.14N×141˚.71E,h48km,MW5.1, Moment Tensor Solution. s63,c87; s87,c137; Moment tensor: Scale 10^16Nm; Mrr 5.06±.17; Mθθ-0.64±.11; Mφφ-4.42±.11; Mrθ 1.05±.10; Mrφ-1.46±.09; Mθφ 2.57±.10; Best double couple: M0 5.70000×10^16 NP1:φs 20.00000°, δ60.00000°,λ92.00000°. NP2:φs 197.00000°,δ30.00000°, λ87.00000°. Principal axes: T 5.7800, Plg75.0000°, Azm295.0000°; N -0.1500, Plg1.0000°, Azm200.0000°; P -5.6400, Plg15.0000°, Azm109.0000°; Data Used: II IU IC G CN CU.*

ISC 02 06:14:27.3±0.3,37˚.20N±0˚.03×141˚.40E±0˚.03,h42km±1km, h42km:pP-P,n586,σ1≤06/656,mb5.0/138,MS4.5/41, 26C-15D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	ISC
				Op			Time	Res
JFK	**Kawauchi**	**0.46**	**292**	⇓P		**Pn**	**06 14 37.7**	**+0.1**
JFK				S		**Sn**	**06 14 45.4**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.49**	**259**	⇓P		**Pn**	**06 14 37.9**	**-0.2**
ONAJ				S		**Sn**	**06 14 46.2**	**+0.5**
JMM	**Marumori**	**0.83**	**324**	⇓P		**Pn**	**06 14 42.5**	**0.0**
JMM				S		**Sn**	**06 14 54.2**	**+0.6**
JHO	**Hitachi**	**0.89**	**229**	⇓P		**Pn**	**06 14 42.3**	**-1.1**
JHO				S		**Sn**	**06 14 53.7**	**-1.4**
JFT	**Otama**	**0.91**	**291**	⇓P		**Pn**	**06 14 44.6**	**+0.9**
JFT				S		**Sn**	**06 14 58.0**	**+2.4**
JIO	**Ouri**	**1.26**	**358**	⇓P		**Pn**	**06 14 47.7**	**-0.7**
JIO				*e*S		**Sn**	**06 15 03.6**	**-0.5**
JOU	**Okura**	**1.31**	**334**	⇓P		**Pn**	**06 14 49.5**	**+0.4**
JOU				S		**Sn**	**06 15 07.1**	**+1.7**
JFY	**Yanaizu**	**1.37**	**279**	⇓P		**Pn**	**06 14 50.8**	**+0.8**
MAJO	**Matsushiro**	**2.64**	**257**	*d i*P		**Pn**	**06 15 09.1**	**+1.6**
MAJO	**Matsushiro**	**2.64**	**257**	*e*Pn		**Pn**	**06 15 09.1**	**+1.6**
MAT	**Matsushiro**	**2.64**	**257**	P		**Pn**	**06 15 09.0**	**+1.5**
MAT				S		**Sn**	**06 15 39.5**	**+1.2**
JHJ2	**Mitsune**	**4.28**	**198**	*e*Pn		**Pn**	**06 15 32.0**	**+2.1**
ERM	**Erimo**	**5.00**	**15**	*e*P		**Pn**	**06 15 39.8**	**0.0**
ERM	**Erimo**	**5.00**	**15**	*e*Pn		**Pn**	**06 15 39.8**	**0.0**
ERM	**Erimo**	**5.00**	**15**	Pn		**Pn**	**06 15 39.3**	**-0.5**
	762nm,0.4s,SNR=18							
ASAJ	**Asahikawa**	**6.97**	**7**	*e*Pn		**Pn**	**06 16 07.0**	**+0.1**
ASAJ	**Asahikawa**	**6.97**	**7**	P		**Pn**	**06 16 05.2**	**-1.6**
	13nm,0.3s,baz=212,slow=10,SNR=25							
YUK	**Yuzh-Kuril'sk**	**7.63**	**25**	*d i*P		Pn	06 16 09.7	-6.1
YUK				*i* S		Sn	06 17 32.6	-8.3
YUK					pmax	pmax		
	comp=N,61nm,0.3s							
YUK					pmax	pmax		
	comp=E,81nm,0.3s							
YUK					pmax	pmax		
	comp=Z,145nm,0.3s							
YUK					MLR	MLR		
	comp=Z,423nm,17.0s							
VLA	**Vladivostok**	**9.38**	**312**	⇑*i*P		Pn	06 16 44.4	+4.5
VLA				S		Sn	06 18 31.6	+7.6
VLA					pmax	pmax		
	comp=Z,141nm,1.3s							
KUR	**Kuril'sk**	**9.39**	**29**	P		**Pn**	**06 16 42.4**	**+2.5**
KUR				*e*S		Sn	06 18 16.6	-7.5
KUR					smax	smax		
	comp=E,360nm,0.3s							
KUR					smax	smax		
	comp=N,106nm,0.4s							
JNU	**Nakatsue**	**9.53**	**248**	P		Pn	06 16 45.8	+3.8
JNU	**Nakatsue**	**9.53**	**248**	P		Pn	06 16 45.8	+3.8
	comp=N,1.1nm,0.3s,baz=51,slow=3.8,SNR=14							
JNU					LR	LR	06 20 49.5	
	comp=N,1μm,18.7s,baz=68,slow=40							
YSS	**Yuzh-Sakhalins**	**9.80**	**5**	⇓*e*P		**Pn**	**06 16 45.2**	**-0.4**
YSS				*e*S		**Sn**	**06 18 29.0**	**-5.3**
YSS					pmax	pmax		
	comp=Z,30nm,0.7s							
YSS					MLR	MLR		
	comp=N,1μm,15.0s							
YSS					MLR	MLR		
	comp=Z,1μm,15.0s							
USRK	**Ussuriysk Arra**	**10.00**	**317**	P		**Pn**	**06 16 50.0**	**+1.8**
	comp=Z,2.2nm,0.3s,baz=135,slow=13,SNR=66							
USRK					LR	LR	06 20 28.9	
	comp=Z,3μm,19.5s,baz=121,slow=36							
CBIJ	**Chichi jima**	**10.09**	**176**	P		Pn	06 16 46.5	-3.1
JCJ	**Chichijima**	**10.09**	**176**	P		Pn	06 16 46.5	-3.2
	comp=Z,22nm,0.3s,baz=262,slow=18,SNR=8.1							
KSRS	**Korea Array**	**10.74**	**275**	P		Pn	06 17 02.5	+4.0
KSRS					LR	LR	06 20 53.6	
	comp=Z,0.7nm,0.3s,baz=90,slow=13,SNR=28							
	comp=Z,2μm,19.5s,baz=87,slow=36							
KSAR	**Wonju Array Be**	**10.77**	**275**	P		Pn	06 17 02.5	+3.5
MDJ	**Mudanjiang**	**11.60**	**313**	P		Pn	06 17 14.1	+3.8
MDJ				S		Sn	06 19 25.9	+7.5
MDJ				PcP		**PcP**	**06 23 00.3**	**+1.7**
MDJ				ScP		**ScP**	**06 26 29.3**	**+1.4**
MDJ				PcS		**PcS**	**06 26 33.9**	**+1.5**
MDJ				ScS		**ScS**	**06 30 03.1**	**-0.3**
MDJ					pmax	pmax		
	comp=Z,40nm,0.9s							
MDJ					pmax	pmax		
	comp=Z,400nm,6.0s							
MDJ					LR	LR		
	comp=Z,1μm,21.4s							
MDJ					LR	LR		
	comp=Z,1μm,22.4s							
MDJ					LR	LR		
	comp=Z,2μm,22.4s							
MDJ	**Mudanjiang**	**11.60**	**313**	*e*Pn		**Pn**	**06 17 13.0**	**+2.8**
	comp=Z,34nm,0.8s							
HABR	**Khabarovsk**	**12.19**	**340**	*e*P		**P**	**06 17 33.0**	**+3.1**
HABR				*e*S		**Sn**	**06 19 32.2**	**-0.5**
HABR					pmax	pmax		
	comp=Z,35nm,1.0s							
CN2	**Changchun**	**13.81**	**303**	*e*P		**Pn**	**06 17 40.3**	**-0.1**
CN2				*es*P			06 17 55.1	
CN2				*e*S		**Sn**	**06 20 12.3**	**+0.1**
CN2					pmax	pmax		
	comp=Z,10.0nm,1.0s							
CN2					pmax	pmax		
	comp=Z,200nm,4.0s							
CN2					LR	LR		
	comp=Z,2μm,16.0s							
CN2					LR	LR		
	comp=Z,700nm,16.0s							
CN2					LR	LR		
	comp=Z,1μm,17.0s							
KLR	**Kul'dur**	**13.92**	**333**	*e*P		**Pn**	**06 17 39.9**	**-2.0**
KLR					MLR	MLR		
	comp=N,1μm,12.5s							
KLR					MLR	MLR		
	comp=Z,3μm,12.5s							
SNY	**Shenyang**	**14.51**	**294**	⇑P		**P**	**06 17 53.1**	**-2.6**
SNY					pmax	pmax		
	comp=Z,19nm,2.1s							
SNY					pmax	pmax		
	comp=Z,290nm,9.0s							
SNY					LR	LR		
	comp=Z,1μm,14.9s							
SNY					LR	LR		
	comp=Z,2μm,19.2s							
SNY					LR	LR		
	comp=Z,2μm,19.3s							
DL2	**Dalian**	**15.67**	**282**	P		**P**	**06 18 09.2**	**+0.6**
DL2				S		**S**	**06 21 06.0**	**-5.2**
DL2					pmax	pmax		
	comp=Z,65nm,0.6s							
DL2					LR	LR		
	comp=Z,750nm,17.5s							
DL2					LR	LR		
	comp=Z,910nm,19.6s							
SSE	**Sheshan**	**17.79**	**256**	*e*P		**Pn**	**06 18 29.5**	**-2.2**
SSE				sP		**sP**	**06 18 45.2**	**-2.5**
SSE				S		**Sn**	**06 21 46.8**	**-2.3**
SSE				sS		**sS**	**06 22 08.5**	**-2.3**
SSE					pmax	pmax		
	comp=Z,42nm,0.7s							
SSE					pmax	pmax		
	comp=Z,100nm,3.8s							
SSE					LR	LR		
	comp=Z,630nm,20.9s							
SSE					LR	LR		
	comp=Z,990nm,20.9s							
SSE					LR	LR		
	comp=Z,1μm,21.4s							
NJ2	**Nanjing**	**19.24**	**261**	*e*P		**P**	**06 18 48.6**	**+0.6**
NJ2				sP		**sP**	**06 19 02.4**	**-1.2**
NJ2				S		**S**	**06 22 20.0**	**-3.6**
NJ2					pmax	pmax		
	comp=Z,30nm,0.5s							
NJ2					LR	LR		
	comp=Z,1μm,19.3s							
NJ2					LR	LR		
	comp=Z,1μm,19.7s							
NJ2					LR	LR		
	comp=Z,9μm,19.7s							
PETK	**Petropavlovsk-**	**19.55**	**30**	P		**P**	**06 18 51.7**	**+0.4**
PETK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PETK					MLR	MLR		
	comp=Z,352nm,21.4s							
PETK	**Petropavlovsk-**	**19.55**	**30**	P		**P**	**06 18 51.7**	**+0.4**
PETK	**Petropavlovsk-**	**19.55**	**30**	P		**P**	**06 18 51.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=214,slow=9.6,SNR=7.7							
PETK					LR	LR	06 26 03.2	
	comp=Z,352nm,21.4s,baz=222,slow=36							
HIA	**Hailar**	**19.79**	**314**	*e*P		**P**	**06 18 53.4**	**-0.5**
	comp=Z,8.5nm,0.6s							
PET	**Petropavlovsk**	**19.88**	**32**	*e*P		**P**	**06 18 54.2**	**-0.7**
PET				*e*S		**S**	**06 22 31.2**	**-5.0**
PET					pmax	pmax		
	comp=Z,26nm,1.2s							
PET					MLR	MLR		
	comp=Z,1μm,20.0s							
PET					MLR	MLR		
	comp=Z,2μm,20.0s							
BJI	**Beijing**	**19.90**	**286**	P		**P**	**06 18 54.8**	**-0.3**
BJI				S		**S**	**06 22 32.6**	**-4.1**
BJI					pmax	pmax		
	comp=Z,14nm,1.4s							
BJI					pmax	pmax		
	comp=Z,280nm,4.1s							
BJI					LR	LR		
	comp=Z,740nm,17.8s							
BJI					LR	LR		
	comp=Z,550nm,16.1s							
BJI					LR	LR		
	comp=Z,480nm,25.0s							
BJT	**Baijiatuan**	**19.90**	**286**	*e*P		**P**	**06 18 55.3**	**+0.1**
	comp=Z,24nm,0.5s							
WHN	**Wuhan**	**23.38**	**261**	⇓P		**P**	**06 19 32.2**	**0.0**
WHN				pP		**pP**	**06 19 44.4**	**+1.4**
WHN				S		**S**	**06 23 39.6**	**-2.5**
WHN					LR	LR		
	comp=Z,2μm,15.9s							
WHN					LR	LR		
	comp=Z,3μm,21.2s							
WHN					LR	LR		
	comp=Z,2μm,21.8s							
HHC	**Hu-ho-hao-te**	**23.41**	**288**	*e*P		**P**	**06 19 33.0**	**+0.4**
HHC				sP		**sP**	**06 19 50.9**	**+2.2**
HHC				PP		**PnPn**	**06 20 05.7**	**+5.7**
HHC				S		**S**	**06 23 38.1**	**-4.7**
HHC					pmax	pmax		
	comp=Z,37nm,0.7s							
HHC					pmax	pmax		
	comp=Z,210nm,4.2s							
HHC					LR	LR		
	comp=Z,1μm,13.4s							
HHC					LR	LR		
	comp=Z,590nm,12.7s							
HHC					LR	LR		
	comp=Z,830nm,12.6s							
YAK	**Yakutsk**	**25.91**	**347**	*e*P		**P**	**06 19 54.3**	**-0.8**
YAK				*e**PP		**pP**	**06 20 05.2**	**-1.2**
YAK				*e*			06 20 35.0	
YAK				*e*PPP		PPP	06 20 42.9	
YAK				*e*SS			06 25 34.5	
YAK				*e*			06 30 49.1	
YAK					pmax	pmax		
	comp=Z,33nm,0.9s							
YAK					pmax	pmax		
	comp=E,4.0nm,1.0s							
YAK					pmax	pmax		
	comp=N,8.0nm,0.9s							
YAK					pmax	pmax		
	comp=Z,113nm,2.3s							
YAK					pmax	pmax		
	comp=N,174nm,3.2s							
YAK					MLR	MLR		
	comp=Z,1μm,16.0s							
YAK					MLR	MLR		
	comp=N,686nm,15.0s							
YAK					MLR	MLR		
	comp=E,275nm,14.0s							
YAK	**Yakutsk**	**25.91**	**347**	*e*P		**P**	**06 19 54.9**	**-0.1**
	comp=E,90nm,1.1s							
XAN	**Xi'an**	**26.52**	**273**	P		**P**	**06 20 00.4**	**-0.6**
XAN				pP		**pP**	**06 20 11.3**	**-1.1**
XAN				S		**S**	**06 24 28.6**	**-3.8**
XAN					pmax	pmax		
	comp=E,3.0nm,0.7s							
XAN					LR	LR		
	comp=E,460nm,16.6s							
XAN					LR	LR		
	comp=E,98nm,17.3s							
XAN					LR	LR		
	comp=E,180nm,15.1s							
FX1	**Attu Island--F**	**27.09**	**44**	LR		LR	06 29 03.8	
	comp=E,235nm,20.8s,baz=265,slow=32							
ULN	**Ulaanbaatar**	**27.26**	**304**	*e*P		**P**	**06 20 07.0**	**-0.6**
	comp=E,40nm,1.7s							
ENH	**Enshi**	**27.34**	**265**	*e*P		**P**	**06 20 08.1**	**-0.2**
	comp=E,22nm,0.7s							
SONM	**Songino Array**	**27.69**	**304**	P		**P**	**06 20 11.4**	**-0.1**
SONM				PcP		**PcP**	**06 23 27.9**	**+0.3**
SONM				pPcP			06 23 41.3	
SONM	**Songino Array**	**27.69**	**304**	P		**P**	**06 20 11.4**	**-0.1**
	comp=E,24nm,0.8s,baz=103,slow=8.7,SNR=123							
SONM					PcP	**PcP**	**06 23 27.9**	**+0.3**
	comp=E,1.1nm,0.6s,baz=136,slow=2.8,SNR=5.0							
SONM					pPcP		06 23 41.3	
	comp=E,1.5nm,0.5s,baz=112,slow=2.3,SNR=5.6							
SONM					LR	LR	06 31 37.4	
	comp=E,774nm,18.2s,baz=170,slow=37							
H11N2	**WAKE ISLAND Hy 28.24 121**			T		T	06 49 52.1	
	baz=321,slow=75,SNR=389							
H11N1	**WAKE ISLAND Hy 28.25 121**			T		T	06 50 35.5	
	SNR=304							
H11N3	**WAKE ISLAND Hy 28.26 121**			T		T	06 49 55.0	
	baz=318,slow=75,SNR=913							
H11S1	**WAKE ISLAND Hy 28.95 123**			T		T	06 50 43.8	
	baz=320,slow=75,SNR=808							
H11S3	**WAKE ISLAND Hy 28.95 123**			T		T	06 51 37.0	
	SNR=799							
H11S2	**WAKE ISLAND Hy 28.97 123**			T		T	06 50 47.3	
	baz=11,slow=75,SNR=504							
LZH	**Lanzhou**	**30.03**	**279**	*e*P		P	06 20 35.7	+3.3
LZH				pP		pP	06 20 46.7	+2.8
LZH				sP		sP	06 20 51.9	+3.0
LZH					pmax	pmax		
	comp=E,29nm,1.0s							
LZH					pmax	pmax		
	comp=E,170nm,5.2s							
ZAK	**Zakamensk**	**30.16**	**308**	⇑*i*P		**P**	**06 20 33.8**	**+0.5**
ZAK				*e*			06 23 33.4	
ZAK					pmax	pmax		
	comp=Z,9.0nm,1.5s							
GYA	**Guiyang**	**31.24**	**260**	P		**P**	**06 20 43.8**	**+0.7**
GYA				pP		**pP**	**06 20 56.4**	**+1.8**
GYA				sP		**sP**	**06 21 02.5**	**+2.9**
GYA				PP		**PnPn**	**06 21 48.0**	**+1.9**
GYA				PcP		**PcP**	**06 23 38.7**	**+1.8**
GYA				S		**S**	**06 25 45.5**	**-1.3**
GYA				sS		**sS**	**06 26 04.3**	**-1.6**
GYA				SS		**SnSn**	**06 27 33.0**	**+1.1**
GYA				ScS		**ScS**	**06 31 13.4**	**-0.7**
GYA					pmax	pmax		
	comp=Z,20nm,0.8s							
GYA					pmax	pmax		
	comp=Z,120nm,4.8s							
GYA					LR	LR		
	comp=Z,580nm,17.2s							
GYA					LR	LR		
	comp=Z,510nm,17.5s							
GYA					LR	LR		
	comp=Z,540nm,17.0s							
CD2	**Chengdu**	**31.66**	**270**	P		**P**	**06 20 46.3**	**-0.4**
CD2				pP		**pP**	**06 20 57.2**	**-1.0**
CD2				sP		**sP**	**06 21 02.5**	**-0.7**
CD2				PP		**PnPn**	**06 21 51.9**	**+0.4**
CD2				S		**S**	**06 25 51.5**	**-1.7**
CD2					pmax	pmax		
	comp=Z,30nm,0.9s							
CD2					pmax	pmax		
	comp=Z,250nm,8.2s							
CD2					LR	LR		
	comp=Z,1μm,14.2s							
CD2					LR	LR		
	comp=Z,940nm,17.8s							
CD2					LR	LR		
	comp=Z,1μm,16.6s							
GTA	**Gaotai**	**32.51**	**287**	*e*P		**P**	**06 20 54.3**	**+0.2**
GTA				pP		**pP**	**06 21 06.1**	**+0.5**
GTA				sP		**sP**	**06 21 11.2**	**+0.5**
GTA				PcP		**PcP**	**06 23 41.1**	**+0.9**
GTA				S		**S**	**06 26 06.3**	**-0.1**
GTA				sS		**sS**	**06 26 26.2**	**+0.6**
GTA				PcS		**PcS**	**06 27 24.9**	**-0.5**
GTA				SS		**SnSn**	**06 28 07.9**	**+5.5**
GTA					pmax	pmax		
	comp=Z,7.0nm,0.9s							
GTA					pmax	pmax		
	comp=Z,100nm,4.3s							
GTA					LR	LR		
	comp=Z,560nm,15.2s							
GTA					LR	LR		
	comp=Z,540nm,21.8s							
GTA					LR	LR		
	comp=Z,820nm,21.6s							
QIZ	**Qiongzhong**	**32.99**	**245**	P		**P**	**06 20 59.1**	**+0.8**
QIZ				pP		**pP**	**06 21 09.5**	**-0.3**
QIZ				sP		**sP**	**06 21 14.9**	**0.0**
QIZ				S		**S**	**06 26 16.1**	**+2.2**
QIZ					pmax	pmax		
	comp=Z,120nm,4.2s							
QIZ					LR	LR		
	comp=Z,520nm,13.0s							
QIZ					LR	LR		
	comp=Z,500nm,19.9s							
KMI	**Kunming**	**34.98**	**261**	P		**P**	**06 21 15.5**	**-0.3**
KMI				S		**S**	**06 26 40.7**	**-4.3**
KMI				SS		**SnSn**	**06 29 01.3**	**-1.5**
KMI					pmax	pmax		
	comp=Z,37nm,1.1s							
KMI					pmax	pmax		
	comp=Z,190nm,4.6s							
KMI					LR	LR		
	comp=Z,380nm,18.4s							
KMI					LR	LR		
	comp=Z,780nm,22.3s							
KMI					LR	LR		
	comp=Z,1μm,21.5s							
UBPT	**Khong Chiam**	**38.59**	**245**	P		**P**	**06 21 48.5**	**+2.2**
	comp=Z,43nm,1.6s							
CRAI	**Chiangrai**	**39.41**	**256**	P		**P**	**06 21 53.9**	**+0.7**
	comp=Z,17nm,1.0s,comp=Z,10μm							
CMAI	**Chiengmai2**	**40.61**	**257**	P		**P**	**06 22 04.1**	**+0.7**
	comp=Z,12nm,1.6s,comp=Z,661nm							
CHAI	**Chaiyaphum**	**40.76**	**249**	P		**P**	**06 22 05.4**	**+1.0**
	comp=Z,9.7nm,1.1s							
WMQ	**Urumqi**	**40.76**	**297**	P		**P**	**06 22 05.0**	**+0.8**
WMQ				pP		**pP**	**06 22 17.0**	**+1.0**
WMQ				sP		**sP**	**06 22 23.0**	**+2.0**
WMQ				PP		**PnPn**	**06 23 43.0**	**+0.1**
WMQ				PcP		**PcP**	**06 24 07.0**	**+2.1**
WMQ				ScP		**ScP**	**06 27 51.0**	**0.0**
WMQ				S		**S**	**06 28 12.0**	**+0.1**
WMQ				SS		**SS**	**06 31 10.0**	**-3.6**
WMQ				ScS		**ScS**	**06 32 04.0**	**-1.8**
WMQ					pmax	pmax		
	comp=Z,140nm,4.0s							
WMQ					LR	LR		
	comp=Z,590nm,16.0s							
WMQ					LR	LR		
	comp=Z,700nm,15.0s							
WMQ					LR	LR		
	comp=Z,610nm,15.0s							
PBKT	**Sadao Pong**	**41.10**	**251**	P		**P**	**06 22 07.6**	**+0.4**
	comp=Z,16nm,1.3s							
CMMT	**Chiang Mai**	**41.32**	**256**	P		**P**	**06 22 09.9**	**+0.9**
	comp=Z,23nm,1.0s,comp=Z,487nm							
CHTO	**Chiang Mai**	**41.32**	**256**	*e*P		**P**	**06 22 09.7**	**+0.6**
CHTO					pmax	pmax		
	comp=Z,22nm,1.4s							
CHTO	**Chiang Mai**	**41.32**	**256**	*e*P		**P**	**06 22 09.7**	**+0.6**
	comp=Z,22nm,1.4s							
CHTO	**Chiang Mai**	**41.32**	**256**	P		**P**	**06 22 10.0**	**+0.9**
	comp=Z,83nm,0.9s							
CMAR	**Chiang Mai Arr**	**41.53**	**255**	P		**P**	**06 22 11.8**	**+1.0**
CMAR				PcP		**PcP**	**06 24 08.5**	**+0.8**
CMAR				pPcP			06 24 21.6	
CMAR	**Chiang Mai Arr**	**41.53**	**255**	P		**P**	**06 22 11.8**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=44,slow=5.5,SNR=12							
CMAR				PcP		**PcP**	**06 24 08.5**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=359,slow=3.2,SNR=4.1							
CMAR				pPcP			06 24 21.6	
	comp=Z,1.1nm,0.3s,baz=29,slow=2.0,SNR=5.4							
CMAR					LR	LR	06 41 33.4	
	comp=Z,579nm,18.3s,baz=64,slow=39							
ZAA0	**Zalesovo Array**	**41.80**	**312**	*e*P		**P**	**06 22 12.6**	**0.0**
ZALV	**Zalesovo Beam**	**41.80**	**312**	P		**P**	**06 22 13.1**	**+0.6**
ZALV							06 24 07.9	
ZALV							06 24 20.9	
ZALV					pmax	pmax		
	comp=Z,23nm,0.7s							
ZALV					pmax	pmax		
	comp=Z,6.0nm,0.8s							
ZALV					pmax	pmax		
	comp=Z,4.0nm,0.6s							
ZALV					MLR	MLR		
	comp=Z,714nm,18.8s							
ZALV	**Zalesovo Beam**	**41.80**	**312**	P		**P**	**06 22 13.1**	**+0.6**
ZALV					PcP	**PcP**	**06 24 07.9**	**-0.1**
ZALV					pPcP		06 24 20.9	
ZALV	**Zalesovo Beam**	**41.80**	**312**	P		**P**	**06 22 13.1**	**+0.6**
	comp=Z,23nm,0.7s,baz=92,slow=7.5,SNR=88							
ZALV					PcP	**PcP**	**06 24 07.9**	**-0.1**
	comp=Z,6.3nm,0.8s,baz=77,slow=2.1,SNR=3.9							
ZALV					pPcP		06 24 20.9	
	comp=Z,4.2nm,0.6s,baz=100,slow=3.2,SNR=4.3							
ZALV					LR	LR	06 40 18.9	
	comp=Z,714nm,18.8s,baz=248,slow=37							
LSA	**Lhasa**	**42.19**	**275**	*e*P		**P**	**06 22 17.6**	**+1.0**
LSA	**Lhasa**	**42.19**	**275**	*e*P		**P**	**06 22 17.1**	**+0.5**
LSA					pmax	pmax		
	comp=Z,8.0nm,0.6s							

LSA Lhasa 42.19 275 *e*P **P 06 22 17.1 +0.5**
comp=Z,8.3nm,0.6s
NVS Novosibirsk 42.72 314 ⇑ *i*P **P 06 22 18.9 -1.1**
NVS pmax pmax
comp=E,41nm,1.4s
NVS pmax pmax
comp=Z,52nm,1.4s
SHL Shillong 43.40 269 *e*P **P 06 22 25.0 -1.1**
MK31 Makanchi Array 44.03 302 *i* P **P 06 22 30.7 0.0**
MK31 pmax pmax
comp=Z,25nm,0.7s
MK31 Makanchi Array 44.03 302 *e*P **P 06 22 30.8 0.0**
MKAR Makanchi Array 44.03 302 P **P 06 22 31.1 +0.4**
MKAR pmax pmax
comp=Z,21nm,0.6s
MKAR MLR MLR
comp=Z,308nm,20.2s
MKAR Makanchi Array 44.03 302 *e*P **P 06 22 31.1 +0.4**
MKAR Makanchi Array 44.03 302 P **P 06 22 31.1 +0.4**
comp=Z,20nm,0.6s,baz=88,slow=9.9,SNR=126
MKAR LR LR 06 41 26.5
comp=Z,308nm,20.2s,baz=78,slow=37
KSM Kuching 45.66 226 *e*P **P 06 22 44.0 +0.1**
comp=Z,22nm,0.9s
KURK Kurchatov 45.83 308 P **P 06 22 45.3 +0.4**
KURK pmax pmax
comp=Z,31nm,0.7s
KURK Kurchatov 45.83 308 *e*P **P 06 22 44.6 -0.2**
comp=Z,28nm,0.7s
KURK Kurchatov 45.83 308 P **P 06 22 44.5 -0.4**
comp=Z,424nm,0.7s,SNR=46
KURBB Kurchatov Arra 45.90 308 P **P 06 22 45.3 -0.1**
comp=Z,31nm,0.7s,baz=83,slow=7.9,SNR=253
TAPN Taplejung 45.92 274 *e*P **P 06 22 46.9 +0.6**
comp=Z,23nm,0.5s
TAPN Taplejung 45.92 274 *e*P **P 06 22 46.9 +0.6**
ODAN Odare 46.39 273 *e*P **P 06 22 50.5 +0.5**
comp=Z,54nm,0.8s
ODAN Odare 46.39 273 *e*P **P 06 22 50.5 +0.5**
KAPI Kapang 46.60 210 *e*P **P 06 22 52.1 +0.8**
comp=Z,682nm,1.6s
KAPI *e*pP **pP 06 22 59.8 -3.4**
RAMN Ramite 46.98 274 *e*P **P 06 22 55.1 +0.5**
comp=Z,91nm,0.7s
RAMN Ramite 46.98 274 *e*P **P 06 22 55.1 +0.5**
KDAK Kodiak Island 46.98 42 P **P 06 22 53.6 -0.3**
comp=Z,252nm,0.7s,SNR=11
JIRN Jiri 46.99 275 *e*P **P 06 22 55.6 +0.8**
comp=Z,40nm,0.6s
JIRN Jiri 46.99 275 *e*P **P 06 22 55.6 +0.8**
GUN Gumba 47.13 276 *e*P **P 06 22 56.4 +0.5**
comp=Z,87nm,1.0s
GUN Gumba 47.13 276 *e*P **P 06 22 56.4 +0.5**
PKI Pulchoki 47.65 275 *e*P **P 06 23 00.1 +0.2**
comp=Z,52nm,0.9s
PKI Pulchoki 47.65 275 *e*P **P 06 23 00.1 +0.2**
PKI Pulchoki 47.65 275 *e*P **P 06 23 00.1 +0.2**
KKN Kakani 47.66 276 *e*P **P 06 23 00.2 +0.4**
comp=Z,68nm,0.8s
KKN Kakani 47.66 276 *e*P **P 06 23 00.2 +0.4**
KKN Kakani 47.66 276 *e*P **P 06 23 00.2 +0.4**
PKIN Phulchoki 47.66 275 *e*P **P 06 23 00.0 +0.1**
comp=Z,37nm,0.8s
DMN Daman 47.88 276 *e*P **P 06 23 02.0 +0.4**
comp=Z,46nm,1.1s
DMN Daman 47.88 276 *e*P **P 06 23 02.0 +0.4**
COLD Coldfoot 48.02 29 *e*P **P 06 23 03.0 +1.2**
comp=Z,4.4nm,1.0s
GKN Gorkha 48.08 276 *e*P **P 06 23 03.6 +0.6**
comp=Z,88nm,0.7s
GKN Gorkha 48.08 276 *e*P **P 06 23 03.6 +0.6**
PMR Palmer 48.50 37 *e*P **P 06 23 05.7 +0.1**
PMR pmax pmax
comp=Z,117nm,1.8s
PMR Palmer 48.50 37 *e*P **P 06 23 05.7 +0.1**
comp=Z,117nm,1.8s
DANN Dangsing 48.62 277 *e*P **P 06 23 08.2 +0.9**
comp=Z,229nm,0.7s
DANN Dangsing 48.62 277 *e*P **P 06 23 08.2 +0.9**
COLA College 48.95 32 *e*P **P 06 23 10.5 +1.6**
COLA pmax pmax
comp=Z,3.0nm,0.8s
COLA College 48.95 32 *e*P **P 06 23 10.5 +1.6**
comp=Z,3.4nm,0.8s
KOLN Koldanda 49.00 277 *e*P **P 06 23 10.7 +0.5**
comp=Z,67nm,0.9s
KOLN Koldanda 49.00 277 *e*P **P 06 23 10.7 +0.5**
ILAR Eielson Array 49.36 32 P **P 06 23 12.1 -0.1**
ILAR Eielson Array 49.36 32 P **P 06 23 12.1 -0.1**
comp=Z,11nm,0.7s,baz=267,slow=5.8,SNR=153
TKM2 Tokmak 2 49.55 298 *i* P **P 06 23 15.2 +1.1**
TKM2 Tokmak 2 49.55 298 P **P 06 23 15.3 +1.1**
SNR=19
TKM2 Tokmak 2 49.55 298 *e*P **P 06 23 15.2 +1.1**
comp=Z,134nm,1.8s
KZA Kyzart 50.04 297 *i* P **P 06 23 19.8 +1.7**
KZA Kyzart 50.04 297 P **P 06 23 19.9 +1.7**
SNR=8.0
KBK Karagaybulak 50.08 298 P **P 06 23 19.1 +0.9**
SNR=5.4
VOSK Vostochnaya 50.17 312 P **P 06 23 17.7 -0.8**
VOSK pmax pmax
comp=Z,38nm,1.3s
USP Ospenovka 50.21 299 *i* P **P 06 23 19.4 +0.4**
USP Ospenovka 50.21 299 P **P 06 23 19.5 +0.4**
SNR=7.9
FRU Bishkek 50.26 298 *e*P **P 06 23 19.0 -0.3**
FRU *i* 06 23 31.0
FRU pmax pmax
comp=Z,38nm,1.8s
KSH Kashi 50.33 294 P P 06 23 24.3 +4.2
KSH pP pP 06 23 37.1 +5.1
KSH sP sP 06 23 42.1 +5.1
KSH PcP **PcP 06 24 42.1 +3.8**
KSH S **S 06 30 34.1 +4.1**
KSH sS sS 06 30 55.1 +5.1
KSH ScS **ScS 06 33 08.1 +0.4**
KSH SS **SS 06 34 06.1 +2.4**
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,310nm,4.5s
KSH LR LR
comp=Z,550nm,9.6s
KSH LR LR
comp=Z,530nm,8.2s
KSH LR LR
comp=Z,880nm,9.6s
AAK Ala-Archa 50.41 298 *e*P **P 06 23 20.4 -0.2**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 50.41 298 P **P 06 23 21.1 +0.5**
SNR=5.9
AAK Ala-Archa 50.41 298 *e*P **P 06 23 20.4 -0.2**
comp=Z,15nm,1.3s
AAK Ala-Archa 50.41 298 LR LR 06 45 59.6
comp=Z,1um,19.4s,baz=61,slow=38
BVA0 Borovoye Array 50.46 312 P **P 06 23 19.8 -0.8**
BVA0 pmax pmax
comp=Z,35nm,1.8s
BVAR Borovoye Array 50.46 312 LR LR 06 45 47.0
comp=Z,682nm,19.3s,baz=77,slow=37
BRVK Borovoye 50.51 312 P **P 06 23 20.8 -0.2**
BRVK pmax pmax
comp=Z,69nm,2.1s
BRVK Borovoye 50.51 312 *e*P **P 06 23 21.3 +0.2**
BRVK Borovoye 50.51 312 P **P 06 23 21.2 +0.2**
comp=Z,81nm,0.8s,SNR=6.5
DOT Dot Lake 50.68 34 *e*P **P 06 23 22.9 +0.7**
comp=Z,9.4nm,0.8s
EKS2 Erkin-Say 50.90 298 *e*P **P 06 23 24.7 +0.4**
EKS2 pmax pmax
comp=Z,47nm,2.0s
EKS2 Erkin-Say 50.90 298 *e*P **P 06 23 24.7 +0.4**
comp=Z,47nm,2.0s
AML Almayashu 51.12 298 P **P 06 23 27.2 +0.9**
SNR=18
PSI Prapat 51.87 239 LR LR 06 44 22.6
comp=Z,193nm,20.1s,baz=140,slow=35
SMLA Simla 52.60 284 ⇓ *i*P **P 06 23 37.2 +0.2**
DAWY Dawson 52.67 33 *e*P **P 06 23 38.0 +1.0**
KK31 Karatay Array 53.04 300 *i* P **P 06 23 39.9 -0.1**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 53.04 300 *e*P **P 06 23 40.3 +0.2**
KKAR Karatay Array 53.04 300 *e*P **P 06 23 40.3 +0.2**

BISR Bishrakh 53.51 281 *ex* P 06 23 36.8 -6.9
BISR AMB AMB 06 23 38.7
comp=Z,101nm,0.9s
NDI New Delhi 53.63 281 *e*P **P 06 23 43.0 -1.6**
AYAN Aya Nagar 53.80 281 *e*P **P 06 23 44.7 -1.0**
SONA Sohna 53.93 280 *e*P **P 06 23 46.5 -0.3**
SONA AMB AMB 06 23 47.4
comp=Z,18nm,0.8s
RTK Rohtak 54.10 282 *e*P **P 06 23 47.1 -0.9**
RTK AMB AMB 06 23 49.5
comp=Z,28nm,1.7s
INK Inuvik 54.25 27 P **P 06 23 49.2 +0.8**
INK pP **pP 06 24 00.8 +0.3**
INK Inuvik 54.25 27 P **P 06 23 49.2 +0.8**
comp=Z,8.5nm,0.7s,baz=282,slow=6.7,SNR=38
INK pP **pP 06 24 00.8 +0.3**
comp=Z,4.0nm,0.6s,baz=275,slow=7.8,SNR=5.9
KUDL Kundal 54.45 281 *e*P **P 06 23 50.1 -0.4**
KUDL AMB AMB 06 23 52.4
comp=Z,18nm,1.0s
KHET Khetri 55.02 281 *e*P **P 06 23 53.7 -1.0**
SVE Sverdlovsk 55.02 319 *e*P **pP 06 24 07.8 +1.4**
SVE *e*S S 06 31 45.0 +12
SVE *e*SSS SSS 06 37 16.0
SVE pmax pmax
comp=Z,74nm,1.4s
SVE MLR MLR
comp=Z,685nm,14.0s
SOKR Solikamsk 56.19 322 *e*P **pP 06 24 14.0 -0.7**
SOKR pmax pmax
comp=Z,40nm,1.4s
SOKR MLR MLR
comp=Z,260nm,17.0s
ARU Arti 56.23 318 *c* *i*P **P 06 24 02.9 -0.1**
ARU *PP **pP 06 24 15.5 +0.4**
ARU 06 24 55.3
ARU 06 26 03.7
ARU S **S 06 31 50.8 +1.4**
ARU SS **SS 06 35 35.1 -0.8**
ARU pmax pmax
comp=Z,49nm,1.7s
ARU MLR MLR
comp=Z,612nm,18.0s
ARU Arti 56.23 318 *e*P **P 06 24 03.0 +0.1**
comp=Z,92nm,1.4s
FITZ Fitzroy Crossi 56.97 198 *e*P **P 06 24 09.7 +1.1**
comp=Z,45nm,1.4s
WRAB Tennant Creek 57.21 188 *e*P **P 06 24 09.1 -1.1**
WRAB Tennant Creek 57.21 188 *e*P **P 06 24 09.1 -1.1**
comp=Z,19nm,1.0s
WRAB Tennant Creek 57.21 188 P **P 06 24 09.9 -0.3**
comp=Z,113nm,1.2s,SNR=8.2
WRA Warramunga Arr 57.22 188 P **P 06 24 09.9 -0.4**
WRA pP **pP 06 24 21.8 -0.6**
WRA Warramunga Arr 57.22 188 P **P 06 24 09.9 -0.4**
comp=Z,5.1nm,0.6s,baz=6.0,slow=7.5,SNR=52
WRA pP **pP 06 24 21.8 -0.6**
comp=Z,20nm,1.0s,baz=4.6,slow=7.4,SNR=19
WRA LR LR 06 46 27.0
comp=Z,142nm,20.8s,baz=0.0,slow=34
KBL Kabul 57.35 291 *e*P **P 06 24 11.7 +0.2**
KBL pmax pmax
comp=Z,45nm,1.4s
KBL Kabul 57.35 291 *e*P **P 06 24 11.7 +0.2**
comp=Z,45nm,1.4s
AB31 Akbulak array 57.83 310 *i* P **P 06 24 13.9 -0.5**
AB31 pmax pmax
comp=Z,11nm,0.5s
ABKAR Akbulak array 57.83 310 *e*P **P 06 24 14.0 -0.4**
comp=Z,15nm,0.6s
HYB Hyderabad 58.20 268 *i* P **P 06 24 16.5 -0.9**
DLBC Dease Lake 58.51 38 P **P 06 24 17.9 -1.1**
DLBC Dease Lake 58.51 38 P **P 06 24 17.9 -1.1**
comp=Z,3.3nm,0.6s,baz=261,slow=7.4,SNR=4.2
DLBC LR LR 06 47 36.4
comp=Z,226nm,21.6s,baz=293,slow=34
AKTO Aktyubinsk 58.56 312 P **P 06 24 18.8 -0.7**
AKTO pmax pmax
comp=Z,36nm,2.3s
AKTO Aktyubinsk 58.56 312 LR LR 06 50 46.1
comp=Z,474nm,19.2s,baz=68,slow=37
AS31 Alice Springs 60.95 188 *e*P **P 06 24 37.0 +0.9**
ASAR Alice Springs 60.95 188 P **P 06 24 35.1 -0.9**
ASAR Alice Springs 60.95 188 P **P 06 24 35.1 -0.9**
comp=Z,3.0nm,0.8s,baz=9.3,slow=6.8,SNR=26
POO Poona 61.35 272 *e*P **P 06 24 39.0 -0.1**
MBWA Marble Bar 61.53 203 *e*P **P 06 24 40.0 0.0**
comp=Z,19nm,0.9s
RES Resolute Bay 62.45 14 P **P 06 24 45.1 -0.5**
RES pP **pP 06 24 57.9 0.0**
RES Resolute Bay 62.45 14 P **P 06 24 45.1 -0.5**
comp=Z,4.3nm,0.5s,baz=297,slow=6.7,SNR=37
RES pP **pP 06 24 57.9 0.0**
comp=Z,7.4nm,0.6s,baz=321,slow=6.9,SNR=11
RES LR LR 06 53 30.7
comp=Z,143nm,20.5s,baz=18,slow=38
IMYA Miami 63.09 296 *e*P **P 06 24 50.9 +0.2**
KEV Kevo 63.29 339 *e*P P 06 24 47.7 -3.5
KEV pmax pmax
comp=Z,2.0nm,0.5s
KEV Kevo 63.29 339 *ep* P 06 24 47.7 -3.5
comp=Z,2.3nm,0.5s
DZM Mont Dzumac 63.50 154 *e*S S 06 33 15.1 -8.5
comp=Z,117nm,28.6s
DZM Mont Dzumac 63.50 154 *e*LR LR 06 43 35.4
comp=Z,558nm,21.2s
KLMR Klimovskoe 63.62 328 *e*P **pP 06 25 03.2 -2.6**
KLMR pmax pmax
comp=Z,65nm,1.6s
YKA Yellowknife Ar 63.67 30 P **P 06 24 53.8 -0.1**
YKA Yellowknife Ar 63.67 30 P **P 06 24 53.7 -0.1**
comp=Z,2.7nm,0.7s,baz=303,slow=6.3,SNR=21
ARCES ARCESS Array B 63.84 339 P **P 06 24 55.3 +0.4**
ARCES pP **pP 06 25 07.6 +0.4**
ARCES ARCESS Array B 63.84 339 P **P 06 24 55.3 +0.4**
comp=Z,6.0nm,0.9s,baz=49,slow=8.3,SNR=9.4
ARCES pP **pP 06 25 07.6 +0.4**
comp=Z,3.1nm,0.5s,baz=58,slow=7.4,SNR=2.7
ARCES LR LR 06 54 59.2
comp=Z,409nm,19.6s,baz=50,slow=38
IKRD Kardeh 64.01 298 *e*P P 06 24 53.0 -3.9
ISFR Sfrayin 64.24 298 *e*P **P 06 24 59.0 +0.6**
ITEG Tejag 65.71 294 *e*P **P 06 25 07.7 -0.2**
IKOO Kooshah 65.76 293 *e*P **P 06 25 06.8 -1.5**
MOS Moscow 67.11 323 *e*P **pP 06 25 28.3 -0.3**
MOS *e* 06 25 44.7
MOS pmax pmax
comp=Z,77nm,1.2s
VRHR Novokhopersk 67.56 318 *e*P **P 06 25 17.8 -1.3**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 67.96 323 *e*P **P 06 25 20.5 -1.1**
OBN *i* 06 25 32.2
OBN *i* 06 25 47.5
OBN *e*S **S 06 34 14.9 -2.3**
OBN pmax pmax
comp=Z,21nm,1.8s
OBN MLR MLR
comp=Z,300nm,20.0s
KAF Kangasniemi 68.16 333 *e*P **P 06 25 22.7 0.0**
KAF pmax pmax
comp=Z,11nm,0.5s
KAF Kangasniemi 68.16 333 *ep* **P 06 25 22.7 0.0**
comp=Z,11nm,0.5s
FINES FINESS Array B 68.67 332 P **P 06 25 26.0 +0.1**
FINES pP **pP 06 25 38.7 +0.4**
FINES FINESS Array B 68.67 332 P **P 06 25 26.0 +0.1**
comp=Z,5.5nm,0.7s,baz=47,slow=8.4,SNR=13
FINES pP **pP 06 25 38.7 +0.4**
comp=Z,12nm,0.8s,baz=59,slow=7.8,SNR=8.6
FINES LR LR 06 57 39.2
comp=Z,301nm,18.2s,baz=55,slow=38
STKA Stephens Creek 68.71 180 *e*P **P 06 25 27.2 +0.8**
STKA pP **pP 06 25 38.6 -0.2**
STKA Stephens Creek 68.71 180 P **P 06 25 26.4 -0.1**
comp=Z,4.2nm,0.8s,baz=350,slow=9.2,SNR=8.5
STKA pP **pP 06 25 38.6 -0.2**
comp=Z,5.7nm,0.9s,baz=344,slow=7.1,SNR=6.1
FORT Forrest 68.77 192 *e*P **P 06 25 26.9 +0.1**
comp=Z,364nm,2.2s
VSR Storozhevoye 68.81 319 *e*P **P 06 25 27.1 +0.2**

VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.3s
VORD Divnogorie 68.88 318 *e*P **P 06 25 27.4 0.0**
VORD pmax pmax
comp=Z,8.0nm,0.5s
VORD pmax pmax
comp=N,3.0nm,0.3s
VORD pmax pmax
comp=E,7.0nm,0.5s
EDM Edmonton 69.22 38 *e*P pP 06 25 41.7 -0.3
EDM Edmonton 69.22 38 *e*pP pP 06 25 41.7 -0.3
G05D Wamic, OR 69.24 49 P **P 06 25 30.4 +0.6**
baz=69
I04A Tendick Farm, 69.34 50 P **P 06 25 31.0 +0.5**
baz=69
G06A Carlson Farm, 69.65 48 *e*P **P 06 25 32.1 -0.2**
comp=E,117nm,2.3s
G06A *e*pP **pP 06 25 46.1 +1.3**
IVRN Varamin 69.67 299 *e*Pn pP 06 25 43.9 -1.3
J04D Umpqua Nationa 69.82 51 P **P 06 25 34.3 +0.7**
baz=70
ISAD Sadrabad 69.90 295 *e*P **P 06 25 33.5 -0.9**
GOF Gofitskoye 69.98 312 *e*P **pP 06 25 47.3 +0.5**
GOF pmax pmax
comp=Z,50nm,1.4s
NEW Newport 70.02 44 *e*P **P 06 25 35.2 +0.6**
comp=Z,47nm,2.1s
NEW Newport 70.02 44 P **P 06 25 34.8 +0.2**
baz=70
YBH Yreka Blue Hor 70.25 52 P **P 06 25 36.7 +0.6**
YBH Yreka Blue Hor 70.25 52 P **P 06 25 36.7 +0.6**
comp=Z,1.2nm,0.6s,baz=184,slow=3.4,SNR=3.7
J05D Fort Rock, OR 70.34 50 P **P 06 25 37.6 +0.8**
baz=70
IZEF Zefreh 70.35 297 *e*P **P 06 25 36.6 -0.6**
SUMG Summit 70.52 360 *e*P **P 06 25 37.9 +0.2**
SUMG *e**PP **pP 06 25 50.6 +0.5**
SUMG pmax pmax
comp=Z,54nm,1.8s
SUMG Summit 70.52 360 *i* P **P 06 25 37.6 -0.1**
comp=Z,8.1nm,0.9s
SUMG Summit 70.52 360 *e*P **P 06 25 37.9 +0.2**
comp=Z,54nm,1.8s
SUMG *e*pP **pP 06 25 50.6 +0.5**
IKLH Kolahrood 70.66 297 *e*P **P 06 25 38.6 -0.4**
IRAZ Razeghan 70.71 300 *e*P **P 06 25 38.8 -0.4**
M04C Macdoel 70.77 52 P **P 06 25 39.3 -0.1**
baz=71
KBZ Khabaz 70.79 311 P **P 06 25 40.0 +0.7**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ MLR MLR
comp=Z,402nm,18.7s
KBZ Khabaz 70.79 311 P **P 06 25 40.0 +0.7**
KBZ Khabaz 70.79 311 P **P 06 25 40.0 +0.7**
comp=Z,6.4nm,0.8s,baz=48,slow=8.7,SNR=14
KBZ LR LR 07 01 24.0
comp=Z,402nm,18.7s,baz=255,slow=40
KIV Kislovodsk 70.79 311 *e*P **P 06 25 39.5 +0.1**
KIV *e* 06 25 53.4
KIV *e*S **S 06 34 51.5 +0.3**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,254nm,18.0s
KIV Kislovodsk 70.79 311 *e*pP pP 06 25 52.6 +0.6
WALA Waterton Lakes 71.32 42 *e*P **P 06 25 42.9 +0.3**
comp=Z,4.3nm,2.8s
IPAR Pars 71.46 294 *e*P **P 06 25 44.2 +0.2**
GNI Garni 71.60 307 *e*P **P 06 25 45.6 +1.1**
GNI *e*pP **pP 06 25 57.8 +0.8**
ISRV Sarvestan 71.66 293 *e*P **P 06 25 45.7 +0.5**
MOD Modoc 71.67 51 *e*pP pP 06 25 58.6 +1.2
BMO Blue Mountains 71.83 47 *e*P **P 06 25 46.2 +0.5**
comp=Z,5.9nm,0.9s
J08A Circle Bar Ran 71.97 49 *e*P **P 06 25 47.9 +1.3**
comp=Z,85nm,2.5s
IKAZ Kazeroun 72.38 294 *e*P **P 06 25 48.8 -0.7**
SLMT Seeley Lake 72.61 44 *e*P **P 06 25 50.9 +0.4**
MFID Camas Ranch 73.52 48 *e*P **P 06 25 56.8 +0.9**
comp=Z,34nm,1.9s
CMB Columbia Colle 73.78 54 *e*P **P 06 25 57.3 0.0**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 73.78 54 *e*P **P 06 25 57.3 0.0**
comp=Z,7.5nm,1.0s
HRY Holter Researc 73.84 43 *e*P **P 06 25 58.5 +0.9**
HRY *e*pP **pP 06 26 09.1 -1.0**
NB2 NORSAR Subarra 74.03 337 P **P 06 25 58.3 0.0**
comp=Z,2.7nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 74.03 337 P **P 06 25 58.4 0.0**
NOA pP **pP 06 26 11.1 +0.2**
NOA NORSAR Array B 74.03 337 P **P 06 25 58.4 0.0**
comp=Z,5.2nm,0.8s,baz=38,slow=6.0,SNR=14
NOA pP **pP 06 26 11.1 +0.2**
comp=Z,6.1nm,0.8s,baz=38,slow=6.0,SNR=7.6
NOA LR LR 06 59 51.8
comp=Z,417nm,20.4s,baz=30,slow=37
LRM Limekiln Ridge 74.04 44 *e*P **P 06 25 58.9 0.0**
A19A Klindworth Far 74.12 40 P **P 06 25 59.3 +0.2**
baz=74
WAKR Walker 74.13 54 *e*P **P 06 26 00.1 +0.5**
comp=Z,11nm,1.5s
EGMT Eagleton 74.16 41 P **P 06 25 59.8 +0.4**
baz=74
AKASG Malin Array Be 74.17 322 P **P 06 25 59.0 -0.3**
AKASG *PP **pP 06 26 11.0 -0.8**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG MLR MLR
comp=Z,384nm,19.6s
AKASG Malin Array Be 74.17 322 P **P 06 25 59.0 -0.3**
AKASG pP **pP 06 26 11.0 -0.8**
AKASG Malin Array Be 74.17 322 P **P 06 25 59.0 -0.3**
comp=Z,8.4nm,0.6s,baz=46,slow=6.0,SNR=59
AKASG pP **pP 06 26 11.0 -0.8**
comp=Z,11nm,0.6s,baz=45,slow=6.0,SNR=12
AKASG LR LR 07 01 30.9
comp=Z,384nm,19.6s,baz=70,slow=38
AK01 Malin Array Si 74.18 322 *e*P **P 06 25 58.7 -0.6**
KIEV Kiev 74.18 322 *e*P **P 06 25 58.9 -0.4**
KIEV pmax pmax
comp=Z,18nm,0.8s
KIEV Kiev 74.18 322 *e*P **P 06 25 58.9 -0.4**
comp=Z,18nm,0.8s
AK02 Malin Array Si 74.20 322 *e*P **P 06 25 59.0 -0.5**
DLMT Dillon 74.23 45 *e*P **P 06 26 00.8 +0.8**
HLID Hailey 74.27 47 P **P 06 26 00.9 +0.6**
baz=74
B19A Brinkman Farms 74.31 41 P **P 06 26 00.9 +0.6**
baz=74
BOZ Bozeman (W) 74.60 44 *e*P **P 06 26 03.1 +1.0**
BOZ pmax pmax
comp=Z,65nm,2.2s
BOZ Bozeman (W) 74.60 44 *e*P **P 06 26 03.1 +1.0**
comp=Z,65nm,2.2s
NVAR Mina Array Bea 74.90 53 P **P 06 26 04.6 +0.6**
NVAR Mina Array Bea 74.90 53 P **P 06 26 04.6 +0.6**
comp=Z,2.0nm,0.7s,baz=296,slow=6.6,SNR=17
A21A Bergtoll Ranch 75.01 39 P **P 06 26 04.6 +0.3**
baz=75
C20A Veseth Ranch, 75.27 41 P **P 06 26 06.4 +0.6**
baz=75
B21A Ellsworth Farm 75.32 40 P **P 06 26 06.3 +0.2**
baz=75
ELK Elko 75.45 50 P **P 06 26 07.8 +0.6**
ELK Elko 75.45 50 P **P 06 26 07.8 +0.6**
comp=Z,0.8nm,0.7s,baz=63,slow=2.1,SNR=4.8
A22A Carney Farms, 75.52 39 P **P 06 26 07.3 +0.1**
baz=75
YMR Madison River 75.57 45 *e*P **P 06 26 09.2 +1.4**
comp=Z,92nm,2.5s
D20A Manuel Ranch, 75.59 41 P **P 06 26 08.3 +0.6**
baz=75
E19A Rath Farm, Rou 75.65 42 P **P 06 26 08.6 +0.6**
baz=75
F19A Roth Farm, Mol 75.95 43 P **P 06 26 10.1 +0.4**
baz=76
E20A Meyer Farm, Mu 75.97 42 P **P 06 26 10.4 +0.5**
baz=76

IMW **Indian Meadow** 76.07 45 *e*P P 06 26 12.5 +1.7
comp=Z,900nm,2.8s
IMW *ep*P **pP** 06 26 23.4 0.0
FXWY Fox Creek 76.18 45 *e*P P 06 26 12.5 +1.2
comp=Z,7.1nm,1.0s
D21A La Casta Ranch 76.21 41 P P 06 26 11.8 +0.6
baz=76
I17A Pilgrim Ck. 76.26 45 P P 06 26 13.4 +1.7
baz=76
H18A Shoshone NF, C 76.29 44 P P 06 26 12.8 +0.9
baz=76
TPAW Teton Pass 76.31 46 *e*P P 06 26 13.6 +1.5
comp=Z,420nm,2.1s
B23A Brockton 76.33 39 P P 06 26 12.2 +0.4
baz=76
C22A Vida 76.34 40 P P 06 26 12.1 +0.2
baz=76
REDW Red Top Meadow 76.45 46 *ep*P pP 06 26 19.9 -5.5
D22A Cohagen 76.58 40 P P 06 26 14.0 +0.7
baz=76
C23A Lambert 76.66 39 P P 06 26 14.2 +0.5
baz=76
R11A Troy Canyon, C 76.67 52 *e*P P 06 26 14.8 +0.6
comp=Z,12nm,1.4s
R11A Troy Canyon, C 76.67 52 P P 06 26 14.7 +0.6
baz=76
H19A Powell 76.67 44 P P 06 26 14.9 +0.9
baz=76
MPMC Manual Prospec 76.81 55 P P 06 26 15.4 +0.4
baz=77
FURC Furnace Creek, 76.98 54 P P 06 26 16.3 +0.7
baz=77
D23A Lindsay 77.07 40 P P 06 26 16.2 +0.1
baz=77
TPNV Topopah Spring 77.09 53 *e*P P
TPNV pmax pmax 06 26 17.0 +0.5
comp=Z,5.0nm,0.8s
TPNV Topopah Spring 77.09 53 *e*P P 06 26 17.0 +0.5
comp=Z,4.8nm,0.8s
TPNV Topopah Spring 77.09 53 P P 06 26 16.5 0.0
baz=77
EDW2 Edwards Air Fo 77.18 56 P P 06 26 17.7 +0.8
baz=77
LVV L'vov 77.24 324 *e*P P 06 26 17.3 +0.4
DUG Dugway 77.26 49 *e*P P 06 26 18.5 +1.2
DUG Dugway 77.26 49 *e*P P 06 26 18.5 +1.2
DUG Dugway 77.26 49 P P 06 26 18.0 +0.7
baz=77
E23A Ismay 77.46 41 P P 06 26 18.7 +0.5
baz=77
A26A Wade Farm, Ken 77.49 37 P P 06 26 18.6 +0.3
baz=77
J19A Crowheart 77.53 45 P P 06 26 19.5 +0.6
baz=77
D24A Glendive 77.56 40 P P 06 26 19.4 +0.6
baz=77
BW06 Boulder Array 77.56 45 *e*P P 06 26 19.4 +0.3
comp=Z,12nm,1.5s
PDAR Pinedale Array 77.56 45 P P 06 26 19.1 -0.1
PDAR Pinedale Array 77.56 45 P P 06 26 19.1 -0.1
comp=Z,1.9nm,0.6s,baz=267,slow=2.5,SNR=23
I20A Worland 77.61 44 P P 06 26 19.7 +0.5
baz=77
B26A Jensen Ranch, 77.75 38 P P 06 26 20.5 +0.7
baz=78
H21A Big Horn, Sher 77.76 43 P P 06 26 20.3 +0.2
baz=78
F23A Volborg 77.92 41 P P 06 26 21.1 +0.3
baz=78
KWP Kalwaria Pacla 77.99 324 *e*P P 06 26 22.1 +1.0
KWP Kalwaria Pacla 77.99 324 *e*P P 06 26 22.1 +1.0
KWP Kalwaria Pacla 77.99 324⇑ *i*P P 06 26 21.6 +0.5
J20A Shoshoni 78.02 44 P P 06 26 21.8 +0.3
baz=78
SHPR Sheep Range 78.05 53 *e*P P 06 26 22.5 +0.6
I21A Big Trails, Te 78.16 44 P P 06 26 22.5 +0.2
baz=78
BUR08 Bucovina Ar. S 78.17 322 *e*P P 06 26 22.3 +0.1
BURAR Bucovina Array 78.18 322⇑ *i*P P 06 26 22.3 0.0
BURAR Bucovina Array 78.18 322⇑ *i*P P 06 26 22.3 0.0
C26A Wahner Farm, P 78.19 38 P P 06 26 22.6 +0.4
baz=78
TUQ Turquoise Moun 78.21 54 P P 06 26 23.0 +0.3
baz=78
G23A Biddle 78.27 42 P P 06 26 22.8 0.0
baz=78
A28A Rude Farm, Bot 78.33 36 P P 06 26 23.5 +0.5
baz=78
F24A Ekalaka 78.34 41 P P 06 26 23.3 +0.1
baz=78
E25A Miller Ranch, 78.44 40 P P 06 26 24.0 +0.4
baz=78
CCUT Cedar City 78.55 51 *e*P P 06 26 26.0 +1.3
comp=Z,73nm,2.9s
I22A 9 Mile Ranch, 78.55 43 P P 06 26 24.7 +0.3
baz=78
VRI Vrincioaia 78.60 320⇑ *i*P P 06 26 25.8 +1.3
VRI Vrincioaia 78.60 320⇑ *i*P P 06 26 25.8 +1.3
KOLS Kolonicke sedl 78.69 324 *e*P P 06 26 25.0 +0.1
KOLS Kolonicke sedl 78.69 324 *e*P P 06 26 25.0 +0.1
H23A Clabaugh Cattl 78.69 42 P P 06 26 25.0 -0.2
baz=78
BR131 Keskin Array S 78.74 312 *e*P P 06 26 25.4 -0.2
comp=Z,7.3nm,1.0s
BRTR Keskin Array B 78.74 312 P P 06 26 25.6 +0.1
BRTR pP **pP** 06 26 37.9 -0.3
BRTR Keskin Array B 78.74 312 P P 06 26 25.6 +0.1
comp=Z,2.0nm,0.8s,baz=70,slow=2.9,SNR=9.2
BRTR pP **pP** 06 26 37.9 -0.3
comp=Z,3.5nm,0.8s,baz=102,slow=4.2,SNR=8.2
BRTR LR LR 07 07 26.0
comp=Z,121nm,19.5s,baz=196,slow=40
TLB Topalu 78.76 318⇑ P P 06 26 25.6 +0.2
TLB Topalu 78.76 318⇑ *i*P P 06 26 25.6 +0.2
GMRC Granite Mounta 78.78 55 P P 06 26 25.5 -0.3
baz=79
A29A Manning Farm, 78.80 36 P P 06 26 25.4 -0.2
baz=78
STHS Stebnicka Huta 78.82 325 *e*P P 06 26 25.6 -0.1
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 78.82 325 *e*P P 06 26 25.6 -0.1
J22A Midwest 78.87 43 P P 06 26 25.5 +0.3
baz=79
UZH Uzhgorod 78.89 324⇑ *i*P P 06 26 26.4 +0.4
UZH *e* 06 26 35.6
K21A Alcova 78.95 44 P P 06 26 25.9 -0.9
baz=79
CRVS Cervenica-Dubn 79.09 324 *e*P P 06 26 27.4 +0.3
CRVS pmax pmax
comp=Z,65nm,2.5s
CRVS Cervenica-Dubn 79.09 324 *e*P P 06 26 27.4 +0.3
C28A Hausauer Farms 79.10 37 P P 06 26 27.4 +0.2
baz=79
TRPA Tarpa 79.12 323⇑ *i*P P 06 26 28.2 +0.9
A30A Hoffart Farm, 79.22 35 P P 06 26 28.0 +0.2
baz=79
MLR Muntele Rosu 79.26 320⇑ *i*P P 06 26 31.0 +2.7
SRU San Rafael 79.31 49 *e*P P 06 26 29.4 +0.6
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael 79.31 49 *e*P P 06 26 29.4 +0.6
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 79.37 33 P P 06 26 28.3 -0.3
ULM Lac du Bonnet 79.37 33 P P 06 26 28.3 -0.3
comp=Z,3.9nm,0.8s,baz=308,slow=2.5,SNR=3.8
ULM LR LR 07 02 18.7
comp=Z,204nm,22.0s,baz=6.6,slow=36
B30A Myrvik Farm, E 79.56 36 P P 06 26 29.8 +0.1
baz=79
G26A Maurine 79.67 40 P P 06 26 30.3 -0.1
baz=79
W13A Hualapai Mount 79.73 54 P P 06 26 30.7 -0.5
baz=80
KECS Kecovo 79.84 325 *e*P P 06 26 32.4 +1.2
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 79.84 325 *e*P P 06 26 32.4 +1.2
U15A North Rim 79.92 52 P P 06 26 32.5 +0.3
baz=80
I25A Rochford 79.94 42 P P 06 26 31.5 -0.6
baz=80
KSP Ksiaz 79.96 328 *e*P P 06 26 32.0 +0.2
KSP Ksiaz 79.96 328 *e*P P 06 26 31.8 0.0
O20A White River Ci 80.01 47 P P 06 26 32.7 +0.1
baz=80

H26A Fairpoint 80.04 41 P P 06 26 32.6 +0.1
baz=80
PDMCI Parker Dam,Lak 80.06 54 P P 06 26 33.0 +0.4
baz=80
M22A Cedar Creek Ra 80.12 45 P P 06 26 33.7 +0.5
baz=80
L23A Garrett 80.15 44 P P 06 26 32.8 -0.5
baz=80
MORC Moravsky Berou 80.22 327 *e*P P 06 26 32.8 -0.5
MORC pmax pmax
comp=Z,43nm,1.9s
MORC Moravsky Berou 80.22 327⇓ *i*P P 06 26 33.6 +0.3
MORC Moravsky Berou 80.22 327 *e*P P 06 26 32.8 -0.5
comp=Z,43nm,1.9s
DPC Dobruska-Polom 80.32 328 *e*P P 06 26 35.0 +1.2
DPC Dobruska-Polom 80.32 328 *e*P P 06 26 34.4 +0.6
DPC Dobruska-Polom 80.32 328 *e*P P 06 26 35.0 +1.2
UPC Upice 80.33 328 *e*P P 06 26 34.5 +0.7
UPC *e* 06 26 47.9
UPC Upice 80.33 328 *e*P P 06 26 34.5 +0.7
UPC *ep*P **pP** 06 26 47.9 +1.4
H27A Howes 80.39 40 P P 06 26 34.5 +0.1
baz=80
I26A New Underwood 80.40 41 P P 06 26 34.4 0.0
baz=80
PSZ Piszkesteto 80.52 324 ⇑P P 06 26 35.7 +0.7
PSZ Piszkesteto 80.52 324⇑ *i*P P 06 26 35.7 +0.7
PSZ Piszkesteto 80.52 324 *e*P P 06 26 34.4 -0.6
M23A Laramie 80.57 45 P P 06 26 35.4 -0.2
baz=80
PV04 Paradox Valley 80.74 49 *e*P P 06 26 37.6 +1.1
I27A Quinn 80.80 41 P P 06 26 36.8 +0.3
baz=80
N23A Red Feather La 80.83 45 P P 06 26 37.3 +0.3
baz=81
H28A Mission Ridge 80.91 40 P P 06 26 37.6 +0.5
baz=81
BRG Berggiesshubel 80.91 329 *e*P P 06 26 37.1 +0.2
comp=Z,8.6nm,1.0s
BRG *e* 06 26 50.9
comp=Z,11nm,1.1s
BRG Berggiesshubel 80.91 329 *e*P P 06 26 37.1 +0.2
BRG *e* 06 26 50.9
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,11nm,1.1s
BRG Berggiesshubel 80.91 329 *e*P P 06 26 37.1 +0.2
comp=Z,15nm,1.2s
GZR Gura Zlata 80.93 321 ⇑P P 06 26 37.4 +0.2
GZR Gura Zlata 80.93 321⇑ *i*P P 06 26 37.4 +0.2
CLL Collm 80.95 330⇑ *i*P P 06 26 37.1 0.0
CLL *i* *PP **pP** 06 26 49.9 +0.1
CLL *e**SP **sP** 06 26 57.0 +2.4
CLL pmax pmax
comp=Z,11nm,0.9s
CLL MLR MLR
comp=Z,200nm,19.7s
CLL Collm 80.95 330 *e*P P 06 26 37.1 0.0
comp=Z,11nm,0.9s
CLL Collm 80.95 330⇑ *i*P P 06 26 37.1 0.0
comp=Z,11nm,0.9s
CLL *i* pP **pP** 06 26 49.9 +0.1
CLL *es*P **sP** 06 26 57.0 +2.4
CLL LmH 07 03 00.0
comp=N,100nm,19.1s
CLL LmH 07 03 00.0
comp=E,300nm,20.9s
CLL LmV 07 10 00.0
comp=Z,200nm,19.7s
Y14A Wickenburg 81.02 54 P P 06 26 37.9 0.0
baz=81
PV01 Paradox Valley 81.11 49 *e*P P 06 26 38.4 -0.1
comp=Z,1µm,1.6s
K26A Motz Farm, Whi 81.14 42 P P 06 26 39.6 +1.2
baz=81
P22A Eagle 81.22 47 P P 06 26 39.6 +0.5
baz=81
O23A Lake Granby, G 81.30 46 P P 06 26 40.5 +0.9
baz=81
I28A Midland 81.30 40 P P 06 26 39.4 +0.2
baz=81
PRU Pruhonice 81.34 329 *e*P P 06 26 39.7 +0.5
PRU Pruhonice 81.34 329 *e*P P 06 26 39.7 +0.5
SMCO Snowmass 81.37 47 *e*P P 06 26 41.0 +0.9
comp=Z,38nm,2.3s
J27A Elkhorn Farm, 81.38 41 P P 06 26 40.0 +0.3
baz=81
X16A Lo Mia Camp, P 81.72 53 P P 06 26 42.3 +0.5
baz=82
ISCO Idaho Springs 81.75 46 *e*P P 06 26 43.0 +1.0
ISCO pmax pmax
comp=Z,34nm,2.1s
ISCO Idaho Springs 81.75 46 *e*P P 06 26 43.0 +1.0
comp=Z,34nm,2.1s
ISCO Idaho Springs 81.75 46 P P 06 26 41.9 0.0
baz=82
MVCO Mesa Verde 81.76 49 P P 06 26 42.4 +0.4
baz=82
P23A Jefferson 81.90 46 P P 06 26 43.8 +0.9
baz=82
NKC Novy Kostel 82.01 330 *e*P P 06 26 44.6 +1.8
NKC Novy Kostel 82.01 330 *e*P P 06 26 44.6 +1.8
K28A Ten Mile Ranch 82.09 41 P P 06 26 43.4 -0.1
baz=82
I30A Oacoma 82.26 40 P P 06 26 44.1 -0.1
baz=82
CONA Conrad Observa 82.34 326⇑ *i*P P 06 26 43.9 -0.7
comp=Z,16nm,1.2s
KHC Kasperske Hory 82.40 328 *e*P P 06 26 45.3 +0.4
KHC *e* 06 26 57.5
KHC Kasperske Hory 82.40 328 *e*P P 06 26 45.3 +0.4
KHC *ex* x 06 26 57.5
KHC Kasperske Hory 82.40 328 *e*P P 06 26 45.1 +0.3
comp=Z,16nm,1.3s
KHC *ep*P **pP** 06 26 58.2 +0.7
S22A 4UR Ranch, Cre 82.40 48 P P 06 26 46.1 +0.7
baz=82
ROTZ Rotzenmuhle 82.47 330 *e*P P 06 26 45.8 +0.6
comp=Z,53nm,1.9s
GERES GERESS Array B 82.57 328 P P 06 26 45.8 0.0
GERES pP **pP** 06 26 58.8 +0.3
GERES GERESS Array B 82.57 328 P P 06 26 45.8 0.0
comp=Z,2.5nm,0.7s,baz=38,slow=5.3,SNR=18
GERES pP **pP** 06 26 58.8 +0.3
comp=Z,2.4nm,0.6s,baz=40,slow=5.9,SNR=7.2
GERES LR LR 07 06 57.2
comp=Z,367nm,18.6s,baz=35,slow=38
WET Wettzell 82.68 329 *e*P P 06 26 48.1 +1.8
comp=Z,32nm,1.9s
VTS Vitosha 82.69 319 ⇑P P 06 26 47.9 +1.3
VTS Vitosha 82.69 319⇑ *i*P P 06 26 47.9 +1.3
R23A Moffat 82.70 47 P P 06 26 48.1 +1.1
baz=82
R24A Sanders Place, 83.09 47 P P 06 26 49.1 +0.2
baz=83
SDCO Great Sand Dun 83.19 47 *e*P P 06 26 50.4 +0.9
comp=Z,36nm,2.3s
V22A San Miguel Ran 83.57 49 P P 06 26 51.7 +0.2
baz=83
GROS Grobnik 83.61 326 *i*P P 06 26 51.2 0.0
R25A Fountain Ranch 83.62 46 P P 06 26 51.7 +0.2
baz=83
SOKA Soboth 83.66 326⇑ *i*P P 06 26 51.4 0.0
comp=Z,14nm,1.1s
T24B San Luis 83.72 48 P P 06 26 53.2 +1.0
baz=84
U23A El Rito 83.73 49 P P 06 26 53.3 +1.1
baz=84
L31A Butterfield Fa 83.80 40 P P 06 26 52.4 +0.2
baz=84
RJOB Jochberg 83.81 328 *e*P P 06 26 52.8 +0.6
comp=Z,15nm,1.0s
S25A Robets Cordova 83.87 47 P P 06 26 53.7 +0.8
baz=84
Y20A Horse Springs, 83.99 52 P P 06 26 54.3 +0.7
baz=84
R26A Arlington 84.00 46 P P 06 26 53.7 +0.3
baz=84
X21A Alamocita Cree 84.00 51 P P 06 26 54.3 +0.6
baz=84
V23A Ortiz Mt. (NFS 84.12 49 P P 06 26 55.2 +0.9
baz=84
MEM Membach 84.16 333 P P 06 26 53.5 -0.3
T25A Trinidad 84.24 47 P P 06 26 55.2 +0.4
baz=84

PMOR Pomariorio Ree 84.25 114 *e*T T 07 59 13.6
comp=Z,21nm,0.2s
Z20A Nine Sixteen R 84.38 52 P P 06 26 56.0 +0.5
baz=84
VISS Visnje 84.41 326 *i*P P 06 26 55.4 +0.1
BOJS Bojanci 84.45 325 *i*P P 06 26 55.2 -0.2
ANMO Albuquerque 84.49 50 *e*P P 06 26 56.6 +0.5
V24A Rampart Ranch, 84.68 49 P P 06 26 58.2 +1.1
baz=84
T26A Comanche Natio 84.69 47 P P 06 26 56.9 -0.1
baz=84
JAVS Javornik 84.69 326 *i*P P 06 26 56.1 -0.6
PPT Papeete 84.71 117 LR LR 06 58 01.9
comp=Z,51nm,21.9s,baz=189,slow=31
PPT2 Papeete2 84.73 117 *e*LR LR 06 53 21.3
comp=Z,549nm,28.2s
U25A Circle Dot Ran 84.74 48 P P 06 26 57.6 +0.3
baz=84
Z21A St. Cloud Mine 84.83 52 P P 06 26 58.5 +0.7
baz=85
RETA Reutte 84.86 329⇑ *i*P P 06 26 57.6 0.0
comp=Z,24nm,1.7s
W24A Lazy 6 Ranch, 84.95 49 P P 06 26 59.4 +1.0
baz=85
V25A Rancho No Teng 85.00 48 P P 06 26 59.6 +1.0
baz=85
BFO Black Forest 85.16 331 *e*P P 06 26 58.7 -0.3
BFO pmax pmax
comp=Z,32nm,1.4s
BFO Black Forest 85.16 331 *e*P P 06 26 59.0 0.0
BFO Black Forest 85.16 331 *e*P P 06 26 58.7 -0.3
comp=Z,32nm,1.4s
SCHQ Schefferville 85.19 16 P P 06 26 59.3 +0.3
SCHQ Schefferville 85.19 16 P P 06 26 59.3 +0.3
comp=Z,7.3nm,0.8s,baz=12,slow=5.7,SNR=5.8
SCHQ LR LR 07 07 54.8
comp=Z,249nm,18.3s,baz=315,slow=38
BAIF Baives 85.26 334 *e*P P 06 26 59.1 -0.3
BAIF Baives 85.26 334 *e*P P 06 26 59.1 -0.3
BAIF Baives 85.26 334 *e*P P 06 26 59.1 -0.3
121A Cookes Peak, D 85.27 52 P P 06 27 00.9 +0.9
baz=85
Z22A Elephant Butte 85.30 51 P P 06 27 00.6 +0.4
baz=85
X24A Lazy VL Ranch, 85.37 50 P P 06 27 01.1 +0.6
baz=85
S28A Manter 85.38 45 P P 06 27 00.5 +0.1
baz=85
DAVA Damuels 85.38 329⇓ *i*P P 06 26 59.9 -0.4
comp=Z,17nm,1.2s
Y23A Lovelace Mesa, 85.42 50 P P 06 27 00.8 +0.1
baz=85
CDF Champ du Feu 85.50 331 *e*P P 06 27 00.7 0.0
comp=Z,11nm,0.7s
CDF Champ du Feu 85.50 331 *e*P P 06 27 00.7 0.0
CDF pmax pmax
comp=Z,11nm,0.7s
CDF Champ du Feu 85.50 331 *e*P P 06 27 00.7 0.0
comp=Z,11nm,0.7s
W25A X Bar L Ranch, 85.51 49 P P 06 27 01.3 +0.2
baz=85
V26A Tequesquite Ra 85.52 48 P P 06 27 01.4 +0.3
baz=85
FUORN Ofenpass-Fuorn 85.75 329 *e*P P 06 27 02.7 +0.4
PAGF Fort de Pagny 85.97 332 *e*P P 06 27 03.2 +0.3
comp=Z,9.3nm,0.9s
PAGF Fort de Pagny 85.97 332 *e*P P 06 27 03.2 +0.3
comp=Z,9.3nm,0.9s
HINF Hinteralfeld 86.15 331 *e*P P 06 27 03.4 -0.5
HINF Hinteralfeld 86.15 331 *e*P P 06 27 03.4 -0.5
HINF Hinteralfeld 86.15 331 *e*P P 06 27 03.4 -0.5
HAU Haudompre 86.19 332 *e*P P 06 27 03.7 -0.4
comp=Z,10nm,0.8s
HAU *e*R
comp=Z,411nm,20.5s
HAU Haudompre 86.19 332 *e*P P 06 27 03.7 -0.4
HAU pmax pmax
comp=Z,11nm,0.8s
HAU Haudompre 86.19 332 *e*P P 06 27 03.7 -0.4
comp=Z,10nm,0.8s
W27A Bowe Ranch, En 86.45 48 P P 06 27 06.5 +0.8
baz=86
SFTF Sexfontaines 86.51 332 *e*P P 06 27 05.6 0.0
SFTF Sexfontaines 86.51 332 *e*P P 06 27 05.6 0.0
124A Stringfield Ra 86.62 51 P P 06 27 07.4 +0.6
baz=86
Z25A Roswell 86.68 50 P P 06 27 07.5 +0.6
baz=86
224A Cornudas Mount 87.00 51 P P 06 27 08.8 +0.3
baz=87
Z26A Caprock 87.13 50 P P 06 27 09.7 +0.6
baz=87
125A Gardner Draw, 87.14 51 P P 06 27 09.4 +0.3
baz=87
AMTX Amarillo 87.39 47 P P 06 27 10.4 +0.1
baz=87
X29A Tulia 87.69 48 P P 06 27 12.3 +0.6
baz=87
LOR Lormes 87.73 333 *e*P P 06 27 11.5 -0.1
comp=Z,34nm,1.3s
LOR *e*R
comp=Z,293nm,18.0s
LOR Lormes 87.73 333 *e*P P 06 27 11.5 -0.1
comp=Z,34nm,1.3s
LDF La Druitiere 87.99 336 *e*P P 06 27 12.5 -0.2
LDF La Druitiere 87.99 336 *e*P P 06 27 12.5 -0.2
LDF La Druitiere 87.99 336 *e*P P 06 27 12.5 -0.2
SSF Saint Saulge 88.04 333 *e*P P 06 27 13.2 +0.2
SSF Saint Saulge 88.04 333 *e*P P 06 27 13.2 +0.2
SSF Saint Saulge 88.04 333 *e*P P 06 27 13.2 +0.2
LPL La Plagne 88.09 330 *e*P P 06 27 13.9 +0.3
LPL La Plagne 88.09 330 *e*P P 06 27 13.9 +0.3
LPL La Plagne 88.09 330 *e*P P 06 27 13.9 +0.3
LPG La Plagne 88.10 330 *e*P P 06 27 13.5 -0.2
comp=Z,9.6nm,0.8s
LPG La Plagne 88.10 330 *e*P P 06 27 13.5 -0.2
LPG pmax pmax
comp=Z,10.0nm,0.8s
LPG La Plagne 88.10 330 *e*P P 06 27 13.5 -0.2
comp=Z,9.6nm,0.8s
SMF Signal de Mont 88.26 332 *e*P P 06 27 13.9 -0.2
comp=Z,35nm,1.4s
SMF Signal de Mont 88.26 332 *e*P P 06 27 13.9 -0.2
SMF pmax pmax
comp=Z,35nm,1.4s
SMF Signal de Mont 88.26 332 *e*P P 06 27 13.9 -0.2
comp=Z,35nm,1.4s
AVF Avril sur Loir 88.32 333 *e*P P 06 27 14.4 0.0
comp=Z,29nm,1.1s
AVF Avril sur Loir 88.32 333 *e*P P 06 27 14.4 0.0
AVF pmax pmax
comp=Z,29nm,1.1s
AVF Avril sur Loir 88.32 333 *e*P P 06 27 14.4 0.0
comp=Z,29nm,1.1s
GRR Gorron 88.41 336 *e*P P 06 27 15.1 +0.4
GRR Gorron 88.41 336 *e*P P 06 27 15.1 +0.4
GRR Gorron 88.41 336 *e*P P 06 27 15.1 +0.4
TBI Tubuai 88.62 121 *e*LR LR 06 55 15.1
comp=Z,488nm,28.0s,baz=312
TBI Tubuai 88.62 121 *e*T T 08 04 32.1
comp=Z,47nm,0.3s
MBDF Montbardon 88.72 330 *e*P P 06 27 16.1 -0.4
MBDF Montbardon 88.72 330 *e*P P 06 27 16.1 -0.4
MBDF Montbardon 88.72 330 *e*P P 06 27 16.1 -0.4
ORIF Oris-en-Rattie 88.92 330 *e*P P 06 27 17.5 +0.1
ORIF *e*R
comp=Z,280nm,17.8s
ORIF Oris-en-Rattie 88.92 330 *e*P P 06 27 17.5 +0.1
ORIF Oris-en-Rattie 88.92 330 *e*P P 06 27 17.5 +0.1
SGMF Saint Gilles 89.07 337 *e*P P 06 27 17.9 +0.1
SGMF Saint Gilles 89.07 337 *e*P P 06 27 17.9 +0.1
SGMF Saint Gilles 89.07 337 *e*P P 06 27 17.9 +0.1
TCF Toulx Ste Croi 89.17 333 *e*P P 06 27 18.8 +0.4
TCF Toulx Ste Croi 89.17 333 *e*P P 06 27 18.8 +0.4
TCF Toulx Ste Croi 89.17 333 *e*P P 06 27 18.8 +0.4
ROSF Rostrenen 89.22 337 *e*P P 06 27 18.6 +0.1
comp=Z,32nm,0.8s
ROSF Rostrenen 89.22 337 *e*P P 06 27 18.6 +0.1
ROSF pmax pmax
comp=Z,32nm,0.8s
ROSF Rostrenen 89.22 337 *e*P P 06 27 18.6 +0.1
comp=Z,32nm,0.8s
TXAR Lajitas Array 90.03 52 P P 06 27 23.0 +0.1
TXAR Lajitas Array 90.03 52 P P 06 27 23.0 +0.1
comp=Z,1.2nm,0.6s,baz=305,slow=1.5,SNR=34
TXAR LR LR 07 02 10.3

comp=Z,128nm,20.3s,baz=75,slow=32
CAF Calviac 90.38 332 *e*P **P 06 27 24.6 +0.5**
CAF Calviac 90.38 332 *e*P **P 06 27 24.6 +0.5**
CAF Calviac 90.38 332 *e*P **P 06 27 24.6 +0.5**
SJPF Ste Jean 93.14 334 *e*P **P 06 27 37.4 +0.5**
comp=Z,56nm,1.3s
SJPF Ste Jean 93.14 334 *e*P **P 06 27 37.4 +0.5**
SJPF pmax pmax
comp=Z,56nm,1.3s
SJPF Ste Jean 93.14 334 *e*P **P 06 27 37.4 +0.5**
comp=Z,56nm,1.3s
KEST Kesra 94.89 323 LR LR 07 15 43.2
comp=Z,112nm,20.1s,baz=286,slow=39
ESDC Sonseca Array 97.14 334 LR LR 07 15 59.0
comp=Z,284nm,20.8s,baz=5.0,slow=38
RKT Rikitea 98.82 112 *e*LR LR 06 59 58.8
comp=Z,395nm,25.5s,baz=301
TORD Torodi Ar. Bea 117.21 315 PKP **PKPdf 06 33 07.5 -1.0**
TORD pPKP **pPKPdf 06 33 20.1 -1.6**
TORD Torodi Ar. Bea 117.21 315 PKP **PKPdf 06 33 07.5 -1.0**
comp=Z,0.5nm,0.5s,baz=25,slow=2.2,SNR=8.1
TORD pPKP **pPKPdf 06 33 20.1 -1.6**
comp=Z,0.8nm,0.5s,baz=29,slow=1.5,SNR=5.9
LBTB Lobatse 124.65 263 *e*PKPdf **PKPdf 06 33 22.1 -0.5**
DBIC Dimbokro 126.17 317 PKP **PKPdf 06 33 25.2 -0.4**
DBIC pPKP **pPKPdf 06 33 38.1 -0.8**
DBIC Dimbokro 126.17 317 PKP **PKPdf 06 33 25.2 -0.4**
comp=Z,1.0nm,0.3s,baz=10,slow=4.0,SNR=4.4
DBIC pPKP **pPKPdf 06 33 38.1 -0.8**
comp=Z,3.0nm,0.6s,baz=329,slow=2.8,SNR=3.4
BOSA Boshof 126.60 259 PKP **PKPdf 06 33 26.0 -0.2**
BOSA Boshof 126.60 259 PKP **PKPdf 06 33 26.0 -0.2**
comp=Z,3.2nm,0.8s,baz=151,slow=3.1,SNR=7.7
LIC Lamto 126.63 317 *e*PKIKP **PKPdf 06 33 26.1 -0.5**
comp=Z,15nm,1.0s
LIC *e*R
comp=Z,200nm,21.0s
LIC Lamto 126.63 317 *e*PKPdf **PKPdf 06 33 26.1 -0.5**
SNAA Sanae 140.90 197 *e*PKPdf PKPdf 06 33 43.0 -8.6
SNAA Sanae 140.90 197 *e*PKIKP **PKPdf 06 33 46.9 -4.7**
VNA2 Neumayer--Watz 142.47 196 *e*PKPdf **PKPdf 06 33 51.0 -3.3**
VNA2 Neumayer--Watz 142.47 196 *e*PKIKP **PKPdf 06 33 54.2 -0.1**
SAML Samuel 144.14 45 *e*PKPdf **PKPab 06 33 56.1 -0.5**
LPAZ La Paz 146.62 59 PKPbc **PKPbc 06 34 05.3 -0.2**
LPAZ La Paz 146.62 59 PKPbc **PKPbc 06 34 05.3 -0.2**
comp=Z,5.5nm,0.5s,baz=20,slow=5.9,SNR=53
H03N2 Juan Fernandez 147.05 96 T T 09 18 29.9
baz=259,slow=75,SNR=140
H03N3 Juan Fernandez 147.06 96 T T 09 19 08.7
SNR=188
H03N1 Juan Fernandez 147.06 96 T T 09 18 25.3
baz=290,slow=75,SNR=149

NIED ***02*** *06:28:00, 37.˚10N× 141.˚50E, h50km, Mw3.8 Best double couple: M₀5.86000×10¹⁴ NP1:φs28.00000°, δ74.00000°, λ75.00000°. NP2:φs251.00000°, δ22.00000°, λ131.00000°.*
IDC ***02*** *06:28:21.3± 16.0, 36.˚60N× 141.˚58E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/25, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/39, Error ellipse: s-maj=398.6km s-min=35.0km az=172.0*
ISCJB ***02*** *06:28:28.8± 1.3, 37.˚15N± 0.˚06× 141.˚5E± 0.˚1, h46km± 8km, mb3.6/5, Error ellipse: s-maj=16.3km s-min=7.8km az=26.1*
JMA ***02*** *06:28:29.4± 0.1, 37.˚15N× 141.˚45E, h47km± 2km, M3.8*
JMA Felt II J1.

ISC 02 06:28:29.3±2.1, 37.˚15N± 0.˚07× 141.˚48E± 0.˚09, h35km± 7km, n19, σ0 972/19, mb3.6/5, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.52**	**294**	⇓P	**Pn**	**06 28 40.5**	**+0.2**
JFK				S	**Sb**	**06 28 48.1**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.54**	**265**	⇓P	**Pn**	**06 28 40.7**	**+0.1**
ONAJ				S	**Sn**	**06 28 48.8**	**+0.3**
JMM	**Marumori**	**0.89**	**323**	⇓P	**Pn**	**06 28 45.4**	**0.0**
JMM				S	**Sn**	**06 28 57.1**	**0.0**
JHO	**Hitachi**	**0.91**	**234**	⇓P	**Pn**	**06 28 45.2**	**-0.4**
JHO				S	**Sn**	**06 28 56.3**	**-1.1**
JFT	**Otama**	**0.98**	**292**	⇓P	**Pb**	**06 28 47.5**	**-0.3**
JFT				S	**Sb**	**06 29 00.1**	**-0.4**
JIO	**Ouri**	**1.30**	**356**	⇓P	**Pn**	**06 28 50.8**	**-0.2**
JIO				*e*S	**Sn**	**06 29 06.4**	**-0.8**
MAT	**Matsushiro**	**2.69**	**258**	P	**Pn**	**06 29 11.7**	**+1.6**
MAT				S	**Sn**	**06 29 40.1**	**-1.4**
JNU	**Nakatsue**	**9.56**	**248**	LR	LR	06 33 20.1	
	comp=Z,116nm,19.9s,baz=256,slow=32						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**06 34 15.5**	**+0.7**
	1.1nm,0.7s,baz=102,slow=8.8,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	07 03 58.2	
	baz=316,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	07 04 22.5	
	baz=316,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	07 04 22.4	
	baz=316,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	07 04 46.5	
	baz=323,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	07 05 25.9	
	baz=323,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	07 05 27.8	
	baz=323						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**06 36 16.2**	**+0.4**
	0.9nm,0.7s,baz=72,slow=9.3,SNR=2.4						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**06 36 34.1**	**+0.1**
	0.7nm,0.6s,baz=88,slow=11,SNR=6.0						
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**06 36 48.3**	**-0.5**
	0.7nm,0.3s,baz=84,slow=8.0,SNR=5.6						
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**06 37 15.3**	**+0.3**
	0.4nm,0.8s,baz=272,slow=6.6,SNR=3.8						

ISCJB ***02*** *06:29:49.2± 1.4, 17.˚3S± 0.˚6× 178.˚8W± 0.˚4, h547km, mb3.8/6, Error ellipse: s-maj=92.6km s-min=18.8km az=149.3*
IDC ***02*** *06:29:57.3± 10.0, 17.˚52S× 178.˚84W, h643km± 141km, mb3.3/6, mb1 3.6/6, mb1mx3.3/18, mbtmp3.3/6, Error ellipse: s-maj=89.5km s-min=38.4km az=166.0*

ISC 02 06:29:50.1±1.5, 17.˚3S± 0.˚6× 178.˚8W± 0.˚4, h547km, n7, σ0 946/7, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.64**	**240**	P	**P**	**06 36 26.9**	**-0.2**
	2.7nm,0.5s,baz=88,slow=9.3,SNR=13						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**06 37 13.0**	**+0.1**
	1.6nm,0.3s,baz=95,slow=7.3,SNR=62						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**06 37 14.6**	**0.0**
	11nm,0.5s,baz=87,slow=8.7,SNR=125						
NVAR	**Mina Array Bea**	**79.22**	**44**	P	**P**	**06 40 59.4**	**+0.3**
	0.8nm,0.7s,baz=229,slow=8.1,SNR=7.2						
ILAR	**Eielson Array**	**85.38**	**13**	P	**P**	**06 41 29.0**	**-0.4**
	0.6nm,0.5s,baz=216,slow=5.0,SNR=11						
TXAR	**Lajitas Array**	**85.95**	**58**	P	**P**	**06 41 32.8**	**-0.3**
	0.9nm,0.7s,baz=225,slow=6.3,SNR=15						
GERES	**GERESS Array B**	**146.96**	**345**	PKPbc	**PKPdf**	**06 48 29.4**	**+0.7**
	0.4nm,0.4s,baz=20,slow=4.3,SNR=3.4						

IDC ***02*** *06:32:43.4± 0.5, 3.˚55N× 126.˚42E, h0km, mb4.4/20, mb1 4.5/20, mb1mx4.4/28, mbtmp4.4/20, MS3.7/7, Ms1 3.8/7, ms1mx3.4/37, Error ellipse: s-maj=29.8km s-min=8.9km az=69.0*
AUST ***02*** *06:32:45.2± 11.0, 3.˚34N× 126.˚34E, h5km, Error ellipse: s-maj=2.3km s-min=1.8km az=280.0*
NEIC ***02*** *06:32:48.7± 0.3, 3.˚55N× 126.˚36E, h35km, mb4.7/6, Error ellipse: s-maj=10.7km s-min=5.4km az=65.0*
DJA ***02*** *06:32:55.3± 0.4, 4.˚N± 4.˚× 12.˚7E± .˚, h53km± 8km, M4.9/7, mB5.3/3, mb4.8/7, MLv4.9/6, Mw(mB)4.7/3*

ISC 02 06:32:50.7±0.4, 3.˚64N± 0.˚05× 126.˚54E± 0.˚09, h53km, n93, σ1 904/86, mb4.3/24, MS3.7/7, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.01**	**273**	P	Pn	06 33 12.1	+3.4
SGSI				S	Sn	06 33 30.9	+8.9
GSPH	**General Santos**	**2.91**	**327**	⇓*i*P	**Pn**	**06 33 36.6**	**+1.9**
TNTI	**Ternate**	**2.96**	**164**	P	**Pn**	**06 33 37.4**	**+2.1**
TNTI				S	**Sn**	**06 34 07.4**	**-2.3**
DAV	**Davao City (W)**	**3.54**	**344**	P	Pn	06 33 49.5	+6.2
KMSI	**Cibinong**	**3.98**	**220**	P	Pn	06 33 55.1	+5.9
LBMI	**Labuha**	**4.35**	**167**	P	**Pn**	**06 33 56.0**	**+1.6**
MRSI	**Marisa**	**5.57**	**236**	P	Pn	06 34 14.9	+3.8
	176nm,0.9s,2μm0.7nm						
MRSI				S	Sn	06 35 21.8	+8.0
	176nm,0.9s,2μm0.7nm						
LUWI	**Luwuk**	**5.98**	**219**	P	Pn	06 34 24.0	+7.2
	213nm,1.1s,2μm1.0nm						
APSI	**Ampana**	**6.66**	**227**	P	Pn	06 34 34.9	+8.9
FAKI	**Fak Fak**	**8.66**	**139**	P	**Pn**	**06 34 52.9**	**-0.5**
	56nm,1.4s						
TTSI	**Tana Toraja**	**9.45**	**225**	P	Pn	06 35 11.7	+7.5
	35nm,1.0s,2μm						
KKM	**Kota Kinabalu**	**10.56**	**283**	*e*Pn	Pn	06 35 14.3	-5.4
GENI	**Genyem**	**14.96**	**114**	P	**P**	**06 36 23.2**	**-0.3**
	293nm,0.9s						
JAY	**Jayapura**	**15.42**	**113**	P	**P**	**06 36 27.8**	**-0.9**
	baz=16,SNR=6.1						
MTNI	**Mataram**	**15.99**	**220**	P	**P**	**06 36 36.8**	**+1.8**
	28nm,0.8s						
KSM	**Kuching**	**16.36**	**263**	*e*Pn	**Pn**	**06 36 33.4**	**-3.6**
MTN	**Manton Dam**	**17.00**	**165**	P	Pn	06 36 39.1	-5.9
	baz=17,SNR=7.1						
KDU	**Kakadu**	**17.25**	**160**	P	Pn	06 36 42.0	-6.2
	baz=17,SNR=4.9						
KNRA	**Kununurra**	**19.32**	**174**	P	**P**	**06 37 11.6**	**0.0**
	baz=19,SNR=14						
TPUB	**Ta-pu**	**20.37**	**344**	*e*P	**P**	**06 37 21.4**	**-1.7**
	32nm,0.7s						
SSLB	**Suanglung**	**20.75**	**345**	*e*P	**P**	**06 37 26.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.62**	**182**	P	**P**	**06 37 35.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.62**	**182**	P	**P**	**06 37 35.4**	**-1.2**
	7.2nm,0.5s,baz=13,slow=10,SNR=29						
COEN	**Coen**	**24.04**	**137**	P	**P**	**06 37 59.1**	**-2.0**
	baz=24,SNR=4.3						
PMG	**Port Moresby**	**24.29**	**122**	LR	LR	06 47 05.3	
	comp=Z,273nm,18.6s,baz=203,slow=35						
WRAB	**Tennant Creek**	**24.65**	**162**	*e*P	**P**	**06 38 05.3**	**-1.2**
	64nm,0.8s						
WRA	**Warramunga Arr**	**24.65**	**162**	P	**P**	**06 38 05.0**	**-1.6**
WRA				S	**S**	**06 42 25.6**	**+1.0**
WRA	**Warramunga Arr**	**24.65**	**162**	P	**P**	**06 38 05.0**	**-1.6**
	32nm,0.7s,baz=343,slow=10,SNR=124						
WRA				S	**S**	**06 42 25.6**	**+1.0**
	4.4nm,0.9s,baz=334,slow=20,SNR=8.3						
AS31	**Alice Springs**	**28.07**	**166**	*e*P	**P**	**06 38 37.4**	**-0.1**
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**06 38 36.5**	**-1.0**
ASAR				PcP	**PcP**	**06 41 52.0**	**+0.8**
ASAR				S	S	06 43 26.1	+7.4
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**06 38 36.5**	**-1.0**
	2.0nm,0.3s,baz=350,slow=7.7,SNR=24						
ASAR				PcP	**PcP**	**06 41 52.0**	**+0.8**
	1.6nm,0.5s,baz=350,slow=2.1,SNR=4.6						
ASAR				S	S	06 43 26.1	+7.4
	1.4nm,0.8s,baz=349,slow=23,SNR=5.4						
CMAR	**Chiang Mai Arr**	**30.76**	**301**	P	**P**	**06 39 00.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**30.76**	**301**	P	**P**	**06 39 00.3**	**-1.0**
	1.1nm,0.3s,baz=105,slow=6.9,SNR=4.4						
CMAR				LR	LR	06 53 33.3	
	comp=Z,116nm,18.9s,baz=317,slow=41						
ENH	**Enshi**	**31.02**	**330**	*e*P	**P**	**06 39 03.5**	**0.0**
MEEK	**Meekatharra**	**31.06**	**194**	P	**P**	**06 39 04.4**	**+0.5**
	baz=31,SNR=6.1						
KSAR	**Wonju Array Be**	**33.67**	**2**	P	**P**	**06 39 27.2**	**+0.6**
KSRS	**Korea Array**	**33.68**	**2**	P	**P**	**06 39 27.2**	**+0.5**
	1.2nm,0.4s,baz=182,slow=10.0,SNR=7.3						
KSRS				LR	LR	06 54 37.9	
	comp=Z,104nm,19.5s,baz=178,slow=39						
FORT	**Forrest**	**34.25**	**178**	P	**P**	**06 39 31.6**	**-0.1**
	baz=34,SNR=11						
BBOO	**Buckleboo**	**37.35**	**167**	P	**P**	**06 39 57.7**	**-0.5**
	baz=37,SNR=17						
STKA	**Stephens Creek**	**38.11**	**159**	*e*P	**P**	**06 40 04.0**	**-0.7**
	2.7nm,0.5s						
STKA	**Stephens Creek**	**38.11**	**159**	P	**P**	**06 40 04.2**	**-0.5**
	12nm,0.4s,baz=339,slow=7.7,SNR=52						
STKA	**Stephens Creek**	**38.11**	**159**	P	**P**	**06 40 04.2**	**-0.5**
	baz=38,SNR=51						
USRK	**Ussuriysk Arra**	**40.68**	**6**	P	**P**	**06 40 27.5**	**+1.6**
	1.1nm,0.5s,baz=200,slow=7.9,SNR=5.8						
USRK				LR	LR	06 54 58.9	
	comp=Z,90nm,20.3s,baz=77,slow=33						
ARMA	**Armidale**	**41.49**	**146**	P	**P**	**06 40 33.2**	**+0.2**
	baz=42,SNR=4.4						
ARPS	**Mount Arapiles**	**42.66**	**162**	P	**P**	**06 40 42.8**	**+0.6**
	baz=43,SNR=6.1						
TAPN	**Taplejung**	**43.92**	**306**	*e*P	**P**	**06 40 53.5**	**+0.5**
	6.2nm,0.3s						
RAMN	**Ramite**	**44.65**	**305**	*e*P	**P**	**06 41 00.3**	**+1.6**
	5.0nm,0.3s						
JIRN	**Jiri**	**45.27**	**306**	*e*P	**P**	**06 41 04.7**	**+0.9**
	5.2nm,0.3s						
GUN	**Gumba**	**45.63**	**306**	*e*P	**P**	**06 41 07.2**	**+0.6**
	6.0nm,0.3s						
PKI	**Pulchoki**	**45.87**	**306**	*e*P	**P**	**06 41 09.4**	**+0.9**
PKI	**Pulchoki**	**45.87**	**306**	*e*P	**P**	**06 41 09.5**	**+0.9**
PKIN	**Phulchoki**	**45.88**	**306**	*e*P	**P**	**06 41 09.5**	**+1.0**
DZM	**Mont Dzumac**	**46.63**	**125**	P	**P**	**06 41 14.7**	**+0.4**
DZM	**Mont Dzumac**	**46.63**	**125**	P	**P**	**06 41 14.7**	**+0.4**
	12nm,0.7s,baz=265,slow=8.3,SNR=12						
GKN	**Gorkha**	**46.67**	**306**	*e*P	**P**	**06 41 16.1**	**+1.5**
	8.6nm,0.3s						
SONM	**Songino Array**	**47.33**	**342**	P	**P**	**06 41 19.9**	**+0.5**
SONM	**Songino Array**	**47.33**	**342**	P	**P**	**06 41 19.9**	**+0.5**
	1.4nm,0.8s,baz=163,slow=10.0,SNR=6.2						
SONM				LR	LR	07 04 17.2	
	comp=Z,71nm,18.5s,baz=153,slow=40						
KOLN	**Koldanda**	**47.42**	**305**	*e*P	**P**	**06 41 21.0**	**+0.5**
	9.5nm,0.3s						
DANN	**Dangsing**	**47.52**	**306**	*e*P	**P**	**06 41 21.8**	**+0.5**
	18nm,0.4s						
PYUN	**Piuthan**	**48.05**	**305**	*e*P	**P**	**06 41 26.2**	**+0.8**
	16nm,0.3s						
MK31	**Makanchi Array**	**57.52**	**325**	*e*P	**P**	**06 42 35.1**	**+0.3**
MKAR	**Makanchi Array**	**57.52**	**325**	P	**P**	**06 42 35.0**	**+0.2**
MKAR	**Makanchi Array**	**57.52**	**325**	P	**P**	**06 42 35.0**	**+0.2**
	1.8nm,0.3s,baz=118,slow=6.9,SNR=41						
MKAR				LR	LR	07 09 03.9	
	comp=Z,106nm,19.2s,baz=247,slow=38						
AAK	**Ala-Archa**	**60.30**	**318**	P	**P**	**06 42 55.7**	**+1.4**
AAK	**Ala-Archa**	**60.30**	**318**	P	**P**	**06 42 55.7**	**+1.4**
	0.8nm,0.3s,baz=106,slow=5.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**60.59**	**333**	P	**P**	**06 42 54.9**	**-0.9**
ZALV	**Zalesovo Beam**	**60.59**	**333**	P	**P**	**06 42 54.9**	**-0.9**
	0.9nm,0.4s,baz=106,slow=5.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**61.72**	**327**	P	**P**	**06 43 02.8**	**-0.7**
	5.3nm,0.7s,baz=128,slow=6.2,SNR=27						
KURK	**Kurchatov**	**61.72**	**328**	*e*P	**P**	**06 43 03.5**	**0.0**
KKAR	**Karatay Array**	**63.17**	**317**	*e*P	**P**	**06 43 13.5**	**+0.1**
	2.8nm,0.8s						
BVAR	**Borovoye Array**	**67.30**	**327**	P	**P**	**06 43 40.4**	**+0.5**
BVAR	**Borovoye Array**	**67.30**	**327**	P	**P**	**06 43 40.4**	**+0.5**
	2.1nm,0.7s,baz=120,slow=6.8,SNR=12						
BRVK	**Borovoye**	**67.37**	**327**	*e*P	**P**	**06 43 40.2**	**-0.1**
	4.8nm,0.9s						
ABKAR	**Akbulak array**	**72.10**	**321**	*e*P	**P**	**06 44 09.4**	**-0.2**
	7.7nm,0.6s						
AKTO	**Aktyubinsk**	**73.62**	**322**	P	**P**	**06 44 17.6**	**-0.9**
AKTO	**Aktyubinsk**	**73.62**	**322**	P	**P**	**06 44 17.6**	**-0.9**
	0.9nm,0.3s,baz=104,slow=10,SNR=6.9						
VNDA	**Vanda**	**83.36**	**173**	P	**P**	**06 45 12.4**	**+0.8**
VNDA	**Vanda**	**83.36**	**173**	P	**P**	**06 45 12.4**	**+0.8**
	1.6nm,0.6s,baz=56,slow=2.8,SNR=8.8						
ILAR	**Eielson Array**	**85.27**	**25**	P	**P**	**06 45 21.6**	**0.0**
ILAR	**Eielson Array**	**85.27**	**25**	P	**P**	**06 45 21.6**	**0.0**
	0.3nm,0.8s,baz=249,slow=4.8,SNR=3.9						
EIL	**Elat**	**89.60**	**300**	LR	LR	07 33 41.1	
	comp=Z,37nm,18.7s,baz=268,slow=41						
BRTR	**Keskin Array B**	**89.94**	**310**	P	**P**	**06 45 43.4**	**-1.4**
BRTR	**Keskin Array B**	**89.94**	**310**	P	**P**	**06 45 43.4**	**-1.4**
	0.7nm,0.7s,baz=48,slow=9.8,SNR=4.1						
ARCES	**ARCESS Array B**	**90.47**	**340**	P	**P**	**06 45 46.0**	**-0.4**
ARCES	**ARCESS Array B**	**90.47**	**340**	P	**P**	**06 45 46.0**	**-0.4**
	4.6nm,0.9s,baz=86,slow=5.0,SNR=7.2						
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**06 45 52.9**	**+0.1**
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**06 45 52.9**	**+0.1**
	2.9nm,0.9s,baz=91,slow=5.6,SNR=2.4						
TXAR	**Lajitas Array**	**121.80**	**52**	PKP	**PKPdf**	**06 51 40.3**	**+0.5**
TXAR	**Lajitas Array**	**121.80**	**52**	PKP	**PKPdf**	**06 51 40.3**	**+0.5**
	0.1nm,0.5s,baz=335,slow=6.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP	**PKPdf**	**06 51 42.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP	**PKPdf**	**06 51 42.6**	**+0.8**
	0.1nm,0.4s,baz=45,slow=2.5,SNR=2.7						
CFAA	**Coronel Fontan**	**148.90**	**155**	PKPbc	**PKPbc**	**06 52 34.2**	**+0.9**
CFAA	**Coronel Fontan**	**148.90**	**155**	PKPbc	**PKPbc**	**06 52 34.2**	**+0.9**
	0.5nm,0.5s,baz=196,slow=3.4,SNR=18						

NNC 02 06:33:23.1±4.0, 54.˚45N× 86.˚65E, h0km, mb3.7, mpv3.4, 7C-4D, Error ellipse: s-maj=29.3km s-min=25.6km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.16**	**236**	⇑Pn	Pn	06 34 55.6	+0.3
	2.3nm,1.4s						
KURK				⇓Sn	Sn	06 36 07.2	+0.8
	1.1nm,0.9s						
KURK				⇑Lg	Lg	06 36 38.2	
	4.5nm,1.3s						
KURBB	**Kurchatov Arra**	**6.26**	**236**	⇓Pn	Pn	06 34 57.1	+0.4
	2.0nm,0.5s						
KURBB				⇓Sn	Sn	06 36 11.1	+2.2
	2.6nm,0.5s						
KURBB				⇓Lg	Lg	06 36 41.4	
	4.7nm,0.7s						
MK31	**Makanchi Array**	**8.15**	**202**	⇑Pn	Pn	06 35 24.0	+1.3
	3.7nm,1.2s,baz=24,slow=13,SNR=7.8						
MK31				⇑Sn	Sn	06 36 55.8	+0.3
	1.3nm,0.8s						
MK31				⇑Lg	Lg	06 37 43.0	
	5.5nm,1.3s,baz=22,slow=29						
VOSK	**Vostochnaya**	**9.48**	**266**	⇑Pn	Pn	06 35 40.8	-0.1
	0.5nm,0.5s						
VOSK				⇑Sn	Sn	06 37 26.2	-1.9
	0.9nm,0.7s						

MAN 02 06:35:35.5, 5.˚20N× 126.˚42E, h77km, mb4.6, ML3.5, MS3.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.71**	**301**	⇓*i*P	Pn	06 36 01.9	-1.3
MATI	**Mati**	**1.74**	**355**	*e*P	Pn	06 36 05.0	+1.6
MATI				*e*S	Sn	06 36 27.0	+1.9
BUKP	**Musuan**	**2.98**	**333**	*e*P	Pn	06 36 21.7	+1.5
BUTP	**Butuan**	**3.83**	**348**	*e*P	Pn	06 36 33.9	+2.3
PAGZ	**Pagadian**	**4.00**	**311**	*e*P	Pn	06 36 36.7	+2.7

NNC 02 07:05:58.7±8.9, 53.˚88N× 86.˚41E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=76.4km s-min=49.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.74**	**240**	⇑Pn	Pn	07 07 25.9	+0.9
	1.2nm,0.7s						
KURK				⇑Lg	Lg	07 09 00.3	
	1.2nm,1.1s						
KURBB	**Kurchatov Arra**	**5.84**	**239**	⇑Pn	Pn	07 07 27.2	+0.8
	1.7nm,0.3s						
KURBB				⇓Lg	Lg	07 09 03.1	
	4.9nm,0.6s						
MK31	**Makanchi Array**	**7.57**	**202**	⇓Pn	Pn	07 07 52.1	+1.8
	0.6nm,0.7s,baz=24,slow=14,SNR=12						
MK31				⇓Sn	Sn	07 09 17.3	+0.5
	0.3nm,0.5s						
MK31				⇑Lg	Lg	07 09 59.9	
	2.5nm,1.1s,baz=26,slow=27						
VOSK	**Vostochnaya**	**9.31**	**269**	Pn	Pn	07 08 13.8	-0.4
	1.2nm,0.9s						
VOSK				Sn	Sn	07 09 55.3	-4.2
	1.0nm,0.6s						

IDC ***02*** *07:20:17.7± 11.0, 36.˚16N× 70.˚54E, h180km± 121km, mb3.3/2, mb1 3.1/5, mb1mx2.8/29, mbtmp3.0/5, Error ellipse: s-maj=83.6km s-min=56.6km az=99.0*
ISCJB ***02*** *07:20:21.5± 0.7, 36.˚58N± 0.˚05× 70.˚6E± 0.˚1, h204km, mb3.4/2, Error ellipse: s-maj=12.2km s-min=5.2km az=159.0*
NNC ***02*** *07:20:24.8± 11.0, 36.˚80N× 70.˚31E, h159km± 135km, mb2.6, mpv3.2, Error ellipse: s-maj=95.1km s-min=55.9km az=8.0*

ISC 02 07:20:21.9±0.9, 36.˚56N± 0.˚08× 70.˚58E± 0.˚10, h204km, n23, σ1 934/25, 1C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.54**	**360**	⇓P	**Pn**	**07 21 56.7**	**+0.7**
	0.3nm,0.3s,baz=185,slow=13,SNR=21						
KK31				⇓S	**S**	**07 23 07.9**	**-2.7**
	3.0nm,0.7s,baz=186,slow=24,SNR=5.7						
AAK	**Ala-Archa**	**6.78**	**25**	S	**S**	**07 23 16.0**	**-0.5**
	0.6nm,0.3s,baz=316,slow=22,SNR=7.9						
TKM2	**Tokmak 2**	**7.43**	**30**	⇑P	**Pn**	**07 22 08.4**	**+0.5**
	2.1nm,0.5s						
TKM2				⇓S	**S**	**07 23 30.5**	**-1.7**
	2.3nm,0.7s						
MKAR	**Makanchi Array**	**13.44**	**37**	P	**P**	**07 23 26.1**	**-1.0**
	0.1nm,0.3s,baz=220,slow=17,SNR=4.3						
PYUN	**Piuthan**	**13.45**	**125**	*e*P	**Pn**	**07 23 23.5**	**-1.6**
	20nm,0.4s						
DANN	**Dangsing**	**13.80**	**123**	*e*P	**Pn**	**07

BULB	Ulba Tungurahu	1.78	70	S		Sb	08 03 18.6	-0.1	
BULB	Ulba Tungurahu	1.78	70	P		Pb	08 02 55.7	-0.2	
MACE	Macas	1.90	96	S		Sb	08 03 20.7	-0.9	
MACE	Macas	1.90	96	P		Pb	08 02 56.8	-0.8	
PISA	Pisayambo	1.96	60	S		Sg	08 03 26.9	+0.2	
PISA	Pisayambo	1.96	60	P		Pb	08 02 59.3	+0.2	
PAST	Pastocalle	1.97	47	P		Pb	08 02 59.3	+0.1	
MAG1	Magdalena	1.99	9	P		Pn	08 02 56.6	+0.1	
BMOR	Cotopaxi Volca	2.09	51	⇑P		Pb	08 03 00.8	-0.4	
CAMI	Rancho Maria	2.09	49	P		Pb	08 03 01.1	-0.1	
BNAS	Cotopaxi Volca	2.11	50	⇑P		Pb	08 03 01.4	-0.2	
BNAS	Cotopaxi Volca	2.11	50	⇑S		Sg	08 03 31.9	+0.6	
MOV1	Cotopaxi Vol s	2.11	51	S		Sb	08 03 29.8	+1.0	
MOV1	Cotopaxi Vol s	2.11	51	P		Pb	08 03 01.2	-0.6	
NAS2	Nasa	2.13	49	⇓P		Pb	08 03 02.6	+0.5	
BREF	Cotopaxi Volca	2.14	50	⇑S		Sg	08 03 31.5	-1.1	
BREF	Cotopaxi Volca	2.14	50	⇑P		Pb	08 03 02.1	-0.2	
BTAM	Cotopaxi Volca	2.17	51	⇑P		Pb	08 03 02.2	-0.5	
BTAM	Cotopaxi Volca	2.17	51	⇑S		Sg	08 03 33.7	+0.3	
BVC2	Cotopaxi Volca	2.17	50	⇑S		Sg	08 03 33.4	0.0	
BVC2	Cotopaxi Volca	2.17	50	⇑P		Pb	08 03 02.4	-0.3	
VC1	Cotopaxi 1	2.19	50	S		Sg	08 03 32.9	-0.9	
VC1	Cotopaxi 1	2.19	50	P		Pb	08 03 02.6	-0.4	
PITA	Cotopaxi Volc	2.22	48	P		Pb	08 03 03.0	-0.4	
COV1	Cotopaxi Volc	2.22	52	P		Pb	08 03 02.3	-1.4	
JUA2	San Juan 2	2.35	39	⇑S		Sb	08 03 34.8	-0.5	
JUA2	San Juan 2	2.35	39	⇑P		Pb	08 03 04.0	-1.6	
TERV	Terraza Guagua	2.38	39	S		Sb	08 03 36.0	-0.3	
TERV	Terraza Guagua	2.38	39	P		Pn	08 03 04.0	+1.6	
GGP	Refugio Guagua	2.38	39	⇓P		Pn	08 03 03.9	+1.3	
PINO	Pino	2.39	38	P		Pn	08 03 04.0	+1.3	
ANTI	Antisana	2.49	50	S		Sb	08 03 40.2	+0.5	
ANTI	Antisana	2.49	50	P		Pb	08 03 06.5	-1.8	
OTAV	Otavalo	2.80	36	⇓S		Sn	08 03 43.6	+1.1	
OTAV	Otavalo	2.80	36	⇓P		Pn	08 03 09.2	+1.0	
CAYR	Refugio Cayamb	2.92	45	P		Pb	08 03 13.3	-2.3	
CAYA	Cayambe	2.97	45	P		Pb	08 03 14.2	-2.1	

IDC ***02*** *08:07:17.4±3.9, 6.°99S×67.°98E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/26, mbtmp3.7/4, MS3.5/3, Ms1 3.4/3, ms1mx3.0/39, Error ellipse: s-maj=134.9km s-min=31.8km az=61.0*

ISC 02 08:07:21.0±1.4, 7.°0S±0.°2×68.°6E±0.°1, h10km, n14, σ1§20/14, mb3.8/4, MS3.4/3, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.47**	**74**	Pn	**Pn**	**08 08 01.8**	**+0.7**
H08N3				Sn	**Sn**	**08 08 30.7**	**-0.4**
H08N3				T	T	08 11 18.5	
	baz=245,slow=75						
H08N2	**Diego Garcia H**	**2.48**	**74**	Pn	**Pn**	**08 08 02.1**	**+0.9**
H08N2				Sn	**Sn**	**08 08 31.1**	**-0.3**
H08N2				T	T	08 11 19.6	
	baz=245,slow=75						
H08N1	**Diego Garcia H**	**2.49**	**74**	Pn	**Pn**	**08 08 02.2**	**+0.8**
H08N1				Sn	**Sn**	**08 08 31.3**	**-0.3**
H08N1				T	T	08 11 22.0	
	baz=245,slow=75						
H08S1	**Diego Garcia H**	**3.89**	**99**	Pn	**Pn**	**08 08 19.7**	**-1.0**
H08S3	**Diego Garcia H**	**3.90**	**99**	Pn	**Pn**	**08 08 19.6**	**-1.2**
H08S2	**Diego Garcia H**	**3.91**	**99**	Pn	**Pn**	**08 08 20.0**	**-0.9**
KMBO	**Kilima Mbogo**	**31.80**	**279**	LR	LR	08 23 53.0	
	comp=Z,82nm,18.5s,baz=99,slow=32						
BOSA	**Boshof**	**46.17**	**237**	LR	LR	08 33 36.6	
	comp=Z,53nm,18.3s,baz=348,slow=35						
AAK	**Ala-Archa**	**49.71**	**6**	LR	LR	08 36 46.4	
	comp=Z,40nm,18.6s,baz=192,slow=36						
KURBB	**Kurchatov Arra**	**58.05**	**7**	P	**P**	**08 17 13.0**	**-1.2**
	0.1nm,0.3s,baz=205,slow=7.1,SNR=2.9						
SONM	**Songino Array**	**63.98**	**27**	P	**P**	**08 17 53.7**	**-1.0**
	0.6nm,0.9s,baz=211,slow=5.2,SNR=3.8						
ASAR	**Alice Springs**	**64.61**	**113**	P	**P**	**08 18 01.8**	**+2.5**
	0.4nm,0.7s,baz=257,slow=6.5,SNR=3.6						
WRA	**Warramunga Arr**	**64.85**	**109**	P	**P**	**08 18 02.2**	**+1.3**
	1.0nm,0.9s,baz=280,slow=6.7,SNR=5.4						
NVAR	**Mina Array Bea**	**148.12**	**10**	PKPbc	**PKPdf**	**08 27 05.0**	**+0.3**
	0.5nm,0.9s,baz=322,slow=4.0,SNR=3.6						

IDC ***02*** *08:19:57.9±0.5, 20.°21S×173.°63W, h0km, mb4.5/18, mb1 4.6/20, mb1mx4.6/24, mbtmp4.5/20, ML4.6/2, MS4.3/22, Ms1 4.3/22, ms1mx4.2/31, Error ellipse: s-maj=20.8km s-min=14.1km az=126.0*

NEIC ***02*** *08:19:59.0±0.2, 20.°40S×173.°66W, h10km, mb5.1/44, Error ellipse: s-maj=9.7km s-min=4.4km az=138.0*

AUST ***02*** *08:20:00.6±3.8, 19.°95S×173.°31W, h30km, Error ellipse: s-maj=1.6km s-min=1.1km az=318.0*

MOS ***02*** *08:20:01.9±1.0, 20.°21S×173.°81W, h33km, mb5.3/14, Error ellipse: s-maj=17.0km s-min=11.2km az=146.1*

ISCJB ***02*** *08:20:01.5±0.2, 20.°34S±0.°06×173.°68W±0.°04, h33km, mb5.0/69, MS4.5/25, Error ellipse: s-maj=10.2km s-min=3.8km az=152.6*

BJI ***02*** *08:20:02.4, 20.°20S×173.°80W, h30km, mB5.6/21, mb5.2/25, Ms5.2/11, Ms7 4.9/10*

GCMT ***02*** *08:20:03.4±0.2, 20.°33S×173.°14W, h18km, MW5.0, Moment Tensor Solution. s47,c57; s87,c125; Moment tensor: Scale 10^16Nm; Mrr4.12±.18; Mθθ-0.74±.12; Mφφ-3.39±.13; Mrθ1.72±.34; Mrφ-0.70±.09; Mθφ1.74±.28; Best double couple: M04.50000×10^16 NP1:φ28.00000°, δ61.00000°, λ102.00000°. NP2:φ184.00000°, δ31.00000°, λ69.00000°. Principal axes: T 4.9300, Plg71.0000°, Azm327.0000°; N -0.8000, Plg11.0000°, Azm202.0000°; P -4.1300, Plg15.0000°, Azm109.0000°; Data Used: II IU CU IC G CN.*

ISC 02 08:20:03.1±0.7, 20.°37S±0.°06×173.°61W±0.°06, h34km±2km, n365, σ1§04/376, mb5.0/71, MS4.4/25, 10C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.70**	**70**	P	Pn	08 20 48.1	-10
	baz=3.3,SNR=31						
AFI	**Afiamalu**	**6.66**	**16**	*e*P	Pn	08 21 31.6	-7.2
AFI				Sn	Sn	08 22 36.8	-17
AFI	**Afiamalu**	**6.66**	**16**	Pn	Pn	08 21 29.9	-8.8
	31nm,0.3s,baz=48,slow=2.4,SNR=42						
AFI				Sn	Sn	08 22 36.8	-17
	baz=127,slow=20,SNR=2.1						
RAO	**Raoul Island**	**9.67**	**203**	Sn	**Sn**	**08 24 04.1**	**-3.2**
RAO	**Raoul Island**	**9.67**	**203**	Sn	**Sn**	**08 24 04.1**	**-3.2**
	76nm,0.3s,baz=71,slow=23,SNR=14						
RAR	**Rarotonga**	**12.97**	**96**	Pn	Pn	08 22 56.4	-8.7
RAR				Sn	Sn	08 25 07.7	-21
RAR	**Rarotonga**	**12.97**	**96**	Pn	Pn	08 22 56.4	-8.7
	8.7nm,0.3s,baz=270,slow=9.6,SNR=17						
RAR				Sn	Sn	08 25 07.6	-21
	3.1nm,0.3s,baz=90,slow=16,SNR=2.7						
RAR				LR	LR	08 26 45.0	
	comp=Z,543nm,18.6s,baz=270,slow=31						
DZM	**Mont Dzumac**	**18.67**	**261**	*e*P	**Pn**	**08 24 19.8**	**+0.7**
	120nm,1.4s						
DZM				*e*S	**Sn**	**08 27 46.2**	**-0.9**
	386nm,21.1s						
DZM				*e*LR	LR	08 28 41.7	
	2µm,24.6s						
DZM	**Mont Dzumac**	**18.67**	**261**	*e*P	**Pn**	**08 24 19.4**	**+0.3**
	29nm,0.8s						
DZM	**Mont Dzumac**	**18.67**	**261**	P	**Pn**	**08 24 19.4**	**+0.3**
	1.7nm,0.3s,baz=78,slow=18,SNR=30						
DZM	**Mont Dzumac**	**18.67**	**261**	*e*P	**P**	**08 24 18.7**	**+0.1**
URZ	**Urewera**	**19.55**	**202**	P	**Pn**	**08 24 30.2**	**+0.8**
URZ				*e*Pn	**P**	**08 24 30.7**	**+2.7**
URZ				S	S	08 27 51.8	-15
URZ	**Urewera**	**19.55**	**202**	P	**Pn**	**08 24 30.2**	**+0.8**
	1.6nm,0.3s,baz=33,slow=4.1,SNR=16						
URZ				S	S	08 27 51.8	-15
	0.4nm,0.3s,baz=340,slow=15,SNR=3.3						
BKZ	**Black Stump Fm**	**20.58**	**202**	*e*Pn	Pn	08 24 40.5	-1.2
	166nm,2.0s						
TBI	**Tubuai**	**22.60**	**102**	*e*LR	LR	08 30 00.9	
	1µm,31.0s,baz=275						
PPT2	**Papeete2**	**22.89**	**87**	*e*S	**S**	**08 29 06.6**	**-5.3**
	1µm,25.0s						
PPT2				*e*LR	LR	08 30 19.5	
	2µm,27.0s,baz=260						
PPT	**Papeete**	**22.90**	**87**	LR	LR	08 33 13.5	
	comp=Z,1µm,18.1s,baz=219,slow=35						
RPZ	**Rata Peaks**	**26.57**	**205**	P	**P**	**08 25 37.3**	**-0.8**
	7.7nm,0.6s,baz=360,slow=0.4,SNR=7.5						
HNR	**Honiara**	**27.72**	**289**	LR	LR	08 35 26.5	
	comp=Z,372nm,18.9s,baz=113,slow=34						
EIDS	**Eidsvold**	**32.85**	**255**	P	**P**	**08 26 33.0**	**-0.9**
	baz=33,SNR=3.6						
RMQ	**Roma**	**34.97**	**253**	P	**P**	**08 26 53.5**	**+1.1**
	baz=35,SNR=4.6						
CNB	**Canberra Magne**	**35.73**	**237**	P	**P**	**08 26 59.5**	**+0.6**
	baz=36,SNR=5.5						
RKT	**Rikitea**	**35.92**	**102**	*e*LR	LR	08 36 10.0	
	1µm,30.0s,baz=276						
CAN	**Canberra**	**36.02**	**238**	*e*P	**P**	**08 27 00.8**	**-0.6**
CAN				pmax	pmax		
	comp=Z,74nm,1.5s						
CAN	**Canberra**	**36.02**	**238**	*e*P	**P**	**08 27 00.8**	**-0.6**
	comp=Z,74nm,1.5s						
MILA	**Mila**	**36.37**	**235**	P	**P**	**08 27 05.0**	**+0.7**
	baz=37,SNR=8.0						
CTAO	**Charters Tower**	**37.59**	**263**	*e*P	**P**	**08 27 13.7**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,53nm,1.5s						
CTAO	**Charters Tower**	**37.59**	**263**	*e*P	**P**	**08 27 13.7**	**-1.2**
	comp=Z,53nm,1.5s						
CMSA	**Cobar Meteorol**	**38.05**	**245**	P	**P**	**08 27 17.8**	**-0.7**
	baz=38,SNR=58						
QLP	**Quipie**	**39.02**	**253**	P	**P**	**08 27 26.2**	**-0.6**
	baz=39,SNR=8.8						
TOO	**Toolangi**	**39.32**	**235**	P	**P**	**08 27 29.3**	**+0.2**
	baz=40,SNR=9.6						
PMG	**Port Moresby**	**39.35**	**280**	*e*P	**P**	**08 27 28.2**	**-1.4**
	comp=Z,70nm,1.7s						
STKA	**Stephens Creek**	**41.56**	**245**	*e*P	**P**	**08 27 47.0**	**-0.7**
	comp=Z,1.9nm,0.6s						
STKA	**Stephens Creek**	**41.56**	**245**	P	**P**	**08 27 47.4**	**-0.3**
	comp=Z,8.2nm,0.6s,baz=93,slow=9.6,SNR=52						
STKA				LR	LR	08 43 01.6	
	comp=Z,436nm,20.1s,baz=289,slow=33						
STKA	**Stephens Creek**	**41.56**	**245**	P	**P**	**08 27 47.2**	**-0.5**
	baz=42,SNR=24						
COEN	**Coen**	**41.69**	**272**	*e*P	**P**	**08 27 47.3**	**-1.7**
	comp=Z,66nm,0.7s						
COEN	**Coen**	**41.69**	**272**	P	**P**	**08 27 47.5**	**-1.4**
	baz=42,SNR=13						
ARPS	**Mount Arapiles**	**42.00**	**237**	P	**P**	**08 27 51.3**	**0.0**
	baz=42,SNR=5.7						
HTT	**Hallett**	**43.93**	**243**	P	**P**	**08 28 06.7**	**-0.3**
	baz=44,SNR=7.0						
BBOO	**Buckleboo**	**46.29**	**244**	*e*P	**P**	**08 28 24.9**	**-0.9**
	comp=Z,3µm,2.0s						
BBOO	**Buckleboo**	**46.29**	**244**	P	**P**	**08 28 24.9**	**-0.9**
	baz=47,SNR=8.7						
AS31	**Alice Springs**	**48.55**	**256**	*e*P	**P**	**08 28 42.2**	**-1.2**
ASAR	**Alice Springs**	**48.55**	**256**	P	**P**	**08 28 41.8**	**-1.7**
ASAR				PcP	**PcP**	**08 30 10.1**	**+1.0**
ASAR	**Alice Springs**	**48.55**	**256**	P	**P**	**08 28 41.8**	**-1.7**
	comp=Z,5.7nm,0.6s,baz=100,slow=7.4,SNR=56						
ASAR				PcP	**PcP**	**08 30 10.1**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=93,slow=2.8,SNR=6.1						
ASAR				LR	LR	08 48 23.0	
	comp=Z,392nm,19.5s,baz=323,slow=35						
WRAB	**Tennant Creek**	**48.68**	**261**	*e*P	**P**	**08 28 42.6**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,53nm,1.6s						
WRAB	**Tennant Creek**	**48.68**	**261**	*e*P	**P**	**08 28 42.5**	**-1.9**
	comp=Z,53nm,1.6s						
WRAB	**Tennant Creek**	**48.68**	**261**	P	**P**	**08 28 42.2**	**-2.3**
	comp=Z,71nm,0.6s,SNR=17						
WRA	**Warramunga Arr**	**48.69**	**261**	P	**P**	**08 28 42.7**	**-1.8**
WRA				PcP	**PcP**	**08 30 10.3**	**+0.8**
WRA	**Warramunga Arr**	**48.69**	**261**	P	**P**	**08 28 42.7**	**-1.8**
	comp=Z,6.8nm,0.6s,baz=98,slow=8.7,SNR=79						
WRA				PcP	**PcP**	**08 30 10.3**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=91,slow=3.8,SNR=5.7						
WRA				LR	LR	08 48 20.5	
	comp=Z,311nm,18.1s,baz=100,slow=35						
KDU	**Kakadu**	**52.06**	**270**	P	**P**	**08 29 08.6**	**-1.5**
	baz=52,SNR=7.0						
FORT	**Forrest**	**53.12**	**246**	*e*P	**P**	**08 29 17.0**	**-0.7**
	comp=Z,51nm,0.7s						
FORT	**Forrest**	**53.12**	**246**	P	**P**	**08 29 17.8**	**+0.1**
	baz=54,SNR=12						
MTN	**Manton Dam**	**53.28**	**269**	P	**P**	**08 29 17.9**	**-1.2**
	baz=54,SNR=7.4						
KNRA	**Kununurra**	**54.77**	**265**	P	**P**	**08 29 30.0**	**0.0**
	baz=55,SNR=3.0						
FITZ	**Fitzroy Crossi**	**57.12**	**261**	*e*P	**P**	**08 29 45.8**	**-1.0**
	comp=Z,46nm,1.8s						
FITZ	**Fitzroy Crossi**	**57.12**	**261**	LR	LR	08 54 41.9	
	comp=Z,280nm,18.8s,baz=99,slow=36						
FITZ	**Fitzroy Crossi**	**57.12**	**261**	P	**P**	**08 29 46.7**	**0.0**
	baz=57,SNR=10						
VNDA	**Vanda**	**58.44**	**186**	*e*P	P	08 29 51.9	-3.2
	comp=Z,32nm,2.0s						
VNDA	**Vanda**	**58.44**	**186**	P	**P**	**08 29 57.5**	**+2.4**
	comp=Z,2.6nm,0.8s,baz=8.8,slow=8.1,SNR=8.3						
KLBR	**Kellerberrin**	**61.83**	**244**	P	**P**	**08 30 19.8**	**+0.7**
	baz=62,SNR=14						
MEEK	**Meekatharra**	**61.84**	**250**	P	**P**	**08 30 18.5**	**-0.8**
	baz=62,SNR=4.8						
BLDU	**Ballidu**	**62.85**	**245**	P	**P**	**08 30 26.3**	**+0.3**
	baz=63,SNR=7.3						
MORW	**Morawa**	**63.67**	**247**	P	**P**	**08 30 31.6**	**+0.2**
	baz=64,SNR=3.9						
MAJO	**Matsushiro**	**72.62**	**321**	*e*P	**P**	**08 31 26.8**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAJO	**Matsushiro**	**72.62**	**321**	*e*P	**P**	**08 31 26.8**	**-0.5**
	comp=Z,10nm,0.8s						
MAT	**Matsushiro**	**72.62**	**321**	P	**P**	**08 31 26.2**	**-1.1**
MAT				S	**S**	**08 40 47.0**	**-3.0**
FX1	**Attu Island--F**	**73.84**	**352**	LR	LR	09 01 01.8	
	comp=Z,185nm,19.0s,baz=168,slow=33						
JNU	**Nakatsue**	**75.07**	**314**	P	**P**	**08 31 41.0**	**-0.8**
JNU	**Nakatsue**	**75.07**	**314**	P	**P**	**08 31 41.0**	**-0.8**
	comp=Z,8.6nm,0.8s,baz=169,slow=10,SNR=4.9						
JNU				LR	LR	09 03 11.6	
	comp=Z,96nm,18.7s,baz=230,slow=35						
ASAJ	**Asahikawa**	**75.66**	**329**	P	**P**	**08 31 44.8**	**0.0**
ASAJ	**Asahikawa**	**75.66**	**329**	P	**P**	**08 31 44.8**	**0.0**
	comp=Z,6.6nm,0.6s,baz=24,slow=4.6,SNR=7.0						
MONP	**Monument Peak**	**76.07**	**47**	P	**P**	**08 31 48.8**	**+1.1**
	baz=76						
EDW2	**Edwards Air Fo**	**76.20**	**44**	P	**P**	**08 31 49.8**	**+1.6**
	baz=76						
ISA	**Isabella**	**76.36**	**43**	*e*P	**P**	**08 31 49.0**	**-0.1**
ISA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ISA	**Isabella**	**76.36**	**43**	*e*P	**P**	**08 31 49.0**	**-0.1**
	comp=Z,5.2nm,1.0s						
ISA	**Isabella**	**76.36**	**43**	P	**P**	**08 31 48.8**	**-0.3**
	baz=77						
CMB	**Columbia Colle**	**76.63**	**41**	*e*P	**P**	**08 31 50.0**	**-0.6**
CMB				*e**PP	**PcP**	**08 32 01.4**	**-0.5**
CMB				pmax	pmax		
	comp=Z,13nm,1.5s						
CMB	**Columbia Colle**	**76.63**	**41**	*e*P	**P**	**08 31 50.0**	**-0.6**
	comp=Z,13nm,1.5s						
CMB				*ep*P	**PcP**	**08 32 01.4**	**-0.5**
BELC	**Belle Mtn. Jos**	**77.00**	**46**	P	**P**	**08 31 52.1**	**-0.8**
	baz=77						
CWC	**Cottonwood Cre**	**77.08**	**43**	P	**P**	**08 31 52.4**	**-0.9**
	baz=77						
BC3	**Big Chuckawall**	**77.17**	**47**	P	**P**	**08 31 54.1**	**+0.2**
	baz=77						
N02D	**Trinity Center**	**77.18**	**37**	P	**P**	**08 31 53.4**	**-0.2**
	baz=78						
GSC	**Goldstone**	**77.23**	**45**	P	**P**	**08 31 53.5**	**-0.5**
	baz=78						
MPMC	**Manual Prospec**	**77.23**	**44**	P	**P**	**08 31 53.7**	**-0.5**
	baz=78						
GLA	**Glamis**	**77.26**	**47**	*e*P	**P**	**08 31 53.5**	**-0.7**
GLA				*e**PP	**PcP**	**08 32 05.1**	**+0.3**
GLA	**Glamis**	**77.26**	**47**	*e*P	**P**	**08 31 53.5**	**-0.7**
GLA				*ep*P	**PcP**	**08 32 01.4**	**+0.3**
PETK	**Petropavlovsk-**	**77.28**	**343**	P	**P**	**08 31 53.4**	**-0.4**
PETK	**Petropavlovsk-**	**77.28**	**343**	P	**P**	**08 31 53.4**	**-0.4**
PETK	**Petropavlovsk-**	**77.28**	**343**	P	**P**	**08 31 53.4**	**-0.4**
	comp=Z,6.7nm,0.6s,baz=112,slow=9.1,SNR=16						
PETK				LR	LR	09 02 02.7	
	comp=Z,78nm,21.5s,baz=348,slow=33						
MTUM	**Tungsten Hills**	**77.33**	**42**	*e*P	**P**	**08 31 54.6**	**-0.2**
M02C	**Callahan**	**77.37**	**37**	P	**P**	**08 31 54.7**	**0.0**
	baz=78						
KSM	**Kuching**	**77.48**	**276**	*e*P	**P**	**08 31 56.3**	**+0.5**
	comp=Z,26nm,0.9s						
KSM	**Kuching**	**77.48**	**276**	P	**P**	**08 31 58.0**	**+2.2**
	baz=78,SNR=4.2						
WAKR	**Walker**	**77.51**	**41**	*e*P	**P**	**08 31 55.3**	**-0.4**
IRM	**Iron Mountain**	**77.67**	**46**	P	**P**	**08 31 56.1**	**-0.4**
	baz=78						
YBH	**Yreka Blue Hor**	**77.68**	**36**	P	**P**	**08 31 55.9**	**-0.5**
YBH	**Yreka Blue Hor**	**77.68**	**36**	P	**P**	**08 31 55.9**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=164,slow=3.2,SNR=8.7						
GMRC	**Granite Mounta**	**77.68**	**46**	P	**P**	**08 31 56.5**	**-0.2**
	baz=78						
YSS	**Yuzh-Sakhalins**	**77.70**	**331⇑**	*e*P	**P**	**08 31 56.8**	**+0.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
FURC	**Furnace Creek,**	**77.89**	**44**	P	**P**	**08 31 57.4**	**-0.1**
	baz=78						
TUQ	**Turquoise Moun**	**77.89**	**45**	P	**P**	**08 31 57.7**	**-0.2**
	baz=78						
NVAR	**Mina Array Bea**	**78.16**	**41**	P	**P**	**08 31 59.0**	**-0.3**
NVAR	**Mina Array Bea**	**78.16**	**41**	P	**P**	**08 31 59.0**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=230,slow=8.3,SNR=25						
PAHR	**Pah Rah Range**	**78.29**	**40**	*e*P	**P**	**08 31 59.5**	**-0.5**
	comp=Z,20nm,1.6s						
PAHR				*ep*P	PcP	08 32 16.0	+6.7
TPNV	**Topopah Spring**	**78.57**	**43**	*e*P	**P**	**08 32 01.5**	**-0.1**
TPNV				pmax	pmax		
	comp=Z,25nm,1.8s						
TPNV	**Topopah Spring**	**78.57**	**43**	*e*P	**P**	**08 32 01.4**	**-0.1**
	comp=Z,25nm,1.8s						
TPNV	**Topopah Spring**	**78.57**	**43**	P	**P**	**08 32 01.4**	**-0.1**
	baz=78						
TPH	**Tonopah**	**78.62**	**42**	*e*P	**P**	**08 32 01.7**	**-0.2**
TPH	**Tonopah**	**78.62**	**42**	P	**P**	**08 32 01.7**	**-0.2**
SHPR	**Sheep Range**	**79.02**	**44**	*e*P	**P**	**08 32 03.9**	**-0.2**
Y14A	**Wickenburg**	**79.02**	**48**	P	**P**	**08 32 03.9**	**-0.1**
	baz=79						
W13A	**Hualapai Mount**	**79.06**	**46**	P	**P**	**08 32 04.3**	**-0.1**
	baz=79						
MOD	**Modoc**	**79.15**	**38**	*e*P	**P**	**08 32 04.1**	**-0.5**
	comp=Z,42nm,2.3s						
J05D	**Fort Rock, OR**	**79.52**	**36**	P	**P**	**08 32 06.2**	**-0.4**
	baz=80						
KSRS	**Korea Array**	**79.58**	**316**	P	**P**	**08 32 07.8**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=133,slow=6.0,SNR=11						
KSRS				LR	LR	09 04 24.7	
	comp=Z,103nm,19.1s,baz=301,slow=34						
KSAR	**Wonju Array Be**	**79.59**	**316**	P	**P**	**08 32 07.8**	**+0.9**
TUC	**Tucson**	**79.70**	**50**	*e*P	**P**	**08 32 08.3**	**+0.5**
TUC	**Tucson**	**79.70**	**50**	*e*P	**P**	**08 32 08.2**	**+0.5**
R11A	**Troy Canyon, C**	**79.82**	**43**	*e*P	**P**	**08 32 08.1**	**-0.3**
	comp=Z,9.2nm,1.4s						
R11A	**Troy Canyon, C**	**79.82**	**43**	P	**P**	**08 32 07.8**	**-0.6**
	baz=80						
PINOR	**Pine Mountain**	**80.07**	**36**	*e*P	**P**	**08 32 09.4**	**+0.1**
319A	**Douglas**	**80.31**	**51**	P	**P**	**08 32 10.9**	**-0.2**
	baz=80						
X16A	**Lo Mia Camp, P**	**80.36**	**48**	P	**P**	**08 32 11.9**	**+0.5**
	baz=81						
CCUT	**Cedar City**	**80.79**	**44**	*e*P	**P**	**08 32 14.3**	**+0.5**
	comp=Z,28nm,1.9s						
320A	**Kipp Ranch, An**	**80.84**	**52**	P	**P**	**08 32 14.3**	**+0.3**
	baz=81						
U15A	**North Rim**	**80.88**	**46**	P	**P**	**08 32 14.6**	**+0.3**
	baz=81						
WUAZ	**Wupatki**	**81.00**	**47**	*e*P	**P**	**08 32 15.4**	**+0.6**
	comp=Z,45nm,2.3s						
WUAZ	**Wupatki**	**81.00**	**47**	P	**P**	**08 32 15.3**	**+0.4**
	baz=81						
220A	**Playas Peak, P**	**81.13**	**51**	P	**P**	**08 32 15.5**	**0.0**
	baz=81						
USRK	**Ussuriysk Arra**	**81.23**	**324**	P	**P**	**08 32 16.8**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=132,slow=3.2,SNR=5.8						
USRK				LR	LR	09 04 25.7	
	comp=Z,265nm,18.8s,baz=28,slow=33						
120A	**U Bar Ranch, L**	**81.38**	**51**	P	**P**	**08 32 17.3**	**+0.4**
	baz=82						
X18A	**Snowflake**	**81.47**	**48**	P	**P**	**08 32 17.4**	**+0.1**
	baz=82						
Z20A	**Nine Sixteen R**	**81.70**	**50**	P	**P**	**08 32 18.9**	**+0.3**
	baz=82						
121A	**Cookes Peak, D**	**81.99**	**51**	P	**P**	**08 32 20.4**	**+0.2**
	baz=82						
G08A	**Pilot Rock**	**82.06**	**36**	*e*P	**P**	**08 32 19.7**	**-0.4**
	comp=Z,45nm,2.5s						
Y20A	**Horse Springs,**	**82.26**	**50**	P	**P**	**08 32 21.8**	**+0.2**
	baz=82						
E07A	**Sunnyside**	**82.40**	**34**	*e*P	**P**	**08 32 21.5**	**-0.3**
	comp=Z,54nm,2.

	comp=Z,22nm,1.5s							
Z24A	**Sheeppen Canyo**	**84.15**	**51**	P		**P**	**08 32 31.1**	**-0.3**
	baz=84							
PV04	**Paradox Valley**	**84.21**	**46**	*e*P		**P**	**08 32 31.5**	**0.0**
628A	**Black Gap, Mar**	**84.23**	**56**	P		**P**	**08 32 31.2**	**-0.4**
	baz=84							
PV01	**Paradox Valley**	**84.30**	**46**	*e*P		**P**	**08 32 31.8**	**-0.2**
	comp=Z,700nm,0.9s							
V22A	**San Miguel Ran**	**84.31**	**49**	P		**P**	**08 32 32.2**	**+0.1**
	baz=84							
125A	**Gardner Draw,**	**84.36**	**52**	P		**P**	**08 32 32.1**	**-0.2**
	baz=85							
Y24A	**Capitan**	**84.39**	**51**	P		**P**	**08 32 32.0**	**-0.5**
	baz=85							
226B	**Tecolote Peak,**	**84.45**	**53**	P		**P**	**08 32 32.4**	**-0.3**
	baz=85							
427A	**Hayter Ranch,**	**84.45**	**54**	P		**P**	**08 32 32.3**	**-0.5**
	baz=85							
W23A	**Werner Place,**	**84.47**	**49**	P		**P**	**08 32 32.6**	**-0.3**
	baz=85							
U22A	**Llaves**	**84.58**	**48**	P		**P**	**08 32 33.6**	**+0.1**
	baz=85							
QIZ	**Qiongzhong**	**84.59**	**292**	P		**P**	**08 32 35.2**	**+1.6**
QIZ				S		**S**	**08 42 59.0**	**+0.3**
QIZ				pmax	pmax			
	comp=Z,140nm,5.5s							
Z25A	**Roswell**	**84.61**	**52**	P		**P**	**08 32 33.7**	**+0.1**
	baz=85							
528A	**Cox Ranch, San**	**84.61**	**55**	P		**P**	**08 32 33.3**	**-0.3**
	baz=85							
V23A	**Ortiz Mt. (NFS**	**84.74**	**49**	P		**P**	**08 32 34.6**	**+0.3**
	baz=85							
CN2	**Changchun**	**84.76**	**321**	*e*P		**P**	**08 32 34.6**	**+0.7**
CN2				*ep*P		**pP**	**08 32 45.0**	**+0.4**
CN2				*e*S		**S**	**08 42 59.9**	**+0.5**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
Y25A	**Mesa, Roswell**	**84.93**	**51**	P		**P**	**08 32 35.2**	**0.0**
	baz=85							
428A	**Kincaid Ranch,**	**84.95**	**55**	P		**P**	**08 32 35.4**	**+0.2**
	baz=85							
U23A	**El Rito**	**85.02**	**48**	P		**P**	**08 32 36.0**	**+0.3**
	baz=85							
W24A	**Lazy 6 Ranch,**	**85.03**	**50**	P		**P**	**08 32 35.8**	**+0.1**
	baz=85							
529A	**Stev Forest Ra**	**85.03**	**56**	P		**P**	**08 32 35.3**	**-0.4**
	baz=85							
Z26A	**Caprock**	**85.15**	**52**	P		**P**	**08 32 36.1**	**-0.1**
	baz=85							
328A	**Wristen Ranch,**	**85.15**	**54**	P		**P**	**08 32 35.8**	**-0.4**
	baz=85							
X25A	**Clemmons Ranch**	**85.24**	**51**	P		**P**	**08 32 36.7**	**0.0**
	baz=86							
MCMT	**McKenzie Canyo**	**85.24**	**39**	*e*P		**P**	**08 32 35.6**	**-1.0**
	comp=Z,3.5nm,1.2s							
S22A	**4UR Ranch, Cre**	**85.28**	**47**	P		**P**	**08 32 37.1**	**+0.1**
	baz=86							
V24A	**Rampart Ranch,**	**85.38**	**49**	P		**P**	**08 32 37.5**	**+0.1**
	baz=86							
T23A	**Casias Ranch,**	**85.48**	**48**	P		**P**	**08 32 38.8**	**+0.8**
	baz=86							
429A	**Davenport Ranc**	**85.51**	**55**	P		**P**	**08 32 37.5**	**-0.5**
	baz=86							
REDW	**Red Top Meadow**	**85.62**	**41**	*e*P		**P**	**08 32 38.1**	**-0.4**
	comp=Z,46nm,2.3s							
TPAW	**Teton Pass**	**85.62**	**40**	*e*P		**P**	**08 32 40.5**	**+1.9**
FXWY	**Fox Creek**	**85.66**	**40**	*e*P		**P**	**08 32 38.6**	**-0.1**
	comp=Z,41nm,2.5s							
W25A	**X Bar L Ranch,**	**85.71**	**50**	P		**P**	**08 32 39.0**	**-0.1**
	baz=86							
WHN	**Wuhan**	**85.72**	**305**	P		**P**	**08 32 40.1**	**+1.1**
Z27A	**Tatum**	**85.73**	**52**	P		**P**	**08 32 39.0**	**-0.1**
	baz=86							
MSO	**Missoula**	**85.77**	**36**	P		**P**	**08 32 41.6**	**+2.6**
	baz=86							
329A	**Wagon Wheel Ra**	**85.83**	**54**	P		**P**	**08 32 39.5**	**-0.2**
	baz=86							
IMW	**Indian Meadow**	**85.86**	**40**	*e*P		**P**	**08 32 39.7**	**-0.1**
	comp=Z,18nm,1.6s							
X26A	**CR and CF Fran**	**85.87**	**51**	P		**P**	**08 32 39.3**	**-0.5**
	baz=86							
V25A	**Rancho No Teng**	**85.90**	**50**	P		**P**	**08 32 40.0**	**0.0**
	baz=86							
N20A	**Spence Gulch,**	**85.90**	**44**	P		**P**	**08 32 39.3**	**-0.6**
	baz=86							
SMCO	**Snowmass**	**85.90**	**46**	*e*P		**P**	**08 32 40.2**	**-0.1**
128A	**Castleberry Fa**	**85.96**	**53**	P		**P**	**08 32 39.6**	**-0.7**
	baz=86							
Y27A	**Causey**	**86.03**	**52**	P		**P**	**08 32 40.5**	**-0.1**
	baz=86							
QLMT	**Earthquake Lak**	**86.08**	**39**	*e*P		**P**	**08 32 40.7**	**0.0**
BW06	**Boulder Array**	**86.09**	**42**	*e*P		**P**	**08 32 40.6**	**-0.2**
	comp=Z,49nm,2.4s							
PDAR	**Pinedale Array**	**86.09**	**42**	P		**P**	**08 32 39.9**	**-1.0**
PDAR	**Pinedale Array**	**86.09**	**42**	P		**P**	**08 32 39.9**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=209,slow=2.9,SNR=9.8							
PDAR				LR		LR	09 09 19.2	
	comp=Z,136nm,18.3s,baz=350,slow=34							
R23A	**Moffat**	**86.19**	**47**	P		**P**	**08 32 41.9**	**+0.4**
	baz=86							
SDCO	**Great Sand Dun**	**86.20**	**47**	*e*P		**P**	**08 32 43.4**	**+1.8**
	comp=Z,13nm,1.7s							
U25A	**Circle Dot Ran**	**86.31**	**49**	P		**P**	**08 32 41.9**	**-0.1**
	baz=86							
PLCA	**Paso Flores**	**86.34**	**132**	LR		LR	09 07 05.3	
	comp=Z,324nm,18.0s,baz=268,slow=33							
S24A	**Houchin Ranch,**	**86.35**	**48**	P		**P**	**08 32 42.0**	**-0.3**
	baz=87							
531A	**Rocksprings**	**86.35**	**56**	P		**P**	**08 32 41.9**	**-0.3**
	baz=86							
MSTX	**Muleshoe**	**86.36**	**52**	*e*P		**P**	**08 32 41.8**	**-0.4**
MSTX	**Muleshoe**	**86.36**	**52**	P		**P**	**08 32 42.0**	**-0.2**
	baz=87							
BOZ	**Bozeman (W)**	**86.42**	**38**	*e*P		**P**	**08 32 41.9**	**-0.4**
BOZ				pmax	pmax			
	comp=Z,22nm,1.8s							
BOZ	**Bozeman (W)**	**86.42**	**38**	*e*P		**P**	**08 32 41.9**	**-0.4**
	comp=Z,22nm,1.8s							
129A	**Stewart Farms,**	**86.43**	**53**	P		**P**	**08 32 42.4**	**-0.1**
	baz=87							
V26A	**Tequesquite Ra**	**86.47**	**50**	P		**P**	**08 32 44.4**	**+1.6**
	baz=87							
Q23A	**Hartsel**	**86.54**	**46**	P		**P**	**08 32 43.1**	**-0.2**
	baz=87							
R24A	**Sanders Place,**	**86.70**	**47**	P		**P**	**08 32 44.1**	**+0.1**
	baz=87							
Y28A	**McKinney Farm,**	**86.72**	**52**	P		**P**	**08 32 43.9**	**-0.1**
	baz=87							
P23A	**Jefferson**	**86.76**	**46**	P		**P**	**08 32 44.7**	**+0.4**
	baz=87							
Z29A	**Hungry Hill Ra**	**86.83**	**53**	P		**P**	**08 32 44.0**	**-0.6**
	baz=87							
532A	**Rocksprings**	**86.83**	**56**	P		**P**	**08 32 44.0**	**-0.6**
	baz=87							
S25A	**Robets Cordova**	**86.90**	**48**	P		**P**	**08 32 44.6**	**-0.3**
	baz=87							
N22A	**Wattenberg Ran**	**87.06**	**44**	P		**P**	**08 32 45.3**	**-0.4**
	baz=87							
Y29A	**Porterfield Fa**	**87.13**	**52**	P		**P**	**08 32 45.8**	**-0.1**
	baz=87							
M22A	**Cedar Creek Ra**	**87.27**	**44**	P		**P**	**08 32 47.4**	**+0.7**
	baz=88							
Z30A	**Sanderson Ranc**	**87.28**	**53**	P		**P**	**08 32 45.3**	**-1.3**
	baz=88							
231A	**Bronte**	**87.30**	**55**	P		**P**	**08 32 45.9**	**-0.9**
	baz=88							
ILAR	**Eielson Array**	**87.34**	**11**	P		**P**	**08 32 44.9**	**-1.3**
ILAR	**Eielson Array**	**87.34**	**11**	P		**P**	**08 32 44.9**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=227,slow=5.9,SNR=26							
ILAR				LR		LR	09 09 52.5	
	comp=Z,174nm,18.6s,baz=159,slow=34							
IM04	**Indian Mountai**	**87.38**	**8**	*e*P		**P**	**08 32 45.5**	**-0.8**
533A	**Kerrville**	**87.49**	**57**	P		**P**	**08 32 47.0**	**-0.8**
	baz=88							
J21A	**Lysite**	**87.71**	**42**	P		**P**	**08 32 47.7**	**-1.0**
	baz=88							
433A	**Art**	**87.74**	**56**	P		**P**	**08 32 48.1**	**-0.8**
	baz=88							
534A	**Blanco**	**87.91**	**57**	P		**P**	**08 32 49.3**	**-0.5**
	baz=88							
SNAA	**Sanae**	**87.98**	**177**	*e*P		**P**	**08 32 50.3**	**+0.9**
	comp=Z,13nm,1.5s							
X30A	**Coker Ranch, T**	**87.98**	**52**	P		**P**	**08 32 50.0**	**0.0**
	baz=88							
ABTX	**Abilene, Hawle**	**88.11**	**54**	*e*P		**P**	**08 32 50.4**	**-0.2**
ABTX	**Abilene, Hawle**	**88.11**	**54**	P		**P**	**08 32 50.1**	**-0.5**
	baz=88							
L23A	**Garrett**	**88.21**	**44**	P		**P**	**08 32 50.2**	**-0.9**
	baz=88							
Y31A	**Rekieta Farm,**	**88.22**	**53**	P		**P**	**08 32 50.8**	**-0.3**
	baz=88							
J22A	**Midwest**	**88.36**	**42**	P		**P**	**08 32 50.8**	**-0.9**
	baz=89							
434A	**Burnet**	**88.40**	**56**	P		**P**	**08 32 51.2**	**-0.9**
	baz=89							
Z32A	**Haskell**	**88.53**	**54**	P		**P**	**08 32 52.1**	**-0.5**
	baz=89							
I22A	**9 Mile Ranch,**	**88.59**	**42**	P		**P**	**08 32 52.6**	**-0.2**
	baz=89							
334A	**Lometa**	**88.64**	**56**	P		**P**	**08 32 52.7**	**-0.4**
	baz=89							
BJI	**Beijing**	**88.73**	**314**	P		**P**	**08 32 53.9**	**+0.6**
BJI				pmax	pmax			
	comp=Z,15nm,0.5s							
BJI				pmax	pmax			
	comp=Z,310nm,4.9s							
BJI				LR	LR			
	comp=Z,180nm,12.4s							
BJI				LR	LR			
	comp=Z,160nm,16.6s							
GYA	**Guiyang**	**90.19**	**298**	P		**P**	**08 33 01.0**	**+0.3**
GYA				pP		**pP**	**08 33 11.9**	**+0.5**
GYA				sP		sP	08 33 18.0	+2.7
GYA				PP		**PP**	**08 36 37.2**	**+2.3**
GYA				SKS		**SKSac**	**08 43 27.5**	**-2.2**
GYA				S		**S**	**08 43 49.9**	**-2.6**
GYA				sS		**sS**	**08 44 08.7**	**-1.7**
GYA				SS		**SS**	**08 49 51.5**	**-1.2**
GYA				pmax	pmax			
	comp=Z,20nm,1.2s							
GYA				pmax	pmax			
	comp=Z,130nm,5.8s							
GYA				LR	LR			
	comp=Z,520nm,23.8s							
GYA				LR	LR			
	comp=Z,490nm,24.2s							
GYA				LR	LR			
	comp=Z,500nm,23.0s							
RSSD	**Black Hills**	**90.25**	**42**	*e*P		**P**	**08 33 02.6**	**+2.0**
RSSD	**Black Hills**	**90.25**	**42**	*e*P		**P**	**08 33 02.6**	**+2.0**
HHC	**Hu-ho-hao-te**	**92.24**	**313**	*e*P		**P**	**08 33 10.2**	**+0.4**
HHC				sP		sP	08 33 26.8	+2.3
HHC				PP		**PP**	**08 36 54.4**	**+3.6**
HHC				SKS		**SKSac**	**08 43 39.4**	**-1.3**
HHC				S		**S**	**08 44 08.6**	**-2.0**
HHC				sS		**sS**	**08 44 25.9**	**-2.6**
HHC				SS		**SS**	**08 50 23.9**	**+2.2**
HHC				pmax	pmax			
	comp=Z,53nm,1.2s							
HHC				pmax	pmax			
	comp=Z,650nm,7.6s							
HHC				LR	LR			
	comp=Z,200nm,17.8s							
HHC				LR	LR			
	comp=Z,200nm,17.3s							
HHC				LR	LR			
	comp=Z,240nm,17.8s							
KMI	**Kunming**	**92.98**	**296**	P		**P**	**08 33 12.4**	**-1.4**
KMI				pmax	pmax			
	comp=Z,14nm,0.5s							
INK	**Inuvik**	**93.12**	**14**	LR		LR	09 11 38.2	
	comp=Z,199nm,18.3s,baz=126,slow=33							
CMAR	**Chiang Mai Arr**	**93.97**	**288**	P		**P**	**08 33 19.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**93.97**	**288**	P		**P**	**08 33 19.1**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=106,slow=2.7,SNR=6.6							
CMAR				LR		LR	09 14 36.4	
	comp=Z,86nm,18.6s,baz=340,slow=35							
YKA	**Yellowknife Ar**	**94.71**	**24**	P		**P**	**08 33 22.4**	**+1.9**
YKA	**Yellowknife Ar**	**94.71**	**24**	P		**P**	**08 33 22.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=228,slow=4.8,SNR=3.4							
ECSD	**EROS Data Cent**	**94.90**	**45**	*e*P		**P**	**08 33 21.2**	**-0.7**
	comp=Z,62nm,2.0s							
LZH	**Lanzhou**	**95.99**	**306**	*e*P		**P**	**08 33 29.9**	**+2.7**
LZH				pP		pP	08 33 41.6	+3.6
LZH				pmax	pmax			
	comp=Z,24nm,1.0s							
LZH				pmax	pmax			
	comp=Z,140nm,7.2s							
ULM	**Lac du Bonnet**	**97.90**	**39**	LR		LR	09 12 22.7	
	comp=Z,244nm,19.0s,baz=268,slow=32							
LPAZ	**La Paz**	**98.28**	**111**	LR		LR	09 09 19.0	
	comp=Z,167nm,18.0s,baz=158,slow=30							
SONM	**Songino Array**	**98.39**	**318**	P		**P**	**08 33 37.5**	**-0.2**
SONM	**Songino Array**	**98.39**	**318**	P		**P**	**08 33 37.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=106,slow=5.1,SNR=3.0							
SONM				LR		LR	09 15 42.0	
	comp=Z,94nm,18.4s,baz=175,slow=34							
WMQ	**Urumqi**	**109.96**	**310**	Pdif		**Pdif**	**08 34 30.0**	**+0.7**
WMQ				PP		**PP**	**08 39 07.0**	**+2.4**
WMQ				S		**Sdif**	**08 46 37.0**	**-3.4**
WMQ				SS		**SS**	**08 54 30.0**	**+2.3**
WMQ				AMB	AMB			
	comp=Z,130nm,8.0s							
WMQ				LR	LR			
	comp=Z,52nm,22.0s							
WMQ				LR	LR			
	comp=Z,88nm,24.0s							
WMQ				LR	LR			
	comp=Z,65nm,22.0s							
ZALV	**Zalesovo Beam**	**112.98**	**321**	PKiKP		**PKiKP**	**08 38 35.7**	**-0.7**
ZALV	**Zalesovo Beam**	**112.98**	**321**	PKiKP		**PKiKP**	**08 38 35.7**	**-0.7**
	comp=Z,17nm,0.6s,baz=64,slow=1.5,SNR=7.0							
MKAR	**Makanchi Array**	**114.11**	**313**	PKiKP		PKPdf	08 38 38.5	-0.4
MKAR	**Makanchi Array**	**114.11**	**313**	PKiKP		PKPdf	08 38 38.5	-0.4
	comp=Z,1.1nm,0.6s,baz=222,slow=2.4,SNR=8.8							
KURK	**Kurchatov**	**116.69**	**317**	PKIKP		**PKPdf**	**08 38 41.2**	**-2.5**
KURK	**Kurchatov**	**116.69**	**317**	PKP		**PKPdf**	**08 38 41.2**	**-2.5**
KURBB	**Kurchatov Arra**	**116.75**	**317**	PKP		**PKPdf**	**08 38 41.2**	**-2.6**
	comp=Z,0.8nm,0.5s,baz=91,slow=1.7,SNR=11							
TKM2	**Tokmak 2**	**118.65**	**309**	*e*PKIKP		**PKPdf**	**08 38 47.2**	**-0.8**
TKM2	**Tokmak 2**	**118.65**	**309**	*e*PKPdf		**PKPdf**	**08 38 47.2**	**-0.8**
AAK	**Ala-Archa**	**119.45**	**308**	PKIKP		**PKPdf**	**08 38 48.1**	**-1.4**
AAK	**Ala-Archa**	**119.45**	**308**	PKP		**PKPdf**	**08 38 48.1**	**-1.4**
AAK	**Ala-Archa**	**119.45**	**308**	PKP		**PKPdf**	**08 38 48.1**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=168,slow=4.4,SNR=5.0							
BVAR	**Borovoye Array**	**121.62**	**320**	PKIKP		**PKPdf**	**08 38 51.9**	**-1.2**
BVAR	**Borovoye Array**	**121.62**	**320**	PKP		**PKPdf**	**08 38 51.9**	**-1.2**
BVAR	**Borovoye Array**	**121.62**	**320**	PKP		**PKPdf**	**08 38 51.9**	**-1.2**
	comp=Z,2.8nm,0.6s,baz=117,slow=1.7,SNR=14							
BOSA	**Boshof**	**128.00**	**201**	PKP		**PKPdf**	**08 39 07.7**	**+1.3**
BOSA	**Boshof**	**128.00**	**201**	PKP		**PKPdf**	**08 39 07.7**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=159,slow=9.3,SNR=3.4							
KMBO	**Kilima Mbogo**	**142.98**	**238**	PKP		**PKPdf**	**08 39 32.8**	**-1.9**
KMBO	**Kilima Mbogo**	**142.98**	**238**	PKP		**PKPdf**	**08 39 32.8**	**-1.9**
	comp=Z,0.6nm,0.2s,baz=77,slow=12,SNR=2.9							
AKASG	**Malin Array Be**	**144.78**	**335**	PKIKP		**PKPab**	**08 39 34.5**	**-0.8**
AKASG	**Malin Array Be**	**144.78**	**335**	PKP		**PKPab**	**08 39 34.5**	**-0.8**
AKASG	**Malin Array Be**	**144.78**	**335**	PKP		**PKPab**	**08 39 34.5**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=38,slow=4.3,SNR=29							
AKBB	**Malin Array Si**	**144.78**	**335**	*e*PKIKP		**PKPab**	**08 39 34.4**	**-0.9**
AKBB	**Malin Array Si**	**144.78**	**335**	*e*PKPdf		**PKPab**	**08 39 34.4**	**-0.9**
KIEV	**Kiev**	**144.79**	**335**	*e*PKIKP		**PKPab**	**08 39 34.4**	**-0.9**
KIEV	**Kiev**	**144.79**	**335**	*e*PKPdf		**PKPab**	**08 39 34.4**	**-0.9**
AK01	**Malin Array Si**	**144.79**	**335**	*e*PKPdf		**PKPab**	**08 39 34.7**	**-0.6**
AK02	**Malin Array Si**	**144.82**	**335**	*e*PKPdf		**PKPab**	**08 39 34.5**	**-1.0**
MALT	**Malatya**	**147.06**	**310**	*ǁ i*P		**PKPab**	**08 39 44.5**	**0.0**
LVV	**L'vov**	**147.44**	**339**	*e*PKIKP		**PKPdf**	**08 39 40.9**	**0.0**
KWP	**Kalwaria Pacla**	**148.04**	**340**	*ǁ i*P		**PKPdf**	**08 39 41.6**	**-0.3**
CLL	**Collm**	**148.69**	**352**	*e*PKP2		**PKPbc**	**08 39 47.0**	**+0.3**
CLL	**Collm**	**148.69**	**352**	*e*PKPbc		**PKPbc**	**08 39 47.0**	**+0.3**
CLL				*i*			08 40 03.9	
CLL				*i*			08 40 13.2	
CLL				LmV			09 53 00.0	
	comp=Z,100nm,19.0s							
KOLS	**Kolonicke sedl**	**148.78**	**340**	*e*PKP2		**PKPbc**	**08 39 46.8**	**-0.2**
KOLS	**Kolonicke sedl**	**148.78**	**340**	*e*		**PKPbc**	**08 39 46.8**	**-0.2**
BUR08	**Bucovina Ar. S**	**148.81**	**335**	*e*PKPbc		**PKPbc**	**08 39 47.9**	**+0.6**
BURAR	**Bucovina Array**	**148.83**	**335**	*ǁ i*P		**PKPbc**	**08 39 47.1**	**-0.2**
UPC	**Upice**	**148.98**	**348**	*e*PKP2		**PKPbc**	**08 39 48.5**	**+1.0**
UPC	**Upice**	**148.98**	**348**	*ǁ e*PKP		**PKPbc**	**08 39 48.5**	**+1.0**
BRG	**Berggiesshubel**	**148.98**	**351**	*e*PKP		**PKPbc**	**08 39 47.4**	**0.0**
	comp=Z,8.3nm,1.3s							
BRG	**Berggiesshubel**	**148.98**	**351**	*e*PKP2		**PKPbc**	**08 39 47.4**	**0.0**
BRG				pmax	pmax			
	comp=Z,8.0nm,1.3s							
UZH	**Uzhgorod**	**149.04**	**339**	*e*PKP2		**PKPbc**	**08 39 47.8**	**+0.2**
DPC	**Dobruska-Polom**	**149.07**	**348**	*e*PKP2		**PKPbc**	**08 39 48.4**	**+0.7**
DPC	**Dobruska-Polom**	**149.07**	**348**	*ǁ e*PKP		**PKPbc**	**08 39 48.4**	**+0.7**
CRVS	**Cervenica-Dubn**	**149.07**	**340**	*e*PKP2		**PKPbc**	**08 39 48.2**	**+0.4**
CRVS	**Cervenica-Dubn**	**149.07**	**340**	*e*PKP		**PKPbc**	**08 39 48.2**	**+0.4**
TLCR		**149.09**	**328**	*ǁ i*P		**PKPbc**	**08 39 48.2**	**+0.3**
TESR	**Tescani**	**149.11**	**332**	*ǁ i*P		**PKPdf**	**08 39 44.9**	**+1.1**
PVCC	**Panska Ves**	**149.22**	**350**	*e*PKP2		**PKPbc**	**08 39 48.9**	**+0.9**
PVCC	**Panska Ves**	**149.22**	**350**	*ǁ e*PKP		**PKPbc**	**08 39 48.9**	**+0.9**
MORC	**Moravsky Berou**	**149.34**	**346**	*e*PKP2		**PKPbc**	**08 39 48.1**	**-0.3**
MORC	**Moravsky Berou**	**149.34**	**346**	*ǁ i*P		**PKPbc**	**08 39 48.8**	**+0.3**
MORC	**Moravsky Berou**	**149.34**	**346**	*e*PKPbc		**PKPbc**	**08 39 48.1**	**-0.3**
TRPA	**Tarpa**	**149.39**	**339**	*ǁ i*P		**PKPbc**	**08 39 49.1**	**+0.6**
CFR	**Carcaliu**	**149.43**	**329**	*ǁ i*P		**PKPbc**	**08 39 49.2**	**+0.5**
VRI	**Vrincioaia**	**149.57**	**331**	*ǁ i*P		**PKPbc**	**08 39 48.4**	**-0.7**
BR131	**Keskin Array S**	**149.72**	**316**	*e*PKPbc		**PKPbc**	**08 39 50.0**	**+0.2**
BRTR	**Keskin Array B**	**149.72**	**316**	PKPbc		**PKPbc**	**08 39 49.8**	**0.0**
BRTR	**Keskin Array B**	**149.72**	**316**	PKPbc		**PKPbc**	**08 39 49.8**	**0.0**
	comp=Z,2.5nm,0.6s,baz=137,slow=3.9,SNR=13							
KECS	**Kecovo**	**149.74**	**341**	*e*PKP2		**PKPbc**	**08 39 51.0**	**+1.6**
KECS	**Kecovo**	**149.74**	**341**	*e*PKP		**PKPbc**	**08 39 51.0**	**+1.6**
PRU	**Pruhonice**	**149.74**	**350**	*e*PKP2		**PKPbc**	**08 39 49.7**	**+0.3**
PRU	**Pruhonice**	**149.74**	**350**	*ǁ e*PKP		**PKPbc**	**08 39 49.7**	**+0.3**
HARR	**Harsova**	**149.88**	**329**	*ǁ i*P		**PKPbc**	**08 39 50.7**	**+0.8**
DOPR	**Dopca**	**150.08**	**333**	*ǁ i*P		**PKPbc**	**08 39 51.7**	**+1.3**
MLR	**Muntele Rosu**	**150.21**	**332**	*ǁ i*P		**PKPbc**	**08 39 50.5**	**-0.3**
ISR	**Istrita**	**150.22**	**331**	*ǁ i*P		**PKPbc**	**08 39 51.6**	**+0.8**
VOIR		**150.64**	**333**	*ǁ i*P		**PKPbc**	**08 39 53.0**	**+1.2**
KHC	**Kasperske Hory**	**150.73**	**350**	*e*PKIKP		**PKPbc**	**08 39 51.9**	**+0.1**
KHC	**Kasperske Hory**	**150.73**	**350**	*ǁ e*PKP		**PKPbc**	**08 39 51.9**	**+0.1**
WLF	**Walferdange**	**150.77**	**0**	PKP		**PKPbc**	**08 39 54.1**	**+2.3**
ARR	**Arges**	**150.88**	**333**	*ǁ i*P		**PKPbc**	**08 39 53.8**	**+1.5**
GERES	**GERESS Array B**	**150.99**	**350**	PKPbc		**PKPbc**	**08 39 51.1**	**-1.4**
GERES	**GERESS Array B**	**150.99**	**350**	PKPbc		**PKPbc**	**08 39 51.1**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=352,slow=2.7,SNR=6.8							
SIRR	**Siria**	**151.30**	**338**	*ǁ i*P		**PKPbc**	**08 39 54.0**	**+0.8**
GZR	**Gura Zlata**	**151.62**	**335**	*ǁ i*P		**PKPbc**	**08 39 54.3**	**+0.3**
WTTA	**Wattenberg**	**152.84**	**352**	*ǁ i*PKiKP		**PKPbc**	**08 39 56.8**	**-0.1**
	comp=Z,8.3nm,0.8s							
FETA	**Feichten**	**153.18**	**353**	*ǁ i*PKPbc		**PKPbc**	**08 40 00.1**	**+2.4**
	comp=Z,10nm,1.6s							
KEST	**Kesra**	**164.48**	**351**	PKP		**PKPdf**	**08 40 03.6**	**-0.1**
KEST	**Kesra**	**164.48**	**351**	PKP		**PKPdf**	**08 40 03.6**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=36,slow=2.1,SNR=5.4							
TORD	**Torodi Ar. Bea**	**171.53**	**147**	PKP		**PKPdf**	**08 40 07.9**	**-1.2**
TORD				PKPab		**PKPab**	**08 41 30.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**171.53**	**147**	PKP		**PKPdf**	**08 40 07.9**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=329,slow=1.1,SNR=4.3							
TORD				PKPab		**PKPab**	**08 41 30.6**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=216,slow=3.8,SNR=3.9							

MAN 02 08:51:56, 8.29N×123.28E, h30km, mb3.9, ML2.7, MS2.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.30**	**14**	*ǁ e*P	Pn	08 52 05.5	+1.1
PAGZ	**Pagadian**	**0.45**	**167**	*e*P	Pn	08 52 07.2	+0.8
PAGZ				*e*S	Sb	08 52 11.4	-0.8
IPIL	**Ipil**	**0.86**	**235**	*e*P	Pb	08 52 13.8	+1.4
IPIL				*e*S	Sn	08 52 25.1	+1.5
BUKP	**Musuan**	**1.81**	**103**	*e*P	Pn	08 52 26.8	+1.6

IDC 02 09:00:02.7±5.3, 52.44N×36.47E, h0km, mb1 3.6/3, mb1mx3.2/25, mbtmp3.5/3, ML3.0/3, Error ellipse: s-maj=69.1km s-min=17.1km az=124.0, Baltic States - Belarus - Northwestern Russia

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---|---|---|---

*IDC **02** 09:54:35.8±2.4, 19°.21N×77°.94W, h0km, mb3.2/2, mb1 4.0/3, mb1mx3.6/25, mbtmp3.7/3, ML4.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/20, Error ellipse: s-maj=111.8km s-min=45.2km az=35.0*

*JSN **02** 09:54:44.8±0.9, 17°.15N×75°.60W, h3km±999km, MD4.2*

ISC 02 09:54:37.2±1.3, 19'.4N±0'.2×77'.9W±0'.2, h10km, n9, σ0$64/10, Cuba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**1.68**	**142**	*i* P	A	**Pg**		**09 55 09.8**	**+0.3**
STH				*i* S		**Sb**		**09 55 29.7**	**+0.2**
GWJ	**Greenwich**	**1.73**	**140**	*i* P		**Pg**		**09 55 10.1**	**-0.4**
HOJ	**Hope**	**1.77**	**142**	*i* P		**Pb**		**09 55 09.5**	**-0.3**
PCJ	**Portland Cotta**	**1.80**	**157**	*i* P		**Pg**		**09 55 12.4**	**+0.6**
TEIG	**Tepich**	**9.80**	**277**	Pn		**Pn**		**09 56 57.4**	**-0.9**
	7.9nm,0.3s,baz=58,slow=1.9,SNR=37								
TEIG				Sn		Sn		09 58 37.5	-11
	0.6nm,0.3s,baz=197,slow=19,SNR=5.1								
TEIG				LR		LR		10 00 12.7	
	comp=Z,100nm,20.8s,baz=143,slow=34								
TXAR	**Lajitas Array**	**25.41**	**298**	P		**P**		**10 00 06.2**	**+0.9**
	0.1nm,0.5s,baz=122,slow=12,SNR=3.1								
TXAR				LR		LR		10 10 50.9	
	comp=Z,50nm,18.8s,baz=115,slow=38								
NVAR	**Mina Array Bea**	**39.74**	**307**	P		**P**		**10 02 10.9**	**+0.5**
	0.3nm,0.8s,baz=132,slow=10,SNR=3.8								
WRA	**Warramunga Arr**	**149.66**	**263**	PKPbc		**PKPbc**		**10 14 27.9**	**-0.1**
	1.1nm,1.0s,baz=86,slow=1.5,SNR=5.8								
ASAR	**Alice Springs**	**150.15**	**256**	PKPbc		**PKPbc**		**10 14 28.6**	**-0.5**
	0.7nm,0.8s,baz=103,slow=3.0,SNR=7.1								

*IDC **02** 10:13:20.5±0.9, 23°.30N×93°.58E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/26, mbtmp3.7/10, Error ellipse: s-maj=40.2km s-min=17.1km az=56.0*

*ISCJB **02** 10:13:29.0±0.9, 23°.60N±0°.08×93°.22E±0°.05, h51km, mb3.7/10, Error ellipse: s-maj=11.4km s-min=5.9km az=7.0*

ISC 02 10:13:28.4±1.0, 23'.4N±0'.1×93'.29E±0'.08, h51km, n26, σ1$84/38, mb3.9/10, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.51**	**23**	*e*P		**Pn**		**10 13 52.0**	**-1.1**
IMP				*e*S		**Sn**		**10 14 08.0**	**-3.6**
SHL	**Shillong**	**2.52**	**330**	*e*Pn		**Pn**		**10 14 09.5**	**+2.5**
SHL				*e*Sn		**Sn**		**10 14 35.0**	**-1.6**
ODAN	**Odare**	**6.37**	**304**	*e*Pn		**Pn**		**10 15 01.9**	**+2.0**
ODAN				*e*Sn		**Sn**		**10 16 11.9**	**+0.5**
	146nm,0.3s								
TAPN	**Taplejung**	**6.41**	**309**	*e*Pn		**Pn**		**10 15 02.0**	**+1.5**
TAPN				*e*Sn		**Sn**		**10 16 13.1**	**+0.7**
	99nm,0.3s								
RAMN	**Ramite**	**7.02**	**302**	*e*Pn		**Pn**		**10 15 11.0**	**+2.1**
CMAR	**Chiang Mai Arr**	**7.21**	**132**	Pn		Pn		10 15 08.6	-2.6
	1.4nm,0.3s,baz=310,slow=14,SNR=17								
JIRN	**Jiri**	**7.70**	**305**	*e*Pn		**Pn**		**10 15 19.6**	**+1.4**
JIRN				*e*Sn		**Sn**		**10 16 43.4**	**-0.8**
	111nm,0.3s								
GUN	**Gumba**	**8.06**	**305**	*e*Pn		**Pn**		**10 15 24.8**	**+1.6**
GUN				*e*Sn		**Sn**		**10 16 51.8**	**-1.4**
	141nm,0.6s								
PKI	**Pulchoki**	**8.25**	**302**	*e*Pn		**Pn**		**10 15 27.2**	**+1.4**
PKI				*e*Sn		**Sn**		**10 16 56.5**	**-1.3**
PKIN	**Phulchoki**	**8.26**	**302**	*e*Pn		**Pn**		**10 15 27.2**	**+1.3**
PKIN				*e*Sn		**Sn**		**10 16 56.8**	**-1.2**
KKN	**Kakani**	**8.46**	**303**	*e*Pn		**Pn**		**10 15 29.7**	**+1.2**
KKN				*e*Sn		**Sn**		**10 17 01.0**	**-1.7**
DMN	**Daman**	**8.50**	**301**	*e*Pn		**Pn**		**10 15 30.2**	**+1.0**
DMN				*e*Sn		**Sn**		**10 17 01.2**	**-2.7**
GKN	**Gorkha**	**9.06**	**302**	*e*Pn		**Pn**		**10 15 37.5**	**+0.8**
GKN				*e*Sn		**Sn**		**10 17 15.6**	**-1.7**
KOLN	**Koldanda**	**9.78**	**299**	*e*Pn		**Pn**		**10 15 47.2**	**+0.7**
KOLN				*e*Sn		**Sn**		**10 17 31.1**	**-3.9**
	46nm,0.4s								
DANN	**Dangsing**	**9.90**	**302**	*e*Pn		**Pn**		**10 15 48.5**	**+0.1**
DANN				*e*Sn		**Sn**		**10 17 35.3**	**-2.9**
	44nm,0.4s								
PYUN	**Piuthan**	**10.40**	**299**	*e*Pn		**Pn**		**10 15 55.2**	**+0.1**
PYUN				*e*Sn		**Sn**		**10 17 47.1**	**-3.3**
	110nm,0.5s								
AAK	**Ala-Archa**	**24.73**	**325**	P		**P**		**10 18 46.7**	**+1.6**
	1.1nm,0.6s,baz=98,slow=15,SNR=4.3								
MKAR	**Makanchi Array**	**24.98**	**342**	P		**P**		**10 18 47.2**	**0.0**
	0.8nm,0.6s,baz=154,slow=10.0,SNR=11								
SONM	**Songino Array**	**26.54**	**20**	P		**P**		**10 18 59.2**	**-2.3**
	0.3nm,0.4s,baz=205,slow=6.4,SNR=1.9								
ZALV	**Zalesovo Beam**	**31.18**	**350**	P		**P**		**10 19 44.1**	**+1.7**
	0.4nm,0.4s,baz=156,slow=7.9,SNR=2.7								
AKASG	**Malin Array Be**	**55.93**	**316**	P		**P**		**10 23 00.6**	**-0.6**
	0.5nm,0.4s,baz=84,slow=6.5,SNR=3.3								
WRA	**Warramunga Arr**	**58.80**	**134**	P		P		10 23 18.6	-3.2
	0.5nm,0.5s,baz=322,slow=7.4,SNR=10.0								
FINES	**FINESS Array B**	**58.86**	**329**	P		**P**		**10 23 21.4**	**-0.2**
	1.0nm,0.6s,baz=104,slow=8.0,SNR=3.9								
ASAR	**Alice Springs**	**61.19**	**137**	P		**P**		**10 23 36.1**	**-2.0**
	0.3nm,0.3s,baz=321,slow=7.0,SNR=14								
GERES	**GERESS Array B**	**66.05**	**315**	P		**P**		**10 24 10.8**	**+0.9**
	0.7nm,0.4s,baz=92,slow=8.3,SNR=3.6								
TORD	**Torodi Ar. Bea**	**86.31**	**283**	P		**P**		**10 26 07.0**	**+1.5**
	0.8nm,1.0s,baz=51,slow=2.2,SNR=4.2								

WEL 02 10:16:52.7±0.4, 39°.19S×174°.99E, h205km±2km, ML3.5/16, 6C, Error ellipse: s-maj=3.3km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.19**	**290**	*e*Sn		S		10 17 39.7	-0.8
MTVZ	**Mangateitei**	**0.42**	**118**	*e*Pn		Pn		10 17 19.9	-0.3
WPVZ	**Whakapapa**	**0.43**	**92**	*e*Pn		Pn		10 17 19.8	-0.5
NGZ	**Ngauruhoe**	**0.48**	**88**	PN		Pn		10 17 20.1	-0.4
WNVZ	**Wahianoa**	**0.49**	**106**	PN		Pn		10 17 20.4	-0.2
TUVZ	**Tukino**	**0.52**	**99**	PN		Pn		10 17 19.5	-1.2
OTVZ	**Oturere**	**0.53**	**87**	PN		Pn		10 17 20.6	-0.1
WAZ	**Wanganui**	**0.56**	**180**	PN		Pn		10 17 20.9	+0.3
KATZ	**Kakaramea**	**0.59**	**69**	PN		Pn		10 17 20.6	-0.4
RATZ	**Rangitukua**	**0.69**	**62**	PN		Pn		10 17 21.2	-0.1
BHHZ	**Black Hill Sta**	**0.89**	**110**	PN		Pn		10 17 21.9	-0.5
BHHZ				SN		S		10 17 43.7	-1.6
TSZ	**Takapari Road**	**1.15**	**139**	PN		Pn		10 17 24.3	+0.3
TSZ				SN		S		10 17 48.1	-0.2
BKZ	**Black Stump Fm**	**1.17**	**89**	PN		Pn		10 17 23.6	-0.6
PNHZ	**Pukenui**	**1.19**	**128**	PN		Pn		10 17 24.4	+0.1
PNHZ				SN		S		10 17 48.8	+0.1
POWZ	**Post Office Ro**	**1.34**	**154**	PN		Pn		10 17 25.3	-0.2
POWZ				SN		S		10 17 50.1	-0.8
MCHZ	**McNeill Hill**	**1.35**	**101**	*e*PN		Pn		10 17 26.0	+0.4
NMHZ	**Naumai**	**1.42**	**87**	PN		Pn		10 17 26.4	+0.2
WPHZ	**Waipukurau**	**1.42**	**128**	PN		Pn		10 17 26.4	+0.2
DVHZ	**Dannevirke**	**1.43**	**141**	⇑PN		Pn		10 17 26.3	0.0
MRZ	**Mangatainoka R**	**1.54**	**163**	PN		Pn		10 17 26.9	-0.2
MRZ				SN		AML	AML	10 17 53.8	
PRWZ	**Pori Road**	**1.56**	**151**	PN		Pn		10 17 27.6	+0.3
KAHZ	**Kahuranaki**	**1.58**	**113**	PN		Pn		10 17 28.0	+0.4
OGWZ	**Otaki Gorge**	**1.63**	**175**	⇑PN		Pn		10 17 28.0	0.0
KIW	**Kapiti Island**	**1.67**	**182**	⇑PN		Pn		10 17 28.0	-0.3
PXZ	**Pawanui**	**1.68**	**121**	PN		Pn		10 17 28.3	-0.1
ANWZ	**Angora Road**	**1.71**	**138**	PN		Pn		10 17 28.9	+0.2
HOWZ	**Holdsworth Sta**	**1.75**	**167**	⇑PN		Pn		10 17 28.7	-0.4
BFZ	**Birch Farm**	**1.78**	**147**	PN		Pn		10 17 29.1	-0.2
DUWZ	**D'Urville Isla**	**1.81**	**207**	PN		Pn		10 17 29.1	-0.6
URZ	**Urewera**	**1.90**	**61**	AML		AML		10 17 58.4	
CAW	**Cannon Point**	**1.92**	**178**	⇑PN		Pn		10 17 30.3	-0.4
CAW				AML		AML		10 18 01.3	
MTW	**Mount Morrison**	**2.00**	**169**	PN		Pn		10 17 31.1	-0.5
TMWZ	**Te Maipa**	**2.04**	**160**	PN		Pn		10 17 31.5	-0.4
TCW	**Tory Channel**	**2.09**	**195**	PN		Pn		10 17 32.1	-0.4
TCW				AML		AML		10 18 04.4	
TCW				AML		AML		10 18 04.4	
KNZ	**Kokohu**	**2.10**	**86**	PN		Pn		10 17 31.7	-0.8
PAWZ	**Paruwai Farm**	**2.21**	**171**	PN		Pn		10 17 33.1	-0.6
RIGZ	**Rimuhau**	**2.22**	**78**	PN		Pn		10 17 32.8	-1.1
MSWZ	**Moikau Station**	**2.23**	**175**	PN		Pn		10 17 33.2	-0.7
TRWZ	**Traveller**	**2.27**	**167**	PN		Pn		10 17 33.7	-0.6
NNZ	**Nelson**	**2.37**	**211**	PN		Pn		10 17 34.3	-1.1
TUWZ	**Tuamarina**	**2.38**	**199**	PN		Pn		10 17 34.9	-0.5
PLWZ	**Palliser**	**2.39**	**175**	PN		Pn		10 17 34.7	-0.9
QRZ	**Quartz Range**	**2.50**	**228**	PN		Pn		10 17 34.7	-2.1
BSWZ	**Blackbirch Sta**	**2.66**	**198**	PN		Pn		10 17 38.1	-0.5
THZ	**Tophouse**	**3.02**	**211**	PN		Pn		10 17 41.3	-1.5
KHZ	**Kahutara**	**3.41**	**198**	PN		Pn		10 17 46.1	-1.2
OXZ	**Oxford**	**4.69**	**207**	PN		Pn		10 18 00.4	-2.8
MQZ	**McQueen's Vall**	**4.84**	**200**	⇑PN		Pn		10 18 02.1	-3.0

IDC 02 10:22:13.5±54.0, 22°.28S×176°.38W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=1008.0km s-min=162.1km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.42**	**246**	P		P		10 29 35.9	-1.1
	1.0nm,0.5s,baz=97,slow=14,SNR=5.2								
ASAR	**Alice Springs**	**45.61**	**258**	P		P		10 30 35.8	-0.2
	0.7nm,0.8s,baz=90,slow=6.8,SNR=13								
WRA	**Warramunga Arr**	**45.88**	**263**	P		P		10 30 38.6	+0.6
	1.1nm,0.4s,baz=100,slow=8.3,SNR=31								

*IDC **02** 10:31:36.1±1.1, 34°.02N×25°.14E, h0km, mb4.0/11, mb1 4.0/15, mb1mx3.9/30, mbtmp3.9/15, ML4.2/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/43, Error ellipse: s-maj=23.7km s-min=19.0km az=158.0*

*ISCJB **02** 10:31:37.2±0.8, 33°.92N±0°.09×25°.20E±0°.08, h20km, mb3.8/11, MS3.5/1, Error ellipse: s-maj=12.4km s-min=9.4km az=176.1*

*ATH **02** 10:31:40.9, 34°.24N×25°.15E, h26km±5km, MD3.4/7*

*CSEM **02** 10:31:40.9, 34°.24N×25°.15E, h26km, MD3.4, After ATH*

ISC 02 10:31:39.6±0.9, 34'.1N±0'.1×25'.18E±0'.05, h20km, n34, σ0$55/33, mb3.9/11, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.96**	**341**	*e*Pn		**Pb**		**10 31 57.6**	**+0.1**
SIVA	**Sivas**	**0.96**	**341**	*e*Pn		**Pb**		**10 31 57.6**	**+0.1**
LAST	**Lasithi**	**1.08**	**13**	*e*Pn		**Pb**		**10 31 59.5**	**-0.1**
LAST	**Lasithi**	**1.08**	**13**	*e*Pn		**Pb**		**10 31 59.5**	**-0.1**
GVD	**Gavdhos**	**1.16**	**309**	*e*Pn		**Pb**		**10 32 01.2**	**+0.2**
GVD	**Gavdhos**	**1.16**	**309**	*e*Pn		**Pb**		**10 32 01.2**	**+0.2**
IDI	**Anoyia**	**1.20**	**349**	*e*PN		**Pn**		**10 32 01.2**	**-0.1**
IDI	**Anoyia**	**1.20**	**349**	*e*Pn		**Pn**		**10 32 01.2**	**-0.1**
IDI	**Anoyia**	**1.20**	**349**	Pn		**Pb**		**10 32 01.8**	**+0.1**
	15nm,0.3s,baz=168,slow=52								
NPS	**Neapolis**	**1.20**	**17**	*e*PN		**Pb**		**10 32 01.5**	**-0.2**
NPS	**Neapolis**	**1.20**	**17**	*e*Pn		**Pb**		**10 32 01.5**	**-0.2**
ZKR	**Zakros**	**1.32**	**40**	*e*PN		**Pb**		**10 32 03.6**	**-0.1**
ZKR	**Zakros**	**1.32**	**40**	*e*Pn		**Pb**		**10 32 03.6**	**-0.1**
VAM	**Vamos**	**1.53**	**328**	*e*PN		**Pb**		**10 32 07.0**	**-0.2**
VAM	**Vamos**	**1.53**	**328**	*e*Pn		**Pb**		**10 32 07.0**	**-0.2**
KARP	**Karpathos**	**2.17**	**48**	*e*PB		**Pb**		**10 32 17.5**	**-0.7**
KARP	**Karpathos**	**2.17**	**48**	*e*Pb		**Pb**		**10 32 17.5**	**-0.7**
BRTR	**Keskin Array B**	**8.79**	**48**	Pn		**Pn**		**10 33 47.4**	**+1.7**
	0.1nm,0.3s,baz=235,slow=14,SNR=3.0								
VRAC	**Vranov**	**16.47**	**340**	Pn		**P**		**10 35 32.5**	**+0.6**
	0.3nm,0.3s,baz=133,slow=12,SNR=2.7								
KBZ	**Khabaz**	**16.77**	**50**	Pn		**P**		**10 35 35.1**	**-0.2**
	0.1nm,0.3s,baz=260,slow=11,SNR=3.1								
AKASG	**Malin Array Be**	**16.84**	**9**	Pn		**P**		**10 35 35.3**	**-0.7**
	1.5nm,0.3s,baz=200,slow=11,SNR=16								
GERES	**GERESS Array B**	**17.02**	**333**	P		**P**		**10 35 38.6**	**+0.4**
	0.5nm,0.3s,baz=146,slow=12,SNR=12								
HFS	**Hagfors**	**27.10**	**347**	P		**P**		**10 37 21.4**	**+0.6**
	1.3nm,0.6s,baz=153,slow=9.7,SNR=2.4								
FINES	**FINESS Array B**	**27.36**	**1**	LR		LR		10 49 27.5	
	comp=Z,122nm,19.1s,baz=322,slow=39								
NOA	**NORSAR Array B**	**28.42**	**346**	P		**P**		**10 37 31.9**	**-0.7**
	0.5nm,0.6s,baz=151,slow=10,SNR=3.3								
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P		**P**		**10 37 45.0**	**-0.5**
	1.2nm,0.5s,baz=32,slow=8.3,SNR=11								
KURBB	**Kurchatov Arra**	**41.77**	**50**	P		**P**		**10 39 27.9**	**+0.5**
	1.1nm,0.8s,baz=277,slow=8.4,SNR=8.6								
MKAR	**Makanchi Array**	**44.34**	**56**	P		**P**		**10 39 48.7**	**+0.4**
	1.7nm,0.6s,baz=276,slow=6.1,SNR=17								
ZALV	**Zalesovo Beam**	**45.72**	**45**	P		**P**		**10 39 59.0**	**-0.1**
	1.1nm,0.4s,baz=266,slow=11,SNR=3.7								
SONM	**Songino Array**	**60.14**	**50**	P		**P**		**10 41 46.9**	**+1.1**
	1.0nm,0.7s,baz=287,slow=8.4,SNR=7.6								
SCHQ	**Schefferville**	**64.00**	**320**	P		**P**		**10 42 11.6**	**+0.2**
	7.3nm,1.0s,baz=42,slow=14,SNR=3.1								
USRK	**Ussuriysk Arra**	**77.57**	**45**	P		**P**		**10 43 33.9**	**-0.2**
	0.9nm,0.7s,baz=299,slow=5.4,SNR=5.0								
YKA	**Yellowknife Ar**	**78.45**	**342**	P		**P**		**10 43 38.5**	**-0.1**
	0.3nm,0.6s,baz=28,slow=5.0,SNR=4.5								

MAN 02 10:43:17, 9°.83N×124°.82E, h50km, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.31**	**7**	*e*P		Pn		10 43 27.9	+1.7
MSLP				*e*S		Sn		10 43 35.5	+2.7
SCPH	**Surigao**	**0.66**	**94**	⇓*e*P		Pn		10 43 32.5	+2.2
BUTP	**Butuan**	**1.16**	**137**	*e*P		Pn		10 43 37.7	+0.8
OCLP	**Ormoc**	**1.23**	**350**	*e*P		Pn		10 43 39.1	+1.2
PLP	**Palo**	**1.34**	**7**	⇓*e*P		Pn		10 43 34.6	-4.7
PLP				*e*S		Sn		10 43 47.4	-8.7

WEL 02 10:46:28.2±0.4, 35°.39S×178°.02E, h33km, ML3.6/5, Error ellipse: s-maj=5.6km s-min=2.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.69**	**176**	PN		Pn		10 47 08.6	-0.5
PUZ				SN		Sn		10 47 38.9	-1.7
URZ	**Urewera**	**2.96**	**194**	P*		Pn		10 47 13.2	+0.4
URZ				S*		Sn		10 47 47.4	+0.1
MWZ	**Matawai**	**2.97**	**188**	P*		Pn		10 47 13.3	+0.3
MWZ				*e*S*		Sn		10 47 47.1	-0.5
CNGZ	**Carnagh Statio**	**3.10**	**177**	PN		Pn		10 47 13.9	-0.8
RIGZ	**Rimuhau**	**3.32**	**184**	PN		Pn		10 47 16.5	-1.4
SNGZ	**Shannon Statio**	**3.43**	**189**	PN		Pn		10 47 18.7	-0.7
KNZ	**Kokohu**	**3.64**	**184**	PN		Pn		10 47 19.5	-2.6
BKZ	**Black Stump Fm**	**3.97**	**197**	P*		Pn		10 47 25.5	-1.3
MRZ	**Mangatainoka R**	**5.61**	**199**	AML		AML		10 48 20.3	

*IDC **02** 10:50:10.1±14.0, 23°.64S×179°.31W, h476km±123km, mb3.2/5, mb1 3.3/6, mb1mx3.1/20, mbtmp3.2/6, Error ellipse: s-maj=195.2km s-min=76.4km az=58.0*

ISC 02 10:50:17.3±12.0, 24°.2S±0°.9×178°.0W±°, h518km, n6, σ0$53/6, mb3.7/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.28**	**190**	P		**P**		**10 53 19.5**	**0.0**
	0.9nm,0.3s,baz=152,slow=6.6,SNR=8.5								
CTA	**Charters Tower**	**31.62**	**271**	P		**P**		**10 55 58.1**	**+0.3**
	2.4nm,0.4s,baz=94,slow=14,SNR=10								
STKA	**Stephens Creek**	**34.76**	**248**	P		**P**		**10 56 24.4**	**+0.3**
	0.5nm,0.3s,baz=95,slow=12,SNR=4.5								
ASAR	**Alice Springs**	**42.14**	**261**	P		**P**		**10 57 23.9**	**-0.3**
	0.5nm,0.3s,baz=97,slow=7.0,SNR=23								
WRA	**Warramunga Arr**	**42.53**	**266**	P		**P**		**10 57 26.6**	**-0.7**
	1.3nm,0.4s,baz=97,slow=8.5,SNR=67								
FITZ	**Fitzroy Crossi**	**50.95**	**266**	P		**P**		**10 58 31.3**	**+0.3**
	3.0nm,1.0s,baz=117,slow=6.8,SNR=4.7								

*IDC **02** 11:05:06.8±1.0, 2°.81S×119°.95E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.5/22, mbtmp3.5/6, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=54.3km s-min=16.5km az=73.0*

*DJA **02** 11:05:10.1±0.3, 3°.S±2°×12°.0E±°, h10km, M3.9/10, MLv3.9/10*

ISC 02 11:05:08.2±1.3, 2°.86S±0°.04×119°.75E±0°.05, h6km±10km, n18, σ1$18/22, mb3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.20**	**159**	P		**Pg**		**11 05 11.7**	**-0.4**
TTSI				S		**Sg**		**11 05 15.1**	**+0.4**
MMSI	**Mamuju**	**0.85**	**282**	P		**Pg**		**11 05 23.8**	**-0.8**
MJSI	**Majene**	**1.03**	**228**	P		**Pg**		**11 05 28.0**	**+0.1**
MJSI				S		**Sb**		**11 05 43.7**	**+1.6**
SPSI	**Sidrap Palu**	**1.09**	**179**	P		**Pg**		**11 05 28.0**	**-1.2**
SPSI				S		**Sb**		**11 05 44.5**	**+0.4**
BNSI	**Bone**	**1.57**	**167**	P		**Pn**		**11 05 36.8**	**+0.2**
BNSI				S		**Sg**		**11 06 00.3**	**+1.6**
KAPI	**Kappang**	**2.14**	**180**	P		**Pn**		**11 05 44.8**	**+0.4**
KAPI	**Kappang**	**2.14**	**180**	Pn		**Pn**		**11 05 44.9**	**+0.4**
	38nm,0.3s,baz=354,slow=11,SNR=46								
KAPI				Sn		**Sb**		**11 06 14.5**	**+0.3**
	60nm,0.3s,baz=78,slow=18,SNR=11								
KKSI	**Kolaka, Sulawe**	**2.30**	**124**	P		**Pb**		**11 05 50.4**	**+0.2**
BKSI	**Bulukumba**	**2.47**	**171**	P		**Pn**		**11 05 49.6**	**+0.6**
APSI	**Ampana**	**2.71**	**44**	P		**Pb**		**11 05 55.9**	**-1.3**
LUWI	**Luwuk**	**3.52**	**59**	P		**Pn**		**11 06 05.3**	**+1.8**
MRSI	**Marisa**	**3.98**	**33**	P		**Pn**		**11 06 11.4**	**+1.7**
FITZ	**Fitzroy Crossi**	**16.21**	**160**	LR		LR		11 15 51.5	
	comp=Z,67nm,20.1s,baz=108,slow=40								
WRA	**Warramunga Arr**	**22.16**	**141**	P		**P**		**11 10 03.5**	**-1.5**
	1.0nm,0.8s,baz=316,slow=10,SNR=7.9								
ASAR	**Alice Springs**	**24.80**	**148**	P		**P**		**11 10 30.2**	**-1.0**
	0.9nm,0.9s,baz=338,slow=9.9,SNR=7.5								
SONM	**Songino Array**	**51.83**	**349**	P		**P**		**11 14 17.9**	**+0.7**
	0.4nm,0.7s,baz=147,slow=6.4,SNR=3.4								
MKAR	**Makanchi Array**	**59.42**	**331**	P		**P**		**11 15 12.5**	**+0.7**
	0.6nm,0.8s,baz=144,slow=5.2,SNR=1.7								
ZALV	**Zalesovo Beam**	**63.64**	**338**	P		**P**		**11 15 37.9**	**-2.1**
	0.2nm,0.4s,baz=129,slow=11,SNR=2.4								

MAN 02 11:13:18, 9°.57N×125°.61E, h1km, mb4.1, ML2.9, MS2.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.24**	**331**	⇓*e*P		Pg		11 13 23.8	+1.1
SCPH				*e*S		Sg		11 13 29.1	+3.3
BUTP	**Butuan**	**0.60**	**179**	*e*P		Pb		11 13 30.8	-0.4
BUTP				*e*S		Sn		11 13 43.2	-0.8
MSLP	**Maasin**	**0.93**	**307**	*e*P		Pb		11 13 36.6	-0.3
MSLP				*e*S		Sg		11 13 48.3	+0.4
BUKP	**Musuan**	**1.77**	**198**	*e*P		Pb		11 13 50.9	-0.4

*ISCJB **02** 11:23:16.7±0.3, 22°.84S±0°.03×70°.57W±0°.05, h32km, mb4.4/14, MS3.5/3, Error ellipse: s-maj=6.2km s-min=4.1km az=8.1*

*GUC **02** 11:23:17.8±0.7, 22°.82S×70°.48W, h32km±9km, ML4.6*

*IDC **02** 11:23:17.4±0.6, 22°.90S×70°.41W, h35km±4km, mb4.0/10, mb1 4.2/14, mb1mx4.1/21, mbtmp4.2/14, ML4.1/4, MS3.6/6, Ms1 3.6/6, ms1mx3.4/31, Error ellipse: s-maj=19.2km s-min=16.3km az=60.0*

*NEIC **02** 11:23:17.8, 22°.82S×70°.48W, h32km, mb4.8/6, ML4.6(GUC), After GUC.*

NEIC Felt [III] at Maria Elena and Tocopilla.

*BJI **02** 11:23:20.3, 22°.90S×70°.50W, h44km, mB5.0/5, Ms5.5/3, Ms7 5.1/3*

ISC 02 11:23:17.7±0.3, 22°.83S±0°.03×70°.47W±0°.05, h32km, h32km:pP-P, n118, σ1$42/152, mb4.4/15, MS3.4/3, 7C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.61**	**156**	*e*P		**Pn**		**11 23 32.9**	**+2.6**
CEN1				*i* S		**Sn**		**11 23 43.8**	**+4.8**
CEN1	**Los Morros**	**0.61**	**156**	*e*P		**Pn**		**11 23 32.9**	**+2.6**
CEN1				*i* S		**Sn**		**11 23 43.8**	**+4.8**
PB10	**Plate Boundary**	**0.68**	**187**	⇑*i*P		**Pn**

ANMO					*e*P	**pP**	**11 34 17.9**	**+1.2**
SDCO	**Great Sand Dun**	**68.67**	**331**		*e*P	**P**	**11 34 19.3**	**+1.0**
SDCO					*e*P	**pP**	**11 34 30.9**	**+2.6**
WUAZ	**Wupatki**	**69.78**	**325**		*e*P	**P**	**11 34 25.8**	**+0.7**
WUAZ					*e*P	**pP**	**11 34 39.0**	**+4.0**
SMCO	**Snowmass**	**70.51**	**331**		*e*P	**P**	**11 34 31.3**	**+1.5**
FRD	**Ford Ranch**	**71.20**	**320**		*e*P	**P**	**11 34 34.4**	**+0.7**
SRU	**San Rafael**	**72.12**	**328**		*e*P	**P**	**11 34 39.7**	**+0.5**
SRU					*e*P	**pP**	**11 34 50.8**	**+1.5**
CCUT	**Cedar City**	**72.36**	**325**		*e*P	**P**	**11 34 42.5**	**+1.8**
CCUT					*e*P	**pP**	**11 34 52.7**	**+1.9**
MVU	**Marysvale**	**72.49**	**327**		*e*P	**P**	**11 34 43.0**	**+1.5**
MVU					*e*P	**pP**	**11 34 53.9**	**+2.4**
ARUT	**Antelope Range**	**72.58**	**326**		*e*P	**P**	**11 34 44.2**	**+2.2**
TMUT	**Trail Mountain**	**72.60**	**328**		*e*P	P	11 34 45.5	+3.3
	comp=E,20nm,1.0s							
DUG	**Dugway**	**74.08**	**328**		*e*P	**P**	**11 34 51.6**	**+0.9**
DUG					*e*pP	**PcP**	**11 35 04.1**	**-1.7**
PDAR	**Pinedale Array**	**74.56**	**331**		P	**P**	**11 34 53.6**	**+0.1**
PDAR					pP	**pP**	**11 35 04.0**	**+0.4**
PDAR	**Pinedale Array**	**74.56**	**331**		P	**P**	**11 34 53.6**	**+0.1**
	comp=E,0.5nm,0.7s,baz=130,slow=6.7,SNR=4.4							
PDAR					pP	**pP**	**11 35 04.0**	**+0.4**
	comp=E,0.7nm,0.7s,baz=119,slow=5.2,SNR=4.7							
VNDA	**Vanda**	**75.29**	**190**		*e*P	**P**	**11 34 58.5**	**+1.3**
	comp=E,75nm,2.6s							
VNDA	**Vanda**	**75.29**	**190**		P	**P**	**11 34 56.4**	**-0.7**
	comp=E,3.2nm,1.0s,baz=124,slow=4.0,SNR=6.4							
NV01	**Mina Array Sit**	**75.67**	**323**		*e*P	**P**	**11 35 00.6**	**+0.5**
NV01					*e*pP	**pP**	**11 35 10.9**	**+0.8**
NVAR	**Mina Array Bea**	**75.67**	**323**		P	**P**	**11 35 00.2**	**+0.2**
NVAR					pP	**PcP**	**11 35 11.7**	**-1.0**
NVAR	**Mina Array Bea**	**75.67**	**323**		P	**P**	**11 35 00.2**	**+0.2**
	comp=E,1.0nm,0.9s,baz=163,slow=6.3,SNR=5.8							
NVAR					pP	**PcP**	**11 35 11.7**	**-1.0**
	comp=E,1.3nm,0.9s,baz=154,slow=4.1,SNR=5.8							
LOHW	**Long Hollow**	**75.69**	**331**		*e*P	**P**	**11 35 00.7**	**+0.6**
LOHW					*e*pP	**pP**	**11 35 11.3**	**+1.1**
SYO	**Syowa Base**	**75.77**	**160**⇑		*e*P	**P**	**11 34 58.9**	**-1.0**
RRI2	**Red Ridge**	**75.81**	**331**		*e*P	**P**	**11 35 02.5**	**+1.7**
FLWY	**Flagg Ranch**	**76.11**	**331**		*e*P	**P**	**11 35 02.7**	**+0.3**
FLWY					*e*pP	**PcP**	**11 35 13.8**	**-0.7**
PAHR	**Pah Rah Range**	**77.16**	**323**		*e*P	**P**	**11 35 09.4**	**+0.9**
PAHR					*e*pP	**PcP**	**11 35 21.6**	**+2.5**
HLID	**Hailey**	**77.41**	**329**		*e*P	**P**	**11 35 11.0**	**+1.2**
HLID					*e*pP	**PcP**	**11 35 22.5**	**+2.4**
SUR	**Sutherland**	**79.15**	**121**		LR	LR	12 04 06.0	
	comp=E,35nm,20.8s,baz=139,slow=31							
TOA0	**Torodi Ar. Sit**	**79.16**	**71**		*e*P	**P**	**11 35 19.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**79.16**	**71**		P	**P**	**11 35 19.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**79.16**	**71**		P	**P**	**11 35 19.0**	**-0.9**
	comp=E,2.8nm,0.7s,baz=258,slow=5.2,SNR=22							
MOD	**Modoc**	**79.19**	**324**		*e*P	**P**	**11 35 20.6**	**+0.9**
MOD					*e*pP	**pP**	**11 35 32.0**	**+2.2**
BMO	**Blue Mountains**	**79.76**	**328**		*e*P	**P**	**11 35 23.5**	**+0.9**
BMO					*e*pP	**pP**	**11 35 34.2**	**+1.4**
F10A	**Beach Ranch, E**	**80.55**	**329**		*e*P	**P**	**11 35 27.5**	**+0.7**
	comp=E,132nm,3.0s							
WALA	**Waterton Lakes**	**81.37**	**333**		*e*P	**P**	**11 35 31.7**	**+0.5**
WALA					*e*pP	**pP**	**11 35 43.7**	**+2.4**
HAWA	**Hanford**	**81.96**	**328**		*e*P	**P**	**11 35 35.1**	**+0.9**
	comp=E,74nm,2.5s							
MAW	**Mawson**	**83.47**	**164**		P	**P**	**11 35 40.3**	**-1.5**
MAW	**Mawson**	**83.47**	**164**		P	**P**	**11 35 40.3**	**-1.5**
	comp=E,4.8nm,0.8s,baz=228,slow=7.2,SNR=7.8							
BOSA	**Boshof**	**84.09**	**118**		P	**P**	**11 35 44.7**	**-1.3**
BOSA	**Boshof**	**84.09**	**118**		P	**P**	**11 35 44.7**	**-1.3**
	comp=E,2.6nm,0.8s,baz=5.1,slow=17,SNR=3.6							
YKA	**Yellowknife Ar**	**91.97**	**341**		P	**P**	**11 36 22.1**	**-0.5**
YKA					pP	**pP**	**11 36 32.8**	**-0.1**
YKA	**Yellowknife Ar**	**91.97**	**341**		P	**P**	**11 36 22.1**	**-0.5**
	comp=E,1.2nm,0.7s,baz=137,slow=4.5,SNR=8.4							
YKA					pP	**pP**	**11 36 32.8**	**-0.1**
	comp=E,0.6nm,0.7s,baz=135,slow=4.9,SNR=3.8							
H11S2	**WAKE ISLAND Hyl**	**26.60**	**277**		T	T	14 01 38.0	
	baz=108,slow=73,SNR=188							
H11S1	**WAKE ISLAND Hyl**	**26.61**	**277**		T	T	14 01 38.0	
	baz=108,slow=73,SNR=246							
H11S3	**WAKE ISLAND Hyl**	**26.62**	**277**		T	T	14 01 39.4	
	baz=108,slow=73,SNR=234							
H11N3	**WAKE ISLAND Hyl**	**26.72**	**278**		T	T	14 01 50.2	
	baz=108,slow=75,SNR=222							
H11N2	**WAKE ISLAND Hyl**	**26.74**	**278**		T	T	14 01 48.5	
	baz=108,slow=75,SNR=158							
H11N1	**WAKE ISLAND Hyl**	**26.74**	**278**		T	T	14 01 51.1	
	baz=108,slow=75,SNR=174							
AS01	**Alice Springs**	**128.04**	**209**		*e*PKPdf	**PKPdf**	**11 42 20.6**	**-0.7**
ASAR	**Alice Springs**	**128.06**	**209**		PKP	**PKPdf**	**11 42 20.8**	**-0.5**
ASAR	**Alice Springs**	**128.06**	**209**		PKP	**PKPdf**	**11 42 20.8**	**-0.5**
	comp=E,2.0nm,0.8s,baz=135,slow=2.1,SNR=20							
WRA	**Warramunga Arr**	**131.07**	**212**		PKP	**PKPdf**	**11 42 26.9**	**-0.1**
WRA	**Warramunga Arr**	**131.07**	**212**		PKP	**PKPdf**	**11 42 26.9**	**-0.1**
	comp=E,1.8nm,0.9s,baz=152,slow=1.7,SNR=13							
ZAA0	**Zalesovo Array**	**143.76**	**25**		*e*PKPdf	PKPbc	11 42 47.4	+0.6
ZALV	**Zalesovo Beam**	**143.76**	**25**		PKP	PKPbc	11 42 47.0	+0.2
ZALV					pPKP	pPKPdf	11 43 00.1	+0.3
ZALV	**Zalesovo Beam**	**143.76**	**25**		PKP	PKPbc	11 42 47.0	+0.2
	comp=E,1.9nm,0.7s,baz=327,slow=5.2,SNR=8.4							
ZALV					pPKP	pPKPdf	11 43 00.1	+0.3
	comp=E,1.0nm,0.5s,baz=299,slow=2.7,SNR=3.5							
AML	**Almayashu**	**144.51**	**49**		P	**PKPdf**	**11 42 51.0**	**-0.5**
	SNR=9.5							
AAK	**Ala-Archa**	**144.87**	**47**		P	**PKPdf**	**11 42 52.3**	**+0.6**
	SNR=5.1							
AAK	**Ala-Archa**	**144.87**	**47**		*e*PKPdf	**PKPdf**	**11 42 51.7**	**-0.1**
UCH	**Uchtor**	**145.04**	**48**		P	**PKPdf**	**11 42 52.9**	**+0.4**
	SNR=8.2							
TKM2	**Tokmak 2**	**145.49**	**46**		P	**PKPab**	**11 42 53.9**	**+0.6**
	SNR=5.5							
ULHL	**Ulahol**	**146.21**	**47**		P	**PKPbc**	**11 42 55.1**	**-0.1**
	SNR=5.4							
KSH	**Kashi**	**147.06**	**52**		PKPbc	**PKPdf**	**11 42 56.2**	**+0.7**
KSH					pPKP	**pPKPdf**	**11 43 07.4**	**+1.3**
KSH					sPKP		11 43 10.9	
KSH					SKS	**SKSdf**	**11 49 59.1**	**-3.0**
KSH					SKKS	**SKKSac**	**11 53 12.1**	**-0.2**
KSH					SS	**SS**	**12 05 22.2**	**+0.4**
KSH					AMB	AMB		
	comp=E,310nm,6.8s							
KSH					LR	LR		
	comp=E,220nm,5.0s							
KSH					LR	LR		
	comp=E,410nm,6.7s							
KSH					LR	LR		
	comp=E,330nm,5.6s							
MKAR	**Makanchi Array**	**147.56**	**36**		*e*PKPdf	**PKPdf**	**11 42 55.2**	**-0.8**
MKAR					*e*PKPbc	**PKPbc**	**11 42 58.4**	**-0.3**
MKAR					pPKPbc	**pPKPbc**	**11 43 08.2**	**-0.9**
MKAR	**Makanchi Array**	**147.56**	**36**		PKPbc	**PKPdf**	**11 42 55.9**	**-0.2**
	comp=E,2.7nm,0.7s,baz=329,slow=2.6,SNR=23							
MKAR					pPKPbc	**pPKPbc**	**11 43 08.2**	**-0.9**
	comp=E,2.6nm,0.8s,baz=336,slow=2.7,SNR=10							
MK01	**Makanchi Array**	**147.57**	**36**		*e*PKPdf	**PKPdf**	**11 42 55.8**	**-0.3**
MK01					*e*PKPbc	**PKPbc**	**11 42 58.7**	**0.0**
USRK	**Ussuriysk Arra**	**151.80**	**324**		PKPbc	**PKPbc**	**11 43 07.2**	**-1.9**
	comp=E,3.8nm,0.8s,baz=29,slow=3.1,SNR=9.0							
WMQ	**Urumqi**	**152.38**	**36**		PKPbc	**PKPdf**	**11 43 04.7**	**+0.9**
SONM	**Songino Array**	**154.93**	**5**		PKP	**PKPdf**	**11 43 06.8**	**-0.6**
SONM					PKPab	**PKPab**	**11 43 30.9**	**-0.5**
SONM	**Songino Array**	**154.93**	**5**		PKP	**PKPdf**	**11 43 06.8**	**-0.6**
	comp=E,0.4nm,0.8s,baz=204,slow=3.2,SNR=2.8							
SONM					PKPab	**PKPab**	**11 43 30.9**	**-0.5**
	comp=E,0.7nm,0.8s,baz=276,slow=1.3,SNR=4.0							
CN2	**Changchun**	**155.30**	**332**		*e*PKP	**PKPdf**	**11 43 08.5**	**+0.7**
GTA	**Gaotai**	**161.52**	**24**		*e*PKP	**PKPdf**	**11 43 16.8**	**+1.2**
GTA					pPKP	**pPKPdf**	**11 43 27.6**	**+1.4**
GTA					sPKP		11 43 31.2	
HHC	**Hu-ho-hao-te**	**161.95**	**355**		*e*PKP	**PKPdf**	**11 43 15.4**	**-0.6**
HHC					sPKP		11 43 30.2	
HHC					PKS	**PKSdf**	**11 46 48.1**	**-1.1**
HHC					PP	**PP**	**11 47 49.0**	**+4.2**
HHC					SKS	**SKSdf**	**11 50 15.8**	**-2.9**
HHC					SKKS	**SKKSac**	**11 54 33.1**	**+1.3**
HHC					AMB	AMB		
	comp=E,110nm,9.7s							
HHC					LR	LR		
	comp=E,340nm,21.8s							
HHC					LR	LR		
	comp=E,230nm,21.2s							
HHC					LR	LR		
	comp=E,290nm,22.0s							
NJ2	**Nanjing**	**167.64**	**320**		*e*PKP	**PKPdf**	**11 43 21.4**	**+0.4**
CD2	**Chengdu**	**170.45**	**31**		*e*PKP	**PKPdf**	**11 43 22.1**	**-0.8**
GYA	**Guiyang**	**175.55**	**35**		*e*PKP	**PKPdf**	**11 43 24.0**	**-1.2**
GYA					sPKP		11 43 41.7	
GYA					PKPab	**PKPab**	**11 45 04.5**	**+2.0**
GYA					PKS	**PKSdf**	**11 46 55.0**	**-2.6**
GYA					PP	**PP**	**11 48 56.9**	**+2.4**
GYA					AMB	AMB		
	comp=E,90nm,8.2s							

WEL 02 11:24:07.9±0.2, 45.04S×167.40E, h111km±2km, ML3.5/11, 5C, Error ellipse: s-maj=1.8km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.47**	**201**	PN	Pn	11 24 24.4	-0.2
DCZ				SN	Sn	11 24 36.9	-0.3
DCZ				AML	AML	11 24 37.4	
DCZ				AML	AML	11 24 37.6	
DCZ				AML	AML	11 24 37.6	
MSZ	**Milford Sound**	**0.53**	**46**	PN	Pn	11 24 25.3	+0.3
MSZ				SN	Sn	11 24 37.7	-0.3
MSZ				AML	AML	11 24 39.0	
MSZ				AML	AML	11 24 39.0	
MSZ				AML	AML	11 24 39.1	
MLZ	**Mavora Lakes**	**0.63**	**119**	PN	Pn	11 24 25.6	-0.3
MLZ				SN	Sn	11 24 38.4	-1.0
MLZ				AML	AML	11 24 39.4	
WHZ	**Wether Hill Ro**	**0.94**	**156**	⇑PN	Pn	11 24 28.5	0.0
WHZ				SN	Sn	11 24 43.7	-0.4
WHZ				AML	AML	11 24 43.9	
WKZ	**Wanaka**	**1.17**	**80**	⇑PN	Pn	11 24 31.0	-0.1
WKZ				SN	Sn	11 24 47.8	-0.8
PYZ	**Puysegur Point**	**1.23**	**204**	PN	Pn	11 24 31.8	+0.1
EAZ	**Earnscleugh**	**1.37**	**99**	⇑PN	Pn	11 24 32.9	-0.3
EAZ				AML	AML	11 24 51.2	
EAZ				AML	AML	11 24 51.2	
EAZ				AML	AML	11 24 51.4	
EAZ				AML	AML	11 24 51.4	
JCZ	**Jackson Bay**	**1.37**	**46**	PN	Pn	11 24 32.9	-0.5
JCZ				AML	AML	11 24 54.2	
JCZ				AML	AML	11 24 54.3	
TUZ	**Tuapeka**	**1.82**	**121**	PN	Pn	11 24 38.3	-0.3
TUZ				AML	AML	11 25 01.1	
TUZ				AML	AML	11 25 01.5	
APZ	**The Paps**	**1.84**	**167**	PN	Pn	11 24 38.7	-0.3
APZ				AML	AML	11 25 03.0	
SYZ	**Scrubby Hill**	**1.93**	**141**	PN	Pn	11 24 39.9	-0.1
SYZ				AML	AML	11 25 03.4	
SYZ				AML	AML	11 25 03.4	
SYZ				AML	AML	11 25 03.6	
SYZ				AML	AML	11 25 03.6	
LBZ	**Lake Benmore**	**2.09**	**73**	⇑PN	Pn	11 24 40.5	-1.7
FOZ	**Fox Glacier**	**2.21**	**49**	PN	Pn	11 24 43.2	-0.4
ODZ	**Otahua Downs**	**2.30**	**91**	PN	Pn	11 24 43.5	-1.3
HHSZ	**Highcliff Hill**	**2.41**	**112**	⇑PN	Pn	11 24 45.6	-0.5
RPZ	**Rata Peaks**	**2.94**	**64**	PN	Pn	11 24 51.6	-1.6
WVZ	**Waitaha Valley**	**3.11**	**52**	PN	Pn	11 24 53.1	-2.3
OXZ	**Oxford**	**3.75**	**64**	PN	Pn	11 25 02.5	-1.5

*IDC **02** 11:26:30.6±9.4, 0.°16N×124.°74E, h62km±85km, mb3.1/3, mb1 3.5/4, mb1mx3.2/22, mbtmp3.4/4, ML3.8/1, Error ellipse: s-maj=101.9km s-min=23.2km az=56.0*

*DJA **02** 11:26:32.3±1.0, 0°N±10°×12°5E±°, h27km±15km, M4.3/5, MLv4.3/5*

ISC 02 11:26:31.9±1.2, 0°.1N±0°.1×124°.85E±0°.07, h53km, n11, σ1§81/10, mb3.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.00**	**300**	P	**Pn**	**11 26 50.2**	**+0.5**
KMSI				S	**Sn**	**11 27 04.2**	**+1.4**
GTOI	**Gorontalo**	**1.92**	**287**	P	Pn	11 27 06.6	+4.4
LUWI	**Luwuk**	**2.35**	**242**	P	**Pn**	**11 27 11.2**	**+3.1**
LBMI	**Labuha**	**2.75**	**105**	P	**Pn**	**11 27 15.1**	**+1.5**
MRSI	**Marisa**	**2.93**	**278**	P	**Pn**	**11 27 16.5**	**+0.4**
APSI	**Ampana**	**3.34**	**253**	P	Pn	11 27 26.4	+4.7
NLAI	**Namlea**	**3.99**	**146**	P	**Pn**	**11 27 31.7**	**+1.1**
KAPI	**Kappang**	**7.17**	**225**	P	**Pn**	**11 28 13.4**	**-0.9**
	1.7nm,0.3s,baz=64,slow=14,SNR=5.2						
KAPI				S	Sn	11 29 12.4	-22
	2.3nm,0.3s,baz=218,slow=18,SNR=6.9						
WRA	**Warramunga Arr**	**21.96**	**155**	P	**P**	**11 31 20.9**	**-0.5**
	0.4nm,0.3s,baz=332,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.19**	**160**	P	**P**	**11 31 50.9**	**-1.8**
	0.3nm,0.5s,baz=336,slow=6.6,SNR=10						
ASAR				PcP	**PcP**	**11 35 23.9**	**-1.7**
	0.2nm,0.4s,baz=348,slow=1.9,SNR=8.5						
MKAR	**Makanchi Array**	**59.53**	**327**	P	P	11 36 26.4	-3.5
	0.3nm,0.3s,baz=126,slow=7.8,SNR=11						

MAN 02 11:46:07.9±1.1N×125.°58E, h20km, mb4.0, ML2.8, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.12**	**307**⇓	*e*P	Pb	11 46 13.7	+2.6
SCPH				*e*S	Sb	11 46 19.9	+6.0
BUTP	**Butuan**	**0.74**	**177**	*e*P	Pb	11 46 21.4	+0.2
BUTP				*e*S	Sb	11 46 31.9	+1.0
BUKP	**Musuan**	**1.89**	**196**	*e*P	Pb	11 46 40.5	-0.5
BUKP				*e*S	Sb	11 47 03.3	-1.0
PAGZ	**Pagadian**	**2.86**	**230**	*e*P	Pn	11 46 53.1	+1.6

*NEIC **02** 11:46:17.8±0.4, 13.°51N×90.°63W, h35km, mb4.8/60, MD5.3(SNET), Error ellipse: s-maj=10.0km s-min=5.7km az=220.0*

NEIC Felt [IV] at Santa Catarina Pinula, [III] at Guatemala and [II] at Antigua Guatemala. Also felt at Chimaltenango, Ciudad Vieja, Jocotenango, Mixco, Panajachel, Salcaja, San Jose and Villa Canales. Felt [IV] at San Salvador, El Salvador. Also felt at Antiguo Cuscatlan.

*MEX **02** 11:46:18.8±0.4, 13.°53N×90.°77W, h87km±11km, MD4.7*

*CASC **02** 11:46:19.1±1.6, 13.°46N×90.°72W, h18km±7km, MD4.6, ML5.1, mb4.8(NEIC)*

*IDC **02** 11:46:19.3±0.7, 13.°50N×90.°44W, h62km±5km, mb4.2/18, mb1 4.3/19, mb1mx4.2/29, mbtmp4.5/19, MS4.3/22, Ms1 4.3/22, ms1mx4.1/33, Error ellipse: s-maj=18.3km s-min=8.8km az=77.0*

*ISCJB **02** 11:46:19.8±0.4, 13.°59N±0.°03×90.°67W±0.°03, h65km±3km, mb4.6/75, Error ellipse: s-maj=6.6km s-min=3.0km az=42.8*

*GCMT **02** 11:46:21.6±0.2, 13.°51N×90.°89W, h37km, MW5.1, Moment Tensor Solution. s52,c70; s91,c134; Moment tensor: Scale 10¹⁶Nm; Mrr2.60±.18; Mθθ-4.52±.13; Mϕϕ1.92±.13; Mrθ-1.86±.12; Mθϕ-2.06±.10; Mϕr2.47±.13; Best double couple: M₀5.40000×10¹⁶ NP1:ϕ289.00000°, δ67.00000°, λ138.00000°. NP2:ϕ39.00000°, δ52.00000°, λ30.00000°. Principal axes: T 5.5100, Plg46.0000°, Azm248.0000°; N -0.2200, Plg43.0000°, Azm86.0000°; P -5.3000, Plg9.0000°, Azm347.0000°; Data Used: II IU IC CU G CN.*

*BJI **02** 11:46:26.4, 13.°70N×90.°40W, h98km, mB5.1/3*

ISC 02 11:46:19.5±0.5, 13.°48N±0.°04×90.°78W±0.°04, h57km±4km, n295, σ1§62/314, mb4.7/76, MS4.4/21, 31C-27D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.92**	**10**⇓	*i*P	**Pn**	**11 46 36.2**	**-0.5**
SONS	**Sonsonate**	**1.06**	**76**	*e*P	**Pn**	**11 46 37.2**	**-1.1**
SONS				*e*S	**Sn**	**11 46 52.0**	**-0.4**
GCG	**Guatemala City**	**1.12**	**12**	*e*P	**Pn**	**11 46 40.7**	**+1.4**
GCG				*e*S	**Sn**	**11 46 59.1**	**+5.2**
NBG	**Las Nubes**	**1.17**	**21**	*e*P	**Pn**	**11 46 40.7**	**+0.6**
JAT	**Jato**	**1.18**	**315**⇓	*i*P	**Pn**	**11 46 39.3**	**-0.5**
RTR	**El Retiro**	**1.18**	**69**⇑	*i*P	**Pn**	**11 46 39.4**	**-0.6**
SBLS	**San Blas**	**1.18**	**72**⇑	*i*P	**Pn**	**11 46 39.2**	**-0.9**
SNJE	**San Jose**	**1.20**	**71**⇑	*i*P	**Pn**	**11 46 39.6**	**-0.8**
RBDL	**Robledal**	**1.23**	**59**⇑	*i*P	**Pn**	**11 46 40.4**	**-0.4**
BOQS	**Boqueron**	**1.48**	**80**⇑	*i*P	**Pn**	**11 46 44.1**	**0.0**
SNET	**Serv Nac Est T**	**1.52**	**82**	*i*P	**Pn**	**11 46 44.3**	**-0.2**
SNET				*e*S	**Sn**	**11 47 04.0**	**+0.7**
SNET				AML	AML	11 47 10.9	
	comp=E,46µm,0.5s						
APG	**El Apazote**	**1.54**	**11**	P	**Pn**	**11 46 43.4**	**-1.6**
APG				S	**Sn**	**11 47 04.0**	**0.0**
APG	**El Apazote**	**1.54**	**11**	P	**Pn**	**11 46 43.4**	**-1.6**
	comp=Z,3µm,0.3s,baz=172,slow=7.3,SNR=6135						
APG				S	**Sn**	**11 47 04.0**	**0.0**
	comp=Z,1µm,0.3s,baz=273,slow=16,SNR=4.5						
LFRS	**El Faro**	**1.68**	**85**	*i*P	**Pn**	**11 46 46.7**	**+0.1**
LBRS	**Las Brisas**	**1.71**	**81**	*i*P	**Pn**	**11 46 47.6**	**+0.5**
SNVI	**San Vicente**	**1.89**	**86**	*i*P	**Pn**	**11 46 50.1**	**+0.5**
MRL	**Marmol**	**1.89**	**34**‖	*e*P	**Pn**	**11 46 51.1**	**+1.4**
THIG		**2.02**	**315**	*e*P	**Pn**	**11 46 49.6**	**-1.6**
THIG				*i*S	**Sn**	**11 47 14.3**	**-1.1**
VSM	**San Miguel**	**2.44**	**91**	*e*P	**Pn**	**11 46 58.6**	**+1.4**
CAHU	**Cacacuatique**	**2.51**	**83**	*i*P	**Pn**	**11 46 58.4**	**+0.2**
CNCH	**Conchagua**	**2.87**	**94**	*i*P	**Pn**	**11 47 03.3**	**+0.3**
CNCH				*e*S	**Sn**	**11 47 39.0**	**+2.5**
PCIG		**3.23**	**313**	*e*P	**Pn**	**11 47 06.2**	**-1.6**
PCIG				*i*S	**Sn**	**11 47 42.5**	**-2.7**
TGUH	**Tegucigalpa,Un**	**3.45**	**80**	*e*Pn	**Pn**	**11 47 11.2**	**+0.3**
COPN	**Copaltepe**	**4.29**	**107**	*i*P	**Pn**	**11 47 21.9**	**-0.4**
HUEN		**4.63**	**104**	*i*P	**Pn**	**11 47 28.1**	**+1.0**
HUEN				*e*S	**Sn**	**11 48 20.2**	**+0.6**
SCIG	**Sabancuy**	**5.47**	**356**	*e*P	**Pn**	**11 47 36.8**	**-1.7**
SCIG				*i*S	**Sn**	**11 48 37.8**	**-2.2**
HUIG	**Huatulco**	**5.63**	**294**	*e*P	**Pn**	**11 47 40.1**	**-0.7**
HUIG				*i*S	**Sn**	**11 48 41.7**	**-2.5**
TUIG	**Tuzandepetl**	**5.72**	**323**	*e*P	**Pn**	**11 47 40.4**	**-1.6**
TUIG				*i*S	**Sn**	**11 48 44.0**	**-2.4**
GBS2	**Las Lilas**	**5.83**	**116**	*i*P	**Pn**	**11 47 44.7**	**+1.1**
GBS2				*i*S	**Sn**	**11 48 48.1**	**-1.1**
NY14	**Universidad de**	**5.85**	**118**	*i*P	**Pn**	**11 47 45.4**	**+1.6**
GB1A	**Borinquen Arri**	**5.89**	**116**	*i*P	**Pn**	**11 47 45.3**	**+0.9**
BUEV	**Buena Vista**	**5.89**	**116**	*i*P	**Pn**	**11 47 45.5**	**+1.1**
VCR	**Vista de Mar**	**6.04**	**123**	*e*P	**Pn**	**11 47 47.4**	**+0.9**
LIM1	**Limonal**	**6.07**	**117**	*i*P	**Pn**	**11 47 47.2**	**+0.4**
PTEN	**Parque Tenorio**	**6.30**	**115**	*i*P	**Pn**	**11 47 50.5**	**+0.6**
AMAS	**Alto Masis**	**6.34**	**116**	*i*P	**Pn**	**11 47 51.5**	**+1.0**
JTS	**JuntasAbangare**	**6.53**	**118**	P	**Pn**	**11 47 53.1**	**0.0**
JTS				S	**Sn**	**11 49 05.7**	**-0.4**
JTS	**JuntasAbangare**	**6.53**	**118**	P	**Pn**	**11 47 53.1**	**0.0**
	comp=Z,24nm,0.3s,baz=324,slow=9.7,SNR=111						
JTS				S	**Sn**	**11 49 05.7**	**-0.4**
	comp=Z,24nm,0.3s,baz=166,slow=22,SNR=6.7						
JCR	**Jicaral**	**6.62**	**122**	*e*P	**Pn**	**11 47 55.8**	**+1.4**
VHO	**Vista Hermosa**	**6.76**	**303**	*e*P	**Pn**	**11 47 55.3**	**-1.1**
VHO				*i*S	**Sn**	**11 49 09.1**	**-3.1**
CGA2	**Cerro Gallo 2**	**7.08**	**118**	*e*P	**Pn**	**11 48 03.1**	**+2.4**
TEIG	**Tepich**	**7.12**	**19**	P	**Pn**	**11 48 01.0**	**-0.1**
TEIG				*e*Sn	**Sn**	**11 49 18.4**	**-2.3**
TEIG	**Tepich**	**7.12**	**19**	P	**Pn**	**11 48 01.0**	**-0.1**
	comp=Z,81nm,0.3s,baz=119,slow=2.5,SNR=188						
TEIG				LR	LR	11 51 07.3	
	comp=Z,3µm,20.8s,baz=59,slow=41						
QCR	**Quepos**	**7.64**	**121**⇓	*e*P	**Pn**	**11 48 09.8**	**+1.6**
PNIG	**Pinotepa**	**7.67**	**293**	*e*P	**Pn**	**11 48 07.8**	**-0.8**
PNIG				*e*S	**Sn**	**11 49 30.4**	**-3.7**
URSC	**Urasca**	**7.76**	**117**	*e*P	**Pn**	**11 48 12.1**	**+2.1**
BUS	**Buena Vista**	**7.91**	**119**⇑	*e*P	**Pn**	**11 48 14.5**	**+2.1**
TPIG	**Tehuac#an**	**8.01**	**309**	*e*P	**Pn**	**11 48 11.8**	**-1.7**
TPIG				*e*S	**Sn**	**11 49 40.2**	**-2.6**
UTMO	**Huajuapan**	**8.03**	**303**	*i*P	**Pn**	**11 48 14.8**	**+1.0**
UTMO				*i*S	**Sn**	**11 49 40.8**	**-2.5**
ICCO	**Coco Island**	**8.70**	**155**⇑	*i*P	**Pn**	**11 48 25.7**	**+2.9**
ACR	**Cerro Adams**	**8.88**	**122**	*e*P	**Pn**	**11 48 28.3**	**+3.0**
BRU2	**Volcan**	**9.20**	**120**‖

GLA	Glamis	29.32	316	⇓P		P	11 52 18.5	+1.6
	baz=30							
JFWS	Jewell Farm	29.33	1	*e*P		P	11 52 15.8	-1.0
PV04	Paradox Valley	29.57	330	*e*P		P	11 52 20.2	+1.0
PDMCI	Parker Dam,Lak	29.62	318	⇓P		P	11 52 21.6	+2.0
	baz=30,SNR=8.3							
SWSC	Sam W. Stewart	29.93	315	⇑P		P	11 52 24.3	+2.1
	baz=30							
BC3	Big Chuckawall	30.10	316	⇓P		P	11 52 26.1	+2.2
	baz=30,SNR=15							
IRM	Iron Mountain	30.20	317	⇑P		P	11 52 27.0	+2.3
	baz=30,SNR=9.6							
MONP	Monument Peak	30.33	314	⇑P		P	11 52 28.3	+2.2
	baz=30							
ECSD	EROS Data Cent	30.56	352	*e*P		P	11 52 27.0	-0.7
	comp=Z,10nm,0.8s							
BELC	Belle Mtn. Jos	30.67	316	⇑P		P	11 52 31.1	+2.2
	baz=31,SNR=7.1							
LDFC	Landfair	30.73	319	*e*P		P	11 52 32.6	+3.2
	comp=Z,32nm,0.7s							
LDFC				*e*ScP		ScP	11 59 09.2	+5.1
PFO	Pinyon Flat Ob	30.76	315	P		P	11 52 31.4	+1.6
PFO	Pinyon Flat Ob	30.76	315	⇓P		P	11 52 32.1	+2.4
	baz=31							
PFO	Pinyon Flat Ob	30.76	315	P		P	11 52 31.4	+1.6
	comp=Z,5.0nm,0.9s,baz=204,slow=0.1,SNR=4.7							
PFO				LR		LR	12 06 59.7	
	comp=Z,571nm,18.3s,baz=128,slow=40							
GMRC	Granite Mounta	30.91	318	⇑P		P	11 52 33.0	+2.0
	baz=31,SNR=12							
SRU	San Rafael	30.92	329	*e*P		P	11 52 33.1	+2.0
	comp=Z,70nm,2.4s							
CCUT	Cedar City	31.30	324	*e*P		P	11 52 37.1	+2.5
	comp=Z,14nm,0.8s							
CCUT				*e*PcP		PcP	11 55 29.6	+1.8
HEC	Hector,Ludlow	31.38	317	⇓P		P	11 52 37.7	+2.6
	baz=32,SNR=8.0							
TMUT	Trail Mountain	31.40	329	*e*P		P	11 52 37.8	+2.2
BBRC	Big Bear Solar	31.45	316	⇑P		P	11 52 38.6	+2.7
	baz=32,SNR=8.2							
TUQ	Turquoise Moun	31.48	318	⇓P		P	11 52 38.4	+2.3
	baz=32,SNR=6.7							
ARUT	Antelope Range	31.50	324	*e*P		P	11 52 38.5	+2.2
	comp=Z,20nm,0.7s							
SHPR	Sheep Range	31.67	321	*e*P		P	11 52 39.5	+1.7
SHPR				*e*PcP		PcP	11 55 30.8	+2.1
BFSC	Mount Baldy Ra	31.94	315	⇑P		P	11 52 42.0	+1.8
	baz=32							
GSC	Goldstone	31.97	317	⇓P		P	11 52 42.1	+1.8
	baz=32							
SHOC	Shoshone	31.99	319	⇓P		P	11 52 42.6	+2.1
	baz=32,SNR=5.3							
MPU	Maple Canyon	32.16	329	*e*P		P	11 52 43.0	+0.9
	comp=Z,7.1nm,0.8s							
DAU	Daniels Canyon	32.28	330	*e*P		P	11 52 45.6	+2.3
	comp=Z,0.8nm,1.2s							
JLU	Jordanelle	32.52	330	*e*P		P	11 52 46.5	+1.3
EDW2	Edwards Air Fo	32.52	316	⇓P		P	11 52 47.1	+1.9
	baz=33,SNR=5.8							
TPNV	Topopah Spring	32.62	320	*e*P		P	11 52 49.2	+3.1
	comp=Z,39nm,1.8s							
TPNV	Topopah Spring	32.62	320	⇓P		P	11 52 48.6	+2.5
	baz=33,SNR=7.2							
LRMC	Laurel Mountai	32.66	317	⇓P		P	11 52 48.3	+1.8
	baz=33,SNR=6.3							
FURC	Furnace Creek,	32.71	319	⇑P		P	11 52 48.6	+2.0
	baz=33,SNR=6.5							
SADO	Sadowa	32.72	15	P		P	11 52 44.8	-1.8
SADO	Sadowa	32.72	15	P		P	11 52 44.8	-1.8
	comp=Z,6.6nm,0.6s,baz=254,slow=8.0,SNR=10							
DUG	Dugway	32.90	328	*e*P		P	11 52 50.4	+1.9
	comp=Z,21nm,1.8s							
DUG	Dugway	32.90	328	⇑P		P	11 52 49.8	+1.3
	baz=33							
ARVC	Arvin	33.23	315	⇑P		P	11 52 53.6	+2.3
	baz=33,SNR=7.8							
ISA	Isabella	33.29	316	*e*P		P	11 52 54.2	+2.3
	comp=Z,5.9nm,1.8s							
ISA	Isabella	33.29	316	⇓P		P	11 52 53.8	+1.9
	baz=33,SNR=6.8							
PDAR	Pinedale Array	33.39	334	P		P	11 52 51.5	-1.2
PDAR	Pinedale Array	33.39	334	P		P	11 52 51.5	-1.2
	comp=Z,1.0nm,0.5s,baz=140,slow=9.3,SNR=11							
CWC	Cottonwood Cre	33.48	318	⇓P		P	11 52 55.1	+1.5
	baz=34							
BGU	Big Grassy Mou	33.55	329	*e*P		P	11 52 55.7	+1.6
PTGA	Pitinga	33.65	112	*e*P		P	11 52 46.3	-8.8
	comp=Z,38nm,1.7s							
PKM	Peak Mountain	33.79	314	⇓P		P	11 52 58.2	+1.8
	baz=34							
SMMC	Simmler	34.14	315	⇓P		P	11 53 01.2	+2.0
	baz=34							
RCTC	Rector, Farmer	34.17	317	⇑P		P	11 53 01.8	+2.4
	baz=34,SNR=7.7							
MTUM	Tungsten Hills	34.33	319	*e*P		P	11 53 04.3	+3.3
REDW	Red Top Meadow	34.42	334	*e*P		P	11 53 02.2	+0.4
	comp=Z,16nm,1.1s							
PTRM	Twissleman Ran	34.47	315	*e*P		P	11 53 06.2	+4.1
LOHW	Long Hollow	34.52	334	*e*P		P	11 53 02.7	+0.2
TPAW	Teton Pass	34.57	334	*e*P		P	11 53 03.8	+0.7
ELK	Elko	34.57	326	*e*P		P	11 53 04.3	+1.2
	comp=Z,5.7nm,0.7s							
MLAC	Mammoth Lakes	34.67	319	⇑P		P	11 53 05.7	+1.7
	baz=35							
MOOW	Moose Ponds	34.69	334	*e*P		P	11 53 04.1	+0.1
FXWY	Fox Creek	34.72	334	*e*P		P	11 53 05.4	+1.1
	comp=Z,28nm,1.9s							
NV11	Mina Array Sit	34.73	321	*e*P		P	11 53 07.2	+2.9
NV11				*e*PcP		PcP	11 55 38.1	+0.9
NVAR	Mina Array Bea	34.82	321	P		P	11 53 07.2	+1.9
NVAR	Mina Array Bea	34.82	321	P		P	11 53 07.2	+1.9
	comp=Z,22nm,0.6s,baz=132,slow=8.1,SNR=125							
IMW	Indian Meadow	34.89	334	*e*P		P	11 53 06.1	+0.2
	comp=Z,91nm,3.0s							
FLWY	Flagg Ranch	34.94	335	*e*P		P	11 53 07.1	+0.9
AGMN	Agassiz Nation	34.97	354	*e*P		P	11 53 04.0	-2.1
	comp=Z,222nm,2.6s							
SAML	Samuel	35.32	128	*e*P		P	11 53 08.3	-1.2
	comp=Z,14nm,0.8s							
WAKR	Walker	35.57	320	*e*P		P	11 53 13.6	+1.9
SAO	San Andreas Ge	35.90	316	*e*P		P	11 53 17.0	+2.7
HLID	Hailey	36.20	330	*e*P		P	11 53 17.6	+0.6
	comp=Z,7.0nm,1.2s							
HLID				*e*PcP		PcP	11 55 43.4	+2.0
HLID	Hailey	36.20	330	⇓P		P	11 53 17.6	+0.6
	baz=36,SNR=7.6							
PAHR	Pah Rah Range	36.27	321	*e*P		P	11 53 19.0	+1.5
	comp=Z,10nm,0.8s							
MCMT	McKenzie Canyo	36.46	333	*e*P		P	11 53 20.6	+1.4
	comp=Z,5.5nm,0.6s							
BOZ	Bozeman (W)	36.60	335	*e*P		P	11 53 20.6	+0.3
	comp=Z,22nm,1.8s							
DGMT	Dagmar	36.62	345	⇑P		P	11 53 20.3	0.0
	baz=37							
DLMT	Dillon	36.77	334	*e*P		P	11 53 22.5	+0.7
	comp=Z,146nm,3.0s							
MFID	Camas Ranch	36.79	329	*e*P		P	11 53 23.6	+1.6
ULM	Lac du Bonnet	36.90	355	P		P	11 53 20.8	-1.8
ULM	Lac du Bonnet	36.90	355	P		P	11 53 20.8	-1.8
	comp=Z,5.2nm,0.5s,baz=174,slow=10,SNR=5.8							
BEKR	Beckworth	36.96	321	*e*P		P	11 53 25.8	+2.3
	comp=Z,10nm,0.9s							
LRM	Limekiln Ridge	37.08	335	*e*P		P	11 53 24.1	-0.4
LPAZ	La Paz	37.10	142	LR		LR	12 08 54.1	
	comp=Z,379nm,21.1s,baz=35,slow=37							
OHCM	Honcut	37.35	319	*e*P		P	11 53 29.6	+3.1
EGMT	Eagleton	37.88	339	*e*P		P	11 53 31.4	+0.3
EGMT	Eagleton	37.88	339	⇓P		P	11 53 31.3	+0.3
	baz=38							
J08A	Circle Bar Ran	38.12	327	*e*P		P	11 53 34.0	+0.8
	comp=Z,23nm,0.6s							
MOD	Modoc	38.18	323	*e*P		P	11 53 34.8	+1.1
	comp=Z,9.5nm,0.6s							
MSO	Missoula	38.51	334	*e*P		P	11 53 36.9	+0.5
MSO	Missoula	38.51	334	⇑P		P	11 53 36.7	+0.3
	baz=39							
BMO	Blue Mountains	38.56	329	*e*P		P	11 53 36.2	-0.6
	comp=Z,62nm,2.6s							
SLMT	Seeley Lake	38.65	335	*e*P		P	11 53 36.5	-1.1
WDC	Whiskeytown Da	38.73	320	*e*P		P	11 53 38.3	+0.1
KCPM	Cahto Peak	38.89	318	*e*P		P	11 53 41.9	+2.2
	comp=Z,4.7nm,0.6s							
KIPM	Iron Peak	38.89	318	*e*P		P	11 53 41.8	+2.0
	comp=Z,28nm,0.9s							
M04C	Macdoel	39.01	322	⇑P		P	11 53 41.7	+1.0
	baz=39							
K05A	Summer Lake	39.04	324	*e*P		P	11 53 42.9	+1.9
N02D	Trinity Center	39.06	321	⇑P		P	11 53 42.1	+1.0
	baz=39							
I07A	Izee	39.16	327	*e*P		P	11 53 43.1	+1.2
F10A	Beach Ranch, E	39.33	331	*e*P		P	11 53 43.4	+0.1
M02C	Callahan	39.39	321	⇑P		P	11 53 44.7	+0.9
	baz=40							
YBH	Yreka Blue Hor	39.50	322	*e*P		P	11 53 45.1	+0.3
	comp=Z,6.2nm,0.6s							
BUOR	Burton Butte	39.55	323	P		P	11 53 46.8	+1.5
J05D	Fort Rock, OR	39.59	324	⇑P		P	11 53 46.5	+1.0
	baz=40							
KHMM	Horse Mountain	39.64	320	*e*P		P	11 53 47.9	+1.9
	comp=Z,31nm,1.0s							
G08A	Pilot Rock	39.70	329	*e*P		P	11 53 48.0	+1.6
J04D	Umpqua Nationa	40.06	324	⇓P		P	11 53 50.9	+1.4
	baz=40							
KRMB	Red Mountain	40.12	320	*e*P		P	11 53 51.3	+1.4
	comp=Z,12nm,0.8s							
E09A	Wood Farm, Sta	40.16	331	*e*P		P	11 53 50.8	+0.7
HUMO	Hull Mountain	40.17	322	*e*P		P	11 53 50.8	+0.6
	comp=Z,2.9nm,0.7s							
I05D	Terrebonne, OR	40.32	326	⇓P		P	11 53 52.7	+1.2
	baz=40							
I04A	Tendick Farm,	40.57	324	⇓P		P	11 53 54.6	+1.0
	baz=41							
KBO	Bosley Butte	40.70	321	*e*P		P	11 53 54.7	0.0
	comp=Z,171nm,1.3s							
G05D	Wamic, OR	40.89	327	⇓P		P	11 53 58.0	+1.8
	baz=41							
D08A	Wollman Farm,	40.92	331	*e*P		P	11 53 56.9	+0.5
NEW	Newport	40.98	333	*e*P		P	11 53 56.9	+0.1
NEW	Newport	40.98	333	⇑P		P	11 53 57.5	+0.7
	baz=41							
H04A	Detroit Lake	41.01	325	*e*P		P	11 53 57.6	+0.5
VFP	Flag Point	41.02	327	P		P	11 53 58.7	+1.3
E07A	Sunnyside	41.03	329	*e*P		P	11 53 58.8	+1.5
KEBM	Edson Butte	41.15	322	*e*P		P	11 54 01.5	+3.2
C09A	Chrisman Ranch	41.16	332	*e*P		P	11 53 58.9	+0.6
VLL	Laurance Lake	41.23	327	P		P	11 54 01.6	+2.5
SIV	San Ignacio	41.48	134	P		P	11 53 59.1	-2.1
SIV	San Ignacio	41.48	134	P		P	11 53 59.1	-2.1
	comp=Z,2.2nm,0.6s,baz=319,slow=9.3,SNR=6.7							
SIV				LR		LR	12 10 42.7	
	comp=Z,492nm,20.8s,slow=36							
COR	Corvallis	41.57	325	*e*P		P	11 54 04.1	+2.5
LTY	Liberty	41.92	329	*e*P		P	11 54 04.9	+0.3
G03D	McMinnville, O	41.93	325	⇑P		P	11 54 05.8	+1.2
	baz=42							
FFC	Flin Flon	42.07	350	*e*P		P	11 54 04.8	-0.8
	comp=Z,8.8nm,0.7s							
LON	Longmire	42.15	328	*e*P		P	11 54 06.9	+0.5
	comp=Z,7.3nm,0.7s							
CMW	Cultus Mountai	43.43	330	P		P	11 54 16.3	-0.5
EDM	Edmonton	43.51	340	*e*P		P	11 54 15.9	-1.4
	comp=Z,9.6nm,0.6s							
SCHQ	Schefferville	45.30	19	P		P	11 54 28.6	-3.0
SCHQ				pP		pP	11 54 44.3	-2.2
SCHQ	Schefferville	45.30	19	P		P	11 54 28.6	-3.0
	comp=Z,5.7nm,0.5s,baz=250,slow=5.1,SNR=13							
SCHQ				pP		pP	11 54 44.3	-2.2
	comp=Z,11nm,0.8s,baz=200,slow=6.0,SNR=3.5							
SCHQ				LR		LR	12 13 27.7	
	comp=Z,619nm,21.2s,baz=131,slow=36							
CFAA	Coronel Fontan	49.78	155	P		P	11 55 05.6	-1.0
CFAA				pP		pP	11 55 20.8	-0.9
CFAA	Coronel Fontan	49.78	155	P		P	11 55 05.6	-1.0
	comp=Z,0.5nm,0.9s,baz=279,slow=2.2,SNR=4.2							
CFAA				pP		pP	11 55 20.8	-0.9
	comp=Z,0.4nm,0.7s,baz=334,slow=7.4,SNR=3.0							
CPUP	Villa Florida	51.23	141	LR		LR	12 19 12.0	
	comp=Z,198nm,18.8s,baz=312,slow=39							
BDFB	Brasilia	51.25	123	LR		LR	12 19 45.8	
	comp=Z,137nm,21.4s,baz=265,slow=39							
YKA	Yellowknife Ar	51.80	346	P		P	11 55 19.7	-1.7
YKA				pP		pP	11 55 37.0	+0.5
YKA	Yellowknife Ar	51.80	346	P		P	11 55 19.7	-1.7
	comp=Z,1.7nm,0.6s,baz=148,slow=7.9,SNR=17							
YKA				pP		pP	11 55 37.0	+0.5
	comp=Z,6.8nm,1.0s,baz=144,slow=7.9,SNR=7.6							
YKW3	Yellowknife Ar	51.86	346	*e*P		P	11 55 21.9	+0.1
	comp=Z,0.2nm,0.9s							
RKT	Rikitea	56.52	230	*e*LR		LR	12 12 44.3	
	comp=Z,478nm,26.8s,baz=57							
PLCA	Paso Flores	57.11	162	P		P	11 55 59.1	-1.2
PLCA	Paso Flores	57.11	162	P		P	11 55 59.1	-1.2
	comp=Z,3.6nm,0.9s,baz=346,slow=9.7,SNR=3.9							
PLCA				LR		LR	12 16 04.3	
	comp=Z,278nm,18.1s,baz=284,slow=31							
ILAR	Eielson Array	63.78	337	P		P	11 56 44.9	-0.5
ILAR	Eielson Array	63.78	337	P		P	11 56 44.9	-0.5
	comp=Z,1.6nm,0.6s,baz=172,slow=4.5,SNR=27							
ILAR				LR		LR	12 25 48.7	
	comp=Z,260nm,20.1s,baz=39,slow=37							
RSO	Redoubt South	64.68	331	*e*P		P	11 56 52.0	+0.5
	comp=Z,38nm,0.8s							
PPT	Papeete	65.72	244	LR		LR	12 17 44.5	
	comp=Z,272nm,20.8s,baz=18,slow=28							
PPT2	Papeete2	65.72	244	*e*LR		LR	12 16 32.7	
	comp=Z,617nm,26.8s,baz=57							
SUMG	Summit	66.42	15	*i* P		pP	11 57 19.1	+0.6
	comp=Z,5.9nm,0.8s							
TBI	Tubuai	68.07	238	*e*LR		LR	12 17 52.5	
	comp=Z,422nm,27.8s,baz=57							
USHA	Ushuaia	70.64	167	LR		LR	12 22 00.3	
	comp=Z,304nm,18.6s,baz=117,slow=30							
FX1	Attu Island--F	82.99	323	P		P	11 58 39.0	+0.5
FX1	Attu Island--F	82.99	323	P		P	11 58 39.0	+0.5
	comp=Z,14nm,0.7s,baz=135,slow=23,SNR=4.1							
NOA	NORSAR Array B	84.03	29	P		P	11 58 42.8	-1.0
NOA	NORSAR Array B	84.03	29	P		P	11 58 42.8	-1.0
	comp=Z,1.4nm,0.9s,baz=264,slow=6.4,SNR=4.2							
NOA				LR		LR	12 33 60.0	
	comp=Z,115nm,19.0s,baz=295,slow=34							
DBIC	Dimbokro	84.52	84	P		P	11 58 46.0	-1.1
DBIC	Dimbokro	84.52	84	P		P	11 58 46.0	-1.1
	comp=Z,2.9nm,0.7s,baz=270,slow=4.9,SNR=4.6							
DBIC				LR		LR	12 31 34.2	
	comp=Z,121nm,21.0s,baz=268,slow=32							
ARCES	ARCESS Array B	86.25	18	LR		LR	12 38 49.7	
	comp=Z,138nm,18.5s,baz=246,slow=37							
GERES	GERESS Array B	89.24	40	LR		LR	12 34 13.2	
	comp=Z,179nm,21.5s,baz=294,slow=32							
TORD	Torodi Ar. Bea	89.34	77	P		P	11 59 07.0	-3.5
TORD	Torodi Ar. Bea	89.34	77	P		P	11 59 07.0	-3.5
	comp=Z,0.7nm,1.1s,baz=310,slow=7.2,SNR=2.5							
TORD				LR		LR	12 34 52.4	
	comp=Z,139nm,20.6s,baz=275,slow=33							
SEY	Seymchan	89.71	336	P		P	11 59 10.7	-0.6
SEY	Seymchan	89.71	336	P		P	11 59 10.7	-0.6
	comp=Z,3.4nm,0.9s,baz=3.4,slow=21,SNR=6.3							
FINES	FINESS Array B	90.46	25	LR		LR	12 40 25.0	
	comp=Z,190nm,18.2s,baz=199,slow=36							
PETK	Petropavlovsk-	91.74	326	P		P	11 59 21.6	+0.6
PETK	Petropavlovsk-	91.74	326	P		P	11 59 21.6	+0.6
	comp=Z,6.1nm,0.9s,baz=63,slow=8.1,SNR=4.4							
AKASG	Malin Array Be	97.50	34	LR		LR	12 43 08.5	
	comp=Z,129nm,18.2s,baz=275,slow=35							
DZM	Mont Dzumac	106.62	251	*e*LR		LR	12 35 57.3	
	comp=Z,184nm,28.4s							
ZALV	Zalesovo Beam	112.73	3	PKiKP		PKiKP	12 04 48.8	-0.9
ZALV	Zalesovo Beam	112.73	3	PKiKP		PKiKP	12 04 48.8	-0.9
	comp=Z,0.4nm,0.4s,baz=281,slow=1.7,SNR=3.8							
CN2	Changchun	114.10	332	*e*PKP		PKPdf	12 04 56.1	+3.5
KURK	Kurchatov	115.41	7	PKP		PKPdf	12 04 53.8	-1.1
KURBB	Kurchatov Arra	115.48	8	PKP		PKPdf	12 04 53.8	-1.3
	comp=Z,0.6nm,0.6s,baz=346,slow=1.7,SNR=6.8							
SONM	Songino Array	117.06	347	PKP		PKPdf	12 04 57.9	-0.5
SONM				PKKPbc		PKKPbc	12 15 22.6	-2.4
SONM	Songino Array	117.06	347	PKP		PKPdf	12 04 57.9	-0.5
	comp=Z,0.4nm,0.6s,baz=324,slow=1.4,SNR=4.0							
SONM				PKKPbc		PKKPbc	12 15 22.6	-2.4
	comp=Z,0.5nm,0.6s,baz=194,slow=4.9,SNR=3.9							
KSRS	Korea Array	117.64	326	PKP		PKPdf	12 04 59.5	-0.1
	comp=Z,1.2nm,0.6s,baz=5.4,slow=1.6,SNR=6.6							
KSAR	Wonju Array Be	117.67	326	PKP		PKPdf	12 04 59.5	-0.2
BOSA	Boshof	119.06	115	PKP		PKPdf	12 05 01.7	-1.0
BOSA	Boshof	119.06	115	PKP		PKPdf	12 05 01.7	-1.0
	comp=Z,4.2nm,0.9s,baz=341,slow=3.5,SNR=3.7							
MKAR	Makanchi Array	119.68	5	PKP		PKPdf	12 05 02.1	-1.2
MKAR	Makanchi Array	119.68	5	PKP		PKPdf	12 05 02.1	-1.2
	comp=Z,0.4nm,0.6s,baz=264,slow=1.2,SNR=5.3							
HHC	Hu-ho-hao-te	122.11	340	*e*PKP		PKPdf	12 05 09.5	+1.2
HHC				PP		PP	12 06 47.2	+4.9
HHC				PKS		PKSdf	12 08 46.0	+0.9
HHC				SS		SS	12 23 18.0	+1.8
HHC				AMB		AMB		
	comp=Z,200nm,9.0s							
HHC				LR		LR		
	comp=Z,340nm,20.6s							
HHC				LR		LR		
	comp=Z,400nm,20.9s							
HHC				LR		LR		
	comp=Z,300nm,20.9s							
WMQ	Urumqi	122.96	1	PKP		PKPdf	12 05 11.4	+1.6
STKA	Stephens Creek	128.83	240	PKP		PKPdf	12 05 19.5	-1.7
STKA	Stephens Creek	128.83	240	PKP		PKPdf	12 05 19.5	-1.7
	comp=Z,2.3nm,0.9s,baz=14,slow=19,SNR=4.0							
CD2	Chengdu	133.70	343	*e*PKP		PKPdf	12 05 31.5	+0.9
GYA	Guiyang	136.82	337	*e*Pdif		Pdif	12 02 41.2	-1.8
GYA				PKP		PKPdf	12 05 36.8	+0.2
GYA				PP		PP	12 08 21.2	+2.8
GYA				AMB		AMB		
	comp=Z,90nm,7.8s							
FITZ	Fitzroy Crossi	144.70	258	PKPbc		PKPbc	12 05 49.8	0.0
FITZ	Fitzroy Crossi	144.70	258	PKPbc		PKPbc	12 05 49.8	0.0
	comp=Z,7.9nm,0.9s,baz=57,slow=1.8,SNR=11							
CHTO	Chiang Mai	146.51	343	*e*PKPbc		PKPbc	12 05 54.6	-0.7
CM31	Chiang Mai Arr	146.84	343	*e*PKPbc		PKPbc	12 05 56.2	-0.1
CMAR	Chiang Mai Arr	146.84	343	PKPbc		PKPbc	12 05 56.0	-0.3
CMAR				pPKPbc		pPKPbc	12 06 12.7	-0.5
CMAR	Chiang Mai Arr	146.84	343	PKPbc		PKPbc	12 05 56.0	-0.3
	comp=Z,7.8nm,0.6s,baz=341,slow=3.1,SNR=41							
CMAR				pPKPbc		pPKPbc	12 06 12.7	-0.5
	comp=Z,3.6nm,0.6s,baz=339,slow=3.4,SNR=4.9							
PSI	Prapat	161.17	329	PKPab		PKPab	12 06 58.9	+0.7
PSI	Prapat	161.17	329	PKPab		PKPab	12 06 58.9	+0.7
	comp=Z,3.9nm,0.6s,baz=170,slow=16,SNR=3.7							

HEL ***02*** *11:58:50.4±0.8, 60.95N×29.20E, h0km, ML2.0, Explosion*
ISCJB ***02*** *11:58:52.0±1.1, 61.05N±0.03×28.8E±0.1, h0km, Error ellipse: s-maj=7.8km s-min=4.3km az=179.0*
IDC ***02*** *11:58:53.4±1.8, 60.92N×28.85E, h0km, mb1 3.4/3, mb1mx3.1/26, mbtmp3.4/3, ML2.9/3, Error ellipse: s-maj=17.9km s-min=12.8km az=2.0*
CSEM ***02*** *11:58:55.2±0.8, 61.00N×28.51E, h2km, ML2.0, Error ellipse: s-maj=14.6km s-min=7.7km az=92.0, Mining explosion.*

ISC 02 11:58:52.9±1.9, 60.92N±0.04×28.83E±0.09, h0km, n26, σ1°32/43, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	Virojoki	0.73	239	PG	Pg	11 59 07.1	+0.2
VJF				SG	Sb	11 59 18.8	-0.2
VJF				RG	Rg	11 59 23.9	
VJF	Virojoki	0.73	239	Pg	Pg	11 59 07.1	+0.2
VJF				Sg	Sb	11 59 18.8	-0.2
FIA0	FINESS Array S	1.43	293	PG	Pn	11 59 18.1	-2.0
	baz=104						
FIA0				SG	Sg	11 59 38.1	-0.7
FIA0				MSG		11 59 38.1	
	comp=Z,15nm,0.4s						
FIA0				RG	Rg	11 59 46.4	
FIA0	FINESS Array S	1.43	293	Pg	Pn	11 59 18.1	-2.0
FIA0				Sg	Sg	11 59 38.1	-0.7
FINES	FINESS Array B	1.43	293	Pg	Pn	11 59 18.2	-1.9
	comp=Z,3.0nm,0.3s,baz=113,slow=16,SNR=60						
FINES				Lg	Lg	11 59 38.9	
	comp=Z,10.0nm,0.3s,baz=108,slow=25,SNR=27						
PVF	Pernaja	1.50	257	PG	Pn	11 59 20.0	-1.1
PVF				SG	Sn	11 59 44.2	+2.9
PVF				MSG		11 59 44.2	
	comp=Z,3.3nm,0.1s						
PVF	Pernaja	1.50	257	Pg	Pn	11 59 19.9	-1.1
KAF	Kangasniemi	1.70	316	PN	Pn	11 59 23.2	-0.6
KAF				SG	Sn	11 59 45.3	-0.9
KAF				MSG		11 59 45.3	
	comp=Z,25nm,0.4s						
KAF	Kangasniemi	1.70	316	Pn	Pn	11 59 23.1	-0.6
KAF				Sg	Sn	11 59 45.3	-0.9

0.8nm,1.1s,baz=213,slow=8.2,SNR=4.4
KURBB **Kurchatov Arra 84.22 322** P **P** **12 12 26.9 -0.7**
0.5nm,0.8s,baz=111,slow=4.3,SNR=4.8
AAK **Ala-Archa 85.14 313** P **P** **12 12 32.6 0.0**
1.4nm,0.7s,baz=145,slow=6.5,SNR=6.3
BVAR **Borovoye Array 89.66 323** P **P** **12 12 53.7 -0.3**
1.2nm,0.7s,baz=97,slow=6.1,SNR=4.5
TORD **Torodi Ar. Bea 150.87 288** PKPbc **PKPbc** **12 19 49.9 +0.6**
0.4nm,0.3s,baz=69,slow=2.1,SNR=7.8

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*ISCJB **02** 12:15:13.5±0.7,27.18S±0.05×70.5W±0.1, h69km±6km, mb3.4/2, Error ellipse: s-maj=17.5km s-min=7.8km az=170.8*
*GUC **02** 12:15:14.5±0.8,27.27S×70.50W, h62km±6km, ML4.1*
*IDC **02** 12:15:14.7±0.8,27.16S×70.50W, h60km±6km, mb3.3/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=38.9km s-min=14.4km az=72.0*
ISC 02 12:15:14.4±0.7, 27.20S±0.06×70.5W±0.1, h61km±5km, n13, σ0§96/23, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
CPCH	**Copiapo**	**0.22**	**135**	⇑*iP*	**Pn**		**12 15 24.5**	**+0.3**
CPCH				*i*S	**Sn**		**12 15 31.5**	**+0.3**
CPCH				AML	AML		12 15 31.9	
	comp=E,83μm,0.1s							
CDCH	**Caldera**	**0.29**	**297**	*e*P	**Pn**		**12 15 25.6**	**+1.0**
CDCH				*i*S	**Sn**		**12 15 33.5**	**+1.6**
VACH	**Vallenar**	**1.39**	**188**	*e*P	**Pn**		**12 15 37.9**	**+0.2**
VACH				*i*S	**Sn**		**12 15 54.7**	**-0.3**
VACH				AML	AML		12 15 56.8	
	comp=N,5μm,0.3s							
LCO	**Las Campanas**	**1.81**	**185**	⇑*iP*	**Pn**		**12 15 43.2**	**-0.4**
LCO				*i*S	**Sn**		**12 16 06.0**	**+0.4**
LCO				AML	AML		12 16 11.4	
	comp=N,985nm,0.6s							
TLL	**Tololo Astrono**	**2.97**	**185**	*e*P	**Pn**		**12 15 59.4**	**+0.1**
CFAA	**Coronel Fontan**	**4.82**	**156**	P	**Pn**		**12 16 26.1**	**+1.6**
	comp=N,0.9nm,0.3s,baz=337,slow=12,SNR=24							
CFAA				S	**Sn**		**12 17 21.1**	**+2.0**
	comp=N,1.3nm,0.3s,baz=218,slow=17,SNR=8.9							
LPAZ	**La Paz**	**11.09**	**12**	P	**Pn**		**12 17 49.8**	**-1.0**
	comp=N,0.2nm,0.3s,baz=209,slow=10,SNR=2.9							
TXAR	**Lajitas Array**	**64.56**	**328**	P	**P**		**12 25 46.1**	**+0.8**
	comp=N,0.2nm,0.6s,baz=152,slow=6.4,SNR=5.0							
TORD	**Torodi Ar. Bea**	**80.67**	**70**	P	**P**		**12 27 20.7**	**-0.5**
	comp=N,0.7nm,0.6s,baz=264,slow=5.4,SNR=5.5							
TORD				pP	**pP**		**12 27 37.3**	**-0.9**
	comp=N,0.5nm,0.5s,baz=263,slow=5.8,SNR=3.2							
ASAR	**Alice Springs**	**124.19**	**207**	PKP	**PKPdf**		**12 34 06.1**	**-0.7**
	comp=N,0.6nm,1.1s,baz=141,slow=1.8,SNR=3.4							
ASAR				pPKP	**pPKPdf**		**12 34 24.3**	**-0.4**
	comp=N,0.2nm,0.6s,baz=98,slow=1.9,SNR=2.2							
WRA	**Warramunga Arr**	**127.31**	**210**	PKP	**PKPdf**		**12 34 12.5**	**-0.4**
	comp=N,0.3nm,0.8s,baz=155,slow=1.8,SNR=4.2							
WRA				pPKP	**pPKPdf**		**12 34 29.1**	**-1.6**
	comp=N,0.3nm,0.6s,baz=170,slow=1.5,SNR=1.9							
ZALV	**Zalesovo Beam**	**147.70**	**27**	PKPbc	**PKPbc**		**12 34 52.5**	**+0.8**
	comp=N,1.1nm,0.6s,baz=309,slow=3.3,SNR=6.5							
ZALV				pPKPbc	**pPKPbc**		**12 35 09.2**	**-0.3**
	comp=N,1.2nm,0.6s,baz=319,slow=4.6,SNR=4.2							
MKAR	**Makanchi Array**	**151.01**	**40**	PKPbc	**PKPbc**		**12 35 00.7**	**+0.4**
	comp=N,0.7nm,0.5s,baz=294,slow=2.0,SNR=10.0							
MKAR				pPKPbc	**pPKPbc**		**12 35 18.4**	**+0.3**
	comp=N,0.7nm,0.6s,baz=328,slow=2.4,SNR=5.9							

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*IDC **02** 12:22:29.4±5.7, 31.73S×179.93W, h342km±60km, mb3.4/4, mb1 3.6/6, mb1mx3.3/19, mbtmp3.5/6, Error ellipse: s-maj=67.7km s-min=30.1km az=7.0*
ISC 02 12:22:30.1±1.8, 31.8S±0.2×179.9W±0.3, h350km, n9, σ0§64/9, mb3.5/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
URZ	**Urewera**	**6.87**	**200**	P	**Pn**		**12 24 11.0**	**+0.3**
	9.2nm,0.3s,baz=268,slow=2.4,SNR=44							
RPZ	**Rata Peaks**	**13.84**	**208**	P	**P**		**12 25 31.5**	**-0.4**
	1.8nm,0.3s,baz=248,slow=1.2,SNR=12							
CTA	**Charters Tower**	**32.46**	**283**	P	**P**		**12 28 29.6**	**+0.5**
	2.8nm,0.4s,baz=121,slow=11,SNR=7.5							
STKA	**Stephens Creek**	**32.58**	**260**	P	**P**		**12 28 30.6**	**+0.5**
	1.2nm,0.5s,baz=100,slow=13,SNR=6.9							
ASAR	**Alice Springs**	**41.42**	**269**	P	**P**		**12 29 43.2**	**-0.6**
	1.0nm,0.8s,baz=108,slow=7.6,SNR=11							
WRA	**Warramunga Arr**	**42.54**	**275**	P	**P**		**12 29 51.9**	**-0.9**
	1.9nm,0.6s,baz=113,slow=7.9,SNR=27							
FINES	**FINESS Array B**	**145.88**	**338**	PKPbc	**PKPdf**		**12 41 27.2**	**+0.5**
	3.7nm,0.8s,baz=47,slow=3.8,SNR=12							
NB2	**NORSAR Subarra**	**149.87**	**349**	PKP	**PKPbc**		**12 41 38.4**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**149.87**	**349**	PKPbc	**PKPbc**		**12 41 38.1**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=17,slow=4.3,SNR=3.7							

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*IDC **02** 12:35:51.3±0.7, 3.21S×135.47E, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.1/21, mbtmp4.3/10, ML3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/28, Error ellipse: s-maj=37.9km s-min=17.1km az=70.0*
*ISCJB **02** 12:35:52.2±0.5, 3.42S±0.04×135.70E±0.06, h22km, mb4.1/7, MS3.6/2, Error ellipse: s-maj=8.2km s-min=5.8km az=171.8*
*NEIC **02** 12:35:52.7±0.6, 3.31S×135.40E, h10km, mb4.5/1, Error ellipse: s-maj=19.0km s-min=11.2km az=70.0*
NEIC Felt [III] at Nabire.
*AUST **02** 12:35:57.0±1.2, 3.47S×135.70E, h38km, Error ellipse: s-maj=2.2km s-min=1.1km az=29.0*
*DJA **02** 12:36:00.1±0.5, 3°S±.7°×13°5E±°, h41km, M4.8/5, mb5.0/1, mB5.4/1, MLv4.7/5, Mw(mB)4.8/1*
ISC 02 12:35:54.4±0.6, 3.26S±0.06×135.72E±0.06, h22km, n48, σ1§80/45, mb4.2/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SRPI	**Serui, Papua**	**1.47**	**21**	P	**Pn**		**12 36 20.0**	**+0.4**
KMPI	**Kaimana, Papua**	**2.05**	**259**	P	**Pn**		**12 36 29.6**	**+2.0**
BAKI	**Biak**	**2.09**	**11**	P	**Pn**		**12 36 29.2**	**+1.1**
FAKI	**Fak Fak**	**3.48**	**275**	P	**Pn**		**12 36 46.7**	**-0.6**
FAKI				S	**Sn**		**12 37 27.6**	**-0.4**
FAKI	**Fak Fak**	**3.48**	**275**	P	**Pn**		**12 36 47.4**	**+0.1**
	baz=3.5,SNR=84							
TLE	**Tual**	**3.80**	**231**	P	**Pn**		**12 36 54.2**	**+2.5**
TLE	**Tual**	**3.80**	**231**	P	**Pn**		**12 36 54.6**	**+3.0**
	baz=3.7,SNR=12							
SWI	**Sorong**	**5.05**	**298**	P	**Pn**		**12 37 09.4**	**+0.5**
BNDI	**Bandanaira**	**5.94**	**258**	P	**Pn**		**12 37 21.9**	**+0.8**
KDU	**Kakadu**	**9.90**	**199**	P	**Pn**		**12 38 14.8**	**-0.8**
	baz=9.8,SNR=86							
MTN	**Manton Dam**	**10.55**	**205**	P	**Pn**		**12 38 23.9**	**-0.5**
	baz=10,SNR=72							
PMG	**Port Moresby**	**12.90**	**119**	Pn	Pn		12 39 00.8	+4.2
PMG	**Port Moresby**	**12.90**	**119**	Pn	Pn		12 39 00.8	+4.2
	0.4nm,0.3s,baz=313,slow=6.7,SNR=8.4							
COEN	**Coen**	**12.93**	**146**	*e*Pn	**Pn**		**12 38 56.7**	**-0.3**
	72nm,0.5s							
COEN				*e*Sn	Sn		12 41 11.6	-8.7
COEN	**Coen**	**12.93**	**146**	P	**Pn**		**12 38 56.6**	**-0.4**
	baz=13,SNR=30							
KNRA	**Kununurra**	**14.12**	**209**	P	**Pn**		**12 39 10.2**	**-3.0**
	baz=14,SNR=34							
WRAB	**Tennant Creek**	**16.63**	**185**	*e*Pn	**Pn**		**12 39 42.5**	**-3.8**
	36nm,0.8s							
WRAB				*e*Sn	Sn		12 42 34.2	-16
WRA	**Warramunga Arr**	**16.64**	**185**	Pn	**Pn**		**12 39 41.7**	**-4.7**
WRA				Sn	Sn		12 42 37.6	-13
WRA	**Warramunga Arr**	**16.64**	**185**	Pn	**Pn**		**12 39 41.7**	**-4.7**
	0.6nm,0.3s,baz=7.6,slow=13,SNR=32							
WRA				Sn	Sn		12 42 37.6	-13
	1.2nm,0.3s,baz=8.1,slow=22,SNR=9.4							
FITZ	**Fitzroy Crossi**	**17.76**	**213**	P	**Pn**		**12 39 57.4**	**-3.0**
FITZ				S	Sn		12 43 02.0	-16
FITZ	**Fitzroy Crossi**	**17.76**	**213**	P	**Pn**		**12 39 57.4**	**-3.0**
	0.7nm,0.3s,baz=28,slow=11,SNR=24							
FITZ				S	Sn		12 43 02.0	-16
	2.5nm,0.3s,baz=155,slow=11,SNR=13							
FITZ				LR	LR		12 46 36.7	
	comp=Z,57nm,19.6s,baz=27,slow=37							
FITZ	**Fitzroy Crossi**	**17.76**	**213**	P	**Pn**		**12 39 57.8**	**-2.6**
	baz=18,SNR=20							
CTA	**Charters Tower**	**19.63**	**149**	P	**Pn**		**12 40 24.4**	**+1.2**
CTA	**Charters Tower**	**19.63**	**149**	P	**Pn**		**12 40 24.4**	**+1.2**
	0.3nm,0.3s,baz=335,slow=13,SNR=7.3							
AS31	**Alice Springs**	**20.36**	**185**	*e*P	**P**		**12 40 30.4**	**+0.8**
AS31				*e*S	S		12 44 07.0	-10
ASAR	**Alice Springs**	**20.37**	**185**	P	**P**		**12 40 30.2**	**+0.6**
ASAR				S	S		12 44 08.7	-8.4
ASAR	**Alice Springs**	**20.37**	**185**	P	**P**		**12 40 30.2**	**+0.6**
	23nm,0.8s,baz=9.1,slow=11,SNR=130							
ASAR				S	S		12 44 08.7	-8.4
	2.7nm,0.7s,baz=5.3,slow=27,SNR=5.3							
ASAR				LR	LR		12 49 09.0	
	comp=Z,230nm,19.7s,baz=12,slow=39							
QLP	**Quilpie**	**24.59**	**161**	P	**P**		**12 41 15.3**	**+2.2**
	baz=24,SNR=17							
STKA	**Stephens Creek**	**29.00**	**170**	P	**P**		**12 41 53.0**	**+0.3**
STKA	**Stephens Creek**	**29.00**	**170**	P	**P**		**12 41 53.0**	**+0.3**
	2.2nm,0.7s,baz=357,slow=6.0,SNR=6.4							
NWAO	**Narrogin (SRO)**	**34.22**	**208**	LR	LR		12 56 34.3	
	comp=Z,105nm,19.1s,baz=245,slow=36							
GTA	**Gaotai**	**53.79**	**326**	*e*P	**P**		**12 45 17.2**	**+1.6**
GTA				pP	**pP**		**12 45 22.4**	**-0.1**
GTA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MKAR	**Makanchi Array**	**68.43**	**324**	P	**P**		**12 46 55.0**	**+0.3**
MKAR	**Makanchi Array**	**68.43**	**324**	P	**P**		**12 46 55.0**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=116,slow=8.2,SNR=8.2							
ZALV	**Zalesovo Beam**	**70.93**	**331**	P	P		12 47 08.7	-1.2
ZALV	**Zalesovo Beam**	**70.93**	**331**	P	P		12 47 08.7	-1.2
	comp=Z,1.6nm,0.8s,baz=102,slow=4.9,SNR=4.1							
KURK	**Kurchatov**	**72.47**	**326**	P	**P**		**12 47 19.4**	**+0.1**
KURBB	**Kurchatov Arra**	**72.48**	**326**	P	**P**		**12 47 19.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=112,slow=5.7,SNR=4.7							
BVAR	**Borovoye Array**	**78.07**	**326**	P	**P**		**12 47 51.1**	**-0.4**
BVAR	**Borovoye Array**	**78.07**	**326**	P	**P**		**12 47 51.1**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=104,slow=6.3,SNR=4.6							
ILAR	**Eielson Array**	**87.57**	**25**	P	**P**		**12 48 39.8**	**-0.8**
ILAR	**Eielson Array**	**87.57**	**25**	P	**P**		**12 48 39.8**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=258,slow=4.4,SNR=11							
TORD	**Torodi Ar. Bea**	**133.53**	**285**	PKP	**PKPdf**		**12 55 09.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**133.53**	**285**	PKP	**PKPdf**		**12 55 09.6**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=29,slow=0.6,SNR=2.7							
CPUP	**Villa Florida**	**147.99**	**158**	PKPbc	**PKPbc**		**12 55 39.0**	**+0.2**
CPUP	**Villa Florida**	**147.99**	**158**	PKPbc	**PKPbc**		**12 55 39.0**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=292,slow=3.3,SNR=5.7							
LPAZ	**La Paz**	**149.45**	**130**	PKPbc	**PKPbc**		**12 55 45.3**	**+1.6**
LPAZ	**La Paz**	**149.45**	**130**	PKPbc	**PKPbc**		**12 55 45.3**	**+1.6**
	comp=Z,1.5nm,0.7s,baz=213,slow=2.1,SNR=7.1							

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*BJI **02** 12:37:46.6,28.68N×52.92E, h5km, mB5.1/23, mb4.6/38, Ms4.6/13, Ms7 4.4/13*
*ISCJB **02** 12:37:52.6±0.1,28.68N±0.02×53.63E±0.02, h10km, mb4.8/119, MS3.7/13, Error ellipse: s-maj=3.4km s-min=2.5km az=24.7*
*NEIC **02** 12:37:53.7±0.2,28.65N×53.66E, h10km, mb4.6/15, MN4.5(TEH), Error ellipse: s-maj=5.2km s-min=3.9km az=173.0*
*TEH **02** 12:37:54.9,28.52N×53.66E, h4km, ML4.5*
*OMAN **02** 12:37:55.4±0.9,28.49N×53.34E, h10km, Error ellipse: s-maj=23.3km s-min=9.1km az=76.0*
*CSEM **02** 12:37:55.2±0.1,28.71N×53.63E, h15km, mb4.9/70, Ms3.8, Error ellipse: s-maj=4.3km s-min=3.4km az=13.0*
*IDC **02** 12:37:56.8±2.0,28.67N×53.62E, h31km±13km, mb4.3/27, mb1 4.4/32, mb1mx4.3/38, mbtmp4.3/32, ML4.2/3, MS3.6/9, Ms1 3.7/9, ms1mx3.4/38, Error ellipse: s-maj=13.1km s-min=11.1km az=173.0*
*THR **02** 12:37:56.5±0.4,28.58N×53.49E, h46km±2km, ML4.4*
*MOS **02** 12:37:57.1±0.9,28.71N×53.66E, h48km, mb5.1/53, Error ellipse: s-maj=6.2km s-min=4.1km az=113.2*
ISC 02 12:37:55.1±0.5, 28.70N±0.03×53.67E±0.03, h18km±1km, h18km:pP-P, n595, σ1§20/627, mb4.9/119, MS3.7/13, 31C-24D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
GHIR	**Ghir-Karzin**	**0.73**	**236**	*e*Pg	**Pb**		**12 38 08.6**	**-0.8**
GHIR	**Ghir-Karzin**	**0.73**	**236**	*e*Pg	**Pb**		**12 38 08.6**	**-0.8**
ISRV	**Sarvestan**	**0.83**	**324**	*e*Pg	**Pg**		**12 38 10.8**	**-0.7**
ISRV				*e*Sg	**Sn**		**12 38 25.8**	**+1.5**
ISRV	**Sarvestan**	**0.83**	**324**	*e*Pg	**Pg**		**12 38 10.8**	**-0.7**
ISRV				*e*Sg	**Sn**		**12 38 25.8**	**+1.5**
IPAR	**Pars**	**1.26**	**334**	*e*Pg	**Pg**		**12 38 20.3**	**+0.8**
IPAR				*e*Sg	**Sn**		**12 38 39.7**	**+5.0**
IPAR				*e*			12 38 43.9	
	comp=Z,57μm,0.3s							
IPAR	**Pars**	**1.26**	**334**	*e*Pg	**Pg**		**12 38 20.3**	**+0.8**
IPAR				*e*Sg	**Sn**		**12 38 39.7**	**+5.0**
IKAZ	**Kazeroun**	**1.93**	**304**	*e*Pn	**Pb**		**12 38 30.4**	**+0.5**
IKAZ				*e*			12 38 38.6	
	comp=Z,37μm,0.2s							
IKAZ	**Kazeroun**	**1.93**	**304**	*e*Pn	**Pb**		**12 38 30.4**	**+0.5**
IMEH	**Mehriz**	**2.80**	**17**	*e*Pn	**Pb**		**12 38 42.5**	**-2.2**
IMEH				*e*			12 39 26.6	
	comp=Z,15μm,0.3s							
IMEH	**Mehriz**	**2.80**	**17**	*e*Pn	**Pb**		**12 38 42.5**	**-2.2**
KRBR	**Kerman**	**2.98**	**64**	*e*Pn	**Pb**		**12 38 45.5**	**-2.4**
KRBR				*e*Sg	**Sg**		**12 39 33.6**	**+2.7**
KRBR				AML	AML		12 39 34.5	
	comp=E,2μm,0.7s							
KRBR				AML	AML		12 39 40.8	
	comp=N,1μm,0.7s							
KRBR	**Kerman**	**2.98**	**64**	*e*Pn	**Pb**		**12 38 45.5**	**-2.4**
KRBR				*e*Sg	**Sg**		**12 39 33.7**	**+2.7**
ISAD	**Sadrabad**	**3.20**	**0**	*e*Pn	**Pb**		**12 38 48.9**	**-2.7**
ISAD				*e*			12 39 49.0	
	comp=Z,19μm,0.4s							
ISAD	**Sadrabad**	**3.20**	**0**	*e*Pn	**Pb**		**12 38 48.9**	**-2.7**
IBAF	**Bafgh**	**3.31**	**29**	*e*Pn	**Pn**		**12 38 49.1**	**+2.9**
IBAF				*e*			12 39 41.5	
	comp=Z,10μm,0.3s							
IBAF	**Bafgh**	**3.31**	**29**	*e*Pn	**Pn**		**12 38 49.1**	**+2.9**
ICHK	**Chekchek**	**3.59**	**10**	*e*Pn	**Pn**		**12 38 53.0**	**+3.0**
ICHK				*e*			12 40 00.5	
	comp=Z,10μm,0.3s							
ICHK	**Chekchek**	**3.59**	**10**	*e*Pn	**Pn**		**12 38 53.0**	**+3.0**
BANOM	**Banah**	**3.62**	**139**	P	**Pn**		**12 38 52.3**	**+2.0**
	SNR=68							
BANOM				ml			12 39 08.9	
	SNR=72							
BANOM				ml			12 40 01.4	
	SNR=154							
BANOM	**Banah**	**3.62**	**139**	P	**Pn**		**12 38 52.3**	**+2.0**
	SNR=68							
BANOM				Sn	**Sn**		**12 39 35.0**	**+2.3**
IGAR	**Gharneh**	**3.95**	**340**	*e*Pn	Pn		12 38 58.4	+3.4
IGAR				*e*			12 39 12.2	
	comp=Z,3μm,0.3s							
NAZ	**Nazwa, Dubai**	**4.10**	**154**	Pn	**Pn**		**12 38 59.5**	**+2.6**
NASN	**Na'in**	**4.15**	**350**	*e*Pn	**Pn**		**12 39 00.0**	**+2.2**
NASN				*e*Sg	**Sg**		**12 40 05.3**	**-3.2**
NASN				AML	AML		12 40 13.9	
	comp=E,182nm,0.6s							
NASN	**Na'in**	**4.15**	**350**	*e*Pn	**Pn**		**12 39 00.0**	**+2.2**
FAQ	**Al Faqa, Dubai**	**4.30**	**156**	Pn	**Pn**		**12 39 01.9**	**+2.3**
ASUD	**Al Ashush, Dub**	**4.32**	**160**	Pn	**Pn**		**12 39 02.8**	**+2.9**
IZEF	**Zefreh**	**4.34**	**345**	*e*Pn	**Pn**		**12 39 01.6**	**+1.2**
IZEF				*e*			12 39 19.9	
	comp=Z,3μm,0.4s							
IZEF	**Zefreh**	**4.34**	**345**	*e*Pn	**Pn**		**12 39 01.6**	**+1.2**
HATD	**Hatta, Dubai**	**4.44**	**150**	Pn	**Pn**		**12 39 03.2**	**+1.6**
ASHO	**Ashiyiah**	**4.54**	**151**	P	**Pn**		**12 39 04.9**	**+2.0**
	SNR=60							
ASHO				P	**Pn**		**12 39 04.9**	**+2.0**
	SNR=29							
ASHO				ml			12 40 00.4	
	SNR=272							
ASHO	**Ashiyiah**	**4.54**	**151**	P	**Pn**		**12 39 04.9**	**+2.0**
	SNR=29							
IKLH	**Kolahrood**	**4.94**	**339**	*e*Pn	**Pn**		**12 39 11.0**	**+2.3**
IKLH				*e*			12 40 47.1	
	comp=Z,4μm,0.6s							
IKLH	**Kolahrood**	**4.94**	**339**	*e*Pn	**Pn**		**12 39 11.0**	**+2.3**
QRN	**Al-Qurain**	**5.05**	**272**	*e*P	**Pn**		**12 39 12.7**	**+2.8**
KBD	**Kabd**	**5.26**	**277**	*e*P	**Pn**		**12 39 15.5**	**+2.7**
KBD				AML	AML		12 40 19.2	
	comp=Z,92nm,0.4s							
KBD	**Kabd**	**5.26**	**277**	*e*P	**Pn**		**12 39 15.5**	**+2.7**
UMR	**Umm Al-Rimmam**	**5.28**	**281**	*e*P	**Pn**		**12 39 15.2**	**+2.1**
UMR				AML	AML		12 40 16.8	
	comp=Z,174nm,0.4s							
UMR	**Umm Al-Rimmam**	**5.28**	**281**	*e*P	**Pn**		**12 39 15.2**	**+2.1**
RDF	**Al-Radifah**	**5.38**	**274**	*e*P	**Pn**		**12 39 17.1**	**+2.7**
RDF				AML	AML		12 40 19.1	
	comp=Z,119nm,0.5s							
RDF	**Al-Radifah**	**5.38**	**274**	*e*P	**Pn**		**12 39 17.1**	**+2.7**
SHGR	**Shooshtar-Gavs**	**5.41**	**310**	*e*PN5	**Pn**		**12 39 15.6**	**+0.8**
IKOO	**Kooshah**	**5.91**	**50**	*e*Pn	Pn		12 39 26.3	+4.4
IKOO	**Kooshah**	**5.91**	**50**	*e*Pn	Pn		12 39 26.3	+4.4
ARQ	**Araqi**	**5.93**	**154**	P	**Pn**		**12 39 23.5**	**+1.5**
	SNR=16							
ARQ				P	**Pn**		**12 39 23.5**	**+1.5**
	SNR=50							
ARQ				ml			12 39 30.0	
	SNR=25							
KHMZ	**Khomeyn**	**5.94**	**329**	*e*Pn	**Pn**		**12 39 23.8**	**+1.4**
KHMZ	**Khomeyn**	**5.94**	**329**	*e*Pn	**Pn**		**12 39 23.8**	**+1.4**
ITEG	**Tejag**	**6.04**	**45**	*e*Pn	**Pn**		**12 39 26.8**	**+3.0**
ITEG	**Tejag**	**6.04**	**45**	*e*Pn	**Pn**		**12 39 26.8**	**+3.0**
HOQ	**Hoqain**	**6.06**	**147**	||P	**Pn**		**12 39 26.4**	**+2.6**
	SNR=20							
ZHSF	**Zahedan**	**6.28**	**80**	*e*Pn	Pn		12 39 30.7	+3.8
ZHSF	**Zahedan**	**6.28**	**80**	*e*Pn	Pn		12 39 30.7	+3.8
ASAO	**Ashtian**	**6.60**	**333**	*e*PN5	**Pn**		**12 39 33.2**	**+1.7**
BSY	**Bisya**	**6.73**	**151**	P	**Pn**		**12 39 34.5**	**+1.4**
	SNR=51							
SMDO	**Samad**	**6.86**	**144**	P	**Pn**		**12 39 36.3**	**+1.3**
	SNR=55							
SMDO				ml			12 39 43.2	
	SNR=41							
IDMV	**Damavand**	**6.99**	**349**	*e*Pn	**Pn**		**12 39 39.3**	**+2.4**
IDMV	**Damavand**	**6.99**	**349**	*e*Pn	**Pn**		**12 39 39.3**	**+2.4**
JMDO	**Jabal Madar**	**7.47**	**147**	P	**Pn**		**12 39 43.4**	**+0.2**
	SNR=12							
WBK	**Wadi Bani Khal**	**7.72**	**141**	P	**Pn**		**12 39 47.1**	**+0.4**
	SNR=26							
WBK				ml			12 39 57.5	
	SNR=23							
IBDR	**Badra**	**7.97**	**305**	*e*PN4	Pn		12 39 54.0	+4.0
IBDR				*e*PN4	x		12 40 52.0	
RAYN	**Ar Rayn**	**8.97**	**237**	*e*Pn	**Pn**		**12 40 04.0**	**+0.1**
RAYN	**Ar Rayn**	**8.97**	**237**	*e*Pn	**Pn**		**12 40 04.0**	**+0.1**
BHD	**Baghdad**	**9.18**	**302**	*e*PN4	**Pn**		**12 40 09.2**	**+2.6**
BHD	**Baghdad**	**9.18**	**302**	*e*Pn	**Pn**		**12 40 09.2**	**+2.6**
	SNR=39							
RBK	**Rabkut**	**11.16**	**177**	P	**Pn**		**12 40 33.5**	**-0.3**
	SNR=6.3							
ABTO	**Aybut**	**11.30**	**182**	P	**Pn**		**12 40 35.1**	**-0.7**
	SNR=26							
RTB	**Rutbah**	**12.26**	**294**	*i* Pn	Pn		12 40 56.9	+8.0
GNI	**Garni**	**13.58**	**330**	*e*Pn	**Pn**		**12 41 08.3**	**+1.4**
GNI	**Garni**	**13.58**	**330**	*e*Pn	**Pn**		**12 41 08.3**	**+1.4**
GNI	**Garni**	**13.58**	**330**	P	**Pn**		**12 41 08.9**	**+1.9**
	comp=Z,1.0nm,0.3s							
GNI	**Garni**	**13.58**	**330**	Pn	**Pn**		**12 41 08.9**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=170,slow=12,SNR=2.0							
KBL	**Kabul**	**14.32**	**62**	*e*P	**P**		**12 41 22.0**	**-2.2**
KBL	**Kabul**	**14.32**	**62**	*e*P	**P**		**12 41 22.0**	**-2.2**
KBL	**Kabul**	**14.32**	**62**	*e*P	**P**		**12 41 22.0**	**-2.2**
MAK	**Makhachkala**	**15.07**	**342**	*e*P	**Pn**		**12 41 29.4**	**+2.3**
MAK				MLR	MLR			
	comp=Z,363nm,13.0s							
MAK	**Makhachkala**	**15.07**	**342**	*e*P	**Pn**		**12 41 29.4**	**+2.3**
	comp=Z,363nm,13.0s							
ZEI	**Tsey**	**16.12**	**333**	*e*P	**P**		**12 41 43.4**	**-0.7**
ZEI				pmax	pmax			
	comp=Z,61nm,1.4s							
MMAI	**Mount Meron Ar**	**16.26**	**290**	Pn	**Pn**		**12 41 42.5**	**-0.2**
MMAI	**Mount Meron Ar**	**16.26**	**290**	Pn	**Pn**		**12 41 42.5**	**-0.2**
MMAI	**Mount Meron Ar**	**16.26**	**290**	Pn	**Pn**		**12 41 42.5**	**-0.2**
	baz=109,slow=13,SNR=6.2							
MMAI				LR	LR		12 49 35.2	
	comp=Z,257nm,19.4s,baz=100,slow=43							
EIL	**Elat**	**16.38**	**278**	Pn	**P**		**12 41 45.7**	**-1.2**
EIL	**Elat**	**16.38**	**278**	Pn	**P**		**12 41 45.7**	**-1.2**
EIL	**Elat**	**16.38**	**278**

EKS2 Erkin-Say 21.39 44 *eP* **P 12 42 43.7 +1.9**
comp=Z,11nm,0.8s
EKS2 Erkin-Say 21.39 44 *eP* **P 12 42 43.7 +1.9**
comp=Z,11nm,0.8s
UCH Uchtor 21.61 46 *i* P **P 12 42 45.4 +0.9**
UCH Uchtor 21.61 46 P **P 12 42 45.5 +0.9**
SNR=15
UCH Uchtor 21.61 46 *i* P **P 12 42 45.4 +0.9**
AAK Ala-Archa 21.82 45 P P 12 42 54.7 +8.2
SNR=5.4
AAK Ala-Archa 21.82 45 P **P 12 42 48.0 +1.5**
AAK 12 46 45.6
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 21.82 45 P P 12 42 55.2 +8.7
SNR=6.3
AAK Ala-Archa 21.82 45 *eP* **P 12 42 48.5 +2.0**
AAK PcP **PcP 12 46 45.6 -0.5**
AAK ScP **ScP 12 50 21.3 -1.1**
AAK Ala-Archa 21.82 45 *eP* **P 12 42 48.5 +2.0**
AAK Ala-Archa 21.82 45 PcP **PcP 12 46 45.6 -0.5**
AAK Ala-Archa 21.82 45 P **P 12 42 48.0 +1.5**
comp=Z,3.3nm,0.7s,baz=206,slow=11,SNR=12
AAK PcP **PcP 12 46 45.6 -0.5**
comp=Z,1.7nm,0.6s,baz=164,slow=6.6,SNR=4.4
AAK ScP **ScP 12 50 21.3 -1.1**
comp=Z,0.3nm,0.3s,baz=228,slow=5.9,SNR=4.9
AKTK Aktyubinsk 21.95 7 P **P 12 42 48.2 +0.6**
comp=Z,29nm,1.3s
AKTO Aktyubinsk 21.95 7 P **P 12 42 48.2 +0.6**
AKTO pmax pmax
comp=Z,29nm,1.3s
AKTO Aktyubinsk 21.95 7 P **P 12 42 48.0 +0.4**
AKTO Aktyubinsk 21.95 7 P **P 12 42 48.0 +0.4**
AKTO Aktyubinsk 21.95 7 P **P 12 42 48.0 +0.4**
comp=Z,8.5nm,0.5s,baz=187,slow=12,SNR=36
KZA Kyzart 22.00 47 *i* P **P 12 42 52.8 +4.1**
KZA Kyzart 22.00 47 P **P 12 42 52.8 +4.1**
SNR=27
KZA Kyzart 22.00 47 *i* P **P 12 42 52.8 +4.1**
KBK Karagaybulak 22.11 45 P **P 12 42 53.7 +4.1**
SNR=12
USP Ospenovka 22.17 43 *i* P **P 12 42 53.2 +3.1**
USP Ospenovka 22.17 43 P **P 12 42 53.3 +3.1**
SNR=13
USP Ospenovka 22.17 43 *i* P **P 12 42 53.2 +3.1**
TKM2 Tokmak 2 22.66 45 *eP* **P 12 42 55.5 0.0**
TKM2 pmax pmax
comp=Z,14nm,1.1s
TKM2 Tokmak 2 22.66 45 P **P 12 42 56.6 +1.1**
SNR=8.9
TKM2 Tokmak 2 22.66 45 *eP* **P 12 42 55.5 0.0**
comp=Z,14nm,1.1s
TKM2 Tokmak 2 22.66 45 *eP* **P 12 42 55.5 0.0**
comp=Z,14nm,1.1s
ULHL Ulahol 22.73 48 *i* P **P 12 42 57.8 +1.6**
ULHL Ulahol 22.73 48 P **P 12 42 57.9 +1.6**
SNR=6.9
ULHL Ulahol 22.73 48 *i* P **P 12 42 57.8 +1.6**
VRHR Novokhopersk 24.14 341 *eP* **P 12 43 11.0 +1.2**
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,90nm,0.6s
VRHR Novokhopersk 24.14 341 *eP* **P 12 43 11.0 +1.2**
VORD Divnogorie 24.74 338 *eP* **P 12 43 15.7 +0.4**
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
VORD pmax pmax
comp=Z,30nm,0.8s
VORD Divnogorie 24.74 338 *eP* **P 12 43 15.7 +0.4**
APE Apeiranthos 24.99 297 *eP* **P 12 43 19.1 +1.2**
APE pmax pmax
comp=Z,217nm,2.5s
APE Apeiranthos 24.99 297 *eP* **P 12 43 19.1 +1.2**
comp=Z,217nm,2.5s
VSR Storozhevoye 24.99 338 *eP* **P 12 43 17.9 +0.3**
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=Z,30nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.3s
VSR Storozhevoye 24.99 338 *eP* **P 12 43 17.9 +0.3**
HYB Hyderabad 25.45 111 *i* P **P 12 43 24.0 +1.9**
TIRR Tirgusor 25.52 315 ⇓ *i* P **P 12 43 22.1 -0.4**
TIRR Tirgusor 25.52 315 ⇓ *i* P **P 12 43 22.1 -0.4**
PYUN Piuthan 25.77 84 *eP* **P 12 43 27.0 +1.8**
comp=E,97nm,0.4s
TLB Topalu 25.82 315 ⇓ *i* P **P 12 43 27.5 +2.4**
TLB Topalu 25.82 315 ⇓ *i* P **P 12 43 27.5 +2.4**
CFR Carcaliu 26.05 316 ⇑ *i* P **P 12 43 26.0 -1.3**
CFR Carcaliu 26.05 316 ⇑ *i* P **P 12 43 26.0 -1.3**
KOLN Koldanda 26.35 85 *eP* **P 12 43 31.7 +1.2**
comp=E,31nm,1.0s
KOLN Koldanda 26.35 85 *eP* **P 12 43 31.7 +1.2**
KOLN Koldanda 26.35 85 *eP* **P 12 43 31.7 +1.2**
DANN Dangsing 26.41 83 *eP* **P 12 43 31.8 +0.7**
DANN Dangsing 26.41 83 *eP* **P 12 43 31.8 +0.7**
DANN Dangsing 26.41 83 *eP* **P 12 43 31.8 +0.7**
VOSK Vostochnaya 27.20 23 P **P 12 43 37.8 +0.2**
VOSK pmax pmax
comp=Z,21nm,1.0s
VOSK Vostochnaya 27.20 23 P **P 12 43 37.8 +0.2**
comp=Z,21nm,1.0s
GKN Gorkha 27.22 84 *eP* **P 12 43 39.0 +0.7**
GKN Gorkha 27.22 84 *eP* **P 12 43 39.0 +0.7**
GKN Gorkha 27.22 84 *eP* **P 12 43 39.0 +0.7**
BRVK Borovoye 27.25 22 P **P 12 43 39.6 +1.6**
SNR=6.9
BRVK Borovoye 27.25 22 P **P 12 43 38.3 +0.3**
BRVK pmax pmax
comp=Z,37nm,1.2s
BRVK Borovoye 27.25 22 *eP* **P 12 43 39.2 +1.2**
BRVK Borovoye 27.25 22 P **P 12 43 38.3 +0.3**
comp=Z,37nm,1.2s
BVA0 Borovoye Array 27.25 22 P **P 12 43 38.1 0.0**
BVA0 pmax pmax
comp=Z,28nm,1.0s
BVA0 Borovoye Array 27.25 22 P **P 12 43 38.1 0.0**
comp=Z,28nm,1.0s
BVAR Borovoye Array 27.25 22 P **P 12 43 37.7 -0.4**
BVAR 12 46 57.0
BVAR pmax pmax
comp=Z,17nm,0.8s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=N,2.0nm,0.7s
BVAR Borovoye Array 27.25 22 P **P 12 43 37.7 -0.4**
BVAR PcP **PcP 12 46 57.0 -0.6**
BVAR ScP **ScP 12 50 34.9 -2.3**
BVAR Borovoye Array 27.25 22 P **P 12 43 37.7 -0.4**
BVAR Borovoye Array 27.25 22 PcP **PcP 12 46 57.0 -0.6**
BVAR Borovoye Array 27.25 22 P **P 12 43 37.7 -0.4**
comp=N,16nm,0.8s,baz=205,slow=6.6,SNR=64
BVAR PcP **PcP 12 46 57.0 -0.6**
comp=N,1.2nm,0.6s,baz=234,slow=2.7,SNR=3.6
BVAR ScP **ScP 12 50 34.9 -2.3**
comp=N,1.8nm,0.7s,baz=219,slow=1.9,SNR=9.5
VRI Vrincioaia 27.25 316 ⇓ *i* P **P 12 43 39.7 +1.5**
VRI Vrincioaia 27.25 316 ⇓ *i* P **P 12 43 39.7 +1.5**
MLR Muntele Rosu 27.55 315 ⇑ *i* P **P 12 43 41.5 +0.5**
MLR Muntele Rosu 27.55 315 P **P 12 43 41.3 +0.3**
MLR Muntele Rosu 27.55 315 P **P 12 43 41.3 +0.3**
MLR Muntele Rosu 27.55 315 P **P 12 43 41.3 +0.3**
comp=N,0.9nm,0.6s,baz=113,slow=1.4,SNR=5.9
MLR LR LR 12 54 47.1
comp=N,47nm,19.9s,baz=231,slow=37
TESR Tescani 27.62 317 ⇑ *i* P **P 12 43 41.2 -0.3**
TESR Tescani 27.62 317 ⇑ *i* P **P 12 43 41.2 -0.3**
ARU Arti 27.93 6 *d i* P **P 12 43 45.1 +1.1**
ARU 12 44 36.7
ARU S **S 12 48 26.2 -0.6**
ARU SS **SnSn 12 49 42.5 +1.4**
ARU pmax pmax
comp=Z,23nm,2.5s
ARU Arti 27.93 6 *i* P **P 12 43 45.1 +1.1**
comp=Z,23nm,2.5s
ARU S **S 12 48 26.2 -0.6**
PKIN Phulchoki 27.96 85 *eP* **P 12 43 45.7 +0.7**
PKI Pulchoki 27.97 85 *eP* **P 12 43 46.0 +0.9**
PKI Pulchoki 27.97 85 *eP* **P 12 43 46.0 +0.9**
PKI Pulchoki 27.97 85 *eP* **P 12 43 46.0 +0.9**
PKI Pulchoki 27.97 85 *eP* **P 12 43 46.0 +0.9**
VOIR 28.09 314 ⇑ *i* P **P 12 43 47.3 +1.6**
VOIR 28.09 314 ⇑ *i* P **P 12 43 47.3 +1.6**
VTS Vitosha 28.20 308 ⇑ *i* P **P 12 43 49.3 +2.5**
VTS Vitosha 28.20 308 ⇑ *i* P **P 12 43 49.3 +2.5**
ARR Arges 28.32 314 ⇑ *i* P **P 12 43 49.4 +1.6**
ARR Arges 28.32 314 ⇑ *i* P **P 12 43 49.4 +1.6**
GUN Gumba 28.32 84 *eP* **P 12 43 48.6 +0.3**
GUN Gumba 28.32 84 *eP* **P 12 43 48.6 +0.3**
GUN Gumba 28.32 84 *eP* **P 12 43 48.6 +0.3**
JIRN Jiri 28.64 84 *eP* **P 12 43 51.2 +0.1**
JIRN Jiri 28.64 84 *eP* **P 12 43 51.2 +0.1**
JIRN Jiri 28.64 84 *eP* **P 12 43 51.2 +0.1**
AK02 Malin Array Si 28.66 327 *eP* **P 12 43 50.5 -0.2**
AK02 Malin Array Si 28.66 327 *eP* **P 12 43 50.5 -0.2**
AKASG Malin Array Be 28.68 327 P **P 12 43 50.5 -0.4**
AKASG 12 47 00.9
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 28.68 327 P **P 12 43 50.5 -0.4**
AKASG PcP **PcP 12 47 00.8 -0.2**
AKASG Malin Array Be 28.68 327 P **P 12 43 50.5 -0.4**
AKASG Malin Array Be 28.68 327 PcP **PcP 12 47 00.9 -0.2**
AKASG Malin Array Be 28.68 327 P **P 12 43 50.5 -0.4**
comp=Z,1.6nm,0.4s,baz=132,slow=8.2,SNR=31
AKASG PcP **PcP 12 47 00.8 -0.2**
comp=Z,0.7nm,0.4s,baz=88,slow=2.6,SNR=5.8
KIEV Kiev 28.69 327 *eP* **P 12 43 50.8 -0.1**
KIEV pmax pmax
comp=Z,27nm,1.2s
KIEV Kiev 28.69 327 *eP* **P 12 43 50.8 -0.1**
comp=Z,27nm,1.2s
KIEV Kiev 28.69 327 *eP* **P 12 43 50.8 -0.1**
comp=Z,27nm,1.2s
MK31 Makanchi Array 28.72 43 *i* P **P 12 43 51.6 +0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 28.72 43 *eP* **P 12 43 51.7 +0.5**
MK31 Makanchi Array 28.72 43 *i* P **P 12 43 51.6 +0.3**
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 28.72 43 P **P 12 43 52.0 +0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 28.72 43 P **P 12 43 52.0 +0.7**
MKAR ScP **ScP 12 50 40.3 -1.5**
MKAR Makanchi Array 28.72 43 P **P 12 43 52.0 +0.7**
MKAR ScP **ScP 12 50 40.3 -1.5**
MKAR Makanchi Array 28.72 43 P **P 12 43 52.0 +0.7**
comp=Z,3.4nm,0.6s,baz=228,slow=9.5,SNR=23
MKAR ScP **ScP 12 50 40.3 -1.5**
comp=Z,0.2nm,0.6s,baz=229,slow=1.3,SNR=3.7
KURBB Kurchatov Arra 28.83 34 P **P 12 43 52.9 +0.8**
comp=Z,5.3nm,0.8s,baz=233,slow=9.0,SNR=31
KURBB ScP **ScP 12 50 39.2 -2.8**
comp=Z,0.3nm,0.3s,baz=232,slow=3.7,SNR=4.4
KURK Kurchatov 28.93 34 P **P 12 43 52.9 -0.2**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 28.93 34 P **P 12 43 52.9 -0.2**
KURK ScP **ScP 12 50 39.2 -3.1**
KURK Kurchatov 28.93 34 P **P 12 43 52.9 -0.2**
KURK ScP **ScP 12 50 39.2 -3.1**
BURAR Bucovina Array 29.03 318 ⇑ *i* P **P 12 43 54.7 +0.6**
BURAR Bucovina Array 29.03 318 ⇑ *i* P **P 12 43 54.7 +0.6**
RAMN Ramite 29.12 86 *eP* **P 12 43 54.9 -0.4**
RAMN Ramite 29.12 86 *eP* **P 12 43 54.9 -0.4**
RAMN Ramite 29.12 86 *eP* **P 12 43 54.9 -0.4**
OBN Obninsk 29.14 340 *i* P **P 12 43 54.3 -0.5**
OBN pmax pmax
comp=Z,33nm,1.5s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 29.14 340 *i* P **P 12 43 54.3 -0.5**
comp=Z,100nm,14.0s
GZR Gura Zlata 29.52 313 ⇓ *i* P **P 12 43 59.1 +0.7**
GZR Gura Zlata 29.52 313 ⇓ *i* P **P 12 43 59.1 +0.7**
DRGR 30.15 315 ⇓ *i* P **P 12 44 05.2 +1.2**
DRGR 30.15 315 ⇓ *i* P **P 12 44 05.2 +1.2**
BZS Buzias 30.36 313 ⇑ *i* P **P 12 44 06.7 +0.9**
BZS Buzias 30.36 313 ⇑ *i* P **P 12 44 06.7 +0.9**
SIRR Siria 30.59 314 ⇓ *i* P **P 12 44 09.4 +1.6**
SIRR Siria 30.59 314 ⇓ *i* P **P 12 44 09.4 +1.6**
WMQ Urumqi 31.05 52 P **P 12 44 13.0 +1.0**
WMQ sP **sP 12 44 20.0 +0.1**
WMQ PP **PnPn 12 45 15.0 +1.7**
WMQ PcP **PcP 12 47 09.0 +1.5**
WMQ S **S 12 49 16.0 -0.4**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,76nm,3.0s
WMQ LR LR
comp=Z,340nm,12.0s
WMQ LR LR
comp=Z,130nm,12.0s
WMQ LR LR
comp=Z,180nm,12.0s
KOLS Kolonicke sedl 31.39 319 *eP* **P 12 44 16.2 +1.3**
KOLS pmax pmax
comp=Z,41nm,1.7s
KOLS Kolonicke sedl 31.39 319 *eP* **P 12 44 16.1 +1.2**
KOLS Kolonicke sedl 31.39 319 *eP* **P 12 44 16.2 +1.3**
comp=Z,41nm,1.7s
CRVS Cervenica-Dubn 31.85 318 *eP* **P 12 44 19.7 +0.8**
CRVS Cervenica-Dubn 31.85 318 *eP* **P 12 44 19.7 +0.8**
CRVS Cervenica-Dubn 31.85 318 *eP* **P 12 44 19.7 +0.8**
PKSN Nyarlorinc 31.97 314 *eP* **P 12 44 22.6 +2.7**
PKS6 Bocsa 32.05 313 *eP* **P 12 44 22.3 +1.6**
KECS Kecovo 32.24 317 *eP* **P 12 44 23.4 +1.1**
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 32.24 317 *eP* **P 12 44 23.4 +1.1**
KECS Kecovo 32.24 317 *eP* **P 12 44 23.4 +1.1**
comp=Z,4.7nm,1.0s
PKSM Moragy 32.51 312 ⇓ *i* P **P 12 44 25.1 +0.4**
PKSM Moragy 32.51 312 ⇓ *i* P **P 12 44 25.1 +0.4**
PKSM Moragy 32.51 312 ⇓ *eP* **P 12 44 25.7 +1.0**
PKS9 Tamasi 32.87 313 *eP* **P 12 44 29.3 +1.4**
PKSG 33.09 314 *eP* **P 12 44 31.2 +1.4**
PKST T˜˜s 33.27 314 *eP* **P 12 44 32.4 +1.0**
KLMR Klimovskoe 33.53 347 *eP* **P 12 44 32.4 -1.0**
KLMR pmax pmax
comp=Z,78nm,1.6s
KLMR Klimovskoe 33.53 347 *eP* **P 12 44 32.4 -1.0**
comp=Z,78nm,1.6s
NVS Novosibirsk 33.72 31 *eP* **P 12 44 35.1 0.0**
NVS Novosibirsk 33.72 31 *eP* **P 12 44 35.1 0.0**
ZAA0 Zalesovo Array 33.92 33 *eP* **P 12 44 37.2 +0.3**
ZAA0 Zalesovo Array 33.92 33 *eP* **P 12 44 37.2 +0.3**
ZALV Zalesovo Beam 33.92 33 P **P 12 44 37.3 +0.4**
ZALV pmax pmax
comp=Z,9.0nm,0.6s
ZALV Zalesovo Beam 33.92 33 P **P 12 44 37.3 +0.4**
ZALV Zalesovo Beam 33.92 33 P **P 12 44 37.3 +0.4**
ZALV Zalesovo Beam 33.92 33 P **P 12 44 37.3 +0.4**
comp=Z,9.1nm,0.6s,baz=238,slow=8.5,SNR=48
SOP Sopron 34.35 314 *eP* **P 12 44 41.7 +0.9**
MORC Moravsky Berou 34.54 318 ⇑ *i* P **P 12 44 42.0 -0.4**
MORC Moravsky Berou 34.54 318 ⇑ *i* P **P 12 44 42.0 -0.4**
BOJS Bojanci 34.54 310 *eP* **P 12 44 43.3 +0.8**
CONA Conrad Observa 34.88 314 ⇑ *i* P **P 12 44 44.9 -0.5**
comp=Z,14nm,1.0s
CONA Conrad Observa 34.88 314 P **P 12 44 44.9 -0.5**
comp=Z,14nm,1.0s
VRAC Vranov 34.92 316 ⇓ *i* P **P 12 44 46.5 +0.8**
VRAC Vranov 34.92 316 *eP* **P 12 44 46.1 +0.4**
VRAC Vranov 34.92 316 LR LR 13 02 30.6
comp=Z,110nm,18.0s,baz=115,slow=42
VSU Vasula 35.10 336 ⇑ *i* P **P 12 44 47.2 +0.1**
VSU Vasula 35.10 336 *i* P **P 12 44 47.2 +0.1**
DPC Dobruska-Polom 35.49 318 *eP* **P 12 44 50.6 0.0**
DPC Dobruska-Polom 35.49 318 *eP* **P 12 44 50.6 0.0**
DPC Dobruska-Polom 35.49 318 *eP* **P 12 44 50.4 -0.2**
DPC Dobruska-Polom 35.49 318 *eP* **P 12 44 50.6 0.0**
VOY Vojsko 35.60 310 *eP* P 12 44 44.2 -7.5
VOY *e* 12 44 51.9
MOA Molln 35.87 313 ⇑ *iP* **P 12 44 54.3 +0.4**
comp=Z,11nm,0.7s,SNR=5.7
MOA Molln 35.87 313 P **P 12 44 54.3 +0.4**
comp=Z,11nm,0.7s,SNR=5.7
MBAR Mbarara 36.49 221 P **P 12 44 59.6 0.0**
MBAR Mbarara 36.49 221 P **P 12 44 59.6 0.0**
MBAR Mbarara 36.49 221 P **P 12 44 59.6 0.0**
comp=Z,3.2nm,0.2s,baz=6.7,slow=5.0,SNR=4.0
GEC2 GERESS Array S 36.54 315 *eP* **P 12 44 59.5 -0.2**
GEC2 GERESS Array S 36.54 315 *eP* **P 12 44 59.5 -0.2**
GEC2 GERESS Array S 36.54 315 *eP* **P 12 44 59.5 -0.2**
GERES GERESS Array B 36.54 315 P **P 12 44 58.5 -1.2**
GERES PcP **PcP 12 47 22.4 -0.5**
GERES GERESS Array B 36.54 315 P **P 12 44 58.5 -1.2**
GERES GERESS Array B 36.54 315 P **P 12 44 58.5 -1.2**
comp=Z,4.0nm,0.9s,baz=112,slow=10,SNR=14
GERES PcP **PcP 12 47 22.4 -0.5**
comp=Z,0.9nm,0.4s,baz=126,slow=3.4,SNR=3.6
GERES LR LR 13 02 13.8
comp=Z,94nm,19.1s,baz=110,slow=40
ABTA Abfaltersbach 36.71 311 ⇑ *iP* **P 12 45 01.2 +0.1**
comp=Z,14nm,0.9s
ABTA Abfaltersbach 36.71 311 P **P 12 45 01.2 +0.1**
comp=Z,14nm,0.9s
KHC Kasperske Hory 36.71 315 ⇑ *iP* **P 12 45 01.1 +0.1**
KHC pmax pmax
comp=Z,187nm,1.2s
KHC Kasperske Hory 36.71 315 *eP* **P 12 45 00.7 -0.3**
KHC Kasperske Hory 36.71 315 *eP* **P 12 45 00.7 -0.3**
comp=Z,23nm,0.9s
KHC Kasperske Hory 36.71 315 *i* P **P 12 45 01.1 +0.1**
comp=Z,187nm,1.2s
RJOB Jochberg 36.79 312 *eP* **P 12 45 01.7 0.0**
BRG Berggiesshubel 37.09 318 *eP* **P 12 45 04.2 0.0**
comp=Z,19nm,1.6s
BRG Berggiesshubel 37.09 318 *eP* **P 12 45 04.2 0.0**
BRG pmax pmax
comp=Z,19nm,1.6s
BRG Berggiesshubel 37.09 318 *eP* **P 12 45 04.2 0.0**
comp=Z,19nm,1.6s
WET Wettzell 37.15 315 *eP* **P 12 45 04.7 -0.1**
comp=Z,31nm,1.5s
WTTA Wettenberg 37.42 311 ⇑ *iP* **P 12 45 07.1 -0.1**
comp=Z,22nm,0.6s,SNR=8.2
WTTA Wettenberg 37.42 311 P **P 12 45 07.1 -0.1**
comp=Z,22nm,0.6s,SNR=8.2
WATA Walderalm 37.48 311 ⇓ *iP* **P 12 45 07.3 -0.4**
comp=Z,35nm,1.0s
WATA Walderalm 37.48 311 P **P 12 45 07.3 -0.4**
comp=Z,35nm,1.0s
FINES FINESS Array B 37.52 339 P **P 12 45 08.2 +0.5**
FINES FINESS Array B 37.52 339 P **P 12 45 08.2 +0.5**
FINES FINESS Array B 37.52 339 P **P 12 45 08.2 +0.5**
comp=Z,18nm,0.8s,baz=138,slow=10,SNR=31
ROTZ Rotzenmuhle 37.76 315 *eP* **P 12 45 10.3 +0.4**
comp=Z,28nm,1.5s
NKC Novy Kostel 37.76 316 *eP* **P 12 45 10.4 +0.5**
NKC Novy Kostel 37.76 316 *eP* **P 12 45 10.4 +0.5**
NKC Novy Kostel 37.76 316 P **P 12 45 10.4 +0.5**
MOTA Moosalm 37.79 311 ⇓ *iP* **P 12 45 09.7 -0.7**
comp=Z,18nm,0.9s,SNR=7.3
MOTA Moosalm 37.79 311 P **P 12 45 09.7 -0.7**
comp=Z,18nm,0.9s,SNR=7.3
CLL Collm 37.80 318 ⇓ *iP* **P 12 45 10.5 +0.3**
CLL pmax pmax
comp=Z,22nm,1.4s
CLL Collm 37.80 318 *eP* **P 12 45 10.5 +0.3**
comp=Z,22nm,1.4s
CLL Collm 37.80 318 ⇓ *iP* **P 12 45 10.5 +0.3**
comp=Z,22nm,1.4s
CLL *i* sP **sP 12 45 15.8 -2.3**
CLL Collm 37.80 318 *i* P **P 12 45 10.5 +0.3**
comp=Z,22nm,1.4s
FETA Feichten 37.96 311 ⇑ *iP* **P 12 45 11.8 0.0**
comp=Z,28nm,0.6s,SNR=14
FETA Feichten 37.96 311 P **P 12 45 11.8 0.0**
comp=Z,28nm,0.6s,SNR=14
RETA Reutte 38.05 311 ⇑ *iP* **P 12 45 11.8 -0.7**
comp=Z,11nm,0.7s
RETA Reutte 38.05 311 P **P 12 45 11.8 -0.7**
comp=Z,11nm,0.7s
FUORN Ofenpass-Fuorn 38.18 310 *eP* **P 12 45 14.6 +0.8**
comp=Z,57nm,2.0s
FUORN Ofenpass-Fuorn 38.18 310 *eP* **P 12 45 14.6 +0.8**
comp=Z,57nm,2.0s
GRF Grafenberg Arr 38.35 315 *eP* **P 12 45 15.3 +0.4**
comp=Z,58nm,1.5s
GRFO Grafenberg 38.35 315 *eP* **P 12 45 15.2 +0.3**
GRFO Grafenberg 38.35 315 *eP* **P 12 45 15.2 +0.3**
GRFO Grafenberg 38.35 315 *eP* **P 12 45 15.2 +0.3**
DAVA Damuels 38.59 311 *i* P **P 12 45 16.9 -0.2**
comp=Z,20nm,0.5s,SNR=17
DAVA Damuels 38.59 311 P **P 12 45 16.9 -0.2**
comp=Z,50nm,0.5s,SNR=17
TUE Stuetta 38.77 310 *eP* **P 12 45 18.6 -0.1**
comp=Z,13nm,1.1s
TUE Stuetta 38.77 310 *eP* **P 12 45 18.6 -0.1**
comp=Z,13nm,1.1s
GTA Gaotai 39.32 62 *eP* **P 12 45 25.2 +1.9**
GTA pP **pP 12 45 29.6 +0.7**
GTA sP **sP 12 45 32.3 +1.1**
GTA S **S 12 51 25.7 +2.1**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,3.5s
GTA LR LR
comp=Z,150nm,18.5s
GTA LR LR
comp=Z,120nm,16.6s
GTA LR LR
comp=Z,220nm,20.4s
CLZ Clausthal 39.52 318 *eP* **P 12 45 25.0 +0.3**
comp=Z,30nm,0.9s
SAOF Saorge 39.63 305 *eP* **P 12 45 26.8 +1.1**
SAOF Saorge 39.63 305 *eP* **P 12 45 26.8 +1.1**
SBF Sospel 39.70 305 *eP* **P 12 45 25.4 -0.9**
comp=Z,74nm,0.9s
SBF Sospel 39.70 305 *eP* **P 12 45 25.4 -0.9**
SBF pmax pmax
comp=Z,74nm,0.9s
SBF Sospel 39.70 305 *eP* **P 12 45 25.4 -0.9**
comp=Z,74nm,0.9s
SBF Sospel 39.70 305 *eP* **P 12 45 25.4 -0.9**
comp=Z,74nm,0.9s
AUTN L'Aution 39.72 305 *eP* **P 12 45 26.8 +0.1**
AUTN L'Aution 39.72 305 *eP* **P 12 45 26.8 +0.1**
LUCF Luceram 39.77 305 *eP* **P 12 45 27.8 +0.9**
LUCF Luceram 39.77 305 *eP* **P 12 45 27.8 +0.9**
TOUF Mont Tournerai 39.85 305 *eP* **P 12 45 27.6 -0.1**
TOUF Mont Tournerai 39.85 305 *eP* **P 12 45 27.6 -0.1**
NRDL Niedersach Rie 39.89 319 *eP* **P 12 45 29.1 +1.5**
comp=Z,52nm,1.3s
SENIN Lac Senin/Sane 40.15 309 *eP* **P 12 45 29.5 -0.7**
SENIN Lac Senin/Sane 40.15 309 *eP* **P 12 45 29.5 -0.7**
MBDF Montbardon 40.27 306 *eP* **P 12 45 30.8 -0.4**
comp=Z,27nm,0.6s
MBDF Montbardon 40.27 306 *eP* **P 12 45 30.8 -0.4**
MBDF pmax pmax
comp=Z,27nm,0.6s
MBDF Montbardon 40.27 306 *eP* **P 12 45 30.8 -0.4**
comp=Z,27nm,0.6s
MBDF Montbardon 40.27 306 *eP* **P 12 45 30.8 -0.4**
comp=Z,27nm,0.6s
BNI Bardonecchia 40.38 307 *eP* **P 12 45 31.4 -0.7**
BNI pmax pmax
comp=Z,28nm,0.9s
BNI Bardonecchia 40.38 307 *eP* **P 12 45 31.4 -0.7**
comp=Z,28nm,0.9s
BNI Bardonecchia 40.38 307 *eP* **P 12 45 31.4 -0.7**
comp=Z,28nm,0.9s
LPG La Plagne 40.39 308 *eP* **P 12 45 31.9 -0.4**
comp=Z,41nm,0.6s
LPG La Plagne 40.39 308 *eP* **P 12 45 31.9 -0.4**
LPG pmax pmax
comp=Z,41nm,0.6s
LPG La Plagne 40.39 308 *eP* **P 12 45 31.9 -0.4**
comp=Z,41nm,0.6s
LPG La Plagne 40.39 308 *eP* **P 12 45 31.9 -0.4**
comp=Z,41nm,0.6s
LPL La Plagne 40.41 308 *eP* **P 12 45 31.9 -0.5**
comp=Z,28nm,0.6s
LPL La Plagne 40.41 308 *eP* **P 12 45 31.9 -0.5**
LPL pmax pmax
comp=Z,28nm,0.6s
LPL La Plagne 40.41 308 *eP* **P 12 45 31.9 -0.5**

	comp=Z,28nm,0.6s								
LPL	**La Plagne**	**40.41**	**308**	*eP*		**P**	**12 45 31.9**	**-0.5**
	comp=Z,28nm,0.6s								
RSL	**Roselend**	**40.51**	**308**⇑	*eP*		**P**	**12 45 32.5**	**-0.6**
RSL	**Roselend**	**40.51**	**308**⇑	*eP*		**P**	**12 45 32.5**	**-0.6**
HINF	**Hinteralfeld**	**40.70**	**311**	*eP*		**P**	**12 45 33.7**	**-0.9**
HINF	**Hinteralfeld**	**40.70**	**311**	*eP*		**P**	**12 45 33.7**	**-0.9**
HINF	**Hinteralfeld**	**40.70**	**311**	*eP*		**P**	**12 45 33.7**	**-0.9**
HINF	**Hinteralfeld**	**40.70**	**311**	*eP*		**P**	**12 45 33.7**	**-0.9**
ORIF	**Oris-en-Rattie**	**40.93**	**307**	*eP*		**P**	**12 45 36.9**	**+0.4**
	comp=Z,24nm,0.9s								
ORIF				*eR*					
	comp=Z,138nm,21.0s								
ORIF	**Oris-en-Rattie**	**40.93**	**307**	*eP*		**P**	**12 45 36.9**	**+0.4**
ORIF					pmax	pmax			
	comp=Z,24nm,0.9s								
ORIF	**Oris-en-Rattie**	**40.93**	**307**	*eP*		**P**	**12 45 36.9**	**+0.4**
	comp=Z,24nm,0.9s								
ORIF	**Oris-en-Rattie**	**40.93**	**307**	*eP*		**P**	**12 45 36.9**	**+0.4**
	comp=Z,24nm,0.9s								
CABF	**La Chapelle**	**41.01**	**309**	*eP*		**P**	**12 45 37.1**	**-0.1**
	comp=Z,64nm,0.7s								
CABF	**La Chapelle**	**41.01**	**309**	*eP*		**P**	**12 45 37.1**	**-0.1**
CABF					pmax	pmax			
	comp=Z,64nm,0.7s								
CABF	**La Chapelle**	**41.01**	**309**	*eP*		**P**	**12 45 37.1**	**-0.1**
	comp=Z,64nm,0.7s								
CABF	**La Chapelle**	**41.01**	**309**	*eP*		**P**	**12 45 37.1**	**-0.1**
	comp=Z,64nm,0.7s								
HAU	**Haudompre**	**41.07**	**311**	*eP*		**P**	**12 45 36.6**	**-1.0**
	comp=Z,15nm,0.7s								
HAU	**Haudompre**	**41.07**	**311**	*eP*		**P**	**12 45 36.6**	**-1.0**
HAU					pmax	pmax			
	comp=Z,15nm,0.7s								
HAU	**Haudompre**	**41.07**	**311**	*eP*		**P**	**12 45 36.6**	**-1.0**
	comp=Z,15nm,0.7s								
HAU	**Haudompre**	**41.07**	**311**	*eP*		**P**	**12 45 36.6**	**-1.0**
	comp=Z,15nm,0.7s								
HFS	**Hagfors**	**41.36**	**331**	LR		LR	13 04 53.7		
	comp=Z,131nm,18.3s,baz=71,slow=39								
VIVF	**Saint-Julien-l**	**41.77**	**306**	*eP*		**P**	**12 45 42.8**	**-0.6**
	comp=Z,22nm,1.0s								
VIVF	**Saint-Julien-l**	**41.77**	**306**	*eP*		**P**	**12 45 42.8**	**-0.6**
VIVF					pmax	pmax			
	comp=Z,22nm,1.0s								
VIVF	**Saint-Julien-l**	**41.77**	**306**	*eP*		**P**	**12 45 42.8**	**-0.6**
	comp=Z,22nm,1.0s								
VIVF	**Saint-Julien-l**	**41.77**	**306**	*eP*		**P**	**12 45 42.8**	**-0.6**
	comp=Z,22nm,1.0s								
LASF	**Ste Croix**	**42.29**	**305**	*eP*		**P**	**12 45 47.4**	**-0.2**
LASF	**Ste Croix**	**42.29**	**305**	*eP*		**P**	**12 45 47.4**	**-0.2**
LASF	**Ste Croix**	**42.29**	**305**	*eP*		**P**	**12 45 47.4**	**-0.2**
CHTO	**Chiang Mai**	**42.37**	**93**	*eP*		**P**	**12 45 49.0**	**+0.4**
CHTO					pmax	pmax			
	comp=Z,1.0nm,0.7s								
CHTO	**Chiang Mai**	**42.37**	**93**	*eP*		**P**	**12 45 49.0**	**+0.4**
	comp=Z,1.1nm,0.7s								
CHTO	**Chiang Mai**	**42.37**	**93**	*eP*		**P**	**12 45 49.0**	**+0.4**
	comp=Z,1.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**42.51**	**94**	P		**P**	**12 45 49.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**42.51**	**94**	P		**P**	**12 45 49.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**42.51**	**94**	P		**P**	**12 45 49.9**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=288,slow=8.8,SNR=10.0								
CMAR					LR	LR	13 07 22.1		
	comp=Z,97nm,18.9s,baz=335,slow=42								
SMF	**Signal de Mont**	**42.55**	**309**	*eP*		**P**	**12 45 49.2**	**-0.5**
	comp=Z,51nm,0.7s								
SMF	**Signal de Mont**	**42.55**	**309**	*eP*		**P**	**12 45 49.2**	**-0.5**
SMF					pmax	pmax			
	comp=Z,51nm,0.7s								
SMF	**Signal de Mont**	**42.55**	**309**	*eP*		**P**	**12 45 49.2**	**-0.5**
	comp=Z,51nm,0.7s								
SMF	**Signal de Mont**	**42.55**	**309**	*eP*		**P**	**12 45 49.2**	**-0.5**
	comp=Z,51nm,0.7s								
LZH	**Lanzhou**	**42.61**	**67**	*eP*		**P**	**12 45 53.5**	**+3.0**
LZH				pP		**pP**	**12 45 56.5**	**+0.3**
LZH				sP		**sP**	**12 45 59.3**	**+0.8**
LZH					pmax	pmax			
	comp=Z,32nm,1.4s								
LZH					pmax	pmax			
	comp=Z,110nm,4.2s								
LOR	**Lormes**	**42.62**	**310**	*eP*		**P**	**12 45 49.5**	**-0.7**
	comp=Z,18nm,0.7s								
LOR	**Lormes**	**42.62**	**310**	*eP*		**P**	**12 45 49.5**	**-0.7**
	comp=Z,18nm,0.7s								
LOR	**Lormes**	**42.62**	**310**	*eP*		**P**	**12 45 49.5**	**-0.7**
	comp=Z,18nm,0.7s								
PLDF	**La Plantade**	**42.62**	**308**	*eP*		**P**	**12 45 50.1**	**-0.3**
PLDF	**La Plantade**	**42.62**	**308**	*eP*		**P**	**12 45 50.1**	**-0.3**
SSF	**Saint Saulge**	**42.83**	**309**	*eP*		**P**	**12 45 51.6**	**-0.3**
	comp=Z,12nm,0.6s								
SSF	**Saint Saulge**	**42.83**	**309**	*eP*		**P**	**12 45 51.6**	**-0.3**
SSF					pmax	pmax			
	comp=Z,12nm,0.6s								
SSF	**Saint Saulge**	**42.83**	**309**	*eP*		**P**	**12 45 51.6**	**-0.3**
	comp=Z,12nm,0.6s								
SSF	**Saint Saulge**	**42.83**	**309**	*eP*		**P**	**12 45 51.6**	**-0.3**
	comp=Z,12nm,0.6s								
NB2	**NORSAR Subarra**	**42.88**	**331**	P		**P**	**12 45 51.4**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=121,slow=8.6								
NB2	**NORSAR Subarra**	**42.88**	**331**	P		**P**	**12 45 51.4**	**-0.8**
	comp=Z,2.0nm,0.6s,SNR=8.7								
NOA	**NORSAR Array B**	**42.88**	**331**	P		**P**	**12 45 51.7**	**-0.4**
NOA	**NORSAR Array B**	**42.88**	**331**	P		**P**	**12 45 51.7**	**-0.4**
NOA	**NORSAR Array B**	**42.88**	**331**	P		**P**	**12 45 51.7**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=121,slow=8.2,SNR=14								
NOA					LR	LR	13 06 14.7		
	comp=Z,101nm,19.0s,baz=125,slow=40								
AVF	**Avril sur Loir**	**42.90**	**309**	*eP*		**P**	**12 45 52.2**	**-0.3**
	comp=Z,10nm,0.6s								
AVF	**Avril sur Loir**	**42.90**	**309**	*eP*		**P**	**12 45 52.2**	**-0.3**
AVF					pmax	pmax			
	comp=Z,11nm,0.6s								
AVF	**Avril sur Loir**	**42.90**	**309**	*eP*		**P**	**12 45 52.2**	**-0.3**
	comp=Z,10nm,0.6s								
AVF	**Avril sur Loir**	**42.90**	**309**	*eP*		**P**	**12 45 52.2**	**-0.3**
	comp=Z,10nm,0.6s								
AGO	**Saint Agoulin**	**42.97**	**308**	*eP*		**P**	**12 45 52.9**	**-0.2**
AGO	**Saint Agoulin**	**42.97**	**308**	*eP*		**P**	**12 45 52.9**	**-0.2**
PYM	**Petit Puy Mans**	**43.03**	**307**	*eP*		**P**	**12 45 53.1**	**-0.6**
PYM	**Petit Puy Mans**	**43.03**	**307**	*eP*		**P**	**12 45 53.1**	**-0.6**
CD2	**Chengdu**	**43.22**	**74**	*eP*		**P**	**12 45 56.2**	**+0.8**
CD2					pmax	pmax			
	comp=Z,10.0nm,1.0s								
MTLF	**Montolieu**	**43.44**	**304**	*eP*		**P**	**12 45 57.3**	**+0.4**
MTLF	**Montolieu**	**43.44**	**304**	*eP*		**P**	**12 45 57.3**	**+0.4**
MTLF	**Montolieu**	**43.44**	**304**	*eP*		**P**	**12 45 57.3**	**+0.4**
MTLF	**Montolieu**	**43.44**	**304**	*eP*		**P**	**12 45 57.3**	**+0.4**
HYF	**Humbligny**	**43.44**	**310**	*eP*		**P**	**12 45 57.3**	**+0.4**
HYF	**Humbligny**	**43.44**	**310**	*eP*		**P**	**12 45 57.3**	**+0.4**
HYF	**Humbligny**	**43.44**	**310**	*eP*		**P**	**12 45 57.3**	**+0.4**
TAM	**Tamanrasset**	**43.54**	**274**	*eP*		**P**	**12 45 58.3**	**+0.2**
TAM					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TAM	**Tamanrasset**	**43.54**	**274**	*eP*		**P**	**12 45 58.3**	**+0.2**
	comp=Z,2.8nm,0.8s								
TAM	**Tamanrasset**	**43.54**	**274**	*eP*		**P**	**12 45 58.3**	**+0.2**
	comp=Z,2.8nm,0.8s								
CAF	**Calviac**	**43.63**	**306**	*eP*		**P**	**12 45 58.5**	**0.0**
	comp=Z,40nm,1.1s								
CAF	**Calviac**	**43.63**	**306**	*eP*		**P**	**12 45 58.5**	**0.0**
CAF					pmax	pmax			
	comp=Z,40nm,1.1s								
CAF	**Calviac**	**43.63**	**306**	*eP*		**P**	**12 45 58.5**	**0.0**
	comp=Z,40nm,1.1s								
CAF	**Calviac**	**43.63**	**306**	*eP*		**P**	**12 45 58.5**	**0.0**
	comp=Z,40nm,1.1s								
TCF	**Toulx Ste Croi**	**43.63**	**308**	*eP*		**P**	**12 45 58.4**	**-0.1**
	comp=Z,18nm,0.6s								
TCF	**Toulx Ste Croi**	**43.63**	**308**	*eP*		**P**	**12 45 58.4**	**-0.1**
TCF					pmax	pmax			
	comp=Z,18nm,0.6s								
TCF	**Toulx Ste Croi**	**43.63**	**308**	*eP*		**P**	**12 45 58.4**	**-0.1**
	comp=Z,18nm,0.6s								
TCF	**Toulx Ste Croi**	**43.63**	**308**	*eP*		**P**	**12 45 58.4**	**-0.1**
	comp=Z,18nm,0.6s								
KMI	**Kunming**	**43.66**	**83**	P		P	12 46 02.7	+3.5
KMI					pmax	pmax			
	comp=Z,10.0nm,0.9s								
ARCES	**ARCESS Array B**	**43.98**	**346**	P		**P**	**12 46 00.8**	**0.0**
ARCES	**ARCESS Array B**	**43.98**	**346**	P		**P**	**12 46 00.9**	**0.0**
ARCES	**ARCESS Array B**	**43.98**	**346**	P		**P**	**12 46 00.8**	**0.0**
	comp=Z,5.8nm,1.0s,baz=87,slow=2.7,SNR=11								
ARCES					LR	LR	13 08 38.8		
	comp=Z,55nm,21.1s,baz=223,slow=42								
RJF	**Les Rejaudoux**	**44.04**	**307**	*eP*		**P**	**12 46 02.1**	**+0.4**
RJF	**Les Rejaudoux**	**44.04**	**307**	*eP*		**P**	**12 46 02.1**	**+0.4**
RJF	**Les Rejaudoux**	**44.04**	**307**	*eP*		**P**	**12 46 02.1**	**+0.4**
LFF	**La Frestale**	**44.57**	**306**	*eP*		**P**	**12 46 06.3**	**+0.4**
	comp=Z,34nm,0.6s								
LFF	**La Frestale**	**44.57**	**306**	*eP*		**P**	**12 46 06.3**	**+0.4**
LFF					pmax	pmax			
	comp=Z,34nm,0.6s								
LFF	**La Frestale**	**44.57**	**306**	*eP*		**P**	**12 46 06.3**	**+0.4**
	comp=Z,34nm,0.6s								
LFF	**La Frestale**	**44.57**	**306**	*eP*		**P**	**12 46 06.3**	**+0.4**
	comp=Z,34nm,0.6s								
SONM	**Songino Array**	**44.64**	**50**	P		**P**	**12 46 07.1**	**+0.5**
SONM	**Songino Array**	**44.64**	**50**	P		**P**	**12 46 07.1**	**+0.5**
SONM	**Songino Array**	**44.64**	**50**	P		**P**	**12 46 07.1**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=262,slow=7.2,SNR=14								
ULN	**Ulaanbaatar**	**45.08**	**50**	*i* P		**P**	**12 46 10.8**	**+0.6**
	comp=Z,5.0nm,1.3s								
MFF	**Saint Martin d**	**45.28**	**308**	*eP*		**P**	**12 46 11.0**	**-0.6**
	comp=Z,29nm,0.9s								
MFF	**Saint Martin d**	**45.28**	**308**	*eP*		**P**	**12 46 11.0**	**-0.6**
MFF					pmax	pmax			
	comp=Z,29nm,0.9s								
MFF	**Saint Martin d**	**45.28**	**308**	*eP*		**P**	**12 46 11.0**	**-0.6**
	comp=Z,29nm,0.9s								
MFF	**Saint Martin d**	**45.28**	**308**	*eP*		**P**	**12 46 11.0**	**-0.6**
	comp=Z,29nm,0.9s								
LDF	**La Druitiere**	**45.43**	**311**	*eP*		**P**	**12 46 12.0**	**-0.7**
	comp=Z,19nm,0.6s								
LDF	**La Druitiere**	**45.43**	**311**	*eP*		**P**	**12 46 12.0**	**-0.7**
LDF					pmax	pmax			
	comp=Z,19nm,0.6s								
LDF	**La Druitiere**	**45.43**	**311**	*eP*		**P**	**12 46 12.0**	**-0.7**
	comp=Z,19nm,0.6s								
LDF	**La Druitiere**	**45.43**	**311**	*eP*		**P**	**12 46 12.0**	**-0.7**
	comp=Z,19nm,0.6s								
FLN	**La Foliniere**	**45.68**	**311**	*eP*		**P**	**12 46 14.1**	**-0.6**
	comp=Z,43nm,0.8s								
FLN	**La Foliniere**	**45.68**	**311**	*eP*		**P**	**12 46 14.1**	**-0.6**
FLN					pmax	pmax			
	comp=Z,43nm,0.8s								
FLN	**La Foliniere**	**45.68**	**311**	*eP*		**P**	**12 46 14.1**	**-0.6**
	comp=Z,43nm,0.8s								
FLN	**La Foliniere**	**45.68**	**311**	*eP*		**P**	**12 46 14.1**	**-0.6**
	comp=Z,43nm,0.8s								
SJPF	**Ste Jean**	**45.95**	**304**	*eP*		**P**	**12 46 17.2**	**+0.2**
	comp=Z,22nm,0.7s								
SJPF	**Ste Jean**	**45.95**	**304**	*eP*		**P**	**12 46 17.2**	**+0.2**
SJPF					pmax	pmax			
	comp=Z,22nm,0.7s								
SJPF	**Ste Jean**	**45.95**	**304**	*eP*		**P**	**12 46 17.2**	**+0.2**
	comp=Z,22nm,0.7s								
SJPF	**Ste Jean**	**45.95**	**304**	*eP*		**P**	**12 46 17.2**	**+0.2**
	comp=Z,22nm,0.7s								
GYA	**Guiyang**	**46.70**	**80**	*eP*		**P**	**12 46 23.2**	**0.0**
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
SGMF	**Saint Gilles**	**47.02**	**311**	*eP*		**P**	**12 46 24.8**	**-0.4**
	comp=Z,28nm,0.7s								
SGMF	**Saint Gilles**	**47.02**	**311**	*eP*		**P**	**12 46 24.8**	**-0.4**
SGMF					pmax	pmax			
	comp=Z,29nm,0.7s								
SGMF	**Saint Gilles**	**47.02**	**311**	*eP*		**P**	**12 46 24.8**	**-0.4**
	comp=Z,28nm,0.7s								
SGMF	**Saint Gilles**	**47.02**	**311**	*eP*		**P**	**12 46 24.8**	**-0.4**
	comp=Z,28nm,0.7s								
QUIF	**Quistinic**	**47.41**	**310**	*eP*		**P**	**12 46 27.7**	**-0.6**
QUIF	**Quistinic**	**47.41**	**310**	*eP*		**P**	**12 46 27.7**	**-0.6**
QUIF	**Quistinic**	**47.41**	**310**	*eP*		**P**	**12 46 27.7**	**-0.6**
QUIF	**Quistinic**	**47.41**	**310**	*eP*		**P**	**12 46 27.7**	**-0.6**
ESDC	**Sonseca Array**	**48.18**	**299**	P		**P**	**12 46 33.9**	**-0.6**
ESDC	**Sonseca Array**	**48.18**	**299**	P		**P**	**12 46 33.9**	**-0.6**
ESDC	**Sonseca Array**	**48.18**	**299**	P		**P**	**12 46 33.9**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=80,slow=8.2,SNR=11								
HHC	**Hu-ho-hao-te**	**48.28**	**59**	*eP*		**P**	**12 46 34.0**	**-1.3**
HHC					sP	**sP**	**12 46 44.1**	**+0.8**
HHC					PP	**PP**	**12 48 28.1**	**+0.4**
HHC					S	**S**	**12 53 31.4**	**-2.9**
HHC					pmax	pmax			
	comp=Z,47nm,1.0s								
HHC					pmax	pmax			
	comp=Z,250nm,6.1s								
HHC					LR	LR			
	comp=Z,310nm,15.9s								
HHC					LR	LR			
	comp=Z,200nm,15.9s								
HHC					LR	LR			
	comp=Z,180nm,15.8s								
LSZ	**Lusaka**	**50.19**	**213**	*eP*		**P**	**12 46 50.4**	**+0.3**
	comp=Z,9.2nm,1.5s								
LSZ	**Lusaka**	**50.19**	**213**	*eP*		**P**	**12 46 50.4**	**+0.3**
	comp=Z,9.2nm,1.5s								
MVO	**Moncorvo**	**50.37**	**301**	*eP*		**P**	**12 46 52.2**	**+1.0**
	comp=Z,36nm,1.6s								
MVO	**Moncorvo**	**50.37**	**301**	*eP*		**P**	**12 46 52.2**	**+1.0**
	comp=Z,36nm,1.6s								
TOA0	**Torodi Ar. Sit**	**50.57**	**263**	*eP*		**P**	**12 46 52.4**	**-0.6**
TOA0	**Torodi Ar. Sit**	**50.57**	**263**	*eP*		**P**	**12 46 52.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**50.57**	**263**	P		**P**	**12 46 52.5**	**-0.5**
TORD					ScP	**ScP**	**12 52 03.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**50.57**	**263**	P		**P**	**12 46 52.5**	**-0.5**
TORD					ScP	**ScP**	**12 52 03.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**50.57**	**263**	P		**P**	**12 46 52.5**	**-0.5**
	comp=Z,12nm,0.7s,baz=58,slow=7.3,SNR=111								
TORD					ScP	**ScP**	**12 52 03.9**	**-2.0**
	comp=Z,0.9nm,0.9s,baz=64,slow=3.2,SNR=4.2								
PBAR	**Barrancos**	**50.74**	**297**	*eP*		**P**	**12 46 54.4**	**+0.4**
	comp=Z,40nm,1.2s								
PBAR	**Barrancos**	**50.74**	**297**	*eP*		**P**	**12 46 54.4**	**+0.4**
	comp=Z,40nm,1.2s								
PCBR	**Castelo Branco**	**50.86**	**300**	*eP*		**P**	**12 46 56.0**	**+1.2**
PCBR	**Castelo Branco**	**50.86**	**300**	*eP*		**P**	**12 46 56.0**	**+1.2**
PCAB	**Cabril**	**51.06**	**302**	*eP*		**P**	**12 46 57.0**	**+0.6**
	comp=Z,41nm,1.3s								
PCAB	**Cabril**	**51.06**	**302**	*eP*		**P**	**12 46 57.0**	**+0.6**
	comp=Z,41nm,1.3s								
PVAQ	**Vaqueiros**	**51.39**	**297**	*eP*		**P**	**12 46 58.9**	**0.0**
	comp=Z,23nm,1.7s								
PVAQ	**Vaqueiros**	**51.39**	**297**	*eP*		**P**	**12 46 58.9**	**0.0**
	comp=Z,23nm,1.7s								
EVO	**Evora**	**51.45**	**298**	*eP*		**P**	**12 46 59.3**	**0.0**
EVO	**Evora**	**51.45**	**298**	*eP*		**P**	**12 47 00.4**	**+1.1**
	comp=Z,30nm,1.4s								
EVO	**Evora**	**51.45**	**298**	*eP*		**P**	**12 47 00.4**	**+1.1**
	comp=Z,30nm,1.4s								
EVOP	**Sao Brissos**	**51.54**	**298**	*eP*		**P**	**12 46 59.3**	**-0.6**
EVOP	**Sao Brissos**	**51.54**	**298**	*eP*		**P**	**12 46 59.3**	**-0.6**
EVOP	**Sao Brissos**	**51.54**	**298**	*eP*		**P**	**12 46 59.3**	**-0.6**
PBDV	**Barranco-do-Ve**	**51.59**	**296**	*eP*		**P**	**12 47 00.4**	**0.0**
	comp=Z,41nm,1.6s								
PBDV	**Barranco-do-Ve**	**51.59**	**296**	*eP*		**P**	**12 47 00.4**	**0.0**
	comp=Z,41nm,1.6s								
PTOM	**Tomar**	**51.60**	**299**	*eP*		**P**	**12 47 00.6**	**+0.2**
	comp=Z,32nm,0.9s								
PTOM	**Tomar**	**51.60**	**299**	*eP*		**P**	**12 47 00.6**	**+0.2**
	comp=Z,32nm,0.9s								
BJI	**Beijing**	**51.86**	**60**	P		**P**	**12 47 00.9**	**-1.4**
BJI					pmax	pmax			
	comp=Z,9.0nm,0.5s								
BJI					pmax	pmax			
	comp=Z,160nm,3.8s								
PNCL	**Nicolau / Gran**	**51.91**	**298**	*eP*		**P**	**12 47 03.2**	**+0.4**
	comp=Z,30nm,2.0s								
PNCL	**Nicolau / Gran**	**51.91**	**298**	*eP*		**P**	**12 47 03.2**	**+0.4**
	comp=Z,30nm,2.0s								
NJ2	**Nanjing**	**55.57**	**69**	*eP*		**P**	**12 47 30.6**	**+1.0**
NJ2					pmax	pmax			
	comp=Z,40nm,1.2s								
CN2	**Changchun**	**58.10**	**54**	*eP*		**P**	**12 47 48.5**	**+1.1**
YAK	**Yakutsk**	**58.57**	**32**	*i* P		**P**	**12 47 49.9**	**-0.4**
YAK					pmax	pmax			
	comp=Z,17nm,1.2s								
YAK	**Yakutsk**	**58.57**	**32**	*i* P		**P**	**12 47 49.9**	**-0.4**
	comp=Z,17nm,1.2s								
DBIC	**Dimbokro**	**59.29**	**260**	P		**P**	**12 47 55.0**	**-1.1**
DBIC	**Dimbokro**	**59.29**	**260**	P		**P**	**12 47 55.0**	**-1.1**
DBIC	**Dimbokro**	**59.29**	**260**	P		**P**	**12 47 55.0**	**-1.1**
	comp=Z,5.3nm,0.8s,baz=41,slow=9.0,SNR=9.3								
KIC	**Kosan Boka**	**59.34**	**260**	*eP*		**P**	**12 47 55.9**	**-0.6**
	comp=Z,20nm,1.1s								
TIC	**Toumodi**	**59.45**	**260**	*eP*		**P**	**12 47 56.5**	**-0.7**
	comp=Z,9.9nm,0.2s								
LIC	**Lamto**	**59.66**	**260**⇑	*i* P		**P**	**12 47 58.1**	**-0.6**
	comp=Z,17nm,0.9s								
LIC	**Lamto**	**59.66**	**260**	*eP*		**P**	**12 47 58.0**	**-0.6**
	comp=Z,40nm,1.3s								
LIC	**Lamto**	**59.66**	**260**⇑	*i* P		**P**	**12 47 58.1**	**-0.6**
	comp=Z,17nm,0.9s								
LIC	**Lamto**	**59.66**	**260**⇑	*i* P		**P**	**12 47 58.1**	**-0.6**
	comp=Z,17nm,0.9s								
LBTB	**Lobatse**	**59.85**	**210**	*eP*		**P**	**12 48 00.7**	**+1.0**
	comp=Z,3.9nm,0.6s								
LBTB	**Lobatse**	**59.85**	**210**	*eP*		**P**	**12 48 00.7**	**+1.0**
	comp=Z,3.9nm,0.6s								
MDJ	**Mudanjiang**	**60.85**	**52**	P		**P**	**12 48 05.8**	**-0.6**
MDJ					pmax	pmax			
	comp=Z,5.0nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,120nm,7.5s								
KSAR	**Wonju Array Be**	**61.35**	**61**	P		**P**	**12 48 09.7**	**-0.2**
KSAR	**Wonju Array Be**	**61.35**	**61**	P		**P**	**12 48 09.7**	**-0.2**
KSRS	**Korea Array**	**61.37**	**61**	P		**P**	**12 48 09.7**	**-0.3**
	comp=Z,35nm,19.6s								
KSRS	**Korea Array**	**61.37**	**61**	P		**P**	**12 48 09.7**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=281,slow=7.0,SNR=26								
KSRS					LR	LR	13 18 02.3		
	comp=Z,35nm,19.6s,baz=30,slow=39								
BOSA	**Boshof**	**63.15**	**208**	P		**P**	**12 48 21.7**	**-0.3**
BOSA	**Boshof**	**63.15**	**208**	P		**P**	**12 48 21.7**	**-0.3**
BOSA	**Boshof**	**63.15**	**208**	P		**P**	**12 48 21.7**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=31,slow=6.3,SNR=9.8								
SUMG	**Summit**	**63.53**	**340**	*i* P		**P**	**12 48 25.1**	**+0.7**
SUMG					pmax	pmax			
	comp=Z,17nm,0.8s								
SUMG	**Summit**	**63.53**	**340**	*i* P		**P**	**12 48 25.1**	**+0.7**
	comp=Z,17nm,0.8s								
SUMG	**Summit**	**63.53**	**340**	*eP*		**P**	**12 48 25.1**	**+0.7**
	comp=Z,14nm,0.8s								
SUMG	**Summit**	**63.53**	**340**	*i* P		**P**	**12 48 25.1**	**+0.7**
	comp=Z,17nm,0.8s								
HABR	**Khabarovsk**	**63.62**	**47**	*eP*		**P**	**12 48 23.4**	**-1.5**
HABR				*e**PP		pP	12 48 39.3	+8.5
HABR				*e*			12 48 59.0		
HABR				*eS*		S	12 56 53.1	-4.8
HABR				*e*			12 57 12.4		
HABR				*e*			12 57 20.9		
HABR				*e*			12 58 10.2		
HABR				*eSS*		**SS**	**13 01 02.3**	**-2.8**
HABR					pmax	pmax			
	comp=Z,81nm,2.3s								
HABR					MLR	MLR			
	comp=Z,105nm,17.0s								
HABR	**Khabarovsk**	**63.62**	**47**	*eP*		**P**	**12 48 23.4**	**-1.5**
	comp=Z,81nm,2.3s								
HABR	**Khabarovsk**	**63.62**	**47**	*eP*cP		**PcP**	**12 48 59.0**	**-2.1**
SEY	**Seymchan**	**68.65**	**29**	*i* P		**P**	**12 48 58.1**	**+1.2**
SEY	**Seymchan**	**68.65**	**29**	*i* P		**P**	**12 48 58.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**69.04**	**47**	*i* P		**P**	**12 48 58.9**	**-0.7**
YSS					pmax	pmax			
	comp=Z,26nm,1.0s								
YSS	**Yuzh-Sakhalins**	**69.04**	**47**	*i* P		**P**	**12 48 58.9**	**-0.7**
	comp=Z,26nm,1.0s								
MAJO	**Matsushiro**	**69.47**	**59**	*eP*		**P**	**12 49 03.0**	**+0.4**
MAJO					pmax	pmax			
	comp=Z,71nm,2.5s								
MAJO	**Matsushiro**	**69.47**	**59**	*eP*		**P**	**12 49 03.0**	**+0.4**
	comp=Z,71nm,2.5s								
ERM	**Erimo**	**71.06**	**52**⇑	*i* P		**P**	**12 49 12.6**	**+0.5**
ERM	**Erimo**	**71.06**	**52**	*i* P	

MTVR				S	Sn	12 41 23.8	-1.9
OSSR	**Ossora**	**7.69**	**329**	P	Pn	12 40 04.4	+5.1
GNL	**Ganaly**	**7.75**	**281**	*e*P	Pn	12 40 04.4	+4.0
GNL				S	Sn	**12 41 25.8**	**-1.5**
ASAK	**Asacha**	**7.87**	**271**	P	Pn	**12 40 04.5**	**+2.5**
PETK	**Petropavlovsk-**	**7.91**	**277**	P	Pn	**12 40 04.3**	**+1.8**
PETK						12 41 32.0	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.91**	**277**	Pn	Pn	**12 40 04.2**	**+1.8**
	comp=N,0.5nm,0.3s,baz=91,slow=18,SNR=24						
PETK				Sn	Sn	**12 41 32.0**	**+0.9**
	comp=N,1.1nm,0.3s,baz=314,slow=26,SNR=4.8						
ILAR	**Eielson Array**	**24.37**	**44**	P	P	**12 43 23.8**	**-1.1**
	comp=N,0.5nm,0.6s,baz=253,slow=7.2,SNR=10.0						
H11N2	**WAKE ISLAND Hy**	**33.26**	**187**	T	T	13 19 57.9	
	baz=7.2,slow=77,SNR=271						
H11N3	**WAKE ISLAND Hy**	**33.27**	**187**	T	T	13 20 08.4	
	baz=7.2,slow=77,SNR=268						
H11N1	**WAKE ISLAND Hy**	**33.27**	**187**	T	T	13 20 01.5	
	baz=7.2,slow=77,SNR=370						
H11S1	**WAKE ISLAND Hy**	**34.48**	**187**	T	T	13 21 33.9	
	baz=6.4,slow=78,SNR=443						
H11S3	**WAKE ISLAND Hy**	**34.50**	**187**	T	T	13 21 34.7	
	baz=6.4,slow=78,SNR=341						
H11S2	**WAKE ISLAND Hy**	**34.50**	**187**	T	T	13 21 35.5	
	baz=6.4,slow=78,SNR=310						
PDAR	**Pinedale Array**	**51.79**	**67**	P	P	**12 47 14.8**	**-0.1**
	comp=N,0.4nm,0.6s,baz=291,slow=1.3,SNR=4.1						
TXAR	**Lajitas Array**	**64.59**	**75**	P	P	**12 48 44.6**	**+0.2**
	comp=N,0.2nm,0.5s,baz=321,slow=6.6,SNR=5.4						
NOA	**NORSAR Array B**	**65.23**	**349**	P	P	**12 48 48.1**	**0.0**
	comp=N,1.1nm,0.6s,baz=355,slow=4.5,SNR=3.3						
WRA	**Warramunga Arr**	**79.14**	**215**	P	P	**12 50 12.4**	**+0.9**
	comp=N,0.4nm,0.7s,baz=25,slow=6.0,SNR=3.8						

*ISCJB **02** 12:51:57.4±0.7, 67.°54N±0.°04×33.°5E±0.°1, h0km, mb3.4/3, MS3.8/1, Error ellipse: s-maj=6.9km s-min=5.0km az=36.9*
*HEL **02** 12:51:57.1±0.6, 67.°63N×34.°36E, h0km, ML3.1, Explosion*
*NAO **02** 12:51:59.2±1.2, 67.°57N×34.°05E, ML3.5*
*CSEM **02** 12:52:00.7±0.9, 67.°59N×33.°64E, h1km, ML3.5, Error ellipse: s-maj=18.5km s-min=12.8km az=70.0, Mining explosion.*
*IDC **02** 12:52:00.1±0.9, 67.°69N×33.°96E, h0km, mb3.4/3, mb1 3.6/9, mb1mx3.4/32, mbtmp3.6/9, ML3.6/6, MS3.8/1, Ms1 3.8/1, ms1mx2.6/29, Error ellipse: s-maj=11.2km s-min=7.8km az=65.0*

ISC 02 12:51:59.3±1.0, 67.°56N±0.°04×33.°77E±0.°05, h0km, n42, σ1s54/53, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.30**	**279**	Pg	**Pb**	**12 52 07.8**	**+0.3**
	baz=95,slow=16						
APA0				Lg	Lg	12 52 13.5	
	baz=80,slow=37						
APA0				Rg	Rg	12 52 15.4	
	baz=85,slow=28						
APA0	**Apatity Array**	**0.30**	**279**	Pg	**Pb**	**12 52 07.8**	**+0.3**
	baz=95,slow=16						
APA0				Lg	Lg	12 52 13.5	
	baz=80,slow=37						
APA0				Rg	Rg	12 52 15.4	
	baz=85,slow=28						
APA0	**Apatity Array**	**0.30**	**279**	Pg	**Pb**	**12 52 07.8**	**+0.3**
	SNR=8.0						
APA0				Lg	Lg	12 52 13.5	
VRF	**Varrio**	**1.60**	**279**	PN	**Pb**	**12 52 29.8**	**+0.1**
	baz=89						
VRF				SG	**Sg**	**12 52 51.5**	**+0.9**
VRF				MSG		12 52 51.5	
	comp=Z,80nm,0.2s						
VRF	**Varrio**	**1.60**	**279**	Pn	**Pb**	**12 52 29.7**	**+0.1**
VRF				Sg	**Sg**	**12 52 51.5**	**+0.9**
KU6	**Riekki**	**2.18**	**227**	PN	**Pb**	**12 52 39.1**	**-0.3**
	baz=47						
KU6				SG	**Sg**	**12 53 09.8**	**+0.7**
KU6				MSG		12 53 09.8	
	comp=Z,64nm,0.4s						
KU6	**Riekki**	**2.18**	**227**	Pn	**Pb**	**12 52 39.1**	**-0.3**
KU6				Sg	**Sg**	**12 53 09.8**	**+0.7**
SGF	**Sodankyl**	**2.79**	**271**	SG	**Sb**	**12 53 26.5**	**+2.0**
SGF				MSG		12 53 26.5	
	comp=Z,76nm,0.4s						
SGF	**Sodankyl**	**2.79**	**271**	Sg	**Sb**	**12 53 26.5**	**+2.0**
RNF	**Rovaniemi**	**3.18**	**256**	PN	**Pn**	**12 52 52.1**	**+1.6**
RNF				SG	**Sg**	**12 53 46.7**	**+5.4**
RNF				MSG		12 53 46.7	
	comp=Z,129nm,0.4s						
RNF	**Rovaniemi**	**3.18**	**256**	Pn	**Pn**	**12 52 52.1**	**+1.6**
KEV	**Kevo**	**3.31**	**315**	PN	**Pn**	**12 52 52.5**	**+0.3**
	baz=121						
KEV				SG	**Sb**	**12 53 39.9**	**+0.4**
KEV				MSG		12 53 39.9	
	comp=Z,95nm,0.4s						
KEV	**Kevo**	**3.31**	**315**	Pn	**Pn**	**12 52 52.5**	**+0.3**
ARA0	**ARCESS Array S**	**3.62**	**307**	Pn	**Pn**	**12 52 57.3**	**+0.7**
	baz=121,slow=16						
ARA0				Pg	**Pb**	**12 53 05.4**	**+1.3**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**12 53 38.8**	**-1.2**
	baz=118,slow=28						
ARA0				Lg	Lg	12 53 49.5	
	baz=111,slow=37						
ARA0	**ARCESS Array S**	**3.62**	**307**	Pn	**Pn**	**12 52 57.3**	**+0.7**
	baz=121,slow=16						
ARA0				Pg	**Pb**	**12 53 05.4**	**+1.3**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**12 53 38.8**	**-1.2**
	baz=118,slow=28						
ARA0				Lg	Lg	12 53 49.5	
	baz=111,slow=37						
ARA0	**ARCESS Array S**	**3.62**	**307**	PN	**Pn**	**12 52 56.8**	**+0.2**
	baz=115						
ARA0	**ARCESS Array S**	**3.62**	**307**	Pn	**Pn**	**12 52 57.3**	**+0.7**
	SNR=543						
ARA0				Sn	**Sn**	**12 53 38.8**	**-1.2**
	SNR=6.2						
ARA0				Lg	Lg	12 53 49.5	
	SNR=5.5						
ARCES	**ARCESS Array B**	**3.62**	**307**	Pn	**Pn**	**12 52 57.2**	**+0.6**
	comp=Z,11nm,0.3s,baz=121,slow=14,SNR=510						
ARCES				Pg	**Pb**	**12 53 05.1**	**+1.0**
	comp=Z,11nm,0.3s,baz=118,slow=17,SNR=24						
ARCES				Sn	**Sn**	**12 53 38.9**	**-1.1**
	comp=Z,17nm,0.3s,baz=120,slow=23,SNR=14						
ARCES				Lg	Lg	12 53 50.5	
	comp=Z,31nm,0.3s,baz=114,slow=34,SNR=14						
HEF	**Hetta**	**3.90**	**287**	PN	**Pn**	**12 53 01.4**	**+1.1**
	baz=95						
HEF				SG	**Sg**	**12 54 03.1**	**-1.3**
HEF				MSG		12 54 03.1	
	comp=Z,38nm,0.4s						
HEF	**Hetta**	**3.90**	**287**	Pn	**Pn**	**12 53 01.4**	**+1.1**
HEF				Sg	**Sg**	**12 54 03.1**	**-1.3**
TRO	**Tromso**	**5.81**	**298**	*e*S	**Sn**	**12 54 31.5**	**-2.3**
TRO				AML	AML	12 54 50.4	
	comp=Z,23nm,0.7s						
TRO	**Tromso**	**5.81**	**298**	*e*S	**Sn**	**12 54 31.5**	**-2.3**
	comp=Z,23nm,0.7s,SNR=49						
FIA0	**FINESS Array S**	**6.97**	**212**	Pn	**Pn**	**12 53 42.8**	**+0.3**
	baz=21,slow=14						
FIA0				Sn	**Sn**	**12 55 00.9**	**-1.5**
	baz=40,slow=22						
FIA0				Lg	Lg	12 55 36.3	
	baz=29,slow=28						
FIA0	**FINESS Array S**	**6.97**	**212**	Pn	**Pn**	**12 53 42.8**	**+0.3**
	baz=21,slow=14						
FIA0				Sn	**Sn**	**12 55 00.9**	**-1.5**
	baz=40,slow=22						
FIA0				Lg	Lg	12 55 36.3	
	baz=29,slow=28						
FIA0	**FINESS Array S**	**6.97**	**212**	Pn	**Pn**	**12 53 42.8**	**+0.3**
	SNR=1.8						
FINES	**FINESS Array B**	**6.97**	**212**	Pn	**Pn**	**12 53 44.0**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=27,slow=13,SNR=25						
FINES				Sn	**Sn**	**12 55 01.3**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=33,slow=23,SNR=4.3						
FINES				Lg	Lg	12 55 35.0	
	comp=Z,2.0nm,0.3s,baz=36,slow=25,SNR=4.1						
MOR8	**Moi Rana**	**7.73**	**269**	*e*S	Sn	12 55 10.8	-10
MOR8				AML	AML	12 56 05.2	
	comp=Z,35nm,0.3s						
HFS	**Hagfors**	**11.52**	**239**	Pn	Pn	12 54 41.1	-3.5
	baz=45,slow=11						
HFS				Sn	Sn	12 56 45.9	-7.9
	baz=45,slow=28						
HFS				Lg	Lg	12 57 58.2	
	baz=51,slow=28						
HFS	**Hagfors**	**11.52**	**239**	Pn	Pn	12 54 41.1	-3.5
	baz=45,slow=11						
HFS				Sn	Sn	12 56 45.9	-7.9
	baz=45,slow=28						
HFS				Lg	Lg	12 57 58.2	
	baz=51,slow=28						
HFS	**Hagfors**	**11.52**	**239**	Pn	**Pn**	**12 54 42.8**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=39,slow=9.4,SNR=3.8						
HFS				Sn	**Sn**	**12 56 48.6**	**-5.3**
	comp=Z,0.3nm,0.3s,baz=48,slow=26,SNR=3.7						
HFS				Lg	Lg	12 57 57.2	
	comp=Z,1.1nm,0.3s,baz=50,slow=28,SNR=4.2						
NB2	**NORSAR Subarra**	**11.71**	**247**	Pn	**Pn**	**12 54 46.8**	**-0.6**
	baz=44,slow=12						
NB2	**NORSAR Subarra**	**11.71**	**247**	Pn	**Pn**	**12 54 46.8**	**-0.6**
	baz=44,slow=12						
NB2	**NORSAR Subarra**	**11.71**	**247**	Pn	**Pn**	**12 54 46.8**	**-0.6**
	SNR=3.8						
NOA	**NORSAR Array B**	**11.71**	**247**	Pn	**Pn**	**12 54 45.8**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=46,slow=11,SNR=6.2						
NOA				Lg	Lg	12 58 04.4	
	comp=Z,1.0nm,0.3s,baz=254,slow=9.4,SNR=4.9						
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	Pn	12 54 44.1	-3.6
	baz=141,slow=16						
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	Pn	12 54 44.1	-3.6
	baz=141,slow=16						
SPITS	**Spitsbergen Ar**	**11.74**	**342**	Pn	Pn	12 54 43.9	-3.8
	baz=152,slow=23,SNR=21						
AKASG	**Malin Array Be**	**17.06**	**190**	Pn	Pn	12 55 52.6	-6.2
	comp=Z,1.6nm,0.3s,baz=2.9,slow=12,SNR=4.0						
AKASG				Sn	Sn	12 58 56.0	-13
	comp=Z,1.1nm,0.3s,baz=3.4,slow=22,SNR=6.2						
AKTO	**Aktyubinsk**	**20.98**	**133**	P	**P**	**12 56 43.0**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=327,slow=8.9,SNR=6.3						
BVAR	**Borovoye Array**	**22.78**	**111**	P	**P**	**12 57 03.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=332,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**32.26**	**105**	P	**P**	**12 58 29.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=311,slow=7.1,SNR=3.1						
PETK	**Petropavlovsk-**	**52.59**	**39**	LR	LR	13 26 06.9	
	comp=Z,84nm,18.2s,baz=102,slow=39						

*IDC **02** 13:54:36.5±2.2, 18.°39S×177.°97W, h648km±29km, mb3.3/10, mb1 3.5/11, mb1mx3.3/22, mbtmp3.4/11, Error ellipse: s-maj=22.2km s-min=14.0km az=157.0*

ISC 02 13:54:31.8±1.3, 18.°0S±0.°2×177.°9W±0.°2, h600km, n16, σ1s38/14, mb4.0/9, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.24**	**252**	P	**P**	**13 57 44.2**	**+2.0**
	0.8nm,0.3s,baz=83,slow=17,SNR=11						
URZ	**Urewera**	**20.61**	**191**	P	**P**	**13 58 29.2**	**-1.6**
	6.7nm,0.7s,baz=350,slow=5.8,SNR=12						
RPZ	**Rata Peaks**	**27.24**	**198**	P	**P**	**13 59 29.7**	**+0.3**
	7.6nm,0.7s,baz=17,slow=5.3,SNR=5.9						
PMG	**Port Moresby**	**34.95**	**280**	P	P	14 00 38.2	+2.7
	9.4nm,0.8s,baz=82,slow=7.1,SNR=4.7						
STKA	**Stephens Creek**	**38.98**	**241**	P	**P**	**14 01 09.2**	**+1.1**
	1.3nm,0.6s,baz=137,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**14 01 56.4**	**+0.3**
	1.9nm,0.3s,baz=96,slow=7.7,SNR=95						
WRA				PcP	**PcP**	**14 03 23.8**	**+0.2**
	0.1nm,0.3s,baz=89,slow=3.7,SNR=4.6						
ASAR	**Alice Springs**	**45.21**	**254**	P	**P**	**14 01 58.0**	**+1.0**
	6.2nm,0.8s,baz=85,slow=8.6,SNR=56						
ASAR				PcP	**PcP**	**14 03 24.2**	**+0.1**
	0.7nm,0.4s,baz=106,slow=3.8,SNR=5.4						
ASAR				S	**S**	**14 07 51.3**	**-3.3**
	1.0nm,0.8s,baz=89,slow=15,SNR=9.0						
PETK	**Petropavlovsk-**	**73.93**	**345**	P	P	14 05 08.3	+1.6
	3.0nm,0.9s,baz=128,slow=8.3,SNR=6.5						
TXAR	**Lajitas Array**	**85.67**	**57**	P	P	14 06 11.1	+2.5
	2.5nm,0.7s,baz=227,slow=6.4,SNR=36						
ILAR	**Eielson Array**	**85.91**	**13**	P	P	14 06 09.9	+1.1
	1.0nm,0.5s,baz=222,slow=4.8,SNR=26						
PDAR	**Pinedale Array**	**87.12**	**43**	P	P	14 06 17.7	+2.4
	2.0nm,0.8s,baz=207,slow=2.5,SNR=14						
ARCES	**ARCESS Array B**	**126.53**	**350**	PKP	**PKPdf**	**14 12 26.9**	**-0.1**
	6.8nm,0.9s,baz=61,slow=0.8,SNR=9.7						
FINES	**FINESS Array B**	**133.45**	**344**	PKP	**PKPdf**	**14 12 40.4**	**+0.1**
	0.9nm,0.6s,baz=20,slow=6.1,SNR=3.5						
BRTR	**Keskin Array B**	**145.22**	**315**	PKPbc	**PKPab**	**14 13 04.2**	**-0.8**
	1.1nm,0.5s,baz=113,slow=3.2,SNR=5.1						
CLL	**Collm**	**145.70**	**348**	*i*PKP	**PKPab**	**14 13 05.8**	**-0.4**
	comp=Z,9.0nm,1.0s						
BRG	**Berggiesshubel**	**145.91**	**347**	*e*(P)	**PKPab**	**14 13 06.4**	**-0.7**
	comp=Z,9.2nm,1.2s						

*IDC **02** 13:54:56.8±1.0, 45.°12N×28.°00W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/30, mbtmp3.6/6, MS3.5/6, Ms1 3.5/6, ms1mx3.1/36, Error ellipse: s-maj=43.2km s-min=24.5km az=19.0*
*ISCJB **02** 13:54:57.1±0.9, 45.°1N±0.°2×28.°1W±0.°2, h14km, mb3.6/6, MS3.4/6, Error ellipse: s-maj=37.5km s-min=20.9km az=20.1*

ISC 02 13:54:59.0±1.0, 45.°1N±0.°3×28.°0W±0.°2, h14km, n12, σ0s54/8, mb3.8/6, MS3.4/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAVOX	**Davos/Dischmat**	**26.23**	**73**	LR	LR	14 09 59.5	
	comp=Z,119nm,18.8s,baz=297,slow=34						
SCHQ	**Schefferville**	**26.50**	**306**	LR	LR	14 10 08.7	
	comp=Z,41nm,20.2s,baz=37,slow=34						
NOA	**NORSAR Array B**	**27.91**	**41**	LR	LR	14 10 13.3	
	comp=Z,77nm,19.9s,baz=270,slow=33						
VRAC	**Vranov**	**30.25**	**66**	LR	LR	14 12 37.3	
	comp=Z,85nm,19.8s,baz=294,slow=35						
TORD	**Torodi Ar. Bea**	**40.63**	**132**	P	**P**	**14 02 38.4**	**-0.2**
	0.6nm,0.9s,baz=326,slow=7.0,SNR=2.8						
TORD				LR	LR	14 18 07.6	
	comp=Z,71nm,18.3s,baz=295,slow=34						
PDAR	**Pinedale Array**	**56.35**	**299**	P	**P**	**14 04 38.8**	**-0.9**
	1.1nm,1.1s,baz=48,slow=6.6,SNR=4.3						
TXAR	**Lajitas Array**	**60.19**	**283**	P	**P**	**14 05 07.0**	**+0.4**
	0.4nm,0.8s,baz=46,slow=7.2,SNR=4.0						
TXAR				LR	LR	14 30 48.0	
	comp=Z,84nm,19.6s,baz=0.0,slow=36						
NVAR	**Mina Array Bea**	**64.28**	**299**	P	**P**	**14 05 34.1**	**+0.1**
	0.8nm,0.8s,baz=55,slow=5.8,SNR=4.0						
MKAR	**Makanchi Array**	**69.87**	**43**	P	**P**	**14 06 08.9**	**-0.3**
	1.0nm,1.0s,baz=320,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**79.18**	**29**	P	**P**	**14 07 03.6**	**+0.2**
	0.6nm,0.7s,baz=315,slow=5.8,SNR=4.5						
WRA	**Warramunga Arr**	**150.97**	**36**	PKPbc	**PKPbc**	**14 14 51.7**	**+0.2**
	0.6nm,0.7s,baz=320,slow=2.2,SNR=8.7						
ASAR	**Alice Springs**	**154.04**	**41**	PKPbc	**PKPbc**	**14 14 58.8**	**+0.5**
	0.3nm,0.7s,baz=7.4,slow=2.1,SNR=3.8						

*IDC **02** 14:04:08.9±2.6, 5.°72N×126.°93E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/12, Error ellipse: s-maj=207.8km s-min=25.8km az=66.0*
*ISCJB **02** 14:04:14.5±1.1, 5.°69N±0.°08×126.°6E±0.°1, h66km, mb3.2/3, Error ellipse: s-maj=16.4km s-min=10.0km az=147.9*

ISC 02 14:04:17.3±1.3, 5.°62N±0.°10×126.°4E±0.°1, h66km, n7, σ2s39/7, mb3.1/3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.32**	**352**	*e*P	**Pn**	**14 04 41.2**	**+1.4**
MATI				*e*S	**Sn**	**14 04 53.2**	**-3.5**
GSPH	**General Santos**	**1.55**	**287**	⇓*i*P	**Pn**	**14 04 41.4**	**-1.5**
GSPH				*i* S	**Sn**	**14 05 03.7**	**+1.5**
BUKP	**Musuan**	**2.62**	**329**	*e*P	Pn	14 04 50.6	-6.7
WRA	**Warramunga Arr**	**26.57**	**163**	P	**P**	**14 09 48.1**	**-1.2**
	0.4nm,0.6s,baz=344,slow=9.9,SNR=4.3						
ASAR	**Alice Springs**	**30.01**	**166**	P	**P**	**14 10 19.8**	**-0.2**
	0.1nm,0.3s,baz=345,slow=6.7,SNR=2.3						
HNR	**Honiara**	**36.59**	**114**	LR	LR	14 23 51.5	
	comp=Z,39nm,18.2s,baz=115,slow=33						
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**14 13 49.6**	**+1.6**
	0.3nm,0.4s,baz=118,slow=7.6,SNR=7.5						

IDC 02 14:08:49.6±50.0, 18.°14S×178.°20W, h0km, mb4.4/3, mb1 4.5/3, mb1mx3.8/17, mbtmp4.4/3, Error ellipse: s-maj=915.5km s-min=141.9km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.69**	**241**	P	P	14 16 14.8	-0.6
	2.7nm,0.4s,baz=86,slow=10.0,SNR=21						
WRA	**Warramunga Arr**	**44.79**	**260**	P	P	14 17 05.7	+0.3
	1.3nm,0.3s,baz=92,slow=7.6,SNR=147						
ASAR	**Alice Springs**	**44.92**	**254**	P	P	14 17 06.5	-0.1
	3.0nm,0.6s,baz=92,slow=8.3,SNR=57						

*IDC **02** 14:45:20.4±6.7, 8.°13S×118.°41E, h170km±71km, mb3.2/3, mb1 3.4/5, mb1mx3.1/21, mbtmp3.2/5, MS2.9/1, Ms1 2.9/1, ms1mx2.6/9, Error ellipse: s-maj=145.8km s-min=28.0km az=52.0*
*AUST **02** 14:45:21.3, 8.°49S×118.°46E, h100km*
*ISCJB **02** 14:45:23.5±0.8, 8.°33S±0.°09×118.°65E±0.°06, h152km, mb3.5/3, Error ellipse: s-maj=12.8km s-min=7.5km az=19.4*
*DJA **02** 14:45:27.8±0.5, 8.°5S±6.°×11.°8E±.°, h10km, M3.4/4, MLv3.4/4*

ISC 02 14:45:23.2±0.9, 8.°32S±0.°10×118.°61E±0.°06, h152km, n17, σ1s65/14, mb3.6/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBFI	**Labuhan Bajo,**	**1.27**	**97**	P	Pn	14 45 56.4	+5.7
LBFI				S	Sn	14 46 20.6	+8.9
MTNI	**Mataram**	**2.44**	**262**	P	Pn	14 46 05.7	+2.0
MTNI				S	**Sn**	**14 46 37.2**	**+2.4**
BKSI	**Bulukumba**	**3.33**	**27**	P	**Pn**	**14 46 16.1**	**+1.1**
IGBI	**Denpasar**	**3.46**	**262**	P	**Sn**	**14 46 57.0**	**-0.9**
KAPI	**Kappang**	**3.47**	**19**	LR	LR	14 47 46.5	
	comp=Z,191nm,21.3s,baz=279,slow=43						
MMRI	**Maumere**	**3.60**	**95**	P	Pn	14 46 25.4	+7.0
UGM	**Wanagama**	**8.02**	**272**	P	**Pn**	**14 47 15.4**	**-1.6**
	baz=7.8,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.88**	**146**	P	**Pn**	**14 48 09.9**	**+1.9**
	0.4nm,0.3s,baz=336,slow=8.2,SNR=26						
FITZ				S	**Sn**	**14 50 18.5**	**-0.9**
	0.1nm,0.3s,baz=291,slow=8.6,SNR=4.4						
FITZ	**Fitzroy Crossi**	**11.88**	**146**	P	**Pn**	**14 48 10.4**	**+2.4**
	baz=12,SNR=10.0						
KNRA	**Kununurra**	**12.33**	**127**	P	**Pn**	**14 48 14.9**	**+1.2**
	baz=12,SNR=18						
MTN	**Manton Dam**	**13.10**	**111**	P	**Pn**	**14 48 23.6**	**-0.2**
	baz=13,SNR=18						
KDU	**Kakadu**	**14.30**	**109**	P	**P**	**14 48 42.6**	**+0.9**
	baz=14,SNR=6.0						
MEEK	**Meekatharra**	**18.22**	**180**	P	**P**	**14 49 24.1**	**-0.7**
	baz=18,SNR=4.0						
WRA	**Warramunga Arr**	**19.11**	**129**	P	**P**	**14 49 33.6**	**-1.0**
	0.3nm,0.3s,baz=303,slow=12,SNR=46						
ASAR	**Alice Springs**	**21.15**	**138**	P	**P**	**14 49 55.2**	**-1.3**
	2.0nm,0.4s,baz=314,slow=9.1,SNR=90						
STKA	**Stephens Creek**	**31.72**	**141**	P	**P**	**14 51 30.9**	**-1.9**
	0.4nm,0.4s,baz=319,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**63.68**	**333**	P	P	14 55 31.9	-6.5
	0.3nm,0.8s,baz=127,slow=5.5,SNR=3.7						

JSN 02 15:02:03.1±1.2, 19.°48N×77.°66W, h0km±489km, MD3.5, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCJ	**Malvern**	**1.54**	**181**	*i* P	Pn	15 02 30.3	-1.7
STH	**Stony Hill**	**1.61**	**150**	*i* P	Pn	15 02 31.7	-1.1
STH				*i* S	Sn	15 02 51.8	-2.5
GWJ	**Greenwich**	**1.65**	**148**	*i* P	Pn	15 02 31.9	-1.6
GWJ				*i* S	Sn	15 02 53.3	-2.3
HOJ	**Hope**	**1.70**	**149**	*i* P	Pn	15 02 31.6	-2.4

MAN 02 15:06:17, 7.°10N×123.°72E, h13km, mb4.8, ML3.8, MS3.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.54**	**77**	⇓*i* P	Pb	15 06 28.5	+0.2
CTBH				*i* S	Sb	15 06 35.8	-0.1
PAGZ	**Pagadian**	**0.81**	**336**	*e*P	Pg	15 06 32.9	+0.1
PAGZ				*e*S	Sg	15 06 42.1	-1.4
IPIL	**Ipil**	**1.33**	**301**	*e*P	Pn	15 06 41.2	0.0
IPIL				*e*S	Sb	15 06 53.8	-4.9
BUKP	**Musuan**	**1.54**	**60**	*e*P	Pn	15 06 44.2	0.0
CGP	**Cagayan de Oro**	**1.66**	**36**	*e*P	Pn	15 06 46.3	+0.5
CGP				*i* S	Sb	15 07 08.2	0.0

WEL 02 15:12:31.2±0.2, 44.°94S×167.°10E, h20km±2km, ML3.7/15, 4C-3D, Error ellipse: s-maj=2.3km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.54**	**176**	⇑P*	Pb	15 12 42.3	+0.3
DCZ				S*	Sb	15 12 49.7	+0.4
DCZ				AML	AML	15 12 50.1	
DCZ				AML	AML	15 12 50.2	
DCZ				AML	AML	15 12 50.2	
MSZ	**Milford Sound**	**0.65**	**66**	⇓P*	Pb	15 12 43.2	-0.6
MSZ				S*	Sb	15 12 50.7	-1.7
MSZ				AML	AML	15 12 52.2	
MSZ				AML	AML	15 12 52.2	
MSZ				AML	AML	15 12 52.3	
MLZ	**Mavora Lakes**	**0.86**	**119**	⇑P*	Pb	15

s-maj=81.7km s-min=19.7km az=60.0
*ISCJB **02** 15:19:42.2±1.2, 1°.5S±0°.1×99°.4E±0°.1, h30km, mb3.6/5, Error ellipse: s-maj=24.7km s-min=13.1km az=144.8*
*DJA **02** 15:19:45.1±4.4, 1°.S±42".×9°.9E±°, h10km, M3.9/3, MLv3.9/3*

ISC 02 15:19:44.4±1.1, 1°.3S±0°.1×99°.43E±0°.10, h30km, n16, σ1§04/13, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.29**	**49**	P	**Pn**	**15 20 06.9**	**+0.5**
MNSI	**Mandailing Nat**	**2.10**	**4**	P	**Pb**	**15 20 21.2**	**-0.6**
BKNI	**Bangkinang**	**2.29**	**45**	P	**Pb**	**15 20 26.0**	**+0.9**
GSI	**Gunungsitoli**	**3.19**	**325**	P	**Pn**	**15 20 34.2**	**+1.6**
PSI	**Prapat**	**4.12**	**353**	Pn	**Pn**	**15 20 44.0**	**-1.4**
	0.9nm,0.3s,baz=198,slow=16,SNR=2.5						
CMAR	**Chiang Mai Arr**	**19.65**	**359**	P	**P**	**15 24 10.3**	**-0.6**
	0.1nm,0.3s,baz=184,slow=12,SNR=4.1						
H08S2	**Diego Garcia H**	**27.56**	**256**	T	T	15 53 21.1	
	baz=77,slow=75,SNR=53						
H08S3	**Diego Garcia H**	**27.57**	**256**	T	T	15 53 22.3	
	baz=77,slow=75,SNR=57						
H08S1	**Diego Carcia H**	**27.58**	**256**	T	T	15 53 23.9	
	baz=77,slow=75,SNR=18						
WRA	**Warramunga Arr**	**38.83**	**121**	P	**P**	**15 27 06.1**	**-1.0**
	0.6nm,0.5s,baz=301,slow=9.0,SNR=9.1						
ASAR	**Alice Springs**	**40.12**	**126**	P	**P**	**15 27 17.7**	**-0.1**
	0.4nm,0.7s,baz=307,slow=8.0,SNR=5.1						
SONM	**Songino Array**	**49.33**	**6**	P	**P**	**15 28 31.3**	**+0.4**
	0.2nm,0.4s,baz=176,slow=5.8,SNR=2.9						
MKAR	**Makanchi Array**	**50.22**	**345**	P	**P**	**15 28 38.5**	**+0.9**
	0.6nm,0.6s,baz=153,slow=8.4,SNR=8.3						
ZALV	**Zalesovo Beam**	**56.39**	**350**	P	**P**	**15 29 23.5**	**+0.7**
	0.6nm,0.4s,baz=182,slow=7.3,SNR=4.8						
TXAR	**Lajitas Array**	**144.50**	**36**	PKP	**PKPdf**	**15 39 18.5**	**-0.3**
	0.2nm,0.4s,baz=316,slow=2.5,SNR=5.3						
LPAZ	**La Paz**	**158.63**	**215**	PKP	**PKPdf**	**15 39 39.6**	**-1.3**
	0.7nm,0.5s,baz=163,slow=2.1,SNR=3.8						

MAN 02 15:27:42.9±31N×125°.53E, h7km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.35**	**166**	*e*P	Pg	15 27 49.5	+0.8
BUTP				*e*S	Sg	15 27 52.3	-1.1
SCPH	**Surigao**	**0.47**	**355**	⇓*e*P	Pg	15 27 51.9	+0.7
SCPH				*e*S	Sb	15 28 00.4	+0.4
CGP	**Cagayan de Oro**	**1.19**	**225**	*e*P	Pg	15 28 03.4	-1.4
CGP				*i* S	Sn	15 28 21.9	+0.5
BUKP	**Musuan**	**1.49**	**198**	*e*P	Pn	15 28 09.7	+0.4
BUKP				*e*S	Sn	15 28 27.8	-1.4

IDC 02 16:10:31.9±1.7, 13°.97N×127°.17E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/36, Error ellipse: s-maj=112.5km s-min=21.6km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.01**	**184**	P	Pn	16 15 08.0	0.0
	1.3nm,0.4s,baz=22,slow=11,SNR=12						
WRA	**Warramunga Arr**	**22.89**	**162**	P	P	16 15 37.4	-0.1
	1.3nm,0.3s,baz=339,slow=10.0,SNR=56						
PMG	**Port Moresby**	**22.90**	**120**	LR	LR	16 22 47.0	
	comp=Z,139nm,21.5s,baz=9.5,slow=32						
ASAR	**Alice Springs**	**26.32**	**166**	P	P	16 16 09.0	-0.7
	0.7nm,0.5s,baz=340,slow=7.0,SNR=27						
MKAR	**Makanchi Array**	**59.24**	**326**	P	P	16 20 36.2	+1.0
	0.5nm,0.4s,baz=118,slow=7.8,SNR=14						
TORD	**Torodi Ar. Bea**	**123.86**	**287**	PKP	PKPdf	16 29 31.1	-2.0
	0.4nm,0.8s,baz=80,slow=2.8,SNR=2.5						

*ISCJB **02** 16:16:09.7±0.4, 50°.32N±0°.03×18°.77E±0°.02, h0km, Error ellipse: s-maj=5.0km s-min=2.1km az=5.6*
*CSEM **02** 16:16:10.9±0.3, 50°.28N×18°.78E, h2km, ML3.3/9, Error ellipse: s-maj=8.6km s-min=3.1km az=5.0*
*IPEC **02** 16:16:10.7±0.2, 50°.30N×18°.83E, h1km±1km, ML2.5/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*WAR **02** 16:16:10.8, 50°.27N×18°.86E*
*IDC **02** 16:16:12.3±1.3, 50°.34N×18°.54E, h0km, mb1 3.8/2, mb1mx3.3/22, mbtmp3.8/2, ML2.7/3, Error ellipse: s-maj=25.8km s-min=9.8km az=137.0*
*VIE **02** 16:16:12.5±0.8, 49°.70N×18°.93E, h0km, mb2.2/3, ML2.8/3, Error ellipse: s-maj=5.9km s-min=4.1km az=129.0 51 km ESE of Ostrava Suspected Mining induced.*
*PRU **02** 16:16:12.0, 50°.22N×18°.79E, h0km*

ISC 02 16:16:11.1±0.7, 50°.25N±0°.03×18°.83E±0°.02, h0km, n58, σ1§25/84, 6C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.11**	**70**	*e*Pg	**Pg**	**16 16 13.6**	**+0.4**
CHZP				*e*Sg	**Sg**	**16 16 15.4**	**+0.8**
RAC	**Raciborz**	**0.44**	**248**	*e*Pg	**Pg**	**16 16 20.5**	**+0.9**
OKC	**Ostrava-Krasne**	**0.61**	**227**	*e*PG	**Pg**	**16 16 23.5**	**+0.8**
OKC				*e*SG	**Sg**	**16 16 30.5**	**0.0**
	39nm,0.3s						
OKC	**Ostrava-Krasne**	**0.61**	**227**	Pg	**Pg**	**16 16 23.5**	**+0.8**
OKC				Sg	**Sg**	**16 16 30.5**	**0.0**
	39nm,0.3s						
OJC	**Ojcow**	**0.62**	**93**	*i* Pg	**Pg**	**16 16 23.1**	**+0.1**
OJC				*e*Sg	**Sg**	**16 16 31.7**	**+0.6**
OJC				*i*		16 16 32.4	
OJC	**Ojcow**	**0.62**	**93**	*i* Pg	**Pg**	**16 16 23.1**	**+0.1**
OJC				*e*Sg	**Sg**	**16 16 31.7**	**+0.6**
MORC	**Moravsky Berou**	**0.96**	**241**	⇓*i*P	**Pg**	**16 16 29.4**	**0.0**
MORC	**Moravsky Berou**	**0.96**	**241**	*e*Pg	**Pg**	**16 16 29.3**	**-0.1**
MORC				*e*Sg	**Sg**	**16 16 41.4**	**-0.4**
	84nm,0.3s						
MORC				S	**Sb**	**16 16 42.5**	**-1.3**
NIE	**Niedzica**	**1.27**	**130**	*i* Pg	**Pg**	**16 16 35.5**	**0.0**
NIE				*e*Sg	**Sb**	**16 16 53.6**	**+0.7**
NIE	**Niedzica**	**1.27**	**130**	*i* Pg	**Pg**	**16 16 35.5**	**0.0**
NIE				*e*Sg	**Sb**	**16 16 53.6**	**+0.7**
KRLC	**Kraliky**	**1.33**	**263**	*e*PG	**Pg**	**16 16 35.5**	**-1.1**
KRLC				*e*SG	**Sg**	**16 16 53.0**	**-0.8**
	16nm,0.3s						
KRLC	**Kraliky**	**1.33**	**263**	Pg	**Pg**	**16 16 35.5**	**-1.1**
KRLC				Sg	**Sg**	**16 16 53.0**	**-0.8**
	16nm,0.3s						
DPC	**Dobruska-Polom**	**1.61**	**274**	*e*PG	**Pn**	**16 16 40.4**	**-0.4**
DPC				*e*SG	**Sn**	**16 17 02.0**	**-0.3**
DPC	**Dobruska-Polom**	**1.61**	**274**	Pg	**Pn**	**16 16 40.4**	**-0.4**
DPC				Sg	**Sn**	**16 17 02.0**	**-0.3**
KSP	**Ksiaz**	**1.72**	**291**	*e*Pn	**Pn**	**16 16 43.5**	**-0.1**
KSP				*e*Sn	**Sg**	**16 17 06.5**	**+0.1**
KSP				*e*Sg	**Sb**	**16 17 09.8**	**+4.0**
KSP	**Ksiaz**	**1.72**	**291**	⇓*i*Pg	**Pb**	**16 16 43.6**	**-0.1**
KSP				*e*Sg	**Sg**	**16 17 06.5**	**+0.1**
VRAC	**Vranov**	**1.73**	**238**	⇑*i*P	**Pn**	**16 16 41.9**	**-0.6**
VRAC	**Vranov**	**1.73**	**238**	S	**Sn**	**16 17 05.9**	**+0.7**
VRAC	**Vranov**	**1.73**	**238**	⇑*i*P	**Pn**	**16 16 41.9**	**-0.6**
VRAC	**Vranov**	**1.73**	**238**	*e*Pn	**Pn**	**16 16 42.2**	**-0.2**
VRAC				*e*Sg	**Sn**	**16 17 05.7**	**+0.5**
	43nm,0.3s						
VRAC	**Vranov**	**1.73**	**238**	Pn	**Pn**	**16 16 41.9**	**-0.6**
	7.9nm,0.3s,baz=56,slow=14,SNR=25						
VRAC				Lg	Lg	16 17 05.5	
	15nm,0.3s,baz=111,slow=23,SNR=26						
STHS	**Stebnicka Huta**	**1.77**	**117**	*e*PN	**Pn**	**16 16 43.5**	**+0.5**
STHS	**Stebnicka Huta**	**1.77**	**117**	*e*Pn	**Pn**	**16 16 43.5**	**+0.5**
UPC	**Upice**	**1.82**	**279**	*e*PG	**Pb**	**16 16 45.5**	**+0.2**
UPC	**Upice**	**1.82**	**279**	Pg	**Pb**	**16 16 45.5**	**+0.2**
KRUC	**Moravsky**	**1.98**	**234**	*e*Pn	**Pn**	**16 16 45.7**	**-0.2**
KRUC				*e*Sn	**Sn**	**16 17 12.6**	**+1.2**
	19nm,0.3s						
KECS	**Kecovo**	**2.08**	**148**	*e*PN	**Pn**	**16 16 45.9**	**-1.3**
KECS				*e*SN	**Sn**	**16 17 11.7**	**-2.0**
KECS	**Kecovo**	**2.08**	**148**	*e*Pn	**Pn**	**16 16 45.9**	**-1.3**
KECS				*e*Sn	**Sn**	**16 17 11.7**	**-2.0**
CRVS	**Cervenica-Dubn**	**2.18**	**127**	*e*PN	**Pb**	**16 16 51.4**	**0.0**
CRVS	**Cervenica-Dubn**	**2.18**	**127**	*e*Pn	**Pb**	**16 16 51.4**	**0.0**
TREC	**Trest**	**2.37**	**247**	*e*SG	**Sb**	**16 17 24.8**	**+0.4**
	32nm,0.5s						
TREC	**Trest**	**2.37**	**247**	Sg	**Sb**	**16 17 24.8**	**+0.4**
	32nm,0.5s						
PSZ	**Piszkesteto**	**2.44**	**163**	⇑*i*P	**Pn**	**16 16 53.4**	**+1.2**
PSZ	**Piszkesteto**	**2.44**	**163**	⇑*i*P	**Pn**	**16 16 53.4**	**+1.2**
KWP	**Kalwaria Pacla**	**2.58**	**102**	⇓*i*P	**Pn**	**16 16 55.1**	**+1.0**
KWP	**Kalwaria Pacla**	**2.58**	**102**	⇓*i*P	**Pn**	**16 16 55.1**	**+1.0**
KWP				S	**Sb**	**16 17 29.2**	**-1.3**
KOLS	**Kolonicke sedl**	**2.60**	**119**	*e*PN	**Pn**	**16 16 53.4**	**-1.0**
KOLS				*e*SN	**Sn**	**16 17 26.1**	**-0.6**
KOLS	**Kolonicke sedl**	**2.60**	**119**	*e*Pn	**Pn**	**16 16 53.4**	**-1.0**
KOLS				*e*Sn	**Sn**	**16 17 26.1**	**-0.6**
PVCC	**Panska Ves**	**2.74**	**277**	*e*SG	**Sg**	**16 17 39.2**	**+0.1**
	23nm,0.2s						
PVCC	**Panska Ves**	**2.74**	**277**	Sg	**Sg**	**16 17 39.2**	**+0.1**
	23nm,0.2s						
BRG	**Berggiesshubel**	**3.18**	**283**	PG	**Pg**	**16 17 10.1**	**-1.9**
BRG				SG	**Sg**	**16 17 51.8**	**-1.3**
	15nm,0.4s						
TRPA	**Tarpa**	**3.23**	**130**	⇓*i*P	**Pn**	**16 17 03.7**	**+0.7**
TRPA	**Tarpa**	**3.23**	**130**	⇓*i*P	**Pn**	**16 17 03.7**	**+0.7**
KHC	**Kasperske Hory**	**3.59**	**254**	*e*PN	**Pn**	**16 17 07.0**	**-1.0**
KHC				*e*PG	**Pb**	**16 17 17.0**	**+1.5**
KHC				*e*SG	**Sg**	**16 18 05.8**	**-0.6**
	24nm,0.4s						
KHC	**Kasperske Hory**	**3.59**	**254**	Pn	**Pn**	**16 17 07.0**	**-1.0**
KHC	**Kasperske Hory**	**3.59**	**254**	Pg	**Pb**	**16 17 17.0**	**+1.5**
KHC				Sg	**Sg**	**16 18 05.8**	**-0.6**
	24nm,0.4s						
GERES	**GERES Array B**	**3.62**	**249**	Pn	**Pn**	**16 17 08.4**	**-0.2**
	0.2nm,0.3s,baz=64,slow=14,SNR=5.3						
GERES				Pg	**Pb**	**16 17 14.8**	**-1.3**
	0.9nm,0.3s,baz=64,slow=18,SNR=15						
GERES				Lg	Lg	16 18 00.9	
	2.2nm,0.3s,baz=64,slow=30,SNR=14						
CLL	**Collm**	**3.85**	**288**	*e*Pg	**Pg**	**16 17 27.0**	**+2.2**
CLL				*e*Sg	**Sg**	**16 18 15.0**	**+0.4**
	comp=Z,12nm,0.7s						
MOA	**Molln**	**3.85**	**233**	⇓*i*Sg	**Sb**	**16 18 11.1**	**+4.2**
	comp=Z,14nm,0.7s						
MOA	**Molln**	**3.85**	**233**	Sg	**Sb**	**16 18 11.1**	**+4.2**
	comp=Z,14nm,0.7s						
NKC	**Novy Kostel**	**4.10**	**272**	*e*SG	**Sg**	**16 18 19.7**	**-2.9**
	comp=Z,6.7nm,0.4s						
NKC	**Novy Kostel**	**4.10**	**272**	Sg	**Sg**	**16 18 19.7**	**-2.9**
	comp=Z,6.7nm,0.4s						
BURAR	**Bucovina Array**	**4.97**	**120**	⇑*i*P	**Pn**	**16 17 27.0**	**0.0**
BURAR	**Bucovina Array**	**4.97**	**120**	⇑*i*P	**Pn**	**16 17 27.0**	**0.0**
AKASG	**Malin Array Be**	**6.65**	**82**	Pg	Pb	16 18 10.6	+3.1
	comp=Z,0.3nm,0.3s,baz=274,slow=13,SNR=2.6						
DAVOX	**Davos/Dischmat**	**6.88**	**243**	Lg	Lg	16 19 46.2	
	comp=Z,0.3nm,0.3s,baz=203,slow=18,SNR=2.0						
FINES	**FINESS Array B**	**11.92**	**17**	Pn	Pn	16 18 58.0	-4.2
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=5.6						
ARCES	**ARCESS Array B**	**19.61**	**7**	P	**P**	**16 20 39.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=195,slow=14,SNR=3.4						

*ISCJB **02** 16:21:22.8±0.7, 7°.43S±0°.06×147°.50E±0°.09, h33km, mb3.8/5, MS4.5/1, Error ellipse: s-maj=12.3km s-min=7.9km az=9.2*
*AUST **02** 16:21:24.7±0.8, 7°.32S×147°.35E, h44km, Error ellipse: s-maj=1.3km s-min=0.9km az=322.0*
*IDC **02** 16:21:28.1±2.2, 7°.62S×147°.49E, h72km±21km, mb3.6/6, mb1 3.8/8, mb1mx3.6/16, mbtmp3.7/8, MS4.5/1, Ms1 4.5/1, ms1mx3.1/23, Error ellipse: s-maj=41.4km s-min=16.3km az=106.0*

ISC 02 16:21:24.7±0.8, 7°.45S±0°.07×147°.4E±0°.1, h35km, n25, σ1§16/27, mb3.8/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.96**	**187**	P	**Pn**	**16 21 56.3**	**+0.8**
	68nm,0.3s,baz=32,slow=4.8,SNR=160						
PMG				S	**Sn**	**16 22 19.9**	**+1.0**
	58nm,0.3s,baz=196,slow=20,SNR=3.9						
PMG	**Port Moresby**	**1.96**	**187**	P	**Pn**	**16 21 56.3**	**+0.8**
	baz=2.1,SNR=389						
PMG				P	**Pn**	**16 21 56.3**	**+0.8**
	baz=2.1,SNR=389						
PMG				P	**Pn**	**16 21 56.3**	**+0.8**
	baz=2.1,SNR=389						
RABL	**Rabaul**	**5.73**	**56**	P	**Pn**	**16 22 47.4**	**+0.1**
	baz=5.7,SNR=3.4						
COEN	**Coen**	**7.69**	**212**	P	**Pn**	**16 23 16.5**	**+2.1**
	baz=7.8,SNR=6.4						
CTA	**Charters Tower**	**12.62**	**185**	P	**Pn**	**16 24 23.2**	**+1.4**
	0.6nm,0.3s,baz=8.1,slow=14,SNR=6.8						
KDU	**Kakadu**	**15.60**	**249**	P	**P**	**16 25 04.4**	**-1.6**
	baz=16,SNR=4.4						
WRA	**Warramunga Arr**	**17.75**	**224**	P	**Pn**	**16 25 28.9**	**-0.3**
	0.8nm,0.3s,baz=53,slow=11,SNR=40						
EIDS	**Eidsvold**	**18.16**	**169**	P	**Pn**	**16 25 33.7**	**-0.5**
	baz=18,SNR=3.1						
RMQ	**Roma**	**18.98**	**176**	P	**Pn**	**16 25 43.8**	**-0.3**
	baz=19,SNR=19						
QLP	**Quilpie**	**19.27**	**189**	P	**P**	**16 25 47.0**	**+0.6**
	baz=20,SNR=11						
KNRA	**Kununurra**	**20.00**	**244**	P	Pn	16 25 57.3	+0.9
	baz=20,SNR=4.6						
ASAR	**Alice Springs**	**20.69**	**217**	P	**P**	**16 26 01.5**	**-0.5**
	4.1nm,0.4s,baz=49,slow=8.6,SNR=49						
ASAR				S	**S**	**16 29 49.0**	**-2.4**
	0.4nm,0.7s,baz=52,slow=20,SNR=2.8						
FITZ	**Fitzroy Crossi**	**23.70**	**241**	P	**P**	**16 26 32.7**	**-0.8**
	0.9nm,0.3s,baz=64,slow=7.4,SNR=14						
FITZ	**Fitzroy Crossi**	**23.70**	**241**	P	**P**	**16 26 32.8**	**-0.7**
	baz=24,SNR=9.8						
STKA	**Stephens Creek**	**24.91**	**192**	P	**P**	**16 26 43.0**	**-1.5**
	1.2nm,0.5s,baz=14,slow=8.4,SNR=9.4						
STKA	**Stephens Creek**	**24.91**	**192**	P	**P**	**16 26 43.4**	**-1.1**
	baz=25,SNR=6.6						
MEEK	**Meekatharra**	**33.36**	**232**	P	**P**	**16 27 59.9**	**+0.1**
	baz=33,SNR=4.3						
RAO	**Raoul Island**	**39.16**	**128**	LR	LR	16 41 54.8	
	comp=Z,691nm,19.4s,baz=143,slow=32						
PPI	**Padang Panjang**	**47.38**	**276**	P	P	16 29 49.8	-6.2
	baz=47,SNR=202						
LHMI	**Lhok Sumawe**	**51.90**	**283**	P	**P**	**16 30 32.0**	**+1.6**
	baz=52,SNR=3.6						
CMAR	**Chiang Mai Arr**	**54.30**	**299**	P	**P**	**16 30 49.1**	**+1.2**
	1.4nm,0.5s,baz=122,slow=5.7,SNR=21						
MKAR	**Makanchi Array**	**78.87**	**321**	P	**P**	**16 33 24.0**	**-0.4**
	0.7nm,0.6s,baz=96,slow=9.5,SNR=7.5						
ZALV	**Zalesovo Beam**	**80.45**	**328**	P	**P**	**16 33 33.7**	**+1.0**
	0.4nm,0.4s,baz=103,slow=4.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**145.82**	**282**	PKPbc	**PKPdf**	**16 40 59.9**	**-0.8**
	1.2nm,0.5s,baz=92,slow=3.6,SNR=14						
DBIC	**Dimbokro**	**152.47**	**270**	PKPbc	**PKPbc**	**16 41 17.0**	**-1.4**
	1.4nm,0.6s,baz=145,slow=2.4,SNR=3.8						
DBIC				PKPab	**PKPab**	**16 41 27.8**	**-1.0**
	1.6nm,0.5s,baz=106,slow=5.8,SNR=4.1						

MEX 02 16:22:43.1±0.5, 16°.93N×95°.22W, h144km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.43**	**217**	*i* P	Pn	16 23 09.9	-1.6
HUIG				*i* S	Sn	16 23 31.6	-1.6
VHO	**Vista Hermosa**	**1.45**	**276**	*e*P	Pn	16 23 10.8	-1.1
VHO				*i* S	Sn	16 23 31.9	-2.0
PCIG		**2.28**	**122**	*i* P	Pn	16 23 20.1	-1.0
PCIG				*i* S	Sn	16 23 48.3	-2.1
TPIG	**Tehuac#an**	**2.52**	**306**	*i* P	Pn	16 23 23.0	-1.4
TPIG				*i* S	Sn	16 23 54.2	-2.0
UTMO	**Huajuapan**	**2.62**	**290**	*e*P	Pn	16 23 24.5	-1.3
UTMO				*i* S	Sn	16 23 55.9	-2.7
PNIG	**Pinotepa**	**2.83**	**260**	*e*P	Pn	16 23 26.6	-1.5
PNIG				*i* S	Sn	16 24 01.1	-1.8

*IDC **02** 16:41:47.8±20.0, 20°.89N×146°.00E, h124km±160km, mb3.4/8, mb1 3.5/8, mb1mx3.3/27, mbtmp3.4/8, Error ellipse: s-maj=177.8km s-min=22.6km az=78.0*

ISC 02 16:41:36.8±2.5, 21°.0N±0°.2×146°.6E±0°.7, h37km, n8, σ1§14/9, mb3.8/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**23.05**	**319**	P	**P**	**16 46 39.3**	**+0.4**
	3.3nm,0.9s,baz=152,slow=9.9,SNR=10.0						
SONM	**Songino Array**	**41.92**	**319**	P	**P**	**16 49 23.9**	**0.0**
	0.4nm,0.5s,baz=135,slow=8.2,SNR=8.2						
SONM				PcP	**PcP**	**16 51 16.6**	**-2.3**
	0.3nm,0.8s,baz=108,slow=4.7,SNR=2.8						
WRA	**Warramunga Arr**	**42.41**	**197**	P	**P**	**16 49 28.3**	**+0.3**
	0.1nm,0.3s,baz=12,slow=8.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**56.74**	**321**	P	**P**	**16 51 16.7**	**0.0**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=3.6						
MKAR	**Makanchi Array**	**57.51**	**313**	P	**P**	**16 51 21.7**	**-0.7**
	0.5nm,0.6s,baz=89,slow=8.4,SNR=8.4						
KURBB	**Kurchatov Arra**	**60.21**	**317**	P	**P**	**16 51 40.6**	**-0.4**
	1.3nm,0.6s,baz=94,slow=7.7,SNR=12						
BVAR	**Borovoye Array**	**65.27**	**320**	P	**P**	**16 52 15.0**	**+0.3**
	1.7nm,0.5s,baz=94,slow=7.7,SNR=8.4						
FINES	**FINESS Array B**	**85.16**	**335**	P	**P**	**16 54 10.1**	**+1.2**
	2.0nm,0.9s,baz=45,slow=1.3,SNR=5.9						

IDC 02 16:44:15.9±5.2, 53°.29N×172°.26E, h39km±49km, mb3.3/7, mb1 3.6/8, mb1mx3.4/29, mbtmp3.4/8, ML3.4/1, Error ellipse: s-maj=74.8km s-min=17.2km az=1.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**0.69**	**126**	Pn	Pn	16 44 21.6	-7.5
	baz=322,slow=7.4						
FX1				Sn	Sn	16 44 28.7	-10
	4um,0.3s,baz=234,slow=20,SNR=94						
PETK	**Petropavlovsk-**	**8.74**	**275**	Pn	Pn	16 46 19.7	+0.1
	0.4nm,0.3s,baz=99,slow=18,SNR=11						
PETK				Sn	Sn	16 47 54.9	-1.9
	1.0nm,0.3s,baz=17,slow=20,SNR=9.2						
ILAR	**Eielson Array**	**23.48**	**45**	P	P	16 49 21.6	0.0
	0.8nm,0.8s,baz=250,slow=8.1,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**33.75**	**189**	T	T	17 26 09.9	
	baz=8.4,slow=76,SNR=1842						
H11N3	**WAKE ISLAND Hy**	**33.77**	**189**	T	T	17 26 10.8	
	baz=8.4,slow=76,SNR=2153						
H11N1	**WAKE ISLAND Hy**	**33.77**	**189**	T	T	17 26 11.3	
	baz=8.4,slow=76,SNR=2576						
H11S1	**WAKE ISLAND Hy**	**34.98**	**189**	T	T	17 27 42.3	
	baz=7.7,slow=78,SNR=2484						
H11S3	**WAKE ISLAND Hy**	**35.00**	**189**	T	T	17 27 43.4	
	baz=7.7,slow=78,SNR=2058						
H11S2	**WAKE ISLAND Hy**	**35.00**	**189**	T	T	17 27 43.6	
	baz=7.7,slow=78,SNR=1237						
SONM	**Songino Array**	**40.85**	**290**	P	P	16 51 54.2	+0.6
	0.2nm,0.5s,baz=45,slow=9.0,SNR=3.2						
YBH	**Yreka Blue Hor**	**43.94**	**78**	P	P	16 52 19.1	+0.3
	2.1nm,0.7s,baz=277,slow=8.1,SNR=5.7						
PDAR	**Pinedale Array**	**50.83**	**68**	P	P	16 53 12.2	-0.4
	0.5nm,0.6s,baz=320,slow=2.9,SNR=5.6						
KURBB	**Kurchatov Arra**	**53.72**	**308**	P	P	16 53 33.7	+0.2
	1.0nm,0.7s,baz=48,slow=7.3,SNR=5.6						
MKAR	**Makanchi Array**	**54.45**	**302**	P	P	16 53 38.2	-0.8
	0.1nm,0.4s,baz=46,slow=8.1,SNR=2.9						
TXAR	**Lajitas Array**	**63.65**	**76**	P	P	16 54 42.5	-0.4
	0.5nm,0.6s,baz=302,slow=5.2,SNR=7.0						

*IDC **02** 16:49:01.8±0.9, 13°.99N×145°.76E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/24, mbtmp3.9/11, Error ellipse: s-maj=35.6km s-min=16.3km az=85.0*
*ISCJB **02** 16:49:04.9±0.9, 14°.0N±0°.1×145°.7E±0°.2, h33km, mb3.9/11, Error ellipse: s-maj=33.2km s-min=14.1km az=174.2*

ISC 02 16:49:07.0±1.0, 13°.9N±0°.1×145°.7E±0°.3, h35km, n25, σ0§75/19, mb4.0/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**20.62**	**75**	T	T	17 15 12.1	
	baz=264,slow=73,SNR=11						
H11S1	**WAKE ISLAND Hy**	**20.63**	**74**	T	T	17 15 13.2	
	baz=264,slow=73,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**20.63**	**75**	T	T	17 15 13.8	
	baz=264,slow=73,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**21.04**	**71**	T	T	17 15 41.6	
	baz=263,slow=75,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**21.05**	**71**	T	T	17 15 39.5	
	baz=263,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**21.06**	**71**	T	T	17 15 42.6	
	baz=263,slow=75,SNR=9.5						
KSRS	**Korea Array**	**28.29**	**329**	P	**P**	**16 54 57.9**	**+0.7**
	0.5nm,0.4s,baz=143,slow=9.4,SNR=4.5						
WRA	**Warramunga Arr**	**35.49**	**199**	P	**P**	**16 56 01.4**	**+0.9**
	5.3nm,0.6s,baz=24,slow=8.7,SNR=74						
WRA				PcP	**PcP**	**16 58 30.4**	**+0

SPCH				*i* S	Sn	16 57 18.6	+1.0	
SPCH				AML	AML	16 57 19.2		
	comp=E,3µm,0.3s							
PB04	**Plate Boundary**	**0.74**	**304**⇑	*i* P	Pn	16 57 10.3	+6.2	
PB04				*i* S	Sn	16 57 29.7	+11	
PB04				AML	AML	16 57 37.0		
	comp=N,377nm,0.1s							
PB09	**Plate Boundary**	**0.96**	**336**⇑	*i* P	Pn	16 57 06.9	+0.5	
PB09				*i* S	Sn	16 57 23.5	+0.9	
PB09				AML	AML	16 57 24.5		
	comp=N,1µm,0.2s							
PB07	**Plate Boundary**	**1.37**	**314**⇓	*i* P	Pn	16 57 11.4	+0.6	
PB07				*i* S	Sn	16 57 31.2	+0.9	
PB07				AML	AML	16 57 32.8		
	comp=N,679nm,0.9s							
CEN1	**Los Morros**	**1.45**	**241**⇑	*i* P	Pn	16 57 14.7	+3.0	
CEN1				*i* S	Sn	16 57 37.2	+5.3	
CEN1				AML	AML	16 57 40.5		
	comp=E,219nm,0.8s							
PB01	**Plate Boundary**	**1.74**	**339**⇑	*i* P	Pn	16 57 15.8	+0.6	
PB01				*i* S	Sn	16 57 39.2	+1.1	
PB01				AML	AML	16 57 41.6		
	comp=E,669nm,0.3s							
PB10	**Plate Boundary**	**1.80**	**242**	*e*P	Pn	16 57 16.5	+0.8	
PB10				*i* S	Sn	16 57 39.7	+0.6	
PB10				AML	AML	16 57 45.7		
	comp=E,753nm,0.6s							
HMBC	**Humberstone**	**2.59**	**337**	*e*P	Pn	16 57 26.0	+0.1	
HMBC				*i* S	Sn	16 57 58.1	+0.7	
HMBC				AML	AML	16 58 08.4		
	comp=N,287nm,0.4s							
PSGC	**Pisagua**	**3.30**	**338**	*e*P	Pn	16 57 35.3	+0.1	
PSGC				*e*S	Sn	16 58 14.5	+0.5	
PSGC				AML	AML	16 58 24.3		
	comp=N,91nm,0.5s							
MNMC	**Minimini**	**3.60**	**348**	*e*P	Pn	16 57 40.8	+1.3	
MNMC				*e*S	Sn	16 58 23.5	+1.8	

PRE 02 17:09:24.0±3.5, 33°09'S×18°27'E, h5km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELIM	**Elim**	**1.95**	**141**	*e*P	Pb	17 09 59.0	-1.0
ELIM				*e*S	Sn	17 10 21.2	-1.5
ELIM				AML	AML	17 10 33.1	
	comp=Z,195nm,0.5s						
SUR	**Sutherland**	**2.26**	**73**	*e*P	Pb	17 10 04.6	-0.9
SUR				*e*S	Sn	17 10 30.3	-0.4
SUR				AML	AML	17 10 40.4	
	comp=Z,46nm,0.3s						
KOMG	**Komaggas**	**3.34**	**348**	*e*P	Pn	17 10 17.2	+0.2
KOMG				*e*S	Sn	17 10 54.6	-2.5
KOMG				AML	AML	17 11 09.3	
	comp=Z,30nm,0.2s						
BUFB	**Buffelsbos**	**5.51**	**103**	*e*P	Pn	17 10 48.8	+2.1
BUFB				*e*S	Sn	17 11 48.6	-1.7
BUFB				AML	AML	17 12 25.3	
	comp=Z,9.3nm,0.2s						
SOE	**Somerset East**	**6.15**	**89**	*e*S	Sn	17 12 01.0	-5.4
SOE				AML	AML	17 12 39.3	
	comp=Z,38nm,0.5s						
HVD	**Gariep Dam**	**6.63**	**70**	*e*S	Sn	17 12 16.8	-1.6
HVD				AML	AML	17 12 56.0	
	comp=Z,19nm,0.5s						
GRM	**Grahamstown**	**6.91**	**94**	*e*P	Pn	17 11 08.4	+2.4
GRM				*e*S	Sn	17 12 22.4	-2.8
GRM				AML	AML	17 13 01.3	
	comp=Z,28nm,0.7s						
BOSA	**Boshof**	**7.48**	**55**	*e*P	Pn	17 11 15.9	+1.9
BOSA				*e*S	Sn	17 12 34.7	-4.6
BOSA				AML	AML	17 13 24.9	
	comp=Z,5.6nm,0.4s						
SWZ	**Schweizer**	**8.48**	**48**	*e*S	Sn	17 12 57.6	-6.5
SWZ				AML	AML	17 13 51.3	
	comp=Z,11nm,0.5s						
SEK	**Senekal**	**9.35**	**62**	*e*S	Sn	17 13 19.8	-5.6
SEK				AML	AML	17 14 24.5	
	comp=Z,8.8nm,0.7s						
PRYS	**Parys**	**9.99**	**54**	*e*S	Sn	17 13 38.7	-2.3
PRYS				AML	AML	17 14 48.0	
	comp=Z,2.5nm,0.7s						
LBTB	**Lobatse**	**10.28**	**40**	*e*P	Pn	17 11 54.0	+1.6
LBTB				*e*S	Sn	17 13 44.0	-4.2
LBTB				AML	AML	17 14 49.6	
	comp=Z,3.8nm,0.6s						
SLR	**Silverton**	**11.39**	**53**	*e*S	Sn	17 14 09.2	-6.3
SLR				AML	AML	17 15 21.5	
	comp=Z,6.8nm,0.7s						

IDC ***02*** *17:54:18.6±7.7, 7°58'N×74°24'W, h110km±68km, mb1 2.6/1, mb1mx2.5/21, mbtmp2.9/1, Error ellipse: s-maj=165.1km s-min=60.1km az=108.0*
ISCJB ***02*** *17:54:27.9±1.0, 6°1'N±0°1×72°6'W±0°1, h150km, Error ellipse: s-maj=24.4km s-min=7.0km az=44.2*
FUNV ***02*** *17:54:29.2, 5°92'N×72°58'W, h126km, MW3.1*
ISC 02 17:54:25.6±1.2, 5°9'N±0°1×72°5'W±0°1, h150km, n9, σ2s34/13, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.95**	**5**⇓	*i* P	**Pn**	**17 55 02.9**	**+2.4**
CAPV				*e*S	**Sn**	**17 55 25.2**	**-2.1**
ROSC	**El Rosal**	**2.11**	**240**	P	**Pn**	**17 55 02.2**	**-0.2**
	2.5nm,0.3s,baz=107,slow=18,SNR=2.6						
ROSC				S	**Sn**	**17 55 34.3**	**+3.7**
	13nm,0.3s,baz=273,slow=17,SNR=7.8						
SOCV	**Socops**	**2.87**	**34**	*e*P	**Pn**	**17 55 13.8**	**+2.5**
SOCV				*e*S	**Sn**	**17 55 47.0**	**+0.3**
SANV	**Sanarito**	**4.62**	**39**	*e*P	**Pn**	**17 55 35.9**	**+1.7**
CURV	**Curarigua**	**4.79**	**31**	*e*P	**Pn**	**17 55 38.4**	**+2.0**
CURV				*e*S	**Sn**	**17 56 29.6**	**-1.8**
BAUV	**El Baul**	**5.35**	**55**	*e*P	**Pn**	**17 55 45.3**	**+1.7**
MKAR	**Makanchi Array**	**122.96**	**20**	PKP	**PKPdf**	18 12 59.6	-4.8
	0.1nm,0.3s,baz=316,slow=2.8,SNR=3.1						
ASAR	**Alice Springs**	**149.07**	**232**	PKP	**PKPdf**	**18 13 51.2**	**-1.6**
	0.3nm,0.8s,baz=112,slow=3.6,SNR=3.1						
ASAR				PKPbc	**PKPbc**	**18 13 54.0**	**-3.0**
	0.2nm,0.9s,baz=114,slow=3.4,SNR=4.4						
WRA	**Warramunga Arr**	**150.43**	**239**	PKPbc	**PKPdf**	**18 13 54.8**	**-0.2**
	0.1nm,0.4s,baz=107,slow=2.8,SNR=5.5						

IDC ***02*** *18:09:01.6±11.0, 31°90'N×138°61'E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/15, Error ellipse: s-maj=419.9km s-min=30.6km az=64.0*
JMA ***02*** *18:09:11.9±0.1, 32°.70N×140°.34E, h127km±2km, M2.8*
ISC 02 18:09:09.2±1.4, 32°44'N±0°09×140°5E±0°2, h97km, n10, σ2s77/10, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.90**	**318**	P	Pn	18 09 31.5	+3.2
JHJ2				S	**Sn**	**18 09 46.2**	**+3.5**
BSO1	**Boso 1**	**2.23**	**9**	P	**Pn**	**18 09 46.3**	**+2.1**
BSO1				S	**Sn**	**18 10 13.4**	**+2.4**
BSO3	**Boso 3**	**2.35**	**359**	P	**Pn**	**18 09 47.3**	**+1.3**
BSO3				S	**Sn**	**18 10 14.1**	**-0.1**
JIM2	**Oshima 2**	**2.45**	**338**	*e*S	**Sn**	**18 10 15.4**	**-1.6**
JOD2	**Odawara 2**	**3.06**	**337**	*e*S	**Sn**	**18 10 29.3**	**-2.2**
JHO	**Hitachi**	**4.16**	**0**	S	**Sn**	**18 10 53.5**	**-4.4**
PETK	**Petropavlovsk-**	**24.07**	**26**	LR	LR	18 24 10.8	
	comp=Z,64nm,18.2s,baz=236,slow=36						
MKAR	**Makanchi Array**	**46.09**	**306**	P	P	18 17 19.2	-4.2
	0.3nm,0.5s,baz=83,slow=9.2,SNR=7.8						
WRA	**Warramunga Arr**	**52.43**	**187**	P	**P**	**18 18 10.5**	**-1.4**
	0.1nm,0.3s,baz=3.2,slow=7.5,SNR=7.9						
ASAR	**Alice Springs**	**56.15**	**187**	P	**P**	**18 18 37.9**	**-1.0**
	0.1nm,0.6s,baz=2.4,slow=5.7,SNR=3.6						

IDC ***02*** *18:24:50.5±7.3, 5°56S×151°34E, h92km±51km, mb3.4/4, mb1 3.6/5, mb1mx3.2/17, mbtmp3.4/5, Error ellipse: s-maj=85.7km s-min=36.2km az=110.0*
ISC 02 18:24:43.6±2.7, 5°6S±0°4×151°8E±0°5, h45km, n6, σ1s34/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.00**	**230**	P	**Pn**	**18 26 11.8**	**+1.9**
	2.0nm,0.3s,baz=27,slow=12,SNR=12						
PMG				S	**Sn**	**18 27 16.6**	**-0.8**
	2.0nm,0.3s,baz=32,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**22.22**	**228**	P	**P**	**18 29 35.3**	**-1.2**
	1.1nm,0.5s,baz=52,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**24.94**	**222**	P	**P**	**18 30 02.4**	**-0.5**
	0.7nm,0.7s,baz=53,slow=8.9,SNR=17						
FITZ	**Fitzroy Crossi**	**28.45**	**242**	P	**P**	**18 30 33.4**	**-1.1**
	1.5nm,0.5s,baz=50,slow=9.6,SNR=20						
ZALV	**Zalesovo Beam**	**81.24**	**327**	P	**P**	**18 36 55.0**	**+0.3**
	0.3nm,0.5s,baz=76,slow=6.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.61**	**287**	PKPbc	**PKPbc**	**18 44 29.1**	**-0.2**
	0.7nm,0.6s,baz=81,slow=1.9,SNR=6.6						

WEL 02 18:26:10.3±0.3, 38°.70S×175°.67E, h158km±2km, ML3.6/13, 25C-2D, Error ellipse: s-maj=1.6km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVZ	**Karewarewa**	**0.40**	**183**	PN	Pn	18 26 32.1	-0.2
TWVZ	**Taurewa**	**0.42**	**206**	⇑PN	Pn	18 26 32.1	-0.2
WTVZ	**West Tongariro**	**0.43**	**188**	PN	Pn	18 26 32.2	-0.2
WTVZ				SN	Sn	18 26 48.4	-1.0
OTVZ	**Oturere**	**0.47**	**180**	PN	Pn	18 26 32.4	-0.2
OTVZ				SN	Sn	18 26 49.4	-0.4
NGZ	**Ngauruhoe**	**0.48**	**186**	PN	Pn	18 26 32.6	-0.1
COVZ	**Chateau Observ**	**0.51**	**191**	⇑PN	Pn	18 26 32.6	-0.2
COVZ				SN	Sn	18 26 49.0	-1.1
WPVZ	**Whakapapa**	**0.52**	**191**	⇑PN	Pn	18 26 32.7	-0.1
FWVZ	**Far West T-bar**	**0.57**	**189**	PN	Pn	18 26 32.8	-0.4
FWVZ				*e*SN	Sn	18 26 49.5	-1.3
TUVZ	**Tukino**	**0.57**	**181**	⇑PN	Pn	18 26 33.1	-0.1
DRZ	**Dome Shelter**	**0.59**	**188**	PN	Pn	18 26 33.3	-0.1
TRVZ	**Turoa**	**0.61**	**189**	⇑PN	Pn	18 26 33.4	-0.1
TRVZ				SN	Sn	18 26 50.9	-0.4
WNVZ	**Wahianoa**	**0.64**	**185**	⇑PN	Pn	18 26 33.4	-0.1
PKVZ	**Pokaka**	**0.65**	**203**	⇑PN	Pn	18 26 33.3	-0.1
HIZ	**Hauiti**	**0.66**	**286**	⇓PN	Pn	18 26 33.3	-0.2
MTVZ	**Mangateitei**	**0.71**	**193**	PN	Pn	18 26 33.7	-0.1
MOVZ	**Moawhango**	**0.71**	**175**	⇑PN	Pn	18 26 33.5	-0.4
BKZ	**Black Stump Fm**	**0.80**	**127**	⇑PN	Pn	18 26 33.9	-0.5
BKZ				AML	AML	18 26 51.1	
BKZ				AML	AML	18 26 51.2	
VRZ	**Vera Road**	**0.83**	**239**	PN	Pn	18 26 34.8	+0.3
VRZ				SN	Sn	18 26 53.0	-0.1
BHHZ	**Black Hill Sta**	**0.85**	**159**	⇑PN	Pn	18 26 34.4	-0.4
TOZ	**Tahuroa Road**	**0.97**	**352**	⇓PN	Pn	18 26 35.5	-0.1
NMHZ	**Naumai**	**0.97**	**115**	PN	Pn	18 26 36.1	+0.4
MCHZ	**McNeill Hill**	**1.09**	**133**	⇑PN	Pn	18 26 37.3	+0.7
RAHZ	**Arahi**	**1.13**	**102**	PN	Pn	18 26 37.3	+0.4
WAZ	**Wanganui**	**1.19**	**206**	PN	Pn	18 26 37.5	+0.1
URZ	**Urewera**	**1.21**	**69**	PN	Pn	18 26 37.1	-0.5
URZ				AML	AML	18 26 55.5	
URZ				AML	AML	18 26 56.7	
PNHZ	**Pukenui**	**1.29**	**162**	⇑PN	Pn	18 26 38.2	-0.1
TSZ	**Takapari Road**	**1.38**	**171**	⇑PN	Pn	18 26 39.2	-0.1
TSZ				AML	AML	18 26 40.2	
TSZ				AML	AML	18 27 01.8	
PKE	**Pukeiti**	**1.40**	**249**	PN	Pn	18 26 40.0	+0.5
KHEZ	**Kahui Hut**	**1.42**	**245**	*e*PN	Pn	18 26 40.4	+0.6
KAHZ	**Kahuranaki**	**1.44**	**140**	⇑PN	Pn	18 26 40.2	+0.2
CKHZ	**Cape Kidnapper**	**1.46**	**132**	PN	Pn	18 26 40.2	+0.2
WPHZ	**Waipukurau**	**1.49**	**157**	⇑PN	Pn	18 26 40.3	-0.1
MWZ	**Matawai**	**1.50**	**77**	PN	Pn	18 26 40.1	-0.5
KNZ	**Kokohu**	**1.60**	**102**	PN	Pn	18 26 41.4	0.0
PXZ	**Pawanui**	**1.62**	**146**	⇑PN	Pn	18 26 41.6	-0.1
PXZ				AML	AML	18 27 06.7	
PXZ				AML	AML	18 27 06.8	
PXZ				AML	AML	18 27 06.8	
RIGZ	**Rimuhau**	**1.64**	**91**	PN	Pn	18 26 41.7	-0.3
DVHZ	**Dannevirke**	**1.65**	**167**	⇑PN	Pn	18 26 41.5	-0.5
POWZ	**Post Office Ro**	**1.70**	**177**	PN	Pn	18 26 42.1	-0.5
PRHZ	**Porangahau**	**1.74**	**155**	⇑PN	Pn	18 26 42.8	-0.2
PRGZ	**Paritu Road**	**1.74**	**98**	PN	Pn	18 26 42.8	-0.3
MHGZ	**Mahia Peninsul**	**1.80**	**105**	PN	Pn	18 26 43.9	+0.2
ANWZ	**Angora Road**	**1.87**	**161**	⇑PN	Pn	18 26 44.3	-0.1
PRWZ	**Pori Road**	**1.87**	**173**	PN	Pn	18 26 44.1	-0.3
MRZ	**Mangatainoka R**	**1.97**	**182**	⇑PN	Pn	18 26 44.7	-0.8
MRZ				AML	AML	18 26 45.2	
MRZ				AML	AML	18 27 12.3	
CNGZ	**Carnagh Statio**	**2.00**	**85**	PN	Pn	18 26 45.8	-0.1
BFZ	**Birch Farm**	**2.03**	**168**	PN	Pn	18 26 45.6	-0.7
TIWZ	**Tintock**	**2.09**	**175**	PN	Pn	18 26 46.1	-0.8
TIWZ				AML	AML	18 26 46.9	
TIWZ				AML	AML	18 27 17.6	
PUZ	**Puketiti**	**2.13**	**74**	PN	Pn	18 26 46.4	-0.9
OGWZ	**Otaki Gorge**	**2.15**	**190**	⇑PN	Pn	18 26 47.0	-0.7
HOWZ	**Holdsworth Sta**	**2.21**	**183**	PN	Pn	18 26 47.3	-1.0
KIW	**Kapiti Island**	**2.24**	**195**	PN	Pn	18 26 47.5	-1.2
CPWZ	**Castlepoint**	**2.25**	**170**	PN	Pn	18 26 48.5	-0.3
TMWZ	**Te Maipa**	**2.42**	**176**	PN	Pn	18 26 49.7	-1.1
CAW	**Cannon Point**	**2.46**	**191**	PN	Pn	18 26 50.0	-1.2
CAW				AML	AML	18 26 50.7	
CAW				AML	AML	18 26 51.3	
MTW	**Mount Morrison**	**2.46**	**183**	PN	Pn	18 26 49.9	-1.4
MTW				AML	AML	18 26 50.7	
DUWZ	**D'Urville Isla**	**2.50**	**212**	PN	Pn	18 26 50.8	-1.0
PAWZ	**Paruwai Farm**	**2.69**	**184**	PN	Pn	18 26 52.5	-1.6
TRWZ	**Traveller**	**2.70**	**180**	PN	Pn	18 26 52.7	-1.5
SNZO	**South Karori**	**2.71**	**196**	PN	Pn	18 26 52.8	-1.5
SNZO				AML	AML	18 26 53.1	
TCW	**Tory Channel**	**2.73**	**203**	PN	Pn	18 26 53.3	-1.3
TCW				AML	AML	18 27 27.0	
TCW				AML	AML	18 27 27.4	
MSWZ	**Moikau Station**	**2.74**	**187**	⇑PN	Pn	18 26 53.0	-1.6
MSWZ				AML	AML	18 26 53.8	
MSWZ				AML	AML	18 27 26.4	
BHW	**Baring Head**	**2.78**	**192**	PN	Pn	18 26 53.5	-1.6
BHW				AML	AML	18 26 53.8	
BHW				AML	AML	18 26 53.9	
PLWZ	**Palliser**	**2.89**	**186**	⇑PN	Pn	18 26 54.7	-1.9
TUWZ	**Tuamarina**	**3.04**	**205**	PN	Pn	18 26 56.8	-1.6
TUWZ				AML	AML	18 27 32.7	
TUWZ				AML	AML	18 27 34.0	
NNZ	**Nelson**	**3.07**	**214**	PN	Pn	18 26 57.2	-1.6
BSWZ	**Blackbirch Sta**	**3.31**	**204**	PN	Pn	18 27 00.2	-1.6
THZ	**Tophouse**	**3.73**	**214**	⇑PN	Pn	18 27 05.5	-1.8
KHZ	**Kahutara**	**4.06**	**203**	PN	Pn	18 27 09.6	-1.8
DSZ	**Denniston Nort**	**4.25**	**223**	PN	Pn	18 27 11.2	-2.8
LTZ	**Lake Taylor**	**4.83**	**211**	PN	Pn	18 27 19.1	-2.5
OXZ	**Oxford**	**5.38**	**210**	PN	Pn	18 27 25.0	-3.8
MQZ	**McQueen's Vall**	**5.50**	**203**	⇑PN	Pn	18 27 26.5	-3.8

IDC ***02*** *18:41:59.9±2.3, 40°.88N×143°.01E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.3/25, mbtmp3.4/6, ML3.0/1, Error ellipse: s-maj=68.2km s-min=25.6km az=72.0*
ISCJB ***02*** *18:42:02.6±0.8, 41°.02N±0°.04×143°.35E±0°.08, h44km±9km, mb3.4/5, Error ellipse: s-maj=10.8km s-min=5.3km az=27.5*
JMA ***02*** *18:42:02.7±0.1, 41°.01N×143°.26E, h45km, M3.2*
ISC 02 18:42:02.7±2.6, 41°.02N±0°.05×143°.33E±0°.07, h29km±19km, n26, σ0s71/29, mb3.4/5, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.00**	**353**	P	**Pn**	**18 42 20.8**	**0.0**
JEM				*e*S	**Sb**	**18 42 33.9**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.33**	**341**	⇑P	**Pn**	**18 42 25.5**	**+0.2**
JNBK				*e*S	**Sn**	**18 42 42.8**	**+0.8**
JANG	**Nango**	**1.52**	**245**	P	**Pn**	**18 42 27.3**	**-0.7**
JCH	**Churui**	**1.59**	**1**	P	**Pn**	**18 42 29.1**	**+0.2**
JCH				*e*S	**Sn**	**18 42 48.6**	**+0.1**
JTM	**Tenmabayashi**	**1.73**	**263**	P	**Pn**	**18 42 30.6**	**-0.2**
JTM				*e*S	**Sn**	**18 42 50.9**	**-1.0**
JOT	**Ohata**	**1.75**	**283**	P	**Pn**	**18 42 30.8**	**-0.4**
JBT2	**Biratori 2**	**1.90**	**338**	P	**Pn**	**18 42 33.5**	**+0.4**
JBT2				*e*S	**Sn**	**18 42 56.6**	**+0.6**
JOB	**Onbets**	**1.92**	**11**	P	**Pn**	**18 42 33.9**	**+0.5**
JOB				*e*S	**Sn**	**18 42 55.8**	**-0.8**
JOM	**Ohasama**	**2.19**	**226**	P	**Pn**	**18 42 38.3**	**+1.1**
JFR	**Furan**	**2.21**	**346**	P	**Pn**	**18 42 37.5**	**+0.1**
JAK	**Akkeshi**	**2.22**	**27**	P	**Pn**	**18 42 37.9**	**+0.3**
JAK				S	**Sn**	**18 43 03.0**	**-1.1**
JEW	**Eniwo**	**2.29**	**323**	P	**Pn**	**18 42 39.5**	**+0.9**
JEW				S	**Sn**	**18 43 06.8**	**+1.0**
JAR	**Ashorobuto**	**2.30**	**8**	P	**Pn**	**18 42 38.7**	**+0.1**
JAR				S	**Sn**	**18 43 04.9**	**-1.0**
JMK	**Ichinoseki**	**2.62**	**219**	P	**Pn**	**18 42 44.0**	**+0.8**
ASAJ	**Asahikawa**	**3.14**	**350**	Pn	**Pn**	**18 42 51.7**	**+1.5**
	1.2nm,0.3s,baz=105,slow=28,SNR=9.8						
ASAJ				Sn	**Sn**	**18 43 26.2**	**-0.5**
	1.4nm,0.3s,baz=333,slow=28,SNR=1.5						
SONM	**Songino Array**	**27.04**	**297**	P	**P**	**18 47 42.7**	**+0.2**
	0.5nm,1.0s,baz=82,slow=10,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**29.23**	**130**	T	T	19 18 50.2	
	baz=325,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**29.24**	**130**	T	T	19 18 51.5	
	baz=325,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**29.24**	**130**	T	T	19 18 51.5	
	baz=325,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**30.08**	**131**	T	T	19 20 01.4	
	baz=327,slow=75,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**30.08**	**131**	T	T	19 20 02.5	
	baz=327						
H11S2	**WAKE ISLAND Hy**	**30.09**	**131**	T	T	19 20 03.6	
	baz=327,slow=75,SNR=4.7						
ZALV	**Zalesovo Beam**	**40.44**	**309**	P	P	18 49 40.8	+2.5
	0.7nm,0.6s,baz=86,slow=8.5,SNR=4.5						
MKAR	**Makanchi Array**	**43.38**	**299**	P	**P**	**18 50 01.9**	**-0.5**
	0.2nm,0.5s,baz=80,slow=9.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**44.82**	**305**	P	**P**	**18 50 13.4**	**-0.5**
	0.4nm,0.3s,baz=78,slow=8.8,SNR=2.2						
WRA	**Warramunga Arr**	**61.22**	**190**	P	**P**	**18 52 15.4**	**+0.4**
	0.2nm,0.6s,baz=4.8,slow=6.9,SNR=4.2						

TRN 02 18:45:42.4, 16°.76N×61°.51W, h35km, MD3.6, M2.6(FDF), 7C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEG	**Port Louis**	**0.35**	**179**	*i* P	Pn	18 45 53.1	+2.1
DEG	**La Desirade**	**0.62**	**135**	*e*P	Pb	18 45 56.0	+1.0
DEG				*e*S	Sb	18 46 05.2	+1.5
LZG	**Guadaloupe-1**	**0.66**	**203**	*e*P	Pb	18 45 57.0	+1.2
BCG	**Bois Riant Cap**	**0.68**	**189**	*e*P	Pb	18 45 57.1	+1.1
SSG	**Sans Toucher**	**0.68**	**194**⇑	*e*P	Pb	18 45 57.3	+1.0
CRG	**Carmichael**	**0.71**	**192**	*e*P	Pb	18 45 57.9	+1.1
FNG	**Fond-Bernard**	**0.71**	**194**	*e*P	Pb	18 45 57.7	+1.0
MLG	**Mont-d'or**	**0.72**	**196**	*e*P	Pb	18 45 57.8	+1.0
LKG	**Breislack**	**0.72**	**191**⇑	*i* P	Pb	18 45 57.7	+0.7
ECG	**Echelle**	**0.72**	**191**⇑	*i* P	Pb	18 45 57.8	+0.8
DOG	**Dongo Capester**	**0.73**	**188**	*e*P	Pb	18 45 57.7	+0.9
PHG	**Guadaloupe-2**	**0.75**	**190**⇑	*i* P	Pb	18 45 58.2	+0.9
MGG	**Marie-Galante**	**0.85**	**167**⇑	*i* P	Pb	18 45 59.7	+0.8
ANWB	**Willy Bob**	**0.94**	**344**⇑	*i* P	Pb	18 46 00.6	+0.2
ANWB				*e*S	Sb	18 46 13.4	+0.7
SKI	**Saint Kitts**	**1.31**	**296**	*e*P	Pb	18 46 06.3	-0.3
SKI				*e*S	Sb	18 46 22.6	-0.5

IDC 02 18:50:10.6±4.2, 12°.37S×165°.30E, h102km±30km, mb3.3/3, mb1 3.5/5, mb1mx3.4/19, mbtmp3.5/5, Error ellipse: s-maj=54.6km s-min=32.0km az=68.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.01**	**299**	P	Pn	18 51 37.1	0.0
	4.7nm,0.3s,baz=196,slow=19,SNR=9.2						
DZM	**Mont Dzumac**	**9.71**	**174**	P	Pn	18 52 27.4	-0.1
	0.5nm,0.3s,baz=0.0,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**30.64**	**252**	P	P	18 56 15.2	-0.3
	0.4nm,0.7s,baz=84,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**31.82**	**245**	P	P	18 56 26.1	+0.1
	0.6nm,0.7s,baz=68,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**94.18**	**317**	P	P	19 03 18.0	-0.1
	0.2nm,0.7s,baz=114,slow=3.5,SNR=2.6						

MAN 02 19:13:27, 8°.81N×126°.42E, h27km, mb4.2, ML3.0, MS2.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.62**	**186**⇑	*i* P	Pb	19 13 38.7	-0.7
BIPH				*i* S	Sb	19 13 45.8	-1.9
BUTP	**Butuan**	**0.81**	**282**	*e*P	Pn	19 13 43.1	+0.3
BUTP				*e*S	Sn	19 13 55.1	+1.3
SCPH	**Surigao**	**1.34**	**316**⇓	*e*P	Pn	19 13 50.4	+0.5
SCPH				*e*S	Sn	19 14 06.9	0.0
BUKP	**Musuan**	**1.63**	**236**	*e*P	Pb	19 13 56.1	-0.4
CGP	**Cagayan de Oro**	**

*ISCJB **02** 20:02:48.2±1.4, 12°.27N×0°.05×125°.84E±0°.09, h45km±12km, mb3.8/8, Error ellipse: s-maj=15.8km s-min=7.4km az=160.9*

*MAN **02** 20:02:50, 12°.21N×125°.62E, h37km, mb4.8, ML3.7, MS3.8*

ISC 02 20:02:50.3±2.3, 12°24N±0°.07×125°.7E±0°.2, h42km±20km, n32, σ0°74/31, mb3.9/8, 2C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.27 213**		∥*eP*	**Pn**	**20 03 10.5**	**-1.2**
PLP				*eS*	**Sn**	**20 03 27.2**	**-0.3**
OCLP	**Ormoc**	**1.58 222**		*eP*	**Pn**	**20 03 16.4**	**+0.4**
OCLP				*eS*	Sn	20 03 42.2	+7.0
PVCP	**Virac**	**2.01 312**		*eP*	**Pn**	**20 03 21.7**	**-0.1**
PVCP				*eS*	**Sn**	**20 03 46.0**	**+0.2**
MSLP	**Maasin**	**2.24 201**		*eP*	**Pn**	**20 03 26.6**	**+1.6**
MSLP				*eS*	**Sn**	**20 03 51.0**	**-0.5**
SCPH	**Surigao**	**2.45 185**	∥	*eP*	**Pn**	**20 03 28.0**	**+0.2**
LLP	**Lapu-Lapu**	**2.55 222**	∥	*eP*	**Pn**	**20 03 29.2**	**0.0**
LLP				*eS*	Sn	20 04 03.3	+4.3
RCP	**Roxas**	**2.96 257**	∥	*eP*	**Pn**	**20 03 35.5**	**+0.7**
RCP				*i* S	Sn	20 04 13.8	+4.7
BUTP	**Butuan**	**3.25 181**		*eP*	Pn	20 03 45.6	+6.8
GUIM	**Jordan**	**3.43 242**		*eP*	**Pn**	**20 03 42.0**	**+0.6**
BUKP	**Musuan**	**4.38 188**		*eP*	Pn	20 03 58.1	+3.7
PAGZ	**Pagadian**	**4.92 208**		*eP*	**Pn**	**20 04 03.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**26.50 287**		P	**P**	**20 08 23.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**26.50 287**		P	**P**	**20 08 23.3**	**-0.8**
	0.4nm,0.3s,baz=96,slow=7.8,SNR=4.2						
FITZ	**Fitzroy Crossi**	**30.15 180**		P	**P**	**20 08 56.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.15 180**		P	**P**	**20 08 56.2**	**-0.3**
	2.6nm,1.0s,baz=344,slow=7.4,SNR=5.5						
WRA	**Warramunga Arr**	**33.09 165**		P	**P**	**20 09 21.2**	**-1.2**
WRA				PcP	**PcP**	**20 12 05.6**	**+0.4**
WRA	**Warramunga Arr**	**33.09 165**		P	**P**	**20 09 21.2**	**-1.2**
	0.5nm,1.0s,baz=344,slow=9.4,SNR=4.2						
WRA				PcP	**PcP**	**20 12 05.6**	**+0.4**
	0.4nm,1.0s,baz=346,slow=3.4,SNR=6.4						
ASAR	**Alice Springs**	**36.58 167**		P	**P**	**20 09 52.2**	**-0.2**
ASAR	**Alice Springs**	**36.58 167**		P	**P**	**20 09 52.2**	**-0.2**
	0.7nm,0.4s,baz=342,slow=6.9,SNR=14						
SONM	**Songino Array**	**38.99 339**		P	**P**	**20 10 12.7**	**-0.1**
SONM	**Songino Array**	**38.99 339**		P	**P**	**20 10 12.6**	**-0.1**
	0.6nm,0.9s,baz=156,slow=7.9,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**39.95 76**		T	T	20 53 10.0	
	baz=271,slow=71,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**39.97 76**		T	T	20 53 12.5	
	baz=271,slow=71,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**39.97 76**		T	T	20 53 12.4	
	baz=271,slow=71,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**40.22 74**		T	T	20 53 30.7	
	baz=269,slow=75,SNR=36						
H11N2	**WAKE ISLAND Hy**	**40.23 74**		T	T	20 53 30.5	
	baz=269,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**40.24 74**		T	T	20 53 32.1	
	baz=269,slow=75,SNR=30						
MKAR	**Makanchi Array**	**50.13 322**		P	**P**	**20 11 42.1**	**+0.6**
MKAR				PcP	**PcP**	**20 13 01.1**	**+0.5**
MKAR	**Makanchi Array**	**50.13 322**		P	**P**	**20 11 42.1**	**+0.6**
	1.4nm,0.7s,baz=120,slow=8.8,SNR=13						
MKAR				PcP	**PcP**	**20 13 01.1**	**+0.5**
	0.3nm,0.3s,baz=131,slow=4.0,SNR=8.3						
KURK	**Kurchatov**	**54.13 325**		P	**P**	**20 12 11.7**	**+0.5**
KURBB	**Kurchatov Arra**	**54.14 325**		P	**P**	**20 12 11.7**	**+0.5**
	2.0nm,0.8s,baz=124,slow=7.3,SNR=16						
BRVK	**Borovoye**	**59.80 325**		*eP*	**P**	**20 12 51.2**	**0.0**
	5.7nm,1.0s						

*IDC **02** 20:05:55.1±0.9, 12°.24N×125°.70E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/27, mbtmp4.0/12, MS2.5/1, Ms1 2.5/1, ms1mx2.2/36, Error ellipse: s-maj=53.7km s-min=14.9km az=68.0*

*NEIC **02** 20:05:56.7±0.5, 12°.22N×125°.64E, h10km, mb4.3/1, Error ellipse: s-maj=20.3km s-min=7.9km az=61.0*

NEIC Felt [II PIVS] at Oras and San Policarpio.

*MAN **02** 20:06:01, 12°.30N×125°.58E, h32km, mb4.8, ML3.7, MS3.7*

ISC 02 20:05:56.5±2.1, 12°28N±0°.05×125°.63E±0°.07, h8km±12km, n64, σ1§01/65, mb4.3/19, 1C-4D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.28 210**	∥	*eP*	**Pg**	**20 06 21.3**	**+0.3**
PLP				*eS*	**Sn**	**20 06 38.1**	**+0.1**
OCLP	**Ormoc**	**1.58 219**		*eP*	**Pg**	**20 06 27.1**	**+0.3**
OCLP				*eS*	**Sg**	**20 06 47.3**	**-0.1**
PVCP	**Virac**	**1.94 312**		*eP*	**Pb**	**20 06 32.8**	**+0.6**
PVCP				*eS*	**Sn**	**20 06 53.8**	**-0.6**
MSLP	**Maasin**	**2.27 200**		*eP*	**Pb**	**20 06 37.6**	**0.0**
SCPH	**Surigao**	**2.49 183**	∥	*eP*	**Pn**	**20 06 38.9**	**+1.6**
LLP	**Lapu-Lapu**	**2.54 220**	∥	*eP*	**Pn**	**20 06 40.0**	**+1.9**
LLP				*eS*	**Sb**	**20 07 13.8**	**-0.1**
RCP	**Roxas**	**2.91 256**	∥	*eP*	**Pn**	**20 06 45.8**	**+2.6**
RCP				*eS*	**Sb**	**20 07 22.2**	**-2.3**
BUTP	**Butuan**	**3.29 180**		*eP*	**Pb**	**20 06 52.8**	**-2.3**
GUIM	**Jordan**	**3.41 241**		*eP*	**Pn**	**20 06 52.2**	**+2.3**
GQP	**Guinayangan**	**3.50 298**	∥	*eP*	**Pb**	**20 06 55.8**	**-2.8**
GQP				*eS*	**Sb**	**20 07 39.5**	**-1.8**
BUKP	**Musuan**	**4.41 187**		*eP*	Pn	20 07 07.8	+4.0
PAGZ	**Pagadian**	**4.93 207**		*eP*	Pn	20 07 14.5	+3.6
JOW	**Kunigami**	**14.69 9**		LR	LR	20 13 54.7	
	comp=Z,18nm,21.1s,baz=92,slow=33						
CMAR	**Chiang Mai Arr**	**26.44 287**		P	**P**	**20 11 34.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**26.44 287**		P	**P**	**20 11 34.1**	**+0.1**
	1.9nm,0.8s,baz=92,slow=7.8,SNR=13						
FITZ	**Fitzroy Crossi**	**30.19 180**		P	**P**	**20 12 07.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.19 180**		P	**P**	**20 12 07.1**	**-0.3**
	1.8nm,0.6s,baz=132,slow=9.3,SNR=12						
WRA	**Warramunga Arr**	**33.15 165**		P	**P**	**20 12 32.2**	**-1.3**
WRA				PcP	**PcP**	**20 15 16.4**	**-0.2**
WRA	**Warramunga Arr**	**33.15 165**		P	**P**	**20 12 32.2**	**-1.3**
	0.2nm,0.4s,baz=345,slow=9.4,SNR=5.0						
WRA				PcP	**PcP**	**20 15 16.4**	**-0.2**
	0.6nm,0.6s,baz=341,slow=3.1,SNR=7.5						
ASAR	**Alice Springs**	**36.63 167**		P	**P**	**20 13 03.6**	**0.0**
ASAR	**Alice Springs**	**36.63 167**		P	**P**	**20 13 03.6**	**0.0**
	0.9nm,0.4s,baz=340,slow=6.9,SNR=21						
ODAN	**Odare**	**38.67 298**		*eP*	**P**	**20 13 21.5**	**+0.4**
	9.9nm,0.8s						
ODAN	**Odare**	**38.67 298**		*eP*	**P**	**20 13 21.5**	**+0.4**
	9.9nm,0.8s						
SONM	**Songino Array**	**38.93 339**		P	**P**	**20 13 22.8**	**-0.1**
SONM	**Songino Array**	**38.93 339**		P	**P**	**20 13 22.8**	**-0.1**
	0.4nm,0.7s,baz=158,slow=8.8,SNR=3.7						
RAMN	**Ramite**	**39.37 298**		*eP*	**P**	**20 13 27.6**	**+0.5**
	9.9nm,0.6s						
RAMN	**Ramite**	**39.37 298**		*eP*	**P**	**20 13 27.6**	**+0.5**
	9.9nm,0.6s						
JIRN	**Jiri**	**39.90 299**		*eP*	**P**	**20 13 31.8**	**+0.2**
JIRN	**Jiri**	**39.90 299**		*eP*	**P**	**20 13 31.8**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**40.00 76**		T	T	20 56 21.4	
	baz=271,slow=69,SNR=22						
H11S1	**WAKE ISLAND Hy**	**40.01 76**		T	T	20 56 24.2	
	baz=271,slow=69,SNR=20						
H11S2	**WAKE ISLAND Hy**	**40.02 76**		T	T	20 56 21.9	
	baz=271,slow=69,SNR=21						
GUN	**Gumba**	**40.23 299**		*eP*	**P**	**20 13 34.7**	**+0.4**
	21nm,1.0s						
GUN	**Gumba**	**40.23 299**		*eP*	**P**	**20 13 34.7**	**+0.4**
	21nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**40.26 74**		T	T	20 56 39.7	
	baz=269,slow=75,SNR=54						
H11N2	**WAKE ISLAND Hy**	**40.27 74**		T	T	20 56 39.0	
	baz=269,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**40.28 74**		T	T	20 56 41.1	
	baz=269,slow=75,SNR=60						
PKI	**Pulchoki**	**40.55 298**		*eP*	**P**	**20 13 36.9**	**-0.1**
PKI	**Pulchoki**	**40.55 298**		*eP*	**P**	**20 13 36.9**	**-0.1**
PKIN	**Phulchoki**	**40.56 298**		*eP*	**P**	**20 13 36.7**	**-0.3**
	5.5nm,0.7s						
DMN	**Daman**	**40.82 298**		*eP*	**P**	**20 13 38.8**	**-0.3**
DMN	**Daman**	**40.82 298**		*eP*	**P**	**20 13 38.8**	**-0.3**
GKN	**Gorkha**	**41.32 299**		*eP*	**P**	**20 13 42.8**	**-0.3**
	10nm,0.9s						
GKN	**Gorkha**	**41.32 299**		*eP*	**P**	**20 13 42.8**	**-0.3**
	10nm,0.9s						
DANN	**Dangsing**	**42.15 299**		*eP*	**P**	**20 13 49.8**	**-0.3**
	13nm,0.8s						
DANN	**Dangsing**	**42.15 299**		*eP*	**P**	**20 13 49.8**	**-0.3**
	13nm,0.8s						
KOLN	**Koldanda**	**42.16 298**		*eP*	**P**	**20 13 50.5**	**+0.5**
	9.9nm,0.9s						
KOLN	**Koldanda**	**42.16 298**		*eP*	**P**	**20 13 50.5**	**+0.5**
	9.9nm,0.9s						
MKAR	**Makanchi Array**	**50.06 322**		P	**P**	**20 14 53.0**	**+1.2**
MKAR				PcP	**PcP**	**20 16 11.6**	**+0.1**
MKAR	**Makanchi Array**	**50.06 322**		P	**P**	**20 14 53.0**	**+1.2**
	1.3nm,0.7s,baz=117,slow=9.2,SNR=13						
MKAR				PcP	**PcP**	**20 16 11.6**	**+0.1**
	0.5nm,0.7s,baz=93,slow=2.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**52.57 331**		P	**P**	**20 15 10.9**	**+0.5**
ZALV	**Zalesovo Beam**	**52.57 331**		P	**P**	**20 15 10.9**	**+0.5**
	0.2nm,0.3s,baz=133,slow=8.5,SNR=3.9						
KURK	**Kurchatov**	**54.07 325**		*eP*	**P**	**20 15 22.5**	**+1.0**
	2.7nm,0.8s						
KURBB	**Kurchatov Arra**	**54.07 325**		P	**P**	**20 15 22.2**	**+0.7**
	1.3nm,0.2s,baz=123,slow=7.1,SNR=9.8						
BVAR	**Borovoye Array**	**59.67 325**		P	**P**	**20 16 02.7**	**+1.5**
BVAR	**Borovoye Array**	**59.67 325**		P	**P**	**20 16 02.7**	**+1.5**
	1.2nm,0.6s,baz=136,slow=7.0,SNR=3.6						
FINES	**FINESS Array B**	**83.83 332**		P	**P**	**20 18 26.3**	**-0.1**
FINES	**FINESS Array B**	**83.83 332**		P	**P**	**20 18 26.3**	**-0.1**
	1.0nm,0.5s,baz=80,slow=3.4,SNR=6.4						
EIL	**Elat**	**84.61 299**		P	**P**	**20 18 32.0**	**+1.0**
EIL	**Elat**	**84.61 299**		P	**P**	**20 18 32.0**	**+1.0**
	1.7nm,0.4s,baz=34,slow=7.3,SNR=3.8						
AKASG	**Malin Array Be**	**84.62 321**		P	**P**	**20 18 29.5**	**-1.0**
AKASG	**Malin Array Be**	**84.62 321**		P	**P**	**20 18 29.5**	**-1.0**
	0.1nm,0.2s,baz=76,slow=2.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**118.93 293**		PKP	**PKPdf**	**20 24 45.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**118.93 293**		PKP	**PKPdf**	**20 24 45.8**	**-0.9**
	0.2nm,0.7s,baz=75,slow=4.3,SNR=3.5						

IDC 02 20:21:31.9±2.4, 5°.70S×130°.46E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=149.0km s-min=31.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.19 201**		Sn	Sn	20 26 51.9	-16
	0.1nm,0.3s,baz=306,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**14.65 165**		Pn	Pn	20 25 00.3	-0.4
	0.1nm,0.3s,baz=349,slow=13,SNR=9.6						
WRA				Sn	Sn	20 27 28.6	-15
	0.1nm,0.3s,baz=350,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**18.16 170**		P	Pn	20 25 46.0	+0.1
	0.1nm,0.3s,baz=349,slow=9.4,SNR=4.2						
MKAR	**Makanchi Array**	**67.40 326**		P	P	20 32 29.3	0.0
	0.2nm,0.4s,baz=129,slow=6.7,SNR=7.3						

*HEL **02** 20:25:52.0±0.8, 67°.71N×33°.91E, h0km, ML1.9, Explosion*

*NAO **02** 20:25:53.4±1.3, 67°.72N×33°.57E, ML2.1*

*CSEM **02** 20:25:55.6±0.5, 67°.73N×32°.97E, h2km, ML2.1, Error ellipse: s-maj=10.1km s-min=5.3km az=67.0, Mining explosion.*

ISC 02 20:25:54.6±2.0, 67°64N±0°.04×33°.26E±0°.10, h0km, n24, σ1§42/39, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.11 252**		Pg	**Pg**	**20 25 57.5**	**+0.9**
	baz=62,slow=12						
APA0				Lg	Lg	20 26 01.7	
	baz=84,slow=37						
APA0				Rg	Rg	20 26 03.4	
	baz=107,slow=22						
APA0	**Apatity Array**	**0.11 252**		Pg	**Pg**	**20 25 57.5**	**+0.9**
	baz=62,slow=12						
APA0				Lg	Lg	20 26 01.7	
	baz=84,slow=37						
APA0				Rg	Rg	20 26 03.4	
	baz=107,slow=22						
APA0	**Apatity Array**	**0.11 252**		Pg	**Pg**	**20 25 57.5**	**+0.9**
	SNR=91						
APA0				Lg	Lg	20 26 01.7	
	SNR=1.4						
VRF	**Varrio**	**1.40 276**		PG	**Pn**	**20 26 20.4**	**-0.9**
	baz=92						
VRF				SG	**Sn**	**20 26 40.6**	**+0.2**
VRF				MSG		20 26 40.6	
	comp=Z,5.8nm,0.2s						
VRF	**Varrio**	**1.40 276**		Pg	**Pn**	**20 26 20.4**	**-0.9**
VRF				Sg	**Sn**	**20 26 40.6**	**+0.2**
KU6	**Riekki**	**2.10 221**		PN	**Pn**	**20 26 31.7**	**+0.8**
KU6				SG	**Sg**	**20 27 01.7**	**-0.2**
KU6				MSG		20 27 01.7	
	comp=Z,4.2nm,0.4s						
KU6	**Riekki**	**2.10 221**		Pn	**Pn**	**20 26 31.7**	**+0.8**
KU6				Sg	**Sg**	**20 27 01.7**	**-0.2**
SGF	**Sodankyl**	**2.59 269**		PN	**Pb**	**20 26 41.1**	**-0.8**
	baz=86						
SGF				SG	**Sb**	**20 27 16.0**	**+1.8**
SGF				MSG		20 27 16.0	
	comp=Z,3.6nm,0.4s						
SGF	**Sodankyl**	**2.59 269**		Pn	**Pb**	**20 26 41.1**	**-0.8**
SGF				Sg	**Sb**	**20 27 16.0**	**+1.8**
RNF	**Rovaniemi**	**3.01 253**		PN	**Pn**	**20 26 43.9**	**+0.3**
RNF	**Rovaniemi**	**3.01 253**		Pn	**Pn**	**20 26 43.8**	**+0.3**
KEV	**Kevo**	**3.12 316**		PN	**Pn**	**20 26 44.7**	**-0.2**
KEV				SG	**Sb**	**20 27 30.6**	**+1.3**
KEV				MSG		20 27 30.6	
	comp=Z,6.1nm,0.4s						
KEV	**Kevo**	**3.12 316**		Pn	**Pn**	**20 26 44.7**	**-0.2**
KEV				Sg	**Sb**	**20 27 30.6**	**+1.3**
ARA0	**ARCESS Array S**	**3.42 307**		Pn	**Pn**	**20 26 48.4**	**-0.8**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**20 26 56.8**	**+0.8**
	baz=117,slow=16						
ARA0				Sn	**Sn**	**20 27 29.6**	**-0.7**
	baz=121,slow=28						
ARA0				Lg	Lg	20 27 40.6	
	baz=115,slow=37						
ARA0	**ARCESS Array S**	**3.42 307**		Pn	**Pn**	**20 26 48.4**	**-0.8**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**20 26 56.8**	**+0.7**
	baz=117,slow=16						
ARA0				Sn	**Sn**	**20 27 29.6**	**-0.7**
	baz=121,slow=28						
ARA0				Lg	Lg	20 27 40.6	
	baz=115,slow=37						
ARA0	**ARCESS Array S**	**3.42 307**		PN	**Pn**	**20 26 48.0**	**-1.1**
	baz=121						
ARA0				SG	**Sb**	**20 27 40.0**	**+1.9**
ARA0				MSG		20 27 40.0	
	comp=Z,3.2nm,0.3s						
ARA0	**ARCESS Array S**	**3.42 307**		Pn	**Pn**	**20 26 48.4**	**-0.8**
	SNR=50						
ARA0	**ARCESS Array S**	**3.42 307**		Pg	**Pb**	**20 26 56.8**	**+0.8**
	SNR=90						
ARA0				Sn	**Sn**	**20 27 29.6**	**-0.7**
	SNR=50						
ARA0				Sg	**Sb**	**20 27 40.0**	**+1.9**
HEF	**Hetta**	**3.69 286**		SG	**Sg**	**20 27 50.1**	**-2.9**
HEF				MSG		20 27 50.1	
	comp=Z,2.5nm,0.4s						
HEF	**Hetta**	**3.69 286**		Sg	**Sg**	**20 27 50.1**	**-2.9**
OUL	**Oulu**	**3.92 233**		SG	**Sg**	**20 28 00.9**	**+0.6**
OUL				MSG		20 28 00.9	
	comp=Z,1.0nm,0.4s						
OUL	**Oulu**	**3.92 233**		Sg	**Sg**	**20 28 00.9**	**+0.6**
FIA0	**FINESS Array S**	**6.94 210**		Sn	**Sn**	**20 28 53.4**	**-3.6**
	baz=15,slow=22						
FIA0				Lg	Lg	20 29 28.5	
	baz=30,slow=28						
FIA0	**FINESS Array S**	**6.94 210**		Sn	**Sn**	**20 28 53.4**	**-3.6**
	baz=15,slow=22						
FIA0				Lg	Lg	20 29 28.5	
	baz=30,slow=28						

*CSEM **02** 20:26:54.3, 41°.01N×21°.14E, h10km, MD2.6*

ATH 02 20:26:54.3, 41°.01N×21°.14E, h10km, MD2.6/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.29 142**		*e*PG	Pg	20 26 59.9	-0.3
FNA				*e*SG	Sg	20 27 04.6	+0.4
FNA	**Florina**	**0.29 142**		*e*Pg	Pg	20 26 59.9	-0.3
FNA				*e*Sg	Sg	20 27 04.6	+0.4
NEST	**Nestorio**	**0.60 187**		*e*PB	Pg	20 27 05.8	-0.3
NEST	**Nestorio**	**0.60 187**		*e*Pb	Pg	20 27 05.8	-0.3

*MAN **02** 20:27:10, 12°.35N×125°.72E, h1km, mb5.8, ML4.9, MS5.4*

MAN Intensity IV - Policarpo & Oras Eastern Samar; Intensity III - Can-avid San Julian Taft & Borongan Eastern Samar; Intensity II - Tacloban City.

*NEIC **02** 20:27:12.2±0.1, 12°.19N×125°.55E, h14km, mb5.3/58, MW5.4, Error ellipse: s-maj=5.1km s-min=3.5km az=70.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^17^Nm; M_{rr}1.25; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$-1.01; $M_{r\theta}$0.02; $M_{r\phi}$0.22; $M_{\theta\phi}$1.03; Best double couple: $M_0$1.60000×10^17^ NP1: ϕ_s159.00000°, δ25.00000°, λ75.00000°. NP2: ϕ_s355.00000°, δ66.00000°, λ97.00000°. Principal axes: T 1.6500, Plg68.0000°, Azm278.0000°; N -0.2100, Plg6.0000°, Azm172.0000°; P -1.4400, Plg20.0000°, Azm79.0000°;*

NEIC Felt [IV PIVS] at Dolores, Oras and San Policarpio; [III PIVS] at Borongan, Can-Avid, San Juan and Taft. Felt [II PIVS] at Tacloban, Leyte. Also felt at Palo.

*BJI **02** 20:27:13.7, 12°.15N×125°.62E, h45km, mb5.4/52, mb5.0/62, Ms5.3/76, Ms7 5.2/66*

*ISCJB **02** 20:27:14.8±0.4, 12°.37N±0°.02×125°.63E±0°.03, h39km±3km, mb5.2/165, MS5.0/53, Error ellipse: s-maj=4.7km s-min=2.9km az=168.3*

*IDC **02** 20:27:15.3±1.9, 12°.20N×125°.45E, h33km±13km, mb4.7/33, mb1 4.8/33, mb1mx4.8/35, mbtmp4.7/33, MS4.8/27, Ms1 4.9/27, ms1mx4.8/40, Error ellipse: s-maj=16.6km s-min=8.6km az=67.0*

*MOS **02** 20:27:15.3±1.1, 12°.18N×125°.50E, h49km, mb5.5/46, MS5.2/9, Error ellipse: s-maj=10.4km s-min=4.8km az=124.6*

*GCMT **02** 20:27:18.7±0.1, 12°.36N×125°.69E, h21km, MW5.5, Moment Tensor Solution. s103, c167; s99, c187; Moment tensor: Scale 10^17^Nm; M_{rr}1.41±.04; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$-1.49±.03; $M_{r\theta}$-0.12±.05; $M_{r\phi}$0.52±.02; $M_{\theta\phi}$2.09±.09; Best double couple: $M_0$2.60000×10^17^ NP1: ϕ_s354.00000°, δ72.00000°, λ98.00000°. NP2: ϕ_s149.00000°, δ19.00000°, λ66.00000°. Principal axes: T 2.5100, Plg62.0000°, Azm277.0000°; N 0.1700, Plg8.0000°, Azm172.0000°; P -2.6800, Plg27.0000°, Azm78.0000°; Data Used: II IU CU CN IC G. Surface waves from 109 sta.*

*DJA **02** 20:27:28.3±0.9, 12°.N±5°×12°.6E±°, h147km±7km, M5.1/58, mb5.2/58, mB5.5/37, MLv6.0/1, Mw(mB)5.0/37, Mwp5.7/1*

*BKK **02** 20:27:30.1±1.0, 12°.N±5°×12°.5E±°, h138km±9km, M5.3/37, mB5.7/25, mb5.2/37, MLv6.0/1, Mw(mB)5.2/25*

ISC 02 20:27:15.2±0.4, 12°.26N±0°.02×125°.61E±0°.04, h33km±1km, h33km:pP-P, n597, σ1§36/620, mb5.3/165, MS5.0/53, 38C-22D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.25 210**	∥	*iP*	**Pn**	**20 27 35.7**	**-0.7**
PLP				*i* S	**Sn**	**20 27 50.8**	**-1.4**
OCLP	**Ormoc**	**1.55 219**		*eP*	**Pb**	**20 27 41.6**	**-1.8**
OCLP				*eS*	**Sb**	**20 28 04.0**	**+1.3**
MMPH	**Masbate**	**1.95 273**		*eP*	**Pn**	**20 27 46.9**	**+0.9**
MMPH				*eS*	**Sb**	**20 28 14.1**	**+0.1**
PVCP	**Virac**	**1.95 313**	∥	*iP*	**Pn**	**20 27 44.7**	**-1.3**
PVCP				*i* S	Sb	20 28 19.6	+5.6
PVCP	**Virac**	**1.95 313**		*eP*	**Pn**	**20 27 44.9**	**-1.1**
PVCP				*eS*	**Sb**	**20 28 11.7**	**-2.4**
MSLP	**Maasin**	**2.24 199**		*eP*	**Pb**	**20 27 52.2**	**-2.8**
SCPH	**Surigao**	**2.46 183**	∥	*eP*	**Pn**	**20 27 53.2**	**+0.1**
LLP	**Lapu-Lapu**	**2.52 220**	∥	*iP*	**Pn**	**20 27 54.8**	**+0.9**
LLP				*i* S	**Sb**	**20 28 28.2**	**-2.2**
RCP	**Roxas**	**2.89 256**	∥	*eP*	**Pn**	**20 27 59.9**	**+0.8**
RCP				*eS*	**Sb**	**20 28 38.1**	**-3.1**
KALP	**Kalibo**	**3.26 260**	∥	*eP*	**Pn**	**20 28 05.2**	**+1.2**
BUTP	**Butuan**	**3.27 180**		*eP*	**Pn**	**20 28 05.9**	**+1.7**
GUIM	**Jordan**	**3.38 242**		*eP*	**Pn**	**20 28 06.9**	**+1.2**
GQP	**Guinayangan**	**3.49 298**	∥	*eP*	**Pn**	**20 28 06.5**	**-0.8**
GQP				*eS*	**Sn**	**20 28 47.7**	**+0.2**
SNPH	**Sibulan**	**3.72 219**	∥	*iP*	**Pn**	**20 28 07.5**	**-3.0**
SNPH				*i* S	**Sn**	**20 28 53.1**	**-0.1**
CGP	**Cagayan de Oro**	**3.89 194**		*eP*	**Pn**	**20 28 13.4**	**+0.7**
CGP				*i* S	**Sn**	**20 28 59.8**	**+2.5**
BIPH	**Bislig**	**4.12 170**	∥	*eP*	**Pn**	**20 28 16.1**	**+0.2**
BIPH				*i* S	**Sb**	**20 29 13.1**	**-3.3**
LQP	**Lukban**	**4.38 295**	∥	*eP*	**Pn**	**20 28 19.4**	**-0.2**
BUKP	**Musuan**	**4.39 187**		*eP*	Pn	20 28 21.9	+2.3
CUYO	**Cuyo Island**	**4.72 253**		*eP*	**Pn**	**20 28 25.8**	**+1.6**
PAGZ	**Pagadian**	**4.90 207**		*eP*	**Pn**	**20 28 28.9**	**+2.3**
TGY	**Tagaytay City**	**4.91 292**		Pn	Pn	20 28 30.1	+3.2
TGY	**Tagaytay City**	**4.91 292**		Pn	Pn	20 28 30.1	+3.2
	135nm,0.3s,baz=70,slow=3.9,SNR=43						
TGY				LR	LR	20 30 37.6	
	comp=Z,2µm,18.3s,baz=229,slow=42						
DAV	**Davao City (W)**	**5.16 180**		P	Pb	20 28 49.2	+4.4
	1µm,0.7s,31µm14nm						
DAV	**Davao City (W)**	**5.16 180**		*e*Pn	Pn	20 28 36.2	+6.0
CTBH	**Cotabato--PC H**	**5.18 195**	∥	*eP*	Pn

121nm,0.8s,3µm
BNSI Bone 17.43 199 P P 20 31 20.9 +3.9
173nm,1.1s,4µm
KMPI Kaimana, Papua 17.74 153 P P 20 31 23.8 +3.3
518nm,0.9s,4µm
KAPI Kappang 18.12 199 P P 20 31 28.5 +3.8
SNR=11
KAPI Kappang 18.12 199 P P 20 31 28.6 +4.0
361nm,1.3s,8µm
KAPI Kappang 18.12 199 *e*Pn P 20 31 26.1 +1.5
625nm,1.1s
KAPI Kappang 18.12 199 P P 20 31 26.5 +1.8
2.0nm,0.3s,baz=51,slow=5.3,SNR=13
BKSI Bulukumba 18.30 198 P Pn 20 31 30.0 +3.3
57nm,0.8s,1µm
KSM Kuching 18.58 236 P Pn 20 31 31.3 +1.2
KSM Kuching 18.58 236 P Pn 20 31 31.5 +1.4
102nm,0.9s,2µm
KSM Kuching 18.58 236 *e*Pn Pn 20 31 30.5 +0.4
78nm,0.9s
TLE Tual 19.14 158 P Pn 20 31 40.1 +3.2
98nm,1.1s
SSE Sheshan 19.19 348 ⇑P Pn 20 31 36.9 -0.4
SSE pP **pP 20 31 46.8 +1.9**
SSE sP sP 20 31 53.8 +4.6
SSE S **Sn 20 35 09.9 -1.5**
SSE sS sS 20 35 28.3 +2.4
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,830nm,7.7s
SSE LR LR
comp=N,720nm,16.7s
SSE LR LR
comp=E,4µm,16.8s
SSE LR LR
comp=Z,3µm,17.6s
NJ2 Nanjing 20.66 344 *e*P Pn 20 31 55.2 +0.5
NJ2 pP pP 20 32 04.8 +3.8
NJ2 S Sn 20 35 46.0 -0.9
NJ2 sS sS 20 36 00.0 +4.6
NJ2 pmax pmax
comp=Z,50nm,1.1s
NJ2 pmax pmax
comp=Z,1µm,9.1s
NJ2 LR LR
comp=N,3µm,14.0s
NJ2 LR LR
comp=E,3µm,13.2s
NJ2 LR LR
comp=Z,3µm,15.0s
GENI Genyem 20.66 135 P Pn 20 32 05.8 +11
SAUI Saumlaki 20.89 164 P Pn 20 31 58.2 +0.7
241nm,0.7s,3µm
WHN Wuhan 20.97 332 ⇑P Pn 20 31 56.9 -1.5
WHN sP sP 20 32 11.8 +3.1
WHN S **S 20 35 48.5 +0.9**
WHN LR LR
comp=N,4µm,9.8s
WHN LR LR
comp=E,3µm,13.7s
WHN LR LR
comp=Z,9µm,16.6s
MMRI Maumere 21.03 189 P P 20 32 00.9 +4.5
202nm,1.2s,2µm
JNU Nakatsue 21.32 12 *e*Pn P 20 32 00.1 +0.8
18nm,1.1s
JNU Nakatsue 21.32 12 P P 20 32 00.2 +0.8
14nm,0.9s,baz=163,slow=11,SNR=3.3
JNU LR LR 20 39 33.4
comp=Z,2µm,20.1s,baz=32,slow=34
LBFI Labuhan Bajo, 21.38 196 P P 20 32 02.7 +2.6
102nm,0.8s,972nm
JCJ Chichijima 21.44 44 LR LR 20 39 12.8
comp=Z,3µm,19.1s,baz=336,slow=33
KMMI Kalianget 22.41 212 P P 20 32 12.5 +1.3
218nm,0.8s,3µm
SRBI Singaraja 22.70 208 P P 20 32 15.3 +1.0
90nm,1.3s
GYA Guiyang 22.74 311 ⇑*i*P P 20 32 13.9 -0.9
GYA pP **pP 20 32 24.8 +1.1**
GYA sP sP 20 32 31.0 +3.2
GYA PP PnPn 20 32 45.4 +6.0
GYA PcP **PcP 20 36 06.9 +0.7**
GYA S S 20 36 13.2 -8.4
GYA sS Sn 20 36 34.3 -2.9
GYA SS **SnSn 20 37 02.6 +9.3**
GYA ScP **ScP 20 39 40.0 -1.7**
GYA pmax pmax
comp=Z,80nm,0.8s
GYA LR LR
comp=N,6µm,16.7s
GYA LR LR
comp=E,6µm,17.0s
GYA LR LR
comp=Z,10µm,15.5s
MTNI Mataram 22.78 205 P P 20 32 15.4 +0.2
80nm,1.2s,908nm
ABJI Asem Bagus 22.91 210 P P 20 32 19.7 +3.2
110nm,0.9s
GRJI Gresik 23.09 215 P P 20 32 20.6 +2.2
250nm,1.0s,2µm
BLJI Banyuglugur 23.19 212 P P 20 32 20.9 +1.6
117nm,0.7s
CHAI Chaiyaphum 23.20 282 P P 20 32 16.9 -2.6
122nm,0.8s,806nm
ENH Enshi 23.34 323 *e*P P 20 32 20.5 -0.3
48nm,0.8s
GMJI Gumukmas 23.72 211 P P 20 32 27.5 +3.1
80nm,1.2s,2µm
MYKOM Kota Tinggi 23.95 246 P P 20 32 26.1 -0.6
MYKOM Kota Tinggi 23.95 246 P P 20 32 26.7 0.0
66nm,1.6s
MYKOM Kota Tinggi 23.95 246 *e*P P 20 32 25.9 -0.8
65nm,1.1s
NGJI Ngawi 24.05 217 P P 20 32 30.0 +2.5
482nm,0.8s,7µm
TJN Taejon 24.07 3 *e*P P 20 32 27.6 +0.1
PATY Pattaya 24.16 274 P P 20 32 27.2 -1.5
25nm,0.9s,376nm
SJI Sawahan 24.17 215 P P 20 32 29.7 +0.9
306nm,0.8s,3µm
PBKT Sadao Pong 24.24 283 P P 20 32 28.8 -0.6
103nm,0.9s,2µm
KGM Kluang 24.32 247 P P 20 32 29.5 -0.7
PWJI Pagerwojo 24.38 215 P P 20 32 33.3 +2.7
131nm,1.1s
SMRI Semarang 24.40 219 P P 20 32 32.0 +1.1
341nm,1.0s,6µm
SMRI Semarang 24.40 219 *e*P P 20 32 32.0 +1.1
237nm,0.7s
NANT Nan 24.85 288 P P 20 32 32.7 -2.2
335nm,0.9s,2µm
PCJI Pacitan 24.88 216 P P 20 32 44.9 +10
TIA Tai'an 25.05 344 ⇑P P 20 32 35.8 -0.7
TIA S **S 20 36 57.7 -1.0**
TIA pmax pmax
comp=Z,770nm,8.6s
TIA LR LR
comp=N,2µm,21.1s
TIA LR LR
comp=E,2µm,17.6s
TIA LR LR
comp=Z,2µm,20.8s
BJII Banjamegara 25.08 220 P P 20 32 38.3 +1.3
256nm,1.2s,5µm
YOGI Yogyakarta 25.09 218 P P 20 32 40.9 +3.8
688nm,0.8s
TGJI Tegal 25.10 222 P P 20 32 38.8 +1.6
243nm,0.7s,4µm
KMI Kunming 25.11 304 P P 20 32 37.7 +0.2
KMI pP pP 20 32 46.0 -0.9
KMI sP **sP 20 32 50.2 -0.8**
KMI S **S 20 36 58.3 -2.1**
KMI sS sS 20 37 13.7 -2.4
KMI pmax pmax
comp=Z,51nm,1.0s
KMI pmax pmax
comp=Z,820nm,13.5s
KMI LR LR
comp=N,1µm,14.3s
KMI LR LR
comp=E,6µm,17.0s
KMI LR LR
comp=Z,8µm,17.8s
KSAR Wonju Array Be 25.16 4 P P 20 32 38.0 +0.5

KSRS Korea Array 25.17 4 P P 20 32 38.0 +0.4
7.4nm,1.0s,baz=179,slow=10,SNR=14
KSRS LR LR 20 42 24.4
comp=Z,2µm,18.9s,baz=184,slow=36
FRIM Kepong 25.38 251 P P 20 32 39.4 -0.4
CRAI Chiangrai 25.47 291 P P 20 32 42.1 +1.6
422nm,0.7s,13µm
IPM Ipoh 25.51 254 P P 20 32 39.5 -1.5
IPM Ipoh 25.51 254 P P 20 32 40.5 -0.4
47nm,0.8s
IPM Ipoh 25.51 254 *e*P P 20 32 38.6 -2.3
34nm,0.8s
KPJI Karang Pucung 25.57 221 P P 20 32 42.5 +1.1
153nm,0.9s
KULM Kulim 25.61 256 P P 20 32 42.0 +0.2
KULM Kulim 25.61 256 P P 20 32 48.2 +6.4
31nm,1.2s
KULM Kulim 25.61 256 *e*P P 20 32 40.5 -1.3
36nm,1.1s
PMBI Palembang 25.62 235 P P 20 32 46.3 +4.4
212nm,1.0s
SURA Surathani 25.71 266 P P 20 32 46.2 +3.5
42nm,2.3s,7µm
JMBI JAMBI 25.82 239 P P 20 32 46.2 +2.5
630nm,1.0s,5µm
SRIT Nakonsritamara 25.83 264 P P 20 32 46.6 +2.7
417nm,0.7s,10µm
SRDT SRDT 25.86 278 P P 20 32 45.9 +1.8
135nm,0.7s,4µm
LEM Lembang 26.07 224 P P 20 32 50.9 +4.7
77nm,0.8s,2µm
KHLT Khaolaem Dam 26.39 279 P P 20 32 50.0 +1.1
15nm,1.1s
CM31 Chiang Mai Arr 26.43 287 *e*P P 20 32 48.5 -0.7
77nm,0.8s
CMAR Chiang Mai Arr 26.43 287 P P 20 32 48.9 -0.3
CMAR PcP **PcP 20 36 15.0 +0.7**
CMAR ScP **ScP 20 39 52.0 +0.1**
CMAR Chiang Mai Arr 26.43 287 P P 20 32 48.9 -0.3
74nm,0.8s,baz=97,slow=6.1,SNR=295
CMAR PcP **PcP 20 36 15.0 +0.7**
7.5nm,0.8s,baz=83,slow=0.9,SNR=11
CMAR ScP **ScP 20 39 52.0 +0.1**
1.6nm,1.0s,baz=55,slow=0.9,SNR=6.7
CMAR LR LR 20 44 22.1
comp=Z,4µm,18.2s,baz=90,slow=39
CISI Cisompet, Garu 26.47 223 P P 20 32 56.8 +7.1
CISI Cisompet, Garu 26.47 223 *e*P P 20 32 50.7 +1.0
140nm,1.1s
CMMT Chiang Mai 26.48 288 P P 20 32 48.4 -1.4
49nm,0.9s,703nm
XAN Xi'an 26.48 328 P P 20 32 49.0 -0.6
XAN pP **pP 20 33 00.2 +1.1**
XAN sP sP 20 33 04.5 +1.3
XAN S **S 20 37 24.2 +2.6**
XAN pmax pmax
comp=Z,22nm,1.0s
XAN LR LR
comp=N,2µm,15.7s
XAN LR LR
comp=E,580nm,17.9s
XAN LR LR
comp=Z,1µm,15.0s
CHTO Chiang Mai 26.49 288 P P 20 32 49.0 -0.8
SNR=13
CHTO Chiang Mai 26.49 288 mb 20 32 52.4
SNR=26
CHTO Chiang Mai 26.49 288 *e*P P 20 32 48.2 -1.6
CHTO *e* 20 36 14.1
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 26.49 288 P P 20 32 48.5 -1.3
comp=Z,221nm,0.9s,comp=Z,3µm
CHTO Chiang Mai 26.49 288 *e*P P 20 32 48.1 -1.6
comp=Z,9.4nm,0.8s
CHTO *e*PcP **PcP 20 36 14.1 -0.3**
CHTO Chiang Mai 26.49 288 P P 20 32 48.5 -1.3
comp=Z,221nm,0.9s,comp=Z,3µm
CMAI Chiengmai2 26.61 290 P P 20 32 50.1 -1.0
comp=Z,114nm,0.9s,comp=Z,4µm
MAJO Matsushiro 26.70 23 *de*P P 20 32 52.6 +1.1
MAJO pmax pmax
comp=Z,128nm,2.0s
MAT Matsushiro 26.70 23 P P 20 32 50.2 -1.3
MAT S **S 20 37 26.8 +1.8**
KLSI 26.73 232 P P 20 32 56.5 +4.5
comp=Z,36nm,0.9s,comp=Z,999nm
MDSI Maura Dua 27.03 233 P P 20 32 56.8 +2.1
comp=Z,41nm,1.0s,comp=Z,640nm
LHSI Lahat 27.16 235 P P 20 32 58.1 +2.3
comp=Z,106nm,0.9s
MHMT Maesarieng 27.33 286 P P 20 32 56.9 -0.5
comp=Z,31nm,0.9s,comp=Z,408nm
CD2 Chengdu 27.43 316 P P 20 32 58.1 -0.1
CD2 pP pP 20 33 09.2 +1.5
CD2 sP sP 20 33 14.0 +2.3
CD2 PP **PnPn 20 33 46.8 +3.5**
CD2 PcP **PcP 20 36 16.8 +0.3**
CD2 S **S 20 37 35.2 -1.4**
CD2 sS **sS 20 37 53.2 +0.9**
CD2 SS **SnSn 20 38 54.2 +6.5**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,1µm,11.0s
CD2 LR LR
comp=Z,10µm,16.4s
CD2 LR LR
comp=Z,10µm,16.6s
CD2 LR LR
comp=Z,4µm,21.4s
LWLI Liwa 27.46 233 P P 20 33 00.6 +2.0
comp=Z,66nm,0.8s
PSI Prapat 28.05 253 P P 20 33 05.9 +1.9
comp=Z,18nm,1.0s
PSI Prapat 28.05 253 P P 20 33 02.5 -1.5
PSI PcP **PcP 20 36 18.1 -0.3**
PSI ScP **ScP 20 39 56.0 -1.0**
PSI Prapat 28.05 253 P P 20 33 02.5 -1.5
comp=Z,14nm,0.9s,baz=101,slow=4.4,SNR=8.9
PSI PcP **PcP 20 36 18.1 -0.3**
comp=Z,3.5nm,0.4s,baz=150,slow=8.0,SNR=3.6
PSI ScP **ScP 20 39 56.0 -1.0**
comp=Z,6.6nm,0.6s,baz=208,slow=2.5,SNR=5.5
PSI LR LR 20 45 11.0
comp=Z,7µm,18.9s,baz=134,slow=38
BJT Baijiatuau 28.88 345 *e*P P 20 33 10.6 -0.3
comp=Z,19nm,0.6s
KCSI Kotacane, Aceh 28.88 255 P P 20 33 09.2 -2.1
comp=Z,52nm,0.8s,comp=Z,619nm
BJI Beijing 28.90 345 P P 20 33 10.6 -0.5
BJI pP pP 20 33 20.9 +0.3
BJI S **S 20 37 59.2 -0.2**
BJI sS sS 20 38 20.9 +5.8
BJI pmax pmax
comp=Z,21nm,1.0s
BJI pmax pmax
comp=Z,320nm,6.5s
BJI LR LR
comp=Z,1µm,20.1s
BJI LR LR
comp=Z,2µm,17.6s
BJI LR LR
comp=Z,1µm,23.9s
SNY Shenyang 29.51 357 ⇑P P 20 33 15.7 -0.8
SNY S **S 20 38 10.7 +1.8**
SNY pmax pmax
comp=Z,19nm,2.0s
SNY pmax pmax
comp=Z,430nm,4.0s
SNY LR LR
comp=Z,1µm,18.5s
SNY LR LR
comp=Z,3µm,15.5s
SNY LR LR
comp=Z,2µm,15.8s
GSI Gunungsitoli 29.85 251 P P 20 33 20.8 +0.9
comp=Z,33nm,0.9s
GSI Gunungsitoli 29.85 251 *e*P P 20 33 19.6 -0.2
comp=Z,56nm,1.3s
FITZ Fitzroy Crossi 30.17 180 *e*P P 20 33 21.1 -1.4
comp=Z,44nm,0.8s
FITZ Fitzroy Crossi 30.17 180 P P 20 33 21.8 -0.7
comp=Z,39nm,0.8s,baz=6.7,slow=8.3,SNR=45
PMG Port Moresby 30.36 134 P P 20 33 26.6 +2.3
comp=Z,25nm,1.1s

PMG Port Moresby 30.36 134 *e*P P 20 33 24.8 +0.5
comp=Z,25nm,1.0s
PMG Port Moresby 30.36 134 P P 20 33 25.2 +0.9
comp=Z,19nm,1.0s,baz=285,slow=13,SNR=2.2
PMG LR LR 20 43 54.5
comp=Z,1µm,19.8s,baz=166,slow=33
LZH Lanzhou 30.79 324 ⇑P P 20 33 28.8 +0.7
LZH pP sP 20 33 38.1 -3.6
LZH sP sP 20 33 42.6 +0.9
LZH S **S 20 38 30.3 +0.7**
LZH sS sS 20 38 49.1 +3.7
LZH SS **SnSn 20 40 13.0 +3.2**
LZH pmax pmax
comp=Z,73nm,1.2s
LZH pmax pmax
comp=Z,430nm,5.6s
LZH LR LR
comp=Z,7µm,15.3s
LZH LR LR
comp=Z,5µm,14.6s
LZH LR LR
comp=Z,9µm,15.4s
HHC Hu-ho-hao-te 31.04 339 *e*P P 20 33 30.0 -0.2
HHC sP **sP 20 33 43.9 +0.1**
HHC PP **PnPn 20 34 34.3 +2.3**
HHC S **S 20 38 32.1 -1.1**
HHC sS **sS 20 38 50.0 +1.0**
HHC SS **SnSn 20 40 18.2 +2.5**
HHC pmax pmax
comp=Z,61nm,0.8s
HHC pmax pmax
comp=Z,610nm,4.8s
HHC LR LR
comp=Z,3µm,13.5s
HHC LR LR
comp=Z,2µm,13.0s
HHC LR LR
comp=Z,2µm,13.0s
COEN Coen 31.33 146 *e*P P 20 33 32.0 -0.8
comp=Z,166nm,0.8s
CN2 Changchun 31.43 360 *e*P P 20 33 35.6 +2.2
CN2 *e*pP pP 20 33 45.5 +2.5
CN2 *e*S **S 20 38 40.1 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,2µm,18.0s
USRK Ussuriysk Arra 32.30 9 P P 20 33 41.5 +0.5
comp=Z,3.5nm,0.6s,baz=195,slow=8.4,SNR=8.2
USRK LR LR 20 45 25.5
comp=Z,1µm,20.5s,baz=339,slow=34
MDJ Mudanjiang 32.42 5 P P 20 33 44.7 +2.5
MDJ pP pP 20 33 52.4 +0.7
MDJ sP sP 20 33 57.0 +1.2
MDJ S **S 20 38 57.9 +3.4**
MDJ ScS ScS 20 44 03.6 -6.1
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ pmax pmax
comp=Z,220nm,6.4s
MDJ LR LR
comp=Z,670nm,23.7s
MDJ LR LR
comp=Z,2µm,15.8s
MDJ LR LR
comp=Z,1µm,22.1s
IMP Imphal 32.43 297 *ex* P 20 33 41.0 -1.6
IMP *ex* x 20 36 29.0
WRAB Tennant Creek 33.13 165 *e*P P 20 33 46.4 -2.1
WRAB *e* 20 36 29.3
WRAB *e*S **S 20 39 07.4 +1.5**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 33.13 165 *e*P P 20 33 46.4 -2.1
comp=Z,18nm,0.8s
WRAB *e*PcP **PcP 20 36 29.3 -2.1**
WRAB *e*S **S 20 39 07.4 +1.5**
WRA Warramunga Arr 33.13 165 P P 20 33 46.9 -1.8
WRA PcP **PcP 20 36 31.2 -0.2**
WRA ScP **ScP 20 40 12.5 -0.9**
WRA Warramunga Arr 33.13 165 P P 20 33 46.9 -1.8
comp=Z,4.6nm,0.7s,baz=343,slow=9.7,SNR=45
WRA PcP **PcP 20 36 31.2 -0.2**
comp=Z,12nm,0.7s,baz=340,slow=3.2,SNR=13
WRA ScP **ScP 20 40 12.5 -0.9**
comp=Z,3.6nm,0.8s,baz=341,slow=3.5,SNR=6.2
SHL Shillong 34.43 297 *e*P P 20 34 00.0 -0.1
SHL *ex* x 20 40 21.0
ASAJ Asahikawa 34.95 22 LR LR 20 46 46.4
comp=Z,2µm,20.0s,baz=37,slow=33
GTA Gaotai 35.39 324 ⇑P P 20 34 08.7 +0.5
GTA pP pP 20 34 20.9 +3.1
GTA sP sP 20 34 26.2 +4.4
GTA PcP **PcP 20 36 39.3 +1.5**
GTA S **S 20 39 41.0 +0.1**
GTA sS sS 20 40 01.4 +4.6
GTA SS **SnSn 20 42 02.1 +0.7**
GTA pmax pmax
comp=Z,21nm,1.2s
GTA pmax pmax
comp=Z,440nm,4.5s
GTA LR LR
comp=Z,2µm,19.2s
GTA LR LR
comp=Z,2µm,18.6s
GTA LR LR
comp=Z,3µm,16.9s
YUK Yuzh-Kuril'sk 36.14 25 *di*P P 20 34 06.3 -8.0
YUK *i* PPP PPP 20 35 37.7
YUK *i* S S 20 39 44.4 -7.4
YUK pmax pmax
comp=N,433nm,1.6s
YUK pmax pmax
comp=E,358nm,1.6s
YUK pmax pmax
comp=Z,482nm,1.6s
YUK MLR MLR
comp=N,394nm,19.0s
YUK MLR MLR
comp=Z,1µm,19.0s
LSA Lhasa 36.37 304 P P 20 34 17.4 +0.4
LSA S **S 20 39 59.3 +2.6**
LSA pmax pmax
comp=Z,30nm,1.5s
LSA LR LR
comp=Z,2µm,17.6s
LSA LR LR
comp=Z,2µm,17.6s
LSA LR LR
comp=Z,4µm,17.6s
LSA Lhasa 36.37 304 *e*P P 20 34 17.5 +0.4
LSA pmax pmax
comp=Z,57nm,0.9s
LSA Lhasa 36.37 304 *e*P P 20 34 17.5 +0.4
comp=Z,57nm,0.9s
AS31 Alice Springs 36.61 167 *e*P P 20 34 17.5 -1.1
AS31 *e*PP PP 20 35 50.1 +7.6
AS31 *e*PcP **PcP 20 36 41.0 -0.5**
AS31 *e*S **S 20 40 00.6 +1.0**
ASAR Alice Springs 36.61 167 P P 20 34 17.9 -0.8
ASAR PcP **PcP 20 36 41.1 -0.3**
ASAR ScP **ScP 20 40 25.2 -0.6**
ASAR Alice Springs 36.61 167 P P 20 34 17.9 -0.8
comp=Z,6.8nm,0.3s,baz=342,slow=6.6,SNR=87
ASAR PcP **PcP 20 36 41.1 -0.3**
comp=Z,9.7nm,0.8s,baz=340,slow=2.9,SNR=6.0
ASAR ScP **ScP 20 40 25.2 -0.6**
comp=Z,7.0nm,0.9s,baz=347,slow=3.4,SNR=10
KLR Kul'dur 37.21 7 *e*P P 20 34 21.0 -2.4
KLR *e*S S 20 40 03.5 -4.6
KLR *e* 20 44 29.0
KLR pmax pmax
comp=Z,78nm,1.8s
KLR MLR MLR
comp=E,1µm,12.0s
KLR MLR MLR
comp=Z,2µm,12.0s
CTA Charters Tower 38.02 147 P P 20 34 30.8 +0.1
CTA Charters Tower 38.02 147 P P 20 34 30.8 +0.1
comp=Z,7.1nm,0.8s,baz=331,slow=13
TAPN Taplejung 38.52 299 *e*P P 20 34 34.9 -0.2

comp=Z,263nm,1.3s
TAPN Taplejung 38.52 299 *e*P **P 20 34 34.9 -0.2**
comp=Z,263nm,1.3s
ODAN Odare 38.66 298 *e*P **P 20 34 36.0 -0.3**
comp=Z,354nm,0.9s
ODAN Odare 38.66 298 *e*P **P 20 34 36.0 -0.3**
comp=Z,354nm,0.9s
ULN Ulaanbaatar 38.74 340 P **P 20 34 37.5 +0.9**
SNR=10
ULN Ulaanbaatar 38.74 340 P **P 20 34 37.0 +0.4**
ULN Ulaanbaatar 38.74 340 *e*P **P 20 34 36.4 -0.2**
comp=Z,27nm,0.9s
SONM Songino Array 38.94 339 P **P 20 34 38.4 +0.2**
SONM PcP **PcP 20 36 48.4 0.0**
SONM Songino Array 38.94 339 P **P 20 34 38.4 +0.2**
comp=Z,18nm,0.9s,baz=156,slow=9.2,SNR=78
SONM PcP **PcP 20 36 48.4 0.0**
comp=Z,2.5nm,0.7s,baz=170,slow=4.0,SNR=5.1
SONM LR LR 20 51 45.7
comp=Z,2µm,19.2s,baz=156,slow=38
RAMN Ramite 39.37 298 *e*P **P 20 34 42.1 -0.1**
comp=Z,166nm,0.7s
RAMN Ramite 39.37 298 *e*P **P 20 34 42.1 -0.1**
comp=Z,166nm,0.7s
JIRN Jiri 39.90 299 *e*P **P 20 34 46.6 -0.2**
comp=Z,164nm,0.7s
JIRN Jiri 39.90 299 *e*P **P 20 34 46.6 -0.2**
comp=Z,164nm,0.7s
H11S3 WAKE ISLAND Hy 40.02 76 T T 21 17 53.4
baz=276,slow=72,SNR=705
H11S1 WAKE ISLAND Hy 40.03 76 T T 21 17 38.7
baz=276,slow=72,SNR=366
H11S2 WAKE ISLAND Hy 40.04 76 T T 21 17 54.6
baz=276,slow=72,SNR=450
GUN Gumba 40.23 299 *e*P **P 20 34 49.3 -0.2**
comp=Z,401nm,0.9s
GUN Gumba 40.23 299 *e*P **P 20 34 49.3 -0.2**
comp=Z,401nm,0.9s
H11N1 WAKE ISLAND Hy 40.29 74 T T 21 17 56.6
baz=269,slow=75,SNR=3117
H11N2 WAKE ISLAND Hy 40.29 74 T T 21 18 01.0
baz=269,slow=75,SNR=2451
H11N3 WAKE ISLAND Hy 40.30 74 T T 21 17 58.1
baz=269,slow=75,SNR=2039
HNR Honiara 40.35 121 LR LR 20 48 58.2
comp=Z,3µm,21.7s,baz=295,slow=32
PKI Pulchoki 40.55 298 *e*P **P 20 34 51.3 -0.8**
comp=Z,116nm,0.7s
PKI Pulchoki 40.55 298 *e*P **P 20 34 51.3 -0.8**
PKI pmax pmax
comp=Z,116nm,0.7s
PKI Pulchoki 40.55 298 *e*P **P 20 34 51.3 -0.8**
comp=Z,116nm,0.7s
PKIN Phulchoki 40.56 298 *e*P **P 20 34 51.2 -0.9**
comp=Z,104nm,0.8s
KKN Kakani 40.71 298 *e*P **P 20 34 52.6 -0.7**
comp=Z,167nm,0.9s
KKN Kakani 40.71 298 *e*P **P 20 34 52.6 -0.7**
KKN pmax pmax
comp=Z,167nm,0.9s
KKN Kakani 40.71 298 *e*P **P 20 34 52.6 -0.7**
comp=Z,167nm,0.9s
DMN Daman 40.82 298 *e*P **P 20 34 53.7 -0.6**
comp=Z,202nm,0.9s
DMN Daman 40.82 298 *e*P **P 20 34 53.7 -0.6**
comp=Z,202nm,0.9s
GKN Gorkha 41.32 299 *e*P **P 20 34 57.4 -0.8**
comp=Z,220nm,0.9s
GKN Gorkha 41.32 299 *e*P **P 20 34 57.4 -0.8**
comp=Z,220nm,0.9s
DANN Dangsing 42.15 299 *e*P **P 20 35 04.6 -0.6**
comp=Z,422nm,0.8s
DANN Dangsing 42.15 299 *e*P **P 20 35 04.6 -0.6**
comp=Z,422nm,0.8s
KOLN Koldanda 42.16 298 *e*P **P 20 35 04.7 -0.5**
comp=Z,356nm,0.9s
KOLN Koldanda 42.16 298 *e*P **P 20 35 04.7 -0.5**
comp=Z,356nm,0.9s
ZAK Zakamensk 42.19 339 *e*P **P 20 35 04.3 -0.7**
ZAK *e* 20 36 58.7
ZAK pmax pmax
comp=Z,5.0nm,1.5s
PYUN Piuthan 42.75 298 *e*P **P 20 35 09.8 -0.2**
comp=Z,759nm,0.8s
PYUN Piuthan 42.75 298 *e*P **P 20 35 09.8 -0.2**
comp=Z,759nm,0.8s
FORT Forrest 42.85 177 *e*P **P 20 35 09.2 -1.2**
comp=Z,102nm,0.7s
JBP Jabalpur 44.63 291⇑ *i*P **P 20 35 25.2 +0.2**
JBP *ex* x 20 41 56.3
EIDS Eidsvold 44.89 147 *e*P **P 20 35 26.6 -0.2**
comp=Z,19nm,0.8s
WMQ Urumqi 45.27 321 P **P 20 35 30.0 +0.2**
WMQ pP pP 20 35 46.0 +6.3
WMQ PP **PP 20 37 17.0 +1.0**
WMQ ScP ScP 20 40 55.0 -4.7
WMQ S **S 20 42 06.0 -2.1**
WMQ ScS ScS 20 45 16.0 -8.3
WMQ SS SS 20 45 22.0 -10
WMQ pmax pmax
comp=Z,26nm,1.0s
WMQ pmax pmax
comp=Z,730nm,4.0s
WMQ LR LR
comp=Z,5µm,16.0s
WMQ LR LR
comp=Z,6µm,16.0s
WMQ LR LR
comp=Z,4µm,16.0s
LGTI Lohaghat 45.40 299 *e*P **P 20 35 31.1 +0.2**
NWAO Narrogin (SRO) 45.64 190 LR LR 20 53 21.6
comp=Z,492nm,21.4s,baz=186,slow=34
HYB Hyderabad 45.69 282 *i*P **P 20 35 32.0 -1.5**
comp=Z,50nm,1.0s
HYB *e*S **S 20 42 16.0 +1.2**
BBOO Buckleboo 45.91 168 *e*P **P 20 35 34.6 -0.3**
comp=Z,956nm,0.9s
STKA Stephens Creek 46.48 161 *e*P **P 20 35 39.1 -0.2**
comp=Z,6.8nm,0.8s
STKA PcP **PcP 20 37 14.3 +0.8**
STKA Stephens Creek 46.48 161 P **P 20 35 39.8 +0.4**
comp=Z,9.8nm,0.6s,baz=348,slow=4.5,SNR=16
STKA PcP **PcP 20 37 14.3 +0.8**
comp=Z,14nm,0.8s,baz=25,slow=4.3,SNR=2.1
NDI New Delhi 47.86 298 *e*P **P 20 35 48.0 -2.2**
SONA Sohna 47.90 297 *e*P **P 20 35 49.2 -1.3**
PETK Petropavlovsk- 48.12 25 P **P 20 35 53.1 +1.2**
PETK Petropavlovsk- 48.12 25 P **P 20 35 53.1 +1.2**
PETK Petropavlovsk- 48.12 25 P **P 20 35 53.1 +1.2**
comp=Z,8.6nm,0.8s,baz=218,slow=3.2,SNR=7.3
PETK LR LR 20 53 35.0
comp=Z,1µm,21.8s,baz=221,slow=33
SMLA Simla 48.35 301 *i*P **P 20 35 54.1 +0.1**
KUDL Kundal 48.40 297 *e*P **P 20 35 52.7 -1.8**
KUDL AMB AMB 20 35 56.5
comp=Z,65nm,1.1s
KKR Kurukshetra 48.42 299 *e*P **P 20 35 53.9 -0.7**
PET Petropavlovsk 48.46 26 *e*P P 20 36 01.1 +6.6
PET *e*S S 20 43 00.3 +7.2
PET pmax pmax
comp=Z,50nm,1.7s
PET pmax pmax
comp=Z,100nm,8.5s
SDNR Sundarnagar 48.59 301 *e*P **P 20 35 56.5 +0.6**
RTK Rohtak 48.61 298 *e*P **P 20 35 54.7 -1.3**
KHET Khetri 48.99 297 *e*P **P 20 35 57.5 -1.5**
KHET AMB AMB 20 36 01.2
comp=Z,31nm,1.4s
ARMA Armidale 49.27 150 *e*P **P 20 36 01.7 +0.6**
comp=Z,90nm,1.7s
YAK Yakutsk 49.78 3 *e*P **P 20 36 05.2 +0.8**
YAK *e**PP **pP 20 36 14.1 -0.2**
YAK *e* 20 37 26.5
YAK *e* 20 38 02.3
YAK *e*PPP PPP 20 38 53.8
YAK *e*S S 20 43 05.4 -6.0
YAK *e* 20 45 49.4
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=N,24nm,0.9s
YAK pmax pmax
comp=E,181nm,3.7s
YAK pmax pmax
comp=Z,341nm,4.3s
YAK pmax pmax
comp=N,76nm,1.9s
YAK smax smax
comp=E,144nm,6.3s
YAK smax smax
comp=N,17nm,4.2s
YAK MLR MLR
comp=Z,776nm,19.0s
YAK MLR MLR
comp=E,741nm,20.0s
YAK MLR MLR
comp=N,713nm,16.0s
MK31 Makanchi Array 50.07 322 *e*P **P 20 36 07.4 +0.4**
MK31 Makanchi Array 50.07 322 *e*P **P 20 36 07.4 +0.4**
MKAR Makanchi Array 50.07 322 *e*P **P 20 36 07.7 +0.7**
MKAR Makanchi Array 50.07 322 *e*P **P 20 36 07.7 +0.7**
MKAR ScP **ScP 20 41 18.6 -1.3**
MKAR Makanchi Array 50.07 322 P **P 20 36 07.5 +0.6**
comp=N,50nm,0.9s,baz=117,slow=8.4,SNR=340
MKAR ScP **ScP 20 41 18.6 -1.3**
comp=N,1.3nm,0.9s,baz=118,slow=6.1,SNR=3.6
MKAR LR LR 20 59 06.6
comp=N,1µm,18.2s,baz=239,slow=38
KSH Kashi 51.44 311 P **P 20 36 19.5 +2.0**
KSH pP pP 20 36 32.1 +4.6
KSH sP sP 20 36 38.0 +6.6
KSH PcP **PcP 20 37 33.0 +1.3**
KSH S **S 20 43 34.6 -0.9**
KSH sS sS 20 43 57.1 +5.2
KSH ScS **ScS 20 46 03.1 -2.7**
KSH pmax pmax
comp=N,18nm,0.8s
KSH pmax pmax
comp=N,280nm,4.8s
KSH LR LR
comp=N,2µm,18.0s
KSH LR LR
comp=N,5µm,17.9s
KSH LR LR
comp=N,4µm,18.2s
ULHL Ulahol 52.13 314 *i*P **P 20 36 23.6 +0.9**
ULHL Ulahol 52.13 314 P **P 20 36 23.6 +0.9**
SNR=17
CAN Canberra 52.25 156 *e*P **P 20 36 24.6 +1.2**
CAN pmax pmax
comp=Z,17nm,0.8s
CAN Canberra 52.25 156 *e*P **P 20 36 24.6 +1.2**
comp=Z,17nm,0.8s
ZAA0 Zalesovo Array 52.58 331 *e*P **P 20 36 25.1 -0.5**
ZALV Zalesovo Beam 52.58 331 *i*P **P 20 36 25.3 -0.3**
ZALV pmax pmax
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 52.58 331 P **P 20 36 25.4 -0.3**
ZALV Zalesovo Beam 52.58 331 P **P 20 36 25.4 -0.3**
comp=Z,14nm,0.8s,baz=116,slow=6.8,SNR=55
ZALV LR LR 21 00 28.5
comp=Z,1µm,18.2s,baz=335,slow=38
DZM Mont Dzumac 52.61 130 *e*S **S 20 43 48.9 -2.9**
comp=Z,2µm,26.2s
DZM *e*LQ LQ 20 49 20.3
comp=Z,2µm,31.2s
DZM *e*LR LR 20 51 30.6
comp=Z,1µm,24.9s
DZM Mont Dzumac 52.61 130 P **P 20 36 28.0 +1.6**
DZM Mont Dzumac 52.61 130 P **P 20 36 28.0 +1.6**
baz=331,slow=13
DZM LR LR 20 57 27.6
comp=Z,710nm,19.5s,baz=29,slow=34
KZA Kyzart 52.77 314 *i*P **P 20 36 28.8 +1.1**
KZA Kyzart 52.77 314 P **P 20 36 28.9 +1.1**
SNR=59
TKM2 Tokmak 2 52.80 315 *i*P **P 20 36 28.3 +0.6**
TKM2 Tokmak 2 52.80 315 P **P 20 36 28.4 +0.6**
SNR=32
TKM2 Tokmak 2 52.80 315 *e*P **P 20 36 28.3 +0.6**
comp=Z,18nm,0.8s
KBK Karagaybulak 53.17 315 P **P 20 36 31.4 +1.0**
SNR=40
UCH Uchtor 53.33 314 *i*P **P 20 36 32.6 +0.7**
UCH Uchtor 53.33 314 P **P 20 36 32.6 +0.7**
SNR=99
CHMS Chumysh 53.41 315 *i*P **P 20 36 32.4 +0.4**
CHMS Chumysh 53.41 315 P **P 20 36 32.4 +0.4**
SNR=34
FRU Bishkek 53.45 315 *e*P **P 20 36 32.0 -0.3**
FRU pmax pmax
comp=Z,30nm,1.8s
AAK Ala-Archa 53.48 314 *e*P **P 20 36 33.1 +0.4**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 53.48 314 P **P 20 36 33.4 +0.8**
SNR=15
AAK Ala-Archa 53.48 314 *e*P **P 20 36 33.1 +0.4**
comp=Z,10nm,0.8s
USP Ospenovka 53.68 315 *i*P **P 20 36 34.4 +0.5**
USP Ospenovka 53.68 315 P **P 20 36 34.5 +0.5**
SNR=32
NVS Novosibirsk 53.86 331⇑ *i*P **P 20 36 33.9 -1.1**
NVS pmax pmax
comp=Z,23nm,0.8s
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=E,16nm,1.1s
AML Almayashu 53.88 314 *i*P **P 20 36 36.8 +0.9**
AML Almayashu 53.88 314 P **P 20 36 36.9 +0.9**
SNR=64
EKS2 Erkin-Say 53.99 314 *i*P **P 20 36 37.2 +0.9**
EKS2 Erkin-Say 53.99 314 P **P 20 36 37.2 +0.9**
SNR=39
EKS2 Erkin-Say 53.99 314 *e*P **P 20 36 37.2 +0.9**
comp=E,30nm,0.8s
SEY Seymchan 54.07 15 *e*P **P 20 36 35.4 -0.9**
KURK Kurchatov 54.08 325 P **P 20 36 37.5 +0.8**
SNR=52
KURK Kurchatov 54.08 325 *e*P **P 20 36 37.1 +0.5**
KURK pmax pmax
comp=Z,66nm,0.8s
KURK Kurchatov 54.08 325 *e*P **P 20 36 37.1 +0.5**
comp=Z,66nm,0.8s
KURBB Kurchatov Arra 54.08 325 P **P 20 36 37.1 +0.4**
comp=Z,64nm,0.9s,baz=124,slow=7.5,SNR=359
KBL Kabul 55.69 303 *e*P **P 20 36 48.8 -0.1**
KBL pmax pmax
comp=Z,46nm,0.8s
KBL Kabul 55.69 303 *e*P **P 20 36 48.8 -0.1**
comp=Z,46nm,0.8s
KKAR Karatay Array 56.41 314 *e*P **P 20 36 53.9 +0.2**
KKAR Karatay Array 56.41 314 *e*P **P 20 36 53.9 +0.2**
TIXI Tiksi 59.39 1 *e*P **P 20 37 13.4 -0.6**
TIXI pmax pmax
comp=Z,25nm,1.0s
TIXI Tiksi 59.39 1 *e*P **P 20 37 13.4 -0.6**
comp=Z,25nm,1.0s
BVAR Borovoye Array 59.67 325 P **P 20 37 15.1 -1.2**
BVAR Borovoye Array 59.67 325 P **P 20 37 15.1 -1.2**
BVAR ⇑*e* 21 06 56.3
BVAR Borovoye Array 59.67 325 P **P 20 37 15.1 -1.2**
comp=Z,33nm,0.8s,baz=129,slow=4.6,SNR=78
BVAR PKP2bc 21 06 56.3
comp=Z,0.4nm,0.8s,baz=229,slow=1.3,SNR=4.4
BRVK Borovoye 59.75 325 P **P 20 37 17.4 +0.6**
SNR=27
BRVK Borovoye 59.75 325*c* *i*P **P 20 37 17.0 +0.2**
BRVK pmax pmax
comp=Z,80nm,0.8s
BRVK Borovoye 59.75 325 *e*P **P 20 37 17.2 +0.4**
comp=Z,69nm,0.8s
IDAH Dahanechah 63.13 301 *e*P **P 20 37 40.2 -0.2**
IMYA Miami 63.15 305 *e*P **P 20 37 40.6 +0.2**
IMOG Moghan 63.75 304 *e*P **P 20 37 44.4 -0.1**
IKOO Kooshah 63.85 300 *e*P **P 20 37 45.5 +0.4**
IPAY Payeh 64.05 305 *e*P **P 20 37 46.6 +0.2**
ITEG Tejag 64.08 301 *e*P **P 20 37 46.8 +0.2**
IAKL Akhelmad 64.25 305 *e*P **P 20 37 47.7 -0.1**
IKRD Kardeh 64.46 305 *e*P P 20 37 44.9 -4.2
ISFR Sfrayin 64.89 305 *e*P **P 20 37 52.4 +0.5**
ABKAR Akbulak array 64.96 319 *e*P **P 20 37 51.6 -0.2**
comp=Z,22nm,0.7s
SVE Sverdlovsk 66.20 327⇓ *e*P **P 20 37 59.7 +0.1**
SVE *e*PPP PPP 20 42 03.6
SVE *e*S **S 20 46 48.4 +2.2**
SVE pmax pmax
comp=Z,57nm,1.1s
SVE MLR MLR
comp=Z,2µm,18.0s
AKTO Aktyubinsk 66.39 320 P **P 20 38 00.8 -0.2**
AKTO Aktyubinsk 66.39 320 P **P 20 38 00.8 -0.2**
AKTO Aktyubinsk 66.39 320 P **P 20 38 00.8 -0.2**
comp=Z,12nm,0.8s,baz=135,slow=8.6,SNR=16
IBAF Bafgh 66.76 299 *e*P **P 20 38 03.3 -0.6**
ARU Arti 67.22 326 P **P 20 38 05.9 -0.3**
comp=Z,332nm,0.6s,SNR=20
ARU Arti 67.22 326*c* *i*P **P 20 38 05.6 -0.6**
ARU 20 40 31.6
ARU S **S 20 46 57.4 -1.2**
ARU SS **SS 20 51 17.5 -0.7**
ARU pmax pmax
comp=Z,66nm,1.2s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 67.22 326 *e*P **P 20 38 05.0 -1.2**
AFI Afiamalu 67.28 111 LR LR 21 05 36.8
comp=Z,838nm,19.0s,baz=300,slow=34
IMEH Mehriz 67.57 299 *e*P **P 20 38 07.8 -1.4**
ICHK Chekchek 67.74 300 *e*P **P 20 38 09.0 -1.2**
ISAD Sadrabad 68.35 300 *e*P **P 20 38 13.8 +1.3**
SOKR Solikamsk 68.82 329 *e*P P 20 38 10.3 -5.8
SOKR S S 20 47 24.0 +6.5
SOKR pmax pmax
comp=Z,10.0nm,1.5s
SOKR MLR MLR
comp=Z,2µm,18.0s
ILAS Lasjerd 68.92 303 *e*P **P 20 38 17.3 -0.2**
IALA Alasht 69.03 304 *e*P **P 20 38 18.6 +0.3**
IFIR Firoozkooh 69.08 304 *e*P **P 20 38 18.6 0.0**
RPZ Rata Peaks 69.39 146 LR LR 21 09 17.4
comp=Z,837nm,18.0s,baz=225,slow=36
IZEF Zefreh 69.48 301 *e*P **P 20 38 21.2 +0.1**
ISFB Sefidab 69.52 302 *e*P **P 20 38 20.8 -0.3**
IDMV Damavand 69.67 304 *e*P **P 20 38 22.2 -0.1**
BKZ Black Stump Fm 69.71 140 *e*P P 20 38 25.6 +3.5
comp=Z,62nm,1.2s
IGAR Gharneh 69.73 300 *e*P **P 20 38 22.5 -0.1**
IVRN Varamin 69.93 303 *e*P **P 20 38 23.3 -0.3**
IKLH Kolahrood 70.09 301 *e*P **P 20 38 24.5 -0.4**
IRAZ Razeghan 71.39 303 *e*P **P 20 38 32.6 -0.1**
MSEY Mahe Island 71.70 261 *e*P **P 20 38 32.8 -1.9**
comp=Z,16nm,1.0s
MAK Makhachkala 73.08 311 *e*P **P 20 38 41.1 -1.2**
MAK *e* 20 39 00.4
MAK *e* 20 41 25.9
MAK *e*PPP PPP 20 43 12.1
MAK *e*S S 20 48 02.7 -4.8
MAK *e* 20 48 56.4
MAK *e*SS SS 20 52 43.3 -5.4
MAK pmax pmax
comp=Z,190nm,1.5s
ISRB Sarab 73.11 306 *e*P **P 20 38 43.0 +0.1**
IHRS Heris 73.58 307 *e*P **P 20 38 45.3 -0.4**
IBST Bostanabad 73.73 306 *e*P **P 20 38 45.6 -1.0**
IVIS Veis 73.96 303 *e*P **P 20 38 46.7 -1.1**
IGHG Ghaleghazi 74.21 302 *e*P **P 20 38 48.4 -1.0**
ITBZ Tabriz 74.29 306 *e*P **P 20 38 49.7 -0.1**
IDHR Dehrash 74.33 303 *e*P **P 20 38 48.7 -1.4**
MRIV Mauritius Mete 74.38 245 *e*P **P 20 38 48.9 -1.5**
DGRG David-gareji 74.71 310 P **P 20 38 52.9 +0.9**
IM04 Indian Mountai 75.06 25 *e*P **P 20 38 54.0 +0.5**
SEAG Tbilisi Sea 75.12 310 P **P 20 38 54.8 +0.5**
TBLG Delisi 75.17 310 P **P 20 38 55.1 +0.5**
GNI Garni 75.26 309 *e*P **P 20 38 56.1 +0.7**
comp=Z,34nm,0.9s
GNI Garni 75.26 309 P **P 20 38 55.9 +0.6**
comp=Z,10nm,0.7s,baz=145,slow=5.3,SNR=12
KZR Kazreti 75.43 310 P **P 20 38 56.9 +0.7**
ZEI Tsey 75.73 311 *e*P **P 20 38 57.9 -0.1**
ZEI pmax pmax
comp=Z,33nm,0.9s
ONI Oni 76.07 311 P **P 20 39 00.9 +1.1**
EAK Akyaka 76.09 309 *i*P **P 20 38 00.8 +0.7**
AKH Akhalkalaki 76.12 310 P **P 20 39 01.5 +1.2**
BPAW Bear Paw Mtn. 76.18 27 *e*P **P 20 39 01.1 +1.1**
HAKT HAKKARI 76.27 306 *i*P **P 20 39 01.4 +0.1**
KBZ Khabaz 76.40 312 P **P 20 39 01.2 -0.3**
KBZ Khabaz 76.40 312 P **P 20 39 01.2 -0.3**
KBZ Khabaz 76.40 312 P **P 20 39 01.2 -0.3**
comp=Z,15nm,0.9s,baz=167,slow=0.8,SNR=15
KBZ LR LR 21 17 12.8
comp=Z,1µm,18.0s,baz=272,slow=39
TVAN Van 76.42 307 *i*P **P 20 39 02.7 +0.6**
COLD Coldfoot 76.53 23 *e*P **P 20 39 03.1 +1.3**
comp=Z,15nm,1.0s
KIV Kislovodsk 76.53 313 P **P 20 39 03.1 +0.7**
comp=Z,280nm,0.7s,SNR=12
KIV Kislovodsk 76.53 313 P **P 20 39 03.4 +1.0**
SNR=10
KIV Kislovodsk 76.53 313 *e*P **P 20 39 02.5 +0.1**
KIV *e* 20 39 15.3
KIV *e* 20 41 55.4
KIV *e*S **S 20 48 44.3 -2.1**
KIV pmax pmax
comp=Z,36nm,0.8s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 76.53 313 *e*P **P 20 39 03.1 +0.7**
comp=Z,41nm,0.9s
TUTA Tutak 76.80 308 *i*P **P 20 39 04.9 +0.6**
VRHR Novokhopersk 76.80 320 *e*P **P 20 39 02.4 -1.2**
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,50nm,0.9s
PMR Palmer 77.06 29 *e*P P 20 39 11.3 +6.4
PMR Palmer 77.06 29 *e*P P 20 39 11.3 +6.4
CHVG Ch'k'valeri 77.07 311 P **P 20 39 07.1 +1.8**
MCK McKinley 77.09 27 *e*P **P 20 39 05.5 +0.4**
MCK McKinley 77.09 27 *e*P **P 20 39 05.5 +0.4**
SIRN S¨–rnak 77.30 306 *i*P **P 20 39 07.3 +0.4**
ARTV Artvin 77.32 310 *i*P **P 20 39 07.6 +0.5**
EKAR Karacoban 77.39 308 *i*P **P 20 39 09.1 +1.5**
HOMI Horasan 77.44 309 *i*P **P 20 39 08.6 +0.8**
DDEM Demirkent 77.48 309 *i*P **P 20 39 08.6 +0.8**
KLMR Klimovskoe 77.49 330 *e*P **P 20 39 04.7 -2.6**
KLMR pmax pmax
comp=Z,2µm,15.1s
COLA College 77.53 26 P **P 20 39 07.6 +0.2**
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 77.53 26 P **P 20 39 07.6 +0.2**
comp=Z,4.3nm,0.8s
ILAR Eielson Array 77.94 26 P **P 20 39 09.9 +0.1**
ILAR Eielson Array 77.94 26 P **P 20 39 09.9 +0.1**
comp=Z,1.5nm,0.8s,baz=237,slow=6.6,SNR=14
ILAR LR LR 21 13 05.8
comp=Z,397nm,18.8s,baz=43,slow=35
TMCR Tamitsa 78.01 333 *e*P **P 20 39 10.4 +0.3**
TMCR *e* 20 42 08.0
TMCR pmax pmax
comp=Z,70nm,1.5s
BNGL BINGOL 78.13 308 *i*P **P 20 39 12.9 +1.2**
VORD Divnogorie 78.28 320 *e*P **P 20 39 10.7 -1.2**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 78.34 320 *e*P **P 20 39 11.3 -0.9**
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=E,20nm,0.9s
DIV Divide 78.70 30 P **P 20 39 12.9 -1.2**
comp=E,23nm,0.9s
SOC Sochi 78.71 312 *e*P **P 20 39 12.7 -1.8**
SOC *e* 20 42 13.7
SOC *e*PPP PPP 20 44 05.8
SOC *e*S S 20 49 05.3 -4.4
SOC pmax pmax
comp=Z,20nm,1.0s
SOC MLR MLR
comp=Z,1µm,17.0s
MOS Moscow 78.85 325 *e*P **P 20 39 13.2 -1.7**
MOS *e* 20 39 22.7
MOS *e* 20 39 29.0

MOS pmax pmax
comp=Z,82nm,0.8s
DIYA Diyarbakir 79.06 307 *i* P **P 20 39 17.5 +0.9**
DRV Dumont d'Urvil 79.42 174 P **P 20 39 15.0 -2.6**
DRV S S 20 48 54.0 -22
KELT Kelkit 79.45 309 *i* P **P 20 39 20.1 +1.3**
OBN Obninsk 79.51 324 P **P 20 39 18.3 -0.3**
comp=Z,369nm,0.6s,SNR=5.5
OBN Obninsk 79.51 324⇑ *i* P **P 20 39 18.1 -0.4**
OBN *i* 20 39 24.8
OBN *i* S S 20 49 14.4 -3.3
OBN pmax pmax
comp=Z,40nm,0.8s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 79.51 324 *e*P **P 20 39 18.3 -0.3**
comp=Z,48nm,0.9s
ELZG Elazig 79.87 307 *i* P **P 20 39 22.2 +1.0**
KEMA Kemaliye 80.15 308 *i* P **P 20 39 23.2 +0.7**
ANN Anapa 80.20 314 P **P 20 39 19.8 -2.7**
ANN pmax pmax
comp=Z,60nm,1.1s
SUSE Susehri 80.24 309 *i* P **P 20 39 23.2 +0.1**
MALT Malatya 80.33 307⇑ *i* P **P 20 39 24.1 +0.6**
RAR Rarotonga 80.44 114 LR LR 21 07 33.4
comp=Z,773nm,19.9s,baz=271,slow=30
GZT Gaziantep 81.14 306 *i* P **P 20 39 28.6 +0.7**
DAWY Dawson 81.25 26 *e*P **P 20 39 28.9 +1.0**
KEV Kevo 81.56 340 *e*P **P 20 39 31.3 +2.1**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 81.56 340 *ep* **P 20 39 31.3 +2.1**
comp=Z,1.1nm,0.3s
KUZU Kuzuini 81.62 306 *i* P **P 20 39 30.8 +0.4**
ARCES ARCESS Array B 82.12 340 P **P 20 39 32.4 +0.1**
ARCES ARCESS Array B 82.12 340 P **P 20 39 32.4 +0.1**
comp=Z,30nm,0.8s,baz=69,slow=6.6,SNR=18
SIM Simferopol' 82.51 314 *e*P **P 20 39 36.0 +1.2**
SIM *e*S **S 20 49 55.0 +5.6**
SIM pmax pmax
comp=Z,24nm,0.9s
INK Inuvik 82.68 22 *e*P **P 20 39 35.2 0.0**
comp=Z,11nm,0.9s
INK Inuvik 82.68 22 LR LR 21 16 45.1
comp=Z,367nm,20.3s,baz=129,slow=36
ABPO Ambohimpanom 83.23 249 *e*P **P 20 39 36.9 -2.3**
ABPO pmax pmax
comp=Z,13nm,0.8s
ABPO Ambohimpanom 83.23 249 *e*P **P 20 39 36.9 -2.3**
comp=Z,14nm,0.8s
KAF Kangasniemi 83.58 332 *e*P **P 20 39 39.8 -0.1**
KAF pmax pmax
comp=Z,3.0nm,0.3s
KAF Kangasniemi 83.58 332 *ep* **P 20 39 39.8 -0.1**
comp=Z,2.7nm,0.3s
BR131 Keskin Array S 83.78 309 *e*P **P 20 39 40.6 -1.1**
comp=Z,6.6nm,0.7s
BRTR Keskin Array B 83.78 309 P **P 20 39 40.9 -0.8**
BRTR PP **PP 20 42 58.5 +3.7**
BRTR Keskin Array B 83.78 309 P **P 20 39 40.9 -0.8**
comp=Z,8.4nm,0.7s,baz=111,slow=4.1,SNR=35
BRTR PP **PP 20 42 58.5 +3.7**
comp=Z,1.9nm,0.9s,baz=98,slow=7.6,SNR=3.6
BRTR LR LR 21 25 43.5
comp=Z,268nm,18.2s,baz=232,slow=42
FIA1 FINESS Array S 83.84 332 *e*P **P 20 39 41.0 -0.3**
FINES FINESS Array B 83.84 332 P **P 20 39 41.1 -0.2**
FINES FINESS Array B 83.84 332 P **P 20 39 41.1 -0.2**
comp=Z,43nm,0.8s,baz=82,slow=4.7,SNR=64
VSU Vasula 84.25 329*c i*P **P 20 39 43.2 -0.2**
VSU pmax pmax
comp=Z,274nm,0.7s
ANTO Ankara 84.39 309 *e*P **P 20 39 44.3 -0.4**
ANTO pmax pmax
comp=Z,15nm,0.8s
ANTO Ankara 84.39 309⇑ *i* P **P 20 39 44.5 -0.2**
ANTO Ankara 84.39 309 *e*P **P 20 39 44.3 -0.4**
comp=Z,15nm,0.8s
MICGM Minsk 84.57 325 *e* **P 20 39 44.0 -1.1**
MNK Minsk 84.60 325 *e*P **P 20 39 44.0 -1.3**
AKASG Malin Array Be 84.63 321 P **P 20 39 44.8 -0.7**
AKASG Malin Array Be 84.63 321 P **P 20 39 44.8 -0.7**
AKASG Malin Array Be 84.63 321 P **P 20 39 44.8 -0.7**
comp=Z,14nm,0.8s,baz=63,slow=5.1,SNR=52
AKBB Malin Array Si 84.63 321 *e*P **P 20 39 44.1 -1.4**
AKBB Malin Array Si 84.63 321 *e*P **P 20 39 44.1 -1.4**
AK01 Malin Array Si 84.64 321 *e*P **P 20 39 44.8 -0.7**
KIEV Kiev 84.64 321 *e*P **P 20 39 44.5 -1.1**
KIEV pmax pmax
comp=Z,25nm,0.9s
KIEV Kiev 84.64 321 *e*P **P 20 39 44.5 -1.1**
comp=Z,26nm,0.9s
AK02 Malin Array Si 84.65 321 *e*P **P 20 39 44.9 -0.7**
CSS Prodhromos 84.93 305 *e*P **P 20 39 47.7 +0.3**
NACGM Naroch 85.09 325 *e* **P 20 39 45.0 -2.8**
KDHN Kadinhani 85.18 308 *i* P **P 20 39 47.5 -1.3**
KIS Kishinev 85.72 317 *e*P **P 20 39 52.0 +0.9**
KIS Kishinev 85.72 317 *e*PP PP 20 43 18.0 +7.8
KIS *e*S **S 20 50 19.0 -2.5**
KIS Kishinev 85.72 317 *e*PS 20 51 40.0
KIS *e*LQ LQ 21 15 41.0
KIS *e*LR LR 21 18 00.0
comp=Z,700nm,18.0s
KIS Kishinev 85.72 317 *e*P **P 20 39 52.0 +0.9**
KIS *e* 20 43 18.0
KIS *e*S **S 20 50 19.0 -2.5**
KIS *e*PS PnS 20 51 40.0 +19
SORM Soroca 85.76 318⇑ *i* P **P 20 39 50.6 -0.6**
TLCR 86.14 315⇓ *i* P **P 20 39 53.2 0.0**
TIRR Tirgusor 86.59 315⇓ *i* P **P 20 39 54.7 -0.7**
CFR Carcaliu 86.61 315⇑ *i* P **P 20 39 55.0 -0.5**
TLB Topalu 86.81 315⇑ *i* P **P 20 39 56.3 -0.2**
DLBC Dease Lake 87.02 31 LR LR 21 18 10.2
comp=Z,400nm,21.1s,baz=339,slow=35
TESR Tescani 87.28 317⇑ *i* P **P 20 39 58.5 -0.3**
PRAR RASCA 87.34 318⇑ *i* P **P 20 39 58.1 -1.0**
SUW Suwalki 87.36 325 *e*P **P 20 39 57.8 -1.1**
SUW pmax pmax
comp=Z,48nm,0.8s
SUW Suwalki 87.36 325 *e*P **P 20 39 58.1 -0.8**
SUW Suwalki 87.36 325 *e*P **P 20 39 57.8 -1.1**
comp=Z,48nm,0.8s
VRI Vrincioaia 87.40 316⇑ *i* P **P 20 39 59.9 +0.5**
PLOR Plostina 87.45 316⇓ *i* P **P 20 40 00.1 +0.4**
BURAR Bucovina Array 87.94 318⇑ *i* P **P 20 40 02.2 +0.2**
BUR08 Bucovina Ar. S 87.94 318 *e*P **P 20 40 01.8 -0.3**
MLR Muntele Rosu 88.02 316⇑ *i* P **P 20 40 01.4 -1.1**
MLR Muntele Rosu 88.02 316 P **P 20 40 01.2 -1.3**
MLR Muntele Rosu 88.02 316 P **P 20 40 01.2 -1.3**
comp=Z,1.1nm,0.7s,baz=234,slow=7.6,SNR=9.4
JMB Yambol 88.37 313⇓ *i* P **P 20 40 03.7 -0.4**
KMBO Kilima Mbogo 88.64 269 *e*P **P 20 40 05.4 -0.7**
comp=Z,4.3nm,0.8s
KMBO Kilima Mbogo 88.64 269 P **P 20 40 05.1 -1.1**
comp=Z,4.2nm,0.8s,baz=104,slow=3.7,SNR=16
VOIR 88.64 316⇓ *i* P **P 20 40 06.1 +0.7**
PPT Papeete 88.79 108 LR LR 21 12 49.9
comp=Z,684nm,19.4s,baz=14,slow=31
PPT2 Papeete2 88.80 108 *e*S S 20 50 47.4 -4.8
comp=Z,763nm,25.2s
PPT2 Papeete2 88.80 108 *e*LR LR 21 08 24.9
comp=Z,1μm,22.0s
HUMR Humele 88.94 315⇓ *i* P **P 20 40 04.3 -2.4**
ARR Arges 88.95 316⇑ *i* P **P 20 40 05.8 -1.0**
KWP Kalwaria Pacla 88.95 321 *e*P **P 20 40 06.6 -0.1**
KWP pmax pmax
comp=Z,29nm,1.0s
KWP Kalwaria Pacla 88.95 321 *e*P **P 20 40 07.1 +0.5**
KWP Kalwaria Pacla 88.95 321⇓ *i* P **P 20 40 07.1 +0.5**
KWP Kalwaria Pacla 88.95 321 *e*P **P 20 40 06.6 -0.1**
comp=Z,29nm,1.0s
BMR Baia Mare 89.04 319⇑ *i* P **P 20 40 04.3 -2.8**
LOT Lotru 89.51 316⇑ *i* P **P 20 40 09.4 -0.1**
TRPA Tarpa 89.51 319⇑ *i* P **P 20 40 09.1 -0.2**
UZH Uzhgorod 89.52 320⇓ *i* P **P 20 40 09.3 0.0**
UZH *e*S S 20 50 54.0 -3.7
RES Resolute Bay 89.66 10 *e*P **P 20 40 09.7 +0.3**
comp=Z,6.7nm,0.7s
DRGR 89.81 318⇓ *i* P **P 20 40 10.7 -0.1**
HFS Hagfors 90.00 332 P **P 20 40 10.5 -0.8**
HFS Hagfors 90.00 332 P **P 20 40 10.5 -0.8**
comp=Z,21nm,0.8s,baz=90,slow=2.9,SNR=22
BBB Bella Bella 90.14 36 LR LR 21 23 07.7
comp=Z,432nm,18.1s,baz=91,slow=37
GZR Gura Zlata 90.19 317⇑ *i* P **P 20 40 10.7 -1.9**
TBI Tubuai 90.21 114 *e*S S 20 51 01.0 -4.0
comp=Z,842nm,27.2s
TBI Tubuai 90.21 114 *e*LR LR 21 09 05.8
comp=Z,1μm,25.2s
MMB Musomiste 90.66 313⇑ *i* P **P 20 40 14.1 -0.8**
NB2 NORSAR Subarra 90.70 334 P **P 20 40 13.3 -1.3**
comp=Z,12nm,0.7s,baz=64,slow=4.6
NB2 NORSAR Subarra 90.70 334 P **P 20 40 13.3 -1.3**
baz=64,slow=4.6
NOA NORSAR Array B 90.70 334 P **P 20 40 13.4 -1.2**
NOA NORSAR Array B 90.70 334 P **P 20 40 13.4 -1.2**
comp=Z,13nm,0.7s,baz=64,slow=4.7,SNR=34
VTS Vitosha 90.73 314⇓ *i* P **P 20 40 14.5 -0.8**
BZS Buzias 90.90 317⇑ *i* P **P 20 40 15.4 -0.4**
NAO01 NORSAR Array S 90.93 334 *e*P **P 20 40 14.2 -1.4**
comp=Z,12nm,0.7s
VNDA Vanda 91.97 173 *e*P **P 20 40 19.6 -0.4**
comp=Z,6.5nm,0.9s
VNDA Vanda 91.97 173 P **P 20 40 19.5 -0.5**
comp=Z,3.5nm,0.6s,baz=320,slow=7.1,SNR=15
YKA Yellowknife Ar 92.21 24 P **P 20 40 22.1 +0.5**
YKA Yellowknife Ar 92.21 24 P **P 20 40 22.0 +0.5**
comp=Z,1.4nm,0.7s,baz=306,slow=4.6,SNR=4.0
KSP Ksiaz 92.40 323 *e*P **P 20 40 22.5 -0.2**
KSP Ksiaz 92.40 323 *e*P **P 20 40 22.5 -0.2**
PKSM Moragy 92.66 318⇓ *i* P **P 20 40 23.6 -0.3**
BRG Berggiesshubel 93.75 324 *e*PKP P **P 20 40 30.3 +1.4**
comp=Z,7.3nm,1.0s
BRG Berggiesshubel 93.75 324 *e*P **P 20 40 30.3 +1.4**
BRG pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 94.11 324 *e*P **P 20 40 30.0 -0.5**
CLL *e* 20 51 04.0
CLL *e*S S 20 51 33.0 -6.1
CLL MLR MLR
comp=Z,900nm,18.3s
CLL Collm 94.11 324 *e*P **P 20 40 30.0 -0.5**
CLL *e*SKSac **SKSac 20 51 04.0 +0.9**
CLL *e*S S 20 51 33.0 -6.1
CLL *e*PS **PS 20 52 59.0 +1.5**
CLL *e*SS **SS 20 58 00.0 +1.0**
CLL *e*SSS SSS 21 01 48.0
CLL LmH 21 23 00.0
comp=N,800nm,21.0s
CLL LmH 21 23 00.0
comp=E,500nm,20.4s
CLL LmH 21 23 00.0
comp=Z,900nm,19.4s
CLL LmV 21 28 00.0
comp=Z,900nm,18.3s
GROS Grobnik 94.58 319 *i* P **P 20 40 33.6 +0.7**
SUMG Summit 94.70 355 *i* P **P 20 40 34.8 +1.5**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 94.70 355 *i* P **P 20 40 34.8 +1.5**
comp=Z,9.8nm,1.0s
GERES GERESS Array B 94.74 322 P **P 20 40 32.6 -1.0**
GERES GERESS Array B 94.74 322 P **P 20 40 32.6 -1.0**
comp=Z,1.0nm,0.7s,baz=76,slow=5.6,SNR=8.1
MOA Molln 94.80 321⇓ *i* PcP **PcP 20 40 34.0 -0.1**
comp=Z,6.8nm,0.7s
CRES Cresnjev 94.86 319 *i* P **P 20 40 34.5 +0.4**
MBAR Mbarara 94.89 270 LR LR 21 22 06.8
comp=Z,606nm,21.6s,baz=170,slow=35
BOJS Bojanci 95.12 319 *i* P **P 20 40 34.9 -0.3**
JAVS Javornik 95.72 319 *i* P **P 20 40 37.8 -0.4**
ABTA Abfaltersbach 96.35 320⇑ *i* PcP **P 20 40 40.1 -0.8**
comp=Z,5.2nm,0.7s
DAVOX Davos/Dischmat 97.96 321 P Pdif 20 40 48.8 +0.4
DAVOX Davos/Dischmat 97.96 321 P Pdif 20 40 48.8 +0.4
comp=Z,3.2nm,0.8s,baz=37,slow=17,SNR=3.4
CDF Champ du Feu 98.73 324 *e*P **P 20 40 51.1 -0.6**
CDF Champ du Feu 98.73 324 *e*P **P 20 40 51.1 -0.6**
CDF Champ du Feu 98.73 324 *e*P **P 20 40 51.1 -0.6**
SFTF Sexfontaines 100.12 324 *e*P **Pdif 20 40 57.4 -0.4**
comp=Z,52nm,1.4s
SFTF Sontaines 100.12 324 *e*P **Pdif 20 40 57.4 -0.4**
comp=Z,52nm,1.4s
EKA Eskdalemuir Ar 100.17 333 P **Pdif 20 40 57.2 -0.6**
EKA Eskdalemuir Ar 100.17 333 P **Pdif 20 40 57.2 -0.6**
comp=Z,4.9nm,0.8s,baz=40,slow=6.6,SNR=6.4
LSZ Lusaka 100.20 257 P **Pdif 20 40 55.3 -3.6**
LPG La Plagne 100.48 321 *e*P **Pdif 20 40 59.6 -0.2**
comp=Z,11nm,0.9s
LPG La Plagne 100.48 321 *e*P **Pdif 20 40 59.6 -0.2**
LPG pmax pmax
comp=Z,11nm,0.9s
LPG La Plagne 100.48 321 *e*P **Pdif 20 40 59.6 -0.2**
comp=Z,11nm,0.9s
LPL La Plagne 100.48 321 *e*P **Pdif 20 40 59.2 -0.5**
LPL La Plagne 100.48 321 *e*P **Pdif 20 40 59.2 -0.5**
LPL La Plagne 100.48 321 *e*P **Pdif 20 40 59.2 -0.5**
LOR Lormes 101.29 324 *e*P **Pdif 20 41 03.6 +0.6**
LOR Lormes 101.29 324 *e*P **Pdif 20 41 03.6 +0.6**
ORIF Oris-en-Rattie 101.30 321 *e*P **Pdif 20 41 02.9 -0.3**
comp=Z,30nm,1.2s
ORIF Oris-en-Rattie 101.30 321 *e*P **Pdif 20 41 02.9 -0.3**
ORIF pmax pmax
comp=Z,30nm,1.3s
ORIF Oris-en-Rattie 101.30 321 *e*P **Pdif 20 41 02.9 -0.3**
comp=Z,30nm,1.3s
SSF Saint Saulge 101.61 324 *e*P **Pdif 20 41 04.6 +0.2**
comp=Z,58nm,1.6s
SSF Saint Saulge 101.61 324 *e*P **Pdif 20 41 04.6 +0.2**
SSF pmax pmax
comp=Z,58nm,1.6s
SSF Saint Saulge 101.61 324 *e*P **Pdif 20 41 04.6 +0.2**
comp=Z,58nm,1.6s
SMF Signal de Mont 101.64 323 *e*P **Pdif 20 41 04.6 0.0**
comp=Z,13nm,0.9s
SMF Signal de Mont 101.64 323 *e*P **Pdif 20 41 04.6 0.0**
SMF pmax pmax
comp=Z,13nm,0.9s
SMF Signal de Mont 101.64 323 *e*P **Pdif 20 41 04.6 0.0**
comp=Z,13nm,0.9s
NVAR Mina Array Bea 101.94 46 P **Pdif 20 41 07.3 +0.9**
NVAR Mina Array Bea 101.94 46 P **Pdif 20 41 07.3 +0.9**
comp=Z,0.1nm,0.3s,baz=274,slow=4.4,SNR=1.7
TCF Toulx Ste Croi 102.78 324 *e*P **Pdif 20 41 09.2 -0.5**
comp=Z,32nm,1.2s
TCF Toulx Ste Croi 102.78 324 *e*P **Pdif 20 41 09.2 -0.5**
TCF pmax pmax
comp=Z,32nm,1.2s
TCF Toulx Ste Croi 102.78 324 *e*P **Pdif 20 41 09.2 -0.5**
comp=Z,32nm,1.2s
RKT Rikitea 103.27 111 *e*LR LR 21 14 58.8
comp=Z,1μm,33.2s
ESDC Sonseca Array 110.27 321 PP PP 20 46 18.8 +0.4
ESDC Sonseca Array 110.27 321 PP PP 20 46 18.8 +0.4
comp=Z,1.4nm,0.8s,baz=36,slow=6.9,SNR=5.9
SDCO Great Sand Dun 110.97 41 *e*P **PKiKP 20 45 45.5 -0.6**
VNA2 Neumayer--Watz 114.74 195 *e*PKiKP **PKiKP 20 45 50.3 -1.5**
H06N1 SOCORRO T-PHASE 116.22 62 T T 22 53 05.2
SNR=4.1
H06S1 SOCORRO T 116.29 62 T T 22 53 12.8
SNR=12
H06E1 SOCORRO T-PHASE 116.30 62 T T 22 53 02.4
SNR=18
TXAR Lajitas Array 117.00 48 PKP **PKPdf 20 45 57.7 +0.2**
TXAR Lajitas Array 117.00 48 PKP **PKPdf 20 45 57.7 +0.2**
comp=Z,1.3nm,0.7s,baz=287,slow=1.4,SNR=9.8
TORD Torodi Ar. Bea 118.92 293 PKP **PKPdf 20 45 59.8 -1.6**
TORD PP PP 20 47 08.1 -12
TORD PKKPab PKKPab 20 56 28.3 +9.3
TORD Torodi Ar. Bea 118.92 293 PKP **PKPdf 20 45 59.8 -1.6**
comp=Z,2.5nm,0.8s,baz=11,slow=2.1,SNR=13
TORD PP PP 20 47 08.1 -12
comp=Z,2.2nm,0.7s,baz=53,slow=6.9,SNR=6.9
TORD PKKPab PKKPab 20 56 28.3 +9.3
comp=Z,1.2nm,0.7s,baz=254,slow=4.3,SNR=6.1
JCT Junction City 119.07 45 *e*PKIKP **PKPdf 20 46 01.9 +0.5**
JCT Junction City 119.07 45 *e*PKPdf **PKPdf 20 46 01.9 +0.5**
DBIC Dimbokro 127.29 288 *e*PKPdf **PKPdf 20 46 15.9 -1.6**
DBIC PKP **PKPdf 20 46 16.5 -1.0**
DBIC Dimbokro 127.29 288 PKP **PKPdf 20 46 16.5 -1.0**
comp=Z,6.2nm,0.8s,baz=102,slow=2.2,SNR=8.0
KIC Kosan Boka 127.29 288 *e*PKIKP **PKPdf 20 46 16.7 -0.8**
comp=Z,21nm,0.8s
TIC Toumodi 127.45 288 *e*PKIKP **PKPdf 20 46 16.9 -1.0**
comp=Z,13nm,0.7s
LIC Lamto 127.61 288 *e*PKIKP **PKPdf 20 46 16.1 -2.0**
comp=Z,13nm,0.7s
LIC Lamto 127.61 288 *e*PKIKP **PKPdf 20 46 16.9 -1.2**
comp=Z,21nm,0.7s
LIC Lamto 127.61 288 *e*PKPdf **PKPdf 20 46 16.1 -2.0**
SDDR Presa de Saban 144.77 28 *e*PKPdf PKPbc 20 46 48.7 0.0
LRS Lares 147.25 22 *e*PKPbc **PKPbc 20 46 56.1 -0.1**
SJG San Juan 147.67 21 PKPbc **PKPbc 20 46 57.4 +0.1**
SJG San Juan 147.67 21 PKPbc **PKPbc 20 46 57.4 +0.1**
comp=Z,17nm,0.6s,baz=87,slow=5.3,SNR=2.4
MTP Monte Pirata 147.89 20 *e*PKPbc **PKPbc 20 46 57.0 -0.9**
PLCA Paso Flores 148.28 156 *e*PKPdf **PKPdf 20 46 55.8 +0.7**
PLCA PKPbc **PKPbc 20 46 58.6 +0.1**
PLCA Paso Flores 148.28 156 PKPbc **PKPbc 20 46 58.6 +0.1**
comp=Z,19nm,0.7s,baz=192,slow=3.9,SNR=19
OTAV Otavalo 153.08 64 *e*PKPbc **PKPbc 20 47 11.1 -0.1**
TRQA Tornquist 153.43 167 *e*PKPbc **PKPbc 20 47 10.6 -0.1**
SDV Santo Domingo 153.50 38 *e*PKPbc **PKPbc 20 47 11.6 -0.1**
CPUP Villa Florida 165.73 169 *e*PKPdf **PKPdf 20 47 17.5 +0.2**
CPUP PKPab **PKPab 20 48 16.4 +0.2**
CPUP Villa Florida 165.73 169 PKP **PKPdf 20 47 17.6 +0.2**
comp=Z,5.9nm,0.8s,baz=115,slow=0.6,SNR=10.0
CPUP PKPab **PKPab 20 48 16.4 +0.2**
comp=Z,0.9nm,0.5s,baz=170,slow=4.8,SNR=2.0
LPAZ La Paz 166.09 108 *e*PKPdf **PKPdf 20 47 19.2 +0.6**
LPAZ La Paz 166.09 108 PKP **PKPdf 20 47 19.3 +0.7**
comp=Z,2.7nm,1.0s,baz=231,slow=2.1,SNR=6.7
SAML Samuel 170.75 70 *e*PKPdf **PKPdf 20 47 21.5 +0.5**
BDFB Brasilia 172.96 241 PKP **PKPdf 20 47 22.1 0.0**
BDFB Brasilia 172.96 241 PKP **PKPdf 20 47 22.1 0.0**
comp=Z,4.3nm,0.8s,baz=114,slow=4.5,SNR=5.1

CSEM ***02*** *20:27:24.1±0.1, 40.51N×23.55E, h5km, ML1.9/4, Error ellipse: s-maj=1.7km s-min=1.3km az=43.0*
ATH ***02*** *20:27:24.0, 40.49N×23.54E, h4km, MD2.8/8*
THE 02 20:27:24.4, 40.53N×23.56E, h1km±1km, ML1.9/4, Error ellipse: s-maj=1.5km s-min=0.4km az=240.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.17**	**209**	P		Pg 20 27 28.2	+0.4
PLG				S		Sg 20 27 30.6	+0.5
PLG	**Polygyros**	**0.17**	**209**	*e*PN		Pg 20 27 28.2	+0.4
PLG	**Polygyros**	**0.17**	**209**	*e*Pn		Pg 20 27 28.2	+0.4
SOH	**Sokhos**	**0.33**	**333**	P		Pg 20 27 30.9	0.0
SOH				S		Sg 20 27 35.5	+0.1
SOH	**Sokhos**	**0.33**	**333**	*e*PG		Pg 20 27 30.9	0.0
SOH				*e*SG		Sg 20 27 35.4	0.0
SOH	**Sokhos**	**0.33**	**333**	P		Pg 20 27 30.9	0.0
SOH				S		Sg 20 27 35.5	+0.1
HORT	**Hortiatis**	**0.36**	**282**	P		Pg 20 27 31.2	-0.2
HORT				S		Sg 20 27 36.1	0.0
HORT	**Hortiatis**	**0.36**	**282**	*e*PG		Pg 20 27 31.1	-0.3
HORT				*e*SG		Sg 20 27 35.9	-0.2
HORT	**Hortiatis**	**0.36**	**282**	P		Pg 20 27 31.2	-0.2
HORT				*e*Sg		Sg 20 27 35.9	-0.2
OUR	**Ouranopolis**	**0.38**	**120**	P		Pg 20 27 31.4	-0.2
OUR				S		Sg 20 27 36.6	+0.1
OUR	**Ouranopolis**	**0.38**	**120**	*e*PG		Pg 20 27 31.4	-0.2
OUR				*e*SG		Sg 20 27 36.4	-0.1
OUR	**Ouranopolis**	**0.38**	**120**	P		Pg 20 27 31.4	-0.2
OUR				*e*Sg		Sg 20 27 36.4	-0.1
THE	**Thessaloniki**	**0.46**	**284**	P		Pg 20 27 33.1	-0.2
THE				S		Sg 20 27 39.9	+0.6
THE	**Thessaloniki**	**0.46**	**284**	P		Pg 20 27 33.1	-0.2
THE				S		Sg 20 27 39.9	+0.6
SRS	**Serrai**	**0.59**	**3**	P		Pg 20 27 35.4	-0.4
SRS				S		Sg 20 27 44.0	+0.4
SRS	**Serrai**	**0.59**	**3**	*e*PG		Pg 20 27 35.4	-0.4
SRS				*e*SG		Sg 20 27 44.5	+0.9
SRS	**Serrai**	**0.59**	**3**	P		Pg 20 27 35.4	-0.4
SRS				S		Sg 20 27 44.0	+0.4
PAIG	**Paliouri**	**0.60**	**171**	P		Pg 20 27 35.3	-0.7
PAIG				S		Sg 20 27 43.5	-0.3
PAIG	**Paliouri**	**0.60**	**171**	*e*PG		Pg 20 27 35.3	-0.7
PAIG				*e*SG		Sg 20 27 42.7	-1.1
PAIG	**Paliouri**	**0.60**	**171**	P		Pg 20 27 35.3	-0.7
PAIG				*e*Sg		Sg 20 27 42.7	-1.1
PAIG				S		Sb 20 27 43.5	-3.2
KNT	**Kendrikon**	**0.81**	**322**	P		Pg 20 27 39.5	-0.5
KNT				S		Sg 20 27 50.6	+0.1
KNT	**Kendrikon**	**0.81**	**322**	*e*PG		Pg 20 27 39.5	-0.5
KNT	**Kendrikon**	**0.81**	**322**	P		Pg 20 27 39.5	-0.5
KNT				S		Sg 20 27 50.6	+0.1
NVR	**Nevrokopi**	**0.86**	**16**	P		Pg 20 27 40.4	-0.5
NVR				S		Sg 20 27 52.4	+0.3
NVR	**Nevrokopi**	**0.86**	**16**	*e*PG		Pg 20 27 40.5	-0.4
NVR	**Nevrokopi**	**0.86**	**16**	*e*Pg		Pg 20 27 40.5	-0.4
NVR				S		Sg 20 27 52.4	+0.3
KAVA	**Kavala**	**0.87**	**57**	P		Pg 20 27 40.8	-0.2
KAVA				S		Sg 20 27 52.9	+0.6
KAVA	**Kavala**	**0.87**	**57**	*e*PB		Pg 20 27 40.8	-0.2
KAVA	**Kavala**	**0.87**	**57**	P		Pg 20 27 40.8	-0.2
KAVA				S		Sg 20 27 52.9	+0.6
VAY	**Valandovo**	**1.09**	**317**	P		Pg 20 27 44.6	-0.8
VAY	**Valandovo**	**1.09**	**317**	P		Pg 20 27 44.6	-0.8
SMTH	**Samothraki Isl**	**1.51**	**91**	*e*PB		Pb 20 27 53.0	-0.2
SMTH	**Samothraki Isl**	**1.51**	**91**	*e*Pb		Pb 20 27 53.0	-0.2
RDO	**Rodhopi**	**1.63**	**67**	P		Pn 20 27 53.7	-0.4
RDO				S		Sn 20 28 15.8	+0.1
RDO	**Rodhopi**	**1.63**	**67**	P		Pn 20 27 53.7	-0.4
RDO				S		Sn 20 28 15.8	+0.1

IDC ***02*** *20:27:56.4±2.6, 21.73S×68.43W, h120km±21km, mb3.7/2, mb1 3.4/5, mb1mx3.3/19, mbtmp3.4/5, Error ellipse: s-maj=46.8km s-min=26.7km az=100.0*
ISCJB ***02*** *20:27:57.5±0.7, 21.57S±0.06×68.4W±0.1, h137km±12km, mb3.6/2, Error ellipse: s-maj=19.7km s-min=9.5km az=176.3*
GUC ***02*** *20:27:59.2±0.7, 21.59S×68.59W, h137km±5km, ML4.1*
ISC 02 20:27:59.0±1.1, 21.56S±0.07×68.6W±0.2, h143km±13km, n18, σ0.843/20, 6C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.67**	**250**⇑	*i*P		**Pn 20 28 20.6**	**-0.1**
PB09				*i*S		**Sn 20 28 36.8**	**-0.4**
PB09				AML	AML	20 28 37.9	
	comp=N,6μm,0.3s						
PB01	**Plate Boundary**	**1.00**	**301**⇑	*i*P		**Pn 20 28 23.1**	**-0.1**
PB01				*i*S		**Sn 20 28 41.5**	**0.0**
PB01				AML	AML	20 28 42.0	
	comp=N,3μm,0.4s						
PB04	**Plate Boundary**	**1.10**	**231**⇑	*i*P		Pn 20 28 30.1	+6.2
PB04				*i*S		Sn 20 28 53.4	+10
PB04				AML	AML	20 28 57.1	
	comp=N,1μm,0.1s						
PB07	**Plate Boundary**	**1.24**	**262**⇑	*i*P		**Pn 20 28 25.8**	**+0.4**
PB07				*i*S		**Sn 20 28 46.0**	**+0.3**
PB07				AML	AML	20 28 46.7	
	comp=N,3μm,0.2s						
MACH	**Maria Elena**	**1.27**	**240**⇓	*i*P		**Pn 20 28 26.1**	**+0.2**
MACH				*i*S		**Sn 20 28 46.4**	**0.0**
PATCX	**Punta Patache**	**1.66**	**296**⇑	*i*P		**Pn 20 28 30.2**	**+0.5**
PATCX				*i*S		**Sn 20 28 53.8**	**+0.5**
PATCX				AML	AML	20 28 57.5	
	comp=N,2μm,0.4s						
HMBC	**Humberstone**	**1.78**	**316**⇑	*i*P		**Pn 20 28 31.1**	**-0.1**
HMBC				*i*S		**Sn 20 28 55.6**	**-0.2**
HMBC				AML	AML	20 28 57.0	
	comp=E,2μm,0.7s						
PSGC	**Pisagua**	**2.44**	**323**⇓	*i*P		**Pn 20 28 38.5**	**-0.6**
PSGC				*i*S		**Sn 20 29 09.3**	**-0.7**
PSGC				AML	AML	20 29 11.8	
	comp=N,601nm,0.4s						
MNMC	**Minimini**	**2.61**	**338**⇓	*i*P		**Pn 20 28 41.5**	**+0.1**
MNMC				*i*S		**Sn 20 29 14.9**	**+0.9**
MNMC				AML	AML	20 29 16.0	
	comp=E,2μm,0.6s						
LPAZ	**La Paz**	**5.26**	**5**	P		**Pn 20 29 16.9**	**+0.4**
	comp=E,3.6nm,0.3s,baz=187,slow=7.2,SNR=66						
SIV	**San Ignacio**	**9.00**	**53**	P		Pn 20 30 01.5	-4.4
	comp=E,1.1nm,0.3s,baz=241,slow=13,SNR=9.2						
SIV				S		Sn 20 31 34.5	-11
	comp=E,0.1nm,0.3s,baz=139,slow=23,SNR=16						
CFAA	**Coronel Fontan**	**10.01**	**178**	P		Pn 20 30 14.8	-4.3
	comp=E,0.1nm,0.3s,baz=345,slow=13,SNR=6.9						
DBIC	**Dimbokro**	**68.45**	**73**	P		**P 20 38 46.1**	**+0.1**
	comp=E,1.0nm,0.5s,baz=210,slow=6.3,SNR=3.3

H11S1	**WAKE ISLAND Hyl**	**28.21 277**	T	T	23 07 17.5			
	baz=109,slow=75							
H11S3	**WAKE ISLAND Hyl**	**28.22 277**	T	T	23 07 17.1			
	baz=109							
SONM	**Songino Array**	**153.48 8**	PKPbc	**PKPbc**	**20 47 40.4**	**-0.2**		
	comp=E,0.4nm,0.8s,baz=330,slow=3.3,SNR=3.0							

*IDC **02** 20:29:48.7±2.3, 11°.90N×125°.25E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.1/25, mbtmp4.3/9, MS5.0/3, Ms1 5.0/3, ms1mx4.2/42, Error ellipse: s-maj=59.4km s-min=38.9km az=176.0*

*ISCJB **02** 20:29:56.8±1.1, 12°.13N±0°.07×125°.3E±0°.2, h66km, mb4.1/9, Error ellipse: s-maj=31.1km s-min=9.3km az=5.3*

ISC 02 20:29:56.8±1.6, **12°.05N**±0°.08×**125°.5E**±0°.3, **h66**km, **n14, σ0⁰57/12, mb4.4/9, 2D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PLP	**Palo**	**1.02 210**		⇓*eP*	**Pn**	**20**	**30 14.8**	**-0.6**
PLP				*eS*	**Sn**	**20**	**30 29.8**	**+0.6**
PVCP	**Virac**	**2.02 320**		⇓*iP*	**Pn**	**20**	**30 28.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**26.38 287**		P	**P**	**20**	**35 27.1**	**-0.2**
	4.7nm,0.8s,baz=95,slow=7.6,SNR=4.3							
SONM	**Songino Array**	**39.09 340**		P	**P**	**20**	**37 17.1**	**-0.6**
	1.5nm,0.6s,baz=155,slow=8.8,SNR=2.8							
MKAR	**Makanchi Array**	**50.16 322**		P	**P**	**20**	**38 46.5**	**+0.7**
	4.0nm,0.7s,baz=109,slow=7.9,SNR=3.5							
AAK	**Ala-Archa**	**53.54 315**		LR	LR	21	04 15.9	
	comp=Z,907nm,18.1s,baz=266,slow=39							
KURBB	**Kurchatov Arra**	**54.19 325**		P	**P**	**20**	**39 15.8**	**+0.3**
	5.3nm,0.6s,baz=126,slow=7.5,SNR=5.3							
BVAR	**Borovoye Array**	**59.78 325**		P	**P**	**20**	**39 55.3**	**+0.3**
	2.4nm,0.8s,baz=126,slow=7.3,SNR=3.7							
BVAR				LR	LR	21	05 25.3	
	comp=Z,1μm,18.0s,baz=125,slow=36							
ILAR	**Eielson Array**	**78.17 26**		P	P	20	41 52.8	+4.0
	0.5nm,0.8s,baz=245,slow=5.5,SNR=2.2							
ARCES	**ARCESS Array B**	**82.27 340**		P	**P**	**20**	**42 11.5**	**+0.8**
	4.3nm,0.9s,baz=90,slow=4.5,SNR=4.6							
FINES	**FINESS Array B**	**83.97 332**		P	**P**	**20**	**42 19.8**	**+0.1**
	3.0nm,0.7s,baz=67,slow=4.4,SNR=3.4							
AKASG	**Malin Array Be**	**84.72 321**		P	**P**	**20**	**42 23.2**	**-0.5**
	0.2nm,0.3s,baz=69,slow=3.7,SNR=2.6							
LSZ	**Lusaka**	**100.05 256**		LR	LR	21	22 24.6	
	comp=Z,702nm,21.2s,baz=150,slow=32							
TORD	**Torodi Ar. Bea**	**118.90 292**		PKP	**PKPdf**	**20**	**48 38.7**	**-0.1**
	0.7nm,0.9s,baz=360,slow=3.1,SNR=2.9							

*IDC **02** 20:35:55.9±1.8, 12°.22N×125°.43E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=79.1km s-min=25.2km az=63.0*

*ISCJB **02** 20:35:57.9±0.9, 12°.31N±0°.05×125°.82E±0°.08, h33km, mb3.6/5, Error ellipse: s-maj=10.8km s-min=7.1km az=166.4*

*MAN **02** 20:35:59, 12°.23N×125°.67E, h33km, mb4.4, ML3.3, MS3.1*
MAN Intensity I - San Policarpo Eastern Samar.

ISC 02 20:35:60.0±1.2, **12°.27N**±0°.06×**125°.7E**±0°.1, **h33**km, **n16, σ1⁰44/16, mb3.5/5, 1C-2D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PLP	**Palo**	**1.33 214**		⇓*eP*	**Pn**	**20**	**36 20.7**	**-1.5**
PLP				*eS*	**Sn**	**20**	**36 37.1**	**-1.7**
OCLP	**Ormoc**	**1.64 223**		*eP*	**Pn**	**20**	**36 25.5**	**-1.0**
PVCP	**Virac**	**2.03 311**		*eP*	**Pn**	**20**	**36 32.2**	**+0.3**
PVCP				*eS*	**Sn**	**20**	**36 55.4**	**-0.7**
MSLP	**Maasin**	**2.29 202**		*eP*	**Pn**	**20**	**36 38.0**	**+2.4**
SCPH	**Surigao**	**2.49 186**		⇑*eP*	**Pn**	**20**	**36 38.5**	**+0.3**
RCP	**Roxas**	**3.02 257**		⇓*eP*	**Pn**	**20**	**36 45.5**	**+0.1**
RCP				*eS*	**Sn**	**20**	**37 23.6**	**+3.1**
BUTP	**Butuan**	**3.29 182**		*eP*	**Pn**	**20**	**36 48.9**	**-0.3**
GUIM	**Jordan**	**3.50 242**		*eP*	**Pn**	**20**	**36 52.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**26.54 287**		P	**P**	**20**	**41 33.2**	**-1.8**
	1.0nm,0.8s,baz=97,slow=7.4,SNR=5.8							
ASAR	**Alice Springs**	**36.60 167**		P	**P**	**20**	**43 04.1**	**+0.8**
	0.5nm,0.7s,baz=342,slow=7.8,SNR=3.3							
H11N1	**WAKE ISLAND Hy**	**40.16 74**		T	T	21	26 39.8	
	baz=269,slow=75,SNR=27							
H11N2	**WAKE ISLAND Hy**	**40.17 74**		T	T	21	26 41.4	
	baz=269,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy**	**40.18 74**		T	T	21	26 42.1	
	baz=269,slow=75,SNR=27							
MKAR	**Makanchi Array**	**50.13 322**		P	**P**	**20**	**44 52.4**	**+0.3**
	0.8nm,0.8s,baz=125,slow=7.1,SNR=5.3							
KURBB	**Kurchatov Arra**	**54.14 325**		P	**P**	**20**	**45 21.3**	**-0.6**
	0.7nm,0.6s,baz=123,slow=7.6,SNR=4.2							
BVAR	**Borovoye Array**	**59.73 325**		P	**P**	**20**	**46 01.4**	**-0.1**
	0.2nm,0.5s,baz=117,slow=8.3,SNR=3.6							

*IDC **02** 20:57:04.4±1.2, 12°.37N×125°.74E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/25, mbtmp3.6/8, Error ellipse: s-maj=66.3km s-min=18.3km az=66.0*

*ISCJB **02** 20:57:07.7±0.8, 12°.33N±0°.05×125°.69E±0°.10, h33km, mb3.6/8, Error ellipse: s-maj=13.6km s-min=7.0km az=11.2*

*MAN **02** 20:57:09, 12°.29N×125°.60E, h33km, mb4.6, ML3.5, MS3.4*
MAN Intensity II - San Policarpo Eastern Samar.

ISC 02 20:57:08.9±1.0, **12°.27N**±0°.06×**125°.6E**±0°.1, **h33**km, **n18, σ1⁰08/17, mb3.6/8, 1C-2D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PLP	**Palo**	**1.28 211**		⇓*eP*	**Pn**	**20**	**57 30.2**	**-0.3**
PLP				*eS*	**Sn**	**20**	**57 46.4**	**-0.1**
OCLP	**Ormoc**	**1.58 220**		*eP*	**Pb**	**20**	**57 36.1**	**-1.4**
OCLP				*eS*	**Sn**	**20**	**57 54.0**	**0.0**
PVCP	**Virac**	**1.96 312**		*eP*	**Pn**	**20**	**57 39.5**	**-0.4**
MSLP	**Maasin**	**2.26 200**		*eP*	**Pb**	**20**	**57 47.1**	**-2.0**
SCPH	**Surigao**	**2.48 183**		⇑*eP*	**Pn**	**20**	**57 47.9**	**+0.9**
RCP	**Roxas**	**2.92 256**		⇓*eP*	**Pn**	**20**	**57 54.4**	**+1.3**
GUIM	**Jordan**	**3.41 242**		*eP*	**Pn**	**20**	**58 01.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**26.45 287**		P	**P**	**21**	**02 43.3**	**+0.2**
	0.3nm,0.4s,baz=83,slow=7.4,SNR=4.3							
WRA	**Warramunga Arr**	**33.14 165**		P	**P**	**21**	**03 42.3**	**0.0**
	0.3nm,1.0s,baz=344,slow=8.8,SNR=2.7							
ASAR	**Alice Springs**	**36.62 167**		P	**P**	**21**	**04 13.8**	**+1.4**
	0.2nm,0.3s,baz=342,slow=7.1,SNR=3.7							
SONM	**Songino Array**	**38.94 339**		P	**P**	**21**	**04 30.6**	**-1.3**
	0.3nm,0.6s,baz=153,slow=9.9,SNR=2.8							
H11N1	**WAKE ISLAND Hy**	**40.26 74**		T	T	21	47 51.3	
	baz=269,slow=75,SNR=19							
H11N2	**WAKE ISLAND Hy**	**40.26 74**		T	T	21	47 49.4	
	baz=269,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**40.27 74**		T	T	21	47 51.1	
	baz=269,slow=75,SNR=17							
MKAR	**Makanchi Array**	**50.08 322**		P	**P**	**21**	**06 01.2**	**+0.5**
	0.7nm,0.7s,baz=111,slow=9.5,SNR=8.3							
KURBB	**Kurchatov Arra**	**54.09 325**		P	**P**	**21**	**06 31.0**	**+0.6**
	0.8nm,0.2s,baz=127,slow=7.4,SNR=8.4							
BVAR	**Borovoye Array**	**59.68 325**		P	**P**	**21**	**07 11.1**	**+1.0**
	0.8nm,0.9s,baz=117,slow=8.3,SNR=4.8							
FINES	**FINESS Array B**	**83.85 332**		P	**P**	**21**	**09 35.4**	**+0.3**
	1.5nm,0.8s,baz=113,slow=5.3,SNR=4.1							

MAN 02 21:01:00, 12°.16N×125°.59E, h23km, mb4.4, ML3.3, MS3.1, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PLP	**Palo**	**1.15 211**		⇓*eP*	Pn	21	01 19.8	-1.0
PLP				*eS*	Sb	21	01 36.3	+0.5
PVCP	**Virac**	**2.00 316**		*eP*	Pn	21	01 33.0	+0.5
PVCP				*eS*	Sn	21	01 58.1	+1.2
MSLP	**Maasin**	**2.13 200**		*eP*	Pb	21	01 36.2	-1.8
GUIM	**Jordan**	**3.31 243**		*eP*	Pn	21	01 51.9	+1.4

*ISCJB **02** 21:01:41.6±0.6, 17°.85S±0°.04×178°.64W±0°.03, h552km±6km, mb4.9/176, Error ellipse: s-maj=6.8km s-min=3.2km az=155.9*

*NEIC **02** 21:01:41.4±0.1, 17°.86S×178°.60W, mb4.9/124, Error ellipse: s-maj=5.5km s-min=2.8km az=142.0*

*BGS **02** 21:01:41.6±2.2, 17°.86S×178°.60W, h544km, mb4.9(NEIC)*

*MOS **02** 21:01:41.5±0.8, 17°.82S×178°.64W, h552km, mb5.0/41, Error ellipse: s-maj=11.0km s-min=7.4km az=53.0*

*BJI **02** 21:01:42.1, 17°.70S×178°.88W, h544km, mB5.2/24, mb4.7/38*

*IDC **02** 21:01:42.1±0.9, 17°.93S×178°.51W, h554km±9km, mb4.4/31, mb1 4.5/33, mb1mx4.5/35, mbtmp5.3/33, Error ellipse: s-maj=10.8km s-min=7.8km az=133.0*

*AUST **02** 21:01:50.3±1.2, 18°.01S×178°.75W, h641km±13km, Error ellipse: s-maj=14.6km s-min=4.6km az=75.0*

*DJA **02** 21:02:00.6±3.3, 18°.5±10°×178°.0W±3°.0, h692km±25km, M5.0/34, mB5.5/29, mb5.5/34, Mw(mB)5.0/29*

ISC 02 21:01:41.7±0.3, **17°.94S**±0°.05×**178°.48W**±0°.04, **h554**km±3km, **h555**km:**pP-P, n882,** σ1⁰**15/946, mb4.9/176, 186C-176D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	**Afiamalu**	**7.59**	**59**	*eP*	**P**	**21**	**03 36.6**	**+0.9**
AFI				*eS*	**S**	**21**	**05 07.5**	**-1.4**
AFI	**Afiamalu**	**7.59**	**59**	**P**	**P**	**21**	**03 36.5**	**+0.9**
	31nm,0.3s,baz=99,slow=3.0,SNR=16							
AFI				*eS*	**S**	**21**	**05 07.5**	**-1.4**
	2.0nm,0.3s,baz=311,slow=19,SNR=3.4							
FUNA	**Funafuti**	**9.63**	**346**	*eP*	**P**	**21**	**03 57.4**	**+1.3**
RAO	**Raoul Island**	**11.27**	**178**	*eP*	**P**	**21**	**04 13.4**	**+0.8**
DZM	**Mont Dzumac**	**14.76**	**251**	*eP*	**P**	**21**	**04 49.0**	**+0.3**
	161nm,0.6s							
DZM				*eS*	**S**	**21**	**07 24.6**	**+1.8**
DZM	**Mont Dzumac**	**14.76**	**251**	P	**P**	**21**	**04 49.6**	**+0.9**
	14nm,0.3s,baz=83,slow=15,SNR=109							
DZM				*eS*	**S**	**21**	**07 24.6**	**+1.8**
	baz=342,slow=19,SNR=2.5							
NOUC	**Port Laguerre**	**14.89**	**251**	*eP*	**P**	**21**	**04 50.1**	**+0.1**
KNTN	**Kanton**	**16.47**	**24**	*eP*	**P**	**21**	**05 05.1**	**-0.4**
	287nm,0.8s							
OUZ	**Omahuta**	**18.60**	**201**	*eP*	**P**	**21**	**05 26.1**	**+1.4**
	43nm,0.8s							
URZ	**Urewera**	**20.61**	**190**	*eP*	**P**	**21**	**05 43.2**	**+0.3**
	31nm,0.7s							
URZ				*eS*	**S**	**21**	**08 52.0**	**-6.0**
URZ	**Urewera**	**20.61**	**190**	P	**P**	**21**	**05 41.7**	**-1.2**
	28nm,1.0s,baz=341,slow=0.6,SNR=7.7							
URZ				*eS*	**S**	**21**	**08 52.1**	**-6.0**
	11nm,0.8s,baz=49,slow=19,SNR=3.7							
TARA	**Tarawa**	**20.96**	**335**	*eP*	**P**	**21**	**05 45.1**	**-1.3**
BKZ	**Black Stump Fm**	**21.60**	**191**	*eP*	**P**	**21**	**05 51.0**	**-0.9**
	261nm,2.4s							
HNR	**Honiara**	**22.59**	**289**	P	**P**	**21**	**06 00.4**	**-0.6**
HNR	**Honiara**	**22.59**	**289**	P	**P**	**21**	**06 00.4**	**-0.6**
	117nm,0.6s,baz=207,slow=3.5,SNR=9.9							
LHI	**Lord Howe Isla**	**24.41**	**232**	P	**P**	**21**	**06 19.3**	**+2.4**
	baz=24,SNR=4.1							
KHZ	**Kahutara**	**25.33**	**194**	*eP*	**P**	**21**	**06 25.2**	**+0.4**
	145nm,1.7s							
RPZ	**Rata Peaks**	**27.17**	**197**	*eP*	**P**	**21**	**06 40.0**	**-1.2**
	391nm,2.6s							
RPZ	**Rata Peaks**	**27.17**	**197**	P	**P**	**21**	**06 39.9**	**-1.3**
	4.0nm,0.6s,baz=0.0,slow=4.0,SNR=3.2							
XMAS	**Kiritimati**	**28.70**	**48**	*eP*	**P**	**21**	**06 55.1**	**+0.2**
	125nm,1.1s							
EIDS	**Eidsvold**	**29.20**	**250**	*eP*	**P**	**21**	**06 59.3**	**+0.2**
	122nm,0.8s							
EIDS	**Eidsvold**	**29.20**	**250**	⇓P	**P**	**21**	**06 59.4**	**+0.3**
	baz=29,SNR=47							
ARMA	**Armidale**	**29.87**	**240**	*eP*	**P**	**21**	**07 06.5**	**+1.6**
	127nm,0.7s							
ARMA	**Armidale**	**29.87**	**240**	P	**P**	**21**	**07 06.5**	**+1.6**
	baz=30,SNR=72							
WHZ	**Wether Hill Ro**	**30.07**	**199**	*eP*	**P**	**21**	**07 08.3**	**+2.0**
RMQ	**Roma**	**31.43**	**248**	P	**P**	**21**	**07 19.6**	**+1.2**
	baz=31,SNR=43							
RABL	**Rabaul**	**31.82**	**292**	P	**P**	**21**	**07 23.3**	**+1.6**
	baz=32,SNR=5.7							
CNB	**Canberra Magne**	**33.35**	**232**	P	**P**	**21**	**07 36.2**	**+1.6**
	baz=33,SNR=205							
CTAO	**Charters Tower**	**33.38**	**261**	*eP*	**P**	**21**	**07 35.3**	**+0.4**
CTAO				pmax	pmax			
	comp=Z,116nm,0.8s							
CTAO	**Charters Tower**	**33.38**	**261**	*eP*	**P**	**21**	**07 35.3**	**+0.4**
	comp=Z,116nm,0.8s							
CAN	**Canberra**	**33.63**	**233**	*eP*	**P**	**21**	**07 37.5**	**+0.6**
CAN				pmax	pmax			
	comp=Z,90nm,0.7s							
CAN	**Canberra**	**33.63**	**233**	*eP*	**P**	**21**	**07 37.5**	**+0.6**
	comp=Z,90nm,0.7s							
YNG	**Young**	**33.72**	**235**	P	**P**	**21**	**07 39.1**	**+1.6**
	baz=34,SNR=21							
MILA	**Mila**	**34.21**	**230**	P	**P**	**21**	**07 43.1**	**+1.4**
	baz=34,SNR=23							
PMG	**Port Moresby**	**34.40**	**280**	P	**P**	**21**	**07 44.3**	**+0.8**
	comp=Z,360nm,0.9s,comp=Z,3μm							
PMG	**Port Moresby**	**34.40**	**280**	*eP*	**P**	**21**	**07 44.2**	**+0.7**
	comp=Z,311nm,0.9s							
PMG	**Port Moresby**	**34.40**	**280**	P	**P**	**21**	**07 44.8**	**+1.3**
	comp=Z,292nm,0.8s,baz=82,slow=6.0,SNR=135							
PMG	**Port Moresby**	**34.40**	**280**	P	**P**	**21**	**07 44.8**	**+1.3**
	baz=34,SNR=54							
PMG				P	**P**	**21**	**07 44.8**	**+1.3**
	baz=34,SNR=54							
PMG				P	**P**	**21**	**07 44.8**	**+1.3**
	baz=34,SNR=54							
CMSA	**Cobar Meteorol**	**35.08**	**240**	P	**P**	**21**	**07 49.9**	**+1.0**
	baz=35,SNR=314							
QLP	**Quilpie**	**35.46**	**249**	P	**P**	**21**	**07 52.8**	**+0.6**
	baz=35,SNR=180							
COEN	**Coen**	**37.04**	**270**	*eP*	**P**	**21**	**08 06.2**	**+0.8**
	comp=Z,1μm,0.8s							
COEN	**Coen**	**37.04**	**270**	P	**P**	**21**	**08 06.3**	**+0.9**
	baz=37,SNR=207							
COEN				P	P	21	08 06.3	+1.0
	baz=37,SNR=69							
MANU	**Manus Island**	**37.05**	**291**	P	**P**	**21**	**08 06.8**	**+1.3**
	baz=37,SNR=6.2							
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**21**	**08 06.9**	**+1.3**
	baz=37,SNR=58							
MOO	**Moorlands**	**38.02**	**223**	P	**P**	**21**	**08 14.5**	**+1.6**
	baz=38,SNR=6.5							
TAU	**Tasmania Unive**	**38.17**	**222**	*eP*	**P**	**21**	**08 15.3**	**+1.1**
TAU				pmax	pmax			
	comp=Z,48nm,0.9s							
TAU	**Tasmania Unive**	**38.17**	**222**	*eP*	**P**	**21**	**08 15.3**	**+1.1**
	comp=Z,48nm,0.9s							
STKA	**Stephens Creek**	**38.56**	**241**	*eP*	**P**	**21**	**08 19.0**	**+1.5**
	comp=Z,68nm,1.1s							
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**21**	**08 18.7**	**+1.2**
	comp=Z,197nm,0.6s,baz=89,slow=12,SNR=759							
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**21**	**08 18.7**	**+1.2**
	baz=38,SNR=28							
ARPS	**Mount Arapiles**	**39.58**	**234**	P	**P**	**21**	**08 26.6**	**+1.0**
	baz=39,SNR=38							
HTT	**Hallett**	**41.07**	**239**	P	**P**	**21**	**08 38.8**	**+1.1**
	baz=41,SNR=126							
JAY	**Jayapura**	**42.85**	**286**	P	**P**	**21**	**08 52.7**	**+0.8**
	baz=43,SNR=30							
GENI	**Genyem**	**43.31**	**286**	P	**P**	**21**	**08 56.7**	**+1.2**
	comp=Z,436nm,0.8s,comp=Z,5μm							
BBOO	**Buckleboo**	**43.33**	**241**	*eP*	**P**	**21**	**08 56.1**	**+0.7**
	comp=Z,5μm,0.8s							
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**21**	**08 56.1**	**+0.7**
	baz=43,SNR=356							
PUH	**Pauahi**	**43.56**	**33**	*eP*	**P**	**21**	**08 57.4**	**+0.1**
STCH	**Steam Cracks**	**43.61**	**33**	*eP*	**P**	**21**	**08 59.0**	**+1.3**
POHA	**Pohakuloa**	**43.72**	**32**	*eP*	**P**	**21**	**08 59.3**	**+0.6**
	comp=Z,138nm,1.0s							
KIP	**Kipapa**	**43.96**	**28**	*eP*	**P**	**21**	**09 00.8**	**+0.5**
KIP				pmax	pmax			
	comp=Z,60nm,0.8s							
KIP	**Kipapa**	**43.96**	**28**	*eP*	**P**	**21**	**09 00.8**	**+0.5**
	comp=Z,60nm,0.8s							
HKL	**Haleakala**	**44.16**	**31**	*eP*	**P**	**21**	**09 03.4**	**+1.1**
HKL	**Haleakala**	**44.16**	**31**	*eP*	**P**	**21**	**09 03.4**	**+1.1**
OPA	**Opana**	**44.19**	**28**	*eP*	**P**	**21**	**09 03.5**	**+1.4**
OPA	**Opana**	**44.19**	**28**	*eP*	**P**	**21**	**09 03.5**	**+1.4**
HLK	**Haleakala**	**44.21**	**31**	*eP*	**P**	**21**	**09 02.8**	**+0.3**
WRAB	**Tennant Creek**	**44.55**	**260**	*eP*	**P**	**21**	**09 04.5**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,121nm,0.7s							
WRAB	**Tennant Creek**	**44.55**	**260**	*eP*	**P**	**21**	**09 04.5**	**-0.5**
	comp=Z,121nm,0.7s							
WRAB	**Tennant Creek**	**44.55**	**260**	P	**P**	**21**	**09 04.0**	**-1.0**
	comp=Z,1μm,0.5s							
WRA	**Warramunga Arr**	**44.56**	**260**	P	**P**	**21**	**09 04.4**	**-0.7**
WRA				PcP	**PcP**	**21**	**10 36.0**	**-0.1**
WRA				ScP	**ScP**	**21**	**13 35.7**	**-0.2**
WRA	**Warramunga Arr**	**44.56**	**260**	P	**P**	**21**	**09 04.4**	**-0.7**
	comp=Z,110nm,0.7s,baz=94,slow=7.1,SNR=842							
WRA				PcP	**PcP**	**21**	**10 36.0**	**-0.1**
	comp=Z,8.8nm,0.4s,baz=89,slow=3.6,SNR=5.0							
WRA				ScP	**ScP**	**21**	**13 35.7**	**-0.2**
	comp=Z,3.6nm,0.9s,baz=91,slow=3.9,SNR=6.2							
AS31	**Alice Springs**	**44.72 254**		⇓*iP*	**P**	**21**	**09 06.5**	**+0.2**
AS31				*ePcP*	**PcP**	**21**	**10 36.6**	**-0.1**
ASAR	**Alice Springs**	**44.72 254**		P	**P**	**21**	**09 06.6**	**+0.3**
ASAR				PcP	**PcP**	**21**	**10 36.5**	**-0.2**
ASAR				ScP	**ScP**	**21**	**13 36.5**	**0.0**
ASAR				S	**S**	**21**	**15 00.8**	**-2.4**
ASAR	**Alice Springs**	**44.72 254**		P	**P**	**21**	**09 06.6**	**+0.3**
	comp=Z,810nm,0.6s,baz=88,slow=8.3,SNR=6372							
ASAR				PcP	**PcP**	**21**	**10 36.5**	**-0.2**
	comp=Z,21nm,0.5s,baz=89,slow=3.8,SNR=5.9							
ASAR				ScP	**ScP**	**21**	**13 36.5**	**0.0**
	comp=Z,3.3nm,0.8s,baz=92,slow=4.3,SNR=5.2							
ASAR				S	**S**	**21**	**15 00.8**	**-2.4**
	comp=Z,2.3nm,0.9s,baz=92,slow=16,SNR=7.1							
KDU	**Kakadu**	**47.49 269**		P	**P**	**21**	**09 27.1**	**-0.2**
	baz=47,SNR=42							
KDU				P	P	21	09 27.4	+0.1
	baz=47,SNR=32							
MTN	**Manton Dam**	**48.73 268**		P	**P**	**21**	**09 36.1**	**-0.5**
	baz=48,SNR=39							
SAUI	**Saumlaki**	**49.80 275**		P	**P**	**21**	**09 45.5**	**+1.0**
	comp=Z,240nm,1.1s							
FORT	**Forrest**	**49.94 245**		*eP*	**P**	**21**	**09 45.1**	**-0.2**
	comp=Z,264nm,0.7s							
FORT	**Forrest**	**49.94 245**		P	**P**	**21**	**09 45.0**	**-0.2**
	baz=50,SNR=136							
KNRA	**Kununurra**	**50.42 264**		P	**P**	**21**	**09 48.6**	**-0.4**
	baz=50,SNR=68							
KNRA				P	P	21	09 48.8	-0.2
	baz=50,SNR=87							
FAKI	**Fak Fak**	**50.52 281**		P	**P**	**21**	**09 49.8**	**0.0**
	baz=50,SNR=8.3							
SWI	**Sorong**	**52.19 283**		P	**P**	**21**	**10 00.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**52.96 261**		*eP*	**P**	**21**	**10 07.5**	**+0.3**
	comp=Z,36nm,0.6s							
FITZ	**Fitzroy Crossi**	**52.96 261**		P	**P**	**21**	**10 07.5**	**+0.3**
	baz=53,SNR=50							
KMBL	**Kambalda**	**55.24 244**		P	**P**	**21**	**10 22.5**	**-0.7**
	baz=55,SNR=36							
NLAI	**Namlea**	**55.24 279**		P	**P**	**21**	**10 23.2**	**-0.2**
	comp=Z,246nm,0.6s,comp=Z,2μm							
TNTI	**Ternate**	**56.41 283**		*eP*	**P**	**21**	**10 32.0**	**+0.5**
	comp=Z,232nm,0.8s							
MBWA	**Marble Bar**	**58.00 256**		*eP*	**P**	**21**	**10 42.0**	**-0.2**
	comp=Z,81nm,0.5s							
MMRI	**Maumere**	**58.23 271**		P	**P**	**21**	**10 42.2**	**-1.7**
	comp=Z,167nm,0.7s,comp=Z,2μm							
NWAO	**Narrogin (SRO)**	**59.14 242**		P	**P**	**21**	**10 49.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**59.14 242**		P	**P**	**21**	**10 49.6**	**-0.1**
	comp=Z,42nm,0.6s,baz=107,slow=5.8,SNR=47							
KMSI	**Cibinong**	**59.48 282**		P	**P**	**21**	**10 53.2**	**+0.9**
	comp=Z,371nm,0.8s							
LUWI	**Luwuk**	**60.05 279**		P	**P**	**21**	**10 55.0**	**-1.0**
	comp=Z,219nm,1.3s,comp=Z,2μm							
VNDA	**Vanda**	**60.40 185**		*eP*	**P**	**21**	**10 59.0**	**+1.8**
	comp=Z,22nm,1.6s							
VNDA	**Vanda**	**60.40 185**		P	**P**	**21**	**10 59.1**	**+1.8**
	comp=Z,3.9nm,0.6s,baz=347,slow=7.2,SNR=20							
GTOI	**Gorontalo**	**60.41 281**		P	**P**	**21**	**10 59.3**	**+0.9**
	comp=Z,171nm,0.9s,comp=Z,2μm							
LBFI	**Labuhan Bajo,**	**60.51 270**		P	**P**	**21**	**10 58.7**	**-0.4**
	comp=Z,289nm,0.7s,comp=Z,3μm							
APSI	**Ampana**	**61.15 279**		P	**P**	**21**	**11 02.9**	**-0.4**
	comp=Z,325nm,0.6s,comp=Z,3μm							
BKSI	**Bulukumba**	**61.19 274**		P	**P**	**21**	**11 04.2**	**+0.7**
	comp=Z,42nm,0.7s,comp=Z,464nm							
MRSI	**Marisa**	**61.35 281**		P	**P**	**21**	**11 04.2**	**-0.4**
	comp=Z,101nm,0.8s,comp=Z,956nm							
BNSI	**Bone**	**61.48 275**		P	**P**	**21**	**11 06.0**	**+0.6**
	comp=Z,115nm,1.1s,comp=Z,1μm							
KAPI	**Kappang**	**61.63 274**		P	**P**	**21**	**11 07.2**	**+0.8**
	comp=Z,226nm,1.1s							
KAPI	**Kappang**	**61.63 274**		*eP*	**P**	**21**	**11 06.2**	**-0.2**
	comp=Z,139nm,0.6s					

baz=78,SNR=5.8
BFSC Mount Baldy Ra 77.70 48 ⇑P P 21 12 42.8 +0.8
baz=78,SNR=9.6
KRMB Red Mountain 77.75 39 eP P 21 12 44.0 +2.0
comp=Z,143nm,2.9s
EDW2 Edwards Air Fo 77.80 47 ⇓P P 21 12 43.7 +1.3
baz=78,SNR=33
ISA Isabella 77.89 46 eP P 21 12 44.3 +1.4
ISA pmax pmax
comp=Z,10.0nm,0.9s
ISA Isabella 77.89 46 eP P 21 12 44.2 +1.4
comp=Z,9.6nm,0.9s
ISA Isabella 77.89 46 ⇑P P 21 12 44.2 +1.4
baz=78,SNR=40
MONP Monument Peak 77.89 49 ⇑P P 21 12 44.6 +1.5
baz=78,SNR=30
CMB Columbia Colle 77.91 43 eP P 21 12 43.9 +1.1
CMB pmax pmax
comp=Z,33nm,1.0s
CMB Columbia Colle 77.91 43 eP P 21 12 43.9 +1.1
comp=Z,33nm,1.0s
NJ2 Nanjing 77.91 310 eP P 21 12 43.1 +0.2
NJ2 pmax pmax
comp=Z,30nm,0.8s
OHCM Honcut 77.94 42 eP P 21 12 43.7 +0.8
DVTC Desert V Tower 78.00 50 ⇑P P 21 12 45.0 +1.5
baz=78,SNR=17
HABR Khabarovsk 78.01 330 eP P 21 12 42.2 -0.9
HABR e 21 12 49.3
HABR e*SP **sP** 21 15 35.2 -1.7
HABR eS **S** 21 21 50.8 -0.9
HABR e 21 22 10.4
HABR eSS **SS** 21 27 08.1 -1.4
HABR eSSS SSS 21 30 38.9
HABR pmax pmax
comp=Z,55nm,2.4s
HABR MLR MLR
comp=Z,88nm,17.0s
WDC Whiskeytown Da 78.01 40 eP P 21 12 44.6 +1.3
WDC pmax pmax
comp=Z,42nm,1.4s
WDC Whiskeytown Da 78.01 40 eP P 21 12 44.6 +1.3
comp=Z,42nm,1.4s
N02D Trinity Center 78.14 40 ⇑P P 21 12 45.9 +1.8
baz=78
MDJ Mudanjiang 78.18 325 P P 21 12 45.3 +1.2
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,320nm,8.6s
PFO Pinyon Flat Ob 78.23 49 eP P 21 12 44.1 -0.7
comp=Z,9.2nm,0.8s
PFO Pinyon Flat Ob 78.23 49 P P 21 12 44.0 -0.7
comp=Z,64nm,1.0s,SNR=5.3
PFO Pinyon Flat Ob 78.23 49 ⇓P P 21 12 46.1 +1.3
baz=78
PFO Pinyon Flat Ob 78.23 49 P P 21 12 44.2 -0.6
comp=Z,7.3nm,0.7s,baz=276,slow=5.4,SNR=12
M02C Callahan 78.30 39 ⇑P P 21 12 46.8 +1.9
baz=78
LRMC Laurel Mountai 78.33 47 ⇓P P 21 12 46.5 +1.2
baz=78,SNR=6.9
SWSC Sam W. Stewart 78.36 50 ⇑P P 21 12 46.7 +1.4
baz=79,SNR=8.3
KDAK Kodiak Island 78.45 14 P P 21 12 45.3 +0.1
comp=Z,250nm,0.9s,SNR=9.0
RRX Edison Barstow 78.50 47 ⇓P P 21 12 47.8 +1.7
baz=79
CWC Cottonwood Cre 78.57 46 ⇓P P 21 12 48.1 +1.5
baz=79
YBH Yreka Blue Hor 78.59 39 eP P 21 12 48.0 +1.5
comp=Z,26nm,0.8s
YBH Yreka Blue Hor 78.59 39 P P 21 12 47.9 +1.4
comp=Z,32nm,0.8s,baz=181,slow=2.0,SNR=76
MLAC Mammoth Lakes 78.71 44 ⇓P P 21 12 49.0 +1.7
baz=79
MTUM Tungsten Hills 78.74 45 eP P 21 12 49.0 +1.5
BELC Belle Mtn. Jos 78.75 49 ⇓P P 21 12 48.9 +1.3
baz=79,SNR=6.1
MPMC Manual Prospec 78.77 46 ⇑P P 21 12 49.0 +1.2
baz=79,SNR=21
WAKR Walker 78.79 43 eP P 21 12 49.1 +1.4
TIN Tinemaha 78.80 45 ⇑P P 21 12 49.3 +1.5
baz=79
MYKOM Kota Tinggi 78.84 276 P P 21 12 48.4 +0.1
MYKOM Kota Tinggi 78.84 276 eP P 21 12 48.6 +0.3
comp=Z,27nm,0.7s
GSC Goldstone 78.85 47 eP P 21 12 49.1 +1.1
GSC pmax pmax
comp=Z,9.0nm,0.8s
GSC Goldstone 78.85 47 eP P 21 12 49.1 +1.1
comp=Z,9.1nm,0.8s
GSC Goldstone 78.85 47 ⇑P P 21 12 48.9 +0.9
baz=79,SNR=6.1
LBCM Butte Creek Ri 78.89 40 P P 21 12 49.2 +1.0
HEC Hector,Ludlow 78.94 48 ⇑P P 21 12 49.5 +1.0
baz=79,SNR=18
BEKR Beckworth 78.96 42 eP P 21 12 49.3 +0.7
comp=Z,14nm,0.6s
HUMO Hull Mountain 78.97 38 eP P 21 12 49.8 +1.4
comp=Z,38nm,1.1s
BC3 Big Chuckawall 78.97 49 ⇓P P 21 12 50.2 +1.5
baz=79,SNR=12
GLA Glamis 79.12 50 eP P 21 12 51.1 +1.6
GLA pmax pmax
comp=Z,6.0nm,0.9s
GLA Glamis 79.12 50 eP P 21 12 51.1 +1.6
comp=Z,6.1nm,0.9s
GLA Glamis 79.12 50 ⇓P P 21 12 51.0 +1.6
baz=79,SNR=6.1
M04C Macdoel 79.15 39 ⇓P P 21 12 50.9 +1.4
baz=79
GRAC Grapevine Rang 79.35 45 ⇑P P 21 12 52.4 +1.9
baz=80
GMRC Granite Mounta 79.39 48 ⇓P P 21 12 52.0 +1.1
baz=80,SNR=9.6
I03D Drain, OR 79.40 37 ⇑P P 21 12 51.9 +1.3
baz=80
KGM Kluang 79.41 276 P P 21 12 51.9 +0.6
FURC Furnace Creek, 79.42 46 ⇓P P 21 12 52.4 +1.6
baz=80
IRM Iron Mountain 79.44 49 ⇑P P 21 12 52.5 +1.4
baz=80,SNR=12
PAHR Pah Rah Range 79.49 42 eP P 21 12 52.6 +1.2
comp=Z,21nm,0.7s
NVAR Mina Array Bea 79.49 44 P P 21 12 52.7 +1.2
NVAR Mina Array Bea 79.49 44 P P 21 12 52.7 +1.2
comp=Z,21nm,0.7s,baz=229,slow=8.6,SNR=126
SHOC Shoshone 79.53 47 ⇑P P 21 12 53.1 +1.6
baz=80
TUQ Turquoise Moun 79.54 47 ⇑P P 21 12 52.9 +1.2
baz=80,SNR=20
NV11 Mina Array Sit 79.59 44 eP P 21 12 52.8 +0.9
NV11 epP pP 21 14 48.4 -1.3
Y12C Blythe 79.69 50 ⇑P P 21 12 53.8 +1.4
baz=80,SNR=6.6
113A Mohawk Valley, 79.76 51 ⇑P P 21 12 54.3 +1.5
baz=80,SNR=7.5
J04D Umpqua Nationa 79.85 38 ⇑P P 21 12 54.9 +1.7
baz=80
LDFC Landfair 79.93 48 eP P 21 12 55.5 +1.8
comp=Z,64nm,0.9s
CN2 Changchun 80.01 322 ⇑P P 21 12 54.7 +0.9
CN2 eS S 21 22 14.7 +2.0
CN2 pmax pmax
comp=Z,20nm,1.0s
214A Organ Pipe Nat 80.08 52 eP P 21 12 55.2 +0.6
214A Organ Pipe Nat 80.08 52 ⇓P P 21 12 56.5 +1.9
baz=80
TPNV Topopah Spring 80.09 46 eP P 21 12 55.9 +1.3
TPNV pmax pmax
comp=Z,73nm,1.8s
TPNV Topopah Spring 80.09 46 eP P 21 12 55.9 +1.3
comp=Z,73nm,1.8s
TPNV Topopah Spring 80.09 46 ⇓P P 21 12 56.3 +1.7
baz=80
MOD Modoc 80.15 40 eP P 21 12 55.9 +1.1
comp=Z,10nm,0.6s
PDMCI Parker Dam,Lak 80.24 49 ⇓P P 21 12 56.7 +1.5
baz=80,SNR=6.3
K05A Summer Lake 80.27 39 eP P 21 12 57.0 +1.5
comp=Z,74nm,1.0s
G03D McMinnville, O 80.37 36 ⇑P P 21 12 57.2 +1.6
baz=81
J05D Fort Rock, OR 80.39 39 ⇑P P 21 12 57.9 +1.9
baz=81
WHN Wuhan 80.58 306 P P 21 12 57.5 +0.5

SHPR Sheep Range 80.61 47 eP P 21 12 58.6 +1.3
Z14A Wintersburg 80.65 51 ⇓P P 21 12 59.3 +1.9
baz=81
H04A Detroit Lake 80.66 37 eP P 21 12 57.9 +0.7
comp=Z,35nm,0.6s
W13A Hualapai Mount 80.81 49 ⇑P P 21 12 60.0 +1.5
baz=81
RSO Redoubt South 80.85 13 eP P 21 12 57.5 -0.5
Y14A Wickenburg 80.89 50 ⇑P P 21 12 60.0 +1.3
baz=81,SNR=9.8
PINOR Pine Mountain 80.91 38 eP P 21 13 00.2 +1.7
I05D Terrebonne, OR 80.94 38 ⇓P P 21 12 60.0 +1.3
baz=81
E03A Lebam 81.02 35 eP P 21 13 00.2 +1.2
comp=Z,56nm,0.9s
R11A Troy Canyon, C 81.26 45 eP P 21 13 01.5 +0.8
R11A Troy Canyon, C 81.26 45 ⇑P P 21 13 01.8 +1.2
baz=82
F04A Amboy 81.28 36 eP P 21 13 01.0 +0.7
comp=Z,32nm,0.5s
NLWA Neilton Lookou 81.38 34 eP P 21 13 02.0 +1.1
comp=Z,41nm,1.2s
VLL Laurance Lake 81.41 37 P P 21 13 02.1 +1.0
VIPM Ingram Point 81.46 38 P P 21 13 02.4 +0.9
VIPM Ingram Point 81.46 38 P P 21 13 02.4 +0.9
WVOR Wild Horse Val 81.47 40 eP P 21 13 02.8 +1.2
WVOR pmax pmax
comp=Z,46nm,1.0s
WVOR Wild Horse Val 81.47 40 eP P 21 13 02.8 +1.2
comp=Z,46nm,1.0s
G05D Wamic, OR 81.49 37 ⇓P P 21 13 02.5 +1.1
baz=82
GAMB Gambell 81.63 3 eP P 21 13 02.0 +0.4
comp=Z,26nm,0.6s
TDL Tradedollar La 81.64 36 P P 21 13 03.6 +1.2
G06A Carlson Farm, 81.87 37 eP P 21 13 04.0 +0.6
comp=Z,23nm,1.1s
I07A Izee 81.87 39 eP P 21 13 04.8 +1.3
comp=Z,36nm,0.8s
HDW Hoodsport 81.97 34 P P 21 13 05.2 +1.2
J08A Circle Bar Ran 82.09 40 eP P 21 13 05.8 +1.1
comp=Z,67nm,1.2s
LON Longmire 82.10 35 eP P 21 13 05.0 +0.4
LON pmax pmax
comp=Z,8.0nm,0.6s
LON Longmire 82.10 35 eP P 21 13 05.0 +0.4
comp=Z,8.0nm,0.6s
WPW White Pass 82.22 36 P P 21 13 06.0 +0.8
X16A Lo Mia Camp, P 82.25 50 ⇑P P 21 13 07.5 +1.7
baz=82,SNR=5.8
D05A Enumclaw 82.27 35 eP P 21 13 07.0 +1.7
comp=Z,56nm,1.2s
IPM Ipoh 82.36 277 P P 21 13 06.4 -0.2
IPM Ipoh 82.36 277 P P 21 13 07.1 +0.5
IPM Ipoh 82.36 277 P P 21 13 07.2 +0.5
IPM Ipoh 82.36 277 eP P 21 13 07.1 +0.5
comp=Z,59nm,0.8s
BBB Bella Bella 82.38 29 P P 21 13 06.2 +0.5
BBB Bella Bella 82.38 29 P P 21 13 06.2 +0.5
comp=Z,11nm,0.6s,baz=260,slow=3.9,SNR=11
CCUT Cedar City 82.38 47 eP P 21 13 08.0 +1.6
comp=Z,19nm,0.8s
ARUT Antelope Range 82.44 46 eP P 21 13 07.4 +0.7
ARUT pmax pmax
comp=Z,450nm,1.2s
ARUT Antelope Range 82.44 46 eP P 21 13 07.4 +0.7
comp=Z,450nm,1.2s
319A Douglas 82.50 54 ⇑P P 21 13 09.0 +2.0
baz=83,SNR=13
U15A North Rim 82.59 48 ⇑P P 21 13 09.3 +1.7
baz=83,SNR=45
PMR Palmer 82.65 14 eP P 21 13 05.8 -1.1
PMR pmax pmax
comp=Z,21nm,0.6s
PMR Palmer 82.65 14 eP P 21 13 05.8 -1.1
comp=Z,20nm,0.6s
ELK Elko 82.73 43 eP P 21 13 09.2 +1.1
comp=Z,18nm,0.9s
WUAZ Wupatki 82.81 49 eP P 21 13 09.7 +1.1
comp=Z,27nm,1.0s
WUAZ Wupatki 82.81 49 ⇑P P 21 13 10.0 +1.4
baz=83
G08A Pilot Rock 82.88 38 eP P 21 13 09.5 +0.9
KULM Kulim 82.97 278 P P 21 13 10.2 +0.6
KULM Kulim 82.97 278 eP P 21 13 10.3 +0.6
LTY Liberty 83.03 36 eP P 21 13 09.8 +0.5
comp=Z,18nm,0.9s
DIV Divide 83.05 15 eP P 21 13 08.7 -0.3
320A Kipp Ranch, An 83.06 54 ⇓P P 21 13 12.3 +2.4
baz=83,SNR=28
E07A Sunnyside 83.08 36 eP P 21 13 10.7 +1.2
comp=Z,63nm,1.3s
HAWA Hanford 83.17 37 eP P 21 13 10.5 +0.7
comp=Z,51nm,1.1s
PPLA Purkeypile 83.18 12 eP P 21 13 07.9 -1.8
comp=Z,5.4nm,0.5s
BMRM Bremner River 83.21 16 eP P 21 13 02.8 -7.0
comp=Z,202nm,1.8s
RPW Rockport 83.28 34 P P 21 13 10.7 +0.2
220A Playas Peak, P 83.31 54 ⇓P P 21 13 13.1 +2.0
baz=84,SNR=8.7
X18A Snowflake 83.40 51 ⇓P P 21 13 13.1 +1.6
baz=84
ETW Entiat 83.42 35 P P 21 13 12.0 +0.7
120A U Bar Ranch, L 83.50 53 ⇓P P 21 13 13.8 +1.7
baz=84
BMO Blue Mountains 83.61 39 eP P 21 13 12.9 +0.6
comp=Z,10nm,0.9s
TNA Tin City 83.63 4 eP P 21 13 11.5 -0.2
comp=Z,11nm,0.8s
CAST Castle Rocks 83.68 12 eP P 21 13 10.9 -1.1
comp=Z,27nm,0.7s
WTV Waterville 83.68 35 P P 21 13 13.0 +0.5
MFID Camas Ranch 83.74 41 eP P 21 13 13.8 +0.9
comp=Z,26nm,1.0s
BJT Baijiatuau 83.76 315 eP P 21 13 12.4 -0.5
BJI Beijing 83.77 315 P P 21 13 13.5 +0.5
BJI pP pP 21 15 13.4 +1.1
BJI S S 21 22 51.6 +1.3
BJI pmax pmax
comp=Z,23nm,0.9s
SEY Seymchan 83.80 347 *i*P P 21 13 12.3 -0.3
MAW Mawson 83.81 200 eP P 21 13 12.6 -0.1
comp=Z,7.8nm,1.2s
MAW Mawson 83.81 200 P P 21 13 13.5 +0.8
comp=Z,16nm,0.5s,baz=135,slow=6.2,SNR=14
W18A Petrified Fore 83.82 50 ⇓P P 21 13 15.2 +1.6
baz=84
PSI Prapat 83.82 275 P P 21 13 13.3 -0.7
PSI Prapat 83.82 275 P P 21 13 13.3 -0.7
comp=Z,52nm,0.8s,baz=65,slow=0.9,SNR=36
D08A Wollman Farm, 83.89 36 eP P 21 13 14.5 +1.0
comp=Z,32nm,0.9s
221A Mequite Ranch 83.93 54 ⇑P P 21 13 16.0 +1.9
baz=84,SNR=5.3
E09A Wood Farm, Sta 84.03 37 eP P 21 13 14.7 +0.6
comp=Z,41nm,1.5s
DUG Dugway 84.05 45 eP P 21 13 15.4 +0.8
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway 84.05 45 eP P 21 13 15.4 +0.8
comp=Z,4.1nm,0.8s
DUG Dugway 84.05 45 ⇑P P 21 13 15.9 +1.3
baz=84
TRF Thorofare Moun 84.06 12 eP P 21 13 13.1 -1.0
comp=Z,52nm,0.8s
121A Cookes Peak, D 84.14 53 eP P 21 13 15.9 +0.6
121A Cookes Peak, D 84.14 53 ⇑P P 21 13 17.1 +1.9
baz=84,SNR=8.4
OD2 Odessa Site #2 84.20 36 P P 21 13 15.7 +0.7
ENH Enshi 84.24 304 eP P 21 13 15.8 +0.2
comp=Z,35nm,0.7s
F10A Beach Ranch, E 84.27 38 eP P 21 13 15.7 +0.2
comp=Z,50nm,1.0s
Y20A Horse Springs, 84.29 52 ⇑P P 21 13 18.1 +2.1
baz=84
222A Williams Famil 84.49 54 ⇑P P 21 13 18.5 +1.5
baz=85,SNR=6.5
BPAW Bear Paw Mtn. 84.50 12 eP P 21 13 14.8 -1.3
comp=Z,99nm,2.3s
Z21A St. Cloud Mine 84.56 53 ⇓P P 21 13 19.4 +2.1
baz=85
MCK McKinley 84.59 13 eP P 21 13 15.9 -0.6
MCK pmax pmax
comp=Z,41nm,1.0s
MCK McKinley 84.59 13 eP P 21 13 15.8 -0.6

comp=Z,41nm,1.0s
GSI Gunungsitoli 84.64 273 eP P 21 13 18.7 +0.7
comp=Z,140nm,1.1s
C09A Chrisman Ranch 84.68 36 eP P 21 13 17.8 +0.5
comp=Z,30nm,1.0s
HLID Hailey 84.70 41 eP P 21 13 19.0 +1.3
comp=Z,18nm,0.8s
HLID Hailey 84.70 41 ⇑P P 21 13 19.1 +1.4
baz=85,SNR=28
TMUT Trail Mountain 84.70 46 eP P 21 13 20.0 +1.9
comp=Z,18nm,0.8s
MPU Maple Canyon 84.76 45 eP P 21 13 19.6 +1.5
comp=Z,7.8nm,0.9s
122A Conniff Cattle 84.81 53 ⇑P P 21 13 20.8 +2.3
baz=85
HVU Hansel Valley 84.85 43 eP P 21 13 19.5 +1.0
HVU pmax pmax
comp=Z,12nm,0.6s
HVU Hansel Valley 84.85 43 eP P 21 13 19.5 +1.0
comp=Z,12nm,0.6s
GYA Guiyang 85.00 300 ⇑*i*P P 21 13 20.5 +1.0
GYA pP **pP** 21 15 20.8 +1.5
GYA sP **sP** 21 16 16.0 +0.6
GYA PP **PP** 21 16 49.6 +2.6
GYA SKS **SKSac** 21 22 50.4 -1.4
GYA S **S** 21 23 02.1 -1.0
GYA sS **sS** 21 26 34.9 -1.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
Z22A Elephant Butte 85.08 53 ⇑P P 21 13 21.2 +1.4
baz=85,SNR=9.2
SRU San Rafael 85.09 46 eP P 21 13 21.1 +1.3
SRU pmax pmax
comp=Z,18nm,0.7s
SRU San Rafael 85.09 46 eP P 21 13 21.1 +1.3
comp=Z,18nm,0.7s
MENT Mentasta 85.10 15 eP P 21 13 19.0 0.0
JLU Jordanelle 85.16 45 eP P 21 13 21.3 +1.2
comp=Z,29nm,0.4s
DAU Daniels Canyon 85.20 45 eP P 21 13 22.0 +1.6
DAU Daniels Canyon 85.20 45 eP P 21 13 22.0 +1.6
LAZ Ladron 85.43 52 eP P 21 13 22.2 +0.7
comp=Z,2.2nm,0.7s
NEW Newport 85.58 36 eP P 21 13 21.9 +0.3
comp=Z,12nm,0.7s
NEW Newport 85.58 36 ⇑P P 21 13 22.3 +0.6
baz=86
425A Indio Mountain 85.59 56 ⇑P P 21 13 24.1 +1.8
baz=86,SNR=13
DOT Dot Lake 85.61 15 eP P 21 13 21.2 -0.3
Z23A Rita Site, Whi 85.64 53 ⇑P P 21 13 24.2 +1.8
baz=86
MNTX Cornudas Mount 85.65 55 eP P 21 13 23.4 +1.1
comp=Z,13nm,1.0s
224A Cornudas Mount 85.69 54 ⇓P P 21 13 24.4 +1.6
baz=86,SNR=12
IM04 Indian Mountai 85.71 10 eP P 21 13 21.5 -0.4
626A Big Bend Ranch 85.78 57 ⇓P P 21 13 25.1 +1.9
baz=86,SNR=24
COLA College 85.82 13 *d*/P P 21 13 21.6 -0.8
COLA pmax pmax
comp=Z,108nm,1.0s
COLA College 85.82 13 eP P 21 13 21.5 -0.8
comp=Z,20nm,1.5s
PV04 Paradox Valley 85.89 48 eP P 21 13 25.3 +1.7
DLBC Dease Lake 85.89 23 P P 21 13 23.3 +0.4
DLBC Dease Lake 85.89 23 P P 21 13 23.3 +0.4
comp=Z,8.2nm,0.8s,baz=254,slow=5.1,SNR=8.5
ILAR Eielson Array 85.94 13 P P 21 13 22.0 -1.0
ILAR PP **PP** 21 16 55.6 +2.2
ILAR PKKPbc **PKKPdf** 21 31 18.6 +3.1
ILAR Eielson Array 85.94 13 P P 21 13 22.0 -1.0
comp=Z,7.5nm,0.4s,baz=223,slow=5.1,SNR=132
ILAR PP **PP** 21 16 55.6 +2.2
comp=Z,3.2nm,1.1s,baz=220,slow=7.4,SNR=6.4
ILAR PKKPbc **PKKPdf** 21 31 18.6 +3.1
comp=Z,0.3nm,0.5s,baz=337,slow=1.5,SNR=5.8
124A Stringfield Ra 86.00 54 ⇓P P 21 13 25.7 +1.4
baz=86,SNR=10.0
PV01 Paradox Valley 86.01 48 eP P 21 13 24.5 +0.2
comp=Z,626nm,0.7s
526A Mary Lane Ranc 86.01 57 ⇓P P 21 13 26.0 +1.7
baz=86,SNR=10
Y23A Lovelace Mesa, 86.05 53 ⇓P P 21 13 25.7 +1.3
baz=86,SNR=6.2
TXAR Lajitas Array 86.07 58 P P 21 13 26.6 +2.1
TXAR PKKPbc **PKKPbc** 21 31 19.9 -0.9
TXAR Lajitas Array 86.07 58 P P 21 13 26.6 +2.1
comp=Z,20nm,0.8s,baz=232,slow=6.1,SNR=109
TXAR PKKPbc **PKKPbc** 21 31 19.9 -0.9
comp=Z,0.2nm,0.4s,baz=126,slow=4.6,SNR=3.8
ANMO Albuquerque 86.17 52 eP P 21 13 26.0 +0.9
comp=Z,8.7nm,0.9s
ANMO Albuquerque 86.17 52 P P 21 13 25.6 +0.6
comp=Z,9.7nm,1.0s,baz=218,slow=4.8,SNR=16
X23A Hourglass Bar 86.22 52 ⇓P P 21 13 26.6 +1.3
baz=86,SNR=5.2
XAN Xi'an 86.23 307 P P 21 13 25.9 +0.8
XAN pmax pmax
comp=Z,15nm,1.0s
XAN pmax pmax
comp=Z,82nm,9.0s
225A Deer Hill, Car 86.25 55 ⇑P P 21 13 26.9 +1.4
baz=86,SNR=18
426A McDonald Obser 86.30 56 ⇓P P 21 13 27.2 +1.4
baz=86,SNR=16
MCMT McKenzie Canyo 86.31 41 eP P 21 13 26.5 +1.0
comp=Z,10nm,0.8s
Z24A Sheeppen Canyo 86.33 53 ⇓P P 21 13 26.9 +1.1
baz=86,SNR=6.2
627A Terlingua Ranc 86.34 58 ⇑P P 21 13 27.8 +1.9
baz=86,SNR=36
527A Woodward Ranch 86.43 57 ⇓P P 21 13 27.6 +1.3
baz=87,SNR=17
U22A Llaves 86.48 50 ⇓P P 21 13 27.4 +0.9
baz=87
W23A Werner Place, 86.49 51 ⇑P P 21 13 28.0 +1.4
baz=87
Y24A Capitan 86.51 53 ⇓P P 21 13 27.9 +1.2
baz=87,SNR=22
125A Gardner Draw, 86.60 54 ⇑P P 21 13 28.1 +1.1
baz=87,SNR=5.6
GDL2 Guadalupe Moun 86.64 55 eP P 21 13 28.8 +1.5
MSO Missoula 86.65 38 eP P 21 13 27.1 +0.2
comp=Z,14nm,1.2s
MSO Missoula 86.65 38 ⇓P P 21 13 27.0 +0.1
baz=87,SNR=6.5
BSMT Bassoo Peak 86.68 37 eP P 21 13 27.4 +0.2
V23A Ortiz Mt. (NFS 86.71 51 ⇑P P 21 13 28.4 +0.8
baz=87
DLMT Dillon 86.73 40 eP P 21 13 28.4 +1.1
comp=Z,18nm,0.8s
226B Tecolote Peak, 86.75 55 ⇓P P 21 13 28.9 +1.2
baz=87,SNR=11
628A Black Gap, Mar 86.75 58 ⇓P P 21 13 29.3 +1.6
baz=87,SNR=11
Z25A Roswell 86.80 54 ⇓P P 21 13 29.2 +1.3
baz=87,SNR=5.5
TPAW Teton Pass 86.86 42 eP P 21 13 29.4 +1.3
REDW Red Top Meadow 86.86 42 eP P 21 13 29.2 +1.1
comp=Z,32nm,1.0s
427A Hayter Ranch, 86.87 56 ⇓P P 21 13 30.0 +1.8
baz=87,SNR=18
FXWY Fox Creek 86.88 42 eP P 21 13 29.3 +1.1
comp=Z,13nm,0.9s
LRM Limekiln Ridge 87.04 40 eP P 21 13 29.5 +0.6
IMW Indian Meadow 87.06 42 eP P 21 13 30.4 +1.3
comp=Z,31nm,0.8s
W24A Lazy 6 Ranch, 87.06 52 ⇓P P 21 13 29.8 +0.6
baz=87,SNR=6.7
Y25A Mesa, Roswell 87.08 53 ⇓P P 21 13 30.1 +0.8
baz=87,SNR=8.8
S22A 4UR Ranch, Cre 87.08 49 ⇓P P 21 13 30.9 +1.5
baz=87
126A Clayton Basin, 87.09 54 ⇓P P 21 13 30.5 +1.2
baz=87
528A Cox Ranch, San 87.09 57 ⇓P P 21 13 31.0 +1.6
baz=87,SNR=11
CHMT Chamberlain Mo 87.10 39 eP P 21 13 29.4 +0.2
MOOW Moose Ponds 87.11 42 eP P 21 13 30.2 +0.9
comp=Z,9.5nm,0.9s
O20A White River Ci 87.12 46 eP P 21 13 30.6 +1.2
O20A White River Ci 87.12 46 ⇓P P 21 13 31.0 +1.6
baz=87
LOHW Long Hollow 87.14 42 eP P 21 13 30.4 +1.0

QLMT Earthquake Lak 87.19 41 eP P 21 13 31.3 +1.7
HHC Hu-ho-hao-te 87.25 314 eP P 21 13 31.0 +1.1
HHC pP pP 21 15 30.8 +0.3
HHC sP sP 21 16 23.2 -3.2
HHC PP PP 21 17 08.8 +4.2
HHC SKS SKSac 21 23 06.5 +1.7
HHC S S 21 23 24.7 +0.9
HHC pmax pmax
comp=Z,45nm,1.1s
HHC pmax pmax
comp=Z,370nm,6.9s
FLWY Flagg Ranch 87.30 42 eP P 21 13 31.0 +0.8
I17A Pilgrim Ck. 87.30 42 ⇑P P 21 13 31.7 +1.5
baz=88,SNR=8.1
SRDT SRDT 87.33 286 P P 21 13 32.4 +1.8
comp=Z,98nm,1.4s
X25A Clemmons Ranch 87.34 53 ⇑P P 21 13 31.6 +1.1
baz=88
T23A Casias Ranch, 87.35 50 ⇑P P 21 13 31.7 +1.0
baz=88
V24A Rampart Ranch, 87.37 51 ⇓P P 21 13 31.8 +1.0
baz=88,SNR=6.0
YFT Old Faithful 87.38 42 eP P 21 13 33.4 +2.8
comp=Z,22nm,0.9s
428A Kincaid Ranch, 87.39 57 ⇑P P 21 13 31.8 +1.0
baz=88,SNR=5.5
YMR Madison River 87.40 41 eP P 21 13 32.5 +1.8
comp=Z,21nm,0.7s
N20A Spence Gulch, 87.42 46 ⇑P P 21 13 32.1 +1.3
baz=88
BW06 Boulder Array 87.42 43 eP P 21 13 31.2 +0.4
PDAR Pinedale Array 87.42 43 P P 21 13 31.1 +0.4
PDAR PP PP 21 17 04.3 -1.7
PDAR PKKPbc PKKPbc 21 31 16.8 -1.6
PDAR Pinedale Array 87.42 43 P P 21 13 31.1 +0.4
comp=Z,15nm,0.6s,baz=216,slow=3.3,SNR=106
PDAR PP PP 21 17 04.3 -1.7
comp=Z,3.2nm,1.0s,baz=243,slow=6.5,SNR=4.0
PDAR PKKPbc PKKPbc 21 31 16.8 -1.6
comp=Z,0.5nm,0.8s,baz=77,slow=5.6,SNR=4.1
BOZ Bozeman (W) 87.46 40 eP P 21 13 31.6 +0.8
BOZ pmax pmax
comp=Z,18nm,1.2s
BOZ Bozeman (W) 87.46 40 eP P 21 13 31.6 +0.8
comp=Z,18nm,1.2s
COLD Coldfoot 87.46 11 eP P 21 13 30.4 +0.3
H17A Grant Village 87.52 42 eP P 21 13 32.1 +0.9
529A Stev Forest Ra 87.53 57 ⇑P P 21 13 32.5 +1.1
baz=88,SNR=14
328A Wristen Ranch, 87.54 56 ⇓P P 21 13 32.3 +0.9
baz=88,SNR=7.5
SMCO Snowmass 87.59 48 eP P 21 13 33.1 +1.2
comp=Z,6.9nm,0.8s
Y26A Elida 87.74 53 ⇓P P 21 13 33.1 +0.8
baz=88,SNR=5.1
W25A X Bar L Ranch, 87.77 52 ⇑P P 21 13 32.9 +0.4
baz=88,SNR=5.6
KMI Kunming 87.79 297 P P 21 13 34.2 +1.3
KMI pmax pmax
comp=Z,20nm,0.8s
WALA Waterton Lakes 87.80 36 eP P 21 13 32.8 +0.5
comp=Z,3.7nm,2.0s
T24B San Luis 87.84 50 ⇑P P 21 13 34.2 +1.2
baz=88
HRY Holter Researc 87.85 39 eP P 21 13 33.5 +0.9
V25A Rancho No Teng 87.91 51 ⇑P P 21 13 33.9 +0.7
baz=88,SNR=6.3
P22A Eagle 87.92 47 ⇓P P 21 13 34.4 +1.2
baz=88
Z27A Tatum 87.97 54 ⇑P P 21 13 33.8 +0.4
baz=88,SNR=5.2
J19A Crowheart 87.98 43 ⇓P P 21 13 34.1 +0.8
baz=88,SNR=16
429A Davenport Ranc 87.98 57 ⇓P P 21 13 34.8 +1.4
baz=88,SNR=34
R23A Moffat 87.98 49 ⇓P P 21 13 34.9 +1.3
baz=88
228A UT Block 9, Go 87.99 55 ⇑P P 21 13 35.0 +1.5
baz=88
CRAI Chiangrai 88.15 292 P P 21 13 35.7 +1.3
comp=Z,105nm,1.0s
S24A Houchin Ranch, 88.20 50 ⇓P P 21 13 36.1 +1.5
baz=88
H18A Shoshone NF, C 88.23 42 ⇑P P 21 13 36.0 +1.5
baz=88
Y27A Causey 88.23 54 ⇓P P 21 13 35.7 +1.1
baz=88
329A Wagon Wheel Ra 88.24 56 ⇑P P 21 13 35.8 +1.1
baz=88,SNR=10
530A J-C Ranch, Com 88.25 58 ⇑P P 21 13 35.8 +1.1
baz=88,SNR=7.9
128A Castleberry Fa 88.27 55 ⇓P P 21 13 36.1 +1.3
baz=88
Q23A Hartsel 88.28 48 ⇑P P 21 13 36.1 +1.1
baz=88
U25A Circle Dot Ran 88.29 51 ⇑P P 21 13 36.0 +1.1
baz=88
I19A Meeteetse 88.36 43 ⇓P P 21 13 36.2 +1.0
baz=89,SNR=7.8
P23A Jefferson 88.47 48 ⇓P P 21 13 37.6 +1.7
baz=89
RWWY Rawlins 88.50 45 eP P 21 13 42.7 +6.8
R24A Sanders Place, 88.52 49 ⇓P P 21 13 37.0 +1.0
baz=89
229A Bryant Ranch, 88.55 56 ⇓P P 21 13 37.0 +0.9
baz=89,SNR=5.1
MSTX Muleshoe 88.56 54 eP P 21 13 36.6 +0.5
comp=Z,23nm,0.9s
MSTX Muleshoe 88.56 54 ⇑P P 21 13 37.1 +0.9
baz=89,SNR=8.5
430A Baggett Ranch, 88.57 57 ⇓P P 21 13 37.3 +1.1
baz=89
T25A Trinidad 88.58 50 ⇓P P 21 13 37.4 +1.1
baz=89
631A Perdido Creek 88.60 59 ⇓P P 21 13 37.7 +1.4
baz=89,SNR=26
Z28A Tucker Farm, M 88.60 54 ⇑P P 21 13 37.1 +0.7
baz=89
N22A Wattenberg Ran 88.64 46 ⇓P P 21 13 37.8 +1.2
baz=89,SNR=13
J20A Shoshoni 88.65 43 ⇓P P 21 13 37.7 +1.3
baz=89,SNR=25
H19A Powell 88.66 42 ⇓P P 21 13 37.8 +1.4
baz=89,SNR=5.9
129A Stewart Farms, 88.76 55 ⇑P P 21 13 38.1 +1.0
baz=89,SNR=12
O23A Lake Granby, G 88.76 47 ⇓P P 21 13 38.5 +1.3
baz=89
W27A Bowe Ranch, En 88.77 53 ⇓P P 21 13 38.1 +1.0
baz=89
S25A Robets Cordova 88.77 50 ⇑P P 21 13 38.3 +1.1
baz=89
U26A Atchley Ranch, 88.78 51 ⇓P P 21 13 38.0 +0.8
baz=89
Q24A Divide 88.79 48 ⇑P P 21 13 38.7 +1.3
baz=89
M22A Cedar Creek Ra 88.80 46 ⇑P P 21 13 38.1 +0.9
baz=89,SNR=8.0
ISCO Idaho Springs 88.80 47 ⇓P P 21 13 38.7 +1.3
baz=89
CM31 Chiang Mai Arr 88.84 290 eP P 21 13 37.7 +0.1
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 88.84 290 P P 21 13 38.8 +1.1
CMAR PP PP 21 17 16.1 -1.3
CMAR Chiang Mai Arr 88.84 290 P P 21 13 38.8 +1.1
comp=Z,14nm,0.9s,baz=110,slow=2.8,SNR=99
CMAR PP PP 21 17 16.1 -1.3
comp=Z,1.1nm,0.9s,baz=110,slow=5.9,SNR=4.7
732A Laxson Ranch, 88.84 59 ⇓P P 21 13 38.9 +1.5
baz=89,SNR=6.8
330A Mertzon 88.84 57 ⇓P P 21 13 38.3 +0.8
baz=89
I20A Worland 88.88 43 ⇓P P 21 13 38.1 +0.7
baz=89,SNR=10
K21A Alcova 88.88 44 ⇑P P 21 13 38.2 +0.6
baz=89,SNR=18
531A Rocksprings 88.89 58 ⇓P P 21 13 39.2 +1.5
baz=89,SNR=14
Y28A McKinney Farm, 88.94 54 ⇓P P 21 13 38.6 +0.7
baz=89
CHTO Chiang Mai 88.95 290 eP P 21 13 38.9 +0.8
CHTO Chiang Mai 88.95 290 eP P 21 13 38.9 +0.8
CHTO Chiang Mai 88.95 290 P P 21 13 38.8 +0.6
comp=Z,119nm,0.9s
N23A Red Feather La 89.03 46 ⇓P P 21 13 39.6 +1.2
baz=89,SNR=8.9
CD2 Chengdu 89.03 303 eP P 21 13 38.9 +0.6
CD2 sP sP 21 16 35.0 -0.2
CD2 PP PP 21 17 20.8 +2.1
CD2 SKS SKSac 21 23 14.0 -1.6
CD2 S S 21 23 38.2 -2.4
CD2 sS sS 21 27 14.2 -2.5
CD2 SS SS 21 29 53.0 +1.8
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,30nm,6.8s
J21A Lysite 89.06 44 ⇑P P 21 13 39.6 +1.2
baz=89,SNR=26
230A Sterling City 89.07 56 ⇓P P 21 13 39.4 +0.8
baz=89
R25A Fountain Ranch 89.08 49 ⇓P P 21 13 40.2 +1.7
baz=89
SYO Syowa Base 89.11 193 ⇑eP P 21 13 35.9 -2.0
Z29A Hungry Hill Ra 89.12 55 ⇑P P 21 13 39.7 +1.0
baz=89
L22A Ellis Ranch, M 89.17 45 ⇓P P 21 13 40.3 +1.4
baz=89,SNR=20
V27A Dan Oppiter Fa 89.20 52 ⇑P P 21 13 40.5 +1.4
baz=89
H20A Greybull 89.20 42 ⇓P P 21 13 39.7 +0.8
baz=89
X28A Dimmitt 89.21 53 ⇑P P 21 13 40.3 +1.1
baz=89
F19A Roth Farm, Mol 89.22 41 ⇑P P 21 13 39.8 +0.9
baz=89,SNR=6.9
CMAI Chiengmai2 89.23 291 P P 21 13 40.4 +0.8
comp=Z,85nm,0.9s,comp=Z,4μm
O24A Longmont 89.31 47 ⇑P P 21 13 41.0 +1.4
baz=90
I21A Big Trails, Te 89.37 43 ⇑P P 21 13 40.3 +0.6
baz=90,SNR=15
Y29A Porterfield Fa 89.37 54 ⇓P P 21 13 40.9 +1.0
baz=90,SNR=11
K22A Casper 89.38 45 ⇓P P 21 13 40.4 +0.6
baz=90,SNR=6.9
G20A Bridger 89.39 42 ⇓P P 21 13 41.3 +1.5
baz=90
532A Rocksprings 89.40 58 ⇑P P 21 13 41.1 +1.1
baz=90,SNR=8.1
331A San Angelo 89.41 57 ⇑P P 21 13 40.8 +0.8
baz=90,SNR=5.9
Q25A Bedland, Calha 89.41 49 ⇓P P 21 13 41.6 +1.5
baz=90
M23A Laramie 89.42 46 ⇑P P 21 13 41.1 +0.9
baz=90,SNR=5.9
130A Snyder 89.45 56 ⇓P P 21 13 41.4 +1.1
baz=90
S26A Kim 89.46 50 ⇑P P 21 13 41.9 +1.6
baz=90
U27A Thompson Grove 89.47 51 ⇓P P 21 13 40.6 +0.2
baz=90
PHWY Pilot Hill 89.53 46 eP P 21 13 41.2 +0.5
X29A Tulia 89.56 54 ⇑P P 21 13 41.5 +0.7
baz=90,SNR=5.5
Z30A Sanderson Ranc 89.58 55 ⇑P P 21 13 41.4 +0.6
baz=90
YAK Yakutsk 89.59 338 eP P 21 13 38.7 -1.3
YAK pmax pmax
comp=Z,8.0nm,0.7s
E19A Rath Farm, Rou 89.59 40 ⇓P P 21 13 41.7 +1.1
baz=90
JCT Junction City 89.61 58 eP P 21 13 42.1 +1.1
JCT pmax pmax
comp=Z,14nm,0.7s
JCT Junction City 89.61 58 eP P 21 13 42.1 +1.1
comp=Z,14nm,0.7s
JCT Junction City 89.61 58 ⇓P P 21 13 41.9 +0.9
baz=90,SNR=5.4
F20A Billings 89.69 41 ⇓P P 21 13 42.4 +1.3
baz=90
L23A Garrett 89.70 45 ⇑P P 21 13 42.2 +0.8
baz=90,SNR=22
P25A Willow Gulch B 89.70 48 ⇓P P 21 13 42.5 +1.1
baz=90,SNR=6.6
EGMT Eagleton 89.72 39 ⇓P P 21 13 42.0 +0.9
baz=90
231A Bronte 89.72 56 ⇓P P 21 13 42.3 +0.8
baz=90,SNR=19
N24A Carr 89.73 47 ⇓P P 21 13 43.0 +1.4
baz=90,SNR=7.9
R26A Arlington 89.74 49 ⇑P P 21 13 42.7 +1.2
baz=90
AMTX Amarillo 89.75 53 eP P 21 13 42.5 +1.0
AMTX Amarillo 89.75 53 ⇓P P 21 13 42.6 +1.0
baz=90
432A Menard 89.75 57 ⇓P P 21 13 42.6 +0.9
baz=90,SNR=20
T27A Campo 89.79 51 ⇑P P 21 13 42.8 +1.0
baz=90
D19A Cripps Ranch, 89.85 40 ⇓P P 21 13 43.0 +1.2
baz=90,SNR=6.7
W29A Amrillo 89.86 53 ⇑P P 21 13 43.3 +1.1
baz=90
H21A Big Horn, Sher 89.88 43 ⇓P P 21 13 43.6 +1.6
baz=90
S27A Las Animas 89.90 50 ⇑P P 21 13 43.8 +1.5
baz=90
131A Roby 89.93 56 ⇓P P 21 13 43.3 +0.9
baz=90,SNR=9.2
I22A 9 Mile Ranch, 89.93 43 ⇑P P 21 13 43.2 +0.9
baz=90,SNR=10
Y30A Stafford Cattl 89.97 54 ⇑P P 21 13 43.4 +0.7
baz=90
332A Millersview 89.98 57 ⇓P P 21 13 43.8 +1.1
baz=90,SNR=22
E20A Meyer Farm, Mu 90.01 41 ⇑P P 21 13 44.1 +1.6
baz=90
K23A Bowen Ranch, D 90.02 45 ⇑P P 21 13 43.4 +0.7
baz=90,SNR=7.0
G21A Lodge Grass 90.03 42 ⇓P P 21 13 44.3 +1.6
baz=90
M24A Cheyenne 90.03 46 ⇓P P 21 13 44.0 +1.1
baz=90,SNR=7.0
533A Kerrville 90.08 58 ⇑P P 21 13 44.3 +1.1
baz=90,SNR=6.9
L24A Wheatland 90.20 46 ⇑P P 21 13 45.5 +1.9
baz=90
R27A Eads 90.21 50 ⇑P P 21 13 45.0 +1.3
baz=90
EDM Edmonton 90.22 33 eP P 21 13 43.4 +0.1
EDM Edmonton 90.22 33 eP P 21 13 43.4 +0.1
232A Coleman 90.23 57 ⇑P P 21 13 44.7 +0.9
baz=90,SNR=13
T28A Walsh 90.26 51 ⇓P P 21 13 45.4 +1.4
baz=90
D20A Manuel Ranch, 90.27 40 ⇓P P 21 13 45.0 +1.3
baz=90,SNR=12
433A Art 90.28 58 ⇓P P 21 13 45.0 +0.9
baz=90,SNR=26
H22A Clearmont 90.31 43 ⇑P P 21 13 45.1 +1.1
baz=90
Z31A Sharp Cattle R 90.36 55 ⇓P P 21 13 45.0 +0.6
baz=90,SNR=6.9
B19A Brinkman Farms 90.39 39 ⇓P P 21 13 45.1 +0.9
baz=91,SNR=8.2
Y31A Rekieta Farm, 90.50 54 ⇓P P 21 13 45.9 +0.9
baz=91
ABTX Abilene, Hawle 90.50 56 eP P 21 13 46.0 +0.9
ABTX Abilene, Hawle 90.50 56 ⇓P P 21 13 46.0 +0.9
baz=91,SNR=7.7
534A Blanco 90.52 59 ⇓P P 21 13 46.5 +1.3
baz=91,SNR=16
M25A Palm-Egli Farm 90.55 46 ⇑P P 21 13 47.1 +1.8
baz=91
333A Richland Sprin 90.56 57 ⇑P P 21 13 46.2 +0.8
baz=91,SNR=6.7
SNAA Sanae 90.56 179 eP P 21 13 44.5 -0.2
SNAA Sanae 90.56 179 eP P 21 13 44.1 -0.6
comp=Z,10nm,0.6s
C20A Veseth Ranch, 90.63 40 ⇑P P 21 13 46.6 +1.3
baz=91,SNR=14
A19A Klindworth Far 90.73 38 ⇓P P 21 13 46.4 +0.7
baz=91,SNR=6.9
LZH Lanzhou 90.86 308 eP P 21 13 48.2 +1.4
LZH pP pP 21 15 49.0 +0.7
LZH sP sP 21 16 39.0 -4.9
LZH eSKS SKSac 21 23 24.0 -2.1
LZH eS ScS 21 23 59.0 +0.2
LZH sS sS 21 27 29.0 -5.3
LZH SS SS 21 30 16.0 -1.4
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,230nm,6.1s
Z32A Haskell 90.87 55 ⇓P P 21 13 47.8 +1.1
baz=91,SNR=14
F22A Rosebud 90.88 42 ⇓P P 21 13 48.0 +1.4
baz=91
N26A Koester Ranch, 90.89 47 ⇑P P 21 13 48.3 +1.5
baz=91
L25A Engebretsen Ra 90.90 46 ⇑P P 21 13 48.3 +1.5
baz=91
B20A Solberg Farm, 90.94 39 ⇑P P 21 13 47.7 +1.0
baz=91
R28A Tribune 90.95 50 ⇑P P 21 13 48.1 +1.0
baz=91,SNR=6.3
X31A McDonald Ranch 90.95 54 ⇑P P 21 13 48.0 +0.9
baz=91
434A Burnet 90.96 58 ⇑P P 21 13 48.1 +0.9
baz=91,SNR=8.2
D21A La Casta Ranch 90.96 40 ⇑P P 21 13 48.1 +1.2
baz=91,SNR=9.5
133A Hamilton Ranch 91.07 56 ⇓P P 21 13 48.7 +1.0
baz=91,SNR=6.6
U30A WK&E Inc. Balk 91.13 52 ⇑P P 21 13 48.9 +0.9
baz=91
K25A Mack Ranch, Ha 91.15 45 ⇑P P 21 13 49.4 +1.5
baz=91
VNA2 Neumayer--Watz 91.15 177 eP P 21 13 47.7 +0.4
Y32A R-V Farms, Ver 91.15 55 ⇓P P 21 13 48.8 +0.8
baz=91,SNR=6.6
334A Lometa 91.16 58 ⇓P P 21 13 49.2 +1.0
baz=91,SNR=9.3
O27A Beecher Island 91.17 48 ⇑P P 21 13 49.3 +1.2
baz=91
W31A Holland Ranch, 91.18 53 ⇓P P 21 13 49.0 +0.8
baz=91,SNR=6.0
G23A Biddle 91.19 43 ⇑P P 21 13 49.0 +1.0
baz=91
A20A Cobblestone Ra 91.19 39 ⇑P P 21 13 48.8 +0.9
baz=91,SNR=6.7
M26A McRoberts Ranc 91.19 47 ⇓P P 21 13 49.5 +1.3
baz=91
C21A Desert Coulee 91.23 40 ⇑P P 21 13 49.4 +1.4
baz=91
E22A Miles City 91.35 41 ⇑P P 21 13 50.1 +1.4
baz=92
N27A Anderson Farm, 91.36 47 ⇓P P 21 13 49.9 +1.0
baz=92
VNA1 Neumayer--Stat 91.38 177 eP P 21 13 49.5 +1.2
F23A Volborg 91.39 42 ⇑P P 21 13 49.8 +0.8
baz=92,SNR=6.6
X32A Elmer 91.42 54 ⇑P P 21 13 49.6 +0.4
baz=92,SNR=5.6
Z33A Whitaker Ranch 91.42 56 ⇓P P 21 13 50.0 +0.7
baz=92,SNR=5.6
L26A Underwood Farm 91.46 46 ⇓P P 21 13 51.1 +1.7
baz=92
R29A Marienthal 91.47 50 ⇑P P 21 13 50.6 +1.2
baz=92
V31A Spring Creek L 91.47 53 ⇓P P 21 13 51.1 +1.6
baz=92,SNR=5.3
J25A Sunshine Ranch 91.50 45 ⇑P P 21 13 50.8 +1.3
baz=92
D22A Cohagen 91.50 41 ⇑P P 21 13 51.1 +1.7
baz=92
H24A Dirks Ranch, A 91.55 43 ⇑P P 21 13 50.2 +0.5
baz=92,SNR=18
RSSD Black Hills 91.63 44 eP P 21 13 50.6 +0.3
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 91.63 44 eP P 21 13 50.6 +0.3
comp=Z,3.8nm,0.9s
K26A Motz Farm, Whi 91.65 46 ⇑P P 21 13 51.4 +1.1
baz=92,SNR=6.7
S30A Montezuma 91.67 51 ⇑P P 21 13 51.7 +1.3
baz=92
U31A Nine Bar Ranch 91.68 52 ⇓P P 21 13 51.8 +1.4
baz=92
W32A Sentinel 91.69 54 ⇓P P 21 13 51.4 +0.9
baz=92,SNR=5.5
134A White-Moore Ra 91.72 56 ⇑P P 21 13 51.9 +1.2
baz=92
Q29A Oakley 91.75 50 ⇓P P 21 13 52.2 +1.4
baz=92
E23A Ismay 91.78 41 ⇑P P 21 13 52.1 +1.4
baz=92
Y33A Hilltop Ranch, 91.78 55 ⇑P P 21 13 52.2 +1.3
baz=92
I25A Rochford 91.80 44 ⇑P P 21 13 51.5 +0.5
baz=92,SNR=8.1
335A Moody 91.80 58 ⇓P P 21 13 52.3 +1.2
baz=92
A21A Bergtoll Ranch 91.83 39 ⇑P P 21 13 51.7 +0.8
baz=92,SNR=8.6
INK Inuvik 91.94 15 eP P 21 13 49.8 -1.0
comp=Z,14nm,1.0s
INK Inuvik 91.94 15 P P 21 13 50.3 -0.5
comp=Z,10nm,0.8s,baz=234,slow=4.7,SNR=19
R30A Dighton 92.05 50 ⇑P P 21 13 53.4 +1.3
baz=92
P29A Atwood 92.05 49 ⇑P P 21 13 53.7 +1.6
baz=92
F24A Ekalaka 92.06 42 ⇑P P 21 13 53.4 +1.3
baz=92
V32A Arapaho 92.06 53 ⇓P P 21 13 53.8 +1.6
baz=92
T31A Randall Ranch, 92.07 52 ⇑P P 21 13 53.4 +1.2
baz=92
B22A Reddig Ranch S 92.10 40 ⇓P P 21 13 53.2 +1.1
baz=92,SNR=9.7
H25A Fruitdale 92.12 44 ⇓P P 21 13 53.9 +1.6
baz=92
135A Vickery Place, 92.24 57 ⇑P P 21 13 54.3 +1.2
baz=92
W33A Caddo, Fort Co 92.30 54 ⇑P P 21 13 55.3 +2.0
baz=92
U32A Winter Ranch, 92.32 53 ⇑P P 21 13 54.9 +1.5
baz=92
Q30A Quinter 92.34 50 ⇑P P 21 13 55.1 +1.7
baz=92
C23A Lambert 92.39 40 ⇑P P 21 13 54.8 +1.4
baz=93,SNR=14
S31A Mullinville 92.39 51 ⇓P P 21 13 55.4 +1.7
baz=93
A22A Carney Farms, 92.44 39 ⇓P P 21 13 54.5 +0.8
baz=93
Y34A Reagan Ranch, 92.44 55 ⇓P P 21 13 55.1 +1.1
baz=93
P30A Selden 92.52 49 ⇑P P 21 13 55.7 +1.4
baz=93
R31A Burdett 92.60 51 ⇑P P 21 13 56.2 +1.6
baz=93
X34A Smith Ranch, M 92.60 55 ⇑P P 21 13 56.4 +1.7
baz=93
Z35A Perchaven, San 92.63 56 ⇑P P 21 13 55.9 +1.1
baz=93
D24A Glendive 92.64 41 ⇑P P 21 13 56.0 +1.4
baz=93,SNR=7.5
J27A Elkhorn Farm, 92.66 45 ⇓P P 21 13 56.6 +1.7
baz=93
T32A Huddler Ranch, 92.66 52 ⇓P P 21 13 56.2 +1.3
baz=93
V33A Lossen Ranch, 92.67 53 ⇑P P 21 13 56.5 +1.5
baz=93
F25A Bowman 92.72 42 ⇓P P 21 13 56.6 +1.6
baz=93
C24A Savage 92.75 41 ⇓P P 21 13 56.9 +1.8
baz=93
B23A Brockton 92.78 40 ⇓P P 21 13 56.5 +1.3
baz=93,SNR=5.1
E25A Miller Ranch, 92.98 42 ⇑P P 21 13 57.6 +1.4
baz=93
G26A Maurine 93.03 43 ⇑P P 21 13 57.4 +1.0
baz=93
ULN Ulaanbaatar 93.14 319 eP P 21 13 56.6 -0.4
comp=Z,4.8nm,0.8s
R32A Long Quarter, 93.25 51 ⇑P P 21 13 58.6 +1.0
baz=93,SNR=8.6
DGMT Dagmar 93.26 40 eP P 21 13 58.7 +1.3
comp=Z,43nm,0.6s
DGMT Dagmar 93.26 40 ⇓P P 21 13 58.4 +1.0
baz=93,SNR=5.3
L29A Maesberg Ranch 93.27 47 ⇓P P 21 13 59.0 +1.3
baz=93
D25A Fairfield 93.29 41 ⇑P P 21 13 59.3 +1.7
baz=94
U34A Anderson Ranch 93.45 53 ⇓P P 21 14 00.4 +1.9
baz=94
G27A Dupree 93.50 43 ⇓P P 21 13 59.8 +1.2
baz=94

SONM Songino Array 93.54 319 P P 21 13 58.2 -0.6
SONM Songino Array 93.54 319 P P 21 13 58.2 -0.6
comp=Z,1.2nm,0.5s,baz=134,slow=4.1,SNR=17
Q32A Meitler Ranch, 93.55 50 ⇑P P 21 14 00.1 +1.2
baz=94
A24A Westby 93.56 40 ⇑P P 21 14 00.8 +2.0
baz=94
F27A Lemmon 93.63 43 ⇑P P 21 14 00.2 +1.1
baz=94
R33A Olander Ranch, 93.74 51 ⇑P P 21 14 01.4 +1.5
baz=94
D26A Manning 93.80 42 ⇑P P 21 14 01.5 +1.6
baz=94
B25A Knox Farm, Ray 93.82 40 ⇑P P 21 14 01.5 +1.5
baz=94
M31A Lambtecht Ranc 94.06 48 ⇓P P 21 14 02.7 +1.4
baz=94
K30A Basset 94.08 47 ⇑P P 21 14 02.8 +1.5
baz=94
Q33A Connelly Farm, 94.09 50 ⇓P P 21 14 02.8 +1.4
baz=94
E27A Carson 94.13 42 ⇓P P 21 14 02.6 +1.2
baz=94
O32A Brockman Farm, 94.19 49 ⇓P P 21 14 02.9 +1.0
baz=94
C26A Wahner Farm, P 94.31 41 ⇓P P 21 14 03.7 +1.5
baz=94
YKA Yellowknife Ar 94.39 25 P P 21 14 02.0 -0.1
YKA PKKPbc PKKPdf 21 30 58.4 -1.9
YKA Yellowknife Ar 94.39 25 P P 21 14 02.0 -0.1
comp=Z,2.6nm,0.5s,baz=235,slow=4.6,SNR=17
YKA PKKPbc PKKPdf 21 30 58.4 -1.9
comp=Z,0.4nm,0.5s,baz=45,slow=2.3,SNR=5.9
A26A Wade Farm, Ken 94.75 40 ⇓P P 21 14 05.2 +1.1
baz=95
GTA Gaotai 95.01 310 P P 21 14 05.5 -0.2
GTA pP pP 21 16 07.4 -0.1
GTA sP sP 21 16 57.7 -5.3
A29A Manning Farm, 96.49 41 ⇓Pdiff P 21 14 12.1 +0.2
baz=97
ULM Lac du Bonnet 98.98 40 P P 21 14 24.1 +1.0
ULM Lac du Bonnet 98.98 40 P P 21 14 24.1 +1.0
comp=Z,1.4nm,0.5s,baz=233,slow=5.1,SNR=3.7
TAPN Taplejung 101.32 295 eP PKiKP 21 18 54.7 -0.7
ODAN Odare 101.47 295 eP PKiKP 21 18 55.4 -0.2
RAMN Ramite 102.18 295 eP PKiKP 21 18 56.4 -0.5
JIRN Jiri 102.70 295 eP PKiKP 21 18 56.7 -1.3
comp=Z,5.9nm,0.3s
GUN Gumba 103.03 295 eP PKiKP 21 18 57.5 -1.0
PKI Pulchoki 103.36 295 eP PKiKP 21 18 57.8 -1.3
comp=Z,3.7nm,0.3s
PKIN Phulchoki 103.37 295 eP PKiKP 21 18 57.8 -1.2
comp=Z,4.3nm,0.5s
KKN Kakani 103.52 295 eP PKiKP 21 18 58.2 -1.0
comp=Z,4.2nm,0.6s
DMN Daman 103.63 295 eP PKiKP 21 18 58.4 -1.1
comp=Z,5.0nm,0.5s
GKN Gorkha 104.12 295 eP PKiKP 21 18 58.8 -1.5
comp=Z,2.7nm,0.3s
WMQ Urumqi 104.91 312 P Pdif 21 14 51.3 +1.7
WMQ pmax pmax
comp=Z,11nm,1.0s
DANN Dangsing 104.95 295 eP PKiKP 21 19 00.5 -1.5
comp=Z,3.7nm,0.2s
KOLN Koldanda 104.97 295 eP PKiKP 21 19 00.5 -1.4
comp=Z,2.4nm,0.3s
ZALV Zalesovo Beam 108.22 322 PKiKP PKiKP 21 19 05.6 -1.3
ZALV Zalesovo Beam 108.22 322 PKiKP PKiKP 21 19 05.6 -1.3
comp=Z,2.2nm,0.5s,baz=81,slow=0.7,SNR=15
MKAR Makanchi Array 109.11 314 P Pdif 21 15 09.6 +1.4
MKAR 21 19 47.7
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 109.11 314 Pdif Pdif 21 15 09.6 +1.4
MKAR PKiKP PKiKP 21 19 07.5 -1.3
MKAR PP PP 21 19 47.7 -1.0
MKAR PKKPbc PKKPbc 21 30 17.4 -0.8
MKAR Makanchi Array 109.11 314 Pdiff Pdif 21 15 09.6 +1.4
comp=Z,0.2nm,0.5s,baz=90,slow=4.3,SNR=3.9
MKAR PKiKP PKiKP 21 19 07.5 -1.3
comp=Z,2.8nm,0.5s,baz=147,slow=0.6,SNR=55
MKAR PP PP 21 19 47.7 -1.0
comp=Z,0.5nm,0.8s,baz=92,slow=10,SNR=2.6
MKAR PKKPbc PKKPbc 21 30 17.4 -0.8
comp=Z,0.4nm,0.7s,baz=253,slow=4.4,SNR=4.2
KURK Kurchatov 111.81 318 i PKiKP PKiKP 21 19 12.7 -1.0
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 111.81 318 PKiKP PKiKP 21 19 12.7 -1.0
KURK PP PP 21 20 00.8 -6.7
KURBB Kurchatov Arra 111.86 318 PKiKP PKiKP 21 19 12.7 -1.1
KURBB PKiKP PKiKP 21 19 07.5 -1.3
comp=Z,2.5nm,0.6s,baz=90,slow=1.8,SNR=24
KURBB PP PP 21 20 00.8 -7.1
comp=Z,0.6nm,0.5s,baz=85,slow=6.0,SNR=4.0
BVAR Borovoye Array 116.83 321 PKiKP PKPdf 21 19 22.2 -1.1
BVAR pmax pmax
comp=Z,5.0nm,0.4s
BVAR Borovoye Array 116.83 321 PKP PKPdf 21 19 22.2 -1.1
BVAR Borovoye Array 116.83 321 PKP PKPdf 21 19 22.2 -1.1
comp=Z,5.4nm,0.4s,baz=128,slow=2.0,SNR=56
BRVK Borovoye 116.89 321 c i PKiKP PKPdf 21 19 22.6 -0.8
BRVK pmax pmax
comp=Z,10.0nm,2.5s
BRVK Borovoye 116.89 321 ePKPdf PKPdf 21 19 22.1 -1.3
KKAR Karatay Array 117.29 310 ePKiKP PKPdf 21 19 23.1 -1.5
KKAR Karatay Array 117.29 310 ePKPdf PKPdf 21 19 23.1 -1.5
KBL Kabul 118.25 300 ePKiKP PKPdf 21 19 26.3 -0.7
KBL Kabul 118.25 300 ePKPdf PKPdf 21 19 26.2 -0.7
SFJD Kangerlussuaq 120.74 21 i P SKPdf 21 22 14.0 +0.4
comp=Z,24nm,0.9s
OPO Ambohidratompo 122.29 233 PKP PKPdf 21 19 35.3 +0.2
OPO Ambohidratompo 122.29 233 PKP PKPdf 21 19 35.3 +0.2
comp=Z,6.4nm,0.6s,baz=2.3,slow=1.5,SNR=11
ARU Arti 122.84 326 i PKiKP PKPdf 21 19 34.2 -0.6
ARU 21 21 21.0
ARU 21 25 42.6
ARU SS SS 21 37 23.3 0.0
ABKAR Akbulak array 123.92 318 ePKPdf PKPdf 21 19 36.1 -0.9
AKTO Aktyubinsk 124.85 319 PKiKP PKPdf 21 19 38.2 -0.7
AKTO pmax pmax
comp=Z,4.0nm,0.7s
AKTO Aktyubinsk 124.85 319 PKP PKPdf 21 19 38.2 -0.7
AKTO Aktyubinsk 124.85 319 PKP PKPdf 21 19 38.2 -0.7
comp=Z,4.4nm,0.7s,baz=85,slow=2.7,SNR=16
ARCES ARCESS Array B 126.34 350 PKP PKPdf 21 19 40.1 -1.0
ARCES ARCESS Array B 126.34 350 PKP PKPdf 21 19 40.1 -1.0
comp=Z,2.6nm,0.6s,baz=338,slow=2.6,SNR=19
SUR Sutherland 126.66 200 PKP PKPdf 21 19 44.3 +1.1
SUR Sutherland 126.66 200 PKP PKPdf 21 19 44.3 +1.1
comp=Z,9.6nm,0.8s,baz=214,slow=4.4,SNR=8.0
TMCR Tamitsa 127.63 341 ePKiKP PKPdf 21 19 43.9 +0.2
TMCR e 21 21 52.2
TMCR pmax pmax
comp=Z,36nm,0.9s
BOSA Boshof 128.34 207 PKP PKPdf 21 19 46.7 +0.3
BOSA SKPab SKiKP 21 22 14.3 -17
BOSA Boshof 128.34 207 PKP PKPdf 21 19 46.7 +0.3
comp=Z,5.9nm,0.9s,baz=120,slow=0.4,SNR=6.6
BOSA SKPab SKiKP 21 22 14.3 -17
comp=Z,1.7nm,0.7s,baz=190,slow=4.5,SNR=4.1
LBTB Lobatse 131.29 210 PKP PKPdf 21 19 52.3 +0.3
LBTB Lobatse 131.29 210 PKP PKPdf 21 19 52.3 +0.3
comp=Z,4.5nm,0.8s,baz=166,slow=4.3,SNR=6.2
FINES FINESS Array B 133.21 344 PKPpre PKPpre 21 19 39.4
FINES PKP PKPdf 21 19 53.5 -0.8
FINES SKPbc SKPbc 21 22 30.2 -0.7
FINES FINESS Array B 133.21 344 PKhKP PKPpre 21 19 39.4
comp=Z,3.6nm,1.0s,baz=48,slow=5.7,SNR=4.6
FINES PKP PKPdf 21 19 53.5 -0.8
comp=Z,2.0nm,0.5s,baz=88,slow=4.7,SNR=12
FINES SKPbc SKPbc 21 22 30.2 -0.7
comp=Z,2.5nm,0.7s,baz=63,slow=3.5,SNR=4.4
VRHR Novokhopersk 134.17 326 ePKiKP PKPdf 21 19 56.6 +0.1
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=Z,9.0nm,0.6s
VRHR pmax pmax
comp=E,1.0nm,0.2s
OBN Obninsk 134.30 333 ⇑i PKiKP PKPdf 21 19 57.1 +0.6
OBN i 21 22 05.7
OBN e 21 22 34.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
VSR Storozhevoye 135.41 327 ePKiKP PKPdf 21 19 58.5 -0.3
VSR pmax pmax
comp=Z,5.0nm,0.4s
VSR pmax pmax
comp=N,1.0nm,0.2s
VSR pmax pmax
comp=E,2.0nm,0.4s
VORD Divnogorie 135.49 326 ePKiKP PKPdf 21 19 58.9 0.0
VORD pmax pmax
comp=N,2.0nm,0.6s
VORD pmax pmax
comp=E,7.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
NB2 NORSAR Subarra 136.40 353 PKPdf PKPpre 21 19 50.2
comp=Z,1.8nm,0.8s,baz=27,slow=1.8
NOA NORSAR Array B 136.40 353 PKPpre PKPpre 21 19 50.9
NOA PKP PKPdf 21 19 59.8 -0.6
NOA SKPbc SKPbc 21 22 40.5 -0.5
NOA NORSAR Array B 136.40 353 PKhKP PKPpre 21 19 50.9
comp=Z,1.4nm,0.8s,baz=19,slow=2.6,SNR=3.7
NOA PKP PKPdf 21 19 59.8 -0.6
comp=Z,1.2nm,0.6s,baz=13,slow=4.1,SNR=3.5
NOA SKPbc SKPbc 21 22 40.5 -0.5
comp=Z,3.0nm,0.9s,baz=14,slow=4.5,SNR=3.8
KBZ Khabaz 136.79 316 PKiKP PKPpre 21 19 56.8
KBZ pmax pmax
comp=Z,1.0nm,0.9s
KBZ pmax pmax
comp=N,1.0nm,0.8s
KBZ Khabaz 136.79 316 PKPpre PKPpre 21 19 56.8
KBZ SKPbc SKPbc 21 22 42.1 -0.5
KBZ Khabaz 136.79 316 PKhKP PKPpre 21 19 56.8
comp=N,1.3nm,0.9s,baz=82,slow=7.1,SNR=3.1
KBZ SKPbc SKPbc 21 22 42.1 -0.5
comp=N,1.3nm,0.8s,baz=132,slow=2.1,SNR=3.6
LSZ Lusaka 137.81 220 PKPpre PKPpre 21 19 54.7
LSZ PKP PKPdf 21 20 05.5 +1.0
LSZ SKPbc SKPbc 21 22 45.8 -0.8
LSZ Lusaka 137.81 220 PKhKP PKPpre 21 19 54.7
comp=N,1.7nm,0.5s,baz=20,slow=2.6,SNR=6.6
LSZ PKP PKPdf 21 20 05.5 +1.0
comp=N,5.8nm,0.6s,baz=61,slow=3.5,SNR=15
LSZ SKPbc SKPbc 21 22 45.8 -0.8
comp=N,1.3nm,0.6s,baz=73,slow=6.6,SNR=3.3
TSUM Tsumeb 139.86 204 PKPpre PKPpre 21 20 01.5
TSUM Tsumeb 139.86 204 PKhKP PKPpre 21 20 01.5
comp=N,2.1nm,0.5s,baz=138,slow=2.4,SNR=7.1
KMBO Kilima Mbogo 140.06 245 ePKPdf PKPpre 21 20 02.6
KMBO PKP PKiKP 21 20 10.6 -0.8
KMBO SKPbc SKPbc 21 22 52.8 -0.1
KMBO Kilima Mbogo 140.06 245 PKhKP PKPpre 21 20 02.2
comp=N,2.6nm,0.6s,baz=56,slow=10,SNR=10
KMBO PKP PKiKP 21 20 10.6 -0.8
comp=N,3.1nm,0.7s,baz=59,slow=4.6,SNR=6.8
KMBO SKPbc SKPbc 21 22 52.8 -0.1
comp=N,1.5nm,0.8s,baz=70,slow=7.9,SNR=5.4
AKASG Malin Array Be 140.56 332 PKHKP PKPpre 21 20 01.2
AKASG 21 20 09.0
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG pmax pmax
comp=N,1.0nm,0.4s
AKASG Malin Array Be 140.56 332 PKPpre PKPpre 21 20 01.1
AKASG PKP PKPdf 21 20 08.9 +0.7
AKASG SKPbc SKPbc 21 22 51.2 -1.5
AKASG Malin Array Be 140.56 332 PKhKP PKPpre 21 20 01.1
comp=N,2.2nm,0.4s,baz=43,slow=4.1,SNR=16
AKASG PKP PKPdf 21 20 08.9 +0.7
comp=N,3.4nm,0.4s,baz=42,slow=3.4,SNR=12
AKASG SKPbc SKPbc 21 22 51.2 -1.5
comp=N,0.7nm,0.4s,baz=40,slow=4.4,SNR=4.4
KIEV Kiev 140.57 332 ⇑i PKiKP PKPdf 21 20 09.6 +1.4
MALT Malatya 141.99 310 ⇑i P PKPdf 21 20 08.3 -3.0
LVV L'vov 143.41 335 ⇑i PKiKP PKPab 21 20 10.9 -0.8
HPK Haverah Park 143.97 3 eP PKPbc 21 20 13.2 -0.3
LEOM Leova 144.00 328 ⇑i P PKPab 21 20 13.9 -0.1
KWP Kalwaria Pacla 144.08 336 ePKiKP PKPab 21 20 14.2 0.0
KWP Kalwaria Pacla 144.08 336 ePKPbc PKPbc 21 20 14.1 +0.1
KWP Kalwaria Pacla 144.08 336 ⇓i P PKPbc 21 20 13.7 -0.3
KWP Kalwaria Pacla 144.08 336 ePKPbc PKPbc 21 20 14.1 +0.1
PRAR RASCA 144.34 331 ⇑i P PKPbc 21 20 14.4 -0.5
LHO Holmfirth 144.37 3 eP PKPbc 21 20 14.2 -0.6
WLF1 Llynfaes 144.43 6 eP PKPbc 21 20 13.8 -1.1
YRC Rhoscolyn 144.44 6 eP PKPdf 21 20 14.4 -0.5
WPM1 Penmaenmawr 144.50 6 eP PKPdf 21 20 14.7 -0.4
LMK Market Rasen 144.53 2 eP PKPdf 21 20 14.8 -0.3
TLCR 144.57 326 ⇓i P PKPdf 21 20 15.4 0.0
YLL Llanberis 144.59 6 eP PKPbc 21 20 15.6 +0.2
BUR08 Bucovina Ar. S 144.60 332 ePKPdf PKPbc 21 20 16.1 +0.3
BURAR Bucovina Array 144.62 332 ⇓i P PKPbc 21 20 16.1 +0.2
OJC Ojcow 144.62 340 ePKiKP PKPbc 21 20 15.6 -0.1
OJC Ojcow 144.62 340 ePKP PKPbc 21 20 15.6 -0.1
KBI1 Birley Grange 144.68 3 eP PKPdf 21 20 15.3 -0.1
GHRR 144.70 328 ⇑i P PKPdf 21 20 15.7 0.0
TESR Tescani 144.76 329 ⇓i P PKPdf 21 20 15.8 0.0
BR131 Keskin Array S 144.76 315 ePKPdf PKPdf 21 20 15.4 -0.8
BRTR Keskin Array B 144.76 315 PKP PKPdf 21 20 16.2 +0.1
BRTR Keskin Array B 144.76 315 PKP PKPdf 21 20 16.2 +0.1
comp=N,12nm,0.5s,baz=122,slow=3.2,SNR=82
STHS Stebnicka Huta 144.80 338 ePKiKP PKPbc 21 20 16.6 +0.3
STHS Stebnicka Huta 144.80 338 ePKP PKPbc 21 20 16.5 +0.2
KOLS Kolonicke sedl 144.81 336 ePKiKP PKPab 21 20 16.8 -0.3
KOLS Kolonicke sedl 144.81 336 ePKP PKPab 21 20 16.8 -0.3
CFR Carcaliu 144.93 327 ⇑i P PKPdf 21 20 15.5 -0.6
FOEL Foel Wylfa 144.93 5 eP PKPbc 21 20 16.3 -0.2
PETR Petresti 145.02 328 ⇓i P PKPab 21 20 17.6 -0.3
UZH Uzhgorod 145.05 336 ePKiKP PKPbc 21 20 16.9 -0.1
KSP Ksiaz 145.13 344 ePKiKP PKPbc 21 20 17.6 +0.4
KSP Ksiaz 145.13 344 ePKP PKPab 21 20 17.9 -0.3
NIE Niedzica 145.13 338 ePKiKP PKPab 21 20 17.9 -0.4
NIE Niedzica 145.13 338 ePKP PKPab 21 20 17.9 -0.4
CRVS Cervenica-Dubn 145.14 337 ePKiKP PKPbc 21 20 17.7 +0.4
CRVS Cervenica-Dubn 145.14 337 ePKP PKPbc 21 20 17.7 +0.4
VRI Vrancioaia 145.18 329 ⇓i P PKPbc 21 20 17.3 -0.2
PLOR Plostina 145.22 329 ⇑i P PKPbc 21 20 17.6 -0.1
ANTO Ankara 145.26 315 ePKiKP PKPdf 21 20 16.5 -0.4
ANTO Ankara 145.26 315 ⇓i P PKPbc 21 20 18.1 +0.1
ANTO Ankara 145.26 315 ePKPdf PKPdf 21 20 16.5 -0.4
TIRR Tirgusor 145.26 325 ⇑i P PKPbc 21 20 17.3 -0.4
HLM1 Long Mynd 145.32 5 eP PKPbc 21 20 17.3 -0.4
TRPA Tarpa 145.35 335 ⇓i P PKPbc 21 20 18.0 +0.1
HARR Harsova 145.37 326 ⇓i P PKPbc 21 20 18.4 +0.4
TLB Topalu 145.38 326 ⇑i P PKPbc 21 20 18.1 0.0
CLL Collm 145.48 347 ⇓i PKP2 PKPbc 21 20 18.2 0.0
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 145.48 347 ePKP PKPbc 21 20 18.2 0.0
CLL Collm 145.48 347 ⇓i PKPbc PKPbc 21 20 18.2 0.0
comp=Z,14nm,0.9s
UPC Upice 145.51 344 ePKP2 PKPbc 21 20 18.4 +0.1
UPC Upice 145.51 344 ePKP PKPbc 21 20 18.4 +0.1
DPC Dobruska-Polom 145.56 343 ePKP2 PKPbc 21 20 19.2 +0.7
DPC Dobruska-Polom 145.56 343 ePKP PKPbc 21 20 19.2 +0.7
LPW Lampeter 145.62 6 eP PKPbc 21 20 18.1 -0.5
BRG Berggiesshubel 145.69 346 ePKP PKPdf 21 20 17.6 +0.4
comp=Z,6.8nm,0.8s
BRG pmax pmax
comp=N,574nm,12.5s
BRG MLR MLR
comp=E,792nm,17.4s
BRG MLR MLR
comp=Z,1μm,17.6s
BRG Berggiesshubel 145.69 346 ePKiKP PKPdf 21 20 17.6 +0.4
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG MLR MLR
comp=N,574nm,12.5s
BRG MLR MLR
comp=E,792nm,17.4s
BRG MLR MLR
comp=Z,1μm,17.6s
PGOR Pogoanele 145.71 327 ⇓i P PKPdf 21 20 18.2 +0.8
MORC Moravsky Berou 145.72 341 ⇑i P PKPbc 21 20 19.2 +0.2
DOPR Dopca 145.75 330 ⇓i P PKPbc 21 20 19.3 +0.1
FBE Freiberg 145.77 347 ePKP PKPbc 21 20 19.4 +0.4
ISR Istrita 145.79 328 ⇑i P PKPbc 21 20 19.7 +0.3
MLR Muntele Rosu 145.83 329 ⇓i P PKPbc 21 20 19.1 -0.4
MCH1 Michaelchurch 145.83 5 eP PKPdf 21 20 18.2 +0.8
KECS Kecovo 145.85 337 ePKP2 PKPbc 21 20 19.6 +0.3
KECS Kecovo 145.85 337 ePKP PKPbc 21 20 19.6 +0.3
MBAR Mbarara 145.86 240 PKPbc PKPdf 21 20 16.8 -2.1
MBAR Mbarara 145.86 240 PKPbc PKPdf 21 20 16.8 -2.1
comp=Z,34nm,0.7s,baz=192,slow=0.7,SNR=69
PSN Preselentsi 145.89 325 eP PKPab 21 20 22.6 +1.2
PSN Preselentsi 145.89 325 ⇑i P PKPbc 21 20 19.3 -0.3
MONM Monmouth 146.00 5 eP PKPbc 21 20 19.3 -0.3
SECR 146.09 328 ⇓i P PKPbc 21 20 20.2 +0.1
VOIR 146.31 330 ⇑i P PKPbc 21 20 20.7 -0.1
DRGR 146.34 333 ⇑i P PKPbc 21 20 20.7 -0.2
PRU Pruhonice 146.36 345 ePKP2 PKPbc 21 20 20.9 +0.2
PRU Pruhonice 146.36 345 ePKP PKPbc 21 20 20.9 +0.2
PLN Plauen 146.44 348 ePKP PKPbc 21 20 21.1 +0.2
GUNZ Gunzen 146.52 347 ePKP PKPbc 21 20 21.3 +0.1
PSZ Piszkesteto 146.54 337 ePKIKP PKPdf 21 20 17.8 -1.1
PSZ Piszkesteto 146.54 337 ⇓i P PKPbc 21 20 21.4 0.0
PSZ Piszkesteto 146.54 337 ePKPdf PKPdf 21 20 17.8 -1.1
ARR Arges 146.56 330 ⇑i P PKPbc 21 20 22.1 +0.6
PRD Provadia 146.64 325 i P PKPbc 21 20 22.0 +0.4
LOT Lotru 146.90 331 ⇑i P PKPbc 21 20 21.6 -0.9
ROTZ Rotzenmuhle 147.11 347 ePKP PKPbc 21 20 23.1 +0.4
SIRR Siria 147.20 334 ⇑i P PKPbc 21 20 22.7 -0.4
MEM Membach 147.21 355 PKPbc PKPbc 21 20 23.0 +0.1
SZH Strazhica 147.39 326 i P PKPbc 21 20 23.6 -0.1
KHC Kasperske Hory 147.39 345 ePKIKP PKPdf 21 20 20.0 -0.2
KHC Kasperske Hory 147.39 345 ePKP PKPbc 21 20 23.5 0.0
KHC Kasperske Hory 147.39 345 ePKPdf PKPdf 21 20 20.0 -0.2
KHC ePKPbc PKPbc 21 20 23.8 +0.3
GZR Gura Zlata 147.40 332 ⇓i P PKPbc 21 20 23.2 -0.5
SNF Seneffe 147.44 357 PKPbc PKPbc 21 20 24.1 +0.6
JMB Yambol 147.57 324 ⇑i P PKPbc 21 20 24.5 +0.4
GEC2 GERESS Array S 147.63 345 ePKP PKPbc 21 20 24.4 +0.2
GERES GERESS Array B 147.63 345 PKP PKPdf 21 20 20.8 +0.1
GERES PKPbc PKPbc 21 20 24.1 -0.2
GERES GERESS Array B 147.63 345 PKP PKPdf 21 20 20.8 +0.1
comp=Z,7.9nm,0.6s,baz=170,slow=2.3,SNR=30
GERES PKPbc PKPbc 21 20 24.1 -0.2
comp=Z,8.9nm,0.6s,baz=24,slow=3.0,SNR=88
BZS Buzias 147.74 333 ⇓i P PKPbc 21 20 23.7 -0.8
DOU Dourbes 147.83 356 PKPbc PKPbc 21 20 24.7 +0.2
CONA Conrad Observa 147.88 342 i PKPbc PKPbc 21 20 25.4 +0.5
comp=Z,11nm,0.6s,SNR=5.5
WLF Walferdange 148.14 354 PKPbc PKPbc 21 20 26.2 +0.9
MOA Molln 148.40 344 ⇓i PKPbc PKPbc 21 20 26.2 +0.1
comp=Z,11nm,1.2s
DIM Dimitrovgrad 148.43 325 i P PKPbc 21 20 26.5 +0.2
PKSM Moragy 148.44 337 ⇑i P PKPbc 21 20 25.7 -0.5
KDZ Kurdzhali 148.76 324 i P PKPbc 21 20 27.0 -0.2
KDZ Kurdzhali 148.76 324 ⇓i P PKPbc 21 20 26.8 -0.4
PGB Panagyurishte 148.82 327 eP PKPbc 21 20 27.2 -0.2
RZN Rozhen 149.12 325 eP PKPbc 21 20 27.6 -0.7
BFO Black Forest 149.19 351 ePKPdf PKPbc 21 20 27.9 -0.1
SOKA Soboth 149.25 342 ⇑i PKPbc PKPbc 21 20 27.6 -0.7
comp=Z,12nm,1.2s
VTS Vitosha 149.28 328 i P PKPbc 21 20 28.6 0.0
VTS Vitosha 149.28 328 ⇑i P PKPbc 21 20 28.4 -0.2
GROS Grobnik 149.30 341 i PKPbc PKPbc 21 20 28.2 -0.2
WATA Walderalm 149.54 346 ⇓i PKPbc PKPbc 21 20 28.7 -0.4
comp=Z,6.1nm,0.5s,SNR=5.4
RETA Reutte 149.57 348 ⇑i PKPbc PKPbc 21 20 28.6 -0.4
comp=Z,4.2nm,0.5s
WTTA Wattenberg 149.60 346 ⇑i PKPbc PKPbc 21 20 29.0 -0.2
comp=Z,19nm,0.6s,SNR=5.9
MOTA Moosalm 149.64 347 ⇓i PKPbc PKPbc 21 20 28.9 -0.4
comp=Z,5.7nm,0.7s
MMB Musomiste 149.73 326 i P PKPbc 21 20 29.0 -0.5
MMB Musomiste 149.73 326 ⇓i P PKPbc 21 20 29.0 -0.5
KKB Krupnik 149.87 327 i P PKPbc 21 20 29.7 -0.1
ABTA Abfaltersbach 149.88 345 ⇓i PKPbc PKPbc 21 20 29.1 -0.7
comp=Z,15nm,0.6s,SNR=7.6
CRNS Crni Vrh 150.02 342 i PKPbc PKPbc 21 20 29.5 -0.6
FETA Feichten 150.03 347 ⇑i PKPdf PKPdf 21 20 24.3 -0.3
comp=Z,5.8nm,0.8s
FETA ⇑i PKPbc PKPbc 21 20 30.1 -0.1
comp=Z,11nm,0.8s
VISS Visnje 150.09 341 i PKPbc PKPbc 21 20 29.9 -0.3
BOJS Bojanci 150.23 340 i PKPbc PKPbc 21 20 30.7 +0.2
JAVS Javornik 150.24 342 i PKPbc PKPbc 21 20 30.1 -0.6
TUE Stuetta 150.82 349 ePKPbc PKPbc 21 20 31.6 -0.6
TUE ePKPab PKPab 21 20 43.1 +1.3
POLO Lamas de Olo 155.32 17 ePKPab PKPab 21 21 01.2 +0.2
PVRL Vila Real 155.43 17 ePKPab PKPab 21 21 01.9 +0.5
MVO Moncorvo 155.72 16 ePKPab PKPab 21 21 03.1 +0.4
MTE Manteigas 156.29 17 ePKPab PKPab 21 21 05.9 +0.7
PTOM Tomar 156.75 20 ePKPab PKPab 21 21 06.9 -0.2
PCBR Castelo Branco 156.83 18 ePKPab PKPab 21 21 07.2 -0.2
PMRV Marv??o 157.23 18 ePKPab PKPab 21 21 09.2 0.0
PMTG Montargil 157.30 20 ePKPab PKPab 21 21 09.2 -0.3
ESDC Sonseca Array 157.83 11 PKPab PKPab 21 21 11.4 -0.4
ESDC Sonseca Array 157.83 11 PKPab PKPab 21 21 11.4 -0.4
comp=Z,1.7nm,0.6s,baz=338,slow=3.5,SNR=10
PVAQ Vaqueiros 158.98 21 ePKPab PKPab 21 21 17.1 +0.3
KEST Kesra 160.97 340 PKPab PKPab 21 21 25.7 0.0
KEST Kesra 160.97 340 PKPab PKPab 21 21 25.7 0.0
comp=Z,1.4nm,0.8s,baz=280,slow=2.1,SNR=3.3
DBIC Dimbokro 167.18 150 PKP PKPdf 21 20 44.1 -1.1
DBIC Dimbokro 167.18 150 PKP PKPdf 21 20 44.1 -1.1
comp=Z,3.8nm,0.8s,baz=182,slow=6.1,SNR=5.3
TOA0 Torodi Ar. Sit 175.23 182 ePKPdf PKPdf 21 20 47.5 -1.7
TORD Torodi Ar. Bea 175.23 182 PKP PKPdf 21 20 47.9 -1.2
TORD PKPab PKPab 21 22 28.6 -0.4
TORD PP PP 21 26 21.1 +0.6
TORD Torodi Ar. Bea 175.23 182 PKP PKPdf 21 20 47.9 -1.2
comp=Z,2.7nm,0.9s,baz=312,slow=0.5,SNR=14
TORD PKPab PKPab 21 22 28.6 -0.4
comp=Z,1.6nm,0.6s,baz=176,slow=3.4,SNR=9.1
TORD PP PP 21 26 21.1 +0.6
comp=Z,0.9nm,0.7s,baz=176,slow=5.0,SNR=4.2

*ISCJB **02** 21:04:15.5±0.3,54°.39N±0°.08×166°.69W±0°.07,*
h223km±4km, mb3.7/20, Error ellipse: s-maj=14.6km
s-min=3.3km az=154.1
*NEIC **02** 21:04:15.9±0.3,54°.22N×166°.51W,h230km±4km, mb4.4/5,*
Error ellipse: s-maj=13.2km s-min=2.5km az=155.0
*IDC **02** 21:04:18.8±2.3,54°.91N×167°.16W, h223km±24km,*
mb3.6/17, mb1 3.8/19, mb1mx3.7/32, mbtmp4.3/19, Error
ellipse: s-maj=21.6km s-min=8.2km az=177.0

ISC 02 21:04:16.9±0.5, 54°.57N±0°.09×166°.90W±0°.05,
h213km±6km, n99, σ1°43/109, mb3.7/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTBL	Makushin Table	0.61	168	P		P	Pn	21 04 45.4	-0.6
MCIR	Makushin Cirqu	0.62	180	P		P	Pn	21 04 45.6	-0.4
AKGG	Akutan Green G	0.65	125	P		P	Pn	21 04 45.5	-0.6
AKGG				S		S		21 05 07.9	-0.8
LVA	Lava Point	0.65	129	P		P	Pn	21 04 45.6	-0.5
AKRB	Akutan Reef Bi	0.66	132	P		P	Pn	21 04 45.6	-0.5
AKRB				S		S		21 05 08.1	-0.6
MSW	Makushin Switc	0.66	174	P		P	Pn	21 04 45.4	-0.8
ZRO	Akutan Zero	0.72	131	P		P	Pn	21 04 45.8	-0.6
MSOM	Makushin Julie	0.76	182	P		P	Pn	21 04 45.9	-0.6
UNV	Unalaska Valle	0.76	162	P		P	Pn	21 04 45.8	-0.7
UNV				S		S		21 05 08.4	-1.1
MREP	Makushin Rep't	0.77	173	P		P	Pn	21 04 46.7	0.0
AKUT	Akutan	0.79	123	P		P	Pn	21 04 46.1	-0.5
AKUT				S		S		21 05 09.1	-0.7
OKFG	Magazine Ridge	1.31	208	P		P	Pn	21 04 49.5	-0.7
OKFG				S		S		21 05 14.1	-1.7
OKAK	Okmok	1.31	222	P		P	Pn	21 04 51.4	+1.2
WESN	West Dahl Nort	1.35	89	P		P	Pn	21 04 50.1	-0.3
WESE	West Dahl East	1.35	93	P		P	Pn	21 04 50.0	-0.6
OKTU	Okmok Mt. Tuli	1.37	210	P		P	Pn	21 04 50.6	-0.1
SSBA	Shishaldin	1.62	82	P		P	Pn	21 04 52.3	-0.5
SSLW	Shishaldin Wes	1.62	82	P		P	Pn	21 04 52.4	-0.4
SSLN	Shishaldin Nor	1.70	81	P		P	Pn	21 04 53.7	+0.2
NIKH	Nikolski High	1.98	217	P		P	Pn	21 04 55.2	-0.8
NIKH				S		S		21 05 24.8	-1.5
FALS	False Pass	2.04	80	P		P	Pn	21 04 56.1	-0.6
DRIA	Deer Island	2.71	80	P		P	Pn	21 05 02.8	-1.0
DT1	Dutton Round H	2.72	77	P		P	Pn	21 05 03.0	-1.0
DTNA	Dutton South F	2.75	76	P		P	Pn	21 05 03.3	-0.9
DOL	Dolgoi Island	2.97	77	P		P	Pn	21 05 06.0	-0.7
HAG	Hague Volcano	2.98	73	P		P	Pn	21 05 06.7	-0.1
PS4A	Pavlof South-4	3.01	73	P		P	Pn	21 05 06.8	-0.4
PVV	Pavlof Volcano	3.05	73	P		P	Pn	21 05 07.4	-0.2
SPIA	Saint Paul Isl	3.22	326	P		P	Pn	21 05 14.8	+5.2
SDPT	Sand Point	3.78	75	P		P	Pn	21 05 14.9	-1.4

SDPT				S		**S**	**21 05 59.7**	**-3.1**
VNHG	**Veniaminof 1**	**4.71**	**66**	P		**Pn**	**21 05 28.1**	**+0.3**
KOFP	**Korovin Flat P**	**4.88**	**245**	P		**Pn**	**21 05 31.1**	**+1.0**
CHGN	**Chignik**	**5.13**	**67**	P		**Pn**	**21 05 31.7**	**-1.4**
GSMY	**Great Sitkin M**	**6.05**	**249**	P		**Pn**	**21 05 46.0**	**+1.2**
GSCK	**Great Sitkin C**	**6.12**	**249**	P		**Pn**	**21 05 45.9**	**+0.1**
ADK	**Adak**	**6.46**	**249**	P		**Pn**	**21 05 49.8**	**-0.3**
CHIR	**Chirikof Islan**	**6.58**	**74**	P		**Pn**	**21 05 49.2**	**-2.3**
PLK4	**Peulik 4**	**6.65**	**58**	P		**Pn**	**21 05 53.1**	**+0.6**
KIKV	**Kanaga Island**	**6.73**	**251**	P		**Pn**	**21 05 55.1**	**+1.5**
TAPA	**Tanaga Point A**	**7.12**	**252**	P		**Pn**	**21 05 59.5**	**+0.9**
TAFP	**Tanaga Falls P**	**7.17**	**253**	P		**Pn**	**21 05 59.7**	**+0.4**
ANCK	**Angle Creek**	**7.30**	**55**	P		**Pn**	**21 06 01.4**	**+0.5**
MGLS	**Mageik Landsli**	**7.43**	**57**	P		**Pn**	**21 06 02.1**	**-0.5**
KABR	**Katmai Barrier**	**7.53**	**57**	P		**Pn**	**21 06 03.0**	**-0.8**
KAKN	**Katmai Knife C**	**7.55**	**56**	P		**Pn**	**21 06 04.3**	**+0.2**
OHAK	**Old Harbor**	**8.10**	**65**	P		**Pn**	**21 06 08.2**	**-2.9**
CERAA	**Semis' Rag'd T**	**8.48**	**257**	P		**Pn**	**21 06 17.1**	**+0.9**
CESW	**Semis' Southwe**	**8.55**	**257**	P		**Pn**	**21 06 18.0**	**+0.9**
KDAK	**Kodiak Island**	**8.61**	**62**	P		**Pn**	**21 06 15.5**	**-2.2**
AMKA	**Amchitka**	**8.92**	**255**	P		**Pn**	**21 06 21.0**	**-0.8**
ILW	**Iliamna West**	**9.25**	**48**	P		**Pn**	**21 06 26.5**	**+0.3**
NCT	**North Crescent**	**9.60**	**46**	P		**Pn**	**21 06 31.7**	**+1.2**
CNPM	**China Poot**	**9.86**	**53**	P		**Pn**	**21 06 32.4**	**-1.5**
SEW	**Seward**	**10.92**	**52**	*e*Pn		**Pn**	**21 06 45.1**	**-2.2**
SEW				*e*S		S	21 08 37.4	-12
RC01	**Rabbit Creek A**	**11.22**	**47**	*e*Pn		**Pn**	**21 06 49.5**	**-1.7**
RC01				*e*S		S	21 08 44.1	-11
PPLA	**Purkeypile**	**11.29**	**36**	*e*Pn		**Pn**	**21 06 53.5**	**+1.2**
FX1	**Attu Island--F**	**11.93**	**270**	*e*Pn		**Pn**	**21 07 00.3**	**0.0**
FX1	**Attu Island--F**	**11.93**	**270**	P		**Pn**	**21 06 59.9**	**-0.4**
	20nm,0.3s,baz=253,slow=2.6,SNR=50							
FX1				S		**S**	**21 09 12.6**	**+0.5**
	0.8nm,0.3s,baz=54,slow=19,SNR=4.0							
TRF	**Thorofare Moun**	**12.31**	**37**	*e*Pn		**Pn**	**21 07 06.2**	**+1.1**
BPAW	**Bear Paw Mtn.**	**12.50**	**34**	*e*Pn		**Pn**	**21 07 08.3**	**+1.0**
MCK	**McKinley**	**12.96**	**38**	*e*Pn		**Pn**	**21 07 12.9**	**-0.2**
MCK				S		**S**	**21 09 40.5**	**+4.1**
DIV	**Divide**	**12.99**	**51**	*e*Pn		**Pn**	**21 07 11.9**	**-1.6**
IM04	**Indian Mountai**	**13.12**	**24**	*e*Pn		**Pn**	**21 07 15.1**	**0.0**
COLA	**College**	**14.03**	**35**	*e*Pn		**Pn**	**21 07 24.7**	**-1.7**
COLA				*e*S		**S**	**21 10 00.4**	**-1.0**
ILAR	**Eielson Array**	**14.30**	**36**	P		**Pn**	**21 07 27.3**	**-2.3**
	1.4nm,0.3s,baz=243,slow=11,SNR=78							
ILAR				S		**S**	**21 10 05.5**	**-2.1**
	0.1nm,0.3s,baz=227,slow=17,SNR=4.0							
MENT	**Mentasta**	**14.58**	**46**	*e*Pn		**Pn**	**21 07 33.0**	**-0.1**
DOT	**Dot Lake**	**14.75**	**43**	*e*Pn		**Pn**	**21 07 33.6**	**-1.6**
	8.2nm,0.4s							
COLD	**Coldfoot**	**14.99**	**26**	*e*Pn		**P**	**21 07 39.1**	**+0.7**
	25nm,1.0s							
HYT	**Haines Junctio**	**16.81**	**56**	*e*P		**Pn**	**21 08 02.1**	**+2.1**
DAWY	**Dawson**	**16.81**	**45**	*e*Pn		**P**	**21 07 58.1**	**-0.4**
PET	**Petropavlovsk**	**20.29**	**280**	P		Pn	21 08 39.1	-2.1
DLBC	**Dease Lake**	**20.54**	**64**	P		**P**	**21 08 40.5**	**+1.7**
	13nm,0.6s,baz=267,slow=6.5,SNR=23							
INK	**Inuvik**	**20.69**	**35**	*e*P		**P**	**21 08 39.1**	**-1.1**
	34nm,0.7s							
INK	**Inuvik**	**20.69**	**35**	P		**P**	**21 08 39.1**	**-1.1**
	31nm,0.6s,baz=241,slow=10,SNR=56							
INK				S		**S**	**21 12 12.4**	**-6.2**
	7.3nm,1.0s,baz=4.9,slow=27,SNR=7.8							
PEA0B	**Petropavlovsk-**	**20.81**	**281**	*e*P		**P**	**21 08 42.0**	**+0.3**
PETK	**Petropavlovsk-**	**20.81**	**281**	P		**P**	**21 08 41.4**	**-0.3**
	14nm,0.4s,baz=91,slow=13,SNR=25							
YKA	**Yellowknife Ar**	**27.70**	**52**	P		**P**	**21 09 44.7**	**-0.1**
	1.4nm,0.4s,baz=275,slow=8.6,SNR=12							
YAK	**Yakutsk**	**32.88**	**309**	*e*P		**P**	**21 10 31.6**	**+1.3**
ASAJ	**Asahikawa**	**33.83**	**273**	P		**P**	**21 10 37.5**	**-1.2**
	13nm,0.9s,baz=46,slow=4.8,SNR=4.7							
NVAR	**Mina Array Bea**	**36.32**	**96**	P		**P**	**21 11 02.9**	**+2.5**
	1.6nm,0.7s,baz=313,slow=9.4,SNR=9.8							
NVAR				pP		**pP**	**21 11 45.0**	**+0.8**
	0.2nm,0.3s,baz=95,slow=9.3,SNR=2.1							
PDAR	**Pinedale Array**	**38.61**	**83**	P		**P**	**21 11 22.2**	**+2.8**
	0.7nm,0.4s,baz=299,slow=2.8,SNR=12							
USRK	**Ussuriysk Arra**	**39.90**	**281**	P		**P**	**21 11 27.0**	**-2.8**
	1.4nm,0.6s,baz=48,slow=9.4,SNR=4.2							
MDJ	**Mudanjiang**	**41.02**	**283**	P		**P**	**21 11 38.7**	**-0.2**
MAT	**Matsushiro**	**41.27**	**267**	P		P	21 11 44.9	+3.8
ULM	**Lac du Bonnet**	**41.85**	**65**	P		**P**	**21 11 46.4**	**+0.8**
	3.6nm,0.5s,baz=303,slow=7.6,SNR=10							
SUMG	**Summit**	**48.23**	**18**	*i* P		**P**	**21 12 35.9**	**0.0**
	7.1nm,0.8s							
TXAR	**Lajitas Array**	**51.30**	**93**	P		**P**	**21 13 01.0**	**+1.8**
	0.6nm,0.4s,baz=292,slow=4.1,SNR=5.1							
SONM	**Songino Array**	**51.44**	**301**	P		**P**	**21 12 59.6**	**-0.5**
	1.2nm,0.8s,baz=51,slow=6.6,SNR=7.7							
SCHQ	**Schefferville**	**52.83**	**46**	P		**P**	**21 13 09.2**	**-0.7**
	8.5nm,1.1s,baz=291,slow=8.6,SNR=2.7							
BVAR	**Borovoye Array**	**62.76**	**325**	P		**P**	**21 14 19.3**	**+0.3**
	0.3nm,0.5s,baz=46,slow=4.2,SNR=3.5							
BRVK	**Borovoye**	**62.76**	**325**	P		**P**	**21 14 20.6**	**+1.6**
	1.1nm,0.6s							
MKAR	**Makanchi Array**	**63.35**	**314**	P		**P**	**21 14 21.9**	**-1.1**
	0.1nm,0.4s,baz=40,slow=5.3,SNR=3.4							
FINES	**FINESS Array B**	**63.88**	**353**	P		**P**	**21 14 24.4**	**-1.7**
	3.9nm,1.0s,baz=247,slow=1.5,SNR=4.0							
GYA	**Guiyang**	**66.88**	**283**	*e*P		**P**	**21 14 47.0**	**+0.9**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
LSA	**Lhasa**	**72.79**	**297**	*e*P		**P**	**21 15 22.5**	**0.0**
	comp=Z,2.6nm,0.7s							
AKASG	**Malin Array Be**	**74.23**	**349**	P		**P**	**21 15 27.8**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=16,slow=6.5,SNR=2.6							
MEM	**Membach**	**75.02**	**5**	P		**P**	**21 15 37.4**	**+3.0**
	comp=Z,11nm,1.7s							
CMAR	**Chiang Mai Arr**	**77.54**	**284**	P		**P**	**21 15 48.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=17,slow=5.7,SNR=5.2							
BRTR	**Keskin Array B**	**84.44**	**344**	P		**P**	**21 16 24.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=43,slow=4.3,SNR=3.6							

MAN 02 21:05:58.12±22.2N×125.46±0.14E,h14±4km,mb4.7,ML3.6,MS3.6, 1D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**1.15**	**204**	⇓ *e*P		Pb	21 06 18.4	-1.3
PLP				*e*S		Sn	21 06 35.8	+0.5
PVCP	**Virac**	**1.86**	**317**	*e*P		Pn	21 06 29.6	+0.1
PVCP				*e*S		Sn	21 06 51.5	-1.4
MSLP	**Maasin**	**2.16**	**196**	*e*P		Pn	21 06 50.0	+1.5
GUIM	**Jordan**	**3.23**	**241**	*e*P		Pn	21 06 50.0	+1.7

GUC 02 21:12:17.0±0.8,21.68S×68.60W,h143±5km,ML3.6, 7C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**Plate Boundary**	**0.61**	**259**	⇑ *i*P		Pn	21 12 38.7	+0.3
PB09				*i* S		Sn	21 12 55.4	+0.9
PB09				AML		AML	21 12 56.3	
	comp=N,2μm,0.6s							
PB04	**Plate Boundary**	**1.01**	**234**	⇑ *i*P		Pn	21 12 48.0	+6.9
PB04				*i* S		Sn	21 13 11.2	+12
PB04				AML		AML	21 13 13.6	
	comp=N,474nm,0.1s							
PB01	**Plate Boundary**	**1.04**	**307**	⇑ *i*P		Pn	21 12 41.9	+0.4
PB01				*i* S		Sn	21 13 01.1	+0.8
PB01				AML		AML	21 13 02.0	
	comp=N,981nm,0.3s							
MACH	**Maria Elena**	**1.19**	**244**	⇓ *i*P		Pn	21 12 44.0	+0.8
MACH				*i* S		Sn	21 13 04.3	+1.2
PB07	**Plate Boundary**	**1.20**	**267**	⇑ *i*P		Pn	21 12 44.0	+0.9
PB07				*i* S		Sn	21 13 04.3	+1.3
PB07				AML		AML	21 13 05.6	
	comp=N,2μm,0.4s							
PATCX	**Punta Patache**	**1.68**	**300**	*e*P		Pn	21 12 49.4	+1.3
PATCX				*i* S		Sn	21 13 13.1	+1.2
PATCX				AML		AML	21 13 14.3	
	comp=E,1μm,0.1s							
HMBC	**Humberstone**	**1.84**	**319**	⇑ *i*P		Pn	21 12 50.5	+0.4
HMBC				*i* S		Sn	21 13 16.1	+0.8
HMBC				AML		AML	21 13 22.3	
	comp=N,342nm,0.3s							
CEN1	**Los Morros**	**2.26**	**221**	⇑ *i*P		Pn	21 12 58.6	+3.7
CEN1				*i* S		Sn	21 13 30.1	+6.0
CEN1				AML		AML	21 13 38.3	
	comp=E,70nm,0.5s							
ANCH	**Antofagasta**	**2.60**	**220**	⇑ *i*P		Pn	21 13 00.3	+1.2
ANCH				*e*S		Sn	21 13 32.5	+1.0
MNMC	**Minimini**	**2.70**	**340**	⇓ *i*P		Pn	21 13 01.3	+0.6
MNMC				*i* S		Sn	21 13 35.9	+1.6
MNMC				AML		AML	21 13 37.9	
	comp=E,363nm,0.6s							

*CSEM **02**.21:22:09.9±0.2,38.69N×20.54E,h5km,MD3.1,Error ellipse: s-maj=3.7km s-min=2.3km az=61.0*
*ATH **02**.21:22:10.9,38.67N×20.61E,h5km±1km,MD3.1/20*
*THE **02**.21:22:10.4,38.68N×20.56E,h2km±1km,ML2.5/4,Error ellipse: s-maj=1.1km s-min=0.4km az=263.0*

ISC 02 21:22:10.2±1.0,38.68N±0.02×20.54E±0.02,h6±7km, n75,σ0.69/128,Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LKD2	**Lefkada island**	**0.14**	**40**	P		**Pg**	**21 22 13.0**	**-0.1**
LKD2				S		**Sg**	**21 22 14.6**	**-0.5**
LKD2	**Lefkada island**	**0.14**	**40**	*e*PG		**Pg**	**21 22 13.1**	**-0.1**
LKD2				*e*SG		**Sg**	**21 22 14.9**	**-0.2**
LKD2	**Lefkada island**	**0.14**	**40**	*e*Pg		**Pg**	**21 22 13.1**	**-0.1**
LKD2				S		**Sg**	**21 22 14.6**	**-0.5**
VLS	**Valsamata**	**0.51**	**176**	P		**Pg**	**21 22 20.2**	**+0.2**
VLS				S		**Sg**	**21 22 26.9**	**+0.3**
VLS	**Valsamata**	**0.51**	**176**	*e*PB		**Pg**	**21 22 20.6**	**+0.6**
VLS				*e*SB		**Sb**	**21 22 28.7**	**-0.4**
VLS	**Valsamata**	**0.51**	**176**	P		**Pg**	**21 22 20.2**	**+0.2**
VLS	**Valsamata**	**0.51**	**176**	*e*Pb		**Pg**	**21 22 20.6**	**+0.6**
VLS				S		**Sg**	**21 22 26.9**	**+0.3**
VLS				*e*Sb		**Sb**	**21 22 28.7**	**-0.4**
PDO	**Prodromos**	**0.51**	**99**	P		**Pg**	**21 22 19.9**	**-0.1**
PDO				S		**Sg**	**21 22 26.8**	**+0.1**
PDO	**Prodromos**	**0.51**	**99**	*e*PB		**Pg**	**21 22 20.4**	**+0.4**
PDO				*e*SB		**Sg**	**21 22 27.5**	**+0.8**
PDO	**Prodromos**	**0.51**	**99**	P		**Pg**	**21 22 20.0**	**-0.1**
PDO	**Prodromos**	**0.51**	**99**	*e*Pb		**Pg**	**21 22 20.4**	**+0.4**
PDO				S		**Sg**	**21 22 26.8**	**+0.1**
PDO				*e*Sb		**Sg**	**21 22 27.5**	**+0.8**
KFL	**Anninata**	**0.60**	**161**	P		**Pg**	**21 22 21.9**	**+0.1**
KFL				S		**Sg**	**21 22 30.0**	**+0.3**
KFL	**Anninata**	**0.60**	**161**	P		**Pg**	**21 22 21.9**	**+0.1**
KFL				S		**Sg**	**21 22 30.0**	**+0.3**
PVO	**Paravola**	**0.77**	**95**	P		**Pg**	**21 22 25.3**	**+0.2**
PVO				S		**Sg**	**21 22 35.2**	**+0.1**
PVO	**Paravola**	**0.77**	**95**	P		**Pg**	**21 22 25.2**	**+0.2**
PVO				S		**Sg**	**21 22 35.2**	**+0.1**
IGT	**Igoumenitsa**	**0.86**	**349**	P		**Pg**	**21 22 25.9**	**-0.9**
IGT				S		**Sg**	**21 22 39.0**	**+0.9**
IGT	**Igoumenitsa**	**0.86**	**349**	*e*PB		**Pg**	**21 22 27.0**	**+0.2**
IGT				*e*SB		**Sb**	**21 22 41.0**	**+1.5**
IGT	**Igoumenitsa**	**0.86**	**349**	P		**Pg**	**21 22 26.1**	**-0.7**
IGT	**Igoumenitsa**	**0.86**	**349**	*e*Pb		**Pg**	**21 22 27.0**	**+0.2**
IGT				S		**Sg**	**21 22 39.0**	**+0.9**
RLS	**Riolos of Patr**	**0.96**	**130**	P		**Pg**	**21 22 28.0**	**-0.6**
RLS				S		**Sb**	**21 22 41.6**	**-0.5**
RLS	**Riolos of Patr**	**0.96**	**130**	*e*PB		**Pg**	**21 22 28.4**	**-0.2**
RLS				*e*SB		**Sb**	**21 22 42.1**	**0.0**
RLS	**Riolos of Patr**	**0.96**	**130**	*e*Pb		**Pg**	**21 22 28.4**	**-0.2**
RLS	**Riolos of Patr**	**0.96**	**130**	P		**Pb**	**21 22 28.9**	**-0.3**
RLS				S		**Sb**	**21 22 41.6**	**-0.5**
RLS				*e*Sb		**Sb**	**21 22 42.1**	**0.0**
JAN	**Janina**	**1.00**	**14**	P		**Pg**	**21 22 29.3**	**-0.2**
JAN				S		**Sb**	**21 22 43.9**	**+0.5**
JAN	**Janina**	**1.00**	**14**	*e*PG		**Pg**	**21 22 29.3**	**-0.2**
JAN				*e*SB		**Sn**	**21 22 45.0**	**-0.3**
JAN	**Janina**	**1.00**	**14**	P		**Pg**	**21 22 29.3**	**-0.2**
JAN				S		**Sb**	**21 22 43.9**	**+0.5**
EVR	**Evrytania**	**1.02**	**76**	P		**Pg**	**21 22 29.0**	**-0.7**
EVR				S		**Sb**	**21 22 43.5**	**-0.4**
EVR	**Evrytania**	**1.02**	**76**	*e*PG		**Pg**	**21 22 28.7**	**-1.0**
EVR				*e*SB		**Sb**	**21 22 44.0**	**+0.1**
EVR	**Evrytania**	**1.02**	**76**	*e*Pg		**Pg**	**21 22 28.7**	**-1.0**
EVR	**Evrytania**	**1.02**	**76**	P		**Pg**	**21 22 29.0**	**-0.7**
EVR				S		**Sb**	**21 22 43.5**	**-0.4**
EVR				*e*Sb		**Sb**	**21 22 44.0**	**+0.1**
DRO	**Drossia**	**1.17**	**128**	P		**Pg**	**21 22 32.0**	**-0.7**
DRO				S		**Sb**	**21 22 48.8**	**+0.5**
DRO	**Drossia**	**1.17**	**128**	*e*PG		**Pg**	**21 22 31.8**	**-0.9**
DRO				*e*SB		**Sb**	**21 22 48.9**	**+0.6**
DRO	**Drossia**	**1.17**	**128**	P		**Pg**	**21 22 32.0**	**-0.7**
DRO				S		**Sb**	**21 22 48.8**	**+0.5**
KEK	**Kerkira**	**1.18**	**331**	P		**Pg**	**21 22 32.3**	**-0.6**
KEK	**Kerkira**	**1.18**	**331**	*e*PG		**Pb**	**21 22 33.5**	**+0.5**
KEK				*e*SB		**Sn**	**21 22 51.9**	**+2.3**
KEK	**Kerkira**	**1.18**	**331**	P		**Pg**	**21 22 32.3**	**-0.6**
KEK	**Kerkira**	**1.18**	**331**	*e*Pg		**Pb**	**21 22 33.5**	**+0.5**
LAKA	**Lakka**	**1.21**	**111**	*e*PB		**Pg**	**21 22 33.2**	**-0.2**
LAKA	**Lakka**	**1.21**	**111**	*e*Pb		**Pg**	**21 22 33.2**	**-0.2**
SRN	**Sarande**	**1.27**	**341**	P		**Pg**	**21 22 34.6**	**+0.1**
SRN	**Sarande**	**1.27**	**341**	P		**Pg**	**21 22 34.6**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.28**	**75**	P		**Pg**	**21 22 34.1**	**-0.7**
MAKR				S		**Sn**	**21 22 52.5**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.28**	**75**	*e*PG		**Pg**	**21 22 34.1**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.28**	**75**	P		**Pg**	**21 22 34.1**	**-0.7**
MAKR				S		**Sn**	**21 22 52.5**	**+0.3**
KALE	**Kalithea**	**1.29**	**103**	P		**Pg**	**21 22 34.6**	**-0.3**
KALE				S		**Sn**	**21 22 52.8**	**+0.5**
KALE	**Kalithea**	**1.29**	**103**	*e*PB		**Pg**	**21 22 34.8**	**-0.1**
KALE				*e*SB		**Sb**	**21 22 51.7**	**+0.1**
KALE	**Kalithea**	**1.29**	**103**	P		**Pg**	**21 22 34.6**	**-0.3**
KALE				*e*Sb		**Sb**	**21 22 51.7**	**+0.1**
KALE				S		**Sn**	**21 22 52.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.42**	**116**	P		**Pn**	**21 22 35.5**	**-1.0**
KLV	**Kalavryta, Ach**	**1.42**	**116**	*e*PB		**Pn**	**21 22 35.5**	**-1.0**
KLV				*e*SB		**Sn**	**21 22 56.4**	**+0.9**
KLV	**Kalavryta, Ach**	**1.42**	**116**	P		**Pn**	**21 22 35.5**	**-1.0**
KLV				*e*Sb		**Sn**	**21 22 56.4**	**+0.9**
AGG	**Agios Georgios**	**1.44**	**76**	P		**Pn**	**21 22 36.8**	**0.0**
AGG	**Agios Georgios**	**1.44**	**76**	*e*PG		**Pn**	**21 22 36.8**	**0.0**
AGG	**Agios Georgios**	**1.44**	**76**	P		**Pn**	**21 22 36.8**	**0.0**
THL	**Klokotos Trika**	**1.44**	**52**	P		**Pn**	**21 22 36.5**	**-0.4**
THL				S		**Sg**	**21 22 57.1**	**+0.5**
THL	**Klokotos Trika**	**1.44**	**52**	*e*PG		**Pn**	**21 22 37.1**	**+0.2**
THL				*e*SB		**Sg**	**21 22 58.1**	**+1.5**
THL	**Klokotos Trika**	**1.44**	**52**	P		**Pn**	**21 22 36.5**	**-0.4**
THL	**Klokotos Trika**	**1.44**	**52**	*e*Pg		**Pn**	**21 22 37.1**	**+0.2**
THL				S		**Sg**	**21 22 57.1**	**+0.5**
THL				*e*Sb		**Sg**	**21 22 58.1**	**+1.5**
DSF	**Desfina**	**1.58**	**99**	*e*PB		**Pg**	**21 22 40.6**	**+0.1**
DSF				*e*SB		**Sg**	**21 23 01.6**	**+0.6**
DSF	**Desfina**	**1.58**	**99**	*e*Pb		**Pg**	**21 22 40.6**	**+0.1**
DSF				*e*Sb		**Sg**	**21 23 01.6**	**+0.6**
DESF	**Desfina**	**1.58**	**99**	*e*PG		**Pn**	**21 22 38.8**	**0.0**
DESF	**Desfina**	**1.58**	**99**	*e*Pg		**Pn**	**21 22 38.8**	**0.0**
GUR	**Goura**	**1.60**	**117**	P		**Pn**	**21 22 38.5**	**-0.6**
GUR				S		**Sn**	**21 23 00.4**	**+0.3**
GUR	**Goura**	**1.60**	**117**	*e*PG		**Pn**	**21 22 38.8**	**-0.3**
GUR				*e*SB		**Sg**	**21 23 02.5**	**+0.9**
GUR	**Goura**	**1.60**	**117**	P		**Pn**	**21 22 38.5**	**-0.6**
GUR	**Goura**	**1.60**	**117**	*e*Pg		**Pn**	**21 22 38.8**	**-0.3**
GUR				S		**Sn**	**21 23 00.4**	**+0.3**
GUR				*e*Sb		**Sg**	**21 23 02.5**	**+0.9**
NEST	**Nestorio**	**1.77**	**13**	*e*PG		**Pb**	**21 22 44.0**	**+0.8**
NEST	**Nestorio**	**1.77**	**13**	*e*Pg		**Pb**	**21 22 44.0**	**+0.8**
ITM	**Ithomi**	**1.86**	**143**	*e*PG		**Pb**	**21 22 44.9**	**+0.3**
ITM	**Ithomi**	**1.86**	**143**	*e*Pg		**Pb**	**21 22 44.9**	**+0.3**
LKR	**Lokris**	**1.92**	**90**	*e*PG		**Pb**	**21 22 45.6**	**-0.1**
LKR	**Lokris**	**1.92**	**90**	*e*Pg		**Pb**	**21 22 45.6**	**-0.1**
LTK	**Loutraki**	**2.02**	**108**	*e*PN		**Pg**	**21 22 48.4**	**-0.5**
DID	**Didima**	**2.43**	**118**	*e*PN		**Pb**	**21 22 53.8**	**-0.5**
STON	**Ston**	**4.71**	**334**	*e*Pn		**Pn**	**21 23 20.9**	**-0.8**
STON				Sn		**Sn**	**21 24 13.7**	**-2.9**
STON	**Ston**	**4.71**	**334**	*e*Pn		**Pn**	**21 23 20.9**	**-0.8**
STON				Sn		**Sn**	**21 24 13.6**	**-2.9**

*BYKL **02**.21:25:16.6±2.2,53.30N×108.52E,h7km,mb4.3/1,1C-4D, Error ellipse: s-maj=19.5km s-min=12.0km az=53.5, Lake Baykal region*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXMB	**Maximikha**	**0.14**	**105**	⇓ *i*Pg		Pg	21 25 20.0	+0.4
MXMB				*e*Sg		Sg	21 25 22.5	+0.9
MXMB				Pmax				
	751nm,0.1s							
MXMB				Smax				
	20μm,0.6s							
OGRR	**Ongureny**	**0.65**	**302**	*e*PG		Pg	21 25 28.9	-0.3
OGRR				*e*			21 25 37.9	
OGRR				pmax	pmax			
	comp=Z,172nm,0.3s							
OGRR				smax	smax			
	comp=E,566nm,0.4s							
OGRR	**Ongureny**	**0.65**	**302**	⇑ *i*Pg		Pg	21 25 28.9	-0.3
OGRR				*e*Sg		Sg	21 25 37.6	-0.1
OGRR				Pmax				
	comp=E,164nm,0.1s							
OGRR				Smax				
	comp=E,560nm,0.4s							
SYVR	**Suvo**	**0.95**	**67**	⇓ *i*Pg		Pg	21 25 34.2	-0.8
SYVR				*e*Sg		Sg	21 25 47.5	+0.1
SYVR				Pmax				
	comp=E,28nm,0.3s							
SYVR				Smax				
	comp=E,142nm,0.1s							
ZRHB	**Zarechye**	**1.12**	**228**	*e*Pg		Pg	21 25 37.2	-0.9
ZRHB				*e*Sg		Sg	21 25 52.7	+0.1
ZRHB				Pmax				
	comp=E,596nm,0.4s							
ZRHB				Smax				
	comp=E,2μm,0.5s							
TRG	**Tyrgan**	**1.42**	**248**	*e*PG		Pn	21 25 41.6	-1.3
TRG				*e*			21 26 01.2	
TRG				pmax	pmax			
	comp=Z,281nm,0.3s							
TRG				smax	smax			
	comp=N,849nm,0.3s							
TRG	**Tyrgan**	**1.42**	**248**	⇓ *i*Pg		Pn	21 25 41.6	-1.3
TRG				*e*Pb		Pb	21 25 42.7	-0.8
TRG				*e*Sg		Sb	21 26 00.6	-1.2
TRG				max				
	comp=N,281nm,0.3s							
TRG				Smax				
	comp=N,849nm,0.3s							
UUDB	**Ulan-Yde**	**1.53**	**200**	*e*Pg		Pn	21 25 44.2	-0.2
UUDB				*e*Sg		Sn	21 26 04.4	-0.1
UUDB				Pmax				
	comp=N,93nm,0.2s							
UUDB				Smax				
	comp=N,725nm,0.5s							
KAB	**Kabansk**	**1.69**	**223**	*e*PN		Pb	21 25 47.4	-0.7
KAB				*e*			21 26 10.1	
KAB				pmax	pmax			
	comp=Z,152nm,0.4s							
KAB				smax	smax			
	comp=N,877nm,0.5s							
KAB	**Kabansk**	**1.69**	**223**	*e*Pg		Pb	21 25 47.6	-0.5
KAB				*e*Sg		Sb	21 26 09.6	+0.1
KAB				Pmax				
	comp=N,329nm,0.4s							
KAB				Smax				
	comp=N,653nm,0.3s							
YLYR	**Ulyunkhan**	**2.22**	**44**	*e*Pn		Pn	21 25 54.2	+0.4
YLYR				*e*Pg		Pb	21 25 56.0	-1.0
YLYR				*e*Sg		Sb	21 26 26.2	+1.5
YLYR				Pmax				
	comp=N,25nm,0.4s							
YLYR				Smax				
	comp=N,97nm,0.5s							
NIZ	**Nizh Angarsk**	**2.55**	**13**	*e*PN		Pb	21 26 02.1	-0.6
NIZ				*e*			21 26 36.0	
NIZ				pmax	pmax			
	comp=Z,13nm,0.3s							
NIZ				smax	smax			
	comp=N,116nm,0.5s

NLYR					pmax	pmax			
	comp=Z,34nm,0.6s								
NLYR					smax	smax			
	comp=E,69nm,1.4s								
NLYR	**Nelyaty**	**5.23**	**49**	*e*Pn	Pn		21 26 36.0	+0.7	
NLYR				*e*Pg	Pb		21 26 50.1	+1.7	
NLYR				*e*Sg	Sg		21 27 59.8	-4.9	
NLYR				Pmax					
	comp=E,10.0nm,0.6s								
NLYR				Smax					
	comp=E,69nm,1.5s								
ORL	**Orlik**	**5.33**	**265**	*e*PN	Pn		21 26 37.8	+1.1	
ORL				*e*			21 26 51.5		
ORL				*e*S	Sn		21 27 36.0	-2.3	
ORL	**Orlik**	**5.33**	**265**	*e*Pn	Pn		21 26 38.1	+1.4	
ORL				*e*			21 26 46.4		
ORL				*e*Sn	Sn		21 27 36.0	-2.3	
ORL				*e*			21 27 54.2		
ORL				*e*Sg	Sb		21 28 00.1	+5.8	
ORL				Smax					
	comp=E,62nm,0.7s								
BOD	**Bodaibo**	**5.49**	**32**	*e*Sg	Sg		21 28 07.1	-5.8	
BOD				Smax					
	comp=E,16nm,0.9s								
ULN	**Ulaanbaatar**	**5.52**	**190**	*e*Pn	Pn		21 26 40.5	+1.1	
ULN				*e*Pg	Pb		21 26 55.7	+2.2	
ULN				*e*Sg	Sg		21 28 07.9	-6.3	
CRS	**Chara**	**6.66**	**53**	*e*PG	Pb		21 27 18.0	+5.4	
CRS				*e*			21 28 43.7		
CRS				pmax	pmax				
	comp=Z,13nm,1.7s								
CRS				smax	smax				
	comp=E,38nm,1.5s								
TUP	**Tupik**	**6.86**	**76**	*e*PN	Pn		21 26 58.2	+0.6	
TUP				*e*			21 27 19.9		
TUP				*e*S	Sn		21 28 14.0	-1.8	
TUP				*e*			21 28 47.4		
TUP				pmax	pmax				
	comp=Z,5.0nm,0.5s								
TUP				smax	smax				
	comp=N,110nm,1.2s								
TUP	**Tupik**	**6.86**	**76**	*e*Pn	Pn		21 26 58.6	+1.0	
TUP				*e*Pg	Pb		21 27 21.2	+5.1	
TUP				*e*Sg	Sg		21 28 49.4	-7.3	
TUP				Pmax					
	comp=N,5.0nm,0.2s								
TUP				Smax					
	comp=N,110nm,1.2s								

MAN ***02*** *21:28:33,4˝.56N×126˚.63E,h18km,mb5.2,ML4.2,MS4.4*
IDC ***02*** *21:28:36.5±0.6,5˚.32N×126˚.22E,h0km,mb4.4/17,*
mb1 4.5/17,mb1mx4.3/26,mbtmp4.4/17,MS3.8/3,
Ms1 3.8/3,ms1mx3.1/30,Error ellipse: s-maj=29.1km
s-min=11.9km az=77.0
DJA ***02*** *21:28:40.2±1.8,5˚N±11˚×12˚7E±1˚1,h365km±21km,*
M4.7/7,mb4.8/6,mB4.8/6,MLv5.1/7,Mw(mB)4.1/6
BJI ***02*** *21:28:41.4,5˚.40N×126˚.25E,h34km,mB5.1/21,mb4.7/31,*
Ms4.8/11,Ms7 4.5/11
NEIC ***02*** *21:28:42.3±1.0,5˚.45N×126˚.52E,h44km±9km,mb4.7/20,*
Error ellipse: s-maj=9.3km s-min=5.1km az=69.0
AUST ***02*** *21:28:42.9,5˚.50N×126˚.51E,h60km*
ISCJB ***02*** *21:28:44.4±0.5,5˚.29N±0˚.03×126˚.42E±0˚.05,h78km±4km,*
mb4.5/45,Error ellipse: s-maj=8.6km s-min=4.1km
az=168.6

ISC 02 21:28:44.1±0.8,5˚33N±0˚.04×126˚41E±0˚.07,h53km±7km,
n135,σ1s53/151,mb4.6/45,MS4.2/5,2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.62**	**355**	*e*P		**Pn**	**21 29 12.6**	**+2.4**
MATI				*e*S		**Sn**	**21 29 32.6**	**+2.6**
GSPH	**General Santos**	**1.64**	**298**	ǁ *i*P		**Pn**	**21 29 08.7**	**-1.9**
SGSI	**Sangihe**	**1.85**	**208**	P		**Sn**	**21 29 36.4**	**+0.7**
DAV	**Davao City (W)**	**1.92**	**335**	P		**Sn**	**21 29 34.6**	**-2.8**
DAV	**Davao City (W)**	**1.92**	**335**	*e*Pn		Pn	21 29 10.2	-4.1
KCP	**Kidapawan**	**2.12**	**322**	ǁ *e*P		**Pn**	**21 29 18.0**	**+0.8**
KCP				*i* S		Sn	21 29 53.9	+11
BIPH	**Bislig**	**2.84**	**359**	ǁ *i*P		**Pn**	**21 29 29.8**	**+2.9**
CTBH	**Cotabato--PC H**	**2.86**	**311**	ǁ *e*P		**Pn**	**21 29 28.2**	**+1.0**
BUKP	**Musuan**	**2.87**	**332**	*e*P		**Pn**	**21 29 29.5**	**+2.1**
CGP	**Cagayan de Oro**	**3.54**	**331**	*e*P		**Pn**	**21 29 39.2**	**+2.6**
CGP				*i* S		Sn	21 30 34.8	+17
BUTP	**Butuan**	**3.70**	**348**	*e*P		**Pn**	**21 29 42.0**	**+3.1**
PAGZ	**Pagadian**	**3.91**	**310**	*e*P		Pn	21 29 45.9	+4.2
SCPH	**Surigao**	**4.52**	**348**	ǁ *e*P		Pn	21 29 55.1	+5.1
TNTI	**Ternate**	**4.62**	**168**	P		**Pn**	**21 29 51.8**	**+0.4**
TNTI	**Ternate**	**4.62**	**168**	*e*Pn		**Pn**	**21 29 51.9**	**+0.4**
TNTI				*e*Sn		**Sn**	**21 30 46.8**	**+2.8**
KMSI	**Cibinong**	**5.31**	**207**	P		Pn	21 30 13.9	+13
	304nm,0.7s,4μm2.2nm							
GTOI	**Gorontalo**	**5.76**	**216**	P		**Pn**	**21 30 06.9**	**-0.2**
	113nm,0.8s,2μm0.6nm							
LBMI	**Labuha**	**6.03**	**170**	P		**Pn**	**21 30 10.0**	**-0.7**
MRSI	**Marisa**	**6.56**	**223**	P		**Pn**	**21 30 19.3**	**+1.2**
	128nm,0.6s,1μm0.5nm							
LUWI	**Luwuk**	**7.29**	**210**	P		**Pn**	**21 30 29.7**	**+1.6**
	177nm,1.0s,2μm0.8nm							
LUWI	**Luwuk**	**7.29**	**210**	P		**Pn**	**21 30 30.6**	**+2.5**
	baz=7.5,SNR=24							
APSI	**Ampana**	**7.81**	**218**	P		Pn	21 30 39.5	+4.4
	88nm,0.8s,962nm							
NLAI	**Namlea**	**8.54**	**175**	P		**Pn**	**21 30 43.5**	**-1.6**
FAKI	**Fak Fak**	**10.06**	**144**	P		**Pn**	**21 31 07.1**	**+1.2**
	baz=10,SNR=6.7							
KAPI	**Kappang**	**12.23**	**213**	*e*Pn		**Pn**	**21 31 36.2**	**+0.5**
SBUM	**Sibu**	**14.44**	**259**	*e*Pn		**Pn**	**21 32 05.8**	**+0.2**
KSM	**Kuching**	**16.52**	**257**	*e*Pn		**Pn**	**21 32 32.7**	**+0.3**
	11nm,0.9s							
KDU	**Kakadu**	**18.88**	**161**	P		**Pn**	**21 33 01.4**	**+0.1**
	baz=19,SNR=8.1							
KNRA	**Kununurra**	**21.00**	**174**	P		**P**	**21 33 22.7**	**-0.5**
	baz=21,SNR=18							
MYKOM	**Kota Tinggi**	**22.78**	**262**	*e*P		**P**	**21 33 45.0**	**+2.6**
	69nm,1.8s							
FITZ	**Fitzroy Crossi**	**23.29**	**182**	*e*P		**P**	**21 33 46.9**	**-0.5**
	9.9nm,0.9s							
FITZ	**Fitzroy Crossi**	**23.29**	**182**	P		**P**	**21 33 46.2**	**-1.2**
	2.9nm,0.5s,baz=346,slow=8.9,SNR=7.5							
FITZ	**Fitzroy Crossi**	**23.29**	**182**	P		**P**	**21 33 49.0**	**+1.6**
	baz=24,SNR=4.8							
IPM	**Ipoh**	**25.30**	**269**	*e*P		**P**	**21 34 05.2**	**-0.8**
	48nm,1.6s							
COEN	**Coen**	**25.38**	**139**	*e*P		**P**	**21 34 06.5**	**-0.1**
	813nm,1.9s							
COEN	**Coen**	**25.38**	**139**	P		**P**	**21 34 07.4**	**+0.8**
	baz=26,SNR=4.7							
KULM	**Kulim**	**25.65**	**271**	*e*P		**P**	**21 34 09.9**	**+0.8**
	27nm,1.3s							
WRAB	**Tennant Creek**	**26.29**	**163**	*e*P		**P**	**21 34 15.0**	**+0.2**
	13nm,0.7s							
WRA	**Warramunga Arr**	**26.30**	**163**	P		**P**	**21 34 13.8**	**-1.1**
WRA				ScP		ScP	21 41 23.6	+7.8
WRA	**Warramunga Arr**	**26.30**	**163**	P		**P**	**21 34 13.8**	**-1.1**
	7.0nm,0.7s,baz=341,slow=10,SNR=34							
WRA				ScP		ScP	21 41 23.6	+7.8
	1.0nm,0.8s,baz=347,slow=3.4,SNR=5.4							
MBWA	**Marble Bar**	**27.12**	**194**	*e*P		**P**	**21 34 23.4**	**+1.1**
	142nm,2.3s							
NJ2	**Nanjing**	**27.51**	**346**	*e*P		**P**	**21 34 23.8**	**-1.9**
NJ2				pmax		pmax		
	comp=Z,20nm,1.2s							
PSI	**Prapat**	**27.53**	**266**	P		**P**	**21 34 25.1**	**-1.1**
PSI	**Prapat**	**27.53**	**266**	P		**P**	**21 34 25.1**	**-1.1**
	1.8nm,0.3s,baz=148,slow=9.5,SNR=3.7							
JNU	**Nakatsue**	**27.97**	**8**	*e*P		**P**	**21 34 28.5**	**-1.3**
	22nm,1.7s							
JNU	**Nakatsue**	**27.97**	**8**	P		**P**	**21 34 29.9**	**+0.1**
	9.4nm,0.8s,baz=225,slow=2.9,SNR=4.7							
GYA	**Guiyang**	**28.23**	**320**	*e*P		**P**	**21 34 31.8**	**-0.6**
GYA				PP		**PnPn**	**21 35 22.5**	**-0.4**
GYA				PcP		**PcP**	**21 37 45.4**	**+0.4**
GYA				S		**S**	**21 39 17.0**	**+2.2**
GYA				SS		**SnSn**	**21 40 39.2**	**+3.5**
GYA				ScP		**ScP**	**21 41 26.8**	**+5.0**
GYA				ScS		**ScS**	**21 45 16.5**	**+1.7**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,90nm,4.9s							
GYA				LR		LR		
	comp=N,470nm,15.9s							
GYA				LR		LR		
	comp=E,360nm,16.2s							
GYA				LR		LR		
	comp=Z,430nm,16.5s							
AS31	**Alice Springs**	**29.73**	**166**	*e*P		**P**	**21 34 44.7**	**-0.9**
ASAR	**Alice Springs**	**29.73**	**166**	P		**P**	**21 34 44.7**	**-0.8**
ASAR				PcP		**PcP**	**21 37 47.5**	**-1.1**
ASAR	**Alice Springs**	**29.73**	**166**	P		**P**	**21 34 44.7**	**-0.8**
	1.1nm,0.8s,baz=342,slow=6.8,SNR=13							
ASAR				PcP		**PcP**	**21 37 47.5**	**-1.1**
	0.9nm,0.6s,baz=356,slow=3.4,SNR=5.0							
CMAR	**Chiang Mai Arr**	**29.81**	**298**	P		**P**	**21 34 48.1**	**+1.8**
CMAR				PcP		**PcP**	**21 37 50.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**29.81**	**298**	P		**P**	**21 34 48.1**	**+1.8**
	1.3nm,0.6s,baz=110,slow=7.4,SNR=12							
CMAR				PcP		**PcP**	**21 37 50.0**	**+1.1**
	0.8nm,0.5s,baz=128,slow=0.9,SNR=5.8							
KMI	**Kunming**	**30.04**	**313**	P		**P**	**21 34 50.0**	**+1.4**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.7s							
PATS	**Pohnpei**	**31.76**	**86**	P		P	21 34 55.5	-8.0
	baz=32,SNR=3.1							
KSAR	**Wonju Array Be**	**31.99**	**2**	P		**P**	**21 35 07.3**	**+2.1**
KSRS	**Korea Array**	**32.01**	**2**	P		**P**	**21 35 07.3**	**+2.0**
	2.3nm,0.7s,baz=192,slow=8.1,SNR=6.2							
KSRS				LR		LR	21 49 30.1		
	comp=Z,70nm,18.6s,baz=320,slow=39								
MEEK	**Meekatharra**	**32.66**	**193**	P		**P**	**21 35 10.0**	**-1.3**
	baz=33,SNR=7.9								
BJT	**Baijiatuao**	**35.75**	**346**	*e*P		**P**	**21 35 36.1**	**-1.7**
	14nm,0.4s								
BJI	**Beijing**	**35.77**	**347**	P		**P**	**21 35 37.6**	**-0.4**
BJI				pmax		pmax			
	comp=Z,23nm,0.8s								
BJI				pmax		pmax			
	comp=Z,310nm,5.3s								
LZH	**Lanzhou**	**36.98**	**329**	*e*P		**P**	**21 35 49.3**	**+0.7**
LZH				pmax		pmax			
	comp=Z,28nm,1.2s								
LZH				pmax		pmax			
	comp=Z,170nm,4.3s								
HHC	**Hu-ho-hao-te**	**37.79**	**342**	*e*P		**P**	**21 35 54.2**	**-1.2**
HHC				PP		**PP**	**21 37 22.5**	**0.0**
HHC				PcP		**PcP**	**21 38 11.4**	**+0.1**
HHC				S		**S**	**21 41 45.6**	**+3.0**
HHC				PcS		**PcS**	**21 41 58.6**	**-1.5**
HHC				SS		**SnSn**	**21 44 19.4**	**-7.7**
HHC				pmax		pmax			
	comp=Z,20nm,1.0s								
HHC				pmax		pmax			
	comp=Z,220nm,5.9s								
HHC				LR		LR			
	comp=N,320nm,13.6s								
HHC				LR		LR			
	comp=E,310nm,13.9s								
HHC				LR		LR			
	comp=Z,310nm,14.2s								
CN2	**Changchun**	**38.33**	**359**	*e*P		**P**	**21 35 59.3**	**-0.4**
USRK	**Ussuriysk Arra**	**39.03**	**6**	P		**P**	**21 36 06.9**	**+1.4**
	4.8nm,0.7s,baz=186,slow=7.7,SNR=11								
NWAO	**Narrogin (SRO)**	**39.03**	**192**	P		**P**	**21 36 05.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**39.03**	**192**	P		**P**	**21 36 05.0**	**-0.7**
	8.5nm,0.9s,baz=36,slow=8.9,SNR=5.7								
MDJ	**Mudanjiang**	**39.23**	**4**	P		**P**	**21 36 09.6**	**+2.3**
MDJ				pmax		pmax			
	comp=Z,24nm,0.8s								
MDJ				pmax		pmax			
	comp=Z,150nm,7.5s								
MDJ	**Mudanjiang**	**39.23**	**4**	*e*P		**P**	**21 36 05.5**	**-1.8**
	20nm,0.9s								
STKA	**Stephens Creek**	**39.73**	**160**	*e*P		**P**	**21 36 11.3**	**-0.3**
	2.3nm,0.8s								
STKA	**Stephens Creek**	**39.73**	**160**	P		**P**	**21 36 12.5**	**+1.0**
	6.5nm,0.7s,baz=344,slow=8.3,SNR=15								
STKA				LR		LR	21 51 52.3		
	comp=Z,106nm,19.1s,baz=24,slow=35								
STKA	**Stephens Creek**	**39.73**	**160**	P		**P**	**21 36 13.6**	**+2.0**
	baz=40,SNR=11								
LSA	**Lhasa**	**41.16**	**310**	*e*P		**P**	**21 36 23.4**	**-0.6**
	2.7nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**41.41**	**68**	T		T	22 20 33.1		
	baz=254,slow=75								
H11S1	**WAKE ISLAND Hy**	**41.43**	**68**	T		T	22 20 34.2		
	baz=254,slow=75								
H11S2	**WAKE ISLAND Hy**	**41.43**	**68**	T		T	22 20 34.8		
	baz=254								
GTA	**Gaotai**	**41.57**	**328**	*e*P		P	21 36 31.9	+5.0	
GTA				pP		pP	21 36 36.3	-4.5	
GTA				sP		sP	21 36 39.4	-7.6	
GTA				PcP		**PcP**	**21 38 23.9**	**+0.5**	
GTA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**41.89**	**66**	T		T	22 21 07.8		
	baz=258								
H11N2	**WAKE ISLAND Hy**	**41.90**	**66**	T		T	22 21 10.0		
	baz=258								
H11N3	**WAKE ISLAND Hy**	**41.91**	**66**	T		T	22 21 10.6		
	baz=258								
TAPN	**Taplejung**	**42.83**	**305**	*e*P		**P**	**21 36 37.6**	**+0.1**	
	11nm,0.7s								
TAPN	**Taplejung**	**42.83**	**305**	*e*P		**P**	**21 36 37.6**	**+0.1**	
ODAN	**Odare**	**42.90**	**304**	*e*P		**P**	**21 36 38.4**	**+0.4**	
	13nm,0.8s								
ODAN	**Odare**	**42.90**	**304**	*e*P		**P**	**21 36 38.4**	**+0.4**	
ARMA	**Armidale**	**42.97**	**147**	*e*P		**P**	**21 36 38.7**	**+0.4**	
	73nm,2.1s								
RAMN	**Ramite**	**43.58**	**304**	*e*P		**P**	**21 36 44.2**	**+0.7**	
RAMN	**Ramite**	**43.58**	**304**	*e*P		**P**	**21 36 44.2**	**+0.7**	
JIRN	**Jiri**	**44.19**	**305**	*e*P		**P**	**21 36 49.0**	**+0.4**	
	15nm,0.6s								
JIRN	**Jiri**	**44.19**	**305**	*e*P		**P**	**21 36 49.0**	**+0.4**	
GUN	**Gumba**	**44.54**	**305**	*e*P		**P**	**21 36 51.7**	**+0.4**	
	25nm,0.7s								
GUN	**Gumba**	**44.54**	**305**	*e*P		**P**	**21 36 51.7**	**+0.4**	
PKI	**Pulchoki**	**44.80**	**304**	*e*P		**P**	**21 36 53.1**	**-0.3**	
	5.8nm,0.8s								
PKI	**Pulchoki**	**44.80**	**304**	*e*P		**P**	**21 36 53.2**	**-0.2**	
PKIN	**Phulchoki**	**44.81**	**304**	*e*P		**P**	**21 36 53.2**	**-0.2**	
KKN	**Kakani**	**44.99**	**304**	*e*P		**P**	**21 36 54.5**	**-0.2**	
KKN	**Kakani**	**44.99**	**304**	*e*P		**P**	**21 36 54.5**	**-0.2**	
DMN	**Daman**	**45.06**	**304**	*e*P		**P**	**21 36 55.4**	**0.0**	
DMN	**Daman**	**45.06**	**304**	*e*P		**P**	**21 36 55.4**	**0.0**	
ULN	**Ulaanbaatar**	**45.51**	**342**	*e*P		**P**	**21 36 56.6**	**-1.8**	
	8.5nm,0.9s								
GKN	**Gorkha**	**45.59**	**304**	*e*P		**P**	**21 36 59.3**	**-0.2**	
	3.4nm,0.4s								
SONM	**Songino Array**	**45.69**	**341**	P		**P**	**21 36 59.6**	**-0.2**	
SONM				PcP		**PcP**	**21 38 37.4**	**+0.3**	
SONM	**Songino Array**	**45.69**	**341**	P		**P**	**21 36 59.6**	**-0.2**	
	3.1nm,0.6s,baz=146,slow=7.5,SNR=8.9								
SONM				PcP		**PcP**	**21 38 37.4**	**+0.3**	
	1.1nm,0.7s,baz=170,slow=5.7,SNR=3.6								
KOLN	**Koldanda**	**46.37**	**304**	*e*P		**P**	**21 37 06.0**	**+0.4**	
	10nm,0.6s								
KOLN	**Koldanda**	**46.37**	**304**	*e*P		**P**	**21 37 06.0**	**+0.4**	
DANN	**Dangsing**	**46.44**	**305**	*e*P		**P**	**21 37 06.4**	**+0.1**	
	14nm,0.6s								
DANN	**Dangsing**	**46.44**	**305**	*e*P		**P**	**21 37 06.4**	**+0.1**	
PYUN	**Piuthan**	**46.99**	**304**	*e*P		**P**	**21 37 10.9**	**+0.4**	
	18nm,0.5s								
PYUN	**Piuthan**	**46.99**	**304**	*e*P		**P**	**21 37 10.9**	**+0.4**	
WMQ	**Urumqi**	**51.24**	**325**	P		**P**	**21 37 43.4**	**+0.8**	
WMQ				pmax		pmax			
	comp=Z,10.0nm,1.0s								
MK31	**Makanchi Array**	**56.07**	**325**	*e*P		**P**	**21 38 16.7**	**-1.1**	
MKAR	**Makanchi Array**	**56.07**	**325**	*e*P		**P**	**21 38 16.9**	**-0.9**	
MKAR				PcP		**PcP**	**21 39 15.3**	**-0.2**	
MKAR	**Makanchi Array**	**56.07**	**325**	P		**P**	**21 38 16.9**	**-0.9**	
	3.0nm,0.6s,baz=124,slow=8.3,SNR=35								
MKAR				PcP		**PcP**	**21 39 15.3**	**-0.2**	
	1.9nm,0.7s,baz=118,slow=4.8,SNR=5.7								
YAK	**Yakutsk**	**56.63**	**2**	*e*P		**P**	**21 38 20.1**	**-1.3**	
	42nm,0.8s								
KSH	**Kashi**	**56.70**	**314**	P		**P**	**21 38 23.5**	**+1.0**	
KSH				PcP		**PcP**	**21 39 19.1**	**+0.9**	
KSH				PP		**PP**	**21 40 31.0**	**+1.9**	
KSH				S		**S**	**21 46 14.1**	**+2.6**	
KSH				ScS		**ScS**	**21 48 08.1**	**+0.5**	
KSH				pmax		pmax			
	comp=Z,1.0nm,0.2s								
KSH				pmax		pmax			
	comp=Z,98nm,5.0s								
KSH				LR		LR			
	comp=N,230nm,5.7s								
KSH				LR		LR			
	comp=E,210nm,5.0s								
KSH				LR		LR			
	comp=Z,200nm,6.1s								
TKM2	**Tokmak 2**	**58.35**	**318**	*e*P		**P**	**21 38 33.8**	**-0.4**	
	38nm,2.5s								
ZAA0	**Zalesovo Array**	**59.03**	**333**	*e*P		**P**	**21 38 36.6**	**-1.8**	
ZAA0				*e*PcP		**PcP**	**21 39 25.1**	**-1.8**	
ZALV	**Zalesovo Beam**	**59.03**	**333**	P		**P**	**21 38 36.8**	**-1.6**	
ZALV				PcP		**PcP**	**21 39 25.5**	**-1.3**	
ZALV	**Zalesovo Beam**	**59.03**	**333**	P		**P**	**21 38 36.8**	**-1.6**	
	1.3nm,0.6s,baz=127,slow=6.7,SNR=6.8								
ZALV				PcP		**PcP**	**21 39 25.5**	**-1.3**	
	2.1nm,0.7s,baz=132,slow=4.2,SNR=4.7								
KURBB	**Kurchatov Arra**	**60.23**	**327**	P		**P**	**21 38 45.8**	**-1.0**	
	3.4nm,0.7s,baz=123,slow=6.6,SNR=65								
KURK	**Kurchatov**	**60.23**	**327**	*e*P		**P**	**21 38 45.8**	**-1.0**	
	4.5nm,0.7s								
KKAR	**Karatay Array**	**61.85**	**317**	*e*P		**P**	**21 38 56.9**	**-1.1**	
BVAR	**Borovoye Array**	**65.82**	**327**	P		**P**	**21 39 22.8**	**-1.0**	
BVAR	**Borovoye Array**	**65.82**	**327**	P		**P**	**21 39 22.8**	**-1.0**	
	2.1nm,0.7s,baz=124,slow=9.4,SNR=17								
BRVK	**Borovoye**	**65.89**	**327**	*e*P		**P**	**21 39 22.8**	**-1.5**	
	6.5nm,0.8s								
ABKAR	**Akbulak array**	**70.72**	**320**	*e*P		**P**	**21 39 52.8**	**-1.8**	
	2.8nm,0.7s								
ARU	**Arti**	**73.42**	**328**	*e*P		**P**	**21 40 09.0**	**-1.6**	
	6.0nm,0.7s								
ILAR	**Eielson Array**	**83.81**	**25**	P		**P**	**21 41 07.7**	**+0.1**	
ILAR	**Eielson Array**	**83.81**	**25**	P		**P**	**21 41 07.7**	**+0.1**	
	1.1nm,0.9s,baz=235,slow=5.2,SNR=10								
ARCES	**ARCESS Array B**	**88.85**	**340**	P		**P**	**21 41 31.2**	**-0.9**	
ARCES	**ARCESS Array B**	**88.85**	**340**	P		**P**	**21 41 31.2**	**-0.9**	
	5.5nm,0.8s,baz=92,slow=6.3,SNR=7.2								
FINES	**FINESS Array B**	**90.28**	**332**	P		**P**	**21 41 37.6**	**-1.4**	
FINES	**FINESS Array B**	**90.28**	**332**	P		**P**	**21 41 37.6**	**-1.4**	
	2.3nm,0.8s,baz=66,slow=6.7,SNR=5.2								
NB2	**NORSAR Subarra**	**97.22**	**334**	P		**P**	**21 42 08.1**	**-2.9**	
	comp=Z,1.3nm,0.7s,baz=65,slow=4.6								
NOA	**NORSAR Array B**	**97.22**	**334**	P		**P**	**21 42 09.1**	**-1.9**	
NOA	**NORSAR Array B**	**97.22**	**334**	P		**P**	**21 42 09.1**	**-1.9**	
	comp=Z,1.2nm,0.7s,baz=66,slow=4.7,SNR=5.2								
NOA				LR		LR	22 27 53.5		
	comp=Z,109nm,18.1s,baz=270,slow=37								
TORD	**Torodi Ar. Bea**	**122.11**	**289**	PKP		**PKPdf**	**21 47 33.0**	**-0.9**	
TORD	**Torodi Ar. Bea**	**122.11**	**289**	PKP		**PKPdf**	**21 47 33.0**	**-0.9**	
	comp=Z,1.3nm,0.7s,baz=47,slow=1.9,SNR=9.7								

AUST ***02*** *21:32:48.3±18.0,5˚.48N×127˚.84E,h0km,Error ellipse:*
s-maj=3.0km s-min=1.3km az=39.0
IDC ***02*** *21:32:59.0±2.5,5˚.05N×127˚.05E,h55km±21km,mb4.0/16,*
mb1 4.1/16,mb1mx4.0/25,mbtmp4.0/16,MS3.4/2,
Ms1 3.4/2,ms1mx2.9/29,Error ellipse: s-maj=32.7km
s-min=12.6km az=71.0
ISCJB ***02*** *21:33:01.5±0.7,5˚.07N±0˚.04×127˚.08E±0˚.07,h98km±5km,*
mb4.2/25,Error ellipse: s-maj=11.6km s-min=5.4km
az=164.0
MAN ***02*** *21:33:02,5˚.09N×127˚.03E,h61km,mb5.1,ML4.1,MS4.3*
NEIC ***02*** *21:33:04.8±1.3,5˚.04N×127˚.03E,h112km±12km,mb4.4/13,*
Error ellipse: s-maj=11.3km s-min=6.5km az=56.0
DJA ***02*** *21:33:09.2±4.7,5˚N±19˚×12˚6E±8˚7,h10km,M4.6/4,*
mb4.8/3,mB5.0/3,MLv4.5/4,Mw(mB)4.3/3

ISC 02 21:33:01.3±1.2,5˚05N±0˚.05×127˚02E±0˚.09,h76km±10km,
n99,σ1s24/103,mb4.4/25,4D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.03**	**338**	*e*P		**Pn**	**21 33 34.1**	**+0.5**
MATI				*e*S		**Sn**	**21 33 58.1**	**0.0**
GSPH	**General Santos**	**2.31**	**297**	ǁ *i*P		**Pn**	**21 33 34.7**	**-2.6**
GSPH				*e*S		**Sn**	**21 34 01.2**	**-3.7**
DAV	**Davao City (W)**	**2.46**	**324**	P		**P**	**21 33 42.1**	**+2.7**
KCP	**Kidapawan**	**2.73**	**315**	ǁ *e*P		**Pn**	**21 33 43.4**	**+0.3**
KCP				*i* S		**Sn**	**21 34 18.3**	**+3.1**
BIPH	**Bislig**	**3.18**	**348**	ǁ *e*P		Pn	21 33 56.2	+7.1
BUKP	**Musuan**	**3.42**	**325**	*e*P		**Pn**	**21 33 54.9**	**+2.5**
CTBH	**Cotabato--PC H**	**3.50**	**308**	*e*P		**Pn**	**21 33 55.5**	**+2.1**
CTBH				*i* S		**Sn**	**21 34 36.1**	**+2.3**
CGP	**Cagayan de Oro**	**4.09**	**326**	*e*P		Pn	21 34 07.0	+5.5
CGP				*e*S		**Sn**	**21 34 44.0**	**-4.3**
BUTP	**Butuan**	**4.13**	**340**	*e*P		Pn	21 34 05.8	+3.7
TNTI	**Ternate**	**4.27

	4.8nm,0.9s							
SONM	**Songino Array**	**46.15**	**341**	P	**P**	**21**	**41**	**19.4 +1.0**
SONM				PcP	**PcP**	**21**	**42**	**53.1 -0.2**
SONM	**Songino Array**	**46.15**	**341**	P	**P**	**21**	**41**	**19.4 +1.0**
	2.3nm,0.7s,baz=155,slow=8.3,SNR=16							
SONM				PcP	**PcP**	**21**	**42**	**53.1 -0.2**
	0.6nm,0.7s,baz=148,slow=3.2,SNR=3.7							
GKN	**Gorkha**	**46.25**	**304**	*eP*	**P**	**21**	**41**	**18.8 -0.8**
GKN	**Gorkha**	**46.25**	**304**	*eP*	**P**	**21**	**41**	**18.8 -0.8**
KOLN	**Koldanda**	**47.03**	**304**	*eP*	**P**	**21**	**41**	**25.6 -0.1**
KOLN	**Koldanda**	**47.03**	**304**	*eP*	**P**	**21**	**41**	**25.6 -0.1**
DANN	**Dangsing**	**47.10**	**304**	*eP*	**P**	**21**	**41**	**25.6 -0.8**
DANN	**Dangsing**	**47.10**	**304**	*eP*	**P**	**21**	**41**	**25.6 -0.8**
PYUN	**Piuthan**	**47.65**	**304**	*eP*	**P**	**21**	**41**	**30.5 -0.1**
PYUN	**Piuthan**	**47.65**	**304**	*eP*	**P**	**21**	**41**	**30.5 -0.1**
PETK	**Petropavlovsk-**	**54.10**	**22**	P	**P**	**21**	**42**	**19.6 +1.2**
PETK	**Petropavlovsk-**	**54.10**	**22**	P	**P**	**21**	**42**	**19.6 +1.2**
	5.4nm,0.8s,baz=151,slow=3.4,SNR=3.6							
MK31	**Makanchi Array**	**56.65**	**325**	*eP*	**P**	**21**	**42**	**35.8 -1.0**
MKAR	**Makanchi Array**	**56.65**	**325**	P	**P**	**21**	**42**	**36.7 -0.1**
MKAR				PcP	**PcP**	**21**	**43**	**31.9 -0.4**
MKAR	**Makanchi Array**	**56.65**	**325**	P	**P**	**21**	**42**	**36.7 -0.1**
	1.3nm,0.6s,baz=126,slow=7.7,SNR=11							
MKAR				PcP	**PcP**	**21**	**43**	**31.9 -0.4**
	1.5nm,0.7s,baz=109,slow=4.9,SNR=4.8							
ZAA0	**Zalesovo Array**	**59.55**	**333**	*eP*	**P**	**21**	**42**	**56.4 -0.5**
ZALV	**Zalesovo Beam**	**59.55**	**333**	P	**P**	**21**	**42**	**56.9 0.0**
ZALV	**Zalesovo Beam**	**59.55**	**333**	P	**P**	**21**	**42**	**56.9 0.0**
	1.8nm,0.5s,baz=129,slow=6.8,SNR=11							
KURK	**Kurchatov**	**60.79**	**327**	*eP*	**P**	**21**	**43**	**04.4 -1.0**
	19nm,2.1s							
KURBB	**Kurchatov Arra**	**60.79**	**327**	P	**P**	**21**	**43**	**05.4 0.0**
	2.0nm,0.6s,baz=128,slow=6.4,SNR=27							
KBL	**Kabul**	**60.96**	**307**	*eP*	**P**	**21**	**43**	**06.6 -0.6**
	3.0nm,0.8s							
KKAR	**Karatay Array**	**62.47**	**316**	*eP*	**P**	**21**	**43**	**15.7 -1.2**
	2.4nm,0.9s							
BVAR	**Borovoye Array**	**66.38**	**327**	P	**P**	**21**	**43**	**42.0 -0.2**
BVAR	**Borovoye Array**	**66.38**	**327**	P	**P**	**21**	**43**	**42.0 -0.2**
	4.0nm,0.8s,baz=133,slow=6.3,SNR=15							
BRVK	**Borovoye**	**66.45**	**327**	*eP*	**P**	**21**	**43**	**41.7 -1.0**
	7.3nm,0.9s							
ARU	**Arti**	**73.98**	**327**	*eP*	**P**	**21**	**44**	**28.7 +0.1**
	6.8nm,0.8s							
ILAR	**Eielson Array**	**83.79**	**25**	P	**P**	**21**	**45**	**20.9 -1.3**
ILAR	**Eielson Array**	**83.79**	**25**	P	**P**	**21**	**45**	**20.9 -1.3**
	0.9nm,1.0s,baz=238,slow=5.6,SNR=5.1							
MENT	**Mentasta**	**85.20**	**27**	*eP*	**P**	**21**	**45**	**27.2 -2.2**
ARCES	**ARCESS Array B**	**89.32**	**340**	P	**P**	**21**	**45**	**47.8 -1.2**
ARCES	**ARCESS Array B**	**89.32**	**340**	P	**P**	**21**	**45**	**47.8 -1.2**
	5.0nm,0.8s,baz=99,slow=7.9,SNR=3.8							
BR131	**Keskin Array S**	**89.41**	**310**	*eP*	**P**	**21**	**45**	**49.1 -1.1**
	1.6nm,0.8s							
BRTR	**Keskin Array B**	**89.41**	**310**	P	**P**	**21**	**45**	**49.9 -0.4**
BRTR	**Keskin Array B**	**89.41**	**310**	P	**P**	**21**	**45**	**49.9 -0.4**
	2.1nm,0.9s,baz=96,slow=4.4,SNR=8.3							
KMBO	**Kilima Mbogo**	**89.87**	**269**	P	**P**	**21**	**45**	**53.0 0.0**
KMBO	**Kilima Mbogo**	**89.87**	**269**	P	**P**	**21**	**45**	**53.0 0.0**
	2.7nm,0.9s,baz=48,slow=9.9,SNR=6.6							
FINES	**FINESS Array B**	**90.81**	**332**	P	**P**	**21**	**45**	**55.4 -0.7**
FINES	**FINESS Array B**	**90.81**	**332**	P	**P**	**21**	**45**	**55.4 -0.7**
	1.2nm,0.6s,baz=36,slow=7.1,SNR=9.3							
TORD	**Torodi Ar. Bea**	**122.78**	**289**	PKP	**PKPdf**	**21**	**51**	**49.8 +0.1**
TORD	**Torodi Ar. Bea**	**122.78**	**289**	PKP	**PKPdf**	**21**	**51**	**49.8 +0.1**
	0.9nm,0.8s,baz=34,slow=2.1,SNR=5.8							

MAN 02 21:40:19,12°.14N×125°.47E,h15km,mb4.5,ML3.4,MS3.3, 1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
PLP	**Palo**	**1.08**	**206**	↓*eP*	Pb	21	40	37.9	-1.5
PLP				*eS*	Sn	21	40	54.5	+0.1
PVCP	**Virac**	**1.93**	**319**	*eP*	Pn	21	40	51.2	-0.1
PVCP				*eS*	Sn	21	41	13.5	-1.9
MSLP	**Maasin**	**2.08**	**197**	*eP*	Pn	21	40	54.6	+1.2
GUIM	**Jordan**	**3.20**	**242**	*eP*	Pn	21	41	10.4	+1.6

*IDC **02** 21:43:39.7±4.6,7°.64S×127°.32E,h113km±43km,mb3.6/6, mb1 3.8/9,mb1mx3.6/20,mbtmp3.7/9,Error ellipse: s-maj=46.3km s-min=16.9km az=64.0*
*AUST **02** 21:43:41.5,7°.99S×127°.03E,h60km*
ISC 02 21:43:39.0±0.8,7°.6S±0°.1×127°.2E±0°.2,h100km,n20, σ1s33/16,mb3.9/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
MTN	**Manton Dam**	**6.50**	**144**	P	Pn	21	45	15.6	+3.4
	baz=6.3,SNR=5.0								
FAKI	**Fak Fak**	**6.86**	**48**	P	Pn	21	45	22.4	+5.4
	baz=7.3,SNR=8.7								
KDU	**Kakadu**	**7.26**	**135**	P	Pn	21	45	25.1	+2.7
	baz=7.1,SNR=13								
KNRA	**Kununurra**	**8.18**	**169**	P	**Pn**	**21**	**45**	**36.4**	**+1.4**
	baz=7.9,SNR=80								
FITZ	**Fitzroy Crossi**	**10.55**	**188**	P	**Pn**	**21**	**46**	**06.5**	**-0.7**
	1.4nm,0.3s,baz=24,slow=8.8,SNR=24								
FITZ				S	Sn	21	47	55.5	-8.0
	2.3nm,0.3s,baz=270,slow=23,SNR=3.3								
FITZ	**Fitzroy Crossi**	**10.55**	**188**	P	**Pn**	**21**	**46**	**06.9**	**-0.4**
	baz=10,SNR=20								
WRA	**Warramunga Arr**	**14.10**	**151**	P	**Pn**	**21**	**46**	**52.0**	**-2.3**
	1.8nm,0.3s,baz=324,slow=13,SNR=36								
WRA				S	Sn	21	49	17.9	-12
	1.8nm,0.3s,baz=331,slow=22,SNR=8.5								
COEN	**Coen**	**16.93**	**113**	P	**P**	**21**	**47**	**32.8**	**+2.5**
	baz=17,SNR=4.0								
ASAR	**Alice Springs**	**17.23**	**159**	P	**P**	**21**	**47**	**34.1**	**+0.6**
	0.8nm,0.3s,baz=338,slow=11,SNR=46								
ASAR				S	Sn	21	50	33.2	-12
	0.3nm,0.3s,baz=331,slow=25,SNR=4.5								
MEEK	**Meekatharra**	**20.61**	**202**	P	Pn	21	48	12.7	-0.8
	baz=20,SNR=12								
MORW	**Morawa**	**23.80**	**205**	P	**P**	**21**	**48**	**43.0**	**+0.3**
	baz=24,SNR=3.9								
NWAO	**Narrogin (SRO)**	**26.84**	**199**	P	**P**	**21**	**49**	**09.6**	**-0.6**
	4.6nm,0.6s,baz=14,slow=4.2,SNR=4.4								
STKA	**Stephens Creek**	**27.64**	**153**	P	**P**	**21**	**49**	**16.3**	**-1.0**
	1.8nm,0.4s,baz=309,slow=11,SNR=9.1								
STKA	**Stephens Creek**	**27.64**	**153**	P	**P**	**21**	**49**	**16.9**	**-0.4**
	baz=28,SNR=6.9								
HTT	**Hallett**	**27.91**	**159**	P	**P**	**21**	**49**	**20.1**	**+0.3**
	baz=28,SNR=3.1								
CMAR	**Chiang Mai Arr**	**38.03**	**313**	P	**P**	**21**	**50**	**49.2**	**+1.3**
	1.2nm,0.7s,baz=142,slow=6.9,SNR=12								
SONM	**Songino Array**	**58.17**	**344**	P	**P**	**21**	**53**	**22.8**	**+0.2**
	0.4nm,0.7s,baz=160,slow=8.5,SNR=3.8								
MKAR	**Makanchi Array**	**67.22**	**328**	P	**P**	**21**	**54**	**21.9**	**-0.7**
	0.4nm,0.7s,baz=123,slow=8.8,SNR=3.7								
ZALV	**Zalesovo Beam**	**70.91**	**335**	P	**P**	**21**	**54**	**43.8**	**-1.4**
	0.8nm,0.5s,baz=128,slow=6.8,SNR=5.1								
LPAZ	**La Paz**	**151.84**	**147**	PKPbc	**PKPbc**	**22**	**03**	**22.6**	**-1.4**
	0.7nm,0.4s,baz=167,slow=1.2,SNR=2.6								

*ISCJB **02** 22:13:19.7±0.6,19°.45N±0°.05×109°.26W±0°.05,h33km, mb4.0/11,MS3.7/4, Error ellipse: s-maj=9.1km s-min=3.7km az=143.3*
*IDC **02** 22:13:19.0±1.8,19°.81N×108°.96W,h0km,mb3.6/4, mb1 4.1/7,mb1mx3.9/24,mbtmp3.8/7,ML3.6/3,MS3.7/8, Ms1 3.7/8,ms1mx3.4/30,Error ellipse: s-maj=64.5km s-min=27.3km az=92.0*
*NEIC **02** 22:13:19.2±0.9,19°.63N×108°.85W,h10km,mb4.1/16, Error ellipse: s-maj=17.8km s-min=11.2km az=67.0*
ISC 02 22:13:21.6±0.9,19°.54N±0°.08×109°.30W±0°.09,h35km, n138,σ1s37/123,mb4.0/11,MS3.6/4,48C-45D,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.71**	**244**	Pn	**Pn**	**22**	**13**	**48.0**	**-1.0**
H06E1				Sn	**Sn**	**22**	**14**	**10.0**	**+0.5**
	SNR=832								
H06E1				T	T	22	15	53.8	
	SNR=19								
H06N1	**SOCORRO T-PHAS**	**1.73**	**247**	Pn	**Pn**	**22**	**13**	**48.1**	**-1.0**
H06N1				Sn	**Sn**	**22**	**14**	**08.2**	**-1.8**
	SNR=9.8								
H06N1				T	T	22	15	57.0	
	SNR=5.1								
H06S1	**SOCORRO T**	**1.76**	**243**	Pn	**Pn**	**22**	**13**	**48.8**	**-0.7**
H06S1				Sn	**Sn**	**22**	**14**	**08.1**	**-2.6**
	SNR=394								
H06S1				T	T	22	15	53.9	
	SNR=16								
LPIG	**La Paz**	**4.64**	**349**	Pn	**Pn**	**22**	**14**	**26.5**	**-2.6**
	10nm,0.3s,baz=210,slow=20,SNR=6.8								
LPIG				LR	LR	22	16	03.1	
	comp=Z,545nm,20.9s,baz=315,slow=37								
TXAR	**Lajitas Array**	**11.02**	**27**	Pn	**Pn**	**22**	**15**	**54.3**	**-2.6**
	0.1nm,0.3s,baz=206,slow=14,SNR=16								
626A	**Big Bend Ranch**	**11.24**	**24**	↓P	**Pn**	**22**	**15**	**57.6**	**+0.7**
	baz=11,SNR=13								
627A	**Terlingua Ranc**	**11.24**	**27**	↑P	**Pn**	**22**	**16**	**00.5**	**+0.6**
	baz=11								
628A	**Black Gap, Mar**	**11.49**	**29**	↓P	**Pn**	**22**	**16**	**03.8**	**+0.5**
	baz=11								
526A	**Mary Lane Ranc**	**11.49**	**23**	↓P	**Pn**	**22**	**16**	**03.5**	**+0.1**
	baz=11,SNR=7.8								
320A	**Kipp Ranch, An**	**11.77**	**3**	↑P	**Pn**	**22**	**16**	**08.0**	**+0.8**
	baz=12								
319A	**Douglas**	**11.79**	**0**	↑P	**Pn**	**22**	**16**	**08.6**	**+1.2**
	baz=12								
425A	**Indio Mountain**	**11.86**	**18**	↓P	**Pn**	**22**	**16**	**09.8**	**+1.4**
	baz=12,SNR=6.9								
426A	**McDonald Obser**	**12.07**	**22**	↓P	**Pn**	**22**	**16**	**11.9**	**+0.6**
	baz=12,SNR=7.8								
220A	**Playas Peak, P**	**12.33**	**3**	↓P	**Pn**	**22**	**16**	**15.9**	**+1.1**
	baz=12,SNR=11								
324A	**Moseley Ranch,**	**12.34**	**15**	↓P	**Pn**	**22**	**16**	**15.6**	**+0.5**
	baz=12								
325A	**Bean Ranch, Si**	**12.41**	**17**	↑P	**Pn**	**22**	**16**	**16.0**	**0.0**
	baz=12								
427A	**Hayter Ranch,**	**12.46**	**24**	↓P	**Pn**	**22**	**16**	**17.5**	**+0.9**
	baz=12								
221A	**Mesquite Ranch**	**12.49**	**6**	↑P	**Pn**	**22**	**16**	**18.1**	**+1.0**
	baz=12								
MNTX	**Cornudas Mount**	**12.61**	**15**	*e*Pn	**Pn**	**22**	**16**	**16.3**	**-2.3**
TUC	**Tucson**	**12.79**	**354**	*e*Pn	**Pn**	**22**	**16**	**20.6**	**-0.5**
TUC				Sn	**Sn**	**22**	**18**	**39.6**	**-2.5**
224A	**Cornudas Mount**	**12.94**	**14**	↑P	**Pn**	**22**	**16**	**24.0**	**+0.8**
	baz=13,SNR=5.0								
120A	**U Bar Ranch, L**	**12.97**	**3**	↓P	**Pn**	**22**	**16**	**24.4**	**+0.8**
	baz=13,SNR=6.1								
121A	**Cookes Peak, D**	**13.01**	**6**	*e*Pn	**Pn**	**22**	**16**	**22.6**	**-1.6**
121A	**Cookes Peak, D**	**13.01**	**6**	↓P	**Pn**	**22**	**16**	**25.2**	**+1.1**
	baz=13,SNR=11								
225A	**Deer Hill, Car**	**13.15**	**17**	↑P	**Pn**	**22**	**16**	**24.2**	**-1.9**
	baz=13								
226B	**Tecolote Peak,**	**13.31**	**19**	↓P	**Pn**	**22**	**16**	**28.4**	**+0.2**
	baz=13								
430A	**Baggett Ranch,**	**13.36**	**32**	↓P	**Pn**	**22**	**16**	**26.7**	**-2.2**
	baz=13								
Z20A	**Nine Sixteen R**	**13.54**	**3**	↓P	Pn	22	16	33.6	+2.3
	baz=14								
227A	**Bennet, Jal**	**13.54**	**22**	↓P	Pn	22	16	33.4	+2.0
	baz=13								
124A	**Stringfield Ra**	**13.55**	**14**	↑P	**Pn**	**22**	**16**	**33.2**	**+1.6**
	baz=13,SNR=12								
532A	**Rocksprings**	**13.55**	**37**	↑P	Pn	22	16	34.0	+2.5
	baz=13								
431A	**Sonora**	**13.60**	**34**	↑P	Pn	22	16	34.1	+2.0
	baz=13								
329A	**Wagon Wheel Ra**	**13.60**	**28**	↓P	**Pn**	**22**	**16**	**32.8**	**+0.6**
	baz=13								
125A	**Gardner Draw,**	**13.71**	**17**	↑P	**Pn**	**22**	**16**	**34.7**	**+1.0**
	baz=14,SNR=7.2								
113A	**Mohawk Valley,**	**13.77**	**344**	↑P	Pn	22	16	37.2	+2.9
	baz=14								
Z22A	**Elephant Butte**	**13.82**	**8**	↑P	**Pn**	**22**	**16**	**35.7**	**+0.5**
	baz=14								
Z25A	**Roswell**	**14.29**	**16**	↓P	**Pn**	**22**	**16**	**42.8**	**+1.3**
	baz=14								
230A	**Sterling City**	**14.33**	**29**	↓P	**Pn**	**22**	**16**	**43.7**	**+1.5**
	baz=14								
GLA	**Glamis**	**14.34**	**341**	*e*Pn	**Pn**	**22**	**16**	**43.2**	**+1.1**
GLA	**Glamis**	**14.34**	**341**	↑P	**Pn**	**22**	**16**	**43.8**	**+1.6**
	baz=14								
128A	**Castleberry Fa**	**14.39**	**24**	↑P	**Pn**	**22**	**16**	**44.4**	**+1.5**
	baz=14								
Z26A	**Caprock**	**14.48**	**18**	↓P	**Pn**	**22**	**16**	**44.2**	**0.0**
	baz=14								
Y21A	**Point of Rocks**	**14.49**	**5**	↓P	**Pn**	**22**	**16**	**45.7**	**+1.4**
	baz=14								
433A	**Art**	**14.49**	**38**	↑P	**Pn**	**22**	**16**	**44.5**	**+0.3**
	baz=14								
Y22A	**Socorro**	**14.49**	**8**	↑P	**Pn**	**22**	**16**	**45.8**	**+1.4**
	baz=14								
SWSC	**Sam W. Stewart**	**14.56**	**338**	↓P	**P**	**22**	**16**	**51.5**	**+0.4**
	baz=15								
Y23A	**Lovelace Mesa,**	**14.62**	**11**	↑P	**Pn**	**22**	**16**	**47.3**	**+1.1**
	baz=14,SNR=9.7								
Y14A	**Wickenburg**	**14.72**	**348**	↓P	**Pn**	**22**	**16**	**48.5**	**+1.2**
	baz=15								
Y24A	**Capitan**	**14.74**	**13**	↓P	P	22	16	49.7	-3.7
	baz=15								
MONP	**Monument Peak**	**14.74**	**336**	↓P	**Pn**	**22**	**16**	**48.8**	**+1.0**
	baz=15								
BNM	**Barren Site**	**14.75**	**9**	*e*P	**Pn**	**22**	**16**	**46.1**	**-1.7**
	7.7nm,1.1s								
Z27A	**Tatum**	**14.76**	**20**	↑P	**Pn**	**22**	**16**	**48.1**	**+0.2**
	baz=15								
Y25A	**Mesa, Roswell**	**14.90**	**15**	↓P	**P**	**22**	**16**	**52.8**	**-2.3**
	baz=15								
X16A	**Lo Mia Camp, P**	**14.94**	**353**	↓P	**Pn**	**22**	**16**	**51.9**	**+1.4**
	baz=15								
X18A	**Snowflake**	**14.94**	**358**	↑P	**Pn**	**22**	**16**	**51.5**	**+1.1**
	baz=15,SNR=6.4								
333A	**Richland Sprin**	**14.98**	**36**	↓P	**Pn**	**22**	**16**	**51.9**	**+1.2**
	baz=15								
232A	**Coleman**	**15.05**	**33**	↑P	**P**	**22**	**16**	**53.3**	**-3.4**
	baz=15								
BC3	**Big Chuckawall**	**15.09**	**340**	↑P	**P**	**22**	**16**	**58.1**	**+0.9**
	baz=15								
X23A	**Hourglass Bar**	**15.24**	**10**	↑P	**P**	**22**	**16**	**59.7**	**+0.8**
	baz=15								
Z29A	**Hungry Hill Ra**	**15.26**	**25**	↓P	**P**	**22**	**16**	**56.2**	**-2.8**
	baz=15								
Y27A	**Causey**	**15.30**	**20**	↑P	**P**	**22**	**16**	**58.6**	**-0.9**
	baz=15								
PDMCI	**Parker Dam,Lak**	**15.32**	**345**	↓P	**P**	**22**	**16**	**57.5**	**-2.1**
	baz=15								
131A	**Roby**	**15.33**	**30**	↑P	**P**	**22**	**16**	**56.8**	**-2.9**
	baz=15								
PFO	**Pinyon Flat Ob**	**15.40**	**337**	Pn	**P**	**22**	**16**	**57.9**	**-2.7**
	0.1nm,0.3s,baz=135,slow=8.6,SNR=3.1								
PFO				LR	LR	22	22	11.9	
	comp=Z,194nm,21.9s,baz=334,slow=35								
IRM	**Iron Mountain**	**15.46**	**342**	↓P	**P**	**22**	**16**	**59.9**	**-1.3**
	baz=16								
ANMO	**Albuquerque**	**15.55**	**9**	*e*Pn	**Pn**	**22**	**16**	**57.0**	**-1.5**
	4.2nm,1.0s								
ANMO	**Albuquerque**	**15.55**	**9**	Pn	**P**	**22**	**16**	**59.6**	**-2.8**
	0.1nm,0.3s,baz=175,slow=13,SNR=3.0								
ANMO				LR	LR	22	22	46.5	
	comp=Z,256nm,19.2s,baz=181,slow=37								
BELC	**Belle Mtn. Jos**	**15.59**	**339**	↑P	**P**	**22**	**17**	**02.0**	**-0.8**
	baz=16								
MURC	**Murrieta**	**15.68**	**335**	↓P	**P**	**22**	**17**	**05.5**	**+1.9**
	baz=16								
X26A	**CR and CF Fran**	**15.73**	**17**	↓P	**P**	**22**	**17**	**02.4**	**-1.9**
	baz=16								
Y29A	**Porterfield Fa**	**15.80**	**24**	↑P	**P**	**22**	**17**	**04.3**	**-0.8**
	baz=16								
W23A	**Werner Place,**	**15.81**	**10**	↓P	**P**	**22**	**17**	**04.1**	**-1.2**
	baz=16								
W24A	**Lazy 6 Ranch,**	**15.99**	**12**	↓P	**P**	**22**	**17**	**07.2**	**-0.1**
	baz=16,SNR=5.9								
133A	**Hamilton Ranch**	**16.00**	**34**	↑P	**P**	**22**	**17**	**05.1**	**-2.1**
	baz=16								
WUAZ	**Wupatki**	**16.02**	**354**	*e*Pn	**P**	**22**	**17**	**05.0**	**-2.6**
	5.7nm,0.8s								
WUAZ	**Wupatki**	**16.02**	**354**	↓P	**P**	**22**	**17**	**06.3**	**-1.3**
	baz=16								
GMRC	**Granite Mounta**	**16.19**	**341**	↓P	**P**	**22**	**17**	**07.9**	**-1.6**
	baz=16								
W25A	**X Bar L Ranch,**	**16.20**	**14**	↑P	**P**	**22**	**17**	**09.4**	**-0.1**
	baz=16								
134A	**White-Moore Ra**	**16.42**	**36**	↑P	**P**	**22**	**17**	**11.6**	**-0.2**
	baz=16								
W27A	**Stowe Ranch, En**	**16.42**	**18**	↑P	**P**	**22**	**17**	**10.1**	**-1.9**
	baz=16								
HEC	**Hector,Ludlow**	**16.45**	**339**	↓P	**P**	**22**	**17**	**11.4**	**-0.9**
	baz=17								
V25A	**Rancho No Teng**	**16.76**	**13**	↑P	**P**	**22**	**17**	**16.3**	**+0.5**
	baz=17,SNR=10								
TUQ	**Turquoise Moun**	**16.88**	**341**	↑P	**P**	**22**	**17**	**17.1**	**0.0**
	baz=17								
U15A	**North Rim**	**17.03**	**352**	↓P	**P**	**22**	**17**	**18.5**	**-0.3**
	baz=17								
U25A	**Circle Dot Ran**	**17.34**	**13**	↓P	**P**	**22**	**17**	**22.3**	**+0.1**
	baz=17								
U26A	**Atchley Ranch,**	**17.49**	**15**	↑P	**P**	**22**	**17**	**24.9**	**+1.0**
	baz=17								
LRMC	**Laurel Mountai**	**17.52**	**337**	↓P	**P**	**22**	**17**	**25.4**	**+1.3**
	baz=18								
MVCO	**Mesa Verde**	**17.62**	**2**	*e*Pn	**Pn**	**22**	**17**	**23.4**	**-1.2**
	12nm,1.0s								
MVCO	**Mesa Verde**	**17.62**	**2**	↑P	**P**	**22**	**17**	**24.9**	**-0.5**
	baz=18								
Y34A	**Reagan Ranch,**	**17.66**	**33**	↓P	**P**	**22**	**17**	**26.5**	**+1.0**
	baz=17								
MPMC	**Manual Prospec**	**17.97**	**338**	↑P	**P**	**22**	**17**	**28.2**	**-1.0**
	baz=18								
ISA	**Isabella**	**17.98**	**335**	*e*Pn	**P**	**22**	**17**	**30.7**	**+1.5**
T25A	**Trinidad**	**18.05**	**13**	↑P	**P**	**22**	**17**	**30.4**	**+0.3**
	baz=18								
S22A	**4UR Ranch, Cre**	**18.27**	**6**	P	**Pn**	**22**	**17**	**32.4**	**-0.2**
	baz=18								
CCUT	**Cedar City**	**18.29**	**350**	*e*Pn	**Pn**	**22**	**17**	**33.2**	**+0.4**
	112nm,2.9s								
TPNV	**Topopah Spring**	**18.38**	**342**	*e*Pn	**Pn**	**22**	**17**	**34.4**	**+0.6**
	14nm,1.2s								
TPNV	**Topopah Spring**	**18.38**	**342**	↑P	**Pn**	**22**	**17**	**35.3**	**+1.5**
	baz=18								
S24A	**Houchin Ranch,**	**18.39**	**10**	↑P	**Pn**	**22**	**17**	**34.8**	**+0.7**
	baz=18								
S25A	**Robets Cordova**	**18.55**	**12**	↓P	**Pn**	**22**	**17**	**36.6**	**+0.7**
	baz=18								
S26A	**Kim**	**18.72**	**15**	↑P	**Pn**	**22**	**17**	**39.3**	**+1.3**
	baz=19								
R23A	**Moffat**	**18.83**	**9**	P	**Pn**	**22**	**17**	**40.3**	**+0.9**
	baz=19								
R25A	**Fountain Ranch**	**19.05**	**12**	↓P	**Pn**	**22**	**17**	**41.8**	**-0.1**
	baz=19								
R11A	**Troy Canyon, C**	**19.52**	**345**	P	**Pn**	**22**	**17**	**49.1**	**+1.5**
	baz=20								
TEIG	**Tepich**	**19.79**	**84**	LR	LR	22	25	34.0	
	comp=Z,207nm,19.2s,baz=335,slow=38								
NVAR	**Mina Array Bea**	**20.38**	**339**	P	Pn	22	17	57.1	-0.7
	1.9nm,0.8s,baz=160,slow=11,SNR=14								
NVAR				LR	LR	22	24	28.5	
	comp=Z,159nm,20.9s,baz=250,slow=33								
ISCO	**Idaho Springs**	**20.44**	**8**	*e*Pn	**P**	**22**	**17**	**55.2**	**-1.1**
	18nm,1.7s								
ISCO	**Idaho Springs**	**20.44**	**8**	↓P	Pn	22	17	57.2	-1.4
	baz=20								
Q29A	**Oakley**	**20.59**	**19**	↑P	**P**	**22**	**17**	**56.5**	**-1.2**
	baz=20								
DUG	**Dugway**	**20.81**	**352**	*e*P	**P**	**22**	**17**	**59.7**	**-0.4**
	15nm,1.2s								
DUG	**Dugway**	**20.81**	**352**	↑P	Pn	22	18	01.4	-1.3
	baz=21								
O23A	**Lake Granby, G**	**20.81**	**7**	↑P	Pn	22	18	00.6	-2.3
	baz=21								
WAKR	**Walker**	**20.84**	**337**	*e*P	Pn	22	18	01.3	-1.9
	4.7nm,1.0s								
N23A	**Red Feather La**	**21.48**	**7**	↑P	**P**	**22**	**18**	**07.9**	**+0.4**
	baz=21								
BGU	**Big Grassy Mou**	**21.55**	**352**	*e*P	**P**	**22**	**18**	**08.2**	**+0.1**
	6.6nm,1.6s								
ELK	**Elko**	**21.74**	**348**	P	**P**	**22**	**18**	**11.4**	**+1.2**
	1.9nm,0.8s,baz=186,slow=7.6,SNR=6.9								
PHWY	**Pilot Hill**	**21.94**	**8**	*e*P	**P**	**22**	**18**	**12.9**	**+0

FITZ	**Fitzroy Crossi**	**38.44**	**255**	P		**P**	**22 27 48.2**	**-0.3**
	1.2nm,0.6s,baz=104,slow=8.3,SNR=2.0							
SONM	**Songino Array**	**77.86**	**324**	P		**P**	**22 32 25.1**	**+1.1**
SONM	**Songino Array**	**77.86**	**324**	P		**P**	**22 32 25.1**	**+1.1**
	0.2nm,0.4s,baz=122,slow=5.2,SNR=3.3							
ILAR	**Eielson Array**	**83.62**	**19**	P		**P**	**22 32 53.5**	**-0.8**
ILAR	**Eielson Array**	**83.62**	**19**	P		**P**	**22 32 53.5**	**-0.8**
	0.4nm,0.7s,baz=216,slow=5.6,SNR=8.0							
MKAR	**Makanchi Array**	**92.63**	**317**	P		**P**	**22 33 37.9**	**-0.3**
MKAR	**Makanchi Array**	**92.63**	**317**	P		**P**	**22 33 37.9**	**-0.3**
	0.6nm,0.8s,baz=97,slow=5.3,SNR=3.9							

ISCJB ***02*** *22:26:02.5±0.4,8°.31S±0°.05×121°.12E±0°.05, h33km, mb3.8/7, Error ellipse: s-maj=8.0km s-min=5.2km az=140.0*

AUST ***02*** *22:26:02.6, 8°.50S×120°.98E, h10km*

DJA ***02*** *22:26:04.0±1.0, 8°.5S±8°×12°.1E±°, h21km±20km, M4.1/6, MLv4.1/6*

IDC ***02*** *22:26:05.3±2.5, 8°.23S×121°.09E, h48km±26km, mb3.6/7, mb1 3.8/10, mb1mx3.6/24, mbtmp3.7/10, ML4.0/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/27, Error ellipse: s-maj=59.1km s-min=14.2km az=70.0*

ISC 02 22:26:04.4±0.7, 8°.32S±0°.05×121°.04E±0°.05, h35km, n23, σ1§27/27, mb3.9/7, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBFI	**Labuhan Bajo,**	**1.15**	**262**	P		**Pn**	**22 26 24.2**	**+0.2**
LBFI				S		**Sn**	**22 26 39.4**	**+0.9**
MMRI	**Maumere**	**1.23**	**105**	P		**Pn**	**22 26 25.0**	**-0.1**
MMRI				S		**Sn**	**22 26 41.8**	**+1.3**
BKSI	**Bulukumba**	**3.12**	**343**	P		**Pn**	**22 26 50.4**	**-0.7**
BBSI	**Bau Bau**	**3.20**	**28**	P		**Pn**	**22 26 52.6**	**+0.3**
KAPI	**Kappang**	**3.53**	**339**	P		**Pn**	**22 26 57.0**	**+0.2**
KAPI	**Kappang**	**3.53**	**339**	P		**Pn**	**22 26 57.7**	**+0.9**
	30nm,0.3s,baz=174,slow=9.7,SNR=72							
KAPI				S		**Sn**	**22 27 37.0**	**-0.3**
	23nm,0.3s,baz=49,slow=20,SNR=6.9							
KAPI				LR		LR	22 28 31.3	
	comp=Z,404nm,18.4s,baz=335,slow=42							
SPSI	**Sidrap Palu**	**4.51**	**344**	P		**Pn**	**22 27 12.7**	**+2.4**
KNRA	**Kununurra**	**10.51**	**135**	P		**Pn**	**22 28 32.1**	**-0.5**
	baz=10,SNR=4.9							
FITZ	**Fitzroy Crossi**	**10.70**	**156**	P		**Pn**	**22 28 35.2**	**-0.1**
	0.4nm,0.3s,baz=329,slow=8.0,SNR=6.8							
FITZ				S		**Sn**	**22 30 31.5**	**-2.4**
	0.6nm,0.3s,baz=170,slow=8.6,SNR=3.6							
FITZ				LR		LR	22 33 17.8	
	comp=Z,53nm,20.6s,baz=353,slow=40							
FITZ	**Fitzroy Crossi**	**10.70**	**156**	P		**Pn**	**22 28 35.7**	**+0.5**
	baz=11,SNR=5.1							
MTN	**Manton Dam**	**10.89**	**115**	P		**Pn**	**22 28 39.3**	**+1.4**
	baz=11,SNR=5.4							
KDU	**Kakadu**	**12.05**	**112**	P		**Pn**	**22 28 54.5**	**+0.8**
	baz=12,SNR=4.4							
PMBI	**Palembang**	**17.05**	**287**	P		**P**	**22 30 01.7**	**-0.1**
	baz=17,SNR=5.3							
WRA	**Warramunga Arr**	**17.30**	**133**	P		**Pn**	**22 30 00.6**	**-2.7**
	0.4nm,0.3s,baz=307,slow=12,SNR=15							
WRA				S		Sn	22 33 03.9	-11
	0.1nm,0.3s,baz=295,slow=22,SNR=3.9							
WRA				LR		LR	22 37 57.7	
	comp=Z,83nm,19.9s,baz=275,slow=41							
MEEK	**Meekatharra**	**18.36**	**187**	P		**Pn**	**22 30 18.4**	**+2.0**
	baz=18,SNR=6.5							
ASAR	**Alice Springs**	**19.61**	**143**	P		**Pn**	**22 30 31.4**	**-0.1**
	0.8nm,0.3s,baz=329,slow=14,SNR=30							
NWAO	**Narrogin (SRO)**	**24.73**	**188**	P		**P**	**22 31 22.9**	**+0.3**
	3.8nm,0.6s,baz=30,slow=8.1,SNR=2.4							
STKA	**Stephens Creek**	**30.24**	**144**	P		**P**	**22 32 11.6**	**-0.5**
	2.6nm,0.3s,baz=318,slow=11,SNR=3.6							
SONM	**Songino Array**	**57.40**	**348**	P		**P**	**22 35 48.2**	**-1.3**
	0.3nm,0.5s,baz=170,slow=9.6,SNR=3.1							
MKAR	**Makanchi Array**	**64.80**	**332**	P		**P**	**22 36 38.5**	**-1.1**
	0.4nm,0.5s,baz=149,slow=6.6,SNR=5.3							
ZALV	**Zalesovo Beam**	**69.15**	**338**	P		**P**	**22 37 05.0**	**-2.1**
	0.6nm,0.5s,baz=160,slow=4.7,SNR=4.7							
KURBB	**Kurchatov Arra**	**69.28**	**333**	P		**P**	**22 37 07.5**	**-0.4**
	0.3nm,0.9s,baz=148,slow=5.5,SNR=4.1							
VNDA	**Vanda**	**72.34**	**171**	P		**P**	**22 37 27.1**	**+0.9**
	1.0nm,0.8s,baz=300,slow=8.1,SNR=2.4							

IDC ***02*** *22:27:03.0±2.4, 17°.55S×178°.50W, h509km±28km, mb3.1/7, mb1 3.5/8, mb1mx3.3/20, mbtmp3.2/8, Error ellipse: s-maj=113.3km s-min=14.9km az=155.0*

ISCJB ***02*** *22:27:05.6±1.4, 17°.4S±0°.8×178°.7W±0°.4, h547km, mb3.5/7, Error ellipse: s-maj=120.0km s-min=16.9km az=153.1*

ISC 02 22:27:06.2±1.5, 17°.6S±0°.8×178°.6W±0°.4, h547km, n8, σ0§41/8, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.50**	**62**	P		P	22 28 53.5	-5.6
	3.7nm,0.3s,baz=164,slow=14,SNR=3.8							
STKA	**Stephens Creek**	**38.65**	**241**	P		**P**	**22 33 43.3**	**+0.1**
	1.0nm,0.4s,baz=88,slow=8.1,SNR=3.7							
WRA	**Warramunga Arr**	**44.53**	**259**	P		**P**	**22 34 29.5**	**-0.4**
	1.0nm,0.6s,baz=93,slow=7.4,SNR=13							
ASAR	**Alice Springs**	**44.72**	**254**	P		**P**	**22 34 31.2**	**-0.1**
	10nm,0.5s,baz=88,slow=8.2,SNR=110							
ASAR				PcP		**PcP**	**22 36 01.6**	**-0.3**
	0.4nm,0.5s,baz=103,slow=3.9,SNR=3.6							
FITZ	**Fitzroy Crossi**	**52.92**	**260**	P		**P**	**22 35 32.4**	**+0.4**
	0.5nm,0.3s,baz=87,slow=3.4,SNR=6.3							
NVAR	**Mina Array Bea**	**79.30**	**44**	P		**P**	**22 38 16.1**	**+0.5**
	0.2nm,0.5s,baz=224,slow=7.6,SNR=3.6							
TXAR	**Lajitas Array**	**85.96**	**58**	P		**P**	**22 38 49.2**	**0.0**
	0.4nm,0.6s,baz=198,slow=4.7,SNR=4.5							
PDAR	**Pinedale Array**	**87.22**	**44**	P		**P**	**22 38 54.5**	**-0.5**
	0.4nm,0.5s,baz=207,slow=3.8,SNR=3.1							

KRSC 02 22:49:12.2±5.1, 50°.65N×157°.92E, h11km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**1.08**	**320**	*e*P		Pb	22 49 32.7	-0.1
PAU				*e*S		Sb	22 49 45.8	-1.1
SKR	**Severo-Kuril's**	**1.15**	**272**	*i* P		Pb	22 49 33.1	-0.9
SKR				*i* S		Sb	22 49 46.1	-2.8
ASAK	**Asacha**	**1.74**	**360**	*e*P		Pn	22 49 42.5	+0.1
ASAK				*e*S		Sn	22 50 02.6	-2.0
RUS	**Russkaya**	**1.82**	**11**	*e*P		Pn	22 49 43.3	-0.2
RUS				*e*S		Sn	22 50 04.1	-2.4
MTVR	**Mutnovka**	**1.84**	**5**	*e*P		Pn	22 49 44.0	0.0
MTVR				*e*S		Sn	22 50 05.2	-2.2
GRL	**Gorelyy**	**1.91**	**3**	*i* P		Pn	22 49 45.2	+0.4
GRL				*i* S		Sn	22 50 07.0	-1.9
APC	**Apacha**	**2.33**	**349**	*i* P		Pn	22 49 51.3	+0.9
PET	**Petropavlovsk**	**2.42**	**11**	S		Sn	22 50 21.0	-0.3
UGLR	**Uglovaya**	**2.62**	**12**	*e*P		Pn	22 49 55.9	+1.3
AVH	**Avacha**	**2.67**	**11**	*e*P		Pn	22 49 56.9	+1.7
AVH				S		Sn	22 50 27.3	-0.3
SMAR	**Somma**	**2.67**	**11**	P		Pn	22 49 56.5	+1.0
KOK	**Koryaka**	**2.68**	**9**	*e*P		Pn	22 49 57.3	+1.9
KOK				S		Sn	22 50 28.1	+0.1
SDLR	**Sedlovina**	**2.70**	**12**	*e*P		Pn	22 49 56.1	+0.4
KRER	**Koryakskii**	**2.71**	**11**	*e*P		Pn	22 49 57.3	+1.4
KRX	**Arik**	**2.75**	**9**	*e*P		Pn	22 49 57.9	+1.5
KRX				S		Sn	22 50 30.2	+0.4
GNL	**Ganaly**	**3.05**	**0**	*e*P		Pn	22 50 01.9	+1.4
KZV	**Kizimen**	**4.70**	**17**	P		Pn	22 50 25.6	+2.4
TUMR	**Tumrok**	**4.83**	**15**	P		Pn	22 50 27.6	+2.6
KBTR	**Krutoberegovo**	**6.29**	**26**	P		Pn	22 50 46.0	+1.2

IDC ***02*** *22:54:11.4±1.1, 12°.14N×125°.62E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/24, mbtmp3.9/9, Error ellipse: s-maj=58.2km s-min=16.6km az=68.0*

ISCJB ***02*** *22:54:15.4±0.7, 12°.31N±0°.05×125°.73E±0°.07, h36km, mb3.8/9, Error ellipse: s-maj=10.7km s-min=7.2km az=22.7*

ISC 02 22:54:16.7±0.9, 12°.25N±0°.07×125°.75E±0°.10, h36km, n23, σ1§06/19, mb3.8/9, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**0.71**	**205**	*e*P		**Sn**	**22 54 41.2**	**+1.2**
PLP	**Palo**	**1.31**	**215**	⇓*e*P		**Pn**	**22 54 37.2**	**-1.3**
PLP				*e*S		**Sn**	**22 54 53.9**	**-0.9**
OCLP	**Ormoc**	**1.63**	**223**	*e*P		**Pn**	**22 54 43.5**	**+0.6**
OCLP				*e*S		**Sn**	**22 55 03.7**	**+1.1**
MSLP	**Maasin**	**2.28**	**203**	*e*P		**Pn**	**22 54 53.6**	**+1.8**
SCPH	**Surigao**	**2.47**	**186**	⇓*e*P		**Pn**	**22 54 55.1**	**+0.7**
RCP	**Roxas**	**3.02**	**257**	⇑*e*P		**Pn**	**22 55 02.3**	**+0.4**
RCP				*e*S		**Sn**	**22 55 36.6**	**-0.2**
BUTP	**Butuan**	**3.26**	**182**	*e*P		Pn	22 55 08.9	+3.6
GUIM	**Jordan**	**3.49**	**243**	*e*P		**Pn**	**22 55 09.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**26.55**	**287**	P		**P**	**22 59 50.1**	**-1.3**
	1.1nm,0.4s,baz=95,slow=7.4,SNR=9.6							
FITZ	**Fitzroy Crossi**	**30.16**	**180**	P		**P**	**23 00 23.1**	**-0.4**
	1.6nm,0.7s,baz=344,slow=15,SNR=5.6							
WRA	**Warramunga Arr**	**33.09**	**165**	P		**P**	**23 00 47.2**	**-2.1**
	0.6nm,0.3s,baz=344,slow=8.9,SNR=5.6							
ASAR	**Alice Springs**	**36.58**	**167**	P		**P**	**23 01 19.2**	**-0.2**
	0.4nm,0.4s,baz=344,slow=7.2,SNR=9.6							
SONM	**Songino Array**	**38.99**	**339**	P		**P**	**23 01 40.4**	**+0.7**
	1.3nm,1.1s,baz=143,slow=6.2,SNR=4.3							
H11S3	**WAKE ISLAND Hy**	**39.90**	**76**	T		T	23 44 37.9	
	baz=281,slow=71							
H11S1	**WAKE ISLAND Hy**	**39.91**	**76**	T		T	23 44 38.5	
	baz=281,slow=71							
H11S2	**WAKE ISLAND Hy**	**39.91**	**76**	T		T	23 44 38.5	
	baz=281,slow=71							
H11N1	**WAKE ISLAND Hy**	**40.17**	**74**	T		T	23 44 57.6	
	baz=269,slow=75,SNR=70							
H11N2	**WAKE ISLAND Hy**	**40.17**	**74**	T		T	23 44 58.3	
	baz=269,slow=75,SNR=55							
H11N3	**WAKE ISLAND Hy**	**40.18**	**74**	T		T	23 44 58.2	
	baz=269,slow=75,SNR=61							
MKAR	**Makanchi Array**	**50.15**	**322**	P		**P**	**23 03 09.6**	**+0.9**
	1.8nm,0.7s,baz=117,slow=8.5,SNR=21							
ZALV	**Zalesovo Beam**	**52.65**	**331**	P		**P**	**23 03 27.4**	**+0.2**
	0.3nm,0.3s,baz=134,slow=8.2,SNR=2.6							
FINES	**FINESS Array B**	**83.91**	**332**	P		**P**	**23 06 42.9**	**+0.3**
	1.9nm,0.7s,baz=72,slow=6.2,SNR=9.3							
AKASG	**Malin Array Be**	**84.71**	**321**	P		**P**	**23 06 46.8**	**-0.1**
	0.1nm,0.3s,baz=74,slow=3.1,SNR=4.4							

ISCJB ***02*** *22:57:38.1±0.4, 24°.25S±0°.03×66°.97W±0°.04, h161km±3km, mb4.6/105, Error ellipse: s-maj=6.2km s-min=4.2km az=151.6*

NEIC ***02*** *22:57:39.5±0.3, 24°.30S×66°.91W, h163km±2km, mb4.7/89, Error ellipse: s-maj=5.2km s-min=3.4km az=55.0*

IDC ***02*** *22:57:40.3±1.4, 24°.24S×66°.93W, h171km±11km, mb4.4/18, mb1 4.5/24, mb1mx4.5/27, mbtmp4.9/24, Error ellipse: s-maj=13.5km s-min=8.7km az=75.0*

GUC ***02*** *22:57:41.8±0.4, 24°.01S×67°.53W, h220km, ML5.8*

BJI ***02*** *22:57:42.1, 24°.30S×66°.90W, h168km, mB5.2/5*

ISC 02 22:57:38.9±0.6, 24°.28S±0°.04×66°.99W±0°.05, h162km±5km, n620, σ1§18/647, mb4.7/104, 183C-183D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.42**	**313**	*e*Pn		**Pn**	**22 58 22.7**	**+2.8**
LVC				*e*Sn		**Sn**	**22 58 48.5**	**-3.0**
PB04	**Plate Boundary**	**3.04**	**311**	⇑*i*P		Pn	22 58 33.9	+6.6
PB04				*i* S		Sn	22 59 13.5	+8.8
PB04				AML		AML	22 59 16.5	
	comp=N,9μm,0.5s							
PB04	**Plate Boundary**	**3.04**	**311**	⇑*i*P		Pn	22 58 33.9	+6.6
PB04				*i* S		Sn	22 59 13.5	+8.8
CEN1	**Los Morros**	**3.07**	**286**	⇓*i*P		**Pn**	**22 58 28.0**	**+0.3**
CEN1				*i* S		**Sn**	**22 59 04.4**	**-1.0**
CEN1				AML		AML	22 59 08.0	
	comp=E,11μm,0.7s							
CEN1	**Los Morros**	**3.07**	**286**	⇓*i*P		**Pn**	**22 58 28.0**	**+0.3**
CEN1				*i* S		**Sn**	**22 59 04.4**	**-1.0**
ANCH	**Antofagasta**	**3.18**	**280**	⇑*i*P		**Pn**	**22 58 30.5**	**+1.6**
ANCH				*i* S		**Sn**	**22 59 07.2**	**-0.6**
ANCH				AML		AML	22 59 10.5	
	comp=E,11μm,0.6s							
ANCH	**Antofagasta**	**3.18**	**280**	⇑*i*P		**Pn**	**22 58 30.5**	**+1.6**
ANCH				*i* S		**Sn**	**22 59 07.2**	**-0.6**
PB09	**Plate Boundary**	**3.22**	**320**	⇑*i*P		**Pn**	**22 58 32.0**	**+2.2**
PB09				*i* S		**Sn**	**22 59 10.0**	**+0.8**
PB09				AML		AML	22 59 11.8	
	comp=N,32μm,0.7s							
PB09	**Plate Boundary**	**3.22**	**320**	⇑*i*P		**Pn**	**22 58 32.0**	**+2.2**
PB09				*i* S		**Sn**	**22 59 10.0**	**+0.8**
MACH	**Maria Elena**	**3.28**	**309**	⇓*i*P		**Pn**	**22 58 31.9**	**+1.4**
MACH				*i* S		**Sn**	**22 59 09.9**	**-0.6**
MACH	**Maria Elena**	**3.28**	**309**	⇓*i*P		**Pn**	**22 58 31.9**	**+1.4**
MACH				*i* S		**Sn**	**22 59 09.9**	**-0.6**
PB10	**Plate Boundary**	**3.35**	**282**	⇑*i*P		**Pn**	**22 58 32.1**	**+1.0**
PB10				*i* S		**Sn**	**22 59 10.3**	**-1.4**
PB10				AML		AML	22 59 17.6	
	comp=E,17μm,0.6s							
PB07	**Plate Boundary**	**3.68**	**313**	⇑*i*P		**Pn**	**22 58 36.6**	**+1.0**
PB07				*i* S		**Sn**	**22 59 18.0**	**-1.6**
PB07	**Plate Boundary**	**3.68**	**313**	⇑*i*P		**Pn**	**22 58 36.6**	**+1.0**
PB07				*i* S		**Sn**	**22 59 18.0**	**-1.6**
PB01	**Plate Boundary**	**3.96**	**324**	⇑*i*P		**Pn**	**22 58 39.9**	**+0.9**
PB01				*i* S		**Sn**	**22 59 24.8**	**-1.1**
PB01	**Plate Boundary**	**3.96**	**324**	⇑*i*P		**Pn**	**22 58 39.9**	**+0.9**
PB01				*i* S		**Sn**	**22 59 24.8**	**-1.1**
HMBC	**Humberstone**	**4.80**	**325**	⇑*i*P		**Pn**	**22 58 49.5**	**-0.5**
HMBC				*e*S		**Sn**	**22 59 42.3**	**-3.3**
HMBC	**Humberstone**	**4.80**	**325**	⇑*i*P		**Pn**	**22 58 49.5**	**-0.5**
HMBC				*e*S		**Sn**	**22 59 42.3**	**-3.3**
LCO	**Las Campanas**	**5.77**	**214**	*e*Pn		**Pn**	**22 59 01.2**	**-1.6**
LCO				*e*Sn		Sn	22 59 57.2	-12
CFAA	**Coronel Fontan**	**7.38**	**188**	P		**Pn**	**22 59 24.1**	**0.0**
CFAA				S		**Sn**	**23 00 43.0**	**-3.8**
CFAA	**Coronel Fontan**	**7.38**	**188**	P		**Pn**	**22 59 24.1**	**0.0**
	comp=E,0.4nm,0.3s,baz=356,slow=12,SNR=27							
CFAA				S		**Sn**	**23 00 43.0**	**-3.8**
	comp=E,0.9nm,0.3s,baz=37,slow=23,SNR=7.7							
LPAZ	**La Paz**	**8.02**	**352**	*e*Pn		**Pn**	**22 59 34.4**	**+1.3**
LPAZ				*e*Sn		**Sn**	**23 01 00.5**	**-2.6**
LPAZ	**La Paz**	**8.02**	**352**	P		**Pn**	**22 59 34.8**	**+1.7**
	comp=E,16nm,0.3s,baz=161,slow=7.6,SNR=206							
LPAZ				S		**Sn**	**23 01 03.0**	**-0.1**
	comp=E,2.3nm,0.3s,baz=39,slow=25,SNR=3.8							
CPUP	**Villa Florida**	**8.98**	**105**	*e*Pn		**Pn**	**22 59 46.0**	**+0.7**
	comp=E,4.0nm,0.6s							
CPUP	**Villa Florida**	**8.98**	**105**	P		**Pn**	**22 59 45.8**	**+0.5**
	comp=E,2.7nm,0.3s,baz=268,slow=11,SNR=34							
SIV	**San Ignacio**	**9.94**	**35**	P		**Pn**	**22 59 58.3**	**+0.2**
SIV				S		Sn	23 01 40.0	-8.4
SIV	**San Ignacio**	**9.94**	**35**	P		**Pn**	**22 59 58.3**	**+0.2**
	comp=E,6.2nm,0.3s,baz=230,slow=12,SNR=162							
SIV				S		Sn	23 01 40.0	-8.4
	comp=E,0.3nm,0.3s,baz=225,slow=18,SNR=4.8							
H03N1	**Juan Fernandez**	**13.86**	**226**	T		T	23 13 17.7	
	baz=42,slow=74,SNR=11							
H03N2	**Juan Fernandez**	**13.88**	**226**	T		T	23 13 14.7	
	baz=42,slow=74,SNR=3.3							
H03N3	**Juan Fernandez**	**13.88**	**226**	T		T	23 13 17.7	
	baz=42,slow=74,SNR=3.4							
TRQA	**Tornquist**	**14.39**	**164**	*e*Pn		**Pn**	**23 00 54.1**	**-1.0**
TRQA				*e*Sn		**Sn**	**23 03 33.3**	**-1.7**
NNA	**Nana**	**15.38**	**321**	P		**P**	**23 01 09.5**	**+0.8**
NNA	**Nana**	**15.38**	**321**	P		**P**	**23 01 09.5**	**+0.8**
	comp=E,1.3nm,0.3s,baz=155,slow=9.6,SNR=5.4							
SAML	**Samuel**	**15.67**	**14**	*e*Pn		**Pn**	**23 01 11.4**	**+0.3**
	comp=E,4.7nm,0.7s							
SAML				*e*Sn		**Sn**	**23 03 59.3**	**-6.7**
PLCA	**Paso Flores**	**16.68**	**189**	*e*P		**P**	**23 01 22.8**	**-0.1**
	comp=E,46nm,0.7s							
PLCA				PcP		**PcP**	**23 06 02.9**	**+0.3**
PLCA				ScP		**ScP**	**23 09 20.1**	**-2.2**
PLCA	**Paso Flores**	**16.68**	**189**	P		Pn	**23 01 23.6**	**+0.3**
	comp=E,0.8nm,0.3s,baz=12,slow=13,SNR=24							
PLCA				PcP		**PcP**	**23 06 02.9**	**+0.3**
	comp=E,0.2nm,0.3s,baz=267,slow=4.9,SNR=3.7							
PLCA				ScP		**ScP**	**23 09 20.1**	**-2.2**
	comp=E,0.3nm,0.3s,baz=3.0,slow=2.3,SNR=3.5							
SPB	**Sao Paulo**	**17.90**	**92**	*e*P		**P**	**23 01 36.8**	**+0.5**
	comp=E,44nm,0.8s							
SPB				*e*S		**S**	**23 04 54.1**	**+0.5**
BDFB	**Brasilia**	**19.78**	**68**	*e*P		**P**	**23 01 57.9**	**+0.9**
BDFB	**Brasilia**	**19.78**	**68**	P		**P**	**23 01 57.4**	**+0.5**
	comp=E,8.8nm,0.3s,baz=240,slow=10,SNR=100							
PTGA	**Pitinga**	**24.38**	**17**	*e*P		**P**	**23 02 41.8**	**-0.4**
	comp=E,6.3nm,0.6s							
PTGA				*e*PcP		**PcP**	**23 06 17.8**	**+0.4**
PTGA				*e*S		**S**	**23 06 50.5**	**+0.4**
USHA	**Ushuaia**	**30.54**	**182**	P		**P**	**23 03 36.3**	**-0.5**
USHA	**Ushuaia**	**30.54**	**182**	P		**P**	**23 03 36.3**	**-0.5**
	comp=E,8.1nm,0.6s,baz=340,slow=9.3,SNR=5.0							
SDV	**Santo Domingo**	**33.15**	**353**	*e*P		**P**	**23 03 59.6**	**-0.6**

RCBR	**Riachuelo**	**35.04**	**63**	*e*P		**P**	**23 04 17.1**	**+0.6**
	comp=E,5.1nm,0.8s							
JTS	**JuntasAbangare**	**38.58**	**331**	*e*P		**P**	**23 04 46.5**	**+0.3**
	comp=E,2.9nm,1.1s							
PMSA	**Palmer Station**	**40.54**	**178**	P		**P**	**23 05 02.8**	**+1.0**
PMSA	**Palmer Station**	**40.54**	**178**	P		**P**	**23 05 02.8**	**+1.0**
	comp=E,10.0nm,0.7s,baz=8.0,slow=9.6,SNR=6.5							
OBIP	**Obispado Ponce**	**42.06**	**1**	*e*P		**P**	**23 05 12.3**	**-2.6**
	comp=E,36nm,0.6s							
TGUH	**Tegucigalpa,Un**	**42.94**	**330**	*e*P		**P**	**23 05 22.4**	**+0.4**
	comp=E,20nm,0.8s							
VNA1	**Neumayer--Stat**	**57.09**	**160**	*e*Pn		**P**	**23 07 09.2**	**+1.4**
VNA2	**Neumayer--Watz**	**57.46**	**160**	*e*Pn		**P**	**23 07 11.4**	**+0.9**
SNAA	**Sanae**	**59.09**	**161**	*e*Pn		**P**	**23 07 22.3**	**+0.4**
SNAA	**Sanae**	**59.09**	**161**	*e*P		**P**	**23 07 22.3**	**+0.4**
	comp=E,62nm,1.5s							
JSC	**Jenkinsville**	**59.79**	**346**	*e*P		**P**	**23 07 27.6**	**+0.7**
KMSC	**Kings Mountain**	**60.64**	**347**	⇑P		**P**	**23 07 33.3**	**+0.6**
	baz=61							
732A	**Laxson Ranch,**	**61.52**	**327**	⇓P		**P**	**23 07 39.1**	**+0.3**
	baz=62							
TKL	**Tuckaleechee C**	**61.69**	**345**	P		**P**	**23 07 39.2**	**-0.5**
TKL	**Tuckaleechee C**	**61.69**	**345**	P		**P**	**23 07 39.2**	**-0.5**
	comp=E,12nm,0.5s,baz=166,slow=9.1,SNR=18							
SWET	**Sewanee**	**61.83**	**342**	*e*P		**P**	**23 07 40.6**	**-0.2**
	comp=E,36nm,0.8s							
534A	**Blanco**	**61.88**	**329**	⇓P		**P**	**23 07 40.9**	**-0.3**
	baz=62							
632A	**Uvalde**	**62.07**	**328**	⇑P		**P**	**23 07 43.1**	**+0.6**
	baz=62							
533A	**Kerrville**	**62.18**	**329**	⇓P		**P**	**23 07 43.7**	**+0.5**
	baz=62							
631A	**Perdido Creek**	**62.38**	**327**	⇓P		**P**	**23 07 44.9**	**+0.3**
	baz=63							
434A	**Burnet**	**62.44**	**330**	⇓P		**P**	**23 07 45.1**	**+0.2**
	baz=63							
335A	**Moody**	**62.45**	**331**	⇑P		**P**	**23 07 45.5**	**+0.5**
	baz=63							
532A	**Rocksprings**	**62.64**	**328**	⇓P		**P**	**23 07 46.9**	**+0.5**
	baz=63							
433A	**Art**	**62.77**	**329**	⇑P		**P**	**23 07 47.4**	**+0.3**
	baz=63							
334A	**Lometa**	**62.86**	**330**	⇑P		**P**	**23 07 47.9**	**+0.2**
	baz=63							
JCT	**Junction City**	**62.88**	**328**	*e*P		**P**	**23 07 48.2**	**+0.3**
	comp=E,22nm,0.8s							
JCT	**Junction City**	**62.88**	**328**	⇓P		**P**	**23 07 48.5**	**+0.6**
	baz=63							
531A	**Rocksprings**	**62.98**	**327**	⇓P		**P**	**23 07 49.5**	**+0.9**
	baz=63							
WHTX	**Lake Whitney**	**63.07**	**331**	⇑P		**P**	**23 07 49.4**	**+0.4**
	baz=63							
333A	**Richland Sprin**	**63.20**	**329**	⇓P		**P**	**23 07 50.2**	**+0.3**
	baz=64							
432A	**Menard**	**63.21**	**329**	⇑P		**P**	**23 07 50.4**	**+0.3**
	baz=64							
WVT	**Waverly**	**63.23**	**341**	*e*P		**P**	**23 07 49.0**	**-0.9**
530A	**J-C Ranch, Com**	**63.36**	**327**	⇑P		**P**	**23 07 51.8**	**+0.8**
	baz=64							
431A	**Sonora**	**63.44**	**328**	⇓P		**P**	**23 07 51.7**	**+0.2**
	baz=64		

324A	Moseley Ranch, baz=67	66.53	325	⇑P	P	23 08 11.5 -0.2
GDL2	Guadalupe Moun	66.54	326	eP	P	23 08 12.0 +0.3
Y29A	Porterfield Fa baz=67	66.56	329	⇑P	P	23 08 11.9 +0.2
BINY	Binghamton comp=E,23nm,1.0s	66.66	353	eP	P	23 08 13.0 +0.9
X30A	Coker Ranch, T baz=67,SNR=7.3	66.67	330	⇑P	P	23 08 12.7 +0.3
V33A	Lossen Ranch, baz=67,SNR=5.5	66.70	333	⇑P	P	23 08 12.7 +0.2
225A	Deer Hill, Car baz=67	66.71	325	⇓P	P	23 08 13.4 +0.6
126A	Clayton Basin, baz=67	66.72	326	⇑P	P	23 08 13.6 +0.9
Z27A	Tatum baz=67	66.86	327	⇓P	P	23 08 13.8 +0.1
Y28A	McKinney Farm, baz=67	66.87	329	⇓P	P	23 08 13.8 +0.1
W31A	Holland Ranch, baz=67	66.88	331	⇑P	P	23 08 13.4 -0.2
U34A	Anderson Ranch baz=67,SNR=5.7	66.92	334	P	P	23 08 14.2 +0.4
V32A	Arapaho baz=67	66.93	332	⇑P	P	23 08 14.6 +0.7
SFIN	Scholer Farm baz=67	66.99	343	⇓P	P	23 08 13.2 -1.0
224A	Cornudas Mount baz=67	67.04	325	⇓P	P	23 08 15.2 +0.4
X29A	Tulia baz=67	67.06	329	⇑P	P	23 08 15.1 +0.2
MSTX	Muleshoe	67.17	328	eP	P	23 08 15.6 0.0
MSTX	Muleshoe baz=68	67.17	328	⇓P	P	23 08 15.9 +0.3
Z26A	Caprock baz=68	67.20	327	⇓P	P	23 08 16.3 +0.5
Y27A	Causey baz=68	67.29	328	⇑P	P	23 08 16.5 +0.1
V31A	Spring Creek L baz=68	67.32	331	⇓P	P	23 08 17.1 +0.6
X28A	Dimmitt baz=68	67.35	329	⇑P	P	23 08 17.3 +0.6
AMTX	Amarillo comp=E,15nm,1.0s	67.41	330	eP	P	23 08 17.3 +0.3
AMTX	Amarillo baz=68	67.41	330	⇓P	P	23 08 17.6 +0.5
124A	Stringfield Ra baz=68,SNR=18	67.50	325	⇑P	P	23 08 18.6 +0.8
LIC	Lamto comp=E,26nm,1.2s	67.52	72	eP	P	23 08 17.8 -0.3
Z25A	Roswell baz=68	67.58	326	⇓P	P	23 08 18.5 +0.3
W29A	Amraillo baz=68	67.59	330	⇓P	P	23 08 18.4 +0.3
TIC	Toumodi comp=E,3.3nm,0.2s	67.73	71	eP	P	23 08 19.9 +0.5
T33A	Patterson Ranc baz=68	67.76	333	⇓P	P	23 08 19.7 +0.6
KIC	Kosan Boka comp=E,10nm,0.6s	67.83	72	eP	P	23 08 19.9 -0.2
DBIC	Dimbokro	67.88	71	P	P	23 08 20.0 -0.4
DBIC	Dimbokro comp=E,2.6nm,0.5s,baz=244,slow=6.9,SNR=10	67.88	71	P	P	23 08 20.0 -0.4
Z24A	Sheeppen Canyo baz=68	67.95	326	⇓P	P	23 08 21.4 +0.8
W28A	Vega baz=68	67.96	329	⇑P	P	23 08 21.1 +0.6
Y25A	Mesa, Roswell baz=68	68.08	327	⇑P	P	23 08 21.4 +0.1
320A	Kipp Ranch, An baz=68	68.10	322	⇓P	P	23 08 23.0 +1.5
S33A	Kaszmaul Farm, baz=68	68.10	334	⇓P	P	23 08 21.8 +0.5
T32A	Huddler Ranch, baz=68	68.12	333	⇓P	P	23 08 22.4 +1.0
X26A	CR and CF Fran baz=68	68.15	328	⇓P	P	23 08 22.5 +0.8
W27A	Bowe Ranch, En baz=68	68.20	329	⇑P	P	23 08 22.9 +0.8
122A	Conniff Cattle baz=69	68.31	324	⇓P	P	23 08 25.0 +2.2
U30A	WK&E Inc. Balk baz=69	68.31	331	P	P	23 08 23.7 +1.1
Z23A	Rita Site, Whi baz=69	68.34	325	⇓P	P	23 08 24.5 +1.5
T31A	Randall Ranch, baz=69	68.37	332	⇑P	P	23 08 24.0 +1.1
V28A	Channing baz=69	68.37	330	⇑P	P	23 08 23.6 +0.5
Y24A	Capitan baz=69	68.46	326	⇓P	P	23 08 24.1 +0.4
U29A	Oasis Ranch, S baz=69	68.52	331	⇑P	P	23 08 24.9 +1.0
220A	Playas Peak, P baz=69,SNR=11	68.53	323	⇓P	P	23 08 25.5 +1.3
X25A	Clemmons Ranch baz=69,SNR=5.3	68.55	327	⇓P	P	23 08 24.5 +0.2
319A	Douglas baz=69	68.55	322	⇑P	P	23 08 25.9 +1.6
W26A	Owens Ranch, T baz=69	68.56	328	⇑P	P	23 08 25.6 +1.3
S32A	Newby Ranch, P baz=69	68.57	333	⇓P	P	23 08 25.0 +0.9
121A	Cookes Peak, D	68.60	324	eP	P	23 08 25.3 +0.6
121A	Cookes Peak, D baz=69,SNR=14	68.60	324	⇑P	P	23 08 26.4 +1.8
V27A	Dan Oppiter Fa baz=69	68.66	329	⇓P	P	23 08 26.5 +1.6
T30A	Plains baz=69	68.70	332	⇓P	P	23 08 25.6 +0.6
R33A	Olander Ranch, baz=69	68.71	334	⇑P	P	23 08 25.4 +0.4
Z22A	Elephant Butte baz=69,SNR=33	68.72	325	⇑P	P	23 08 27.2 +1.9
Y23A	Lovelace Mesa, baz=69	68.78	326	⇓P	P	23 08 26.5 +0.7
U28A	Mallet baz=69	68.89	330	⇑P	P	23 08 27.2 +0.9
X24A	Lazy VL Ranch, baz=69	68.96	327	⇓P	P	23 08 27.9 +1.0
W25A	X Bar L Ranch, baz=69,SNR=8.8	69.00	328	⇓P	P	23 08 27.8 +0.8
120A	U Bar Ranch, L baz=69	69.08	323	⇓P	P	23 08 29.3 +1.8
R32A	Long Quarter, baz=69	69.10	334	⇓P	P	23 08 28.3 +0.9
T29A	Hugoton baz=70	69.12	331	⇑P	P	23 08 28.6 +1.0
Z21A	St. Cloud Mine baz=70	69.14	324	⇑P	P	23 08 29.8 +1.8
V26A	Tequesquite Ra baz=70	69.14	329	⇑P	P	23 08 28.8 +0.9
U27A	Thompson Grove baz=70	69.20	330	⇑P	P	23 08 29.4 +1.2
BNM	Barren Site comp=E,18nm,1.4s	69.24	326	eP	P	23 08 29.2 +0.6
Y22A	Socorro baz=70	69.25	325	⇓P	P	23 08 29.9 +1.2
R31A	Burdett baz=70	69.32	333	⇑P	P	23 08 29.5 +0.7
X23A	Hourglass Bar baz=70	69.36	326	⇑P	P	23 08 30.6 +1.4
LPM	Los Pinos Moun	69.37	326	eP	P	23 08 30.9 +1.6
T28A	Walsh baz=70	69.45	331	⇓P	P	23 08 30.0 +0.3
W24A	Lazy 6 Ranch, baz=70,SNR=9.9	69.46	327	⇓P	P	23 08 30.7 +0.8
V25A	Rancho No Teng baz=70	69.57	328	⇓P	P	23 08 31.2 +0.6
SADO	Sadowa	69.60	351	P	P	23 08 30.1 -0.2
SADO	Sadowa comp=E,8.9nm,0.6s,baz=147,slow=3.0,SNR=11	69.60	351	P	P	23 08 30.1 -0.2
U26A	Atchley Ranch, baz=70,SNR=12	69.61	329	⇓P	P	23 08 31.5 +0.7
R30A	Dighton baz=70	69.63	333	P	P	23 08 31.4 +0.7
T27A	Campo baz=70	69.68	330	⇓P	P	23 08 31.9 +0.7
Y21A	Point of Rocks baz=70,SNR=14	69.68	325	⇓P	P	23 08 33.1 +1.8
LAZ	Ladron comp=E,7.1nm,1.2s	69.70	325	eP	P	23 08 32.0 +0.5
S28A	Manter baz=70	69.75	331	⇑P	P	23 08 32.6 +1.1
ANMO	Albuquerque comp=E,19nm,1.0s	69.78	326	eP	P	23 08 33.0 +1.2
ANMO	Albuquerque comp=E,12nm,0.8s,baz=142,slow=7.3,SNR=31	69.78	326	P	P	23 08 33.2 +1.4
W23A	Werner Place, baz=70	69.79	327	⇓P	P	23 08 33.3 +1.4
V24A	Rampart Ranch, baz=70	69.80	328	⇑P	P	23 08 33.2 +1.1
Q31A	Ellis baz=70	69.87	334	⇑P	P	23 08 33.2 +1.0
U25A	Circle Dot Ran baz=70,SNR=12	69.92	329	⇓P	P	23 08 33.7 +1.0
Y20A	Horse Springs, baz=70,SNR=14	69.97	324	⇑P	P	23 08 34.8 +1.6
TUC	Tucson comp=E,11nm,1.1s	70.10	321	eP	P	23 08 34.8 +1.0
R29A	Marienthal baz=70	70.11	332	⇓P	P	23 08 34.7 +1.0
T26A	Comanche Natio baz=70	70.17	330	⇑P	P	23 08 35.4 +1.1
Q30A	Quinter baz=71,SNR=5.4	70.19	333	⇑P	P	23 08 34.9 +0.8
JFWS	Jewell Farm comp=E,40nm,0.6s	70.21	342	eP	P	23 08 34.1 0.0
S27A	Las Animas baz=71	70.27	330	⇓P	P	23 08 35.6 +0.9
V23A	Ortiz Mt. (NFS baz=71	70.27	327	⇓P	P	23 08 35.8 +0.9
P31A	Stockton baz=71	70.31	334	⇓P	P	23 08 35.7 +0.9
R28A	Tribune baz=71	70.33	332	⇑P	P	23 08 35.8 +0.7
Q29A	Oakley baz=71,SNR=7.5	70.43	332	⇓P	P	23 08 36.2 +0.5
S26A	Kim baz=71	70.48	330	⇑P	P	23 08 37.4 +1.4
O32A	Brockman Farm, baz=71	70.51	335	⇓P	P	23 08 36.3 +0.3
T25A	Trinidad baz=71,SNR=8.7	70.52	329	⇑P	P	23 08 37.6 +1.2
P30A	Selden baz=71	70.68	333	⇓P	P	23 08 37.9 +0.8
R27A	Eads baz=71	70.72	331	⇑P	P	23 08 38.1 +0.7
V22A	San Miguel Ran baz=71,SNR=9.0	70.77	327	⇑P	P	23 08 39.6 +1.7
T24B	San Luis baz=71	70.92	328	⇑P	P	23 08 40.7 +1.8
Q28A	Sharon Springs baz=71	70.94	332	P	P	23 08 39.6 +0.9
S25A	Robets Cordova baz=71	70.95	329	⇓P	P	23 08 40.7 +1.8
P29A	Atwood baz=71	71.01	333	⇓P	P	23 08 40.8 +1.7
214A	Organ Pipe Nat baz=71	71.02	320	⇓P	P	23 08 40.8 +1.6
R26A	Arlington baz=71,SNR=15	71.02	330	⇑P	P	23 08 40.4 +1.1
U22A	Llaves baz=71	71.10	327	⇑P	P	23 08 42.0 +2.1
KSCO	Kaye Shedlock' baz=72	71.24	331	⇓P	P	23 08 42.0 +1.4
N31A	Bailey Ranch, baz=72	71.26	335	⇓P	P	23 08 41.0 +0.6
R25A	Fountain Ranch baz=72,SNR=7.0	71.28	330	⇑P	P	23 08 41.7 +0.8
X18A	Snowflake baz=72	71.29	324	⇑P	P	23 08 42.7 +1.7
S24A	Houchin Ranch, baz=72,SNR=13	71.30	329	⇓P	P	23 08 42.7 +1.5
O29A	4D Ranch, Culb baz=72	71.40	333	⇑P	P	23 08 42.5 +1.1
BGNE	Belgrade	71.45	336	eP	P	23 08 42.1 +0.5
BGNE	Belgrade baz=72,SNR=8.8	71.45	336	⇑P	P	23 08 42.1 +0.5
SDCO	Great Sand Dun comp=E,13nm,0.9s	71.53	329	eP	P	23 08 44.0 +1.5
Q26A	Hugo baz=72,SNR=5.1	71.56	331	⇑P	P	23 08 43.7 +1.1
W18A	Petrified Fore baz=72	71.62	324	⇓P	P	23 08 44.7 +1.7
P27A	Ficken Ranch, baz=72	71.67	332	⇓P	P	23 08 44.7 +1.6
N30A	Hueftle Ranch, baz=72	71.68	334	⇑P	P	23 08 44.4 +1.4
R24A	Sanders Place, baz=72	71.73	329	⇑P	P	23 08 45.3 +1.7
N29A	Votaw Ranch, W baz=72	71.91	334	⇓P	P	23 08 45.8 +1.3
P26A	Davis Ranch, A baz=72	72.01	331	⇓P	P	23 08 46.6 +1.4
X16A	Lo Mia Camp, P baz=72	72.03	323	⇑P	P	23 08 47.4 +2.0
R23A	Moffat baz=72	72.03	329	⇓P	P	23 08 47.6 +2.1
O27A	Beecher Island baz=72	72.16	332	⇓P	P	23 08 47.7 +1.7
113A	Mohawk Valley, baz=72	72.16	320	P	P	23 08 47.4 +1.4
S22A	4UR Ranch, Cre baz=72	72.16	328	⇓P	P	23 08 47.8 +1.5
P25A	Willow Gulch B baz=73	72.34	331	⇑P	P	23 08 48.7 +1.6
Q24A	Divide baz=73	72.34	330	⇓P	P	23 08 48.8 +1.5
L31A	Butterfield Fa baz=73	72.38	336	⇓P	P	23 08 48.0 +0.8
O26A	Horse Wrangler baz=73	72.56	332	⇓P	P	23 08 50.3 +1.9
Y14A	Wickenburg baz=73	72.56	321	⇓P	P	23 08 49.7 +1.2
MVCO	Mesa Verde comp=E,19nm,0.9s	72.58	326	eP	P	23 08 50.2 +1.5
MVCO	Mesa Verde baz=73	72.58	326	⇓P	P	23 08 50.2 +1.5
Q23A	Hartsel baz=73	72.61	329	⇑P	P	23 08 50.2 +1.2
O25A	Wiggins baz=73	72.80	331	⇑P	P	23 08 52.1 +2.3
WUAZ	Wupatki comp=E,19nm,0.8s	72.80	323	eP	P	23 08 52.0 +2.0
WUAZ	Wupatki baz=73	72.80	323	⇓P	P	23 08 52.0 +2.0
ECSD	EROS Data Cent comp=E,37nm,1.3s	72.94	338	eP	P	23 08 50.1 -0.3
P23A	Jefferson baz=73	72.99	329	⇓P	P	23 08 53.2 +2.0
GLA	Glamis comp=E,11nm,0.8s	72.99	319	eP	P	23 08 52.7 +1.7
GLA	Glamis baz=73	72.99	319	⇑P	P	23 08 52.9 +1.9
N26A	Koster Ranch, baz=73	73.00	332	⇓P	P	23 08 52.9 +2.0
SPMN	St. Paul baz=73	73.06	341	⇑P	P	23 08 50.7 -0.3
K30A	Basset baz=73	73.10	335	⇑P	P	23 08 52.5 +1.1
ISCO	Idaho Springs comp=E,9.2nm,0.9s	73.22	330	eP	P	23 08 54.0 +1.4
ISCO	Idaho Springs baz=74	73.22	330	⇑P	P	23 08 54.2 +1.6
L28A	Connealy Angus baz=74	73.28	334	⇑P	P	23 08 54.5 +1.9
SYO	Syowa Base	73.29	159	⇑eP	P	23 08 51.4 -0.8
SYO	Syowa Base	73.29	159	⇓ePcP	PcP	23 09 05.6 -2.1
Y12C	Blythe baz=74	73.30	320	⇑P	P	23 08 54.9 +2.1
PV01	Paradox Valley comp=E,612nm,0.8s	73.33	327	eP	P	23 08 54.0 +0.9
SMCO	Snowmass comp=E,13nm,0.8s	73.36	329	eP	P	23 08 54.8 +1.3
K29A	Lazy Trails An baz=74	73.44	335	⇑P	P	23 08 54.7 +1.3
PDMCI	Parker Dam,Lak baz=74	73.47	321	⇓P	P	23 08 55.4 +1.7
DVTC	Desert V Tower baz=74	73.48	318	⇓P	P	23 08 55.7 +1.8
SWSC	Sam W. Stewart baz=74	73.49	319	⇓P	P	23 08 55.7 +1.8
M26A	McRoberts Ranc baz=74	73.49	332	⇑P	P	23 08 55.7 +1.9
P22A	Eagle baz=74	73.59	329	⇓P	P	23 08 56.2 +1.6
J30A	Dallas baz=74	73.61	336	⇓P	P	23 08 55.3 +1.0
L27A	T5 Ranch, Ells baz=74	73.66	333	⇓P	P	23 08 57.0 +2.2
O23A	Lake Granby, G baz=74	73.69	330	⇑P	P	23 08 57.0 +1.8
N24A	Carr baz=74	73.72	331	⇓P	P	23 08 57.1 +1.9
BC3	Big Chuckawall	73.78	319	⇑P	P	23 08 56.9 +1.2
MONP	Monument Peak baz=74,SNR=6.9	73.83	318	⇓P	P	23 08 57.8 +1.7
BAR	Barrett comp=E,12nm,0.9s	73.84	318	eP	P	23 08 56.4 +0.4
M25A	Palm-Egli Farm baz=74	73.86	332	⇓P	P	23 08 58.3 +2.3
W13A	Hualapai Mount baz=74	73.90	321	⇑P	P	23 08 58.3 +1.8
IRM	Iron Mountain baz=74,SNR=11	73.96	320	⇑P	P	23 08 58.2 +1.5
U15A	North Rim baz=74	73.98	323	⇓P	P	23 08 59.0 +2.0
J29A	Okreek baz=74	73.99	335	⇑P	P	23 08 57.7 +1.1
I30A	Oacoma baz=74	74.09	336	⇓P	P	23 08 57.4 +0.3
K27A	Flueckinger Fa baz=74	74.15	334	⇑P	P	23 08 59.0 +1.4
M24A	Cheyenne baz=75,SNR=11	74.22	331	⇓P	P	23 08 59.6 +1.5
N23A	Red Feather La baz=75	74.25	330	⇓P	P	23 09 00.0 +1.6
BELC	Belle Mtn. Jos baz=75,SNR=7.0	74.35	319	⇑P	P	23 09 00.3 +1.3
PFO	Pinyon Flat Ob comp=E,9.4nm,0.8s	74.35	319	eP	P	23 09 00.8 +1.7
PFO	Pinyon Flat Ob baz=75	74.35	319	⇑P	P	23 09 00.7 +1.7
J28A	Allard Ranch, baz=75,SNR=5.3	74.36	335	⇑P	P	23 08 59.6 +0.9
PHWY	Pilot Hill comp=E,12nm,1.0s	74.36	331	eP	P	23 09 00.3 +1.2
N22A	Wattenberg Ran baz=75,SNR=6.2	74.41	330	⇓P	P	23 09 00.9 +1.6
VNDA	Vanda comp=E,8.4nm,0.9s	74.43	190	eP	P	23 09 00.3 +1.6
VNDA	Vanda comp=E,8.2nm,0.9s,baz=157,slow=4.9,SNR=16	74.43	190	P	P	23 09 00.5 +1.8
J27A	Elkhorn Farm, baz=75,SNR=5.6	74.52	334	⇓P	P	23 09 01.2 +1.5
K26A	Motz Farm, Whi baz=75	74.53	333	⇓P	P	23 09 01.3 +1.5
LDFC	Landfair comp=E,17nm,0.8s	74.58	321	eP	P	23 09 02.6 +2.3
M23A	Laramie baz=75,SNR=7.6	74.61	331	⇓P	P	23 09 01.6 +1.2
GMRC	Granite Mounta baz=75,SNR=20	74.69	320	⇑P	P	23 09 02.7 +1.7
O20A	White River Ci	74.72	328	eP	P	23 09 01.4 +0.3
O20A	White River Ci baz=75	74.72	328	⇑P	P	23 09 02.9 +1.9
MURC	Murrieta baz=75	74.79	318	⇑P	P	23 09 03.3 +1.9
I28A	Midland baz=75	74.82	335	⇑P	P	23 09 02.8 +1.4
M22A	Cedar Creek Ra baz=75	74.95	330	⇑P	P	23 09 04.3 +1.9
J26A	Sides Ranch, S baz=75,SNR=6.0	75.00	334	⇓P	P	23 09 03.9 +1.5
SRU	San Rafael comp=E,21nm,0.7s	75.06	326	eP	P	23 09 03.7 +0.7
HEC	Hector,Ludlow baz=75	75.12	320	⇓P	P	23 09 05.3 +1.9
L23A	Garrett baz=76	75.12	331	⇓P	P	23 09 05.0 +1.5
N20A	Spence Gulch, baz=76	75.28	329	⇓P	P	23 09 06.0 +1.7
TUQ	Turquoise Moun baz=76,SNR=7.3	75.31	320	⇑P	P	23 09 06.1 +1.6
H28A	Mission Ridge baz=76	75.34	336	⇓P	P	23 09 05.1 +0.8
J25A	Sunshine Ranch baz=76	75.36	333	⇑P	P	23 09 06.3 +1.8
L22A	Ellis Ranch, M baz=76	75.38	331	⇓P	P	23 09 06.4 +1.6
CCUT	Cedar City comp=E,24nm,0.8s	75.38	324	eP	P	23 09 06.8 +1.8
CIS	Catalina Islan baz=76	75.40	317	⇑P	P	23 09 05.9 +1.0
RWWY	Rawlins comp=E,16nm,0.9s	75.46	330	eP	P	23 09 06.5 +1.1
BFSC	Mount Baldy Ra baz=76	75.51	319	⇑P	P	23 09 07.2 +1.5
K23A	Bowen Ranch, D baz=76,SNR=14	75.61	332	⇓P	P	23 09 07.5 +1.4
SHPR	Sheep Range	75.63	322	eP	P	23 09 06.8 +0.5
G28A	Parade baz=76	75.64	336	⇓P	P	23 09 07.1 +1.1
J24A	Dixon Ranch, L baz=76	75.67	333	⇑P	P	23 09 08.1 +1.7
H27A	Howes baz=76	75.70	335	⇓P	P	23 09 07.5 +1.0
GSC	Goldstone comp=E,11nm,1.1s	75.73	320	eP	P	23 09 07.4 +0.6
GSC	Goldstone baz=76,SNR=5.5	75.73	320	⇑P	P	23 09 08.2 +1.4
I25A	Rochford baz=76	75.85	334	⇑P	P	23 09 08.7 +1.3
F29A	Eureka baz=76	75.89	337	P	P	23 09 08.3 +0.9
K22A	Casper baz=76	75.92	331	⇓P	P	23 09 09.2 +1.4
H26A	Fairpoint baz=76	75.96	335	⇑P	P	23 09 09.8 +1.9
RSSD	Black Hills comp=E,10nm,0.8s	76.06	333	eP	P	23 09 09.6 +1.0
I24A	Kuemmerle Ranc baz=76	76.08	333	⇓P	P	23 09 10.3 +1.6
E30A	Jud baz=76	76.14	338	⇓P	P	23 09 09.5 +0.7
EDW2	Edwards Air Fo baz=76	76.14	319	⇓P	P	23 09 09.9 +0.8
K21A	Alcova baz=77	76.23	331	⇑P	P	23 09 11.1 +1.4
MPU	Maple Canyon comp=E,15nm,1.0s	76.30	326	eP	P	23 09 11.7 +1.6
LRMC	Laurel Mountai baz=77	76.37	319	⇓P	P	23 09 11.7 +1.2
DAU	Daniels Canyon	76.41	327	eP	P	23 09 12.5 +1.7
G26A	Maurine baz=77,SNR=5.5	76.46	335	⇑P	P	23 09 11.2 +0.5
NLU	North Lily Min comp=E,9.3nm,1.1s	76.48	326	eP	P	23 09 12.8 +1.6
J22A	Midwest baz=77	76.51	332	⇓P	P	23 09 11.9 +0.8
TPNV	Topopah Spring comp=E,13nm,0.8s	76.56	321	eP	P	23 09 13.2 +1.7
TPNV	Topopah Spring baz=77,SNR=20	76.56	321	⇓P	P	23 09 13.3 +1.7
FURC	Furnace Creek, baz=77	76.57	321	⇑P	P	23 09 13.2 +1.8
D30A	Buchanan baz=77	76.62	338	⇑P	P	23 09 12.3 +0.8
JLU	Jordanelle comp=E,27nm,1.4s	76.65	327	eP	P	23 09 13.7 +1.6
MPMC	Manual Prospec baz=77,SNR=6.3	76.66	320	⇓P	P	23 09 12.9 +0.7
TOA0	Torodi Ar. Sit	76.66	69	eP	P	23 09 12.3 -0.1
TORD	Torodi Ar. Bea	76.66	69	P	P	23 09 12.4 0.0
TORD	Torodi Ar. Bea comp=E,14nm,0.7s,baz=260,slow=5.8,SNR=86	76.66	69	P	P	23 09 12.4 0.0
F27A	Lemmon baz=77	76.72	336	⇓P	P	23 09 13.2 +1.1
H24A	Dirks Ranch, A baz=77,SNR=13	76.78	334	⇓P	P	23 09 13.2 +0.7
E28A	Huff baz=77	76.83	337	⇑P	P	23 09 13.8 +1.1
D29A	Pettibone, Tap baz=77	76.86	338	⇓P	P	23 09 13.7 +0.8
I22A	9 Mile Ranch, baz=77,SNR=14	76.90	332	⇓P	P	23 09 14.3 +1.1
F26A	Lodgepole baz=77	76.95	335	⇓P	P	23 09 14.6 +1.2
ISA	Isabella comp=E,2.5nm,0.9s	76.97	319	eP	P	23 09 15.2 +1.4
ISA	Isabella baz=77,SNR=9.6	76.97	319	⇑P	P	23 09 15.1 +1.4
H23A	Clabaugh Cattl baz=77	76.98	333	⇓P	P	23 09 14.3 +0.6
DUG	Dugway comp=E,13nm,1.1s	77.03	326	eP	P	23 09 15.8 +1.6
DUG	Dugway baz=77,SNR=12	77.03	326	⇑P	P	23 09 15.6 +1.4
C30A	Mose, Pekin baz=77	77.05	339	⇓P	P	23 09 15.0 +1.2
J20A	Shoshoni baz=78	77.17	331	⇓P	P	23 09 16.6 +1.8

R11A **Troy Canyon, C** 77.17 323 *e*P P 23 09 15.7 +0.7
R11A **Troy Canyon, C** 77.17 323 ⇓P P 23 09 16.6 +1.6
baz=78
I21A **Big Trails, Te** 77.18 331 ⇑P P 23 09 15.7 +0.8
baz=78,SNR=22
G24A **Alzada** 77.20 334 ⇓P P 23 09 16.0 +1.1
baz=78
CWC **Cottonwood Cre** 77.26 320 ⇑P P 23 09 16.9 +1.4
baz=78,SNR=6.5
PKM **Peak Mountain** 77.27 318 ⇓P P 23 09 17.2 +1.6
baz=78,SNR=10
D28A **Regan** 77.32 337 ⇓P P 23 09 16.3 +0.9
baz=78
F25A **Bowman** 77.32 335 ⇓P P 23 09 16.4 +0.9
baz=78
BW06 **Boulder Array** 77.39 329 *e*P P 23 09 16.9 +0.8
comp=E,84nm,2.8s
PDAR **Pinedale Array** 77.39 329 P P 23 09 16.6 +0.4
PDAR **Pinedale Array** 77.39 329 P P 23 09 16.6 +0.4
comp=E,3.4nm,0.7s,baz=133,slow=7.8,SNR=17
E26A **Carlson Angus** 77.39 336 ⇓P P 23 09 16.8 +0.9
baz=78
G23A **Biddle** 77.50 333 ⇑P P 23 09 17.7 +1.2
baz=78
J19A **Crowheart** 77.54 330 ⇓P P 23 09 18.1 +1.2
baz=78
F24A **Ekalaka** 77.64 334 ⇓P P 23 09 18.4 +1.1
baz=78
B30A **Myrvik Farm, E** 77.65 339 ⇑P P 23 09 17.9 +0.7
baz=78
I20A **Worland** 77.66 331 ⇑P P 23 09 18.5 +1.0
baz=78
SPUT **South Promonto** 77.68 327 *e*P P 23 09 18.8 +1.1
comp=E,30nm,1.3s
BGU **Big Grassy Mou** 77.69 326 *e*P P 23 09 18.9 +1.2
comp=E,6.3nm,1.2s
C28A **Hausauer Farms** 77.70 338 ⇑P P 23 09 18.3 +0.8
baz=78
H21A **Big Horn, Sher** 77.72 332 ⇑P P 23 09 18.4 +0.6
baz=78
TIN **Tinemaha** 77.77 320 ⇑P P 23 09 19.9 +1.6
baz=78
E25A **Miller Ranch,** 77.78 335 ⇑P P 23 09 18.8 +0.8
baz=78
D26A **Manning** 77.86 336 ⇓P P 23 09 19.6 +1.2
baz=78
G22A **Birney** 77.88 333 ⇓P P 23 09 19.6 +0.9
baz=78
F23A **Volborg** 77.92 334 ⇓P P 23 09 19.8 +0.9
baz=78
B29A **Wagenman Farm,** 78.00 339 ⇑P P 23 09 19.7 +0.6
baz=78,SNR=6.2
H20A **Greybull** 78.03 331 ⇓P P 23 09 20.0 +0.4
baz=78,SNR=9.4
A30A **Hoffart Farm,** 78.07 340 ⇑P P 23 09 20.5 +1.0
baz=78
C27A **Sayler Ranch,** 78.09 337 ⇑P P 23 09 21.2 +1.5
baz=78
AHID **Auburn Hatcher** 78.11 328 *e*P P 23 09 20.6 +0.5
comp=E,43nm,0.3s
I19A **Meeteetse** 78.12 330 ⇓P P 23 09 21.3 +1.2
baz=78
MTUM **Tungsten Hills** 78.17 320 *e*P P 23 09 19.9 -0.6
E24A **Baker** 78.17 335 ⇑P P 23 09 21.3 +1.1
baz=78,SNR=7.0
HVU **Hansel Valley** 78.19 327 *e*P P 23 09 21.6 +1.1
comp=E,13nm,0.9s
G21A **Lodge Grass** 78.27 332 ⇑P P 23 09 21.3 +0.5
baz=79,SNR=9.6
D25A **Fairfield** 78.29 336 ⇓P P 23 09 22.4 +1.7
baz=79
F22A **Rosebud** 78.32 333 ⇓P P 23 09 22.0 +0.9
baz=79
B28A **Dugan Ranch, T** 78.32 338 ⇑P P 23 09 21.6 +0.7
baz=79
A29A **Manning Farm,** 78.36 339 ⇑P P 23 09 21.3 +0.2
baz=79,SNR=7.9
REDW **Red Top Meadow** 78.45 329 *e*P P 23 09 23.3 +1.3
comp=E,13nm,0.9s
ULM **Lac du Bonnet** 78.49 342 P P 23 09 21.7 0.0
ULM **Lac du Bonnet** 78.49 342 P P 23 09 21.7 0.0
comp=E,16nm,0.7s,baz=159,slow=7.0,SNR=20
E23A **Ismay** 78.52 334 ⇑P P 23 09 23.1 +1.0
baz=79
LOHW **Long Hollow** 78.53 329 *e*P P 23 09 23.5 +1.1
comp=E,9.2nm,0.8s
TPAW **Teton Pass** 78.59 329 *e*P P 23 09 24.2 +1.4
comp=E,12nm,0.9s
H19A **Powell** 78.61 331 ⇑P P 23 09 24.2 +1.5
baz=79
D24A **Glendive** 78.64 335 ⇑P P 23 09 24.0 +1.3
baz=79
A28A **Rude Farm, Bot** 78.69 338 ⇓P P 23 09 23.9 +1.0
baz=79
MOOW **Moose Ponds** 78.70 329 *e*P P 23 09 24.3 +0.9
comp=E,30nm,1.8s
ELK **Elko** 78.70 325 *e*P P 23 09 24.4 +0.9
G20A **Bridger** 78.70 332 ⇓P P 23 09 23.6 +0.4
baz=79,SNR=21
F21A **Absaloka Mine,** 78.72 333 ⇓P P 23 09 24.4 +1.1
baz=79
E22A **Miles City** 78.73 334 ⇓P P 23 09 24.1 +0.8
baz=79
C25A **Freed Ranch, W** 78.73 336 ⇓P P 23 09 24.4 +1.2
baz=79
FXWY **Fox Creek** 78.74 329 *e*P P 23 09 24.4 +0.7
comp=E,4.7nm,0.8s
I17A **Pilgrim Ck.** 78.75 329 ⇓P P 23 09 25.1 +1.5
baz=79,SNR=14
NVAR **Mina Array Bea** 78.76 321 P P 23 09 24.9 +1.1
NVAR **Mina Array Bea** 78.76 321 P P 23 09 24.9 +1.1
comp=E,2.9nm,0.6s,baz=154,slow=5.9,SNR=21
SCHQ **Schefferville** 78.78 0 P P 23 09 22.9 -0.4
SCHQ **Schefferville** 78.78 0 P P 23 09 22.9 -0.4
comp=E,3.7nm,0.5s,baz=229,slow=11,SNR=6.8
H18A **Shoshone NF, C** 78.92 330 ⇑P P 23 09 25.4 +0.9
baz=79
FLWY **Flagg Ranch** 78.93 330 *e*P P 23 09 26.4 +1.8
comp=E,20nm,0.9s
C24A **Savage** 79.02 335 ⇑P P 23 09 25.9 +1.2
baz=79,SNR=6.5
D23A **Lindsay** 79.03 335 ⇑P P 23 09 26.3 +1.5
baz=79
A27A **Ledoux Ranch,** 79.06 338 ⇑P P 23 09 26.5 +1.7
baz=79
F20A **Billings** 79.13 332 ⇑P P 23 09 26.6 +1.1
baz=80
B25A **Knox Farm, Ray** 79.16 336 ⇑P P 23 09 26.9 +1.3
baz=80
E21A **Keefer Ranch,** 79.27 333 ⇓P P 23 09 27.5 +1.3
baz=80
YFT **Old Faithful** 79.28 330 *e*P P 23 09 29.2 +2.7
comp=E,9.8nm,0.9s
A26A **Wade Farm, Ken** 79.29 337 ⇑P P 23 09 27.3 +1.1
baz=80
D22A **Cohagen** 79.40 334 ⇑P P 23 09 28.2 +1.3
baz=80
WAKR **Walker** 79.46 321 *e*P P 23 09 29.4 +1.9
YMR **Madison River** 79.50 330 *e*P P 23 09 29.7 +2.0
comp=E,25nm,0.8s
F19A **Roth Farm, Mol** 79.52 332 ⇑P P 23 09 28.3 +0.7
baz=80,SNR=12
C23A **Lambert** 79.54 335 ⇓P P 23 09 28.7 +1.1
baz=80
D21A **La Casta Ranch** 79.66 333 ⇓P P 23 09 29.3 +1.1
baz=80
E20A **Meyer Farm, Mu** 79.68 332 ⇑P P 23 09 29.6 +1.1
baz=80
CMB **Columbia Colle** 79.69 320 *e*P P 23 09 29.1 +0.4
comp=E,4.2nm,1.0s
A25A **Svangstu Ranch** 79.70 337 ⇓P P 23 09 29.6 +1.2
baz=80
DGMT **Dagmar** 79.71 336 *e*P P 23 09 29.8 +1.3
comp=E,47nm,0.8s
DGMT **Dagmar** 79.71 336 ⇓P P 23 09 29.4 +0.9
baz=80,SNR=5.8
C22A **Vida** 79.76 334 ⇑P P 23 09 29.5 +0.7
baz=80
GCMT **Greycliff** 79.78 331 *e*P P 23 09 30.1 +1.0
comp=E,15nm,1.0s
QLMT **Earthquake Lak** 79.84 330 *e*P P 23 09 30.1 +0.6
comp=E,0.6nm,0.3s
E19A **Rath Farm, Rou** 79.93 332 ⇑P P 23 09 30.5 +0.7
baz=80,SNR=17
B23A **Brockton** 80.01 335 ⇑P P 23 09 31.2 +1.1
baz=80
A24A **Westby** 80.02 336 ⇑P P 23 09 31.4 +1.3
baz=80

D20A **Manuel Ranch,** 80.15 333 ⇑P P 23 09 31.6 +0.7
baz=80
PAHR **Pah Rah Range** 80.24 322 *e*P P 23 09 32.8 +1.1
comp=E,24nm,1.0s
B22A **Reddig Ranch S** 80.26 335 ⇓P P 23 09 32.4 +1.0
baz=81
C21A **Desert Coulee** 80.31 334 ⇑P P 23 09 32.7 +1.0
baz=81
HLID **Hailey** 80.32 327 *e*P P 23 09 33.4 +1.3
comp=E,25nm,0.8s
HLID **Hailey** 80.32 327 ⇑P P 23 09 34.0 +1.9
baz=81,SNR=39
MCMT **McKenzie Canyo** 80.50 329 *e*P P 23 09 34.1 +1.0
comp=E,12nm,1.0s
D19A **Cripps Ranch,** 80.52 332 ⇓P P 23 09 33.4 +0.5
baz=81,SNR=9.3
BOZ **Bozeman (W)** 80.55 330 *e*P P 23 09 33.9 +0.7
comp=E,40nm,2.8s
C20A **Veseth Ranch,** 80.59 333 ⇑P P 23 09 33.8 +0.6
baz=81
BOSA **Boshof** 80.60 117 *e*P P 23 09 34.8 +0.7
comp=E,21nm,1.1s
BOSA **Boshof** 80.60 117 P P 23 09 34.5 +0.4
comp=E,14nm,0.6s,baz=255,slow=3.7,SNR=65
B21A **Ellsworth Farm** 80.76 334 ⇓P P 23 09 35.0 +0.9
baz=81
DLMT **Dillon** 80.78 329 *e*P P 23 09 36.0 +1.6
comp=E,20nm,1.1s
A22A **Carney Farms,** 80.79 335 ⇑P P 23 09 35.1 +0.9
baz=81
BEKR **Beckworth** 80.90 321 *e*P P 23 09 35.7 +0.5
comp=E,2.3nm,0.8s
MFID **Camas Ranch** 80.92 326 *e*P P 23 09 36.6 +1.4
comp=E,11nm,1.1s
LRM **Limekiln Ridge** 81.06 330 *e*P P 23 09 37.0 +1.0
MAW **Mawson** 81.17 163 P P 23 09 37.0 +0.9
MAW **Mawson** 81.17 163 P P 23 09 37.0 +0.9
comp=E,15nm,0.6s,baz=225,slow=7.5,SNR=15
B20A **Solberg Farm,** 81.17 334 ⇑P P 23 09 37.0 +0.7
baz=82
A21A **Bergtoll Ranch** 81.18 335 ⇓P P 23 09 37.4 +1.1
baz=82
OHCM **Honcut** 81.20 320 *e*P P 23 09 37.7 +1.1
HRY **Holter Researc** 81.45 331 *e*P P 23 09 39.4 +1.4
A20A **Cobblestone Ra** 81.49 334 ⇑P P 23 09 38.9 +0.9
baz=82
EGMT **Eagleton** 81.56 333 *e*P P 23 09 39.0 +0.6
comp=E,23nm,1.0s
EGMT **Eagleton** 81.56 333 ⇓P P 23 09 38.5 +0.1
baz=82,SNR=6.3
B19A **Brinkman Farms** 81.56 333 ⇑P P 23 09 39.4 +1.0
baz=82
MOD **Modoc** 82.24 323 *e*P P 23 09 43.3 +1.1
comp=E,12nm,1.0s
J08A **Circle Bar Ran** 82.25 325 *e*P P 23 09 43.3 +1.2
comp=E,19nm,0.7s
LBTB **Lobatse** 82.27 114 *e*P P 23 09 43.5 +0.7
comp=E,15nm,0.6s
MSO **Missoula** 82.50 330 ⇑P P 23 09 44.7 +1.3
baz=83
SLMT **Seeley Lake** 82.60 330 *e*P P 23 09 45.0 +1.0
BMO **Blue Mountains** 82.69 327 *e*P P 23 09 45.1 +0.7
comp=E,4.8nm,0.8s
N02D **Trinity Center** 82.98 321 ⇓P P 23 09 47.1 +1.1
baz=83
M04C **Macdoel** 83.02 322 ⇓P P 23 09 47.3 +1.1
baz=83
SWMT **Swartz Lake** 83.03 330 *e*P P 23 09 47.1 +1.0
K05A **Summer Lake** 83.12 323 *e*P P 23 09 47.9 +1.1
comp=E,29nm,0.9s
I07A **Izee** 83.29 325 *e*P P 23 09 48.4 +0.8
comp=E,5.4nm,0.8s
YBMT **Yellow Bay** 83.30 330 *e*P P 23 09 48.5 +1.1
JTMT **Jette** 83.33 330 *e*P P 23 09 48.5 +0.8
M02C **Callahan** 83.34 321 ⇓P P 23 09 48.1 +0.4
baz=84
F10A **Beach Ranch, E** 83.45 327 *e*P P 23 09 49.0 +0.8
comp=E,11nm,0.8s
YBH **Yreka Blue Hor** 83.47 322 *e*P P 23 09 48.2 -0.2
comp=E,5.4nm,1.1s
BLMT **Blacktail Moun** 83.57 330 *e*P P 23 09 49.9 +1.0
BSMT **Bassoo Peak** 83.64 330 *e*P P 23 09 50.3 +1.0
J05D **Fort Rock, OR** 83.68 323 ⇑P P 23 09 50.4 +0.9
baz=84
PINOR **Pine Mountain** 83.83 324 *e*P P 23 09 51.2 +1.2
G08A **Pilot Rock** 83.84 326 *e*P P 23 09 50.8 +0.5
comp=E,17nm,1.8s
J04D **Umpqua Nationa** 84.13 323 ⇓P P 23 09 52.8 +0.9
baz=84
I05D **Terrebonne, OR** 84.44 324 ⇓P P 23 09 54.9 +1.6
baz=85
TAM **Tamanrasset** 84.52 62 *e*P P 23 09 54.4 +0.2
comp=E,1.3nm,0.6s
I04A **Tendick Farm,** 84.66 323 ⇑P P 23 09 54.8 +0.5
baz=85
NEW **Newport** 85.02 329 ⇑P P 23 09 56.9 +0.8
baz=85
G05D **Wamic, OR** 85.03 325 ⇑P P 23 09 57.7 +1.6
baz=85
D08A **Wollman Farm,** 85.04 327 *e*P P 23 09 57.1 +1.0
comp=E,9.4nm,0.8s
I03D **Drain, OR** 85.11 323 ⇑P P 23 09 57.9 +1.4
baz=85
H04A **Detroit Lake** 85.12 324 *e*P P 23 09 57.0 +0.4
comp=E,7.9nm,0.8s
OD2 **Odessa Site #2** 85.17 328 P P 23 09 57.6 +0.8
C09A **Chrisman Ranch** 85.25 328 *e*P P 23 09 57.8 +0.6
comp=E,28nm,0.8s
FCC **Fort Churchill** 85.73 346 *e*P P 23 09 59.5 +0.3
TBM **Table Mountain** 85.95 327 P P 23 10 01.7 +0.9
WTV **Waterville** 85.99 327 P P 23 10 01.5 +0.6
LTY **Liberty** 86.05 327 *e*P P 23 10 01.7 +0.5
comp=E,7.8nm,0.7s
F04A **Amboy** 86.06 325 *e*P P 23 10 01.8 +0.6
comp=E,17nm,0.8s
ETW **Entiat** 86.11 327 P P 23 10 02.1 +0.5
B08A **Colville Reser** 86.14 328 *e*P P 23 10 01.6 +0.1
comp=E,16nm,1.4s
LON **Longmire** 86.29 326 *e*P P 23 10 02.5 +0.1
comp=E,67nm,2.8s
ESDC **Sonseca Array** 86.59 44 P P 23 10 05.1 +1.1
ESDC **Sonseca Array** 86.59 44 P P 23 10 05.1 +1.1
comp=E,1.0nm,0.6s,baz=250,slow=4.8,SNR=7.6
BMW **Boistfort Moun** 86.84 325 P P 23 10 05.9 +0.8
EDM **Edmonton** 87.02 334 *e*P P 23 10 04.9 -0.8
B06A **Marblemount** 87.30 327 *e*P P 23 10 07.2 +0.1
comp=E,18nm,0.7s
JCW **Jim Creek** 87.31 327 P P 23 10 07.0 -0.2
CMW **Cultus Mountai** 87.56 327 P P 23 10 08.6 +0.1
LSZ **Lusaka** 88.42 106 *e*P P 23 10 14.1 +0.6
comp=E,23nm,1.3s
YKA **Yellowknife Ar** 94.38 340 P P 23 10 39.9 +0.1
YKA **Yellowknife Ar** 94.38 340 P P 23 10 39.8 +0.1
comp=E,4.5nm,0.5s,baz=136,slow=4.5,SNR=31
DLBC **Dease Lake** 97.47 332 P PDif 23 10 54.5 +0.5
DLBC **Dease Lake** 97.47 332 P PDif 23 10 54.5 +0.5
comp=E,4.7nm,0.7s,baz=118,slow=12,SNR=4.6
GERES **GERESS Array B** 102.09 42 PKKPbc PKKPbc 23 27 17.6 -1.7
GERES **GERESS Array B** 102.09 42 PKKPbc PKKPbc 23 27 17.6 -1.7
comp=E,0.2nm,0.4s,baz=140,slow=3.2,SNR=3.6
NOA **NORSAR Array B** 105.45 30 PKKP **PKKPdf** 23 27 19.7 -0.6
comp=E,1.2nm,0.8s,baz=65,slow=7.5,SNR=3.3
ILAR **Eielson Array** 107.50 334 Pdif **Pdif** 23 11 38.4 0.0
ILAR **Eielson Array** 107.50 334 Pdiff **Pdif** 23 11 38.4 0.0
comp=E,0.3nm,1.0s,baz=161,slow=1.5,SNR=4.0
AKASG **Malin Array Be** 112.23 43 PKiKP **PKiKP** 23 15 54.2 -0.9
AKASG **Malin Array Be** 112.23 43 PKiKP **PKiKP** 23 15 54.2 -0.9
comp=E,0.7nm,0.4s,baz=266,slow=2.6,SNR=12
BRTR **Keskin Array B** 112.96 55 PKiKP **PKiKP** 23 15 56.5 -0.6
BRTR PKKPab **PKKPab** 23 26 52.6 +1.4
BRTR **Keskin Array B** 112.96 55 PKiKP **PKiKP** 23 15 56.5 -0.6
comp=E,1.0nm,0.8s,baz=198,slow=3.5,SNR=4.7
BRTR PKKPab **PKKPab** 23 26 52.6 +1.4
comp=E,1.1nm,0.9s,baz=148,slow=4.0,SNR=4.6
KBZ **Khabaz** 120.44 52 PKP **PKPdf** 23 16 11.2 +0.1
KBZ **Khabaz** 120.44 52 PKP **PKPdf** 23 16 11.2 +0.1
comp=E,3.6nm,0.9s,baz=171,slow=3.0,SNR=7.7
CTA **Charters Tower** 125.29 219 PKP **PKPdf** 23 16 21.0 -0.2
CTA **Charters Tower** 125.29 219 PKP **PKPdf** 23 16 21.0 -0.2
comp=E,2.5nm,0.6s,baz=225,slow=7.1,SNR=3.3
ASAR **Alice Springs** 128.21 205 PKP **PKPdf** 23 16 26.3 -0.4
ASAR **Alice Springs** 128.21 205 PKP **PKPdf** 23 16 26.3 -0.4
comp=E,6.3nm,0.7s,baz=149,slow=2.2,SNR=60
H11S2 **WAKE ISLAND Hyl** 29.91 274 T T 01 37 46.0
baz=101
H11S1 **WAKE ISLAND Hyl** 29.92 274 T T 01 37 44.5
baz=101

H11S3 **WAKE ISLAND Hyl** 29.93 274 T T 01 37 46.5
baz=101
H11N3 **WAKE ISLAND Hyl** 30.06 276 T T 01 37 53.2
baz=106
H11N2 **WAKE ISLAND Hyl** 30.08 276 T T 01 37 54.3
baz=106
H11N1 **WAKE ISLAND Hyl** 30.08 276 T T 01 37 54.5
baz=106
AKTO **Aktyubinsk** 130.48 44 SKPbc **SKPbc** 23 19 38.0 -0.6
AKTO **Aktyubinsk** 130.48 44 SKPbc **SKPbc** 23 19 38.0 -0.6
comp=E,3.3nm,1.0s,baz=321,slow=5.6,SNR=5.2
WRA **Warramunga Arr** 131.38 207 PKP **PKPdf** 23 16 32.2 -0.6
WRA SKPbc **SKPbc** 23 19 40.4 -2.5
WRA **Warramunga Arr** 131.38 207 PKP **PKPdf** 23 16 32.2 -0.6
comp=E,3.4nm,0.5s,baz=165,slow=1.6,SNR=24
WRA SKPbc **SKPbc** 23 19 40.4 -2.5
comp=E,0.7nm,0.4s,baz=142,slow=4.2,SNR=4.0
ABKAR **Akbulak array** 131.93 45 *e*PKPdf **PKPdf** 23 16 33.0 +0.2
PETK **Petropavlovsk-** 135.83 323 PKP **PKPdf** 23 16 40.9 +0.8
PETK **Petropavlovsk-** 135.83 323 PKP **PKPdf** 23 16 40.9 +0.8
comp=E,3.2nm,0.6s,baz=108,slow=6.6,SNR=3.7
FITZ **Fitzroy Crossi** 136.12 197 *e*PKPdf **PKPdf** 23 16 40.8 -0.9
FITZ **Fitzroy Crossi** 136.12 197 PKP **PKPdf** 23 16 41.8 +0.1
comp=E,3.2nm,0.7s,baz=212,slow=7.1,SNR=9.4
KURK **Kurchatov** 142.59 36 *e*PKPdf **PKPdf** 23 16 49.1 -3.3
EKS2 **Erkin-Say** 142.89 51 P **PKPdf** 23 16 54.9 +1.5
SNR=5.7
AAK **Ala-Archa** 143.41 50 *e*PKPdf PKPbc 23 16 52.5 +0.4
ZAA0 **Zalesovo Array** 143.63 28 *e*PKPdf PKPbc 23 16 52.0 -0.1
ZALV **Zalesovo Beam** 143.63 28 PKP PKPbc 23 16 52.4 +0.3
ZALV pPKP pPKPdf 23 17 42.5 +5.7
ZALV **Zalesovo Beam** 143.63 28 PKP PKPbc 23 16 52.4 +0.3
comp=E,13nm,0.5s,baz=302,slow=4.3,SNR=88
ZALV pPKP pPKPdf 23 17 42.5 +5.7
comp=E,3.1nm,0.8s,baz=296,slow=4.8,SNR=2.5
KBK **Karagaybulak** 143.72 50 P **PKPdf** 23 16 54.0 -0.9
SNR=7.5
TKM2 **Tokmak 2** 144.09 50 P PKPbc 23 16 54.6 +0.5
SNR=7.6
TKM2 **Tokmak 2** 144.09 50 *e*PKPdf PKPbc 23 16 54.3 +0.3
KZA **Kyzart** 144.11 51 P **PKPdf** 23 16 55.9 0.0
SNR=10.0
ULHL **Ulahol** 144.75 50 P **PKPdf** 23 16 57.3 +0.5
SNR=10
KSH **Kashi** 145.35 55 PKPbc **PKPdf** 23 16 56.1 -1.7
KSH pPKP **pPKPdf** 23 17 38.2 -2.2
KSH sPKP 23 17 56.0
KSH SKS **SKSdf** 23 23 48.1 -3.8
KSH SKKS **SKKSac** 23 26 53.0 -2.7
KSH AMB AMB
comp=E,100nm,4.9s
KSH LR LR
comp=E,230nm,5.3s
KSH LR LR
comp=E,170nm,6.2s
KSH LR LR
comp=E,270nm,6.0s
MK31 **Makanchi Array** 146.73 40 *e*PKPdf **PKPdf** 23 17 00.1 +0.4
MKAR **Makanchi Array** 146.73 40 PKPbc **PKPdf** 23 17 00.2 +0.4
MKAR **Makanchi Array** 146.73 40 PKPbc **PKPdf** 23 17 00.2 +0.4
comp=E,22nm,0.6s,baz=279,slow=2.0,SNR=162
HYB **Hyderabad** 147.15 95 *i* PKP **PKPdf** 23 17 02.5 +1.2
ASAJ **Asahikawa** 148.78 317 PKPbc **PKPbc** 23 17 07.2 -0.1
ASAJ **Asahikawa** 148.78 317 PKPbc **PKPbc** 23 17 07.2 -0.1
comp=E,9.7nm,0.6s,baz=79,slow=10,SNR=3.4
KAPI **Kappang** 150.16 194 PKPbc **PKPbc** 23 17 12.0 +0.5
KAPI PKPab **PKPab** 23 17 17.4 -0.4
KAPI **Kappang** 150.16 194 PKPbc **PKPbc** 23 17 12.0 +0.5
comp=E,22nm,0.6s,baz=271,slow=3.2,SNR=6.8
KAPI PKPab **PKPab** 23 17 17.4 -0.4
comp=E,42nm,0.9s,baz=120,slow=2.4,SNR=5.2
WMQ **Urumqi** 151.55 41 PKPbc **PKPdf** 23 17 05.5 -2.1
PSI **Prapat** 154.69 145 PKPab **PKPab** 23 17 36.9 -0.2
PSI **Prapat** 154.69 145 PKPab **PKPab** 23 17 36.9 -0.2
comp=E,9.6nm,0.9s,baz=166,slow=12,SNR=5.3
USRK **Ussuriysk Arra** 154.79 327 PKPbc **PKPbc** 23 17 20.9 0.0
comp=E,3.4nm,0.9s,baz=29,slow=3.3,SNR=4.9
USRK PKPab **PKPab** 23 17 36.1 -0.5
comp=E,2.2nm,0.8s,baz=71,slow=2.4,SNR=3.9
MAJO **Matsushiro** 155.14 305 *e*PKPab **PKPab** 23 17 38.8 +0.3
SONM **Songino Array** 155.91 11 PKP **PKPdf** 23 17 14.2 +0.5
SONM PKPab **PKPab** 23 17 40.9 -0.5
SONM **Songino Array** 155.91 11 PKP **PKPdf** 23 17 14.2 +0.5
comp=E,1.4nm,0.8s,baz=288,slow=0.9,SNR=11
SONM PKPab **PKPab** 23 17 40.9 -0.5
comp=E,2.6nm,0.7s,baz=315,slow=4.0,SNR=12
KSRS **Korea Array** 161.69 319 PKP **PKPdf** 23 17 20.6 -0.1
comp=E,1.1nm,0.3s,baz=115,slow=2.1,SNR=7.0
KSRS PKPab **PKPab** 23 18 06.7 0.0
comp=E,1.0nm,0.3s,baz=41,slow=4.5,SNR=4.7
KSAR **Wonju Array Be** 161.72 319 PKP **PKPdf** 23 17 20.6 -0.2
KSAR PKPab **PKPab** 23 18 06.7 -0.2
CMAR **Chiang Mai Arr** 165.68 111 PKP **PKPdf** 23 17 25.7 +0.7
CMAR PKPab **PKPab** 23 18 24.8 -0.1
CMAR **Chiang Mai Arr** 165.68 111 PKP **PKPdf** 23 17 25.7 +0.7
comp=E,1.3nm,0.3s,baz=177,slow=1.5,SNR=5.5
CMAR PKPab **PKPab** 23 18 24.8 -0.1
comp=E,0.7nm,0.3s,baz=258,slow=3.6,SNR=4.2
GYA **Guiyang** 173.87 68 *e*PKP **PKPdf** 23 17 29.8 +0.1
GYA PKPab **PKPab** 23 19 03.0 +1.8
GYA PKS **PKSdf** 23 21 01.2 -0.9
GYA PP **PP** 23 22 55.4 +1.8
GYA AMB AMB
comp=E,90nm,8.2s

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*ISCJB **02** 23:03:02.8±0.5, 36°.57N±0°.03×11°.03W±0°.04, h10km, Error ellipse: s-maj=4.7km s-min=3.6km az=14.5*
*CSEM **02** 23:03:05.3±0.2, 36°.55N×11°.25W, h30km, ML3.9/23, Error ellipse: s-maj=5.4km s-min=3.7km az=139.0*
*MDD **02** 23:03:05.9±1.1, 36°.47N×11°.24W, h35km, mbLg3.1/37, Error ellipse: s-maj=11.7km s-min=6.6km az=93.0, PRXIMO*
*SFS **02** 23:03:06.0, 36°.67N×11°.00W, h0km, ML3.2*
*LDG **02** 23:03:07.6±0.2, 36°.55N×11°.23W, h30km, Ml3.3/4, Error ellipse: s-maj=3.5km s-min=2.6km az=46.0*
*IGIL **02** 23:03:07.4, 36°.48N×11°.17W, h31km, ML2.9*
*INMG **02** 23:03:08.0±1.6, 36°.49N×11°.16W, h31km, ML2.9, Error ellipse: s-maj=4.7km s-min=2.7km az=83.0*
*CNRM **02** 23:03:09.5, 36°.33N×10°.88W, h30km, MD3.5*

ISC 02 23:03:03.0±1.3, **36°.58N**±0°.05×**11°.13W**±0°.06, **h10**km, **n160,** σ2^{2}**2**2/263, **12C-2D, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.93**	**73**	⇑P	**Pb**	**23 03 37.7**	**-0.4**
	106nm,0.1s,SNR=18						
PFVI				S	**Sn**	**23 03 59.4**	**-0.8**
	78nm,0.2s,SNR=7.6						
PFVI	**Vila Bisbo**	**1.93**	**73**	⇑*i*Pn	**Pb**	**23 03 37.8**	**-0.4**
PFVI				*e*Sn	**Sn**	**23 03 59.8**	**-0.3**
PFVI				A	A	23 04 01.5	
	35nm,0.2s						
PFVI	**Vila Bisbo**	**1.93**	**73**	⇑*i*Pn	**Pb**	**23 03 37.8**	**-0.4**
PFVI				S	**Sn**	**23 03 59.4**	**-0.8**
	78nm,0.2s,SNR=7.6						
PFVI				*e*Sn	**Sn**	**23 03 59.8**	**-0.3**
	35nm,0.2s						
MORF	**Marmelete**	**2.12**	**69**	P	**Pn**	**23 03 40.3**	**+1.9**
	SNR=7.9						
MORF				S	**Sn**	**23 04 04.6**	**-0.2**
	SNR=7.9						
MORF	**Marmelete**	**2.12**	**69**	⇑*i*Pn	**Pn**	**23 03 40.4**	**+1.9**
MORF				*e*Sn	**Sn**	**23 04 05.6**	**+0.8**
MORF				A	A	23 04 11.7	
	45nm,0.1s						
MORF	**Marmelete**	**2.12**	**69**	⇑*i*Pn	**Pn**	**23 03 40.4**	**+1.9**
MORF				S	**Sn**	**23 04 04.6**	**-0.2**
	SNR=7.9						
MORF				*e*Sn	**Sn**	**23 04 05.6**	**+0.8**
	45nm,0.1s						
PTEO	**Sao Teotonio**	**2.15**	**63**	*e*Pn	**Pb**	**23 03 41.1**	**-0.9**
PTEO				*e*Sn	**Sn**	**23 04 05.5**	**-0.2**
PTEO				A	A	23 04 07.3	
	43nm,0.5s						
PTEO	**Sao Teotonio**	**2.15**	**63**	*e*Pn	**Pb**	**23 03 41.1**	**-0.9**
PTEO				*e*Sn	**Sn**	**23 04 05.5**	**-0.2**
	43nm,0.5s						
PNCL	**Nicolau / Gran**	**2.58**	**53**	⇑*i*Pn	**Pn**	**23 03 47.0**	**+2.3**
PNCL				*e*Sn	**Sn**	**23 04 16.3**	**+0.2**
PNCL				A	A	23 04 19.6	
	38nm,0.1s						
PNCL	**Nicolau / Gran**	**2.58**	**53**	⇑*i*Pn	**Pn**	**23 03 47.0**	**+2.3**

PNCL eSn Sn 23 04 16.3 +0.2
38nm,0.1s
MESJ Messejana 2.64 61 eP Pn 23 03 47.7 +2.1
MESJ eS Sn 23 04 17.4 -0.4
MESJ AML AML 23 04 22.1
comp=N,27nm,0.1s
MESJ Messejana 2.64 61 P Pn 23 03 47.8 +2.2
SNR=7.9
MESJ S Sn 23 04 17.3 -0.4
SNR=7.9
MESJ Messejana 2.64 61 P Pn 23 03 47.8 +2.2
SNR=7.9
MESJ S Sn 23 04 17.3 -0.4
SNR=7.9
PBDV Barranco-do-Ve 2.65 75 ePn Pn 23 03 48.0 +2.2
PBDV eSn Sn 23 04 18.9 +0.9
PBDV A A 23 04 30.1
comp=N,10nm,0.2s
PBDV Barranco-do-Ve 2.65 75 ePn Pn 23 03 48.0 +2.2
PBDV eSn Sn 23 04 18.9 +0.9
comp=N,10nm,0.2s
PCVE Castro Verde 2.69 66⇑*i*Pn Pn 23 03 48.5 +2.3
PCVE eSn Sn 23 04 17.9 -0.9
PCVE A A 23 04 26.6
comp=N,15nm,0.3s
PCVE Castro Verde 2.69 66⇑*i*Pn Pn 23 03 48.5 +2.3
PCVE eSn Sn 23 04 17.9 -0.9
comp=N,15nm,0.3s
PMAFR Mafra 2.79 31 P Pn 23 03 49.7 +2.1
comp=N,9.4nm,0.2s,SNR=8.3
PMAFR S Sn 23 04 21.2 -0.1
comp=N,106nm,0.1s,SNR=24
PMAFR Mafra 2.79 31 ePn Pn 23 03 49.7 +2.1
PMAFR eSn Sn 23 04 21.6 +0.3
PMAFR A A 23 04 22.5
comp=N,114nm,0.2s
PMAFR Mafra 2.79 31 P Pn 23 03 49.7 +2.1
comp=N,9.4nm,0.2s,SNR=8.3
PMAFR S Sn 23 04 21.2 -0.1
comp=N,106nm,0.1s,SNR=24
PMAFR eSn Sn 23 04 21.6 +0.3
comp=N,114nm,0.2s
PACT Alcochete 2.84 39 ePn Pn 23 03 51.1 +2.7
PACT eSn Sn 23 04 23.9 +1.2
PACT A A 23 04 28.8
comp=N,47nm,0.3s
PACT Alcochete 2.84 39 ePn Pn 23 03 51.1 +2.7
PACT eSn Sn 23 04 23.9 +1.2
comp=N,47nm,0.3s
PVAQ Vaqueiros 2.85 72⇑*i*Pn Pn 23 03 50.8 +2.2
PVAQ eSn Sn 23 04 22.4 -0.6
PVAQ A A 23 04 25.6
comp=N,21nm,0.3s
PVAQ Vaqueiros 2.85 72⇑*i*Pn Pn 23 03 50.8 +2.2
PVAQ eSn Sn 23 04 22.4 -0.6
comp=N,21nm,0.3s
PBEJ Beja 2.98 60 ePn Pn 23 03 52.1 +1.9
PBEJ eSn Sn 23 04 25.4 -0.6
PBEJ A A 23 04 30.1
comp=N,14nm,0.1s
PBEJ Beja 2.98 60 ePn Pn 23 03 52.1 +1.9
PBEJ eSn Sn 23 04 25.4 -0.6
comp=N,14nm,0.1s
EGRO El Granado 3.07 71 P Pn 23 03 53.6 +2.1
comp=N,5.2nm,0.1s,SNR=44
EGRO S Sn 23 04 27.3 -1.0
comp=N,7.5nm,0.1s,SNR=5.8
EGRO El Granado 3.07 71 P Pn 23 03 53.6 +2.1
comp=N,5.2nm,0.1s,SNR=44
EGRO S Sn 23 04 27.3 -1.0
comp=N,7.5nm,0.1s,SNR=5.8
EVOP Sao Brissos 3.08 50 ePn Pn 23 03 53.6 +1.9
EVOP eSn Sn 23 04 28.7 +0.2
comp=N,15nm,0.2s
EVO Evora 3.15 51 ePn Pn 23 03 53.6 +1.0
EVO eSn Sn 23 04 28.7 -1.6
comp=N,29nm,0.2s
EVO Evora 3.15 51 ePn Pn 23 03 54.7 +2.1
EVO eSn Sn 23 04 29.8 -0.5
EVO A A 23 04 32.1
comp=N,67nm,0.1s
EVO Evora 3.15 51 ePn Pn 23 03 54.7 +2.1
EVO eSn Sn 23 04 29.8 -0.5
comp=N,67nm,0.1s
ALMR Almeirim 3.27 37 eP Pn 23 03 56.5 +2.2
ALMR eS Sn 23 04 32.7 -0.5
ALMR AML AML 23 04 35.0
comp=N,60nm,0.1s
ALMR Almeirim 3.27 37 P Pn 23 03 56.5 +2.2
SNR=7.9
ALMR S Sn 23 04 32.6 -0.5
SNR=7.9
ALMR Almeirim 3.27 37 P Pn 23 03 56.5 +2.2
SNR=7.9
ALMR S Sn 23 04 32.6 -0.6
SNR=7.9
PMTG Montargil 3.38 42 ePn Pn 23 03 57.6 +1.7
PMTG eSn Sn 23 04 35.7 -0.4
PMTG A A 23 04 38.8
comp=N,21nm,0.1s
PMTG Montargil 3.38 42 ePn Pn 23 03 57.6 +1.7
PMTG eSn Sn 23 04 35.7 -0.4
comp=N,21nm,0.1s
PESTR Estremoz 3.62 50 ePn Pn 23 04 01.3 +2.2
PESTR eSn Sn 23 04 41.3 -0.6
PESTR A A 23 04 46.5
comp=N,6.8nm,0.1s
PESTR Estremoz 3.62 50 ePn Pn 23 04 01.3 +2.2
PESTR eSn Sn 23 04 41.3 -0.6
comp=N,6.8nm,0.1s
PBAR Barrancos 3.63 63 ePn Pn 23 04 01.2 +2.0
PBAR eSn Sn 23 04 41.2 -0.8
PBAR A A 23 04 43.4
comp=N,8.6nm,0.2s
PBAR Barrancos 3.63 63 ePn Pn 23 04 01.2 +2.0
PBAR eSn Sn 23 04 41.2 -0.8
comp=N,8.6nm,0.2s
PTOM Tomar 3.71 34 ePn Pn 23 04 02.6 +2.2
PTOM eSn Sn 23 04 44.0 -0.2
PTOM A A 23 04 46.3
comp=N,34nm,0.2s
PTOM Tomar 3.71 34 ePn Pn 23 04 02.6 +2.2
PTOM eSn Sn 23 04 44.0 -0.2
comp=N,34nm,0.2s
EMIN Mina Concepcio 3.75 70 P Pn 23 04 02.7 +1.8
comp=N,7.3nm,0.2s,SNR=115
EMIN S Sn 23 04 43.3 -1.8
comp=N,6.6nm,0.2s,SNR=8.9
EMIN Mina Concepcio 3.75 70 P Pn 23 04 02.7 +1.8
comp=N,7.3nm,0.2s,SNR=115
EMIN S Sn 23 04 43.3 -1.8
comp=N,6.6nm,0.2s,SNR=8.9
EBAD Badajoz 3.92 55 P Pn 23 04 05.0 +1.7
comp=N,12nm,0.1s,SNR=104
EBAD S Sn 23 04 48.1 -1.2
comp=N,40nm,0.2s,SNR=4.8
EBAD Badajoz 3.92 55 P Pn 23 04 05.0 +1.7
comp=N,12nm,0.1s,SNR=104
EBAD S Sn 23 04 48.1 -1.2
comp=N,40nm,0.2s,SNR=4.8
PCAS Casmilo, Conde 4.04 30 ePn Pn 23 04 07.0 +2.2
PCAS eSn Sn 23 04 51.9 -0.3
PCAS A A 23 04 55.3
comp=N,14nm,0.2s
PCAS Casmilo, Conde 4.04 30 ePn Pn 23 04 07.0 +2.2
PCAS eSn Sn 23 04 51.9 -0.3
comp=N,14nm,0.2s
PMRV Marv??o 4.10 45 ePn Pn 23 04 07.4 +1.7
PMRV eSn Sn 23 04 52.2 -1.5
PMRV A A 23 04 54.8
comp=N,26nm,0.4s
PMRV Marv??o 4.10 45 ePn Pn 23 04 07.4 +1.7
PMRV eSn Sn 23 04 52.2 -1.5
comp=N,26nm,0.4s
ESPR Espera 4.25 85⇑P Pn 23 04 09.5 +1.8
comp=N,34nm,0.1s,SNR=18
ESPR S Sn 23 04 55.2 -2.2
comp=N,11nm,0.2s,SNR=7.9
ESPR Espera 4.25 85 P Pn 23 04 09.5 +1.8
comp=N,34nm,0.1s,SNR=18
ESPR S Sn 23 04 55.2 -2.2
comp=N,11nm,0.2s,SNR=7.9
PCBR Castelo Branco 4.34 40 ePn Pn 23 04 11.0 +2.0
PCBR eSn Sn 23 04 58.5 -1.2
PCBR A A 23 05 01.1
comp=N,9.1nm,0.3s
PCBR Castelo Branco 4.34 40 ePn Pn 23 04 11.0 +2.0
PCBR eSn Sn 23 04 58.5 -1.2
comp=N,9.1nm,0.3s
LIJA Lijar 4.61 84 P Pn 23 04 15.3 +2.5
LIJA S Sn 23 05 07.0 +0.5
LIJA Lijar 4.61 84 eP Pn 23 04 15.3 +2.5
LIJA eS Sn 23 05 07.0 +0.5
MTE Manteigas 4.74 35 ePn Pn 23 04 16.4 +1.9
MTE eSn Sn 23 05 08.3 -1.2
MTE A A 23 05 10.1
comp=N,12nm,0.1s
MTE Manteigas 4.74 35 ePn Pn 23 04 16.4 +1.9
MTE eSn Sn 23 05 08.3 -1.2
comp=N,12nm,0.1s
ECAB El Cabril 4.79 70⇓P Pn 23 04 17.2 +2.0
comp=N,8.6nm,0.1s,SNR=18
ECAB S Sn 23 05 08.0 -2.8
comp=N,8.8nm,0.3s,SNR=7.9
ECAB El Cabril 4.79 70 P Pn 23 04 17.2 +2.0
comp=N,8.6nm,0.1s,SNR=18
ECAB S Sn 23 05 08.0 -2.8
comp=N,8.8nm,0.3s,SNR=7.9
PVIS Viseu 4.84 31 ePn Pn 23 04 17.9 +2.0
PVIS eSn Sn 23 05 11.0 -1.1
PVIS A A 23 05 13.3
comp=N,24nm,0.1s
PVIS Viseu 4.84 31 ePn Pn 23 04 17.9 +2.0
PVIS eSn Sn 23 05 11.0 -1.1
comp=N,24nm,0.1s
PTO Porto 4.96 23 eSn Sn 23 05 13.6 -1.3
PTO Porto 4.96 23 eSn Sn 23 05 13.6 -1.3
EMIJ Mijas 5.12 88 P Pn 23 04 21.1 +1.4
comp=N,1.1nm,0.1s,SNR=9.6
EMIJ S Sn 23 05 16.8 -2.1
comp=N,6.1nm,0.4s,SNR=7.9
EMIJ Mijas 5.12 88 P Pn 23 04 21.1 +1.4
comp=N,1.1nm,0.1s,SNR=9.6
EMIJ S Sn 23 05 16.8 -2.1
comp=N,6.1nm,0.4s,SNR=7.9
EPLA Plasencia 5.28 47 P Pn 23 04 24.0 +2.1
comp=N,1.9nm,0.1s,SNR=15
EPLA S Sn 23 05 20.7 -2.1
comp=N,4.1nm,0.1s,SNR=9.1
EPLA Plasencia 5.28 47 P Pn 23 04 24.0 +2.1
comp=N,1.9nm,0.1s,SNR=15
EPLA S Sn 23 05 20.7 -2.1
comp=N,4.1nm,0.1s,SNR=9.1
CIA Chichaoua 5.38 158 P Pn 23 04 23.0 -0.3
CIA S Sn 23 05 17.0 -8.3
PVRL Vila Real 5.39 29 eSn Sn 23 05 23.7 -1.9
PVRL A A 23 05 26.4
comp=N,22nm,0.1s
PVRL Vila Real 5.39 29 eSn Sn 23 05 23.7 -1.9
comp=N,22nm,0.1s
POLO Lamas de Olo 5.45 28 eSn Sn 23 05 24.6 -2.4
POLO A A 23 05 27.9
comp=N,3.7nm,0.7s
POLO Lamas de Olo 5.45 28 eSn Sn 23 05 24.6 -2.4
comp=N,3.7nm,0.7s
EADA Adamuz 5.46 71 P Pn 23 04 26.1 +1.8
comp=N,8.4nm,0.2s,SNR=78
EADA S Sn 23 05 25.0 -2.2
comp=N,5.1nm,0.1s,SNR=7.9
EADA Adamuz 5.46 71 P Pn 23 04 26.1 +1.8
comp=N,8.4nm,0.2s,SNR=78
EADA S Sn 23 05 25.0 -2.2
comp=N,5.1nm,0.1s,SNR=7.9
PMPST Porto Santo, M 5.52 232 ePn Pn 23 04 22.2 -3.0
PMPST eSn Sn 23 05 14.8 -14
PMPST A A 23 05 20.9
comp=N,20nm,0.5s
PMPST Porto Santo, M 5.52 232 ePn Pn 23 04 22.2 -3.0
PMPST eSn Sn 23 05 14.8 -14
comp=N,20nm,0.5s
PMPS Porto Santo 5.54 232 ePn Pn 23 04 22.5 -2.9
PMPS eSn Sn 23 05 16.3 -13
PMPS A A 23 05 25.2
comp=N,16nm,0.6s
PMPS Porto Santo 5.54 232 ePn Pn 23 04 22.5 -2.9
PMPS eSn Sn 23 05 16.3 -13
comp=N,16nm,0.6s
ELUQ Luque 5.58 78 P Pn 23 04 28.0 +2.0
comp=N,2.9nm,0.1s,SNR=7.9
ELUQ S Sn 23 05 27.8 -2.4
comp=N,2.8nm,0.2s,SNR=7.9
ELUQ Luque 5.58 78 P Pn 23 04 28.0 +2.0
comp=N,2.9nm,0.1s,SNR=7.9
ELUQ S Sn 23 05 27.8 -2.4
comp=N,2.8nm,0.2s,SNR=7.9
MVO Moncorvo 5.58 34 P Pn 23 04 27.4 +1.3
comp=N,1.8nm,0.1s,SNR=7.9
MVO S Sn 23 05 27.4 -2.9
comp=N,19nm,0.2s,SNR=7.9
MVO Moncorvo 5.58 34 ePn Pn 23 04 27.8 +1.7
MVO eSn Sn 23 05 28.1 -2.3
MVO A A 23 05 30.0
comp=N,14nm,0.4s
MVO Moncorvo 5.58 34 P Pn 23 04 27.5 +1.3
comp=N,1.8nm,0.1s,SNR=7.9
MVO Moncorvo 5.58 34 ePn Pn 23 04 27.8 +1.7
MVO S Sn 23 05 27.5 -2.9
comp=N,19nm,0.2s,SNR=7.9
MVO eSn Sn 23 05 28.1 -2.3
comp=N,14nm,0.4s
PCAB Cabril 5.66 24 ePn Pn 23 04 28.9 +1.7
PCAB eSn Sn 23 05 30.0 -2.2
PCAB A A 23 05 33.4
comp=N,13nm,0.1s
PCAB Cabril 5.66 24 ePn Pn 23 04 28.9 +1.7
PCAB eSn Sn 23 05 30.0 -2.2
comp=N,13nm,0.1s
MIF Mishlifen 5.79 121 P Pn 23 04 28.0 -1.1
MIF S Sn 23 05 27.0 -8.7
ELOB Lobios 5.79 23 P Pn 23 04 30.6 +1.5
comp=N,1.5nm,0.1s,SNR=7.9
ELOB S Sn 23 05 32.2 -3.3
comp=N,5.3nm,0.1s,SNR=7.9
ELOB Lobios 5.79 23 P Pn 23 04 30.5 +1.5
comp=N,1.5nm,0.1s,SNR=7.9
ELOB S Sn 23 05 32.2 -3.3
comp=N,5.3nm,0.1s,SNR=7.9
KIB El Ksiba 5.80 132 P Pn 23 04 28.0 -1.1
KIB S Sn 23 05 28.0 -7.7
PGAV Gavieira, Arco 5.82 22 eSn Sn 23 05 34.1 -2.0
PGAV A A 23 05 36.3
comp=N,10nm,0.1s
PGAV Gavieira, Arco 5.82 22 eSn Sn 23 05 34.1 -2.0
comp=N,10nm,0.1s
TZC Tazercounte 5.86 138 P Pn 23 04 29.0 -1.0
TZC S Sn 23 05 29.0 -8.5
SELV Sierra Elvira 5.97 81 P Pn 23 04 33.5 +2.1
comp=N,0.9nm,0.2s,SNR=7.9
SELV S Sn 23 05 40.3 +0.4
comp=N,1.3nm,0.3s,SNR=7.9
SELV Sierra Elvira 5.97 81 P Pn 23 04 33.5 +2.1
comp=N,0.9nm,0.2s,SNR=7.9
SELV S Sn 23 05 40.3 +0.4
comp=N,1.3nm,0.3s,SNR=7.9
OUK Oukaimeden 6.01 152 P Pn 23 04 31.0 -1.2
OUK S Sn 23 05 32.0 -9.5
EGUA Guajares 6.08 85 P Pn 23 04 34.6 +1.6
comp=N,29nm,0.6s,SNR=7.9
EGUA S Sn 23 05 39.8 -2.9
comp=N,13nm,0.3s,SNR=7.9
EGUA Guajares 6.08 85 P Pn 23 04 34.6 +1.6
comp=N,29nm,0.6s,SNR=7.9
EGUA S Sn 23 05 39.8 -2.9
comp=N,13nm,0.3s,SNR=7.9
ECOG Cogollos-Vega 6.10 81 P Pn 23 04 35.6 +2.3
comp=N,3.3nm,0.2s,SNR=7.9
ECOG S Sn 23 05 43.5 +0.3
comp=N,1.5nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 6.10 81 P Pn 23 04 35.6 +2.3
comp=N,3.3nm,0.2s,SNR=7.9
ECOG S Sn 23 05 43.5 +0.3
comp=N,1.5nm,0.2s,SNR=7.9
PMAR Madeira 6.12 233 ePn Pn 23 04 31.7 -2.0
PMAR eSn Sn 23 05 30.9 -13
PMAR A A 23 05 37.2
comp=N,13nm,0.2s
PMAR Madeira 6.12 233 ePn Pn 23 04 31.7 -2.0
PMAR eSn Sn 23 05 30.9 -13
comp=N,13nm,0.2s
CZD Col de Zad 6.13 123 P Pn 23 04 34.0 +0.1
CZD S Sn 23 05 34.5 -10
EQUE Quentar 6.20 82 P Pn 23 04 35.4 +0.8
comp=N,3.0nm,0.2s,SNR=8.1
EQUE Quentar 6.20 82 P Pn 23 04 35.4 +0.8
comp=N,3.0nm,0.2s,SNR=8.1
PBRG Braganca 6.23 32 eSn Sn 23 05 43.5 -2.8
PBRG A A 23 05 45.8
comp=N,8.2nm,0.2s
PBRG Braganca 6.23 32 eSn Sn 23 05 43.5 -2.8
comp=N,8.2nm,0.2s
PMOZ Porto Moniz, M 6.25 235 ePn Pn 23 04 33.4 -1.9
PMOZ eSn Sn 23 05 34.1 -13
PMOZ A A 23 05 42.4
comp=N,25nm,0.7s
PMOZ Porto Moniz, M 6.25 235 ePn Pn 23 04 33.4 -1.9
PMOZ eSn Sn 23 05 34.1 -13
comp=N,25nm,0.7s
ECAL Calabor 6.34 31 P Pn 23 04 38.9 +2.3
comp=N,1.7nm,0.2s,SNR=7.9
ECAL S Sn 23 05 45.3 -3.8
comp=N,18nm,0.4s,SNR=7.9
ECAL Calabor 6.34 31 P Pn 23 04 38.9 +2.3
comp=N,1.7nm,0.2s,SNR=7.9
ECAL S Sn 23 05 45.3 -3.8
comp=N,18nm,0.4s,SNR=7.9
ESDC Sonseca Array 6.44 59⇓P Pn 23 04 39.2 +1.3
comp=N,6.8nm,0.1s,baz=245,slow=13,SNR=18
ESDC S Sn 23 05 48.3 -3.1
comp=N,4.3nm,0.2s,baz=245,slow=23,SNR=12
ESDC Sonseca Array 6.44 59 P Pn 23 04 39.2 +1.3
comp=N,6.8nm,0.1s,SNR=18
ESDC S Sn 23 05 48.3 -3.1
comp=N,4.3nm,0.2s,SNR=12
EQES Quesada 6.55 77 P Pn 23 04 41.2 +1.7
comp=N,1.9nm,0.2s,SNR=35
EQES S Sn 23 05 51.2 -3.0
comp=N,1.4nm,0.2s,SNR=7.9
EQES Quesada 6.55 77 P Pn 23 04 41.2 +1.7
comp=N,1.9nm,0.2s,SNR=35
EQES S Sn 23 05 51.2 -3.0
comp=N,1.4nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.57 14 S Sn 23 05 48.7 -5.9
comp=N,7.2nm,0.1s,SNR=7.9
STS Santiago 6.60 17 S Sn 23 05 50.4 -4.9
comp=N,3.0nm,0.1s,SNR=7.9
EBER Berja 6.63 85 P Pn 23 04 42.4 +1.8
comp=N,3.4nm,0.3s,SNR=6.2
EBER S Sn 23 05 51.1 -5.2
comp=N,7.0nm,0.5s,SNR=7.9
EBER Berja 6.63 85 P Pn 23 04 42.4 +1.8
comp=N,3.4nm,0.3s,SNR=6.2
GUD Guadarrama 6.80 51 P Pn 23 04 44.4 +1.5
comp=N,1.9nm,0.2s,SNR=9.3
GUD S Sn 23 05 57.0 -3.5
comp=N,2.2nm,0.3s,SNR=5.6
GUD Guadarrama 6.80 51 P Pn 23 04 44.4 +1.5
comp=N,1.9nm,0.2s,SNR=9.3
GUD S Sn 23 05 57.0 -3.5
comp=N,2.2nm,0.3s,SNR=5.6
EHUE Huescar 6.93 77 P Pn 23 04 46.2 +1.6
comp=N,0.8nm,0.2s,SNR=7.9
EHUE S Sn 23 06 01.1 -2.4
comp=N,1.7nm,0.2s,SNR=7.9
EHUE Huescar 6.93 77 P Pn 23 04 46.2 +1.6
comp=N,0.8nm,0.2s,SNR=7.9
EHUE S Sn 23 06 01.1 -2.4
comp=N,1.7nm,0.2s,SNR=7.9
EVIA Vianos 7.15 71 P Pn 23 04 48.8 +1.1
comp=N,3.1nm,0.1s,SNR=7.9
EVIA S Sn 23 06 04.4 -4.7
comp=N,4.4nm,0.2s,SNR=7.9
EVIA Vianos 7.15 71 P Pn 23 04 48.8 +1.1
comp=N,3.1nm,0.1s,SNR=7.9
EVIA S Sn 23 06 04.4 -4.7
comp=N,4.4nm,0.2s,SNR=7.9
ZFT Errachidia 7.21 127 P Pn 23 04 50.0 +1.3
ZFT S Sn 23 06 01.0 -10
ZFT Errachidia 7.21 127 eP Pn 23 04 50.0 +1.3
EPON Pontenova 7.40 23 P Pn 23 04 52.0 +1.0
comp=N,0.7nm,0.1s,SNR=7.9
EPON S Sn 23 06 10.6 -4.4
comp=N,2.8nm,0.2s,SNR=7.9
EPON Pontenova 7.40 23 P Pn 23 04 52.0 +1.0
comp=N,0.7nm,0.1s,SNR=7.9
EPON S Sn 23 06 10.6 -4.4
comp=N,2.8nm,0.2s,SNR=7.9
ETOB Tobarra 7.88 72 P Pn 23 04 58.6 +0.9
comp=N,1.6nm,0.2s,SNR=17
ETOB S Sn 23 06 22.4 -4.5
comp=N,0.5nm,0.1s,SNR=7.9
ETOB Tobarra 7.88 72 P Pn 23 04 58.6 +0.9
comp=N,1.6nm,0.2s,SNR=17
ETOB S Sn 23 06 22.4 -4.5
comp=N,0.5nm,0.1s,SNR=7.9
EMUR La Murta 7.99 78 P Pn 23 05 00.2 +1.0
comp=N,1.7nm,0.4s,SNR=7.9
EMUR La Murta 7.99 78 P Pn 23 05 00.2 +1.0
comp=N,1.7nm,0.4s,SNR=7.9
EARI Arriondas 8.11 32 P Pn 23 05 03.0 +2.3
comp=N,1.2nm,0.4s,SNR=7.9
EARI S Sn 23 06 28.4 -4.0
comp=N,1.4nm,0.2s,SNR=7.9
EARI Arriondas 8.11 32 P Pn 23 05 03.0 +2.3
comp=N,1.2nm,0.4s,SNR=7.9
EARI S Sn 23 06 28.4 -4.0
comp=N,1.4nm,0.2s,SNR=7.9
ETOR Torete 8.26 56 P Pn 23 05 04.3 +1.4
comp=N,9.6nm,0.4s,SNR=12
ETOR S Sn 23 06 31.0 -5.3
comp=N,4.6nm,0.2s,SNR=7.9
ETOR Torete 8.26 56 P Pn 23 05 04.3 +1.4
comp=N,9.6nm,0.4s,SNR=12
ETOR S Sn 23 06 31.0 -5.3
comp=N,4.6nm,0.2s,SNR=7.9
EMOS Mosqueruela 9.17 62 P Pn 23 05 17.7 +2.2
comp=N,1.0nm,0.3s,SNR=7.9
EMOS S Sn 23 06 53.8 -5.0
comp=N,2.2nm,0.6s,SNR=7.9
IELO Elcoad 9.86 48 P Pn 23 05 27.1 +2.3
comp=N,1.4nm,0.2s,SNR=7.9
IELO S Sn 23 07 09.6 -5.8
comp=N,0.7nm,0.2s,SNR=7.9
IELO Elcoad 9.86 48 P Pn 23 05 27.1 +2.3
comp=N,1.4nm,0.2s,SNR=7.9
IELO S Sn 23 07 09.6 -5.8
comp=N,0.7nm,0.2s,SNR=7.9
ELIZ Elizondo 9.88 45 P Pn 23 05 26.3 +1.3
comp=N,1.1nm,0.2s,SNR=7.9
ELIZ S Sn 23 07 09.8 -6.1
comp=N,1.6nm,0.4s,SNR=4.0
ELIZ Elizondo 9.88 45 P Pn 23 05 26.3 +1.3
comp=N,1.1nm,0.2s,SNR=7.9
SJPF Ste Jean 10.02 46 ePn Pn 23 05 28.6 +1.6
SJPF eSn Sn 23 07 12.7 -6.8
comp=N,1.9nm,0.3s
SJPF Ste Jean 10.02 46 P Pn 23 05 28.6 +1.6
ETSF Etsaut 10.29 49 ePn Pn 23 05 32.4 +1.6
ETSF eSn Sn 23 07 20.5 -5.7
comp=N,0.3nm,0.2s
ETSF Etsaut 10.29 49 P Pn 23 05 32.4 +1.6
ETSF S Sn 23 07 20.5 -5.7
comp=N,0.1nm,0.2s
ATE Arette 10.32 48 P Pn 23 05 32.8 +1.8
comp=N,1.3nm,0.2s,SNR=4.0
ATE S Sn 23 07 20.7 -6.0
comp=N,3.0nm,0.5s,SNR=4.0
EBIE Bielsa 10.61 52 P Pn 23 05 36.6 +1.3
comp=N,0.6nm,0.2s,SNR=7.9
EBIE S Sn 23 07 28.3 -6.0
comp=N,0.9nm,0.4s,SNR=7.9
EBIE Bielsa 10.61 52 P Pn 23 05 36.6 +1.3
comp=N,0.6nm,0.2s,SNR=7.9
EBIE S Sn 23 07 28.3 -6.0
comp=N,0.9nm,0.4s,SNR=7.9
EPF Esparros 10.92 50 ePn Pn 23 05 41.3 +2.0
EPF eSn Sn 23 07 35.2 -6.3
comp=N,0.5nm,0.2s
EPF Esparros 10.92 50 P Pn 23 05 41.3 +2.0
QUIF Quistinic 12.76 25 ePn Pn 23 06 05.3 +0.9
ROSF Rostrenen 13.09 24 ePn Pn 23 06 09.6 +0.7
ROSF Rostrenen 13.09 24 P Pn 23 06 09.6 +0.7
GRR Gorron 14.01 29 eP P 23 06 26.4 -3.0
GRR Gorron 14.01 29 eP P 23 06 26.4 -3.0
FLN La Foliniere 14.46 29 eP P 23 06 32.9 -1.5
FLN La Foliniere 14.46 29 eP P 23 06 32.9 -1.5

*IDC **02** 23:10:41.1±0.7, 12°.23N×125°.53E, h0km, mb4.1/13, mb1 4.1/13, mb1mx4.0/25, mbtmp4.1/13, MS3.7/4,*

Ms1 3.7/4, ms1mx3.2/32, Error ellipse: s-maj=36.7km s-min=14.3km az=70.0
*NEIC **02** 23:10:42.4±0.4, 12°.19N×125°.52E, h10km, mb4.3/6, Error ellipse: s-maj=17.0km s-min=6.4km az=67.0*
*ISCJB **02** 23:10:44.0±0.5, 12°.35N±0°.04×125°.74E±0°.07, h33km, mb4.1/18, MS3.6/4, Error ellipse: s-maj=9.4km s-min=5.6km az=179.7*

ISC 02 23:10:45.7±0.7,**12°.34N**±0°.06×**125°.68E**±0°.10,**h33**km,**n46,** σ0s**88**/42,**mb4.1**/18,**MS3.7**/4,**1C-2D, Samar**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.35**	**211**	*eP*		**Pn**		**23 11 06.9**	**-1.4**
PLP				*eS*		**Sn**		**23 11 24.6**	**-0.6**
OCLP	**Ormoc**	**1.66**	**219**	*eP*		**Pn**		**23 11 13.7**	**+1.2**
PVCP	**Virac**	**1.94**	**310**	*eP*		**Pn**		**23 11 15.7**	**-0.8**
PVCP				*eS*		**Sn**		**23 11 39.2**	**-0.5**
MSLP	**Maasin**	**2.33**	**200**	*eP*		**Pn**		**23 11 23.6**	**+1.8**
SCPH	**Surigao**	**2.55**	**184**	*eP*		**Pn**		**23 11 24.7**	**0.0**
RCP	**Roxas**	**2.98**	**255**	*eP*		**Pn**		**23 11 31.7**	**+1.1**
GUIM	**Jordan**	**3.48**	**241**	*eP*		**Pn**		**23 11 38.4**	**+0.8**
KSAR	**Wonju Array Be**	**25.08**	**4**	P		**P**		**23 16 08.8**	**+1.6**
KSRS	**Korea Array**	**25.09**	**4**	P		**P**		**23 16 08.8**	**+1.5**
	3.4nm,1.1s,baz=182,slow=11,SNR=5.1								
CMAR	**Chiang Mai Arr**	**26.47**	**287**	P		**P**		**23 16 18.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**26.47**	**287**	P		**P**		**23 16 18.9**	**-1.2**
	3.5nm,0.8s,baz=91,slow=7.2,SNR=11								
CMAR					LR	LR		23 29 01.7	
	comp=Z,80nm,18.6s,baz=323,slow=42								
CHTO	**Chiang Mai**	**26.53**	**287**	*eP*		**P**		**23 16 19.6**	**-1.1**
	2.2nm,0.8s								
PSI	**Prapat**	**28.13**	**252**	LR		LR		23 28 11.5	
	comp=Z,184nm,18.0s,baz=28,slow=38								
USRK	**Ussuriysk Arra**	**32.21**	**9**	P		**P**		**23 17 11.4**	**+0.7**
	2.5nm,0.9s,baz=186,slow=12,SNR=3.3								
WRAB	**Tennant Creek**	**33.18**	**165**	P		**P**		**23 17 18.2**	**-1.4**
WRA	**Warramunga Arr**	**33.19**	**165**	P		**P**		**23 17 18.3**	**-1.3**
WRA				PcP		**PcP**		**23 20 02.3**	**+0.3**
WRA	**Warramunga Arr**	**33.19**	**165**	P		**P**		**23 17 18.3**	**-1.3**
	0.4nm,0.4s,baz=344,slow=9.5,SNR=3.5								
WRA				PcP		**PcP**		**23 20 02.3**	**+0.3**
	0.9nm,0.6s,baz=342,slow=3.2,SNR=5.8								
ASAR	**Alice Springs**	**36.68**	**167**	P		**P**		**23 17 49.3**	**-0.4**
ASAR	**Alice Springs**	**36.68**	**167**	P		**P**		**23 17 49.3**	**-0.4**
	0.7nm,0.5s,baz=345,slow=7.2,SNR=9.7								
ULN	**Ulaanbaatar**	**38.69**	**340**	*eP*		**P**		**23 18 06.8**	**+0.1**
	4.6nm,1.1s								
SONM	**Songino Array**	**38.89**	**339**	P		**P**		**23 18 08.7**	**+0.4**
SONM	**Songino Array**	**38.89**	**339**	P		**P**		**23 18 08.7**	**+0.4**
	2.6nm,1.0s,baz=148,slow=7.6,SNR=6.9								
H11S3	**WAKE ISLAND Hy**	**39.94**	**76**	T		T		00 01 09.0	
	baz=273,slow=60,SNR=12								
H11S1	**WAKE ISLAND Hy**	**39.95**	**76**	T		T		00 01 07.9	
	baz=273,slow=60,SNR=8.7								
H11S2	**WAKE ISLAND Hy**	**39.95**	**76**	T		T		00 01 08.5	
	baz=273,slow=60,SNR=9.9								
H11N1	**WAKE ISLAND Hy**	**40.20**	**74**	T		T		00 01 25.4	
	baz=269,slow=75,SNR=35								
H11N2	**WAKE ISLAND Hy**	**40.21**	**74**	T		T		00 01 26.0	
	baz=269,slow=75,SNR=32								
H11N3	**WAKE ISLAND Hy**	**40.22**	**74**	T		T		00 01 29.8	
	baz=269,slow=75,SNR=33								
STKA	**Stephens Creek**	**46.53**	**161**	*eP*		**P**		**23 19 09.7**	**-0.5**
	1.0nm,1.0s								
STKA	**Stephens Creek**	**46.53**	**161**	P		**P**		**23 19 10.7**	**+0.4**
	2.6nm,1.0s,baz=321,slow=13,SNR=2.4								
MK31	**Makanchi Array**	**50.05**	**322**	*eP*		**P**		**23 19 37.7**	**+0.4**
MKAR	**Makanchi Array**	**50.05**	**322**	P		**P**		**23 19 38.4**	**+1.1**
MKAR	**Makanchi Array**	**50.05**	**322**	P		**P**		**23 19 38.4**	**+1.1**
	3.4nm,0.8s,baz=113,slow=9.3,SNR=10.0								
MKAR					LR	LR		23 43 09.1	
	comp=Z,94nm,18.2s,baz=231,slow=39								
ZALV	**Zalesovo Beam**	**52.55**	**331**	P		**P**		**23 19 56.6**	**+0.7**
ZALV	**Zalesovo Beam**	**52.55**	**331**	P		**P**		**23 19 56.6**	**+0.7**
	1.2nm,0.8s,baz=90,slow=8.9,SNR=3.8								
AAK	**Ala-Archa**	**53.47**	**314**	*eP*		**P**		**23 20 03.0**	**-0.1**
	1.6nm,0.8s								
AAK	**Ala-Archa**	**53.47**	**314**	LR		LR		23 42 34.2	
	comp=Z,52nm,18.7s,baz=230,slow=36								
KURK	**Kurchatov**	**54.05**	**325**	*eP*		**P**		**23 20 07.3**	**+0.4**
	6.4nm,0.9s								
KURBB	**Kurchatov Arra**	**54.06**	**325**	P		**P**		**23 20 07.9**	**+0.9**
	5.0nm,0.9s,baz=126,slow=7.1,SNR=24								
BVAR	**Borovoye Array**	**59.65**	**325**	P		**P**		**23 20 46.9**	**+0.2**
BVAR	**Borovoye Array**	**59.65**	**325**	P		**P**		**23 20 46.9**	**+0.2**
	3.6nm,0.9s,baz=111,slow=8.1,SNR=9.9								
ABKAR	**Akbulak array**	**64.94**	**319**	*eP*		**P**		**23 21 21.9**	**-0.3**
	4.5nm,0.6s								
FINES	**FINESS Array B**	**83.81**	**332**	P		**P**		**23 23 11.6**	**0.0**
FINES	**FINESS Array B**	**83.81**	**332**	P		**P**		**23 23 11.6**	**0.0**
	3.6nm,0.9s,baz=64,slow=3.2,SNR=5.4								
AKASG	**Malin Array Be**	**84.61**	**321**	P		**P**		**23 23 15.7**	**-0.2**
AKASG	**Malin Array Be**	**84.61**	**321**	P		**P**		**23 23 15.7**	**-0.2**
	0.2nm,0.3s,baz=60,slow=5.4,SNR=7.4								

*ISCJB **02** 23:13:56.5±0.3, 56°.10S±0°.05×26°.8W±0°.1, h33km, mb5.0/36, MS4.2/19, Error ellipse: s-maj=8.6km s-min=7.2km az=141.4*
*MOS **02** 23:13:56.9±1.0, 56°.17S×26°.81W, h35km, mb5.3/9, Error ellipse: s-maj=22.3km s-min=12.4km az=102.0*
*NEIC **02** 23:14:00.8±1.6, 56°.16S×26°.77W, h60km±13km, mb5.4/26, Error ellipse: s-maj=7.2km s-min=5.6km az=220.0*
*IDC **02** 23:14:01.2±2.3, 56°.19S×26°.82W, h63km±19km, mb4.5/15, mb1 4.4/17, mb1mx4.4/20, mbtmp4.7/17, MS4.1/18, Ms1 4.1/18, ms1mx4.1/19, Error ellipse: s-maj=13.9km s-min=12.1km az=57.0*

ISC 02 23:14:00.2±1.2,**56°.15S**±0°.07×**26°.91W**±0°.07,**h52**km±9km, **n186,** σ1s**28**/207,**mb5.1**/35,**MS4.1**/18,**3C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.64**	**158**	*eP*		**P**		**23 17 52.5**	**+1.4**
VNA1	**Neumayer--Stat**	**16.64**	**158**	*e*PcS		PcS		23 26 07.0	-4.4
VNA2	**Neumayer--Watz**	**17.04**	**158**	*eP*		**Pn**		**23 17 54.2**	**-0.2**
VNA2	**Neumayer--Watz**	**17.04**	**158**	*e*PcS		PcS		23 26 07.4	-4.9
SNAA	**Sanae**	**18.59**	**156**	*eP*		**P**		**23 18 11.9**	**-0.7**
SNAA	**Sanae**	**18.59**	**156**	*e*		Pn		23 18 20.5	+7.1
SNAA	**Sanae**	**18.59**	**156**	*e*PcS		PcS		23 26 13.2	-2.5
SNAA	**Sanae**	**18.59**	**156**	*eP*		**P**		**23 18 11.8**	**-0.9**
	29nm,0.7s								
SNAA				*e*PcP		**PcP**		**23 22 39.7**	**+0.3**
SNAA					ScP	**ScP**		**23 26 09.1**	**-1.1**
SNAA	**Sanae**	**18.59**	**156**	P		**P**		**23 18 12.1**	**-0.6**
	0.4nm,0.3s,baz=310,slow=9.4,SNR=54								
SNAA				PcP		**PcP**		**23 22 39.7**	**+0.3**
	0.3nm,0.3s,baz=249,slow=2.4,SNR=7.3								
SNAA				LR		LR		23 23 51.1	
	comp=Z,172nm,21.8s,baz=125,slow=32								
SNAA					ScP	**ScP**		**23 26 09.1**	**-1.1**
	0.0nm,0.3s,baz=85,slow=2.8,SNR=4.8								
EFI	**East Falkland**	**18.80**	**271**	*eP*		**P**		**23 18 15.9**	**+0.9**
EFI				pmax		pmax			
	comp=Z,474nm,2.5s								
EFI	**East Falkland**	**18.80**	**271**	*eP*		**P**		**23 18 15.5**	**+0.5**
	comp=Z,487nm,2.9s								
EFI	**East Falkland**	**18.80**	**271**	Pn		**Pn**		**23 18 16.6**	**+0.7**
	comp=Z,364nm,0.6s,SNR=5.7								
PMSA	**Palmer Station**	**19.96**	**229**	*eP*		**P**		**23 18 28.4**	**+0.9**
	comp=Z,240nm,1.4s								
PMSA	**Palmer Station**	**19.96**	**229**	P		**P**		**23 18 28.1**	**+0.6**
	comp=Z,4.6nm,0.3s,baz=66,slow=8.2,SNR=11								
PMSA				LR		LR		23 25 07.8	
	comp=Z,776nm,19.0s,baz=235,slow=33								
USHA	**Ushuaia**	**23.32**	**256**	P		**P**		**23 19 04.5**	**+1.3**
USHA	**Ushuaia**	**23.32**	**256**	P		**P**		**23 19 04.5**	**+1.3**
	comp=Z,7.1nm,0.6s,baz=73,slow=15,SNR=6.8								
USHA				LR		LR		23 26 08.0	
	comp=Z,537nm,19.6s,baz=63,slow=31								
TRQA	**Tornquist**	**29.51**	**293**	*eP*		**P**		**23 19 59.6**	**+0.3**
	comp=Z,147nm,2.2s								
SYO	**Syowa Base**	**31.41**	**141**	*eP*		**P**		**23 20 13.5**	**-2.2**
PLCA	**Paso Flores**	**32.17**	**280**	P		**P**		**23 20 22.6**	**-0.2**
PLCA				PcP		**PcP**		**23 23 10.3**	**-0.1**
PLCA	**Paso Flores**	**32.17**	**280**	P		**P**		**23 20 22.6**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=144,slow=10.0,SNR=4.8								
PLCA				PcP		**PcP**		**23 23 10.3**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=72,slow=3.1,SNR=8.5								
PLCA				LR		LR		23 32 47.8	
	comp=Z,234nm,20.6s,baz=117,slow=35								
QSPA	**South Pole Qui**	**34.10**	**180**	*eP*		**P**		**23 20 39.1**	**-0.4**
	comp=Z,25nm,0.6s								
QSPA					ScP	**ScP**		**23 26 54.5**	**-1.2**
QSPA	**South Pole Qui**	**34.10**	**180**	P		**P**		**23 20 39.6**	**+0.1**
	comp=Z,26nm,0.6s,baz=209,slow=2.0,SNR=75								
QSPA					ScP	**ScP**		**23 26 54.5**	**-1.2**
	comp=Z,4.7nm,1.0s,baz=214,slow=3.8,SNR=5.1								
SPB	**Sao Paulo**	**35.84**	**327**	*eP*		**P**		**23 20 54.0**	**-0.6**
	comp=Z,86nm,1.5s								
CPUP	**Villa Florida**	**37.00**	**311**	*eP*		**P**		**23 21 04.3**	**-0.1**
	comp=Z,3.5nm,0.8s								
CPUP					*e*PcP	**PcP**		**23 23 24.4**	**0.0**
CPUP	**Villa Florida**	**37.00**	**311**	P		**P**		**23 21 04.6**	**+0.2**
	comp=Z,36nm,0.8s,baz=135,slow=7.5,SNR=46								
CPUP					PcP	**PcP**		**23 23 24.7**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=93,slow=3.7,SNR=4.4								
CPUP					LR	LR		23 33 56.9	
	comp=Z,217nm,21.9s,baz=134,slow=32								
MAW	**Mawson**	**39.98**	**143**	P		**P**		**23 21 27.7**	**-1.2**
MAW				PcP		**PcP**		**23 23 33.0**	**-0.1**
MAW	**Mawson**	**39.98**	**143**	P		**P**		**23 21 27.7**	**-1.2**
	comp=Z,5.5nm,0.7s,baz=243,slow=9.7,SNR=4.3								
MAW				PcP		**PcP**		**23 23 33.0**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=231,slow=13,SNR=3.4								
MAW				LR		LR		23 35 51.5	
	comp=Z,220nm,20.2s,baz=251,slow=33								
SUR	**Sutherland**	**40.51**	**75**	P		**P**		**23 21 33.6**	**-0.5**
SUR	**Sutherland**	**40.51**	**75**	P		**P**		**23 21 33.6**	**-0.5**
	comp=Z,4.3nm,0.9s,baz=172,slow=15,SNR=1.8								
BDFB	**Brasilia**	**43.53**	**330**	*eP*		**P**		**23 22 00.3**	**+1.6**
BDFB	**Brasilia**	**43.53**	**330**	P		**P**		**23 21 59.2**	**+0.5**
	comp=Z,6.4nm,0.8s,baz=137,slow=5.7,SNR=9.4								
BDFB				LR		LR		23 37 16.0	
	comp=Z,232nm,19.5s,baz=339,slow=32								
LVC	**Limon Verde**	**45.49**	**300**	*eP*		**P**		**23 22 15.3**	**+0.9**
	comp=Z,46nm,0.7s								
LVC					*e*PcP	**PcP**		**23 23 52.9**	**+0.4**
BOSA	**Boshof**	**45.84**	**75**	*eP*		**P**		**23 22 16.7**	**-0.3**
	comp=Z,152nm,3.0s								
BOSA	**Boshof**	**45.84**	**75**	P		**P**		**23 22 17.6**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=189,slow=8.8,SNR=7.5								
BOSA				LR		LR		23 37 39.2	
	comp=Z,482nm,20.5s,baz=164,slow=31								
SBA	**Scott Base**	**45.99**	**184**	*eP*		**P**		**23 22 18.4**	**+0.9**
SBA				pmax		pmax			
	comp=Z,278nm,2.7s								
SBA	**Scott Base**	**45.99**	**184**	*eP*		**P**		**23 22 18.4**	**+0.9**
	comp=Z,278nm,2.7s								
VNDA	**Vanda**	**46.48**	**183**	*eP*		**P**		**23 22 21.9**	**+0.6**
	comp=Z,24nm,0.8s								
VNDA	**Vanda**	**46.48**	**183**	P		**P**		**23 22 21.6**	**+0.3**
	comp=Z,23nm,0.7s,baz=183,slow=5.8,SNR=40								
VNDA					LR	LR		23 40 04.2	
	comp=Z,140nm,18.6s,baz=166,slow=34								
H10S2	**ASCENSION HYDR**	**48.05**	**16**	T		T		00 14 40.7	
	baz=189								
H10S3	**ASCENSION HYDR**	**48.05**	**16**	T		T		00 14 41.0	
	baz=189,slow=75								
H10S1	**ASCENSION HYDR**	**48.07**	**16**	T		T		00 14 41.0	
	baz=189,slow=75								
LBTB	**Lobatse**	**48.88**	**73**	*eP*		**P**		**23 22 40.1**	**-0.6**
	comp=Z,60nm,2.1s								
H10N1	**ASCENSION HYDR**	**49.17**	**16**	T		T		00 16 03.7	
	baz=193								
H10N3	**ASCENSION HYDR**	**49.17**	**16**	T		T		00 16 04.5	
	baz=193,slow=75								
H10N2	**ASCENSION HYDR**	**49.18**	**16**	T		T		00 16 05.7	
	baz=193,slow=75								
LPAZ	**La Paz**	**50.56**	**305**	*eP*		**P**		**23 22 55.0**	**+0.9**
	comp=Z,49nm,0.6s								
LPAZ					PcP	**PcP**		**23 24 11.8**	**+0.5**
LPAZ	**La Paz**	**50.56**	**305**	P		**P**		**23 22 55.0**	**+0.9**
	comp=Z,51nm,0.6s,baz=144,slow=5.7,SNR=206								
LPAZ					PcP	**PcP**		**23 24 11.8**	**+0.5**
	comp=Z,6.0nm,0.5s,baz=207,slow=2.3,SNR=2.3								
LPAZ					LR	LR		23 42 09.6	
	comp=Z,129nm,21.8s,baz=228,slow=33								
RCBR	**Riachuelo**	**50.69**	**348**	*eP*		**P**		**23 22 53.9**	**-0.5**
	comp=Z,30nm,1.3s								
SAML	**Sauel**	**54.98**	**314**	*eP*		**P**		**23 23 26.1**	**+0.1**
	comp=Z,18nm,1.0s								
LSZ	**Lusaka**	**58.26**	**69**	*eP*		**P**		**23 23 48.7**	**-0.7**
	comp=Z,11nm,1.0s								
NNA	**Nana**	**58.44**	**298**	*eP*		**P**		**23 23 50.5**	**0.0**
	comp=Z,60nm,1.3s								
PTGA	**Pitinga**	**61.35**	**322**	*eP*		**P**		**23 24 09.3**	**-1.1**
	comp=Z,14nm,0.9s								
LIC	**Lamto**	**64.72**	**24**	*eP*		**P**		**23 24 32.7**	**0.0**
	comp=Z,40nm,0.7s								
KIC	**Kosan Boka**	**64.92**	**24**	*eP*		**P**		**23 24 33.9**	**-0.1**
	comp=Z,40nm,1.1s								
TIC	**Toumodi**	**65.13**	**24**	*eP*		**P**		**23 24 35.2**	**-0.2**
	comp=Z,24nm,0.6s								
DBIC	**Dimbokro**	**65.19**	**24**	*eP*		**P**		**23 24 35.4**	**-0.4**
	comp=Z,9.8nm,0.7s								
DBIC	**Dimbokro**	**65.19**	**24**	P		**P**		**23 24 35.8**	**0.0**
	comp=Z,7.8nm,0.6s,baz=168,slow=7.2,SNR=25								
DBIC					LR	LR		23 46 13.9	
	comp=Z,198nm,20.5s,baz=174,slow=30								
OTAV	**Otavalo**	**69.84**	**303**	*eP*		**P**		**23 25 06.5**	**+0.8**
	comp=Z,83nm,1.7s								
ROSC	**El Rosal**	**72.09**	**310**	P		**P**		**23 25 20.1**	**+0.9**
ROSC	**El Rosal**	**72.09**	**310**	P		**P**		**23 25 20.1**	**+0.9**
	comp=Z,7.4nm,0.7s,baz=77,slow=21,SNR=4.7								
ROSC					LR	LR		23 55 08.1	
	comp=Z,124nm,21.7s,baz=358,slow=34								
TOA0	**Torodi Ar. Sit**	**73.06**	**29**	*eP*		**P**		**23 25 24.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.06**	**29**	P		**P**		**23 25 24.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.06**	**29**	P		**P**		**23 25 24.7**	**+0.2**
	comp=Z,7.4nm,0.4s,baz=201,slow=6.5,SNR=148								
TORD					LR	LR		23 53 22.9	
	comp=Z,75nm,18.9s,baz=305,slow=32								
SDV	**Santo Domingo**	**74.19**	**315**	*eP*		**P**		**23 25 31.4**	**0.0**
	comp=Z,6.4nm,1.0s								
PAYG	**Puerto Ayora**	**74.91**	**292**	*eP*		**P**		**23 25 36.4**	**+1.0**
	comp=Z,28nm,0.9s								
RKT	**Rikitea**	**80.57**	**243**	*e*LR		LR		23 51 29.3	
	comp=Z,172nm,30.0s								
JTS	**JuntasAbangare**	**81.70**	**302**	*eP*		**P**		**23 26 14.0**	**+1.1**
	comp=Z,8.4nm,1.4s								
TAM	**Tamanrasset**	**83.30**	**30**	*eP*		**P**		**23 26 21.5**	**+0.4**
TAM				pmax		pmax			
	comp=Z,21nm,1.9s								
TAM	**Tamanrasset**	**83.30**	**30**	*eP*		**P**		**23 26 21.5**	**+0.4**
	comp=Z,21nm,1.9s								
TBI	**Tubuai**	**87.14**	**231**	*e*LR		LR		23 54 27.9	
	comp=Z,221nm,26.0s								
OUZ	**Omahuta**	**87.33**	**197**	*eP*		**P**		**23 26 42.2**	**+1.1**
	comp=Z,30nm,1.1s								
H08N3	**Diego Garcia H**	**89.17**	**100**	T		T		01 06 23.2	
	baz=217,slow=76,SNR=4.9								
H08N1	**Diego Garcia H**	**89.18**	**100**	T		T		01 06 23.2	
	baz=217,slow=76,SNR=4.3								
H08N2	**Diego Garcia H**	**89.19**	**100**	T		T		01 06 23.2	
	baz=217,slow=76,SNR=4.2								
STKA	**Stephens Creek**	**91.78**	**170**	*eP*		**P**		**23 27 02.4**	**+0.3**
	comp=Z,0.5nm,0.6s								
STKA	**Stephens Creek**	**91.78**	**170**	P		**P**		**23 27 02.6**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=170,slow=3.9,SNR=8.6								
STKA					LR	LR		00 05 43.6	
	comp=Z,116nm,18.8s,baz=206,slow=34								
TEIG	**Tepich**	**91.89**	**304**	*eP*		**P**		**23 27 03.1**	**+0.6**
	comp=Z,36nm,0.6s								
PPT2	**Papeete2**	**92.25**	**233**	*e*LR		LR		23 56 45.7	
	comp=Z,265nm,27.8s								
PPT	**Papeete**	**92.27**	**233**	LR		LR		23 59 16.1	
	comp=Z,199nm,19.1s,baz=63,slow=29								
KEST	**Kesra**	**96.58**	**29**	LR		LR		00 04 01.5	
	comp=Z,50nm,20.9s,baz=210,slow=31								
ESDC	**Sonseca Array**	**97.42**	**18**	P		Pdif		23 27 28.4	+0.9
ESDC	**Sonseca Array**	**97.42**	**18**	P		Pdif		23 27 28.4	+0.9
	comp=Z,0.6nm,0.6s,baz=170,slow=5.0,SNR=3.9								
ESDC					LR	LR		00 07 00.2	
	comp=Z,100nm,18.1s,baz=330,slow=33								
ASAR	**Alice Springs**	**98.85**	**162**	P		**P**		**23 27 33.5**	**-1.0**
ASAR				PP		PP		23 31 29.4	-6.0
ASAR				PKKP		**PKKPdf**		**23 44 00.0**	**-0.8**
ASAR	**Alice Springs**	**98.85**	**162**	P		**P**		**23 27 33.5**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=183,slow=4.2,SNR=18								
ASAR				PP		PP		23 31 29.4	-6.0
	comp=Z,0.7nm,0.8s,baz=186,slow=6.7,SNR=5.0								
ASAR				PKKP		**PKKPdf**		**23 44 00.0**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=12,slow=2.3,SNR=5.5								
ASAR				LR		LR		00 09 18.4	
	comp=Z,85nm,19.7s,baz=170,slow=34								
AS31	**Alice Springs**	**98.85**	**162**	*eP*		Pdif		23 27 35.7	+1.2
WRA	**Warramunga Arr**	**102.56**	**162**	P		**Pdif**		**23 27 50.5**	**-0.5**
WRA				PKiKP		**PKiKP**		**23 32 09.9**	**-2.0**
WRA	**Warramunga Arr**	**102.56**	**162**	P		**Pdif**		**23 27 50.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=195,slow=4.0,SNR=4.6								
WRA				PKiKP		**PKiKP**		**23 32 09.9**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=220,slow=1.6,SNR=2.7								
TXAR	**Lajitas Array**	**106.98**	**297**	Pdif		**Pdif**		**23 28 10.6**	**+0.2**
TXAR				PKiKP		**PKiKP**		**23 32 18.8**	**-0.9**
TXAR	**Lajitas Array**	**106.98**	**297**	Pdiff		**Pdif**		**23 28 10.6**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=101,slow=4.7,SNR=3.3								
TXAR				PKiKP		**PKiKP**		**23 32 18.8**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=222,slow=1.2,SNR=3.8								
AKASG	**Malin Array Be**	**116.18**	**36**	PKiKP		**PKPdf**		**23 32 35.3**	**-1.0**
AKASG	**Malin Array Be**	**116.18**	**36**	PKP		**PKPdf**		**23 32 35.3**	**-1.0**
AKASG	**Malin Array Be**	**116.18**	**36**	PKP		**PKPdf**		**23 32 35.3**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=224,slow=0.8,SNR=4.0								
DUG	**Dugway**	**120.14**	**298**	*e*PKiKP		**PKPdf**		**23 32 44.7**	**+0.2**
DUG	**Dugway**	**120.14**	**298**	*eP*		**PKPdf**		**23 32 44.7**	**+0.2**
HFS	**Hagfors**	**120.32**	**22**	PKP		**PKPdf**		**23 32 42.2**	**-1.7**
HFS	**Hagfors**	**120.32**	**22**	PKP		**PKPdf**		**23 32 42.2**	**-1.7**
	comp=Z,3.1nm,0.9s,baz=111,slow=3.3,SNR=4.8								
ULM	**Lac du Bonnet**	**120.43**	**316**	PKP		**PKPdf**		**23 32 43.0**	**-1.5**
ULM	**Lac du Bonnet**	**120.43**	**316**	PKP		**PKPdf**		**23 32 43.0**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=207,slow=2.3,SNR=5.5								
PDAR	**Pinedale Array**	**120.53**	**302**	PKP		**PKPdf**		**23 32 44.0**	**-1.3**
PDAR	**Pinedale Array**	**120.53**	**302**	PKP		**PKPdf**		**23 32 44.0**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=137,slow=5.5,SNR=11								
NOA	**NORSAR Array B**	**120.64**	**20**	PKP		**PKPdf**		**23 32 44.3**	**-0.3**
NOA	**NORSAR Array B**	**120.64**	**20**	PKP		**PKPdf**		**23 32 44.3**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=202,slow=1.7,SNR=4.2								
NVAR	**Mina Array Bea**	**121.58**	**293**	PKP		**PKPdf**		**23 32 47.7**	**+0.3**
NVAR	**Mina Array Bea**	**121.58**	**293**	PKP		**PKPdf**		**23 32 47.7**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=133,slow=2.3,SNR=12								
FINES	**FINESS Array B**	**124.39**	**28**	PKP		**PKPdf**		**23 32 51.3**	**-0.4**
FINES	**FINESS Array B**	**124.39**	**28**	PKP		**PKPdf**		**23 32 51.3**	**-0.4**
	comp=Z,5.7nm,0.5s,baz=154,slow=1.4,SNR=73								
CMAR	**Chiang Mai Arr**	**124.88**	**110**	PKP		**PKPdf**		**23 32 53.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**124.88**	**110**	PKP		**PKPdf**		**23 32 53.1**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=236,slow=4.0,SNR=7.1								
KAF	**Kangasniemi**	**125.02**	**27**	*e*PKiKP		**PKPdf**		**23 32 52.5**	**-0.4**
KAF				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KAF	**Kangasniemi**	**125.02**	**27**	*ep*		**PKPdf**		**23 32 52.5**	**-0.4**
	comp

SONM				PKPbc	**PKPbc**	**23 33 44.6**	**-0.7**
SONM	**Songino Array**	**150.57**	**86**	PKP	**PKPdf**	**23 33 39.0**	**-0.8**
	comp=Z,2.4nm,1.0s,baz=222,slow=1.9,SNR=4.2						
SONM				PKPbc	**PKPbc**	**23 33 44.6**	**-0.7**
	comp=Z,15nm,0.8s,baz=220,slow=3.1,SNR=86						
COLA	**College**	**150.72**	**312**	*e*PKIKP	**PKPbc**	**23 33 44.1**	**-0.8**
COLA				*e*		23 33 53.0	
COLA	**College**	**150.72**	**312**	*e*PKPbc	**PKPbc**	**23 33 44.1**	**-0.8**
COLA				*e*PKPab	**PKPab**	**23 33 53.0**	**+0.8**
MCK	**McKinley**	**150.96**	**309**	*e*PKIKP	**PKPbc**	**23 33 45.6**	**+0.1**
MCK	**McKinley**	**150.96**	**309**	*e*PKPbc	**PKPbc**	**23 33 45.6**	**+0.1**
ULN	**Ulaanbaatar**	**150.96**	**87**	*e*PKPbc	**PKPbc**	**23 33 45.5**	**-0.7**
BJT	**Baijiatuau**	**150.97**	**108**	*e*PKPdf	**PKPdf**	**23 33 41.0**	**+0.5**
BJI	**Beijing**	**150.99**	**108**	PKPbc	**PKPbc**	**23 33 43.9**	**-2.4**
KDAK	**Kodiak Island**	**151.00**	**296**	*e*PKPbc	**PKPbc**	**23 33 45.8**	**+0.1**
OHAK	**Old Harbor**	**151.16**	**295**	*e*PKPdf	**PKPbc**	**23 33 46.2**	**+0.1**
OHAK				*e*SKPdf	**SKPdf**	**23 37 10.3**	**+1.5**
TRF	**Thorofare Moun**	**151.49**	**308**	*e*PKPbc	**PKPbc**	**23 33 47.1**	**+0.2**
TRF				*e*PKPab	**PKPab**	**23 33 56.2**	**+0.6**
RSO	**Redoubt South**	**151.91**	**301**	*e*PKPbc	**PKPbc**	**23 33 47.4**	**-0.6**
BPAW	**Bear Paw Mtn.**	**151.92**	**309**	*e*PKPbc	**PKPbc**	**23 33 47.5**	**-0.2**
COLD	**Coldfoot**	**152.00**	**316**	*e*PKPbc	**PKPbc**	**23 33 48.5**	**+0.7**
PPLA	**Purkeypile**	**152.22**	**307**	*e*PKPbc	**PKPbc**	**23 33 48.4**	**-0.2**
JNU	**Nakatsue**	**152.31**	**137**	PKPbc	**PKPbc**	**23 33 48.4**	**-1.2**
JNU	**Nakatsue**	**152.31**	**137**	PKPbc	**PKPbc**	**23 33 48.4**	**-1.2**
	comp=Z,8.4nm,0.7s,baz=182,slow=4.3,SNR=4.3						
KSAR	**Wonju Array Be**	**154.78**	**127**	PKPbc	**PKPbc**	**23 33 57.9**	**+3.1**
KSRS	**Korea Array**	**154.81**	**127**	PKPbc	**PKPbc**	**23 33 57.9**	**+3.1**
	comp=Z,0.5nm,0.3s,baz=260,slow=1.7,SNR=3.2						
USRK	**Ussuriysk Arra**	**162.04**	**123**	PKPab	**PKPab**	**23 34 39.1**	**-2.3**
	comp=Z,0.8nm,0.5s,baz=193,slow=4.4,SNR=3.6						
FX1	**Attu Island--F**	**167.90**	**263**	PKPab	**PKPab**	**23 35 05.8**	**-1.2**
FX1	**Attu Island--F**	**167.90**	**263**	PKPab	**PKPab**	**23 35 05.8**	**-1.2**
	comp=Z,4.7nm,0.5s,baz=51,slow=14,SNR=5.5						
PETK	**Petropavlovsk-**	**175.95**	**223**	PKP2	**PKPab**	**23 35 40.7**	**-1.9**
PETK	**Petropavlovsk-**	**175.95**	**223**	PKPab	**PKPab**	**23 35 40.7**	**-1.9**
PETK	**Petropavlovsk-**	**175.95**	**223**	PKPab	**PKPab**	**23 35 40.7**	**-1.9**
	comp=Z,3.9nm,0.5s,baz=230,slow=1.1,SNR=7.2						

*NNC **02** 23:21:20.5±5.1, 36.99N×70.88E, h196km, mb2.5, mpv3.6, Error ellipse: s-maj=40.7km s-min=32.5km az=175.0*
ISC 02 23:21:16.4±3.6, 36.7N±0.2×70.7E±0.1, h88km, n8, σ1§44/11, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.85**	**22**	P	**Pn**	**23 22 41.3**	**+0.3**
	SNR=27						
UCH	**Uchtor**	**6.21**	**27**	P	**Pn**	**23 22 46.0**	**+0.1**
	SNR=6.4						
KK31	**Karatay Array**	**6.35**	**359**	P	**Pn**	**23 22 49.6**	**+2.3**
	2.1nm,0.2s,baz=175,slow=12,SNR=176						
KK31				⇓S	**Sn**	**23 23 59.4**	**+0.9**
	0.3nm,0.3s,baz=188,slow=26,SNR=3.7						
EKS2	**Erkin-Say**	**6.36**	**21**	P	**Pn**	**23 22 48.8**	**+1.2**
	SNR=21						
AAK	**Ala-Archa**	**6.56**	**25**	P	**Pn**	**23 22 51.0**	**+0.7**
	SNR=7.2						
USP	**Ospenovka**	**7.13**	**23**	P	**Pn**	**23 22 57.7**	**-0.3**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.22**	**30**	⇑P	**Pn**	**23 22 58.6**	**-0.8**
	1.5nm,0.5s						
TKM2				⇑S	**Sn**	**23 24 20.4**	**+0.5**
	1.3nm,0.9s						
AB31	**Akbulak array**	**14.76**	**331**	P	**Pn**	**23 24 40.3**	**-0.1**
	0.3nm,0.5s,baz=148,slow=13,SNR=10						
AB31				⇑S	**Sn**	**23 27 20.1**	**-2.8**
	0.3nm,0.5s						

*IDC **03** 01:07:13.0±0.9, 2.92N×31.19W, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/27, mbtmp3.9/10, ML3.6/1, MS3.7/10, Ms1 3.7/10, ms1mx3.5/32, Error ellipse: s-maj=30.6km s-min=21.3km az=145.0*
*ISCJB **03** 01:07:13.2±0.6, 3.0N±0.1×31.1W±0.1, h10km, mb3.9/9, MS3.7/8, Error ellipse: s-maj=21.6km s-min=16.9km az=34.9*
ISC 03 01:07:14.4±0.7, 2.9N±0.1×31.2W±0.2, h10km, n27, σ1§32/12, mb4.0/9, MS3.7/8, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**9.83**	**208**	Pn	**Pn**	**01 09 34.3**	**-1.8**
	0.5nm,0.3s,baz=11,slow=15,SNR=5.1						
RCBR				LR	LR	01 12 30.3	
	comp=Z,225nm,21.6s,baz=6.9,slow=32						
BBTS	**Babate**	**18.63**	**50**	LR	LR	01 16 55.7	
	comp=Z,150nm,18.2s,baz=336,slow=31						
H10N3	**ASCENSION HYDR**	**19.79**	**123**	T	T	01 32 02.7	
	baz=302,slow=75,SNR=193						
H10N2	**ASCENSION HYDR**	**19.79**	**123**	T	T	01 32 03.1	
	baz=302,slow=75,SNR=186						
H10N1	**ASCENSION HYDR**	**19.81**	**123**	T	T	01 32 04.3	
	baz=302,slow=75,SNR=242						
H10S3	**ASCENSION HYDR**	**20.26**	**126**	T	T	01 32 44.8	
	baz=304,slow=75,SNR=66						
H10S1	**ASCENSION HYDR**	**20.27**	**126**	T	T	01 32 49.4	
	baz=304,slow=75,SNR=95						
H10S2	**ASCENSION HYDR**	**20.28**	**126**	T	T	01 32 46.5	
	baz=304,slow=75,SNR=68						
BDFB	**Brasilia**	**24.80**	**222**	LR	LR	01 20 53.8	
	comp=Z,105nm,19.2s,baz=186,slow=33						
DBIC	**Dimbokro**	**26.53**	**81**	LR	LR	01 21 20.4	
	comp=Z,203nm,18.7s,baz=282,slow=32						
H05S1	**Guadeloupe/Mar**	**31.39**	**293**	T	T	01 46 27.3	
	SNR=62						
H05N1	**Guadeloupe/Mar**	**32.24**	**296**	T	T	01 47 35.5	
	SNR=17						
TORD	**Torodi Ar. Bea**	**34.10**	**71**	P	**P**	**01 13 59.2**	**-0.5**
	2.4nm,0.9s,baz=254,slow=8.6,SNR=14						
TORD				LR	LR	01 25 41.7	
	comp=Z,128nm,19.6s,baz=315,slow=33						
CPUP	**Villa Florida**	**38.48**	**219**	LR	LR	01 30 02.6	
	comp=Z,102nm,18.1s,baz=23,slow=36						
LPAZ	**La Paz**	**41.15**	**241**	P	**P**	**01 15 02.1**	**+2.1**
	1.1nm,0.9s,baz=32,slow=7.0,SNR=3.9						
LPAZ				LR	LR	01 31 44.9	
	comp=Z,168nm,19.0s,baz=56,slow=36						
ROSC	**El Rosal**	**43.05**	**274**	LR	LR	01 32 22.2	
	comp=Z,86nm,18.8s,baz=360,slow=35						
H09W1	**TRISTAN DA CUN**	**43.48**	**158**	T	T	02 01 46.2	
	SNR=10						
ESDC	**Sonseca Array**	**44.19**	**30**	P	**P**	**01 15 24.9**	**+1.1**
	1.4nm,0.9s,baz=230,slow=7.8,SNR=4.4						
PLCA	**Paso Flores**	**56.32**	**215**	LR	LR	01 39 21.2	
	comp=Z,66nm,21.6s,baz=95,slow=34						
BOSA	**Boshof**	**62.54**	**124**	P	**P**	**01 17 39.0**	**0.0**
	2.7nm,0.8s,baz=234,slow=10,SNR=4.3						
BOSA				LR	LR	01 39 15.8	
	comp=Z,60nm,18.4s,baz=348,slow=31						
NOA	**NORSAR Array B**	**66.27**	**21**	P	**P**	**01 18 02.7**	**0.0**
	1.8nm,0.8s,baz=229,slow=6.1,SNR=3.8						
BRTR	**Keskin Array B**	**68.96**	**48**	P	**P**	**01 18 20.8**	**+0.5**
	0.6nm,0.8s,baz=250,slow=7.1,SNR=3.1						
TXAR	**Lajitas Array**	**73.30**	**300**	P	**P**	**01 18 46.9**	**+0.1**
	0.4nm,0.8s,baz=113,slow=6.4,SNR=5.6						
VNA2	**Neumayer--Watz**	**75.33**	**172**	*e*P	**P**	**01 18 58.9**	**+1.3**
ARCES	**ARCESS Array B**	**76.14**	**18**	P	**P**	**01 19 01.0**	**-1.3**
	2.6nm,0.8s,baz=42,slow=2.0,SNR=4.3						
SNAA	**Sanae**	**76.67**	**171**	*e*P	**P**	**01 19 05.9**	**+0.6**
ILAR	**Eielson Array**	**98.06**	**337**	P	**P**	**01 20 49.4**	**-1.6**
	0.3nm,0.8s,baz=48,slow=6.6,SNR=4.6						

*AUST **03** 01:51:58.8±17.0, 1.40S×127.50E, h1km±1km, Error ellipse: s-maj=2.6km s-min=1.2km az=21.0*
*DJA **03** 01:52:23.6±1.1, 2.3S±13.×12.9E±., h30km, M3.9/4, MLv3.9/4*
ISC 03 01:52:26.2±2.5, 2.6S±0.2×129.04E±0.08, h35km, n8, σ1§49/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.72**	**189**	P	Pn	01 52 33.2	-6.7
NLAI	**Namlea**	**2.03**	**253**	P	**Pn**	**01 52 57.0**	**-0.9**
BNDI	**Bandanaira**	**2.06**	**155**	P	**Pn**	**01 53 00.4**	**+2.0**
FAKI	**Fak Fak**	**3.21**	**95**	P	**Pn**	**01 53 13.5**	**-0.7**
FAKI	**Fak Fak**	**3.21**	**95**	P	**Pn**	**01 53 13.8**	**-0.4**
	baz=5.0,SNR=5.2						
MTN	**Manton Dam**	**10.35**	**169**	P	**Pn**	**01 54 52.3**	**0.0**
	baz=12,SNR=6.1						
KDU	**Kakadu**	**10.55**	**161**	P	**Pn**	**01 54 53.2**	**-1.8**
	baz=12,SNR=5.3						
COEN	**Coen**	**17.93**	**130**	P	**P**	**01 56 33.7**	**+0.4**
	baz=20,SNR=6.2						

*IDC **03** 01:52:53.5±3.8, 12.78N×125.67E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=347.6km s-min=26.4km az=67.0*
*MAN **03** 01:52:54, 12.18N×125.65E, h16km, mb4.6, ML3.5, MS3.4*
ISC 03 01:52:56.8±1.2, 12.27N±0.06×125.4E±0.1, h33km, n12, σ1§52/12, mb3.7/4, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.67**	**173**	*e*P	**Pb**	**01 53 10.9**	**+0.7**
PLP	**Palo**	**1.16**	**199**	⇓*e*P	**Pn**	**01 53 15.7**	**-1.0**
PLP				*e*S	**Sb**	**01 53 33.7**	**+0.7**
PVCP	**Virac**	**1.77**	**319**	⇓*i*P	**Pb**	**01 53 28.4**	**-0.3**
PVCP				*i* S	Sb	01 54 03.8	+13
MSLP	**Maasin**	**2.17**	**193**	*e*P	**Pn**	**01 53 32.3**	**+1.6**
SCPH	**Surigao**	**2.47**	**177**	*e*P	**Pn**	**01 53 33.5**	**-1.3**
SCPH				*e*S	**Sn**	**01 54 03.1**	**-0.8**
RCP	**Roxas**	**2.65**	**255**	⇑*e*P	**Pb**	**01 53 41.4**	**-2.2**
GUIM	**Jordan**	**3.16**	**239**	*e*P	**Pn**	**01 53 47.1**	**+2.8**
CUYO	**Cuyo Island**	**4.48**	**252**	*e*P	Pn	01 53 55.2	-7.2
ASAR	**Alice Springs**	**36.68**	**167**	P	P	02 00 05.8	+5.0
	0.4nm,0.6s,baz=339,slow=6.8,SNR=5.0						
MKAR	**Makanchi Array**	**49.91**	**322**	P	**P**	**02 01 47.5**	**+0.1**
	0.9nm,0.8s,baz=120,slow=8.2,SNR=11						
ZALV	**Zalesovo Beam**	**52.45**	**331**	P	**P**	**02 02 05.3**	**-1.0**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=3.0						
BVAR	**Borovoye Array**	**59.52**	**325**	P	**P**	**02 02 57.0**	**+0.1**
	0.8nm,0.8s,baz=111,slow=7.9,SNR=5.1						

*IDC **03** 01:53:16.2±0.8, 4.39N×82.40W, h0km, mb3.9/9, mb1 4.2/11, mb1mx4.1/24, mbtmp3.9/11, ML4.3/3, MS3.7/9, Ms1 3.7/9, ms1mx3.6/26, Error ellipse: s-maj=53.3km s-min=13.7km az=61.0*
*NEIC **03** 01:53:18.3±0.4, 4.26N×82.62W, h10km, mb4.7/14, Error ellipse: s-maj=10.4km s-min=7.6km az=49.0*
*ISCJB **03** 01:53:20.4±0.3, 4.25N±0.05×82.58W±0.05, h33km, mb4.3/25, MS3.5/5, Error ellipse: s-maj=9.4km s-min=5.5km az=137.4*
ISC 03 01:53:21.7±0.5, 4.27N±0.06×82.60W±0.08, h35km, n285, σ1§20/276, mb4.5/25, MS3.4/5, 101C-113D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCIP	**Isla Barro Col**	**5.58**	**29**	*e*Pn	**Pn**	**01 54 41.7**	**-0.6**
	96nm,0.6s						
BCIP				*e*S	Sn	01 55 39.0	-6.3
OTAV	**Otavalo**	**5.76**	**134**	*e*Pn	Pn	01 54 35.2	-10
JTS	**JuntasAbangare**	**6.42**	**339**	*e*Pn	Pn	01 54 49.9	-3.9
JTS				Sn	**Sn**	**01 56 04.5**	**-1.5**
JTS				*e*S	**Sn**	**01 56 05.5**	**-0.5**
JTS	**JuntasAbangare**	**6.42**	**339**	Pn	Pn	01 54 49.9	-3.9
	39nm,0.3s,baz=200,slow=3.2,SNR=106						
JTS				Sn	**Sn**	**01 56 04.5**	**-1.5**
	4.1nm,0.3s,baz=300,slow=20,SNR=1.8						
JTS				LR	LR	01 57 02.3	
	comp=Z,598nm,21.3s,baz=166,slow=35						
ROSC	**El Rosal**	**8.26**	**86**	*e*Pn	**Pn**	**01 55 21.1**	**+1.6**
ROSC	**El Rosal**	**8.26**	**86**	Pn	**Pn**	**01 55 22.3**	**+2.8**
	5.1nm,0.3s,baz=90,slow=13,SNR=8.4						
PAYG	**Puerto Ayora**	**9.12**	**238**	*e*Pn	**Pn**	**01 55 30.1**	**-0.7**
	120nm,1.4s						
ATAH	**Atahualpa**	**12.08**	**160**	LR	LR	02 00 31.7	
	comp=Z,900nm,19.7s,baz=158,slow=36						
SDV	**Santo Domingo**	**12.74**	**68**	*e*Pn	**Pn**	**01 56 18.6**	**-2.0**
	3.0nm,0.8s						
APG	**El Apazote**	**13.18**	**325**	Pn	**Pn**	**01 56 27.1**	**+0.3**
APG	**El Apazote**	**13.18**	**325**	Pn	**Pn**	**01 56 27.1**	**+0.3**
	0.4nm,0.3s,baz=103,slow=15,SNR=3.1						
APG				LR	LR	02 00 46.9	
	comp=Z,316nm,19.4s,baz=339,slow=34						
TEIG	**Tepich**	**16.80**	**341**	LR	LR	02 02 41.0	
	comp=Z,187nm,20.8s,baz=358,slow=34						
NNA	**Nana**	**17.13**	**161**	P	**P**	**01 57 19.4**	**-0.7**
NNA	**Nana**	**17.13**	**161**	P	**P**	**01 57 19.3**	**-0.7**
	0.9nm,0.3s,baz=334,slow=15,SNR=1.6						
LSP	**Las Mesas**	**20.53**	**46**	*e*P	**P**	**01 57 58.1**	**+0.9**
SJG	**San Juan**	**21.17**	**48**	P	**P**	**01 58 05.3**	**+1.2**
SJG	**San Juan**	**21.17**	**48**	P	**P**	**01 58 05.3**	**+1.2**
	18nm,0.7s,baz=260,slow=9.4,SNR=4.3						
SJG				LR	LR	02 05 32.0	
	comp=Z,170nm,20.9s,baz=270,slow=35						
PTGA	**Pitinga**	**23.15**	**102**	P	**P**	**01 58 25.6**	**+0.3**
	6.1nm,1.0s						
LPAZ	**La Paz**	**24.94**	**145**	*e*P	**P**	**01 58 41.9**	**-0.7**
LPAZ	**La Paz**	**24.94**	**145**	P	**P**	**01 58 41.7**	**-0.9**
	4.8nm,0.7s,baz=318,slow=7.7,SNR=22						
LPAZ				LR	LR	02 09 29.6	
	comp=Z,121nm,20.1s,baz=50,slow=39						
SIV	**San Ignacio**	**29.31**	**134**	LR	LR	02 11 33.7	
	comp=Z,284nm,19.1s,slow=38						
732A	**Laxson Ranch,**	**29.39**	**328**	⇓P	**P**	**01 59 22.2**	**+0.4**
	baz=30						
534A	**Blanco**	**29.70**	**331**	⇓P	**P**	**01 59 25.2**	**+0.6**
	baz=30						
533A	**Keville**	**30.00**	**331**	⇑P	**P**	**01 59 28.0**	**+0.7**
	baz=30						
434A	**Burnet**	**30.26**	**333**	⇑P	**P**	**01 59 29.1**	**-0.3**
	baz=30						
631A	**Perdido Creek**	**30.26**	**328**	⇑P	**P**	**01 59 30.2**	**+0.7**
	baz=30						
532A	**Rocksprings**	**30.48**	**329**	⇓P	**P**	**01 59 32.2**	**+0.7**
	baz=31						
433A	**Art**	**30.59**	**331**	⇓P	**P**	**01 59 33.2**	**+0.8**
	baz=31						
334A	**Lometa**	**30.68**	**333**	⇓P	**P**	**01 59 34.0**	**+0.8**
	baz=31						
JCT	**Junction City**	**30.71**	**330**	⇑P	**P**	**01 59 34.2**	**+0.6**
	baz=31						
531A	**Rocksprings**	**30.84**	**329**	⇑P	**P**	**01 59 36.0**	**+1.3**
	baz=31						
WHTX	**Lake Whitney**	**30.90**	**335**	⇑P	**P**	**01 59 35.9**	**+0.8**
	baz=31						
333A	**Richland Sprin**	**31.02**	**332**	⇓P	**P**	**01 59 37.5**	**+1.3**
	baz=31						
432A	**Menard**	**31.03**	**330**	⇑P	**P**	**01 59 37.3**	**+1.0**
	baz=31						
H06E1	**SOCORRO T-PHAS**	**31.20**	**300**	T	T	02 32 28.2	
	SNR=24						
H06S1	**SOCORRO T**	**31.21**	**300**	T	T	02 32 28.1	
	SNR=12						
530A	**J-C Ranch, Com**	**31.24**	**328**	⇓P	**P**	**01 59 38.9**	**+0.7**
	baz=31						
431A	**Sonora**	**31.29**	**329**	⇓P	**P**	**01 59 39.2**	**+0.6**
	baz=31						
332A	**Millersview**	**31.42**	**331**	⇓P	**P**	**01 59 40.2**	**+0.4**
	baz=32						
628A	**Black Gap, Mar**	**31.60**	**325**	⇑P	**P**	**01 59 42.2**	**+0.9**
	baz=32						
134A	**White-Moore Ra**	**31.67**	**335**	⇓P	**P**	**01 59 42.4**	**+0.5**
	baz=32						
430A	**Baggett Ranch,**	**31.69**	**328**	⇓P	**P**	**01 59 43.0**	**+0.8**
	baz=32						
331A	**San Angelo**	**31.70**	**330**	⇑P	**P**	**01 59 43.1**	**+0.9**
	baz=32						
529A	**Stev Forest Ra**	**31.70**	**326**	⇑P	**P**	**01 59 43.1**	**+0.8**
	baz=32						
232A	**Coleman**	**31.80**	**332**	⇑P	**P**	**01 59 44.0**	**+0.9**
	baz=32						
627A	**Terlingua Ranc**	**31.86**	**324**	⇓P	**P**	**01 59 44.6**	**+0.8**
	baz=32						
429A	**Davenport Ranc**	**31.91**	**327**	⇑P	**P**	**01 59 45.1**	**+0.9**
	baz=32						
TXAR	**Lajitas Array**	**31.94**	**324**	P	**P**	**01 59 44.8**	**+0.4**
TXAR	**Lajitas Array**	**31.94**	**324**	P	**P**	**01 59 44.8**	**+0.4**
	1.1nm,0.9s,baz=145,slow=9.0,SNR=8.4						
330A	**Mertzon**	**32.16**	**329**	⇓P	**P**	**01 59 46.6**	**+0.3**
	baz=32						
231A	**Bronte**	**32.16**	**331**	⇑P	**P**	**01 59 46.6**	**+0.4**
	baz=32						
626A	**Big Bend Ranch**	**32.38**	**323**	⇓P	**P**	**01 59 48.7**	**+0.4**
	baz=32						
428A	**Kincaid Ranch,**	**32.42**	**327**	⇑P	**P**	**01 59 49.4**	**+0.8**
	baz=32						
527A	**Woodward Ranch**	**32.51**	**325**	⇑P	**P**	**01 59 50.1**	**+0.7**
	baz=33						
230A	**Sterling City**	**32.51**	**330**	⇑P	**P**	**01 59 50.2**	**+0.9**
	baz=33						
Z33A	**Whitaker Ranch**	**32.58**	**334**	⇑P	**P**	**01 59 50.6**	**+0.7**
	baz=33						
329A	**Wagon Wheel Ra**	**32.64**	**328**	⇓P	**P**	**01 59 51.3**	**+0.8**
	baz=33						
526A	**Mary Lane Ranc**	**32.72**	**324**	⇑P	**P**	**01 59 52.0**	**+0.6**
	baz=33						
Z32A	**Haskell**	**32.91**	**333**	⇑P	**P**	**01 59 53.2**	**+0.5**
	baz=33						
229A	**Bryant Ranch,**	**32.93**	**329**	⇑P	**P**	**01 59 53.2**	**+0.2**
	baz=33						
328A	**Wristen Ranch,**	**32.99**	**327**	⇓P	**P**	**01 59 54.2**	**+0.6**
	baz=33						
426A	**McDonald Obser**	**33.13**	**325**	⇓P	**P**	**01 59 55.3**	**+0.3**
	baz=33						
Y33A	**Hilltop Ranch,**	**33.13**	**335**	⇑P	**P**	**01 59 55.4**	**+0.6**
	baz=33						
Z31A	**Sharp Cattle R**	**33.22**	**333**	⇑P	**P**	**01 59 56.2**	**+0.7**
	baz=33						
X34A	**Smith Ranch, M**	**33.33**	**337**	⇓P	**P**	**01 59 57.4**	**+1.0**
	baz=34						
228A	**UT Block 9, Go**	**33.45**	**328**	⇓P	**P**	**01 59 58.3**	**+0.7**
	baz=34						
129A	**Stewart Farms,**	**33.48**	**330**	⇑P	**P**	**01 59 58.5**	**+0.6**
	baz=34						
326A	**Caldwell Ranch**	**33.59**	**326**	⇑P	**P**	**01 59 59.6**	**+0.7**
	baz=34						
Z30A	**Sanderson Ranc**	**33.65**	**331**	⇓P	**P**	**01 59 59.9**	**+0.6**
	baz=34						
227A	**Bennet, Jal**	**33.74**	**327**	⇓P	**P**	**02 00 01.0**	**+0.9**
	baz=34						
TUL1	**Tulsa**	**33.76**	**341**	⇑P	**P**	**02 00 01.1**	**+1.0**
	baz=34						
X32A	**Elmer**	**33.77**	**335**	⇓P	**P**	**02 00 00.6**	**+0.4**
	baz=34						
425A	**Indio Mountain**	**33.78**	**324**	⇓P	**P**	**02 00 01.2**	**+0.6**
	baz=34,SNR=6.2						
128A	**Castleberry Fa**	**33.79**	**329**	⇑P	**P**	**02 00 00.7**	**+0.2**
	baz=34						
Y31A	**Rekieta Farm,**	**33.81**	**333**	⇓P	**P**	**02 00 01.8**	**+1.2**
	baz=34						
WMOK	**Wichita Mounta**	**33.83**	**336**	*e*P	**P**	**01 59 58.0**	**-2.8**
	5.8nm,0.8s						
Z29A	**Hungry Hill Ra**	**33.91**	**331**	⇑P	**P**	**02 00 01.9**	**+0.3**
	baz=34						
226B	**Tecolote Peak,**	**34.27**	**326**	⇓P	**P**	**02 00 05.8**	**+1.1**
	baz=34,SNR=7.5						
Z28A	**Tucker Farm, M**	**34.27**	**330**	⇑P	**P**	**02 00 04.8**	**+0.1**
	baz=34						
324A	**Moseley Ranch,**	**34.55**	**324**	⇓P	**P**	**02 00 07.5**	**+0.3**
	baz=35						
126A	**Clayton Basin,**	**34.62**	**327**	⇑P	**P**	**02 00 08.4**	**+0.6**
	baz=35						
225A	**Deer Hill, Car**	**34.66**	**326**	⇓P	**P**	**02 00 09.0**	**+0.7**
	baz=35						
Z27A	**Tatum**	**34.72**	**329**	⇓P	**P**	**02 00 08.7**	**+0.1**
	baz=35						
U34A	**Anderson Ranch**	**34.84**	**339**	⇑P	**P**	**02 00 09.6**	**+0.1**
	baz=35						
125A	**Gardner Draw,**	**34.98**	**326**	⇑P	**P**	**02 00 11.7**	**+0.8**
	baz=35						
MSTX	**Muleshoe**	**35.01**	**330**	⇓P	**P**	**02 00 11.3**	**+0.2**
	baz=35						
224A	**Cornudas Mount**	**35.03**	**325**	⇑P	**P**	**02 00 11.7**	**+0.3**
	baz=35						
Z26A	**Caprock**	**35.08**	**328**	⇑P	**P**	**02 00 12.5**	**+0.8**
	baz=35						
Y27A	**Causey**	**35.14**	**329**	⇑P	**P**	**02 00 12.5**	**+0.3**
	baz=35						
124A	**Stringfield Ra**	**35.45**	**326**	⇓P	**P**	**02 00 16.3**	**+1.2**
	baz=36,SNR=5.6						
Z25A	**Roswell**	**35.48**	**327**	⇓P	**P**	**02 00 16.2**	**+1.0**
	baz=36,SNR=7.3						
Y26A	**Elida**	**35.51**	**329**	⇑P	**P**	**02 00 16.2**	**+0.7**
	baz=36						
X27A	**F and S Farms,**	**35.71**	**330**	⇑P	**P**	**02 00 17.9**	**+0.8**
	baz=36						
Z24A	**Sheeppen Canyo**	**35.88**	**326**	⇓P	**P**	**02 00 20.0**	**+1.4**
	baz=36						
Y25A	**Mesa, Roswell**	**35.96**	**328**	⇑P	**P**	**02 00 20.3**	**+1.0**
	baz=36,SNR=8.7						
X26A	**CR and CF Fran**	**35.99**	**329**	⇑P	**P**	**02 00 20.2**	**+0.6**
	baz=36						
W27A	**Bowe Ranch, En**	**36.03**	**331**	⇓P	**P**	**02 00 20.8**	**+0.9**
	baz=36						
SFIN	**Scholer Farm**	**36.18**	**354**	⇓P	**P**	**02 00 22.4**	**+1.5**
	baz=36						
Z23A	**Rita Site, Whi**	**36.31**	**325**	⇓P	**P**	**02 00 23.2**	**+0.9**
	baz=36						
320A	**Kipp Ranch, An**	**36.32**	**321**	⇑P	**P**	**02 00 23.8**	**+1.3**
	baz=36						
Y24A	**Capitan**	**36.36**	**327**	⇑P	**P**	**02 00 23.7**	**+0.9**
	baz=36,SNR=6.0						
W26A	**Owens Ranch, T**	**36.39**	**330**	⇑P	**P**	**02 00 24.0**	**+1.0**

S26A	Kim	38.29	333	⇓P	P	02 00 39.9 +0.8
	baz=38					
T25A	Trinidad	38.34	331	⇑P	P	02 00 40.9 +1.3
	baz=38					
R27A	Eads	38.54	334	⇑P	P	02 00 42.7 +1.5
	baz=39					
U23A	El Rito	38.59	329	⇓P	P	02 00 43.0 +1.3
	baz=39,SNR=14					
V22A	San Miguel Ran	38.65	328	⇑P	P	02 00 43.4 +1.1
	baz=39					
T24B	San Luis	38.75	330	⇓P	P	02 00 44.4 +1.2
	baz=39					
S25A	Robets Cordova	38.77	332	⇑P	P	02 00 44.4 +1.3
	baz=39					
Q28A	Sharon Springs	38.79	336	⇓P	P	02 00 45.0 +1.8
	baz=39					
R26A	Arlington	38.84	333	⇓P	P	02 00 44.8 +1.1
	baz=39					
U22A	Llaves	38.98	328	⇑P	P	02 00 46.7 +1.8
	baz=39					
CPUP	Villa Florida	39.04	143	P	P	02 00 44.1 -1.1
CPUP	Villa Florida	39.04	143	P	P	02 00 44.1 -1.1
	3.0nm,0.9s,baz=192,slow=18,SNR=3.0					
CPUP				LR	LR	02 17 09.8
	comp=Z,106nm,20.4s,baz=316,slow=37					
T23A	Casias Ranch,	39.06	330	⇑P	P	02 00 46.8 +1.1
	baz=39					
R25A	Fountain Ranch	39.09	332	⇓P	P	02 00 47.0 +1.2
	baz=39					
S24A	Houchin Ranch,	39.13	331	⇓P	P	02 00 48.3 +2.0
	baz=39					
SDCO	Great Sand Dun	39.35	331	*e*P	P	02 00 50.3 +2.2
	29nm,1.4s					
X18A	Snowflake	39.37	323	⇓P	P	02 00 49.6 +1.3
	baz=40					
Q26A	Hugo	39.39	334	⇓P	P	02 00 49.5 +1.2
	baz=40					
214A	Organ Pipe Nat	39.51	318	⇑P	P	02 00 50.7 +1.4
	baz=40					
BDFB	Brasilia	39.54	121	LR	LR	02 16 32.7
	comp=Z,45nm,18.3s,baz=48,slow=35					
R24A	Sanders Place,	39.55	332	⇑P	P	02 00 50.9 +1.2
	baz=40					
Q25A	Bedland, Calha	39.70	333	⇑P	P	02 00 52.2 +1.3
	baz=40					
R23A	Moffat	39.86	331	⇓P	P	02 00 53.5 +1.1
	baz=40					
S22A	4UR Ranch, Cre	40.01	330	⇑P	P	02 00 54.9 +1.3
	baz=40					
P25A	Willow Gulch B	40.16	334	⇑P	P	02 00 55.9 +1.2
	baz=40					
X16A	Lo Mia Camp, P	40.20	322	⇓P	P	02 00 56.2 +1.1
	baz=40					
O26A	Horse Wrangler	40.40	335	⇓P	P	02 00 57.4 +0.8
	baz=40					
Q23A	Hartsel	40.43	332	⇓P	P	02 00 59.1 +2.0
	baz=40,SNR=7.1					
L31A	Butterfield Fa	40.43	341	⇓P	P	02 00 57.9 +1.1
	baz=41					
MVCO	Mesa Verde	40.47	328	*e*P	P	02 00 58.7 +1.3
	14nm,1.2s					
MVCO	Mesa Verde	40.47	328	⇑P	P	02 00 58.6 +1.3
	baz=41					
L30A	Spencer Herefo	40.52	340	⇑P	P	02 00 59.1 +1.6
	baz=41					
113A	Mohawk Valley,	40.65	318	⇓P	P	02 01 00.2 +1.6
	baz=41					
P23A	Jefferson	40.80	332	⇑P	P	02 01 01.6 +1.3
	baz=41					
WUAZ	Wupatki	40.90	323	⇓P	P	02 01 02.2 +1.4
	baz=41					
ISCO	Idaho Springs	41.04	333	⇓P	P	02 01 03.6 +1.5
	baz=41					
K30A	Basset	41.13	341	⇑P	P	02 01 04.4 +1.9
	baz=41					
SMCO	Snowmass	41.19	331	*e*P	P	02 01 04.0 +0.5
	64nm,2.5s					
ECSD	EROS Data Cent	41.21	345	*e*P	P	02 01 01.3 -1.8
	21nm,1.4s					
P22A	Eagle	41.41	331	⇓P	P	02 01 07.3 +2.2
	baz=42					
K29A	Lazy Trails An	41.44	340	⇓P	P	02 01 06.8 +1.7
	baz=42					
O23A	Lake Granby, G	41.51	333	⇓P	P	02 01 07.2 +1.3
	baz=42					
N24A	Carr	41.55	334	⇑P	P	02 01 07.8 +1.7
	baz=42					
J30A	Dallas	41.68	341	⇓P	P	02 01 07.7 +0.8
	baz=42					
K28A	Ten Mile Ranch	41.76	339	⇓P	P	02 01 09.0 +1.3
	baz=42					
J29A	Okreek	42.02	341	⇓P	P	02 01 10.4 +0.6
	baz=42					
U15A	North Rim	42.06	323	⇓P	P	02 01 11.3 +0.7
	baz=42					
N23A	Red Feather La	42.07	333	⇓P	P	02 01 11.2 +0.7
	baz=42					
J28A	Allard Ranch,	42.34	340	⇓P	P	02 01 14.1 +1.7
	baz=42					
J27A	Elkhorn Farm,	42.46	339	⇓P	P	02 01 15.5 +2.0
	baz=43					
K25A	Mack Ranch, Ha	42.62	337	⇑P	P	02 01 16.1 +1.3
	baz=43					
I28A	Midland	42.83	340	⇑P	P	02 01 17.7 +1.4
	baz=43					
SRU	San Rafael	42.95	328	*e*P	P	02 01 18.5 +0.9
	19nm,1.7s					
L23A	Garrett	42.95	335	⇓P	P	02 01 18.9 +1.3
	baz=43					
I27A	Quinn	43.19	339	⇑P	P	02 01 20.4 +1.1
	baz=43					
K23A	Bowen Ranch, D	43.45	335	⇓P	P	02 01 23.5 +2.0
	baz=44					
CCUT	Cedar City	43.45	324	*e*P	P	02 01 22.7 +1.0
	53nm,2.9s					
J24A	Dixon Ranch, L	43.53	337	⇑P	P	02 01 23.6 +1.5
	baz=44					
HEC	Hector,Ludlow	43.59	319	⇓P	P	02 01 24.0 +1.3
	baz=44					
H27A	Howes	43.69	340	⇓P	P	02 01 23.8 +0.5
	baz=44					
K22A	Casper	43.74	334	⇓P	P	02 01 24.4 +0.5
	baz=44					
I25A	Rochford	43.76	338	⇑P	P	02 01 25.2 +1.2
	baz=44					
K21A	Alcova	44.05	334	⇓P	P	02 01 27.8 +1.4
	baz=44					
H25A	Fruitdale	44.22	338	⇓P	P	02 01 29.3 +1.7
	baz=44					
J22A	Midwest	44.34	335	⇓P	P	02 01 30.0 +1.3
	baz=44					
G25A	Newell	44.65	339	⇓P	P	02 01 32.2 +1.2
	baz=45					
H24A	Dirks Ranch, A	44.69	338	⇓P	P	02 01 32.5 +1.1
	baz=45					
J21A	Lysite	44.70	334	⇓P	P	02 01 33.0 +1.3
	baz=45					
I22A	9 Mile Ranch,	44.74	335	⇑P	P	02 01 32.8 +0.9
	baz=45					
TPNV	Topopah Spring	44.82	321	⇑P	P	02 01 34.0 +1.3
	baz=45					
FURC	Furnace Creek,	44.92	320	⇑P	P	02 01 34.5 +1.3
	baz=45					
DUG	Dugway	44.96	327	⇑P	P	02 01 35.0 +1.4
	baz=45					
F26A	Lodgepole	44.96	340	⇓P	P	02 01 34.1 +0.6
	baz=45					
J20A	Shoshoni	44.99	334	⇓P	P	02 01 35.6 +1.8
	baz=45					
E27A	Carson	45.11	342	⇓P	P	02 01 35.3 +0.7
	baz=45					
PDAR	Pinedale Array	45.20	332	P	P	02 01 35.4 -0.3
PDAR	Pinedale Array	45.20	332	P	P	02 01 35.4 -0.3
	0.6nm,0.9s,baz=147,slow=8.4,SNR=2.9					
H22A	Clearmont	45.26	336	⇑P	P	02 01 37.6 +1.6
	baz=45					
G23A	Biddle	45.39	337	⇑P	P	02 01 38.7 +1.8
	baz=46					
I20A	Worland	45.48	334	⇑P	P	02 01 38.9 +1.2
	baz=46					
F24A	Ekalaka	45.58	339	⇑P	P	02 01 39.1 +0.7
	baz=46					
BGU	Big Grassy Mou	45.59	328	*e*P	P	02 01 39.2 +0.5
	2.7nm,1.2s					
D27A	Center	45.70	342	⇓P	P	02 01 40.6 +1.3
	baz=46					
E25A	Miller Ranch,	45.78	340	⇓P	P	02 01 41.1 +1.1
	baz=46					
F23A	Volborg	45.83	338	⇑P	P	02 01 41.1 +0.7
	baz=46					
D26A	Manning	45.92	341	⇓P	P	02 01 42.0 +0.9
	baz=46					
PLCA	Paso Flores	46.12	167	P	P	02 01 41.8 -1.0
PLCA	Paso Flores	46.12	167	P	P	02 01 41.8 -1.0
	0.8nm,0.3s,baz=328,slow=7.9,SNR=3.6					
G21A	Lodge Grass	46.13	336	⇑P	P	02 01 43.5 +0.7
	baz=46					
E24A	Baker	46.15	339	⇓P	P	02 01 43.4 +0.6
	baz=46					
F22A	Rosebud	46.21	337	⇑P	P	02 01 44.4 +1.1
	baz=46					
REDW	Red Top Meadow	46.27	331	*e*P	P	02 01 44.6 +0.6
	8.4nm,1.3s					
E23A	Ismay	46.45	338	⇓P	P	02 01 45.8 +0.6
	baz=47					
A30A	Hoffart Farm,	46.48	346	⇓P	P	02 01 46.6 +1.3
	baz=47					
G20A	Bridger	46.54	335	⇓P	P	02 01 47.2 +1.2
	baz=47					
D24A	Glendive	46.63	340	⇑P	P	02 01 47.6 +1.0
	baz=47					
E22A	Miles City	46.64	338	⇓P	P	02 01 47.9 +1.2
	baz=47					
D23A	Lindsay	46.99	339	⇑P	P	02 01 50.2 +0.7
	baz=47					
NVAR	Mina Array Bea	47.02	321	P	P	02 01 50.0 0.0
NVAR	Mina Array Bea	47.02	321	P	P	02 01 50.0 0.0
	2.4nm,0.7s,baz=135,slow=7.1,SNR=15					
C24A	Savage	47.02	340	⇓P	P	02 01 50.7 +1.0
	baz=47					
ULM	Lac du Bonnet	47.17	348	P	P	02 01 49.1 -1.6
ULM	Lac du Bonnet	47.17	348	P	P	02 01 49.1 -1.6
	3.3nm,0.8s,baz=165,slow=14,SNR=3.5					
D22A	Cohagen	47.32	338	⇑P	P	02 01 52.8 +0.7
	baz=48					
F19A	Roth Farm, Mol	47.35	335	⇓P	P	02 01 53.4 +1.0
	baz=48					
A26A	Wade Farm, Ken	47.46	343	⇑P	P	02 01 54.2 +1.2
	baz=48					
C23A	Lambert	47.52	339	⇑P	P	02 01 54.3 +0.8
	baz=48					
E20A	Meyer Farm, Mu	47.54	336	⇓P	P	02 01 54.7 +0.9
	baz=48					
D21A	La Casta Ranch	47.56	338	⇓P	P	02 01 54.8 +1.0
	baz=48					
C22A	Vida	47.72	339	⇓P	P	02 01 56.0 +0.9
	baz=48					
DGMT	Dagmar	47.76	341	⇓P	P	02 01 56.3 +0.9
	baz=48					
E19A	Rath Farm, Rou	47.77	336	⇑P	P	02 01 56.9 +1.3
	baz=48					
A25A	Svangstu Ranch	47.82	342	⇓P	P	02 01 57.0 +1.2
	baz=48					
B23A	Brockton	48.02	340	⇓P	P	02 01 58.6 +1.2
	baz=48					
D20A	Manuel Ranch,	48.02	337	⇑P	P	02 01 58.7 +1.2
	baz=48					
A24A	Westby	48.09	341	⇑P	P	02 01 59.4 +1.4
	baz=48					
HLID	Hailey	48.18	329	*e*P	P	02 02 00.9 +2.0
	31nm,2.2s					
HLID	Hailey	48.18	329	⇓P	P	02 01 59.6 +0.7
	baz=48					
D19A	Cripps Ranch,	48.38	336	⇑P	P	02 02 01.2 +0.9
	baz=48					
A22A	Carney Farms,	48.79	340	⇑P	P	02 02 04.4 +1.0
	baz=49					
B20A	Solberg Farm,	49.09	338	⇑P	P	02 02 06.5 +0.9
	baz=49					
A21A	Bergtoll Ranch	49.14	339	⇓P	P	02 02 07.1 +1.0
	baz=49					
A20A	Cobblestone Ra	49.41	338	⇓P	P	02 02 09.5 +1.4
	baz=50					
EGMT	Eagleton	49.42	336	⇑P	P	02 02 10.3 +2.0
	baz=50					
B19A	Brinkman Farms	49.45	337	⇑P	P	02 02 10.6 +2.2
	baz=50					
WVOR	Wild Horse Val	49.71	325	*e*P	P	02 02 10.6 0.0
	34nm,1.3s					
E09A	Wood Farm, Sta	52.13	329	*e*P	P	02 02 28.4 -0.1
	29nm,1.2s					
VFP	Flag Point	53.11	326	P	P	02 02 34.0 -2.1
SUMG	Summit	73.38	13	*i* P	P	02 04 50.5 +0.3
	5.2nm,0.9s					
TORD	Torodi Ar. Bea	83.49	77	P	P	02 05 46.3 -0.4
TORD	Torodi Ar. Bea	83.49	77	P	P	02 05 46.3 -0.4
	0.3nm,0.6s,baz=284,slow=5.4,SNR=4.8					
H11N3	WAKE ISLAND Hyl	07.70	292	T	T	04 07 60.0
	baz=82,slow=75,SNR=3.9					
H11N2	WAKE ISLAND Hyl	07.71	292	T	T	04 08 00.8
	baz=82,slow=75,SNR=3.8					
H11N1	WAKE ISLAND Hyl	07.72	292	T	T	04 08 04.0
	baz=82,slow=75,SNR=5.3					
WMQ	Urumqi	131.34	9	PKP	PKPdf	02 12 33.3 +2.6
HHC	Hu-ho-hao-te	133.26	345	*e*PKP	PKPdf	02 12 33.6 -0.9
HHC				PP	PP	02 15 03.3 +3.0
HHC				PKS	PKSdf	02 16 08.1 -2.9
HHC				SKS	SKSdf	02 19 42.8 -0.7
HHC				SKKS	SKKSac	02 21 54.1 -0.8
HHC				SS	SS	02 32 43.8 +2.7
HHC				AMB	AMB	
	comp=Z,120nm,9.2s					
LZH	Lanzhou	139.41	352	*e*PKP	PKPdf	02 12 42.1 -4.0
LZH				sPKP		02 12 51.6
ASAR	Alice Springs	139.86	238	PKP	PKPdf	02 12 46.8 -0.3
ASAR	Alice Springs	139.86	238	PKP	PKPdf	02 12 46.8 -0.3
	0.4nm,0.5s,baz=104,slow=1.9,SNR=2.1					
CD2	Chengdu	144.50	351	*e*PKP	PKPdf	02 12 54.8 -0.4
H01W1	Cape Leeuwin H	145.80	205	T	T	04 56 18.0
	baz=150,slow=76,SNR=4.6					
H01W2	Cape Leeuwin H	145.80	205	T	T	04 56 14.6
	baz=150,slow=76,SNR=5.1					
H01W3	Cape Leeuwin H	145.82	205	T	T	04 56 16.8
	baz=150,slow=76,SNR=4.2					
GYA	Guiyang	148.16	344	*e*PKPbc	PKPdf	02 13 01.0 -0.6
GYA				PP	PP	02 16 34.6 +3.1
GYA				AMB	AMB	
	comp=Z,90nm,7.8s					

MOS ***03*** *01:56:32.3±1.0,53.˚74N×165.˚47W,h40km,mb5.4/84, MS4.8/13,Error ellipse: s-maj=7.3km s-min=4.7km az=91.1*

IDC ***03*** *01:56:32.3±2.2,53.˚62N×165.˚58W,h30km±14km,mb4.8/38, mb1 4.9/40,mb1mx4.9/43,mbtmp4.9/40,ML4.5/2,MS4.6/34, Ms1 4.6/34,ms1mx4.5/44,Error ellipse: s-maj=13.0km s-min=7.7km az=170.0*

ISCJB ***03*** *01:56:33.8±0.3,53.˚64N±0.˚02×165.˚47W±0.˚02,h55km±2km, mb5.2/334,MS4.7/59,Error ellipse: s-maj=3.7km s-min=1.6km az=8.7*

BGS ***03*** *01:56:34.9±2.0,53.˚23N×163.˚56W,h63km,mb5.2*

GCMT ***03*** *01:56:35.4±0.1,53.˚33N×165.˚26W,h38km,MW5.3 Best double couple: NP1:φs57.00000°,δ62.00000°, λ84.00000°. NP2:φs250.00000°,δ28.00000°,λ101.00000°. Principal axes: T 1.0800, Plg72.0000°, Azm314.0000°; N 0.1000, Plg5.0000°, Azm60.0000°; P -1.1800, Plg17.0000°, Azm152.0000°; Data Used: II IU CU IC G CN. Surface waves from 105 sta.*

BJI ***03*** *01:56:35.2,54.˚23N×165.˚97W,h54km,mB5.3/35, mb5.3/51,Ms5.1/40,Ms7 4.9/41*

NEIC ***03*** *01:56:36.2±2.2,53.˚69N×165.˚52W,h63km±4km,mb5.3/182, ML5.1(AEIC),Error ellipse: s-maj=11.3km s-min=7.2km az=162.0*

NEIC Felt at Akutan, Dutch Harbor and Unalaska.

SZGRF ***03*** *01:56:37.8,54.˚68N×166.˚44W,h33km,mb5.4,Fox Islands, Aleutian Islands, United States*

DJA ***03*** *01:56:43.3±3.6,54.˚1N±8.˚1×16.˚6W±1.˚3,h114km±33km, M5.5/22,mB5.9/5,mb5.5/22,Mw(mB)5.5/5*

ISC 03 01:56:35.4±0.3,53.˚68N±0.˚05×165.˚51W±0.˚03,h58km±2km, h58km:pP-P,n1342,σ1.09/1420,mb5.2/334,MS4.8/60, 318C-240D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AKUT	Akutan	0.49	341	*e*Pn		Pn	01 56 46.2	-0.8
AKUT				*e*Sn		Sn	01 56 55.9	+0.4
LVA	Lava Point	0.58	328	*e*Pn		Pn	01 56 47.4	-0.7
AKGG	Akutan Green G	0.60	332	*e*Pn		Pn	01 56 47.7	-0.6
AKGG				*e*Sn		Sn	01 56 59.3	+1.6
UNV	Unalaska Valle	0.61	287	*e*Pn		Pn	01 56 46.9	-1.6
UNV				*e*Sn		Sn	01 56 57.6	-0.4
MNAT	Makushin Natee	0.73	287	*e*Pn		Pn	01 56 49.1	-0.8
MTBL	Makushin Table	0.75	293	*e*Pn		Pn	01 56 49.6	-0.6
MSW	Makushin Switc	0.79	288	*e*Pn		Pn	01 56 49.9	-0.8
MCIR	Makushin Cirqu	0.87	289	*e*Pn		Pn	01 56 51.3	-0.4
WESE	West Dahl East	0.97	34	*e*Pn		Pn	01 56 51.4	-1.5
WESN	West Dahl Nort	1.05	31	*e*Pn		Pn	01 56 53.2	-0.7
SSLW	Shishaldin Wes	1.37	36	*e*Pn		Pn	01 56 57.0	-1.2
SSLN	Shishaldin Nor	1.44	37	*e*Pn		Pn	01 56 58.3	-1.0
OKFG	Magazine Ridge	1.46	260	*e*Pn		Pn	01 56 57.7	-1.7
OKFG				*e*Sn		Sn	01 57 19.2	+1.7
FALS	False Pass	1.71	45	*e*Pn		Pn	01 57 01.0	-1.7
FALS				*e*Sn		Sn	01 57 22.3	-1.1
DRIA	Deer Island	2.30	54	*e*Pn		Pn	01 57 08.7	-2.1
DT1	Dutton Round H	2.37	51	*e*Pn		Pn	01 57 10.8	-1.0
DTNA	Dutton South F	2.41	51	*e*Pn		Pn	01 57 11.5	-0.9
DOL	Dolgoi Island	2.59	54	*e*Pn		Pn	01 57 13.5	-1.3
PS4A	Pavlof South-4	2.71	50	*e*Pn		Pn	01 57 15.9	-0.5
PVV	Pavlof Volcano	2.75	50	*e*Pn		Pn	01 57 16.8	-0.3
SDPT	Sand Point	3.38	58	*e*Pn		Pn	01 57 24.9	-0.6
SDPT				*e*Sn		Sn	01 58 04.3	0.0
SPIA	Saint Paul Isl	4.43	324	*e*Pn		Pn	01 57 42.4	+2.6
CHGN	Chignik	4.86	54	*e*Pn		Pn	01 57 45.4	-0.4
CHGN				*e*Sn		Sn	01 58 45.0	+4.4
ANPB	Aniakchak Plen	5.19	50	*e*Pn		Pn	01 57 49.9	-0.5
GSTR	Great Sitkin T	6.58	260	*e*Pn		Pn	01 58 11.8	+2.3
GSTR				*e*Sn		Sn	01 59 27.9	+4.9
GSMY	Great Sitkin M	6.59	260	*e*Pn		Pn	01 58 09.9	+0.3
GSTD	Great Sitkin T	6.64	260	*e*Pn		Pn	01 58 10.4	+0.1
GSCK	Great Sitkin C	6.67	260	*e*Pn		Pn	01 58 11.2	+0.6
ETKA	Kagalaska Isla	6.86	259	*e*Pn		Pn	01 58 13.1	-0.1
ADAG	Mount Adagdak	6.94	260	*e*Pn		Pn	01 58 15.1	+0.9
ADK	Adak	7.01	260	*e*P		Pn	01 58 15.8	+0.5
ADK	Adak	7.01	260	*e*Pn		Pn	01 58 15.8	+0.5
ADK				*e*Sn		Sn	01 59 50.5	+17
KJL	Kejulik	7.10	48	*e*Pn		Pn	01 58 16.6	+0.1
SII	Sitkinak Islan	7.11	61	*e*Pn		Pn	01 58 15.4	-1.2
KIKV	Kanaga Island	7.30	260	*e*Pn		Pn	01 58 19.8	+0.5
MGLS	Mageik Landsli	7.33	48	*e*Pn		Pn	01 58 19.5	-0.1
KABR	Katmai Barrier	7.41	49	*e*Pn		Pn	01 58 21.0	+0.2
OHAK	Old Harbor	7.80	58	*e*Pn		Pn	01 58 26.8	+0.7
OHAK				*e*Sn		Sn	02 00 13.2	+20
MCNL	McNeil River	8.29	44	*e*Pn		Pn	01 58 33.2	+0.5
KDAK	Kodiak Island	8.37	55	*e*Pn		Pn	01 58 31.5	-2.3
KDAK				*e*Sn		Sn	02 00 04.5	-2.3
KDAK	Kodiak Island	8.37	55	Pn		Pn	01 58 31.1	-2.7
	451nm,0.6s,SNR=34							
OPT	Oil Point	9.02	44	*e*Pn		Pn	01 58 44.1	+1.4
SVW2	Sparrevohn	9.16	32	*e*Pn		Pn	01 58 45.5	+0.9
ILW	Iliamna West	9.31	42	*e*Pn		Pn	01 58 47.2	+0.4
AMKA	Amchitka	9.54	262	*e*Pn		Pn	01 58 49.7	-0.2
AMKA				*e*Sn		Sn	02 00 47.0	+11
NCT	North Crescent	9.70	40	*e*Pn		Pn	01 58 53.6	+1.4
RSO	Redoubt South	9.71	40	*e*Pn		Pn	01 58 54.5	+2.3
CNPM	China Poot	9.80	48	*e*Pn		Pn	01 58 52.4	-1.0
RDT	Redoubt	9.91	41	*e*Pn		Pn	01 58 55.9	+0.9
SPU	Mount Spurr	10.43	39	*e*Pn		Pn	01 59 03.0	+0.9
PMR	Palmer	11.80	41	*e*P		Pn	01 59 18.5	-2.1
PMR	Palmer	11.80	41	*e*Pn		Pn	01 59 18.5	-2.1
SMY	Shemya	12.26	274	*e*P		Pn	01 59 29.0	+2.1
SMY	Shemya	12.26	274	*e*Pn		Pn	01 59 29.0	+2.1
FX1	Attu Island--F	12.78	275	*e*Pn		Pn	01 59 37.1	+3.0
FX1				*e*Sn		Sn	02 01 51.8	-2.8
FX1	Attu Island--F	12.78	275	Pn		Pn	01 59 34.4	+0.3
	14nm,0.3s,baz=129,slow=9.8,SNR=53							
FX1				Sn		Sn	02 01 51.8	-2.8
	1.8nm,0.3s,baz=296,slow=14,SNR=1.2							
FX1				LR		LR	02 04 03.2	
	comp=Z,2μm,18.9s,baz=258,slow=35							
COLA	College	14.33	32	*e*P		Pn	01 59 56.9	+2.1
COLA	College	14.33	32	*e*Pn		Pn	01 59 56.9	+2.1
IL1	Eielson Array	14.57	33	*e*Pn		Pn	02 00 00.2	+2.2
ILAR	Eielson Array	14.57	33	Pn		Pn	01 59 54.3	-3.7
	0.3nm,0.3s,baz=226,slow=13,SNR=25							
ILAR				Sn		Sn	02 02 31.4	-6.5
	baz=211,slow=26,SNR=1.9							
ILAR				LR		LR	02 06 01.4	
	comp=Z,4μm,19.4s,baz=239,slow=39							
ILB	Eielson Array	14.57	33	*e*Pn		Pn	01 59 54.3	-3.7
ILB				*e*Sn		Sn	02 02 31.4	-6.5
HYT	Haines Junctio	16.65	53	*e*Pn		P	02 00 29.0	+2.7
DAWY	Dawson	16.90	42	*e*Pn		P	02 00 28.4	-0.5
DLBC	Dease Lake	20.21	62	*e*P		Pn	02 01 06.6	-1.0
DLBC	Dease Lake	20.21	62	P		P	02 01 06.1	+0.9
	22nm,0.9s,baz=261,slow=11,SNR=27							
DLBC				LR		LR	02 08 03.5	
	comp=Z,1μm,21.0s,baz=58,slow=34							
INK	Inuvik	20.97	33	*e*P		P	02 01 10.9	-2.2
	80nm,0.9s							
INK	Inuvik	20.97	33	P		P	02 01 10.5	-2.7
	30nm,0.5s,baz=232,slow=12,SNR=133							
INK				LR		LR	02 10 05.6	
	comp=Z,3μm,20.6s,baz=235,slow=39							
PET	Petropavlovsk	21.27	283	*e*P		P	02 01 19.5	+3.0
PET				*e*S		S	02 05 01.3	-8.1
PET				pmax		pmax		
	comp=Z,500nm,17.9s							
PET				MLR		MLR		
	comp=Z,2μm,19.0s							
PEA0	Petropavlovsk-	21.80	283	*e*P		P	02 01 23.1	+0.9
PETK	Petropavlovsk-	21.80	283	P		P	02 01 22.7	+0.5
	comp=Z,16nm,0.5s,baz=96,slow=12,SNR=12							
PETK				LR		LR	02 09 17.7	
	comp=Z,1μm,21.8s,baz=86,slow=35							
BBB	Bella Bella	22.43	79	LR		LR	02 09 03.3	
	comp=Z,972nm,21.2s,baz=297,slow=33							
SEY	Seymchan	23.56	310	*e*P		P	02 01 41.5	+1.4
NLWA	Neilton Lookou	26.89	86	*e*P		P	02 02 12.4	+1.8
	comp=Z,36nm,0.9s							
A05A	Maple Falls	27.20	82	*e*P		P	02 02 13.9	+0.7
	comp=Z,17nm,0.9s							
E03A	Lebam	27.50	88	*e*P		P	02 02 17.3	+1.5
	comp=Z,49nm,1.0s							
YKA	Yellowknife Ar	27.61	51	P		P	02 02 17.6	+0.8
	comp=Z,20nm,0.9s,baz=270,slow=9.2,SNR=64							
YKB5	Yellowknife Ar	27.61	51	*e*P		P	02 02 17.4	+0.6
F03A	Seaside	27.82	89	*e*P		P	02 02 20.6	+1.9
	comp=Z,53nm,1.1s							
G03D	McMinnville, O	28.37	90	⇑P		P	02 02 24.9	+1.2
	baz=28							
LON	Longmire	28.43	86	*e*P		P	02 02 25.5	+1.2
LON				pmax		pm

NEW Newport 30.46 80 ⇑P P 02 02 43.1 +0.8
baz=30
EDM Edmonton 30.49 69 eP P 02 02 42.7 +0.2
EDM Edmonton 30.49 69 eP P 02 02 42.6 +0.2
PINOR Pine Mountain 30.57 90 eP P 02 02 44.6 +1.4
KHMM Horse Mountain 30.64 98 eP P 02 02 47.1 +3.1
comp=Z,100nm,1.6s
J05D Fort Rock, OR 30.66 92 ⇓P P 02 02 45.8 +1.6
baz=31
YBH Yreka Blue Hor 30.71 95 eP P 02 02 45.8 +1.2
comp=Z,32nm,1.1s
E09A Wood Farm, Sta 30.73 84 eP P 02 02 44.9 +0.3
comp=Z,29nm,1.2s
K04D Chiloquin, OR 30.74 93 ⇑P P 02 02 46.7 +1.8
baz=31
M02C Callahan 30.83 96 ⇑P P 02 02 47.6 +1.9
baz=31
G08A Pilot Rock 30.89 87 eP P 02 02 46.6 +0.4
comp=Z,99nm,2.3s
N02D Trinity Center 31.18 96 ⇑P P 02 02 50.5 +1.8
baz=31
K05A Summer Lake 31.19 92 eP P 02 02 50.7 +1.8
comp=Z,61nm,0.9s
M04C Macdoel 31.19 94 ⇑P P 02 02 50.6 +1.7
baz=31
I07A Izee 31.23 89 eP P 02 02 49.8 +0.6
comp=Z,21nm,0.8s
KCPM Cahto Peak 31.48 99 eP P 02 02 53.6 +2.1
comp=Z,29nm,1.2s
WDC Whiskeytown Da 31.52 97 eP P 02 02 52.6 +1.0
WDC pmax pmax
comp=Z,23nm,1.0s
WDC Whiskeytown Da 31.52 97 eP P 02 02 52.6 +1.0
comp=Z,23nm,1.0s
F10A Beach Ranch, E 31.55 84 eP P 02 02 52.2 +0.3
comp=Z,11nm,0.9s
WALA Waterton Lakes 31.95 77 eP P 02 02 55.5 0.0
BSMT Bassoo Peak 32.03 79 eP P 02 02 56.7 +0.4
MOD Modoc 32.03 93 eP P 02 02 57.7 +1.4
comp=Z,8.9nm,0.8s
BMO Blue Mountains 32.11 86 eP P 02 02 57.2 +0.3
comp=Z,19nm,1.3s
BMO ePP PP 02 04 12.5 +2.4
BLMT Blacktail Moun 32.20 79 eP P 02 02 58.2 +0.5
J08A Circle Bar Ran 32.26 89 eP P 02 02 59.2 +1.0
comp=Z,19nm,0.6s
JTMT Jette 32.37 79 eP P 02 02 59.1 -0.1
YBMT Yellow Bay 32.47 79 eP P 02 03 00.8 +0.7
SWMT Swartz Lake 32.66 80 eP P 02 03 01.6 -0.1
WVOR Wild Horse Val 32.71 91 eP P 02 03 03.4 +1.3
WVOR pmax pmax
comp=Z,29nm,0.8s
WVOR Wild Horse Val 32.71 91 eP P 02 03 03.4 +1.3
comp=Z,29nm,0.8s
MSO Missoula 33.04 81 eP P 02 03 04.9 -0.1
comp=Z,54nm,1.6s
MSO ePcP PcP 02 05 47.6 +0.3
MSO Missoula 33.04 81 ⇓P P 02 03 05.3 +0.3
baz=33
YSS Yuzh-Sakhalins 33.08 280 eP P 02 03 06.0 +0.9
YSS MLR MLR
comp=Z,1µm,19.0s
YSS MLR MLR
comp=E,700nm,18.0s
SLMT Seeley Lake 33.09 80 eP P 02 03 05.2 -0.2
BEKR Beckworth 33.27 96 eP P 02 03 08.1 +1.0
comp=E,12nm,0.9s
CHMT Chamberlain Mo 33.40 80 eP P 02 03 08.3 +0.1
MFID Camas Ranch 33.80 87 eP P 02 03 12.0 +0.4
comp=E,14nm,0.8s
PAHR Pah Rah Range 33.95 95 eP P 02 03 14.1 +1.1
comp=E,124nm,1.2s
YAK Yakutsk 34.09 310 eP P 02 03 12.0 -1.7
YAK e*PP pP 02 03 23.9 -4.4
YAK e 02 04 26.9
YAK e 02 05 49.3
YAK eS S 02 08 36.5 +1.5
YAK eSS SnSn 02 10 49.4 +2.6
YAK eSSS SSS 02 11 09.3
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=N,99nm,1.6s
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=E,62nm,1.8s
YAK smax smax
comp=E,86nm,13.1s
YAK MLR MLR
comp=N,1µm,21.0s
YAK MLR MLR
comp=E,1µm,19.0s
YAK MLR MLR
comp=Z,2µm,19.0s
RES Resolute Bay 34.17 27 eP P 02 03 13.6 -0.8
comp=Z,12nm,0.8s
RES ePcP PcP 02 05 50.5 +0.7
HRY Holter Researc 34.34 79 eP P 02 03 16.5 +0.2
CMB Columbia Colle 34.45 98 eP P 02 03 19.2 +2.0
CMB pmax pmax
comp=Z,71nm,1.6s
CMB Columbia Colle 34.45 98 eP P 02 03 19.2 +2.0
comp=Z,72nm,1.6s
LRM Limekiln Ridge 34.45 81 eP P 02 03 17.1 -0.3
HLID Hailey 34.55 86 eP P 02 03 18.9 +0.6
comp=Z,37nm,1.6s
HLID Hailey 34.55 86 ⇑P P 02 03 18.9 +0.6
baz=34
DLMT Dillon 34.62 82 eP P 02 03 19.0 +0.3
comp=Z,24nm,1.3s
DLMT ePcP PcP 02 05 52.4 +0.6
SAO San Andreas Ge 34.68 101 eP P 02 03 21.0 +1.8
SAO pmax pmax
comp=Z,16nm,1.1s
SAO San Andreas Ge 34.68 101 eP P 02 03 21.0 +1.8
comp=Z,16nm,1.1s
WAKR Walker 34.70 97 eP P 02 03 21.1 +1.5
ASAJ Asahikawa 34.71 276 eP P 02 03 18.8 -0.6
comp=Z,38nm,1.0s
ASAJ e 02 16 23.1
ASAJ Asahikawa 34.71 276 P P 02 03 18.8 -0.6
comp=Z,18nm,0.7s,baz=71,slow=6.8,SNR=4.6
ASAJ LR LR 02 16 23.1
comp=Z,1µm,21.4s,baz=360,slow=34
MCMT McKenzie Canyo 34.76 83 eP P 02 03 20.3 +0.1
BMN Battle Mountai 34.77 92 eP P 02 03 21.2 +1.1
BMN pmax pmax
comp=Z,17nm,0.8s
BMN Battle Mountai 34.77 92 eP P 02 03 21.2 +1.1
comp=Z,17nm,0.8s
EGMT Eagleton 34.87 76 eP P 02 03 20.8 +0.1
comp=Z,148nm,1.2s
EGMT Eagleton 34.87 76 ⇑P P 02 03 21.3 +0.5
baz=35
A19A Klindworth Far 34.99 74 ⇑P P 02 03 21.9 +0.1
baz=35,SNR=24
BOZ Bozeman (W) 35.03 81 eP P 02 03 22.7 +0.4
BOZ pmax pmax
comp=Z,60nm,1.5s
BOZ Bozeman (W) 35.03 81 eP P 02 03 22.7 +0.4
comp=Z,60nm,1.5s
B19A Brinkman Farms 35.11 75 ⇓P P 02 03 22.9 0.0
baz=35,SNR=49
NV01 Mina Array Sit 35.41 96 eP P 02 03 26.9 +1.2
NV01 ePcP PcP 02 05 55.0 +0.7
NVAR Mina Array Bea 35.41 96 P P 02 03 26.8 +1.1
comp=Z,12nm,0.8s,baz=302,slow=9.3,SNR=58
NVAR PcP PcP 02 05 55.0 +0.6
comp=Z,1.5nm,0.5s,baz=222,slow=32,SNR=4.4
NVAR LR LR 02 15 13.0
comp=Z,1µm,20.0s,baz=60,slow=32
A20A Cobblestone Ra 35.48 74 ⇑P P 02 03 26.2 +0.2
baz=35,SNR=37
QLMT Earthquake Lak 35.60 82 eP P 02 03 27.6 +0.4
ERM Erimo 35.61 272 ceP P 02 03 27.4 +0.3
ERM pmax pmax
comp=Z,43nm,1.7s
B20A Solberg Farm, 35.65 74 ⇓P P 02 03 27.6 +0.1
baz=36,SNR=26
ELK Elko 35.76 90 eP P 02 03 29.4 +0.7
comp=Z,20nm,0.8s
D19A Cripps Ranch, 35.82 77 ⇑P P 02 03 29.3 +0.4
baz=36,SNR=42

YMC Maple Creek 35.89 82 eP P 02 03 30.3 +0.5
YHH Holmes Hill 35.96 82 eP P 02 03 30.9 +0.4
YMR Madison River 35.96 82 eP P 02 03 31.0 +0.6
comp=Z,39nm,0.8s
A21A Bergtoll Ranch 36.00 73 ⇑P P 02 03 31.1 +0.7
baz=36,SNR=29
C20A Veseth Ranch, 36.03 76 ⇑P P 02 03 31.4 +0.6
baz=36,SNR=85
FFC Flin Flon 36.05 62 eP P 02 03 30.5 -0.2
FFC pmax pmax
comp=Z,127nm,2.3s
FFC Flin Flon 36.05 62 eP P 02 03 30.5 -0.2
comp=Z,127nm,2.3s
GCMT Greycliff 36.10 79 eP P 02 03 32.0 +0.5
YNR Norris Junctio 36.10 82 eP P 02 03 32.5 +0.8
comp=Z,57nm,1.0s
YFT Old Faithful 36.16 82 eP P 02 03 33.3 +1.1
comp=Z,25nm,1.1s
B21A Ellsworth Farm 36.23 74 ⇑P P 02 03 32.4 0.0
baz=36,SNR=32
E19A Rath Farm, Rou 36.25 78 ⇓P P 02 03 33.5 +0.9
baz=36,SNR=45
RCTC Rector, Farmer 36.29 100 ⇓P P 02 03 34.6 +1.7
baz=36
D20A Manuel Ranch, 36.29 76 ⇑P P 02 03 33.4 +0.5
baz=36,SNR=50
H17A Grant Village 36.35 82 ⇓P P 02 03 35.1 +1.4
baz=36
IMW Indian Meadow 36.42 83 eP P 02 03 35.1 +0.7
comp=Z,25nm,1.0s
FLWY Flagg Ranch 36.45 82 eP P 02 03 36.5 +1.9
comp=Z,37nm,1.2s
F19A Roth Farm, Mol 36.49 79 ⇓P P 02 03 35.1 +0.4
baz=36,SNR=18
C21A Desert Coulee 36.50 75 ⇓P P 02 03 35.0 +0.3
baz=36,SNR=15
RRI2 Red Ridge 36.51 84 eP P 02 03 36.7 +1.6
comp=Z,23nm,1.0s
FXWY Fox Creek 36.52 83 eP P 02 03 36.2 +1.0
A22A Carney Farms, 36.57 72 ⇑P P 02 03 35.3 0.0
baz=36,SNR=12
HVU Hansel Valley 36.59 87 eP P 02 03 36.4 +0.8
HVU pmax pmax
comp=Z,150nm,2.3s
HVU Hansel Valley 36.59 87 eP P 02 03 36.4 +0.8
comp=Z,150nm,2.3s
E20A Meyer Farm, Mu 36.61 77 ⇑P P 02 03 36.3 +0.6
baz=36,SNR=47
MOOW Moose Ponds 36.62 83 eP P 02 03 37.0 +1.0
comp=Z,12nm,1.2s
RLMT Red Lodge 36.70 80 eP P 02 03 37.3 +0.6
comp=Z,70nm,1.0s
H18A Shoshone NF, C 36.72 81 ⇓P P 02 03 37.1 +0.3
baz=37,SNR=10
HABR Khabarovsk 36.75 287 eP P 02 03 35.8 -0.9
HABR e*PP pP 02 03 50.9 -0.6
HABR e 02 05 00.7
HABR eS S 02 09 16.7 +0.6
HABR eSS SnSn 02 11 53.8 +2.2
HABR eSSS SSS 02 12 11.0
HABR e 02 13 44.9
HABR pmax pmax
comp=Z,61nm,1.2s
HABR MLR MLR
comp=Z,727nm,19.0s
REDW Red Top Meadow 36.78 83 eP P 02 03 38.0 +0.7
comp=Z,32nm,1.4s
B22A Reddig Ranch S 36.88 73 ⇓P P 02 03 38.4 +0.4
baz=37,SNR=21
GRAC Grapevine Rang 36.92 97 ⇓P P 02 03 39.6 +1.3
baz=37,SNR=9.8
PKM Peak Mountain 36.93 102 ⇓P P 02 03 40.2 +1.5
baz=37
BGU Big Grassy Mou 36.96 88 eP P 02 03 39.5 +0.7
comp=Z,5.8nm,0.9s
D21A La Casta Ranch 36.96 76 ⇑P P 02 03 39.2 +0.6
baz=37,SNR=38
F20A Billings 36.98 78 ⇓P P 02 03 39.1 +0.2
baz=37,SNR=23
AHID Auburn Hatcher 36.99 84 eP P 02 03 39.8 +0.7
comp=Z,24nm,1.0s
SPUT South Promonto 37.07 87 eP P 02 03 39.8 +0.1
comp=Z,16nm,1.1s
R11A Troy Canyon, C 37.08 94 eP P 02 03 40.4 +0.5
comp=Z,42nm,1.2s
R11A Troy Canyon, C 37.08 94 ⇓P P 02 03 40.3 +0.5
baz=37,SNR=15
H19A Powell 37.12 80 ⇓P P 02 03 40.8 +0.6
baz=37,SNR=34
A23A Redstone 37.17 72 ⇑P P 02 03 40.6 +0.1
baz=37,SNR=6.4
ISA Isabella 37.18 100 eP P 02 03 41.5 +0.8
ISA pmax pmax
comp=Z,10.0nm,1.3s
ISA Isabella 37.18 100 eP P 02 03 41.5 +0.8
comp=Z,10nm,1.3s
ISA Isabella 37.18 100 ⇓P P 02 03 41.7 +1.0
baz=37,SNR=9.6
E21A Keefer Ranch, 37.20 77 ⇓P P 02 03 41.1 +0.5
baz=37,SNR=30
C22A Vida 37.23 74 ⇓P P 02 03 41.3 +0.3
baz=37,SNR=14
G20A Bridger 37.27 79 ⇓P P 02 03 41.7 +0.3
baz=37,SNR=45
B23A Brockton 37.37 73 ⇑P P 02 03 42.3 +0.3
baz=37,SNR=20
D22A Cohagen 37.38 75 ⇓P P 02 03 42.8 +0.6
baz=37,SNR=74
I19A Meeteetse 37.48 81 ⇓P P 02 03 43.8 +0.5
baz=37,SNR=17
MPMC Manual Prospec 37.49 98 ⇑P P 02 03 44.0 +0.6
baz=37,SNR=17
DUG Dugway 37.54 89 eP P 02 03 44.6 +0.8
DUG pmax pmax
comp=Z,24nm,1.0s
DUG Dugway 37.54 89 eP P 02 03 44.5 +0.8
comp=Z,24nm,1.0s
DUG Dugway 37.54 89 ⇑P P 02 03 44.6 +0.8
baz=37
F21A Absaloka Mine, 37.56 78 ⇓P P 02 03 44.5 +0.7
baz=37
FURC Furnace Creek, 37.58 97 ⇑P P 02 03 44.7 +0.8
baz=38,SNR=14
C23A Lambert 37.60 74 ⇓P P 02 03 44.7 +0.7
baz=38,SNR=60
LAO LASA Array 37.61 76 eP P 02 03 45.1 +0.9
comp=Z,71nm,0.7s
TPNV Topopah Spring 37.62 96 eP P 02 03 45.2 +0.8
TPNV Topopah Spring 37.62 96 eP P 02 03 45.2 +0.8
TPNV Topopah Spring 37.62 96 ⇓P P 02 03 45.3 +0.9
baz=38
A24A Westby 37.69 71 ⇑P P 02 03 45.1 +0.4
baz=38,SNR=12
LRMC Laurel Mountai 37.77 99 ⇑P P 02 03 47.0 +1.3
baz=38
H20A Greybull 37.81 80 ⇑P P 02 03 46.0 +0.1
baz=38,SNR=20
DGMT Dagmar 37.81 72 eP P 02 03 45.5 -0.3
comp=Z,100nm,1.4s
DGMT Dagmar 37.81 72 ⇓P P 02 03 46.2 +0.4
baz=38
G21A Lodge Grass 37.85 78 ⇓P P 02 03 46.3 +0.1
baz=38,SNR=31
BW06 Boulder Array 37.90 83 eP P 02 03 47.0 +0.1
PD31 Pinedale Array 37.90 83 eP P 02 03 46.9 +0.1
PDAR Pinedale Array 37.90 83 P P 02 03 46.9 +0.1
comp=Z,19nm,1.0s,baz=305,slow=5.3,SNR=75
PDAR ScP ScP 02 09 45.5 +1.4
comp=Z,1.1nm,1.0s,baz=300,slow=2.9,SNR=4.0
PDAR LR LR 02 17 28.4
comp=Z,422nm,19.3s,baz=312,slow=33
J19A Crowheart 37.90 82 ⇑P P 02 03 47.0 +0.2
baz=38,SNR=12
E22A Miles City 37.90 76 ⇑P P 02 03 47.2 +0.6
baz=38,SNR=60
D23A Lindsay 37.93 75 ⇑P P 02 03 47.8 +0.9
baz=38
EDW2 Edwards Air Fo 38.01 100 ⇓P P 02 03 48.5 +0.9
baz=38,SNR=6.2
I20A Worland 38.04 81 ⇑P P 02 03 48.3 +0.4
baz=38,SNR=32
F22A Rosebud 38.09 77 ⇑P P 02 03 48.3 +0.1
baz=38,SNR=30
JLU Jordanelle 38.10 88 eP P 02 03 48.8 +0.2
comp=Z,18nm,1.2s
NLU North Lily Min 38.13 89 eP P 02 03 49.8 +1.0
comp=Z,21nm,1.2s

A25A Svangstu Ranch 38.18 71 ⇓P P 02 03 49.1 +0.2
baz=38,SNR=13
C24A Savage 38.18 74 ⇑P P 02 03 49.9 +0.9
baz=38,SNR=46
KLR Kul'dur 38.22 290 eP P 02 03 44.4 -4.8
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,1µm,14.0s
E23A Ismay 38.24 76 ⇑P P 02 03 50.3 +0.8
baz=38,SNR=62
H21A Big Horn, Sher 38.29 79 ⇓P P 02 03 50.0 +0.1
baz=38,SNR=21
SHOC Shoshone 38.31 97 ⇓P P 02 03 50.9 +0.8
baz=38,SNR=11
DAU Daniels Canyon 38.33 88 eP P 02 03 51.6 +1.0
DAU Daniels Canyon 38.33 88 eP P 02 03 51.6 +1.0
MPU Maple Canyon 38.36 88 eP P 02 03 50.6 0.0
comp=Z,13nm,1.0s
G22A Birney 38.39 78 ⇑P P 02 03 50.8 +0.1
baz=38,SNR=34
GSC Goldstone 38.41 98 eP P 02 03 51.8 +0.8
GSC pmax pmax
comp=Z,19nm,1.2s
GSC Goldstone 38.41 98 eP P 02 03 51.8 +0.8
comp=Z,19nm,1.2s
GSC Goldstone 38.41 98 ⇑P P 02 03 52.0 +0.9
baz=38,SNR=16
J20A Shoshoni 38.42 82 ⇑P P 02 03 51.8 +0.7
baz=38,SNR=28
MWC Mount Wilson 38.43 101 eP P 02 03 52.2 +0.9
MWC pmax pmax
comp=Z,61nm,1.4s
MWC Mount Wilson 38.43 101 eP P 02 03 52.2 +0.9
comp=Z,61nm,1.4s
D24A Glendive 38.47 74 ⇑P P 02 03 52.5 +1.1
baz=38,SNR=69
B25A Knox Farm, Ray 38.51 72 ⇓P P 02 03 51.9 +0.2
baz=38,SNR=5.7
SHPR Sheep Range 38.56 96 eP P 02 03 53.0 +0.6
I21A Big Trails, Te 38.62 80 ⇑P P 02 03 52.4 -0.3
baz=38,SNR=33
F23A Volborg 38.62 77 ⇑P P 02 03 52.8 +0.2
baz=38,SNR=89
BFSC Mount Baldy Ra 38.65 100 ⇓P P 02 03 54.2 +1.1
baz=39,SNR=6.2
H22A Clearmont 38.71 79 ⇓P P 02 03 53.7 +0.2
baz=39,SNR=44
ARUT Antelope Range 38.72 93 eP P 02 03 54.7 +0.9
ARUT Antelope Range 38.72 93 eP P 02 03 54.7 +0.9
C25A Freed Ranch, W 38.75 73 ⇓P P 02 03 54.1 +0.4
baz=39,SNR=8.5
E24A Baker 38.78 75 ⇑P P 02 03 54.8 +0.8
baz=39,SNR=28
J21A Lysite 38.80 81 ⇑P P 02 03 54.6 +0.3
baz=39,SNR=53
A26A Wade Farm, Ken 38.81 70 ⇓P P 02 03 54.0 -0.2
baz=39,SNR=13
ALE Alert 38.83 12 P P 02 03 54.5 +0.6
comp=Z,186nm,1.0s,SNR=20
TUQ Turquoise Moun 38.84 98 ⇑P P 02 03 55.0 +0.4
baz=39,SNR=5.7
SNO Snow College 38.86 89 eP P 02 03 56.2 +1.2
G23A Biddle 38.92 77 ⇑P P 02 03 55.3 +0.1
baz=39,SNR=56
CCUT Cedar City 38.92 93 eP P 02 03 56.6 +1.1
comp=Z,100nm,2.0s
B26A Jensen Ranch, 38.97 71 ⇓P P 02 03 55.8 +0.2
baz=39,SNR=10
MVU Marysvale 38.98 91 eP P 02 03 56.9 +0.9
comp=Z,9.8nm,0.9s
HEC Hector,Ludlow 39.02 99 ⇓P P 02 03 57.2 +1.1
baz=39,SNR=8.7
D25A Fairfield 39.02 73 ⇓P P 02 03 56.5 +0.5
baz=39
I22A 9 Mile Ranch, 39.04 80 ⇓P P 02 03 56.6 +0.3
baz=39,SNR=26
TMUT Trail Mountain 39.07 89 eP P 02 03 57.0 +0.3
comp=Z,38nm,1.0s
BBRC Big Bear Solar 39.07 100 ⇑P P 02 03 57.7 +0.9
baz=39
F24A Ekalaka 39.10 76 ⇑P P 02 03 57.1 +0.4
baz=39,SNR=60
A27A Ledoux Ranch, 39.22 70 ⇓P P 02 03 57.8 +0.2
baz=39
H23A Clabaugh Cattl 39.28 78 ⇓P P 02 03 58.3 0.0
baz=39
J22A Midwest 39.33 80 ⇑P P 02 03 59.0 +0.3
baz=39
E25A Miller Ranch, 39.34 74 ⇑P P 02 03 59.3 +0.6
baz=39,SNR=40
K21A Alcova 39.34 82 ⇓P P 02 03 58.9 0.0
baz=39,SNR=71
C26A Wahner Farm, P 39.35 72 ⇑P P 02 03 59.0 +0.3
baz=39
MURC Murrieta 39.38 101 ⇑P P 02 04 00.3 +1.2
baz=39
G24A Alzada 39.41 77 ⇑P P 02 03 59.1 -0.2
baz=39,SNR=23
GMRC Granite Mounta 39.45 98 ⇑P P 02 04 00.5 +0.7
baz=39,SNR=10
B27A Peters Farms, 39.51 71 ⇑P P 02 04 00.4 +0.5
baz=39
LDFC Landfair 39.57 97 eP P 02 04 01.0 +0.2
comp=Z,146nm,1.4s
D26A Manning 39.59 73 ⇓P P 02 04 00.8 +0.1
baz=39
SRU San Rafael 39.59 89 eP P 02 04 01.6 +0.6
SRU pmax pmax
comp=Z,34nm,1.1s
SRU San Rafael 39.59 89 eP P 02 04 01.6 +0.6
comp=Z,34nm,1.1s
I23A Meade Ranch, G 39.60 79 ⇓P P 02 04 01.2 +0.3
baz=40,SNR=7.6
F25A Bowman 39.63 75 ⇓P P 02 04 01.6 +0.5
baz=40,SNR=16
H24A Dirks Ranch, A 39.67 77 ⇓P P 02 04 01.3 -0.2
baz=40,SNR=32
C27A Sayler Ranch, 39.74 72 ⇑P P 02 04 02.6 +0.6
baz=40
K22A Casper 39.76 81 eP P 02 04 02.2 -0.1
K22A Casper 39.76 81 ⇑P P 02 04 02.4 0.0
baz=40,SNR=28
A28A Rude Farm, Bot 39.79 69 ⇑P P 02 04 02.6 +0.3
baz=40,SNR=6.7
BELC Belle Mtn. Jos 39.80 99 ⇓P P 02 04 03.1 +0.4
baz=40,SNR=11
PFO Pinyon Flat Ob 39.80 100 eP P 02 04 03.0 +0.2
comp=Z,25nm,1.0s
PFO Pinyon Flat Ob 39.80 100 ⇑P P 02 04 03.8 +1.0
baz=40
PFO Pinyon Flat Ob 39.80 100 P P 02 04 03.0 +0.2
comp=Z,3.3nm,0.7s,baz=322,slow=7.1,SNR=6.5
N20A Spence Gulch, 39.84 85 ⇓P P 02 04 03.3 +0.2
baz=40,SNR=17
J23A Dilts Ranch, B 39.88 80 ⇓P P 02 04 03.9 +0.7
baz=40,SNR=18
E26A Carlson Angus 39.89 74 ⇑P P 02 04 03.5 +0.2
baz=40,SNR=17
H11N2 WAKE ISLAND Hy 39.97 223 T T 02 46 48.1
baz=28,slow=75
H11N3 WAKE ISLAND Hy 39.97 223 T T 02 46 41.8
baz=28,slow=75
B28A Dugan Ranch, T 39.98 70 ⇑P P 02 04 04.1 +0.2
baz=40,SNR=16
H11N1 WAKE ISLAND Hy 39.98 223 T T 02 46 42.7
baz=28,slow=75,SNR=7274
D27A Center 40.07 72 ⇓P P 02 04 04.9 +0.2
baz=40
G25A Newell 40.07 76 ⇑P P 02 04 05.0 +0.3
baz=40,SNR=26
F26A Lodgepole 40.12 75 ⇓P P 02 04 05.3 +0.1
baz=40,SNR=27
I24A Kuemmerle Ranc 40.15 79 ⇓P P 02 04 05.5 0.0
baz=40,SNR=18
IRM Iron Mountain 40.18 98 ⇑P P 02 04 06.8 +1.0
baz=40,SNR=8.7
L22A Ellis Ranch, M 40.19 82 ⇓P P 02 04 06.3 +0.4
baz=40,SNR=18
K23A Bowen Ranch, D 40.22 81 ⇑P P 02 04 06.3 +0.2
baz=40,SNR=26
W13A Hualapai Mount 40.27 96 ⇑P P 02 04 07.4 +0.7
baz=40
H25A Fruitdale 40.30 77 ⇓P P 02 04 06.8 +0.2
baz=40,SNR=41
O20A White River Ci 40.30 86 eP P 02 04 06.7 -0.2
O20A White River Ci 40.30 86 ⇑P P 02 04 07.1 +0.3
baz=40,SNR=37

U15A	North Rim	40.31	93	⇓P		P		02 04 07.8	+0.6
	baz=40,SNR=11								
RSSD	Black Hills	40.34	78	eP		P		02 04 06.9	-0.2
RSSD				pmax		pmax			
	comp=Z,13nm,0.9s								
RSSD	Black Hills	40.34	78	eP		P		02 04 06.9	-0.2
	comp=Z,13nm,0.9s								
MONP	Monument Peak	40.34	101	⇑P		P		02 04 07.8	+0.5
	baz=40								
BAR	Barrett	40.34	101	eP		P		02 04 07.7	+0.6
	comp=Z,48nm,1.3s								
A29A	Manning Farm,	40.36	69	⇑P		P		02 04 07.0	0.0
	baz=40,SNR=9.4								
BC3	Big Chuckawall	40.36	99	⇓P		P		02 04 07.8	+0.4
	baz=40								
C28A	Hausauer Farms	40.37	71	⇑P		P		02 04 07.5	+0.3
	baz=40,SNR=7.0								
E27A	Carson	40.42	73	⇓P		P		02 04 07.9	+0.2
	baz=40,SNR=24								
J24A	Dixon Ranch, L	40.44	79	⇑P		P		02 04 07.9	0.0
	baz=40,SNR=17								
M22A	Cedar Creek Ra	40.48	83	⇓P		P		02 04 08.5	+0.1
	baz=40,SNR=37								
F27A	Lemmon	40.48	74	⇓P		P		02 04 08.4	+0.2
	baz=40,SNR=22								
G26A	Maurine	40.48	75	⇑P		P		02 04 08.5	+0.4
	baz=40,SNR=44								
B29A	Wagenman Farm,	40.54	69	⇑P		P		02 04 08.4	-0.1
	baz=40								
D28A	Regan	40.56	72	⇓P		P		02 04 08.9	+0.2
	baz=40,SNR=16								
L23A	Garrett	40.57	81	⇓P		P		02 04 08.8	-0.3
	baz=40,SNR=67								
I25A	Rochford	40.57	78	⇑P		P		02 04 08.6	-0.5
	baz=40,SNR=11								
SWSC	Sam W. Stewart	40.67	100	⇑P		P		02 04 10.6	+0.9
	baz=41								
PDMCI	Parker Dam,Lak	40.68	97	⇓P		P		02 04 10.7	+0.9
	baz=41								
DVTC	Desert V Tower	40.69	101	⇑P		P		02 04 11.2	+1.2
	baz=41								
K24A	Anderson Ranch	40.72	80	⇑P		P		02 04 10.9	+0.6
	baz=41								
H26A	Fairpoint	40.78	76	⇑P		P		02 04 10.4	-0.2
	baz=41,SNR=10								
G27A	Dupree	40.82	75	⇑P		P		02 04 11.0	+0.1
	baz=41,SNR=42								
PV09	Paradox Valley	40.82	88	eP		P		02 04 11.5	+0.2
E28A	Huff	40.84	73	⇑P		P		02 04 11.1	+0.1
	baz=41,SNR=14								
Y12C	Blythe	40.84	98	⇓P		P		02 04 12.2	+1.0
	baz=41								
A30A	Hoffart Farm,	40.86	68	⇑P		P		02 04 11.2	0.0
	baz=41								
USRK	Ussuriysk Arra	40.89	283	P		P		02 04 09.5	-1.9
	comp=Z,3.5nm,0.7s,baz=45,slow=9.3,SNR=10								
USRK				PcP		PcP		02 06 11.6	+0.6
	comp=Z,11nm,1.0s,baz=68,slow=3.3,SNR=9.7								
USRK				LR		LR		02 20 50.7	
	comp=Z,624nm,20.9s,baz=52,slow=36								
J25A	Sunshine Ranch	40.91	79	⇓P		P		02 04 11.4	-0.3
	baz=41,SNR=10								
N22A	Wattenberg Ran	40.94	84	⇑P		P		02 04 12.3	+0.1
	baz=41,SNR=11								
M23A	Laramie	40.95	82	⇓P		P		02 04 12.1	-0.1
	baz=41,SNR=9.2								
PV10	Paradox Valley	40.95	88	eP		P		02 04 13.1	+0.7
PV04	Paradox Valley	41.02	88	eP		P		02 04 12.7	-0.1
L24A	Wheatland	41.06	81	⇓P		P		02 04 13.1	0.0
	baz=41								
I26A	New Underwood	41.07	77	⇓P		P		02 04 13.2	+0.1
	baz=41,SNR=12								
PV05	Paradox Valley	41.11	89	eP		P		02 04 13.8	+0.2
B30A	Myrvik Farm, E	41.12	69	⇓P		P		02 04 13.3	0.0
	baz=41,SNR=5.9								
H11S1	WAKE ISLAND Hy	41.15	222	T		T		02 48 13.1	
	baz=25,slow=77								
GLA	Glamis	41.16	99	eP		P		02 04 14.3	+0.5
GLA				pmax		pmax			
	comp=Z,12nm,1.3s								
GLA	Glamis	41.16	99	eP		P		02 04 14.3	+0.5
	comp=Z,12nm,1.3s								
GLA	Glamis	41.16	99	⇓P		P		02 04 14.7	+0.9
	baz=41,SNR=5.3								
H11S2	WAKE ISLAND Hy	41.16	222	T		T		02 48 16.4	
	baz=25,slow=77,SNR=7950								
H11S3	WAKE ISLAND Hy	41.16	222	T		T		02 48 08.5	
	baz=25,slow=77,SNR=6796								
H27A	Howes	41.17	76	⇑P		P		02 04 14.1	+0.3
	baz=41,SNR=6.0								
N23A	Red Feather La	41.18	83	⇑P		P		02 04 14.3	+0.1
	baz=41,SNR=20								
D29A	Pettibone, Tap	41.18	71	⇑P		P		02 04 13.9	+0.1
	baz=41								
F28A	McLaughlin	41.19	74	⇑P		P		02 04 14.3	+0.4
	baz=41,SNR=18								
PHWY	Pilot Hill	41.21	82	eP		P		02 04 13.8	-0.7
	comp=Z,10nm,0.9s								
PV15	Paradox Valley	41.31	88	eP		P		02 04 15.2	-0.1
K25A	Mack Ranch, Ha	41.34	80	⇓P		P		02 04 15.3	0.0
	baz=41,SNR=12								
J26A	Sides Ranch, S	41.38	78	⇓P		P		02 04 15.3	-0.2
	baz=41,SNR=12								
PV01	Paradox Valley	41.39	88	eP		P		02 04 15.8	-0.1
E29A	Napoleon	41.44	72	⇑P		P		02 04 16.0	+0.1
	baz=41								
C30A	Mose, Pekin	41.45	70	⇑P		P		02 04 16.1	0.0
	baz=41								
WUAZ	Wupatki	41.48	93	eP		P		02 04 17.4	+0.8
	comp=Z,33nm,0.9s								
WUAZ	Wupatki	41.48	93	⇓P		P		02 04 17.2	+0.7
	baz=41								
ULM	Lac du Bonnet	41.48	65	eP		P		02 04 15.5	-0.7
	comp=Z,17nm,0.9s								
ULM	Lac du Bonnet	41.48	65	P		P		02 04 15.5	-0.7
	comp=Z,9.5nm,0.8s,baz=304,slow=8.4,SNR=8.7								
M24A	Cheyenne	41.48	82	⇓P		P		02 04 16.8	+0.3
	baz=41								
I27A	Quinn	41.52	77	⇓P		P		02 04 16.7	0.0
	baz=41,SNR=29								
P22A	Eagle	41.52	85	⇑P		P		02 04 17.1	+0.2
	baz=41								
L25A	Engebretsen Ra	41.56	80	⇑P		P		02 04 17.4	+0.3
	baz=41,SNR=33								
G28A	Parade	41.58	75	⇓P		P		02 04 17.2	+0.1
	baz=41,SNR=11								
VLA	Vladivostok	41.60	282	⇓eP		P		02 04 15.4	-1.8
VLA				e				02 05 53.3	
VLA				S		S		02 10 29.2	+0.3
VLA				pmax		pmax			
	comp=Z,75nm,0.7s								
Y14A	Wickenburg	41.60	97	⇑P		P		02 04 17.9	+0.4
	baz=42								
O23A	Lake Granby, G	41.62	84	⇓P		P		02 04 18.3	+0.4
	baz=42,SNR=32								
D30A	Buchanan	41.63	71	⇓P		P		02 04 17.4	-0.1
	baz=42,SNR=17								
SMCO	Snowmass	41.66	86	eP		P		02 04 18.2	-0.1
	comp=Z,16nm,1.1s								
K26A	Motz Farm, Whi	41.69	79	⇑P		P		02 04 18.2	0.0
	baz=42								
H28A	Mission Ridge	41.75	75	⇓P		P		02 04 18.7	+0.1
	baz=42,SNR=9.2								
F29A	Eureka	41.76	73	⇑P		P		02 04 18.5	0.0
	baz=42,SNR=6.7								
N24A	Carr	41.85	82	⇑P		P		02 04 19.7	+0.2
	baz=42,SNR=10								
E30A	Jud	41.89	72	⇓P		P		02 04 19.1	-0.6
	baz=42,SNR=7.5								
M25A	Palm-Egli Farm	41.95	81	⇓P		P		02 04 20.9	+0.5
	baz=42,SNR=13								
113A	Mohawk Valley,	41.98	98	⇑P		P		02 04 21.1	+0.6
	baz=42,SNR=6.8								
MDJ	Mudanjiang	42.03	285	P		P		02 04 20.7	0.0
MDJ				pP		pP		02 04 36.0	+0.3
MDJ				sP		sP		02 04 43.1	+0.7
MDJ				ScS		ScS		02 14 11.2	-6.0
MDJ				pmax		pmax			
	comp=Z,7.0nm,1.3s								
MDJ				pmax		pmax			
	comp=Z,90nm,4.5s								
MDJ				LR		LR			
	comp=Z,390nm,16.4s								
MDJ				LR		LR			
	comp=Z,720nm,20.5s								
MDJ				LR		LR			
	comp=Z,750nm,23.6s								
J27A	Elkhorn Farm,	42.03	78	⇓P		P		02 04 20.9	0.0
	baz=42,SNR=11								
MVCO	Mesa Verde	42.04	89	eP		P		02 04 20.6	-0.6
	comp=Z,30nm,1.2s								
MVCO	Mesa Verde	42.04	89	⇓P		P		02 04 21.6	+0.3
	baz=42								
Z14A	Wintersburg	42.04	97	⇓P		P		02 04 22.0	+1.0
	baz=42								
MAJO	Matsushiro	42.06	269	eP		P		02 04 21.4	+0.3
MAJO				pmax		pmax			
	comp=Z,50nm,1.2s								
MAJO	Matsushiro	42.06	269	eP		P		02 04 21.4	+0.3
	comp=Z,50nm,1.2s								
MAT	Matsushiro	42.06	269	P		P		02 04 20.8	-0.3
MAT				S		S		02 10 38.2	+2.2
ISCO	Idaho Springs	42.07	84	eP		P		02 04 21.7	+0.2
ISCO				pmax		pmax			
	comp=Z,12nm,1.0s								
ISCO	Idaho Springs	42.07	84	eP		P		02 04 21.7	+0.2
	comp=Z,12nm,1.0s								
ISCO	Idaho Springs	42.07	84	⇓P		P		02 04 21.8	+0.3
	baz=42								
I28A	Midland	42.07	76	⇑P		P		02 04 21.3	+0.2
	baz=42,SNR=42								
G29A	Hoven	42.08	74	⇓P		P		02 04 21.0	-0.1
	baz=42,SNR=12								
L26A	Underwood Farm	42.15	80	⇑P		P		02 04 22.4	+0.4
	baz=42,SNR=6.5								
O24A	Longmont	42.18	83	⇓P		P		02 04 22.8	+0.6
	baz=42,SNR=8.2								
X16A	Lo Mia Camp, P	42.19	95	⇓P		P		02 04 23.4	+0.9
	baz=42,SNR=10								
P23A	Jefferson	42.21	85	⇑P		P		02 04 23.3	+0.7
	baz=42,SNR=17								
F30A	Leola	42.21	73	⇓P		P		02 04 22.7	+0.4
	baz=42								
K27A	Flueckinger Fa	42.23	78	⇑P		P		02 04 23.1	+0.5
	baz=42,SNR=15								
H29A	Onida	42.25	75	⇓P		P		02 04 22.8	+0.3
	baz=42,SNR=20								
J28A	Allard Ranch,	42.38	77	⇑P		P		02 04 24.0	+0.3
	baz=42,SNR=34								
M26A	McRoberts Ranc	42.47	80	⇑P		P		02 04 24.7	+0.2
	baz=42								
Q23A	Hartsel	42.51	85	⇓P		P		02 04 25.5	+0.3
	baz=42,SNR=36								
I29A	Vivian Onida	42.56	76	⇑P		P		02 04 25.2	+0.1
	baz=42,SNR=23								
G30A	Faulkton	42.56	74	⇓P		P		02 04 25.1	0.0
	baz=42,SNR=31								
AGMN	Agassiz Nation	42.57	68	eP		P		02 04 24.3	-0.7
	comp=Z,122nm,1.6s								
L27A	T5 Ranch, Ells	42.57	79	⇓P		P		02 04 25.2	-0.1
	baz=42								
S22A	4UR Ranch, Cre	42.68	87	⇑P		P		02 04 27.7	+1.2
	baz=43,SNR=15								
K28A	Ten Mile Ranch	42.73	78	⇓P		P		02 04 27.0	+0.4
	baz=43,SNR=26								
O25A	Wiggins	42.75	83	⇓P		P		02 04 27.4	+0.6
	baz=43,SNR=6.7								
N26A	Koester Ranch,	42.82	81	⇑P		P		02 04 28.1	+0.7
	baz=43,SNR=7.1								
M27A	Reverse DX Ran	42.87	80	⇑P		P		02 04 28.1	+0.3
	baz=43								
Q24A	Divide	42.88	85	⇓P		P		02 04 28.7	+0.6
	baz=43,SNR=9.6								
J29A	Okreek	42.91	76	⇓P		P		02 04 28.3	+0.3
	baz=43,SNR=63								
R23A	Moffat	42.98	86	⇓P		P		02 04 29.3	+0.4
	baz=43,SNR=9.0								
X18A	Snowflake	43.00	93	⇑P		P		02 04 29.6	+0.6
	baz=43,SNR=7.2								
BRSD	Miller	43.08	74	eP		P		02 04 29.1	-0.2
BRSD	Miller	43.08	74	⇓P		P		02 04 29.4	+0.1
	baz=43,SNR=22								
L28A	Connealy Angus	43.08	79	⇓P		P		02 04 29.4	-0.1
	baz=43								
P25A	Willow Gulch B	43.11	83	⇓P		P		02 04 30.3	+0.6
	baz=43,SNR=37								
I30A	Oacoma	43.12	75	⇑P		P		02 04 29.7	0.0
	baz=43,SNR=7.0								
214A	Organ Pipe Nat	43.13	98	⇓P		P		02 04 30.6	+0.8
	baz=43,SNR=5.6								
O26A	Horse Wrangler	43.14	82	⇓P		P		02 04 30.3	+0.3
	baz=43,SNR=16								
S23A	Nye Farm, Mont	43.20	87	⇑P		P		02 04 31.6	+0.9
	baz=43								
N27A	Anderson Farm,	43.24	81	⇓P		P		02 04 31.0	+0.2
	baz=43,SNR=9.3								
K29A	Lazy Trails An	43.31	77	⇓P		P		02 04 31.4	+0.1
	baz=43,SNR=42								
R24A	Sanders Place,	43.38	85	⇓P		P		02 04 32.4	+0.3
	baz=43,SNR=10								
J30A	Dallas	43.45	76	⇓P		P		02 04 32.3	0.0
	baz=43,SNR=54								
Q25A	Bedland, Calha	43.45	84	⇑P		P		02 04 32.9	+0.3
	baz=43,SNR=21								
OGNE	Ogallala	43.45	80	⇓P		P		02 04 32.9	+0.4
	baz=43								
SDCO	Great Sand Dun	43.47	86	eP		P		02 04 33.3	+0.4
	comp=Z,24nm,1.1s								
M28A	Bar X Bar Ranc	43.55	79	⇓P		P		02 04 33.5	+0.3
	baz=43,SNR=5.3								
P26A	Davis Ranch, A	43.56	83	⇑P		P		02 04 34.0	+0.6
	baz=43,SNR=42								
U22A	Llaves	43.58	89	⇓P		P		02 04 34.2	+0.5
	baz=44,SNR=11								
T23A	Casias Ranch,	43.62	88	⇓P		P		02 04 34.5	+0.4
	baz=44,SNR=7.3								
L29A	Maesberg Ranch	43.65	78	⇑P		P		02 04 33.8	-0.2
	baz=44								
O27A	Becher Island	43.67	81	⇓P		P		02 04 34.6	+0.4
	baz=44,SNR=5.6								
S24A	Houchin Ranch,	43.71	86	⇑P		P		02 04 35.4	+0.6
	baz=44,SNR=26								
K30A	Basset	43.78	77	⇑P		P		02 04 35.5	+0.5
	baz=44,SNR=32								
V22A	San Miguel Ran	43.86	89	⇓P		P		02 04 36.1	+0.2
	baz=44,SNR=5.8								
Q26A	Hugo	43.87	84	⇓P		P		02 04 36.5	+0.6
	baz=44,SNR=12								
N28A	Pribbeno Ranch	43.90	80	⇓P		P		02 04 36.5	+0.4
	baz=44								
M29A	Burnside Ranch	43.92	79	⇓P		P		02 04 36.3	+0.2
	baz=44,SNR=14								
R25A	Fountain Ranch	43.93	85	⇓P		P		02 04 36.9	+0.5
	baz=44,SNR=13								
T24B	San Luis	43.99	87	⇓P		P		02 04 37.5	+0.4
	baz=44								
U23A	El Rito	44.01	88	⇑P		P		02 04 37.6	+0.5
	baz=44,SNR=26								
P27A	Ficken Ranch,	44.02	82	⇑P		P		02 04 37.4	+0.3
	baz=44,SNR=13								
TUC	Tucson	44.07	96	eP		P		02 04 38.1	+0.6
TUC				pmax		pmax			
	comp=Z,26nm,1.1s								
TUC	Tucson	44.07	96	eP		P		02 04 38.1	+0.6
	comp=Z,26nm,1.1s								
O28A	Krutsinger Ran	44.12	81	⇓P		P		02 04 38.0	+0.2
	baz=44,SNR=6.3								
S25A	Robets Cordova	44.16	86	⇑P		P		02 04 38.5	+0.2
	baz=44,SNR=21								
L30A	Spencer Herefo	44.17	78	⇑P		P		02 04 38.1	0.0
	baz=44,SNR=14								
R26A	Arlington	44.32	84	⇓P		P		02 04 40.0	+0.5
	baz=44,SNR=23								
M30A	Dale-Ortello V	44.34	78	⇓P		P		02 04 39.6	+0.2
	baz=44,SNR=9.4								
KSCO	Kaye Shedlock'	44.34	83	eP		P		02 04 40.3	+0.6
KSCO	Kaye Shedlock'	44.34	83	⇑P		P		02 04 40.1	+0.5
	baz=44,SNR=32								
N29A	Votaw Ranch, W	44.35	79	⇓P		P		02 04 39.7	+0.1
	baz=44,SNR=12								
Y20A	Horse Springs,	44.37	93	⇓P		P		02 04 40.8	+0.8
	baz=44,SNR=9.5								
V23A	Ortiz Mt. (NFS	44.41	89	⇑P		P		02 04 41.0	+0.7
	baz=44								
P28A	Saint Francis	44.49	82	⇓P		P		02 04 41.1	+0.3
	baz=44,SNR=24								
U24A	Moreno Valley	44.49	88	⇓P		P		02 04 41.6	+0.5
	baz=44								
T25A	Trinidad	44.52	86	⇑P		P		02 04 41.7	+0.5
	baz=44,SNR=23								
L31A	Butterfield Fa	44.54	77	⇑P		P		02 04 41.3	+0.3
	baz=44,SNR=14								
N30A	Hueftle Ranch,	44.67	79	⇑P		P		02 04 42.5	+0.3
	baz=44								
O29A	4D Ranch, Culb	44.70	80	⇑P		P		02 04 42.6	+0.2
	baz=44,SNR=13								
R27A	Eads	44.72	84	⇑P		P		02 04 43.0	+0.4
	baz=45,SNR=34								
Y21A	Point of Rocks	44.72	92	⇑P		P		02 04 43.8	+1.0
	baz=45,SNR=8.5								
S26A	Kim	44.76	85	⇓P		P		02 04 43.2	+0.3
	baz=45,SNR=31								
LAZ	Ladron	44.76	91	eP		P		02 04 43.7	+0.6
Q28A	Sharon Springs	44.78	82	⇑P		P		02 04 43.2	+0.1
	baz=45,SNR=23								
ANMO	Albuquerque	44.79	90	eP		P		02 04 43.6	+0.3
	comp=Z,14nm,0.9s								
W23A	Werner Place,	44.83	90	⇓P		P		02 04 44.2	+0.6
	baz=45								
ECSD	EROS Data Cent	44.85	74	eP		P		02 04 42.5	-1.0
	comp=Z,40nm,0.9s								
CN2	Changchun	44.89	287	eP		P		02 04 43.1	-0.7
CN2				eSP		sP		02 05 05.7	+0.1
CN2				ePP		PP		02 06 29.4	+0.1
CN2				eS		S		02 11 15.4	-1.7
CN2				eSS		ScS		02 14 28.5	-6.7
CN2				pmax		pmax			
	comp=Z,40nm,0.6s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=Z,800nm,17.0s								
CN2				LR		LR			
	comp=Z,800nm,17.0s								
CN2				LR		LR			
	comp=Z,800nm,19.0s								
P29A	Atwood	44.95	81	⇑P		P		02 04 44.9	+0.5
	baz=45								
V24A	Rampart Ranch,	44.96	88	⇓P		P		02 04 45.1	+0.4
	baz=45,SNR=16								
M31A	Lambtecht Ranc	44.98	78	⇑P		P		02 04 44.6	0.0
	baz=45,SNR=5.9								
T26A	Comanche Natio	44.98	85	⇑P		P		02 04 44.9	+0.1
	baz=45,SNR=18								
U25A	Circle Dot Ran	45.02	87	⇑P		P		02 04 45.3	+0.1
	baz=45,SNR=25								
LENM	Lemitar	45.02	91	eP		P		02 04 45.9	+0.7
S27A	Las Animas	45.05	84	⇓P		P		02 04 45.5	+0.1
	baz=45,SNR=13								
O30A	MW Ranch, Wils	45.09	80	⇑P		P		02 04 46.2	+0.7
	baz=45								
LPM	Los Pinos Moun	45.12	91	eP		P		02 04 46.5	+0.5
120A	U Bar Ranch, L	45.17	94	⇑P		P		02 04 47.4	+1.1
	baz=45								
Y22A	Socorro	45.19	91	⇑P		P		02 04 47.5	+1.1
	baz=45								
Z21A	St. Cloud Mine	45.21	93	⇓P		P		02 04 47.5	+0.8
	baz=45,SNR=8.7								
W24A	Lazy 6 Ranch,	45.23	89	⇑P		P		02 04 47.3	+0.4
	baz=45,SNR=8.7								
BNM	Barren Site	45.24	91	eP		P		02 04 47.5	+0.6
R28A	Tribune	45.26	83	⇓P		P		02 04 47.2	+0.3
	baz=45,SNR=20								
V25A	Rancho No Teng	45.28	88	⇓P		P		02 04 47.7	+0.5
	baz=45,SNR=10								
N31A	Bailey Ranch,	45.33	78	⇑P		P		02 04 47.5	+0.2
	baz=45,SNR=5.7								
Q29A	Oakley	45.39	82	⇓P		P		02 04 48.2	+0.2
	baz=45,SNR=17								
P30A	Selden	45.40	81	⇑P		P		02 04 48.1	+0.2
	baz=45,SNR=39								
U26A	Atchley Ranch,	45.42	86	⇑P		P		02 04 48.9	+0.6
	baz=45,SNR=22								
BGNE	Belgrade	45.42	77	eP		P		02 04 47.8	-0.2
BGNE	Belgrade	45.42	77	⇓P		P		02 04 48.1	0.0
	baz=45,SNR=24								
O31A	Woolen Ranch,	45.54	79	⇓P		P		02 04 49.0	0.0
	baz=45,SNR=13								
T27A	Campo	45.58	85	⇓P		P		02 04 49.5	0.0
	baz=45,SNR=11								
R29A	Marienthal	45.60	82	⇑P		P		02 04 49.7	+0.1
	baz=46,SNR=11								
319A	Douglas	45.63	96	⇓P		P		02 04 50.8	+0.9
	baz=46								
Z22A	Elephant Butte	45.66	92	⇑P		P		02 04 50.9	+0.6
	baz=46,SNR=5.8								
121A	Cookes Peak, D	45.69	94	⇑P		P		02 04 50.9	+0.4
	baz=46,SNR=7.0								
220A	Playas Peak, P	45.70	95	⇓P		P		02 04 51.1	+0.6
	baz=46,SNR=14								
S28A	Manter	45.71	84	⇑P		P		02 04 50.6	+0.2
	baz=46,SNR=25								
Y23A	Lovelace Mesa,	45.73	91	⇑P		P		02 04 51.2	+0.4
	baz=46,SNR=11								
N32A	Stulken Farm,	45.75	78	⇓P		P		02 04 50.5	-0.2
	baz=46,SNR=7.2								
Q30A	Quinter	45.78	81	⇑P		P		02 04 51.2	+0.2
	baz=46,SNR=16								
W25A	X Bar L Ranch,	45.79	88	⇓P		P		02 04 51.5	+0.2
	baz=46,SNR=17								
V26A	Tequesquite Ra	45.80	87	⇓P		P		02 04 51.5	+0.2
	baz=46,SNR=34								
T28A	Walsh	45.90	84	⇑P		P		02 04 52.1	+0.2
	baz=46,SNR=21								
P31A	Stockton	45.92	80	⇑P		P		02 04 52.0	0.0
	baz=46,SNR=20								
U27A	Thompson Grove	45.94	86	⇑P		P		02 04 52.2	-0.2
	baz=46,SNR=17								
122A	Conniff Cattle	46.04	93	⇓P		P		02 04 53.8	+0.7
	baz=46								
221A	Mesquite Ranch	46.06	94	⇑P		P		02 04 53.8	+0.5
	baz=46								
SPMN	St. Paul	46.08	70	⇑P		P		02 04 52.6	-0.5
	baz=46								
O32A	Brockman Farm,	46.08	78	⇓P		P		02 04 52.9	-0.4
	baz=46,SNR=9.4							

W28A Vega 47.10 86 ⇓P P 02 05 01.4 0.0
baz=47
S31A Mullinville 47.11 82 ⇑P P 02 05 01.2 -0.2
baz=47,SNR=13
U30A WK&E Inc. Balk 47.16 84 ⇓P P 02 05 01.4 -0.4
baz=47,SNR=8.1
Q33A Connelly Farm, 47.17 79 ⇑P P 02 05 01.4 -0.4
baz=47,SNR=22
SNY Shenyang 47.20 286 ⇓P P 02 05 03.0 +1.1
SNY pmax pmax
comp=Z,31nm,1.1s
SNY pmax pmax
comp=Z,200nm,3.9s
SNY LR LR
comp=Z,520nm,21.0s
SNY LR LR
comp=Z,620nm,22.8s
SNY LR LR
comp=Z,700nm,21.6s
T31A Randall Ranch, 47.35 83 ⇓P P 02 05 02.9 -0.3
baz=47,SNR=14
224A Cornudas Mount 47.36 92 ⇓P P 02 05 03.6 +0.1
baz=47,SNR=17
S32A Newby Ranch, P 47.38 81 ⇓P P 02 05 03.3 -0.2
baz=47
Z26A Caprock 47.43 90 ⇓P P 02 05 03.8 -0.1
baz=47
125A Gardner Draw, 47.46 91 ⇑P P 02 05 04.4 +0.1
baz=47
Y27A Causey 47.49 88 ⇓P P 02 05 04.2 -0.2
baz=47,SNR=10
W29A Amarillo 47.53 86 ⇑P P 02 05 04.6 -0.1
baz=47
R33A Olander Ranch, 47.54 80 ⇓P P 02 05 04.4 -0.2
baz=47,SNR=15
KSRS Korea Array 47.55 278 P P 02 05 05.2 +0.5
comp=Z,18nm,0.9s,baz=55,slow=7.2,SNR=29
KSRS PcP PcP 02 06 34.5 +0.7
comp=Z,12nm,0.9s,baz=53,slow=3.9,SNR=7.2
KSRS LR LR 02 26 04.6
comp=Z,212nm,18.5s,baz=53,slow=37
KS01 Wonju Array Si 47.55 278 eP P 02 05 04.8 +0.1
KS01 ePcP PcP 02 06 34.5 +0.7
KS15 Wonju Array Si 47.58 278 eP P 02 05 05.2 +0.2
KS15 ePcP PcP 02 06 34.5 +0.6
X28A Dimmitt 47.62 87 ⇑P P 02 05 05.5 0.0
baz=48
V30A Spur Ranch, Mi 47.66 85 ⇑P P 02 05 05.8 +0.1
baz=48
MSTX Muleshoe 47.66 88 eP P 02 05 05.2 -0.6
MSTX Muleshoe 47.66 88 ⇓P P 02 05 05.7 -0.1
baz=48,SNR=7.6
AMTX Amarillo 47.67 86 ⇓P P 02 05 05.9 0.0
baz=48
MNTX Cornudas Mount 47.71 92 eP P 02 05 06.9 +0.8
comp=Z,37nm,1.4s
T32A Huddler Ranch, 47.74 82 ⇓P P 02 05 05.9 -0.3
baz=48,SNR=7.5
U31A Nine Bar Ranch 47.74 83 ⇑P P 02 05 06.3 0.0
baz=48,SNR=7.3
225A Deer Hill, Car 47.75 91 ⇑P P 02 05 06.8 +0.2
baz=48,SNR=13
KSU1 Kansas State U 47.81 78 eP P 02 05 05.8 -0.9
comp=Z,49nm,0.8s
324A Moseley Ranch, 47.83 93 ⇓P P 02 05 07.5 +0.3
baz=48
126A Clayton Basin, 47.85 90 ⇓P P 02 05 07.3 +0.1
baz=48,SNR=13
Z27A Tatum 47.85 89 ⇑P P 02 05 06.9 -0.4
baz=48,SNR=7.4
SCIA State Center 47.94 73 eP P 02 05 07.3 -0.4
comp=Z,72nm,1.0s
X29A Tulia 47.97 87 ⇑P P 02 05 08.1 0.0
baz=48
S33A Kaszmaul Farm, 48.00 81 ⇓P P 02 05 07.9 -0.3
baz=48
Y28A McKinney Farm, 48.01 88 ⇑P P 02 05 08.3 -0.2
baz=48
W30A Crocket Farms 48.12 85 ⇓P P 02 05 09.0 -0.3
baz=48
DAG Danmarks Havn 48.13 10 *i* P P 02 05 08.9 +0.2
DAG pmax pmax
comp=Z,38nm,0.9s
DAG Danmarks Havn 48.13 10 *i* P P 02 05 08.9 +0.2
comp=Z,45nm,0.9s
V31A Spring Creek L 48.15 84 ⇑P P 02 05 09.3 -0.1
baz=48,SNR=10
226B Tecolote Peak, 48.16 91 ⇓P P 02 05 09.6 -0.1
baz=48,SNR=11
T33A Patterson Ranc 48.20 82 ⇓P P 02 05 09.3 -0.5
baz=48
U32A Winter Ranch, 48.24 83 ⇑P P 02 05 09.6 -0.5
baz=48
Z28A Tucker Farm, M 48.37 88 ⇓P P 02 05 11.0 -0.2
baz=48,SNR=6.4
Y29A Porterfield Fa 48.39 87 ⇑P P 02 05 11.1 -0.3
baz=48,SNR=7.6
X30A Coker Ranch, T 48.46 86 ⇓P P 02 05 11.6 -0.2
baz=48,SNR=6.3
W31A Holland Ranch, 48.49 85 ⇑P P 02 05 12.1 0.0
baz=48,SNR=7.0
425A Indio Mountain 48.60 93 ⇓P P 02 05 13.6 +0.6
baz=48,SNR=18
TJN Taejon 48.60 278 *i* P P 02 05 13.8 +0.9
V32A Arapaho 48.66 84 ⇓P P 02 05 13.4 0.0
baz=48
227A Bennet, Jal 48.73 90 ⇑P P 02 05 14.0 +0.1
baz=49
JNU Nakatsue 48.78 272 eP P 02 05 15.0 +0.7
comp=Z,121nm,1.2s
JNU Nakatsue 48.78 272 P P 02 05 14.7 +0.4
comp=Z,69nm,1.0s,baz=43,slow=5.2,SNR=11
JNU LR LR 02 24 22.0
comp=Z,567nm,21.4s,baz=55,slow=34
128A Castleberry Fa 48.78 89 ⇑P P 02 05 14.4 0.0
baz=49,SNR=25
Z29A Hungry Hill Ra 48.79 88 ⇑P P 02 05 14.2 -0.2
baz=49,SNR=12
326A Caldwell Ranch 48.82 92 ⇓P P 02 05 14.5 -0.2
baz=49
SUMG Summit 48.82 19 *i* P P 02 05 15.0 +0.5
SUMG pmax pmax
comp=Z,40nm,0.9s
SUMG Summit 48.82 19 *i* P P 02 05 15.0 +0.5
comp=Z,40nm,0.9s
SUMG Summit 48.82 19 eP P 02 05 14.8 +0.3
comp=Z,88nm,1.2s
Y30A Stafford Cattl 48.84 87 ⇓P P 02 05 14.7 -0.1
baz=49
X31A McDonald Ranch 48.86 85 ⇓P P 02 05 14.4 -0.4
baz=49
W32A Sentinel 48.95 84 ⇑P P 02 05 15.4 -0.2
baz=49,SNR=12
JFWS Jewell Farm 48.96 70 eP P 02 05 13.8 -1.7
JFWS pmax pmax
comp=Z,36nm,0.9s
JFWS Jewell Farm 48.96 70 eP P 02 05 13.8 -1.7
comp=Z,36nm,0.9s
V33A Lossen Ranch, 49.04 83 ⇑P P 02 05 15.5 -0.8
baz=49
U34A Anderson Ranch 49.06 82 ⇑P P 02 05 15.7 -0.7
baz=49,SNR=15
228A UT Block 9, Go 49.07 90 ⇓P P 02 05 16.6 0.0
baz=49
Z30A Sanderson Ranc 49.12 87 ⇑P P 02 05 16.5 -0.4
baz=49,SNR=13
129A Stewart Farms, 49.14 89 ⇑P P 02 05 16.9 -0.3
baz=49,SNR=6.9
Y31A Rekieta Farm, 49.16 86 ⇑P P 02 05 16.8 -0.4
baz=49
426A McDonald Obser 49.25 92 ⇑P P 02 05 18.3 +0.1
baz=49,SNR=9.9
W33A Caddo, Fort Co 49.39 84 ⇑P P 02 05 18.7 -0.2
baz=49,SNR=6.5
X32A Elmer 49.41 85 ⇓P P 02 05 19.1 -0.1
baz=49,SNR=8.0
328A Wristen Ranch, 49.47 91 ⇓P P 02 05 19.3 -0.3
baz=49,SNR=6.6
V34A Guthrie 49.48 82 ⇑P P 02 05 19.1 -0.5
baz=49,SNR=6.9
WMOK Wichita Mounta 49.49 84 eP P 02 05 19.6 -0.1
WMOK pmax pmax
comp=Z,34nm,1.0s
WMOK Wichita Mounta 49.49 84 eP P 02 05 19.6 -0.1
comp=Z,34nm,1.0s
427A Hayter Ranch, 49.50 91 ⇓P P 02 05 19.7 -0.2
baz=49,SNR=7.2
Y32A R-V Farms, Ver 49.61 85 ⇑P P 02 05 20.4 -0.3
baz=50,SNR=10
229A Bryant Ranch, 49.64 89 ⇓P P 02 05 20.7 -0.2
baz=50
526A Mary Lane Ranc 49.66 93 ⇓P P 02 05 21.1 -0.1
baz=50,SNR=14
Z31A Sharp Cattle R 49.68 87 ⇑P P 02 05 20.8 -0.4
baz=50,SNR=7.1
130A Snyder 49.70 88 ⇓P P 02 05 21.0 -0.4
baz=50
W34A Bridge Creek, 49.75 83 ⇑P P 02 05 21.3 -0.4
baz=50,SNR=5.1
X33A Lawton 49.80 84 ⇑P P 02 05 21.4 -0.6
baz=50
527A Woodward Ranch 49.88 92 ⇓P P 02 05 22.5 -0.3
baz=50,SNR=11
329A Wagon Wheel Ra 49.88 90 ⇑P P 02 05 22.5 -0.3
baz=50,SNR=10
131A Roby 49.99 87 ⇓P P 02 05 23.1 -0.4
baz=50,SNR=8.5
626A Big Bend Ranch 50.00 93 ⇑P P 02 05 23.7 0.0
baz=50,SNR=21
428A Kincaid Ranch, 50.01 91 ⇓P P 02 05 23.7 -0.1
baz=50,SNR=14
Z32A Haskell 50.08 86 ⇓P P 02 05 23.8 -0.4
baz=50,SNR=19
Y33A Hilltop Ranch, 50.09 85 ⇓P P 02 05 24.1 -0.2
baz=50
230A Sterling City 50.11 89 ⇓P P 02 05 24.2 -0.3
baz=50,SNR=11
X34A Smith Ranch, M 50.15 84 ⇓P P 02 05 24.7 0.0
baz=50,SNR=5.4
SFJD Kangerlussuaq 50.16 28 *i* P P 02 05 23.7 -0.5
comp=Z,19nm,1.0s
SFJD Kangerlussuaq 50.16 28 eP P 02 05 24.6 +0.3
comp=Z,56nm,1.1s
528A Cox Ranch, San 50.36 92 ⇑P P 02 05 26.4 -0.1
baz=50,SNR=6.0
330A Mertzon 50.42 89 ⇓P P 02 05 26.4 -0.5
baz=50,SNR=6.5
LTX Lajitas 50.44 93 eP P 02 05 27.0 0.0
LTX Lajitas 50.44 93 eP P 02 05 27.0 0.0
TX31 Lajitas Ar. Si 50.44 93 eP P 02 05 26.8 -0.3
TXAR Lajitas Array 50.44 93 P P 02 05 27.0 0.0
comp=Z,15nm,0.8s,baz=301,slow=5.7,SNR=145
TXAR ScP ScP 02 10 37.7 +2.5
comp=Z,2.9nm,1.1s,baz=299,slow=5.2,SNR=6.6
TXAR LR LR 02 24 20.5
comp=Z,562nm,19.6s,baz=35,slow=33
TUL1 Tulsa 50.45 81 eP P 02 05 26.0 -0.9
comp=Z,38nm,0.9s
TUL1 Tulsa 50.45 81 ⇑P P 02 05 26.2 -0.7
baz=50,SNR=7.2
ABTX Abilene, Hawle 50.47 87 eP P 02 05 26.9 -0.2
ABTX Abilene, Hawle 50.47 87 ⇑P P 02 05 26.7 -0.4
baz=50,SNR=12
627A Terlingua Ranc 50.52 93 ⇑P P 02 05 27.5 -0.1
baz=50,SNR=19
Z33A Whitaker Ranch 50.52 86 ⇓P P 02 05 26.8 -0.6
baz=50,SNR=9.8
231A Bronte 50.55 88 ⇑P P 02 05 27.2 -0.6
baz=50
429A Davenport Ranc 50.55 90 ⇑P P 02 05 27.3 -0.5
baz=50,SNR=7.7
Y34A Reagan Ranch, 50.64 84 ⇓P P 02 05 28.1 -0.3
baz=50,SNR=15
529A Stev Forest Ra 50.72 91 ⇓P P 02 05 28.9 -0.3
baz=51,SNR=16
628A Black Gap, Mar 50.79 92 ⇓P P 02 05 29.5 -0.1
baz=51,SNR=26
430A Baggett Ranch, 50.83 90 ⇓P P 02 05 29.6 -0.3
baz=51,SNR=6.2
133A Hamilton Ranch 50.91 86 ⇓P P 02 05 30.1 -0.4
baz=51,SNR=17
331A San Angelo 50.94 89 ⇑P P 02 05 30.3 -0.4
baz=51,SNR=7.0
Z34A Collier Ranch, 50.96 85 ⇓P P 02 05 30.4 -0.4
baz=51,SNR=9.5
232A Coleman 50.98 88 ⇓P P 02 05 30.8 -0.2
baz=51
HDIL Hopedale 51.05 72 eP P 02 05 30.6 -0.8
comp=Z,153nm,0.8s
530A J-C Ranch, Com 51.23 90 ⇑P P 02 05 32.8 -0.1
baz=51,SNR=16
431A Sonora 51.28 89 ⇑P P 02 05 32.7 -0.6
baz=51,SNR=17
332A Millersview 51.29 88 ⇑P P 02 05 32.8 -0.6
baz=51,SNR=9.0
Z35A Perchaven, San 51.38 84 ⇓P P 02 05 33.8 -0.2
baz=51
134A White-Moore Ra 51.43 86 ⇑P P 02 05 34.0 -0.4
baz=51,SNR=9.3
432A Menard 51.62 89 ⇓P P 02 05 35.2 -0.7
baz=52,SNR=8.1
531A Rocksprings 51.69 90 ⇑P P 02 05 35.8 -0.5
baz=52,SNR=10
333A Richland Sprin 51.78 88 ⇑P P 02 05 36.3 -0.7
baz=52,SNR=9.8
135A Vickery Place, 51.84 85 ⇑P P 02 05 37.1 -0.3
baz=52
JCT Junction City 51.90 89 eP P 02 05 37.0 -0.9
JCT pmax pmax
comp=Z,124nm,1.4s
JCT Junction City 51.90 89 eP P 02 05 37.0 -0.9
comp=Z,124nm,1.4s
JCT Junction City 51.90 89 ⇓P P 02 05 37.6 -0.3
baz=52
532A Rocksprings 52.10 89 ⇓P P 02 05 39.2 -0.2
baz=52
433A Art 52.13 88 ⇓P P 02 05 39.0 -0.6
baz=52,SNR=12
WHTX Lake Whitney 52.21 86 eP P 02 05 40.6 +0.4
WHTX Lake Whitney 52.21 86 ⇓P P 02 05 39.9 -0.2
baz=52,SNR=6.9
631A Perdido Creek 52.22 90 ⇑P P 02 05 39.7 -0.6
baz=52,SNR=9.5
334A Lometa 52.22 87 ⇓P P 02 05 39.8 -0.5
baz=52,SNR=15
ULN Ulaanbaatar 52.26 302 P P 02 05 40.9 +0.4
SNR=9.3
ULN Ulaanbaatar 52.26 302 mb 02 05 41.9
SNR=36
ULN Ulaanbaatar 52.26 302 P P 02 05 40.3 -0.2
comp=Z,47nm,0.8s,comp=Z,525nm
ULN Ulaanbaatar 52.26 302 eP P 02 05 40.8 +0.3
comp=Z,59nm,1.2s
SFIN Scholer Farm 52.41 71 eP P 02 05 40.6 -0.9
SFIN Scholer Farm 52.41 71 ⇓P P 02 05 40.3 -1.2
baz=52,SNR=10
ZAK Zakamensk 52.45 306 ⇑*i* P P 02 05 42.2 +0.4
ZAK *e* 02 06 53.2
ZAK pmax pmax
comp=Z,16nm,1.3s
434A Burnet 52.57 87 ⇑P P 02 05 42.6 -0.3
baz=52,SNR=19
BJI Beijing 52.59 289 P P 02 05 42.7 -0.1
BJI pmax pmax
comp=Z,31nm,0.6s
BJI pmax pmax
comp=Z,210nm,6.9s
BJI LR LR
comp=Z,850nm,21.6s
BJI LR LR
comp=Z,800nm,19.7s
BJI LR LR
comp=Z,1μm,21.6s
SONA1 Songino Array 52.60 302 eP P 02 05 43.1 +0.1
SONA0 Songino Array 52.61 302 eP P 02 05 43.5 +0.4
SONA0 ePcP PcP 02 06 53.3 +0.9
SONM Songino Array 52.61 302 P P 02 05 43.5 +0.4
comp=Z,31nm,1.0s,baz=50,slow=7.1,SNR=80
SONM PcP PcP 02 06 53.3 +0.9
comp=Z,9.6nm,0.8s,baz=65,slow=2.5,SNR=6.8
SONM ScP ScP 02 10 48.1 +3.7
comp=Z,1.9nm,0.8s,baz=65,slow=4.4,SNR=6.7
SONM LR LR 02 31 01.0
comp=Z,828nm,18.7s,baz=23,slow=39
533A Kerrville 52.66 89 ⇓P P 02 05 43.0 -0.5
baz=52,SNR=6.0
MOY Mondy 52.68 309 eP P 02 05 43.4 -0.1
MIAR Mount Ida 52.70 81 eP P 02 05 42.9 -0.8
MIAR pmax pmax
comp=Z,59nm,1.1s
MIAR Mount Ida 52.70 81 eP P 02 05 42.9 -0.8
comp=Z,59nm,1.1s
SCHQ Schefferville 52.87 46 eP P 02 05 47.2 +2.5
comp=Z,370nm,2.1s
SCHQ Schefferville 52.87 46 P P 02 05 45.4 +0.7
comp=Z,13nm,0.9s,baz=304,slow=10,SNR=11
SCHQ LR LR 02 27 58.8
comp=Z,1μm,20.6s,baz=102,slow=36
534A Blanco 53.02 88 ⇓P P 02 05 45.3 -0.9
baz=53,SNR=7.2
732A Laxson Ranch, 53.08 91 ⇓P P 02 05 46.2 -0.4
baz=53,SNR=10.0
SCO Scoresbysund 53.40 14 *i* P P 02 05 48.3 -0.1
SCO pmax pmax
comp=Z,10.0nm,1.0s
SCO Scoresbysund 53.40 14 *i* P P 02 05 48.3 -0.1
comp=Z,9.9nm,1.0s
PARMO Parma 53.45 76 eP P 02 05 48.2 -0.9
H06E1 SOCORRO T-PHAS 54.28 108 T T 03 04 39.4
SNR=8.2
WCI Wyandotte Cave 54.34 72 eP P 02 05 54.1 -1.6
WCI pmax pmax
comp=Z,228nm,2.5s
WCI Wyandotte Cave 54.34 72 eP P 02 05 54.1 -1.6
comp=Z,228nm,2.5s
HHC Hu-ho-hao-te 54.60 293 *i* P P 02 05 58.0 +0.3
HHC pP pP 02 06 13.5 +0.3
HHC PP PP 02 08 01.7 +1.5
HHC PcS PcS 02 10 58.0 -1.8
HHC S S 02 13 30.5 -2.4
HHC sS sS 02 13 58.2 -0.8
HHC ScS ScS 02 15 38.2 -3.3
HHC SS SS 02 17 12.8 -2.8
HHC pmax pmax
comp=Z,47nm,1.2s
HHC pmax pmax
comp=Z,390nm,6.3s
HHC LR LR
comp=Z,970nm,16.4s
HHC LR LR
comp=Z,1μm,16.6s
HHC LR LR
comp=Z,1μm,16.9s
JOW Kunigami 54.88 268 eP P 02 06 00.6 +0.9
comp=Z,212nm,1.2s
WVT Waverly 54.93 75 eP P 02 05 59.3 -0.7
WVT pmax pmax
comp=Z,92nm,1.1s
WVT Waverly 54.93 75 eP P 02 05 59.2 -0.7
comp=Z,92nm,1.1s
ERPA Erie 55.13 65 eP P 02 06 00.7 -0.7
comp=Z,53nm,1.0s
ALLY Alegheny Colle 55.38 65 eP P 02 06 02.5 -0.7
comp=Z,123nm,1.0s
NRS Narsarsuaq 56.06 30 *i* P P 02 06 07.4 -0.3
NRS pmax pmax
comp=Z,27nm,1.0s
LONY Lake Ozonia 56.23 59 eP P 02 06 08.1 -1.2
comp=Z,19nm,0.9s
KEV Kevo 56.54 355 eP P 02 06 09.8 -1.2
KEV pmax pmax
comp=Z,20nm,0.7s
KEV Kevo 56.54 355 ep P 02 06 09.8 -1.2
comp=Z,20nm,0.7s
NJ2 Nanjing 56.65 280 eP P 02 06 12.2 -0.1
NJ2 pP pP 02 06 25.0 -2.9
NJ2 sP sP 02 06 32.7 -1.8
NJ2 S S 02 14 00.0 -0.1
NJ2 sS sS 02 14 21.5 -4.8
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,290nm,5.2s
NJ2 LR LR
comp=Z,2μm,25.0s
NJ2 LR LR
comp=Z,2μm,27.2s
NJ2 LR LR
comp=Z,730nm,24.8s
ARA0 ARCESS Array S 56.84 355 eP P 02 06 12.5 -0.6
ARA0 ePcP PcP 02 07 08.6 +0.4
ARCES ARCESS Array B 56.84 355 P P 02 06 13.1 0.0
comp=Z,17nm,0.8s,baz=0.7,slow=6.6,SNR=43
ARCES PcP PcP 02 07 08.6 +0.4
comp=Z,10.0nm,0.8s,baz=6.3,slow=3.8,SNR=5.7
ARCES LR LR 02 33 36.6
comp=Z,774nm,18.3s,baz=5.5,slow=39
NCB Newcomb 56.87 60 eP P 02 06 12.9 -0.9
comp=Z,432nm,3.0s
MCWV Mont Chateau 56.93 67 eP P 02 06 13.2 -1.0
comp=Z,60nm,1.0s
TZTN Tazewell 57.08 72 eP P 02 06 14.8 -0.5
comp=Z,40nm,0.9s
BINY Binghamton 57.21 62 eP P 02 06 15.6 -0.6
comp=Z,161nm,1.9s
SSPA Standing Stone 57.30 65 eP P 02 06 16.0 -0.8
comp=Z,61nm,1.0s
ACCN Adirondack Com 57.57 60 eP P 02 06 17.9 -0.8
comp=Z,36nm,1.1s
KSPA Keystone Colle 57.78 63 eP P 02 06 20.1 -0.1
NVS Novosibirsk 57.94 320 eP P 02 06 21.4 +0.4
ZAA0 Zalesovo Array 58.00 319 eP P 02 06 21.6 +0.1
ZAA0 ePcP PcP 02 07 13.6 +0.7
ZALV Zalesovo Beam 58.00 319 P P 02 06 22.1 +0.5
comp=Z,1.5nm,0.3s,baz=31,slow=6.9,SNR=17
ZALV PcP PcP 02 07 13.6 +0.7
comp=Z,8.7nm,0.7s,baz=40,slow=4.3,SNR=8.8
ZALV LR LR 02 33 01.4
comp=Z,1μm,19.8s,baz=60,slow=38
BLA Blacksburg 58.35 69 eP P 02 06 23.7 -0.6
BLA pmax pmax
comp=Z,68nm,0.9s
BLA Blacksburg 58.35 69 eP P 02 06 23.7 -0.6
comp=Z,68nm,0.9s
MVL Millersville 58.58 64 eP P 02 06 24.9 -0.9
comp=Z,37nm,1.2s
ODNJ Ogdensburg 58.73 62 eP P 02 06 26.2 -0.6
comp=Z,32nm,1.1s
SDMD Soldier's Deli 58.74 65 eP P 02 06 26.0 -0.9
comp=Z,44nm,1.0s
PAL Palisades 59.15 62 eP P 02 06 29.2 -0.5
PAL pmax pmax
comp=Z,160nm,1.1s
PAL Palisades 59.15 62 eP P 02 06 29.2 -0.5
comp=Z,160nm,1.1s
KMSC Kings Mountain 59.33 71 eP P 02 06 30.1 -1.0
comp=Z,40nm,0.9s
KMSC Kings Mountain 59.33 71 ⇓P P 02 06 30.1 -1.0
baz=59
JSRW J. Sargeant Re 59.41 67 eP P 02 06 30.6 -0.9
WES Weston 59.49 59 eP P 02 06 31.6 -0.4
WES Weston 59.49 59 eP P 02 06 31.6 -0.4
JSC Jenkinsville 60.00 72 eP P 02 06 34.5 -1.1
JSC Jenkinsville 60.00 72 eP P 02 06 34.5 -1.1
XAN Xi'an 60.92 289 P P 02 06 42.0 0.0
XAN pP pP 02 06 58.2 +0.5
XAN sP sP 02 07 05.1 +0.8
XAN PP PP 02 08 57.4 +1.0
XAN S S 02 14 50.0 -5.6
XAN sS sS 02 15 17.0 -5.1
XAN SS SS 02 18 48.5 -6.5
XAN pmax pmax
comp=Z,11nm,1.2s
XAN LR LR
comp=Z,410nm,21.5s
XAN LR LR
comp=Z,170nm,20.5s
XAN LR LR
comp=Z,190nm,22.0s
TMCR Tamitsa 61.08 348 eP P 02 06 42.2 -0.4
TMCR pmax pmax
comp=Z,62nm,1.3s
SSLB Suanglung 61.52 272 eP P 02 06 46.1 -0.1
comp=Z,76nm,0.9s
YULB Yu-li 61.62 271 eP P 02 06 49.7 +2.9
comp=Z,32nm,0.9s
GTA Gaotai 61.92 299 ⇑P P 02 06 48.6 -0.2
GTA pP pP 02 07 02.8 -1.8
GTA sP sP 02 07 09.6 -1.5
GTA S S 02 15 05.4 -2.9
GTA sS sS 02 15 33.4 -1.5
GTA SS SS 02 19 10.0 -0.6
GTA pmax pmax
comp=Z,42nm,0.7s
GTA pmax pmax
comp=Z,190nm,5.9s
GTA LR LR
comp=Z,660nm,20.9s
GTA LR LR
comp=Z,910nm,18.1s
GTA LR LR
comp=Z,960nm,19.5s

LZH	**Lanzhou**	**62.23**	**294**	*e*P		**P**		**02 06 51.4**	**+0.4**
LZH				pP		**pP**		**02 07 08.1**	**+1.4**
LZH				sP		**sP**		**02 07 15.1**	**+1.8**
LZH				PcP		**PcP**		**02 07 31.1**	**+0.7**
LZH				PP		**PP**		**02 09 12.6**	**+4.6**
LZH				*e*S		**S**		**02 15 10.2**	**-2.2**
LZH				sS		**sS**		**02 15 36.4**	**-2.5**
LZH				SS		**SS**		**02 19 09.3**	**-6.3**
LZH				pmax	pmax				
	comp=Z,85nm,1.2s								
LZH				pmax	pmax				
	comp=Z,310nm,4.2s								
LZH				LR	LR				
	comp=Z,820nm,17.1s								
LZH				LR	LR				
	comp=Z,760nm,17.4s								
LZH				LR	LR				
	comp=Z,940nm,17.6s								
KURK	**Kurchatov**	**62.91**	**320**	P		**P**		**02 06 56.1**	**+1.0**
	SNR=7.3								
KURK	**Kurchatov**	**62.91**	**320**	mb				02 06 57.5	
	SNR=20								
KURK	**Kurchatov**	**62.91**	**320**	*e*P		**P**		**02 06 54.1**	**-0.9**
KURK				pmax	pmax				
	comp=Z,11nm,1.0s								
KURK	**Kurchatov**	**62.91**	**320**	*e*P		**P**		**02 06 54.1**	**-0.9**
	comp=Z,11nm,1.0s								
KURK	**Kurchatov**	**62.91**	**320**	P		**P**		**02 06 54.8**	**-0.2**
	comp=Z,99nm,0.7s,SNR=9.3								
KURBB	**Kurchatov Arra**	**63.02**	**320**	P		**P**		**02 06 56.2**	**+0.4**
	comp=Z,10nm,1.0s,baz=58,slow=7.5,SNR=29								
ENH	**Enshi**	**63.39**	**285**	*e*P		**P**		**02 06 58.4**	**-0.2**
	comp=Z,20nm,0.9s								
BVAR	**Borovoye Array**	**63.96**	**326**	P		**P**		**02 07 01.4**	**-0.5**
	comp=Z,7.4nm,0.7s,baz=46,slow=6.4,SNR=38								
BVAR				PcP		**PcP**		**02 07 37.7**	**+0.7**
	comp=Z,6.6nm,0.5s,baz=24,slow=2.3,SNR=11								
BVAR				LR	LR			02 41 06.1	
	comp=Z,907nm,18.7s,baz=38,slow=42								
BRVK	**Borovoye**	**63.96**	**326**	P		**P**		**02 07 02.6**	**+0.6**
	SNR=7.1								
BRVK	**Borovoye**	**63.96**	**326**	mb				02 07 04.6	
	SNR=16								
BRVK	**Borovoye**	**63.96**	**326**	*e*P		**P**		**02 07 02.3**	**+0.3**
BRVK				pmax	pmax				
	comp=Z,25nm,1.2s								
BRVK	**Borovoye**	**63.96**	**326**	*e*P		**P**		**02 07 02.3**	**+0.3**
	comp=Z,25nm,1.2s								
BRVK	**Borovoye**	**63.96**	**326**	P		**P**		**02 07 02.4**	**+0.4**
	comp=Z,84nm,1.3s,SNR=8.6								
VOSK	**Vostochnaya**	**64.01**	**326**	*e*P		**P**		**02 07 02.2**	**-0.1**
VOSK				pmax	pmax				
	comp=Z,17nm,1.0s								
VOSK	**Vostochnaya**	**64.01**	**326**	*e*P		**P**		**02 07 02.1**	**-0.1**
	comp=Z,17nm,1.0s								
KLMR	**Klimovskoe**	**64.09**	**347**	*e*P		**P**		**02 07 00.5**	**-2.1**
KLMR				pmax	pmax				
	comp=Z,48nm,1.7s								
KLMR				MLR	MLR				
	comp=Z,2µm,21.0s								
KAF	**Kangasniemi**	**64.18**	**354**	*e*P		**P**		**02 07 02.9**	**-0.3**
KAF				pmax	pmax				
	comp=Z,42nm,0.6s								
KAF	**Kangasniemi**	**64.18**	**354**	*e*p		**P**		**02 07 02.9**	**-0.3**
	comp=Z,42nm,0.6s,baz=3.0,slow=6.1								
ARU	**Arti**	**64.48**	**335**	*d i*P		**P**		**02 07 05.8**	**+0.5**
ARU				*PP		**pP**		**02 07 19.9**	**-1.2**
ARU								02 07 39.2	
ARU								02 09 25.3	
ARU				S		**S**		**02 15 42.8**	**+3.4**
ARU				SS		**SS**		**02 19 45.7**	**-3.6**
ARU				pmax	pmax				
	comp=Z,20nm,1.7s								
WMQ	**Urumqi**	**64.52**	**310**	P		**P**		**02 07 06.0**	**+0.1**
WMQ				pP		**pP**		**02 07 23.0**	**+1.3**
WMQ				sP		**sP**		**02 07 30.0**	**+1.7**
WMQ				PcP		**PcP**		**02 07 40.0**	**+0.4**
WMQ				PP		**PP**		**02 09 30.0**	**+2.2**
WMQ				ScP				02 11 36.0	
WMQ				S		**S**		**02 15 38.0**	**-2.5**
WMQ				ScS		**SKSac**		**02 16 51.0**	**-3.9**
WMQ				pmax	pmax				
	comp=Z,29nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,150nm,5.0s								
WMQ				LR	LR				
	comp=Z,600nm,18.0s								
WMQ				LR	LR				
	comp=Z,650nm,18.0s								
WMQ				LR	LR				
	comp=Z,750nm,18.0s								
MK32	**Makanchi Array**	**64.56**	**315**	*e*P		**P**		**02 07 05.3**	**-0.7**
MKAR	**Makanchi Array**	**64.56**	**315**	*e*P		**P**		**02 07 05.5**	**-0.5**
MKAR	**Makanchi Array**	**64.56**	**315**	*e*P		**P**		**02 07 05.5**	**-0.5**
MKAR	**Makanchi Array**	**64.56**	**315**	P		**P**		**02 07 05.3**	**-0.7**
	comp=Z,2.5nm,0.3s,baz=50,slow=6.1,SNR=83								
MKAR				LR	LR			02 36 37.4	
	comp=Z,895nm,20.6s,baz=28,slow=37								
MK01	**Makanchi Array**	**64.58**	**315**	*e*P		**P**		**02 07 05.2**	**-0.9**
FIA0	**FINESS Array S**	**64.86**	**354**	*e*P		**P**		**02 07 07.5**	**-0.1**
FIA0	**FINESS Array S**	**64.86**	**354**	*e*P		**P**		**02 07 07.5**	**-0.1**
FINES	**FINESS Array B**	**64.86**	**354**	P		**P**		**02 07 07.5**	**-0.1**
	comp=Z,33nm,0.7s,baz=20,slow=7.7,SNR=152								
FINES				LR	LR			02 39 40.2	
	comp=Z,645nm,18.1s,baz=0.0,slow=40								
NBO02	**NORSAR Array S**	**65.59**	**2**	*e*P		**P**		**02 07 12.1**	**-0.3**
NB2	**NORSAR Subarra**	**65.60**	**2**	P		**P**		**02 07 12.6**	**0.0**
	comp=Z,97nm,1.4s,baz=359,slow=6.2								
NB2	**NORSAR Subarra**	**65.60**	**2**	P		**P**		**02 07 12.6**	**0.0**
	baz=359,slow=6.2								
NB200	**NORSAR Array S**	**65.60**	**2**	*e*P		**P**		**02 07 12.5**	**0.0**
NOA	**NORSAR Array B**	**65.60**	**2**	P		**P**		**02 07 12.5**	**0.0**
	comp=Z,16nm,0.8s,baz=360,slow=6.3,SNR=34								
NOA				LR	LR			02 36 39.8	
	comp=Z,366nm,19.6s,baz=0.0,slow=37								
TAOE	**Nuku Hiva Isla**	**65.90**	**152**	⇑*e*T		T		03 18 52.4	
	comp=Z,702nm,0.3s								
TAOE				⇑*e*T		T		03 18 52.4	
	comp=Z,702nm,0.3s								
CD2	**Chengdu**	**66.15**	**290**	⇑*i*P		**P**		**02 07 17.6**	**+1.0**
CD2				pP		**pP**		**02 07 35.1**	**+2.6**
CD2				sP		**sP**		**02 07 42.1**	**+3.1**
CD2				PcP		**PcP**		**02 07 48.1**	**+1.6**
CD2				PP		**PP**		**02 09 46.1**	**+3.7**
CD2				S		**S**		**02 15 58.5**	**-2.2**
CD2				ScS		**SKSac**		**02 17 04.1**	**-3.4**
CD2				SS		**SS**		**02 20 15.8**	**-0.9**
CD2				pmax	pmax				
	comp=Z,130nm,1.1s								
CD2				pmax	pmax				
	comp=Z,240nm,7.1s								
CD2				LR	LR				
	comp=Z,750nm,22.6s								
CD2				LR	LR				
	comp=Z,520nm,20.2s								
CD2				LR	LR				
	comp=Z,590nm,17.8s								
TEIG	**Tepich**	**66.44**	**88**	*e*P		**P**		**02 07 18.7**	**+0.3**
	comp=Z,211nm,2.1s								
TEIG	**Tepich**	**66.44**	**88**	P		**P**		**02 07 18.7**	**+0.3**
	comp=Z,15nm,0.9s,baz=343,slow=17,SNR=4.8								
KONO	**Kongsberg**	**66.96**	**3**	*e*P		**P**		**02 07 21.4**	**+0.2**
KONO				pmax	pmax				
	comp=Z,19nm,1.3s								
KONO	**Kongsberg**	**66.96**	**3**	*e*P		**P**		**02 07 21.4**	**+0.2**
	comp=Z,19nm,1.3s								
AFI	**Afiamalu**	**67.53**	**187**	LR		LR		02 32 50.0	
	comp=Z,530nm,18.6s,baz=21,slow=32								
MVH1	**Achvaich**	**67.73**	**11**	*e*P		**P**		**02 07 26.4**	**+0.4**
VSU	**Vasula**	**67.78**	**353**	*c i*P		**P**		**02 07 26.5**	**+0.2**
VSU				pmax	pmax				
	comp=Z,225nm,1.2s								
GYA	**Guiyang**	**67.89**	**285**	⇑*i*P		**P**		**02 07 28.2**	**+0.5**
GYA				pP		**pP**		**02 07 47.0**	**+3.3**
GYA				PP		**PP**		**02 10 00.8**	**+3.1**
GYA				ScP				02 11 52.5	
GYA				S		**S**		**02 16 20.8**	**-1.1**
GYA				sS		**sS**		**02 16 49.6**	**+0.8**
GYA				SKS		**SKiKP**		**02 17 17.2**	**-1.2**
GYA				SS		**SS**		**02 20 44.3**	**+0.4**
GYA				pmax	pmax				
	comp=Z,30nm,1.0s								
GYA				pmax	pmax				
	comp=Z,130nm,5.2s								
GYA				LR	LR				
	comp=Z,650nm,18.3s								
GYA				LR	LR				
	comp=Z,540nm,19.0s								
GYA				LR	LR				
	comp=Z,670nm,18.5s								
MCD	**Coleburn Disti**	**68.16**	**10**	*e*P		**P**		**02 07 29.0**	**+0.2**
MDO	**Dochfour**	**68.18**	**11**	*e*P		**P**		**02 07 29.2**	**+0.3**
DRUM	**Mains of Drumt**	**68.90**	**10**	*e*P		**P**		**02 07 33.2**	**-0.2**
DRUM				AMB	AMB			02 07 34.3	
	comp=Z,175nm,3.7s								
TGY	**Tagaytay City**	**69.02**	**265**	*e*P		**P**		**02 07 36.2**	**+1.4**
TGY	**Tagaytay City**	**69.02**	**265**	P		**P**		**02 07 36.2**	**+1.4**
	comp=Z,100nm,0.3s,baz=297,slow=13,SNR=6.2								
HNR	**Honiara**	**69.35**	**217**	LR		LR		02 35 13.9	
	comp=Z,203nm,19.0s,baz=209,slow=34								
EAB	**Aberfoyle**	**69.41**	**11**	*e*P		**P**		**02 07 36.4**	**-0.2**
PMOR	**Pomariorio Ree**	**70.05**	**162**	⇑*e*T		T		03 24 07.4	
	comp=Z,56nm,0.2s								
PMOR				⇑*e*T		T		03 24 07.4	
	comp=Z,56nm,0.2s								
OBN	**Obninsk**	**70.06**	**347**	*ce*P		**P**		**02 07 40.0**	**-0.5**
OBN				*i*				02 08 01.6	
OBN				*e*				02 10 24.9	
OBN				*e*SS		SS		02 21 21.9	+6.5
OBN				pmax	pmax				
	comp=Z,63nm,1.6s								
OBN				MLR	MLR				
	comp=Z,900nm,23.0s								
MUD	**Monsted U'grnd**	**70.14**	**3**	*i* P		**P**		**02 07 41.8**	**+0.8**
MUD				pmax	pmax				
	comp=Z,3.0nm,0.5s								
MUD	**Monsted U'grnd**	**70.14**	**3**	*i* P		**P**		**02 07 41.8**	**+0.8**
	comp=Z,2.6nm,0.5s								
ESK	**Eskdalemuir**	**70.40**	**11**	*e*P		**P**		**02 07 42.7**	**0.0**
ESK				AMB	AMB			02 07 44.3	
	comp=Z,116nm,2.2s								
ESK	**Eskdalemuir**	**70.40**	**11**	*e*P		**P**		**02 07 42.9**	**+0.3**
ESK				pmax	pmax				
	comp=Z,149nm,1.8s								
ESK	**Eskdalemuir**	**70.40**	**11**	*e*P		**P**		**02 07 42.9**	**+0.3**
	comp=Z,149nm,1.8s								
TKM2	**Tokmak 2**	**70.48**	**317**	*e*P		**P**		**02 07 43.8**	**+0.2**
TKM2				pmax	pmax				
	comp=Z,16nm,1.1s								
TKM2	**Tokmak 2**	**70.48**	**317**	P		**P**		**02 07 43.8**	**+0.2**
	SNR=15								
TKM2	**Tokmak 2**	**70.48**	**317**	*e*P		**P**		**02 07 43.8**	**+0.2**
	comp=Z,16nm,1.1s								
ABKAR	**Akbulak array**	**70.50**	**330**	*e*P		**P**		**02 07 43.5**	**+0.1**
USP	**Ospenovka**	**70.63**	**318**	*i* P		**P**		**02 07 45.1**	**+0.8**
USP	**Ospenovka**	**70.63**	**318**	P		**P**		**02 07 45.2**	**+0.8**
	SNR=14								
GAL1	**Galloway**	**70.67**	**12**	*e*P		**P**		**02 07 44.5**	**+0.2**
GAL1				AMB	AMB			02 07 45.3	
	comp=Z,123nm,5.6s								
ISAL	**Salakas**	**70.70**	**353**	*e*P		**P**		**02 07 44.8**	**+0.4**
ISAL				AMB	AMB			02 07 45.6	
	comp=Z,15nm,1.0s								
CHMS	**Chumysh**	**70.75**	**318**	*i* P		**P**		**02 07 46.0**	**+0.9**
CHMS	**Chumysh**	**70.75**	**318**	P		**P**		**02 07 46.0**	**+0.9**
	SNR=9.9								
IDID	**Didziasalis**	**70.91**	**353**	*e*P		**P**		**02 07 46.1**	**+0.4**
IDID				AMB	AMB			02 07 46.6	
	comp=Z,16nm,0.9s								
IIGN	**Ignalina**	**70.91**	**353**	*e*P		**P**		**02 07 45.6**	**-0.1**
IIGN				AMB	AMB			02 07 46.3	
	comp=Z,24nm,0.7s								
FRU	**Bishkek**	**70.94**	**318**	*e*P		**P**		**02 07 46.0**	**-0.3**
FRU				*e*				02 08 05.0	
FRU				pmax	pmax				
	comp=Z,100nm,2.0s								
KBK	**Karagaybulak**	**70.96**	**317**	P		**P**		**02 07 47.4**	**+0.9**
	SNR=10								
AAK	**Ala-Archa**	**71.16**	**318**	P		**P**		**02 07 48.8**	**+1.1**
	SNR=8.6								
AAK	**Ala-Archa**	**71.16**	**318**	mb				02 07 49.9	
	SNR=13								
AAK	**Ala-Archa**	**71.16**	**318**	*c i*P		**P**		**02 07 48.5**	**+0.8**
AAK				pmax	pmax				
	comp=Z,59nm,1.5s								
AAK	**Ala-Archa**	**71.16**	**318**	P		**P**		**02 07 48.5**	**+0.8**
	SNR=10								
AAK	**Ala-Archa**	**71.16**	**318**	*e*P		**P**		**02 07 48.1**	**+0.4**
	comp=Z,36nm,1.5s								
AAK	**Ala-Archa**	**71.16**	**318**	P		**P**		**02 07 48.6**	**+0.8**
	comp=Z,76nm,1.2s,SNR=8.5								
AAK	**Ala-Archa**	**71.16**	**318**	P		**P**		**02 07 48.5**	**+0.8**
	comp=Z,8.6nm,0.9s,baz=80,slow=1.9,SNR=21								
AAK				LR	LR			02 41 06.2	
	comp=Z,1µm,21.0s,baz=17,slow=38								
KMI	**Kunming**	**71.16**	**287**	P		**P**		**02 07 48.7**	**+0.6**
KMI				S		**S**		**02 17 03.6**	**+3.0**
KMI				pmax	pmax				
	comp=Z,25nm,1.2s								
KMI				pmax	pmax				
	comp=Z,140nm,3.6s								
KMI				LR	LR				
	comp=Z,340nm,18.6s								
KMI				LR	LR				
	comp=Z,380nm,17.3s								
KMI				LR	LR				
	comp=Z,460nm,24.6s								
KZA	**Kyzart**	**71.32**	**317**	*i* P		**P**		**02 07 50.0**	**+1.0**
KZA	**Kyzart**	**71.32**	**317**	P		**P**		**02 07 50.0**	**+1.0**
	SNR=6.4								
EKS2	**Erkin-Say**	**71.42**	**318**	*e*P		**P**		**02 07 50.0**	**+0.7**
EKS2				pmax	pmax				
	comp=Z,12nm,0.9s								
EKS2	**Erkin-Say**	**71.42**	**318**	P		**P**		**02 07 50.3**	**+1.0**
	SNR=13								
EKS2	**Erkin-Say**	**71.42**	**318**	*e*P		**P**		**02 07 50.0**	**+0.7**
	comp=Z,12nm,0.9s								
UCH	**Uchtor**	**71.49**	**317**	*i* P		**P**		**02 07 51.0**	**+0.9**
UCH	**Uchtor**	**71.49**	**317**	P		**P**		**02 07 51.0**	**+0.9**
	SNR=6.7								
BSD	**Bornholm Skovb**	**71.58**	**360**	*i* P		**P**		**02 07 50.1**	**+0.4**
BSD				pmax	pmax				
	comp=Z,6.0nm,0.5s								
BSD	**Bornholm Skovb**	**71.58**	**360**	*i* P		**P**		**02 07 50.1**	**+0.4**
	comp=Z,6.0nm,0.5s								
QIZ	**Qiongzhong**	**71.76**	**277**	P		**P**		**02 07 51.9**	**+0.5**
QIZ				sP		**sP**		**02 08 15.4**	**+1.4**
QIZ				S		**S**		**02 17 06.8**	**-0.3**
QIZ				sS		**sS**		**02 17 34.5**	**+0.2**
QIZ				pmax	pmax				
	comp=Z,240nm,4.3s								
QIZ				LR	LR				
	comp=Z,440nm,21.7s								
QIZ				LR	LR				
	comp=Z,380nm,21.9s								
TGUH	**Tegucigalpa,Un**	**71.84**	**91**	*e*P		**P**		**02 07 53.0**	**+1.1**
	comp=Z,25nm,0.9s								
HPK	**Haverah Park**	**71.90**	**10**	*e*P		**P**		**02 07 51.9**	**+0.1**
AML	**Almayashu**	**71.90**	**318**	P		**P**		**02 07 53.4**	**+0.9**
	SNR=16								
PPT	**Papeete**	**72.27**	**164**	LR		LR		02 34 06.3	
	comp=Z,936nm,18.1s,baz=5.6,slow=31								
LHO	**Holmfirth**	**72.29**	**10**	*e*P		**P**		**02 07 54.3**	**+0.2**
PPT2	**Papeete2**	**72.29**	**164**	*e*S		**SKiKP**		**02 17 29.6**	**+4.9**
	comp=Z,1µm,28.0s								
PPT2	**Papeete2**	**72.29**	**164**	*e*LR		LR		02 30 08.6	
	comp=Z,1µm,22.2s,baz=351								
KKAR	**Karatay Array**	**72.32**	**320**	*e*P		**P**		**02 07 54.5**	**0.0**
KKAR	**Karatay Array**	**72.32**	**320**	*e*P		**P**		**02 07 54.5**	**0.0**
SUW	**Suwalki**	**72.44**	**355**	*e*P		**P**		**02 07 54.5**	**-0.4**
SUW				pmax	pmax				
	comp=Z,159nm,1.1s								
SUW	**Suwalki**	**72.44**	**355**	*e*P		**P**		**02 07 54.7**	**-0.2**
SUW	**Suwalki**	**72.44**	**355**	*e*P		**P**		**02 07 54.5**	**-0.4**
	comp=Z,159nm,1.1s								
STNC	**Stoke**	**72.70**	**10**	*e*P		**P**		**02 07 57.3**	**+0.8**
STNC				AMB	AMB			02 08 02.9	
	comp=Z,93nm,1.6s								
BSEG	**Bad Segeberg**	**72.70**	**3**	*e*P		**P**		**02 07 57.4**	**+0.9**
	comp=Z,43nm,1.1s								
FOEL	**Foel Wyfa**	**72.78**	**11**	*e*P		**P**		**02 07 57.6**	**+0.6**
FOEL				AMB	AMB			02 07 59.0	
	comp=Z,107nm,3.2s								
VRHR	**Novokhopersk**	**73.14**	**343**	*e*P		**P**		**02 07 57.4**	**-1.8**
VRHR				pmax	pmax				
	comp=N,5.0nm,0.6s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=Z,9.0nm,0.6s								
KSH	**Kashi**	**73.16**	**315**	P		P		02 08 03.4	+3.7
KSH				pP		**PcP**		**02 08 20.0**	**+4.0**
KSH				sP		sP		02 08 27.2	+4.9
KSH				S		**S**		**02 17 23.5**	**+0.6**
KSH				sS		sS		02 17 54.1	+4.0
KSH				SKS		**SKSac**		**02 17 59.0**	**-1.5**
KSH				pmax	pmax				
	comp=Z,19nm,0.8s								
KSH				pmax	pmax				
	comp=Z,210nm,5.4s								
KSH				LR	LR				
	comp=Z,580nm,10.0s								
KSH				LR	LR				
	comp=Z,460nm,7.6s								
KSH				LR	LR				
	comp=Z,1µm,17.6s								
HLM1	**Long Mynd**	**73.19**	**11**	*e*P		**P**		**02 07 59.0**	**-0.4**
HLM1				AMB	AMB			02 08 04.1	
	comp=Z,128nm,5.6s								
VSR	**Storozhevoye**	**73.45**	**344**	*e*P		**P**		**02 08 00.6**	**-0.4**
VSR				pmax	pmax				
	comp=N,9.0nm,0.6s								
VSR				pmax	pmax				
	comp=E,4.0nm,0.6s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
VSR				MLR	MLR				
	comp=N,840nm,18.0s								
VSR				MLR	MLR				
	comp=E,830nm,18.0s								
VSR				MLR	MLR				
	comp=Z,1µm,18.0s								
VORD	**Divnogorie**	**73.67**	**344**	*e*P		**P**		**02 08 01.7**	**-0.6**
VORD				pmax	pmax				
	comp=N,60nm,0.8s								
VORD				pmax	pmax				
	comp=E,20nm,0.8s								
VORD				pmax	pmax				
	comp=Z,20nm,0.8s								
MCH1	**Michaelchurch**	**73.69**	**11**	*e*P		**P**		**02 08 01.2**	**-1.2**
MCH1				AMB	AMB			02 08 07.8	
	comp=Z,85nm,2.8s								
LSA	**Lhasa**	**73.93**	**298**	P		**P**		**02 08 05.4**	**+0.6**
LSA				pmax	pmax				
	comp=Z,60nm,1.1s								
LSA	**Lhasa**	**73.93**	**298**	*e*P		**P**		**02 08 06.2**	**+1.4**
LSA				pmax	pmax				
	comp=Z,65nm,1.0s								
LSA	**Lhasa**	**73.93**	**298**	*e*P		**P**		**02 08 06.2**	**+1.4**
	comp=Z,66nm,1.0s								
STRD	**Stroud**	**74.00**	**11**	*e*P		**P**		**02 08 04.8**	**+0.6**
STRD				AMB	AMB			02 08 11.8	
	comp=Z,151nm,3.0s								
NRDL	**Niedersach Rie**	**74.14**	**3**	*e*P		**P**		**02 08 05.6**	**+0.7**
	comp=Z,41nm,1.2s								
IBBN	**Ibbenburen**	**74.24**	**4**	*e*P		**P**		**02 08 06.5**	**+1.0**
	comp=Z,50nm,1.2s								
PMG	**Port Moresby**	**74.49**	**229**	P		**P**		**02 08 06.9**	**-0.5**
	comp=Z,36nm,1.1s,comp=Z,510nm								
PMG	**Port Moresby**	**74.49**	**229**	*e*P		**P**		**02 08 07.0**	**-0.5**
	comp=Z,32nm,0.9s								
PMG	**Port Moresby**	**74.49**	**229**	P		**P**		**02 08 06.9**	**-0.5**
	comp=Z,19nm,0.7s,baz=36,slow=5.7,SNR=11								
WTSB	**Winterswijk**	**74.53**	**5**	*e*P		**P**		**02 08 07.7**	**+0.5**
	comp=Z,20nm,0.7s								
CLZ	**Clausthal**	**74.80**	**3**	*e*P		**P**		**02 08 09.8**	**+0.9**
	comp=Z,70nm,1.4s								
SWI	**Sorong**	**75.17**	**247**	P		**P**		**02 08 09.7**	**-1.8**
AKASG	**Malin Array Be**	**75.26**	**350**	P		**P**		**02 08 11.0**	**-0.5**
	comp=Z,27nm,0.5s,baz=12,slow=5.8,SNR=111								
AKASG				LR		LR		02 46 42.5	
	comp=Z,570nm,18.4s,baz=355,slow=40								
AKBB	**Malin Array Si**	**75.26**	**350**	*e*P		**P**		**02 08 11.0**	**-0.5**
AKBB	**Malin Array Si**	**75.26**	**350**	*e*P		**P**		**02 08 11.0**	**-0.5**
KIEV	**Kiev**	**75.27**	**350**	*e*P		**P**		**02 08 10.8**	**-0.7**
KIEV				pmax	pmax				
	comp=Z,42nm,0.6s								
KIEV	**Kiev**	**75.27**	**350**	*e*P		**P**		**02 08 10.8**	**-0.7**
	comp=Z,42nm,0.6s								
AK11	**Malin Array Si**	**75.29**	**350**	*e*P		**P**		**02 08 10.9**	**-0.8**
CLL	**Collm**	**75.38**	**1**	*i* P		**P**		**02 08 12.4**	**+0.3**
CLL				*i* *PP		**pP**		**02 08 27.2**	**-1.2**
CLL				pmax	pmax				
	comp=Z,44nm,1.4s								
CLL				MLR	MLR				
	comp=Z,300nm,18.4s								
CLL	**Collm**	**75.38**	**1**	*e*P		**P**		**02 08 12.5**	**+0.3**
	comp=Z,44nm,1.4s								
CLL	**Collm**	**75.38**	**1**	*i* P		**P**		**02 08 12.4**	**+0.3**
	comp=Z,44nm,1.4s								
CLL				*i* (PcP)		**pP**		**02 08 27.2**	**-1.2**
CLL				*e*PP		**PP**		**02 10 58.0**	**-2.8**
CLL				*e*S		**S**		**02 17 48.0**	**+0.9**
CLL				*e*PS		PnS		02 18 54.0	+25
CLL				*e*SS		SS		02 23 06.0	+29
CLL				*e*				02 27 00.0	
CLL				LmH				02 45 00.0	
	comp=N,300nm,20.6s								
CLL				LmH				02 45 00.0	
	comp=E,200nm,21.3s								
CLL				LmV				02 49 00.0	
	comp=Z,300nm,18.4s								
BEBN	**Eben Emael**	**75.64**	**6**	P		**P**		**02 08 14.3**	**+0.7**
HGN	**Heimansgroeve**	**75.68**	**6**	*e*P		**P**		**02 08 14.1**	**+0.2**
	comp=Z,44nm,0.9s								
BRG	**Berggiesshubel**	**75.82**	**0**	*e*P		**P**		**02 08 15.1**	**+0.4**
	comp=Z,26nm,1.3s								
BRG	**Berggiesshubel**	**75.82**	**0**	*e*P		**P**		**02 08 15.1**	**+0.4**
BRG				pmax	pmax				
	comp=Z,27nm,1.3s								
BRG	**Berggiesshubel**	**75.82**	**0**	*e*P		**P**		**02 08 15.2**	**+0.5**
	comp=Z,26nm,1.3s								
KSP	**Ksiaz**	**75.84**	**359**

comp=E,400nm,20.0s
KRLC Kraliky 76.60 358⇑*iP* P 02 08 19.8 +0.6
KRLC Kraliky 76.60 358⇑*iP* P 02 08 19.8 +0.6
PRA Prague 76.63 0⇑P P 02 08 21.0 +1.7
PRU Pruhonice 76.71 360 *eP* P 02 08 20.1 +0.3
PRU *e* 02 08 30.4
PRU *e* 02 08 35.1
PRU Pruhonice 76.71 360⇑*eP* P 02 08 20.1 +0.3
PRU *ePCP* **PcP 02 08 30.4 -0.5**
PRU *epP* **pP 02 08 35.1 -0.9**
WLF Walferdange 76.79 6 P P 02 08 21.7 +1.5
WLF Walferdange 76.79 6 *eP* P 02 08 21.9 +1.6
WLF pmax pmax
comp=Z,51nm,1.3s
WLF Walferdange 76.79 6 *eP* P 02 08 21.8 +1.5
comp=Z,55nm,1.4s
WLF Walferdange 76.79 6 *eP* P 02 08 21.9 +1.6
comp=Z,51nm,1.3s
OKC Ostrava-Krasne 76.81 358 *eP* P 02 08 21.1 +0.7
OKC Ostrava-Krasne 76.81 358⇑*eP* P 02 08 21.1 +0.7
KWP Kalwaria Pacla 76.83 355 *eP* P 02 08 21.5 +1.0
KWP Kalwaria Pacla 76.83 355 *eP* P 02 08 21.5 +1.0
KWP Kalwaria Pacla 76.83 355⇑*iP* P 02 08 21.5 +1.0
SHL Shillong 76.84 295 *eP* P 02 08 21.0 -0.1
MORC Moravsky Berou 76.89 358 *eP* P 02 08 20.9 +0.1
MORC pmax pmax
comp=Z,14nm,1.0s
MORC Moravsky Berou 76.89 358⇑*iP* P 02 08 21.7 +0.8
MORC Moravsky Berou 76.89 358 *eP* P 02 08 20.9 +0.1
comp=Z,14nm,1.0s
ROTZ Rotzenmuhle 76.91 2 *eP* P 02 08 22.0 +1.1
comp=Z,29nm,1.3s
GRF Grafenberg Arr 76.97 2 *eP* P 02 08 22.4 +1.1
comp=Z,55nm,1.3s
GRFO Grafenberg 76.97 2 *eP* P 02 08 22.2 +1.0
GRFO pmax pmax
comp=Z,20nm,0.8s
GRFO Grafenberg 76.97 2 *eP* P 02 08 22.2 +1.0
comp=Z,20nm,0.8s
STHS Stebnicka Huta 77.12 355 *eP* P 02 08 23.8 +1.7
STHS pmax pmax
comp=Z,34nm,0.7s
STHS Stebnicka Huta 77.12 355 *eP* P 02 08 23.8 +1.7
FLN La Foliniere 77.15 10⇑*iP* P 02 08 22.5 +0.2
comp=Z,63nm,1.1s
FLN *eR*
comp=Z,472nm,18.2s
FLN La Foliniere 77.15 10 *eP* P 02 08 22.5 +0.2
FLN La Foliniere 77.15 10 *eP* P 02 08 22.5 +0.2
UBPT Khong Chiam 77.27 278 P P 02 08 24.7 +1.3
comp=Z,99nm,1.0s
CMAI Chiengmai2 77.33 286 P P 02 08 24.5 +0.5
comp=Z,51nm,1.3s,comp=Z,6µm
LDF La Druitiere 77.36 10⇑*iP* P 02 08 23.7 +0.3
comp=Z,50nm,1.0s
LDF La Druitiere 77.36 10 *eP* P 02 08 23.7 +0.3
LDF La Druitiere 77.36 10 *eP* P 02 08 23.7 +0.3
VRAC Vranov 77.38 359⇑*iP* P 02 08 24.4 +0.9
SDDR Presa de Saban 77.38 75 *eP* P 02 08 23.8 -0.2
comp=Z,37nm,1.1s
TREC Trest 77.40 359 *eP* P 02 08 24.2 +0.5
TREC *e* 02 08 34.8
TREC Trest 77.40 359⇑*eP* P 02 08 24.2 +0.5
TREC *ePCP* **PcP 02 08 34.8 +0.8**
WET Wettzell 77.55 1 *eP* P 02 08 25.4 +0.9
comp=Z,28nm,1.4s
KOLS Kolonicke sedl 77.55 355 *eP* P 02 08 24.5 0.0
KOLS pmax pmax
comp=Z,21nm,1.2s
KOLS Kolonicke sedl 77.55 355 *eP* P 02 08 24.5 0.0
LANF Langenberg 77.56 5 *eP* P 02 08 25.5 +0.9
KHC Kasperske Hory 77.56 1 *eP* P 02 08 25.9 +1.2
KHC pmax pmax
comp=Z,55nm,1.5s
KHC Kasperske Hory 77.56 1⇑*iP* P 02 08 25.7 +1.1
KHC *ePCP* **PcP 02 08 34.0 -0.7**
KHC Kasperske Hory 77.56 1 *eP* P 02 08 25.9 +1.2
comp=Z,55nm,1.5s
TAPN Taplejung 77.61 299 *eP* P 02 08 25.9 +0.3
comp=Z,159nm,1.2s
CRVS Cervenica-Dubn 77.63 355 *eP* P 02 08 25.2 +0.2
CRVS pmax pmax
comp=Z,55nm,1.8s
CRVS Cervenica-Dubn 77.63 355 *eP* P 02 08 25.2 +0.2
STU Stuttgart 77.83 4 *eP* P 02 08 26.8 +0.7
comp=Z,20nm,0.9s
GEC2 GERESS Array S 77.85 1 *eP* P 02 08 26.8 +0.5
GEC2 GERESS Array S 77.85 1 *eP* P 02 08 27.0 +0.7
comp=Z,12nm,0.9s
GEC2 GERESS Array S 77.85 1 *eP* P 02 08 26.8 +0.5
GERES GERESS Array B 77.85 1 P P 02 08 26.8 +0.5
comp=Z,5.0nm,0.7s,baz=7.5,slow=5.0,SNR=41
UZH Uzhgorod 77.85 355⇓*iP* P 02 08 26.5 +0.3
UZH *i* 02 08 32.5
PAGF Fort de Pagny 77.87 6⇑*iP* P 02 08 27.3 +1.0
comp=Z,25nm,0.9s
TBI Tubuai 77.95 165 *eLR* LR 02 32 39.5
comp=Z,1µm,24.8s,baz=345
TBI Tubuai 77.95 165⇑*eT* T 03 34 04.0
comp=Z,5.6nm,0.3s
TBI ⇑*eT* T 03 34 04.0
comp=Z,5.6nm,0.3s
KECS Kecovo 78.09 356 *eP* P 02 08 28.3 +0.8
KECS pmax pmax
comp=Z,15nm,0.9s
KECS Kecovo 78.09 356 *eP* P 02 08 28.3 +0.8
GUN Gumba 78.10 301 *eP* P 02 08 28.8 +0.5
comp=Z,128nm,0.6s
CDF Champ du Feu 78.10 5⇑*iP* P 02 08 28.2 +0.5
comp=Z,17nm,0.8s
CDF Champ du Feu 78.10 5 *eP* P 02 08 28.2 +0.5
CDF Champ du Feu 78.10 5 *eP* P 02 08 28.2 +0.5
JIRN Jiri 78.14 301 *eP* P 02 08 29.4 +0.8
ODAN Odare 78.18 299 *eP* P 02 08 28.7 +0.1
SFTF Sexfontaines 78.18 6⇑*iP* P 02 08 28.6 +0.6
comp=Z,93nm,1.1s
SFTF Sexfontaines 78.18 6 *eP* P 02 08 28.6 +0.6
KKM Kota Kinabalu 78.21 264 *eP* P 02 08 29.5 +0.7
comp=Z,62nm,1.3s
THEF They Montfort 78.22 6⇑*eP* P 02 08 29.2 +1.0
BFO Black Forest 78.23 4 *eP* P 02 08 28.8 +0.4
BFO pmax pmax
comp=Z,22nm,1.2s
BFO Black Forest 78.23 4 *eP* P 02 08 28.9 +0.5
comp=Z,52nm,1.7s
BFO Black Forest 78.23 4 *eP* P 02 08 28.8 +0.4
comp=Z,22nm,1.2s
CHTO Chiang Mai 78.28 286 P P 02 08 29.6 +0.6
SNR=7.9
CHTO Chiang Mai 78.28 286 mb 02 08 30.7
SNR=12
CHTO Chiang Mai 78.28 286 *eP* P 02 08 28.8 -0.2
CHTO pmax pmax
comp=Z,14nm,1.4s
CHTO Chiang Mai 78.28 286 P P 02 08 28.6 -0.4
comp=Z,124nm,1.4s,comp=Z,2µm
CHTO Chiang Mai 78.28 286 *eP* P 02 08 28.8 -0.2
comp=Z,14nm,1.4s
CHTO Chiang Mai 78.28 286 P P 02 08 29.2 +0.2
comp=Z,136nm,1.2s,comp=Z,2µm
ECH Echery 78.29 5⇑*eP* P 02 08 29.4 +0.7
TRPA Tarpa 78.34 355⇑*iP* P 02 08 30.1 +1.2
TRPA Tarpa 78.34 355⇑*eP* P 02 08 30.0 +1.2
TLE Tual 78.36 244 P P 02 08 30.9 +1.5
HAU Haudompre 78.46 6⇑*iP* P 02 08 30.1 +0.5
comp=Z,38nm,0.9s
HAU *eR*
comp=Z,371nm,19.2s
HAU Haudompre 78.46 6 *eP* P 02 08 30.1 +0.5
HAU Haudompre 78.46 6 *eP* P 02 08 30.1 +0.5
FUR Furstenfeldbru 78.50 2 *eP* P 02 08 30.8 +1.0
comp=Z,85nm,1.5s
KKN Kakani 78.50 301 *eP* P 02 08 30.9 +0.5
comp=Z,43nm,0.6s
RAMN Ramite 78.51 300 *eP* P 02 08 30.7 +0.2
comp=Z,246nm,1.0s
CM31 Chiang Mai Arr 78.56 285 *eP* P 02 08 31.2 +0.7
CMAR Chiang Mai Arr 78.56 285 P P 02 08 31.2 +0.7
comp=Z,48nm,1.1s,baz=18,slow=5.3,SNR=74
CMAR LR LR 02 46 18.5
comp=Z,261nm,18.4s,baz=248,slow=38
CM01 Chiang Mai Arr 78.58 285 *eP* P 02 08 31.2 +0.5
GTOI Gorontalo 78.59 255 P P 02 08 30.0 -0.7
comp=Z,22nm,1.1s
PKI Pulchoki 78.62 301 *eP* P 02 08 31.3 +0.1
comp=Z,107nm,0.8s
PKIN Phulchoki 78.62 301 *eP* P 02 08 31.2 +0.1
comp=Z,67nm,0.8s
GKN Gorkha 78.65 302 *eP* P 02 08 31.6 +0.4
comp=Z,125nm,0.7s
MOF Molkenrain 78.66 5⇑*eP* P 02 08 31.4 +0.6
GOF Gofitskoye 78.66 340 *eP* P 02 08 37.1 +6.4
GOF pmax pmax
comp=Z,160nm,1.3s
BUR04 Bucovina Ar. S 78.67 353 *eP* P 02 08 31.2 +0.3
FELD Feldberg im Sc 78.67 4⇑*eP* P 02 08 31.2 +0.3
BURAR Bucovina Array 78.67 353⇑*iP* P 02 08 31.2 +0.3
HINF Hinteralfeld 78.67 5⇑*iP* P 02 08 31.2 +0.4
comp=Z,28nm,0.8s
HINF Hinteralfeld 78.67 5 *eP* P 02 08 31.2 +0.4
HINF Hinteralfeld 78.67 5 *eP* P 02 08 31.2 +0.4
PSZ Piszkesteto 78.68 356 *eP* P 02 08 32.4 +1.5
PSZ pmax pmax
comp=Z,51nm,1.2s
PSZ Piszkesteto 78.68 356⇑*iP* P 02 08 32.2 +1.3
PSZ Piszkesteto 78.68 356 *eP* P 02 08 32.4 +1.5
comp=Z,51nm,1.2s
PSZ Piszkesteto 78.68 356⇑*eP* P 02 08 32.2 +1.3
BMR Baia Mare 78.74 354⇑*iP* P 02 08 31.8 +0.7
DMN Daman 78.74 301 *eP* P 02 08 32.3 +0.5
comp=Z,73nm,0.7s
CONA Conrad Observa 78.77 359⇑*iP* P 02 08 32.6 +1.2
comp=Z,32nm,1.2s,SNR=10.0
DANN Dangsing 78.81 303 *eP* P 02 08 32.9 +0.7
comp=Z,508nm,1.0s
BNDI Bandanaira 78.96 247 P P 02 08 32.1 -0.6
comp=Z,114nm,1.3s
KIS Kishinev 78.96 350 *eP* P 02 08 32.0 -0.3
KIS *eL* L 02 40 44.0
KIS LRM MLR 02 49 16.0
comp=Z,600nm,18.0s
KIS Kishinev 78.96 350 *eP* P 02 08 32.0 -0.3
KIS *e* 02 08 46.0
SOP Sopron 79.00 359⇑*eP* P 02 08 33.8 +1.3
LOR Lormes 79.03 7⇑*iP* P 02 08 33.3 +0.6
comp=Z,36nm,0.9s
LOR *eR*
comp=Z,514nm,20.8s
LOR Lormes 79.03 7 *eP* P 02 08 33.3 +0.6
LOMF Lomont 79.14 5⇑*eP* P 02 08 34.3 +0.9
BUD Budapest 79.14 357⇑*eP* P 02 08 34.7 +1.4
RETA Rette 79.16 3⇓*iP* P 02 08 34.1 +0.6
comp=Z,12nm,0.8s
SSF Saint Saulge 79.20 8⇑*iP* P 02 08 34.3 +0.6
comp=Z,72nm,1.0s
SSF Saint Saulge 79.20 8 *eP* P 02 08 34.3 +0.6
SSF Saint Saulge 79.20 8 *eP* P 02 08 34.3 +0.6
DZM Mont Dzumac 79.24 206 *eS* S 02 18 39.1 +10
comp=Z,152nm,27.5s
DZM Mont Dzumac 79.24 206 *eLR* LR 02 33 25.3
comp=Z,1µm,22.0s
PKSG 79.25 357⇓*eP* P 02 08 35.7 +1.8
MOTA Moosalm 79.31 2⇑*iP* P 02 08 34.2 -0.3
comp=Z,38nm,1.3s,SNR=17
MFF Saint Martin d 79.32 10⇑*iP* P 02 08 35.0 +0.7
comp=Z,79nm,1.0s
MFF Saint Martin d 79.32 10 *eP* P 02 08 35.0 +0.7
MFF Saint Martin d 79.32 10 *eP* P 02 08 35.0 +0.7
WATA Walderalm 79.33 2⇑*iP* P 02 08 35.5 +0.9
comp=Z,9.2nm,0.5s,SNR=8.5
MRSI Marisa 79.34 256 P P 02 08 34.5 -0.3
comp=Z,40nm,1.4s
MHMT Maesarieng 79.36 286 P P 02 08 35.9 +1.0
comp=Z,34nm,1.2s,comp=Z,409nm
KOLN Koldanda 79.37 303 *eP* P 02 08 35.5 +0.4
comp=Z,215nm,1.1s
PKST T"'s 79.40 358⇑*eP* P 02 08 35.7 +1.0
PYUN Piuthan 79.40 303 *eP* P 02 08 35.8 +0.5
comp=Z,395nm,0.6s
WTTA Wattenberg 79.41 2⇑*iP* P 02 08 35.8 +0.8
comp=Z,26nm,0.8s,SNR=10.0
NLAI Namlea 79.44 250 P P 02 08 36.0 +0.7
ARSA Arzberg 79.45 359 *iP* P 02 08 36.4 +1.4
comp=Z,30nm,1.2s,SNR=12
AVF Avril sur Loir 79.46 8⇑*iP* P 02 08 35.5 +0.5
comp=Z,47nm,0.9s
AVF Avril sur Loir 79.46 8 *eP* P 02 08 35.5 +0.5
AVF Avril sur Loir 79.46 8 *eP* P 02 08 35.5 +0.5
LEOM Leova 79.54 350⇓*iP* P 02 08 35.9 +0.4
FETA Feichten 79.63 3⇓*iP* P 02 08 37.2 +1.1
comp=Z,32nm,1.0s,SNR=13
SMF Signal de Mont 79.64 7⇑*iP* P 02 08 36.5 +0.4
comp=Z,81nm,1.0s
SMF Signal de Mont 79.64 7 *eP* P 02 08 36.5 +0.4
SMF Signal de Mont 79.64 7 *eP* P 02 08 36.5 +0.4
BGF Bois d'Agland 79.65 8⇑*iP* P 02 08 36.6 +0.5
comp=Z,76nm,1.1s
BGF Bois d'Agland 79.65 8 *eP* P 02 08 36.6 +0.5
BGF Bois d'Agland 79.65 8 *eP* P 02 08 36.6 +0.5
TESR Tescani 79.65 351⇑*iP* P 02 08 36.1 0.0
MAK Makhachkala 79.66 336 P P 02 08 36.8 +0.7
DRGR 79.66 354⇑*iP* P 02 08 36.6 +0.3
SMLA Simla 79.67 309 *iP* P 02 08 36.9 +0.5
PKSN Nyarlorinc 79.70 356⇓*eP* P 02 08 38.4 +2.1
KIV Kislovodsk 79.79 340 P P 02 08 38.6 +1.6
comp=Z,229nm,0.7s,SNR=9.3
KIV Kislovodsk 79.79 340 P P 02 08 38.7 +1.6
SNR=7.3
KIV Kislovodsk 79.79 340 mb 02 08 38.8
SNR=14
KIV Kislovodsk 79.79 340 *eP* P 02 08 37.8 +0.8
KIV *eS* **S 02 18 36.9 +1.7**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV MLR MLR
comp=Z,603nm,18.0s
CABF La Chapelle 79.83 6⇑*iP* P 02 08 38.2 +1.0
comp=Z,54nm,1.0s
CABF La Chapelle 79.83 6 *eP* P 02 08 38.2 +1.0
CABF La Chapelle 79.83 6 *eP* P 02 08 38.2 +1.0
TCF Toulx Ste Croi 79.86 9⇑*iP* P 02 08 37.7 +0.4
comp=Z,49nm,1.1s
TCF Toulx Ste Croi 79.86 9 *eP* P 02 08 37.7 +0.4
TCF Toulx Ste Croi 79.86 9 *eP* P 02 08 37.7 +0.4
ABTA Abfaltersbach 79.94 1⇑*iP* P 02 08 38.4 +0.6
comp=Z,32nm,1.2s,SNR=11
ANN Anapa 79.96 344 P P 02 08 38.0 +0.3
ANN pmax pmax
comp=Z,38nm,1.4s
KBZ Khabaz 79.96 340 *eP* P 02 08 39.1 +1.3
KBZ Khabaz 79.96 340 *eP* P 02 08 39.1 +1.3
KBZ Khabaz 79.96 340 P P 02 08 39.1 +1.3
comp=Z,24nm,0.9s,baz=321,slow=1.1,SNR=37
KBZ LR LR 02 46 45.7
comp=Z,685nm,21.7s,baz=6.1,slow=38
FUORN Ofenpass-Fuorn 80.02 3 *eP* P 02 08 39.8 +1.4
comp=Z,46nm,1.3s
SOKA Soboth 80.02 360⇑*iP* P 02 08 39.2 +1.0
comp=Z,60nm,1.4s,SNR=20
PKS9 Tamasi 80.06 357⇑*eP* P 02 08 39.3 +1.0
PERS Pernice 80.06 360 *iP* P 02 08 39.4 +1.0
MYKA Terra Mystica 80.07 1⇓*iP* P 02 08 39.1 +0.6
comp=Z,11nm,0.8s
LUWI Luwuk 80.09 255 P P 02 08 38.6 -0.3
comp=Z,122nm,1.4s
TUE Stuetta 80.13 4 *eP* P 02 08 39.5 +0.5
comp=Z,28nm,1.3s
AGO Saint Agoulin 80.18 8⇑*eP* P 02 08 41.2 +2.2
OBKA Obir 80.19 360 *iP* P 02 08 40.3 +1.1
comp=Z,39nm,0.6s,SNR=13
AGP Aguadilla 80.21 72 *eP* P 02 08 36.6 -2.9
comp=Z,248nm,1.2s
BEHE Becsehely 80.21 358⇑*eP* P 02 08 40.5 +1.4
GROS Grobnik 80.24 359 *iP* P 02 08 40.3 +0.9
KOGS Kog 80.24 359 *iP* P 02 08 40.2 +0.9
SIRR Siria 80.25 355⇑*iP* P 02 08 40.6 +1.3
KBL Kabul 80.28 317 *eP* P 02 08 39.5 -0.5
KBL pmax pmax
comp=Z,18nm,0.8s
KBL Kabul 80.28 317 *eP* P 02 08 39.5 -0.5
comp=Z,18nm,0.8s
VRI Vrincioaia 80.29 351⇓*iP* P 02 08 40.2 +0.6
KALG Kalgarh 80.29 307 *ex* x 02 08 23.7
PLDF La Plantade 80.30 8⇑*eP* P 02 08 41.9 +2.2
DOPR Dopca 80.30 352⇑*iP* P 02 08 40.8 +1.2
COEN Coen 80.31 230 *eP* P 02 08 39.8 -0.1
comp=Z,112nm,1.0s
PLOR Plostina 80.31 351⇑*iP* P 02 08 39.9 +0.2
SIM Simferopol' 80.33 346 *eP* P 02 08 45.5 +5.7
SIM pmax pmax
comp=Z,18nm,1.1s
SIM MLR MLR
comp=Z,1µm,20.0s
GORS Gorjuse 80.38 0 *iP* P 02 08 40.3 +0.2
PKSM Moragy 80.43 357⇓*iP* P 02 08 40.7 +0.4
PKSM Moragy 80.43 357⇑*eP* P 02 08 40.6 +0.3
PYM Petit Puy Mans 80.47 8⇑*eP* P 02 08 42.4 +1.8
LRS Lares 80.47 72 *eP* P 02 08 41.4 +0.5
APSI Ampana 80.63 256 P P 02 08 41.8 0.0
comp=Z,61nm,1.3s
ZEI Tsey 80.65 339 *eP* P 02 08 42.7 +0.9
ZEI pmax pmax
comp=Z,58nm,1.5s
MLR Muntele Rosu 80.73 352⇓*iP* P 02 08 43.5 +1.4
SOC Sochi 80.73 342 *cP* P 02 08 42.6 +0.7
SOC *e* 02 11 48.6
SOC *ePPP* PPP 02 13 35.5
SOC *eS* **S 02 18 46.7 +1.9**
SOC *eSS* **SS 02 23 55.0 -2.4**
SOC *eSSS* SSS 02 27 24.4
SOC pmax pmax
comp=Z,34nm,0.6s
SOC MLR MLR
comp=Z,820nm,21.0s
GRER 80.75 351⇓*iP* P 02 08 43.6 +1.6
TLCR 80.76 350⇓*iP* P 02 08 42.5 +0.5
RJF Les Rejaudoux 80.77 9⇑*iP* P 02 08 42.5 +0.3
comp=Z,32nm,1.0s
RJF *eR*
comp=Z,493nm,20.2s
RJF Les Rejaudoux 80.77 9 *eP* P 02 08 42.5 +0.3
RJF Les Rejaudoux 80.77 9 *eP* P 02 08 42.5 +0.3
CELP Cerrillos 80.79 72 *eP* P 02 08 43.0 +0.3
OBIP Obispado Ponce 80.80 72 *eP* P 02 08 43.1 +0.5
comp=Z,64nm,1.2s
KKR Kurukshetra 80.81 309 *eP* P 02 08 41.9 -0.8
KKR AMB AMB 02 08 43.4
comp=Z,78nm,1.0s
CFR Carcaliu 80.83 350⇑*iP* P 02 08 42.6 +0.2
VOIR 80.85 352⇓*iP* P 02 08 43.6 +0.9
BZS Buzias 80.90 355⇑*iP* P 02 08 43.3 +0.5
RKT Rikitea 80.91 152 *eLR* LR 02 34 10.2
comp=Z,1µm,28.2s,baz=344
LOT Lotru 80.94 353⇓*iP* P 02 08 43.1 -0.1
ONI Oni 80.94 339 P P 02 08 45.2 +2.0
ARR Arges 80.95 353⇑*iP* P 02 08 44.0 +0.8
LPL La Plagne 80.96 6⇑*iP* P 02 08 45.0 +1.5
LPL La Plagne 80.96 6 *eP* P 02 08 45.0 +1.5
LPL La Plagne 80.96 6 *eP* P 02 08 45.0 +1.5
LPG La Plagne 80.98 6⇑*iP* P 02 08 45.3 +1.7
comp=Z,22nm,1.0s
LPG La Plagne 80.98 6 *eP* P 02 08 45.3 +1.7
LPG La Plagne 80.98 6 *eP* P 02 08 45.3 +1.7
LBL Lubilhac 81.00 8⇑*eP* P 02 08 45.5 +2.0
GZR Gura Zlata 81.05 354⇑*iP* P 02 08 44.2 +0.5
LFF La Frestale 81.06 10⇑*iP* P 02 08 44.4 +0.7
comp=Z,23nm,0.6s
LFF La Frestale 81.06 10 *eP* P 02 08 44.4 +0.7
LFF La Frestale 81.06 10 *eP* P 02 08 44.4 +0.7
SAUI Saumlaki 81.09 243 P P 02 08 43.9 -0.3
comp=Z,203nm,1.0s,comp=Z,9µm
CHBT CHBT 81.12 279 P P 02 08 45.9 +1.5
comp=Z,68nm,1.1s
BANR Banloc 81.16 355⇑*iP* P 02 08 44.1 -0.1
SECR 81.17 352⇑*iP* P 02 08 44.6 +0.3
BOJS Bojanci 81.19 359 *iP* P 02 08 45.0 +0.6
CPD Cerro la Pandu 81.20 72 *eP* P 02 08 45.0 +0.2
CPD pmax pmax
comp=Z,73nm,1.0s
CPD Cerro la Pandu 81.20 72 *eP* P 02 08 45.0 +0.2
comp=Z,72nm,1.0s
CAF Calviac 81.20 9⇑*iP* P 02 08 45.2 +0.7
comp=Z,35nm,1.0s
CAF Calviac 81.20 9 *eP* P 02 08 45.2 +0.7
CAF Calviac 81.20 9 *eP* P 02 08 45.2 +0.7
MTP Monte Pirata 81.35 71 *eP* P 02 08 43.3 -2.4
comp=Z,56nm,1.1s
BNI Bardonecchia 81.42 6 *eP* P 02 08 47.7 +1.9
BNI pmax pmax
comp=Z,38nm,1.1s
BNI Bardonecchia 81.42 6 *eP* P 02 08 47.7 +1.9
comp=Z,38nm,1.1s
TLB Topalu 81.43 350⇑*iP* P 02 08 46.0 +0.4
TBLG Delisi 81.47 338 P P 02 08 47.6 +1.7
VIVF Saint-Julien-l 81.49 7⇑*iP* P 02 08 46.9 +0.9
comp=Z,39nm,1.0s
VIVF Saint-Julien-l 81.49 7 *eP* P 02 08 46.9 +0.9
VIVF Saint-Julien-l 81.49 7 *eP* P 02 08 46.9 +0.9
ORIF Oris-en-Rattie 81.51 6⇑*iP* P 02 08 47.3 +1.1
comp=Z,26nm,0.9s
ORIF *eR*
comp=Z,513nm,20.8s
ORIF Oris-en-Rattie 81.51 6 *eP* P 02 08 47.3 +1.1
ORIF Oris-en-Rattie 81.51 6 *eP* P 02 08 47.3 +1.1
TIRR Tirgusor 81.52 350⇑*iP* P 02 08 46.5 +0.4
DGRG David-gareji 81.59 337 P P 02 08 48.8 +2.1
KHLT Khaolaem Dam 81.67 283 P P 02 08 48.6 +1.3
comp=Z,19nm,1.4s
PCI Palu 81.67 257 P P 02 08 47.1 -0.2
comp=Z,784nm,1.0s
SRDT SRDT 81.72 283 P P 02 08 48.6 +1.0
comp=Z,163nm,1.4s,comp=Z,7µm
MBDF Montbardon 81.75 6⇑*iP* P 02 08 49.3 +1.7
comp=Z,49nm,0.8s
MBDF Montbardon 81.75 6 *eP* P 02 08 49.3 +1.7
MBDF Montbardon 81.75 6 *eP* P 02 08 49.3 +1.7
RTK Rohtak 81.79 309 *eP* P 02 08 47.4 -0.4
RTK AMB AMB 02 08 48.4
comp=Z,59nm,1.0s
AYAN Aya Nagar 81.92 308 *eP* P 02 08 48.4 -0.1
AYAN AMB AMB 02 08 48.8
comp=Z,23nm,1.3s
AKH Akhalkalaki 82.05 338 P P 02 08 48.1 -1.2
EPOS Posof 82.13 339 *iP* P 02 08 43.1 -6.5
NVLJ Novalja 82.14 360 P P 02 08 49.2 -0.1
UDBI Udbina 82.17 359 P P 02 08 50.2 +0.6
LASF Ste Croix 82.20 8 *eP* P 02 08 50.9 +1.2
comp=Z,31nm,1.1s
LASF Ste Croix 82.20 8 *eP* P 02 08 50.9 +1.2
SMRF Simiane la Rot 82.42 6⇑*iP* P 02 08 52.6 +1.6
comp=Z,14nm,0.7s
SMRF Simiane la Rot 82.42 6 *eP* P 02 08 52.6 +1.6
TOUF Mont Tournerai 82.49 5⇑*eP* P 02 08 52.4 +0.9
KUDL Kundal 82.50 308 *eP* P 02 08 51.7 +0.1
KUDL AMB AMB 02 08 52.3
comp=Z,61nm,0.7s
DBOC Borcka 82.50 340 *iP* P 02 08 51.9 +0.5
SAOF Saorge 82.53 5⇑*eP* P 02 08 52.4 +0.9
AGRA Agra 82.58 307 *eP* P 02 08 51.8 -0.1
AGRA AMB AMB 02 08 52.1
comp=Z,37nm,1.3s
ARTV Artvin 82.60 339 *iP* P 02 08 53.4 +1.2
LUCF Luceram 82.61 5⇑*eP* P 02 08 53.0 +1.0
SBF Sospel 82.65 5⇑*iP* P 02 08 52.9 +0.7
comp=Z,55nm,0.9s
SBF Sospel 82.65 5 *eP* P 02 08 52.9 +0.7
SBF Sospel 82.65 5 *eP* P 02 08 52.9 +0.7
SGKI Sangatta, Kali 82.67 259 P P 02 08 52.0 -0.6
comp=Z,130nm,1.1s
EAK Akyaka 82.72 338 *iP* P 02 08 54.2 +1.5
MTLF Montolieu 82.79 9⇑*iP* P 02 08 53.7 +0.9
comp=Z,36nm,0.9s
MTLF Montolieu 82.79 9 *eP* P 02 08 53.7 +0.9
MTLF Montolieu 82.79 9 *eP* P 02 08 53.7 +0.9
DBAD Bademkaya 82.81 340 *iP* P 02 08 54.3 +1.2
KHET Khetri 82.88 309 *eP* P 02 08 53.5 0.0
KHET AMB AMB 02 08 54.6
comp=Z,38nm,0.8s
FRF La Foret Royal 82.91 6⇑*iP* P 02 08 54.3 +0.9
comp=Z,19nm,0.8s
FRF La Foret Royal 82.91 6 *eP* P 02 08 54.3 +0.9
FRF La Foret Royal 82.91 6 *eP* P 02 08 54.3 +0.9
DDEM Demirkent 82.92 340 *iP* P 02 08 54.9 +1.3
ETSF Etsaut 82.94 11⇑*iP* P 02 08 54.8 +1.1
comp=Z,17nm,0.6s
ETSF Etsaut 82.94 11 *eP* P 02 08 54.8 +1.1

ETSF	**Etsaut**	82.94	11	*e*P	P	02 08 54.8	+1.1
GNI	**Garni**	82.98	337	*e*P	P	02 08 55.4	+1.4
GNI	**Garni**	82.98	337	P	P	02 08 55.4	+1.4
	comp=Z,120nm,1.0s,baz=238,slow=22,SNR=3.7						
DIGO	**Kars**	83.03	338	*i* P	P	02 08 56.1	+1.6
GRSN	**GIRESUNGRSN**	83.57	342	*i* P	P	02 08 58.3	+1.4
HOMI	**Horasan**	83.70	339	*i* P	P	02 08 59.0	+1.1
EATA	**Eleskirt**	83.75	339	*i* P	P	02 09 00.0	+1.8
STON	**Ston**	83.79	358	P	P	02 08 57.9	0.0
VTS	**Vitosha**	83.82	354	*e*P	P	02 08 58.3	0.0
VTS	**Vitosha**	83.82	354	ǁ *i*P	P	02 08 58.1	-0.2
ERZM	**Erzurum**	83.95	340	*i* P	P	02 09 01.2	+2.0
PGF	**Pioggiola**	84.03	4	ǁ *i*P	P	02 09 00.3	+0.9
	comp=Z,110nm,1.1s						
PGF	**Pioggiola**	84.03	4	*e*P	P	02 09 00.3	+0.9
PGF	**Pioggiola**	84.03	4	*e*P	P	02 09 00.3	+0.9
ERBA	**Erbaa**	84.08	343	*i* P	P	02 09 01.9	+2.3
TUTA	**Tutak**	84.12	338	*i* P	P	02 09 01.8	+1.8
KELT	**Kelkit**	84.14	341	*i* P	P	02 09 01.7	+1.7
SUSE	**Susehri**	84.28	342	*i* P	P	02 09 01.7	+1.0
CTA	**Charters Tower**	84.38	225	*e*P	P	02 09 00.5	-0.6
CTA	**Charters Tower**	84.38	225	P	P	02 09 00.5	-0.6
	comp=Z,100nm,1.0s,baz=44,slow=2.8,SNR=5.6						
EKAR	**Karacoban**	84.43	339	*i* P	P	02 09 03.8	+2.3
CTKT	**Corum**	84.46	345	*i* P	P	02 09 03.3	+1.7
TOKA	**Tokat**	84.47	343	*i* P	P	02 09 03.6	+2.0
SKO	**Skopje**	84.54	355	*e*P	P	02 09 02.1	+0.3
KDZ	**Kurdzhali**	84.58	352	*e*P	P	02 09 03.5	+1.5
RZN	**Rozhen**	84.60	352	*e*P	P	02 09 02.8	+0.5
MMB	**Musomiste**	84.78	353	*i* P	P	02 09 03.7	+0.7
MMB	**Musomiste**	84.78	353	ǁ *i*P	P	02 09 03.9	+0.9
ELDT	**Eldivan**	84.80	346	*i* P	P	02 09 04.9	+1.6
SCER	**sogukcermik**	84.81	343	*i* P	P	02 09 05.0	+1.7
BNGL	**BINGOL**	84.91	339	*i* P	P	02 09 06.2	+2.2
JBP	**Jabalpur**	84.99	303	ǁ *i*P	P	02 09 04.4	+0.1
JBP				*e*		02 09 21.7	
KAPI	**Kappang**	85.06	255	P	P	02 09 04.4	-0.3
	comp=Z,231nm,1.2s,comp=Z,3µm						
KAPI	**Kappang**	85.06	255	*e*P	P	02 09 05.2	+0.5
	comp=Z,168nm,1.3s						
KAPI	**Kappang**	85.06	255	P	P	02 09 05.1	+0.5
	comp=Z,75nm,1.0s,baz=86,slow=0.7,SNR=9.6						
VAY	**Valandovo**	85.12	354	*e*P	P	02 09 02.5	-2.2
KEMA	**Kemaliye**	85.14	342	*i* P	P	02 09 06.5	+1.5
ALN	**Alexandroupoli**	85.28	351	*e*P	P	02 09 05.8	+0.3
KSM	**Kuching**	85.37	266	*e*P	P	02 09 07.3	+1.0
	comp=Z,46nm,1.0s						
BIA	**Bitola**	85.50	355	*e*P	P	02 09 06.0	-0.6
ANTO	**Ankara**	85.50	346	*e*P	P	02 09 08.0	+1.3
ANTO				pmax	pmax		
	comp=Z,29nm,0.8s						
ANTO	**Ankara**	85.50	346	*e*P	P	02 09 08.0	+1.3
	comp=Z,29nm,0.8s						
BR101	**Keskin Array S**	85.52	345	*e*P	P	02 09 07.8	+0.9
BRTR	**Keskin Array B**	85.52	345	P	P	02 09 07.8	+0.9
	comp=Z,21nm,0.9s,baz=32,slow=2.7,SNR=73						
BRTR				LR	LR	02 50 25.9	
	comp=Z,413nm,21.8s,baz=183,slow=38						
BR231	**Keskin MP Arra**	85.53	346	*e*P	P	02 09 08.4	+1.5
SURA	**Surathani**	85.56	279	P	P	02 09 09.0	+1.8
	comp=Z,125nm,1.0s						
ES19	**SONSECA Array**	85.65	14	*e*P	P	02 09 07.8	+0.4
ESDC	**Sonseca Array**	85.67	14	*e*P	P	02 09 08.2	+0.7
ESDC	**Sonseca Array**	85.67	14	P	P	02 09 08.2	+0.7
	comp=Z,3.3nm,0.7s,baz=347,slow=4.4,SNR=17						
HAKT	**HAKKARI**	85.69	337	*i* P	P	02 09 09.0	+1.1
ULDT	**Uludag**	85.70	349	*i* P	P	02 09 08.5	+0.6
FNA	**Florina**	85.73	355	*e*P	P	02 09 07.7	-0.1
BBAL	**Bala**	85.77	346	*i* P	P	02 09 08.8	+0.7
ELZG	**Elazig**	85.79	341	*i* P	P	02 09 10.1	+1.8
BEST	**Besiri**	85.91	339	*i* P	P	02 09 08.7	-0.1
MALT	**Malatya**	86.07	341	ǁ *i*P	P	02 09 10.9	+1.3
SEYT	**Eskypehyr**	86.11	347	*i* P	P	02 09 10.5	+0.7
DIYA	**Diyarbakir**	86.12	340	*i* P	P	02 09 11.5	+1.7
SURT	**Suratani**	86.22	280	P	P	02 09 12.6	+2.1
	comp=Z,16nm,1.8s,comp=Z,820nm						
DURS	**Dursunbey**	86.31	349	*i* P	P	02 09 10.7	0.0
GDZ	**Gediz**	86.70	348	*i* P	P	02 09 12.3	-0.5
ROSC	**El Rosal**	86.82	86	LR	LR	02 49 01.1	
	comp=Z,113nm,18.8s,baz=21,slow=36						
THL	**Klokotos Trika**	86.91	354	*e*P	P	02 09 13.3	-0.2
GZT	**Gaziantep**	87.17	342	*i* P	P	02 09 15.9	+0.8
MANT	**Manisa**	87.40	349	*i* P	P	02 09 16.3	+0.1
KHAL	**Karahalli**	87.41	348	*i* P	P	02 09 16.3	+0.1
AGG	**Agios Georgios**	87.43	354	*e*P	P	02 09 15.4	-0.7
EVR	**Evrytania**	87.56	354	*e*P	P	02 09 17.5	+0.6
KULM	**Kulim**	88.06	276	*e*P	P	02 09 20.1	+0.7
	comp=Z,38nm,1.1s						
OTAV	**Otavalo**	88.06	92	*e*P	P	02 09 20.0	0.0
	comp=Z,9.7nm,0.9s						
PTL	**Penteli**	88.29	353	*e*P	P	02 09 19.4	-0.8
KLV	**Kalavryta, Ach**	88.41	354	*e*P	P	02 09 20.8	-0.1
IPM	**Ipoh**	88.48	275	*e*P	P	02 09 21.1	-0.3
	comp=Z,49nm,1.3s						
WRAB	**Tennant Creek**	89.64	235	*d* iP	P	02 09 26.3	-0.3
WRAB				pmax	pmax		
	comp=Z,57nm,1.7s						
WRA	**Warramunga Arr**	89.66	235	*e*P	P	02 09 25.7	-1.0
WRA	**Warramunga Arr**	89.66	235	P	P	02 09 25.7	-1.0
	comp=Z,8.0nm,1.0s,baz=39,slow=5.6,SNR=25						
WRA				LR	LR	02 45 21.4	
	comp=Z,174nm,21.1s,baz=5.0,slow=33						
HYB	**Hyderabad**	90.53	301	*i* P	P	02 09 30.0	-1.1
	comp=Z,75nm,1.0s						
KEST	**Kesra**	90.85	4	P	P	02 09 33.2	+0.9
	comp=Z,3.1nm,1.2s,baz=43,slow=5.4,SNR=4.6						
PSI	**Prapat**	91.07	276	*e*P	P	02 09 33.8	+0.2
PSI	**Prapat**	91.07	276	P	P	02 09 33.8	+0.2
	comp=Z,19nm,0.9s,baz=326,slow=3.1,SNR=14						
POO	**Poona**	91.94	305	ǁ *i*P	P	02 09 37.0	-0.6
	comp=Z,20nm,1.0s						
FITZ	**Fitzroy Crossi**	92.53	243	*e*P	P	02 09 39.8	-0.2
	comp=Z,18nm,0.9s						
FITZ	**Fitzroy Crossi**	92.53	243	P	P	02 09 39.5	-0.5
	comp=Z,18nm,0.9s,baz=32,slow=4.5,SNR=24						
FITZ				LR	LR	02 44 25.6	
	comp=Z,179nm,21.2s,baz=34,slow=31						
AS01	**Alice Springs**	93.01	233	*e*P	P	02 09 41.1	-1.1
AS12	**Alice Springs**	93.03	233	*e*P	P	02 09 41.8	-0.6
ASAR	**Alice Springs**	93.03	233	P	P	02 09 41.8	-0.6
	comp=Z,4.7nm,0.9s,baz=31,slow=4.1,SNR=18						
ASAR				LR	LR	02 50 07.3	
	comp=Z,208nm,19.5s,baz=28,slow=35						
STKA	**Stephens Creek**	96.72	223	LR	LR	02 52 05.3	
	comp=Z,235nm,19.2s,baz=23,slow=34						
PALK	**Pallekele**	97.88	294	*e*P	Pdif	02 10 05.6	+0.8
	comp=Z,30nm,1.3s						
RAYN	**Ar Rayn**	98.57	331	*e*P	P	02 10 07.3	-0.5
	comp=Z,16nm,1.2s						
H03N2	**Juan Fernandez**	114.28	114	T	T	04 19 58.1	
	baz=320,slow=76,SNR=2832						
H03N1	**Juan Fernandez**	114.29	114	T	T	04 19 51.6	
	baz=320,slow=76,SNR=4507						
H03N3	**Juan Fernandez**	114.29	114	T	T	04 19 51.0	
	baz=320,slow=76,SNR=2357						
PLCA	**Paso Flores**	124.16	114	*e*PKPdf	PKPdf	02 15 26.6	0.0
PLCA	**Paso Flores**	124.16	114	PKP	PKPdf	02 15 26.6	0.0
	comp=Z,5.5nm,0.9s,baz=271,slow=4.9,SNR=9.3						
KMBO	**Kilima Mbogo**	124.35	332	PKP	PKPdf	02 15 29.2	+1.1
	comp=Z,3.6nm,0.9s,baz=24,slow=5.5,SNR=9.9						
LSZ	**Lusaka**	140.20	339	*e*PKPpre	PKPpre	02 15 53.0	
QSPA	**South Pole Qui**	143.44	180	*e*PKPpre	PKPpre	02 15 59.2	
TSUM	**Tsumeb**	145.51	355	*e*PKPdf	PKPab	02 16 07.4	+0.1
LBTB	**Lobatse**	150.19	339	*e*PKPdf	PKPdf	02 16 15.8	+1.4
MAW	**Mawson**	153.36	220	PKPbc	PKPbc	02 16 24.7	-0.5
	comp=Z,7.2nm,0.8s,baz=31,slow=3.1,SNR=14						
BOSA	**Boshof**	153.74	338	*e*PKPbc	PKPbc	02 16 28.3	+0.8
BOSA				*e*PKPab	PKPab	02 16 40.1	-0.4
BOSA	**Boshof**	153.74	338	PKPbc	PKPbc	02 16 27.8	+0.3
	comp=Z,4.6nm,0.6s,baz=183,slow=0.9,SNR=12						
VNA2	**Neumayer--Watz**	160.15	159	*e*PKPdf	PKPdf	02 16 23.5	-2.8
VNA2	**Neumayer--Watz**	160.15	159	*e*PKPab	PKPab	02 17 04.5	-2.4
VNA1	**Neumayer--Stat**	160.16	158	*e*PKPab	PKPab	02 17 03.2	-3.7
SNAA	**Sanae**	160.42	164	*e*PKPdf	PKPdf	02 16 22.7	-4.0
SNAA	**Sanae**	160.42	164	*e*PKPab	PKPab	02 17 01.7	-6.4
SNAA	**Sanae**	160.42	164	*e*PKPdf	PKPdf	02 16 23.6	-3.1
SNAA				*e*PKPab	PKPab	02 17 06.7	-1.5
SYO	**Syowa Base**	160.72	208	ǁ *e*P	PKPab	02 17 06.8	-2.6

IDC 03 02:03:23.6±1.9, 0°11N×126°31E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=164.3km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.42**	**159**	P	P	02 08 12.6	-0.9
	0.5nm,0.5s,baz=337,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**24.76**	**163**	P	P	02 08 47.8	+0.6
	0.6nm,0.3s,baz=348,slow=14,SNR=11						
MKAR	**Makanchi Array**	**60.30**	**327**	P	P	02 13 34.1	-0.1
	0.2nm,0.3s,baz=127,slow=7.9,SNR=6.0						

*ISCJB **03** 02:09:24.2±0.7, 34°.15N±0°.10×136°.94E±0°.09, h400km, mb3.2/5, Error ellipse: s-maj=13.6km s-min=9.4km az=162.7*
*JMA **03** 02:09:24.8±0.3, 33°.93N×136°.70E, h373km±3km, M2.7*
*IDC **03** 02:09:26.9±3.2, 33°.98N×136°.54E, h387km±35km, mb3.0/5, mb1 3.1/7, mb1mx2.9/28, mbtmp2.9/7, Error ellipse: s-maj=37.0km s-min=19.1km az=90.0*

ISC 03 02:09:24.9±1.0, 34°.1N±0°.1×136°.81E±0°.08, h400km, n16, σ2s75/17, mb3.2/5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**0.46**	**286**	P	**Pn**	02 10 11.8	**-2.8**
JGM	**Miyama**	**1.58**	**357**	P	**Pn**	02 10 17.5	**-1.0**
JWT	**Wachi**	**1.65**	**315**	P	**Pn**	02 10 16.6	**-2.2**
JWT				S	**S**	02 10 56.7	**-5.7**
JKG	**Kaga**	**2.19**	**350**	P	**Pn**	02 10 21.0	**-1.0**
JRY	**Ryogami san**	**2.56**	**41**	P	**Pn**	02 10 24.9	**+0.3**
BSO4	**Boso 4**	**3.04**	**72**	P	**Pn**	02 10 27.8	**-0.5**
BSO3	**Boso 3**	**3.13**	**76**	S	**S**	02 11 18.3	**-2.4**
JAG	**Ashikaga**	**3.16**	**42**	P	**Pn**	02 10 28.7	**-0.7**
JAG				eS	**S**	02 11 18.3	**-3.3**
JHO	**Hitachi**	**3.95**	**50**	P	**Pn**	02 10 36.1	**-0.4**
JHO				eS	**S**	02 11 30.0	**-4.6**
KSRS	**Korea Array**	**7.96**	**297**	P	**P**	02 11 19.4	**-0.3**
	0.4nm,0.3s,baz=113,slow=12,SNR=7.7						
USRK	**Ussuriysk Arra**	**10.74**	**341**	P	**Pn**	02 11 53.1	**+1.7**
	0.2nm,0.3s,baz=152,slow=8.6,SNR=4.2						
SONM	**Songino Array**	**26.55**	**310**	P	**P**	02 14 31.5	**+3.2**
	0.8nm,0.9s,baz=241,slow=36,SNR=1.6						
WRA	**Warramunga Arr**	**53.81**	**183**	P	**P**	02 18 09.3	**+1.0**
	0.6nm,0.3s,baz=360,slow=7.6,SNR=2.9						
ILAR	**Eielson Array**	**53.94**	**31**	P	P	02 18 13.6	+4.9
	0.3nm,0.6s,baz=267,slow=5.3,SNR=5.8						
ASAR	**Alice Springs**	**57.53**	**183**	P	P	02 18 37.1	+2.8
	0.3nm,0.4s,baz=16,slow=13,SNR=4.5						
FINES	**FINESS Array B**	**69.61**	**331**	P	**P**	02 19 54.4	**+2.6**
	4.0nm,1.0s,baz=56,slow=7.1,SNR=6.4						

*IDC **03** 02:20:43.5±1.4, 1°.91N×96°.58E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/26, mbtmp4.1/9, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.8/46, Error ellipse: s-maj=44.9km s-min=20.1km az=50.0*
*ISCJB **03** 02:20:46.3±0.7, 1°.88N±0°.06×96°.70E±0°.05, h28km, mb4.0/8, Error ellipse: s-maj=9.7km s-min=5.8km az=43.1*
*DJA **03** 02:20:47.5±0.5, 2°.N±3°×9°.7E±°, h10km, M3.9/4, MLv3.9/4*

ISC 03 02:20:48.4±0.8, 2°.05N±0°.06×96°.84E±0°.05, h28km, n20, σ1s06/18, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.62**	**305**	P	**Pb**	02 21 00.4	**-0.3**
SNSI				S	**Sb**	02 21 08.9	**-0.3**
GSI	**Gunungsitoli**	**1.05**	**135**	P	**Pb**	02 21 08.2	**+0.3**
GSI				S	**Sn**	02 21 18.8	**-2.1**
TPTI		**1.25**	**16**	P	**Pb**	02 21 10.7	**-0.6**
TPTI				S	**Sb**	02 21 29.3	**+2.3**
KCSI	**Kotacane, Aceh**	**1.73**	**33**	P	**Pb**	02 21 18.4	**-1.2**
PSI	**Prapat**	**2.21**	**70**	Pn	**Pn**	02 21 25.1	**+1.7**
	2.7nm,0.3s,baz=265,slow=10,SNR=7.5						
PSI				LR	LR	02 21 48.2	
	comp=Z,353nm,20.7s,baz=273,slow=26						
PSI				Sn	**Sb**	02 21 53.8	**-1.1**
	3.3nm,0.3s,baz=100,slow=20,SNR=4.8						
CMAR	**Chiang Mai Arr**	**16.44**	**7**	Pn	**P**	02 24 38.9	**-0.9**
	0.1nm,0.3s,baz=198,slow=12,SNR=11						
H08S2	**Diego Garcia H**	**26.13**	**248**	T	T	02 53 05.4	
	baz=69,slow=75,SNR=674						
H08S3	**Diego Garcia H**	**26.13**	**248**	T	T	02 53 07.0	
	baz=69,slow=75,SNR=471						
H08S1	**Diego Garcia H**	**26.14**	**248**	T	T	02 53 04.6	
	baz=69,slow=75,SNR=472						
H01W3	**Cape Leeuwin H**	**40.16**	**158**	T	T	03 11 09.4	
	baz=334,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**40.18**	**158**	T	T	03 11 12.4	
	baz=334,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**40.18**	**158**	T	T	03 11 13.3	
	baz=334,slow=75,SNR=18						
WRA	**Warramunga Arr**	**42.79**	**123**	P	**P**	02 28 44.3	**+0.3**
	1.1nm,0.7s,baz=300,slow=9.2,SNR=6.6						
ASAR	**Alice Springs**	**44.20**	**128**	P	**P**	02 28 55.6	**+0.3**
	0.7nm,0.6s,baz=297,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**46.34**	**346**	P	**P**	02 29 11.9	**0.0**
	2.7nm,0.6s,baz=162,slow=7.3,SNR=37						
SONM	**Songino Array**	**46.35**	**9**	P	**P**	02 29 12.6	**+0.5**
	1.0nm,0.4s,baz=189,slow=9.3,SNR=12						
ZALV	**Zalesovo Beam**	**52.67**	**351**	P	**P**	02 29 59.9	**-0.1**
	2.7nm,0.6s,baz=181,slow=6.2,SNR=20						
BVAR	**Borovoye Array**	**55.33**	**341**	P	**P**	02 30 19.1	**-0.5**
	1.2nm,0.8s,baz=132,slow=8.0,SNR=2.8						
FINES	**FINESS Array B**	**79.08**	**332**	P	**P**	02 32 49.7	**-0.3**
	1.2nm,0.6s,baz=159,slow=8.2,SNR=1.7						
ARCES	**ARCESS Array B**	**81.62**	**340**	P	**P**	02 33 03.5	**+0.1**
	1.1nm,0.5s,baz=97,slow=7.4,SNR=1.1						

*IDC **03** 02:21:37.0±0.8, 3°.96N×126°.87E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/24, mbtmp4.0/11, Error ellipse: s-maj=47.5km s-min=15.0km az=70.0*
*ISCJB **03** 02:21:40.6±0.7, 3°.9N±0°.1×126°.7E±0°.3, h36km, mb3.9/11, Error ellipse: s-maj=39.1km s-min=11.9km az=160.0*

ISC 03 02:21:42.4±0.8, 3°.9N±0°.1×126°.8E±0°.3, h36km, n12, σ0s49/12, mb3.9/11, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.90**	**183**	P	**P**	02 26 33.0	**+0.5**
	2.5nm,0.6s,baz=359,slow=14,SNR=10.0						
WRA	**Warramunga Arr**	**24.83**	**163**	P	**P**	02 27 01.4	**0.0**
	3.4nm,0.6s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.26**	**166**	P	**P**	02 27 32.1	**-0.4**
	0.5nm,0.6s,baz=344,slow=7.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P	**P**	02 27 55.8	**+0.2**
	2.5nm,0.3s,baz=99,slow=5.6,SNR=6.3						
STKA	**Stephens Creek**	**38.26**	**159**	P	**P**	02 28 59.2	**-0.1**
	3.6nm,0.7s,baz=327,slow=5.9,SNR=6.6						
SONM	**Songino Array**	**47.16**	**341**	P	**P**	02 30 11.7	**+0.2**
	0.5nm,0.5s,baz=167,slow=9.3,SNR=2.2						
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	02 31 27.1	**-0.8**
	0.5nm,0.4s,baz=118,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**60.47**	**333**	P	**P**	02 31 49.0	**+0.5**
	0.4nm,0.3s,baz=96,slow=5.9,SNR=2.7						
BVAR	**Borovoye Array**	**67.22**	**327**	P	**P**	02 32 32.2	**-0.8**
	0.4nm,0.4s,baz=134,slow=6.4,SNR=3.7						
ILAR	**Eielson Array**	**84.90**	**25**	P	**P**	02 34 13.5	**+0.1**
	0.2nm,0.5s,baz=250,slow=5.3,SNR=7.1						
FINES	**FINESS Array B**	**91.72**	**332**	P	**P**	02 34 46.4	**+0.4**
	0.7nm,0.8s,baz=104,slow=6.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**122.95**	**288**	PKP	**PKPdf**	02 40 36.3	**+0.3**
	0.3nm,0.8s,baz=29,slow=3.3,SNR=1.4						

*ISCJB **03** 02:23:45.7±0.6, 13°.05N±0°.09×143°.7E±0°.2, h138km, mb3.9/16, Error ellipse: s-maj=25.4km s-min=11.5km az=168.2*
*IDC **03** 02:23:53.3±6.1, 13°.03N×143°.61E, h194km±60km, mb3.6/15, mb1 3.8/15, mb1mx3.7/27, mbtmp3.6/15, Error ellipse: s-maj=26.1km s-min=10.4km az=73.0*

ISC 03 02:23:47.3±0.7, 13°.1N±0°.1×143°.7E±0°.2, h138km, n17, σ0s89/16, mb3.9/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**23.17**	**332**	P	**P**	02 28 42.1	**+0.4**
	6.7nm,0.6s,baz=99,slow=3.1,SNR=5.0						
KSRS	**Korea Array**	**28.10**	**333**	P	**P**	02 29 27.8	**+1.7**
	1.4nm,0.5s,baz=137,slow=8.8,SNR=5.5						
USRK	**Ussuriysk Arra**	**32.63**	**344**	P	**P**	02 30 06.5	**+0.6**
	2.6nm,0.9s,baz=161,slow=9.2,SNR=2.9						
WRA	**Warramunga Arr**	**34.07**	**196**	P	**P**	02 30 18.6	**-0.1**
	3.7nm,0.7s,baz=17,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**37.74**	**195**	P	**P**	02 30 50.0	**0.0**
	1.0nm,0.5s,baz=17,slow=13,SNR=20						
DZM	**Mont Dzumac**	**41.41**	**147**	P	**P**	02 31 21.9	**+1.5**
	9.5nm,0.6s,baz=312,slow=12,SNR=15						
STKA	**Stephens Creek**	**44.73**	**183**	P	**P**	02 31 46.0	**-0.8**
	1.0nm,0.4s,baz=356,slow=14,SNR=3.5						
SONM	**Songino Array**	**46.53**	**326**	P	**P**	02 32 01.7	**+0.6**
	0.5nm,0.5s,baz=148,slow=6.1,SNR=4.7						
MKAR	**Makanchi Array**	**61.11**	**316**	P	**P**	02 33 46.5	**-0.3**
	0.6nm,0.5s,baz=90,slow=8.9,SNR=9.2						
ZALV	**Zalesovo Beam**	**61.41**	**325**	P	**P**	02 33 48.4	**-0.3**
	0.6nm,0.5s,baz=101,slow=6.8,SNR=3.8						
ILAR	**Eielson Array**	**69.52**	**25**	P	P	02 34 37.9	-2.8
	0.4nm,0.6s,baz=250,slow=5.6,SNR=9.2						
BVAR	**Borovoye Array**	**69.66**	**322**	P	**P**	02 34 41.5	**-0.3**
	0.7nm,0.4s,baz=110,slow=7.5,SNR=6.1						
INK	**Inuvik**	**75.28**	**22**	P	**P**	02 35 14.1	**-0.7**
	1.5nm,0.7s,baz=235,slow=1.3,SNR=5.3						
YKA	**Yellowknife Ar**	**83.83**	**27**	P	**P**	02 36 00.5	**-0.5**
	0.7nm,0.4s,baz=286,slow=5.1,SNR=8.2						
NVAR	**Mina Array Bea**	**88.11**	**51**	P	**P**	02 36 23.0	**+0.1**
	2.6nm,0.7s,baz=273,slow=5.9,SNR=20						
FINES	**FINESS Array B**	**91.17**	**335**	P	**P**	02 36 34.8	**-1.6**
	1.1nm,0.8s,baz=72,slow=6.2,SNR=3.9						
LPAZ	**La Paz**	**149.03**	**100**	PKPbc	**PKPbc**	02 43 21.1	**+0.3**
	1.5nm,0.5s,baz=291,slow=2.0,SNR=6.9						

*IDC **03** 02:38:21.4±4.3, 37°.31N×95°.94E, h0km, mb3.4/2, mb1 3.5/7, mb1mx3.4/31, mbtmp3.5/7, ML3.5/5, Error ellipse: s-maj=80.0km s-min=32.4km az=8.0*

ISC 03 02:38:26.2±2.6, 37°.7N±0°.3×95°.6E±0°.1, h12km, n7, σ1s00/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**12.82**	**35**	Pn	**Pn**	02 41 28.9	**+0.5**
	0.2nm,0.3s,baz=217,slow=15,SNR=8.5						
MKAR	**Makanchi Array**	**13.41**	**317**	Pn	**Pn**	02 41 35.6	**-0.6**
	0.3nm,0.3s,baz=124,slow=14,SNR=15						
MKAR				Sn	**Sn**	02 44 04.8	**-0.4**
	0.1nm,0.3s,baz=122,slow=24,SNR=6.8						
AAK	**Ala-Archa**	**16.88**	**294**	P	**P**	02 42 25.2	**+0.7**
	0.1nm,0.3s,baz=163,slow=11,SNR=4.3						
KURBB	**Kurchatov Array**	**17.75**	**322**	P	**P**	02 42 34.6	**+0.7**
	0.1nm,0.3s,baz=137,slow=10,SNR=4.4						
ZALV	**Zalesovo Beam**	**17.87**	**339**	P	**P**	02 42 36.2	**+1.0**
	0.1nm,0.3s,baz=159,slow=9.3,SNR=3.8						
BVAR	**Borovoye Array**	**23.26**	**319**	P	**P**	02 43 34.3	**+0.9**
	0.6nm,0.6s,baz=127,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**66.83**	**24**	P	**P**	02 49 16.3	**-1.1**
	0.4nm,0.8s,baz=298,slow=5.3,SNR=5.9						

MEX 03 02:47:30.1±0.8, 17°.10N×100°.18W, h39km±5km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.10**	**240**	*e*P	Pn	02 47 34.9	-5.5
CAIG				*i* S	Sn	02 47 39.4	-10
ACP2	**Acapulco**	**0.36**	**129**	*e*P	Pn	02 47 37.1	-1.7
ACP2				*i* S	Sn	02 47 43.4	-2.0
ACX	**Acapulco**	**0.38**	**127**	*e*P	Pn	02 47 40.5	+1.4
ACX				*i* S	Sn	02 47 46.7	+1.0
MEIG	**Mezcala**	**0.98**	**33**	*e*P	Pn	02 47 45.1	-2.3
MEIG				*i* S	Sn	02 47 57.9	-2.3
ARIG	**Puente Sto Nin**	**1.19**	**

IDC ***03*** *03:45:54.7±1.6, 35°.74N×26°.50E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=63.1km s-min=27.1km az=154.0*

ISC 03 03:45:54.3±1.3, **35°.68N**±0°.03×**26°.96E**±0°.03, **h13**km±10km, **n35**, σ0°.95/45, **mb3.3**/3, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.21**	**130**	*e*PB		**Pb**	**03 45 59.8**	**-0.3**
KARP				*e*SB		**Sb**	**03 46 03.9**	**0.0**
KARP	**Karpathos**	**0.21**	**130**	*e*Pb		**Pb**	**03 45 59.8**	**-0.3**
KARP				*e*Sb		**Sb**	**03 46 03.9**	**0.0**
ZKR	**Zakros**	**0.83**	**227**	*e*PN		**Pb**	**03 46 11.1**	**+0.4**
ZKR				*e*SN		**Sn**	**03 46 23.9**	**-0.1**
ZKR	**Zakros**	**0.83**	**227**	*e*Pn		**Pb**	**03 46 11.1**	**+0.4**
ZKR				*e*Sn		**Sn**	**03 46 23.9**	**-0.1**
ARG	**Arkhangelos**	**1.08**	**60**	*e*PN		**Pb**	**03 46 14.7**	**-0.2**
ARG				*e*SN		**Sb**	**03 46 27.9**	**-1.1**
ARG	**Arkhangelos**	**1.08**	**60**	*e*Pn		**Pb**	**03 46 14.7**	**-0.2**
ARG				*e*Sn		**Sb**	**03 46 27.9**	**-1.1**
NPS	**Neapolis**	**1.18**	**250**	*e*PN		**Pn**	**03 46 16.6**	**0.0**
NPS				*e*SN		**Sg**	**03 46 32.4**	**0.0**
NPS	**Neapolis**	**1.18**	**250**	*e*Pn		**Pn**	**03 46 16.6**	**0.0**
NPS				*e*Sn		**Sg**	**03 46 32.4**	**0.0**
LAST	**Lasithi**	**1.32**	**247**	*e*PN		**Pn**	**03 46 36.4**	**+0.3**
LAST				*e*SN		**Sn**	**03 46 36.4**	**+0.3**
LAST	**Lasithi**	**1.32**	**247**	*e*Pn		**Pn**	**03 46 18.8**	**+0.2**
LAST				*e*Sn		**Sn**	**03 46 36.4**	**+0.3**
SANT	**Santorini**	**1.40**	**300**	*e*PN		**Pn**	**03 46 19.3**	**-0.3**
SANT	**Santorini**	**1.40**	**300**	*e*Pn		**Pn**	**03 46 19.3**	**-0.3**
BDRM	**Kayabasi**	**1.43**	**16**	*i* P		**Pg**	**03 46 21.9**	**+0.1**
BDRM				*i* S		**Sb**	**03 46 39.2**	**+0.1**
BDRM	**Kayabasi**	**1.43**	**16**	*i* P		**Pg**	**03 46 21.9**	**+0.1**
BDRM				*i* S		**Sb**	**03 46 39.2**	**+0.1**
IDI	**Anoyia**	**1.74**	**257**	*e*PB		**Pn**	**03 46 24.1**	**-0.2**
IDI	**Anoyia**	**1.74**	**257**	*e*Pb		**Pn**	**03 46 24.1**	**-0.2**
TURN	**Turunc**	**1.78**	**48**	*i* P		Pn	03 46 20.5	-4.3
TURN				*i* S		Sn	03 46 38.7	-8.5
TURN	**Turunc**	**1.78**	**48**	*i* P		Pn	03 46 20.5	-4.3
APE	**Apeiranthos**	**1.80**	**321**	*e*PB		**Pn**	**03 46 24.3**	**-0.9**
APE	**Apeiranthos**	**1.80**	**321**	*e*Pb		**Pn**	**03 46 24.3**	**-0.9**
SIVA	**Sivas**	**1.88**	**250**	*e*PN		**Pb**	**03 46 28.3**	**-0.2**
SIVA	**Sivas**	**1.88**	**250**	*e*Pn		**Pb**	**03 46 28.3**	**-0.2**
VAM	**Vamos**	**2.27**	**264**	*e*PN		**Pn**	**03 46 32.5**	**+0.9**
VAM	**Vamos**	**2.27**	**264**	*e*Pn		**Pn**	**03 46 32.5**	**+0.9**
GOLH	**Golhisar**	**2.60**	**53**	*i* P		**Pb**	**03 46 38.8**	**-2.2**
GOLH				*i* S		**Sb**	**03 47 12.6**	**-0.3**
GOLH	**Golhisar**	**2.60**	**53**	*i* P		**Pb**	**03 46 38.8**	**-2.2**
DNZL	**Cakiroluk**	**2.61**	**39**	*i* P		**Pb**	**03 46 42.5**	**+1.4**
VLI	**Veliai**	**3.42**	**289**	*e*PN		**Pn**	**03 46 48.6**	**+1.3**
VLI	**Veliai**	**3.42**	**289**	*e*Pn		**Pn**	**03 46 48.6**	**+1.3**
DEMI	**Demirci**	**3.63**	**22**	*i* P		Pn	03 46 54.3	+4.0
DEMI				*i* S		**Sn**	**03 47 33.7**	**+0.5**
GDZ	**Gediz**	**3.95**	**30**	*i* P		**Pn**	**03 46 57.4**	**+2.7**
GDZ	**Gediz**	**3.95**	**30**	*i* P		**Pn**	**03 46 57.4**	**+2.7**
ESDC	**Sonseca Array**	**24.73**	**289**	P		**P**	**03 51 14.6**	**-0.9**
	0.4nm,0.5s,baz=82,slow=10,SNR=4.7							
TORD	**Torodi Ar. Bea**	**51.36**	**232**	P		**P**	**03 52 20.1**	**-0.1**
	0.2nm,0.3s,baz=33,slow=9.2,SNR=8.7							
MKAR	**Makanchi Array**	**42.26**	**57**	P		P	03 53 51.8	+4.5
	0.2nm,0.6s,baz=297,slow=6.3,SNR=2.6							

IDC ***03*** *03:55:43.3±1.6, 2°.07S×100°.45E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/26, mbtmp3.9/11, MS3.5/3, Ms1 3.6/3, ms1mx3.1/33, Error ellipse: s-maj=70.3km s-min=14.9km az=55.0*

ISCJB ***03*** *03:55:47.6±0.9, 2°.15S±0°.05×100°.32E±0°.06, h50km±8km, mb4.0/12, MS3.3/2, Error ellipse: s-maj=11.4km s-min=4.7km az=145.3*

DJA ***03*** *03:55:47.3±0.8, 2°.5S±3°×10°.0E±°, h11km±7km, M4.5/10, mb4.0/1, mB7.0/1, MLv4.8/10, Mw(mB)7.0/1*

ISC 03 03:55:49.7±1.5, **2°.09S**±0°.06×**100°.42E**±0°.09, **h43**km±15km, **n33**, σ1°.46/30, **mb4.0**/12, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.17**	**2**	P		Pn	03 56 03.8	-5.9
PPI	**Padang Panjang**	**1.62**	**359**	P		**Pn**	**03 56 13.3**	**-2.5**
PPI				S		Sn	03 56 36.5	+1.0
MASI	**Maura Aman, Be**	**2.10**	**120**	P		**Pn**	**03 56 19.8**	**-2.6**
MASI				S		**Sn**	**03 56 48.1**	**+0.7**
BKNI	**Bangkinang**	**2.48**	**15**	P		**Pn**	**03 56 27.5**	**-0.1**
BKNI				S		**Sn**	**03 56 58.0**	**+1.3**
RGRI	**Rengat**	**2.58**	**48**	P		**Pn**	**03 56 26.5**	**-2.5**
RGRI				S		**Sn**	**03 57 01.7**	**+2.5**
MNSI	**Mandailing Nat**	**2.98**	**344**	P		**Pn**	**03 56 34.6**	**0.0**
MNSI				S		**Sn**	**03 57 10.9**	**+1.8**
JMBI	**JAMBI**	**3.26**	**82**	P		Pn	03 56 42.7	+4.4
JMBI				S		**Sn**	**03 57 16.7**	**+0.9**
MNAI	**Manna**	**3.39**	**132**	P		**Pn**	**03 56 40.6**	**+0.4**
MNAI				S		**Sn**	**03 57 20.7**	**+1.5**
LHSI	**Lahat**	**3.55**	**119**	P		**Pn**	**03 56 42.3**	**0.0**
LHSI				S		**Sn**	**03 57 24.1**	**+1.0**
GSI	**Gunungsitoli**	**4.41**	**320**	P		**Pn**	**03 56 52.5**	**-1.6**
KLSI		**5.02**	**121**	P		**Pn**	**03 57 04.0**	**+1.4**
PSI	**Prapat**	**5.08**	**343**	Pn		**Pn**	**03 57 03.6**	**+0.2**
	1.1nm,0.3s,baz=171,slow=10,SNR=10							
PSI				Lg		Lg	03 58 26.5	
	1.6nm,0.3s,baz=225,slow=7.0,SNR=4.6							
PSI				LR		LR	03 59 19.8	
	comp=Z,822nm,18.3s,baz=179,slow=44							
TPTI		**6.22**	**329**	P		Pn	03 57 23.3	+4.3
CMAR	**Chiang Mai Arr**	**20.47**	**356**	LR		LR	04 09 22.5	
	comp=Z,59nm,19.9s,baz=147,slow=40							
H08S2	**Diego Garcia H**	**28.35**	**258**	T		T	04 30 59.2	
	baz=81,slow=75,SNR=21							
H08S3	**Diego Garcia H**	**28.36**	**258**	T		T	04 30 59.6	
	baz=81,slow=75,SNR=15							
H08S1	**Diego Garcia H**	**28.37**	**258**	T		T	04 30 54.5	
	baz=81,slow=75,SNR=19							
FITZ	**Fitzroy Crossi**	**29.42**	**124**	P		**P**	**04 01 48.7**	**-0.7**
	1.2nm,0.9s,baz=281,slow=10,SNR=3.5							
H01W3	**Cape Leeuwin H**	**35.04**	**160**	T		T	04 39 33.2	
	baz=338,slow=76,SNR=4.9							
H01W2	**Cape Leeuwin H**	**35.05**	**160**	T		T	04 39 34.2	
	baz=338,slow=76,SNR=4.2							
H01W1	**Cape Leeuwin H**	**35.05**	**160**	T		T	04 39 34.3	
	baz=338,slow=76,SNR=3.7							
WRA	**Warramunga Arr**	**37.59**	**121**	P		**P**	**04 02 59.4**	**-1.1**
	0.3nm,0.5s,baz=303,slow=9.1,SNR=3.3							
ASAR	**Alice Springs**	**38.86**	**126**	P		**P**	**04 03 10.3**	**-0.9**
	1.8nm,0.7s,baz=298,slow=8.2,SNR=22							
STKA	**Stephens Creek**	**48.78**	**132**	P		**P**	**04 04 30.9**	**+0.2**
	1.9nm,0.7s,baz=105,slow=23,SNR=3.4							
SONM	**Songino Array**	**49.99**	**5**	P		**P**	**04 04 40.4**	**+0.5**
	0.5nm,0.6s,baz=181,slow=10,SNR=3.6							
AAK	**Ala-Archa**	**50.29**	**335**	P		**P**	**04 04 42.8**	**+0.6**
	0.9nm,0.4s,baz=191,slow=9.5,SNR=4.9							
MKAR	**Makanchi Array**	**51.23**	**344**	P		**P**	**04 04 48.5**	**-0.5**
	0.8nm,0.6s,baz=145,slow=7.7,SNR=11							
USRK	**Ussuriysk Arra**	**54.04**	**28**	P		**P**	**04 05 08.8**	**-1.1**
	1.6nm,0.6s,baz=217,slow=2.0,SNR=5.8							
KURBB	**Kurchatov Arra**	**55.75**	**343**	P		**P**	**04 05 21.8**	**-0.3**
	0.7nm,0.4s,baz=164,slow=6.9,SNR=12							
ZALV	**Zalesovo Beam**	**57.33**	**349**	P		**P**	**04 05 32.1**	**-1.2**
	2.0nm,0.7s,baz=177,slow=5.5,SNR=6.9							
ZALV				LR		LR	04 30 28.9	
	comp=Z,63nm,19.0s,baz=75,slow=36							
BVAR	**Borovoye Array**	**60.41**	**340**	P		**P**	**04 05 53.6**	**-1.1**
	0.8nm,0.6s,baz=134,slow=8.5,SNR=5.4							
ARCES	**ARCESS Array B**	**86.70**	**340**	P		**P**	**04 08 31.3**	**+2.6**
	1.9nm,0.8s,baz=72,slow=4.0,SNR=4.2							
TXAR	**Lajitas Array**	**144.52**	**38**	PKP		PKPbc	04 15 21.4	+0.3
	0.6nm,0.7s,baz=273,slow=2.3,SNR=5.1							

ISCJB ***03*** *04:04:40.6±0.3, 48°.02S±0°.05×31°.9E±0°.1, h12km, mb4.8/29, MS4.1/23, Error ellipse: s-maj=11.5km s-min=7.2km az=162.0*

IDC ***03*** *04:04:40.6±0.5, 48°.03S×31°.94E, h0km, mb4.6/21, mb1 4.7/22, mb1mx4.6/28, mbtmp4.6/22, ML4.4/1, MS4.0/23, Ms1 4.0/23, ms1mx4.0/29, Error ellipse: s-maj=16.6km s-min=12.0km az=67.0*

BJI ***03*** *04:04:41.3, 48°.42S×32°.24E, h10km, mB5.6/4, Ms5.1/1, Ms7 5.0/2*

NEIC ***03*** *04:04:42.2±0.2, 47°.97S×31°.99E, h10km, mb4.8/18, Error ellipse: s-maj=10.0km s-min=6.6km az=68.0*

ISC 03 04:04:42.5±0.3, **48°.02S**±0°.07×**31°.92E**±0°.09, **h12**km, **n337**, σ0°.79/344, **mb4.9**/29, **MS4.1**/23, **122C-92D, South of Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.75**	**328**	*e*Pn		**Pn**	**04 08 48.7**	**-0.8**
	30nm,1.0s							
SUR				S		Sn	04 11 48.4	-19
SUR	**Sutherland**	**17.75**	**328**	P		**Pn**	**04 08 48.5**	**-1.1**
	1.3nm,0.3s,baz=159,slow=9.9,SNR=15							
SUR				S		Sn	04 11 48.4	-19
	0.3nm,0.3s,baz=86,slow=20,SNR=2.0							
SUR				LR		LR	04 14 12.5	
	comp=Z,658nm,19.1s,baz=162,slow=32							
BOSA	**Boshof**	**20.06**	**343**	*e*P		**P**	**04 09 14.9**	**-0.7**
	22nm,1.0s							
BOSA	**Boshof**	**20.06**	**343**	P		**P**	**04 09 14.9**	**-0.7**
	15nm,0.8s,baz=166,slow=10,SNR=22							
BOSA				LR		LR	04 15 20.5	
	comp=Z,576nm,21.7s,baz=154,slow=32							
SYO	**Syowa Base**	**21.39**	**172**	*e*P		**P**	**04 09 27.8**	**-1.8**
SYO	**Syowa Base**	**21.39**	**172**	*e*pP		pP	04 09 32.4	-0.6
LBTB	**Lobatse**	**23.50**	**345**	*e*P		**P**	**04 09 50.4**	**-1.9**
	15nm,0.7s							
LBTB	**Lobatse**	**23.50**	**345**	P		**P**	**04 09 51.1**	**-1.2**
	15nm,0.7s,baz=184,slow=10,SNR=31							
LBTB				LR		LR	04 17 44.9	
	comp=Z,385nm,19.1s,baz=146,slow=33							
MAW	**Mawson**	**25.15**	**152**	*e*P		**P**	**04 10 07.1**	**+0.1**
	6.6nm,1.1s							
MAW	**Mawson**	**25.15**	**152**	P		**P**	**04 10 07.3**	**+0.2**
	18nm,1.0s,baz=319,slow=9.8,SNR=13							
MAW				LR		LR	04 17 39.1	
	comp=Z,268nm,19.7s,baz=326,slow=31							
SNAA	**Sanae**	**28.65**	**202**	*e*P		**P**	**04 10 38.6**	**0.0**
SNAA	**Sanae**	**28.65**	**202**	*e*P		**P**	**04 10 38.4**	**-0.2**
	8.3nm,1.0s							
SNAA	**Sanae**	**28.65**	**202**	P		**P**	**04 10 38.4**	**-0.2**
	0.6nm,0.9s,baz=115,slow=5.1,SNR=6.2							
SNAA				LR		LR	04 19 17.0	
	comp=Z,134nm,21.1s,baz=34,slow=31							
VNA2	**Neumayer--Warz**	**29.46**	**205**	*e*P		**P**	**04 10 44.6**	**-1.1**
VNA1	**Neumayer--Stat**	**29.52**	**206**	*e*P		**P**	**04 10 45.1**	**-1.6**
TSUM	**Tsumeb**	**31.02**	**333**	*e*P		**P**	**04 10 59.3**	**-0.9**
	18nm,0.9s							
OPO	**Ambohidratompo**	**31.90**	**28**	LR		LR	04 20 47.4	
	comp=Z,231nm,18.8s,baz=201,slow=30							
LSZ	**Lusaka**	**32.80**	**353**	*e*P		**P**	**04 11 14.4**	**-1.3**
	11nm,1.0s							
LSZ	**Lusaka**	**32.80**	**353**	P		**P**	**04 11 15.3**	**-0.4**
	1.9nm,0.6s,baz=200,slow=14,SNR=8.3							
QSPA	**South Pole Qui**	**42.20**	**180**	*e*P		**P**	**04 12 34.3**	**-0.6**
	20nm,0.8s							
QSPA				*e*			04 14 02.7	
QSPA	**South Pole Qui**	**42.20**	**180**	P		**P**	**04 12 34.4**	**-0.5**
	24nm,0.9s,baz=254,slow=3.4,SNR=24							
KMBO	**Kilima Mbogo**	**46.94**	**7**	*e*P		**P**	**04 13 13.6**	**+0.2**
	12nm,1.5s							
KMBO	**Kilima Mbogo**	**46.94**	**7**	P		**P**	**04 13 14.2**	**+0.8**
	1.5nm,0.8s,baz=224,slow=18,SNR=3.9							
KMBO				LR		LR	04 30 44.7	
	comp=Z,243nm,21.9s,baz=137,slow=33							
PMSA	**Palmer Station**	**50.23**	**214**	LR		LR	04 30 41.5	
	comp=Z,153nm,18.4s,baz=139,slow=31							
VNDA	**Vanda**	**50.97**	**168**	*e*P		**P**	**04 13 43.4**	**+0.1**
	6.0nm,0.7s							
VNDA	**Vanda**	**50.97**	**168**	P		**P**	**04 13 43.5**	**+0.1**
	5.9nm,0.9s,baz=255,slow=7.0,SNR=20							
VNDA				LR		LR	04 34 08.9	
	comp=Z,404nm,19.9s,baz=210,slow=35							
SBA	**Scott Base**	**51.38**	**169**	*e*P		**P**	**04 13 47.3**	**+0.9**
	12nm,1.1s							
H10S2	**ASCENSION HYDR**	**55.20**	**299**	T		T	05 14 11.7	
	baz=143,slow=75,SNR=48							
H10S1	**ASCENSION HYDR**	**55.22**	**299**	T		T	05 14 12.9	
	baz=143,slow=75,SNR=40							
H10S3	**ASCENSION HYDR**	**55.22**	**299**	T		T	05 14 13.0	
	baz=143,slow=75,SNR=50							
KIC	**Kosan Boka**	**63.02**	**318**	*e*PKP2		**P**	**04 15 09.2**	**-0.2**
	23nm,1.0s							
LIC	**Lamho**	**63.03**	**318**	*e*PKP2		**P**	**04 15 09.2**	**-0.2**
	31nm,0.9s							
DBIC	**Dimbokro**	**63.35**	**318**	*e*P		**P**	**04 15 11.0**	**-0.5**
	24nm,0.9s							
DBIC	**Dimbokro**	**63.35**	**318**	P		**P**	**04 15 11.2**	**-0.3**
	10nm,0.8s,baz=130,slow=8.3,SNR=14							
DBIC				LR		LR	04 38 01.9	
	comp=Z,107nm,18.7s,baz=133,slow=32							
TIC	**Toumodi**	**63.40**	**318**	*e*PKP2		**P**	**04 15 10.8**	**-1.1**
	56nm,0.9s							
TRQA	**Tornquist**	**65.23**	**240**	*e*P		**P**	**04 15 23.6**	**-0.2**
	30nm,0.9s							
TOA0	**Torodi Ar. Sit**	**66.58**	**328**	*e*P		**P**	**04 15 32.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**66.58**	**328**	P		**P**	**04 15 32.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**66.58**	**328**	P		**P**	**04 15 32.9**	**+0.5**
	3.0nm,0.7s,baz=162,slow=6.8,SNR=19							
TORD				LR		LR	04 40 51.2	
	comp=Z,87nm,21.5s,baz=340,slow=33							
PLCA	**Paso Flores**	**68.18**	**233**	*e*P		**P**	**04 15 42.8**	**+0.2**
PLCA	**Paso Flores**	**68.18**	**233**	P		**P**	**04 15 42.8**	**+0.2**
	7.6nm,0.7s,baz=133,slow=6.0,SNR=11							
PLCA				LR		LR	04 40 40.1	
	comp=Z,69nm,20.6s,baz=182,slow=32							
CPUP	**Villa Florida**	**70.44**	**252**	*e*P		**P**	**04 15 56.8**	**+0.1**
CPUP	**Villa Florida**	**70.44**	**252**	P		**P**	**04 15 56.8**	**+0.1**
	26nm,0.7s,baz=114,slow=5.6,SNR=30							
CPUP				LR		LR	04 39 22.5	
	comp=Z,62nm,19.8s,baz=131,slow=30							
RCBR	**Riachuelo**	**70.92**	**283**	P		**P**	**04 16 00.3**	**+0.5**
RCBR	**Riachuelo**	**70.92**	**283**	P		**P**	**04 16 00.3**	**+0.5**
	9.2nm,0.9s,baz=83,slow=5.6,SNR=3.8							
BDFB	**Brasilia**	**71.84**	**267**	*e*P		**P**	**04 16 06.2**	**+0.8**
BDFB	**Brasilia**	**71.84**	**267**	P		**P**	**04 16 06.2**	**+0.8**
	8.0nm,0.8s,baz=141,slow=5.0,SNR=11							
BDFB				LR		LR	04 41 40.3	
	comp=Z,111nm,18.5s,baz=295,slow=31							
CFAA	**Coronel Fontan**	**73.41**	**241**	P		**P**	**04 16 14.0**	**-0.5**
CFAA	**Coronel Fontan**	**73.41**	**241**	P		**P**	**04 16 14.0**	**-0.5**
	1.2nm,0.7s,baz=136,slow=5.3,SNR=10							
BBOO	**Buckleboo**	**74.83**	**122**	*e*P		**P**	**04 16 22.0**	**-0.7**
LCO	**Las Campanas**	**76.75**	**241**	*e*P		**P**	**04 16 34.1**	**0.0**
	35nm,0.9s							
STKA	**Stephens Creek**	**78.63**	**125**	*e*P		**P**	**04 16 43.8**	**-0.4**
	1.9nm,0.9s							
STKA	**Stephens Creek**	**78.63**	**125**	P		**P**	**04 16 43.8**	**-0.4**
	8.1nm,0.9s,baz=240,slow=2.8,SNR=9.1							
FITZ	**Fitzroy Crossi**	**79.19**	**105**	P		**P**	**04 16 49.2**	**+1.7**
	9.8nm,1.1s							
FITZ	**Fitzroy Crossi**	**79.19**	**105**	P		**P**	**04 16 49.2**	**+1.7**
	6.3nm,1.0s,baz=202,slow=8.1,SNR=7.9							
FITZ				LR		LR	04 46 21.5	
	comp=Z,124nm,19.1s,baz=261,slow=32							
SIV	**San Ignacio**	**80.26**	**257**	P		**P**	**04 16 53.4**	**+0.1**
SIV	**San Ignacio**	**80.26**	**257**	P		**P**	**04 16 53.4**	**+0.1**
	15nm,0.8s,baz=137,slow=6.6,SNR=22							
ASAR	**Alice Springs**	**80.33**	**115**	P		**P**	**04 16 52.8**	**-0.9**
ASAR	**Alice Springs**	**80.33**	**115**	P		**P**	**04 16 52.8**	**-0.9**
	9.4nm,0.8s,baz=221,slow=4.6,SNR=36							
ASAR				LR		LR	04 44 26.6	
	comp=Z,88nm,19.3s,baz=89,slow=30							
AS31	**Alice Springs**	**80.33**	**115**	*e*P		**P**	**04 16 53.0**	**-0.6**
LVC	**Limon Verde**	**80.40**	**247**	*e*P		**P**	**04 16 55.3**	**+1.0**
	20nm,0.8s							
WRA	**Warramunga Arr**	**83.37**	**112**	P		**P**	**04 17 08.5**	**-1.2**
WRA	**Warramunga Arr**	**83.37**	**112**	P		**P**	**04 17 08.5**	**-1.2**
	7.1nm,0.9s,baz=219,slow=4.3,SNR=31							
WRAB	**Tennant Creek**	**83.38**	**112**	*e*P		**P**	**04 17 08.6**	**-1.2**
WRAB				*e*			04 17 18.1	
LPAZ	**La Paz**	**84.60**	**252**	*e*P		**P**	**04 17 16.0**	**-0.7**
	38nm,1.9s							
LPAZ	**La Paz**	**84.60**	**252**	P		**P**	**04 17 16.8**	**+0.1**
	2.4nm,0.8s,baz=122,slow=3.3,SNR=7.0							
LPAZ				LR		LR	04 52 16.1	
	comp=Z,73nm,19.1s,baz=246,slow=34							
KEST	**Kesra**	**85.79**	**342**	LR		LR	05 01 22.5	
	comp=Z,53nm,18.2s,baz=314,slow=40							
BRTR	**Keskin Array B**	**87.38**	**1**	P		**P**	**04 17 29.9**	**+0.7**
BRTR	**Keskin Array B**	**87.38**	**1**	P		**P**	**04 17 29.9**	**+0.7**
	0.5nm,0.6s,baz=180,slow=7.6,SNR=3.3							
CMAR	**Chiang Mai Arr**	**89.11**	**61**	LR		LR	04 49 53.5	
	comp=Z,60nm,18.1s,baz=332,slow=30							
KBZ	**Khabaz**	**91.88**	**8**	LR		LR	04 58 44.1	
	comp=Z,74nm,18.3s,baz=290,slow=35							
ESDC	**Sonseca Array**	**92.95**	**333**	LR		LR	05 01 43.0	
	comp=Z,127nm,19.8s,baz=155,slow=37							
GERES	**GERESS Array B**	**97.77**	**348**	LR		LR	05 08 11.9	
	comp=Z,165nm,18.4s,baz=112,slow=39							
DZM	**Mont Dzumac**	**99.19**	**138**	LR		LR	04 56 25.5	
	comp=Z,65nm,18.5s,baz=40,slow=31							
GYA	**Guiyang**	**99.80**	**61**	*e*P		**Pdif**	**04 18 27.9**	**+1.3**
GYA				PP		**PP**	**04 22 34.2**	**+2.6**
GYA				SKS		**SKSac**	**04 29 04.5**	**-0.5**
GYA				S		**ScS**	**04 29 58.0**	**-2.3**
GYA				pmax		pmax		
	comp=Z,90nm,5.4s							
CD2	**Chengdu**	**101.48**	**56**	*e*P		**Pdif**	**04 18 35.7**	**+1.8**
LZH	**Lanzhou**	**105.42**	**53**	*e*Pdif		**Pdif**	**04 18 49.2**	**-2.3**
TBI	**Tubuai**	**108.95**	**179**	*e*LR		LR	04 55 08.4	
	211nm,25.8s							
HHC	**Hu-ho-hao-te**	**113.04**	**54**	*e*PKP		**PKiKP**	**04 23 17.6**	**-1.5**
HHC				PP		**PP**	**04 24 12.8**	**+3.8**
HHC				PKS		**PKSdf**	**04 26 52.7**	**-3.1**
HHC				SKS		**SKSdf**	**04 30 28.9**	**-1.9**
HHC				SKKS		**SKKSac**	**04 31 05.6**	**-4.5**
HHC				SS		**SS**	**04 39 55.0**	**+2.0**
HHC				AMB		AMB		
	comp=Z,100nm,9.2s							
HHC				LR		LR		
	comp=N,190nm,21.0s							
HHC				LR		LR		
	comp=E,180nm,20.9s							
HHC				LR		LR		
	comp=Z,310nm,20.4s							
PPT2	**Papeete2**	**114.68**	**178**	*e*LR		LR	04 57 48.7	
	240nm,25.5s							
631A	**Perdido Creek**	**139.27**	**260**	⇑P		**PKPdf**	**04 24 09.5**	**+0.3**
	baz=139							
332A	**Millersview**	**139.97**	**263**	⇑P		**PKPdf**	**04 24 11.3**	**+0.8**
	baz=140							
232A	**Coleman**	**140.22**	**264**	⇑P		**PKPdf**	**04 24 11.2**	**+0.3**
	baz=140							
331A	**San Angelo**	**140.38**	**263**	⇓P		**PKPdf**	**04 24 11.6**	**+0.4**
	baz=140							
430A	**Baggett Ranch,**	**140.59**	**261**	⇓P		**PKPdf**	**04 24 12.0**	**+0.3**
	baz=141							
330A	**Mertzon**	**140.94**	**262**	⇑P		**PKPdf**	**04 24 12.4**	**+0.1**
	baz=141							
627A	**Terlingua Ranc**	**141.15**	**258**	⇓P		**PKPdf**	**04 24 13.0**	**+0.2**
	baz=141							
131A	**Roby**	**141.20**	**264**	⇑P		**PKPdf**	**04 24 13.1**	**+0.4**
	baz=141							
TXAR	**Lajitas Array**	**141.26**	**258**	PKPpre		PKPpre	04 24 07.4	
TXAR	**Lajitas Array**	**141.26**	**258**	PKhKP		PKPpre	04 24 07.4	
	1.7nm,0.9s,baz=134,slow=3.6,SNR=7.5							
Z31A	**Sharp Cattle R**	**141.42**	**266**	⇓P		**PKPdf**	**04 24 13.5**	**+0.5**
	baz=142							
428A	**Kincaid Ranch,**	**141.51**	**260**	⇑P		**PKPdf**	**04 24 13.9**	**+0.5**
	baz=142							
Y31A	**Rekieta Farm,**	**141.89**	**266**	⇓P		**PKPdf**	**04 24 14.1**	**+0.2**
	baz=142							
328A	**Wristen Ranch,**	**142.01**	**261**	⇓P		**PKPdf**	**04 24 14.4**	**+0.2**
	baz=142							
427A	**Hayter Ranch,**	**142.06**	**260**	⇑P		**PKPdf**	**04 24 14.6**	**+0.3**
	baz=142							
128A	**Castleberry Fa**	**142.56**	**263**	⇑P		**PKPdf**	**04 24 15.5**	**+0.3**
	baz=143							
BGNE	**Belgrade**	**144.43**	**278**	⇑P		PKPbc	04 24 16.6	-0.1
	baz=145							
Z25A	**Roswell**	**144.45**	**262**	⇑P		**PKPab**	**04 24 16.8**	**0.0**
	baz=145							
ECSD	**EROS Data Cent**	**144.46**	**283**	*e*PKPd

baz=146,SNR=11
LPM Los Pinos Moun 146.34 261 ePKPdf PKPdf 04 24 18.7 -3.2
ULM Lac du Bonnet 146.34 294 PKPbc PKPdf 04 24 21.4 +0.3
ULM Lac du Bonnet 146.34 294 PKPbc PKPdf 04 24 21.4 +0.3
6.3nm,0.7s,baz=123,slow=6.3,SNR=6.5
I30A Oacoma 146.38 281 ⇓P PKPbc 04 24 23.1 +0.4
baz=146
Z21A St. Cloud Mine 146.42 259 ⇓P PKPbc 04 24 23.8 +0.4
baz=147,SNR=15
R26A Arlington 146.44 270 ⇓P PKPab 04 24 23.9 -0.2
baz=147
T25A Trinidad 146.47 267 ⇑P PKPbc 04 24 23.7 +0.3
baz=147,SNR=10.0
K29A Lazy Trails An 146.48 279 ⇑P PKPab 04 24 24.0 0.0
baz=147
LENM Lemitar 146.48 261 ePKPbc PKPbc 04 24 23.9 +0.4
P27A Ficken Ranch, 146.50 273 ⇓P PKPbc 04 24 23.7 +0.4
baz=147
W23A Werner Place, 146.52 263 ⇑P PKPbc 04 24 24.1 +0.5
baz=147,SNR=12
120A U Bar Ranch, L 146.58 257 ⇓P PKPbc 04 24 24.0 +0.2
baz=147,SNR=6.5
ANMO Albuquerque 146.60 262 PKPbc PKPbc 04 24 23.7 -0.2
ANMO ePKPdf PKPab 04 24 23.9 -1.1
ANMO Albuquerque 146.60 262 PKPbc PKPbc 04 24 23.7 -0.2
6.7nm,1.0s,baz=156,slow=6.5,SNR=16
U24A Moreno Valley 146.65 266 ⇓P PKPab 04 24 25.0 -0.2
baz=147
G30A Faulkton 146.69 284 ⇑P PKPab 04 24 25.1 +0.4
baz=147
LAZ Ladron 146.73 261 ePKPbc PKPbc 04 24 24.3 +0.1
O27A Beecher Island 146.74 274 ⇑P PKPbc 04 24 23.7 -0.3
baz=147
J29A Okreek 146.76 280 ⇓P PKPab 04 24 24.9 -0.2
baz=147
S25A Robets Cordova 146.77 268 ⇑P PKPbc 04 24 24.2 0.0
baz=147,SNR=14
Y21A Point of Rocks 146.85 260 ⇓P PKPbc 04 24 24.8 +0.1
baz=147,SNR=9.5
V23A Ortiz Mt. (NFS 146.88 264 ⇑P PKPbc 04 24 25.0 +0.4
baz=147
P26A Davis Ranch, A 147.01 272 ⇑P PKPab 04 24 25.6 -0.7
baz=147
T24B San Luis 147.08 267 ⇑P PKPab 04 24 26.5 -0.4
baz=147
K28A Ten Mile Ranch 147.16 278 ⇑P PKPbc 04 24 25.3 +0.3
baz=147
U23A El Rito 147.22 265 ⇑P PKPbc 04 24 25.8 +0.2
baz=147,SNR=12
Y20A Horse Springs, 147.26 259 ⇓P PKPbc 04 24 26.0 +0.2
baz=147,SNR=8.1
S24A Houchin Ranch, 147.28 268 ⇑P PKPbc 04 24 26.2 +0.4
baz=147,SNR=8.9
Q25A Bedland, Calha 147.29 270 ⇑P PKPbc 04 24 25.9 +0.2
baz=147
B30A Myrvik Farm, E 147.33 290 ⇓P PKPbc 04 24 25.5 +0.3
baz=148
J28A Allard Ranch, 147.37 280 ⇓P PKPbc 04 24 25.8 +0.3
baz=148
V22A San Miguel Ran 147.46 264 ⇑P PKPbc 04 24 26.9 +0.7
baz=148,SNR=26
A30A Hoffart Farm, 147.46 291 ⇑P PKPbc 04 24 25.7 +0.1
baz=148
T23A Casias Ranch, 147.50 266 ⇓P PKPbc 04 24 26.1 -0.3
baz=148
L27A T5 Ranch, Ells 147.51 277 ⇑P PKPbc 04 24 26.3 +0.2
baz=148
R24A Sanders Place, 147.52 269 ⇑P PKPbc 04 24 26.4 +0.1
baz=148
I28A Midland 147.57 281 ⇑P PKPbc 04 24 25.0 -1.0
baz=148
D29A Pettibone, Tap 147.68 287 ⇑P PKPbc 04 24 26.6 +0.3
baz=148
U22A Llaves 147.69 264 ⇓P PKPbc 04 24 26.3 -0.6
baz=148
H28A Mission Ridge 147.74 282 ⇑P PKPbc 04 24 26.9 +0.4
baz=148
O25A Wiggins 147.81 272 ⇑P PKPbc 04 24 26.9 -0.1
baz=148
TUC Tucson 147.83 255 ePKPbc PKPbc 04 24 27.5 +0.3
TUC ePKPab PKPab 04 24 30.3 +0.7
Q24A Divide 147.93 270 ⇑P PKPbc 04 24 27.3 -0.2
baz=148
R23A Moffat 147.98 268 ⇑P PKPbc 04 24 27.8 +0.1
baz=148
B29A Wagenman Farm, 147.98 289 ⇓P PKPbc 04 24 26.8 -0.2
baz=148
F28A McLaughlin 148.04 284 ⇓P PKPbc 04 24 27.3 +0.1
baz=148
A29A Manning Farm, 148.04 290 ⇑P PKPbc 04 24 26.9 -0.2
baz=148
I27A Quinn 148.18 280 ⇑P PKPbc 04 24 27.9 +0.2
baz=148
E28A Huff 148.22 285 ⇑P PKPbc 04 24 27.7 0.0
baz=148
D28A Regan 148.35 287 ⇑P PKPbc 04 24 27.9 -0.1
baz=148
K26A Motz Farm, Whi 148.36 277 ⇓P PKPbc 04 24 28.0 -0.2
baz=148
C28A Hausauer Farms 148.41 288 ⇓P PKPbc 04 24 28.2 +0.1
baz=149
H27A Howes 148.42 281 ⇑P PKPbc 04 24 28.6 +0.3
baz=149
S22A 4UR Ranch, Cre 148.42 266 ⇓P PKPbc 04 24 28.4 -0.5
baz=149
O24A Longmont 148.45 272 ⇓P PKPbc 04 24 28.8 +0.1
baz=149
J26A Sides Ranch, S 148.55 278 ⇑P PKPbc 04 24 28.6 -0.1
baz=149
P23A Jefferson 148.59 270 ⇑P PKPbc 04 24 28.9 -0.4
baz=149
G27A Dupree 148.60 283 ⇓P PKPbc 04 24 28.9 +0.2
baz=149
B28A Dugan Ranch, T 148.62 289 ⇑P PKPbc 04 24 28.8 +0.2
baz=149
ISCO Idaho Springs 148.65 271 ePKPdf PKPdf 04 24 25.0 -0.7
ISCO Idaho Springs 148.65 271 ⇓P PKPbc 04 24 29.0 -0.4
baz=149
N24A Carr 148.66 273 ⇑P PKPbc 04 24 28.8 -0.4
baz=149
X18A Snowflake 148.67 259 ⇑P PKPbc 04 24 28.9 -0.6
baz=149
A28A Rude Farm, Bot 148.69 290 ⇑P PKPbc 04 24 28.8 0.0
baz=149
E27A Carson 148.74 285 ⇓P PKPbc 04 24 29.1 +0.1
baz=149
H26A Fairpoint 148.87 281 ⇑P PKPbc 04 24 29.0 -0.5
baz=149
W18A Petrified Fore 148.88 260 ⇓P PKPbc 04 24 29.2 -0.8
baz=149
214A Organ Pipe Nat 148.90 252 ⇑P PKPbc 04 24 29.6 -0.3
baz=149
O23A Lake Granby, G 149.06 271 ⇓P PKPbc 04 24 30.1 -0.3
baz=149
J25A Sunshine Ranch 149.06 278 ⇑P PKPbc 04 24 29.4 -0.7
baz=149
L24A Wheatland 149.24 275 ⇓P PKPbc 04 24 30.6 0.0
baz=149
MVCO Mesa Verde 149.25 264 ePKPbc PKPbc 04 24 31.2 +0.3
MVCO ePKPab PKPab 04 24 36.3 +0.8
MVCO Mesa Verde 149.25 264 ⇓P PKPbc 04 24 30.8 -0.1
baz=149
SMCO Snowmass 149.26 269 ePKPdf PKPbc 04 24 31.8 +0.7
I25A Rochford 149.27 279 ⇓P PKPbc 04 24 30.7 +0.1
baz=149
P22A Eagle 149.32 270 ⇓P PKPbc 04 24 30.9 -0.1
baz=150
E26A Carlson Angus 149.34 284 ⇑P PKPbc 04 24 31.0 +0.4
baz=150
N23A Red Feather La 149.40 272 ⇑P PKPbc 04 24 31.3 +0.1
baz=150
H25A Fruitdale 149.41 280 ⇓P PKPbc 04 24 31.1 +0.2
baz=150
D26A Manning 149.50 285 ⇓P PKPbc 04 24 31.3 +0.4
baz=150
G25A Newell 149.51 282 ⇑P PKPbc 04 24 31.4 +0.3
baz=150
RSSD Black Hills 149.51 279 ePKPbc PKPbc 04 24 31.2 -0.1
M23A Laramie 149.51 274 ⇓P PKPbc 04 24 31.6 +0.2
baz=150
X16A Lo Mia Camp, P 149.58 257 ⇓P PKPbc 04 24 31.8 +0.1
baz=150
J24A Dixon Ranch, L 149.61 278 ⇑P PKPbc 04 24 31.6 +0.2
baz=150
B26A Jensen Ranch, 149.79 288 ⇓P PKPbc 04 24 31.7 +0.1
baz=150
F25A Bowman 149.80 283 ⇑P PKPbc 04 24 31.8 +0.1
baz=150
I24A Kuemmerle Ranc 149.80 278 ⇑P PKPbc 04 24 32.1 +0.2
baz=150
Z14A Wintersburg 149.90 254 ⇑P PKPbc 04 24 32.2 -0.1
baz=150
113A Mohawk Valley, 150.04 252 ⇑P PKPbc 04 24 32.8 +0.1
baz=150
H24A Dirks Ranch, A 150.09 280 ⇑P PKPbc 04 24 32.6 +0.1
baz=150
PV04 Paradox Valley 150.15 266 ePKPdf PKPbc 04 24 33.7 +0.7
WUAZ Wupatki 150.19 259 ePKPdf PKPdf 04 24 28.2 +0.2
WUAZ ePKPbc PKPbc 04 24 32.9 -0.2
WUAZ ePKPab PKPab 04 24 40.4 +1.1
WUAZ Wupatki 150.19 259 ⇓P PKPbc 04 24 33.0 -0.2
baz=150
C25A Freed Ranch, W 150.25 286 ⇑P PKPbc 04 24 33.2 +0.5
baz=150
Y14A Wickenburg 150.30 255 ⇓P PKPbc 04 24 33.3 0.0
baz=150
F24A Ekalaka 150.42 282 ⇑P PKPbc 04 24 33.6 +0.4
baz=150
A25A Svangstu Ranch 150.50 289 ⇓P PKPbc 04 24 34.1 +0.9
baz=151
K22A Casper 150.57 275 ⇑P PKPbc 04 24 33.4 -0.5
baz=151
O20A White River Ci 150.58 269 ⇑P PKPbc 04 24 33.6 -0.4
baz=151
D24A Glendive 150.76 285 ⇓P PKPbc 04 24 33.9 -0.1
baz=151
G23A Biddle 150.81 281 ⇓P PKPbc 04 24 34.0 -0.2
baz=151
GLA Glamis 150.90 251 ePKPdf PKPbc 04 24 33.3 -1.5
GLA Glamis 150.90 251 ⇓P PKPbc 04 24 34.3 -0.4
baz=151
N20A Spence Gulch, 150.93 271 ⇓P PKPbc 04 24 34.3 -0.5
baz=151
C24A Savage 150.95 286 ⇓P PKPbc 04 24 34.4 +0.1
baz=151
F23A Holborg 151.00 282 ⇓P PKPbc 04 24 34.4 -0.2
baz=151
I22A 9 Mile Ranch, 151.05 277 ⇑P PKPbc 04 24 34.5 -0.4
baz=151
K21A Alcova 151.05 275 ⇓P PKPbc 04 24 34.5 -0.5
baz=151
A24A Westby 151.07 288 ⇓P PKPbc 04 24 34.6 0.0
baz=151
DGMT Dagmar 151.07 288 ⇓P PKPbc 04 24 34.8 +0.1
baz=151
Y12C Blythe 151.16 253 ⇓P PKPbc 04 24 35.2 0.0
baz=151
H22A Clearmont 151.23 279 ⇓P PKPbc 04 24 35.1 -0.1
baz=151
PDMCI Parker Dam,Lak 151.26 254 ⇓P PKPbc 04 24 35.4 -0.1
baz=151
U15A North Rim 151.33 259 ⇑P PKPbc 04 24 35.6 -0.3
baz=152
D23A Lindsay 151.35 285 ⇑P PKPbc 04 24 35.4 +0.1
baz=152
G22A Birney 151.41 280 ⇓P PKPbc 04 24 35.5 -0.1
baz=152
SWSC Sam W. Stewart 151.44 250 ⇑P PKPbc 04 24 35.7 -0.3
baz=152
J21A Lysite 151.47 276 ⇑P PKPbc 04 24 35.5 -0.5
baz=152
C23A Lambert 151.52 286 ⇓P PKPbc 04 24 35.7 0.0
baz=152
I21A Big Trails, Te 151.55 277 ⇓P PKPbc 04 24 35.1 -1.0
baz=152
F22A Rosebud 151.59 281 ⇑P PKPbc 04 24 36.0 +0.1
baz=152
W13A Hualapai Mount 151.59 256 ⇑P PKPbc 04 24 36.3 -0.3
baz=152
E22A Miles City 151.60 283 ⇓P PKPbc 04 24 35.9 0.0
baz=152
SRU San Rafael 151.60 266 ePKPdf PKPdf 04 24 30.9 +0.7
SRU ePKPdf PKPbc 04 24 34.0 -2.4
SRU ePKPbc PKiKP 04 24 36.3 -0.5
SRU ePKPab PKPab 04 24 44.6 -0.5
BC3 Big Chuckawall 151.69 252 ⇓P PKPbc 04 24 36.4 -0.3
baz=152
H21A Big Horn, Sher 151.70 279 ⇑P PKPbc 04 24 36.1 -0.3
baz=152
MONP Monument Peak 151.80 249 ⇑P PKPbc 04 24 36.7 -0.4
baz=152
IRM Iron Mountain 151.82 253 ⇓P PKPbc 04 24 36.7 -0.1
baz=152
J20A Shoshoni 151.90 275 ⇑P PKPbc 04 24 36.8 -0.1
baz=152
C22A Vida 151.95 285 ⇑P PKPbc 04 24 36.6 -0.1
baz=152
D22A Cohagen 151.97 284 ⇓P PKPbc 04 24 36.9 +0.1
baz=152
TMUT Trail Mountain 152.16 266 ePKPdf PKPdf 04 24 31.8 +0.7
TMUT ePKPbc PKiKP 04 24 38.3 +0.1
TMUT ePKPab PKPab 04 24 48.8 +1.2
I20A Worland 152.16 277 ⇓P PKPbc 04 24 36.5 -0.9
baz=152
BELC Belle Mtn. Jos 152.26 251 ⇑P PKPbc 04 24 37.4 -0.6
baz=152
H20A Greybull 152.28 278 ⇑P PKPbc 04 24 36.8 -0.8
baz=152
PFO Pinyon Flat Ob 152.30 250 ePKPab PKPab 04 24 49.0 +1.0
A22A Carney Farms, 152.30 288 ⇓P PKPbc 04 24 37.3 -0.1
baz=152
MVU Marysvale 152.42 263 ePKPdf PKPdf 04 24 33.4 +1.9
D21A La Casta Ranch 152.48 284 ⇑P PKPbc 04 24 38.1 +0.2
baz=153
J19A Crowheart 152.51 275 ⇑P PKPbc 04 24 38.4 +0.1
baz=153
GMRC Granite Mounta 152.54 253 ⇑P PKPbc 04 24 38.4 -0.2
baz=153
BW06 Boulder Array 152.65 273 ePKPdf PKPbc 04 24 37.6 -1.1
BW06 ePKPab PKPab 04 24 47.5 -1.9
PDAR Pinedale Array 152.65 273 PKP PKPdf 04 24 30.9 -0.8
PDAR PKPbc PKPbc 04 24 37.5 -1.2
PDAR PP PP 04 28 24.2 +1.4
PDAR Pinedale Array 152.65 273 PKP PKPdf 04 24 30.9 -0.8
0.6nm,0.9s,baz=96,slow=3.0,SNR=3.9
PDAR PKPbc PKPbc 04 24 37.5 -1.2
2.1nm,0.8s,baz=118,slow=3.6,SNR=11
PDAR PP PP 04 28 24.2 +1.4
0.9nm,0.9s,baz=134,slow=6.4,SNR=4.8
CCUT Cedar City 152.67 260 ePKPdf PKPdf 04 24 33.0 +1.1
CCUT ePKPbc PKiKP 04 24 39.6 +0.5
CCUT ePKPab PKPab 04 24 49.1 -0.6
G20A Bridger 152.69 279 ⇑P PKPbc 04 24 38.3 -0.3
baz=153
DAU Daniels Canyon 152.74 268 ePKPbc PKPbc 04 24 39.4 +0.4
DAU ePKPab PKPab 04 24 50.0 +0.1
MURC Murrieta 152.76 249 ⇑P PKPbc 04 24 38.5 -0.5
baz=153
I19A Meeteetse 152.78 276 ⇑P PKPbc 04 24 39.0 +0.1
baz=153
MPU Maple Canyon 152.80 266 ePKPdf PKPbc 04 24 39.8 +0.8
F20A Billings 152.84 280 ⇑P PKPbc 04 24 39.0 +0.2
baz=153
ARUT Antelope Range 152.85 261 ePKPbc PKPbc 04 24 39.6 +0.4
ARUT ePKPab PKPab 04 24 50.5 +0.2
A21A Bergtoll Ranch 152.95 288 ⇓P PKPbc 04 24 39.3 +0.4
baz=153
JLU Jordanelle 152.96 268 ePKPab PKPab 04 24 50.5 -0.3
HEC Hector,Ludlow 153.00 252 ⇑P PKPbc 04 24 39.3 -0.2
baz=153
H19A Powell 153.00 278 ⇑P PKPbc 04 24 39.1 -0.2
baz=153
E20A Meyer Farm, Mu 153.05 282 ⇓P PKPbc 04 24 39.9 +0.7
baz=153
D20A Manuel Ranch, 153.23 283 ⇓P PKPbc 04 24 39.9 +0.3
baz=153
SHPR Sheep Range 153.26 257 ePKPdf PKPdf 04 24 34.8 +2.1
SHPR ePKPbc PKiKP 04 24 40.8 +0.5
SHPR ePKPab PKPab 04 24 52.3 +0.2
H18A Shoshone NF, C 153.46 277 ⇓P PKPbc 04 24 40.4 0.0
baz=154
BFSC Mount Baldy Ra 153.47 250 ⇓P PKPbc 04 24 40.6 0.0
baz=154
E19A Rath Farm, Rou 153.47 281 ⇓P PKPbc 04 24 40.3 +0.1
baz=154
A20A Cobblestone Ra 153.56 287 ⇓P PKPbc 04 24 40.7 +0.4
baz=154
GSC Goldstone 153.60 253 ePKPdf PKPbc 04 24 41.4 +0.6
GSC Goldstone 153.60 253 ⇓P PKPbc 04 24 40.9 +0.1
baz=154
SHOC Shoshone 153.63 254 ⇑P PKPbc 04 24 41.2 +0.5
baz=154
DUG Dugway 153.68 266 ePKPdf PKPdf 04 24 33.8 +0.7
DUG ePKPab PKPab 04 24 51.9 -1.8
DUG Dugway 153.68 266 ⇓P PKPbc 04 24 41.2 +0.3
baz=154
D19A Cripps Ranch, 153.74 283 ⇓P PKPbc 04 24 41.2 +0.4
baz=154
TPAW Teton Pass 153.87 274 ePKPdf PKPbc 04 24 41.4 0.0
FXWY Fox Creek 153.98 274 ePKPdf PKPdf 04 24 36.6 +3.0
EDW2 Edwards Air Fo 154.09 251 ⇑P PKPbc 04 24 41.3 -0.6
baz=154
A19A Klindworth Far 154.10 287 ⇑P PKPbc 04 24 41.0 -0.4
baz=154
B19A Brinkman Farms 154.12 286 ⇑P PKPbc 04 24 41.4 0.0
baz=154
TPNV Topopah Spring 154.23 256 ePKPdf PKPbc 04 24 44.0 +1.8
TPNV ePKPab PKPab 04 24 57.2 +1.1
TPNV Topopah Spring 154.23 256 ⇑P PKPbc 04 24 42.3 +0.1
baz=154
FURC Furnace Creek, 154.34 255 ⇑P PKPbc 04 24 42.9 +0.7
baz=154
R11A Troy Canyon, C 154.57 260 ⇑P PKPbc 04 24 43.6 +0.6
baz=155
DLMT Dillon 155.65 277 ePKPab PKPab 04 25 03.3 +1.3
NVAR Mina Array Bea 156.41 257 PKP PKPdf 04 24 38.0 +0.9
NVAR PKPbc PKPbc 04 24 50.9
NVAR PKPab PKPab 04 25 06.1 +0.6
NVAR Mina Array Bea 156.41 257 PKP PKPdf 04 24 38.0 +0.9
1.4nm,1.0s,baz=230,slow=2.0,SNR=5.4
NVAR PKPbc PKPbc 04 24 50.9
1.3nm,0.7s,baz=133,slow=4.1,SNR=11
NVAR PKPab PKPab 04 25 06.1 +0.6
2.1nm,0.7s,baz=126,slow=4.8,SNR=9.9
K05A Summer Lake 160.23 265 ePKPab PKPab 04 25 23.0 +1.0

IDC 03 04:11:25.4±6.1, 16°.05S×71°.26W, h154km±41km, mb3.4/2, mb1 3.5/3, mb1mx3.2/21, mbtmp3.4/3, Error ellipse: s-maj=65.8km s-min=35.4km az=121.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	3.02	95	P	Pn	04 12 14.3	+0.4
	5.6nm,0.3s,baz=283,slow=9.2,SNR=166						
LPAZ				S	Sn	04 12 51.3	-0.1
	1.1nm,0.3s,baz=39,slow=24,SNR=6.3						
SIV	San Ignacio	9.79	91	P	Pn	04 13 40.1	-2.7
	0.5nm,0.3s,baz=284,slow=14,SNR=6.5						
H03N1	Juan Fernandez	18.65	200	T	T	04 34 05.5	
	baz=20,slow=75,SNR=28						
H03N2	Juan Fernandez	18.65	200	T	T	04 34 04.3	
	baz=20,slow=75,SNR=24						
H03N3	Juan Fernandez	18.66	200	T	T	04 34 06.6	
	baz=20,slow=75,SNR=19						
SNAA	Sanae	68.13	162	P	P	04 22 08.5	0.0
	0.7nm,0.6s,baz=286,slow=5.7,SNR=16						
TORD	Torodi Ar. Bea	77.73	72	P	P	04 23 06.1	+0.2
	0.7nm,0.6s,baz=264,slow=4.5,SNR=10.0						
ASAR	Alice Springs	133.49	213	PKP	PKPdf	04 30 23.6	-0.8
	0.2nm,0.5s,baz=188,slow=2.7,SNR=3.9						
WRA	Warramunga Arr	136.27	216	PKP	PKPdf	04 30 28.7	-0.9
	0.4nm,0.7s,baz=145,slow=2.0,SNR=4.9						

KRSC 03 04:17:13.2±5.4, 50°.95N×157°.06E, h147km±66km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	Pauzhetka	0.54	343	P	Pn	04 17 34.5	+0.1
PAU				S	Sn	04 17 48.3	-2.2
SKR	Severo-Kuril's	0.66	246	P	Pn	04 17 36.4	+1.4
SKR				S	Sn	04 17 51.4	-0.2
MIPR	Malaya Ipel'ka	1.34	352	P	Pn	04 17 40.5	-0.4
ASAK	Asacha	1.53	20	eP	Pn	04 17 44.2	+1.3
ASAK				S	Sn	04 18 05.6	-0.1
MTVR	Mutnovka	1.69	24	P	Pn	04 17 46.4	+1.7
MTVR				S	Sn	04 18 09.0	+0.1
RUS	Russkaya	1.74	31	P	Pn	04 17 46.4	+1.4
RUS				S	Sn	04 18 09.3	-0.3
APC	Apacha	1.98	2	eP	Pn	04 17 47.8	0.0
APC				S	Sn	04 18 11.6	-2.9
PET	Petropavlovsk	2.30	25	S	Sn	04 18 22.3	+1.1
UGLR	Uglovaya	2.51	25	P	Pn	04 17 57.3	+2.9
UGLR				S	Sn	04 18 27.0	+0.8
AVH	Avacha	2.54	23	P	Pn	04 17 57.4	+2.7
AVH				S	Sn	04 18 27.2	+0.5
KOK	Koryaka	2.54	22	P	Pn	04 17 57.6	+2.9
KOK				S	Sn	04 18 27.8	+1.0
SMAR	Somma	2.55	24	P	Pn	04 17 57.6	+2.6
SMAR				S	Sn	04 18 27.6	+0.2
KRER	Koryakskii	2.58	23	P	Pn	04 17 58.1	+2.8
KRER				S	Sn	04 18 29.0	+1.1
SDLR	Sedlovina	2.59	25	P	Pn	04 17 57.6	+2.2
SDLR				S	Sn	04 18 28.1	+0.2
NLC	Nalytchevo	2.63	31	S	Sn	04 18 27.1	-1.5
GNL	Ganaly	2.80	11	P	Pn	04 17 59.0	+1.0
MKZ	Mys Kozlova	4.59	36	P	Pn	04 18 23.8	+2.8
MKZ				S	Sn	04 19 12.3	-1.5
KZV	Kizimen	4.60	24	P	Pn	04 18 20.8	-0.6
TUMR	Tumrok	4.72	22	P	Pn	04 18 23.2	+0.3
KMNR	Kamenistaya	5.18	20	P	Pn	04 18 32.1	+3.2
KBTR	Krutoberegovo	6.28	31	P	Pn	04 18 45.0	+1.5
BKI	Bering	6.85	48	P	Pn	04 18 53.0	+1.9
BKI				S	Sn	04 20 03.0	-4.8

*IDC **03** 04:17:57.5±2.9, 11°.35N×125°.75E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/24, mbtmp3.8/5, MS3.6/8, Ms1 3.6/8, ms1mx3.3/32, Error ellipse: s-maj=267.9km s-min=20.7km az=65.0*

*ISCJB **03** 04:17:59.6±0.9, 11°.02N±0°.06×124°.79E±0°.05, h13km±6km, mb3.9/5, MS3.6/8, Error ellipse: s-maj=9.4km s-min=8.2km az=18.5*

*MAN **03** 04:17:59, 10°.95N×124°.68E, h1km, mb4.8, ML3.7, MS3.7 MAN Intensity II - Ormoc City.*

ISC 03 04:18:00.7±1.1, 11°.03N±0°.05×124°.70E±0°.05, h12km±7km, n23, σ1°.65/19, mb3.9/5, MS3.5/8, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	Ormoc	0.10	281	eP	Pg	04 18 03.0	-0.5
PLP	Palo	0.30	64	iP	Pg	04 18 05.6	-1.3
MSLP	Maasin	0.91	170	eP	Pg	04 18 16.7	-1.4
MSLP				eS	Sn	04 18 34.0	+1.8
LLP	Lapu-Lapu	1.02	226	eP	Pb	04 18 18.1	-2.1
LLP				eS	Sb	04 18 32.8	-0.7
SCPH	Surigao	1.46	148	eP	Pn	04 18 26.7	-0.2
SCPH				eS	Sg	04 18 51.9	+4.1
RCP	Roxas	1.99	285	eP	Pn	04 18 35.0	+0.8
RCP				eS	Sb	04 19 01.3	-0.3
GUIM	Jordan	2.12	259	eP	Pn	04 18 36.9	+1.0
SNPH	Sibulan	2.21	221	iP	Pn	04 18 34.0	-3.3
SNPH				iS	Sb	04 19 08.4	+0.3
BUKP	Musuan	3.15	174	eP	Pn	04 18 51.4	+1.2
PAGZ	Pagadian	3.42	203	eP	Pn	04 18 54.2	+0.4
KSRS	Korea Array	26.47	6	LR	LR	04 33 23.5	
	comp=Z,59nm,20.0s,baz=171,slow=36						
WRA	Warramunga Arr	32.21	163	P	P	04 24 27.0	-1.8
	0.6nm,0.9s,baz=346,slow=9.1,SNR=2.9						
USRK	Ussuriysk Arra	33.64	9	LR	LR	04 36 22.4	
	comp=Z,51nm,21.4s,baz=193,slow=33						
ASAR	Alice Springs	35.64	165	P	P	04 24 58.0	-0.7
	1.3nm,0.9s,baz=350,slow=8.3,SNR=12						
ASAJ	Asahikawa	36.41	22	LR	LR	04 37 34.2	
	comp=Z,61nm,21.2s,baz=218,slow=33						
SONM	Songino Array	39.78	341	LR	LR	04 40 54.4	
	comp=Z,82nm,18.8s,baz=174,slow=35						
HNR	Honiara	40.52	119	LR	LR	04 38 30.3	
	comp=Z,48nm,20.3s,baz=52,slow=31						
STKA	Stephens Creek	45.63	160	P	P	04 26 20.0	-1.1
	3.4nm,0.9s,baz=343,slow=11,SNR=3.9						
MKAR	Makanchi Array	50.49	323	P	P	04 27 00.2	+1.5
	1.9nm,1.0s,baz=127,slow=7.7,SNR=6.8						
BVAR	Borovoye Array	60.17	326	P	P	04 28 09.2	+0.9
	0.3nm,0.3s,baz=144,slow=5.5,SNR=3.9						
FINES	FINESS Array B	84.49	331	LR	LR	05 16 24.3	
	comp=Z,79nm,19.1s,baz=162,slow=41						
PPT	Papeete	89.26	108	LR	LR	05 01 04.4	
NOA	NORSAR Array B	91.40	333	LR	LR	05 13 41.9	
	comp=Z,64nm,18.1s,baz=110,slow=36						

IDC 03 04:22:28.1±1.8, 2°.67N×124°.96E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, Error ellipse:

s-maj=124.1km s-min=24.3km az=68.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.66**	**178**	P	Pn	04 27 11.2	-0.6
	1.0nm,0.4s,baz=2.9,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**24.29**	**158**	P	P	04 27 47.1	-0.2
	0.5nm,0.4s,baz=334,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**27.59**	**162**	P	P	04 28 16.6	-0.6
	0.2nm,0.3s,baz=344,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**57.43**	**326**	P	P	04 32 18.4	-0.2
	0.3nm,0.3s,baz=114,slow=8.3,SNR=6.3						

MEX 03 04:39:27.1±0.5, 16.68N×99.30W, h17km±8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.57**	**289**	*i* P	Pn	04 39 39.7	-0.8
ACX				*i* S	Sb	04 39 47.3	+0.6
CAIG	**El Cayaco**	**1.00**	**292**	*e*P	Pb	04 39 42.3	-3.7
CAIG				*i* S	Sb	04 39 54.8	-4.1
TLIG	**Tlapa**	**1.12**	**38**	*e*P	Pn	04 39 44.5	-3.7
TLIG				*i* S	Sb	04 39 57.9	-4.9
PNIG	**Pinotepa**	**1.16**	**104**	*i* P	Pn	04 39 45.6	-3.0
PNIG				*e*S	Sb	04 39 59.4	-4.1
PLIG	**Platanillo**	**1.71**	**353**	*i* P	Pn	04 39 53.5	-2.9
PLIG				*i* S	Sn	04 40 13.8	-4.2
ARIG	**Puente Sto Nin**	**1.88**	**328**	*i* P	Pn	04 39 55.8	-2.8
ARIG				*i* S	Sn	04 40 18.1	-3.9

IDC 03 05:02:46.5±2.3, 10.72S×118.64E, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=148.8km s-min=21.0km az=54.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.99**	**138**	Pn	Pn	05 05 12.4	+0.9
	0.4nm,0.3s,baz=337,slow=8.2,SNR=16						
FITZ				Sn	Sn	05 06 55.3	-9.1
	0.4nm,0.3s,baz=193,slow=21,SNR=6.5						
WRA	**Warramunga Arr**	**17.69**	**123**	P	Pn	05 06 54.1	-0.5
	0.1nm,0.3s,baz=296,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**19.43**	**133**	P	Pn	05 07 16.4	+0.6
	0.2nm,0.3s,baz=322,slow=14,SNR=13						
STKA	**Stephens Creek**	**29.89**	**138**	P	P	05 08 54.5	-1.6
	1.5nm,0.5s,baz=307,slow=11,SNR=3.0						
SONM	**Songino Array**	**59.30**	**350**	P	P	05 12 50.4	+0.2
	0.4nm,0.5s,baz=173,slow=6.3,SNR=2.3						
MKAR	**Makanchi Array**	**65.82**	**333**	P	P	05 13 33.6	-0.1
	0.4nm,0.6s,baz=142,slow=7.9,SNR=6.2						

*IDC **03** 05:13:26.0±4.7, 47.95N×153.74E, h77km±44km, mb3.1/6, mb1 3.5/7, mb1mx3.2/26, mbtmp3.1/7, ML3.1/1, Error ellipse: s-maj=36.7km s-min=21.7km az=142.0*
*ISCJB **03** 05:13:28.4±0.8, 48.1N±0.2×153.7E±0.3, h117km, mb3.3/6, Error ellipse: s-maj=30.4km s-min=16.1km az=35.3*
ISC 03 05:13:30.2±1.0, 48.2N±0.2×153.7E±0.2, h117km, n14, σ1§46/7, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.54**	**26**	P	**Pn**	**05 14 48.4**	**-1.8**
	0.5nm,0.3s,baz=175,slow=12,SNR=12						
FX1	**Attu Island--F**	**13.23**	**62**	S	Sn	05 18 46.7	-12
	0.6nm,0.3s,baz=310,slow=22,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**30.35**	**155**	T	T	05 51 38.5	
	baz=344,slow=77,SNR=42						
H11N1	**WAKE ISLAND Hy**	**30.36**	**155**	T	T	05 51 37.7	
	baz=344,slow=77,SNR=51						
H11N3	**WAKE ISLAND Hy**	**30.36**	**155**	T	T	05 51 37.8	
	baz=344,slow=77,SNR=47						
H11S1	**WAKE ISLAND Hy**	**31.45**	**156**	T	T	05 52 52.6	
	baz=346,SNR=120						
H11S3	**WAKE ISLAND Hy**	**31.46**	**156**	T	T	05 52 53.2	
	baz=346,SNR=134						
H11S2	**WAKE ISLAND Hy**	**31.47**	**156**	T	T	05 52 53.9	
	baz=346,SNR=104						
ILAR	**Eielson Array**	**35.18**	**40**	P	**P**	**05 20 13.8**	**+1.4**
	0.5nm,0.9s,baz=284,slow=5.8,SNR=3.3						
MKAR	**Makanchi Array**	**46.63**	**296**	P	**P**	**05 21 47.3**	**+0.8**
	0.2nm,0.6s,baz=50,slow=9.5,SNR=2.9						
NVAR	**Mina Array Bea**	**61.42**	**63**	P	**P**	**05 23 34.9**	**+0.6**
	0.3nm,0.5s,baz=299,slow=4.9,SNR=3.6						
WRA	**Warramunga Arr**	**70.01**	**199**	P	**P**	**05 24 27.9**	**-1.2**
	0.4nm,0.7s,baz=17,slow=6.1,SNR=3.2						
ASAR	**Alice Springs**	**73.71**	**199**	P	**P**	**05 24 50.4**	**-0.8**
	0.4nm,0.7s,baz=7.2,slow=5.3,SNR=4.2						
TXAR	**Lajitas Array**	**76.44**	**61**	P	**P**	**05 25 07.6**	**+0.5**
	0.4nm,0.6s,baz=288,slow=3.7,SNR=3.1						

*IDC **03** 05:34:26.2±1.2, 34.00N×69.96E, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.7/31, mbtmp3.8/11, ML3.7/3, Error ellipse: s-maj=27.1km s-min=23.9km az=148.0*
*ISCJB **03** 05:34:28.8±0.6, 34.08N±0.05×70.11E±0.08, h33km, mb3.7/7, Error ellipse: s-maj=10.6km s-min=6.3km az=150.3*
*NNC **03** 05:34:31.4±2.7, 34.09N×69.75E, h37km±33km, mb3.6, Error ellipse: s-maj=17.5km s-min=14.9km az=210.0*
ISC 03 05:34:30.8±0.8, 34.04N±0.08×70.07E±0.10, h35km, n22, σ1§42/24, mb3.7/7, 2C-3D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**9.05**	**2**	⇑P	**Pn**	**05 36 39.1**	**+0.1**
	1.7nm,0.4s,baz=184,slow=13,SNR=23						
KK31				⇓S	**Sn**	**05 38 20.2**	**+0.6**
	2.2nm,0.4s,baz=184,slow=25,SNR=7.2						
AAK	**Ala-Archa**	**9.25**	**21**	Pn	**Pn**	**05 36 43.8**	**+2.0**
	0.9nm,0.3s,baz=164,slow=4.8,SNR=5.7						
AAK				Sn	**Sn**	**05 38 24.1**	**-0.7**
	0.3nm,0.3s,baz=215,slow=14,SNR=1.4						
DANN	**Dangsing**	**13.02**	**112**	*e*P	**Pn**	**05 37 33.7**	**+0.1**
	4.7nm,0.3s						
GKN	**Gorkha**	**13.87**	**112**	*e*P	**Pn**	**05 37 45.2**	**+0.2**
	5.9nm,0.3s						
DMN	**Daman**	**14.42**	**112**	*e*P	**Pn**	**05 37 51.5**	**-1.2**
PKIN	**Phulchoki**	**14.66**	**112**	*e*P	**Pn**	**05 37 54.2**	**-1.7**
PKI	**Pulchoki**	**14.67**	**112**	*e*P	**Pn**	**05 37 54.4**	**-1.8**
	8.8nm,0.4s						
JIRN	**Jiri**	**15.23**	**110**	*e*P	**Pn**	**05 38 02.6**	**-1.1**
	6.8nm,0.3s						
MK31	**Makanchi Array**	**15.75**	**32**	⇓P	**P**	**05 38 11.7**	**-1.8**
	1.4nm,0.7s,baz=210,slow=9.5,SNR=12						
MKAR	**Makanchi Array**	**15.75**	**32**	Pn	**P**	**05 38 11.9**	**-1.6**
	0.2nm,0.3s,baz=215,slow=9.9,SNR=10						
AB31	**Akbulak array**	**16.95**	**337**	⇑P	**Pn**	**05 38 23.6**	**-1.5**
	0.3nm,0.3s,baz=148,slow=11,SNR=19						
KURBB	**Kurchatov Arra**	**17.69**	**18**	P	**P**	**05 38 34.8**	**-0.1**
	baz=209,slow=12,SNR=4.3						
AKTO	**Aktyubinsk**	**18.61**	**335**	P	**P**	**05 38 44.5**	**-0.6**
	0.2nm,0.3s,baz=148,slow=8.0,SNR=5.0						
AKTO	**Aktyubinsk**	**18.61**	**335**	⇓P	**P**	**05 38 43.9**	**-1.2**
	3.3nm,1.4s						
BVAR	**Borovoye Array**	**18.98**	**1**	P	**P**	**05 38 46.3**	**-2.8**
	0.2nm,0.3s,baz=192,slow=33,SNR=6.4						
ZALV	**Zalesovo Beam**	**22.47**	**23**	P	**P**	**05 39 25.8**	**-1.0**
	1.2nm,0.4s,baz=220,slow=9.8,SNR=6.8						
BRTR	**Keskin Array B**	**29.54**	**292**	P	**P**	**05 40 32.8**	**+0.6**
	1.1nm,1.0s,baz=62,slow=18,SNR=3.6						
AKASG	**Malin Array Be**	**33.95**	**312**	P	**P**	**05 41 11.4**	**+0.8**
	0.2nm,0.3s,baz=95,slow=6.9,SNR=5.7						
ARCES	**ARCESS Array B**	**43.14**	**339**	P	**P**	**05 42 29.1**	**+1.7**
	3.3nm,0.9s,baz=106,slow=9.8,SNR=2.0						
TORD	**Torodi Ar. Bea**	**64.91**	**269**	P	**P**	**05 45 05.3**	**-1.7**
	0.4nm,0.8s,baz=60,slow=5.0,SNR=3.0						
INK	**Inuvik**	**76.44**	**9**	P	**P**	**05 46 17.4**	**+1.0**
	0.7nm,0.6s,baz=349,slow=5.7,SNR=7.9						
WRA	**Warramunga Arr**	**81.36**	**121**	P	**P**	**05 46 45.8**	**+1.7**
	1.0nm,0.9s,baz=321,slow=5.3,SNR=7.8						

*IDC **03** 05:41:34.9±1.7, 52.71N×167.30W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/28, mbtmp3.7/9, ML3.4/1, Error ellipse: s-maj=38.3km s-min=24.5km az=20.0*
*NEIC **03** 05:41:37.9, 52.42N×166.90W, h21km, ML3.1(AEIC), After AEIC.*
ISC 03 05:41:39.2±0.9, 52.67N±0.08×166.96W±0.05, h25km, n32, σ1§21/33, mb3.9/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.94**	**323**	P	**Pb**	**05 41 56.7**	**-0.1**
OKFG				S	**Sn**	**05 42 11.6**	**+2.3**
OKTU	**Okmok Mt. Tuli**	**0.97**	**318**	P	**Pb**	**05 41 57.7**	**+0.4**
MREP	**Makushin Rep't**	**1.15**	**6**	P	**Pb**	**05 42 00.3**	**0.0**
NIKH	**Nikolski High**	**1.19**	**286**	P	**Pn**	**05 41 59.2**	**-1.0**
NIKH				S	**Sb**	**05 42 15.8**	**-0.1**
UNV	**Unalaska Valle**	**1.21**	**13**	P	**Pb**	**05 42 01.7**	**+0.4**
OKAK	**Okmok**	**1.24**	**318**	P	**Pn**	**05 42 00.1**	**-0.7**
MCIR	**Makushin Cirqu**	**1.28**	**2**	P	**Pb**	**05 42 02.8**	**+0.1**
MTBL	**Makushin Table**	**1.31**	**7**	P	**Pb**	**05 42 02.8**	**-0.3**
ZRO	**Akutan Zero**	**1.54**	**22**	P	**Pn**	**05 42 05.6**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.56**	**20**	P	**Pb**	**05 42 06.1**	**-1.2**
AKRB				S	**Sb**	**05 42 28.2**	**+1.7**
AKUT	**Akutan**	**1.63**	**25**	P	**Pn**	**05 42 06.5**	**+0.3**
AKSA	**Akutan Strait**	**1.65**	**27**	P	**Pn**	**05 42 06.4**	**-0.1**
SSBA	**Shishaldin**	**2.70**	**38**	P	**Pn**	**05 42 21.6**	**+0.6**
SSBA				S	**Sb**	**05 42 57.2**	**-2.2**
FALS	**False Pass**	**3.04**	**42**	P	**Pn**	**05 42 25.8**	**+0.2**
ILAR	**Eielson Array**	**15.89**	**32**	Pn	**Pn**	**05 45 20.6**	**-0.2**
ILAR	**Eielson Array**	**15.89**	**32**	Pn	**Pn**	**05 45 20.6**	**-0.2**
	0.1nm,0.3s,baz=239,slow=10,SNR=3.6						
PETK	**Petropavlovsk-**	**21.20**	**285**	P	**P**	**05 46 24.8**	**+2.1**
PETK	**Petropavlovsk-**	**21.20**	**285**	P	**P**	**05 46 24.8**	**+2.1**
	2.0nm,0.4s,baz=83,slow=13,SNR=5.5						
INK	**Inuvik**	**22.29**	**33**	P	**P**	**05 46 32.5**	**-1.6**
INK	**Inuvik**	**22.29**	**33**	P	**P**	**05 46 32.5**	**-1.6**
	0.9nm,0.4s,baz=232,slow=11,SNR=8.9						
NVAR	**Mina Array Bea**	**36.20**	**93**	P	**P**	**05 48 41.8**	**+1.8**
NVAR	**Mina Array Bea**	**36.20**	**93**	P	**P**	**05 48 41.8**	**+1.8**
	0.6nm,0.7s,baz=299,slow=8.9,SNR=5.3						
TXAR	**Lajitas Array**	**51.27**	**91**	P	**P**	**05 50 41.5**	**+0.5**
TXAR	**Lajitas Array**	**51.27**	**91**	P	**P**	**05 50 41.5**	**+0.5**
	0.4nm,0.6s,baz=295,slow=6.6,SNR=4.3						
ARCES	**ARCESS Array B**	**57.77**	**355**	P	**P**	**05 51 26.9**	**-0.5**
	4.5nm,1.0s,baz=21,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**64.65**	**315**	P	**P**	**05 52 13.5**	**-1.0**
	0.8nm,0.8s,baz=46,slow=5.9,SNR=6.9						
FINES	**FINESS Array B**	**65.76**	**353**	P	**P**	**05 52 20.5**	**-0.8**
	2.2nm,0.8s,baz=12,slow=9.8,SNR=6.9						
NOA	**NORSAR Array B**	**66.63**	**1**	P	**P**	**05 52 26.6**	**-0.3**
	0.7nm,0.7s,baz=12,slow=6.4,SNR=2.6						
AKASG	**Malin Array Be**	**76.10**	**349**	P	**P**	**05 53 22.3**	**-1.9**
	0.4nm,0.4s,baz=13,slow=6.0,SNR=4.3						
H03N2	**Juan Fernandez**	**114.68**	**113**	T	T	08 06 15.5	
	baz=311						
H03N1	**Juan Fernandez**	**114.69**	**113**	T	T	08 06 28.1	
	baz=311						
H03N3	**Juan Fernandez**	**114.69**	**113**	T	T	08 06 30.2	
	baz=311						

MEX 03 06:08:38.9±0.7, 17.10N×100.19W, h37km±7km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.09**	**235**	*e*P	Pn	06 08 43.6	-1.6
CAIG				*e*S	Sn	06 08 48.0	-1.5
ACX	**Acapulco**	**0.39**	**126**	*i* P	Pn	06 08 48.9	+1.1
ACX				*i* S	Sn	06 08 54.9	+0.2
MEIG	**Mezcala**	**0.98**	**33**	*e*P	Pn	06 08 53.8	-2.5
MEIG				*i* S	Sn	06 09 06.6	-2.5
ARIG	**Puente Sto Nin**	**1.18**	**353**	*e*P	Pn	06 08 57.2	-1.8
ARIG				*i* S	Sn	06 09 11.7	-2.2
ZIIG	**Zihuatanejo**	**1.32**	**293**	*e*P	Pn	06 08 59.5	-1.2
ZIIG				*i* S	Sn	06 09 15.8	-1.3
PLIG	**Platanillo**	**1.44**	**27**	*e*P	Pn	06 09 01.3	-1.3
PLIG				*i* S	Sn	06 09 18.5	-1.9
TLIG	**Tlapa**	**1.61**	**73**	*e*P	Pn	06 09 03.8	-1.2
TLIG				*i* S	Sn	06 09 23.3	-1.4
YAIG	**Yautepec**	**2.05**	**31**	*e*P	Pn	06 09 09.9	-1.1
YAIG				*i* S	Sn	06 09 34.4	-1.1
PNIG	**Pinotepa**	**2.10**	**109**	*e*P	Pn	06 09 09.9	-1.6
PNIG				*i* S	Sn	06 09 35.2	-1.1
UTMO	**Huajuapan**	**2.39**	**72**	*e*P	Pn	06 09 15.2	-0.5
UTMO				*i* S	Sn	06 09 41.5	-2.5
PPM	**Popocatepetl**	**2.46**	**37**	*e*P	Pn	06 09 14.9	-2.2
PPM				*i* S	Sn	06 09 44.0	-2.3
MOIG	**Morelia**	**2.73**	**340**	*i* P	Pn	06 09 20.0	-0.6
MOIG				*i* S	Sn	06 09 51.0	-1.6
MMIG	**Aquila**	**3.23**	**292**	*i* P	Pn	06 09 24.7	-2.4
VHO	**Vista Hermosa**	**3.30**	**90**	*e*P	Pn	06 09 22.9	-5.4

IDC 03 06:12:14.3±47.0, 18.19S×175.44W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=885.5km s-min=170.0km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.98**	**242**	P	P	06 19 59.0	-0.1
	1.0nm,0.5s,baz=90,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**47.36**	**259**	P	P	06 20 50.2	-0.2
	0.5nm,0.4s,baz=96,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**47.43**	**254**	P	P	06 20 51.0	-0.1
	1.9nm,0.6s,baz=92,slow=8.1,SNR=30						

*BJI **03** 06:12:30.3, 56.85S×122.43W, h10km, mB5.8/28, Ms5.8/31, Ms7 5.6/30*
*IDC **03** 06:12:30.9±0.3, 56.03S×122.70W, h0km, mb4.9/27, mb1 5.0/27, mb1mx5.0/28, mbtmp4.9/27, MS5.7/21, Ms1 5.7/21, ms1mx5.7/22, Error ellipse: s-maj=15.0km s-min=10.3km az=156.0*
*ISCJB **03** 06:12:31.6±0.2, 56.44S±0.05×122.41W±0.09, h10km, mb5.2/74, MS5.7/191, Error ellipse: s-maj=8.2km s-min=5.4km az=43.1*
*MOS **03** 06:12:31.9±1.2, 56.31S×122.46W, h10km, mb5.5/22, MS5.8/22, Error ellipse: s-maj=22.1km s-min=10.7km az=79.9*
*NEIC **03** 06:12:32.5±0.2, 56.48S×122.32W, h10km, mb5.5/47, MS5.8/149, MW6.0, Error ellipse: s-maj=8.7km s-min=6.4km az=151.0*
*BGS **03** 06:12:33.5±2.9, 56.48S×122.32W, h10km, mb5.5(NEIC)*
*GCMT **03** 06:12:37.1±0.1, 56.11S×122.78W, h12km, MW6.0 Best double couple: NP1:φs16.00000°, δ90.00000°, λ-167.00000°. NP2:φs286.00000°, δ77.00000°, λ-1.00000°. Principal axes: T 1.1100, Plg9.0000°, Azm150.0000°; N -0.0700, Plg77.0000°, Azm18.0000°; P -1.0400, Plg10.0000°, Azm242.0000°; Data Used: II IU CU CN IC G. Mantle waves from 107 sta. Surface waves: sta=134, comp=293, per= 50.*
*NEIC **03** 06:12:52.7±0.0, 56.35S×122.62W, h10km Best double couple: NP1:φs283.00000°, δ59.00000°, λ-10.00000°. NP2:φs18.00000°, δ81.00000°, λ-147.00000°; Principal axes: T 1.1100, Plg14.0000°, Azm146.0000°; N 0.2800, Plg56.0000°, Azm32.0000°; P -1.3900, Plg28.0000°, Azm244.0000°;*
ISC 03 06:12:33.0±0.2, 56.27S±0.08×122.44W±0.05, h10km, n884, σ1§34/741, mb5.3/72, MS5.8/192, 130C-140D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**28.94**	**131**	*e*P	**P**	**06 18 29.6**	**-2.2**
	227nm,1.8s						
PMSA	**Palmer Station**	**28.94**	**131**	P	**P**	**06 18 33.9**	**+2.0**
	40nm,1.0s,baz=303,slow=7.5,SNR=3.9						
PMSA				LR	LR	06 27 02.7	
	comp=Z,18μm,19.5s,baz=266,slow=30						
USHA	**Ushuaia**	**29.94**	**110**	LR	LR	06 27 20.1	
	comp=Z,27μm,21.9s,baz=218,slow=30						
RPN	**Rapa Nui**	**30.61**	**23**	PFAKE		06 19 00.0	+13
RPN				LR	LR		
	comp=Z,8μm,20.0s						
PTCN	**Pitcairn Islan**	**31.66**	**347**	PFAKE		06 19 10.0	+14
PTCN				LR	LR		
	comp=Z,23μm,21.0s						
SBA	**Scott Base**	**31.80**	**202**	P	**P**	**06 18 56.5**	**-0.4**
SBA				pmax	pmax		
	comp=Z,26nm,1.3s						
SBA				MLR	MLR		
	comp=Z,6μm,22.0s						
SBA	**Scott Base**	**31.80**	**202**	P	**P**	**06 18 56.5**	**-0.4**
	comp=Z,26nm,1.3s						
SBA				LR	LR		
	comp=Z,6μm,22.0s						
VNDA	**Vanda**	**32.86**	**203**	P	**P**	**06 19 08.1**	**+1.8**
VNDA				PcP	**PcP**	**06 21 51.5**	**+1.0**
VNDA	**Vanda**	**32.86**	**203**	P	**P**	**06 19 08.1**	**+1.8**
	comp=Z,4.8nm,0.8s,baz=98,slow=7.5,SNR=15						
VNDA				PcP	**PcP**	**06 21 51.5**	**+1.0**
	comp=Z,5.4nm,0.9s,baz=126,slow=4.1,SNR=3.4						
VNDA				LR	LR	06 29 56.4	
	comp=Z,4μm,19.0s,baz=93,slow=32						
QSPA	**South Pole Qui**	**33.91**	**180**	P	P	06 19 19.2	+3.4
QSPA	**South Pole Qui**	**33.91**	**180**	P	P	06 19 19.2	+3.4
	comp=Z,38nm,1.0s,baz=105,slow=4.4,SNR=35						
QSPA				LR	LR	06 31 29.3	
	comp=Z,10μm,19.3s,baz=93,slow=33						
RKT	**Rikitea**	**34.37**	**339**	*e*S	S	06 24 39.9	-7.6
	comp=Z,2μm,27.5s						
RKT				*e*LQ	LQ	06 26 41.6	
	comp=Z,5μm,31.0s						
RKT				*e*LR	LR	06 28 06.5	
	comp=Z,43μm,29.2s,baz=172						
PLCA	**Paso Flores**	**36.77**	**87**	*e*P	**P**	**06 19 41.3**	**+0.8**
	comp=Z,50nm,1.1s						
PLCA				PcP	**PcP**	**06 22 03.9**	**+1.3**
PLCA	**Paso Flores**	**36.77**	**87**	P	**P**	**06 19 41.5**	**+1.0**
	comp=Z,8.8nm,0.8s,baz=223,slow=8.2,SNR=16						
PLCA				PcP	**PcP**	**06 22 03.9**	**+1.3**
	comp=Z,2.4nm,0.9s,baz=253,slow=11,SNR=2.9						
PLCA				LR	LR	06 30 59.7	
	comp=Z,9μm,19.9s,baz=230,slow=30						
EFI	**East Falkland**	**36.91**	**111**	PFAKE		06 19 50.0	+8.6
EFI				LR	LR		
	comp=Z,22μm,20.0s						
H03N3	**Juan Fernandez**	**37.48**	**71**	T	T	06 59 23.0	
	baz=218,slow=74,SNR=932						
H03N2	**Juan Fernandez**	**37.48**	**71**	T	T	06 59 22.9	
	baz=218,slow=74,SNR=1911						
H03N1	**Juan Fernandez**	**37.49**	**71**	T	T	06 59 24.0	
	baz=218,slow=74,SNR=1135						
TBI	**Tubuai**	**38.39**	**318**	*e*S	S	06 25 40.2	-8.6
	comp=Z,2μm,29.5s						
TBI				*e*LQ	LQ	06 28 22.0	
	comp=Z,6μm,25.8s						
TBI				*e*LR	LR	06 30 00.6	
	comp=Z,27μm,29.5s,baz=163						
TBI	**Tubuai**	**38.39**	**318**	⇑*e*T	T	06 59 54.8	
	comp=Z,106nm,0.3s						
SNZO	**South Karori**	**42.48**	**263**	PFAKE		06 20 40.0	+12
SNZO				LR	LR		
	comp=Z,7μm,21.0s						
RPZ	**Rata Peaks**	**42.88**	**258**	P	**P**	**06 20 31.5**	**+0.3**
RPZ	**Rata Peaks**	**42.88**	**258**	P	**P**	**06 20 31.5**	**+0.3**
	comp=Z,11nm,1.0s,baz=165,slow=15,SNR=2.6						
RPZ				LR	LR	06 34 18.9	
	comp=Z,18μm,19.1s,baz=125,slow=31						
MEH	**Mehetia**	**42.93**	**323**	*e*T	T	07 05 28.2	
	comp=Z,27nm,0.3s						
DRV	**Dumont d'Urvil**	**42.94**	**215**	PP	PP	06 22 12.0	+1.3
DRV				S	S	06 26 35.0	-21
DRV				L	L	06 30 00.0	
DRV				R		06 32 00.0	
BKZ	**Black Stump Fm**	**42.96**	**267**	*e*P	**P**	**06 20 32.7**	**+0.8**
	comp=Z,110nm,1.4s						
WHZ	**Wether Hill Ro**	**43.14**	**253**	*e*P	**P**	**06 20 34.6**	**+1.4**
	comp=Z,324nm,2.0s						
URZ	**Urewera**	**43.25**	**268**	LR	LR	06 34 00.8	
	comp=Z,11μm,20.7s,baz=36,slow=30						
TRQA	**Tornquist**	**43.40**	**92**	*e*P	**P**	**06 20 36.4**	**+0.9**
	comp=Z,171nm,1.9s						
TRQA				LR	LR		
	comp=Z,10μm,21.0s						
TVO	**Taravao**	**43.42**	**321**	⇑*e*T	T	07 06 10.0	
	comp=Z,1.8nm,0.3s						
PAE	**Paea**	**43.65**	**321**	*e*T	T	07 06 20.3	
	comp=Z,3.0nm,0.2s						
PPT2	**Papeete2**	**43.71**	**321**	*e*S	S	06 26 59.8	-8.4
	comp=Z,4μm,25.8s						
PPT2				*e*LQ	LQ	06 30 37.7	
	comp=Z,28μm,27.0s						
PPT2				*e*LR	LR	06 32 30.2	
	comp=Z,34μm,26.2s,baz=162						
PPT2	**Papeete2**	**43.71**	**321**	⇑*e*T	T	07 06 27.5	
	comp=Z,2.3nm,0.3s						
PPT	**Papeete**	**43.73**	**321**	LR	LR	06 34 35.3	
	comp=Z,10μm,18.3s,baz=151,slow=30						
RAR	**Rarotonga**	**44.56**	**306**	LR	LR	06 32 34.8	
	comp=Z,319nm,22.0s,baz=93,slow=27						
CFAA	**Coronel Fontan**	**44.67**	**80**	P	**P**	**06 20 44.7**	**-1.0**
CFAA	**Coronel Fontan**	**44.67**	**80**	P	**P**	**06 20 44.7**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=217,slow=8.8,SNR=11						
VNA1	**Neumayer--Stat**	**45.07**	**155**	*e*P	**P**	**06 20 51.1**	**+2.7**
VNA1	**Neumayer--Stat**	**45.07**	**155**	*e*PcP	**PcP**	**06 22 26.3**	**-2.5**
VNA2	**Neumayer--Watz**	**45.08**	**155**	*e*P	**P**	**06 20 51.2**	**+2.7**
VNA2	**Neumayer--Watz**	**45.08**	**155**	*e*PcP	**PcP**	**06 22 28.9**	**0.0**
VAH	**Vaihoa**	**45.24**	**325**	⇑*e*T	T	07 08 27.7	
	comp=Z,202nm,0.3s						
LCO	**Las Campanas**	**45.33**	**75**	PFAKE		06 21 00.0	+8.6
LCO				LR	LR		
	comp=Z,7μm,21.0s						
PMOR	**Pomariorio Ree**	**45.55**	**324**	*e*T	T	07 09 04.9	
	comp=Z,28nm,0.3s						
SNAA	**Sanae**	**45.57**	**157**	*e*P	**P**	**06 20 54.3**	**+1.9**
SNAA	**Sanae**	**45.57**	**157**	*e*P	**P**	**06 20 54.4**	**+1.9**
	comp=Z,48nm,1.1s						
SNAA	**Sanae**	**45.57**	**157**	P	**P**	**06 20 54.3**	**+1.9**
	comp=Z,6.5nm,1.0s,baz=228,slow=6.2,SNR=24						
RAO	**Raoul Island**	**47.17**	**281**	LR	LR	06 36 40.7	
	comp=Z,1μm,19.1s,baz=147,slow=31						
OUZ	**

LPAZ LR LR 06 41 01.4
comp=Z,5µm,19.6s,baz=214,slow=30
CAN Canberra 60.72 250 PFAKE 06 23 00.0 +16
CAN LR LR
comp=Z,9µm,20.0s
SIV San Ignacio 61.03 75 P **P 06 22 45.8 -0.9**
SIV San Ignacio 61.03 75 P **P 06 22 45.8 -0.9**
comp=Z,40nm,0.8s,baz=226,slow=6.5,SNR=59
PAYG Puerto Ayora 61.19 37 PFAKE 06 23 00.0 +12
PAYG LR LR
comp=Z,11µm,21.0s
DZM Mont Dzumac 61.47 273 *e*S **S 06 31 09.7 -1.4**
comp=Z,2µm,24.1s
DZM *e*LQ LQ 06 38 20.4
comp=Z,18µm,30.1s
DZM *e*LR LR 06 40 59.4
comp=Z,16µm,25.4s
DZM Mont Dzumac 61.47 273 *e*P **P 06 22 48.4 -1.4**
comp=Z,112nm,1.8s
SPB Sao Paulo 62.44 92 PFAKE 06 23 10.0 +14
SPB LR LR
comp=Z,8µm,20.0s
ARMA Armidale 63.11 255 *e*P **P 06 23 00.4 -0.3**
comp=Z,20nm,1.0s
ARMA Armidale 63.11 255 ⇓P **P 06 23 00.4 -0.3**
baz=63,SNR=3.9
XMAS Kiritimati 64.70 321 PFAKE 06 23 20.0 +8.9
XMAS LR LR
comp=Z,13µm,20.0s
CMSA Cobar Meteorol 65.39 250 ⇑P **P 06 23 15.1 -0.3**
baz=65,SNR=8.9
SAML Samuel 65.80 69 *e*P **P 06 23 16.5 -1.7**
comp=Z,10nm,0.8s
SAML LR LR
comp=Z,5µm,21.0s
OTAV Otavalo 66.55 49 *e*P **P 06 23 22.8 -0.8**
comp=Z,40nm,1.1s
OTAV LR LR
comp=Z,4µm,22.0s
STKA Stephens Creek 67.24 247 *e*P **P 06 23 26.6 -0.7**
comp=Z,4.5nm,1.0s
STKA Stephens Creek 67.24 247 P **P 06 23 26.7 -0.7**
comp=Z,8.5nm,0.8s,baz=148,slow=5.7,SNR=14
STKA LR LR 06 47 17.7
comp=Z,10µm,20.1s,baz=140,slow=31
STKA Stephens Creek 67.24 247 ⇓P **P 06 23 26.7 -0.7**
baz=67,SNR=10
HTT Hallett 67.35 244 ⇓P **P 06 23 28.2 0.0**
baz=67,SNR=3.3
EIDS Eidsvold 67.38 258 *e*P **P 06 23 27.0 -1.2**
comp=Z,107nm,1.8s
RMQ Roma 67.75 255 ⇓P **P 06 23 30.1 -0.6**
baz=68,SNR=7.9
BDFB Brasilia 68.49 86 *e*P **P 06 23 34.3 -1.2**
BDFB Brasilia 68.49 86 P **P 06 23 35.3 -0.2**
comp=Z,10nm,0.9s,baz=222,slow=4.6,SNR=12
BDFB LR LR 06 50 43.5
comp=Z,9µm,21.2s,baz=69,slow=33
BBOO Buckleboo 69.27 242 *e*P **P 06 23 39.6 -0.5**
comp=Z,861nm,1.1s
BBOO Buckleboo 69.27 242 ⇓P **P 06 23 39.0 -1.1**
baz=69,SNR=7.3
TRIS Tristan da Cun 69.85 127 PFAKE 06 23 50.0 +6.5
TRIS LR LR
comp=Z,4µm,19.0s
QLP Quilpie 70.10 252 ⇓P **P 06 23 44.2 -1.1**
baz=70,SNR=5.1
ROSC El Rosal 72.46 51 *e*P **P 06 24 00.1 +0.1**
ROSC El Rosal 72.46 51 P **P 06 23 59.5 -0.6**
comp=Z,8.0nm,0.8s,baz=117,slow=7.1,SNR=11
ROSC LR LR 06 50 39.1
comp=Z,4µm,18.3s,baz=191,slow=32
ROSC El Rosal 72.46 51 ⇓P **P 06 24 00.0 0.0**
baz=72,SNR=4.9
JTS JuntasAbangare 73.24 39 *e*P **P 06 24 04.8 +0.6**
comp=Z,14nm,1.8s
JTS LR LR
comp=Z,7µm,20.0s
BCIP Isla Barro Col 74.09 44 PFAKE 06 24 20.0 +11
BCIP LR LR
comp=Z,5µm,19.0s
PAF Port-aux-Franc 74.22 189 PFAKE 06 24 20.0 +10
PAF LR LR
comp=Z,6µm,20.0s
CTA Charters Tower 74.25 258 P **P 06 24 09.7 -0.5**
CTA Charters Tower 74.25 258 P **P 06 24 09.7 -0.5**
comp=Z,16nm,0.9s,baz=170,slow=3.9,SNR=15
CTAO Charters Tower 74.25 258 *e*P **P 06 24 09.5 -0.7**
CTAO MLR MLR
comp=Z,4µm,20.0s
CTAO Charters Tower 74.25 258 *e*P **P 06 24 09.5 -0.7**
CTAO LR LR
comp=Z,4µm,20.0s
PTGA Pitinga 74.44 67 *e*P **P 06 24 10.6 -0.6**
PTGA LR LR
comp=Z,5µm,21.0s
FORT Forrest 74.79 237 *e*P **P 06 24 12.2 -0.9**
HNR Honiara 75.33 275 PFAKE 06 24 30.0 +14
HNR LR LR
comp=Z,253nm,19.0s
TGUH Tegucigalpa,Un 75.98 35 *e*P **P 06 24 20.4 +0.4**
comp=Z,64nm,1.4s
TGUH LR LR
comp=Z,5µm,20.0s
H01W1 Cape Leeuwin H 77.28 225 T T 07 50 18.7
baz=151,slow=76,SNR=128
H01W2 Cape Leeuwin H 77.29 225 T T 07 50 20.6
baz=151,slow=76,SNR=167
H01W3 Cape Leeuwin H 77.30 225 T T 07 50 17.9
baz=151,slow=76,SNR=152
SDV Santo Domingo 77.67 53 *e*P **P 06 24 28.1 -1.7**
SDV LR LR
comp=Z,403nm,19.0s
NWAO Narrogin (SRO) 77.75 228 LR LR 06 52 23.0
comp=Z,2µm,18.1s,baz=313,slow=31
AS31 Alice Springs 77.85 246 *e*P **P 06 24 28.9 -1.8**
ASAR Alice Springs 77.85 246 P **P 06 24 28.7 -2.0**
ASAR Alice Springs 77.85 246 P **P 06 24 28.7 -2.0**
comp=Z,5.0nm,0.8s,baz=146,slow=5.0,SNR=28
ASAR LR LR 06 54 29.4
comp=Z,8µm,18.5s,baz=135,slow=32
LPIG La Paz 80.71 11 P **P 06 24 45.6 -0.3**
LPIG La Paz 80.71 11 P **P 06 24 45.6 -0.3**
comp=Z,35nm,1.1s,baz=220,slow=2.0,SNR=4.8
WRA Warramunga Arr 80.71 248 P **P 06 24 44.5 -1.9**
WRA Warramunga Arr 80.71 248 P **P 06 24 44.5 -1.9**
comp=Z,10nm,0.8s,baz=146,slow=4.8,SNR=57
WRA LR LR 06 57 25.0
comp=Z,6µm,18.1s,baz=150,slow=33
POHA Pohakuloa 80.71 329 PFAKE 06 25 00.0 +14
POHA LR LR
comp=Z,8µm,22.0s
WRAB Tennant Creek 80.72 248 *d i*P **P 06 24 44.3 -2.1**
WRAB pmax pmax
comp=Z,37nm,0.9s
WRAB Tennant Creek 80.72 248 *e*P **P 06 24 44.2 -2.1**
WRAB LR LR
comp=Z,6µm,20.0s
WRAB Tennant Creek 80.72 248 P **P 06 24 44.3 -2.1**
comp=Z,141nm,1.2s,SNR=12
TEIG Tepich 81.47 32 PFAKE 06 25 00.0 +10
TEIG LR LR
comp=Z,3µm,20.0s
PMG Port Moresby 82.48 264 *e*P **P 06 24 56.0 +0.3**
PMG LR LR
comp=Z,6µm,19.0s
PMG Port Moresby 82.48 264 P **P 06 24 54.0 -1.7**
comp=Z,12nm,0.7s,baz=102,slow=6.9,SNR=6.6
KIP Kipapa 83.03 327 PFAKE 06 25 10.0 +12
KIP LR LR
comp=Z,9µm,21.0s
MTDJ Mount Denham 83.25 43 PFAKE 06 25 10.0 +10
MTDJ LR LR
comp=Z,3µm,20.0s
RCBR Riachuelo 83.27 90 PFAKE 06 25 10.0 +10
RCBR LR LR
comp=Z,5µm,20.0s
GRGR Grenville 84.67 59 PFAKE 06 25 20.0 +13
GRGR LR LR
comp=Z,3µm,21.0s
GTBY Guantanamo Bay 85.72 44 PFAKE 06 25 20.0 +8.1
GTBY LR LR
comp=Z,1µm,19.0s
SUR Sutherland 86.33 150 *e*P **P 06 25 14.7 -0.5**
comp=Z,46nm,1.3s
SUR LR LR
comp=Z,5µm,19.0s

SUR Sutherland 86.33 150 P **P 06 25 15.5 +0.2**
comp=Z,19nm,1.0s,baz=184,slow=3.0,SNR=5.9
SDDR Presa de Saban 86.40 48 PFAKE 06 25 30.0 +15
SDDR LR LR
comp=Z,1µm,19.0s
BBGH Gun Hill 86.55 60 PFAKE 06 25 30.0 +14
BBGH LR LR
comp=Z,4µm,22.0s
FITZ Fitzroy Crossi 86.66 242 *e*P **P 06 25 15.5 -1.3**
FITZ Fitzroy Crossi 86.66 242 P **P 06 25 15.0 -1.8**
comp=Z,5.0nm,0.8s,baz=181,slow=6.4,SNR=12
FITZ Fitzroy Crossi 86.66 242 ⇓P **P 06 25 15.3 -1.5**
baz=86,SNR=7.4
TXAR Lajitas Array 86.75 16 P **P 06 25 16.1 -0.7**
TXAR Lajitas Array 86.75 16 P **P 06 25 16.1 -0.7**
comp=Z,11nm,0.9s,baz=193,slow=6.6,SNR=37
732A Laxson Ranch, 86.80 20 ⇓P **P 06 25 16.7 -0.3**
baz=87,SNR=9.1
MBWA Marble Bar 86.86 236 *e*P **P 06 25 18.3 +0.5**
comp=Z,30nm,1.0s
MBWA LR LR
comp=Z,5µm,19.0s
626A Big Bend Ranch 86.89 16 ⇓P **P 06 25 17.8 +0.2**
baz=87,SNR=15
627A Terlingua Ranc 86.91 17 ⇓P **P 06 25 17.7 0.0**
baz=87,SNR=18
628A Black Gap, Mar 87.02 17 ⇑P **P 06 25 18.4 +0.2**
baz=88,SNR=23
FDF Fort de France 87.16 58 PFAKE 06 25 30.0 +11
FDF LR LR
comp=Z,3µm,20.0s
631A Perdido Creek 87.35 19 ⇑P **P 06 25 19.5 -0.2**
baz=88,SNR=9.2
526A Mary Lane Ranc 87.40 16 ⇑P **P 06 25 20.0 0.0**
baz=88,SNR=16
527A Woodward Ranch 87.55 16 ⇓P **P 06 25 20.8 -0.1**
baz=88,SNR=7.8
528A Cox Ranch, San 87.70 17 ⇓P **P 06 25 21.5 0.0**
baz=88
529A Stev Forest Ra 87.76 17 ⇓P **P 06 25 21.7 0.0**
baz=88,SNR=33
SJG San Juan 87.82 52 PFAKE 06 25 30.0 +7.8
SJG LR LR
comp=Z,3µm,19.0s
530A J-C Ranch, Com 87.93 18 ⇓P **P 06 25 22.6 +0.1**
baz=88,SNR=20
425A Indio Mountain 87.98 15 ⇑P **P 06 25 23.0 +0.2**
baz=88,SNR=24
426A McDonald Obser 88.00 16 ⇑P **P 06 25 23.0 0.0**
baz=88,SNR=10
319A Douglas 88.01 11 ⇓P **P 06 25 23.3 +0.3**
baz=88,SNR=9.3
320A Kipp Ranch, An 88.06 12 ⇑P **P 06 25 23.6 +0.4**
baz=89,SNR=12
531A Rocksprings 88.09 19 ⇑P **P 06 25 23.7 +0.5**
baz=89,SNR=13
532A Rocksprings 88.17 19 ⇑P **P 06 25 23.9 +0.2**
baz=89,SNR=24
214A Organ Pipe Nat 88.26 8 *e*P **P 06 25 24.1 +0.1**
214A Organ Pipe Nat 88.26 8 ⇑P **P 06 25 24.6 +0.6**
baz=89,SNR=28
428A Kincaid Ranch, 88.27 17 ⇓P **P 06 25 24.9 +0.7**
baz=89,SNR=27
427A Hayter Ranch, 88.28 16 ⇓P **P 06 25 24.2 0.0**
baz=89,SNR=9.8
533A Kerrville 88.28 20 ⇑P **P 06 25 24.0 -0.2**
baz=89
429A Davenport Ranc 88.30 18 ⇑P **P 06 25 24.8 +0.5**
baz=89,SNR=27
534A Blanco 88.34 21 ⇓P **P 06 25 24.5 +0.1**
baz=89,SNR=11
JCT Junction City 88.53 19 *e*P **P 06 25 25.4 +0.1**
JCT pmax pmax
comp=Z,54nm,1.2s
JCT MLR MLR
comp=Z,2µm,19.0s
JCT Junction City 88.53 19 *e*P **P 06 25 25.4 +0.1**
comp=Z,54nm,1.2s
JCT LR LR
comp=Z,2µm,19.0s
JCT Junction City 88.53 19 ⇓P **P 06 25 25.1 -0.3**
baz=89
324A Moseley Ranch, 88.55 14 ⇓P **P 06 25 25.1 -0.4**
baz=89
430A Baggett Ranch, 88.57 18 ⇓P **P 06 25 25.8 +0.2**
baz=89,SNR=23
431A Sonora 88.58 19 ⇓P **P 06 25 25.9 +0.4**
baz=89,SNR=22
220A Playas Peak, P 88.62 12 ⇑P **P 06 25 26.1 +0.3**
baz=89,SNR=13
326A Caldwell Ranch 88.64 16 ⇑P **P 06 25 25.8 -0.1**
baz=89
GRTK Grand Turk 88.73 47 PFAKE 06 25 40.0 +14
GRTK LR LR
comp=Z,2µm,19.0s
BAR Barrett 88.73 5 *e*P **P 06 25 27.7 +1.5**
DVTC Desert V Tower 88.74 5 ⇓P **P 06 25 27.2 +0.9**
baz=89,SNR=5.4
TUC Tucson 88.78 10 *e*P **P 06 25 26.1 -0.4**
TUC pmax pmax
comp=Z,71nm,1.4s
TUC MLR MLR
comp=Z,4µm,21.0s
TUC Tucson 88.78 10 *e*P **P 06 25 26.1 -0.4**
comp=Z,70nm,1.4s
TUC LR LR
comp=Z,4µm,21.0s
221A Mesquite Ranch 88.81 12 ⇑P **P 06 25 27.2 +0.4**
baz=89
HKT Hockley 88.82 23 *e*P P 06 25 30.3 +3.8
HKT pmax pmax
comp=Z,52nm,1.6s
HKT Hockley 88.82 23 *e*P P 06 25 30.3 +3.8
comp=Z,52nm,1.6s
MNTX Cornudas Mount 88.82 14 PFAKE 06 25 40.0 +13
MNTX LR LR
comp=Z,3µm,19.0s
328A Wristen Ranch, 88.89 17 ⇓P **P 06 25 27.3 +0.3**
baz=89,SNR=7.8
432A Menard 88.92 19 ⇓P **P 06 25 27.0 -0.1**
baz=89,SNR=7.9
433A Art 88.93 20 ⇓P **P 06 25 27.2 0.0**
baz=89,SNR=10
MONP Monument Peak 88.95 5 ⇑P **P 06 25 28.2 +0.7**
baz=90,SNR=8.9
SCI San Clemente I 88.96 3 ⇓P **P 06 25 28.0 +0.7**
baz=90
223A Chaparral, Ant 88.98 14 ⇓P **P 06 25 28.0 +0.5**
baz=90
222A Williams Famil 88.99 13 ⇑P **P 06 25 28.3 +0.8**
baz=90,SNR=11
113A Mohawk Valley, 88.99 7 ⇓P **P 06 25 28.3 +1.0**
baz=90,SNR=24
SWSC Sam W. Stewart 89.04 6 ⇓P **P 06 25 28.7 +1.1**
baz=90,SNR=7.1
329A Wagon Wheel Ra 89.13 17 ⇑P **P 06 25 28.4 +0.3**
baz=90
434A Burnet 89.15 21 ⇓P **P 06 25 28.3 +0.1**
baz=90,SNR=8.3
224A Cornudas Mount 89.17 14 ⇑P **P 06 25 28.9 +0.5**
baz=90,SNR=48
330A Mertzon 89.19 18 ⇑P **P 06 25 28.8 +0.4**
baz=90,SNR=38
GLA Glamis 89.20 6 *e*P **P 06 25 29.0 +0.6**
GLA pmax pmax
comp=Z,17nm,1.3s
GLA Glamis 89.20 6 *e*P **P 06 25 29.0 +0.6**
comp=Z,16nm,1.3s
GLA Glamis 89.20 6 ⇑P **P 06 25 29.3 +0.9**
baz=90,SNR=10
331A San Angelo 89.22 19 ⇑P **P 06 25 29.1 +0.5**
baz=90,SNR=14
120A U Bar Ranch, L 89.24 12 ⇓P **P 06 25 29.6 +0.8**
baz=90,SNR=16
225A Deer Hill, Car 89.30 15 ⇓P **P 06 25 29.6 +0.6**
baz=90,SNR=9.2
121A Cookes Peak, D 89.33 12 *e*P **P 06 25 29.8 +0.6**
121A Cookes Peak, D 89.33 12 ⇓P **P 06 25 29.8 +0.6**
baz=90,SNR=13
226B Tecolote Peak, 89.36 15 ⇑P **P 06 25 29.6 +0.3**
baz=90,SNR=6.9
CIS Catalina Islan 89.39 3 ⇑P **P 06 25 30.1 +0.8**
baz=90
ANWB Willy Bob 89.41 56 PFAKE 06 25 40.0 +10
ANWB LR LR
comp=Z,3µm,22.0s
332A Millersview 89.42 19 ⇓P **P 06 25 29.7 +0.3**
baz=90

227A Bennet, Jal 89.43 16 ⇑P **P 06 25 30.2 +0.7**
baz=90,SNR=5.5
333A Richland Sprin 89.51 20 ⇑P **P 06 25 29.8 -0.1**
baz=90
122A Conniff Cattle 89.59 13 ⇓P **P 06 25 31.4 +1.0**
baz=90,SNR=8.4
123A Bell Site, Whi 89.62 14 ⇑P **P 06 25 31.2 +0.7**
baz=90
MURC Murrieta 89.62 4 ⇓P **P 06 25 31.3 +0.9**
baz=90,SNR=5.3
229A Bryant Ranch, 89.63 17 ⇓P **P 06 25 30.6 +0.1**
baz=90
Z14A Wintersburg 89.64 8 ⇓P **P 06 25 31.6 +1.2**
baz=90,SNR=5.6
228A UT Block 9, Go 89.65 17 ⇓P **P 06 25 30.7 +0.1**
baz=90
334A Lometa 89.66 21 ⇓P **P 06 25 30.8 +0.2**
baz=90,SNR=9.6
PFO Pinyon Flat Ob 89.67 5 *e*P **P 06 25 31.7 +1.0**
PFO LR LR
comp=Z,5µm,19.0s
PFO Pinyon Flat Ob 89.67 5 ⇑P **P 06 25 31.9 +1.2**
baz=90,SNR=11
PFO Pinyon Flat Ob 89.67 5 P **P 06 25 30.2 -0.5**
comp=Z,17nm,1.1s,baz=143,slow=2.4,SNR=13
230A Sterling City 89.67 18 ⇓P **P 06 25 31.2 +0.5**
baz=90,SNR=9.5
FMP Fort Macarthur 89.69 3 ⇑P **P 06 25 31.8 +1.1**
baz=90
BC3 Big Chuckawall 89.77 6 ⇑P **P 06 25 32.2 +1.1**
baz=90,SNR=12
124A Stringfield Ra 89.79 14 ⇑P **P 06 25 32.0 +0.5**
baz=90,SNR=8.1
231A Bronte 89.86 19 ⇑P **P 06 25 31.9 +0.4**
baz=90
125A Gardner Draw, 89.86 15 ⇓P **P 06 25 32.0 +0.4**
baz=90,SNR=9.4
232A Coleman 89.93 19 ⇓P **P 06 25 32.3 +0.4**
baz=90,SNR=10
126A Clayton Basin, 89.94 15 ⇑P **P 06 25 32.0 0.0**
baz=90,SNR=11
BLG Laguna Peak 90.07 3 ⇓P **P 06 25 33.3 +0.8**
baz=91
BELC Belle Mtn. Jos 90.08 5 ⇓P **P 06 25 33.8 +1.2**
baz=91,SNR=17
Z21A St. Cloud Mine 90.11 12 ⇓P **P 06 25 33.8 +0.9**
baz=91,SNR=18
Z22A Elephant Butte 90.14 13 ⇑P **P 06 25 33.7 +0.8**
baz=91,SNR=18
PASC Pasadena Art C 90.16 4 *e*P **P 06 25 34.3 +1.4**
comp=Z,64nm,1.5s
128A Castleberry Fa 90.16 17 ⇑P **P 06 25 33.6 +0.6**
baz=91,SNR=30
Y14A Wickenburg 90.21 8 ⇑P **P 06 25 34.0 +0.9**
baz=91,SNR=17
MWC Mount Wilson 90.21 4 *e*P **P 06 25 35.3 +2.0**
MWC pmax pmax
comp=Z,43nm,1.3s
MWC Mount Wilson 90.21 4 *e*P **P 06 25 35.3 +2.0**
comp=Z,43nm,1.3s
Z23A Rita Site, Whi 90.24 14 ⇑P **P 06 25 34.1 +0.7**
baz=91,SNR=6.9
BFSC Mount Baldy Ra 90.24 4 ⇓P **P 06 25 34.2 +0.8**
baz=91,SNR=14
IRM Iron Mountain 90.29 6 ⇓P **P 06 25 34.6 +1.2**
baz=91,SNR=40
BBRC Big Bear Solar 90.30 5 ⇑P **P 06 25 34.7 +0.9**
baz=91
130A Snyder 90.39 18 ⇓P **P 06 25 34.5 +0.5**
baz=91
Z24A Sheeppen Canyo 90.42 14 ⇓P **P 06 25 34.9 +0.6**
baz=91,SNR=7.0
WHTX Lake Whitney 90.45 21 ⇑P **P 06 25 34.4 +0.2**
baz=91
Z25A Roswell 90.47 15 ⇑P **P 06 25 35.2 +0.8**
baz=91,SNR=22
PDMCI Parker Dam,Lak 90.49 7 ⇑P **P 06 25 35.8 +1.5**
baz=91,SNR=11
131A Roby 90.56 18 ⇑P **P 06 25 35.2 +0.4**
baz=91
Z26A Caprock 90.56 15 ⇑P **P 06 25 34.9 0.0**
baz=91,SNR=8.0
Y20A Horse Springs, 90.62 12 ⇑P **P 06 25 35.8 +0.6**
baz=91,SNR=20
ABTX Abilene, Hawle 90.65 19 ⇑P **P 06 25 35.5 +0.3**
baz=91,SNR=6.5
Z27A Tatum 90.72 16 ⇑P **P 06 25 36.0 +0.4**
baz=91,SNR=14
133A Hamilton Ranch 90.77 20 ⇓P **P 06 25 36.9 +1.2**
baz=91
Y21A Point of Rocks 90.80 12 ⇑P **P 06 25 37.0 +0.9**
baz=91,SNR=29
Y22A Socorro 90.81 13 ⇓P **P 06 25 36.7 +0.6**
baz=91,SNR=14
X16A Lo Mia Camp, P 90.81 9 ⇓P **P 06 25 36.9 +0.8**
baz=91,SNR=27
SHEL Horse Pasture 90.82 121 PFAKE 06 25 50.0 +13
SHEL LR LR
comp=Z,2µm,21.0s
Z28A Tucker Farm, M 90.83 17 ⇑P **P 06 25 36.1 0.0**
baz=91
PKM Peak Mountain 90.83 2 ⇑P **P 06 25 37.2 +1.0**
baz=91,SNR=9.9
EDW2 Edwards Air Fo 90.87 4 ⇑P **P 06 25 37.2 +1.1**
baz=91,SNR=9.2
GMRC Granite Mounta 90.87 6 ⇓P **P 06 25 37.4 +1.1**
baz=91,SNR=18
HEC Hector,Ludlow 90.89 5 ⇓P **P 06 25 37.6 +1.2**
baz=91,SNR=30
Z29A Hungry Hill Ra 90.91 17 ⇓P **P 06 25 37.2 +0.8**
baz=91,SNR=12
Y23A Lovelace Mesa, 90.92 14 ⇓P **P 06 25 37.2 +0.6**
baz=92
Y22D IRIS PASSCAL I 90.95 13 ⇓P **P 06 25 37.8 +1.0**
baz=92
Y24A Capitan 91.00 14 ⇑P **P 06 25 36.7 -0.3**
baz=92,SNR=9.7
Z30A Sanderson Ranc 91.03 18 ⇑P **P 06 25 36.9 -0.1**
baz=92,SNR=5.4
LENM Lemitar 91.04 13 *e*P **P 06 25 36.4 -0.7**
BNM Barren Site 91.06 13 *e*P **P 06 25 38.4 +1.0**
comp=Z,32nm,1.6s
X18A Snowflake 91.06 10 ⇑P **P 06 25 37.9 +0.7**
baz=92,SNR=18
ARVC Arvin 91.09 3 ⇓P **P 06 25 38.0 +0.9**
baz=92
Y25A Mesa, Roswell 91.10 15 ⇓P **P 06 25 37.5 +0.1**
baz=92,SNR=10
BOSA Boshof 91.10 152 P **P 06 25 37.0 -0.9**
BOSA Boshof 91.10 152 P **P 06 25 37.0 -0.9**
comp=Z,3.5nm,1.0s,baz=238,slow=7.3,SNR=3.1
BOSA LR LR 07 03 46.3
comp=Z,6µm,18.7s,baz=196,slow=34
LDFC Landfair 91.20 6 *e*P **P 06 25 39.7 +1.9**
comp=Z,53nm,1.1s
LPM Los Pinos Moun 91.22 13 *e*P **P 06 25 38.6 +0.6**
Z31A Sharp Cattle R 91.23 19 ⇑P **P 06 25 37.6 -0.3**
baz=92,SNR=6.8
Y27A Causey 91.29 16 ⇓P **P 06 25 38.4 +0.1**
baz=92,SNR=31
W13A Hualapai Mount 91.30 7 ⇓P **P 06 25 39.4 +1.1**
baz=92,SNR=32
GSC Goldstone 91.34 5 *e*P **P 06 25 39.8 +1.4**
GSC pmax pmax
comp=Z,4.0nm,1.1s
GSC Goldstone 91.34 5 *e*P **P 06 25 39.8 +1.4**
comp=Z,4.4nm,1.1s
GSC Goldstone 91.34 5 ⇓P **P 06 25 39.5 +1.1**
baz=92,SNR=14
Z32A Haskell 91.34 19 ⇓P **P 06 25 39.1 +0.7**
baz=92,SNR=11
MSTX Muleshoe 91.43 16 *e*P **P 06 25 38.8 -0.1**
MSTX Muleshoe 91.43 16 ⇑P **P 06 25 39.4 +0.5**
baz=92,SNR=11
Z33A Whitaker Ranch 91.45 20 ⇑P **P 06 25 38.9 +0.1**
baz=92
Y28A McKinney Farm, 91.45 17 ⇓P **P 06 25 39.6 +0.6**
baz=92,SNR=14
LRMC Laurel Mountai 91.47 4 ⇑P **P 06 25 40.2 +1.1**
baz=92,SNR=9.2
Y29A Porterfield Fa 91.50 17 ⇓P **P 06 25 40.0 +0.8**
baz=92,SNR=9.8
TUQ Turquoise Moun 91.51 5 ⇓P **P 06 25 40.6 +1.3**
baz=92,SNR=18
X23A Hourglass Bar 91.55 13 ⇑P **P 06 25 40.1 +0.6**
baz=92,SNR=9.3
PTRM Twissleman Ran 91.58 2 *e*P **P 06 25 41.7 +2.3**
ISA Isabella 91.63 3 *e*P **P 06 25 41.3 +1.6**

ISA pmax pmax
comp=Z,7.0nm,1.3s
ISA Isabella 91.63 3 *e*P **P 06 25 41.3 +1.6**
comp=Z,7.5nm,1.3s
ISA Isabella 91.63 3 ⇓P **P 06 25 41.3 +1.6**
baz=92,SNR=20
X25A Clemmons Ranch 91.70 15 ⇑P **P 06 25 40.4 +0.2**
baz=92,SNR=5.0
Z34A Collier Ranch, 91.70 20 ⇑P **P 06 25 40.6 +0.5**
baz=92
Z35A Perchaven, San 91.79 21 ⇑P **P 06 25 40.8 +0.4**
baz=92
Y31A Rekieta Farm, 91.84 18 ⇓P **P 06 25 41.3 +0.6**
baz=92,SNR=7.2
X26A CR and CF Fran 91.84 15 ⇑P **P 06 25 41.3 +0.5**
baz=92
ANMO Albuquerque 91.87 13 *e*P **P 06 25 39.6 -1.4**
ANMO LR LR
comp=Z,3μm,19.0s
ANMO Albuquerque 91.87 13 P **P 06 25 38.9 -2.1**
comp=Z,17nm,1.0s,baz=189,slow=5.9,SNR=35
WUAZ Wupatki 91.91 9 *e*P **P 06 25 41.4 +0.2**
comp=Z,28nm,1.2s
WUAZ LR LR
comp=Z,3μm,20.0s
WUAZ Wupatki 91.91 9 ⇓P **P 06 25 41.4 +0.2**
baz=92
SHOC Shoshone 91.96 5 ⇓P **P 06 25 42.5 +1.3**
baz=92,SNR=6.3
BRAL Brewton 92.00 30 PFAKE 06 25 50.0 +8.6
BRAL LR LR
comp=Z,3μm,21.0s
Y32A R-V Farms, Ver 92.03 19 ⇑P **P 06 25 41.9 +0.3**
baz=92
X28A Dimmitt 92.06 17 ⇑P **P 06 25 42.2 +0.4**
baz=93,SNR=9.9
MPMC Manual Prospec 92.06 4 ⇑P **P 06 25 42.9 +1.0**
baz=93,SNR=24
X29A Tulia 92.07 17 ⇑P **P 06 25 42.2 +0.4**
baz=93,SNR=9.4
X30A Coker Ranch, T 92.21 18 ⇑P **P 06 25 42.8 +0.4**
baz=93,SNR=5.2
W24A Lazy 6 Ranch, 92.27 14 ⇓P **P 06 25 42.9 +0.1**
baz=93,SNR=6.2
Y34A Reagan Ranch, 92.30 20 ⇑P **P 06 25 43.0 +0.2**
baz=93
W26A Owens Ranch, T 92.38 15 ⇓P **P 06 25 43.2 -0.1**
baz=93
W25A X Bar L Ranch, 92.41 15 ⇑P **P 06 25 42.9 -0.5**
baz=93
W27A Bowe Ranch, En 92.46 16 ⇑P **P 06 25 44.4 +0.8**
baz=93,SNR=10
X32A Elmer 92.46 19 ⇑P **P 06 25 44.0 +0.5**
baz=93,SNR=9.0
FURC Furnace Creek, 92.50 5 ⇑P **P 06 25 45.1 +1.5**
baz=93,SNR=9.3
AMTX Amarillo 92.50 17 *e*P **P 06 25 44.4 +0.6**
comp=Z,28nm,1.0s
AMTX Amarillo 92.50 17 ⇓P **P 06 25 43.7 -0.1**
baz=93
X31A McDonald Ranch 92.54 18 ⇑P **P 06 25 44.1 +0.2**
baz=93
SHPR Sheep Range 92.62 6 *e*P **P 06 25 45.4 +1.0**
SAO San Andreas Ge 92.67 1 *e*P **P 06 25 46.3 +1.9**
SAO pmax pmax
comp=Z,13nm,1.1s
SAO San Andreas Ge 92.67 1 *e*P **P 06 25 46.3 +1.9**
comp=Z,13nm,1.1s
V23A Ortiz Mt. (NFS 92.69 13 ⇓P **P 06 25 45.0 +0.2**
baz=93
U15A North Rim 92.74 8 ⇓P **P 06 25 45.6 +0.5**
baz=93,SNR=19
W29A Amraillo 92.74 17 ⇑P **P 06 25 45.5 +0.6**
baz=93
V22A San Miguel Ran 92.77 13 ⇓P **P 06 25 45.9 +0.7**
baz=93,SNR=18
V24A Rampart Ranch, 92.79 14 ⇓P **P 06 25 45.6 +0.3**
baz=93,SNR=6.4
WMOK Wichita Mounta 92.86 19 PFAKE 06 26 00.0 +15
WMOK LR LR
comp=Z,2μm,22.0s
X34A Smith Ranch, M 92.91 20 ⇓P **P 06 25 46.0 +0.4**
baz=93
V25A Rancho No Teng 92.99 14 ⇑P **P 06 25 46.6 +0.5**
baz=94
TPNV Topopah Spring 93.00 5 *e*P **P 06 25 47.8 +1.6**
TPNV pmax pmax
comp=Z,23nm,1.2s
TPNV Topopah Spring 93.00 5 *e*P **P 06 25 47.8 +1.6**
comp=Z,23nm,1.2s
TPNV Topopah Spring 93.00 5 ⇓P **P 06 25 47.1 +0.9**
baz=94
V26A Tequesquite Ra 93.07 15 ⇓P **P 06 25 46.9 +0.4**
baz=94,SNR=12
W32A Sentinel 93.15 19 ⇓P **P 06 25 47.0 +0.3**
baz=94
U22A Llaves 93.23 13 ⇑P **P 06 25 47.7 +0.3**
baz=94,SNR=5.4
V28A Channing 93.26 16 ⇓P **P 06 25 48.2 +0.9**
baz=94
U23A El Rito 93.27 13 ⇑P **P 06 25 47.3 -0.2**
baz=94,SNR=7.3
ASCN Ascension 93.31 109 PFAKE 06 26 00.0 +12
ASCN LR LR
comp=Z,2μm,20.0s
MTUM Tungsten Hills 93.32 3 *e*P **P 06 25 50.3 +2.7**
U24A Moreno Valley 93.47 14 ⇓P **P 06 25 49.7 +1.2**
baz=94
W34A Bridge Creek, 93.53 20 ⇑P **P 06 25 49.9 +1.4**
baz=94
U25A Circle Dot Ran 93.58 14 ⇓P **P 06 25 49.6 +0.7**
baz=94
MLAC Mammoth Lakes 93.58 3 ⇑P **P 06 25 50.3 +1.3**
baz=94
V31A Spring Creek L 93.68 18 ⇑P **P 06 25 50.7 +1.6**
baz=94
V32A Arapaho 93.77 19 ⇑P **P 06 25 50.7 +1.2**
baz=94
CCUT Cedar City 93.77 7 *e*P **P 06 25 49.2 -0.6**
comp=Z,24nm,1.2s
U27A Thompson Grove 93.83 16 ⇓P **P 06 25 50.8 +0.9**
baz=94
MVCO Mesa Verde 93.87 11 *e*P **P 06 25 50.3 0.0**
comp=Z,39nm,1.4s
MVCO LR LR
comp=Z,3μm,19.0s
MVCO Mesa Verde 93.87 11 ⇑P **P 06 25 50.8 +0.6**
baz=94
CMB Columbia Colle 93.95 2 *e*P **P 06 25 51.3 +1.0**
CMB pmax pmax
comp=Z,13nm,1.3s
CMB Columbia Colle 93.95 2 *e*P **P 06 25 51.3 +1.0**
comp=Z,13nm,1.3s
T23A Casias Ranch, 93.98 13 ⇑P **P 06 25 51.5 +0.6**
baz=94
ARUT Antelope Range 94.00 7 *e*P **P 06 25 50.6 -0.1**
ARUT pmax pmax
comp=Z,362nm,1.1s
ARUT Antelope Range 94.00 7 *e*P **P 06 25 50.6 -0.1**
comp=Z,362nm,1.1s
V33A Lossen Ranch, 94.01 19 ⇓P **P 06 25 51.3 +0.7**
baz=94
T25A Trinidad 94.30 14 ⇓P **P 06 25 52.6 +0.4**
baz=95
NVAR Mina Array Bea 94.40 3 P **P 06 25 51.2 -1.4**
NVAR PKKPbc **PKKPdf 06 42 53.7 +2.0**
NVAR Mina Array Bea 94.40 3 P **P 06 25 51.2 -1.4**
comp=Z,7.2nm,1.0s,baz=194,slow=5.9,SNR=22
NVAR PKKPbc **PKKPdf 06 42 53.7 +2.0**
comp=Z,0.4nm,0.8s,baz=309,slow=2.5,SNR=3.8
NVAR LR LR 06 59 44.6
comp=Z,5μm,18.3s,baz=172,slow=30
U32A Winter Ranch, 94.42 19 ⇑P **P 06 25 53.1 +0.6**
baz=95
R11A Troy Canyon, C 94.43 5 ⇑P **P 06 25 54.1 +1.4**
baz=95,SNR=19
WAKR Walker 94.44 2 *e*P **P 06 25 54.6 +1.8**
T26A Comanche Natio 94.45 15 ⇓P **P 06 25 53.7 +0.8**
baz=95,SNR=5.1
T27A Campo 94.47 16 ⇓P **P 06 25 53.3 +0.4**
baz=95
TUL1 Tulsa 94.58 21 ⇓P **P 06 25 53.8 +0.5**
baz=95
S22A 4UR Ranch, Cre 94.59 12 ⇑P **P 06 25 54.0 +0.4**
baz=95
T28A Walsh 94.62 16 ⇑P **P 06 25 53.9 +0.4**
baz=95
S23A Nye Farm, Mont 94.65 13 ⇓P **P 06 25 54.6 +0.8**
baz=95
S24A Houchin Ranch, 94.69 14 ⇑P **P 06 25 55.0 +1.0**
baz=95
SDCO Great Sand Dun 94.75 13 PFAKE
SDCO LR LR 06 26 10.0 +16
comp=Z,2μm,19.0s
PV01 Paradox Valley 94.78 11 *e*P **P 06 25 54.5 +0.2**
comp=Z,627nm,1.1s
S26A Kim 94.91 15 ⇓P **P 06 25 55.4 +0.5**
baz=95
PV04 Paradox Valley 95.00 11 *e*P **P 06 25 55.5 +0.2**
H11S2 WAKE ISLAND Hy 95.05 296 T T 08 11 19.9
baz=151,slow=77,SNR=90
S27A Las Animas 95.05 15 ⇓P **P 06 25 55.7 +0.1**
baz=96
H11S3 WAKE ISLAND Hy 95.06 296 T T 08 11 09.3
baz=151,slow=77,SNR=98
H11S1 WAKE ISLAND Hy 95.06 296 T T 08 11 24.8
baz=151,slow=77,SNR=115
S28A Manter 95.11 16 ⇓P **P 06 25 56.0 +0.3**
baz=96
R24A Sanders Place, 95.28 14 ⇑P **P 06 25 58.0 +1.3**
baz=96
R25A Fountain Ranch 95.31 14 ⇓P **P 06 25 58.0 +1.3**
baz=96
S30A Montezuma 95.39 17 ⇓P **P 06 25 58.3 +1.3**
baz=96
SRU San Rafael 95.55 9 *e*P **P 06 25 58.2 +0.3**
SRU pmax pmax
comp=Z,12nm,1.2s
SRU San Rafael 95.55 9 *e*P **P 06 25 58.2 +0.3**
comp=Z,12nm,1.2s
R26A Arlington 95.58 15 ⇓P **P 06 25 58.3 +0.4**
baz=96
PAHR Pah Rah Range 95.64 2 *e*P **P 06 26 00.4 +2.2**
comp=Z,18nm,1.3s
R27A Reds 95.66 15 ⇑P **P 06 25 58.5 +0.3**
baz=96
WAKE Wake Island 95.74 296 PFAKE 06 26 10.0 +11
WAKE LR LR
comp=Z,2μm,20.0s
BEKR Beckworth 95.78 2 *e*P **P 06 25 59.2 +0.4**
comp=Z,5.1nm,1.2s
R28A Tribune 95.86 16 ⇑P **P 06 25 59.8 +0.6**
baz=96
H11N3 WAKE ISLAND Hy 95.98 297 T T 08 12 32.4
baz=150,slow=77,SNR=38
SMCO Snowmass 95.98 12 *e*P **P 06 26 03.2 +3.2**
comp=Z,7.3nm,1.3s
H11N1 WAKE ISLAND Hy 95.98 297 T T 08 12 24.9
baz=150,slow=77,SNR=40
H11N2 WAKE ISLAND Hy 96.00 297 T T 08 12 33.8
baz=150,slow=77,SNR=47
Q24A Divide 96.00 13 ⇑P **P 06 26 01.0 +0.9**
baz=96
R30A Dighton 96.05 17 ⇑P **P 06 26 01.0 +1.0**
baz=97
R31A Burdett 96.19 18 ⇓P **P 06 26 01.8 +1.3**
baz=97
NLU North Lily Min 96.26 8 *e*P **P 06 26 02.1 +1.0**
comp=Z,14nm,1.0s
P23A Jefferson 96.31 13 ⇓P **P 06 26 02.6 +1.1**
baz=97
KSCO Kaye Shedlock' 96.39 15 ⇓P **P 06 26 02.8 +1.2**
baz=97
P22A Eagle 96.42 12 ⇑P **P 06 26 03.0 +1.2**
baz=97
DUG Dugway 96.44 7 *e*P **P 06 26 02.9 +1.1**
DUG pmax pmax
comp=Z,12nm,1.3s
DUG MLR MLR
comp=Z,3μm,20.0s
DUG Dugway 96.44 7 *e*P **P 06 26 02.9 +1.1**
comp=Z,12nm,1.3s
DUG LR LR
comp=Z,3μm,20.0s
DUG Dugway 96.44 7 ⇓P **P 06 26 02.9 +1.1**
baz=97
WDC Whiskeytown Da 96.48 360 *e*P **P 06 26 03.4 +1.6**
WDC pmax pmax
comp=Z,9.0nm,1.2s
WDC Whiskeytown Da 96.48 360 *e*P **P 06 26 03.4 +1.6**
comp=Z,9.4nm,1.2s
Q29A Oakley 96.53 17 ⇓P **P 06 26 02.9 +0.8**
baz=97
Q28A Sharon Springs 96.56 16 ⇓P **P 06 26 03.3 +1.0**
baz=97
P25A Willow Gulch B 96.67 14 ⇓P **P 06 26 03.7 +0.8**
baz=97
ISCO Idaho Springs 96.76 13 PFAKE 06 26 20.0 +16
ISCO LR LR
comp=Z,5μm,20.0s
O20A White River Ci 96.79 11 ⇓P **P 06 26 03.8 +0.3**
baz=97
N02D Trinity Center 96.87 360 ⇑P **P 06 26 04.9 +1.3**
baz=98
M02C Callahan 97.29 360 ⇓P Pdif 06 26 06.9 +1.3
baz=98
N20A Spence Gulch, 97.48 11 ⇓P Pdif 06 26 07.0 +0.3
baz=98
KSU1 Kansas State U 97.50 20 PFAKE 06 26 20.0 +13
KSU1 LR LR
comp=Z,2μm,19.0s
TSUM Tsumeb 97.63 142 PFAKE 06 26 20.0 +12
TSUM LR LR
comp=Z,4μm,21.0s
M04C Macdoel 97.68 0 ⇑P Pdif 06 26 09.0 +1.6
baz=98
MOD Modoc 97.82 2 *e*P Pdif 06 26 10.4 +2.4
comp=Z,8.0nm,1.3s
HVU Hansel Valley 98.02 7 *e*P Pdif 06 26 10.4 +1.4
HVU pmax pmax
comp=Z,12nm,1.3s
HVU Hansel Valley 98.02 7 *e*P Pdif 06 26 10.4 +1.5
comp=Z,12nm,1.3s
M22A Cedar Creek Ra 98.22 12 ⇓Pdiff Pdif 06 26 12.2 +2.2
baz=99
OGNE Ogallala 98.38 15 PFAKE 06 26 20.0 +10
OGNE LR LR
comp=Z,4μm,20.0s
OGNE Ogallala 98.38 15 ⇑Pdiff Pdif 06 26 12.6 +2.1
baz=99
WVOR Wild Horse Val 98.39 3 *e*P Pdif 06 26 17.1 +6.6
WVOR pmax pmax
WVOR comp=Z,62nm,2.6s MLR MLR
comp=Z,3μm,20.0s
WVOR Wild Horse Val 98.39 3 *e*P Pdif 06 26 17.1 +6.5
comp=Z,62nm,2.6s
WVOR LR LR
comp=Z,3μm,20.0s
CNNC Cliffs of the 98.70 36 PFAKE 06 26 20.0 +8.1
CNNC LR LR
comp=Z,4μm,20.0s
AHID Auburn Hatcher 99.13 8 PFAKE 06 26 30.0 +16
AHID LR LR
comp=Z,5μm,20.0s
M31A Lambtecht Ranc 99.25 18 ⇓Pdiff **Pdif 06 26 17.3 +3.0**
baz=100
BW06 Boulder Array 99.27 10 PFAKE 06 26 30.0 +15
BW06 LR LR
comp=Z,4μm,20.0s
PDAR Pinedale Array 99.27 10 P **Pdif 06 26 12.3 -2.3**
PDAR Pinedale Array 99.27 10 P **Pdif 06 26 12.3 -2.3**
comp=Z,0.8nm,1.0s,baz=163,slow=6.3,SNR=4.8
PDAR LR LR 07 03 05.3
comp=Z,3μm,19.4s,baz=199,slow=31
K22A Casper 99.46 12 ⇓Pdiff **Pdif 06 26 17.8 +2.4**
baz=100
HLID Hailey 99.69 6 PFAKE 06 26 30.0 +14
HLID LR LR
comp=Z,3μm,21.0s
HLID Hailey 99.69 6 ⇑Pdiff **Pdif 06 26 18.9 +2.5**
baz=100
BLA Blacksburg 99.72 33 PFAKE 06 26 30.0 +13
BLA LR LR
comp=Z,2μm,20.0s
HDIL Hopedale 100.46 25 PFAKE 06 26 30.0 +10
HDIL LR LR
comp=Z,2μm,22.0s
I21A Big Trails, Te 100.53 11 ⇓Pdiff **Pdif 06 26 22.2 +2.1**
baz=101
I19A Meeteetse 100.58 10 ⇑Pdiff **Pdif 06 26 22.9 +2.6**
baz=101
KAPI Kappang 100.79 244 PFAKE 06 26 30.0 +8.1
KAPI LR LR
comp=Z,5μm,20.0s
SFIN Scholer Farm 100.83 27 ⇓Pdiff **Pdif 06 26 22.7 +1.4**
baz=101
BMO Blue Mountains 100.84 4 PFAKE 06 26 30.0 +8.6
BMO LR LR
comp=Z,4μm,20.0s
H18A Shoshone NF, C 101.15 9 ⇑Pdiff **Pdif 06 26 25.5 +2.6**
baz=102
H23A Clabaugh Cattl 101.48 12 ⇓Pdiff **Pdif 06 26 26.5 +2.3**
baz=102
CBN Corbin 101.58 35 PFAKE 06 26 40.0 +15
CBN LR LR
comp=Z,3μm,20.0s
RLMT Red Lodge 101.63 9 PFAKE 06 26 40.0 +15
RLMT LR LR
comp=Z,4μm,20.0s
H24A Dirks Ranch, A 101.77 13 ⇑Pdiff **Pdif 06 26 27.3 +1.8**
baz=102
ACSO Alum Creek Sta 101.78 30 PFAKE 06 26 40.0 +14
ACSO LR LR
comp=Z,3μm,21.0s
BOZ Bozeman (W) 101.95 8 PFAKE 06 26 40.0 +14
BOZ LR LR
comp=Z,4μm,19.0s
ECSD EROS Data Cent 101.99 19 PFAKE 06 26 40.0 +14
ECSD LR LR
comp=Z,2μm,19.0s
MCWV Mont Chateau 102.15 32 PFAKE 06 26 40.0 +13
MCWV LR LR
comp=Z,3μm,19.0s
HAWA Hanford 102.32 2 PFAKE 06 26 40.0 +12
HAWA LR LR
comp=Z,3μm,21.0s
JFWS Jewell Farm 102.49 24 PFAKE 06 26 40.0 +11
JFWS LR LR
comp=Z,2μm,19.0s
RER Riviere de l'E 102.86 178 PFAKE 06 26 40.0 +8.8
RER LR LR
comp=Z,5μm,20.0s
NLWA Neilton Lookou 103.30 359 PFAKE 06 26 40.0 +7.9
NLWA LR LR
comp=Z,3μm,20.0s
LAO LASA Array 103.48 11 PFAKE 06 26 40.0 +7.0
LAO LR LR
comp=Z,2μm,22.0s
AAM Ann Arbor 103.53 29 PFAKE 06 26 40.0 +6.8
AAM LR LR
comp=Z,3μm,21.0s
NEW Newport 104.26 4 PFAKE 06 26 50.0 +14
NEW LR LR
comp=Z,3μm,20.0s
COCO West Island 104.37 220 PFAKE 06 26 50.0 +12
COCO LR LR
comp=Z,2μm,21.0s
ERPA Erie 104.38 31 PFAKE 06 26 50.0 +13
ERPA LR LR
comp=Z,3μm,19.0s
EGMT Eagleton 104.46 9 PFAKE 06 26 50.0 +13
EGMT LR LR
comp=Z,3μm,22.0s
LSZ Lusaka 104.59 151 PFAKE 06 26 50.0 +11
LSZ LR LR
comp=Z,7μm,19.0s
DGMT Dagmar 105.48 12 PFAKE 06 31 10.0
DGMT LR LR
comp=Z,3μm,21.0s
BINY Binghamton 105.65 34 PFAKE 06 31 10.0
BINY LR LR
comp=Z,3μm,19.0s
AGMN Agassiz Nation 106.54 18 PFAKE 06 31 10.0
AGMN LR LR
comp=Z,2μm,20.0s
EYMN Ely 107.02 21 PFAKE 06 31 10.0
EYMN LR LR
comp=Z,3μm,19.0s
SACV Santiago Islan 107.21 89 PFAKE 06 31 10.0
SACV LR LR
comp=Z,2μm,22.0s
NCB Newcomb 107.81 34 PFAKE 06 31 10.0
NCB LR LR
comp=Z,3μm,20.0s
DAV Davao City (W) 107.98 255 PFAKE 06 31 10.0
DAV LR LR
comp=Z,2μm,22.0s
LONY Lake Ozonia 108.28 34 PFAKE 06 31 10.0
LONY LR LR
comp=Z,3μm,20.0s
LBNH Lisbon 108.79 36 PFAKE 06 31 10.0
LBNH LR LR
comp=Z,4μm,22.0s
PKME Peaks-Kenny Pk 110.57 37 PFAKE 06 31 20.0
PKME LR LR
comp=Z,3μm,20.0s
KSM Kuching 111.02 238 PFAKE 06 31 20.0
KSM LR LR
comp=Z,2μm,22.0s
FFC Flin Flon 111.89 13 PFAKE 06 31 20.0
FFC LR LR
comp=Z,3μm,21.0s
KKM Kota Kinabalu 112.05 246 PFAKE 06 31 20.0
KKM LR LR
comp=Z,1μm,20.0s
WRAK Wrangell Islan 112.62 354 PFAKE 06 31 20.0
WRAK LR LR
comp=Z,3μm,21.0s
DGAR Diego Garcia 115.36 196 PFAKE 06 31 30.0 +15
DGAR LR LR
comp=Z,3μm,20.0s
KDAK Kodiak Island 116.25 343 PFAKE 06 31 30.0 +15
KDAK LR LR
comp=Z,8μm,20.0s
ADK Adak 116.69 326 PFAKE 06 31 30.0 +14
ADK LR LR
comp=Z,5μm,20.0s
KULM Kulim 118.80 231 PFAKE 06 31 30.0 +8.5
KULM LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 119.24 178 PFAKE 06 31 30.0 +7.5
MSEY LR LR
comp=Z,3μm,21.0s
MBAR Mbarara 119.29 149 PFAKE 06 31 30.0 +7.3
MBAR LR LR
comp=Z,704nm,22.0s
TOA0 Torodi Ar. Sit 119.51 112 *e*PKPdf **PKPdf 06 31 20.1 -2.6**
TOA0 *e*PP **PP 06 32 43.4 -1.2**
TORD Torodi Ar. Bea 119.51 112 PKP **PKPdf 06 31 20.8 -2.0**
TORD PP **PP 06 32 43.2 -1.4**
TORD Torodi Ar. Bea 119.51 112 PKP **PKPdf 06 31 20.8 -2.0**
comp=Z,3.3nm,0.9s,baz=250,slow=0.5,SNR=9.5
TORD PP **PP 06 32 43.2 -1.4**
comp=Z,2.1nm,1.1s,baz=186,slow=5.5,SNR=3.6
KMBO Kilima Mbogo 120.46 156 PFAKE 06 31 40.0 +15
KMBO LR LR
comp=Z,4μm,19.0s
ILAR Eielson Array 122.15 348 PKP **PKPdf 06 31 24.5 -1.8**
ILAR Eielson Array 122.15 348 PKP **PKPdf 06 31 24.5 -1.8**
comp=Z,5.2nm,0.8s,baz=194,slow=2.4,SNR=19
COLA College 122.36 347 *e*PKIKP **PKPdf 06 31 27.0 +0.4**
COLA MLR MLR
comp=Z,4μm,19.0s
COLA College 122.36 347 *e*PKPdf **PKPdf 06 31 27.0 +0.4**
COLA LR LR
comp=Z,4μm,19.0s
CMLA Cha da Macela 124.01 72 PFAKE 06 31 40.0 +9.3
CMLA LR LR
comp=Z,1μm,19.0s
IM04 Indian Mountai 124.20 345 *e*PKPdf **PKPdf 06 31 30.8 +0.6**
MAJO Matsushiro 124.40 286 *i* PKIKP **PKPdf 06 31 30.5 -1.0**
MAJO *i* 06 31 33.4
MAJO Matsushiro 124.40 286 PFAKE 06 31 40.0 +8.5
MAJO LR LR
comp=Z,1μm,22.0s
YHNB Yeheng 124.64 263 PFAKE 06 31 40.0 +7.6
YHNB LR LR
comp=Z,2μm,22.0s
TATO Taipei 124.82 263 PFAKE 06 31 40.0 +7.4
TATO LR LR
comp=Z,2μm,19.0s
ERM Erimo 125.83 294 PFAKE 06 31 50.0 +16
ERM LR LR
comp=Z,1μm,20.0s
QIZ Qiongzhong 126.29 248 PKP **PKPdf 06 31 35.7 +0.1**
QIZ PP **PP 06 33 31.3 +0.9**
QIZ AMB AMB
comp=Z,350nm,5.5s
QIZ LR LR

comp=Z,760nm,26.7s
QIZ LR LR
comp=Z,1µm,27.8s
QIZ Qiongzhong 126.29 248 PFAKE 06 31 50.0 +14
QIZ LR LR
comp=Z,1µm,20.0s
PET Petropavlovsk 126.62 312 PFAKE 06 31 50.0 +15
PET LR LR
comp=Z,3µm,20.0s
PETK Petropavlovsk- 127.08 312 PKIKP **PKPdf 06 31 36.3 +0.2**
PETK Petropavlovsk- 127.08 312 PKP **PKPdf 06 31 36.3 +0.2**
PETK PKKPbc PKKPdf 06 40 60.0 -50
PETK Petropavlovsk- 127.08 312 PKP **PKPdf 06 31 36.3 +0.2**
comp=Z,19nm,1.1s,baz=152,slow=4.2,SNR=4.5
PETK PKKPbc PKKPdf 06 40 60.0 -50
comp=Z,0.9nm,0.3s,baz=282,slow=5.0,SNR=6.8
TAM Tamanrasset 129.52 109 *e*PKIKP **PKPdf 06 31 42.5 +0.6**
TAM MLR MLR
comp=Z,3µm,20.0s
TAM Tamanrasset 129.52 109 *e*PKPdf **PKPdf 06 31 42.5 +0.6**
TAM LR LR
comp=Z,3µm,20.0s
YSS Yuzh-Sakhalins 129.54 298 *e*PKIKP **PKPdf 06 31 41.0 +0.1**
YSS *e* 06 51 16.0
SSE Sheshan 129.72 268 PKP **PKPdf 06 31 41.6 -0.2**
SSE PP **PP 06 33 57.5 +4.3**
SSE SS SS 06 51 18.4 +1.8
SSE AMB AMB
comp=Z,340nm,5.2s
SSE LR LR
comp=Z,970nm,28.5s
SSE LR LR
comp=Z,660nm,28.5s
SSE LR LR
comp=Z,1µm,25.4s
INCN Inchon 131.41 278 PFAKE 06 32 00.0 +15
INCN LR LR
comp=Z,912nm,20.0s
RTC Rabat Centre 131.45 89 PFAKE 06 32 00.0 +15
RTC LR LR
comp=Z,2µm,21.0s
CHTO Chiang Mai 131.49 237 PFAKE 06 32 00.0 +14
CHTO LR LR
comp=Z,2µm,20.0s
MDT Midelt 131.83 92 PKP **PKPdf 06 31 46.3 +0.4**
MDT Midelt 131.83 92 PKP **PKPdf 06 31 46.3 +0.4**
comp=Z,6.9nm,1.0s,baz=70,slow=2.2,SNR=5.6
WHN Wuhan 133.10 261 SS SS 06 51 28.5 -29
WHN LR LR
comp=Z,2µm,21.9s
WHN Wuhan 133.10 261 PKP **PKPdf 06 31 45.1 -3.1**
WHN LR LR
comp=Z,2µm,21.9s
MDRS Chennai 133.47 211 *ex* **PP 06 34 17.2 +0.6**
MDRS *ex* x 06 38 50.7
SFJD Kangerlussuaq 134.00 31 PFAKE 06 32 00.0 +11
SFJD LR LR
comp=Z,2µm,19.0s
GYA Guiyang 134.04 251 Pdif **Pdif 06 28 49.8 +0.3**
GYA PKP **PKiKP 06 31 51.0 -0.6**
GYA PP **PP 06 34 24.5 +3.5**
GYA PKS **PKSdf 06 35 25.4 -1.5**
GYA SKKS 06 41 14.5
GYA SS **SS 06 52 10.0 +0.7**
GYA AMB AMB
comp=Z,210nm,8.0s
GYA LR LR
comp=Z,2µm,23.6s
GYA LR LR
comp=Z,1µm,24.0s
GYA LR LR
comp=Z,2µm,22.5s
MDJ Mudanjiang 134.73 287 PKP **PKPdf 06 31 52.1 +1.3**
MDJ sPKP 06 31 56.7
MDJ PP **PP 06 34 27.4 +2.0**
MDJ PKS **PKSdf 06 35 28.4 +1.4**
MDJ SS SS 06 52 22.4 +4.8
MDJ AMB AMB
comp=Z,150nm,6.5s
MDJ LR LR
comp=Z,470nm,18.6s
MDJ LR LR
comp=Z,550nm,23.0s
MDJ LR LR
comp=Z,970nm,21.9s
MDJ Mudanjiang 134.73 287 PFAKE 06 32 00.0 +9.2
MDJ LR LR
comp=Z,843nm,20.0s
KMI Kunming 134.98 245 PKP **PKPdf 06 31 51.5 -0.8**
KMI sPKP 06 31 57.3
KMI PP **PP 06 34 29.5 +2.5**
KMI SKKS 06 41 21.8
KMI AMB AMB
comp=Z,320nm,7.4s
KMI LR LR
comp=Z,890nm,20.5s
KMI LR LR
comp=Z,600nm,22.4s
KMI LR LR
comp=Z,2µm,40.1s
DL2 Dalian 135.19 275 PKP **PKPdf 06 31 56.2 +4.3**
DL2 LR LR
comp=Z,430nm,23.5s
DL2 LR LR
comp=Z,550nm,25.5s
ENH Enshi 135.55 257 PFAKE 06 32 00.0 +7.1
ENH LR LR
comp=Z,35nm,20.0s
MTE Manteigas 135.66 82 PFAKE 06 32 00.0 +7.2
MTE LR LR
comp=Z,3µm,21.0s
CN2 Changchun 136.42 283 *e*PKP **PKPdf 06 31 50.3 -3.7**
CN2 *e*PP **PP 06 34 36.5 +0.5**
CN2 SKS **SKSdf 06 38 59.5 -5.0**
CN2 SKKS **SKKSac 06 41 27.5 -2.3**
CN2 SS **SS 06 52 39.6 +1.7**
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,700nm,22.0s
PAB San Pablo 136.84 86 PFAKE 06 32 10.0 +15
PAB LR LR
comp=Z,2µm,21.0s
ESDC Sonseca Array 137.14 86 PKP **PKPdf 06 31 55.9 +0.3**
ESDC Sonseca Array 137.14 86 PKP **PKPdf 06 31 55.9 +0.3**
comp=Z,2.2nm,0.8s,baz=266,slow=1.8,SNR=7.3
BJT Baijiatuau 139.00 272 PFAKE 06 32 10.0 +11
BJT LR LR
comp=Z,991nm,21.0s
BJI Beijing 139.01 272 PKP **PKPdf 06 31 59.7 +0.8**
BJI LR LR
comp=Z,910nm,25.5s
BJI LR LR
comp=Z,620nm,23.7s
BJI LR LR
comp=Z,2µm,30.2s
CD2 Chengdu 139.12 251 *e*PKP **PKPdf 06 31 58.9 -0.6**
CD2 PP **PP 06 34 55.0 +2.2**
CD2 PKS **PKSdf 06 35 33.2 -2.5**
CD2 SS SS 06 53 03.2 -6.6
CD2 AMB AMB
comp=Z,690nm,6.2s
CD2 LR LR
comp=Z,1µm,23.0s
CD2 LR LR
comp=Z,1µm,22.6s
CD2 LR LR
comp=Z,1µm,23.8s
SJPF Ste Jean 140.98 84 *e*PKIKP **PKPdf 06 32 01.1 -1.3**
comp=Z,115nm,1.6s
SJPF Ste Jean 140.98 84 *e*PKIKP **PKPdf 06 32 01.1 -1.3**
SJPF Ste Jean 140.98 84 *e*PKPdf **PKPdf 06 32 01.1 -1.3**
ETSF Etsaut 141.21 85 *e*PKIKP **PKPdf 06 32 01.6 -1.3**
comp=Z,47nm,1.3s
ETSF Etsaut 141.21 85 *e*PKIKP **PKPdf 06 32 01.6 -1.3**
ETSF Etsaut 141.21 85 *e*PKPdf **PKPdf 06 32 01.6 -1.3**
EPF Esparros 141.79 85 *e*PKIKP **PKPdf 06 32 02.7 -1.3**
comp=Z,32nm,1.3s
EPF Esparros 141.79 85 *e*PKIKP **PKPdf 06 32 02.7 -1.3**
EPF Esparros 141.79 85 *e*PKPdf **PKPdf 06 32 02.7 -1.3**
HHC Hu-ho-hao-te 142.13 269 *e*PKP **PKPdf 06 32 04.4 -0.3**
HHC PP **PP 06 35 15.7 +4.3**
HHC PKS **PKSdf 06 35 37.7 -2.8**
HHC SS SS 06 53 41.8 -3.5
HHC AMB AMB
comp=Z,270nm,9.2s
HHC LR LR
comp=Z,1µm,20.6s
HHC LR LR
comp=Z,650nm,21.1s
HHC LR LR
comp=Z,1µm,18.4s
HIA Hailar 142.90 286 PFAKE 06 32 20.0 +14
HIA LR LR
comp=Z,2µm,21.0s
QUIF Quistinic 142.90 77 *e*PKIKP **PKPdf 06 32 04.3 -1.3**
comp=Z,293nm,1.6s
QUIF Quistinic 142.90 77 *e*PKIKP **PKPdf 06 32 04.3 -1.3**
QUIF Quistinic 142.90 77 *e*PKPdf **PKPdf 06 32 04.3 -1.3**
LZH Lanzhou 143.03 257 *e*PKP PKPab 06 32 02.2 +0.4
LZH pPKP pPKPdf 06 32 11.9 +1.9
LZH PP **PP 06 35 18.3 +1.5**
LZH SKKS 06 42 08.1
LZH SS **SS 06 53 54.7 -1.0**
LZH AMB AMB
comp=Z,340nm,4.8s
LZH LR LR
comp=Z,290nm,12.2s
LZH LR LR
comp=Z,890nm,15.4s
LZH LR LR
comp=Z,720nm,19.6s
MTLF Montolieu 143.04 86 *e*PKIKP PKPbc 06 32 04.1 +1.1
comp=Z,68nm,1.5s
MTLF Montolieu 143.04 86 *e*PKIKP PKPbc 06 32 04.1 +1.1
MTLF Montolieu 143.04 86 *e*PKPdf PKPbc 06 32 04.1 +1.1
ROSF Rostrenen 143.09 76 *e*PKIKP PKPbc 06 32 04.2 +1.3
ROSF Rostrenen 143.09 76 *e*PKIKP PKPbc 06 32 04.2 +1.3
ROSF Rostrenen 143.09 76 *e*PKPdf PKPbc 06 32 04.2 +1.3
LFF La Frestale 143.24 83 *e*PKIKP **PKPdf 06 32 04.9 -1.5**
LFF La Frestale 143.24 83 *e*PKIKP **PKPdf 06 32 04.9 -1.5**
LFF La Frestale 143.24 83 *e*PKPdf **PKPdf 06 32 04.9 -1.5**
SGMF Saint Gilles 143.43 77 *e*PKIKP PKPbc 06 32 05.0 +1.1
SGMF Saint Gilles 143.43 77 *e*PKIKP PKPbc 06 32 05.0 +1.1
SGMF Saint Gilles 143.43 77 *e*PKPdf PKPbc 06 32 05.0 +1.1
MFF Saint Martin d 143.77 80 *e*PKIKP PKPbc 06 32 05.5 +0.6
MFF Saint Martin d 143.77 80 *e*PKIKP PKPbc 06 32 05.5 +0.6
MFF Saint Martin d 143.77 80 *e*PKPdf PKPbc 06 32 05.5 +0.6
RJF Les Rejaudoux 143.89 83 *e*PKIKP PKPbc 06 32 05.9 +0.5
RJF Les Rejaudoux 143.89 83 *e*PKIKP PKPbc 06 32 05.9 +0.5
RJF Les Rejaudoux 143.89 83 *e*PKPdf PKPbc 06 32 05.9 +0.5
TAPN Taplejung 143.94 229 *e*P PKPbc 06 32 06.4 0.0
TAPN Taplejung 143.94 229 *e*P PKPbc 06 32 06.4 0.0
CAF Calviac 143.96 84 *e*PKIKP PKPbc 06 32 05.6 0.0
comp=Z,30nm,1.0s
CAF Calviac 143.96 84 *e*PKIKP PKPbc 06 32 05.6 0.0
CAF Calviac 143.96 84 *e*PKPdf PKPbc 06 32 05.6 0.0
RAMN Ramite 144.05 228 *e*P **PKPab 06 32 04.8 -1.4**
comp=Z,112nm,1.4s
RAMN Ramite 144.05 228 *e*P **PKPab 06 32 04.8 -1.4**
CLNS Chul'man 144.24 300 *e*PKIKP **PKPdf 06 32 07.1 -0.7**
CLNS pmax pmax
comp=Z,39nm,1.2s
CLNS pmax pmax
comp=E,13nm,1.2s
CLNS pmax pmax
comp=N,20nm,1.7s
YAK Yakutsk 144.35 310 PFAKE 06 32 20.0 +12
YAK LR LR
comp=Z,1µm,21.0s
LASF Ste Croix 144.42 87 *e*PKIKP PKPbc 06 32 07.3 +0.2
comp=Z,112nm,1.4s
LASF Ste Croix 144.42 87 *e*PKPdf PKPbc 06 32 07.3 +0.2
GRR Gorron 144.43 77 *e*PKIKP **PKPab 06 32 06.3 -0.3**
GRR Gorron 144.43 77 *e*PKIKP **PKPab 06 32 06.3 -0.3**
GRR Gorron 144.43 77 *e*PKPdf **PKPab 06 32 06.3 -0.3**
LSA Lhasa 144.43 236 PFAKE 06 32 20.0 +10
LSA LR LR
comp=Z,2µm,20.0s
VSL Villasalto 144.45 97 PFAKE 06 32 20.0 +11
VSL LR LR
comp=Z,1µm,19.0s
WDD Wield Dalam 144.62 107 PFAKE 06 32 20.0 +11
WDD LR LR
comp=Z,3µm,20.0s
LBL Lubilhac 144.81 85 *e*P **PKPdf 06 32 09.0 -0.2**
JIRN Jiri 144.84 228 *e*P **PKPab 06 32 08.3 -1.0**
comp=Z,294nm,1.5s
JIRN Jiri 144.84 228 *e*P **PKPab 06 32 08.3 -1.0**
FLN La Foliniere 144.85 77 *e*PKIKP **PKPab 06 32 07.4 -0.8**
comp=Z,86nm,1.1s
FLN La Foliniere 144.85 77 *e*PKIKP **PKPab 06 32 07.4 -0.8**
FLN La Foliniere 144.85 77 *e*PKPdf **PKPab 06 32 07.4 -0.8**
TCF Toulx Ste Croi 144.88 83 *e*PKIKP **PKPab 06 32 07.4 -1.0**
comp=Z,120nm,1.4s
TCF Toulx Ste Croi 144.88 83 *e*PKIKP **PKPab 06 32 07.4 -1.0**
TCF Toulx Ste Croi 144.88 83 *e*PKPdf **PKPab 06 32 07.4 -1.0**
LDF La Druitiere 144.95 78 *e*PKIKP **PKPab 06 32 07.5 -1.0**
comp=Z,133nm,1.3s
LDF La Druitiere 144.95 78 *e*PKIKP **PKPab 06 32 07.5 -1.0**
LDF La Druitiere 144.95 78 *e*PKPdf **PKPab 06 32 07.5 -1.0**
PYM Petit Puy Mans 144.99 84 *e*P PKPbc 06 32 07.9 -1.0
PKI Pulchoki 145.08 226 *e*P **PKPbc 06 32 08.4 -1.6**
comp=Z,95nm,1.0s
PKI Pulchoki 145.08 226 *e*PKP2 **PKPbc 06 32 08.5 -1.6**
PKI Pulchoki 145.08 226 *e*P **PKPbc 06 32 08.5 -1.6**
PKIN Phulchoki 145.09 226 *e*P **PKPbc 06 32 08.5 -1.5**
comp=Z,497nm,2.0s
CLTB Caltabellotta 145.18 103 PFAKE 06 32 20.0 +10
CLTB LR LR
comp=Z,528nm,19.0s
GUN Gumba 145.19 227 *e*P **PKPbc 06 32 09.3 -1.1**
comp=Z,113nm,0.8s
GUN Gumba 145.19 227 *e*P **PKPbc 06 32 09.3 -1.1**
WLF1 Llynfaes 145.20 68 *e*P **PKPbc 06 32 08.0 -1.2**
DMN Daman 145.24 226 *e*P **PKPbc 06 32 08.1 -2.4**
comp=Z,212nm,1.0s
DMN Daman 145.24 226 *e*P **PKPbc 06 32 08.1 -2.4**
AGO Saint Agoulin 145.25 84 *e*P **PKPdf 06 32 10.1 +0.2**
MCH1 Michaelchurch 145.27 71 *e*P **PKPbc 06 32 08.0 -1.5**
MONM Monmouth 145.29 71 *e*P **PKPdf 06 32 09.7 +0.1**
SMRF Simiane la Rot 145.32 88 *e*PKIKP **PKPbc 06 32 09.0 -0.9**
comp=Z,268nm,1.7s
SMRF Simiane la Rot 145.32 88 *e*PKPdf **PKPbc 06 32 09.0 -0.9**
KKN Kakani 145.33 226 *e*P **PKPbc 06 32 09.5 -1.2**
comp=Z,197nm,1.2s
KKN Kakani 145.33 226 *e*PKIKP **PKPbc 06 32 09.5 -1.2**
KKN Kakani 145.33 226 *e*P **PKPbc 06 32 09.5 -1.2**
VIVF Saint-Julien-l 145.37 86 *e*PKIKP **PKPbc 06 32 08.4 -1.7**
comp=Z,108nm,1.3s
VIVF Saint-Julien-l 145.37 86 *e*PKP2 **PKPbc 06 32 08.4 -1.7**
VIVF Saint-Julien-l 145.37 86 *e*PKPdf **PKPbc 06 32 08.4 -1.7**
BGF Bois d'Agland 145.39 83 *e*PKIKP **PKPbc 06 32 08.4 -1.7**
comp=Z,100nm,1.0s
BGF Bois d'Agland 145.39 83 *e*PKP2 **PKPbc 06 32 08.4 -1.7**
BGF Bois d'Agland 145.39 83 *e*PKPdf **PKPbc 06 32 08.4 -1.7**
LMR La Mourre 145.43 90 *e*PKIKP **PKPdf 06 32 08.0 -2.2**
comp=Z,247nm,1.6s
LMR La Mourre 145.43 90 *e*PKP2 **PKPdf 06 32 08.0 -2.2**
LMR La Mourre 145.43 90 *e*PKPdf **PKPdf 06 32 08.0 -2.2**
PLDF La Plantade 145.47 84 *e*P **PKPab 06 32 11.1 +0.5**
SSB Saint Sauveur 145.56 86 *e*PKP2 **PKPdf 06 32 09.3 -1.1**
SSB MLR MLR
comp=Z,2µm,20.0s
SSB Saint Sauveur 145.56 86 *e*PKPdf **PKPdf 06 32 09.3 -1.1**
SSB LR LR
comp=Z,2µm,20.0s
STRD Stroud 145.59 72 *e*P **PKPdf 06 32 09.4 -0.8**
HLM1 Long Mynd 145.60 70 *e*P **PKPab 06 32 11.0 +0.1**
FOEL Foel Wylfa 145.62 69 *e*P **PKPdf 06 32 10.2 -0.1**
FRF La Foret Royal 145.65 90 *e*PKIKP **PKPdf 06 32 09.7 -0.9**
comp=Z,156nm,1.4s
FRF La Foret Royal 145.65 90 *e*PKIKP **PKPdf 06 32 09.7 -0.9**
FRF La Foret Royal 145.65 90 *e*PKPdf **PKPdf 06 32 09.7 -0.9**
GKN Gorkha 145.78 226 *e*P **PKPdf 06 32 10.1 -1.5**
comp=Z,208nm,1.3s
GKN Gorkha 145.78 226 *e*P **PKPdf 06 32 10.1 -1.5**
AVF Avril sur Loir 145.81 83 *e*PKIKP **PKPdf 06 32 09.4 -1.4**
comp=Z,130nm,1.4s
AVF Avril sur Loir 145.81 83 *e*PKIKP **PKPdf 06 32 09.4 -1.4**
AVF Avril sur Loir 145.81 83 *e*PKPdf **PKPdf 06 32 09.4 -1.4**
GAL1 Galloway 145.82 66 *e*P **PKPab 06 32 11.7 +0.2**
CALN Calern 145.91 90 *e*P **PKPbc 06 32 11.7 -0.2**
KOLN Koldanda 145.98 224 *e*P **PKPdf 06 32 10.2 -1.8**
comp=Z,441nm,1.5s
KOLN Koldanda 145.98 224 *e*P **PKPdf 06 32 10.2 -1.8**
SMF Signal de Mont 146.00 83 *e*PKIKP **PKPdf 06 32 09.4 -1.7**
comp=Z,77nm,1.1s
SMF Signal de Mont 146.00 83 *e*PKIKP **PKPdf 06 32 09.4 -1.7**
SMF Signal de Mont 146.00 83 *e*PKPdf **PKPdf 06 32 09.4 -1.7**
SSF Saint Saulge 146.06 82 *e*PKIKP **PKPdf 06 32 09.9 -1.3**
SSF Saint Saulge 146.06 82 *e*PKIKP **PKPdf 06 32 09.9 -1.3**
SSF Saint Saulge 146.06 82 *e*PKPdf **PKPdf 06 32 09.9 -1.3**
ORIF Oris-en-Rattie 146.08 87 *e*PKIKP **PKPdf 06 32 10.3 -1.1**
comp=Z,52nm,0.9s
ORIF Oris-en-Rattie 146.08 87 *e*PKIKP **PKPdf 06 32 10.3 -1.1**
ORIF Oris-en-Rattie 146.08 87 *e*PKPdf **PKPdf 06 32 10.3 -1.1**
MVIF Mont Vial 146.15 90 *e*P **PKPab 06 32 14.4 +1.0**
REVF Revere 146.17 90 *e*P **PKPab 06 32 14.6 +1.3**
LUCF Luceram 146.25 90 *e*P **PKPab 06 32 14.8 +1.1**
TOUF Mont Tournerai 146.28 90 *e*P **PKPab 06 32 13.9 0.0**
SBF Sospel 146.28 90 *e*PKIKP **PKPdf 06 32 09.7 -2.1**
comp=Z,113nm,1.1s
SBF Sospel 146.28 90 *e*PKIKP **PKPdf 06 32 09.7 -2.1**
SBF Sospel 146.28 90 *e*PKPdf **PKPdf 06 32 09.7 -2.1**
PGF Pioggiola 146.31 93 *e*PKIKP **PKPdf 06 32 10.7 -1.2**
comp=Z,208nm,1.5s
PGF Pioggiola 146.31 93 *e*PKIKP **PKPdf 06 32 10.7 -1.2**
PGF Pioggiola 146.31 93 *e*PKPdf **PKPdf 06 32 10.7 -1.2**
AUTN L'Aution 146.36 90 *e*P **PKPab 06 32 14.3 0.0**
LOR Lormes 146.37 82 *e*PKIKP **PKPdf 06 32 11.1 -0.7**
LOR Lormes 146.37 82 *e*PKPdf **PKPdf 06 32 11.1 -0.7**
PGBU Glenifferbraes 146.38 64 *e*P **PKPbc 06 32 12.2 -0.6**
SAOF Saorge 146.43 90 *e*P **PKPbc 06 32 13.5 +0.1**
DANN Dangsing 146.43 225 *e*P **PKPdf 06 32 12.4 -0.4**
comp=Z,109nm,0.8s
DANN Dangsing 146.43 225 *e*P **PKPdf 06 32 12.4 -0.4**
MBDF Montbardon 146.46 88 *e*PKIKP **PKPdf 06 32 10.4 -1.8**
comp=Z,82nm,1.2s
MBDF Montbardon 146.46 88 *e*PKIKP **PKPdf 06 32 10.4 -1.8**
MBDF Montbardon 146.46 88 *e*PKPdf **PKPdf 06 32 10.4 -1.8**
PYUN Piuthan 146.51 223 *e*P **PKPdf 06 32 10.4 -0.9**
comp=Z,203nm,0.9s
PYUN Piuthan 146.51 223 *e*P **PKPdf 06 32 12.0 -0.9**
BNI Bardonecchia 146.61 88 *e*PKIKP **PKPdf 06 32 11.1 -1.3**
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 146.61 88 *e*PKPdf **PKPdf 06 32 11.1 -1.3**
BNI LR LR
comp=Z,2µm,20.0s
KBI1 Birley Grange 146.68 70 *e*P **PKPbc 06 32 14.3 +0.6**
ESK Eskdalemuir 146.80 66 PFAKE 06 32 20.0 +4.7
ESK LR LR
comp=Z,2µm,21.0s
EKA Eskdalemuir Ar 146.83 66 PKPbc **PKPab 06 32 14.8 -0.6**
EKA Eskdalemuir Ar 146.83 66 PKPbc **PKPab 06 32 14.8 -0.6**
comp=Z,26nm,1.0s,baz=262,slow=2.2,SNR=17
LPG La Plagne 146.92 87 *e*PKIKP **PKPdf 06 32 12.3 -0.8**
comp=Z,216nm,1.3s
LPG La Plagne 146.92 87 *e*PKIKP **PKPdf 06 32 12.3 -0.8**
LPG La Plagne 146.92 87 *e*PKPdf **PKPdf 06 32 12.3 -0.8**
LPL La Plagne 146.92 87 *e*PKIKP **PKPdf 06 32 12.2 -0.8**
comp=Z,93nm,1.2s
LPL La Plagne 146.92 87 *e*PKIKP **PKPdf 06 32 12.2 -0.8**
LPL La Plagne 146.92 87 *e*PKPdf **PKPdf 06 32 12.2 -0.8**
HPK Haverah Park 146.97 69 *e*P **PKPab 06 32 15.4 -0.6**
CEL Celeste 147.13 105 PFAKE 06 32 20.0 +2.8
CEL LR LR
comp=Z,2µm,22.0s
CABF La Chapelle 147.22 85 *e*PKIKP **PKPdf 06 32 12.0 -1.3**
comp=Z,97nm,1.2s
CABF La Chapelle 147.22 85 *e*PKIKP **PKPdf 06 32 12.0 -1.3**
CABF La Chapelle 147.22 85 *e*PKPdf **PKPdf 06 32 12.0 -1.3**
LMK Market Rasen 147.41 70 *e*P **PKPbc 06 32 15.2 -0.6**
TIXI Tiksi 147.54 326 *e*PKIKP **PKPdf 06 32 12.2 -0.7**
TIXI *e* 06 32 16.1
TIXI MLR MLR
comp=Z,2µm,19.0s
TIXI Tiksi 147.54 326 *e*PKPdf **PKPdf 06 32 12.2 -0.7**
TIXI *e*PKPbc **PKPbc 06 32 16.1 +0.5**
TIXI LR LR
comp=Z,2µm,19.0s
SFTF Sexfontaines 147.56 82 *e*PKIKP **PKPdf 06 32 12.9 -0.8**
SFTF Sexfontaines 147.56 82 *e*PKPdf **PKPdf 06 32 12.9 -0.8**
GTA Gaotai 147.64 257 PKPbc **PKPdf 06 32 15.0 +0.7**
GTA PP **PP 06 35 47.1 +2.9**
GTA PKS **PKSdf 06 35 48.6 -0.9**
GTA SKS **SKSdf 06 39 22.4 -0.3**
GTA SKKS **SKKSac 06 42 34.8 -0.5**
GTA AMB AMB
comp=Z,500nm,6.6s
GTA LR LR
comp=Z,650nm,22.8s
GTA LR LR
comp=Z,650nm,22.3s
GTA LR LR
comp=Z,1µm,25.6s
CIT Chita 147.70 287 *e*PKP2 **PKPbc 06 32 15.9 -0.8**
CIT pmax pmax
comp=Z,183nm,2.0s
MEZF Maizieres J'vi 147.74 81 *e*PKIKP **PKPdf 06 32 13.5 -0.4**
MEZF Maizieres J'vi 147.74 81 *e*PKPdf **PKPdf 06 32 13.5 -0.4**
THEF They Montfort 148.10 82 *e*P **PKPab 06 32 19.6 -1.1**
VLC Villacollemand 148.12 92 PFAKE 06 32 30.0 +9.0
VLC LR LR
comp=Z,2µm,21.0s
BAIF Baives 148.12 78 *e*PKIKP **PKPdf 06 32 13.1 -1.4**
comp=Z,83nm,1.2s
BAIF Baives 148.12 78 *e*PKIKP **PKPdf 06 32 13.1 -1.4**
BAIF Baives 148.12 78 *e*PKPdf **PKPdf 06 32 13.1 -1.4**
PAGF Fort de Pagny 148.14 82 *e*PKIKP **PKPdf 06 32 13.5 -1.1**
PAGF Fort de Pagny 148.14 82 *e*PKPdf **PKPdf 06 32 13.5 -1.1**
HAU Haudompre 148.17 83 *e*PKIKP **PKPdf 06 32 14.3 -0.4**
comp=Z,48nm,1.0s
HAU Haudompre 148.17 83 *e*PKIKP **PKPdf 06 32 14.3 -0.4**
HAU Haudompre 148.17 83 *e*PKPdf **PKPdf 06 32 14.3 -0.4**
TIP Timpagrande 148.26 105 *e*PKPbc **PKPbc 06 32 17.9 -0.7**
TIP LR LR
comp=Z,1µm,22.0s
CUC Castrocucco 148.33 103 PFAKE 06 32 30.0 +8.0
CUC LR LR
comp=Z,1µm,20.0s
HINF Hinteralfeld 148.35 84 *e*PKIKP **PKPdf 06 32 14.1 -1.0**
comp=Z,52nm,1.1s
HINF Hinteralfeld 148.35 84 *e*PKIKP **PKPdf 06 32 14.1 -1.0**
HINF Hinteralfeld 148.35 84 *e*PKPdf **PKPdf 06 32 14.1 -1.0**
DOU Dourbes 148.35 78 PKPbc **PKPbc 06 32 18.8 +0.4**
GIVF Givet 148.48 79 *e*PKIKP **PKPdf 06 32 13.8 -1.3**
comp=Z,188nm,1.2s
GIVF Givet 148.48 79 *e*PKIKP **PKPdf 06 32 13.8 -1.3**
GIVF Givet 148.48 79 *e*PKPdf **PKPdf 06 32 13.8 -1.3**
MOF Molkenrain 148.52 84 *e*P **PKPbc 06 32 19.8 +0.8**
ECH Echery 148.74 83 *e*P **PKPab 06 32 21.5 -1.9**
ECH Echery 148.74 83 *e*PKPbc **PKPbc 06 32 20.0 +0.5**
ECH LR LR
comp=Z,1µm,20.0s
BCLA Clavier 148.91 78 PKPbc **PKPbc 06 32 20.8 +1.0**
CDF Champ du Feu 148.92 83 *e*PKIKP **PKPdf 06 32 14.5 -1.5**
CDF Champ du Feu 148.92 83 *e*PKPdf **PKPdf 06 32 14.5 -1.5**
TUE Stuetta 148.95 88 *e*PKPbc **PKPbc 06 32 19.5 -0.9**
TUE LR LR
comp=Z,2µm,22.0s
EIL Elat 148.98 140 PKPbc **PKPbc 06 32 21.2 +0.6**
EIL Elat 148.98 140 PKPbc **PKPbc 06 32 21.2 +0.6**
comp=Z,12nm,0.8s,baz=18,slow=1.0,SNR=8.2
WLF Walferdange 148.98 80 PKPbc **PKPbc 06 32 21.3 +1.3**
WLF Walferdange 148.98 80 PFAKE 06 32 30.0 +5.8
WLF LR LR
comp=Z,2µm,20.0s
FELD Feldberg im Sc 149.02 84 *e*P **PKPbc 06 32 19.8 -0.6**
ULN Ulaanbaatar 149.04 276 *e*PKPbc **PKPbc 06 32 21.3 +0.9**
ULN *e*PKPab **PKPab 06 32 27.2 +2.4**
ULN LR LR
comp=Z,2µm,22.0s
BEBN Eben Emael 149.31 78 PKPab **PKPab 06 32 27.1 +1.6**
SONM Songino Array 149.39 275 PKPbc **PKPbc 06 32 19.1 -2.2**
SONM Songino Array 149.39 275 PKPbc **PKPbc 06 32 19.1 -2.2**
comp=Z,4.3nm,1.0s,baz=79,slow=2.7,SNR=9.2
MEM Membach 149.39 79 PKPbc **PKPbc 06 32 21.1 0.0**
DAVOX Davos/Dischmat 149.43 88 PKPbc **PKPbc 06 32 20.8 -0.7**
DAVOX Davos/Dischmat 149.43 88 PKPbc **PKPbc 06 32 20.8 -0.7**
comp=Z,25nm,1.0s,baz=262,slow=3.6,SNR=9.1
BFO Black Forest 149.45 84 *e*PKP2 **PKPbc 06 32 20.5 -0.8**
BFO MLR MLR
comp=Z,1µm,20.0s
BFO Black Forest 149.45 84 *e*PKPbc **PKPbc 06 32 20.6 -0.8**
BFO Black Forest 149.45 84 *e*PKPbc **PKPbc 06 32 20.5 -0.8**
BFO LR LR

comp=Z,1μm,20.0s
IDI Anoyia 149.49 120 PKPbc PKPbc 06 32 22.6 +0.7
IDI Anoyia 149.49 120 PKPbc PKPbc 06 32 22.6 +0.7
comp=Z,59nm,1.0s,baz=121,slow=3.4,SNR=7.1
LANF Langenberg 149.52 82 *eP* **PKPbc 06 32 21.3 -0.1**
DAVA Damuels 149.73 87⇑*i*PKPbc **PKPbc 06 32 22.1 -0.1**
comp=Z,52nm,0.9s,SNR=12
FETA Feichten 150.05 88⇑*i*sPKPdf **PKPbc 06 32 22.2 -0.7**
comp=Z,79nm,1.1s,SNR=26
STU Stuttgart 150.18 84 *e*PKIKP **PKPbc 06 32 23.7 +0.7**
STU *e* 06 32 29.7
STU Stuttgart 150.18 84 *e*PKPbc **PKPbc 06 32 23.6 +0.6**
STU Stuttgart 150.18 84 *e*PKPbc **PKPbc 06 32 23.7 +0.7**
STU *e*PKPab **PKPab 06 32 29.7 +0.6**
RETA Reutte 150.33 87⇑*i*sPKPdf **PKPbc 06 32 22.8 -0.7**
comp=Z,49nm,1.1s,SNR=9.2
MOTA Moosalm 150.44 88⇑*i*sPKPdf **PKPbc 06 32 22.9 -1.0**
comp=Z,47nm,0.9s,SNR=20
BUG Bochum--Univer 150.50 78 *e*PKPbc **PKPbc 06 32 24.0 +0.4**
WTTA Wattenberg 150.69 88⇓*i*PKPbc **PKPbc 06 32 24.1 -0.4**
comp=Z,78nm,1.4s,SNR=15
ABTA Abfaltersbach 150.88 90⇑*i*PKPbc **PKPbc 06 32 24.4 -0.5**
comp=Z,34nm,1.0s,SNR=10
FUR Furstenfeldbru 151.00 86 *e*PKPbc **PKPbc 06 32 24.3 -0.7**
CADS Cadrg 151.26 92 *i* PKPdf **PKPbc 06 32 26.1 +0.4**
CEY Cerknica 151.35 93 *i* PKPdf **PKPbc 06 32 25.1 -0.8**
MYKA Terra Mystica 151.44 91⇓*i*PKPbc **PKPbc 06 32 25.5 -0.7**
comp=Z,24nm,0.8s,SNR=9.6
LJU Ljubljana 151.59 93 *e*PKPdf **PKPbc 06 32 26.5 0.0**
RJOB Jochberg 151.61 88 *e*PKPbc **PKPbc 06 32 26.5 0.0**
OBKA Obir 151.88 92⇓*i*sPKPdf **PKPbc 06 32 26.3 -0.9**
comp=Z,42nm,0.9s,SNR=8.8
MMAI Mount Meron Ar 152.15 137 PKPab **PKPab 06 32 39.0 +1.1**
MMAI Mount Meron Ar 152.15 137 PKPab **PKPab 06 32 39.0 +1.1**
comp=Z,2.2nm,0.5s,baz=305,slow=5.1,SNR=4.0
CLZ Clausthal 152.39 79 *e*PKPbc **PKPbc 06 32 29.4 +1.3**
ZAK Zakamensk 152.49 277 *e*PKIKP **PKPbc 06 32 29.3 +0.9**
ZAK *e* 06 36 12.1
ZAK pmax pmax
comp=Z,22nm,1.6s
MOA Molln 152.49 89⇑*i*PKPbc **PKPbc 06 32 28.0 -0.4**
comp=Z,31nm,1.0s
NRDL Niedersach Rie 152.55 78 *e*PKPbc **PKPbc 06 32 30.4 +2.2**
PLN Plauen 152.72 83 *e*PKPbc **PKPbc 06 32 29.3 +0.5**
GEC2 GERESS Array S 152.72 87 *e*PKPbc **PKPbc 06 32 28.5 -0.5**
GERES GERESS Array B 152.72 87 PKP **PKPdf 06 32 22.9 +1.0**
GERES PKPbc **PKPbc 06 32 29.0 0.0**
GERES GERESS Array B 152.72 87 PKP **PKPdf 06 32 22.9 +1.0**
comp=Z,1.9nm,0.8s,baz=225,slow=2.8,SNR=9.3
GERES PKPbc **PKPbc 06 32 29.0 0.0**
comp=Z,14nm,0.9s,baz=215,slow=1.6,SNR=26
NKC Novy Kostel 152.75 84 *e*PKIKP **PKPbc 06 32 29.1 +0.2**
NKC *e* 06 55 51.9
NKC MLR MLR
comp=Z,1μm,23.5s
NKC Novy Kostel 152.75 84⇑*e*PKP **PKPbc 06 32 29.1 +0.2**
NKC *e*PKPAB **PKPab 06 32 40.9 +1.0**
NKC *e*SS SS 06 55 51.9 +7.0
NKC AMS AMS 07 39 30.0
comp=Z,1μm,23.5s
WERD Werda 152.78 83 *e*PKPbc **PKPbc 06 32 29.3 +0.3**
KHC Kasperske Hory 152.81 86 *e*PKIKP **PKPbc 06 32 28.9 -0.2**
KHC *e* 06 32 40.1
KHC Kasperske Hory 152.81 86⇑*e*PKP **PKPbc 06 32 28.9 -0.2**
KHC *e*PKPAB **PKPab 06 32 40.1 -0.1**
KHC *e*SS SS 06 55 50.8 +5.2
KHC *ex* x 07 01 40.7
KHC AMS AMS 07 32 30.0
comp=Z,2μm,20.4s
KHC Kasperske Hory 152.81 86 *e*PKPbc **PKPbc 06 32 29.1 0.0**
IRK Irkutsk 152.83 281 *e*PKIKP **PKPbc 06 32 27.4 -1.6**
IRK pmax pmax
comp=Z,63nm,1.4s
KBS Kingsbay 152.84 18 PFAKE 06 32 30.0 +1.7
KBS LR LR
comp=Z,3μm,20.0s
TANN Tannenbergstha 152.85 83 *e*PKPbc **PKPbc 06 32 29.5 +0.3**
ARSA Arzberg 152.85 91⇑*i*PKPbc **PKPbc 06 32 29.5 +0.2**
comp=Z,20nm,1.0s
NEUB Neuenburg 152.86 81 *e*PKPbc **PKPbc 06 32 29.9 +0.8**
CSS Prodhromos 153.03 132 PFAKE 06 32 30.0 0.0
CSS LR LR
comp=Z,711nm,22.0s
BSEG Bad Segeberg 153.28 75 *e*PKPbc **PKPbc 06 32 31.0 +1.1**
CLL Collm 153.59 82 *e*PKIKP **PKPbc 06 32 32.0 +1.3**
CLL pmax pmax
comp=Z,19nm,1.2s
CLL pmax pmax
comp=Z,48nm,1.7s
CLL MLR MLR
comp=Z,2μm,20.8s
CLL Collm 153.59 82 *e*PKPbc **PKPbc 06 32 31.7 +1.0**
CLL Collm 153.59 82 *e*PKPbc **PKPbc 06 32 32.0 +1.3**
comp=Z,19nm,1.2s
CLL *e*PKPab **PKPab 06 32 44.0 +0.6**
comp=Z,48nm,1.7s
CLL *e* 06 33 02.0
CLL *e*PP **PP 06 36 23.0 +4.8**
CLL *e*PPP PPP 06 39 30.0
CLL *e*PPPP 06 42 18.0
CLL *e*PSKS 06 46 42.0
CLL *e* 06 50 06.0
CLL *e*SS SS 06 55 47.0 -6.9
CLL *e*PSS PSS 06 56 47.0
CLL *e*SSS SSS 07 01 30.0
CLL *e* 07 05 06.0
CLL *e*SSSS 07 05 54.0
CLL *e* 07 07 24.0
CLL Lm MLR 07 52 00.0
comp=N,1μm,21.4s
CLL Lm MLR 07 52 00.0
comp=E,600nm,20.7s
CLL Lm MLR 07 52 00.0
comp=Z,2μm,20.8s
FBE Freiberg 153.59 83 *e*PKPbc **PKPbc 06 32 31.1 +0.4**
MMB Musomiste 153.70 110 ⇓PKIKP **PKPbc 06 32 27.8 -3.5**
MMB Musomiste 153.70 110 ⇓*i*P **PKPbc 06 32 27.8 -3.5**
PRA Prague 153.77 85⇑PKP **PKPbc 06 32 34.0 +2.9**
PRU Pruhonice 153.79 86 *e*PKIKP **PKPbc 06 32 33.5 +2.3**
PRU *e* 06 32 43.8
PRU *e* 06 56 00.0
PRU MLR MLR
comp=Z,2μm,23.1s
PRU Pruhonice 153.79 86⇑*e*PKP **PKPbc 06 32 33.5 +2.3**
PRU *e*PKPAB **PKPab 06 32 43.8 -0.5**
PRU *e*SS SS 06 56 00.0 +3.8
PRU AMS AMS 07 40 00.0
comp=Z,2μm,23.1s
BRG Berggiesshubel 153.90 83 *e*PKP **PKPbc 06 32 31.9 +0.5**
comp=Z,5.7nm,1.0s
BRG *e* 06 32 44.7
comp=Z,12nm,1.0s
BRG *e* 06 32 56.9
comp=Z,12nm,1.3s
BRG PKS **PKSdf 06 36 02.0 +4.6**
BRG SS SS 06 56 00.0 +2.6
BRG
comp=N,1μm,24.9s
BRG
comp=E,823nm,18.6s
BRG
comp=Z,2μm,24.8s
BRG Berggiesshubel 153.90 83 *e*PKIKP **PKPbc 06 32 31.9 +0.5**
BRG *e* 06 32 44.7
BRG SS SS 06 56 00.0 +2.6
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.3s
BRG MLR MLR
comp=N,1μm,24.9s
BRG MLR MLR
comp=E,823nm,18.6s
BRG MLR MLR
comp=Z,2μm,24.8s
TREC Trest 153.96 88 AMS AMS 07 38 00.0
comp=Z,1μm,18.4s
PKSM Moragy 153.98 96 ⇓PKIKP **PKPdf 06 32 24.5 +0.9**
PKSM Moragy 153.98 96 ⇓*i*P **PKPdf 06 32 24.5 +0.9**
PVCC Panska Ves 154.07 84 AMS AMS 07 34 00.0
comp=Z,2μm,18.8s
VTS Vitosha 154.12 107 ⇓PKIKP **PKPdf 06 32 25.3 +1.1**
VTS Vitosha 154.12 107 ⇓*i*P **PKPdf 06 32 25.3 +1.1**
ISP Isparta 154.20 124 PFAKE 06 32 30.0 -2.6
ISP LR LR
comp=Z,1μm,20.0s
KDZ Kurdzhali 154.62 112 ⇑PKIKP **PKPdf 06 32 27.0 +2.3**
KDZ Kurdzhali 154.62 112 ⇑*i*P **PKPdf 06 32 27.0 +2.3**
KONO Kongsberg 154.78 62 PFAKE 06 32 30.0 -2.9
KONO LR LR
comp=Z,3μm,19.0s
DPC Dobruska-Polom 154.96 86 *e*PKIKP **PKPbc 06 32 34.2 +0.5**
DPC Dobruska-Polom 154.96 86⇑*e*PKP **PKPbc 06 32 34.2 +0.5**
DPC *e*PKPAB **PKPab 06 32 50.1 +0.8**
DPC *e*SS SS 06 56 15.4 +6.3
DPC AMS AMS 07 36 10.0
BZS Buzias 155.26 100 ⇓PKIKP **PKPdf 06 32 26.3 +0.9**
BZS Buzias 155.26 100 ⇓*i*P **PKPdf 06 32 26.3 +0.9**
MORC Moravsky Berou 155.35 88 ⇓PKIKP **PKPdf 06 32 27.7 +2.2**
MORC Moravsky Berou 155.35 88 ⇓*i*P **PKPdf 06 32 27.7 +2.2**
PSZ Piszkesteto 155.67 94 PFAKE 06 32 40.0 -12
PSZ LR LR
comp=Z,2μm,20.0s
SIRR Siria 155.68 99⇑*i*P **PKPdf 06 32 27.4 +1.4**
GZR Gura Zlata 155.75 102 ⇓PKIKP **PKPdf 06 32 28.1 +1.9**
GZR Gura Zlata 155.75 102 ⇓*i*P **PKPdf 06 32 28.1 +1.9**
JMB Yambol 155.81 112 ⇑*i*P PKPdf 06 32 38.2 +12
NB2 NORSAR Subarra 155.84 59 P **PKPab 06 32 52.8 0.0**
comp=Z,20nm,1.2s,baz=257,slow=4.4
NB2 NORSAR Subarra 155.84 59 P **PKPab 06 32 52.8 0.0**
baz=257,slow=4.4
NOA NORSAR Array B 155.84 59 PKPab **PKPab 06 32 52.7 0.0**
NOA NORSAR Array B 155.84 59 PKPab **PKPab 06 32 52.7 0.0**
comp=Z,3.8nm,0.9s,baz=254,slow=4.2,SNR=4.6
KECS Kecovo 156.31 93 *e* PKPdf 06 32 39.1 +12
ANTO Ankara 156.89 125 PFAKE 06 32 40.0 +12
ANTO LR LR
comp=Z,2μm,21.0s
VOIR 157.01 104 ⇓PKIKP **PKPdf 06 32 28.7 +0.8**
VOIR 157.01 104 ⇓*i*P **PKPdf 06 32 28.7 +0.8**
CRVS Cervenica-Dubn 157.08 93 *e* PKPdf 06 32 42.0 +14
BR131 Keskin Array S 157.16 126 *e*PKPdf **PKPdf 06 32 29.4 +1.0**
BRTR Keskin Array B 157.16 126 PKP **PKPdf 06 32 29.6 +1.3**
BRTR PKPab **PKPab 06 33 00.3 +1.2**
BRTR Keskin Array B 157.16 126 PKP **PKPdf 06 32 29.6 +1.3**
comp=Z,7.3nm,1.0s,baz=194,slow=2.6,SNR=15
BRTR PKPab **PKPab 06 33 00.3 +1.2**
comp=Z,3.0nm,0.9s,baz=187,slow=5.8,SNR=3.1
WMQ Urumqi 157.20 250 PKP **PKPdf 06 32 28.0 -0.2**
WMQ PKS **PKSdf 06 36 01.0 -0.9**
WMQ PP **PP 06 36 41.0 +2.6**
WMQ SKS **SKSdf 06 39 33.0 -0.8**
WMQ SKKS **SKKSac 06 43 28.0 +1.0**
WMQ AMB AMB
comp=Z,120nm,10.0s
WMQ LR LR
comp=Z,1μm,26.0s
WMQ LR LR
comp=Z,1μm,25.0s
WMQ LR LR
comp=Z,2μm,26.0s
TRPA Tarpa 157.26 96⇑*i*P **PKPdf 06 32 28.3 +0.3**
UZH Uzhgorod 157.40 95 *e*PKIKP **PKPdf 06 32 30.3 +2.2**
MLR Muntele Rosu 157.53 105⇑*i*P **PKPdf 06 32 29.5 +0.9**
MLR Muntele Rosu 157.53 105 PKP **PKPdf 06 32 28.8 +0.2**
MLR PKPab **PKPab 06 33 00.2 -0.4**
MLR Muntele Rosu 157.53 105 PKP **PKPdf 06 32 28.8 +0.2**
comp=Z,1.5nm,1.0s,baz=69,slow=5.0,SNR=5.5
MLR PKPab **PKPab 06 33 00.2 -0.4**
comp=Z,3.6nm,1.1s,baz=328,slow=0.4,SNR=5.5
MALT Malatya 157.97 137⇑PKIKP **PKPdf 06 32 32.4 +3.0**
MALT Malatya 157.97 137⇑*i*P **PKPdf 06 32 32.4 +3.0**
PLOR Plostina 158.14 105⇑PKIKP **PKPdf 06 32 29.2 0.0**
PLOR Plostina 158.14 105⇑*i*P **PKPdf 06 32 29.1 -0.1**
KWP Kalwaria Pacla 158.16 93 ⇓PKIKP **PKPdf 06 32 31.2 +2.1**
KWP Kalwaria Pacla 158.16 93 ⇓*i*P **PKPdf 06 32 31.2 +2.1**
KWP Kalwaria Pacla 158.16 93 PFAKE 06 32 40.0 +11
KWP LR LR
comp=Z,3μm,21.0s
VRI Vrincioaia 158.19 105 ⇓PKIKP **PKPdf 06 32 30.6 +1.3**
VRI Vrincioaia 158.19 105 ⇓*i*P **PKPdf 06 32 30.6 +1.3**
BURAR Bucovina Array 158.44 100 ⇓*i*P PKPdf 06 32 46.2 +17
TESR Tescani 158.56 104 ⇓*i*P **PKPdf 06 32 31.5 +1.8**
KSH Kashi 159.29 224 PKP **PKPdf 06 32 27.6 -3.3**
KSH SKS SKSdf 06 39 28.1 -8.1
KSH SKKS **SKKSac 06 43 31.1 -7.1**
KSH AMB AMB
comp=Z,58nm,3.6s
KSH LR LR
comp=Z,410nm,12.1s
KSH LR LR
comp=Z,360nm,6.7s
KSH LR LR
comp=Z,2μm,21.6s
KIS Kishinev 160.03 106 *e*PKP **PKPdf 06 32 28.0 -3.3**
KIS Kishinev 160.03 106 *e*PP PP 06 36 45.0 -8.8
KIS LRM MLR 07 40 08.0
comp=Z,1μm,22.0s
KIS Kishinev 160.03 106 *e*PKIKP **PKPdf 06 32 28.0 -3.3**
ARCES ARCESS Array B 160.59 34 PKPab **PKPab 06 33 12.1 -1.0**
ARCES ARCESS Array B 160.59 34 PKPab **PKPab 06 33 12.1 -1.0**
comp=Z,8.3nm,1.0s,baz=294,slow=3.6,SNR=4.2
KEV Kevo 160.95 33 PFAKE 06 32 40.0 +8.4
KEV LR LR
comp=Z,2μm,19.0s
SIM Simferopol' 161.41 118 *i* PKIKP PKPpre 06 32 21.6
SIM *e* 06 37 04.0
SIM pmax pmax
comp=Z,160nm,7.9s
GNI Garni 161.80 147 PFAKE 06 32 40.0 +6.3
GNI LR LR
comp=Z,2μm,20.0s
MKAR Makanchi Array 162.02 249 PKIKP **PKPdf 06 32 34.7 +1.2**
MKAR 06 33 17.7
MKAR 06 37 02.5
MKAR Makanchi Array 162.02 249 PKP **PKPdf 06 32 34.7 +1.2**
MKAR PKPab **PKPab 06 33 17.6 -2.3**
MKAR PP **PP 06 37 02.5 -2.0**
MKAR Makanchi Array 162.02 249 PKP **PKPdf 06 32 34.7 +1.2**
comp=Z,0.9nm,0.9s,baz=48,slow=3.6,SNR=5.0
MKAR PKPab **PKPab 06 33 17.6 -2.3**
comp=Z,2.5nm,0.9s,baz=130,slow=5.4,SNR=8.6
MKAR PP **PP 06 37 02.5 -2.0**
comp=Z,2.1nm,1.0s,baz=120,slow=7.2,SNR=6.7
KIEV Kiev 162.31 96 PFAKE 06 32 40.0 +6.4
KIEV LR LR
comp=Z,2μm,21.0s
AKASG Malin Array Be 162.32 96 PKIKP **PKPdf 06 32 34.8 +1.2**
AKASG 06 33 19.4
AKASG Malin Array Be 162.32 96 PKP **PKPdf 06 32 34.8 +1.2**
AKASG PKPab **PKPab 06 33 19.4 -1.7**
AKASG Malin Array Be 162.32 96 PKP **PKPdf 06 32 34.8 +1.2**
comp=Z,5.4nm,0.9s,baz=273,slow=1.3,SNR=8.3
AKASG PKPab **PKPab 06 33 19.4 -1.7**
comp=Z,1.3nm,0.6s,baz=248,slow=3.7,SNR=3.3
TKM2 Tokmak 2 162.32 229 PFAKE 06 32 40.0 +5.8
TKM2 LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 162.54 226 PFAKE 06 32 40.0 +5.6
AAK LR LR
comp=Z,2μm,22.0s
EKS2 Erkin-Say 162.84 224 PFAKE 06 32 40.0 +5.4
EKS2 LR LR
comp=Z,2μm,22.0s
ANN Anapa 162.89 124 PKIKP **PKPdf 06 32 33.7 -0.7**
ANN 06 37 09.8
ANN 06 39 38.8
ANN PPP PPP 06 40 56.0
ANN pmax pmax
comp=Z,835nm,6.9s
SOC Sochi 162.95 131 *e*PKIKP **PKPdf 06 32 37.5 +3.0**
SOC *e* 06 37 06.5
SOC *e*SS SS 06 57 33.7 +0.7
SOC *e*SSS SSS 07 03 51.3
FINES FINESS Array B 163.03 59 PKPab **PKPab 06 33 24.3 +0.4**
FINES FINESS Array B 163.03 59 PKPab **PKPab 06 33 24.3 +0.4**
comp=Z,6.4nm,0.9s,baz=258,slow=6.8,SNR=4.7
ZALV Zalesovo Beam 164.27 273 PKP2 **PKPab 06 33 27.8 -1.8**
ZALV Zalesovo Beam 164.27 273 PKPab **PKPab 06 33 27.8 -1.8**
ZALV Zalesovo Beam 164.27 273 PKPab **PKPab 06 33 27.8 -1.8**
comp=Z,2.4nm,0.8s,baz=124,slow=4.3,SNR=5.1
LVZ Lovozero 164.29 33 PFAKE 06 32 50.0 +15
LVZ LR LR
comp=Z,3μm,22.0s
KBZ Khabaz 164.35 137 PKIKP **PKPdf 06 32 39.9 +4.2**
KBZ 06 33 29.6
KBZ Khabaz 164.35 137 PKP **PKPdf 06 32 39.9 +4.2**
KBZ PKPab **PKPab 06 33 29.6 -0.5**
KBZ Khabaz 164.35 137 PKP **PKPdf 06 32 39.9 +4.2**
comp=Z,4.8nm,1.0s,baz=231,slow=3.2,SNR=4.8
KBZ PKPab **PKPab 06 33 29.6 -0.5**
comp=Z,3.9nm,1.0s,baz=238,slow=2.3,SNR=3.5
KIV Kislovodsk 164.46 136 *e*PKIKP **PKPdf 06 32 35.4 -0.6**
KIV *e* 06 37 16.3
KIV *e*SS SS 06 57 51.7 +3.0
KIV *e*SSS SSS 07 04 15.8
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 164.46 136 PFAKE 06 32 50.0 +14
KIV LR LR
comp=Z,2μm,21.0s
MAK Makhachkala 165.20 150 PKIKP **PKPdf 06 32 36.9 +0.4**
MAK *e*SSS SSS 07 04 15.6
MAK pmax pmax
comp=Z,219nm,1.2s
NVS Novosibirsk 165.43 275 *e*PKIKP **PKPdf 06 32 38.7 +2.4**
KURBB Kurchatov Arra 166.31 254 PKP **PKPdf 06 32 38.2 +1.1**
comp=Z,0.5nm,0.7s,baz=359,slow=0.9,SNR=4.7
KURBB PKPab **PKPab 06 33 36.7 -2.0**
comp=Z,1.3nm,0.8s,baz=133,slow=2.4,SNR=6.8
KURK Kurchatov 166.31 255 PKIKP **PKPdf 06 32 38.3 +1.1**
KURK 06 33 36.7
KURK MLR MLR
comp=Z,2μm,19.0s
KURK Kurchatov 166.31 255 PKP **PKPdf 06 32 38.2 +1.1**
KURK PKPab **PKPab 06 33 36.7 -2.0**
KURK LR LR
comp=Z,2μm,19.0s
VSR Storozhevoye 168.01 107 *e*PKP2 **PKPab 06 33 47.4 +1.2**
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 168.11 87 *e*PKIKP **PKPdf 06 32 41.1 +2.8**
OBN *e* 06 37 41.8
OBN *i* SS SS 06 58 23.1 -3.0
OBN pmax pmax
comp=Z,6.0nm,1.2s
OBN Obninsk 168.11 87 PFAKE 06 32 50.0 +12
OBN LR LR
comp=Z,4μm,20.0s
VRHR Novokhopersk 169.23 112 *e*PKP2 **PKPab 06 33 53.5 +1.9**
VRHR pmax pmax
comp=Z,20nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,1.1s
KLMR Klimovskoe 169.53 57 *e*PKIKP PKPdf 06 32 44.4 +5.3
KLMR pmax pmax
comp=Z,44nm,1.9s
BVAR Borovoye Array 171.88 252 PKP2 **PKPab 06 34 01.0 -2.4**
BVAR Borovoye Array 171.88 252 PKPab **PKPab 06 34 01.0 -2.4**
BVAR Borovoye Array 171.88 252 PKPab **PKPab 06 34 01.0 -2.4**
comp=Z,0.8nm,0.6s,baz=111,slow=6.5,SNR=4.2
BRVK Borovoye 171.95 252 PFAKE 06 32 50.0 +9.4
BRVK LR LR
comp=Z,4μm,22.0s
ABKAR Akbulak array 172.83 193 *e*PKPdf **PKPdf 06 32 41.4 +0.3**
ARU Arti 179.42 287 PFAKE 06 32 50.0 +7.6
ARU LR LR
comp=Z,2μm,20.0s

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*IDC **03** 06:15:33.8±5.5, 36°.22N×70°.49E, h167km±52km, mb3.4/4, mb1 3.6/7, mb1mx3.2/29, mbtmp3.5/7, MS4.2/1, Ms1 4.4/1, ms1mx2.8/36, Error ellipse: s-maj=56.7km s-min=38.7km az=127.0*
*ISCJB **03** 06:15:38.1±0.6, 36°.50N±0°.04×70°.58E±0°.09, h204km, mb3.6/3, Error ellipse: s-maj=10.2km s-min=4.2km az=163.2*
*NNC **03** 06:15:40.0±7.9, 36°.71N×70°.07E, h144km±120km, mb3.6, mpv4.3, Error ellipse: s-maj=78.4km s-min=39.8km az=37.0*

ISC 03 06:15:38.2±0.7, 36°.55N±0°.06×70°.50E±0°.10, h204km, n37, σ1s30/40, mb3.9/3, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.95**	**157**	P		**Pn**	**06 16 28.6**	**+1.0**
CEP				S		**S**	**06 17 05.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.66**	**141**	P		**Pn**	**06 16 37.3**	**+1.3**
THW	**Thamme Wali**	**3.88**	**164**	P		**Pn**	**06 16 39.2**	**+0.5**
SARP	**Sargodha**	**4.95**	**158**	P		**Pn**	**06 16 52.4**	**+0.3**
AML	**Almayshu** SNR=125	**6.10**	**23**	P		**Pn**	**06 17 08.1**	**+1.0**
UCH	**Uchtor** SNR=59	**6.47**	**27**	P		**Pn**	**06 17 12.9**	**+1.0**
KK31	**Karatay Array** 1.9nm,0.3s,baz=181,slow=13,SNR=103	**6.55**	**0**	⇑P		**Pn**	**06 17 13.0**	**+0.5**
KK31	14nm,0.5s,baz=186,slow=22,SNR=6.7			⇓S		**S**	**06 18 23.7**	**-3.5**
EKS2	**Erkin-Say** SNR=10	**6.61**	**21**	P		**Pn**	**06 17 14.7**	**+1.3**
KZA	**Kyzart** SNR=8.3	**6.64**	**32**	P		**Pn**	**06 17 14.8**	**+0.7**
AAK	**Ala-Archa** SNR=14	**6.82**	**26**	P		**Pn**	**06 17 17.5**	**+1.4**
AAK	**Ala-Archa** 5.9nm,0.3s,baz=180,slow=6.4,SNR=61	**6.82**	**26**	P		**Pn**	**06 17 17.4**	**+1.4**
AAK	1.1nm,0.3s,baz=319,slow=20,SNR=3.9			S		**S**	**06 18 32.4**	**-1.3**
KBK	**Karagaybulak** SNR=6.6	**7.00**	**28**	P		**Pn**	**06 17 20.1**	**+1.6**
CHMS	**Chumysh** SNR=9.8	**7.23**	**26**	P		**Pn**	**06 17 22.5**	**+1.2**
USP	**Ospenovka** SNR=10	**7.38**	**23**	P		**Pn**	**06 17 24.0**	**+0.7**
TKM2	**Tokmak 2** SNR=8.6	**7.48**	**30**	P		**Pn**	**06 17 26.2**	**+1.5**
TKM2	**Tokmak 2** 36nm,0.5s,baz=186,slow=22	**7.48**	**30**	⇓P		**Pn**	**06 17 26.0**	**+1.3**
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=214,slow=10,SNR=4.3	**13.49**	**37**	P		**P**	**06 18 43.1**	**-0.8**
PYUN	**Piuthan** 30nm,0.4s	**13.49**	**125**	*e*P		**Pn**	**06 18 39.5**	**-2.4**
DANN	**Dangsing** 12nm,0.3s	**13.85**	**122**	*e*P		**Pn**	**06 18 45.1**	**-1.3**
KOLN	**Koldanda** 6.0nm,0.2s	**14.12**	**125**	*e*P		**Pn**	**06 18 47.5**	**-2.1**
GKN	**Gorkha** 20nm,0.3s	**14.67**	**121**	*e*P		**Pn**	**06 18 55.9**	**-0.4**
AB31	**Akbulak array** 1.1nm,0.4s,baz=150,slow=12,SNR=37	**14.85**	**332**	P		**Pn**	**06 18 58.1**	**-0.1**
AB31	0.4nm,0.4s,baz=142,slow=11,SNR=11			⇑S		**S**	**06 21 42.3**	**-0.5**
DMN	**Daman** 12nm,0.3s	**15.24**	**122**	*e*P		**Pn**	**06 19 02.6**	**-0.8**
KKN	**Kakani**	**15.24**	**121**	*e*P		**Pn**	**06 19 02.5**	**-0.9**
PKIN	**Phulchoki** 15nm,0.4s	**15.46**	**121**	*e*P		**Pn**	**06 19 05.9**	**-0.2**
PKI	**Pulchoki** 29nm,0.6s	**15.47**	**121**	*e*P		**Pn**	**06 19 05.7**	**-0.6**
GUN	**Gumba** 22nm,0.4s	**15.59**	**119**	*e*P		**Pn**	**06 19 08.1**	**+0.4**
JIRN	**Jiri** 33nm,0.4s	**15.96**	**119**	*e*P		**Pn**	**06 19 12.4**	**+0.2**
AKTO	**Aktyubinsk** 1.2nm,0.3s,baz=142,slow=10,SNR=34	**16.54**	**331**	P		**Pn**	**06 19 19.2**	**+0.5**
AKTO	**Aktyubinsk** 14nm,1.0s	**16.54**	**331**	⇑P		**Pn**	**06 19 19.5**	**+0.8**
RAMN	**Ramite** 18nm,0.5s	**16.68**	**120**	*e*P		**P**	**06 19 20.0**	**+0.4**
TAPN	**Taplejung**	**17.22**	**117**	*e*P		**Pn**	**06 19 27.8**	**+0.6**
ZALV	**Zalesovo Beam** 1.3nm,0.5s,baz=227,slow=12,SNR=6.2	**20.04**	**25**	P		**P**	**06 19 57.2**	**+1.7**
CMAR	**Chiang Mai Arr** comp=Z,367nm,18.1s,baz=118,slow=39	**30.83**	**118**	LR		LR	06 35 34.1	
FINES	**FINESS Array B** 4.8nm,1.1s,baz=111,slow=10,SNR=4.6	**37.22**	**326**	P		**P**	**06 22 31.8**	**+2.2**
ARCES	**ARCESS Array B** 3.0nm,0.8s,baz=98,slow=5.7,SNR=8.3	**40.95**	**338**	P		**P**	**06 23 01.6**	**+1.2**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=48,slow=5.9,SNR=6.3	**65.32**	**268**	P		**P**	**06 25 57.2**	**-1.5**

IDC 03 06:18:53.7±1.1, 18°.89N×145°.59E, h0km, mb3.6/5,

mb1 3.9/5, mb1mx3.7/25, mbtmp3.6/5, Error ellipse: s-maj=38.0km s-min=27.9km az=102.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.14**	**197**	P	P	P	06 26 31.4	-0.2
	0.7nm,0.5s,baz=14,slow=8.3,SNR=9.5							
MKAR	**Makanchi Array**	**58.25**	**314**	P	P	P	06 28 49.7	-0.4
	0.3nm,0.7s,baz=81,slow=8.3,SNR=3.9							
KURBB	**Kurchatov Arra**	**61.10**	**318**	P	P	P	06 29 10.2	+0.6
	0.3nm,0.5s,baz=95,slow=7.5,SNR=5.4							
ILAR	**Eielson Array**	**63.52**	**26**	P	P	P	06 29 25.6	0.0
	0.4nm,0.5s,baz=257,slow=5.1,SNR=6.8							
NVAR	**Mina Array Bea**	**83.10**	**52**	P	P	P	06 31 21.6	-0.3
	0.7nm,0.7s,baz=279,slow=6.5,SNR=6.7							

TAP 03 06:21:22.4, 23.67N×121.52E, h25km, ML3.7, 14C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.04**	**21**	P	P	Pb	06 21 27.1	+0.4
	baz=28							
TEGC				S		Sb	06 21 30.7	+1.1
	baz=28							
ESL	**Shilin**	**0.17**	**330**	⇓*e*P		Pb	06 21 27.4	-0.3
	baz=324							
ESF	**Shoufeng Towns**	**0.20**	**356**	⇑P		Pb	06 21 28.1	0.0
	baz=349							
ESF				*e*S		Sb	06 21 32.5	+0.7
	baz=349							
EHY	**Hungye**	**0.25**	**229**	⇑*i*P		Pb	06 21 28.6	-0.1
	baz=237							
EHY				*i* S		Sb	06 21 32.8	-0.1
	baz=237							
HWA	**Hwalien**	**0.31**	**14**	*e*P		Pb	06 21 29.9	+0.3
	baz=22							
HWA				S		Sn	06 21 36.0	-1.2
	baz=22							
TWF1	**Yuli**	**0.38**	**213**	⇑*i*P		Pb	06 21 30.4	-0.2
	baz=226							
TWF1				S		Sb	06 21 36.5	+0.3
	baz=226							
TWD	**Chiawan**	**0.41**	**9**	*e*P		Pb	06 21 31.0	-0.2
	baz=359							
TWD				S		Sb	06 21 37.1	-0.1
	baz=359							
WHF	**Hehuan Shan**	**0.53**	**333**	⇑*i*P		Pb	06 21 32.8	-0.9
	baz=333							
WHF				*e*S		Sb	06 21 40.4	-0.9
	baz=333							
YUS	**Yu-Shan**	**0.56**	**251**	⇑*i*P		Pb	06 21 34.2	+0.1
	baz=251							
YUS				*i* S		Sb	06 21 41.8	-0.4
	baz=251							
CHKT	**Chengkung**	**0.59**	**194**	P		Pb	06 21 34.1	+0.1
	baz=195							
CHKT				*e*S		Sn	06 21 43.3	-0.6
	baz=195							
SMLT	**Sun Moon Lake**	**0.61**	**290**	⇑*i*P		Pb	06 21 34.6	0.0
	baz=294							
SMLT				*e*S		Sb	06 21 43.7	+0.8
	baz=294							
TYC	**Yuchr**	**0.65**	**291**	⇑*i*P		Pb	06 21 35.0	-0.1
	baz=295							
TYC				*e*S		Sn	06 21 45.1	-0.5
	baz=295							
TWT	**Tachien**	**0.66**	**331**	*e*P		Pb	06 21 35.5	-0.1
	baz=329							
TWT				*e*S		Sb	06 21 44.0	-0.5
	baz=329							
ALS	**Alishan**	**0.68**	**257**	⇑*i*P		Pb	06 21 36.2	+0.2
	baz=256							
ALS				*e*S		Sb	06 21 45.8	+0.5
	baz=256							
CHN5	**Tsauling**	**0.78**	**265**	⇑*i*P		Pn	06 21 38.0	+0.1
	baz=257							
CHN5				*i* S		Sn	06 21 49.0	+0.1
	baz=257							
NNS	**Nan Shan**	**0.78**	**350**	*e*P		Pb	06 21 36.7	-0.8
	baz=357							
NNS				*e*S		Sb	06 21 46.5	-1.3
	baz=357							
ENA	**Nanau**	**0.78**	**15**	⇑*e*P		Pb	06 21 36.2	-1.1
	baz=3.0							
WNT	**Mingjian**	**0.80**	**285**	⇑P		Pn	06 21 38.6	+0.5
	baz=284							
WNT				*e*S		Sn	06 21 50.3	+1.2
	baz=284							
WGK	**Gukeng**	**0.88**	**271**	⇑*i*P		Pn	06 21 39.8	+0.6
	baz=270							
WGK				*e*S		Sn	06 21 52.4	+1.1
	baz=270							
TCU	**Taichung**	**0.91**	**302**	*e*P		Pn	06 21 40.4	+0.8
	baz=301							
WTP	**Ta-pu**	**0.94**	**243**	⇑*i*P		Pn	06 21 40.4	+0.3
	baz=238							
WTP				*e*S		Sn	06 21 53.6	+0.9
	baz=238							
TWG	**Pinlang**	**0.94**	**206**	*e*P		Pn	06 21 38.4	-1.7
	baz=196							
TWQ1	**Liyutan**	**0.96**	**315**	⇓*i*P		Pb	06 21 41.4	+0.9
	baz=323							
TWQ1				*e*S		Sn	06 21 54.8	+1.5
	baz=323							
ENTT	**Nioudou**	**0.97**	**2**	*e*P		Pn	06 21 39.5	-0.9
	baz=1.0							
CHN2	**Minshiung**	**0.97**	**262**	*e*P		Pb	06 21 41.2	+0.7
	baz=261							
CHN2				*e*S		Sn	06 21 55.2	+1.8
	baz=261							
TTN	**Taitung**	**0.97**	**201**	*e*P		Pb	06 21 40.6	0.0
	baz=203							
TTN				*e*S		Sn	06 21 54.4	+0.9
	baz=203							
TWC	**Suao**	**0.98**	**18**	*e*P		Pn	06 21 40.4	-0.1
	baz=5.0							
NSK	**Sanguang**	**1.01**	**351**	*e*P		Pn	06 21 40.4	-0.8
	baz=3.0							
NSK				*e*S		Sb	06 21 53.1	-1.2
	baz=3.0							
NSY	**Sanyi**	**1.02**	**317**	P		Pb	06 21 42.4	+1.0
	baz=315							
NSY				*e*S		Sn	06 21 56.5	+1.8
	baz=315							
CHY	**Chiayi**	**1.02**	**261**	*e*P		Pb	06 21 42.3	+0.9
	baz=259							
CHY				*e*S		Sn	06 21 56.6	+1.9
	baz=259							
TWK	**Hsinying**	**1.03**	**247**	⇑*i*P		Pb	06 21 42.1	+0.4
	baz=246							
TWK				*e*S		Sn	06 21 56.2	+1.1
	baz=246							
SGST	**Jiashian**	**1.04**	**236**	*e*P		Pb	06 21 42.1	+0.3
	baz=227							
SGST				*e*S		Sn	06 21 57.5	+2.2
	baz=227							
TWE	**Neicheng**	**1.05**	**7**	*e*P		Pn	06 21 41.3	-0.3
	baz=6.0							
NSTT	**Nanjuang**	**1.07**	**334**	*e*P		Pb	06 21 42.2	0.0
	baz=332							
NSTT				*e*S		Sb	06 21 55.8	-0.1
	baz=332							
WTCT	**Ta-ch'eng**	**1.16**	**280**	*e*P		Pb	06 21 43.7	+0.1
	baz=268							
WTCT				*e*S		Sb	06 22 00.9	+2.7
	baz=268							
WSF	**Szhu**	**1.19**	**269**	*e*P		Pb	06 21 44.8	+0.5
	baz=267							
WSF				*e*S		Sb	06 22 00.7	+1.3
	baz=267							
SSD	**Sandimen**	**1.23**	**222**	*e*P		Pb	06 21 44.6	-0.4
	baz=221							
SSD				*e*S		Sb	06 22 02.5	+2.0
	baz=221							
CHN8	**Yiju**	**1.25**	**255**	*e*P		Pb	06 21 45.1	-0.1
	baz=254							
CHN8				*e*S		Sb	06 22 02.1	+1.2
	baz=254							
TWA	**Mucha**	**1.31**	**2**	*e*P		Pb	06 21 46.7	+0.4
	baz=11							
TWM1	**Shoushan**	**1.32**	**230**	*e*P		Pb	06 21 47.1	+0.6
	baz=245							
TWB1	**Santiao Chiao**	**1.40**	**18**	*e*P		Pb	06 21 48.2	+0.4
	baz=4.0							
NWF	**Wu-fen Shan**	**1.41**	**9**	*e*P		Pn	06 21 46.3	-0.4
	baz=8.0							
EAST	**Anshuo**	**1.42**	**206**	*e*P		Pn	06 21 46.4	-0.4
	baz=201							
TWS1	**Kuangyinshan**	**1.43**	**356**	*e*P		Pb	06 21 48.3	0.0
	baz=12							
TAW	**Tawu**	**1.43**	**204**	*e*P		Pn	06 21 46.1	-0.6
	baz=196							
SCZT	**Fangliau**	**1.54**	**213**	*e*P		Pb	06 21 49.6	-0.6
	baz=208							
SCZT				*e*S		Sb	06 22 09.2	-0.1
	baz=208							
YOJ	**Yonaguni jima**	**1.57**	**60**	*e*P		Pn	06 21 47.6	-1.1
	baz=60							
YOJ				*e*S		Sn	06 22 07.6	-0.6
	baz=60							
PNG	**Penghu**	**1.81**	**267**	*e*P		Pn	06 21 52.1	+0.1
	baz=266							

BJI ***03*** *06:28:44.8, 32.30S×79.00E, h10km, mB5.4/35, mb5.2/42, Ms5.3/28, Ms7 4.9/28*

IDC ***03*** *06:28:47.1±0.4, 32.19S×78.98E, h0km, mb4.8/31, mb1 4.8/31, mb1mx4.8/33, mbtmp4.8/31, MS4.8/6, Ms1 4.8/6, ms1mx4.3/37, Error ellipse: s-maj=13.6km s-min=11.9km az=178.0*

ISCJB ***03*** *06:28:47.1±0.2, 32.26S±0.05×78.97E±0.06, h10km, mb5.0/73, MS5.0/19, Error ellipse: s-maj=7.2km s-min=6.4km az=36.8*

MOS ***03*** *06:28:47.4±1.1, 32.23S×79.01E, h10km, mb5.4/26, Error ellipse: s-maj=13.5km s-min=8.3km az=91.0*

NEIC ***03*** *06:28:48.7±0.1, 32.23S×78.96E, h10km, mb5.1/26, Error ellipse: s-maj=5.5km s-min=4.8km az=175.0*

GCMT ***03*** *06:28:52.8±0.4, 32.26S×78.80E, h21km±1km, MW5.3, Moment Tensor Solution. s31,c33; s63,c78; Moment tensor: Scale 10^17 Nm; Mrr-1.19±.09; Mθθ1.02±.07; Mφφ0.17±.06; Mrθ-0.24±.11; Mrφ0.05±.04; Mθφ0.61±.11; Best double couple: M0 1.30000×10^17 NP1:φs 109.00000°, δ55.00000°, λ-64.00000°. NP2:φs 249.00000°, δ43.00000°, λ-121.00000°. Principal axes: T 1.0500, Plg6.0000°, Azm181.0000°; N 0.4000, Plg21.0000°, Azm273.0000°; P -1.4500, Plg68.0000°, Azm75.0000°; Data Used: IU II IC G CU CN.*

ISC 03 06:28:49.9±0.4, 32.28S±0.06×78.89E±0.07, h15km±1km, n430, σ1§22/475, mb5.1/73, MS4.9/19, 3C-5D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.23**	**345**	T	T	T	07 00 30.3	
	baz=167,slow=75,SNR=1118							
H08S1	**Diego Garcia H**	**25.23**	**345**	T	T	T	07 00 30.7	
	baz=167,slow=75,SNR=348							
H08S3	**Diego Garcia H**	**25.25**	**345**	T	T	T	07 00 31.7	
	baz=167,slow=75,SNR=844							
H08N1	**Diego Garcia H**	**26.84**	**342**	T	T	T	07 03 00.1	
	SNR=20							
H08N3	**Diego Garcia H**	**26.84**	**342**	T	T	T	07 02 48.7	
	SNR=26							
H08N2	**Diego Garcia H**	**26.86**	**342**	T	T	T	07 02 48.5	
	SNR=16							
H01W2	**Cape Leeuwin H**	**29.38**	**105**	T	T	T	07 05 36.4	
	baz=265,slow=74,SNR=97							
H01W3	**Cape Leeuwin H**	**29.39**	**105**	T	T	T	07 05 24.1	
	baz=265,slow=74,SNR=128							
H01W1	**Cape Leeuwin H**	**29.40**	**105**	T	T	T	07 05 26.8	
	baz=265,slow=74,SNR=80							
OPO	**Ambohidratompo**	**31.59**	**288**	P	**P**		**06 35 12.4**	**+0.2**
OPO	**Ambohidratompo**	**31.59**	**288**	P	**P**		**06 35 12.4**	**+0.2**
	9.2nm,0.9s,baz=107,slow=8.1,SNR=9.1							
MSEY	**Mahe Island**	**35.14**	**317**	*e*P	**P**		**06 35 42.9**	**-0.1**
	27nm,1.1s							
MAW	**Mawson**	**36.59**	**190**	*e*P	**P**		**06 35 55.2**	**+0.4**
	35nm,2.2s							
MAW	**Mawson**	**36.59**	**190**	P	**P**		**06 35 55.2**	**+0.4**
	12nm,0.8s,baz=20,slow=11,SNR=20							
PALK	**Pallekele**	**39.37**	**3**	P	**P**		**06 36 19.4**	**+0.5**
	25nm,1.2s							
PALK	**Pallekele**	**39.37**	**3**	*e*P	**P**		**06 36 18.6**	**-0.3**
	34nm,1.1s							
PSI	**Prapat**	**39.73**	**32**	P	**P**		**06 36 20.9**	**-1.2**
PSI	**Prapat**	**39.73**	**32**	P	**P**		**06 36 20.9**	**-1.2**
	5.8nm,0.9s,baz=166,slow=10,SNR=5.9							
PSI				LR	LR		06 49 27.2	
	comp=Z,1μm,18.3s,baz=250,slow=31							
SYO	**Syowa Base**	**42.94**	**200**	⇑*e*P	**P**		**06 36 47.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**44.26**	**83**	*e*P	**P**		**06 36 58.4**	**-0.6**
	24nm,1.3s							
FITZ	**Fitzroy Crossi**	**44.26**	**83**	P	**P**		**06 36 58.1**	**-0.9**
	8.7nm,1.0s,baz=228,slow=9.1,SNR=9.9							
BOSA	**Boshof**	**45.99**	**260**	*e*P	**P**		**06 37 12.7**	**-0.1**
	17nm,1.0s							
BOSA	**Boshof**	**45.99**	**260**	P	**P**		**06 37 12.8**	**0.0**
	11nm,1.0s,baz=110,slow=6.3,SNR=8.8							
SBUM	**Sibu**	**46.80**	**49**	*e*P	**P**		**06 37 19.7**	**+0.6**
	26nm,1.2s							
LBTB	**Lobatse**	**46.93**	**265**	*e*P	**P**		**06 37 19.8**	**-0.4**
	17nm,1.0s							
LBTB	**Lobatse**	**46.93**	**265**	P	**P**		**06 37 20.0**	**-0.2**
	11nm,0.9s,baz=116,slow=6.9,SNR=13							
SUR	**Sutherland**	**48.53**	**253**	*e*P	**P**		**06 37 33.8**	**+1.1**
SUR	**Sutherland**	**48.53**	**253**	P	**P**		**06 37 33.5**	**+0.9**
	238nm,1.0s,SNR=5.6							
SUR	**Sutherland**	**48.53**	**253**	P	**P**		**06 37 32.6**	**0.0**
	25nm,0.8s,baz=107,slow=9.3,SNR=14							
ASAR	**Alice Springs**	**48.89**	**94**	P	**P**		**06 37 34.2**	**-1.1**
ASAR	**Alice Springs**	**48.89**	**94**	P	**P**		**06 37 34.2**	**-1.1**
	13nm,1.0s,baz=244,slow=6.6,SNR=62							
AS31	**Alice Springs**	**48.89**	**94**	*e*P	**P**		**06 37 34.1**	**-1.2**
AS01	**Alice Springs**	**48.93**	**94**	*e*P	**P**		**06 37 34.4**	**-1.2**
LSZ	**Lusaka**	**48.94**	**278**	P	**P**		**06 37 37.0**	**+1.2**
	SNR=7.2							
LSZ	**Lusaka**	**48.94**	**278**	mb			06 37 37.8	
	SNR=15							
LSZ	**Lusaka**	**48.94**	**278**	*e*P	**P**		**06 37 36.6**	**+0.8**
	23nm,0.9s							
HYB	**Hyderabad**	**49.42**	**360**	*i* P	**P**		**06 37 38.0**	**-1.2**
KMBO	**Kilima Mbogo**	**49.96**	**300**	*e*P	**P**		**06 37 44.2**	**+0.4**
	8.3nm,1.0s							
KMBO	**Kilima Mbogo**	**49.96**	**300**	P	**P**		**06 37 44.2**	**+0.4**
	4.0nm,0.9s,baz=96,slow=7.1,SNR=6.7							
WRA	**Warramunga Arr**	**50.79**	**90**	P	**P**		**06 37 48.8**	**-1.0**
WRA	**Warramunga Arr**	**50.79**	**90**	P	**P**		**06 37 48.8**	**-1.0**
	16nm,1.0s,baz=246,slow=7.5,SNR=41							
WRAB	**Tennant Creek**	**50.80**	**90**	⇓*i*P	**P**		**06 37 48.7**	**-1.2**
WRAB				pmax	pmax			
	comp=Z,67nm,1.2s							
WRAB				MLR	MLR			
	comp=Z,8μm,16.0s							
WRAB	**Tennant Creek**	**50.80**	**90**	*e*P	**P**		**06 37 49.4**	**-0.4**
	comp=Z,53nm,1.6s							
WRAB	**Tennant Creek**	**50.80**	**90**	P	**P**		**06 37 49.5**	**-0.4**
	comp=Z,100nm,1.2s,SNR=12							
NVL	**N'lazarevskaya**	**52.34**	**203**	*e*P	**P**		**06 38 01.7**	**+1.1**
NVL				pmax	pmax			
	comp=Z,72nm,1.2s							
STKA	**Stephens Creek**	**52.42**	**107**	*e*P	**P**		**06 38 01.3**	**-0.6**
	comp=Z,8.8nm,1.6s							
STKA	**Stephens Creek**	**52.42**	**107**	P	**P**		**06 38 01.2**	**-0.6**
	comp=Z,7.3nm,0.9s,baz=256,slow=7.6,SNR=7.4							
CM01	**Chiang Mai Arr**	**53.96**	**24**	*e*P	**P**		**06 38 13.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**53.99**	**24**	P	**P**		**06 38 12.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**53.99**	**24**	P	**P**		**06 38 12.3**	**-1.0**
	comp=Z,3.4nm,0.6s,baz=209,slow=6.6,SNR=25							
CHTO	**Chiang Mai**	**54.32**	**24**	*e*P	**P**		**06 38 17.2**	**+1.5**
CHTO				pmax	pmax			
	comp=Z,12nm,1.1s							
CHTO	**Chiang Mai**	**54.32**	**24**	P	**P**		**06 38 18.5**	**+2.8**
	comp=Z,53nm,1.3s							
CHTO	**Chiang Mai**	**54.32**	**24**	*e*P	**P**		**06 38 17.2**	**+1.5**
	comp=Z,12nm,1.1s							
TSUM	**Tsumeb**	**56.08**	**268**	*e*P	**P**		**06 38 28.5**	**-0.3**
	comp=Z,19nm,1.0s							
SNAA	**Sanae**	**57.13**	**202**	*e*P	**P**		**06 38 36.2**	**+0.8**
SNAA	**Sanae**	**57.13**	**202**	*e*PcP	**PcP**		**06 39 30.1**	**+0.1**
SNAA	**Sanae**	**57.13**	**202**	*e*P	**P**		**06 38 36.2**	**+0.8**
	comp=Z,63nm,1.8s							
SNAA	**Sanae**	**57.13**	**202**	LR	LR		06 58 34.3	
	comp=Z,163nm,18.1s,baz=283,slow=31							
VNDA	**Vanda**	**57.22**	**165**	*e*P	**P**		**06 38 36.9**	**+1.0**
VNDA	**Vanda**	**57.22**	**165**	P	**P**		**06 38 36.0**	**+0.1**
	comp=Z,35nm,1.0s,baz=269,slow=7.4,SNR=48							
VNDA				LR	LR		06 59 15.1	
	comp=Z,569nm,21.2s,baz=230,slow=32							
QSPA	**South Pole Qui**	**57.86**	**180**	P	**P**		**06 38 41.5**	**+0.7**
QSPA	**South Pole Qui**	**57.86**	**180**	P	**P**		**06 38 41.5**	**+0.7**
	comp=Z,68nm,1.0s,baz=284,slow=2.8,SNR=136							
BSY	**Bisya**	**58.52**	**336**	P	**P**		**06 38 47.9**	**+2.3**
	SNR=8.4							
IMP	**Imphal**	**58.54**	**16**	*ex*	**P**		**06 38 48.0**	**+2.2**
VNA2	**Neumayer--Watz**	**58.66**	**203**	*e*P	**P**		**06 38 44.5**	**-1.6**
VNA2	**Neumayer--Watz**	**58.66**	**203**	*e*PcP	**PcP**		**06 39 36.5**	**+0.5**
SHL	**Shillong**	**58.85**	**14**	*ex*	**P**		**06 38 48.5**	**+0.4**
VNA1	**Neumayer--Stat**	**58.99**	**203**	*e*P	**P**		**06 38 49.9**	**+1.6**
QIZ	**Qiongzhong**	**59.01**	**35**	P	**P**		**06 38 49.3**	**+0.2**
QIZ				S	**S**		**06 46 57.5**	**+2.3**
QIZ				pmax	pmax			
	comp=Z,45nm,1.9s							
QIZ				pmax	pmax			
	comp=Z,190nm,3.5s							
QIZ				LR	LR			
	comp=Z,690nm,19.5s							
QIZ				LR	LR			
	comp=Z,530nm,17.0s							
RAMN	**Ramite**	**59.36**	**8**	*e*P	**P**		**06 38 51.4**	**-0.3**
ODAN	**Odare**	**59.37**	**9**	*e*P	**P**		**06 38 51.2**	**-0.5**
	comp=Z,115nm,1.3s							
PKI	**Pulchoki**	**59.85**	**7**	*e*P	**P**		**06 38 53.9**	**-1.2**
	comp=Z,73nm,1.3s							
PKIN	**Phulchoki**	**59.85**	**7**	*e*P	**P**		**06 38 54.2**	**-0.9**
	comp=Z,64nm,1.3s							
DMN	**Daman**	**59.85**	**6**	*e*P	**P**		**06 38 54.5**	**-0.6**
	comp=Z,109nm,1.2s							
KOLN	**Koldanda**	**59.89**	**5**	*e*P	**P**		**06 38 54.4**	**-0.9**
TAPN	**Taplejung**	**59.90**	**9**	*e*P	**P**		**06 38 55.1**	**-0.3**
	comp=Z,120nm,1.0s							
JIRN	**Jiri**	**60.02**	**7**	*e*P	**P**		**06 38 55.7**	**-0.6**
	comp=Z,70nm,1.1s							
KKN	**Kakani**	**60.05**	**7**	*e*P	**P**		**06 38 55.9**	**-0.5**
	comp=Z,92nm,1.2s							
GKN	**Gorkha**	**60.20**	**6**	*e*P	**P**		**06 38 56.6**	**-0.7**
	comp=Z,99nm,1.1s							
GUN	**Gumba**	**60.23**	**7**	*e*P	**P**		**06 38 57.5**	**-0.3**
	comp=Z,190nm,1.2s							
DANN	**Dangsing**	**60.48**	**5**	*e*P	**P**		**06 38 58.3**	**-1.1**
	comp=Z,81nm,1.0s							
ARMA	**Armidale**	**60.99**	**109**	*e*P	**P**		**06 39 01.9**	**-1.0**
	comp=Z,15nm,1.0s							
KMI	**Kunming**	**61.46**	**25**	P	**P**		**06 39 08.6**	**+2.6**
KMI				pmax	pmax			
	comp=Z,28nm,1.3s							
LSA	**Lhasa**	**62.73**	**12**	*e*P	**P**		**06 39 17.0**	**+2.2**
LSA	**Lhasa**	**62.73**	**12**	*e*P	**P**		**06 39 14.7**	**-0.1**
LSA				pmax	pmax			
	comp=Z,35nm,1.0s							
LSA	**Lhasa**	**62.73**	**12**	*e*P	**P**		**06 39 14.7**	**-0.1**
	comp=Z,35nm,1.0s							
RAYN	**Ar Rayn**	**64.01**	**326**	*e*P	**P**		**06 39 22.8**	**-0.1**
	comp=Z,40nm,1.3s							
GYA	**Guiyang**	**64.13**	**28**	P	**P**		**06 39 26.8**	**+3.1**
GYA				PcP	**PcP**		**06 40 01.3**	**+2.6**
GYA				ScP			06 44 02.0	
GYA				S	**S**		**06 48 03.2**	**+2.9**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.2s							
GYA				LR	LR			
	comp=Z,550nm,18.2s							
GYA				LR	LR			
	comp=Z,480nm,19.0s							
GYA				LR	LR			
	comp=Z,510nm,18.4s							
ISRV	**Sarvestan**	**66.03**	**335**	*e*P	**P**		**06 39 38.1**	**+1.9**
IPAR	**Pars**	**66.47**	**336**	*e*P	**P**		**06 39 37.2**	**-1.9**
PMG	**Port Moresby**	**66.69**	**86**	P	**P**		**06 39 42.8**	**+2.4**
	comp=Z,18nm,1.2s							
PMG	**Port Moresby**	**66.69**	**86**	*e*P	**P**		**06 39 39.5**	**-0.9**
	comp=Z,18nm,1.0s							
PMG	**Port Moresby**	**66.69**	**86**	P	**P**		**06 39 40.2**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=112,slow=13,SNR=5.0							
IKAZ	**Kazeroun**	**66.85**	**335**	*e*P	**P**		**06 39 39.0**	**-2.5**
KBL	**Kabul**	**67.11**	**351**	*e*P	**P**		**06 39 42.7**	**-0.2**
KBL				pmax	pmax			
	comp=Z,38nm,1.0s							
KBL	**Kabul**	**67.11**	**351**	*e*P	**P**		**06 39 42.7**	**-0.2**
	comp=Z,38nm,1.0s							
CD2	**Chengdu**	**67.12**	**23**	⇑*i*P	**P**		**06 39 44.2**	**+1.4**
CD2				pP	**pP**		**06 39 50.2**	**+2.3**
CD2				sP	**sP**		**06 39 52.1**	**+2.4**
CD2				PP	**PP**		**06 42 14.9**	**+3.8**
CD2				S	**S**		**06 48 39.2**	**+2.7**
CD2				sS	**sS**		**06 48 46.1**	**+1.4**
CD2				pmax	pmax			
	comp=Z,50nm,1.2s							
CD2				pmax	pmax			
	comp=Z,340nm,5.8s							
CD2				LR	LR			
	comp=Z,460nm,16.6s							
CD2				LR	LR			
	comp=Z,610nm,19.0s							
ENH	**Enshi**	**68.64**	**28**	*e*P	**P**		**06 39 51.4**	**-1.1**
	comp=Z,6.2nm,0.7s							
RPZ	**Rata Peaks**	**69.95**	**130**	LR	LR		07 03 35.6	
	comp=Z,713nm,18.7s,baz=217,slow=30							
IMYA	**Miami**	**70.50**	**344**	*e*P	**P**		**06 40 02.5**	**-1.4**
IPAY	**Payeh**	**70.87**	**343**	*e*P	**P**		**06 40 04.4**	**-1.8**
IAKL	**Akhelmad**	**71.07**	**343**	*e*P	P		06 40 04.5	-3.0
IKRD	**Kardeh**	**71.30**	**343**	*e*P	**P**		**06 40 07.0**	**-1.9**
KSH	**Kashi**	**71.49**	**358**	P	**P**		**06 40 08.5**	**-1.3**
KSH				pP	**pP**		**06 40 13.6**	**-1.3**
KSH				sP	**sP**		**06 40 16.4**	**-0.3**
KSH				PcP	**PcP**		**06 40 29.1**	**-0.1**
KSH				S	S		06 49 21.3	-6.6
KSH				sS	**sS**		**06 49 34.7**	**-1.5**
KSH				SKS	**SKSac**		**06 50 07.8**	**-4.6**
KSH				ScS	**SKKSac**		**06 50 10.6**	**-1.9**
KSH				pmax	pmax			
	comp=Z,14nm,0.9s							
KSH				pmax	pmax			
	comp=Z,190nm,5.0s							
KSH				LR	LR			
	comp=Z,290nm,6.1s							
KSH				LR	LR			
	comp=Z,270nm,5.7s							
KSH				LR	LR			
	comp=Z,290nm,5.9s							
ISFR	**Sfrayin**	**71.69**	**343**	*e*P	**P**		**06 40 10.0**	**-1.3**
XAN	**Xi'an**	**71.77**	**26**	P	**P**		**06 40 10.3**	**-1.2**
XAN				pP	**pP**		**06 40 13

comp=Z,260nm,6.4s
GTA LR LR
comp=Z,260nm,21.1s
GTA LR LR
comp=Z,260nm,18.3s
GTA LR LR
comp=Z,440nm,22.3s
KZA Kyzart 74.07 357 *i* P **P 06 40 27.2 +1.8**
KZA Kyzart 74.07 357 P **P 06 40 27.2 +1.8**
SNR=8.1
AML Almayashu 74.20 356 P **P 06 40 28.2 +2.0**
SNR=7.3
ULHL Ulahol 74.20 358 *i* P **P 06 40 25.2 -0.8**
ULHL Ulahol 74.20 358 P **P 06 40 25.2 -0.8**
SNR=6.3
UCH Uchtor 74.26 357 *i* P **P 06 40 28.3 +1.8**
UCH Uchtor 74.26 357 P **P 06 40 28.4 +1.8**
SNR=6.8
EIL Elat 74.39 321 P **P 06 40 27.2 +0.2**
EIL Elat 74.39 321 P **P 06 40 27.2 +0.2**
comp=Z,9.4nm,1.0s,baz=154,slow=3.0,SNR=6.3
AAK Ala-Archa 74.66 357 P **P 06 40 29.6 +1.0**
SNR=6.3
AAK Ala-Archa 74.66 357 mb 06 40 31.7
SNR=10.0
AAK Ala-Archa 74.66 357⇓ *e*P **P 06 40 28.9 +0.3**
AAK pmax pmax
comp=Z,65nm,1.5s
AAK MLR MLR
comp=Z,664nm,16.0s
AAK Ala-Archa 74.66 357 P **P 06 40 30.6 +2.1**
SNR=8.6
AAK Ala-Archa 74.66 357 *e*P **P 06 40 28.4 -0.2**
comp=Z,24nm,1.3s
AAK Ala-Archa 74.66 357 P **P 06 40 28.8 +0.2**
comp=Z,75nm,1.2s,SNR=5.3
AAK Ala-Archa 74.66 357 P **P 06 40 29.4 +0.8**
comp=Z,9.4nm,1.1s,baz=183,slow=4.5,SNR=11
SSE Sheshan 74.67 37 P **P 06 40 30.9 +2.2**
SSE S **S 06 50 07.5 +3.4**
SSE sS **sS 06 50 13.4 +0.9**
SSE pmax pmax
comp=Z,30nm,0.9s
SSE pmax pmax
comp=Z,380nm,4.5s
SSE LR LR
comp=Z,970nm,28.8s
SSE LR LR
comp=Z,660nm,28.8s
SSE LR LR
comp=Z,1µm,27.0s
EKS2 Erkin-Say 74.73 356 *e*P **P 06 40 29.0 +0.1**
EKS2 pmax pmax
comp=Z,22nm,1.2s
EKS2 Erkin-Say 74.73 356 P **P 06 40 31.1 +2.2**
SNR=7.6
EKS2 Erkin-Say 74.73 356 *e*P **P 06 40 29.0 +0.1**
comp=Z,22nm,1.2s
TKM2 Tokmak 2 74.90 357 *e*P **P 06 40 30.1 +0.1**
TKM2 pmax pmax
comp=Z,65nm,1.7s
TKM2 Tokmak 2 74.90 357 P **P 06 40 31.4 +1.4**
SNR=6.7
TKM2 Tokmak 2 74.90 357 *e*P **P 06 40 30.1 +0.1**
comp=Z,65nm,1.7s
USP Ospenovka 75.29 357 *i* P **P 06 40 31.4 -0.6**
USP Ospenovka 75.29 357 P **P 06 40 31.4 -0.6**
SNR=11
KKAR Karatay Array 75.41 354 *e*P **P 06 40 32.8 +0.1**
KKAR Karatay Array 75.41 354 *e*P **P 06 40 32.8 +0.1**
WMQ Urumqi 76.17 7 P **P 06 40 38.0 +1.0**
WMQ sP **sP 06 40 45.0 +1.0**
WMQ PP **PP 06 43 30.0 +1.4**
WMQ S **S 06 50 20.0 -0.3**
WMQ ScS **SKKSac 06 50 49.0 +1.4**
WMQ SS **SS 06 55 15.0 +0.3**
WMQ pmax pmax
comp=Z,26nm,1.0s
WMQ pmax pmax
comp=Z,320nm,7.0s
WMQ LR LR
comp=Z,530nm,20.0s
WMQ LR LR
comp=Z,750nm,20.0s
WMQ LR LR
comp=Z,430nm,19.0s
MMAI Mount Meron Ar 76.82 324 P **P 06 40 42.3 +1.3**
MMAI Mount Meron Ar 76.82 324 P **P 06 40 42.3 +1.3**
comp=Z,0.6nm,0.3s,baz=130,slow=2.6,SNR=4.1
MK01 Makanchi Array 78.75 2 *e*P **P 06 40 49.7 -1.7**
MK31 Makanchi Array 78.77 2 *e*P **P 06 40 50.0 -1.5**
MK31 Makanchi Array 78.77 2 *e*P **P 06 40 50.0 -1.5**
MKAR Makanchi Array 78.77 2 *e*P **P 06 40 50.3 -1.2**
MKAR Makanchi Array 78.77 2 *e*P **P 06 40 50.3 -1.2**
MKAR Makanchi Array 78.77 2 P **P 06 40 49.9 -1.6**
comp=Z,16nm,1.0s,baz=180,slow=6.1,SNR=25
HHC Hu-ho-hao-te 78.78 25 *i* P **P 06 40 53.6 +1.8**
HHC pP **PcP 06 40 58.4 -2.1**
HHC PP **PP 06 43 54.1 +3.4**
HHC S **S 06 50 51.2 +2.3**
HHC sS **sS 06 50 58.8 +1.5**
HHC SKS **SKSac 06 51 03.6 -2.9**
HHC ScS **ScS 06 51 11.6 -1.1**
HHC pmax pmax
comp=Z,61nm,1.2s
HHC pmax pmax
comp=Z,360nm,7.6s
HHC LR LR
comp=Z,510nm,17.6s
HHC LR LR
comp=Z,480nm,17.3s
HHC LR LR
comp=Z,590nm,17.8s
BJI Beijing 79.82 28 P **P 06 40 58.8 +1.5**
BJI S **S 06 51 03.5 +3.8**
BJI pmax pmax
comp=Z,21nm,0.7s
BJI pmax pmax
comp=Z,98nm,4.7s
BJI LR LR
comp=Z,910nm,21.9s
BJI LR LR
comp=Z,620nm,19.8s
BJI LR LR
comp=Z,2µm,20.5s
ZEI Tsey 81.31 335 *e*P **P 06 41 07.4 +1.8**
ZEI pmax pmax
comp=Z,10.0nm,1.3s
JNU Nakatsue 81.45 42 P **P 06 41 04.5 -1.9**
JNU Nakatsue 81.45 42 P **P 06 41 04.5 -1.9**
comp=Z,16nm,0.9s,baz=185,slow=6.8,SNR=4.1
KBZ Khabaz 82.49 335 P **P 06 41 10.5 -0.9**
KBZ Khabaz 82.49 335 P **P 06 41 10.5 -0.9**
KBZ Khabaz 82.49 335 P **P 06 41 10.5 -0.9**
comp=Z,6.7nm,0.8s,baz=126,slow=1.2,SNR=10
KURK Kurchatov 82.64 360 P **P 06 41 11.7 -0.4**
SNR=6.4
KURK Kurchatov 82.64 360 mb 06 41 15.1
SNR=11
KURK Kurchatov 82.64 360 *e*P **P 06 41 11.3 -0.7**
KURK pmax pmax
comp=Z,14nm,1.2s
KURK Kurchatov 82.64 360 *e*P **P 06 41 11.3 -0.7**
comp=Z,14nm,1.2s
KURK Kurchatov 82.64 360 P **P 06 41 11.6 -0.4**
comp=Z,104nm,1.3s,SNR=5.1
KIV Kislovodsk 82.77 335 *e*P **P 06 41 14.5 +1.5**
KIV pmax pmax
comp=Z,14nm,0.9s
ABKAR Akbulak array 82.92 348 *e*P **P 06 41 12.7 -0.8**
BRTR Keskin Array B 83.02 327 P **P 06 41 13.7 -0.9**
BRTR Keskin Array B 83.02 327 P **P 06 41 13.7 -0.9**
comp=Z,6.3nm,0.8s,baz=140,slow=6.5,SNR=5.3
KSAR Wonju Array Be 83.08 37 P **P 06 41 13.3 -1.4**
KSRS Korea Array 83.10 37 P **P 06 41 13.3 -1.5**
comp=Z,2.5nm,0.8s,baz=236,slow=5.2,SNR=4.2
KS01 Wonju Array Si 83.11 37 *e*P **P 06 41 12.8 -2.0**
SONM Songino Array 83.49 18 P **P 06 41 16.0 -0.7**
SONM Songino Array 83.49 18 P **P 06 41 16.0 -0.7**
comp=Z,4.5nm,0.9s,baz=203,slow=6.4,SNR=13
SONA1 Songino Array 83.50 18 *e*P **P 06 41 15.7 -1.1**
BR231 Keskin MP Arra 83.52 326 *e*P **P 06 41 14.8 -2.3**
ULN Ulaanbaatar 83.69 19 P **P 06 41 19.7 +1.9**
SNR=5.4
ULN Ulaanbaatar 83.69 19 mb 06 41 24.1
SNR=6.8
ULN Ulaanbaatar 83.69 19 P **P 06 41 16.2 -1.6**
ULN Ulaanbaatar 83.69 19 *e*P **P 06 41 18.6 +0.8**
AKTO Aktyubinsk 84.41 347 P **P 06 41 20.2 -1.0**
AKTO Aktyubinsk 84.41 347 P **P 06 41 20.2 -1.0**
AKTO Aktyubinsk 84.41 347 P **P 06 41 20.2 -1.0**
comp=Z,7.9nm,1.0s,baz=200,slow=3.8,SNR=15
ZAK Zakamensk 85.09 15 *e*P **P 06 41 23.6 -1.2**
ZAK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 85.31 355 P **P 06 41 25.6 0.0**
SNR=6.2
BRVK Borovoye 85.31 355 mb 06 41 28.4
SNR=12
BRVK Borovoye 85.31 355⇑ *i*P **P 06 41 25.2 -0.5**
BRVK pmax pmax
comp=Z,34nm,1.3s
BRVK Borovoye 85.31 355 *e*P **P 06 41 25.2 -0.5**
comp=Z,22nm,1.0s
BRVK Borovoye 85.31 355 P **P 06 41 25.9 +0.2**
comp=Z,124nm,0.9s,SNR=7.6
ANN Anapa 85.49 332 P **P 06 41 28.9 +2.2**
ANN pmax pmax
comp=Z,56nm,1.0s
ZAA0 Zalesovo Array 86.03 4 *e*P **P 06 41 27.8 -1.4**
ZALV Zalesovo Beam 86.03 4 P **P 06 41 27.8 -1.4**
ZALV Zalesovo Beam 86.03 4 P **P 06 41 27.8 -1.4**
ZALV Zalesovo Beam 86.03 4 P **P 06 41 27.8 -1.4**
comp=Z,13nm,0.9s,baz=197,slow=3.1,SNR=17
TOA0 Torodi Ar. Sit 86.41 288 *e*P **P 06 41 31.7 -0.3**
TORD Torodi Ar. Bea 86.41 288 P **P 06 41 31.8 -0.2**
TORD Torodi Ar. Bea 86.41 288 P **P 06 41 31.8 -0.2**
comp=Z,15nm,1.0s,baz=99,slow=4.2,SNR=57
TORD LR LR 07 18 14.7
comp=Z,3µm,21.5s,baz=315,slow=34
CN2 Changchun 86.84 32 *e*P **P 06 41 33.4 0.0**
CN2 *e*PP **PP 06 44 59.0 +2.3**
CN2 *e*S **S 06 52 10.0 -0.7**
CN2 *e*SS **SS 06 57 55.9 +2.2**
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,400nm,17.0s
NVS Novosibirsk 86.85 3⇓ *i*P **P 06 41 31.1 -2.1**
NVS pmax pmax
comp=Z,82nm,1.9s
NVS pmax pmax
comp=N,34nm,1.6s
NVS pmax pmax
comp=E,28nm,1.6s
KIC Kosan Boka 88.00 279 *e*PKP2 **P 06 41 41.3 +1.5**
comp=E,69nm,1.3s
MAJO Matsushiro 88.11 44⇓ *e*P **P 06 41 41.0 +1.2**
MAJO pmax pmax
comp=Z,212nm,1.8s
LIC Lamto 88.17 278 *e*PKP2 **P 06 41 40.6 0.0**
comp=Z,45nm,1.2s
DBIC Dimbokro 88.26 279 P **P 06 41 40.5 -0.6**
DBIC Dimbokro 88.26 279 P **P 06 41 40.5 -0.6**
comp=Z,4.4nm,0.9s,baz=103,slow=8.6,SNR=4.2
TIC Toumodi 88.39 279 *e*PKP2 **P 06 41 42.3 +0.6**
comp=Z,11nm,0.6s
MDJ Mudanjiang 89.36 34 P **P 06 41 46.0 +0.6**
MDJ pmax pmax
comp=Z,13nm,1.8s
MDJ pmax pmax
comp=Z,120nm,3.9s
ARU Arti 90.04 349*d i*P **P 06 41 48.4 +0.1**
ARU 06 45 22.5
ARU S **SKSac 06 52 16.5 -1.6**
ARU pmax pmax
comp=Z,33nm,2.5s
USRK Ussuriysk Arra 90.20 35 P **P 06 41 47.2 -2.1**
comp=Z,8.3nm,1.0s,baz=242,slow=3.8,SNR=6.4
USRK LR LR 07 23 27.9
comp=Z,766nm,20.6s,baz=222,slow=36
AKASG Malin Array Be 93.53 331 P **P 06 42 04.0 -0.6**
AKASG Malin Array Be 93.53 331 P **P 06 42 04.0 -0.6**
AKASG Malin Array Be 93.53 331 P **P 06 42 04.0 -0.6**
comp=Z,5.3nm,0.8s,baz=131,slow=3.9,SNR=11
KIEV Kiev 93.53 331 *e*P **P 06 42 04.2 -0.4**
KIEV pmax pmax
comp=Z,15nm,1.1s
KIEV Kiev 93.53 331 *e*P **P 06 42 04.2 -0.4**
comp=Z,15nm,1.1s
AK11 Malin Array Si 93.54 331 *e*P **P 06 42 04.2 -0.4**
AK11 *e*S **S 06 53 18.1 +6.0**
KEST Kesra 93.91 310 P **P 06 42 06.8 -0.1**
KEST Kesra 93.91 310 P **P 06 42 06.8 -0.1**
comp=Z,3.1nm,1.1s,baz=265,slow=7.2,SNR=3.7
MDT Midelt 101.89 301 P **Pdif 06 42 41.5 -1.5**
MDT Midelt 101.89 301 P **Pdif 06 42 41.5 -1.5**
comp=Z,2.8nm,0.8s,baz=60,slow=13,SNR=3.4
LPAZ La Paz 122.29 218 *e*PKPdf **PKPdf 06 47 46.0 +0.4**
LPAZ La Paz 122.29 218 PKP **PKPdf 06 47 44.6 -1.0**
comp=Z,2.0nm,0.9s,baz=171,slow=2.7,SNR=6.5
SAML Samuel 125.31 228 *e*PKPdf **PKPdf 06 47 49.5 -1.2**
AKUT Akutan 130.02 44 *e*PKPdf **PKPdf 06 48 01.9 +3.5**
ILAR Eielson Array 137.18 27 PKP **PKPdf 06 48 10.1 -1.5**
ILAR Eielson Array 137.18 27 PKP **PKPdf 06 48 10.1 -1.5**
comp=Z,1.4nm,1.0s,baz=291,slow=3.9,SNR=6.1
OTAV Otavalo 141.61 218 *e*PKPpre PKPpre 06 48 16.7
CDVI St. Croix 144.22 255 *e*PKPdf PKPbc 06 48 23.9 +0.1
STVI Saint Thomas 144.68 256 *e*PKPdf PKPbc 06 48 25.3 +0.1
MTP Monte Pirata 145.04 255 *e*PKPbc **PKPbc 06 48 25.9 -0.6**
HUMP Col San Antoni 145.31 255 *e*PKPbc **PKPbc 06 48 27.3 0.0**
CELP Cerrillos 145.87 254 *e*PKPdf **PKPdf 06 48 28.8 +0.3**
AOPR Arecibo Observ 146.15 254 *e*PKPdf **PKPdf 06 48 29.5 +0.5**
SCHQ Schefferville 146.98 323 PKPbc **PKPbc 06 48 30.9 -0.4**
SCHQ Schefferville 146.98 323 PKPbc **PKPbc 06 48 30.9 -0.4**
comp=Z,8.5nm,0.6s,baz=69,slow=9.7,SNR=3.9
DLBC Dease Lake 147.36 28 *e*PKPdf **PKPdf 06 48 30.9 +1.0**
DLBC Dease Lake 147.36 28 PKPbc **PKPbc 06 48 31.9 -0.5**
comp=Z,44nm,1.3s,baz=269,slow=2.7,SNR=9.1
YKA Yellowknife Ar 148.56 12 PKPbc **PKPbc 06 48 34.0 -1.3**
YKA Yellowknife Ar 148.56 12 PKPbc **PKPbc 06 48 33.9 -1.3**
comp=Z,6.4nm,0.5s,baz=343,slow=3.2,SNR=8.0
B08A Colville Reser 158.85 35 *e*PKPab **PKPab 06 49 22.1 -0.6**
NEW Newport 159.96 33 *e*PKPab **PKPab 06 49 27.1 -0.5**
NEW Newport 159.96 33 P **PKPdf 06 48 47.9 -0.1**
baz=160
M02C Callahan 160.41 56 P **PKPdf 06 48 48.5 -0.4**
baz=160
PINOR Pine Mountain 160.69 48 *e*PKPab **PKPab 06 49 31.0 +0.2**
J05D Fort Rock, OR 160.72 50 P **PKPdf 06 48 48.8 -0.4**
baz=161
M04C Macdoel 160.97 54 P **PKPdf 06 48 49.3 -0.2**
baz=161
G08A Pilot Rock 161.02 42 *e*PKPdf **PKPdf 06 48 49.5 0.0**
MOD Modoc 161.96 52 *e*PKPdf **PKPdf 06 48 50.3 -0.2**
BMO Blue Mountains 162.21 41 *e*PKP2 **PKPab 06 49 36.2 -1.4**
BMO Blue Mountains 162.21 41 *e*PKPab **PKPab 06 49 36.2 -1.4**
J08A Circle Bar Ran 162.42 46 *e*PKPdf **PKPdf 06 48 51.3 +0.4**
J08A *e*PKPab **PKPab 06 49 40.2 +1.6**
MSO Missoula 162.46 30 *e*PKPdf **PKPdf 06 48 50.8 0.0**
MSO *e*PKPab **PKPab 06 49 37.1 -1.5**
MSO Missoula 162.46 30 P **PKPdf 06 48 50.3 -0.6**
baz=162
A20A Cobblestone Ra 162.65 15 P **PKPdf 06 48 50.7 -0.2**
baz=163
CMB Columbia Colle 163.23 65 *e*PKP2 **PKPab 06 49 41.4 -0.9**
CMB Columbia Colle 163.23 65 *e*PKPab **PKPab 06 49 41.4 -0.9**
C20A Veseth Ranch, 163.72 17 P **PKPdf 06 48 51.6 -0.3**
baz=164
MFID Camas Ranch 163.94 42 *e*PKPdf **PKPdf 06 48 52.8 +0.4**
MFID *e*PKPab **PKPab 06 49 44.8 -0.5**
DLMT Dillon 164.19 31 *e*PKPdf **PKPdf 06 48 52.5 -0.1**
DLMT *e*PKPab **PKPab 06 49 45.5 -0.8**
MCMT McKenzie Canyo 164.49 33 *e*PKPdf **PKPdf 06 48 52.9 -0.1**
MCMT *e*PKPab **PKPab 06 49 47.0 -0.8**
HLID Hailey 164.63 39 *e*PKPdf **PKPdf 06 48 53.4 +0.3**
HLID *e*PKPab **PKPab 06 49 48.1 -0.2**
HLID Hailey 164.63 39 P **PKPdf 06 48 53.1 0.0**
baz=165
E19A Rath Farm, Rou 164.66 20 P **PKPdf 06 48 52.0 -0.8**
baz=165
NV01 Mina Array Sit 164.70 62 *e*PKPdf **PKPdf 06 48 53.6 +0.2**
NV01 *e*PKPab **PKPab 06 49 48.2 -0.8**
NVAR Mina Array Bea 164.70 62 PKP **PKPdf 06 48 54.1 +0.8**
NVAR PKPab **PKPab 06 49 47.7 -1.3**
NVAR Mina Array Bea 164.70 62 PKP **PKPdf 06 48 54.1 +0.8**
comp=Z,1.4nm,1.0s,baz=254,slow=1.4,SNR=8.0
NVAR PKPab **PKPab 06 49 47.7 -1.3**
comp=Z,2.5nm,0.8s,baz=272,slow=5.4,SNR=11
F19A Roth Farm, Mol 165.16 22 P **PKPdf 06 48 52.8 -0.5**
baz=165
ISA Isabella 165.20 72 P **PKPdf 06 48 54.3 +0.6**
baz=165
EDW2 Edwards Air Fo 165.69 75 P **PKPdf 06 48 53.2 -0.9**
baz=166
LRMC Laurel Mountai 165.86 72 P **PKPdf 06 48 53.7 -0.6**
baz=166
MPMC Manual Prospec 165.93 70 P **PKPdf 06 48 54.7 +0.2**
baz=166
FXWY Fox Creek 166.24 32 *e*PKPdf **PKPdf 06 48 54.4 -0.1**
FXWY *e*PKPab **PKPab 06 49 56.6 +1.1**
RRI2 Red Ridge 166.33 33 *e*PKPdf **PKPdf 06 48 55.0 +0.4**
FURC Furnace Creek, 166.34 68 P **PKPdf 06 48 53.0 -1.4**
baz=166
WCI Wyandotte Cave 166.53 300 *e*PKP2 **PKPab 06 49 56.8 0.0**
WCI Wyandotte Cave 166.53 300 *e*PKPab **PKPab 06 49 56.8 0.0**
GSC Goldstone 166.60 73 P **PKPdf 06 48 54.3 -0.6**
baz=167
TPNV Topopah Spring 166.69 65 *e*PKP2 **PKPab 06 49 56.9 -0.9**
TPNV Topopah Spring 166.69 65 *e*PKPab **PKPab 06 49 56.9 -0.9**
TPNV Topopah Spring 166.69 65 P **PKPdf 06 48 55.5 +0.5**
baz=167
R11A Troy Canyon, C 166.72 59 P **PKPdf 06 48 55.2 +0.2**
baz=167
SHOC Shoshone 166.92 70 P **PKPdf 06 48 55.6 +0.6**
baz=167
PFO Pinyon Flat Ob 167.04 80 P **PKPdf 06 48 55.8 +0.5**
baz=167
MONP Monument Peak 167.07 83 P **PKPdf 06 48 55.5 0.0**
baz=167
BELC Belle Mtn. Jos 167.40 78 P **PKPdf 06 48 56.1 +0.5**
baz=167
BW06 Boulder Array 167.58 30 *e*PKPdf **PKPdf 06 48 55.6 +0.1**
PDAR Pinedale Array 167.58 30 PKP **PKPdf 06 48 54.5 -1.1**
PDAR PKPab **PKPab 06 49 59.2 -2.2**
PDAR Pinedale Array 167.58 30 PKP **PKPdf 06 48 54.5 -1.1**
comp=Z,0.8nm,0.8s,baz=113,slow=1.7,SNR=7.9
PDAR PKPab **PKPab 06 49 59.2 -2.2**
comp=Z,1.7nm,0.9s,baz=358,slow=3.6,SNR=7.3
GMRC Granite Mounta 167.60 74 P **PKPdf 06 48 56.2 +0.5**
baz=168
DUG Dugway 167.70 47 *e*PKP2 **PKPab 06 50 01.5 -0.5**
DUG Dugway 167.70 47 *e*PKPab **PKPab 06 50 01.5 -0.5**
DUG Dugway 167.70 47 P **PKPdf 06 48 54.9 -0.7**
baz=168
BC3 Big Chuckawall 167.87 80 P **PKPdf 06 48 56.5 +0.7**
baz=168
IRM Iron Mountain 168.09 77 P **PKPdf 06 48 55.7 -0.1**
baz=168
J22A Midwest 168.11 19 P **PKPdf 06 48 54.3 -1.4**
baz=168
J28A Allard Ranch, 168.88 0 P **PKPdf 06 48 55.3 -0.8**
baz=169
W13A Hualapai Mount 168.99 72 P **PKPdf 06 48 57.7 +1.0**
baz=169
U15A North Rim 169.88 63 P **PKPdf 06 48 57.5 +0.2**
baz=170
Y14A Wickenburg 169.89 77 P **PKPdf 06 48 57.8 +0.8**
baz=170
214A Organ Pipe Nat 170.07 89 P **PKPdf 06 48 58.2 +1.0**
baz=170
PHWY Pilot Hill 170.35 20 *e*PKPab **PKPab 06 50 12.9 -0.9**
N23A Red Feather La 170.57 23 P **PKPdf 06 48 57.1 -0.5**
baz=170
WUAZ Wupatki 170.88 67 *e*PKPdf **PKPdf 06 48 56.5 -1.2**
WUAZ *e*PKPab **PKPab 06 50 16.3 0.0**
WUAZ Wupatki 170.88 67 P **PKPdf 06 48 58.4 +0.7**
baz=171
X16A Lo Mia Camp, P 171.10 73 P **PKPdf 06 48 58.9 +1.0**
baz=171
PV04 Paradox Valley 171.19 44 *e*PKPdf **PKPdf 06 48 57.6 -0.2**
PV04 *e*PKPab **PKPab 06 50 19.3 +1.8**
O23A Lake Granby, G 171.19 25 P **PKPdf 06 48 56.9 -1.0**
baz=171
PV05 Paradox Valley 171.27 46 *e*PKPdf **PKPdf 06 48 57.1 -0.8**
PV05 *e*PKPab **PKPab 06 50 17.4 -0.6**
ISCO Idaho Springs 171.66 25 *e*PKIKP **PKPdf 06 48 58.1 0.0**
ISCO Idaho Springs 171.66 25 *e*PKPdf **PKPdf 06 48 58.1 0.0**
ISCO *e*PKPab **PKPab 06 50 21.1 +1.5**
ISCO Idaho Springs 171.66 25 P **PKPdf 06 48 57.9 -0.3**
baz=172
O28A Krutsinger Ran 172.16 4 P **PKPdf 06 48 58.1 0.0**
baz=172
MVCO Mesa Verde 172.18 49 P **PKPdf 06 48 58.5 +0.1**
baz=172
X18A Snowflake 172.28 71 P **PKPdf 06 48 58.6 +0.2**
baz=172
P25A Willow Gulch B 172.37 18 P **PKPdf 06 48 57.9 -0.5**
baz=172
P26A Davis Ranch, A 172.52 13 P **PKPdf 06 48 58.0 -0.3**
baz=172
Q24A Divide 172.57 25 P **PKPdf 06 48 58.4 -0.2**
baz=172
P31A Stockton 172.64 349 P **PKPdf 06 48 57.9 -0.4**
baz=173
P28A Saint Francis 172.71 4 P **PKPdf 06 48 57.9 -0.5**
baz=173
S22A 4UR Ranch, Cre 172.81 39 P **PKPdf 06 48 58.2 -0.6**
baz=173
Q25A Bedland, Calha 172.91 20 P **PKPdf 06 48 58.1 -0.5**
baz=173
R23A Moffat 172.96 32 P **PKPdf 06 48 59.2 +0.4**
baz=173
319A Douglas 172.99 95 P **PKPdf 06 48 59.2 +0.4**
baz=173
KSCO Kaye Shedlock' 173.18 10 P **PKPdf 06 48 59.0 +0.4**
baz=173
Q30A Quinter 173.28 354 P **PKPdf 06 48 58.0 -0.5**
baz=173
Q29A Oakley 173.41 359 P **PKPdf 06 48 58.0 -0.7**
baz=173
R25A Fountain Ranch 173.60 23 P **PKPdf 06 48 58.3 -0.6**
baz=174
320A Kipp Ranch, An 173.61 97 P **PKPdf 06 48 59.3 +0.3**
baz=174
Z20A Nine Sixteen R 173.64 81 P **PKPdf 06 48 58.5 -0.5**
baz=174
S24A Houchin Ranch, 173.68 31 P **PKPdf 06 48 59.7 +0.6**
baz=174
Y20A Horse Springs, 173.69 73 P **PKPdf 06 48 59.7 +0.6**
baz=174
220A Playas Peak, P 173.69 91 P **PKPdf 06 48 59.4 +0.3**
baz=174
R26A Arlington 173.70 17 P **PKPdf 06 48 59.0 +0.2**
baz=174
U22A Llaves 173.73 48 P **PKPdf 06 48 59.6 +0.6**
baz=174
T23A Casias Ranch, 173.76 39 P **PKPdf 06 48 59.6 +0.5**
baz=174
R28A Tribune 173.93 5 P **PKPdf 06 48 59.3 +0.4**
baz=174
V22A San Miguel Ran 173.98 51 P **PKPdf 06 48 59.8 +0.6**
baz=174
S25A Robets Cordova 173.98 26 P **PKPdf 06 49 00.1 +1.1**
baz=174
T24B San Luis 174.07 35 P **PKPdf 06 49 00.1 +0.8**
baz=174
U23A El Rito 174.17 45 P **PKPdf 06 48 60.0 +0.8**
baz=174
Y21A Point of Rocks 174.23 71 P **PKPdf 06 49 00.2 +0.9**
baz=174
S26A Kim 174.33 19 P **PKPdf 06 48 59.5 +0.4**
baz=174
121A Cookes Peak, D 174.35 86 P **PKPdf 06 48 59.5 +0.2**
baz=174
T25A Trinidad 174.45 28 P **PKPdf 06 48 59.5 +0.3**
baz=174
V23A Ortiz Mt. (NFS 174.55 49 P **PKPdf 06 49 00.2 +0.9**
baz=174
ANMO Albuquerque 174.81 58 *e*PKPdf **PKPdf 06 48 59.9 +0.6**
Y22A Socorro 174.82 70 P **PKPdf 06 48 59.7 +0.3**
baz=175
T27A Campo 175.05 15 P **PKPdf 06 48 59.3 0.0**
baz=175
U25A Circle Dot Ran 175.07 33 P **PKPdf 06 48 59.8 +0.4**
baz=175
V24A Rampart Ranch, 175.13 44 P **PKPdf 06 48 59.8 +0.3**
baz=175
U26A Atchley Ranch, 175.36 27 P **PKPdf 06 48 59.3 -0.2**
baz=175
W24A Lazy 6 Ranch, 175.38 50 P **PKPdf 06 48 59.4 -0.1**
baz=175
V25A Rancho No Teng 175.41 38 P **PKPdf 06 48 59.6 0.0**
baz=175
Y23A Lovelace Mesa, 175.53 67 P **PKPdf 06 48 59.0 -0.6**

	baz=176							
Z23A	**Rita Site, Whi**	**175.57**	**76**	P		**PKPdf**	**06 48 00.5**	**+1.0**
	baz=176							
V33A	**Lossen Ranch,**	**175.77**	**327**	P		**PKPdf**	**06 48 58.6**	**-0.8**
	baz=176							
V26A	**Tequesquite Ra**	**175.85**	**32**	P		**PKPdf**	**06 48 59.0**	**-0.6**
	baz=176							
W34A	**Bridge Creek,**	**175.95**	**318**	P		**PKPdf**	**06 48 60.0**	**+0.5**
	baz=176							
W25A	**X Bar L Ranch,**	**175.96**	**43**	P		**PKPdf**	**06 48 59.2**	**-0.4**
	baz=176							
Y24A	**Capitan**	**176.02**	**65**	P		**PKPdf**	**06 48 59.3**	**-0.5**
	baz=176							
V32A	**Arapaho**	**176.17**	**334**	P		**PKPdf**	**06 48 59.9**	**+0.4**
	baz=176							
324A	**Moseley Ranch,**	**176.18**	**102**	P		**PKPdf**	**06 48 59.5**	**-0.3**
	baz=176							
626A	**Big Bend Ranch**	**176.24**	**136**	P		**PKPdf**	**06 48 59.2**	**-0.6**
	baz=176							
V27A	**Dan Oppiter Fa**	**176.25**	**22**	P		**PKPdf**	**06 48 59.8**	**+0.1**
	baz=176							
224A	**Cornudas Mount**	**176.25**	**92**	P		**PKPdf**	**06 48 59.2**	**-0.6**
	baz=176							
Z24A	**Sheeppen Canyo**	**176.27**	**73**	P		**PKPdf**	**06 49 00.2**	**+0.4**
	baz=176							
X25A	**Clemmons Ranch**	**176.28**	**52**	P		**PKPdf**	**06 48 59.1**	**-0.6**
	baz=176							
124A	**Stringfield Ra**	**176.30**	**82**	P		**PKPdf**	**06 49 00.4**	**+0.5**
	baz=176							
MNTX	**Cornudas Mount**	**176.32**	**98**	*e*PKPdf		**PKPdf**	**06 48 59.4**	**-0.2**
732A	**Laxson Ranch,**	**176.32**	**196**	P		**PKPdf**	**06 48 59.6**	**-0.1**
	baz=176							
TX31	**Lajitas Ar. Si**	**176.33**	**143**	*e*PKPdf		**PKPdf**	**06 48 59.4**	**-0.5**
TXAR	**Lajitas Array**	**176.33**	**143**	PKP		**PKPdf**	**06 48 59.7**	**-0.1**
TXAR	**Lajitas Array**	**176.33**	**143**	PKP		**PKPdf**	**06 48 59.7**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=259,slow=1.9,SNR=11							
425A	**Indio Mountain**	**176.37**	**113**	P		**PKPdf**	**06 48 58.4**	**-1.4**
	baz=176							
X34A	**Smith Ranch, M**	**176.42**	**311**	P		**PKPdf**	**06 48 59.4**	**-0.2**
	baz=176							
W26A	**Owens Ranch, T**	**176.43**	**38**	P		**PKPdf**	**06 48 59.9**	**+0.2**
	baz=176							
627A	**Terlingua Ranc**	**176.56**	**145**	P		**PKPdf**	**06 48 59.4**	**-0.5**
	baz=177							
Y25A	**Mesa, Roswell**	**176.58**	**61**	P		**PKPdf**	**06 48 59.7**	**-0.1**
	baz=176							
Z35A	**Perchaven, San**	**176.59**	**289**	P		**PKPdf**	**06 48 59.9**	**+0.3**
	baz=177							
526A	**Mary Lane Ranc**	**176.62**	**130**	P		**PKPdf**	**06 48 59.5**	**-0.4**
	baz=177							
335A	**Moody**	**176.71**	**253**	P		**PKPdf**	**06 48 59.7**	**0.0**
	baz=177							
Y34A	**Reagan Ranch,**	**176.73**	**302**	P		**PKPdf**	**06 48 59.8**	**+0.2**
	baz=177							
W27A	**Bowe Ranch, En**	**176.78**	**30**	P		**PKPdf**	**06 48 59.9**	**+0.1**
	baz=177							
Z25A	**Roswell**	**176.80**	**71**	P		**PKPdf**	**06 48 59.8**	**-0.1**
	baz=177							
X26A	**CR and CF Fran**	**176.80**	**44**	P		**PKPdf**	**06 48 59.9**	**+0.1**
	baz=177							
534A	**Blanco**	**176.81**	**226**	P		**PKPdf**	**06 48 59.3**	**-0.5**
	baz=177							
628A	**Black Gap, Mar**	**176.82**	**151**	P		**PKPdf**	**06 48 59.2**	**-0.6**
	baz=177							
225A	**Deer Hill, Car**	**176.85**	**92**	P		**PKPdf**	**06 49 00.0**	**+0.1**
	baz=177							
X33A	**Lawton**	**176.87**	**317**	P		**PKPdf**	**06 48 59.3**	**-0.3**
	baz=177							
527A	**Woodward Ranch**	**176.98**	**134**	P		**PKPdf**	**06 48 59.9**	**-0.1**
	baz=177							
125A	**Gardner Draw,**	**176.98**	**82**	P		**PKPdf**	**06 48 59.2**	**-0.6**
	baz=177							
632A	**Uvalde**	**177.01**	**203**	P		**PKPdf**	**06 48 60.0**	**+0.1**
	baz=177							
426A	**McDonald Obser**	**177.03**	**122**	P		**PKPdf**	**06 48 59.4**	**-0.7**
	baz=177							
631A	**Perdido Creek**	**177.10**	**189**	P		**PKPdf**	**06 48 59.4**	**-0.5**
	baz=177							
Z34A	**Collier Ranch,**	**177.10**	**293**	P		**PKPdf**	**06 48 59.5**	**-0.2**
	baz=177							
434A	**Burnet**	**177.17**	**240**	P		**PKPdf**	**06 48 59.5**	**-0.3**
	baz=177							
533A	**Kerrville**	**177.17**	**219**	P		**PKPdf**	**06 48 59.8**	**-0.1**
	baz=177							
Y33A	**Hilltop Ranch,**	**177.30**	**310**	P		**PKPdf**	**06 48 59.3**	**-0.4**
	baz=177							
AMTX	**Amarillo**	**177.36**	**10**	P		**PKPdf**	**06 48 59.4**	**-0.4**
	baz=177							
326A	**Caldwell Ranch**	**177.37**	**111**	P		**PKPdf**	**06 48 59.6**	**-0.3**
	baz=177							
334A	**Lometa**	**177.38**	**250**	P		**PKPdf**	**06 48 59.3**	**-0.5**
	baz=178							
Z26A	**Caprock**	**177.39**	**67**	P		**PKPdf**	**06 48 59.3**	**-0.6**
	baz=177							
226B	**Tecolote Peak,**	**177.40**	**94**	P		**PKPdf**	**06 48 59.7**	**-0.3**
	baz=177							
134A	**White-Moore Ra**	**177.42**	**277**	P		**PKPdf**	**06 49 00.4**	**+0.6**
	baz=178							
528A	**Cox Ranch, San**	**177.44**	**145**	P		**PKPdf**	**06 48 59.8**	**-0.2**
	baz=177							
X31A	**McDonald Ranch**	**177.48**	**338**	P		**PKPdf**	**06 48 59.2**	**-0.6**
	baz=177							
126A	**Clayton Basin,**	**177.51**	**81**	P		**PKPdf**	**06 48 59.3**	**-0.6**
	baz=178							
427A	**Hayter Ranch,**	**177.58**	**126**	P		**PKPdf**	**06 49 00.1**	**+0.2**
	baz=178							
532A	**Rocksprings**	**177.62**	**206**	P		**PKPdf**	**06 48 59.5**	**-0.5**
	baz=178							
529A	**Stev Forest Ra**	**177.65**	**156**	P		**PKPdf**	**06 48 59.7**	**-0.3**
	baz=178							
Y27A	**Causey**	**177.65**	**47**	P		**PKPdf**	**06 48 59.7**	**-0.3**
	baz=178							
433A	**Art**	**177.70**	**229**	P		**PKPdf**	**06 48 59.1**	**-0.8**
	baz=178							
Y32A	**R-V Farms, Ver**	**177.79**	**321**	P		**PKPdf**	**06 48 59.4**	**-0.4**
	baz=178							
Z33A	**Whitaker Ranch**	**177.79**	**297**	P		**PKPdf**	**06 48 59.5**	**-0.3**
	baz=178							
MSTX	**Muleshoe**	**177.81**	**39**	P		**PKPdf**	**06 48 58.7**	**-1.3**
	baz=178							
531A	**Rocksprings**	**177.83**	**193**	P		**PKPdf**	**06 48 59.3**	**-0.7**
	baz=178							
530A	**J-C Ranch, Com**	**177.86**	**175**	P		**PKPdf**	**06 48 59.7**	**-0.3**
	baz=178							
JCT	**Junction City**	**177.88**	**212**	*e*PKIKP		**PKPdf**	**06 48 59.6**	**-0.4**
JCT	**Junction City**	**177.88**	**212**	*e*PKPdf		**PKPdf**	**06 48 59.6**	**-0.4**
JCT	**Junction City**	**177.88**	**212**	P		**PKPdf**	**06 48 59.6**	**-0.4**
	baz=178							
428A	**Kincaid Ranch,**	**177.94**	**139**	P		**PKPdf**	**06 48 59.7**	**-0.3**
	baz=178							
Z27A	**Tatum**	**177.95**	**59**	P		**PKPdf**	**06 48 59.3**	**-0.7**
	baz=178							
333A	**Richland Sprin**	**177.96**	**243**	P		**PKPdf**	**06 48 59.3**	**-0.6**
	baz=178							
127A	**Arkansas Junct**	**178.06**	**78**	P		**PKPdf**	**06 48 60.0**	**0.0**
	baz=178							
Y28A	**McKinney Farm,**	**178.12**	**30**	P		**PKPdf**	**06 48 59.7**	**-0.2**
	baz=178							
133A	**Hamilton Ranch**	**178.12**	**280**	P		**PKPdf**	**06 48 59.9**	**0.0**
	baz=178							
432A	**Menard**	**178.20**	**219**	P		**PKPdf**	**06 48 59.4**	**-0.6**
	baz=178							
429A	**Davenport Ranc**	**178.22**	**158**	P		**PKPdf**	**06 48 59.5**	**-0.5**
	baz=178							
Z32A	**Haskell**	**178.29**	**307**	P		**PKPdf**	**06 48 59.5**	**-0.4**
	baz=178							
431A	**Sonora**	**178.35**	**195**	P		**PKPdf**	**06 48 59.4**	**-0.6**
	baz=178							
Y29A	**Porterfield Fa**	**178.36**	**17**	P		**PKPdf**	**06 49 00.2**	**+0.3**
	baz=178							
430A	**Baggett Ranch,**	**178.50**	**176**	P		**PKPdf**	**06 48 59.9**	**-0.1**
	baz=178							
Z28A	**Tucker Farm, M**	**178.53**	**47**	P		**PKPdf**	**06 48 59.7**	**-0.4**
	baz=178							
332A	**Millersview**	**178.53**	**233**	P		**PKPdf**	**06 48 59.9**	**-0.1**
	baz=179							
Z31A	**Sharp Cattle R**	**178.69**	**322**	P		**PKPdf**	**06 49 00.0**	**+0.1**
	baz=179							
128A	**Castleberry Fa**	**178.79**	**74**	P		**PKPdf**	**06 48 58.8**	**-1.3**
	baz=179							
331A	**San Angelo**	**178.87**	**211**	P		**PKPdf**	**06 48 59.4**	**-0.7**
	baz=179							
329A	**Wagon Wheel Ra**	**178.91**	**137**	P		**PKPdf**	**06 48 59.5**	**-0.6**
	baz=179							
Z30A	**Sanderson Ranc**	**179.00**	**1**	P		**PKPdf**	**06 48 59.6**	**-0.4**
	baz=179							

*BJI **03** 06:43:23.3, 72°.40N×70°.30W, h10km, mB5.2/2, mb4.7/4*
*OTT **03** 06:43:24.6±0.4, 72°.43N×71°.63W, h18km, MN4.5/12,*
215km east from Pond Inlet, Nu Baffin Bay Seismic Zone.
*IDC **03** 06:43:24.2±0.5, 72°.42N×71°.50W, h0km, mb4.1/18,*
mb1 4.3/23, mb1mx4.2/35, mbtmp4.2/23, ML4.3/5, MS4.2/2,
Ms1 4.2/2, ms1mx3.4/49, Error ellipse: s-maj=15.5km
s-min=11.4km az=149.0
*NEIC **03** 06:43:24.6, 72°.43N×71°.63W, h18km, mb4.6/3,*
MN4.5(OTT), After OTT.

ISC 03 06:43:24.4±0.4, 72°.15N±0°.05×71°.91W±0°.04, h10km, n100, σ2°.91/97, mb4.3/23, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILON	**Igloolik, Nuna**	**4.30**	**234**	PN		Pn	Pn	06 44 32.6	+2.9
ILON				SN		**Sn**	**Sn**	**06 45 22.8**	**+2.9**
ILON				LG		Lg	Lg	06 45 41.1	
ILON				Trac				06 45 54.2	
	comp=Z,893nm,0.4s								
ILON	**Igloolik, Nuna**	**4.30**	**234**	Pn		Pn	Pn	06 44 32.6	+2.9
ILON				Sn		**Sn**	**Sn**	**06 45 22.8**	**+2.9**
KULLO	**Kullorsuaq**	**4.87**	**53**	*i* P		Pn	Pn	06 44 33.1	-4.4
KULLO				*i* S		Sn	Sn	06 45 21.6	-12
RES	**Resolute Bay**	**7.02**	**302**	PN		**Pn**	**Pn**	**06 45 05.2**	**-1.9**
RES				mb				06 45 07.7	
	comp=Z,35nm,0.2s								
RES				SN		Sn	Sn	06 46 18.9	-7.9
RES				Trac				06 46 23.2	
	comp=Z,44nm,0.2s								
RES	**Resolute Bay**	**7.02**	**302**	Pn		**Pn**	**Pn**	**06 45 05.7**	**-1.4**
RES				Sn		Sn	Sn	06 46 18.4	-8.4
RES	**Resolute Bay**	**7.02**	**302**	Pn		**Pn**	**Pn**	**06 45 05.7**	**-1.4**
	16nm,0.3s,baz=83,slow=10,SNR=578								
RES				Sn		Sn	Sn	06 46 18.4	-8.4
	14nm,0.3s,baz=292,slow=16,SNR=2.8								
RES				LR		LR	LR	06 47 39.7	
	comp=Z,296nm,20.5s,baz=73,slow=36								
ILULI	**Ilulissat**	**7.48**	**103**	*i* P		**Pn**	**Pn**	**06 45 12.7**	**-0.6**
ILULI				*e*S		Sn	Sn	06 46 29.7	-8.3
QILN	**Qililugaq Expl**	**7.49**	**230**	PN		**Pn**	**Pn**	**06 45 15.4**	**+1.9**
QILN				SN		**Sn**	**Sn**	**06 46 36.0**	**-2.3**
QILN				LG		Lg	Lg	06 47 21.9	
QILN				Trac				06 47 35.8	
	comp=Z,362nm,0.4s								
QILN	**Qililugaq Expl**	**7.49**	**230**	Pn		**Pn**	**Pn**	**06 45 15.4**	**+1.9**
QILN				Sn		**Sn**	**Sn**	**06 46 36.0**	**-2.3**
QILN				Lg		Lg	Lg	06 47 21.9	
CDKN	**Chidliak Camp**	**8.21**	**163**	PN		**Pn**	**Pn**	**06 45 25.4**	**+2.1**
CDKN				SN		**Sn**	**Sn**	**06 46 53.0**	**-3.0**
CDKN				LG		Lg	Lg	06 47 46.9	
CDKN				Trac				06 48 09.6	
	comp=Z,251nm,1.0s								
FRB	**Frobisher Bay**	**8.53**	**170**	PN		**Pn**	**Pn**	**06 45 30.0**	**+2.2**
FRB				SN		**Sn**	**Sn**	**06 47 02.0**	**-1.9**
FRB				LG		Lg	Lg	06 47 50.9	
FRB				Trac				06 48 15.8	
	comp=Z,221nm,0.4s								
FRB	**Frobisher Bay**	**8.53**	**170**	Pn		Pn	Pn	06 45 30.6	+2.9
FRB				Sn		**Sn**	**Sn**	**06 47 02.2**	**-1.7**
FRB	**Frobisher Bay**	**8.53**	**170**	Pn		Pn	Pn	06 45 30.6	+2.9
	2.1nm,0.3s,baz=356,slow=14,SNR=48								
FRB				Sn		**Sn**	**Sn**	**06 47 02.2**	**-1.7**
	18nm,0.3s,baz=76,slow=13,SNR=10								
EUNU	**Eureka**	**8.63**	**343**	PN		Pn	Pn	06 45 23.8	-5.3
EUNU				SN		Sn	Sn	06 46 50.0	-16
EUNU				Trac				06 46 55.4	
	comp=Z,74nm,0.3s								
EUNU	**Eureka**	**8.63**	**343**	Pn		Pn	Pn	06 45 23.8	-5.3
EUNU				Sn		Sn	Sn	06 46 50.0	-16
WAGN	**Wager Bay**	**8.86**	**234**	PN		**Pn**	**Pn**	**06 45 32.6**	**+0.4**
WAGN				SN		**Sn**	**Sn**	**06 47 08.3**	**-3.5**
WAGN				LG		Lg	Lg	06 47 59.3	
WAGN				Trac				06 48 20.1	
	comp=Z,642nm,0.7s								
SFJD	**Kangerlussuaq**	**9.02**	**114**	*i* P		**Pn**	**Pn**	**06 45 34.5**	**+0.1**
SFJD				*i* S		Sn	Sn	06 47 06.0	-10
SFJD	**Kangerlussuaq**	**9.02**	**114**	Pn		**Pn**	**Pn**	**06 45 33.4**	**-1.0**
SFJD				Sn		Sn	Sn	06 47 07.6	-8.1
SFJD	**Kangerlussuaq**	**9.02**	**114**	Pn		**Pn**	**Pn**	**06 45 33.4**	**-1.0**
	3.2nm,0.3s,baz=309,slow=10,SNR=16								
SFJD				Sn			Sn	06 47 07.6	-8.1
	5.8nm,0.3s,baz=283,slow=7.2,SNR=6.2								
NUNN	**Nunuq Camp, NU**	**9.80**	**234**	PN		**Pn**	**Pn**	**06 45 45.5**	**+0.4**
NUNN				SN		**Sn**	**Sn**	**06 47 29.6**	**-5.4**
NUNN				LG		Lg	Lg	06 48 31.4	
NUNN				Trac				06 48 48.0	
	comp=Z,557nm,0.9s								
SUMG	**Summit**	**10.08**	**72**	*i* P		Pn	Pn	06 45 45.1	-4.2
SUMG				*i* S		Sn	Sn	06 47 28.6	-14
SUMG	**Summit**	**10.08**	**72**	*e*Pn		Pn	Pn	06 45 44.9	-4.3
	55nm,0.4s								
SUMG				*e*Sn		Sn	Sn	06 47 24.4	-18
CB31	**Cambridge Bay**	**11.32**	**271**	PN		Pn	Pn	06 46 02.0	-3.8
CB31				mb				06 46 05.7	
	comp=Z,118nm,0.2s								
CB31				SN		Sn	Sn	06 48 03.5	-8.7
CB31				LG		Lg	Lg	06 49 09.0	
CB31				Trac				06 49 26.2	
	comp=Z,98nm,0.4s								
SEDN	**First Sedna Si**	**11.47**	**229**	PN		**Pn**	**Pn**	**06 46 07.3**	**-0.7**
SEDN				SN		Sn	Sn	06 48 08.6	-7.4
SEDN				LG		Lg	Lg	06 49 22.5	
SEDN				Trac				06 49 46.5	
	comp=Z,837nm,1.4s								
AKVQ	**Akulivik**	**11.65**	**195**	PN		**Pn**	**Pn**	**06 46 11.8**	**+1.4**
AKVQ				SN		**Sn**	**Sn**	**06 48 15.7**	**-4.7**
AKVQ				LG		Lg	Lg	06 49 22.0	
AKVQ				Trac				06 49 53.8	
	comp=Z,180nm,0.8s								
YBKN	**Baker Lake, Hu**	**11.79**	**240**	PN		**Pn**	**Pn**	**06 46 11.2**	**-1.2**
YBKN				SN		Sn	Sn	06 48 17.5	-6.3
YBKN				LG		Lg	Lg	06 49 36.1	
YBKN				LG		Lg	Lg	06 49 37.2	
YBKN				Trac				06 49 53.8	
	comp=Z,280nm,0.7s								
INUQ	**Inukjuak**	**13.98**	**194**	PN		**Pn**	**Pn**	**06 46 42.0**	**-0.2**
INUQ				SN		Sn	Sn	06 49 09.3	-8.0
INUQ				LG		Lg	Lg	06 50 35.8	
INUQ				Trac				06 50 59.5	
	comp=Z,306nm,1.2s								
ARVN	**Arviat, NU**	**14.02**	**229**	PN		**Pn**	**Pn**	**06 46 41.7**	**-1.0**
ARVN				SN		Sn	Sn	06 49 11.2	-6.9
ARVN				LG		Lg	Lg	06 50 40.2	
ARVN				Trac				06 51 02.0	
	comp=Z,654nm,1.6s								
KUQ	**Kuujjuuaa**	**14.17**	**172**	PN		**Pn**	**Pn**	**06 46 44.0**	**-0.8**
KUQ				mb				06 46 52.2	
	comp=Z,13nm,0.3s								
KUQ				SN		Sn	Sn	06 49 12.1	-10
KUQ				LG		Lg	Lg	06 50 45.2	
KUQ				Trac				06 51 09.6	
	comp=Z,39nm,0.5s								
DAG	**Danmarks Havn**	**14.50**	**48**	*i* P		Pn	Pn	06 46 44.4	-4.8
DAG				*i* S		Sn	Sn	06 49 08.4	-21
SCO	**Scoresbysund**	**15.72**	**72**	*i* P		Pn	Pn	06 46 58.6	-6.9
SCO				*i* S		Sn	Sn	06 49 36.2	-23
FCC	**Fort Churchill**	**16.11**	**225**	PN		**Pn**	**Pn**	**06 47 09.6**	**-1.1**
FCC				SN		Sn	Sn	06 49 58.6	-10
FCC				LG		Lg	Lg	06 51 40.5	
FCC				Trac				06 52 05.1	
	comp=Z,773nm,2.3s								
WHFN	**White Fish Lak**	**16.30**	**252**	PN		**Pn**	**Pn**	**06 47 10.8**	**-2.2**
WHFN				mb				06 47 12.4	
	comp=Z,90nm,0.6s								
WHFN				SN		Sn	Sn	06 50 00.2	-13
WHFN				LG		Lg	Lg	06 51 53.5	
WHFN				Trac				06 52 11.7	
	comp=Z,360nm,1.6s								
SCHQ	**Schefferville**	**17.52**	**170**	PN		**Pn**	**Pn**	**06 47 26.4**	**-1.9**
SCHQ				SN		Sn	Sn	06 50 30.0	-13
SCHQ				LG		Lg	Lg	06 52 28.9	
SCHQ	**Schefferville**	**17.52**	**170**	Pn		**Pn**	**Pn**	**06 47 27.0**	**-1.4**
SCHQ				Sn		Sn	Sn	06 50 33.8	-9.4
SCHQ	**Schefferville**	**17.52**	**170**	Pn		**Pn**	**Pn**	**06 47 27.0**	**-1.4**
	1.0nm,0.3s,baz=344,slow=9.9,SNR=11								
SCHQ				Sn			Sn	06 50 33.8	-9.4
	1.8nm,0.3s,baz=221,slow=20,SNR=3.3								
CTLN	**Castor Lake**	**17.61**	**266**	PN		**Pn**	**Pn**	**06 47 26.3**	**-3.2**
CTLN				mb				06 47 29.0	
	comp=Z,90nm,0.8s								
CTLN				SN		Sn	Sn	06 50 29.9	-16
CTLN				LG		Lg	Lg	06 52 22.1	

YKW3	**Yellowknife Ar**	**18.55**	**261**	PN		**P**	**06 47 37.7**	**-3.1**
YKW3				mb			06 47 39.3	
	comp=Z,19nm,0.3s							
YKW3				SN		Sn	06 50 46.5	-22
YKW3				LG		Lg	06 52 50.7	
YKW3	**Yellowknife Ar**	**18.55**	**261**	*e*P		**P**	**06 47 38.1**	**-2.7**
	0.3nm,0.3s							
YKW3				*e*S		Sn	06 50 50.5	-18
SILO	**Sutton Inlier**	**18.59**	**204**	PN		**P**	**06 47 40.9**	**-0.3**
SILO				SN		Sn	06 50 56.6	-12
SILO				LG		Lg	06 53 00.6	
YKA	**Yellowknife Ar**	**18.60**	**261**	Pn		**P**	**06 47 38.8**	**-2.6**
YKA				Sn		Sn	06 50 52.5	-17
YKA	**Yellowknife Ar**	**18.60**	**261**	Pn		**P**	**06 47 38.7**	**-2.6**
	7.6nm,0.3s,baz=43,slow=14,SNR=146							
YKA				Sn		Sn	06 50 52.5	-17
	1.6nm,0.3s,baz=38,slow=22,SNR=7.3							
LG4Q	**La Grande 4**	**18.61**	**184**	PN		**Pn**	**06 47 41.9**	**0.0**
LG4Q				SN		Sn	06 50 54.1	-16
LG4Q				LG		Lg	06 53 13.5	
LG4Q				Trac			06 53 20.6	
	comp=Z,44nm,0.6s							
YOSQ	**Ashton Mining**	**19.35**	**181**	PN		**Pn**	**06 47 52.3**	**+1.5**
YOSQ				SN		Sn	06 51 08.9	-19
YOSQ				LG		Lg	06 53 26.6	
VIMO	**Victor Mine**	**20.08**	**201**	PN		Pn	06 48 01.4	+2.1
VIMO				SN		S	06 51 29.2	-14
INK	**Inuvik**	**20.35**	**290**	PN		**P**	**06 48 00.5**	**+0.1**
INK				SN		S	06 51 36.9	-11
INK	**Inuvik**	**20.35**	**290**	*e*P		Pn	06 48 01.5	-0.9
INK	**Inuvik**	**20.35**	**290**	P		**P**	**06 48 00.3**	**-0.1**
	14nm,0.8s,baz=42,slow=12,SNR=54							
FFC	**Flin Flon**	**21.61**	**232**	PN		**P**	**06 48 16.9**	**+2.8**
FFC				SN		**S**	**06 52 07.2**	**-5.9**
FFC	**Flin Flon**	**21.61**	**232**	*e*P		**P**	**06 48 16.9**	**+2.8**
	11nm,0.7s							
NANO	**Nakina Ontario**	**22.89**	**205**	PN		**P**	**06 48 31.9**	**+4.1**
NANO				SN		**S**	**06 52 36.2**	**-1.0**
ULM	**Lac du Bonnet**	**24.45**	**219**	*e*P		**P**	**06 48 44.8**	**+1.8**
	20nm,1.2s							
ULM				*e*S		**S**	**06 53 01.8**	**-0.8**
ULM	**Lac du Bonnet**	**24.45**	**219**	P		**P**	**06 48 46.5**	**+3.5**
	2.3nm,0.4s,baz=5.3,slow=14,SNR=7.2							
DAWY	**Dawson**	**25.00**	**286**	*e*P		**P**	**06 48 50.9**	**+3.0**
EDM	**Edmonton**	**25.96**	**245**	P		**P**	**06 49 00.7**	**+4.1**
AGMN	**Agassiz Nation**	**26.32**	**218**	*e*P		**P**	**06 49 03.3**	**+3.4**
	22nm,0.8s							
AGMN				*e*S		S	06 53 55.3	+23
ILAR	**Eielson Array**	**26.66**	**293**	P		**P**	**06 49 04.5**	**+1.8**
ILAR	**Eielson Array**	**26.66**	**293**	P		**P**	**06 49 04.5**	**+1.8**
	1.2nm,0.7s,baz=44,slow=8.3,SNR=17							
ARCES	**ARCESS Array B**	**28.78**	**46**	P		**P**	**06 49 20.2**	**-1.5**
ARCES	**ARCESS Array B**	**28.78**	**46**	P		**P**	**06 49 20.2**	**-1.5**
	3.1nm,0.7s,baz=340,slow=6.6,SNR=8.0							
NOA	**NORSAR Array B**	**31.90**	**66**	P		**P**	**06 49 48.9**	**-0.5**
NOA	**NORSAR Array B**	**31.90**	**66**	P		**P**	**06 49 48.9**	**-0.5**
	1.1nm,0.7s,baz=309,slow=9.2,SNR=4.5							
PDAR	**Pinedale Array**	**34.57**	**232**	P		P	06 50 17.2	+4.1
PDAR	**Pinedale Array**	**34.57**	**232**	P		P	06 50 17.2	+4.1
	2.0nm,0.8s,baz=36,slow=6.5,SNR=8.5							
FINES	**FINESS Array B**	**35.55**	**55**	P		**P**	**06 50 19.8**	**-1.2**
FINES				PcP		**PcP**	**06 52 49.5**	**-0.1**
FINES	**FINESS Array B**	**35.55**	**55**	P		**P**	**06 50 19.8**	**-1.2**
	1.7nm,0.7s,baz=323,slow=12,SNR=3.8							
FINES				PcP		**PcP**	**06 52 49.5**	**-0.1**
	2.0nm,0.8s,baz=346,slow=6.1,SNR=3.5							
NVAR	**Mina Array Bea**	**40.90**	**240**	P		P	06 51 10.7	+4.2
NVAR	**Mina Array Bea**	**40.90**	**240**	P		P	06 51 10.7	+4.2
	0.4nm,0.6s,baz=27,slow=6.2,SNR=3.6							
AKASG	**Malin Array Be**	**45.87**	**60**	P		**P**	**06 51 45.4**	**-0.8**
AKASG	**Malin Array Be**	**45.87**	**60**	P		**P**	**06 51 45.4**	**-0.8**
	1.3nm,0.5s,baz=336,slow=8.5,SNR=7.0							
ESDC	**Sonseca Array**	**46.03**	**96**	P		**P**	**06 51 48.7**	**+1.0**
ESDC	**Sonseca Array**	**46.03**	**96**	P		**P**	**06 51 48.7**	**+1.0**
	2.2nm,0.6s,baz=338,slow=8.5,SNR=10							
TXAR	**Lajitas Array**	**46.16**	**220**	P		P	06 51 53.3	+4.4
TXAR	**Lajitas Array**	**46.16**	**220**	P		P	06 51 53.3	+4.4
	2.1nm,0.6s,baz=38,slow=6.0,SNR=16							
FX1	**Attu Island--F**

ACX				*i* S	Sg	06 56 45.3	-0.3
CAIG	**El Cayaco**	**0.71**	**301**	*e*P	Pg	06 56 46.9	-2.2
CAIG				*i* S	Sg	06 56 55.1	-3.4
TLIG	**Tlapa**	**1.34**	**49**	*e*P	Pn	06 56 55.5	-4.0
TLIG				*i* S	Sn	06 57 12.0	-5.1
ARIG	**Puente Sto Nin**	**1.73**	**337**	*i* P	Pn	06 57 01.2	-3.4
ARIG				*i* S	Sn	06 57 22.5	-3.9

*ISCJB **03** 07:03:15.1±0.7, 18°.50S±0'.03×70°.86W±0'.07, h54km±6km, mb4.3/11, Error ellipse: s-maj=10.9km s-min=4.6km az=172.3*

*NEIC **03** 07:03:15.1±0.3, 18°.49S×70°.94W, h35km, mb4.6/4, Error ellipse: s-maj=9.2km s-min=5.4km az=71.0*

*GUC **03** 07:03:15.4±0.6, 18°.40S×70°.28W, h87km±5km, ML4.5*

*IDC **03** 07:03:16.2±0.9, 18°.59S×70°.86W, h44km±7km, mb4.1/10, mb1 4.2/13, mb1mx4.0/21, mbtmp4.1/13, ML3.9/3, Error ellipse: s-maj=19.9km s-min=16.7km az=55.0*

ISC 03 07:03:16.2±0.6, **18°.49S**±0'.03×**70°.87W**±0'.06, **h45**km±5km, **n65**, **σ1§22/76**, **mb4.4**/11, **7C-4D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCH	**Arica**	**0.55**	**90**	⇓*iP*	**Pn**	**07 03 27.7**	**0.0**
ARCH				*i* S	**Sn**	**07 03 37.2**	**+1.3**
ARCH				AML	AML	07 03 43.1	
	comp=E,29μm,0.7s						
ARCH	**Arica**	**0.55**	**90**	⇓*iP*	**Pn**	**07 03 27.7**	**0.0**
ARCH				*i* S	**Sn**	**07 03 37.2**	**+1.3**
PSGC	**Pisagua**	**1.31**	**147**	⇓*iP*	**Pn**	**07 03 37.6**	**-0.5**
PSGC				*i* S	**Sn**	**07 03 55.0**	**+0.6**
PSGC				AML	AML	07 03 59.4	
	comp=N,6μm,0.5s						
PSGC	**Pisagua**	**1.31**	**147**	⇓*iP*	**Pn**	**07 03 37.6**	**-0.5**
PSGC				*i* S	**Sn**	**07 03 55.0**	**+0.6**
HMBC	**Humberstone**	**2.00**	**153**	⇑*iP*	**Pn**	**07 03 47.6**	**-0.1**
HMBC				*i* S	**Sn**	**07 04 11.3**	**-0.3**
HMBC				AML	AML	07 04 27.6	
	comp=N,6μm,0.5s						
HMBC	**Humberstone**	**2.00**	**153**	⇑*iP*	**Pn**	**07 03 47.6**	**-0.1**
HMBC				*i* S	**Sn**	**07 04 11.3**	**-0.3**
ARE	**Arequipa**	**2.10**	**344**	*e*P	**Pn**	**07 03 49.0**	**-0.2**
ARE				*e*S	**Sn**	**07 04 13.0**	**-1.3**
PATCX	**Punta Patache**	**2.41**	**164**	⇑*iP*	**Pn**	**07 03 51.8**	**-1.4**
PATCX				*i* S	**Sn**	**07 04 21.5**	**-0.1**
PATCX				AML	AML	07 04 38.3	
	comp=E,3μm,0.4s						
PB01	**Plate Boundary**	**2.85**	**153**	⇑*iP*	**Pn**	**07 03 58.8**	**-0.5**
PB01				*i* S	**Sn**	**07 04 31.4**	**-1.1**
PB01				AML	AML	07 04 51.3	
	comp=N,2μm,0.6s						
PB01	**Plate Boundary**	**2.85**	**153**	⇑*iP*	**Pn**	**07 03 58.8**	**-0.5**
PB01				*i* S	**Sn**	**07 04 31.4**	**-1.1**
PB07	**Plate Boundary**	**3.35**	**164**	AML	AML	07 04 47.9	
	comp=E,1μm,0.6s						
LPAZ	**La Paz**	**3.42**	**50**	*e*Pn	Pn	07 04 12.9	+5.4
LPAZ				*e*Sn	**Sn**	**07 04 45.6**	**-1.5**
LPAZ	**La Paz**	**3.42**	**50**	P	**Pn**	**07 04 10.0**	**+2.5**
	comp=E,2.1nm,0.3s,baz=226,slow=8.0,SNR=79						
PB09	**Plate Boundary**	**3.63**	**155**	⇑*iP*	**Pn**	**07 04 10.1**	**+0.1**
PB09				*i* S	**Sn**	**07 04 50.9**	**-0.7**
PB09	**Plate Boundary**	**3.63**	**155**	⇑*iP*	**Pn**	**07 04 10.1**	**+0.1**
PB09				*i* S	**Sn**	**07 04 50.9**	**-0.7**
LVC	**Limon Verde**	**4.49**	**156**	*e*Pn	**Pn**	**07 04 22.1**	**+0.1**
LVC				*e*Sn	**Sn**	**07 05 11.5**	**-1.6**
SIV	**San Ignacio**	**9.69**	**77**	P	**Pn**	**07 05 35.0**	**+1.9**
SIV	**San Ignacio**	**9.69**	**77**	P	**Pn**	**07 05 35.0**	**+1.9**
	comp=E,1.2nm,0.3s,baz=269,slow=12,SNR=24						
SAML	**Samuel**	**12.07**	**39**	*e*Pn	**Pn**	**07 06 04.5**	**-1.2**
	comp=E,1.1nm,0.2s						
SAML				*e*Sn	**Sn**	**07 08 13.5**	**-5.5**
CFAA	**Coronel Fontan**	**13.27**	**170**	P	Pn	07 06 17.2	-4.8
CFAA				S	Sn	07 08 36.3	-12
CFAA	**Coronel Fontan**	**13.27**	**170**	P	Pn	07 06 17.2	-4.8
	comp=E,0.1nm,0.3s,baz=0.2,slow=14,SNR=4.0						
CFAA				S	Sn	07 08 36.3	-12
	comp=E,0.1nm,0.3s,baz=253,slow=19,SNR=3.9						
CPUP	**Villa Florida**	**14.75**	**124**	*e*Pn	**Pn**	**07 06 41.1**	**-0.8**
CPUP	**Villa Florida**	**14.75**	**124**	P	**Pn**	**07 06 39.8**	**-2.1**
	comp=E,0.2nm,0.3s,baz=296,slow=17,SNR=4.3						
H03N1	**Juan Fernandez**	**16.54**	**204**	T	T	07 24 26.4	
	baz=28,slow=75,SNR=50						
H03N2	**Juan Fernandez**	**16.54**	**204**	T	T	07 24 29.3	
	baz=28,slow=75,SNR=44						
H03N3	**Juan Fernandez**	**16.55**	**204**	T	T	07 24 20.3	
	baz=28,slow=75,SNR=48						
PTGA	**Pitinga**	**20.65**	**32**	*e*P	**P**	**07 07 51.4**	**-0.8**
	comp=E,12nm,0.8s						
TRQA	**Tornquist**	**20.98**	**160**	*e*P	**P**	**07 07 55.6**	**-0.1**
	comp=E,30nm,1.3s						
BDFB	**Brasilia**	**22.03**	**86**	P	**P**	**07 08 07.1**	**-0.1**
BDFB	**Brasilia**	**22.03**	**86**	P	**P**	**07 08 07.1**	**-0.1**
	comp=E,9.1nm,0.8s,baz=255,slow=11,SNR=11						
PLCA	**Paso Flores**	**22.17**	**179**	*e*P	**P**	**07 08 07.7**	**-0.7**
	comp=E,22nm,0.9s						
PLCA	**Paso Flores**	**22.17**	**179**	P	**P**	**07 08 08.0**	**-0.4**
	comp=E,18nm,0.9s,baz=356,slow=9.9,SNR=34						
ROSC	**El Rosal**	**23.45**	**351**	*e*P	**P**	**07 08 25.7**	**+3.5**
ROSC	**El Rosal**	**23.45**	**351**	P	**P**	**07 08 24.3**	**+2.2**
	comp=E,2.1nm,0.5s,baz=106,slow=20,SNR=4.2						
BRAL	**Brewton**	**51.62**	**342**	*e*P	**P**	**07 12 17.3**	**-0.9**
VNA2	**Neumayer--Watz**	**64.08**	**161**	*e*P	**P**	**07 13 45.8**	**+0.6**
SNAA	**Sanae**	**65.71**	**161**	*e*P	**P**	**07 13 56.2**	**+0.4**
SNAA	**Sanae**	**65.71**	**161**	*e*P	**P**	**07 13 55.9**	**0.0**
SNAA	**Sanae**	**65.71**	**161**	P	**P**	**07 13 55.5**	**-0.3**
	comp=E,2.9nm,0.8s,baz=282,slow=5.9,SNR=38						
PV01	**Paradox Valley**	**66.53**	**328**	*e*P	**P**	**07 14 02.8**	**+1.1**
DBIC	**Dimbokro**	**69.71**	**75**	*e*P	**P**	**07 14 21.9**	**0.0**
DBIC	**Dimbokro**	**69.71**	**75**	P	**P**	**07 14 21.7**	**-0.2**
	comp=E,5.8nm,0.8s,baz=215,slow=4.4,SNR=6.5						
ULM	**Lac du Bonnet**	**71.92**	**343**	P	**P**	**07 14 33.7**	**-0.8**
ULM	**Lac du Bonnet**	**71.92**	**343**	P	**P**	**07 14 33.7**	**-0.8**
	comp=E,3.0nm,0.7s,baz=164,slow=7.2,SNR=4.3						
NVAR	**Mina Array Bea**	**72.00**	**323**	P	**P**	**07 14 36.8**	**+1.2**
NVAR				pP	**pP**	**07 14 50.2**	**+1.6**
NVAR	**Mina Array Bea**	**72.00**	**323**	P	**P**	**07 14 36.8**	**+1.2**
	comp=E,0.2nm,0.5s,baz=126,slow=6.2,SNR=3.5						
NVAR				pP	**pP**	**07 14 50.2**	**+1.6**
	comp=E,0.7nm,0.8s,baz=138,slow=4.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**78.13**	**72**	P	**P**	**07 15 10.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**78.13**	**72**	P	**P**	**07 15 10.7**	**-0.5**
	comp=E,7.7nm,0.8s,baz=255,slow=5.1,SNR=40						
TSUM	**Tsumeb**	**82.69**	**108**	*e*P	**P**	**07 15 37.2**	**+1.4**
	comp=E,6.3nm,1.0s						
ESDC	**Sonseca Array**	**85.02**	**45**	P	**P**	**07 15 47.9**	**+0.8**
ESDC				pP	**pP**	**07 16 00.1**	**-0.4**
ESDC	**Sonseca Array**	**85.02**	**45**	P	**P**	**07 15 47.9**	**+0.8**
	comp=E,0.8nm,0.5s,baz=249,slow=5.6,SNR=5.1						
ESDC				pP	**pP**	**07 16 00.1**	**-0.4**
	comp=E,0.9nm,0.5s,baz=248,slow=5.4,SNR=2.1						
YKA	**Yellowknife Ar**	**87.76**	**341**	P	**P**	**07 15 59.8**	**-0.1**
YKA				pP	**pP**	**07 16 12.1**	**-1.3**
YKA	**Yellowknife Ar**	**87.76**	**341**	P	**P**	**07 15 59.7**	**-0.1**
	comp=E,5.0nm,0.9s,baz=134,slow=4.8,SNR=6.7						
YKA				pP	**pP**	**07 16 12.0**	**-1.3**
	comp=E,1.4nm,0.6s,baz=138,slow=5.1,SNR=2.9						
ASAR	**Alice Springs**	**131.62**	**211**	PKP	**PKPdf**	**07 22 24.8**	**-0.1**
ASAR	**Alice Springs**	**131.62**	**211**	PKP	**PKPdf**	**07 22 24.8**	**-0.1**
	comp=E,0.9nm,0.9s,baz=175,slow=3.6,SNR=5.7						
WRA	**Warramunga Arr**	**134.49**	**214**	PKP	**PKPdf**	**07 22 30.3**	**-0.1**
WRA	**Warramunga Arr**	**134.49**	**214**	PKP	**PKPdf**	**07 22 30.3**	**-0.1**
	comp=E,0.8nm,0.8s,baz=160,slow=1.8,SNR=7.2						
ZALV	**Zalesovo Beam**	**139.95**	**22**	PKP	**PKPdf**	**07 22 39.2**	**-0.1**
ZALV	**Zalesovo Beam**	**139.95**	**22**	PKP	**PKPdf**	**07 22 39.2**	**-0.1**
	comp=E,1.7nm,0.7s,baz=329,slow=0.8,SNR=2.2						
MK31	**Makanchi Array**	**144.18**	**32**	*e*PKPdf	PKPbc	07 22 46.0	+0.6
MKAR	**Makanchi Array**	**144.18**	**32**	PKP	PKPbc	07 22 45.8	+0.4
MKAR	**Makanchi Array**	**144.18**	**32**	PKP	PKPbc	07 22 45.8	+0.4
	comp=E,1.9nm,0.6s,baz=326,slow=4.2,SNR=17						
USRK	**Ussuriysk Arra**	**147.99**	**328**	PKPbc	**PKPbc**	**07 22 56.2**	**-0.5**
	comp=E,3.0nm,0.9s,baz=49,slow=4.4,SNR=5.1						
SONM	**Songino Array**	**150.65**	**4**	PKPbc	**PKPbc**	**07 23 04.3**	**+0.8**
SONM	**Songino Array**	**150.65**	**4**	PKPbc	**PKPbc**	**07 23 04.3**	**+0.8**
	comp=E,2.8nm,0.9s,baz=334,slow=2.4,SNR=11						

*IDC **03** 07:05:57.6±4.0, 15°.95S×167°.48E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, MS3.8/1, Ms1 3.8/1, ms1mx3.4/30, Error ellipse: s-maj=142.4km s-min=29.6km az=142.0*

ISC 03 07:06:00.5±4.3, **16°.6S**±0°.9×**167°.9E**±0°.7, **h39**km, **n7, σ1§27/6, mb3.7**/5, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**19.77**	**85**	LR	LR	07 17 08.8	
	comp=Z,253nm,18.2s,baz=245,slow=33						
WRA	**Warramunga Arr**	**32.03**	**259**	P	**P**	**07 12 22.6**	**-0.9**
	0.8nm,0.9s,baz=81,slow=8.2,SNR=5.0						
ASAR	**Alice Springs**	**32.64**	**252**	P	**P**	**07 12 29.9**	**+0.9**
	0.4nm,0.6s,baz=74,slow=9.4,SNR=6.3						
FITZ	**Fitzroy Crossi**	**40.32**	**261**	P	**P**	**07 13 34.1**	**-0.4**
	1.6nm,0.8s,baz=119,slow=8.2						
SONM	**Songino Array**	**84.35**	**323**	P	**P**	**07 18 29.4**	**+0.7**
	0.5nm,0.7s,baz=134,slow=6.2,SNR=3.2						
ILAR	**Eielson Array**	**88.10**	**18**	P	**P**	**07 18 45.9**	**-0.6**
	0.5nm,0.8s,baz=231,slow=6.7,SNR=9.0						
MKAR	**Makanchi Array**	**98.97**	**316**	P	**Pdif**	**07 19 38.5**	**+1.5**
	0.4nm,0.7s,baz=112,slow=5.9,SNR=3.5						

*IDC **03** 07:15:04.7±1.5, 1°.55S×123°.29E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=38.3km s-min=25.1km az=69.0*

*DJA **03** 07:15:05.8±1.1, 1°.5S×123°.3E±°, h10km, M4.0/8, mb4.2/1, mB4.5/1, MLv4.0/8, Mw(mB)3.7/1*

*ISCJB **03** 07:15:08.5±0.7, 1°.50S±0°.04×123°.27E±0°.07, h49km, mb3.1/3, Error ellipse: s-maj=9.9km s-min=6.0km az=17.1*

ISC 03 07:15:10.1±1.1, **1°.49S**±0°.05×**123°.34E**±0°.08, **h49**km, **n11, σ1§65/14, mb3.3/3, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.72**	**308**	P	Pn	07 15 19.9	-4.3
LUWI				S	**Sn**	**07 15 31.2**	**-3.1**
APSI	**Ampana**	**1.79**	**289**	P	**Pn**	**07 15 38.2**	**-0.4**
KMSI	**Cibinong**	**2.15**	**17**	P	**Pn**	**07 15 41.6**	**-1.9**
KMSI				S	**Sn**	**07 16 09.2**	**+0.3**
MRSI	**Marisa**	**2.41**	**324**	P	**Pn**	**07 15 46.4**	**-0.6**
MRSI				S	**Sn**	**07 16 17.8**	**+2.5**
SPSI	**Sidrap Palu**	**4.34**	**235**	P	**Pn**	**07 16 13.1**	**-0.4**
BNSI	**Bone**	**4.34**	**228**	P	**Pn**	**07 16 13.9**	**+0.3**
BKSI	**Bulukumba**	**4.98**	**220**	P	**Pn**	**07 16 23.1**	**+0.7**
KAPI	**Kappang**	**5.01**	**226**	Pn	**Pn**	**07 16 21.0**	**-1.8**
	6.1nm,0.3s,baz=34,slow=7.4,SNR=9.8						
KAPI				Sn	**Sn**	**07 17 17.9**	**-1.7**
	6.5nm,0.3s,baz=69,slow=23,SNR=7.5						
WRA	**Warramunga Arr**	**21.26**	**150**	P	**P**	**07 19 52.4**	**-0.1**
	1.5nm,0.9s,baz=325,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**24.31**	**156**	P	**P**	**07 20 23.9**	**+0.6**
	0.4nm,0.8s,baz=333,slow=7.2,SNR=6.1						
MKAR	**Makanchi Array**	**60.05**	**329**	P	**P**	**07 25 13.7**	**+1.5**
	0.1nm,0.4s,baz=126,slow=8.8,SNR=3.6						

*MAN **03** 07:32:05, 4°.36N×126°.75E, h68km, mb5.4, ML4.4, MS4.7*

*MOS **03** 07:32:14.3±1.1, 5°.33N×126°.27E, h33km, mb5.0/32, Error ellipse: s-maj=15.7km s-min=7.2km az=109.9*

*AUST **03** 07:32:15.7, 5°.50N×126°.51E, h35km*

*IDC **03** 07:32:15.9±2.7, 5°.29N×126°.28E, h33km±19km, mb4.4/21, mb1 4.5/22, mb1mx4.4/28, mbtmp4.4/22, ML3.6/1, MS3.5/2, Ms1 3.7/2, ms1mx3.5/35, Error ellipse: s-maj=20.5km s-min=10.9km az=81.0*

*BJI **03** 07:32:16.9, 5°.02N×126°.39E, h76km, mB5.3/22, mb4.7/37, Ms4.8/16, Ms7 4.6/19*

*ISCJB **03** 07:32:18.0±0.4, 5°.26N±0°.02×126°.42E±0°.04, h69km±3km, mb4.6/51, Error ellipse: s-maj=6.1km s-min=3.4km az=167.6*

*DJA **03** 07:32:18.8±0.5, 5°.N±5°×12°.6E±°, h53km±16km, M5.1/15, mB5.5/8, mb5.1/15, MLv5.2/8, Mw(mB)5.0/8*

*NEIC **03** 07:32:20.8±0.9, 5°.36N×126°.40E, h77km±9km, mb4.9/11, Error ellipse: s-maj=11.9km s-min=5.9km az=69.0*

ISC 03 07:32:20.9±0.4, **5°.32N**±0°.03×**126°.41E**±0°.05, **h77**km±2km, **h77**km:**pP-P, n193, σ1§59**/231, **mb4.8**/51, **7C-6D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.63**	**355**	*e*P	**Pn**	**07 32 46.4**	**-1.4**
MATI				*e*S	Sn	07 33 16.9	+8.7
GSPH	**General Santos**	**1.64**	**298**	⇓*i*P	Pn	07 32 43.1	-5.0
SGSI	**Sangihe**	**1.84**	**209**	P	**Pn**	**07 32 48.8**	**-1.9**
DAV	**Davao City (W)**	**1.93**	**335**	P	**Pn**	**07 32 49.8**	**-2.1**
DAV	**Davao City (W)**	**1.93**	**335**	*e*Pn	**Pn**	**07 32 49.7**	**-2.1**
DAV				*e*Sn	**Sn**	**07 33 16.9**	**+1.6**
DMPH	**Davao City--Mi**	**1.97**	**333**	⇑*e*P	**Pn**	**07 32 49.6**	**-2.8**
DMPH				*e*S	**Sn**	**07 33 18.1**	**+1.7**
KCP	**Kidapawan**	**2.13**	**322**	⇑*e*P	**Pn**	**07 32 52.2**	**-2.4**
KCP				*i* S	Sn	07 33 29.7	+9.4
BIPH	**Bislig**	**2.85**	**359**	⇓*e*P	**Pn**	**07 33 04.3**	**0.0**
BIPH				*e*S	**Sn**	**07 33 42.2**	**+4.7**
CTBH	**Cotabato--PC H**	**2.87**	**311**	⇓*e*P	**Pn**	**07 33 02.3**	**-2.1**
BUKP	**Musuan**	**2.88**	**332**	*e*P	**Pn**	**07 33 03.5**	**-1.2**
CGP	**Cagayan de Oro**	**3.55**	**331**	*e*P	**Pn**	**07 33 12.5**	**-1.3**
CGP				*i* S	Sn	07 34 01.5	+6.8
BUTP	**Butuan**	**3.71**	**348**	*e*P	**Pn**	**07 33 17.5**	**+1.5**
PAGZ	**Pagadian**	**3.92**	**310**	*e*P	**Pn**	**07 33 17.4**	**-1.4**
TNTI	**Ternate**	**4.61**	**168**	P	Pn	07 33 24.3	-3.9
TNTI	**Ternate**	**4.61**	**168**	*e*Pn	**Pn**	**07 33 27.3**	**-0.9**
MSLP	**Maasin**	**5.03**	**342**	*e*P	**Pn**	**07 33 33.4**	**-0.5**
KMSI	**Cibinong**	**5.30**	**207**	P	**Pn**	**07 33 35.9**	**-1.7**
	401nm,0.6s,3.4nm						
LLP	**Lapu-Lapu**	**5.53**	**334**	⇑*e*P	**Pn**	**07 33 39.9**	**-0.8**
LLP				*e*S	Sn	07 34 49.0	+6.1
GTOI	**Gorontalo**	**5.76**	**216**	P	**Pn**	**07 33 40.8**	**-3.0**
	177nm,0.9s,3μm0.9nm						
PLP	**Palo**	**5.98**	**346**	⇓*e*P	**Pn**	**07 33 46.7**	**-0.2**
LBMI	**Labuha**	**6.01**	**170**	P	**Pn**	**07 33 47.1**	**-0.3**
GUIM	**Jordan**	**6.49**	**325**	*e*P	**Pn**	**07 33 54.5**	**+0.6**
MRSI	**Marisa**	**6.56**	**223**	P	Pn	07 33 51.3	-3.5
	220nm,0.7s,2μm0.8nm						
RCP	**Roxas**	**7.18**	**330**	⇑*e*P	**Pn**	**07 34 03.0**	**-0.4**
LUWI	**Luwuk**	**7.29**	**210**	P	**Pn**	**07 34 02.6**	**-2.2**
	307nm,1.2s,3μm1.1nm						
LUWI	**Luwuk**	**7.29**	**210**	P	**Pn**	**07 34 07.0**	**+2.3**
	baz=7.5,SNR=5.3						
APSI	**Ampana**	**7.80**	**218**	P	**Pn**	**07 34 09.1**	**-2.7**
	220nm,1.1s,2μm0.7nm						
SWI	**Sorong**	**7.82**	**142**	P	Pn	07 34 06.8	-5.2
MYLDM	**Lahad Datu**	**7.88**	**269**	P	**Pn**	**07 34 14.3**	**+1.5**
MYLDM	**Lahad Datu**	**7.88**	**269**	*e*Pn	**Pn**	**07 34 13.8**	**+1.0**
NLAI	**Namlea**	**8.53**	**175**	P	**Pn**	**07 34 20.3**	**-1.4**
	92nm,0.5s,2μm						
TSM	**Tawau**	**8.57**	**264**	P	Pn	07 34 25.3	+3.0
SDKM	**Sandakan**	**9.18**	**272**	P	**Pn**	**07 34 30.9**	**+0.3**
FAKI	**Fak Fak**	**10.05**	**144**	P	**Pn**	**07 34 44.9**	**+2.4**
FAKI	**Fak Fak**	**10.05**	**144**	P	**Pn**	**07 34 40.8**	**-1.6**
	baz=10,SNR=6.8						
KKM	**Kota Kinabalu**	**10.17**	**275**	*e*Pn	**Pn**	**07 34 44.5**	**+0.2**
KKM				*e*Sn	**Sn**	**07 36 37.1**	**+0.4**
TGY	**Tagaytay City**	**10.26**	**329**	LR	LR	07 38 54.9	
	comp=Z,69nm,19.8s,baz=121,slow=39						
KKSI	**Kolaka, Sulawe**	**10.55**	**207**	P	**Pn**	**07 34 47.0**	**-2.4**
	49nm,0.6s,4μm						
MMSI	**Mamuju**	**10.93**	**223**	P	Pn	07 34 50.5	-4.0
	26nm,0.7s						
KMPI	**Kaimana, Papua**	**11.52**	**141**	P	**Pn**	**07 34 59.4**	**-3.1**
	68nm,0.8s						
MJSI	**Majene**	**11.52**	**220**	P	**Pn**	**07 35 00.3**	**-2.2**
	141nm,1.1s,4μm						
BNSI	**Bone**	**11.52**	**213**	P	**Pn**	**07 35 01.1**	**-1.5**
	28nm,0.9s						
SRPI	**Serui, Papua**	**12.14**	**126**	P	**Pn**	**07 35 08.2**	**-2.8**
	211nm,0.5s,9μm						
KAPI	**Kappang**	**12.23**	**213**	P	**Pn**	**07 35 10.0**	**-2.2**
	122nm,1.0s						
KAPI	**Kappang**	**12.23**	**213**	*e*Pn	**Pn**	**07 35 14.3**	**+2.1**
KAPI				*e*Sn	**Sn**	**07 37 26.4**	**-0.3**
KAPI	**Kappang**	**12.23**	**213**	Pn	Pn	07 35 07.1	-5.0
	0.4nm,0.3s,baz=52,slow=18,SNR=2.2						
BKSI	**Bulukumba**	**12.29**	**211**	P	**Pn**	**07 35 10.9**	**-2.2**
	14nm,1.2s						
TLE	**Tual**	**12.58**	**150**	P	Pn	07 35 13.7	-3.3
SBUM	**Sibu**	**14.44**	**259**	P	**P**	**07 35 45.6**	**-0.6**
KSM	**Kuching**	**16.52**	**257**	P	**P**	**07 36 12.9**	**+3.6**
KSM	**Kuching**	**16.52**	**257**	*e*Pn	**P**	**07 36 12.4**	**+3.1**
	11nm,0.7s						
KSM				*e*Sn	**Sn**	**07 39 13.8**	**+2.9**
MTN	**Manton Dam**	**18.64**	**165**	P	**P**	**07 36 30.5**	**-2.2**
	baz=19,SNR=7.9						
KDU	**Kakadu**	**18.87**	**161**	P	**P**	**07 36 33.0**	**-2.2**
	baz=19,SNR=17						
KNRA	**Kununurra**	**20.99**	**174**	P	**P**	**07 36 57.9**	**-0.2**
	baz=21,SNR=12						

QIZ	**Qiongzhong**	**21.14**	**312**	P	**P**	**07 37 00.5**	**+0.8**
QIZ				sP	**sP**	**07 37 24.8**	**-0.4**
QIZ				S	**S**	**07 40 52.6**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,18nm,1.4s						
PMBI	**Palembang**	**23.11**	**250**	P	pP	07 37 37.4	+0.5
	baz=23,SNR=3.8						
KGM	**Kluang**	**23.27**	**263**	P	**P**	**07 37 23.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.28**	**182**	*e*P	**P**	**07 37 23.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**23.28**	**182**	P	**P**	**07 37 19.9**	**-2.2**
	2.6nm,0.4s,baz=22,slow=11,SNR=16						
FITZ	**Fitzroy Crossi**	**23.28**	**182**	P	**P**	**07 37 21.7**	**-0.4**
	baz=24,SNR=9.4						
FRIM	**Kepong**	**24.80**	**266**	P	**P**	**07 37 35.7**	**+1.5**
COEN	**Coen**	**25.37**	**139**	*e*P	**P**	**07 37 40.2**	**-0.9**
	66nm,0.8s						
COEN	**Coen**	**25.37**	**139**	P	**P**	**07 37 40.8**	**-0.3**
	baz=26,SNR=12						
WRAB	**Tennant Creek**	**26.28**	**163**	*d iP*	**P**	**07 37 50.4**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,66nm,1.0s						
WRAB	**Tennant Creek**	**26.28**	**163**	*e*P	**P**	**07 37 50.3**	**+1.0**
	comp=Z,24nm,0.7s						
WRA	**Warramunga Arr**	**26.28**	**163**	P	**P**	**07 37 47.5**	**-1.8**
WRA				ScP	**ScP**	**07 44 52.5**	**+5.2**
WRA	**Warramunga Arr**	**26.28**	**163**	P	**P**	**07 37 47.5**	**-1.8**
	comp=Z,7.3nm,0.5s,baz=342,slow=10,SNR=67						
WRA				ScP	**ScP**	**07 44 52.5**	**+5.2**
	comp=Z,0.8nm,0.8s,baz=343,slow=3.0,SNR=5.0						
PSI	**Prapat**	**27.53**	**266**	P	**P**	**07 37 59.8**	**-1.0**
PSI	**Prapat**	**27.53**	**266**	P	**P**	**07 37 59.8**	**-1.0**
	comp=Z,5.0nm,0.6s,baz=105,slow=6.8,SNR=7.4						
WHN	**Wuhan**	**27.55**	**337**	P	**P**	**07 38 00.8**	**+0.3**
WHN				S	**S**	**07 42 31.0**	**-5.2**
WHN				LR	LR		
	comp=Z,2μm,22.0s						
GYA	**Guiyang**	**28.25**	**320**	⇑*iP*	**P**	**07 38 08.7**	**+1.7**
GYA				pP	**pP**	**07 38 26.5**	**+1.4**
GYA				sP	**sP**	**07 38 35.8**	**+1.7**
GYA				PP	**PnPn**	**07 39 02.0**	**+2.5**
GYA				PcP	**PcP**	**07 41 20.2**	**+1.3**
GYA				S	**S**	**07 42 47.3**	**-0.4**
GYA				sS	**sS**	**07 43 19.8**	**+1.0**
GYA				ScP	**ScP**	**07 44 52.1**	**-1.2**
GYA				ScS	**ScS**	**07 48 43.7**	**-2.7**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.7s						
GYA				LR	LR		
	comp=Z,350nm,16.9s						
GYA				LR	LR		
	comp=Z,280nm,17.2s						
GYA				LR	LR		
	comp=Z,310nm,16.9s						
AS31	**Alice Springs**	**29.72**	**166**	*e*P	**P**	**07 38 21.7**	**+1.7**
ASAR	**Alice Springs**	**29.72**	**166**	P	**P**	**07 38 19.8**	**-0.2**
ASAR				PcP	**PcP**	**07 41 22.5**	**0.0**
ASAR				ScP	**ScP**	**07 45 02.0**	**+4.2**
ASAR	**Alice Springs**	**29.72**	**166**	P	**P**	**07 38 19.8**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=341,slow=6.8,SNR=22						
ASAR				PcP	**PcP**	**07 41 22.5**	**0.0**
	comp=Z,0.6nm,0.4s,baz=337,

comp=Z,6.3nm,0.8s,baz=191,slow=7.9,SNR=13
MDJ Mudanjiang 39.24 4 P **P** **07 39 42.5 +0.7**
MDJ pmax pmax
comp=Z,22nm,1.3s
MDJ Mudanjiang 39.24 4 *e*P **P** **07 39 43.4 +1.6**
comp=Z,28nm,1.1s
MDJ *e*pP **pP** **07 40 00.2 -0.2**
STKA Stephens Creek 39.72 160 *e*P **P** **07 39 46.0 +0.1**
STKA Stephens Creek 39.72 160 P **P** **07 39 45.6 -0.3**
comp=Z,10nm,0.6s,baz=339,slow=7.9,SNR=17
STKA Stephens Creek 39.72 160 P **P** **07 39 46.4 +0.5**
baz=40,SNR=23
HTT Hallett 40.32 164 P P 07 39 58.0 +7.1
baz=41,SNR=3.5
CMSA Cobar Meteorol 41.01 155 P **P** **07 39 59.2 +2.7**
baz=41,SNR=5.5
ASAJ Asahikawa 41.18 18 P **P** **07 39 58.1 +0.3**
ASAJ Asahikawa 41.18 18 P **P** **07 39 58.1 +0.3**
comp=Z,6.1nm,0.7s,baz=165,slow=13,SNR=6.2
H11S3 WAKE ISLAND Hy 41.41 68 T T 08 24 21.7
baz=256,slow=66,SNR=12
H11S1 WAKE ISLAND Hy 41.43 68 T T 08 24 10.0
baz=256,slow=66,SNR=11
H11S2 WAKE ISLAND Hy 41.43 68 T T 08 24 15.8
baz=256,slow=66,SNR=12
GTA Gaotai 41.58 328 *e*P **P** **07 40 01.2 -0.2**
GTA pP **pP** **07 40 19.8 -0.3**
GTA sP **sP** **07 40 28.3 -0.7**
GTA PcP **PcP** **07 41 59.2 +1.9**
GTA S **S** **07 46 10.9 -1.1**
GTA sS **sS** **07 46 44.8 +0.7**
GTA pmax pmax
comp=Z,7.0nm,0.6s
GTA pmax pmax
comp=Z,450nm,6.9s
GTA LR LR
comp=Z,1μm,20.4s
GTA LR LR
comp=Z,730nm,21.9s
GTA LR LR
comp=Z,1μm,20.4s
H11N1 WAKE ISLAND Hy 41.89 66 T T 08 24 47.4
baz=258,slow=75,SNR=13
H11N2 WAKE ISLAND Hy 41.90 66 T T 08 24 47.1
baz=258,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 41.91 66 T T 08 24 53.2
baz=258,slow=75,SNR=14
TAPN Taplejung 42.84 305 *e*P **P** **07 40 12.0 0.0**
comp=Z,14nm,0.5s
TAPN Taplejung 42.84 305 *e*P **P** **07 40 12.0 0.0**
ODAN Odare 42.91 304 *e*P **P** **07 40 12.3 -0.2**
comp=Z,27nm,0.6s
ODAN Odare 42.91 304 *e*P **P** **07 40 12.3 -0.2**
ARMA Armidale 42.96 147 *e*P **P** **07 40 13.1 +0.4**
comp=Z,12nm,0.8s
ARMA Armidale 42.96 147 P **P** **07 40 13.4 +0.8**
baz=43,SNR=10
RAMN Ramite 43.59 304 *e*P **P** **07 40 18.4 +0.4**
comp=Z,22nm,0.7s
RAMN Ramite 43.59 304 *e*P **P** **07 40 18.4 +0.4**
HABR Khabarovsk 43.63 8 *e*P **P** **07 40 16.9 -0.7**
HABR *e**PP pP 07 40 30.2 -6.3
HABR *e* 07 41 59.3
HABR *e* 07 42 03.0
HABR *e*S **S** **07 46 44.2 +2.7**
HABR *e* 07 50 11.0
HABR pmax pmax
comp=Z,37nm,1.5s
HABR MLR MLR
comp=Z,391nm,16.0s
YSS Yuzh-Sakhalins 43.81 16 *e*P **P** **07 40 20.9 +1.8**
YSS pmax pmax
comp=Z,55nm,2.2s
KLR Kul'dur 43.99 5 *e*P P 07 40 17.0 -3.5
JIRN Jiri 44.20 305 *e*P **P** **07 40 23.0 0.0**
comp=Z,34nm,0.6s
JIRN Jiri 44.20 305 *e*P **P** **07 40 23.0 0.0**
GUN Gumba 44.55 305 *e*P **P** **07 40 25.4 -0.4**
comp=Z,42nm,0.6s
GUN Gumba 44.55 305 *e*P **P** **07 40 25.4 -0.4**
PKI Pulchoki 44.81 304 *e*P **P** **07 40 27.4 -0.4**
comp=Z,19nm,0.9s
PKI Pulchoki 44.81 304 *e*P **P** **07 40 27.4 -0.4**
PKI Pulchoki 44.81 304 *e*P **P** **07 40 27.4 -0.4**
PKIN Phulchoki 44.82 304 *e*P **P** **07 40 27.3 -0.6**
comp=Z,7.9nm,0.6s
KKN Kakani 45.00 304 *e*P **P** **07 40 28.5 -0.7**
comp=Z,14nm,0.6s
KKN Kakani 45.00 304 *e*P **P** **07 40 28.5 -0.7**
KKN Kakani 45.00 304 *e*P **P** **07 40 28.5 -0.7**
ULN Ulaanbaatar 45.52 342 *e*P **P** **07 40 32.9 -0.1**
comp=Z,11nm,0.8s
GKN Gorkha 45.60 304 *e*P **P** **07 40 33.6 -0.3**
comp=Z,9.7nm,0.5s
GKN Gorkha 45.60 304 *e*P **P** **07 40 33.6 -0.3**
SONM Songino Array 45.70 341 P **P** **07 40 33.7 -0.6**
SONM PcP **PcP** **07 42 11.7 +0.6**
SONM Songino Array 45.70 341 P **P** **07 40 33.7 -0.6**
comp=Z,3.5nm,0.6s,baz=158,slow=8.2,SNR=4.6
SONM PcP **PcP** **07 42 11.7 +0.6**
comp=Z,2.4nm,0.7s,baz=158,slow=2.6,SNR=4.0
KOLN Koldanda 46.37 304 *e*P **P** **07 40 40.0 0.0**
comp=Z,42nm,0.7s
KOLN Koldanda 46.37 304 *e*P **P** **07 40 40.0 0.0**
DANN Dangsing 46.45 305 *e*P **P** **07 40 40.3 -0.4**
comp=Z,54nm,0.6s
DANN Dangsing 46.45 305 *e*P **P** **07 40 40.3 -0.4**
ZAK Zakamensk 48.93 341 *e*P P 07 41 02.7 +3.4
ZAK pmax pmax
comp=Z,3.0nm,1.8s
WMQ Urumqi 51.25 325 P **P** **07 41 17.8 +0.8**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 54.09 23 P **P** **07 41 35.9 -1.8**
PETK pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 54.09 23 P **P** **07 41 35.9 -1.8**
PETK Petropavlovsk- 54.09 23 P **P** **07 41 35.9 -1.8**
comp=Z,6.0nm,0.8s,baz=212,slow=5.1,SNR=3.0
MK31 Makanchi Array 56.08 325 *e*P **P** **07 41 51.1 -1.1**
MK31 Makanchi Array 56.08 325 *e*P **P** **07 41 51.1 -1.1**
MKAR Makanchi Array 56.08 325 P **P** **07 41 51.6 -0.6**
MKAR 07 42 50.0
MKAR pmax pmax
comp=Z,8.0nm,0.5s
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 56.08 325 *e*P **P** **07 41 51.6 -0.6**
MKAR PcP **PcP** **07 42 50.0 +0.5**
MKAR Makanchi Array 56.08 325 P **P** **07 41 51.6 -0.6**
comp=Z,8.2nm,0.5s,baz=119,slow=7.7,SNR=165
MKAR PcP **PcP** **07 42 50.0 +0.5**
comp=Z,3.3nm,0.7s,baz=107,slow=4.2,SNR=3.6
YAK Yakutsk 56.64 2 *e*P **P** **07 41 54.7 -1.1**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK Yakutsk 56.64 2 *e*P **P** **07 41 56.7 +1.0**
comp=N,45nm,0.8s
AAK Ala-Archa 58.98 317⇑ *e*P **P** **07 42 12.9 +0.1**
AAK pmax pmax
comp=Z,12nm,1.4s
ZAA0 Zalesovo Array 59.04 333 *e*P **P** **07 42 11.6 -1.2**
ZALV Zalesovo Beam 59.04 333 P **P** **07 42 11.4 -1.3**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 59.04 333 P **P** **07 42 11.4 -1.3**
ZALV Zalesovo Beam 59.04 333 P **P** **07 42 11.4 -1.3**
comp=Z,3.3nm,0.5s,baz=122,slow=6.9,SNR=18
KURK Kurchatov 60.24 327 *e*P **P** **07 42 20.3 -0.7**
KURK Kurchatov 60.24 327 *e*P **P** **07 42 20.3 -0.7**
NVS Novosibirsk 60.32 333 *e*P **P** **07 42 20.2 -1.3**
FX1 Attu Island--F 60.88 30 P **P** **07 42 26.3 +0.9**
FX1 Attu Island--F 60.88 30 P **P** **07 42 26.3 +0.9**
comp=Z,7.5nm,0.6s,baz=256,slow=12,SNR=5.7
BVAR Borovoye Array 65.83 327 P **P** **07 42 57.5 -0.5**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 65.83 327 P **P** **07 42 57.5 -0.5**
BVAR Borovoye Array 65.83 327 P **P** **07 42 57.5 -0.5**
comp=Z,3.4nm,0.5s,baz=133,slow=8.3,SNR=16
BRVK Borovoye 65.90 327 *e*P **P** **07 42 57.9 -0.6**
BRVK pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 65.90 327 *e*P **P** **07 42 57.9 -0.6**
comp=Z,17nm,0.9s
ABKAR Akbulak array 70.73 320 *e*P **P** **07 43 27.5 -1.2**
ARU Arti 73.44 328*c i*P **P** **07 43 43.3 -1.5**
ARU 07 46 24.8
ARU S **SKiKP** **07 53 09.4 +1.0**
ARU SS **SS** **07 57 47.2 -4.5**
ARU pmax pmax
comp=Z,8.0nm,0.5s
ARU Arti 73.44 328 *e*P **P** **07 43 43.2 -1.6**
comp=Z,10nm,0.7s
ZEI Tsey 80.92 312 *e*P **P** **07 44 26.8 -0.5**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
VRHR Novokhopersk 82.62 321 *e*P **P** **07 44 35.6 -0.1**
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
ILAR Eielson Array 83.82 25 P **P** **07 44 41.8 +0.1**
ILAR Eielson Array 83.82 25 P **P** **07 44 41.8 +0.1**
comp=Z,1.3nm,0.6s,baz=255,slow=4.7,SNR=24
KLMR Klimovskoe 83.88 331 *e*P **P** **07 44 40.9 -1.1**
KLMR pmax pmax
comp=Z,35nm,1.5s
VSR Storozhevoye 84.17 321 *e*P **P** **07 44 42.6 -1.1**
VSR pmax pmax
comp=N,7.0nm,0.5s
VSR pmax pmax
comp=E,5.0nm,0.5s
VSR pmax pmax
comp=Z,9.0nm,0.5s
VNDA Vanda 85.03 173 P **P** **07 44 48.6 +1.2**
VNDA Vanda 85.03 173 P **P** **07 44 48.6 +1.2**
comp=Z,1.5nm,0.6s,baz=311,slow=5.4,SNR=5.7
OBN Obninsk 85.59 325⇓ *i*P **P** **07 44 50.2 -0.5**
OBN *i* 07 45 01.6
OBN pmax pmax
comp=Z,35nm,1.6s
BRTR Keskin Array B 88.77 310 P **P** **07 45 06.2 -0.4**
BRTR Keskin Array B 88.77 310 P **P** **07 45 06.2 -0.4**
comp=Z,0.6nm,0.6s,baz=96,slow=5.9,SNR=2.6
ARCES ARCESS Array B 88.86 340 P **P** **07 45 06.1 -0.1**
ARCES ARCESS Array B 88.86 340 P **P** **07 45 06.1 -0.1**
comp=Z,6.8nm,0.7s,baz=82,slow=6.3,SNR=25
KAF Kangasniemi 90.05 332 *e*P **P** **07 45 10.6 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 90.05 332 *e*p **P** **07 45 10.6 -1.3**
comp=Z,3.9nm,0.5s
FINES FINESS Array B 90.29 332 P **P** **07 45 12.5 -0.6**
FINES FINESS Array B 90.29 332 P **P** **07 45 12.5 -0.6**
comp=Z,2.3nm,0.5s,baz=55,slow=5.8,SNR=25
NOA NORSAR Array B 97.23 334 P **P** **07 45 44.0 -1.0**
NOA NORSAR Array B 97.23 334 P **P** **07 45 44.0 -1.0**
comp=Z,1.5nm,0.7s,baz=66,slow=4.5,SNR=4.0
TORD Torodi Ar. Bea 122.11 289 PKP **PKPdf** **07 51 07.9 +0.1**
TORD Torodi Ar. Bea 122.11 289 PKP **PKPdf** **07 51 07.9 +0.1**
comp=Z,2.5nm,0.7s,baz=33,slow=2.4,SNR=18
PLCA Paso Flores 141.59 159 PKP **PKPdf** **07 51 45.4 +1.6**
PLCA Paso Flores 141.59 159 PKP **PKPdf** **07 51 45.4 +1.6**
comp=Z,1.0nm,0.7s,baz=156,slow=3.6,SNR=4.4
JTS JuntasAbangare 145.13 64 *e*PKPbc **PKPdf** **07 51 53.3 +2.7**

IDC 03 07:56:05.6±1.7,5.°32N×126.°18E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.6/24,mbtmp3.8/5,1D,Error ellipse: s-maj=104.4km s-min=25.3km az=68.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.44**	**302**	⇓ *i*P		Pb	07 56 37.1	+3.6
GSPH				*i* S		Sn	07 56 55.8	+2.9
FITZ	**Fitzroy Crossi**	**23.28**	**181**	P		P	08 01 15.1	0.0
	1.7nm,0.8s,baz=350,slow=14,SNR=5.8							
WRA	**Warramunga Arr**	**26.36**	**162**	P		P	08 01 44.6	+1.0
	1.9nm,0.8s,baz=342,slow=10,SNR=18							
ASAR	**Alice Springs**	**29.78**	**166**	P		P	08 02 14.2	-0.1
	0.4nm,0.6s,baz=339,slow=6.3,SNR=4.8							
STKA	**Stephens Creek**	**39.80**	**159**	P		P	08 03 39.4	-1.3
	1.3nm,0.5s,baz=326,slow=11,SNR=5.3							
KURBB	**Kurchatov Arra**	**60.11**	**327**	P		P	08 06 14.8	0.0
	0.6nm,0.6s,baz=116,slow=8.1,SNR=4.1							

NNC 03 08:03:50.1±6.0,54.°11N×85.°60E,h6km±29km,mb3.9, mpv3.6,5C-1D,Error ellipse: s-maj=41.4km s-min=22.7km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**5.56**	**234**	⇑Pn		Pn	08 05 14.2	+0.9
	4.8nm,0.7s							
KURBB				⇑Lg		Lg	08 06 46.1	
	9.4nm,0.8s							
MK31	**Makanchi Array**	**7.62**	**197**	Pn		Pn	08 05 41.2	-0.4
	5.0nm,1.0s,baz=18,slow=10,SNR=32							
MK31				⇓Sn		Sn	08 07 09.4	+1.2
	0.8nm,0.6s,baz=26,slow=25,SNR=3.5							
MK31				⇑Lg		Lg	08 07 51.9	
	3.1nm,0.8s,baz=26,slow=32,SNR=4.5							
VOSK	**Vostochnaya**	**8.85**	**267**	⇑Pn		Pn	08 05 57.9	-0.5
	1.5nm,0.6s							
VOSK				⇑Sn		Sn	08 07 39.0	+0.7
	2.5nm,0.6s							

*IDC **03** 08:14:32.6±0.6,55.°15S×128.°45W,h0km,mb4.2/9, mb1 4.4/9,mb1mx4.2/17,mbtmp4.2/9,MS4.4/13, Ms1 4.4/13,ms1mx4.2/24,Error ellipse: s-maj=24.3km s-min=18.8km az=165.0*
*ISCJB **03** 08:14:33.2±0.6,55.°1S±0.°1×128.°5W±0.°2,h14km,mb4.2/11, MS4.4/13,Error ellipse: s-maj=16.6km s-min=14.7km az=3.3*
*NEIC **03** 08:14:34.5±0.3,55.°08S×128.°53W,h10km,mb4.6/2,Error ellipse: s-maj=14.8km s-min=11.4km az=171.0*
*GCMT **03** 08:14:40.2±0.3,55.°36S×128.°36W,h21km±1km,MW5.1, Moment Tensor Solution. s19,c20; s81,c105; Moment tensor: Scale 10^{16}Nm; M_{rr}0.80±.36; $M_{\theta\theta}$4.08±.31; $M_{\phi\phi}$-4.88±.34; $M_{r\theta}$-0.07±.48; $M_{r\phi}$4.01±.19; $M_{\theta\phi}$2.67±.56; Best double couple: $M_0$6.50000×10^{16} NP1:$\phi_0$204.00000°, δ86.00000°,λ-159.00000°. NP2:$\phi_0$113.00000°, δ69.00000°,λ-5.00000°. Principal axes: T 5.7900, Plg11.0000°, Azm337.0000°; N 1.4200, Plg69.0000°, Azm216.0000°; P -7.2100, Plg18.0000°, Azm70.0000°; Data Used: IU CU II G CN IC.*

ISC 03 08:14:34.9±0.5,55.°1S±0.°1×128.°5W±0.°1,h14km,n71, σ0s83/45,mb4.3/11,MS4.5/13,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.30**	**349**	*e*LR		LR	08 29 35.8	
	979nm,28.2s,baz=166							
VNDA	**Vanda**	**32.63**	**202**	*e*P		**P**	**08 21 07.2**	**+1.5**
VNDA	**Vanda**	**32.63**	**202**	P		**P**	**08 21 04.6**	**-1.1**
	4.4nm,1.0s,baz=72,slow=14,SNR=8.2							
USHA	**Ushuaia**	**33.53**	**115**	LR		LR	08 31 37.6	
	comp=Z,464nm,19.9s,baz=222,slow=31							
QSPA	**South Pole Qui**	**35.08**	**180**	*e*P		**P**	**08 21 28.4**	**+1.2**
QSPA	**South Pole Qui**	**35.08**	**180**	P		**P**	**08 21 27.4**	**+0.1**
	3.6nm,0.7s,baz=95,slow=4.4,SNR=11							
QSPA				LR		LR	08 34 23.1	
	comp=Z,659nm,19.0s,baz=271,slow=34							
TBI	**Tubuai**	**35.35**	**325**	*e*LR		LR	08 30 51.7	
	956nm,27.0s,baz=163							
RPZ	**Rata Peaks**	**39.75**	**261**	LR		LR	08 34 28.7	
	comp=Z,577nm,18.6s,baz=293,slow=30							
H03N3	**Juan Fernandez**	**40.46**	**79**	T		T	09 05 16.7	
	baz=222,slow=75,SNR=371							
H03N2	**Juan Fernandez**	**40.47**	**79**	T		T	09 05 17.2	
	baz=222,slow=75,SNR=380							
H03N1	**Juan Fernandez**	**40.48**	**79**	T		T	09 05 18.3	
	baz=222,slow=75,SNR=323							
PPT2	**Papeete2**	**40.78**	**328**	*e*LR		LR	08 33 23.3	
	1μm,26.5s,baz=170							
PPT	**Papeete**	**40.80**	**328**	LR		LR	08 34 15.7	
	comp=Z,645nm,21.1s,baz=343,slow=29							
RAR	**Rarotonga**	**41.19**	**313**	LR		LR	08 36 26.1	
	comp=Z,546nm,18.5s,baz=108,slow=32							
RAO	**Raoul Island**	**43.59**	**286**	LR		LR	08 36 58.7	
	comp=Z,162nm,18.2s,baz=141,slow=31							
VNA2	**Neumayer--Watz**	**47.52**	**158**	*e*P		**P**	**08 23 08.8**	**-0.2**
VNA1	**Neumayer--Stat**	**47.53**	**157**	*e*P		**P**	**08 23 10.6**	**+1.5**
SNAA	**Sanae**	**47.90**	**160**	*e*P		**P**	**08 23 11.1**	**-1.0**
SNAA	**Sanae**	**47.90**	**160**	*e*P		**P**	**08 23 11.4**	**-0.7**
SNAA	**Sanae**	**47.90**	**160**	P		**P**	**08 23 11.0**	**-1.1**
	0.5nm,0.6s,baz=235,slow=7.4,SNR=13							
AFI	**Afiamalu**	**53.02**	**304**	*e*P		**P**	**08 23 52.6**	**+1.2**
AFI	**Afiamalu**	**53.02**	**304**	LR		LR	08 40 10.7	
	comp=Z,174nm,20.3s,baz=88,slow=29							
CPUP	**Villa Florida**	**58.14**	**91**	*e*P		**P**	**08 24 27.8**	**-0.2**
CPUP	**Villa Florida**	**58.14**	**91**	P		**P**	**08 24 27.1**	**-1.0**
	1.1nm,0.5s,baz=214,slow=6.6,SNR=3.6							
LPAZ	**La Paz**	**59.91**	**75**	*e*P		**P**	**08 24 43.7**	**+2.5**
LPAZ	**La Paz**	**59.91**	**75**	P		**P**	**08 24 41.1**	**0.0**
	2.0nm,1.0s,baz=162,slow=2.0,SNR=7.7							
STKA	**Stephens Creek**	**64.50**	**250**	*e*P		**P**	**08 25 11.0**	**0.0**
STKA	**Stephens Creek**	**64.50**	**250**	P		**P**	**08 25 10.6**	**-0.4**
	5.8nm,1.1s,baz=127,slow=15,SNR=4.2							
STKA				LR		LR	08 47 07.1	
	comp=Z,354nm,21.6s,baz=297,slow=30							
SAML	**Samuel**	**68.66**	**74**	*e*P		**P**	**08 25 38.1**	**+0.3**
	0.8nm,0.5s							
BDFB	**Brasilia**	**71.87**	**91**	LR		LR	08 53 37.7	
	comp=Z,241nm,20.2s,baz=302,slow=33							
ROSC	**El Rosal**	**74.53**	**57**	LR		LR	08 53 47.9	
	comp=Z,136nm,18.2s,baz=27,slow=32							
H06S1	**SOCORRO T**	**75.04**	**17**	T		T	09 48 43.5	
	SNR=6.7							
AS31	**Alice Springs**	**75.13**	**250**	*e*P		**P**	**08 26 16.2**	**-0.4**
ASAR	**Alice Springs**	**75.13**	**250**	P		**P**	**08 26 16.4**	**-0.2**
ASAR	**Alice Springs**	**75.13**	**250**	P		**P**	**08 26 16.4**	**-0.2**
	3.7nm,0.9s,baz=143,slow=5.9,SNR=27							
ASAR				LR		LR	08 54 53.1	
	comp=Z,290nm,18.7s,baz=79,slow=32							
H01W1	**Cape Leeuwin H**	**75.60**	**229**	T		T	09 50 07.9	
	baz=147,slow=76,SNR=29							
H01W2	**Cape Leeuwin H**	**75.60**	**229**	T		T	09 50 03.6	
	baz=147,slow=76,SNR=34							
H01W3	**Cape Leeuwin H**	**75.61**	**229**	T		T	09 50 01.7	
	baz=147,slow=76,SNR=29							
WRA	**Warramunga Arr**	**77.89**	**253**	P		**P**	**08 26 31.9**	**-0.4**
WRA	**Warramunga Arr**	**77.89**	**253**	P		**P**	**08 26 31.9**	**-0.4**
	3.2nm,0.9s,baz=144,slow=5.0,SNR=29							
WRAB	**Tennant Creek**	**77.90**	**253**	*e*P		**P**	**08 26 31.8**	**-0.4**
	2.7nm,0.8s							
TXAR	**Lajitas Array**	**86.75**	**22**	P		**P**	**08 27 17.3**	**-0.9**
TXAR	**Lajitas Array**	**86.75**	**22**	P		**P**	**08 27 17.3**	**-0.9**
	0.5nm,0.5s,baz=213,slow=4.3,SNR=5.0							
H11S2	**WAKE ISLAND Hy**	**91.49**	**301**	T		T	10 09 27.5	
	baz=147,slow=77,SNR=20							
H11S3	**WAKE ISLAND Hy**	**91.50**	**301**	T		T	10 09 26.4	
	baz=147,slow=77,SNR=16							
H11S1	**WAKE ISLAND Hy**	**91.51**	**301**	T		T	10 09 30.5	
	baz=147,slow=77,SNR=13							
H11N3	**WAKE ISLAND Hy**	**92.43**	**302**	T		T	10 10 39.2	
	baz=151,slow=77,SNR=12							
H11N1	**WAKE ISLAND Hy**	**92.44**	**302**	T		T	10 10 29.9	
	baz=151,slow=77,SNR=16							
H11N2	**WAKE ISLAND Hy**	**92.45**	**302**	T		T	10 10 39.7	
	baz=151,slow=77,SNR=9.5							
BOSA	**Boshof**	**93.62**	**157**	LR		LR	09 07 25.7	
	comp=Z,313nm,18.2s,baz=181,slow=34							
PDAR	**Pinedale Array**	**98.81**	**14**	LR		LR	09 06 44.8	
	comp=Z,212nm,18.3s,baz=41,slow=32							
ILAR	**Eielson Array**	**120.38**	**351**	PKP		**PKPdf**	**08 33 25.1**	**+0.9**
ILAR	**Eielson Array**	**120.38**	**351**	PKP		**PKPdf**	**08 33 25.1**	**+0.9**
	0.8nm,0.7s,baz=202,slow=2.1,SNR=9.1							
TORD	**Torodi Ar. Bea**	**123.09**	**117**	PKP		**PKPdf**	**08 33 29.6**	**-1.4**
TORD	**Torodi Ar. Bea**	**123.09**	**117**	PKP		**PKPdf**	**08 33 29.6**	**-1.4**
	0.3nm,0.6s,baz=208,slow=1.7,SNR=2.3							
TIXI	**Tiksi**	**144.70**	**328**	*e*PKPdf		**PKPdf**	**08 34 09.2**	**-0.2**
KEST	**Kesra**	**145.31**	**106**	PKPbc		**PKPdf**	**08 34 12.3**	**+0.6**
KEST	**Kesra**	**145.31**	**106**	PKPbc		**PKPdf**	**08 34 12.3**	**+0.6**
	2.3nm,0.8s,baz=231,slow=6.0,SNR=6.1							
ULN	**Ulaanbaatar**	**145.50**	**282**	*e*PKPdf		**PKPab**	**08 34 12.0**	**-0.1**
SONM	**Songino Array**	**145.85**	**281**	PKPbc		**PKPab**	**08 34 13.6**	**+0.2**
SONM	**Songino Array**	**145.85**	**281**	PKPbc		**PKPab**	**08 34 13.6**	**+0.2**
	4.9nm,0.8s,baz=140,slow=4.0,SNR=32							
MKAR	**Makanchi Array**	**159.06**	**259**	PKPab		**PKPab**	**08 35 08.2**	**-0.2**
MKAR	**Makanchi Array**	**159.06**	**259**	PKPab		**PKPab**	**08 35 08.2**	**-0.2**
	1.0nm,0.7s,baz=105,slow=5.0,SNR=5.5							
BRTR	**Keskin Array B**	**160.51**	**135**	PKPab		**PKPab**	**08 35 15.0**	**0.0**
BRTR	**Keskin Array B**	**160.51**	**135**	PKPab		**PKPab**	**08 35 15.0**	**0.0**
	1.2nm,0.7s,baz=197,slow=6.4,SNR=5.0							
AAK	**Ala-Archa**	**160.53**	**240**	PKPab		**PKPab**	**08 35 15.0**	**0.0**
AAK	**Ala-Archa**	**160.53**	**240**	PKPab		**PKPab**	**08 35 15.0**	**0.0**
	1.5nm,0.8s,baz=125,slow=4.5,SNR=5.8							
ZALV	**Zalesovo Beam**	**160.75**	**280**	PKPab		**PKPab**	**08 35 15.3**	**-0.2**
ZALV	**Zalesovo Beam**	**160.75**	**280**	PKPab		**PKPab**	**08 35 15.3**	**-0.2**
	1.1nm,0.4s,baz=113,slow=5.0,SNR=7.5							
BVAR	**Borovoye Array**	**168.73**	**267**	PKPab		**PKPab**	**08 35 49.8**	**-0.9**
BVAR	**Borovoye Array**	**168.73**	**267**	PKPab		**PKPab**	**08 35 49.8**	**-0.9**
	0.5nm,0.5s,baz=141,slow=5.0,SNR=3.6							

*IDC **03** 08:33:05.6±0.8,55.°75S×123.°02W,h0km,mb3.9/8, mb1 4.2/8,mb1mx4.0/16,mbtmp3.9/8,MS4.3/12, Ms1 4.3/12,ms1mx4.2/18,Error ellipse: s-maj=30.2km s-min=21.1km az=159.0*
*ISCJB **03** 08:33:06.3±0.7,55.°9S±0.°2×123.°1W±0.°2,h12km,mb3.9/10, MS4.3/12,Error ellipse: s-maj=23.3km s-min=16.5km az=148.8*
*NEIC **03** 08:33:07.7±0.5,55.°85S×123.°14W,h10km,mb4.1/2,Error ellipse: s-maj=17.6km s-min=13.7km az=146.0*

ISC 03 08:33:07.7±0.7,55.°8S±0.°1×123.°1W±0.°1,h12km,n44, σ0s85/25,mb4.1/10,MS4.3/12,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.49**	**132**	LR		LR	08 47 26.8	
	comp=Z,365nm,19.9s,baz=325,slow=29							
USHA	**Ushuaia**	**30.42**	**111**	LR		LR	08 48 16.1	
	comp=Z,451nm,18.4s,baz=220,slow=30							
SBA	**Scott Base**	**32.08**	**202**	*e*P		**P**	**08 39 33.3**	**-0.6**
	2.6nm,0.8s							
RKT	**Rikitea**	**33.83**	**340**	*e*LR		LR	08 48 51.2	
	871nm,28.0s,baz=170							
QSPA	**South Pole Qui**	**34.36**	**180**	*e*P		**P**	**08 39 54.8**	**+0.6**
QSPA	**South Pole Qui**	**34.36**	**180**	P		**P**	**08 39 54.1**	**-0.1**
	0.9nm,0.2s,baz=171,slow=1.7,SNR=4.8							
PLCA	**Paso Flores**	**37.09**	**89**	*e*P		**P**	**08 40 18.7**	**+0.9**
PLCA	**Paso Flores**	**37.09**	**89**	P		**P**	**08 40 18.3**	**+0.6**
	0.9nm,0.8s,baz=209,slow=16,SNR=3.2							
PLCA				LR		LR	08 51 24.5	
	comp=Z,346nm,20.8s,baz=76,slow=30							
H03N3	**Juan Fernandez**	**37.67**	**72**	T		T	09 20 14.8	
	baz=219,slow=75,SNR=29							
H03N2	**Juan Fernandez**	**37.67**	**72**	T		T	09 20 10.4	
	baz=219,slow=75,SNR=81							
H03N1	**Juan Fernandez**	**37.68**	**72**	T		T	09 20 16.0	
	baz=219,slow=75,SNR=38							
TBI	**Tubuai**	**37.82**	**318**	*e*LR		LR	08 50 46.6	
	468nm,27.0s,baz=156							
PPT2	**Papeete2**	**43.14**	**321**	*e*LR		LR	08 53 14.3	
	731nm,28.5s							
PPT	**Papeete**	**43.16**	**321**	LR		LR	08 53 28.7	
	comp=Z,345nm,21.8s,baz=189,slow=28							
SNAA	**Sanae**	**46.11**	**158**	P		**P**	**08 41 30.5**	**-0.7**
SNAA	**Sanae**	**46.11**	**158**	P		**P**	**08 41 30.5**	**-0.7**
	0.5nm,1.1s,baz=260,slow=6.8,SNR=5.3							
MAW	**Mawson**	**56.81**	**183**	LR		LR	09 05 54.5	
	comp=Z,397nm,19.3s,baz=328,slow=35							
LPAZ	**La Paz**	**57.21**	**69**	*e*P		**P**	**08 42 57.1**	**+1.7**
LPAZ	**La Paz**	**57.21**	**69**	P		**P**	**08 42 54

ASAR LR LR 09 13 30.2
comp=Z,195nm,19.4s,baz=178,slow=31
WRA Warramunga Arr 80.56 249 P **P** **08 45 19.3 -0.6**
WRA Warramunga Arr 80.56 249 P **P** **08 45 19.3 -0.6**
1.8nm,0.9s,baz=140,slow=4.8,SNR=12
WRA LR LR 09 15 38.0
comp=Z,146nm,19.2s,baz=175,slow=32
WRAB Tennant Creek 80.56 249 *e*P **P** **08 45 20.0 0.0**
1.4nm,0.8s
TXAR Lajitas Array 86.42 17 P **P** **08 45 49.1 -0.5**
TXAR Lajitas Array 86.42 17 P **P** **08 45 49.1 -0.5**
0.7nm,0.8s,baz=202,slow=6.5,SNR=6.0
BOSA Boshof 91.66 152 LR LR 09 24 11.2
comp=Z,171nm,18.2s,baz=61,slow=33
H11S2 WAKE ISLAND Hy 94.54 296 T T 10 31 43.7
baz=151,slow=76,SNR=6.2
H11S3 WAKE ISLAND Hy 94.55 296 T T 10 31 51.5
baz=151,slow=76,SNR=6.7
H11S1 WAKE ISLAND Hy 94.56 296 T T 10 31 53.0
baz=151,slow=76,SNR=3.2
PDAR Pinedale Array 98.88 10 LR LR 09 23 15.3
comp=Z,248nm,20.7s,baz=140,slow=30
ILAR Eielson Array 121.64 348 PKP **PKPdf** **08 51 59.1 -0.6**
ILAR Eielson Array 121.64 348 PKP **PKPdf** **08 51 59.1 -0.6**
0.5nm,0.8s,baz=198,slow=2.9,SNR=5.5
TIXI Tiksi 146.98 326 *e*PKPbc **PKPab** **08 52 49.3 -0.7**
SONM Songino Array 149.01 276 PKPbc **PKPbc** **08 52 54.7 -0.1**
SONM Songino Array 149.01 276 PKPbc **PKPbc** **08 52 54.7 -0.1**
0.4nm,0.6s,baz=123,slow=5.3,SNR=2.3
MKAR Makanchi Array 161.85 251 PKPab **PKPab** **08 53 54.0 +0.3**
MKAR Makanchi Array 161.85 251 PKPab **PKPab** **08 53 54.0 +0.3**
0.4nm,0.7s,baz=124,slow=2.2,SNR=3.7

*THR **03** 08:35:48.7±0.3,30.37N×59.78E,h16km±3km, ML3.5*
*ISCJB **03** 08:36:07.5±0.7,35.51N±0.08×59.4E±0.1,h10km, mb3.5/2, Error ellipse: s-maj=17.4km s-min=9.7km az=31.2*
*IDC **03** 08:36:09.3±2.2,35.63N×59.32E,h0km, mb3.3/3, mb1 3.5/6, mb1mx3.3/29, mbtmp3.5/6, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/19, Error ellipse: s-maj=51.3km s-min=25.6km az=147.0*
ISC 03 08:36:09.1±0.9, 35.49N±0.10×59.5E±0.1, h10km, n8, σ1f10/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**1.94**	**161**	*e*Pn		**Pn**	**08 36 41.8**	**-0.5**
TABS	**Tabas**	**2.70**	**228**	*e*Pg		**Pg**	**08 37 00.0**	**-0.8**
TABS				Sn		**Sg**	**08 37 36.8**	**+1.0**
TABS				AML		AML	08 37 48.1	
	comp=N,161nm,0.6s							
AAK	**Ala-Archa**	**13.64**	**54**	Pn		**Pn**	**08 39 22.5**	**-0.3**
	comp=N,0.2nm,0.3s,baz=226,slow=11,SNR=5.7							
AKTO	**Aktyubinsk**	**14.98**	**356**	Pn		**Pn**	**08 39 39.8**	**-1.1**
	comp=N,0.1nm,0.3s,baz=176,slow=15,SNR=2.9							
AKTO				LR		LR	08 45 50.9	
	comp=N,80nm,20.7s,baz=251,slow=39							
BVAR	**Borovoye Array**	**19.15**	**20**	P		**Pn**	**08 40 34.0**	**+0.7**
	comp=N,0.1nm,0.3s,baz=205,slow=6.4,SNR=2.4							
MKAR	**Makanchi Array**	**20.46**	**50**	P		Pn	08 40 48.8	-0.2
	comp=N,0.6nm,0.9s,baz=233,slow=12,SNR=2.8							
ZALV	**Zalesovo Beam**	**25.54**	**36**	P		**P**	**08 41 39.2**	**+1.4**
	comp=N,0.4nm,0.3s,baz=243,slow=12,SNR=3.8							
TORD	**Torodi Ar. Bea**	**56.36**	**262**	P		**P**	**08 45 51.4**	**+0.7**
	comp=N,0.6nm,0.9s,baz=62,slow=5.5,SNR=3.8							

IDC 03 08:50:42.0±1.7, 11.78N×144.38E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.4/3, Error ellipse: s-maj=229.6km s-min=28.6km az=110.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.03**	**198**	P		P	08 57 19.0	-0.3
	0.6nm,0.7s,baz=20,slow=9.7,SNR=9.4							
ASAR	**Alice Springs**	**36.69**	**196**	P		P	08 57 51.0	+0.1
	0.2nm,0.7s,baz=18,slow=10,SNR=5.6							
ILAR	**Eielson Array**	**70.40**	**25**	P		P	09 01 57.6	0.0
	0.3nm,0.8s,baz=245,slow=5.9,SNR=4.2							

IDC 03 09:33:34.1±55.0, 22.22S×177.56W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/17, mbtmp3.9/3, Error ellipse: s-maj=1012.0km s-min=161.9km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.44**	**246**	P		P	09 40 49.5	+0.2
	1.8nm,0.8s,baz=79,slow=10,SNR=3.6							
ASAR	**Alice Springs**	**44.55**	**258**	P		P	09 41 48.0	0.0
	0.6nm,0.4s,baz=93,slow=7.4,SNR=18							
WRA	**Warramunga Arr**	**44.79**	**264**	P		P	09 41 49.5	-0.5
	0.9nm,0.4s,baz=103,slow=8.4,SNR=57							

NNC 03 10:05:29.7±2.9, 54.12N×87.32E, h5km±13km, mb3.5, mpv3.1,5C-4D, Error ellipse: s-maj=18.8km s-min=12.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.32**	**241**	⇑Pn		Pn	10 07 03.3	-0.1
	0.5nm,0.6s							
KURK				⇓Lg		Lg	10 08 50.9	
	1.4nm,0.6s							
KURBB	**Kurchatov Arra**	**6.42**	**241**	⇑Pn		Pn	10 07 04.3	-0.5
	1.3nm,0.3s							
KURBB				⇑Lg		Lg	10 08 53.9	
	5.0nm,0.5s							
MK31	**Makanchi Array**	**8.00**	**206**	⇑Pn		Pn	10 07 27.3	+0.7
	0.6nm,0.7s,baz=28,slow=14,SNR=12							
MK31				⇑Sn		Sn	10 08 58.3	+1.0
	0.3nm,0.5s							
MK31				⇓Lg		Lg	10 09 42.7	
	0.8nm,0.5s,baz=284,slow=34,SNR=2.9							
VOSK	**Vostochnaya**	**9.86**	**269**	⇓Pn		Pn	10 07 51.7	-0.2
	2.5nm,1.1s							
VOSK				⇓Sn		Sn	10 09 44.4	+1.5
	2.7nm,1.1s							

*ISCJB **03** 10:09:13.8±0.4,29.75N±0.06×138.66E±0.10,h421km, mb3.5/18, Error ellipse: s-maj=11.8km s-min=7.2km az=156.1*
*JMA **03** 10:09:13.2±0.1,29.75N×139.21E,h499km, M4.0*
*IDC **03** 10:09:16.7±1.2,29.79N×138.86E,h447km±14km, mb3.2/18, mb1 3.4/23, mb1mx3.3/31, mbtmp3.2/23, Error ellipse: s-maj=12.9km s-min=9.5km az=84.0*
ISC 03 10:09:14.6±0.5, 29.76N±0.08×138.8E±0.1, h421km, n30, σ1f28/30, mb3.6/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.02**	**131**	P		**P**	**10 10 29.9**	**+1.8**
JCJ	**Chichijima**	**4.02**	**131**	P		**P**	**10 10 30.1**	**+2.0**
	16nm,0.3s,baz=239,slow=21,SNR=9.5							
JCJ				S		**S**	**10 11 28.1**	**+0.2**
	38nm,0.3s,baz=283,slow=16,SNR=6.7							
JIE	**Ise**	**4.94**	**340**	P		P	10 10 42.0	+5.3
JTO	**Tosashimizu**	**5.96**	**303**	P		P	10 10 52.7	+5.4
JRY	**Ryogami san**	**6.24**	**1**	P		**P**	**10 10 52.8**	**+2.6**
JRY				S		**S**	**10 12 07.7**	**-1.0**
JHS	**Saijyo**	**7.08**	**319**	P		P	10 11 03.7	+4.0
JNU	**Nakatsue**	**7.52**	**298**	P		P	10 11 09.0	+4.4
	1.6nm,0.3s,baz=56,slow=5.5,SNR=16							
KSRS	**Korea Array**	**11.85**	**313**	P		**P**	**10 11 54.8**	**+2.7**
	1.3nm,0.3s,baz=126,slow=9.9,SNR=22							
ASAJ	**Asahikawa**	**14.65**	**11**	P		**P**	**10 12 24.0**	**+1.5**
	0.4nm,0.3s,baz=233,slow=10,SNR=5.0							
USRK	**Ussuriysk Arra**	**15.38**	**341**	P		**P**	**10 12 31.9**	**+1.5**
	0.7nm,0.3s,baz=144,slow=10,SNR=18							
PETK	**Petropavlovsk-**	**27.14**	**25**	P		**P**	**10 14 22.5**	**+0.9**
	1.2nm,0.5s,baz=228,slow=5.4,SNR=3.4							
SONM	**Songino Array**	**30.71**	**315**	P		**P**	**10 14 53.8**	**+0.7**
	0.4nm,0.4s,baz=118,slow=7.7,SNR=2.9							
CMAR	**Chiang Mai Arr**	**37.88**	**262**	P		**P**	**10 15 54.1**	**+0.3**
	1.8nm,0.5s,baz=71,slow=4.6,SNR=9.7							
MKAR	**Makanchi Array**	**46.46**	**308**	P		**P**	**10 17 01.5**	**-0.3**
	0.3nm,0.6s,baz=90,slow=8.8,SNR=4.2							
MKAR				PcP		**PcP**	**10 18 27.6**	**-0.7**
	0.4nm,0.5s,baz=84,slow=9.2,SNR=4.4							
WRA	**Warramunga Arr**	**49.60**	**185**	P		**P**	**10 17 25.8**	**+0.2**
	0.8nm,0.6s,baz=3.8,slow=7.7,SNR=17							
ASAR	**Alice Springs**	**53.33**	**186**	P		**P**	**10 17 53.0**	**+0.2**
	0.5nm,0.4s,baz=360,slow=6.0,SNR=16							
BVAR	**Borovoye Array**	**54.04**	**316**	P		**P**	**10 17 57.7**	**+0.1**
	0.5nm,0.4s,baz=90,slow=7.4,SNR=3.6							
ILAR	**Eielson Array**	**56.86**	**30**	P		**P**	**10 18 15.7**	**-1.4**
	0.7nm,0.7s,baz=259,slow=5.4,SNR=14							
ILAR				PcP		**PcP**	**10 19 05.4**	**-1.6**
	0.2nm,0.5s,baz=232,slow=4.4,SNR=3.4							
STKA	**Stephens Creek**	**61.36**	**177**	P		**P**	**10 18 48.4**	**+0.5**
	2.6nm,1.1s,baz=45,slow=10.0,SNR=3.1							
AKTO	**Aktyubinsk**	**62.02**	**314**	P		**P**	**10 18 53.5**	**+1.3**
	0.7nm,0.4s,baz=81,slow=12,SNR=3.0							
ARCES	**ARCESS Array B**	**70.03**	**340**	P		**P**	**10 19 41.8**	**-0.3**
	1.7nm,0.4s,baz=67,slow=9.1,SNR=13							
YKA	**Yellowknife Ar**	**71.23**	**28**	P		**P**	**10 19 48.4**	**-0.9**
	1.1nm,0.5s,baz=299,slow=6.0,SNR=8.7							
FINES	**FINESS Array B**	**74.22**	**333**	P		**P**	**10 20 05.8**	**-0.8**
	1.2nm,0.4s,baz=63,slow=5.5,SNR=11							
NB2	**NORSAR Subarra**	**80.01**	**337**	P		**P**	**10 20 37.2**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=44,slow=5.3							
NOA	**NORSAR Array B**	**80.01**	**337**	P		**P**	**10 20 37.4**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=48,slow=4.7,SNR=6.5							
NVAR	**Mina Array Bea**	**81.21**	**51**	P		**P**	**10 20 46.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=292,slow=6.2,SNR=12							
BRTR	**Keskin Array B**	**81.99**	**111**	P		**P**	**10 20 48.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=106,slow=2.7,SNR=4.0							
PDAR	**Pinedale Array**	**84.40**	**43**	P		**P**	**10 21 01.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=289,slow=5.8,SNR=5.2							
TXAR	**Lajitas Array**	**96.36**	**51**	P		**P**	**10 21 55.5**	**-1.9**
	comp=Z,0.5nm,0.9s,baz=355,slow=1.0,SNR=2.9							
LPAZ	**La Paz**	**151.94**	**67**	PKPbc		**PKPbc**	**10 28 21.9**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=248,slow=2.9,SNR=5.3							

CASC 03 10:10:34.5±1.1, 13.90N×90.82W, h96km±6km, MD3.6, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.53**	**23**	⇓*e*P		Pn	10 10 50.4	-0.1
PCG				*e*S		Sn	10 11 02.4	0.0
NBG	**Las Nubes**	**0.82**	**34**	*e*P		Pn	10 10 53.3	+0.2
NBG				*e*S		Sn	10 11 08.9	+1.8
JAT	**Jato**	**0.90**	**298**	*e*P		Pn	10 10 53.7	+0.2
JAT				*e*S		Sn	10 11 05.4	-2.4
RBDL	**Robledal**	**1.12**	**79**	⇓*i*P		Pn	10 10 56.0	-0.2
RBDL				*e*S		Sn	10 11 13.1	+0.5
RTR	**El Retiro**	**1.14**	**90**	*e*P		Pn	10 10 57.2	+0.7
SBLS	**San Blas**	**1.16**	**93**	*e*P		Pn	10 10 57.1	+0.3
SBLS				*e*S		Sn	10 11 15.5	+1.9
SNJE	**San Jose**	**1.18**	**91**	*e*P		Pn	10 10 57.1	+0.2
SNJE				*e*S		Sn	10 11 14.8	+1.0
BOQS	**Boqueron**	**1.50**	**96**	*e*P		Pn	10 11 01.1	+0.2
BOQS				*e*S		Sn	10 11 21.4	+0.5
MRL	**Marmol**	**1.59**	**43**	⇑*e*P		Pn	10 11 02.5	+0.6
MRL				*e*S		Sn	10 11 23.6	+0.9
LFU	**La Fuente**	**1.66**	**95**	*e*P		Pn	10 11 02.8	+0.1
LFRS	**El Faro**	**1.73**	**99**	*e*P		Pn	10 11 04.2	+0.6
LBRS	**Las Brisas**	**1.73**	**95**	*e*P		Pn	10 11 03.7	+0.1
CAHU	**Cacaquatique**	**2.54**	**93**	*e*P		Pn	10 11 14.3	+0.1
CNCH	**Conchagua**	**2.97**	**102**	*e*P		Pn	10 11 20.3	+0.4

MEX 03 10:16:08.0±0.7, 16.12N×95.55W, h29km±24km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.65**	**237**	*i*P		Pb	10 16 18.4	-2.4
HUIG				*i*S		Sb	10 16 27.4	-2.2
VHO	**Vista Hermosa**	**1.48**	**310**	*i*P		Pn	10 16 31.1	-1.8
VHO				*e*S		Sn	10 16 48.6	-2.9
PNIG	**Pinotepa**	**2.50**	**277**	*i*P		Pn	10 16 45.7	-1.0
PNIG				*i*S		Sn	10 17 13.3	-3.0

*AUST **03** 10:17:54.5±1.3,22.03S×172.74E,h7km±9km, Error ellipse: s-maj=14.0km s-min=2.5km az=23.0*
*ISCJB **03** 10:18:09.5±1.6,22.33S±0.09×171.33E±0.08,h60km±11km, mb4.5/17, Error ellipse: s-maj=15.9km s-min=9.6km az=32.1*
*IDC **03** 10:18:09.6±2.3,22.39S×171.48E,h51km±19km, mb4.2/14, mb1 4.3/15, mb1mx4.2/22, mbtmp4.2/15, ML4.9/1, MS3.9/14, Ms1 3.9/14, ms1mx3.8/25, Error ellipse: s-maj=20.8km s-min=15.9km az=9.0*
*NOU **03** 10:18:09.6±0.9,20.48S×171.16E,h10km, MD3.1, ML4.2*
*NEIC **03** 10:18:12.6±2.1,22.37S×171.37E,h78km±17km, mb4.8/8, Error ellipse: s-maj=17.7km s-min=10.9km az=221.0*
ISC 03 10:18:09.3±1.7, 22.37S±0.09×171.46E±0.08, h50km±12km, n96, σ1f32/102, mb4.4/17, MS3.9/11, 8C-13D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.24**	**272**	*e*P		**Pn**	**10 19 12.2**	**+0.7**
BAYA				*e*S		**Sn**	**10 19 58.5**	**-1.3**
BAYA				AMP			10 20 06.7	
	comp=Z,85nm,4.2s							

*IDC **03** 10:40:17.2±2.1,8°09S×119°62E,h0km,mb3.4/2, mb1 3.7/5,mb1mx3.5/23,mbtmp3.6/5,ML3.7/3,MS3.4/2, Ms1 3.4/2,ms1mx2.8/19,Error ellipse: s-maj=55.5km s-min=12.8km az=58.0*

*DJA **03** 10:40:17.4±1.2,8°S±6°×11°9E±°,h10km,M4.0/3,MLv4.0/3*

ISC 03 10:40:19.9±1.3,7°85S±0°06×119°8E±0°2,h10km,n11, σ2s20/12,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.63**	**171**	P	**Pn**	**10 40 37.1**	**+2.1**
LBFI				S	Sn	10 40 56.4	+11
BKSI	**Bulukumba**	**2.53**	**8**	P	**Pn**	**10 41 03.7**	**+2.6**
BKSI				S	**Sb**	**10 41 40.7**	**+4.0**
KAPI	**Kappang**	**2.82**	**359**	P	**Pn**	**10 41 05.6**	**+0.6**
KAPI	**Kappang**	**2.82**	**359**	Pn	**Pn**	**10 41 06.2**	**+1.1**
	25nm,0.3s,baz=191,slow=7.2,SNR=47						
KAPI				Sn	**Sb**	**10 41 43.7**	**-1.2**
	37nm,0.3s,baz=103,slow=21,SNR=23						
KAPI				LR	LR	10 42 40.0	
	comp=Z,183nm,20.3s,baz=9.0,slow=47						
BNSI	**Bone**	**3.44**	**5**	P	**Pb**	**10 41 18.7**	**-2.3**
SPSI	**Sidrap Palu**	**3.86**	**360**	P	**Pn**	**10 41 20.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.67**	**151**	Pn	Pn	10 43 02.9	-3.7
	0.3nm,0.3s,baz=344,slow=10,SNR=9.2						
FITZ				Sn	Sn	10 45 13.9	-3.2
	0.4nm,0.3s,baz=167,slow=20,SNR=8.2						
WRA	**Warramunga Arr**	**18.53**	**132**	P	**P**	**10 44 35.0**	**-1.7**
	0.2nm,0.3s,baz=301,slow=12,SNR=18						
WRA				S	**Sn**	**10 48 04.0**	**-0.1**
	0.0nm,0.3s,baz=308,slow=20,SNR=3.3						
ASAR	**Alice Springs**	**20.75**	**141**	P	**P**	**10 44 59.0**	**-2.0**
	0.5nm,0.3s,baz=310,slow=9.2,SNR=28						
SONM	**Songino Array**	**56.70**	**349**	P	**P**	**10 50 04.4**	**+0.7**
	0.3nm,0.5s,baz=168,slow=7.4,SNR=2.3						
RAO	**Raoul Island**	**62.06**	**119**	LR	LR	11 13 46.0	
	comp=Z,89nm,21.6s,baz=41,slow=32						

*IDC **03** 10:41:23.5±1.1,53°80N×165°47W,h0km,mb3.7/12, mb1 3.9/13,mb1mx3.8/29,mbtmp3.7/13,ML3.4/1,MS3.8/1, Ms1 3.8/1,ms1mx2.9/42,Error ellipse: s-maj=34.3km s-min=14.9km az=179.0*

*NEIC **03** 10:41:27.2,53°50N×165°28W,h3km,ML3.4(AEIC),After AEIC.*

*ISCJB **03** 10:41:28.7±0.7,53°60N±0°08×165°37W±0°08,h60km±5km, mb3.7/11,MS3.8/1,Error ellipse: s-maj=14.8km s-min=5.0km az=156.7*

ISC 03 10:41:30.2±1.2,53°65N±0°10×165°42W±0°05, h56km±10km,n63,σ1s03/58,mb3.6/11,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.52**	**341**	P	**Pn**	**10 41 40.9**	**-1.2**
AKUT	**Akutan**	**0.53**	**337**	P	**Pn**	**10 41 41.3**	**-0.9**
AKUT				S	**Sn**	**10 41 52.1**	**+1.2**
ZRO	**Akutan Zero**	**0.55**	**323**	P	**Pn**	**10 41 41.6**	**-1.0**
AKRB	**Akutan Reef Bi**	**0.62**	**322**	P	**Pn**	**10 41 42.5**	**-0.8**
AKRB				S	**Sn**	**10 41 55.0**	**+2.3**
LVA	**Lava Point**	**0.63**	**325**	P	**Pn**	**10 41 42.5**	**-0.9**
AKGG	**Akutan Green G**	**0.65**	**329**	P	**Pn**	**10 41 42.9**	**-0.7**
UNV	**Unalaska Valle**	**0.67**	**287**	P	**Pn**	**10 41 42.3**	**-1.6**
UNV				S	**Sn**	**10 41 53.1**	**-0.8**
MREP	**Makushin Rep't**	**0.81**	**282**	P	**Pn**	**10 41 44.8**	**-0.8**
MTBL	**Makushin Table**	**0.81**	**294**	P	**Pn**	**10 41 44.9**	**-0.9**
MSW	**Makushin Switc**	**0.85**	**289**	P	**Pn**	**10 41 45.2**	**-1.0**
MCIR	**Makushin Cirqu**	**0.93**	**290**	P	**Pn**	**10 41 46.6**	**-0.6**
WESE	**West Dahl East**	**0.96**	**30**	P	**Pn**	**10 41 46.5**	**-1.2**
WESN	**West Dahl Nort**	**1.04**	**28**	P	**Pn**	**10 41 48.3**	**-0.4**
SSBA	**Shishaldin**	**1.36**	**33**	P	**Pn**	**10 41 51.9**	**-1.0**
SSBA				S	**Sn**	**10 42 12.3**	**+2.4**
SSLW	**Shishaldin Wes**	**1.36**	**34**	P	**Pn**	**10 41 52.0**	**-0.9**
SSLN	**Shishaldin Nor**	**1.43**	**35**	P	**Pn**	**10 41 53.3**	**-0.6**
OKFG	**Magazine Ridge**	**1.51**	**262**	P	**Pn**	**10 41 54.3**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.59**	**261**	P	**Pn**	**10 41 56.0**	**0.0**
FALS	**False Pass**	**1.69**	**43**	P	**Pn**	**10 41 55.9**	**-1.4**
OKAK	**Okmok**	**1.75**	**269**	P	**Pn**	**10 41 58.6**	**+0.3**
NIKH	**Nikolski High**	**2.17**	**253**	P	**Pn**	**10 42 02.6**	**-1.3**
NIKH				S	**Sn**	**10 42 29.3**	**-0.3**
DRIA	**Deer Island**	**2.27**	**53**	P	**Pn**	**10 42 03.9**	**-1.4**
DT1	**Dutton Round H**	**2.34**	**50**	P	**Pn**	**10 42 05.6**	**-0.7**
DTNA	**Dutton South F**	**2.38**	**50**	P	**Pn**	**10 42 06.6**	**-0.2**
DOL	**Dolgoi Island**	**2.56**	**53**	P	**Pn**	**10 42 09.1**	**-0.2**
FX1	**Attu Island--F**	**12.84**	**275**	Pn	**Pn**	**10 44 31.3**	**+1.5**
FX1	**Attu Island--F**	**12.84**	**275**	Pn	**Pn**	**10 44 31.3**	**+1.5**
	0.6nm,0.3s,baz=356,slo=15,SNR=5.2						
ILAR	**Eielson Array**	**14.56**	**33**	Pn	**Pn**	**10 44 51.6**	**-1.2**
ILAR	**Eielson Array**	**14.56**	**33**	Pn	**Pn**	**10 44 51.6**	**-1.2**
	0.1nm,0.3s,baz=228,slow=18,SNR=3.4						
INK	**Inuvik**	**20.96**	**33**	P	**P**	**10 46 06.3**	**-1.8**
INK	**Inuvik**	**20.96**	**33**	P	**P**	**10 46 06.3**	**-1.8**
	1.1nm,0.5s,baz=253,slow=10.0,SNR=23						
YKA	**Yellowknife Ar**	**27.59**	**51**	P	**P**	**10 47 12.2**	**+0.6**
YKA	**Yellowknife Ar**	**27.59**	**51**	P	**P**	**10 47 12.2**	**+0.6**
	0.7nm,0.6s,baz=276,slow=7.6,SNR=5.9						
RES	**Resolute Bay**	**34.17**	**26**	P	**P**	**10 48 09.8**	**+0.4**
RES	**Resolute Bay**	**34.17**	**26**	P	**P**	**10 48 09.8**	**+0.4**
	0.6nm,0.6s,baz=288,slow=8.1,SNR=3.8						
NVAR	**Mina Array Bea**	**35.36**	**96**	P	**P**	**10 48 21.7**	**+1.3**
NVAR	**Mina Array Bea**	**35.36**	**96**	P	**P**	**10 48 21.7**	**+1.3**
	0.8nm,1.0s,baz=317,slow=11,SNR=3.8						
PDAR	**Pinedale Array**	**37.85**	**83**	P	**P**	**10 48 42.0**	**+0.4**
PDAR	**Pinedale Array**	**37.85**	**83**	P	**P**	**10 48 42.0**	**+0.4**
	0.7nm,1.1s,baz=38,slow=2.6,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**39.98**	**223**	T	T	11 31 39.9	
	baz=27,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**39.99**	**223**	T	T	11 31 42.5	
	baz=27,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**40.00**	**223**	T	T	11 31 39.8	
	baz=27,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**41.16**	**222**	T	T	11 33 05.5	
	baz=25,slow=77,SNR=34						
H11S2	**WAKE ISLAND Hy**	**41.18**	**222**	T	T	11 33 07.4	
	baz=25,slow=77,SNR=40						
H11S3	**WAKE ISLAND Hy**	**41.18**	**222**	T	T	11 33 07.6	
	baz=25,slow=77,SNR=32						
TXAR	**Lajitas Array**	**50.38**	**93**	P	**P**	**10 50 21.9**	**+0.2**
TXAR	**Lajitas Array**	**50.38**	**93**	P	**P**	**10 50 21.9**	**+0.2**
	0.6nm,0.7s,baz=316,slow=7.0,SNR=4.4						
SONM	**Songino Array**	**52.67**	**302**	P	**P**	**10 50 39.3**	**+0.7**
SONM	**Songino Array**	**52.67**	**302**	P	**P**	**10 50 39.3**	**+0.7**
	0.4nm,0.7s,baz=60,slow=8.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**58.05**	**319**	LR	LR	11 17 32.3	
	comp=Z,69nm,18.0s,baz=77,slow=37						
MKAR	**Makanchi Array**	**64.62**	**315**	P	**P**	**10 52 00.6**	**-0.9**
MKAR	**Makanchi Array**	**64.62**	**315**	P	**P**	**10 52 00.6**	**-0.9**
	0.2nm,0.4s,baz=64,slow=6.0,SNR=4.3						
FINES	**FINESS Array B**	**64.89**	**354**	P	**P**	**10 52 02.8**	**-0.2**
FINES	**FINESS Array B**	**64.89**	**354**	P	**P**	**10 52 02.8**	**-0.2**
	1.9nm,0.9s,baz=16,slow=8.1,SNR=4.1						
AKASG	**Malin Array Be**	**75.30**	**350**	P	**P**	**10 53 06.5**	**-0.3**
AKASG	**Malin Array Be**	**75.30**	**350**	P	**P**	**10 53 06.5**	**-0.3**
	1.0nm,0.6s,baz=12,slow=4.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**78.62**	**286**	P	**P**	**10 53 26.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**78.62**	**286**	P	**P**	**10 53 26.3**	**+0.3**
	0.4nm,0.5s,baz=21,slow=7.7,SNR=4.2						
BRTR	**Keskin Array B**	**85.55**	**345**	P	**P**	**10 54 01.5**	**-0.7**
BRTR	**Keskin Array B**	**85.55**	**345**	P	**P**	**10 54 01.5**	**-0.7**
	0.4nm,0.7s,baz=0.0,slow=10,SNR=2.6						
H03N2	**Juan Fernandez**	**114.22**	**114**	T	T	13 04 37.8	
	baz=320,slow=75,SNR=31						
H03N1	**Juan Fernandez**	**114.23**	**114**	T	T	13 04 38.7	
	baz=320,slow=75,SNR=38						
H03N3	**Juan Fernandez**	**114.23**	**114**	T	T	13 04 39.1	
	baz=320,slow=75,SNR=36						

IDC 03 10:50:14.9±11.0,17°20N×145°71E,h437km±134km, mb3.1/11,mb1 3.3/11,mb1mx3.1/28,mbtmp3.1/11,Error ellipse: s-maj=28.7km s-min=17.2km az=54.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.56**	**197**	P	P	10 56 58.2	-0.4
	0.7nm,0.7s,baz=16,slow=8.6,SNR=15						
FITZ	**Fitzroy Crossi**	**40.26**	**210**	P	P	10 57 11.9	-0.4
	0.9nm,0.2s,baz=24,slow=15,SNR=4.7						
ASAR	**Alice Springs**	**42.22**	**196**	P	P	10 57 27.5	-0.6
	0.3nm,0.5s,baz=17,slow=6.9,SNR=9.9						
DZM	**Mont Dzumac**	**44.00**	**152**	P	P	10 57 42.8	+0.7
	2.2nm,0.4s,baz=300,slow=20,SNR=10						
SONM	**Songino Array**	**44.32**	**322**	P	P	10 57 45.5	+1.0
	0.4nm,0.4s,baz=139,slow=6.1,SNR=4.4						
MKAR	**Makanchi Array**	**59.51**	**315**	P	P	10 59 34.9	+0.4
	0.8nm,0.4s,baz=90,slow=8.3,SNR=15						
ILAR	**Eielson Array**	**64.98**	**26**	P	P	11 00 09.3	-0.6
	0.7nm,0.4s,baz=251,slow=5.9,SNR=21						
BVAR	**Borovoye Array**	**67.63**	**321**	P	P	11 00 26.5	-0.2
	1.2nm,0.4s,baz=102,slow=7.5,SNR=7.1						
INK	**Inuvik**	**70.74**	**23**	P	P	11 00 44.1	-1.1
	1.1nm,0.9s,baz=317,slow=1.2,SNR=3.4						
YKA	**Yellowknife Ar**	**79.30**	**28**	P	P	11 01 33.8	+0.3
	1.3nm,0.8s,baz=280,slow=6.8,SNR=2.8						
NVAR	**Mina Array Bea**	**84.05**	**52**	P	P	11 02 00.3	+1.5
	0.3nm,0.6s,baz=305,slow=3.2,SNR=2.9						

ZUR 03 10:50:58.3,47°55N×8°17E,h1km±1km,ML1.7/2,1C, Suspected Mining explosion.,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULZ	**Cheisacher**	**0.05**	**242**	⇑*i*Pg	Pg	10 50 59.5	+0.2
	361nm,0.2s						
SLE	**Schleitheim**	**0.31**	**45**	*e*Pg	Pg	10 51 04.6	+0.3
	156nm,0.8s						
BALST	**Balsthal**	**0.39**	**237**	*e*Sg	Sg	10 51 12.3	+1.3
	18nm,0.2s						

MEX 03 10:51:38.9±0.9,14°70N×92°54W,h75km±20km,MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.34**	**52**	*e*P	Pn	10 51 48.9	-2.0
THIG				*i* S	Sn	10 51 58.5	-1.1
PCIG		**1.20**	**327**	*e*P	Pn	10 51 59.2	-0.9
PCIG				*e*S	Sn	10 52 13.7	-2.2
HUIG	**Huatulco**	**3.60**	**288**	*e*P	Pn	10 52 32.2	-0.2
HUIG				*i* S	Sn	10 53 11.7	-2.1
VHO	**Vista Hermosa**	**4.67**	**301**	*i* P	Pn	10 52 46.8	-0.5
VHO				*i* S	Sn	10 53 38.8	-1.7
PNIG	**Pinotepa**	**5.64**	**288**	*e*P	Pn	10 52 59.6	-0.7
PNIG				*i* S	Sn	10 54 02.1	-1.7
UTMO	**Huajuapan**	**5.94**	**302**	*e*P	Pn	10 53 04.2	-0.4
UTMO				*i* S	Sn	10 54 10.1	-1.3

WEL 03 10:51:54.9±0.4,37°97S×176°00E,h157km±4km,ML3.5/16, 4C-5D,Error ellipse: s-maj=4.4km s-min=4.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.93**	**108**	⇓PN	Pn	10 52 19.8	+0.1
URZ				SN	Sn	10 52 38.9	+0.1
URZ				AML	AML	10 52 39.2	
BKZ	**Black Stump Fm**	**1.25**	**162**	⇑PN	Pn	10 52 22.5	-0.2
BKZ				SN	Sn	10 52 42.8	-1.3
BKZ				AML	AML	10 52 43.6	
MWZ	**Matawai**	**1.26**	**107**	⇓PN	Pn	10 52 22.8	0.0
MWZ				SN	Sn	10 52 43.6	-0.5
MWZ				AML	AML	10 52 44.1	
RAHZ	**Arahi**	**1.27**	**138**	PN	Pn	10 52 23.3	+0.4
RAHZ				SN	Sn	10 52 44.6	+0.3
TUVZ	**Tukino**	**1.32**	**192**	PN	Pn	10 52 23.8	+0.4
SNGZ	**Shannon Statio**	**1.33**	**128**	PN	Pn	10 52 23.6	+0.2
SNGZ				SN	Sn	10 52 45.0	-0.3
TRVZ	**Turoa**	**1.37**	**195**	PN	Pn	10 52 24.4	+0.3
WNVZ	**Wahianoa**	**1.39**	**193**	PN	Pn	10 52 24.3	+0.2
MOVZ	**Moawhango**	**1.45**	**187**	⇓PN	Pn	10 52 24.3	-0.3
MTVZ	**Mangateitei**	**1.47**	**196**	PN	Pn	10 52 25.2	+0.4
BHHZ	**Black Hill Sta**	**1.52**	**178**	⇑PN	Pn	10 52 24.7	-0.6
MCHZ	**McNeill Hill**	**1.57**	**160**	PN	Pn	10 52 26.0	+0.2
RIGZ	**Rimuhau**	**1.57**	**118**	PN	Pn	10 52 25.7	-0.1
PUZ	**Puketiti**	**1.79**	**94**	⇑PN	Pn	10 52 27.5	-0.7
CNGZ	**Carnagh Statio**	**1.81**	**107**	PN	Pn	10 52 28.5	+0.1
CKHZ	**Cape Kidnapper**	**1.89**	**154**	PN	Pn	10 52 28.7	-0.4
KAHZ	**Kahuranaki**	**1.95**	**160**	PN	Pn	10 52 29.3	-0.6
PNHZ	**Pukenui**	**1.95**	**175**	PN	Pn	10 52 28.7	-1.2
WAZ	**Wanganui**	**1.95**	**204**	PN	Pn	10 52 29.6	-0.3
TSZ	**Takapari Road**	**2.08**	**181**	PN	Pn	10 52 30.2	-1.3
PXZ	**Pawanui**	**2.17**	**162**	PN	Pn	10 52 31.0	-1.4
DVHZ	**Dannevirke**	**2.33**	**177**	PN	Pn	10 52 32.4	-1.9
PRHZ	**Porangahau**	**2.35**	**168**	PN	Pn	10 52 32.9	-1.6
POWZ	**Post Office Ro**	**2.42**	**184**	PN	Pn	10 52 33.5	-1.9
ANWZ	**Angora Road**	**2.51**	**172**	PN	Pn	10 52 34.9	-1.6
PRWZ	**Pori Road**	**2.58**	**180**	PN	Pn	10 52 35.4	-1.9
MRZ	**Mangatainoka R**	**2.71**	**187**	⇑PN	Pn	10 52 36.4	-2.5
MRZ				AML	AML	10 53 10.6	
BFZ	**Birch Farm**	**2.71**	**176**	⇓PN	Pn	10 52 36.5	-2.5
TIWZ	**Tintock**	**2.80**	**182**	PN	Pn	10 52 37.5	-2.7
OGWZ	**Otaki Gorge**	**2.91**	**192**	PN	Pn	10 52 38.9	-2.5
HOWZ	**Holdsworth Sta**	**2.95**	**187**	PN	Pn	10 52 38.9	-3.0
KIW	**Kapiti Island**	**3.01**	**196**	PN	Pn	10 52 39.7	-3.0
TMWZ	**Te Maipa**	**3.13**	**181**	PN	Pn	10 52 41.1	-3.2
MTW	**Mount Morrison**	**3.21**	**187**	PN	Pn	10 52 41.7	-3.6
CAW	**Cannon Point**	**3.21**	**193**	PN	Pn	10 52 42.0	-3.3
TRWZ	**Traveller**	**3.43**	**184**	PN	Pn	10 52 44.5	-3.5
PAWZ	**Paruwai Farm**	**3.43**	**187**	PN	Pn	10 52 44.3	-3.7
MSWZ	**Moikau Station**	**3.49**	**189**	⇓PN	Pn	10 52 44.9	-3.8
TCW	**Tory Channel**	**3.50**	**202**	AML	AML	10 52 46.5	
PLWZ	**Palliser**	**3.64**	**189**	PN	Pn	10 52 46.6	-4.2
TUWZ	**Tuamarina**	**3.80**	**204**	AML	AML	10 53 22.9	
KHZ	**Kahutara**	**4.82**	**202**	AML	AML	10 53 10.7	

*IDC **03** 11:09:32.7±0.8,39°17N×73°05E,h0km,mb3.9/12, mb1 4.0/16,mb1mx3.9/31,mbtmp3.9/16,ML3.7/5,Error ellipse: s-maj=18.2km s-min=13.7km az=67.0*

*NNC **03** 11:09:34.1±3.4,39°13N×72°81E,h7km±33km,mb4.2, mpv4.0,Error ellipse: s-maj=38.0km s-min=15.9km az=0.0*

*ISCJB **03** 11:09:35.5±0.6,39°07N±0°05×72°81E±0°07,h33km, mb3.8/12,Error ellipse: s-maj=7.4km s-min=6.6km az=178.6*

*MOS **03** 11:09:36.8±1.2,39°14N×72°84E,h44km,mb4.2/8,Error ellipse: s-maj=18.0km s-min=6.6km az=78.9*

ISC 03 11:09:37.7±0.8,39°12N±0°08×72°80E±0°07,h35km,n53, σ1s55/53,mb3.9/12,5C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.49**	**80**	Pg	Pn	11 10 10.4	-5.5
KSH				Sg	Sn	11 10 36.0	-9.1
KSH				smax	smax		
	comp=N,310nm,0.4s						
KSH				smax	smax		
	comp=E,430nm,0.9s						
AML	**Almayashu**	**3.08**	**12**	*i* PN	**Pn**	**11 10 23.7**	**-0.5**
AML	**Almayashu**	**3.08**	**12**	P	**Pn**	**11 10 23.7**	**-0.5**
	SNR=137						
UCH	**Uchtor**	**3.36**	**22**	*i* PN	**Pn**	**11 10 27.5**	**-0.7**
UCH	**Uchtor**	**3.36**	**22**	P	**Pn**	**11 10 27.5**	**-0.7**
	SNR=29						
KZA	**Kyzart**	**3.49**	**31**	*i* PN	**Pn**	**11 10 29.6**	**-0.3**
KZA	**Kyzart**	**3.49**	**31**	P	**Pn**	**11 10 29.6**	**-0.3**
	SNR=26						
EKS2	**Erkin-Say**	**3.61**	**11**	*i* PN	**Pn**	**11 10 32.1**	**+0.8**
EKS2	**Erkin-Say**	**3.61**	**11**	P	**Pn**	**11 10 32.2**	**+0.8**
	SNR=8.1						
AAK	**Ala-Archa**	**3.73**	**20**	PN	**Pn**	**11 10 33.0**	**0.0**
AAK						11 11 16.8	
AAK				pmax	pmax		
	comp=Z,12nm,0.3s						
AAK				smax	smax		
	comp=N,11nm,0.3s						
AAK	**Ala-Archa**	**3.73**	**20**	P	**Pn**	**11 10 33.1**	**0.0**
	SNR=20						
AAK	**Ala-Archa**	**3.73**	**20**	PN	**Pn**	**11 10 33.0**	**0.0**
	comp=N,12nm,0.3s,baz=180,slow=7.2,SNR=120						
AAK				Sn	**Sn**	**11 11 16.8**	**+1.0**
	comp=N,11nm,0.3s,baz=297,slow=23,SNR=8.9						
KBK	**Karagaybulak**	**3.89**	**24**	*i* PN	**Pn**	**11 10 36.9**	**+1.8**
KBK	**Karagaybulak**	**3.89**	**24**	P	**Pn**	**11 10 36.9**	**+1.8**
	SNR=12						
ULHL	**Ulahol**	**4.07**	**39**	*i* PN	**Pn**	**11 10 38.4**	**+0.7**
ULHL	**Ulahol**	**4.07**	**39**	P	**Pn**	**11 10 38.4**	**+0.7**
	SNR=16						
CHMS	**Chumysh**	**4.14**	**20**	*i* PN	**Pn**	**11 10 38.5**	**0.0**
CHMS	**Chumysh**	**4.14**	**20**	P	**Pn**	**11 10 38.5**	**0.0**
	SNR=27						
USP	**Ospenovka**	**4.33**	**17**	*i* PN	**Pn**	**11 10 42.2**	**+1.1**
USP	**Ospenovka**	**4.33**	**17**	P	**Pn**	**11 10 42.3**	**+1.1**
	SNR=12						
KK31	**Karatay Array**	**4.34**	**337**	⇑Pn	**Pn**	**11 10 41.6**	**+0.5**
	comp=N,24nm,0.7s,baz=146,slow=12,SNR=239						
KK31				⇓Sn	**Sn**	**11 11 32.8**	**+2.3**
	comp=N,52nm,0.6s,baz=158,slow=30,SNR=4.4						
TKM2	**Tokmak 2**	**4.34**	**28**	⇓Pn	**Pn**	**11 10 40.7**	**-0.8**
	comp=N,21nm,0.8s						
TKM2				⇓Sn	**Sn**	**11 11 32.3**	**+1.4**
	comp=N,46nm,0.8s						
CEP	**Cherat**	**5.34**	**188**	P	Pn	11 11 02.9	+7.9
CEP				S	Sn	11 12 14.0	+19
THW	**Thamme Wali**	**6.37**	**188**	P	Pn	11 11 15.8	+6.7
MKAR	**Makanchi Array**	**10.34**	**39**	Lg	Lg	11 14 56.8	
	comp=N,0.1nm,0.3s,baz=226,slow=29,SNR=4.1						
KURBB	**Kurchatov Arra**	**12.19**	**18**	Pn	**Pn**	**11 12 26.4**	**-2.3**
	comp=N,0.1nm,0.3s,baz=208,slow=13,SNR=4.2						
KURBB				Lg	Lg	11 15 54.1	
	comp=N,0.2nm,0.3s,baz=201,slow=28,SNR=7.7						
KURBB	**Kurchatov Arra**	**12.19**	**18**	⇑Pn	**Pn**	**11 12 25.6**	**-3.2**
	comp=N,4.9nm,1.4s						
KURBB				⇑Lg	Lg	11 15 59.1	
	comp=N,15nm,1.4s						
KURK	**Kurchatov**	**12.30**	**18**	P	Pn	11 12 26.4	-3.8
VOSK	**Vostochnaya**	**13.66**	**355**	⇓P	**Pn**	**11 12 48.5**	**-0.3**
	comp=N,2.8nm,1.1s						
VOSK				⇓Lg	Lg	11 16 44.0	
	comp=N,5.7nm,0.9s						
AB31	**Akbulak array**	**13.68**	**322**	P	**Pn**	**11 12 46.3**	**-2.8**
	comp=N,1.1nm,0.5s,baz=127,slow=14,SNR=30						
AB31				⇓S	**Sn**	**11 15 15.9**	**-3.8**
	comp=N,4.5nm,0.8s,baz=136,slow=24,SNR=4.7						
BVA0	**Borovoye Array**	**14.01**	**354**	⇑P	**Pn**	**11 12 52.3**	**-1.2**
	comp=N,2.4nm,0.8s						
BVA0				⇓Lg	Lg	11 16 56.2	
	comp=N,5.0nm,1.0s,baz=142,slow=32,SNR=3.6						
BVAR	**Borovoye Array**	**14.01**	**354**	P	**Pn**	**11 12 50.5**	**-3.0**
BVAR	**Borovoye Array**	**14.01**	**354**	Pn	**Pn**	**11 12 50.5**	**-3.0**
	comp=N,0.2nm,0.3s,baz=176,slow=12,SNR=6.5						
BVAR				Lg	Lg	11 16 55.2	
	comp=N,0.3nm,0.3s,baz=160,slow=21,SNR=3.1						
AKTO	**Aktyubinsk**	**15.40**	**322**	P	**Pn**	**11 13 09.9**	**-2.3**
AKTO	**Aktyubinsk**	**15.40**	**322**	Pn	**Pn**	**11 13 09.8**	**-2.3**
	comp=N,0.2nm,0.3s,baz=118,slow=11,SNR=4.1						
AKTO	**Aktyubinsk**	**15.40**	**322**	⇓P	**Pn**	**11 13 11.6**	**-0.6**
	comp=N,9.3nm,1.0s						
AKTO				⇑S	**Sn**	**11 16 02.5**	**+1.0**
	comp=N,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**16.94**	**25**	P	**Pn**	**11 13 31.0**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**16.94**	**25**	Pn	**Pn**	**11 13 31.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=200,slow=11,SNR=8.4						
NVS	**Novosibirsk**	**17.23**	**21**	*e*P	**Pn**	**11 13 34.0**	**-1.4**
GTA	**Gaotai**	**20.89**	**81**	*e*P	**P**	**11 14 17.0**	**0.0**
GTA				pP	Pn	11 14 21.3	+1.6
GTA				sP	sP	11 14 24.4	-6.3
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SONM	**Songino Array**	**25.72**	**59**	P	**P**	**11 15 02.2**	**-2.6**
	comp=Z,1.0nm,0.7s,baz=272,slow=9.2,SNR=6.6						
CMAR	**Chiang Mai Arr**	**30.62**	**125**	P	**P**	**11 15 47.6**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=320,slow=8.3,SNR=3.3						
AKASG	**Malin Array Be**	**32.51**	**305**	P	**P**	**11 16 07.4**	**+2.5**
AKASG	**Malin Array Be**	**32.51**	**305**	P	**P**	**11 16 07.4**	**+2.5**
	comp=Z,0.3nm,0.4s,baz=81,slow=7.4,SNR=2.8						
FINES	**FINESS Array B**	**36.16**	**324**	P	**P**	**11 16 37.2**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=115,slow=10.0,SNR=5.3						
ARCES	**ARCESS Array B**	**39.30**	**336**	P	**P**	**11 17 02.7**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=0.0,slow=4.9,SNR=4.9						
NOA	**NORSAR Array B**	**43.19**	**321**	P	**P**	**11 17 34.3**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=101,slow=7.2,SNR=2.8

IDC 03 11:28:33.7±1.9, 19.61N×143.64E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/26, mbtmp3.7/4, Error ellipse: s-maj=299.3km s-min=22.1km az=108.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.35**	**194**	P	P	11 36 13.2	-0.2
	1.6nm,0.6s,baz=14,slow=8.5,SNR=28						
ASAR	**Alice Springs**	**44.05**	**193**	P	P	11 36 43.4	-0.2
	0.3nm,0.5s,baz=15,slow=7.0,SNR=6.2						
ILAR	**Eielson Array**	**63.70**	**27**	P	P	11 39 05.9	-0.9
	0.3nm,0.7s,baz=263,slow=4.5,SNR=4.7						
INK	**Inuvik**	**69.31**	**23**	P	P	11 39 43.2	+0.7
	0.3nm,0.3s,baz=268,slow=4.0,SNR=4.0						

*ISCJB **03** 11:39:31.5±1.5, 13.50S±0.09×166.7E±0.2, h33km, mb3.4/3, Error ellipse: s-maj=28.7km s-min=10.9km az=165.8*

*IDC **03** 11:39:36.0±3.8, 13.52S×166.69E, h62km±34km, mb3.1/3, mb1 3.5/5, mb1mx3.3/20, mbtmp3.4/5, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/10, Error ellipse: s-maj=33.4km s-min=25.5km az=80.0*

ISC 03 11:39:33.4±1.4, 13.4S±0.1×166.8E±0.2, h35km, n6, σ1§59/7, mb3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.83**	**300**	P	**Pn**	**11 41 26.4**	**+1.4**
	5.6nm,0.3s,baz=180,slow=14,SNR=3.8						
HNR				LR	LR	11 44 09.0	
	comp=Z,73nm,20.1s,baz=190,slow=35						
DZM	**Mont Dzumac**	**8.61**	**182**	P	**Pn**	**11 41 37.2**	**+1.5**
	0.2nm,0.3s,baz=60,slow=21,SNR=11						
DZM				S	**Sn**	**11 43 11.3**	**-0.5**
	0.3nm,0.3s,baz=131,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**31.76**	**254**	P	**P**	**11 45 53.0**	**-1.7**
	0.2nm,0.6s,baz=85,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**32.77**	**247**	P	**P**	**11 46 01.9**	**-1.6**
	0.3nm,0.7s,baz=76,slow=9.3,SNR=6.6						
ILAR	**Eielson Array**	**85.42**	**18**	P	**P**	**11 52 06.5**	**-0.4**
	0.3nm,0.4s,baz=235,slow=5.2,SNR=12						
ARCES	**ARCESS Array B**	**118.89**	**345**	PKP	**PKPdf**	**11 58 17.6**	**-0.1**
	5.1nm,1.0s,baz=72,slow=2.9,SNR=4.0						

*IDC **03** 11:46:38.5±2.1, 15.77S×175.49W, h0km, mb3.9/5, mb1 4.2/6, mb1mx4.0/19, mbtmp3.9/6, ML1.9/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/28, Error ellipse: s-maj=125.5km s-min=21.5km az=152.0*

*ISCJB **03** 11:46:40.8±2.0, 16.1S±0.8×175.2W±0.4, h33km, mb3.9/5, MS3.8/10, Error ellipse: s-maj=127.8km s-min=9.9km az=152.1*

ISC 03 11:46:42.5±2.4, 16.1S±0.9×175.2W±0.5, h35km, n21, σ1§56/8, mb3.9/5, MS3.8/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.95**	**57**	Pn	**Pn**	**11 47 39.7**	**-0.9**
	4.4nm,0.3s,baz=271,slow=15,SNR=7.1						
AFI				Sn	**Sn**	**11 48 25.5**	**-0.4**
	2.0nm,0.3s,baz=282,slow=20,SNR=2.8						
AFI				LR	LR	11 48 27.9	
	comp=Z,417nm,20.3s,baz=305,slow=27						
DZM	**Mont Dzumac**	**18.35**	**248**	*e*LR	LR	11 55 15.7	
	453nm,25.6s						
URZ	**Urewera**	**23.09**	**196**	LR	LR	12 00 28.5	
	comp=Z,295nm,18.1s,baz=25,slow=36						
PPT2	**Papeete2**	**24.54**	**97**	*e*LQ	LQ	11 57 09.8	
	587nm,25.2s						
PPT	**Papeete**	**24.54**	**97**	LR	LR	11 59 03.7	
	comp=Z,140nm,21.6s,baz=335,slow=30						
HNR	**Honiara**	**25.14**	**282**	LR	LR	12 00 08.8	
	comp=Z,172nm,18.9s,baz=124,slow=33						
TBI	**Tubuai**	**25.23**	**111**	*e*LQ	LQ	11 57 32.4	
	579nm,28.2s						
TBI				*e*LR	LR	11 58 45.5	
	293nm,29.8s						
H11N3	**WAKE ISLAND Hy**	**39.72**	**333**	T	T	12 35 12.7	
	baz=155,slow=77,SNR=15						
H11N1	**WAKE ISLAND Hy**	**39.73**	**333**	T	T	12 35 14.5	
	baz=155,slow=77,SNR=80						
H11N2	**WAKE ISLAND Hy**	**39.74**	**333**	T	T	12 35 14.2	
	baz=155,slow=77,SNR=18						
STKA	**Stephens Creek**	**42.20**	**240**	LR	LR	12 08 10.5	
	comp=Z,105nm,19.7s,baz=27,slow=31						
WRA	**Warramunga Arr**	**48.02**	**258**	P	**P**	**11 55 19.1**	**+0.6**
	0.8nm,0.8s,baz=91,slow=7.9,SNR=6.3						
ASAR	**Alice Springs**	**48.27**	**253**	P	**P**	**11 55 19.2**	**-1.3**
	1.1nm,0.6s,baz=86,slow=7.9,SNR=16						
ASAR				LR	LR	12 13 18.4	
	comp=Z,156nm,18.1s,baz=87,slow=33						
VNDA	**Vanda**	**62.50**	**185**	LR	LR	12 17 22.4	
	comp=Z,60nm,20.0s,baz=13,slow=29						
PETK	**Petropavlovsk-**	**72.80**	**343**	LR	LR	12 23 13.6	
	comp=Z,62nm,21.8s,baz=330,slow=30						
KSRS	**Korea Array**	**75.48**	**316**	LR	LR	12 28 13.8	
	comp=Z,27nm,20.3s,baz=155,slow=33						
NVAR	**Mina Array Bea**	**76.00**	**43**	P	**P**	**11 58 28.7**	**+2.3**
	1.1nm,0.9s,baz=226,slow=9.7,SNR=6.3						
NVAR				LR	LR	12 26 25.7	
	comp=Z,172nm,19.8s,baz=155,slow=31						
USRK	**Ussuriysk Arra**	**76.94**	**324**	LR	LR	12 24 57.8	
	comp=Z,120nm,21.4s,baz=204,slow=30						
ILAR	**Eielson Array**	**83.48**	**12**	P	**P**	**11 59 05.7**	**-0.4**
	0.9nm,1.1s,baz=207,slow=3.8,SNR=2.9						
PDAR	**Pinedale Array**	**83.94**	**42**	P	**P**	**11 59 10.9**	**+1.7**
	1.2nm,0.9s,baz=220,slow=3.7,SNR=7.8						
BRTR	**Keskin Array B**	**145.60**	**319**	PKPbc	**PKPbc**	**12 06 16.6**	**-1.1**
	0.8nm,0.5s,baz=0.0,slow=1.4,SNR=2.8						

*CSEM **03** 11:55:13.5, 35.61N×28.10E, h5km, MD3.9, After ATH*

ATH 03 11:55:13.5, 35.61N×28.10E, h5km, MD3.9/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.60**	**2**	*e*PB	Pg	11 55 25.5	+0.3
ARG	**Arkhangelos**	**0.60**	**2**	*e*Pb	Pg	11 55 25.5	+0.3
KARP	**Karpathos**	**0.77**	**266**	*e*PB	Pb	11 55 29.0	-0.4
KARP				*e*SB	Sb	11 55 39.3	-0.9
KARP	**Karpathos**	**0.77**	**266**	*e*Pb	Pb	11 55 29.0	-0.4
KARP				*e*Sb	Sb	11 55 39.3	-0.9
ZKR	**Zakros**	**1.62**	**253**	*e*PG	Pb	11 55 43.7	-0.1
ZKR				*e*SB	Sg	11 56 05.4	-0.1
ZKR	**Zakros**	**1.62**	**253**	*e*Pg	Pb	11 55 43.7	-0.1
ZKR				*e*Sb	Sg	11 56 05.4	-0.1
NPS	**Neapolis**	**2.06**	**261**	*e*PG	Pb	11 55 51.8	+0.4
NPS	**Neapolis**	**2.06**	**261**	*e*Pg	Pb	11 55 51.8	+0.4
LAST	**Lasithi**	**2.19**	**259**	*e*PG	Pb	11 55 54.2	+0.5
LAST	**Lasithi**	**2.19**	**259**	*e*Pg	Pb	11 55 54.2	+0.5
APE	**Apeiranthos**	**2.53**	**306**	*e*PG	Pb	11 56 00.8	+1.2
APE	**Apeiranthos**	**2.53**	**306**	*e*Pg	Pb	11 56 00.8	+1.2

*CSEM **03** 12:05:05.3±0.1, 32.61N×16.52W, h30km, ML3.5, Error ellipse: s-maj=3.7km s-min=2.5km az=126.0*

*MDD **03** 12:05:06.2±1.4, 32.59N×16.53W, h40km, mb4.6/13, Error ellipse: s-maj=24.2km s-min=6.2km az=115.0, PRXIMO*

*IGIL **03** 12:05:07.1, 32.58N×16.43W, h6km, ML3.4*

*INMG **03** 12:05:08.7±1.4, 32.64N×16.48W, h10km, MD2.8, ML3.5, Error ellipse: s-maj=3.5km s-min=2.2km az=110.0*

*PDA **03** 12:05:08.5, 32.64N×16.47W, h5km, ML3.8*

ISC 03 12:05:04.6±0.9, 32.57N±0.06×16.47W±0.04, h30km±11km, n93, σ1§23/107, 7C-6D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUL	**Funchal**	**0.36**	**282**	*i*P	**Pn**	**12 05 13.9**	**0.0**
FUL				*e*S	**Sb**	**12 05 18.8**	**+0.1**
FUL				A	A	12 05 21.8	
	6μm,0.2s						
FUL	**Funchal**	**0.36**	**282**	*i*P	**Pn**	**12 05 13.9**	**0.0**
FUL				*e*S	**Sb**	**12 05 18.8**	**+0.1**
	6μm,0.2s						
PMAR	**Madeira**	**0.40**	**292**	*i*P	**Pn**	**12 05 14.5**	**-0.1**
PMAR	**Madeira**	**0.40**	**292**	*i*P	**Pn**	**12 05 14.5**	**-0.1**
PMPS	**Porto Santo**	**0.50**	**13**	*i*P	**Pb**	**12 05 15.3**	**+0.3**
PMPS				*e*S	**Sb**	**12 05 20.6**	**-1.5**
PMPS				A	A	12 05 21.6	
	4μm,0.1s						
PMPS	**Porto Santo**	**0.50**	**13**	*i*P	**Pb**	**12 05 15.3**	**+0.3**
PMPS				*e*S	**Sb**	**12 05 20.6**	**-1.5**
	4μm,0.1s						
PMPST	**Porto Santo, M**	**0.52**	**13**	*e*P	**Pb**	**12 05 15.5**	**+0.1**
PMPST				*e*S	**Sb**	**12 05 21.1**	**-1.6**
PMPST				A	A	12 05 22.2	
	6μm,0.3s						
PMPST	**Porto Santo, M**	**0.52**	**13**	*e*P	**Pb**	**12 05 15.5**	**+0.1**
PMPST				*e*S	**Sb**	**12 05 21.1**	**-1.6**
	6μm,0.3s						
PMOZ	**Porto Moniz, M**	**0.66**	**292**	*i*P	**Pb**	**12 05 18.2**	**+0.4**
PMOZ				*e*S	**Sb**	**12 05 25.6**	**-1.2**
PMOZ				A	A	12 05 34.7	
	3μm,0.5s						
PMOZ	**Porto Moniz, M**	**0.66**	**292**	*i*P	**Pb**	**12 05 18.2**	**+0.4**
PMOZ				*e*S	**Sb**	**12 05 25.6**	**-1.2**
	3μm,0.5s						
EBAJ	**Bajamar**	**4.02**	**178**	P	**Pn**	**12 06 05.2**	**+1.0**
	3.6nm,0.1s,SNR=14						
EBAJ				S	**Sn**	**12 06 48.2**	**-2.1**
	16nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**4.02**	**178**	P	**Pn**	**12 06 05.2**	**+1.0**
	3.6nm,0.1s,SNR=14						
EBAJ				S	**Sn**	**12 06 48.2**	**-2.1**
	16nm,0.2s,SNR=7.9						
EHIG	**Higuera**	**4.17**	**196**	P	**Pn**	**12 06 07.8**	**+1.5**
	20nm,0.1s,SNR=7.9						
EHIG				S	**Sn**	**12 06 51.5**	**-2.5**
	91nm,0.2s,SNR=7.9						
EHIG	**Higuera**	**4.17**	**196**	P	**Pn**	**12 06 07.8**	**+1.5**
	20nm,0.1s,SNR=7.9						
EHIG				S	**Sn**	**12 06 51.5**	**-2.5**
	91nm,0.2s,SNR=7.9						
EFAM	**Famara**	**4.26**	**143**	P	**Pn**	**12 06 09.5**	**+2.0**
	2.3nm,0.1s,SNR=10.0						
EFAM				S	**Sn**	**12 06 53.4**	**-2.8**
	7.9nm,0.1s,SNR=7.9						
EFAM	**Famara**	**4.26**	**143**	P	**Pn**	**12 06 09.5**	**+2.0**
	2.3nm,0.1s,SNR=10.0						
EFAM				S	**Sn**	**12 06 53.4**	**-2.8**
	7.9nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**4.29**	**182**	P	**Pn**	**12 06 09.6**	**+1.4**
	0.1nm,0.2s,SNR=7.9						
CRAJ				S	**Sn**	**12 06 55.3**	**-2.1**
	139nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**4.29**	**182**	P	**Pn**	**12 06 09.6**	**+1.4**
	0.1nm,0.2s,SNR=7.9						
CRAJ				S	**Sn**	**12 06 55.3**	**-2.1**
	139nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**4.34**	**182**	P	**Pn**	**12 06 09.0**	**+0.2**
	2.4nm,0.1s,SNR=14						
CCAN				S	**Sn**	**12 06 56.6**	**-1.9**
	5.9nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**4.34**	**182**	P	**Pn**	**12 06 09.0**	**+0.2**
	2.4nm,0.1s,SNR=14						
CCAN				S	**Sn**	**12 06 56.6**	**-1.9**
	5.9nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**4.45**	**188**	*i*P	**Pn**	**12 06 09.9**	**-0.1**
	7.4nm,0.1s,SNR=18						
EGOM				S	Sn	12 06 57.4	-3.3
	71nm,0.2s,SNR=6.9						
EGOM	**La Gomera**	**4.45**	**188**	P	**Pn**	**12 06 09.9**	**-0.1**
	7.4nm,0.1s,SNR=18						
EGOM				S	Sn	12 06 57.4	-3.3
	71nm,0.2s,SNR=6.9						
EOSO	**Osorio**	**4.56**	**170**	P	**Pn**	**12 06 12.9**	**+1.3**
	1.6nm,0.1s,SNR=7.0						
EOSO				S	Sn	12 07 00.3	-3.3
	8.0nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**4.56**	**170**	P	**Pn**	**12 06 12.9**	**+1.3**
	1.6nm,0.1s,SNR=7.0						
EOSO				S	Sn	12 07 00.3	-3.3
	8.0nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**4.63**	**153**	P	**Pn**	**12 06 13.8**	**+1.2**
	0.7nm,0.1s,SNR=8.0						
CFTV				S	Sn	12 06 59.9	-5.4
	12nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**4.63**	**153**	P	**Pn**	**12 06 13.8**	**+1.2**
	0.7nm,0.1s,SNR=8.0						
PFVI	**Vila Bisbo**	**7.75**	**52**	P	**Pn**	**12 06 56.0**	**+0.6**
	2.3nm,0.1s,SNR=16						
PFVI				S	Sn	12 08 15.1	-7.1
	5.0nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**7.75**	**52**	*e*Pn	**Pn**	**12 06 55.9**	**+0.5**
PFVI				*e*Sn	Sn	12 08 14.7	-7.5
PFVI				A	A	12 08 18.8	
	18nm,0.5s						
PFVI	**Vila Bisbo**	**7.75**	**52**	P	**Pn**	**12 06 56.0**	**+0.6**
	2.3nm,0.1s,SNR=16						
MORF	**Marmelete**	**7.97**	**51**	P	**Pn**	**12 06 59.3**	**+0.9**
	SNR=7.9						
MORF				S	Sn	12 08 22.4	-5.1
	SNR=7.9						
MORF	**Marmelete**	**7.97**	**51**	*e*Pn	**Pn**	**12 06 58.5**	**+0.1**
MORF				*e*Sn	Sn	12 08 19.3	-8.2
MORF				A	A	12 08 25.5	
	24nm,0.4s						
MORF	**Marmelete**	**7.97**	**51**	*e*Pn	**Pn**	**12 06 58.5**	**+0.1**
MORF	**Marmelete**	**7.97**	**51**	P	**Pn**	**12 06 59.3**	**+0.9**
	SNR=7.9						
PTEO	**Sao Teotonio**	**8.06**	**50**	*e*Pn	**Pn**	**12 06 59.4**	**-0.1**
PTEO				*e*Sn	Sn	12 08 21.9	-7.7
PTEO				A	A	12 08 30.9	
	15nm,0.5s						
PTEO	**Sao Teotonio**	**8.06**	**50**	*e*Pn	**Pn**	**12 06 59.4**	**-0.1**
PSMN	**Pico do Norte,**	**8.34**	**304**	*e*P	**Pn**	**12 07 03.9**	**+0.5**
PSMN	**Pico do Norte,**	**8.34**	**304**	*e*P	**Pn**	**12 07 03.9**	**+0.5**
PSMA	**Santa Maria**	**8.38**	**304**	*e*P	Pn	12 07 02.6	-1.4
PBDV	**Barranco-do-Ve**	**8.42**	**54**	*e*Pn	**Pn**	**12 07 05.5**	**+1.0**
PBDV				*e*Sn	Sn	12 08 29.2	-9.3
PBDV				A	A	12 08 42.8	
	8.4nm,0.6s						
PBDV	**Barranco-do-Ve**	**8.42**	**54**	*e*Pn	**Pn**	**12 07 05.5**	**+1.0**
PNCL	**Nicolau / Gran**	**8.52**	**47**	*i*eP	**Pn**	**12 07 06.9**	**+1.0**
PNCL				*e*Sn	Sn	12 08 32.5	-8.5
PNCL				A	A	12 08 37.7	
	6.7nm,0.2s						
PNCL	**Nicolau / Gran**	**8.52**	**47**	*i*eP	**Pn**	**12 07 06.9**	**+1.0**
MESJ	**Messejana**	**8.55**	**50**	*e*P	**Pn**	**12 07 07.0**	**+0.7**
MESJ				*e*S	Sn	12 08 34.4	-7.3
MESJ				AML	AML	12 08 38.6	
	comp=N,12nm,0.5s						
MESJ	**Messejana**	**8.55**	**50**	P	**Pn**	**12 07 07.3**	**+0.9**
	SNR=7.9						
MESJ				S	Sn	12 08 34.3	-7.4
	SNR=7.9						
MESJ	**Messejana**	**8.55**	**50**	P	**Pn**	**12 07 07.3**	**+0.9**
	SNR=7.9						
PCVE	**Castro Verde**	**8.55**	**52**	*e*Pn	**Pn**	**12 07 08.1**	**+1.7**
PCVE				*e*Sn	Sn	12 08 32.6	-9.2
PCVE				A	A	12 08 41.9	
	comp=N,6.3nm,0.2s						
PCVE	**Castro Verde**	**8.55**	**52**	*e*Pn	**Pn**	**12 07 08.1**	**+1.7**
PMAFR	**Mafra**	**8.64**	**40**	P	**Pn**	**12 07 08.0**	**+0.5**
	comp=N,2.9nm,0.1s,SNR=5.5						
PMAFR				S	Sn	12 08 33.8	-10
	comp=N,22nm,0.2s,SNR=7.8						
PMAFR	**Mafra**	**8.64**	**40**	*e*Pn	**Pn**	**12 07 08.3**	**+0.8**
PMAFR				*e*Sn	Sn	12 08 35.0	-8.9
PMAFR				A	A	12 08 40.2	
	comp=N,28nm,0.4s						
PMAFR	**Mafra**	**8.64**	**40**	P	**Pn**	**12 07 08.0**	**+0.5**
	comp=N,2.9nm,0.1s,SNR=5.5						
PMAFR	**Mafra**	**8.64**	**40**	*e*Pn	**Pn**	**12 07 08.3**	**+0.8**
PVAQ	**Vaqueiros**	**8.65**	**54**	*e*Pn	**Pn**	**12 07 08.3**	**+0.7**
PVAQ				*e*Sn	Sn	12 08 35.5	-8.6
PVAQ				A	A	12 08 43.9	
	comp=N,9.4nm,0.3s						
PVAQ	**Vaqueiros**	**8.65**	**54**	*e*Pn	**Pn**	**12 07 08.3**	**+0.7**
EGRO	**El Granado**	**8.87**	**54**	P	**Pn**	**12 07 11.8**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=12						
EGRO				S	Sn	12 08 43.6	-6.1
	comp=N,2.3nm,0.1s,SNR=8.7						
EGRO	**El Granado**	**8.87**	**54**	P	**Pn**	**12 07 11.8**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=12						
PBEJ	**Beja**	**8.89**	**50**	*e*Pn	**Pn**	**12 07 13.0**	**+2.0**
PBEJ				*e*Sn	Sn	12 08 40.5	-10
PBEJ				A	A	12 08 48.0	
	comp=N,6.2nm,0.2s						
PBEJ	**Beja**	**8.89**	**50**	*e*Pn	**Pn**	**12 07 13.0**	**+2.0**
EVO	**Evora**	**9.10**	**47**	*e*Pn	**Pn**	**12 07 14.6**	**+0.8**
EVO				*e*Sn	Sn	12 08 46.5	-8.7
EVO				A	A	12 08 52.1	
	comp=N,6.8nm,0.2s						
EVO	**Evora**	**9.10**	**47**	*e*Pn	**Pn**	**12 07 14.6**	**+0.8**
PMTG	**Montargil**	**9.31**	**44**	*e*Pn	**Pn**	**12 07 17.5**	**+0.7**
PMTG				*e*Sn	Sn	12 08 51.0	-9.5
PMTG				A	A	12 09 03.6	
	comp=N,4.2nm,0.4s						
PMTG	**Montargil**	**9.31**	**44**	*e*Pn	**Pn**	**12 07 17.5**	**+0.7**
PBAR	**Barrancos**	**9.51**	**51**	*e*Pn	**Pn**	**12 07 20.8**	**+1.3**
PBAR				*e*Sn	Sn	12 08 56.4	-9.0
PBAR				A	A	12 09 02.0	
	comp=N,6.3nm,0.6s						
PBAR	**Barrancos**	**9.51**	**51**	*e*Pn	**Pn**	**12 07 20.8**	**+1.3**
EMIN	**Mina Concepcio**	**9.54**	**54**	P	**Pn**	**12 07 20.9**	**+0.9**
	comp=N,0.2nm,0.1s,SNR=22						
EMIN				S	Sn	12 09 00.6	-5.6
	comp=N,0.8nm,0.1s,SNR=7.3						
EMIN	**Mina Concepcio**	**9.54**	**54**	P	**Pn**	**12 07 20.9**	**+0.9**
	comp=N,0.2nm,0.1s,SNR=22						
PESTR	**Estremoz**	**9.56**	**46**	*e*Pn	**Pn**	**12 07 22.3**	**+2.0**
PESTR				*e*Sn	Sn	12 08 57.5	-9.2
PESTR				A	A	12 09 04.9	
	comp=N,5.4nm,0.6s						
PESTR	**Estremoz**	**9.56**	**46**	*e*Pn	**Pn**	**12 07 22.3**	**+2.0**
ESPR	**Espera**	**9.73**	**61**	P	**Pn**	**12 07 24.1**	**+1.6**
	comp=N,1.5nm,0.1s,SNR=5.4						
ESPR				S	Sn	12 09 04.9	-5.8
	comp=N,19nm,0.3s,SNR=7.9						
ESPR	**Espera**	**9.73**	**61**	P	**Pn**	**12 07 24.1**	**+1.6**
	comp=N,1.5nm,0.1s,SNR=5.4						
PCAS	**Casmilo, Conde**	**9.85**	**38**	*e*Pn	**Pn**	**12 07 24.8**	**+0.7**
PCAS				*e*Sn	Sn	12 09 02.8	-11
PCAS				A	A	12 09 13.7	
	comp=N,5.7nm,0.5s						
PCAS	**Casmilo, Conde**	**9.85**	**38**	*e*Pn	**Pn**	**12 07 24.8**	**+0.7**
EBAD	**Badajoz**	**9.86**	**49**	P	**Pn**	**12 07 24.7**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=18						
EBAD				S	Sn	12 09 03.4	-10
	comp=N,5.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**9.86**	**49**	P	**Pn**	**12 07 24.7**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=18						
EJIF	**Jimena Fronter**	**9.87**	**64**	P	**Pn**	**12 07 25.4**	**+1.0**
	comp=N,1.0nm,0.1s,SNR=7.9						
EJIF				S	Sn	12 09 04.7	-9.4
	SNR=7.9						
EJIF	**Jimena Fronter**	**9.87**	**64**	P	**Pn**	**12 07 25.4**	**+1.0**
	comp=N,1.0nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**10.04**	**45**	*e*Pn	**Pn**	**12 07 27.4**	**+0.7**
PMRV				*e*Sn	Sn	12 09 08.4	-10
PMRV				A	A	12 09 14.9	
	comp=N,5.7nm,0.4s						
PMRV	**Marv??o**	**10.04**	**45**	*e*Pn	**Pn**	**12 07 27.4**	**+0.7**
PCBR	**Castelo Branco**	**10.26**	**43**	*e*Pn	**Pn**	**12 07 29.7**	**0.0**
PCBR				*e*Sn	Sn	12 09 14.4	-9.3
PCBR				A	A	12 09 22.7	
	comp=N,3.0nm,0.7s						
PCBR	**Castelo Branco**	**10.26**	**43**	*e*Pn	**Pn**	**12 07 29.7**	**0.0**
EMIJ	**Mijas**	**10.43**	**64**	P	**Pn**	**12 07 33.3**	**+1.1**
	comp=N,2.4nm,0.3s,SNR=7.9						
EMIJ				S	Sn	12 09 20.8	-7.2
	comp=N,0.9nm,0.3s,SNR=4.0						
EMIJ	**Mijas**	**10.43**	**64**	P	**Pn**	**12 07 33.3**	**+1.1**
	comp=N,2.4nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**10.56**	**56**	S	Sn	12 09 23.5	-7.7
	comp=N,0.8nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**10.61**	**40**	*e*Sn	Sn	12 09 22.2	-10
MTE				A	A	12 09 33.0	
	comp=N,5.4nm,0.4s						
PVIS	**Viseu**	**10.65**	**38**	*e*Pn	**Pn**	**12 07 36.3**	**+1.2**
PVIS	**Viseu**	**10.65**	**38**	*e*Pn	**Pn**	**12 07 36.3**	**+1.2**
EADA	**Adamuz**	**11.19**	**57**	S	Sn	12 09 38.5	-8.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**11.22**	**45**	P	**Pn**	**12 07 44.0**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**11.22**	**45**	P	**Pn**	**12 07 44.0**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**11.42**	**39**	P	**Pn**	**12 07 45.8**	**0.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO				S	Sn	12 09 43.2	-9.1
	comp=N,1.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**11.42**	**39**	P	**Pn**	**12 07 45.8**	**0.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**11.44**	**33**	P	**Pn**	**12 07 46.6**	**+0.7**
	comp=N,0.4nm,0.1s,SNR=4.6						
ELOB				S	Sn	12 09 41.8	-11
	comp=N,0.3nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**11.44**	**33**	P	**Pn**	**12 07 46.6**	**+0.7**
	comp=N,0.4nm,0.1s,SNR=4.6						
ETOR	**Torete**	**14.18**	**50**	P	**Pn**	**12 08 24.5**	**+1.0**
	comp=N,9.3nm,0.2s,SNR=7.9						

*IDC **03** 12:09:35.8±0.7, 1.35S×15.87W, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.1/33, mbtmp4.2/19, ML4.2/2, MS4.2/24, Ms1 4.2/24, ms1mx4.2/28, Error ellipse: s-maj=18.6km s-min=16.0km az=111.0*

*ISCJB **03** 12:09:36.0±0.5, 1.28S±0.05×15.82W±0.08, h12km, mb4.2/17, MS4.3/22, Error ellipse: s-maj=11.5km s-min=6.5km az=14.0*

*NEIC **03** 12:09:37.4±0.4, 1.33S×15.87W, h10km, mb4.5/2, Error ellipse: s-maj=10.4km s-min=8.0km az=108.0*

*GCMT **03** 12:09

TSUM	**Tsumeb**	**37.29**	**121**	P		**P**	**12 16 51.4**	**+1.2**
	2.1nm,0.8s,baz=294,slow=7.5,SNR=3.5							
ESDC	**Sonseca Array**	**42.20**	**14**	LR		LR	12 35 27.8	
	comp=Z,263nm,21.9s,baz=170,slow=37							
KEST	**Kesra**	**43.71**	**30**	P		**P**	**12 17 43.4**	**+0.4**
KEST	**Kesra**	**43.71**	**30**	P		**P**	**12 17 43.4**	**+0.4**
	1.1nm,0.7s,baz=207,slow=4.5,SNR=2.9							
KEST				LR		LR	12 35 57.8	
	comp=Z,176nm,20.0s,baz=192,slow=36							
LSZ	**Lusaka**	**45.63**	**110**	*eP*		**P**	**12 17 59.2**	**+0.4**
LSZ	**Lusaka**	**45.63**	**110**	P		**P**	**12 17 58.5**	**-0.3**
	1.7nm,0.8s,baz=0.0,slow=5.1,SNR=4.7							
SUR	**Sutherland**	**46.34**	**136**	P		**P**	**12 18 03.2**	**-1.0**
SUR	**Sutherland**	**46.34**	**136**	P		**P**	**12 18 03.2**	**-1.0**
	5.7nm,0.8s,baz=304,slow=7.3,SNR=2.8							
LBTB	**Lobatse**	**46.44**	**124**	P		**P**	**12 18 05.8**	**+0.9**
LBTB	**Lobatse**	**46.44**	**124**	P		**P**	**12 18 05.8**	**+0.9**
	3.2nm,0.8s,baz=299,slow=3.4,SNR=4.6							
CPUP	**Villa Florida**	**46.98**	**234**	LR		LR	12 35 24.7	
	comp=Z,387nm,19.1s,baz=46,slow=33							
BOSA	**Boshof**	**47.72**	**129**	P		**P**	**12 18 13.5**	**-1.5**
BOSA	**Boshof**	**47.72**	**129**	P		**P**	**12 18 13.5**	**-1.5**
	6.4nm,0.8s,baz=301,slow=8.3,SNR=12							
BOSA				LR		LR	12 34 50.0	
	comp=Z,119nm,19.1s,baz=298,slow=32							
KMBO	**Kilima Mbogo**	**53.11**	**90**	LR		LR	12 40 11.4	
	comp=Z,784nm,18.4s,baz=275,slow=35							
LPAZ	**La Paz**	**53.57**	**251**	LR		LR	12 40 56.9	
	comp=Z,447nm,18.8s,baz=65,slow=35							
GERES	**GERESS Array B**	**56.11**	**23**	P		**P**	**12 19 18.0**	**+0.9**
GERES	**GERESS Array B**	**56.11**	**23**	P		**P**	**12 19 18.0**	**+0.9**
	0.3nm,0.4s,baz=211,slow=7.5,SNR=5.0							
ROSC	**El Rosal**	**58.72**	**276**	LR		LR	12 41 47.3	
	comp=Z,226nm,21.4s,baz=24,slow=33							
BRTR	**Keskin Array B**	**60.90**	**42**	P		**P**	**12 19 51.0**	**+0.2**
BRTR	**Keskin Array B**	**60.90**	**42**	P		**P**	**12 19 51.0**	**+0.2**
	7.2nm,1.1s,baz=223,slow=6.6,SNR=10							
BRTR				LR		LR	12 49 33.9	
	comp=Z,93nm,19.1s,baz=34,slow=39							
PLCA	**Paso Flores**	**63.01**	**224**	LR		LR	12 42 25.9	
	comp=Z,169nm,21.7s,baz=276,slow=31							
OPO	**Ambohidratompo**	**64.10**	**110**	LR		LR	12 46 40.4	
	comp=Z,153nm,18.2s,baz=206,slow=35							
AKASG	**Malin Array Be**	**64.44**	**30**	P		**P**	**12 20 13.8**	**-0.2**
AKASG	**Malin Array Be**	**64.44**	**30**	P		**P**	**12 20 13.8**	**-0.2**
	0.2nm,0.3s,baz=233,slow=6.8,SNR=7.0							
AKASG				LR		LR	12 48 05.0	
	comp=Z,194nm,18.8s,baz=225,slow=36							
KBZ	**Khabaz**	**68.88**	**42**	P		**P**	**12 20 43.2**	**+0.7**
KBZ	**Khabaz**	**68.88**	**42**	P		**P**	**12 20 43.2**	**+0.7**
	3.4nm,0.8s,baz=251,slow=4.9,SNR=6.1							
KBZ				LR		LR	12 54 39.3	
	comp=Z,97nm,19.0s,baz=102,slow=39							
VNA1	**Neumayer--Stat**	**69.43**	**177**	*eP*		**P**	**12 20 46.8**	**+1.4**
VNA2	**Neumayer--Watz**	**69.74**	**177**	*eP*		**P**	**12 20 47.9**	**+0.5**
FINES	**FINESS Array B**	**70.27**	**20**	P		**P**	**12 20 50.6**	**-0.1**
FINES	**FINESS Array B**	**70.27**	**20**	P		**P**	**12 20 50.6**	**-0.1**
	2.0nm,0.8s,baz=190,slow=7.1,SNR=4.0							
FINES				LR		LR	12 56 19.3	
	comp=Z,180nm,19.6s,baz=15,slow=40							
SNAA	**Sanae**	**70.77**	**176**	*eP*		**P**	**12 20 51.1**	**-2.6**
SNAA	**Sanae**	**70.77**	**176**	*eP*		**P**	**12 20 52.4**	**-1.3**
	4.9nm,1.1s							
SNAA	**Sanae**	**70.77**	**176**	P		**P**	**12 20 52.8**	**-0.9**
	0.4nm,0.8s,baz=304,slow=11,SNR=3.8							
ARCES	**ARCESS Array B**	**75.94**	**14**	LR		LR	12 54 36.4	
	comp=Z,94nm,19.5s,baz=88,slow=36							
ABKAR	**Akbulak array**	**81.74**	**40**	*eP*		**P**	**12 21 56.1**	**-0.3**
	3.0nm,0.9s							
MAW	**Mawson**	**84.52**	**158**	LR		LR	12 56 05.5	
	comp=Z,56nm,18.2s,baz=44,slow=33							
ULM	**Lac du Bonnet**	**84.59**	**321**	LR		LR	12 57 42.1	
	comp=Z,347nm,18.2s,baz=4.8,slow=34							
TXAR	**Lajitas Array**	**88.70**	**299**	P		**P**	**12 22 33.8**	**+1.9**
TXAR	**Lajitas Array**	**88.70**	**299**	P		**P**	**12 22 33.8**	**+1.9**
	0.9nm,1.0s,baz=110,slow=9.5,SNR=3.6							
TXAR				LR		LR	12 55 40.8	
	comp=Z,176nm,21.8s,baz=175,slow=31							
PDAR	**Pinedale Array**	**93.58**	**313**	LR		LR	12 59 01.6	
	comp=Z,365nm,21.4s,baz=68,slow=32							
MKAR	**Makanchi Array**	**96.53**	**43**	P		**P**	**12 23 07.2**	**-0.4**
MKAR	**Makanchi Array**	**96.53**	**43**	P		**P**	**12 23 07.2**	**-0.4**
	0.9nm,0.8s,baz=277,slow=4.8,SNR=4.0							
MKAR				LR		LR	13 13 20.3	
	comp=Z,85nm,18.1s,baz=352,slow=40							
WRA	**Warramunga Arr**	**143.96**	**127**	PKP		**PKPdf**	**12 29 13.4**	**-0.9**
WRA	**Warramunga Arr**	**143.96**	**127**	PKP		**PKPdf**	**12 29 13.4**	**-0.9**
	1.4nm,0.8s,baz=235,slow=2.9,SNR=7.8							

IDC ***03*** *12:24:37.2±1.4, 10.49S×118.94E, h0km, mb4.0/4, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/21, Error ellipse: s-maj=75.2km s-min=20.3km az=47.0*

ISCJB ***03*** *12:24:38.7±0.6, 10.85S±0.06×118.73E±0.05, h27km, mb3.9/4, MS3.9/1, Error ellipse: s-maj=8.6km s-min=5.9km az=27.1*

DJA ***03*** *12:24:49.9±1.0, 10°S±8"×11°9E±°, h130km±9km, M4.2/3, mb4.5/2, mB4.8/1, MLv4.0/3, Mw(mB)4.1/1*

ISC 03 12:24:41.1±0.9, 10.75S±0.07×118.85E±0.05, h27km, n19, σ2§28/21, mb4.1/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMNI	**Bima**	**2.20**	**356**	P	**Pn**	**12 25 18.6**	**+2.7**
BMNI				S	**Sb**	**12 25 47.9**	**+0.8**
LBFI	**Labuhan Bajo,**	**2.48**	**24**	P	**Pn**	**12 25 20.0**	**+0.3**
LBFI				S	**Sn**	**12 25 50.4**	**+1.3**
MTNI	**Mataram**	**3.38**	**308**	P	**Pb**	**12 25 40.9**	**+0.7**
MTNI				S	**Sn**	**12 26 16.9**	**+5.6**
IGBI	**Denpasar**	**4.13**	**297**	S	**Sn**	**12 26 28.5**	**-1.3**
SRBI	**Singaraja**	**4.46**	**306**	P	Pn	12 25 53.6	+6.6
SRBI				S	**Sn**	**12 26 38.7**	**+0.7**
BKSI	**Bulukumba**	**5.54**	**13**	P	**Pn**	**12 26 03.9**	**+2.1**
	81nm,0.6s,1µm						
BKSI				S	**Sn**	**12 27 00.9**	**-3.7**
	81nm,0.6s,1µm						
KAPI	**Kappang**	**5.77**	**9**	Pn	**Pn**	**12 26 05.9**	**+1.0**
	4.2nm,0.3s,baz=141,slow=14,SNR=5.6						
KAPI				Sn	**Sn**	**12 27 06.5**	**-3.8**
	12nm,0.3s,baz=240,slow=20,SNR=5.3						
KAPI				LR	LR	12 28 52.0	
	comp=Z,72nm,19.3s,baz=210,slow=46						
GMJI	**Gumukmas**	**5.87**	**294**	P	**Pn**	**12 26 05.3**	**-1.1**
GMJI				S	**Sn**	**12 27 10.3**	**-2.6**
BNSI	**Bone**	**6.43**	**11**	P	Pn	12 26 17.6	+3.5
FITZ	**Fitzroy Crossi**	**9.83**	**139**	Pn	**Pn**	**12 27 01.9**	**+1.2**
	0.3nm,0.3s,baz=312,slow=6.6,SNR=8.2						
FITZ				Sn	Sn	12 28 44.0	-6.2
	0.4nm,0.3s,baz=164,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**17.50**	**123**	P	**Pn**	**12 28 42.8**	**-0.5**
	0.1nm,0.3s,baz=297,slow=13,SNR=12						
ASAR	**Alice Springs**	**19.25**	**134**	P	**Pn**	**12 29 05.3**	**+0.6**
	0.2nm,0.3s,baz=324,slow=14,SNR=19						
PSI	**Prapat**	**23.97**	**303**	P	**P**	**12 29 52.4**	**-1.2**
	2.1nm,0.4s,baz=140,slow=17,SNR=3.0						
H08S2	**Diego Garcia H**	**45.83**	**270**	T	T	13 22 48.9	
	baz=95,slow=75,SNR=4.7						
H08S3	**Diego Garcia H**	**45.85**	**270**	T	T	13 22 49.2	
	baz=95,slow=75,SNR=6.1						
H08S1	**Diego Carcia H**	**45.85**	**270**	T	T	13 22 44.7	
	baz=95,slow=75,SNR=4.6						
SONM	**Songino Array**	**59.37**	**350**	P	**P**	**12 34 40.5**	**-0.5**
	0.4nm,0.4s,baz=167,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**65.94**	**333**	P	**P**	**12 35 23.8**	**-1.0**
	1.0nm,0.6s,baz=160,slow=7.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**70.62**	**339**	P	**P**	**12 35 52.3**	**-1.5**
	0.6nm,0.3s,baz=143,slow=6.4,SNR=4.2						
ZALV				LR	LR	13 08 20.5	
	comp=Z,56nm,18.0s,baz=292,slow=37						

IDC ***03*** *13:49:06.0±2.6, 0.48S×99.69E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=151.6km s-min=22.7km az=56.0*

ISCJB ***03*** *13:49:27.1±0.7, 0.04N±0.09×100.26E±0.08, h150km, mb3.4/4, Error ellipse: s-maj=15.9km s-min=6.0km az=43.8*

DJA ***03*** *13:49:31.5±0.7, 0°N±6"×10°0E±°, h119km±8km, M4.1/7, mb4.9/1, MLv3.7/7*

ISC 03 13:49:26.5±0.9, 0.04N±0.09×100.29E±0.08, h150km, n15, σ1§68/17, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**0.50**	**168**	P	**Pn**	**13 49 50.2**	**+2.3**
BKNI	**Bangkinang**	**0.80**	**69**	P	**Pn**	**13 49 52.1**	**+2.4**
BKNI				S	**Sn**	**13 50 09.9**	**+2.5**
MNSI	**Mandailing Nat**	**1.03**	**317**	P	**Pn**	**13 49 53.2**	**+1.6**
GSI	**Gunungsitoli**	**2.99**	**295**	P	**Pn**	**13 50 15.9**	**+2.1**
GSI				S	**Sn**	**13 50 51.7**	**+1.4**
PSI	**Prapat**	**3.06**	**334**	P	**Pn**	**13 50 15.8**	**+1.0**
KCSI	**Kotacane, Aceh**	**4.28**	**324**	P	**Pn**	**13 50 31.2**	**+0.8**
KCSI				S	**Sn**	**13 51 20.3**	**+0.1**
TPTI		**4.46**	**316**	P	**Pn**	**13 50 34.8**	**+2.0**
TPTI				S	**Sn**	**13 51 24.1**	**-0.4**
MNAI	**Manna**	**5.12**	**149**	P	Pn	13 50 49.1	+7.6
MNAI				S	**Sn**	**13 51 40.2**	**+0.1**
H08S2	**Diego Garcia H**	**28.74**	**254**	T	T	14 23 27.4	
	baz=76,slow=76,SNR=3.4						
H08S3	**Diego Garcia H**	**28.76**	**254**	T	T	14 23 35.4	
	baz=76,slow=76,SNR=4.0						
H08S1	**Diego Carcia H**	**28.76**	**254**	T	T	14 23 37.5	
	baz=76,slow=76,SNR=3.9						
WRA	**Warramunga Arr**	**38.81**	**123**	P	**P**	**13 56 35.2**	**-1.9**
	0.4nm,0.6s,baz=302,slow=8.9,SNR=8.8						
WRA				PcP	**PcP**	**13 58 44.0**	**-1.4**
	0.3nm,0.5s,baz=314,slow=2.5,SNR=8.8						
ASAR	**Alice Springs**	**40.24**	**128**	P	P	13 56 46.4	-2.5
	0.2nm,0.4s,baz=297,slow=7.6,SNR=7.3						
ASAR				PcP	**PcP**	**13 58 49.1**	**-0.9**
	0.3nm,0.5s,baz=304,slow=2.5,SNR=6.9						
MKAR	**Makanchi Array**	**49.16**	**344**	P	**P**	**13 57 59.1**	**0.0**
	1.2nm,0.7s,baz=159,slow=8.6,SNR=9.8						
ZALV	**Zalesovo Beam**	**55.23**	**349**	P	**P**	**13 58 42.7**	**-1.1**
	0.4nm,0.3s,baz=165,slow=6.2,SNR=4.1						

GUC 03 14:14:52.1±0.5, 23.86S×67.56W, h219km±27km, ML4.0, 6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**2.38**	**311**	*i*P	Pn	14 15 42.6	+6.7
PB04				*i*S	S	14 16 21.5	+12
PB04				AML	AML	14 16 27.0	
	comp=N,201nm,0.3s						
CEN1	**Los Morros**	**2.47**	**280**	*i*P	Pn	14 15 39.6	+2.6
CEN1				*i*S	S	14 16 15.3	+3.5
CEN1				AML	AML	14 16 18.0	
	comp=N,97nm,0.5s						
PB09	**Plate Boundary**	**2.57**	**323**	*i*P	Pn	14 15 40.0	+1.7
PB09				*i*S	S	14 16 16.3	+2.2
PB09				AML	AML	14 16 18.0	
	comp=N,607nm,0.4s						
ANCH	**Antofagasta**	**2.62**	**273**	*i*P	Pn	14 15 40.2	+1.7
ANCH				*i*S	S	14 16 16.3	+1.8
ANCH				AML	AML	14 16 19.3	
	comp=E,349nm,0.1s						
PB10	**Plate Boundary**	**2.77**	**277**	*i*P	Pn	14 15 41.7	+1.5
PB10				*i*S	S	14 16 19.9	+2.4
PB10				AML	AML	14 16 21.2	
	comp=N,192nm,0.5s						
PB07	**Plate Boundary**	**3.02**	**314**	*i*P	Pn	14 15 44.5	+1.3
PB07				*i*S	S	14 16 24.6	+1.6
PB07				AML	AML	14 16 26.6	
	comp=N,250nm,0.2s						
PB01	**Plate Boundary**	**3.32**	**327**	*i*P	Pn	14 15 47.5	+0.9
PB01				*i*S	S	14 16 30.8	+1.6
PB01				AML	AML	14 16 33.0	
	comp=E,129nm,0.3s						
HMBC	**Humberstone**	**4.17**	**328**	*i*P	Pn	14 15 56.9	+0.1
HMBC				*e*S	S	14 16 48.6	+1.0

IDC 03 14:24:15.6±2.2, 5.54N×126.27E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=171.4km s-min=25.5km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.54**	**163**	P	P	14 29 53.4	-1.9
	0.5nm,0.8s,baz=342,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**29.97**	**166**	P	P	14 30 27.8	+1.9
	0.1nm,0.6s,baz=343,slow=7.5,SNR=3.5						
MKAR	**Makanchi Array**	**55.82**	**325**	P	P	14 33 54.6	-0.1
	1.4nm,1.1s,baz=118,slow=7.6,SNR=2.9						

IDC ***03*** *14:26:28.2±3.7, 0.30N×67.11E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/25, mbtmp3.7/4, MS3.5/6, Ms1 3.5/6, ms1mx3.3/36, Error ellipse: s-maj=96.0km s-min=37.8km az=75.0*

ISCJB ***03*** *14:26:29.4±2.9, 0.4N±0.1×67.1E±0.5, h22km, mb3.7/4, MS3.5/6, Error ellipse: s-maj=79.0km s-min=14.2km az=170.1*

ISC 03 14:26:32.5±3.2, 0.5N±0.2×67.2E±0.6, h22km, n12, σ0§98/7, mb3.8/4, MS3.5/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**7.75**	**151**	Pn	**Pn**	**14 28 25.1**	**+1.2**
H08N2				T	T	14 36 24.4	
	baz=330,slow=75,SNR=237						
H08N3	**Diego Garcia H**	**7.77**	**151**	Pn	**Pn**	**14 28 24.7**	**+0.6**
H08N3				T	T	14 36 25.5	
	baz=330,slow=75,SNR=285						
H08N1	**Diego Carcia H**	**7.78**	**151**	Pn	**Pn**	**14 28 23.5**	**-0.7**
H08N1				T	T	14 36 16.6	
	baz=330,slow=75,SNR=299						
CMAR	**Chiang Mai Arr**	**35.94**	**58**	P	**P**	**14 33 32.0**	**+0.3**
	0.4nm,0.3s,baz=238,slow=11,SNR=9.1						
CMAR				LR	LR	14 45 28.4	
	comp=Z,68nm,19.3s,baz=289,slow=32						
BOSA	**Boshof**	**49.45**	**231**	LR	LR	14 53 10.5	
	comp=Z,56nm,21.1s,baz=249,slow=32						
IDI	**Anoyia**	**52.42**	**316**	LR	LR	14 58 26.4	
	comp=Z,49nm,19.6s,baz=76,slow=36						
TGY	**Tagaytay City**	**54.85**	**73**	LR	LR	14 57 18.5	
	comp=Z,18nm,19.5s,baz=120,slow=34						
ZALV	**Zalesovo Beam**	**55.25**	**13**	P	**P**	**14 36 04.1**	**+0.2**
	0.4nm,0.4s,baz=182,slow=4.5,SNR=4.2						
KSRS	**Korea Array**	**66.80**	**49**	LR	LR	15 07 33.3	
	comp=Z,24nm,18.1s,baz=145,slow=37						
WRA	**Warramunga Arr**	**68.75**	**112**	P	**P**	**14 37 34.6**	**-0.7**
	0.9nm,0.9s,baz=290,slow=5.9,SNR=3.0						
ASAR	**Alice Springs**	**68.95**	**116**	P	**P**	**14 37 35.8**	**-0.9**
	0.3nm,0.6s,baz=283,slow=5.6,SNR=6.8						
STKA	**Stephens Creek**	**77.04**	**123**	LR	LR	15 09 34.7	
	comp=Z,86nm,20.9s,baz=25,slow=34						

IDC 03 14:28:19.6±6.0, 30.65S×178.70W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/9, Error ellipse: s-maj=241.6km s-min=56.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.50**	**268**	P	P	14 36 16.4	-0.5
	0.2nm,0.6s,baz=106,slow=7.3,SNR=7.2						
WRA	**Warramunga Arr**	**43.51**	**273**	P	P	14 36 25.3	+0.2
	0.3nm,0.3s,baz=113,slow=7.9,SNR=11						
WRA				LR	LR	14 54 12.8	
	comp=Z,136nm,21.5s,baz=100,slow=36						
VNDA	**Vanda**	**47.79**	**186**	LR	LR	14 52 32.8	
	comp=Z,46nm,20.5s,baz=234,slow=30						
FINES	**FINESS Array B**	**145.17**	**339**	PKPbc	PKPbc	14 47 57.0	-0.9
	2.5nm,0.9s,baz=42,slow=4.3,SNR=4.8						

IDC 03 14:38:44.7±46.0, 55.98S×143.86E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.6/12, mbtmp3.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/15, Error ellipse: s-maj=790.0km s-min=211.4km az=154.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**24.15**	**355**	P	P	14 44 02.8	+0.5
	1.6nm,0.8s,baz=184,slow=16,SNR=3.9						
H01W1	**Cape Leeuwin H**	**29.27**	**304**	T	T	15 12 09.2	
	baz=141,slow=75,SNR=4.4						
H01W2	**Cape Leeuwin H**	**29.27**	**304**	T	T	15 12 02.4	
	baz=141,slow=75,SNR=3.8						
H01W3	**Cape Leeuwin H**	**29.29**	**304**	T	T	15 12 03.2	
	baz=141,slow=75,SNR=4.1						
ASAR	**Alice Springs**	**33.10**	**343**	P	P	14 45 21.7	-0.5
	0.2nm,0.6s,baz=167,slow=11,SNR=8.3						
WRA	**Warramunga Arr**	**36.69**	**345**	P	P	14 45 53.1	0.0
	0.3nm,0.5s,baz=169,slow=7.8,SNR=8.5						
HNR	**Honiara**	**48.13**	**22**	LR	LR	15 02 05.2	
	comp=Z,47nm,20.4s,baz=193,slow=29						

NIED ***03*** *14:41:00, 32.90N×140.70E, h53km, Mw3.7 Best double couple: M0 4.42000×10^14 NP1:φs 173.00000°, δ88.00000°, λ-40.00000°. NP2:φs 265.00000°, δ50.00000°, λ-177.00000°.*

IDC ***03*** *14:41:37.7±0.8, 32.73N×140.88E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/25, mbtmp3.8/10, ML3.7/1, Error ellipse: s-maj=31.1km s-min=17.6km az=83.0*

ISCJB ***03*** *14:41:43.9±0.9, 32.77N±0.05×140.82E±0.08, h60km±8km, mb3.8/9, Error ellipse: s-maj=11.6km s-min=7.7km az=162.6*

JMA ***03*** *14:41:46.0±0.1, 32.87N×140.74E, h55km±3km, M3.8*

ISC 03 14:41:43.5±1.0, 32.73N±0.05×140.92E±0.08, h37km±2km, n30, σ1§42/35, mb3.8/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.00**	**293**	P	**Pn**	**14 42 01.6**	**+0.6**
JHJ2				S	**Sn**	**14 42 12.5**	**-1.4**
JKO	**Kozu shima**	**2.08**	**315**	P	**Pn**	**14 42 16.5**	**+0.6**
JKO				S	**Sn**	**14 42 38.9**	**-1.6**
BSO3	**Boso 3**	**2.10**	**351**	P	**Pn**	**14 42 16.9**	**+1.1**
BSO3				S	**Sn**	**14 42 40.4**	**-0.1**
JIM2	**Oshima 3**	**2.34**	**328**	P	**Pn**	**14 42 19.7**	**+0.3**
JIM2				S	**Sn**	**14 42 44.1**	**-2.8**
JIZS	**Izushimoda**	**2.62**	**320**	P	**Pn**	**14 42 24.0**	**+0.8**
JIZS				S	**Sn**	**14 42 52.2**	**-1.4**
KTJJ	**Kamata 2**	**2.68**	**325**	P	**Pn**	**14 42 24.8**	**+0.7**
KTJJ				S	**Sn**	**14 42 52.8**	**-2.5**
TK02	**Tokai 2**	**2.91**	**296**	P	**Pn**	**14 42 28.4**	**+1.3**
TK04	**Tokai 4**	**3.03**	**304**	P	**Pn**	**14 42 30.2**	**+1.4**
TTO5	**TONANKAI O.B.S**	**3.08**	**300**	P	**Pn**	**14 42 30.5**	**+1.1**
TTO5				S	**Sn**	**14 43 03.6**	**-1.3**
TTO4	**TONANKAI O.B.S**	**3.10**	**295**	P	**Pn**	**14 42 30.5**	**+0.8**
TTO4				S	**Sn**	**14 43 05.6**	**+0.2**
SHZ3	**Shizuoka 3**	**3.24**	**317**	P	**Pn**	**14 42 33.6**	**+1.7**
SHZ3				S	**Sn**	**14 43 10.5**	**+1.2**
MAT	**Matsushiro**	**4.41**	**330**	P	**Pn**	**14 42 50.1**	**+2.2**
MAT				S	**Sn**	**14 43 38.3**	**+0.2**
JCJ	**Chichijima**	**5.72**	**169**	Pn	**Pn**	**14 43 07.2**	**+1.3**
	4.2nm,0.3s,baz=288,slow=20,SNR=3.4						
JCJ				Sn	**Sn**	**14 44 09.1**	**-1.1**
	5.3nm,0.3s,baz=52,slow=19,SNR=2.5						
JNU	**Nakatsue**	**8.45**	**275**	Pn	**Pn**	**14 43 45.9**	**+2.5**
	1.1nm,0.3s,baz=164,slow=23,SNR=12						
ASAJ	**Asahikawa**	**11.45**	**6**	Pn	Pn	14 44 21.4	-2.9
	0.6nm,0.3s,baz=243,slow=14,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**26.57**	**113**	T	T	15 16 17.8	
	baz=307,slow=76,SNR=57						
H11N1	**WAKE ISLAND Hy**	**26.58**	**113**	T	T	15 16 17.3	
	baz=307,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	**26.59**	**113**	T	T	15 16 21.4	
	baz=307,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**27.12**	**115**	T	T	15 16 54.0	
	baz=310,slow=74,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**27.12**	**115**	T	T	15 16 53.9	
	baz=310,slow=74,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**27.14**	**115**	T	T	15 16 53.7	
	baz=310,slow=74,SNR=8.9						
SONM	**Songino Array**	**30.06**	**310**	P	**P**	**14 47 49.5**	**+0.4**
	0.3nm,0.4s,baz=120,slow=8.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**44.61**	**316**	P	**P**	**14 49 53.1**	**+1.2**
	0.5nm,0.3s,baz=102,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**46.18**	**306**	P	**P**	**14 50 02.9**	**-1.6**
	0.7nm,0.8s,baz=95,slow=8.8,SNR=3.2						
WRA	**Warramunga Arr**	**52.75**	**188**	P	**P**	**14 50 54.2**	**-0.6**
	0.3nm,0.3s,baz=4.7,slow=7.5,SNR=20						
ILAR	**Eielson Array**	**53.37**	**31**	P	**P**	**14 50 59.0**	**+0.2**
	0.6nm,0.6s,baz=272,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**56.48**	**188**	P	**P**	**14 51 21.0**	**-0.7**
	0.2nm,0.4s,baz=1.1,slow=6.8,SNR=12						
ASAR				PcP	**PcP**	**14 52 19.1**	**+0.8**
	0.4nm,0.7s,baz=0.0,slow=3.6,SNR=6.0						
ARCES	**ARCESS Array B**	**67.88**	**340**	P	**P**	**14 52 36.1**	**-1.6**
	3.7nm,1.0s,baz=81,slow=11,SNR=2.4						
FINES	**FINESS Array B**	**72.44**	**333**	P	**P**	**14 53 03.9**	**-1.7**
	2.1nm,0.9s,baz=94,slow=8.6,SNR=3.6						
TXAR	**Lajitas Array**	**93.07**	**52**	P	**P**	**14 54 54.9**	**+1.2**
	0.5nm,0.7s,baz=270,slow=3.8,SNR=4.5						

IDC ***03*** *14:48:28.9±3.8, 20.38S×174.55W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/20, mbtmp3.9/4, ML1.8/1, Error ellipse: s-maj=144.6km s-min=

PNCL					*e*Sn	**Sn**	**14 51 34.8 +1.9**			
	33nm,0.2s									
PBDV	**Barranco-do-Ve**	**2.75**	**72**	*e*Pn	Pn	14 51 03.4 +3.0				
PBDV				*e*Sn	**Sn**	**14 51 36.2 +2.5**				
PBDV				A	A	14 51 41.4				
	19nm,0.1s									
PBDV	**Barranco-do-Ve**	**2.75**	**72**	*e*Pn	Pn	14 51 03.4 +3.0				
PBDV				*e*Sn	**Sn**	**14 51 36.2 +2.5**				
	19nm,0.1s									
MESJ	**Messejana**	**2.77**	**58**	*e*P	Pn	14 51 03.1 +2.4				
MESJ				*e*S	**Sn**	**14 51 35.9 +1.6**				
MESJ				AML	AML	14 51 37.8				
	comp=E,31nm,0.4s									
MESJ	**Messejana**	**2.77**	**58**	Pn	Pn	14 51 03.3 +2.6				
	SNR=7.9									
MESJ				Sn	**Sn**	**14 51 35.2 +1.0**				
	SNR=7.9									
MESJ	**Messejana**	**2.77**	**58**	Pn	Pn	14 51 03.3 +2.6				
	SNR=7.9									
MESJ				Sn	**Sn**	**14 51 35.2 +1.0**				
	SNR=7.9									
PCVE	**Castro Verde**	**2.81**	**64**	*e*Pn	Pn	14 51 03.8 +2.6				
PCVE				*e*Sn	**Sn**	**14 51 37.1 +2.0**				
PCVE				A	A	14 51 39.8				
	comp=E,20nm,0.1s									
PCVE	**Castro Verde**	**2.81**	**64**	*e*Pn	Pn	14 51 03.8 +2.6				
PCVE				*e*Sn	**Sn**	**14 51 37.1 +2.0**				
	comp=E,20nm,0.1s									
PMAFR	**Mafra**	**2.95**	**30**	Pn	**Pn**	**14 51 04.5 +1.3**				
	comp=E,16nm,0.2s,SNR=7.9									
PMAFR				Sn	**Sn**	**14 51 37.4 -1.3**				
	comp=E,40nm,0.1s,SNR=7.9									
PMAFR	**Mafra**	**2.95**	**30**	*e*Pn	**Pn**	**14 51 04.7 +1.5**				
PMAFR				*e*Sn	**Sn**	**14 51 39.7 +1.0**				
PMAFR				A	A	14 51 44.1				
	comp=E,63nm,0.3s									
PMAFR	**Mafra**	**2.95**	**30**	*e*Pn	**Pn**	**14 51 04.7 +1.5**				
PMAFR				Sn	**Sn**	**14 51 37.4 -1.3**				
	comp=E,40nm,0.1s,SNR=7.9									
PVAQ	**Vaqueiros**	**2.96**	**70**	*e*Pn	Pn	14 51 06.1 +2.8				
PVAQ				*e*Sn	**Sn**	**14 51 40.6 +1.7**				
PVAQ				A	A	14 51 44.9				
	comp=E,49nm,0.1s									
PVAQ	**Vaqueiros**	**2.96**	**70**	*e*Pn	Pn	14 51 06.1 +2.8				
PVAQ				*e*Sn	**Sn**	**14 51 40.6 +1.7**				
	comp=E,49nm,0.1s									
PACT	**Alcochete**	**3.01**	**38**	*e*Pn	Pn	14 51 06.2 +2.3				
PACT				*e*Sn	**Sn**	**14 51 41.6 +1.6**				
PACT				A	A	14 51 45.0				
	comp=E,48nm,0.5s									
PACT	**Alcochete**	**3.01**	**38**	*e*Pn	Pn	14 51 06.2 +2.3				
PACT				*e*Sn	**Sn**	**14 51 41.6 +1.6**				
	comp=E,48nm,0.5s									
PBEJ	**Beja**	**3.11**	**58**	*e*Pn	**Pn**	**14 51 07.6 +2.3**				
PBEJ				*e*Sn	**Sn**	**14 51 44.3 +1.8**				
PBEJ				A	A	14 51 45.4				
	comp=E,13nm,0.2s									
PBEJ	**Beja**	**3.11**	**58**	*e*Pn	**Pn**	**14 51 07.6 +2.3**				
PBEJ				*e*Sn	**Sn**	**14 51 44.3 +1.8**				
	comp=E,13nm,0.2s									
EGRO	**El Granado**	**3.18**	**68**	Pn	Pn	14 51 09.0 +2.7				
	comp=E,3.8nm,0.0s,SNR=21									
EGRO				Sn	**Sn**	**14 51 45.9 +1.7**				
	comp=E,18nm,0.1s,SNR=13									
EGRO	**El Granado**	**3.18**	**68**	Pn	Pn	14 51 09.0 +2.7				
	comp=E,3.8nm,0.0s,SNR=21									
EGRO				Sn	**Sn**	**14 51 45.9 +1.7**				
	comp=E,18nm,0.1s,SNR=13									
EVO	**Evora**	**3.30**	**49**	*e*Sn	**Sn**	**14 51 48.9 +1.7**				
EVO				A	A	14 51 50.0				
	comp=E,34nm,0.1s									
EVO	**Evora**	**3.30**	**49**	*e*Sn	**Sn**	**14 51 48.9 +1.7**				
	comp=E,34nm,0.1s									
PMTG	**Montargil**	**3.54**	**41**	*e*Pn	**Pn**	**14 51 13.2 +1.9**				
PMTG				*e*Sn	**Sn**	**14 51 54.5 +1.2**				
PMTG				A	A	14 51 56.0				
	comp=E,11nm,0.1s									
PMTG	**Montargil**	**3.54**	**41**	*e*Pn	**Pn**	**14 51 13.2 +1.9**				
PMTG				*e*Sn	**Sn**	**14 51 54.5 +1.2**				
	comp=E,11nm,0.1s									
PBAR	**Barrancos**	**3.75**	**61**	*e*Pn	Pn	14 51 16.6 +2.4				
PBAR				*e*Sn	**Sn**	**14 51 59.7 +1.3**				
PBAR				A	A	14 52 04.4				
	comp=E,12nm,0.3s									
PBAR	**Barrancos**	**3.75**	**61**	*e*Pn	Pn	14 51 16.6 +2.4				
PBAR				*e*Sn	**Sn**	**14 51 59.7 +1.3**				
	comp=E,12nm,0.3s									
PESTR	**Estremoz**	**3.77**	**48**	*e*Pn	**Pn**	**14 51 16.7 +2.3**				
PESTR				*e*Sn	**Sn**	**14 51 59.9 +1.1**				
PESTR				A	A	14 52 02.3				
	comp=E,7.2nm,0.5s									
PESTR	**Estremoz**	**3.77**	**48**	*e*Pn	**Pn**	**14 51 16.7 +2.3**				
PESTR				*e*Sn	**Sn**	**14 51 59.9 +1.1**				
	comp=E,7.2nm,0.5s									
EMIN	**Mina Concepcio**	**3.86**	**68**	⇑Pn	**Pn**	**14 51 18.0 +2.3**				
	comp=E,7.6nm,0.1s,SNR=18									
EMIN				Sn	**Sn**	**14 52 02.0 +0.8**				
	comp=E,17nm,0.2s,SNR=13									
EMIN	**Mina Concepcio**	**3.86**	**68**	Pn	**Pn**	**14 51 18.0 +2.3**				
	comp=E,7.6nm,0.1s,SNR=18									
EMIN				Sn	**Sn**	**14 52 02.0 +0.8**				
	comp=E,17nm,0.2s,SNR=13									
PTOM	**Tomar**	**3.88**	**34**	*e*Sn	**Sn**	**14 52 01.6 +0.1**				
PTOM				A	A	14 52 06.8				
	comp=E,16nm,0.3s									
PTOM	**Tomar**	**3.88**	**34**	*e*Sn	**Sn**	**14 52 01.6 +0.1**				
	comp=E,16nm,0.3s									
EBAD	**Badajoz**	**4.06**	**54**	Pn	**Pn**	**14 51 20.4 +2.0**				
	comp=E,8.6nm,0.1s,SNR=42									
EBAD				Sn	**Sn**	**14 52 05.6 -0.5**				
	comp=E,20nm,0.1s,SNR=7.7									
EBAD	**Badajoz**	**4.06**	**54**	Pn	**Pn**	**14 51 20.4 +2.0**				
	comp=E,8.6nm,0.1s,SNR=42									
EBAD				Sn	**Sn**	**14 52 05.6 -0.5**				
	comp=E,20nm,0.1s,SNR=7.7									
PCAS	**Casmilo, Conde**	**4.21**	**30**	*e*Pn	**Pn**	**14 51 21.6 +1.2**				
PCAS				*e*Sn	**Sn**	**14 52 09.4 -0.2**				
PCAS				A	A	14 52 14.7				
	comp=E,9.7nm,0.4s									
PCAS	**Casmilo, Conde**	**4.21**	**30**	*e*Pn	**Pn**	**14 51 21.6 +1.2**				
PCAS				*e*Sn	**Sn**	**14 52 09.4 -0.2**				
	comp=E,9.7nm,0.4s									
PMRV	**Marv??o**	**4.25**	**44**	*e*Pn	**Pn**	**14 51 22.8 +1.7**				
PMRV				*e*Sn	**Sn**	**14 52 10.2 -0.6**				
PMRV				A	A	14 52 13.0				
	comp=E,18nm,0.3s									
PMRV	**Marv??o**	**4.25**	**44**	*e*Pn	**Pn**	**14 51 22.8 +1.7**				
PMRV				*e*Sn	**Sn**	**14 52 10.2 -0.6**				
	comp=E,18nm,0.3s									
ESPR	**Espera**	**4.32**	**82**	⇑Pn	Pn	14 51 24.9 +2.9				
	comp=E,10nm,0.1s,SNR=18									
ESPR				Sn	**Sn**	**14 52 12.7 +0.2**				
	comp=E,90nm,0.3s,SNR=5.2									
ESPR	**Espera**	**4.32**	**82**	Pn	Pn	14 51 24.9 +2.9				
	comp=E,10nm,0.1s,SNR=18									
ESPR				Sn	**Sn**	**14 52 12.7 +0.2**				
	comp=E,90nm,0.3s,SNR=5.2									
PCBR	**Castelo Branco**	**4.50**	**40**	*e*Pn	**Pn**	**14 51 26.5 +2.0**				
PCBR				*e*Sn	**Sn**	**14 52 17.4 +0.5**				
PCBR				A	A	14 52 18.8				
	comp=E,11nm,0.5s									
PCBR	**Castelo Branco**	**4.50**	**40**	*e*Pn	**Pn**	**14 51 26.5 +2.0**				
PCBR				*e*Sn	**Sn**	**14 52 17.4 +0.5**				
	comp=E,11nm,0.5s									
EJIF	**Jimena Fronter**	**4.62**	**88**	Pn	Pn	14 51 29.1 +2.9				
	comp=E,0.6nm,0.1s,SNR=7.9									
EJIF				Sn	**Sn**	**14 52 18.6 -1.3**				
	comp=E,1.0nm,0.1s,SNR=7.9									
EJIF	**Jimena Fronter**	**4.62**	**88**	Pn	Pn	14 51 29.1 +2.9				
	comp=E,0.6nm,0.1s,SNR=7.9									
EJIF				Sn	**Sn**	**14 52 18.6 -1.3**				
	comp=E,1.0nm,0.1s,SNR=7.9									
ECAB	**El Cabril**	**4.90**	**69**	⇓Pn	Pn	14 51 32.6 +2.6				
	comp=E,6.2nm,0.1s,SNR=18									
ECAB				Sn	**Sn**	**14 52 26.8 0.0**				
	comp=E,8.4nm,0.1s,SNR=13									
ECAB	**El Cabril**	**4.90**	**69**	Pn	Pn	14 51 32.6 +2.6				
	comp=E,6.2nm,0.1s,SNR=18									
ECAB				Sn	**Sn**	**14 52 26.8 0.0**				
	comp=E,8.4nm,0.1s,SNR=13									
MTE	**Manteigas**	**4.90**	**35**	*e*Sn	**Sn**	**14 52 26.9 0.0**				
MTE				A	A	14 52 34.0				
	comp=E,6.1nm,0.4s									
MTE	**Manteigas**	**4.90**	**35**	*e*Sn	**Sn**	**14 52 26.9 0.0**				
	comp=E,6.1nm,0.4s									
PVIS	**Viseu**	**5.01**	**30**	*e*Pn	**Pn**	**14 51 32.6 +1.1**				
PVIS				*e*Sn	**Sn**	**14 52 29.2 -0.3**				
PVIS				A	A	14 52 32.0				
	comp=E,13nm,0.1s									
PVIS	**Viseu**	**5.01**	**30**	*e*Pn	**Pn**	**14 51 32.6 +1.1**				
PVIS				*e*Sn	**Sn**	**14 52 29.2 -0.3**				
	comp=E,13nm,0.1s									
EMIJ	**Mijas**	**5.18**	**87**	Pn	Pn	14 51 36.9 +3.0				
	comp=E,0.7nm,0.2s,SNR=4.0									
EMIJ				Sn	**Sn**	**14 52 33.1 -0.6**				
	comp=E,0.8nm,0.2s,SNR=7.9									
EMIJ	**Mijas**	**5.18**	**87**	Pn	Pn	14 51 36.9 +3.0				
	comp=E,0.7nm,0.2s,SNR=4.0									
EMIJ				Sn	**Sn**	**14 52 33.1 -0.6**				
	comp=E,0.8nm,0.2s,SNR=7.9									
CIA	**Chichaoua**	**5.25**	**157**	Pn	**Pn**	**14 51 33.0 -1.8**				
CIA				Sn	Sn	14 52 28.0 -7.4				
CIA	**Chichaoua**	**5.25**	**157**	*i* P	**Pn**	**14 51 33.0 -1.8**				
CIA				*i* S	Sn	14 52 28.0 -7.4				
PMPST	**Porto Santo, M**	**5.38**	**233**	*e*Pn	Pn	14 51 28.4 -8.1				
PMPST				*e*Sn	Sn	14 52 18.2 -20				
PMPST				A	A	14 52 20.6				
	comp=E,22nm,0.4s									
EPLA	**Plasencia**	**5.43**	**46**	Pn	**Pn**	**14 51 39.4 +2.1**				
	comp=E,2.7nm,0.2s,SNR=9.9									
EPLA				Sn	**Sn**	**14 52 37.7 -2.2**				
	comp=E,4.2nm,0.2s,SNR=8.4									
EPLA	**Plasencia**	**5.43**	**46**	Pn	**Pn**	**14 51 39.4 +2.1**				
	comp=E,2.7nm,0.2s,SNR=9.9									
EPLA				Sn	**Sn**	**14 52 37.7 -2.2**				
	comp=E,4.2nm,0.2s,SNR=8.4									
PVRL	**Vila Real**	**5.56**	**28**	*e*Sn	**Sn**	**14 52 41.0 -2.0**				
PVRL				A	A	14 52 44.4				
	comp=E,12nm,0.2s									
PVRL	**Vila Real**	**5.56**	**28**	*e*Sn	**Sn**	**14 52 41.0 -2.0**				
	comp=E,12nm,0.2s									
EADA	**Adamuz**	**5.56**	**70**	Pn	Pn	14 51 41.4 +2.3				
	comp=E,4.6nm,0.1s,SNR=33									
EADA				Sn	**Sn**	**14 52 42.8 -0.3**				
	comp=E,8.5nm,0.2s,SNR=5.3									
EADA	**Adamuz**	**5.56**	**70**	Pn	Pn	14 51 41.4 +2.3				
	comp=E,4.6nm,0.1s,SNR=33									
EADA				Sn	**Sn**	**14 52 42.8 -0.3**				
	comp=E,8.5nm,0.2s,SNR=5.3									
POLO	**Lamas de Olo**	**5.62**	**27**	*e*Pn	**Pn**	**14 51 40.9 +1.0**				
POLO				*e*Sn	**Sn**	**14 52 42.6 -1.9**				
POLO				A	A	14 52 45.2				
	comp=E,4.8nm,0.4s									
POLO	**Lamas de Olo**	**5.62**	**27**	*e*Pn	**Pn**	**14 51 40.9 +1.0**				
POLO				*e*Sn	**Sn**	**14 52 42.6 -1.9**				
	comp=E,4.8nm,0.4s									
KIB	**El Ksiba**	**5.73**	**130**	Pn	**Pn**	**14 51 41.5 0.0**				
KIB				Sn	**Sn**	**14 52 43.0 -4.4**				
KIB	**El Ksiba**	**5.73**	**130**	*i* P	**Pn**	**14 51 41.5 0.0**				
KIB				*i* S	**Sn**	**14 52 43.0 -4.4**				
MVO	**Moncorvo**	**5.75**	**33**	Pn	**Pn**	**14 51 42.8 +1.1**				
	comp=E,1.6nm,0.1s,SNR=5.9									
MVO				Sn	**Sn**	**14 52 45.6 -2.2**				
	comp=E,5.0nm,0.1s,SNR=9.0									
MVO	**Moncorvo**	**5.75**	**33**	*e*Pn	**Pn**	**14 51 42.8 +1.1**				
MVO				*e*Sn	**Sn**	**14 52 46.3 -1.5**				
MVO				A	A	14 52 49.4				
	comp=E,13nm,0.6s									
MVO	**Moncorvo**	**5.75**	**33**	Pn	**Pn**	**14 51 42.8 +1.1**				
	comp=E,1.6nm,0.1s,SNR=5.9									
MVO				*e*Sn	**Sn**	**14 52 46.3 -1.5**				
	comp=E,13nm,0.6s									
TZC	**Tazercounte**	**5.78**	**136**	Pn	**Pn**	**14 51 42.0 -0.2**				
TZC				Sn	**Sn**	**14 52 44.0 -4.6**				
TZC	**Tazercounte**	**5.78**	**136**	*i* P	**Pn**	**14 51 42.0 -0.2**				
TZC				*i* S	**Sn**	**14 52 44.0 -4.6**				
PCAB	**Cabril**	**5.83**	**24**	*e*Pn	**Pn**	**14 51 43.7 +0.9**				
PCAB				*e*Sn	**Sn**	**14 52 47.3 -2.4**				
PCAB				A	A	14 52 51.2				
	comp=E,6.4nm,0.1s									
PCAB	**Cabril**	**5.83**	**24**	*e*Pn	**Pn**	**14 51 43.7 +0.9**				
PCAB				*e*Sn	**Sn**	**14 52 47.3 -2.4**				
	comp=E,6.4nm,0.1s									
OUK	**Oukaimeden**	**5.89**	**151**	Pn	**Pn**	**14 51 43.0 -0.9**				
OUK				Sn	Sn	14 52 46.0 -5.6				
OUK	**Oukaimeden**	**5.89**	**151**	*i* P	**Pn**	**14 51 43.0 -0.9**				
OUK				*i* S	Sn	14 52 46.0 -5.6				
ELOB	**Lobios**	**5.96**	**23**	Pn	**Pn**	**14 51 45.2 +0.6**				
	comp=E,1.2nm,0.2s,SNR=6.3									
ELOB				Sn	**Sn**	**14 52 49.4 -3.7**				
	comp=E,2.0nm,0.2s,SNR=13									
ELOB	**Lobios**	**5.96**	**23**	Pn	**Pn**	**14 51 45.2 +0.6**				
	comp=E,1.2nm,0.2s,SNR=6.3									
ELOB				Sn	**Sn**	**14 52 49.3 -3.7**				
	comp=E,2.0nm,0.2s,SNR=13									
PMAR	**Madeira**	**5.98**	**234**	*e*Pn	Pn	14 51 37.7 -7.3				
PMAR				A	A	14 52 51.1				
	comp=E,22nm,0.3s									
PGAV	**Gavieira, Arco**	**5.99**	**21**	*e*Pn	**Pn**	**14 51 45.4 +0.4**				
PGAV				*e*Sn	**Sn**	**14 52 50.9 -2.7**				
PGAV				A	A	14 52 54.5				
	comp=E,8.5nm,0.2s									
PGAV	**Gavieira, Arco**	**5.99**	**21**	*e*Pn	**Pn**	**14 51 45.4 +0.4**				
PGAV				*e*Sn	**Sn**	**14 52 50.9 -2.7**				
	comp=E,8.5nm,0.2s									
ECOG	**Cogollos-Vega**	**6.18**	**80**	Sn	**Sn**	**14 52 58.0 -0.5**				
	comp=E,3.5nm,0.2s,SNR=7.9									
ECOG	**Cogollos-Vega**	**6.18**	**80**	Sn	**Sn**	**14 52 58.0 -0.5**				
	comp=E,3.5nm,0.2s,SNR=7.9									
EQUE	**Quentar**	**6.28**	**81**	Pn	Pn	14 51 52.2 +3.2				
	comp=E,0.5nm,0.1s,SNR=7.9									
EQUE				Sn	**Sn**	**14 52 58.4 -2.4**				
	comp=E,0.3nm,0.1s,SNR=7.9									
EQUE	**Quentar**	**6.28**	**81**	Pn	Pn	14 51 52.2 +3.2				
	comp=E,0.5nm,0.1s,SNR=7.9									
PBRG	**Braganca**	**6.40**	**31**	*e*Sn	**Sn**	**14 53 01.9 -1.8**				
PBRG				A	A	14 53 04.0				
	comp=E,3.5nm,0.3s									
PBRG	**Braganca**	**6.40**	**31**	*e*Sn	**Sn**	**14 53 01.9 -1.8**				
	comp=E,3.5nm,0.3s									
ECAL	**Calabor**	**6.51**	**31**	Pn	**Pn**	**14 51 53.2 +1.0**				
	comp=E,1.5nm,0.2s,SNR=7.9									
ECAL				Sn	**Sn**	**14 53 03.1 -3.5**				
	comp=E,1.4nm,0.1s,SNR=7.9									
ECAL	**Calabor**	**6.51**	**31**	Pn	**Pn**	**14 51 53.2 +1.0**				
	comp=E,1.5nm,0.2s,SNR=7.9									
ECAL				Sn	**Sn**	**14 53 03.1 -3.5**				
	comp=E,1.4nm,0.1s,SNR=7.9									
ESDC	**Sonseca Array**	**6.57**	**58**	Pn	**Pn**	**14 51 54.9 +1.9**				
	comp=E,1.3nm,0.1s,baz=244,slow=13,SNR=14									
ESDC				Sn	**Sn**	**14 53 08.9 +0.9**				
	comp=E,1.7nm,0.1s,baz=244,slow=23,SNR=7.9									
ESDC	**Sonseca Array**	**6.57**	**58**	Pn	**Pn**	**14 51 54.9 +1.9**				
	comp=E,1.3nm,0.1s,SNR=14									
ESDC				Sn	**Sn**	**14 53 08.9 +0.9**				
	comp=E,1.7nm,0.1s,SNR=7.9									
EQES	**Quesada**	**6.64**	**76**	Pn	Pn	14 51 56.7 +2.7				
	comp=E,1.1nm,0.2s,SNR=7.9									
EQES				Sn	**Sn**	**14 53 09.1 -0.8**				
	comp=E,3.5nm,0.1s,SNR=7.9									
EQES	**Quesada**	**6.64**	**76**	Pn	Pn	14 51 56.7 +2.7				
	comp=E,1.1nm,0.2s,SNR=7.9									
EQES				Sn	**Sn**	**14 53 09.1 -0.8**				
	comp=E,3.5nm,0.1s,SNR=7.9									
EMAZ	**Mazaricos**	**6.74**	**14**	Pn	**Pn**	**14 51 56.0 +0.7**				
	comp=E,1.3nm,0.1s,SNR=7.9									
EMAZ				Sn	Sn	14 53 04.9 -7.2				
	comp=E,7.9nm,0.1s,SNR=7.9									
EMAZ	**Mazaricos**	**6.74**	**14**	Pn	**Pn**	**14 51 56.0 +0.7**				
	comp=E,1.3nm,0.1s,SNR=7.9									
GUD	**Guadarrama**	**6.95**	**51**	Pn	**Pn**	**14 51 59.7 +1.5**				
	comp=E,0.7nm,0.2s,SNR=7.9									
GUD				Sn	**Sn**	**14 53 14.2 -3.2**				
	comp=E,0.4nm,0.1s,SNR=7.9									
GUD	**Guadarrama**	**6.95**	**51**	Pn	**Pn**	**14 51 59.7 +1.5**				
	comp=E,0.7nm,0.2s,SNR=7.9									
GUD				Sn	**Sn**	**14 53 14.2 -3.2**				
	comp=E,0.4nm,0.1s,SNR=7.9									
EHUE	**Huescar**	**7.02**	**76**	Sn	**Sn**	**14 53 17.6 -1.5**				
	comp=E,2.9nm,0.2s,SNR=7.9									
EHUE	**Huescar**	**7.02**	**76**	Sn	**Sn**	**14 53 17.6 -1.5**				
	comp=E,2.9nm,0.2s,SNR=7.9									
ZFT	**Errachidia**	**7.16**	**126**	Pn	**Pn**	**14 52 02.0 +0.8**				
ZFT				Sn	Sn	14 53 18.0 -4.8				
ZFT	**Errachidia**	**7.16**	**126**	*i* P	**Pn**	**14 52 02.0 +0.8**				
ZFT				*i* S	Sn	14 53 18.0 -4.8				
EPON	**Pontenova**	**7.57**	**23**	Pn	**Pn**	**14 52 06.7 +0.1**				
	comp=E,1.9nm,0.2s,SNR=7.9									
EPON				Sn	Sn	14 53 27.6 -4.9				
	comp=E,0.7nm,0.0s,SNR=7.9									
EPON	**Pontenova**	**7.57**	**23**	Pn	**Pn**	**14 52 06.7 +0.1**				
	comp=E,1.9nm,0.2s,SNR=7.9									
ETOB	**Tobarra**	**7.99**	**71**	Pn	**Pn**	**14 52 14.3 +1.9**				
	comp=E,1.7nm,0.3s,SNR=7.9									
ETOB				Sn	**Sn**	**14 53 39.5 -3.4**				
	comp=E,1.6nm,0.2s,SNR=7.9									
ETOB	**Tobarra**	**7.99**	**71**	Pn	**Pn**	**14 52 14.3 +1.9**				
	comp=E,1.7nm,0.3s,SNR=7.9									
EARI	**Arriondas**	**8.27**	**32**	Pn	**Pn**	**14 52 17.6 +1.3**				
	comp=E,0.4nm,0.2s,SNR=7.9									
EARI				Sn	Sn	14 53 44.9 -4.9				
	comp=E,0.1nm,0.1s,SNR=7.9									
EARI	**Arriondas**	**8.27**	**32**	Pn	**Pn**	**14 52 17.6 +1.3**				
	comp=E,0.4nm,0.2s,SNR=7.9									
EARI				Sn	Sn	14 53 44.9 -4.9				
	comp=E,0.1nm,0.1s,SNR=7.9									
ETOR	**Torete**	**8.40**	**56**	Pn	**Pn**	**14 52 20.2 +2.1**				
	comp=E,6.0nm,0.2s,SNR=8.2									
ETOR				Sn	**Sn**	**14 53 49.6 -3.4**				
	comp=E,2.5nm,0.1s,SNR=7.9									
ETOR	**Torete**	**8.40**	**56**	Pn	**Pn**	**14 52 20.2 +2.1**				
	comp=E,6.0nm,0.2s,SNR=8.2									
ETOR				Sn	**Sn**	**14 53 49.6 -3.4**				
	comp=E,2.5nm,0.1s,SNR=7.9									
EMOS	**Mosqueruela**	**9.30**	**62**	Pn	Pn	14 52 33.3 +2.8				
	comp=E,0.7nm,0.2s,SNR=7.9									
EMOS				Sn	Sn	14 54 11.4 -3.8				
	comp=E,1.7nm,0.3s,SNR=7.9									
EMOS	**Mosqueruela**	**9.30**	**62**	Pn	Pn	14 52 33.3 +2.8				
	comp=E,0.7nm,0.2s,SNR=7.9									

IDC ***03*** *15:05:08.1±1.7,37°.21N×54°.21E,h0km,mb3.7/8, mb1 3.8/10,mb1mx3.7/29,mbtmp3.7/10,ML3.6/1,Error ellipse: s-maj=33.5km s-min=16.2km az=6.0*

ISCJB ***03*** *15:05:09.1±0.7,37°.32N±0°.03×54°.40E±0°.03,h10km±6km, mb3.8/9,Error ellipse: s-maj=4.5km s-min=3.5km az=169.0*

CSEM ***03*** *15:05:10.0±0.1,37°.23N×54°.47E,h2km,ML3.9,Error ellipse: s-maj=3.3km s-min=2.9km az=9.0*

TEH ***03*** *15:05:11.2,37°.25N×54°.48E,h6km,ML3.9*

THR ***03*** *15:05:11.0±0.4,37°.15N×54°.52E,h15km±6km,ML3.8*

AZER ***03*** *15:05:15.9±1.3,37°.20N×54°.08E,h26km,Error ellipse: s-maj=13.4km s-min=9.2km az=44.0*

NNC ***03*** *15:05:22.5±9.5,37°.90N×54°.89E,h36km±159km,mb3.7, Error ellipse: s-maj=204.7km s-min=42.0km az=84.0*

ISC 03 15:05:10.2±1.4,37°.26N±0°.04×54°.43E±0°.03,h9km±11km, n111,σ1§45/137,mb3.8/9,17C-18D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.89**	**213**	⇓*e*Pg	**Pb**		**15 05 27.4**	**-0.5**
IGLO				*e*Sg	**Sb**		**15 05 40.4**	**+0.4**
IGLO				*e*			15 05 44.0	
	comp=Z,98μm,0.2s							
MRVT	**Maraveh tapeh**	**1.38**	**73**	*e*Pg	**Pb**		**15 05 36.0**	**-0.2**
MRVT				*e*Sg	**Sg**		**15 05 54.2**	**-0.5**
MRVT				AML	AML		15 05 57.2	
	comp=N,2μm,0.3s							
MRVT				AML	AML		15 05 58.8	
	comp=E,2μm,0.2s

	comp=Z,1μm,0.2s							
ICHK	**Chekchek**	**5.00**	**180**	*e*Pn		**Pn**	**15 06 26.1**	**+0.5**
LRK	**Lerik**	**5.01**	**288**	⇓Pn		**Pn**	**15 06 25.6**	**0.0**
LRK				⇓Sn		**Sn**	**15 07 20.7**	**-2.9**
LRK	**Lerik**	**5.01**	**288**	Pn		**Pn**	**15 06 25.6**	**0.0**
ALIB	**Äli-Bayra**	**5.03**	**304**	⇓Sn		**Sn**	**15 07 26.9**	**+3.0**
ALIB	**Äli-Bayra**	**5.03**	**304**	Sn		**Sn**	**15 07 26.9**	**+3.0**
GLBA	**Clilabad**	**5.15**	**294**	⇓Pn		**Pn**	**15 06 28.2**	**+0.8**
GLBA				⇑Sn		**Sn**	**15 07 25.5**	**-1.3**
GLBA	**Clilabad**	**5.15**	**294**	Pn		**Pn**	**15 06 28.2**	**+0.8**
GLBA				Sn		**Sn**	**15 07 25.5**	**-1.3**
ISAD	**Sadrabad**	**5.37**	**187**	*e*Pn		**Pn**	**15 06 31.4**	**+0.7**
ISAD				*e*			15 07 32.9	
	comp=Z,837nm,0.2s							
ISAD	**Sadrabad**	**5.37**	**187**	*e*Pn		**Pn**	**15 06 31.4**	**+0.7**
ISRB	**Sarab**	**5.40**	**278**	*e*Pn		**Pn**	**15 06 32.3**	**+1.2**
ISRB				*e*			15 06 33.7	
	comp=Z,765nm,0.1s							
ISRB	**Sarab**	**5.40**	**278**	*e*Pn		**Pn**	**15 06 32.3**	**+1.2**
ATGJ	**Altiaghaj**	**5.58**	**312**	⇓Pn		**Pn**	**15 06 34.6**	**+1.1**
ATGJ				⇑Sn		**Sn**	**15 07 36.3**	**-1.5**
ATGJ	**Altiaghaj**	**5.58**	**312**	Pn		**Pn**	**15 06 34.6**	**+1.1**
ITEG	**Tejag**	**5.61**	**140**	*e*Pn		**Pn**	**15 06 34.4**	**+0.5**
ITEG				*e*			15 06 44.9	
	comp=Z,1μm,0.1s							
ITEG	**Tejag**	**5.61**	**140**	*e*Pn		**Pn**	**15 06 34.4**	**+0.5**
IBAF	**Bafgh**	**5.73**	**170**	*e*Pn		**Pn**	**15 06 36.3**	**+0.7**
IBAF				*e*			15 07 40.7	
	comp=Z,399nm,0.2s							
IBAF	**Bafgh**	**5.73**	**170**	*e*Pn		**Pn**	**15 06 36.3**	**+0.7**
SIZA	**Siyzn**	**5.74**	**313**	⇓Pn		**Pn**	**15 06 37.3**	**+1.6**
SIZA				⇑Sn		**Sn**	**15 07 41.1**	**-0.6**
SIZA	**Siyzn**	**5.74**	**313**	Pn		**Pn**	**15 06 37.3**	**+1.6**
PQL	**Pirkuli**	**5.75**	**310**	⇓Pn		**Pn**	**15 06 37.6**	**+1.8**
PQL				⇑Sn		**Sn**	**15 07 41.1**	**-0.8**
PQL	**Pirkuli**	**5.75**	**310**	Pn		**Pn**	**15 06 37.6**	**+1.8**
IMEH	**Mehriz**	**5.85**	**178**	*e*Pn		**Pn**	**15 06 37.7**	**+0.4**
IMEH				*e*			15 07 47.4	
	comp=Z,390nm,0.2s							
IMEH	**Mehriz**	**5.85**	**178**	*e*Pn		**Pn**	**15 06 37.7**	**+0.4**
IHRS	**Heris**	**5.94**	**283**	*e*Pn		**Pn**	**15 06 39.5**	**+1.0**
IHRS				*e*			15 06 46.9	
	comp=Z,350nm,0.1s							
IHRS	**Heris**	**5.94**	**283**	*e*Pn		**Pn**	**15 06 39.5**	**+1.0**
IML	**Ismayilli**	**6.01**	**308**	⇑Sn		**Sn**	**15 07 45.7**	**-2.5**
IKOO	**Kooshah**	**6.12**	**141**	*e*Pn		**Pn**	**15 06 41.0**	**+0.1**
IKOO				*e*			15 06 52.4	
	comp=Z,369nm,0.1s							
IKOO	**Kooshah**	**6.12**	**141**	*e*Pn		**Pn**	**15 06 41.0**	**+0.1**
QUBA	**Quba, Azerbaij**	**6.16**	**313**	⇓Pn		**Pn**	**15 06 42.4**	**+1.1**
QUBA				⇓Sn		**Sn**	**15 07 50.8**	**-1.0**
QUBA	**Quba, Azerbaij**	**6.16**	**313**	Pn		**Pn**	**15 06 42.4**	**+1.1**
BRTA	**Brd**	**6.41**	**300**	⇑Sn		**Sn**	**15 07 57.3**	**-0.6**
SEKA	**Sheki**	**6.86**	**307**	⇑Pn		**Pn**	**15 06 52.8**	**+1.8**
SEKA				⇓Sn		**Sn**	**15 08 05.7**	**-3.4**
SEKA	**Sheki**	**6.86**	**307**	Pn		**Pn**	**15 06 52.8**	**+1.8**
GANJ	**Ganja**	**7.16**	**301**	⇓Pn		**Pn**	**15 06 56.4**	**+1.3**
GANJ				⇓Sn		**Sn**	**15 08 13.5**	**-3.2**
GANJ	**Ganja**	**7.16**	**301**	Pn		**Pn**	**15 06 56.4**	**+1.3**
NAX	**Nakhchivan**	**7.29**	**288**	⇓Pn		**Pn**	**15 06 58.4**	**+1.5**
NAX	**Nakhchivan**	**7.29**	**288**	Pn		**Pn**	**15 06 58.4**	**+1.5**
ZKTA	**Zakatala**	**7.46**	**308**	⇑Pn		**Pn**	**15 07 00.6**	**+1.5**
ZKTA				⇑Sn		**Sn**	**15 08 22.8**	**-0.9**
KBZ	**Khabaz**	**10.90**	**310**	Pn		**Pn**	**15 07 44.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.2							
KBZ				Sn		**Sn**	**15 09 44.1**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=299,slow=19,SNR=3.7							
AB31	**Akbulak array**	**12.64**	**17**	Pn		**Pn**	**15 08 11.6**	**+1.5**
	comp=Z,0.3nm,0.3s,SNR=5.6							
AB31	**Akbulak array**	**12.64**	**17**	⇑Pn		**Pn**	**15 08 11.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=207,slow=13,SNR=5.6							
AB31				⇑Sn		Sn	15 10 21.0	-10
	comp=Z,0.7nm,0.3s,baz=46,slow=46,SNR=17							
AKTO	**Aktyubinsk**	**13.42**	**10**	Pn		**Pn**	**15 08 21.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=194,slow=11,SNR=5.1							
AKTO				Sn		Sn	15 10 41.5	-8.5
	comp=Z,0.6nm,0.3s,baz=81,slow=23,SNR=6.3							
AKTO	**Aktyubinsk**	**13.42**	**10**	⇓Pn		**Pn**	**15 08 18.5**	**-2.2**
	comp=Z,4.3nm,1.1s							
AKTO				⇑Sn		Sn	15 10 41.4	-8.5
	comp=Z,2.3nm,0.6s							
BRTR	**Keskin Array B**	**16.46**	**285**	Pn		**P**	**15 09 06.4**	**+2.2**
	comp=Z,0.0nm,0.3s,baz=114,slow=13,SNR=3.0							
BVA0	**Borovoye Array**	**19.30**	**30**	P		**Pn**	**15 09 35.6**	**-0.7**
	comp=Z,4.5nm,1.1s,SNR=9.0							
BVA0	**Borovoye Array**	**19.30**	**30**	⇑P		**Pn**	**15 09 35.6**	**-0.7**
	comp=Z,4.5nm,1.1s,baz=221,slow=9.2,SNR=9.0							
BVAR	**Borovoye Array**	**19.30**	**30**	P		**Pn**	**15 09 36.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=224,slow=12,SNR=7.0							
KURBB	**Kurchatov Area**	**21.78**	**45**	P		**P**	**15 10 04.0**	**+1.9**
	comp=Z,6.1nm,1.4s							
KURBB	**Kurchatov Area**	**21.78**	**45**	P		**P**	**15 10 02.9**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=244,slow=10,SNR=11							
KURBB	**Kurchatov Area**	**21.78**	**45**	⇓P		**P**	**15 10 04.0**	**+1.9**
	comp=Z,6.1nm,1.4s							
AKASG	**Malin Array Be**	**22.43**	**315**	P		**P**	**15 10 08.7**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=119,slow=9.1,SNR=5.8							
MKAR	**Makanchi Array**	**22.68**	**56**	P		**P**	**15 10 12.7**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=245,slow=10,SNR=7.3							
MK31	**Makanchi Array**	**22.68**	**56**	P		**P**	**15 10 12.6**	**+0.7**
	comp=Z,7.7nm,1.4s,SNR=8.8							
MK31	**Makanchi Array**	**22.68**	**56**	⇑P		**P**	**15 10 12.6**	**+0.7**
	comp=Z,7.7nm,1.4s,baz=244,slow=10,SNR=8.8							
ZALV	**Zalesovo Beam**	**26.74**	**42**	P		**P**	**15 10 49.6**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=252,slow=11,SNR=4.0							
HFS	**Hagfors**	**34.46**	**325**	P		**P**	**15 11 57.8**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=121,slow=11,SNR=4.5							
ARCES	**ARCESS Array B**	**35.91**	**343**	P		**P**	**15 12 11.1**	**+0.7**
	comp=Z,4.3nm,1.0s,baz=130,slow=12,SNR=2.9							
TORD	**Torodi Ar. Bea**	**52.63**	**257**	P		**P**	**15 14 22.6**	**-2.2**
	comp=Z,0.7nm,0.9s,baz=50,slow=7.4,SNR=4.7							
ILAR	**Eielson Array**	**76.93**	**9**	P		**P**	**15 17 02.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=312,slow=3.9,SNR=5.0							

IDC 03 15:07:32.4±1.5, 13°61N×93°69E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=44.4km s-min=21.9km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.98**	**46**	Pn	**Pn**	15 09 16.9	**+0.8**
	0.3nm,0.3s,baz=245,slow=15,SNR=4.4						
CMAR				Sn	Sn	15 10 35.1	-1.2
	0.7nm,0.3s,baz=242,slow=27,SNR=6.7						
H08S3	**Diego Garcia H**	**29.81**	**226**	T	T	15 44 26.4	
	baz=44						
H08S2	**Diego Garcia H**	**29.81**	**226**	T	T	15 44 30.2	
	baz=44						
H08S1	**Diego Garcia H**	**29.82**	**226**	T	T	15 44 27.9	
	baz=44						
MKAR	**Makanchi Array**	**34.44**	**346**	P	P	15 14 22.6	**+0.9**
	0.4nm,0.6s,baz=171,slow=10,SNR=3.3						
KURBB	**Kurchatov Area**	**38.92**	**345**	P	P	15 14 58.6	-1.3
	0.6nm,0.9s,baz=162,slow=8.1,SNR=5.1						
WRA	**Warramunga Arr**	**52.07**	**129**	P	P	15 16 44.3	-0.2
	0.7nm,0.9s,baz=306,slow=9.5,SNR=5.9						
ASAR	**Alice Springs**	**54.02**	**133**	P	P	15 16 59.0	**+0.1**
	0.4nm,0.5s,baz=310,slow=7.3,SNR=23						

MEX 03 15:14:06.4±0.4, 14°28N×93°38W, h5km±9km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.25**	**60**	*i* P	Pg	15 14 26.5	-3.9
THIG				*i* S	Sg	15 14 42.8	-3.9
PCIG		**1.43**	**6**	*e*P	Pn	15 14 29.3	-3.7
PCIG				*i* S	Sb	15 14 46.8	-5.3
HUIG	**Huatulco**	**3.02**	**300**	*i* P	Pn	15 14 52.5	-2.5
HUIG				*i* S	Sn	15 15 27.8	-3.8
PNIG	**Pinotepa**	**5.04**	**295**	*i* P	Pn	15 15 20.3	-2.4
PNIG				*i* S	Sn	15 16 17.9	-3.5
UTMO	**Huajuapan**	**5.53**	**310**	*i* P	Pn	15 15 29.3	-0.4

*NIED **03** 15:25:00, 42°40N×148°00E, h11km, Mw3.7 Best double couple: M₀3.68000×10¹⁴ NP1:φ₀103.00000°, δ88.00000°, λ78.00000°. NP2:φ₀5.00000°, δ12.00000°, λ172.00000°.*
*SKHL **03** 15:25:34.9±4.4, 42°35N×148°25E, h33km, mb4.7/1*
*JMA **03** 15:25:35.6±0.2, 42°42N×148°02E, h20km, M3.9*
ISC 03 15:25:34.9±2.4, 42°23N±0°07×148°0E±0°1, h10km, n14, σ1§16/21, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.99**	**305**	P	**Pn**	**15 26 08.1**	**-0.5**
NEM2				*e*S	**Sn**	**15 26 31.7**	**-1.9**
JAK	**Akkeshi**	**2.53**	**289**	P	**Pn**	**15 26 16.6**	**+0.6**
JAK				*e*S	**Sn**	**15 26 46.6**	**-0.3**
JRA	**Rausu**	**2.69**	**310**	*e*S	**Sn**	**15 26 49.1**	**-1.8**
KUR	**Kuril'sk**	**3.00**	**359**	*e*P	**Pn**	**15 26 23.2**	**+0.7**
KUR				*e*S	Sn	15 26 51.0	-7.5
KUR				A	A	15 27 01.8	
	130nm,0.8s						
JAR	**Ashorobuto**	**3.27**	**290**	P	**Pn**	**15 26 27.0**	**+0.8**
JAR				*e*S	**Sn**	**15 27 04.8**	**-0.3**
JCH	**Churui**	**3.43**	**278**	P	**Pn**	**15 26 30.0**	**+1.6**
JCH				*e*S	**Sn**	**15 27 09.3**	**+0.2**
JTKR	**Abashiri--Toko**	**3.44**	**302**	P	**Pn**	**15 26 29.4**	**+0.8**
JTKR				*e*S	**Sn**	**15 27 09.2**	**-0.2**
JNBK	**Urakawa-nobuka**	**3.87**	**272**	P	**Pn**	**15 26 36.1**	**+1.7**
JFR	**Furan**	**4.07**	**285**	*e*S	**Sn**	**15 27 25.0**	**+0.1**
JKB	**Kayabe**	**5.17**	**269**	*e*S	**Sn**	**15 27 51.7**	**-0.3**
JANG	**Nango**	**5.20**	**251**	P	**Pn**	**15 26 53.1**	**+0.4**
JANG				*e*S	Sn	15 27 50.8	-2.0
JOT	**Ohata**	**5.24**	**263**	*e*S	**Sn**	**15 27 53.4**	**-0.3**
JOM	**Ohasama**	**5.76**	**244**	P	**Pn**	**15 27 01.1**	**+0.7**
JOM				*e*S	**Sn**	**15 28 04.5**	**-2.1**
JMK	**Ichinoseki**	**6.09**	**240**	P	**Pn**	**15 27 05.7**	**+0.8**
JMK				*e*S	**Sn**	**15 28 12.7**	**-1.9**

*IDC **03** 15:32:09.4±1.0, 16°34S×173°38W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/20, mbtmp4.2/9, MS3.5/3, Ms1 3.5/3, ms1mx2.8/27, Error ellipse: s-maj=43.9km s-min=19.1km az=133.0*
*ISCJB **03** 15:32:10.6±0.6, 16°4S±0°1×173°1W±0°1, h26km, mb4.1/9, MS3.4/3, Error ellipse: s-maj=17.6km s-min=12.4km az=139.1*
ISC 03 15:32:12.0±0.7, 16°35S±0°1×173°1W±0°1, h26km, n28, σ2§13/17, mb4.1/9, MS3.3/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.67**	**28**	Pn	**Pn**	**15 32 53.2**	**-0.2**
	6.2nm,0.3s,baz=278,slow=19,SNR=18						
AFI				Sn	**Sn**	**15 33 21.1**	**-3.9**
	20nm,0.3s,baz=344,slow=19,SNR=5.7						
RAR	**Rarotonga**	**13.52**	**113**	Pn	**Pn**	**15 35 21.9**	**-0.2**
	1.3nm,0.3s,baz=90,slow=3.0,SNR=4.3						
DZM	**Mont Dzumac**	**20.18**	**250**	*e*LR	LR	15 41 51.2	
	188nm,25.4s						
PPT2	**Papeete2**	**22.51**	**97**	*e*LR	LR	15 42 26.8	
	111nm,24.2s						
TBI	**Tubuai**	**23.28**	**111**	*e*LR	LR	15 42 52.3	
	121nm,25.2s						
URZ	**Urewera**	**23.54**	**200**	P	**P**	**15 37 20.2**	**0.0**
	30nm,1.3s,baz=16,slow=2.9,SNR=4.3						
URZ				LR	LR	15 44 43.4	
	comp=Z,90nm,18.3s,baz=16,slow=32						
HNR	**Honiara**	**27.15**	**281**	LR	LR	15 46 39.3	
	comp=Z,188nm,19.5s,baz=176,slow=32						
H11S2	**WAKE ISLAND Hy**	**39.88**	**329**	T	T	16 21 27.3	
	baz=153,slow=76,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**39.89**	**329**	T	T	16 21 28.4	
	baz=153,slow=76,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**39.90**	**329**	T	T	16 21 28.6	
	baz=153,slow=76,SNR=2.3						
H11N3	**WAKE ISLAND Hy**	**40.83**	**330**	T	T	16 23 19.4	
	baz=147,slow=75,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**40.83**	**330**	T	T	16 23 27.1	
	baz=147						
H11N2	**WAKE ISLAND Hy**	**40.85**	**330**	T	T	16 23 20.8	
	baz=147,slow=75,SNR=4.1						
STKA	**Stephens Creek**	**43.88**	**241**	P	**P**	**15 40 14.8**	**-1.7**
	3.3nm,0.9s,baz=94,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**49.95**	**257**	P	**P**	**15 41 02.6**	**-1.6**
	0.5nm,0.5s,baz=95,slow=7.8,SNR=24						
WRA				PcP	**PcP**	**15 42 25.7**	**+1.4**
	0.4nm,0.9s,baz=100,slow=3.4,SNR=2.9						
ASAR	**Alice Springs**	**50.14**	**253**	P	**P**	**15 41 04.1**	**-1.5**
	4.3nm,0.5s,baz=88,slow=8.4,SNR=152						
PETK	**Petropavlovsk-**	**73.56**	**342**	P	**P**	**15 43 44.5**	**+2.0**
	3.8nm,0.9s,baz=115,slow=11,SNR=4.5						
NVAR	**Mina Array Bea**	**74.77**	**42**	P	**P**	**15 43 52.7**	**+2.5**
	0.5nm,0.8s,baz=237,slow=8.3,SNR=4.4						
KSRS	**Morea Array**	**77.00**	**316**	LR	LR	16 10 12.6	
	comp=Z,17nm,21.2s,baz=170,slow=30						
PDAR	**Pinedale Array**	**82.71**	**42**	P	**P**	**15 44 36.0**	**+2.2**
	0.8nm,0.6s,baz=217,slow=3.3,SNR=6.9						
ILAR	**Eielson Array**	**83.25**	**11**	P	**P**	**15 44 37.5**	**+1.8**
	0.5nm,0.5s,baz=231,slow=6.0,SNR=14						
CMAR	**Chiang Mai Arr**	**93.19**	**288**	P	**P**	**15 45 25.3**	**+0.7**
	0.5nm,0.3s,baz=96,slow=2.4,SNR=4.9						
KMBO	**Kilima Mbogo**	**145.43**	**243**	PKPbc	**PKPab**	**15 51 49.7**	**+0.5**
	0.6nm,0.4s,baz=212,slow=22,SNR=3.1						
BRTR	**Keskin Array B**	**147.03**	**320**	PKPbc	**PKPab**	**15 51 54.4**	**-0.1**
	1.1nm,0.8s,baz=132,slow=1.8,SNR=6.0						
GERES	**GERESS Array B**	**147.05**	**352**	PKPbc	**PKPab**	**15 51 54.5**	**+0.4**
	0.3nm,0.4s,baz=33,slow=3.2,SNR=4.0						
LIC	**Lamto**	**164.60**	**129**	*e*P	PKPdf	15 52 07.7	-6.8
	45nm,0.3s						
TIC	**Toumodi**	**164.88**	**128**	*e*P	PKPdf	15 52 09.0	-5.8
	24nm,0.3s						
KIC	**Kosan Boka**	**164.91**	**129**	*e*P	**PKPdf**	**15 52 10.4**	**-4.4**
	9.6nm,0.7s						

*MOS **03** 16:03:07.2±1.5, 18°24S×174°79W, h52km, mb5.0/11, Error ellipse: s-maj=11.3km s-min=9.6km az=149.2*
*BJI **03** 16:03:09.4, 18°30S×174°70W, h80km, mB5.4/20, mb5.0/25, Ms5.3/11, Ms7 4.9/12*
*IDC **03** 16:03:11.4±2.2, 18°33S×174°65W, h85km±19km, mb4.4/21, mb1 4.5/23, mb1mx4.5/25, mbtmp4.8/23, MS3.4/7, Ms1 3.5/7, ms1mx3.3/31, Error ellipse: s-maj=14.1km s-min=11.2km az=138.0*
*NEIC **03** 16:03:11.1±1.1, 18°29S×174°71W, h86km±10km, mb5.0/33, Error ellipse: s-maj=8.2km s-min=5.5km az=139.0*
*ISCJB **03** 16:03:15.0±0.1, 18°49S±0°05×174°75W±0°03, h130km, mb4.8/70, Error ellipse: s-maj=7.0km s-min=3.6km az=157.4*
*DJA **03** 16:03:16.2±1.5, 19°S±15°×17°4W±1°5, h162km±22km, M5.6/23, mB5.6/5, mb5.3/23, MLv6.0/1, Mw(mB)5.1/5*
ISC 03 16:03:16.0±0.3, 18°65S±0°05×174°66W±0°05, h130km, n308, σ1§09/315, mb4.9/70, 59C-60D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.46**	**31**	*e*Pn	Pn	16 04 25.1	-10
	573nm,0.6s						
AFI				*e*Sn	Sn	16 05 15.2	-22
AFI				S	Sn	16 05 18.5	-19
AFI	**Afiamalu**	**5.46**	**31**	P	Pn	16 04 25.1	-10
	78nm,0.3s,baz=2.5,slow=0.7,SNR=92						
AFI				S	Sn	16 05 18.5	-19
	161nm,0.3s,baz=38,slow=22,SNR=8.7						
RAO	**Raoul Island**	**10.97**	**195**	S	**Sn**	**16 07 48.7**	**-1.5**
RAO	**Raoul Island**	**10.97**	**195**	S	**Sn**	**16 07 48.7**	**-1.5**
	79nm,0.3s,baz=253,slow=19,SNR=2.2						
RAR	**Rarotonga**	**14.23**	**103**	P	**Pn**	**16 06 31.1**	**-0.6**
RAR				*e*Sn	Sn	16 08 56.6	-13
RAR				S	Sn	16 08 56.7	-12
RAR	**Rarotonga**	**14.23**	**103**	P	**Pn**	**16 06 31.1**	**-0.6**
	4.9nm,0.3s,baz=270,slow=4.4,SNR=16						
RAR				S	Sn	16 08 56.7	-12
	1.2nm,0.3s,baz=90,slow=7.3,SNR=3.3						
DZM	**Mont Dzumac**	**18.04**	**256**	*e*LR	LR	16 12 18.4	
	286nm,29.0s						
DZM	**Mont Dzumac**	**18.04**	**256**	P	**Pn**	**16 07 19.9**	**+1.2**
DZM	**Mont Dzumac**	**18.04**	**256**	P	**Pn**	**16 07 19.9**	**+1.2**
	2.2nm,0.3s,baz=92,slow=19,SNR=49						
DZM				LR	LR	16 12 09.8	
	comp=Z,200nm,20.4s,baz=202,slow=30						
OUZ	**Omahuta**	**19.52**	**210**	*e*P	**Pn**	**16 07 36.5**	**+0.8**
	47nm,1.0s						
URZ	**Urewera**	**20.82**	**198**	*e*P	**P**	**16 07 49.0**	**+1.9**
	40nm,0.7s						
URZ				S	**S**	**16 11 28.9**	**-3.3**
URZ				*e*S	**S**	**16 11 31.1**	**-1.1**
URZ	**Urewera**	**20.82**	**198**	P	**P**	**16 07 49.4**	**+2.2**
	22nm,0.3s,baz=16,slow=5.5,SNR=24						
URZ				S	**S**	**16 11 29.0**	**-3.3**
	4.8nm,0.6s,baz=81,slow=19,SNR=5.1						
PAE	**Paea**	**23.85**	**92**	*e*P	**P**	**16 08 17.0**	**-0.5**
	25nm,0.9s						
PPT2	**Papeete2**	**23.86**	**91**	*e*P	**P**	**16 08 17.5**	**-0.2**
	144nm,1.1s						
PPT2				*e*LQ	LQ	16 12 54.4	
	426nm,24.2s						
PPT2				*e*LR	LR	16 13 52.5	
	461nm,33.5s						
PPT	**Papeete**	**23.86**	**91**	P	**P**	**16 08 17.0**	**-0.7**
PPT	**Papeete**	**23.86**	**91**	P	**P**	**16 08 17.0**	**-0.7**
	145nm,1.0s,baz=327,slow=7.6,SNR=7.3						
PPT				LR	LR	16 15 58.2	
	comp=Z,34nm,19.1s,baz=313,slow=32						
TBI	**Tubuai**	**23.98**	**106**	*e*LQ	LQ	16 13 15.7	
	514nm,33.0s						
TBI				*e*LR	LR	16 14 07.0	
	317nm,35.8s						
TIAR	**Tiarei**	**24.08**	**91**	*e*P	**P**	**16 08 19.3**	**-0.3**
	35nm,1.1s						
TVO	**Taravao**	**24.15**	**92**	*e*P	**P**	**16 08 20.1**	**-0.2**
	46nm,0.8s						
SNZO	**South Karori**	**24.36**	**200**	*e*P	**P**	**16 08 23.3**	**+1.6**
KHZ	**Kahutara**	**25.73**	**200**	*e*P	**P**	**16 08 36.3**	**+2.1**
	20nm,0.7s						
PMOR	**Pomariorio Ree**	**25.87**	**86**	*e*P	**P**	**16 08 35.1**	**-0.7**
	122nm,1.0s						
VAH	**Vaihoa**	**26.07**	**87**	*e*P	**P**	**16 08 36.7**	**-0.9**
	107nm,0.9s						
HNR	**Honiara**	**26.25**	**287**	P	**P**	**16 08 39.6**	**+0.3**
HNR	**Honiara**	**26.25**	**287**	P	**P**	**16 08 39.6**	**+0.3**
	31nm,0.8s,baz=194,slow=7.1,SNR=4.7						
HNR				LR	LR	16 15 47.8	
	comp=Z,77nm,20.1s,baz=155,slow=29						
RPZ	**Rata Peaks**	**27.74**	**203**	*e*P	**P**	**16 08 53.5**	**+1.2**
	43nm,0.8s						
RPZ	**Rata Peaks**	**27.74**	**203**	P	**P**	**16 08 53.8**	**+1.5**
	26nm,0.6s,baz=173,slow=0.5,SNR=21						
WHZ	**Wether Hill Ro**	**30.75**	**204**	*e*P	**P**	**16 09 19.7**	**+0.8**
EIDS	**Eidsvold**	**32.39**	**252**	*e*P	**P**	**16 09 33.6**	**0.0**
	26nm,0.9s						
ARMA	**Armidale**	**32.71**	**243**	*e*P	**P**	**16 09 37.4**	**+1.0**
	15nm,0.6s						
CTAO	**Charters Tower**	**36.85**	**261**	*e*P	**P**	**16 10 11.1**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,46nm,0.6s						
CTAO	**Charters Tower**	**36.85**	**261**	*e*P	**P**	**16 10 11.1**	**-0.8**
	comp=Z,46nm,0.6s						
PMG	**Port Moresby**	**38.09**	**279**	*e*P	**P**	**16 10 22.1**	**-0.4**
	comp=Z,22nm,0.9s						
PMG	**Port Moresby**	**38.09**	**279**	P	**P**	**16 10 22.9**	**+0.4**
	comp=Z,24nm,0.9s,baz=95,slow=4.3,SNR=6.9						
TAU	**Tasmania Unive**	**40.15**	**225**	P	**P**	**16 10 40.7**	**+1.5**
TAU	**Tasmania Unive**	**40.15**	**225**	P	**P**	**16 10 40.7**	**+1.5**
COEN	**Coen**	**40.67**	**270**	*e*P	**P**	**16 10 43.5**	**-0.3**
	comp=Z,80nm,0.6s						
STKA	**Stephens Creek**	**41.43**	**243**	*e*P	**P**	**16 10 50.1**	**+0.2**
	comp=Z,4.1nm,1.1s						
STKA				ScP	**ScP**	**16 16 28.1**	**+4.5**
STKA	**Stephens Creek**	**41.43**	**243**	P	**P**	**16 10 50.5**	**+0.6**
	comp=Z,8.2nm,0.6s,baz=87,slow=10,SNR=25						
STKA				ScP	**ScP**	**16 16 28.1**	**+4.5**
	comp=Z,2.3nm,0.8s,baz=90,slow=7.1,SNR=3.9						
BBOO	**Buckleboo**	**46.19**	**242**	*e*P	**P**	**16 11 27.3**	**-0.6**
	comp=Z,308nm,0.6s						
WRAB	**Tennant Creek**	**47.99**	**260**	*e*P	**P**	**16 11 40.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,43nm,0.8s						
WRAB	**Tennant Creek**	**47.99**	**260**	*e*P	**P**	**16 11 40.9**	**-1.2**
	comp=Z,43nm,0.8s						
WRAB	**Tennant Creek**	**47.99**	**260**	P	**P**	**16 11 41.5**	**-0.6**
	comp=Z,354nm,0.8s						
WRA	**Warramunga Arr**	**48.00

MPMC	Manual Prospec	76.69	44	⇓P		P	16 14 52.5	-0.6	
	baz=77								
GSC	Goldstone	76.71	45	⇓P		P	16 14 52.8	-0.4	
	baz=77								
WAKR	Walker	76.86	41	*e*P		P	16 14 53.3	-0.7	
	comp=Z,3.5nm,0.8s								
YBH	Yreka Blue Hor	76.90	37	P		P	16 14 54.2	+0.2	
YBH	Yreka Blue Hor	76.90	37	P		P	16 14 54.2	+0.2	
	comp=Z,3.7nm,0.7s,baz=172,slow=3.2,SNR=5.9								
TUQ	Turquoise Moun	77.39	46	⇑P		P	16 14 56.2	-0.8	
	baz=77								
M04C	Macdoel	77.43	38	⇓P		P	16 14 57.2	+0.2	
	baz=77								
NVAR	Mina Array Bea	77.53	42	P		P	16 14 57.2	-0.6	
NVAR	Mina Array Bea	77.53	42	P		P	16 14 57.2	-0.6	
	comp=Z,3.6nm,0.9s,baz=233,slow=9.2,SNR=13								
KSRS	Korea Array	77.65	317	P		P	16 14 58.2	+0.1	
	comp=Z,12nm,1.0s,baz=133,slow=6.7,SNR=17								
KSRS				LR		LR	16 46 50.5		
	comp=Z,11nm,19.3s,baz=5.0,slow=34								
KSAR	Wonju Array Be	77.67	317	P		P	16 14 58.2	0.0	
TPNV	Topopah Spring	78.01	44	⇑P		P	16 15 00.3	-0.2	
	baz=78								
SHPR	Sheep Range	78.49	45	*e*P		P	16 15 01.4	-1.7	
	comp=Z,2.4nm,0.7s								
Y14A	Wickenburg	78.60	48	⇑P		P	16 15 03.1	-0.4	
	baz=79								
R11A	Troy Canyon, C	79.24	43	⇓P		P	16 15 06.6	-0.5	
	baz=79								
USRK	Ussuriysk Arra	79.26	324	P		P	16 15 07.8	+1.0	
	comp=Z,2.1nm,0.6s,baz=112,slow=4.7,SNR=7.2								
X16A	Lo Mia Camp, P	79.96	49	⇑P		P	16 15 11.3	+0.1	
	baz=80								
319A	Douglas	80.03	52	⇑P		P	16 15 11.7	+0.2	
	baz=80								
U15A	North Rim	80.40	46	⇑P		P	16 15 13.6	+0.1	
	baz=80								
320A	Kipp Ranch, An	80.57	52	⇑P		P	16 15 14.7	+0.3	
	baz=80								
220A	Playas Peak, P	80.84	52	⇑P		P	16 15 16.4	+0.6	
	baz=81								
MDJ	Mudanjiang	80.87	323	P		P	16 15 12.6	-2.9	
120A	U Bar Ranch, L	81.07	51	⇓P		P	16 15 17.6	+0.5	
	baz=81								
NJ2	Nanjing	81.17	308	*e*P		P	16 15 17.6	+0.2	
NJ2				pmax		pmax			
	comp=Z,30nm,1.2s								
121A	Cookes Peak, D	81.69	52	⇓P		P	16 15 20.9	+0.5	
	baz=82								
Y20A	Horse Springs,	81.91	50	⇓P		P	16 15 21.8	+0.2	
	baz=82								
Y21A	Point of Rocks	82.47	50	⇑P		P	16 15 24.8	+0.3	
	baz=82								
MYKOM	Kota Tinggi	82.51	274	P		P	16 15 25.8	+1.0	
Z22A	Elephant Butte	82.64	51	⇓P		P	16 15 25.6	+0.3	
	baz=83								
CN2	Changchun	82.81	321	*e*P		P	16 15 26.2	+0.5	
CN2				*e*PP		PP	16 18 39.3	+1.4	
CN2				*e*S		S	16 25 36.8	+3.7	
CN2				*e*SS		SS	16 31 03.9	+4.7	
HLID	Hailey	82.89	39	⇓P		P	16 15 26.0	-0.3	
	baz=83								
324A	Moseley Ranch,	82.93	54	⇑P		P	16 15 26.7	-0.1	
	baz=83								
Y22A	Socorro	82.96	51	⇓P		P	16 15 26.9	-0.1	
	baz=83								
QIZ	Qiongzhong	83.01	293	P		P	16 15 28.1	+0.8	
QIZ				pP		pP	16 15 46.2	-14	
QIZ				S		S	16 25 37.1	+0.9	
QIZ				pmax		pmax			
	comp=Z,230nm,4.1s								
425A	Indio Mountain	83.02	54	⇓P		P	16 15 27.6	+0.3	
	baz=83,SNR=8.0								
KGM	Kluang	83.08	274	P		P	16 15 29.1	+1.3	
626A	Big Bend Ranch	83.14	56	⇑P		P	16 15 28.2	+0.4	
	baz=83								
224A	Cornudas Mount	83.18	53	⇓P		P	16 15 28.5	+0.4	
	baz=83								
Z23A	Rita Site, Whi	83.19	52	⇓P		P	16 15 28.1	0.0	
	baz=83								
526A	Mary Lane Ranc	83.39	55	⇑P		P	16 15 29.6	+0.4	
	baz=83								
TXAR	Lajitas Array	83.41	56	P		P	16 15 29.9	+0.6	
TXAR	Lajitas Array	83.41	56	P		P	16 15 29.9	+0.6	
	comp=Z,1.6nm,0.7s,baz=218,slow=8.5,SNR=16								
MVCO	Mesa Verde	83.42	47	⇓P		P	16 15 29.1	-0.2	
	baz=83								
124A	Stringfield Ra	83.52	52	⇑P		P	16 15 30.2	+0.3	
	baz=84								
627A	Terlingua Ranc	83.68	56	⇓P		P	16 15 31.0	+0.3	
	baz=84								
426A	McDonald Obser	83.70	55	⇑P		P	16 15 31.2	+0.4	
	baz=84,SNR=6.4								
225A	Deer Hill, Car	83.73	53	⇑P		P	16 15 31.5	+0.5	
	baz=84								
ANMO	Albuquerque	83.80	50	*e*P		P	16 15 30.2	-1.0	
	comp=Z,1.9nm,0.7s								
527A	Woodward Ranch	83.80	55	⇑P		P	16 15 31.5	+0.2	
	baz=84								
Z24A	Sheeppen Canyo	83.87	52	⇓P		P	16 15 31.4	-0.2	
	baz=84								
Y24A	Capitan	84.08	51	⇑P		P	16 15 33.0	+0.3	
	baz=84								
628A	Black Gap, Mar	84.09	56	⇓P		P	16 15 33.0	+0.3	
	baz=84								
125A	Gardner Draw,	84.10	53	⇑P		P	16 15 33.1	+0.4	
	baz=84								
U22A	Llaves	84.18	49	⇓P		P	16 15 33.3	+0.1	
	baz=84								
226B	Tecolote Peak,	84.22	54	⇓P		P	16 15 33.4	+0.1	
	baz=84								
427A	Hayter Ranch,	84.27	55	⇑P		P	16 15 34.2	+0.6	
	baz=84,SNR=5.4								
Z25A	Roswell	84.33	52	⇑P		P	16 15 34.6	+0.7	
	baz=84								
MAW	Mawson	84.35	199	P		P	16 15 35.3	+2.1	
MAW	Mawson	84.35	199	P		P	16 15 35.3	+2.1	
	comp=Z,2.7nm,0.5s,baz=154,slow=5.9,SNR=4.0								
MAW				LR		LR	16 48 51.7		
	comp=Z,25nm,18.6s,baz=187,slow=32								
V23A	Ortiz Mt. (NFS	84.37	50	⇑P		P	16 15 34.5	+0.4	
	baz=84								
528A	Cox Ranch, San	84.46	56	⇓P		P	16 15 35.0	+0.5	
	baz=84								
H03N2	Juan Fernandez	84.54	123	T		T	17 48 29.7		
	baz=253,slow=74,SNR=13								
H03N3	Juan Fernandez	84.54	123	T		T	17 48 39.6		
	baz=253,slow=74,SNR=9.0								
H03N1	Juan Fernandez	84.56	123	T		T	17 48 36.7		
	baz=253,slow=74,SNR=8.4								
Y25A	Mesa, Roswell	84.63	52	⇓P		P	16 15 35.3	-0.1	
	baz=85								
W24A	Lazy 6 Ranch,	84.69	50	⇓P		P	16 15 35.6	-0.1	
	baz=85								
428A	Kincaid Ranch,	84.78	55	⇓P		P	16 15 36.4	+0.3	
	baz=85								
S22A	4UR Ranch, Cre	84.84	47	⇑P		P	16 15 36.6	+0.1	
	baz=85								
Z26A	Caprock	84.88	53	⇓P		P	16 15 36.6	0.0	
	baz=85								
529A	Stev Forest Ra	84.89	56	⇓P		P	16 15 36.7	0.0	
	baz=85								
328A	Wristen Ranch,	84.96	55	⇑P		P	16 15 37.4	+0.4	
	baz=85								
V24A	Rampart Ranch,	85.02	50	⇑P		P	16 15 37.4	0.0	
	baz=85								
FRIM	Kepong	85.08	275	P		P	16 15 33.2	-4.7	
Y26A	Elida	85.28	52	⇓P		P	16 15 38.6	0.0	
	baz=85								
429A	Davenport Ranc	85.35	56	⇓P		P	16 15 39.1	+0.1	
	baz=85,SNR=9.9								
N20A	Spence Gulch,	85.35	44	⇓P		P	16 15 39.0	+0.1	
	baz=85								
W25A	X Bar L Ranch,	85.38	51	⇓P		P	16 15 39.2	+0.1	
	baz=85								
I17A	Pilgrim Ck.	85.42	41	⇑P		P	16 15 40.2	+1.0	
	baz=85								
228A	UT Block 9, Go	85.44	54	⇓P		P	16 15 39.7	+0.3	
	baz=85								
PDAR	Pinedale Array	85.47	42	P		P	16 15 38.4	-1.2	
PDAR	Pinedale Array	85.47	42	P		P	16 15 38.4	-1.2	
	comp=Z,1.6nm,0.8s,baz=224,slow=2.8,SNR=10.0								
V25A	Rancho No Teng	85.55	50	⇑P		P	16 15 40.0	+0.1	
	baz=86								
530A	J-C Ranch, Com	85.59	56	⇓P		P	16 15 40.0	-0.2	
	baz=86								
128A	Castleberry Fa	85.73	54	⇑P		P	16 15 40.9	0.0	
	baz=86,SNR=7.1								
R23A	Moffat	85.75	47	⇓P		P	16 15 41.0	0.0	
	baz=86								
Y27A	Causey	85.76	52	⇓P		P	16 15 40.7	-0.2	
	baz=86								
COLA	College	85.76	11	⇓*i*P		P	16 15 38.9	-1.1	
COLA				pmax		pmax			
	comp=Z,192nm,3.4s								
COLA	College	85.76	11	*e*P		P	16 15 38.4	-1.6	
	comp=Z,10nm,0.8s								
P22A	Eagle	85.76	46	⇓P		P	16 15 40.8	-0.2	
	baz=86								
ILAR	Eielson Array	85.85	12	P		P	16 15 38.6	-1.9	
ILAR	Eielson Array	85.85	12	P		P	16 15 38.6	-1.9	
	comp=Z,2.4nm,0.8s,baz=230,slow=6.2,SNR=36								
631A	Perdido Creek	85.90	57	⇑P		P	16 15 41.8	+0.1	
	baz=86,SNR=9.0								
430A	Baggett Ranch,	85.93	56	⇑P		P	16 15 42.0	+0.2	
	baz=86								
229A	Bryant Ranch,	85.97	55	⇑P		P	16 15 42.5	+0.4	
	baz=86								
IPM	Ipoh	86.04	276	P		P	16 15 44.1	+1.4	
IPM	Ipoh	86.04	276	*e*P		P	16 15 43.3	+0.6	
	comp=Z,29nm,0.7s								
J19A	Crowheart	86.04	42	⇓P		P	16 15 42.0	-0.2	
	baz=86								
MSTX	Muleshoe	86.09	52	⇑P		P	16 15 42.6	0.0	
	baz=86								
Z28A	Tucker Farm, M	86.09	53	⇓P		P	16 15 42.6	0.0	
	baz=86								
732A	Laxson Ranch,	86.11	58	⇓P		P	16 15 42.6	0.0	
	baz=86								
531A	Rocksprings	86.22	57	⇑P		P	16 15 43.6	+0.3	
	baz=86,SNR=12								
W27A	Bowe Ranch, En	86.34	51	⇓P		P	16 15 44.6	+0.8	
	baz=86								
Y28A	McKinney Farm,	86.46	53	⇓P		P	16 15 44.6	+0.2	
	baz=86								
I19A	Meeteetse	86.47	41	⇑P		P	16 15 44.1	-0.2	
	baz=86								
230A	Sterling City	86.48	55	⇑P		P	16 15 44.6	+0.1	
	baz=86								
S25A	Robets Cordova	86.49	48	⇓P		P	16 15 44.4	-0.2	
	baz=86								
N22A	Wattenberg Ran	86.54	45	⇓P		P	16 15 44.5	-0.4	
	baz=86								
Z29A	Hungry Hill Ra	86.59	53	⇓P		P	16 15 45.0	-0.1	
	baz=87								
KULM	Kulim	86.66	277	P		P	16 15 47.1	+1.4	
KULM	Kulim	86.66	277	*e*P		P	16 15 45.5	-0.2	
	comp=Z,21nm,1.1s								
532A	Rocksprings	86.72	57	⇑P		P	16 15 45.9	+0.2	
	baz=87,SNR=6.1								
331A	San Angelo	86.78	56	⇓P		P	16 15 45.9	0.0	
	baz=87								
130A	Snyder	86.89	54	⇓P		P	16 15 46.4	0.0	
	baz=87								
JCT	Junction City	86.94	57	⇑P		P	16 15 46.9	+0.2	
	baz=87								
I20A	Worland	86.97	42	⇓P		P	16 15 46.9	+0.3	
	baz=87								
Z30A	Sanderson Ranc	87.05	54	⇓P		P	16 15 47.4	+0.2	
	baz=87								
432A	Menard	87.10	56	⇑P		P	16 15 47.4	-0.2	
	baz=87								
231A	Bronte	87.12	55	⇑P		P	16 15 47.1	-0.5	
	baz=87,SNR=16								
L22A	Ellis Ranch, M	87.13	44	⇑P		P	16 15 47.5	-0.1	
	baz=87								
AMTX	Amarillo	87.29	52	⇓P		P	16 15 48.5	+0.1	
	baz=87								
332A	Millersview	87.35	56	⇑P		P	16 15 48.6	-0.1	
	baz=87,SNR=9.3								
131A	Roby	87.36	54	⇑P		P	16 15 48.6	-0.1	
	baz=87								
533A	Kerrville	87.39	57	⇓P		P	16 15 48.9	0.0	
	baz=87								
G20A	Bridger	87.54	40	⇑P		P	16 15 49.8	+0.4	
	baz=88								
433A	Art	87.61	57	⇑P		P	16 15 49.8	-0.1	
	baz=88,SNR=7.4								
232A	Coleman	87.62	55	⇑P		P	16 15 50.0	0.0	
	baz=88,SNR=5.8								
ENH	Enshi	87.64	303	*e*P		P	16 15 50.2	+0.1	
	comp=Z,14nm,1.1s								
L23A	Garrett	87.65	44	⇓P		P	16 15 49.3	-0.8	
	baz=88								
Z31A	Sharp Cattle R	87.81	54	⇓P		P	16 15 50.7	-0.1	
	baz=88								
534A	Blanco	87.82	57	⇓P		P	16 15 51.1	+0.1	
	baz=88,SNR=6.3								
333A	Richland Sprin	87.92	56	⇓P		P	16 15 51.2	-0.1	
	baz=88								
ABTX	Abilene, Hawle	87.92	55	⇑P		P	16 15 51.5	+0.1	
	baz=88								
PLCA	Paso Flores	88.23	132	P		P	16 15 54.5	+1.7	
	comp=Z,4.7nm,0.9s								
PLCA	Paso Flores	88.23	132	P		P	16 15 54.8	+1.9	
	comp=Z,3.1nm,0.8s,baz=275,slow=1.9,SNR=5.7								
434A	Burnet	88.28	57	⇓P		P	16 15 53.2	+0.1	
	baz=88								
Z32A	Haskell	88.32	54	⇑P		P	16 15 53.8	+0.6	
	baz=88								
GYA	Guiyang	88.50	298	P		P	16 15 53.2	-1.2	
GYA				pP		pP	16 16 16.8	-11	
GYA				sP		sP	16 16 25.0	-16	
GYA				PP		PP	16 19 25.4	+0.8	
GYA				SKS		SKSac	16 26 13.2	+1.4	
GYA				S		S	16 26 31.4	+1.6	
GYA				sS		sS	16 27 09.5	-18	
GYA				SS		SS	16 32 25.3	+1.5	
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,120nm,5.1s								
GYA				LR		LR			
	comp=Z,470nm,22.0s								
GYA				LR		LR			
	comp=Z,390nm,23.2s								
GYA				LR		LR			
	comp=Z,450nm,20.9s								
D20A	Manuel Ranch,	88.51	39	⇓P		P	16 15 54.4	+0.6	
	baz=88								
334A	Lometa	88.51	56	⇑P		P	16 15 54.4	+0.3	
	baz=88,SNR=6.9								
HIA	Hailar	89.06	323	P		P	16 15 55.7	-0.6	
XAN	Xi'an	89.55	306	P		P	16 15 59.7	+0.7	
XAN				pmax		pmax			
	comp=Z,3.0nm,1.1s								
XAN				pmax		pmax			
	comp=Z,29nm,4.6s								
SNAA	Sanae	89.74	177	*e*P		P	16 16 00.6	+1.3	
SNAA	Sanae	89.74	177	*e*P		P	16 15 59.9	+0.6	
	comp=Z,5.6nm,1.1s								
VNA2	Neumayer--Watz	90.23	176	*e*P		P	16 16 03.7	+2.2	
HHC	Hu-ho-hao-te	90.35	313	*e*P		P	16 16 02.9	+0.3	
HHC				pP		pP	16 16 21.9	-14	
HHC				PP		PP	16 19 37.6	-1.3	
HHC				SKS		SKSac	16 26 24.4	+2.4	
HHC				S		ScS	16 26 48.6	-1.2	
HHC				sS		sS	16 27 22.3	-22	
HHC				SS		SS	16 32 52.2	+2.3	
HHC				pmax		pmax			
	comp=Z,36nm,1.3s								
HHC				pmax		pmax			
	comp=Z,190nm,7.4s								
HHC				LR		LR			
	comp=Z,340nm,17.8s								
HHC				LR		LR			
	comp=Z,460nm,17.5s								
HHC				LR		LR			
	comp=Z,220nm,17.6s								
VNA1	Neumayer--Stat	90.43	176	*e*P		P	16 16 06.3	+3.9	
KMI	Kunming	91.34	296	P		P	16 16 07.4	-0.4	
KMI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
YAK	Yakutsk	91.61	337	*i* P		P	16 16 05.5	-2.3	
YAK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
YAK	Yakutsk	91.61	337	P		P	16 16 04.3	-3.5	
	comp=Z,6.2nm,0.6s								
INK	Inuvik	91.69	14	*e*P		P	16 16 06.2	-1.8	
	comp=Z,4.7nm,1.1s								
CD2	Chengdu	92.47	302	*e*P		P	16 16 13.0	+0.4	
CD2				pP		pP	16 16 33.6	-12	
CD2				sP		sP	16 16 41.8	-18	
CD2				PP		PP	16 19 56.5	+0.7	
CD2				SKS		SKSac	16 26 37.2	+2.9	
CD2				S		ScS	16 27 07.0	-0.7	
CD2				sS		sS	16 27 42.5	-21	
CD2				SS		SS	16 33 22.5	+1.8	
CD2				pmax		pmax			
	comp=Z,10.0nm,1.2s								
CD2				pmax		pmax			
	comp=Z,100nm,6.8s								
CD2				LR		LR			
	comp=Z,260nm,11.9s								
CD2				LR		LR			
	comp=Z,240nm,11.8s								
CD2				LR		LR			
	comp=Z,280nm,9.5s								
CMAR	Chiang Mai Arr	92.49	289	P		P	16 16 14.1	+1.2	
CMAR	Chiang Mai Arr	92.49	289	P		P	16 16 14.1	+1.2	
	comp=Z,2.1nm,0.7s,baz=114,slow=3.8,SNR=18								
CHTO	Chiang Mai	92.60	289	*e*P		P	16 16 13.6	+0.2	
CHTO				pmax		pmax			
	comp=Z,2.0nm,0.6s								
CHTO	Chiang Mai	92.60	289	*e*P		P	16 16 13.6	+0.2	
	comp=Z,2.1nm,0.6s								
YKA	Yellowknife Ar	93.54	24	P		P	16 16 16.0	-0.7	
YKA	Yellowknife Ar	93.54	24	P		P	16 16 16.0	-0.7	
	comp=Z,1.5nm,0.8s,baz=227,slow=4.6,SNR=3.9								
SONM	Songino Array	96.45	318	P		P	16 16 30.9	+0.4	
SONM	Songino Array	96.45	318	P		P	16 16 30.9	+0.4	
	comp=Z,0.5nm,0.5s,baz=131,slow=5.9,SNR=3.7								
LPAZ	La Paz	99.82	111	LR		LR	16 52 41.6		
	comp=Z,49nm,20.1s,baz=133,slow=30								
WMQ	Urumqi	108.09	311	Pdif		Pdif	16 17 22.0	-0.5	
WMQ				PP		PP	16 21 55.0	+1.3	
WMQ				SS		SS	16 36 57.0	-0.5	
WMQ				AMB		AMB			
	comp=Z,55nm,9.0s								
WMQ				LR		LR			
	comp=Z,140nm,25.0s								
WMQ				LR		LR			
	comp=Z,85nm,22.0s								
WMQ				LR		LR			
	comp=Z,83nm,22.0s								
MKAR	Makanchi Array	112.21	314	PKiKP		PKiKP	16 21 35.5	-0.8	
MKAR	Makanchi Array	112.21	314	PKiKP		PKiKP	16 21 35.5	-0.8	
	comp=Z,0.5nm,0.5s,baz=194,slow=0.6,SNR=9.2								
ARCES	ARCESS Array B	127.63	351	PKP		PKPdf	16 22 04.1	-1.1	
ARCES	ARCESS Array B	127.63	351	PKP		PKPdf	16 22 04.1	-1.1	
	comp=Z,5.0nm,1.0s,baz=275,slow=1.3,SNR=7.8								
FINES	FINESS Array B	134.81	346	PKP		PKPdf	16 22 17.6	-1.3	
FINES	FINESS Array B	134.81	346	PKP		PKPdf	16 22 17.6	-1.3	
	comp=Z,4.1nm,1.0s,baz=132,slow=2.8,SNR=4.3								
AKASG	Malin Array Be	142.80	335	PKiHKP		PKPpre	16 22 23.6		
AKASG	Malin Array Be	142.80	335	PKPpre		PKPpre	16 22 23.6		
AKASG	Malin Array Be	142.80	335	PKiHKP		PKPpre	16 22 23.6		
	comp=Z,0.2nm,0.3s,baz=37,slow=3.2,SNR=3.1								
KMBO	Kilima Mbogo	142.99	241	*e*PKPpre		PKPpre	16 22 33.0		
KMBO				PKPpre		PKPpre	16 22 33.3		
KMBO	Kilima Mbogo	142.99	241	PKhKP		PKPpre	16 22 33.3		
	comp=Z,1.2nm,0.9s,baz=219,slow=12,SNR=4.6								
KSP	Ksiaz	146.71	347	*e*PKP2		PKPbc	16 22 42.4	-0.1	
KOLS	Kolonicke sedl	146.83	339	*e*PKP2		PKPab	16 22 43.9	-0.6	
KOLS	Kolonicke sedl	146.83	339	*e*PKP		PKPab	16 22 43.9	-0.6	
BUR08	Bucovina Ar. S	146.84	335	*e*PKPdf		PKPdf	16 22 42.0	+0.8	
CLL	Collm	146.85	351	*i* PKP2		PKPbc	16 22 42.1	-0.8	
CLL				*i*			16 22 43.8		
CLL				pmax		pmax			
	comp=Z,15nm,1.1s								
CLL				pmax		pmax			
	comp=Z,8.0nm,0.9s								
CLL	Collm	146.85	351	*i* PKPbc		PKPbc	16 22 42.1	-0.8	
	comp=Z,15nm,1.1s								
CLL				*i* PKPab		PKPab	16 22 43.8	-0.6	
	comp=Z,8.0nm,0.9s								
CLL				*e*			16 22 47.0		
CLL				*e*(pPKPdf)			16 23 00.0		
CLL				*e*			16 23 20.0		
UPC	Upice	147.09	347	*e*PKP2		PKPbc	16 22 43.4	-0.2	
UPC	Upice	147.09	347	*e*PKP		PKPbc	16 22 43.4	-0.2	
CRVS	Cervenica-Dubn	147.12	340	*e*PKP2		PKPbc	16 22 42.8	-0.9	
CRVS	Cervenica-Dubn	147.12	340	*e*PKP		PKPbc	16 22 42.8	-0.9	
BRG	Berggiesshubel	147.12	350	*e*PKP		PKPbc	16 22 43.5	-0.2	
	comp=Z,5.2nm,0.9s								
BRG	Berggiesshubel	147.12	350	*e*PKP2		PKPbc	16 22 43.5	-0.2	
BRG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
DPC	Dobruska-Polom	147.17	347	*e*PKP2		PKPbc	16 22 43.9	0.0	
DPC	Dobruska-Polom	147.17	347	*e*PKP		PKPbc	16 22 43.9	0.0	
DPC				*ex*		x	16 22 48.6		
KRLC	Kraliky	147.33	346	*e*PKP2		PKPbc	16 22 44.0	-0.3	
KRLC	Kraliky	147.33	346	*e*PKP		PKPbc	16 22 44.0	-0.3	
BRT31	Keskin Array S	147.79	317	*e*PKPbc		PKPbc	16 22 45.0	-1.0	
BRTR	Keskin Array B	147.79	317	PKPbc		PKPbc	16 22 45.6	-0.4	
BRTR	Keskin Array B	147.79	317	PKPbc		PKPbc	16 22 45.6	-0.4	
	comp=Z,8.2nm,0.7s,baz=132,slow=3.2,SNR=17								
KECS	Kecovo	147.80	341	*e*PKP2		PKPbc	16 22 44.7	-0.9	
KECS	Kecovo	147.80	341	*e*PKP		PKPbc	16 22 44.7	-0.9	
PRU	Pruhonice	147.87	349	*e*PKP2		PKPbc	16 22 45.5	-0.2	
PRU	Pruhonice	147.87	349	*e*PKP		PKPbc	16 22 45.5	-0.2	
PRU				*ex*		x	16 22 50.3		
KHC	Kasperske Hory	148.87	350	*e*PKP2		PKPbc	16 22 48.4	0.0	
KHC	Kasperske Hory	148.87	350	*e*PKP		PKPbc	16 22 48.4	0.0	
KHC				*ex*		x	16 22 53.9		
KHC	Kasperske Hory	148.87	350	*e*PKPbc		PKPbc	16 22 47.0	-1.3	
GERES	GERESS Array B	149.12	349	PKPbc		PKPbc

STKA	**Stephens Creek**	**31.64**	**144**	P	P	16 27 28.0	-0.4
	0.7nm,0.4s,baz=321,slow=12,SNR=4.3						

*ISCJB **03** 16:42:32.7±1.1,20.0°N±0.1°×145.7°E±0.2,h109km,mb3.6/9, Error ellipse: s-maj=32.5km s-min=15.6km az=177.3*
*IDC **03** 16:42:34.5±11.0,20.03°N×145.62E,h108km±103km, mb3.3/9,mb1 3.5/9,mb1mx3.4/26,mbtmp3.3/9,Error ellipse: s-maj=33.2km s-min=16.1km az=86.0*

ISC 03 16:42:34.5±1.2,**20.0°N**±0.1°×**145.6E**±0.3,**h109**km,**n9,** σ0.8**72**/10,**mb3.4**/9,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**23.23**	**322**	P	**P**	**16 47 31.2**	**-0.8**
	1.2nm,0.7s,baz=144,slow=9.1,SNR=4.6						
WRA	**Warramunga Arr**	**41.23**	**196**	P	**P**	**16 50 08.7**	**-0.2**
	0.3nm,0.5s,baz=19,slow=8.2,SNR=13						
SONM	**Songino Array**	**42.08**	**321**	P	**P**	**16 50 15.6**	**-0.1**
	0.2nm,0.3s,baz=134,slow=6.3,SNR=6.0						
FITZ	**Fitzroy Crossi**	**42.67**	**209**	P	**P**	**16 50 20.7**	**+0.1**
	2.1nm,0.4s,baz=41,slow=8.5,SNR=21						
CMAR	**Chiang Mai Arr**	**44.00**	**276**	P	**P**	**16 50 32.3**	**+0.9**
	0.5nm,0.8s,baz=90,slow=4.9,SNR=4.8						
ASAR	**Alice Springs**	**44.91**	**195**	P	**P**	**16 50 38.0**	**-0.4**
	0.2nm,0.4s,baz=12,slow=6.7,SNR=8.5						
MKAR	**Makanchi Array**	**57.51**	**313**	P	**P**	**16 52 12.7**	**+0.3**
	1.0nm,0.7s,baz=93,slow=8.1,SNR=11						
MKAR				PcP	**PcP**	**16 53 05.0**	**+0.2**
	0.9nm,1.0s,baz=80,slow=4.2,SNR=3.1						
ILAR	**Eielson Array**	**62.49**	**27**	P	**P**	**16 52 46.9**	**+0.8**
	0.6nm,0.6s,baz=263,slow=5.2,SNR=11						
FINES	**FINESS Array B**	**85.66**	**335**	P	**P**	**16 54 59.6**	**-1.1**
	2.2nm,0.8s,baz=86,slow=5.7,SNR=12						

*ISCJB **03** 16:57:07.8±0.3,42.2°N±0.03°×106.78E±0.05,h10km, mb4.0/17,MS4.1/1,Error ellipse: s-maj=5.0km s-min=4.9km az=0.6*
*BJI **03** 16:57:07.4,42.24°N×106.79E,h4km,mB4.6/3,mb4.5/6, ML4.4/13,Ms4.3/3,Ms7 4.0/3*
*IDC **03** 16:57:08.2±0.7,42.33°N×106.76E,h0km,mb4.0/16, mb1 4.1/19,mb1mx4.0/31,mbtmp4.0/19,ML4.2/2,MS3.5/2, Ms1 3.5/2,ms1mx2.8/37,Error ellipse: s-maj=19.0km s-min=14.1km az=38.0*
*MOS **03** 16:57:10.8±0.9,42.34N×106.77E,h32km,mb4.3/12,Error ellipse: s-maj=21.4km s-min=11.3km az=112.5*

ISC 03 16:57:09.4±0.5,**42.27N**±0.05°×**106.86E**±0.04,**h10**km,**n50,** σ1.9**31**/56,**mb4.2**/17,**Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**2.90**	**124**	*e*Pn	**Pn**	**16 57 55.6**	**-0.2**
BTO				*e*Pg	**Pb**	**16 58 00.2**	**-1.1**
BTO				Sg	**Sb**	**16 58 37.7**	**+0.8**
BTO				smax	smax		
	comp=N,340nm,0.2s						
BTO				smax	smax		
	comp=E,180nm,0.2s						
HHC	**Hu-ho-hao-te**	**3.81**	**110**	*e*Pn	**Pn**	**16 58 07.2**	**-1.0**
HHC				Pg	**Pb**	**16 58 16.1**	**-0.6**
HHC				Sn	**Sn**	**16 58 54.3**	**+1.2**
HHC				Sg	**Sb**	**16 59 05.6**	**+2.7**
HHC				smax	smax		
	comp=N,5μm,0.4s						
HHC				smax	smax		
	comp=E,4μm,0.4s						
SONM	**Songino Array**	**5.57**	**357**	Pn	**Pn**	**16 58 33.1**	**+0.7**
	6.2nm,0.3s,baz=181,slow=14,SNR=125						
SONM				Sn	**Sn**	**16 59 36.9**	**+0.4**
	16nm,0.3s,baz=178,slow=20,SNR=6.3						
SONM				Lg	Lg	17 00 07.0	
	30nm,0.3s,baz=173,slow=28,SNR=10.0						
GTA	**Gaotai**	**6.06**	**244**	Pn	**Pn**	**16 58 38.0**	**-1.1**
GTA				Pg	Pb	16 58 56.4	+1.3
GTA				Sn	**Sn**	**16 59 45.8**	**-2.8**
GTA				Sg	Sg	17 00 14.7	-9.1
GTA				smax	smax		
	comp=N,410nm,0.7s						
GTA				smax	smax		
	comp=E,210nm,0.7s						
LZH	**Lanzhou**	**6.61**	**202**	*e*Pn	**Pn**	**16 58 48.2**	**+1.5**
LZH				Pg	**Pb**	**16 59 04.4**	**0.0**
LZH				Sn	**Sn**	**17 00 00.3**	**-1.8**
LZH				Sg	**Sb**	**17 00 27.2**	**+3.7**
LZH				smax	smax		
	comp=N,240nm,0.9s						
LZH				smax	smax		
	comp=E,220nm,0.6s						
LZH				LR	LR		
	comp=N,440nm,7.1s						
LZH				LR	LR		
	comp=E,660nm,4.4s						
LZH				LR	LR		
	comp=Z,780nm,7.2s						
XAN	**Xi'an**	**8.38**	**168**	P	**Pn**	**16 59 13.0**	**+2.1**
XAN				S	**Sn**	**17 00 43.4**	**-2.2**
XAN				smax	smax		
	comp=Z,45nm,1.0s						
XAN				smax	smax		
	comp=Z,16nm,1.1s						
ZAK	**Zakamensk**	**8.48**	**344**	*e*P	Pn	16 59 13.5	+1.2
ZAK				pmax	pmax		
	comp=Z,18nm,1.0s						
MKAR	**Makanchi Array**	**18.06**	**293**	P	**P**	**17 01 20.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**18.06**	**293**	P	**P**	**17 01 20.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=93,slow=13,SNR=61						
USRK	**Ussuriysk Arra**	**18.40**	**75**	P	**Pn**	**17 01 26.0**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=252,slow=9.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**18.70**	**316**	P	Pn	17 01 32.4	+4.4
ZALV				MLR	MLR		
	comp=Z,51nm,21.7s						
ZALV	**Zalesovo Beam**	**18.70**	**316**	P	Pn	17 01 32.4	+4.4
	comp=Z,0.4nm,0.3s,baz=114,slow=10,SNR=6.7						
ZALV				LR	LR	17 09 16.7	
	comp=Z,51nm,21.7s,baz=352,slow=39						
KURK	**Kurchatov**	**21.09**	**303**	P	**P**	**17 01 54.0**	**+0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KURBB	**Kurchatov Arra**	**21.13**	**303**	P	**P**	**17 01 54.0**	**-0.2**
	comp=Z,5.8nm,0.5s,baz=101,slow=5.0,SNR=22						
TAPN	**Taplejung**	**21.58**	**232**	*e*P	**P**	**17 01 58.5**	**-1.0**
	comp=Z,14nm,0.5s						
ODAN	**Odare**	**22.14**	**232**	*e*P	**P**	**17 02 04.0**	**-1.4**
JIRN	**Jiri**	**22.27**	**236**	*e*P	**P**	**17 02 05.6**	**-1.4**
	comp=Z,12nm,0.5s						
GUN	**Gumba**	**22.28**	**237**	*e*P	**P**	**17 02 06.4**	**-0.7**
	comp=Z,27nm,1.0s						
RAMN	**Ramite**	**22.54**	**234**	*e*P	**P**	**17 02 08.4**	**-1.3**
	comp=Z,5.6nm,0.4s						
KKN	**Kakani**	**22.74**	**237**	*e*P	**P**	**17 02 09.7**	**-2.1**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**22.81**	**237**	*e*P	**P**	**17 02 11.0**	**-1.7**
PKIN	**Phulchoki**	**22.82**	**237**	*e*P	**P**	**17 02 11.0**	**-1.7**
	comp=Z,8.3nm,0.6s						
DMN	**Daman**	**22.97**	**237**	*e*P	**P**	**17 02 13.0**	**-1.3**
	comp=Z,16nm,0.7s						
GKN	**Gorkha**	**22.99**	**239**	*e*P	**P**	**17 02 12.8**	**-1.6**
	comp=Z,13nm,0.6s						
DANN	**Dangsing**	**23.32**	**241**	*e*P	**P**	**17 02 16.2**	**-1.7**
	comp=Z,33nm,0.9s						
KBK	**Karagaybulak**	**23.47**	**282**	P	**P**	**17 02 19.9**	**+0.7**
	SNR=6.3						
CHMS	**Chumysh**	**23.56**	**283**	P	**P**	**17 02 20.4**	**+0.5**
	SNR=7.5						
AAK	**Ala-Archa**	**23.81**	**282**	P	**P**	**17 02 22.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AAK	**Ala-Archa**	**23.81**	**282**	P	**P**	**17 02 23.0**	**+0.5**
	SNR=9.2						
AAK	**Ala-Archa**	**23.81**	**282**	P	**P**	**17 02 22.5**	**0.0**
	comp=Z,6.0nm,0.7s,baz=90,slow=6.6,SNR=32						
KOLN	**Koldanda**	**23.82**	**240**	*e*P	**P**	**17 02 21.3**	**-1.4**
	comp=Z,33nm,0.9s						
UCH	**Uchtor**	**23.87**	**281**	P	**P**	**17 02 23.8**	**+0.4**
	SNR=14						
AML	**Almayashu**	**24.48**	**281**	P	**P**	**17 02 29.6**	**+0.6**
	SNR=23						
CMAR	**Chiang Mai Arr**	**24.68**	**198**	P	**P**	**17 02 29.8**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=9.2,slow=8.9,SNR=4.8						
ASAJ	**Asahikawa**	**26.00**	**74**	P	**P**	**17 02 42.2**	**-0.1**
	comp=Z,7.1nm,1.0s,baz=306,slow=14,SNR=3.8						
BVAR	**Borovoye Array**	**26.54**	**307**	P	**P**	**17 02 46.2**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR	**Borovoye Array**	**26.54**	**307**	P	**P**	**17 02 46.2**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=90,slow=9.2,SNR=20						
FINES	**FINESS Array B**	**49.84**	**322**	P	**P**	**17 06 02.2**	**0.0**
	comp=Z,1.1nm,0.4s,baz=77,slow=7.3,SNR=14						
AKASG	**Malin Array Be**	**51.81**	**308**	P	**P**	**17 06 16.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**51.81**	**308**	P	**P**	**17 06 16.7**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=56,slow=7.9,SNR=7.2						
BRTR	**Keskin Array B**	**53.71**	**294**	P	**P**	**17 06 31.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=88,slow=6.2,SNR=2.5						
HFS	**Hagfors**	**55.96**	**323**	P	**P**	**17 06 46.9**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=88,slow=4.9,SNR=7.3						
NOA	**NORSAR Array B**	**56.64**	**325**	P	**P**	**17 06 51.0**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=59,slow=6.9,SNR=4.9						
ILAR	**Eielson Array**	**58.90**	**29**	P	**P**	**17 07 07.8**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=288,slow=5.7,SNR=19						
EKA	**Eskdalemuir Ar**	**66.12**	**324**	P	**P**	**17 07 56.2**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=61,slow=7.1,SNR=5.1						
WRA	**Warramunga Arr**	**66.91**	**152**	P	**P**	**17 08 03.0**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=343,slow=7.3,SNR=4.7						
ASAR	**Alice Springs**	**70.21**	**154**	P	**P**	**17 08 24.2**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=345,slow=6.0,SNR=12						
PDAR	**Pinedale Array**	**89.22**	**26**	P	P	17 10 07.8	+2.1
	comp=Z,0.5nm,0.8s,baz=250,slow=1.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**92.16**	**290**	P	**P**	**17 10 19.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=66,slow=3.5,SNR=2.6						
AFI	**Afiamalu**	**92.97**	**106**	LR	LR	17 50 52.2	
	comp=Z,64nm,18.5s,baz=87,slow=35						

MEX 03 16:59:27.1±0.5,**16.24N**×**97.55W,h4**km±8km**,MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.57**	**285**	*e*P	Pg	16 59 37.6	-0.6
PNIG				*e*S	Sg	16 59 46.4	+0.7
VHO	**Vista Hermosa**	**1.14**	**43**	*e*P	Pg	16 59 46.4	-2.9
VHO				*i* S	Sg	17 00 01.0	-3.3
HUIG	**Huatulco**	**1.47**	**109**	*e*P	Pn	16 59 50.4	-4.0
HUIG				*i* S	Sb	17 00 09.3	-4.6
TLIG	**Tlapa**	**1.64**	**324**	*e*P	Pn	16 59 53.1	-3.8
TLIG				*i* S	Sn	17 00 13.2	-5.3

*ISCJB **03** 18:09:32.7±0.3,67.02°N±0.02°×21.11E±0.07,h0km, Error ellipse: s-maj=4.0km s-min=3.0km az=21.3*
*UPP **03** 18:09:33.5,67.06N×20.94E,h0km,ML2.0,Mining explosion.*
*CSEM **03** 18:09:33.9±0.1,67.07N×20.90E,h2km,ML2.0,Error ellipse: s-maj=4.7km s-min=3.2km az=106.0,Mining explosion.*
*NAO **03** 18:09:34.3±1.1,67.10N×21.12E,ML2.4*
*HEL **03** 18:09:34.2±0.0,67.07N×20.95E,h0km,ML2.3, ML2.0(UPP),Explosion*
*IDC **03** 18:09:35.0±0.8,67.01N×21.41E,h0km,mb1 3.2/5, mb1mx3.1/29,mbtmp3.2/5,ML2.3/5,Error ellipse: s-maj=14.0km s-min=7.0km az=108.0*
*BER **03** 18:09:37.1±3.2,67.06N×21.03E,h0km,ML1.7, ML2.4(NAO),Suspected explosion*

ISC 03 18:09:33.4±0.7,**67.05N**±0.02°×**20.98E**±0.03,**h0**km,**n66,** σ1.8**10**/86,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.57**	**43**	*i* P	**Pg**	**18 09 44.4**	**0.0**
MASU	**Masugnsbyn**	**0.57**	**43**	P	**Pg**	**18 09 44.4**	**0.0**
HARU	**Harads**	**0.89**	**180**	*e*P	**Pg**	**18 09 50.3**	**-0.1**
HARU	**Harads**	**0.89**	**180**	P	**Pg**	**18 09 50.3**	**-0.1**
KUA	**Kurravaara**	**0.94**	**345**	*e*P	**Pg**	**18 09 50.6**	**-0.8**
KUA	**Kurravaara**	**0.94**	**345**	P	**Pg**	**18 09 50.7**	**-0.8**
SALU	**Saltoluokta**	**1.02**	**290**	*e*P	**Pg**	**18 09 52.3**	**-0.6**
SALU	**Saltoluokta**	**1.02**	**290**	P	**Pg**	**18 09 52.3**	**-0.6**
LANU	**Lannavaara**	**1.08**	**21**	*e*P	**Pg**	**18 09 53.1**	**-1.0**
LANU	**Lannavaara**	**1.08**	**21**	P	**Pg**	**18 09 53.1**	**-1.0**
NIKU	**Nikkaluokta**	**1.11**	**319**	*e*P	**Pg**	**18 09 53.8**	**-0.9**
NIKU	**Nikkaluokta**	**1.11**	**319**	P	**Pg**	**18 09 53.8**	**-0.9**
SJUU	**Sjulsmark**	**1.57**	**170**	*e*P	**Pn**	**18 10 02.5**	**0.0**
SJUU	**Sjulsmark**	**1.57**	**170**	P	**Pn**	**18 10 02.5**	**0.0**
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pn**	**18 10 04.2**	**-0.3**
HEF				*e*S	**Sn**	**18 10 25.9**	**-1.0**
HEF	**Hetta**	**1.71**	**36**	P	**Pn**	**18 10 04.1**	**-0.3**
HEF				S	**Sn**	**18 10 25.9**	**-1.0**
LILU	**Lilltraesk**	**1.83**	**195**	*e*P	**Pn**	**18 10 06.6**	**+0.6**
LILU	**Lilltraesk**	**1.83**	**195**	P	**Pn**	**18 10 06.6**	**+0.6**
KIF	**Kilpisjarvi**	**1.97**	**358**	*e*P	**Pn**	**18 10 09.2**	**+1.3**
KIF				*e*S	**Sn**	**18 10 34.4**	**+1.1**
KIF				MSG		18 10 39.0	
	comp=Z,49nm,0.2s						
KIF	**Kilpisjarvi**	**1.97**	**358**	P	**Pn**	**18 10 09.2**	**+1.3**
KIF				S	**Sn**	**18 10 34.4**	**+1.1**
RNF	**Rovaniemi**	**2.04**	**100**	*e*P	**Pn**	**18 10 10.2**	**+1.2**
RNF	**Rovaniemi**	**2.04**	**100**	P	**Pn**	**18 10 10.2**	**+1.2**
KTK1	**Kautokeino**	**2.15**	**22**	*e*Sg	**Sb**	**18 10 41.2**	**+0.9**
SGF	**Sodankyl**	**2.19**	**77**	*e*P	**Pn**	**18 10 12.2**	**+1.1**
SGF	**Sodankyl**	**2.19**	**77**	P	**Pn**	**18 10 12.1**	**+1.1**
STEI	**Steigen**	**2.38**	**295**	*e*P	**Pb**	**18 10 16.6**	**-0.4**
STEI				*e*S	**Sn**	**18 10 45.4**	**+2.0**
STEI				*e*		18 10 50.6	
STEI				AML	AML	18 10 52.2	
	comp=Z,6.1nm,0.3s						
SVAU	**Svanoeiden**	**2.63**	**193**	*e*P	**Pn**	**18 10 17.9**	**+0.9**
SVAU	**Svanoeiden**	**2.63**	**193**	P	**Pn**	**18 10 18.0**	**+0.9**
TRO	**Tromso**	**2.71**	**345**	*e*P	**Pb**	**18 10 21.0**	**-1.7**
TRO				*e*S	**Sn**	**18 10 53.6**	**+2.1**
TRO				AML	AML	18 11 02.1	
	comp=Z,8.6nm,0.3s						
TRO	**Tromso**	**2.71**	**345**	*e*P	**Pb**	**18 10 21.0**	**-1.7**
	SNR=50						
TRO				*e*S	**Sn**	**18 10 53.6**	**+2.1**
	comp=Z,8.6nm,0.3s,SNR=50						
MOR8	**Moi Rana**	**2.75**	**254**	*e*P	**Pn**	**18 10 19.2**	**+0.4**
MOR8	**Moi Rana**	**2.75**	**254**	*e*P	**Pn**	**18 10 19.2**	**+0.4**
	SNR=50						
OUL	**Oulu**	**2.81**	**132**	*e*SG	**Sb**	**18 11 01.8**	**+2.5**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**18 10 22.8**	**+0.4**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**18 10 59.7**	**+0.6**
	baz=217,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**18 10 22.8**	**+0.4**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**18 10 59.7**	**+0.6**
	baz=217,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**18 10 23.0**	**+0.6**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**18 10 22.8**	**+0.4**
	SNR=50						
ARA0				Sn	**Sn**	**18 10 59.7**	**+0.6**
	SNR=50						
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 10 22.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=213,slow=13,SNR=50						
ARCES				Sn	**Sn**	**18 11 00.1**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=208,slow=23,SNR=9.7						
FLOS	**Flostrand**	**3.11**	**260**	*e*P	**Pn**	**18 10 25.4**	**+1.8**
KONS	**Konsvik**	**3.16**	**264**	*e*P	**Pn**	**18 10 26.3**	**+2.0**
UMAU	**Umeaa**	**3.18**	**182**	*e*P	**Pn**	**18 10 25.7**	**+1.1**
UMAU	**Umeaa**	**3.18**	**182**	P	**Pn**	**18 10 25.7**	**+1.1**
STOK	**Stokkvaagen**	**3.25**	**261**	*e*P	**Pn**	**18 10 26.7**	**+1.2**
BREU	**Bredtraesk**	**3.32**	**199**	*e*P	**Pn**	**18 10 27.5**	**+0.9**
BREU	**Bredtraesk**	**3.32**	**199**	P	**Pn**	**18 10 27.5**	**+0.9**
VRF	**Varrio**	**3.41**	**74**	MSG		18 11 20.6	
	comp=Z,6.4nm,0.2s						
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**18 10 30.3**	**+1.1**
KEV	**Kevo**	**3.52**	**37**	*e*S	**Sn**	**18 11 10.2**	**-1.2**
KEV				MSG		18 11 25.1	
	comp=Z,4.8nm,0.2s						
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**18 10 30.3**	**+1.1**
	SNR=50						
KEV				S	**Sn**	**18 11 10.2**	**-1.2**
VAF	**Ylistaro**	**4.08**	**169**	*e*SG	**Sg**	**18 11 41.7**	**-2.8**
VAF				MSG		18 11 44.6	
	comp=Z,2.4nm,0.3s						
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**18 10 46.6**	**+1.4**
	baz=266,slow=11						
APA0				Sn	**Sn**	**18 11 40.5**	**+0.3**
	baz=277,slow=37						
APA0				Lg	Lg	18 11 59.2	
	baz=282,slow=28						
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**18 10 46.7**	**+1.4**
	SNR=50						
APA0				Sn	**Sn**	**18 11 40.5**	**+0.3**
	SNR=50						
FIA0	**FINESS Array S**	**6.05**	**156**	Pn	**Pn**	**18 11 05.4**	**+1.4**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**18 12 13.6**	**-0.1**
	baz=348,slow=28						
FIA0				Lg	Lg	18 12 44.4	
	baz=341,slow=37						
FIA0	**FINESS Array S**	**6.05**	**156**	Pn	**Pn**	**18 11 05.4**	**+1.4**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**18 12 13.6**	**-0.1**
	baz=348,slow=28						
FIA0				Lg	Lg	18 12 44.4	
	baz=341,slow=37						
FIA0	**FINESS Array S**	**6.05**	**156**	Pn	**Pn**	**18 11 05.4**	**+1.4**
	SNR=50						
FIA0				Sn	**Sn**	**18 12 13.6**	**-0.1**
	SNR=50						
FIA0				Lg	Lg	18 12 44.4	
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**18 11 05.2**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=347,slow=12,SNR=8.1						
FINES				Sn	**Sn**	**18 12 13.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=344,slow=22,SNR=5.9						
FINES				Lg	Lg	18 12 41.0	
	comp=Z,0.2nm,0.3s,baz=348,slow=26,SNR=3.0						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 11 22.5**	**+0.1**
	baz=26,slow=12						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 11 22.5**	**+0.1**
	baz=26,slow=12						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 11 22.5**	**+0.1**
	SNR=50						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 11 22.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=29,slow=12,SNR=2.9						
NOA				Sn	**Sn**	**18 12 47.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=86,slow=19,SNR=2.6						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 11 26.7**	**+0.7**
	baz=27,slow=14						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 11 26.7**	**+0.7**
	baz=27,slow=14						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 11 26.7**	**+0.7**
	SNR=50						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 11 25.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=6.4						
HFS				Sn	**Sn**	**18 12 50.7**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=18,slow=25,SNR=3.4						
SPITS	**Spitsbergen Ar**	**11.27**	**355**	Pn	**Pn**	**18 12 16.5**	**+1.1**
	baz=170,slow=8.8,SNR=2.9						

MEX 03 18:11:50.0±0.4,**15.54N**×**96.41W,h8**km±5km**,MD4.0,Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.37**	**52**	*i* P	Pg	18 11 56.8	-0.5
HUIG				*i* S	Sg	18 12 02.4	+0.2
VHO	**Vista Hermosa**	**1.56**	**348**	*i* P	Pn	18 12 14.5	-3.8
VHO				*i* S	Sn	18 12 33.7	-5.2
PNIG	**Pinotepa**	**1.86**	**297**	*e*P	Pn	18 12 18.8	-3.4
PNIG				*i* S	Sn	18 12 41.6	-4.3
UTMO	**Huajuapan**	**2.64**	**330**	*i* P	Pn	18 12 30.9	-2.3
UTMO				*i* S	Sn	18 13 01.6	-4.1
TPIG	**Tehuac#an**	**3.00**	**342**	*i* P	Pn	18 12 36.3	-2.0
TPIG				*i* S	Sn	18 13 10.8	-3.9
PCIG		**3.08**	**87**	*i* P	Pn	18 12 36.4	-2.5
PCIG				*i* S	Sn	18 13 12.4	-3.6

*IDC **03** 19:02:29.6±1.2,2.5°N±0.2°×127.0E±0.6,h53km,mB4.8/8, mb1 3.9/8,mb1mx3.7/23,mbtmp3.8/8,Error ellipse: s-maj=112.6km s-min=15.7km az=70.0*

ISC 03 19:02:36.6±1.2,**2.5°N**±0.2°×**127.0E**±0.6,**h53**km,**n8,** σ0.8**20**/8, **mb3.9**/7,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.55**	**184**	P	**P**	**19 07 11.0**	**0.0**
	2.0nm,0.8s,baz=12,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**23.46**	**163**	P	**P**	**19 07 41.5**	**-0.1**
	1.7nm,0.5s,baz=337,slow=11,SNR=62						
ASAR	**Alice Springs**	**26.89**	**166**	P	**P**	**19 08 12.8**	**0.0**
	0.4nm,0.3s,baz=345,slow=10,SNR=32						
STKA	**Stephens Creek**	**36.91**	**159**	P	**P**	**19 09 40.5**	**+0.1**
	1.2nm,0.5s,baz=337,slow=9.0,SNR=6.7						
SONM	**Songino Array**	**48.52**	**342**	P	**P**	**19 11 14.6**	**+0.1**
	0.7nm,0.7s,baz=156,slow=8.6,SNR=5.6						
MKAR	**Makanchi Array**	**58.71**	**326**	P	**P**	**19 12 28.8**	**-0.2**
	1.1nm,1.0s,baz=121,slow=7.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**61.79**	**333**	P	**P**	**19 12 49.5**	**-0.3**
	0.5nm,0.3s,baz=148,slow=8.5,SNR=3.4						
BVAR	**Borovoye Array**	**68.48**	**327**	P	**P**	**19 13 33.4**	**+0.1**
	1.6nm,0.8s,baz=110,slow=8.0,SNR=5.7						

*ISCJB **03** 19:16:30.8±0.4,33.62S±0.08°×77.71E±0.10,h16km, mb4.3/24,MS4.2/22,Error ellipse: s-maj=12.3km s-min=11.3km az=41.3*
*IDC **03** 19:16:30.3±0.5,33.54S×77.68E,h0km,mb4.1/20, mb1 4.2/20,mb1mx4.1/27,mbtmp4.1/20,MS4.2/22, Ms1 4.2/22,ms1mx4.0/42,Error ellipse: s-maj=17.3km s-min=15.8km az=13.0*
*NEIC **03** 19:16:31.7±0.3,33.56S×77.67E,h10km,mb4.7/5,Error ellipse: s-maj=10.1km s-min=9.1km az=212.0*
*GCMT **03** 19:16:34.1±0.3,33.51S×77.69E,h24km±1km,MW5.1, Moment Tensor Solution. s23,c25; s68,c100; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.48±.24; $M_{\theta\theta}$-4.29±.20; $M_{\phi\phi}$4.77±.20; $M_{r\theta}$1.41±.28; $M_{\theta\phi}$-0.20±.15; $M_{\phi r}

WRA	**Warramunga Arr**	**51.82**	**90**	P		**P**	**19 25 40.0**	**-0.3**	
	2.2nm,0.8s,baz=246,slow=7.3,SNR=8.9								
WRA				LR		LR	19 46 13.1		
	comp=Z,184nm,20.1s,baz=90,slow=34								
STKA	**Stephens Creek**	**53.03**	**107**	P		**P**	**19 25 49.1**	**-0.1**	
STKA	**Stephens Creek**	**53.03**	**107**	P		**P**	**19 25 49.1**	**-0.1**	
	1.1nm,0.7s,baz=242,slow=7.4,SNR=3.1								
STKA				LR		LR	19 45 24.2		
	comp=Z,269nm,18.8s,baz=106,slow=33								
SNAA	**Sanae**	**55.55**	**202**	*eP*		**P**	**19 26 07.1**	**+0.1**	
	13nm,1.5s								
SNAA	**Sanae**	**55.55**	**202**	P		**P**	**19 26 07.6**	**+0.6**	
	0.9nm,0.7s,baz=74,slow=6.9,SNR=8.2								
CMAR	**Chiang Mai Arr**	**55.58**	**25**	P		**P**	**19 26 06.7**	**-0.9**	
CMAR	**Chiang Mai Arr**	**55.58**	**25**	P		**P**	**19 26 06.7**	**-0.9**	
	2.0nm,1.0s,baz=217,slow=7.2,SNR=11								
CMAR				LR		LR	19 44 49.3		
	comp=Z,121nm,20.4s,baz=332,slow=31								
VNDA	**Vanda**	**56.25**	**165**	P		**P**	**19 26 12.2**	**+0.4**	
VNDA	**Vanda**	**56.25**	**165**	P		**P**	**19 26 12.2**	**+0.4**	
	2.6nm,0.8s,baz=286,slow=8.6,SNR=6.3								
VNDA				LR		LR	19 48 00.1		
	comp=Z,298nm,19.1s,baz=274,slow=34								
QSPA	**South Pole Qui**	**56.58**	**180**	*eP*		**P**	**19 26 15.5**	**+0.9**	
QSPA	**South Pole Qui**	**56.58**	**180**	P		**P**	**19 26 14.8**	**+0.3**	
	1.3nm,0.2s,baz=244,slow=1.7,SNR=6.2								
SBA	**Scott Base**	**57.27**	**165**	*eP*		**P**	**19 26 17.7**	**-1.4**	
PMG	**Port Moresby**	**67.80**	**87**	LR		LR	19 54 23.4		
	comp=Z,309nm,20.2s,baz=306,slow=34								
KBL	**Kabul**	**68.23**	**352**	*eP*		**P**	**19 27 32.8**	**0.0**	
	6.5nm,1.0s								
EIL	**Elat**	**74.76**	**322**	LR		LR	19 57 56.3		
	comp=Z,78nm,19.3s,baz=87,slow=33								
AAK	**Ala-Archa**	**75.89**	**358**	LR		LR	19 57 58.7		
	comp=Z,144nm,20.5s,baz=177,slow=33								
KKAR	**Karatay Array**	**76.58**	**355**	*eP*		**P**	**19 28 21.9**	**-0.3**	
	3.3nm,0.6s								
URZ	**Urewera**	**76.62**	**127**	LR		LR	19 57 41.3		
	comp=Z,151nm,18.7s,baz=134,slow=32								
MKAR	**Makanchi Array**	**80.10**	**3**	P		**P**	**19 28 41.5**	**0.0**	
MKAR	**Makanchi Array**	**80.10**	**3**	P		**P**	**19 28 41.5**	**0.0**	
	1.1nm,0.8s,baz=184,slow=6.2,SNR=7.4								
MKAR				LR		LR	20 00 57.8		
	comp=Z,130nm,21.7s,baz=174,slow=33								
BRTR	**Keskin Array B**	**83.53**	**327**	P		**P**	**19 29 01.0**	**+1.0**	
BRTR	**Keskin Array B**	**83.53**	**327**	P		**P**	**19 29 01.0**	**+1.0**	
	0.7nm,0.7s,baz=149,slow=6.7,SNR=4.7								
BRTR				LR		LR	20 03 16.4		
	comp=Z,49nm,18.6s,baz=305,slow=34								
KURBB	**Kurchatov Arra**	**83.83**	**1**	P		**P**	**19 29 01.9**	**+0.9**	
	1.0nm,0.2s,baz=184,slow=5.1,SNR=10								
KURK	**Kurchatov**	**83.92**	**1**	P		**P**	**19 29 01.9**	**+0.5**	
ABKAR	**Akbulak array**	**83.95**	**348**	*eP*		**P**	**19 29 00.1**	**-1.5**	
	6.3nm,1.2s								
SONM	**Songino Array**	**85.03**	**19**	P		**P**	**19 29 08.3**	**+1.0**	
SONM	**Songino Array**	**85.03**	**19**	P		**P**	**19 29 08.3**	**+1.0**	
	0.8nm,1.0s,baz=212,slow=6.6,SNR=4.3								
SONM				LR		LR	20 04 43.7		
	comp=Z,124nm,18.6s,baz=177,slow=34								
AKTO	**Aktyubinsk**	**85.42**	**348**	P		**P**	**19 29 08.9**	**-0.2**	
AKTO	**Aktyubinsk**	**85.42**	**348**	P		**P**	**19 29 08.9**	**-0.2**	
	3.3nm,0.8s,baz=200,slow=6.0,SNR=14								
AKTO				LR		LR	20 01 06.5		
	comp=Z,65nm,20.1s,baz=39,slow=31								
TOA0	**Torodi Ar. Sit**	**85.82**	**289**	*eP*		**P**	**19 29 12.7**	**+0.8**	
TORD	**Torodi Ar. Bea**	**85.82**	**289**	P		**P**	**19 29 10.9**	**-1.0**	
TORD	**Torodi Ar. Bea**	**85.82**	**289**	P		**P**	**19 29 10.9**	**-1.0**	
	2.6nm,0.8s,baz=119,slow=6.1,SNR=18								
TORD				LR		LR	20 05 53.3		
	comp=Z,215nm,18.4s,baz=145,slow=34								
BVAR	**Borovoye Array**	**86.46**	**356**	P		**P**	**19 29 14.4**	**+0.2**	
BVAR	**Borovoye Array**	**86.46**	**356**	P		**P**	**19 29 14.4**	**+0.2**	
	0.8nm,0.7s,baz=190,slow=7.3,SNR=3.6								
BVAR				LR		LR	20 04 37.3		
	comp=Z,72nm,20.2s,baz=69,slow=33								
ZALV	**Zalesovo Beam**	**87.37**	**4**	P		**P**	**19 29 17.6**	**-0.9**	
ZALV	**Zalesovo Beam**	**87.37**	**4**	P		**P**	**19 29 17.6**	**-0.9**	
	2.7nm,0.7s,baz=197,slow=4.5,SNR=10								
ZALV				LR		LR	20 05 42.2		
	comp=Z,122nm,18.1s,baz=32,slow=34								
DBIC	**Dimbokro**	**87.45**	**280**	LR		LR	20 04 22.7		
	comp=Z,209nm,20.4s,baz=106,slow=33								
AKASG	**Malin Array Be**	**94.16**	**332**	P		**P**	**19 29 51.3**	**+1.0**	
AKASG	**Malin Array Be**	**94.16**	**332**	P		**P**	**19 29 51.3**	**+1.0**	
	0.5nm,0.6s,baz=126,slow=4.7,SNR=4.6								
VRAC	**Vranov**	**98.73**	**325**	LR		LR	20 08 36.5		
	comp=Z,151nm,20.1s,baz=352,slow=32								
ILAR	**Eielson Array**	**138.78**	**27**	PKPpre		PKPpre	19 35 54.0		
ILAR	**Eielson Array**	**138.78**	**27**	PKhKP		PKPpre	19 35 54.0		
	0.4nm,1.0s,baz=289,slow=2.8,SNR=4.2								
YKA	**Yellowknife Ar**	**150.02**	**11**	PKPbc		**PKPbc**	**19 36 22.9**	**+1.2**	
YKA	**Yellowknife Ar**	**150.02**	**11**	PKPbc		**PKPbc**	**19 36 22.9**	**+1.2**	
	0.7nm,0.5s,baz=326,slow=3.4,SNR=6.2								

*AUST **03** 19:42:23.6±39.0, 12.55S×167.63E, h5km±11km, Error ellipse: s-maj=8.4km s-min=1.7km az=274.0*
*IDC **03** 19:42:32.0±0.9, 13.37S×166.70E, h0km, mb4.3/12, mb1 4.4/13,mb1mx4.3/21,mbtmp4.3/13,ML5.0/1, MS3.4/4, Ms1 3.4/4,ms1mx3.1/31, Error ellipse: s-maj=28.8km s-min=19.9km az=115.0*
*ISCJB **03** 19:42:38.0±0.6, 13.28S±0.06×166.38E±0.09, h44km, mb4.3/16, MS3.3/2, Error ellipse: s-maj=13.2km s-min=7.9km az=159.7*
*NEIC **03** 19:42:37.5±0.5, 13.34S×166.57E, h35km, mb4.5/5, Error ellipse: s-maj=14.0km s-min=10.2km az=82.0*

ISC 03 19:42:38.9±0.6, **13.24S**±0.07×**166.5E**±0.1, **h44km**, **n49,** σ1§**31**/**58**, **mb4.2**/15, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.48**	**300**		Pn	**Pn**	**19 44 26.2**	**+0.7**
HNR					Sn	**Sn**	**19 45 47.1**	**-2.0**
HNR	**Honiara**	**7.48**	**300**		Pn	**Pn**	**19 44 26.2**	**+0.7**
	22nm,0.3s,baz=163,slow=11,SNR=10							
HNR					Sn	**Sn**	**19 45 47.1**	**-2.0**
	11nm,0.3s,baz=172,slow=19,SNR=3.3							
HNR					LR	LR	19 47 06.7	
	comp=Z,212nm,20.3s,baz=318,slow=36							
DZM	**Mont Dzumac**	**8.78**	**180**	*e*Pn		**Pn**	**19 44 42.0**	**-1.4**
	15nm,0.3s							
DZM				*e*Sn		**Sn**	**19 46 18.4**	**-2.7**
	8.9nm,0.3s							
DZM				*e*LR		LR	19 46 50.2	
	269nm,23.7s							
DZM	**Mont Dzumac**	**8.78**	**180**		Pn	**Pn**	**19 44 41.9**	**-1.4**
DZM					Sn	**Sn**	**19 46 24.7**	**+3.6**
DZM	**Mont Dzumac**	**8.78**	**180**		Pn	**Pn**	**19 44 41.9**	**-1.4**
	1.8nm,0.3s,baz=190,slow=20,SNR=23							
DZM					Sn	**Sn**	**19 46 24.7**	**+3.6**
	0.3nm,0.3s,baz=131,slow=19,SNR=2.1							
DZM					LR	LR	19 47 42.5	
	comp=Z,240nm,18.7s,baz=203,slow=36							
RMQ	**Roma**	**21.24**	**229**	P		**P**	**19 47 23.2**	**+1.8**
	baz=22,SNR=6.5							
ARMA	**Armidale**	**21.94**	**216**	P		**P**	**19 47 30.2**	**+1.3**
	baz=23,SNR=5.3							
CMSA	**Cobar Meteorol**	**26.42**	**223**	P		**P**	**19 48 12.9**	**+1.4**
	baz=28,SNR=5.9							
STKA	**Stephens Creek**	**29.44**	**227**	*eP*		**P**	**19 48 38.1**	**-0.4**
STKA	**Stephens Creek**	**29.44**	**227**	P		**P**	**19 48 38.5**	**-0.1**
	2.9nm,0.6s,baz=48,slow=8.3,SNR=13							
STKA				LR		LR	20 00 24.4	
	comp=Z,68nm,19.4s,baz=30,slow=36							
STKA	**Stephens Creek**	**29.44**	**227**	P		**P**	**19 48 39.4**	**+0.8**
	baz=31,SNR=5.9							
WRAB	**Tennant Creek**	**31.51**	**253**	*eP*		**P**	**19 48 55.8**	**-1.2**
	2.0nm,0.7s							
WRA	**Warramunga Arr**	**31.52**	**253**	P		**P**	**19 48 56.0**	**-1.1**
WRA				PcP		**PcP**	**19 51 49.7**	**+0.4**
WRA	**Warramunga Arr**	**31.52**	**253**	P		**P**	**19 48 56.0**	**-1.1**
	1.4nm,0.6s,baz=86,slow=9.6,SNR=27							
WRA				PcP		**PcP**	**19 51 49.7**	**+0.4**
	0.3nm,0.6s,baz=90,slow=5.8,SNR=5.0							
AS31	**Alice Springs**	**32.56**	**247**	*eP*		**P**	**19 49 04.6**	**-1.6**
ASAR	**Alice Springs**	**32.56**	**247**	P		**P**	**19 49 05.2**	**-1.0**
ASAR				PcP		**PcP**	**19 51 51.6**	**-0.5**
ASAR	**Alice Springs**	**32.56**	**247**	P		**P**	**19 49 05.2**	**-1.0**
	1.7nm,0.6s,baz=74,slow=9.5,SNR=24							
ASAR				PcP		**PcP**	**19 51 51.6**	**-0.5**
	0.6nm,0.8s,baz=74,slow=2.7,SNR=4.3							
KNRA	**Kununurra**	**36.62**	**262**	P		**P**	**19 49 41.3**	**+0.1**
	baz=38,SNR=4.1							
FITZ	**Fitzroy Crossi**	**39.60**	**258**	P		**P**	**19 50 06.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**39.60**	**258**	P		**P**	**19 50 06.0**	**-0.4**
	2.4nm,0.8s,baz=84,slow=9.2							
FITZ				LR		LR	20 04 49.3	
	comp=Z,54nm,19.7s,baz=74,slow=34							
FITZ	**Fitzroy Crossi**	**39.60**	**258**	P		**P**	**19 50 06.2**	**-0.3**
	baz=41,SNR=3.1							
MEEK	**Meekatharra**	**46.71**	**246**	P		**P**	**19 51 04.1**	**+0.2**
	baz=48,SNR=16							
MORW	**Morawa**	**49.28**	**243**	P		**P**	**19 51 23.7**	**+0.1**
	baz=50,SNR=5.4							
VNDA	**Vanda**	**64.32**	**181**	*eP*		**P**	**19 53 09.2**	**-0.4**
	2.2nm,0.8s							
VNDA	**Vanda**	**64.32**	**181**	P		**P**	**19 53 09.1**	**-0.4**
	1.8nm,0.7s,baz=2.4,slow=6.9,SNR=6.9							
USRK	**Ussuriysk Arra**	**65.24**	**333**	P		**P**	**19 53 18.0**	**+2.1**
	3.0nm,0.8s,baz=144,slow=5.2,SNR=6.3							
CMAR	**Chiang Mai Arr**	**73.69**	**294**	P		**P**	**19 54 10.7**	**+2.0**
CMAR	**Chiang Mai Arr**	**73.69**	**294**	P		**P**	**19 54 10.6**	**+2.0**
	0.6nm,0.8s,baz=134,slow=4.0,SNR=4.1							
QSPA	**South Pole Qui**	**76.77**	**180**	*eP*		**P**	**19 54 25.4**	**-0.4**
	17nm,1.1s							
ULN	**Ulaanbaatar**	**80.52**	**324**	*eP*		**P**	**19 54 48.2**	**+1.6**
	4.2nm,0.7s							
SONM	**Songino Array**	**80.88**	**324**	P		**P**	**19 54 49.7**	**+1.2**
SONM	**Songino Array**	**80.88**	**324**	P		**P**	**19 54 49.7**	**+1.2**
	1.2nm,0.5s,baz=143,slow=5.9,SNR=15							
ILAR	**Eielson Array**	**85.35**	**18**	P		**P**	**19 55 09.9**	**-1.1**
ILAR	**Eielson Array**	**85.35**	**18**	P		**P**	**19 55 09.9**	**-1.1**
	0.9nm,0.8s,baz=235,slow=5.3,SNR=7.7							
SNAA	**Sanae**	**94.98**	**183**	*eP*		**P**	**19 55 54.9**	**-1.6**
	2.5nm,0.8s							
MKAR	**Makanchi Array**	**95.64**	**317**	P		**P**	**19 56 00.8**	**+1.0**
MKAR	**Makanchi Array**	**95.64**	**317**	P		**P**	**19 56 00.8**	**+1.0**
	1.5nm,0.7s,baz=94,slow=6.0,SNR=7.7							
ZALV	**Zalesovo Beam**	**95.77**	**324**	P		**P**	**19 56 00.3**	**+0.1**
ZALV	**Zalesovo Beam**	**95.77**	**324**	P		**P**	**19 56 00.3**	**+0.1**
	2.5nm,0.6s,baz=118,slow=5.1,SNR=12							
KURK	**Kurchatov**	**98.81**	**320**	P		Pdif	19 56 14.0	0.0
KURBB	**Kurchatov Arra**	**98.85**	**320**	P		Pdif	19 56 14.0	-0.2
	0.7nm,0.2s,baz=93,slow=3.2,SNR=3.1							
ARCES	**ARCESS Array B**	**118.64**	**345**	PKP		**PKPdf**	**20 01 20.8**	**-0.8**
ARCES	**ARCESS Array B**	**118.64**	**345**	PKP		**PKPdf**	**20 01 20.7**	**-0.8**
	3.0nm,0.9s,baz=98,slow=1.8,SNR=8.2							
KEST	**Kesra**	**149.61**	**321**	PKPbc		**PKPbc**	**20 02 23.9**	**-0.3**
KEST	**Kesra**	**149.61**	**321**	PKPbc		**PKPbc**	**20 02 23.9**	**-0.3**
	1.3nm,0.8s,baz=243,slow=2.3,SNR=4.9							
ESDC	**Sonseca Array**	**152.37**	**344**	PKPab		**PKPab**	**20 02 39.5**	**-1.0**
ESDC	**Sonseca Array**	**152.37**	**344**	PKPab		**PKPab**	**20 02 39.5**	**-1.0**
	1.0nm,0.6s,baz=14,slow=3.5,SNR=6.0							
TORD	**Torodi Ar. Bea**	**165.23**	**271**	PKP		**PKPdf**	**20 02 39.3**	**-0.1**
TORD				PKPab		**PKPab**	**20 03 37.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.23**	**271**	PKP		**PKPdf**	**20 02 39.3**	**-0.1**
	0.7nm,0.8s,baz=78,slow=0.8,SNR=4.3							
TORD				PKPab		**PKPab**	**20 03 37.1**	**+0.1**
	0.5nm,1.0s,baz=80,slow=4.2,SNR=3.6							

*IDC **03** 19:54:01.1±0.6, 4.42N×126.57E, h0km, mb4.2/22, mb1 4.3/22, mb1mx4.2/30, mbtmp4.2/22, MS3.3/6, Ms1 3.3/6, ms1mx2.9/34, Error ellipse: s-maj=27.6km s-min=12.2km az=76.0*
*ISCJB **03** 19:54:09.9±0.5, 4.32N±0.02×126.70E±0.05, h90km±4km, mb4.1/24, Error ellipse: s-maj=8.4km s-min=4.0km az=172.5*
*DJA **03** 19:54:14.4±0.5, 4.7N×12.7E±°, h57km±10km, M4.8/9, mb4.8/9, mB5.0/6, MLv5.0/9, Mw(mB)4.4/6*
*AUST **03** 19:54:15.2±0.6, 4.08N×126.85E, h113km, Error ellipse: s-maj=1.7km s-min=0.9km az=249.0*

ISC 03 19:54:12.2±0.9, **4.29N**±0.04×**126.70E**±0.07, **h93**km±9km, **n75**, σ1§**69**/**73**, **mb4.1**/24, **4C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.31**	**243**	P	Pn	**Pn**	19 54 32.1	-3.7
SGSI				S	S	**Sn**	**19 54 51.6**	**-2.0**
GSPH	**General Santos**	**2.50**	**316**	*e*P	Pn	**Pn**	19 54 47.3	-4.0
GSPH				*i* S	S	**Sn**	**19 55 21.1**	**0.0**
MATI	**Mati**	**2.67**	**351**	*e*P	Pn	**Pn**	**19 54 51.2**	**-2.3**
DAV	**Davao City (W)**	**2.98**	**338**	P	Pn	**Pn**	**19 54 59.9**	**+2.3**
DMPH	**Davao City--Mi**	**3.02**	**337**	*e*P	Pn	**Pn**	**19 54 56.1**	**-2.0**
DMPH				*e*S	S	**Sn**	**19 55 31.4**	**-2.1**
KCP	**Kidapawan**	**3.14**	**329**	*e*P	Pn	**Pn**	**19 54 58.2**	**-1.6**
KCP				*i* S	S	**Sn**	**19 55 41.7**	**+5.2**
TNTI	**Ternate**	**3.56**	**169**	P	Pn	**Pn**	**19 55 04.1**	**-1.3**
TNTI				S	S	**Sn**	**19 55 44.0**	**-2.5**
CTBH	**Cotabato--PC H**	**3.80**	**320**	*i*P	Pn	**Pn**	**19 55 06.6**	**-2.1**
CTBH				*i* S	Sn		19 55 32.8	-19
BUKP	**Musuan**	**3.92**	**336**	*e*P	Pn	**Pn**	**19 55 08.7**	**-1.7**
KMSI	**Cibinong**	**4.58**	**216**	P	Pn	**Pn**	**19 55 20.8**	**+1.5**
CGP	**Cagayan de Oro**	**4.59**	**334**	*e*P	Pn	**Pn**	**19 55 19.2**	**-0.2**
CGP				*i* S	S	**Sn**	**19 56 16.9**	**+5.4**
BUTP	**Butuan**	**4.77**	**347**	*e*P	Pn	**Pn**	**19 55 20.5**	**-1.3**
PAGZ	**Pagadian**	**4.83**	**317**	*e*P	Pn	**Pn**	**19 55 21.0**	**-1.6**
GTOI	**Gorontalo**	**5.17**	**226**	P	Pn	**Pn**	**19 55 26.3**	**-1.0**
	111nm,0.6s,1μm0.5nm							
SCPH	**Surigao**	**5.59**	**348**	*e*P	Pn		19 55 29.3	-3.7
SCPH				*e*S	S	**Sn**	**19 56 37.7**	**+1.9**
MRSI	**Marisa**	**6.08**	**232**	P	Pn	**Pn**	**19 55 39.0**	**-0.6**
	147nm,0.5s,2μm0.5nm							
MRSI				S	S	**Sn**	**19 56 46.1**	**-1.7**
	147nm,0.5s,2μm0.5nm							
MSLP	**Maasin**	**6.09**	**343**	*e*P	Pn	**Pn**	**19 55 38.7**	**-1.0**
LUWI	**Luwuk**	**6.59**	**217**	P	Pn	**Pn**	**19 55 48.9**	**+2.3**
	252nm,1.2s,2μm0.8nm							
LUWI	**Luwuk**	**6.59**	**217**	P	Pn	**Pn**	**19 55 48.5**	**+1.9**
	baz=6.5,SNR=24							
TOLI	**Toli-Toli**	**6.69**	**242**	P	Pn		19 55 53.8	+5.9
OCLP	**Ormoc**	**7.03**	**343**	*e*P	Pn	**Pn**	**19 55 53.3**	**+0.7**
APSI	**Ampana**	**7.22**	**224**	P	Pn	**Pn**	**19 55 56.8**	**+1.6**
	110nm,0.7s,1μm0.4nm							
NLAI	**Namlea**	**7.49**	**177**	P	Pn		19 55 55.6	-3.3
	50nm,0.7s,2μm0.4nm							
NLAI				S	Sn		19 57 14.8	-7.4
	50nm,0.7s,2μm0.4nm							
RCP	**Roxas**	**8.21**	**332**	*e*P	Pn	**Pn**	**19 56 09.3**	**+0.5**
MYLDM	**Lahad Datu**	**8.22**	**276**	P	Pn	**Pn**	**19 56 10.4**	**+1.6**
	58nm,1.0s							
FAKI	**Fak Fak**	**9.06**	**142**	P	Pn	**Pn**	**19 56 18.3**	**-2.0**
	baz=8.8,SNR=14							
MMSI	**Mamuju**	**10.42**	**228**	P	Pn	**Pn**	**19 56 39.4**	**+0.5**
	20nm,0.7s,188nm							
SPSI	**Sidrap Palu**	**10.73**	**220**	P	Pn	**Pn**	**19 56 42.7**	**-0.3**
	14nm,0.9s							
TLE	**Tual**	**11.56**	**149**	P	Pn	**Pn**	**19 56 55.1**	**+0.9**
LBFI	**Labuhan Bajo,**	**14.39**	**208**	P	P	**P**	**19 57 38.7**	**+2.9**
KDU	**Kakadu**	**17.82**	**161**	P	P	**P**	**19 58 12.5**	**-1.2**
	baz=18,SNR=7.2							
KNRA	**Kununurra**	**19.94**	**174**	P	P	**P**	**19 58 37.8**	**+0.9**
	baz=20,SNR=5.2							
FITZ	**Fitzroy Crossi**	**22.27**	**183**	P	P	**P**	**19 59 02.6**	**+0.7**
	3.2nm,0.6s,baz=3.6,slow=10,SNR=12							
FITZ	**Fitzroy Crossi**	**22.27**	**183**	P	P	**P**	**19 59 02.6**	**+0.7**
	baz=22,SNR=13							
PMG	**Port Moresby**	**24.51**	**124**	LR	LR		20 09 24.8	
	comp=Z,70nm,18.0s,baz=302,slow=37							
WRA	**Warramunga Arr**	**25.23**	**163**	P	P	**P**	**19 59 30.4**	**+0.8**
	6.1nm,0.9s,baz=340,slow=10,SNR=45							
ASAR	**Alice Springs**	**28.66**	**166**	P	P	**P**	**20 00 01.2**	**+0.8**
	1.3nm,0.6s,baz=345,slow=6.9,SNR=28							
JNU	**Nakatsue**	**28.95**	**7**	P	P	**P**	**20 00 01.1**	**-1.8**
	7.9nm,0.9s,baz=188,slow=13,SNR=3.5							
JNU				LR	LR		20 14 39.0	
	comp=Z,34nm,18.4s,baz=246,slow=43							
CMAR	**Chiang Mai Arr**	**30.57**	**300**	P	P	**P**	**20 00 16.3**	**-1.1**
	0.5nm,0.4s,baz=112,slow=7.2,SNR=3.0							
CMAR				LR	LR		20 13 19.0	
	comp=Z,15nm,18.2s,baz=35,slow=38							
MEEK	**Meekatharra**	**31.73**	**194**	P	P	**P**	**20 00 27.8**	**+0.3**
	baz=32,SNR=5.9							
KSRS	**Korea Array**	**33.03**	**2**	P	P	**P**	**20 00 37.9**	**-0.7**
	3.8nm,0.7s,baz=176,slow=8.8,SNR=9.2							
XAN	**Xi'an**	**33.91**	**333**	P	P		20 00 49.8	+3.4
XAN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
XAN				pmax	pmax			
	comp=Z,22nm,4.1s							
BBOO	**Buckleboo**	**37.95**	**167**	P	P	**P**	**20 01 22.0**	**+1.1**
	baz=38,SNR=10							
STKA	**Stephens Creek**	**38.66**	**160**	P	P	**P**	**20 01 28.4**	**+1.5**
	9.3nm,0.8s,baz=338,slow=8.5,SNR=24							
STKA				LR	LR		20 19 58.4	
	comp=Z,15nm,28.6s,baz=24,slow=40							
STKA	**Stephens Creek**	**38.66**	**160**	P	P	**P**	**20 01 28.6**	**+1.7**
	baz=39,SNR=20							
USRK	**Ussuriysk Arra**	**40.02**	**6**	P	P	**P**	**20 01 38.5**	**+0.5**
	1.9nm,0.8s,baz=196,slow=11,SNR=4.3							
ARMA	**Armidale**	**41.95**	**147**	P	P	**P**	**20 01 57.2**	**+3.0**
	baz=42,SNR=5.1							
ASAJ	**Asahikawa**	**42.07**	**17**	P	P	**P**	**20 01 54.9**	**0.0**
	4.0nm,0.6s,baz=265,slow=33,SNR=10							
GTA	**Gaotai**	**42.60**	**329**	*e*P	P		20 01 55.4	-4.1
GTA				pP	pP		20 01 59.5	-22
GTA				sP	sP		20 02 02.7	-29
GTA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TAPN	**Taplejung**	**43.66**	**306**	*e*P	P	**P**	**20 02 06.9**	**-1.5**
ODAN	**Odare**	**43.72**	**305**	*e*P	P	**P**	**20 02 07.3**	**-1.5**
RAMN	**Ramite**	**44.41**	**305**	*e*P	P	**P**	**20 02 13.5**	**-0.8**
JIRN	**Jiri**	**45.02**	**305**	*e*P	P	**P**	**20 02 18.0**	**-1.3**
GUN	**Gumba**	**45.37**	**306**	*e*P	P	**P**	**20 02 20.4**	**-1.7**
GKN	**Gorkha**	**46.42**	**305**	*e*P	P	**P**	**20 02 29.1**	**-1.0**
SONM	**Songino Array**	**46.76**	**341**	P	P	**P**	**20 02 32.9**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=159,slow=8.1,SNR=9.0							
SONM				LR	LR		20 22 26.5	
	comp=Z,53nm,19.5s,baz=52,slow=37							
LHI	**Lord Howe Isla**	**47.10**	**141**	P	P		20 02 28.8	-6.3
	baz=47,SNR=4.0							
KOLN	**Koldanda**	**47.18**	**304**	*e*P	P	**P**	**20 02 34.7**	**-1.4**
DANN	**Dangsing**	**47.27**	**305**	*e*P	P	**P**	**20 02 35.6**	**-1.2**
	comp=Z,14nm,0.6s							
PYUN	**Piuthan**	**47.80**	**305**	*e*P	P	**P**	**20 02 39.2**	**-1.7**
MKAR	**Makanchi Array**	**57.08**	**325**	P	P	**P**	**20 03 47.9**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=115,slow=7.1,SNR=21							
AAK	**Ala-Archa**	**59.92**	**318**	P	P	**P**	**20 04 08.7**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=135,slow=10,SNR=4.2							
ZALV	**Zalesovo Beam**	**60.08**	**333**	P	P	**P**	**20 04 08.2**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=130,slow=6.1,SNR=4.2							
KURBB	**Kurchatov Arra**	**61.25**	**327**	P	P	**P**	**20 04 16.1**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=127,slow=6.3,SNR=12							
SEY	**Seymchan**	**61.50**	**13**	P	P	**P**	**20 04 17.9**	**-1.1**
	comp=Z,3.4nm,0.9s,baz=200,slow=22,SNR=3.8							
BVAR	**Borovoye Array**	**66.84**	**327**	P	P	**P**	**20 04 53.2**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=121,slow=7.2,SNR=7.3							
AKTO	**Aktyubinsk**	**73.20**	**322**	P	P	**P**	**20 05 32.8**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=84,slow=9.2,SNR=7.2							
AKTO				LR	LR		20 39 10.2	
	comp=Z,15nm,28.6s,baz=38,slow=37							
ILAR	**Eielson Array**	**84.61**	**25**	P	P	**P**	**20 06 34.5**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=250,slow=4.9,SNR=17							
TBI	**Tubuai**	**86.04**	**114**	*e*LR	LR		20 07 40.7	
	comp=Z,149nm,28.5s							

IDMV	**Damavand**	**5.87**	**81**	*e*Pn		**Pn**	**20 15 47.1**	**+1.1**
IDMV	**Damavand**	**5.87**	**81**	*e*Pn		**Pn**	**20 15 47.1**	**+1.1**
ISFB	**Sefidab**	**6.07**	**93**	*e*Pn		**Pn**	**20 15 49.2**	**+0.7**
ISFB				*e*			20 17 50.2	
	comp=Z,173nm,0.4s							
ISFB	**Sefidab**	**6.07**	**93**	*e*Pn		**Pn**	**20 15 49.2**	**+0.7**
IGAR	**Gharneh**	**6.44**	**110**	*e*Pn		**Pn**	**20 15 54.1**	**+0.4**
IGAR				*e*			20 17 10.5	
	comp=Z,532nm,0.2s							
IFIR	**Firoozkooh**	**6.46**	**81**	*e*Pn		**Pn**	**20 15 55.4**	**+1.3**
IFIR				*e*			20 15 56.8	
	comp=Z,227nm,0.1s							
IFIR	**Firoozkooh**	**6.46**	**81**	*e*Pn		**Pn**	**20 15 55.4**	**+1.3**
IZEF	**Zefreh**	**6.48**	**106**	*e*Pn		**Pn**	**20 15 54.9**	**+0.6**
IZEF				*e*			20 17 14.1	
	comp=Z,208nm,0.3s							
IZEF	**Zefreh**	**6.48**	**106**	*e*Pn		**Pn**	**20 15 54.9**	**+0.6**
ISHM	**Shahmirzad**	**6.92**	**80**	*e*Pn		**Pn**	**20 16 01.1**	**+0.8**
ISHM	**Shahmirzad**	**6.92**	**80**	*e*Pn		**Pn**	**20 16 01.1**	**+0.8**
ASF	**Jabal al Asfar**	**7.21**	**250**	Pg		**Pg**	**20 16 37.5**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=253,slow=14,SNR=1.4							
ASF				Lg		Lg	20 18 09.0	
	comp=Z,0.7nm,0.3s,baz=60,slow=20,SNR=4.4							
ISAD	**Sadrabad**	**7.91**	**109**	*e*Pn		**Pn**	**20 16 14.1**	**+0.1**
ISAD				*e*			20 17 51.4	
	comp=Z,159nm,0.2s							
ISAD	**Sadrabad**	**7.91**	**109**	*e*Pn		**Pn**	**20 16 14.1**	**+0.1**
MMAI	**Mount Meron Ar**	**8.11**	**260**	Pn		Pn	20 16 20.4	+3.8
	baz=69,slow=16,SNR=2.9							
MMAI				Lg		Lg	20 18 34.6	
	comp=Z,1.4nm,0.3s,baz=91,slow=35,SNR=3.4							
IPAR	**Pars**	**8.52**	**124**	*e*Pn		**Pn**	**20 16 22.4**	**+0.1**
IPAR				*e*			20 18 04.7	
	comp=Z,164nm,0.2s							
IPAR	**Pars**	**8.52**	**124**	*e*Pn		**Pn**	**20 16 22.4**	**+0.1**
ISRV	**Sarvestan**	**8.85**	**126**	*e*Pn		**Pn**	**20 16 26.8**	**-0.1**
ISRV				*e*			20 16 36.0	
	comp=Z,312nm,0.1s							
ISRV	**Sarvestan**	**8.85**	**126**	*e*Pn		**Pn**	**20 16 26.8**	**-0.1**
EIL	**Elat**	**9.89**	**241**	Lg		Lg	20 19 36.8	
	comp=Z,0.3nm,0.3s,baz=147,slow=18,SNR=2.8							
AKTO	**Aktyubinsk**	**18.26**	**28**	P		**Pn**	**20 18 31.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=221,slow=11,SNR=4.5							
AKASG	**Malin Array Be**	**19.50**	**329**	P		**P**	**20 18 45.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=137,slow=11,SNR=4.3							
BVAR	**Borovoye Array**	**25.59**	**37**	P		**P**	**20 19 48.4**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=224,slow=8.1,SNR=5.2							
FINES	**FINESS Array B**	**29.18**	**341**	P		**P**	**20 20 20.2**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=129,slow=11,SNR=2.8							
MKAR	**Makanchi Array**	**30.41**	**55**	P		**P**	**20 20 31.7**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=256,slow=8.8,SNR=4.7							
HFS	**Hagfors**	**32.36**	**331**	P		**P**	**20 20 48.9**	**+0.7**
	comp=Z,3.4nm,0.4s,baz=128,slow=9.6,SNR=28							
ZALV	**Zalesovo Beam**	**33.71**	**43**	P		**P**	**20 20 59.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=284,slow=7.1,SNR=2.8							
NOA	**NORSAR Array B**	**33.89**	**331**	P		**P**	**20 21 00.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=129,slow=9.1,SNR=2.9							
ARCES	**ARCESS Array B**	**36.34**	**349**	P		**P**	**20 21 22.6**	**+0.1**
	comp=Z,6.2nm,1.1s,baz=162,slow=6.4,SNR=3.2							
EKA	**Eskdalemuir Ar**	**38.65**	**317**	P		**P**	**20 21 42.1**	**-0.2**
	comp=Z,3.0nm,1.1s,baz=94,slow=8.6,SNR=2.9							
TORD	**Torodi Ar. Bea**	**44.57**	**252**	P		**P**	**20 22 31.8**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=49,slow=9.1,SNR=4.3							
SONM	**Songino Array**	**46.76**	**54**	P		**P**	**20 22 47.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=258,slow=6.8,SNR=3.1							
ILAR	**Eielson Array**	**80.26**	**5**	P		**P**	**20 26 28.8**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=331,slow=3.5,SNR=4.3							

MEX 03 20:43:36.6±0.4, 16.11N×97.54W, h15km±5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**297**	*e*P		P	Pg	20 43 46.9	-2.2
PNIG				*i* S		S	Sg	20 43 55.2	-2.2
VHO	**Vista Hermosa**	**1.23**	**39**	*i* P		P	Pn	20 43 55.9	-3.8
VHO				*i* S		S	Sb	20 44 10.6	-5.2
HUIG	**Huatulco**	**1.42**	**104**	*i* P		P	Pn	20 43 58.5	-3.4
HUIG				*i* S		S	Sn	20 44 15.1	-5.2
TLIG	**Tlapa**	**1.75**	**326**	*i* P		P	Pn	20 44 03.2	-3.4
TLIG				*i* S		S	Sn	20 44 24.6	-4.1

*IDC **03** 20:47:13.2±1.1, 16.91N×60.53W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.7/7, ML3.2/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/44, Error ellipse: s-maj=38.4km s-min=24.0km az=35.0*

*ISCJB **03** 20:47:15.2±0.7, 16.79N±0.04×60.55W±0.06, h25km, mb3.7/6, MS3.9/3, Error ellipse: s-maj=7.9km s-min=5.4km az=160.1*

*TRN **03** 20:47:15.6, 16.73N×60.67W, h25km, MD3.4, M3.3(FDF)*

ISC 03 20:47:17.0±0.9, 16.75N±0.05×60.66W±0.07, h25km, n43, σ0s52/36, mb3.8/6, MS3.9/3, 3C-12D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.58**	**222**	↓*i* P		**P**	**Pb**	**20 47 28.1**	**-0.5**
SEG	**Port Louis**	**0.89**	**247**	↓*e* P		**P**	**Pb**	**20 47 33.5**	**-0.3**
MGG	**Marie-Galante**	**1.04**	**218**	↓*e* P		**P**	**Pn**	**20 47 35.4**	**-0.6**
BCG	**Bois Riant Cap**	**1.14**	**235**	↓*e* P		**P**	**Pn**	**20 47 37.1**	**-0.3**
DOG	**Dongo Capester**	**1.17**	**233**	↓*i* P		**P**	**Pn**	**20 47 37.6**	**-0.2**
SSG	**Sans Toucher**	**1.18**	**236**	*e*P		**P**	**Pn**	**20 47 37.9**	**-0.2**
CRG	**Carmichael**	**1.19**	**235**	*e*P		**P**	**Pn**	**20 47 38.0**	**-0.2**
BPA	**Boggy Peak**	**1.19**	**285**	*e*P		**P**	**Pb**	**20 47 38.7**	**-0.2**
BPA				*e*S			**Sb**	**20 47 54.8**	**+0.9**
ECG	**Echelle**	**1.19**	**234**	↓*e* P		**P**	**Pn**	**20 47 37.9**	**-0.3**
LKG	**Breislack**	**1.19**	**234**	↓*i* P		**P**	**Pn**	**20 47 37.9**	**-0.4**
LKG				*e*S			**Sb**	**20 47 54.4**	**+0.3**
PHG	**Guadaloupe-2**	**1.20**	**233**	↓*i* P		**P**	**Pn**	**20 47 38.1**	**-0.2**
TAG	**Tarade**	**1.20**	**234**	*e*P		**P**	**Pn**	**20 47 38.1**	**-0.2**
FNG	**Fond-Bernard**	**1.20**	**236**	↓*e* P		**P**	**Pn**	**20 47 37.9**	**-0.4**
SCG	**Saint Claude**	**1.22**	**234**	*e*P		**P**	**Pn**	**20 47 38.2**	**-0.4**
MLG	**Mont-d'or**	**1.22**	**236**	↓*e* P		**P**	**Pn**	**20 47 38.4**	**-0.2**
LZG	**Guadaloupe-1**	**1.23**	**241**	*e*P		**P**	**Pn**	**20 47 38.6**	**-0.1**
HMG	**Houelmont**	**1.26**	**233**	*e*P		**P**	**Pn**	**20 47 39.0**	**-0.1**
TBG	**Guadaloupe-3**	**1.30**	**227**	↓*e* P		**P**	**Pn**	**20 47 39.5**	**-0.1**
ANWB	**Willy Bob**	**1.42**	**310**	*e*P		**P**	**Pn**	**20 47 40.9**	**-0.3**
ANWB				*e*S			**Sn**	**20 47 59.7**	**+0.7**
BVM	**Bellevue**	**2.04**	**191**	*e*P		**P**	**Pn**	**20 47 49.9**	**0.0**
FDF	**Fort de France**	**2.06**	**193**	*e*P		**P**	**Pn**	**20 47 50.0**	**-0.1**
FDF				*e*S			**Sn**	**20 48 14.4**	**-0.7**
LPMF	**Morne Lapointe**	**2.18**	**188**	↑*e* P		**P**	**Pn**	**20 47 52.2**	**+0.4**
MVM	**Montagne Vaucl**	**2.19**	**186**	↓*e* P		**P**	**Pn**	**20 47 53.0**	**+1.0**
ZAM	**Aeronautique**	**2.19**	**189**	↑*e* P		**P**	**Pn**	**20 47 52.2**	**+0.3**
TRMF	**Trois Ilets**	**2.23**	**190**	↑*e* P		**P**	**Pn**	**20 47 52.9**	**+0.4**
H05S1	**Guadeloupe/Mar**	**2.32**	**184**	T		T		20 48 24.8	
	SNR=111								
SJG	**San Juan**	**5.42**	**285**	Pn		**Pn**		**20 48 36.5**	**+0.2**
	0.0nm,0.3s,baz=94,slow=17,SNR=2.7								
SJG				LR		LR		20 50 29.4	
	comp=Z,120nm,21.7s,baz=90,slow=36								
ROSC	**El Rosal**	**17.87**	**230**	LR		LR		20 58 55.5	
	comp=Z,65nm,18.1s,baz=44,slow=39								
SIV	**San Ignacio**	**32.53**	**181**	P		**P**		**20 53 47.7**	**+1.4**
	1.6nm,0.6s,baz=6.4,slow=6.6,SNR=4.8								
TXAR	**Lajitas Array**	**41.30**	**296**	P		**P**		**20 55 00.3**	**-0.5**
	0.3nm,0.6s,baz=97,slow=7.5,SNR=3.8								
PDAR	**Pinedale Array**	**48.89**	**313**	P		**P**		**20 56 01.1**	**-0.1**
	0.9nm,0.8s,baz=116,slow=10,SNR=5.7								
H10N3	**ASCENSION HYDR**	**51.77**	**115**	T		T		21 52 13.9	
	baz=298,slow=75,SNR=13								
H10N2	**ASCENSION HYDR**	**51.78**	**115**	T		T		21 52 14.9	
	baz=298,slow=75,SNR=13								
H10N1	**ASCENSION HYDR**	**51.79**	**115**	T		T		21 52 15.3	
	baz=298,slow=75,SNR=17								
H10S3	**ASCENSION HYDR**	**52.17**	**116**	T		T		21 52 45.0	
	baz=298,slow=75,SNR=7.5								
H10S1	**ASCENSION HYDR**	**52.17**	**116**	T		T		21 52 45.2	
	baz=298,slow=75,SNR=7.3								
H10S2	**ASCENSION HYDR**	**52.18**	**116**	T		T		21 52 44.4	
	baz=298,slow=75,SNR=4.3								
NVAR	**Mina Array Bea**	**54.55**	**305**	P		**P**		**20 56 44.1**	**+0.5**
	0.7nm,0.6s,baz=82,slow=6.5,SNR=5.1								
TORD	**Torodi Ar. Bea**	**60.14**	**84**	P		**P**		**20 57 22.1**	**-1.0**
	0.7nm,0.8s,baz=281,slow=6.6,SNR=4.4								
NOA	**NORSAR Array B**	**66.72**	**30**	LR		LR		21 22 21.6	
	comp=Z,56nm,19.5s,baz=355,slow=32								
USHA	**Ushuaia**	**71.60**	**185**	LR		LR		21 29 39.9	
	comp=Z,104nm,19.8s,baz=229,slow=36								
ILAR	**Eielson Array**	**73.40**	**333**	P		**P**		**20 58 46.4**	**-0.3**
	0.3nm,0.7s,baz=108,slow=4.4,SNR=5.1								
IDI	**Anoyia**	**76.96**	**57**	LR		LR		21 31 27.6	
	comp=Z,51nm,18.8s,baz=241,slow=35								

IDC 03 21:17:29.9±0.9, 53.75S×106.24W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.1/15, mbtmp4.0/5, MS3.5/3, Ms1 3.5/3, ms1mx3.2/15, Error ellipse: s-maj=59.3km s-min=32.5km az=130.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**27.19**	**76**	LR		LR	LR	21 31 35.1	
	comp=Z,99nm,20.5s,baz=54,slow=31								
H03N3	**Juan Fernandez**	**28.05**	**55**	T		T		21 52 33.5	
	baz=207								
H03N2	**Juan Fernandez**	**28.05**	**55**	T		T		21 52 27.6	
	baz=207								
H03N1	**Juan Fernandez**	**28.06**	**55**	T		T		21 52 34.1	
	baz=207								
CPUP	**Villa Florida**	**45.16**	**73**	LR		LR		21 44 29.0	
	comp=Z,57nm,18.1s,baz=357,slow=36								
BDFB	**Brasilia**	**58.88**	**73**	LR		LR		21 52 00.7	
	comp=Z,49nm,19.8s,baz=23,slow=35								
STKA	**Stephens Creek**	**76.57**	**234**	P		P		21 29 23.2	+1.3
	1.9nm,0.7s,baz=136,slow=8.1,SNR=4.0								
TXAR	**Lajitas Array**	**82.77**	**2**	P		P		21 29 55.5	+0.1
	0.5nm,0.6s,baz=182,slow=9.0,SNR=6.6								
ASAR	**Alice Springs**	**87.13**	**233**	P		P		21 30 17.7	0.0
	0.9nm,0.7s,baz=138,slow=4.6,SNR=16								
WRA	**Warramunga Arr**	**90.09**	**235**	P		P		21 30 30.7	-1.0
	0.5nm,0.8s,baz=138,slow=4.4,SNR=5.3								
NVAR	**Mina Array Bea**	**92.40**	**351**	P		P		21 30 42.2	+0.2
	0.5nm,0.6s,baz=186,slow=8.1,SNR=4.1								
H11S2	**WAKE ISLAND Hyd**	**102.98**	**283**	T		T		23 26 25.2	
	baz=146,slow=76,SNR=6.0								
H11S3	**WAKE ISLAND Hyd**	**103.00**	**283**	T		T		23 26 28.4	
	baz=146,slow=76,SNR=4.5								
H11S1	**WAKE ISLAND Hyd**	**103.00**	**283**	T		T		23 26 28.2	
	baz=146,slow=76,SNR=5.9								
ILAR	**Eielson Array**	**122.27**	**341**	PKP		PKPdf		21 36 25.3	+0.2
	0.4nm,0.8s,baz=164,slow=3.6,SNR=3.7								
CMAR	**Chiang Mai Arr**	**139.75**	**219**	PKP		PKPdf		21 36 60.0	+0.4
	0.3nm,0.4s,baz=193,slow=3.7,SNR=3.4								
MLR	**Muntele Rosu**	**148.47**	**85**	PKPbc		PKPbc		21 37 17.1	-0.6
	1.2nm,1.0s,baz=94,slow=4.7,SNR=5.4								
BRTR	**Keskin Array B**	**149.59**	**101**	PKPbc		PKPbc		21 37 19.9	-0.9
	1.3nm,0.9s,baz=232,slow=1.8,SNR=5.8								
ODAN	**Odzre**	**151.30**	**206**	*e*P		PKPbc		21 37 26.8	+1.5
	19nm,0.7s								
RAMN	**Ramite**	**151.58**	**205**	*e*P		PKPbc		21 37 27.4	+1.4
	25nm,0.7s								
TAPN	**Taplejung**	**151.68**	**207**	*e*P		PKPbc		21 37 27.2	+0.9
	9.4nm,0.7s								
JIRN	**Jiri**	**152.37**	**204**	*e*P		PKPbc		21 37 29.1	+1.2
	12nm,0.6s								
PKI	**Pulchoki**	**152.47**	**203**	*e*P		PKPbc		21 37 28.9	+0.8
	13nm,0.7s								
PKIN	**Phulchoki**	**152.47**	**203**	*e*P		PKPbc		21 37 28.7	+0.7
	9.1nm,0.6s								
DMN	**Daman**	**152.57**	**202**	*e*P		PKPbc		21 37 29.3	+1.1
	16nm,1.0s								
GUN	**Gumba**	**152.68**	**204**	*e*P		PKPbc		21 37 28.7	+0.1
	13nm,0.7s								
KKN	**Kakani**	**152.71**	**203**	*e*P		PKPbc		21 37 29.1	+0.6
KOLN	**Koldanda**	**153.04**	**200**	*e*P		PKPbc		21 37 28.6	-0.6
GKN	**Gorkha**	**153.05**	**202**	*e*P		PKPbc		21 37 29.4	+0.3
DANN	**Dangsing**	**153.57**	**200**	*e*P		PKPbc		21 37 30.8	+0.4
	0.8nm,0.8s								
SONM	**Songino Array**	**158.67**	**267**	PKPab		PKPab		21 38 02.7	-1.5
	0.3nm,0.8s,baz=132,slow=2.1,SNR=2.8								

KRSC 03 21:19:59.6±8.4, 48.97N×155.99E, h5km±5km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.72**	**3**	*e*P		P	Pn	21 20 30.6	+0.5
SKR				*i* S		S	Sb	21 20 53.2	-0.3
PAU	**Pauzhetka**	**2.56**	**12**	*i* P		P	Pb	21 20 43.9	-2.0
PAU				*i* S		S	Sb	21 21 16.5	-1.1
MTVR	**Mutnovka**	**3.78**	**21**	*e*P		P	Pn	21 21 02.3	+3.6
MTVR				*i* S		S	Sn	21 21 47.7	+4.0
RUS	**Russkaya**	**3.82**	**24**	*e*P		P	Pn	21 21 01.7	+2.7
RUS				*i* S		S	Sn	21 21 47.3	+3.0
APC	**Apacha**	**4.03**	**10**	P		P	Pn	21 21 04.6	+2.7
UGLR	**Uglovaya**	**4.61**	**22**	P		P	Pn	21 21 13.2	+3.2
KRER	**Koryakskii**	**4.67**	**21**	P		P	Pn	21 21 15.0	+4.0
SDLR	**Sedlovina**	**4.68**	**22**	P		P	Pn	21 21 13.8	+2.7
GNL	**Ganaly**	**4.89**	**14**	P		P	Pn	21 21 17.0	+3.1
KZV	**Kizimen**	**6.70**	**22**	P		P	Pn	21 21 43.9	+5.1
TUMR	**Tumrok**	**6.82**	**20**	P		P	Pn	21 21 44.4	+4.0
KBTR	**Krutoberegovo**	**8.35**	**27**	P		P	Pn	21 22 04.5	+3.3

GUC 03 22:04:48.2±0.9, 23.59S×69.39W, h114km±6km, ML3.7, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.77**	**285**	↑*i* P		P	Pn	22 05 08.8	+1.1
CEN1				*i* S		S	Sn	22 05 23.9	+1.5
CEN1				AML		AML		22 05 26.9	
	comp=N,477nm,0.6s								
ANCH	**Antofagasta**	**0.94**	**264**	↓*i* P		P	Pn	22 05 10.8	+1.8
ANCH				*i* S		S	Sn	22 05 27.2	+2.4
ANCH				AML		AML		22 05 31.1	
	comp=N,2μm,0.1s								
PB10	**Plate Boundary**	**1.07**	**274**	*e*P		P	Pn	22 05 12.5	+2.0
PB10				*i* S		S	Sn	22 05 30.2	+2.9
PB10				AML		AML		22 05 35.8	
	comp=N,2μm,0.7s								
SPCH	**San Pedro de A**	**1.29**	**58**	*e*P		P	Pn	22 05 16.3	+3.1
SPCH				*i* S		S	Sn	22 05 33.5	+1.3
SPCH				AML		AML		22 05 33.7	
	comp=E,1μm,0.3s								
PB04	**Plate Boundary**	**1.32**	**356**	↑*i* P		P	Pn	22 05 15.5	+2.3
PB04				*i* S		S	Sn	22 05 35.8	+3.7
PB04				AML		AML		22 05 38.9	
	comp=N,1μm,0.4s								
MACH	**Maria Elena**	**1.43**	**346**	↑*i* P		P	Pn	22 05 15.4	+0.7
MACH				*i* S		S	Sn	22 05 35.9	+0.9
PB09	**Plate Boundary**	**1.79**	**4**	↑*i* P		P	Pn	22 05 20.1	+1.0
PB09				*i* S		S	Sn	22 05 43.9	+1.3
PB09				AML		AML		22 05 50.0	
	comp=E,2μm,0.3s								
PB07	**Plate Boundary**	**1.91**	**346**	*e*P		P	Pn	22 05 21.5	+1.0
PB07				*i* S		S	Sn	22 05 46.5	+1.3
PB07				AML		AML		22 05 50.6	
	comp=E,532nm,0.2s								
PB01	**Plate Boundary**	**2.54**	**358**	*e*P		P	Pn	22 05 29.1	+0.7
PB01				*e*S		S	Sn	22 06 00.7	+1.3
PB01				AML		AML		22 06 08.7	
	comp=E,525nm,0.3s								

*ISCJB **03** 22:08:24.5±0.6, 2.82S±0.09×67.96E±0.08, h11km, mb3.8/13, MS3.9/9, Error ellipse: s-maj=12.8km s-min=11.1km az=15.2*

*IDC **03** 22:08:24.9±0.9, 2.82S×67.98E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.7/29, mbtmp3.8/12, MS3.9/9, Ms1 3.9/9, ms1mx3.6/32, Error ellipse: s-maj=23.7km s-min=21.7km az=22.0*

*NEIC **03** 22:08:26.4±0.5, 2.81S×67.97E, h10km, mb4.5/1, Error ellipse: s-maj=11.2km s-min=9.5km az=188.0*

ISC 03 22:08:26.7±0.7, 2.8S±0.1×67.96E±0.09, h11km, n41, σ0s92/30, mb3.9/13, MS4.0/9, 1D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.60**	**139**	T		T		22 14 18.2	
	baz=320,slow=75,SNR=525								
H08N3	**Diego Garcia H**	**4.61**	**139**	T		T		22 14 16.5	
	baz=320,slow=75,SNR=574								
H08N1	**Diego Carcia H**	**4.63**	**139**	T		T		22 14 17.1	
	baz=320,slow=75,SNR=630								
DGAR	**Diego Garcia**	**6.38**	**136**	*e*Pn		**Pn**		**22 10 00.6**	**-0.1**
MSEY	**Mahe Island**	**12.59**	**261**	*e*Pn		**Pn**		**22 11 25.7**	**-0.2**
TRD	**Trivandrum**	**14.40**	**38**	↓*e* P		P		22 12 02.6	+4.9
PALK	**Pallekele**	**16.20**	**52**	*e*Pn		**Pn**		**22 12 14.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**37.13**	**54**	P		**P**		**22 15 39.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**37.13**	**54**	P		**P**		**22 15 39.0**	**+1.3**
	0.9nm,0.7s,baz=243,slow=11,SNR=7.5								
LSZ	**Lusaka**	**41.08**	**250**	P		**P**		**22 16 11.4**	**+0.4**
LSZ	**Lusaka**	**41.08**	**250**	P		**P**		**22 16 11.4**	**+0.4**
	0.5nm,0.5s,baz=69,slow=11,SNR=2.9								
AAK	**Ala-Archa**	**45.64**	**7**	P		**P**		**22 16 48.8**	**+1.3**
AAK	**Ala-Archa**	**45.64**	**7**	P		**P**		**22 16 48.8**	**+1.3**
	0.3nm,0.3s,baz=188,slow=6.4,SNR=3.6								
AAK				LR		LR		22 35 25.9	
	comp=Z,68nm,19.9s,baz=184,slow=36								
BOSA	**Boshof**	**48.03**	**233**	LR		LR		22 35 05.8	
	comp=Z,171nm,18.9s,baz=110,slow=33								
MKAR	**Makanchi Array**	**51.01**	**13**	P		**P**		**22 17 27.1**	**-1.6**
MKAR	**Makanchi Array**	**51.01**	**13**	P		**P**		**22 17 27.1**	**-1.6**
	0.8nm,0.8s,baz=204,slow=9.0,SNR=2.9								
BRTR	**Keskin Array B**	**52.78**	**327**	P		**P**		**22 17 42.3**	**+0.2**
BRTR	**Keskin Array B**	**52.78**	**327**	P		**P**		**22 17 42.3**	**+0.2**
	0.9nm,1.1s,baz=131,slow=9.8,SNR=3.2								
BRTR				LR		LR		22 38 43.2	
	comp=Z,42nm,18.8s,baz=210,slow=34								
AKTO	**Aktyubinsk**	**53.75**	**352**	P		**P**		**22 17 48.7**	**-0.2**
AKTO	**Aktyubinsk**	**53.75**	**352**	P		**P**		**22 17 48.7**	**-0.2**
	1.0nm,0.7s,baz=198,slow=6.6,SNR=4.3								
KURBB	**Kurchatov Arra**	**54.02**	**8**	P		**P**		**22 17 50.4**	**-0.5**
	1.4nm,1.0s,baz=206,slow=7.6,SNR=6.3								
KURK	**Kurchatov**	**54.12**	**8**	P		**P**		**22 17 50.4**	**-1.3**
NWAO	**Narrogin (SRO)**	**54.93**	**129**	LR		LR		22 37 32.5	
	comp=Z,83nm,20.8s,baz=221,slow=32								
ZALV	**Zalesovo Beam**	**58.31**	**12**	P		**P**		**22 18 19.5**	**-1.9**
ZALV	**Zalesovo Beam**	**58.31**	**12**	P		**P**		**22 18 19.5**	**-1.9**
	0.9nm,0.6s,baz=207,slow=6.1,SNR=3.9								
SONM	**Songino Array**	**60.61**	**29**	P		**P**		**22 18 38.1**	**+0.4**
SONM	**Songino Array**	**60.61**	**29**	P		**P**		**22 18 38.1**	**+0.4**
	1.3nm,0.8s,baz=222,slow=6.5,SNR=7.5								
WRA	**Warramunga Arr**	**66.85**	**110**	P		**P**		**22 19 19.0**	**-0.3**
WRA	**Warramunga Arr**	**66.85**	**110**	P		**P**		**22 19 19.0**	**-0.3**
	1.1nm,0.7s,baz=286,slow=5.9,SNR=5.9								
WRAB	**Tennant Creek**	**66.86**	**110**	*e*P		**P**		**22 19 19.3**	**-0.1**
	2.9nm,0.8s								
ASAR	**Alice Springs**	**66.86**	**114**	P		**P**		**22 19 18.9**	**-0.4**
ASAR	**Alice Springs**	**66.86**	**114**	P		**P**		**22 19 18.9**	**-0.4**
	0.7nm,0.8s,baz=280,slow=6.0,SNR=6.3								
JNU	**Nakatsue**	**69.22**	**53**	LR		LR		22 48 53.6	
	comp=Z,76nm,18.7s,baz=132,slow=35								
FINES	**FINESS Array B**	**71.69**	**340**	LR		LR		22 54 13.7	
	comp=Z,129nm,18.9s,baz=330,slow=38								
USRK	**Usuriysk Arra**	**73.71**	**42**	LR		LR		22 54 31.5	
	comp=Z,66nm,20.8s,baz=141,slow=38								
ARCES	**ARCESS Array B**	**77.69**	**346**	LR		LR		22 57 22.8	
	comp=Z,97nm,18.1s,baz=2.7,slow=38								
ESDC	**Sonseca Array**	**78.00**	**311**	P		**P**		**22 20 25.6**	**+0.1**
ESDC	**Sonseca Array**	**78.00**	**311**	P		**P**		**22 20 25.6**	**+0.1**
	0.7nm,0.6s,baz=95,slow=5.5,SNR=5.2								
QSPA	**South Pole Qui**	**87.17**	**180**	LR		LR		22 52 26.0	
	comp=Z,81nm,21.4s,baz=90,slow=30								
TXAR	**Lajitas Array**	**152.47**	**344**	PKPbc		**PKPbc**		**22 28 24.1**	**+0.2**
TXAR	**Lajitas Array**	**152.47**	**344**	PKPbc		**PKPbc**		**22 28 24.1**	**+0.2**
	0.5nm,0.7s,baz=94,slow=2.7,SNR=4.0								

*ISCJB **03** 22:10:06.3±0.6, 2.9S±0.1×68.10E±0.10, h11km, mb4.0/10, MS3.8/2, Error ellipse: s-maj=21.1km s-min=11.5km az=153.0*

*IDC **03** 22:

TAPN	**Taplejung**	**25.56**	**344**	*eP*	**P**	**22 30 13.6**	**+0.6**
JIRN	**Jiri**	**26.30**	**341**	*eP*	**P**	**22 30 20.3**	**+0.5**
PKI	**Pulchoki**	**26.48**	**340**	*eP*	**P**	**22 30 22.1**	**+0.7**
PKIN	**Phulchoki**	**26.49**	**340**	*eP*	**P**	**22 30 21.3**	**-0.1**
GUN	**Gumba**	**26.64**	**341**	*eP*	**P**	**22 30 23.7**	**+0.9**
	7.9nm,0.4s						
KKN	**Kakani**	**26.73**	**340**	*eP*	**P**	**22 30 24.4**	**+0.9**
	12nm,0.7s						
GKN	**Gorkha**	**27.15**	**339**	*eP*	**P**	**22 30 27.2**	**0.0**
	20nm,0.9s						
KOLN	**Koldanda**	**27.33**	**337**	*eP*	**P**	**22 30 28.9**	**0.0**
	9.2nm,0.6s						
DANN	**Dangsing**	**27.79**	**338**	*eP*	**P**	**22 30 32.7**	**-0.4**
	12nm,0.7s						
H01W3	**Cape Leeuwin H**	**41.35**	**156**	T	T	23 16 47.7	
	baz=332,slow=75,SNR=31						
H01W2	**Cape Leeuwin H**	**41.36**	**156**	T	T	23 16 48.6	
	baz=332,slow=75,SNR=29						
H01W1	**Cape Leeuwin H**	**41.37**	**156**	T	T	23 16 49.0	
	baz=332,slow=75,SNR=30						
WRA	**Warramunga Arr**	**44.38**	**122**	P	P	22 33 02.0	+7.5
	0.3nm,0.4s,baz=302,slow=9.2,SNR=3.2						
WRA				LR	LR	22 53 36.1	
	comp=Z,41nm,19.3s,baz=305,slow=38						
MKAR	**Makanchi Array**	**45.35**	**347**	P	**P**	**22 33 01.7**	**-0.1**
	3.1nm,0.6s,baz=168,slow=8.1,SNR=44						
ASAR	**Alice Springs**	**45.76**	**127**	P	P	22 33 11.9	+6.5
	0.7nm,0.9s,baz=301,slow=8.0,SNR=5.1						
SONM	**Songino Array**	**45.93**	**10**	P	**P**	**22 33 05.6**	**-0.9**
	2.1nm,0.8s,baz=188,slow=9.3,SNR=16						
ZALV	**Zalesovo Beam**	**51.79**	**352**	P	**P**	**22 33 51.0**	**-0.1**
	9.9nm,0.7s,baz=178,slow=7.2,SNR=33						
FINES	**FINESS Array B**	**77.81**	**333**	P	**P**	**22 36 39.9**	**-0.7**
	1.3nm,0.8s,baz=107,slow=9.3,SNR=4.7						
ARCES	**ARCESS Array B**	**80.50**	**340**	P	**P**	**22 36 55.2**	**0.0**
	8.2nm,1.1s,baz=78,slow=4.7,SNR=3.0						

*ISCJB **03** 22:32:19.5±0.7, 35°.71N±0°.04×22°.24E±0°.04, h4km±5km, Error ellipse: s-maj=7.6km s-min=3.5km az=37.3*
*ATH **03** 22:32:19.5, 35°.70N×22°.21E, h16km±1km, MD3.5/20, ML3.2*
*CSEM **03** 22:32:20.8±0.3, 35°.68N×22°.22E, h10km, ML3.3/3, Error ellipse: s-maj=6.3km s-min=2.6km az=40.0*
*THE **03** 22:32:21.9, 35°.81N×22°.31E, h0km±3km, ML3.3/3, Error ellipse: s-maj=3.9km s-min=1.3km az=201.0*

ISC 03 22:32:20.2±1.5, 35°.71N±0°.05×22°.24E±0°.04, h3km±10km, n142, σ0.64/189, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.86**	**48**	P		**Pg**	**22 32 36.4**	**-0.3**
KYTH	**Kithira**	**0.86**	**48**	*e*PN		**Pg**	**22 32 36.5**	**-0.3**
KYTH	**Kithira**	**0.86**	**48**	*e*Pn		**Pg**	**22 32 36.5**	**-0.3**
ANKY	**Antikythira Is**	**0.88**	**79**	P		**Pb**	**22 32 38.1**	**0.0**
ANKY				S		**Sb**	**22 32 49.5**	**-0.7**
ANKY	**Antikythira Is**	**0.88**	**79**	*e*PN		**Pg**	**22 32 37.5**	**+0.5**
ANKY				*e*SN		**Sg**	**22 32 49.1**	**+0.7**
ANKY	**Antikythira Is**	**0.88**	**79**	*e*Pn		**Pg**	**22 32 37.5**	**+0.5**
ANKY	**Antikythira Is**	**0.88**	**79**	P		**Pb**	**22 32 38.1**	**0.0**
ANKY				*e*Sn		**Sg**	**22 32 49.1**	**+0.7**
VLI	**Veliai**	**1.16**	**29**	P		**Pg**	**22 32 41.8**	**-0.5**
VLI				S		**Sg**	**22 32 56.0**	**-1.3**
VLI	**Veliai**	**1.16**	**29**	*e*PN		**Pg**	**22 32 41.9**	**-0.4**
VLI				*e*SN		**Sg**	**22 32 57.3**	**0.0**
VLI	**Veliai**	**1.16**	**29**	*e*Pn		**Pg**	**22 32 41.9**	**-0.4**
VLI				*e*Sn		**Sg**	**22 32 57.3**	**0.0**
PYL	**PYLOS**	**1.25**	**341**	P		**Pb**	**22 32 44.4**	**0.0**
PYL	**PYLOS**	**1.25**	**341**	*e*PN		**Pg**	**22 32 44.1**	**-0.1**
PYL				*e*SN		**Sg**	**22 33 00.6**	**+0.2**
PYL	**PYLOS**	**1.25**	**341**	*e*Pn		**Pg**	**22 32 44.1**	**-0.1**
PYL	**PYLOS**	**1.25**	**341**	P		**Pb**	**22 32 44.4**	**0.0**
PYL				*e*Sn		**Sg**	**22 33 00.6**	**+0.2**
ITM	**Ithomi**	**1.49**	**350**	P		**Pn**	**22 32 47.5**	**-0.3**
ITM				S		**Sg**	**22 33 08.2**	**+0.1**
ITM	**Ithomi**	**1.49**	**350**	*e*PN		**Pn**	**22 32 47.6**	**-0.3**
ITM				*e*SN		**Sg**	**22 33 08.5**	**+0.4**
ITM	**Ithomi**	**1.49**	**350**	*e*Pn		**Pn**	**22 32 47.6**	**-0.3**
ITM				S		**Sg**	**22 33 08.2**	**+0.1**
VAM	**Vamos**	**1.63**	**100**	P		**Pn**	**22 32 49.5**	**-0.2**
VAM	**Vamos**	**1.63**	**100**	*e*PN		**Pn**	**22 32 49.3**	**-0.4**
VAM				*e*SN		**Sg**	**22 33 12.5**	**0.0**
VAM	**Vamos**	**1.63**	**100**	P		**Pn**	**22 32 49.5**	**-0.2**
VAM				*e*Sn		**Sg**	**22 33 12.5**	**0.0**
VLX	**Vlachokerasia**	**1.66**	**4**	P		**Pn**	**22 32 50.9**	**+0.6**
VLX	**Vlachokerasia**	**1.66**	**4**	*e*PN		**Pb**	**22 32 51.7**	**+0.2**
VLX	**Vlachokerasia**	**1.66**	**4**	P		**Pn**	**22 32 50.9**	**+0.6**
VLX	**Vlachokerasia**	**1.66**	**4**	*e*Pn		**Pb**	**22 32 51.7**	**+0.2**
AMT	**Artemida-Makis**	**1.87**	**347**	*e*PN		**Pn**	**22 32 53.2**	**+0.1**
AMT	**Artemida-Makis**	**1.87**	**347**	*e*Pn		**Pn**	**22 32 53.2**	**+0.1**
DID	**Didima**	**1.97**	**24**	P		**Pn**	**22 32 53.7**	**-0.7**
DID	**Didima**	**1.97**	**24**	*e*PN		**Pn**	**22 32 54.7**	**+0.3**
DID				*e*SN		**Sn**	**22 33 20.2**	**+0.6**
DID	**Didima**	**1.97**	**24**	P		**Pn**	**22 32 53.7**	**-0.7**
DID	**Didima**	**1.97**	**24**	*e*Pn		**Pn**	**22 32 54.7**	**+0.3**
DID				*e*Sn		**Sn**	**22 33 20.2**	**+0.6**
IDI	**Anoyia**	**2.21**	**100**	*e*PB		**Pn**	**22 32 57.5**	**-0.2**
IDI				*e*SN		**Sb**	**22 33 27.3**	**-1.1**
IDI	**Anoyia**	**2.21**	**100**	*e*Pb		**Pn**	**22 32 57.5**	**-0.2**
IDI				*e*Sn		**Sb**	**22 33 27.3**	**-1.1**
SIVA	**Sivas**	**2.21**	**107**	*e*PN		**Pn**	**22 32 58.4**	**+0.7**
SIVA	**Sivas**	**2.21**	**107**	*e*Pn		**Pn**	**22 32 58.4**	**+0.7**
GUR	**Goura**	**2.23**	**2**	P		**Pn**	**22 32 58.6**	**+0.6**
GUR	**Goura**	**2.23**	**2**	*e*PN		**Pn**	**22 32 58.3**	**+0.3**
GUR				*e*SN		**Sn**	**22 33 27.0**	**+0.9**
GUR	**Goura**	**2.23**	**2**	*e*Pn		**Pn**	**22 32 58.3**	**+0.3**
GUR	**Goura**	**2.23**	**2**	P		**Pn**	**22 32 58.6**	**+0.6**
GUR				*e*Sn		**Sn**	**22 33 27.0**	**+0.9**
DRO	**Drossia**	**2.28**	**349**	P		**Pn**	**22 32 59.1**	**+0.4**
DRO	**Drossia**	**2.28**	**349**	*e*PN		**Pn**	**22 32 59.3**	**+0.6**
DRO	**Drossia**	**2.28**	**349**	P		**Pn**	**22 32 59.1**	**+0.4**
KLV	**Kalavryta, Ach**	**2.33**	**358**	P		**Pn**	**22 32 59.6**	**+0.1**
KLV				S		**Sn**	**22 33 29.3**	**+0.6**
KLV	**Kalavryta, Ach**	**2.33**	**358**	*e*PN		**Pn**	**22 33 00.1**	**+0.6**
KLV				*e*SN		**Sn**	**22 33 28.6**	**-0.1**
KLV	**Kalavryta, Ach**	**2.33**	**358**	P		**Pn**	**22 32 59.6**	**+0.1**
KLV	**Kalavryta, Ach**	**2.33**	**358**	*e*Pn		**Pn**	**22 33 00.1**	**+0.6**
KLV				*e*Sn		**Sn**	**22 33 28.6**	**-0.1**
KLV				S		**Sn**	**22 33 29.3**	**+0.6**
LTK	**Loutraki**	**2.38**	**14**	P		**Pn**	**22 32 59.6**	**-0.5**
LTK	**Loutraki**	**2.38**	**14**	*e*PN		**Pn**	**22 33 01.5**	**+1.4**
LTK				*e*SN		**Sn**	**22 33 31.0**	**+1.1**
LTK	**Loutraki**	**2.38**	**14**	P		**Pn**	**22 32 59.6**	**-0.5**
LTK	**Loutraki**	**2.38**	**14**	*e*Pn		**Pn**	**22 33 01.5**	**+1.4**
LTK				*e*Sn		**Sn**	**22 33 31.0**	**+1.1**
RLS	**Riolos of Patr**	**2.42**	**345**	*e*PN		**Pn**	**22 33 01.6**	**+0.9**
RLS				*e*SN		**Sn**	**22 33 31.2**	**+0.4**
RLS	**Riolos of Patr**	**2.42**	**345**	*e*Pn		**Pn**	**22 33 01.6**	**+0.9**
RLS				*e*Sn		**Sn**	**22 33 31.2**	**+0.4**
LAKA	**Lakka**	**2.54**	**355**	*e*PB		**Pn**	**22 33 03.1**	**+0.9**
LAKA	**Lakka**	**2.54**	**355**	*e*Pb		**Pn**	**22 33 03.1**	**+0.9**
ATH	**Athens Observa**	**2.55**	**27**	*e*PN		**Pn**	**22 33 02.8**	**+0.4**
ATH	**Athens Observa**	**2.55**	**27**	*e*Pn		**Pn**	**22 33 02.8**	**+0.4**
VILL	**Villia**	**2.60**	**19**	P		**Pn**	**22 33 03.0**	**-0.1**
VILL	**Villia**	**2.60**	**19**	P		**Pn**	**22 33 03.0**	**-0.1**
VILL	**Villia**	**2.60**	**19**	*e*Pn		**Pn**	**22 33 03.6**	**+0.5**
VILL				*e*Sn		**Sn**	**22 33 36.1**	**+0.9**
PSA1	**Psathopyrgos**	**2.63**	**354**	*e*PN		**Pn**	**22 33 03.9**	**+0.5**
VIL2	**Platees**	**2.63**	**18**	*e*PN		**Pn**	**22 33 03.6**	**0.0**
VIL2				*e*SN		**Sn**	**22 33 36.1**	**+0.1**
PTL	**Penteli**	**2.68**	**29**	*e*PN		**Pn**	**22 33 04.2**	**0.0**
PTL				*e*SN		**Sn**	**22 33 36.1**	**-1.0**
PTL	**Penteli**	**2.68**	**29**	*e*Pn		**Pn**	**22 33 04.2**	**0.0**
PTL				*e*Sn		**Sn**	**22 33 36.1**	**-1.0**
KALE	**Kalithea**	**2.68**	**358**	P		**Pn**	**22 33 03.8**	**-0.4**
KALE	**Kalithea**	**2.68**	**358**	*e*PN		**Pn**	**22 33 04.5**	**+0.3**
KALE				*e*SN		**Sn**	**22 33 38.5**	**+1.3**
KALE	**Kalithea**	**2.68**	**358**	P		**Pn**	**22 33 03.8**	**-0.4**
KALE	**Kalithea**	**2.68**	**358**	*e*Pn		**Pn**	**22 33 04.5**	**+0.3**
KALE				*e*Sn		**Sn**	**22 33 38.5**	**+1.3**
SANT	**Santorini**	**2.69**	**75**	*e*PN		**Pn**	**22 33 05.0**	**+0.6**
SANT	**Santorini**	**2.69**	**75**	*e*Pn		**Pn**	**22 33 05.0**	**+0.6**
LAST	**Lasithi**	**2.70**	**101**	*e*PN		**Pn**	**22 33 04.2**	**-0.4**
LAST	**Lasithi**	**2.70**	**101**	*e*Pn		**Pn**	**22 33 04.2**	**-0.4**
DSF	**Desfina**	**2.71**	**5**	P		**Pn**	**22 33 04.6**	**0.0**
DSF	**Desfina**	**2.71**	**5**	*e*PB		**Pn**	**22 33 06.1**	**+1.5**
DSF				*e*SN		**Sn**	**22 33 39.3**	**+1.4**
DSF	**Desfina**	**2.71**	**5**	P		**Pn**	**22 33 04.6**	**0.0**
DSF	**Desfina**	**2.71**	**5**	*e*Pb		**Pn**	**22 33 06.1**	**+1.5**
DSF				*e*Sn		**Sn**	**22 33 39.3**	**+1.4**
DESF	**Desfina**	**2.71**	**5**	*e*PN		**Pn**	**22 33 05.0**	**+0.3**
DESF	**Desfina**	**2.71**	**5**	*e*Pn		**Pn**	**22 33 05.0**	**+0.3**
NPS	**Neapolis**	**2.79**	**98**	*e*PN		**Pn**	**22 33 05.5**	**-0.2**
NPS				*e*SN		**Sn**	**22 33 39.7**	**-0.2**
NPS	**Neapolis**	**2.79**	**98**	*e*Pn		**Pn**	**22 33 05.5**	**-0.2**
NPS				*e*Sn		**Sn**	**22 33 39.7**	**-0.2**
VLS	**Valsamata**	**2.79**	**332**	P		**Pn**	**22 33 05.9**	**+0.1**
VLS	**Valsamata**	**2.79**	**332**	*e*PN		**Pn**	**22 33 06.0**	**+0.1**
VLS				*e*SN		**Sn**	**22 33 40.2**	**+0.2**
VLS	**Valsamata**	**2.79**	**332**	P		**Pn**	**22 33 05.9**	**+0.1**
VLS				*e*Sn		**Sn**	**22 33 40.2**	**+0.2**
APE	**Apeiranthos**	**2.98**	**62**	*e*PN		**Pn**	**22 33 08.7**	**+0.3**
APE	**Apeiranthos**	**2.98**	**62**	*e*Pn		**Pn**	**22 33 08.7**	**+0.3**
LKR	**Lokris**	**3.00**	**11**	P		**Pn**	**22 33 07.7**	**-0.9**
LKR	**Lokris**	**3.00**	**11**	*e*PN		**Pn**	**22 33 08.8**	**+0.2**
LKR				*e*SN		**Sn**	**22 33 44.9**	**-0.1**
LKR	**Lokris**	**3.00**	**11**	P		**Pn**	**22 33 07.7**	**-0.9**
LKR	**Lokris**	**3.00**	**11**	*e*Pn		**Pn**	**22 33 08.8**	**+0.2**
LKR				*e*Sn		**Sn**	**22 33 44.9**	**-0.1**
PDO	**Prodromos**	**3.00**	**344**	*e*PN		**Pn**	**22 33 09.2**	**+0.5**
PDO	**Prodromos**	**3.00**	**344**	*e*Pn		**Pn**	**22 33 09.2**	**+0.5**
MRKA	**Markates**	**3.18**	**19**	*e*PN		**Pn**	**22 33 11.4**	**+0.3**
MRKA	**Markates**	**3.18**	**19**	*e*Pn		**Pn**	**22 33 11.4**	**+0.3**
EVR	**Evrytania**	**3.22**	**354**	*e*PN		**Pn**	**22 33 12.1**	**+0.4**
EVR	**Evrytania**	**3.22**	**354**	*e*Pn		**Pn**	**22 33 12.1**	**+0.4**
SMIA	**Simia**	**3.26**	**13**	*e*PN		**Pn**	**22 33 13.0**	**+0.8**
SMIA	**Simia**	**3.26**	**13**	*e*Pn		**Pn**	**22 33 13.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**3.30**	**359**	P		**Pn**	**22 33 13.7**	**+0.9**
MAKR	**Makrakomi, Fth**	**3.30**	**359**	*e*PN		**Pn**	**22 33 13.5**	**+0.7**
MAKR	**Makrakomi, Fth**	**3.30**	**359**	*e*Pn		**Pn**	**22 33 13.5**	**+0.7**
ZKR	**Zakros**	**3.30**	**99**	*e*PB		**Pn**	**22 33 14.7**	**+1.9**
ZKR	**Zakros**	**3.30**	**99**	*e*Pb		**Pn**	**22 33 14.7**	**+1.9**
AGG	**Agios Georgios**	**3.31**	**1**	*e*PN		**Pn**	**22 33 13.2**	**+0.3**
AGG	**Agios Georgios**	**3.31**	**1**	*e*Pn		**Pn**	**22 33 13.2**	**+0.3**
SKIA	**Skiathos**	**3.59**	**15**	*e*PN		**Pn**	**22 33 16.6**	**-0.1**
SKIA	**Skiathos**	**3.59**	**15**	*e*Pn		**Pn**	**22 33 16.6**	**-0.1**
NEO	**Neokhori**	**3.68**	**12**	*e*PN		**Pn**	**22 33 19.0**	**+1.1**
NEO	**Neokhori**	**3.68**	**12**	*e*Pn		**Pn**	**22 33 19.0**	**+1.1**
AOS	**Alonnisos**	**3.69**	**20**	*e*PN		**Pn**	**22 33 17.9**	**-0.2**
AOS	**Alonnisos**	**3.69**	**20**	*e*Pn		**Pn**	**22 33 17.9**	**-0.2**
XOR	**Xorichti**	**3.73**	**11**	*e*PN		**Pn**	**22 33 19.1**	**+0.5**
XOR	**Xorichti**	**3.73**	**11**	*e*Pn		**Pn**	**22 33 19.1**	**+0.5**
THL	**Klokotos Trika**	**3.85**	**357**	*e*PN		**Pn**	**22 33 21.3**	**+1.0**
THL				*e*SN		**Sn**	**22 34 05.9**	**-0.2**
THL	**Klokotos Trika**	**3.85**	**357**	*e*Pn		**Pn**	**22 33 21.3**	**+1.0**
THL				*e*Sn		**Sn**	**22 34 05.9**	**-0.2**
CHOS	**Chios island**	**4.06**	**48**	*e*PN		**Pn**	**22 33 23.1**	**-0.1**
CHOS	**Chios island**	**4.06**	**48**	*e*Pn		**Pn**	**22 33 23.1**	**-0.1**
JAN	**Janina**	**4.09**	**345**	*e*PN		**Pn**	**22 33 23.6**	**0.0**
JAN				*e*SN		**Sn**	**22 34 11.3**	**-0.7**
JAN	**Janina**	**4.09**	**345**	*e*Pn		**Pn**	**22 33 23.6**	**0.0**
JAN				*e*Sn		**Sn**	**22 34 11.3**	**-0.7**
IGT	**Igoumenitsa**	**4.11**	**339**	*e*PN		**Pn**	**22 33 23.3**	**-0.5**
IGT				*e*SN		**Sn**	**22 34 11.7**	**-0.6**
IGT	**Igoumenitsa**	**4.11**	**339**	*e*Pn		**Pn**	**22 33 23.3**	**-0.5**
IGT				*e*Sn		**Sn**	**22 34 11.7**	**-0.6**
PAIG	**Paliouri**	**4.36**	**15**	*e*PN		**Pn**	**22 33 28.3**	**+1.0**
PAIG	**Paliouri**	**4.36**	**15**	*e*Pn		**Pn**	**22 33 28.3**	**+1.0**
SIGR	**SIGRI**	**4.53**	**38**	*e*PN		**Pn**	**22 33 30.0**	**+0.4**
SIGR	**SIGRI**	**4.53**	**38**	*e*Pn		**Pn**	**22 33 30.0**	**+0.4**
PLG	**Polygyros**	**4.75**	**11**	*e*PN		**Pn**	**22 33 33.0**	**+0.3**
PLG	**Polygyros**	**4.75**	**11**	*e*Pn		**Pn**	**22 33 33.0**	**+0.3**
PRK	**Paraskevi**	**4.77**	**41**	*e*PN		**Pn**	**22 33 33.8**	**+0.9**
PRK	**Paraskevi**	**4.77**	**41**	*e*Pn		**Pn**	**22 33 33.8**	**+0.9**
NEST	**Nestorio**	**4.79**	**349**	*e*PN		**Pn**	**22 33 34.0**	**+0.7**
NEST	**Nestorio**	**4.79**	**349**	*e*Pn		**Pn**	**22 33 34.0**	**+0.7**
OUR	**Ouranopolis**	**4.82**	**16**	*e*PN		**Pn**	**22 33 34.5**	**+0.9**
OUR	**Ouranopolis**	**4.82**	**16**	*e*Pn		**Pn**	**22 33 34.5**	**+0.9**
HORT	**Hortiatis**	**4.93**	**8**	*e*PN		**Pn**	**22 33 35.2**	**0.0**
HORT	**Hortiatis**	**4.93**	**8**	*e*Pn		**Pn**	**22 33 35.2**	**0.0**
FNA	**Florina**	**5.11**	**353**	*e*PN		**Pn**	**22 33 37.2**	**-0.5**
FNA	**Florina**	**5.11**	**353**	*e*Pn		**Pn**	**22 33 37.2**	**-0.5**
SOH	**Sokhos**	**5.18**	**9**	*e*PN		**Pn**	**22 33 39.5**	**+0.9**
SOH	**Sokhos**	**5.18**	**9**	*e*Pn		**Pn**	**22 33 39.5**	**+0.9**
GRG	**Griva**	**5.24**	**1**	*e*PN		**Pn**	**22 33 39.5**	**+0.1**
GRG	**Griva**	**5.24**	**1**	*e*Pn		**Pn**	**22 33 39.5**	**+0.1**
KNT	**Kendrikon**	**5.47**	**5**	*e*PN		**Pn**	**22 33 43.2**	**+0.7**
KNT	**Kendrikon**	**5.47**	**5**	*e*Pn		**Pn**	**22 33 43.2**	**+0.7**
SRS	**Serrai**	**5.50**	**11**	*e*PN		**Pn**	**22 33 43.7**	**+0.7**
SRS	**Serrai**	**5.50**	**11**	*e*Pn		**Pn**	**22 33 43.7**	**+0.7**

MEX 03 22:39:06.3±1.4, 17°.26N×100°.40W, h29km±45km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.24**	**150**	*i* P		Pb	22 39 11.1	-1.9
CAIG				*i* S		Sb	22 39 16.0	-1.4
ACX	**Acapulco**	**0.64**	**127**	*i* P		Pb	22 39 15.8	-3.3
ACX				*i* S		Sb	22 39 23.2	-4.6
ARIG	**Puente Sto Nin**	**1.02**	**3**	*e*P		Pn	22 39 23.0	-1.7
ARIG				*i* S		Sn	22 39 33.7	-4.3
PLIG	**Platanillo**	**1.41**	**37**	*i* P		Pn	22 39 27.4	-2.8
PLIG				*i* S		Sn	22 39 45.4	-2.6

*ISCJB **03** 22:43:07.6±0.5, 4°.86S±0°.06×101°.71E±0°.04, h32km, mb4.1/12, Error ellipse: s-maj=9.6km s-min=4.3km az=26.2*
*DJA **03** 22:43:10.5±1.2, 5°.5S±5°×10°.2E±°, h29km±13km, M4.5/9, mb4.7/6, mB5.6/1, MLv4.4/9, Mw(mB)5.1/1*
*IDC **03** 22:43:10.3±0.9, 4°.68S×101°.89E, h36km±4km, mb4.0/12, mb1 4.1/12, mb1mx3.9/23, mbtmp4.0/12, MS3.1/1, Ms1 3.1/1, ms1mx2.7/30, Error ellipse: s-maj=35.3km s-min=11.8km az=54.0*

ISC 03 22:43:09.6±0.7, 4°.77S±0°.09×101°.79E±0°.06, h32km, n46, σ1.9/07/50, mb4.1/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.23**	**71**	P		**Pn**	**22 43 31.1**	**+0.6**
MNAI				S		**Sn**	**22 43 46.0**	**0.0**
MASI	**Maura Aman, Be**	**1.67**	**15**	P		**Pn**	**22 43 37.3**	**+0.6**
LHSI	**Lahat**	**1.96**	**62**	P		**Pn**	**22 43 41.6**	**+1.0**
LWLI	**Liwa**	**2.27**	**96**	P		**Pn**	**22 43 46.5**	**+1.5**
MDSI	**Maura Dua**	**2.39**	**83**	P		**Pn**	**22 43 47.1**	**+0.5**
MDSI				S		**Sn**	**22 44 16.3**	**+1.5**
KASI	**Kota Agung**	**2.80**	**106**	P		**Pn**	**22 43 54.1**	**+2.0**
KASI				S		**Sn**	**22 44 24.9**	**+0.1**
KLSI		**2.93**	**89**	P		**Pn**	**22 43 56.5**	**+2.5**
KLSI				S		**Sb**	**22 44 34.1**	**-2.4**
JMBI	**JAMBI**	**3.62**	**31**	P		**Pn**	**22 44 06.5**	**+3.1**
MNSI	**Mandailing Nat**	**5.95**	**338**	P		**Pn**	**22 44 35.3**	**-0.2**
CISI	**Cisompet, Garu**	**6.60**	**115**	P		**Pn**	**22 44 45.1**	**+0.6**
	88nm,0.7s,4μm0.6nm							
GSI	**Gunungsitoli**	**7.36**	**325**	P		**Pn**	**22 44 55.0**	**+0.1**
	31nm,1.2s							
KPJI	**Karang Pucung**	**7.54**	**110**	P		**Pn**	**22 44 59.4**	**+2.0**
	35nm,0.5s							
PSI	**Prapat**	**8.04**	**339**	LR	LR		22 48 22.6	
	comp=Z,150nm,20.8s,baz=245,slow=40							
UGM	**Wanagama**	**9.22**	**110**	P		**Pn**	**22 45 21.2**	**+0.7**
	136nm,1.8s							
PCJI	**Pacitan**	**9.93**	**111**	P		**Pn**	**22 45 30.5**	**+0.4**
	68nm,1.6s							
PWJI	**Pagerwojo**	**10.46**	**109**	P		**Pn**	**22 45 38.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**23.25**	**353**	P		**P**	**22 48 12.6**	**-1.8**
	0.8nm,0.5s,baz=185,slow=8.8,SNR=7.8							
FITZ	**Fitzroy Crossi**	**26.82**	**122**	P		**P**	**22 48 46.9**	**-0.4**
	2.2nm,0.5s,baz=323,slow=11,SNR=9.3							
H08S2	**Diego Garcia H**	**29.26**	**263**	T		T	23 19 37.3	
	baz=86,slow=75,SNR=142							
H08S3	**Diego Garcia H**	**29.27**	**263**	T		T	23 19 32.3	
	baz=86,slow=75,SNR=137							
H08S1	**Diego Carcia H**	**29.28**	**263**	T		T	23 19 37.9	
	baz=86,slow=75,SNR=88							
H01W3	**Cape Leeuwin H**	**32.08**	**161**	T		T	23 23 17.6	
	baz=338,slow=76,SNR=6.3							
H01W2	**Cape Leeuwin H**	**32.09**	**161**	T		T	23 23 18.7	
	baz=338,slow=76,SNR=7.3							
H01W1	**Cape Leeuwin H**	**32.09**	**161**	T		T	23 23 18.7	
	baz=338,slow=76,SNR=6.6							
ODAN	**Odare**	**34.39**	**337**	*e*P		**P**	**22 49 55.0**	**+0.7**
	8.9nm,0.4s							
TAPN	**Taplejung**	**34.71**	**338**	*e*P		**P**	**22 49 57.7**	**+0.6**
RAMN	**Ramite**	**34.79**	**336**	*e*P		**P**	**22 49 58.7**	**+1.0**
	8.8nm,0.6s							
WRA	**Warramunga Arr**	**35.08**	**118**	P		**P**	**22 49 59.9**	**-0.2**
	0.5nm,0.4s,baz=288,slow=9.3,SNR=5.4							
JIRN	**Jiri**	**35.58**	**336**	*e*P		**P**	**22 50 05.3**	**+0.6**
	14nm,0.5s							
PKI	**Pulchoki**	**35.83**	**335**	*e*P		**P**	**22 50 07.8**	**+1.0**
PKIN	**Phulchoki**	**35.84**	**335**	*e*P		**P**	**22 50 07.8**	**+1.0**
	5.9nm,0.7s							
GUN	**Gumba**	**35.93**	**336**	*e*P		**P**	**22 50 08.0**	**+0.3**
	15nm,0.4s							
KKN	**Kakani**	**36.08**	**335**	*e*P		**P**	**22 50 09.0**	**+0.2**
ASAR	**Alice Springs**	**36.20**	**124**	P		**P**	**22 50 09.9**	**+0.1**
	1.4nm,0.6s,baz=295,slow=7.4,SNR=28							
ASAR				pP		**pP**	**22 50 18.2**	**-0.9**
	1.3nm,0.4s,baz=297,slow=7.8,SNR=9.4							
GKN	**Gorkha**	**36.54**	**334**	*e*P		**P**	**22 50 13.4**	**+0.8**
KOLN	**Koldanda**	**36.80**	**332**	*e*P		**P**	**22 50 15.5**	**+0.5**
	9.7nm,0.7s							
DANN	**Dangsing**	**37.23**	**333**	*e*P		**P**	**22 50 19.2**	**+0.5**
STKA	**Stephens Creek**	**45.99**	**131**	P		**P**	**22 51 30.6**	**+0.4**
	1.0nm,0.5s,baz=318,slow=11,SNR=6.2							
STKA				pP		**pP**	**22 51 39.0**	**-0.7**
	2.3nm,0.5s,baz=310,slow=8.6,SNR=2.4							
SONM	**Songino Array**	**52.53**	**4**	P		**P**	**22 52 20.0**	**0.0**
	6.6nm,0.6s,baz=185,slow=9.1,SNR=65							
SONM				pP		**pP**	**22 52 30.3**	**+0.7**
	1.5nm,0.5s,baz=197,slow=8.6,SNR=5.9							
MKAR	**Makanchi Array**	**54.16**	**344**	P		**P**	**22 52 31.5**	**-0.4**
	1.6nm,0.5s,baz=152,slow=9.1,SNR=31							
MKAR				pP		**pP**	**22 52 42.3**	**+0.7**
	4.8nm,0.6s,baz=145,slow=8.3,SNR=13							
USRK	**Ussuriysk Arra**	**55.79**	**26**	P		**P**	**22 52 42.6**	**-1.1**
	6.3nm,0.6s,baz

SNR=8.2
MSEY Mahe Island 12.63 261 *e*Pn **Pn** **23 09 48.1 +0.9**
MSEY Mahe Island 12.63 261 Pn **Pn** **23 09 49.5 +2.3**
183nm,1.3s,SNR=7.7
PALK Pallekele 16.14 52 P **P** **23 10 41.8 +4.2**
30nm,1.9s
PALK Pallekele 16.14 52 *e*Pn **Pn** **23 10 33.0 -1.4**
154nm,2.0s
MRIV Mauritius Mete 20.20 210 *e*P Pn 23 11 25.3 +1.1
KAD Karad 20.88 17 *i* x Pn 23 11 32.4 +0.2
RER Riviere de l'E 21.81 212 PFAKE
RER LR LR 23 11 50.0 +10
comp=Z,9μm,19.0s
POO Poona 21.95 15 ⇓*i*PS **P** **23 11 42.0 +0.8**
comp=Z,278nm,2.0s
HYB Hyderabad 22.62 27 *i* P **P** **23 11 46.0 -2.3**
ABTO Aybut 24.72 325 P P 23 12 14.5 +5.7
SNR=15
OPO Ambohidratompo 25.72 231 P **P** **23 12 18.4 +0.4**
OPO Ambohidratompo 25.72 231 P **P** **23 12 18.4 +0.4**
comp=Z,3.5nm,0.9s,baz=49,slow=11,SNR=6.2
OPO LR LR 23 20 21.6
comp=Z,17nm,28.6s,baz=53,slow=32
ABPO Ambohimpanom 25.95 230 *e*P **P** **23 12 19.3 -0.8**
ABPO pmax pmax
comp=Z,47nm,1.6s
ABPO MLR MLR
comp=Z,7μm,20.0s
ABPO Ambohimpanom 25.95 230 *e*P **P** **23 12 19.2 -0.8**
comp=Z,46nm,1.6s
ABPO LR LR
comp=Z,7μm,20.0s
NGP Nagpur 26.14 24 *e*P **P** **23 12 21.8 +0.2**
NGP *ex* x 23 12 24.9
comp=Z,44nm,1.8s
NGP ⇓*e*S S 23 17 07.0 +14
JBP Jabalpur 28.32 24 ⇓*e*P **P** **23 12 42.1 +1.0**
JBP *e*S **S** **23 17 23.6 -3.4**
COCO West Island 30.04 110 PFAKE
COCO LR LR 23 13 10.0 +13
comp=Z,1μm,20.0s
KCSI Kotacane, Aceh 30.41 78 P **P** **23 13 02.3 +2.4**
comp=Z,30nm,1.4s,comp=Z,619nm
KMBO Kilima Mbogo 30.77 272 P P 23 13 06.7 +3.4
SNR=15
KMBO Kilima Mbogo 30.77 272 mb 23 13 10.5
SNR=16
KMBO Kilima Mbogo 30.77 272 *e*P **P** **23 13 03.8 +0.5**
comp=Z,154nm,2.5s
KMBO Kilima Mbogo 30.77 272 P **P** **23 13 03.3 0.0**
comp=Z,2.4nm,1.0s,baz=101,slow=12,SNR=16
KMBO LR LR 23 23 00.8
comp=Z,17nm,28.6s,baz=96,slow=32
PSI Prapat 31.41 80 P **P** **23 13 11.7 +2.9**
comp=Z,20nm,2.0s,comp=Z,619nm
PSI Prapat 31.41 80 P **P** **23 13 09.5 +0.7**
PSI Prapat 31.41 80 P **P** **23 13 09.5 +0.7**
comp=Z,2.9nm,0.4s,baz=280,slow=7.3,SNR=7.2
PSI LR LR 23 23 40.5
comp=Z,17nm,28.6s,baz=266,slow=32
PPI Padang Panjang 32.46 86 P P 23 13 23.3 +5.4
comp=Z,50nm,0.7s,comp=Z,1μm
KULM Kulim 33.59 76 P **P** **23 13 30.1 +2.3**
KULM Kulim 33.59 76 P **P** **23 13 29.0 +1.2**
comp=Z,59nm,1.4s
KULM Kulim 33.59 76 *e*P **P** **23 13 27.7 -0.1**
comp=Z,119nm,1.4s
KULM LR LR
comp=Z,4μm,21.0s
IPM Ipoh 33.78 78 P **P** **23 13 31.1 +1.6**
IPM Ipoh 33.78 78 P **P** **23 13 29.6 +0.1**
comp=Z,35nm,1.4s
IPM Ipoh 33.78 78 *e*P **P** **23 13 30.2 +0.8**
comp=Z,39nm,1.1s
KOLN Koldanda 33.89 25 *e*P **P** **23 13 31.0 +0.5**
comp=Z,201nm,1.5s
RAYN Ar Rayn 34.12 321 *e*P **P** **23 13 30.6 -1.7**
comp=Z,48nm,1.5s
FRIM Kepong 34.14 80 P **P** **23 13 35.5 +2.9**
DMN Daman 34.42 27 *e*P **P** **23 13 35.8 +0.7**
comp=Z,93nm,1.1s
DANN Dangsing 34.47 25 *e*P **P** **23 13 35.5 -0.1**
comp=Z,143nm,1.4s
PKIN Phulchoki 34.53 28 *e*P **P** **23 13 36.3 +0.2**
PKI Pulchoki 34.53 28 *e*P **P** **23 13 36.5 +0.3**
comp=Z,175nm,1.8s
GKN Gorkha 34.55 27 *e*P **P** **23 13 36.6 +0.5**
comp=Z,305nm,1.5s
RAMN Ramite 34.59 30 *e*P **P** **23 13 37.5 +0.9**
comp=Z,226nm,1.7s
KKN Kakani 34.66 28 *e*P **P** **23 13 37.7 +0.6**
comp=Z,150nm,1.5s
ODAN Odare 34.92 31 *e*P **P** **23 13 40.3 +0.9**
comp=Z,200nm,1.5s
KHLT Khaolaem Dam 34.97 59 P P 23 13 43.8 +4.1
comp=Z,18nm,1.5s,comp=Z,345nm
JIRN Jiri 34.98 29 *e*P **P** **23 13 40.4 +0.3**
GUN Gumba 35.04 28 *e*P **P** **23 13 41.2 +0.6**
comp=Z,212nm,1.4s
SRDT SRDT 35.23 60 P P 23 13 45.7 +3.7
comp=Z,107nm,1.6s
IPAR Pars 35.46 337 *e*P **P** **23 13 42.4 -1.7**
LHSI Lahat 35.48 93 P P 23 13 47.5 +3.4
comp=Z,81nm,1.8s,comp=Z,2μm
TAPN Taplejung 35.48 31 *e*P **P** **23 13 45.1 +0.8**
comp=Z,182nm,1.5s
KGM Kluang 35.63 83 P **P** **23 13 46.1 +0.6**
UMPA Umpang Tak 35.87 57 P P 23 13 53.3 +5.8
comp=Z,43nm,0.6s,comp=Z,4μm
IKOO Kooshah 36.04 347 *e*P **P** **23 13 51.9 +2.9**
MYKOM Kota Tinggi 36.13 83 P **P** **23 13 51.4 +1.7**
MYKOM Kota Tinggi 36.13 83 P **P** **23 13 50.3 +0.6**
comp=Z,61nm,1.7s
MYKOM Kota Tinggi 36.13 83 *e*P **P** **23 13 49.3 -0.4**
comp=Z,114nm,1.4s
MDSI Maura Dua 36.14 94 P **P** **23 13 52.1 +2.3**
comp=Z,49nm,1.7s
IDAH Dahanechah 36.16 348 *e*P **P** **23 13 50.2 +0.1**
IBAF Bafgh 36.18 342 *e*P **P** **23 13 50.0 -0.1**
IMEH Mehriz 36.30 340 *e*P **P** **23 13 51.5 +0.3**
SHL Shillong 36.47 38 *ex* **P** **23 13 54.5 +1.8**
KASI Kota Agung 36.50 95 P P 23 13 57.6 +4.7
comp=Z,56nm,1.8s
ITEG Tejag 36.56 347 *e*P **P** **23 13 53.2 -0.1**
KLSI 36.70 94 P P 23 13 58.3 +3.7
comp=Z,90nm,1.2s,comp=Z,1μm
CM01 Chiang Mai Arr 37.06 54 *e*P **P** **23 13 57.3 -0.3**
CMAR Chiang Mai Arr 37.06 54 P **P** **23 13 58.2 +0.6**
CMAR PcP **PcP** **23 16 19.6 +1.3**
CMAR Chiang Mai Arr 37.06 54 P **P** **23 13 58.2 +0.6**
comp=Z,17nm,1.0s,baz=245,slow=10,SNR=29
CMAR PcP **PcP** **23 16 19.6 +1.3**
comp=Z,1.3nm,0.4s,baz=243,slow=4.0,SNR=5.4
CMAR LR LR 23 27 13.8
comp=Z,17nm,28.6s,baz=262,slow=33
ISAD Sadrabad 37.09 340 *e*P P 23 14 01.6 +3.6
ICHK Chekchek 37.15 341 *e*P **P** **23 13 57.1 -1.4**
CHTO Chiang Mai 37.25 54 P **P** **23 14 00.4 +1.1**
SNR=18
CHTO Chiang Mai 37.25 54 mb 23 14 03.6
SNR=32
CHTO Chiang Mai 37.25 54 *e*P **P** **23 13 59.3 0.0**
CHTO pmax pmax
comp=Z,17nm,1.2s
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO Chiang Mai 37.25 54 P **P** **23 13 59.9 +0.7**
comp=Z,269nm,1.1s,comp=Z,4μm
CHTO Chiang Mai 37.25 54 *e*P **P** **23 13 59.2 0.0**
comp=Z,17nm,1.2s
CHTO LR LR
comp=Z,2μm,22.0s
CHTO Chiang Mai 37.25 54 P **P** **23 13 59.9 +0.7**
comp=Z,269nm,1.1s,comp=Z,4μm
CMMT Chiang Mai 37.26 54 P **P** **23 13 59.9 +0.6**
comp=Z,45nm,1.6s,comp=Z,834nm
MBAR Mbarara 37.31 273 *e*P **P** **23 14 01.9 +1.9**
MBAR Mbarara 37.31 273 *e*P **P** **23 14 01.7 +1.7**
comp=Z,141nm,1.8s
MBAR LR LR
comp=Z,361nm,20.0s
MBAR Mbarara 37.31 273 P **P** **23 13 59.7 -0.3**
comp=Z,4.8nm,0.9s,baz=81,slow=9.3,SNR=19
CHBT CHBT 37.42 65 P P 23 14 04.5 +3.8
comp=Z,51nm,1.6s
LAMP Lampang 37.66 55 P P 23 14 06.3 +3.6
comp=Z,4.5nm,1.4s

PBKT Sadao Pong 37.82 58 P **P** **23 14 05.4 +1.3**
comp=Z,46nm,1.5s
CMAI Chiengmai2 37.93 52 P **P** **23 14 07.1 +1.9**
comp=Z,136nm,0.8s
CHAI Chaiyaphum 38.39 60 P **P** **23 14 10.2 +1.3**
comp=Z,20nm,1.2s
IZEF Zefreh 38.47 339 *e*P **P** **23 14 09.2 -0.4**
IKLH Kolahrood 39.12 338 *e*P **P** **23 14 14.5 -0.6**
CRAI Chiangrai 39.14 53 P **P** **23 14 17.9 +2.7**
comp=Z,483nm,1.5s,comp=Z,15μm
LSA Lhasa 39.17 33 P **P** **23 14 16.8 +1.0**
LSA S **S** **23 20 15.8 +0.1**
LSA LR LR
comp=Z,2μm,24.0s
LSA LR LR
comp=Z,3μm,24.0s
LSA LR LR
comp=Z,6μm,21.9s
LSA Lhasa 39.17 33 *e*P **P** **23 14 16.2 +0.4**
LSA pmax pmax
comp=Z,75nm,1.3s
LSA MLR MLR
comp=Z,7μm,22.0s
LSA Lhasa 39.17 33 *e*P **P** **23 14 16.2 +0.4**
comp=Z,75nm,1.3s
LSA LR LR
comp=Z,7μm,22.0s
IMYA Miami 39.62 350 *e*P **P** **23 14 19.7 +0.6**
LEM Lembang 39.67 97 P P 23 14 23.3 +3.5
comp=Z,193nm,1.6s,comp=Z,3μm
ISRO Mashad 39.70 349 *e*P **P** **23 14 20.2 +0.5**
ISFB Sefidab 39.81 339 *e*P **P** **23 14 19.6 -1.0**
CISI Cisompet, Garu 39.92 98 P P 23 14 31.5 +10
comp=Z,86nm,1.8s
CISI Cisompet, Garu 39.92 98 *e*P **P** **23 14 22.1 +0.3**
comp=Z,247nm,1.6s
IPAY Payeh 39.93 349 *e*P **P** **23 14 21.6 -0.2**
IANJ Anjilo 40.28 342 *e*P **P** **23 14 24.6 -0.1**
IKRD Kardeh 40.34 348 *e*P **P** **23 14 23.0 -2.2**
ILAS Lasjerd 40.50 341 *e*P **P** **23 14 28.5 +1.9**
ISFR Sfrayin 40.72 348 *e*P **P** **23 14 29.2 +0.9**
ISHM Shahmirzad 40.79 342 *e*P **P** **23 14 28.3 -0.6**
IFIR Firoozkooh 40.81 341 *e*P **P** **23 14 30.8 +1.7**
IDMV Damavand 40.99 340 *e*P **P** **23 14 29.1 -1.5**
LSZ Lusaka 41.14 250 *e*P **P** **23 14 30.6 -1.3**
LSZ Lusaka 41.14 250 P **P** **23 14 35.1 +3.1**
SNR=12
LSZ mb 23 14 37.9
SNR=19
LSZ Lusaka 41.14 250 *e*P **P** **23 14 32.3 +0.3**
comp=Z,62nm,1.6s
LSZ LR LR
comp=Z,3μm,19.0s
LSZ Lusaka 41.14 250 P **P** **23 14 31.1 -0.8**
comp=Z,3.0nm,0.8s,baz=62,slow=11,SNR=17
TGJI Tegal 41.16 97 P P 23 14 36.0 +4.0
comp=Z,68nm,2.0s
ISHV Shirvan 41.24 348 *e*P **P** **23 14 34.0 +1.4**
IGLO Ghaloghah 41.26 343 *e*P **P** **23 14 34.5 +1.7**
IKOM Komasi 41.52 334 *e*P **P** **23 14 33.0 -1.9**
IMHD Mahdasht 41.57 339 *e*P **P** **23 14 37.3 +2.1**
MSNA Messina 41.65 239 *e*P **P** **23 14 37.0 +1.0**
MSNA AMB AMB 23 14 41.0
comp=Z,70nm,1.8s
IGHG Ghaleghazi 42.07 333 *e*P **P** **23 14 39.5 +0.1**
IGZV Ghazvin 42.36 339 *e*P **P** **23 14 42.7 +0.9**
IDHR Dehrash 42.46 333 *e*P **P** **23 14 42.4 -0.2**
KSM Kuching 42.51 85 P **P** **23 14 44.8 +1.8**
KSM Kuching 42.51 85 *e*P **P** **23 14 41.6 -1.5**
comp=Z,126nm,1.7s
KSM LR LR
comp=Z,2μm,19.0s
KSH Kashi 42.73 9 P P 23 14 40.6 -4.0
KSH pP pP 23 14 45.3 -4.7
KSH sP sP 23 14 47.4 -4.7
KSH PcP **PcP** **23 16 33.0 -3.1**
KSH S S 23 20 57.9 -10
KSH SS SS 23 24 03.1 -16
KSH pmax pmax
comp=Z,88nm,1.8s
KSH LR LR
comp=Z,780nm,12.4s
KSH LR LR
comp=Z,400nm,9.5s
KSH LR LR
comp=Z,490nm,11.0s
KMI Kunming 43.64 48 P **P** **23 14 54.2 +1.9**
KMI PP **PcP** **23 16 39.7 0.0**
KMI S **S** **23 21 22.7 +1.0**
KMI SS **SS** **23 24 36.1 -1.1**
KMI pmax pmax
comp=Z,15nm,1.3s
KMI pmax pmax
comp=Z,290nm,4.7s
KMI LR LR
comp=Z,530nm,16.8s
KMI LR LR
comp=Z,1μm,18.7s
KMI LR LR
comp=Z,1μm,18.1s
SLR Silverton 44.45 235 *e*P **P** **23 14 59.3 +0.5**
SLR AMB AMB 23 15 03.3
comp=Z,94nm,2.0s
SBUM Sibu 44.51 84 P **P** **23 15 02.0 +2.8**
SBUM Sibu 44.51 84 P P 23 15 03.1 +3.9
comp=Z,24nm,1.7s
SBUM Sibu 44.51 84 *e*P **P** **23 14 57.6 -1.6**
comp=Z,67nm,1.6s
ISRB Sarab 44.59 337 *e*P **P** **23 14 59.5 -0.2**
ERPM east rand prop 44.74 235 *e*P **P** **23 14 58.7 -2.4**
ERPM AMB AMB 23 15 05.3
comp=Z,32nm,2.1s
IBST Bostanabad 44.79 336 *e*P **P** **23 14 59.6 -1.7**
OBSV Observatory 44.81 235 *e*P **P** **23 15 03.6 +1.9**
OBSV AMB AMB 23 15 06.1
comp=Z,29nm,2.1s
AML Almayashu 45.01 6 *i* P **P** **23 15 02.2 -1.0**
AML Almayashu 45.01 6 P **P** **23 15 02.2 -1.0**
SNR=7.5
KZA Kyzart 45.14 8 *i* P **P** **23 15 02.4 -1.8**
KZA Kyzart 45.14 8 P **P** **23 15 02.5 -1.8**
SNR=25
EIL Elat 45.18 318 P **P** **23 15 05.9 +1.6**
EIL Elat 45.18 318 P **P** **23 15 05.9 +1.6**
comp=Z,1.0nm,0.4s,baz=117,slow=14,SNR=3.5
UCH Uchtor 45.19 7 P **P** **23 15 07.6 +2.9**
SNR=24
IHRS Heris 45.26 337 *e*P **P** **23 15 04.2 -0.9**
ULHL Ulahol 45.44 9 *i* P **P** **23 15 08.5 +2.1**
ULHL Ulahol 45.44 9 P **P** **23 15 08.5 +2.1**
SNR=7.0
BTM Bintulu 45.45 83 P **P** **23 15 05.1 -1.6**
EKS2 Erkin-Say 45.54 6 *e*P **P** **23 15 06.3 -0.8**
EKS2 pmax pmax
comp=Z,98nm,1.4s
EKS2 MLR MLR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 45.54 6 P P 23 15 10.3 +3.2
SNR=23
EKS2 Erkin-Say 45.54 6 *e*P **P** **23 15 06.3 -0.8**
comp=Z,98nm,1.4s
EKS2 LR LR
comp=Z,2μm,21.0s
ITBZ Tabriz 45.55 336 *e*P **P** **23 15 06.2 -1.1**
AAK Ala-Archa 45.59 7 *e*P **P** **23 15 06.6 -1.0**
AAK pmax pmax
comp=Z,89nm,1.6s
AAK MLR MLR
comp=Z,1μm,20.0s
AAK Ala-Archa 45.59 7 P **P** **23 15 06.8 -0.8**
SNR=17
AAK Ala-Archa 45.59 7 *e*P **P** **23 15 06.6 -1.0**
comp=Z,89nm,1.6s
AAK LR LR
comp=Z,1μm,20.0s
AAK Ala-Archa 45.59 7 P **P** **23 15 07.9 +0.4**
comp=Z,142nm,1.6s,SNR=11
AAK Ala-Archa 45.59 7 P **P** **23 15 07.3 -0.3**
comp=Z,12nm,1.1s,baz=175,slow=8.8,SNR=26
ASF Jabal al Asfar 45.60 322 P **P** **23 15 08.2 +0.5**
ASF Jabal al Asfar 45.60 322 P **P** **23 15 08.2 +0.5**
comp=Z,2.1nm,0.8s,baz=102,slow=11,SNR=3.1
KBK Karagaybulak 45.67 7 P **P** **23 15 05.0 -3.1**
SNR=31
PRYS Parys 45.70 234 *e*P **P** **23 15 06.4 -2.3**

PRYS AMB AMB 23 15 12.6
comp=Z,14nm,2.3s
KKAR Karatay Array 45.74 3 *e*P **P** **23 15 08.4 -0.1**
KKAR Karatay Array 45.74 3 *e*P **P** **23 15 08.4 -0.1**
FRU Bishkek 45.80 7 *e*P **P** **23 15 08.0 -1.1**
FRU *e* 23 16 42.0
FRU pmax pmax
comp=Z,240nm,2.0s
TKM2 Tokmak 2 46.01 8 *e*P **P** **23 15 09.5 -1.4**
TKM2 pmax pmax
comp=Z,74nm,1.3s
TKM2 MLR MLR
comp=Z,1μm,21.0s
TKM2 Tokmak 2 46.01 8 P **P** **23 15 10.2 -0.7**
SNR=16
TKM2 Tokmak 2 46.01 8 *e*P **P** **23 15 09.5 -1.4**
comp=Z,74nm,1.3s
TKM2 LR LR
comp=Z,1μm,21.0s
SEK Senekal 46.08 232 *e*P P 23 15 08.1 -3.6
SEK AMB AMB 23 15 14.8
comp=Z,50nm,2.5s
IMRD Marand 46.14 336 *e*P **P** **23 15 11.4 -0.6**
USP Ospenovka 46.22 7 *i* P **P** **23 15 11.3 -1.0**
USP Ospenovka 46.22 7 P **P** **23 15 11.4 -1.0**
SNR=11
LBTB Lobatse 46.41 238 *e*P **P** **23 15 14.7 +0.4**
LBTB AMB AMB 23 15 18.2
comp=Z,49nm,2.2s
LBTB Lobatse 46.41 238 *e*P **P** **23 15 15.4 +1.1**
comp=Z,141nm,1.9s
LBTB Lobatse 46.41 238 P **P** **23 15 15.3 +1.1**
comp=Z,8.0nm,1.0s,baz=69,slow=8.6,SNR=10
PAF Port-aux-Franc 46.43 178 PFAKE 23 15 30.0 +16
PAF LR LR
comp=Z,3μm,19.0s
QIZ Qiongzhong 46.51 60 P **P** **23 15 15.1 +0.2**
QIZ PP **PP** **23 17 03.4 -1.0**
QIZ S **S** **23 22 03.0 +0.1**
QIZ SS **SS** **23 25 30.5 +1.4**
QIZ pmax pmax
comp=Z,30nm,1.7s
QIZ pmax pmax
comp=Z,100nm,3.8s
QIZ LR LR
comp=Z,730nm,18.3s
QIZ LR LR
comp=Z,2μm,18.2s
QIZ Qiongzhong 46.51 60 PFAKE 23 15 30.0 +15
QIZ LR LR
comp=Z,2μm,19.0s
MTKI Muara Teweh, K 46.90 89 P P 23 15 21.9 +3.7
comp=Z,91nm,0.2s,comp=Z,10μm
SRBI Singaraja 47.27 98 P **P** **23 15 24.0 +3.0**
comp=Z,72nm,1.6s,comp=Z,1μm
GYA Guiyang 47.33 50 ⇑*i*P **P** **23 15 22.0 +0.6**
GYA PcP **PcP** **23 16 55.4 +3.1**
GYA PP **PP** **23 17 15.8 +3.0**
GYA ScP **ScP** **23 20 47.5 +1.7**
GYA S **S** **23 22 16.0 +1.2**
GYA ScS **ScS** **23 25 16.7 +1.3**
GYA SS **SS** **23 25 37.5 -5.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=Z,870nm,17.4s
GYA LR LR
comp=Z,660nm,18.0s
GYA LR LR
comp=Z,730nm,17.7s
SWZ Schweizer 47.45 235 *e*P **P** **23 15 20.4 -2.1**
SWZ AMB AMB 23 15 27.0
comp=Z,77nm,2.1s
GNI Garni 47.75 336 P **P** **23 15 26.4 +1.9**
SNR=9.6
GNI Garni 47.75 336 mb 23 15 29.0
SNR=13
GNI Garni 47.75 336 *e*P **P** **23 15 23.7 -0.8**
comp=Z,93nm,1.4s
GNI LR LR
comp=Z,576nm,22.0s
CD2 Chengdu 47.78 43 P **P** **23 15 25.7 +0.9**
CD2 pP **pP** **23 15 30.2 0.0**
CD2 sP **sP** **23 15 33.2 +0.9**
CD2 PcP **PcP** **23 16 54.8 +1.1**
CD2 PP **PP** **23 17 16.8 +0.1**
CD2 S **S** **23 22 20.9 0.0**
CD2 ScS **ScS** **23 25 16.8 -1.3**
CD2 SS **SS** **23 25 43.8 -5.8**
CD2 pmax pmax
comp=Z,50nm,1.3s
CD2 pmax pmax
comp=Z,270nm,10.4s
CD2 LR LR
comp=Z,1μm,20.2s
CD2 LR LR
comp=Z,1μm,20.2s
CD2 LR LR
comp=Z,2μm,19.0s
BOSA Boshof 48.09 233 *e*P **P** **23 15 26.5 -0.9**
BOSA AMB AMB 23 15 38.0
comp=Z,27nm,2.4s
BOSA Boshof 48.09 233 *e*P **P** **23 15 25.7 -1.6**
comp=Z,36nm,1.4s
BOSA Boshof 48.09 233 P **P** **23 15 25.9 -1.4**
comp=Z,3.2nm,0.6s,baz=55,slow=9.1,SNR=12
BOSA LR LR 23 32 21.2
comp=Z,1μm,21.9s,baz=74,slow=32
HVD Gariep Dam 48.75 231 *e*P **P** **23 15 31.6 -0.8**
HVD AMB AMB 23 15 51.5
comp=Z,39nm,3.0s
BKB Balikpapan 48.88 89 P P 23 15 38.8 +5.3
comp=Z,73nm,1.5s
KKM Kota Kinabalu 48.94 80 P **P** **23 15 34.7 +0.6**
KKM Kota Kinabalu 48.94 80 *e*P **P** **23 15 33.2 -0.8**
comp=Z,46nm,1.3s
KKM LR LR
comp=Z,2μm,21.0s
MAK Makhachkala 49.16 340 *e*P P 23 15 38.5 +3.5
MAK MLR MLR
comp=Z,245nm,6.0s
RUDU RUNDU 49.63 249 *e*P **P** **23 15 41.1 +1.8**
RUDU AMB AMB 23 15 43.1
comp=Z,41nm,2.1s
WMQ Urumqi 49.66 19 P P **23 15 40.0 +1.0**
WMQ sP **sP** **23 15 47.0 +0.4**
WMQ PcP **PcP** **23 17 02.0 +1.8**
WMQ PP **PP** **23 17 35.0 +1.3**
WMQ ScP **ScP** **23 20 56.0 +0.8**
WMQ S **S** **23 22 46.0 -1.0**
WMQ ScS **ScS** **23 25 28.0 -2.1**
WMQ SS **SS** **23 26 15.0 -4.6**
WMQ pmax pmax
comp=Z,45nm,1.0s
WMQ pmax pmax
comp=Z,130nm,4.0s
WMQ LR LR
comp=Z,3μm,18.0s
WMQ LR LR
comp=Z,2μm,17.0s
WMQ LR LR
comp=Z,3μm,18.0s
CSS Prodhromos 49.67 322 PFAKE 23 15 50.0 +11
CSS LR LR
comp=Z,192nm,22.0s
KDM Kudat 49.68 79 P **P** **23 15 38.2 -1.4**
SDKM Sandakan 49.84 80 P **P** **23 15 43.0 +2.1**
ZEI Tsey 50.32 337 *e*P **P** **23 15 45.8 +1.6**
ZEI pmax pmax
comp=Z,25nm,1.9s
TSM Tawau 50.33 82 P P 23 15 40.7 -3.8
MK01 Makanchi Array 50.94 13 *e*P **P** **23 15 47.3 -1.3**
MK01 *e*PcP **PcP** **23 17 06.0 +1.1**
MKAR Makanchi Array 50.96 13 *i* P **P** **23 15 47.5 -1.2**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 50.96 13 *e*P **P** **23 15 47.6 -1.1**
MKAR Makanchi Array 50.96 13 P **P** **23 15 46.2 -2.5**
comp=Z,2.9nm,0.8s,baz=188,slow=7.4,SNR=8.2
MKAR LR LR 23 37 58.6
comp=Z,580nm,18.1s,baz=186,slow=37
MYLDM Lahad Datu 51.06 81 P **P** **23 15 52.5 +2.4**
MYLDM Lahad Datu 51.06 81 P P 23 15 55.0 +4.9

comp=Z,31nm,1.8s
MYLDM **Lahad Datu** 51.06 81 *e*P P 23 15 49.7 -0.3
comp=Z,80nm,1.6s
LZH **Lanzhou** 51.13 38 *e*P P 23 15 51.6 +1.2
LZH pP **pP** 23 15 55.1 -0.8
LZH sP **sP** 23 15 58.1 +0.1
LZH PcP **PcP** 23 17 08.4 +2.4
LZH *e*S **S** 23 23 06.8 -1.2
LZH pmax pmax
comp=Z,67nm,1.0s
LZH pmax pmax
comp=Z,270nm,4.2s
LZH LR LR
comp=Z,550nm,14.9s
LZH LR LR
comp=Z,1µm,17.0s
LZH LR LR
comp=Z,2µm,19.7s
GTA **Gaotai** 51.17 32 *e*P P 23 15 50.7 +0.1
GTA pP **pP** 23 15 53.8 -2.3
GTA sP **sP** 23 15 56.7 -1.5
GTA PcP **PcP** 23 17 06.7 +0.7
GTA S **S** 23 23 07.2 -1.1
GTA SS **SS** 23 26 40.5 -3.5
GTA pmax pmax
comp=Z,12nm,1.8s
GTA pmax pmax
comp=Z,260nm,4.3s
GTA LR LR
comp=Z,2µm,21.9s
GTA LR LR
comp=Z,2µm,20.0s
GTA LR LR
comp=Z,3µm,21.4s
ENH **Enshi** 51.46 47 *e*P P 23 15 51.7 -1.1
ENH pmax pmax
comp=Z,40nm,1.4s
ENH LR LR
comp=Z,63nm,19.0s
KBZ **Khabaz** 51.51 337 P P 23 15 50.0 -2.8
KBZ **Khabaz** 51.51 337 P P 23 15 50.0 -2.8
KBZ **Khabaz** 51.51 337 P P 23 15 50.0 -2.8
comp=Z,3.1nm,0.8s,baz=154,slow=11,SNR=5.3
KBZ LR LR 23 38 26.1
comp=Z,16nm,28.6s,baz=140,slow=37
KAPI **Kappang** 51.67 94 PFAKE 23 16 10.0 +15
KAPI LR LR
comp=Z,1µm,21.0s
KIV **Kislovodsk** 51.78 337 P P 23 15 57.1 +2.0
SNR=6.3
KIV **Kislovodsk** 51.78 337 mb 23 15 59.5
SNR=6.9
KIV **Kislovodsk** 51.78 337 *e*P P 23 15 56.5 +1.5
KIV *e* 23 17 10.0
KIV *e*S **S** 23 23 17.2 +0.7
KIV *e*SS **SS** 23 26 56.2 +2.8
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,159nm,16.0s
KIV **Kislovodsk** 51.78 337 PFAKE 23 16 10.0 +15
KIV LR LR
comp=Z,370nm,22.0s
TSUM **Tsumeb** 51.88 248 *e*P P 23 15 55.6 -0.7
TSUM **Tsumeb** 51.88 248 *e*P P 23 15 57.0 +0.6
comp=Z,48nm,1.5s
TSUM LR LR
comp=Z,2µm,20.0s
ABKAR **Akbulak array** 52.30 353 *e*P P 23 15 57.4 -1.3
BRTR **Keskin Array B** 52.76 327 P P 23 16 01.4 -1.1
BRTR **Keskin Array B** 52.76 327 P P 23 16 01.4 -1.1
comp=Z,3.9nm,0.9s,baz=148,slow=8.5,SNR=16
BRTR LR LR 23 38 39.8
comp=Z,16nm,28.6s,baz=120,slow=36
WIN **Windhoek** 53.08 244 *e*P P 23 16 05.0 -0.2
WIN AMB AMB 23 16 10.1
comp=Z,14nm,2.4s
SUR **Sutherland** 53.12 231 PFAKE 23 16 20.0 +15
SUR LR LR
comp=Z,3µm,21.0s
XAN **Xi'an** 53.14 43 P P 23 16 05.7 +0.4
XAN pP **pP** 23 16 09.8 -1.0
XAN PP **PP** 23 18 05.7 +0.3
XAN pmax pmax
comp=Z,13nm,1.5s
XAN pmax pmax
comp=Z,42nm,3.6s
XAN LR LR
comp=Z,740nm,21.9s
XAN LR LR
comp=Z,200nm,20.1s
XAN LR LR
comp=Z,200nm,24.2s
ISP **Isparta** 53.26 323 PFAKE 23 16 20.0 +14
ISP LR LR
comp=Z,758nm,22.0s
BR231 **Keskin MP Arra** 53.32 326 *e*P P 23 16 04.4 -2.1
BR231 *e*PcP **PcP** 23 17 13.3 -0.7
ANTO **Ankara** 53.33 326 *e*P P 23 16 05.7 -0.9
ANTO *e* 23 17 14.6
ANTO pmax pmax
comp=Z,90nm,2.1s
ANTO MLR MLR
comp=Z,443nm,19.0s
ANTO **Ankara** 53.33 326 *e*P P 23 16 05.7 -0.9
comp=Z,90nm,2.1s
ANTO *e*PcP **PcP** 23 17 14.6 +0.6
ANTO LR LR
comp=Z,443nm,19.0s
MBWA **Marble Bar** 53.50 114 *e*P P 23 16 09.2 +1.0
comp=Z,71nm,1.5s
MBWA LR LR
comp=Z,2µm,20.0s
KURK **Kurchatov** 54.07 8 P P 23 16 12.8 +1.1
SNR=16
KURK **Kurchatov** 54.07 8 mb 23 16 15.3
SNR=27
KURK **Kurchatov** 54.07 8 *e*P P 23 16 10.9 -0.8
KURK pmax pmax
comp=Z,21nm,1.2s
KURK MLR MLR
comp=Z,536nm,19.0s
KURK **Kurchatov** 54.07 8 *e*P P 23 16 10.9 -0.8
comp=Z,21nm,1.2s
KURK LR LR
comp=Z,536nm,19.0s
KURK **Kurchatov** 54.07 8 P P 23 16 10.0 -1.7
comp=Z,159nm,1.2s,SNR=11
MMRI **Maumere** 54.24 99 *e*P P 23 16 12.6 -1.0
comp=Z,170nm,1.5s
KOMG **Komaggas** 54.84 235 *e*P P 23 16 14.7 -3.0
KOMG AMB AMB 23 16 21.2
comp=Z,46nm,2.4s
NWAO **Narrogin (SRO)** 54.92 129 P P 23 16 17.6 -0.6
NWAO LR LR
comp=Z,1.0nm,21.0s
NWAO **Narrogin (SRO)** 54.92 129 P P 23 16 17.6 -0.6
comp=Z,11nm,1.0s,baz=294,slow=7.7,SNR=3.8
WHN **Wuhan** 55.22 49 P P 23 16 21.8 +1.4
WHN S **S** 23 24 02.2 -1.2
WHN LR LR
comp=Z,2µm,19.0s
BRVK **Borovoye** 55.68 2 P P 23 16 22.9 -0.4
SNR=9.8
BRVK **Borovoye** 55.68 2 mb 23 16 26.5
SNR=15
BRVK mb 23 16 26.5
SNR=15
BRVK **Borovoye** 55.68 2 *e*P P 23 16 22.2 -1.1
BRVK pmax pmax
comp=Z,34nm,1.5s
BRVK MLR MLR
comp=Z,1µm,22.0s
BRVK **Borovoye** 55.68 2 *e*P P 23 16 22.2 -1.1
comp=Z,34nm,1.5s
BRVK LR LR
comp=Z,1µm,22.0s
TWG **Pinlang** 57.65 61 *e*P P 23 16 37.1 -0.8
comp=Z,778nm,1.7s
VRHR **Novokhopersk** 58.21 341 *e*P P 23 16 41.3 0.0
VRHR pmax pmax
comp=N,50nm,1.3s
VRHR pmax pmax
comp=E,50nm,1.3s
VRHR pmax pmax
comp=Z,30nm,1.3s
VRHR MLR MLR
comp=Z,690nm,20.0s
VRHR MLR MLR
comp=N,110nm,5.0s
VRHR MLR MLR
comp=E,390nm,7.0s
ZAA0 **Zalesovo Array** 58.25 12 *e*P P 23 16 38.7 -2.8
ZALV **Zalesovo Beam** 58.25 12 *i*P P 23 16 40.5 -1.0
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV **Zalesovo Beam** 58.25 12 P P 23 16 38.9 -2.6
ZALV **Zalesovo Beam** 58.25 12 P P 23 16 38.9 -2.6
comp=Z,7.5nm,0.9s,baz=208,slow=6.7,SNR=14
ZALV LR LR 23 41 58.1
comp=Z,17nm,28.6s,baz=178,slow=36
DAV **Davao City (W)** 58.29 80 P P 23 16 44.4 +1.8
SNR=7.2
DAV **Davao City (W)** 58.29 80 mb 23 16 47.7
SNR=3.4
DAV **Davao City (W)** 58.29 80 PFAKE 23 16 50.0 +7.4
DAV LR LR
comp=Z,1µm,22.0s
FITZ **Fitzroy Crossi** 58.44 109 *e*P P 23 16 42.8 -0.7
comp=Z,37nm,1.4s
YHNB **Yeheng** 58.53 59 PFAKE 23 17 00.0 +16
YHNB LR LR
comp=Z,1µm,19.0s
NVS **Novosibirsk** 58.80 10 *e*P P 23 16 42.3 -3.0
NVS pmax pmax
comp=N,38nm,1.8s
NVS pmax pmax
comp=E,15nm,1.8s
NVS pmax pmax
comp=Z,57nm,1.8s
HHC **Hu-ho-hao-te** 58.83 38 *e*P P 23 16 47.0 +1.0
HHC pP **pP** 23 16 51.8 +0.3
HHC PP **PP** 23 19 00.6 +4.4
HHC PcS **PcS** 23 21 37.5 +0.3
HHC S **S** 23 24 51.0 0.0
HHC ScS **ScS** 23 26 32.9 -2.6
HHC SS **SS** 23 28 46.0 +1.3
HHC pmax pmax
comp=Z,52nm,1.2s
HHC pmax pmax
comp=Z,660nm,6.6s
HHC LR LR
comp=Z,1µm,16.9s
HHC LR LR
comp=Z,2µm,17.2s
HHC LR LR
comp=Z,2µm,17.0s
VORD **Divnogorie** 58.90 339 *e*P P 23 16 47.6 +1.5
VORD pmax pmax
comp=Z,40nm,1.0s
VORD pmax pmax
comp=N,40nm,0.5s
VORD pmax pmax
comp=E,90nm,1.0s
VSR **Storozhevoye** 59.15 339 *e*P P 23 16 48.3 +0.5
VSR pmax pmax
comp=Z,80nm,1.6s
VSR pmax pmax
comp=N,8.0nm,0.5s
VSR pmax pmax
comp=E,40nm,1.6s
VSR MLR MLR
comp=N,390nm,17.0s
VSR MLR MLR
comp=Z,650nm,17.0s
VSR MLR MLR
comp=E,120nm,6.0s
NJ2 **Nanjing** 59.34 50 *e*P P 23 16 50.5 +1.0
NJ2 pP **pP** 23 16 56.2 +1.1
NJ2 pmax pmax
comp=E,90nm,1.4s
NJ2 pmax pmax
comp=E,120nm,8.1s
NJ2 LR LR
comp=E,2µm,23.1s
NJ2 LR LR
comp=E,1µm,21.0s
NJ2 LR LR
comp=E,850nm,18.4s
CFR **Carcaliu** 59.46 328⇓*i*P P 23 16 51.2 +1.1
ARU **Arti** 59.52 354 P P 23 16 51.9 +1.6
comp=E,131nm,1.4s,SNR=7.6
ARU **Arti** 59.52 354*d i*P P 23 16 50.6 +0.3
ARU 23 18 57.5
ARU S **S** 23 25 00.3 +1.2
ARU pmax pmax
comp=Z,64nm,1.7s
ARU **Arti** 59.52 354 PFAKE 23 17 00.0 +10
ARU LR LR
comp=Z,263nm,19.0s
MMB **Musomiste** 59.70 323⇓*i*P P 23 16 50.1 -1.8
SVE **Sverdlovsk** 59.72 355⇓*e*P P 23 16 52.1 +0.4
SVE *e*S **S** 23 25 04.8 +3.1
SVE *e*SS **SS** 23 28 53.4 -4.4
SVE *e*SSS SSS 23 31 34.4
SVE pmax pmax
comp=Z,56nm,1.8s
SVE MLR MLR
comp=Z,862nm,17.0s
VAY **Valandovo** 60.25 322 *i*P P 23 16 55.0 -0.7
SONM **Songino Array** 60.55 29 P P 23 16 57.1 -0.6
SONM **Songino Array** 60.55 29 P P 23 16 57.1 -0.6
comp=Z,19nm,1.0s,baz=220,slow=6.2,SNR=36
SONM LR LR 23 42 53.3
comp=Z,4µm,21.0s,baz=208,slow=36
SONA1 **Songino Array** 60.56 29 *e*P P 23 16 56.7 -1.1
VTS **Vitosha** 60.60 323⇑*i*P P 23 16 58.6 +0.4
VRI **Vrincioaia** 60.66 328⇓*i*P P 23 16 57.6 -0.8
PLOR **Plostina** 60.69 328⇓*i*P P 23 16 58.3 -0.3
SSE **Sheshan** 60.75 52 P P 23 16 59.8 +0.6
SSE S **S** 23 25 16.7 +0.9
SSE pmax pmax
comp=Z,36nm,0.9s
SSE pmax pmax
comp=Z,210nm,4.6s
SSE LR LR
comp=Z,490nm,17.6s
SSE LR LR
comp=Z,700nm,17.6s
SSE LR LR
comp=Z,1µm,20.7s
MLR **Muntele Rosu** 60.84 327⇓*i*P P 23 17 01.5 +1.8
ULN **Ulaanbaatar** 60.88 29 P P 23 17 01.8 +1.8
SNR=16
ULN **Ulaanbaatar** 60.88 29 mb 23 17 04.4
SNR=19
ULN **Ulaanbaatar** 60.88 29 P P 23 17 01.3 +1.3
comp=Z,24nm,1.9s,comp=Z,561nm
ULN **Ulaanbaatar** 60.88 29 *e*P P 23 17 00.7 +0.6
comp=Z,66nm,1.6s
ULN LR LR
comp=Z,4µm,20.0s
ZAK **Zakamensk** 60.99 25 *e*P P 23 17 01.6 +0.9
ZAK pmax pmax
comp=Z,11nm,1.6s
TESR **Tescani** 61.13 329⇑*i*P P 23 17 00.3 -1.2
BJT **Baijiatuau** 61.27 41 *e*P P 23 17 02.8 +0.2
comp=Z,79nm,1.6s
BJT LR LR
comp=Z,707nm,19.0s
VOIR 61.29 327⇑P P 23 17 03.4 +0.7
VOIR 61.29 327⇑*i*P P 23 17 03.4 +0.7
BJI **Beijing** 61.29 41 P P 23 17 04.4 +1.7
BJI S **S** 23 25 25.1 +2.8
BJI SS **SS** 23 29 26.8 +3.8
BJI pmax pmax
comp=Z,24nm,1.8s
BJI pmax pmax
comp=Z,140nm,3.8s
BJI LR LR
comp=Z,830nm,24.1s
BJI LR LR
comp=Z,720nm,19.6s
BJI LR LR
comp=Z,620nm,26.1s
SKO **Skopje** 61.32 322 *e*P P 23 17 02.7 -0.2
DOPR **Dopca** 61.44 327⇓*i*P P 23 17 02.2 -1.5
ARR **Arges** 61.47 327⇓*i*P P 23 17 02.2 -1.7
LOT **Lotru** 62.00 326⇑*i*P P 23 17 05.4 -2.2
GZR **Gura Zlata** 62.52 326⇑P P 23 17 12.4 +1.4
GZR **Gura Zlata** 62.52 326⇑*i*P P 23 17 12.4 +1.4
BURAR **Bucovina Array** 62.59 329⇓P P 23 17 12.8 +1.4
BURAR **Bucovina Array** 62.59 329⇓*i*P P 23 17 12.8 +1.4
BUR04 **Bucovina Ar. S** 62.59 329 *e*P P 23 17 09.7 -1.7
AKASG **Malin Array Be** 62.75 333 *i*P P 23 17 11.3 -1.0
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG **Malin Array Be** 62.75 333 P P 23 17 11.3 -1.0
AKASG **Malin Array Be** 62.75 333 P P 23 17 11.3 -1.0
comp=Z,2.7nm,0.8s,baz=135,slow=5.5,SNR=23
AKASG LR LR 23 47 23.1
comp=Z,338nm,19.2s,baz=120,slow=39
KIEV **Kiev** 62.75 333 *e*P P 23 17 11.4 -0.9
KIEV pmax pmax
comp=Z,28nm,1.3s
KIEV **Kiev** 62.75 333 *e*P P 23 17 11.4 -0.9
comp=Z,28nm,1.3s
AK11 **Malin Array Si** 62.76 333 *e*P P 23 17 10.9 -1.4
IRK **Irkutsk** 62.80 24 *e*P P 23 17 12.1 -0.6
IRK pmax pmax
comp=Z,83nm,2.1s
TIP **Timpagrande** 62.90 317 PFAKE 23 17 30.0 +16
TIP LR LR
comp=Z,218nm,21.0s
WDD **Wield Dalam** 62.96 313 PFAKE 23 17 30.0 +16
WDD LR LR
comp=Z,251nm,19.0s
FORT **Forrest** 63.02 123 *e*P P 23 17 14.0 -0.6
comp=Z,113nm,1.8s
CEL **Celeste** 63.05 316 PFAKE 23 17 30.0 +15
CEL LR LR
comp=Z,219nm,21.0s
OBN **Obninsk** 63.25 340⇓*i*P P 23 17 17.0 +1.5
OBN *e* 23 19 34.0
OBN *i*S S 23 25 57.1 +11
OBN pmax pmax
comp=Z,62nm,1.6s
OBN **Obninsk** 63.25 340 PFAKE 23 17 30.0 +14
OBN LR LR
comp=Z,415nm,19.0s
BZS **Buzias** 63.31 325⇓P P 23 17 13.3 -2.9
BZS **Buzias** 63.31 325⇓*i*P P 23 17 13.3 -2.9
DRGR 63.40 327⇓P P 23 17 16.3 -0.6
DRGR 63.40 327⇓*i*P P 23 17 16.3 -0.6
MOS **Moscow** 63.42 341 *e*P P 23 17 14.8 -1.8
MOS *e* 23 19 44.2
MOS pmax pmax
comp=Z,132nm,1.7s
MOS pmax pmax
comp=Z,300nm,2.1s
SIRR **Siria** 63.67 326⇓*i*P P 23 17 15.9 -2.7
CUC **Castrocucco** 63.93 317 PFAKE 23 17 30.0 +10
CUC LR LR
comp=Z,238nm,21.0s
TRPA **Tarpa** 64.31 328⇓*i*P P 23 17 23.0 +0.3
TRPA **Tarpa** 64.31 328⇓*e*P P 23 17 23.0 +0.3
LVV **L'vov** 64.61 330 *e*P P 23 17 23.6 -1.0
LVV MLR MLR
comp=N,100nm,20.0s
LVV MLR MLR
comp=E,200nm,20.0s
LVV MLR MLR
comp=Z,400nm,20.0s
CLTB **Caltabellotta** 64.64 314 PFAKE 23 17 40.0 +15
CLTB LR LR
comp=Z,440nm,20.0s
UZH **Uzhgorod** 64.75 328⇓*i*P P 23 17 26.0 +0.5
UZH *e* 23 17 34.0
MAW **Mawson** 64.80 182 P P 23 17 25.4 -0.1
MAW **Mawson** 64.80 182 P P 23 17 25.4 -0.1
comp=Z,3.8nm,0.8s,baz=15,slow=9.9,SNR=5.8
MAW LR LR 23 38 36.6
comp=Z,17nm,28.6s,baz=354,slow=30
KOLS **Kolonicke sedl** 64.95 329 *e*P P 23 17 26.0 -0.9
KOLS pmax pmax
comp=Z,62nm,1.7s
KOLS **Kolonicke sedl** 64.95 329 *e* P 23 17 26.0 -0.9
PKS6 **Bocsa** 65.04 325⇓*e*P P 23 17 28.0 +0.5
KWP **Kalwaria Pacla** 65.15 329 *e*P P 23 17 26.0 -2.2
KWP pmax pmax
comp=Z,89nm,1.5s
KWP **Kalwaria Pacla** 65.15 329 *e*P P 23 17 26.2 -2.0
KWP **Kalwaria Pacla** 65.15 329⇑*i*P P 23 17 26.9 -1.3
KWP **Kalwaria Pacla** 65.15 329 *e*P P 23 17 26.0 -2.2
comp=Z,89nm,1.5s
CRVS **Cervenica-Dubn** 65.35 328 *e*P P 23 17 30.1 +0.6
CRVS pmax pmax
comp=Z,22nm,1.4s
CRVS **Cervenica-Dubn** 65.35 328 *e*P P 23 17 30.1 +0.6
PKSM **Moragy** 65.36 325 ⇓P P 23 17 29.3 -0.2
PKSM **Moragy** 65.36 325⇓*i*P P 23 17 29.3 -0.2
PKSM **Moragy** 65.36 325⇓*e*P P 23 17 29.4 -0.1
PSZ **Piszkesteto** 65.61 327 PFAKE 23 17 40.0 +8.7
PSZ LR LR
comp=Z,274nm,19.0s
KECS **Kecovo** 65.62 327 *e*P P 23 17 32.6 +1.4
KECS pmax pmax
comp=Z,8.0nm,1.6s
KECS **Kecovo** 65.62 327 *e*P P 23 17 32.6 +1.4
STHS **Stebnicka Huta** 65.78 329 *e*P P 23 17 33.2 +1.0
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS **Stebnicka Huta** 65.78 329 *e*P P 23 17 33.2 +1.0
TAM **Tamanrasset** 65.96 296 PFAKE 23 17 50.0 +16
TAM LR LR
comp=Z,382nm,19.0s
MICGM **Minsk** 66.03 336 *e* P 23 17 33.0 -0.7
MNK **Minsk** 66.05 336 *e*P P 23 17 33.0 -0.8
PKSG 66.15 326 *e*P P 23 17 35.2 +0.5
NIE **Niedzica** 66.27 328 *e*P P 23 17 37.1 +1.7
NIE **Niedzica** 66.27 328 *e*P P 23 17 37.1 +1.7
PKST **T"'s** 66.28 325 *e*P P 23 17 36.3 +0.8
BEHE **Becsehely** 66.58 324⇓*e*P P 23 17 37.4 -0.1
KEST **Kesra** 66.76 311 *e*P P 23 17 40.9 +2.0
KEST **Kesra** 66.76 311 LR LR 23 43 40.5
comp=Z,16nm,28.6s,baz=342,slow=33
CIT **Chita** 66.78 29 *e*P P 23 17 39.4 +0.7
CIT *e* 23 17 45.9
CIT pmax pmax
comp=Z,124nm,1.7s
WRA **Warramunga Arr** 66.83 110 P P 23 17 38.4 -1.1
WRA **Warramunga Arr** 66.83 110 P P 23 17 38.4 -1.1
comp=Z,30nm,1.2s,baz=280,slow=6.2,SNR=45
WRA LR LR 23 42 55.1
comp=Z,17nm,28.6s,baz=285,slow=32
WRAB **Tennant Creek** 66.84 110⇓*e*P P 23 17 37.5 -2.1
WRAB pmax pmax
comp=Z,260nm,1.7s
WRAB **Tennant Creek** 66.84 110 *e*P P 23 17 40.2 +0.5
comp=Z,164nm,1.6s
WRAB LR LR
comp=Z,657nm,20.0s
WRAB **Tennant Creek** 66.84 110 P P 23 17 37.8 -1.8
comp=Z,219nm,1.6s,SNR=9.7
ASAR **Alice Springs** 66.85 114 P P 23 17 38.2 -1.5
ASAR **Alice Springs** 66.85 114 P P 23 17 38.2 -1.5
comp=Z,6.4nm,1.1s,baz=285,slow=5.2,SNR=20
ASAR LR LR 23 42 35.6
comp=Z,17nm,28.6s,baz=284,slow=32
KOGS **Kog** 66.88 324 *e*P P 23 17 40.2 +0.8
AS01 **Alice Springs** 66.89 114 *e*P P 23 17 38.7 -1.2
OJC **Ojcow** 67.01 329 *e*P P 23 17 41.2 +1.1
OJC **Ojcow** 67.01 329 *e*P P 23 17 41.2 +1.1
KLMR **Klimovskoe** 67.19 345 *e*P P 23 17 40.3 -0.7
KLMR pmax pmax
comp=Z,144nm,1.8s
KLMR MLR MLR
comp=Z,1µm,18.0s
SOP **Sopron** 67.35 325⇑*e*P P 23 17 42.9 +0.6
INCN **Inchon** 67.40 47 PFAKE 23 17 50.0 +7.1
INCN LR LR
comp=Z,970nm,20.0s
VNDS **Vrh nad Dolski** 67.63 323 *e*P P 23 17 45.2 +1.1
OKC **Ostrava-Krasne** 67.66 328 *e*P P 23 17 43.4 -0.8
OKC **Ostrava-Krasne** 67.66 328 *e*P P 23 17 43.4 -0.8
TOA0 **Torodi Ar. Sit** 67.66 285 *e*P P 23 17 44.3 -0.7
TORD **Torodi Ar. Bea** 67.66 285 P P 23 17 43.9 -1.0
TORD **Torodi Ar. Bea** 67.66 285 P P 23 17 43.9 -1.0
comp=Z,5.8nm,1.4s,baz=92,slow=5.6,SNR=15
TORD LR LR 23 45 17.2
comp=Z,17nm,28.6s,baz=85,slow=34
SOKA **Soboth** 67.72 324⇑*i*P P 23 17 45.1 +0.3
comp=Z,15nm,1.5s
SUW **Suwalki** 67.72 333 *e*P P 23 17 44.4 -0.1
SUW pmax pmax
comp=Z,336nm,2.4s
SUW **Suwalki** 67.72 333 *e*P P 23 17 45.5 +1.0

SUW **Suwalki** 67.72 333 *e*P P **23 17 44.4 -0.1**
comp=Z,336nm,2.4s
ARSA **Arzberg** 67.72 324⇑ *i*P P **23 17 44.4 -0.4**
comp=Z,23nm,1.3s
CONA **Conrad Observa** 67.88 325⇑ *i*P P **23 17 44.1 -1.7**
comp=Z,46nm,1.6s
OBKA **Obir** 67.92 323⇑ *i*P P **23 17 46.1 0.0**
comp=Z,26nm,1.4s
MORC **Moravsky Berou** 67.95 327 *e*P P **23 17 45.0 -1.1**
MORC pmax pmax
comp=Z,65nm,1.7s
MORC **Moravsky Berou** 67.95 327⇓ *i*P P 23 17 40.3 -5.8
MORC **Moravsky Berou** 67.95 327 *e*P P **23 17 45.0 -1.1**
comp=Z,65nm,1.7s
KSAR **Wonju Array Be** 68.31 48 P P **23 17 49.0 +0.4**
KS01 **Wonju Array Si** 68.33 48 *e*P P **23 17 47.3 -1.3**
KSRS **Korea Array** 68.34 48 P P **23 17 49.0 +0.2**
comp=Z,4.9nm,0.9s,baz=247,slow=6.2,SNR=7.2
HIA **Hailar** 68.37 34 *e*P P **23 17 49.4 +0.7**
comp=Z,38nm,1.1s
HIA LR LR
comp=Z,836nm,22.0s
KRLC **Kraliky** 68.52 327 *e*P P **23 17 50.0 +0.3**
KRLC **Kraliky** 68.52 327 *e*P P **23 17 50.0 +0.3**
MYKA **Terra Mystica** 68.53 323⇑ *i*P P **23 17 50.3 +0.5**
comp=Z,30nm,1.8s
MOA **Molln** 68.76 324⇑ *i*P P **23 17 50.4 -0.9**
comp=Z,25nm,1.4s
TREC **Trest** 68.81 326 *e*P P **23 17 50.6 -0.9**
TREC **Trest** 68.81 326 *e*P P **23 17 50.6 -0.9**
DPC **Dobruska-Polom** 68.92 327 *e*P P **23 17 52.3 +0.1**
DPC **Dobruska-Polom** 68.92 327 *e*P P **23 17 52.3 +0.1**
JNU **Nakatsue** 69.15 53 LR LR 23 49 47.4
comp=Z,956nm,18.3s,slow=37
CN2 **Changchun** 69.16 41 *e*P P **23 17 54.1 +0.4**
CN2 *e*PP **PP** **23 20 29.2 +2.5**
CN2 *e*S **S** **23 26 54.2 -4.6**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,1μm,18.0s
UPC **Upice** 69.17 327 *e*P P **23 17 54.7 +1.0**
UPC **Upice** 69.17 327 *e*P P **23 17 54.7 +1.0**
KSP **Ksiaz** 69.20 328⇑ *e*P P **23 17 54.7 +0.8**
KSP **Ksiaz** 69.20 328 *e*P P **23 17 55.1 +1.2**
ABTA **Abfaltersbach** 69.26 323⇑ *i*P P **23 17 53.0 -1.5**
comp=Z,28nm,1.5s
VSU **Vasula** 69.30 338⇑ *i*P P **23 17 55.1 +0.9**
VSU pmax pmax
comp=Z,131nm,1.5s
VLC **Villacollemand** 69.42 320 PFAKE 23 18 10.0 +15
VLC LR LR
comp=Z,403nm,21.0s
GERES **GERESS Array B** 69.59 325 LR LR 23 47 25.6
comp=Z,16nm,28.6s,baz=112,slow=35
PGF **Pioggiola** 69.66 318 *e*P P **23 17 57.3 +0.3**
comp=Z,372nm,1.9s
PGF **Pioggiola** 69.66 318 *e*P P **23 17 57.3 +0.3**
PGF **Pioggiola** 69.66 318 *e*P P **23 17 57.3 +0.3**
PRU **Pruhonice** 69.70 326 *e*P P **23 17 58.1 +1.2**
PRU **Pruhonice** 69.70 326 *e*P P **23 17 58.1 +1.2**
PRA **Prague** 69.80 326 P P **23 17 59.0 +1.4**
KHC **Kasperske Hory** 69.80 325 *e*P P **23 17 55.5 -2.1**
KHC pmax pmax
comp=Z,50nm,2.0s
KHC **Kasperske Hory** 69.80 325 *e*P P **23 17 57.2 -0.5**
KHC **Kasperske Hory** 69.80 325 *e*P P **23 17 55.5 -2.1**
comp=Z,50nm,2.0s
PVCC **Panska Ves** 69.96 327 *e*P P **23 18 00.0 +1.4**
PVCC **Panska Ves** 69.96 327 *e*P P **23 18 00.0 +1.4**
WTTA **Wattenberg** 70.04 323⇓ *i*P P **23 17 59.9 +0.6**
comp=Z,27nm,1.4s
BBOO **Buckleboo** 70.10 124 *e*P P **23 17 59.9 0.0**
comp=Z,387nm,1.6s
TMCR **Tamitsa** 70.38 347 *e*P P **23 18 03.3 +2.5**
TMCR *e* 23 18 21.8
TMCR *e* 23 20 42.7
TMCR pmax pmax
comp=Z,18nm,0.8s
MOTA **Moosalm** 70.39 323⇑ *i*P P **23 17 59.0 -2.5**
comp=Z,24nm,1.3s
FETA **Feichten** 70.47 322⇑ *i*P P **23 18 00.6 -1.4**
comp=Z,33nm,1.7s
BRG **Berggiesshubel** 70.48 327 *e*P P **23 18 02.3 +0.6**
comp=Z,71nm,2.1s
BRG **Berggiesshubel** 70.48 327 *e*P P **23 18 02.3 +0.6**
BRG pmax pmax
comp=Z,71nm,2.1s
FUORN **Ofenpass-Fuorn** 70.58 322 *e*P P **23 18 00.8 -1.9**
FUR **Furstenfeldbru** 70.67 324 *e*P P **23 18 03.3 +0.3**
comp=Z,126nm,1.4s
NKC **Novy Kostel** 70.99 326 *e*P P **23 18 03.6 -1.3**
NKC **Novy Kostel** 70.99 326 *e*P P **23 18 03.6 -1.3**
WERN **Wernitzgruen** 71.05 326 *e*P P **23 18 06.7 +1.4**
comp=Z,75nm,1.6s
TANN **Tannenbergstha** 71.07 326 *e*P P **23 18 06.7 +1.3**
comp=Z,82nm,2.0s
TUE **Stuetta** 71.08 321 *e*P P **23 18 03.6 -2.2**
comp=Z,90nm,1.9s
TUE LR LR
comp=Z,466nm,22.0s
DAVA **Damuels** 71.11 322⇑ *i*P P **23 18 03.4 -2.4**
comp=Z,51nm,1.4s
CLL **Collm** 71.22 327⇑ *i*P P **23 18 07.0 +0.9**
CLL *i* 23 18 13.4
CLL pmax pmax
comp=Z,59nm,1.5s
CLL MLR MLR
comp=Z,200nm,18.8s
CLL **Collm** 71.22 327 *e*P P **23 18 07.1 +0.9**
comp=Z,59nm,1.5s
CLL **Collm** 71.22 327 *i*P P **23 18 07.1 +0.9**
comp=Z,59nm,1.5s
CLL *i* 23 18 13.5
CLL *e*SS SS 23 32 00.0 +3.2
CLL LmH 23 49 00.0
comp=N,300nm,21.7s
CLL LmH 23 49 00.0
comp=E,200nm,19.8s
CLL LmV 23 57 00.0
comp=Z,200nm,20.0s
SBF **Sospel** 71.24 318 *e*P P **23 18 07.4 +0.8**
comp=Z,87nm,1.2s
RUE **Ruedersdorf** 71.40 328 *e*P P **23 18 06.1 -1.1**
comp=Z,48nm,1.2s
GRF **Grafenberg Arr** 71.42 325 *e*P P **23 18 08.4 +0.9**
comp=Z,113nm,1.6s
GRFO **Grafenberg** 71.42 325 *e*P P **23 18 07.0 -0.5**
GRFO pmax pmax
comp=Z,123nm,1.7s
GRFO **Grafenberg** 71.42 325 *e*P P **23 18 07.0 -0.5**
comp=Z,122nm,1.7s
FRF **La Foret Royal** 71.64 318 *e*P P **23 18 08.9 -0.1**
comp=Z,193nm,1.6s
LMR **La Mourre** 71.65 318 *e*P P **23 18 09.7 +0.7**
FINES **FINESS Array B** 71.66 340 LR LR 23 50 54.4
comp=Z,327nm,21.2s,baz=135,slow=37
MBDF **Montbardon** 72.01 319 *e*P P **23 18 11.9 +0.6**
comp=Z,51nm,1.6s
STU **Stuttgart** 72.18 324 *e*P P **23 18 11.4 -0.7**
STU pmax pmax
comp=Z,136nm,1.9s
STU **Stuttgart** 72.18 324 *e*P P **23 18 12.6 +0.5**
comp=Z,113nm,1.8s
STU **Stuttgart** 72.18 324 *e*P P **23 18 11.4 -0.7**
comp=Z,136nm,1.9s
MDJ **Mudanjiang** 72.21 41 P P **23 18 14.0 +1.7**
MDJ pP **pP** **23 18 17.2 -0.7**
MDJ sP **sP** **23 18 18.5 -1.5**
MDJ PcP **PcP** **23 18 32.0 +1.5**
MDJ PP **PP** **23 20 53.5 +0.6**
MDJ S **S** **23 27 36.9 +2.6**
MDJ ScS **ScS** **23 28 20.2 +2.1**
MDJ SS **SS** **23 32 16.2 +3.9**
MDJ pmax pmax
comp=Z,24nm,1.8s
MDJ pmax pmax
comp=Z,120nm,3.8s
MDJ LR LR
comp=Z,340nm,20.9s
MDJ LR LR
comp=Z,440nm,24.9s
MDJ LR LR
comp=Z,500nm,20.9s
MDJ **Mudanjiang** 72.21 41 *e*P P **23 18 13.3 +1.0**
comp=Z,35nm,1.1s
MDJ LR LR
comp=Z,594nm,20.0s
SENIN **Lac Senin/Sane** 72.32 321 *e*P P **23 18 14.2 +0.9**
LPG **La Plagne** 72.33 320 *e*P P **23 18 13.9 +0.5**
comp=Z,95nm,1.8s
LPL **La Plagne** 72.35 320 *e*P P **23 18 13.9 +0.5**
comp=Z,84nm,1.7s
BFO **Black Forest** 72.51 323 *e*P P **23 18 12.7 -1.4**
BFO pmax pmax
comp=Z,62nm,1.6s
BFO **Black Forest** 72.51 323 *e*P P **23 18 14.8 +0.7**
comp=Z,154nm,2.1s
BFO **Black Forest** 72.51 323 *e*P P **23 18 12.7 -1.4**
comp=Z,62nm,1.6s
SMRF **Simiane la Rot** 72.52 318 *e*P P **23 18 14.2 -0.1**
UBBA **Unterbreizbach** 72.64 326 *e*P P **23 18 15.5 +0.9**
comp=Z,56nm,1.6s
ORIF **Oris-en-Rattie** 72.67 319 *e*P P **23 18 15.5 +0.3**
comp=Z,158nm,1.9s
ORIF *e*R
comp=Z,280nm,20.5s
CDF **Champ du Feu** 73.18 323 *e*P P **23 18 19.0 +0.9**
comp=Z,108nm,1.6s
KIC **Kosan Boka** 73.19 277 *e*P P **23 18 19.0 +0.2**
comp=Z,144nm,1.8s
CABF **La Chapelle** 73.19 321 *e*P P **23 18 17.8 -0.4**
comp=Z,126nm,1.6s
HINF **Hinteralfeld** 73.19 322 *e*P P **23 18 18.8 +0.6**
comp=Z,54nm,1.5s
VLA **Vladivostok** 73.20 43⇑ *e*P P **23 18 18.2 0.0**
VLA *e* 23 18 34.7
VLA S **S** **23 27 44.9 -0.8**
VLA pmax pmax
comp=Z,40nm,0.6s
DBIC **Dimbokro** 73.33 278 *e*P P **23 18 19.0 -0.6**
DBIC **Dimbokro** 73.33 278 *e*P P **23 18 20.5 +0.9**
comp=Z,28nm,1.4s
DBIC **Dimbokro** 73.33 278 P P **23 18 18.8 -0.8**
comp=Z,4.2nm,1.0s,baz=68,slow=5.4,SNR=6.3
DBIC LR LR 23 48 32.7
comp=Z,307nm,21.4s,baz=82,slow=34
VIVF **Saint-Julien-l** 73.45 318 *e*P P **23 18 21.0 +1.3**
LIC **Lamto** 73.46 277 *e*P P **23 18 22.5 +2.1**
comp=Z,60nm,1.4s
LIC *e*R
comp=Z,595nm,18.2s
LIC **Lamto** 73.46 277 *e*P P **23 18 22.0 +1.6**
comp=Z,54nm,1.4s
TIC **Toumodi** 73.49 278 *e*P P **23 18 20.0 -0.6**
comp=Z,124nm,1.8s
HAU **Haudompre** 73.58 322 *e*P P **23 18 19.8 -0.6**
comp=Z,34nm,1.2s
HAU *e*R
comp=Z,238nm,19.0s
SHEL **Horse Pasture** 73.61 254 PFAKE 23 18 30.0 +8.7
SHEL LR LR
comp=Z,972nm,19.0s
USRK **Ussuriysk Arra** 73.65 42 P P **23 18 20.2 -0.6**
comp=Z,1.0nm,0.7s,baz=246,slow=7.6,SNR=7.3
USRK LR LR 23 53 46.1
comp=Z,469nm,19.6s,baz=232,slow=38
LASF **Ste Croix** 73.71 317 *e*P P **23 18 21.7 +0.4**
comp=Z,285nm,1.9s
PAGF **Fort de Pagny** 74.18 322 *e*P P **23 18 24.9 +1.0**
comp=Z,85nm,1.9s
PAGF **Fort de Pagny** 74.18 322 *e*P P **23 18 24.9 +1.0**
comp=Z,85nm,1.9s
WLF **Walferdange** 74.37 323 P P **23 18 27.8 +2.9**
comp=Z,19nm,1.6s
SFTF **Sexfontaines** 74.47 322 *e*P P **23 18 26.7 +1.1**
comp=Z,225nm,1.7s
MEZF **Maizieres J'vi** 74.57 322 *e*P P **23 18 25.7 -0.4**
comp=Z,253nm,1.9s
MTLF **Montolieu** 74.58 316 *e*P P **23 18 26.5 +0.2**
comp=Z,185nm,1.9s
STKA **Stephens Creek** 74.61 122 *e*P P **23 18 26.1 -0.7**
comp=Z,17nm,2.0s
STKA **Stephens Creek** 74.61 122 P P **23 18 25.5 -1.3**
comp=Z,3.7nm,1.1s,baz=261,slow=7.4,SNR=4.0
STKA LR LR 23 50 05.6
comp=Z,17nm,28.6s,baz=274,slow=35
SMF **Signal de Mont** 74.64 320 *e*P P **23 18 27.4 +0.8**
MEM **Membach** 74.84 324 P P **23 18 28.8 +1.2**
comp=Z,23nm,2.2s
LOR **Lormes** 74.85 321 *e*P P **23 18 29.1 +1.2**
comp=Z,123nm,1.7s
LOR *e*R
comp=Z,254nm,17.8s
LOR **Lormes** 74.85 321 *e*P P **23 18 29.1 +1.2**
CLNS **Chul'man** 74.96 28 *e*P P **23 18 30.1 +1.8**
CLNS pmax pmax
comp=E,12nm,1.4s
CLNS pmax pmax
comp=Z,18nm,1.3s
CLNS pmax pmax
comp=N,6.0nm,1.4s
SSF **Saint Saulge** 75.00 320 *e*P P **23 18 29.8 +1.1**
comp=N,107nm,1.8s
AVF **Avril sur Loir** 75.00 320 *e*P P **23 18 28.6 -0.1**
comp=N,66nm,1.7s
AVF **Avril sur Loir** 75.00 320 *e*P P **23 18 28.6 -0.1**
AVF **Avril sur Loir** 75.00 320 *e*P P **23 18 28.6 -0.1**
BCLA **Clavier** 75.17 324 P P **23 18 30.2 +0.7**
comp=Z,24nm,1.8s
CAF **Calviac** 75.21 318 *e*P P **23 18 29.9 -0.1**
BGF **Bois d'Agland** 75.25 320 *e*P P **23 18 30.4 +0.3**
comp=Z,78nm,1.3s
GIVF **Givet** 75.33 324 *e*P P **23 18 30.4 -0.1**
comp=Z,142nm,1.6s
KLR **Kul'dur** 75.34 37 *e*P P 23 18 26.2 -4.4
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,62nm,1.6s
DOU **Dourbes** 75.46 323 P P **23 18 33.0 +1.7**
comp=Z,14nm,1.5s
TCF **Toulx Ste Croi** 75.57 319 *e*P P **23 18 32.1 +0.1**
TCF **Toulx Ste Croi** 75.57 319 *e*P P **23 18 32.1 +0.1**
TCF **Toulx Ste Croi** 75.57 319 *e*P P **23 18 32.1 +0.1**
BAIF **Baives** 75.68 323 *e*P P **23 18 32.3 -0.2**
comp=Z,191nm,1.7s
BAIF **Baives** 75.68 323 *e*P P **23 18 32.3 -0.2**
BAIF **Baives** 75.68 323 *e*P P **23 18 32.3 -0.2**
RJF **Les Rejaudoux** 75.70 318 *e*P P **23 18 33.1 +0.3**
comp=Z,297nm,1.9s
RJF *e*R
comp=Z,311nm,17.8s
RJF **Les Rejaudoux** 75.70 318 *e*P P **23 18 33.1 +0.3**
RJF **Les Rejaudoux** 75.70 318 *e*P P **23 18 33.1 +0.3**
EPF **Esparros** 75.79 316 *e*P P **23 18 33.9 +0.5**
comp=Z,152nm,1.9s
MAJO **Matsushiro** 75.89 51 PFAKE 23 18 50.0 +16
MAJO LR LR
comp=Z,797nm,20.0s
LFF **La Frestale** 76.10 318 *e*P P **23 18 35.5 +0.5**
comp=Z,195nm,1.6s
ETSF **Etsaut** 76.38 315 *e*P P **23 18 38.1 +1.3**
ETSF **Etsaut** 76.38 315 *e*P P **23 18 38.1 +1.3**
ETSF **Etsaut** 76.38 315 *e*P P **23 18 38.1 +1.3**
NVL **N'lazarevskaya** 76.71 196 *e*P P 23 18 32.9 -5.1
NVL pmax pmax
comp=Z,36nm,1.6s
SJPF **Ste Jean** 76.91 315 *e*P P **23 18 40.7 +1.0**
comp=Z,311nm,1.6s
NOA **NORSAR Array B** 77.05 335 P P **23 18 39.4 -0.7**
NOA **NORSAR Array B** 77.05 335 P P **23 18 39.4 -0.7**
comp=Z,3.8nm,1.1s,baz=114,slow=6.2,SNR=3.1
HABR **Khabarovsk** 77.11 39 *e*P P **23 18 38.2 -2.4**
HABR *e**SP **sP** **23 18 46.7 -1.7**
HABR 23 18 48.7
HABR *e* 23 21 30.5
HABR *e*PPP PPP 23 23 17.4
HABR *e*S **S** **23 28 25.8 -3.1**
HABR *e* 23 28 52.9
HABR *e*SS **SS** **23 33 22.6 -4.0**
HABR *e*SSS SSS 23 36 46.0
HABR pmax pmax
comp=Z,29nm,1.6s
HABR MLR MLR
comp=Z,735nm,17.0s
NBO02 **NORSAR Array S** 77.21 335 *e*P P **23 18 42.0 +1.0**
MFF **Saint Martin d** 77.21 319 *e*P P **23 18 41.5 +0.2**
comp=Z,94nm,1.4s
JCJ **Chichijima** 77.24 62 LR LR 23 52 56.1
comp=Z,234nm,18.1s,baz=225,slow=36
ARCES **ARCESS Array B** 77.66 346 LR LR 23 53 51.2
comp=Z,499nm,21.6s,baz=132,slow=36
LDF **La Druitiere** 77.82 321 *e*P P **23 18 44.2 -0.4**
comp=Z,218nm,1.7s
ES19 **SONSECA Array** 77.96 311 *e*P P **23 18 44.0 -1.6**
ESDC **Sonseca Array** 78.00 311 P P **23 18 44.7 -1.2**
ESDC **Sonseca Array** 78.00 311 P P **23 18 44.7 -1.2**
comp=Z,7.8nm,0.9s,baz=99,slow=4.4,SNR=15
CTAO **Charters Tower** 78.02 110 PFAKE 23 19 00.0 +14
CTAO LR LR
comp=Z,499nm,20.0s
FLN **La Foliniere** 78.10 321 *e*P P **23 18 46.2 0.0**
comp=Z,136nm,1.6s
FLN *e*R
comp=Z,364nm,22.5s
GRR **Gorron** 78.22 321 *e*P P **23 18 47.3 +0.4**
comp=Z,251nm,1.9s
GRR **Gorron** 78.22 321 *e*P P **23 18 47.3 +0.4**
GRR **Gorron** 78.22 321 *e*P P **23 18 47.3 +0.4**
PAB **San Pablo** 78.26 311 *e*P P **23 18 46.9 -0.5**
PAB pmax pmax
comp=Z,14nm,1.7s
PAB **San Pablo** 78.26 311 *e*P P **23 18 46.9 -0.5**
comp=Z,14nm,1.7s
PMG **Port Moresby** 78.86 99 P P 23 18 54.4 +3.3
comp=Z,35nm,1.6s,comp=Z,724nm
PMG **Port Moresby** 78.86 99 *e*P P **23 18 49.1 -2.0**
comp=Z,102nm,1.7s
PMG LR LR
comp=Z,408nm,21.0s
RTC **Rabat Centre** 79.05 305 PFAKE 23 19 00.0 +8.2
RTC LR LR
comp=Z,376nm,20.0s
SGMF **Saint Gilles** 79.27 320 *e*P P **23 18 52.5 -0.1**
comp=Z,228nm,1.6s
QUIF **Quistinic** 79.56 320 *e*P P **23 18 54.8 +0.6**
comp=Z,202nm,1.6s
QUIF **Quistinic** 79.56 320 *e*P P **23 18 54.8 +0.6**
QUIF **Quistinic** 79.56 320 *e*P P **23 18 54.8 +0.6**
YAK **Yakutsk** 79.58 25 *i*P P **23 18 55.0 +1.0**
YAK pmax pmax
comp=Z,36nm,1.7s
YAK **Yakutsk** 79.58 25 PFAKE 23 19 00.0 +6.0
YAK LR LR
comp=Z,2μm,21.0s
ROSF **Rostrenen** 79.75 320 *e*P P **23 18 55.2 0.0**
comp=Z,311nm,1.5s
DRV **Dumont d'Urvil** 80.37 157 SS SS 23 34 22.0 +7.3
DRV L L 23 40 00.0
DRV R 23 44 00.0
EVO **Evora** 80.83 310 *e*P P **23 19 01.6 +0.3**
comp=Z,52nm,1.3s
EVO *e*R
comp=Z,311nm,20.0s
ERM **Erimo** 80.88 47 PFAKE 23 19 10.0 +8.5
ERM LR LR
comp=Z,2μm,20.0s
EVOP **Sao Brissos** 80.92 310 *e*P P **23 19 01.6 -0.1**
EVOP pmax pmax
comp=Z,52nm,1.3s
EVOP **Sao Brissos** 80.92 310 *e*P P **23 19 01.6 -0.1**
comp=Z,52nm,1.3s
SNAA **Sanae** 81.40 198 *e*P P **23 19 03.7 -0.1**
SNAA **Sanae** 81.40 198 *e* P 23 19 10.3 +6.5
SNAA **Sanae** 81.40 198 *e*P P **23 19 01.8 -2.0**
SNAA **Sanae** 81.40 198 *e*P P **23 19 03.4 -0.4**
comp=Z,44nm,1.7s
YSS **Yuzh-Sakhalins** 81.68 42⇑ *e*P P **23 19 06.0 +0.4**
YSS *e* 23 19 12.0
YSS pmax pmax
comp=Z,110nm,1.5s
ASCN **Ascension** 82.06 262 PFAKE 23 19 20.0 +12
ASCN LR LR
comp=Z,976nm,19.0s
YUK **Yuzh-Kuril'sk** 83.22 45 P P 23 19 06.8 -6.9
YUK *i* SSS SSS 23 38 26.6
YUK MLR MLR
comp=N,1μm,22.0s
YUK MLR MLR
comp=E,1μm,22.0s
YUK MLR MLR
comp=Z,968nm,22.0s
TIXI **Tiksi** 83.79 16 PFAKE 23 19 30.0 +14
TIXI LR LR
comp=Z,1μm,19.0s
QSPA **South Pole Qui** 87.21 180 *e*P P **23 19 33.0 -0.4**
comp=Z,238nm,2.0s
QSPA LR LR
comp=Z,1μm,22.0s
VNDA **Vanda** 88.13 167 *e*P P **23 19 38.5 +1.0**
comp=Z,36nm,1.8s
VNDA **Vanda** 88.13 167 P P **23 19 39.4 +1.8**
comp=Z,1.2nm,0.7s,baz=279,slow=4.9,SNR=6.5
VNDA LR LR 23 55 12.2
comp=Z,823nm,18.1s,baz=254,slow=33
SBA **Scott Base** 89.14 168 *e*P P **23 19 40.8 -1.4**
SBA pmax pmax
comp=Z,88nm,1.7s
SBA MLR MLR
comp=Z,546nm,20.0s
SBA **Scott Base** 89.14 168 *e*P P **23 19 40.8 -1.4**
comp=Z,88nm,1.7s
SBA LR LR
comp=Z,546nm,20.0s
PETK **Petropavlovsk-** 92.03 37 LR LR 00 04 03.5
comp=Z,350nm,18.8s,baz=271,slow=37
PET **Petropavlovsk** 92.60 37 PFAKE 23 20 10.0 +11
PET LR LR
comp=Z,744nm,20.0s
DZM **Mont Dzumac** 96.78 112 *e*SS SS 23 38 14.6 -1.2
comp=Z,143nm,27.2s
DZM **Mont Dzumac** 96.78 112 *e*LR LR 23 51 43.5
comp=Z,648nm,25.7s
RPZ **Rata Peaks** 97.49 135 LR LR 23 56 27.7
comp=Z,106nm,19.0s,baz=274,slow=31
RCBR **Riachuelo** 103.53 263 PFAKE 23 21 00.0 +11
RCBR LR LR
comp=Z,464nm,19.0s
PMSA **Palmer Station** 104.06 199 PFAKE 23 21 00.0 +10
PMSA LR LR
comp=Z,730nm,19.0s
TARA **Tarawa** 104.97 89 PFAKE 23 21 10.0 +15
TARA LR LR
comp=Z,3μm,19.0s
SPB **Sao Paulo** 111.98 243 PFAKE 23 25 30.0
SPB LR LR
comp=Z,1μm,20.0s
COLA **College** 112.91 16 PFAKE 23 25 40.0
COLA LR LR
comp=Z,666nm,20.0s
KDAK **Kodiak Island** 116.56 23 PFAKE 23 25 40.0 +9.0
KDAK LR LR
comp=Z,970nm,21.0s
TRQA **Tornquist** 118.49 223 PFAKE 23 25 50.0 +15
TRQA LR LR
comp=Z,861nm,19.0s
PLCA **Paso Flores** 122.52 217 PKP **PKPdf** **23 25 42.2 -1.0**
PLCA **Paso Flores** 122.52 217 PKP **PKPdf** **23 25 42.2 -1.0**
comp=Z,1.0nm,0.7s,baz=154,slow=9.0,SNR=2.9
PTGA **Pitinga** 127.87 267 PFAKE 23 26 10.0 +16
PTGA LR LR
comp=Z,536nm,20.0s
FDF **Fort de France** 128.49 287 PFAKE 23 26 10.0 +15
FDF LR LR
comp=Z,359nm,20.0s
ANWB **Willy Bob** 128.61 290 PFAKE 23 26 10.0 +15
ANWB LR LR
comp=Z,285nm,19.0s
GRGR **Grenville** 129.31 283 PFAKE 23 26 10.0 +13
GRGR LR LR
comp=Z,381nm,19.0s
LCO **Las Campanas** 129.34 228 PFAKE 23 26 10.0 +13
LCO LR LR
comp=Z,699nm,20.0s
SAML **Samuel** 129.97 256 PFAKE 23 26 10.0 +12
SAML LR LR
comp=Z,912nm,22.0s
LVC **Limon Verde** 130.96 237 PFAKE 23 26 10.0 +10
LVC LR LR
comp=Z,549nm,21.0s
SJG **San Juan** 132.58 292 PFAKE 23 26 10.0 +7.2

SJG					LR	LR			
	comp=Z,380nm,21.0s								
LPAZ	**La Paz**	**132.69**	**245**	*e*PKPdf	**PKPdf**	**23 26 04.4**	**+0.5**		
LPAZ	**La Paz**	**132.69**	**245**	PKP	**PKPdf**	**23 26 03.4**	**-0.5**		
	comp=Z,0.4nm,0.4s,baz=34,slow=3.6,SNR=4.2								
NEW	**Newport**	**134.48**	**5**	PFAKE		23 26 20.0	+14		
NEW				LR	LR				
	comp=Z,914nm,21.0s								
TBI	**Tubuai**	**135.21**	**127**	*e*LR	LR	00 09 26.0			
	comp=Z,243nm,27.8s								
GRTK	**Grand Turk**	**136.14**	**298**	PFAKE		23 26 20.0	+11		
GRTK				LR	LR				
	comp=Z,261nm,19.0s								
SDDR	**Presa de Saban**	**137.06**	**295**	PFAKE		23 26 20.0	+8.7		
SDDR				LR	LR				
	comp=Z,371nm,19.0s								
BOZ	**Bozeman (W)**	**137.31**	**360**	PFAKE		23 26 20.0	+8.8		
BOZ				LR	LR				
	comp=Z,810nm,19.0s								
PPT2	**Papeete2**	**137.78**	**120**	*e*SS	SS	23 47 08.4	-0.6		
	comp=Z,129nm,31.2s								
PPT2	**Papeete2**	**137.78**	**120**	*e*LR	LR	00 10 48.7			
	comp=Z,335nm,25.0s								
BMO	**Blue Mountains**	**137.85**	**6**	PFAKE		23 26 20.0	+7.9		
BMO				LR	LR				
	comp=Z,776nm,20.0s								
SDV	**Santo Domingo**	**138.43**	**280**	PFAKE		23 26 30.0	+16		
SDV				LR	LR				
	comp=Z,324nm,22.0s								
HUMO	**Hull Mountain**	**139.16**	**12**	*e*PKPdf	**PKPdf**	**23 26 15.9**	**+1.4**		
MOOW	**Moose Ponds**	**139.20**	**359**	*e*PKPdf	**PKPdf**	**23 26 16.1**	**+1.3**		
REDW	**Red Top Meadow**	**139.59**	**359**	*e*PKPdf	**PKPdf**	**23 26 14.5**	**-1.0**		
RRI2	**Red Ridge**	**139.61**	**359**	*e*PKPdf	**PKPdf**	**23 26 14.1**	**-1.6**		
BW06	**Boulder Array**	**140.13**	**357**	*e*PKPdf	**PKPdf**	**23 26 15.2**	**-1.4**		
PDAR	**Pinedale Array**	**140.13**	**357**	PKP	**PKPdf**	**23 26 15.6**	**-0.9**		
PDAR	**Pinedale Array**	**140.13**	**357**	PKP	**PKPdf**	**23 26 15.6**	**-0.9**		
	comp=Z,1.3nm,0.8s,baz=46,slow=2.6,SNR=7.8								
MOD	**Modoc**	**140.35**	**10**	*e*PKPdf	**PKPdf**	**23 26 15.8**	**-1.1**		
NNA	**Nana**	**142.10**	**247**	PFAKE		23 26 30.0	+9.4		
NNA				LR	LR				
	comp=Z,967nm,21.0s								
DUG	**Dugway**	**142.76**	**1**	*e*PKIKP	**PKPdf**	**23 26 21.6**	**+0.4**		
DUG				MLR	MLR				
	comp=Z,324nm,21.0s								
DUG	**Dugway**	**142.76**	**1**	*e*PKPdf	**PKPdf**	**23 26 21.6**	**+0.4**		
DUG				LR	LR				
	comp=Z,324nm,21.0s								
MPU	**Maple Canyon**	**142.94**	**360**	*e*PKPdf	**PKPdf**	**23 26 22.5**	**+0.9**		
MIAR	**Mount Ida**	**144.05**	**334**	*e*PKIKP	**PKPdf**	**23 26 22.9**	**-0.6**		
MIAR	**Mount Ida**	**144.05**	**334**	*e*PKPdf	**PKPdf**	**23 26 22.9**	**-0.6**		
NV01	**Mina Array Sit**	**144.06**	**8**	*e*PKPdf	PKPbc	23 26 22.0	+0.5		
NVAR	**Mina Array Bea**	**144.06**	**8**	PKP	**PKPdf**	**23 26 24.0**	**+0.3**		
NVAR				PP	**PP**	**23 29 36.4**	**+0.1**		
NVAR	**Mina Array Bea**	**144.06**	**8**	PKP	**PKPdf**	**23 26 24.0**	**+0.3**		
	comp=Z,1.8nm,0.9s,baz=297,slow=1.2,SNR=8.8								
NVAR				PP	**PP**	**23 29 36.4**	**+0.1**		
	comp=Z,0.5nm,0.7s,baz=339,slow=2.3,SNR=4.2								
CMB	**Columbia Colle**	**144.09**	**11**	*e*PKIKP	PKPbc	23 26 22.4	+1.0		
CMB	**Columbia Colle**	**144.09**	**11**	*e*PKPdf	PKPbc	23 26 22.4	+1.0		
PV09	**Paradox Valley**	**144.36**	**356**	*e*PKPdf	**PKPab**	**23 26 21.8**	**-0.4**		
PV04	**Paradox Valley**	**144.45**	**356**	*e*PKPdf	**PKPab**	**23 26 22.5**	**+0.1**		
MVU	**Marysvale**	**144.45**	**0**	*e*PKPdf	**PKPdf**	**23 26 24.1**	**-0.3**		
R11A	**Troy Canyon, C**	**144.46**	**5**	*e*PKPdf	**PKPab**	**23 26 22.4**	**-0.1**		
PV10	**Paradox Valley**	**144.48**	**356**	*e*PKPdf	**PKPab**	**23 26 21.7**	**-0.9**		
TPH	**Tonopah**	**144.56**	**7**	*e*PKIKP	PKPbc	23 26 23.2	+0.1		
TPH	**Tonopah**	**144.56**	**7**	*e*PKPdf	PKPbc	23 26 23.2	+0.1		
PV01	**Paradox Valley**	**144.68**	**355**	*e*PKPdf	**PKPab**	**23 26 21.9**	**-1.5**		
SDCO	**Great Sand Dun**	**144.70**	**351**	*e*PKPdf	**PKPab**	**23 26 23.0**	**-0.6**		
SDCO				LR	LR				
	comp=Z,443nm,19.0s								
PV05	**Paradox Valley**	**144.78**	**356**	*e*PKPdf	**PKPab**	**23 26 22.2**	**-1.5**		
SAO	**San Andreas Ge**	**145.09**	**13**	*e*PKP2	**PKPbc**	**23 26 22.6**	**-2.0**		
SAO	**San Andreas Ge**	**145.09**	**13**	*e*PKPab	**PKPbc**	**23 26 22.6**	**-2.0**		
ARUT	**Antelope Range**	**145.14**	**2**	*e*PKIKP	**PKPbc**	**23 26 24.4**	**-0.5**		
ARUT	**Antelope Range**	**145.14**	**2**	*e*PKPbc	**PKPbc**	**23 26 24.4**	**-0.5**		
CCUT	**Cedar City**	**145.38**	**2**	*e*PKPdf	**PKPdf**	**23 26 26.1**	**0.0**		
MVCO	**Mesa Verde**	**145.59**	**355**	*e*PKPdf	**PKPab**	**23 26 26.8**	**0.0**		
TPNV	**Topopah Spring**	**145.78**	**6**	*e*PKP2	**PKPdf**	**23 26 25.3**	**-1.3**		
TPNV	**Topopah Spring**	**145.78**	**6**	*e*PKPdf	**PKPdf**	**23 26 25.3**	**-1.3**		
RKT	**Rikitea**	**145.87**	**140**	*e*LR	LR	00 14 33.0			
	comp=Z,293nm,30.2s								
WMOK	**Wichita Mounta**	**145.91**	**340**	*e*PKP2	**PKPdf**	**23 26 25.9**	**-0.8**		
WMOK	**Wichita Mounta**	**145.91**	**340**	*e*PKPdf	**PKPdf**	**23 26 25.9**	**-0.8**		
SHPR	**Sheep Range**	**146.32**	**5**	*e*PKPdf	**PKPbc**	**23 26 28.5**	**-0.2**		
OTAV	**Otavalo**	**146.37**	**266**	*e*PKPdf	**PKPab**	**23 26 30.3**	**-0.4**		
OTAV				LR	LR				
	comp=Z,960nm,22.0s								
ISA	**Isabella**	**146.74**	**10**	*e*PKP2	**PKPdf**	**23 26 28.2**	**0.0**		
ISA	**Isabella**	**146.74**	**10**	*e*PKPdf	**PKPdf**	**23 26 28.2**	**0.0**		
GSC	**Goldstone**	**147.34**	**7**	*e*PKIKP	**PKPdf**	**23 26 28.1**	**-1.1**		
GSC	**Goldstone**	**147.34**	**7**	*e*PKPdf	**PKPdf**	**23 26 28.1**	**-1.1**		
BCIP	**Isla Barro Col**	**147.41**	**283**	PFAKE		23 26 40.0	+5.9		
BCIP				LR	LR				
	comp=Z,248nm,22.0s								
WUAZ	**Wupatki**	**147.43**	**359**	*e*PKPdf	**PKPdf**	**23 26 29.5**	**+0.1**		
WUAZ				LR	LR				
	comp=Z,512nm,22.0s								
ANMO	**Albuquerque**	**147.59**	**351**	*e*PKPdf	**PKPdf**	**23 26 29.6**	**-0.2**		
ANMO				LR	LR				
	comp=Z,264nm,19.0s								
LDFC	**Landfair**	**147.74**	**5**	*e*PKPdf	**PKPbc**	**23 26 32.1**	**-0.6**		
W18A	**Petrified Fore**	**147.76**	**357**	*e*PKPdf	**PKPbc**	**23 26 31.5**	**-1.4**		
MSTX	**Muleshoe**	**147.80**	**346**	*e*PKPdf	**PKPbc**	**23 26 32.1**	**-0.8**		
WHTX	**Lake Whitney**	**147.89**	**336**	*e*PKPdf	**PKPdf**	**23 26 31.2**	**+1.2**		
ABTX	**Abilene, Hawle**	**148.13**	**340**	*e*PKPdf	**PKPbc**	**23 26 32.4**	**-1.2**		
MWC	**Mount Wilson**	**148.22**	**10**	*e*PKP2	**PKPdf**	**23 26 32.1**	**+1.3**		
MWC	**Mount Wilson**	**148.22**	**10**	*e*PKPdf	**PKPdf**	**23 26 32.1**	**+1.3**		
LAZ	**Ladron**	**148.22**	**352**	*e*PKPdf	**PKPdf**	**23 26 30.9**	**+0.1**		
LPM	**Los Pinos Moun**	**148.24**	**352**	*e*PKPdf	**PKPdf**	**23 26 28.4**	**-2.4**		
PASC	**Pasadena Art C**	**148.25**	**10**	*e*PKPdf	**PKPdf**	**23 26 32.1**	**+1.5**		
BNM	**Barren Site**	**148.40**	**351**	*e*PKPdf	**PKPdf**	**23 26 30.1**	**-1.1**		
LENM	**Lemitar**	**148.43**	**352**	*e*PKPdf	**PKPdf**	**23 26 28.5**	**-2.6**		
PFO	**Pinyon Flat Ob**	**149.06**	**7**	*e*PKPbc	**PKPbc**	**23 26 34.6**	**-1.6**		
PFO				LR	LR				
	comp=Z,246nm,22.0s								
GLA	**Glamis**	**149.78**	**5**	*e*PKHKP	PKPpre	23 26 35.8			
GLA	**Glamis**	**149.78**	**5**	*e*PKPdf	**PKPbc**	**23 26 35.8**	**-2.0**		
BAR	**Barrett**	**149.94**	**8**	*e*PKPdf	**PKPdf**	**23 26 34.5**	**+1.0**		
JCT	**Junction City**	**150.14**	**339**	*e*PKIKP	**PKPdf**	**23 26 34.5**	**+0.7**		
JCT				MLR	MLR				
	comp=Z,587nm,20.0s								
JCT	**Junction City**	**150.14**	**339**	*e*PKPdf	**PKPdf**	**23 26 34.5**	**+0.7**		
JCT				LR	LR				
	comp=Z,587nm,20.0s								
MNTX	**Cornudas Mount**	**150.57**	**348**	*e*PKPdf	**PKPdf**	**23 26 36.0**	**+1.6**		
TUC	**Tucson**	**150.61**	**358**	*e*PKIKP	**PKPdf**	**23 26 34.5**	**-0.1**		
TUC	**Tucson**	**150.61**	**358**	*e*PKPdf	**PKPdf**	**23 26 34.5**	**-0.1**		
JTS	**JuntasAbangare**	**152.13**	**287**	PFAKE		23 26 50.0	-3.5		
JTS				LR	LR				
	comp=Z,617nm,19.0s								
TX31	**Lajitas Ar. Si**	**152.44**	**344**	*e*PKPdf	**PKPdf**	**23 26 37.2**	**-0.2**		
TXAR	**Lajitas Array**	**152.44**	**344**	PKP	**PKPdf**	**23 26 37.4**	**0.0**		
TXAR				PKPbc	**PKPbc**	**23 26 42.6**	**-1.7**		
TXAR	**Lajitas Array**	**152.44**	**344**	PKP	**PKPdf**	**23 26 37.4**	**0.0**		
	comp=Z,0.9nm,1.1s,baz=350,slow=1.1,SNR=7.8								
TXAR				PKPbc	**PKPbc**	**23 26 42.6**	**-1.7**		
	comp=Z,2.1nm,1.0s,baz=5.2,slow=1.0,SNR=7.7								
TGUH	**Tegucigalpa,Un**	**153.14**	**296**	*e*PKPdf	**PKPdf**	**23 26 37.9**	**-0.7**		
TGUH				LR	LR				
	comp=Z,505nm,21.0s								

NIED ***03*** *23:15:00, 33.80N×134.70E, h35km, Mw3.7 Best double couple: M₀4.66000×10¹⁴ NP1:φ₈357.00000°, δ84.00000°, λ168.00000°. NP2:φ₈89.00000°, δ78.00000°, λ7.00000°.*

JMA 03 23:15:06.8, 33.80N×134.74E, h36km±1km, M3.6, 3C-6D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.24**	**268**	⇓P	Pn	23 15 13.8	-1.2
JAI				S	Sn	23 15 18.9	-3.5
JWM	**Minabe**	**0.51**	**84**	⇓P	Pn	23 15 17.3	-0.3
JWM				S	Sn	23 15 24.7	-0.5
JAJ2	**Tsuna**	**0.63**	**11**	⇓P	Pn	23 15 19.4	+0.1
JAJ2				S	Sn	23 15 27.9	-0.2
JMN	**Monobe**	**0.72**	**265**	⇓P	Pn	23 15 20.3	-0.2
JMN				S	Sn	23 15 30.1	-0.3
JWY	**Kouya**	**0.82**	**59**	⇓P	Pn	23 15 21.8	-0.2
JWY				S	Sn	23 15 32.5	-0.5
JWZ	**Kozaga**	**0.86**	**108**	⇑P	Pn	23 15 21.9	-0.4
JWZ				S	Sn	23 15 33.0	-0.7
JJS	**Sakaide**	**0.88**	**311**	⇑P	Pn	23 15 22.4	-0.3
JJS				S	Sn	23 15 34.0	-0.3
JHE	**Heguri**	**1.16**	**42**	⇓P	Pn	23 15 26.1	-0.4
JKS	**Kasai**	**1.18**	**4**	P	Pn	23 15 26.6	-0.2
JKS				S	Sn	23 15 40.5	-1.2
JAD	**Aida**	**1.23**	**338**	⇑P	Pn	23 15 26.9	-0.6
MAT	**Matsushiro**	**3.94**	**45**	P	Pn	23 16 05.0	+0.2
MAT				*e*S	Sn	23 16 50.3	+0.5

IDC 03 23:15:58.5±29.0, 2.73S×68.58E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/25, mbtmp3.6/3, Error ellipse: s-maj=855.2km s-min=47.9km az=73.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.31**	**146**	T	T	23 21 46.8	
	baz=321,slow=75						
H08N3	**Diego Garcia H**	**4.32**	**146**	T	T	23 21 48.3	
	baz=321,slow=75						
H08N1	**Diego Garcia H**	**4.33**	**146**	T	T	23 21 48.5	
	baz=321,slow=75						
SONM	**Songino Array**	**60.22**	**28**	P	P	23 26 08.6	-0.1
	0.6nm,1.0s,baz=225,slow=7.7,SNR=3.8						
WRA	**Warramunga Arr**	**66.31**	**110**	P	P	23 26 49.6	+0.2
	0.9nm,0.8s,baz=287,slow=6.2,SNR=4.6						
ASAR	**Alice Springs**	**66.34**	**115**	P	P	23 26 49.4	-0.2
	0.4nm,0.8s,baz=278,slow=6.0,SNR=4.2						

NIED ***03*** *23:41:00, 37.20N×142.10E, h23km, Mw4.4 Best double couple: M₀4.59000×10¹⁵ NP1:φ₈36.00000°, δ70.00000°, λ77.00000°. NP2:φ₈249.00000°, δ24.00000°, λ121.00000°.*

IDC ***03*** *23:41:21.6±0.5, 37.09N×142.08E, h0km, mb4.5/23, mb1 4.7/25, mb1mx4.6/30, mbtmp4.6/25, ML4.7/2, MS4.0/8, Ms1 4.0/8, ms1mx3.6/34, Error ellipse: s-maj=15.5km s-min=13.4km az=101.0*

ISCJB ***03*** *23:41:23.6±0.8, 37.17N±0.03×142.17E±0.04, h21km±5km, mb4.7/69, MS4.3/17, Error ellipse: s-maj=5.7km s-min=4.8km az=138.5*

BJI ***03*** *23:41:23.9, 37.01N×142.32E, h39km, mB5.1/29, mb4.8/45, Ms4.6/25, Ms7 4.3/23*

JMA ***03*** *23:41:25.0±0.2, 37.19N×142.12E, h37km, M4.5*

JMA Felt I J1.

MOS ***03*** *23:41:25.3±1.2, 37.15N×142.24E, h36km, mb4.9/39, MS4.2/6, Error ellipse: s-maj=10.0km s-min=5.7km az=114.6*

NEIC ***03*** *23:41:29.1±0.9, 37.21N×142.12E, h53km±7km, mb4.9/20, MW4.4(NIED), Error ellipse: s-maj=7.8km s-min=5.9km az=148.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi.

ISC 03 23:41:26.1±0.5, 37.17N±0.04×142.24E±0.04, h31km±2km, h30km:pP-P,n253,σ1$48/291, mb4.8/71, MS4.2/17, 18C-19D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.10**	**280**	P	**Pn**	**23 41 43.0**	**-2.4**
JFK				*e*S	**Sn**	**23 41 56.0**	**-3.6**
ONAJ	**Iwakimizuishiy**	**1.15**	**267**	⇓P	**Pn**	**23 41 43.7**	**-2.4**
ONAJ				*e*S	**Sn**	**23 41 57.0**	**-3.8**
JMM	**Marumori**	**1.34**	**302**	⇓P	**Pn**	**23 41 46.7**	**-1.9**
JMM				*e*S	**Sn**	**23 42 02.0**	**-3.4**
JIO	**Ouri**	**1.46**	**332**	P	**Pn**	**23 41 48.6**	**-1.7**
JIO				*e*S	**Sn**	**23 42 06.2**	**-2.1**
JFT	**Otama**	**1.55**	**283**	⇓P	**Pn**	**23 41 50.5**	**-1.1**
JOU	**Okura**	**1.72**	**314**	⇓P	**Pn**	**23 41 53.0**	**-0.9**
JMK	**Ichinoseki**	**1.95**	**336**	⇓P	**Pn**	**23 41 56.2**	**-0.8**
JYS	**Shirataka**	**2.01**	**302**	P	**Pn**	**23 41 57.5**	**-0.4**
JFY	**Yanaizu**	**2.03**	**277**	P	**Pn**	**23 41 57.2**	**-1.0**
JYK	**Kaneyama**	**2.29**	**320**	⇓P	**Pn**	**23 42 01.0**	**-0.7**
JAG	**Ashikaga**	**2.35**	**252**	P	**Pn**	**23 42 00.8**	**-1.8**
JOM	**Ohasama**	**2.41**	**342**	⇓P	**Pn**	**23 42 03.0**	**-0.4**
MAJO	**Matsushiro**	**3.29**	**260**	*i* P	**Pn**	**23 42 16.2**	**+0.6**
MAJO	**Matsushiro**	**3.29**	**260**	*e*Pn	**Pn**	**23 42 16.1**	**+0.6**
MAT	**Matsushiro**	**3.29**	**260**	P	**Pn**	**23 42 16.0**	**+0.5**
MAT				*e*S	**Sn**	**23 42 57.6**	**+4.0**
ERM	**Erimo**	**4.89**	**8**	*e*P	**Pn**	**23 42 37.3**	**-0.1**
ERM				*e*		23 43 29.2	
ERM	**Erimo**	**4.89**	**8**	*e*Pn	**Pn**	**23 42 37.3**	**-0.1**
ERM				*e*Sn	**Sn**	**23 43 29.1**	**-3.7**
ASAJ	**Asahikawa**	**6.94**	**2**	*e*Pn	**Pn**	**23 43 05.7**	**+0.1**
ASAJ				*e*Sn	**Sn**	**23 44 25.1**	**+1.6**
ASAJ	**Asahikawa**	**6.94**	**2**	Pn	**Pn**	**23 43 05.5**	**-0.1**
	5.5nm,0.3s,baz=199,slow=9.9,SNR=15						
ASAJ				Sn	**Sn**	**23 44 21.8**	**-1.7**
	2.3nm,0.3s,baz=24,slow=20,SNR=2.5						
ASAJ				LR	LR	23 46 46.5	
	comp=Z,483nm,18.2s,baz=205,slow=46						
YUK	**Yuzh-Kuril'sk**	**7.39**	**21**	⇑*i*P	Pn	23 43 08.4	-3.3
YUK				*i* S	**Sn**	**23 44 29.8**	**-4.6**
YUK				pmax	pmax		
	comp=N,86nm,0.3s						
YUK				pmax	pmax		
	comp=E,70nm,0.3s						
YUK				pmax	pmax		
	comp=Z,126nm,0.3s						
YUK				MLR	MLR		
	comp=Z,469nm,8.0s						
YUK				MLR	MLR		
	comp=E,864nm,7.0s						
KUR	**Kuril'sk**	**9.10**	**26**	P	Pn	23 43 43.5	+8.3
KUR				*e*S	**Sn**	**23 45 12.0**	**-4.5**
KUR				smax	smax		
	comp=N,150nm,0.5s						
KUR				smax	smax		
	comp=E,140nm,0.9s						
YSS	**Yuzh-Sakhalins**	**9.78**	**2**	⇑*e*P	**Pn**	**23 43 44.9**	**+0.4**
YSS				*e*S	**Sn**	**23 45 35.9**	**+2.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
YSS				MLR	MLR		
	comp=N,200nm,16.0s						
YSS				MLR	MLR		
	comp=E,400nm,16.0s						
VLA	**Vladivostok**	**9.90**	**310**	*αe*P	Pn	23 43 50.2	+4.1
VLA				*e*S	**Sn**	**23 45 42.0**	**+5.9**
CBIJ	**Chichi jima**	**10.05**	**180**	Pn	**Pn**	**23 43 45.7**	**-2.6**
CBIJ				Sn	Sn	23 45 30.8	-9.3
JCJ	**Chichijima**	**10.05**	**180**	Pn	**Pn**	**23 43 45.7**	**-2.6**
	comp=E,34nm,0.3s,baz=90,slow=21,SNR=12						
JCJ				Sn	Sn	23 45 30.8	-9.3
	comp=E,13nm,0.3s,baz=274,slow=19,SNR=3.1						
JNU	**Nakatsue**	**10.14**	**250**	*e*Pn	**Pn**	**23 43 51.4**	**+1.8**
JNU	**Nakatsue**	**10.14**	**250**	Pn	**Pn**	**23 43 50.7**	**+1.2**
	comp=E,0.9nm,0.3s,baz=66,slow=10,SNR=10						
USRK	**Ussuriysk Arra**	**10.47**	**315**	Pn	**Pn**	**23 43 55.8**	**+1.8**
	comp=E,1.2nm,0.3s,baz=135,slow=14,SNR=14						
KSRS	**Korea Array**	**11.40**	**276**	Pn	Pn	23 44 10.2	+3.4
	comp=E,0.6nm,0.3s,baz=90,slow=14,SNR=25						
KS01	**Wonju Array Si**	**11.43**	**276**	*e*Pn	Pn	23 44 10.6	+3.5
KSAR	**Wonju Array Be**	**11.43**	**276**	Pn	**Pn**	**23 44 10.2**	**+2.9**
MDJ	**Mudanjiang**	**12.11**	**312**	*e*Pn	Pn	23 44 20.1	+3.8
HABR	**Khabarovsk**	**12.46**	**337**	*e*P	**Pn**	**23 44 19.6**	**-1.5**
HABR				S	**Sn**	**23 46 37.4**	**-1.3**
HABR				pmax	pmax		
	comp=Z,21nm,2.0s						
HABR				MLR	MLR		
	comp=Z,523nm,17.0s						
KLR	**Kul'dur**	**14.25**	**331**	*e*P	Pn	23 44 49.0	+3.4
SNY	**Shenyang**	**15.13**	**294**	⇓P	**P**	**23 45 01.7**	**-0.6**
SNY				pmax	pmax		
	comp=Z,10.0nm,0.4s						
HIA	**Hailar**	**20.28**	**314**	*e*P	**P**	**23 45 58.3**	**-0.7**
	comp=Z,12nm,1.0s						
BJI	**Beijing**	**20.54**	**286**	P	**P**	**23 46 02.1**	**+0.2**
BJI				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuan**	**20.55**	**286**	*e*P	**P**	**23 45 59.3**	**-2.8**
	comp=Z,18nm,0.5s						
WHN	**Wuhan**	**24.03**	**262**	P	**P**	**23 46 37.0**	**-1.3**
HHC	**Hu-ho-hao-te**	**24.05**	**288**	*e*P	**P**	**23 46 37.4**	**-1.2**
HHC				pP	**pP**	**23 46 47.3**	**-0.1**
HHC				PP	**PnPn**	**23 47 12.1**	**+4.2**
HHC				S	**S**	**23 50 49.2**	**-4.8**
HHC				sS	**sS**	**23 51 06.4**	**-2.1**
HHC				SS	**SnSn**	**23 51 43.4**	**+7.6**
HHC				PcS	**PcS**	**23 53 59.1**	**-0.2**
HHC				ScS	**ScS**	**23 57 41.1**	**-1.9**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,320nm,4.5s						
HHC				LR	LR		
	comp=Z,500nm,11.6s						
HHC				LR	LR		
	comp=Z,550nm,12.3s						
HHC				LR	LR		
	comp=Z,270nm,12.0s						
YAK	**Yakutsk**	**26.08**	**347**	*e*P	**P**	**23 46 56.0**	**-0.6**
YAK				*e**PP	**pP**	**23 47 01.3**	**-4.1**
YAK				*e*		23 47 13.7	
YAK				*e*S	**S**	**23 51 24.5**	**-1.2**
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,46nm,1.0s						
YAK				pmax	pmax		
	comp=N,34nm,1.3s						
YAK				pmax	pmax		
	comp=E,25nm,1.4s						
YAK				smax	smax		
	comp=N,159nm,4.2s						
YAK				smax	smax		
	comp=E,201nm,4.4s						
XAN	**Xi'an**	**27.19**	**273**	P	**P**	**23 47 06.1**	**-0.9**
XAN				pmax	pmax		
	comp=E,2.0nm,0.7s						
XAN				pmax	pmax		
	comp=E,41nm,5.5s						
H11N2	**WAKE ISLAND Hy**	**27.66**	**122**	T	T	00 16 11.2	
	baz=317,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**27.67**	**122**	T	T	00 16 18.5	
	baz=317,slow=76,SNR=240						
H11N3	**WAKE ISLAND Hy**	**27.68**	**122**	T	T	00 16 15.1	
	baz=317,slow=76,SNR=239						
WAKE	**Wake Island**	**27.81**	**123**	*e*P	**P**	**23 47 13.9**	**+1.3**
	comp=E,348nm,1.4s						
ULN	**Ulaanbaatar**	**27.82**	**304**	*e*P	**P**	**23 47 13.1**	**+0.5**
	comp=E,8.5nm,0.7s						
ENH	**Enshi**	**28.00**	**265**	*e*P	**P**	**23 47 14.2**	**0.0**
	comp=E,37nm,0.8s						
SONA1	**Songino Array**	**28.25**	**304**	*e*P	**P**	**23 47 16.9**	**+0.4**
SONM	**Songino Array**	**28.25**	**304**	P	**P**	**23 47 16.7**	**+0.2**
SONM	**Songino Array**	**28.25**	**304**	P	**P**	**23 47 16.7**	**+0.2**
	comp=E,14nm,0.7s,baz=102,slow=8.5,SNR=89						
H11S1	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	00 17 19.3	
	baz=320,slow=75,SNR=224						
H11S3	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	00 17 20.0	
	baz=320,slow=75,SNR=291						
H11S2	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	00 17 12.0	
	baz=320,slow=75,SNR=252						
LZH	**Lanzhou**	**30.69**	**280**	*e*P	**P**	**23 47 40.4**	**+2.2**
LZH				pP	**pP**	**23 47 46.1**	**-1.0**
LZH				sP	**sP**	**23 47 49.9**	**-0.9**
LZH				PP	**PnPn**	**23 48 39.1**	**+0.8**
LZH				*e*S	**S**	**23 52 40.3**	**+1.2**
LZH				sS	**sS**	**23 52 52.0**	**-1.8**
LZH				SS	**SnSn**	**23 54 18.0**	**0.0**
LZH				pmax	pmax		
	comp=E,26nm,1.4s						
LZH				pmax	pmax		
	comp=E,90nm,4.4s						
LZH				LR	LR		
	comp=E,1μm,15.2s						
LZH				LR	LR		
	comp=E,1μm,13.5s						
LZH				LR	LR		
	comp=E,2μm,15.2s						
ZAK	**Zakamensk**	**30.70**	**308**	*e*P	**P**	**23 47 38.3**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.3s						
GYA	**Guiyang**	**31.89**	**261**	⇑*i*P	**P**	**23 47 47.8**	**-1.0**
GYA				PP	**PnPn**	**23 48 55.4**	**+1.4**
GYA				PcP	**PcP**	**23 50 39.5**	**+0.5**
GYA				ScP	**ScP**	**23 54 20.0**	**-0.1**
GYA				SS	**SnSn**	**23 54 48.5**	**+1.1**
GYA				ScS	**ScS**	**23 58 16.2**	**-2.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA	

LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 42.85 275 *e*P **P 23 49 21.6 -0.4**
comp=Z,6.0nm,0.6s
NVS Novosibirsk 43.22 314 *e*P **P 23 49 22.5 -1.6**
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,11nm,0.8s
MK01 Makanchi Array 44.60 302 *e*P **P 23 49 35.3 0.0**
MKAR Makanchi Array 44.60 302 *i* P **P 23 49 35.5 +0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 44.60 302 *e*P **P 23 49 35.6 +0.2**
MKAR Makanchi Array 44.60 302 P **P 23 49 35.4 +0.1**
comp=Z,9.4nm,0.7s,baz=84,slow=8.6,SNR=41
KURK Kurchatov 46.36 308 P **P 23 49 49.5 +0.3**
KURK pmax pmax
comp=Z,33nm,0.6s
KURK Kurchatov 46.36 308 *e*P **P 23 49 49.1 -0.1**
comp=Z,21nm,0.6s
KURBB Kurchatov Arra 46.43 308 P **P 23 49 49.5 -0.3**
comp=Z,33nm,0.6s,baz=84,slow=8.3,SNR=59
TAPN Taplejung 46.59 274 *e*P **P 23 49 51.8 +0.2**
comp=Z,24nm,0.4s
PPLA Purkeypile 46.68 35 *e*P **P 23 49 52.1 +0.4**
comp=Z,77nm,2.0s
ODAN Odare 47.06 274 *e*P **P 23 49 55.4 +0.1**
comp=Z,24nm,0.6s
RAMN Ramite 47.65 274 *e*P **P 23 49 59.9 0.0**
comp=Z,23nm,0.6s
JIRN Jiri 47.66 275 *e*P **P 23 50 00.5 +0.4**
comp=Z,18nm,0.4s
GUN Gumba 47.79 276 *e*P **P 23 50 01.4 +0.3**
comp=Z,40nm,0.7s
PKI Pulchoki 48.32 276 *e*P **P 23 50 04.8 -0.4**
KKN Kakani 48.32 276 *e*P **P 23 50 05.5 +0.4**
comp=Z,29nm,0.7s
PKIN Phulchoki 48.33 276 *e*P **P 23 50 04.8 -0.3**
comp=Z,12nm,0.7s
COLA College 48.61 32 P **P 23 50 08.7 +2.3**
COLA pmax pmax
comp=Z,23nm,0.8s
GKN Gorkha 48.74 277 *e*P **P 23 50 08.3 +0.1**
IL1 Eielson Array 49.02 32 *e*P **P 23 50 09.6 -0.1**
ILAR Eielson Array 49.02 32 P **P 23 50 10.9 +1.2**
ILAR Eielson Array 49.02 32 P **P 23 50 10.9 +1.2**
comp=Z,4.5nm,0.7s,baz=263,slow=6.1,SNR=58
DANN Dangsing 49.28 278 *e*P **P 23 50 12.9 +0.4**
comp=Z,72nm,0.7s
KOLN Koldanda 49.66 277 *e*P **P 23 50 15.4 +0.1**
comp=Z,31nm,1.0s
PYUN Piuthan 50.00 278 *e*P **P 23 50 17.7 -0.2**
comp=Z,68nm,0.8s
TKM2 Tokmak 2 50.14 299 *e*P **P 23 50 18.7 -0.1**
TKM2 pmax pmax
comp=Z,11nm,0.8s
TKM2 Tokmak 2 50.14 299 *e*P **P 23 50 18.6 -0.1**
comp=Z,11nm,0.8s
MENT Mentasta 50.55 35 *e*P **P 23 50 21.4 +0.1**
KSH Kashi 50.95 294 P P 23 50 28.7 +3.9
KSH PcP **PcP 23 51 42.1 +1.3**
KSH S **S 23 57 42.8 +3.1**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,280nm,6.1s
KSH LR LR
comp=Z,100nm,6.7s
KSH LR LR
comp=Z,240nm,5.2s
KSH LR LR
comp=Z,230nm,6.1s
AAK Ala-Archa 51.00 299 *i* P **P 23 50 25.3 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.4s
AAK MLR MLR
comp=Z,394nm,18.0s
AAK Ala-Archa 51.00 299 *e*P **P 23 50 24.4 -0.8**
comp=Z,3.7nm,0.6s
BRVK Borovoye 51.02 312⇑ *i*P **P 23 50 24.8 -0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 51.02 312 *e*P **P 23 50 24.2 -0.8**
comp=Z,6.4nm,0.9s
EKS2 Erkin-Say 51.49 299 *e*P **P 23 50 27.8 -1.1**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 51.49 299 *e*P **P 23 50 27.8 -1.1**
comp=Z,4.6nm,0.9s
KKAR Karatay Array 53.62 300 *e*P **P 23 50 43.7 -0.8**
KKAR Karatay Array 53.62 300 *e*P **P 23 50 43.7 -0.8**
HYT Haines Junctio 53.79 37 *e*P **P 23 50 45.9 +0.3**
INK Inuvik 53.96 27 *e*P **P 23 50 48.2 +1.7**
comp=Z,6.3nm,0.6s
INK Inuvik 53.96 27 P **P 23 50 48.4 +1.9**
comp=Z,6.1nm,0.6s,baz=308,slow=7.3,SNR=21
SVE Sverdlovsk 55.48 319⇑ *i*P **P 23 50 58.7 +1.0**
SVE pmax pmax
comp=Z,21nm,0.9s
ARU Arti 56.69 319 *d i*P **P 23 51 06.0 -0.3**
ARU *PP **pP 23 51 15.6 -0.1**
ARU S **S 23 58 57.0 +0.4**
ARU SS **SS 00 02 42.9 -1.1**
ARU pmax pmax
comp=Z,16nm,1.2s
FITZ Fitzroy Crossi 57.16 199 *e*P **P 23 51 10.9 +0.9**
comp=Z,47nm,2.4s
WRAB Tennant Creek 57.28 189 *i* P **P 23 51 10.7 -0.2**
WRAB pmax pmax
comp=Z,10.0nm,0.7s
WRA Warramunga Arr 57.30 189 P **P 23 51 10.8 -0.2**
WRA Warramunga Arr 57.30 189 P **P 23 51 10.8 -0.2**
comp=Z,3.0nm,0.4s,baz=6,0,slow=7.3,SNR=29
DLBC Dease Lake 58.11 38 P **P 23 51 19.1 +2.6**
DLBC Dease Lake 58.11 38 P **P 23 51 19.1 +2.6**
comp=Z,1.5nm,0.8s,baz=54,slow=4.4,SNR=4.3
ABKAR Akbulak array 58.35 310 *e*P **P 23 51 18.0 -0.2**
HYB Hyderabad 58.86 269 *i* P **P 23 51 21.5 -0.7**
AS01 Alice Springs 61.01 189 *e*P **P 23 51 37.2 +0.5**
ASAR Alice Springs 61.02 189 P **P 23 51 36.7 0.0**
ASAR Alice Springs 61.02 189 P **P 23 51 36.7 0.0**
comp=Z,1.5nm,0.6s,baz=14,slow=7.6,SNR=27
POO Poona 62.02 273 *e*P **P 23 51 42.0 -1.8**
RES Resolute Bay 62.30 15 *e*P **P 23 51 45.1 +0.4**
comp=Z,15nm,1.3s
RES Resolute Bay 62.30 15 P **P 23 51 45.1 +0.4**
comp=Z,4.6nm,0.7s,baz=308,slow=5.7,SNR=9.7
APA Apatity 62.83 336 *e*P **P 23 51 47.6 -0.8**
APA MLR MLR
comp=Z,2μm,11.0s
DZM Mont Dzumac 63.19 155 LR LR 00 17 00.2
comp=Z,129nm,18.9s,baz=24,slow=34
YKA Yellowknife Ar 63.36 30 P **P 23 51 51.8 -0.2**
YKA Yellowknife Ar 63.36 30 P **P 23 51 51.8 -0.2**
comp=Z,1.9nm,0.7s,baz=301,slow=6.1,SNR=5.7
ARCES ARCESS Array B 64.10 340 P **P 23 51 56.7 0.0**
ARCES ARCESS Array B 64.10 340 P **P 23 51 56.7 0.0**
comp=Z,4.3nm,0.7s,baz=48,slow=6.3,SNR=9.9
ARCES LR LR 00 25 06.8
comp=Z,207nm,21.4s,baz=290,slow=41
IKRD Kardeh 64.61 298 *e*P **P 23 51 57.9 -3.1**
JOF Joensuu 66.15 332 *e*P **P 23 52 09.5 -0.6**
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF Joensuu 66.15 332 *ep* **P 23 52 09.5 -0.6**
comp=Z,6.7nm,0.7s
OBN Obninsk 68.38 323⇓ *i*P **P 23 52 24.8 +0.5**
OBN pmax pmax
comp=Z,29nm,2.5s
OBN MLR MLR
comp=Z,100nm,14.0s
KAF Kangasniemi 68.48 333 *e*P **P 23 52 24.3 -0.6**
KAF pmax pmax
comp=Z,12nm,0.5s
KAF Kangasniemi 68.48 333 *ep* **P 23 52 24.3 -0.6**
comp=Z,12nm,0.5s,baz=48,slow=5.9
IANJ Anjilo 68.49 299 *e*P **P 23 52 26.5 +0.7**
STKA Stephens Creek 68.70 181 P **P 23 52 24.6 -1.9**
STKA Stephens Creek 68.70 181 P **P 23 52 24.6 -1.9**
comp=Z,1.5nm,0.7s,baz=347,slow=8.4,SNR=5.1
FORT Forrest 68.89 193 *e*P **P 23 52 29.0 +1.3**
comp=Z,22nm,0.6s
FINES FINESS Array B 69.00 332 P **P 23 52 28.4 +0.2**
FINES FINESS Array B 69.00 332 P **P 23 52 28.4 +0.2**
comp=Z,11nm,0.7s,baz=52,slow=5.4,SNR=41

ILAS Lasjerd 69.20 299 *e*P **P 23 52 31.4 +1.2**
IDMV Damavand 69.75 300 *e*P **P 23 52 33.8 +0.2**
K05A Summer Lake 70.35 51 *e*P **P 23 52 39.5 +2.5**
comp=Z,106nm,2.6s
SUMG Summit 70.54 0 *i* P **P 23 52 39.4 +1.4**
SUMG pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 70.54 0 *i* P **P 23 52 39.4 +1.4**
comp=Z,4.3nm,0.7s
VSU Vasula 70.66 330 P **P 23 52 38.6 +0.2**
IZEF Zefreh 70.95 297 *e*P **P 23 52 41.2 +0.2**
IKLH Kolahrood 71.26 298 *e*P **P 23 52 43.3 +0.5**
KBZ Khabaz 71.31 311 P **P 23 52 43.3 +0.7**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 71.31 311 P **P 23 52 43.2 +0.7**
KBZ Khabaz 71.31 311 P **P 23 52 43.2 +0.7**
comp=Z,5.4nm,0.8s,baz=67,slow=4.3,SNR=11
KIV Kislovodsk 71.31 311 *e*P **P 23 52 44.0 +1.2**
KIV pmax pmax
comp=Z,19nm,0.9s
KIV MLR MLR
comp=Z,91nm,18.0s
IPAR Pars 72.08 294 *e*P **P 23 52 48.4 +0.5**
ISAL Salakas 72.81 328 *e*P **P 23 52 52.5 +1.1**
ISAL AMB AMB 23 52 53.6
comp=Z,7.3nm,0.6s
IIGN Ignalina 72.91 328 *e*P **P 23 52 52.6 +0.6**
IIGN AMB AMB 23 52 53.0
comp=Z,6.1nm,0.7s
LRM Limekiln Ridge 73.59 45 *e*P **P 23 52 57.5 +1.0**
HFS Hagfors 74.23 336 LR LR 00 25 54.4
comp=Z,170nm,18.3s,baz=334,slow=36
NB2 NORSAR Subarra 74.31 338 P **P 23 53 00.7 +0.5**
comp=Z,4.3nm,0.5s,baz=36,slow=6.2
NOA NORSAR Array B 74.31 338 P **P 23 53 00.5 +0.3**
NOA NORSAR Array B 74.31 338 P **P 23 53 00.5 +0.3**
comp=Z,5.9nm,0.6s,baz=39,slow=5.9,SNR=29
NOA LR LR 00 28 05.9
comp=Z,150nm,18.9s,baz=90,slow=38
NV01 Mina Array Sit 74.38 54 *e*P **P 23 53 02.4 +1.2**
NVAR Mina Array Bea 74.38 54 P **P 23 53 03.3 +2.1**
NVAR Mina Array Bea 74.38 54 P **P 23 53 03.3 +2.1**
comp=Z,1.2nm,0.6s,baz=292,slow=5.6,SNR=12
AKASG Malin Array Be 74.59 323 P **P 23 53 02.0 +0.1**
AKASG pmax pmax
comp=Z,11nm,0.5s
AKASG MLR MLR
comp=Z,60nm,18.2s
AKASG Malin Array Be 74.59 323 P **P 23 53 02.0 +0.1**
AKASG Malin Array Be 74.59 323 P **P 23 53 02.0 +0.1**
comp=Z,11nm,0.5s,baz=45,slow=6.1,SNR=87
AKASG LR LR 00 26 48.8
comp=Z,60nm,18.2s,baz=280,slow=37
KIEV Kiev 74.60 323⇑ *e*P **P 23 53 02.0 +0.1**
AK11 Malin Array Si 74.63 323 *e*P **P 23 53 01.9 -0.2**
BW06 Boulder Array 77.10 46 *e*P **P 23 53 17.2 +0.5**
PDAR Pinedale Array 77.10 46 P **P 23 53 17.9 +1.1**
PDAR Pinedale Array 77.10 46 P **P 23 53 17.9 +1.1**
comp=Z,1.1nm,0.6s,baz=301,slow=2.0,SNR=11
MALT Malatya 77.20 308⇓ *i*P **P 23 53 18.8 +1.6**
KWP Kalwaria Pacla 78.40 325 *e*P **P 23 53 24.9 +1.4**
KWP Kalwaria Pacla 78.40 325 *e*P **P 23 53 24.9 +1.4**
KWP Kalwaria Pacla 78.40 325⇑ *i*P **P 23 53 24.9 +1.4**
BUR04 Bucovina Ar. S 78.61 322 *e*P **P 23 53 24.9 0.0**
BURAR Bucovina Array 78.61 322⇑ *i*P **P 23 53 25.4 +0.6**
TESR Tescani 78.64 321⇑ *i*P **P 23 53 25.5 +0.6**
VRI Vrancioaia 79.04 320⇑ *i*P **P 23 53 28.4 +1.2**
PLOR Plostina 79.09 320⇑ *i*P **P 23 53 30.3 +2.8**
BRTR Keskin Array B 79.25 312 P **P 23 53 28.6 0.0**
BRTR Keskin Array B 79.25 312 P **P 23 53 28.6 0.0**
comp=Z,4.1nm,1.2s,baz=55,slow=5.4,SNR=7.2
OJC Ojcow 79.29 327 *e*P **P 23 53 29.3 +0.9**
OJC Ojcow 79.29 327 *e*P **P 23 53 29.3 +0.9**
UZH Uzhgorod 79.30 324 *e*P **P 23 53 28.7 +0.3**
UZH *e* 23 53 44.5
TRPA Tarpa 79.54 324⇓ *i*P **P 23 53 31.0 +1.3**
NIE Niedzica 79.64 326 *e*P **P 23 53 31.7 +1.3**
NIE Niedzica 79.64 326 *e*P **P 23 53 31.7 +1.3**
BR231 Keskin MP Arra 79.68 312 *e*P **P 23 53 29.2 -1.7**
PV10 Paradox Valley 80.19 49 *e*P **P 23 53 35.1 +1.2**
KSP Ksiaz 80.33 329 *e*P **P 23 53 35.0 +1.0**
KSP Ksiaz 80.33 329 *e*P **P 23 53 35.2 +1.2**
PV05 Paradox Valley 80.34 49 *e*P **P 23 53 34.3 -0.3**
PHWY Pilot Hill 80.38 45 *e*P **P 23 53 36.0 +1.2**
comp=Z,8.5nm,0.6s
DRGR 80.40 323⇓ *i*P **P 23 53 35.6 +1.0**
ARR Arges 80.45 321⇑ *i*P **P 23 53 36.4 +1.5**
MORC Moravsky Berou 80.60 327⇑ *i*P **P 23 53 36.7 +1.2**
DPC Dobruska-Polom 80.69 328 *e*P **P 23 53 37.1 +1.1**
DPC *e* 23 53 47.0
DPC Dobruska-Polom 80.69 328 *e*P **P 23 53 37.1 +1.1**
DPC *ex* x 23 53 47.0
KRLC Kraliky 80.70 328 *e*P **P 23 53 37.2 +1.1**
KRLC Kraliky 80.70 328 *e*P **P 23 53 37.2 +1.1**
PSZ Piszkesteto 80.92 325 *e*P **P 23 53 36.3 -1.0**
PSZ pmax pmax
comp=Z,10.0nm,1.0s
PSZ Piszkesteto 80.92 325⇓ *i*P **P 23 53 38.7 +1.3**
PSZ Piszkesteto 80.92 325 *e*P **P 23 53 36.3 -1.0**
comp=Z,9.6nm,1.0s
BRG Berggiesshubel 81.26 330 *e*P **P 23 53 39.7 +0.7**
comp=Z,2.9nm,0.6s
BRG Berggiesshubel 81.26 330 *e*P **P 23 53 39.7 +0.7**
BRG pmax pmax
comp=Z,3.0nm,0.6s
PVCC Panska Ves 81.28 329 *e*P **P 23 53 39.7 +0.6**
PVCC Panska Ves 81.28 329 *e*P **P 23 53 39.7 +0.6**
CLL Collm 81.30 331 *i* P **P 23 53 39.6 +0.4**
CLL *i* 23 53 52.2
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 81.30 331 *i* P **P 23 53 39.6 +0.4**
comp=Z,13nm,1.1s
CLL *i* pP **pP 23 53 52.2 +3.3**
CLL *i* (sPcP) 23 54 06.7
VRAC Vranov 81.36 327⇓ *i*P **P 23 53 40.4 +0.8**
GZR Gura Zlata 81.36 322⇑ *i*P **P 23 53 40.5 +0.8**
PRU Pruhonice 81.70 329 *e*P **P 23 53 42.0 +0.7**
PRU Pruhonice 81.70 329 *e*P **P 23 53 42.0 +0.7**
BZS Buzias 81.78 322⇓ *i*P **P 23 53 42.3 +0.5**
CONA Conrad Observa 82.72 327⇑ *i*PcP **P 23 53 48.1 +1.3**
comp=Z,3.3nm,0.8s
PKSM Moragy 82.76 324⇑ *i*P **P 23 53 47.0 +0.1**
KHC Kasperske Hory 82.77 329 *e*P **P 23 53 47.2 +0.2**
KHC *e* 23 53 54.6
KHC Kasperske Hory 82.77 329 *e*P **P 23 53 47.2 +0.2**
KHC *ex* x 23 53 54.6
KHC Kasperske Hory 82.77 329 *e*P **P 23 53 46.4 -0.6**
comp=Z,136nm,2.9s
GERES GERESS Array B 82.94 329 P **P 23 53 48.0 0.0**
GERES GERESS Array B 82.94 329 P **P 23 53 48.0 0.0**
comp=Z,2.2nm,0.6s,baz=37,slow=5.4,SNR=26
VTS Vitosha 83.14 319⇓ *i*P **P 23 53 50.0 +0.8**
GRF Grafenberg Arr 83.27 330 *e*P **P 23 53 50.0 +0.4**
comp=Z,45nm,1.8s
MMB Musomiste 83.58 318⇓ *i*P **P 23 53 50.7 -0.6**
SOKA Soboth 84.04 327⇑ *i*PcP **P 23 53 54.1 +0.5**
comp=Z,6.5nm,1.1s
BFO Black Forest 85.50 331 *i* P **P 23 54 02.4 +1.5**
CDF Champ du Feu 85.83 332 *e*P **P 23 54 03.2 +0.6**
comp=Z,7.4nm,0.7s
PAGF Fort de Pagny 86.29 333 *e*P **P 23 54 05.1 +0.3**
comp=Z,2.1nm,0.6s
HAU Haudompre 86.52 332 *e*P **P 23 54 06.3 +0.4**
SFTF Sexfontaines 86.84 333 *e*P **P 23 54 07.4 -0.1**
LOR Lormes 88.05 333 *e*P **P 23 54 14.2 +0.8**
comp=Z,6.0nm,0.7s
SSF Saint Saulge 88.36 333 *e*P **P 23 54 15.1 +0.3**
LPL La Plagne 88.44 330 *e*P **P 23 54 15.7 +0.2**
AVF Avril sur Loir 88.64 333 *e*P **P 23 54 17.3 +1.2**
comp=Z,10nm,0.8s
TXAR Lajitas Array 89.51 53 P **P 23 54 22.0 +1.3**
TXAR Lajitas Array 89.51 53 P **P 23 54 22.0 +1.3**
comp=Z,0.4nm,0.6s,baz=22,slow=1.3,SNR=4.4
H06E1 SOCORRO T-PHAS 91.53 65 T T 01 36 27.6
SNR=21
H06S1 SOCORRO T 91.54 65 T T 01 36 22.8
SNR=8.2
TORD Torodi Ar. Bea 117.69 316 PKP **PKPdf 00 00 09.3 -0.4**
TORD Torodi Ar. Bea 117.69 316 PKP **PKPdf 00 00 09.3 -0.4**
comp=Z,0.6nm,0.6s,baz=26,slow=2.5,SNR=12
DBIC Dimbokro 126.63 318 PKP **PKPdf 00 00 27.1 +0.3**
DBIC Dimbokro 126.63 318 PKP **PKPdf 00 00 27.1 +0.3**
comp=Z,3.1nm,0.7s,baz=12,slow=3.3,SNR=6.8
LPAZ La Paz 146.05 60 PKPbc **PKPab 00 01 04.7 0.0**
LPAZ La Paz 146.05 60 PKPbc **PKPab 00 01 04.7 0.0**
comp=Z,2.8nm,0.4s,baz=345,slow=3.5,SNR=10
H03N2 Juan Fernandez 146.38 96 T T 02 44 40.1
baz=288,slow=75,SNR=19
H03N3 Juan Fernandez 146.40 96 T T 02 44 44.1
baz=288,slow=75,SNR=30
H03N1 Juan Fernandez 146.40 96 T T 02 44 55.2
baz=288,slow=75,SNR=16

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*ISCJB **04** 00:08:01.5±0.2,40.°60N±0.°02×15.°61E±0.°03,h12km±2km, Error ellipse: s-maj=3.7km s-min=2.4km az=146.2*
*CSEM **04** 00:08:01.9±0.1,40.°56N×15.°63E,h8km,ML3.8/5, Error ellipse: s-maj=2.8km s-min=2.3km az=47.0*
*ROM **04** 00:08:01.2±0.1,40.°54N×15.°64E,h6km±1km,Md3.2/20, Ml3.1/33,Error ellipse: s-maj=1.4km s-min=1.2km az=65.0*

ISC 04 00:08:02.5±0.9,40.°57N±0.°02×15.°64E±0.°02,h10km±8km, n140,σ1§23/154,3C-2D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRLC	**Muro Lucano**	**0.22**	**328**	Pg	**Pg**	**00 08 06.5**	**-0.7**
	5μm,0.5s						
MRLC	**Muro Lucano**	**0.22**	**328**	Pg	**Pg**	**00 08 06.5**	**-0.7**
	5μm,0.5s						
SGO	**Sicignano**	**0.26**	**269**	Pg	**Pg**	**00 08 06.7**	**-1.1**
SGO	**Sicignano**	**0.26**	**269**	Pg	**Pg**	**00 08 06.7**	**-1.1**
CDRU	**Civita di Ruta**	**0.27**	**253**	Pg	**Pg**	**00 08 06.9**	**-1.1**
CDRU				Sg	**Sg**	**00 08 11.6**	**-0.1**
	5μm,0.3s						
CDRU	**Civita di Ruta**	**0.27**	**253**	Pg	**Pg**	**00 08 06.9**	**-1.1**
CDRU				Sg	**Sg**	**00 08 11.6**	**-0.1**
	5μm,0.3s						
ACER	**Acerenza**	**0.32**	**46**	Pg	**Pb**	**00 08 09.0**	**-1.3**
ACER				Sg	**Sb**	**00 08 14.8**	**-0.7**
ACER	**Acerenza**	**0.32**	**46**	Pg	**Pb**	**00 08 09.0**	**-1.3**
ACER				Sg	**Sb**	**00 08 14.8**	**-0.7**
PTRP	**Pietrapertosa**	**0.32**	**98**	Pg	**Pb**	**00 08 09.2**	**-1.2**
	40μm,3.6s						
PTRP	**Pietrapertosa**	**0.32**	**98**	Pg	**Pb**	**00 08 09.2**	**-1.2**
	40μm,3.6s						
CMPR	**Campora**	**0.36**	**226**	Pg	**Pg**	**00 08 08.6**	**-1.1**
CMPR				Sg	**Sg**	**00 08 14.6**	**+0.1**
	3μm,0.3s						
CMPR	**Campora**	**0.36**	**226**	Pg	**Pg**	**00 08 08.6**	**-1.1**
CMPR				Sg	**Sg**	**00 08 14.6**	**+0.1**
	3μm,0.3s						
VULT	**Monte Vulture**	**0.39**	**357**	Pg	**Pg**	**00 08 10.1**	**-0.1**
	3μm,0.6s						
VULT	**Monte Vulture**	**0.39**	**357**	Pg	**Pg**	**00 08 10.1**	**-0.1**
	3μm,0.6s						
MCRV	**Calabrutti - M**	**0.42**	**301**	Pg	**Pg**	**00 08 09.7**	**-1.1**
	1μm,0.5s						
MCRV	**Calabrutti - M**	**0.42**	**301**	Pg	**Pg**	**00 08 09.7**	**-1.1**
	1μm,0.5s						
SIRI	**Monte Sirino -**	**0.42**	**156**	Pg	**Pg**	**00 08 09.6**	**-1.2**
SIRI				Sg	**Sb**	**00 08 17.6**	**-1.0**
	3μm,0.3s						
SIRI	**Monte Sirino -**	**0.42**	**156**	Pg	**Pg**	**00 08 09.6**	**-1.2**
SIRI				Sg	**Sb**	**00 08 17.6**	**-1.0**
	3μm,0.3s						
MGR	**Morigerati**	**0.43**	**189**	Pg	**Pg**	**00 08 10.0**	**-1.0**
MGR				Sg	**Sg**	**00 08 17.6**	**+0.8**
	3μm,0.4s						
MGR	**Morigerati**	**0.43**	**189**	Pg	**Pg**	**00 08 10.0**	**-1.0**
MGR				Sg	**Sg**	**00 08 17.6**	**+0.8**
	3μm,0.4s						
PALZ	**Palazzo San Ge**	**0.45**	**32**	Pg	**Pg**	**00 08 11.2**	**-0.1**
	2μm,0.8s						
PALZ	**Palazzo San Ge**	**0.45**	**32**	Pg	**Pg**	**00 08 11.2**	**-0.1**
	2μm,0.8s						
SNAL	**S. Angelo Dei**	**0.49**	**317**	Pg	**Pg**	**00 08 11.6**	**-0.4**
SNAL				Sg	**Sb**	**00 08 21.0**	**+0.5**
	2μm,0.8s						
SNAL	**S. Angelo Dei**	**0.49**	**317**	Pg	**Pg**	**00 08 11.6**	**-0.4**
SCHR	**S. Chirico Rap**	**0.49**	**138**	Pg	**Pg**	**00 08 10.8**	**-1.4**
SCHR				Sg	**Sg**	**00 08 18.9**	**+0.2**
	726nm,0.5s						
BULG	**Bulgheria - Ca**	**0.53**	**203**	Pg	**Pg**	**00 08 11.8**	**-1.0**
	2μm,0.4s						
BULG	**Bulgheria - Ca**	**0.53**	**203**	Pg	**Pg**	**00 08 11.8**	**-1.0**
	2μm,0.4s						
CAFE	**Carife**	**0.56**	**326**	Pg	**Pg**	**00 08 13.0**	**-0.3**
	1μm,0.5s						
CAFE	**Carife**	**0.56**	**326**	Pg	**Pg**	**00 08 13.0**	**-0.3**
	1μm,0.5s						
CUC	**Castrocucco**	**0.59**	**167**	Pg	**Pg**	**00 08 12.4**	**-1.5**
CUC				Sg	**Sg**	**00 08 22.0**	**+0.3**
	1μm,0.5s						
CUC	**Castrocucco**	**0.59**	**167**	Pg	**Pg**	**00 08 12.4**	**-1.5**
CUC				Sg	**Sg**	**00 08 22.0**	**+0.3**
	1μm,0.5s						
SGTA	**Sant Agata di**	**0.60**	**340**	Pg	**Pg**	**00 08 13.9**	**-0.4**
	647nm,0.7s						
SGTA	**Sant Agata di**	**0.60**	**340**	Pg	**Pg**	**00 08 13.9**	**-0.4**
	647nm,0.7s						
MIGL	**Miglionico**	**0.61**	**86**	Pg	**Pg**	**00 08 13.7**	**-0.6**
	3μm,0.8s						
MIGL	**Miglionico**	**0.61**	**86**	Pg	**Pg**	**00 08 13.7**	**-0.6**
	3μm,0.8s						
CRAC	**Craco**	**0.64**	**108**	Pg	**Pg**	**00 08 14.2**	**-0.6**
	1μm,0.5s						
CRAC	**Craco**	**0.64**	**108**	Pg	**Pg**	**00 08 14.2**	**-0.6**
	1μm,0.5s						
MRVN	**Minervino Murg**	**0.65**	**40**	Pg	**Pg**	**00 08 14.1**	**-1.0**
	668nm,0.3s						
MRVN	**Minervino Murg**	**0.65**	**40**	Pg	**Pg**	**00 08 14.1**	**-1.0**
	668nm,0.3s						
MMN	**Mormanno**	**0.73**	**158**	Pg	**Pg**	**00 08 15.4**	**-1.1**
	304nm,0.5s						
MMN	**Mormanno**	**0.73**	**158**	Pg	**Pg**	**00 08 15.4**	**-1.1**
	304nm,0.5s						
MRB1	**Monte Rocchett**	**0.76**	**318**	Pg	**Pg**	**00 08 16.3**	**-0.8**
	920nm,0.5s						
MRB1	**Monte Rocchett**	**0.76**	**318**	Pg	**Pg**	**00 08 16.3**	**-0.8**
	920nm,0.5s						
ORI	**Oriolo Calabro**	**0.80**	**129**	Pg	**Pg**	**00 08 17.0**	**-0.8**
	1μm,0.5s						
ORI	**Oriolo Calabro**	**0.80**	**129**	Pg	**Pg**	**00 08 17.0**	**-0.8**
	1μm,0.5s						
AMUR	**Altamura**	**0.80**	**65**	Pg	**Pg**	**00 08 17.4**	**-0.6**
	581nm,0.4s						
AMUR	**Altamura**	**0.80**	**65**	Pg	**Pg**	**00 08 17.4**	**-0.6**
	581nm,0.4s						
MATE	**Matera**	**0.81**	**84**	Pg	**Pg**	**00 08 17.6**	**-0.6**
	525nm,0.4s						
MATE	**Matera**	**0.81**	**84**	Pg	**Pg**	**00 08 17.6**	**-0.6**
	525nm,0.4s						
SALB	**San Lorenzo Be**	**0.87**	**142**	Pg	**Pg**	**00 08 17.0**	**-2.4**
	418nm,0.5s						
SALB	**San Lorenzo Be**	**0.87**	**142**	Pg	**Pg**	**00 08 17.0**	**-2.4**
	418nm,0.5s						
MOCO	**Biccari - m.te**	**0.88**	**335**	Pg	**Pb**	**00 08 19.4**	**-0.6**
	466nm,1.1s						
OVO	**Vesuviano**	**0.98**	**286**	Pg	**Pb**	**00 08 22.2**	**+0.5**
OVO	**Vesuviano**	**0.98**	**286**	Pg	**Pb**	**00 08 22.2**	**+0.5**
SACR	**S. Croce Del S**	**1.09**	**320**	Pg	**Pn**	**00 08 24.2**	**+0.2**
SACR	**S. Croce Del S**	**1.09**	**320**	Pg	**Pn**	**00 08 24.2**	**+0.2**
NOCI	**Noci**	**1.10**	**78**	Pg	**Pg**	**00 08 22.8**	**-0.9**
	695nm,0.5s						
NOCI	**Noci**	**1.10**	**78**	Pg	**Pg**	**00 08 22.8**	**-0.9**
	695nm,0.5s						
MSAG	**Monte S. Angel**	**1.16**	**10**	Pg	**Pg**	**00 08 23.4**	**-1.4**
MSAG	**Monte S. Angel**	**1.16**	**10**	Pg	**Pg**	**00 08 23.4**	**-1.4**
PTRJ	**Pietraroja**	**1.16**	**314**	Pg	**Pg**	**00 08 24.0**	**-0.8**
	717nm,0.7s						
PTRJ	**Pietraroja**	**1.16**	**314**	Pg	**Pg**	**00 08 24.0**	**-0.8**
	717nm,0.7s						
SGRT	**San Giovanni R**	**1.19**	**4**	Pg	**Pg**	**00 08 23.8**	**-1.6**
	380nm,0.6s						
SGRT	**San Giovanni R**	**1.19**	**4**	Pg	**Pg**	**00 08 23.8**	**-1.6**
	380nm,0.6s						
CIGN	**Sant'Elia a Pi**	**1.22**	**333**	Pg	**Pn**	**00 08 25.9**	**+0.2**
	218nm,1.0s						
CIGN	**Sant'Elia a Pi**	**1.22**	**333**	Pg	**Pn**	**00 08 25.9**	**+0.2**
	218nm,1.0s						
BSSO	**Busso**	**1.26**	**321**	Pg	**Pn**	**00 08 26.6**	**+0.3**
	558nm,1.4s						
BSSO	**Busso**	**1.26**	**321**	Pg	**Pn**	**00 08 26.6**	**+0.3**
	558nm,1.4s						
SGG	**Gregorio Mates**	**1.26**	**311**	Pg	**Pb**	**00 08 26.1**	**-0.3**
	210nm,0.5s						
SGG	**Gregorio Mates**	**1.26**	**311**	Pg	**Pb**	**00 08 26.1**	**-0.3**
	210nm,0.5s						

VAGA	**Valle Agricola** 240nm,0.9s	**1.36**	**309**	Pg	**Pg**	**00 08 27.2**	**-1.5**
VAGA	**Valle Agricola** 240nm,0.9s	**1.36**	**309**	Pg	**Pg**	**00 08 27.2**	**-1.5**
TRIV	**Trivento**	**1.46**	**326**	Pg	**Pb**	**00 08 29.6**	**-0.1**
TRIV	**Trivento**	**1.46**	**326**	Pg	**Pb**	**00 08 29.6**	**-0.1**
MIDA	**Miranda** 265nm,1.2s	**1.50**	**316**	Pg	**Pn**	**00 08 29.8**	**+0.2**
MIDA	**Miranda** 265nm,1.2s	**1.50**	**316**	Pg	**Pn**	**00 08 29.8**	**+0.2**
KEK	**Kerkira**	**3.30**	**104**	*e*P	**Pn**	**00 08 56.1**	**+1.9**
IGT	**Igoumenitsa**	**3.74**	**105**	*e*P	**Pn**	**00 09 02.1**	**+1.7**
UDBI	**Udbina**	**3.96**	**1**	*e*Pn	**Pn**	**00 09 03.3**	**-0.1**
UDBI				Sn	**Sn**	**00 09 48.2**	**-1.6**
NVLJ	**Novalja**	**4.03**	**352**	*i* Pn	**Pn**	**00 09 03.5**	**-0.9**
NVLJ				Sn	**Sn**	**00 09 49.2**	**-2.5**
NVLJ	**Novalja**	**4.03**	**352**	*i* Pn	**Pn**	**00 09 03.4**	**-0.9**
NVLJ				Sn	**Sn**	**00 09 49.1**	**-2.5**
JAN	**Janina**	**4.09**	**101**	*e*P	**Pn**	**00 09 03.7**	**-1.5**
NEST	**Nestorio**	**4.12**	**90**	*e*P	Pn	00 09 09.0	+3.3
LKD2	**Lefkada island**	**4.26**	**113**	*e*P	**Pn**	**00 09 09.9**	**+2.5**
BBLS	**Lazići**	**4.32**	**39**	*e*Pn	**Pn**	**00 09 09.0**	**+0.7**
BIA	**Bitola**	**4.33**	**82**	*i* Pn	**Pn**	**00 09 09.0**	**+0.5**
BIA	**Bitola**	**4.33**	**82**	*i* Pn	**Pn**	**00 09 09.0**	**+0.5**
FNA	**Florina**	**4.36**	**85**	*e*P	**Pn**	**00 09 09.9**	**+1.0**
IVAS	**Ivanjica**	**4.50**	**47**	*e*Pn	**Pn**	**00 09 11.1**	**+0.2**
VLS	**Valsamata**	**4.51**	**120**	*e*P	**Pn**	**00 09 13.4**	**+2.4**
PDO	**Prodromos**	**4.71**	**113**	*e*P	**Pn**	**00 09 15.6**	**+2.0**
DIVS	**Divibare**	**4.78**	**41**	*e*Pn	**Pn**	**00 09 14.3**	**-0.3**
SELS	**Selova**	**4.87**	**55**	*e*Pn	**Pn**	**00 09 15.4**	**-0.5**
THL	**Klokotos Trika**	**4.99**	**100**	*e*P	**Pn**	**00 09 19.2**	**+1.7**
GRUS	**Gruza**	**5.02**	**47**	*e*Pn	**Pn**	**00 09 17.1**	**-0.8**
EVR	**Evrytania**	**5.03**	**107**	*e*P	**Pn**	**00 09 20.9**	**+2.8**
MAKR	**Makrakomi, Fth**	**5.23**	**105**	*e*P	**Pn**	**00 09 23.7**	**+2.9**
VAY	**Valandovo**	**5.30**	**80**	*i* Pn	**Pn**	**00 09 23.6**	**+1.9**
VAY	**Valandovo**	**5.30**	**80**	*i* Pn	**Pn**	**00 09 24.1**	**+2.4**
AGG	**Agios Georgios**	**5.38**	**105**	*e*P	**Pn**	**00 09 25.6**	**+2.8**
DRO	**Drossia**	**5.38**	**117**	*e*P	**Pn**	**00 09 24.2**	**+1.3**
LAKA	**Lakka**	**5.43**	**113**	*e*P	**Pn**	**00 09 26.2**	**+2.7**
KALE	**Kalithea**	**5.47**	**111**	*e*P	**Pn**	**00 09 27.0**	**+2.8**
KNT	**Kendrikon**	**5.53**	**81**	*e*P	**Pn**	**00 09 26.0**	**+1.1**
VOY	**Vojsko**	**5.61**	**347**	*e*Pn	**Pn**	**00 09 26.7**	**+0.6**
VOY				*e*Sn	**Sn**	**00 10 30.4**	**-0.2**
VOY	**Vojsko**	**5.61**	**347**	*e*Pn	**Pn**	**00 09 26.7**	**+0.6**
VOY				*e*Sn	**Sn**	**00 10 30.4**	**-0.2**
KLV	**Kalavryta, Ach**	**5.64**	**114**	*e*P	**Pn**	**00 09 28.6**	**+2.1**
HORT	**Hortiatis**	**5.68**	**87**	*e*P	**Pn**	**00 09 28.0**	**+1.0**
DSF	**Desfina**	**5.74**	**110**	*e*P	Pn	00 09 21.7	-6.2
DESF	**Desfina**	**5.75**	**110**	*e*P	Pn	00 09 24.8	-3.1
GUR	**Goura**	**5.82**	**115**	*e*P	**Pn**	**00 09 31.4**	**+2.4**
SOH	**Sokhos**	**5.87**	**85**	*e*P	**Pn**	**00 09 30.8**	**+1.2**
ZAPS	**Zavoj**	**5.87**	**60**	*e*Pn	**Pn**	**00 09 31.1**	**+1.5**
XOR	**Xorichti**	**5.92**	**99**	*e*P	**Pn**	**00 09 31.6**	**+1.3**
PLG	**Polygyros**	**5.95**	**89**	*e*P	**Pn**	**00 09 31.6**	**+0.9**
NEO	**Neokhori**	**5.96**	**100**	*e*P	Pn	00 09 34.8	+4.0
LKR	**Lokris**	**5.99**	**106**	*e*P	**Pn**	**00 09 32.6**	**+1.3**
OBKA	**Obir**	**5.99**	**353**	ǁ *i* Pn	**Pn**	**00 09 30.8**	**-0.5**
OBKA	**Obir**	**5.99**	**353**	Pn	**Pn**	**00 09 30.8**	**-0.5**
PYL	**PYLOS**	**6.01**	**126**	*e*P	**Pn**	**00 09 33.0**	**+1.5**
SRS	**Serrai**	**6.05**	**82**	*e*P	**Pn**	**00 09 33.2**	**+1.1**
SOKA	**Soboth**	**6.12**	**356**	ǁ Pn	**Pn**	**00 09 32.0**	**-1.1**
SOKA	**Soboth**	**6.12**	**356**	Pn	**Pn**	**00 09 32.0**	**-1.1**
SKIA	**Skiathos**	**6.18**	**101**	*e*P	**Pn**	**00 09 36.3**	**+2.5**
PAIG	**Paliouri**	**6.18**	**93**	*e*P	**Pn**	**00 09 34.3**	**+0.5**
NVR	**Nevrokopi**	**6.27**	**80**	*e*P	**Pn**	**00 09 36.5**	**+1.4**
VIL2	**Platees**	**6.36**	**109**	*e*P	**Pn**	**00 09 37.6**	**+1.3**
OUR	**Ouranopolis**	**6.36**	**89**	*e*P	**Pn**	**00 09 37.6**	**+1.3**
MRKA	**Markates**	**6.41**	**104**	*e*P	**Pn**	**00 09 38.6**	**+1.6**
AOS	**Alonnisos**	**6.49**	**100**	*e*P	**Pn**	**00 09 39.2**	**+1.2**
ABTA	**Abfaltersbach**	**6.58**	**341**	ǁ *i* Pn	**Pn**	**00 09 40.3**	**+0.9**
ABTA	**Abfaltersbach**	**6.58**	**341**	Pn	**Pn**	**00 09 40.3**	**+0.9**
DID	**Didima**	**6.65**	**115**	*e*P	**Pn**	**00 09 41.8**	**+1.4**
ARSA	**Arzberg**	**6.68**	**359**	ǁ *i* Pn	**Pn**	**00 09 39.6**	**-1.1**
ARSA	**Arzberg**	**6.68**	**359**	Pn	**Pn**	**00 09 39.6**	**-1.1**
KAVA	**Kavala**	**6.75**	**83**	*e*P	**Pn**	**00 09 43.0**	**+1.4**
KYTH	**Kithira**	**7.21**	**124**	*e*P	Pn	00 09 51.2	+3.2
MOA	**Molln**	**7.35**	**353**	ǁ Pn	**Pn**	**00 09 50.3**	**+0.5**
MOA	**Molln**	**7.35**	**353**	Pn	**Pn**	**00 09 50.3**	**+0.5**
RDO	**Rodhopi**	**7.52**	**82**	*e*P	**Pn**	**00 09 53.1**	**+0.9**

IDC ***04*** *00:11:42.2±1.2,6˚.79S×155˚.08E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/18,mbtmp3.9/7,ML2.9/1,Error ellipse: s-maj=38.4km s-min=24.2km az=138.0*

ISCJB ***04*** *00:11:46.7±1.1,6˚.8S±0˚.2×155˚.0E±0˚.1,h41km,mb3.8/6, Error ellipse: s-maj=29.8km s-min=10.8km az=144.7*

ISC 04 00:11:47.5±1.1,6˚.9S±0˚.2×155˚.2E±0˚.1,h41km,n24, σ0§83/22,mb3.8/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.7nm,0.3s,baz=344,slow=7.4,SNR=2.1	**8.29**	**252**	Pn	**Pn**	**00 13 43.8**	**-1.4**
PMG				Sn	**Sn**	**00 15 19.2**	**+1.6**
WRA	1.2nm,0.3s,baz=79,slow=20,SNR=4.5 **Warramunga Arr** 1.5nm,0.6s,baz=59,slow=9.1,SNR=5.6	**23.99**	**235**	P	**P**	**00 16 58.6**	**+0.2**
ASAR	**Alice Springs** 0.9nm,0.7s,baz=61,slow=8.8,SNR=14	**26.34**	**229**	P	**P**	**00 17 20.4**	**+0.6**
H11S3	**WAKE ISLAND Hy** baz=203,slow=76,SNR=17	**27.70**	**24**	T	T	00 46 04.0	
H11S2	**WAKE ISLAND Hy** baz=203,slow=76,SNR=12	**27.71**	**24**	T	T	00 46 00.2	
H11S1	**WAKE ISLAND Hy** baz=203,slow=76,SNR=8.0	**27.72**	**24**	T	T	00 46 06.0	
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=125,slow=5.1,SNR=9.6	**60.90**	**295**	P	**P**	**00 21 57.7**	**+1.1**
SONM	**Songino Array** 0.5nm,0.6s,baz=143,slow=5.9,SNR=4.5	**69.36**	**327**	P	**P**	**00 22 50.5**	**-0.7**
TAPN	**Taplejung** 8.2nm,0.7s	**73.50**	**301**	*e*P	**P**	**00 23 16.7**	**-0.1**
ODAN	**Odare** 20nm,0.7s	**73.63**	**300**	*e*P	**P**	**00 23 17.4**	**-0.1**
RAMN	**Ramite** 4.3nm,0.5s	**74.33**	**300**	*e*P	**P**	**00 23 20.9**	**-0.7**
JIRN	**Jiri** 4.8nm,0.4s	**74.88**	**301**	*e*P	**P**	**00 23 24.5**	**-0.4**
GUN	**Gumba** 14nm,0.7s	**75.22**	**301**	*e*P	**P**	**00 23 26.5**	**-0.3**
PKI	**Pulchoki**	**75.52**	**301**	*e*P	**P**	**00 23 28.2**	**-0.3**
PKIN	**Phulchoki** 3.3nm,0.4s	**75.54**	**301**	*e*P	**P**	**00 23 27.6**	**-0.9**
KKN	**Kakani** 4.2nm,0.5s	**75.69**	**301**	*e*P	**P**	**00 23 28.8**	**-0.6**
DMN	**Daman** 12nm,0.6s	**75.79**	**301**	*e*P	**P**	**00 23 29.4**	**-0.6**
GKN	**Gorkha**	**76.30**	**301**	*e*P	**P**	**00 23 32.4**	**-0.3**
KOLN	**Koldanda** 7.5nm,0.8s	**77.12**	**300**	*e*P	**P**	**00 23 36.5**	**-1.0**
DANN	**Dangsing** 6.6nm,0.6s	**77.14**	**301**	*e*P	**P**	**00 23 37.0**	**-0.6**
MKAR	**Makanchi Array** 0.7nm,0.8s,baz=110,slow=6.4,SNR=3.3	**83.45**	**319**	P	**P**	**00 24 10.8**	**-0.1**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=255,slow=9.1,SNR=3.8	**91.55**	**52**	P	**P**	**00 24 51.9**	**+1.4**
BDFB	**Brasilia** 0.8nm,0.4s,baz=210,slow=8.1,SNR=3.1	**147.92**	**134**	PKPbc	**PKPab**	**00 31 31.2**	**-0.8**
TORD	**Torodi Ar. Bea** 1.8nm,0.7s,baz=53,slow=1.7,SNR=16	**153.16**	**285**	PKPbc	**PKPbc**	**00 31 41.6**	**-0.3**

BJI ***04*** *00:41:48.2,29˚.47S×76˚.95E,h14km,mB5.3/27,mb5.0/46, Ms5.1/20,Ms7 4.7/20*

ISCJB ***04*** *00:41:49.5±0.2,29˚.45S±0˚.05×77˚.70E±0˚.05,h10km, mb5.1/87,MS3.9/29,Error ellipse: s-maj=6.9km s-min=5.9km az=9.4*

MOS ***04*** *00:41:49.7±0.9,29˚.41S×77˚.78E,h10km,mb5.3/31,Error ellipse: s-maj=12.5km s-min=7.1km az=98.7*

IDC ***04*** *00:41:49.9±0.4,29˚.41S×77˚.70E,h0km,mb4.8/24, mb1 4.9/24,mb1mx4.8/27,mbtmp4.8/24,MS3.8/20, Ms1 3.8/20,ms1mx3.8/26,Error ellipse: s-maj=14.2km s-min=12.6km az=52.0*

NEIC ***04*** *00:41:50.7±0.2,29˚.44S×77˚.66E,h10km,mb5.2/32,Error ellipse: s-maj=7.3km s-min=6.0km az=181.0*

GCMT ***04*** *00:41:56.3±0.2,29˚.44S×77˚.69E,h14km,MW5.0,Moment Tensor Solution. s52,c71; s79,c126; Moment tensor: Scale 10^{16}Nm; M_{rr}=4.02±.17; $M_{\theta\theta}$ 1.96±.12; $M_{\phi\phi}$2.06±.12; $M_{r\theta}$0.57±.23; $M_{\theta\phi}$2.63±.08; $M_{\phi r}$-0.46±.26; Best double couple: $M_0$4.40000×10^{16} NP1:$\phi_0$236.00000˚,δ47.00000˚, λ-74.00000˚. NP2:$\phi_0$33.00000˚,δ46.00000˚, λ-106.00000˚. Principal axes: T 4.6400, Plg0.0000˚, Azm315.0000˚; N -0.4700, Plg12.0000˚, Azm45.0000˚; P -4.1700, Plg78.0000˚, Azm222.0000˚; Data Used: ll IU G CN IC CU*

DJA ***04*** *00:42:11.5±3.4,30˚.5±6˚.×7˚.7E±˚,h178km±33km,M4.9/17, mb4.9/17*

ISC 04 00:41:52.0±0.4,29˚.55S±0˚.05×77˚.58E±0˚.06,h16km±1km, n611,σ1§08/667,mb5.2/87,MS3.9/29,150C-159D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**20.39**	**292**	*e*P	Pn	00 46 29.5	-1.0
H08S2	**Diego Garcia H** baz=168,slow=75,SNR=212	**22.31**	**347**	T	T	01 09 42.3	
H08S1	**Diego Carcia H** baz=168,slow=75,SNR=163	**22.32**	**347**	T	T	01 09 42.0	
H08S3	**Diego Garcia H** baz=168,slow=75,SNR=659	**22.33**	**347**	T	T	01 09 43.2	
OPO	**Ambohidratompo**	**29.74**	**285**	P	**P**	**00 47 60.0**	**+1.9**
OPO	**Ambohidratompo** 4.4nm,0.8s,baz=218,slow=3.2,SNR=7.8	**29.74**	**285**	P	**P**	**00 47 60.0**	**+1.9**
H01W2	**Cape Leeuwin H** baz=270,slow=75,SNR=40	**31.26**	**109**	T	T	01 20 53.6	
H01W3	**Cape Leeuwin H** baz=270,slow=75,SNR=36	**31.26**	**109**	T	T	01 20 56.7	
H01W1	**Cape Leeuwin H** baz=270,slow=75,SNR=34	**31.28**	**109**	T	T	01 20 57.8	
LHSI	**Lahat** 37nm,1.5s	**35.48**	**49**	P	P	00 48 54.0	+5.9
PSI	**Prapat** 20nm,1.6s	**38.11**	**36**	P	P	00 49 14.8	+4.2
PSI	**Prapat**	**38.11**	**36**	P	**P**	**00 49 08.6**	**-2.1**
PSI	**Prapat** 7.1nm,0.8s,baz=174,slow=11,SNR=5.4	**38.11**	**36**	P	**P**	**00 49 08.6**	**-2.1**
MBWA	**Marble Bar** 31nm,1.1s	**38.82**	**88**	*e*P	**P**	**00 49 16.1**	**-0.4**
MAW	**Mawson** 5.0nm,0.9s	**39.09**	**189**	*e*P	**P**	**00 49 18.3**	**+0.2**
MAW				PcP	**PcP**	**00 51 29.1**	**+1.5**
MAW	**Mawson** 20nm,0.9s,baz=22,slow=9.0,SNR=26	**39.09**	**189**	P	**P**	**00 49 18.1**	**0.0**
MAW	7.9nm,0.9s,baz=22,slow=3.4,SNR=5.1			PcP	**PcP**	**00 51 29.1**	**+1.5**
MAW	comp=Z,158nm,18.5s,baz=16,slow=32			LR	LR	01 02 37.3	
FORT	**Forrest** 25nm,0.8s	**43.35**	**105**	*e*P	**P**	**00 49 53.9**	**+0.2**
FITZ	**Fitzroy Crossi** 16nm,0.8s	**45.13**	**87**	*e*P	**P**	**00 50 08.0**	**-0.1**
SYO	**Syowa Base**	**45.16**	**198** ǁ	*e*P	**P**	**00 50 08.2**	**+0.6**
SYO	**Syowa Base**	**45.16**	**198** ǁ	*e*pP	pP	00 50 12.9	+0.4
BOSA	**Boshof**	**45.41**	**258**	P	**P**	**00 50 11.7**	**+1.3**
BOSA	**Boshof** 3.5nm,0.7s,baz=91,slow=8.9,SNR=5.5	**45.41**	**258**	P	**P**	**00 50 11.7**	**+1.3**
BOSA	comp=Z,95nm,18.2s,baz=108,slow=32			LR	LR	01 05 45.4	
SBUM	**Sibu** 39nm,1.4s	**45.94**	**52**	P	**P**	**00 50 14.3**	**-0.2**
SBUM	**Sibu** 46nm,1.2s	**45.94**	**52**	*e*P	**P**	**00 50 14.0**	**-0.4**
LBTB	**Lobatse** 14nm,1.3s	**46.12**	**263**	*e*P	**P**	**00 50 16.4**	**+0.4**
MMRI	**Maumere** 102nm,1.1s	**46.68**	**73**	*e*P	**P**	**00 50 20.6**	**+0.2**
HYB	**Hyderabad**	**46.70**	**1**	*i* P	**P**	**00 50 19.5**	**-0.9**
LSZ	**Lusaka** SNR=7.0	**47.48**	**276**	P	**P**	**00 50 29.1**	**+2.3**
LSZ	**Lusaka** 21nm,0.8s	**47.48**	**276**	*e*P	**P**	**00 50 28.0**	**+1.2**
KMBO	**Kilima Mbogo** 6.8nm,0.8s	**47.65**	**299**	*e*P	**P**	**00 50 27.8**	**-0.4**
KMBO				PcP	**PcP**	**00 51 59.0**	**+1.3**
KMBO	**Kilima Mbogo** 9.1nm,1.1s,baz=91,slow=4.7,SNR=22	**47.65**	**299**	P	**P**	**00 50 29.2**	**+1.1**
KMBO	1.3nm,0.7s,baz=117,slow=6.8,SNR=3.2			PcP	**PcP**	**00 51 59.0**	**+1.3**
KMBO	comp=Z,43nm,20.1s,baz=97,slow=32			LR	LR	01 06 57.5	
SUR	**Sutherland** 32nm,0.8s	**48.28**	**251**	*e*P	**P**	**00 50 31.7**	**-1.1**
SUR	**Sutherland** 260nm,0.8s,SNR=7.5	**48.28**	**251**	P	**P**	**00 50 34.1**	**+1.3**
BBOO	**Buckleboo** 119nm,0.8s	**49.59**	**109**	*e*P	**P**	**00 50 41.7**	**-0.9**
ASAR	**Alice Springs**	**50.29**	**97**	P	**P**	**00 50 48.2**	**+0.1**
ASAR				PcP	**PcP**	**00 52 06.5**	**-0.4**
ASAR	**Alice Springs** 17nm,0.6s,baz=251,slow=6.7,SNR=362	**50.29**	**97**	P	**P**	**00 50 48.2**	**+0.1**
ASAR	12nm,0.9s,baz=239,slow=2.9,SNR=17			PcP	**PcP**	**00 52 06.5**	**-0.4**
ASAR	comp=Z,54nm,20.4s,baz=251,slow=33			LR	LR	01 09 10.1	
AS01	**Alice Springs**	**50.33**	**97**	*e*P	**P**	**00 50 47.3**	**-1.1**
AS01				*e*PcP	**PcP**	**00 52 05.8**	**-1.3**
CM01	**Chiang Mai Arr**	**51.96**	**26**	*e*P	**P**	**00 50 59.5**	**-1.0**
CM01				*e*PcP	**PcP**	**00 52 10.5**	**-2.5**
CMAR	**Chiang Mai Arr**	**51.99**	**26**	P	**P**	**00 51 00.5**	**-0.2**
CMAR				PcP	**PcP**	**00 52 13.6**	**+0.5**
CMAR	**Chiang Mai Arr** 8.6nm,0.7s,baz=209,slow=8.0,SNR=43	**51.99**	**26**	P	**P**	**00 51 00.5**	**-0.2**
CMAR	1.3nm,0.3s,baz=232,slow=3.2,SNR=4.6			PcP	**PcP**	**00 52 13.6**	**+0.5**
CMAR	comp=Z,83nm,18.9s,baz=199,slow=33			LR	LR	01 10 34.4	
WRA	**Warramunga Arr**	**51.99**	**93**	P	**P**	**00 51 00.8**	**-0.1**
WRA				PcP	**PcP**	**00 52 12.6**	**-0.7**
WRA	**Warramunga Arr** 17nm,0.9s,baz=249,slow=7.4,SNR=50	**51.99**	**93**	P	**P**	**00 51 00.8**	**-0.1**
WRA	7.8nm,1.0s,baz=248,slow=2.6,SNR=13			PcP	**PcP**	**00 52 12.6**	**-0.7**
WRA	comp=Z,146nm,19.9s,baz=210,slow=34			LR	LR	01 10 53.9	
WRAB	**Tennant Creek**	**52.01**	**93**	*e*P	**P**	**00 51 00.1**	**-1.0**
WRAB				*e*		00 52 12.1	
WRAB	comp=Z,34nm,1.3s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,34nm,1.3s	**52.01**	**93**	*e*P	**P**	**00 51 00.1**	**-1.0**
WRAB				*e*PcP	**PcP**	**00 52 12.1**	**-1.3**
WRAB	**Tennant Creek** comp=Z,113nm,1.2s,SNR=10	**52.01**	**93**	P	**P**	**00 51 01.2**	**+0.1**
MYLDM	**Lahad Datu** comp=Z,50nm,1.2s	**52.28**	**56**	P	P	00 51 07.2	+4.1
MYLDM	**Lahad Datu** comp=Z,44nm,1.0s	**52.28**	**56**	*e*P	**P**	**00 51 03.5**	**+0.5**
CHTO	**Chiang Mai**	**52.31**	**26**	*e*P	**P**	**00 51 01.6**	**-1.5**
CHTO	comp=Z,7.0nm,1.4s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,58nm,1.4s	**52.31**	**26**	P	**P**	**00 51 02.0**	**-1.1**
CHTO	**Chiang Mai** comp=Z,6.7nm,1.4s	**52.31**	**26**	*e*P	**P**	**00 51 01.6**	**-1.5**
DRV	**Dumont d'Urvil**	**52.35**	**154**	S	S	00 58 21.0	-6.6
DRV				SS	**SS**	**01 02 05.0**	**0.0**
DRV				L	L	01 04 00.0	
DRV				R		01 06 00.0	
MBAR	**Mbarara** comp=Z,8.6nm,1.0s	**53.05**	**294**	*e*P	**P**	**00 51 07.6**	**-1.4**
STKA	**Stephens Creek** comp=Z,3.0nm,0.8s	**54.36**	**110**	*e*P	**P**	**00 51 16.8**	**-1.5**
STKA				PcP	**PcP**	**00 52 21.6**	**-0.5**
STKA	**Stephens Creek** comp=Z,11nm,0.7s,baz=264,slow=5.9,SNR=25	**54.36**	**110**	P	**P**	**00 51 18.7**	**+0.4**
STKA	comp=Z,5.2nm,0.7s,baz=255,slow=1.3,SNR=7.0			PcP	**PcP**	**00 52 21.6**	**-0.5**
STKA	comp=Z,16nm,28.6s,baz=218,slow=31			LR	LR	01 09 57.0	
TSUM	**Tsumeb** comp=Z,15nm,1.1s	**55.10**	**266**	*e*P	**P**	**00 51 22.8**	**-1.1**
BSY	**Bisya** SNR=7.9	**55.57**	**337**	P	**P**	**00 51 27.2**	**+0.3**
RAMN	**Ramite** comp=Z,21nm,0.9s	**56.84**	**10**	*e*P	**P**	**00 51 36.0**	**-0.2**
ODAN	**Odare** comp=Z,14nm,0.3s	**56.87**	**10**	*e*P	**P**	**00 51 36.2**	**-0.2**
KOLN	**Koldanda**	**57.29**	**6**	*e*P	**P**	**00 51 38.5**	**-0.8**
PKI	**Pulchoki** comp=Z,24nm,1.2s	**57.29**	**8**	*e*P	**P**	**00 51 38.3**	**-1.2**
DMN	**Daman**	**57.29**	**8**	*e*P	**P**	**00 51 39.1**	**-0.3**
PKIN	**Phulchoki** comp=Z,13nm,0.9s	**57.30**	**8**	*e*P	**P**	**00 51 38.4**	**-1.0**
TAPN	**Taplejung** comp=Z,45nm,0.9s	**57.41**	**11**	*e*P	**P**	**00 51 40.0**	**-0.2**
QIZ	**Qiongzhong**	**57.45**	**37**	P	**P**	**00 51 40.2**	**-0.2**
QIZ				S	**S**	**00 59 39.4**	**+2.3**
QIZ	comp=Z,51nm,17.2s			LR	LR		
JIRN	**Jiri** comp=Z,16nm,0.9s	**57.48**	**9**	*e*P	**P**	**00 51 40.4**	**-0.5**
KKN	**Kakani**	**57.49**	**8**	*e*P	**P**	**00 51 40.0**	**-0.8**
GKN	**Gorkha** comp=Z,36nm,1.0s	**57.63**	**7**	*e*P	**P**	**00 51 40.7**	**-0.9**
GUN	**Gumba**	**57.69**	**9**	*e*P	**P**	**00 51 41.9**	**-0.4**
DANN	**Dangsing** comp=Z,21nm,0.9s	**57.88**	**6**	*e*P	**P**	**00 51 42.5**	**-1.1**
SNAA	**Sanae**	**59.24**	**201**	*e*P	**P**	**00 51 54.4**	**+2.0**
SNAA	**Sanae**	**59.24**	**201**	*e*pP	pP	00 51 58.6	+1.2
SNAA	**Sanae** comp=Z,26nm,1.2s	**59.24**	**201**	*e*P	**P**	**00 51 53.5**	**+1.1**
KMI	**Kunming**	**59.49**	**27**	P	P	00 51 58.1	+3.4
KMI				pP	pP	00 52 01.4	+1.6
KMI				PP	PP	00 54 12.6	+6.2
KMI				S	**S**	**01 00 07.1**	**+3.2**
KMI				sS	sS	01 00 12.9	+0.8
KMI				SS	**SS**	**01 04 02.3**	**+2.6**
KMI	comp=Z,13nm,0.9s			pmax	pmax		
KMI	comp=Z,97nm,3.1s			pmax	pmax		
KMI	comp=Z,110nm,31.3s			LR	LR		
VNDA	**Vanda** comp=Z,15nm,0.8s	**60.14**	**166**	*e*P	**P**	**00 51 58.3**	**0.0**
VNDA	**Vanda** comp=Z,13nm,0.8s,baz=278,slow=6.9,SNR=27	**60.14**	**166**	P	**P**	**00 51 59.8**	**+1.4**
VNDA	comp=Z,116nm,19.5s,baz=270,slow=33			LR	LR	01 14 31.3	
LSA	**Lhasa**	**60.33**	**14**	P	**P**	**00 52 00.2**	**-0.5**
LSA	**Lhasa**	**60.33**	**14**	*e*P	**P**	**00 52 00.5**	**-0.2**
LSA	comp=Z,32nm,1.5s			pmax	pmax		
LSA	**Lhasa** comp=Z,32nm,1.5s	**60.33**	**14**	*e*P	**P**	**00 52 00.5**	**-0.2**
QSPA	**South Pole Qui**	**60.59**	**180**	P	**P**	**00 52 03.2**	**+1.4**
QSPA	**South Pole Qui** comp=Z,49nm,0.8s,baz=284,slow=2.9,SNR=110	**60.59**	**180**	P	**P**	**00 52 03.2**	**+1.4**
QSPA	comp=Z,16nm,28.6s,baz=298,slow=33			LR	LR	01 15 26.6	
RAYN	**Ar Rayn** comp=Z,32nm,0.9s	**61.12**	**326**	*e*P	**P**	**00 52 06.5**	**-0.2**
RAYN	**Ar Rayn** comp=Z,191nm,0.9s,SNR=17	**61.12**	**326**	P	**P**	**00 52 06.5**	**+0.7**
GYA	**Guiyang**	**62.28**	**29** ǁ	*i* P	**P**	**00 52 16.2**	**+2.6**
GYA				PcP	**PcP**	**00 52 55.4**	**+2.1**
GYA				PP	PP	00 54 36.8	+5.8
GYA				S	**S**	**01 00 42.1**	**+2.8**
GYA				SS	**SS**	**01 04 47.5**	**+4.3**
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,120nm,5.3s			pmax	pmax		
GYA	comp=Z,590nm,20.8s			LR	LR		
GYA	comp=Z,510nm,21.0s			LR	LR		
GYA	comp=Z,520nm,20.7s			LR	LR		
ARMA	**Armidale** comp=Z,32nm,0.8s	**62.99**	**111**	*e*P	**P**	**00 52 17.1**	**-1.4**
IPAR	**Pars**	**63.53**	**336**	*e*P	**P**	**00 52 22.2**	**+0.1**
IKOO	**Kooshah**	**64.11**	**343**	*e*P	**P**	**00 52 25.9**	**+0.1**
KBL	**Kabul**	**64.26**	**352**	*e*P	**P**	**00 52 25.3**	**-1.4**
KBL	comp=Z,11nm,1.0s			pmax	pmax		
KBL	**Kabul** comp=Z,12nm,1.0s	**64.26**	**352**	*e*P	**P**	**00 52 25.3**	**-1.4**
IBAF	**Bafgh**	**64.31**	**339**	*e*P	**P**	**00 52 26.6**	**-0.4**
IMEH	**Mehriz**	**64.42**	**338**	*e*P	**P**	**00 52 27.8**	**-0.1**
QRN	**Al-Qurain**	**64.53**	**331**	*e*P	**P**	**00 52 27.7**	**-0.5**
QRN				AMb	AMB	00 52 28.7	
ITEG	comp=Z,64nm,1.7s **Tejag**	**64.62**	**343**	*e*P	**P**	**00 52 29.2**	**+0.1**
RDF	**Al-Radifah**	**64.84**	**331**	*e*P	**P**	**00 52 29.7**	**-0.7**
RDF	comp=Z,34nm,1.2s			AMb	AMB	00 52 30.9	
CD2	**Chengdu**	**65.08**	**25**	*e*P	**P**	**00 52 31.1**	**-0.8**
CD2				pP	**pP**	**00 52 36.8**	**-0.2**
CD2				sP	**sP**	**00 52 40.1**	**+1.2**
CD2				PP	**PP**	**00 54 58.8**	**+3.3**
CD2				S	**S**	**01 01 14.5**	**+0.6**
CD2				sS	**sS**	**01 01 22.2**	**-0.1**
CD2				SS	**SS**	**01 05 30.0**	**+3.2**
CD2	comp=Z,30nm,1.2s			pmax	pmax		
CD2	comp=Z,100nm,6.2s			pmax	pmax		
CD2	comp=Z,270nm,11.6s			LR	LR		
CD2	comp=Z,220nm,13.2s			LR	LR		
ISAD	**Sadrabad**	**65.21**	**338**	*e*P	**P**	**00 52 33.7**	**+0.7**
ICHK	**Chekchek**	**65.28**	**338**	*e*P	**P**	**00 52 33.1**	**-0.3**
UMR	**Umm Al-Rimmam**	**65.32**	**331**	*e*P	**P**	**00 52 32.8**	**-0.6**
UMR	comp=Z,61nm,1.0s			AMb	AMB	00 52 34.1	
RST	**Umm Al-Ruwaisa**	**65.58**	**331**	*e*P	**P**	**00 52 34.6**	**-0.5**
RST	comp=Z,418nm,0.9s			AMb	AMB	00 52 35.5	
IKLH

GTA pP **pP** **00 53 17.2 -1.0**
GTA sP **sP** **00 53 20.7 +0.7**
GTA pmax pmax
comp=Z,19nm,1.1s
AAK **Ala-Archa** **71.89 358** P **P** **00 53 14.7 +0.3**
SNR=8.1
AAK **Ala-Archa** **71.89 358**⇓ *e*P **P** **00 53 14.1 -0.3**
AAK pmax pmax
comp=Z,51nm,1.7s
AAK MLR MLR
comp=Z,982nm,17.0s
AAK **Ala-Archa** **71.89 358** P **P** **00 53 14.3 -0.1**
SNR=9.8
AAK **Ala-Archa** **71.89 358** *e*P **P** **00 53 13.1 -1.3**
comp=Z,34nm,1.6s
AAK **Ala-Archa** **71.89 358** P **P** **00 53 14.6 +0.3**
comp=Z,51nm,1.6s,SNR=8.5
KBK **Karagaybulak** **71.89 358** *i*P **P** **00 53 14.3 -0.1**
KBK **Karagaybulak** **71.89 358** P **P** **00 53 14.3 -0.1**
SNR=5.7
EKS2 **Erkin-Say** **71.94 357** *e*P **P** **00 53 14.1 -0.6**
EKS2 pmax pmax
comp=Z,52nm,1.8s
EKS2 **Erkin-Say** **71.94 357** P **P** **00 53 15.2 +0.5**
SNR=9.0
EKS2 **Erkin-Say** **71.94 357** *e*P **P** **00 53 14.1 -0.6**
comp=Z,52nm,1.8s
TKM2 **Tokmak 2** **72.14 358** P **P** **00 53 14.7 -1.2**
TKM2 pmax pmax
comp=Z,28nm,1.3s
TKM2 **Tokmak 2** **72.14 358** P **P** **00 53 15.2 -0.7**
SNR=21
TKM2 **Tokmak 2** **72.14 358** *e*P **P** **00 53 14.6 -1.4**
comp=Z,22nm,1.1s
USP **Ospenovka** **72.52 358** *i*P **P** **00 53 17.6 -0.4**
USP **Ospenovka** **72.52 358** P **P** **00 53 17.6 -0.4**
SNR=18
KKAR **Karatay Array** **72.59 355** *e*P **P** **00 53 17.7 -0.7**
KKAR **Karatay Array** **72.59 355** *e*P **P** **00 53 17.6 -0.7**
NJ2 **Nanjing** **72.72 36** *e*P **P** **00 53 19.0 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
ITBZ **Tabriz** **73.56 335** *e*P **P** **00 53 24.2 -0.2**
WMQ **Urumqi** **73.60 8** P **P** **00 53 24.0 -0.4**
WMQ sP **sP** **00 53 31.0 -0.4**
WMQ PcP **PcP** **00 53 42.0 +1.8**
WMQ PP **PP** **00 56 10.0 +1.0**
WMQ S **S** **01 02 52.0 -2.0**
WMQ SKS **SKSac** **01 03 26.0 -4.3**
WMQ SS **SS** **01 07 36.0 -1.9**
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,250nm,6.0s
WMQ LR LR
comp=Z,120nm,18.0s
WMQ LR LR
comp=Z,120nm,18.0s
WMQ LR LR
comp=Z,130nm,20.0s
IMRD **Marand** **74.15 335** *e*P **P** **00 53 28.2 +0.3**
GNI **Garni** **75.76 335** P **P** **00 53 38.2 +1.1**
SNR=7.4
GNI **Garni** **75.76 335** *e*P **P** **00 53 37.2 +0.1**
comp=Z,36nm,1.1s
GNI **Garni** **75.76 335** P **P** **00 53 38.2 +1.1**
comp=Z,16nm,0.9s,baz=179,slow=6.7,SNR=9.5
MK01 **Makanchi Array** **76.08 3** *e*P **P** **00 53 36.2 -2.4**
MK31 **Makanchi Array** **76.11 3** *i*P **P** **00 53 36.2 -2.6**
MK31 pmax pmax
comp=Z,34nm,1.0s
MKAR **Makanchi Array** **76.11 3** *e*P **P** **00 53 36.7 -2.1**
MKAR **Makanchi Array** **76.11 3** *e*P **P** **00 53 36.7 -2.1**
MKAR **Makanchi Array** **76.11 3** P **P** **00 53 37.5 -1.3**
comp=Z,21nm,0.8s,baz=179,slow=6.8,SNR=63
MKAR LR LR 01 25 39.3
comp=Z,56nm,20.1s,baz=182,slow=35
HHC **Hu-ho-hao-te** **76.80 26** ⇑P **P** **00 53 43.4 +0.4**
HHC pP **pP** **00 53 47.6 -0.5**
HHC sP **sP** **00 53 49.7 -0.3**
HHC PcP **PcP** **00 53 54.7 +0.6**
HHC PP **PP** **00 56 37.6 +1.4**
HHC S **S** **01 03 30.2 +0.5**
HHC sS **sS** **01 03 37.9 -0.3**
HHC SKS **SKSac** **01 03 50.1 -4.3**
HHC ScS **ScS** **01 03 57.0 -1.8**
HHC SS **SS** **01 08 29.5 +2.8**
HHC pmax pmax
comp=Z,36nm,1.4s
HHC pmax pmax
comp=Z,300nm,6.5s
HHC LR LR
comp=Z,350nm,17.3s
HHC LR LR
comp=Z,650nm,17.4s
HHC LR LR
comp=Z,290nm,17.2s
BJI **Beijing** **77.97 29** P **P** **00 53 51.5 +2.1**
BJI S **S** **01 03 46.5 +4.3**
BJI SS **SS** **01 08 49.0 +4.9**
BJI pmax pmax
comp=Z,10.0nm,0.7s
BJI pmax pmax
comp=Z,120nm,5.6s
BJI LR LR
comp=Z,190nm,17.3s
BJI LR LR
comp=Z,260nm,15.5s
BJI LR LR
comp=Z,38nm,19.5s
ZEI **Tsey** **78.37 335** *e*P **P** **00 53 52.3 +0.5**
ZEI pmax pmax
comp=Z,12nm,1.3s
HNR **Honiara** **78.81 95** LR LR 01 24 49.7
comp=Z,16nm,28.6s,baz=232,slow=33
KBZ **Khabaz** **79.55 335** P **P** **00 53 58.6 +0.6**
KBZ **Khabaz** **79.55 335** P **P** **00 53 58.5 +0.6**
KBZ **Khabaz** **79.55 335** P **P** **00 53 58.5 +0.6**
comp=Z,4.8nm,0.8s,baz=228,slow=6.2,SNR=8.1
KBZ LR LR 01 26 10.7
comp=Z,68nm,19.8s,baz=141,slow=34
KIV **Kislovodsk** **79.82 335** *i*P **P** **00 53 59.5 -0.1**
KIV *e* 00 56 56.1
KIV *e*S **S** **01 04 02.2 +0.2**
KIV *e*SS **SS** **01 09 18.8 +6.7**
KIV pmax pmax
comp=Z,24nm,1.5s
KURK **Kurchatov** **79.92 1** P **P** **00 53 59.3 -0.5**
SNR=8.6
KURK **Kurchatov** **79.92 1** P **P** **00 53 58.2 -1.6**
KURK pmax pmax
comp=Z,18nm,1.5s
KURK **Kurchatov** **79.92 1** *e*P **P** **00 53 58.1 -1.7**
comp=Z,9.0nm,0.9s
KURK **Kurchatov** **79.92 1** P **P** **00 53 58.5 -1.3**
comp=Z,129nm,0.8s,SNR=19
AB31 **Akbulak array** **80.02 348** *i*P **P** **00 53 59.7 -0.7**
AB31 pmax pmax
comp=Z,27nm,1.1s
ABKAR **Akbulak array** **80.02 348** *e*P **P** **00 53 59.2 -1.1**
BRTR **Keskin Array B** **80.13 327** P **P** **00 54 01.2 -0.2**
BRTR **Keskin Array B** **80.13 327** P **P** **00 54 01.2 -0.2**
comp=Z,6.2nm,0.8s,baz=152,slow=6.5,SNR=35
BRTR LR LR 01 27 07.0
comp=Z,63nm,18.2s,baz=87,slow=34
BR231 **Keskin MP Arra** **80.63 327** *e*P **P** **00 54 01.4 -2.7**
SONM **Songino Array** **81.27 19** P **P** **00 54 07.1 -0.2**
SONM PP **PP** **00 57 14.7 +1.3**
SONM **Songino Array** **81.27 19** P **P** **00 54 07.1 -0.2**
comp=Z,8.0nm,0.7s,baz=200,slow=6.3,SNR=56
SONM PP **PP** **00 57 14.7 +1.3**
comp=Z,0.7nm,0.9s,baz=186,slow=10,SNR=3.7
SONA1 **Songino Array** **81.28 19** *e*P **P** **00 54 06.2 -1.2**
ULN **Ulaanbaatar** **81.49 20** P **P** **00 54 07.8 -0.7**
SNR=10
ULN **Ulaanbaatar** **81.49 20** *e*P **P** **00 54 06.9 -1.6**
comp=Z,17nm,1.0s
AKTO **Aktyubinsk** **81.50 347** P **P** **00 54 07.5 -0.8**
AKTO pmax pmax
comp=Z,19nm,1.1s
AKTO **Aktyubinsk** **81.50 347** P **P** **00 54 07.9 -0.4**
AKTO **Aktyubinsk** **81.50 347** P **P** **00 54 07.9 -0.4**
comp=Z,9.6nm,0.9s,baz=160,slow=4.5,SNR=30
KSAR **Wonju Array Be** **81.61 38** P **P** **00 54 09.0 -0.2**
KSRS **Korea Array** **81.64 38** P **P** **00 54 09.0 -0.3**
comp=Z,0.5nm,0.3s,baz=223,slow=7.8,SNR=3.7
KSRS LR LR 01 29 01.9
comp=Z,30nm,19.3s,baz=168,slow=35
KS01 **Wonju Array Si** **81.64 38** *e*P **P** **00 54 07.9 -1.5**
VOSK **Vostochnaya** **82.13 356** *e*P **P** **00 54 10.5 -1.1**
VOSK pmax pmax
comp=Z,44nm,1.4s
VOSK **Vostochnaya** **82.13 356** *e*P **P** **00 54 10.4 -1.1**
comp=Z,44nm,1.4s
BVA0 **Borovoye Array** **82.47 356** P **P** **00 54 12.1 -1.2**
BVA0 pmax pmax
comp=Z,20nm,0.9s
BVAR **Borovoye Array** **82.47 356** P **P** **00 54 11.4 -1.9**
BVAR **Borovoye Array** **82.47 356** P **P** **00 54 11.4 -1.9**
BVAR **Borovoye Array** **82.47 356** P **P** **00 54 11.4 -1.9**
comp=Z,14nm,0.8s,baz=165,slow=6.2,SNR=59
BRVK **Borovoye** **82.51 356** P **P** **00 54 13.6 +0.1**
SNR=9.4
BRVK **Borovoye** **82.51 356** *d*P **P** **00 54 13.2 -0.3**
BRVK pmax pmax
comp=Z,56nm,1.7s
BRVK **Borovoye** **82.51 356** *e*P **P** **00 54 12.4 -1.1**
comp=Z,27nm,0.9s
BRVK **Borovoye** **82.51 356** P **P** **00 54 13.7 +0.1**
comp=Z,189nm,0.8s,SNR=14
ZAK **Zakamensk** **82.78 16** *e*P **P** **00 54 14.1 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
ZAA0 **Zalesovo Array** **83.39 4** *e*P **P** **00 54 16.1 -2.0**
ZALV **Zalesovo Beam** **83.39 4** P **P** **00 54 16.8 -1.3**
ZALV **Zalesovo Beam** **83.39 4** P **P** **00 54 16.8 -1.3**
ZALV **Zalesovo Beam** **83.39 4** P **P** **00 54 16.8 -1.3**
comp=Z,22nm,0.7s,baz=193,slow=4.4,SNR=90
ZALV LR LR 01 30 10.2
comp=Z,36nm,20.3s,baz=57,slow=35
NVS **Novosibirsk** **84.19 3**⇓ *i*P **P** **00 54 19.9 -2.2**
NVS pmax pmax
comp=N,16nm,1.0s
NVS pmax pmax
comp=Z,31nm,1.0s
NVS pmax pmax
comp=E,7.0nm,0.8s
TOA0 **Torodi Ar. Sit** **84.49 288** *e*P **P** **00 54 24.1 -0.6**
TORD **Torodi Ar. Bea** **84.49 288** P **P** **00 54 24.8 +0.2**
TORD **Torodi Ar. Bea** **84.49 288** P **P** **00 54 24.8 +0.2**
comp=E,8.4nm,0.8s,baz=113,slow=5.0,SNR=53
TORD LR LR 01 28 50.5
comp=E,16nm,28.6s,baz=340,slow=33
CN2 **Changchun** **85.14 33** *e*P **P** **00 54 28.5 +1.3**
CN2 *e*pP **pP** **00 54 33.3 +0.9**
CN2 *e*sP **sP** **00 54 35.4 +1.2**
CN2 *e*S **SKKSac** **01 04 56.6 -0.9**
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 pmax pmax
comp=E,200nm,5.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=E,300nm,18.0s
JMB **Yambol** **85.66 325** ⇑P **P** **00 54 31.1 +1.2**
JMB **Yambol** **85.66 325**⇑ *i*P **P** **00 54 31.1 +1.2**
KDZ **Kurdzhali** **85.66 324** ⇑P **P** **00 54 30.3 +0.4**
KDZ **Kurdzhali** **85.66 324**⇑ *i*P **P** **00 54 30.3 +0.4**
VRHR **Novokhopersk** **86.34 338** *e*P **P** **00 54 32.7 -0.3**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=E,3.0nm,0.4s
KIC **Kosan Boka** **86.47 279** *e*P **P** **00 54 35.4 +0.8**
comp=E,51nm,1.2s
MMB **Musomiste** **86.50 323** ⇑P **P** **00 54 34.0 -0.1**
MMB **Musomiste** **86.50 323**⇑ *i*P **P** **00 54 34.0 -0.1**
TLB **Topalu** **86.52 327** ⇓P **P** **00 54 34.4 +0.4**
TLB **Topalu** **86.52 327**⇓ *i*P **P** **00 54 34.4 +0.4**
LIC **Lamto** **86.64 279** *e*P **P** **00 54 36.3 +0.9**
comp=E,70nm,1.5s
DBIC **Dimbokro** **86.72 279** P **P** **00 54 37.0 +1.2**
DBIC **Dimbokro** **86.72 279** P **P** **00 54 37.0 +1.2**
comp=E,4.8nm,0.9s,baz=77,slow=8.6,SNR=5.1
DBIC LR LR 01 31 28.3
comp=E,53nm,18.5s,baz=140,slow=34
TIC **Toumodi** **86.85 279** *e*P **P** **00 54 37.4 +1.0**
comp=E,9.5nm,0.5s
CFR **Carcaliu** **86.92 327** ⇓P **P** **00 54 36.4 +0.5**
CFR **Carcaliu** **86.92 327**⇓ *i*P **P** **00 54 36.4 +0.5**
VAY **Valandovo** **86.93 322** *e*P **P** **00 54 35.7 -0.4**
MAJO **Matsushiro** **86.94 45** P **P** **00 54 35.1 -1.3**
MAJO pmax pmax
comp=Z,252nm,1.7s
ARU **Arti** **87.16 350** *d*P **P** **00 54 36.3 -0.5**
ARU *i*P **P** 00 58 00.1
ARU S **SKSac** **01 05 03.1 0.0**
ARU SS **SS** **01 10 57.6 -2.4**
ARU pmax pmax
comp=Z,15nm,1.7s
SVE **Sverdlovsk** **87.23 351** *e*P **P** **00 54 37.1 -0.1**
SVE pmax pmax
comp=Z,24nm,1.7s
VSR **Storozhevoye** **87.26 337** *e*P **P** **00 54 37.3 -0.2**
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.4s
BIA **Bitola** **87.40 321** *e*P **P** **00 54 38.5 0.0**
VTS **Vitosha** **87.48 323** ⇓P **P** **00 54 39.2 +0.2**
VTS **Vitosha** **87.48 323**⇓ *i*P **P** **00 54 39.2 +0.2**
MDJ **Mudanjiang** **87.73 34** P **P** **00 54 41.6 +1.7**
MDJ pmax pmax
comp=E,7.0nm,0.9s
MDJ pmax pmax
comp=E,54nm,3.8s
VRI **Vrincioaia** **88.09 327** ⇓P **P** **00 54 42.2 +0.6**
VRI **Vrincioaia** **88.09 327**⇓ *i*P **P** **00 54 42.2 +0.6**
PLOR **Plostina** **88.12 327** ⇑P **P** **00 54 42.4 +0.6**
PLOR **Plostina** **88.12 327**⇑ *i*P **P** **00 54 42.4 +0.6**
MLR **Muntele Rosu** **88.19 327**⇓ *i*P **P** **00 54 42.9 +0.6**
ARR **Arges** **88.74 326**⇓ *i*P **P** **00 54 44.5 -0.3**
GZR **Gura Zlata** **89.68 325** ⇑P **P** **00 54 49.6 +0.4**
GZR **Gura Zlata** **89.68 325**⇑ *i*P **P** **00 54 49.6 +0.4**
BUR04 **Bucovina Ar. S** **90.08 328** *e*P **P** **00 54 51.6 +0.5**
BZS **Buzias** **90.42 324** ⇓P **P** **00 54 52.9 +0.4**
BZS **Buzias** **90.42 324**⇓ *i*P **P** **00 54 52.9 +0.4**
SOKR **Solikamsk** **90.47 350**⇑ *i*P **P** **00 54 52.3 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
AKASG **Malin Array Be** **90.60 332** P **P** **00 54 53.3 +0.1**
AKASG 00 58 24.7
AKASG **Malin Array Be** **90.60 332** P **P** **00 54 53.3 +0.1**
AKASG PP **PP** **00 58 24.7 -4.2**
AKASG **Malin Array Be** **90.60 332** P **P** **00 54 53.3 +0.1**
comp=Z,1.6nm,0.6s,baz=136,slow=3.8,SNR=18
AKASG PP **PP** **00 58 24.7 -4.2**
comp=Z,0.4nm,0.4s,baz=140,slow=7.8,SNR=4.7
AKASG LR LR 01 33 21.2
comp=Z,16nm,28.6s,baz=315,slow=34
KIEV **Kiev** **90.61 332** *e*P **P** **00 54 53.2 -0.1**
KEST **Kesra** **91.29 311** *e*P **P** **00 54 57.5 +0.6**
KEST **Kesra** **91.29 311** P **P** **00 54 57.9 +0.9**
comp=Z,6.7nm,1.1s,baz=49,slow=3.7,SNR=6.7
KEST LR LR 01 33 03.0
comp=Z,43nm,21.6s,baz=1.0,slow=34
OBN **Obninsk** **91.37 338**⇓ *e*P **P** **00 54 56.9 +0.2**
OBN pmax pmax
comp=Z,59nm,1.8s
MOS **Moscow** **91.55 339** *e*P **P** **00 54 57.3 -0.2**
MOS pmax pmax
comp=Z,53nm,1.5s
KLR **Kul'dur** **92.07 32** *e*P P 00 54 55.8 -4.3
UZH **Uzhgorod** **92.18 327** *e*P **P** **00 55 00.1 -0.5**
UZH *e* 00 55 05.3
LVV **L'vov** **92.21 329** *e*P **P** **00 55 00.9 +0.1**
PKSM **Moragy** **92.35 323** ⇑P **P** **00 55 01.6 +0.1**
PKSM **Moragy** **92.35 323**⇑ *i*P **P** **00 55 01.5 +0.1**
KWP **Kalwaria Pacla** **92.69 328** ⇓P **P** **00 55 03.2 +0.2**
KWP **Kalwaria Pacla** **92.69 328**⇓ *i*P **P** **00 55 03.2 +0.2**
KHC **Kasperske Hory** **96.84 324**⇑ *e*P **P** **00 55 21.3 -0.8**
KHC pmax pmax
comp=Z,89nm,2.7s
CLL **Collm** **98.47 325** *e*PP PP 00 59 29.0 -1.1
FINES **FINESS Array B** **99.77 338** LR LR 01 38 01.0
comp=Z,107nm,21.2s,baz=171,slow=34
LPAZ **La Paz** **123.68 221** PKP **PKPdf** **01 00 51.1 +0.6**
LPAZ **La Paz** **123.68 221** PKP **PKPdf** **01 00 51.1 +0.6**
comp=Z,1.1nm,0.7s,baz=91,slow=1.4,SNR=4.6
COLD **Coldfoot** **132.84 23** *e*PKPdf **PKPdf** **01 01 06.6 +1.0**
RES **Resolute Bay** **134.64 357** PKP **PKPdf** **01 01 09.4 +0.6**
RES **Resolute Bay** **134.64 357** PKP **PKPdf** **01 01 09.4 +0.6**
comp=Z,2.2nm,0.7s,baz=90,slow=3.0,SNR=6.0
IL1 **Eielson Array** **135.22 25** *e*PKPdf **PKPdf** **01 01 09.1 -1.0**
ILAR **Eielson Array** **135.22 25** PKP **PKPdf** **01 01 08.7 -1.4**
ILAR **Eielson Array** **135.22 25** PKP **PKPdf** **01 01 08.7 -1.4**
comp=Z,1.7nm,0.7s,baz=294,slow=3.2,SNR=16
INK **Inuvik** **137.13 16** PKPpre PKPpre 01 00 56.5
INK PKP **PKPdf** **01 01 13.5 0.0**
INK **Inuvik** **137.13 16** PKhKP PKPpre 01 00 56.5
comp=Z,2.3nm,0.5s,baz=284,slow=6.4,SNR=8.9
INK PKP **PKPdf** **01 01 13.5 0.0**
comp=Z,2.2nm,0.5s,baz=326,slow=2.9,SNR=7.1
OTAV **Otavalo** **142.96 222** *e*PKPdf **PKPdf** **01 01 23.4 -3.0**
ROSC **El Rosal** **143.83 233** *e*PKPpre PKPpre 01 01 22.5
ROSC **El Rosal** **143.83 233** PKP PKPbc 01 01 26.1 +0.6
comp=Z,14nm,0.6s,baz=88,slow=21,SNR=10
SCHQ **Schefferville** **144.12 325** PKP PKPbc 01 01 24.5 -0.2
SCHQ **Schefferville** **144.12 325** PKP PKPbc 01 01 24.5 -0.2
comp=Z,14nm,1.0s,baz=70,slow=3.4,SNR=7.9
MTP **Monte Pirata** **144.54 260** *e*PKPdf **PKPab** **01 01 26.5 -0.4**
HUMP **Col San Antoni** **144.82 259** *e*PKPdf **PKPab** **01 01 27.3 -0.6**
CELP **Cerrilos** **145.41 259** *e*PKPdf **PKPbc** **01 01 29.2 -0.7**
OBIP **Obispado Ponce** **145.42 259** *e*PKPdf **PKPbc** **01 01 28.5 -1.4**
DLBC **Dease Lake** **145.43 25** *e*PKPab **PKPbc** **01 01 28.4 -0.4**
DLBC **Dease Lake** **145.43 25** PKPbc **PKPab** **01 01 28.9 -0.1**
comp=Z,35nm,0.9s,baz=306,slow=4.1,SNR=50
AOPR **Arecibo Observ** **145.68 259** *e*PKPdf **PKPdf** **01 01 29.1 -1.3**
LRS **Lares** **145.73 259** *e*PKPdf **PKPdf** **01 01 30.4 -0.1**
WRAK **Wrangell Islan** **145.85 30** *e*PKPdf **PKPdf** **01 01 29.2 -0.3**
MPR **Mayaguez** **145.95 259** *e*PKPdf **PKPab** **01 01 32.2 +0.2**
YKA **Yellowknife Ar** **146.10 10** PKPbc **PKPdf** **01 01 29.4 -0.4**
YKA **Yellowknife Ar** **146.10 10** PKPbc **PKPdf** **01 01 29.4 -0.4**
comp=Z,8.4nm,0.6s,baz=331,slow=3.6,SNR=38
YKB5 **Yellowknife Ar** **146.10 10** *e*PKPdf **PKPdf** **01 01 28.1 -1.7**
BBB **Bella Bella** **150.47 33** PKPbc **PKPbc** **01 01 42.8 +0.3**
BBB **Bella Bella** **150.47 33** PKPbc **PKPbc** **01 01 42.8 +0.3**
comp=Z,25nm,0.8s,baz=284,slow=3.3,SNR=4.1
I03D **Drain, OR** **158.14 44** ⇑PKPab **PKPab** **01 02 22.1 +0.2**
baz=158
NEW **Newport** **158.16 27** ⇑PKPab **PKPab** **01 02 21.7 -0.2**
baz=158
I04A **Tendick Farm,** **158.65 43** ⇓PKPab **PKPab** **01 02 23.8 -0.4**
baz=158
ULM **Lac du Bonnet** **158.74 348** PKPab **PKPab** **01 02 22.0 -2.2**
ULM **Lac du Bonnet** **158.74 348** PKPab **PKPab** **01 02 22.0 -2.2**
comp=Z,3.9nm,0.8s,baz=352,slow=5.2,SNR=4.7
I05D **Terrebonne, OR** **158.94 40** ⇑PKPab **PKPab** **01 02 25.3 -0.2**
baz=159
HUMO **Hull Mountain** **158.97 46** *e*PKPdf **PKPdf** **01 01 47.0 -2.3**
J04D **Umpqua Nationa** **159.14 44** ⇓PKPab **PKPab** **01 02 26.4 -0.2**
baz=159
BSMT **Bassoo Peak** **159.38 24** *e*PKPab **PKPab** **01 02 26.2 -1.2**
BLMT **Blacktail Moun** **159.39 23** *e*PKPab **PKPab** **01 02 25.6 -1.9**
YBH **Yreka Blue Hor** **159.57 48** PKPab **PKPab** **01 02 28.3 -0.1**
YBH **Yreka Blue Hor** **159.57 48** PKPab **PKPab** **01 02 28.3 -0.1**
comp=Z,2.9nm,1.0s,baz=118,slow=1.8,SNR=5.8
J05D **Fort Rock, OR** **159.64 43** ⇓PKPab **PKPab** **01 02 27.9 -0.8**
baz=160
YBMT **Yellow Bay** **159.64 23** *e*PKPab **PKPab** **01 02 27.1 -1.4**
M02C **Callahan** **159.64 49** ⇑PKPab **PKPab** **01 02 27.9 -0.8**
baz=160
JTMT **Jette** **159.65 24** *e*PKPab **PKPab** **01 02 27.4 -1.1**
F10A **Beach Ranch, E** **159.91 31** *e*PKPab **PKPab** **01 02 27.9 -1.8**
N02D **Trinity Center** **159.94 50** ⇑PKPab **PKPab** **01 02 29.4 -0.7**
baz=160
SWMT **Swartz Lake** **159.95 23** *e*PKPdf **PKPdf** **01 01 49.7 -0.7**
SWMT *e*PKPab **PKPab** **01 02 28.1 -1.7**
A19A **Klindworth Far** **160.05 12** ⇓PKPab **PKPab** **01 02 29.2 -0.9**
baz=160
M04C **Macdoel** **160.10 47** ⇑PKPab **PKPab** **01 02 30.2 -0.6**
baz=160
A20A **Cobblestone Ra** **160.24 11** ⇓PKPab **PKPab** **01 02 29.9 -1.0**
baz=160
A21A **Bergtoll Ranch** **160.28 9** ⇓PKPab **PKPab** **01 02 30.2 -0.9**
baz=160
SLMT **Seeley Lake** **160.36 23** *e*PKPab **PKPab** **01 02 30.0 -1.7**
A30A **Hoffart Farm,** **160.38 352** ⇑PKPab **PKPab** **01 02 30.7 -0.8**
baz=160
A22A **Carney Farms,** **160.40 7** ⇓PKPab **PKPab** **01 02 30.9 -0.7**
baz=160
B19A **Brinkman Farms** **160.47 13** ⇓PKPab **PKPab** **01 02 31.1 -0.8**
baz=160
A29A **Manning Farm,** **160.50 354** ⇓PKPab **PKPab** **01 02 31.4 -0.5**
baz=160
MSO **Missoula** **160.55 24** ⇓PKPab **PKPab** **01 02 31.6 -0.8**
baz=160
A24A **Westby** **160.62 3** ⇓PKPab **PKPab** **01 02 32.2 -0.3**
baz=160
A25A **Svangstu Ranch** **160.63 1** ⇓PKPab **PKPab** **01 02 32.2 -0.4**
baz=160
B20A **Solberg Farm,** **160.65 11** ⇓PKPab **PKPab** **01 02 31.9 -0.9**
baz=160
EGMT **Eagleton** **160.71 15** ⇓PKPab **PKPab** **01 02 32.0 -1.0**
baz=161
B21A **Ellsworth Farm** **160.82 9** ⇑PKPab **PKPab** **01 02 32.5 -0.9**
baz=161
B30A **Myrvik Farm, E** **160.87 352** ⇓PKPab **PKPab** **01 02 32.9 -0.7**
baz=161
B29A **Wagenman Farm,** **160.97 354** ⇓PKPab **PKPab** **01 02 33.3 -0.7**
baz=161
MOD **Modoc** **161.00 45** *e*PKPdf **PKPdf** **01 01 52.1 +0.3**
B23A **Brockton** **161.01 5** ⇓PKPab **PKPab** **01 02 33.9 -0.4**
baz=161
DGMT **Dagmar** **161.06 4** *e*PKPab **PKPab** **01 02 33.5 -0.9**
B28A **Dugan Ranch, T** **161.06 356** ⇑PKPab **PKPab** **01 02 34.5 +0.1**
baz=161
B22A **Reddig Ranch S** **161.08 7** ⇑PKPab **PKPab** **01 02 34.3 -0.3**
baz=161
B26A **Jensen Ranch,** **161.20 360** ⇓PKPab **PKPab** **01 02 34.7 -0.4**
baz=161
B25A **Knox Farm, Ray** **161.30 2** ⇓PKPab **PKPab** **01 02 35.3 -0.2**
baz=161
C20A **Veseth Ranch,** **161.36 12** ⇑PKPab **PKPab** **01 02 34.7 -1.1**
baz=161
C21A **Desert Coulee** **161.40 10** ⇓PKPab **PKPab** **01 02 35.5 -0.5**
baz=161
C30A **Mose, Pekin** **161.62 352** ⇑PKPab **PKPab** **01 02 36.4 -0.5**
baz=162
C22A **Vida** **161.64 7** ⇓PKPab **PKPab** **01 02 36.6 -0.4**
baz=162
C23A **Lambert** **161.65 6** ⇑PKPab **PKPab** **01 02 36.8 -0.3**
baz=162
D19A **Cripps Ranch,** **161.71 14** ⇓PKPab **PKPab** **01 02 36.7 -0.7**
baz=162
C28A **Hausauer Farms** **161.79 356** ⇑PKPab **PKPab** **01 02 37.3 -0.3**
baz=162
C25A **Freed Ranch, W** **161.85 2** ⇑PKPab **PKPab** **01 02 38.0 0.0**
baz=162
D20A **Manuel Ranch,** **161.93 13** ⇓PKPab **PKPab** **01 02 37.2 -1.1**
baz=162
C24A **Savage** **161.98 4** ⇓PKPab **PKPab** **01 02 38.3 -0.3**
baz=162
BEKR **Beckworth** **162.05 50** *e*PKPdf **PKPdf** **01 01 51.2 -1.7**
BEKR *e*PKPab **PKPab** **01 02 36.9 -2.5**
D21A **La Casta Ranch** **162.15 10** ⇓PKPab **PKPab** **01 02 38.8 -0.5**
baz=162
D22A **Cohagen** **162.19 8** ⇑PKPab **PKPab** **01 02 39.1 -0.4**
baz=162
D30A **Buchanan** **162.24 352** ⇑PKPab **PKPab** **01 02 39.0 -0.6**
baz=162
D23A **Lindsay** **162.27 6** ⇓PKPab **PKPab** **01 02 39.9 +0.1**
baz=162
D28A **Regan** **162.33 356** ⇑PKPab **PKPab** **01 02 40.0 0.0**
baz=162
E19A **Rath Farm, Rou** **162.40 15** ⇑PKPab **PKPab** **01 02 39.9 -0.5**
baz=162
D24A **Glendive** **162.40 4** ⇓PKPab **PKPab** **01 02 40.3 -0.1**
baz=162
D25A **Fairfield** **162.41 2** ⇓PKPab **PKPab** **01 02 40.7 +0.2**
baz=162
D27A **Center** **162.46 358** ⇓PKPab **PKPab** **01 02 40.2 -0.4**
baz=162
E20A **Meyer Farm, Mu** **162.50 13** ⇑PKPab **PKPab** **01 02 39.9 -1.0**
baz=162
D26A **Manning** **162.55 0** ⇑PKPab **PKPab** **01 02 40.5 -0.6**
baz=162
MCMT **McKenzie Canyo** **162.66 26** *e*PKPab **PKPab** **01 02 40.2 -1.6**

CMB Columbia Colle 162.85 56 ePKP2 PKPab 01 02 40.8 -2.0
CMB Columbia Colle 162.85 56 ePKPab PKPab 01 02 40.8 -2.0
E22A Miles City 162.92 8 ⇑PKPab PKPab 01 02 42.3 -0.3
baz=163
E23A Ismay 162.93 7 ⇓PKPab PKPab 01 02 42.3 -0.4
baz=163
F19A Roth Farm, Mol 162.94 16 ⇓PKPab PKPab 01 02 42.0 -0.9
baz=163
E28A Huff 162.95 356 ⇓PKPab PKPab 01 02 42.4 -0.4
baz=163
E24A Baker 162.95 4 ⇑PKPab PKPab 01 02 43.0 +0.1
baz=163
HLID Hailey 163.04 31 ePKPdf PKPdf 01 01 53.5 -0.4
HLID ePKPab PKPab 01 02 42.9 -0.6
HLID Hailey 163.04 31 ⇑PKPab PKPab 01 02 43.4 -0.1
baz=163
E25A Miller Ranch, 163.06 2 ⇓PKPab PKPab 01 02 43.3 0.0
baz=163
E26A Carlson Angus 163.11 0 ⇓PKPab PKPab 01 02 43.4 -0.1
baz=163
E27A Carson 163.14 358 ⇑PKPab PKPab 01 02 43.2 -0.5
baz=163
F20A Billings 163.16 14 ⇑PKPab PKPab 01 02 43.4 -0.4
baz=163
WAKR Walker 163.32 53 ePKPdf PKPdf 01 01 54.6 +0.3
WAKR ePKPab PKPab 01 02 44.2 -0.8
SFIN Scholer Farm 163.46 315 ⇓PKPab PKPab 01 02 45.1 -0.2
baz=163
F25A Bowman 163.63 3 ⇓PKPab PKPab 01 02 45.6 -0.2
baz=164
F24A Ekalaka 163.66 5 ⇑PKPab PKPab 01 02 45.5 -0.5
baz=164
F23A Volborg 163.69 7 ⇓PKPab PKPab 01 02 45.7 -0.4
baz=164
G20A Bridger 163.70 15 ⇑PKPab PKPab 01 02 45.4 -0.8
baz=164
F26A Lodgepole 163.73 1 ⇓PKPab PKPab 01 02 46.1 -0.2
baz=164
H17A Grant Village 163.83 21 ⇓PKPab PKPab 01 02 47.4 +0.4
baz=164
H18A Shoshone NF, C 163.85 19 ⇓PKPab PKPab 01 02 46.6 -0.5
baz=164
G21A Lodge Grass 163.90 12 ⇑PKPab PKPab 01 02 46.5 -0.6
baz=164
G22A Birney 164.06 10 ⇑PKPab PKPab 01 02 47.3 -0.5
baz=164
NV01 Mina Array Sit 164.14 52 ePKPdf PKPdf 01 01 55.5 +0.5
NV01 ePKPab PKPab 01 02 46.9 -1.8
NVAR Mina Array Bea 164.14 52 PKP PKPdf 01 01 56.0 +0.9
NVAR PKPab PKPab 01 02 48.1 -0.5
NVAR Mina Array Bea 164.14 52 PKP PKPdf 01 01 56.0 +0.9
comp=Z,1.9nm,1.0s,baz=260,slow=1.0,SNR=12
NVAR PKPab PKPab 01 02 48.1 -0.5
comp=Z,7.0nm,0.8s,baz=279,slow=5.5,SNR=33
G27A Dupree 164.20 359 ⇑PKPab PKPab 01 02 48.1 -0.2
baz=164
G23A Biddle 164.20 8 ⇓PKPab PKPab 01 02 47.9 -0.5
baz=164
G26A Maurine 164.28 0 ⇑PKPab PKPab 01 02 48.6 -0.1
baz=164
PKM Peak Mountain 164.34 66 ⇑PKPab PKPab 01 02 49.3 -0.3
baz=164
G25A Newell 164.37 3 ⇓PKPab PKPab 01 02 48.8 -0.3
baz=164
G28A Parade 164.46 356 ⇓PKPab PKPab 01 02 49.0 -0.4
baz=164
H21A Big Horn, Sher 164.51 12 ⇓PKPab PKPab 01 02 49.5 -0.3
baz=164
I19A Meeteetse 164.62 18 ⇑PKPab PKPab 01 02 50.4 -0.1
baz=164
H22A Clearmont 164.66 11 ⇑PKPab PKPab 01 02 50.2 -0.3
baz=164
ELK Elko 164.70 40 PKP PKPdf 01 01 56.0 +0.5
ELK PKPab 01 02 50.7 -0.3
ELK Elko 164.70 40 PKP PKPdf 01 01 56.0 +0.5
comp=Z,1.1nm,0.8s,baz=159,slow=3.9,SNR=5.1
ELK PKPab PKPab 01 02 50.7 -0.3
comp=Z,0.9nm,0.7s,baz=52,slow=3.4,SNR=4.9
H24A Dirks Ranch, A 164.74 6 ⇓PKPab PKPab 01 02 49.9 -0.9
baz=165
H29A Onida 164.85 354 ⇑PKPab PKPab 01 02 50.6 -0.6
baz=165
H28A Mission Ridge 164.86 356 ⇑PKPab PKPab 01 02 50.7 -0.5
baz=165
I20A Worland 164.93 16 ⇑PKPab PKPab 01 02 51.3 -0.4
baz=165
H25A Fruitdale 164.93 3 ⇓PKPab PKPab 01 02 51.2 -0.4
baz=165
H27A Howes 164.94 359 ⇑PKPab PKPab 01 02 51.3 -0.3
baz=165
TPH Tonopah 165.06 51 ePKIKP PKPdf 01 01 53.7 -2.2
TPH e 01 02 49.8
TPH Tonopah 165.06 51 ePKPdf PKPdf 01 01 53.7 -2.2
TPH ePKPab PKPab 01 02 49.8 -2.9
I21A Big Trails, Te 165.25 14 ⇑PKPab PKPab 01 02 52.7 -0.4
baz=165
J19A Crowheart 165.32 19 ⇓PKPab PKPab 01 02 53.0 -0.5
baz=165
I22A 9 Mile Ranch, 165.32 12 ⇑PKPab PKPab 01 02 53.1 -0.3
baz=165
RSSD Black Hills 165.40 5 ePKP2 PKPab 01 02 52.0 -1.8
RSSD Black Hills 165.40 5 ePKPab PKPab 01 02 52.0 -1.8
I29A Vivian Onida 165.46 354 ⇓PKPab PKPab 01 02 53.9 0.0
baz=165
GRAC Grapevine Rang 165.46 55 ⇑PKPab PKPab 01 02 54.0 -0.3
baz=165
J20A Shoshoni 165.50 17 ⇓PKPab PKPab 01 02 53.9 -0.3
baz=165
I27A Quinn 165.51 359 ⇓PKPab PKPab 01 02 53.8 -0.3
baz=165
I25A Rochford 165.52 4 ⇓PKPab PKPab 01 02 53.9 -0.4
baz=165
I28A Midland 165.54 356 ⇑PKPab PKPab 01 02 53.9 -0.3
baz=165
I24A Kuemmerle Ranc 165.61 6 ⇑PKPab PKPab 01 02 54.0 -0.7
baz=166
BW06 Boulder Array 165.62 22 ePKPdf PKPdf 01 01 54.5 -1.7
BW06 ePKPab PKPab 01 02 52.2 -2.7
PDAR Pinedale Array 165.62 22 PKP PKPdf 01 01 55.7 -0.5
PDAR PKPab PKPab 01 02 53.0 -1.9
PDAR Pinedale Array 165.62 22 PKP PKPdf 01 01 55.7 -0.5
comp=Z,1.7nm,1.0s,baz=225,slow=0.6,SNR=10
PDAR PKPab PKPab 01 02 53.0 -1.9
comp=Z,1.5nm,1.0s,baz=72,slow=1.3,SNR=5.4
J21A Lysite 165.66 15 ⇓PKPab PKPab 01 02 54.4 -0.6
baz=166
MPMC Manual Prospec 165.77 59 ⇑PKPab PKPab 01 02 55.4 -0.5
baz=166
J22A Midwest 165.79 12 ⇑PKPab PKPab 01 02 54.8 -0.8
baz=166
EDW2 Edwards Air Fo 165.79 64 ⇓PKPab PKPab 01 02 55.6 -0.3
baz=166
LRMC Laurel Mountai 165.83 61 ⇑PKPab PKPab 01 02 55.7 -0.4
baz=166
R11A Troy Canyon, C 166.00 48 ePKPdf PKPdf 01 01 56.6 0.0
R11A Troy Canyon, C 166.00 48 ⇑PKPab PKPab 01 02 56.1 -0.7
baz=166
J30A Dallas 166.06 351 ⇑PKPab PKPab 01 02 55.9 -0.7
baz=166
FURC Furnace Creek, 166.06 57 ⇑PKPab PKPab 01 02 56.8 -0.1
baz=166
J29A Okreek 166.07 354 ⇑PKPab PKPab 01 02 56.1 -0.5
baz=166
J28A Allard Ranch, 166.12 356 ⇑PKPab PKPab 01 02 56.4 -0.4
baz=166
J24A Dixon Ranch, L 166.13 7 ⇓PKPab PKPab 01 02 56.8 -0.2
baz=166
J25A Sunshine Ranch 166.14 4 ⇑PKPab PKPab 01 02 56.5 -0.5
baz=166
BFSC Mount Baldy Ra 166.24 66 ⇑PKPab PKPab 01 02 57.3 -0.7
baz=166
J26A Sides Ranch, S 166.26 2 ⇑PKPab PKPab 01 02 57.0 -0.5
baz=166
TPNV Topopah Spring 166.28 54 ePKP2 PKPab 01 02 56.3 -1.8
TPNV Topopah Spring 166.28 54 ePKPab PKPab 01 02 56.3 -1.8
TPNV Topopah Spring 166.28 54 ⇓PKPab PKPab 01 02 57.6 -0.5
baz=166
J27A Elkhorn Farm, 166.32 359 ⇑PKPab PKPab 01 02 57.3 -0.5
baz=166
K21A Alcova 166.38 15 ⇓PKPab PKPab 01 02 56.9 -1.3
baz=166
DUG Dugway 166.39 36 ePKIKP PKPdf 01 01 55.4 -1.4
DUG Dugway 166.39 36 ePKPdf PKPdf 01 01 55.4 -1.4
DUG Dugway 166.39 36 ⇓PKPab PKPab 01 02 57.5 -0.8
baz=166
K22A Casper 166.52 13 ⇑PKPab PKPab 01 02 57.7 -1.0
baz=166
GSC Goldstone 166.57 61 ⇓PKPab PKPab 01 02 58.9 -0.4
baz=166
K23A Bowen Ranch, D 166.57 10 ⇓PKPab PKPab 01 02 58.3 -0.7
baz=166
K24A Anderson Ranch 166.72 8 ⇓PKPab PKPab 01 02 59.1 -0.5
baz=167
MURC Murrieta 166.77 68 ⇓PKPab PKPab 01 02 59.6 -0.6
baz=167
K28A Ten Mile Ranch 166.84 357 ⇓PKPab PKPab 01 02 59.8 -0.2
baz=167
K26A Motz Farm, Whi 166.86 2 ⇓PKPab PKPab 01 03 00.1 -0.1
baz=167
HEC Hector,Ludlow 167.10 62 ⇑PKPab PKPab 01 03 01.6 -0.1
baz=167
L22A Ellis Ranch, M 167.13 14 ⇓PKPab PKPab 01 03 01.2 -0.4
baz=167
TUQ Turquoise Moun 167.18 59 ⇑PKPab PKPab 01 03 01.8 -0.3
baz=167
L23A Garrett 167.19 11 ⇓PKPab PKPab 01 03 01.5 -0.3
baz=167
PFO Pinyon Flat Ob 167.37 68 PKP PKPdf 01 01 58.0 +0.3
PFO PKPab PKPab 01 03 02.5 -0.5
PFO Pinyon Flat Ob 167.37 68 ⇑PKPab PKPab 01 03 02.3 -0.7
baz=167
PFO Pinyon Flat Ob 167.37 68 PKP PKPdf 01 01 58.0 +0.3
comp=Z,3.2nm,0.8s,baz=146,slow=7.3,SNR=3.3
PFO PKPab PKPab 01 03 02.5 -0.5
comp=Z,5.5nm,1.0s,baz=262,slow=4.1,SNR=5.0
L24A Wheatland 167.37 9 ⇑PKPab PKPab 01 03 02.1 -0.4
baz=167
L30A Spencer Herefo 167.44 351 ⇓PKPab PKPab 01 03 02.3 -0.4
baz=167
MONP Monument Peak 167.56 71 ⇑PKPab PKPab 01 03 03.7 -0.3
baz=168
BELC Belle Mtn. Jos 167.62 66 ⇓PKPab PKPab 01 03 04.1 0.0
baz=168
GMRC White Mounta 167.63 62 ⇑PKPab PKPab 01 03 04.1 0.0
baz=168
N20A Spence Gulch, 167.78 21 ⇓PKPab PKPab 01 03 04.4 -0.1
baz=168
M23A Laramie 167.81 12 ⇑PKPab PKPab 01 03 04.3 -0.3
baz=168
M24A Cheyenne 167.95 9 ⇓PKPab PKPab 01 03 05.0 -0.1
baz=168
SWSC Sam W. Stewart 168.06 70 ⇑PKPab PKPab 01 03 05.6 -0.3
baz=168
BC3 Big Chuckawall 168.16 66 ⇑PKPab PKPab 01 03 06.5 0.0
baz=168
IRM Iron Mountain 168.24 64 ⇑PKPab PKPab 01 03 06.9 +0.2
baz=168
N22A Wattenberg Ran 168.30 15 ⇓PKPab PKPab 01 03 06.8 -0.1
baz=168
N23A Red Feather La 168.32 13 ⇓PKPab PKPab 01 03 06.8 -0.1
baz=168
O20A White River Ci 168.41 23 ⇓PKPab PKPab 01 03 07.0 -0.3
baz=168
N24A Carr 168.57 9 ⇑PKPab PKPab 01 03 07.7 -0.2
baz=168
GLA Glamis 168.83 69 ⇑PKPab PKPab 01 03 09.0 -0.3
baz=169
W13A Hualapai Mount 168.84 57 ⇓PKPab PKPab 01 03 09.1 -0.4
baz=169
PDMCI Parker Dam,Lak 168.97 62 ⇓PKPab PKPab 01 03 10.2 +0.4
baz=169
O23A Lake Granby, G 168.99 14 ⇓PKPab PKPab 01 03 09.3 -0.6
baz=169
U15A North Rim 169.25 48 ⇓PKPab PKPab 01 03 11.3 -0.1
baz=169
O26A Horse Wrangler 169.31 4 ⇑PKPab PKPab 01 03 10.8 -0.3
baz=169
P22A Eagle 169.36 18 ⇑PKPab PKPab 01 03 10.8 -0.7
baz=169
O28A Krutsinger Ran 169.44 357 ⇑PKPab PKPab 01 03 11.5 -0.1
baz=169
ISCO Idaho Springs 169.44 14 ⇑PKPab PKPab 01 03 11.4 -0.6
baz=169
SMCO Snowmass 169.69 20 ePKPab PKPab 01 03 11.4 -1.8
P31A Stockton 169.75 347 ⇑PKPab PKPab 01 03 12.6 -0.4
baz=170
113A Mohawk Valley, 169.76 69 ⇑PKPab PKPab 01 03 13.2 -0.2
baz=170
P23A Jefferson 169.80 15 ⇑PKPab PKPab 01 03 13.2 -0.4
baz=170
PV05 Paradox Valley 169.84 31 ePKPdf PKPdf 01 02 01.0 +1.7
PV05 ePKPab PKPab 01 03 11.6 -2.1
Q33A Connelly Farm, 169.84 339 ⇓PKPab PKPab 01 03 13.7 +0.4
baz=170
P25A Willow Gulch B 169.96 8 ⇑PKPab PKPab 01 03 13.8 -0.3
baz=170
Y14A Wickenburg 169.98 61 ⇓PKPab PKPab 01 03 14.1 -0.4
baz=170
P26A Davis Ranch, A 169.99 4 ⇓PKPab PKPab 01 03 13.9 -0.2
baz=170
PV01 Paradox Valley 170.03 29 ePKPab PKPab 01 03 13.3 -1.3
Q32A Meitler Ranch, 170.06 342 ⇑PKPab PKPab 01 03 14.1 -0.2
baz=170
Q31A Ellis 170.25 346 ⇓PKPab PKPab 01 03 14.8 -0.3
baz=170
Q24A Divide 170.34 13 ⇑PKPab PKPab 01 03 15.5 -0.5
baz=170
WUAZ Wupatki 170.38 49 ⇑PKPab PKPab 01 03 15.4 -0.8
baz=170
Q30A Winter 170.43 350 ⇑PKPab PKPab 01 03 15.4 -0.5
baz=170
Q28A Sharon Springs 170.50 357 ⇑PKPab PKPab 01 03 15.6 -0.8
baz=170
R33A Olander Ranch, 170.52 338 ⇑PKPab PKPab 01 03 16.3 -0.2
baz=170
Q25A Bedland, Calha 170.54 9 ⇓PKPab PKPab 01 03 16.0 -0.7
baz=170
KSCO Kaye Shedlock' 170.56 1 ⇓PKPab PKPab 01 03 16.1 -0.5
baz=170
Q26A Hugo 170.61 5 ⇓PKPab PKPab 01 03 16.4 -0.5
baz=170
Q29A Oakley 170.61 353 ⇓PKPab PKPab 01 03 15.9 -0.9
baz=170
R32A Long Quarter, 170.63 342 ⇓PKPab PKPab 01 03 16.7 -0.2
baz=170
214A Organ Pipe Nat 170.74 72 ⇑PKPab PKPab 01 03 18.4 +0.5
baz=171
MVCO Mesa Verde 170.83 32 ⇑PKPab PKPab 01 03 17.8 -0.4
baz=171
X16A Lo Mia Camp, P 170.93 55 ⇓PKPab PKPab 01 03 18.5 -0.3
baz=171
S22A 4UR Ranch, Cre 171.04 23 ⇓PKPab PKPab 01 03 18.1 -1.0
baz=171
R24A Sanders Place, 171.06 14 ⇑PKPab PKPab 01 03 18.3 -0.8
baz=171
R28A Tribune 171.22 357 ⇓PKPab PKPab 01 03 18.7 -0.8
baz=171
R26A Arlington 171.23 5 ⇓PKPab PKPab 01 03 19.1 -0.5
baz=171
R27A Eads 171.28 2 ⇑PKPab PKPab 01 03 19.1 -0.7
baz=171
R25A Fountain Ranch 171.29 10 ⇓PKPab PKPab 01 03 19.4 -0.6
baz=171
TUL1 Tulsa 171.56 320 ⇑PKPab PKPab 01 03 20.9 -0.2
baz=172
S31A Mullinville 171.59 344 ⇓PKPab PKPab 01 03 20.8 -0.4
baz=172
S24A Houchin Ranch, 171.60 15 ⇓PKPab PKPab 01 03 20.7 -0.9
baz=172
T33A Patterson Ranc 171.72 336 ⇓PKPab PKPab 01 03 20.7 -1.0
baz=172
T32A Huddler Ranch, 171.85 340 ⇓PKPab PKPab 01 03 22.2 -0.2
baz=172
S27A Las Animas 171.88 3 ⇑PKPab PKPab 01 03 21.8 -0.8
baz=172
S26A Kim 171.90 6 ⇑PKPab PKPab 01 03 22.1 -0.6
baz=172
X18A Snowflake 171.91 50 ⇓PKPab PKPab 01 03 22.6 -0.5
baz=172
T23A Casias Ranch, 171.94 21 ⇓PKPab PKPab 01 03 22.4 -0.6
baz=172
S28A Manter 171.97 357 ⇓PKPab PKPab 01 03 22.2 -0.7
baz=172
T25A Trinidad 172.25 12 ⇑PKPab PKPab 01 03 23.5 -0.9
baz=172
T26A Comanche Natio 172.33 7 ⇓PKPab PKPab 01 03 24.0 -0.7
baz=172
T30A Plains 172.35 349 ⇓PKPab PKPab 01 03 24.3 -0.3
baz=172
V34A Guthrie 172.50 328 ⇓PKPab PKPab 01 03 25.2 -0.1
baz=172
T27A Campo 172.51 2 ⇓PKPab PKPab 01 03 24.7 -0.6
baz=172
U23A El Rito 172.53 24 ⇓PKPab PKPab 01 03 25.2 -0.5
baz=172
U32A Winter Ranch, 172.61 338 ⇑PKPab PKPab 01 03 25.8 0.0
baz=172
V22A San Miguel Ran 172.61 30 ⇑PKPab PKPab 01 03 25.7 -0.3
baz=172
V33A Lossen Ranch, 172.85 332 ⇓PKPab PKPab 01 03 26.7 -0.1
baz=173
U30A WK&E Inc. Balk 172.88 348 ⇓PKPab PKPab 01 03 27.0 0.0
baz=173
V23A Ortiz Mt. (NFS 173.06 26 ⇓PKPab PKPab 01 03 27.9 -0.1
baz=173
U26A Atchley Ranch, 173.09 9 ⇓PKPab PKPab 01 03 27.6 -0.5
baz=173
U27A Thompson Grove 173.14 3 ⇑PKPab PKPab 01 03 27.6 -0.6
baz=173
V32A Arapaho 173.22 336 ⇑PKPab PKPab 01 03 28.5 0.0
baz=173
Y20A Horse Springs, 173.32 48 ⇑PKPab PKPab 01 03 28.8 -0.6
baz=173
V24A Rampart Ranch, 173.39 21 ⇑PKPab PKPab 01 03 29.2 -0.3
baz=173
V25A Rancho No Teng 173.46 16 ⇓PKPab PKPab 01 03 29.7 0.0
baz=173
W23A Werner Place, 173.58 28 ⇓PKPab PKPab 01 03 30.1 -0.2
baz=173
ANMO Albuquerque 173.63 31 ePKPdf PKPdf 01 02 01.3 +0.1
Z20A Nine Sixteen R 173.64 55 ⇑PKPab PKPab 01 03 30.3 -0.5
baz=174
X34A Smith Ranch, M 173.64 323 ⇑PKPab PKPab 01 03 30.7 +0.3
baz=174
V26A Tequesquite Ra 173.67 10 ⇓PKPab PKPab 01 03 30.0 -0.5
baz=174
LAZ Ladron 173.72 38 ePKPdf PKPdf 01 02 01.6 +0.3
W24A Lazy 6 Ranch, 173.82 23 ⇓PKPab PKPab 01 03 31.0 -0.4
baz=174
120A U Bar Ranch, L 173.89 59 ⇓PKPab PKPab 01 03 31.5 -0.4
baz=174
X23A Hourglass Bar 174.05 32 ⇑PKPab PKPab 01 03 32.3 -0.2
baz=174
Z21A St. Cloud Mine 174.15 49 ⇓PKPab PKPab 01 03 32.5 -0.6
baz=174
220A Playas Peak, P 174.24 64 ⇓PKPab PKPab 01 03 33.4 -0.2
baz=174
W28A Vega 174.31 358 ⇑PKPab PKPab 01 03 33.4 0.0
baz=174
320A Kipp Ranch, An 174.43 70 ⇑PKPab PKPab 01 03 35.0 +0.6
baz=174
X32A Elmer 174.46 332 ⇓PKPab PKPab 01 03 34.1 0.0
baz=174
W27A Bowe Ranch, En 174.48 6 ⇑PKPab PKPab 01 03 33.9 -0.2
baz=174
Y33A Hilltop Ranch, 174.51 325 ⇓PKPab PKPab 01 03 34.3 +0.1
baz=174
121A Cookes Peak, D 174.52 56 ⇓PKPab PKPab 01 03 34.6 -0.2
baz=174
Z22A Elephant Butte 174.64 45 ⇓PKPab PKPab 01 03 34.7 -0.4
baz=174
X25A Clemmons Ranch 174.69 20 ⇓PKPab PKPab 01 03 35.0 -0.2
baz=175
X27A F and S Farms, 174.89 6 ⇑PKPab PKPab 01 03 35.4 -0.5
baz=175
Y32A R-V Farms, Ver 174.89 331 ⇑PKPab PKPab 01 03 35.7 -0.3
baz=175
X29A Tulia 175.08 353 ⇑PKPab PKPab 01 03 36.1 -0.7
baz=175
Z33A Whitaker Ranch 175.14 321 ⇑PKPab PKPab 01 03 37.1 0.0
baz=175
Y25A Mesa, Roswell 175.23 23 ⇑PKPab PKPab 01 03 37.0 -0.6
baz=175
Y31A Rekieta Farm, 175.24 338 ⇓PKPab PKPab 01 03 37.2 -0.3
baz=175
Z24A Sheeppen Canyo 175.47 33 ⇑PKPab PKPab 01 03 38.1 -0.7
baz=175
Z32A Haskell 175.49 327 ⇑PKPab PKPab 01 03 38.7 +0.1
baz=175
MSTX Muleshoe 175.59 4 ⇑PKPab PKPab 01 03 38.9 -0.2
baz=176
Y27A Causey 175.63 8 ⇓PKPab PKPab 01 03 39.0 -0.3
baz=176
Y29A Porterfield Fa 175.66 352 ⇓PKPab PKPab 01 03 38.8 -0.6
baz=176
133A Hamilton Ranch 175.72 316 ⇑PKPab PKPab 01 03 39.9 +0.1
baz=176
Z25A Roswell 175.80 27 ⇑PKPab PKPab 01 03 39.7 -0.4
baz=176
124A Stringfield Ra 175.92 39 ⇑PKPab PKPab 01 03 39.8 -1.1
baz=176
Z26A Caprock 176.06 19 ⇓PKPab PKPab 01 03 39.9 -1.4
baz=176
Z30A Sanderson Ranc 176.12 344 ⇓PKPab PKPab 01 03 41.0 -0.4
baz=176
Z27A Tatum 176.19 10 ⇓PKPab PKPab 01 03 41.1 -0.6
baz=176
Z29A Hungry Hill Ra 176.25 351 ⇓PKPab PKPab 01 03 41.4 -0.6
baz=176
534A Blanco 176.54 279 ⇓PKPab PKPab 01 03 44.0 +0.3
baz=177
232A Coleman 176.67 315 ⇓PKPab PKPab 01 03 44.1 +0.1
baz=177
225A Deer Hill, Car 176.72 38 ⇑PKPab PKPab 01 03 44.1 -0.3
baz=177
324A Moseley Ranch, 176.75 54 ⇑PKPdf PKPdf 01 02 02.2 +0.1
baz=177
433A Art 176.88 293 ⇑PKPdf PKPdf 01 02 01.8 -0.2
baz=177
128A Castleberry Fa 176.94 1 ⇑PKPdf PKPdf 01 02 01.8 -0.3
baz=177
231A Bronte 177.01 323 ⇑PKPdf PKPdf 01 02 02.1 0.0
baz=177
332A Millersview 177.06 309 ⇓PKPdf PKPdf 01 02 02.3 +0.3
baz=177
226B Tecolote Peak, 177.07 30 ⇑PKPdf PKPdf 01 02 02.2 +0.1
baz=177
432A Menard 177.37 301 ⇓PKPdf PKPdf 01 02 02.2 +0.1
baz=177
227A Bennet, Jal 177.44 17 ⇓PKPdf PKPdf 01 02 02.6 +0.5
baz=177
425A Indio Mountain 177.46 60 ⇑PKPdf PKPdf 01 02 02.4 +0.1
baz=177
331A San Angelo 177.55 316 ⇓PKPdf PKPdf 01 02 02.0 -0.1
baz=178
JCT Junction City 177.55 293 ePKIKP PKPdf 01 02 01.5 -0.7
JCT Junction City 177.55 293 ePKPdf PKPdf 01 02 01.5 -0.7
JCT Junction City 177.55 293 ⇑PKPdf PKPdf 01 02 02.2 0.0
baz=178
632A Uvalde 177.71 270 ⇓PKPdf PKPdf 01 02 02.7 +0.5
baz=178
732A Laxson Ranch, 177.71 250 ⇑PKPdf PKPdf 01 02 02.4 +0.3
baz=178
532A Rocksprings 177.74 285 ⇑PKPdf PKPdf 01 02 02.3 +0.1
baz=178
329A Wagon Wheel Ra 178.03 349 ⇑PKPdf PKPdf 01 02 02.3 +0.1
baz=178
431A Sonora 178.07 306 ⇑PKPdf PKPdf 01 02 02.2 0.0
baz=178
426A McDonald Obser 178.21 51 ⇑PKPdf PKPdf 01 02 02.5 0.0
baz=178
531A Rocksprings 178.26 291 ⇑PKPdf PKPdf 01 02 02.7 +0.5
baz=178
631A Perdido Creek 178.39 265 ⇓PKPdf PKPdf 01 02 02.5 +0.3
baz=178
430A Baggett Ranch, 178.40 321 ⇓PKPdf PKPdf 01 02 02.7 +0.5
baz=178
427A Hayter Ranch, 178.45 33 ⇑PKPdf PKPdf 01 02 02.7 +0.4
baz=178
526A Mary Lane Ranc 178.46 70 ⇓PKPdf PKPdf 01 02 02.8 +0.4
baz=178
626A Big Bend Ranch 178.50 89 ⇑PKPdf PKPdf 01 02 02.5 +0.2
baz=178
527A Woodward Ranch 178.81 60 ⇓PKPdf PKPdf 01 02 02.8 +0.4
baz=179
428A Kincaid Ranch, 178.81 11 ⇓PKPdf PKPdf 01 02 03.2 +0.8
baz=179
429A Davenport Ranc 178.84 337 ⇓PKPdf PKPdf 01 02 02.4 +0.1
baz=179
TXAR Lajitas Array 178.89 101 PKP PKPdf 01 02 03.3 +0.9
TXAR PKPab 01 03 55.3
TXAR Lajitas Array 178.89 101 PKP PKPdf 01 02 03.3 +0.9
comp=Z,1.2nm,1.0s,baz=304,slow=2.7,SNR=7.3
TXAR PKPab 01 03 55.3
comp=Z,3.9nm,0.8s,baz=305,slow=4.4,SNR=21
530A J-C Ranch, Com 178.89 303 ⇓PKPdf PKPdf 01 02 02.8 +0.5
baz=179
627A Terlingua Ranc 179.15 96 ⇑PKPdf PKPdf 01 02 02.7 +0.3
baz=179
528A Cox Ranch, San 179.31 28 ⇑PKPdf PKPdf 01 02 02.6 +0.2
baz=179
529A Stev Forest Ra 179.40 343 ⇓PKPdf PKPdf 01 02 02.7 +0.3
baz=179

*BYKL **04** 00:43:06.4±0.2, 52°.40N×106°.64E, h20km±3km, FELT I=II MSK at Yelantsy*

MOS 04 00:43:05.7±2.3, 52°.40N×106°.80E, h10km, mb4.4/1, 8C-3D, Error ellipse: s-maj=13.8km s-min=9.8km az=82.8, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZRHB	**Zarechye**	**0.27**	**54**	⇑*i*Pg	Pb	00 43 13.8	+1.1
ZRHB				*e*Sg	Sb	00 43 19.1	+1.7
ZRHB				Pmax			
	437nm,0.1s						
ZRHB				Smax			
	5μm,0.8s						
KAB	**Kabansk**	**0.36**	**194**	⇑*i*PG	Pb	00 43 13.6	-0.6
KAB				*i*		00 43 19.2	
KAB				pmax	pmax		
	comp=Z,2μm,0.3s						
KAB				smax	smax		
	comp=N,15μm,0.9s						
KAB	**Kabansk**	**0.36**	**194**	⇑*i*Pg	Pb	00 43 13.7	-0.5
KAB				*e*Sg	Sb	00 43 19.1	-0.8
KAB				Pmax			
	comp=N,2μm,0.2s						
KAB				Smax			
	comp=N,15μm,0.3s						
TRG	**Tyrgan**	**0.46**	**323**	⇑*i*PG	Pg	00 43 14.6	-0.1
TRG				*e*		00 43 20.8	
TRG				pmax	pmax		
	comp=Z,810nm,0.1s						
TRG				smax	smax		
	comp=N,3μm,0.9s						
TRG	**Tyrgan**	**0.46**	**323**	⇑*i*Pg	Pg	00 43 14.6	-0.1
TRG				*e*Sg	Sg	00 43 20.8	-0.1
TRG				Pmax			
	comp=N,813nm,0.1s						
TRG				Smax			
	comp=N,3μm,0.1s						
UUDB	**Ulan-Yde**	**0.75**	**134**	⇑*i*Pg	Pb	00 43 21.5	+0.6
UUDB				*e*Sg	Sb	00 43 31.9	+0.6
UUDB				*e*Sb	Sn	00 43 35.2	+1.3
UUDB				Pmax			
	comp=N,409nm,0.2s						
UUDB				Smax			
	comp=N,343nm,0.2s						
LSTR	**Listvyanka**	**1.32**	**247**	⇑*i*Pg	Pn	00 43 29.1	-1.1
LSTR				*e*Sg	Sb	00 43 45.4	-2.3
LSTR				Pmax			
	comp=N,39nm,0.1s						
LSTR				Smax			
	comp=N,516nm,0.2s						
OGRR	**Ongureny**	**1.34**	**21**	*e*PG	Pb	00 43 30.9	0.0
OGRR				*e*		00 43 49.8	
OGRR				pmax	pmax		
	comp=Z,68nm,0.3s						
OGRR				smax	smax		
	comp=E,829nm,1.4s						
OGRR	**Ongureny**	**1.34**	**21**	⇑*i*Pg	Pb	00 43 31.2	+0.3
OGRR				*e*		00 43 37.5	
OGRR				*e*Sg	Sg	00 43 49.5	+0.6
OGRR				max			
	comp=E,69nm,0.3s						
OGRR				Smax			
	comp=E,718nm,0.3s						
IRK	**Irkutsk**	**1.56**	**265**	*e*PG	Pn	00 43 32.6	-0.9
IRK				*e*		00 43 51.9	
IRK				pmax	pmax		
	comp=Z,418nm,0.1s						
IRK				smax	smax		
	comp=E,3μm,0.3s						
IRK	**Irkutsk**	**1.56**	**265**	*e*Pg	Pn	00 43 33.5	0.0
IRK				*e*Sg	Sn	00 43 52.6	-1.2
IRK				Pmax			
	comp=E,424nm,0.1s						
IRK				Smax			
	comp=E,3μm,0.3s						
TLY	**Talaya**	**2.08**	**251**	*e*PN	Pn	00 43 41.8	+1.2
TLY				*e*		00 44 07.3	
TLY				pmax	pmax		
	comp=Z,41nm,0.1s						
TLY				smax	smax		
	comp=N,432nm,0.2s						
TLY	**Talaya**	**2.08**	**251**	*e*Pn	Pn	00 43 39.7	-0.9
TLY				*e*Pg	Pb	00 43 41.8	-1.7
TLY				*e*Sn	Sn	00 44 04.3	-2.3
TLY				*e*Sg	Sb	00 44 07.3	-2.1
TLY				Pmax			
	comp=N,41nm,0.1s						
TLY				Smax			
	comp=N,433nm,0.2s						
SYVR	**Suvo**	**2.31**	**56**	⇓*i*Pn	Pn	00 43 45.1	+1.3
SYVR				*e*Pg	Pg	00 43 49.4	-0.6
SYVR				*e*Sg	Sg	00 44 20.7	+0.7
SYVR				Pmax			
	comp=N,14nm,0.2s						
SYVR				Smax			
	comp=N,65nm,0.5s						
ARS	**Arshan**	**2.74**	**262**	*e*PN	Pn	00 43 51.0	+1.2
ARS				*i*		00 44 26.6	
ARS				pmax	pmax		
	comp=Z,72nm,0.2s						
ARS				smax	smax		
	comp=E,699nm,0.2s						
ARS	**Arshan**	**2.74**	**262**	*e*Pn	Pn	00 43 50.2	+0.4
ARS				*e*Pg	Pb	00 43 53.0	-1.8
ARS				*e*Sg	Sb	00 44 26.7	-1.8
ARS				Pmax			
	comp=E,53nm,0.2s						
ARS				Smax			
	comp=E,737nm,0.2s						
ZAK	**Zakamensk**	**2.99**	**229**	*e*Pn	Pn	00 43 52.6	-0.7
ZAK				*e*Pg	Pb	00 43 59.0	-0.1
ZAK				*e*Sg	Sb	00 44 36.9	+1.1
ZAK				Pmax			
	comp=E,13nm,0.1s						
ZAK				Smax			
	comp=E,72nm,0.2s						
YLYR	**Ulyunkhan**	**3.59**	**45**	⇓*i*Pn	Pn	00 44 02.6	+1.1
YLYR				*e*Pg	Pg	00 44 12.3	-2.3
YLYR				*e*Sn	Sn	00 44 43.7	-0.3
YLYR				*e*Sg	Sg	00 44 58.4	-2.8
YLYR				Pmax			
	comp=E,6.0nm,0.2s						
YLYR				Smax			
	comp=E,62nm,1.0s						
MOY	**Mondy**	**3.66**	**261**	*e*PN	Pb	00 44 10.3	-0.3
MOY				*e*S	Sn	00 44 42.7	-3.1
MOY				*e*		00 44 55.4	
MOY				pmax	pmax		
	comp=Z,33nm,0.4s						
MOY				smax	smax		
	comp=N,301nm,0.9s						
MOY	**Mondy**	**3.66**	**261**	*e*	Pn	00 44 04.8	+2.3
MOY				*e*		00 44 11.4	
MOY				*e*		00 44 47.6	
MOY				*e*Sg	Sb	00 44 55.5	+0.4
MOY				*e*SgSg	SbSb	00 45 00.6	+0.4
MOY				max			
	comp=N,300nm,0.8s						
NIZ	**Nizh Angarsk**	**3.75**	**24**	*e*PN	Pn	00 44 04.3	+0.7
NIZ				*e*		00 44 14.0	
NIZ				*e*S	Sn	00 44 50.1	+2.3
NIZ				*e*		00 45 04.2	
NIZ				pmax	pmax		
	comp=Z,10.0nm,0.4s						
NIZ				smax	smax		
	comp=N,152nm,1.0s						
NIZ	**Nizh Angarsk**	**3.75**	**24**	*e*Pn	Pn	00 44 04.6	+1.0
NIZ				*e*		00 44 53.1	
NIZ				*e*Sg	Sg	00 45 03.4	-2.8
NIZ				Smax			
	comp=N,141nm,0.7s						
CIT	**Chita**	**4.17**	**92**	*e*PN	Pn	00 44 13.0	+3.5
CIT				*e*		00 44 24.5	
CIT				*e*S	Sn	00 45 01.9	+3.6
CIT				*e*		00 45 20.2	
CIT				pmax	pmax		
	comp=Z,58nm,0.2s						
CIT				smax	smax		
	comp=E,178nm,0.6s						
ORL	**Orlik**	**4.28**	**275**	*e*PN	Pn	00 44 11.8	+0.8
ORL				*e*		00 44 22.2	
ORL				*e*S	Sb	00 45 17.6	+4.7
ORL				pmax	pmax		
	comp=Z,21nm,0.5s						
ORL				smax	smax		
	comp=N,129nm,0.6s						
ORL	**Orlik**	**4.28**	**275**	*e*Pn	Pn	00 44 11.8	+0.8
ORL				*e*Pg	Pb	00 44 21.7	+0.6
ORL				*e*		00 45 00.4	
ORL				*e*Sg	Sb	00 45 15.6	+2.7
ORL				Pmax			
	comp=N,21nm,0.4s						
ORL				Smax			
	comp=N,128nm,0.5s						
KMO	**Kumora**	**4.35**	**35**	*e*Pn	Pn	00 44 13.5	+1.6
KMO				*e*Pg	Pb	00 44 24.9	+2.7
KMO				*e*Sg	Sg	00 45 21.6	-3.8
KMO				Pmax			
	comp=N,14nm,0.4s						
KMO				Smax			
	comp=N,91nm,1.2s						
KPC	**Khapcheranga**	**4.43**	**125**	*e*PN	Pn	00 44 13.4	+0.3
KPC				*e*		00 44 27.0	
KPC				*e*S	Sn	00 45 07.2	+2.4
KPC				*e*		00 45 27.7	
KPC				pmax	pmax		
	comp=Z,17nm,0.6s						
KPC				smax	smax		
	comp=N,88nm,0.5s						
KPC	**Khapcheranga**	**4.43**	**125**	*e*Pn	Pn	00 44 13.7	+0.6
KPC				*e*		00 44 18.1	
KPC				*e*Pg	Pb	00 44 26.8	+3.1
KPC				*e*Sn	Sn	00 45 05.6	+0.8
KPC				*e*Sg	Sg	00 45 25.4	-2.8
KPC				*e*		00 45 37.4	
KPC				Pmax			
	comp=N,17nm,0.6s						
KPC				Smax			
	comp=N,90nm,0.7s						
ULN	**Ulaanbaatar**	**4.54**	**178**	*e*Pn	Pn	00 44 14.7	0.0
ULN				*e*Pg	Pb	00 44 27.6	+1.9
ULN				*e*Sg	Sg	00 45 26.7	-5.1
UKT	**Uakit**	**5.09**	**50**	*e*Pn	Pn	00 44 23.5	+1.4
UKT				*e*Pg	Pg	00 44 39.8	-3.4
UKT				*e*Sg	Sg	00 45 46.7	-2.5
UKT				Pmax			
	comp=N,4.0nm,0.4s						
UKT				Smax			
	comp=N,27nm,1.4s						
BOD	**Bodaibo**	**6.83**	**34**	*e*Sg	Sg	00 46 39.1	-5.5
BOD				Smax			
	comp=N,17nm,0.8s						
TUP	**Tupik**	**8.12**	**70**	*e*Sg	Sg	00 47 21.2	-5.0
TUP				Smax			
	comp=N,58nm,1.1s						
KURK	**Kurchatov**	**17.56**	**276**	*i* P	Pn	00 47 09.8	-0.5
TIXI	**Tiksi**	**21.65**	**19**	⇓*e*P	P	00 47 59.0	+3.2

*IDC **04** 01:17:58.6±0.6, 3°.99N×126°.33E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/24, mbtmp4.2/15, MS3.6/2, Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=38.3km s-min=12.9km az=73.0*

*ISCJB **04** 01:18:03.1±0.3, 4°.13N±0°.04×126°.64E±0°.05, h45km, mb4.3/27, MS3.6/2, Error ellipse: s-maj=7.1km s-min=5.1km az=161.7*

*NEIC **04** 01:18:03.3±5.3, 4°.01N×126°.41E, h31km±38km, mb4.5/13, Error ellipse: s-maj=14.3km s-min=5.8km az=62.0*

*DJA **04** 01:18:04.7±2.2, 4°.N±22°.×12°.7E±°, h10km, M4.9/7, mb5.0/4, mB5.3/2, MLv4.8/7, Mw(mB)4.7/2*

*AUST **04** 01:18:07.5±1.5, 4°.08N×126°.71E, h80km, Error ellipse: s-maj=2.4km s-min=1.6km az=39.0*

ISC 04 01:18:05.2±0.5, 4°.08N±0°.06×126°.52E±0°.08, h45km, n68, σ1℘06/64, mb4.4/27, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.06**	**248**	P		**Pn**	**01 18 24.3**	**+0.6**
SGSI				S		**Sn**	**01 18 38.8**	**+1.5**
GSPH	**General Santos**	**2.54**	**322**	⇑*i*P		**Pn**	**01 18 45.5**	**+1.6**
TNTI	**Ternate**	**3.39**	**166**	P		**Pn**	**01 18 57.1**	**+1.5**
KMSI	**Cibinong**	**4.31**	**216**	P		Pn	01 19 11.9	+3.7
GTOI	**Gorontalo**	**4.90**	**226**	P		**Pn**	**01 19 17.9**	**+1.6**
MRSI	**Marisa**	**5.81**	**232**	P		**Pn**	**01 19 31.3**	**+2.5**
	101nm,0.8s,1μm0.4nm						
LUWI	**Luwuk**	**6.32**	**216**	P		Pn	01 19 40.4	+4.6
	191nm,0.9s,4μm0.6nm						
LUWI	**Luwuk**	**6.32**	**216**	P		Pn	01 19 41.5	+5.7
	baz=6.5,SNR=5.2						
APSI	**Anpana**	**6.95**	**225**	P		Pn	01 19 49.2	+4.7
	138nm,0.9s,0.5nm						
FAKI	**Fak Fak**	**9.01**	**140**	P		**Pn**	**01 20 15.0**	**+2.3**
FAKI	**Fak Fak**	**9.01**	**140**	P		**Pn**	**01 20 14.4**	**+1.7**
	baz=8.9,SNR=8.1						
MTN	**Manton Dam**	**17.43**	**165**	P		**Pn**	**01 22 05.1**	**-0.1**
	baz=18,SNR=4.3						
KDU	**Kakadu**	**17.68**	**161**	P		**Pn**	**01 22 06.5**	**-1.7**
	baz=18,SNR=8.8						
FITZ	**Fitzroy Crossi**	**22.06**	**182**	P		**P**	**01 22 54.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**22.06**	**182**	P		**P**	**01 22 54.0**	**-2.3**
	7.4nm,0.7s,baz=3.6,slow=16,SNR=22						
FITZ	**Fitzroy Crossi**	**22.06**	**182**	P		**P**	**01 22 55.3**	**-1.0**
	baz=22,SNR=16						
COEN	**Coen**	**24.38**	**138**	*e*P		**P**	**01 23 19.5**	**+0.2**
WRAB	**Tennant Creek**	**25.07**	**162**	*e*P		**P**	**01 23 24.2**	**-1.4**
	10.0nm,0.8s						
WRA	**Warramunga Arr**	**25.08**	**162**	P		**P**	**01 23 24.6**	**-1.1**
WRA	**Warramunga Arr**	**25.08**	**162**	P		**P**	**01 23 24.6**	**-1.1**
	7.5nm,0.7s,baz=342,slow=10,SNR=22						
MBWA	**Marble Bar**	**25.95**	**195**	*e*P		**P**	**01 23 33.5**	**0.0**
	15nm,1.0s						
AS31	**Alice Springs**	**28.50**	**166**	*e*P		**P**	**01 23 55.0**	**-1.5**
ASAR	**Alice Springs**	**28.50**	**166**	P		**P**	**01 23 55.5**	**-1.0**
ASAR	**Alice Springs**	**28.50**	**166**	P		**P**	**01 23 55.5**	**-1.0**
	1.5nm,0.6s,baz=346,slow=6.9,SNR=30						
CMAR	**Chiang Mai Arr**	**30.52**	**300**	P		**P**	**01 24 14.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.52**	**300**	P		**P**	**01 24 14.3**	**-0.1**
	0.6nm,0.3s,baz=114,slow=7.6,SNR=5.3						
CHTO	**Chiang Mai**	**30.66**	**301**	*e*P		**P**	**01 24 15.7**	**-0.1**
	5.2nm,0.7s						
CTAO	**Charters Tower**	**30.87**	**142**	*e*P		**P**	**01 24 16.8**	**-0.7**
	8.3nm,0.9s						
MEEK	**Meekatharra**	**31.48**	**194**	P		**P**	**01 24 22.8**	**0.0**
	baz=32,SNR=3.9						
KSAR	**Wonju Array Be**	**33.23**	**2**	P		**P**	**01 24 38.1**	**+0.2**
KSRS	**Korea Array**	**33.24**	**2**	P		**P**	**01 24 38.1**	**+0.1**
	1.3nm,0.6s,baz=181,slow=9.3,SNR=3.2						
FORT	**Forrest**	**34.69**	**178**	*e*P		**P**	**01 24 50.4**	**-0.4**
	13nm,0.9s						
QLP	**Quilpie**	**34.97**	**152**	P		**P**	**01 24 52.7**	**-0.5**
	baz=35,SNR=4.1						
BBOO	**Buckleboo**	**37.79**	**167**	P		**P**	**01 25 16.5**	**-0.7**
	baz=38,SNR=14						
STKA	**Stephens Creek**	**38.53**	**159**	*e*P		**P**	**01 25 22.7**	**-0.8**
	1.9nm,0.8s						
STKA	**Stephens Creek**	**38.53**	**159**	P		**P**	**01 25 23.2**	**-0.2**
	8.3nm,0.7s,baz=330,slow=8.3,SNR=20						
STKA	**Stephens Creek**	**38.53**	**159**	P		**P**	**01 25 23.2**	**-0.2**
	baz=39,SNR=8.5						
HTT	**Hallett**	**39.11**	**163**	P		**P**	**01 25 27.9**	**-0.4**
	baz=39,SNR=3.2						
USRK	**Ussuriysk Arra**	**40.25**	**6**	P		**P**	**01 25 38.9**	**+1.3**
	2.1nm,0.6s,baz=194,slow=8.6,SNR=5.8						
TOO	**Toolangi**	**45.04**	**159**	P		P	01 26 20.7	+4.0
	baz=45,SNR=3.7						
ULN	**Ulaanbaatar**	**46.72**	**342**	*e*P		**P**	**01 26 30.1**	**+0.2**
	3.1nm,0.9s						
SONM	**Songino Array**	**46.90**	**341**	P		**P**	**01 26 31.3**	**+0.1**
SONM	**Songino Array**	**46.90**	**341**	P		**P**	**01 26 31.3**	**+0.1**
	1.0nm,0.7s,baz=154,slow=8.2,SNR=8.0						
SONM					LR	LR	01 47 39.2	
	comp=Z,54nm,19.7s,baz=332,slow=38						
DZM	**Mont Dzumac**	**46.91**	**125**	*e*P		**P**	**01 26 32.9**	**+1.3**
	17nm,1.1s						
MK31	**Makanchi Array**	**57.15**	**325**	*e*P		**P**	**01 27 46.9**	**-0.5**
MKAR	**Makanchi Array**	**57.15**	**325**	P		**P**	**01 27 47.0**	**-0.4**
MKAR	**Makanchi Array**	**57.15**	**325**	P		**P**	**01 27 47.0**	**-0.4**
	1.2nm,0.4s,baz=119,slow=7.8,SNR=17						
MKAR					LR	LR	01 54 05.8	
	comp=Z,59nm,19.8s,baz=355,slow=38						
TKM2	**Tokmak 2**	**59.35**	**318**	*e*P		**P**	**01 28 02.6**	**-0.5**
	1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**60.18**	**333**	P		**P**	**01 28 06.6**	**-1.8**
ZALV	**Zalesovo Beam**	**60.18**	**333**	P		**P**	**01 28 06.6**	**-1.8**
	0.7nm,0.3s,baz=142,slow=7.3,SNR=5.5						
KBL	**Kabul**	**61.15**	**307**	*e*P		**P**	**01 28 14.1**	**-1.5**
	2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**61.33**	**327**	P		**P**	**01 28 15.3**	**-0.9**
	3.4nm,0.8s,baz=121,slow=6.9,SNR=17						
KURK	**Kurchatov**	**61.34**	**327**	P		**P**	**01 28 15.3**	**-0.9**
KKAR	**Karatay Array**	**62.84**	**317**	*e*P		**P**	**01 28 26.4**	**-0.1**
	2.6nm,0.9s						
BRVK	**Borovoye**	**66.99**	**327**	*e*P		**P**	**01 28 53.7**	**+0.4**
	5.8nm,1.0s						
ABKAR	**Akbulak array**	**71.75**	**321**	*e*P		**P**	**01 29 22.5**	**-0.3**
VNDA	**Vanda**	**83.80**	**173**	*e*P		**P**	**01 30 29.1**	**-0.2**
	6.2nm,1.2s						
ILAR	**Eielson Array**	**84.88**	**25**	P		**P**	**01 30 36.2**	**+1.2**
ILAR	**Eielson Array**	**84.88**	**25**	P		**P**	**01 30 36.2**	**+1.2**
	0.2nm,0.5s,baz=238,slow=5.5,SNR=4.6						
ARCES	**ARCESS Array B**	**90.05**	**340**	P		**P**	**01 30 59.1**	**-0.7**
ARCES	**ARCESS Array B**	**90.05**	**340**	P		**P**	**01 30 59.1**	**-0.7**
	3.7nm,0.8s,baz=73,slow=12,SNR=3.3						
FINES	**FINESS Array B**	**91.43**	**332**	P		**P**	**01 31 07.0**	**+0.6**
FINES	**FINESS Array B**	**91.43**	**332**	P		**P**	**01 31 07.0**	**+0.6**
	3.6nm,1.1s,baz=220,slow=1.1,SNR=3.4						
AKASG	**Malin Array Be**	**91.49**	**321**	P		**P**	**01 31 06.5**	**-0.4**
AKASG	**Malin Array Be**	**91.49**	**321**	P		**P**	**01 31 06.5**	**-0.4**
	0.1nm,0.3s,baz=64,slow=4.2,SNR=4.1						
BUR08	**Bucovina Ar. S**	**94.61**	**318**	*e*P		**P**	**01 31 21.5**	**0.0**
TORD	**Torodi Ar. Bea**	**122.61**	**288**	PKP		**PKPdf**	**01 36 56.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**122.61**	**288**	PKP		**PKPdf**	**01 36 56.4**	**-0.6**
	0.5nm,0.9s,baz=10,slow=1.1,SNR=3.5						

*IDC **04** 01:28:40.3±1.1, 12°.20N×125°.64E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, MS3.2/1, Ms1 3.2/1, ms1mx2.6/30, Error ellipse: s-maj=61.0km s-min=15.2km az=66.0*

*NEIC **04** 01:28:41.3±0.7, 12°.28N×125°.84E, h10km, mb4.4/5, Error ellipse: s-maj=31.6km s-min=9.6km az=67.0*

NEIC Felt [II PIVS] at San Policarpio.

*ISCJB **04** 01:28:42.3±0.5, 12°.28N±0°.04×125°.84E±0°.06, h28km, mb4.0/16, MS3.1/1, Error ellipse: s-maj=9.1km s-min=5.5km az=9.4*

*MAN **04** 01:28:42, 12°.17N×125°.73E, h7km, mb4.7, ML3.6, MS3.6*

MAN Intensity II - San Policarpo Eastern Samar.

ISC 04 01:28:44.4±0.7, 12°.23N±0°.05×125°.76E±0°.09, h28km, n42, σ1℘06/39, mb4.1/16, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.70**	**207**	*e*P		**Pb**	**01 28 58.5**	**+0.5**
BESP				*e*S		**Sb**	**01 29 04.4**	**-2.9**
PLP	**Palo**	**1.30**	**216**	⇓*e*P		**Pn**	**01 29 05.3**	**-1.4**
PLP				*i* S		**Sn**	**01 29 22.0**	**-1.2**
MSLP	**Maasin**	**2.26**	**203**	*e*P		**Pn**	**01 29 22.0**	**+2.1**
SCPH	**Surigao**	**2.44**	**186**	*e*P		**Pn**	**01 29 22.9**	**+0.5**
SCPH				*e*S		**Sn**	**01 29 52.5**	**+1.2**
RCP	**Roxas**	**3.02**	**258**	⇑*e*P		**Pn**	**01 29 31.2**	**+0.7**
RCP				*e*S		**Sn**	**01 30 08.2**	**+2.5**
GUIM	**Jordan**	**3.49**	**243**	*e*P		**Pn**	**01 29 37.4**	**+0.5**
PAGZ	**Pagadian**	**4.94**	**209**	*e*P		**Pn**	**01 29 59.3**	**+2.5**
CMAR	**Chiang Mai Arr**	**26.57**	**287**	P		**P**	**01 34 19.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**26.57**	**287**	P		**P**	**01 34 19.4**	**-1.0**
	1.4nm,0.4s,baz=94,slow=7.8,SNR=5.5						
FITZ	**Fitzroy Crossi**	**30.13**	**180**	P		**P**	**01 34 51.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.13**	**180**	P		**P**	**01 34 51.7**	**-0.3**
	3.0nm,0.9s,baz=3.2,slow=18,SNR=3.7						
FITZ					LR	LR	01 46 31.4	
	comp=Z,44nm,18.8s,baz=183,slow=36						
WRA	**Warramunga Arr**	**33.06**	**165**	P		**P**	**01 35 18.2**	**+0.4**
WRA	**Warramunga Arr**	**33.06**	**165**	P		**P**	**01 35 18.2**	**+0.4**
	0.3nm,0.7s,baz=345,slow=9.5,SNR=2.6						
ASAR	**Alice Springs**	**36.55**	**167**	P		**P**	**01 35 47.8**	**-0.1**
ASAR	**Alice Springs**	**36.55**	**167**	P		**P**	**01 35 47.8**	**-0.1**
	0.6nm,0.4s,baz=341,slow=7.0,SNR=15						
SONM	**Songino Array**	**39.02**	**339**	P		**P**	**01 36 08.2**	**-0.5**
SONM	**Songino Array**	**39.02**	**339**	P		**P**	**01 36 08.2**	**-0.5**
	0.6nm,0.7s,baz=147,slow=8.3,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**39.89**	**76**	T		T	02 19 02.9	
	baz=269,slow=72,SNR=12						
H11S1	**WAKE ISLAND Hy**	**39.90**	**76**	T		T	02 19 06.1	
	baz=269,slow=72,SNR=11						
H11S2	**WAKE ISLAND Hy**	**39.91**	**76**	T		T	02 19 03.9	
	baz=269,slow=72,SNR=15						
H11N1	**WAKE ISLAND Hy**	**40.16**	**74**	T		T	02 19 25.1	
	baz=269,slow=75,SNR=46						
H11N2	**WAKE ISLAND Hy**	**40.16**	**74**	T		T	02 19 25.1	
	baz=269,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**40.17**	**74**	T		T	02 19 26.4	
	baz=269,slow=75,SNR=41						
FORT	**Forrest**	**42.81**	**177**	*e*P		**P**	**01 36 39.0**	**-0.9**
	6.5nm,0.7s						
PALK	**Pallekele**	**44.64**	**268**	*e*P		**P**	**01 36 56.5**	**+1.5**
	5.1nm,0.8s						
STKA	**Stephens Creek**	**46.40**	**161**	P		**P**	**01 37 09.2**	**+0.7**
STKA	**Stephens Creek**	**46.40**	**161**	P		**P**	**01 37 09.2**	**+0.7**
	1.8nm,0.8s,baz=11,slow=10,SNR=3.0						
MK31	**Makanchi Array**	**50.18**	**322**	*e*P		**P**	**01 37 37.9**	**+0.2**
MKAR	**Makanchi Array**	**50.18**	**322**	P		**P**	**01 37 38.0**	**+0.4**
MKAR	**Makanchi Array**	**50.18**	**322**	P		**P**	**01 37 38.0**	**+0.4**
	2.3nm,0.8s,baz=121,slow=8.2,SNR=8.6						
KURK	**Kurchatov**	**54.19**	**325**	P		**P**	**01 38 07.9**	**+0.6**
KURBB	**Kurchatov Arra**	**54.19**	**325**	P		**P**	**01 38 07.9**	**+0.5**
	3.0nm,0.6s,baz=120,slow=8.2,SNR=20						
KKAR	**Karatay Array**	**56.54**	**314**	*e*P		**P**	**01 38 24.3**	**-0.1**
	0.6nm,0.6s						
BRVK	**Borovoye**	**59.86**	**325**	*e*P		**P**	**01 38 47.5**	**+0.1**
	2.1nm,0.7s						
ABKAR	**Akbulak array**	**65.08**	**319**	*e*P		**P**	**01 39 21.8**	**-0.6**
BRTR	**Keskin Array B**	**83.92**	**309**	P		**P**	**01 41 12.0**	**-0.3**
BRTR	**Keskin Array B**	**83.92**	**309**	P		**P**	**01 41 12.0**	**-0.3**
	0.5nm,0.7s,baz=127,slow=9.2,SNR=2.7						
FINES	**FINESS Array B**	**83.94**	**332**	P		**P**	**01 41 11.6**	**-0.1**
FINES	**FINESS Array B**	**83.94**	**332**	P		**P**	**01 41 11.6**	**-0.1**
	5.0nm,1.0s,baz=104,slow=4.4,SNR=8.7						
AKASG	**Malin Array Be**	**84.75**	**321**	P		**P**	**01 41 15.4**	**-0.6**
AKASG	**Malin Array Be**	**84.75**	**321**	P		**P**	**01 41 15.4**	**-0.6**
	0.4nm,0.4s,baz=64,slow=4.8,SNR=5.1						
PSZ	**Piszkesteto**	**91.38**	**320**	*e*P		P	01 41 44.7	-3.3
	2.9nm,0.8s						

*MDD **04** 01:42:57.0±1.7, 36°.48N×9°.85W, h40km, mb3.9/17, Error ellipse: s-maj=14.9km s-min=11.1km az=42.0, PRXIMO*

*IGIL **04** 01:42:58.4, 36°.57N×9°.71W, h14km, ML2.1*

*INMG **04** 01:42:58.4±1.2, 36°.57N×9°.71W, h16km±4km, ML2.1, Error ellipse: s-ma

7.1nm,0.3s
PBDV Barranco-do-Ve 1.63 64⇑ *e*P **Pn 01 43 24.1 +0.7**
PBDV *e*S **Sn 01 43 43.0 -1.5**
7.1nm,0.3s
PCVE Castro Verde 1.77 51 *e*Pn **Pn 01 43 26.1 +0.9**
PCVE *e*Sn **Sn 01 43 47.2 -0.5**
PCVE A A 01 44 05.6
6.8nm,0.2s
PCVE Castro Verde 1.77 51 *e*Pn **Pn 01 43 26.1 +0.9**
PCVE *e*Sn **Sn 01 43 47.2 -0.5**
6.8nm,0.2s
MESJ Messejana 1.80 43 *e*P **Pn 01 43 26.2 +0.6**
MESJ *e*S **Sn 01 43 47.1 -1.3**
MESJ AML AML 01 43 50.3
comp=N,11nm,0.3s
MESJ Messejana 1.80 43 P **Pn 01 43 26.6 +1.0**
SNR=7.9
MESJ S **Sn 01 43 47.2 -1.3**
SNR=7.9
MESJ Messejana 1.80 43 P **Pn 01 43 26.6 +1.0**
SNR=7.9
MESJ S **Sn 01 43 47.2 -1.3**
SNR=7.9
PVAQ Vaqueiros 1.86 61⇑ *e*Pn **Pn 01 43 27.1 +0.6**
PVAQ *e*Sn **Sn 01 43 48.6 -1.4**
PVAQ A A 01 43 50.1
comp=N,7.0nm,0.3s
PVAQ Vaqueiros 1.86 61⇑ *e*Pn **Pn 01 43 27.1 +0.6**
PVAQ *e*Sn **Sn 01 43 48.6 -1.4**
comp=N,7.0nm,0.3s
PNCL Nicolau / Gran 1.86 32 *e*Pn **Pn 01 43 27.0 +0.5**
PNCL *e*Sn **Sn 01 43 48.4 -1.6**
PNCL A A 01 43 51.3
comp=N,8.5nm,0.1s
PNCL Nicolau / Gran 1.86 32 *e*Pn **Pn 01 43 27.0 +0.5**
PNCL *e*Sn **Sn 01 43 48.4 -1.6**
comp=N,8.5nm,0.1s
EGRO El Granado 2.08 61 P **Pn 01 43 30.1 +0.5**
comp=N,2.5nm,0.1s,SNR=17
EGRO S **Sn 01 43 54.2 -1.3**
comp=N,5.9nm,0.1s,SNR=5.2
EGRO El Granado 2.08 61 P **Pn 01 43 30.0 +0.5**
comp=N,2.5nm,0.1s,SNR=17
EGRO S **Sn 01 43 54.2 -1.3**
comp=N,5.9nm,0.1s,SNR=5.2
PACT Alcochete 2.35 18 *e*Pn **Pn 01 43 34.3 +1.1**
PACT *e*Sn **Sn 01 44 01.6 -0.6**
PACT A A 01 44 05.6
comp=N,16nm,0.6s
PACT Alcochete 2.35 18 *e*Pn **Pn 01 43 34.3 +1.1**
PACT *e*Sn **Sn 01 44 01.6 -0.6**
comp=N,16nm,0.6s
EVO Evora 2.44 34 *e*Pn **Pn 01 43 34.7 +0.3**
EVO *e*Sn **Sn 01 44 02.2 -2.0**
EVO A A 01 44 03.4
comp=N,20nm,0.1s
EVO Evora 2.44 34 *e*Pn **Sn 01 43 34.7 +0.3**
EVO *e*Sn **Sn 01 44 02.2 -2.0**
comp=N,20nm,0.1s
PMAFR Mafra 2.45 9 P **Pn 01 43 34.9 +0.3**
comp=N,1.9nm,0.2s,SNR=7.9
PMAFR S **Sn 01 44 02.5 -2.1**
comp=N,20nm,0.1s,SNR=21
PMAFR Mafra 2.45 9 *e*Pn **Pn 01 43 35.1 +0.5**
PMAFR *e*Sn **Sn 01 44 02.7 -1.9**
PMAFR A A 01 44 06.5
comp=N,38nm,0.2s
PMAFR Mafra 2.45 9 *e*Pn **Pn 01 43 35.1 +0.5**
PMAFR *e*Sn **Sn 01 44 02.7 -1.9**
comp=N,38nm,0.2s
PBAR Barrancos 2.72 52 *e*Pn **Pn 01 43 38.6 +0.3**
PBAR *e*Sn **Sn 01 44 09.6 -1.7**
PBAR A A 01 44 11.4
comp=N,2.0nm,0.2s
PBAR Barrancos 2.72 52 *e*Pn **Pn 01 43 38.6 +0.3**
PBAR *e*Sn **Sn 01 44 09.6 -1.7**
comp=N,2.0nm,0.2s
EMIN Mina Concepcio 2.76 63 P **Pn 01 43 39.0 +0.1**
comp=N,0.1nm,0.1s,SNR=23
EMIN S **Sn 01 44 10.1 -2.2**
comp=N,0.9nm,0.1s,SNR=6.0
EMIN Mina Concepcio 2.76 63 P **Pn 01 43 39.0 +0.1**
comp=N,0.1nm,0.1s,SNR=23
EMIN S **Sn 01 44 10.1 -2.2**
comp=N,0.9nm,0.1s,SNR=6.0
PMTG Montargil 2.81 25 *e*Pn **Pn 01 43 40.2 +0.6**
PMTG *e*Sn **Sn 01 44 11.7 -1.8**
PMTG A A 01 44 12.0
comp=N,7.7nm,0.4s
PMTG Montargil 2.81 25 *e*Pn **Pn 01 43 40.2 +0.6**
PMTG *e*Sn **Sn 01 44 11.7 -1.8**
comp=N,7.7nm,0.4s
PESTR Estremoz 2.90 36 *e*Pn **Pn 01 43 40.7 -0.1**
PESTR *e*Sn **Sn 01 44 13.4 -2.4**
PESTR A A 01 44 16.0
comp=N,2.8nm,0.1s
PESTR Estremoz 2.90 36 *e*Pn **Pn 01 43 40.7 -0.1**
PESTR *e*Sn **Sn 01 44 13.4 -2.4**
EBAD Badajoz 3.12 44 P **Pn 01 43 43.7 0.0**
comp=N,0.6nm,0.1s,SNR=16
EBAD S **Sn 01 44 18.9 -2.1**
comp=N,1.8nm,0.1s,SNR=7.8
EBAD Badajoz 3.12 44 P **Pn 01 43 43.7 0.0**
comp=N,0.6nm,0.1s,SNR=16
EBAD S **Sn 01 44 18.9 -2.1**
comp=N,1.8nm,0.1s,SNR=7.8
ESPR Espera 3.16 83 P **Pn 01 43 44.9 +0.5**
comp=N,2.2nm,0.1s,SNR=9.6
ESPR S **Sn 01 44 19.0 -3.1**
comp=N,5.6nm,0.2s
ESPR Espera 3.16 83 P **Pn 01 43 44.9 +0.5**
comp=N,2.2nm,0.1s,SNR=9.6
ESPR S **Sn 01 44 19.0 -3.1**
comp=N,5.6nm,0.2s
PTOM Tomar 3.26 19 *e*Pn **Pn 01 43 46.2 +0.4**
PTOM *e*Sn **Sn 01 44 21.6 -3.0**
PTOM A A 01 44 33.9
comp=N,5.3nm,0.3s
PTOM Tomar 3.26 19 *e*Pn **Pn 01 43 46.2 +0.4**
PTOM *e*Sn **Sn 01 44 21.6 -3.0**
comp=N,5.3nm,0.3s
PMRV Marv??o 3.45 32 *e*Pn **Pn 01 43 48.6 +0.3**
PMRV *e*Sn **Sn 01 44 25.9 -3.3**
PMRV A A 01 44 28.4
comp=N,7.0nm,0.3s
PMRV Marv??o 3.45 32 *e*Pn **Sn 01 43 48.6 +0.3**
PMRV *e*Sn **Sn 01 44 25.9 -3.3**
comp=N,7.0nm,0.3s
PCAS Casmilo, Conde 3.65 15 *e*Sn **Sn 01 44 31.9 -2.4**
PCAS A A 01 44 36.1
comp=N,3.3nm,0.2s
PCAS Casmilo, Conde 3.65 15 *e*Sn **Sn 01 44 31.9 -2.4**
comp=N,3.3nm,0.2s
PCBR Castelo Branco 3.76 28 *e*Pn **Pn 01 43 53.2 +0.6**
PCBR *e*Sn **Sn 01 44 34.2 -2.8**
PCBR A A 01 44 36.9
comp=N,1.7nm,0.1s
PCBR Castelo Branco 3.76 28 *e*Pn **Pn 01 43 53.2 +0.6**
PCBR *e*Sn **Sn 01 44 34.2 -2.8**
comp=N,1.7nm,0.1s
ECAB El Cabril 3.79 65 P **Pn 01 43 53.6 +0.5**
comp=N,1.2nm,0.1s,SNR=14
ECAB S **Sn 01 44 34.5 -3.3**
comp=N,0.2nm,0.0s
ECAB El Cabril 3.79 65 P **Pn 01 43 53.6 +0.5**
comp=N,1.2nm,0.1s,SNR=14
ECAB S **Sn 01 44 34.5 -3.3**
comp=N,0.2nm,0.0s
EMIJ Mijas 4.02 88 S Sn 01 44 38.8 -4.6
comp=N,0.3nm,0.2s,SNR=7.9
EMIJ Mijas 4.02 88 S Sn 01 44 38.8 -4.6
comp=N,0.3nm,0.2s,SNR=7.9
MTE Manteigas 4.24 24 *e*Pn **Pn 01 43 59.8 +0.6**
MTE *e*Sn **Sn 01 44 45.9 -2.9**
MTE A A 01 44 47.9
comp=N,1.6nm,0.2s
MTE Manteigas 4.24 24 *e*Pn **Sn 01 43 59.8 +0.6**
MTE *e*Sn **Sn 01 44 45.9 -2.9**
comp=N,1.6nm,0.2s
PVIS Viseu 4.43 19 *e*Sn **Sn 01 44 50.1 -3.4**
PVIS A A 01 44 52.4
comp=N,5.2nm,0.1s
PVIS Viseu 4.43 19 *e*Sn **Sn 01 44 50.1 -3.4**
comp=N,5.2nm,0.1s
EADA Adamuz 4.45 67 P **Pn 01 44 02.5 +0.4**
comp=N,0.8nm,0.1s,SNR=16
EADA S **Sn 01 44 50.2 -3.7**
comp=N,0.4nm,0.1s
EADA Adamuz 4.45 67 P **Pn 01 44 02.5 +0.4**
comp=N,0.8nm,0.1s,SNR=16
EADA S **Sn 01 44 50.2 -3.7**
comp=N,0.4nm,0.1s
POLO Lamas de Olo 5.07 17 *e*Pn **Pn 01 44 11.4 +0.6**
POLO *e*Sn **Sn 01 45 05.6 -3.8**
POLO A A 01 45 08.3
comp=N,0.6nm,0.1s
POLO Lamas de Olo 5.07 17 *e*Pn **Pn 01 44 11.4 +0.6**
POLO *e*Sn **Sn 01 45 05.6 -3.8**
comp=N,0.6nm,0.1s
MVO Moncorvo 5.09 24 P **Pn 01 44 10.8 -0.3**
comp=N,6.3nm,0.5s,SNR=7.9
MVO S Sn 01 45 05.7 -4.2
comp=N,0.4nm,0.1s,SNR=7.0
MVO Moncorvo 5.09 24 *e*Pn **Pn 01 44 11.2 +0.2**
MVO *e*Sn Sn 01 45 05.6 -4.3
MVO A A 01 45 09.3
comp=N,1.9nm,0.1s
MVO Moncorvo 5.09 24 P **Pn 01 44 10.8 -0.3**
comp=N,6.3nm,0.5s,SNR=7.9
MVO Moncorvo 5.09 24 *e*Pn **Pn 01 44 11.2 +0.2**
MVO S Sn 01 45 05.7 -4.2
comp=N,0.4nm,0.1s,SNR=7.0
EQUE Quentar 5.12 81 P **Pn 01 44 12.0 +0.6**
comp=N,0.2nm,0.1s,SNR=7.9
EQUE S Sn 01 45 06.3 -4.2
comp=N,0.0nm,0.0s,SNR=7.9
EQUE Quentar 5.12 81 P **Pn 01 44 12.0 +0.6**
comp=N,0.2nm,0.1s,SNR=7.9
EQUE S Sn 01 45 06.3 -4.2
SNR=7.9
PCAB Cabril 5.34 14 *e*Sn **Sn 01 45 12.5 -3.5**
PCAB A A 01 45 15.4
comp=N,2.5nm,0.1s
PCAB Cabril 5.34 14 *e*Sn **Sn 01 45 12.5 -3.5**
comp=N,2.5nm,0.1s
ELOB Lobios 5.49 13 S Sn 01 45 13.8 -5.8
comp=N,1.1nm,0.1s,SNR=7.0
ELOB Lobios 5.49 13 S Sn 01 45 13.9 -5.8
comp=N,1.1nm,0.1s,SNR=7.0
EQES Quesada 5.50 75 P **Pn 01 44 16.7 +0.1**
comp=N,0.3nm,0.2s,SNR=7.9
EQES S **Sn 01 45 16.4 -3.5**
comp=N,0.1nm,0.1s,SNR=7.9
EQES Quesada 5.50 75 P **Pn 01 44 16.7 +0.1**
comp=N,0.3nm,0.2s,SNR=7.9
EQES S **Sn 01 45 16.4 -3.5**
comp=N,0.1nm,0.1s,SNR=7.9
ESDC Sonseca Array 5.55 54 P **Pn 01 44 17.5 +0.3**
comp=N,0.4nm,0.2s,baz=239,slow=13,SNR=12
ESDC S **Sn 01 45 18.0 -3.1**
comp=N,0.3nm,0.2s,baz=241,slow=23,SNR=9.4
ESDC Sonseca Array 5.55 54 P **Pn 01 44 17.5 +0.3**
comp=N,0.4nm,0.2s,baz=239,slow=13,SNR=12
ESDC S **Sn 01 45 18.0 -3.1**
comp=N,0.3nm,0.2s,slow=23,SNR=9.4
PGAV Gavieira, Arco 5.55 12 *e*Sn Sn 01 45 16.1 -5.1
PGAV A A 01 45 20.5
comp=N,1.8nm,0.3s
PGAV Gavieira, Arco 5.55 12 *e*Sn Sn 01 45 16.1 -5.1
comp=N,1.8nm,0.3s
PBRG Braganca 5.77 23 *e*Pn **Pn 01 44 20.9 +0.7**
PBRG *e*Sn Sn 01 45 21.7 -4.7
PBRG A A 01 45 24.2
comp=N,1.3nm,0.1s
PBRG Braganca 5.77 23 *e*Pn **Pn 01 44 20.9 +0.7**
PBRG *e*Sn Sn 01 45 21.7 -4.7
comp=N,1.3nm,0.1s
EHUE Huescar 5.87 75 S Sn 01 45 24.4 -4.7
comp=N,0.1nm,0.1s,SNR=7.9
EHUE Huescar 5.87 75 S Sn 01 45 24.4 -4.7
comp=N,0.1nm,0.1s,SNR=7.9
ECAL Calabor 5.89 23 P **Pn 01 44 22.1 +0.1**
comp=N,0.1nm,0.1s,SNR=7.9
ECAL S Sn 01 45 25.1 -4.5
comp=N,0.1nm,0.1s,SNR=7.9
ECAL Calabor 5.89 23 P **Pn 01 44 22.1 +0.1**
comp=N,0.1nm,0.1s,SNR=7.9
ECAL S Sn 01 45 25.1 -4.5
comp=N,0.1nm,0.1s,SNR=7.9
SESP Santiago Espad 5.97 72 P **Pn 01 44 22.8 -0.3**
comp=N,0.2nm,0.1s,SNR=7.9
SESP S Sn 01 45 26.9 -4.7
comp=N,0.9nm,0.2s,SNR=7.9
SESP Santiago Espad 5.97 72 P **Pn 01 44 22.8 -0.3**
comp=N,0.2nm,0.1s,SNR=7.9
SESP S Sn 01 45 26.9 -4.7
comp=N,0.9nm,0.2s,SNR=7.9
GUD Guadarrama 6.01 45 P **Pn 01 44 24.1 +0.4**
comp=N,0.8nm,0.2s,SNR=6.3
GUD S **Sn 01 45 28.8 -3.9**
comp=N,0.3nm,0.1s,SNR=7.9
GUD Guadarrama 6.01 45 P **Pn 01 44 24.1 +0.4**
comp=N,0.8nm,0.2s,SNR=6.3
GUD S **Sn 01 45 28.8 -3.9**
comp=N,0.3nm,0.1s,SNR=7.9
EVIA Vianos 6.14 68 P **Pn 01 44 25.5 +0.1**
comp=N,0.8nm,0.1s,SNR=7.9
EVIA Vianos 6.14 68 P **Pn 01 44 25.5 +0.1**
comp=N,0.8nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.44 5 S Sn 01 45 37.1 -5.9
comp=N,1.2nm,0.1s,SNR=7.9
ETOB Tobarra 6.86 70 S Sn 01 45 47.5 -5.9
comp=N,0.0nm,0.0s,SNR=7.9
ETOR Torete 7.39 52 P **Pn 01 44 43.3 +0.7**
comp=N,3.7nm,0.2s,SNR=5.7
ETOR S Sn 01 46 01.6 -5.0
comp=N,0.4nm,0.1s,SNR=7.9
ETOR Torete 7.39 52 P **Pn 01 44 43.3 +0.7**
comp=N,3.7nm,0.2s,SNR=5.7
ETOR S Sn 01 46 01.6 -5.0
comp=N,0.4nm,0.1s,SNR=7.9

NIED ***04*** *01:55:00,37°.20N×142°.10E,h26km,Mw3.6 Best double couple: M₀2.56000×10¹⁴ NP1:φs49.00000°,δ70.00000°, λ92.00000°. NP2:φs224.00000°,δ20.00000°,λ85.00000°.*
ISCJB ***04*** *01:55:28.5±0.8,37°.19N±0°.06×142°.16E±0°.06,h19km, mb3.6/9,Error ellipse: s-maj=8.4km s-min=6.5km az=168.1*
JMA ***04*** *01:55:29.8±0.2,37°.17N×142°.11E,h35km±4km,M3.8*
IDC ***04*** *01:55:36.6±4.6,36°.99N×142°.15E,h86km±41km,mb3.4/9, mb1 3.5/11,mb1mx3.4/27,mbtmp3.7/11,Error ellipse: s-maj=26.8km s-min=22.1km az=81.0*
ISC 04 01:55:30.2±1.0,37°.22N±0°.07×142°.06E±0°.07,h19km,n26, σ1ᵍ08/24,mb3.5/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JFK	**Kawauchi**	**0.95**	**279**	P		**Pb**	**01 55 47.9**	**-0.2**
JFK				S		**Sb**	**01 56 00.3**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.01**	**264**	P		**Pb**	**01 55 48.5**	**-0.6**
ONAJ				*e*S		**Sb**	**01 56 02.1**	**0.0**
JMM	**Marumori**	**1.20**	**303**	P		**Pn**	**01 55 51.4**	**-0.4**
JIO	**Ouri**	**1.35**	**336**	P		**Pn**	**01 55 53.6**	**-0.4**
JIO				S		**Sn**	**01 56 10.7**	**-0.8**
JFT	**Otama**	**1.40**	**283**	P		**Pn**	**01 55 55.3**	**+0.6**
JFT				*e*S		**Sn**	**01 56 13.1**	**+0.4**
JOU	**Okura**	**1.59**	**316**	P		**Pn**	**01 55 57.8**	**+0.5**
JOU				*e*S		**Sb**	**01 56 18.4**	**-0.3**
JYK	**Kaneyama**	**2.16**	**322**	P		**Pn**	**01 56 05.9**	**+0.7**
JAG	**Ashikaga**	**2.23**	**250**	P		**Pn**	**01 56 06.2**	**0.0**
MAT	**Matsushiro**	**3.16**	**259**	P		**Pn**	**01 56 21.3**	**+2.4**
MAT				S		**Sb**	**01 57 01.7**	**-2.2**
USRK	**Ussuriysk Arra**	**10.34**	**316**	P		Pn	01 58 04.5	+7.1
	0.1nm,0.3s,baz=130,slow=13,SNR=3.6							
PETK	**Petropavlovsk-**	**19.27**	**30**	P		**Pn**	**01 59 56.0**	**+1.4**
	0.9nm,0.3s,baz=210,slow=11,SNR=3.9							
H11N2	**WAKE ISLAND Hy 27.80**	**122**		T		T	02 30 55.4	
	baz=316,slow=76,SNR=8.4							
H11N1	**WAKE ISLAND Hy 27.81**	**122**		T		T	02 30 49.0	
	baz=316,slow=76,SNR=8.7							
H11N3	**WAKE ISLAND Hy 27.82**	**122**		T		T	02 30 51.7	
	baz=316,slow=76,SNR=10							
SONM	**Songino Array**	**28.11**	**304**	P		**P**	**02 01 22.1**	**+1.3**
	0.8nm,0.6s,baz=98,slow=8.8,SNR=7.5							
H11S1	**WAKE ISLAND Hy 28.53**	**124**		T		T	02 31 27.7	
	baz=320,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hy 28.53**	**124**		T		T	02 31 31.2	
	baz=320,slow=75,SNR=8.5							
H11S2	**WAKE ISLAND Hy 28.55**	**124**		T		T	02 31 38.7	
	baz=320,slow=75,SNR=8.6							

ZALV Zalesovo Beam 42.17 312 P **P 02 03 22.9 +1.6**
0.4nm,0.4s,baz=79,slow=7.6,SNR=2.6
MKAR Makanchi Array 44.46 302 P **P 02 03 40.2 +0.3**
0.5nm,0.6s,baz=87,slow=9.4,SNR=3.6
KURBB Kurchatov Area 46.29 308 P **P 02 03 54.7 +0.3**
2.1nm,0.5s,baz=83,slow=8.6,SNR=24
ILAR Eielson Array 49.06 32 P **P 02 04 15.9 +0.3**
0.5nm,0.9s,baz=251,slow=5.8,SNR=4.6
WRA Warramunga Arr 57.32 189 P P 02 05 12.3 -4.5
0.2nm,0.4s,baz=5.0,slow=7.2,SNR=2.9
ASAR Alice Springs 61.05 189 P **P 02 05 41.2 -1.4**
0.1nm,0.4s,baz=15,slow=7.7,SNR=3.7
NOA NORSAR Array B 74.21 338 P **P 02 07 03.8 -1.6**
0.4nm,0.6s,baz=22,slow=5.8,SNR=3.0
AKASG Malin Array Be 74.47 323 P **P 02 07 06.9 -0.1**
0.8nm,0.5s,baz=46,slow=6.5,SNR=4.9

ISCJB ***04*** *02:24:55.5±0.6,21°.63N±0°.09×143°.1E±0°.2,h311km, mb3.5/13,Error ellipse: s-maj=24.5km s-min=12.0km az=172.6*
IDC ***04*** *02:24:56.1±2.3,21°.65N×143°.15E,h302km±22km, mb3.2/14,mb1 3.4/15,mb1mx3.3/27,mbtmp3.3/15,Error ellipse: s-maj=22.8km s-min=11.3km az=85.0*
ISC 04 02:24:57.0±0.8,21°.7N±0°.1×143°.1E±0°.2,h311km,n16, σ0ᵍ68/18,mb3.4/13,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JCJ	**Chichijima**	**5.46**	**351**	P		**Pn**	**02 26 18.8**	**-1.4**
	16nm,0.3s,baz=303,slow=18,SNR=6.3							
KSRS	**Korea Array**	**20.49**	**323**	P		**P**	**02 29 12.4**	**+0.4**
	2.4nm,0.7s,baz=146,slow=8.7,SNR=9.8							
USRK	**Ussuriysk Arra**	**24.28**	**340**	P		**P**	**02 29 48.0**	**+1.3**
	0.9nm,0.7s,baz=152,slow=9.6,SNR=2.3							
SONM	**Songino Array**	**39.31**	**321**	P		**P**	**02 31 57.0**	**+0.2**
	0.4nm,0.4s,baz=126,slow=7.9,SNR=4.3							
WRA	**Warramunga Arr**	**42.24**	**192**	P		**P**	**02 32 20.2**	**-0.5**
	1.1nm,0.4s,baz=16,slow=9.7,SNR=17							
ASAR	**Alice Springs**	**45.95**	**192**	P		**P**	**02 32 49.5**	**-0.3**
	0.2nm,0.5s,baz=16,slow=11,SNR=7.3							
STKA	**Stephens Creek**	**53.27**	**182**	P		**P**	**02 33 44.3**	**-0.1**
	0.7nm,0.4s,baz=349,slow=10,SNR=4.6							
ZALV	**Zalesovo Beam**	**54.19**	**322**	P		**P**	**02 33 51.0**	**+0.1**
	0.8nm,0.5s,baz=88,slow=7.7,SNR=4.3							
ZALV				PcP		**PcP**	**02 34 50.5**	**-0.4**
	0.4nm,0.4s,baz=96,slow=4.1,SNR=2.5							
MKAR	**Makanchi Array**	**54.66**	**313**	P		**P**	**02 33 54.5**	**0.0**
	0.7nm,0.5s,baz=93,slow=8.5,SNR=8.0							
MKAR				PcP		**PcP**	**02 34 52.9**	**-0.1**
	0.9nm,0.8s,baz=68,slow=3.9,SNR=5.1							
ILAR	**Eielson Array**	**62.09**	**27**	P		**P**	**02 34 44.5**	**-0.6**
	0.4nm,0.7s,baz=246,slow=5.6,SNR=7.8							
YKA	**Yellowknife Ar**	**76.50**	**28**	P		**P**	**02 36 13.3**	**+0.5**
	1.0nm,0.6s,baz=295,slow=5.4,SNR=4.2							
ARCES	**ARCESS Array B**	**78.92**	**341**	P		**P**	**02 36 26.3**	**+0.3**
	3.1nm,0.6s,baz=70,slow=8.7,SNR=15							
KBZ	**Khabaz**	**82.34**	**314**	P		**P**	**02 36 45.0**	**+0.6**
	2.2nm,1.0s,baz=86,slow=16,SNR=3.1							
FINES	**FINESS Array B**	**83.17**	**334**	P		**P**	**02 36 47.4**	**-1.0**
	2.0nm,0.6s,baz=68,slow=4.2,SNR=19							
NVAR	**Mina Array Bea**	**83.21**	**51**	P		**P**	**02 36 49.9**	**+0.5**
	0.5nm,0.7s,baz=293,slow=5.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**128.70**	**309**	PKP		**PKPdf**	**02 43 28.8**	**+0.5**
	0.9nm,1.1s,baz=34,slow=2.2,SNR=2.9							

MEX 04 02:38:12.5±0.7,16°.93N×96°.15W,h90km±10km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
VHO	**Vista Hermosa**	**0.58**	**285**	*e*P		Pn	02 38 27.0	-1.1
VHO				*i* S		Sn	02 38 37.9	-2.0
HUIG	**Huatulco**	**1.15**	**178**	*e*P		Pn	02 38 33.0	-1.0
HUIG				*e*S		Sn	02 38 48.3	-1.8
TPIG	**Tehuac#an**	**1.88**	**322**	*i* P		Pn	02 38 41.6	-1.9
TPIG				*i* S		Sn	02 39 05.7	-1.2
PNIG	**Pinotepa**	**1.97**	**255**	*i* P		Pn	02 38 42.3	-2.0
PNIG				*i* S		Sn	02 39 07.7	-1.0
TLIG	**Tlapa**	**2.40**	**286**	*i* P		Pn	02 38 48.0	-2.1
TLIG				*i* S		Sn	02 39 17.1	-1.8
PCIG		**3.06**	**113**	*i* P		Pn	02 38 57.8	-1.1
PCIG				*i* S		Sn	02 39 32.7	-2.0

IDC 04 03:05:46.9±2.5,18°.86S×176°.23E,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/18,mbtmp4.0/3,MS3.2/3,Ms1 3.2/3, ms1mx2.8/25,Error ellipse: s-maj=103.0km s-min=48.1km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
AFI	**Afiamalu**	**12.51**	**69**	LR	LR		03 12 35.6	
	comp=Z,84nm,21.5s,baz=32,slow=33							
HNR	**Honiara**	**18.35**	**298**	LR	LR		03 15 55.2	
	comp=Z,53nm,19.3s,baz=125,slow=33							
PMG	**Port Moresby**	**29.68**	**284**	LR	LR		03 22 30.3	
	comp=Z,62nm,18.2s,baz=220,slow=34							
WRA	**Warramunga Arr**	**39.46**	**261**	P	P		03 13 17.9	-1.3
	1.1nm,0.9s,baz=92,slow=8.6,SNR=7.8							
ASAR	**Alice Springs**	**39.63**	**255**	P	P		03 13 20.6	-0.1
	2.2nm,0.7s,baz=87,slow=9.0,SNR=21							
FITZ	**Fitzroy Crossi**	**47.85**	**262**	P	P		03 14 28.1	+1.2
	3.0nm,0.9s,baz=100,slow=12,SNR=3.4							
GERES	**GERESS Array B**	**146.92**	**339**	PKPbc	PKPbc		03 25 30.6	-0.8
	0.7nm,0.8s,baz=41,slow=3.1,SNR=7.1							
TORD	**Torodi Ar. Bea**	**172.27**	**224**	PKPab	PKPab		03 27 21.8	-0.7
	0.6nm,0.9s,baz=140,slow=3.9,SNR=3.7							

NNC ***04*** *03:16:13.6±6.2,36°.75N×70°.86E,h114km±104km,mb3.2, mpv3.7,Error ellipse: s-maj=49.7km s-min=35.8km az=26.0*
ISC 04 03:16:05.3±1.5,36°.2N±0°.1×71°.1E±0°.1,h114km,n10, σ2ᵍ79/12,4C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KK31	**Karatay Array**	**6.87**	**356**	⇑P		**Pn**	**03 17 45.6**	**+2.2**
	3.0nm,0.3s,baz=178,slow=13,SNR=233							
KK31				⇓S		**Sn**	**03 18 57.5**	**-2.6**
	5.3nm,0.5s,baz=186,slow=18,SNR=12							
TKM2	**Tokmak 2**	**7.53**	**26**	⇑P		**Pn**	**03 17 54.2**	**+1.8**
	1.7nm,0.5s							
TKM2				⇓P		**Sn**	**03 19 16.1**	**-0.2**
	2.2nm,1.0s							
PYUN	**Piuthan**	**12.93**	**125**	*e*Pn		**Pn**	**03 19 03.8**	**-1.3**
PYUN				*e*Sn		Sn	03 21 17.3	-10
	77nm,0.4s							
DANN	**Dangsing**	**13.29**	**123**	*e*Pn		**Pn**	**03 19 07.1**	**-2.6**
DANN				*e*Sn		Sn	03 21 23.8	-13
	19nm,0.7s							
KOLN	**Koldanda**	**13.56**	**125**	*e*Sn		Sn	03 21 31.5	-11
	11nm,0.6s							
AB31	**Akbulak array**	**15.35**	**331**	⇑P		**P**	**03 19 37.9**	**+0.2**
	0.4nm,0.3s,baz=142,slow=12,SNR=46							
AB31				⇓S		Sn	03 22 16.6	-8.6
	0.8nm,0.5s,baz=156,slow=24,SNR=7.3							
JIRN	**Jiri**	**15.40**	**119**	*e*Pn		**Pn**	**03 19 36.2**	**-0.5**
JIRN				*e*Sn		Sn	03 22 14.4	-13
	14nm,0.4s							
RAMN	**Ramite**	**16.12**	**121**	*e*Pn		**Pn**	**03 19 45.5**	**-0.1**
RAMN				*e*Sn		Sn	03 22 31.9	-13
	17nm,0.6s							
TAPN	**Taplejung**	**16.66**	**117**	*e*Pn		**Pn**	**03 19 51.9**	**-0.4**
AKTO	**Aktyubinsk**	**17.04**	**330**	⇓P		**Pn**	**03 20 00.1**	**+3.7**
	1.7nm,0.6s							
AKTO				⇑S		**Sn**	**03 23 00.2**	**-5.7**
	1.2nm,0.5s							

CSEM ***04*** *03:26:14.6±0.6,32°.30N×46°.71E,h10km,ML3.0,Error ellipse: s-maj=19.2km s-min=17.3km az=114.0*
ISN ***04*** *03:26:14.4±1.4,32°.08N×45°.54E,h0km±21km,ML3.0*
KISR ***04*** *03:26:17.7±0.3,32°.15N×46°.82E,h34km,ML3.4*
ISC 04 03:26:14.9±1.0,32°.24N±0°.05×46°.76E±0°.06,h10km,n17, σ1ᵍ49/19,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IBDR	**Badra**	**1.11**	**321**	*e*PG		**Pn**	**03 26 37.8**	**+1.3**
NSR	**Nassriya**	**1.34**	**204**	*e*Pg		**Pg**	**03 26 41.4**	**+0.9**
NSR	**Nassriya**	**1.34**	**204**	*e*Pg		**Pg**	**03 26 41.4**	**+0.9**
	SNR=90							
SHGR	**Shooshtar-Gavs**	**1.73**	**94**	*e*Pg		**Pn**	**03 26 45.1**	**0.0**

SHGR				*e*Sg	**Sn**	**03 27 05.6**	**-1.7**	
BHD	**Baghdad**	**2.25**	**298**	*e*PN4	Pn	03 26 43.2	-9.0	
BHD	**Baghdad**	**2.25**	**298**	*e*Pn	Pn	03 26 43.2	-9.0	
	SNR=39							
RST	**Umm Al-Ruwaisa**	**2.74**	**176**	*e*P	**Pb**	**03 27 05.5**	**+1.5**	
RST				*e*S	**Sg**	**03 27 41.1**	**-1.8**	
RST				AML	AML	03 27 49.0		
	comp=Z,166nm,0.7s							
RST	**Umm Al-Ruwaisa**	**2.74**	**176**	*e*P	**Pb**	**03 27 05.5**	**+1.5**	
RST				*e*S	**Sg**	**03 27 41.1**	**-1.8**	
SNGE	**Sanandaj**	**2.89**	**10**	*e*Pn	**Pn**	**03 27 02.3**	**+1.2**	
KHMZ	**Khomeyn**	**3.08**	**60**	*e*Pn	**Pn**	**03 27 02.6**	**-1.1**	
KHMZ				*e*Sg	**Sn**	**03 27 42.0**	**+1.3**	
RDF	**Al-Radifah**	**3.37**	**168**	*e*P	**Pb**	**03 27 14.2**	**-0.6**	
RDF				*e*S	**Sb**	**03 27 56.8**	**+1.0**	
RDF	**Al-Radifah**	**3.37**	**168**	*e*P	**Pb**	**03 27 14.2**	**-0.6**	
RDF				*e*S	**Sb**	**03 27 56.8**	**+1.0**	
ASAO	**Ashtian**	**3.57**	**49**	*e*Pn	**Pn**	**03 27 10.3**	**-0.3**	
IKRK	**Kirkuk**	**3.74**	**328**	*e*PN4	**Pn**	**03 27 11.1**	**-1.5**	
MSL	**Mosul**	**5.13**	**325**	*e*PN4	**Pn**	**03 27 28.7**	**-3.0**	
RTB	**Rutbah**	**5.50**	**280**	*e*PN4	Pn	03 27 24.4	-12	
RTB	**Rutbah**	**5.50**	**280**	*e*Pn	Pn	03 27 24.4	-13	
	SNR=39							

BYKL ***04*** *03:41:45.4±0.3,55°.77N×109°.48E,h16km±3km*
MOS 04 03:41:45.4±1.1,55°.77N×109°.52E,h10km,mb4.3/1,4C-4D,
Error ellipse: s-maj=0.1km s-min=0.0km az=143.2,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.01**	**67**	*e*PG	Pg	03 41 48.2	+1.0
NIZ				*e*		03 41 50.6	
NIZ				pmax	pmax		
	comp=Z,2μm,0.4s						
NIZ				smax	smax		
	comp=N,6μm,0.3s						
NIZ	**Nizh Angarsk**	**0.01**	**67**	⇓*i*Pg	Pg	03 41 48.3	+1.1
NIZ				*e*Sg	Sg	03 41 50.5	+2.0
KMO	**Kumora**	**0.95**	**82**	*e*PG	Pg	03 42 02.5	-1.3
KMO	**Kumora**	**0.95**	**82**	⇑*i*Pg	Pg	03 42 02.6	-1.2
KMO				*e*Sg	Sg	03 42 16.1	-0.2
KMO				*e*Sb	Sn	03 42 21.0	+2.4
KMO				Pmax			
	comp=N,131nm,0.2s						
KMO				max			
	comp=N,833nm,0.2s						
YOA	**Uoyan**	**1.29**	**73**	⇑*i*PG	Pg	03 42 10.2	-0.1
YOA	**Uoyan**	**1.29**	**73**	*e*Pg	Pn	03 42 09.3	-0.2
YOA				*e*Pb	Pg	03 42 10.5	+0.2
YOA				*e*Sg	Sg	03 42 28.1	+1.0
YOA				max			
	comp=N,334nm,0.3s						
YOA				Smax			
	comp=N,2μm,0.4s						
YLYR	**Ulyunkhan**	**1.30**	**133**	⇑*i*PG	Pn	03 42 09.3	-0.3
YLYR				*e*		03 42 26.5	
YLYR				pmax	pmax		
	comp=Z,122nm,0.1s						
YLYR				smax	smax		
	comp=N,524nm,0.1s						
YLYR	**Ulyunkhan**	**1.30**	**133**	⇑*i*Pg	Pn	03 42 09.4	-0.2
YLYR				*e*Sg	Sn	03 42 27.1	+0.1
YLYR				*e*Sb	Sg	03 42 29.1	+1.9
YLYR				Pmax			
	comp=N,111nm,0.2s						
YLYR				max			
	comp=N,527nm,0.1s						
SYVR	**Suvo**	**2.13**	**172**	*e*PN	Pn	03 42 22.0	+0.9
SYVR				*e*		03 42 51.8	
SYVR				pmax	pmax		
	comp=Z,42nm,0.6s						
SYVR				smax	smax		
	comp=N,485nm,0.7s						
SYVR	**Suvo**	**2.13**	**172**	⇓*i*Pn	Pn	03 42 22.1	+1.0
SYVR				*e*Pg	Pb	03 42 24.2	0.0
SYVR				*e*Sg	Sb	03 42 51.4	+0.7
SYVR				*e*Pg	Pg		
	comp=N,39nm,0.3s						
SYVR				Smax	Pg		
	comp=N,395nm,0.5s						
SVKR	**Severomuysk**	**2.30**	**80**	*e*PN	Pb	03 42 26.8	-0.2
SVKR				*e*		03 42 55.2	
SVKR				pmax	pmax		
	comp=Z,145nm,0.6s						
SVKR				smax	smax		
	comp=N,571nm,0.9s						
SVKR	**Severomuysk**	**2.30**	**80**	*e*Pg	Pb	03 42 27.4	+0.4
SVKR				*e*		03 42 33.7	
SVKR				*e*Sn	Sn	03 42 52.1	+0.3
SVKR				*e*Sg	Sg	03 42 57.6	-1.8
SVKR				max			
	comp=N,124nm,0.3s						
SVKR				Smax			
	comp=N,555nm,0.5s						
UKT	**Uakit**	**2.35**	**95**	⇓*i*Pn	Pn	03 42 24.8	+0.7
UKT				*e*		03 42 25.9	
UKT				*e*Pg	Pb	03 42 27.4	-0.5
UKT				*e*PgPg	Pg	03 42 30.6	+0.1
UKT				*e*Sn	Sn	03 42 53.2	+0.1
UKT				*e*Sg	Sb	03 42 58.5	+1.5
UKT				max			
	comp=N,31nm,0.3s						
UKT				Smax			
	comp=N,204nm,0.5s						
OGRR	**Ongureny**	**2.41**	**208**	*e*PN	Pn	03 42 25.1	+0.3
OGRR				*e*		03 42 28.6	
OGRR				*e*		03 42 59.8	
OGRR				pmax	pmax		
	comp=Z,28nm,0.2s						
OGRR				smax	smax		
	comp=E,540nm,0.4s						
OGRR	**Ongureny**	**2.41**	**208**	⇓*i*Pn	Pn	03 42 25.1	+0.3
OGRR				*e*		03 42 33.1	
OGRR				*e*Sn	Sn	03 42 54.2	-0.2
OGRR				*e*Sg	Sb	03 42 59.3	+0.8
OGRR				Smax			
	comp=E,540nm,0.3s						
BOD	**Bodaibo**	**3.21**	**48**	*e*Pn	Pn	03 42 35.7	-0.1
BOD				*e*Pg	Pb	03 42 42.2	-0.2
BOD				*e*Sn	Sn	03 43 13.1	-1.0
BOD				*e*Sg	Sb	03 43 24.3	+2.7
BOD				Pmax			
	comp=E,19nm,0.3s						
BOD				Smax			
	comp=E,71nm,0.3s						
ZRHB	**Zarechye**	**3.51**	**204**	*e*Pn	Pn	03 42 39.5	-0.5
ZRHB				*e*Pg	Pb	03 42 47.0	-0.6
ZRHB				*e*Sg	Sb	03 43 33.2	+2.9
ZRHB				Pmax			
	comp=E,91nm,0.7s						
ZRHB				Smax			
	comp=E,457nm,0.8s						
NLYR	**Nelyaty**	**3.54**	**76**	*e*Pn	Pn	03 42 40.4	0.0
NLYR				*e*Sn	Sn	03 43 19.9	-2.3
NLYR				*e*Sg	Sb	03 43 34.9	+3.9
NLYR				Smax			
	comp=E,164nm,1.0s						
TRG	**Tyrgan**	**3.54**	**213**	*e*Pn	Pn	03 42 40.5	0.0
TRG				*e*		03 42 46.8	
TRG				*e*Sn	Sn	03 43 20.3	-2.2
TRG				*e*Sg	Sb	03 43 34.4	+3.1
TRG				Smax			
	comp=E,117nm,0.3s						
VTMR	**Vitim**	**4.03**	**23**	*e*Sn	Sn	03 43 32.3	-1.9
VTMR				*e*Sg	Sg	03 43 50.6	-4.0
UUDB	**Ulan-Yde**	**4.06**	**196**	*e*Pg	Pb	03 42 57.4	+0.4
UUDB				*e*Sn	Sn	03 43 33.7	-1.5
UUDB				*e*Sg	Sb	03 43 50.9	+4.7
UUDB				Pmax			
	comp=E,10.0nm,0.4s						
UUDB				Smax			
	comp=E,34nm,0.4s						
LSTR	**Listvyanka**	**4.79**	**217**	*e*Pn	Pn	03 42 57.5	-0.2
LSTR				*e*Sn	Sn	03 43 50.4	-2.8
LSTR				*e*Sg	Sb	03 44 13.1	+5.9
LSTR				Smax			
	comp=E,37nm,0.4s						
CRS	**Chara**	**5.00**	**73**	*e*PN	Pb	03 43 14.4	+1.4
CRS				*e*		03 44 18.6	
CRS				pmax	pmax		
	comp=Z,50nm,1.1s						
CRS				smax	smax		
	comp=E,87nm,1.6s						
CRS	**Chara**	**5.00**	**73**	*e*Pn	Pn	03 43 00.7	+0.2
CRS				*e*Pg	Pb	03 43 15.9	+2.9
CRS				*e*Sg	Sg	03 44 20.4	-5.5
CRS				Pmax			
	comp=E,9.0nm,0.5s						
CRS				Smax			
	comp=E,91nm,1.6s						
TLY	**Talaya**	**5.38**	**223**	*e*PN	Pn	03 43 06.7	+1.0
TLY				*e*		03 43 22.1	
TLY				*e*S	Sn	03 44 07.4	-0.3
TLY				*e*		03 44 31.3	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.2s						
TLY				smax	smax		
	comp=E,38nm,0.8s						
TLY	**Talaya**	**5.38**	**223**	*e*Pn	Pn	03 43 04.5	-1.2
TLY				*e*Sn	Sn	03 44 03.6	-4.1
TLY				*e*Sg	Sb	03 44 30.8	+6.7
TLY				Smax			
	comp=E,32nm,0.4s						
ARS	**Arshan**	**5.70**	**230**	*e*Pn	Pn	03 43 09.0	-1.2
ARS				*e*Sn	Sn	03 44 10.9	-4.8
ARS				*e*Sg	Sg	03 44 42.7	-5.8
ARS				Smax			
	comp=E,132nm,0.6s						
KHNR	**Khani**	**5.93**	**74**	*e*Sg	Sg	03 44 48.1	-7.7
TUP	**Tupik**	**6.14**	**98**	*e*PN	Pb	03 43 35.0	+2.6
TUP				*e*		03 44 56.2	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.4s						
TUP				smax	smax		
	comp=N,69nm,1.4s						
TUP	**Tupik**	**6.14**	**98**	*e*Pn	Pn	03 43 15.9	-0.2
TUP				*e*Sg	Sg	03 44 55.4	-7.1
TUP				Smax			
	comp=N,81nm,1.4s						
MOY	**Mondy**	**6.52**	**234**	*e*PN	Pn	03 43 22.6	+1.1
MOY				*e*		03 43 42.6	
MOY				*e*		03 45 05.4	
MOY				pmax	pmax		
	comp=Z,10.0nm,0.2s						
MOY				smax	smax		
	comp=E,61nm,1.3s						
MOY	**Mondy**	**6.52**	**234**	*e*Pn	Pn	03 43 22.2	+0.7
MOY				*e*Sn	Sn	03 44 31.8	-4.1
MOY				*e*Sg	Sb	03 45 05.6	+8.6
MOY				Smax			
	comp=E,28nm,0.4s						
ORL	**Orlik**	**6.56**	**244**	*e*Pn	Pn	03 43 22.3	+0.3
ORL				*e*		03 43 28.9	
ORL				*e*Sn	Sn	03 44 31.6	-5.3
ORL				*e*Sg	Sg	03 45 09.3	-6.8
ORL				Smax			
	comp=E,36nm,0.8s						
ZAK	**Zakamensk**	**6.58**	**217**	*e*Sg	Sg	03 45 09.3	-7.3
ZAK				Smax			
	comp=E,22nm,0.7s						

NEIC 04 03:54:43.0,44°.78N×112°.34W,h14km,ML3.6(BUT),After BUT.,Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	**McKenzie Canyo**	**0.36**	**278**	*e*Pg	Pg	03 54 51.0	+0.2
DLMT	**Dillon**	**0.61**	**343**	*e*Pg	Pg	03 54 55.4	+0.2
DLMT				*e*Sb	Sg	03 55 03.4	-0.2
QLMT	**Earthquake Lak**	**0.65**	**85**	*e*Pg	Pg	03 54 56.0	-0.1
QLMT				*e*Sg	Sg	03 55 02.8	-2.1
YMR	**Madison River**	**0.99**	**96**	*e*Pg	Pb	03 55 02.0	-0.2
YMR				*e*Sg	Sb	03 55 13.7	-1.5
BOZ	**Bozeman (W)**	**1.00**	**30**	*e*Pg	Pb	03 55 01.1	-1.3
BOZ				*e*Sg	Sb	03 55 13.1	-2.5
BOZ				*e*Sn	Sg	03 55 14.8	-1.1
LRM	**Limekiln Ridge**	**1.04**	**356**	*e*Pn	Pb	03 55 03.1	-0.1
YFT	**Old Faithful**	**1.12**	**106**	*e*Pg	Pb	03 55 04.5	0.0
YFT				*e*Sg	Sb	03 55 18.3	-1.0
YNR	**Norris Junctio**	**1.19**	**93**	*e*Pn	Pb	03 55 05.8	+0.2
YNR				*e*Sg	Sb	03 55 19.7	-1.4
YNR				*e*Sn	Sn	03 55 21.4	-0.3
H17A	**Grant Village**	**1.32**	**106**	*e*Pn	Pg	03 55 09.2	+0.5
H17A				*e*Sg	Sn	03 55 24.9	0.0
IMW	**Indian Meadow**	**1.34**	**131**	*e*Pn	Pn	03 55 07.9	+0.3
FLWY	**Flagg Ranch**	**1.37**	**120**	*e*Pn	Pb	03 55 09.1	+0.4
FLWY				*e*Sb	Sn	03 55 25.2	-0.8
FXWY	**Fox Creek**	**1.48**	**140**	*e*Pn	Pb	03 55 10.3	-0.3
FXWY				*e*Sn	Sb	03 55 29.9	+0.3
MOOW	**Moose Ponds**	**1.54**	**131**	*e*Pn	Pb	03 55 11.4	-0.3
MOOW				*e*Sn	Sb	03 55 30.9	-0.3
TPAW	**Teton Pass**	**1.63**	**142**	*e*Pn	Pb	03 55 13.1	-0.1
TPAW				*e*Sn	Sb	03 55 34.9	+1.0
LOHW	**Long Hollow**	**1.71**	**132**	*e*Pn	Pb	03 55 14.5	0.0
LOHW				*e*Sn	Sb	03 55 36.1	+0.1
REDW	**Red Top Meadow**	**1.78**	**142**	*e*Pn	Pb	03 55 15.8	+0.1
HLID	**Hailey**	**1.93**	**232**	*e*Pn	Pb	03 55 17.6	-0.6
HLID				*e*Pg	Pg	03 55 23.2	+3.0
HLID				*e*Sn	Sb	03 55 43.0	+0.8
HRY	**Holter Researc**	**1.96**	**10**	*e*Pn	Pn	03 55 16.8	+0.8
HRY				*e*Pg	Pg	03 55 20.1	-0.8
HRY				*e*Sn	Sn	03 55 39.6	-1.0
HRY				*e*Sg	Sb	03 55 43.1	0.0
GCMT	**Greycliff**	**2.14**	**61**	*e*Pn	Pn	03 55 18.4	-0.1
GCMT				*e*Pg	Pb	03 55 22.6	+0.8
GCMT				*e*Sg	Sb	03 55 48.4	0.0
AHID	**Auburn Hatcher**	**2.21**	**156**	*e*Pn	Pb	03 55 22.5	-0.4
AHID				*e*Sn	Sn	03 55 48.4	+1.7
AHID				*e*Sg	Sg	03 55 56.7	+2.2
RLMT	**Red Lodge**	**2.21**	**80**	*e*Pn	Pn	03 55 19.6	+0.1
RLMT				*e*Pg	Pb	03 55 24.0	+1.0
RLMT				*e*Sg	Sb	03 55 51.8	+1.3
CHMT	**Chamberlain Mo**	**2.23**	**344**	*e*Pn	Pn	03 55 20.7	+0.9
CHMT				*e*Pg	Pg	03 55 24.9	-1.2
CHMT				*e*Sg	Sg	03 55 53.5	-1.7
MSO	**Missoula**	**2.33**	**332**	*e*Pn	Pn	03 55 22.2	+1.1
SLMT	**Seeley Lake**	**2.59**	**342**	*e*Pn	Pn	03 55 25.4	+0.7
SLMT				*e*Pg	Pg	03 55 32.0	-0.9
SLMT				*e*Sn	Sn	03 55 55.9	-0.3
SLMT				*e*Sg	Sg	03 56 04.9	-1.8
BW06	**Boulder Array**	**2.85**	**134**	*e*Pn	Pn	03 55 30.4	+2.1
BW06				*e*Pg	Pg	03 55 36.8	-1.1
BW06				*e*Sn	Sn	03 56 03.3	+0.7
BW06				*e*Sg	Sg	03 56 12.0	-3.1
MFID	**Camas Ranch**	**2.86**	**243**	*e*Pn	Pn	03 55 30.8	+2.4
MFID				*e*Sn	Sb	03 56 08.6	-0.3
SWMT	**Swartz Lake**	**2.96**	**338**	*e*Pn	Pn	03 55 31.0	+1.2
SWMT				*e*Pg	Pg	03 55 38.5	-1.5
SWMT				*e*Sn	Sn	03 56 05.0	-0.2
SWMT				*e*Sg	Sg	03 56 15.8	-2.8
HVU	**Hansel Valley**	**3.02**	**186**	*e*Pn	Pn	03 55 33.0	+2.5
HVU				*e*Pg	Pg	03 55 40.0	-1.0
HVU				*e*Sn	Sb	03 56 10.1	-3.4
HVU				*e*Sg	Sg	03 56 19.2	-1.1
JTMT	**Jette**	**3.26**	**336**	*e*Pn	Pn	03 55 35.5	+1.6
JTMT				*e*Pg	Pg	03 55 43.4	-2.2
JTMT				*e*Sn	Sn	03 56 11.7	-0.9
JTMT				*e*Sg	Sb	03 56 23.8	+3.4
YBMT	**Yellow Bay**	**3.29**	**340**	*e*Pn	Pn	03 55 35.2	+0.9
YBMT				*e*Pg	Pg	03 55 44.5	-1.8
YBMT				*e*Sn	Sn	03 56 13.7	+0.3
YBMT				*e*Sg	Sg	03 56 27.7	-1.5
SPUT	**South Promonto**	**3.47**	**181**	*e*Pn	Pb	03 55 40.7	-3.7
SPUT				*e*Pg	Pg	03 55 48.8	-0.9
SPUT				*e*Sg	Sg	03 56 33.7	-1.2
BSMT	**Bassoo Peak**	**3.51**	**332**	*e*Pn	Pn	03 55 39.3	+1.9
BSMT				*e*Pg	Pg	03 55 48.1	-2.4
BSMT				*e*Sn	Sn	03 56 20.0	+1.2
BSMT				*e*Sg	Sg	03 56 33.1	-3.0
BLMT	**Blacktail Moun**	**3.52**	**337**	*e*Pn	Pn	03 55 37.7	+0.2
BLMT				*e*Sn	Sn	03 56 18.8	-0.4
BLMT				*e*Sg	Sg	03 56 32.8	-3.8
BMO	**Blue Mountains**	**3.54**	**273**	*e*Pn	Pn	03 55 39.4	+1.8
BMO				*e*Pg	Pg	03 55 49.7	-1.2
BMO				*e*Sn	Sn	03 56 20.7	+1.5
BMO				*e*Sg	Sg	03 56 33.4	-3.4
F10A	**Beach Ranch, E**	**3.65**	**291**	*e*Pn	Pn	03 55 41.3	+2.2
F10A				*e*Sn	Sn	03 56 24.0	+2.0
EGMT	**Eagleton**	**3.71**	**28**	*e*Pn	Pn	03 55 40.5	+0.6
EGMT				*e*Pg	Pb	03 55 51.2	+2.9
EGMT				*e*Sn	Sn	03 56 20.1	-3.3
EGMT				*e*Sg	Sb	03 56 35.7	+2.6
BGU	**Big Grassy Mou**	**3.89**	**188**	*e*Pn	Pn	03 55 46.6	+4.1
BGU				*e*Pg	Pg	03 55 57.7	0.0
BGU				*e*Sg	Sg	03 56 47.1	-1.1
JLU	**Jordanelle**	**4.23**	**171**	*e*Pn	Pn	03 55 50.1	+2.8
JLU				*e*Pb	Pb	03 55 59.6	+2.2
JLU				*e*Pg	Pg	03 56 03.9	-0.4
JLU				*e*Sg	Sg	03 56 58.5	-0.8
WALA	**Waterton Lakes**	**4.41**	**346**	*e*Pn	Pn	03 55 50.3	+0.6
WALA				*e*Pg	Pb	03 56 03.4	+3.0
WALA				*e*Sn	Sn	03 56 41.2	+0.2
WALA				*e*Sg	Sg	03 57 00.8	-4.2
E09A	**Wood Farm, Sta**	**4.42**	**295**	*e*Pn	Pn	03 55 51.5	+1.8
DAU	**Daniels Canyon**	**4.44**	**169**	*e*Pn	Pn	03 55 53.9	+3.7
DAU				*e*Pg	Pg	03 56 06.5	-1.9
DAU				*e*Sg	Sg	03 57 03.4	-2.8
ELK	**Elko**	**4.56**	**209**	*e*Pn	Pb	03 56 00.2	-3.0
ELK				*e*Sg	Sb	03 57 00.9	+2.7
DUG	**Dugway**	**4.60**	**185**	*e*Pn	Pn	03 55 54.8	+2.5
DUG				*e*Pg	Pg	03 56 09.1	-2.2
J08A	**Circle Bar Ran**	**4.64**	**254**	*e*Pn	Pn	03 55 55.7	+2.9
LAO	**LASA Array**	**4.69**	**64**	*e*Pn	Pn	03 55 53.4	0.0
LAO				*e*Pg	Pb	03 56 08.3	+3.3
LAO				*e*Sg	Sb	03 57 06.8	+5.4
G08A	**Pilot Rock**	**4.72**	**279**	*e*Pn	Pn	03 55 56.0	+2.1
K22A	**Casper**	**4.72**	**115**	*e*Pn	Pn	03 55 53.3	-0.7
K22A				*e*Pg	Pg	03 56 11.1	-2.6
NEW	**Newport**	**4.80**	**318**	*e*Pn	Pn	03 55 56.5	+1.6
NEW				*e*Sn	Sn	03 56 51.4	+1.1
NLU	**North Lily Min**	**4.83**	**178**	*e*Pn	Pn	03 56 00.6	+5.1
D08A	**Wollman Farm,**	**5.12**	**299**	*e*Pn	Pn	03 56 01.5	+2.2
WVOR	**Wild Horse Val**	**5.14**	**245**	*e*Pn	Pn	03 55 59.4	-0.3
WVOR				*e*Pg	Pb	03 56 14.3	+1.5
WVOR				*e*Sn	Sn	03 56 56.9	-2.0
WVOR				*e*Sg	Sg	03 57 24.0	-4.3
I07A	**Izee**	**5.18**	**265**	*e*Pn	Pn	03 56 02.9	+2.7
SRU	**San Rafael**	**5.82**	**166**	*e*Pn	Pn	03 56 08.1	-1.0
SRU				*e*Pg	Pg	03 56 30.0	-4.8
SRU				*e*Sg	Sg	03 57 45.2	-5.2
RSSD	**Black Hills**	**5.98**	**93**	*e*Pn	Pn	03 56 11.0	-0.3
	3.3nm,0.6s						
RSSD				*e*Pg	Pg	03 56 35.5	-2.3
RSSD				*e*Sg	Sg	03 57 47.2	-8.2
B08A	**Colville Reser**	**6.00**	**309**	*e*Pn	Pn	03 56 12.9	+1.5
B08A				*e*Sg	Sg	03 57 50.8	-5.0
DGMT	**Dagmar**	**6.71**	**54**	*e*Pn	Pn	03 56 19.6	-1.5
DGMT				*e*Pg	Pg	03 56 46.1	-5.4
DGMT				*e*Sg	Sg	03 58 09.2	-9.3
R11A	**Troy Canyon, C**	**6.87**	**202**	*e*Pn	Pn	03 56 24.1	+0.6
R11A				*e*Pg	Pb	03 56 47.4	+5.0
R11A				*e*Sn	Sn	03 57 40.2	-1.5
R11A				*e*Sg	Sg	03 58 16.4	-7.5
LON	**Longmire**	**6.91**	**290**	*e*Pn	Pn	03 56 25.9	+2.0
LON				*e*Sg	Sg	03 58 30.5	+5.6

IDC ***04*** *03:57:11.9±0.8,25°.52N×126°.65E,h0km,mb4.0/19, mb1 4.1/21,mb1mx4.0/33,mbtmp4.0/21,ML3.3/2, Error ellipse: s-maj=24.9km s-min=16.7km az=80.0*
JMA ***04*** *03:57:13.9±0.2,25°.65N×127°.00E,h1km±2km,M4.1*
NEIC ***04*** *03:57:18.1±0.8,25°.60N×126°.99E,h48km±7km,mb4.4/13, Error ellipse: s-maj=8.8km s-min=7.3km az=121.0*
ISC 04 03:57:15.8±1.2,25°.65N±0°.05×126°.91E±0°.05,h25km±9km, n73,σ1°.23/78,mb4.2/30,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.69**	**351**	P	**Pb**	**03 57 27.8**	**-1.4**
JKE				*e*S	**Sb**	**03 57 37.8**	**-0.5**
JJT2	**Tamagusuku 2**	**0.90**	**57**	P	**Pb**	**03 57 30.4**	**-2.4**
JAGN	**Aguni-jima**	**0.98**	**18**	P	**Pn**	**03 57 32.5**	**-1.6**
JAGN				S	**Sb**	**03 57 45.6**	**-1.2**
JOGS	**Gusukube**	**1.62**	**237**	P	**Pb**	**03 57 44.8**	**-0.3**
JOGS				*e*S	**Sb**	**03 58 06.8**	**+1.7**
JIH	**Iheya**	**1.68**	**34**	P	**Pn**	**03 57 44.2**	**+0.6**
JIH				S	**Sn**	**03 58 04.5**	**+0.2**
JMJ	**Miyako jima 2**	**1.68**	**241**	P	**Pb**	**03 57 45.9**	**-0.2**
JOW	**Kunigami**	**1.70**	**46**	P	**Pn**	**03 57 43.8**	**-0.2**
JOW				*e*S	**Sn**	**03 58 05.4**	**+0.4**
JOW	**Kunigami**	**1.70**	**46**	*e*Pn	**Pn**	**03 57 43.9**	**-0.1**
JOW				*e*Sn	**Sb**	**03 58 10.2**	**+2.7**
JTJ	**Tarama**	**2.24**	**244**	P	**Pb**	**03 57 54.4**	**-1.2**
JTJ				*e*S	**Sb**	**03 58 23.0**	**+0.2**
JTK	**Tokunoshima**	**2.81**	**40**	P	**Pn**	**03 57 59.8**	**+0.7**
JIJ	**Ishigaki jima**	**2.82**	**244**	P	**Pn**	**03 58 01.7**	**+2.4**
JAMN	**Amaminishikomi**	**3.28**	**38**	P	**Pn**	**03 58 06.7**	**+1.0**
YHNB	**Yeheng**	**5.11**	**260**	*e*Pn	Pn	03 58 35.1	+4.2
	290nm,1.0s						
YULB	**Yu-li**	**5.58**	**247**	*e*Pn	**Pn**	**03 58 38.1**	**+0.7**
JNU	**Nakatsue**	**8.21**	**24**	Pn	**Pn**	**03 59 16.3**	**+2.8**
JNU	**Nakatsue**	**8.21**	**24**	Pn	**Pn**	**03 59 16.3**	**+2.8**
	0.7nm,0.3s,baz=203,slow=2.5,SNR=3.6						
MAJO	**Matsushiro**	**14.54**	**39**	*e*Pn	**Pn**	**04 00 40.0**	**0.0**
USRK	**Ussuriysk Arra**	**18.97**	**11**	P	**Pn**	**04 01 37.9**	**+1.9**
	0.3nm,0.3s,baz=178,slow=9.8,SNR=3.2						
ASAJ	**Asahikawa**	**22.41**	**31**	P	**P**	**04 02 16.0**	**+3.5**
ASAJ	**Asahikawa**	**22.41**	**31**	P	**P**	**04 02 16.0**	**+3.5**
	2.5nm,0.4s,baz=218,slow=19,SNR=2.4						
ULN	**Ulaanbaatar**	**27.14**	**330**	*e*P	**P**	**04 02 57.7**	**+0.5**
	0.9nm,0.5s						
SONM	**Songino Array**	**27.42**	**329**	P	**P**	**04 02 59.5**	**-0.1**
SONM	**Songino Array**	**27.42**	**329**	P	**P**	**04 02 59.5**	**-0.1**
	1.2nm,0.9s,baz=135,slow=7.7,SNR=4.0						
MK31	**Makanchi Array**	**41.05**	**313**	*e*P	**P**	**04 04 57.2**	**-0.1**
MKAR	**Makanchi Array**	**41.05**	**313**	P	**P**	**04 04 56.5**	**-0.8**
MKAR	**Makanchi Array**	**41.05**	**313**	P	**P**	**04 04 56.5**	**-0.8**
	0.8nm,

AKASG	**Malin Array Be**	**75.20**	**319**	P		**P**	**04 08 55.7**	**-0.5**
AKASG	**Malin Array Be**	**75.20**	**319**	P		**P**	**04 08 55.7**	**-0.5**
	0.7nm,0.5s,baz=58,slow=6.4,SNR=5.4							
RES	**Resolute Bay**	**76.34**	**11**	P		**P**	**04 09 02.7**	**+0.5**
RES	**Resolute Bay**	**76.34**	**11**	P		**P**	**04 09 02.7**	**+0.5**
	3.2nm,0.9s,baz=309,slow=6.5,SNR=3.1							
BR131	**Keskin Array S**	**76.45**	**308**	*e*P		**P**	**04 09 03.6**	**-0.2**
	2.5nm,0.8s							
BRTR	**Keskin Array B**	**76.45**	**308**	P		**P**	**04 09 04.0**	**+0.3**
BRTR	**Keskin Array B**	**76.45**	**308**	P		**P**	**04 09 04.0**	**+0.3**
	1.9nm,0.9s,baz=115,slow=4.3,SNR=6.8							
BUR08	**Bucovina Ar. S**	**78.86**	**318**	*e*P		**P**	**04 09 17.1**	**+0.1**
NB2	**NORSAR Subarra**	**79.31**	**333**	P		**P**	**04 09 18.3**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=54,slow=5.3							
NOA	**NORSAR Array B**	**79.31**	**333**	P		**P**	**04 09 18.5**	**-0.6**
NOA	**NORSAR Array B**	**79.31**	**333**	P		**P**	**04 09 18.5**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=57,slow=5.5,SNR=3.6							
KWP	**Kalwaria Pacla**	**79.45**	**320**	*e*P		**P**	**04 09 20.2**	**+0.1**
	comp=Z,9.2nm,0.9s							
DUG	**Dugway**	**94.12**	**42**	*e*P		**P**	**04 10 30.4**	**-2.3**
	comp=Z,1.2nm,0.8s							

NIED ***04*** *03:57:00.2±0.7*`70`*N×127.0*`0`*E,h11km,Mw4.4 Best double couple: M₀3.98000×10¹⁵ NP1:φs139.00000°,δ48.00000°, λ-116.00000°. NP2:φs355.00000°,δ48.00000°, λ-64.00000°.*

IDC ***04*** *03:57:43.5±0.5,25.*`59`*N×126.*`77`*E,h0km,mb4.2/26, mb1 4.3/29,mb1mx4.3/36,mbtmp4.2/29,ML3.3/2,MS3.6/5, Ms1 3.7/5,ms1mx3.2/30,Error ellipse: s-maj=19.2km s-min=12.6km az=79.0*

MOS ***04*** *03:57:46.3±0.9,25.*`65`*N×126.*`88`*E,h27km,mb4.7/39,Error ellipse: s-maj=10.8km s-min=6.4km az=108.8*

JMA ***04*** *03:57:47.7±0.1,25.*`67`*N×127.*`03`*E,h11km,₂2km,M4.8*

ISCJB ***04*** *03:57:47.3±0.3,25.*`63`*N±0.*`03`*×126.*`93`*E±0.*`04`*,h33km, mb4.5/57,MS3.5/6,Error ellipse: s-maj=6.0km s-min=3.8km az=33.4*

NEIC ***04*** *03:57:50.7±0.7,25.*`66`*N×126.*`93`*E,h50km±6km,mb4.7/28, MW4.3(NIED),Error ellipse: s-maj=6.4km s-min=5.1km az=101.0*

ISC 04 03:57:44.2±1.3,25.61N±0.05×126.83E±0.05,h3km±8km, n174,σ1s0.1/168,mb4.5/57,MS3.5/6,1C-2D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.72**	**357**	P		**Pn**	**03 58 01.0**	**-0.3**
JKE				S		**Sb**	**03 58 10.3**	**+0.6**
JJT2	**Tamagusuku 2**	**0.98**	**57**	P		**Pg**	**03 58 02.9**	**-0.1**
JAGN	**Aguni-jima**	**1.04**	**21**	P		**Pn**	**03 58 05.2**	**-0.6**
JAGN				S		**Sg**	**03 58 17.9**	**0.0**
JOGS	**Gusukube**	**1.54**	**237**	S		Sn	03 58 40.5	+7.3
JMJ	**Miyako jima 2**	**1.60**	**241**	P		Pg	03 58 18.8	+3.9
JIH	**Iheya**	**1.75**	**35**	P		**Pb**	**03 58 16.4**	**-0.6**
JIH				S		**Sn**	**03 58 36.7**	**-1.6**
JOW	**Kunigami**	**1.78**	**46**	P		**Pb**	**03 58 16.7**	**-0.8**
JTJ	**Tarama**	**2.16**	**244**	P		Pg	03 58 26.8	+1.2
JTJ				S		**Sg**	**03 58 55.7**	**+2.2**
JIJ	**Ishigaki jima**	**2.74**	**244**	P		**Pg**	**03 58 35.6**	**-1.1**
JIJ				S		**Sg**	**03 59 11.2**	**-1.0**
JTK	**Tokunoshima**	**2.88**	**41**	P		**Pn**	**03 58 32.3**	**+1.2**
JKRS	**Kuro-shima**	**2.90**	**243**	P		**Pg**	**03 58 38.9**	**-1.0**
JAMN	**Amaminishikomi**	**3.36**	**38**	P		**Pn**	**03 58 39.2**	**+1.6**
JAM	**Amami Oshima**	**3.73**	**41**	P		**Pn**	**03 58 42.4**	**-0.3**
JMZ	**Minamidaito 2**	**3.96**	**86**	P		Pn	03 58 41.4	-4.6
JMZ				S		Sn	03 59 23.4	-10
TATO	**Taipei**	**4.88**	**264**	*e*Pn		Pb	03 59 04.6	-5.7
SSLB	**Suanglung**	**5.64**	**253**	*e*Pn		Pb	03 59 14.9	-8.6
	38nm,0.8s							
TPUB	**Ta-pu**	**6.10**	**249**	*e*Pn		Pn	03 59 19.2	+3.8
	52nm,0.7s							
JNU	**Nakatsue**	**8.28**	**24**	Pn		**Pn**	**03 59 46.5**	**+1.2**
JNU				Sn		**Sn**	**04 01 21.1**	**+1.7**
JNU	**Nakatsue**	**8.28**	**24**	Pn		**Pn**	**03 59 46.5**	**+1.2**
	0.9nm,0.3s,baz=158,slow=6.6,SNR=5.9							
JNU				Sn		**Sn**	**04 01 21.1**	**+1.7**
	0.2nm,0.3s,baz=163,slow=16,SNR=1.6							
KSAR	**Wonju Array Be**	**11.83**	**4**	Pn		**Pn**	**04 00 35.0**	**+1.1**
KSRS	**Korea Array**	**11.85**	**4**	Pn		**Pn**	**04 00 35.0**	**+0.9**
	baz=188,slow=13,SNR=3.1							
KSRS				LR		LR	04 05 32.2	
	comp=Z,15nm,28.6s,baz=186,slow=40							
MAJO	**Matsushiro**	**14.61**	**39**	*e*P		**Pn**	**04 01 13.7**	**+1.8**
MAJO	**Matsushiro**	**14.61**	**39**	*e*Pn		**Pn**	**04 01 13.7**	**+1.8**
USRK	**Ussuriysk Arra**	**19.02**	**11**	P		**P**	**04 02 06.6**	**-0.6**
	0.1nm,0.3s,baz=194,slow=8.8,SNR=4.3							
KKM	**Kota Kinabalu**	**21.95**	**209**	*e*P		**P**	**04 02 41.3**	**+2.1**
	30nm,1.1s							
ASAJ	**Asahikawa**	**22.48**	**31**	P		**P**	**04 02 45.1**	**+0.5**
ASAJ	**Asahikawa**	**22.48**	**31**	P		**P**	**04 02 45.1**	**+0.5**
	5.2nm,0.6s,baz=90,slow=20,SNR=3.0							
YSS	**Yuzh-Sakhalins**	**24.78**	**27**	*e*P		**P**	**04 03 07.0**	**-0.2**
YSS					pmax	pmax		
	comp=Z,30nm,1.0s							
CMAR	**Chiang Mai Arr**	**26.78**	**260**	LR		LR	04 15 22.6	
	comp=Z,83nm,20.9s,baz=145,slow=40							
ULN	**Ulaanbaatar**	**27.14**	**330**	*e*P		**P**	**04 03 28.8**	**0.0**
	comp=Z,13nm,1.4s							
SONM	**Songino Array**	**27.42**	**329**	P		**P**	**04 03 29.1**	**-2.1**
SONM	**Songino Array**	**27.42**	**329**	P		**P**	**04 03 29.1**	**-2.1**
	comp=Z,2.6nm,0.9s,baz=140,slow=8.1,SNR=8.0							
KAPI	**Kappang**	**31.20**	**194**	LR		LR	04 16 44.0	
	comp=Z,16nm,28.6s,baz=13,slow=37							
RAMN	**Ramite**	**35.99**	**281**	*e*P		**P**	**04 04 48.7**	**+1.7**
RAMN	**Ramite**	**35.99**	**281**	*e*P		**P**	**04 04 48.7**	**+1.7**
JIRN	**Jiri**	**36.27**	**282**	*e*P		**P**	**04 04 50.7**	**+1.2**
JIRN	**Jiri**	**36.27**	**282**	*e*P		**P**	**04 04 50.7**	**+1.2**
PKI	**Pulchoki**	**36.97**	**282**	*e*P		**P**	**04 04 56.9**	**+1.5**
PKI	**Pulchoki**	**36.97**	**282**	*e*P		**P**	**04 04 56.9**	**+1.5**
PKI	**Pulchoki**	**36.97**	**282**	*e*P		**P**	**04 04 56.9**	**+1.5**
KKN	**Kakani**	**37.06**	**283**	*e*P		**P**	**04 04 57.6**	**+1.6**
KKN	**Kakani**	**37.06**	**283**	*e*P		**P**	**04 04 57.6**	**+1.6**
KKN	**Kakani**	**37.06**	**283**	*e*P		**P**	**04 04 57.6**	**+1.6**
H11N1	**WAKE ISLAND Hy**	**37.33**	**91**	T		T	04 44 34.6	
	baz=290							
H11N2	**WAKE ISLAND Hy**	**37.33**	**91**	T		T	04 44 33.1	
	baz=290							
H11N3	**WAKE ISLAND Hy**	**37.34**	**91**	T		T	04 44 34.2	
	baz=290							
H11S3	**WAKE ISLAND Hy**	**37.51**	**93**	T		T	04 44 42.5	
	baz=292,slow=73,SNR=15							
H11S1	**WAKE ISLAND Hy**	**37.51**	**93**	T		T	04 44 38.6	
	baz=292,slow=73,SNR=19							
H11S2	**WAKE ISLAND Hy**	**37.52**	**93**	T		T	04 44 44.2	
	baz=292,slow=73,SNR=15							
GKN	**Gorkha**	**37.60**	**283**	*e*P		**P**	**04 05 02.2**	**+1.6**
GKN	**Gorkha**	**37.60**	**283**	*e*P		**P**	**04 05 02.2**	**+1.6**
DANN	**Dangsing**	**38.34**	**284**	*e*P		**P**	**04 05 08.8**	**+1.9**
	comp=Z,30nm,0.7s							
DANN	**Dangsing**	**38.34**	**284**	*e*P		**P**	**04 05 08.8**	**+1.9**
KOLN	**Koldanda**	**38.54**	**283**	*e*P		**P**	**04 05 10.1**	**+1.5**
KOLN	**Koldanda**	**38.54**	**283**	*e*P		**P**	**04 05 10.1**	**+1.5**
PYUN	**Piuthan**	**39.04**	**284**	*e*P		P	04 05 14.9	+2.2
PYUN	**Piuthan**	**39.04**	**284**	*e*P		P	04 05 14.9	+2.2
SEY	**Seymchan**	**40.99**	**18**	*e*P		**P**	**04 05 27.5**	**-0.6**
MK31	**Makanchi Array**	**41.02**	**313**	*e*P		**P**	**04 05 28.4**	**-0.3**
MK31	**Makanchi Array**	**41.02**	**313**	*e*P		**P**	**04 05 28.4**	**-0.3**
MKAR	**Makanchi Array**	**41.02**	**313**	P		**P**	**04 05 28.1**	**-0.6**
MKAR							04 07 28.6	
MKAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**41.02**	**313**	P		**P**	**04 05 28.1**	**-0.6**
MKAR				PcP		**PcP**	**04 07 28.6**	**-0.1**
MKAR	**Makanchi Array**	**41.02**	**313**	P		**P**	**04 05 28.1**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=101,slow=10,SNR=10							
MKAR				PcP		**PcP**	**04 07 28.6**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=107,slow=3.4,SNR=3.1							
ZAA0	**Zalesovo Array**	**41.99**	**324**	*e*P		**P**	**04 05 36.1**	**-0.4**
ZALV	**Zalesovo Beam**	**41.99**	**324**	P		**P**	**04 05 36.0**	**-0.5**
ZALV					pmax	pmax		
	comp=Z,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**41.99**	**324**	P		**P**	**04 05 36.0**	**-0.5**
ZALV	**Zalesovo Beam**	**41.99**	**324**	P		**P**	**04 05 36.0**	**-0.5**
	comp=Z,4.4nm,0.6s,baz=111,slow=7.9,SNR=16							
COEN	**Coen**	**42.43**	**156**	*e*P		**P**	**04 05 40.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**43.46**	**182**	P		**P**	**04 05 46.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**43.46**	**182**	P		**P**	**04 05 46.7**	**-2.1**
	comp=Z,2.6nm,0.8s,baz=210,slow=19,SNR=4.5							
KURK	**Kurchatov**	**44.41**	**317**	*i* P		**P**	**04 05 55.9**	**-0.3**
KURK					pmax	pmax		
	comp=Z,3.0nm,1.7s							
TKM2	**Tokmak 2**	**45.01**	**306**	*e*P		**P**	**04 06 02.4**	**+1.0**
TKM2					pmax	pmax		
	comp=Z,3.0nm,0.6s							
TKM2	**Tokmak 2**	**45.01**	**306**	*e*P		**P**	**04 06 02.4**	**+1.0**
	comp=Z,2.6nm,0.6s							
AAK	**Ala-Archa**	**45.80**	**305**	*e*P		**P**	**04 06 08.1**	**+0.5**
AAK					pmax	pmax		
	comp=Z,4.0nm,0.9s							
AAK	**Ala-Archa**	**45.80**	**305**	*e*P		**P**	**04 06 08.1**	**+0.5**
	comp=Z,3.9nm,0.9s							
AAK	**Ala-Archa**	**45.80**	**305**	P		**P**	**04 06 07.3**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=156,slow=7.4,SNR=4.3							
WRAB	**Tennant Creek**	**45.85**	**170**	*e*P		**P**	**04 06 07.8**	**-0.1**
WRAB					pmax	pmax		
	comp=Z,7.0nm,1.0s							
WRAB	**Tennant Creek**	**45.85**	**170**	*e*P		**P**	**04 06 07.8**	**-0.1**
	comp=Z,7.4nm,1.0s							
WRA	**Warramunga Arr**	**45.86**	**170**	P		**P**	**04 06 07.5**	**-0.5**
WRA				PcP		**PcP**	**04 07 45.0**	**-0.3**
WRA	**Warramunga Arr**	**45.86**	**170**	P		**P**	**04 06 07.5**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=352,slow=8.2,SNR=7.0							
WRA				PcP		**PcP**	**04 07 45.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=337,slow=3.6,SNR=2.6							
TIXI	**Tiksi**	**46.09**	**1**	*e*P		**P**	**04 06 08.8**	**-0.4**
TIXI					pmax	pmax		
	comp=Z,2.0nm,1.6s							
EKS2	**Erkin-Say**	**46.33**	**305**	*e*P		**P**	**04 06 12.1**	**+0.4**
EKS2					pmax	pmax		
	comp=Z,5.0nm,0.9s							
EKS2	**Erkin-Say**	**46.33**	**305**	*e*P		**P**	**04 06 12.1**	**+0.4**
	comp=Z,5.0nm,0.9s							
MBWA	**Marble Bar**	**46.99**	**189**	*e*P		**P**	**04 06 16.7**	**-0.1**
	comp=Z,12nm,1.1s							
PALK	**Pallekele**	**47.56**	**256**	*e*P		**P**	**04 06 23.5**	**+1.9**
	comp=Z,32nm,1.4s							
KKAR	**Karatay Array**	**48.75**	**306**	*e*P		**P**	**04 06 31.6**	**+1.2**
KKAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**48.75**	**306**	*e*P		**P**	**04 06 31.6**	**+1.2**
	comp=Z,1.6nm,0.6s							
CTAO	**Charters Tower**	**49.19**	**156**	*e*P		**P**	**04 06 35.2**	**+1.4**
CTAO					pmax	pmax		
	comp=Z,29nm,1.3s							
CTAO	**Charters Tower**	**49.19**	**156**	*e*P		**P**	**04 06 35.2**	**+1.4**
	comp=Z,29nm,1.3s							
AS31	**Alice Springs**	**49.46**	**171**	*e*P		**P**	**04 06 36.0**	**+0.1**
ASAR	**Alice Springs**	**49.46**	**171**	P		**P**	**04 06 35.8**	**-0.1**
ASAR				PcP		**PcP**	**04 07 58.0**	**-0.1**
ASAR	**Alice Springs**	**49.46**	**171**	P		**P**	**04 06 35.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=353,slow=7.1,SNR=8.1							
ASAR				PcP		**PcP**	**04 07 58.0**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=352,slow=3.2,SNR=5.3							
BVAR	**Borovoye Array**	**49.91**	**319**	P		**P**	**04 06 38.7**	**-0.4**
BVAR					pmax	pmax	04 07 59.7	
	comp=Z,2.0nm,0.6s							
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**49.91**	**319**	P		**P**	**04 06 38.7**	**-0.4**
BVAR				PcP		**PcP**	**04 07 59.7**	**+0.3**
BVAR	**Borovoye Array**	**49.91**	**319**	P		**P**	**04 06 38.7**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=96,slow=7.6,SNR=7.5							
BVAR				PcP		**PcP**	**04 07 59.7**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=116,slow=8.2,SNR=4.0							
BRVK	**Borovoye**	**49.98**	**319**	*i*P		**P**	**04 06 39.7**	**+0.2**
BRVK					pmax	pmax		
	comp=Z,12nm,2.5s							
BRVK	**Borovoye**	**49.98**	**319**	*e*P		**P**	**04 06 39.2**	**-0.3**
	comp=Z,2.7nm,0.6s							
KBL	**Kabul**	**50.22**	**295**	*e*P		**P**	**04 06 43.0**	**+1.1**
KBL					pmax	pmax		
	comp=Z,9.0nm,0.7s							
KBL	**Kabul**	**50.22**	**295**	*e*P		**P**	**04 06 43.0**	**+1.1**
	comp=Z,9.2nm,0.7s							
ABKAR	**Akbulak array**	**56.16**	**313**	*e*P		**P**	**04 07 25.6**	**+0.4**
	comp=Z,15nm,1.0s							
ARU	**Arti**	**57.10**	**322**	*d i*P		**P**	**04 07 31.4**	**-0.4**
ARU							04 09 37.6	
ARU				S		S	04 15 19.6	-7.8
ARU					pmax	pmax		
	comp=Z,15nm,1.2s							
ARU	**Arti**	**57.10**	**322**	*e*P		**P**	**04 07 31.3**	**-0.5**
	comp=Z,9.3nm,1.1s							
AKTO	**Aktyubinsk**	**57.38**	**315**	P		**P**	**04 07 34.2**	**+0.3**
AKTO					pmax	pmax		
	comp=Z,5.0nm,0.8s							
AKTO	**Aktyubinsk**	**57.38**	**315**	P		**P**	**04 07 34.2**	**+0.3**
AKTO	**Aktyubinsk**	**57.38**	**315**	P		**P**	**04 07 34.2**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=98,slow=9.6,SNR=12							
STKA	**Stephens Creek**	**58.88**	**165**	P		**P**	**04 07 44.5**	**0.0**
STKA	**Stephens Creek**	**58.88**	**165**	P		**P**	**04 07 44.5**	**0.0**
	comp=Z,2.0nm,0.9s,baz=278,slow=9.0,SNR=3.5							
MCK	**McKinley**	**64.83**	**29**	*e*P		**P**	**04 08 23.8**	**-0.4**
MCK					pmax	pmax		
	comp=Z,25nm,1.5s							
MCK	**McKinley**	**64.83**	**29**	*e*P		**P**	**04 08 23.8**	**-0.4**
	comp=Z,25nm,1.5s							
ILAR	**Eielson Array**	**65.58**	**28**	P		**P**	**04 08 27.9**	**-1.1**
ILAR	**Eielson Array**	**65.58**	**28**	P		**P**	**04 08 27.9**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=261,slow=3.6,SNR=5.4							
ZEI	**Tsey**	**68.12**	**308**	*e*P		**P**	**04 08 46.0**	**+0.1**
ZEI					pmax	pmax		
	comp=Z,8.0nm,0.9s							
GNI	**Garni**	**68.20**	**305**	*e*P		**P**	**04 08 47.9**	**+1.5**
	comp=Z,18nm,1.2s							
KBZ	**Khabaz**	**68.58**	**309**	P		**P**	**04 08 48.1**	**-0.4**
KBZ					pmax	pmax		
	comp=Z,8.0nm,0.8s							
KBZ	**Khabaz**	**68.58**	**309**	P		**P**	**04 08 48.1**	**-0.4**
KBZ	**Khabaz**	**68.58**	**309**	P		**P**	**04 08 48.1**	**-0.4**
	comp=Z,8.2nm,0.8s,baz=161,slow=3.1,SNR=8.7							
KIV	**Kislovodsk**	**68.67**	**310**	*e*P		**P**	**04 08 49.2**	**0.0**
KIV					*e*SS	SS	04 22 15.5	-1.5
KIV					pmax	pmax		
	comp=Z,10.0nm,1.2s							
KIV					MLR	MLR		
	comp=Z,100nm,18.0s							
KIV	**Kislovodsk**	**68.67**	**310**	*e*P		**P**	**04 08 50.2**	**+1.0**
	comp=Z,16nm,0.9s							
SPITS	**Spitsbergen Ar**	**69.17**	**348**	P		**P**	**04 08 51.5**	**-0.2**
SPITS	**Spitsbergen Ar**	**69.17**	**348**	P		**P**	**04 08 51.5**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=108,slow=9.3,SNR=5.1							
OBN	**Obninsk**	**69.55**	**322**	*e*P		**P**	**04 08 53.9**	**-0.4**
OBN					*e*		04 11 24.2	
OBN					pmax	pmax		
	comp=Z,9.0nm,1.3s							
OBN					MLR	MLR		
	comp=Z,100nm,19.0s							
INK	**Inuvik**	**69.95**	**23**	*e*P		**P**	**04 08 56.6**	**0.0**
	comp=Z,4.8nm,1.0s							
INK	**Inuvik**	**69.95**	**23**	P		**P**	**04 08 57.2**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=270,slow=5.4,SNR=4.1							
ARCES	**ARCESS Array B**	**70.12**	**338**	P		**P**	**04 08 56.5**	**-1.1**
ARCES	**ARCESS Array B**	**70.12**	**338**	P		**P**	**04 08 56.5**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=62,slow=6.5,SNR=2.7							
ARCES					LR	LR	04 46 19.8	
	comp=Z,15nm,28.6s,baz=10,slow=42							
ANN	**Anapa**	**72.03**	**312**	*e*P		P	04 09 02.4	-7.2
ANN					pmax	pmax		
	comp=Z,80nm,1.0s							
FINES	**FINESS Array B**	**72.78**	**330**	P		**P**	**04 09 13.5**	**-0.2**
FINES	**FINESS Array B**	**72.78**	**330**	P		**P**	**04 09 13.5**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=68,slow=6.0,SNR=7.4							
AKASG	**Malin Array Be**	**75.18**	**319**	P		**P**	**04 09 27.9**	**-0.1**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**75.18**	**319**	P		**P**	**04 09 27.9**	**-0.1**
AKASG	**Malin Array Be**	**75.18**	**319**	P		**P**	**04 09 27.9**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=56,slow=5.8,SNR=12							
AKBB	**Malin Array Si**	**75.18**	**319**	*e*P		**P**	**04 09 27.7**	**-0.4**
AKBB	**Malin Array Si**	**75.18**	**319**	*e*P		**P**	**04 09 27.6**	**-0.4**
KIEV	**Kiev**	**75.20**	**319**	*e*P		**P**	**04 09 27.7**	**-0.4**
KIEV					pmax	pmax		
	comp=Z,5.0nm,0.6s							
KIEV	**Kiev**	**75.20**	**319**	*e*P		**P**	**04 09 27.7**	**-0.4**
	comp=Z,4.6nm,0.6s							
RES	**Resolute Bay**	**76.39**	**10**	P		**P**	**04 09 34.6**	**+0.1**
RES	**Resolute Bay**	**76.39**	**10**	P		**P**	**04 09 34.6**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=288,slow=10,SNR=3.7							
BR131	**Keskin Array S**	**76.42**	**308**	*e*P		**P**	**04 09 36.3**	**+0.7**
	comp=Z,9.6nm,1.1s							
BRTR	**Keskin Array B**	**76.42**	**308**	P		**P**	**04 09 35.0**	**-0.5**
BRTR	**Keskin Array B**	**76.42**	**308**	P		**P**	**04 09 35.0**	**-0.5**
	comp=Z,6.6nm,1.0s,baz=100,slow=5.0,SNR=16							
CSS	**Prodhromos**	**78.47**	**303**	*e*P		**P**	**04 09 45.8**	**-1.2**
	comp=Z,5.3nm,0.9s							
BUR08	**Bucovina Ar. S**	**78.84**	**318**	*e*P		**P**	**04 09 49.4**	**+0.6**
NB2	**NORSAR Subarra**	**79.31**	**333**	P		**P**	**04 09 50.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=54,slow=5.6							
NOA	**NORSAR Array B**	**79.31**	**333**	P		**P**	**04 09 49.2**	**-1.8**
NOA	**NORSAR Array B**	**79.31**	**333**	P		**P**	**04 09 49.2**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=53,slow=5.6,SNR=5.2							
KWP	**Kalwaria Pacla**	**79.44**	**320**	*e*P		**P**	**04 09 52.7**	**+0.8**
KWP					pmax	pmax		
	comp=Z,11nm,0.9s							
KWP	**Kalwaria Pacla**	**79.44**	**320**	*e*P		**P**	**04 09 52.7**	**+0.8**
	comp=Z,11nm,0.9s							
NAO01	**NORSAR Array S**	**79.55**	**333**	*e*P		**P**	**04 09 52.3**	**0.0**
	comp=Z,23nm,1.2s							
YKA	**Yellowknife Ar**	**79.61**	**24**	P		**P**	**04 09 52.8**	**+0.1**
YKA	**Yellowknife Ar**	**79.61**	**24**	P		**P**	**04 09 52.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=296,slow=6.1,SNR=5.5							
MORC	**Moravsky Berou**	**82.30**	**322**	*e*P		**P**	**04 10 07.1**	**-0.2**
MORC					pmax	pmax		
	comp=Z,4.0nm,1.0s							
MORC	**Moravsky Berou**	**82.30**	**322**	*e*P		**P**	**04 10 07.1**	**-0.2**
	comp=Z,3.8nm,1.0s							
CLL	**Collm**	**83.94**	**325**	*e*P		**P**	**04 10 16.0**	**+0.4**
CLL	**Collm**	**83.94**	**325**	*e*P		**P**	**04 10 16.0**	**+0.4**
KHC	**Kasperske Hory**	**84.84**	**323**	*e*P		**P**	**04 10 21.1**	**+0.8**
KHC					pmax	pmax		
	comp=Z,63nm,2.5s							
GERES	**GERESS Array B**	**84.93**	**322**	P		**P**	**04 10 20.8**	**-0.1**
GERES	**GERESS Array B**	**84.93**	**322**	P		**P**	**04 10 20.8**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=38,slow=2.4,SNR=7.3							
NEW	**Newport**	**86.85**	**37**	*e*P		**P**	**04 10 30.0**	**-0.4**
	comp=Z,5.9nm,1.2s							
YBH	**Yreka Blue Hor**	**87.20**	**45**	P		**P**	**04 10 32.5**	**+0.3**
YBH	**Yreka Blue Hor**	**87.20**	**45**	P		**P**	**04 10 32.5**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=342,slow=3.2,SNR=3.6							
KMBO	**Kilima Mbogo**	**90.10**	**269**	*e*P		**P**	**04 10 47.0**	**+0.4**
	comp=Z,4.6nm,1.3s							
KMBO	**Kilima Mbogo**	**90.10**	**269**	P		**P**	**04 10 46.5**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=36,slow=8.7,SNR=2.6							
HLID	**Hailey**	**91.18**	**40**	*e*P		**P**	**04 10 51.3**	**+0.2**
	comp=Z,2.1nm,1.0s							
NVAR	**Mina Array Bea**	**91.84**	**45**	P		**P**	**04 10 54.3**	**0.0**
NVAR	**Mina Array Bea**	**91.84**	**45**	P		**P**	**04 10 54.3**	**0.0**
	comp=Z,0.8nm,0.9s,baz=291,slow=4.1,SNR=3.8							
PPT	**Papeete**	**91.88**	**108**	LR		LR	04 45 24.9	
	comp=Z,25nm,19.0s,baz=14,slow=31							
DUG	**Dugway**	**94.20**	**42**	*e*P		**P**	**04 11 04.2**	**-0.8**
DUG					pmax	pmax		
	comp=Z,1.0nm,0.7s							
DUG	**Dugway**	**94.20**	**42**	*e*P		**P**	**04 11 04.2**	**-0.8**
	comp=Z,1.1nm,0.7s							
WMOK	**Wichita Mounta**	**106.04**	**38**	*e*PKP		**PKiKP**	**04 16 10.9**	**+0.6**
TOA0	**Torodi Ar. Sit**	**114.15**	**299**	*e*PKP		PKPdf	04 16 25.8	-0.1
TSUM	**Tsumeb**	**114.95**	**260**	*e*PKP		P

	baz=245,slow=74,SNR=101							
H03N1	**Juan Fernandez**	**14.56**	**81**	T	T	05 12 19.0		
	baz=245,slow=74,SNR=129							
PLCA	**Paso Flores**	**20.30**	**109**	P	P	04 58 23.5	+0.1	
	0.9nm,0.3s,baz=274,slow=13,SNR=3.1							
PLCA				LR	LR	05 03 12.3		
	comp=Z,25nm,20.9s,baz=259,slow=28							
LPAZ	**La Paz**	**32.26**	**58**	P	P	05 00 17.0	-0.1	
	2.8nm,0.8s,baz=222,slow=3.1,SNR=8.2							
LPAZ				LR	LR	05 09 12.9		
	comp=Z,42nm,21.5s,baz=120,slow=29							
CPUP	**Villa Florida**	**34.53**	**83**	LR	LR	05 11 56.5		
	comp=Z,63nm,19.4s,baz=238,slow=32							
VNDA	**Vanda**	**56.75**	**195**	LR	LR	05 25 28.7		
	comp=Z,36nm,18.1s,baz=270,slow=34							
TXAR	**Lajitas Array**	**66.32**	**353**	P	P	05 04 36.6	+0.3	
	0.3nm,0.6s,baz=164,slow=4.7,SNR=2.6							
NVAR	**Mina Array Bea**	**77.75**	**342**	P	P	05 05 45.1	+0.3	
	0.7nm,0.7s,baz=178,slow=5.4,SNR=7.0							
PDAR	**Pinedale Array**	**80.28**	**350**	P	P	05 05 58.0	-0.6	
	0.5nm,0.5s,baz=156,slow=7.9,SNR=5.6							
BOSA	**Boshof**	**94.71**	**131**	LR	LR	05 48 47.5		
	comp=Z,27nm,18.1s,baz=168,slow=35							
H01W1	**Cape Leeuwin H**	**103.13**	**205**	T	T	07 03 32.9		
	baz=154							
H01W2	**Cape Leeuwin H**	**103.14**	**205**	T	T	07 03 36.9		
	baz=154							
H01W3	**Cape Leeuwin H**	**103.15**	**205**	T	T	07 03 44.0		
	baz=154							

IDC 04 04:53:57.0±2.0, 3°91N×126°91E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=155.9km s-min=25.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.80**	**163**	P	P	04 59 19.4	-1.7
	1.4nm,0.6s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.25**	**166**	P	P	04 59 54.0	+1.9
	0.2nm,0.4s,baz=340,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**38.23**	**160**	P	P	05 01 19.1	+0.1
	0.5nm,0.3s,baz=344,slow=15,SNR=3.7						
MKAR	**Makanchi Array**	**57.51**	**325**	P	P	05 03 48.2	-0.1
	0.3nm,0.4s,baz=118,slow=8.0,SNR=5.5						

IDC 04 04:59:58.6±2.0, 2°28N×127°65E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=148.5km s-min=25.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.04**	**164**	P	P	05 05 06.1	+0.4
	0.6nm,0.3s,baz=342,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.50**	**167**	P	P	05 05 38.0	0.0
	0.2nm,0.5s,baz=354,slow=8.0,SNR=6.2						
STKA	**Stephens Creek**	**36.46**	**160**	P	P	05 07 04.5	-1.1
	0.7nm,0.4s,baz=336,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**59.26**	**325**	P	P	05 10 02.5	+0.5
	0.2nm,0.3s,baz=123,slow=7.8,SNR=3.8						

GUC 04 05:24:16.9±0.7, 23°49S×68°37W, h160km±24km, ML3.5, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**1.59**	**320**	⇓*i*	P	05 24 53.7	+5.5
PB04				*i*	S	05 25 22.1	+10
PB04				AML	AML	05 25 24.8	
	comp=N,254nm,0.5s						
CEN1	**Los Morros**	**1.68**	**273**	⇑*i*	P	05 24 49.3	0.0
CEN1				*i*	S	05 25 15.1	+1.0
CEN1				AML	AML	05 25 16.5	
	comp=N,137nm,0.5s						
MACH	**Maria Elena**	**1.81**	**315**	⇑*i*	P	05 24 51.6	+0.7
MACH				*eS*	Sn	05 25 18.4	+1.4
PB09	**Plate Boundary**	**1.87**	**334**	⇓*i*	P	05 24 52.5	+1.1
PB09				*i*	S	05 25 20.0	+2.1
PB09				AML	AML	05 25 21.9	
	comp=E,559nm,0.7s						
ANCH	**Antofagasta**	**1.88**	**264**	⇓*i*	P	05 24 52.2	+0.9
ANCH				*i*	S	05 25 18.8	+1.1
ANCH				AML	AML	05 25 19.9	
	comp=E,378nm,0.1s						
PB07	**Plate Boundary**	**2.24**	**321**	⇓*i*	P	05 24 56.8	+1.0
PB07				*i*	S	05 25 27.2	+1.5
PB07				AML	AML	05 25 27.9	
	comp=N,379nm,0.2s						
PB01	**Plate Boundary**	**2.65**	**337**	*eP*	P	05 25 00.9	+0.5
PB01				*i*	S	05 25 35.2	+1.1
PB01				AML	AML	05 25 36.5	
	comp=E,182nm,0.3s						

IDC 04 05:32:01.4±1.5, 53°.95N×161°.46E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.5/27, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=83.9km s-min=26.5km az=157.0
KRSC 04 05:32:06.7±3.9, 54°.03N×160°.85E, h72km±72km, ML3.8
ISCJB 04 05:32:08.0±0.4, 54°.04N±0°.03×160°.86E±0°.07, h78km±6km, mb3.5/4, Error ellipse: s-maj=7.8km s-min=2.7km az=28.3

ISC 04 05:32:08.5±0.9, 54°03N±0°.03×160°90E±0°.05, h70km±9km, n43, σ0°80/63, mb3.6/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.72**	**42**	*i* P	**Pn**	**05 32 24.2**	**+0.6**
MKZ				*i* S	**Sn**	**05 32 35.2**	**+0.4**
KII	**Karymskiy**	**0.85**	**271**	*eP*	**Pn**	**05 32 25.1**	**-0.2**
SPN	**Mys Shipunski**	**1.06**	**210**	*i* P	**Pn**	**05 32 27.8**	**0.0**
SPN				*i* S	**Sn**	**05 32 41.9**	**-0.3**
KZV	**Kizimen**	**1.15**	**342**	*i* P	**Pn**	**05 32 29.0**	**0.0**
KZV				*eS*	**Sn**	**05 32 43.7**	**-0.5**
NLC	**Nalytchevo**	**1.26**	**228**	*i* P	**Pn**	**05 32 30.3**	**0.0**
NLC				*i* S	**Sn**	**05 32 46.2**	**-0.4**
TUMR	**Tumrok**	**1.33**	**341**	*i* P	**Pn**	**05 32 31.7**	**+0.3**
TUMR				*eS*	**Sn**	**05 32 48.2**	**-0.3**
SDLR	**Sedlovina**	**1.41**	**239**	*i* P	**Pn**	**05 32 32.8**	**+0.4**
SDLR				*eS*	**Sn**	**05 32 50.4**	**0.0**
SMAR	**Somma**	**1.46**	**239**	*i* P	**Pn**	**05 32 33.5**	**+0.4**
SMAR				*eS*	**Sn**	**05 32 51.5**	**-0.2**
KRER	**Koryakskii**	**1.47**	**241**	*i* P	**Pn**	**05 32 33.8**	**+0.6**
KRER				*eS*	**Sn**	**05 32 52.0**	**+0.2**
UGLR	**Uglovaya**	**1.48**	**237**	*i* P	**Pn**	**05 32 33.9**	**+0.6**
UGLR				*eS*	**Sn**	**05 32 52.0**	**0.0**
AVH	**Avacha**	**1.49**	**240**	*i* P	**Pn**	**05 32 34.2**	**+0.8**
AVH				*eS*	**Sn**	**05 32 52.6**	**+0.4**
KRX	**Arik**	**1.49**	**244**	*i* P	**Pn**	**05 32 33.8**	**+0.3**
KRX				*eS*	**Sn**	**05 32 51.9**	**-0.4**
KOK	**Koryaka**	**1.53**	**242**	*eP*	**Pn**	**05 32 34.5**	**+0.5**
KOK				*eS*	**Sn**	**05 32 52.8**	**-0.4**
PET	**Petropavlovsk**	**1.67**	**234**	*i* P	**Pn**	**05 32 36.1**	**+0.4**
PET				*i* S	**Sn**	**05 32 56.1**	**-0.2**
KMNR	**Kamenistaya**	**1.78**	**348**	*i* P	**Pn**	**05 32 38.1**	**+0.9**
KMNR				*eS*	**Sn**	**05 32 59.1**	**+0.1**
GNL	**Ganaly**	**1.78**	**260**	*i* P	**Pn**	**05 32 37.5**	**+0.2**
GNL				*eS*	**Sn**	**05 32 58.0**	**-1.1**
BZMR	**Bezymyannaya**	**1.93**	**353**	P	**Pn**	**05 32 39.9**	**+0.6**
BZWR	**Bezymyannyi-We**	**1.96**	**353**	P	**Pn**	**05 32 40.2**	**+0.5**
KPT	**Kopyto**	**1.98**	**349**	P	**Pn**	**05 32 41.2**	**+1.2**
KPT				S	**Sn**	**05 33 04.5**	**+0.6**
PETK	**Petropavlovsk-**	**2.12**	**246**	Pn	**Pn**	**05 32 41.9**	**+0.2**
	5.5nm,0.3s,baz=72,slow=18,SNR=50						
PETK				Sn	**Sn**	**05 33 07.8**	**+0.8**
	5.9nm,0.3s,baz=77,slow=19,SNR=8.4						
KOZ	**Kozyrevsk**	**2.12**	**344**	*eP*	**Pn**	**05 32 42.1**	**+0.4**
KOZ				*eS*	**Sn**	**05 33 05.9**	**-1.2**
RUS	**Russkaya**	**2.14**	**223**	*i* P	**Pn**	**05 32 41.9**	**-0.1**
RUS				*eS*	**Sn**	**05 33 06.0**	**-1.6**
MTVR	**Mutnovka**	**2.25**	**228**	*eP*	**Pn**	**05 32 44.2**	**+0.6**
MTVR				*eS*	**Sn**	**05 33 09.9**	**-0.4**
GRL	**Gorelyy**	**2.25**	**230**	*eP*	**Pn**	**05 32 44.6**	**+1.0**
GRL				*eS*	**Sn**	**05 33 09.9**	**-0.4**
ESO	**Esso**	**2.29**	**327**	*eP*	**Pn**	**05 32 44.3**	**+0.3**
KLY	**Klyuchi**	**2.30**	**357**	*eS*	**Sn**	**05 33 10.2**	**-1.1**
SRDR	**Sredinnyy**	**2.40**	**344**	*eP*	**Pn**	**05 32 45.4**	**-0.1**
SRDR				S	**Sn**	**05 33 12.1**	**-1.7**
ASAK	**Asacha**	**2.44**	**229**	*eP*	**Pn**	**05 32 47.5**	**+1.4**
ASAK				*eS*	**Sn**	**05 33 15.4**	**+0.4**
KBTR	**Krutoberegovo**	**2.45**	**26**	P	**Pn**	**05 32 47.7**	**+1.5**
KBTR				S	**Sn**	**05 33 15.2**	**+0.2**
APC	**Apacha**	**2.49**	**245**	*eP*	**Pn**	**05 32 47.7**	**+1.0**
APC				*eS*	**Sn**	**05 33 16.0**	**0.0**
SMKR	**Semkarok**	**2.58**	**7**	P	**Pn**	**05 32 49.9**	**+1.8**
SRKR	**Sorokina**	**2.64**	**3**	P	**Pn**	**05 32 49.7**	**+0.9**
SRKR				S	**Sn**	**05 33 19.4**	**-0.4**
BKI	**Bering**	**3.18**	**66**	*eS*	**Sn**	**05 33 30.2**	**-2.5**
ILAR	**Eielson Array**	**27.82**	**47**	P	**P**	**05 37 49.6**	**-1.0**
	0.6nm,0.8s,baz=255,slow=8.9,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**34.54**	**170**	T	T	06 15 41.8	
	baz=356,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**34.56**	**170**	T	T	06 15 40.7	
	baz=356,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**34.56**	**170**	T	T	06 15 41.7	
	baz=356,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**35.73**	**171**	T	T	06 16 51.0	
	baz=354,slow=75,SNR=3.1						
H11S3	**WAKE ISLAND Hy**	**35.74**	**171**	T	T	06 17 09.3	
	baz=354,slow=75,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**35.75**	**171**	T	T	06 17 09.9	
	baz=354						
NVAR	**Mina Array Bea**	**54.98**	**71**	P	**P**	**05 41 33.1**	**+0.6**
	0.2nm,0.3s,baz=316,slow=5.0,SNR=3.3						
PDAR	**Pinedale Array**	**56.65**	**62**	P	**P**	**05 41 45.0**	**+0.6**
	0.5nm,0.9s,baz=343,slow=2.8,SNR=3.8						
TXAR	**Lajitas Array**	**69.84**	**68**	P	**P**	**05 43 11.1**	**-0.5**
	0.4nm,0.6s,baz=306,slow=4.3,SNR=4.4						

PRU 04 06:02:13.0, 37°.34N×28°.43E, h0km, M5.1
BJI 04 06:02:17.0, 37°.90N×28°.70E, h5km, mB5.2/30, mb4.9/39, Ms4.9/28, Ms7 4.5/30
ATH 04 06:02:17.4, 37°.99N×28°.87E, h5km±2km, ML4.7
IDC 04 06:02:19.0±0.4, 37°.97N×28°.81E, h0km, mb4.8/31, mb1 4.8/43, mb1mx4.8/45, mbtmp4.7/43, ML4.1/11, MS4.1/29, Ms1 4.1/29, ms1mx4.0/41, Error ellipse: s-maj=9.3km s-min=8.9km az=146.0
NEIC 04 06:02:19.0, 37°.92N×28°.73E, h5km, mb5.1/133, ML4.6(THE), ML4.9(ISK), After ISK.
NEIC Felt [V] at Denizli.
ISK 04 06:02:19.0, 37°.92N×28°.79E, h4km, ML5.1
DDA 04 06:02:20.1, 37°.92N×28°.84E, h14km, ML4.8
PDG 04 06:02:20.7±0.7, 37°.96N×28°.79E, h8km±1km, ML4.6/10, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0
NIC 04 06:02:20.8±0.3, 38°.80N×29°.92E, h66km, mb4.8, ML4.5
ISCJB 04 06:02:21.1±0.2, 37°.94N±0°.01×28°.85E±0°.01, h21km±1km, mb4.9/169, MS4.1/37, Error ellipse: s-maj=1.8km s-min=1.4km az=17.4
CSEM 04 06:02:21.0±0.1, 37°.93N×28°.87E, h10km, mb5.0/99, Ms3.8, Mw4.9, Error ellipse: s-maj=1.9km s-min=1.4km az=25.0
MOS 04 06:02:21.0±0.9, 37°.97N×28°.83E, h21km, mb5.2/75, MS4.1/26, Error ellipse: s-maj=4.0km s-min=2.5km az=114.8
THE 04 06:02:22.0, 37°.95N×28°.85E, h3km±1km, ML4.6/8, Error ellipse: s-maj=1.8km s-min=0.8km az=98.0
GCMT 04 06:02:23.0±0.2, 37°.90N×28°.69E, h14km, MW4.9, Moment Tensor Solution. s26,c33; s71,c120; Moment tensor: Scale 10^16 Nm; Mrr=-2.66±.14; Mθθ=2.82±.10; Mφφ=0.15±.09; Mrθ=0.66±.19; Mrφ=-1.18±.06; Mθφ=1.29±.27; Best double couple: Ms=3.30000×10^16 NP1:φ=128.00000°, δ=58.00000°, λ=-67.00000°. NP2:φ=269.00000°, δ=39.00000°, λ=-123.00000°. Principal axes: T 3.4200, Plg=10.0000°, Azm=202.0000°; N -0.2000, Plg=20.0000°, Azm=295.0000°; P -3.2100, Plg=68.0000°, Azm=86.0000°; Data Used: II IU G CN IC.
HLW 04 06:02:24.9, 37°.70N×28°.88E, h21km±21km, Md=0.0, Ml=4.2
TEH 04 06:02:25.0, 37°.98N×28°.84E, h38km, ML5.2

ISC 04 06:02:21.2±0.4, 37°94N±0°.01×28°83E±0°.01, h16km±2km, h15km:pP-P, n1853, σ1°28/1987, mb5.0/167, MS4.2/37, 213C-188D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.30**	**145**	*i* P	**Pg**	**06 02 26.6**	**-1.1**
DNZL				*i* Sg	**Sg**	**06 02 30.3**	**-1.8**
DNZL	**Cakiroluk**	**0.30**	**145**	*i* P	**Pg**	**06 02 26.6**	**-1.1**
KULA	**Kula-Manisa**	**0.59**	**347**	PG	**Pg**	**06 02 31.5**	**-1.4**
KULA				*eSg*	**Sg**	**06 02 40.4**	**-0.4**
KULA	**Kula-Manisa**	**0.59**	**347**	*i* Pg	**Pg**	**06 02 31.5**	**-1.4**
KULA				*eSg*	**Sg**	**06 02 40.4**	**-0.4**
MANT	**Manisa**	**0.59**	**339**	*i* P	**Pg**	**06 02 32.7**	**-0.3**
MANT				*i* S	**Sg**	**06 02 41.3**	**+0.4**
MANT	**Manisa**	**0.59**	**339**	*i* P	**Pg**	**06 02 32.7**	**-0.3**
MANT				*i* S	**Sg**	**06 02 41.3**	**+0.4**
KHL	**Karahalli**	**0.67**	**55**	PG	**Pg**	**06 02 33.1**	**-1.2**
KHL	**Karahalli**	**0.67**	**55**	*i* Pg	**Pg**	**06 02 33.2**	**-1.2**
KHAL	**Karahalli**	**0.68**	**50**	*i* P	**Pg**	**06 02 33.3**	**-1.2**
KHAL				*i* S	**Sg**	**06 02 43.1**	**-0.4**
KHAL	**Karahalli**	**0.68**	**50**	*i* P	**Pg**	**06 02 33.3**	**-1.2**
KHAL				*i* S	**Sg**	**06 02 43.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**271**	PG	**Pg**	**06 02 33.4**	**-2.4**
AYDB				*eSG*	**Sg**	**06 02 43.6**	**-2.0**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**271**	*i* Pg	**Pg**	**06 02 33.4**	**-2.4**
AYDB				*eSg*	**Sg**	**06 02 43.6**	**-2.0**
AYDN	**Tasoluk**	**0.80**	**250**	*i* P	**Pg**	**06 02 36.4**	**-0.4**
AYDN				*i* S	**Sg**	**06 02 46.5**	**-1.0**
AYDN	**Tasoluk**	**0.80**	**250**	*i* P	**Pg**	**06 02 36.4**	**-0.4**
AYDN				*i* S	**Sg**	**06 02 46.5**	**-1.0**
GOLH	**Golhisar**	**0.91**	**140**	*i* P	**Pb**	**06 02 37.4**	**-1.3**
GOLH				*i* S	**Sb**	**06 02 50.2**	**-0.4**
GOLH	**Golhisar**	**0.91**	**140**	*i* P	**Pb**	**06 02 37.4**	**-1.3**
GOLH				*i* S	**Sb**	**06 02 50.2**	**-0.4**
YER	**Yerkesik**	**0.91**	**209**	PG	**Pb**	**06 02 36.4**	**-2.3**
YER	**Yerkesik**	**0.91**	**209**	*i* Pg	**Pb**	**06 02 36.4**	**-2.3**
TURN	**Turunc**	**1.08**	**190**	*i* P	**Pg**	**06 02 43.1**	**+1.1**
TURN				*i* S	**Sn**	**06 03 01.4**	**+5.1**
TURN	**Turunc**	**1.08**	**190**	*i* P	**Pg**	**06 02 43.1**	**+1.1**
DEMI	**Demirci**	**1.11**	**355**	*i* P	**Pb**	**06 02 41.9**	**-0.2**
DEMI				*i* S	**Sb**	**06 02 56.4**	**+0.1**
DEMI	**Demirci**	**1.11**	**355**	*i* P	**Pb**	**06 02 41.9**	**-0.2**
DEMI				*i* S	**Sb**	**06 02 56.4**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.13**	**187**	PN	**Pb**	**06 02 40.7**	**-1.6**
DALY	**Dalyan (Mu˘la**	**1.13**	**187**	*i* Pn	**Pb**	**06 02 40.7**	**-1.6**
AKHS	**Akhisar**	**1.23**	**320**	*i* P	**Pn**	**06 02 44.0**	**+0.1**
AKHS				*i* S	**Sg**	**06 03 02.3**	**+1.2**
AKHS	**Akhisar**	**1.23**	**320**	*i* P	**Pn**	**06 02 44.0**	**+0.1**
AKHS				*i* S	**Sg**	**06 03 02.3**	**+1.2**
AKS	**Akhisar**	**1.23**	**320**	PN	**Pn**	**06 02 43.1**	**-0.7**
AKS	**Akhisar**	**1.23**	**320**	*i* Pn	**Pn**	**06 02 43.1**	**-0.7**
GDZ	**Gediz**	**1.26**	**24**	*i* P	**Pn**	**06 02 44.5**	**+0.2**
GDZ				*i* S	**Sn**	**06 03 01.7**	**+0.7**
GDZ	**Gediz**	**1.26**	**24**	*i* P	**Pn**	**06 02 44.5**	**+0.2**
GDZ				*i* S	**Sn**	**06 03 01.7**	**+0.7**
GCAM	**G?zelcaml?**	**1.29**	**260**	*i* P	**Pn**	**06 02 44.2**	**-0.4**
GCAM				*i* S	**Sn**	**06 03 02.1**	**+0.7**
GCAM	**G?zelcaml?**	**1.29**	**260**	*i* P	**Pn**	**06 02 44.2**	**-0.4**
GCAM				*i* S	**Sn**	**06 03 02.1**	**+0.7**
IZM	**Izmir**	**1.32**	**291**	PN	**Pn**	**06 02 44.3**	**-0.7**
IZM	**Izmir**	**1.32**	**291**	*i* Pn	**Pn**	**06 02 44.3**	**-0.7**
ISP	**Isparta**	**1.34**	**94**	*eP*N	**Pn**	**06 02 45.4**	**-0.1**
ISP	**Isparta**	**1.34**	**94**	P	**Pn**	**06 02 45.3**	**-0.1**
ISP				S	**Sg**	**06 03 04.8**	**+0.2**
ISP	**Isparta**	**1.34**	**94**	P	**Pn**	**06 02 45.3**	**-0.1**
ISP				*e*		06 03 07.1	
ISP	**Isparta**	**1.34**	**94**	⇓*i* P	**Pn**	**06 02 45.0**	**-0.4**
ISP				S	**Sg**	**06 03 05.2**	**+0.6**
ISP	**Isparta**	**1.34**	**94**	P	**Pn**	**06 02 45.3**	**-0.1**
ISP				*eSn*	**Sg**	**06 03 07.1**	**+2.5**
ISP	**Isparta**	**1.34**	**94**	P	**Pn**	**06 02 45.3**	**-0.1**
ISP				S	**Sg**	**06 03 04.8**	**+0.2**
ISP				*eSn*	**Sg**	**06 03 07.1**	**+2.5**
BDRM	**Kayabasi**	**1.41**	**232**	*i* P	**Pn**	**06 02 46.3**	**+0.1**
BDRM				*i* S	**Sb**	**06 03 05.1**	**+0.3**
BDRM	**Kayabasi**	**1.41**	**232**	*i* P	**Pn**	**06 02 46.3**	**+0.1**
BDRM				*i* S	**Sb**	**06 03 05.1**	**+0.3**
ELL	**Elmali**	**1.47**	**144**	*ePN*	**Pn**	**06 02 46.9**	**-0.2**
ELL	**Elmali**	**1.47**	**144**	*ePn*	**Pn**	**06 02 46.9**	**-0.2**
BLCB	**Balcova**	**1.48**	**288**	*ePN*	**Pn**	**06 02 46.7**	**-0.5**
BLCB	**Balcova**	**1.48**	**288**	*ePn*	**Pn**	**06 02 46.7**	**-0.5**
SHUT	**Suhut-Afyon**	**1.49**	**65**	*ePN*	**Pn**	**06 02 47.8**	**+0.4**
SHUT	**Suhut-Afyon**	**1.49**	**65**	*ePn*	**Pn**	**06 02 47.8**	**+0.4**
BODT	**Bodrum**	**1.49**	**235**	*ePN*	**Pn**	**06 02 46.7**	**-0.7**
BODT	**Bodrum**	**1.49**	**235**	*ePn*	**Pn**	**06 02 46.7**	**-0.7**
TVSB	**Tavsanli**	**1.59**	**18**	*ePN*	**Pn**	**06 02 49.2**	**+0.4**
TVSB	**Tavsanli**	**1.59**	**18**	*ePn*	**Pn**	**06 02 49.2**	**+0.4**
SMG	**Samos**	**1.59**	**262**	P	**Pn**	**06 02 48.5**	**-0.3**
SMG				S	**Sb**	**06 03 11.5**	**+1.2**
SMG	**Samos**	**1.59**	**262**	*ePB*	**Pn**	**06 02 48.5**	**-0.3**
SMG				*eSB*	**Sb**	**06 03 11.7**	**+1.4**
SMG	**Samos**	**1.59**	**262**	P	**Pn**	**06 02 48.5**	**-0.3**
SMG				S	**Sb**	**06 03 11.5**	**+1.2**
SMG	**Samos**	**1.59**	**262**	*ePb*	**Pn**	**06 02 48.5**	**-0.3**
SMG				S	**Sb**	**06 03 11.5**	**+1.2**
DURS	**Dursunbey**	**1.68**	**351**	*i* P	**Pn**	**06 02 50.3**	**+0.2**
DURS				*i* S	**Sg**	**06 03 15.6**	**+0.1**
DURS	**Dursunbey**	**1.68**	**351**	*i* P	**Pn**	**06 02 50.3**	**+0.2**
SUTC	**Sutluce-Ispart**	**1.78**	**104**	*ePN*	**Pn**	**06 02 52.0**	**+0.5**
SUTC	**Sutluce-Ispart**	**1.78**	**104**	*ePn*	**Pn**	**06 02 52.0**	**+0.5**
ANTB	**Antalya**	**1.78**	**125**	*ePN*	**Pn**	**06 02 51.6**	**+0.3**
ANTB	**Antalya**	**1.78**	**125**	*ePn*	**Pn**	**06 02 51.7**	**+0.3**
ARG	**Arkhangelos**	**1.81**	**198**	P	**Pb**	**06 02 53.1**	**-0.9**
ARG				S	**Sb**	**06 03 16.1**	**-0.3**
ARG	**Arkhangelos**	**1.81**	**198**	P	**Pb**	**06 02 53.1**	**-0.9**
ARG				S	**Sb**	**06 03 16.1**	**-0.3**
ARG	**Arkhangelos**	**1.81**	**198**	*ePN*	**Pb**	**06 02 53.2**	**-0.8**
ARG				*eSN*	**Sg**	**06 03 18.5**	**-0.9**
ARG	**Arkhangelos**	**1.81**	**198**	P	**Pb**	**06 02 53.1**	**-0.9**
ARG				S	**Sb**	**06 03 16.1**	**-0.3**
ARG	**Arkhangelos**	**1.81**	**198**	P	**Pb**	**06 02 53.1**	**-0.9**
ARG				S	**Sb**	**06 03 16.1**	**-0.3**
ARG				*eSn*	**Sg**	**06 03 18.5**	**-0.9**
AKAS	**Kas**	**1.81**	**160**	*i* P	**Pb**	**06 02 53.2**	**-0.9**
AKAS				*eS*	**Sb**	**06 03 18.1**	**+1.5**
AKAS	**Kas**	**1.81**	**160**	*i* P	**Pb**	**06 02 53.2**	**-0.9**
AKAS				*eS*	**Sb**	**06 03 18.1**	**+1.5**
BOLV	**Bolvadin**	**1.84**	**64**	*i* P	**Pn**	**06 02 52.8**	**+0.5**
BOLV				*eS*	**Sb**	**06 03 18.6**	**+1.2**
BOLV	**Bolvadin**	**1.84**	**64**	*i* P	**Pn**	**06 02 52.8**	**+0.5**
BOLV				*eS*	**Sb**	**06 03 18.6**	**+1.2**
BALB	**Balikesir**	**1.85**	**337**	*ePN*	**Pn**	**06 02 52.6**	**+0.2**
BALB	**Balikesir**	**1.85**	**337**	*ePn*	**Pn**	**06 02 52.6**	**+0.2**
KSL	**Kastellorizon**	**1.88**	**161**	*ePN*	**Pn**	**06 02 53.9**	**+1.1**
BALY	**Balya**	**2.03**	**333**	*i* P	**Pn**	**06 02 55.3**	**+0.4**
BALY				*i* S	**Sb**	**06 03 23.1**	**+0.2**
BALY	**Balya**	**2.03**	**333**	*i* P	**Pn**	**06 02 55.3**	**+0.4**
BALY				*i* S	**Sb**	**06 03 23.1**	**+0.2**
ORLT	**Orhaneli**	**2.10**	**1**	*ePN*	**Pn**	**06 02 56.0**	**+0.1**
ORLT	**Orhaneli**	**2.10**	**1**	*ePn*	**Pn**	**06 02 56.0**	**+0.1**
AYVA	**Ayvalik**	**2.16**	**310**	*i* P	**Pn**	**06 02 57.0**	**+0.4**
AYVA				*i* S	**Sb**	**06 03 27.5**	**+0.9**
AYVA	**Ayvalik**	**2.16**	**310**	*i* P	**Pn**	**06 02 57.0**	**+0.4**
ULDT	**Uludag**	**2.21**	**6**	*i* P	**Pn**	**06 02 57.7**	**+0.2**
ULDT				*i* S	**Sn**	**06 03 24.6**	**0.0**
ULDT	**Uludag**	**2.21**	**6**	*i* P	**Pn**	**06 02 57.7**	**+0.2**
ULDT				*i* S	**Sn**	**06 03 24.6**	**0.0**
CHOS	**Chios island**	**2.23**	**282**	*ePN*	**Pn**	**06 02 58.0**	**+0.4**
CHOS	**Chios island**	**2.23**	**282**	P	**Pn**	**06 02 58.2**	**+0.6**
CHOS				S	**Sb**	**06 03 27.3**	**-1.4**
CHOS	**Chios island**	**2.23**	**282**	*ePN*	**Pn**	**06 02 58.1**	**+0.4**
CHOS				*eSN*	**Sb**	**06 03 28.6**	**-0.1**
CHOS	**Chios island**	**2.23**	**282**	P	**Pn**	**06 02 58.2**	**+0.6**
CHOS				S	**Sb**	**06 03 27.3**	**-1.4**
CHOS	**Chios island**	**2.23**	**282**	P	**Pn**	**06 02 58.2**	**+0.6**
CHOS				S	**Sb**	**06 03 27.3**	**-1.4**
CHOS				*eSn*	**Sb**	**06 03 28.6**	**-0.1**
SEYT	**Eskypehyr**	**2.23**	**44**	*i* P	**Pn**	**06 02 57.8**	**+0.1**
SEYT	**Eskypehyr**	**2.23**	**44**	*i* P	**Pn**	**06 02 57.8**	**+0.1**
GONE	**Gonen-Balikesi**	**2.29**	**337**	*ePN*	**Pn**	**06 02 58.9**	**+0.6**
GONE	**Gonen-Balikesi**	**2.29**	**337**	*ePn*	**Pn**	**06 02 58.9**	**+0.6**
BORA	**Eskisehir**	**2.32**	**33**	*i* P	**Pn**	**06 02 58

LIA Limnos Island 3.45 306 P Pn 06 03 15.3 +1.0
LIA Limnos Island 3.45 306 P Pn 06 03 15.3 +1.0
ENEZ Enez 3.48 324 ePN Pn 06 03 15.5 +0.8
ENEZ Enez 3.48 324 ePn Pn 06 03 15.5 +0.8
ERMK Ermenek 3.50 110 iP Pn 06 03 18.4 +3.1
ERMK Ermenek 3.50 110 iP Pn 06 03 18.4 +3.1
ZKR Zakros 3.52 218 ePN Pn 06 03 16.6 +1.4
ZKR Zakros 3.52 218 ePn Pn 06 03 16.6 +1.4
SMTH Samothraki Isl 3.60 316 P Pn 06 03 17.1 +0.7
SMTH S Sn 06 04 00.2 +1.6
SMTH Samothraki Isl 3.60 316 ePN Pn 06 03 17.1 +0.7
SMTH Samothraki Isl 3.60 316 P Pn 06 03 17.1 +0.7
SMTH Samothraki Isl 3.60 316 P Pn 06 03 17.1 +0.7
SMTH S Sn 06 04 00.2 +1.6
ANTO Ankara 3.64 57 ePN Pn 06 03 19.2 +2.3
LOD Lodumlu 3.63 56 ePN Pn 06 03 19.2 +2.3
LOD Lodumlu 3.63 56 ePn Pn 06 03 19.2 +2.3
AFSR Afˇar-Bala (A 3.64 64 ePN Pn 06 03 18.6 +1.5
AFSR Afˇar-Bala (A 3.64 64 ePn Pn 06 03 18.6 +1.5
ANTO Ankara 3.64 57 ePN Pn 06 03 19.1 +2.1
ANTO Ankara 3.64 57 eP Pn 06 03 18.6 +1.6
ANTO Ankara 3.64 57⇑iP Pn 06 03 18.3 +1.3
ANTO Ankara 3.64 57 ePn Pn 06 03 18.6 +1.6
ANTO ePg Pg 06 03 28.8 -2.2
ANTO eSg Sg 06 04 26.2 +8.0
ANTO Ankara 3.64 57 eP Pn 06 03 18.6 +1.6
ALN Alexandroupoli 3.66 325 ePN Pn 06 03 18.0 +0.9
ALN Alexandroupoli 3.66 325 P Pn 06 03 17.8 +0.7
ALN S Sn 06 04 02.2 +2.2
ALN Alexandroupoli 3.66 325 P Pn 06 03 17.8 +0.7
ALN Alexandroupoli 3.66 325 ePN Pn 06 03 17.8 +0.7
ALN Alexandroupoli 3.66 325 P Pn 06 03 17.8 +0.7
ALN Alexandroupoli 3.66 325 ePn Pn 06 03 18.0 +0.9
ALN S Sn 06 04 02.2 +2.2
SULT Sultanhani-AKS 3.71 85 ePN Pn 06 03 19.4 +1.5
SULT Sultanhani-AKS 3.71 85 ePn Pn 06 03 19.4 +1.5
NPS Neapolis 3.72 225 P Pn 06 03 19.6 +1.6
NPS S Sn 06 04 04.8 +3.3
NPS Neapolis 3.72 225 P Pn 06 03 19.6 +1.6
NPS Neapolis 3.72 225 ePN Pn 06 03 19.4 +1.4
NPS Neapolis 3.72 225 P Pn 06 03 19.6 +1.6
NPS Neapolis 3.72 225 ePn Pn 06 03 19.4 +1.4
NPS S Sn 06 04 04.8 +3.3
LAST Lasithi 3.87 225 ePN Pn 06 03 21.7 +1.6
LAST Lasithi 3.87 225 ePn Pn 06 03 21.7 +1.6
PTL Penteli 3.92 273 ePN Pn 06 03 21.4 +0.5
PTL Penteli 3.92 273 ePn Pn 06 03 21.4 +0.5
ERET Eretria 3.99 279 P Pn 06 03 22.8 +1.0
ERET Eretria 3.99 279 P Pn 06 03 22.8 +1.0
ATH Athens Observa 4.04 272 ePN Pn 06 03 23.3 +0.9
ATH Athens Observa 4.04 272 ePn Pn 06 03 23.3 +0.9
AKMC Akamas 4.05 135 P Pn 06 03 23.6 +1.0
baz=333
AKMC Akamas 4.05 135 P Pn 06 03 23.6 +1.0
AOS Alonnisos 4.07 289 P Pn 06 03 23.8 +0.9
AOS S Sn 06 04 12.8 +2.6
AOS Alonnisos 4.07 289 ePN Pn 06 03 23.7 +0.9
AOS Alonnisos 4.07 289 P Pn 06 03 23.8 +0.9
AOS S Sn 06 04 12.8 +2.6
AOS Alonnisos 4.07 289 P Pn 06 03 23.8 +0.9
AOS S Sn 06 04 12.8 +2.6
RDO Rodhopi 4.09 323 P Pn 06 03 23.9 +0.8
RDO S Sn 06 04 11.5 +0.8
RDO Rodhopi 4.09 323 ePN Pn 06 03 23.9 +0.8
RDO Rodhopi 4.09 323 P Pn 06 03 23.9 +0.8
RDO S Sn 06 04 11.5 +0.8
RDO Rodhopi 4.09 323 P Pn 06 03 23.9 +0.8
RDO S Sn 06 04 11.5 +0.8
ALFC Alevga 4.11 131 P Pn 06 03 23.0 -0.4
baz=330
ALFC S Sn 06 04 12.7 +1.4
ALFC Alevga 4.11 131 P Pn 06 03 23.0 -0.4
ALFC S Sn 06 04 12.7 +1.4
IDI Anoyia 4.13 231 ePN Pn 06 03 25.3 +1.5
IDI Anoyia 4.13 231 P Pn 06 03 25.1 +1.4
IDI Anoyia 4.13 231 ePN Pn 06 03 25.2 +1.5
IDI Anoyia 4.13 231 ePn Pn 06 03 24.8 +1.1
IDI Anoyia 4.13 231 ePn Pn 06 03 24.8 +1.1
IDI Anoyia 4.13 231 P Pn 06 03 25.1 +1.4
IDI Anoyia 4.13 231 Pn Pn 06 03 25.1 +1.4
61nm,0.3s,baz=63,slow=17,SNR=12.7
BR131 Keskin Array S 4.16 63 ePn Pn 06 03 25.0 +0.8
BR131 Keskin Array S 4.16 63 ePn Pn 06 03 25.0 +0.8
BRTR Keskin Array B 4.16 63 Pn Pn 06 03 25.3 +1.1
BRTR Sn Sn 06 04 12.7 +0.2
BRTR Lg Lg 06 04 37.8
BRTR Keskin Array B 4.16 63 P Pn 06 03 25.3 +1.1
20nm,0.3s
BRTR S Sn 06 04 12.7 +0.2
16nm,28.6s
BRTR Keskin Array B 4.16 63 Pn Pn 06 03 25.3 +1.1
20nm,0.3s,baz=245,slow=15,SNR=33.1
BRTR Sn Sn 06 04 12.7 +0.2
12nm,0.3s,baz=236,slow=24,SNR=3.1
BRTR Lg Lg 06 04 37.8
3.6nm,0.3s,baz=267,slow=18,SNR=2.1
BRTR LR LR 06 05 35.0
comp=Z,16nm,28.6s,baz=70,slow=47
PPCY Paphos 4.16 136 P Pn 06 03 25.8 +1.7
baz=334
PPCY Paphos 4.16 136 P Pn 06 03 25.8 +1.7
MRKA Markates 4.19 282 ePN Pn 06 03 25.5 +0.9
MRKA Markates 4.19 282 ePn Pn 06 03 25.5 +0.9
NAIG Nisos Aigina 4.23 269 ePN Pn 06 03 25.7 +0.6
NAIG Nisos Aigina 4.23 269 ePn Pn 06 03 25.7 +0.6
IKL Isikli 4.24 112 ePN Pn 06 03 26.6 +1.5
IKL Isikli 4.24 112 ePn Pn 06 03 26.6 +1.5
AKDN Akdeniz- Kˇ–br 4.25 127 ePN Pn 06 03 26.8 +1.6
AKDN Akdeniz- Kˇ–br 4.25 127 ePn Pn 06 03 26.8 +1.6
SIVA Sivas 4.36 229 ePN Pn 06 03 29.0 +2.2
SIVA Sivas 4.36 229 ePn Pn 06 03 29.0 +2.2
VILL Villia 4.36 275 P Pn 06 03 28.0 +1.1
VILL Villia 4.36 275 P Pn 06 03 28.0 +1.1
SKIA Skiathos 4.38 288 P Pn 06 03 28.2 +1.1
SKIA Skiathos 4.38 288 ePN Pn 06 03 28.2 +1.1
SKIA Skiathos 4.38 288 P Pn 06 03 28.2 +1.1
VIL2 Platees 4.40 275 ePN Pn 06 03 28.0 +0.6
DID Didima 4.46 266 P Pn 06 03 28.6 +0.4
DID Didima 4.46 266 ePN Pn 06 03 28.7 +0.5
DID Didima 4.46 266 P Pn 06 03 28.6 +0.4
DID Didima 4.46 266 ePn Pn 06 03 28.7 +0.5
OUR Ouranopolis 4.46 304 P Pn 06 03 29.2 +1.0
OUR S Sn 06 04 22.6 +2.7
OUR Ouranopolis 4.46 304 P Pn 06 03 29.2 +1.0
OUR S Sn 06 04 22.6 +2.7
OUR Ouranopolis 4.46 304 ePN Pn 06 03 29.2 +1.0
OUR Ouranopolis 4.46 304 P Pn 06 03 29.2 +1.0
OUR S Sn 06 04 22.6 +2.7
OUR Ouranopolis 4.46 304 P Pn 06 03 29.2 +1.0
OUR S Sn 06 04 22.6 +2.7
PAIG Paliouri 4.48 298 P Pn 06 03 29.3 +0.8
PAIG S Sn 06 04 23.9 +3.6
PAIG Paliouri 4.48 298 P Pn 06 03 29.3 +0.8
PAIG S Sn 06 04 23.9 +3.6
PAIG Paliouri 4.48 298 ePN Pn 06 03 29.3 +0.8
PAIG Paliouri 4.48 298 P Pn 06 03 29.3 +0.8
PAIG S Sn 06 04 23.9 +3.6
PAIG Paliouri 4.48 298 P Pn 06 03 29.3 +0.8
PAIG S Sn 06 04 23.9 +3.6
MAMC Mammari 4.48 127 P Pn 06 03 27.3 -1.2
baz=324
MAMC Mammari 4.48 127 P Pn 06 03 27.3 -1.2
VAM Vamos 4.50 237 ePN Pn 06 03 31.2 +2.5
VAM Vamos 4.50 237 ePn Pn 06 03 31.2 +2.5
SMIA Simia 4.51 284 ePN Pn 06 03 30.4 +1.4
SMIA Simia 4.51 284 ePn Pn 06 03 30.4 +1.4
KAVA Kavala 4.53 314 P Pn 06 03 29.9 +0.8
KAVA Kavala 4.53 314 ePN Pn 06 03 29.9 +0.8
KAVA Kavala 4.53 314 P Pn 06 03 29.9 +0.8
KAVA Kavala 4.53 314 P Pn 06 03 29.9 +0.8
KDZ Kurdzhali 4.54 326⇓iP Pn 06 03 30.4 +1.0
KDZ Kurdzhali 4.54 326⇓iP Pn 06 03 30.4 +1.0
SZAC Souni-Zanaja 4.56 133 P Pn 06 03 30.3 +0.7
baz=330
SZAC Souni-Zanaja 4.56 133 P Pn 06 03 30.3 +0.7
SZAC S Sn 06 04 25.8 +3.5
NIG Nigde 4.57 86 ePN Pn 06 03 31.6 +1.7
NIG Nigde 4.57 86 ePn Pn 06 03 31.6 +1.7
CANT Cankiri 4.57 53 ePN Pn 06 03 31.7 +1.9
NEO Neokhori 4.60 289 ePN Pn 06 03 31.0 +0.9
NEO Neokhori 4.60 289 ePn Pn 06 03 31.0 +0.9
LFK Lefkose 4.62 124 ePN Pn 06 03 32.4 +1.9
LFK Lefkose 4.62 124 ePn Pn 06 03 32.4 +1.9
LTK Loutraki 4.63 273 ePN Pn 06 03 31.4 +0.8
LTK Loutraki 4.63 273 ePn Pn 06 03 31.4 +0.8
XOR Xorichti 4.64 290 P Pn 06 03 31.4 +0.7
XOR Xorichti 4.64 290 ePN Pn 06 03 31.4 +0.7
XOR Xorichti 4.64 290 P Pn 06 03 31.4 +0.7
XOR Xorichti 4.64 290 P Pn 06 03 31.4 +0.7
LKR Lokris 4.64 281 P Pn 06 03 31.8 +1.1
LKR Lokris 4.64 281 ePN Pn 06 03 31.6 +0.9
LKR Lokris 4.64 281 P Pn 06 03 31.8 +1.1
LKR Lokris 4.64 281 P Pn 06 03 31.8 +1.1
MERS Mersin 4.66 102 ePN Pn 06 03 33.0 +2.0
MERS Mersin 4.66 102 ePn Pn 06 03 33.0 +2.0
CSS Prodhromos 4.69 128 ePN Pn 06 03 32.5 +1.2
CSS Prodhromos 4.69 128 P Pn 06 03 31.9 +0.6
CSS Prodhromos 4.69 128 ePn Pn 06 03 31.1 -0.2
CSS Prodhromos 4.69 128 ePn Pn 06 03 31.1 -0.2
CSS Prodhromos 4.69 128 P Pn 06 03 31.9 +0.6
FYTO Fytoko, Volos 4.84 289 P Pn 06 03 34.6 +1.2
FYTO Fytoko, Volos 4.84 289 P Pn 06 03 34.6 +1.2
FYTO Fytoko, Volos 4.84 289 P Pn 06 03 34.6 +1.2
JMB Yambol 4.84 340 P Pn 06 03 35.0 +1.6
JMB Yambol 4.84 340 P Pn 06 03 35.0 +1.6
JMB Yambol 4.84 340⇓iP Pn 06 03 34.5 +1.1
JMB Yambol 4.84 340 P Pn 06 03 35.0 +1.6
JMB Yambol 4.84 340 P Pn 06 03 35.0 +1.6
PLG Polygyros 4.84 302 P Pn 06 03 34.5 +1.0
PLG Polygyros 4.84 302 P Pn 06 03 34.5 +1.0
PLG Polygyros 4.84 302 ePN Pn 06 03 34.1 +0.6
PLG Polygyros 4.84 302 P Pn 06 03 34.5 +1.0
PLG Polygyros 4.84 302 ePn Pn 06 03 34.1 +0.6
PLG Polygyros 4.84 302 P Pn 06 03 34.5 +1.0
VLI Veliai 4.85 257 P Pn 06 03 34.6 +1.0
VLI Veliai 4.85 257 P Pn 06 03 34.6 +1.0
VLI Veliai 4.85 257 P Pn 06 03 34.6 +1.0
ANKY Antikythira Is 4.89 247 ePN Pn 06 03 35.8 +1.7
ANKY Antikythira Is 4.89 247 ePn Pn 06 03 35.8 +1.7
EREN Erenkoy 4.92 118 ePN Pn 06 03 36.6 +2.1
EREN Erenkoy 4.92 118 ePn Pn 06 03 36.6 +2.1
KYTH Kithira 4.92 252 P Pn 06 03 36.0 +1.5
KYTH Kithira 4.92 252 ePN Pn 06 03 35.8 +1.3
KYTH Kithira 4.92 252 P Pn 06 03 36.0 +1.5
KYTH Kithira 4.92 252 ePn Pn 06 03 35.8 +1.3
GVD Gavdhos 4.92 232 P Pn 06 03 37.6 +3.1
GVD Gavdhos 4.92 232 ePN Pn 06 03 37.3 +2.8
GVD Gavdhos 4.92 232 P Pn 06 03 37.7 +3.2
GVD Gavdhos 4.92 232 ePn Pn 06 03 37.3 +2.8
GVD Gavdhos 4.92 232 P Pn 06 03 37.6 +3.1
AXAR Agios Charalam 4.92 282 P Pn 06 03 36.1 +1.6
AXAR Agios Charalam 4.92 282 P Pn 06 03 36.1 +1.6
AXAR Agios Charalam 4.92 282 P Pn 06 03 36.1 +1.6
DESF Desfina 4.99 277 ePN Pn 06 03 36.2 +0.7
DESF Desfina 4.99 277 ePn Pn 06 03 36.2 +0.7
KARA Karaisali 4.99 96 ePN Pn 06 03 37.5 +2.0
KARA Karaisali 4.99 96 ePn Pn 06 03 37.5 +2.0
DSF Desfina 4.99 277 P Pn 06 03 36.8 +1.3
DSF Desfina 4.99 277 ePN Pn 06 03 36.6 +1.1
DSF Desfina 4.99 277 P Pn 06 03 36.8 +1.3
DSF Desfina 4.99 277 P Pn 06 03 36.8 +1.3
CORM Corum 5.04 62 ePN Pn 06 03 38.5 +2.3
CORM Corum 5.04 62 ePn Pn 06 03 38.5 +2.3
TOS Tosya 5.07 51 ePN Pn 06 03 38.6 +2.0
TOS Tosya 5.07 51 ePn Pn 06 03 38.6 +2.0
SOH Sokhos 5.13 306 P Pn 06 03 38.7 +1.3
SOH Sokhos 5.13 306 P Pn 06 03 38.7 +1.3
SOH Sokhos 5.13 306 ePN Pn 06 03 38.8 +1.3
SOH Sokhos 5.13 306 P Pn 06 03 38.7 +1.3
SOH Sokhos 5.13 306 P Pn 06 03 38.7 +1.3
GUR Goura 5.13 272 P Pn 06 03 38.7 +1.2
GUR Goura 5.13 272 ePN Pn 06 03 38.6 +1.1
GUR Goura 5.13 272 P Pn 06 03 38.7 +1.2
GUR Goura 5.13 272 P Pn 06 03 38.7 +1.2
NVR Nevrokopi 5.13 313 P Pn 06 03 38.5 +1.1
NVR Nevrokopi 5.13 313 ePN Pn 06 03 38.5 +1.1
NVR Nevrokopi 5.13 313 P Pn 06 03 38.5 +1.1
NVR Nevrokopi 5.13 313 P Pn 06 03 38.5 +1.1
SRS Serrai 5.15 310 P Pn 06 03 38.6 +1.0
SRS Serrai 5.15 310 P Pn 06 03 38.6 +1.0
SRS Serrai 5.15 310 ePN Pn 06 03 38.6 +1.0
SRS Serrai 5.15 310 P Pn 06 03 38.6 +1.0
SRS Serrai 5.15 310 P Pn 06 03 38.6 +1.0
VLX Vlachokerasia 5.15 266 ePN Pn 06 03 39.3 +1.5
VLX Vlachokerasia 5.15 266 ePn Pn 06 03 39.3 +1.5
HORT Hortiatis 5.18 303 P Pn 06 03 39.6 +1.4
HORT Hortiatis 5.18 303 ePN Pn 06 03 39.6 +1.4
HORT Hortiatis 5.18 303 P Pn 06 03 39.6 +1.4
HORT Hortiatis 5.18 303 P Pn 06 03 39.6 +1.4
AGG Agios Georgios 5.21 284 P Pn 06 03 40.0 +1.4
AGG Agios Georgios 5.21 284 P Pn 06 03 40.0 +1.4
AGG Agios Georgios 5.21 284 ePN Pn 06 03 39.9 +1.4
AGG Agios Georgios 5.21 284 P Pn 06 03 40.0 +1.4
AGG Agios Georgios 5.21 284 ePn Pn 06 03 39.9 +1.4
PLD Plovdiv 5.23 324 P Pn 06 03 39.9 +1.2
PLD Plovdiv 5.23 324 P Pn 06 03 39.9 +1.2
PLD Plovdiv 5.23 324 P Pn 06 03 39.9 +1.2
PLD Plovdiv 5.23 324 P Pn 06 03 39.9 +1.2
KLV Kalavryta, Ach 5.28 273 P Pn 06 03 41.1 +1.6
KLV Kalavryta, Ach 5.28 273 ePN Pn 06 03 40.8 +1.3
KLV Kalavryta, Ach 5.28 273 P Pn 06 03 41.1 +1.6
KLV Kalavryta, Ach 5.28 273 ePn Pn 06 03 40.8 +1.3
KLV Kalavryta, Ach 5.28 273 P Pn 06 03 41.1 +1.6
THE Thessaloniki 5.29 302 P Pn 06 03 41.0 +1.4
THE Thessaloniki 5.29 302 P Pn 06 03 41.0 +1.4
THE Thessaloniki 5.29 302 ePN Pn 06 03 40.9 +1.4
THE Thessaloniki 5.29 302 P Pn 06 03 41.0 +1.4
THE Thessaloniki 5.29 302 ePn Pn 06 03 40.9 +1.4
KALE Kalithea 5.29 277 P Pn 06 03 41.3 +1.6
KALE Kalithea 5.29 277 ePN Pn 06 03 41.2 +1.6
KALE Kalithea 5.29 277 P Pn 06 03 41.3 +1.6
KALE Kalithea 5.29 277 ePn Pn 06 03 41.2 +1.6
MMB Musomiste 5.36 314⇓iP Pn 06 03 41.5 +0.9
MMB Musomiste 5.36 314⇓iP Pn 06 03 41.5 +0.9
MAKR Makrakomi, Fth 5.37 284 P Pn 06 03 43.0 +2.3
MAKR Makrakomi, Fth 5.37 284 ePN Pn 06 03 42.7 +2.0
MAKR Makrakomi, Fth 5.37 284 P Pn 06 03 43.0 +2.3
MAKR Makrakomi, Fth 5.37 284 ePn Pn 06 03 42.7 +2.0
MAKR Makrakomi, Fth 5.37 284 P Pn 06 03 43.0 +2.3
LIT Litokhoron 5.39 296 P Pn 06 03 42.6 +1.6
LIT Litokhoron 5.39 296 P Pn 06 03 42.6 +1.6
LIT Litokhoron 5.39 296 ePN Pn 06 03 42.6 +1.6
LIT Litokhoron 5.39 296 P Pn 06 03 42.6 +1.6
LIT Litokhoron 5.39 296 P Pn 06 03 42.6 +1.6
LAKA Lakka 5.41 275 P Pn 06 03 43.2 +1.9
LAKA Lakka 5.41 275 ePN Pn 06 03 42.9 +1.6
LAKA Lakka 5.41 275 P Pn 06 03 43.2 +1.9
LAKA Lakka 5.41 275 ePn Pn 06 03 42.9 +1.6
LAKA Lakka 5.41 275 P Pn 06 03 43.2 +1.9
PSA1 Psathopyrgos 5.49 276 ePN Pn 06 03 44.3 +2.0
ITM Ithomi 5.54 264 ePN Pn 06 03 45.3 +2.3
ITM Ithomi 5.54 264 ePn Pn 06 03 45.3 +2.3
KOZT Kozan 5.57 93 ePN Pn 06 03 46.0 +2.6
KOZT Kozan 5.57 93 ePn Pn 06 03 46.0 +2.6
THL Klokotos Trika 5.57 289 P Pn 06 03 45.2 +1.8
THL Klokotos Trika 5.57 289 ePN Pn 06 03 45.2 +1.8
THL Klokotos Trika 5.57 289 P Pn 06 03 45.2 +1.8
EVR Evrytania 5.60 282 P Pn 06 03 46.3 +2.4
EVR Evrytania 5.60 282 ePN Pn 06 03 46.1 +2.2
EVR Evrytania 5.60 282 P Pn 06 03 46.3 +2.4
EVR Evrytania 5.60 282 ePn Pn 06 03 46.1 +2.2
KNT Kendrikon 5.60 307 P Pn 06 03 45.6 +1.7
KNT Kendrikon 5.60 307 P Pn 06 03 45.6 +1.7
KNT Kendrikon 5.60 307 ePN Pn 06 03 45.7 +1.8
KNT Kendrikon 5.60 307 P Pn 06 03 45.6 +1.7
KNT Kendrikon 5.60 307 P Pn 06 03 45.6 +1.7
DRO Drossia 5.63 272 P Pn 06 03 46.5 +2.2
DRO Drossia 5.63 272 ePN Pn 06 03 46.3 +2.0
DRO Drossia 5.63 272 ePn Pn 06 03 46.3 +2.0
AMT Artemida-Makis 5.66 268 ePN Pn 06 03 47.8 +3.1
AMT Artemida-Makis 5.66 268 ePn Pn 06 03 47.8 +3.1
PYL PYLOS 5.74 262 ePN Pn 06 03 48.5 +2.8
PYL PYLOS 5.74 262 ePn Pn 06 03 48.5 +2.8
PSN Preselentsi 5.76 355⇓iP Pn 06 03 46.6 +0.6
GRG Griva 5.82 303 P Pn 06 03 48.0 +1.1
GRG Griva 5.82 303 P Pn 06 03 48.0 +1.1
GRG Griva 5.82 303 ePN Pn 06 03 48.7 +1.8
GRG Griva 5.82 303 P Pn 06 03 48.0 +1.1
GRG Griva 5.82 303 P Pn 06 03 48.0 +1.1
GRG Griva 5.82 303 ePn Pn 06 03 48.7 +1.8
RLS Riolos of Patr 5.82 273 ePN Pn 06 03 49.8 +3.0
RLS Riolos of Patr 5.82 273 ePn Pn 06 03 49.8 +3.0
VAY Valandovo 5.90 307 P Pn 06 03 49.3 +1.4
VAY Valandovo 5.90 307 P Pn 06 03 49.3 +1.4
VAY Valandovo 5.90 307 P Pn 06 03 49.3 +1.4
VAY Valandovo 5.90 307 iPn Pn 06 03 49.3 +1.4
VAY eSg Sg 06 05 34.4 +4.0
VAY eLg Lg 06 05 43.4
comp=N,315nm,1.1s
VAY eLg Lg 06 05 51.9
comp=E,3µm,4.0s
VAY Valandovo 5.90 307 P Pn 06 03 49.3 +1.4
VAY Valandovo 5.90 307 iPn Pn 06 03 49.8 +1.9
VAY eLg Lg 06 05 52.4
comp=E,3µm,4.0s
KZN Kozani 5.98 295 P Pn 06 03 51.2 +2.1
KZN Kozani 5.98 295 P Pn 06 03 51.2 +2.1
KZN Kozani 5.98 295 ePN Pn 06 03 51.2 +2.1
KZN Kozani 5.98 295 P Pn 06 03 51.2 +2.1
KZN Kozani 5.98 295 P Pn 06 03 51.2 +2.1
PDO Prodromos 6.05 279 ePN Pn 06 03 53.0 +2.9
PDO Prodromos 6.05 279 ePn Pn 06 03 53.0 +2.9
TAHT Tahtakopru-Hat 6.08 103 ePN Pn 06 03 52.4 +2.0
TAHT Tahtakopru-Hat 6.08 103 ePn Pn 06 03 52.4 +2.0
MSAB Monastry St. A 6.19 353⇓iP Pn 06 03 52.7 +0.7
MEV Metsovon 6.21 290 P Pn 06 03 54.9 +2.5
MEV Metsovon 6.21 290 P Pn 06 03 54.9 +2.5
MEV Metsovon 6.21 290 P Pn 06 03 54.9 +2.5
VTS Vitosha 6.33 319 P Pn 06 03 55.4 +1.4
VTS Vitosha 6.33 319 P Pn 06 03 55.4 +1.4
VTS Vitosha 6.33 319⇓iP Pn 06 03 55.3 +1.3
VTS Vitosha 6.33 319 P Pn 06 03 55.4 +1.4
VTS Vitosha 6.33 319 ePN Pn 06 03 55.3 +1.3
FNA Florina 6.44 299 P Pn 06 03 57.7 +2.3
FNA Florina 6.44 299 P Pn 06 03 57.7 +2.3
FNA Florina 6.44 299 ePN Pn 06 03 57.7 +2.3
FNA Florina 6.44 299 P Pn 06 03 57.7 +2.3
FNA Florina 6.44 299 P Pn 06 03 57.7 +2.3
JAN Janina 6.46 288 ePN Pn 06 03 57.8 +2.0
JAN Janina 6.46 288 ePn Pn 06 03 57.8 +2.0
LKD2 Lefkada island 6.48 280 ePN Pn 06 03 59.7 +3.8
VLS Valsamata 6.51 275 ePN Pn 06 03 59.8 +3.5
VLS Valsamata 6.51 275 ePn Pn 06 03 59.8 +3.5
TIRR Tirgusor 6.52 357 eP Pn 06 03 57.1 +0.6
TIRR Tirgusor 6.52 357⇓iP Pn 06 03 57.3 +0.8
TIRR Tirgusor 6.52 357 ePN Pn 06 03 57.0 +0.6
TIRR Tirgusor 6.52 357 eP Pn 06 03 57.1 +0.6
NEST Nestorio 6.53 295 P Pn 06 03 59.5 +2.7
NEST Nestorio 6.53 295 ePN Pn 06 03 59.4 +2.7
NEST Nestorio 6.53 295 ePn Pn 06 03 59.4 +2.7
BIA Bitola 6.57 300 P Pn 06 03 59.0 +1.8
BIA Bitola 6.57 300 P Pn 06 03 59.0 +1.8
BIA Bitola 6.57 300 iPn Pn 06 03 59.3 +2.0
BIA Bitola 6.57 300 P Pn 06 03 59.0 +1.8
TLB Topalu 6.67 355⇓iP Pn 06 03 59.2 +0.7
HWQ Hawqa 6.82 120 eP Pn 06 04 00.9 +0.1
IGT Igoumenitsa 6.83 286 ePN Pn 06 04 04.8 +4.0
BHL Bhannes 6.84 124 eP Pn 06 04 00.8 -0.3
SKO Skopje 6.96 308 P Pn 06 04 04.3 +1.8
SKO Skopje 6.96 308 P Pn 06 04 04.3 +1.8
SKO Skopje 6.96 308 P Pn 06 04 04.3 +1.8
SKO Skopje 6.96 308 iPn Pn 06 04 04.4 +1.8
SKO Skopje 6.96 308 iPn Pn 06 04 01.8 -0.7
SKO Skopje 6.96 308 P Pn 06 04 04.3 +1.8
SULR 7.01 345⇓iP Pn 06 04 04.2 +1.1
HNTI Hanita 7.08 131 Pn Pn 06 04 03.8 -0.5
PGOR Pogoanele 7.10 349⇑iP Pn 06 04 05.2 +0.8
LTBQ Tobruq 7.12 216 iP Pn 06 04 05.1 +0.4
comp=E,120nm,4.6s,SNR=76
FKH Fakeheh 7.16 119 eP Pn 06 04 06.4 +1.1
HUMR Humele 7.19 337⇑iP Pn 06 04 06.4 +0.7
RCY Rachaya 7.22 126 eP Pn 06 04 05.5 -0.7
TLCR 7.24 360⇑iP Pn 06 04 07.6 +1.3
CFR Carcaliu 7.25 356⇓iP Pn 06 04 06.9 +0.4
MMA0 Mount Meron ar 7.27 131 Pn Pn 06 04 05.9 -1.0
MMAI Mount Meron Ar 7.27 131 Pn Pn 06 04 06.0 -0.9
MMAI Sn Sn 06 05 25.1 -4.1
MMAI Mount Meron Ar 7.27 131 Pn Pn 06 04 06.0 -0.9
MMAI Sn Sn 06 05 25.1 -4.1
MMAI Mount Meron Ar 7.27 131 Pn Pn 06 04 06.0 -0.9
comp=E,91nm,0.3s,baz=316,slow=12,SNR=153
MMAI Sn Sn 06 05 25.1 -4.1
comp=E,43nm,0.3s,baz=305,slow=25,SNR=7.4
MMAI LR LR 06 08 47.7
comp=E,16nm,28.6s,baz=280,slow=53
KEK Kerkira 7.27 287 ePN Pn 06 04 10.2 +3.4
KSDI Kefar Szold 7.30 128 Pn Pn 06 04 06.5 -0.8
OFRI ˇOfer 7.31 135 Pn Pn 06 04 06.4 -1.0
BLGI Bet Lehem HaGe 7.35 133 Pn Pn 06 04 07.0 -0.5
ISR Istrita 7.38 347⇑iP Pn 06 04 10.0 +1.7
ISR Istrita 7.38 347⇑iP Pn 06 04 10.0 +1.7
SECR 7.39 345⇑iP Pn 06 04 10.1 +1.7
SECR 7.39 345⇑iP Pn 06 04 10.1 +1.7
HBRG Burj al ‘Arab 7.39 173 P Pn 06 04 06.0 -2.4
baz=173
PHP Peshkopia 7.46 303 P Pn 06 04 12.1 +2.6
PHP Peshkopia 7.46 303 P Pn 06 04 12.1 +2.6
PHP Peshkopia 7.46 303 P Pn 06 04 12.1 +2.6
SEV Sevastopol’ 7.54 27 eP Pn 06 04 10.4 0.0
SEV eS Sn 06 05 32.0 -3.5
GRER 7.56 350⇓iP Pn 06 04 13.3 +2.5
GRER 7.56 350⇓iP Pn 06 04 13.3 +2.5
MALT Malatya 7.57 84⇓iP Pn 06 04 17.0 +5.9
YAL Yalta 7.67 30 eP Pn 06 04 13.9 +1.6
YAL eS Sn 06 05 37.6 -1.2
YAL MLR MLR
comp=Z,2µm,12.9s
MLR Muntele Rosu 7.85 345⇓iP Pn 06 04 16.4 +1.6
MLR Muntele Rosu 7.85 345 Pn Pn 06 04 16.2 +1.4
MLR Sn Sn 06 05 45.3 +2.0
MLR Lg Lg 06 06 39.7
MLR Muntele Rosu 7.85 345⇓iP Pn 06 04 16.4 +1.6
MLR Sn Sn 06 05 45.3 +2.0
MLR Muntele Rosu 7.85 345 Pn Pn 06 04 16.2 +1.4
comp=Z,0.9nm,0.3s,baz=158,slow=3.7,SNR=69
MLR Sn Sn 06 05 45.3 +2.0
comp=Z,0.3nm,0.3s,baz=128,slow=19,SNR=2.0
MLR Lg Lg 06 06 39.7
comp=Z,0.1nm,0.3s,baz=194,slow=19,SNR=2.6
MLR LR LR 06 07 21.3
comp=Z,243nm,21.6s,baz=165,slow=39
ODBI Odobesti 7.93 351⇑iP Pn 06 04 21.5 +5.7
ALU Alushta 7.93 30 eP Pn 06 04 17.7 +1.9
ALU eS Sn 06 05 43.3 -1.9
SRE Strehaia 7.94 330⇑iP Pn 06 04 16.5 +0.6
SRE Strehaia 7.94 330⇑iP Pn 06 04 16.5 +0.6
VOIR 8.01 341⇓iP Pn 06 04 18.0 +1.0
VOIR 8.01 341⇓iP Pn 06 04 18.0 +1.0
RSH 8.05 148 P Pn 06 04 15.6 -1.9
baz=147
SIM Simferopol’ 8.05 28 eP Pn 06 04 19.2 +1.8
SIM eS Sn 06 05 46.7 -1.4
ARR Arges 8.06 338⇓iP Pn 06 04 19.1 +1.4
ARR Arges 8.06 338⇓iP Pn 06 04 19.1 +1.4
PLOR Plostina 8.07 349⇑iP Pn 06 04 20.0 +2.2
PLOR Plostina 8.07 349⇑iP Pn 06 04 20.0 +2.2
VRI Vrincioaia 8.07 349⇑iP Pn 06 04 19.5 +1.7
VRI Vrincioaia 8.07 349⇑iP Pn 06 04 19.5 +1.7
AMAG Maghara 8.13 152 P Pn 06 04 16.6 -2.0
baz=151
GHRR 8.19 353⇑iP Pn 06 04 20.9 +1.6
GHRR 8.19 353⇑iP Pn 06 04 20.9 +1.6
PVY Plav 8.22 307⇑iPn Pn 06 04 22.4 +2.4
PVY eSn Sn 06 05 51.7 -0.9
PVY Plav 8.22 307⇑iPn Pn 06 04 22.4 +2.4
PVY eSn Sn 06 05 51.7 -0.9
SQR 8.27 166 P Pn 06 04 18.6 -1.9
baz=165
HMYD Mayadein 8.29 168 P Pn 06 04 18.8 -1.9
baz=167
HLW Helwan 8.32 165 P Pn 06 04 19.1 -2.1
baz=164
SUDU Sudak 8.35 32⇑iP Pn 06 04 23.5 +2.0
SUDU eS Sn 06 05 55.8 +0.4
KOT Kottamia 8.37 162 P Pn 06 04 20.2 -1.8
baz=161
ULC Ulcinj 8.39 302⇑iPn Pn 06 04 24.4 +2.3
ULC eSn Sn 06 05 55.9 -0.6
ULC Ulcinj 8.39 302⇑iPn Pn 06 04 24.4 +2.3
ULC eSn Sn 06 05 55.9 -0.6
LOT Lotru 8.40 335⇑iP Pn 06 04 22.9 +0.5

LOT	**Lotru**	**8.40**	**335**	⇑*iP*	**Pn**	**06 04 22.9 +0.5**			
BEY	**Berane**	**8.41**	**309**	*e*Pn	**Pn**	**06 04 25.2 +2.7**			
BEY				*e*Sn	**Sn**	**06 05 56.6 -0.6**			
IVA	**Berane**	**8.41**	**309**	*e*Pn	**Pn**	**06 04 25.2 +2.7**			
IVA				*e*Sn	**Sn**	**06 05 56.6 -0.6**			
HHAG	**Hagoal**	**8.41**	**160**	P	**Pn**	**06 04 21.1 -1.5**			
	baz=159								
DOPR	**Dopca**	**8.42**	**343**	⇑*iP*	**Pn**	**06 04 24.7 +2.1**			
DOPR	**Dopca**	**8.42**	**343**	⇑*iP*	**Pn**	**06 04 24.7 +2.1**			
FYM	**Al Fayyum**	**8.43**	**167**	P	**Pn**	**06 04 20.3 -2.4**			
	baz=166								
FYM				S	Sn	06 05 47.2 -10			
	baz=166								
LEOM	**Leova**	**8.54**	**357**	⇑*iP*	Pn	06 04 28.5 +4.4			
GRUS	**Gruza**	**8.55**	**317**	⇓*iPn*	**Pn**	**06 04 24.8 +0.5**			
PDG	**Podgorica**	**8.59**	**304**	⇓*iPn*	**Pn**	**06 04 26.6 +1.7**			
PDG				*e*Sn	**Sn**	**06 06 01.3 -0.1**			
TTG	**Podgorica**	**8.59**	**304**	⇓*iPn*	**Pn**	**06 04 26.6 +1.7**			
TTG				*e*Sn	**Sn**	**06 06 01.3 -0.1**			
HSAF	**As Saff**	**8.60**	**164**	P	**Pn**	**06 04 22.9 -2.2**			
	baz=163								
IVAS	**Ivanjica**	**8.66**	**313**	⇑*iPn*	**Pn**	**06 04 27.5 +1.6**			
GLL	**Jalalah**	**8.68**	**163**	P	**Pn**	**06 04 24.1 -2.0**			
	baz=162								
GZR	**Gura Zlata**	**8.71**	**331**	⇑*iP*	**Pn**	**06 04 26.4 -0.2**			
GZR	**Gura Zlata**	**8.71**	**331**	⇑*iP*	**Pn**	**06 04 26.4 -0.2**			
TESR	**Tescani**	**8.72**	**350**	⇑*iP*	**Pn**	**06 04 27.4 +0.8**			
TESR	**Tescani**	**8.72**	**350**	⇑*iP*	**Pn**	**06 04 27.4 +0.8**			
SUZ		**8.73**	**156**	P	**Pn**	**06 04 25.4 -1.5**			
	baz=156								
ASF	**Jabal al Asfar**	**8.76**	**129**	Pn	**Pn**	**06 04 27.1 -0.3**			
ASF				Sn	**Sn**	**06 06 03.9 -1.9**			
ASF	**Jabal al Asfar**	**8.76**	**129**	Pn	**Pn**	**06 04 27.1 -0.3**			
	comp=Z,2.8nm,0.3s,baz=297,slow=0.1,SNR=35								
ASF				Sn	**Sn**	**06 06 03.9 -1.9**			
	comp=Z,0.5nm,0.3s,baz=319,slow=20,SNR=1.8								
BUM	**Brajici-Budva**	**8.77**	**303**	⇓*iPn*	**Pn**	**06 04 29.4 +2.0**			
BUM				*e*Sn	**Sn**	**06 06 05.2 -0.7**			
BUM	**Brajici-Budva**	**8.77**	**303**	⇓*iPn*	**Pn**	**06 04 29.4 +2.0**			
BUM				*e*Sn	**Sn**	**06 06 05.2 -0.7**			
MDB	**Medias**	**8.84**	**339**	⇑*iP*	**Pn**	**06 04 29.8 +1.5**			
MDB	**Medias**	**8.84**	**339**	⇑*iP*	**Pn**	**06 04 29.8 +1.5**			
TRUS	**Trudelj**	**8.93**	**317**	⇑*iPn*	**Pn**	**06 04 29.3 -0.3**			
NKY	**Niksic**	**8.95**	**306**	⇑*iPn*	Pn	06 04 33.2 +3.3			
NKY				*e*Sn	**Sn**	**06 06 09.5 -0.8**			
NKY	**Niksic**	**8.95**	**306**	⇑*iPn*	Pn	06 04 33.2 +3.3			
NKY				*e*Sn	**Sn**	**06 06 09.5 -0.8**			
NKME	**Niksic**	**8.95**	**306**	⇓*iPn*	**Pn**	**06 04 32.8 +3.0**			
NKME				*e*Sn	**Sn**	**06 06 10.2 -0.1**			
NKME	**Niksic**	**8.95**	**306**	⇓*iPn*	**Pn**	**06 04 32.8 +3.0**			
NKME				*e*Sn	**Sn**	**06 06 10.2 -0.1**			
PLE	**Pljevlja**	**8.97**	**310**	⇓*iPn*	**Pn**	**06 04 32.5 +2.3**			
PLE				*e*Sn	**Sn**	**06 06 09.7 -1.3**			
PLE	**Pljevlja**	**8.97**	**310**	⇓*iPn*	**Pn**	**06 04 32.5 +2.3**			
PLE				*e*Sn	**Sn**	**06 06 09.7 -1.3**			
KIS	**Kishinev**	**9.05**	**360**	*eP*	Pn	06 04 35.0 +3.8			
KIS				*eS*	**Sn**	**06 06 16.0 +3.2**			
KIS				LRM	MLR	06 08 24.0			
	comp=Z,3μm,12.0s								
KIS	**Kishinev**	**9.05**	**360**	*eP*	Pn	06 04 35.0 +3.8			
KIS				*eS*	**Sn**	**06 06 16.0 +3.2**			
KIS				MLR	MLR				
	comp=N,5μm,10.0s								
KIS				MLR	MLR				
	comp=Z,3μm,10.0s								
KIS				MLR	MLR				
	comp=Z,3μm,12.0s								
HNKL	**Nakhl**	**9.06**	**150**	P	**Pn**	**06 04 29.3 -2.1**			
	baz=149								
DIVS	**Divibare**	**9.08**	**315**	⇑*iPn*	**Pn**	**06 04 32.7 +1.0**			
DEV	**Deva**	**9.08**	**333**	⇑*iP*	**Pn**	**06 04 33.0 +1.4**			
DEV	**Deva**	**9.08**	**333**	⇑*iP*	**Pn**	**06 04 33.0 +1.4**			
HCY	**Herceg Novi**	**9.10**	**303**	⇓*iPn*	**Pn**	**06 04 34.6 +2.7**			
HCY				*e*Sn	**Sn**	**06 06 13.3 -0.7**			
HCY	**Herceg Novi**	**9.10**	**303**	⇓*iPn*	**Pn**	**06 04 34.6 +2.7**			
HCY				*e*Sn	**Sn**	**06 06 13.3 -0.7**			
SWA2		**9.12**	**199**	P	**Pn**	**06 04 30.5 -1.6**			
	baz=200								
ZAF		**9.17**	**159**	P	**Pn**	**06 04 31.1 -1.8**			
	baz=158								
ZNM		**9.18**	**157**	P	**Pn**	**06 04 31.3 -1.7**			
	baz=157								
UPM	**Unac-Piva**	**9.20**	**308**	⇑*iPn*	**Pn**	**06 04 36.2 +2.8**			
UPM				*e*Sn	**Sn**	**06 06 15.8 -0.9**			
UPM	**Unac-Piva**	**9.20**	**308**	⇑*iPn*	**Pn**	**06 04 36.2 +2.8**			
UPM				*e*Sn	**Sn**	**06 06 15.8 -0.9**			
BBLS	**Lazići**	**9.27**	**313**	*e*Pn	**Pn**	**06 04 35.5 +1.2**			
BRY	**Bratogost**	**9.28**	**306**	⇑*iPn*	**Pn**	**06 04 37.2 +2.7**			
BRY				*e*Sn	**Sn**	**06 06 18.0 -0.6**			
BRY	**Bratogost**	**9.28**	**306**	⇑*iPn*	**Pn**	**06 04 37.2 +2.7**			
BRY				*e*Sn	**Sn**	**06 06 18.0 -0.6**			
BZS	**Buzias**	**9.37**	**327**	⇓*iP*	**Pn**	**06 04 35.0 -0.6**			
BZS	**Buzias**	**9.37**	**327**	⇓*iP*	**Pn**	**06 04 35.0 -0.6**			
ANN	**Anapa**	**9.42**	**41**	*eP*	Pn	06 04 40.4 +4.2			
ANN				*eS*	Sn	06 06 33.6 +12			
ANN				pmax	pmax				
	comp=Z,50nm,0.8s								
ANN				MLR	MLR				
	comp=Z,531nm,11.0s								
TIP	**Timpagrande**	**9.54**	**281**	*e*Pn	**Pn**	**06 04 39.6 +1.7**			
TIP	**Timpagrande**	**9.54**	**281**	*e*Pn	**Pn**	**06 04 39.6 +1.7**			
AWBH		**9.59**	**180**	P	**Pn**	**06 04 36.3 -2.3**			
	baz=179								
TEKS	**Tekeris**	**9.62**	**316**	⇓*iPn*	**Pn**	**06 04 39.6 +0.5**			
EIL	**Elat**	**9.69**	**147**	Pn	**Pn**	**06 04 38.4 -1.6**			
EIL				Sn	Sn	06 06 22.1 -6.5			
EIL	**Elat**	**9.69**	**147**	Pn	**Pn**	**06 04 38.4 -1.6**			
EIL				Sn	Sn	06 06 22.0 -6.5			
EIL	**Elat**	**9.69**	**147**	Pn	**Pn**	**06 04 38.4 -1.6**			
	comp=Z,6.2nm,0.3s,baz=324,slow=9.1,SNR=35								
EIL				Sn	Sn	06 06 22.1 -6.5			
	comp=Z,14nm,0.3s,baz=58,slow=20,SNR=5.7								
EIL				LR	LR	06 09 45.0			
	comp=Z,720nm,20.6s,baz=324,slow=46								
SIRR	**Siria**	**9.88**	**330**	⇑*iP*	**Pn**	**06 04 42.9 +0.4**			
SIRR	**Siria**	**9.88**	**330**	⇑*iP*	**Pn**	**06 04 42.9 +0.4**			
FGSL	**Fruska Gora**	**9.88**	**320**	⇑*iPn*	**Pn**	**06 04 42.9 +0.3**			
DRGR		**9.94**	**335**	⇑*iP*	**Pn**	**06 04 45.2 +1.8**			
DRGR		**9.94**	**335**	⇑*iP*	**Pn**	**06 04 45.2 +1.8**			
HBST	**Basata**	**9.99**	**149**	P	**Pn**	**06 04 42.7 -1.4**			
	baz=148								
SOC	**Sochi**	**10.00**	**52**	*eP*	Pn	06 04 37.3 -6.8			
SOC				MLR	MLR				
	comp=Z,653nm,11.0s								
BURAR	**Bucovina Array**	**10.03**	**346**	⇓*iP*	**Pn**	**06 04 46.1 +1.4**			
BURAR	**Bucovina Array**	**10.03**	**346**	⇓*iP*	**Pn**	**06 04 46.1 +1.4**			
BUR08	**Bucovina Ar. S**	**10.06**	**346**	*e*Pn	**Pn**	**06 04 45.7 +0.6**			
BUR08	**Bucovina Ar. S**	**10.06**	**346**	*e*Pn	**Pn**	**06 04 45.7 +0.6**			
CEL	**Celeste**	**10.20**	**276**	*e*Pn	**Pn**	**06 04 48.0 +1.0**			
CEL	**Celeste**	**10.20**	**276**	*e*Pn	**Pn**	**06 04 48.0 +1.0**			
HKAT	**Jabal Katrina**	**10.33**	**154**	P	**Pn**	**06 04 46.3 -2.7**			
	baz=153								
CUC	**Castrocucco**	**10.34**	**285**	*e*Pn	**Pn**	**06 04 51.0 +2.1**			
CUC	**Castrocucco**	**10.34**	**285**	*e*Pn	**Pn**	**06 04 51.0 +2.1**			
TR2		**10.37**	**155**	P	**Pn**	**06 04 47.0 -2.3**			
	baz=155								
HDHB	**Dhahab**	**10.38**	**151**	P	**Pn**	**06 04 47.8 -1.7**			
	baz=150								
BMR	**Baia Mare**	**10.49**	**340**	⇑*iP*	Pn	06 04 58.5 +7.7			
HFRF	**Wahat Farafira**	**10.77**	**182**	P	**Pn**	**06 04 52.4 -2.4**			
	baz=183								
TR1		**10.79**	**155**	P	**Pn**	**06 04 52.9 -2.3**			
	baz=154								
SHRM		**10.96**	**155**	P	**Pn**	**06 04 54.9 -2.6**			
	baz=154								
SHRM				AMP		06 07 00.0			
	comp=E,60μm,0.9s,logA/T=4.8,baz=154								
TRPA	**Tarpa**	**11.17**	**338**	⇑*iP*	**Pn**	**06 05 00.4 +0.2**			
TRPA	**Tarpa**	**11.17**	**338**	⇑*iP*	**Pn**	**06 05 00.4 +0.2**			
PKSM	**Moragy**	**11.20**	**321**	⇓*iP*	**Pn**	**06 05 01.2 +0.6**			
PKSM	**Moragy**	**11.20**	**321**	⇓*iP*	**Pn**	**06 05 01.2 +0.6**			
PKSM	**Moragy**	**11.20**	**321**	*e*Pn	**Pn**	**06 05 01.3 +0.6**			
HHRG	**Al Ghardaqah**	**11.41**	**158**	P	**Pn**	**06 05 02.2 -1.4**			
	baz=158								
PKS9	**Tamasi**	**11.64**	**321**	*e*Pn	**Pn**	**06 05 07.0 +0.3**			
UZH	**Uzhgorod**	**11.70**	**338**	*eP*	Pn	06 05 10.5 +3.2			
UZH				*eS*	**Sn**	**06 07 20.1 +2.6**			
UZH				MLR	MLR				
	comp=N,4μm,10.0s								
UZH				MLR	MLR				
	comp=E,3μm,10.0s								
UZH				MLR	MLR				
	comp=Z,5μm,10.0s								

AKH	**Akhalkalaki**	**11.82**	**68**	P	Pn	06 05 16.2 +7.0			
PSZ	**Piszkesteto**	**11.92**	**330**	*eP*	**Pn**	**06 05 12.7 +2.2**			
PSZ	**Piszkesteto**	**11.92**	**330**	⇑*iP*	**Pn**	**06 05 13.3 +2.7**			
PSZ	**Piszkesteto**	**11.92**	**330**	*e*Pn	**Pn**	**06 05 12.7 +2.2**			
PSZ	**Piszkesteto**	**11.92**	**330**	*e*Pn	**Pn**	**06 05 12.7 +2.2**			
PSZ	**Piszkesteto**	**11.92**	**330**	⇑*iP*	**Pn**	**06 05 13.3 +2.7**			
PSZ	**Piszkesteto**	**11.92**	**330**	*e*Pn	**Pn**	**06 05 13.4 +2.8**			
KOLS	**Kolonicke sedl**	**11.97**	**339**	*eP*	**Pn**	**06 05 12.5 +1.3**			
KOLS	**Kolonicke sedl**	**11.97**	**339**	*e*PN	**Pn**	**06 05 12.5 +1.3**			
KOLS				*e*		06 08 49.1			
KIV	**Kislovodsk**	**12.07**	**56**	Pn	Pn	06 05 19.0 +6.4			
	comp=Z,210nm,1.3s,SNR=7.1								
KIV	**Kislovodsk**	**12.07**	**56**	*eP*	**Pn**	**06 05 11.4 -1.2**			
KIV				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KIV				MLR	MLR				
	comp=Z,600nm,14.0s								
KIV	**Kislovodsk**	**12.07**	**56**	*e*Pn	P	06 05 19.3 -6.1			
KIV	**Kislovodsk**	**12.07**	**56**	*e*Pn	P	06 05 19.3 -6.1			
ONI	**Oni**	**12.10**	**63**	P	**Pn**	**06 05 15.8 +2.9**			
KBZ	**Khabaz**	**12.12**	**57**	P	Pn	06 05 17.3 +4.2			
KBZ				MLR	MLR				
	comp=Z,16nm,28.6s								
KBZ	**Khabaz**	**12.12**	**57**	Pn	Pn	06 05 17.3 +4.2			
KBZ	**Khabaz**	**12.12**	**57**	Pn	Pn	06 05 17.3 +4.2			
KBZ	**Khabaz**	**12.12**	**57**	Pn	Pn	06 05 17.3 +4.2			
	comp=Z,0.2nm,0.3s,baz=255,slow=9.2,SNR=11								
KBZ				LR	LR	06 10 28.0			
	comp=Z,16nm,28.6s,baz=244,slow=40								
KECS	**Kecovo**	**12.16**	**333**	*eP*	**Pn**	**06 05 15.1 +1.4**			
KECS	**Kecovo**	**12.16**	**333**	*e*PN	**Pn**	**06 05 15.1 +1.4**			
KECS				*e*		06 08 54.2			
CRVS	**Cervenica-Dubn**	**12.19**	**336**	*eP*	**Pn**	**06 05 16.2 +2.1**			
CRVS				MLR	MLR				
	comp=Z,3μm,13.2s								
CRVS	**Cervenica-Dubn**	**12.19**	**336**	*e*PN	**Pn**	**06 05 16.2 +2.1**			
NVLJ	**Novalja**	**12.41**	**307**	P	**Pn**	**06 05 18.1 +1.0**			
ZEI	**Tsey**	**12.47**	**62**	*eP*	Pn	06 05 23.9 +5.7			
ZEI				pmax	pmax				
	comp=Z,23nm,1.2s								
KWP	**Kalwaria Pacla**	**12.49**	**341**	*eP*	**Pn**	**06 05 20.8 +2.6**			
KWP	**Kalwaria Pacla**	**12.49**	**341**	*eP*	**Pn**	**06 05 20.6 +2.3**			
KWP	**Kalwaria Pacla**	**12.49**	**341**	*e*Pn	**Pn**	**06 05 20.8 +2.6**			
KWP	**Kalwaria Pacla**	**12.49**	**341**	*e*Pn	**Pn**	**06 05 20.8 +2.6**			
GNI	**Garni**	**12.57**	**75**	*e*Pn	P	06 05 26.1 -5.0			
GNI	**Garni**	**12.57**	**75**	*e*Pn	P	06 05 26.1 -5.0			
GNI	**Garni**	**12.57**	**75**	Pn	Pn	06 05 25.4 +5.9			
	comp=Z,1.2nm,0.3s,baz=333,slow=2.3,SNR=5.2								
GNI				LR	LR	06 09 50.0			
	comp=Z,462nm,20.0s,baz=282,slow=36								
BOJS	**Bojanci**	**12.64**	**311**	*e*Pn	**Pn**	**06 05 22.9 +2.6**			
BOJS	**Bojanci**	**12.64**	**311**	*e*Pn	**Pn**	**06 05 22.9 +2.6**			
CRES	**Cresnjev**	**12.69**	**313**	*e*Pn	**Pn**	**06 05 22.7 +1.7**			
CRES	**Cresnjev**	**12.69**	**313**	Pn	**Pn**	**06 05 22.7 +1.7**			
AK02	**Malin Array Si**	**12.72**	**1**	*e*Pn	**Pn**	**06 05 20.7 -0.6**			
AK02	**Malin Array Si**	**12.72**	**1**	*e*Pn	**Pn**	**06 05 20.7 -0.6**			
AK01	**Malin Array Si**	**12.75**	**1**	*e*Pn	**Pn**	**06 05 22.8 +1.0**			
AK01	**Malin Array Si**	**12.75**	**1**	*e*Pn	**Pn**	**06 05 22.8 +1.0**			
KIEV	**Kiev**	**12.76**	**1**	*e*P	**Pn**	**06 05 23.3 +1.4**			
KIEV	**Kiev**	**12.76**	**1**	*e*Pn	**Pn**	**06 05 23.2 +1.4**			
KIEV	**Kiev**	**12.76**	**1**	*e*Pn	**Pn**	**06 05 23.2 +1.4**			
AKASG	**Malin Array Be**	**12.76**	**1**	P	**Pn**	**06 05 21.2 -0.7**			
AKASG						06 07 39.2			
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG				MLR	MLR				
	comp=Z,1μm,19.1s								
AKASG	**Malin Array Be**	**12.76**	**1**	Pn	**Pn**	**06 05 21.2 -0.7**			
AKASG				Sn	**Sn**	**06 07 39.2 -4.4**			
AKASG				PcP	**PcP**	**06 10 57.1 -0.5**			
AKASG	**Malin Array Be**	**12.76**	**1**	Pn	**Pn**	**06 05 21.2 -0.7**			
AKASG				Sn	**Sn**	**06 07 39.2 -4.4**			
AKASG	**Malin Array Be**	**12.76**	**1**	Pn	**Pn**	**06 05 21.2 -0.7**			
	comp=Z,1.1nm,0.3s,baz=184,slow=12,SNR=18								
AKASG				Sn	**Sn**	**06 07 39.2 -4.4**			
	comp=Z,0.4nm,0.3s,baz=182,slow=26,SNR=3.6								
AKASG				PcP	**PcP**	**06 10 57.1 -0.5**			
	comp=Z,0.5nm,0.3s,baz=174,slow=0.9,SNR=4.9								
AKASG				LR	LR	06 11 00.6			
	comp=Z,1μm,19.1s,baz=180,slow=41								
AKBB	**Malin Array Si**	**12.76**	**1**	*e*P	Pn	06 05 25.1 +3.2			
AKBB	**Malin Array Si**	**12.76**	**1**	*e*Pn	Pn	06 05 25.1 +3.2			
AKBB	**Malin Array Si**	**12.76**	**1**	*e*Pn	Pn	06 05 25.1 +3.2			
GUDG	**Gudauri**	**12.79**	**64**	P	**P**	**06 05 31.5 -2.1**			
GOF	**Gofitskoye**	**12.80**	**52**	*eP*	Pn	06 05 27.6 +5.1			
VISS	**Visnje**	**13.04**	**311**	*e*Pn	**Pn**	**06 05 28.4 +2.6**			
VISS	**Visnje**	**13.04**	**311**	*e*Pn	**Pn**	**06 05 28.4 +2.6**			
DSRG	**David-gareji**	**13.21**	**69**	P	**Pn**	**06 05 30.6 +2.4**			
IMRD	**Marand**	**13.27**	**81**	*eP*	**P**	**06 05 37.7 -1.2**			
IMRD	**Marand**	**13.27**	**81**	*eP*	**P**	**06 05 37.7 -1.2**			
SOKA	**Soboth**	**13.42**	**315**	⇓*iP*	**Pn**	**06 05 33.0 +2.0**			
	comp=Z,11nm,1.0s								
SOKA	**Soboth**	**13.42**	**315**	P	**Pn**	**06 05 33.0 +2.0**			
	comp=Z,11nm,1.0s								
ARSA	**Arzberg**	**13.50**	**318**	⇑*iP*	**Pn**	**06 05 33.8 +1.8**			
	comp=Z,21nm,1.1s,SNR=8.9								
ARSA	**Arzberg**	**13.50**	**318**	P	**Pn**	**06 05 33.8 +1.8**			
	comp=Z,21nm,1.1s,SNR=8.9								
IAZR	**Azarshahr**	**13.57**	**86**	*eP*	P	06 05 47.5 +5.2			
IAZR	**Azarshahr**	**13.57**	**86**	*eP*	P	06 05 47.5 +5.2			
OBKA	**Obir**	**13.60**	**314**	⇑*iP*	**Pn**	**06 05 35.7 +2.2**			
	comp=Z,6.5nm,0.6s								
OBKA	**Obir**	**13.60**	**314**	P	**Pn**	**06 05 35.7 +2.2**			
	comp=Z,6.5nm,0.6s								
VOY	**Vojsko**	**13.73**	**311**	*e*Pn	**Pn**	**06 05 36.7 +1.5**			
VOY				*e*		06 05 44.8			
VOY	**Vojsko**	**13.73**	**311**	*e*Pn	**Pn**	**06 05 36.7 +1.5**			
CONA	**Conrad Observa**	**13.76**	**321**	*i* P	**Pn**	**06 05 36.8 +1.1**			
	comp=Z,20nm,1.2s,SNR=5.6								
CONA	**Conrad Observa**	**13.76**	**321**	P	**Pn**	**06 05 36.8 +1.1**			
	comp=Z,20nm,1.2s,SNR=5.6								
OKC	**Ostrava-Krasne**	**14.15**	**331**	*eP*	**Pn**	**06 05 42.2 +1.3**			
OKC				MLR	MLR				
	comp=Z,2μm,7.6s								
OKC	**Ostrava-Krasne**	**14.15**	**331**	*eP*	**Pn**	**06 05 42.2 +1.3**			
OKC				*ex*	x	06 05 50.4			
OKC				AMS	AMS	06 12 30.0			
	comp=Z,2μm,7.6s								
OKC	**Ostrava-Krasne**	**14.15**	**331**	P	**Pn**	**06 05 42.2 +1.3**			
MYKA	**Terra Mystica**	**14.19**	**313**	⇓*iP*	**Pn**	**06 05 44.1 +2.6**			
	comp=Z,16nm,0.7s								
MYKA	**Terra Mystica**	**14.19**	**313**	P	**Pn**	**06 05 44.1 +2.6**			
	comp=Z,16nm,0.7s								
IBST	**Bostanabad**	**14.28**	**85**	*eP*	**P**	**06 05 49.8 -0.4**			
IBST	**Bostanabad**	**14.28**	**85**	*eP*	**P**	**06 05 49.8 -0.4**			
IHRS	**Heris**	**14.34**	**83**	*eP*	**P**	**06 05 50.7 -0.2**			
IHRS	**Heris**	**14.34**	**83**	*eP*	**P**	**06 05 50.7 -0.2**			
MORC	**Moravsky Berou**	**14.34**	**329**	*eP*	**Pn**	**06 05 44.7 +1.1**			
MORC				pmax	pmax				
	comp=Z,53nm,1.8s								
MORC	**Moravsky Berou**	**14.34**	**329**	*e*Pn	**Pn**	**06 05 44.7 +1.1**			
	comp=Z,53nm,1.8s								
MORC	**Moravsky Berou**	**14.34**	**329**	*e*Pn	**Pn**	**06 05 44.7 +1.1**			
	comp=Z,53nm,1.8s								
VRAC	**Vranov**	**14.39**	**326**	Pn	**Pn**	**06 05 44.1 -0.1**			
VRAC	**Vranov**	**14.39**	**326**	*e*Pn	**Pn**	**06 05 44.6 +0.4**			
VRAC	**Vranov**	**14.39**	**326**	Pn	**Pn**	**06 05 44.1 -0.1**			
	comp=Z,0.4nm,0.3s,baz=105,slow=7.1,SNR=3.6								
VRAC				LR	LR	06 11 04.7			
	comp=Z,632nm,21.0s,baz=136,slow=37								
IDHR	**Dehrash**	**14.52**	**98**	*eP*	**P**	**06 05 51.3 -1.5**			
IDHR	**Dehrash**	**14.52**	**98**	*eP*	**P**	**06 05 51.3 -1.5**			
MOA	**Molln**	**14.54**	**318**	⇑*iP*	**Pn**	**06 05 47.7 +1.5**			
	comp=Z,40nm,1.3s,SNR=5.0								
KBA	**Koelnbreinsper**	**14.60**	**314**	⇓*iP*	**Pn**	**06 05 49.3 +2.1**			
	comp=Z,51nm,1.1s								
IGHG	**Ghaleghazi**	**14.78**	**99**	*eP*	**P**	**06 05 54.2 -1.5**			
IGHG	**Ghaleghazi**	**14.78**	**99**	*eP*	**P**	**06 05 54.2 -1.5**			
ISRB	**Sarab**	**14.88**	**85**	*eP*	**P**	**06 05 56.1 -0.7**			
ISRB	**Sarab**	**14.88**	**85**	*eP*	**P**	**06 05 56.1 -0.7**			
TREC	**Trest**	**14.88**	**324**	AMS	AMS	06 12 20.0			
	comp=Z,2μm,11.2s								
KRLC	**Kraliky**	**14.89**	**328**	*eP*	**Pn**	**06 05 52.2 +1.2**			
KRLC	**Kraliky**	**14.89**	**328**	*eP*	**Pn**	**06 05 52.2 +1.2**			
ILIN	**Lien**	**14.90**	**96**	*eP*	**P**	**06 05 55.8 -1.4**			
ILIN	**Lien**	**14.90**	**96**	*eP*	**P**	**06 05 55.8 -1.4**			
ABTA	**Abfaltersbach**	**14.91**	**311**	⇑*iP*	**Pn**	**06 05 53.0 +1.5**			
	comp=Z,12nm,0.7s								
VORD	**Divnogorie**	**14.99**	**26**	*eP*	**Pn**	**06 05 53.8 +1.5**			
VORD				pmax	pmax				
	comp=Z,10.0nm,0.8s								

VORD				pmax	pmax				
	comp=N,50nm,0.7s								
VORD				pmax	pmax				
	comp=E,70nm,0.7s								
BEL	**Belsk**	**15.01**	**340**	*eP*	**P**	**06 05 59.3 +1.4**			
BEL	**Belsk**	**15.01**	**340**	*eP*	**P**	**06 05 59.2 +1.4**			
MAK	**Makhachkala**	**15.07**	**65**	*eP*	**Pn**	**06 05 54.4 +1.0**			
MAK				MLR	MLR				
	comp=Z,984nm,12.0s								
VSR	**Storozhevoye**	**15.16**	**26**	*eP*	**Pn**	**06 05 55.8 +1.3**			
VSR				pmax	pmax				
	comp=Z,30nm,1.1s								
VSR				pmax	pmax				
	comp=N,50nm,0.9s								
VSR				pmax	pmax				
	comp=E,50nm,2.2s								
DPC	**Dobruska-Polom**	**15.29**	**328**	*eP*	**Pn**	**06 05 56.7 +0.4**			
DPC	**Dobruska-Polom**	**15.29**	**328**	*eP*	**Pn**	**06 05 56.6 +0.3**			
DPC				AMS	AMS	06 13 20.0			
DPC	**Dobruska-Polom**	**15.29**	**328**	*e*Pn	**Pn**	**06 05 56.7 +0.4**			
DPC	**Dobruska-Polom**	**15.29**	**328**	*e*Pn	**Pn**	**06 05 56.7 +0.4**			
GEC2	**GERESS Array S**	**15.45**	**320**	*eP*	**Pn**	**06 05 59.2 +0.6**			
GEC2				pmax	pmax				
	comp=Z,10μm,1.0s								
GEC2	**GERESS Array S**	**15.45**	**320**	*e*Pn	**Pn**	**06 05 59.1 +0.6**			
	comp=Z,12μm,1.0s								
GEC2				*eP*	**P**	**06 06 04.9 +1.9**			
GEC2	**GERESS Array S**	**15.45**	**320**	*e*Pn	**Pn**	**06 05 59.2 +0.6**			
	comp=Z,10μm,1.0s								
GERES	**GERESS Array B**	**15.45**	**320**	Pn	**Pn**	**06 05 59.1 +0.5**			
GERES				PcP	**PcP**	**06 11 01.5 +0.1**			
GERES	**GERESS Array B**	**15.45**	**

NKC MLR MLR
comp=Z,2µm,11.8s
NKC Novy Kostel 16.97 322 *e*P **P 06 06 20.6 +0.9**
NKC AMS AMS 06 13 30.0
comp=Z,2µm,11.8s
NKC Novy Kostel 16.97 322 P **P 06 06 20.6 +0.9**
NACGM Naroch 17.02 356 *e* **Pn 06 06 19.0 +0.5**
IGZV Ghazvin 17.12 89 *e*P **P 06 06 23.2 +1.5**
IGZV Ghazvin 17.12 89 *e*P **P 06 06 23.2 +1.5**
SBF Sospel 17.20 297 *e*P **Pn 06 06 21.5 +0.6**
comp=Z,129nm,1.2s
SBF Sospel 17.20 297 *e*P **Pn 06 06 21.5 +0.6**
SBF pmax pmax
comp=Z,129nm,1.2s
SBF Sospel 17.20 297 *e*P **Pn 06 06 21.5 +0.6**
comp=Z,129nm,1.2s
SBF Sospel 17.20 297 *e*P **Pn 06 06 21.5 +0.6**
comp=Z,64nm,1.2s
GRF Grafenberg Arr 17.26 319 *e*P **P 06 06 24.2 +1.3**
comp=Z,68nm,1.5s
GRF *e*pP **pP 06 06 28.2 +0.9**
GRF *e*L L 06 13 07.5
comp=Z,772nm,19.6s
RST Umm Al-Ruwaisa 17.28 114 *e*P **Pn 06 06 21.9 +0.1**
RST AMb AMB 06 06 32.5
comp=Z,756nm,0.9s
RST Umm Al-Ruwaisa 17.28 114 *e*P **Pn 06 06 21.9 +0.1**
comp=Z,756nm,0.9s
CLL Collm 17.43 325⇓ *i*P **Pn 06 06 23.9 +0.4**
CLL *e*S **S 06 09 44.0 -1.3**
CLL pmax pmax
comp=Z,17nm,1.3s
CLL MLR MLR
comp=Z,1µm,19.9s
CLL Collm 17.43 325⇓ *i*P **Pn 06 06 23.9 +0.4**
comp=Z,17nm,1.3s
CLL ⇓ *i* 06 06 26.2
comp=Z,105nm,1.8s
CLL *e*S **S 06 09 44.0 -1.3**
CLL LmH 06 12 00.0
comp=N,2µm,18.8s
CLL LmH 06 12 00.0
comp=E,2µm,18.6s
CLL LmV 06 14 00.0
comp=Z,1µm,19.9s
CLL Lmax 06 14 00.0
IMHD Mahdasht 17.63 91 *e*P **P 06 06 28.9 +1.7**
IMHD Mahdasht 17.63 91 *e*P **P 06 06 28.9 +1.7**
IR5 Iran Long-Peri 17.68 92 *e*P **P 06 06 28.7 +0.9**
IR5 Iran Long-Peri 17.68 92 *e*P **P 06 06 28.7 +0.9**
FRF La Foret Royal 17.70 295 *e*P **Pn 06 06 25.6 -1.4**
comp=Z,62nm,1.0s
FRF La Foret Royal 17.70 295 *e*P **Pn 06 06 25.6 -1.4**
FRF pmax pmax
comp=Z,63nm,1.0s
FRF La Foret Royal 17.70 295 *e*P **Pn 06 06 25.6 -1.4**
comp=Z,62nm,1.0s
FRF La Foret Royal 17.70 295 *e*P **Pn 06 06 25.6 -1.4**
comp=Z,31nm,1.0s
LMR La Mourre 17.76 295 *e*P **Pn 06 06 26.6 -1.1**
comp=Z,73nm,1.3s
LMR La Mourre 17.76 295 *e*P **Pn 06 06 26.6 -1.1**
LMR pmax pmax
comp=Z,73nm,1.3s
LMR La Mourre 17.76 295 *e*P **Pn 06 06 26.6 -1.1**
comp=Z,73nm,1.3s
LMR La Mourre 17.76 295 *e*P **Pn 06 06 26.6 -1.1**
comp=Z,36nm,1.3s
UMR Umm Al-Rimmam 17.77 112 *e*P **P 06 06 28.5 -0.2**
UMR AMb AMB 06 06 32.8
comp=Z,318nm,1.1s
UMR Umm Al-Rimmam 17.77 112 *e*P **P 06 06 28.5 -0.2**
comp=Z,318nm,1.1s
SPAK Spaichingen-Ko 17.78 311 *e*P **P 06 06 29.5 +0.7**
MBDF Montbardon 17.87 299 *e*P **Pn 06 06 29.6 +0.3**
comp=Z,119nm,1.1s
MBDF Montbardon 17.87 299 *e*P **Pn 06 06 29.6 +0.3**
MBDF pmax pmax
comp=Z,119nm,1.1s
MBDF Montbardon 17.87 299 *e*P **Pn 06 06 29.6 +0.3**
comp=Z,119nm,1.1s
MBDF Montbardon 17.87 299 *e*P **Pn 06 06 29.6 +0.3**
comp=Z,60nm,1.1s
IR3 Iran Long-Peri 17.96 91 *e*P **P 06 06 32.9 +2.1**
IR3 Iran Long-Peri 17.96 91 *e*P **P 06 06 32.9 +2.1**
OBN Obninsk 17.97 15 *e*P **Pn 06 06 29.9 -0.2**
OBN *e*S **Sn 06 09 46.2 -3.8**
OBN pmax pmax
comp=Z,23nm,0.8s
OBN MLR MLR
comp=Z,800nm,17.0s
RDF Al-Radifah 18.00 114 *e*P **P 06 06 31.2 0.0**
RDF AMb AMB 06 06 36.4
comp=Z,162nm,1.4s
RDF Al-Radifah 18.00 114 *e*P **P 06 06 31.2 0.0**
comp=Z,162nm,1.4s
SENIN Lac Senin/Sane 18.01 305 *e*P **P 06 06 33.0 +1.6**
comp=Z,196nm,1.9s
SENIN Lac Senin/Sane 18.01 305 *e*P **P 06 06 33.0 +1.6**
comp=Z,196nm,1.9s
BNI Bardonecchia 18.02 300 *e*P **P 06 06 33.6 +2.1**
BNI pmax pmax
comp=Z,89nm,1.3s
BNI Bardonecchia 18.02 300 *e*P **P 06 06 33.6 +2.1**
comp=Z,89nm,1.3s
BNI Bardonecchia 18.02 300 *e*P **P 06 06 33.6 +2.1**
comp=Z,89nm,1.3s
LPG La Plagne 18.09 302 *e*P **Pn 06 06 32.6 +0.5**
comp=Z,95nm,1.0s
LPG La Plagne 18.09 302 *e*P **Pn 06 06 32.6 +0.5**
LPG pmax pmax
comp=Z,95nm,1.0s
LPG La Plagne 18.09 302 *e*P **Pn 06 06 32.6 +0.5**
comp=Z,95nm,1.0s
LPG La Plagne 18.09 302 *e*P **Pn 06 06 32.6 +0.5**
comp=Z,47nm,1.0s
LPL La Plagne 18.11 302 *e*P **P 06 06 33.5 +0.9**
LPL La Plagne 18.11 302 *e*P **P 06 06 33.5 +0.9**
LPL La Plagne 18.11 302 *e*P **P 06 06 33.5 +0.9**
LPL La Plagne 18.11 302 *e*P **P 06 06 33.5 +0.9**
FELD Feldberg im Sc 18.15 310⇑ *e*P **P 06 06 34.0 +1.1**
FELD Feldberg im Sc 18.15 310⇑ *e*P **P 06 06 34.0 +1.1**
BFO Black Forest 18.16 311 *i*P **P 06 06 35.1 +2.2**
BFO Black Forest 18.16 311 *e*P **P 06 06 34.9 +2.0**
comp=Z,127nm,1.5s
BFO Black Forest 18.16 311 P **P 06 06 35.9 +3.0**
comp=Z,261nm,0.9s,SNR=6.5
BFO Black Forest 18.16 311 *e*P **P 06 06 34.9 +2.0**
comp=Z,127nm,1.5s
BBS Basel-Blauen 18.29 308 *e*P **P 06 06 35.8 +1.5**
LIBD Limburg 18.51 310 *e*P **Pn 06 06 40.2 +3.3**
TOD Tromm 18.51 315⇑ *e*P **Pn 06 06 38.9 +2.0**
ORIF Oris-en-Rattie 18.53 299 *e*P **P 06 06 37.4 +0.3**
comp=Z,98nm,1.2s
ORIF *e*R
comp=Z,749nm,19.0s
ORIF Oris-en-Rattie 18.53 299 *e*P **P 06 06 37.4 +0.3**
ORIF pmax pmax
comp=Z,98nm,1.3s
ORIF Oris-en-Rattie 18.53 299 *e*P **P 06 06 37.4 +0.3**
comp=Z,98nm,1.3s
ORIF Oris-en-Rattie 18.53 299 *e*P **P 06 06 37.4 +0.3**
comp=Z,49nm,1.2s
SMRF Simiane la Rot 18.54 296 *e*P **Pn 06 06 38.1 +0.7**
comp=Z,50nm,1.1s
SMRF Simiane la Rot 18.54 296 *e*P **Pn 06 06 38.1 +0.7**
comp=Z,50nm,1.1s
SMRF Simiane la Rot 18.54 296 *e*P **Pn 06 06 38.1 +0.7**
comp=Z,25nm,1.1s
LOMF Lomont 18.67 307⇑ *e*P **Pn 06 06 40.6 +1.7**
LOMF Lomont 18.67 307⇑ *e*P **Pn 06 06 40.6 +1.7**
MOF Molkenrain 18.67 309⇑ *e*P **Pn 06 06 43.0 +4.0**
IDMV Damavand 18.73 90 *e*P **Pn 06 06 41.4 +1.4**
IDMV Damavand 18.73 90 *e*P **Pn 06 06 41.4 +1.4**
MOS Moscow 18.77 16 *e*P **P 06 06 39.1 -0.3**
MOS pmax pmax
comp=Z,104nm,1.8s
MOS pmax pmax
comp=Z,300nm,2.2s
MOS MLR MLR
comp=Z,600nm,16.0s
LANF Langenberg 18.77 313⇑ *e*P **Pn 06 06 41.7 +1.6**
LANF Langenberg 18.77 313⇑ *e*P **Pn 06 06 41.7 +1.6**
KTD Kalmit 18.77 314⇑ *e*P **Pn 06 06 41.8 +1.7**
ECH Echery 18.81 310⇑ *e*P **Pn 06 06 43.1 +2.5**
ECH Echery 18.81 310 *e*P **Pn 06 06 42.6 +2.0**

ECH pmax pmax
comp=Z,58nm,1.1s
ECH Echery 18.81 310 *e*P **Pn 06 06 42.6 +2.0**
comp=Z,58nm,1.1s
ECH Echery 18.81 310 *e*P **Pn 06 06 42.6 +2.0**
comp=Z,58nm,1.1s
CDF Champ du Feu 18.82 311 *e*P **Pn 06 06 41.6 +0.8**
comp=Z,109nm,1.0s
CDF Champ du Feu 18.82 311 *e*P **Pn 06 06 41.6 +0.8**
CDF pmax pmax
comp=Z,109nm,1.0s
CDF Champ du Feu 18.82 311 *e*P **Pn 06 06 41.6 +0.8**
comp=Z,109nm,1.0s
CDF Champ du Feu 18.82 311 *e*P **Pn 06 06 41.6 +0.8**
comp=Z,55nm,1.0s
HINF Hinteralfeld 18.83 309 *e*P **Pn 06 06 41.7 +0.8**
comp=Z,41nm,1.0s
HINF Hinteralfeld 18.83 309 *e*P **Pn 06 06 41.7 +0.8**
HINF pmax pmax
comp=Z,41nm,1.0s
HINF Hinteralfeld 18.83 309 *e*P **Pn 06 06 41.7 +0.8**
comp=Z,41nm,1.0s
HINF Hinteralfeld 18.83 309 *e*P **Pn 06 06 41.7 +0.8**
comp=Z,20nm,1.0s
CABF La Chapelle 18.88 305 *e*P **Pn 06 06 41.9 +0.4**
comp=Z,109nm,1.0s
CABF La Chapelle 18.88 305 *e*P **Pn 06 06 41.9 +0.4**
CABF pmax pmax
comp=Z,109nm,1.0s
CABF La Chapelle 18.88 305 *e*P **Pn 06 06 41.9 +0.4**
comp=Z,109nm,1.0s
CABF La Chapelle 18.88 305 *e*P **Pn 06 06 41.9 +0.4**
comp=Z,54nm,1.0s
IKLH Kolahrood 19.04 97 *e*P **Pn 06 06 44.5 +0.8**
IKLH Kolahrood 19.04 97 *e*P **Pn 06 06 44.5 +0.8**
HAU Haudompre 19.22 309 *e*P **Pn 06 06 45.4 -0.1**
comp=Z,138nm,0.9s
HAU *e*R
comp=Z,620nm,17.5s
HAU Haudompre 19.22 309 *e*P **Pn 06 06 45.4 -0.1**
HAU pmax pmax
comp=Z,138nm,0.9s
HAU Haudompre 19.22 309 *e*P **Pn 06 06 45.4 -0.1**
comp=Z,138nm,0.9s
HAU Haudompre 19.22 309 *e*P **Pn 06 06 45.4 -0.1**
comp=Z,69nm,0.9s
ISFB Sefidab 19.23 94 *e*P **Pn 06 06 46.0 +0.2**
ISFB Sefidab 19.23 94 *e*P **Pn 06 06 46.0 +0.2**
VIVF Saint-Julien-l 19.36 299 *e*P **P 06 06 45.4 -0.6**
comp=Z,33nm,1.0s
VIVF Saint-Julien-l 19.36 299 *e*P **P 06 06 45.4 -0.6**
VIVF pmax pmax
comp=Z,33nm,1.0s
VIVF Saint-Julien-l 19.36 299 *e*P **P 06 06 45.4 -0.6**
comp=Z,33nm,1.0s
VIVF Saint-Julien-l 19.36 299 *e*P **P 06 06 45.4 -0.6**
comp=Z,16nm,1.0s
ABH Alteburg 19.36 315 *e*P **Pn 06 06 47.6 +0.5**
ILAS Lasjerd 19.51 90 *e*P **Pn 06 06 49.9 +0.5**
ILAS Lasjerd 19.51 90 *e*P **Pn 06 06 49.9 +0.5**
THEF They Montfort 19.53 309⇑ *e*P **Pn 06 06 49.9 +0.7**
THEF They Montfort 19.53 309⇑ *e*P **Pn 06 06 49.9 +0.7**
SSB Saint Sauveur 19.54 300 *e*P **Pn 06 06 49.9 +0.5**
SSB pmax pmax
comp=Z,17nm,0.9s
SSB Saint Sauveur 19.54 300 *e*P **Pn 06 06 49.9 +0.5**
comp=Z,17nm,0.9s
SSB Saint Sauveur 19.54 300 *e*P **Pn 06 06 49.9 +0.5**
comp=Z,17nm,0.9s
RUP Ruppelstein 19.54 314⇑ *e*P **Pn 06 06 49.8 +0.4**
BSD Bornholm Skovb 19.60 336 *i*P **P 06 06 49.2 +0.6**
BSD pmax pmax
comp=Z,64nm,0.9s
BSD Bornholm Skovb 19.60 336 *i*P **P 06 06 49.2 +0.6**
comp=Z,64nm,0.8s
ISHM Shahmirzad 19.67 89 *e*P **Pn 06 06 51.5 +0.2**
ISHM Shahmirzad 19.67 89 *e*P **Pn 06 06 51.5 +0.2**
IGAR Gharneh 19.74 99 *e*P **Pn 06 06 52.5 +0.4**
LASF Ste Croix 19.78 296 *e*P **P 06 06 51.4 +0.7**
comp=Z,135nm,1.2s
LASF Ste Croix 19.78 296 *e*P **P 06 06 51.4 +0.7**
comp=Z,135nm,1.2s
LASF Ste Croix 19.78 296 *e*P **P 06 06 51.4 +0.7**
comp=Z,68nm,1.2s
IZEF Zefreh 19.78 98 *e*P **Pn 06 06 52.1 -0.5**
IZEF Zefreh 19.78 98 *e*P **Pn 06 06 52.1 -0.5**
PAGF Fort de Pagny 19.82 310 *e*P **Pn 06 06 52.2 -0.5**
PAGF Fort de Pagny 19.82 310 *e*P **Pn 06 06 52.2 -0.5**
PAGF Fort de Pagny 19.82 310 *e*P **Pn 06 06 52.2 -0.5**
IKIA Kiasar 19.89 87 *e*P **Pn 06 06 53.4 -0.5**
IKIA Kiasar 19.89 87 *e*P **Pn 06 06 53.4 -0.5**
WLF Walferdange 20.05 313 P Pn 06 06 54.9 -0.4
comp=Z,60nm,1.6s
WLF Walferdange 20.05 313 *e*P Pn 06 06 55.2 -0.1
WLF pmax pmax
comp=Z,58nm,0.8s
WLF Walferdange 20.05 313 *e*P Pn 06 06 55.2 -0.1
comp=Z,58nm,0.8s
WLF Walferdange 20.05 313 P Pn 06 06 54.9 -0.4
comp=Z,60nm,1.6s
SFTF Sexfontaines 20.11 308 *e*P Pn 06 06 55.5 -0.6
comp=Z,240nm,1.2s
SFTF Sexfontaines 20.11 308 *e*P Pn 06 06 55.5 -0.6
comp=Z,240nm,1.2s
SFTF Sexfontaines 20.11 308 *e*P Pn 06 06 55.5 -0.6
comp=Z,120nm,1.2s
MEZF Maizieres J'vi 20.21 309 *e*P **P 06 06 55.8 +0.5**
comp=Z,110nm,1.1s
MEZF Maizieres J'vi 20.21 309 *e*P **P 06 06 55.8 +0.5**
comp=Z,110nm,1.1s
MEZF Maizieres J'vi 20.21 309 *e*P **P 06 06 55.8 +0.5**
comp=Z,55nm,1.1s
IANJ Anjilo 20.25 89 *e*P **P 06 06 56.5 +0.4**
IANJ Anjilo 20.25 89 *e*P **P 06 06 56.5 +0.4**
RAYN Ar Rayn 20.25 130 Pn Pn 06 06 59.5 +1.6
comp=Z,301nm,0.8s,SNR=9.3
PLDF La Plantade 20.33 301 *e*P Pn 06 06 59.3 +0.5
PLDF La Plantade 20.33 301 *e*P Pn 06 06 59.3 +0.5
SMF Signal de Mont 20.36 303 *e*P **P 06 06 57.5 +0.5**
comp=Z,103nm,0.7s
SMF Signal de Mont 20.36 303 *e*P **P 06 06 57.5 +0.5**
SMF pmax pmax
comp=Z,103nm,0.7s
SMF Signal de Mont 20.36 303 *e*P **P 06 06 57.5 +0.5**
comp=Z,103nm,0.7s
SMF Signal de Mont 20.36 303 *e*P **P 06 06 57.5 +0.5**
comp=Z,51nm,0.7s
LBL Lubilhac 20.42 299 *e*P Pn 06 07 03.0 +3.1
LOR Lormes 20.54 305 *e*P **P 06 06 59.3 +0.4**
comp=Z,185nm,1.3s
LOR *e*R
comp=Z,522nm,19.0s
LOR Lormes 20.54 305 *e*P **P 06 06 59.3 +0.4**
comp=Z,185nm,1.3s
LOR Lormes 20.54 305 *e*P **P 06 06 59.3 +0.4**
comp=Z,92nm,1.3s
MEM Membach 20.58 315 P Pn 06 07 00.7 -0.8
comp=Z,41nm,1.4s
MEM Membach 20.58 315 *e*P Pn 06 07 01.2 -0.3
MEM pmax pmax
comp=Z,71nm,1.1s
MEM Membach 20.58 315 *e*P Pn 06 07 01.2 -0.3
comp=Z,71nm,1.1s
MEM Membach 20.58 315 P **P 06 07 00.6 +1.4**
comp=Z,41nm,1.4s
VSU Vasula 20.58 357 *e*P **P 06 07 00.0 +0.8**
VSU pmax pmax
comp=Z,88nm,0.8s
VSU MLR MLR
comp=Z,2µm,17.0s
AGO Saint Agoulin 20.68 301 *e*P Pn 06 07 02.6 -0.3
AGO Saint Agoulin 20.68 301 *e*P Pn 06 07 02.6 -0.3
HGN Heimansgroeve 20.69 316 *e*P Pn 06 07 02.1 -0.7
comp=Z,90nm,1.2s
PYM Petit Puy Mans 20.70 300 *e*P Pn 06 07 06.0 +2.9
PYM Petit Puy Mans 20.70 300 *e*P Pn 06 07 06.0 +2.9
SSF Saint Saulge 20.70 304 *e*P **P 06 07 00.3 -0.4**
comp=Z,240nm,1.0s
SSF Saint Saulge 20.70 304 *e*P **P 06 07 00.3 -0.4**
SSF pmax pmax
comp=Z,240nm,1.0s
SSF Saint Saulge 20.70 304 *e*P **P 06 07 00.3 -0.4**
comp=Z,240nm,1.0s
SSF Saint Saulge 20.70 304 *e*P **P 06 07 00.3 -0.4**
comp=Z,120nm,1.0s
LLD Lille Linde 20.71 332 *e*P **P 06 07 01.2 +1.2**

LLD Lille Linde 20.71 332 *i*P **P 06 07 01.8 +1.2**
LLD Lille Linde 20.71 332 *e*P **P 06 07 01.8 +1.2**
AVF Avril sur Loir 20.73 303 *e*P **P 06 07 00.3 -0.6**
comp=Z,107nm,1.0s
AVF Avril sur Loir 20.73 303 *e*P **P 06 07 00.3 -0.6**
AVF pmax pmax
comp=Z,107nm,1.0s
AVF Avril sur Loir 20.73 303 *e*P **P 06 07 00.3 -0.6**
comp=Z,107nm,1.0s
AVF Avril sur Loir 20.73 303 *e*P **P 06 07 00.3 -0.6**
comp=Z,53nm,1.0s
WTSB Winterswijk 20.86 319 *e*P **P 06 07 03.3 +1.1**
comp=Z,53nm,0.9s
MTLF Montolieu 20.86 293 *e*P **P 06 07 02.7 +0.3**
comp=Z,240nm,1.7s
MTLF Montolieu 20.86 293 *e*P **P 06 07 02.7 +0.3**
MTLF pmax pmax
comp=Z,240nm,1.7s
MTLF Montolieu 20.86 293 *e*P **P 06 07 02.7 +0.3**
comp=Z,240nm,1.7s
MTLF Montolieu 20.86 293 *e*P **P 06 07 02.7 +0.3**
comp=Z,120nm,1.7s
BCLA Clavier 20.88 314 P Pn 06 07 04.6 -0.5
comp=Z,60nm,1.4s
BCLA Clavier 20.88 314 P Pn 06 07 04.6 -0.5
comp=Z,60nm,1.4s
COP Copenhagen 20.91 333 *i*P **P 06 07 03.4 +0.7**
COP pmax pmax
comp=Z,67nm,0.9s
COP Copenhagen 20.91 333 *i*P **P 06 07 03.4 +0.7**
comp=Z,67nm,0.9s
COP Copenhagen 20.91 333 *i*P **P 06 07 03.4 +0.7**
comp=Z,67nm,0.9s
BGF Bois d'Agland 21.00 302 *e*P **P 06 07 04.4 +0.5**
comp=Z,118nm,1.1s
BGF Bois d'Agland 21.00 302 *e*P **P 06 07 04.4 +0.5**
BGF pmax pmax
comp=Z,118nm,1.1s
BGF Bois d'Agland 21.00 302 *e*P **P 06 07 04.4 +0.5**
comp=Z,118nm,1.1s
BGF Bois d'Agland 21.00 302 *e*P **P 06 07 04.4 +0.5**
comp=Z,59nm,1.1s
GIVF Givet 21.01 313 *e*P **P 06 07 04.9 +1.0**
comp=Z,146nm,1.1s
GIVF Givet 21.01 313 *e*P **P 06 07 04.9 +1.0**
GIVF pmax pmax
comp=Z,146nm,1.1s
GIVF Givet 21.01 313 *e*P **P 06 07 04.9 +1.0**
comp=Z,146nm,1.1s
GIVF Givet 21.01 313 *e*P **P 06 07 04.9 +1.0**
comp=Z,73nm,1.1s
DOU Dourbes 21.14 313 P **P 06 07 06.1 +0.8**
comp=Z,33nm,1.2s
DOU AP **pP 06 07 09.1 -0.7**
DOU Dourbes 21.14 313 P **P 06 07 06.1 +0.8**
CAF Calviac 21.19 298 *e*P **P 06 07 08.2 +2.3**
comp=Z,64nm,1.0s
CAF Calviac 21.19 298 *e*P **P 06 07 08.2 +2.3**
CAF pmax pmax
comp=Z,64nm,1.0s
CAF Calviac 21.19 298 *e*P **P 06 07 08.2 +2.3**
comp=Z,64nm,1.0s
CAF Calviac 21.19 298 *e*P **P 06 07 08.2 +2.3**
comp=Z,32nm,1.0s
ISAD Sadrabad 21.22 99 *e*P **P 06 07 06.9 +0.3**
ISAD Sadrabad 21.22 99 *e*P **P 06 07 06.9 +0.3**
HYF Humbligny 21.33 304 *e*P **P 06 07 08.7 +1.3**
HYF Humbligny 21.33 304 *e*P **P 06 07 08.7 +1.3**
HYF Humbligny 21.33 304 *e*P **P 06 07 08.7 +1.3**
BAIF Baives 21.35 312 *e*P **P 06 07 08.2 +0.6**
comp=Z,126nm,0.9s
BAIF Baives 21.35 312 *e*P **P 06 07 08.2 +0.6**
BAIF pmax pmax
comp=Z,126nm,0.9s
BAIF Baives 21.35 312 *e*P **P 06 07 08.2 +0.6**
comp=Z,126nm,0.9s
BAIF Baives 21.35 312 *e*P **P 06 07 08.2 +0.6**
comp=Z,63nm,0.9s
TCF Toulx Ste Croi 21.36 301 *e*P **P 06 07 09.1 +1.3**
comp=Z,83nm,1.0s
TCF Toulx Ste Croi 21.36 301 *e*P **P 06 07 09.1 +1.3**
TCF pmax pmax
comp=Z,83nm,1.0s
TCF Toulx Ste Croi 21.36 301 *e*P **P 06 07 09.1 +1.3**
comp=Z,83nm,1.0s
TCF Toulx Ste Croi 21.36 301 *e*P **P 06 07 09.1 +1.3**
comp=Z,42nm,1.0s
SNF Seneffe 21.50 314 P **P 06 07 10.5 +1.3**
SNF AP **pP 06 07 12.9 -0.8**
SNF Seneffe 21.50 314 P **P 06 07 10.5 +1.3**
IPAR Pars 21.62 105 *e*P **P 06 07 12.1 +1.1**
IPAR Pars 21.62 105 *e*P **P 06 07 12.1 +1.1**
RJF Les Rejaudoux 21.64 299 *e*P **P 06 07 13.1 +2.4**
comp=Z,66nm,0.9s
RJF *e*R
comp=Z,960nm,17.5s
RJF Les Rejaudoux 21.64 299 *e*P **P 06 07 13.1 +2.4**
RJF pmax pmax
comp=Z,66nm,0.9s
RJF Les Rejaudoux 21.64 299 *e*P **P 06 07 13.1 +2.4**
comp=Z,66nm,0.9s
RJF Les Rejaudoux 21.64 299 *e*P **P 06 07 13.1 +2.4**
comp=Z,33nm,0.9s
ICHK Chekchek 21.65 97 *e*P **P 06 07 11.7 +0.4**
ICHK Chekchek 21.65 97 *e*P **P 06 07 11.7 +0.4**
PUL Pulkovo 21.87 2 *e*P **P 06 07 14.1 +1.1**
PUL pmax pmax
comp=Z,137nm,0.9s
PUL MLR MLR
comp=Z,807nm,15.0s
ISRV Sarvestan 21.89 106 *e*P **P 06 07 11.2 -2.8**
ISRV Sarvestan 21.89 106 *e*P **P 06 07 11.2 -2.8**
IMEH Mehriz 22.15 99 *e*P **P 06 07 16.9 +0.3**
IMEH Mehriz 22.15 99 *e*P **P 06 07 16.9 +0.3**
EPF Esparros 22.20 292 *e*P **P 06 07 18.8 +1.9**
comp=Z,119nm,1.6s
EPF Esparros 22.20 292 *e*P **P 06 07 18.8 +1.9**
EPF pmax pmax
comp=Z,119nm,1.6s
EPF Esparros 22.20 292 *e*P **P 06 07 18.8 +1.9**
comp=Z,119nm,1.6s
EPF Esparros 22.20 292 *e*P **P 06 07 18.8 +1.9**
comp=Z,60nm,1.6s
MENF Mencas 22.75 312 *e*P **P 06 07 23.9 +1.3**
MENF Mencas 22.75 312 *e*P **P 06 07 23.9 +1.3**
IBAF Bafgh 22.82 98 *e*P **P 06 07 24.8 +1.2**
IBAF Bafgh 22.82 98 *e*P **P 06 07 24.8 +1.2**
ETSF Etsaut 22.86 292 *e*P **P 06 07 25.0 +1.1**
comp=Z,68nm,1.2s
ETSF Etsaut 22.86 292 *e*P **P 06 07 25.0 +1.1**
ETSF pmax pmax
comp=Z,68nm,1.2s
ETSF Etsaut 22.86 292 *e*P **P 06 07 25.0 +1.1**
comp=Z,68nm,1.2s
ETSF Etsaut 22.86 292 *e*P **P 06 07 25.0 +1.1**
comp=Z,34nm,1.2s
MFF Saint Martin d 23.02 301 *e*P **P 06 07 26.2 +0.8**
comp=Z,271nm,1.2s
MFF Saint Martin d 23.02 301 *e*P **P 06 07 26.2 +0.8**
MFF pmax pmax
comp=Z,271nm,1.2s
MFF Saint Martin d 23.02 301 *e*P **P 06 07 26.2 +0.8**
comp=Z,271nm,1.2s
MFF Saint Martin d 23.02 301 *e*P **P 06 07 26.2 +0.8**
comp=Z,136nm,1.2s
SJPF Ste Jean 23.35 292 *e*P **P 06 07 30.0 +1.1**
comp=Z,102nm,1.2s
SJPF Ste Jean 23.35 292 *e*P **P 06 07 30.0 +1.1**
SJPF pmax pmax
comp=Z,102nm,1.2s
SJPF Ste Jean 23.35 292 *e*P **P 06 07 30.0 +1.1**
comp=Z,102nm,1.2s
SJPF Ste Jean 23.35 292 *e*P **P 06 07 30.0 +1.1**
comp=Z,51nm,1.2s
LDF La Druitiere 23.48 306 *e*P **P 06 07 29.4 -0.7**
comp=Z,180nm,1.1s
LDF La Druitiere 23.48 306 *e*P **P 06 07 29.4 -0.7**
LDF pmax pmax
comp=Z,180nm,1.1s
LDF La Druitiere 23.48 306 *e*P **P 06 07 29.4 -0.7**
comp=Z,180nm,1.1s
LDF La Druitiere 23.48 306 *e*P **P 06 07 29.4 -0.7**
comp=Z,90nm,1.1s
FIA1 FINESS Array S 23.59 357 *e*P **P 06 07 31.3 +0.3**
FIA1 FINESS Array S 23.59 357 *e*P **P 06 07 31.3 +0.3**
FINES FINESS Array B 23.59 357 P **P 06 07 31.4 +0.4**

FINES PcP **PcP** **06 11 15.4 -0.1**
FINES FINESS Array B 23.59 357 P **P** **06 07 31.4 +0.4**
FINES FINESS Array B 23.59 357 PcP **PcP** **06 11 15.4 -0.1**
FINES FINESS Array B 23.59 357 P **P** **06 07 31.4 +0.4**
comp=Z,19nm,0.7s,baz=158,slow=11,SNR=55
FINES PcP **PcP** **06 11 15.4 -0.1**
comp=Z,1.6nm,0.5s,baz=129,slow=2.8,SNR=9.5
FINES LR LR 06 17 10.5
comp=Z,655nm,19.9s,baz=172,slow=38
FLN La Foliniere 23.76 306 *e*P **P** **06 07 30.7 -2.1**
comp=Z,40nm,0.6s
FLN *e*R
comp=Z,475nm,18.0s
FLN La Foliniere 23.76 306 *e*P **P** **06 07 30.7 -2.1**
FLN pmax pmax
comp=Z,40nm,0.6s
FLN La Foliniere 23.76 306 *e*P **P** **06 07 30.7 -2.1**
comp=Z,40nm,0.6s
FLN La Foliniere 23.76 306 *e*P **P** **06 07 30.7 -2.1**
comp=Z,20nm,0.6s
GRR Gorron 23.90 305 *e*P **P** **06 07 33.7 -0.4**
comp=Z,165nm,0.8s
GRR Gorron 23.90 305 *e*P **P** **06 07 33.7 -0.4**
GRR pmax pmax
comp=Z,165nm,0.8s
GRR Gorron 23.90 305 *e*P **P** **06 07 33.7 -0.4**
comp=Z,165nm,0.8s
GRR Gorron 23.90 305 *e*P **P** **06 07 33.7 -0.4**
comp=Z,82nm,0.8s
KLMR Klimovskoe 23.91 13 *e*P **P** **06 07 32.7 -1.3**
KLMR S S 06 11 38.8 -11
KLMR pmax pmax
comp=Z,38nm,1.0s
KLMR MLR MLR
comp=Z,1μm,15.0s
AKTO Aktyubinsk 24.20 50 P **P** **06 07 37.0 +0.1**
AKTO pmax pmax
comp=Z,9.0nm,0.7s
AKTO MLR MLR
comp=Z,185nm,18.2s
AKTO Aktyubinsk 24.20 50 P **P** **06 07 37.0 +0.1**
AKTO Aktyubinsk 24.20 50 P **P** **06 07 37.0 +0.1**
AKTO Aktyubinsk 24.20 50 P **P** **06 07 37.0 +0.1**
comp=Z,9.4nm,0.7s,baz=254,slow=11,SNR=27
AKTO LR LR 06 20 16.9
comp=Z,185nm,18.2s,baz=239,slow=45
HFS Hagfors 24.21 341 P **P** **06 07 37.7 +0.8**
HFS Hagfors 24.21 341 P **P** **06 07 37.7 +0.8**
HFS Hagfors 24.21 341 P **P** **06 07 37.7 +0.8**
comp=Z,84nm,0.8s,baz=145,slow=10,SNR=89
HFS LR LR 06 17 16.9
comp=Z,628nm,20.4s,baz=150,slow=37
KAF Kangasniemi 24.25 357 *e*P **P** **06 07 37.1 -0.1**
KAF pmax pmax
comp=Z,25nm,0.9s
KAF Kangasniemi 24.25 357 *e*p **P** **06 07 37.1 -0.1**
comp=Z,25nm,0.9s
ISRO Mashad 24.43 84 *e*P **P** **06 07 39.5 +0.2**
ISRO Mashad 24.43 84 *e*P **P** **06 07 39.5 +0.2**
IMYA Miami 24.92 84 *e*P **P** **06 07 45.1 +1.3**
IMYA Miami 24.92 84 *e*P **P** **06 07 45.1 +1.3**
KONO Kongsberg 24.97 337 *e*P **P** **06 07 44.0 +0.3**
KONO pmax pmax
comp=Z,57nm,1.1s
KONO Kongsberg 24.97 337 *e*P **P** **06 07 44.0 +0.3**
comp=Z,57nm,1.1s
KONO Kongsberg 24.97 337 *e*P **P** **06 07 44.0 +0.3**
comp=Z,57nm,1.1s
SGMF Saint Gilles 24.97 304 *e*P **P** **06 07 42.8 -1.1**
comp=Z,86nm,0.9s
SGMF Saint Gilles 24.97 304 *e*P **P** **06 07 42.8 -1.1**
SGMF pmax pmax
comp=Z,86nm,0.9s
SGMF Saint Gilles 24.97 304 *e*P **P** **06 07 42.8 -1.1**
comp=Z,86nm,0.9s
SGMF Saint Gilles 24.97 304 *e*P **P** **06 07 42.8 -1.1**
comp=Z,43nm,0.9s
ABKAR Akbulak array 25.04 53 *e*P **P** **06 07 44.6 +0.2**
comp=Z,38nm,1.1s
ABKAR Akbulak array 25.04 53 *e*P **P** **06 07 44.6 +0.2**
comp=Z,38nm,1.1s
TAM Tamanrasset 25.05 240 *e*P **P** **06 07 46.3 +1.3**
TAM pmax pmax
comp=Z,13nm,0.8s
TAM Tamanrasset 25.05 240 *e*P **P** **06 07 46.3 +1.3**
comp=Z,13nm,0.8s
TAM Tamanrasset 25.05 240 *e*P **P** **06 07 46.3 +1.3**
comp=Z,13nm,0.8s
JOF Joensuu 25.06 3 *e*P **P** **06 07 45.3 +0.8**
JOF pmax pmax
comp=Z,23nm,0.9s
JOF Joensuu 25.06 3 *e*p **P** **06 07 45.3 +0.8**
comp=Z,23nm,0.9s
JOF Joensuu 25.06 3 *e*P **P** **06 07 45.3 +0.8**
comp=Z,23nm,0.9s
IKOO Kooshah 25.20 93 *e*P **P** **06 07 47.3 +0.8**
IKOO Kooshah 25.20 93 *e*P **P** **06 07 47.3 +0.8**
QUIF Quistinic 25.30 303 *e*P **P** **06 07 46.2 -0.7**
QUIF Quistinic 25.30 303 *e*P **P** **06 07 46.2 -0.7**
QUIF Quistinic 25.30 303 *e*P **P** **06 07 46.2 -0.7**
QUIF Quistinic 25.30 303 *e*P **P** **06 07 46.2 -0.7**
ROSF Rostrenen 25.46 304 *e*P **P** **06 07 47.3 -1.0**
comp=Z,96nm,1.0s
ROSF Rostrenen 25.46 304 *e*P **P** **06 07 47.3 -1.0**
ROSF pmax pmax
comp=Z,96nm,1.0s
ROSF Rostrenen 25.46 304 *e*P **P** **06 07 47.3 -1.0**
comp=Z,96nm,1.0s
ROSF Rostrenen 25.46 304 *e*P **P** **06 07 47.3 -1.0**
comp=Z,48nm,1.0s
ESDC Sonseca Array 25.54 284 P **P** **06 07 50.0 +0.7**
ESDC Sonseca Array 25.54 284 P **P** **06 07 50.0 +0.7**
ESDC Sonseca Array 25.54 284 P **P** **06 07 50.0 +0.7**
comp=Z,13nm,0.7s,baz=77,slow=9.6,SNR=67
ESLA Sonseca Array 25.54 284 *e*P **P** **06 07 50.1 +0.9**
comp=Z,16nm,1.3s
ESLA Sonseca Array 25.54 284 *e*P **P** **06 07 50.1 +0.9**
comp=Z,16nm,1.3s
NAO01 NORSAR Array S 25.56 340 *e*P **P** **06 07 49.4 +0.2**
comp=Z,16nm,0.7s
NAO01 NORSAR Array S 25.56 340 *e*P **P** **06 07 49.3 +0.2**
comp=Z,16nm,0.7s
NB2 NORSAR Subarra 25.63 340 P **P** **06 07 49.8 0.0**
comp=Z,23nm,0.8s,baz=146,slow=9.3
NB2 NORSAR Subarra 25.63 340 P **P** **06 07 49.8 0.0**
baz=146,slow=9.3
NB2 NORSAR Subarra 25.63 340 P **P** **06 07 49.8 0.0**
SNR=4.8
NOA NORSAR Array B 25.63 340 P **P** **06 07 50.1 +0.3**
NOA PcP **PcP** **06 11 19.9 -0.2**
NOA NORSAR Array B 25.63 340 P **P** **06 07 50.1 +0.3**
NOA NORSAR Array B 25.63 340 PcP **PcP** **06 11 19.9 -0.2**
NOA NORSAR Array B 25.63 340 P **P** **06 07 50.1 +0.3**
comp=Z,19nm,0.8s,baz=145,slow=8.8,SNR=62
NOA PcP **PcP** **06 11 19.9 -0.2**
comp=Z,1.7nm,0.7s,baz=124,slow=3.4,SNR=4.4
NOA LR LR 06 19 02.1
comp=Z,512nm,20.1s,baz=140,slow=39
IDAH Dahanechah 25.78 92 *e*P **P** **06 07 53.6 +1.9**
IDAH Dahanechah 25.78 92 *e*P **P** **06 07 53.6 +1.9**
PAB San Pablo 25.85 284 *e*P **P** **06 07 53.1 +1.0**
PAB pmax pmax
comp=Z,7.0nm,1.0s
PAB San Pablo 25.85 284 *e*P **P** **06 07 53.1 +1.0**
comp=Z,7.5nm,1.0s
PAB San Pablo 25.85 284 *e*P **P** **06 07 53.1 +1.0**
comp=Z,7.5nm,1.0s
ARU Arti 27.06 37 *d* i P **P** **06 08 02.3 -0.4**
ARU 06 08 46.7
ARU S **S** **06 12 41.6 +1.8**
ARU SS **SnSn** **06 13 51.0 +4.7**
ARU pmax pmax
comp=Z,23nm,1.7s
ARU Arti 27.06 37 *e*P **P** **06 08 04.3 +1.6**
comp=Z,22nm,1.0s
ARU Arti 27.06 37 *e*P **P** **06 08 04.3 +1.6**
comp=Z,22nm,1.0s
PBRG Braganca 27.45 289 *e*P **P** **06 08 07.3 +0.9**
comp=Z,44nm,1.5s
PBRG Braganca 27.45 289 *e*P **P** **06 08 07.3 +0.9**
comp=Z,44nm,1.5s
MDT Midelt 27.65 270 P **P** **06 08 09.9 +1.5**
MDT Midelt 27.65 270 P **P** **06 08 09.9 +1.5**
MDT Midelt 27.65 270 P **P** **06 08 09.9 +1.5**
comp=Z,11nm,1.0s,baz=92,slow=12,SNR=12
EKA Eskdalemuir Ar 27.67 319 P **P** **06 08 07.5 -0.7**
EKA PcP **PcP** **06 11 25.1 +0.2**
EKA Eskdalemuir Ar 27.67 319 P **P** **06 08 07.5 -0.7**
EKA Eskdalemuir Ar 27.67 319 PcP **PcP** **06 11 25.1 +0.2**
EKA Eskdalemuir Ar 27.67 319 P **P** **06 08 07.5 -0.7**
comp=Z,4.5nm,0.8s,baz=115,slow=9.3,SNR=8.3
EKA PcP **PcP** **06 11 25.1 +0.2**
comp=Z,3.0nm,0.8s,baz=67,slow=2.8,SNR=3.8
MVO Moncorvo 27.71 288 *e*P **P** **06 08 12.9 +4.0**
comp=Z,82nm,1.0s
MVO Moncorvo 27.71 288 *e*P **P** **06 08 12.9 +4.0**
comp=Z,82nm,1.0s
SOKR Solikamsk 28.07 30 *e*P **P** **06 08 12.0 +0.3**
SOKR pmax pmax
comp=Z,30nm,1.3s
SOKR MLR MLR
comp=Z,610nm,23.0s
PBAR Barrancos 28.14 282 *e*P **P** **06 08 13.4 +0.8**
comp=Z,46nm,1.8s
PBAR Barrancos 28.14 282 *e*P **P** **06 08 13.4 +0.8**
comp=Z,46nm,1.8s
MTE Manteigas 28.18 286 *e*P **P** **06 08 14.1 +1.1**
comp=Z,56nm,1.9s
MTE Manteigas 28.18 286 *e*P **P** **06 08 14.1 +1.1**
comp=Z,56nm,1.9s
PMRV Marv??o 28.20 284 *e*P **P** **06 08 13.8 +0.7**
comp=Z,38nm,2.3s
PMRV Marv??o 28.20 284 *e*P **P** **06 08 13.8 +0.7**
comp=Z,38nm,2.3s
PCBR Castelo Branco 28.21 285 *e*P **P** **06 08 13.1 0.0**
comp=Z,45nm,1.2s
PCBR Castelo Branco 28.21 285 *e*P **P** **06 08 13.1 0.0**
comp=Z,45nm,1.2s
POLO Lamas de Olo 28.27 289 *e*P **P** **06 08 14.6 +0.8**
comp=Z,29nm,1.8s
POLO Lamas de Olo 28.27 289 *e*P **P** **06 08 14.6 +0.8**
comp=Z,29nm,1.8s
PESTR Estremoz 28.44 283 *e*P **P** **06 08 15.4 +0.1**
comp=Z,36nm,1.7s
PESTR Estremoz 28.44 283 *e*P **P** **06 08 15.4 +0.1**
comp=Z,36nm,1.7s
PVAQ Vaqueiros 28.82 280 *e*P **P** **06 08 19.1 +0.5**
PVAQ Vaqueiros 28.82 280 *e*P **P** **06 08 19.1 +0.5**
EVO Evora 28.82 283 *e*P P 06 08 22.5 +3.8
comp=Z,19nm,1.6s
EVO Evora 28.82 283 *e*P P 06 08 22.5 +3.8
comp=Z,19nm,1.6s
PMTG Montargil 28.89 284 *e*P **P** **06 08 19.7 +0.4**
comp=Z,38nm,1.4s
PMTG Montargil 28.89 284 *e*P **P** **06 08 19.7 +0.4**
comp=Z,38nm,1.4s
PTOM Tomar 28.95 285 *e*P **P** **06 08 19.2 -0.6**
comp=Z,61nm,1.7s
PTOM Tomar 28.95 285 *e*P **P** **06 08 19.2 -0.6**
comp=Z,61nm,1.7s
PBDV Barranco-do-Ve 29.02 280 *e*P **P** **06 08 21.3 +0.8**
comp=Z,53nm,1.7s
PBDV Barranco-do-Ve 29.02 280 *e*P **P** **06 08 21.3 +0.8**
comp=Z,53nm,1.7s
MESJ Messejana 29.12 281 *e*P **P** **06 08 22.0 +0.7**
MESJ AMb AMB 06 08 25.7
comp=Z,32nm,1.8s
PNCL Nicolau / Gran 29.30 282 *e*P **P** **06 08 23.6 +0.7**
comp=Z,58nm,1.9s
PNCL Nicolau / Gran 29.30 282 *e*P **P** **06 08 23.6 +0.7**
comp=Z,58nm,1.9s
APA Apatity 29.79 4 i P P 06 08 21.0 -5.9
APA *i* S S 06 13 12.0 -11
APA *i* SS **SnSn** **06 14 50.0 -2.6**
APA MLR MLR
comp=Z,2μm,12.0s
ARCES ARCESS Array B 31.71 358 P **P** **06 08 44.2 +0.4**
ARCES ARCESS Array B 31.71 358 P **P** **06 08 44.2 +0.4**
ARCES ARCESS Array B 31.71 358 P **P** **06 08 44.2 +0.4**
comp=Z,8.3nm,0.8s,baz=172,slow=9.4,SNR=15
ARCES LR LR 06 21 25.1
comp=Z,397nm,18.8s,baz=168,slow=36
KKAR Karatay Array 31.86 67 *e*P **P** **06 08 46.4 +0.9**
KKAR pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 31.86 67 *e*P **P** **06 08 46.4 +0.9**
comp=Z,23nm,0.8s
KKAR Karatay Array 31.86 67 *e*P **P** **06 08 46.4 +0.9**
comp=Z,23nm,0.8s
BRVK Borovoye 32.24 49 *e*P **P** **06 08 48.9 +0.2**
BRVK pmax pmax
comp=Z,24nm,2.5s
BRVK Borovoye 32.24 49 *e*P **P** **06 08 48.4 -0.3**
comp=Z,15nm,1.4s
BRVK Borovoye 32.24 49 *e*P **P** **06 08 48.4 -0.3**
comp=Z,15nm,1.4s
BVAR Borovoye Array 32.30 49 P **P** **06 08 50.3 +1.1**
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR MLR MLR
comp=Z,16nm,28.6s
BVAR Borovoye Array 32.30 49 P **P** **06 08 50.3 +1.1**
BVAR Borovoye Array 32.30 49 P **P** **06 08 50.3 +1.1**
BVAR Borovoye Array 32.30 49 P **P** **06 08 50.3 +1.1**
comp=Z,4.3nm,0.8s,baz=259,slow=7.2,SNR=11
BVAR LR LR 06 25 00.6
comp=Z,16nm,28.6s,baz=260,slow=42
VOSK Vostochnaya 32.59 49 *e*P **P** **06 08 52.3 +0.5**
VOSK pmax pmax
comp=Z,37nm,0.8s
VOSK Vostochnaya 32.59 49 *e*P **P** **06 08 52.3 +0.5**
comp=Z,37nm,0.8s
VOSK Vostochnaya 32.59 49 *e*P **P** **06 08 52.3 +0.5**
comp=Z,37nm,0.8s
EKS2 Erkin-Say 34.29 68 *e*P **P** **06 09 08.0 +1.1**
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 34.29 68 P **P** **06 09 08.2 +1.3**
SNR=9.5
EKS2 Erkin-Say 34.29 68 *e*P **P** **06 09 08.0 +1.1**
comp=Z,12nm,0.8s
EKS2 Erkin-Say 34.29 68 *e*P **P** **06 09 08.0 +1.1**
comp=Z,12nm,0.8s
TOA0 Torodi Ar. Sit 34.53 232 *e*P **P** **06 09 08.6 -0.4**
TOA0 Torodi Ar. Sit 34.53 232 *e*P **P** **06 09 08.6 -0.4**
TORD Torodi Ar. Bea 34.53 232 P **P** **06 09 08.8 -0.2**
TORD PcP **PcP** **06 11 43.9 +0.1**
TORD Torodi Ar. Bea 34.53 232 P **P** **06 09 08.8 -0.2**
TORD Torodi Ar. Bea 34.53 232 P **P** **06 09 08.8 -0.2**
comp=Z,16nm,0.7s,baz=34,slow=9.4,SNR=110
TORD PcP **PcP** **06 11 43.9 +0.1**
comp=Z,2.2nm,0.8s,baz=31,slow=2.9,SNR=5.1
USP Ospenovka 34.74 66 *i* P P 06 09 14.7 +4.1
USP Ospenovka 34.74 66 P P 06 09 14.7 +4.1
SNR=5.6
AAK Ala-Archa 34.82 68 *e*P **P** **06 09 12.8 +1.3**
AAK pmax pmax
comp=Z,29nm,0.8s
AAK Ala-Archa 34.82 68 P **P** **06 09 12.8 +1.3**
SNR=15
AAK Ala-Archa 34.82 68 *e*P **P** **06 09 12.8 +1.3**
comp=Z,29nm,0.8s
AAK Ala-Archa 34.82 68 P **P** **06 09 12.5 +1.0**
comp=Z,218nm,0.8s,SNR=16
AAK Ala-Archa 34.82 68 *e*P **P** **06 09 12.8 +1.3**
comp=Z,29nm,0.8s
AAK Ala-Archa 34.82 68 P **P** **06 09 12.7 +1.3**
comp=Z,12nm,0.6s,baz=241,slow=5.9,SNR=27
FRU Bishkek 34.88 67 *e*P **P** **06 09 13.0 +1.1**
FRU pmax pmax
comp=Z,95nm,1.8s
CHMS Chumysh 34.96 67 *i* P **P** **06 09 13.9 +1.4**
CHMS Chumysh 34.96 67 P **P** **06 09 14.0 +1.4**
SNR=5.3
KZA Kyzart 35.46 68 *i* P **P** **06 09 18.4 +1.2**
KZA Kyzart 35.46 68 P **P** **06 09 18.5 +1.2**
SNR=11
TKM2 Tokmak 2 35.58 67 *e*P **P** **06 09 18.4 +0.3**
TKM2 pmax pmax
comp=Z,15nm,0.8s
TKM2 Tokmak 2 35.58 67 P **P** **06 09 18.9 +0.8**
SNR=21
TKM2 Tokmak 2 35.58 67 *e*P **P** **06 09 18.4 +0.3**
comp=Z,15nm,0.8s
TKM2 Tokmak 2 35.58 67 *e*P **P** **06 09 18.4 +0.3**
comp=Z,15nm,0.8s
KSH Kashi 36.48 72 P **P** **06 09 25.4 -0.4**
KSH pP **pP** **06 09 30.1 -0.5**
KSH sP **sP** **06 09 32.1 -0.5**
KSH PP **PnPn** **06 10 46.1 -2.2**
KSH S **S** **06 15 05.9 -1.3**
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH pmax pmax
comp=Z,160nm,3.8s
KSH LR LR
comp=Z,170nm,6.8s
KSH LR LR
comp=Z,190nm,5.3s
KSH LR LR
comp=Z,150nm,7.7s
KURBB Kurchatov Arra 37.09 54 P **P** **06 09 31.2 +0.6**
comp=Z,39nm,0.8s,baz=277,slow=8.8,SNR=96
KURBB PcP **PcP** **06 11 51.2 +0.4**
comp=Z,1.3nm,0.7s,baz=281,slow=3.5,SNR=4.0
KURK Kurchatov 37.15 54 *e*P **P** **06 09 31.4 +0.3**
KURK 06 11 51.3
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 37.15 54 *e*P **P** **06 09 31.4 +0.3**
comp=Z,17nm,0.8s
KURK PcP **PcP** **06 11 51.2 +0.3**
KURK Kurchatov 37.15 54 P **P** **06 09 31.6 +0.5**
comp=Z,261nm,0.9s,SNR=23
KURK Kurchatov 37.15 54 *e*P **P** **06 09 31.4 +0.3**
comp=Z,17nm,0.8s
MBAR Mbarara 38.39 177 P **P** **06 09 43.4 +1.3**
MBAR Mbarara 38.39 177 P **P** **06 09 43.4 +1.3**
MBAR Mbarara 38.39 177 P **P** **06 09 43.4 +1.3**
comp=Z,2.6nm,0.2s,baz=144,slow=22,SNR=6.3
KMBO Kilima Mbogo 39.64 167 *e*P **P** **06 09 54.9 +2.2**
comp=Z,8.0nm,1.2s
KMBO PcP **PcP** **06 12 00.8 +1.2**
KMBO Kilima Mbogo 39.64 167 *e*P **P** **06 09 54.9 +2.2**
comp=Z,8.0nm,1.2s
KMBO Kilima Mbogo 39.64 167 PcP **PcP** **06 12 00.8 +1.2**
KMBO Kilima Mbogo 39.64 167 P **P** **06 09 54.1 +1.4**
comp=Z,2.9nm,0.9s,baz=49,slow=19,SNR=4.0
KMBO PcP **PcP** **06 12 00.8 +1.2**
comp=Z,1.4nm,0.6s,baz=30,slow=14,SNR=4.1
MK31 Makanchi Array 39.80 60 *e*P **P** **06 09 54.1 +0.6**
MK31 Makanchi Array 39.80 60 *e*P **P** **06 09 54.1 +0.6**
MK31 Makanchi Array 39.80 60 *e*P **P** **06 09 54.1 +0.6**
MKAR Makanchi Array 39.80 60 P **P** **06 09 54.1 +0.6**
MKAR pmax pmax
comp=Z,24nm,0.8s
MKAR MLR MLR
comp=Z,16nm,28.6s
MKAR Makanchi Array 39.80 60 *e*P **P** **06 09 54.4 +0.8**
MKAR Makanchi Array 39.80 60 *e*P **P** **06 09 54.3 +0.8**
MKAR Makanchi Array 39.80 60 P **P** **06 09 54.0 +0.6**
comp=Z,24nm,0.8s,baz=283,slow=6.0,SNR=34
MKAR LR LR 06 28 34.5
comp=Z,16nm,28.6s,baz=275,slow=40
SMLA Simla 40.03 85 *i* P **P** **06 09 56.0 +0.5**
NVS Novosibirsk 40.04 47 i *i* P **P** **06 09 55.4 +0.1**
NVS *e* 06 11 29.9
NVS *e*S **S** **06 15 59.2 -1.1**
NVS pmax pmax
comp=N,13nm,0.8s
NVS pmax pmax
comp=E,29nm,0.8s
NVS pmax pmax
comp=Z,52nm,0.8s
NVS pmax pmax
comp=Z,35nm,2.2s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,11nm,1.1s
NVS smax smax
comp=E,6.0nm,1.5s
ZAA0 Zalesovo Array 40.95 48 *e*P **P** **06 10 02.7 -0.2**
ZAA0 Zalesovo Array 40.95 48 *e*P **P** **06 10 02.7 -0.2**
ZALV Zalesovo Beam 40.95 48 P **P** **06 10 02.9 0.0**
ZALV pmax pmax
comp=Z,28nm,0.6s
ZALV MLR MLR
comp=Z,16nm,28.6s
ZALV Zalesovo Beam 40.95 48 P **P** **06 10 02.9 0.0**
ZALV Zalesovo Beam 40.95 48 P **P** **06 10 02.9 0.0**
ZALV Zalesovo Beam 40.95 48 P **P** **06 10 02.9 0.0**
comp=Z,28nm,0.6s,baz=267,slow=8.5,SNR=35
ZALV LR LR 06 29 49.1
comp=Z,16nm,28.6s,baz=275,slow=40
SCO Scoresbysund 41.87 337 *i* P **P** **06 10 12.0 +1.8**
SCO Scoresbysund 41.87 337 *i* P **P** **06 10 12.0 +1.8**
SCO Scoresbysund 41.87 337 *i* P **P** **06 10 12.0 +1.8**
DBIC Dimbokro 43.60 233 *e*P **P** **06 10 24.2 -0.7**
comp=Z,14nm,0.8s
DBIC Dimbokro 43.60 233 *e*P **P** **06 10 24.2 -0.7**
comp=Z,14nm,0.8s
DBIC Dimbokro 43.60 233 P **P** **06 10 24.5 -0.4**
comp=Z,13nm,0.8s,baz=15,slow=8.4,SNR=13
TIC Toumodi 43.73 233 *e*P **P** **06 10 25.3 -0.6**
comp=Z,36nm,0.8s
KIC Kosan Boka 43.77 233 *e*P **P** **06 10 25.7 -0.5**
comp=Z,27nm,0.7s
LIC Lamto 44.05 233 *e*P **P** **06 10 27.5 -1.0**
comp=Z,40nm,0.9s,baz=46
LIC *e*R
comp=Z,291nm,19.8s
LIC Lamto 44.05 233 *e*P **P** **06 10 28.0 -0.5**
comp=Z,59nm,0.9s
LIC Lamto 44.05 233 *e*P **P** **06 10 27.5 -1.0**
comp=Z,40nm,0.9s
LIC Lamto 44.05 233 *e*P **P** **06 10 27.5 -1.0**
comp=Z,20nm,0.9s
WMQ Urumqi 44.08 63 P **P** **06 10 30.0 +1.4**
WMQ PP **PcP** **06 12 15.0 +1.4**
WMQ S **S** **06 17 04.0 +3.5**
WMQ ScS **ScS** **06 20 28.0 +1.3**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,210nm,4.0s
WMQ LR LR
comp=Z,540nm,17.0s
WMQ LR LR
comp=Z,430nm,16.0s
WMQ LR LR
comp=Z,460nm,16.0s
KRAR Krasnoyarsk 45.50 45 *e*P **P** **06 10 40.4 +0.9**
KRAR pmax pmax
comp=Z,15nm,0.5s
PYUN Piuthan 45.90 86 *e*P **P** **06 10 43.1 -0.3**
comp=Z,54nm,0.7s
PYUN Piuthan 45.90 86 *e*P **P** **06 10 43.1 -0.3**
PYUN Piuthan 45.90 86 *e*P **P** **06 10 43.1 -0.3**
DANN Dangsing 46.40 85 *e*P **P** **06 10 47.3 -0.1**
comp=Z,51nm,0.7s
DANN Dangsing 46.40 85 *e*P **P** **06 10 47.3 -0.1**
DANN Dangsing 46.40 85 *e*P **P** **06 10 47.3 -0.1**
KOLN Koldanda 46.53 86 *e*P **P** **06 10 47.8 -0.6**
comp=Z,58nm,1.1s
KOLN Koldanda 46.53 86 *e*P **P** **06 10 47.8 -0.6**
KOLN Koldanda 46.53 86 *e*P **P** **06 10 47.8 -0.6**
HVS Khovu-Aksy 46.61 52 *e*P **P** **06 10 49.7 +1.2**
HVS pmax pmax
comp=Z,69nm,0.8s
GKN Gorkha 47.24 85 *e*P **P** **06 10 53.2 -0.7**
GKN Gorkha 47.24 85 *e*P **P** **06 10 53.2 -0.7**
GKN Gorkha 47.24 85 *e*P **P** **06 10 53.2 -0.7**
SUMG Summit 47.48 338 *e*P **P** **06 10 56.3 +0.8**
SUMG pmax pmax
comp=Z,11nm,1.2s
SUMG Summit 47.48 338 *i* P **P** **06 10 56.2 +0.8**
comp=Z,6.1nm,0.9s
SUMG Summit 47.48 338 *e*P **P** **06 10 56.3 +0.8**
comp=Z,11nm,1.2s
SUMG Summit 47.48 338 *i* P **P** **06 10 56.2 +0.8**
comp=Z,6.1nm,0.9s
DMN Daman 47.79 85 *e*P **P** **06 10 57.8 -0.5**
comp=Z,18nm,0.6s
DMN Daman 47.79 85 *e*P **P** **06 10 57.8 -0.5**
DMN Daman 47.79 85 *e*P **P** **06 10 57.8 -0.5**
KKN Kakani 47.85 85 *e*P **P** **06 10 57.8 -0.8**
comp=Z,15nm,0.6s
KKN Kakani 47.85 85 *e*P **P** **06 10 57.8 -0.8**
KKN Kakani 47.85 85 *e*P **P** **06 10 57.8 -0.8**
KKN Kakani 47.85 85 *e*P **P** **06 10 57.8 -0.8**
HYB Hyderabad 47.92 101 i *i* P **P** **06 10 58.0 -1.1**
PKIN Phulchoki 48.04 85 *e*P **P** **06 10 59.0 -1.2**
PKI Pulchoki 48.05 85 *e*P **P** **06 10 59.4 -0.9**
comp=Z,23nm,1.0s
PKI Pulchoki 48.05 85 *e*P **P** **06 10 59.4 -0.9**
PKI Pulchoki 48.05 85 *e*P **P** **06 10 59.4 -0.9**
PKI Pulchoki 48.05 85 *e*P **P** **06 10 59.4 -0.9**

GUN Gumba 48.27 84 *e*P **P 06 11 01.1 -0.9**
comp=Z,24nm,0.8s
GUN Gumba 48.27 84 *e*P **P 06 11 01.1 -0.9**
GUN Gumba 48.27 84 *e*P **P 06 11 01.1 -0.9**
JIRN Jiri 48.62 84 *e*P **P 06 11 04.1 -0.7**
comp=Z,10nm,0.7s
JIRN Jiri 48.62 84 *e*P **P 06 11 04.1 -0.7**
JIRN Jiri 48.62 84 *e*P **P 06 11 04.1 -0.7**
RAMN Ramite 49.28 85 *e*P **P 06 11 08.4 -1.3**
comp=Z,34nm,1.0s
RAMN Ramite 49.28 85 *e*P **P 06 11 08.4 -1.3**
RAMN Ramite 49.28 85 *e*P **P 06 11 08.4 -1.3**
ODAN Odare 49.94 85 *e*P **P 06 11 13.5 -1.2**
comp=Z,18nm,1.0s
ODAN Odare 49.94 85 *e*P **P 06 11 13.5 -1.2**
ODAN Odare 49.94 85 *e*P **P 06 11 13.5 -1.2**
TAPN Taplejung 49.96 84 *e*P **P 06 11 14.1 -0.9**
comp=Z,26nm,1.1s
TAPN Taplejung 49.96 84 *e*P **P 06 11 14.1 -0.9**
TAPN Taplejung 49.96 84 *e*P **P 06 11 14.1 -0.9**
LSA Lhasa 51.58 80 *e*P **P 06 11 27.3 -0.1**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 51.58 80 *e*P **P 06 11 27.3 -0.1**
comp=Z,2.9nm,0.6s
LSA Lhasa 51.58 80 *e*P **P 06 11 27.3 -0.1**
comp=Z,2.9nm,0.6s
KULLO Kullorsuaq 52.81 340 *e*P **P 06 11 34.6 -0.6**
KULLO Kullorsuaq 52.81 340 *i* P **P 06 11 34.6 -0.6**
LSZ Lusaka 52.93 181 *e*P **P 06 11 38.0 +1.0**
comp=Z,4.4nm,1.1s
LSZ Lusaka 52.93 181 *e*P **P 06 11 38.0 +1.0**
comp=Z,4.4nm,1.1s
GTA Gaotai 54.08 65 *e*P **P 06 11 45.4 +0.1**
GTA pP pP 06 11 55.3 +5.0
GTA sP sP 06 11 59.2 +7.0
GTA S S 06 19 15.3 -5.8
GTA sS **sS 06 19 32.8 +3.5**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,4.8s
GTA LR LR
comp=Z,170nm,16.4s
GTA LR LR
comp=Z,170nm,13.1s
GTA LR LR
comp=Z,260nm,16.4s
SONM Songino Array 55.45 53 P **P 06 11 54.9 -0.2**
SONM Songino Array 55.45 53 P **P 06 11 54.9 -0.2**
SONM Songino Array 55.45 53 P **P 06 11 54.9 -0.2**
comp=Z,2.5nm,0.8s,baz=293,slow=8.1,SNR=13
SONM LR LR 06 38 58.3
comp=Z,185nm,18.3s,baz=309,slow=40
ULN Ulaanbaatar 55.85 53 *e*P **P 06 11 58.8 +0.8**
comp=Z,7.8nm,1.0s
ULN Ulaanbaatar 55.85 53 *e*P **P 06 11 58.8 +0.8**
comp=Z,7.8nm,1.0s
TIXI Tiksi 57.52 22⇑ *i*P **P 06 12 08.5 -0.7**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
TIXI MLR MLR
comp=Z,801nm,23.0s
TSUM Tsumeb 57.81 193 *e*P **P 06 12 12.4 +0.4**
comp=Z,5.8nm,0.9s
TSUM Tsumeb 57.81 193 *e*P **P 06 12 12.4 +0.4**
comp=Z,5.8nm,0.9s
LZH Lanzhou 58.35 67 *e*P **P 06 12 16.9 +1.0**
LZH pP **pP 06 12 20.3 -0.7**
LZH sP **sP 06 12 22.8 -0.1**
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,430nm,16.4s
LZH LR LR
comp=Z,410nm,15.3s
LZH LR LR
comp=Z,370nm,19.0s
CD2 Chengdu 60.68 72 *e*P **P 06 12 32.1 +0.2**
CD2 PP **PP 06 14 48.4 +3.0**
CD2 S **S 06 20 43.8 -4.2**
CD2 sS sS 06 21 02.6 +6.2
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,120nm,6.2s
CD2 LR LR
comp=Z,120nm,11.8s
CD2 LR LR
comp=Z,250nm,14.2s
HHC Hu-ho-hao-te 61.66 59 *e*P **P 06 12 39.5 +1.1**
HHC pP pP 06 12 50.1 +6.6
HHC PcP **PcP 06 13 21.2 +1.4**
HHC PP **PP 06 14 56.9 +3.0**
HHC ScP **ScP 06 17 18.0 -2.9**
HHC S **S 06 20 58.8 -1.5**
HHC sS sS 06 21 15.1 +6.5
HHC ScS **SKKSac 06 22 24.8 -4.8**
HHC pmax pmax
comp=Z,44nm,1.1s
HHC pmax pmax
comp=Z,190nm,6.7s
HHC LR LR
comp=Z,560nm,17.0s
HHC LR LR
comp=Z,1μm,16.7s
HHC LR LR
comp=Z,290nm,17.0s
LBTB Lobatse 62.69 183 *e*P **P 06 12 47.7 +2.4**
comp=Z,12nm,0.9s
LBTB Lobatse 62.69 183 *e*P **P 06 12 47.7 +2.4**
comp=Z,12nm,0.9s
KMI Kunming 62.80 78 P **P 06 12 47.5 +1.1**
KMI S S 06 21 08.7 -6.6
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,110nm,3.6s
KMI LR LR
comp=Z,200nm,16.6s
KMI LR LR
comp=Z,140nm,15.0s
KMI LR LR
comp=Z,160nm,16.1s
SCHQ Schefferville 62.98 320 P **P 06 12 46.5 -0.5**
SCHQ Schefferville 62.98 320 P **P 06 12 46.5 -0.5**
SCHQ Schefferville 62.98 320 P **P 06 12 46.5 -0.5**
comp=Z,12nm,0.5s,baz=59,slow=5.7,SNR=28
SCHQ LR LR 06 38 39.7
comp=Z,16nm,28.6s,baz=48,slow=35
CMAR Chiang Mai Arr 63.39 87 P **P 06 12 49.3 -0.9**
CMAR Chiang Mai Arr 63.39 87 P **P 06 12 49.3 -0.9**
CMAR Chiang Mai Arr 63.39 87 P **P 06 12 49.3 -0.9**
comp=Z,4.0nm,0.7s,baz=300,slow=8.1,SNR=22
GYA Guiyang 65.12 75⇑ *i*P **P 06 13 02.1 +0.5**
GYA PcP **PcP 06 13 34.2 -0.1**
GYA PP **PP 06 15 28.0 +3.3**
GYA S **S 06 21 40.8 -3.1**
GYA SKS **SKSac 06 22 49.9 -6.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.3s
GYA LR LR
comp=Z,580nm,20.6s
GYA LR LR
comp=Z,540nm,21.2s
GYA LR LR
comp=Z,590nm,20.9s
BOSA Boshof 66.29 183 *e*P **P 06 13 10.5 +1.7**
comp=Z,8.4nm,0.8s
BOSA Boshof 66.29 183 *e*P **P 06 13 10.5 +1.7**
comp=Z,8.4nm,0.8s
BOSA Boshof 66.29 183 P **P 06 13 09.8 +1.0**
comp=Z,7.4nm,0.8s,baz=13,slow=5.4,SNR=13
BOSA LR LR 06 44 50.4
comp=Z,16nm,28.6s,baz=6.5,slow=38
CN2 Changchun 69.13 50 *e*P **P 06 13 26.5 -0.1**
CN2 *e*pP pP 06 13 36.8 +5.1
CN2 *e*S **S 06 22 26.7 -4.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,17.0s
KLR Kul'dur 69.73 43 *e*P P 06 13 26.8 -3.4
SEY Seymchan 69.85 24 *e*P **P 06 13 30.6 -0.1**
MDJ Mudanjiang 71.15 48 P **P 06 13 38.5 -0.5**
MDJ PP **PP 06 16 20.3 +4.0**
MDJ S **S 06 22 56.3 +1.2**
MDJ pmax pmax
comp=Z,5.0nm,0.6s
MDJ pmax pmax
comp=Z,130nm,4.7s
MDJ LR LR
comp=Z,85nm,20.0s
MDJ LR LR
comp=Z,88nm,20.9s
MDJ LR LR
comp=Z,79nm,16.4s
QIZ Qiongzhong 71.62 80 P P 06 13 39.0 -3.2
QIZ S **S 06 23 00.2 -1.1**
QIZ LR LR
comp=Z,48nm,22.0s
PSI Prapat 72.62 100 LR LR 06 50 49.9
comp=Z,86nm,18.5s,slow=40
USRK Ussuriysk Arra 72.79 47 P **P 06 13 48.7 -0.1**
comp=Z,11nm,0.8s,baz=297,slow=5.4,SNR=30
USRK LR LR 06 50 53.4
comp=Z,126nm,19.9s,baz=302,slow=40
INK Inuvik 73.25 353 *e*P **P 06 13 50.1 -1.0**
comp=Z,7.5nm,1.2s
INK Inuvik 73.25 353 *e*P **P 06 13 50.1 -1.0**
comp=Z,7.5nm,1.2s
KSAR Wonju Array Be 74.24 55 P **P 06 13 57.3 -0.2**
KSAR Wonju Array Be 74.24 55 P **P 06 13 57.3 -0.2**
KSRS Korea Array 74.26 55 P **P 06 13 57.3 -0.3**
comp=Z,5.2nm,0.7s,baz=304,slow=4.9,SNR=16
KSRS LR LR 06 50 03.3
comp=Z,228nm,18.4s,baz=312,slow=39
COLD Coldfoot 75.16 360 *e*P **P 06 14 03.7 +1.4**
comp=Z,8.8nm,0.8s
COLD Coldfoot 75.16 360 *e*P **P 06 14 03.7 +1.4**
comp=Z,8.8nm,0.8s
YKW3 Yellowknife Ar 75.62 343 *e*P **P 06 14 05.2 +0.2**
comp=Z,0.3nm,1.1s
YKW3 Yellowknife Ar 75.62 343 *e*P **P 06 14 05.2 +0.2**
comp=Z,0.3nm,1.1s
YKA Yellowknife Ar 75.68 343 P **P 06 14 05.3 0.0**
YKA Yellowknife Ar 75.68 343 P **P 06 14 05.3 0.0**
YKA Yellowknife Ar 75.68 343 P **P 06 14 05.3 0.0**
comp=Z,5.9nm,0.9s,baz=27,slow=5.6,SNR=19
IM04 Indian Mountai 76.40 1 *e*P **P 06 14 10.5 +1.1**
IM04 Indian Mountai 76.40 1 *e*P **P 06 14 10.5 +1.1**
YSS Yuzh-Sakhalins 76.92 40 *e*P **P 06 14 13.3 +0.7**
YSS pmax pmax
comp=Z,32nm,1.7s
COLA College 77.49 359⇑ *i*P **P 06 14 16.8 +1.3**
COLA pmax pmax
comp=Z,18nm,0.8s
COLA MLR MLR
comp=Z,496nm,15.0s
COLA College 77.49 359 *e*P **P 06 14 16.6 +1.1**
comp=Z,17nm,2.2s
COLA College 77.49 359 *e*P **P 06 14 16.6 +1.1**
comp=Z,17nm,2.2s
ILAR Eielson Array 77.57 358 P **P 06 14 16.2 +0.2**
ILAR Eielson Array 77.57 358 P **P 06 14 16.2 +0.2**
ILAR Eielson Array 77.57 358 P **P 06 14 16.2 +0.2**
comp=Z,2.5nm,0.8s,baz=351,slow=4.4,SNR=28
DAWY Dawson 77.91 355 *e*P **P 06 14 18.8 +0.8**
DAWY Dawson 77.91 355 *e*P **P 06 14 18.8 +0.8**
FFC Flin Flon 78.52 333 *e*P **P 06 14 21.6 +0.1**
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 78.52 333 *e*P **P 06 14 21.6 +0.1**
comp=Z,10.0nm,1.0s
FFC Flin Flon 78.52 333 *e*P **P 06 14 21.6 +0.1**
comp=Z,9.9nm,1.0s
MCK McKinley 78.65 359 *e*P **P 06 14 21.9 -0.2**
MCK pmax pmax
comp=Z,6.0nm,1.0s
MCK McKinley 78.65 359 *e*P **P 06 14 21.9 -0.2**
comp=Z,6.1nm,1.0s
MCK McKinley 78.65 359 *e*P **P 06 14 21.9 -0.2**
comp=Z,6.1nm,1.0s
JNU Nakatsue 78.79 57 P **P 06 14 24.2 +0.8**
JNU Nakatsue 78.79 57 P **P 06 14 24.2 +0.8**
JNU Nakatsue 78.79 57 P **P 06 14 24.2 +0.8**
comp=Z,9.9nm,0.9s,baz=254,slow=7.4,SNR=3.5
PETK Petropavlovsk- 79.09 29 LR LR 06 55 25.2
comp=Z,16nm,28.6s,baz=323,slow=40
ULM Lac du Bonnet 79.61 328 *e*P **P 06 14 27.0 -0.5**
comp=Z,19nm,1.0s
ULM Lac du Bonnet 79.61 328 *e*P **P 06 14 27.0 -0.5**
comp=Z,19nm,1.0s
ULM Lac du Bonnet 79.61 328 P **P 06 14 26.9 -0.5**
comp=Z,13nm,0.9s,baz=5.7,slow=5.1,SNR=10
ULM LR LR 06 51 10.7
comp=Z,16nm,28.6s,baz=44,slow=37
HYT Haines Junctio 80.95 353 *e*P **P 06 14 37.0 +2.3**
HYT Haines Junctio 80.95 353 *e*P **P 06 14 37.0 +2.3**
AGMN Agassiz Nation 81.07 326 *e*P **P 06 14 34.9 -0.5**
comp=Z,44nm,1.9s
AGMN Agassiz Nation 81.07 326 *e*P **P 06 14 34.9 -0.5**
comp=Z,44nm,1.9s
MAJO Matsushiro 81.27 50 *e*P **P 06 14 37.2 +0.5**
MAJO pmax pmax
comp=Z,45nm,1.3s
MAJO MLR MLR
comp=Z,733nm,20.0s
A30A Hoffart Farm, 81.63 328⇑P **P 06 14 38.2 -0.1**
baz=81
SPMN St. Paul 81.95 323⇓P **P 06 14 39.7 -0.5**
baz=82
B30A Myrvik Farm, E 82.02 328⇓P **P 06 14 40.4 0.0**
baz=82
A29A Manning Farm, 82.03 328⇑P **P 06 14 40.6 +0.1**
baz=82
A28A Rude Farm, Bot 82.47 329⇓P **P 06 14 43.1 +0.3**
baz=82
SFIN Scholer Farm 82.47 316⇓P **P 06 14 41.9 -1.0**
baz=82
C30A Mose, Pekin 82.66 327⇓P **P 06 14 44.0 +0.2**
baz=82
KMSC Kings Mountain 82.68 309⇑P **P 06 14 44.5 +0.4**
baz=82
A27A Ledoux Ranch, 82.83 329⇓P **P 06 14 45.0 +0.3**
baz=82
B28A Dugan Ranch, T 82.87 329⇑P **P 06 14 45.0 +0.1**
baz=82
A26A Wade Farm, Ken 83.19 330⇓P **P 06 14 46.9 +0.3**
baz=83
D30A Buchanan 83.24 327⇑P **P 06 14 46.9 +0.1**
baz=83
B27A Peters Farms, 83.27 329⇓P **P 06 14 47.5 +0.6**
baz=83
EDM Edmonton 83.47 338 *e*P **P 06 14 48.2 +0.2**
EDM Edmonton 83.47 338 *e*P **P 06 14 48.2 +0.2**
EDM Edmonton 83.47 338 *e*P **P 06 14 48.2 +0.2**
A25A Svangstu Ranch 83.58 330⇓P **P 06 14 48.9 +0.3**
baz=83
D29A Pettibone, Tap 83.64 327⇑P **P 06 14 49.1 +0.2**
baz=83
E30A Jud 83.78 327⇑P **P 06 14 49.9 +0.3**
baz=83
A24A Westby 83.94 331⇓P **P 06 14 50.9 +0.5**
baz=84
E29A Napoleon 84.04 327⇑P **P 06 14 51.2 +0.2**
baz=84
C26A Wahner Farm, P 84.07 329⇑P **P 06 14 51.3 +0.1**
baz=84
B25A Knox Farm, Ray 84.14 330⇑P **P 06 14 52.0 +0.5**
baz=84
A23A Redstone 84.24 331⇑P **P 06 14 53.0 +1.0**
baz=84
DGMT Dagmar 84.38 331 *e*P **P 06 14 53.4 +0.7**
comp=Z,48nm,1.5s
DGMT Dagmar 84.38 331⇓P **P 06 14 53.4 +0.7**
baz=84
DGMT Dagmar 84.38 331 *e*P **P 06 14 53.4 +0.7**
comp=Z,48nm,1.5s
CPCT Cooper Cave 84.40 311 *e*P **P 06 14 53.6 +0.6**
CPCT Cooper Cave 84.40 311 *e*P **P 06 14 53.6 +0.6**
E28A Huff 84.48 328⇑P **P 06 14 52.6 -0.6**
baz=84,SNR=5.0
A22A Carney Farms, 84.60 332⇑P **P 06 14 54.3 +0.5**
baz=84,SNR=12
C25A Freed Ranch, W 84.63 330⇓P **P 06 14 54.8 +0.9**
baz=84
B23A Brockton 84.69 331⇓P **P 06 14 55.0 +0.7**
baz=84,SNR=7.6
F29A Eureka 84.70 327⇓P **P 06 14 54.2 -0.1**
baz=84
D26A Manning 84.84 329⇓P **P 06 14 55.6 +0.5**
baz=84,SNR=5.3
ECSD EROS Data Cent 84.87 324 *e*P **P 06 14 54.6 -0.6**
comp=Z,7.4nm,1.0s
ECSD EROS Data Cent 84.87 324 *e*P **P 06 14 54.6 -0.6**
comp=Z,7.4nm,1.0s
G30A Faulkton 84.95 326⇓P **P 06 14 55.6 +0.1**
baz=85
E27A Carson 84.97 328⇑P **P 06 14 55.6 -0.1**
baz=85
A21A Bergtoll Ranch 84.98 333⇓P **P 06 14 55.8 +0.1**
baz=85
F28A McLaughlin 85.10 327⇑P **P 06 14 56.8 +0.4**
baz=85
D25A Fairfield 85.11 329⇓P **P 06 14 57.2 +0.8**
baz=85
B22A Reddig Ranch S 85.20 332⇑P **P 06 14 57.3 +0.5**
baz=85,SNR=5.2
C24A Savage 85.24 330⇓P **P 06 14 57.6 +0.6**
baz=85,SNR=11
G29A Hoven 85.24 326⇓P **P 06 14 57.5 +0.4**
baz=85
E26A Carlson Angus 85.31 329⇓P **P 06 14 58.2 +0.9**
baz=85
C23A Lambert 85.31 331⇑P **P 06 14 58.2 +0.9**
baz=85
BRSD Miller 85.40 325 *e*P **P 06 14 57.9 0.0**
BRSD Miller 85.40 325 *e*P **P 06 14 57.9 0.0**
A20A Cobblestone Ra 85.43 333⇓P **P 06 14 58.3 +0.3**
baz=85,SNR=11
B21A Ellsworth Farm 85.48 332⇑P **P 06 14 58.6 +0.4**
baz=85
D24A Glendive 85.54 330⇓P **P 06 14 59.0 +0.5**
baz=85,SNR=5.5
F27A Lemmon 85.60 328⇑P **P 06 14 59.0 +0.1**
baz=85,SNR=9.6
C22A Vida 85.62 331⇓P **P 06 14 59.5 +0.6**
baz=85,SNR=14
E25A Miller Ranch, 85.67 329⇓P **P 06 14 59.9 +0.7**
baz=85,SNR=9.1
A19A Klindworth Far 85.68 334⇓P **P 06 15 00.0 +0.8**
baz=85,SNR=5.7
G28A Parade 85.77 327⇓P **P 06 15 00.1 +0.4**
baz=85,SNR=7.2
H29A Onida 85.81 326⇑P **P 06 15 00.3 +0.4**
baz=86
D23A Lindsay 85.83 331⇓P **P 06 15 00.6 +0.6**
baz=86,SNR=11
B20A Solberg Farm, 85.84 333⇓P **P 06 15 00.6 +0.6**
baz=86,SNR=16
F26A Lodgepole 85.89 328⇑P **P 06 15 00.3 0.0**
baz=86,SNR=5.3
E24A Baker 85.98 330⇑P **P 06 15 01.2 +0.4**
baz=86
C21A Desert Coulee 86.01 332⇓P **P 06 15 01.3 +0.5**
baz=86,SNR=14
H28A Mission Ridge 86.13 327⇓P **P 06 15 01.8 +0.3**
baz=86
B19A Brinkman Farms 86.15 333⇓P **P 06 15 02.4 +0.8**
baz=86,SNR=8.3
F25A Bowman 86.15 329⇑P **P 06 15 02.0 +0.3**
baz=86
D22A Cohagen 86.23 331⇓P **P 06 15 02.8 +0.8**
baz=86,SNR=22
G26A Maurine 86.31 328⇓P **P 06 15 02.4 0.0**
baz=86,SNR=15
I29A Vivian Onida 86.33 326⇓P **P 06 15 02.8 +0.3**
baz=86
E23A Ismay 86.43 330⇓P **P 06 15 03.4 +0.5**
baz=86,SNR=9.2
C20A Veseth Ranch, 86.44 332⇓P **P 06 15 03.8 +0.8**
baz=86,SNR=20
J30A Dallas 86.52 325⇑P **P 06 15 03.4 0.0**
baz=86,SNR=5.9
TIGA Tifton 86.56 308⇑P **P 06 15 04.2 +0.4**
baz=86
D21A La Casta Ranch 86.61 331⇑P **P 06 15 04.5 +0.7**
baz=86,SNR=18
H27A Howes 86.62 327⇓P **P 06 15 03.7 -0.3**
baz=86,SNR=7.4
F24A Ekalaka 86.62 329⇓P **P 06 15 04.3 +0.3**
baz=86,SNR=13
LAO LASA Array 86.63 331 *e*P **P 06 15 04.9 +0.9**
comp=Z,76nm,0.8s
LAO LASA Array 86.63 331 *e*P **P 06 15 04.9 +0.9**
comp=Z,76nm,0.8s
E22A Miles City 86.73 331⇓P **P 06 15 04.9 +0.5**
baz=86,SNR=8.6
G25A Newell 86.73 328⇓P **P 06 15 04.3 -0.2**
baz=86,SNR=6.9
I28A Midland 86.73 326⇓P **P 06 15 04.5 0.0**
baz=86
EGMT Eagleton 86.81 334 *e*P **P 06 15 05.4 +0.6**
comp=Z,67nm,1.0s
EGMT Eagleton 86.81 334⇑P **P 06 15 05.6 +0.8**
baz=86,SNR=20
EGMT Eagleton 86.81 334 *e*P **P 06 15 05.4 +0.6**
comp=Z,67nm,1.0s
J29A Okreek 86.83 326⇑P **P 06 15 05.2 +0.3**
baz=86,SNR=11
H26A Fairpoint 86.93 328⇓P **P 06 15 05.4 0.0**
baz=87
D20A Manuel Ranch, 87.01 332⇓P **P 06 15 06.4 +0.5**
baz=87,SNR=25
G24A Alzada 87.03 329⇓P **P 06 15 05.8 -0.2**
baz=87
I27A Quinn 87.06 327⇑P **P 06 15 05.9 -0.2**
baz=87
K30A Basset 87.08 325⇓P **P 06 15 06.6 +0.4**
baz=87,SNR=7.4
F23A Volborg 87.11 330⇑P **P 06 15 06.7 +0.4**
baz=87,SNR=20
L31A Butterfield Fa 87.11 324⇑P **P 06 15 06.5 +0.1**
baz=87
J28A Allard Ranch, 87.22 326⇓P **P 06 15 07.2 +0.3**
baz=87
D19A Cripps Ranch, 87.22 333⇑P **P 06 15 07.5 +0.6**
baz=87,SNR=23
H25A Fruitdale 87.27 328⇑P **P 06 15 07.2 +0.1**
baz=87
WALA Waterton Lakes 87.30 337 *e*P **P 06 15 06.8 -0.4**
comp=Z,0.6nm,0.9s
WALA Waterton Lakes 87.30 337 *e*P **P 06 15 06.8 -0.4**
comp=Z,0.6nm,0.9s
K29A Lazy Trails An 87.33 325⇓P **P 06 15 07.9 +0.5**
baz=87,SNR=6.0
BGNE Belgrade 87.38 323 *e*P **P 06 15 07.4 -0.3**
BGNE Belgrade 87.38 323⇓P **P 06 15 07.6 -0.1**
baz=87,SNR=5.2
BGNE Belgrade 87.38 323 *e*P **P 06 15 07.4 -0.3**
F22A Rosebud 87.39 330⇑P **P 06 15 08.0 +0.3**
baz=87,SNR=7.0
I26A New Underwood 87.44 327⇓P **P 06 15 07.6 -0.3**
baz=87,SNR=6.0
E20A Meyer Farm, Mu 87.50 332⇑P **P 06 15 08.6 +0.4**
baz=87,SNR=8.3
G23A Biddle 87.53 330⇑P **P 06 15 08.5 +0.2**
baz=87
LRAL Lakeview Retre 87.55 311 *e*P **P 06 15 08.3 -0.3**
comp=Z,44nm,1.5s
LRAL Lakeview Retre 87.55 311 *e*P **P 06 15 08.3 -0.3**
comp=Z,44nm,1.5s
H24A Dirks Ranch, A 87.56 329⇓P **P 06 15 08.3 -0.2**
baz=87
J27A Elkhorn Farm, 87.69 326⇑P **P 06 15 09.3 0.0**
baz=87
L30A Spencer Herefo 87.70 324⇓P **P 06 15 09.7 +0.5**
baz=87
E19A Rath Farm, Rou 87.78 332⇓P **P 06 15 10.1 +0.5**
baz=87,SNR=19
I25A Rochford 87.81 328⇑P **P 06 15 10.1 +0.1**
baz=88
M31A Lambtecht Ranc 87.83 323⇑P **P 06 15 10.3 +0.5**
baz=88
K28A Ten Mile Ranch 87.84 326⇑P **P 06 15 10.4 +0.4**
baz=88,SNR=6.5
RSSD Black Hills 87.86 328 *e*P **P 06 15 10.5 +0.3**
RSSD pmax pmax
comp=Z,2.0nm,1.0s
RSSD Black Hills 87.86 328 *e*P **P 06 15 10.5 +0.3**

comp=Z,2.1nm,1.0s
RSSD **Black Hills** 87.86 328 eP P 06 15 10.5 +0.3
comp=Z,2.1nm,1.0s
G22A **Birney** 87.87 330 ⇓P P 06 15 10.2 +0.1
baz=88
L29A **Maesberg Ranch** 87.95 325 ⇓P P 06 15 10.8 +0.3
baz=88
F20A **Billings** 88.10 331 ⇑P P 06 15 11.5 +0.4
baz=88
J26A **Sides Ranch, S** 88.11 327 ⇑P P 06 15 11.4 +0.2
baz=88
N31A **Bailey Ranch,** 88.22 323 ⇓P P 06 15 11.3 -0.4
baz=88
G21A **Lodge Grass** 88.22 331 ⇑P P 06 15 11.6 -0.1
baz=88
K27A **Flueckinger Fa** 88.23 326 ⇑P P 06 15 11.6 -0.2
baz=88
I24A **Kuemmerle Ranc** 88.32 328 ⇓P P 06 15 12.3 +0.1
baz=88
O32A **Brockman Farm,** 88.33 322 ⇓P P 06 15 11.9 -0.4
baz=88
J25A **Sunshine Ranch** 88.36 328 ⇑P P 06 15 12.3 -0.1
baz=88
F19A **Roth Farm, Mol** 88.36 332 ⇓P P 06 15 13.1 +0.7
baz=88,SNR=15
BLMT **Blacktail Moun** 88.36 336 eP P 06 15 12.9 +0.4
comp=Z,11nm,0.9s
BLMT **Blacktail Moun** 88.36 336 eP P 06 15 12.9 +0.4
comp=Z,11nm,0.9s
YBMT **Yellow Bay** 88.38 336 eP P 06 15 13.2 +0.7
YBMT **Yellow Bay** 88.38 336 eP P 06 15 13.2 +0.7
H22A **Clearmont** 88.42 330 ⇑P P 06 15 12.6 0.0
baz=88
JTMT **Jette** 88.57 336 eP P 06 15 14.0 +0.7
JTMT **Jette** 88.57 336 eP P 06 15 14.0 +0.7
G20A **Bridger** 88.62 331 ⇑P P 06 15 13.7 +0.1
baz=88,SNR=5.9
BSMT **Bassoo Peak** 88.64 336 eP P 06 15 13.9 +0.2
BSMT **Bassoo Peak** 88.64 336 eP P 06 15 13.9 +0.2
K26A **Motz Farm, Whi** 88.65 327 ⇓P P 06 15 13.5 -0.2
baz=88
HRY **Holter Researc** 88.66 334 eP P 06 15 14.1 +0.3
HRY **Holter Researc** 88.66 334 eP P 06 15 14.1 +0.3
H21A **Big Horn, Sher** 88.66 330 ⇑P P 06 15 13.8 -0.1
baz=88
SWMT **Swartz Lake** 88.69 336 eP P 06 15 14.3 +0.4
SWMT **Swartz Lake** 88.69 336 eP P 06 15 14.3 +0.4
P33A **Williams Farm,** 88.69 322 ⇑P P 06 15 13.9 0.0
baz=88
SLMT **Seeley Lake** 88.75 335 eP P 06 15 14.6 +0.3
SLMT **Seeley Lake** 88.75 335 eP P 06 15 14.6 +0.3
M28A **Bar X Bar Ranc** 88.89 325 ⇑P P 06 15 15.2 +0.3
baz=89
O31A **Woolen Ranch,** 88.92 323 ⇓P P 06 15 15.1 +0.1
baz=89
CHMT **Chamberlain Mo** 88.96 335 eP P 06 15 15.4 +0.1
CHMT **Chamberlain Mo** 88.96 335 eP P 06 15 15.4 +0.1
NEW **Newport** 88.98 338 eP P 06 15 15.5 +0.3
comp=Z,18nm,1.1s
NEW **Newport** 88.98 338 ⇓P P 06 15 15.7 +0.5
baz=89
NEW **Newport** 88.98 338 eP P 06 15 15.5 +0.3
comp=Z,18nm,1.1s
P32A **Huiting Farm,** 88.99 322 ⇓P P 06 15 14.8 -0.5
baz=89
N29A **Votaw Ranch, W** 89.01 324 ⇓P P 06 15 15.3 -0.2
baz=89
K25A **Mack Ranch, Ha** 89.02 327 ⇑P P 06 15 15.6 +0.1
baz=89
I22A **9 Mile Ranch,** 89.05 329 ⇓P P 06 15 15.5 -0.2
baz=89
Q33A **Connelly Farm,** 89.09 321 ⇑P P 06 15 15.6 -0.2
baz=89
H20A **Greybull** 89.15 331 ⇓P P 06 15 16.3 +0.2
baz=89
M27A **Reverse DX Ran** 89.24 326 ⇓P P 06 15 17.0 +0.4
baz=89,SNR=5.5
O30A **MW Ranch, Wils** 89.25 323 ⇓P P 06 15 16.3 -0.3
baz=89
MSO **Missoula** 89.26 335 eP P 06 15 16.4 -0.1
comp=Z,7.6nm,0.9s
MSO **Missoula** 89.26 335 ⇓P P 06 15 16.7 +0.1
baz=89
MSO **Missoula** 89.26 335 eP P 06 15 16.5 -0.1
comp=Z,7.6nm,0.9s
K24A **Anderson Ranch** 89.33 328 ⇓P P 06 15 17.6 +0.5
baz=89
H19A **Powell** 89.37 331 ⇓P P 06 15 18.1 +0.9
baz=89,SNR=16
I21A **Big Trails, Te** 89.44 330 ⇑P P 06 15 16.8 -0.7
baz=89,SNR=5.1
P31A **Stockton** 89.44 323 ⇑P P 06 15 17.5 0.0
baz=89
Q32A **Meitler Ranch,** 89.46 322 ⇑P P 06 15 17.2 -0.4
baz=89
BDFB **Brasilia** 89.47 250 eP P 06 15 19.8 +1.9
BDFB **Brasilia** 89.47 250 eP P 06 15 19.8 +1.9
BDFB **Brasilia** 89.47 250 P P 06 15 18.9 +1.0
comp=Z,11nm,0.9s,baz=58,slow=5.4,SNR=15
BDFB LR LR 06 57 08.9
comp=Z,16nm,28.6s,baz=44,slow=37
PTGA **Pitinga** 89.49 269 eP P 06 15 18.6 +0.5
comp=Z,16nm,1.0s
PTGA **Pitinga** 89.49 269 eP P 06 15 18.5 +0.5
comp=Z,16nm,1.0s
BOZ **Bozeman (W)** 89.51 333 eP P 06 15 18.7 +0.9
BOZ pmax pmax
comp=Z,18nm,0.9s
BOZ **Bozeman (W)** 89.51 333 eP P 06 15 18.7 +0.9
comp=Z,18nm,0.9s
BOZ **Bozeman (W)** 89.51 333 eP P 06 15 18.7 +0.9
comp=Z,18nm,0.9s
B08A **Colville Reser** 89.53 339 eP P 06 15 17.9 +0.2
comp=Z,5.4nm,1.0s
B08A **Colville Reser** 89.53 339 eP P 06 15 17.9 +0.2
comp=Z,5.4nm,1.0s
N28A **Pribbeno Ranch** 89.53 325 ⇓P P 06 15 18.1 +0.2
baz=89
H18A **Shoshone NF, C** 89.62 332 ⇓P P 06 15 19.0 +0.5
baz=89,SNR=17
O29A **4D Ranch, Culb** 89.64 324 ⇑P P 06 15 18.0 -0.4
baz=89
LRM **Limekiln Ridge** 89.64 334 eP P 06 15 18.6 0.0
LRM **Limekiln Ridge** 89.64 334 eP P 06 15 18.6 0.0
I20A **Worland** 89.65 330 ⇑P P 06 15 18.3 -0.2
baz=89,SNR=8.3
R33A **Olander Ranch,** 89.70 321 ⇑P P 06 15 18.5 -0.2
baz=89
C09A **Chrisman Ranch** 89.74 339 eP P 06 15 19.3 +0.6
comp=Z,16nm,0.8s
C09A **Chrisman Ranch** 89.74 339 eP P 06 15 19.3 +0.6
comp=Z,16nm,0.8s
P30A **Selden** 89.84 323 ⇑P P 06 15 19.1 -0.3
baz=90
J21A **Lysite** 89.89 330 ⇑P P 06 15 19.4 -0.3
baz=90
I19A **Meeteetse** 89.92 331 ⇓P P 06 15 20.0 +0.2
baz=90,SNR=7.4
R32A **Long Quarter,** 89.97 321 ⇑P P 06 15 19.7 -0.3
baz=90
DLMT **Dillon** 90.09 334 eP P 06 15 21.3 +0.7
comp=Z,25nm,1.5s
DLMT **Dillon** 90.09 334 eP P 06 15 21.3 +0.7
comp=Z,25nm,1.5s
K22A **Casper** 90.10 329 eP P 06 15 20.0 -0.7
comp=Z,8.4nm,0.9s
K22A **Casper** 90.10 329 ⇓P P 06 15 19.8 -0.9
baz=90
K22A **Casper** 90.10 329 eP P 06 15 20.0 -0.7
comp=Z,8.4nm,0.9s
YMR **Madison River** 90.11 333 eP P 06 15 22.4 +1.6
comp=Z,23nm,0.9s
YMR **Madison River** 90.11 333 eP P 06 15 22.4 +1.6
comp=Z,23nm,0.9s
P29A **Atwood** 90.11 324 ⇓P P 06 15 20.6 -0.1
baz=90
J20A **Shoshoni** 90.14 330 ⇑P P 06 15 20.7 -0.1
baz=90
QLMT **Earthquake Lak** 90.14 333 eP P 06 15 22.1 +1.2
comp=Z,0.5nm,0.7s
QLMT **Earthquake Lak** 90.14 333 eP P 06 15 22.1 +1.2
comp=Z,0.5nm,0.7s
L23A **Garrett** 90.20 328 ⇑P P 06 15 20.5 -0.7
baz=90
H17A **Grant Village** 90.20 332 eP P 06 15 23.6 +2.4
H17A **Grant Village** 90.20 332 ⇓P P 06 15 23.6 +2.4
baz=90,SNR=9.9
H17A **Grant Village** 90.20 332 eP P 06 15 23.6 +2.4
MIAR **Mount Ida** 90.24 316 eP P 06 15 21.2 0.0
MIAR pmax pmax
comp=Z,8.0nm,1.0s
MIAR **Mount Ida** 90.24 316 eP P 06 15 21.2 0.0
comp=Z,7.8nm,1.0s
MIAR **Mount Ida** 90.24 316 eP P 06 15 21.2 0.0
comp=Z,7.8nm,1.0s
YFT **Old Faithful** 90.25 332 eP P 06 15 23.9 +2.5
comp=Z,17nm,0.9s
YFT **Old Faithful** 90.25 332 eP P 06 15 23.9 +2.5
comp=Z,17nm,0.9s
Q30A **Quinter** 90.27 323 ⇓P P 06 15 21.0 -0.4
baz=90
O27A **Beecher Island** 90.36 325 ⇓P P 06 15 21.8 0.0
baz=90
M24A **Cheyenne** 90.36 327 ⇑P P 06 15 21.9 0.0
baz=90
K21A **Alcova** 90.41 329 ⇑P P 06 15 21.5 -0.7
baz=90
TUL1 **Tulsa** 90.41 318 ⇓P P 06 15 21.6 -0.4
baz=90
R31A **Burdett** 90.48 322 ⇑P P 06 15 21.9 -0.4
baz=90
FLWY **Flagg Ranch** 90.52 332 eP P 06 15 24.4 +1.8
comp=Z,18nm,1.0s
FLWY **Flagg Ranch** 90.52 332 eP P 06 15 24.4 +1.8
comp=Z,18nm,1.0s
L22A **Ellis Ranch, M** 90.58 328 ⇑P P 06 15 22.9 -0.1
baz=90
J19A **Crowheart** 90.59 331 ⇑P P 06 15 22.9 0.0
baz=90
D08A **Wollman Farm,** 90.60 339 eP P 06 15 23.2 +0.5
comp=Z,110nm,2.6s
D08A **Wollman Farm,** 90.60 339 eP P 06 15 23.2 +0.5
comp=Z,110nm,2.6s
MCMT **McKenzie Canyo** 90.64 334 eP P 06 15 23.7 +0.4
comp=Z,5.4nm,1.6s
MCMT **McKenzie Canyo** 90.64 334 eP P 06 15 23.7 +0.4
comp=Z,5.4nm,1.6s
S32A **Newby Ranch, P** 90.65 321 ⇓P P 06 15 23.0 -0.1
baz=90
O26A **Horse Wrangler** 90.69 325 ⇑P P 06 15 23.4 -0.1
baz=90
Q29A **Oakley** 90.70 323 ⇑P P 06 15 23.5 0.0
baz=90
M23A **Laramie** 90.74 328 ⇓P P 06 15 23.6 -0.2
baz=90
IMW **Indian Meadow** 90.77 332 eP P 06 15 25.4 +1.5
comp=Z,14nm,0.9s
IMW **Indian Meadow** 90.77 332 eP P 06 15 25.4 +1.5
comp=Z,14nm,0.9s
PHWY **Pilot Hill** 90.77 327 eP P 06 15 23.4 -0.6
comp=Z,9.4nm,0.8s
PHWY **Pilot Hill** 90.77 327 eP P 06 15 23.4 -0.6
comp=Z,9.4nm,0.8s
MOOW **Moose Ponds** 90.82 332 eP P 06 15 24.7 +0.6
comp=Z,19nm,1.7s
MOOW **Moose Ponds** 90.82 332 eP P 06 15 24.7 +0.6
comp=Z,19nm,1.7s
R30A **Dighton** 90.84 322 ⇓P P 06 15 24.3 +0.2
baz=90
E09A **Wood Farm, Sta** 90.86 338 eP P 06 15 24.3 +0.4
comp=Z,19nm,1.3s
E09A **Wood Farm, Sta** 90.86 338 eP P 06 15 24.3 +0.4
comp=Z,19nm,1.3s
LOHW **Long Hollow** 90.89 332 eP P 06 15 25.2 +0.8
comp=Z,92nm,2.8s
LOHW **Long Hollow** 90.89 332 eP P 06 15 25.2 +0.8
comp=Z,92nm,2.8s
N24A **Carr** 90.91 327 ⇑P P 06 15 24.6 +0.1
baz=91
P27A **Ficken Ranch,** 90.92 325 ⇑P P 06 15 24.3 -0.2
baz=91
Q28A **Sharon Springs** 90.97 324 ⇓P P 06 15 24.4 -0.3
baz=91,SNR=6.4
FXWY **Fox Creek** 91.02 332 eP P 06 15 25.9 +0.9
comp=Z,12nm,1.0s
FXWY **Fox Creek** 91.02 332 eP P 06 15 25.9 +0.9
comp=Z,12nm,1.0s
T32A **Huddler Ranch,** 91.05 321 ⇑P P 06 15 25.1 +0.1
baz=91
F10A **Beach Ranch, E** 91.07 337 eP P 06 15 24.9 -0.1
comp=Z,6.8nm,0.8s
F10A **Beach Ranch, E** 91.07 337 eP P 06 15 25.0 -0.1
comp=Z,6.8nm,0.8s
TPAW **Teton Pass** 91.12 332 eP P 06 15 26.2 +0.7
comp=Z,10nm,0.9s
TPAW **Teton Pass** 91.12 332 eP P 06 15 26.2 +0.7
comp=Z,10nm,0.9s
R29A **Marienthal** 91.15 323 ⇓P P 06 15 25.2 -0.3
baz=91
M22A **Cedar Creek Ra** 91.17 328 ⇓P P 06 15 25.4 -0.4
baz=91
REDW **Red Top Meadow** 91.19 332 eP P 06 15 26.5 +0.7
comp=Z,5.8nm,1.0s
REDW **Red Top Meadow** 91.19 332 eP P 06 15 26.5 +0.7
comp=Z,5.8nm,1.0s
BW06 **Boulder Array** 91.21 331 eP P 06 15 24.9 -1.0
comp=Z,2.8nm,0.8s
BW06 **Boulder Array** 91.21 331 eP P 06 15 24.9 -1.0
comp=Z,2.8nm,0.8s
PDAR **Pinedale Array** 91.21 331 P P 06 15 25.2 -0.7
PDAR **Pinedale Array** 91.21 331 P P 06 15 25.2 -0.7
PDAR **Pinedale Array** 91.21 331 P P 06 15 25.2 -0.7
comp=Z,3.4nm,0.8s,baz=65,slow=4.1,SNR=28
PDAR LR LR 06 57 51.1
comp=Z,180nm,18.6s,baz=38,slow=36
P26A **Davis Ranch, A** 91.26 325 ⇑P P 06 15 26.1 0.0
baz=91,SNR=6.1
N23A **Red Feather La** 91.31 327 ⇓P P 06 15 26.2 -0.3
baz=91
E07A **Sunnyside** 91.32 339 eP P 06 15 26.9 +0.8
comp=Z,64nm,2.5s
E07A **Sunnyside** 91.32 339 eP P 06 15 26.9 +0.8
comp=Z,64nm,2.5s
V34A **Guthrie** 91.37 319 ⇑P P 06 15 26.2 -0.3
baz=91
KSCO **Kaye Shedlock'** 91.38 324 eP P 06 15 26.9 +0.3
KSCO **Kaye Shedlock'** 91.38 324 ⇓P P 06 15 26.6 -0.1
baz=91,SNR=6.1
KSCO **Kaye Shedlock'** 91.38 324 eP P 06 15 26.9 +0.3
HAWA **Hanford** 91.38 339 eP P 06 15 26.7 +0.4
comp=Z,16nm,0.9s
HAWA **Hanford** 91.38 339 eP P 06 15 26.7 +0.4
comp=Z,16nm,0.9s
T31A **Randall Ranch,** 91.48 321 ⇑P P 06 15 26.8 -0.3
baz=91
R28A **Tribune** 91.53 323 ⇓P P 06 15 27.1 -0.3
baz=91
O24A **Longmont** 91.57 326 ⇓P P 06 15 27.3 -0.2
baz=91
P25A **Willow Gulch B** 91.67 326 ⇓P P 06 15 27.9 -0.1
baz=91,SNR=5.7
LON **Longmire** 91.68 340 eP P 06 15 27.4 -0.4
LON pmax pmax
comp=Z,3.0nm,0.9s
LON **Longmire** 91.68 340 eP P 06 15 27.4 -0.4
comp=Z,3.2nm,0.9s
LON **Longmire** 91.68 340 eP P 06 15 27.4 -0.4
comp=Z,3.2nm,0.9s
U32A **Winter Ranch,** 91.71 320 ⇑P P 06 15 28.2 +0.1
baz=91
V33A **Lossen Ranch,** 91.78 320 ⇓P P 06 15 28.4 0.0
baz=92
O23A **Lake Granby, G** 91.86 327 ⇓P P 06 15 28.8 -0.3
baz=92
SDV **Santo Domingo** 91.98 283 eP P 06 15 29.3 -0.5
comp=Z,2.7nm,1.1s
SDV **Santo Domingo** 91.98 283 eP P 06 15 29.3 -0.5
comp=Z,2.7nm,1.1s
R27A **Eads** 92.04 324 ⇓P P 06 15 29.5 -0.2
baz=92
ISCO **Idaho Springs** 92.07 327 eP P 06 15 29.7 -0.4
ISCO pmax pmax
comp=Z,2.0nm,0.7s
ISCO **Idaho Springs** 92.07 327 eP P 06 15 29.7 -0.4
comp=Z,2.4nm,0.7s
ISCO **Idaho Springs** 92.07 327 ⇑P P 06 15 29.9 -0.2
baz=92
ISCO **Idaho Springs** 92.07 327 eP P 06 15 29.7 -0.4
comp=Z,2.4nm,0.7s
BMO **Blue Mountains** 92.10 337 eP P 06 15 29.0 -0.8
comp=Z,12nm,0.8s
BMO **Blue Mountains** 92.10 337 eP P 06 15 29.0 -0.8
comp=Z,12nm,0.8s
S28A **Manter** 92.17 323 ⇑P P 06 15 30.0 -0.3
baz=92,SNR=5.3
Q25A **Bedland, Calha** 92.19 325 ⇓P P 06 15 30.1 -0.4
baz=92
G08A **Pilot Rock** 92.21 338 eP P 06 15 30.5 +0.2
G08A **Pilot Rock** 92.21 338 eP P 06 15 30.5 +0.2
T29A **Hugoton** 92.23 322 ⇓P P 06 15 30.4 -0.1
baz=92
V32A **Arapaho** 92.24 320 ⇑P P 06 15 30.5 0.0
baz=92
HLID **Hailey** 92.30 334 ⇑P P 06 15 30.8 -0.1
baz=92
R26A **Arlington** 92.33 324 ⇓P P 06 15 30.6 -0.4
baz=92,SNR=8.2
N20A **Spence Gulch,** 92.33 329 ⇑P P 06 15 31.1 0.0
baz=92
X34A **Smith Ranch, M** 92.48 319 ⇑P P 06 15 31.6 -0.1
baz=92
P23A **Jefferson** 92.52 327 ⇑P P 06 15 31.8 -0.4
baz=92
Q24A **Divide** 92.56 326 ⇑P P 06 15 32.0 -0.3
baz=92
S27A **Las Animas** 92.57 324 ⇑P P 06 15 32.1 -0.1
baz=92
V31A **Spring Creek L** 92.61 321 ⇓P P 06 15 32.3 +0.1
baz=92
T28A **Walsh** 92.65 323 ⇓P P 06 15 32.2 -0.3
baz=92
G06A **Carlson Farm,** 92.75 339 eP P 06 15 33.8 +1.0
comp=Z,16nm,1.1s
G06A **Carlson Farm,** 92.75 339 eP P 06 15 33.8 +1.0
comp=Z,16nm,1.1s
W32A **Sentinel** 92.81 320 ⇓P P 06 15 33.2 0.0
baz=92
R25A **Fountain Ranch** 92.83 325 ⇓P P 06 15 33.0 -0.4
baz=92
WMOK **Wichita Mounta** 92.87 319 eP P 06 15 32.8 -0.7
WMOK pmax pmax
comp=Z,7.0nm,1.1s
WMOK **Wichita Mounta** 92.87 319 eP P 06 15 32.8 -0.7
comp=Z,7.3nm,1.1s
WMOK **Wichita Mounta** 92.87 319 eP P 06 15 32.8 -0.7
comp=Z,7.3nm,1.1s
MFID **Camas Ranch** 92.91 335 eP P 06 15 33.8 +0.2
comp=Z,8.7nm,1.2s
MFID **Camas Ranch** 92.91 335 eP P 06 15 33.8 +0.2
comp=Z,8.6nm,1.2s
O20A **White River Ci** 92.91 328 ⇓P P 06 15 33.2 -0.6
baz=93
T27A **Campo** 92.99 323 ⇑P P 06 15 33.8 -0.3
baz=93
R24A **Sanders Place,** 93.14 325 ⇑P P 06 15 34.7 -0.2
baz=93
HVU **Hansel Valley** 93.27 332 eP P 06 15 36.0 +0.6
HVU **Hansel Valley** 93.27 332 eP P 06 15 36.0 +0.6
HVU **Hansel Valley** 93.27 332 eP P 06 15 36.0 +0.6
S25A **Robets Cordova** 93.30 325 ⇑P P 06 15 35.2 -0.4
baz=93
T26A **Comanche Natio** 93.31 324 ⇑P P 06 15 35.6 -0.1
baz=93
Y33A **Hilltop Ranch,** 93.36 319 ⇑P P 06 15 36.1 +0.4
baz=93
X32A **Elmer** 93.38 319 ⇓P P 06 15 36.0 +0.2
baz=93
I07A **Izee** 93.47 338 eP P 06 15 37.0 +0.8
comp=Z,8.2nm,0.9s
I07A **Izee** 93.47 338 eP P 06 15 37.0 +0.8
comp=Z,8.2nm,0.9s
G03D **McMinnville, O** 93.49 341 ⇑P P 06 15 36.7 +0.6
baz=93
R23A **Moffat** 93.49 326 ⇓P P 06 15 36.6 -0.1
baz=93
U27A **Thompson Grove** 93.55 323 ⇑P P 06 15 36.4 -0.3
baz=93
X31A **McDonald Ranch** 93.57 320 ⇑P P 06 15 36.5 -0.2
baz=93
S24A **Houchin Ranch,** 93.67 325 ⇓P P 06 15 36.9 -0.6
baz=93
SDCO **Great Sand Dun** 93.72 325 eP P 06 15 36.6 -1.0
comp=Z,13nm,1.8s
SDCO **Great Sand Dun** 93.72 325 eP P 06 15 36.6 -1.0
comp=Z,13nm,1.8s
T25A **Trinidad** 93.72 324 ⇓P P 06 15 37.1 -0.5
baz=93
I05D **Terrebonne, OR** 93.77 339 ⇑P P 06 15 38.5 +1.0
baz=93
Y32A **R-V Farms, Ver** 93.79 319 ⇓P P 06 15 37.7 0.0
baz=94
JLU **Jordanelle** 93.79 331 eP P 06 15 37.9 -0.1
comp=Z,10nm,1.0s
JLU **Jordanelle** 93.79 331 eP P 06 15 37.8 -0.1
comp=Z,10nm,1.0s
J08A **Circle Bar Ran** 93.81 337 eP P 06 15 38.0 +0.2
comp=Z,4.2nm,0.8s
J08A **Circle Bar Ran** 93.81 337 eP P 06 15 38.0 +0.2
comp=Z,4.2nm,0.8s
Z33A **Whitaker Ranch** 93.99 318 ⇓P P 06 15 38.8 +0.1
baz=94
U26A **Atchley Ranch,** 94.01 323 ⇑P P 06 15 38.2 -0.7
baz=94
BGU **Big Grassy Mou** 94.11 332 eP P 06 15 39.2 0.0
comp=Z,6.1nm,1.2s
BGU **Big Grassy Mou** 94.11 332 eP P 06 15 39.2 0.0
comp=Z,6.1nm,1.2s
X30A **Coker Ranch, T** 94.17 320 ⇑P P 06 15 39.3 -0.2
baz=94
T24B **San Luis** 94.22 325 ⇑P P 06 15 40.0 0.0
baz=94
S22A **4UR Ranch, Cre** 94.30 326 ⇓P P 06 15 40.0 -0.4
baz=94
U25A **Circle Dot Ran** 94.32 324 ⇑P P 06 15 40.0 -0.3
baz=94
Z32A **Haskell** 94.35 319 ⇑P P 06 15 40.3 0.0
baz=94
V26A **Tequesquite Ra** 94.51 323 ⇓P P 06 15 40.3 -0.9
baz=94
T23A **Casias Ranch,** 94.54 325 ⇑P P 06 15 41.2 -0.2
baz=94
I04A **Tendick Farm,** 94.57 340 ⇓P P 06 15 41.1 0.0
baz=94
PV04 **Paradox Valley** 94.65 328 eP P 06 15 41.4 -0.4
PV04 **Paradox Valley** 94.65 328 eP P 06 15 41.4 -0.4
DUG **Dugway** 94.67 332 eP P 06 15 41.8 0.0
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG **Dugway** 94.67 332 eP P 06 15 41.8 0.0
comp=Z,6.5nm,0.9s
DUG **Dugway** 94.67 332 ⇓P P 06 15 42.1 +0.3
baz=94
DUG **Dugway** 94.67 332 eP P 06 15 41.8 0.0
comp=Z,6.4nm,0.9s
Z31A **Sharp Cattle R** 94.69 319 ⇑P P 06 15 41.0 -0.8
baz=94
WVOR **Wild Horse Val** 94.70 336 eP P 06 15 42.2 +0.3
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR **Wild Horse Val** 94.70 336 eP P 06 15 42.2 +0.3
comp=Z,7.0nm,0.9s
WVOR **Wild Horse Val** 94.70 336 eP P 06 15 42.2 +0.3
comp=Z,7.0nm,0.9s
J05D **Fort Rock, OR** 94.71 339 ⇓P P 06 15 42.9 +1.0
baz=94
SRU **San Rafael** 94.71 329 eP P 06 15 41.2 -0.9
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU **San Rafael** 94.71 329 eP P 06 15 41.1 -0.9
comp=Z,6.8nm,0.8s
SRU **San Rafael** 94.71 329 eP P 06 15 41.2 -0.9
comp=Z,6.8nm,0.8s
U24A **Moreno Valley** 94.71 324 ⇑P P 06 15 42.7 +0.4
baz=94
PV10 **Paradox Valley** 94.72 328 eP P 06 15 42.0 -0.2
comp=Z,82nm,0.8s
PV10 **Paradox Valley** 94.72 328 eP P 06 15 42.0 -0.2
comp=Z,82nm,0.8s
PV01 **Paradox Valley** 94.73 328 eP P 06 15 41.7 -0.5
PV01 **Paradox Valley** 94.73 328 eP P 06 15 41.7 -0.5
W27A **Bowe Ranch, En** 94.76 322 ⇓P P 06 15 42.0 -0.2
baz=94
I03D **Drain, OR** 94.92 340 ⇑P P 06 15 43.2 +0.6
baz=95
ABTX **Abilene, Hawle** 94.97 318 ⇑P P 06 15 42.7 -0.4
baz=95
J04D **Umpqua Nationa** 95.00 339 ⇑P P 06 15 44.0 +0.6
baz=95
ELK **Elko** 95.07 333 eP P 06 15 44.0 +0.3
comp=Z,5.7nm,1.1s
ELK **Elko** 95.07 333 eP P 06 15 44.0 +0.3
comp=Z,5.7nm,1.1s
K05A **Summer Lake** 95.12 338 eP P 06 15 45.3 +1.4

	comp=Z,17nm,0.9s						
K05A	**Summer Lake**	**95.12**	**338**	*e*P	**P**	**06 15 45.3**	**+1.4**
	comp=Z,17nm,0.9s						
U23A	**El Rito**	**95.19**	**325**	⇑P	**P**	**06 15 44.1**	**-0.3**
	baz=95						
Z30A	**Sanderson Ranc**	**95.22**	**320**	⇓P	**P**	**06 15 43.4**	**-0.9**
	baz=95						
334A	**Lometa**	**95.22**	**317**	⇑P	**P**	**06 15 44.5**	**+0.2**
	baz=95						
V24A	**Rampart Ranch,**	**95.27**	**324**	⇓P	**P**	**06 15 44.6**	**-0.2**
	baz=95						
Y28A	**McKinney Farm,**	**95.28**	**321**	⇑P	**P**	**06 15 44.1**	**-0.6**
	baz=95						
W25A	**X Bar L Ranch,**	**95.30**	**323**	⇑P	**P**	**06 15 44.8**	**0.0**
	baz=95						
131A	**Roby**	**95.32**	**319**	⇓P	**P**	**06 15 45.0**	**+0.3**
	baz=95						
U22A	**Llaves**	**95.45**	**326**	⇑P	**P**	**06 15 45.8**	**+0.2**
	baz=95						
K04D	**Chiloquin, OR**	**95.47**	**339**	⇓P	**P**	**06 15 45.6**	**+0.2**
	baz=95						
333A	**Richland Sprin**	**95.63**	**317**	⇓P	**P**	**06 15 46.1**	**-0.1**
	baz=95						
MOD	**Modoc**	**95.70**	**337**	*e*P	**P**	**06 15 47.1**	**+0.6**
	comp=Z,4.4nm,0.8s						
MOD	**Modoc**	**95.70**	**337**	*e*P	**P**	**06 15 47.1**	**+0.6**
	comp=Z,4.4nm,0.8s						
W24A	**Lazy 6 Ranch,**	**95.75**	**324**	⇑P	**P**	**06 15 46.9**	**0.0**
	baz=95						
Y27A	**Causey**	**95.76**	**322**	⇑P	**P**	**06 15 46.1**	**-0.8**
	baz=95						
HUMO	**Hull Mountain**	**95.82**	**339**	*e*P	**P**	**06 15 46.8**	**-0.1**
	comp=Z,22nm,1.8s						
HUMO	**Hull Mountain**	**95.82**	**339**	*e*P	**P**	**06 15 46.8**	**-0.1**
	comp=Z,22nm,1.8s						
Z28A	**Tucker Farm, M**	**95.85**	**321**	⇓P	**P**	**06 15 47.2**	**-0.1**
	baz=96						
V22A	**San Miguel Ran**	**95.86**	**325**	⇑P	**P**	**06 15 46.8**	**-0.7**
	baz=96						
MVU	**Marysvale**	**95.90**	**330**	*e*P	**P**	**06 15 47.5**	**-0.1**
	comp=Z,4.3nm,1.3s						
MVU	**Marysvale**	**95.90**	**330**	*e*P	**P**	**06 15 47.5**	**-0.1**
	comp=Z,4.3nm,1.3s						
332A	**Millersview**	**95.99**	**318**	⇓P	**P**	**06 15 47.5**	**-0.3**
	baz=96						
Y26A	**Elida**	**96.05**	**322**	⇓P	**P**	**06 15 47.9**	**-0.3**
	baz=96						
Z27A	**Tatum**	**96.24**	**321**	⇓P	**P**	**06 15 49.1**	**0.0**
	baz=96						
Z26A	**Caprock**	**96.65**	**322**	⇓P	**P**	**06 15 50.4**	**-0.5**
	baz=96						
330A	**Mertzon**	**96.73**	**319**	⇓P	**P**	**06 15 51.2**	**-0.1**
	baz=96						
Y24A	**Capitan**	**96.82**	**323**	⇑P	**P**	**06 15 51.5**	**-0.3**
	baz=96						
Z25A	**Roswell**	**97.00**	**322**	⇓P	**P**	**06 15 52.3**	**-0.2**
	baz=97						
532A	**Rocksprings**	**97.06**	**317**	⇑P	**P**	**06 15 52.7**	**0.0**
	baz=97						
329A	**Wagon Wheel Ra**	**97.08**	**319**	⇓P	**P**	**06 15 52.9**	**0.0**
	baz=97						
Y23A	**Lovelace Mesa,**	**97.11**	**324**	⇓P	**P**	**06 15 52.7**	**-0.4**
	baz=97						
430A	**Baggett Ranch,**	**97.25**	**318**	⇓P	**P**	**06 15 53.8**	**+0.2**
	baz=97						
N02D	**Trinity Center**	**97.26**	**339**	⇑P	**P**	**06 15 53.4**	**0.0**
	baz=97						
R11A	**Troy Canyon, C**	**97.31**	**333**	⇑P	**P**	**06 15 53.8**	**-0.1**
	baz=97						
531A	**Rocksprings**	**97.37**	**318**	⇓P	**P**	**06 15 53.7**	**-0.4**
	baz=97						
125A	**Gardner Draw,**	**97.48**	**322**	⇑P	**P**	**06 15 54.2**	**-0.4**
	baz=97						
226B	**Tecolote Peak,**	**97.71**	**321**	⇑P	**P**	**06 15 55.5**	**-0.2**
	baz=97						
U15A	**North Rim**	**97.73**	**329**	⇑P	**P**	**06 15 55.3**	**-0.6**
	baz=97						
Z23A	**Rita Site, Whi**	**97.74**	**323**	⇓P	**P**	**06 15 56.0**	**+0.1**
	baz=97						
Y21A	**Point of Rocks**	**97.79**	**325**	⇑P	**P**	**06 15 56.0**	**-0.3**
	baz=98						
530A	**J-C Ranch, Com**	**97.81**	**318**	⇑P	**P**	**06 15 56.0**	**-0.1**
	baz=98						
631A	**Perdido Creek**	**97.98**	**317**	⇓P	**P**	**06 15 56.7**	**-0.1**
	baz=98						
Z22A	**Elephant Butte**	**98.09**	**324**	⇓P	**P**	**06 15 56.9**	**-0.5**
	baz=98						
WUAZ	**Wupatki**	**98.13**	**328**	*e*P	Pdif	06 15 58.0	+0.3
	comp=Z,4.8nm,1.0s						
WUAZ	**Wupatki**	**98.13**	**328**	⇓P	Pdif	06 15 57.9	+0.2
	baz=98						
WUAZ	**Wupatki**	**98.13**	**328**	*e*P	Pdif	06 15 58.0	+0.3
	comp=Z,4.8nm,1.0s						
Y20A	**Horse Springs,**	**98.20**	**325**	⇑P	**P**	**06 15 57.9**	**-0.2**
	baz=98						
NVAR	**Mina Array Bea**	**98.20**	**334**	P	**P**	**06 15 58.0**	**+0.1**
NVAR	**Mina Array Bea**	**98.20**	**334**	P	**P**	**06 15 58.0**	**+0.1**
NVAR	**Mina Array Bea**	**98.20**	**334**	P	**P**	**06 15 58.0**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=34,slow=4.9,SNR=8.1						
529A	**Stev Forest Ra**	**98.29**	**319**	⇑P	**P**	**06 15 57.9**	**-0.4**
	baz=98						
OHCM	**Honcut**	**98.41**	**337**	*e*P	Pdif	06 15 58.9	+0.3
OHCM	**Honcut**	**98.41**	**337**	*e*P	Pdif	06 15 58.9	+0.4
426A	**McDonald Obser**	**98.78**	**320**	⇑Pdiff	**P**	**06 15 60.0**	**-0.7**
	baz=98						
TPNV	**Topopah Spring**	**98.80**	**332**	⇓Pdiff	**P**	**06 16 00.2**	**-0.4**
	baz=98						
324A	**Moseley Ranch,**	**98.88**	**322**	⇓Pdiff	**P**	**06 16 00.3**	**-0.7**
	baz=99						
Z20A	**Nine Sixteen R**	**98.96**	**325**	⇑Pdiff	**P**	**06 16 01.2**	**-0.2**
	baz=99						
628A	**Black Gap, Mar**	**99.14**	**319**	⇑Pdiff	**Pdif**	**06 16 01.1**	**-1.0**
	baz=99						
627A	**Terlingua Ranc**	**99.43**	**319**	⇑Pdiff	**Pdif**	**06 16 03.3**	**-0.2**
	baz=99						
FURC	**Furnace Creek,**	**99.44**	**333**	⇑Pdiff	**Pdif**	**06 16 03.3**	**+0.1**
	baz=99						
TXAR	**Lajitas Array**	**99.67**	**319**	P	**Pdif**	**06 16 04.0**	**-0.6**
TXAR	**Lajitas Array**	**99.67**	**319**	P	**Pdif**	**06 16 04.0**	**-0.6**
TXAR	**Lajitas Array**	**99.67**	**319**	P	**Pdif**	**06 16 04.0**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=22,slow=5.1,SNR=5.0						
TXAR				LR	LR	07 01 04.7	
	comp=Z,16nm,28.6s,baz=0.0,slow=35						
MPMC	**Manual Prospec**	**100.04**	**333**	⇑Pdiff	**Pdif**	**06 16 06.3**	**+0.1**
	baz=100						
GSC	**Goldstone**	**100.47**	**332**	⇓Pdiff	**Pdif**	**06 16 08.9**	**+1.0**
	baz=100						
TUC	**Tucson**	**100.62**	**326**	*e*P	**Pdif**	**06 16 08.9**	**+0.2**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.8s						
TUC	**Tucson**	**100.62**	**326**	*e*Pdif	**Pdif**	**06 16 08.9**	**+0.2**
	comp=Z,9.3nm,1.8s						
LRMC	**Laurel Mountai**	**100.63**	**333**	⇑Pdiff	**Pdif**	**06 16 09.3**	**+0.6**
	baz=100						
ISA	**Isabella**	**100.75**	**333**	⇑Pdiff	**Pdif**	**06 16 09.9**	**+0.8**
	baz=100						
EDW2	**Edwards Air Fo**	**101.28**	**333**	⇓Pdiff	**Pdif**	**06 16 11.0**	**-0.5**
	baz=101						
214A	**Organ Pipe Nat**	**101.80**	**327**	⇑Pdiff	**Pdif**	**06 16 13.4**	**-0.5**
	baz=102						
WRA	**Warramunga Arr**	**113.98**	**97**	PKiKP	**PKiKP**	**06 20 59.0**	**-0.8**
WRA				PKKPbc	**PKKPbc**	**06 31 41.2**	**+1.0**
WRA	**Warramunga Arr**	**113.98**	**97**	PKiKP	**PKiKP**	**06 20 59.0**	**-0.8**
WRA	**Warramunga Arr**	**113.98**	**97**	PKiKP	**PKiKP**	**06 20 59.0**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=294,slow=2.1,SNR=10						
WRA				PKKPbc	**PKKPbc**	**06 31 41.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=134,slow=2.8,SNR=6.9						
WRAB	**Tennant Creek**	**113.99**	**97**	*e*PKiKP	**PKiKP**	**06 20 59.3**	**-0.6**
WRAB	**Tennant Creek**	**113.99**	**97**	*e*PKPdf	**PKiKP**	**06 20 59.2**	**-0.6**
ASAR	**Alice Springs**	**115.65**	**101**	PKP	**PKPdf**	**06 21 02.3**	**-0.7**
ASAR				PKKPbc	**PKKPbc**	**06 31 35.2**	**+0.7**
ASAR	**Alice Springs**	**115.65**	**101**	PKiKP	**PKPdf**	**06 21 02.3**	**-0.7**
ASAR	**Alice Springs**	**115.65**	**101**	PKP	**PKPdf**	**06 21 02.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=315,slow=1.4,SNR=15						
ASAR				PKKPbc	**PKKPbc**	**06 31 35.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=116,slow=3.6,SNR=7.2						
CTA	**Charters Tower**	**123.46**	**90**	PKP	**PKPdf**	**06 21 18.2**	**+0.2**
CTA	**Charters Tower**	**123.46**	**90**	PKiKP	**PKPdf**	**06 21 18.2**	**+0.2**
CTA	**Charters Tower**	**123.46**	**90**	PKP	**PKPdf**	**06 21 18.2**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=292,slow=5.4,SNR=3.5						
STKA	**Stephens Creek**	**125.59**	**105**	PKP	**PKPdf**	**06 21 21.9**	**+0.2**
STKA				*e*PKPdf	**PKPdf**	**06 21 22.1**	**+0.2**
STKA	**Stephens Creek**	**125.59**	**105**	PKiKP	**PKPdf**	**06 21 22.0**	**+0.2**
STKA	**Stephens Creek**	**125.59**	**105**	PKP	**PKPdf**	**06 21 21.9**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=336,slow=4.2,SNR=8.4						
QSPA	**South Pole Qui**	**127.78**	**180**	*e*PKPdf	**PKPdf**	**06 21 24.3**	**-0.7**
QSPA	**South Pole Qui**	**127.78**	**180**	*e*PKiKP	**PKPdf**	**06 21 24.3**	**-0.7**
RPZ	**Rata Peaks**	**151.02**	**114**	*e*PKPbc	**PKPbc**	**06 22 13.2**	**+0.1**
RPZ	**Rata Peaks**	**151.02**	**114**	*e*PKPbc	**PKPbc**	**06 22 13.2**	**+0.1**
KHZ	**Kahutara**	**152.79**	**111**	*e*PKPbc	**PKPbc**	**06 22 17.4**	**+0.3**
KHZ	**Kahutara**	**152.79**	**111**	*e*PKPbc	**PKPbc**	**06 22 17.4**	**+0.3**

TAP ***04*** *06:09:12.5,24.81N×122.56E,h134km,ML3.7,C*
ISCJB ***04*** *06:09:13.6±0.7,24.75N±0.05×122.54E±0.02,*
h121km±5km, Error ellipse: s-maj=7.5km s-min=3.6km az=173.4
JMA ***04*** *06:09:13.2±0.2,24.73N×122.51E,h126km±3km, M2.7*

ISC 04 06:09:13.8±1.9,24.77N±0.07×122.54E±0.03,
h122km±12km, n34, σ0.69/63, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**125**	P		**Pn**	**06 09 32.2**	**+0.1**
YOJ				*e*S		**Sn**	**06 09 46.3**	**+0.4**
TWB1	**Santiao Chiao**	**0.55**	**295**	*i* P		**Pn**	**06 09 32.3**	**0.0**
	baz=284							
TWB1				*e*S		**Sn**	**06 09 46.8**	**+0.6**
	baz=284							
TWC	**Suao**	**0.65**	**256**	*i* P		**Pn**	**06 09 32.4**	**-0.5**
	baz=251							
TWC				*e*S		**Sn**	**06 09 47.3**	**-0.1**
	baz=251							
NWF	**Wu-fen Shan**	**0.75**	**294**	P		**Pn**	**06 09 33.7**	**-0.1**
	baz=285							
NWF				*e*S		**Sn**	**06 09 48.6**	**-0.3**
	baz=285							
TWE	**Neicheng**	**0.79**	**267**	*i* P		**Pn**	**06 09 34.0**	**-0.1**
	baz=266							
TWE				*e*S		**Sn**	**06 09 49.4**	**0.0**
	baz=266							
ENA	**Nanau**	**0.80**	**245**	*i* P		**Pn**	**06 09 34.3**	**+0.1**
	baz=243							
ENA				*e*S		**Sn**	**06 09 49.9**	**+0.4**
	baz=243							
TWA	**Mucha**	**0.89**	**284**	*e*P		**Pn**	**06 09 34.5**	**-0.4**
	baz=281							
TWA				*e*S		**Sn**	**06 09 50.5**	**-0.4**
	baz=281							
ENTT	**Nioudou**	**0.89**	**262**	P		**Pn**	**06 09 35.2**	**+0.2**
	baz=260							
ENTT				*e*S		**Sn**	**06 09 52.0**	**+1.0**
	baz=260							
TWS1	**Kuangyinshan**	**1.07**	**288**	*e*P		**Pn**	**06 09 36.5**	**-0.1**
	baz=281							
NSK	**Sanguang**	**1.08**	**265**	*i* P		**Pn**	**06 09 36.6**	**-0.2**
	baz=269							
NSK				S		**Sn**	**06 09 53.9**	**-0.3**
	baz=269							
TWD	**Chiawan**	**1.10**	**231**	*e*P		**Pn**	**06 09 36.7**	**-0.3**
	baz=228							
TWD				*e*S		**Sn**	**06 09 54.1**	**-0.4**
	baz=228							
NNS	**Nan Shan**	**1.11**	**253**	*e*P		**Pn**	**06 09 37.4**	**+0.1**
	baz=247							
NNS				*e*S		**Sn**	**06 09 55.2**	**+0.2**
	baz=247							
HWA	**Hwalien**	**1.16**	**227**	*e*S		**Sn**	**06 09 56.9**	**+1.2**
	baz=222							
IRIF	**Iriomote-Funau**	**1.17**	**112**	P		**Pn**	**06 09 37.5**	**-0.2**
IRIF				S		**Sn**	**06 09 56.1**	**+0.3**
WHF	**Hehuan Shan**	**1.32**	**242**	P		**Pn**	**06 09 39.6**	**-0.1**
	baz=241							
WHF				*e*S		**Sn**	**06 09 58.5**	**-0.9**
	baz=241							
TWT	**Tachien**	**1.34**	**248**	*e*P		**Pn**	**06 09 40.3**	**+0.5**
	baz=243							
TWT				*e*S		**Sn**	**06 09 59.9**	**+0.5**
	baz=243							
HATJ	**Hateruma jima**	**1.36**	**121**	P		**Pn**	**06 09 40.1**	**+0.4**
HATJ				S		**Sn**	**06 10 00.6**	**+1.2**
ESL	**Shilin**	**1.39**	**227**	*e*S		**Sn**	**06 09 58.8**	**-1.2**
	baz=232							
NSTT	**Nanjuang**	**1.40**	**265**	P		**Pn**	**06 09 39.8**	**-0.5**
	baz=263							
NSTT				S		**Sn**	**06 09 59.6**	**-0.7**
	baz=263							
JKRS	**Kuro-shima**	**1.44**	**111**	P		**Pn**	**06 09 41.1**	**+0.4**
JKRS				S		**Sn**	**06 10 01.5**	**+0.4**
JIJ	**Ishigaki jima**	**1.52**	**105**	P		**Pn**	**06 09 41.3**	**-0.3**
JIJ				S		**Sn**	**06 10 01.9**	**-0.8**
NSY	**Sanyi**	**1.66**	**258**	*e*P		**Pn**	**06 09 43.4**	**+0.2**
	baz=257							
TWQ1	**Liyutan**	**1.66**	**256**	*e*P		**Pn**	**06 09 43.2**	**-0.1**
	baz=254							
TWQ1				*e*S		**Sn**	**06 10 05.3**	**-0.3**
	baz=254							
EHY	**Hungye**	**1.68**	**222**	*e*P		**Pn**	**06 09 42.9**	**-0.6**
	baz=221							
EHY				*e*S		**Sn**	**06 10 04.2**	**-1.9**
	baz=221							
SMLT	**Sun Moon Lake**	**1.74**	**240**	P		**Pn**	**06 09 44.9**	**+0.6**
	baz=235							
SMLT				*e*S		**Sn**	**06 10 08.8**	**+1.3**
	baz=235							
TYC	**Yuchr**	**1.76**	**241**	P		**Pn**	**06 09 45.0**	**+0.6**
	baz=247							
TYC				S		**Sn**	**06 10 08.4**	**+0.7**
	baz=247							
TWF1	**Yuli**	**1.81**	**219**	*e*P		**Pn**	**06 09 44.3**	**-0.8**
	baz=223							
TWF1				*e*S		**Sn**	**06 10 07.7**	**-1.3**
	baz=223							
YUS	**Yu-Shan**	**1.93**	**229**	P		**Pn**	**06 09 47.5**	**+0.5**
	baz=224							
YUS				*e*S		**Sn**	**06 10 12.4**	**+0.1**
	baz=224							
JTJ	**Tarama**	**1.97**	**93**	P		**Pn**	**06 09 47.1**	**+0.1**
JTJ				*e*S		**Sn**	**06 10 11.4**	**-1.0**
ALS	**Alishan**	**2.02**	**232**	*e*P		**Pn**	**06 09 48.5**	**+0.6**
	baz=226							
ALS				*e*S		**Sn**	**06 10 14.5**	**+0.6**
	baz=226							
CHN5	**Tsauling**	**2.06**	**236**	*e*P		**Pn**	**06 09 49.0**	**+0.8**
	baz=243							
CHN5				*e*S		**Sn**	**06 10 14.9**	**+0.4**
	baz=243							
TWG	**Pinlang**	**2.36**	**215**	*e*S		**Sn**	**06 10 19.4**	**-1.7**
	baz=215							
TWK	**Hsinying**	**2.40**	**232**	*e*P		**Pn**	**06 09 52.1**	**-0.4**
	baz=231							
TWK				*e*S		**Sn**	**06 10 22.3**	**+0.2**
	baz=231							
CHN1	**Nanshi**	**2.42**	**230**	*e*P		**Pn**	**06 09 54.1**	**+1.4**
	baz=229							
CHN1				*e*S		**Sn**	**06 10 22.9**	**+0.3**
	baz=229							

IDC 04 06:30:15.7±1.0,55.41S×28.24W,h0km,mb4.2/3,
mb1 4.4/3,mb1mx3.9/16,mbtmp4.2/3, Error ellipse:
s-maj=41.9km s-min=31.8km az=82.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.18**	**183**	P		P	06 38 49.1	-0.2
	1.4nm,0.6s,baz=172,slow=5.5,SNR=6.4							
H10S2	**ASCENSION HYDR**	**47.57**	**18**	T		T	07 30 48.7	
	baz=193							
H10S3	**ASCENSION HYDR**	**47.57**	**18**	T		T	07 30 52.7	
	baz=193							
H10S1	**ASCENSION HYDR**	**47.59**	**18**	T		T	07 30 54.6	
	baz=193							
H10N1	**ASCENSION HYDR**	**48.69**	**18**	T		T	07 32 17.9	
	baz=200							
H10N3	**ASCENSION HYDR**	**48.69**	**18**	T		T	07 32 18.0	
	baz=200							
H10N2	**ASCENSION HYDR**	**48.70**	**18**	T		T	07 32 19.6	
	baz=200							
LPAZ	**La Paz**	**49.52**	**306**	P		P	06 39 08.6	-0.3
	2.7nm,0.5s,baz=162,slow=5.2,SNR=13							
TORD	**Torodi Ar. Bea**	**72.80**	**31**	P		P	06 41 45.8	0.0
	1.4nm,0.6s,baz=201,slow=5.9,SNR=9.4							
ILAR	**Eielson Array**	**149.25**	**313**	PKPbc		PKPbc	06 50 04.4	-0.3
	2.9nm,0.8s,baz=102,slow=1.8,SNR=4.9							
SONM	**Songino Array**	**151.28**	**86**	PKPbc		PKPbc	06 50 10.1	-0.2
	0.8nm,0.6s,baz=239,slow=2.0,SNR=7.9							

IDC 04 06:32:18.2±3.4,7.81S×114.39E,h0km,mb3.5/4,
mb1 3.7/4,mb1mx3.5/20,mbtmp3.6/4, Error ellipse:
s-maj=152.0km s-min=25.0km az=59.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.78**	**124**	P		P	06 37 22.6	0.0
	0.5nm,0.4s,baz=299,slow=11,SNR=11							
ASAR	**Alice Springs**	**24.47**	**132**	P		P	06 37 39.4	+0.2
	0.4nm,0.4s,baz=311,slow=9.1,SNR=9.5							
STKA	**Stephens Creek**	**34.85**	**137**	P		P	06 39 10.7	-0.5
	0.9nm,0.6s,baz=297,slow=9.0,SNR=4.1							
SONM	**Songino Array**	**55.85**	**353**	P		P	06 41 57.6	0.0
	0.6nm,0.7s,baz=158,slow=8.6,SNR=2.4							

MEX 04 06:47:29.3±0.8,15.67N×94.23W,h86km±18km, MD4.0,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PCIG		**0.97**	**88**	*i* P		Pn	06 47 46.7	-1.6
PCIG				*i* S		Sn	06 48 01.4	-1.3
HUIG	**Huatulco**	**1.81**	**273**	*e*P		Pn	06 47 57.8	-1.1
HUIG				*i* S		Sn	06 48 19.8	-1.7
VHO	**Vista Hermosa**	**2.78**	**300**	*e*P		Pn	06 48 11.4	-0.7
VHO				*i* S		Sn	06 48 42.8	-2.1

IDC 04 06:53:32.6±2.0,10.45S×165.87E,h0km,mb3.6/3,
mb1 4.0/4,mb1mx3.7/19,mbtmp3.8/4,ML4.2/1,MS3.0/2,
Ms1 3.1/2,ms1mx2.7/24, Error ellipse: s-maj=55.2km
s-min=34.5km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.57**	**177**	Pn		Pn	06 56 19.1	-0.1
	1.7nm,0.3s,baz=339,slow=17,SNR=42							
DZM						Sn	06 58 17.5	-12
	0.1nm,0.3s,baz=272,slow=6.3,SNR=2.7							
PMG	**Port Moresby**	**18.46**	**272**	LR		LR	07 03 49.0	
	comp=Z,15nm,28.6s,baz=180,slow=33							
WRA	**Warramunga Arr**	**31.80**	**249**	P		P	06 59 59.6	+0.4
	1.2nm,0.8s,baz=80,slow=8.7,SNR=7.2							
ASAR	**Alice Springs**	**33.17**	**243**	P		P	07 00 10.8	-0.5
	0.2nm,0.5s,baz=65,slow=11,SNR=7.4							
CMAR	**Chiang Mai Arr**	**71.99**	**293**	LR		LR	07 38 22.7	
	comp=Z,15nm,28.6s,baz=165,slow=37							
ILAR	**Eielson Array**	**82.91**	**18**	P		P	07 05 59.0	0.0
	1.0nm,1.1s,baz=232,slow=5.6,SNR=3.0							

ISCJB ***04*** *06:57:56.2±0.7,20.5S±0.2×178.3W±0.1,h587km,mb3.6/8,*
Error ellipse: s-maj=27.2km s-min=11.0km az=146.5
IDC ***04*** *06:57:57.4±2.0,20.49S×178.33W,h593km±26km,mb3.1/8,*
mb1 3.4/11,mb1mx3.3/21,mbtmp4.2/11, Error ellipse:
s-maj=32.0km s-min=14.6km az=151.0

ISC 04 06:57:56.8±0.8,20.5S±0.2×178.4W±0.2,h587km,n16,
σ1.22/16,mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.04**	**45**	P		**P**	**07 00 05.9**	**-0.1**
	5.4nm,0.3s,baz=215,slow=16,SNR=4.5							
DZM	**Mont Dzumac**	**14.27**	**261**	P		**P**	**07 00 58.2**	**-0.4**
	0.7nm,0.3s,baz=92,slow=13,SNR=9.8							
URZ	**Urewera**	**18.18**	**192**	P		**P**	**07 01 33.8**	**-0.7**
	3.6nm,0.3s,baz=341,slow=2.2,SNR=19							
CTA	**Charters Tower**	**33.16**	**264**	P		**P**	**07 03 47.0**	**+0.6**
	5.0nm,0.3s,baz=82,slow=8.6,SNR=9.1							
QLP	**Quilpie**	**34.76**	**253**	P		P	07 03 55.5	-4.0
	baz=41,SNR=4.3							
STKA	**Stephens Creek**	**37.51**	**244**	P		**P**	**07 04 23.2**	**+1.1**
	3.9nm,0.9s,baz=79,slow=10,SNR=8.4							
STKA	**Stephens Creek**	**37.51**	**244**	P		**P**	**07 04 23.4**	**+1.3**
	baz=43,SNR=5.8							
HTT	**Hallett**	**39.96**	**242**	P		**P**	**07 04 42.8**	**+0.9**
	baz=46,SNR=5.5							
BBOO	**Buckleboo**	**42.27**	**243**	P		**P**	**07 05 00.7**	**+0.7**
	baz=48,SNR=18							
ASAR	**Alice Springs**	**44.21**	**257**	P		**P**	**07 05 15.6**	**+0.3**
	3.2nm,0.7s,baz=87,slow=8.6,SNR=39							
ASAR				PcP		**PcP**	**07 06 45.4**	**-1.4**
	0.4nm,0.5s,baz=108,slow=5.1,SNR=3.5							
WRA	**Warramunga Arr**	**44.28**	**262**	P		**P**	**07 05 15.6**	**-0.3**
	2.3nm,0.6s,baz=98,slow=8.1,SNR=19							
NVAR	**Mina Array Bea**	**81.21**	**44**	P		**P**	**07 09 13.4**	**+0.8**
	0.3nm,0.6s,baz=238,slow=13,SNR=2.6							
TXAR	**Lajitas Array**	**87.31**	**57**	P		**P**	**07 09 44.0**	**+1.5**
	0.8nm,0.9s,baz=220,slow=9.3,SNR=5.3							
ILAR	**Eielson Array**	**88.34**	**13**	P		**P**	**07 09 46.1**	**-0.2**
	0.4nm,0.8s,baz=240,slow=5.2,SNR=5.4							
PDAR	**Pinedale Array**	**89.15**	**43**	P		**P**	**07 09 50.9**	**-0.1**
	0.3nm,0.8s,baz=209,slow=5.2,SNR=2.3							
AKASG	**Malin Array Be**	**142.81**	**331**	PKP		**PKPdf**	**07 16 20.9**	**-3.0**
	0.2nm,0.3s,baz=44,slow=4.1,SNR=6.2							

NIED ***04*** *07:15:00,25.30N×129.20E,h5km,Mw3.9 Best double couple: M0 8.68000×10^14 NP1:φ=28.00000°,δ50.00000°, λ-95.00000°. NP2:φ=216.00000°,δ40.00000°, λ-84.00000°.*

JMA 04 07:15:12.2±0.4,25.29N×129.16E,h50km,M3.8,
Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JJT2	**Tamag

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.91**	**267**	P	P	07 28 54.8	+0.4
	2.7nm,0.4s,baz=94,slow=7.7,SNR=5.1						
STKA	**Stephens Creek**	**40.06**	**247**	P	P	07 29 20.4	-0.3
	1.1nm,0.5s,baz=84,slow=9.9,SNR=6.8						
ASAR	**Alice Springs**	**47.52**	**258**	P	P	07 30 20.6	-0.3
	0.3nm,0.3s,baz=102,slow=8.3,SNR=10						
WRA	**Warramunga Arr**	**47.88**	**263**	P	P	07 30 23.6	-0.2
	1.2nm,0.4s,baz=102,slow=8.3,SNR=52						

IDC ***04*** *07:49:28.8±3.6,7°.02S×129°.18E,h161km±31km,mb3.5/5, mb1 3.6/7,mb1mx3.5/19,mbtmp3.5/7,MS3.3/2,Ms1 3.3/2, ms1mx2.8/17,Error ellipse: s-maj=75.8km s-min=18.0km az=70.0*

ISC 04 07:49:27.2±1.0,7°.33S±0°.09×129°.1E±0°.2,h156km,n8, σ2s49/12,mb3.8/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.22**	**197**	P	**P**	**07 52 08.5**	**-2.6**
	0.5nm,0.3s,baz=33,slow=13,SNR=14						
FITZ				S	**Sn**	**07 54 07.9**	**+0.5**
	1.2nm,0.3s,baz=76,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**13.54**	**158**	P	**Pn**	**07 52 33.6**	**+0.5**
	1.5nm,0.3s,baz=332,slow=13,SNR=39						
WRA				S	**Sn**	**07 54 59.2**	**-4.1**
	1.6nm,0.3s,baz=338,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.90**	**165**	P	**Pn**	**07 53 19.0**	**+4.4**
	1.4nm,0.3s,baz=347,slow=11,SNR=130						
ASAR				S	**S**	**07 56 23.5**	**+1.3**
	0.5nm,0.3s,baz=350,slow=26,SNR=5.6						
ASAR				LR	LR	07 59 53.5	
	comp=Z,52nm,19.3s,baz=178,slow=36						
ASAR				ScP	**ScP**	**08 01 13.2**	**+0.5**
	0.0nm,0.3s,baz=354,slow=1.6,SNR=4.2						
STKA	**Stephens Creek**	**27.07**	**156**	P	**P**	**07 54 58.4**	**+3.1**
	1.0nm,0.5s,baz=329,slow=8.9,SNR=4.8						
SONM	**Songino Array**	**58.46**	**342**	P	**P**	**07 59 06.5**	**-0.3**
	0.5nm,0.7s,baz=152,slow=5.8,SNR=4.0						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**08 00 09.9**	**+0.3**
	1.5nm,0.4s,baz=117,slow=8.1,SNR=25						
ZALV	**Zalesovo Beam**	**71.47**	**334**	P	**P**	**08 00 29.8**	**-0.8**
	0.5nm,0.3s,baz=141,slow=5.2,SNR=2.8						
ZALV				LR	LR	08 34 45.7	
	comp=Z,45nm,19.6s,baz=35,slow=38						
KURBB	**Kurchatov Arra**	**72.31**	**329**	P	**P**	**08 00 34.8**	**-0.8**
	0.9nm,0.6s,baz=127,slow=5.2,SNR=4.5						

WEL 04 07:57:18.3±0.2,39°.40S×174°.83E,h147km±1km,ML3.5/10, 10C-16D,Error ellipse: s-maj=1.7km s-min=0.9km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.28**	**349**	PN	Pn	07 57 38.0	-0.4
VRZ				SN	Sn	07 57 52.6	-1.0
WAZ	**Wanganui**	**0.37**	**161**	⇑PN	Pn	07 57 39.1	+0.4
WAZ				SN	Sn	07 57 54.0	0.0
PKVZ	**Pokaka**	**0.42**	**75**	⇓PN	Pn	07 57 38.6	-0.3
PKVZ				SN	Sn	07 57 54.0	-0.7
MTVZ	**Mangateitei**	**0.50**	**88**	PN	Pn	07 57 39.1	-0.2
MTVZ				SN	Sn	07 57 54.1	-1.2
TRVZ	**Turoa**	**0.57**	**80**	PN	Pn	07 57 39.6	-0.3
TRVZ				SN	Sn	07 57 55.0	-1.3
TWVZ	**Taurewa**	**0.58**	**55**	PN	Pn	07 57 39.3	-0.5
FWVZ	**Far West T-bar**	**0.58**	**76**	PN	Pn	07 57 39.6	-0.4
FWVZ				SN	Sn	07 57 55.3	-1.2
DRZ	**Dome Shelter**	**0.58**	**78**	PN	Pn	07 57 39.9	-0.3
DRZ				SN	Sn	07 57 55.7	-0.9
WPVZ	**Whakapapa**	**0.59**	**71**	PN	Pn	07 57 39.6	-0.3
WNVZ	**Wahianoa**	**0.60**	**83**	⇓PN	Pn	07 57 39.9	-0.2
KHEZ	**Kahui Hut**	**0.64**	**279**	PN	Pn	07 57 40.4	+0.2
NGZ	**Ngauruhoe**	**0.64**	**70**	⇓PN	Pn	07 57 39.9	-0.4
TUVZ	**Tukino**	**0.65**	**79**	PN	Pn	07 57 40.2	-0.1
WTVZ	**West Tongariro**	**0.66**	**65**	⇓PN	Pn	07 57 40.0	-0.3
OTVZ	**Oturere**	**0.69**	**70**	⇓PN	Pn	07 57 40.4	-0.2
KRVZ	**Karewarewa**	**0.70**	**64**	⇓PN	Pn	07 57 40.3	-0.3
MOVZ	**Moawhango**	**0.72**	**91**	⇓PN	Pn	07 57 40.1	-0.5
HIZ	**Hauiti**	**0.89**	**1**	⇓PN	Pn	07 57 40.9	-1.0
BHHZ	**Black Hill Sta**	**0.96**	**96**	⇓PN	Pn	07 57 41.8	-0.7
TSZ	**Takapari Road**	**1.09**	**127**	AML	AML	07 58 01.9	
TSZ				AML	AML	07 58 02.8	
PNHZ	**Pukenui**	**1.18**	**116**	PN	Pn	07 57 44.2	-0.1
TLZ	**Tolley Road**	**1.21**	**28**	PN	Pn	07 57 43.7	-1.0
POWZ	**Post Office Ro**	**1.23**	**144**	PN	Pn	07 57 44.5	-0.3
BKZ	**Black Stump Fm**	**1.31**	**80**	⇓PN	Pn	07 57 45.0	-0.7
DVHZ	**Dannevirke**	**1.37**	**132**	⇓PN	Pn	07 57 46.0	-0.2
MRZ	**Mangatainoka R**	**1.39**	**156**	⇑PN	Pn	07 57 46.3	-0.1
MRZ				SN	Sn	07 58 06.1	-1.9
MRZ				AML	AML	07 58 12.1	
WPHZ	**Waipukurau**	**1.41**	**119**	⇓PN	Pn	07 57 46.6	0.0
MCHZ	**McNeill Hill**	**1.45**	**92**	⇓PN	Pn	07 57 47.5	+0.4
PRWZ	**Pori Road**	**1.45**	**142**	PN	Pn	07 57 47.0	-0.1
KIW	**Kapiti Island**	**1.46**	**178**	PN	Pn	07 57 47.0	-0.1
KIW				AML	AML	07 58 07.6	
KIW				AML	AML	07 58 08.7	
DUWZ	**D'Urville Isla**	**1.56**	**206**	PN	Pn	07 57 48.0	-0.2
NMHZ	**Naumai**	**1.56**	**79**	⇑PN	Pn	07 57 48.7	+0.3
HOWZ	**Holdsworth Sta**	**1.59**	**161**	⇑PN	Pn	07 57 48.3	-0.2
TIWZ	**Tintock**	**1.60**	**150**	PN	Pn	07 57 48.5	-0.1
TIWZ				AML	AML	07 58 11.7	
TIWZ				AML	AML	07 58 13.0	
KAHZ	**Kahuranaki**	**1.63**	**105**	PN	Pn	07 57 49.1	+0.1
PRHZ	**Porangahau**	**1.64**	**122**	PN	Pn	07 57 49.1	0.0
ANWZ	**Angora Road**	**1.65**	**130**	PN	Pn	07 57 49.3	+0.1
BFZ	**Birch Farm**	**1.68**	**140**	PN	Pn	07 57 49.3	-0.2
PXZ	**Pawanui**	**1.69**	**113**	⇓PN	Pn	07 57 49.4	-0.2
CAW	**Cannon Point**	**1.71**	**174**	⇑PN	Pn	07 57 49.9	-0.1
CAW				AML	AML	07 58 14.1	
CAW				AML	AML	07 58 14.5	
CKHZ	**Cape Kidnapper**	**1.76**	**99**	PN	Pn	07 57 50.5	+0.1
RAHZ	**Arahi**	**1.82**	**75**	PN	Pn	07 57 50.8	-0.4
MTW	**Mount Morrison**	**1.83**	**164**	⇑PN	Pn	07 57 50.8	-0.5
MTW				AML	AML	07 58 15.8	
MTW				AML	AML	07 58 16.1	
TCW	**Tory Channel**	**1.86**	**193**	PN	Pn	07 57 51.3	-0.2
WEL	**Wellington**	**1.88**	**181**	PN	Pn	07 57 51.5	-0.3
TMWZ	**Te Maipa**	**1.89**	**155**	PN	Pn	07 57 51.6	-0.3
WHHZ	**Waihua**	**1.90**	**81**	*e*PN	Pn	07 57 51.6	-0.4
SNZO	**South Karori**	**1.91**	**183**	PN	Pn	07 57 51.8	-0.3
SNZO				AML	AML	07 57 52.1	
BHW	**Baring Head**	**2.01**	**179**	PN	Pn	07 57 52.8	-0.4
PAWZ	**Paruwai Farm**	**2.03**	**167**	⇑PN	Pn	07 57 53.1	-0.5
PAWZ				AML	AML	07 58 18.0	
MSWZ	**Moikau Station**	**2.04**	**171**	⇑PN	Pn	07 57 53.2	-0.5
MSWZ				AML	AML	07 58 19.8	
MSWZ				AML	AML	07 58 20.2	
TRWZ	**Traveller**	**2.10**	**162**	PN	Pn	07 57 52.9	-0.5
URZ	**Urewera**	**2.12**	**58**	PN	Pn	07 57 52.9	-1.7
URZ				AML	AML	07 58 18.0	
NNZ	**Nelson**	**2.13**	**211**	⇑PN	Pn	07 57 53.9	-0.7
TUWZ	**Tuamarina**	**2.14**	**198**	PN	Pn	07 57 54.2	-0.6
PLWZ	**Palliser**	**2.19**	**172**	PN	Pn	07 57 54.8	-0.8
KNZ	**Kokohu**	**2.24**	**81**	PN	Pn	07 57 55.0	-1.0
QRZ	**Quartz Range**	**2.27**	**230**	⇓PN	Pn	07 57 55.1	-1.2
MWZ	**Matawai**	**2.36**	**64**	PN	Pn	07 57 55.6	-2.0
RIGZ	**Rimuhau**	**2.39**	**74**	PN	Pn	07 57 56.8	-1.1
MHGZ	**Mahia Peninsul**	**2.40**	**85**	PN	Pn	07 57 57.2	-0.8
BSWZ	**Blackbirch Sta**	**2.42**	**197**	PN	Pn	07 57 57.9	-0.4
THZ	**Tophouse**	**2.78**	**211**	PN	Pn	07 58 01.6	-1.2
PUZ	**Puketiti**	**2.99**	**65**	PN	Pn	07 58 03.4	-2.0
KHZ	**Kahutara**	**3.17**	**198**	⇑PN	Pn	07 58 06.8	-0.8
DSZ	**Denniston Nort**	**3.29**	**224**	PN	Pn	07 58 07.5	-1.7
LTZ	**Lake Taylor**	**3.89**	**209**	PN	Pn	07 58 14.8	-2.2
OXZ	**Oxford**	**4.45**	**207**	PN	Pn	07 58 21.4	-2.9
MOZ	**McQueen's Vall**	**4.60**	**200**	⇓PN	Pn	07 58 23.2	-3.0
FOZ	**Fox Glacier**	**5.67**	**221**	PN	Pn	07 58 37.1	-3.3
ODZ	**Otahua Downs**	**6.44**	**207**	PN	Pn	07 58 48.4	-2.3

SKO ***04*** *08:46:00.4,40°.69N×22°.80E,h15km,M1.5,ML1.9*
CSEM ***04*** *08:46:02.0±0.1,40°.79N×22°.80E,h10km,MD2.5,Error ellipse: s-maj=2.4km s-min=1.4km az=46.0*
THE ***04*** *08:46:02.5,40°.80N×22°.81E,h2km±21km,ML1.7/4,Error ellipse: s-maj=21.2km s-min=0.4km az=0.0*
ATH ***04*** *08:46:02.5,40°.80N×22°.81E,h4km,MD2.5/6*
ISC 04 08:46:01.8±2.2,40°.79N±0°.04×22°.80E±0°.03,h16km±19km, n24,σ0s25/41,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.20**	**142**	P	**Pg**	**08 46 06.6**	**0.0**
THE				S	**Sg**	**08 46 09.6**	**-0.3**
THE	**Thessaloniki**	**0.20**	**142**	*e*PG	**Pg**	**08 46 06.6**	**0.0**
THE				*e*SG	**Sg**	**08 46 09.6**	**-0.3**
THE	**Thessaloniki**	**0.20**	**142**	P	**Pg**	**08 46 06.6**	**0.0**
THE				S	**Sg**	**08 46 09.6**	**-0.3**
HORT	**Hortiatis**	**0.30**	**131**	P	**Pg**	**08 46 08.4**	**+0.1**
HORT				S	**Sg**	**08 46 12.3**	**-0.4**
HORT	**Hortiatis**	**0.30**	**131**	*e*PG	**Pg**	**08 46 08.3**	**0.0**
HORT				*e*SG	**Sg**	**08 46 12.8**	**+0.1**
HORT	**Hortiatis**	**0.30**	**131**	*e*Pg	**Pg**	**08 46 08.3**	**0.0**
HORT				S	**Sg**	**08 46 12.3**	**-0.4**
GRG	**Griva**	**0.34**	**298**	P	**Pg**	**08 46 09.2**	**+0.2**
GRG				S	**Sg**	**08 46 14.2**	**+0.2**
GRG	**Griva**	**0.34**	**298**	*e*PG	**Pg**	**08 46 09.3**	**+0.2**
GRG				*e*SG	**Sg**	**08 46 14.1**	**+0.1**
GRG	**Griva**	**0.34**	**298**	P	**Pg**	**08 46 09.2**	**+0.2**
GRG				S	**Sg**	**08 46 14.2**	**+0.2**
KNT	**Kendrikon**	**0.38**	**11**	P	**Pg**	**08 46 09.7**	**+0.1**
KNT				S	**Sg**	**08 46 14.6**	**-0.3**
KNT	**Kendrikon**	**0.38**	**11**	*e*PG	**Pg**	**08 46 09.7**	**+0.1**
KNT				*e*SG	**Sg**	**08 46 15.0**	**+0.1**
KNT	**Kendrikon**	**0.38**	**11**	P	**Pg**	**08 46 09.7**	**+0.1**
KNT				S	**Sg**	**08 46 14.6**	**-0.3**
KNT				*e*Sb	**Sg**	**08 46 15.0**	**+0.1**
SOH	**Sokhos**	**0.42**	**86**	P	**Pg**	**08 46 10.8**	**+0.4**
SOH	**Sokhos**	**0.42**	**86**	*e*PG	**Pg**	**08 46 10.8**	**+0.4**
SOH				*e*SG	**Sg**	**08 46 16.6**	**+0.4**
SOH	**Sokhos**	**0.42**	**86**	P	**Pg**	**08 46 10.8**	**+0.4**
SOH				*e*Sb	**Sg**	**08 46 16.6**	**+0.4**
VAY	**Valandovo**	**0.56**	**342**	P	**Pg**	**08 46 12.6**	**-0.3**
VAY	**Valandovo**	**0.56**	**342**	*i* Pg	**Pg**	**08 46 12.6**	**-0.3**
VAY				*i* Sg	**Sg**	**08 46 19.9**	**-0.4**
VAY				*i* Lg	Lg	08 46 20.0	
	comp=N,55nm,0.4s						
VAY				*i* Lg	Lg	08 46 20.2	
	comp=E,25nm,0.2s						
VAY	**Valandovo**	**0.56**	**342**	P	**Pg**	**08 46 12.6**	**-0.3**
VAY	**Valandovo**	**0.56**	**342**	*i* Pg	**Pg**	**08 46 13.0**	**+0.1**
VAY				*i* Sg	**Sg**	**08 46 20.3**	**0.0**
VAY				*i* Lg	Lg	08 46 20.7	
	comp=E,25nm,0.2s						
SRS	**Serrai**	**0.68**	**61**	P	**Pg**	**08 46 15.1**	**-0.1**
SRS	**Serrai**	**0.68**	**61**	*e*PG	**Pg**	**08 46 15.1**	**-0.1**
SRS	**Serrai**	**0.68**	**61**	P	**Pg**	**08 46 15.1**	**-0.1**
NVR	**Nevrokopi**	**0.98**	**55**	*e*PB	**Pg**	**08 46 20.6**	**-0.2**
NVR	**Nevrokopi**	**0.98**	**55**	*e*Pg	**Pg**	**08 46 20.6**	**-0.2**

MAN 04 08:52:22,11°.07N×124°.70E,h7km,mb4.7,ML3.6,MS3.6, 1C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.09**	**258**	*e*P	Pg	08 52 25.1	+0.9
PLP	**Palo**	**0.29**	**71**	⇓*e*P	Pg	08 52 28.4	+0.7
PLP				*e*S	Sg	08 52 32.9	+1.3
MSLP	**Maasin**	**0.94**	**171**	*e*P	Pn	08 52 41.8	+0.1
MSLP				*e*S	Sn	08 52 56.4	+0.9
LLP	**Lapu-Lapu**	**1.04**	**224**	*e*P	Pg	08 52 41.5	-0.5
LLP				*e*S	Sn	08 52 57.7	-0.1
RCP	**Roxas**	**1.98**	**284**	⇑*e*P	Pn	08 52 57.1	+1.1
GUIM	**Jordan**	**2.12**	**258**	*e*P	Pb	08 53 00.0	-0.8

ATH ***04*** *09:34:16.7,38°.88N×21°.91E,h18km,ML4.3*
ISCJB ***04*** *09:34:16.8±0.3,38°.864N±0°.009×21°.93E±0°.01, h12km±2km,mb4.5/58,MS3.2/19,Error ellipse: s-maj=1.8km s-min=1.4km az=136.9*
SKO ***04*** *09:34:16.6,38°.80N×22°.20E,h0km,M3.8,ML4.4*
IDC ***04*** *09:34:16.0±0.5,38°.87N×21°.98E,h0km,mb4.3/28, mb1 4.3/38,mb1mx4.3/44,mbtmp4.2/38,ML4.0/10, MS3.4/23,Ms1 3.5/23,ms1mx3.3/48,Error ellipse: s-maj=10.8km s-min=10.5km az=60.0*
THE ***04*** *09:34:17.0,38°.87N×21°.95E,h0km±1km,ML4.4/20,Error ellipse: s-maj=1.0km s-min=0.4km az=238.0*
PDG ***04*** *09:34:17.6±0.8,38°.89N×22°.03E,h11km±1km,ML4.1/10, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*
MOS ***04*** *09:34:17.1±1.0,38°.90N×22°.00E,h16km,mb4.5/26,Error ellipse: s-maj=4.9km s-min=3.5km az=96.9*
NEIC ***04*** *09:34:17.7±0.2,38°.86N×22°.00E,h10km,mb4.6/17, ML4.3(ATH),ML4.5(THE),Error ellipse: s-maj=2.7km s-min=2.2km az=207.0*
CSEM ***04*** *09:34:17.3±0.1,38°.85N×21°.97E,h8km,mb4.4/26,Mw4.3, Error ellipse: s-maj=2.2km s-min=1.8km az=51.0*
BJI ***04*** *09:34:18.4,39°.54N×22°.14E,h8km,mB5.1/12,mb4.8/26, Ms4.8/6,Ms7 4.4/5*
PRU ***04*** *09:34:18.5,38°.65N×20°.24E,h0km,M4.6*
TEH ***04*** *09:34:20.0,38°.93N×22°.04E,h10km,ML4.6*
ISC 04 09:34:18.3±0.4,38°.87N±0°.01×21°.94E±0°.01,h15km±2km, n733,σ1s29/861,mb4.5/58,MS3.2/19,39C-36D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.11**	**295**	P	**Pg**	**09 34 19.6**	**-2.3**
EVR				S	**Sg**	**09 34 22.0**	**-2.2**
EVR	**Evrytania**	**0.11**	**295**	*e*PB	**Pg**	**09 34 19.9**	**-2.0**
EVR				*e*SB	**Sg**	**09 34 22.7**	**-1.5**
EVR	**Evrytania**	**0.11**	**295**	P	**Pg**	**09 34 19.6**	**-2.3**
EVR				S	**Sg**	**09 34 22.0**	**-2.2**
EVR	**Evrytania**	**0.11**	**295**	P	**Pg**	**09 34 19.6**	**-2.3**
EVR	**Evrytania**	**0.11**	**295**	*e*Pb	**Pg**	**09 34 19.9**	**-2.0**
EVR				S	**Sg**	**09 34 22.0**	**-2.2**
MAKR	**Makrakomi, Fth**	**0.21**	**46**	P	**Pg**	**09 34 21.5**	**-1.7**
MAKR				S	**Sg**	**09 34 25.1**	**-1.3**
MAKR	**Makrakomi, Fth**	**0.21**	**46**	*e*PB	**Pg**	**09 34 22.6**	**-0.6**
MAKR				*e*SB	**Sb**	**09 34 26.7**	**-0.9**
MAKR	**Makrakomi, Fth**	**0.21**	**46**	P	**Pg**	**09 34 21.5**	**-1.7**
MAKR				S	**Sg**	**09 34 25.1**	**-1.3**
MAKR	**Makrakomi, Fth**	**0.21**	**46**	P	**Pg**	**09 34 21.5**	**-1.7**
MAKR	**Makrakomi, Fth**	**0.21**	**46**	*e*Pb	**Pg**	**09 34 22.6**	**-0.6**
MAKR				S	**Sg**	**09 34 25.1**	**-1.3**
AGG	**Agios Georgios**	**0.34**	**63**	P	**Pg**	**09 34 23.7**	**-1.7**
AGG	**Agios Georgios**	**0.34**	**63**	P	**Pg**	**09 34 23.7**	**-1.7**
AGG	**Agios Georgios**	**0.34**	**63**	*e*PB	**Pg**	**09 34 24.6**	**-0.8**
AGG	**Agios Georgios**	**0.34**	**63**	P	**Pg**	**09 34 23.7**	**-1.7**
AGG	**Agios Georgios**	**0.34**	**63**	P	**Pg**	**09 34 23.7**	**-1.7**
AGG	**Agios Georgios**	**0.34**	**63**	*e*Pb	**Pg**	**09 34 24.6**	**-0.8**
AGG				S	**Sb**	**09 34 30.7**	**-0.7**
PVO	**Paravola**	**0.41**	**232**	P	**Pg**	**09 34 25.0**	**-1.6**
PVO				S	**Sg**	**09 34 31.5**	**-0.7**
PVO	**Paravola**	**0.41**	**232**	P	**Pg**	**09 34 25.0**	**-1.6**
PVO				S	**Sg**	**09 34 31.5**	**-0.7**
KALE	**Kalithea**	**0.50**	**162**	P	**Pg**	**09 34 26.7**	**-1.6**
KALE				S	**Sg**	**09 34 34.4**	**-0.7**
KALE	**Kalithea**	**0.50**	**162**	*e*PN	**Pg**	**09 34 26.8**	**-1.6**
KALE				*e*SN	**Sb**	**09 34 35.3**	**-0.7**
KALE	**Kalithea**	**0.50**	**162**	P	**Pg**	**09 34 26.7**	**-1.6**
KALE				S	**Sg**	**09 34 34.4**	**-0.7**
KALE	**Kalithea**	**0.50**	**162**	P	**Pg**	**09 34 26.7**	**-1.6**
KALE				S	**Sg**	**09 34 34.2**	**-0.9**
KALE				*e*Sn	**Sb**	**09 34 35.3**	**-0.7**
PSA1	**Psathopyrgos**	**0.55**	**185**	*e*PN	**Pg**	**09 34 27.6**	**-1.5**
AXAR	**Agios Charalam**	**0.57**	**100**	P	**Pg**	**09 34 27.9**	**-1.7**
AXAR				S	**Sg**	**09 34 36.6**	**-0.7**
AXAR	**Agios Charalam**	**0.57**	**100**	P	**Pg**	**09 34 27.9**	**-1.7**
AXAR	**Agios Charalam**	**0.57**	**100**	P	**Pg**	**09 34 27.9**	**-1.7**
AXAR				S	**Sg**	**09 34 35.8**	**-1.5**
UPR	**University Cam**	**0.60**	**192**	P	**Pg**	**09 34 28.7**	**-1.4**
UPR	**University Cam**	**0.60**	**192**	P	**Pg**	**09 34 28.5**	**-1.6**
LAKA	**Lakka**	**0.63**	**177**	P	**Pg**	**09 34 28.8**	**-1.9**
LAKA	**Lakka**	**0.63**	**177**	*e*PB	**Pg**	**09 34 29.0**	**-1.7**
LAKA	**Lakka**	**0.63**	**177**	P	**Pg**	**09 34 28.8**	**-1.9**
LAKA	**Lakka**	**0.63**	**177**	*e*Pb	**Pg**	**09 34 29.0**	**-1.7**
DSF	**Desfina**	**0.65**	**135**	P	**Pg**	**09 34 28.8**	**-2.3**
DSF				S	**Sb**	**09 34 39.4**	**-0.8**
DSF	**Desfina**	**0.65**	**135**	*e*PB	**Pg**	**09 34 29.1**	**-2.0**
DSF	**Desfina**	**0.65**	**135**	P	**Pg**	**09 34 28.8**	**-2.3**
DSF				S	**Sb**	**09 34 39.4**	**-0.8**
DSF	**Desfina**	**0.65**	**135**	*e*Pb	**Pg**	**09 34 29.1**	**-2.0**
DSF				S	**Sg**	**09 34 38.8**	**-0.9**
PDO	**Prodromos**	**0.65**	**246**	P	**Pg**	**09 34 28.8**	**-2.3**
PDO				S	**Sg**	**09 34 39.4**	**-0.3**
PDO	**Prodromos**	**0.65**	**246**	*e*PN	**Pg**	**09 34 29.0**	**-2.1**
PDO	**Prodromos**	**0.65**	**246**	P	**Pg**	**09 34 28.8**	**-2.3**
PDO				S	**Sg**	**09 34 39.4**	**-0.3**
THL	**Klokotos Trika**	**0.70**	**5**	P	**Pg**	**09 34 30.5**	**-1.5**
THL				S	**Sg**	**09 34 40.0**	**-1.2**
THL	**Klokotos Trika**	**0.70**	**5**	*e*PN	**Pg**	**09 34 30.8**	**-1.2**
THL	**Klokotos Trika**	**0.70**	**5**	P	**Pg**	**09 34 30.4**	**-1.5**
THL	**Klokotos Trika**	**0.70**	**5**	*e*Pn	**Pg**	**09 34 30.8**	**-1.2**
THL				S	**Sg**	**09 34 40.0**	**-1.2**
KLV	**Kalavryta, Ach**	**0.84**	**169**	P	**Pg**	**09 34 32.4**	**-2.3**
KLV				S	**Sb**	**09 34 45.6**	**-0.2**
KLV	**Kalavryta, Ach**	**0.84**	**169**	*e*PN	**Pg**	**09 34 32.8**	**-1.9**
KLV				*e*SN	**Sb**	**09 34 45.8**	**0.0**
KLV	**Kalavryta, Ach**	**0.84**	**169**	P	**Pg**	**09 34 32.4**	**-2.3**
KLV				S	**Sb**	**09 34 45.6**	**-0.2**
KLV	**Kalavryta, Ach**	**0.84**	**169**	P	**Pg**	**09 34 32.4**	**-2.3**
KLV				S	**Sg**	**09 34 44.6**	**-1.1**
KLV				*e*Sn	**Sb**	**09 34 45.8**	**0.0**
LKR	**Lokris**	**0.86**	**104**	P	**Pg**	**09 34 32.9**	**-2.1**
LKR	**Lokris**	**0.86**	**104**	*e*PN	**Pg**	**09 34 33.2**	**-1.8**
LKR	**Lokris**	**0.86**	**104**	P	**Pg**	**09 34 32.9**	**-2.1**
LKR	**Lokris**	**0.86**	**104**	P	**Pg**	**09 34 32.9**	**-2.1**
LKR	**Lokris**	**0.86**	**104**	*e*Pn	**Pg**	**09 34 33.2**	**-1.8**
LKR				S	**Sb**	**09 34 45.6**	**-0.6**
RLS	**Riolos of Patr**	**0.89**	**205**	P	**Pb**	**09 34 33.7**	**-1.8**
RLS	**Riolos of Patr**	**0.89**	**205**	*e*PN	**Pb**	**09 34 34.5**	**-0.9**
RLS				*e*SN	**Sg**	**09 34 46.4**	**-0.9**
RLS	**Riolos of Patr**	**0.89**	**205**	P	**Pb**	**09 34 33.7**	**-1.8**
RLS	**Riolos of Patr**	**0.89**	**205**	P	**Pb**	**09 34 33.7**	**-1.8**
RLS	**Riolos of Patr**	**0.89**	**205**	*e*Pn	**Pb**	**09 34 34.5**	**-0.9**
DRO	**Drossia**	**0.93**	**191**	P	**Pb**	**09 34 34.4**	**-1.8**
DRO	**Drossia**	**0.93**	**191**	*e*PN	**Pb**	**09 34 34.5**	**-1.8**
DRO	**Drossia**	**0.93**	**191**	P	**Pb**	**09 34 34.4**	**-1.8**
DRO				S	**Sg**	**09 34 49.0**	**+0.4**
FYTO	**Fytoko, Volos**	**0.95**	**55**	P	**Pb**	**09 34 34.8**	**-1.6**
FYTO				S	**Sg**	**09 34 48.7**	**-0.4**
FYTO	**Fytoko, Volos**	**0.95**	**55**	P	**Pb**	**09 34 34.8**	**-1.6**
FYTO				S	**Sg**	**09 34 48.7**	**-0.4**
FYTO	**Fytoko, Volos**	**0.95**	**55**	P	**Pb**	**09 34 34.8**	**-1.6**
FYTO				S	**Sg**	**09 34 48.7**	**-0.4**
GUR	**Goura**	**0.98**	**161**	P	**Pb**	**09 34 35.4**	**-1.7**
GUR				S	**Sg**	**09 34 50.4**	**+0.1**
GUR	**Goura**	**0.98**	**161**	*e*PN	**Pb**	**09 34 35.4**	**-1.7**
GUR				*e*SN	**Sg**	**09 34 50.4**	**+0.1**
GUR	**Goura**	**0.98**	**161**	P	**Pb**	**09 34 35.4**	**-1.7**
GUR				S	**Sg**	**09 34 50.4**	**+0.1**
GUR	**Goura**	**0.98**	**161**	P	**Pb**	**09 34 35.4**	**-1.7**
GUR				S	**Sg**	**09 34 50.4**	**+0.1**
SMIA	**Simia**	**0.99**	**89**	*e*PN	**Pb**	**09 34 36.2**	**-1.0**
SMIA	**Simia**	**0.99**	**89**	*e*Pn	**Pb**	**09 34 36.2**	**-1.0**
LKD2	**Lefkada island**	**1.00**	**266**	P	**Pb**	**09 34 36.1**	**-1.3**
LKD2	**Lefkada island**	**1.00**	**266**	*e*PN	**Pb**	**09 34 36.3**	**-1.1**
LKD2	**Lefkada island**	**1.00**	**266**	P	**Pb**	**09 34 36.1**	**-1.3**
LKD2	**Lefkada island**	**1.00**	**266**	P	**Pb**	**09 34 36.1**	**-1.3**
MEV	**Metsovon**	**1.07**	**329**	P	**Pb**	**09 34 36.8**	**-1.8**
MEV	**Metsovon**	**1.07**	**329**	P	**Pb**	**09 34 36.8**	**-1.8**
MEV	**Metsovon**	**1.07**	**329**	P	**Pb**	**09 34 36.8**	**-1.8**
NEO	**Neokhori**	**1.09**	**

NEST				S	Sn	09 35 09.9	+1.1			
NEST	**Nestorio**	**1.69**	**336**	*e*PN	**Pb**	**09 34 48.8**	**-0.4**			
NEST	**Nestorio**	**1.69**	**336**	P	**Pn**	**09 34 46.7**	**-0.7**			
NEST	**Nestorio**	**1.69**	**336**	*e*Pn	**Pb**	**09 34 48.8**	**-0.4**			
NEST				S	**Sn**	09 35 09.9	+1.1			
DID	**Didima**	**1.70**	**143**	P	**Pn**	**09 34 47.7**	**+0.2**			
DID				S	**Sb**	**09 35 10.7**	**+0.2**			
DID	**Didima**	**1.70**	**143**	*e*PN	**Pn**	**09 34 47.8**	**+0.2**			
DID	**Didima**	**1.70**	**143**	P	**Pn**	**09 34 47.7**	**+0.2**			
DID				S	**Sb**	**09 35 10.7**	**+0.2**			
DID	**Didima**	**1.70**	**143**	P	**Pn**	**09 34 47.7**	**+0.2**			
DID				S	**Sb**	**09 35 10.7**	**+0.2**			
ATHU	**Athens Univers**	**1.71**	**121**	P	**Pn**	**09 34 47.8**	**+0.3**			
ATHU				S	**Sb**	**09 35 10.1**	**-0.6**			
ATHU	**Athens Univers**	**1.71**	**121**	P	**Pn**	**09 34 47.8**	**+0.3**			
ATHU				S	**Sb**	**09 35 10.1**	**-0.6**			
PAIG	**Paliouri**	**1.71**	**51**	P	**Pn**	**09 34 46.6**	**-1.0**			
PAIG	**Paliouri**	**1.71**	**51**	P	**Pn**	**09 34 46.6**	**-1.0**			
PAIG	**Paliouri**	**1.71**	**51**	*e*PB	**Pn**	**09 34 46.7**	**-0.9**			
PAIG	**Paliouri**	**1.71**	**51**	P	**Pn**	**09 34 46.6**	**-1.0**			
PAIG	**Paliouri**	**1.71**	**51**	P	**Pn**	**09 34 46.6**	**-1.0**			
PTL	**Penteli**	**1.72**	**118**	P	**Pn**	**09 34 48.2**	**+0.5**			
PTL	**Penteli**	**1.72**	**118**	*e*PN	**Pn**	**09 34 48.1**	**+0.4**			
PTL				*e*SN	**Sb**	**09 35 11.4**	**+0.4**			
PTL	**Penteli**	**1.72**	**118**	P	**Pn**	**09 34 48.2**	**+0.5**			
PTL	**Penteli**	**1.72**	**118**	*e*Pn	**Pn**	**09 34 48.1**	**+0.4**			
PTL				*e*Sn	**Sb**	**09 35 11.4**	**+0.4**			
KEK	**Kerkira**	**1.86**	**298**	P	**Pn**	**09 34 50.7**	**+1.0**			
KEK				S	**Sb**	**09 35 14.6**	**-0.5**			
KEK	**Kerkira**	**1.86**	**298**	P	**Pn**	**09 34 50.7**	**+1.0**			
KEK				S	**Sb**	**09 35 14.6**	**-0.5**			
PLG	**Polygyros**	**1.90**	**37**	P	**Pn**	**09 34 49.8**	**-0.5**			
PLG	**Polygyros**	**1.90**	**37**	P	**Pn**	**09 34 49.8**	**-0.5**			
PLG	**Polygyros**	**1.90**	**37**	*e*PB	**Pn**	**09 34 49.7**	**-0.5**			
PLG	**Polygyros**	**1.90**	**37**	P	**Pn**	**09 34 49.8**	**-0.5**			
PLG	**Polygyros**	**1.90**	**37**	P	**Pn**	**09 34 49.8**	**-0.5**			
THE	**Thessaloniki**	**1.93**	**24**	*e*PN	**Pn**	**09 34 49.9**	**-0.7**			
HORT	**Hortiatis**	**1.94**	**27**	P	**Pn**	**09 34 50.2**	**-0.7**			
HORT	**Hortiatis**	**1.94**	**27**	*e*PB	**Pn**	**09 34 50.1**	**-0.8**			
HORT	**Hortiatis**	**1.94**	**27**	P	**Pn**	**09 34 50.2**	**-0.7**			
HORT	**Hortiatis**	**1.94**	**27**	P	**Pn**	**09 34 50.2**	**-0.7**			
FNA	**Florina**	**1.96**	**347**	P	**Pn**	**09 34 51.1**	**0.0**			
FNA	**Florina**	**1.96**	**347**	P	**Pn**	**09 34 51.1**	**0.0**			
FNA	**Florina**	**1.96**	**347**	*e*PN	**Pn**	**09 34 52.0**	**+0.9**			
FNA				*e*SN	**Sb**	**09 35 17.2**	**-0.8**			
FNA	**Florina**	**1.96**	**347**	P	**Pn**	**09 34 51.1**	**0.0**			
FNA	**Florina**	**1.96**	**347**	P	**Pn**	**09 34 51.1**	**0.0**			
FNA	**Florina**	**1.96**	**347**	*e*Pn	**Pn**	**09 34 52.0**	**+0.9**			
FNA				*e*Sn	**Sb**	**09 35 17.2**	**-0.8**			
PYL	**PYLOS**	**1.98**	**185**	*e*PN	**Pb**	**09 34 53.1**	**-0.9**			
GRG	**Griva**	**2.12**	**10**	P	**Pn**	**09 34 53.1**	**-0.1**			
GRG	**Griva**	**2.12**	**10**	P	**Pn**	**09 34 53.1**	**-0.1**			
GRG	**Griva**	**2.12**	**10**	*e*PB	**Pn**	**09 34 53.1**	**-0.1**			
GRG	**Griva**	**2.12**	**10**	P	**Pn**	**09 34 53.1**	**-0.1**			
GRG	**Griva**	**2.12**	**10**	P	**Pn**	**09 34 53.1**	**-0.1**			
OUR	**Ouranopolis**	**2.15**	**47**	P	**Pn**	**09 34 53.4**	**-0.2**			
OUR	**Ouranopolis**	**2.15**	**47**	P	**Pn**	**09 34 53.4**	**-0.2**			
OUR	**Ouranopolis**	**2.15**	**47**	*e*PB	**Pn**	**09 34 53.4**	**-0.2**			
OUR	**Ouranopolis**	**2.15**	**47**	P	**Pn**	**09 34 53.4**	**-0.2**			
OUR	**Ouranopolis**	**2.15**	**47**	P	**Pn**	**09 34 53.4**	**-0.2**			
BIA	**Bitola**	**2.20**	**348**	*i* Pn	**Pn**	**09 34 55.1**	**+0.7**			
BIA				*i* Sn	**Sb**	**09 35 24.8**	**-0.1**			
BIA	**Bitola**	**2.20**	**348**	*i* Pn	**Pn**	**09 34 55.0**	**+0.7**			
BIA				*i* Sn	**Sb**	**09 35 24.7**	**-0.1**			
SOH	**Sokhos**	**2.23**	**29**	P	**Pn**	**09 34 54.9**	**+0.1**			
SOH	**Sokhos**	**2.23**	**29**	P	**Pn**	**09 34 54.9**	**+0.1**			
SOH	**Sokhos**	**2.23**	**29**	*e*PB	**Pn**	**09 34 55.0**	**+0.1**			
SOH				*e*SN	**Sb**	**09 35 24.0**	**-1.9**			
SOH	**Sokhos**	**2.23**	**29**	P	**Pn**	**09 34 54.9**	**+0.1**			
SOH	**Sokhos**	**2.23**	**29**	P	**Pn**	**09 34 54.9**	**+0.1**			
SOH				*e*Sn	**Sb**	**09 35 24.0**	**-1.9**			
VLI	**Veliai**	**2.29**	**159**	P	**Pn**	**09 34 55.6**	**+0.1**			
VLI	**Veliai**	**2.29**	**159**	*e*PB	**Pn**	**09 34 55.7**	**+0.2**			
VLI				*e*SN	**Sn**	**09 35 23.7**	**+0.3**			
VLI	**Veliai**	**2.29**	**159**	P	**Pn**	**09 34 55.6**	**+0.1**			
VLI	**Veliai**	**2.29**	**159**	P	**Pn**	**09 34 55.6**	**+0.1**			
VLI				*e*Sn	**Sn**	**09 35 23.7**	**+0.3**			
KNT	**Kendrikon**	**2.41**	**18**	P	**Pn**	**09 34 57.5**	**+0.4**			
KNT	**Kendrikon**	**2.41**	**18**	P	**Pn**	**09 34 57.5**	**+0.4**			
KNT	**Kendrikon**	**2.41**	**18**	*e*PN	**Pn**	**09 34 57.5**	**+0.4**			
KNT				*e*SN	**Sn**	**09 35 27.6**	**+1.3**			
KNT	**Kendrikon**	**2.41**	**18**	P	**Pn**	**09 34 57.5**	**+0.4**			
KNT	**Kendrikon**	**2.41**	**18**	P	**Pn**	**09 34 57.5**	**+0.4**			
KNT				*e*Sn	**Sn**	**09 35 27.6**	**+1.3**			
VAY	**Valandovo**	**2.50**	**11**	*i* Pn	**Pn**	**09 34 58.2**	**-0.2**			
VAY				*i* Sn	**Sb**	**09 35 32.0**	**-1.4**			
VAY				*e*Lg	Lg	09 35 43.3				
	comp=N,2µm,1.1s									
VAY				*e*Lg	Lg	09 35 44.5				
	comp=E,1µm,0.9s									
VAY	**Valandovo**	**2.50**	**11**	*i* Pn	**Pn**	**09 34 58.7**	**+0.3**			
VAY				*i* Sn	**Sb**	**09 35 32.4**	**-1.0**			
VAY				*e*Lg	Lg	09 35 44.9				
	comp=E,1µm,0.9s									
SRS	**Serrai**	**2.58**	**29**	*e*PN	**Pn**	**09 34 59.6**	**+0.1**			
SRS	**Serrai**	**2.58**	**29**	*e*Pn	**Pn**	**09 34 59.6**	**+0.1**			
LIA	**Limnos Island**	**2.72**	**67**	P	**Pn**	**09 35 01.0**	**-0.4**			
LIA	**Limnos Island**	**2.72**	**67**	*e*PN	**Pn**	**09 34 59.9**	**-0.4**			
LIA	**Limnos Island**	**2.72**	**67**	P	**Pn**	**09 35 01.0**	**-0.4**			
LIA	**Limnos Island**	**2.72**	**67**	*e*Pn	**Pn**	**09 35 00.9**	**-0.4**			
KYTH	**Kithira**	**2.73**	**161**	*e*PB	**Pn**	**09 35 02.9**	**+1.3**			
NVR	**Nevrokopi**	**2.88**	**30**	*e*PN	**Pn**	**09 35 03.8**	**+0.1**			
NVR	**Nevrokopi**	**2.88**	**30**	*e*Pn	**Pn**	**09 35 03.8**	**+0.1**			
KAVA	**Kavala**	**2.90**	**42**	P	**Pn**	**09 35 03.3**	**-0.7**			
KAVA	**Kavala**	**2.90**	**42**	*e*PN	**Pn**	**09 35 03.2**	**-0.7**			
KAVA	**Kavala**	**2.90**	**42**	P	**Pn**	**09 35 03.3**	**-0.7**			
KAVA	**Kavala**	**2.90**	**42**	P	**Pn**	**09 35 03.3**	**-0.7**			
MMB	**Musomiste**	**3.04**	**26**	⇑*i*P	**Pn**	**09 35 06.1**	**+0.2**			
MMB	**Musomiste**	**3.04**	**26**	⇑*i*P	**Pn**	**09 35 06.1**	**+0.2**			
SIGR	**SIGRI**	**3.07**	**82**	*e*PN	**Pn**	**09 35 06.5**	**+0.3**			
SIGR	**SIGRI**	**3.07**	**82**	*e*Pn	**Pn**	**09 35 06.5**	**+0.3**			
SKO	**Skopje**	**3.12**	**353**	*i* Pn	**Pn**	**09 35 07.7**	**+0.7**			
SKO				*i* Sn	**Sg**	**09 35 59.2**	**+0.6**			
SKO				*e*Lg	Lg	09 36 03.3				
	comp=E,538nm,0.8s									
SKO				*e*Lg	Lg	09 36 09.0				
	comp=N,2µm,1.1s									
SKO	**Skopje**	**3.12**	**353**	*i* Pn	Pn	09 35 01.2	-5.8			
SKO				*e*Lg	Lg	09 36 01.8				
	comp=N,538nm,0.8s									
ANKY	**Antikythira Is**	**3.19**	**160**	*e*PN	**Pn**	**09 35 07.0**	**-0.9**			
ANKY	**Antikythira Is**	**3.19**	**160**	*e*Pn	**Pn**	**09 35 07.0**	**-0.9**			
SMTH	**Samothraki Isl**	**3.20**	**59**	*e*PN	**Pn**	**09 35 07.1**	**-1.0**			
SMTH	**Samothraki Isl**	**3.20**	**59**	*e*Pn	**Pn**	**09 35 07.1**	**-1.0**			
CHOS	**Chios island**	**3.26**	**97**	P	**Pn**	**09 35 09.7**	**+0.8**			
CHOS	**Chios island**	**3.26**	**97**	*e*PN	**Pn**	**09 35 09.6**	**+0.7**			
CHOS	**Chios island**	**3.26**	**97**	P	**Pn**	**09 35 09.7**	**+0.8**			
CHOS	**Chios island**	**3.26**	**97**	*e*Pn	**Pn**	**09 35 09.6**	**+0.7**			
APE	**Apeiranthos**	**3.36**	**121**	*e*PN	**Pn**	**09 35 10.6**	**+0.3**			
APE	**Apeiranthos**	**3.36**	**121**	*e*Pn	**Pn**	**09 35 10.6**	**+0.3**			
PRK	**Paraskevi**	**3.40**	**82**	P	**Pn**	**09 35 11.2**	**+0.5**			
PRK	**Paraskevi**	**3.40**	**82**	P	**Pn**	**09 35 11.2**	**+0.5**			
PRK	**Paraskevi**	**3.40**	**82**	*e*PN	**Pn**	**09 35 11.1**	**+0.4**			
PRK	**Paraskevi**	**3.40**	**82**	P	**Pn**	**09 35 11.2**	**+0.5**			
PRK	**Paraskevi**	**3.40**	**82**	*e*Pn	**Pn**	**09 35 11.1**	**+0.4**			
RDO	**Rodhopi**	**3.58**	**49**	*e*PN	**Pn**	**09 35 12.3**	**-0.9**			
RDO	**Rodhopi**	**3.58**	**49**	*e*Pn	**Pn**	**09 35 12.3**	**-0.9**			
URLA	**Izmir**	**3.68**	**96**	*i* P	**Pn**	**09 35 16.0**	**+1.3**			
URLA	**Izmir**	**3.68**	**96**	*i* P	**Pn**	**09 35 16.0**	**+1.3**			
ULC	**Ulcinj**	**3.71**	**327**	⇓*i*Pn	**Pn**	**09 35 17.0**	**+1.9**			
ULC				*e*Sn	**Sn**	**09 36 01.2**	**+2.6**			
ULC	**Ulcinj**	**3.71**	**327**	⇓*i*Pn	**Pn**	**09 35 17.0**	**+1.9**			
ULC				*e*Sn	**Sn**	**09 36 01.2**	**+2.6**			
AYVA	**Ayvalik**	**3.72**	**82**	*i* P	**Pn**	**09 35 15.9**	**+0.7**			
AYVA	**Ayvalik**	**3.72**	**82**	*i* P	**Pn**	**09 35 15.9**	**+0.7**			
SANT	**Santorini**	**3.75**	**131**	*e*Pn	**Pn**	**09 35 16.6**	**+0.9**			
SANT				*e*Sn	Sn	09 35 51.8	-7.6			
SANT	**Santorini**	**3.75**	**131**	*e*Pn	**Pn**	**09 35 16.5**	**+0.9**			
ALN	**Alexandroupoli**	**3.75**	**56**	P	**Pn**	**09 35 15.1**	**-0.5**			
ALN	**Alexandroupoli**	**3.75**	**56**	P	**Pn**	**09 35 15.1**	**-0.5**			
ALN	**Alexandroupoli**	**3.75**	**56**	*e*PN	**Pn**	**09 35 15.1**	**-0.5**			
ALN	**Alexandroupoli**	**3.75**	**56**	P	**Pn**	**09 35 15.1**	**-0.5**			
ALN	**Alexandroupoli**	**3.75**	**56**	P	**Pn**	**09 35 15.1**	**-0.5**			
VTS	**Vitosha**	**3.84**	**14**	⇑*i*P	**Pn**	**09 35 18.2**	**+1.2**			
VTS	**Vitosha**	**3.84**	**14**	⇑*i*P	**Pn**	**09 35 18.2**	**+1.2**			
KDZ	**Kurdzhali**	**3.85**	**43**	⇓*i*P	**Pn**	**09 35 16.1**	**-0.8**			
KDZ	**Kurdzhali**	**3.85**	**43**	⇓*i*P	**Pn**	**09 35 16.1**	**-0.8**			
TAR1	**Taranto**	**3.95**	**296**	*e*PN	**Pn**	**09 35 20.1**	**+1.7**			
PE1	**Pezze di Greco**	**3.98**	**301**	*e*Pn	**Pn**	**09 35 20.2**	**+1.5**			
PVY	**Plav**	**4.01**	**339**	⇓*i*Pn	**Pn**	**09 35 21.1**	**+1.7**			
PVY				*e*Sn	**Sn**	**09 36 08.0**	**+1.8**			
PVY	**Plav**	**4.01**	**339**	⇓*i*Pn	**Pn**	**09 35 21.1**	**+1.7**			
PVY				*e*Sn	**Sn**	**09 36 08.0**	**+1.8**			
TIP	**Timpagrande**	**4.05**	**276**	*e*Pn	**Pn**	**09 35 21.0**	**+1.2**			
TIP				*e*Sn	**Sn**	**09 36 07.8**	**+0.9**			
TIP	**Timpagrande**	**4.05**	**276**	*e*Pn	**Pn**	**09 35 21.0**	**+1.2**			
TIP				*e*Sn	**Sn**	**09 36 07.8**	**+0.9**			
PDG	**Podgorica**	**4.10**	**331**	⇑*i*Pn	**Pn**	**09 35 22.2**	**+1.8**			
PDG				*e*Sn	**Sn**	**09 36 11.1**	**+3.0**			
TTG	**Podgorica**	**4.10**	**331**	⇑*i*Pn	**Pn**	**09 35 22.2**	**+1.8**			
TTG				*e*Sn	**Sn**	**09 36 11.1**	**+3.0**			
BUM	**Brajici-Budva**	**4.14**	**327**	⇑*i*Pn	**Pn**	**09 35 21.7**	**+0.7**			
BUM				*e*Sn	**Sn**	**09 36 11.9**	**+2.8**			
BUM	**Brajici-Budva**	**4.14**	**327**	⇑*i*Pn	**Pn**	**09 35 21.7**	**+0.7**			
BUM				*e*Sn	**Sn**	**09 36 11.9**	**+2.8**			
IDI	**Anoyia**	**4.28**	**146**	*e*Pn	**Pn**	**09 35 24.3**	**+1.3**			
IDI				*e*Sn	**Sn**	**09 36 11.5**	**-1.2**			
IDI	**Anoyia**	**4.28**	**146**	*e*Pn	**Pn**	**09 35 24.3**	**+1.3**			
IDI				*e*Sn	**Sn**	**09 36 11.5**	**-1.2**			
IDI	**Anoyia**	**4.28**	**146**	Pn	**Pn**	**09 35 24.2**	**+1.2**			
	comp=N,4.1nm,0.3s,baz=356,slow=11,SNR=24									
IDI				Sn	**Sn**	**09 36 13.3**	**+0.5**			
	comp=N,15nm,0.3s,baz=287,slow=22,SNR=5.5									
BEY	**Berane**	**4.29**	**339**	*e*Pn	**Pn**	**09 35 24.9**	**+1.8**			
BEY				*e*Sn	**Sn**	**09 36 15.0**	**+2.1**			
IVA	**Berane**	**4.29**	**339**	*e*Pn	**Pn**	**09 35 24.9**	**+1.8**			
IVA				*e*Sn	**Sn**	**09 36 15.0**	**+2.1**			
GCAM	**G?zelcaml?**	**4.33**	**104**	*i* P	**Pn**	**09 35 24.0**	**+0.5**			
GCAM	**G?zelcaml?**	**4.33**	**104**	*i* P	**Pn**	**09 35 24.0**	**+0.5**			
GVD	**Gavdhos**	**4.38**	**156**	*e*Pn	**Pn**	**09 35 23.7**	**-0.5**			
GVD				*e*Sn	**Sn**	**09 36 13.4**	**-1.5**			
GVD	**Gavdhos**	**4.38**	**156**	*e*Pn	**Pn**	**09 35 23.7**	**-0.5**			
GVD				*e*Sn	**Sn**	**09 36 13.4**	**-1.5**			
SART	**Tekirdag**	**4.43**	**64**	*i* P	Pn	09 35 21.8	-3.2			
SART	**Tekirdag**	**4.43**	**64**	*i* P	Pn	09 35 21.8	-3.2			
HCY	**Herceg Novi**	**4.43**	**325**	⇓*i*Pn	**Pn**	**09 35 25.8**	**+0.8**			
HCY				*e*Sn	**Sn**	**09 36 18.8**	**+2.5**			
HCY	**Herceg Novi**	**4.43**	**325**	⇓*i*Pn	**Pn**	**09 35 25.8**	**+0.8**			
HCY				*e*Sn	**Sn**	**09 36 18.8**	**+2.5**			
BAI	**Bari**	**4.48**	**302**	*e*Pn	**Pn**	**09 35 26.6**	**+1.0**			
BAI				*e*Sn	**Sn**	**09 36 19.4**	**+1.9**			
BALY	**Balya**	**4.49**	**77**	*i* P	**Pn**	**09 35 26.8**	**+0.9**			
BALY	**Balya**	**4.49**	**77**	*i* P	**Pn**	**09 35 26.8**	**+0.9**			
NKME	**Niksic**	**4.50**	**331**	⇑*i*Pn	**Pn**	**09 35 27.9**	**+1.9**			
NKME				*e*Sn	**Sn**	**09 36 20.2**	**+2.1**			
NKME	**Niksic**	**4.50**	**331**	⇑*i*Pn	**Pn**	**09 35 27.9**	**+1.9**			
NKME				*e*Sn	**Sn**	**09 36 20.2**	**+2.1**			
NKY	**Niksic**	**4.53**	**331**	*e*Pn	**Pn**	**09 35 27.0**	**+0.6**			
NKY				*e*Sn	**Sn**	**09 36 21.1**	**+2.3**			
NKY	**Niksic**	**4.53**	**331**	*e*Pn	**Pn**	**09 35 27.0**	**+0.6**			
NKY				*e*Sn	**Sn**	**09 36 21.1**	**+2.3**			
BDRM	**Kayabasi**	**4.71**	**111**	*i* P	**Pn**	**09 35 29.8**	**+1.0**			
BDRM	**Kayabasi**	**4.71**	**111**	*i* P	**Pn**	**09 35 29.8**	**+1.0**			
CEL	**Celeste**	**4.78**	**265**	*e*Pn	**Pn**	**09 35 30.7**	**+0.9**			
CEL				*e*Sn	**Sn**	**09 36 22.5**	**-2.4**			
CEL	**Celeste**	**4.78**	**265**	*e*Pn	**Pn**	**09 35 30.7**	**+0.9**			
CEL				*e*Sn	**Sn**	**09 36 22.5**	**-2.4**			
BRY	**Bratogost**	**4.78**	**328**	⇑*i*Pn	**Pn**	**09 35 30.8**	**+0.9**			
BRY				*e*Sn	**Sn**	**09 36 26.9**	**+1.8**			
BRY	**Bratogost**	**4.78**	**328**	⇑*i*Pn	**Pn**	**09 35 30.8**	**+0.9**			
BRY				*e*Sn	**Sn**	**09 36 26.9**	**+1.8**			
AYDN	**Tasoluk**	**4.83**	**103**	*i* P	**Pn**	**09 35 31.6**	**+1.1**			
AYDN	**Tasoluk**	**4.83**	**103**	*i* P	**Pn**	**09 35 31.6**	**+1.1**			
PLE	**Pljevlja**	**4.86**	**337**	⇑*i*Pn	**Pn**	**09 35 32.2**	**+1.3**			
PLE				*e*Sn	**Sn**	**09 36 29.1**	**+2.2**			
PLE	**Pljevlja**	**4.86**	**337**	⇑*i*Pn	**Pn**	**09 35 32.2**	**+1.3**			
PLE				*e*Sn	**Sn**	**09 36 29.1**	**+2.2**			
CUC	**Castrocucco**	**4.87**	**285**	*e*Pn	**Pn**	**09 35 30.9**	**-0.2**			
CUC				*e*Sn	**Sn**	**09 36 25.5**	**-1.7**			
CUC	**Castrocucco**	**4.87**	**285**	*e*Pn	**Pn**	**09 35 30.9**	**-0.2**			
CUC				*e*Sn	**Sn**	**09 36 25.5**	**-1.7**			
CDT	**Castel del Mon**	**4.88**	**299**	*e*Pn	**Pn**	**09 35 32.7**	**+1.5**			
IVAS	**Ivanjica**	**4.89**	**345**	⇓*i*Pn	**Pn**	**09 35 32.9**	**+1.5**			
UPM	**Unac-Piva**	**4.90**	**333**	⇓*i*Pn	**Pn**	**09 35 33.3**	**+1.7**			
UPM				*e*Sn	**Sn**	**09 36 29.9**	**+1.8**			
UPM	**Unac-Piva**	**4.90**	**333**	⇓*i*Pn	**Pn**	**09 35 33.3**	**+1.7**			
UPM				*e*Sn	**Sn**	**09 36 29.9**	**+1.8**			
BOLS	**Boljevac**	**4.96**	**0**	*e*Pn	**Pn**	**09 35 33.7**	**+1.5**			
JMB	**Yambol**	**5.04**	**43**	⇑*i*P	**Pn**	**09 35 33.5**	**+0.2**			
JMB	**Yambol**	**5.04**	**43**	⇑*i*P	**Pn**	**09 35 33.5**	**+0.2**			
GRUS	**Gruza**	**5.10**	**350**	⇓*i*Pn	**Pn**	**09 35 34.0**	**+0.5**			
DURS	**Dursunbey**	**5.13**	**80**	*i* P	**Pn**	**09 35 35.6**	**+1.0**			
DURS	**Dursunbey**	**5.13**	**80**	*i* P	**Pn**	**09 35 35.6**	**+1.0**			
KARP	**Karpathos**	**5.33**	**127**	*e*PN	**Pn**	**09 35 38.7**	**+1.4**			
KARP	**Karpathos**	**5.33**	**127**	*e*Pn	**Pn**	**09 35 38.7**	**+1.4**			
BBLS	**Lazići**	**5.34**	**340**	⇑*i*Pn	**Pn**	**09 35 39.5**	**+1.9**			
MS1	**Monte Sant'Ang**	**5.39**	**304**	*e*Pn	**Pn**	**09 35 39.9**	**+1.7**			
MS1				*e*Sn	**Sn**	**09 36 42.0**	**+2.0**			
GZR	**Gura Zlata**	**6.55**	**5**	⇑*i*P	**Pn**	**09 35 54.1**	**0.0**			
WDD	**Wield Dalam**	**6.62**	**245**	*e*Pn	**Pn**	**09 35 52.9**	**-2.1**			
WDD				*e*Sn	Sn	09 37 03.6	-6.6			
LOT	**Lotru**	**6.71**	**11**	⇑*i*P	**Pn**	**09 35 56.7**	**+0.3**			
PSN	**Preselentsi**	**6.72**	**42**	⇓*i*P	**Pn**	**09 35 56.5**	**0.0**			
BZS	**Buzias**	**6.75**	**358**	⇓*i*P	**Pn**	**09 35 58.2**	**+1.4**			
MTUR	**Matau**	**6.76**	**19**	⇓*i*P	**Pn**	**09 35 58.0**	**+0.9**			
ARR	**Arges**	**6.79**	**16**	⇑*i*P	**Pn**	**09 35 57.9**	**+0.4**			
ISP	**Isparta**	**6.83**	**96**	*e*P	**Pn**	**09 35 59.3**	**+1.3**			
ISP	**Isparta**	**6.83**	**96**	⇑*i*P	**Pn**	**09 36 00.6**	**+2.6**			
ISP	**Isparta**	**6.83**	**96**	*e*Pn	**Pn**	**09 35 59.3**	**+1.3**			
MSAB	**Monastry St. A**	**6.84**	**38**	⇓*i*P	**Pn**	**09 35 58.5**	**+1.5**			
VOIR		**6.96**	**18**	⇓*i*P	**Pn**	**09 36 00.7**	**+1.0**			
ISR	**Istrita**	**7.12**	**27**	⇓*i*P	**Pn**	**09 36 03.5**	**+1.5**			
MLR	**Muntele Rosu**	**7.25**	**23**	⇓*i*P	**Pn**	**09 36 04.5**	**+0.6**			
MLR	**Muntele Rosu**	**7.25**	**23**	Pn	**Pn**	**09 36 04.4**	**+0.6**			
MLR	**Muntele Rosu**	**7.25**	**23**	Pn	**Pn**	**09 36 04.4**	**+0.6**			
	comp=N,0.8nm,0.3s,baz=282,slow=22,SNR=21									
UDBI	**Udbina**	**7.30**	**323**	*e*Pn	**Pn**	**09 36 06.4**	**+2.0**			
UDBI				Sn	**Sn**	**09 37 27.8**	**+0.9**			
TLB	**Topalu**	**7.31**	**37**	⇓*i*P	**Pn**	**09 36 06.2**	**+1.7**			
TIRR	**Tirgusor**	**7.39**	**39**	*e*P	**Pn**	**09 36 03.9**	**-1.7**			
TIRR				*e*		09 37 21.3				
TIRR	**Tirgusor**	**7.39**	**39**	⇑*i*P	**Pn**	**09 36 06.8**	**+1.2**			
TIRR	**Tirgusor**	**7.39**	**39**	*e*Pn	**Pn**	**09 36 03.9**	**-1.7**			
TIRR				*e*Sn	Sn	09 37 21.3	-7.8			
DOPR	**Dopca**	**7.54**	**19**	⇑*i*P	**Pn**	**09 36 09.0**	**+1.4**			
PKSM	**Moragy**	**7.73**	**343**	⇑*i*P	**Pn**	**09 36 11.6**	**+1.4**			
PKSM	**Moragy**	**7.73**	**343**	⇑*e*Pn	**Pn**	**09 36 11.3**	**+1.1**			
NVLJ	**Novalja**	**7.76**	**319**	*e*Pn	**Pn**	**09 36 09.9**	**-0.8**			
NVLJ				Sn	**Sn**	**09 37 37.2**	**-1.0**			
PLOR	**Plostina**	**7.80**	**25**	⇑*i*P	**Pn**	**09 36 13.0**	**+1.8**			
CFR	**Carcaliu**	**7.81**	**34**	⇓*i*P	**Pn**	**09 36 12.5**	**+1.2**			
VRI	**Vrincioaia**	**7.84**	**25**	⇓*i*P	**Pn**	**09 36 13.8**	**+2.0**			
PKS6	**Bocsa**	**7.92**	**348**	*e*Pn	**Pn**	**09 36 14.3**	**+1.5**			
PKSN	**Nyarlorinc**	**8.17**	**350**	*e*Pn	**Pn**	**09 36 14.1**	**-2.1**			
PKS9	**Tamasi**	**8.17**	**342**	⇓*e*Pn	**Pn**	**09 36 17.3**	**+1.0**			
CRES	**Cresnjev**	**8.45**	**327**	*e*Pn	**Pn**	**09 36 20.0**	**-0.1**			
BEHE	**Becsehely**	**8.49**	**335**	⇓*e*Pn	**Pn**	**09 36 22.0**	**+1.3**			
KOGS	**Kog**	**8.65**	**333**	*e*Pn	**Pn**	**09 36 23.4**	**+0.5**			
PDKS	**Podkum**	**8.83**	**327**	*e*Pn	**Pn**	**09 36 25.3**	**0.0**			
PKST	**T˜s**	**8.86**	**342**	⇓*e*Pn	**Pn**	**09 36 28.5**	**+2.8**			
BUD	**Budapest**	**8.87**	**347**	*e*Pn	**Pn**	**09 36 28.2**	**+2.4**			
PKSG		**8.90**	**344**	*e*Pn	**Pn**	**09 36 28.1**	**+1.8**			
CSKK	**Cs˘‡kako**	**8.90**	**344**	*e*Pn	Pn	09 36 30.4	+4.1			
BURAR	**Bucovina Array**	**9.06**	**14**	⇓*i*P	**Pn**	**09 36 30.0**	**+1.4**			
BUR08	**Bucovina Ar. S**	**9.09**	**14**	*e*Pn	**Pn**	**09 36 28.2**	**-0.7**			
BR131	**Keskin Array S**	**9.11**	**81**	*e*Pn	**Pn**	**09 36 28.0**	**-1.3**			
	comp=N,5.2nm,0.5s									
BRTR	**Keskin Array B**	**9.11**	**81**	Pn	**Pn**	**09 36 30.5**	**+1.1**			
BRTR	**Keskin Array B**	**9.11**	**81**	Pn	**Pn**	**09 36 30.5**	**+1.1**			
	comp=N,2.

comp=Z,29nm,0.9s
HINF Hinteralfeld 14.14 314 *e*P **Pn 09 37 38.3 +0.3**
comp=Z,29nm,0.9s
CDF Champ du Feu 14.25 317 *e*P **Pn 09 37 40.3 +0.8**
comp=Z,7.5nm,0.5s
CDF Champ du Feu 14.25 317 *e*P **Pn 09 37 40.3 +0.8**
CDF pmax pmax
comp=Z,8.0nm,0.5s
CDF Champ du Feu 14.25 317 *e*P **Pn 09 37 40.3 +0.8**
comp=Z,7.5nm,0.5s
LASF Ste Croix 14.51 297 *e*P **Pn 09 37 43.6 +0.5**
comp=Z,108nm,1.6s
LASF Ste Croix 14.51 297 *e*P **Pn 09 37 43.6 +0.5**
comp=Z,108nm,1.6s
HAU Haudompre 14.53 314 *e*P **Pn 09 37 43.5 +0.2**
comp=Z,18nm,0.6s
HAU *e*R
comp=Z,195nm,19.5s
HAU Haudompre 14.53 314 *e*P **Pn 09 37 43.5 +0.2**
HAU pmax pmax
comp=Z,19nm,0.6s
HAU Haudompre 14.53 314 *e*P **Pn 09 37 43.5 +0.2**
comp=Z,18nm,0.6s
SMF Signal de Mont 15.38 306 *e*P **Pn 09 37 54.2 -0.4**
comp=Z,30nm,0.9s
SMF Signal de Mont 15.38 306 *e*P **Pn 09 37 54.2 -0.4**
SMF pmax pmax
comp=Z,30nm,0.9s
SMF Signal de Mont 15.38 306 *e*P **Pn 09 37 54.2 -0.4**
comp=Z,30nm,0.9s
MTLF Montolieu 15.52 293 *e*P **Pn 09 37 58.7 +2.2**
MTLF Montolieu 15.52 293 *e*P **Pn 09 37 58.7 +2.2**
MTLF Montolieu 15.52 293 *e*P **Pn 09 37 58.7 +2.2**
AVF Avril sur Loir 15.74 306 *e*P **Pn 09 38 01.0 +1.6**
comp=Z,66nm,1.2s
AVF Avril sur Loir 15.74 306 *e*P **Pn 09 38 01.0 +1.6**
AVF pmax pmax
comp=Z,66nm,1.2s
AVF Avril sur Loir 15.74 306 *e*P **Pn 09 38 01.0 +1.6**
comp=Z,66nm,1.2s
SSF Saint Saulge 15.76 307 *e*P **Pn 09 37 56.5 -3.1**
comp=Z,45nm,1.2s
SSF Saint Saulge 15.76 307 *e*P **Pn 09 37 56.5 -3.1**
SSF pmax pmax
comp=Z,45nm,1.2s
SSF Saint Saulge 15.76 307 *e*P **Pn 09 37 56.5 -3.1**
comp=Z,45nm,1.2s
BGF Bois d'Agland 15.97 305 *e*P **Pn 09 38 03.4 +1.0**
comp=Z,64nm,1.1s
BGF Bois d'Agland 15.97 305 *e*P **Pn 09 38 03.4 +1.0**
BGF pmax pmax
comp=Z,64nm,1.1s
BGF Bois d'Agland 15.97 305 *e*P **Pn 09 38 03.4 +1.0**
comp=Z,64nm,1.1s
MEM Membach 16.26 321 P **P 09 38 11.1 +2.1**
KIV Kislovodsk 16.36 65 *e*P **P 09 38 10.7 +0.4**
KIV pmax pmax
comp=Z,8.0nm,1.1s
NACGM Naroch 16.37 10 *e* **Pn 09 38 08.0 +0.7**
RJF Les Rejaudoux 16.45 300 *e*P **Pn 09 38 09.8 +1.4**
RJF *e*R
comp=Z,135nm,17.2s
RJF Les Rejaudoux 16.45 300 *e*P **Pn 09 38 09.8 +1.4**
RJF Les Rejaudoux 16.45 300 *e*P **Pn 09 38 09.8 +1.4**
DOU Dourbes 16.66 318 P **Pn 09 38 12.3 +1.2**
ZEI Tsey 17.07 70 *e*P **P 09 38 21.0 +2.8**
ZEI pmax pmax
comp=Z,11nm,1.5s
VSR Storozhevoye 17.28 39 *e*P **P 09 38 20.2 -0.1**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.9s
GNI Garni 17.64 79 LR LR 09 45 08.0
comp=E,15nm,28.6s,baz=284,slow=37
MFF Saint Martin d 17.93 303 *e*P **P 09 38 28.8 +1.3**
comp=E,16nm,0.7s
MFF Saint Martin d 17.93 303 *e*P **P 09 38 28.8 +1.3**
MFF pmax pmax
comp=Z,16nm,0.7s
MFF Saint Martin d 17.93 303 *e*P **P 09 38 28.8 +1.3**
comp=Z,16nm,0.7s
VRHR Novokhopersk 18.46 42 *e*P **Pn 09 38 36.2 +2.8**
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
LDF La Druitiere 18.61 309 *e*P **Pn 09 38 36.3 +1.0**
comp=Z,14nm,0.6s
LDF La Druitiere 18.61 309 *e*P **Pn 09 38 36.3 +1.0**
LDF pmax pmax
comp=Z,14nm,0.6s
LDF La Druitiere 18.61 309 *e*P **Pn 09 38 36.3 +1.0**
comp=Z,14nm,0.6s
FLN La Foliniere 18.90 309 *e*P **Pn 09 38 39.3 +0.5**
baz=132
FLN *e*R
comp=Z,172nm,17.5s
FLN La Foliniere 18.90 309 *e*P **Pn 09 38 39.3 +0.5**
FLN La Foliniere 18.90 309 *e*P **Pn 09 38 39.3 +0.5**
GRR Gorron 18.99 307 *e*P **Pn 09 38 40.8 +1.0**
comp=Z,48nm,0.9s
GRR Gorron 18.99 307 *e*P **Pn 09 38 40.8 +1.0**
GRR pmax pmax
comp=Z,48nm,0.9s
GRR Gorron 18.99 307 *e*P **Pn 09 38 40.8 +1.0**
comp=Z,48nm,0.9s
OBN Obninsk 19.00 26 *i*P **Pn 09 38 40.3 +0.4**
OBN pmax pmax
comp=Z,40nm,1.7s
OBN MLR MLR
comp=Z,100nm,17.0s
IBST Bostanabad 19.61 86 *e*P **Pn 09 38 49.2 +1.5**
VSU Vasula 19.85 7 *i*P **P 09 38 48.2 -0.2**
VSU pmax pmax
comp=Z,87nm,0.7s
MOS Moscow 19.87 27 *e*P **P 09 38 48.0 -0.6**
IDHR Dehrash 20.00 94 *e*P **P 09 38 50.9 +0.4**
SGMF Saint Gilles 20.00 306 *e*P Pn 09 38 52.0 0.0
SGMF Saint Gilles 20.00 306 *e*P Pn 09 38 52.0 0.0
SGMF Saint Gilles 20.00 306 *e*P Pn 09 38 52.0 0.0
ESDC Sonseca Array 20.05 280 P Pn 09 38 52.4 -0.4
ESDC Sonseca Array 20.05 280 P Pn 09 38 52.4 -0.4
comp=Z,3.1nm,0.6s,baz=75,slow=11,SNR=16
ESDC LR LR 09 47 20.6
comp=Z,15nm,28.6s,baz=20,slow=39
IGHG Ghaleghazi 20.27 95 *e*P **P 09 38 53.9 +0.4**
QUIF Quistinic 20.29 305 *e*P Pn 09 38 54.6 -0.7
QUIF Quistinic 20.29 305 *e*P Pn 09 38 54.6 -0.7
QUIF Quistinic 20.29 305 *e*P Pn 09 38 54.6 -0.7
PAB San Pablo 20.36 280 *e*P **P 09 38 50.9 -3.4**
PAB pmax pmax
comp=Z,7.0nm,1.4s
PAB San Pablo 20.36 280 *e*P **P 09 38 50.9 -3.4**
comp=Z,7.0nm,1.4s
ROSF Rostrenen 20.48 306 *e*P Pn 09 38 57.6 0.0
ROSF Rostrenen 20.48 306 *e*P Pn 09 38 57.6 0.0
ROSF Rostrenen 20.48 306 *e*P Pn 09 38 57.6 0.0
TAM Tamanrasset 21.29 226 *e*P **P 09 39 08.2 +3.7**
TAM pmax pmax
comp=Z,6.0nm,1.0s
TAM Tamanrasset 21.29 226 *e*P **P 09 39 08.2 +3.7**
comp=Z,6.2nm,1.0s
HFS Hagfors 21.91 349 P **P 09 39 11.1 +0.3**
HFS Hagfors 21.91 349 P **P 09 39 11.1 +0.3**
comp=Z,5.3nm,0.5s,baz=155,slow=11,SNR=19
HFS LR LR 09 48 55.7
comp=Z,15nm,28.6s,baz=178,slow=40
MVO Moncorvo 22.26 285 *e*P **P 09 39 15.7 +1.0**
comp=Z,28nm,1.8s
MDT Midelt 22.31 262 P **P 09 39 16.7 +1.3**
MDT Midelt 22.31 262 P **P 09 39 16.7 +1.3**
comp=Z,7.1nm,1.1s,baz=55,slow=7.2,SNR=5.7
FINES FINESS Array B 22.75 5 P **P 09 39 18.8 -0.8**
FINES FINESS Array B 22.75 5 P **P 09 39 18.8 -0.8**
comp=Z,2.5nm,0.5s,baz=173,slow=9.4,SNR=12
FINES LR LR 09 49 01.8
comp=Z,16nm,28.6s,baz=189,slow=39
NB2 NORSAR Subarra 23.18 347 P **P 09 39 24.0 -0.2**
comp=Z,0.5nm,0.6s,baz=156,slow=11
NB2 NORSAR Subarra 23.18 347 P **P 09 39 24.0 -0.2**
comp=Z,0.5nm,0.6s,SNR=4.4
NOA NORSAR Array B 23.18 347 P **P 09 39 23.7 -0.4**
NOA NORSAR Array B 23.18 347 P **P 09 39 23.7 -0.4**
comp=Z,67nm,19.5s
NOA NORSAR Array B 23.18 347 P **P 09 39 23.7 -0.4**
comp=Z,2.3nm,0.6s,baz=156,slow=8.8,SNR=16
NOA LR LR 09 49 36.7
comp=Z,67nm,19.5s,baz=160,slow=40
PVAQ Vaqueiros 23.33 276 *e*P **P 09 39 26.5 +0.7**
comp=Z,38nm,1.5s
PMTG Montargil 23.41 280 *e*P **P 09 39 26.4 -0.2**
comp=Z,31nm,1.7s
KAF Kangasniemi 23.43 5 *e*P **P 09 39 26.6 +0.1**
KAF Kangasniemi 23.43 5 *e*p **P 09 39 26.6 +0.1**
KAF Kangasniemi 23.43 5 *e*P **P 09 39 26.6 +0.1**
EKA Eskdalemuir Ar 23.53 323 P **P 09 39 27.2 -0.5**
EKA Eskdalemuir Ar 23.53 323 P **P 09 39 27.2 -0.5**
comp=Z,7.0nm,0.4s
EKA Eskdalemuir Ar 23.53 323 P **P 09 39 27.2 -0.5**
comp=Z,7.0nm,0.4s,baz=126,slow=9.1,SNR=27
PBDV Barranco-do-Ve 23.53 275 *e*P **P 09 39 26.8 -1.1**
comp=Z,74nm,1.3s
ESK Eskdalemuir 23.54 323 *i*P **P 09 39 29.7 +1.9**
ESK Eskdalemuir 23.54 323 *i*P **P 09 39 29.7 +1.9**
PNCL Nicolau / Gran 23.81 278 *e*P **P 09 39 32.3 +1.8**
comp=Z,36nm,1.5s
KLMR Klimovskoe 24.59 21 *e*P **P 09 39 37.0 -0.5**
KLMR pmax pmax
comp=Z,53nm,1.0s
KLMR Klimovskoe 24.59 21 *e*P **P 09 39 37.0 -0.5**
comp=Z,53nm,1.0s
JOF Joensuu 24.74 10 *e*P **P 09 39 39.1 +0.3**
JOF Joensuu 24.74 10 *e*p **P 09 39 39.1 +0.3**
JOF Joensuu 24.74 10 *e*P **P 09 39 39.1 +0.3**
IZEF Zefreh 25.26 94 *e*P **P 09 39 46.0 +1.8**
IZEF Zefreh 25.26 94 *e*P **P 09 39 46.0 +1.8**
AKTO Aktyubinsk 27.88 54 LR LR 09 53 02.8
comp=Z,15nm,28.6s,baz=272,slow=40
ARU Arti 29.80 42 *d*/P **P 09 40 23.6 -0.7**
ARU 09 41 16.7
ARU S **S 09 45 20.8 +0.6**
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 29.80 42 *e*P **P 09 40 23.7 -0.6**
comp=Z,10nm,0.6s
ARU Arti 29.80 42 *e*P **P 09 40 23.7 -0.6**
comp=Z,10nm,0.6s
ARU S **S 09 45 20.8 +0.6**
SOKR Solikamsk 30.24 35 *e*P **P 09 40 28.2 +0.1**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,260nm,26.0s
SOKR Solikamsk 30.24 35 *e*P **P 09 40 28.2 +0.1**
comp=Z,260nm,26.0s
ARCES ARCESS Array B 30.79 2 P **P 09 40 32.7 -0.2**
ARCES PcP **PcP 09 43 29.4 -0.4**
ARCES ARCESS Array B 30.79 2 P **P 09 40 32.7 -0.2**
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 30.79 2 PcP **PcP 09 43 29.4 -0.4**
comp=Z,15nm,28.6s
ARCES ARCESS Array B 30.79 2 P **P 09 40 32.7 -0.2**
comp=Z,2.8nm,0.6s,baz=194,slow=10,SNR=28
ARCES PcP **PcP 09 43 29.4 -0.4**
comp=Z,1.2nm,0.7s,baz=201,slow=2.4,SNR=9.8
ARCES LR LR 09 54 09.9
comp=Z,15nm,28.6s,baz=197,slow=39
SVE Sverdlovsk 31.02 42 *e*P **P 09 40 35.8 +0.7**
SVE pmax pmax
comp=Z,37nm,0.8s
SVE Sverdlovsk 31.02 42 *e*P **P 09 40 35.8 +0.7**
comp=Z,37nm,0.8s
KEV Kevo 31.07 3 *e*P **P 09 40 35.6 +0.3**
KEV Kevo 31.07 3 *e*p **P 09 40 35.6 +0.3**
KEV Kevo 31.07 3 *e*P **P 09 40 35.6 +0.3**
TOA0 Torodi Ar. Sit 31.27 220 *e*P **P 09 40 38.2 +0.6**
TOA0 Torodi Ar. Sit 31.27 220 *e*P **P 09 40 38.2 +0.6**
TORD Torodi Ar. Bea 31.27 220 P **P 09 40 38.4 +0.7**
TORD Torodi Ar. Bea 31.27 220 P **P 09 40 38.3 +0.7**
TORD Torodi Ar. Bea 31.27 220 P **P 09 40 38.4 +0.7**
comp=Z,4.5nm,0.6s,baz=30,slow=9.3,SNR=34
TORD LR LR 09 53 20.4
comp=Z,15nm,28.6s,baz=330,slow=37
BRVK Borovoye 35.76 51 ||/P **P 09 41 16.9 +0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 35.76 51 *i*P **P 09 41 16.9 +0.5**
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 35.82 51 P **P 09 41 17.5 +0.5**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 35.82 51 P **P 09 41 17.5 +0.5**
BVAR Borovoye Array 35.82 51 P **P 09 41 17.5 +0.5**
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 35.82 51 P **P 09 41 17.5 +0.5**
comp=Z,1.8nm,0.6s,baz=263,slow=6.0,SNR=9.5
KKAR Karatay Array 36.50 67 *e*P **P 09 41 22.9 0.0**
KKAR Karatay Array 36.50 67 *e*P **P 09 41 22.9 0.0**
KKAR Karatay Array 36.50 67 *e*P **P 09 41 22.9 0.0**
AAK Ala-Archa 39.47 67 P **P 09 41 49.1 +1.0**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 39.47 67 *e*P **P 09 41 47.5 -0.6**
comp=Z,5.9nm,1.0s
AAK Ala-Archa 39.47 67 *e*P **P 09 41 47.5 -0.6**
comp=Z,5.9nm,1.0s
AAK Ala-Archa 39.47 67 P **P 09 41 49.1 +1.0**
comp=Z,2.4nm,0.6s,baz=212,slow=3.8,SNR=7.5
SPITS Spitsbergen Ar 39.49 358 P **P 09 41 48.0 +0.4**
SPITS Spitsbergen Ar 39.49 358 P **P 09 41 48.0 +0.4**
comp=Z,137nm,18.3s
SPITS Spitsbergen Ar 39.49 358 P **P 09 41 48.0 +0.4**
comp=Z,11nm,1.0s,baz=157,slow=9.4,SNR=8.4
SPITS LR LR 09 59 38.5
comp=Z,137nm,18.3s,baz=305,slow=39
FRU Bishkek 39.51 67 *e*P **P 09 41 48.0 -0.3**
FRU Bishkek 39.51 67 *e*P **P 09 41 48.0 -0.3**
DBIC Dimbokro 40.16 224 P **P 09 41 54.5 +0.6**
DBIC Dimbokro 40.16 224 P **P 09 41 54.5 +0.6**
comp=Z,40nm,19.1s
DBIC Dimbokro 40.16 224 P **P 09 41 54.5 +0.6**
comp=Z,3.1nm,0.6s,baz=8.1,slow=13,SNR=5.8
DBIC LR LR 09 58 53.0
comp=Z,40nm,19.1s,baz=3.5,slow=37
TIC Toumodi 40.27 224 *e*PKP1 **P 09 41 56.7 +1.9**
comp=Z,16nm,0.7s
KIC Kosan Boka 40.35 224 *e*PKP1 **P 09 41 57.7 +2.2**
comp=Z,57nm,1.7s
LIC Lamto 40.62 224 *e*P **P 09 41 57.8 +0.1**
comp=Z,24nm,0.8s,baz=28
LIC Lamto 40.62 224 *e*PKP1 **P 09 41 57.7 +0.1**
comp=Z,53nm,1.0s
LIC Lamto 40.62 224 *e*P **P 09 41 57.8 +0.1**
comp=Z,24nm,0.8s
LIC Lamto 40.62 224 *e*P **P 09 41 57.8 +0.1**
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 40.92 54 P **P 09 41 60.0 +0.1**
comp=Z,4.6nm,0.9s,baz=283,slow=8.9,SNR=22
KURBB PP **PP 09 43 31.1 -3.0**
comp=Z,0.7nm,0.4s,baz=297,slow=7.9,SNR=5.3
KURK Kurchatov 40.97 54 P **P 09 42 00.0 -0.3**
KURK 09 43 31.1
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 40.97 54 P **P 09 41 60.0 -0.3**
KURK PP **PP 09 43 31.1 -3.5**
KURK Kurchatov 40.97 54 P **P 09 42 00.0 -0.3**
comp=Z,5.0nm,0.9s
KSH Kashi 41.35 71 P **P 09 42 03.1 -0.6**
KSH pP **pP 09 42 10.1 +1.7**
KSH sP **sP 09 42 12.3 +2.0**
KSH PP **PnPn 09 43 42.2 -1.5**
KSH PcP **PcP 09 44 05.1 +3.2**
KSH S **S 09 48 13.5 -4.2**
KSH sS **sS 09 48 23.6 -1.9**
KSH SS SS 09 51 13.1 -8.2
KSH pmax pmax
comp=Z,4.0nm,0.5s
KSH pmax pmax
comp=Z,100nm,5.3s
KSH LR LR
comp=Z,110nm,4.5s
KSH LR LR
comp=Z,190nm,5.0s
KSH LR LR
comp=Z,170nm,5.6s
NVS Novosibirsk 43.39 48 *e*P **P 09 42 19.0 -0.9**
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,12nm,1.2s
NVS pmax pmax
comp=Z,25nm,1.2s
NVS Novosibirsk 43.39 48 *e*P **P 09 42 19.0 -0.9**
MK31 Makanchi Array 43.99 59 *e*P **P 09 42 24.7 -0.2**
MK31 Makanchi Array 43.99 59 *e*P **P 09 42 24.7 -0.2**
MK31 Makanchi Array 43.99 59 *e*P **P 09 42 24.7 -0.2**
MKAR Makanchi Array 43.99 59 P **P 09 42 24.9 0.0**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR MLR MLR
comp=Z,15nm,28.6s
MKAR Makanchi Array 43.99 59 P **P 09 42 24.9 0.0**
MKAR Makanchi Array 43.99 59 P **P 09 42 24.9 0.0**
comp=Z,15nm,28.6s
MKAR Makanchi Array 43.99 59 P **P 09 42 24.9 0.0**
comp=Z,7.9nm,0.6s,baz=277,slow=5.9,SNR=40
MKAR LR LR 10 03 38.6
comp=Z,15nm,28.6s,baz=304,slow=40
ZAA0 Zalesovo Array 44.40 49 *e*P **P 09 42 27.9 -0.2**
ZAA0 Zalesovo Array 44.40 49 *e*P **P 09 42 27.9 -0.2**
ZALV Zalesovo Beam 44.40 49 P **P 09 42 27.9 -0.1**
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV MLR MLR
comp=Z,27nm,19.5s
ZALV Zalesovo Beam 44.40 49 P **P 09 42 27.9 -0.1**
ZALV Zalesovo Beam 44.40 49 P **P 09 42 27.9 -0.1**
comp=Z,27nm,19.5s
ZALV Zalesovo Beam 44.40 49 P **P 09 42 27.9 -0.1**
comp=Z,7.3nm,0.4s,baz=276,slow=8.4,SNR=26
ZALV LR LR 10 03 56.0
comp=Z,27nm,19.4s,baz=42,slow=40
WMQ Urumqi 48.45 62 P P 09 43 03.2 +3.1
WMQ pmax pmax
comp=Z,12nm,1.0s
PYUN Piuthan 51.20 83 *e*P **P 09 43 20.3 -1.1**
comp=Z,68nm,0.6s
PYUN Piuthan 51.20 83 *e*P **P 09 43 20.3 -1.1**
PYUN Piuthan 51.20 83 *e*P **P 09 43 20.3 -1.1**
DANN Dangsing 51.67 82 *e*P **P 09 43 24.2 -0.8**
comp=Z,34nm,0.7s
DANN Dangsing 51.67 82 *e*P **P 09 43 24.2 -0.8**
DANN Dangsing 51.67 82 *e*P **P 09 43 24.2 -0.8**
KOLN Koldanda 51.83 83 *e*P **P 09 43 24.9 -1.2**
KOLN Koldanda 51.83 83 *e*P **P 09 43 24.9 -1.2**
KOLN Koldanda 51.83 83 *e*P **P 09 43 24.9 -1.2**
GKN Gorkha 52.52 82 *e*P **P 09 43 29.9 -1.3**
comp=Z,17nm,0.6s
GKN Gorkha 52.52 82 *e*P **P 09 43 29.9 -1.3**
GKN Gorkha 52.52 82 *e*P **P 09 43 29.9 -1.3**
DMN Daman 53.07 82 *e*P **P 09 43 34.4 -1.0**
comp=Z,20nm,0.6s
DMN Daman 53.07 82 *e*P **P 09 43 34.4 -1.0**
DMN Daman 53.07 82 *e*P **P 09 43 34.4 -1.0**
KKN Kakani 53.12 82 *e*P **P 09 43 34.5 -1.2**
KKN Kakani 53.12 82 *e*P **P 09 43 34.5 -1.2**
KKN Kakani 53.12 82 *e*P **P 09 43 34.5 -1.2**
KKN Kakani 53.12 82 *e*P **P 09 43 34.5 -1.2**
PKIN Phulchoki 53.31 82 *e*P **P 09 43 36.0 -1.2**
comp=Z,7.5nm,0.5s
PKI Pulchoki 53.33 82 *e*P **P 09 43 35.9 -1.4**
PKI Pulchoki 53.33 82 *e*P **P 09 43 36.0 -1.4**
PKI Pulchoki 53.33 82 *e*P **P 09 43 36.0 -1.4**
PKI Pulchoki 53.33 82 *e*P **P 09 43 36.0 -1.4**
GUN Gumba 53.52 81 *e*P **P 09 43 37.5 -1.3**
comp=Z,23nm,0.9s
GUN Gumba 53.52 81 *e*P **P 09 43 37.5 -1.3**
GUN Gumba 53.52 81 *e*P **P 09 43 37.5 -1.3**
JIRN Jiri 53.88 81 *e*P **P 09 43 40.3 -1.2**
comp=Z,15nm,0.7s
JIRN Jiri 53.88 81 *e*P **P 09 43 40.3 -1.2**
JIRN Jiri 53.88 81 *e*P **P 09 43 40.3 -1.2**
RAMN Ramite 54.55 82 *e*P **P 09 43 44.6 -1.6**
comp=Z,17nm,0.7s
RAMN Ramite 54.55 82 *e*P **P 09 43 44.6 -1.6**
RAMN Ramite 54.55 82 *e*P **P 09 43 44.6 -1.6**
ODAN Odare 55.21 82 *e*P **P 09 43 49.4 -1.5**
ODAN Odare 55.21 82 *e*P **P 09 43 49.4 -1.5**
ODAN Odare 55.21 82 *e*P **P 09 43 49.4 -1.5**
TAPN Taplejung 55.21 81 *e*P **P 09 43 49.9 -1.1**
comp=Z,6.6nm,0.5s
TAPN Taplejung 55.21 81 *e*P **P 09 43 49.9 -1.1**
TAPN Taplejung 55.21 81 *e*P **P 09 43 49.9 -1.1**
LSA Lhasa 56.69 77 *e*P **P 09 44 00.4 -1.4**
LSA pmax pmax
comp=Z,6.0nm,0.5s
LSA Lhasa 56.69 77 *e*P **P 09 44 00.3 -1.4**
comp=Z,6.4nm,0.5s
LSA Lhasa 56.69 77 *e*P **P 09 44 00.4 -1.4**
comp=Z,6.0nm,0.5s
GTA Gaotai 58.52 63 *e*P **P 09 44 14.1 -0.1**
GTA pP **pP 09 44 18.5 -0.6**
GTA sP **sP 09 44 22.0 +1.1**
GTA pmax pmax
comp=Z,7.0nm,1.3s
SCHQ Schefferville 58.70 317 P **P 09 44 14.8 -0.3**
SCHQ Schefferville 58.70 317 P **P 09 44 14.8 -0.3**
SCHQ Schefferville 58.70 317 P **P 09 44 14.8 -0.3**
comp=Z,4.5nm,0.7s,baz=79,slow=10,SNR=7.7
SONM Songino Array 59.16 51 P **P 09 44 17.7 -0.8**
SONM Songino Array 59.16 51 P **P 09 44 17.7 -0.8**
comp=Z,2.0nm,0.9s
SONM Songino Array 59.16 51 P **P 09 44 17.7 -0.8**
comp=Z,1.8nm,0.9s,baz=283,slow=8.9,SNR=9.6
RES Resolute Bay 59.41 344 P **P 09 44 19.6 0.0**
RES Resolute Bay 59.41 344 P **P 09 44 19.6 0.0**
comp=Z,3.0nm,0.9s
RES Resolute Bay 59.41 344 P **P 09 44 19.6 0.0**
comp=Z,2.6nm,0.9s,baz=30,slow=12,SNR=4.1
ULN Ulaanbaatar 59.55 51 *e*P **P 09 44 20.5 -0.7**
comp=Z,5.0nm,1.7s
LZH Lanzhou 62.90 64 *e*P **P 09 44 44.2 +0.1**
LZH pP **pP 09 44 49.4 +0.4**
LZH sP **sP 09 44 53.7 +2.8**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.3s
CD2 Chengdu 65.48 69 *e*P **P 09 45 02.5 +1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 65.73 56 *e*P P 09 45 06.2 +3.7
HHC pP pP 09 45 10.4 +3.0
HHC sP sP 09 45 12.9 +3.6
HHC PcP **PcP 09 45 37.8 +4.1**
HHC PP PP 09 47 33.4 +6.6
HHC ScP 09 49 38.7
HHC S **S 09 53 48.4 +0.2**
HHC sS sS 09 53 58.4 +2.1
HHC ScS **SKSac 09 54 57.2 -0.5**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,260nm,6.8s
HHC LR LR
comp=Z,250nm,17.3s
HHC LR LR
comp=Z,410nm,17.0s
HHC LR LR
comp=Z,190nm,16.8s
BOSA Boshof 67.20 177 P **P 09 45 11.9 0.0**
BOSA Boshof 67.20 177 P **P 09 45 11.9 0.0**
comp=Z,15nm,28.6s
BOSA Boshof 67.20 177 P **P 09 45 11.9 0.0**
comp=Z,1.1nm,0.5s,baz=317,slow=16,SNR=4.3
BOSA LR LR 10 16 58.4
comp=Z,15nm,28.6s,baz=352,slow=38
KMI Kunming 67.85 75 P **P 09 45 18.8 +2.4**
KMI pmax pmax
comp=Z,11nm,0.5s
CMAR Chiang Mai Arr 68.70 83 P **P 09 45 20.2 -1.2**
CMAR Chiang Mai Arr 68.70 83 P **P 09 45 20.3 -1.2**
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 68.70 83 P **P 09 45 20.2 -1.2**
comp=Z,1.7nm,0.7s,baz=301,slow=7.1,SNR=9.0
GYA Guiyang 70.04 72 *e*P **P 09 45 31.9 +2.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s

INK	**Inuvik**	**71.57**	**351**	P		**P**	**09 45 38.0**	**-0.3**
INK	**Inuvik**	**71.57**	**351**	P		**P**	**09 45 38.0**	**-0.3**
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**71.57**	**351**	P		**P**	**09 45 38.0**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=41,slow=8.6,SNR=4.2							
CN2	**Changchun**	**72.60**	**48**	*eP*		**P**	**09 45 46.5**	**+1.6**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
YKA	**Yellowknife Ar**	**73.12**	**341**	P		**P**	**09 45 47.8**	**+0.2**
YKA	**Yellowknife Ar**	**73.12**	**341**	P		**P**	**09 45 47.8**	**+0.2**
	comp=Z,3.0nm,0.7s							
YKA	**Yellowknife Ar**	**73.12**	**341**	P		**P**	**09 45 47.8**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=33,slow=5.4,SNR=18							
FFC	**Flin Flon**	**75.14**	**330**	*i* P		**P**	**09 46 01.5**	**+1.9**
FFC	**Flin Flon**	**75.14**	**330**	*i* P		**P**	**09 46 01.5**	**+1.9**
TNA	**Tin City**	**75.62**	**4**	*eP*		**P**	**09 45 59.3**	**-2.8**
	comp=Z,1.8nm,0.4s							
ULM	**Lac du Bonnet**	**75.80**	**324**	P		**P**	**09 46 03.2**	**-0.2**
ULM	**Lac du Bonnet**	**75.80**	**324**	P		**P**	**09 46 03.2**	**-0.2**
	comp=Z,8.0nm,0.8s							
ULM	**Lac du Bonnet**	**75.80**	**324**	P		**P**	**09 46 03.2**	**-0.2**
	comp=Z,8.4nm,0.8s,baz=49,slow=4.2,SNR=9.4							
USRK	**Ussuriysk Arra**	**76.01**	**44**	P		**P**	**09 46 04.0**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=286,slow=5.7,SNR=8.0							
USRK				LR		LR	10 23 15.1	
	comp=Z,16nm,28.6s,baz=193,slow=39							
ILAR	**Eielson Array**	**76.32**	**355**	P		**P**	**09 46 07.0**	**+0.8**
ILAR	**Eielson Array**	**76.32**	**355**	P		**P**	**09 46 06.9**	**+0.8**
ILAR	**Eielson Array**	**76.32**	**355**	P		**P**	**09 46 07.0**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=342,slow=3.3,SNR=12							
DAWY	**Dawson**	**76.34**	**352**	*eP*		**P**	**09 46 05.8**	**-0.6**
DAWY	**Dawson**	**76.34**	**352**	*eP*		**P**	**09 46 05.8**	**-0.6**
MENT	**Mentasta**	**77.89**	**353**	*eP*		**P**	**09 46 12.0**	**-3.0**
KSAR	**Wonju Array Be**	**78.02**	**51**	P		**P**	**09 46 15.0**	**-1.1**
KSAR	**Wonju Array Be**	**78.02**	**51**	P		**P**	**09 46 15.0**	**-1.1**
KSRS	**Korea Array**	**78.03**	**51**	P		**P**	**09 46 15.0**	**-1.2**
	comp=Z,24nm,19.7s							
KSRS	**Korea Array**	**78.03**	**51**	P		**P**	**09 46 15.0**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=300,slow=30,SNR=4.8							
KSRS				LR		LR	10 24 26.4	
	comp=Z,24nm,19.7s,baz=340,slow=39							
PETK	**Petropavlovsk-**	**80.71**	**25**	LR		LR	10 28 25.7	
	comp=Z,33nm,19.9s,baz=27,slow=40							
ASAJ	**Asahikawa**	**81.56**	**39**	LR		LR	10 24 23.4	
	comp=Z,35nm,19.8s,baz=357,slow=37							
KDAK	**Kodiak Island**	**83.60**	**357**	*i* P		**P**	**09 46 47.2**	**+1.6**
SWMT	**Swartz Lake**	**85.46**	**332**	*eP*		**P**	**09 46 56.0**	**+0.6**
	comp=Z,3.7nm,1.1s							
SWMT	**Swartz Lake**	**85.46**	**332**	*eP*		**P**	**09 46 56.0**	**+0.6**
	comp=Z,3.7nm,1.1s							
PDAR	**Pinedale Array**	**87.59**	**326**	P		**P**	**09 47 05.8**	**-0.3**
PDAR	**Pinedale Array**	**87.59**	**326**	P		**P**	**09 47 05.8**	**-0.3**
PDAR	**Pinedale Array**	**87.59**	**326**	P		**P**	**09 47 05.8**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=0.0,slow=1.8,SNR=4.0							
AHID	**Auburn Hatcher**	**88.25**	**327**	*eP*		P	09 47 05.5	-3.7
	comp=Z,3.0nm,0.5s							
JLU	**Jordanelle**	**90.18**	**326**	*eP*		**P**	**09 47 16.6**	**-1.8**
	comp=Z,1.5nm,0.4s							
JLU				*e*PP		**PP**	**09 50 47.9**	**-3.2**
JLU	**Jordanelle**	**90.18**	**326**	*eP*		**P**	**09 47 16.6**	**-1.8**
	comp=Z,1.5nm,0.4s							
NVAR	**Mina Array Bea**	**94.84**	**330**	LR		LR	10 36 11.2	
	comp=Z,111nm,19.1s,baz=336,slow=39							
TXAR	**Lajitas Array**	**95.29**	**315**	P		**P**	**09 47 42.9**	**+0.9**
TXAR	**Lajitas Array**	**95.29**	**315**	P		**P**	**09 47 42.8**	**+0.9**
TXAR	**Lajitas Array**	**95.29**	**315**	P		**P**	**09 47 42.9**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=60,slow=3.0,SNR=4.9							
WRA	**Warramunga Arr**	**119.46**	**93**	PKP		**PKPdf**	**09 53 06.3**	**-1.3**
WRA	**Warramunga Arr**	**119.46**	**93**	PKIKP		**PKPdf**	**09 53 06.3**	**-1.3**
WRA	**Warramunga Arr**	**119.46**	**93**	PKP		**PKPdf**	**09 53 06.3**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=325,slow=1.8,SNR=9.3							
ASAR	**Alice Springs**	**121.14**	**97**	PKP		**PKPdf**	**09 53 10.0**	**-0.7**
ASAR	**Alice Springs**	**121.14**	**97**	PKIKP		**PKPdf**	**09 53 10.0**	**-0.7**
ASAR	**Alice Springs**	**121.14**	**97**	PKP		**PKPdf**	**09 53 10.0**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=312,slow=1.8,SNR=12							

MAN 04 09:46:31,11°.06N×124°.72E,h0km,mb4.0,ML2.8,MS2.5, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.11**	**264**	*eP*		Pg	09 46 33.8	+0.7
OCLP				*eS*		Sg	09 46 41.1	+6.6
PLP	**Palo**	**0.28**	**68**	*iP*		Pg	09 46 37.2	+0.8
PLP				*i* S		Sg	09 46 41.0	+1.0
MSLP	**Maasin**	**0.93**	**171**	*eP*		Pb	09 46 50.5	+0.5
MSLP				*eS*		Sn	09 47 07.9	+2.4

*IDC **04** 09:55:18.4±1.1,12°.56N×125°.48E,h0km,mb3.8/11, mb1 3.9/11,mb1mx3.8/25,mbtmp3.8/11,MS2.9/1, Ms1 3.1/1,ms1mx2.4/34,Error ellipse: s-maj=60.2km s-min=17.2km az=65.0*

*ISCJB **04** 09:55:21.0±0.7,12°.38N×125°.5E±0°.1,h33km, mb3.8/11,MS2.4/1,Error ellipse: s-maj=15.7km s-min=7.3km az=0.6*

*MAN **04** 09:55:21,12°.16N×125°.64E,h41km,mb4.7,ML3.6,MS3.5*

ISC 04 09:55:21.8±0.9,12°.33N±0°.06×125°.6E±0°.1,h33km,n24, σ1=49/19,mb3.9/11,1C-2D,Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.73**	**189**	*eP*		**Pn**	**09 55 35.3**	**-0.5**
PLP	**Palo**	**1.28**	**206**	*iP*		**Pn**	**09 55 42.0**	**-1.4**
PLP				*eS*		**Sn**	**09 55 57.6**	**-2.0**
PVCP	**Virac**	**1.85**	**313**	*eP*		**Pb**	**09 55 54.7**	**-0.3**
PVCP				*i* S		**Sb**	**09 56 20.4**	**+2.5**
MSLP	**Maasin**	**2.28**	**197**	*eP*		**Pn**	**09 55 58.5**	**+1.3**
SCPH	**Surigao**	**2.53**	**181**	*eP*		**Pn**	**09 55 58.8**	**-1.8**
SCPH				*eS*		**Sb**	**09 56 38.7**	**+1.3**
RCP	**Roxas**	**2.85**	**255**	*eP*		**Pn**	**09 56 06.6**	**+1.6**
GUIM	**Jordan**	**3.36**	**240**	*eP*		**Pn**	**09 56 12.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**26.35**	**287**	P		**P**	**10 00 54.8**	**-0.2**
	1.2nm,0.3s,baz=89,slow=8.1,SNR=8.5							
CMAR				LR		LR	10 10 58.7	
	comp=Z,14nm,28.6s,baz=55,slow=36							
WRA	**Warramunga Arr**	**32.22**	**165**	P		**P**	**10 01 58.6**	**+2.7**
	0.2nm,0.7s,baz=347,slow=8.9,SNR=5.3							
ASAR	**Alice Springs**	**36.70**	**167**	P		P	10 02 29.3	+3.4
	0.4nm,0.5s,baz=341,slow=6.8,SNR=3.2							
SONM	**Songino Array**	**38.85**	**339**	P		**P**	**10 02 42.3**	**-1.7**
	0.7nm,0.8s,baz=141,slow=9.3,SNR=2.7							
H11S3	**WAKE ISLAND Hy**	**40.06**	**76**	T		T	10 45 42.7	
	baz=269,slow=73,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**40.08**	**76**	T		T	10 45 43.0	
	baz=269,slow=73,SNR=9.9							
H11S2	**WAKE ISLAND Hy**	**40.08**	**76**	T		T	10 45 44.4	
	baz=269,slow=73,SNR=9.8							
H11N1	**WAKE ISLAND Hy**	**40.33**	**74**	T		T	10 46 05.0	
	baz=269,slow=75,SNR=31							
H11N2	**WAKE ISLAND Hy**	**40.33**	**74**	T		T	10 46 04.9	
	baz=269,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**40.35**	**74**	T		T	10 46 06.3	
	baz=269,slow=75,SNR=32							
STKA	**Stephens Creek**	**46.57**	**161**	P		P	10 03 51.0	+4.5
	0.9nm,0.5s,baz=342,slow=9.6,SNR=3.1							
MKAR	**Makanchi Array**	**49.97**	**322**	P		**P**	**10 04 14.0**	**+1.2**
	1.0nm,0.6s,baz=127,slow=7.7,SNR=4.5							
ZALV	**Zalesovo Beam**	**52.49**	**331**	P		**P**	**10 04 32.1**	**+0.6**
	0.6nm,0.4s,baz=122,slow=5.4,SNR=3.2							
KURBB	**Kurchatov Arra**	**53.99**	**325**	P		**P**	**10 04 43.4**	**+0.9**
	2.5nm,0.5s,baz=121,slow=8.0,SNR=7.3							
BVAR	**Borovoye Array**	**59.58**	**325**	P		**P**	**10 05 22.5**	**+0.2**
	0.5nm,0.5s,baz=107,slow=7.9,SNR=6.0							
FINES	**FINESS Array B**	**83.75**	**332**	P		**P**	**10 07 46.9**	**-0.6**
	1.4nm,0.5s,baz=72,slow=6.2,SNR=7.4							
AKASG	**Malin Array Be**	**84.53**	**321**	P		**P**	**10 07 51.5**	**-0.1**
	0.2nm,0.3s,baz=62,slow=5.2,SNR=2.5							

*ISCJB **04** 09:56:34.0±0.5,59°.31N±0°.02×27°.06E±0°.07,h0km,Error ellipse: s-maj=5.2km s-min=3.0km az=21.4*
*HEL **04** 09:56:35.4±0.4,59°.30N×27°.12E,h0km,ML1.9,Explosion*
*NAO **04** 09:56:35.3±1.0,59°.29N×26°.76E,ML2.6*
*CSEM **04** 09:56:35.3±0.6,59°.31N×26°.99E,h1km,ML2.6,Error ellipse: s-maj=12.5km s-min=7.0km az=114.0,Mining explosion.*
*BER **04** 09:56:35.8±2.9,59°.33N×27°.00E,h0km,ML2.6(NAO), Suspected explosion*
*IDC **04** 09:56:37.4±2.0,59°.40N×27°.04E,h0km,mb1 3.2/4, mb1mx3.1/27,mbtmp3.2/4,ML2.8/4,Error ellipse: s-maj=16.9km s-min=10.2km az=131.0*

*UPP **04** 09:57:00.1,59°.69N×23°.55E,h0km,ML1.7,Suspected Mining explosion.*

ISC 04 09:56:34.4±0.9,59°.32N±0°.02×26°.97E±0°.04,h0km,n57, σ1=48/73,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.87**	**188**	Pg	**Pg**	**09 56 51.3**	**+0.3**
VSU				Lg	Lg	09 57 02.7	
VSU	**Vasula**	**0.87**	**188**	Pg	**Pg**	**09 56 51.3**	**+0.3**
VSU				Lg	Lg	09 57 02.7	
VSU	**Vasula**	**0.87**	**188**	*eP*	**Pg**	**09 56 51.4**	**+0.3**
VSU				*eS*	**Sg**	**09 57 02.6**	**+0.3**
VSU	**Vasula**	**0.87**	**188**	Pg	**Pg**	**09 56 51.3**	**+0.3**
VSU				Lg	Lg	09 57 02.7	
	SNR=50						
VJF	**Virojoki**	**1.26**	**13**	*eP*	**Pg**	**09 56 58.3**	**-0.3**
VJF				MSG	**Sg**	**09 57 15.3**	**+0.4**
	comp=Z,8.5nm,0.2s						
VJF				*e*SB	**Sg**	**09 57 15.3**	**+0.4**
VJF	**Virojoki**	**1.26**	**13**	Pg	**Pg**	**09 56 58.2**	**-0.3**
VJF				Sg	**Sg**	**09 57 15.2**	**+0.4**
SRPE	**Suurupi**	**1.33**	**277**	*eP*	**Pb**	**09 57 01.0**	**+0.7**
SRPE				*e*SB	**Sn**	**09 57 19.9**	**+1.3**
PVF	**Pernaja**	**1.35**	**336**	*eP*	**Pb**	**09 57 00.9**	**+0.4**
PVF				*e*S	**Sb**	**09 57 18.8**	**+0.5**
PVF				MSG		09 57 18.8	
	comp=Z,4.8nm,0.2s						
PVF	**Pernaja**	**1.35**	**336**	Pg	**Pb**	**09 57 00.8**	**+0.3**
PVF				Sg	**Sb**	**09 57 18.8**	**+0.5**
MEF	**Metsahovi**	**1.58**	**306**	*eP*	**Pg**	**09 57 05.4**	**+0.7**
MEF				MSG	**Sg**	**09 57 26.9**	**+1.7**
	comp=Z,7.2nm,0.1s						
MEF				*e*S	**Sg**	**09 57 26.9**	**+1.7**
MEF	**Metsahovi**	**1.58**	**306**	Pg	**Pg**	**09 57 05.4**	**+0.7**
MEF				Sg	**Sg**	**09 57 26.8**	**+1.7**
MTSE	**Matsula**	**1.74**	**251**	*eP*	**Pg**	**09 57 07.7**	**0.0**
MTSE				*e*S	**Sg**	**09 57 31.1**	**+0.8**
MTSE	**Matsula**	**1.74**	**251**	Pg	**Pb**	**09 57 06.8**	**-0.4**
MTSE				Sg	**Sb**	**09 57 29.7**	**+0.2**
FIA0	**FINESS Array S**	**2.18**	**349**	Pn	**Pn**	**09 57 13.3**	**+1.4**
	baz=158,slow=16						
FIA0				Lg	Lg	09 57 43.5	
	baz=169,slow=37						
FIA0				Rg	Rg	09 57 55.6	
	baz=152,slow=28						
FIA0	**FINESS Array S**	**2.18**	**349**	Pn	**Pn**	**09 57 13.3**	**+1.4**
	baz=158,slow=16						
FIA0				Lg	Lg	09 57 43.5	
	baz=169,slow=37						
FIA0				Rg	Rg	09 57 55.6	
	baz=152,slow=28						
FIA0	**FINESS Array S**	**2.18**	**349**	*eP*	**Pn**	**09 57 13.2**	**+1.4**
FIA0				*e*PB	**Pb**	**09 57 14.6**	**0.0**
FIA0				*e*SG	**Sg**	**09 57 44.3**	**0.0**
FIA0	**FINESS Array S**	**2.18**	**349**	Pn	**Pn**	**09 57 13.3**	**+1.4**
	SNR=6.5						
FIA0				Lg	Lg	09 57 43.5	
FINES	**FINESS Array B**	**2.18**	**349**	Pn	**Pn**	**09 57 13.3**	**+1.4**
	comp=Z,2.8nm,0.3s,baz=164,slow=16,SNR=57						
FINES				Sn	**Sb**	**09 57 41.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=170,slow=28,SNR=5.4						
FINES				Lg	Lg	09 57 44.3	
	comp=Z,5.4nm,0.3s,baz=170,slow=28,SNR=23						
KAF	**Kangasniemi**	**2.82**	**354**	*eP*	**Pn**	**09 57 22.7**	**+2.0**
KAF				*e*S	**Sn**	**09 57 57.6**	**+2.2**
KAF				MSG		09 57 57.6	
	comp=Z,2.7nm,0.2s						
KAF	**Kangasniemi**	**2.82**	**354**	Pn	**Pn**	**09 57 22.7**	**+2.0**
KAF	**Kangasniemi**	**2.82**	**354**	Sg	**Sn**	**09 57 57.5**	**+2.2**
SLIT	**Slitere, Latvi**	**2.98**	**237**	*e*SB	**Sb**	**09 58 07.1**	**+1.8**
KEF	**Keuruu**	**3.04**	**341**	MSG	**Sg**	**09 58 09.9**	**-2.0**
	comp=Z,4.5nm,0.4s						
KEF				*e*SG	**Sg**	**09 58 09.9**	**-2.0**
KEF	**Keuruu**	**3.04**	**341**	Pn	**Pb**	**09 57 26.8**	**-2.5**
RAF	**Rauma**	**3.11**	**306**	*eP*	**Pb**	**09 57 27.8**	**-2.8**
RAF				*e*SB	**Sb**	**09 58 11.4**	**+2.4**
RAF				MSG		09 58 11.4	
	comp=Z,3.5nm,0.4s						
RAF	**Rauma**	**3.11**	**306**	Pn	**Pb**	**09 57 28.0**	**-2.5**
RAF	**Rauma**	**3.11**	**306**	Sg	**Sb**	**09 58 11.4**	**+2.4**
SUF	**Sumiainen**	**3.43**	**354**	*eP*	**Pn**	**09 57 31.2**	**+2.1**
SUF	**Sumiainen**	**3.43**	**354**	Pn	**Pn**	**09 57 31.2**	**+2.1**
AAL	**Aland**	**3.63**	**287**	P	**Pn**	**09 57 33.7**	**+1.9**
JOF	**Joensuu**	**4.18**	**28**	*eP*	**Pn**	**09 57 41.4**	**+2.0**
NRTU	**Norrtaelje**	**4.26**	**278**	P	**Pn**	**09 57 41.5**	**+1.0**
GRAU	**Graesoe**	**4.37**	**287**	P	**Pn**	**09 57 42.8**	**+0.8**
NYNU	**Nynaeshamn**	**4.62**	**270**	P	**Pn**	**09 57 47.8**	**+2.4**
FLYU	**Flymyra**	**4.67**	**284**	P	**Pn**	**09 57 47.2**	**+1.1**
BACU	**Backbrunna**	**5.04**	**280**	P	**Pn**	**09 57 52.8**	**+1.6**
OSTU	**Oestervaala**	**5.05**	**285**	P	**Pn**	**09 57 52.6**	**+1.3**
UMAU	**Umeaa**	**5.47**	**329**	P	**Pn**	**09 57 59.5**	**+2.4**
UMAU				S	Pg	09 58 24.8	+5.6
BURU	**Burvik**	**5.90**	**336**	P	**Pn**	**09 58 04.5**	**+1.5**
BREU	**Bredtraesk**	**6.08**	**322**	P	Pn	09 58 09.1	+3.6
SVAU	**Svanoeiden**	**6.25**	**329**	P	**Pn**	**09 58 09.3**	**+1.5**
SJUU	**Sjulsmark**	**6.69**	**340**	P	**Pn**	**09 58 15.0**	**+1.2**
HFS	**Hagfors**	**6.76**	**283**	Lg	Lg	10 00 04.3	
	baz=94,slow=37						
HFS	**Hagfors**	**6.76**	**283**	Lg	Lg	10 00 04.3	
	baz=94,slow=37						
HFS	**Hagfors**	**6.76**	**283**	Lg	Lg	10 00 04.3	
HFS	**Hagfors**	**6.76**	**283**	Pn	**Pn**	**09 58 15.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=106,slow=12,SNR=2.7						
HFS				Sn	**Sn**	**09 59 31.4**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=70,slow=32,SNR=12						
HFS				Lg	Lg	10 00 06.6	
	comp=Z,0.9nm,0.3s,baz=90,slow=30,SNR=6.1						
LILU	**Lilltraesk**	**6.84**	**334**	P	**Pn**	**09 58 17.3**	**+1.5**
HARU	**Harads**	**7.39**	**341**	P	Pn	09 58 25.3	+1.9
NB2	**NORSAR Subarra**	**8.04**	**289**	Pn	**Pn**	**09 58 32.4**	**0.0**
	baz=89,slow=14						
NB2	**NORSAR Subarra**	**8.04**	**289**	Pn	**Pn**	**09 58 32.4**	**0.0**
	baz=89,slow=14						
NB2	**NORSAR Subarra**	**8.04**	**289**	Pn	**Pn**	**09 58 32.3**	**0.0**
	SNR=4.7						
NOA	**NORSAR Array B**	**8.04**	**289**	Pn	**Pn**	**09 58 32.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=6.7						
NOA				Sn	**Sn**	**10 00 00.5**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=113,slow=17,SNR=4.7						
SALU	**Saltoluokta**	**8.93**	**338**	P	**Pn**	**09 58 46.3**	**+1.8**
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 59 01.8**	**-1.1**
	baz=171,slow=16						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 59 01.8**	**-1.1**
	baz=171,slow=16						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 59 01.8**	**-1.1**
	SNR=3.1						
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn	**Pn**	**09 59 02.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=172,slow=13,SNR=9.4						

*CSEM **04** 10:01:13.4,41°.35N×43°.47E,h0km,ML2.2,After TIF*

TIF 04 10:01:14.3,41°.38N×43°.53E,h16km, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.04**	**316**	P	Pg	10 01 16.9	-0.5
AKH				S	Sg	10 01 18.9	-0.6
AKH	**Akhalkalaki**	**0.04**	**316**	P	Pg	10 01 16.9	-0.5
AKH				S	Sg	10 01 18.9	-0.6
TBLG	**Delisi**	**0.97**	**69**	P	Pn	10 01 33.9	+0.4
TBLG				S	Sn	10 01 47.6	+0.6
TBLG	**Delisi**	**0.97**	**69**	P	Pn	10 01 33.9	+0.4
TBLG				S	Sn	10 01 47.6	+0.6
ONI	**Oni**	**1.21**	**357**	P	Pb	10 01 37.1	+0.1
ONI				S	Sg	10 01 54.6	+1.0
GUDG	**Gudauri**	**1.29**	**33**	P	Pg	10 01 40.5	+0.9
GUDG				S	Sg	10 01 58.1	+1.5
GUDG	**Gudauri**	**1.29**	**33**	P	Pg	10 01 40.5	+0.9
GUDG				S	Sg	10 01 58.1	+1.4
DGRG	**David-gareji**	**1.39**	**87**	P	Pg	10 01 41.7	+0.5
DGRG				S	Sg	10 02 00.1	+0.7
DGRG	**David-gareji**	**1.39**	**87**	P	Pg	10 01 41.7	+0.5
DGRG				S	Sg	10 02 09.3	+10

*ISCJB **04** 10:07:38.0±0.3,38°.87N±0°.01×21°.89E±0°.02,h11km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=174.0*
*ATH **04** 10:07:37.4,38°.88N×21°.89E,h16km,MD3.4/25,ML3.1*
*THE **04** 10:07:38.5,38°.85N×21°.93E,h0km±1km,ML3.5/10,Error ellipse: s-maj=1.9km s-min=0.5km az=270.0*
*CSEM **04** 10:07:38.3±0.1,38°.85N×21°.94E,h5km,MD3.4,Error ellipse: s-maj=2.9km s-min=2.0km az=82.0*
*SKO **04** 10:07:40.2,38°.88N×22°.02E,h17km,M2.6,ML3.2*

ISC 04 10:07:37.3±0.7,38°.86N±0°.01×21°.92E±0°.02,h13km±4km, n138,σ1=09/177,10C-4D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.10**	**305**	P	**Pg**	**10 07 40.5**	**0.0**
EVR				S	**Sg**	**10 07 42.9**	**+0.2**
EVR	**Evrytania**	**0.10**	**305**	*eP*	**Pg**	**10 07 40.4**	**0.0**
EVR				*e*SB	**Sg**	**10 07 43.0**	**+0.2**
EVR	**Evrytania**	**0.10**	**305**	*eP*	**Pg**	**10 07 40.4**	**0.0**
EVR				S	**Sg**	**10 07 42.4**	**-0.3**
EVR				*e*Sb	Sb	10 07 43.0	-1.1
MAKR	**Makrakomi, Fth**	**0.23**	**47**	P	**Pb**	**10 07 43.4**	**0.0**
MAKR				S	**Sg**	**10 07 46.3**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.23**	**47**	*eP*	**Pb**	**10 07 43.4**	**0.0**
MAKR				*e*SB	**Sb**	**10 07 47.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.23**	**47**	P	**Pb**	**10 07 43.4**	**0.0**
MAKR				S	**Sg**	**10 07 46.3**	**+0.7**
MAKR				*e*Sb	**Sb**	**10 07 47.5**	**+0.1**
AGG	**Agios Georgios**	**0.36**	**63**	P	**Pb**	**10 07 45.6**	**0.0**
AGG	**Agios Georgios**	**0.36**	**63**	*eP*	**Pb**	**10 07 45.6**	**0.0**
AGG	**Agios Georgios**	**0.36**	**63**	P	**Pb**	**10 07 45.6**	**0.0**
AGG				S	**Sb**	**10 07 51.9**	**+0.7**
PVO	**Paravola**	**0.39**	**232**	P	**Pb**	**10 07 46.0**	**-0.1**
PVO	**Paravola**	**0.39**	**232**	P	**Pb**	**10 07 46.0**	**-0.1**
PVO				S	**Sb**	**10 07 52.6**	**+0.6**
KALE	**Kalithea**	**0.50**	**160**	P	**Pb**	**10 07 47.8**	**-0.1**
KALE	**Kalithea**	**0.50**	**160**	*eP*	**Pb**	**10 07 47.8**	**-0.1**
KALE				*e*SN	**Sb**	**10 07 56.1**	**+1.0**
KALE	**Kalithea**	**0.50**	**160**	P	**Pb**	**10 07 47.8**	**-0.1**
KALE				S	**Sb**	**10 07 55.4**	**+0.3**
KALE				*e*Sn	**Sb**	**10 07 56.1**	**+1.0**
PSA1	**Psathopyrgos**	**0.53**	**183**	*eP*	**Pb**	**10 07 48.5**	**0.0**
AXAR	**Agios Charalam**	**0.58**	**99**	P	**Pb**	**10 07 49.2**	**-0.2**
LAKA	**Lakka**	**0.62**	**176**	P	**Pb**	**10 07 50.0**	**0.0**
LAKA	**Lakka**	**0.62**	**176**	*eP*	**Pb**	**10 07 49.9**	**0.0**
LAKA	**Lakka**	**0.62**	**176**	P	**Pb**	**10 07 50.0**	**0.0**
PDO	**Prodromos**	**0.63**	**246**	P	**Pb**	**10 07 49.4**	**-0.4**
PDO	**Prodromos**	**0.63**	**246**	*eP*	**Pb**	**10 07 50.0**	**-0.2**
PDO	**Prodromos**	**0.63**	**246**	*eP*	**Pb**	**10 07 50.0**	**-0.2**
DSF	**Desfina**	**0.65**	**133**	P	**Pg**	**10 07 49.9**	**-0.1**
DSF				S	**Sb**	**10 07 59.7**	**+0.1**
DSF	**Desfina**	**0.65**	**133**	*eP*	**Pg**	**10 07 49.9**	**-0.1**
DSF				*e*SN	**Sb**	**10 08 00.5**	**+0.9**
DSF	**Desfina**	**0.65**	**133**	P	**Pg**	**10 07 49.9**	**-0.1**
DSF				S	**Sb**	**10 07 59.7**	**+0.1**
DSF				*e*Sn	**Sb**	**10 08 00.5**	**+0.9**
THL	**Klokotos Trika**	**0.71**	**6**	P	**Pb**	**10 07 51.4**	**-0.2**
THL				S	**Sn**	**10 08 02.8**	**-1.1**
THL	**Klokotos Trika**	**0.71**	**6**	*eP*	**Pb**	**10 07 51.4**	**-0.2**
THL				*e*SN	**Sb**	**10 08 01.0**	**-0.3**
THL	**Klokotos Trika**	**0.71**	**6**	P	**Pb**	**10 07 51.4**	**-0.2**
THL				*e*Sn	**Sb**	**10 08 01.0**	**-0.3**
THL				S	**Sn**	**10 08 02.8**	**-1.1**
KLV	**Kalavryta, Ach**	**0.83**	**167**	P	**Pb**	**10 07 53.4**	**-0.2**
KLV				S	**Sn**	**10 08 06.2**	**-0.2**
KLV	**Kalavryta, Ach**	**0.83**	**167**	*eP*	**Pb**	**10 07 53.4**	**-0.2**
KLV	**Kalavryta, Ach**	**0.83**	**167**	P	**Pb**	**10 07 53.5**	**-0.2**
KLV				S	**Sn**	**10 08 05.7**	**-1.3**
LKR	**Lokris**	**0.87**	**103**	P	**Pg**	**10 07 54.3**	**+0.1**
LKR				S	**Sn**	**10 08

OUR	**Ouranopolis**	**2.17**	**47**	P		**Pb**	**10 08 14.3**	**-2.2**
OUR	**Ouranopolis**	**2.17**	**47**	*e*PB		**Pb**	**10 08 14.2**	**-2.2**
OUR	**Ouranopolis**	**2.17**	**47**	P		**Pb**	**10 08 14.3**	**-2.2**
BIA	**Bitola**	**2.21**	**348**	*i* Pn		**Pb**	**10 08 16.2**	**-0.9**
BIA	**Bitola**	**2.21**	**348**	*i* Pn		**Pb**	**10 08 16.2**	**-0.9**
SOH	**Sokhos**	**2.25**	**29**	P		**Pb**	**10 08 16.0**	**-1.9**
SOH	**Sokhos**	**2.25**	**29**	P		**Pb**	**10 08 16.0**	**-1.9**
VLI	**Veliai**	**2.28**	**159**	*e*PB		**Pb**	**10 08 16.5**	**-1.9**
VLI				*e*SN		**Sb**	**10 08 45.5**	**-1.0**
VAY	**Valandovo**	**2.51**	**11**	*i* Pn		**Pb**	**10 08 20.2**	**-2.1**
VAY				*e*Sn		**Sb**	**10 08 54.5**	**+1.4**
VAY				*i* Lg		Lg	10 09 05.4	
	comp=E,63nm,0.7s							
VAY				*i* Lg		Lg	10 09 07.8	
	comp=N,133nm,1.0s							
VAY	**Valandovo**	**2.51**	**11**	*i* Pn		**Pb**	**10 08 20.7**	**-1.6**
VAY				*e*Sn		**Sg**	**10 08 55.0**	**-3.0**
VAY				*i* Lg		Lg	10 09 01.3	
	comp=N,133nm,1.0s							
MMB	**Musomiste**	**3.06**	**26**⇑	*i* P		**Pn**	**10 08 26.4**	**+1.0**
MMB	**Musomiste**	**3.06**	**26**⇑	*i* P		**Pn**	**10 08 26.4**	**+1.0**
SKO	**Skopje**	**3.13**	**353**	*i* Pn		Pb	10 08 29.1	-3.8
SKO				*e*Sn		**Sn**	**10 09 05.1**	**+1.4**
SKO				*i* Lg		Lg	10 09 07.2	
	comp=N,44nm,0.4s							
SKO				*i* Lg		Lg	10 09 08.1	
	comp=E,26nm,0.4s							
SKO	**Skopje**	**3.13**	**353**	*i* Pn		Pb	10 08 29.6	-3.3
SKO				*i* Lg		Lg	10 09 01.6	
	comp=E,44nm,0.4s							
VTS	**Vitosha**	**3.86**	**14**⇑	*i* P		**Pn**	**10 08 38.9**	**+2.4**
VTS	**Vitosha**	**3.86**	**14**⇑	*i* P		**Pn**	**10 08 38.9**	**+2.4**
KDZ	**Kurdzhali**	**3.87**	**43**⇓	*i* P		**Pn**	**10 08 38.9**	**+2.4**
KDZ	**Kurdzhali**	**3.87**	**43**⇓	*i* P		**Pn**	**10 08 38.9**	**+2.4**
IVAS	**Ivanjica**	**4.90**	**345**	*e*Pn		Pn	10 08 53.5	+2.8
GRUS	**Gruza**	**5.11**	**350**	*e*Pn		**Pn**	**10 08 55.8**	**+2.3**
BBLS	**Lazići**	**5.35**	**340**	*e*Pn		Pn	10 09 00.5	+3.6
DIVS	**Divibare**	**5.43**	**347**	*e*Pn		**Pn**	**10 09 00.5**	**+2.4**
FGSL	**Fruska Gora**	**6.49**	**347**	*e*Pn		**Pn**	**10 09 14.9**	**+2.4**
PSN	**Preselentsi**	**6.75**	**42**⇑	*i* P		Pn	10 09 12.6	-3.4
VOIR		**6.97**	**18**⇑	*i* P		**Pn**	**10 09 19.1**	**-0.1**
VOIR		**6.97**	**18**⇑	*i* P		**Pn**	**10 09 19.1**	**-0.1**
MLR	**Muntele Rosu**	**7.27**	**23**⇑	*i* P		Pn	10 09 19.8	-3.6
PKSM	**Moragy**	**7.74**	**343**⇓	*i* P		Pn	10 09 32.6	+3.0
PKSM	**Moragy**	**7.74**	**343**⇓	*i* P		Pn	10 09 32.6	+3.0
PLOR	**Plostina**	**7.82**	**25**⇑	*i* P		Pn	10 09 33.7	+3.0
PLOR	**Plostina**	**7.82**	**25**⇑	*i* P		Pn	10 09 33.7	+3.0

*IDC **04** 11:40:21.9±1.8,56˚.27N×164˚.17E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/28, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=32.7km s-min=24.8km az=149.0*
*ISCJB **04** 11:40:22.9±0.5,56˚.05N±0˚.04×164˚.18E±0˚.05, h19km, mb3.3/2, Error ellipse: s-maj=5.2km s-min=3.5km az=16.6*
*KRSC **04** 11:40:23.5±2.5, 56˚.09N×164˚.16E, h19km±18km, ML3.8*
ISC 04 11:40:22.4±0.9,56˚.12N±0˚.04×164˚.20E±0˚.04,h19km,n41,
σ1s74/59,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.78**	**277**	*e*P		**Pb**		**11 40 36.7**	**-0.6**
KBTR				*e*S		**Sb**		**11 40 44.5**	**-2.9**
BKI	**Bering**	**1.36**	**132**	*e*P		**Pn**		**11 40 46.3**	**0.0**
BKI				*e*S		**Sn**		**11 41 02.8**	**-0.9**
SMKR	**Semkarok**	**1.59**	**288**	*e*P		**Pb**		**11 40 50.7**	**-0.5**
SMKR				*e*S		**Sn**		**11 41 09.4**	**-0.2**
BDR	**Baidarnaya**	**1.73**	**286**	*e*P		**Pb**		**11 40 53.3**	**-0.2**
BDR				*e*S		**Sb**		**11 41 13.8**	**-1.0**
SRKR	**Sorokina**	**1.77**	**289**	*e*P		**Pn**		**11 40 52.9**	**+0.9**
SRKR				*e*S		**Sn**		**11 41 13.0**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**1.98**	**266**	*e*P		**Pb**		**11 40 56.5**	**-1.2**
BZGR				*e*S		**Sn**		**11 41 19.8**	**+0.7**
KLY	**Klyuchi**	**1.99**	**277**	*e*P		**Pn**		**11 40 55.2**	**+0.2**
KLY				*e*S		**Sn**		**11 41 17.5**	**-1.8**
KRSR	**Krestovskiy**	**2.04**	**274**	S		**Sb**		**11 41 22.3**	**-1.4**
BZWR	**Bezymyannyi-We**	**2.08**	**267**	S		**Sb**		**11 41 24.2**	**-1.0**
BZMR	**Bezymyannaya**	**2.09**	**266**	P		**Pb**		**11 40 58.5**	**-1.2**
BZMR				S		**Sn**		**11 41 21.8**	**-0.2**
MKZ	**Mys Kozlova**	**2.11**	**223**	P		**Pn**		**11 40 57.5**	**+0.9**
MKZ				*e*S		**Sn**		**11 41 21.5**	**-0.7**
KIRR	**Kirishev**	**2.17**	**267**	*e*P		**Pb**		**11 40 59.6**	**-1.5**
KIRR				*e*S		**Sn**		**11 41 24.8**	**+0.8**
KPT	**Kopyto**	**2.24**	**268**	S		**Sn**		**11 41 27.3**	**+1.7**
KMNR	**Kamenistaya**	**2.26**	**262**	S		**Sn**		**11 41 25.2**	**-0.9**
KOZ	**Kozyrevsk**	**2.42**	**270**	P		**Pb**		**11 41 04.2**	**-1.2**
KOZ				S		**Sb**		**11 41 32.7**	**-2.1**
KZV	**Kizimen**	**2.43**	**247**	*e*P		**Pn**		**11 41 02.4**	**+1.2**
KZV				*e*S		**Sn**		**11 41 29.7**	**-0.8**
TUMR	**Tumrok**	**2.44**	**252**	*e*P		**Pb**		**11 41 03.8**	**-1.9**
TUMR				*e*S		**Sn**		**11 41 32.5**	**+1.8**
SRDR	**Sredinnyy**	**2.51**	**276**	*e*P		**Pb**		**11 41 04.8**	**-2.1**
SRDR				*e*S		**Sn**		**11 41 33.8**	**+1.5**
ESO	**Esso**	**3.09**	**269**	P		**Pb**		**11 41 13.6**	**-3.1**
ESO				S		**Sn**		**11 41 48.5**	**+1.9**
OSSR	**Ossora**	**3.20**	**349**	*e*P		**Pn**		**11 41 12.2**	**+0.7**
OSSR				*e*S		**Sn**		**11 41 46.1**	**-3.0**
SPN	**Mys Shipunski**	**3.88**	**220**	*e*S		**Sn**		**11 42 02.0**	**-3.9**
NLC	**Nalytchevo**	**4.08**	**226**	*e*P		**Pn**		**11 41 25.8**	**+2.1**
NLC				*e*S		**Sn**		**11 42 09.8**	**-1.1**
SDLR	**Sedlovina**	**4.20**	**229**	*e*P		**Pn**		**11 41 27.3**	**+1.9**
SDLR				S		**Sn**		**11 42 12.5**	**-1.4**
KRER	**Koryakskii**	**4.24**	**231**	*e*P		**Pn**		**11 41 28.4**	**+2.4**
KRER				S		**Sn**		**11 42 14.8**	**-0.2**
KRX	**Arik**	**4.24**	**232**	*e*P		**Pn**		**11 41 28.2**	**+2.2**
SMAR	**Somma**	**4.24**	**230**	*e*P		**Pn**		**11 41 28.1**	**+2.0**
AVH	**Avacha**	**4.27**	**230**	*e*P		**Pn**		**11 41 28.6**	**+2.3**
AVH				S		**Sn**		**11 42 14.5**	**-1.1**
UGLR	**Uglovaya**	**4.27**	**229**	*e*P		**Pn**		**11 41 28.5**	**+2.1**
KOK	**Koryaka**	**4.29**	**231**	*e*P		**Pn**		**11 41 29.0**	**+2.3**
GNL	**Ganaly**	**4.35**	**239**	*e*P		**Pn**		**11 41 30.3**	**+2.8**
PET	**Petropavlovsk**	**4.47**	**228**	S		**Sn**		**11 42 21.0**	**+0.4**
PETK	**Petropavlovsk-**	**4.83**	**234**	Pn		**Pn**		**11 41 36.6**	**+2.5**
	0.8nm,0.3s,baz=61,slow=9.7,SNR=22								
PETK						Sn		11 42 36.0	+6.5
	0.6nm,0.3s,baz=98,slow=20,SNR=4.2								
RUS	**Russkaya**	**4.97**	**224**	*e*P		**Pn**		**11 41 37.7**	**+1.8**
MTVR	**Mutnovka**	**5.07**	**227**	*e*P		**Pn**		**11 41 39.6**	**+2.2**
MTVR				S		**Sn**		**11 42 33.7**	**-1.7**
ASAK	**Asacha**	**5.26**	**227**	P		**Pn**		**11 41 41.4**	**+1.5**
FX1	**Attu Island--F**	**6.15**	**118**	Pn		**Pn**		**11 41 54.0**	**+2.0**
	0.7nm,0.3s,baz=276,slow=9.2,SNR=2.3								
ILAR	**Eielson Array**	**25.01**	**50**	P		**P**		**11 45 45.7**	**+1.1**
	0.5nm,0.8s,baz=265,slow=6.4,SNR=4.8								
H11N2	**WAKE ISLAND Hy**	**36.39**	**176**	T		T		12 26 06.7	
	baz=359,slow=76,SNR=46								
H11N3	**WAKE ISLAND Hy**	**36.40**	**176**	T		T		12 26 12.8	
	baz=359,slow=76,SNR=29								
H11N1	**WAKE ISLAND Hy**	**36.41**	**176**	T		T		12 26 06.5	
	baz=359,slow=76,SNR=39								
YKA	**Yellowknife Ar**	**39.33**	**46**	P		**P**		**11 47 51.8**	**+2.1**
	0.8nm,0.8s,baz=300,slow=8.4,SNR=3.4								

*IDC **04** 11:41:39.2±1.8,0˚.52S×133˚.13E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=98.8km s-min=19.7km az=77.0*
*ISCJB **04** 11:41:40.5±0.9,0˚.46S±0˚.09×133˚.5E±0˚.1, h28km, mb3.8/4, Error ellipse: s-maj=18.1km s-min=12.6km az=11.8*
*AUST **04** 11:42:03.0±1.0,2˚.10S×134˚.54E, h91km, Error ellipse: s-maj=1.6km s-min=1.2km az=345.0*
ISC 04 11:41:42.4±1.2,0˚.5S±0˚.1×133˚.5E±0˚.1,h28km,n14,
σ2s90/12,mb4.0/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.69**	**207**	P		**Pn**		**11 42 23.2**	**-0.6**
	baz=2.4,SNR=61								
TLE	**Tual**	**5.14**	**188**	P		Pn		11 43 01.7	+4.1
	baz=4.0,SNR=4.6								
KDU	**Kakadu**	**12.13**	**185**	P		**Pn**		**11 44 35.5**	**+2.0**
	baz=11,SNR=4.5								
MTN	**Manton Dam**	**12.47**	**191**	P		**Pn**		**11 44 39.9**	**+1.9**
	baz=11,SNR=3.5								
MANU	**Manus Island**	**13.96**	**96**	P		**Pn**		**11 44 58.9**	**+0.4**
	baz=13,SNR=4.4								
KNRA	**Kununurra**	**15.77**	**197**	P		**Pn**		**11 45 19.4**	**-3.2**
	baz=15,SNR=7.6								
COEN	**Coen**	**16.44**	**145**	P		**Pn**		**11 45 27.5**	**-3.8**
	baz=15,SNR=3.8								
FITZ	**Fitzroy Crossi**	**19.10**	**203**	P		**P**		**11 46 02.7**	**-0.5**
	0.1nm,0.3s,baz=13,slow=14,SNR=2.6								
FITZ	**Fitzroy Crossi**	**19.10**	**203**	P		Pn		11 46 10.9	+6.8
	baz=18,SNR=3.1								
WRA	**Warramunga Arr**	**19.32**	**178**	P		**P**		**11 46 06.5**	**+0.9**
	0.2nm,0.3s,baz=352,slow=11,SNR=12								
ASAR	**Alice Springs**	**23.02**	**179**	P		**P**		**11 46 46.0**	**+0.7**
	2.0nm,0.7s,baz=354,slow=10,SNR=34								
STKA	**Stephens Creek**	**32.12**	**167**	P		**P**		**11 48 08.7**	**+1.2**
	2.0nm,0.8s,baz=352,slow=7.1,SNR=3.5								
MKAR	**Makanchi Array**	**64.91**	**324**	P		**P**		**11 52 19.7**	**+0.3**
	0.6nm,0.5s,baz=115,slow=8.5,SNR=5.0								
ZALV	**Zalesovo Beam**	**67.47**	**331**	P		**P**		**11 52 35.4**	**-0.2**
	0.6nm,0.5s,baz=140,slow=7.6,SNR=2.8								

*IDC **04** 12:02:37.7±0.8, 19˚.56S×169˚.78E, h0km, mb4.4/17, mb1 4.5/20, mb1mx4.4/25, mbtmp4.5/20, ML4.3/3, MS4.0/20, Ms1 4.0/20, ms1mx3.9/27, Error ellipse: s-maj=19.4km s-min=16.1km az=111.0*
*NOU **04** 12:02:38.2±0.9, 19˚.24S×169˚.89E, h10km, MD3.3, ML2.6*
*ISCJB **04** 12:02:40.8±2.2, 19˚.57S±0˚.05×169˚.68E±0˚.05, h27km±15km, mb4.7/36, MS3.6/16, Error ellipse: s-maj=9.0km s-min=6.1km az=43.4*
*GCMT **04** 12:02:41.7±0.3, 19˚.50S×169˚.94E, h12km, MW4.9, Moment Tensor Solution. s23,c27; s65,c80; Moment tensor: Scale 10¹⁶Nm; Mrr=2.63±.15; Mθθ 1.32±.15; Mφφ 1.31±.13; Mrθ 0.80±.47; Mrφ -1.83±.10; Mθφ 0.64±.57; Best double couple: M₀3.10000×10¹⁶ NP1:φ₀295.00000°, δ50.00000°, λ-119.00000°. NP2:φ₀155.00000°, δ48.00000°, λ-60.00000°. Principal axes: T 3.1500, Plg1.0000°, Azm45.0000°; N -0.1100, Plg22.0000°, Azm314.0000°; P -3.0400, Plg68.0000°, Azm138.0000°; Data Used: IU II G IC CN CU.*
*NEIC **04** 12:02:44.8±1.4, 19˚.56S×169˚.68E, h46km±13km, mb4.9/17 Error ellipse: s-maj=10.1km s-min=8.6km az=225.0*
*BJI **04** 12:02:47.5, 19˚.60S×169˚.70E, h87km, mB5.2/16, mb4.7/21, Ms5.2/5, Ms7 4.8/5*
*AUST **04** 12:03:00.4±53.0, 19˚.62S×169˚.50E, h195km±9km, Error ellipse: s-maj=11.7km s-min=2.2km az=252.0*
ISC 04 12:02:45.2±0.9,19˚.60S±0˚.06×169˚.69E±0˚.06,h52km±8km,
n117,σ1s70/123,mb4.8/36,MS3.8/16,12C-11D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.65**	**225**	*e*P		**Pn**		**12 03 37.0**	**-2.2**
BAYA				*e*S		**Sn**		**12 04 19.7**	**-1.4**
BAYA				AMP				12 04 35.4	
	comp=Z,30nm,1.4s								
BAYA	**Yate Dam**	**3.65**	**225**	*e*P		**Pn**		**12 03 37.0**	**-2.2**
BAYA				*e*S		**Sn**		**12 04 19.7**	**-1.4**
BAYA				AMP				12 04 35.4	
	comp=Z,30nm,1.4s								
PLUM	**Mont Dore**	**3.90**	**226**	*e*P		**Pn**		**12 03 40.5**	**-2.0**
PLUM	**Mont Dore**	**3.90**	**226**	*e*P		**Pn**		**12 03 40.5**	**-2.0**
DZM	**Mont Dzumac**	**3.91**	**230**	*e*Pn		**Pn**		**12 03 40.1**	**-2.7**
	comp=Z,86nm,0.3s								
DZM				*e*Sn		**Sn**		**12 04 26.2**	**-1.3**
	comp=Z,216nm,0.3s								
DZM				*e*LR		LR		12 04 35.2	
	comp=Z,9μm,25.4s								
DZM	**Mont Dzumac**	**3.91**	**230**	*e*Pn		**Pn**		**12 03 40.5**	**-2.3**
DZM				*e*Sn		**Sn**		**12 04 28.3**	**+0.8**
DZM	**Mont Dzumac**	**3.91**	**230**	Pn		**Pn**		**12 03 40.2**	**-2.6**
	comp=Z,12nm,0.3s,baz=64,slow=13,SNR=211								
DZM				Sn		**Sn**		**12 04 27.2**	**-0.3**
	comp=Z,60nm,0.3s,baz=341,slow=23,SNR=7.9								
DZM				LR		LR		12 05 06.9	
	comp=Z,6μm,18.9s,baz=32,slow=37								
NORM	**Noumea**	**3.98**	**228**	*e*P		**Pn**		**12 03 41.0**	**-2.6**
NORM				*e*S		**Sn**		**12 04 28.7**	**-0.3**
NORM	**Noumea**	**3.98**	**228**	*e*P		**Pn**		**12 03 41.0**	**-2.6**
NORM				*e*S		**Sn**		**12 04 28.7**	**-0.3**
NOUC	**Port Laguerre**	**4.03**	**231**	*e*P		**Pn**		**12 03 42.5**	**-1.9**
NOUC				*e*S		**Sn**		**12 04 30.3**	**0.0**
NOUC				AMP				12 04 37.7	
	comp=Z,129nm,6.0s								
NOUC	**Port Laguerre**	**4.03**	**231**	*e*P		**Pn**		**12 03 42.5**	**-1.9**
NOUC				*e*S		**Sn**		**12 04 30.3**	**0.0**
NOUC				AMP				12 04 37.7	
	comp=Z,129nm,6.0s								
HNR	**Honiara**	**13.81**	**316**	Pn		**Pn**		**12 05 57.3**	**-1.1**
HNR	**Honiara**	**13.81**	**316**	Pn		**Pn**		**12 05 57.3**	**-1.1**
	comp=Z,3.0nm,0.3s,baz=168,slow=8.5,SNR=4.2								
HNR				LR		LR		12 10 27.6	
	comp=Z,16nm,28.6s,baz=132,slow=34								
RAO	**Raoul Island**	**14.81**	**133**	*e*Pn		**Pn**		**12 06 12.0**	**+0.4**
RAO				*e*Sn		Sn		12 08 41.7	-13
RAO	**Raoul Island**	**14.81**	**133**	Pn		Pn		12 06 04.3	-7.2
	comp=Z,308nm,0.3s,baz=208,slow=23,SNR=6.0								
RAO				LR		LR		12 10 25.8	
	comp=Z,414nm,21.7s,baz=312,slow=32								
EIDS	**Eidsvold**	**18.12**	**248**	*e*Pn		**Pn**		**12 06 56.9**	**+3.7**
	comp=Z,38nm,1.3s								
AFI	**Afiamalu**	**18.62**	**75**	*e*P		**P**		**12 06 57.7**	**-0.9**
AFI	**Afiamalu**	**18.62**	**75**	LR		LR		12 12 32.5	
	comp=Z,16nm,28.6s,baz=248,slow=32								
ARMA	**Armidale**	**19.57**	**233**	*e*P		**Pn**		**12 07 11.4**	**+0.8**
	comp=Z,105nm,1.5s								
URZ	**Urewera**	**19.68**	**162**	*e*P		**P**		**12 07 10.8**	**+0.8**
	comp=Z,98nm,1.3s								
URZ	**Urewera**	**19.68**	**162**	P		**P**		**12 07 09.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=62,slow=3.2,SNR=4.8								
URZ				LR		LR		12 13 17.1	
	comp=Z,16nm,28.6s,baz=348,slow=32								
BKZ	**Black Stump Fm**	**20.37**	**165**	*e*P		**P**		**12 07 18.7**	**+1.2**
	comp=Z,172nm,1.8s								
RMQ	**Roma**	**20.43**	**247**	⇓P		Pn		12 07 21.0	+0.2
	baz=20,SNR=8.9								
TARA	**Tarawa**	**21.06**	**9**	*e*P		**P**		**12 07 27.4**	**+2.3**
CTA	**Charters Tower**	**22.05**	**265**	P		**P**		**12 07 36.2**	**+0.6**
CTA	**Charters Tower**	**22.05**	**265**	P		**P**		**12 07 36.2**	**+0.6**
	comp=Z,5.0nm,0.5s,baz=96,slow=12,SNR=13								
CTA	**Charters Tower**	**22.05**	**265**	⇑P		**P**		**12 07 38.5**	**+2.8**
	baz=22								
CTAO	**Charters Tower**	**22.05**	**265**	*e*P		**P**		**12 07 37.7**	**+2.0**
SNZO	**South Karori**	**22.06**	**170**	*e*P		**P**		**12 07 36.4**	**+0.9**
	comp=Z,49nm,1.1s								
YNG	**Young**	**23.90**	**228**	⇓P		**P**		**12 07 55.5**	**+1.3**
	baz=24,SNR=5.3								
PMG	**Port Moresby**	**24.02**	**292**	*e*P		**P**		**12 07 55.5**	**+0.1**
	comp=Z,66nm,1.3s								
PMG	**Port Moresby**	**24.02**	**292**	P		**P**		**12 07 55.4**	**+0.1**
	comp=Z,15nm,0.9s,baz=90,slow=4.0,SNR=9.4								
PMG	**Port Moresby**	**24.02**	**292**	⇓P		**P**		**12 07 56.1**	**+0.7**
	baz=24								
PMG				⇓P		**P**		**12 07 56.1**	**+0.7**
	baz=24								
PMG				⇓P		**P**		**12 07 56.1**	**+0.7**
	baz=24								
RPZ	**Rata Peaks**	**24.08**	**178**	*e*P		**P**		**12 07 57.8**	**+2.1**
RPZ	**Rata Peaks**	**24.08**	**178**	P		**P**		**12 07 56.3**	**+0.6**
	comp=Z,6.3nm,0.7s,baz=61,slow=13,SNR=2.8								
RPZ				LR		LR		12 16 17.3	
	comp=Z,362nm,20.4s,baz=350,slow=34								
CMSA	**Cobar Meteorol**	**24.64**	**236**	P		**P**		**12 08 01.2**	**+0.3**
	baz=24,SNR=23								
MILA	**Mila**	**24.99**	**222**	⇑P		**P**		**12 08 04.8**	**+0.6**
	baz=25								
COEN	**Coen**	**25.98**	**278**	*e*P		**P**		**12 08 13.9**	**+0.7**
	comp=Z,244nm,0.4s								
TOO	**Toolangi**	**27.66**	**225**	⇑P		**P**		**12 08 28.7**	**+0.5**
	baz=28								
STKA	**Stephens Creek**	**28.02**	**239**	*e*P		**P**		**12 08 32.1**	**+0.7**
	comp=Z,19nm,2.3s								
STKA	**Stephens Creek**	**28.02**	**239**	P		**P**		**12 08 31.3**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=80,slow=8.0,SNR=8.4								
STKA				LR		LR		12 19 16.0	
	comp=Z,889nm,20.5s,baz=63,slow=36								
STKA	**Stephens Creek**	**28.02**	**239**	⇑P		**P**		**12 08 32.0**	**+0.6**
	baz=28,SNR=8.2								
RAR	**Rarotonga**	**28.65**	**99**	LR		LR		12 17 23.6	
	comp=Z,16nm,28.6s,baz=270,slow=31								
HTT	**Hallett**	**30.65**	**237**	⇓P		**P**		**12 08 55.2**	**+0.4**
	baz=30,SNR=4.3								
WR9	**Warramunga Arr**	**33.06**	**263**	⇓P		**P**		**12 09 15.3**	**-0.8**
	baz=33								
WR4	**Warramunga Arr**	**33.17**	**263**	⇑P		**P**		**12 09 16.2**	**-0.8**
	baz=33								
WC2	**Warramunga Arr**	**33.21**	**263**	⇑P		**P**		**12 09 16.5**	**-0.8**
	baz=33								
WR2	**Warramunga Arr**	**33.21**	**263**	⇓P		**P**		**12 09 16.5**	**-0.8**
	baz=33								
WB3	**Warramunga Arr**	**33.22**	**263**	⇑P		**P**		**12 09 16.6**	**-0.8**
	baz=33								
WRAB	**Tennant Creek**	**33.22**	**263**	*e*P		**P**		**12 09 15.9**	**-1.5**
	comp=Z,21nm,1.3s								
WC4	**Warramunga Arr**	**33.23**	**263**	⇑P		**P**		**12 09 16.7**	**-0.8**
	baz=33								
WRA	**Warramunga Arr**	**33.23**	**263**	P		**P**		**12 09 16.5**	**-1.0**
WRA	**Warramunga Arr**	**33.23**	**263**	P		**P**		**12 09 16.5**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=90,slow=8.6,SNR=35								
WRA				LR		LR		12 22 20.3	
	comp=Z,218nm,19.3s,baz=105,slow=36								
AS19	**Alice Springs**	**33.40**	**256**	⇓P		**P**		**12 09 18.6**	**-0.5**
	baz=33								
AS15	**Alice Springs**	**33.45**	**257**	⇑P		**P**		**12 09 19.0**	**-0.4**
	baz=33								
AS31	**Alice Springs**	**33.45**	**257**	*e*P		**P**		**12 09 19.0**	**-0.5**
ASAR	**Alice Springs**	**33.45**	**257**	P		**P**		**12 09 18.9**	**-0.6**
ASAR	**Alice Springs**	**33.45**	**257**	P		**P**		**12 09 18.9**	**-0.6**
	comp=Z,12nm,0.6s,baz=86,slow=8.9,SNR=189								
ASAR				LR		LR		12 22 55.0	
	comp=Z,16nm,28.6s,baz=90,slow=36								
KDU	**Kakadu**	**36.34**	**275**	⇓P		**P**		**12 09 45.0**	**+0.6**
	baz=36,SNR=3.9								
TBI	**Tubuai**	**38.11**	**103**	*e*LQ		LQ		12 18 46.5	
	comp=Z,728nm,29.5s								
TBI				*e*LR		LR		12 20 30.9	
	comp=Z,108nm,27.0s								
PPT2	**Papeete2**	**38.60**	**94**	*e*S		S		12 15 41.5	-15
	comp=Z,73nm,28.2s								
PPT2				*e*LQ		LQ		12 18 57.8	
	comp=Z,820nm,31.5s								
PPT2				*e*LR		LR		12 20 42.0	
	comp=Z,304nm,28.0s								
PPT	**Papeete**	**38.60**	**94**	LR		LR		12 25 17.4	
	comp=Z,16nm,28.6s,baz=264,slow=35								
FORT	**Forrest**	**39.08**	**245**	*e*P		**P**		**12 10 07.2**	**-0.1**
	comp=Z,15nm,0.7s								
FORT	**Forrest**	**39.08**	**245**	⇑P		**P**		**12 10 07.0**	**-0.3**
	baz=39,SNR=9.5								
FITZ	**Fitzroy Crossi**	**41.63**	**265**	*e*P		**P**		**12 10 29.5**	**+0.9**
	comp=Z,60nm,1.5s								
FITZ	**Fitzroy Crossi**	**41.63**	**265**	P		**P**		**12 10 28.7**	**+0.1**
	comp=Z,7.2nm,0.7s,baz=102,slow=7.9,SNR=29								
FITZ				LR		LR		12 27 46.9	
	comp=Z,16nm,28.6s,baz=98,slow=36								
FITZ	**Fitzroy Crossi**	**41.63**	**265**	⇑P		**P**		**12 10 29.5**	**+0.9**
	baz=41								
KLBR	**Kellerberrin**	**47.94**	**245**	⇓P		**P**		**12 11 17.9**	**-0.8**
	baz=48,SNR=4.7								
KAPI	**Kappang**	**50.69**	**280**	P		**P**		**12 11 40.0**	**+0.1**
KAPI	**Kappang**	**50.69**	**280**	P		**P**		**12 11 40.0**	**+0.1**
	comp=Z,16nm,0.2s,baz=105,slow=22,SNR=11								
VNDA	**Vanda**	**58.09**	**182**	*e*P		**P**		**12 12 33.7**	**+1.0**
VNDA	**Vanda**	**58.09**	**182**	P		**P**		**12 12 30.9**	**-1.8**
	comp=Z,3.8nm,1.1s,baz=270,slow=6.1,SNR=3.1								
VNDA				LR		LR		12 35 17.7	
	comp=Z,173nm,18.4s,baz=19,slow=34								
TPUB	**

WMQ				pmax	pmax		
	comp=Z,12nm,1.0s						
FINES	**FINESS Array B**	**131.08**	**338**	PKP	**PKPdf**	**12 21 52.0**	**+1.4**
FINES	**FINESS Array B**	**131.08**	**338**	PKP	**PKPdf**	**12 21 52.0**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=25,slow=16,SNR=10						
NKC	**Novy Kostel**	**144.48**	**335**	*e*PKP	**PKPab**	**12 22 14.1**	**+0.1**
KHC	**Kasperske Hory**	**144.84**	**332**	*e*PKP	**PKPab**	**12 22 14.6**	**-0.8**
KHC				*ex*	x	12 22 23.5	
GERES	**GERESS Array B**	**145.00**	**332**	PKPbc	PKPbc	12 22 15.0	-1.1
GERES	**GERESS Array B**	**145.00**	**332**	PKPbc	PKPbc	12 22 15.0	-1.1
	comp=Z,1.2nm,0.6s,baz=56,slow=3.4,SNR=13						
GRF	**Grafenberg Arr**	**145.39**	**335**	*e*PKP	**PKPbc**	**12 22 16.7**	**-0.5**
GRF				*ep*PKP	**pPKPdf**	**12 22 27.0**	**-6.0**
TORD	**Torodi Ar. Bea**	**166.82**	**243**	PKPab	**PKPab**	**12 23 48.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**166.82**	**243**	PKPab	**PKPab**	**12 23 48.0**	**-1.2**
	comp=Z,1.2nm,1.1s,baz=108,slow=3.3,SNR=3.8						

*ISCJB **04** 12:10:01.8±0.5,5.°87N±0.°07×124.°10E±0.°10,h500km, mb3.7/14, Error ellipse: s-maj=14.1km s-min=7.0km az=148.6*

*IDC **04** 12:10:04.1±1.5,5.°78N×123.°99E,h517km±16km, mb3.3/14, mb1 3.4/14,mb1mx3.2/28, mbtmp4.1/14, Error ellipse: s-maj=31.5km s-min=7.8km az=67.0*

*AUST **04** 12:10:06.2±1.6,5.°35N×123.°56E,h510km, Error ellipse: s-maj=2.8km s-min=1.7km az=30.0*

ISC 04 12:10:02.9±0.6,5.°84N±0.09×124.°1E±0.°1,h500km,n29, σ1s10/34,mb3.7/14,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**5.58**	**264**	P	**P**	**12 11 37.8**	**+2.6**
TSM	**Tawau**	**6.36**	**256**	P	**P**	**12 11 43.3**	**+0.5**
SDKM	**Sandakan**	**6.84**	**269**	P	**P**	**12 11 48.0**	**+0.5**
KKM	**Kota Kinabalu**	**7.81**	**272**	P	**P**	**12 11 57.9**	**+0.3**
TGY	**Tagaytay City**	**8.77**	**340**	P	**P**	**12 12 09.4**	**+2.0**
	28nm,0.3s,baz=130,slow=14,SNR=4.7						
FAKI	**Fak Fak**	**11.94**	**137**	P	**P**	**12 12 42.7**	**+1.8**
	baz=12,SNR=14						
TLE	**Tual**	**14.31**	**143**	P	P	12 13 12.2	+6.2
	baz=14,SNR=3.5						
MTN	**Manton Dam**	**19.84**	**159**	P	**P**	**12 14 00.4**	**+0.1**
	baz=20,SNR=13						
KDU	**Kakadu**	**20.21**	**156**	P	**P**	**12 14 03.4**	**-0.2**
	baz=20,SNR=15						
KNRA	**Kununurra**	**21.88**	**168**	P	**P**	**12 14 18.9**	**+0.3**
	baz=22,SNR=14						
FITZ	**Fitzroy Crossi**	**23.84**	**176**	P	**P**	**12 14 35.7**	**-0.5**
	0.5nm,0.3s,baz=24,slow=10.0,SNR=6.1						
FITZ	**Fitzroy Crossi**	**23.84**	**176**	P	**P**	**12 14 36.1**	**-0.1**
	baz=24,SNR=4.0						
PSI	**Prapat**	**25.25**	**264**	P	**P**	**12 14 48.1**	**-0.9**
	2.2nm,0.4s,baz=135,slow=8.6,SNR=2.8						
WRA	**Warramunga Arr**	**27.54**	**159**	P	**P**	**12 15 08.3**	**-0.6**
	4.1nm,0.5s,baz=341,slow=9.2,SNR=123						
WRA				PcP	**PcP**	**12 18 10.3**	**-0.7**
	0.3nm,0.5s,baz=323,slow=2.8,SNR=3.1						
WRA				S	**S**	**12 19 13.0**	**-1.6**
	0.7nm,0.7s,baz=334,slow=17,SNR=4.8						
WRA				ScP	**ScP**	**12 21 02.9**	**-1.3**
	0.8nm,0.5s,baz=341,slow=3.1,SNR=13						
ASAR	**Alice Springs**	**30.86**	**162**	P	**P**	**12 15 38.2**	**+0.4**
	8.7nm,0.5s,baz=341,slow=7.2,SNR=334						
ASAR				PcP	**PcP**	**12 18 19.4**	**-0.3**
	0.7nm,0.4s,baz=347,slow=2.7,SNR=7.5						
ASAR				S	**S**	**12 20 04.4**	**-1.7**
	2.3nm,0.8s,baz=349,slow=22,SNR=19						
ASAR				ScP	**ScP**	**12 21 13.6**	**-1.3**
	0.5nm,0.5s,baz=339,slow=3.2,SNR=7.1						
STKA	**Stephens Creek**	**41.06**	**157**	P	**P**	**12 17 03.0**	**+0.7**
	2.0nm,0.6s,baz=45,slow=4.8,SNR=7.8						
STKA	**Stephens Creek**	**41.06**	**157**	P	**P**	**12 17 03.3**	**+1.0**
	baz=41,SNR=4.8						
HTT	**Hallett**	**41.52**	**161**	P	**P**	**12 17 07.4**	**+1.4**
	baz=41,SNR=4.1						
SONM	**Songino Array**	**44.49**	**343**	P	**P**	**12 17 29.9**	**+0.8**
	0.3nm,0.5s,baz=155,slow=8.2,SNR=3.2						
MKAR	**Makanchi Array**	**54.32**	**326**	P	**P**	**12 18 42.1**	**+0.3**
	1.9nm,0.4s,baz=121,slow=7.8,SNR=21						
MKAR				PcP	**PcP**	**12 19 37.6**	**-0.6**
	1.4nm,0.6s,baz=126,slow=4.3,SNR=6.0						
ZALV	**Zalesovo Beam**	**57.52**	**334**	P	**P**	**12 19 03.3**	**-0.4**
	0.4nm,0.3s,baz=114,slow=5.4,SNR=3.3						
KURBB	**Kurchatov Arra**	**58.55**	**328**	P	**P**	**12 19 10.7**	**-0.1**
	2.7nm,0.2s,baz=124,slow=6.9,SNR=8.1						
BVAR	**Borovoye Array**	**64.12**	**327**	P	**P**	**12 19 47.2**	**-0.2**
	2.0nm,1.0s,baz=131,slow=7.9,SNR=5.4						
NIUE	**Niue**	**69.53**	**113**	P	P	12 20 28.1	+6.7
	baz=70,SNR=6.1						
AKTO	**Aktyubinsk**	**70.37**	**322**	P	**P**	**12 20 25.3**	**-0.6**
	1.2nm,0.6s,baz=122,slow=8.2,SNR=5.4						
ILAR	**Eielson Array**	**84.35**	**26**	P	**P**	**12 21 40.0**	**-1.7**
	0.3nm,0.5s,baz=253,slow=4.9,SNR=7.4						
BRTR	**Keskin Array B**	**86.64**	**309**	P	**P**	**12 21 51.8**	**-1.6**
	0.9nm,0.6s,baz=142,slow=5.5,SNR=5.8						
ARCES	**ARCESS Array B**	**87.56**	**340**	P	**P**	**12 21 57.1**	**+0.2**
	1.6nm,0.8s,baz=78,slow=5.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**119.74**	**289**	PKP	**PKPdf**	**12 27 55.6**	**-1.2**
	0.4nm,0.4s,baz=67,slow=1.7,SNR=7.9						

*ISCJB **04** 12:16:02.5±0.6,23.°95S±0.°07×179.°90E±0.°09,h526km, mb3.9/16, Error ellipse: s-maj=11.2km s-min=9.6km az=17.6*

*IDC **04** 12:16:02.9±1.6,23.°98S×179.°94E,h521km±17km, mb3.5/16, mb1 3.7/17, mb1mx3.6/22, mbtmp4.4/17, Error ellipse: s-maj=17.5km s-min=12.5km az=163.0*

*AUST **04** 12:16:05.1±99.0,23.°87S×179.°73W,h577km±7km, Error ellipse: s-maj=34.5km s-min=4.2km az=257.0*

ISC 04 12:16:03.2±0.7,24.°06S±0.°09×180.°0E±0.°1,h526km,n37, σ1s08/43,mb3.9/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.75**	**39**	P	P	12 18 44.5	-5.2
	2.2nm,0.3s,baz=56,slow=21,SNR=4.5						
AFI				S	S	12 20 55.7	-11
	1.0nm,0.3s,baz=295,slow=18,SNR=2.1						
URZ	**Urewera**	**14.37**	**189**	P	**P**	**12 19 04.9**	**-1.4**
	1.8nm,0.3s,baz=196,slow=14,SNR=14						
URZ				S	**S**	**12 21 36.4**	**-0.8**
	0.8nm,0.3s,baz=34,slow=19,SNR=11						
RPZ	**Rata Peaks**	**20.94**	**198**	P	**P**	**12 20 08.9**	**+0.2**
	7.1nm,0.7s,baz=0.0,slow=11,SNR=2.5						
ARMA	**Armidale**	**25.95**	**250**	P	**P**	**12 20 55.7**	**+2.0**
	baz=26,SNR=6.4						
EIDS	**Eidsvold**	**26.26**	**261**	P	**P**	**12 20 57.3**	**+0.8**
	baz=26,SNR=5.0						
RMQ	**Roma**	**28.30**	**258**	P	**P**	**12 21 16.2**	**+1.9**
	baz=29,SNR=6.1						
CMSA	**Cobar Meteorol**	**31.14**	**248**	P	**P**	**12 21 39.6**	**+0.8**
	baz=31,SNR=10						
CTA	**Charters Tower**	**31.45**	**271**	P	**P**	**12 21 42.5**	**+0.8**
	17nm,0.4s,baz=98,slow=11,SNR=29						
QLP	**Quilpie**	**32.34**	**258**	P	**P**	**12 21 49.8**	**+0.7**
	baz=33,SNR=3.2						
TOO	**Toolangi**	**32.35**	**237**	P	**P**	**12 21 50.4**	**+1.3**
	baz=33,SNR=6.5						
PMG	**Port Moresby**	**34.52**	**289**	P	**P**	**12 22 07.4**	**-0.3**
	28nm,0.9s,baz=96,slow=7.4,SNR=5.3						
STKA	**Stephens Creek**	**34.65**	**248**	P	**P**	**12 22 08.9**	**+0.4**
	1.3nm,0.3s,baz=83,slow=8.3,SNR=10						
STKA	**Stephens Creek**	**34.65**	**248**	P	**P**	**12 22 09.3**	**+0.8**
	baz=35,SNR=8.3						
HTT	**Hallett**	**36.99**	**246**	P	**P**	**12 22 28.4**	**+0.4**
	baz=37,SNR=5.5						
BBOO	**Buckleboo**	**39.36**	**247**	P	**P**	**12 22 47.0**	**-0.2**
	baz=40,SNR=9.9						
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**12 23 08.3**	**0.0**
	6.8nm,0.7s,baz=98,slow=7.3,SNR=125						
ASAR				PcP	**PcP**	**12 24 50.7**	**-0.7**
	0.5nm,0.8s,baz=106,slow=3.3,SNR=4.3						
ASAR				ScP	**ScP**	**12 27 54.0**	**+2.3**
	1.5nm,0.8s,baz=107,slow=4.3,SNR=15						
ASAR				S	**S**	**12 28 48.1**	**-1.1**
	0.3nm,0.8s,baz=94,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**12 23 10.5**	**-0.9**
	12nm,0.5s,baz=96,slow=8.4,SNR=259						
WRA				PcP	**PcP**	**12 24 51.3**	**-1.4**
	0.6nm,0.7s,baz=97,slow=3.1,SNR=3.5						
WRA				ScP	**ScP**	**12 27 56.0**	**+2.6**
	1.0nm,0.6s,baz=100,slow=3.8,SNR=9.4						
WRA				S	**S**	**12 28 53.2**	**-1.6**
	0.4nm,0.9s,baz=98,slow=25,SNR=6.5						
FORT	**Forrest**	**46.24**	**250**	P	**P**	**12 23 40.6**	**-0.5**
	baz=46,SNR=23						
KDU	**Kakadu**	**46.28**	**275**	P	**P**	**12 23 40.8**	**-0.8**
	baz=46,SNR=13						
MTN	**Manton Dam**	**47.45**	**275**	P	**P**	**12 23 49.4**	**-1.0**
	baz=48,SNR=13						
KNRA	**Kununurra**	**48.66**	**270**	P	**P**	**12 23 59.4**	**-0.1**
	baz=49,SNR=10						
FITZ	**Fitzroy Crossi**	**50.80**	**266**	P	**P**	**12 24 15.2**	**+0.1**
	3.6nm,0.4s,baz=116,slow=6.5,SNR=24						
FITZ	**Fitzroy Crossi**	**50.80**	**266**	P	**P**	**12 24 15.3**	**+0.2**
	baz=51,SNR=13						
MEEK	**Meekatharra**	**55.05**	**253**	P	**P**	**12 24 44.7**	**-0.8**
	baz=55,SNR=4.5						
MORW	**Morawa**	**56.80**	**250**	P	**P**	**12 24 57.4**	**-0.1**
	baz=57,SNR=6.1						
QSPA	**South Pole Qui**	**66.03**	**180**	P	**P**	**12 25 58.3**	**+0.9**
	1.8nm,0.3s,baz=256,slow=0.4,SNR=4.7						
MAW	**Mawson**	**77.60**	**200**	P	**P**	**12 27 05.7**	**+1.2**
	1.9nm,0.7s,baz=124,slow=7.3,SNR=3.8						
KSRS	**Korea Array**	**78.35**	**320**	P	**P**	**12 27 08.9**	**0.0**
	1.1nm,0.7s,baz=123,slow=6.6,SNR=4.0						
PETK	**Petropavlovsk-**	**79.24**	**347**	P	**P**	**12 27 13.1**	**-0.2**
	1.9nm,0.9s,baz=114,slow=3.5,SNR=4.0						
USRK	**Ussuriysk Arra**	**80.88**	**327**	P	**P**	**12 27 22.8**	**+0.6**
	1.1nm,0.6s,baz=159,slow=4.5,SNR=3.3						
NVAR	**Mina Array Bea**	**84.88**	**44**	P	**P**	**12 27 42.0**	**-0.7**
	0.5nm,0.6s,baz=225,slow=7.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P	**P**	**12 28 06.5**	**+1.6**
	0.5nm,0.3s,baz=148,slow=3.2,SNR=6.4						
TXAR	**Lajitas Array**	**90.53**	**58**	P	**P**	**12 28 09.3**	**0.0**
	0.7nm,0.7s,baz=223,slow=7.7,SNR=6.1						
PDAR	**Pinedale Array**	**92.82**	**44**	P	**P**	**12 28 19.2**	**-0.5**
	0.4nm,0.9s,baz=38,slow=41,SNR=2.5						
HFS	**Hagfors**	**142.69**	**349**	PKhKP	PKPpre	12 34 31.8	
	1.4nm,0.4s,baz=47,slow=2.6,SNR=13						
AKASG	**Malin Array Be**	**145.09**	**327**	PKPbc	**PKPdf**	**12 34 39.1**	**-1.2**
	0.8nm,0.5s,baz=43,slow=4.3,SNR=6.8						
BRTR	**Keskin Array B**	**147.65**	**307**	PKPbc	**PKPbc**	**12 34 47.5**	**-1.2**
	0.5nm,0.6s,baz=80,slow=1.6,SNR=3.5						
BRTR				PKPab	**PKPab**	**12 34 52.5**	**-0.4**
	1.6nm,0.7s,baz=96,slow=3.6,SNR=6.4						

*IDC **04** 12:45:33.7±0.8, 15.°73S×167.°47E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/20, mbtmp4.1/10, ML4.3/1, MS3.8/13, Ms1 3.7/13, ms1mx3.6/30, Error ellipse: s-maj=28.8km s-min=20.0km az=104.0*

*ISCJB **04** 12:45:36.6±1.0, 16.°06S±0.°05×167.°6E±0.°2, h39km, mb4.0/9, MS3.6/10, Error ellipse: s-maj=27.6km s-min=6.8km az=0.6*

*NOU **04** 12:45:38.2±0.6, 15.°75S×166.°74E, h30km, MD3.8, ML2.6, MS2.0*

ISC 04 12:45:39.0±0.8,16.°00S±0.°07×167.°5E±0.°2,h39km,n28, σ1s82/24,mb4.0/9,MS3.7/10,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.12**	**189**	*e*Pn	**Pn**	**12 47 07.4**	**+0.4**
	75nm,0.3s						
DZM				*e*Sn	**Sn**	**12 48 10.2**	**-5.6**
	70nm,0.2s						
DZM				*e*LR	LR	12 48 21.7	
	991nm,23.5s						
DZM	**Mont Dzumac**	**6.12**	**189**	Pn	**Pn**	**12 47 07.1**	**+0.1**
	7.4nm,0.3s,baz=43,slow=17,SNR=86						
DZM				Sn	**Sn**	**12 48 15.9**	**+0.1**
	20nm,0.3s,baz=332,slow=22,SNR=9.5						
DZM				LR	LR	12 49 20.8	
	comp=Z,904nm,20.2s,baz=20,slow=36						
BAYA	**Yate Dam**	**6.15**	**185**	*e*S	**Sn**	**12 48 15.8**	**-0.6**
BAYA				AMP		12 48 22.3	
	comp=Z,10nm,2.8s						
NOUC	**Port Laguerre**	**6.17**	**190**	*e*P	**Pn**	**12 47 08.1**	**+0.4**
NOUC				*e*S	**Sn**	**12 48 13.9**	**-3.0**
NOUC				AMP		12 48 18.4	
	comp=Z,29nm,12.8s						
NORM	**Noumea**	**6.27**	**188**	*e*P	**Pn**	**12 47 09.7**	**+0.8**
NORM				*e*S	**Sn**	**12 48 18.2**	**-1.1**
HNR	**Honiara**	**9.83**	**311**	LR	LR	12 51 12.8	
	comp=Z,376nm,21.2s,baz=145,slow=35						
RAO	**Raoul Island**	**18.83**	**137**	LR	LR	12 55 39.4	
	comp=Z,299nm,21.2s,baz=353,slow=32						
AFI	**Afiamalu**	**20.15**	**87**	LR	LR	12 55 51.7	
	comp=Z,202nm,18.8s,baz=247,slow=31						
PMG	**Port Moresby**	**20.87**	**286**	LR	LR	12 57 40.3	
	comp=Z,382nm,18.3s,baz=279,slow=35						
URZ	**Urewera**	**23.74**	**161**	P	**P**	**12 50 49.8**	**+2.2**
	comp=Z,11nm,0.8s,baz=320,slow=19,SNR=4.9						
URZ				LR	LR	12 58 54.9	
	comp=Z,138nm,20.1s,baz=354,slow=33						
RPZ	**Rata Peaks**	**27.79**	**174**	LR	LR	13 01 08.7	
	comp=Z,181nm,19.6s,baz=194,slow=33						
STKA	**Stephens Creek**	**28.34**	**231**	P	**P**	**12 51 31.2**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=86,slow=7.9,SNR=4.1						
STKA				LR	LR	13 02 01.8	
	comp=Z,177nm,18.8s,baz=26,slow=35						
RAR	**Rarotonga**	**31.43**	**105**	LR	LR	13 02 01.3	
	comp=Z,53nm,21.1s,baz=269,slow=31						
WRA	**Warramunga Arr**	**31.73**	**258**	P	**P**	**12 51 59.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=84,slow=8.1,SNR=6.3						
WRA				LR	LR	13 03 44.9	
	comp=Z,147nm,19.2s,baz=95,slow=34						
ASAR	**Alice Springs**	**32.43**	**251**	P	**P**	**12 52 05.8**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=75,slow=8.5,SNR=44						
ASAR				LR	LR	13 04 40.1	
	comp=Z,210nm,18.2s,baz=130,slow=35						
FITZ	**Fitzroy Crossi**	**40.00**	**261**	LR	LR	13 09 27.7	
	comp=Z,257nm,19.0s,baz=58,slow=36						
PPT2	**Papeete2**	**41.08**	**99**	*e*LR	LR	13 05 02.4	
	comp=Z,163nm,25.2s						
USRK	**Ussuriysk Arra**	**68.10**	**333**	P	**P**	**12 56 32.0**	**-2.8**
	comp=Z,0.6nm,0.7s,baz=155,slow=4.8,SNR=3.1						
PETK	**Petropavlovsk-**	**69.34**	**354**	P	**P**	**12 56 40.5**	**-1.8**
	comp=Z,5.7nm,0.8s,baz=159,slow=9.5,SNR=4.8						
PETK				LR	LR	13 22 53.7	
	comp=Z,37nm,19.8s,baz=255,slow=32						
CMAR	**Chiang Mai Arr**	**75.65**	**294**	P	**P**	**12 57 22.2**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=95,slow=4.5,SNR=3.5						
SONM	**Songino Array**	**83.63**	**324**	P	**P**	**12 58 03.1**	**-0.5**
	comp=Z,4.2nm,1.0s,baz=132,slow=4.8,SNR=6.9						
ILAR	**Eielson Array**	**87.67**	**18**	P	**P**	**12 58 22.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=230,slow=5.7,SNR=4.3						
ARCES	**ARCESS Array B**	**121.52**	**345**	PKP	**PKPdf**	**13 04 28.1**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=76,slow=2.0,SNR=67						
FINES	**FINESS Array B**	**126.97**	**338**	PKP	**PKPdf**	**13 04 38.8**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=111,slow=3.4,SNR=6.0						
NOA	**NORSAR Array B**	**131.90**	**345**	PKP	**PKPdf**	**13 04 48.9**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=27,slow=1.5,SNR=2.4						
GERES	**GERESS Array B**	**140.86**	**332**	PKP	**PKPdf**	**13 05 05.5**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=90,slow=1.7,SNR=3.9						
KEST	**Kesra**	**152.31**	**319**	PKPbc	**PKPbc**	**13 05 32.6**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=256,slow=4.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**165.95**	**260**	PKP	**PKPdf**	**13 05 41.7**	**+1.0**
	comp=Z,0.9nm,1.0s,baz=320,slow=1.9,SNR=3.7						

*JMA **04** 12:57:28.9±0.5,22.°24N×122.°76E, h44km,M3.8*
*TAP **04** 12:57:30.6,22.°26N×122.°69E, h35km±1km, ML3.6, D*

ISC 04 12:57:26.0±3.1,22.°26N±0.°06×122.°77E±0.°04,h7km±22km, n44,σ1s34/79,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**1.54**	**303**	*e*P	**Pn**	**12 57 54.0**	**+0.1**
	baz=305						
CHKT				*e*S	**Sn**	**12 58 12.1**	**-2.1**
	baz=305						
TTN	**Taitung**	**1.58**	**289**	*e*P	**Pb**	**12 57 55.7**	**+0.2**
	baz=290						
TTN				*e*S	**Sn**	**12 58 14.4**	**-0.7**
	baz=290						
TWG	**Pinlang**	**1.66**	**290**	P	**Pn**	**12 57 56.4**	**+0.7**
	baz=291						
TWG				S	**Sn**	**12 58 15.9**	**-1.3**
	baz=291						
ECL	**Taimali**	**1.71**	**282**	P	**Pn**	**12 57 56.9**	**+0.6**
	baz=273						
ECL				S	**Sn**	**12 58 17.1**	**-1.3**
	baz=273						
TAW	**Tawu**	**1.73**	**274**	*e*S	**Sn**	**12 58 17.5**	**-1.5**
	baz=274						
TWF1	**Yuli**	**1.74**	**309**	*i* P	**Pn**	**12 57 57.4**	**+0.8**
	baz=311						
TWF1				*e*S	**Sn**	**12 58 17.2**	**-2.0**
	baz=311						
EHY	**Hungye**	**1.82**	**313**	P	**Pn**	**12 57 58.5**	**+0.7**
	baz=315						
EHY				*e*S	**Sn**	**12 58 19.8**	**-1.4**
	baz=315						
TWK1	**Hengchun**	**1.84**	**261**	*e*P	**Pn**	**12 57 59.0**	**+0.9**
	baz=260						
TWK1				S	**Sn**	**12 58 20.4**	**-1.3**
	baz=260						
HEN	**Hengchun**	**1.90**	**263**	*e*P	**Pn**	**12 58 00.5**	**+1.7**
	baz=262						
HEN				*e*S	**Sn**	**12 58 21.9**	**-1.1**
	baz=262						
ESL	**Shilin**	**1.98**	**322**	P	**Pn**	**12 58 00.6**	**+0.7**
	baz=324						
ESL				*e*S	**Sn**	**12 58 23.5**	**-1.5**
	baz=324						
SCZT	**Fangliau**	**1.99**	**274**	P	**Pn**	**12 58 01.5**	**+1.4**
	baz=274						
SCZT				*e*S	**Sb**	**12 58 28.1**	**+0.5**
	baz=274						
HATJ	**Hateruma jima**	**2.03**	**28**	P	**Pn**	**12 58 01.9**	**+1.3**
HATJ				S	**Sn**	**12 58 26.0**	**-0.3**
SSD	**Sandimen**	**2.03**	**284**	*e*P	**Pn**	**12 58 02.5**	**+1.9**
	baz=293						
SSD				*e*S	**Sn**	**12 58 25.3**	**-1.0**
	baz=293						
YUS	**Yu-Shan**	**2.08**	**307**	*e*P	**Pn**	**12 58 03.1**	**+1.5**
	baz=308						
YUS				*e*S	**Sn**	**12 58 27.0**	**-1.0**
	baz=308						
TWD	**Chiawan**	**2.11**	**330**	*e*P	**Pn**	**12 58 03.2**	**+1.5**
	baz=331						
TWD				*e*S	**Sn**	**12 58 28.2**	**0.0**
	baz=331						
SGST	**Jiashian**	**2.18**	**293**	*e*P	**Pn**	**12 58 04.7**	**+2.0**
	baz=294						
SGST				*e*S	**Sn**	**12 58 31.9**	**+1.9**
	baz=294						
ALS	**Alishan**	**2.20**	**305**	P	**Pb**	**12 58 05.7**	**-0.5**
	baz=313						
ALS				*e*S	**Sn**	**12 58 32.7**	**+1.8**
	baz=313						
YOJ	**Yonaguni jima**	**2.21**	**6**	P	**Pb**	**12 58 06.0**	**-0.2**
WTP	**Ta-pu**	**2.22**	**297**	*e*P	**Pb**	**12 58 06.1**	**-0.4**
	baz=305						
TWM1	**Shoushan**	**2.24**	**285**	*e*P	**Pn**	**12 58 05.7**	**+2.1**
	baz=286						
IRIF	**Iriomote-Funau**	**2.25**	**23**	P	**Pn**	**12 58 05.2**	**+1.6**
IRIF				*e*S	**Sn**	**12 58 31.6**	**-0.1**
CHN1	**Nanshi**	**2.26**	**295**	P	**Pb**	**12 58 07.4**	**+0.2**
	baz=303						
CHN1				*e*S	**Sn**	**12 58 34.4**	**+2.3**
	baz=303						
JKRS	**Kuro-shima**	**2.28**	**30**	P	**Pn**	**12 58 05.7**	**+1.7**
JKRS				S	**Sn**	**12 58 32.1**	**-0.3**
TWK	**Hsinying**	**2.33**	**296**	P	**Pb**	**12 58 08.0**	**-0.4**
	baz=297						
TWK				S	**Sb**	**12 58 36.7**	**-0.7**
	baz=297						
WHF	**Hehuan Shan**	**2.33**	**324**	*e*P	**Pn**	**12 58 06.5**	**+1.3**
	baz=326						
WHF				*e*S	**Sn**	**12 58 33.6**	**-0.7**
	baz=326						
CHN5	**Tsauling**	**2.34**	**305**	P	**Pb**	**12 58 08.3**	**-0.3**
	baz=315						
CHN5				*e*S	**Sb**	**12 58 37.1**	**-0.7**
	baz=315						
ENA	**Nanau**	**2.36**	**337**	P	**Pn**	**12 58 06.8**	**+1.7**
	baz=338						
SMLT	**Sun Moon Lake**	**2.36**	**314**	P	**Pn**	**12 58 07.3**	**+2.0**
	baz=315						
SMLT				*e*S	**Sn**	**12 58 34.5**	**-0.1**
	baz=315						
TYC	**Yuchr**	**2.40**	**313**	P	**Pn**	**12 58 08.3**	**+2.6**
	baz=315						
TYC				*e*S	**Sn**	**12 58 35.8**	**+0.3**
	baz=315						
JIJ	**Ishigaki jima**	**2.45**	**31**	P	**Pn**	**12 58 07.2**	**+0.8**
JIJ				S	**Sn**	**12 58 35.7**	**-0.9**
TWT	**Tachien**	**2.47**	**324**	*e*P	**Pn**	**12 58 09.2**	**+2.4**
	baz=325						
TWT				*e*S	**Sn**	**12 58 37.5**	**+0.2**
	baz=325						
WGK	**Gukeng**	**2.48**	**305**	*e*S	**Sb**	**12 58 40.6**	**-1.1**
	baz=316						
TWC	**Suao**	**2.49**	**340**	P	**Pn**	**12 58 09.1**	**+2.2**
	baz=342						
TWC				*e*S	**Sn**	**12 58 38.6**	**+1.0**
	baz=342						
WNT	**Mingjian**	**2.51**	**310**	*e*P	**Pb**	**12 58 10.8**	**-0.5**
	baz=312						
WNT				*e*S	**Sb**	**12 58 41.2**	**-1.2**
	baz=312						
NNS	**Nan Shan**	**2.52**	**330**	P	**Pn**	**12 58 09.7**	**+2.1**
	baz=331						
ENTT	**Nioudou**	**2.62**	**335**	P	**Pn**	**12 58 11.0**	**+2.3**
	baz=337						
ENTT				*e*S	**Sn**	**12 58 41.2**	**+0.4**
	baz=337						
TWE	**Neic

AMT	**Artemida-Makis**	**1.49**	**10**	P		**Pn**	**13 30 55.9**	**+0.4**		
AMT	**Artemida-Makis**	**1.49**	**10**	*e*Pb		**Pn**	**13 30 56.2**	**+0.7**		
AMT				*e*Sn		**Sn**	**13 31 14.1**	**-0.5**		
AMT				S		**Sg**	**13 31 17.2**	**-0.4**		
VLX	**Vlachokerasia**	**1.53**	**31**	*e*PN		**Pb**	**13 30 58.0**	**+0.6**		
VLX	**Vlachokerasia**	**1.53**	**31**	*e*Pn		**Pb**	**13 30 58.0**	**+0.6**		
ANKY	**Antikythira Is**	**1.56**	**97**	P		**Pb**	**13 30 57.6**	**-0.3**		
ANKY				S		**Sg**	**13 31 20.3**	**+0.4**		
ANKY	**Antikythira Is**	**1.56**	**97**	*e*PB		**Pb**	**13 30 58.0**	**+0.1**		
ANKY				*e*SN		**Sn**	**13 31 16.3**	**0.0**		
ANKY	**Antikythira Is**	**1.56**	**97**	P		**Pb**	**13 30 57.6**	**-0.3**		
ANKY	**Antikythira Is**	**1.56**	**97**	*e*Pb		**Pb**	**13 30 58.0**	**+0.1**		
ANKY				*e*Sn		**Sn**	**13 31 16.3**	**0.0**		
ANKY				S		**Sg**	**13 31 20.3**	**+0.4**		
DRO	**Drossia**	**1.91**	**8**	P		**Pn**	**13 31 02.2**	**+1.0**		
DRO	**Drossia**	**1.91**	**8**	*e*PB		**Pn**	**13 31 02.6**	**+1.4**		
DRO	**Drossia**	**1.91**	**8**	P		**Pn**	**13 31 02.2**	**+1.0**		
DRO	**Drossia**	**1.91**	**8**	*e*Pb		**Pn**	**13 31 02.6**	**+1.4**		
GUR	**Goura**	**2.02**	**22**	*e*PB		**Pb**	**13 31 04.8**	**-1.0**		
GUR	**Goura**	**2.02**	**22**	*e*Pb		**Pb**	**13 31 04.8**	**-1.0**		
DID	**Didima**	**2.07**	**45**	P		**Pn**	**13 31 04.1**	**+0.7**		
DID				S		**Sb**	**13 31 30.7**	**-1.3**		
DID	**Didima**	**2.07**	**45**	*e*PN		**Pn**	**13 31 04.2**	**+0.8**		
DID	**Didima**	**2.07**	**45**	*e*Pn		**Pn**	**13 31 04.2**	**+0.8**		
DID				S		**Sb**	**13 31 30.7**	**-1.3**		
KLV	**Kalavryta, Ach**	**2.07**	**17**	*e*PB		**Pn**	**13 31 05.2**	**+1.7**		
KLV	**Kalavryta, Ach**	**2.07**	**17**	*e*Pb		**Pn**	**13 31 05.2**	**+1.7**		
VLS	**Valsamata**	**2.21**	**343**	*e*PN		**Pn**	**13 31 05.5**	**+0.2**		
VLS	**Valsamata**	**2.21**	**343**	*e*Pn		**Pn**	**13 31 05.5**	**+0.2**		
LAKA	**Lakka**	**2.23**	**12**	*e*PN		**Pn**	**13 31 07.2**	**+1.6**		
LAKA	**Lakka**	**2.23**	**12**	*e*Pn		**Pn**	**13 31 07.2**	**+1.6**		
LTK	**Loutraki**	**2.33**	**32**	*e*PN		**Pn**	**13 31 08.3**	**+1.3**		
LTK	**Loutraki**	**2.33**	**32**	*e*Pn		**Pn**	**13 31 08.3**	**+1.3**		
NAIG	**Nisos Aigina**	**2.39**	**44**	*e*PN		**Pn**	**13 31 08.4**	**+0.6**		
NAIG	**Nisos Aigina**	**2.39**	**44**	*e*Pn		**Pn**	**13 31 08.4**	**+0.6**		
KALE	**Kalithea**	**2.40**	**14**	*e*PB		**Pn**	**13 31 10.3**	**+2.3**		
KALE	**Kalithea**	**2.40**	**14**	*e*Pb		**Pn**	**13 31 10.3**	**+2.3**		
DSF	**Desfina**	**2.52**	**21**	*e*PN		**Pn**	**13 31 10.8**	**+1.2**		
DSF	**Desfina**	**2.52**	**21**	*e*Pn		**Pn**	**13 31 10.8**	**+1.2**		
PDO	**Prodromos**	**2.54**	**356**	*e*PN		**Pn**	**13 31 11.1**	**+1.2**		
PDO	**Prodromos**	**2.54**	**356**	*e*Pn		**Pn**	**13 31 11.1**	**+1.2**		
VILL	**Villia**	**2.60**	**36**	*e*Pn		**Pn**	**13 31 11.0**	**+0.2**		
VIL2	**Platees**	**2.62**	**34**	*e*PN		**Pn**	**13 31 11.0**	**0.0**		
LKD2	**Lefkada island**	**2.79**	**348**	*e*PN		**Pn**	**13 31 14.2**	**+0.9**		
LKD2	**Lefkada island**	**2.79**	**348**	*e*Pn		**Pn**	**13 31 14.2**	**+0.9**		
EVR	**Evrytania**	**2.87**	**7**	*e*PN		**Pn**	**13 31 17.1**	**+2.6**		
EVR	**Evrytania**	**2.87**	**7**	*e*Pn		**Pn**	**13 31 17.1**	**+2.6**		
LKR	**Lokris**	**2.89**	**26**	*e*PN		**Pn**	**13 31 14.9**	**+0.3**		
LKR	**Lokris**	**2.89**	**26**	*e*Pn		**Pn**	**13 31 14.9**	**+0.3**		
MAKR	**Makrakomi, Fth**	**3.01**	**11**	*e*PN		**Pn**	**13 31 18.9**	**+2.6**		
MAKR	**Makrakomi, Fth**	**3.01**	**11**	*e*Pn		**Pn**	**13 31 18.9**	**+2.6**		
AGG	**Agios Georgios**	**3.05**	**14**	*e*PN		**Pn**	**13 31 18.5**	**+1.6**		
AGG	**Agios Georgios**	**3.05**	**14**	*e*Pn		**Pn**	**13 31 18.5**	**+1.6**		
MRKA	**Markates**	**3.17**	**33**	*e*PN		**Pn**	**13 31 18.6**	**+0.1**		
MRKA	**Markates**	**3.17**	**33**	*e*Pn		**Pn**	**13 31 18.6**	**+0.1**		
SKIA	**Skiathos**	**3.51**	**27**	*e*PN		**Pn**	**13 31 23.4**	**+0.2**		
SKIA	**Skiathos**	**3.51**	**27**	*e*Pn		**Pn**	**13 31 23.4**	**+0.2**		
THL	**Klokotos Trika**	**3.53**	**8**	*e*PN		**Pn**	**13 31 24.4**	**+0.9**		
THL	**Klokotos Trika**	**3.53**	**8**	*e*Pn		**Pn**	**13 31 24.4**	**+0.9**		
XOR	**Xorichti**	**3.60**	**23**	*e*PN		**Pn**	**13 31 26.4**	**+2.0**		
XOR	**Xorichti**	**3.60**	**23**	*e*Pn		**Pn**	**13 31 26.4**	**+2.0**		
AOS	**Alonnisos**	**3.68**	**32**	*e*PN		**Pn**	**13 31 25.1**	**-0.5**		
AOS	**Alonnisos**	**3.68**	**32**	*e*Pn		**Pn**	**13 31 25.1**	**-0.5**		
PAIG	**Paliouri**	**4.26**	**24**	*e*PN		**Pn**	**13 31 33.8**	**+0.3**		
PAIG	**Paliouri**	**4.26**	**24**	*e*Pn		**Pn**	**13 31 33.8**	**+0.3**		
CHOS	**Chios island**	**4.39**	**57**	*e*PN		**Pn**	**13 31 35.2**	**-0.2**		
CHOS	**Chios island**	**4.39**	**57**	*e*Pn		**Pn**	**13 31 35.2**	**-0.2**		
FNA	**Florina**	**4.72**	**360**	*e*PN		**Pn**	**13 31 39.9**	**+0.1**		
FNA	**Florina**	**4.72**	**360**	*e*Pn		**Pn**	**13 31 39.9**	**+0.1**		
HORT	**Hortiatis**	**4.72**	**16**	*e*PN		**Pn**	**13 31 39.9**	**-0.1**		
HORT	**Hortiatis**	**4.72**	**16**	*e*Pn		**Pn**	**13 31 39.9**	**-0.1**		
GRG	**Griva**	**4.95**	**9**	*e*PN		**Pn**	**13 31 43.2**	**+0.1**		
GRG	**Griva**	**4.95**	**9**	*e*Pn		**Pn**	**13 31 43.2**	**+0.1**		
SOH	**Sokhos**	**5.00**	**17**	*e*PN		**Pn**	**13 31 44.2**	**+0.5**		
SOH	**Sokhos**	**5.00**	**17**	*e*Pn		**Pn**	**13 31 44.2**	**+0.5**		
KNT	**Kendrikon**	**5.23**	**13**	*e*PN		**Pn**	**13 31 47.6**	**+0.8**		
KNT	**Kendrikon**	**5.23**	**13**	*e*Pn		**Pn**	**13 31 47.6**	**+0.8**		
SRS	**Serrai**	**5.33**	**18**	*e*PN		**Pn**	**13 31 48.5**	**+0.2**		
SRS	**Serrai**	**5.33**	**18**	*e*Pn		**Pn**	**13 31 48.5**	**+0.2**		

*IDC **04** 13:48:19.1±16.0, 8°.07N×76°.02W, h0km, mb1 3.9/1, mb1mx3.3/23, mbtmp4.3/1, ML2.7/1, Error ellipse: s-maj=882.5km s-min=46.5km az=51.0*
*ISCJB **04** 13:48:35.8±0.7, 6°.8N±0°.1×72°.9W±0°.1, h166km, Error ellipse: s-maj=21.9km s-min=7.0km az=40.2*
*FUNV **04** 13:48:39.0, 6°.97N×72°.96W, h164km, MW3.0*
ISC 04 13:48:37.3±1.2, 6°.96N±0°.09×73°.0W±0°.1, h166km, n10, σ2s00/13, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.10**	**35**	⇑*i*P			**Pn**	**13 49 05.2**	**+0.5**
CAPV						*e*S	**Sn**	**13 49 25.3**	**-0.5**
SOCV	**Socops**	**2.46**	**58**	⇑*e*P			**Pn**	**13 49 19.3**	**+0.6**
SOCV						*e*S	**Sn**	**13 49 49.0**	**-1.8**
ROSC	**El Rosal**	**2.50**	**213**	Pn			Pn	13 49 16.8	-2.9
ROSC	13nm,0.3s,baz=306,slow=14,SNR=38						Sn	**Sn**	**13 49 49.3**	**-3.2**
	20nm,0.3s,baz=102,slow=19,SNR=13								
VIRV	**Villa del Rosa**	**3.56**	**9**	⇑*e*P			**Pn**	**13 49 32.2**	**-0.1**
VIRV						*e*S	**Sn**	**13 50 12.0**	**-3.3**
CURV	**Curarigua**	**4.23**	**44**	*e*P			**Pn**	**13 49 41.9**	**+0.8**
BAUV	**El Baul**	**5.24**	**68**	*e*P			**Pn**	**13 49 53.5**	**-0.7**
MONV	**Montecano**	**5.77**	**30**	*e*P			**Pn**	**13 50 01.5**	**+0.4**
CUPV	**Cœpira**	**7.72**	**66**	*e*P			**Pn**	**13 50 26.6**	**-0.5**
ASAR	**Alice Springs**	**149.33**	**234**	PKPbc			**PKPdf**	**14 08 05.1**	**+2.2**
	0.2nm,0.7s,baz=111,slow=3.8,SNR=5.6								
WRA	**Warramunga Arr**	**150.55**	**241**	PKPbc			**PKPdf**	**14 08 07.8**	**+2.9**
	0.4nm,0.9s,baz=108,slow=2.7,SNR=6.8								

*TEH **04** 14:25:02.3, 41°.97N×49°.27E, h18km, ML4.7*
*MOS **04** 14:25:02.8±1.3, 41°.92N×49°.37E, h72km, mb4.3/11, Error ellipse: s-maj=6.8km s-min=6.1km az=24.5*
*ISCJB **04** 14:25:03.6±0.2, 41°.85N±0°.02×49°.25E±0°.03, h92km±3km, mb3.8/16, Error ellipse: s-maj=4.2km s-min=2.8km az=141.8*
*AZER **04** 14:25:03.3±0.1, 41°.84N×48°.98E, h60km, Error ellipse: s-maj=0.8km s-min=0.5km az=29.0*
*CSEM **04** 14:25:04.6±0.1, 41°.86N×49°.29E, h80km, mb4.0/11, Error ellipse: s-maj=3.8km s-min=3.4km az=42.0*
*IDC **04** 14:25:04.1±0.8, 41°.97N×49°.12E, h68km±7km, mb3.7/14, mb1 3.9/21, mb1mx3.7/35, mbtmp4.0/21, MS2.8/1, Ms1 2.8/1, ms1mx2.2/39, Error ellipse: s-maj=14.3km s-min=8.9km az=167.0*
*NNC **04** 14:25:09.4±7.7, 41°.97N×50°.46E, h22km±89km, mb4.1, Error ellipse: s-maj=71.0km s-min=34.6km az=76.0*
ISC 04 14:25:04.1±0.4, 41°.89N±0°.02×49°.24E±0°.03, h82km±4km, n192, σ1s79/256, mb3.9/15, 25C-24D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.69**	**282**	*i*P			**Pn**	**14 25 20.0**	**+0.2**
DRN				*e*S			**Sn**	**14 25 31.3**	**-0.2**
DRN	**Derbent**	**0.69**	**282**	*i*P			**Pn**	**14 25 20.0**	**+0.2**
DRN				*e*S			**Sn**	**14 25 31.3**	**-0.2**
QUBA	**Quba, Azerbaij**	**0.78**	**227**	⇑P			**Pn**	**14 25 21.4**	**+0.6**
	SNR=19								
QUBA	**Quba, Azerbaij**	**0.78**	**227**	P			**Pn**	**14 25 21.4**	**+0.6**
	SNR=19								
SIZA	**Siyzn**	**0.86**	**198**	⇓Pg			**Pn**	**14 25 22.2**	**+0.5**
	SNR=337								
SIZA					⇑Sg		**Sn**	**14 25 35.6**	**+0.8**
SIZA	**Siyzn**	**0.86**	**198**	Pg			**Pn**	**14 25 22.2**	**+0.5**
	SNR=337								
SIZA					Sg		**Sn**	**14 25 35.6**	**+0.8**
ATGJ	**Altiaghaj**	**1.06**	**193**	⇑Pg			**Pn**	**14 25 25.2**	**+1.1**
	SNR=166								
ATGJ					⇑Sg		**Sn**	**14 25 39.8**	**+0.8**
ATGJ	**Altiaghaj**	**1.06**	**193**	Pg			**Pn**	**14 25 25.2**	**+1.1**
	SNR=166								
ATGJ					Sg		**Sn**	**14 25 39.8**	**+0.8**
AKT	**Akhty**	**1.21**	**250**	*e*P			**Pn**	**14 25 25.7**	**-0.2**
AKT				*e*S			**Sn**	**14 25 41.0**	**-1.3**
AKT	**Akhty**	**1.21**	**250**	*e*P			**Pn**	**14 25 25.7**	**-0.2**
AKT				*e*S			**Sn**	**14 25 41.0**	**-1.3**
PQL	**Pirkuli**	**1.21**	**204**	⇑Pg			**Pn**	**14 25 26.8**	**+0.8**
	SNR=153								
PQL					⇓Sg		**Sn**	**14 25 42.0**	**-0.3**
PQL	**Pirkuli**	**1.21**	**204**	Pg			**Pn**	**14 25 26.8**	**+0.8**
	SNR=153								
PQL					Sg		**Sn**	**14 25 42.0**	**-0.3**
URKR	**Urkarakh**	**1.23**	**283**	*e*P			**Pn**	**14 25 27.5**	**+1.3**
URKR				*i*S			**Sn**	**14 25 44.0**	**+1.2**
URKR	**Urkarakh**	**1.23**	**283**	*e*P			**Pn**	**14 25 27.5**	**+1.3**
URKR				*i*S			**Sn**	**14 25 44.0**	**+1.2**
IML	**Ismayilli**	**1.36**	**216**	⇑Pg			**Pn**	**14 25 28.0**	**+0.2**
	SNR=97								
IML					⇑Sg		**Sn**	**14 25 46.1**	**+0.6**
IML	**Ismayilli**	**1.36**	**216**	Pg			**Pn**	**14 25 28.0**	**+0.2**
	SNR=97								
IML					Sg		**Sn**	**14 25 46.1**	**+0.6**
MNSR	**Manas**	**1.39**	**306**	*e*P			**Pn**	**14 25 29.5**	**+1.5**
MNSR				*e*S			**Sn**	**14 25 47.8**	**+1.7**
MNSR	**Manas**	**1.39**	**306**	*e*P			**Pn**	**14 25 29.5**	**+1.5**
MNSR				*e*S			**Sn**	**14 25 47.8**	**+1.7**
NDR	**Nardaran**	**1.43**	**157**	Pg			**Pn**	**14 25 30.8**	**+2.3**
	SNR=13								
NDR					⇓Sg		**Sn**	**14 25 51.3**	**+4.4**
GOBA	**Gobu**	**1.54**	**166**	⇑Pg			**Pn**	**14 25 32.6**	**+2.6**
	SNR=8.6								
GOBA					⇓Sg		**Sn**	**14 25 53.7**	**+4.2**
KMKR	**Kumukh**	**1.62**	**279**	⇓*i*P			**Pn**	**14 25 33.2**	**+2.0**
KMKR				*e*S			**Sn**	**14 25 54.8**	**+3.1**
KMKR				pmax			pmax		
	comp=Z,967nm,0.3s								
KMKR	**Kumukh**	**1.62**	**279**	*i*P			**Pn**	**14 25 33.2**	**+2.0**
	comp=Z,967nm,0.3s								
KMKR				*e*S			**Sn**	**14 25 54.8**	**+3.1**
GALA	**Gala**	**1.64**	**155**	⇓Pg			**Pn**	**14 25 33.8**	**+2.5**
GALA				⇓Sg			Sn	14 25 57.8	+6.1
MAK	**Makhachkala**	**1.67**	**310**	*e*P			**Pn**	**14 25 33.4**	**+1.7**
MAK				*e*				14 25 55.3	
MAK				pmax			pmax		
	comp=Z,815nm,0.3s								
MAK				smax			smax		
	comp=N,4μm,0.5s								
MAK				smax			smax		
	comp=E,4μm,0.6s								
MAK	**Makhachkala**	**1.67**	**310**	*e*P			**Pn**	**14 25 33.4**	**+1.7**
	comp=E,815nm,0.3s								
MAK				*e*S			**Sn**	**14 25 55.3**	**+2.7**
	comp=E,4μm,0.5s								
SEKA	**Sheki**	**1.68**	**247**	⇓Pg			**Pn**	**14 25 32.2**	**+0.3**
	SNR=159								
SEKA					⇑Sg		**Sn**	**14 25 53.5**	**+0.5**
SEKA	**Sheki**	**1.68**	**247**	Pg			**Pn**	**14 25 32.2**	**+0.3**
	SNR=159								
SEKA					Sg		**Sn**	**14 25 53.5**	**+0.5**
KDMR	**Kurdemir**	**1.71**	**208**	⇑Pg			**Pn**	**14 25 32.4**	**+0.1**
KDMR				⇓Sg			**Sn**	**14 25 54.1**	**+0.5**
KDMR	**Kurdemir**	**1.71**	**208**	Pg			**Pn**	**14 25 32.4**	**+0.1**
KDMR				Sg			**Sn**	**14 25 54.1**	**+0.5**
GNBR	**Gunib**	**1.77**	**287**	P			Pn	14 25 35.7	+2.7
GNBR				S			**Sn**	**14 25 58.1**	**+3.1**
GNBR	**Gunib**	**1.77**	**287**	P			Pn	14 25 35.7	+2.7
GNBR				S			**Sn**	**14 25 58.1**	**+3.1**
BUJR	**Buynaksk**	**1.84**	**301**	P			**Pn**	**14 25 36.0**	**+2.1**
BUJR				S			**Sn**	**14 25 59.0**	**+2.5**
BUJR	**Buynaksk**	**1.84**	**301**	P			**Pn**	**14 25 36.0**	**+2.1**
BUJR				S			**Sn**	**14 25 59.0**	**+2.5**
ALIB	**Äli-Bayra**	**1.94**	**185**	⇑Pg			**Pn**	**14 25 37.7**	**+2.4**
	SNR=43								
ALIB					⇓Sg		**Sn**	**14 26 03.3**	**+4.3**
KRNR	**Karanay**	**1.97**	**299**	*e*P			**Pn**	**14 25 38.0**	**+2.3**
KRNR				*e*S			**Sn**	**14 26 02.5**	**+2.7**
KRNR				pmax			pmax		
	comp=Z,149nm,0.3s								
KRNR	**Karanay**	**1.97**	**299**	*e*P			**Pn**	**14 25 38.0**	**+2.3**
	comp=Z,149nm,0.3s								
KRNR				*e*S			**Sn**	**14 26 02.5**	**+2.7**
ZKTA	**Zakatala**	**1.98**	**263**	⇓Pg			**Pn**	**14 25 36.9**	**+1.2**
	SNR=36								
ZKTA					⇑Sg		**Sn**	**14 26 00.2**	**+0.3**
DBC	**Dubki**	**2.11**	**303**	P			**Pn**	**14 25 38.9**	**+1.3**
DBC				S			**Sn**	**14 26 05.8**	**+2.7**
DBC	**Dubki**	**2.11**	**303**	P			**Pn**	**14 25 38.9**	**+1.3**
DBC				S			**Sn**	**14 26 05.8**	**+2.7**
BRDA	**Brd**	**2.26**	**224**	⇑Pg			**Pn**	**14 25 39.6**	**+0.1**
	SNR=25								
BRDA	**Brd**	**2.26**	**224**	Pg			**Pn**	**14 25 39.6**	**+0.1**
	SNR=25								
GANJ	**Ganja**	**2.53**	**241**	⇑Pn			**Pn**	**14 25 42.3**	**-0.9**
	SNR=143								
GANJ					⇑S		**Sn**	**14 26 10.2**	**-2.9**
GANJ	**Ganja**	**2.53**	**241**	Pn			**Pn**	**14 25 42.3**	**-0.9**
	SNR=143								
GLBA	**Clilabad**	**2.73**	**194**	⇑Pn			**Pn**	**14 25 45.7**	**-0.1**
	SNR=7.2								
GLBA					⇑S		**Sn**	**14 26 15.4**	**-2.4**
GLBA	**Clilabad**	**2.73**	**194**	Pn			**Pn**	**14 25 45.7**	**-0.1**
	SNR=7.2								
GLBA					S		**Sn**	**14 26 15.4**	**-2.4**
DGRG	**David-gareji**	**2.93**	**263**	P			**Pn**	**14 25 49.3**	**+0.7**
DGRG				S			**Sn**	**14 26 22.4**	**-0.5**
DGRG	**David-gareji**	**2.93**	**263**	P			**Pn**	**14 25 49.3**	**+0.7**
DGRG				S			**Sn**	**14 26 22.4**	**-0.5**
DGRG	**David-gareji**	**2.93**	**263**	P			**Pn**	**14 25 49.3**	**+0.7**
DGRG				S			**Sn**	**14 26 22.4**	**-0.5**
LKRN	**Lenkeran, Azer**	**3.20**	**187**	⇓Pn			**Pn**	**14 25 51.3**	**-0.9**
LKRN				⇓S			**Sn**	**14 26 26.1**	**-3.2**
LKRN	**Lenkeran, Azer**	**3.20**	**187**	Pn			**Pn**	**14 25 51.3**	**-0.9**
LKRN				S			**Sn**	**14 26 26.1**	**-3.2**
LRK	**Lerik**	**3.32**	**192**	⇑Pn			**Pn**	**14 25 52.9**	**-1.1**
LRK				⇓S			**Sn**	**14 26 29.5**	**-3.0**
LRK	**Lerik**	**3.32**	**192**	Pn			**Pn**	**14 25 52.9**	**-1.1**
LRK				S			**Sn**	**14 26 29.5**	**-3.0**
SEAG	**Tbilisi Sea**	**3.32**	**269**	P			**Pn**	**14 25 54.3**	**+0.5**
SEAG				S			**Sn**	**14 26 30.7**	**-1.5**
TBLG	**Delisi**	**3.37**	**269**	P			**Pn**	**14 25 54.6**	**+0.1**
TBLG				S			**Sn**	**14 26 31.0**	**-2.5**
TBLG	**Delisi**	**3.37**	**269**	P			**Pn**	**14 25 54.6**	**+0.1**
TBLG				S			**Sn**	**14 26 31.0**	**-2.5**
TBLG	**Delisi**	**3.37**	**269**	P			**Pn**	**14 25 54.6**	**+0.1**
TBLG				S			**Sn**	**14 26 31.0**	**-2.5**
BTKR	**Batakoyurt**	**3.77**	**295**	*i*P			**Pn**	**14 26 00.5**	**+0.6**
BTKR	**Batakoyurt**	**3.77**	**295**	*i*P			**Pn**	**14 26 00.5**	**+0.6**
GNI	**Garni**	**3.83**	**244**	P			**Pn**	**14 26 01.4**	**+0.6**
	comp=Z,30nm,0.3s								
GNI					S		**Sn**	**14 26 45.3**	**+0.6**
	comp=Z,12nm,0.3s								
GNI	**Garni**	**3.83**	**244**	P			**Pn**	**14 26 01.4**	**+0.6**
	comp=Z,30nm,0.3s,baz=18,slow=2.5,SNR=46								
GNI					S		**Sn**	**14 26 45.3**	**+0.6**
	comp=Z,12nm,0.3s,baz=120,slow=20,SNR=3.5								
NAX	**Nakhchivan**	**3.94**	**228**	⇑Pn			Pn	14 26 00.0	-2.3
	SNR=9.0								
IHRS	**Heris**	**3.95**	**206**	*e*Pn			**Pn**	**14 26 03.0**	**+0.4**
IHRS				*e*				14 26 47.3	
	comp=Z,6μm,0.1s								
IHRS	**Heris**	**3.95**	**206**	*e*Pn			**Pn**	**14 26 03.0**	**+0.4**
ZEI	**Tsey**	**4.06**	**284**	*e*P			Pn	14 26 08.1	+4.1
ZEI				pmax			pmax		
	comp=Z,26nm,0.6s								
ZEI	**Tsey**	**4.06**	**284**	*e*P			Pn	14 26 08.1	+4.1
	comp=Z,26nm,0.6s								
IMRD	**Marand**	**4.17**	**222**	*e*Pn			**Pn**	**14 26 05.6**	**0.0**
IMRD	**Marand**	**4.17**	**222**	*e*Pn			**Pn**	**14 26 05.6**	**0.0**
ISRB	**Sarab**	**4.24**	**197**	*e*Pn			**Pn**	**14 26 06.6**	**+0.1**
ISRB	**Sarab**	**4.24**	**197**	*e*Pn			**Pn**	**14 26 06.6**	**+0.1**
AKH	**Akhalkalaki**	**4.34**	**266**	P			**Pn**	**14 26 08.9**	**+1.1**
AKH				S			**Sn**	**14 26 56.4**	**-0.8**
AKH	**Akhalkalaki**	**4.34**	**266**	P			**Pn**	**14 26 08.7**	**+1.0**
AKH				S			Px	14 26 30.7	
AKH	**Akhalkalaki**	**4.34**	**266**	P			**Pn**	**14 26 08.9**	**+1.1**
AKH				S			**Sn**	**14 26 56.4**	**-0.8**
ONI	**Oni**	**4.36**	**281**	P			Pn	14 25 58.6	-9.4
ONI	**Oni**	**4.36**	**281**	P			Pn	14 25 58.6	-9.4
ITBZ	**Tabriz**	**4.36**	**214**	*e*Pn			**Pn**	**14 26 08.5**	**+0.4**
ITBZ	**Tabriz**	**4.36**	**214**	*e*Pn			**Pn**	**14 26 08.5**	**+0.4**
IBST	**Bostanabad**	**4.56**	**204**	*e*Pn			**Pn**	**14 26 11.2**	**+0.2**
IBST	**Bostanabad**	**4.56**	**204**	*e*Pn			**Pn**	**14 26 11.2**	**+0.2**
KBZ	**Khabaz**	**5.01**	**294**	P			**Pn**	**14 26 16.0**	**-0.8**
KBZ				S			**Sn**	**14 27 09.5**	**-3.9**
KBZ				pmax			pmax		
	comp=Z,1.0nm,0.3s								
KBZ				smax			smax		
	comp=N,4.0nm,0.3s								
KBZ	**Khabaz**	**5.01**	**294**	P			Pn	**14 26 16.0**	**-0.8**
	comp=N,1.0nm,0.3s								
KBZ	**Khabaz**	**5.01**	**294**	P			**Pn**	**14 26 16.0**	**-0.8**
	comp=N,1.4nm,0.3s,baz=111,slow=13,SNR=23								
KBZ					S		**Sn**	**14 27 09.4**	**-3.9**
	comp=N,4.3nm,0.3s,baz=101,slow=16,SNR=8.2								
KIV	**Kislovodsk**	**5.24**	**295**	*i*P			**Pn**	**14 26 18.9**	**-1.0**
KIV				*e*S			**Sn**	**14 27 18.6**	**-0.4**
KIV				pmax			pmax		
	comp=Z,4.0nm,0.7s								
KIV				MLR			MLR		
	comp=Z,100nm,17.0s								
KIV	**Kislovodsk**	**5.24**	**295**	*i*P			**Pn**	**14 26 18.9**	**-1.0**
	comp=Z,100nm,17.0s								
KIV				*e*S			**Sn**	**14 27 18.6**	**-0.4**
IGZV	**Ghazvin**	**5.55**	**172**	*e*Pn			**Pn**	**14 26 23.3**	**-1.1**
IGZV				*e*				14 27 23.3	
	comp=Z,6μm,0.1s								
IGZV	**Ghazvin**	**5.55**	**172**	*e*Pn			**Pn**	**14 26 23.3**	**-1.1**
IPRN	**Peran**	**6.14**	**156**	*e*Pn			**Pn**	**14 26 31.1**	**-1.2**
IMHD	**Mahdasht**	**6.30**	**169**	*e*Pn			**Pn**	**14 26 35.4**	**+0.9**
IMHD	**Mahdasht**	**6.30**	**169**	*e*Pn			**Pn**	**14 26 35.4**	**+0.9**
IALA	**Alasht**	**6.43**	**153**	*e*Pn			**Pn**	**14 26 35.8**	**-0.7**
IALA				*e*				14 27 48.6	
	comp=Z,10μm,0.1s								
IALA	**Alasht**	**6.43**	**153**	*e*Pn			**Pn**	**14 26 35.8**	**-0.7**
IGLO	**Ghaloghah**	**6.46**	**145**	*e*Pn			**Pn**	**14 26 35.3**	**-1.4**
IGLO				*e*				14 27 48.5	
	comp=Z,6μm,0.1s								
IKIA	**Kiasar**	**6.65**	**147**	*e*Pn			**Pn**	**14 26 39.2**	**-0.2**
IKIA				*e*				14 27 52.9	
	comp=Z,2μm,0.1s								
IKIA	**Kiasar**	**6.65**	**147**	*e*Pn			**Pn**	**14 26 39.2**	**-0.2**
IDMV	**Damavand**	**6.67**	**160**	*e*Pn			**Pn**	**14 26 40.5**	**+0.7**
IDMV				*e*				14 27 53.3	
	comp=Z,2μm,0.1s								
IDMV	**Damavand**	**6.67**	**160**	*e*Pn			**Pn**	**14 26 40.5**	**+0.7**
ISHM	**Shahmirzad**	**6.85**	**151**	*e*Pn			**Pn**	**14 26 42.1**	**-0.1**
ISHM	**Shahmirzad**	**6.85**	**151**	*e*Pn			**Pn**	**14 26 42.1**	**-0.

KLMR Klimovskoe 19.89 346 *e*P **Pn 14 29 30.9 -0.1**
comp=Z,19nm,1.4s
IDI Anoyia 20.11 259 P **P 14 29 30.2 -1.1**
comp=Z,2.7nm,0.4s,baz=40,slow=17,SNR=6.3
KURBB Kurchatov Arra 21.93 57 P **P 14 29 52.7 +2.1**
comp=Z,2.7nm,0.8s,baz=262,slow=11,SNR=21
KURBB pP **pP 14 30 06.5 -0.7**
comp=Z,4.8nm,0.6s,baz=261,slow=11,SNR=10.0
KURBB Kurchatov Arra 21.93 57 ⇑P **P 14 29 54.4 +3.8**
comp=Z,6.5nm,0.7s
KURK Kurchatov 22.01 56 P **P 14 29 52.7 +1.3**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURK Kurchatov 22.01 56 P **P 14 29 52.7 +1.3**
comp=Z,6.2nm,1.1s
KURK Kurchatov 22.01 56 ⇓P **P 14 29 52.7 +1.3**
comp=Z,6.2nm,1.1s
JOF Joensuu 23.56 339 *e*P **P 14 30 07.8 +0.9**
JOF pmax pmax
comp=Z,3.0nm,0.3s
JOF Joensuu 23.56 339 *e*p **P 14 30 07.8 +0.9**
comp=Z,2.8nm,0.3s
JOF Joensuu 23.56 339 *e*P **P 14 30 07.8 +0.9**
comp=Z,3.0nm,0.3s
MK31 Makanchi Array 24.03 67 P **P 14 30 13.6 +2.3**
comp=Z,1.8nm,0.5s,SNR=35
MK31 Makanchi Array 24.03 67 ⇓P **P 14 30 13.6 +2.3**
comp=Z,1.8nm,0.5s,baz=263,slow=8.7,SNR=35
MKAR Makanchi Array 24.03 67 P **P 14 30 14.1 +2.8**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 24.03 67 P **P 14 30 14.1 +2.8**
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 24.03 67 P **P 14 30 14.1 +2.8**
comp=Z,3.5nm,0.6s,baz=263,slow=9.6,SNR=45
FINES FINESS Array B 24.04 332 P **P 14 30 11.8 +0.6**
comp=Z,2.0nm,0.5s
FINES FINESS Array B 24.04 332 P **P 14 30 11.8 +0.6**
comp=Z,2.1nm,0.5s,baz=139,slow=11,SNR=15
KAF Kangasniemi 24.43 334 *e*P **P 14 30 16.5 +1.8**
KAF Kangasniemi 24.43 334 *e*p **P 14 30 16.5 +1.8**
KAF Kangasniemi 24.43 334 *e*P **P 14 30 16.5 +1.8**
GERES GERESS Array B 25.74 298 P **P 14 30 26.6 -0.3**
comp=Z,1.0nm,0.5s
GERES GERESS Array B 25.74 298 P **P 14 30 26.6 -0.3**
comp=Z,0.3nm,0.4s,baz=84,slow=11,SNR=3.3
GERES pP **pP 14 30 43.1 -2.5**
comp=Z,0.6nm,0.5s,baz=104,slow=8.2,SNR=3.7
NVS Novosibirsk 25.74 48 *e*P **P 14 30 28.6 +1.9**
NVS Novosibirsk 25.74 48 *e*P **P 14 30 28.6 +1.9**
ZALV Zalesovo Beam 26.42 51 P **P 14 30 34.5 +1.6**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 26.42 51 P **P 14 30 34.5 +1.6**
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 26.42 51 P **P 14 30 34.5 +1.6**
comp=Z,1.0nm,0.3s,baz=270,slow=8.7,SNR=4.3
HFS Hagfors 28.36 322 P **P 14 30 50.7 +0.6**
comp=Z,1.5nm,0.3s,baz=115,slow=9.5,SNR=21
HFS pP **pP 14 31 06.1 -2.9**
comp=Z,1.8nm,0.3s,baz=117,slow=8.5,SNR=4.6
NB2 NORSAR Subarra 29.84 323 P **P 14 31 03.3 0.0**
comp=Z,0.8nm,0.4s,baz=115,slow=8.6
NB2 NORSAR Subarra 29.84 323 P **P 14 31 03.3 0.0**
comp=Z,0.8nm,0.4s,SNR=6.2
NOA NORSAR Array B 29.84 323 P **P 14 31 03.5 +0.2**
comp=Z,0.8nm,0.3s,baz=117,slow=8.2,SNR=11
NOA pP **pP 14 31 19.4 -2.9**
comp=Z,1.6nm,0.7s,baz=117,slow=8.4,SNR=4.5
ARCES ARCESS Array B 30.33 344 P **P 14 31 08.2 +0.8**
comp=Z,2.1nm,0.9s,baz=144,slow=9.6,SNR=6.1
ARCES pP **pP 14 31 25.0 -1.4**
comp=Z,0.9nm,0.6s,baz=148,slow=10,SNR=1.4
DANN Dangsing 31.08 105 *e*P **P 14 31 17.8 +3.0**
comp=Z,5.5nm,0.3s
KOLN Koldanda 31.30 106 *e*P **P 14 31 18.0 +1.3**
GKN Gorkha 31.91 104 *e*P **P 14 31 24.3 +2.3**
comp=Z,5.6nm,0.3s
PKIN Phulchoki 32.70 104 *e*P **P 14 31 31.4 +2.3**
comp=Z,3.4nm,0.5s
JIRN Jiri 33.23 103 *e*P **P 14 31 36.5 +2.7**
comp=Z,6.6nm,0.5s
RAMN Ramite 33.94 104 *e*P **P 14 31 42.0 +2.2**
comp=Z,2.0nm,0.3s
ODAN Odare 34.56 103 *e*P **P 14 31 47.9 +2.7**
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 38.72 350 P **P 14 32 22.0 +2.4**
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 38.72 350 P **P 14 32 22.0 +2.4**
comp=Z,7.1nm,0.9s,baz=161,slow=11,SNR=5.3
CMAR Chiang Mai Arr 48.11 103 P **P 14 33 37.4 +1.6**
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 48.11 103 P **P 14 33 37.4 +1.6**
comp=Z,0.9nm,0.5s,baz=307,slow=8.9,SNR=9.6
TORD Torodi Ar. Bea 50.12 250 P **P 14 33 51.0 -0.1**
comp=Z,0.5nm,0.6s,baz=22,slow=8.9,SNR=5.2
BOSA Boshof 73.57 202 P **P 14 36 30.2 +1.9**
comp=Z,2.0nm,0.6s
BOSA Boshof 73.57 202 P **P 14 36 30.1 +1.9**
comp=Z,1.5nm,0.6s,baz=12,slow=3.4,SNR=3.5
WRA Warramunga Arr 99.53 108 P **Pdif 14 38 39.2 +1.1**
WRA Warramunga Arr 99.53 108 P **Pdif 14 38 39.2 +1.1**
comp=Z,1.7nm,0.3s,baz=319,slow=3.8,SNR=3.5
ASAR Alice Springs 101.64 111 P **Pdif 14 38 48.1 +0.6**
ASAR Alice Springs 101.64 111 P **Pdif 14 38 48.1 +0.6**
comp=Z,0.2nm,0.6s,baz=317,slow=4.9,SNR=3.8

IDC 04 14:33:46.6±3.1, 3.53S×151.54E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/17, mbtmp3.5/2, MS3.3/1, Ms1 3.5/1, ms1mx2.6/23, Error ellipse: s-maj=130.9km s-min=42.9km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**224**	P		P	P	14 38 58.1	+0.7
	1.0nm,0.5s,baz=50,slow=10,SNR=14								
ASAR	**Alice Springs**	**26.29**	**219**	P		P	P	14 39 24.4	+0.2
	0.5nm,0.5s,baz=59,slow=8.5,SNR=13								
CMAR	**Chiang Mai Arr**	**56.20**	**295**	LR		LR	LR	15 06 46.5	
	comp=Z,26nm,18.0s,baz=216,slow=35								
TORD	**Torodi Ar. Bea**	**148.71**	**290**	PKPbc		PKPbc	PKPbc	14 53 35.6	-1.5
	0.7nm,0.6s,baz=73,slow=2.4,SNR=5.3								

*IDC **04** 14:36:16.1±19.0, 18.2I S×178.39W, h493km±233km, mb3.1/7, mb1 3.4/7, mb1mx3.1/20, mbtmp4.0/7, Error ellipse: s-maj=85.7km s-min=65.9km az=167.0*
*ISCJB **04** 14:36:22.4±1.6, 18.2S±0.6×178.6W±0.4, h579km, mb3.6/7, Error ellipse: s-maj=86.9km s-min=20.1km az=151.5*
ISC 04 14:36:23.4±1.7, 18.2S±0.6×178.6W±0.3, h579km, n7, σ0.86/7, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.24**	**261**	P		P	P	14 42 13.8	-0.1
	6.4nm,1.0s,baz=69,slow=10.0,SNR=4.6								
STKA	**Stephens Creek**	**38.33**	**241**	P		P	P	14 42 55.3	-0.5
	2.6nm,0.7s,baz=96,slow=10,SNR=6.2								
WRA	**Warramunga Arr**	**44.42**	**260**	P		P	P	14 43 43.6	-0.4
	0.5nm,0.4s,baz=96,slow=8.6,SNR=21								
ASAR	**Alice Springs**	**44.55**	**255**	P		P	P	14 43 44.4	-0.5
	6.5nm,0.6s,baz=89,slow=8.6,SNR=185								
FITZ	**Fitzroy Crossi**	**52.82**	**261**	P		P	P	14 44 47.4	+1.4
	0.5nm,0.3s,baz=107,slow=8.8,SNR=3.2								
ILAR	**Eielson Array**	**86.25**	**13**	P		P	P	14 48 03.3	-0.5
	0.3nm,0.8s,baz=222,slow=4.9,SNR=5.8								
TXAR	**Lajitas Array**	**86.31**	**58**	P		P	P	14 48 05.4	+0.4
	0.4nm,0.8s,baz=236,slow=4.9,SNR=3.3								

*CSEM **04** 14:38:46.5±0.2, 37.91N×28.89E, h10km, MD2.5, Error ellipse: s-maj=8.8km s-min=4.5km az=170.0*
DDA 04 14:38:46.4, 37.92N×28.89E, h3km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.26**	**152**	*i* P		Pg	Pg	14 38 52.4	+0.7
DNZL				*i* S		Sg	Sg	14 38 56.1	+0.9
DNZL	**Cakiroluk**	**0.26**	**152**	*i* P		Pg	Pg	14 38 52.4	+0.7
DNZL				*i* S		Sg	Sg	14 38 56.1	+0.9
KHL	**Karahalli**	**0.64**	**51**	*e*PG		Pg	Pg	14 38 59.5	+0.7
KHL	**Karahalli**	**0.64**	**51**	*e*Pg		Pg	Pg	14 38 59.5	+0.7
AYDB	**Zeytinkoy-Aydi**	**0.79**	**272**	*e*PG		Pg	Pg	14 39 01.5	-0.3
AYDB				*e*SG		Sg	Sg	14 39 12.3	+0.1
AYDB	**Zeytinkoy-Aydi**	**0.79**	**272**	*e*Pg		Pg	Pg	14 39 01.5	-0.3
AYDB				*e*Sg		Sg	Sg	14 39 12.3	+0.1
AYDN	**Tasoluk**	**0.84**	**252**	*i* P		Pg	Pg	14 39 02.8	+0.2
AYDN				*i* S		Sb	Sb	14 39 15.3	-0.3
AYDN	**Tasoluk**	**0.84**	**252**	*i* P		Pg	Pg	14 39 02.8	+0.1
AYDN				*i* S		Sb	Sb	14 39 15.3	-0.3

*ISCJB **04** 15:00:27.5±1.0, 2.7N±0.1×99.1E±0.2, h179km±6km, mb3.0/4, Error ellipse: s-maj=28.6km s-min=19.4km az=169.6*
*IDC **04** 15:00:28.3±0.9, 2.70N×98.95E, h174km±16km, mb2.8/4, mb1 2.9/5, mb1mx2.8/25, mbtmp3.3/5, Error ellipse: s-maj=94.3km s-min=18.7km az=62.0*
ISC 04 15:00:28.7±1.1, 2.8N±0.1×99.1E±0.2, h174km±8km, n8, σ0.67/9, mb3.0/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.17**	**280**	P		P	Pn	15 00 52.0	+0.1
	21nm,0.3s,baz=212,slow=21,SNR=55								
PSI				S		S	Sn	15 01 09.6	-0.2
	14nm,0.3s,baz=161,slow=23,SNR=46								
IPM	**Ipoh**	**2.57**	**49**	P		P	Pn	15 01 12.2	+0.3
KULM	**Kulim**	**2.95**	**32**	P		P	Pn	15 01 15.9	-0.5
CMAR	**Chiang Mai Arr**	**15.59**	**359**	P		P	P	15 04 00.9	+1.1
	0.2nm,0.3s,baz=189,slow=11,SNR=6.4								
WRA	**Warramunga Arr**	**41.31**	**125**	P		P	P	15 07 57.0	-0.5
	0.3nm,0.9s,baz=303,slow=9.0,SNR=4.8								
ASAR	**Alice Springs**	**42.88**	**130**	P		P	P	15 08 10.6	+0.4
	0.1nm,0.4s,baz=303,slow=7.7,SNR=8.3								
SONM	**Songino Array**	**45.33**	**7**	P		P	P	15 08 29.4	0.0
	0.2nm,0.3s,baz=186,slow=8.1,SNR=2.2								
MKAR	**Makanchi Array**	**46.22**	**344**	P		P	P	15 08 35.7	-0.5
	0.3nm,0.4s,baz=170,slow=8.0,SNR=5.0								

IDC 04 15:10:39.4±3.8, 1.54S×99.83E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/23, mbtmp3.2/4, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/16, Error ellipse: s-maj=155.2km s-min=23.5km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.40**	**348**	LR		LR	LR	15 13 50.4	
	comp=Z,82nm,18.7s,baz=182,slow=44								
CMAR	**Chiang Mai Arr**	**19.89**	**358**	P		Pn	Pn	15 15 14.0	-0.2
	0.1nm,0.3s,baz=187,slow=9.5,SNR=3.5								
H08S2	**Diego Garcia H**	**27.90**	**257**	T		T	T	15 44 33.2	
	baz=78,slow=76,SNR=21								
H08S3	**Diego Garcia H**	**27.91**	**257**	T		T	T	15 44 28.7	
	baz=78,slow=76,SNR=16								
H08S1	**Diego Carcia H**	**27.92**	**257**	T		T	T	15 44 58.2	
	baz=78,slow=76,SNR=4.6								
H01W3	**Cape Leeuwin H**	**35.76**	**160**	T		T	T	15 55 28.7	
	baz=335,slow=76,SNR=4.4								
H01W2	**Cape Leeuwin H**	**35.77**	**160**	T		T	T	15 55 31.3	
	baz=335,slow=76,SNR=5.5								
H01W1	**Cape Leeuwin H**	**35.77**	**160**	T		T	T	15 55 31.0	
	baz=335,slow=76,SNR=3.7								
WRA	**Warramunga Arr**	**38.38**	**121**	P		P	P	15 18 02.3	-0.5
	0.1nm,0.3s,baz=302,slow=9.1,SNR=5.9								
ASAR	**Alice Springs**	**39.66**	**126**	P		P	P	15 18 13.8	+0.2
	0.2nm,0.5s,baz=297,slow=7.6,SNR=12								
MKAR	**Makanchi Array**	**50.54**	**344**	P		P	P	15 19 38.9	-0.8
	0.2nm,0.3s,baz=157,slow=8.8,SNR=6.7								

NNC 04 15:32:15.5±6.4, 37.23N×70.04E, h0km, mb3.9, mpv3.6, 3C, Error ellipse: s-maj=111.7km s-min=50.4km az=87.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.88**	**3**	Pn		Pn	Pn	15 33 47.0	+3.2
	0.8nm,0.3s,baz=179,slow=11,SNR=60								
KK31				⇑Sn		Sn	Sn	15 34 58.4	+6.4
	3.4nm,0.7s,baz=192,slow=26								
TKM2	**Tokmak 2**	**7.10**	**35**	⇑Pn		Pn	Pn	15 34 00.0	-0.9
	4.9nm,0.5s								
AB31	**Akbulak array**	**14.07**	**332**	⇑Pn		Pn	Pn	15 35 33.9	-2.1
	0.4nm,0.3s,baz=150,slow=13,SNR=24								

*IDC **04** 15:32:44.7±4.0, 10.13N×83.73W, h114km±24km, mb3.5/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=72.3km s-min=54.1km az=154.0*
*ISCJB **04** 15:32:52.0±0.6, 10.40N±0.07×84.70W±0.07, h119km±4km, mb3.7/6, Error ellipse: s-maj=15.8km s-min=5.4km az=44.7*
*CASC **04** 15:32:52.8±2.0, 10.42N×84.71W, h112km±6km, MD3.9, ML4.3*
ISC 04 15:32:50.3±0.8, 10.36N±0.08×84.64W±0.08, h126km±5km, n40, σ1.68/54, mb3.6/6, 5C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**0.32**	**257**	P		P	Pn	15 33 08.4	+0.3
	baz=76,slow=8.3								
JTS				S		S	Sn	15 33 21.2	-0.2
	646nm,0.3s,baz=22,slow=19,SNR=110								
CGA2	**Cerro Gallo 2**	**0.38**	**154**	⇑*i*P		P	Pn	15 33 09.5	+0.9
CGA2				*e*S		S	Sn	15 33 22.9	+0.7
AMAS	**Alto Masis**	**0.43**	**305**	*i* P		P	Pn	15 33 09.2	+0.5
AMAS				*i* S		S	Sn	15 33 22.0	-0.5
PTEN	**Parque Tenorio**	**0.49**	**316**	*i* P		P	Pn	15 33 09.7	+0.7
PTEN				*i* S		S	Sn	15 33 22.9	-0.2
CUI	**Cuipilapa**	**0.59**	**300**	*i* P		P	Pn	15 33 10.3	+0.7
CUI				*i* S		S	Sn	15 33 23.7	-0.4
COLC	**Colonia**	**0.63**	**299**	*i* P		P	Pn	15 33 10.4	+0.6
HORNC	**Hornillas**	**0.64**	**303**	*i* P		P	Pn	15 33 10.4	+0.5
HORNC				*i* S		S	Sn	15 33 24.2	-0.5
MESS	**Mesas**	**0.66**	**305**	*i* P		P	Pn	15 33 10.8	+0.8
JCR	**Jicaral**	**0.69**	**223**	⇑*i*P		P	Pn	15 33 10.8	+0.6
JCR				*e*S		S	Sn	15 33 26.3	+0.9
LIM1	**Limonal**	**0.69**	**299**	*i* P		P	Pn	15 33 11.0	+0.8
SJS	**Escuela Geolog**	**0.71**	**126**	*e*P		P	Pn	15 33 11.7	+1.1
GPS2	**Hotel Rinc¯‡n**	**0.80**	**299**	*i* P		P	Pn	15 33 11.9	+0.7
GPS2				*i* S		S	Sn	15 33 26.6	-0.3
BUEV	**Buena Vista**	**0.87**	**300**	*i* P		P	Pn	15 33 12.7	+0.9
GB1A	**Borinquen Arri**	**0.87**	**301**	*i* P		P	Pn	15 33 12.8	+1.0
LAPC	**Finca la Perla**	**0.88**	**297**	*i* P		P	Pn	15 33 12.3	+0.6
LAPC				*i* S		S	Sn	15 33 27.6	-0.4
GBS3	**Finca Las Im¯¡**	**0.91**	**298**	*i* P		P	Pn	15 33 12.6	+0.6
NY14	**Universidad de**	**0.93**	**288**	*i* P		P	Pn	15 33 13.3	+1.2
GBS2	**Las Lilas**	**0.93**	**301**	*i* P		P	Pn	15 33 13.1	+0.9
VCR	**Vista de Mar**	**1.00**	**257**	*e*P		P	Pn	15 33 13.3	+0.3
VCR				*e*S		S	Sn	15 33 30.8	+0.6
QCR	**Quepos**	**1.04**	**153**	⇑*i*P		P	Pn	15 33 15.2	+1.9
QCR				*e*S		S	Sn	15 33 32.3	+1.6
BUS	**Buena Vista**	**1.18**	**133**	⇑*e*P		P	Pn	15 33 17.1	+2.0
COPN	**Copaltepe**	**2.63**	**314**	⇑*i*P		P	Pn	15 33 33.4	+1.4
COPN				*e*S		S	Sn	15 34 03.5	-0.7
CNCH	**Conchagua**	**4.26**	**313**	*e*P		P	Pn	15 33 55.7	+2.1
CNCH				*e*S		S	Sn	15 34 44.1	+1.4
VSM	**San Miguel**	**4.69**	**311**	*e*P		P	Pn	15 34 02.4	+3.1
SNVI	**San Vicente**	**5.23**	**309**	*e*P		P	Pn	15 34 09.4	+2.9
SNVI				*e*S		S	Sn	15 35 05.9	0.0
LFRS	**El Faro**	**5.41**	**307**	*i* P		P	Pn	15 34 11.3	+2.4
LFRS				*e*S		S	Sn	15 35 09.6	-0.5
BQQS	**Boqueron**	**5.64**	**307**	*e*P		P	Pn	15 34 15.2	+3.0
SBLS	**San Blas**	**5.97**	**306**	*i* P		P	Pn	15 34 19.4	+2.8
SBLS				*e*S		S	Sn	15 35 23.3	-0.7
SNJE	**San Jose**	**5.98**	**306**	*e*P		P	Pn	15 34 19.7	+3.0
RTR	**El Retiro**	**6.03**	**306**	*e*P		P	Pn	15 34 20.2	+2.9
MRL	**Marmol**	**6.79**	**314**	*i* P		P	Pn	15 34 30.9	+3.2
APG	**El Apazote**	**7.32**	**310**	P		P	Pn	15 34 35.8	+1.0
	2.2nm,0.3s,baz=143,slow=12,SNR=20								
TXAR	**Lajitas Array**	**25.94**	**319**	P		P	P	15 38 12.6	+1.5
	0.2nm,0.4s,baz=131,slow=9.7,SNR=4.5								
TXAR				LR		LR	LR	15 51 25.2	
	comp=Z,48nm,18.8s,baz=0.0,slow=42								
ULM	**Lac du Bonnet**	**40.84**	**349**	P		P	P	15 40 17.7	-1.7
	3.4nm,0.5s,baz=170,slow=9.6,SNR=5.6								
NVAR	**Mina Array Bea**	**41.08**	**319**	P		P	P	15 40 23.9	+2.0
	0.5nm,0.6s,baz=125,slow=6.6,SNR=3.9								
SCHQ	**Schefferville**	**46.55**	**14**	P		P	P	15 41 00.4	-4.7
	4.6nm,1.0s,baz=240,slow=14,SNR=1.8								
YKA	**Yellowknife Ar**	**56.36**	**344**	P		P	P	15 42 17.9	-0.1
	0.7nm,0.7s,baz=146,slow=6.7,SNR=3.4								
ILAR	**Eielson Array**	**69.03**	**336**	P		P	P	15 43 41.9	-0.1
	0.3nm,0.6s,baz=120,slow=4.1,SNR=8.2								
ASAR	**Alice Springs**	**140.98**	**245**	PKP		PKPdf	PKPdf	15 52 01.6	-4.9
	0.2nm,0.5s,baz=110,slow=3.5,SNR=14								
WRA	**Warramunga Arr**	**141.28**	**251**	PKP		PKPdf	PKPdf	15 52 02.9	-4.1
	0.2nm,0.4s,baz=94,slow=3.6,SNR=13								

*IDC **04** 15:41:18.1±5.9, 5.65S±0.7×151.46E±0.8, h57km, n7, σ0.78/7, mb3.7/4, New Britain region*
ISC 04 15:41:17.3±2.3, 5.65S±0.7×151.46E±0.8, h57km, n7, σ0.78/7, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**229**	P		P	Pn	15 42 41.4	+0.9
	1.0nm,0.3s,baz=34,slow=10,SNR=6.3								
PMG				S		S	Sn	15 43 44.9	-0.5
	0.2nm,0.3s,baz=46,slow=18,SNR=1.8								
WRA	**Warramunga Arr**	**22.00**	**228**	P		P	P	15 46 05.8	-1.1
	3.7nm,0.9s,baz=54,slow=10,SNR=20								
ASAR	**Alice Springs**	**24.74**	**222**	P		P	P	15 46 33.4	-0.2
	1.4nm,0.7s,baz=57,slow=9.7,SNR=26								
FITZ	**Fitzroy Crossi**	**28.20**	**242**	P		P	P	15 47 04.8	0.0
	2.5nm,0.7s,baz=66,slow=9.7,SNR=9.5								
CMAR	**Chiang Mai Arr**	**57.10**	**296**	LR		LR	16 15 19.9		
	comp=Z,25nm,18.7s,baz=0.0,slow=36								
ILAR	**Eielson Array**	**83.36**	**22**	P		P	P	15 53 37.7	-0.2
	0.3nm,0.6s,baz=248,slow=4.8,SNR=5.6								
TORD	**Torodi Ar. Bea**	**149.36**	**286**	PKPbc		PKPbc	PKPbc	16 01 01.3	+0.4
	0.4nm,0.6s,baz=66,slow=2.6,SNR=2.7								

*IDC **04** 16:30:01.0±1.4, 12.03S×166.74E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, ML4.9/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/28, Error ellipse: s-maj=44.4km s-min=24.9km az=128.0*
*ISCJB **04** 16:30:11.7±0.9, 12.10S±0.1×166.3E±0.1, h83km, mb3.9/8, Error ellipse: s-maj=20.5km s-min=13.2km az=23.0*
ISC 04 16:30:12.5±0.9, 12.1S±0.1×166.4E±0.1, h83km, n13, σ1.46/14, mb4.0/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.82**	**292**	Pn		Pn	Pn	16 31 48.0	-2.0
	21nm,0.3s,baz=110,slow=16,SNR=15								
HNR				Sn		Sn	Sn	16 33 05.3	-0.9
	6.7nm,0.3s,baz=94,slow=19,SNR=2.7								
HNR				LR		LR	LR	16 34 46.9	
	comp=Z,74nm,20.3s,baz=86,slow=40								
DZM	**Mont Dzumac**	**9.92**	**179**	*e*LR		LR	LR	16 34 59.1	
	122nm,25.8s								
DZM	**Mont Dzumac**	**9.92**	**179**	Pn		Pn	Pn	16 32 30.1	-2.3
	0.4nm,0.3s,baz=354,slow=16,SNR=18								
PMG	**Port Moresby**	**19.04**	**276**	LR		LR	LR	16 41 23.6	
	comp=Z,59nm,20.6s,baz=107,slow=35								
STKA	**Stephens Creek**	**30.11**	**225**	P		P	P	16 36 16.6	+2.2
	4.1nm,0.6s,baz=48,slow=9.5,SNR=20								
STKA				LR		LR	LR	16 47 34.6	
	comp=Z,15nm,28.6s,baz=27,slow=35								
WRA	**Warramunga Arr**	**31.69**	**252**	P		P	P	16 36 28.9	+0.3
	1.3nm,0.7s,baz=84,slow=9.2,SNR=20								
WRA				PcP		PcP	PcP	16 39 19.5	+0.9
	0.4nm,0.8s,baz=82,slow=5.0,SNR=3.9								
ASAR	**Alice Springs**	**32.87**	**245**	P		P	P	16 36 39.5	+0.6
	1.9nm,0.7s,baz=69,slow=9.6,SNR=54								
ASAR				PcP		PcP	PcP	16 39 22.5	+0.6
	0.2nm,0.4s,baz=84,slow=2.7,SNR=4.7								
CMAR	**Chiang Mai Arr**	**73.07**	**294**	P		P	P	16 41 36.5	+2.3
	1.6nm,0.7s,baz=127,slow=4.4,SNR=16								
SONM	**Songino Array**	**79.86**	**324**	P		P	P	16 42 12.4	+0.3
	0.3nm,0.9s,baz=132,slow=4.1,SNR=3.2								
ILAR	**Eielson Array**	**84.32**	**18**	P		P	P	16 42 33.7	-1.3
	0.3nm,0.5s,baz=244,slow=5.5,SNR=6.2								
MKAR	**Makanchi Array**	**94.69**	**317**	P		P	P	16 43 25.0	+0.4
	0.5nm,0.5s,baz=93,slow=5.5,SNR=6.8								
ZALV	**Zalesovo Beam**	**94.75**	**324**	P		P	P	16 43 24.5	-0.1
	0.4nm,0.3s,baz=68,slow=11,SNR=2.1								
TORD	**Torodi Ar. Bea**	**164.98**	**276**	PKP		PKPdf	PKPdf	16 50 07.9	-0.2
	0.3nm,0.7s,baz=98,slow=2.9,SNR=2.6								

*ISCJB **04** 16:50:33.6±0.4, 44.32N±0.07×140.0E±0.1, h273km±6km, mb3.4/8, Error ellipse: s-maj=12.0km s-min=11.1km az=149.8*
*JMA **04** 16:50:34.3±0.1, 44.35N×139.86E, h260km, M3.2*
*IDC **04** 16:50:34.1±0.7, 44.41N×140.03E, h259km±9km, mb3.2/8, mb1 3.3/9, mb1mx3.1/26, mbtmp3.8/9, Error ellipse: s-maj=19.3km s-min=13.8km az=45.0*
ISC 04 16:50:34.3±0.8, 44.23N±0.07×140.04E±0.08, h267km±7km, n24, σ1.22/31, mb3.5/8, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.94**	**160**	P		P	Pn	16 51 11.0	+0.2
JHR	**Hokuryu**	**1.31**	**111**	P		P	Pn	16 51 13.9	+1.0
JWK2	**Keihoku**	**1.71**	**50**	P		P	Pn	16 51 16.2	+0.5
JWK2				*e*S		S	S	16 51 48.7	+0.2
JEW	**Eniwo**	**1.73**	**143**	P		P	Pn	16 51 16.9	+0.9
ASAJ	**Asahikawa**	**1.85**	**93**	P		P	Pn	16 51 17.4	+0.6
	6.2nm,0.3s,baz=273,slow=7.3,S

1.7nm,0.9s,baz=224,slow=22,SNR=3.6
ASAR Alice Springs 34.67 260 P **P 17 13 22.7 -1.3**
2.0nm,0.6s,baz=81,slow=8.7,SNR=60
WRA Warramunga Arr 34.76 266 P **P 17 13 22.6 -2.2**
1.1nm,0.3s,baz=98,slow=8.6,SNR=91
PETK Petropavlovsk- 75.79 351 P **P 17 18 18.8 +0.4**
4.6nm,1.0s,baz=150,slow=6.2,SNR=4.5
MAW Mawson 76.66 202 P **P 17 18 22.6 -0.6**
2.1nm,0.6s,baz=111,slow=6.6,SNR=6.9
CMAR Chiang Mai Arr 81.62 294 P **P 17 18 52.1 +1.0**
0.4nm,0.4s,baz=139,slow=4.0,SNR=5.6
SNAA Sanae 86.46 182 *e*P **P 17 19 12.8 -2.0**
VNA2 Neumayer--Watz 87.28 180 *e*P **P 17 19 17.4 -1.4**

CSEM ***04*** *17:12:21.2, 40.35N×32.94E, h7km, ML3.6, After DDA*
DDA 04 17:12:21.2, 40.35N×32.94E, h7km, ML3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.40**	**69**	*i* P	Pg	17 12 28.9	-0.3
ELDT				*i* S	Sg	17 12 34.1	-0.4
ELDT	**Eldivan**	**0.40**	**69**	*i* P	Pg	17 12 28.9	-0.2
ELDT				*i* S	Sg	17 12 34.1	-0.5
BCAM	**Yenicaga**	**0.81**	**305**	*e*P	Pg	17 12 37.0	0.0
BCAM				*i* S	Sg	17 12 48.4	+0.6
BCAM	**Yenicaga**	**0.81**	**305**	*e*P	Pg	17 12 37.0	0.0
BCAM				*i* S	Sg	17 12 48.4	+0.7
BBAL	**Bala**	**0.82**	**170**	*e*P	Pg	17 12 36.6	-0.5
BBAL				*i* S	Sn	17 12 52.7	+1.0
BBAL	**Bala**	**0.82**	**170**	*e*P	Pg	17 12 36.6	-0.5
BBAL				*i* S	Sn	17 12 52.7	+0.9
CDAG	**Cicekdag**	**1.32**	**123**	*i* P	Pg	17 12 46.8	+0.2
CDAG				*i* S	Sn	17 13 04.1	+0.1
CDAG	**Cicekdag**	**1.32**	**123**	*i* P	Pg	17 12 46.8	+0.2
CDAG				*i* S	Sn	17 13 04.1	+0.1
SEYT	**Eskypehyr**	**1.81**	**243**	*e*P	Pg	17 12 56.6	+0.6
SEYT				*i* S	Sg	17 13 28.1	+8.5
SEYT	**Eskypehyr**	**1.81**	**243**	*e*P	Pg	17 12 56.6	+0.6
SEYT				*i* S	Sg	17 13 28.1	+8.5
BORA	**Eskisehir**	**1.96**	**257**	*e*P	Pb	17 12 58.2	+0.8
BORA				*i* S	Sg	17 13 30.5	+6.0
BORA	**Eskisehir**	**1.96**	**257**	*e*P	Pg	17 12 58.2	-0.8
BORA				*i* S	Sg	17 13 30.5	+6.0

BJI ***04*** *17:19:45.4, 37.40N×29.70E, h24km, mB5.0/14, mb4.7/26, Ms4.9/11, Ms7 4.6/12*
HLW ***04*** *17:19:47.0, 37.63N×29.58E, h22km±34km, Md0.0, Ml4.7*
ISK ***04*** *17:19:46.5, 37.40N×29.54E, h10km, ML4.8*
DDA ***04*** *17:19:46.9, 37.41N×29.56E, h25km, ML4.8*
MOS ***04*** *17:19:46.0±1.0, 37.40N×29.66E, h13km, mb4.8/57, Error ellipse: s-maj=4.5km s-min=3.0km az=105.3*
NEIC ***04*** *17:19:47.3±0.2, 37.40N×29.66E, h10km, mb4.7/38, ML4.6(ISK), Error ellipse: s-maj=3.9km s-min=2.9km az=186.0*
CSEM ***04*** *17:19:47.7±0.1, 37.38N×29.59E, h10km, mb4.6/61, Mw5.1, Error ellipse: s-maj=2.1km s-min=1.5km az=42.0*
THE ***04*** *17:19:48.1, 37.43N×29.61E, h0km, ML4.7/4, Error ellipse: s-maj=1.1km s-min=0.6km az=157.0*
ISCJB ***04*** *17:19:48.1±0.3, 37.37N±0.01×29.62E±0.01, h28km±2km, mb4.6/98, MS3.8/15, Error ellipse: s-maj=2.0km s-min=1.5km az=30.8*
NIC ***04*** *17:19:48.1±0.3, 38.07N×30.25E, h66km, mb4.7, ML4.4*
TEH ***04*** *17:19:49.0, 37.38N×29.66E, h26km, ML4.7*
IDC ***04*** *17:19:51.8±1.0, 37.43N×29.57E, h47km±10km, mb4.2/26, mb1 4.3/36, mb1mx4.3/40, mbtmp4.2/36, ML4.2/8, MS3.7/19, Ms1 3.7/19, ms1mx3.5/49, Error ellipse: s-maj=9.7km s-min=7.3km az=144.0*
ISC 04 17:19:48.8±0.3, 37.41N±0.02×29.57E±0.02, h19km±1km, h19km:pP-P, n1081, σt24/1141, mb4.7/97, MS3.8/15, 40C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.17**	**182**	*i* P	Pb	17 19 51.5	-1.3
GOLH				*i* S	**Sb**	**17 19 54.8**	**-0.4**
GOLH	**Golhisar**	**0.17**	**182**	*i* P	Pb	17 19 51.5	-1.3
GOLH				*i* S	**Sb**	**17 19 54.8**	**-0.4**
DNZL	**Cakiroluk**	**0.50**	**304**	*i* P	**Pg**	**17 19 57.4**	**-1.7**
DNZL				*i* S	**Sg**	**17 20 04.8**	**-1.1**
DNZL	**Cakiroluk**	**0.50**	**304**	*i* P	**Pg**	**17 19 57.4**	**-1.7**
DNZL				*i* S	**Sg**	**17 20 04.8**	**-1.1**
ELL	**Elmali**	**0.71**	**158**	*e*PG	**Pb**	**17 20 00.7**	**-2.0**
ELL	**Elmali**	**0.71**	**158**	*e*Pg	**Pb**	**17 20 00.7**	**-2.0**
BCK	**Bucak**	**0.81**	**86**	*e*PG	**Pb**	**17 20 03.1**	**-1.2**
BCK				*e*SG	**Sg**	**17 20 15.3**	**-0.3**
BCK	**Bucak**	**0.81**	**86**	*e*Pg	**Pb**	**17 20 03.1**	**-1.2**
BCK				*e*Sg	**Sg**	**17 20 15.3**	**-0.3**
ISP	**Isparta**	**0.86**	**61**	*e*PG	**Pb**	**17 20 04.0**	**-1.2**
ISP	**Isparta**	**0.86**	**61**	P	**Pb**	**17 20 04.2**	**-0.9**
ISP				S	**Sn**	**17 20 18.2**	**+0.2**
ISP	**Isparta**	**0.86**	**61**	*e*P	**Pb**	**17 20 03.7**	**-1.5**
ISP				S	**Sn**	**17 20 18.2**	**+0.2**
ISP	**Isparta**	**0.86**	**61**	*i*P	**Pb**	**17 20 04.3**	**-0.9**
ISP	**Isparta**	**0.86**	**61**	*e*Pg	**Pb**	**17 20 03.7**	**-1.5**
ISP				S	**Sn**	**17 20 18.2**	**+0.2**
ISP				*e*Sg	**Sg**	**17 20 18.5**	**+1.4**
ISP	**Isparta**	**0.86**	**61**	P	**Pb**	**17 20 04.2**	**-0.9**
ISP				S	**Sn**	**17 20 18.2**	**+0.2**
KHL	**Karahalli**	**0.91**	**358**	*e*PG	**Pb**	**17 20 04.6**	**-1.4**
KHL	**Karahalli**	**0.91**	**358**	*e*Pg	**Pb**	**17 20 04.6**	**-1.4**
TURN	**Turunc**	**0.94**	**236**	*i* P	**Pg**	**17 20 09.8**	**+2.7**
TURN				*i* S	Sn	17 20 28.3	+8.5
DALY	**Dalyan (Mu¨la**	**0.94**	**231**	*e*PG	**Pb**	**17 20 04.5**	**-1.9**
DALY	**Dalyan (Mu¨la**	**0.94**	**231**	*e*Pg	**Pb**	**17 20 04.6**	**-1.9**
KHAL	**Karahalli**	**0.96**	**356**	*i* P	**Pb**	**17 20 05.5**	**-1.4**
KHAL				*i* S	**Sb**	**17 20 18.3**	**-0.9**
KHAL	**Karahalli**	**0.96**	**356**	*i* P	**Pb**	**17 20 05.5**	**-1.4**
KHAL				*i* S	**Sb**	**17 20 18.3**	**-0.9**
ANTB	**Antalya**	**1.00**	**120**	*e*PG	**Pb**	**17 20 06.5**	**-1.0**
ANTB	**Antalya**	**1.00**	**120**	*e*Pg	**Pb**	**17 20 06.5**	**-1.0**
YER	**Yerkesik**	**1.06**	**255**	*e*PG	**Pb**	**17 20 06.8**	**-1.8**
YER	**Yerkesik**	**1.06**	**255**	*e*Pg	**Pb**	**17 20 06.8**	**-1.8**
SUTC	**Sutluce-Ispart**	**1.14**	**86**	*e*PN	**Pn**	**17 20 09.2**	**-0.6**
SUTC	**Sutluce-Ispart**	**1.14**	**86**	*e*Pn	**Pn**	**17 20 09.2**	**-0.6**
AKAS	**Kas**	**1.18**	**179**	*i* P	**Pg**	**17 20 09.5**	**-0.8**
AKAS				*i* S	**Sg**	**17 20 29.6**	**+2.5**
AKAS	**Kas**	**1.18**	**179**	*i* P	**Pb**	**17 20 09.5**	**-0.8**
KSL	**Kastellorizon**	**1.26**	**179**	*e*PN	**Pb**	**17 20 11.6**	**-0.3**
KULA	**Kula-Manisa**	**1.31**	**327**	*e*PN	**Pn**	**17 20 12.1**	**-0.1**
KULA	**Kula-Manisa**	**1.31**	**327**	*e*Pn	**Pn**	**17 20 12.1**	**-0.1**
MANT	**Manisa**	**1.34**	**324**	*i* P	**Pn**	**17 20 12.6**	**-0.1**
MANT				*i* S	**Sb**	**17 20 30.9**	**+0.5**
MANT	**Manisa**	**1.34**	**324**	*i* P	**Pn**	**17 20 12.6**	**-0.1**
MANT				*i* S	**Sb**	**17 20 30.9**	**+0.5**
AYDN	**Tasoluk**	**1.37**	**281**	*i* P	**Pn**	**17 20 13.2**	**+0.4**
AYDN				*i* S	**Sb**	**17 20 31.0**	**+0.1**
AYDN	**Tasoluk**	**1.37**	**281**	*i* P	**Pn**	**17 20 13.2**	**+0.4**
AYDN				*i* S	**Sb**	**17 20 31.0**	**+0.1**
SHUT	**Suhut-Afyon**	**1.38**	**34**	*e*PN	**Pn**	**17 20 13.6**	**+0.5**
SHUT	**Suhut-Afyon**	**1.38**	**34**	*e*Pn	**Pn**	**17 20 13.6**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**292**	*e*PN	**Pn**	**17 20 13.1**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**292**	*e*Pn	**Pn**	**17 20 13.1**	**-0.8**
ARG	**Arkhangelos**	**1.66**	**225**	P	**Pn**	**17 20 17.5**	**+0.6**
ARG				S	**Sg**	**17 20 41.0**	**-1.5**
ARG	**Arkhangelos**	**1.66**	**225**	P	**Sg**	**17 20 17.5**	**+0.6**
ARG				S	**Sg**	**17 20 41.0**	**-1.5**
ARG	**Arkhangelos**	**1.66**	**225**	*e*PN	**Pb**	**17 20 17.8**	**-1.0**
ARG	**Arkhangelos**	**1.66**	**225**	P	**Pn**	**17 20 17.5**	**+0.6**
ARG				S	**Sg**	**17 20 41.0**	**-1.5**
ARG	**Arkhangelos**	**1.66**	**225**	P	**Pn**	**17 20 17.5**	**+0.6**
ARG				S	**Sg**	**17 20 41.0**	**-1.5**
GDZ	**Gediz**	**1.68**	**358**	*i* P	**Pn**	**17 20 17.3**	**+0.1**
GDZ				*i* S	**Sg**	**17 20 44.3**	**+1.3**
GDZ	**Gediz**	**1.68**	**358**	*i* P	**Pn**	**17 20 17.3**	**+0.1**
BOLV	**Bolvadin**	**1.70**	**39**	*i* P	**Pn**	**17 20 18.5**	**+1.0**
BOLV				*i* S	**Sg**	**17 20 43.5**	**-0.3**
BOLV	**Bolvadin**	**1.70**	**39**	*i* P	**Pn**	**17 20 18.5**	**+1.0**
BDRM	**Kayabasi**	**1.73**	**259**	*i* P	**Pn**	**17 20 18.2**	**+0.4**
BDRM				*i* S	**Sb**	**17 20 41.2**	**-0.1**
BDRM	**Kayabasi**	**1.73**	**259**	*i* P	**Pn**	**17 20 18.2**	**+0.4**
BDRM				*i* S	**Sb**	**17 20 41.2**	**-0.1**
DEMI	**Demirci**	**1.76**	**338**	*i* P	**Pn**	**17 20 18.4**	**0.0**
DEMI				*i* S	**Sg**	**17 20 44.6**	**-1.1**
DEMI	**Demirci**	**1.76**	**338**	*i* P	**Pn**	**17 20 18.4**	**0.0**
BODT	**Bodrum**	**1.84**	**260**	*e*PN	**Pn**	**17 20 18.8**	**-0.5**
BODT	**Bodrum**	**1.84**	**260**	*e*Pn	**Pn**	**17 20 18.8**	**-0.5**
GCAM	**G?zelcaml?**	**1.88**	**280**	*i* P	**Pn**	**17 20 19.7**	**-0.1**
GCAM				*i* S	**Sn**	**17 20 42.5**	**-0.5**
GCAM	**G?zelcaml?**	**1.88**	**280**	*i* P	**Pn**	**17 20 19.7**	**-0.1**
GCAM				*i* S	**Sn**	**17 20 42.5**	**-0.5**
AKHS	**Akhisar**	**2.02**	**317**	*i* P	**Pn**	**17 20 21.5**	**-0.2**
AKHS				*i* S	**Sg**	**17 20 55.6**	**+1.8**
AKHS	**Akhisar**	**2.02**	**317**	*i* P	**Pn**	**17 20 21.5**	**-0.2**
AKS	**Akhisar**	**2.02**	**317**	*e*PN	**Pn**	**17 20 22.0**	**+0.2**
AKS	**Akhisar**	**2.02**	**317**	*e*Pn	**Pn**	**17 20 22.0**	**+0.2**
TVSB	**Tavsanli**	**2.04**	**358**	*e*PN	**Pn**	**17 20 21.9**	**-0.2**
TVSB	**Tavsanli**	**2.04**	**358**	*e*Pn	**Pn**	**17 20 21.9**	**-0.2**
SMG	**Samos**	**2.19**	**279**	P	**Pn**	**17 20 23.9**	**-0.3**
SMG	**Samos**	**2.19**	**279**	*e*PN	**Pn**	**17 20 24.1**	**-0.1**
SMG	**Samos**	**2.19**	**279**	P	**Pn**	**17 20 23.9**	**-0.3**
SMG	**Samos**	**2.19**	**279**	P	**Pn**	**17 20 23.9**	**-0.3**
KDHN	**Kadinhani**	**2.30**	**60**	*i* P	**Pn**	**17 20 26.7**	**+1.0**
KDHN				*i* S	**Sg**	**17 21 04.2**	**+1.4**
KDHN	**Kadinhani**	**2.30**	**60**	*i* P	**Pn**	**17 20 26.7**	**+1.0**
SEYT	**Eskypehyr**	**2.33**	**25**	*i* P	**Pn**	**17 20 26.4**	**+0.2**
SEYT	**Eskypehyr**	**2.33**	**25**	*i* P	**Pn**	**17 20 26.4**	**+0.2**
KIZT	**Kizilcal**	**2.34**	**50**	*e*PN	**Pn**	**17 20 27.3**	**+1.0**
KIZT	**Kizilcal**	**2.34**	**50**	*e*Pn	**Pn**	**17 20 27.3**	**+1.0**
DURS	**Dursunbey**	**2.35**	**339**	*i* P	**Pn**	**17 20 26.5**	**+0.1**
DURS				*i* S	**Sg**	**17 21 02.4**	**-2.0**
DURS	**Dursunbey**	**2.35**	**339**	*i* P	**Pn**	**17 20 26.5**	**+0.1**
LADK	**Ladik-KONYA**	**2.35**	**70**	*e*PN	**Pn**	**17 20 26.8**	**+0.3**
LADK	**Ladik-KONYA**	**2.35**	**70**	*e*Pn	**Pn**	**17 20 26.8**	**+0.3**
GAZI	**Gazipasa**	**2.50**	**117**	*i* P	**Pn**	**17 20 29.7**	**+1.3**
GAZI				*i* S	**Sb**	**17 21 03.0**	**-0.4**
GAZI	**Gazipasa**	**2.50**	**117**	*i* P	**Pn**	**17 20 29.7**	**+1.3**
URLA	**Izmir**	**2.54**	**293**	*i* P	**Pn**	**17 20 29.2**	**+0.3**
URLA	**Izmir**	**2.54**	**293**	*i* P	**Pn**	**17 20 29.2**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.55**	**36**	*e*PN	**Pn**	**17 20 29.5**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.55**	**36**	*e*Pn	**Pn**	**17 20 29.5**	**+0.4**
BORA	**Eskisehir**	**2.56**	**15**	*i* P	**Pn**	**17 20 29.6**	**+0.3**
BORA				*i* S	**Sg**	**17 21 12.3**	**+1.1**
BORA	**Eskisehir**	**2.56**	**15**	*i* P	**Pn**	**17 20 29.6**	**+0.3**
BALB	**Balikesir**	**2.59**	**330**	*e*PN	**Pn**	**17 20 29.6**	**0.0**
BALB	**Balikesir**	**2.59**	**330**	*e*Pn	**Pn**	**17 20 29.6**	**0.0**
KARP	**Karpathos**	**2.69**	**227**	*e*PN	**Pn**	**17 20 31.4**	**+0.4**
BALY	**Balya**	**2.78**	**327**	*i* P	**Pn**	**17 20 32.7**	**+0.4**
BALY				*i* S	**Sb**	**17 21 11.7**	**+0.1**
BALY	**Balya**	**2.78**	**327**	*i* P	**Pn**	**17 20 32.7**	**+0.4**
ERMK	**Ermenek**	**2.78**	**105**	*i* P	**Pb**	**17 20 36.2**	**-1.8**
ERMK				*i* S	**Sb**	**17 21 11.7**	**0.0**
CAVI	**Cavuskoy**	**2.80**	**4**	*e*PN	**Pn**	**17 20 32.9**	**+0.4**
CAVI	**Cavuskoy**	**2.80**	**4**	*e*Pn	**Pn**	**17 20 32.9**	**+0.4**
GPA	**Golpazari**	**2.93**	**11**	*e*PN	**Pn**	**17 20 34.6**	**+0.2**
GPA	**Golpazari**	**2.93**	**11**	*e*Pn	**Pn**	**17 20 34.6**	**+0.2**
CHOS	**Chios island**	**2.95**	**290**	*e*PN	**Pn**	**17 20 34.7**	**+0.1**
CHOS	**Chios island**	**2.95**	**290**	P	**Pn**	**17 20 35.0**	**+0.4**
CHOS				S	**Sn**	**17 21 12.4**	**+3.0**
CHOS	**Chios island**	**2.95**	**290**	*e*PN	**Pn**	**17 20 35.0**	**+0.4**
CHOS	**Chios island**	**2.95**	**290**	P	**Pn**	**17 20 35.0**	**+0.4**
CHOS	**Chios island**	**2.95**	**290**	*e*Pn	**Pn**	**17 20 34.7**	**+0.1**
CHOS	**Chios island**	**2.95**	**290**	P	**Pn**	**17 20 35.0**	**+0.4**
CHOS				S	**Sn**	**17 21 12.4**	**+3.0**
AYVA	**Ayvalik**	**2.95**	**311**	*i* P	**Pn**	**17 20 34.9**	**+0.3**
AYVA	**Ayvalik**	**2.95**	**311**	*i* P	**Pn**	**17 20 34.9**	**+0.3**
MDNY	**Mudanya-Bursa**	**3.00**	**350**	*e*PN	**Pn**	**17 20 35.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**3.00**	**350**	*e*Pn	**Pn**	**17 20 35.6**	**+0.3**
KCTX	**Karacabey (Bur**	**3.00**	**342**	*e*PN	**Pn**	**17 20 35.7**	**+0.3**
KCTX	**Karacabey (Bur**	**3.00**	**342**	*e*Pn	**Pn**	**17 20 35.7**	**+0.3**
GONE	**Gonen-Balikesi**	**3.02**	**331**	*e*PN	**Pn**	**17 20 35.6**	**+0.2**
GONE	**Gonen-Balikesi**	**3.02**	**331**	*e*Pn	**Pn**	**17 20 35.7**	**+0.2**
ADVT	**Abdulvahap**	**3.02**	**2**	*e*PN	**Pn**	**17 20 36.0**	**+0.5**
ADVT	**Abdulvahap**	**3.02**	**2**	*e*Pn	**Pn**	**17 20 36.0**	**+0.5**
GEMT	**Gemlik**	**3.04**	**355**	*e*PN	**Pn**	**17 20 36.3**	**+0.6**
GEMT	**Gemlik**	**3.04**	**355**	*e*Pn	**Pn**	**17 20 36.3**	**+0.6**
GULT	**Gulveren**	**3.11**	**13**	*e*PN	**Pn**	**17 20 37.8**	**+1.0**
GULT	**Gulveren**	**3.11**	**13**	*e*Pn	**Pn**	**17 20 37.8**	**+1.0**
PRK	**Paraskevi**	**3.18**	**306**	P	**Pn**	**17 20 38.1**	**+0.4**
PRK				S	**Sn**	**17 21 17.4**	**+2.4**
PRK	**Paraskevi**	**3.18**	**306**	P	**Pn**	**17 20 38.1**	**+0.4**
PRK	**Paraskevi**	**3.18**	**306**	*e*PN	**Pn**	**17 20 38.2**	**+0.5**
PRK	**Paraskevi**	**3.18**	**306**	P	**Pn**	**17 20 38.1**	**+0.4**
PRK	**Paraskevi**	**3.18**	**306**	P	**Pn**	**17 20 38.1**	**+0.4**
PRK				S	**Sn**	**17 21 17.4**	**+2.4**
ARMT	**Armutlu**	**3.20**	**350**	*e*PN	**Pn**	**17 20 38.1**	**+0.1**
ARMT	**Armutlu**	**3.20**	**350**	*e*Pn	**Pn**	**17 20 38.1**	**+0.1**
BNT	**Bandirma**	**3.21**	**337**	*e*PN	**Pn**	**17 20 38.9**	**+0.7**
BNT	**Bandirma**	**3.21**	**337**	*e*Pn	**Pn**	**17 20 38.9**	**+0.7**
EDC	**Edincik**	**3.22**	**336**	*e*PN	**Pn**	**17 20 38.8**	**+0.5**
EDC	**Edincik**	**3.22**	**336**	*e*Pn	**Pn**	**17 20 38.8**	**+0.5**
SULT	**Sultanhani-AKS**	**3.22**	**75**	*e*PN	**Pn**	**17 20 39.2**	**+0.8**
SULT	**Sultanhani-AKS**	**3.22**	**75**	*e*Pn	**Pn**	**17 20 39.2**	**+0.8**
APE	**Apeiranthos**	**3.24**	**265**	P	**Pn**	**17 20 38.9**	**+0.3**
APE				S	**Sn**	**17 21 19.9**	**+3.2**
APE	**Apeiranthos**	**3.24**	**265**	P	**Pn**	**17 20 38.9**	**+0.3**
APE				S	**Sn**	**17 21 19.9**	**+3.2**
APE	**Apeiranthos**	**3.24**	**265**	*e*PN	**Pn**	**17 20 39.0**	**+0.3**
APE	**Apeiranthos**	**3.24**	**265**	P	**Pn**	**17 20 38.9**	**+0.3**
APE				S	**Sn**	**17 21 19.9**	**+3.2**
APE	**Apeiranthos**	**3.24**	**265**	P	**Pn**	**17 20 38.9**	**+0.3**
AKMC	**Akamas** baz=331	**3.26**	**136**	P	**Pn**	**17 20 39.9**	**+1.0**
AKMC	**Akamas**	**3.26**	**136**	P	**Pn**	**17 20 39.9**	**+1.0**
MDUB	**Mudurnu**	**3.31**	**22**	*e*PN	**Pn**	**17 20 40.3**	**+0.7**
MDUB	**Mudurnu**	**3.31**	**22**	*e*Pn	**Pn**	**17 20 40.3**	**+0.7**
SPNC	**Sapanca-Adapaz**	**3.32**	**10**	*e*PN	**Pn**	**17 20 39.9**	**+0.2**
SPNC	**Sapanca-Adapaz**	**3.32**	**10**	*e*Pn	**Pn**	**17 20 39.9**	**+0.2**
ALFC	**Alevga** baz=327	**3.32**	**132**	P	**Pn**	**17 20 40.2**	**+0.4**
ALFC				S	**Sn**	**17 21 21.0**	**+2.3**
ALFC	**Alevga**	**3.32**	**132**	P	**Pn**	**17 20 40.2**	**+0.4**
ALFC				S	**Sn**	**17 21 21.0**	**+2.3**
PPCY	**Paphos** baz=332	**3.38**	**137**	P	**Pn**	**17 20 42.6**	**+2.2**
PPCY	**Paphos**	**3.38**	**137**	P	**Pn**	**17 20 42.6**	**+2.2**
HRT	**Hereke**	**3.41**	**1**	*e*PN	**Pn**	**17 20 41.1**	**+0.2**
HRT	**Hereke**	**3.41**	**1**	*e*Pn	**Pn**	**17 20 41.1**	**+0.2**
AFSR	**Af¨ar-Bala (A**	**3.42**	**52**	*e*PN	**Pn**	**17 20 42.2**	**+1.1**
AFSR	**Af¨ar-Bala (A**	**3.42**	**52**	*e*Pn	**Pn**	**17 20 42.2**	**+1.1**
SIGR	**SIGRI**	**3.43**	**303**	P	**Pn**	**17 20 41.3**	**+0.1**
SIGR				S	**Sn**	**17 21 23.4**	**+2.1**
SIGR	**SIGRI**	**3.43**	**303**	*e*PN	**Pn**	**17 20 41.5**	**+0.3**
SIGR	**SIGRI**	**3.43**	**303**	P	**Pn**	**17 20 41.3**	**+0.1**
SIGR	**SIGRI**	**3.43**	**303**	P	**Pn**	**17 20 41.3**	**+0.1**
SIGR				S	**Sn**	**17 21 23.4**	**+2.1**
BUY	**Buyukada**	**3.46**	**354**	*e*PN	**Pn**	**17 20 41.3**	**-0.2**
BUY	**Buyukada**	**3.46**	**354**	*e*Pn	**Pn**	**17 20 41.3**	**-0.2**
SANT	**Santorini**	**3.46**	**254**	*e*PN	**Pn**	**17 20 41.7**	**+0.1**
SANT	**Santorini**	**3.46**	**254**	P	**Pn**	**17 20 43.0**	**+1.5**
SANT	**Santorini**	**3.46**	**254**	*e*PN	**Pn**	**17 20 43.1**	**+1.5**
SANT	**Santorini**	**3.46**	**254**	*e*Pn	**Pn**	**17 20 42.2**	**+0.7**
SANT				*e*Sg	**Sg**	**17 21 43.1**	**+3.3**
SANT	**Santorini**	**3.46**	**254**	*e*PN	**Pn**	**17 20 41.7**	**+0.1**
SANT	**Santorini**	**3.46**	**254**	P	**Pn**	**17 20 43.0**	**+1.5**
THR1	**Thera Island**	**3.46**	**254**	P	**Pn**	**17 20 43.0**	**+1.4**
THR1	**Thera Island**	**3.46**	**254**	*e*Pn	**Pn**	**17 20 41.9**	**+0.3**
THR1	**Thera Island**	**3.46**	**254**	P	**Pn**	**17 20 43.0**	**+1.4**
AKDN	**Akdeniz- K¨–br**	**3.46**	**127**	*e*PN	**Pn**	**17 20 42.2**	**+0.7**
AKDN	**Akdeniz- K¨–br**	**3.46**	**127**	*e*Pn	**Pn**	**17 20 42.3**	**+0.7**
KRBG	**Karabiga-Canak**	**3.47**	**330**	*e*PN	**Pn**	**17 20 42.5**	**+0.8**
KRBG	**Karabiga-Canak**	**3.47**	**330**	*e*Pn	**Pn**	**17 20 42.5**	**+0.8**
IKL	**Isikli**	**3.50**	**108**	*e*PN	**Pn**	**17 20 43.4**	**+1.2**
IKL	**Isikli**	**3.50**	**108**	*e*Pn	**Pn**	**17 20 43.4**	**+1.2**
LOD	**Lodumlu**	**3.52**	**44**	*e*PN	**Pn**	**17 20 43.0**	**+0.6**
LOD	**Lodumlu**	**3.52**	**44**	*e*Pn	**Pn**	**17 20 43.0**	**+0.6**
ANTO	**Ankara**	**3.52**	**45**	*e*PN	**Pn**	**17 20 43.5**	**+1.0**
ANTO	**Ankara**	**3.52**	**45**	*e*P	**Pn**	**17 20 43.7**	**+1.2**
ANTO	**Ankara**	**3.52**	**45**	*i*P	**Pn**	**17 20 44.0**	**+1.5**
ANTO	**Ankara**	**3.52**	**45**	*e*Pn	**Pn**	**17 20 43.7**	**+1.2**
ANTO	**Ankara**	**3.52**	**45**	*e*Pn	**Pn**	**17 20 43.5**	**+1.0**
LEF	**Lefka**	**3.52**	**129**	*e*PN	**Pn**	**17 20 42.5**	**0.0**
LEF	**Lefka**	**3.52**	**129**	*e*Pn	**Pn**	**17 20 42.5**	**0.0**
MRMT	**Marmara Adasi**	**3.54**	**335**	*e*PN	**Pn**	**17 20 42.5**	**-0.3**
MRMT	**Marmara Adasi**	**3.54**	**335**	*e*Pn	**Pn**	**17 20 42.5**	**-0.3**
ZKR	**Zakros**	**3.55**	**231**	*e*PN	**Pn**	**17 20 43.6**	**+0.8**
ISK	**Istanbul-Kandi**	**3.67**	**354**	*e*PN	**Pn**	**17 20 44.8**	**+0.3**
ISK	**Istanbul-Kandi**	**3.67**	**354**	*e*Pn	**Pn**	**17 20 44.8**	**+0.3**
LPK	**Lapseki**	**3.68**	**324**	*e*PN	**Pn**	**17 20 45.3**	**+0.7**
LPK	**Lapseki**	**3.68**	**324**	*e*Pn	**Pn**	**17 20 45.3**	**+0.7**
MAMC	**Mammari** baz=321	**3.70**	**126**	P	**Pn**	**17 20 44.4**	**-0.5**
MAMC	**Mammari**	**3.70**	**126**	P	**Pn**	**17 20 44.4**	**-0.5**
SILT	**Sile**	**3.74**	**1**	*e*PN	**Pn**	**17 20 46.2**	**+0.8**
SILT	**Sile**	**3.74**	**1**	*e*Pn	**Pn**	**17 20 46.2**	**+0.8**
RKY	**Sarkoy-Tekirda**	**3.77**	**331**	*e*PN	**Pn**	**17 20 46.2**	**+0.4**
RKY	**Sarkoy-Tekirda**	**3.77**	**331**	*e*Pn	**Pn**	**17 20 46.2**	**+0.4**
SZAC	**Souni-Zanaja**	**3.77**	**134**	P	**Pn**	**17 20 47.9**	**+2.0**
SZAC				S	**Sn**	**17 21 33.3**	**+3.6**
KIZK	**Mersin**	**3.78**	**103**	*i* P	**Pb**	**17 20 53.1**	**-1.7**
BGKT	**Bogazkoy**	**3.82**	**351**	*e*PN	**Pn**	**17 20 47.3**	**+0.9**
BGKT	**Bogazkoy**	**3.82**	**351**	*e*Pn	**Pn**	**17 20 47.3**	**+0.9**
GELI	**Tayfur-Gelibol**	**3.84**	**322**	*e*PN	**Pn**	**17 20 47.4**	**+0.6**
GELI	**Tayfur-Gelibol**	**3.84**	**322**	*e*Pn	**Pn**	**17 20 47.4**	**+0.6**
LFK	**Lefkose**	**3.84**	**122**	*e*PN	**Pn**	**17 20 47.7**	**+0.8**
LFK	**Lefkose**	**3.84**	**122**	*e*Pn	**Pn**	**17 20 47.7**	**+0.8**
NPS	**Neapolis**	**3.85**	**237**	P	**Pn**	**17 20 47.0**	**+0.1**
NPS	**Neapolis**	**3.85**	**237**	P	**Pn**	**17 20 47.0**	**+0.1**
NPS	**Neapolis**	**3.85**	**237**	*e*PN	**Pn**	**17 20 47.1**	**+0.1**
NPS	**Neapolis**	**3.85**	**237**	P	**Pn**	**17 20 47.0**	**+0.1**
NPS	**Neapolis**	**3.85**	**237**	P	**Pn**	**17 20 47.0**	**+0.1**
KLYT	**Kilyos**	**3.86**	**354**	*e*PN	**Pn**	**17 20 47.6**	**+0.5**
KLYT	**Kilyos**	**3.86**	**354**	*e*Pn	**Pn**	**17 20 47.6**	**+0.5**
CSS	**Prodhromos**	**3.90**	**128**	*e*PN	**Pn**	**

KDZ	Kurdzhali	5.31	324	⇓	*i*	P		Pn	17	21	08.4 +1.3
KAVA	Kavala	5.31	314			P		Pn	17	21	07.6 +0.6
KAVA	Kavala	5.31	314		*e*	PN		Pn	17	21	07.7 +0.7
KAVA	Kavala	5.31	314			P		Pn	17	21	07.6 +0.6
KAVA	Kavala	5.31	314			P		Pn	17	21	07.6 +0.6
LKR	Lokris	5.33	285		*e*	PN		Pn	17	21	08.6 +1.3
VLI	Veliai	5.35	265			P		Pn	17	21	09.1 +1.5
VLI	Veliai	5.35	265		*e*	PN		Pn	17	21	09.4 +1.8
VLI	Veliai	5.35	265			P		Pn	17	21	09.1 +1.5
VLI	Veliai	5.35	265			P		Pn	17	21	09.1 +1.5
KYTH	Kithira	5.36	260		*e*	PN		Pn	17	21	09.5 +1.8
XOR	Xorichti	5.38	293			P		Pn	17	21	08.7 +0.7
XOR	Xorichti	5.38	293		*e*	PN		Pn	17	21	08.6 +0.6
XOR	Xorichti	5.38	293			P		Pn	17	21	08.7 +0.7
XOR	Xorichti	5.38	293			P		Pn	17	21	08.7 +0.7
JMB	Yambol	5.55	336	⇓	*i*	P		Pn	17	21	12.5 +2.3
PLG	Polygyros	5.62	304			P		Pn	17	21	12.3 +1.0
PLG	Polygyros	5.62	304			P		Pn	17	21	12.3 +1.0
PLG	Polygyros	5.62	304		*e*	PN		Pn	17	21	12.4 +1.1
PLG	Polygyros	5.62	304			P		Pn	17	21	12.3 +1.0
PLG	Polygyros	5.62	304			P		Pn	17	21	12.3 +1.0
DSF	Desfina	5.66	282		*e*	PN		Pn	17	21	13.5 +1.7
BZK	Bozkurt	5.69	36		*e*	PN		Pn	17	21	13.8 +1.7
BZK	Bozkurt	5.69	36		*e*	Pn		Pn	17	21	13.8 +1.7
VLX	Vlachokerasia	5.73	272		*e*	PN		Pn	17	21	15.1 +2.3
GUR	Goura	5.76	277			P		Pn	17	21	14.8 +1.5
GUR	Goura	5.76	277		*e*	PN		Pn	17	21	14.9 +1.6
GUR	Goura	5.76	277			P		Pn	17	21	14.8 +1.5
GUR	Goura	5.76	277			P		Pn	17	21	14.8 +1.5
SOH	Sokhos	5.91	307		*e*	PN		Pn	17	21	16.6 +1.3
KLV	Kalavryta, Ach	5.92	278			P		Pn	17	21	17.0 +1.6
KLV	Kalavryta, Ach	5.92	278		*e*	PN		Pn	17	21	17.1 +1.6
KLV	Kalavryta, Ach	5.92	278			P		Pn	17	21	17.0 +1.6
KLV	Kalavryta, Ach	5.92	278			P		Pn	17	21	17.0 +1.6
NVR	Nevrokopi	5.92	313			P		Pn	17	21	16.1 +0.7
NVR	Nevrokopi	5.92	313		*e*	PN		Pn	17	21	16.2 +0.8
NVR	Nevrokopi	5.92	313			P		Pn	17	21	16.1 +0.7
NVR	Nevrokopi	5.92	313			P		Pn	17	21	16.1 +0.7
SRS	Serrai	5.93	310			P		Pn	17	21	16.2 +0.6
SRS	Serrai	5.93	310			P		Pn	17	21	16.2 +0.6
SRS	Serrai	5.93	310		*e*	PN		Pn	17	21	16.3 +0.6
SRS	Serrai	5.93	310			P		Pn	17	21	16.2 +0.6
SRS	Serrai	5.93	310			P		Pn	17	21	16.2 +0.6
KALE	Kalithea	5.96	282		*e*	PN		Pn	17	21	18.0 +2.0
HORT	Hortiatis	5.96	304		*e*	PN		Pn	17	21	17.2 +1.2
HWQ	Hawqa	6.05	119		*e*	P		Pn	17	21	18.9 +1.7
BHL	Bhannes	6.06	123		*e*	P		Pn	17	21	18.0 +0.6
LAKA	Lakka	6.07	280		*e*	PN		Pn	17	21	19.6 +2.2
MAKR	Makrakomi, Fth	6.07	288		*e*	PN		Pn	17	21	20.2 +2.7
ITM	Ithomi	6.10	270		*e*	PN		Pn	17	21	21.8 +3.9
MATL	Matarih	6.12	128		*e*	P		Pn	17	21	18.2 +0.2
MMB	Musomiste	6.15	315	⇓	*i*	P		Pn	17	21	19.7 +1.1
LIT	Litokhoron	6.15	298		*e*	PN		Pn	17	21	20.3 +1.7
AMT	Artemida-Makis	6.25	273		*e*	PN		Pn	17	21	23.5 +3.5
DRO	Drossia	6.26	277		*e*	PN		Pn	17	21	23.0 +3.0
PYL	PYLOS	6.27	268		*e*	PN		Pn	17	21	23.7 +3.4
HNTI	Hanita	6.30	132			Pn		Pn	17	21	21.4 +0.8
EVR	Evrytania	6.30	286		*e*	PN		Pn	17	21	23.3 +2.6
THL	Klokotos Trika	6.30	292		*e*	PN		Pn	17	21	22.7 +2.0
PSN	Preselentsi	6.35	351	⇑	*i*	P		Pn	17	21	21.7 +0.4
KNT	Kendrikon	6.39	308		*e*	PN		Pn	17	21	23.4 +1.6
FKH	Fakeheh	6.39	118		*e*	P		Pn	17	21	24.4 +2.4
RCY	Rachaya	6.43	126		*e*	P		Pn	17	21	23.3 +0.7
RLS	Riolos of Patr	6.46	278		*e*	PN		Pn	17	21	26.0 +3.3
MMC7	Mount Meron ar	6.47	131			Pn		Pn	17	21	23.7 +0.7
MMA0	Mount Meron ar	6.48	131			Pn		Pn	17	21	23.5 +0.3
MMA0						Sn		Sn	17	22	34.1 -2.5
MMAI	Mount Meron Ar	6.48	131			P		Pn	17	21	24.3 +1.1
MMAI						S		Sn	17	22	34.7 -2.0
MMAI	Mount Meron Ar	6.48	131			P		Pn	17	21	24.3 +1.1
	74nm,0.3s,baz=327,slow=12,SNR=354										
MMAI						S		Sn	17	22	34.7 -2.0
	110nm,0.3s,baz=330,slow=29,SNR=15										
KSDI	Kefar Szold	6.52	128			Pn		Pn	17	21	24.4 +0.8
KSDI						Sn		Sn	17	22	35.4 -2.0
OFRI	'Ofer	6.52	135			Pn		Pn	17	21	24.0 +0.3
BLGI	Bet Lehem HaGe	6.56	134			Pn		Pn	17	21	24.5 +0.3
GRG	Griva	6.60	305		*e*	PN		Pn	17	21	26.8 +2.1
VAY	Valandovo	6.68	308		*e*	P		Pn	17	21	28.2 +2.3
VAY	Valandovo	6.68	308		*e*	P		Pn	17	21	28.6 +2.8
PDO	Prodromos	6.73	283		*e*	PN		Pn	17	21	30.6 +4.1
HBRG	Burj al 'Arab	6.82	178			P		Pn	17	21	27.7 -0.1
	baz=178										
HBRG	Burj al 'Arab	6.82	178			P		Pn	17	21	27.7 -0.1
SLTI	Sal'it	6.84	137			Pn		Pn	17	21	28.2 +0.1
MMLI	Mount Malkishu	6.91	134			Pn		Pn	17	21	29.4 +0.4
MMLI						Sn		Sn	17	22	44.4 -2.6
MALT	Malatya	7.07	80	⇑	*i*	P		Pn	17	21	33.3 +2.1
LTBQ	Tobruq	7.08	223		*i*	P		Pn	17	21	31.3 0.0
	SNR=22										
TIRR	Tirgusor	7.09	353		*e*	P		Pn	17	21	32.0 +0.5
TIRR					*e*				17	22	47.8
TIRR	Tirgusor	7.09	353	⇓	*i*	P		Pn	17	21	32.4 +0.9
TIRR	Tirgusor	7.09	353		*e*	PN		Pn	17	21	31.9 +0.5
TIRR					*e*	Sn		Sn	17	22	47.8 -3.7
TIRR	Tirgusor	7.09	353		*e*	P		Pn	17	21	32.0 +0.5
HMDT	Nahal Hemdat	7.10	135			Pn		Pn	17	21	32.4 +0.8
HMDT						Sn		Sn	17	22	49.4 -2.4
VTS	Vitosha	7.11	319	⇑	*i*	P		Pn	17	21	34.1 +2.2
LKD2	Lefkada island	7.16	284		*e*	PN		Pn	17	21	35.2 +2.7
FNA	Florina	7.21	300		*e*	PN		Pn	17	21	35.7 +2.6
TLB	Topalu	7.26	351	⇑	*i*	P		Pn	17	21	34.6 +0.8
NEST	Nestorio	7.29	297		*e*	PN		Pn	17	21	37.2 +2.9
RSH		7.29	151			P		Pn	17	21	32.2 -2.1
	baz=151										
RSH		7.29	151			P		Pn	17	21	32.2 -2.1
BIA	Bitola	7.34	302		*e*	P		Pn	17	21	37.5 +2.4
BIA	Bitola	7.34	302		*e*	P		Pn	17	21	37.4 +2.4
HARR	Harsova	7.38	351	⇑	*i*	P		Pn	17	21	36.6 +1.2
AMAG	Maghara	7.39	155			P		Pn	17	21	34.1 -1.6
	baz=155										
AMAG	Maghara	7.39	155			P		Pn	17	21	34.1 -1.6
KZIT	Kziot	7.62	147			Pn		Pn	17	21	38.3 -0.5
HMYD	Mayadein	7.66	172			P		Pn	17	21	38.6 -0.8
	baz=172										
HMYD	Mayadein	7.66	172			P		Pn	17	21	38.6 -0.8
SULR		7.68	342	⇓	*i*	P		Pn	17	21	41.1 +1.6
KOT	Kottamia	7.70	165			P		Pn	17	21	38.5 -1.4
	baz=165										
KOT	Kottamia	7.70	165			P		Pn	17	21	38.5 -1.4
HHAG	Hagoal	7.73	163			P		Pn	17	21	39.1 -1.2
	baz=163										
HHAG	Hagoal	7.73	163			P		Pn	17	21	39.1 -1.2
MZDA	Masada	7.74	140			Pn		Pn	17	21	40.6 +0.2
SKO	Skopje	7.75	309		*e*	P		Pn	17	21	43.0 +2.5
SKO	Skopje	7.75	309		*e*	P		Pn	17	21	43.5 +3.0
SEV	Sevastopol'	7.77	22	⇓	*i*	P		Pn	17	21	40.9 +0.1
SEV					*e*	S		Sn	17	23	06.7 -1.4
SEV	Sevastopol'	7.77	22		*i*	P		Pn	17	21	40.9 +0.1
SEV					*e*	S		Sn	17	23	06.7 -1.4
TLCR		7.79	356	⇑	*i*	P		Pn	17	21	42.0 +1.0
FYM	Al Fayyum	7.79	171			P		Pn	17	21	40.5 -0.7
	baz=170										
FYM						S		Sn	17	23	04.6 -4.3
	baz=170										
FYM	Al Fayyum	7.79	171			P		Pn	17	21	40.5 -0.7
AYT	Al 'Ayyat	7.80	170			P		Pn	17	21	40.9 -0.3
	baz=170										
AYT	Al 'Ayyat	7.80	170			P		Pn	17	21	40.9 -0.3
CFR	Carcaliu	7.83	353	⇑	*i*	P		Pn	17	21	41.9 +0.3
YAL	Yalta	7.87	25	⇓	*i*	P		Pn	17	21	43.4 +1.2
YAL						MLR		MLR			
	comp=Z,2μm,15.8s										
YAL	Yalta	7.87	25		*i*	P		Pn	17	21	43.4 +1.2
	comp=Z,2μm,15.8s										
HUMR	Humele	7.91	335	⇑	*i*	P		Pn	17	21	43.8 +1.1
HSAF	As Saff	7.95	167			P		Pn	17	21	42.9 -0.4
	baz=167										
HSAF	As Saff	7.95	167			P		Pn	17	21	42.9 -0.4
ASF	Jabal al Asfar	7.97	129			P		Pn	17	21	44.9 +1.2
ASF						S		Sn	17	23	14.4 +1.0
ASF	Jabal al Asfar	7.97	129			P		Pn	17	21	44.9 +1.2
	comp=Z,4.0nm,0.3s,baz=250,slow=4.8,SNR=22										
ASF						S		Sn	17	23	14.4 +1.0
	comp=Z,4.9nm,0.3s,baz=80,slow=19,SNR=2.9										
GLL	Jalalah	8.01	167			P		Pn	17	21	43.1 -1.1
	baz=166										
GLL	Jalalah	8.01	167			P		Pn	17	21	43.1 -1.1
SUZ		8.02	159			P		Pn	17	21	43.2 -1.1
	baz=159										
SUZ		8.02	159			P		Pn	17	21	43.2 -1.1
ISR	Istrita	8.03	344	⇓	*i*	P		Pn	17	21	46.5 +2.1
RMNI	Mount Ramon	8.05	146			Pn		Pn	17	21	44.3 -0.4
ALU	Alushta	8.13	25		*e*	P		Pn	17	21	47.3 +1.6
ALU	Alushta	8.13	25		*e*	P		Pn	17	21	47.3 +1.6
GRER		8.20	347	⇓	*i*	P		Pn	17	21	49.5 +2.9
ZFRI	Zfri	8.27	144			Pn		Pn	17	21	46.8 -0.9
SIM	Simferopol'	8.27	23	⇓	*i*	P		Pn	17	21	49.1 +1.4
SIM					*e*	S		Sn	17	23	23.4 +2.9
SIM						MLR		MLR			
	comp=Z,390nm,17.5s										
SIM	Simferopol'	8.27	23		*i*	P		Pn	17	21	49.1 +1.4
	comp=Z,390nm,17.5s										
HNKL	Nakhl	8.32	153			P		Pn	17	21	47.3 -1.0
	baz=153										
HNKL	Nakhl	8.32	153			P		Pn	17	21	47.3 -1.0
PRNI	Paran	8.36	146			Pn		Pn	17	21	48.1 -0.9
KRMI	Paran Flat	8.44	148			Pn		Pn	17	21	49.1 -1.0
MLR	Muntele Rosu	8.52	343	⇑	*i*	P		Pn	17	21	52.8 +1.6
MLR	Muntele Rosu	8.52	343			P		Pn	17	21	52.5 +1.4
MLR	Muntele Rosu	8.52	343			P		Pn	17	21	52.5 +1.4
	comp=Z,64nm,21.4s										
MLR	Muntele Rosu	8.52	343			P		Pn	17	21	52.5 +1.4
	comp=Z,0.6nm,0.3s,baz=231,slow=3.2,SNR=38										
MLR						LR		LR	17	24	57.1
	comp=Z,64nm,21.4s,baz=162,slow=36										
SUDU	Sudak	8.52	27	⇓	*i*	P		Pn	17	21	51.0 0.0
SUDU					*e*	S		Sn	17	23	26.6 +0.1
SUDU	Sudak	8.52	27		*i*	P		Pn	17	21	51.0 0.0
SUDU					*e*	S		Sn	17	23	26.6 +0.1
HRFI	Mount Harif	8.65	147			Pn		Pn	17	21	51.8 -1.1
VOIR		8.71	338	⇑	*i*	P		Pn	17	21	54.7 +1.0
VRI	Vrincioaia	8.71	347	⇓	*i*	P		Pn	17	21	55.5 +1.8
ARR	Arges	8.77	337	⇑	*i*	P		Pn	17	21	56.3 +1.7
GHRR		8.79	350	⇑	*i*	P		Pn	17	21	57.0 +2.2
MBRI	Mt Berech	8.80	148			Pn		Pn	17	21	54.2 -0.9
SWA2		8.84	204			P		Pn	17	21	53.4 -2.1
	baz=204										
SWA2						AMP			17	23	00.0
	comp=N,260μm,0.5s,logA/T=5.7,baz=204										
SWA2		8.84	204			P		Pn	17	21	53.4 -2.1
EIL	Elat	8.93	148			P		Pn	17	21	56.1 -0.6
EIL						S		Sn	17	23	32.5 -4.2
EIL	Elat	8.93	148			P		Pn	17	21	56.1 -0.6
EIL	Elat	8.93	148			P		Pn	17	21	56.1 -0.6
	comp=N,20nm,0.3s,baz=337,slow=10,SNR=96										
EIL						S		Sn	17	23	32.5 -4.2
	comp=N,16nm,0.3s,baz=54,slow=13,SNR=6.4										
EIL						LR		LR	17	26	30.9
	comp=N,195nm,21.9s,baz=155,slow=45										
AWBH		9.08	184			P		Pn	17	21	57.1 -1.7
	baz=184										
AWBH		9.08	184			P		Pn	17	21	57.1 -1.7
LEOM	Leova	9.11	354	⇓	*i*	P		Pn	17	22	00.5 +1.4
TESR	Tescani	9.35	347	⇓	*i*	P		Pn	17	22	03.2 +0.8
GZR	Gura Zlata	9.46	330	⇑	*i*	P		Pn	17	22	04.5 +0.4
ANN	Anapa	9.47	36		*e*	P		Pn	17	22	05.4 +1.4
ANN						pmax		pmax			
	comp=Z,55nm,1.1s										
ANN						MLR		MLR			
	comp=Z,191nm,11.0s										
ANN	Anapa	9.47	36		*e*	P		Pn	17	22	05.4 +1.4
	comp=Z,191nm,11.0s										
KIS	Kishinev	9.60	357		*e*	P		Pn	17	22	07.0 +1.2
KIS	Kishinev	9.60	357		*e*	P		Pn	17	22	07.0 +1.2
KIS	Kishinev	9.60	357		*e*	P		Pn	17	22	07.0 +1.2
HDHB	Dhahab	9.64	153			P		Pn	17	22	04.4 -2.1
	baz=153										
HDHB	Dhahab	9.64	153			P		Pn	17	22	04.4 -2.1
TR2		9.65	158			P		Pn	17	22	05.4 -1.3
	baz=158										
TR2		9.65	158			P		Pn	17	22	05.4 -1.3
SOC	Sochi	9.88	48		*e*	P		Pn	17	22	05.6 -4.1
SOC					*e*				17	23	55.6
SOC						MLR		MLR			
	comp=Z,635nm,13.0s										
TR1		10.08	157			P		Pn	17	22	10.7 -1.8
	baz=157										
TR1		10.08	157			P		Pn	17	22	10.6 -1.8
LJBD	Adjabya	10.11	233		*i*	P		Pn	17	22	11.6 -1.3
	SNR=22										
BZS	Buzias	10.13	326	⇓	*i*	P		Pn	17	22	14.0 +0.9
TIP	Timpagrande	10.22	284		*e*	PN		Pn	17	22	16.0 +1.5
TIP	Timpagrande	10.22	284		*e*	PN		Pn	17	22	16.0 +1.5
HFRF	Wahat Farafira	10.29	186			P		Pn	17	22	13.5 -1.8
	baz=187										
HFRF	Wahat Farafira	10.29	186			P		Pn	17	22	13.5 -1.8
BURAR	Bucovina Array	10.69	344	⇑	*i*	P		Pn	17	22	22.6 +1.7
BUR08	Bucovina Ar. S	10.72	344		*e*	PN		Pn	17	22	21.5 +0.2
BUR08	Bucovina Ar. S	10.72	344		*e*	Pn		Pn	17	22	21.5 +0.2
CEL	Celeste	10.85	279		*e*	Pn		Pn	17	22	26.8 +3.7
CUC	Castrocucco	11.05	288		*e*	Pn		Pn	17	22	29.9 +4.1
BMR	Baia Mare	11.19	338	⇓	*i*	P		Pn	17	22	30.0 +2.4
ONI	Oni	11.83	60			P		Pn	17	22	27.4 -9.1
TRPA	Tarpa	11.89	337	⇓	*i*	P		Pn	17	22	38.2 +1.1
KIV	Kislovodsk	11.90	53			P		Pn	17	22	37.1 -0.4
KIV						pmax		pmax			
	comp=Z,3.0nm,1.1s										
KIV	Kislovodsk	11.90	53			P		Pn	17	22	37.1 -0.4
	comp=Z,3.0nm,1.1s										
KBZ	Khabaz	11.93	54			P		Pn	17	22	40.1 +2.3
KBZ						MLR		MLR			
	comp=Z,205nm,19.4s										
KBZ	Khabaz	11.93	54			P		Pn	17	22	40.1 +2.3
KBZ	Khabaz	11.93	54			P		Pn	17	22	40.1 +2.3
	comp=Z,205nm,19.4s										
KBZ	Khabaz	11.93	54			P		Pn	17	22	40.1 +2.3
	comp=Z,0.1nm,0.3s,baz=259,slow=8.8,SNR=7.6										
KBZ						LR		LR	17	27	46.4
	comp=Z,205nm,19.4s,baz=168,slow=40										
PKSM	Moragy	11.98	321	⇑	*i*	P		Pn	17	22	40.0 +1.6
GNI	Garni	12.15	72			Pn		Pn	17	22	39.2 -1.8
GNI	Garni	12.15	72			Pn		Pn	17	22	39.2 -1.8
GNI	Garni	12.15	72			P		Pn	17	22	44.3 +3.3
	comp=Z,0.2nm,0.3s,baz=156,slow=20,SNR=3.0										
ZEI	Tsey	12.21	59		*e*	P		Pn	17	22	44.8 +3.0
ZEI						pmax		pmax			
	comp=Z,12nm,1.0s										
PSZ	Piszkesteto	12.68	329		*e*	P		Pn	17	22	50.8 +2.8
PSZ	Piszkesteto	12.68	329		*e*	Pn		Pn	17	22	50.8 +2.8
PSZ	Piszkesteto	12.68	329		*e*	P		Pn	17	22	50.8 +2.8
KOLS	Kolonicke sedl	12.68	338		*e*	P		Pn	17	22	50.1 +2.1
KOLS	Kolonicke sedl	12.68	338		*e*	PN		Pn	17	22	50.1 +2.1
KOLS	Kolonicke sedl	12.68	338		*e*	P		Pn	17	22	50.1 +2.1
KECS	Kecovo	12.90	332		*e*	P		Pn	17	22	53.2 +2.2
KECS	Kecovo	12.90	332		*e*	PN		Pn	17	22	53.2 +2.2
KECS	Kecovo	12.90	332		*e*	P		Pn	17	22	53.2 +2.2
CRVS	Cervenica-Dubn	12.91	335		*e*	P		Pn	17	22	55.0 +3.9
CRVS	Cervenica-Dubn	12.91	335		*e*			Pn	17	22	55.0 +3.9
LVV	L'vov	13.03	344		*e*	P		Pn	17	22	54.7 +1.9
LVV	L'vov	13.03	344		*e*	P		Pn	17	22	54.7 +1.9
KIEV	Kiev	13.28	359		*i*	P		Pn	17	22	54.9 -1.3
KIEV	Kiev	13.28	359		*e*	Pn		Pn	17	22	54.3 -1.8
KIEV	Kiev	13.28	359		*e*	Pn		Pn	17	22	54.3 -1.8
KIEV	Kiev	13.28	359		*i*	P		Pn	17	22	54.9 -1.3
AKASG	Malin Array Be	13.29	359			P		Pn	17	22	54.7 -1.5
AKASG						pmax		pmax			
	comp=Z,1.0nm,0.3s										
AKASG	Malin Array Be	13.29	359			P		Pn	17	22	54.7 -1.5
AKASG	Malin Array Be	13.29	359			P		Pn	17	22	54.7 -1.5
	comp=Z,1.0nm,0.3s										
AKASG	Malin Array Be	13.29	359			P		Pn	17	22	54.7 -1.5
	comp=Z,1.3nm,0.3s,baz=175,slow=12,SNR=19										
BOJS	Bojanci	13.43	312		*i*	Pn		Pn	17	23	02.7 +4.5
STHS	Stebnicka Huta	13.43	336		*e*	P		Pn	17	23	02.4 +4.2
STHS	Stebnicka Huta	13.43	336		*e*	PN		Pn	17	23	02.3 +4.1
IDHR	Dehrash	13.87	96		*e*	P		Pn	17	23	07.9 +3.4
IDHR	Dehrash	13.87	96		*e*	P		Pn	17	23	07.9 +3.4
IGHG	Ghaleghazi	14.12	97		*e*	P		P	17	23	15.0 -0.5
IGHG	Ghaleghazi	14.12	97		*e*	P		P	17	23	15.0 -0.5
PERS	Pernice	14.14	315		*i*	Pn		P	17	23	14.7 -0.7
SMOL	Smolenice	14.20	325		*e*	P		P	17	23	17.9 +1.9
SMOL	Smolenice	14.20	325		*e*	P		P	17	23	17.9 +1.9
SMOL	Smolenice	14.20	325		*e*	P		P	17	23	17.9 +1.9
JAVS	Javornik	14.34	311		*i*	Pn		P	17	23	15.5 -2.2
OKC	Ostrava-Krasne	14.90	330	⇑	*i*	P		P	17	23	25.9 +2.1
OKC						MLR		MLR			
	comp=Z,800nm,9.7s										
OKC	Ostrava-Krasne	14.90	330	⇑	*i*	P		P	17	23	25.9 +2.1
OKC					*ex*		x		17	23	31.7
OKC						AMS		AMS	17	30	00.0
	comp=Z,800nm,9.7s										
OKC	Ostrava-Krasne	14.90	330			P		P	17	23	25.9 +2.1
	comp=Z,800nm,9.7s										
IKOM	Komasi	14.91	97		*e*	P		Pn	17	23	20.1 +1.4
MORC	Moravsky Berou	15.10	329		*e*	P		P	17	23	27.4 +1.3
MORC						pmax		pmax			
	comp=Z,10.0nm,0.8s										
MORC	Moravsky Berou	15.10	329	⇑	*i*	P		P	17	23	27.9 +1.8
MORC	Moravsky Berou	15.10	329		*e*	Pn		P	17	23	27.4 +1.3
	comp=Z,10nm,0.8s										
MORC	Moravsky Berou	15.10	329		*e*	P		P	17	23	27.4 +1.3
	comp=Z,10.0nm,0.8s										
VRAC	Vranov	15.15	326	⇓	*i*	P		P	17	23	28.4 +1.8
VRAC	Vranov	15.15	326			P		P	17	23	28.6 +1.9
VRAC	Vranov	15.15	326			P		P	17	23	28.6 +1.9
	comp=Z,261nm,20.3s										
VRAC	Vranov	15.15	326			P		P	17	23	28.6 +1.9
	comp=Z,0.9nm,0.3

comp=Z,7.0nm,0.5s
SBF Sospel 17.97 298 *e*P **P 17 23 59.1 +1.2**
comp=Z,128nm,1.1s
SBF Sospel 17.97 298 *e*P **P 17 23 59.1 +1.2**
SBF pmax pmax
comp=Z,128nm,1.1s
SBF Sospel 17.97 298 *e*P **P 17 23 59.1 +1.2**
comp=Z,128nm,1.1s
SBF Sospel 17.97 298 *e*P **P 17 23 59.1 +1.2**
comp=Z,64nm,1.1s
GRF Grafenberg Arr 18.04 319 *e*P **P 17 23 59.2 +0.6**
comp=Z,13nm,1.2s
GRF *e*L L 17 31 05.0
comp=Z,152nm,22.0s
CLL Collm 18.20 325 *e*P **Pn 17 24 00.0 -0.1**
CLL Collm 18.20 325 *e*P **Pn 17 24 00.0 -0.1**
CLL *i* pP **P 17 24 02.7 +2.4**
comp=Z,50nm,2.0s
CLL *i* 17 24 07.7
CLL *e*S **S 17 27 32.0 +4.3**
CLL Lmax 17 31 00.0
CLL Collm 18.20 325 *e*P **Pn 17 24 00.0 -0.1**
OBN Obninsk 18.34 13⇑ *i*P **P 17 24 01.6 -0.2**
OBN pmax pmax
comp=Z,28nm,1.1s
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 18.34 13 *e*Pn **P 17 24 01.2 -0.6**
OBN Obninsk 18.34 13 *e*Pn **P 17 24 01.2 -0.6**
OBN Obninsk 18.34 13 *i*P **P 17 24 01.6 -0.2**
comp=Z,200nm,16.0s
IKLH Kolahrood 18.40 96 *e*P **Pn 17 24 03.9 +0.9**
IKLH Kolahrood 18.40 96 *e*P **Pn 17 24 03.9 +0.9**
FRF La Foret Royal 18.46 297 *e*P **Pn 17 24 05.3 +1.9**
FRF La Foret Royal 18.46 297 *e*P **Pn 17 24 05.3 +1.9**
FRF La Foret Royal 18.46 297 *e*P **Pn 17 24 05.3 +1.9**
FRF La Foret Royal 18.46 297 *e*P **Pn 17 24 05.3 +1.9**
SPAK Spaichingen-Ko 18.57 312 *e*P **Pn 17 24 05.5 +0.7**
MBDF Montbardon 18.64 300 *e*P **P 17 24 04.8 -0.6**
comp=Z,86nm,1.1s
MBDF Montbardon 18.64 300 *e*P **P 17 24 04.8 -0.6**
MBDF pmax pmax
comp=Z,86nm,1.1s
MBDF Montbardon 18.64 300 *e*P **P 17 24 04.8 -0.6**
comp=Z,86nm,1.1s
MBDF Montbardon 18.64 300 *e*P **P 17 24 04.8 -0.6**
comp=Z,43nm,1.1s
STU Stuttgart 18.65 314 *e*P **Pn 17 24 06.5 +0.8**
STU pmax pmax
comp=Z,30nm,0.8s
STU Stuttgart 18.65 314 *e*Pn **Pn 17 24 06.5 +0.8**
comp=Z,30nm,0.8s
STU Stuttgart 18.65 314 *e*P **Pn 17 24 06.5 +0.8**
comp=Z,30nm,0.8s
SENIN Lac Senin/Sane 18.79 305 *e*Pn **Pn 17 24 09.5 +1.9**
comp=Z,30nm,0.8s
SENIN Lac Senin/Sane 18.79 305 *e*Pn **Pn 17 24 09.5 +1.9**
comp=Z,30nm,0.8s
BNI Bardonecchia 18.79 301 *e*P Pn 17 24 14.9 +7.3
BNI Bardonecchia 18.79 301 *e*Pn Pn 17 24 14.9 +7.3
LPG La Plagne 18.87 303 *e*P **Pn 17 24 09.9 +1.2**
comp=Z,92nm,0.9s
LPG La Plagne 18.87 303 *e*P **Pn 17 24 09.9 +1.2**
LPG pmax pmax
comp=Z,92nm,0.9s
LPG La Plagne 18.87 303 *e*P **Pn 17 24 09.9 +1.2**
comp=Z,92nm,0.9s
LPG La Plagne 18.87 303 *e*P **Pn 17 24 09.9 +1.2**
comp=Z,46nm,0.9s
LPL La Plagne 18.89 303 *e*P **Pn 17 24 09.8 +1.0**
comp=Z,54nm,0.8s
LPL La Plagne 18.89 303 *e*P **Pn 17 24 09.8 +1.0**
LPL pmax pmax
comp=Z,54nm,0.8s
LPL La Plagne 18.89 303 *e*P **Pn 17 24 09.8 +1.0**
comp=Z,54nm,0.8s
LPL La Plagne 18.89 303 *e*P **Pn 17 24 09.8 +1.0**
comp=Z,27nm,0.8s
BFO Black Forest 18.95 312 *ce*P **Pn 17 24 11.8 +2.5**
BFO Black Forest 18.95 312 *e*Pn **Pn 17 24 11.2 +1.9**
comp=Z,34nm,1.2s
BFO Black Forest 18.95 312 *e*Pn **Pn 17 24 11.2 +1.9**
comp=Z,34nm,1.2s
RSL Roseland 19.01 303⇑ *e*P **Pn 17 24 12.3 +2.0**
MOS Moscow 19.13 14 *e*P **P 17 24 10.3 -0.1**
MOS pmax pmax
comp=Z,43nm,1.0s
MOS Moscow 19.13 14 *e*P **P 17 24 10.3 -0.1**
comp=Z,43nm,1.0s
IZEF Zefreh 19.14 97 *e*P **Pn 17 24 11.8 -0.1**
IZEF Zefreh 19.14 97 *e*P **Pn 17 24 11.8 -0.1**
TOD Tromm 19.30 316 *e*P **P 17 24 12.2 -0.3**
SMRF Simiane la Rot 19.30 297 *e*P **Pn 17 24 14.6 +0.9**
comp=Z,148nm,1.5s
SMRF Simiane la Rot 19.30 297 *e*P **Pn 17 24 14.6 +0.9**
comp=Z,148nm,1.5s
SMRF Simiane la Rot 19.30 297 *e*P **Pn 17 24 14.6 +0.9**
comp=Z,74nm,1.5s
ORIF Oris-en-Rattie 19.30 300 *e*P **Pn 17 24 13.7 0.0**
comp=Z,26nm,0.7s
ORIF *e*R
comp=Z,490nm,19.2s
ORIF Oris-en-Rattie 19.30 300 *e*P **Pn 17 24 13.7 0.0**
ORIF pmax pmax
comp=Z,26nm,0.7s
ORIF Oris-en-Rattie 19.30 300 *e*P **Pn 17 24 13.7 0.0**
comp=Z,26nm,0.7s
ORIF Oris-en-Rattie 19.30 300 *e*P **Pn 17 24 13.7 0.0**
comp=Z,13nm,0.7s
LOMF Lomont 19.45 308⇑ *e*P **Pn 17 24 15.4 -0.1**
LOMF Lomont 19.45 308⇑ *e*P **Pn 17 24 15.4 -0.1**
MOF Molkenrain 19.46 310⇑ *e*P **Pn 17 24 15.7 +0.1**
MOF Molkenrain 19.46 310⇑ *e*P **Pn 17 24 15.7 +0.1**
LANF Langenberg 19.56 313⇑ *e*P **Pn 17 24 16.5 -0.1**
LANF Langenberg 19.56 313⇑ *e*P **Pn 17 24 16.5 -0.1**
ECH Echery 19.60 311⇑ *e*P **Pn 17 24 17.9 +0.8**
ECH Echery 19.60 311 *e*P **Pn 17 24 17.1 0.0**
ECH pmax pmax
comp=Z,41nm,1.0s
ECH Echery 19.60 311 *e*Pn **Pn 17 24 17.1 0.0**
comp=Z,41nm,1.0s
ECH Echery 19.60 311 *e*P **Pn 17 24 17.1 0.0**
comp=Z,41nm,1.0s
CDF Champ du Feu 19.61 311 *e*P **Pn 17 24 17.1 -0.3**
comp=Z,130nm,1.2s
CDF Champ du Feu 19.61 311 *e*P **Pn 17 24 17.1 -0.3**
CDF pmax pmax
comp=Z,130nm,1.2s
CDF Champ du Feu 19.61 311 *e*P **Pn 17 24 17.1 -0.3**
comp=Z,130nm,1.2s
CDF Champ du Feu 19.61 311 *e*P **Pn 17 24 17.1 -0.3**
comp=Z,65nm,1.2s
HINF Hinteralfeld 19.62 309 *e*P **Pn 17 24 17.3 -0.1**
comp=Z,32nm,0.9s
HINF Hinteralfeld 19.62 309 *e*P **Pn 17 24 17.3 -0.1**
HINF pmax pmax
comp=Z,32nm,0.9s
HINF Hinteralfeld 19.62 309 *e*P **Pn 17 24 17.3 -0.1**
comp=Z,32nm,0.9s
HINF Hinteralfeld 19.62 309 *e*P **Pn 17 24 17.3 -0.1**
comp=Z,16nm,0.9s
CABF La Chapelle 19.66 305 *e*P **Pn 17 24 18.5 +0.5**
comp=Z,43nm,0.7s
CABF La Chapelle 19.66 305 *e*P **Pn 17 24 18.5 +0.5**
CABF pmax pmax
comp=Z,43nm,0.7s
CABF La Chapelle 19.66 305 *e*P **Pn 17 24 18.5 +0.5**
comp=Z,43nm,0.7s
CABF La Chapelle 19.66 305 *e*P **Pn 17 24 18.5 +0.5**
comp=Z,22nm,0.7s
HAU Haudompre 20.01 309 *e*P Pn 17 24 21.3 -0.7
comp=Z,135nm,1.0s
HAU *e*R
comp=Z,552nm,17.8s
HAU Haudompre 20.01 309 *e*P Pn 17 24 21.3 -0.7
HAU pmax pmax
comp=Z,135nm,1.0s
HAU Haudompre 20.01 309 *e*P Pn 17 24 21.3 -0.7
comp=Z,135nm,1.0s
HAU Haudompre 20.01 309 *e*P Pn 17 24 21.3 -0.7
comp=Z,68nm,1.0s
VIVF Saint-Julien-l 20.12 300 *e*P **P 17 24 22.1 +0.6**
comp=Z,49nm,1.1s
VIVF Saint-Julien-l 20.12 300 *e*P **P 17 24 22.1 +0.6**
VIVF pmax pmax
comp=Z,49nm,1.1s
VIVF Saint-Julien-l 20.12 300 *e*P **P 17 24 22.1 +0.6**
comp=Z,49nm,1.1s
VIVF Saint-Julien-l 20.12 300 *e*P **P 17 24 22.1 +0.6**
comp=Z,24nm,1.1s
THEF They Montfort 20.32 310⇑ *e*P Pn 17 24 24.8 -0.8
THEF They Montfort 20.32 310⇑ *e*P Pn 17 24 24.8 -0.8
BSD Bornholm Skovb 20.32 335 *i*P **P 17 24 22.7 -0.8**
BSD pmax pmax
comp=Z,37nm,1.0s
BSD Bornholm Skovb 20.32 335 *i*P **P 17 24 22.7 -0.8**
comp=Z,37nm,0.9s
BSD Bornholm Skovb 20.32 335 *i*P **P 17 24 22.7 -0.8**
comp=Z,37nm,1.0s
RUP Ruppelstein 20.33 314⇑ *e*P **P 17 24 24.9 +1.2**
LASF Ste Croix 20.54 297 *e*P Pn 17 24 27.8 -0.5
comp=Z,93nm,1.4s
LASF Ste Croix 20.54 297 *e*P Pn 17 24 27.8 -0.5
comp=Z,93nm,1.4s
LASF Ste Croix 20.54 297 *e*P Pn 17 24 27.8 -0.5
comp=Z,46nm,1.4s
ISAD Sadrabad 20.56 98 *e*P **P 17 24 26.6 0.0**
ISAD Sadrabad 20.56 98 *e*P **P 17 24 26.6 0.0**
PAGF Fort de Pagny 20.61 310 *e*P **P 17 24 27.1 +0.4**
comp=Z,17nm,1.0s
PAGF Fort de Pagny 20.61 310 *e*P **P 17 24 27.1 +0.4**
comp=Z,17nm,1.0s
PAGF Fort de Pagny 20.61 310 *e*P **P 17 24 27.1 +0.4**
comp=Z,8.5nm,1.0s
WLF Walferdange 20.83 313 P Pn 17 24 32.8 +1.2
comp=Z,17nm,1.0s
WLF Walferdange 20.83 313 *e*P Pn 17 24 31.5 -0.1
WLF pmax pmax
comp=Z,31nm,0.9s
WLF Walferdange 20.83 313 *e*Pn Pn 17 24 31.5 -0.1
comp=Z,31nm,0.9s
WLF Walferdange 20.83 313 *e*P Pn 17 24 31.5 -0.1
comp=Z,31nm,0.9s
SFTF Sexfontaines 20.89 309 *e*P **P 17 24 30.4 +0.6**
comp=Z,122nm,1.2s
SFTF Sexfontaines 20.89 309 *e*P **P 17 24 30.4 +0.6**
comp=Z,122nm,1.2s
SFTF Sexfontaines 20.89 309 *e*P **P 17 24 30.4 +0.6**
comp=Z,61nm,1.2s
IPAR Pars 20.92 104 *e*P **P 17 24 31.7 +1.1**
IPAR Pars 20.92 104 *e*P **P 17 24 31.7 +1.1**
MEZF Maizieres J'vi 21.00 310 *e*P **P 17 24 31.4 +0.5**
comp=Z,81nm,1.0s
MEZF Maizieres J'vi 21.00 310 *e*P **P 17 24 31.4 +0.5**
comp=Z,81nm,1.0s
MEZF Maizieres J'vi 21.00 310 *e*P **P 17 24 31.4 +0.5**
comp=Z,40nm,1.0s
ICHK Chekchek 21.01 97 *e*P **P 17 24 31.3 -0.1**
ICHK Chekchek 21.01 97 *e*P **P 17 24 31.3 -0.1**
PLDF La Plantade 21.11 302⇑ *e*P **P 17 24 35.0 +2.8**
SMF Signal de Mont 21.14 304 *e*P **P 17 24 33.0 +0.5**
comp=Z,50nm,0.8s
SMF Signal de Mont 21.14 304 *e*P **P 17 24 33.0 +0.5**
SMF pmax pmax
comp=Z,50nm,0.8s
SMF Signal de Mont 21.14 304 *e*P **P 17 24 33.0 +0.5**
comp=Z,50nm,0.8s
SMF Signal de Mont 21.14 304 *e*P **P 17 24 33.0 +0.5**
comp=Z,25nm,0.8s
VSU Vasula 21.15 356 *i*P **P 17 24 32.7 +0.4**
VSU pmax pmax
comp=Z,68nm,0.7s
VSU Vasula 21.15 356 *i*P **P 17 24 32.7 +0.4**
comp=Z,68nm,0.7s
ISRV Sarvestan 21.19 105 *e*P **P 17 24 34.4 +1.0**
ISRV Sarvestan 21.19 105 *e*P **P 17 24 34.4 +1.0**
LOR Lormes 21.32 306 *e*P **P 17 24 34.0 -0.4**
comp=Z,31nm,1.0s
LOR *e*R
comp=Z,549nm,17.9s
LOR Lormes 21.32 306 *e*P **P 17 24 34.0 -0.4**
comp=Z,31nm,1.0s
LOR Lormes 21.32 306 *e*P **P 17 24 34.0 -0.4**
comp=Z,15nm,1.0s
MEM Membach 21.36 316 P **P 17 24 35.8 +1.0**
comp=Z,13nm,1.8s
MEM Membach 21.36 316 P **P 17 24 35.7 +1.0**
comp=Z,13nm,1.8s
AGO Saint Agoulin 21.46 302 *e*P **P 17 24 38.6 +2.7**
SSF Saint Saulge 21.49 305 *e*P **P 17 24 36.7 +0.6**
comp=Z,92nm,0.8s
SSF Saint Saulge 21.49 305 *e*P **P 17 24 36.7 +0.6**
SSF pmax pmax
comp=Z,92nm,0.8s
SSF Saint Saulge 21.49 305 *e*P **P 17 24 36.7 +0.6**
comp=Z,92nm,0.8s
SSF Saint Saulge 21.49 305 *e*P **P 17 24 36.7 +0.6**
comp=Z,46nm,0.8s
IMEH Mehriz 21.49 99 *e*P **P 17 24 36.6 0.0**
IMEH Mehriz 21.49 99 *e*P **P 17 24 36.6 0.0**
AVF Avril sur Loir 21.51 304 *e*P **P 17 24 36.4 0.0**
comp=Z,30nm,0.9s
AVF Avril sur Loir 21.51 304 *e*P **P 17 24 36.4 0.0**
AVF pmax pmax
comp=Z,30nm,0.9s
AVF Avril sur Loir 21.51 304 *e*P **P 17 24 36.4 0.0**
comp=Z,30nm,0.9s
AVF Avril sur Loir 21.51 304 *e*P **P 17 24 36.4 0.0**
comp=Z,15nm,0.9s
MTLF Montolieu 21.61 294 *e*P **P 17 24 39.4 +1.9**
comp=Z,30nm,1.0s
MTLF Montolieu 21.61 294 *e*P **P 17 24 39.4 +1.9**
MTLF pmax pmax
comp=Z,30nm,1.0s
MTLF Montolieu 21.61 294 *e*P **P 17 24 39.4 +1.9**
comp=Z,30nm,1.0s
MTLF Montolieu 21.61 294 *e*P **P 17 24 39.4 +1.9**
comp=Z,15nm,1.0s
BCLA Clavier 21.67 315 P **P 17 24 39.4 +1.4**
comp=Z,40nm,2.2s
BCLA Clavier 21.67 315 P **P 17 24 39.4 +1.4**
comp=Z,40nm,2.2s
BGF Bois d'Agland 21.78 303 *e*P **P 17 24 39.3 0.0**
comp=Z,22nm,0.7s
BGF Bois d'Agland 21.78 303 *e*P **P 17 24 39.3 0.0**
BGF pmax pmax
comp=Z,22nm,0.7s
BGF Bois d'Agland 21.78 303 *e*P **P 17 24 39.3 0.0**
comp=Z,22nm,0.7s
BGF Bois d'Agland 21.78 303 *e*P **P 17 24 39.3 0.0**
comp=Z,11nm,0.7s
GIVF Givet 21.80 313 *e*P **P 17 24 40.2 +0.7**
comp=Z,59nm,0.8s
GIVF Givet 21.80 313 *e*P **P 17 24 40.2 +0.7**
GIVF pmax pmax
comp=Z,59nm,0.8s
GIVF Givet 21.80 313 *e*P **P 17 24 40.2 +0.7**
comp=Z,59nm,0.8s
GIVF Givet 21.80 313 *e*P **P 17 24 40.2 +0.7**
comp=Z,29nm,0.8s
DOU Dourbes 21.93 313 P **P 17 24 41.3 +0.4**
comp=Z,15nm,1.5s
DOU Dourbes 21.93 313 P **P 17 24 41.2 +0.4**
comp=Z,15nm,1.5s
CAF Calviac 21.95 299 *e*P **P 17 24 42.0 +0.8**
comp=Z,39nm,1.2s
CAF Calviac 21.95 299 *e*P **P 17 24 42.0 +0.8**
CAF pmax pmax
comp=Z,39nm,1.2s
CAF Calviac 21.95 299 *e*P **P 17 24 42.0 +0.8**
comp=Z,39nm,1.2s
CAF Calviac 21.95 299 *e*P **P 17 24 42.0 +0.8**
comp=Z,20nm,1.2s
BAIF Baives 22.14 313 *e*P **P 17 24 43.2 +0.1**
comp=Z,56nm,0.8s
BAIF Baives 22.14 313 *e*P **P 17 24 43.2 +0.1**
BAIF pmax pmax
comp=Z,56nm,0.8s
BAIF Baives 22.14 313 *e*P **P 17 24 43.2 +0.1**
comp=Z,56nm,0.8s
BAIF Baives 22.14 313 *e*P **P 17 24 43.2 +0.1**
comp=Z,28nm,0.8s
TCF Toulx Ste Croi 22.14 302 *e*P **P 17 24 43.5 +0.3**
comp=Z,53nm,1.3s
TCF Toulx Ste Croi 22.14 302 *e*P **P 17 24 43.5 +0.3**
TCF pmax pmax
comp=Z,53nm,1.3s
TCF Toulx Ste Croi 22.14 302 *e*P **P 17 24 43.5 +0.3**
comp=Z,53nm,1.3s
TCF Toulx Ste Croi 22.14 302 *e*P **P 17 24 43.5 +0.3**
comp=Z,27nm,1.3s
IBAF Bafgh 22.16 97 *e*P **P 17 24 43.6 -0.1**
IBAF Bafgh 22.16 97 *e*P **P 17 24 43.6 -0.1**
RJF Les Rejaudoux 22.40 299 *e*P **P 17 24 45.9 -0.1**
comp=Z,155nm,1.7s
RJF *e*R
comp=Z,273nm,20.2s
RJF Les Rejaudoux 22.40 299 *e*P **P 17 24 45.9 -0.1**
RJF pmax pmax
comp=Z,155nm,1.7s
RJF Les Rejaudoux 22.40 299 *e*P **P 17 24 45.9 -0.1**
comp=Z,155nm,1.7s
RJF Les Rejaudoux 22.40 299 *e*P **P 17 24 45.9 -0.1**
comp=Z,78nm,1.7s
LFF La Frestale 22.88 298 *e*P **P 17 24 51.3 +0.2**
comp=Z,32nm,1.0s
LFF La Frestale 22.88 298 *e*P **P 17 24 51.3 +0.2**
LFF pmax pmax
comp=Z,32nm,1.0s
LFF La Frestale 22.88 298 *e*P **P 17 24 51.3 +0.2**
comp=Z,32nm,1.0s
LFF La Frestale 22.88 298 *e*P **P 17 24 51.3 +0.2**
comp=Z,16nm,1.0s
EPF Esparros 22.95 293 *e*P **P 17 24 52.1 +0.2**
EPF Esparros 22.95 293 *e*P **P 17 24 52.1 +0.2**
EPF Esparros 22.95 293 *e*P **P 17 24 52.1 +0.2**
EPF Esparros 22.95 293 *e*P **P 17 24 52.1 +0.2**
MENF Mencas 23.54 313 *e*P **P 17 24 58.8 +1.1**
MENF Mencas 23.54 313 *e*P **P 17 24 58.8 +1.1**
ETSF Etsaut 23.60 293 *e*P **P 17 25 00.0 +1.6**
comp=Z,53nm,1.4s
ETSF Etsaut 23.60 293 *e*P **P 17 25 00.0 +1.6**
ETSF pmax pmax
comp=Z,53nm,1.4s
ETSF Etsaut 23.60 293 *e*P **P 17 25 00.0 +1.6**
comp=Z,53nm,1.4s
ETSF Etsaut 23.60 293 *e*P **P 17 25 00.0 +1.6**
comp=Z,27nm,1.4s
MFF Saint Martin d 23.80 302 *e*P **P 17 24 58.8 -1.4**
comp=Z,122nm,0.8s
MFF Saint Martin d 23.80 302 *e*P **P 17 24 58.8 -1.4**
MFF pmax pmax
comp=Z,122nm,0.8s
MFF Saint Martin d 23.80 302 *e*P **P 17 24 58.8 -1.4**
comp=Z,122nm,0.8s
MFF Saint Martin d 23.80 302 *e*P **P 17 24 58.8 -1.4**
comp=Z,61nm,0.8s
SJPF Ste Jean 24.10 293 *e*P **P 17 25 04.9 +1.8**
SJPF Ste Jean 24.10 293 *e*P **P 17 25 04.9 +1.8**
SJPF Ste Jean 24.10 293 *e*P **P 17 25 04.9 +1.8**
SJPF Ste Jean 24.10 293 *e*P **P 17 25 04.9 +1.8**
AKTK Aktyubinsk 24.10 48 P **P 17 25 03.1 +0.1**
comp=Z,133nm,19.8s
AKTO Aktyubinsk 24.10 48 P **P 17 25 03.1 +0.1**
AKTO pmax pmax
comp=Z,10.0nm,0.6s
AKTO MLR MLR
comp=Z,133nm,19.8s
AKTO Aktyubinsk 24.10 48 P **P 17 25 03.1 +0.1**
AKTO Aktyubinsk 24.10 48 P **P 17 25 03.1 +0.1**
AKTO Aktyubinsk 24.10 48 P **P 17 25 03.1 +0.1**
comp=Z,10nm,0.6s,baz=252,slow=9.3,SNR=25
AKTO LR LR 17 37 30.2
comp=Z,133nm,19.8s,baz=98,slow=44
FINES FINESS Array B 24.16 356 P **P 17 25 03.3 0.0**
FINES FINESS Array B 24.16 356 P **P 17 25 03.3 0.0**
comp=Z,14nm,0.6s
FINES FINESS Array B 24.16 356 P **P 17 25 03.3 0.0**
comp=Z,14nm,0.6s,baz=158,slow=11,SNR=77
FIA1 FINESS Array S 24.16 356 *e*Pn **P 17 25 03.3 -0.1**
FIA1 FINESS Array S 24.16 356 *e*Pn **P 17 25 03.3 -0.1**
LDF La Druitiere 24.27 307 *e*P **P 17 25 02.9 -1.7**
comp=Z,344nm,1.8s
LDF La Druitiere 24.27 307 *e*P **P 17 25 02.9 -1.7**
LDF pmax pmax
comp=Z,344nm,1.8s
LDF La Druitiere 24.27 307 *e*P **P 17 25 02.9 -1.7**
comp=Z,344nm,1.8s
LDF La Druitiere 24.27 307 *e*P **P 17 25 02.9 -1.7**
comp=Z,172nm,1.8s
KLMR Klimovskoe 24.29 12 *e*P **P 17 25 03.5 -1.1**
KLMR pmax pmax
comp=Z,65nm,1.2s
KLMR Klimovskoe 24.29 12 *e*P **P 17 25 03.5 -1.1**
comp=Z,65nm,1.2s
IMYA Miami 24.40 83 *e*P **P 17 25 05.6 -0.5**
IMYA Miami 24.40 83 *e*P **P 17 25 05.6 -0.5**
FLN La Foliniere 24.55 307 *e*P **P 17 25 04.8 -2.3**
comp=Z,43nm,0.8s
FLN *e*R
comp=Z,293nm,19.9s
FLN La Foliniere 24.55 307 *e*P **P 17 25 04.8 -2.3**
FLN pmax pmax
comp=Z,43nm,0.8s
FLN La Foliniere 24.55 307 *e*P **P 17 25 04.8 -2.3**
comp=Z,43nm,0.8s
GRR Gorron 24.68 306 *e*P **P 17 25 06.6 -1.7**
comp=Z,91nm,0.8s
GRR Gorron 24.68 306 *e*P **P 17 25 06.6 -1.7**
GRR pmax pmax
comp=Z,91nm,0.8s
GRR Gorron 24.68 306 *e*P **P 17 25 06.6 -1.7**
comp=Z,91nm,0.8s
GRR Gorron 24.68 306 *e*P **P 17 25 06.6 -1.7**
comp=Z,46nm,0.8s
KAF Kangasniemi 24.81 356 *e*P **P 17 25 09.7 +0.4**
KAF pmax pmax
comp=Z,38nm,0.9s
KAF Kangasniemi 24.81 356 *ep* **P 17 25 09.7 +0.4**
comp=Z,38nm,0.9s
KAF Kangasniemi 24.81 356 *e*P **P 17 25 09.7 +0.4**
comp=Z,38nm,0.9s
AB31 Akbulak array 24.89 52 *e*P **P 17 25 09.7 -0.5**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
AB31 Akbulak array 24.89 52 *e*P **P 17 25 09.7 -0.5**
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 24.89 52 *e*Pn **P 17 25 09.9 -0.3**
ABKAR Akbulak array 24.89 52 *e*Pn **P 17 25 09.9 -0.3**
HFS Hagfors 24.90 341 P **P 17 25 09.8 -0.3**
HFS Hagfors 24.90 341 P **P 17 25 09.8 -0.3**
comp=Z,480nm,19.4s
HFS Hagfors 24.90 341 P **P 17 25 09.8 -0.3**
comp=Z,6.2nm,0.8s,baz=142,slow=7.4,SNR=11
HFS LR LR 17 36 45.8
comp=Z,480nm,19.4s,baz=314,slow=41
TAM Tamanrasset 25.30 242 *e*P **P 17 25 15.0 +0.7**
TAM pmax pmax
comp=Z,20nm,0.9s
TAM Tamanrasset 25.30 242 *e*P **P 17 25 15.0 +0.7**
comp=Z,20nm,0.9s
TAM Tamanrasset 25.30 242 *e*P **P 17 25 15.0 +0.7**
comp=Z,20nm,0.9s
JOF Joensuu 25.56 2 *e*P **P 17 25 16.1 0.0**
JOF pmax pmax
comp=Z,16nm,0.7s
JOF Joensuu 25.56 2 *ep* **P 17 25 16.1 0.0**
comp=Z,16nm,0.7s
JOF Joensuu 25.56 2 *e*P **P 17 25 16.1 0.0**
comp=Z,16nm,0.7s
SGMF Saint Gilles 25.75 305 *e*P **P 17 25 16.0 -2.0**
comp=Z,126nm,1.2s
SGMF Saint Gilles 25.75 305 *e*P **P 17 25 16.0 -2.0**
SGMF pmax pmax
comp=Z,126nm,1.2s
SGMF Saint Gilles 25.75 305 *e*P **P 17 25 16.0 -2.0**
comp=Z,126nm,1.2s
QUIF Quistinic 26.08 304 *e*P **P 17 25 21.1 +0.1**
comp=Z,42nm,1.0s
QUIF Quistinic 26.08 304 *e*P **P 17 25 21.1 +0.1**
QUIF pmax pmax
comp=Z,42nm,1.0s
QUIF Quistinic 26.08 304 *e*P **P 17 25 21.1 +0.1**
comp=Z,42nm,1.0s
QUIF Quistinic 26.08 304 *e*P **P 17 25 21.1 +0.1**
comp=Z,21nm,1.0s
ROSF Rostrenen 26.24 305 *e*P **P 17 25 19.4 -3.0**
comp=Z,40nm,1.1s
ROSF Rostrenen 26.24 305 *e*P **P 17 25 19.4 -3.0**
ROSF pmax pmax
comp=Z,40nm,1.1s
ROSF Rostrenen 26.24 305 *e*P **P 17 25 19.4 -3.0**
comp=Z,40nm,1.1s
ESDC Sonseca Array 26.24 285 P **P 17 25 22.1 -0.5**
ESDC Sonseca Array 26.24 285 P **P 17 25 22.1 -0.5**
ESDC Sonseca Array 26.24 285 P **P 17 25 22.1 -0.5**
comp=Z,4.8nm,0.8s,baz=76,slow=9.8,SNR=14
ESLA Sonseca Array 26.24 285 *e*P **P 17 25 21.7 -0.9**
comp=Z,13nm,1.5s

ESLA Sonseca Array 26.24 285 *e*P **P 17 25 21.7 -0.9**
comp=Z,13nm,1.5s
NAO01 NORSAR Array S 26.26 339 *e*P **P 17 25 21.3 -1.1**
comp=Z,18nm,0.9s
NAO01 NORSAR Array S 26.26 339 *e*P **P 17 25 21.3 -1.1**
comp=Z,18nm,0.9s
NB2 NORSAR Subarra 26.33 340 P **P 17 25 22.8 -0.3**
comp=Z,5.6nm,0.8s,baz=144,slow=10
NB2 NORSAR Subarra 26.33 340 P **P 17 25 22.8 -0.3**
comp=Z,5.6nm,0.8s,SNR=3.1
NOA NORSAR Array B 26.33 340 P **P 17 25 22.6 -0.6**
NOA NORSAR Array B 26.33 340 P **P 17 25 22.6 -0.6**
comp=Z,137nm,21.7s
NOA NORSAR Array B 26.33 340 P **P 17 25 22.6 -0.6**
comp=Z,5.1nm,0.8s,baz=145,slow=9.5,SNR=13
NOA LR LR 17 36 33.4
comp=Z,137nm,21.7s,baz=150,slow=38
ARU Arti 27.14 36*c i*P **P 17 25 30.0 -0.4**
ARU 17 26 10.0
ARU S **S 17 30 10.2 +2.6**
ARU SS **SnSn 17 31 15.8 +0.8**
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 27.14 36 *e*P **P 17 25 30.0 -0.4**
ARU Arti 27.14 36 *i*P **P 17 25 30.0 -0.4**
comp=Z,14nm,1.7s
TMCR Tamitsa 27.27 8 *i*P **P 17 25 31.2 -0.3**
TMCR *e* 17 26 14.1
TMCR *e*S **S 17 30 12.7 +3.2**
TMCR pmax pmax
comp=Z,33nm,1.1s
TMCR Tamitsa 27.27 8 *i*P **P 17 25 31.2 -0.3**
comp=Z,33nm,1.1s
MDT Midelt 28.24 271 P **P 17 25 40.6 -0.1**
MDT Midelt 28.24 271 P **P 17 25 40.6 -0.1**
MDT Midelt 28.24 271 P **P 17 25 40.6 -0.1**
comp=Z,3.1nm,0.8s,baz=89,slow=13,SNR=6.1
SVE Sverdlovsk 28.32 37 *e*P **P 17 25 41.2 +0.2**
SVE pmax pmax
comp=Z,12nm,0.9s
SVE Sverdlovsk 28.32 37 *e*P **P 17 25 41.2 +0.2**
comp=Z,12nm,0.9s
EKA Eskdalemuir Ar 28.45 320 P **P 17 25 41.0 -1.2**
EKA Eskdalemuir Ar 28.45 320 P **P 17 25 41.0 -1.2**
comp=Z,3.0nm,0.5s
EKA Eskdalemuir Ar 28.45 320 P **P 17 25 41.0 -1.2**
comp=Z,2.5nm,0.5s,baz=115,slow=11,SNR=13
KK31 Karatay Array 31.52 67 *i*P **P 17 26 09.2 -0.4**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KK31 Karatay Array 31.52 67 *i*P **P 17 26 09.2 -0.4**
comp=Z,5.0nm,1.0s
KKAR Karatay Array 31.52 67 *e*P **P 17 26 09.2 -0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 31.52 67 *e*P **P 17 26 09.2 -0.4**
comp=Z,2.5nm,0.7s
KKAR Karatay Array 31.52 67 *e*P **P 17 26 09.2 -0.4**
comp=Z,2.5nm,0.7s
BRVK Borovoye 32.15 48⇓ *i*P **P 17 26 15.6 +0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 32.15 48 *e*P **P 17 26 15.3 +0.4**
comp=Z,11nm,1.4s
BRVK Borovoye 32.15 48 *e*P **P 17 26 15.3 +0.4**
comp=Z,11nm,1.4s
ARCES ARCESS Array B 32.26 357 P **P 17 26 15.0 -0.7**
ARCES ARCESS Array B 32.26 357 P **P 17 26 15.0 -0.7**
comp=Z,82nm,20.6s
ARCES ARCESS Array B 32.26 357 P **P 17 26 15.0 -0.7**
comp=Z,6.0nm,0.7s,baz=159,slow=7.3,SNR=20
ARCES LR LR 17 40 52.1
comp=Z,82nm,20.6s,baz=182,slow=39
ARE0 ARCESS Array S 32.26 357 *e*P **P 17 26 15.4 -0.3**
ARE0 ARCESS Array S 32.26 357 *e*P **P 17 26 15.4 -0.3**
KEV Kevo 32.44 358 P **P 17 26 16.7 -0.5**
KEV pmax pmax
comp=Z,16nm,1.1s
KEV Kevo 32.44 358 P **P 17 26 16.7 -0.5**
comp=Z,16nm,1.1s
KEV Kevo 32.44 358 P **P 17 26 16.7 -0.5**
comp=Z,16nm,1.1s
EKS2 Erkin-Say 33.95 67 *e*P **P 17 26 29.3 -1.6**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 33.95 67 *e*P **P 17 26 29.3 -1.6**
comp=Z,3.4nm,0.8s
EKS2 Erkin-Say 33.95 67 *e*P **P 17 26 29.3 -1.6**
comp=Z,3.4nm,0.8s
AAK Ala-Archa 34.48 67 *e*P **P 17 26 35.8 +0.2**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 34.48 67 *e*P **P 17 26 35.8 +0.2**
comp=Z,2.5nm,0.6s
AAK Ala-Archa 34.48 67 *e*P **P 17 26 35.8 +0.2**
comp=Z,2.5nm,0.6s
TOA0 Torodi Ar. Sit 34.67 233 *e*P **P 17 26 36.4 -0.9**
TOA0 Torodi Ar. Sit 34.67 233 *e*P **P 17 26 36.4 -0.9**
TORD Torodi Ar. Bea 34.67 233 P **P 17 26 37.0 -0.2**
TORD Torodi Ar. Bea 34.67 233 P **P 17 26 37.0 -0.2**
TORD Torodi Ar. Bea 34.67 233 P **P 17 26 37.0 -0.2**
comp=Z,4.0nm,0.4s,baz=35,slow=8.7,SNR=43
TORD LR LR 17 41 16.8
comp=Z,61nm,18.5s,baz=40,slow=37
KSH Kashi 36.09 72 P **P 17 26 50.0 +0.6**
KSH pP **pP 17 26 57.1 +1.7**
KSH sP **sP 17 26 58.7 +0.9**
KSH PP **PnPn 17 28 09.1 -1.4**
KSH S **S 17 32 27.9 +0.1**
KSH sS **sS 17 32 35.1 -2.6**
KSH SS SnSn 17 34 42.3 -11
KSH pmax pmax
comp=Z,42nm,4.4s
KSH LR LR
comp=Z,120nm,4.0s
KSH LR LR
comp=Z,130nm,5.1s
KSH LR LR
comp=Z,260nm,5.1s
KURK Kurchatov 36.99 53 P **P 17 26 56.4 -0.4**
KURK pmax pmax
comp=Z,7.0nm,1.2s
KURK Kurchatov 36.99 53 *e*P **P 17 26 56.2 -0.6**
comp=Z,4.9nm,0.8s
KURK Kurchatov 36.99 53 P **P 17 26 56.4 -0.4**
comp=Z,7.0nm,1.2s
MBAR Mbarara 37.84 178 P **P 17 27 03.4 -1.0**
MBAR Mbarara 37.84 178 P **P 17 27 03.4 -1.0**
comp=Z,3.0nm,0.2s
MBAR Mbarara 37.84 178 P **P 17 27 03.4 -1.0**
comp=Z,2.7nm,0.2s,baz=289,slow=23,SNR=4.7
KMBO Kilima Mbogo 39.00 168 P **P 17 27 15.2 +0.8**
KMBO Kilima Mbogo 39.00 168 P **P 17 27 15.1 +0.8**
KMBO Kilima Mbogo 39.00 168 P **P 17 27 15.2 +0.8**
comp=Z,0.7nm,0.4s,baz=49,slow=19,SNR=2.7
MK31 Makanchi Array 39.56 59 P **P 17 27 17.7 -0.8**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 39.56 59 *e*P **P 17 27 18.1 -0.4**
MK31 Makanchi Array 39.56 59 *e*P **P 17 27 18.1 -0.4**
MKAR Makanchi Array 39.56 59 P **P 17 27 18.5 -0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR MLR MLR
comp=Z,60nm,21.3s
MKAR Makanchi Array 39.56 59 P **P 17 27 18.4 -0.1**
MKAR Makanchi Array 39.56 59 P **P 17 27 18.5 -0.1**
comp=Z,60nm,21.3s
MKAR Makanchi Array 39.56 59 P **P 17 27 18.4 -0.1**
comp=Z,4.6nm,0.6s,baz=273,slow=8.9,SNR=63
MKAR LR LR 17 47 21.5
comp=Z,60nm,21.3s,baz=180,slow=42
NVS Novosibirsk 39.97 46 *e*P **P 17 27 20.9 -0.8**
NVS pmax pmax
comp=Z,15nm,1.3s
NVS Novosibirsk 39.97 46 *e*P **P 17 27 20.9 -0.8**
comp=Z,15nm,1.3s
ZAA0 Zalesovo Array 40.87 48 *e*P **P 17 27 29.2 0.0**
ZAA0 Zalesovo Array 40.87 48 *e*P **P 17 27 29.2 0.0**
ZALV Zalesovo Beam 40.87 48 P **P 17 27 29.4 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV MLR MLR
comp=Z,116nm,20.3s
ZALV Zalesovo Beam 40.87 48 P **P 17 27 29.4 +0.2**
ZALV Zalesovo Beam 40.87 48 P **P 17 27 29.4 +0.2**
comp=Z,116nm,20.3s
ZALV Zalesovo Beam 40.87 48 P **P 17 27 29.4 +0.2**
ZALV LR LR 17 47 40.3
comp=Z,116nm,20.3s,baz=108,slow=41
DBIC Dimbokro 43.76 234 *e*P **P 17 27 53.3 +0.1**
comp=Z,6.8nm,0.9s
DBIC Dimbokro 43.76 234 P **P 17 27 53.2 +0.1**
comp=Z,85nm,18.5s
DBIC Dimbokro 43.76 234 P **P 17 27 53.2 +0.1**
comp=Z,2.7nm,0.6s,baz=37,slow=6.3,SNR=3.0
DBIC LR LR 17 50 31.6
comp=Z,85nm,18.5s,baz=15,slow=42
WMQ Urumqi 43.80 63 P **P 17 27 53.0 -0.3**
WMQ sP **sP 17 28 04.0 +2.2**
WMQ PP **PP 17 29 37.0 +1.8**
WMQ ScP **ScP 17 33 28.0 -2.2**
WMQ S **S 17 34 22.0 -1.0**
WMQ sS **sS 17 34 35.0 +2.0**
WMQ SS SS 17 37 30.0 -8.8
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax
comp=Z,87nm,4.0s
WMQ LR LR
comp=Z,59nm,16.0s
WMQ LR LR
comp=Z,78nm,16.0s
WMQ LR LR
comp=Z,100nm,16.0s
PYUN Piuthan 45.36 86 *e*P **P 17 28 04.9 -1.2**
PYUN Piuthan 45.36 86 *e*P **P 17 28 04.9 -1.2**
PYUN Piuthan 45.36 86 *e*P **P 17 28 04.9 -1.2**
DANN Dangsing 45.86 85 *e*P **P 17 28 09.4 -0.8**
comp=Z,38nm,0.7s
DANN Dangsing 45.86 85 *e*P **P 17 28 09.4 -0.8**
DANN Dangsing 45.86 85 *e*P **P 17 28 09.4 -0.8**
KOLN Koldanda 45.99 86 *e*P **P 17 28 09.4 -1.2**
comp=Z,34nm,0.7s
KOLN Koldanda 45.99 86 *e*P **P 17 28 09.9 -1.2**
KOLN Koldanda 45.99 86 *e*P **P 17 28 09.9 -1.2**
GKN Gorkha 46.71 85 *e*P **P 17 28 15.2 -1.5**
comp=Z,40nm,0.9s
GKN Gorkha 46.71 85 *e*P **P 17 28 15.2 -1.5**
GKN Gorkha 46.71 85 *e*P **P 17 28 15.2 -1.5**
HYB Hyderabad 47.24 101 *i*P **P 17 28 20.0 -0.8**
DMN Daman 47.26 85 *e*P **P 17 28 19.7 -1.4**
comp=Z,25nm,0.6s
DMN Daman 47.26 85 *e*P **P 17 28 19.7 -1.4**
DMN Daman 47.26 85 *e*P **P 17 28 19.7 -1.4**
KKN Kakani 47.31 85 *e*P **P 17 28 20.4 -1.1**
comp=Z,13nm,0.6s
KKN Kakani 47.31 85 *e*P **P 17 28 20.4 -1.1**
KKN Kakani 47.31 85 *e*P **P 17 28 20.4 -1.1**
KKN Kakani 47.31 85 *e*P **P 17 28 20.4 -1.1**
PKIN Phulchoki 47.50 85 *e*P **P 17 28 21.5 -1.5**
comp=Z,9.2nm,0.6s
PKI Pulchoki 47.51 85 *e*P **P 17 28 22.2 -1.0**
comp=Z,20nm,0.7s
PKI Pulchoki 47.51 85 *e*P **P 17 28 22.2 -1.0**
PKI Pulchoki 47.51 85 *e*P **P 17 28 22.2 -1.0**
PKI Pulchoki 47.51 85 *e*P **P 17 28 22.2 -1.0**
GUN Gumba 47.73 84 *e*P **P 17 28 24.0 -0.9**
comp=Z,18nm,0.7s
GUN Gumba 47.73 84 *e*P **P 17 28 24.0 -0.9**
GUN Gumba 47.73 84 *e*P **P 17 28 24.0 -0.9**
JIRN Jiri 48.09 84 *e*P **P 17 28 26.4 -1.3**
comp=Z,16nm,0.8s
JIRN Jiri 48.09 84 *e*P **P 17 28 26.4 -1.3**
JIRN Jiri 48.09 84 *e*P **P 17 28 26.4 -1.3**
RAMN Ramite 48.74 85 *e*P **P 17 28 30.5 -2.1**
comp=Z,30nm,0.8s
RAMN Ramite 48.74 85 *e*P **P 17 28 30.5 -2.1**
RAMN Ramite 48.74 85 *e*P **P 17 28 30.5 -2.1**
ODAN Odare 49.41 85 *e*P **P 17 28 36.3 -1.4**
comp=Z,18nm,0.9s
ODAN Odare 49.41 85 *e*P **P 17 28 36.3 -1.4**
ODAN Odare 49.41 85 *e*P **P 17 28 36.3 -1.4**
TAPN Taplejung 49.44 84 *e*P **P 17 28 36.5 -1.5**
comp=Z,15nm,0.9s
TAPN Taplejung 49.44 84 *e*P **P 17 28 36.5 -1.5**
TAPN Taplejung 49.44 84 *e*P **P 17 28 36.5 -1.5**
LSZ Lusaka 52.42 182 P **P 17 29 00.9 +0.7**
LSZ Lusaka 52.42 182 P **P 17 29 00.9 +0.7**
comp=Z,2.0nm,0.4s
LSZ Lusaka 52.42 182 P **P 17 29 00.9 +0.7**
comp=Z,1.6nm,0.4s,baz=9.9,slow=7.2,SNR=7.9
ZAK Zakamensk 52.58 51 *e*P P 17 28 57.7 -3.3
ZAK pmax pmax
comp=Z,3.0nm,1.9s
GTA Gaotai 53.77 65 *e*P **P 17 29 09.5 -0.5**
GTA pP **pP 17 29 13.6 -2.6**
GTA sP **sP 17 29 17.3 -1.3**
GTA pmax pmax
comp=Z,6.0nm,0.6s
SONM Songino Array 55.30 53 P **P 17 29 20.8 -0.2**
SONM Songino Array 55.30 53 P **P 17 29 20.8 -0.2**
comp=Z,1.0nm,0.6s
SONM Songino Array 55.30 53 P **P 17 29 20.8 -0.2**
comp=Z,0.8nm,0.6s,baz=290,slow=7.7,SNR=8.6
ULN Ulaanbaatar 55.70 53 *e*P **P 17 29 23.1 -0.8**
comp=Z,1.3nm,0.8s
ULN Ulaanbaatar 55.70 53 *e*P **P 17 29 23.2 -0.8**
comp=Z,1.0nm,0.8s
TSUM Tsumeb 57.43 193 P **P 17 29 36.3 0.0**
TSUM Tsumeb 57.43 193 P **P 17 29 36.3 0.0**
TSUM Tsumeb 57.43 193 P **P 17 29 36.7 +0.4**
comp=Z,2.4nm,0.8s,baz=135,slow=2.3,SNR=3.7
TIXI Tiksi 57.79 22⇑ *i*P **P 17 29 37.7 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 57.79 22 *i*P **P 17 29 37.7 -0.4**
comp=Z,4.0nm,1.0s
CD2 Chengdu 60.28 72 *e*P **P 17 29 55.8 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
HHC Hu-ho-hao-te 61.43 59 *e*P **P 17 30 01.7 -2.2**
HHC pP **pP 17 30 12.1 +1.9**
HHC sP **sP 17 30 14.8 +2.3**
HHC PcP **PcP 17 30 46.3 +0.4**
HHC PP **PP 17 32 22.5 +3.6**
HHC ScP **ScP 17 34 45.1 -1.3**
HHC S **S 17 38 18.6 -5.4**
HHC sS **sS 17 38 35.4 +1.1**
HHC ScS **SKKSac 17 39 51.2 -3.2**
HHC SS **SS 17 42 24.4 +0.1**
HHC pmax pmax
comp=Z,37nm,1.2s
HHC pmax pmax
comp=Z,320nm,6.6s
HHC LR LR
comp=Z,280nm,16.8s
HHC LR LR
comp=Z,390nm,16.5s
HHC LR LR
comp=Z,240nm,17.2s
YAK Yakutsk 62.12 32 P **P 17 30 07.3 -0.7**
YAK Yakutsk 62.12 32 P **P 17 30 07.3 -0.7**
YAK Yakutsk 62.12 32 P **P 17 30 07.3 -0.7**
LBTB Lobatse 62.20 184 *e*P **P 17 30 09.7 +0.6**
comp=Z,14nm,1.2s
LBTB Lobatse 62.20 184 *e*P **P 17 30 09.6 +0.6**
comp=Z,14nm,1.2s
KMI Kunming 62.33 78 P **P 17 30 10.2 -0.1**
KMI pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 62.64 87 *e*P **P 17 30 10.0 -2.2**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 62.64 87 *e*P **P 17 30 10.0 -2.2**
comp=Z,4.9nm,1.0s
CHTO Chiang Mai 62.64 87 *e*P **P 17 30 10.0 -2.2**
comp=Z,4.9nm,1.0s
CM31 Chiang Mai Arr 62.83 87 *e*P **P 17 30 11.4 -2.1**
comp=Z,4.7nm,0.8s
CM31 Chiang Mai Arr 62.83 87 *e*P **P 17 30 11.4 -2.1**
comp=Z,4.7nm,0.8s
CMAR Chiang Mai Arr 62.83 87 P **P 17 30 11.7 -1.8**
CMAR Chiang Mai Arr 62.83 87 P **P 17 30 11.7 -1.8**
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 62.83 87 P **P 17 30 11.7 -1.8**
comp=Z,1.8nm,0.6s,baz=300,slow=8.6,SNR=24
SCHQ Schefferville 63.77 320 P **P 17 30 17.5 -1.6**
SCHQ Schefferville 63.77 320 P **P 17 30 17.5 -1.6**
SCHQ Schefferville 63.77 320 P **P 17 30 17.5 -1.6**
comp=Z,6.4nm,0.7s,baz=76,slow=7.3,SNR=9.2
GYA Guiyang 64.69 75 *e*P **P 17 30 25.0 -0.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
BOSA Boshof 65.80 184 P **P 17 30 31.6 -1.0**
BOSA Boshof 65.80 184 P **P 17 30 31.7 -1.0**
comp=Z,4.0nm,0.7s
BOSA Boshof 65.80 184 P **P 17 30 31.6 -1.0**
comp=Z,3.8nm,0.7s,baz=22,slow=7.2,SNR=9.3
CN2 Changchun 69.01 50 *e*P **P 17 30 53.3 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SUR Sutherland 69.91 188 *e*P **P 17 30 58.7 +0.1**
comp=Z,10nm,0.9s
SUR Sutherland 69.91 188 *e*P **P 17 30 58.7 +0.1**
comp=Z,10nm,0.9s
NJ2 Nanjing 70.86 64 *e*P **P 17 31 02.8 -1.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
QIZ Qiongzhong 71.14 80 P P 17 31 01.2 -5.1
QIZ S S 17 40 14.6 -7.7
QIZ LR LR
comp=Z,55nm,17.0s
USRK Ussuriysk Arra 72.72 47 P **P 17 31 14.1 -1.2**
comp=Z,4.2nm,0.7s,baz=295,slow=4.8,SNR=15
FCC Fort Churchill 73.36 333 P P 17 31 15.5 -3.4
FCC pmax pmax
comp=Z,1.0nm,0.8s
FCC Fort Churchill 73.36 333 P P 17 31 15.4 -3.4
comp=Z,0.6nm,0.8s
INK Inuvik 73.84 354 *e*P **P 17 31 21.3 -0.3**
comp=Z,8.9nm,1.1s
KSAR Wonju Array Be 74.06 55 P **P 17 31 22.4 -1.0**
KSRS Korea Array 74.08 55 P **P 17 31 22.4 -1.1**
comp=Z,3.8nm,0.6s,baz=306,slow=4.4,SNR=18
COLD Coldfoot 75.69 360 *e*P **P 17 31 33.0 +0.7**
comp=Z,13nm,0.9s
COLD *e* 17 31 38.1
SADO Sadowa 75.96 316 LR LR 18 05 20.3
comp=Z,145nm,18.6s,baz=151,slow=36
YKA Yellowknife Ar 76.35 344 P **P 17 31 36.0 -0.2**
YKA Yellowknife Ar 76.35 344 P **P 17 31 35.9 -0.2**
comp=Z,3.7nm,0.8s,baz=41,slow=5.1,SNR=5.7
TNA Tin City 76.46 7 *e*P **P 17 31 36.6 -0.1**
comp=Z,8.1nm,0.9s
TNA *e* 17 31 41.3
IM04 Indian Mountai 76.91 1 *e*P **P 17 31 39.4 +0.1**
IM04 *e* 17 31 44.6
COLA College 78.03 359 *e*P **P 17 31 46.0 +0.5**
COLA pmax pmax
comp=Z,15nm,1.1s
COLA College 78.03 359 *e*P **P 17 31 46.0 +0.5**
comp=Z,15nm,1.1s
ILAR Eielson Array 78.11 358 P **P 17 31 46.0 0.0**
ILAR Eielson Array 78.11 358 P **P 17 31 46.0 0.0**
comp=Z,1.9nm,1.0s,baz=347,slow=3.6,SNR=11
DAWY Dawson 78.48 355 *e*P **P 17 31 48.0 -0.1**
DAWY *e* 17 31 53.2
DOT Dot Lake 79.15 357 *e*P **P 17 31 52.4 +0.6**
comp=Z,14nm,0.9s
DOT *e* 17 31 57.5
FFC Flin Flon 79.26 334 P **P 17 31 52.1 -0.4**
FFC pmax pmax
comp=Z,11nm,1.2s
FFC Flin Flon 79.26 334 P **P 17 31 52.1 -0.4**
comp=Z,11nm,1.2s
PETK Petropavlovsk- 79.27 29 LR LR 18 11 35.5
comp=Z,60nm,19.1s,baz=83,slow=39
MENT Mentasta 79.85 357 *e*P **P 17 31 56.5 +0.9**
PPLA Purkeypile 80.02 1 *e*P **P 17 31 56.8 +0.1**
comp=Z,12nm,0.8s
PPLA *e* 17 32 01.8
ULM Lac du Bonnet 80.36 328 LR LR 18 04 44.7
comp=Z,126nm,19.3s,baz=20,slow=34
PMR Palmer 81.34 359 *e*P **P 17 32 02.1 -1.4**
PMR pmax pmax
comp=Z,18nm,1.1s
PMR Palmer 81.34 359 *e*P **P 17 32 02.1 -1.4**
comp=Z,18nm,1.1s
SEW Seward 82.83 360 P **P 17 32 08.8 -2.6**
comp=Z,18nm,1.0s
EDM Edmonton 84.18 339 *e*P **P 17 32 18.3 -0.3**
EDM *e* 17 32 23.1
EDM Edmonton 84.18 339 *e*P **P 17 32 18.3 -0.3**
EDM *e* 17 32 23.1
WCI Wyandotte Cave 84.31 315 *e*P **P 17 32 19.3 -0.2**
WCI pmax pmax
comp=Z,9.0nm,0.9s
WCI Wyandotte Cave 84.31 315 *e*P **P 17 32 19.2 -0.2**
comp=Z,9.1nm,0.9s
TKL Tuckaleechee C 84.60 311 *e*P **P 17 32 21.0 0.0**
CPCT Cooper Cave 85.19 312 *e*P **P 17 32 24.3 +0.4**
WVT Waverly 86.65 314 *e*P **P 17 32 29.9 -1.2**
WVT pmax pmax
comp=Z,5.0nm,0.8s
WVT Waverly 86.65 314 *e*P **P 17 32 29.9 -1.2**
comp=Z,4.5nm,0.8s
LAO LASA Array 87.37 331 *e*P **P 17 32 35.1 +0.6**
comp=Z,13nm,0.9s
BDFB Brasilia 89.84 250 P **P 17 32 47.6 +1.0**
BDFB Brasilia 89.84 250 P **P 17 32 47.6 +1.0**
comp=Z,7.7nm,0.8s,baz=44,slow=4.3,SNR=6.8
H17A Grant Village 90.94 333 *e*P **P 17 32 53.9 +2.3**
H17A *e* 17 32 59.5
TUL1 Tulsa 91.19 319 *e*Pn P 17 33 01.3 +8.6
PDAR Pinedale Array 91.95 331 P **P 17 32 55.1 -1.2**
PDAR Pinedale Array 91.95 331 P **P 17 32 55.1 -1.2**
comp=Z,0.8nm,0.7s,baz=81,slow=2.8,SNR=6.7
PDAR LR LR 18 17 39.9
comp=Z,85nm,20.5s,baz=308,slow=38
ASAR Alice Springs 114.97 101 PKP PKPdf 17 38 26.7 -2.0
ASAR PKKPbc **PKKPbc 17 49 04.5 +0.6**
ASAR Alice Springs 114.97 101 PKP PKPdf 17 38 26.7 -2.0
comp=Z,0.1nm,0.5s,baz=312,slow=1.3,SNR=5.9
ASAR PKKPbc **PKKPbc 17 49 04.5 +0.6**
comp=Z,0.2nm,0.6s,baz=120,slow=3.8,SNR=6.7

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*NOU **04** 17:22:53.5±0.7, 20°.28S×169°.18E, h10km, MD3.4, MS1.9*
*IDC **04** 17:22:54.4±8.4, 19°.58S×167°.94E, h0km, mb3.9/3,*
mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, ML2.9/1, Error
ellipse: s-maj=140.7km s-min=41.4km az=87.0
ISC 04 17:22:59.6±3.6, 19°.8S±0°.2×167°.9E±0°.5, h27km, n8,
σ1§06/10, mb3.6/3, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.62**	**211**	Pn	**Pn**	**17 23 40.4**	**+0.1**
	2.0nm,0.3s,baz=27,slow=17,SNR=32						
DZM				Sn	**Sb**	**17 24 16.8**	**-0.9**
	6.2nm,0.3s,baz=261,slow=23,SNR=6.2						
DZM	**Mont Dzumac**	**2.62**	**211**	*e*P	**Pn**	**17 23 40.3**	**+0.1**
DZM				AMP		17 24 40.1	
	comp=Z,399nm,13.0s						
LASL	**Noumea**	**2.71**	**208**	*e*P	**Pn**	**17 23 41.1**	**-0.3**
LASL				AMP		17 24 27.1	
	comp=Z,66nm,11.3s						
NOUC	**Port Laguerre**	**2.71**	**213**	*e*P	**Pn**	**17 23 43.8**	**+2.3**
NOUC				AMP		17 24 06.2	
	comp=Z,17nm,12.0s						
NOUC				*e*S	**Sb**	**17 24 20.4**	**+0.1**
NORM	**Noumea**	**2.73**	**209**	*e*P	**Pn**	**17 23 41.7**	**0.0**
STKA	**Stephens Creek**	**26.47**	**238**	P	**P**	**17 28 35.3**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=83,slow=8.1,SNR=4.6						
WRA	**Warramunga Arr**	**31.54**	**264**	P	**P**	**17 29 18.8**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=91,slow=8.5,SNR=9.9						
ASAR	**Alice Springs**	**31.77**	**257**	P	**P**	**17 29 21.7**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=85,slow=8.8,SNR=94						

NNC 04 17:41:53.6±3.4, 37°.43N×70°.56E, h0km, mb3.7, mpv3.5,
4C, Error ellipse: s-maj=28.7km s-min=26.0km az=75.0,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.66**	**360**	Pn	Pn	17 43 22.1	+3.1
	0.8nm,0.3s,baz=181,slow=12,SNR=63						
KK31				⇑Sn	Sn	17 44 31.4	+6.5
	1.8nm,0.4s,baz=188,slow=22,SNR=14						
TKM2	**Tokmak 2**	**6.70**	**34**	⇑Pn	Pn	17 43 31.8	-1.7
	7.8nm,0.9s						
TKM2				⇑Sn	Sn	17 44 52.1	+1.3
	2.4nm,0.8s						
AB31	**Akbulak array**	**14.10**	**330**	Pn	Pn	17 45 15.4	+0.9
	0.7nm,0.8s,baz=154,slow=14,SNR=4.9						

AB31				⇑Sn		Sn	17 47 49.6	-2.0	
	0.4nm,0.6s								

*ISCJB **04** 17:43:40.5±0.4,31°.97N±0°.04×104°.27E±0°.05,h15km, mb3.8/13,MS3.1/1,Error ellipse: s-maj=6.9km s-min=5.5km az=34.0*
*IDC **04** 17:43:40.2±0.6,31°.95N×104°.26E,h0km,mb3.7/14, mb1 3.9/16,mb1mx3.8/30,mbtmp3.8/16,ML3.7/2,MS3.3/1, Ms1 3.3/1,ms1mx2.5/42,Error ellipse: s-maj=23.8km s-min=12.7km az=61.0*
*BJI **04** 17:43:43.1,32°.10N×104°.21E,h24km,mB4.6/2,mb4.4/3, ML4.2/18,Ms4.0/6*

ISC 04 17:43:42.5±0.6,31°.98N±0°.05×104°.26E±0°.05,h15km,n34,
σ1§31/39,**mb3.9**/13,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
LZH	**Lanzhou**	**4.11**	**355**	*e*Pn		**Pn**	**17 44 45.8**		**+0.9**
LZH				Pg		**Pb**	**17 44 53.8**		**-0.9**
LZH				Sn		**Sn**	**17 45 33.0**		**+0.2**
LZH				Sg		**Sb**	**17 45 44.5**		**+0.3**
LZH				smax	smax				
	comp=N,310nm,0.5s								
LZH				smax	smax				
	comp=E,560nm,0.5s								
XAN	**Xi'an**	**4.42**	**61**	Pn		**Pn**	**17 44 48.1**		**-1.0**
XAN				Pg		**Pb**	**17 45 00.1**		**+0.2**
XAN				Sn		**Sn**	**17 45 44.6**		**+4.2**
XAN				Sg		**Sg**	**17 46 00.2**		**-4.3**
XAN				smax	smax				
	comp=N,660nm,0.7s								
XAN				smax	smax				
	comp=E,310nm,0.8s								
KMI	**Kunming**	**6.96**	**191**	Pg		Pb	17 45 35.0		-8.3
KMI				Sg		Sn	17 46 26.4		-17
KMI				LR	LR				
	comp=N,220nm,3.8s								
KMI				LR	LR				
	comp=E,460nm,6.7s								
GTA	**Gaotai**	**8.24**	**335**	*e*P		**Pn**	**17 45 42.1**		**+0.4**
GTA				pP		pP	17 45 46.2		
GTA				sP			17 45 49.5		
GTA				S		**Sn**	**17 47 14.9**		**+0.3**
GTA				pmax	pmax				
	comp=E,63nm,4.3s								
GTA				LR	LR				
	comp=E,450nm,11.9s								
GTA				LR	LR				
	comp=E,680nm,11.9s								
CMAR	**Chiang Mai Arr**	**14.29**	**201**	Pn		**Pn**	**17 47 05.0**		**+0.5**
	comp=E,0.1nm,0.3s,baz=9.7,slow=12,SNR=18								
TAPN	**Taplejung**	**15.11**	**256**	*e*P		**Pn**	**17 47 16.2**		**+0.5**
	comp=E,17nm,1.0s								
ODAN	**Odare**	**15.55**	**255**	*e*P		**Pn**	**17 47 21.7**		**+0.1**
	comp=E,11nm,0.5s								
SONM	**Songino Array**	**15.92**	**5**	Pn		**Pn**	**17 47 27.0**		**+1.0**
	comp=E,0.2nm,0.3s,baz=189,slow=11,SNR=10								
SONM				Lg		Lg	17 52 06.9		
	baz=182,slow=25,SNR=4.0								
RAMN	**Ramite**	**16.17**	**256**	*e*P		**Pn**	**17 47 29.3**		**-0.2**
	comp=E,16nm,0.8s								
JIRN	**Jiri**	**16.26**	**259**	*e*P		**Pn**	**17 47 30.4**		**-0.4**
	comp=E,15nm,0.8s								
GUN	**Gumba**	**16.44**	**260**	*e*P		**Pn**	**17 47 32.0**		**-1.0**
	comp=E,14nm,0.6s								
PKI	**Pulchoki**	**16.94**	**260**	*e*P		**Pn**	**17 47 38.3**		**-1.1**
	comp=E,21nm,0.8s								
PKIN	**Phulchoki**	**16.95**	**260**	*e*P		**Pn**	**17 47 39.2**		**-0.2**
	comp=E,9.0nm,0.6s								
KKN	**Kakani**	**16.98**	**261**	*e*P		**Pn**	**17 47 38.6**		**-1.1**
	comp=E,8.3nm,0.6s								
DMN	**Daman**	**17.18**	**260**	*e*P		**Pn**	**17 47 42.3**		**0.0**
	comp=E,16nm,0.8s								
GKN	**Gorkha**	**17.45**	**262**	*e*P		**Pn**	**17 47 44.5**		**-1.1**
	comp=E,28nm,1.1s								
DANN	**Dangsing**	**18.09**	**264**	*e*P		**Pn**	**17 47 52.6**		**-1.0**
	comp=E,7.6nm,0.4s								
KOLN	**Koldanda**	**18.39**	**262**	*e*P		**P**	**17 47 55.4**		**-1.9**
	comp=E,10nm,0.7s								
PYUN	**Piuthan**	**18.81**	**264**	*e*P		**P**	**17 48 01.1**		**-0.7**
	comp=E,20nm,0.6s								
KSRS	**Korea Array**	**20.18**	**68**	P		**P**	**17 48 16.0**		**-0.5**
	comp=E,2.7nm,0.6s,baz=254,slow=10,SNR=14								
CN2	**Changchun**	**20.40**	**49**	*e*P		Pn	17 48 24.1		+3.1
CN2				pmax	pmax				
	comp=E,10.0nm,0.7s								
MKAR	**Makanchi Array**	**22.41**	**318**	P		**P**	**17 48 40.6**		**+0.1**
	comp=E,1.0nm,0.8s,baz=123,slow=12,SNR=8.6								
USRK	**Ussuriysk Arra**	**24.88**	**53**	P		**P**	**17 49 03.8**		**-0.7**
	comp=E,2.3nm,0.8s,baz=253,slow=8.9,SNR=3.8								
ZALV	**Zalesovo Beam**	**25.99**	**333**	P		**P**	**17 49 15.1**		**+0.5**
	comp=E,1.3nm,0.5s,baz=124,slow=9.6,SNR=7.1								
ZALV				LR		LR	17 59 40.1		
	comp=E,60nm,19.6s,baz=39,slow=37								
KURBB	**Kurchatov Arra**	**26.62**	**322**	P		**P**	**17 49 20.1**		**-0.2**
	comp=E,0.8nm,0.7s,baz=128,slow=8.2,SNR=9.4								
FITZ	**Fitzroy Crossi**	**53.85**	**155**	P		**P**	**17 53 04.8**		**-0.2**
	comp=E,1.6nm,0.8s,baz=339,slow=14,SNR=3.8								
ARCES	**ARCESS Array B**	**56.52**	**336**	P		**P**	**17 53 25.4**		**+1.7**
	comp=E,1.4nm,0.7s,baz=65,slow=7.1,SNR=3.8								
FINES	**FINESS Array B**	**56.91**	**326**	P		**P**	**17 53 25.6**		**-1.0**
	comp=E,1.7nm,0.8s,baz=95,slow=8.5,SNR=3.3								
WRA	**Warramunga Arr**	**59.13**	**147**	P		**P**	**17 53 42.7**		**+0.1**
	comp=E,1.8nm,0.6s,baz=340,slow=7.6,SNR=27								
ASAR	**Alice Springs**	**62.17**	**149**	P		**P**	**17 54 03.5**		**+0.1**
	comp=E,0.3nm,0.5s,baz=331,slow=6.7,SNR=14								
NOA	**NORSAR Array B**	**63.99**	**327**	P		**P**	**17 54 13.7**		**-1.4**
	comp=E,0.8nm,0.9s,baz=71,slow=5.5,SNR=2.7								
GERES	**GERESS Array B**	**67.03**	**314**	P		**P**	**17 54 36.3**		**+1.3**
	comp=E,0.3nm,0.6s,baz=61,slow=8.2,SNR=2.8								
ILAR	**Eielson Array**	**68.99**	**26**	P		**P**	**17 54 48.4**		**+1.5**
	comp=E,0.3nm,0.8s,baz=297,slow=3.4,SNR=3.3								
STKA	**Stephens Creek**	**72.67**	**147**	P		**P**	**17 55 09.0**		**-0.6**
	comp=E,1.1nm,0.8s,baz=323,slow=10,SNR=1.9								

*TIF **04** 17:45:14.0,41°.47N×44°.30E,h18km±1km*
*DDA **04** 17:45:15.7,41°.41N×44°.19E,h14km, ML4.1*
*CSEM **04** 17:45:15.4±0.2,41°.49N×44°.27E,h2km,ML3.1,Error ellipse: s-maj=5.1km s-min=4.0km az=135.0*
*AZER **04** 17:45:15.1±0.0,41°.47N×44°.43E,h0km±1km,Error ellipse: s-maj=2.9km s-min=1.9km az=13.0*
*NSSP **04** 17:45:16.5,41°.40N×44°.20E,h8km,Ms3.0*

ISC 04 17:45:14.1±1.0,41°.47N±0°.02×44°.32E±0°.02,h13km±9km,
n59,σ1§17/100,**20C-14D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
TBLG	**Delisi**	**0.41**	**50**	P		**Pb**	**17 45 23.1**		**-0.1**
TBLG				S		**Sb**	**17 45 29.4**		**+0.2**
TBLG	**Delisi**	**0.41**	**50**	P		**Pb**	**17 45 23.1**		**-0.1**
TBLG				S		**Sb**	**17 45 29.4**		**+0.2**
SEAG	**Tbilisi Sea**	**0.46**	**51**	P		**Pb**	**17 45 24.4**		**+0.2**
SEAG				S		**Sb**	**17 45 31.7**		**+0.8**
SEAG	**Tbilisi Sea**	**0.46**	**51**	P		**Pb**	**17 45 24.4**		**+0.2**
SEAG				S		**Sb**	**17 45 31.7**		**+0.8**
STE	**Stepanavan**	**0.47**	**176**	⇑P		Pg	17 45 20.4		-3.1
STE				S		**Sg**	**17 45 26.8**		**-3.0**
STEZ	**Stepenevan**	**0.48**	**173**	⇑*i*P		Pg	17 45 20.4		-3.1
STEZ				⇑*i*S		**Sg**	**17 45 26.8**		**-3.1**
AKH	**Akhalkalaki**	**0.63**	**265**	P		**Pb**	**17 45 34.9**		**+0.2**
AKH				S		**Sg**	**17 45 34.9**		**+0.2**
AKH	**Akhalkalaki**	**0.63**	**265**	P		**Pb**	**17 45 26.2**		**-0.8**
AKH				S		**Sg**	**17 45 34.9**		**+0.2**
KAMZ	**Kamo**	**0.71**	**204**	⇑*i*P		**Pn**	**17 45 30.6**		**+0.7**
KAMZ				⇑*i*S		**Sn**	**17 45 39.7**		**-1.0**
KAMZ	**Kamo**	**0.71**	**204**	⇑P		**Pn**	**17 45 30.6**		**+0.7**
KAMZ				S		**Sn**	**17 45 39.7**		**-1.0**
DGRG	**David-gareji**	**0.79**	**91**	P		**Pn**	**17 45 30.3**		**-0.7**
DGRG				S		**Sn**	**17 45 43.4**		**+0.7**
DGRG	**David-gareji**	**0.79**	**91**	P		**Pn**	**17 45 30.3**		**-0.7**
HNAZ	**Hnaberd**	**0.85**	**189**	⇑*i*P		**Pn**	**17 45 33.0**		**+1.0**
HNAZ				⇑*i*S		**Sn**	**17 45 43.1**		**-1.3**
HNAZ	**Hnaberd**	**0.85**	**189**	⇑P		**Pn**	**17 45 33.0**		**+1.0**
HNAZ				S		**Sn**	**17 45 43.1**		**-1.3**
HARI	**Harich**	**0.90**	**196**	⇑*i*P		**Pn**	**17 45 33.4**		**+0.8**
HARI				⇓*i*S		**Sn**	**17 45 45.7**		**+0.1**
HARI	**Harich**	**0.90**	**196**	⇑P		**Pn**	**17 45 33.4**		**+0.8**
HARI				S		**Sn**	**17 45 45.7**		**+0.1**
EAK	**Akyaka**	**0.95**	**215**	*i* P		**Pb**	**17 45 31.8**		**-0.8**
EAK				*i* S		**Sb**	**17 45 44.6**		**-0.6**
EAK	**Akyaka**	**0.95**	**215**	*i* P		**Pb**	**17 45 31.8**		**-0.8**
EAK				*i* S		**Sb**	**17 45 44.6**		**-0.6**
GUDG	**Gudauri**	**1.00**	**7**	P		**Pg**	**17 45 33.7**		**+0.3**
GUDG	**Gudauri**	**1.00**	**7**	P		**Pg**	**17 45 33.7**		**+0.3**
NARZ	**Nor Artik**	**1.11**	**205**	⇑*i*P		**Pg**	**17 45 37.5**		**+2.1**
NARZ				⇑*i*S		**Sg**	**17 45 51.4**		**+1.5**
NARZ	**Nor Artik**	**1.11**	**205**	⇑P		**Pg**	**17 45 37.5**		**+2.1**
NARZ				S		**Sg**	**17 45 51.4**		**+1.5**
EPOS	**Posof**	**1.20**	**272**	*e*P		Pn	17 45 28.3		-8.4
EPOS				*i* S		Sb	17 45 44.6		-7.6
DIGO	**Kars**	**1.28**	**214**	*i* P		**Pb**	**17 45 37.7**		**-0.5**
DIGO				*i* S		**Sn**	**17 45 54.5**		**-0.5**
DIGO	**Kars**	**1.28**	**214**	*i* P		**Pb**	**17 45 37.7**		**-0.5**
DIGO				*i* S		**Sn**	**17 45 54.5**		**-0.5**
ONI	**Oni**	**1.29**	**330**	P		**Pb**	**17 45 38.2**		**-0.1**
ONI				S		**Sg**	**17 45 55.7**		**0.0**
ONI	**Oni**	**1.29**	**330**	P		**Pb**	**17 45 38.2**		**-0.1**
ONI				S		**Sg**	**17 45 55.7**		**0.0**
GNI	**Garni**	**1.36**	**166**	⇓*i*P		**Pb**	**17 45 39.8**		**+0.3**
GNI				⇓*i*S		**Sg**	**17 45 58.2**		**+0.3**
GNI	**Garni**	**1.36**	**166**	⇓P		**Pb**	**17 45 39.8**		**+0.3**
GNI				S		**Sg**	**17 45 58.2**		**+0.3**
VADZ	**Vardenis**	**1.69**	**140**	*e*P		**Pg**	**17 45 48.0**		**+1.5**
VADZ				*e*S		**Sg**	**17 46 08.0**		**-0.5**
VADZ	**Vardenis**	**1.69**	**140**	P		**Pg**	**17 45 48.0**		**+1.5**
VADZ				S		**Sg**	**17 46 08.0**		**-0.5**
GANJ	**Ganja**	**1.72**	**118**	⇑Pg		**Pb**	**17 45 44.6**		**-1.0**
GANJ				⇑Sg		**Sb**	**17 46 06.6**		**-0.6**
GANJ	**Ganja**	**1.72**	**118**	Pg		**Pb**	**17 45 44.6**		**-1.0**
GANJ				Sg		**Sb**	**17 46 06.6**		**-0.6**
ZKTA	**Zakatala**	**1.73**	**84**	⇓Pg		**Pb**	**17 45 45.5**		**-0.3**
ZKTA				⇓Sg		**Sg**	**17 46 09.4**		**-0.5**
ARTV	**Artvin**	**1.83**	**262**	*i* P		**Pb**	**17 45 47.7**		**+0.2**
ARTV				*i* S		**Sb**	**17 46 10.9**		**+0.6**
ARTV	**Artvin**	**1.83**	**262**	*i* P		**Pb**	**17 45 47.7**		**+0.2**
ARTV				*i* S		**Sb**	**17 46 10.9**		**+0.6**
DAGI	**Agillar**	**1.86**	**259**	*i* P		**Pg**	**17 45 48.6**		**-1.2**
DAGI				*i* S		**Sb**	**17 46 11.7**		**+0.5**
DBOC	**Borcka**	**2.00**	**267**	*i* P		**Pb**	**17 45 50.8**		**+0.4**
DBOC				*i* S		**Sg**	**17 46 16.2**		**-2.2**
DBOC	**Borcka**	**2.00**	**267**	*i* P		**Pb**	**17 45 50.8**		**+0.4**
DBOC				*i* S		**Sg**	**17 46 16.2**		**-2.2**
DDEM	**Demirkent**	**2.03**	**254**	*i* P		**Pb**	**17 45 51.0**		**+0.2**
DDEM				*i* S		**Sb**	**17 46 16.0**		**0.0**
DDEM	**Demirkent**	**2.03**	**254**	*i* P		**Pb**	**17 45 51.0**		**+0.2**
DDEM				*i* S		**Sb**	**17 46 16.0**		**0.0**
DBAD	**Bademkaya**	**2.03**	**258**	*i* P		**Pb**	**17 45 51.2**		**+0.3**
DBAD				*i* S		**Sb**	**17 46 16.7**		**+0.5**
DBAD	**Bademkaya**	**2.03**	**258**	*i* P		**Pb**	**17 45 51.2**		**+0.3**
DBAD				*i* S		**Sb**	**17 46 16.7**		**+0.5**
CHVG	**Ch'k'valeri**	**2.08**	**308**	P		**Pb**	**17 45 51.6**		**0.0**
CHVG				S		**Sg**	**17 46 20.4**		**-0.6**
EATA	**Eleskirt**	**2.13**	**221**	*e*P		**Pb**	**17 45 52.1**		**-0.6**
EATA	**Eleskirt**	**2.13**	**221**	*e*P		**Pb**	**17 45 52.1**		**-0.6**
SEKA	**Sheki**	**2.18**	**96**	⇓Pg		**Pb**	**17 45 51.8**		**-1.6**
SEKA				⇓Sg		**Sb**	**17 46 20.5**		**+0.1**
HOMI	**Horasan**	**2.33**	**233**	*e*P		**Pg**	**17 45 59.2**		**+0.5**
TUTA	**Tutak**	**2.37**	**210**	*e*P		**Pb**	**17 45 55.4**		**-1.3**
TUTA	**Tutak**	**2.37**	**210**	*e*P		**Pb**	**17 45 55.4**		**-1.3**
NAX	**Nakhchivan**	**2.46**	**158**	⇓Pg		**Pb**	**17 45 58.6**		**+0.3**
NAX				⇓Sg		**Sg**	**17 46 31.7**		**-1.6**
NAX	**Nakhchivan**	**2.46**	**158**	Pg		**Pb**	**17 45 58.6**		**+0.3**
NAX				Sg		**Sg**	**17 46 31.7**		**-1.6**
BRDA	**Brd**	**2.48**	**118**	⇑Pg		**Pb**	**17 45 57.8**		**-0.7**
BRDA				⇑Sg		**Sg**	**17 46 34.0**		**+0.3**
IML	**Ismayilli**	**2.99**	**102**	⇑Pg		**Pb**	**17 46 05.7**		**-1.6**
IML				⇓Sg		**Sb**	**17 46 47.2**		**+3.4**
POL	**Pirkuli**	**3.30**	**101**	⇓Pg		**Pb**	**17 46 09.9**		**-2.7**
POL				⇓Sg		**Sb**	**17 46 56.3**		**+3.7**
SIZA	**Siyzn**	**3.47**	**95**	⇓Pn		**Pb**	**17 46 13.1**		**-2.4**
SIZA	**Siyzn**	**3.47**	**95**	Pn		**Pb**	**17 46 13.1**		**-2.4**
LRK	**Lerik**	**4.18**	**131**	⇓Pn		Pb	17 46 23.2		-4.4
LRK	**Lerik**	**4.18**	**131**	Pn		Pb	17 46 23.2		-4.4

*ISCJB **04** 17:45:17.2±1.3,46°.7N±0°.2×152°.8E±0°.2,h40km,mb3.8/5, Error ellipse: s-maj=30.4km s-min=7.3km az=44.8*
*JMA **04** 17:45:18.2±0.8,46°.89N×152°.80E,h30km,M4.0*
*SKHL **04** 17:45:20.9±0.5,46°.95N×152°.70E,h77km±4km,mb4.3/1*
*MOS **04** 17:45:21.8±1.0,47°.07N×152°.39E,h76km,mb4.2/1,Error ellipse: s-maj=33.5km s-min=20.4km az=58.4*
*IDC **04** 17:45:24.9±4.6,47°.18N×152°.33E,h76km±26km,mb3.5/5, mb1 3.6/8,mb1mx3.3/28,mbtmp3.5/8,Error ellipse: s-maj=98.0km s-min=23.3km az=135.0*

ISC 04 17:45:21.2±1.4,46°.8N±0°.1×152°.6E±0°.1,h40km,**n42,**
σ2§10/30,**mb3.6/5,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
KUR	**Kuril'sk**	**3.60**	**247**	*e*P		Pn	17 46 18.0		+3.6
KUR				*e*S		**Sn**	**17 47 00.5**		**+4.9**
KUR				A		A	17 47 16.0		
	100nm,0.4s								
KUR				A		A	17 47 16.0		
	240nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**5.43**	**242**	*e*PN		Pn	17 46 42.0		+2.4
YUK				*e*S		**Sn**	**17 47 43.4**		**+2.6**
YUK				smax	smax				
	comp=N,32nm,0.8s								
YUK				smax	smax				
	comp=E,72nm,0.8s								
YUK	**Yuzh-Kuril'sk**	**5.43**	**242**	*e*P		Pn	17 46 42.0		+2.4
YUK				*e*S		**Sn**	**17 47 43.2**		**+2.4**
YUK				A		A	17 48 08.1		
	comp=E,30nm,0.8s								
YUK				A		A	17 48 08.1		
	comp=E,70nm,0.8s								
NEM2	**Nemuro 2**	**5.89**	**237**	P		**Pn**	**17 46 45.5**		**-0.3**
NEM2				*e*S		**Sn**	**17 47 50.0**		**-2.0**
JNK	**Nakash**	**6.37**	**243**	P		**Pn**	**17 46 54.0**		**+1.5**
JTKR	**Abashiri--Toko**	**6.69**	**249**	P		Pn	17 46 59.6		+2.8
YSS	**Yuzh-Sakhalins**	**6.72**	**275**	*e*P		**Pn**	**17 46 58.8**		**+1.6**
YSS				AMB		AMB	17 46 59.5		
	comp=E,30nm,1.0s								
JAK	**Akkeshi**	**6.72**	**239**	P		**Pn**	**17 46 56.7**		**-0.6**
JAK				*e*S		**Sn**	**17 48 10.0**		**-2.5**
JAR	**Ashorobuto**	**7.11**	**244**	P		**Pn**	**17 47 04.4**		**+1.8**
JAR				*e*S		**Sn**	**17 48 21.1**		**-1.0**
PETK	**Petropavlovsk-**	**7.18**	**26**	PN		**Pn**	**17 47 03.2**		**-0.3**
PETK	**Petropavlovsk-**	**7.18**	**26**	P		**Pn**	**17 47 03.2**		**-0.3**
	baz=180,slow=14,SNR=2.0								
JOB	**Onbets**	**7.29**	**241**	P		**Pn**	**17 47 05.9**		**+0.9**
JOB				*e*S		**Sn**	**17 48 25.5**		**-1.0**
HRK	**Horoka**	**7.43**	**247**	*e*P		**Pn**	**17 47 09.6**		**+2.6**
JKA	**Kamikawa-asahi**	**7.48**	**253**	*e*P		Pn	17 47 11.0		+3.4
ASAJ	**Asahikawa**	**7.48**	**253**	P		Pn	17 47 11.8		+4.2
ASAJ	**Asahikawa**	**7.48**	**253**	P		Pn	17 47 11.0		+3.4
	comp=E,0.6nm,0.3s,baz=131,slow=21,SNR=8.2								
JKK2	**Kamakawa 2**	**7.48**	**251**	P		Pn	17 47 11.0		+3.3
JCH	**Churui**	**7.74**	**241**	P		**Pn**	**17 47 10.9**		**-0.3**
JCH				*e*S		**Sn**	**17 48 34.0**		**-3.6**
JFR	**Furan**	**7.92**	**247**	P		Pn	17 47 16.8		+3.1
MYR	**Moyori**	**7.98**	**239**	*e*P		**Pn**	**17 47 14.5**		**0.0**
MYR				*e*S		**Sn**	**17 48 39.5**		**-3.9**
JNBK	**Urakawa-nobuka**	**8.30**	**241**	P		**Pn**	**17 47 18.2**		**-0.7**
JNBK				*e*S		**Sn**	**17 48 48.4**		**-2.9**
JNB	**Noboribetsu**	**9.26**	**247**	P		**Pn**	**17 47 32.9**		**+0.9**
JANG	**Nango**	**10.23**	**235**	*e*S		Sn	17 49 30.1		-8.5
EKMR	**Ekimchan**	**14.10**	**304**	*e*P		**P**	**17 48 43.4**		**-1.7**
USRK	**Ussuriysk Arra**	**14.65**	**267**	P		**Pn**	**17 48 45.2**		**-0.2**
	comp=E,0.2nm,0.3s,baz=75,slow=10.0,SNR=2.6								
H11N2	**WAKE ISLAND Hy**	**29.40**	**152**	T		T	18 22 45.3		
	baz=342,slow=77,SNR=154								
H11N1	**WAKE ISLAND Hy**	**29.41**	**152**	T		T	18 22 34.3		
	baz=342,slow=77,SNR=104								
H11N3	**WAKE ISLAND Hy**	**29.42**	**152**	T		T	18 22 41.4		
	baz=342,slow=77,SNR=93								
MKAR	**Makanchi Array**	**46.60**	**297**	P		**P**	**17 53 42.9**		**-2.1**
MKAR	**Makanchi Array**	**46.60**	**297**	*e*P		**P**	**17 53 42.9**		**-2.1**
MKAR	**Makanchi Array**	**46.60**	**297**	P		**P**	**17 53 42.9**		**-2.1**
	comp=E,0.4nm,0.6s,baz=64,slow=4.1,SNR=3.5								
CMAR	**Chiang Mai Arr**	**51.99**	**256**	*e*P		**P**	**17 54 26.2**		**-0.3**
CMAR	**Chiang Mai Arr**	**51.99**	**256**	P		**P**	**17 54 26.2**		**-0.3**
	comp=E,0.4nm,0.6s,baz=41,slow=8.4,SNR=4.9								
FINES	**FINESS Array B**	**63.87**	**335**	P		P	17 55 46.0		-3.1
	comp=E,1.1nm,0.4s,baz=40,slow=5.9,SNR=10								
NB2	**NORSAR Subarra**	**68.10**	**341**	P		P	17 56 12.9		-3.4
	comp=Z,0.2nm,0.7s,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**68.10**	**341**	*e*P		P	17 56 13.0		-3.4
NOA	**NORSAR Array B**	**68.10**	**341**	P		P	17 56 13.0		-3.4
	comp=Z,1.1nm,0.8s,baz=27,slow=6.1,SNR=4.7								
AKASG	**Malin Array Be**	**71.33**	**326**	P		P	17 56 33.1		-3.2
	comp=Z,0.7nm,0.3s,baz=34,slow=6.2,SNR=5.6								
H03N2	**Juan Fernandez**	**139.14**	**90**	T		T	20 40 02.6		
	baz=305,slow=75,SNR=10								
H03N1	**Juan Fernandez**	**139.16**	**90**	T		T	20 40 03.4		
	baz=305,slow=75,SNR=11								
H03N3	**Juan Fernandez**	**139.16**	**90**	T		T	20 40 03.7		
	baz=305,slow=75,SNR=10								

*ISCJB **04** 17:50:15.6±0.3,7°.66S±0°.06×117°.37E±0°.04,h300km, mb3.9/11,Error ellipse: s-maj=8.8km s-min=5.0km az=11.6*
*DJA **04** 17:50:16.9±0.6,8°.S±7°.×11°.7E±°,h285km±9km,M4.2/7, mb4.7/6,mB5.1/3,MLv4.0/7,Mw(mB)4.4/3*
*IDC **04** 17:50:21.6±5.0,7°.82S×117°.29E,h354km±55km,mb3.5/12, mb1 3.6/13,mb1mx3.5/25,mbtmp3.5/13,Error ellipse: s-maj=33.2km s-min=12.4km az=60.0*

ISC 04 17:50:17.1±0.6,7°.78S±0°.08×117°.25E±0°.07,h300km,**n44,**
σ1§09/43,**mb3.8**/11,**Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
KHKI	**Kahang-Kahang**	**1.73**	**250**	P		**Pn**	**17 51 01.0**		**-0.8**
SRBI	**Singaraja**	**2.04**	**261**	P		**Pn**	**17 51 03.8**		**-0.4**
LBFI	**Labuhan Bajo,**	**2.71**	**105**	P		Pn	17 51 07.9		-2.2
ABJI	**Asem Bagus**	**2.98**	**269**	P		**Pn**	**17 51 14.1**		**+1.4**
KMMI	**Kalianget**	**3.33**	**282**	P		**Pn**	**17 51 18.3**		**+2.1**
BLJI	**Banyuglugur**	**3.62**	**270**	P		**Pn**	**17 51 19.9**		**+0.7**
BKSI	**Bulukumba**	**3.75**	**50**	P		**Pn**	**17 51 20.2**		**-0.5**
GMJI	**Gumukmas**	**3.80**	**262**	P		**Pn**	**17 51 21.1**		**0.0**
GMJI				S		**S**	**17 52 12.1**		**-0.3**
BNSI	**Bone**	**4.40**	**40**	P		**Pn**	**17 51 28.1**		**+0.3**
KRKI	**Karangkates**	**4.76**	**265**	P		**Pn**	**17 51 32.8**		**+0.9**
GRJI	**Gresik**	**4.80**	**280**	P		**Pn**	**17 51 34.5**		**+2.1**
MMRI	**Maumere**	**5.01**	**100**	P		Pn	17 51 32.8		-2.0
MMRI				S		S	17 52 31.8		-5.5
MMSI	**Mamuju**	**5.32**	**18**	P		**Pn**	**17 51 39.7**		**+1.3**
	29nm,0.7s,365nm								
SJI	**Sawahan**	**5.43**	**270**	P		**Pn**	**17 51 40.8**		**+1.0**
	227nm,0.3s,9μm								
PCJI	**Pacitan**	**6.03**	**266**	P		**Pn**	**17 51 46.5**		**-0.3**
	240nm,0.4s,10μm								
BJII	**Banjamegara**	**7.49**	**273**	P		**Pn**	**17 52 04.3**		**-0.2**
	33nm,0.8s								
TGJI	**Tegal**	**8.11**	**276**	P		**Pn**	**17 52 12.5**		**+0.4**
	70nm,1.2s								
KPJI	**Karang Pucung**	**8.26**	**272**	P		**Pn**	**17 52 15.9**		**+2.0**
FITZ	**Fitzroy Crossi**	**13.12**	**142**	P		**Pn**	**17 53 12.8**		**-0.4**
	1.1nm,0.3s,baz=343,slow=8.1,SNR=36								
FITZ				S		**S**	**17 55 41.9**		**+3.5**
	0.4nm,0.3s,baz=158,slow=19,SNR=3.2								
WRA	**Warramunga Arr**	**20.51**	**128**	P		**P**	**17 54 32.2**		**-1.1**
	2.6nm,0.5s,baz=307,slow=9.8

WB0 Warramunga Arr 22.35 162 ⇑P **P 17 56 42.4 -0.5**
baz=22
WRAB Tennant Creek 22.50 163 *e*P **P 17 56 43.8 -0.5**
WRAB *e*S **S 18 00 42.8 +0.7**
WRAB pmax pmax
comp=Z,52nm,0.7s
WRAB Tennant Creek 22.50 163 *e*P **P 17 56 43.8 -0.5**
comp=Z,52nm,0.7s
WRAB *e*S **S 18 00 42.8 +0.7**
WRA Warramunga Arr 22.50 163 P **P 17 56 44.0 -0.4**
WRA S **S 18 00 44.1 +1.9**
WRA ScP **ScP 18 04 00.2 0.0**
WRA Warramunga Arr 22.50 163 P **P 17 56 44.0 -0.4**
comp=Z,37nm,0.6s,baz=341,slow=11,SNR=41
WRA S **S 18 00 44.1 +1.9**
comp=Z,3.8nm,0.8s,baz=342,slow=20,SNR=4.9
WRA ScP **ScP 18 04 00.2 0.0**
comp=Z,1.4nm,0.8s,baz=336,slow=3.0,SNR=7.6
TPUB Ta-pu 22.51 344 *e*P **P 17 56 41.5 -2.9**
comp=Z,34nm,0.8s
PMG Port Moresby 22.54 119 *e*P **P 17 56 43.7 -1.1**
comp=Z,14nm,0.7s
PMG Port Moresby 22.54 119 P **P 17 56 44.1 -0.7**
comp=Z,16nm,0.8s,baz=316,slow=5.3,SNR=7.0
PMG Port Moresby 22.54 119 ⇑P **P 17 56 43.7 -1.1**
baz=22,SNR=4.0
PMG ⇑P **P 17 56 43.7 -1.1**
baz=22,SNR=4.0
PMG ⇑P **P 17 56 43.7 -1.1**
baz=22,SNR=4.0
MYKOM Kota Tinggi 23.53 271 P **P 17 56 54.8 +0.7**
MYKOM Kota Tinggi 23.53 271 *e*P **P 17 56 54.7 +0.6**
comp=Z,23nm,0.8s
YHNB Yeheng 23.63 346 *e*P **P 17 56 54.2 -0.7**
comp=Z,23nm,0.8s
MBWA Marble Bar 23.86 198 *e*P **P 17 56 56.9 -0.1**
KGM Kluang 24.06 271 P **P 17 57 00.0 +1.1**
QIZ Qiongzhong 24.38 316 P **P 17 57 01.3 -0.4**
QIZ sP **sP 17 57 41.1 -2.2**
QIZ S **S 18 01 14.3 +1.9**
QIZ pmax pmax
comp=Z,18nm,1.3s
UBPT Khong Chiam 25.52 303 P **P 17 57 13.1 +0.9**
comp=Z,48nm,0.8s
FRIM Kepong 25.79 274 P **P 17 57 15.0 +0.4**
AS15 Alice Springs 25.91 166 ⇓P **P 17 57 15.7 +0.1**
baz=26
AS31 Alice Springs 25.93 166 *e*P **P 17 57 15.3 -0.5**
AS31 *e*S **S 18 01 38.2 +1.2**
ASAR Alice Springs 25.94 166 P **P 17 57 15.7 -0.1**
ASAR S **S 18 01 43.5 +6.5**
ASAR ScP **ScP 18 04 09.7 +0.1**
ASAR Alice Springs 25.94 166 P **P 17 57 15.7 -0.1**
comp=Z,10.0nm,0.7s,baz=334,slow=6.0,SNR=55
ASAR S **S 18 01 43.5 +6.5**
comp=Z,1.6nm,0.8s,baz=351,slow=21,SNR=4.0
ASAR ScP **ScP 18 04 09.7 +0.1**
comp=Z,1.4nm,0.7s,baz=345,slow=2.3,SNR=9.0
IPM Ipoh 26.47 277 P **P 17 57 21.0 +0.1**
IPM Ipoh 26.47 277 *e*P **P 17 57 20.1 -0.7**
comp=Z,11nm,0.7s
CHBT CHBT 27.17 295 P **P 17 57 27.6 +0.7**
comp=Z,40nm,0.9s,comp=Z,4µm
CTA Charters Tower 28.43 140 P **P 17 57 38.7 +0.5**
CTA Charters Tower 28.43 140 P **P 17 57 38.7 +0.5**
comp=Z,4.1nm,0.7s,baz=325,slow=14,SNR=4.7
CTA Charters Tower 28.43 140 ⇓P **P 17 57 38.8 +0.7**
baz=28
CTAO Charters Tower 28.43 140 P **P 17 57 38.9 +0.7**
CTAO pmax pmax
comp=Z,13nm,0.9s
CTAO Charters Tower 28.43 140 P **P 17 57 38.9 +0.7**
comp=Z,13nm,0.9s
PSI Prapat 28.47 273 P **P 17 57 38.2 -0.5**
PSI ScP **ScP 18 04 17.4 -0.2**
PSI Prapat 28.47 273 P **P 17 57 38.2 -0.5**
comp=Z,15nm,0.7s,baz=110,slow=5.3,SNR=17
PSI ScP **ScP 18 04 17.4 -0.2**
comp=Z,4.7nm,0.8s,baz=313,slow=20,SNR=3.7
CHAI Chaiyaphum 28.77 301 P **P 17 57 41.0 -0.2**
comp=Z,8.8nm,0.8s
GSI Gunungsitoli 29.80 270 *e*P **P 17 57 50.0 -0.4**
comp=Z,37nm,0.5s
PBKT Sadao Pong 29.94 301 P P 17 57 56.2 +4.6
comp=Z,24nm1,1.9s,comp=Z,3µm
NJ2 Nanjing 31.31 346 *e*P **P 17 58 03.0 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
GYA Guiyang 31.72 323 *e*P **P 17 58 08.7 +1.5**
GYA pP **pP 17 58 35.4 +0.7**
GYA sP **sP 17 58 50.2 +1.0**
GYA PP **PnPn 17 59 18.3 +1.7**
GYA S **S 18 03 05.9 -2.0**
GYA sS **sS 18 03 57.0 +1.2**
GYA ScP **ScP 18 04 26.3 -1.6**
GYA PcS **PcS 18 04 40.2 -0.8**
GYA ScS **ScS 18 08 23.5 -3.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
LAMP Lampang 31.98 303 P **P 17 58 11.4 +1.9**
comp=Z,3.3nm,0.9s
FORT Forrest 32.24 179 *e*P **P 17 58 11.7 +0.2**
comp=Z,38nm,0.8s
FORT Forrest 32.24 179 ⇑P **P 17 58 11.3 -0.3**
baz=32,SNR=12
CM31 Chiang Mai Arr 32.52 303 *e*P **P 17 58 14.3 +0.1**
comp=Z,1.7nm,0.4s
CMAR Chiang Mai Arr 32.52 303 P **P 17 58 14.1 -0.2**
CMAR PcP **PcP 18 00 59.1 +0.9**
CMAR ScP **ScP 18 04 32.8 +2.0**
CMAR Chiang Mai Arr 32.52 303 P **P 17 58 14.1 -0.2**
comp=Z,4.2nm,0.9s,baz=116,slow=6.9,SNR=24
CMAR PcP **PcP 18 00 59.1 +0.9**
comp=Z,1.0nm,0.9s,baz=154,slow=3.2,SNR=4.4
CMAR ScP **ScP 18 04 32.8 +2.0**
comp=Z,1.8nm,0.9s,baz=150,slow=2.2,SNR=11
CMAR LR LR 18 12 42.2
comp=Z,27nm,18.8s,baz=306,slow=38
CMMT Chiang Mai 32.68 303 P **P 17 58 15.8 +0.1**
comp=Z,15nm,1.0s
CHTO Chiang Mai 32.69 303 *e*P **P 17 58 15.8 +0.1**
CHTO pmax pmax
comp=Z,4.0nm,1.3s
CHTO Chiang Mai 32.69 303 *e*P **P 17 58 15.8 +0.1**
comp=Z,3.6nm,1.3s
CHTO Chiang Mai 32.69 303 P **P 17 58 15.9 +0.2**
comp=Z,57nm,1.5s
CMAI Chiengmai2 33.14 305 P **P 17 58 20.1 +0.3**
comp=Z,60nm,1.3s
ENH Enshi 33.16 331 *e*P **P 17 58 19.4 -0.3**
comp=Z,5.7nm,0.7s
KMI Kunming 33.33 317 P **P 17 58 22.6 +1.1**
KMI pmax pmax
comp=Z,10.0nm,1.3s
KLBR Kellerberrin 34.29 195 ⇑P **P 17 58 29.5 +0.1**
baz=34,SNR=9.0
RMQ Roma 34.74 145 ⇑P **P 17 58 33.8 +0.4**
baz=34
BBOO Buckleboo 35.23 167 *e*P **P 17 58 37.5 0.0**
comp=Z,455nm,0.6s
EIDS Eidsvold 35.31 141 *e*P **P 17 58 38.5 +0.2**
comp=Z,16nm,0.9s
KSAR Wonju Array Be 35.64 1 P **P 17 58 40.2 -0.6**
KSRS Korea Array 35.65 1 P **P 17 58 40.3 -0.7**
comp=Z,1.9nm,0.8s,baz=175,slow=9.9,SNR=4.8
NWAO Narrogin (SRO) 35.69 195 P **P 17 58 41.6 +0.2**
NWAO Narrogin (SRO) 35.69 195 P **P 17 58 41.6 +0.2**
comp=Z,11nm,0.7s,baz=5.3,slow=2.6,SNR=9.7
STKA Stephens Creek 35.95 159 *e*P **P 17 58 43.8 +0.2**
comp=Z,12nm,0.7s
STKA *e*sP **sP 17 59 22.6 -3.3**
STKA *e*PP **PP 18 00 06.1 -1.9**
STKA Stephens Creek 35.95 159 P **P 17 58 44.0 +0.3**
comp=Z,54nm,0.7s,baz=333,slow=8.5,SNR=102
STKA LR LR 18 14 55.5
comp=Z,46nm,19.2s,baz=204,slow=38
STKA Stephens Creek 35.95 159 ⇓P **P 17 58 43.3 -0.4**
baz=36,SNR=61
HTT Hallett 36.53 164 ⇑P **P 17 58 49.1 +0.4**
baz=36,SNR=7.6
XAN Xi'an 36.57 334 P **P 17 58 48.4 -0.6**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,20nm,5.0s
CD2 Chengdu 36.72 325 *e*P **P 17 58 51.3 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,50nm,6.2s
RKGY Rocky Gully 37.35 194 ⇓P **P 17 58 56.8 +1.3**
baz=37,SNR=11
ARPS Mount Arapiles 40.50 162 ⇓P **P 17 59 22.2 +0.5**
baz=40,SNR=14
LZH Lanzhou 40.63 330 *e*P **P 17 59 24.2 +1.2**
LZH pP **pP 17 59 52.7 +1.4**
LZH sP **sP 18 00 07.0 +1.4**
LZH PcP **PcP 18 01 24.0 +1.4**
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.9s
YNG Young 40.83 153 ⇓P **P 17 59 25.8 +1.4**
baz=41,SNR=5.9
HHC Hu-ho-hao-te 41.58 342 *e*P **P 17 59 33.0 +2.4**
HHC pP **pP 18 00 01.4 +2.4**
HHC sP **sP 18 00 16.4 +3.1**
HHC PP **PnPn 18 01 15.5 +0.2**
HHC PcP **PcP 18 01 26.0 +0.5**
HHC ScP **ScP 18 05 03.6 -0.6**
HHC S **S 18 05 40.0 +2.6**
HHC sS **sS 18 06 31.4 +4.7**
HHC SS **SS 18 08 47.8 +0.3**
HHC ScS **ScS 18 09 20.5 -0.5**
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,290nm,5.0s
HHC LR LR
comp=Z,340nm,14.9s
HHC LR LR
comp=Z,420nm,14.9s
HHC LR LR
comp=Z,240nm,14.6s
SHL Shillong 41.66 308 *e*P **P 17 59 32.0 +0.4**
CN2 Changchun 42.02 358 *e*P **P 17 59 34.1 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USRK Ussuriysk Arra 42.58 5 P **P 17 59 37.7 -0.8**
comp=Z,3.7nm,0.8s,baz=195,slow=11,SNR=6.4
LSA Lhasa 44.32 313 *e*P **P 17 59 54.4 +1.1**
LSA *e**PP **pP 18 00 22.6 +0.6**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 44.32 313 *e*P **P 17 59 54.4 +1.1**
comp=Z,5.3nm,0.6s
LSA *e*pP **pP 18 00 22.6 +0.6**
DZM Mont Dzumac 44.81 124 P **P 17 59 57.1 +0.2**
DZM Mont Dzumac 44.81 124 P **P 17 59 57.1 +0.2**
comp=Z,11nm,0.8s,baz=129,slow=22,SNR=4.6
TAPN Taplejung 45.79 308 *e*P **P 18 00 05.2 +0.4**
comp=Z,29nm,0.9s
TAPN Taplejung 45.79 308 *e*P **P 18 00 05.2 +0.4**
ODAN Odare 45.83 307 *e*P **P 18 00 05.1 +0.1**
comp=Z,32nm,0.9s
ODAN Odare 45.83 307 *e*P **P 18 00 05.1 +0.1**
RAMN Ramite 46.50 306 *e*P **P 18 00 10.8 +0.5**
comp=Z,54nm,1.1s
RAMN Ramite 46.50 306 *e*P **P 18 00 10.8 +0.5**
JIRN Jiri 47.14 307 *e*P **P 18 00 15.6 +0.2**
comp=Z,30nm,0.8s
JIRN Jiri 47.14 307 *e*P **P 18 00 15.6 +0.2**
GUN Gumba 47.50 307 *e*P **P 18 00 18.5 +0.4**
comp=Z,50nm,0.7s
GUN Gumba 47.50 307 *e*P **P 18 00 18.5 +0.4**
PKI Pulchoki 47.73 307 *e*P **P 18 00 19.4 -0.5**
PKI Pulchoki 47.73 307 *e*P **P 18 00 19.7 -0.2**
PKI Pulchoki 47.73 307 *e*P **P 18 00 19.7 -0.2**
PKIN Phulchoki 47.74 307 *e*P **P 18 00 19.7 -0.2**
TAU Tasmania Unive 47.84 160 P **P 18 00 18.3 -1.8**
TAU Tasmania Unive 47.84 160 P **P 18 00 18.3 -1.8**
KKN Kakani 47.92 307 *e*P **P 18 00 21.3 0.0**
comp=Z,16nm,0.7s
KKN Kakani 47.92 307 *e*P **P 18 00 21.3 0.0**
KKN Kakani 47.92 307 *e*P **P 18 00 21.3 0.0**
DMN Daman 47.98 307 *e*P **P 18 00 21.8 0.0**
comp=Z,25nm,1.0s
DMN Daman 47.98 307 *e*P **P 18 00 21.8 0.0**
GKN Gorkha 48.53 307 *e*P **P 18 00 25.6 -0.2**
comp=Z,29nm,1.0s
GKN Gorkha 48.53 307 *e*P **P 18 00 25.6 -0.2**
KOLN Koldanda 49.27 306 *e*P **P 18 00 31.9 +0.4**
comp=Z,50nm,0.8s
KOLN Koldanda 49.27 306 *e*P **P 18 00 31.9 +0.4**
ULN Ulaanbaatar 49.30 342 *e*P **P 18 00 31.1 -0.3**
comp=Z,4.6nm,0.9s
DANN Dangsing 49.38 307 *e*P **P 18 00 32.7 +0.2**
comp=Z,54nm,0.8s
DANN Dangsing 49.38 307 *e*P **P 18 00 32.7 +0.2**
SONM Songino Array 49.48 341 P **P 18 00 32.6 -0.1**
SONM pP **pP 18 01 01.6 -0.4**
SONM ScP **ScP 18 05 36.8 0.0**
SONM Songino Array 49.48 341 P **P 18 00 32.6 -0.1**
comp=Z,2.0nm,0.7s,baz=156,slow=7.0,SNR=11
SONM pP **pP 18 01 01.6 -0.4**
comp=Z,1.2nm,0.6s,baz=162,slow=7.2,SNR=3.6
SONM ScP **ScP 18 05 36.8 0.0**
comp=Z,0.7nm,0.8s,baz=168,slow=3.0,SNR=4.8
PYUN Piuthan 49.89 306 *e*P **P 18 00 36.6 +0.3**
comp=Z,118nm,0.8s
PYUN Piuthan 49.89 306 *e*P **P 18 00 36.6 +0.3**
HYB Hyderabad 50.46 291 *i*P **P 18 00 40.0 -0.5**
WMQ Urumqi 54.81 326 P P 18 01 07.0 -5.2
WMQ pmax pmax
comp=Z,32nm,1.0s
HVS Khovu-Aksy 56.91 335 ⇑*i*P **P 18 01 27.2 +0.2**
HVS pmax pmax
comp=Z,24nm,1.0s
PETK Petropavlovsk- 57.12 21 P **P 18 01 28.0 -0.4**
PETK pmax pmax
comp=Z,9.0nm,0.9s
PETK Petropavlovsk- 57.12 21 P **P 18 01 28.0 -0.4**
PETK Petropavlovsk- 57.12 21 P **P 18 01 28.0 -0.4**
comp=Z,9.3nm,0.9s,baz=211,slow=8.3,SNR=5.2
MK31 Makanchi Array 59.64 326 *e*P **P 18 01 46.0 0.0**
MK31 *e**PP **pP 18 02 14.5 -1.7**
MK31 Makanchi Array 59.64 326 *e*P **P 18 01 46.0 0.0**
MK31 *e*pP **pP 18 02 14.5 -1.7**
MKAR Makanchi Array 59.64 326 P P 18 01 46.2 +0.1
MKAR *e*PP **pP 18 02 14.5 -1.8**
MKAR pmax pmax
comp=Z,4.0nm,0.3s
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR pmax pmax
comp=N,1.0nm,0.8s
MKAR MLR MLR
comp=Z,34nm,19.0s
MKAR Makanchi Array 59.64 326 P **P 18 01 46.1 +0.1**
MKAR pP **pP 18 02 14.4 -1.8**
MKAR ScP **ScP 18 06 20.8 -0.4**
MKAR Makanchi Array 59.64 326 P **P 18 01 46.1 +0.1**
comp=Z,3.5nm,0.3s,baz=117,slow=7.8,SNR=52
MKAR pP **pP 18 02 14.4 -1.8**
comp=Z,2.9nm,0.5s,baz=120,slow=7.3,SNR=3.7
MKAR ScP **ScP 18 06 20.8 -0.4**
comp=Z,0.6nm,0.8s,baz=108,slow=5.4,SNR=4.3
MKAR LR LR 18 28 07.8
comp=Z,34nm,19.0s,baz=27,slow=36
RPZ Rata Peaks 59.68 145 P **P 18 01 45.6 -0.7**
RPZ Rata Peaks 59.68 145 P **P 18 01 45.6 -0.7**
comp=Z,13nm,0.8s,baz=2.7,slow=14,SNR=4.5
YAK Yakutsk 60.27 1 *e*P **P 18 01 49.4 -0.5**
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK Yakutsk 60.27 1 P **P 18 01 49.4 -0.5**
comp=Z,13nm,0.6s
MCQ Macquarie Isla 61.72 160 *e*P **P 18 02 02.1 +2.3**
MCQ Macquarie Isla 61.72 160 *e*P **P 18 02 02.1 +2.3**
comp=Z,16µm,1.1s
TKM2 Tokmak 2 61.74 319 *e*P **P 18 02 01.3 +0.7**
TKM2 pmax pmax
comp=Z,7.0nm,0.7s
TKM2 Tokmak 2 61.74 319 *e*P **P 18 02 01.3 +0.7**
comp=Z,6.8nm,0.7s
AAK Ala-Archa 62.34 318 P **P 18 02 04.8 +0.2**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 62.34 318 P **P 18 02 04.8 +0.2**
AAK Ala-Archa 62.34 318 P **P 18 02 04.8 +0.2**
comp=Z,2.9nm,0.8s,baz=162,slow=12,SNR=6.3
ZAA0 Zalesovo Array 62.74 333 P **P 18 02 06.1 -0.6**
ZALV Zalesovo Beam 62.74 333 P **P 18 02 05.6 -1.1**
ZALV *PP **pP 18 02 35.6 -1.6**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 62.74 333 P **P 18 02 05.5 -1.1**
ZALV pP **pP 18 02 35.6 -1.6**
ZALV Zalesovo Beam 62.74 333 P **P 18 02 05.5 -1.1**
comp=Z,1.2nm,0.4s,baz=132,slow=6.2,SNR=7.3
ZALV pP **pP 18 02 35.6 -1.6**
comp=Z,2.7nm,0.8s,baz=94,slow=4.9,SNR=3.4
EKS2 Erkin-Say 62.83 318 *e*P **P 18 02 09.4 +1.6**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 62.83 318 *e*P **P 18 02 09.3 +1.6**
comp=Z,7.5nm,0.8s
KBL Kabul 63.32 308 *e*P **P 18 02 11.6 +0.4**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 63.32 308 *e*P **P 18 02 11.6 +0.4**
comp=Z,4.7nm,0.6s
KURBB Kurchatov Arra 63.85 328 P **P 18 02 13.8 -0.3**
comp=Z,14nm,0.7s,baz=129,slow=6.2,SNR=43
KURBB pP **pP 18 02 43.2 -1.4**
comp=Z,6.0nm,0.8s,baz=125,slow=6.1,SNR=4.5
KURK Kurchatov 63.85 328 P **P 18 02 13.8 -0.3**
KURK *PP **pP 18 02 43.3 -1.4**
KURK pmax pmax
comp=Z,14nm,0.7s
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 63.85 328 P **P 18 02 13.8 -0.3**
KURK pP **pP 18 02 43.2 -1.4**
SEY Seymchan 63.92 12 *i*P **P 18 02 14.8 +0.5**
NVS Novosibirsk 64.03 333 *e*P **P 18 02 13.7 -1.4**
KK31 Karatay Array 65.21 317 *i*P **P 18 02 23.3 +0.2**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 65.21 317 *e*P **P 18 02 24.0 +0.9**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 65.21 317 *e*P **P 18 02 24.0 +0.9**
comp=Z,5.0nm,0.8s
BVA0 Borovoye Array 69.42 327 *i*P **P 18 02 48.9 -0.6**
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 69.50 327 *e*P **P 18 02 49.6 -0.3**
BRVK *e*PP **pP 18 03 20.2 -0.7**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 69.50 327 *e*P **P 18 02 49.6 -0.3**
comp=Z,6.2nm,0.8s
BRVK *e*pP **pP 18 03 20.2 -0.7**
TIXI Tiksi 69.92 0 ⇑*i*P **P 18 02 51.5 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
AB31 Akbulak array 74.18 321 *i*P **P 18 03 17.2 -0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 74.18 321 *e*P **P 18 03 17.3 -0.6**
ABKAR *e*pP **pP 18 03 48.2 -1.1**
ARU Arti 77.05 328 *c i*P **P 18 03 32.5 -1.6**
ARU 18 06 24.4
ARU S S 18 13 18.8 +6.4
ARU SS **SS 18 18 11.5 -0.7**
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU Arti 77.05 328 *e*P **P 18 03 32.4 -1.8**
comp=Z,2.7nm,0.7s
OPO Ambohidratompo 81.23 251 P **P 18 03 57.7 -0.2**
OPO Ambohidratompo 81.23 251 P **P 18 03 57.7 -0.2**
comp=Z,1.0nm,0.6s,baz=18,slow=6.4,SNR=2.9
VNDA Vanda 81.28 173 *e*P **P 18 03 56.6 -0.1**
comp=Z,7.5nm,0.8s
VNDA Vanda 81.28 173 P **P 18 03 56.8 0.0**
comp=Z,6.8nm,0.8s,baz=308,slow=5.7,SNR=11
MAW Mawson 82.03 200 P **P 18 04 01.6 +0.7**
MAW Mawson 82.03 200 P **P 18 04 01.6 +0.7**
comp=Z,7.4nm,0.9s,baz=61,slow=5.7,SNR=13
MAW Mawson 82.03 200 ⇓P **P 18 04 01.2 +0.3**
baz=82,SNR=7.9
PMR Palmer 85.46 28 *e*P **P 18 04 17.8 -0.6**
PMR pmax pmax
comp=Z,7.0nm,0.8s
PMR Palmer 85.46 28 *e*P **P 18 04 17.8 -0.6**
comp=Z,7.4nm,0.8s
MCK McKinley 85.73 26 P **P 18 04 18.2 -1.6**
MCK pmax pmax
comp=Z,4.0nm,0.7s
MCK McKinley 85.73 26 P **P 18 04 18.2 -1.6**
comp=Z,4.1nm,0.7s
ILAR Eielson Array 86.70 25 P **P 18 04 22.7 -1.8**
ILAR Eielson Array 86.70 25 P **P 18 04 22.7 -1.8**
comp=Z,0.5nm,0.7s,baz=256,slow=5.0,SNR=5.7
OBN Obninsk 89.14 325 *e*P **P 18 04 38.6 +2.3**
OBN pmax pmax
comp=Z,4.0nm,0.8s
SYO Syowa Base 90.72 201 ⇑*e*P **P 18 04 42.7 -0.6**
QSPA South Pole Qui 91.56 180 *e*P **P 18 04 47.2 -0.2**
comp=Z,78nm,2.8s
ARCES ARCESS Array B 92.63 340 P **P 18 04 51.1 -1.1**
ARCES ARCESS Array B 92.63 340 P **P 18 04 51.1 -1.1**
comp=Z,2.4nm,0.8s,baz=69,slow=6.6,SNR=5.3
AKASG Malin Array Be 93.92 321 *i*P P 18 05 07.0 +8.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 122.33 53 PKP **PKPdf 18 10 36.1 -0.1**
TXAR Lajitas Array 122.33 53 PKP **PKPdf 18 10 36.1 -0.1**
comp=Z,0.4nm,0.7s,baz=253,slow=1.3,SNR=6.1
TORD Torodi Ar. Bea 124.17 287 PKP **PKPdf 18 10 39.5 -0.4**
TORD Torodi Ar. Bea 124.17 287 PKP **PKPdf 18 10 39.5 -0.4**
comp=Z,1.8nm,0.7s,baz=57,slow=2.0,SNR=13
TOC5 Torodi Ar. Sit 124.20 287 ⇑P **PKPdf 18 10 39.5 -0.5**
baz=124
TKL Tuckaleechee C 132.85 35 PKP **PKPdf 18 10 56.0 +0.1**
TKL Tuckaleechee C 132.85 35 PKP **PKPdf 18 10 56.0 +0.1**
comp=Z,2.6nm,0.4s,baz=149,slow=4.2,SNR=5.5
LCO Las Campanas 147.77 149 *e*PKPbc **PKPbc 18 11 26.1 -0.1**
CPUP Villa Florida 155.03 170 PKPab **PKPab 18 11 58.4 -0.2**
CPUP Villa Florida 155.03 170 PKPab **PKPab 18 11 58.4 -0.2**
comp=Z,4.2nm,0.9s,baz=116,slow=9.1,SNR=3.5
LPAZ La Paz 158.89 134 PKPab **PKPab 18 12 17.4 +1.0**
LPAZ La Paz 158.89 134 PKPab **PKPab 18 12 17.4 +1.0**
comp=Z,2.5nm,0.9s,baz=206,slow=2.2,SNR=7.0

BJI ***04*** *18:22:47.6,21°.36N×144°.52E,h147km,mB5.0/14, mb4.6/26*
ISCJB ***04*** *18:22:49.0±0.8,21°.75N±0°.03×144°.23E±0°.05, h129km±7km,mb4.4/70, Error ellipse: s-maj=7.1km s-min=5.6km az=172.9*
IDC ***04*** *18:22:50.5±1.5,21°.73N×144°.27E,h131km±12km, mb4.0/24,mb1 4.1/26,mb1mx4.0/35,mbtmp4.0/26,Error ellipse: s-maj=13.4km s-min=8.9km az=98.0*
MOS ***04*** *18:22:51.3±1.0,21°.72N×144°.22E,h154km,mb4.3/27, Error ellipse: s-maj=11.8km s-min=6.9km az=103.6*
NEIC ***04*** *18:22:51.2±0.8,21°.74N×144°.22E,h138km±8km,mb4.6/37, Error ellipse: s-maj=6.2km s-min=4.4km az=91.0*

ISC 04 18:22:51.9±0.5,21°.80N±0°.04×144°.30E±0°.07,h143km±3km, n169,σ1§13/212,mb4.4/70,1C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
CBIJ	**Chichi jima**	**5.61**	**340**	P	**Pn**	**18**	**24**	**11.0**	**-2.3**
CBIJ				S	**Sn**	**18**	**25**	**12.8**	**-4.1**
JCJ	**Chichijima**	**5.61**	**340**	P	**Pn**	**18**	**24**	**11.0**	**-2.3**
	23nm,0.3s,baz=308,slow=22,SNR=8.4								
JCJ				S	**Sn**	**18**	**25**	**12.8**	**-4.1**
	75nm,0.3s,baz=128,slow=20,SNR=12								
GUMO	**Guam**	**8.19**	**176**	*e*Pn	**Pn**	**18**	**24**	**47.7**	**-0.2**
GUMO				*e*Sn	**Sn**	**18**	**26**	**20.0**	**+1.1**
MAJO	**Matsushiro**	**15.62**	**341**	*e*P	**Pn**	**18**	**26**	**24.4**	**+0.2**
MAJO				pmax	pmax				
	comp=Z,6.0nm,0.7s								
MAJO	**Matsushiro**	**15.62**	**341**	*e*Pn	**Pn**	**18**	**26**	**24.4**	**+0.2**
	comp=Z,6.4nm,0.7s								
MAT	**Matsushiro**	**15.62**	**341**	P	**Pn**	**18**	**26**	**24.1**	**-0.1**
JNU	**Nakatsue**	**16.38**	**316**	P	**Pn**	**18**	**26**	**33.6**	**-0.1**
JNU	**Nakatsue**	**16.38**	**316**	P	**Pn**	**18**	**26**	**33.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=112,slow=19,SNR=1.7								
KSRS	**Korea Array**	**21.07**	**321**	P	**P**	**18**	**27**	**25.6**	**+0.9**
	comp=Z,5.5nm,0.6s,baz=146,slow=8.5,SNR=28								

KSAR	Wonju Array Be	21.08	321	P		P	18 27 25.6	+0.8
YHNB	Yeheng	21.25	282	P		P	18 27 27.4	+0.5
ASAJ	Asahikawa	22.30	357	P		P	18 27 39.0	+1.5
ASAJ	Asahikawa	22.30	357	P		P	18 27 39.0	+1.5
	comp=Z,6.4nm,0.8s,baz=190,slow=30,SNR=5.3							
JAY	Jayapura	24.42	189	P		P	18 27 57.9	+0.5
	baz=20,SNR=4.0							
NJ2	Nanjing	24.82	300	*e*P		P	18 28 01.1	+0.3
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2	Changchun	26.94	329	*e*P		P	18 28 23.7	+3.9
CN2				*e*S		S	18 32 48.5	+2.3
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
MYLDM	Lahad Datu	29.95	240	*e*P		P	18 28 49.8	+3.0
	comp=Z,23nm,1.1s							
PMG	Port Moresby	31.14	175	*e*P		P	18 28 55.7	-1.5
	comp=Z,24nm,0.7s							
PMG	Port Moresby	31.14	175	P		P	18 28 56.0	-1.2
	baz=24,SNR=6.9							
PMG				P		P	18 28 56.0	-1.2
	baz=24,SNR=6.9							
PMG				P		P	18 28 56.0	-1.2
	baz=24,SNR=6.9							
PETK	Petropavlovsk-	32.90	15	P		P	18 29 13.1	+0.9
PETK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PETK	Petropavlovsk-	32.90	15	P		P	18 29 13.1	+0.9
PETK	Petropavlovsk-	32.90	15	P		P	18 29 13.1	+0.9
	comp=Z,5.1nm,0.9s,baz=182,slow=10,SNR=3.4							
PET	Petropavlovsk	33.06	16	P		P	18 29 14.9	+1.3
PET				pmax	pmax			
	comp=Z,59nm,1.1s							
PET	Petropavlovsk	33.06	16	P		P	18 29 14.9	+1.3
	comp=Z,59nm,1.1s							
HHC	Hu-ho-hao-te	33.53	312	*e*P		P	18 29 19.6	+1.6
HHC				pP		pP	18 29 51.5	+2.7
HHC				sP		sP	18 30 07.3	+2.0
HHC				PP		PP	18 30 38.7	+2.0
HHC				S		S	18 34 30.0	+0.5
HHC				sS		sS	18 35 23.6	+0.2
HHC				SS		SnSn	18 36 46.5	-2.6
HHC				ScS		ScS	18 39 29.4	+1.1
HHC				pmax	pmax			
	comp=Z,23nm,0.7s							
HHC				pmax	pmax			
	comp=Z,340nm,5.1s							
HHC				LR		LR		
	comp=Z,250nm,13.7s							
HHC				LR		LR		
	comp=Z,240nm,13.8s							
HHC				LR		LR		
	comp=Z,140nm,13.6s							
GYA	Guiyang	34.57	285	*e*P		P	18 29 26.9	-0.3
GYA				pP		pP	18 29 58.0	-0.1
GYA				sP		sP	18 30 16.2	+1.7
GYA				PP		PnPn	18 30 47.8	-0.1
GYA				PcP		PcP	18 31 58.9	+0.1
GYA				S		S	18 34 44.4	-1.6
GYA				PcS		PcS	18 35 44.0	-1.7
GYA				ScS		ScS	18 39 30.5	-3.8
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
COEN	Coen	35.55	182	*e*P		P	18 29 35.1	-0.4
	comp=Z,296nm,0.7s							
CD2	Chengdu	37.27	293	*e*P		P	18 29 49.8	-0.3
CD2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CD2				pmax	pmax			
	comp=Z,40nm,4.8s							
LZH	Lanzhou	37.88	301	*e*P		P	18 29 56.3	+1.1
LZH				pP		pP	18 30 26.1	-0.4
LZH				sP		sP	18 30 41.6	-1.3
LZH				pmax	pmax			
	comp=Z,27nm,1.3s							
LZH				pmax	pmax			
	comp=Z,160nm,5.0s							
KMI	Kunming	38.16	283	P		P	18 29 58.0	+0.2
KMI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ULN	Ulaanbaatar	39.54	320	*e*P		P	18 30 08.4	-0.6
	comp=Z,2.6nm,0.9s							
SONM	Songino Array	39.92	320	P		P	18 30 12.2	+0.1
SONM	Songino Array	39.92	320	P		P	18 30 12.2	+0.1
	comp=Z,1.6nm,0.7s,baz=128,slow=8.5,SNR=17							
YAK	Yakutsk	41.45	350	*e*P		P	18 30 24.3	+0.2
YAK				pmax	pmax			
	comp=Z,4.0nm,0.4s							
GTA	Gaotai	41.66	305	*e*P		P	18 30 27.4	+1.0
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
CTAO	Charters Tower	41.68	177	*e*P		P	18 30 25.6	-0.9
CTAO				pmax	pmax			
	comp=Z,21nm,1.0s							
CTAO	Charters Tower	41.68	177	*e*P		P	18 30 25.6	-0.9
	comp=Z,21nm,1.0s							
CM31	Chiang Mai Arr	42.60	274	*e*P		P	18 30 33.6	-0.6
	comp=Z,1.6nm,0.5s							
CMAR	Chiang Mai Arr	42.60	274	P		P	18 30 34.4	+0.2
CMAR				PcP		PcP	18 32 25.3	+1.4
CMAR				ScP		ScP	18 36 02.3	+0.8
CMAR	Chiang Mai Arr	42.60	274	P		P	18 30 34.4	+0.2
	comp=Z,1.5nm,0.6s,baz=78,slow=6.6,SNR=24							
CMAR				PcP		PcP	18 32 25.3	+1.4
	comp=Z,0.5nm,1.0s,baz=120,slow=1.6,SNR=4.1							
CMAR				ScP		ScP	18 36 02.3	+0.8
	comp=Z,0.9nm,1.0s,baz=146,slow=1.0,SNR=6.2							
WRAB	Tennant Creek	42.60	194	*ce*P		P	18 30 33.5	-0.5
WRAB				pmax	pmax			
	comp=Z,45nm,0.8s							
WRAB	Tennant Creek	42.60	194	*e*P		P	18 30 33.1	-0.9
	comp=Z,18nm,0.7s							
WRA	Warramunga Arr	42.61	194	P		P	18 30 33.5	-0.6
WRA				PcP		PcP	18 32 22.7	-1.1
WRA				ScP		ScP	18 36 03.2	+1.9
WRA				S		S	18 36 47.3	+0.9
WRA	Warramunga Arr	42.61	194	P		P	18 30 33.5	-0.6
	comp=Z,6.7nm,0.3s,baz=15,slow=8.8,SNR=46							
WRA				PcP		PcP	18 32 22.7	-1.1
	comp=Z,0.8nm,0.6s,baz=7.4,slow=3.2,SNR=3.8							
WRA				ScP		ScP	18 36 03.2	+1.9
	comp=Z,0.6nm,0.6s,baz=9.2,slow=4.7,SNR=8.7							
WRA				S		S	18 36 47.3	+0.9
	comp=Z,0.8nm,1.1s,baz=13,slow=13,SNR=3.1							
FITZ	Fitzroy Crossi	43.66	206	*e*P		P	18 30 41.8	-0.7
	comp=Z,8.4nm,0.7s							
KULM	Kulim	45.29	255	*e*P		P	18 30 56.5	+0.8
	comp=Z,20nm,0.6s							
AS31	Alice Springs	46.31	193	*e*P		P	18 31 02.2	-1.2
ASAR	Alice Springs	46.31	193	P		P	18 31 02.5	-0.9
ASAR				PcP		PcP	18 32 35.5	-0.9
ASAR				ScP		ScP	18 36 18.2	+1.8
ASAR				S		S	18 37 38.5	-1.3
ASAR	Alice Springs	46.31	193	P		P	18 31 02.5	-0.9
	comp=Z,5.0nm,0.7s,baz=16,slow=8.7,SNR=53							
ASAR				PcP		PcP	18 32 35.5	-0.9
	comp=Z,0.6nm,0.6s,baz=28,slow=4.2,SNR=3.1							
ASAR				ScP		ScP	18 36 18.2	+1.8
	comp=Z,0.4nm,0.8s,baz=9.5,slow=3.8,SNR=4.3							
ASAR				S		S	18 37 38.5	-1.3
	comp=Z,0.4nm,0.9s,baz=9.9,slow=17,SNR=3.3							
LSA	Lhasa	48.17	291	*e*P		P	18 31 19.1	+0.7
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
LSA	Lhasa	48.17	291	*e*P		P	18 31 19.1	+0.7
	comp=Z,5.4nm,0.6s							
UNV	Unalaska Valle	48.91	37	P		P	18 31 23.5	+0.4
MBWA	Marble Bar	48.97	211	*e*P		P	18 31 22.8	-1.2
	comp=Z,10nm,0.8s							
WMQ	Urumqi	51.31	309	P		P	18 31 43.4	+1.9
WMQ				pmax	pmax			
	comp=Z,21nm,1.0s							
TAPN	Taplejung	51.40	288	*e*P		P	18 31 42.7	0.0
	comp=Z,21nm,1.0s							
TAPN	Taplejung	51.40	288	*e*P		P	18 31 42.7	0.0
ODAN	Odare	51.74	288	*e*P		P	18 31 45.0	-0.2
	comp=Z,22nm,0.9s							
ODAN	Odare	51.74	288	*e*P		P	18 31 45.0	-0.2
RAMN	Ramite	52.43	288	*e*P		P	18 31 50.3	0.0
	comp=Z,16nm,0.9s							
RAMN	Ramite	52.43	288	*e*P		P	18 31 50.3	0.0
JIRN	Jiri	52.70	289	*e*P		P	18 31 52.8	+0.4
	comp=Z,30nm,0.8s							
JIRN	Jiri	52.70	289	*e*P		P	18 31 52.8	+0.4
GUN	Gumba	52.94	289	*e*P		P	18 31 54.4	+0.3
	comp=Z,28nm,1.1s							
GUN	Gumba	52.94	289	*e*P		P	18 31 54.4	+0.3
PKI	Pulchoki	53.40	289	*e*P		P	18 31 57.0	-0.5
	comp=Z,5.4nm,0.6s							
PKI	Pulchoki	53.40	289	*e*P		P	18 31 57.3	-0.2
PKI	Pulchoki	53.40	289	*e*P		P	18 31 57.3	-0.2
PKIN	Phulchoki	53.41	289	*e*P		P	18 31 57.3	-0.2
	comp=Z,4.4nm,0.5s							
STKA	Stephens Creek	53.44	183	*e*P		P	18 31 55.5	-1.5
	comp=Z,2.6nm,0.8s							
STKA	Stephens Creek	53.44	183	P		P	18 31 56.2	-0.8
	comp=Z,13nm,0.8s,baz=351,slow=8.0,SNR=24							
KKN	Kakani	53.48	289	*e*P		P	18 31 58.0	+0.1
	comp=Z,8.6nm,0.7s							
KKN	Kakani	53.48	289	*e*P		P	18 31 58.0	+0.1
KKN	Kakani	53.48	289	*e*P		P	18 31 58.0	+0.1
DMN	Daman	53.66	289	*e*P		P	18 31 59.7	+0.4
DMN	Daman	53.66	289	*e*P		P	18 31 59.7	+0.4
GKN	Gorkha	54.02	289	*e*P		P	18 32 02.0	+0.2
	comp=Z,6.2nm,0.4s							
FORT	Forrest	54.55	197	*e*P		P	18 32 04.3	-0.9
	comp=Z,51nm,0.7s							
DANN	Dangsing	54.74	290	*e*P		P	18 32 07.3	+0.1
	comp=Z,32nm,0.5s							
DANN	Dangsing	54.74	290	*e*P		P	18 32 07.3	+0.1
ZALV	Zalesovo Beam	54.77	321	P		P	18 32 05.8	-0.8
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV				pmax	pmax			
	comp=N,1.0nm,0.4s							
ZALV	Zalesovo Beam	54.77	321	P		P	18 32 05.8	-0.8
ZALV				ScP		ScP	18 36 52.5	+0.1
ZALV	Zalesovo Beam	54.77	321	P		P	18 32 05.8	-0.8
	comp=N,1.4nm,0.4s,baz=101,slow=7.7,SNR=6.2							
ZALV				ScP		ScP	18 36 52.5	+0.1
	comp=N,0.8nm,0.4s,baz=110,slow=8.5,SNR=3.9							
BBOO	Buckleboo	54.87	188	*e*P		P	18 32 06.6	-0.9
	comp=N,249nm,1.0s							
KOLN	Koldanda	54.96	289	*e*P		P	18 32 08.3	-0.3
KOLN	Koldanda	54.96	289	*e*P		P	18 32 08.3	-0.3
MK31	Makanchi Array	55.39	313	*e*P		P	18 32 10.9	-0.3
MK31	Makanchi Array	55.39	313	*e*P		P	18 32 10.9	-0.3
MKAR	Makanchi Array	55.39	313	P		P	18 32 11.3	+0.1
MKAR							18 33 09.8	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR				pmax	pmax			
	comp=N,1.0nm,0.8s							
MKAR	Makanchi Array	55.39	313	P		P	18 32 11.3	+0.1
MKAR				PcP		PcP	18 33 09.8	0.0
MKAR				ScP		ScP	18 36 54.5	-0.8
MKAR	Makanchi Array	55.39	313	P		P	18 32 11.3	+0.1
	comp=N,1.3nm,0.6s,baz=88,slow=8.0,SNR=16							
MKAR				PcP		PcP	18 33 09.8	0.0
	comp=N,1.0nm,0.5s,baz=79,slow=5.2,SNR=6.3							
MKAR				ScP		ScP	18 36 54.5	-0.8
	comp=N,0.7nm,0.8s,baz=94,slow=4.0,SNR=3.6							
KURK	Kurchatov	58.10	317	*e*P		P	18 32 29.5	-0.7
KURK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KURK	Kurchatov	58.10	317	*e*P		P	18 32 29.5	-0.7
	comp=Z,3.1nm,1.0s							
SEW	Seward	59.53	32	*e*P		P	18 32 39.6	-0.3
	comp=Z,7.2nm,0.6s							
PMR	Palmer	59.94	30	P		P	18 32 42.3	-0.3
PMR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
PMR	Palmer	59.94	30	P		P	18 32 42.3	-0.3
	comp=Z,6.3nm,0.7s							
TKM2	Tokmak 2	60.10	308	*e*P		P	18 32 44.9	+0.5
TKM2				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TKM2	Tokmak 2	60.10	308	*e*P		P	18 32 44.9	+0.5
	comp=Z,1.9nm,0.6s							
MCK	McKinley	60.41	28	*e*P		P	18 32 45.3	-0.6
MCK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MCK	McKinley	60.41	28	*e*P		P	18 32 45.3	-0.6
	comp=Z,3.7nm,0.6s							
AAK	Ala-Archa	60.92	308	*e*P		P	18 32 50.2	+0.3
AAK	Ala-Archa	60.92	308	*e*P		P	18 32 50.2	+0.3
ILAR	Eielson Array	61.48	27	P		P	18 32 52.0	-1.0
ILAR	Eielson Array	61.48	27	P		P	18 32 52.0	-1.0
	comp=Z,4.0nm,0.8s,baz=257,slow=5.3,SNR=35							
BRVK	Borovoye	63.33	320	*e*P		P	18 33 04.4	-1.1
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BRVK	Borovoye	63.33	320	*e*P		P	18 33 04.4	-1.1
	comp=Z,2.2nm,0.6s							
KKAR	Karatay Array	63.80	308	*e*P		P	18 33 09.4	+0.5
KKAR	Karatay Array	63.80	308	*e*P		P	18 33 09.4	+0.5
KBL	Kabul	66.19	299	*e*P		P	18 33 24.8	0.0
KBL				pmax	pmax			
	comp=Z,13nm,1.0s							
KBL	Kabul	66.19	299	*e*P		P	18 33 24.8	0.0
	comp=Z,13nm,1.0s							
INK	Inuvik	67.06	24	*e*P		P	18 33 29.4	+0.1
	comp=Z,5.1nm,0.8s							
INK	Inuvik	67.06	24	P		P	18 33 29.6	+0.4
	comp=Z,6.5nm,0.8s,baz=289,slow=6.4,SNR=23							
RPZ	Rata Peaks	69.67	160	P		P	18 33 44.3	-1.6
RPZ	Rata Peaks	69.67	160	P		P	18 33 44.3	-1.6
	comp=Z,13nm,0.9s,baz=137,slow=0.9,SNR=4.5							
ARU	Arti	69.79	324	P		P	18 33 45.5	-1.0
ARU	Arti	69.79	324	P		P	18 33 45.5	-1.0
ABKAR	Akbulak array	70.19	316	*e*P		P	18 33 48.3	-0.8
	comp=Z,1.9nm,0.6s							
YKA	Yellowknife Ar	75.88	28	P		P	18 34 22.4	+0.1
YKA	Yellowknife Ar	75.88	28	P		P	18 34 22.4	+0.1
	comp=Z,3.2nm,0.6s,baz=292,slow=5.7,SNR=7.7							
RES	Resolute Bay	76.73	14	P		P	18 34 27.3	+0.4
RES	Resolute Bay	76.73	14	P		P	18 34 27.3	+0.4
	comp=Z,2.2nm,0.8s,baz=30,slow=5.5,SNR=8.7							
F04A	Amboy	76.86	46	*e*P		P	18 34 30.0	+1.8
	comp=Z,11nm,0.9s							
YBH	Yreka Blue Hor	77.96	50	P		P	18 34 35.8	+1.3
YBH	Yreka Blue Hor	77.96	50	P		P	18 34 35.8	+1.3
	comp=Z,2.6nm,0.7s,baz=336,slow=1.4,SNR=7.4							
B08A	Colville Reser	78.09	43	*e*P		P	18 34 36.3	+1.3
	comp=Z,4.8nm,0.9s							
K05A	Summer Lake	78.92	48	*e*P		P	18 34 41.3	+1.4
	comp=Z,123nm,2.6s							
ARCES	ARCESS Array B	79.15	342	P		P	18 34 42.0	+1.6
ARCES	ARCESS Array B	79.15	342	P		P	18 34 42.0	+1.6
	comp=Z,2.3nm,0.8s,baz=55,slow=9.3,SNR=4.2							
MOD	Modoc	79.61	49	*e*P		P	18 34 44.5	+0.9
	comp=Z,49nm,2.5s							
J08A	Circle Bar Ran	80.37	47	*e*P		P	18 34 48.8	+1.2
	comp=Z,8.4nm,1.1s							
BMO	Blue Mountains	80.62	45	*e*P		P	18 34 49.8	+0.9
BMO				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BMO	Blue Mountains	80.62	45	*e*P		P	18 34 49.8	+0.9
	comp=Z,4.5nm,0.9s							
MFID	Camas Ranch	82.14	46	*e*P		P	18 34 58.1	+1.1
	comp=Z,6.7nm,1.0s							
NVAR	Mina Array Bea	82.27	52	P		P	18 34 58.5	+0.7
NVAR	Mina Array Bea	82.27	52	P		P	18 34 58.5	+0.7
	comp=Z,3.9nm,0.6s,baz=286,slow=5.7,SNR=34							
KBZ	Khabaz	83.04	314	P		P	18 35 01.6	+0.2
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KBZ	Khabaz	83.04	314	P		P	18 35 01.6	+0.2
KBZ	Khabaz	83.04	314	P		P	18 35 01.6	+0.2
	comp=Z,2.6nm,0.8s,baz=85,slow=11,SNR=6.4							
FINES	FINESS Array B	83.53	335	P		P	18 35 02.5	-1.1
FINES	FINESS Array B	83.53	335	P		P	18 35 02.5	-1.1
	comp=Z,3.0nm,0.6s,baz=77,slow=4.5,SNR=25							
ELK	Elko	83.58	49	*e*P		P	18 35 05.3	+0.7
ELK	Elko	83.58	49	P		P	18 35 05.2	+0.7
	comp=Z,1.6nm,0.5s,baz=358,slow=1.7,SNR=10.0							
BOZ	Bozeman (W)	84.00	43	*e*P		P	18 35 01.2	-5.3
BOZ				pmax	pmax			
	comp=Z,25nm,0.8s							
BOZ	Bozeman (W)	84.00	43	*e*P		P	18 35 01.2	-5.3
	comp=Z,25nm,0.8s							
TPNV	Topopah Spring	84.34	53	*e*P		P	18 35 09.2	+0.8
TPNV				pmax	pmax			
	comp=Z,31nm,2.0s							
TPNV	Topopah Spring	84.34	53	*e*P		P	18 35 09.2	+0.8
	comp=Z,31nm,2.0s							
IMW	Indian Meadow	85.19	45	*e*P		P	18 35 14.2	+1.5
	comp=Z,3.8nm,0.8s							
FFC	Flin Flon	85.19	32	P		P	18 35 12.5	+0.4
FFC				pmax	pmax			
	comp=Z,4.0nm,0.8s							
FFC	Flin Flon	85.19	32	P		P	18 35 12.5	+0.4
	comp=Z,4.0nm,0.8s							
FLWY	Flagg Ranch	85.26	44	*e*P		P	18 35 14.7	+1.8
	comp=Z,5.0nm,0.7s							
PFO	Pinyon Flat Ob	85.48	56	P		P	18 35 14.4	+0.3
PFO	Pinyon Flat Ob	85.48	56	P		P	18 35 14.4	+0.3
	comp=Z,1.8nm,0.5s,baz=327,slow=17,SNR=2.6							
DUG	Dugway	85.50	49	*e*P		P	18 35 15.0	+0.9
DUG				pmax	pmax			
	comp=Z,5.0nm,0.6s							
DUG	Dugway	85.50	49	*e*P		P	18 35 15.0	+0.9
	comp=Z,4.5nm,0.6s							
CCUT	Cedar City	86.20	51	*e*P		P	18 35 18.9	+1.2
JLU	Jordanelle	86.27	48	*e*P		P	18 35 19.3	+1.3
PDAR	Pinedale Array	86.59	45	P		P	18 35 19.8	+0.2
PDAR	Pinedale Array	86.59	45	P		P	18 35 19.8	+0.2
	comp=Z,0.6nm,0.6s,baz=238,slow=2.1,SNR=7.0							
AKASG	Malin Array Be	88.02	325	P		P	18 35 24.3	-1.6
AKASG	Malin Array Be	88.02	325	P		P	18 35 24.3	-1.6
AKASG	Malin Array Be	88.02	325	P		P	18 35 24.3	-1.6
	comp=Z,0.2nm,0.4s,baz=51,slow=4.9,SNR=3.3							
PSZ	Piszkesteto	94.59	326	P		P	18 35 55.3	-1.2
PSZ				pmax	pmax			
	comp=Z,5.0nm,1.0s							
PSZ	Piszkesteto	94.59	326	P		P	18 35 55.3	-1.2
	comp=Z,5.4nm,1.0s							
TORD	Torodi Ar. Bea	129.47	310	PKP		PKPdf	18 41 44.0	-0.6
TORD	Torodi Ar. Bea	129.47	310	PKP		PKPdf	18 41 44.0	-0.6
	comp=Z,0.6nm,0.5s,baz=26,slow=1.1,SNR=18							
PLCA	Paso Flores	145.04	131	*e*PKPdf		PKPbc	18 42 12.0	-0.2
PLCA				PKPbc		PKPdf	18 42 12.5	+0.1
PLCA	Paso Flores	145.04	131	PKPbc		PKPdf	18 42 12.5	+0.1
	comp=Z,5.1nm,0.8s,baz=267,slow=3.5,SNR=10							
LPAZ	La Paz	148.90	86	PKPbc		PKPbc	18 42 24.1	-0.2
LPAZ	La Paz	148.90	86	PKPbc		PKPbc	18 42 24.1	-0.2
	comp=Z,1.2nm,0.5s,baz=325,slow=4.0,SNR=4.4							
SAML	Samuel	150.65	68	*e*PKPbc		PKPbc	18 42 27.1	-0.8

IDC 04 18:24:24.6±0.5, 29.40S×178.96W, h331km±6km, mb3.4/4, mb1 3.5/5, mb1mx3.3/18, mbtmp3.4/5, Error ellipse: s-maj=22.7km s-min=21.5km az=107.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.92	81	P		P	Pn	18 25 09.9	+1.9
	631nm,0.3s,baz=274,slow=22,SNR=30								
RAO				S		S		18 25 42.5	-0.2
	97nm,0.3s,baz=107,slow=19,SNR=4.4								
URZ	Urewera	9.42	199	P		P	Pn	18 26 33.6	-1.9
	1.7nm,0.3s,baz=12,slow=18,SNR=15								
URZ				S		S		18 28 13.3	-9.2
	4.6nm,0.3s,baz=266,slow=24,SNR=12								
STKA	Stephens Creek	33.91	256	P		P		18 30 38.4	+0.9
	1.0nm,0.5s,baz=112,slow=9.8,SNR=3.4								
ASAR	Alice Springs	42.34	266	P		P		18 31 46.9	-0.5
	1.1nm,0.7s,baz=105,slow=6.9,SNR=7.7								
WRA	Warramunga Arr	43.23	272	P		P		18 31 54.1	-0.3
	1.3nm,0.4s,baz=108,slow=8.1,SNR=5.1								
QSPA	South Pole Qui	60.71	180	P		P		18 34 02.1	+0.5
	3.0nm,0.6s,baz=45,slow=1.9,SNR=10								
MKAR	Makanchi Array	116.49	311	PKP		PKPdf		18 42 28.1	-0.9
	0.3nm,0.8s,baz=18,slow=1.4,SNR=4.1								
ARCES	ARCESS Array B	137.44	348	PKP		PKPdf		18 43 09.3	+1.1
	1.3nm,0.7s,baz=351,slow=1.6,SNR=3.6								
FINES	FINESS Array B	143.92	340	PKP		PKPab		18 43 18.1	-0.1
	2.7nm,0.3s,baz=51,slow=4.0,SNR=40								
NB2	NORSAR Subarra	147.64	351	PKP		PKPbc		18 43 29.1	-0.6
	comp=Z,0.8nm,0.5s,baz=15,slow=2.7								
NOA	NORSAR Array B	147.64	351	PKPbc		PKPbc		18 43 29.4	-0.3
	comp=Z,1.2nm,0.6s,baz=17,slow=4.3,SNR=4.4								
AKASG	Malin Array Be	150.00	323	PKPbc		PKPbc		18 43 35.5	-0.3
	comp=Z,1.0nm,0.4s,baz=48,slow=2.6,SNR=13								
BRTR	Keskin Array B	151.39	300	PKPbc		PKPbc		18 43 38.9	-0.7
	comp=Z,0.3nm,0.4s,baz=153,slow=4.4,SNR=4.2								
TORD	Torodi Ar. Bea	163.82	182	PKPab		PKPab		18 44 42.3	-0.8
	comp=Z,0.8nm,0.7s,baz=183,slow=2.9,SNR=8.0								

NNC 04 18:36:44.9±11.0, 37.30N×70.21E, h0km, mb3.5, mpv3.2, 3C, Error ellipse: s-maj=136.9km s-min=97.3km az=81.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.80	2	⇑Pn		Pn	Pn	18 38 15.4	+3.2
	0.2nm,0.2s,baz=176,slow=13,SNR=33								
KK31				⇑Sn		Sn	Sn	18 39 25.9	+6.4
	0.8nm,0.3s,baz=188,slow=24,SNR=8.9								
TKM2	Tokmak 2	6.97	35	⇑Pn		Pn	Pn	18 38 25.9	-2.6
	6.0nm

az=175.0
*IDC **04** 19:06:18.5±1.2,43˚.05S×83˚.38W,h0km,mb3.9/7, mb1 4.1/9,mb1mx4.0/19,mbtmp3.8/9,ML3.6/2,MS3.9/14, Ms1 3.9/14,ms1mx3.8/23,Error ellipse: s-maj=32.1km s-min=27.4km az=54.0*

ISC 04 19:06:20.2±1.1,43.1S±0˚.2×83.4W±0˚.2,h10km,n23, σ1§08/9,mb3.7/7,MS4.1/12,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.83**	**81**	Pn	**Pn**	**19 08 42.0**	**+0.3**
	0.3nm,0.3s,baz=272,slow=13,SNR=5.7						
USHA	**Ushuaia**	**15.28**	**146**	LR	LR	19 14 46.8	
	comp=Z,366nm,18.6s,baz=41,slow=33						
CFAA	**Coronel Fontan**	**16.56**	**51**	Pn	**Pn**	**19 10 12.6**	**0.0**
	0.1nm,0.3s,baz=222,slow=14,SNR=6.9						
CFAA				LR	LR	19 15 19.5	
	comp=Z,76nm,20.6s,baz=208,slow=33						
CPUP	**Villa Florida**	**26.98**	**60**	P	**P**	**19 12 01.4**	**-0.7**
	0.6nm,0.3s,baz=245,slow=5.1,SNR=4.0						
CPUP				LR	LR	19 22 37.0	
	comp=Z,542nm,18.1s,baz=212,slow=36						
LPAZ	**La Paz**	**29.68**	**31**	P	**P**	**19 12 26.5**	**-0.5**
	2.3nm,0.5s,baz=138,slow=6.7,SNR=6.7						
SIV	**San Ignacio**	**33.02**	**42**	LR	LR	19 25 27.2	
	comp=Z,271nm,21.1s,slow=35						
ATAH	**Atahualpa**	**36.05**	**8**	LR	LR	19 25 25.9	
	comp=Z,89nm,20.2s,baz=8.9,slow=32						
BDFB	**Brasilia**	**40.69**	**59**	LR	LR	19 31 21.3	
	comp=Z,304nm,18.4s,baz=225,slow=37						
SNAA	**Sanae**	**46.88**	**155**	P	**P**	**19 14 49.4**	**-0.7**
	1.2nm,1.1s,baz=192,slow=19,SNR=3.5						
ROSC	**El Rosal**	**48.39**	**12**	LR	LR	19 33 40.3	
	comp=Z,195nm,18.3s,baz=28,slow=34						
VNDA	**Vanda**	**53.33**	**194**	LR	LR	19 34 30.7	
	comp=Z,204nm,18.9s,baz=110,slow=32						
MAW	**Mawson**	**66.74**	**167**	LR	LR	19 44 47.9	
	comp=Z,45nm,18.9s,baz=24,slow=35						
RPZ	**Rata Peaks**	**70.99**	**228**	LR	LR	19 42 36.6	
	comp=Z,127nm,19.2s,baz=353,slow=31						
URZ	**Urewera**	**71.10**	**235**	LR	LR	19 41 13.4	
	comp=Z,131nm,18.2s,baz=150,slow=30						
TXAR	**Lajitas Array**	**74.42**	**342**	P	**P**	**19 18 00.0**	**+1.6**
	0.4nm,0.6s,baz=156,slow=9.6,SNR=3.8						
BOSA	**Boshof**	**83.19**	**123**	P	**P**	**19 18 48.0**	**+1.1**
	4.2nm,0.9s,baz=160,slow=4.5,SNR=3.2						
BOSA				LR	LR	19 48 07.2	
	comp=Z,69nm,20.6s,baz=176,slow=30						
NVAR	**Mina Array Bea**	**87.09**	**333**	P	**P**	**19 19 05.0**	**-1.1**
	0.1nm,0.3s,baz=133,slow=5.0,SNR=2.4						
PDAR	**Pinedale Array**	**88.63**	**341**	P	**P**	**19 19 12.5**	**-0.8**
	0.3nm,0.7s,baz=131,slow=4.9,SNR=2.6						
STKA	**Stephens Creek**	**94.80**	**217**	LR	LR	19 53 19.2	
	comp=Z,81nm,18.2s,baz=36,slow=30						
TORD	**Torodi Ar. Bea**	**95.29**	**77**	LR	LR	20 02 40.6	
	comp=Z,35nm,18.9s,baz=340,slow=36						
H11S2	**WAKE ISLAND Hy**	**116.85**	**271**	T	T	21 33 02.1	
	baz=123						
H11S1	**WAKE ISLAND Hy**	**116.87**	**271**	T	T	21 32 54.7	
	baz=123						
H11S3	**WAKE ISLAND Hy**	**116.87**	**271**	T	T	21 32 59.3	
	baz=123						

MAN 04 19:43:02,6˚.39N×124˚.68E,h27km,mb4.6,ML3.5,MS3.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.41**	**138**	*eP*	Pn	19 43 15.4	+3.1
GSPH				*i* S	Sn	19 43 25.6	+6.4
CTBH	**Cotabato--PC H**	**0.93**	**333**	*i* P	Pn	19 43 19.3	0.0
CTBH				*i* S	Sb	19 43 30.9	-0.5
BUKP	**Musuan**	**1.52**	**14**	*eP*	Pb	19 43 29.0	-0.7
PAGZ	**Pagadian**	**1.93**	**318**	*eP*	Pb	19 43 35.1	-1.5
CGP	**Cagayan de Oro**	**2.05**	**0**	*eP*	Pn	19 43 35.5	+0.8

*CSEM **04** 19:55:34.2±0.1,30˚.14N×35˚.20E,h8km,ML2.8,Error ellipse: s-maj=3.1km s-min=2.4km az=74.0*

GII 04 19:55:34.7±0.3,30˚.14N×35˚.18E,h10km,MD2.0/6,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**0.17**	**230**	Pg	Pg	19 55 38.8	+0.4
HRFI				Sg	Sg	19 55 41.6	+0.7
PRNI	**Paran**	**0.26**	**324**	Pg	Pg	19 55 40.3	+0.3
PRNI				Sg	Sg	19 55 44.7	+1.1
KRMI	**Paran Flat**	**0.40**	**266**	Pg	Pg	19 55 42.6	0.0
KRMI	**Paran Flat**	**0.40**	**266**	Pg	Pg	19 55 42.6	0.0
ZFRI	**Zfri**	**0.41**	**359**	Pg	Pg	19 55 42.8	0.0
ZFRI				Sg	Sg	19 55 48.0	-0.2
MBRI	**Mt Berech**	**0.42**	**214**	Pg	Pg	19 55 43.1	0.0
MBRI				Sg	Sg	19 55 48.8	+0.1
EIL	**Elat**	**0.51**	**203**	Pg	Pg	19 55 44.7	0.0
EIL				Sg	Sb	19 55 52.6	-0.7
RMNI	**Mount Ramon**	**0.58**	**321**	Pg	Pg	19 55 46.3	+0.2
HBST	**Basata**	**1.00**	**203**	P	Pb	19 55 54.2	0.0
KZIT	**Kziot**	**1.02**	**319**	Pg	Pg	19 55 53.9	-0.5
KZIT				Sg	Sb	19 56 07.9	-0.1
KZIT	**Kziot**	**1.02**	**319**	Pg	Pg	19 55 53.9	-0.5
KZIT				Sg	Sb	19 56 07.9	-0.1
MZDA	**Masada**	**1.17**	**8**	Pg	Pb	19 55 56.4	-0.6
MZDA				Sg	Sb	19 56 11.7	-0.6
MZDA	**Masada**	**1.17**	**8**	Pg	Pb	19 55 56.4	-0.6
MZDA				Sg	Sb	19 56 11.7	-0.6
HDHB	**Dhahab**	**1.50**	**199**	P	Pn	19 56 00.7	-0.9
RSH		**1.50**	**303**	P	Pn	19 56 01.2	-0.5
RSH				S	Sb	19 56 21.6	-0.2
AMAG	**Maghara**	**1.78**	**287**	P	Pn	19 56 06.2	+0.6
SUZ		**2.06**	**262**	P	Pn	19 56 09.4	0.0
SLTI	**Sal'it**	**2.09**	**357**	Pn	Pn	19 56 09.8	-0.1
SLTI				Sn	Sn	19 56 37.0	+1.0
SLTI	**Sal'it**	**2.09**	**357**	Pn	Pn	19 56 09.8	-0.1
SLTI				Sn	Sn	19 56 37.0	+1.0
HMDT	**Nahal Hemdat**	**2.12**	**8**	Pn	Pn	19 56 10.1	-0.2
HMDT	**Nahal Hemdat**	**2.12**	**8**	Pn	Pn	19 56 10.1	-0.2
TR2		**2.17**	**216**	P	Pn	19 56 10.3	-0.6
MMLI	**Mount Malkishu**	**2.30**	**5**	Pn	Pn	19 56 12.6	-0.1
MMLI	**Mount Malkishu**	**2.30**	**5**	Pn	Pn	19 56 12.6	-0.1

*IDC **04** 20:18:59.6±1.3,21˚.13S×178˚.73W,h568km±13km, mb3.7/17,mb1 3.8/19,mb1mx3.7/24,mbtmp3.7/19,Error ellipse: s-maj=18.9km s-min=10.8km az=146.0*
*ISCJB **04** 20:19:02.8±0.3,21˚.28S±0˚.09×178˚.92W±0˚.07,h619km, mb4.3/43,Error ellipse: s-maj=13.2km s-min=5.7km az=148.9*
*NEIC **04** 20:19:08.2±1.9,21˚.26S×179˚.08W,h674km±24km, mb4.4/30,Error ellipse: s-maj=15.6km s-min=11.8km az=134.0*

ISC 04 20:19:04.1±0.5,21˚.2S±0˚.1×178.88W±0˚.09,h619km,n115, σ0§97/115,mb4.3/43,11C-10D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.95**	**44**	P	P	20 21 13.8	-9.2
	4.3nm,0.3s,baz=32,slow=20,SNR=4.5						
AFI				S	S	20 22 59.6	-17
	1.8nm,0.3s,baz=37,slow=20,SNR=4.5						
DZM	**Mont Dzumac**	**13.68**	**264**	P	**P**	**20 21 57.1**	**-2.3**
	0.8nm,0.3s,baz=90,slow=16,SNR=4.3						
RPZ	**Rata Peaks**	**23.33**	**199**	P	**P**	**20 23 30.7**	**-1.0**
	5.6nm,0.6s,baz=14,slow=3.7,SNR=3.3						
EIDS	**Eidsvold**	**27.86**	**256**	*eP*	**P**	**20 24 06.1**	**-0.4**
	6.1nm,0.5s						
EIDS	**Eidsvold**	**27.86**	**256**	P	**P**	**20 24 06.4**	**-0.1**
	baz=35,SNR=5.4						
RMQ	**Roma**	**30.01**	**254**	P	**P**	**20 24 25.9**	**+0.9**
	baz=38,SNR=6.8						
CTA	**Charters Tower**	**32.61**	**266**	P	**P**	**20 24 47.2**	**0.0**
	8.2nm,0.4s,baz=91,slow=11,SNR=17						
CTAO	**Charters Tower**	**32.61**	**266**	*eP*	**P**	**20 24 46.8**	**-0.3**
	11nm,0.6s						
CMSA	**Cobar Meteorol**	**33.23**	**245**	P	**P**	**20 24 52.2**	**+0.1**
	baz=40,SNR=17						
QLP	**Quilpie**	**34.06**	**254**	P	**P**	**20 24 59.0**	**-0.2**
	baz=42,SNR=10						
PMG	**Port Moresby**	**34.72**	**285**	P	**P**	**20 25 04.7**	**-0.1**
PMG	**Port Moresby**	**34.72**	**285**	P	**P**	**20 25 04.7**	**-0.1**
	15nm,0.8s,baz=35,slow=5.6,SNR=5.2						
STKA	**Stephens Creek**	**36.73**	**245**	*eP*	**P**	**20 25 20.9**	**-0.2**
	0.8nm,0.6s						
STKA	**Stephens Creek**	**36.73**	**245**	P	**P**	**20 25 21.4**	**+0.3**
	4.0nm,0.5s,baz=95,slow=12,SNR=19						
STKA	**Stephens Creek**	**36.73**	**245**	P	**P**	**20 25 21.4**	**+0.3**
	baz=44,SNR=10						
HTT	**Hallett**	**39.16**	**243**	P	**P**	**20 25 40.8**	**+0.1**
	baz=46,SNR=3.8						
BBOO	**Buckleboo**	**41.48**	**244**	P	**P**	**20 25 58.9**	**-0.3**
	baz=53,SNR=5.8						
AS31	**Alice Springs**	**43.55**	**258**	*eP*	**P**	**20 26 14.7**	**-0.7**
ASAR	**Alice Springs**	**43.55**	**258**	P	**P**	**20 26 15.3**	**-0.1**
	14nm,0.8s,baz=97,slow=7.8,SNR=191						
ASAR				PcP	**PcP**	**20 27 48.8**	**-0.1**
	1.5nm,0.8s,baz=99,slow=4.4,SNR=6.2						
ASAR				ScP	**ScP**	**20 30 48.4**	**+6.0**
	0.6nm,0.8s,baz=108,slow=3.9,SNR=5.8						
ASAR				S	**S**	**20 32 02.5**	**+1.1**
	0.6nm,0.9s,baz=90,slow=16,SNR=4.2						
WRAB	**Tennant Creek**	**43.68**	**263**	*eP*	**P**	**20 26 15.4**	**-1.1**
	11nm,1.0s						
WRAB				*e*		20 27 13.7	
WRA	**Warramunga Arr**	**43.69**	**263**	P	**P**	**20 26 15.8**	**-0.7**
	8.4nm,0.7s,baz=94,slow=5.6,SNR=114						
WRA				S	**S**	**20 32 04.6**	**+1.3**
	0.6nm,0.8s,baz=93,slow=14,SNR=3.5						
KDU	**Kakadu**	**47.15**	**272**	P	**P**	**20 26 42.4**	**-0.3**
	baz=55,SNR=6.2						
FORT	**Forrest**	**48.25**	**247**	P	**P**	**20 26 50.2**	**-0.5**
	baz=56,SNR=10						
MTN	**Manton Dam**	**48.35**	**272**	P	**P**	**20 26 51.2**	**-0.5**
	baz=56,SNR=4.6						
KNRA	**Kununurra**	**49.80**	**267**	P	**P**	**20 27 02.1**	**-0.1**
	baz=57,SNR=8.6						
MBWA	**Marble Bar**	**56.89**	**258**	*eP*	**P**	**20 27 51.3**	**-0.9**
	15nm,0.7s						
MEEK	**Meekatharra**	**56.90**	**251**	P	**P**	**20 27 51.8**	**-0.4**
	baz=64,SNR=4.0						
KLBR	**Kalbarri**	**57.00**	**245**	P	**P**	**20 27 52.7**	**-0.1**
	baz=64,SNR=5.7						
VNDA	**Vanda**	**57.10**	**185**	*eP*	**P**	**20 27 53.4**	**+0.8**
	3.1nm,0.7s						
VNDA	**Vanda**	**57.10**	**185**	P	**P**	**20 27 53.7**	**+1.0**
	1.8nm,0.7s,baz=21,slow=11,SNR=5.9						
BLDU	**Ballidu**	**58.01**	**246**	P	**P**	**20 27 59.6**	**0.0**
	baz=65,SNR=5.6						
MORW	**Morawa**	**58.79**	**248**	P	**P**	**20 28 05.0**	**+0.1**
	baz=66,SNR=4.1						
QSPA	**South Pole Qui**	**68.83**	**180**	*eP*	**P**	**20 29 07.8**	**-0.1**
	17nm,1.3s						
MAJO	**Matsushiro**	**70.33**	**324**	P	**P**	**20 29 16.8**	**-0.3**
	3.4nm,0.6s						
PETK	**Petropavlovsk-**	**76.78**	**346**	P	**P**	**20 29 52.8**	**-0.3**
	9.3nm,0.8s,baz=151,slow=7.3,SNR=5.9						
USRK	**Ussuriysk Arra**	**79.12**	**326**	P	**P**	**20 30 06.8**	**+1.0**
	7.8nm,0.9s,baz=107,slow=3.9,SNR=11						
ISA	**Isabella**	**80.44**	**46**	*eP*	**P**	**20 30 13.9**	**+0.8**
	2.4nm,0.9s						
MDJ	**Mudanjiang**	**80.66**	**325**	P	**P**	**20 30 14.5**	**+0.7**
	7.8nm,0.8s						
WDC	**Whiskeytown Da**	**80.77**	**40**	*eP*	**P**	**20 30 15.7**	**+1.2**
	5.8nm,0.9s						
YBH	**Yreka Blue Hor**	**81.38**	**39**	*eP*	**P**	**20 30 18.7**	**+0.9**
	6.5nm,0.8s						
YBH	**Yreka Blue Hor**	**81.38**	**39**	P	**P**	**20 30 18.4**	**+0.6**
	5.6nm,0.7s,baz=275,slow=1.2,SNR=16						
NVAR	**Mina Array Bea**	**82.12**	**44**	P	**P**	**20 30 21.6**	**-0.1**
	3.0nm,0.8s,baz=226,slow=8.5,SNR=20						
TPH	**Tonopah**	**82.63**	**44**	*eP*	**P**	**20 30 24.5**	**+0.2**
	4.0nm,0.8s						
TPNV	**Topopah Spring**	**82.64**	**46**	*eP*	**P**	**20 30 24.4**	**0.0**
	6.9nm,0.8s						
MOD	**Modoc**	**82.91**	**40**	*eP*	**P**	**20 30 25.9**	**+0.3**
	4.4nm,0.8s						
PSI	**Prapat**	**83.74**	**275**	P	**P**	**20 30 29.7**	**-0.6**
	4.0nm,0.7s,baz=248,slow=5.9,SNR=4.5						
I07A	**Izee**	**84.68**	**39**	*eP*	**P**	**20 30 34.6**	**+0.5**
	59nm,2.8s						
G08A	**Pilot Rock**	**85.70**	**38**	*eP*	**P**	**20 30 39.1**	**+0.1**
	54nm,2.5s						
ENH	**Enshi**	**85.78**	**305**	*eP*	**P**	**20 30 40.9**	**+1.2**
	3.8nm,0.8s						
PMR	**Palmer**	**85.93**	**14**	P	**P**	**20 30 38.4**	**-1.1**
	12nm,1.1s						
BMO	**Blue Mountains**	**86.40**	**39**	*eP*	**P**	**20 30 42.3**	**0.0**
	44nm,2.5s						
D08A	**Wollman Farm,**	**86.76**	**36**	*eP*	**P**	**20 30 44.5**	**+0.6**
	68nm,2.3s						
E09A	**Wood Farm, Sta**	**86.88**	**37**	*eP*	**P**	**20 30 44.5**	**+0.2**
F10A	**Beach Ranch, E**	**87.09**	**38**	*eP*	**P**	**20 30 45.4**	**-0.1**
	10nm,0.9s						
SNAA	**Sanae**	**87.29**	**179**	P	**P**	**20 30 45.3**	**-0.8**
B08A	**Colville Reser**	**87.31**	**35**	*eP*	**P**	**20 30 46.1**	**-0.2**
	4.8nm,0.8s						
TRF	**Thorstere Moun**	**87.34**	**12**	*eP*	**P**	**20 30 45.0**	**-1.4**
	186nm,2.3s						
HLID	**Hailey**	**87.42**	**41**	*eP*	**P**	**20 30 47.7**	**+0.5**
	42nm,2.6s						
MCK	**McKinley**	**87.87**	**13**	*eP*	**P**	**20 30 47.1**	**-1.6**
	17nm,1.0s						
TXAR	**Lajitas Array**	**88.14**	**58**	P	**P**	**20 30 50.7**	**-0.1**
	1.2nm,0.9s,baz=232,slow=6.2,SNR=9.1						
DOT	**Dot Lake**	**88.89**	**15**	*eP*	**P**	**20 30 52.4**	**-1.0**
	6.3nm,0.9s						
COLA	**College**	**89.11**	**13**	*eP*	**P**	**20 30 52.3**	**-2.0**
	10nm,1.1s						
ILAR	**Eielson Array**	**89.22**	**13**	P	**P**	**20 30 53.7**	**-1.1**
	2.2nm,0.8s,baz=222,slow=5.6,SNR=18						
REDW	**Red Top Meadow**	**89.53**	**43**	*eP*	**P**	**20 30 57.5**	**+0.4**
	3.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**20 30 59.4**	**+1.7**
	4.4nm,0.9s,baz=126,slow=3.0,SNR=25						
PDAR	**Pinedale Array**	**90.06**	**44**	P	**P**	**20 30 59.0**	**-0.6**
	2.1nm,0.8s,baz=205,slow=2.8,SNR=17						
BOZ	**Bozeman (W)**	**90.21**	**40**	*eP*	P	20 31 04.2	+4.1
	8.6nm,0.8s						
DAWY	**Dawson**	**90.40**	**16**	*eP*	**P**	**20 31 00.2**	**-0.1**
SONM	**Songino Array**	**95.77**	**319**	P	**P**	**20 31 26.4**	**+1.0**
	0.2nm,0.6s,baz=139,slow=2.3,SNR=2.8						
MKAR	**Makanchi Array**	**111.11**	**313**	PKiKP	**PKiKP**	**20 36 27.7**	**-0.8**
	0.5nm,0.9s,baz=103,slow=1.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**114.03**	**317**	PKiKP	PKPdf	20 36 32.4	-1.6
	0.4nm,0.7s,baz=101,slow=1.6,SNR=4.2						
BVAR	**Borovoye Array**	**119.11**	**320**	PKP	**PKPdf**	**20 36 43.0**	**-0.6**
	0.9nm,0.5s,baz=245,slow=0.8,SNR=8.2						
AKTO	**Aktyubinsk**	**127.07**	**318**	PKP	**PKPdf**	**20 36 58.9**	**-0.1**
	0.5nm,0.5s,baz=16,slow=6.5,SNR=3.6						
ARCES	**ARCESS Array B**	**129.50**	**349**	PKP	**PKPdf**	**20 37 02.2**	**-0.8**
	2.0nm,0.7s,baz=32,slow=3.2,SNR=7.8						
FINES	**FINESS Array B**	**136.24**	**343**	PKP	**PKPdf**	**20 37 14.3**	**-1.5**
	1.3nm,0.7s,baz=107,slow=2.0,SNR=3.4						
FINES				SKPbc	**SKiKP**	**20 39 55.4**	**-0.6**
	1.8nm,0.9s,baz=29,slow=4.4,SNR=4.2						
HFS	**Hagfors**	**140.13**	**350**	PKhKP	PKPpre	20 37 16.0	
	1.0nm,0.3s,baz=53,slow=3.1,SNR=13						
AKASG	**Malin Array Be**	**143.25**	**330**	PKP	PKPab	20 37 26.6	-0.7
	12nm,0.6s,baz=42,slow=4.3,SNR=66						
AKASG				SKPbc	**SKiKP**	**20 40 13.9**	**+3.1**
	0.3nm,0.4s,baz=48,slow=1.6,SNR=5.1						
AKBB	**Malin Array Si**	**143.25**	**330**	*e*PKPdf	PKPab	20 37 26.6	-0.7
AK01	**Malin Array Si**	**143.26**	**330**	*e*PKPdf	PKPab	20 37 26.5	-0.6
KIEV	**Kiev**	**143.26**	**330**	*e*PKPdf	PKPab	20 37 26.7	-0.6
AK02	**Malin Array Si**	**143.29**	**330**	*e*PKPdf	PKPab	20 37 26.4	-1.1
MALT	**Malatya**	**143.72**	**306**	⇑*i*P	**PKPdf**	**20 37 30.6**	**+0.3**
EKA	**Eskdalemuir Ar**	**145.81**	**4**	PKPbc	**PKPdf**	**20 37 33.6**	**+0.5**
	5.7nm,0.8s,baz=344,slow=2.8,SNR=10						
ASF	**Jabal al Asfar**	**146.38**	**296**	PKPbc	**PKPbc**	**20 37 37.8**	**+0.3**
	2.7nm,0.7s,baz=66,slow=4.4,SNR=6.5						
BR131	**Keskin Array S**	**146.72**	**311**	*e*PKPbc	**PKPbc**	**20 37 37.6**	**-0.6**
BRTR	**Keskin Array B**	**146.72**	**311**	PKPbc	**PKPbc**	**20 37 38.0**	**-0.2**
	2.8nm,0.7s,baz=132,slow=4.4,SNR=16						
KWP	**Kalwaria Pacla**	**146.90**	**334**	⇑*i*P	**PKPbc**	**20 37 38.7**	**+0.5**
BUR08	**Bucovina Ar. S**	**147.28**	**329**	*e*PKPbc	**PKPbc**	**20 37 39.8**	**+0.4**
BURAR	**Bucovina Array**	**147.29**	**329**	⇑*i*P	**PKPbc**	**20 37 40.0**	**+0.6**
CFR	**Carcaliu**	**147.40**	**323**	⇓*i*P	**PKPbc**	**20 37 39.9**	**+0.3**
MMAI	**Mount Meron Ar**	**147.46**	**298**	PKPbc	**PKPbc**	**20 37 41.1**	**+0.8**
	19nm,1.1s,baz=80,slow=7.0,SNR=9.6						
VRI	**Vrincioaia**	**147.72**	**326**	⇑*i*P	**PKPbc**	**20 37 40.7**	**+0.2**
PLOR	**Plostina**	**147.78**	**326**	⇓*i*P	**PKPbc**	**20 37 39.4**	**-1.2**
TLB	**Topalu**	**147.82**	**323**	⇓*i*P	**PKPbc**	**20 37 41.3**	**+0.6**
TRPA	**Tarpa**	**148.13**	**332**	⇑*i*P	**PKPbc**	**20 37 41.7**	**+0.4**
ISR	**Istrita**	**148.31**	**325**	⇑*i*P	**PKPbc**	**20 37 42.6**	**+0.6**
DOPR	**Dopca**	**148.35**	**327**	⇓*i*P	**PKPbc**	**20 37 42.7**	**+0.7**
MLR	**Muntele Rosu**	**148.38**	**326**	⇑*i*P	**PKPbc**	**20 37 42.5**	**+0.2**
MLR	**Muntele Rosu**	**148.38**	**326**	PKPbc	**PKPbc**	**20 37 41.6**	**-0.6**
	baz=54,slow=7.4						
EIL	**Elat**	**148.41**	**292**	PKPbc	**PKPbc**	**20 37 42.5**	**-0.1**
	4.7nm,0.9s,baz=69,slow=5.2,SNR=4.1						
CLL	**Collm**	**148.59**	**346**	⇓*i*PKPbc	**PKPbc**	**20 37 42.5**	**+0.1**
	comp=Z,10.0nm,0.9s						
CLL				*e*PKPab	**PKPab**	**20 37 48.0**	**-0.5**
MORC	**Moravsky Berou**	**148.69**	**339**	⇑*i*P	**PKPbc**	**20 37 43.5**	**+0.7**
BRG	**Berggiesshubel**	**148.76**	**344**	*e*PKP	**PKPbc**	**20 37 42.6**	**-0.2**
	comp=Z,12nm,1.1s						
VOIR		**148.89**	**326**	⇓*i*P	**PKPbc**	**20 37 43.9**	**+0.5**
VRAC	**Vranov**	**149.40**	**340**	PKPbc	**PKPbc**	**20 37 43.6**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=63,slow=2.3,SNR=2.5						
HUMR	**Humele**	**149.54**	**325**	⇓*i*P	**PKPbc**	**20 37 45.0**	**+0.1**
SIRR	**Siria**	**149.93**	**331**	⇑*i*P	**PKPbc**	**20 37 46.4**	**+0.6**
JMB	**Yambol**	**149.94**	**321**	⇓*i*P	**PKPdf**	**20 37 42.2**	**+1.9**
GZR	**Gura Zlata**	**150.06**	**329**	⇑*i*P	**PKPbc**	**20 37 46.3**	**+0.1**
BZS	**Buzias**	**150.44**	**330**	⇓*i*P	**PKPbc**	**20 37 47.2**	**+0.2**
GERES	**GERESS Array B**	**150.68**	**343**	PKPbc	**PKPbc**	**20 37 47.5**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=40,slow=2.3,SNR=16						
GERES				PKPab	**PKPab**	**20 37 57.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=50,slow=2.1,SNR=3.7						
KDZ	**Kurdzhali**	**151.13**	**320**	⇓*i*P	**PKPbc**	**20 37 48.8**	**+0.1**
PKSM	**Moragy**	**151.28**	**334**	⇑*i*P	**PKPbc**	**20 37 49.0**	**+0.2**
DAVOX	**Davos/Dischmat**	**153.54**	**346**	PKPbc	**PKPbc**	**20 37 53.2**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=332,slow=2.7,SNR=4.0						
DAVOX				PKPab	**PKPab**	**20 38 08.8**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=41,slow=1.7,SNR=3.7						
ESDC	**Sonseca Array**	**161.12**	**12**	PKPab	**PKPab**	**20 38 41.1**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=347,slow=27,SNR=4.2						

*DJA **04** 20:33:23.0±3.8,2˚.N±9˚×13˚.0E±3˚.4,h119km±23km, M5.0/6, mB4.9/4,mb4.9/6,MLv5.3/4,Mw(mB)4.2/4*
*BJI **04** 20:33:38.7,2˚.30N×128˚.60E,h5km,mB5.1/2,mb4.4/7, Ms4.9/1,Ms7 4.6/1*
*ISCJB **04** 20:33:41.1±0.4,2˚.29N±0˚.05×128˚.60E±0˚.06,h33km, mb4.3/31,MS3.1/1,Error ellipse: s-maj=8.7km s-min=6.4km az=17.7*
*MOS **04** 20:33:42.5±1.2,2˚.31N×128˚.54E,h44km,mb4.6/18,Error ellipse: s-maj=20.1km s-min=8.6km az=112.7*
*NEIC **04** 20:33:45.5±2.5,2˚.25N×128˚.53E,h61km±24km,mb4.4/11, Error ellipse: s-maj=19.0km s-min=8.8km az=63.0*
*IDC **04** 20:33:47.2±4.1,2˚.21N×128˚.46E,h76km±39km,mb3.9/15, mb1 4.0/16,mb1mx3.9/24,mbtmp3.9/16,ML4.1/1,MS3.2/1, Ms1 3.2/1,ms1mx2.7/27,Error ellipse: s-maj=28.3km s-min=12.7km az=70.0*

ISC 04 20:33:42.7±0.5,2˚.24N±0˚.07×128˚.6E±0˚.1,h35km,n126, σ1§19/115,mb4.4/31,2C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.91**	**220**	P	**Pn**	**20 34 12.8**	**+0.1**
SGSI	**Sangihe**	**3.39**	**295**	P	**Pn**	**20 34 35.8**	**+2.7**
KMSI	**Cibinong**	**4.90**	**250**	P	**Pn**	**20 34 54.8**	**+0.8**
	462nm,1.0s,3µm1.3nm						
DAV	**Davao City (W)**	**5.67**	**328**	P	Pn	20 34 56.9	-7.6
	303nm,0.5s,1.3nm						
GTOI	**Gorontalo**	**5.81**	**254**	P	**Pn**	**20 35 08.6**	**+2.2**
	100nm,0.8s,854nm						
LUWI	**Luwuk**	**6.68**	**241**	P	**Pn**	**20 35 19.4**	**+1.1**
	72nm,0.9s,679nm						
MRSI	**Marisa**	**6.88**	**255**	P	**Pn**	**20 35 21.7**	**+0.5**
	64nm,1.1s,776nm						
APSI	**Ampana**	**7.62**	**246**	P	**Pn**	**20 35 32.9**	**+1.6**
KAPI	**Kappang**	**11.40**	**231**	P	**Pn**	**20 36 24.2**	**+1.0**
KAPI	**K

PKI	Pulchoki	48.35	306	*e*P		P		20 42 21.7	0.0	
	comp=Z,9.8nm,0.7s									
PKI	Pulchoki	48.35	306	*e*P		P		20 42 21.6	-0.1	
	comp=Z,9.8nm,0.7s									
PKI	Pulchoki	48.35	306	*e*P		P		20 42 21.6	-0.1	
PKI	Pulchoki	48.35	306	*e*P		P		20 42 21.6	-0.1	
PKIN	Phulchoki	48.36	306	*e*P		P		20 42 21.7	0.0	
	comp=Z,8.0nm,0.7s									
KKN	Kakani	48.54	306	*e*P		P		20 42 23.3	+0.3	
KKN	Kakani	48.54	306	*e*P		P		20 42 23.4	+0.4	
KKN	Kakani	48.54	306	*e*P		P		20 42 23.4	+0.4	
KKN	Kakani	48.54	306	*e*P		P		20 42 23.4	+0.4	
DMN	Daman	48.61	306	*e*P		P		20 42 24.0	+0.4	
	comp=Z,21nm,0.8s									
DMN	Daman	48.61	306	*e*P		P		20 42 24.0	+0.4	
	comp=Z,21nm,0.8s									
DMN	Daman	48.61	306	*e*P		P		20 42 24.0	+0.4	
ULN	Ulaanbaatar	49.12	341	*e*P		P		20 42 29.6	+2.6	
	comp=Z,3.9nm,0.8s									
GKN	Gorkha	49.15	306	*e*P		P		20 42 27.8	+0.2	
	comp=Z,12nm,0.7s									
GKN	Gorkha	49.15	306	*e*P		P		20 42 27.9	+0.3	
	comp=Z,12nm,0.7s									
GKN	Gorkha	49.15	306	*e*P		P		20 42 27.9	+0.3	
SONM	Songino Array	49.31	340	P		P		20 42 28.4	0.0	
SONM	Songino Array	49.31	340	P		P		20 42 28.4	0.0	
	comp=Z,1.1nm,0.7s,baz=152,slow=8.7,SNR=11									
KOLN	Koldanda	49.90	305	*e*P		P		20 42 33.9	+0.5	
	comp=Z,42nm,0.7s									
KOLN	Koldanda	49.90	305	*e*P		P		20 42 33.8	+0.4	
	comp=Z,42nm,0.7s									
KOLN	Koldanda	49.90	305	*e*P		P		20 42 33.8	+0.4	
DANN	Dangsing	50.00	306	*e*P		P		20 42 34.3	+0.1	
	comp=Z,40nm,0.6s									
DANN	Dangsing	50.00	306	*e*P		P		20 42 34.1	-0.1	
	comp=Z,40nm,0.6s									
DANN	Dangsing	50.00	306	*e*P		P		20 42 34.1	-0.1	
PYUN	Piuthan	50.53	305	*e*P		P		20 42 38.3	+0.2	
PYUN	Piuthan	50.53	305	*e*P		P		20 42 38.4	+0.3	
	comp=Z,47nm,0.6s									
PYUN	Piuthan	50.53	305	*e*P		P		20 42 38.4	+0.3	
HYB	Hyderabad	51.38	290	*i* PKP		P		20 42 43.0	-1.5	
PETK	Petropavlovsk-	56.13	21	P		P		20 43 19.6	+1.0	
PETK				pmax	pmax					
	comp=Z,4.0nm,0.7s									
PETK	Petropavlovsk-	56.13	21	P		P		20 43 19.6	+1.0	
PETK	Petropavlovsk-	56.13	21	P		P		20 43 19.6	+1.0	
	comp=Z,3.5nm,0.7s,baz=173,slow=5.3,SNR=3.2									
YAK	Yakutsk	59.65	1	*e*P		P		20 43 44.1	+1.0	
YAK				pmax	pmax					
	comp=Z,31nm,2.5s									
MK31	Makanchi Array	59.84	325	*e*P		P		20 43 44.2	-0.6	
MK31	Makanchi Array	59.84	325	*e*P		P		20 43 44.1	-0.6	
MKAR	Makanchi Array	59.84	325	P		P		20 43 44.5	-0.3	
MKAR				pmax	pmax					
	comp=Z,4.0nm,0.7s									
MKAR	Makanchi Array	59.84	325	P		P		20 43 44.5	-0.3	
MKAR	Makanchi Array	59.84	325	P		P		20 43 44.5	-0.3	
	comp=Z,3.7nm,0.7s,baz=122,slow=8.3,SNR=27									
ZALV	Zalesovo Beam	62.76	333	P		P		20 44 05.7	+1.4	
ZALV				pmax	pmax					
	comp=Z,1.0nm,0.4s									
ZALV	Zalesovo Beam	62.76	333	P		P		20 44 05.7	+1.4	
ZALV	Zalesovo Beam	62.76	333	P		P		20 44 05.7	+1.4	
	comp=Z,0.6nm,0.4s,baz=126,slow=7.3,SNR=4.3									
EKS2	Erkin-Say	63.20	318	P		P		20 44 07.1	-0.6	
EKS2				pmax	pmax					
	comp=Z,3.0nm,0.7s									
EKS2	Erkin-Say	63.20	318	P		P		20 44 07.1	-0.6	
	comp=Z,2.7nm,0.7s									
KBL	Kabul	63.91	308	P		P		20 44 08.4	-4.2	
KBL	Kabul	63.91	308	P		P		20 44 08.3	-4.2	
KURBB	Kurchatov Arra	64.00	327	P		P		20 44 11.7	-0.9	
	comp=Z,3.9nm,0.8s,baz=127,slow=6.0,SNR=38									
KURK	Kurchatov	64.00	327	*e*P		P		20 44 10.4	-2.2	
KURK				pmax	pmax					
	comp=Z,3.0nm,0.8s									
KURK	Kurchatov	64.00	327	*e*P		P		20 44 10.3	-2.2	
	comp=Z,3.3nm,0.8s									
NVS	Novosibirsk	64.04	333	*e*P		P		20 44 16.8	+4.0	
BVAR	Borovoye Array	69.58	327	P		P		20 44 48.2	0.0	
BVAR				pmax	pmax					
	comp=Z,4.0nm,1.0s									
BVAR	Borovoye Array	69.58	327	P		P		20 44 48.2	0.0	
BVAR	Borovoye Array	69.58	327	P		P		20 44 48.2	0.0	
	comp=Z,3.7nm,0.9s,baz=116,slow=8.4,SNR=13									
BRVK	Borovoye	69.65	327	P		P		20 44 47.6	-1.0	
BRVK				pmax	pmax					
	comp=Z,4.0nm,0.9s									
BRVK	Borovoye	69.65	327	P		P		20 44 47.6	-1.0	
	comp=Z,3.9nm,0.9s									
ABKAR	Akbulak array	74.48	321	P		P		20 45 18.0	+0.5	
	comp=Z,2.0nm,0.8s									
AKTO	Aktyubinsk	75.98	322	P		P		20 45 24.4	-1.8	
AKTO				pmax	pmax					
	comp=Z,2.0nm,0.8s									
AKTO	Aktyubinsk	75.98	322	P		P		20 45 24.4	-1.8	
AKTO	Aktyubinsk	75.98	322	P		P		20 45 24.4	-1.8	
	comp=Z,2.2nm,0.8s,baz=94,slow=5.8,SNR=9.8									
ARU	Arti	77.19	328	*c i*P		P		20 45 33.8	+0.9	
ARU								20 48 26.4		
ARU				S		S		20 55 13.8	-6.0	
ARU				pmax	pmax					
	comp=Z,12nm,1.7s									
ARU	Arti	77.19	328	*e*P		P		20 45 32.1	-0.8	
	comp=Z,4.9nm,0.8s									
MCK	McKinley	84.66	26	P		P		20 46 12.7	0.0	
MCK	McKinley	84.66	26	P		P		20 46 12.7	0.0	
ILAR	Eielson Array	85.64	25	P		P		20 46 18.0	+0.5	
ILAR	Eielson Array	85.64	25	P		P		20 46 18.0	+0.5	
	comp=Z,0.3nm,0.6s,baz=273,slow=5.6,SNR=4.3									
OBN	Obninsk	89.35	325	*e*P		P		20 46 35.1	-0.4	
OBN				pmax	pmax					
	comp=Z,4.0nm,1.0s									
ARCES	ARCESS Array B	92.48	340	P		P		20 46 47.6	-2.2	
ARCES	ARCESS Array B	92.48	340	P		P		20 46 47.6	-2.2	
	comp=Z,2.9nm,1.0s,baz=79,slow=6.3,SNR=4.6									
TORD	Torodi Ar. Bea	125.15	288	PKP		PKPdf		20 52 38.5	-2.2	
TORD	Torodi Ar. Bea	125.15	288	PKP		PKPdf		20 52 38.5	-2.2	
	comp=Z,0.3nm,0.7s,baz=102,slow=2.6,SNR=4.3									

IDC 04 21:12:42.7±10.0, 25°.91S×179°.53E, h450km±114km, mb3.3/3, mb1 3.5/4, mb1mx3.1/17, mbtmp3.3/4, Error ellipse: s-maj=87.2km s-min=43.2km az=27.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URZ	Urewera	12.48	189	P		P	21 15 27.6	+0.9
	1.9nm,0.3s,baz=258,slow=7.8,SNR=11							
URZ				S		S	21 17 38.2	-3.8
	0.4nm,0.3s,baz=217,slow=20,SNR=6.0							
STKA	Stephens Creek	33.62	251	P		P	21 18 44.7	+0.4
	0.9nm,0.6s,baz=85,slow=11,SNR=5.1							
ASAR	Alice Springs	41.32	263	P		P	21 19 47.6	-0.3
	2.1nm,0.4s,baz=96,slow=7.8,SNR=64							
WRA	Warramunga Arr	41.88	269	P		P	21 19 52.1	-0.3
	1.6nm,0.4s,baz=104,slow=7.8,SNR=46							
NOA	NORSAR Array B	143.99	350	PKP		PKPab	21 31 24.9	+0.4
	0.8nm,0.6s,baz=12,slow=3.2,SNR=3.6							

KRSC 04 21:31:23.5±5.0, 50°.53N×158°.68E, h10km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PAU	Pauzhetka	1.51	309	*e*P		Pb	21 31 51.7	+0.1
SKR	Severo-Kuril's	1.64	276	*e*P		Pn	21 31 52.4	+0.1
SKR				*e*S		Sn	21 32 11.7	-1.8
RUS	Russkaya	1.91	357	P		Pn	21 31 56.2	+0.1
RUS				*e*S		Sn	21 32 17.8	-2.3
ASAK	Asacha	1.92	346	P		Pn	21 31 56.9	+0.6
ASAK				S		Sn	21 32 19.0	-1.6
MTVR	Mutnovka	1.98	351	*e*P		Pn	21 31 58.2	+0.9
MTVR				*e*S		Sn	21 32 20.5	-1.8
MIPR	Malaya Ipel'ka	2.12	326	*e*P		Pn	21 32 00.5	+1.5
UGLR	Uglovaya	2.69	2	P		Pn	21 32 09.2	+2.3
SPN	Mys Shipunski	2.70	17	S		Sn	21 32 37.5	-2.2
SMAR	Somma	2.74	2	P		Pn	21 32 09.7	+1.9
AVH	Avacha	2.74	1	P		Pn	21 32 09.9	+2.3
SDLR	Sedlovina	2.75	3	P		Pn	21 32 09.1	+1.2
KOK	Koryaka	2.77	359	P		Pn	21 32 09.8	+1.8
KRER	Koryakskii	2.78	1	P		Pn	21 32 09.7	+1.4
KRX	Arik	2.83	360	P		Pn	21 32 10.2	+1.2
GNL	Ganaly	3.20	352	P		Pn	21 32 16.4	+2.4

*ISCJB **04** 21:38:55.3±1.2, 32°.95N±0°.04×117°.81W±0°.07, h4km±7km, Error ellipse: s-maj=10.7km s-min=5.0km az=149.0*
*ECX **04** 21:38:56.9±0.6, 32°.87N×117°.87W, h8km, MD3.5, ML3.6*
*NEIC **04** 21:38:56.7, 32°.92N×117°.87W, h6km, ML3.5(PAS), After PAS.*
NEIC Felt at Anaheim, Carlsbad, Dana Point, Fallbrook, La Mesa, Long Beach, Oceanside, Riverside, San Clemente, San Diego and Valley Center.
ISC 04 21:38:54.8±1.8, 32°.90N±0°.05×117°.88W±0°.06, h3km±13km, n19, σ0°65/25, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HWB	Hans Werner Br	0.78	80	⇑*i*P		Pb	21 39 10.8	-0.2
DPP	Dos Picos Cty	0.79	82	⇑*i*P		Pb	21 39 10.9	-0.3
BAR	Barrett	1.04	102	*e*Pg		Pg	21 39 14.9	+0.3
BAR				*e*Sg		Sg	21 39 28.4	+0.3
CBX	Cerro Bola	1.18	119	⇓*e*P		Pg	21 39 17.3	0.0
CBX				*e*S		Sg	21 39 33.0	+0.4
CBX				⇑*e*			21 39 35.9	
	comp=N,2μm,0.7s							
PASC	Pasadena Art C	1.30	349	*e*Pn		Pn	21 39 19.2	-0.6
MWC	Mount Wilson	1.33	353	*e*Pn		Pn	21 39 20.5	+0.1
PFO	Pinyon Flat Ob	1.39	59	*e*Pn		Pn	21 39 21.0	-0.2
PFO				*e*Sn		Sb	21 39 38.6	-1.0
PBX	Punta Banda	1.51	139	*e*P		Pn	21 39 22.3	-0.5
RMX	La Rumorosa	1.54	101	⇓*e*P		Pn	21 39 23.2	-0.1
ECNX	Esteban Cantu	1.64	138	*e*P		Pn	21 39 24.1	-0.5
ECNX				*e*S		Sn	21 39 46.4	0.0
OSI	Osito Adit	1.85	338	*e*Pn		Pb	21 39 29.6	+0.3
RDX	Rancho Dawling	1.90	120	*e*P		Pn	21 39 28.2	-0.1
RDX				*e*S		Sn	21 39 53.4	+0.6
RDX				⇓*e*			21 39 57.0	
	comp=N,375nm,0.4s							
ZAX	El Zacaton	1.94	135	*e*P		Pn	21 39 29.2	+0.5
GSC	Goldstone	2.56	20	*e*Pn		Pn	21 39 38.0	+0.7
GSC				*e*Sg		Sg	21 40 16.1	-0.8
GLA	Glamis	2.57	86	*e*Pn		Pn	21 39 36.8	-0.6
ISA	Isabella	2.80	350	*e*Pn		Pb	21 39 40.8	+0.2
LDFC	Landfair	3.16	46	*e*Pn		Pb	21 39 51.7	0.0
SHPR	Sheep Range	4.24	31	*e*Pn		Pn	21 40 00.2	-0.2
WUAZ	Wupatki	5.99	62	*e*Pn		Pn	21 40 26.5	+2.0
	comp=N,2.5nm,0.4s							

*NNC **04** 21:39:19.4±8.7, 37°.13N×71°.12E, h118km±153km, mb3.5, mpv4.3, Error ellipse: s-maj=106.3km s-min=40.0km az=48.0*
ISC 04 21:39:18.4±3.6, 37°.1N±0°.2×71°.1E±0°.2, h88km, n11, σ1°40/14, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AML	Almayashu	5.42	21	P		Pn	21 40 37.5	+0.5
	SNR=126							
UCH	Uchtor	5.77	26	P		Pn	21 40 42.1	+0.3
	SNR=7.6							
EKS2	Erkin-Say	5.93	19	P		Pn	21 40 44.3	+0.6
	SNR=6.4							
KK31	Karatay Array	6.02	356	P		Pn	21 40 46.7	+1.8
	10nm,0.3s,baz=181,slow=13,SNR=460							
KK31				⇓S		Sn	21 41 54.0	+1.6
	1.8nm,0.3s,baz=184,slow=24,SNR=6.7							
AAK	Ala-Archa	6.12	24	P		Pn	21 40 46.9	+0.6
	SNR=19							
CHMS	Chumysh	6.53	24	P		Pn	21 40 51.8	0.0
	SNR=57							
USP	Ospenovka	6.70	22	P		Pn	21 40 53.6	-0.5
	SNR=14							
TKM2	Tokmak 2	6.77	29	P		Pn	21 40 55.0	-0.2
	SNR=7.0							
TKM2	Tokmak 2	6.77	29	⇑P		Pn	21 40 54.4	-0.8
	40nm,1.4s							
AB31	Akbulak array	14.61	330	⇑P		Pn	21 42 40.2	-0.3
	0.4nm,0.3s,baz=148,slow=11,SNR=31							
AB31				⇓S		Sn	21 45 17.6	-3.5
	0.5nm,0.5s,baz=157,slow=24,SNR=5.3							
AKTO	Aktyubinsk	16.31	329	⇓P		Pn	21 43 02.8	+0.9
	2.4nm,0.8s							
AKTO				⇓S		Sn	21 46 01.9	-0.4
	2.5nm,1.3s							

IDC 04 22:02:32.6±7.9, 4°.43N×123°.63E, h596km±107km, mb2.9/3, mb1 3.1/3, mb1mx2.6/23, mbtmp2.9/3, Error ellipse: s-maj=339.4km s-min=27.7km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	26.41	157	P		P	22 07 23.4	-0.3
	1.1nm,0.3s,baz=333,slow=9.2,SNR=7.0							
ASAR	Alice Springs	29.67	161	P		P	22 07 52.0	+0.1
	0.8nm,0.5s,baz=338,slow=7.9,SNR=10							
MKAR	Makanchi Array	55.24	326	P		P	22 11 10.7	-0.1
	0.9nm,0.3s,baz=125,slow=7.6,SNR=40							
MKAR				PcP		PcP	22 12 02.1	-0.3
	0.3nm,0.5s,baz=110,slow=2.7,SNR=5.1							

*ISCJB **04** 22:38:26.5±0.6, 26°.56N±0°.06×141°.05E±0°.06, h100km, mb4.0/11, Error ellipse: s-maj=8.6km s-min=7.6km az=9.3*
*IDC **04** 22:38:27.3±1.7, 26°.64N×140°.98E, h92km±15km, mb3.7/11, mb1 4.0/11, mb1mx3.7/24, mbtmp3.7/11, Error ellipse: s-maj=27.5km s-min=14.4km az=98.0*
*JMA **04** 22:38:29.5±0.1, 26°.60N×141°.42E, h114km, M4.3*
ISC 04 22:38:28.1±0.7, 26°.65N±0°.08×141°.09E±0°.10, h100km, n23, σ1°15/27, mb4.0/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JHHJ	Haha-jima-NKT	0.97	91	P		Pn	22 38 48.3	+0.1
JHHJ				S		Sn	22 39 02.1	-1.2
CBIJ	Chichi jima	1.07	65	P		Pn	22 38 49.6	+0.3
CBIJ				S		Sn	22 39 05.0	-0.3
JCJ	Chichijima	1.07	65	P		Pn	22 38 49.7	+0.4
	1μm,0.3s,baz=106,slow=3.1,SNR=314							
JCJ				S		Sn	22 39 05.5	+0.2
	2μm,0.3s,baz=270,slow=20,SNR=20							
BSO1	Boso 1	7.98	359	P		Pn	22 40 22.1	+1.3
BSO3	Boso 3	8.14	357	P		Pn	22 40 24.4	+1.2
BSO4	Boso 4	8.34	356	P		Pn	22 40 27.8	+1.7
JOD2	Odawara 2	8.76	349	P		Pn	22 40 34.1	+2.2
JRY	Ryogami san	9.52	349	P		Pn	22 40 44.6	+2.3
JAG	Ashikaga	9.85	352	P		Pn	22 40 46.5	-0.1
JAG				*e*S		Sn	22 42 32.2	-3.1
JHO	Hitachi	9.94	358	P		Pn	22 40 48.2	+0.3
JHO				*e*S		Sn	22 42 31.2	-6.4
WRA	Warramunga Arr	46.78	189	P		P	22 46 47.5	-0.1
	10nm,0.5s,baz=11,slow=8.7,SNR=40							
ASAR	Alice Springs	50.50	189	P		P	22 47 15.7	-0.5
	1.3nm,0.6s,baz=16,slow=14,SNR=30							
KURBB	Kurchatov Arra	52.66	315	P		P	22 47 31.4	-0.5
	0.3nm,0.4s,baz=94,slow=8.4,SNR=5.9							
STKA	Stephens Creek	58.20	179	P		P	22 48 11.3	-0.5
	1.4nm,0.5s,baz=355,slow=8.4,SNR=7.0							
ILAR	Eielson Array	58.57	29	P		P	22 48 13.9	-0.1
	0.6nm,0.7s,baz=275,slow=5.6,SNR=6.2							
YKA	Yellowknife Ar	72.99	28	P		P	22 49 46.9	+0.3
	1.0nm,0.5s,baz=298,slow=6.1,SNR=6.1							
ARCES	ARCESS Array B	73.64	341	P		P	22 49 50.6	+0.3
	2.7nm,0.9s,baz=46,slow=7.8,SNR=3.2							
FINES	FINESS Array B	77.91	334	P		P	22 50 14.3	-0.4
	1.1nm,0.4s,baz=84,slow=5.7,SNR=9.8							
NVAR	Mina Array Bea	81.56	51	P		P	22 50 36.4	+1.2
	0.5nm,0.5s,baz=295,slow=6.4,SNR=5.3							
NOA	NORSAR Array B	83.66	338	P		P	22 50 45.4	0.0
	1.1nm,0.9s,baz=55,slow=7.2,SNR=3.4							
PDAR	Pinedale Array	85.21	44	P		P	22 50 54.7	+0.8
	1.4nm,0.8s,baz=264,slow=1.5,SNR=3.5							
TORD	Torodi Ar. Bea	124.13	310	PKP		PKPdf	22 57 15.0	-0.7
	0.1nm,0.5s,baz=35,slow=0.9,SNR=4.1							
LPAZ	La Paz	150.98	75	PKPbc		PKPbc	22 58 11.2	+0.5
	1.0nm,0.6s,baz=343,slow=4.0,SNR=4.3							

CASC 04 22:45:29.1±3.4, 11°.94N×88°.34W, h0km±6km, MD4.0, 8C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CNCH	Conchagua	1.42	20	⇑*i*P		Pn	22 45 53.8	-2.6
CNCH				*e*S		Sn	22 46 18.0	+2.1
VSM	San Miguel	1.48	2	⇑*i*P		Pn	22 45 55.8	-1.7
BLLM	Bellamira	1.50	4	⇑*i*P		Pn	22 45 55.4	-2.0
COPN	Copaltepe	1.73	82	*i* P		Pb	22 46 01.2	-0.5
COPN				*e*S		Sn	22 46 22.0	-1.2
SNVI	San Vicente	1.74	344	*i* P		Pn	22 45 59.9	-0.9
SNVI				*e*S		Sg	22 46 26.6	+1.2
LFRS	El Faro	1.82	337	⇑*i*P		Pn	22 46 01.4	-0.4
LFRS				*e*S		Sg	22 46 27.5	-0.5
LFU	La Fuente	1.96	337	*i* P		Pn	22 46 02.8	-0.9
LFU				*e*S		Sg	22 46 32.4	+0.2
BOQS	Boqueron	2.01	333	⇑*i*P		Pn	22 46 04.1	-0.5
BOQS				*e*S		Sg	22 46 34.1	-0.2
SBLS	San Blas	2.27	327	*i* P		Pn	22 46 07.9	-0.4
SNJE	San Jose	2.28	327	*e*P		Pn	22 46 07.8	-0.6
RTR	El Retiro	2.33	327	*e*P		Pn	22 46 08.5	-0.4
RBDL	Robledal	2.53	329	⇑*i*P		Pn	22 46 09.8	-2.0
IXG	Ixpaco	3.03	317	⇓*i*P		Pn	22 46 17.9	-0.8
IXG				*e*S		Sn	22 46 56.7	+0.8
VCR	Vista de Mar	3.21	124	⇑*i*P		Pb	22 46 26.7	-0.5
VCR				*e*S		Sb	22 47 06.9	-0.1
JCR	Jicaral	3.79	123	*e*P		Pb	22 46 33.8	-3.2
JCR				*e*S		Sn	22 47 17.5	+3.3
CGA2	Cerro Gallo 2	4.25	116	*e*P		Pn	22 46 37.6	+2.2
CGA2				*e*S		Sn	22 47 26.1	+0.2
BUS	Buena Vista	5.08	117	⇑*e*P		Pn	22 46 49.5	+2.3
BUS				*e*S		Sn	22 47 47.8	+0.7

NNC 04 23:03:40.2±8.1, 40°.30N×76°.63E, h0km, mb3.6, mpv3.3, 5C-1D, Error ellipse: s-maj=65.8km s-min=50.9km az=121.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TKM2	Tokmak 2	2.73	344	⇑Pn		Pn	23 04 23.5	-2.1
	16nm,1.1s							
TKM2				⇓Sn		Sn	23 05 01.4	+1.9
	7.5nm,0.6s							
KNDC	Almaty	2.92	5	⇑Pn		Pn	23 04 29.8	+1.7
	27nm,1.2s							
KNDC				⇑Sn		Sn	23 05 04.5	+0.5
	36nm,0.7s							
KK31	Karatay Array	5.37	303	⇑Pg		Pb	23 05 14.4	-0.5
	2.4nm,1.0s,baz=115,slow=17,SNR=5.0							
KK31				⇑Lg		Lg	23 06 26.9	
	0.9nm,0.5s,baz=115,slow=30							

*NEIC **04** 23:12:27.4±1.1, 5°.68S×151°.39E, h35km, mb4.7/2, Error ellipse: s-maj=56.0km s-min=14.6km az=130.0*
*IDC **04** 23:12:29.5±3.0, 5°.78S×151°.40E, h54km±21km, mb4.1/5, mb1 4.5/6, mb1mx3.9/17, mbtmp4.5/6, ML4.4/1, Error ellipse: s-maj=59.3km s-min=18.0km az=130.0*
ISC 04 23:12:27.7±1.0, 5°.9S±0°.2×151°.6E±0°.2, h41km, n25, σ1°37/31, mb4.3/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	Port Moresby	5.62	231	*e*Pn		Pn	23 13 50.6	+1.7
PMG				*e*Sn		Sn	23 14 50.8	-1.5
PMG	Port Moresby	5.62	231	P		Pn	23 13 51.4	+2.5
	77nm,0.3s,baz=42,slow=4.2,SNR=99							
PMG				S		Sn	23 14 52.3	0.0
	73nm,0.3s,baz=178,slow=16,SNR=16							
KDU	Kakadu	20.03	249	P		P	23 16 56.0	-1.4
	baz=8.2,SNR=74							
MTN	Manton Dam	21.32	250	P		P	23 17 10.6	-0.7
	baz=9.5,SNR=41							
WRAB	Tennant Creek	21.82	229	*e*P		P	23 17 16.1	-0.6
	9.0nm,0.6s							
WRA	Warramunga Arr	21.84	229	P		P	23 17 16.2	-0.6
WRA				ScP		ScP	23 24 48.7	-1.3
WRA	Warramunga Arr	21.84	229	P		P	23 17 16.2	-0.6
	6.2nm,0.5s,baz=52,slow=9.8,SNR=26							
WRA				ScP		ScP	23 24 48.7	-1.3
	0.4nm,0.3s,baz=49,slow=2.9,SNR=3.1							
KNRA	Kununurra	24.42	245	P		P	23 17 41.6	-1.0
	baz=12,SNR=27							
AS31	Alice Springs	24.55	222	P		P	23 17 44.0	+0.1
ASAR	Alice Springs	24.56	222	P		P	23 17 44.4	+0.5
ASAR				ScP		ScP	23 24 55.6	-1.6
ASAR	Alice Springs	24.56	222	P		P	23 17 44.4	+0.5
	1.8nm,0.5s,baz=57,slow=8.7,SNR=46							
ASAR				ScP		ScP	23 24 55.6	-1.6
	0.4nm,0.6s,baz=30,slow=2.4,SNR=4.1							
FITZ	Fitzroy Crossi	28.09	242	P		P	23 18 14.4	-1.4
FITZ	Fitzroy Crossi	28.09	242	P		P	23 18 14.4	-1.4
	8.1nm,0.3s,baz=61,slow=6.7,SNR=49		

comp=E,0.7nm,0.3s,baz=261,slow=12,SNR=12
SIV S S 23 26 15.0 -17
comp=E,0.1nm,0.3s,baz=255,slow=13,SNR=3.2
TORD Torodi Ar. Bea 75.75 70 P **P 23 34 27.9 -1.1**
comp=E,0.8nm,0.6s,baz=258,slow=5.6,SNR=13
MKAR Makanchi Array 144.58 37 PKP **PKPdf 23 42 18.3 +1.3**
comp=E,0.5nm,0.6s,baz=332,slow=3.1,SNR=7.1

*IDC **04** 23:27:26.6±4.2, 43.°64N×84.°31E, h0km, mb1 3.3/3, mb1mx3.1/29, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=48.5km s-min=30.1km az=42.0*
*BJI **04** 23:27:28.4, 43.°56N×84.°37E, h6km, ML3.1/8*
*NNC **04** 23:27:30.9±4.8, 43.°78N×83.°67E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=46.3km s-min=19.3km az=122.0*
ISC 04 23:27:24.4±1.2, 43.°41N±0.°09×84.°16E±0.°06, h10km, n10, σ3$00/13, 6C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.60**	**80**	Pn	**Pb**	**23 28 11.2**	**+0.1**
WMQ				Sg	**Sb**	**23 28 42.9**	**-0.2**
WMQ	comp=N,89nm,0.5s			smax	smax		
WMQ	comp=E,130nm,0.4s			smax	smax		
MK31	**Makanchi Array**	**3.63**	**339**	Pn	**Pn**	**23 28 22.9**	**+2.2**
MK31	1.1nm,0.3s,baz=156,slow=14,SNR=334			↑Pg	**Pb**	**23 28 30.9**	**+2.2**
MK31	3.9nm,0.3s,baz=153,slow=15,SNR=37			↓Lg	Lg	23 29 14.7	
MKAR	18nm,0.3s,baz=161,slow=30,SNR=11 **Makanchi Array**	**3.63**	**339**	Pn	**Pn**	**23 28 23.0**	**+2.3**
MKAR	2.7nm,0.3s,baz=154,slow=14,SNR=110			Pg	**Pb**	**23 28 31.2**	**+2.5**
MKAR	7.2nm,0.3s,baz=153,slow=17,SNR=57			Lg	Lg	23 29 16.0	
KNDC	21nm,0.3s,baz=152,slow=30,SNR=9.0 **Almaty**	**5.25**	**270**	↓Pn	**Pn**	**23 28 44.0**	**+1.0**
KNDC	23nm,0.8s			↑Sn	**Sn**	**23 29 41.4**	**-2.2**
KNDC	8.6nm,0.5s			↓Lg	Lg	23 30 10.6	
TKM2	54nm,0.9s **Tokmak 2**	**6.28**	**268**	↑Pn	Pn	23 29 03.1	+5.9
TKM2	0.1nm,0.3s			↑Lg	Lg	23 30 42.5	
KURBB	24nm,1.2s **Kurchatov Arra**	**8.18**	**334**	↑Sn	**Sn**	**23 30 53.3**	**-2.0**
KURK	3.0nm,0.4s **Kurchatov**	**8.23**	**335**	↑Sn	**Sn**	**23 30 52.1**	**-4.5**
KURK	3.4nm,0.7s			↓Lg	Lg	23 31 36.9	
KK31	11nm,1.0s **Karatay Array**	**9.97**	**273**	Pn	Pn	23 29 54.9	+7.3
ZALV	2.3nm,1.1s,baz=76,slow=13,SNR=4.7 **Zalesovo Beam**	**10.56**	**2**	Pn	**Pn**	**23 29 54.5**	**-1.1**
ZALV	0.3nm,0.3s,baz=180,slow=13,SNR=2.6			Sn	**Sn**	**23 31 48.6**	**-5.2**
ZALV	0.5nm,0.3s,baz=175,slow=25,SNR=5.9			Lg	Lg	23 32 55.5	
SONM	0.1nm,0.3s,baz=182,slow=30,SNR=2.2 **Songino Array**	**16.16**	**66**	Pn	**Pn**	**23 31 14.8**	**+3.3**
	0.0nm,0.3s,baz=262,slow=10.0,SNR=4.9						

IDC 04 23:36:54.2±3.6, 20.°50S×70.°19W, h0km, mb3.5/1, mb1 3.4/2, mb1mx3.3/18, mbtmp3.4/2, ML3.1/1, Error ellipse: s-maj=130.7km s-min=45.4km az=105.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.62**	**25**	Pn	Pn	23 38 06.4	+0.4
LPAZ	0.6nm,0.3s,baz=234,slow=7.2,SNR=7.7			Sn	Sn	23 39 00.5	-0.5
H03N1	baz=30,slow=20,SNR=1.3 **Juan Fernandez**	**15.05**	**209**	T	T	23 56 59.7	
H03N2	baz=31,slow=75,SNR=19 **Juan Fernandez**	**15.06**	**209**	T	T	23 56 59.4	
H03N3	baz=31,slow=75,SNR=18 **Juan Fernandez**	**15.07**	**209**	T	T	23 57 03.2	
TORD	baz=31,slow=75,SNR=22 **Torodi Ar. Bea**	**78.15**	**71**	P	P	23 48 55.9	+0.1
MKAR	0.5nm,1.0s,baz=253,slow=4.4,SNR=2.7 **Makanchi Array**	**145.50**	**34**	PKPbc	PKPdf	23 56 33.4	-0.9
	0.3nm,0.6s,baz=333,slow=3.6,SNR=5.6						

*IDC **05** 00:19:20.5±1.3, 20.°34N×120.°07E, h0km, mb3.9/9, mb1 3.9/9, mb1mx3.8/26, mbtmp3.9/9, Error ellipse: s-maj=112.7km s-min=17.5km az=64.0*
*ISCJB **05** 00:19:22.3±1.1, 20.°4N±0.°3×120.°2E±0.°7, h25km, mb3.7/9, Error ellipse: s-maj=97.3km s-min=15.2km az=154.5*
ISC 05 00:19:24.2±1.3, 20.°4N±0.°3×120.°2E±0.°7, h25km, n9, σ0$35/9, mb3.8/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**29.58**	**341**	P	**P**	**00 25 27.1**	**-0.1**
MKAR	0.6nm,0.7s,baz=163,slow=9.5,SNR=4.9 **Makanchi Array**	**40.50**	**320**	P	**P**	**00 27 00.6**	**-0.6**
WRA	0.8nm,0.7s,baz=117,slow=8.4,SNR=7.9 **Warramunga Arr**	**42.40**	**160**	P	**P**	**00 27 16.7**	**-0.2**
ZALV	1.2nm,0.3s,baz=341,slow=9.2,SNR=2.0 **Zalesovo Beam**	**42.98**	**330**	P	**P**	**00 27 21.0**	**-0.3**
KURBB	2.0nm,0.7s,baz=121,slow=8.4,SNR=9.4 **Kurchatov Arra**	**44.48**	**323**	P	**P**	**00 27 33.2**	**-0.1**
ASAR	2.2nm,0.7s,baz=124,slow=7.6,SNR=16 **Alice Springs**	**45.77**	**162**	P	**P**	**00 27 44.0**	**+0.1**
BVAR	0.9nm,0.8s,baz=336,slow=6.6,SNR=8.0 **Borovoye Array**	**50.07**	**323**	P	**P**	**00 28 17.0**	**+0.1**
FINES	0.6nm,0.6s,baz=100,slow=7.6,SNR=6.3 **FINESS Array B**	**74.25**	**330**	P	**P**	**00 30 59.4**	**+0.5**
BRTR	1.1nm,0.8s,baz=62,slow=9.6,SNR=4.8 **Keskin Array B**	**74.67**	**307**	P	**P**	**00 31 02.1**	**+0.1**
	0.3nm,0.7s,baz=66,slow=7.0,SNR=2.6						

*NEIC **05** 00:20:08.0±1.1, 56.°08S×27.°66W, h86km±9km, mb5.0/15, Error ellipse: s-maj=7.3km s-min=5.8km az=217.0*
*ISCJB **05** 00:20:10.0±0.3, 56.°14S±0.°05×27.°7W±0.°1, h121km, mb4.9/30, Error ellipse: s-maj=8.5km s-min=7.1km az=144.2*
*IDC **05** 00:20:10.2±1.3, 56.°07S×27.°72W, h104km±10km, mb4.4/19, mb1 4.5/21, mb1mx4.4/25, mbtmp4.4/21, MS3.6/12, Ms1 3.6/12, ms1mx3.5/18, Error ellipse: s-maj=12.8km s-min=10.6km az=46.0*
ISC 05 00:20:11.8±0.3, 56.°09S±0.°06×27.°89W±0.°06, h121km, n122, σ1$43/152, mb4.8/28, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.25**	**287**	*e*Pn	**Pn**	**00 21 25.3**	**-2.7**
HOPE				*e*Sn	Sn	00 22 19.8	-7.5
VNA1	**Neumayer--Stat**	**16.91**	**157**	*e*P	**Pn**	**00 23 57.9**	**-2.8**
VNA2	**Neumayer--Watz**	**17.31**	**157**	*e*P	**P**	**00 24 02.4**	**-2.7**
EFI	**East Falkland**	**18.25**	**271**	*e*P	**P**	**00 24 14.5**	**-1.0**
SNAA	277nm,1.6s **Sanae**	**18.87**	**156**	*e*P	**P**	**00 24 20.7**	**-1.5**
SNAA	**Sanae**	**18.87**	**156**	*e*P	**P**	**00 24 20.8**	**-1.5**
SNAA	116nm,0.7s			S	**Sn**	**00 27 57.8**	**+2.2**
SNAA				ScP	**ScP**	**00 32 09.3**	**+2.1**
SNAA	**Sanae**	**18.87**	**156**	P	**P**	**00 24 20.7**	**-1.5**
SNAA	7.9nm,0.3s,baz=307,slow=10,SNR=1067			S	**Sn**	**00 27 57.8**	**+2.2**
SNAA	0.0nm,0.3s,baz=284,slow=14,SNR=3.5			LR	LR	00 30 37.9	
SNAA	comp=Z,22nm,19.5s,baz=20,slow=33			ScP	**ScP**	**00 32 09.3**	**+2.1**
PMSA	0.1nm,0.3s,baz=349,slow=2.1,SNR=8.8 **Palmer Station**	**19.58**	**229**	P	**P**	**00 24 30.1**	**+0.3**
PMSA	**Palmer Station**	**19.58**	**229**	P	**P**	**00 24 30.1**	**+0.3**
PMSA	0.5nm,0.3s,baz=97,slow=8.1,SNR=2.8			LR	LR	00 31 09.7	
USHA	comp=Z,120nm,19.2s,baz=81,slow=34 **Ushuaia**	**22.80**	**256**	P	**P**	**00 25 05.2**	**+1.3**
USHA	**Ushuaia**	**22.80**	**256**	P	**P**	**00 25 05.2**	**+1.3**
PLCA	8.5nm,0.7s,baz=76,slow=10,SNR=5.0 **Paso Flores**	**31.62**	**281**	*e*P	**P**	**00 26 23.6**	**+0.5**
PLCA	60nm,2.3s			ScP	**ScP**	**00 32 44.4**	**+0.4**
PLCA	**Paso Flores**	**31.62**	**281**	P	**P**	**00 26 23.6**	**+0.5**
PLCA	1.4nm,0.7s,baz=142,slow=9.9,SNR=4.4			ScP	**ScP**	**00 32 44.4**	**+0.4**
PLCA	1.0nm,0.6s,baz=143,slow=5.1,SNR=4.4			LR	LR	00 38 32.9	
SYO	comp=Z,87nm,21.8s,baz=272,slow=35 **Syowa Base**	**31.80**	**141**	*e*P	**P**	**00 26 21.5**	**-2.7**
QSPA	**South Pole Qui**	**34.16**	**180**	P	**P**	**00 26 45.7**	**+0.7**
QSPA				ScP	**ScP**	**00 32 53.1**	**+0.7**
QSPA	**South Pole Qui**	**34.16**	**180**	P	**P**	**00 26 45.7**	**+0.7**
QSPA	47nm,0.6s,baz=193,slow=4.6,SNR=137			ScP	**ScP**	**00 32 53.1**	**+0.7**
CPUP	1.5nm,0.3s,baz=134,slow=0.3,SNR=3.9 **Villa Florida**	**36.55**	**312**	*e*P	**P**	**00 27 05.4**	**-0.2**
CPUP	**Villa Florida**	**36.55**	**312**	P	**P**	**00 27 06.3**	**+0.8**
CPUP	4.5nm,0.7s,baz=137,slow=8.5,SNR=7.4			LR	LR	00 41 13.9	
CFAA	comp=Z,99nm,19.3s,baz=139,slow=34 **Coronel Fontan**	**37.22**	**294**	P	**P**	**00 27 10.6**	**-0.7**
CFAA	**Coronel Fontan**	**37.22**	**294**	P	**P**	**00 27 10.6**	**-0.7**
MAW	1.3nm,0.6s,baz=148,slow=7.5,SNR=18 **Mawson**	**40.35**	**144**	*e*P	**P**	**00 27 35.6**	**-1.3**
MAW	5.1nm,0.9s			ScP	**ScP**	**00 33 17.5**	**+2.1**
MAW	**Mawson**	**40.35**	**144**	P	**P**	**00 27 36.7**	**-0.2**
MAW	13nm,0.5s,baz=237,slow=7.9,SNR=24			ScP	**ScP**	**00 33 17.5**	**+2.1**
MAW	29nm,1.4s,baz=264,slow=9.2,SNR=9.4			LR	LR	00 41 39.3	
LCO	comp=Z,111nm,21.7s,baz=257,slow=32 **Las Campanas**	**40.56**	**294**	*e*P	**P**	**00 27 39.8**	**+0.4**
SUR	25nm,1.2s **Sutherland**	**41.03**	**76**	*e*P	**P**	**00 27 41.4**	**-1.7**
SUR	164nm,2.0s **Sutherland**	**41.03**	**76**	P	**P**	**00 27 41.9**	**-1.2**
BDFB	11nm,1.0s,baz=230,slow=15,SNR=4.2 **Brasilia**	**43.20**	**331**	P	**P**	**00 28 01.4**	**+0.6**
BDFB	**Brasilia**	**43.20**	**331**	P	**P**	**00 28 01.4**	**+0.6**
BDFB	9.0nm,0.6s,baz=177,slow=3.4,SNR=19			LR	LR	00 42 58.5	
SHEL	comp=Z,89nm,20.8s,baz=241,slow=32 **Horse Pasture**	**43.47**	**32**	P	**P**	**00 28 03.3**	**+0.4**
LVC	428nm,0.9s,SNR=5.7 **Limon Verde**	**44.98**	**301**	*e*P	**P**	**00 28 16.9**	**+1.8**
SBA	14nm,0.8s **Scott Base**	**46.01**	**184**	*e*P	**P**	**00 28 22.8**	**+0.5**
BOSA	772nm,2.4s **Boshof**	**46.36**	**76**	*e*P	**P**	**00 28 24.3**	**-1.5**
BOSA	91nm,2.4s			ScP	**ScP**	**00 33 42.6**	**+2.0**
BOSA	**Boshof**	**46.36**	**76**	P	**P**	**00 28 24.9**	**-0.9**
BOSA	5.0nm,0.7s,baz=219,slow=7.6,SNR=8.0			ScP	**ScP**	**00 33 42.6**	**+2.0**
BOSA	2.5nm,1.1s,baz=148,slow=7.2,SNR=4.0			LR	LR	00 45 00.4	
VNDA	comp=Z,82nm,18.4s,baz=42,slow=32 **Vanda**	**46.52**	**183**	P	**P**	**00 28 27.4**	**+1.2**
VNDA	**Vanda**	**46.52**	**183**	P	**P**	**00 28 27.4**	**+1.2**
VNDA	28nm,0.7s,baz=189,slow=8.0,SNR=48			LR	LR	00 46 04.9	
SIV	comp=Z,69nm,19.1s,baz=175,slow=33 **San Ignacio**	**47.32**	**314**	P	**P**	**00 28 33.8**	**+0.5**
SIV	**San Ignacio**	**47.32**	**314**	P	**P**	**00 28 33.8**	**+0.5**
H10S2	2.4nm,0.7s,baz=171,slow=8.4,SNR=7.5 **ASCENSION HYDR**	**48.15**	**18**	T	T	01 21 26.1	
H10S3	baz=189,slow=75,SNR=37 **ASCENSION HYDR**	**48.16**	**18**	T	T	01 21 25.9	
H10S1	baz=189,slow=75,SNR=39 **ASCENSION HYDR**	**48.17**	**18**	T	T	01 21 27.0	
H10N1	baz=189,slow=75,SNR=43 **ASCENSION HYDR**	**49.27**	**18**	T	T	01 22 51.0	
H10N3	baz=188,slow=75,SNR=3.0 **ASCENSION HYDR**	**49.27**	**18**	T	T	01 22 49.7	
H10N2	baz=188,slow=75,SNR=18 **ASCENSION HYDR**	**49.29**	**18**	T	T	01 22 52.2	
LBTB	baz=188,slow=75,SNR=4.3 **Lobatse**	**49.39**	**74**	*e*P	**P**	**00 28 48.1**	**-1.1**
LBTB	145nm,2.9s			ScP	**ScP**	**00 33 55.5**	**+2.0**
LBTB	**Lobatse**	**49.39**	**74**	P	**P**	**00 28 48.0**	**-1.1**
LBTB	5.0nm,0.7s,baz=229,slow=8.1,SNR=11			ScP	**ScP**	**00 33 55.5**	**+2.0**
TSUM	4.0nm,1.0s,baz=239,slow=5.9,SNR=3.7 **Tsumeb**	**50.04**	**62**	*e*P	**P**	**00 28 53.3**	**-0.8**
LPAZ	5.4nm,0.7s **La Paz**	**50.08**	**306**	*e*P	**P**	**00 28 56.4**	**+1.4**
LPAZ	12nm,0.6s **La Paz**	**50.08**	**306**	P	**P**	**00 28 56.1**	**+1.1**
LPAZ	9.2nm,0.5s,baz=153,slow=7.5,SNR=37			LR	LR	00 49 08.3	
SAML	comp=Z,44nm,21.1s,baz=351,slow=35 **Samuel**	**54.55**	**316**	*e*P	**P**	**00 29 27.5**	**+0.2**
LSZ	10nm,0.8s **Lusaka**	**58.75**	**70**	*e*P	**P**	**00 29 56.3**	**-0.9**
LIC	5.9nm,0.8s **Lamto**	**64.89**	**25**	*e*P	**P**	**00 30 38.1**	**+0.1**
KIC	105nm,1.2s **Kosan Boka**	**65.09**	**26**	*e*P	**P**	**00 30 39.2**	**-0.1**
TIC	55nm,1.1s **Toumodi**	**65.30**	**25**	*e*P	**P**	**00 30 40.6**	**-0.1**
DBIC	51nm,0.9s **Dimbokro**	**65.37**	**25**	*e*P	**P**	**00 30 41.4**	**+0.3**
DBIC	15nm,0.8s **Dimbokro**	**65.37**	**25**	P	**P**	**00 30 41.0**	**0.0**
DBIC	11nm,0.6s,baz=171,slow=7.8,SNR=21			LR	LR	00 51 57.0	
OTAV	comp=Z,51nm,18.0s,baz=231,slow=29 **Otavalo**	**69.35**	**304**	*e*P	**P**	**00 31 07.7**	**+0.9**
TOA0	6.6nm,1.0s **Torodi Ar. Sit**	**73.28**	**30**	*e*P	**P**	**00 31 30.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.28**	**30**	P	**P**	**00 31 30.2**	**+0.4**
TORD				pP	**pP**	**00 31 56.3**	**-3.6**
TORD	**Torodi Ar. Bea**	**73.28**	**30**	P	**P**	**00 31 30.2**	**+0.4**
TORD	22nm,0.6s,baz=201,slow=6.5,SNR=441			pP	**pP**	**00 31 56.3**	**-3.6**
TORD	6.2nm,0.6s,baz=200,slow=6.5,SNR=6.5			LR	LR	00 54 58.2	
NWAO	comp=Z,44nm,20.9s,baz=175,slow=28 **Narrogin (SRO)**	**86.48**	**151**	P	**P**	**00 32 39.6**	**-1.2**
NWAO	**Narrogin (SRO)**	**86.48**	**151**	P	**P**	**00 32 39.6**	**-1.2**
STKA	3.7nm,0.6s,baz=163,slow=7.9,SNR=3.5 **Stephens Creek**	**91.93**	**171**	P	**P**	**00 33 06.4**	**0.0**
STKA	**Stephens Creek**	**91.93**	**171**	P	**P**	**00 33 06.4**	**0.0**
ESDC	2.0nm,0.7s,baz=209,slow=5.0,SNR=6.7 **Sonseca Array**	**97.54**	**18**	P	Pdif	00 33 31.9	+0.3
ESDC	**Sonseca Array**	**97.54**	**18**	P	Pdif	00 33 31.9	+0.3
ASAR	0.9nm,0.8s,baz=183,slow=4.3,SNR=5.3 **Alice Springs**	**99.07**	**163**	P	**Pdif**	**00 33 38.7**	**-0.3**
ASAR				PP	**PP**	**00 37 37.6**	**-4.1**
ASAR				PKKPbc	**PKKPdf**	**00 50 03.5**	**-0.2**
ASAR	**Alice Springs**	**99.07**	**163**	P	**Pdif**	**00 33 38.7**	**-0.3**
ASAR	3.1nm,0.9s,baz=196,slow=4.1,SNR=24			PP	**PP**	**00 37 37.6**	**-4.1**
ASAR	1.8nm,0.9s,baz=186,slow=7.1,SNR=7.2			PKKPbc	**PKKPdf**	**00 50 03.5**	**-0.2**
ASAR	0.4nm,0.5s,baz=19,slow=2.0,SNR=6.8			LR	LR	01 17 40.4	
AS01	comp=Z,53nm,18.6s,baz=85,slow=35 **Alice Springs**	**99.08**	**163**	*e*P	**Pdif**	**00 33 38.2**	**-0.9**
WRA	**Warramunga Arr**	**102.79**	**163**	Pdif	**Pdif**	**00 33 55.0**	**-0.6**
WRA				PKKPbc	**PKKPbc**	**00 49 50.3**	**-0.4**
WRA	**Warramunga Arr**	**102.79**	**163**	Pdiff	**Pdif**	**00 33 55.0**	**-0.6**
WRA	0.4nm,0.3s,baz=196,slow=4.3,SNR=5.1			PKKPbc	**PKKPbc**	**00 49 50.3**	**-0.4**
AKASG	0.6nm,0.3s,baz=0.7,slow=3.1,SNR=5.6 **Malin Array Be**	**116.46**	**37**	PKP	**PKPdf**	**00 38 39.9**	**-0.1**
AKASG	**Malin Array Be**	**116.46**	**37**	PKP	**PKPdf**	**00 38 39.9**	**-0.1**
ULM	0.2nm,0.2s,baz=261,slow=0.7,SNR=3.0 **Lac du Bonnet**	**120.01**	**317**	PKP	**PKPdf**	**00 38 46.4**	**-0.5**
ULM	**Lac du Bonnet**	**120.01**	**317**	PKP	**PKPdf**	**00 38 46.4**	**-0.5**
PDAR	1.6nm,0.6s,baz=270,slow=1.0,SNR=3.2 **Pinedale Array**	**120.03**	**303**	PKP	**PKPdf**	**00 38 47.1**	**-0.4**
PDAR	**Pinedale Array**	**120.03**	**303**	PKP	**PKPdf**	**00 38 47.1**	**-0.4**
NOA	0.4nm,0.4s,baz=103,slow=4.0,SNR=3.9 **NORSAR Array B**	**120.78**	**21**	PKP	**PKPdf**	**00 38 48.4**	**+0.3**
NOA	**NORSAR Array B**	**120.78**	**21**	PKP	**PKPdf**	**00 38 48.4**	**+0.3**
NVAR	1.0nm,0.9s,baz=200,slow=1.5,SNR=3.0 **Mina Array Bea**	**121.05**	**294**	PKP	**PKPdf**	**00 38 50.8**	**+1.3**
NVAR	**Mina Array Bea**	**121.05**	**294**	PKP	**PKPdf**	**00 38 50.8**	**+1.3**
FINES	0.6nm,0.6s,baz=109,slow=1.6,SNR=4.4 **FINESS Array B**	**124.60**	**28**	PKP	**PKPdf**	**00 38 55.4**	**+0.1**
FINES	**FINESS Array B**	**124.60**	**28**	PKP	**PKPdf**	**00 38 55.4**	**+0.1**
CM01	2.7nm,0.6s,baz=220,slow=1.1,SNR=16 **Chiang Mai Arr**	**125.39**	**111**	*e*PKPdf	**PKPdf**	**00 38 58.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**125.42**	**111**	PKP	**PKPdf**	**00 38 59.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**125.42**	**111**	PKP	**PKPdf**	**00 38 59.2**	**+0.9**
	1.8nm,0.7s,baz=235,slow=3.3,SNR=7.6						
ABKAR	**Akbulak array**	**127.71**	**56**	*e*PKPdf	**PKPdf**	**00 39 01.2**	**-0.4**
KKAR	**Karatay Array**	**128.60**	**68**	*e*PKPdf	**PKPdf**	**00 39 03.6**	**0.0**
AAK	**Ala-Archa**	**130.36**	**71**	PKP	**PKPdf**	**00 39 07.6**	**+0.4**
AAK	**Ala-Archa**	**130.36**	**71**	PKP	**PKPdf**	**00 39 07.6**	**+0.4**
ARCES	baz=246,slow=16 **ARCESS Array B**	**131.12**	**22**	PKP	**PKPdf**	**00 39 07.5**	**-0.1**
ARCES	**ARCESS Array B**	**131.12**	**22**	PKP	**PKPdf**	**00 39 07.5**	**-0.1**
KMI	2.0nm,0.6s,baz=224,slow=2.5,SNR=13 **Kunming**	**132.88**	**110**	PKP	**PKPdf**	**00 39 13.4**	**+0.8**
KMI				PP	**PP**	**00 41 43.2**	**+3.8**
KMI				AMB	AMB		
KMI	comp=Z,96nm,4.2s			LR	LR		
YKA	comp=Z,84nm,20.7s **Yellowknife Ar**	**135.94**	**318**	PKP	**PKPdf**	**00 39 17.2**	**+0.5**
YKA				SKPbc	**SKPbc**	**00 42 38.2**	**+1.1**
YKA	**Yellowknife Ar**	**135.94**	**318**	PKP	**PKPdf**	**00 39 17.2**	**+0.5**
YKA	1.8nm,0.5s,baz=126,slow=2.1,SNR=16			SKPbc	**SKPbc**	**00 42 38.2**	**+1.1**
GYA	1.2nm,0.7s,baz=118,slow=1.6,SNR=3.1 **Guiyang**	**136.01**	**113**	*e*Pdif	**Pdif**	**00 36 22.8**	**-0.3**
GYA				PKP	**PKiKP**	**00 39 19.0**	**-0.9**
GYA				sPKP		00 39 48.2	
GYA				PP	**PP**	**00 42 01.6**	**+2.6**
GYA				PKS	**PKSdf**	**00 42 53.2**	**-1.5**
GYA				SKKS		00 48 44.5	
GYA				SS	**SS**	**00 59 51.7**	**+2.9**
GYA	comp=Z,120nm,7.7s			AMB	AMB		
GYA	comp=Z,590nm,22.0s			LR	LR		
MKAR	**Makanchi Array**	**137.27**	**72**	PKPpre	PKPpre	00 39 09.7	
MKAR				PKP	**PKiKP**	**00 39 20.1**	**-1.6**
MKAR				SKPbc	**SKPbc**	**00 42 42.1**	**+0.4**
MKAR	**Makanchi Array**	**137.27**	**72**	PKhKP	PKPpre	00 39 09.7	
MKAR	0.2nm,0.7s,baz=239,slow=4.2,SNR=2.8			PKP	**PKiKP**	**00 39 20.1**	**-1.6**
MKAR	0.5nm,0.5s,baz=232,slow=2.7,SNR=7.3			SKPbc	**SKPbc**	**00 42 42.1**	**+0.4**
RES	1.1nm,0.6s,baz=229,slow=2.0,SNR=8.0 **Resolute Bay**	**137.75**	**339**	PKPpre	PKPpre	00 39 14.6	
RES				PKP	**PKiKP**	**00 39 20.6**	**-1.2**
RES	**Resolute Bay**	**137.75**	**339**	PKhKP	PKPpre	00 39 14.6	
RES	1.5nm,0.9s,baz=103,slow=3.4,SNR=3.7			PKP	**PKiKP**	**00 39 20.6**	**-1.2**
CD2	2.5nm,0.9s,baz=127,slow=2.6,SNR=6.4 **Chengdu**	**138.03**	**106**	*e*PKP	**PKPdf**	**00 39 22.6**	**+0.8**
CD2				PP	**PP**	**00 42 14.2**	**+2.6**
CD2				SS	SS	01 00 22.4	+10
CD2	comp=Z,120nm,10.2s			AMB	AMB		
CD2	comp=N,260nm,15.6s			LR	LR		
CD2	comp=Z,220nm,11.8s			LR	LR		
WMQ	**Urumqi**	**138.30**	**79**	PKP	**PKPdf**	**00 39 23.5**	**+1.6**
ZALV	**Zalesovo Beam**	**142.74**	**64**	PKPpre	PKPpre	00 39 24.8	
ZALV				SKPbc	**SKiKP**	**00 42 57.0**	**-0.2**
ZALV	**Zalesovo Beam**	**142.74**	**64**	PKhKP	PKPpre	00 39 24.8	
ZALV	2.0nm,0.5s,baz=230,slow=3.3,SNR=10			SKPbc	**SKiKP**	**00 42 57.0**	**-0.2**
HYT	1.1nm,0.7s,baz=242,slow=3.1,SNR=3.5 **Haines Junctio**	**144.50**	**307**	*e*PKPdf	**PKPdf**	**00 39 34.5**	**+2.0**
INK	**Inuvik**	**145.58**	**321**	*e*PKPdf	**PKPab**	**00 39 35.5**	**+0.6**
DAWY	**Dawson**	**146.53**	**312**	*e*PKPdf	**PKPab**	**00 39 37.8**	**-1.0**
NJ2	**Nanjing**	**146.65**	**122**	*e*PKPbc	**PKPbc**	**00 39 38.1**	**-0.6**
DOT	**Dot Lake**	**148.37**	**310**	*e*PKPdf	**PKPab**	**00 39 43.4**	**-2.7**
HHC	**Hu-ho-hao-te**	**149.62**	**103**	*e*PKPbc	**PKPbc**	**00 39 43.6**	**-2.8**
HHC				PKS	**PKSdf**	**00 43 17.1**	**+0.6**
HHC				PP	**PP**	**00 43 24.0**	**+3.0**
HHC	comp=Z,200nm,9.6s			AMB	AMB		
HHC	comp=N,240nm,21.3s			LR	LR		
HHC	comp=E,320nm,21.4s			LR	LR		
HHC	comp=Z,290nm,21.6s			LR	LR		
IL1	**Eielson Array**	**149.85**	**312**	*e*PKPbc	**PKPbc**	**00 39 46.7**	**+0.6**
ILAR	**Eielson Array**	**149.85**	**312**	PKP	**PKPdf**	**00 39 39.2**	**-1.9**
ILAR				PKPbc	**PKiKP**	**00 39 46.7**	**-0.2**
ILAR	**Eielson Array**	**149.85**	**312**	PKP	**PKPdf**	**00 39 39.2**	**-1.9**
ILAR	11nm,0.9s,baz=355,slow=1.3,SNR=5.9			PKPbc	**PKiKP**	**00 39 46.7**	**-0.2**
MCK	15nm,0.8s,baz=135,slow=2.2,SNR=108 **McKinley**	**150.49**	**309**	*e*PKPbc	**PKPbc**	**00 39 48.4**	**+0.7**
TRF	**Thorofare Moun**	**151.02**	**308**	*e*PKPbc	**PKPbc**	**00 39 50.4**	**+1.3**
SONM	**Songino Array**	**151.12**	**87**	PKP	**PKPdf**	**00 39 44.2**	**+0.4**
SONM				PKPbc	**PKiKP**	**00 39 49.8**	**-0.5**
SONM	**Songino Array**	**151.12**	**87**	PKP	**PKPdf**	**00 39 44.2**	**+0.4**
SONM	0.6nm,0.8s,baz=162,slow=2.3			PKPbc	**PKiKP**	**00 39 49.8**	**-0.5**
SONA1	8.3nm,0.5s,baz=222,slow=3.2,SNR=51 **Songino Array**	**151.13**	**87**	*e*PKPbc	**PKPbc**	**00 39 49.8**	**0.0**
RSO	**Redoubt South**	**151.42**	**302**	*e*PKPbc	**PKPbc**	**00 39 51.4**	**+1.3**
COLD	**Coldfoot**	**151.58**	**316**	*e*PKPbc	**PKPbc**	**00 39 51.8**	**+1.8**
PPLA	**Purkeypile**	**151.75**	**307**	*e*PKPbc	**PKPbc**	**00 39 51.8**	**+1.1**
CN2	**Changchun**	**159.05**	**115**	*e*PKP	**PKPdf**	**00 39 58.7**	**+4.2**
CN2				*e*PP	PP	00 44 19.0	+5.4
CN2	comp=Z,200nm,5.0s			AMB	AMB		
CN2	comp=Z,300nm,16.0s			LR	LR		
PETK	**Petropavlovsk-**	**175.59**	**230**	PKPab	**PKPab**	**00 41 45.1**	**+0.5**
PETK	**Petropavlovsk-**	**175.59**	**230**	PKPab	**PKPab**	**00 41 45.1**	**+0.5**
	7.0nm,1.1s,baz=151,slow=3.3,SNR=2.4						

*IDC **05** 00:30:57.0±1.8, 11.°00S×118.°17E, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, ML3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4

H11N2 WAKE ISLAND Hy 26.09 109 T T 01 14 08.9
baz=303,slow=76,SNR=16
H11N1 WAKE ISLAND Hy 26.10 109 T T 01 14 11.7
baz=303,slow=76,SNR=10
H11N3 WAKE ISLAND Hy 26.11 109 T T 01 14 12.7
baz=303,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 26.57 112 T T 01 15 03.8
baz=306,slow=74,SNR=21
H11S1 WAKE ISLAND Hy 26.57 112 T T 01 15 02.8
baz=306,slow=74,SNR=22
H11S2 WAKE ISLAND Hy 26.59 112 T T 01 15 03.3
baz=306,slow=74,SNR=17
ZALV Zalesovo Beam 45.78 317 P **P 00 49 07.9 +2.2**
0.3nm,0.4s,baz=111,slow=7.9,SNR=2.2
ZALV PcP **PcP 00 50 43.1 +1.0**
0.4nm,0.4s,baz=58,slow=3.6,SNR=3.5
MKAR Makanchi Array 47.09 307 P **P 00 49 16.3 +0.2**
0.3nm,0.7s,baz=111,slow=6.3,SNR=3.6
WRA Warramunga Arr 50.96 188 P **P 00 49 44.6 -1.1**
1.3nm,0.8s,baz=6.7,slow=7.9,SNR=6.1
ASAR Alice Springs 54.69 188 P **P 00 50 12.2 -1.0**
0.6nm,0.7s,baz=12,slow=5.1,SNR=8.5
NVAR Mina Array Bea 79.15 52 P P 00 52 55.5 +6.7
0.2nm,0.5s,baz=310,slow=5.6,SNR=2.8
TXAR Lajitas Array 94.30 52 P P 00 54 09.4 +6.1
0.5nm,0.7s,baz=293,slow=3.0,SNR=7.0
H03N2 Juan Fernandez 146.49 105 T T 03 44 43.4
baz=277,slow=75,SNR=3.7
H03N3 Juan Fernandez 146.50 105 T T 03 44 46.1
baz=277,slow=75,SNR=4.8
H03N1 Juan Fernandez 146.50 105 T T 03 44 47.9
baz=277,slow=75,SNR=5.2

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*KRSC **05** 00:58:54.0±4.4, 55°.03N×162°.37E, h32km±32km, ML5.0*
*MOS **05** 00:58:56.4±1.1, 55°.13N×162°.01E, h52km, mb5.0/36, Error ellipse: s-maj=9.1km s-min=4.9km az=84.0*
*IDC **05** 00:58:56.2±0.5, 55°.24N×161°.82E, h31km±3km, mb4.3/28, mb1 4.5/29, mb1mx4.5/31, mbtmp4.3/29, ML4.2/1, MS3.8/23, Ms1 3.8/23, ms1mx3.7/41, Error ellipse: s-maj=14.8km s-min=9.3km az=141.0*
*BJI **05** 00:58:56.9, 55°.20N×161°.90E, h67km, mB5.0/26, mb4.5/30, Ms4.6/19, Ms7 4.4/20*
*ISCJB **05** 00:58:58.4±0.2, 55°.11N±0°.02×161°.95E±0°.03, h69km±2km, mb4.6/95, Error ellipse: s-maj=3.2km s-min=2.0km az=140.6*
*NEIC **05** 00:58:58.8±0.7, 55°.22N×161°.84E, h54km±7km, mb5.0/26, Error ellipse: s-maj=6.2km s-min=3.4km az=156.0*
*SZGRF **05** 00:59:00.9, 55°.12N×162°.01E, h33km, mb5.0, Near east coast of Kamchatka Peninsula, Russia*
ISC 05 00:58:58.8±0.3, 55°.11N±0°.02×162°.02E±0°.03, h60km±2km, h59km:pP-P, n695, σ1$=2/775, mb4.8/95, 187C-181D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.58**	**197**	PN		Pn		00 59 07.6	-4.0
MKZ	**Mys Kozlova**	**0.58**	**197**	P		Pn		00 59 07.6	-4.0
KZV	**Kizimen**	**0.99**	**271**	P		**Pn**		**00 59 16.3**	**-0.6**
TUMR	**Tumrok**	**1.09**	**280**	P		**Pn**		**00 59 18.2**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.12**	**318**	*i* P		**Pn**		**00 59 18.7**	**+0.1**
ZLN	**Zelenaya**	**1.15**	**323**	P		**Pn**		**00 59 19.2**	**+0.3**
KBTR	**Krutoberegovo**	**1.19**	**22**	PN		**Pn**		**00 59 17.0**	**-2.4**
KBTR				S		**Sn**		**00 59 32.6**	**-2.1**
KBTR	**Krutoberegovo**	**1.19**	**22**	P		**Pn**		**00 59 17.0**	**-2.4**
KBTR				*i* S		**Sn**		**00 59 32.6**	**-2.1**
BZMR	**Bezymyannaya**	**1.20**	**314**	*i* P		**Pn**		**00 59 19.5**	**-0.2**
KMNR	**Kamenistaya**	**1.21**	**303**	P		**Pn**		**00 59 19.9**	**+0.2**
KBG	**Krutoberegovo**	**1.21**	**18**	PN		**Pn**		**00 59 18.1**	**-1.6**
KBG				S		**Sn**		**00 59 33.8**	**-1.4**
KBG	**Krutoberegovo**	**1.21**	**18**	*e*P		**Pn**		**00 59 18.1**	**-1.6**
KBG				*i* S		**Sn**		**00 59 33.8**	**-1.4**
BZWR	**Bezymyannyi-We**	**1.22**	**315**	*i* P		**Pn**		**00 59 20.0**	**+0.1**
LGNR	**Loginova**	**1.24**	**323**	*i* P		**Pn**		**00 59 20.7**	**+0.5**
CIRR	**Tsirk**	**1.24**	**325**	*i* P		**Pn**		**00 59 20.5**	**+0.3**
KIRR	**Kirishev**	**1.28**	**312**	P		**Pn**		**00 59 20.7**	**0.0**
KPT	**Kopyto**	**1.34**	**311**	P		**Pn**		**00 59 21.6**	**+0.2**
KPT				*i* S		**Sn**		**00 59 40.3**	**+2.0**
KRSR	**Krestovskiy**	**1.39**	**324**	P		**Pn**		**00 59 21.9**	**-0.2**
KRSR				*i* S		**Sn**		**00 59 40.3**	**+0.8**
KLY	**Klyuchi**	**1.44**	**328**	PN		**Pn**		**00 59 21.5**	**-1.1**
KLY				S		**Sn**		**00 59 39.8**	**-0.7**
KLY	**Klyuchi**	**1.44**	**328**	P		**Pn**		**00 59 21.5**	**-1.1**
KLY				*i* S		**Sn**		**00 59 39.8**	**-0.7**
SMKR	**Semkarok**	**1.51**	**348**	P		**Pn**		**00 59 23.5**	**-0.2**
BDR	**Baidarnaya**	**1.54**	**343**	*i* P		**Pn**		**00 59 24.2**	**+0.1**
KOZR	**Kozyr**	**1.54**	**309**	PN		**Pn**		**00 59 25.1**	**+1.0**
KOZR				S		**Sn**		**00 59 45.5**	**+2.4**
KOZ	**Kozyrevsk**	**1.55**	**309**	P		**Pn**		**00 59 25.1**	**+0.9**
KOZ				*i* S		**Sn**		**00 59 45.5**	**+2.3**
SRKR	**Sorokina**	**1.62**	**343**	P		**Pn**		**00 59 25.1**	**-0.1**
SRDR	**Sredinnyy**	**1.78**	**314**	P		**Pn**		**00 59 27.9**	**+0.5**
ESO	**Esso**	**2.06**	**295**	PN		**Pn**		**00 59 31.3**	**+0.2**
ESO				S		**Sn**		**00 59 56.7**	**+1.1**
ESO	**Esso**	**2.06**	**295**	*i* P		**Pn**		**00 59 31.3**	**+0.2**
ESO				*i* S		**Sn**		**00 59 56.7**	**+1.1**
BKI	**Bering**	**2.27**	**86**	PN		Pn		00 59 29.7	-4.2
BKI				S		Sn		00 59 53.7	-7.0
BKI	**Bering**	**2.27**	**86**	*i* P		Pn		00 59 29.7	-4.2
BKI				*i* S		Sn		00 59 53.7	-7.0
SPN	**Mys Shipunski**	**2.33**	**211**	PN		**Pn**		**00 59 32.0**	**-2.8**
SPN				S		**Sn**		**00 59 57.9**	**-4.3**
SPN	**Mys Shipunski**	**2.33**	**211**	*e*P		**Pn**		**00 59 32.0**	**-2.8**
SPN				*i* S		**Sn**		**00 59 57.9**	**-4.3**
NLC	**Nalytchevo**	**2.50**	**220**	PN		**Pn**		**00 59 35.9**	**-1.1**
NLC				S		**Sn**		**01 00 04.6**	**-1.7**
NLC	**Nalytchevo**	**2.50**	**220**	*e*P		**Pn**		**00 59 35.9**	**-1.1**
NLC				*i* S		**Sn**		**01 00 04.6**	**-1.7**
SDLR	**Sedlovina**	**2.60**	**226**	P		**Pn**		**00 59 38.3**	**-0.2**
SDLR				*i* S		**Sn**		**01 00 09.3**	**+0.3**
KRER	**Koryakskii**	**2.64**	**228**	P		**Pn**		**00 59 39.3**	**+0.2**
KRER				*i* S		**Sn**		**01 00 10.2**	**+0.2**
KRX	**Arik**	**2.64**	**230**	P		**Pn**		**00 59 39.3**	**+0.1**
KRX				*i* S		**Sn**		**01 00 10.7**	**+0.6**
SMAR	**Somma**	**2.64**	**227**	P		**Pn**		**00 59 39.1**	**-0.1**
SMAR				*i* S		**Sn**		**01 00 10.4**	**+0.2**
AVH	**Avacha**	**2.67**	**228**	P		**Pn**		**00 59 39.8**	**+0.3**
AVH				*i* S		**Sn**		**01 00 11.6**	**+1.0**
UGLR	**Uglovaya**	**2.67**	**226**	P		**Pn**		**00 59 39.4**	**-0.1**
KOK	**Koryaka**	**2.69**	**229**	P		**Pn**		**00 59 40.3**	**+0.5**
KOK				*i* S		**Sn**		**01 00 12.3**	**+1.0**
GNL	**Ganaly**	**2.77**	**241**	P		**Pn**		**00 59 41.5**	**+0.6**
GNL				*i* S		**Sn**		**01 00 14.4**	**+1.2**
PET	**Petropavlovsk**	**2.88**	**225**	⇑*i* PN		**Pn**		**00 59 42.2**	**0.0**
PET				*e*S		**Sn**		**01 00 14.3**	**-1.3**
PET				pmax	pmax				
	comp=Z,748nm,0.4s								
PET				smax	smax				
	comp=E,5μm,0.5s								
PET				smax	smax				
	comp=N,4μm,0.5s								
PET	**Petropavlovsk**	**2.88**	**225**	P		**Pn**		**00 59 41.9**	**-0.3**
PET				*i* S		**Sn**		**01 00 15.3**	**-0.3**
PEA0	**Petropavlovsk-**	**3.24**	**234**	*e*Pn		**Pn**		**00 59 47.1**	**0.0**
PEA0				*e*Sn		**Sn**		**01 00 26.4**	**+2.0**
PETK	**Petropavlovsk-**	**3.24**	**234**	PN		**Pn**		**00 59 47.1**	**-0.1**
PETK	**Petropavlovsk-**	**3.24**	**234**	Pn		**Pn**		**00 59 47.1**	**-0.1**
PETK				Lg		Lg		01 00 31.3	
PETK	**Petropavlovsk-**	**3.24**	**234**	Pn		**Pn**		**00 59 47.1**	**-0.1**
	comp=N,28nm,0.3s,baz=67,slow=14,SNR=418								
PETK				Lg		Lg		01 00 31.3	
	comp=N,197nm,0.3s,baz=232,slow=31,SNR=16								
PETK				LR		LR		01 01 16.8	
	comp=N,981nm,20.0s,baz=49,slow=44								
RUS	**Russkaya**	**3.39**	**219**	PN		**Pn**		**00 59 48.6**	**-0.6**
RUS				S		**Sn**		**01 00 27.1**	**-1.1**
RUS	**Russkaya**	**3.39**	**219**	*e*P		**Pn**		**00 59 48.6**	**-0.6**
RUS				*i* S		**Sn**		**01 00 27.1**	**-1.1**
GRL	**Gorelyy**	**3.47**	**224**	P		**Pn**		**00 59 51.2**	**+0.8**
GRL				*i* S		**Sn**		**01 00 31.1**	**+0.8**
MTVR	**Mutnovka**	**3.48**	**222**	*e*P		**Pn**		**00 59 50.9**	**+0.3**
MTVR				*i* S		**Sn**		**01 00 30.9**	**+0.4**
APC	**Apacha**	**3.61**	**235**	*i* P		**Pn**		**00 59 54.7**	**+2.5**
APC				*i* S		**Sn**		**01 00 36.5**	**+3.1**
ASAK	**Asacha**	**3.67**	**224**	P		**Pn**		**00 59 54.3**	**+1.2**
ASAK				*i* S		**Sn**		**01 00 35.9**	**+0.9**
PALN	**Palana**	**4.15**	**345**	*e*P		**Pn**		**01 00 01.6**	**+2.1**
PALN				*e*S		**Sn**		**01 00 49.2**	**+2.6**
OSSR	**Ossora**	**4.19**	**7**	*i* P		**Pn**		**00 59 59.7**	**-0.4**
OSSR				*i* S		**Sn**		**01 00 45.2**	**-2.6**
MIPR	**Malaya Ipel'ka**	**4.22**	**230**	P		**Pn**		**01 00 01.8**	**+1.2**
PAU	**Pauzhetka**	**4.80**	**223**	PN		**Pn**		**01 00 10.1**	**+1.6**
PAU				S		**Sn**		**01 01 04.1**	**+1.3**
PAU	**Pauzhetka**	**4.80**	**223**	*e*P		**Pn**		**01 00 10.1**	**+1.6**
PAU				*i* S		**Sn**		**01 01 04.1**	**+1.3**
SKR	**Severo-Kuril's**	**5.69**	**221**	*e*PN		Pn		01 00 15.8	-4.9
SKR	**Severo-Kuril's**	**5.69**	**221**	*e*P		**Pn**		**01 00 21.5**	**+0.8**
SKR				*i* S		**Sn**		**01 01 23.9**	**-0.7**
TILK	**Tilichiki**	**5.79**	**21**	*e*P		**Pn**		**01 00 22.2**	**+0.2**
FX1	**Attu Island--F**	**6.94**	**104**	*e*Pn		Pn		01 00 33.4	-4.4
FX1				*e*Sn		Sn		01 01 47.4	-7.8
FX1	**Attu Island--F**	**6.94**	**104**	Pn		Pn		01 00 33.0	-4.8
	comp=N,48nm,0.3s,baz=340,slow=7.2,SNR=41								
FX1				Sn		Sn		01 01 44.8	-10
	comp=N,30nm,0.3s,baz=17,slow=19,SNR=7.6								
YSS	**Yuzh-Sakhalins**	**14.57**	**244**	*e*P		**Pn**		**01 02 23.0**	**+1.5**
YSS				MLR		MLR			
	comp=N,500nm,16.0s								
YSS				MLR		MLR			
	comp=Z,500nm,16.0s								
YUK	**Yuzh-Kuril'sk**	**15.21**	**230**	*de*P		**Pn**		**01 02 27.9**	**-1.8**
YUK				*e*S		**Sn**		**01 05 15.3**	**-1.7**
YUK				pmax	pmax				
	comp=N,49nm,0.4s								
YUK				pmax	pmax				
	comp=Z,206nm,0.4s								
YUK				pmax	pmax				
	comp=E,64nm,0.2s								
ASAJ	**Asahikawa**	**16.65**	**237**	*e*Pn		**P**		**01 02 49.0**	**-0.5**
	comp=E,37nm,1.0s								
ASAJ	**Asahikawa**	**16.65**	**237**	Pn		**Pn**		**01 02 48.2**	**+0.2**
	comp=E,1.6nm,0.3s,baz=52,slow=3.7,SNR=9.9								
ASAJ				LR		LR		01 08 44.6	
	comp=E,290nm,20.8s,baz=19,slow=35								
HABR	**Khabarovsk**	**17.88**	**259**	P		**P**		**01 03 02.8**	**-0.2**
HABR				S		**Sn**		**01 06 17.6**	**-3.9**
HABR				pmax	pmax				
	comp=Z,42nm,1.5s								
HABR				MLR		MLR			
	comp=Z,334nm,19.0s								
TNA	**Tin City**	**17.98**	**42**	*e*P		**Pn**		**01 03 05.3**	**+1.0**
	comp=Z,9.3nm,1.0s								
ERM	**Erimo**	**18.02**	**231**	*e*P		**P**		**01 03 04.6**	**0.0**
ERM				pmax	pmax				
	comp=Z,41nm,0.4s								
ERM	**Erimo**	**18.02**	**231**	*e*P		**P**		**01 03 04.6**	**0.0**
	comp=Z,41nm,0.4s								
ERM	**Erimo**	**18.02**	**231**	Pn		**Pn**		**01 03 05.2**	**+0.4**
	comp=Z,471nm,0.4s,SNR=5.2								
YAK	**Yakutsk**	**18.08**	**306**	*e*P		**P**		**01 03 03.8**	**-1.3**
YAK				*e*S		**S**		**01 06 28.0**	**-0.5**
YAK				pmax	pmax				
	comp=Z,26nm,1.0s								
KLR	**Kul'dur**	**19.38**	**265**	*e*P		**P**		**01 03 18.2**	**-1.2**
CLNS	**Chul'man**	**20.69**	**290**	*e*P		Pn		01 03 39.5	+3.0
CLNS				pmax	pmax				
	comp=Z,17nm,0.8s								
CLNS				pmax	pmax				
	comp=E,17nm,0.9s								
CLNS				pmax	pmax				
	comp=N,11nm,0.8s								
TIXI	**Tiksi**	**21.77**	**332**	*ce*P		**P**		**01 03 44.8**	**-0.3**
TIXI				pmax	pmax				
	comp=Z,22nm,1.1s								
USRK	**Ussuriysk Arra**	**22.12**	**253**	P		**P**		**01 03 47.4**	**-1.6**
	comp=Z,1.5nm,0.4s,baz=54,slow=12,SNR=6.4								
USRK				LR		LR		01 12 27.5	
	comp=Z,260nm,20.2s,baz=172,slow=37								
VLA	**Vladivostok**	**22.89**	**251**	⇑*eP*		**P**		**01 03 55.4**	**-1.7**
VLA				*e*				01 04 21.8	
MDJ	**Mudanjiang**	**23.18**	**257**	P		**P**		**01 03 59.6**	**-0.5**
MDJ				pmax	pmax				
	comp=Z,7.0nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,130nm,5.3s								
RSO	**Redoubt South**	**24.30**	**59**	*e*P		**P**		**01 04 12.1**	**+1.7**
PPLA	**Purkeypile**	**24.35**	**53**	*e*P		**P**		**01 04 11.9**	**+1.0**
	comp=Z,92nm,1.8s								
MAJO	**Matsushiro**	**24.69**	**231**	*e*P		**P**		**01 04 14.9**	**+0.9**
MAJO				pmax	pmax				
	comp=Z,32nm,1.1s								
MAJO	**Matsushiro**	**24.69**	**231**	*e*P		**P**		**01 04 14.9**	**+0.9**
	comp=Z,32nm,1.1s								
MAT	**Matsushiro**	**24.69**	**231**	P		**P**		**01 04 15.0**	**+1.0**
MJAR	**Matsushiro Arr**	**24.69**	**231**	P		**P**		**01 04 14.0**	**0.0**
MJAR	**Matsushiro Arr**	**24.69**	**231**	P		**P**		**01 04 14.0**	**0.0**
	comp=Z,17nm,0.7s,baz=26,slow=8.3,SNR=31								
MJAR				LR		LR		01 13 39.0	
	comp=Z,246nm,20.5s,baz=55,slow=36								
KDAK	**Kodiak Island**	**24.87**	**65**	*e*P		**P**		**01 04 15.1**	**-0.3**
	comp=Z,179nm,1.8s								
TRF	**Thorofare Moun**	**25.18**	**51**	*e*P		**P**		**01 04 18.6**	**+0.1**
	comp=Z,18nm,1.0s								
COLD	**Coldfoot**	**25.29**	**42**	*e*P		**P**		**01 04 19.3**	**+0.1**
	comp=Z,11nm,0.8s								
RC01	**Rabbit Creek A**	**25.68**	**57**	*e*P		**P**		**01 04 23.4**	**+0.7**
	comp=Z,74nm,1.8s								
CN2	**Changchun**	**26.02**	**260**	*e*P		**P**		**01 04 27.1**	**+1.1**
CN2				*es*P		**sP**		**01 04 48.9**	**+1.1**
CN2				*e*S		**S**		**01 08 48.9**	**-3.4**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
CN2				LR		LR			
	comp=Z,300nm,14.0s								
CN2				LR		LR			
	comp=Z,300nm,14.0s								
CN2				LR		LR			
	comp=Z,400nm,15.0s								
COLA	**College**	**26.19**	**48**	⇑*i* P		**P**		**01 04 27.7**	**+0.4**
COLA				pmax	pmax				
	comp=Z,35nm,1.0s								
IL1	**Eielson Array**	**26.61**	**48**	*e*P		**P**		**01 04 30.4**	**-0.7**
ILAR	**Eielson Array**	**26.61**	**48**	P		**P**		**01 04 30.4**	**-0.7**
ILAR				PcP		**PcP**		**01 07 52.9**	**-0.6**
ILAR	**Eielson Array**	**26.61**	**48**	P		**P**		**01 04 30.4**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=268,slow=8.2,SNR=30								
ILAR				PcP		**PcP**		**01 07 52.9**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=270,slow=3.2,SNR=4.0								
ILAR				LR		LR		01 15 20.7	
	comp=Z,198nm,19.8s,baz=141,slow=37								
KSRS	**Korea Array**	**29.04**	**247**	LR		LR		01 15 59.0	
	comp=Z,138nm,19.1s,baz=60,slow=35								
DAWY	**Dawson**	**29.92**	**49**	*e*P		**P**		**01 05 00.7**	**0.0**
JNU	**Nakatsue**	**30.93**	**238**	LR		LR		01 17 03.2	
	comp=Z,180nm,20.9s,baz=221,slow=35								
HYT	**Haines Junctio**	**31.55**	**55**	*e*P		**P**		**01 05 18.0**	**+2.9**
INK	**Inuvik**	**31.59**	**40**	*e*P		**P**		**01 05 15.4**	**+0.2**
	comp=Z,92nm,2.2s								
INK				PcP		**PcP**		**01 08 06.9**	**+1.0**
INK	**Inuvik**	**31.59**	**40**	P		**P**		**01 05 15.6**	**+0.4**
	comp=Z,6.8nm,0.7s,baz=291,slow=7.3,SNR=45								
INK				PcP		**PcP**		**01 08 06.9**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=337,slow=1.1,SNR=3.6								
BJI	**Beijing**	**33.72**	**263**	P		**P**		**01 05 34.0**	**-0.1**
BJI				S		**S**		**01 10 52.6**	**-0.4**
BJI				pmax	pmax				
	comp=Z,6.0nm,0.7s								
BJI				pmax	pmax				
	comp=Z,95nm,4.2s								
BJI				LR		LR			
	comp=Z,240nm,12.2s								
BJI				LR		LR			
	comp=Z,430nm,11.8s								
BJI				LR		LR			
	comp=Z,180nm,20.4s								
SONA1	**Songino Array**	**34.57**	**282**	*e*P		**P**		**01 05 41.1**	**-0.5**
SONM	**Songino Array**	**34.58**	**282**	P		**P**		**01 05 40.5**	**-1.1**
SONM				PcP		**PcP**		**01 08 15.6**	**+0.7**
SONM				ScP		**ScP**		**01 11 59.6**	**+5.0**
SONM	**Songino Array**	**34.58**	**282**	P		**P**		**01 05 40.5**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=57,slow=9.1,SNR=3.4								
SONM				PcP		**PcP**		**01 08 15.6**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=54,slow=2.0,SNR=14								
SONM				ScP		**ScP**		**01 11 59.6**	**+5.0**
	comp=Z,0.4nm,0.6s,baz=35,slow=5.3,SNR=2.7								
SONM				LR		LR		01 21 23.6	
	comp=Z,143nm,19.2s,baz=50,slow=39								
H11N2	**WAKE ISLAND Hy 35.51 172**			T		T		01 43 11.9	
	baz=357,slow=76,SNR=622								
H11N3	**WAKE ISLAND Hy 35.52 172**			T		T		01 43 13.0	
	baz=357,slow=76,SNR=717								
H11N1	**WAKE ISLAND Hy 35.53 172**			T		T		01 43 13.3	
	baz=357,slow=76,SNR=889								
HHC	**Hu-ho-hao-te**	**35.83**	**268**	*e*P		**P**		**01 05 52.5**	**+0.1**
HHC				pP		**pP**		**01 06 06.8**	**-0.7**
HHC				sP		**sP**		**01 06 14.0**	**-0.5**
HHC				PP		**PnPn**		**01 07 13.5**	**-0.5**
HHC				S		**S**		**01 11 22.7**	**-2.9**
HHC				sS		**sS**		**01 11 48.4**	**-2.7**
HHC				PcS		**PcS**		**01 12 05.8**	**-0.3**
HHC				SS		**SnSn**		**01 13 44.9**	**-8.2**
HHC				ScS		**ScS**		**01 16 02.6**	**-2.0**
HHC				pmax	pmax				
	comp=Z,22nm,0.9s								
HHC				pmax	pmax				
	comp=Z,370nm,4.8s								
HHC				LR		LR			
	comp=Z,250nm,12.9s								
HHC				LR		LR			
	comp=Z,360nm,13.5s								
HHC				LR		LR			
	comp=Z,290nm,13.6s								
H11S1	**WAKE ISLAND Hy 36.71 173**			T		T		01 44 40.2	
	baz=8.0,slow=62,SNR=20								
H11S3	**WAKE ISLAND Hy 36.72 173**			T		T		01 44 43.3	
	baz=8.0,slow=62,SNR=16								
H11S2	**WAKE ISLAND Hy 36.73 173**			T		T		01 44 42.7	
	baz=8.0,slow=62,SNR=11								
YKA	**Yellowknife Ar**	**40.92**	**45**	P		**P**		**01 06 35.0**	**+0.3**
YKA				pP		pP		01 06 44.1	-5.9
YKA	**Yellowknife Ar**	**40.92**	**45**	P		**P**		**01 06 35.0**	**+0.3**
	comp=Z,8.5nm,0.6s,baz=298,slow=8.4,SNR=23								
YKA				pP		pP		01 06 44.1	-5.9
	comp=Z,3.2nm,0.6s,baz=300,slow=7.9,SNR=5.0								
YKB5	**Yellowknife Ar**	**40.92**	**45**	*e*P		**P**		**01 06 34.5**	**-0.2**
RES	**Resolute Bay**	**41.02**	**23**	*e*P		**P**		**01 06 35.9**	**+0.5**
	comp=Z,6.8nm,0.7s								
ZAA0	**Zalesovo Array**	**42.66**	**302**	*e*P		**P**		**01 06 46.8**	**-2.3**
ZALV	**Zalesovo Beam**	**42.66**	**302**	P		**P**		**01 06 46.6**	**-2.4**
ZALV								01 08 26.7	
ZALV								01 08 40.0	
ZALV	**Zalesovo Beam**	**42.66**	**302**	P		**P**		**01 06 46.6**	**-2.4**
ZALV				PP		**PP**		**01 08 26.7**	**-1.9**
ZALV				PcP		**PcP**		**01 08 40.0**	**+0.2**
ZALV	**Zalesovo Beam**	**42.66**	**302**	P		**P**		**01 06 46.6**	**-2.4**
	comp=Z,0.8nm,0.4s,baz=54,slow=7.5,SNR=5.2								
ZALV				PP		**PP**		**01 08 26.7**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=46,slow=10,SNR=2.5								
ZALV				PcP		**PcP**		**01 08 40.0**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=80,slow=2.2,SNR=7.8								
ZALV				LR		LR		01 26 06.7	
	comp=Z,210nm,19.0s,baz=20,slow=38								
NVS	**Novosibirsk**	**42.93**	**304**	*e*P		**P**		**01 06 48.4**	**-2.8**
NVS				*e*				01 08 38.2	
NVS				pmax	pmax				
	comp=Z,13nm,1.1s								
NVS				pmax	pmax				
	comp=E,5.0nm,0.7s								
LZH	**Lanzhou**	**43.50**	**269**	*e*P		**P**		**01 06 57.2**	**+0.9**
LZH				pP		**pP**		**01 07 12.6**	**+1.0**
LZH				sP		**sP**		**01 07 19.0**	**+0.4**
LZH				pmax	pmax				
	comp=E,24nm,1.1s								
LZH				pmax	pmax				
	comp=E,100nm,5.0s								
GTA	**Gaotai**	**43.52**	**276**	*e*P		**P**		**01 06 55.9**	**-0.5**
GTA				pmax	pmax				
	comp=E,6.0nm,0.9s								
G03D	**McMinnville, O**	**46.69**	**70**	⇓P		**P**		**01 07 20.9**	**-0.3**
	baz=47								
CD2	**Chengdu**	**47.30**	**264**	*e*P		**P**		**01 07 26.8**	**+0.6**
CD2				pmax	pmax				
	comp=E,10.0nm,1.2s								
CD2				pmax	pmax				
	comp=E,30nm,6.2s								
WMQ	**Urumqi**	**47.39**	**289**	P		**P**		**01 07 26.0**	**-0.8**
WMQ				pP		**pP**		**01 07 42.0**	**-0.3**
WMQ				sP		**sP**		**01 07 49.0**	**-0.2**
WMQ				PP		**PP**		**01 09 17.0**	**-1.2**
WMQ				ScP		**ScP**		**01 12 44.0**	**-1.0**
WMQ				S		**S**		**01 14 14.0**	**-2.2**
WMQ				sS		**sS**		**01 14 41.0**	**-1.4**
WMQ				ScS		**ScS**		**01 17 11.0**	**-3.7**
WMQ				SS		SS		01 17 35.0	-8.9
WMQ				pmax	pmax				
	comp=E,12nm,1.0s								
WMQ				pmax	pmax				
	comp=E,100nm,4.0s								
WMQ				LR		LR			
	comp=E,230nm,17.0s								
WMQ				LR		LR			
	comp=E,140nm,16.0s								
WMQ				LR		LR			
	comp=E,230nm,16.0s								
**I03

KEV **Kevo** 51.26 342 *ep* P 01 07 56.0 +0.2
comp=Z,1.2nm,0.4s
HRY **Holter Researc** 51.65 61 *e*P P 01 08 00.3 +1.0
A19A **Klindworth Far** 51.67 57 ⇑P P 01 07 59.6 +0.3
baz=52,SNR=6.4
ARA0 **ARCESS Array S** 51.72 342 *e*P P 01 07 58.7 -0.6
ARA0 *e*PcP **PcP** 01 09 12.2 +0.4
ARCES **ARCESS Array B** 51.72 342 P P 01 07 58.4 -0.9
ARCES PcP **PcP** 01 09 12.0 +0.2
ARCES **ARCESS Array B** 51.72 342 P P 01 07 58.4 -0.9
comp=Z,3.4nm,0.8s,baz=40,slow=9.8,SNR=12
ARCES PcP **PcP** 01 09 12.0 +0.2
comp=Z,2.0nm,0.5s,baz=31,slow=5.0,SNR=8.6
ARCES LR LR 01 32 05.1
comp=Z,93nm,21.4s,baz=244,slow=39
EGMT **Eagleton** 51.79 59 ⇑P P 01 08 01.3 +1.1
baz=52
SUMG **Summit** 51.81 8 *e*P P 01 08 00.5 +0.1
SUMG pmax pmax
comp=Z,211nm,2.7s
SUMG **Summit** 51.81 8 *i* P P 01 08 01.5 +1.1
comp=Z,8.7nm,1.0s
SUMG **Summit** 51.81 8 *e*P P 01 08 00.5 +0.1
comp=Z,211nm,2.7s
B19A **Brinkman Farms** 51.89 58 ⇓P P 01 08 01.6 +0.6
baz=52
A20A **Cobblestone Ra** 52.09 57 ⇑P P 01 08 02.9 +0.5
baz=52,SNR=12
KMI **Kunming** 52.29 260 P P 01 08 05.5 +1.1
KMI pP **pP** 01 08 23.2 +3.1
KMI PP **PP** 01 10 05.6 +2.4
KMI S **S** 01 15 22.0 -3.2
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI LR LR
comp=Z,270nm,18.5s
KMI LR LR
comp=Z,200nm,15.5s
KMI LR LR
comp=Z,150nm,19.4s
C19A **Slack Wire Ran** 52.34 58 ⇓P P 01 08 04.9 +0.6
baz=52
B20A **Solberg Farm,** 52.35 57 ⇓P P 01 08 04.5 +0.2
baz=52
MCMT **McKenzie Canyo** 52.43 63 *e*P P 01 08 05.0 -0.2
A21A **Bergtoll Ranch** 52.49 56 ⇓P P 01 08 06.5 +1.1
baz=52,SNR=5.4
HLID **Hailey** 52.49 66 ⇓P P 01 08 05.8 +0.2
baz=52
ARU **Arti** 52.69 317 P P 01 08 05.3 -1.3
comp=Z,69nm,0.6s,SNR=7.2
ARU **Arti** 52.69 317 *d i*P P 01 08 05.2 -1.3
ARU 01 09 14.8
ARU S **S** 01 15 28.5 -0.9
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU MLR MLR
comp=Z,301nm,19.0s
D19A **Cripps Ranch,** 52.81 59 ⇑P P 01 08 08.7 +0.9
baz=53
B21A **Ellsworth Farm** 52.84 57 ⇓P P 01 08 08.8 +0.9
baz=53
C20A **Veseth Ranch,** 52.86 58 ⇓P P 01 08 09.1 +1.0
baz=53,SNR=9.1
A22A **Carney Farms,** 52.97 56 ⇑P P 01 08 09.7 +0.8
baz=53,SNR=6.5
C21A **Desert Coulee** 53.22 57 ⇓P P 01 08 11.7 +1.0
baz=53,SNR=5.6
D20A **Manuel Ranch,** 53.23 59 ⇑P P 01 08 11.6 +0.7
baz=53,SNR=5.3
E19A **Rath Farm, Rou** 53.35 59 ⇑P P 01 08 12.5 +0.7
baz=53
B22A **Reddig Ranch S** 53.42 56 ⇑P P 01 08 12.9 +0.7
baz=53
A23A **Redstone** 53.49 55 ⇓P P 01 08 14.0 +1.3
baz=53
E20A **Meyer Farm, Mu** 53.64 59 ⇑P P 01 08 15.3 +1.4
baz=53,SNR=6.4
F19A **Roth Farm, Mol** 53.69 60 ⇑P P 01 08 14.8 +0.5
baz=54
B23A **Brockton** 53.78 55 ⇑P P 01 08 15.5 +0.7
baz=54
D21A **La Casta Ranch** 53.80 58 ⇑P P 01 08 16.2 +1.1
baz=54,SNR=5.0
C22A **Vida** 53.86 57 ⇓P P 01 08 16.0 +0.6
baz=54
H17A **Grant Village** 53.90 62 ⇓P P 01 08 18.7 +2.7
baz=54,SNR=5.7
A24A **Westby** 53.92 54 ⇑P P 01 08 16.9 +1.1
baz=54
NV01 **Mina Array Sit** 54.02 73 *e*P P 01 08 17.6 +0.7
NVAR **Mina Array Bea** 54.02 73 P P 01 08 18.1 +1.1
NVAR **Mina Array Bea** 54.02 73 P P 01 08 18.1 +1.1
comp=Z,2.0nm,0.9s,baz=296,slow=8.0,SNR=13
NVAR LR LR 01 28 39.7
comp=Z,100nm,20.1s,baz=312,slow=33
ELK **Elko** 54.04 69 LR LR 01 28 40.3
comp=Z,55nm,21.8s,baz=0.0,slow=33
F20A **Billings** 54.13 60 ⇑P P 01 08 18.8 +1.4
baz=54
E21A **Keefer Ranch,** 54.13 58 ⇑P P 01 08 19.1 +1.7
baz=54
D22A **Cohagen** 54.14 57 ⇑P P 01 08 18.5 +1.0
baz=54,SNR=6.1
DGMT **Dagmar** 54.15 55 ⇑P P 01 08 18.1 +0.6
baz=54
C23A **Lambert** 54.16 56 ⇓P P 01 08 18.9 +1.4
baz=54,SNR=10
H18A **Shoshone NF, C** 54.16 62 ⇑P P 01 08 19.0 +1.1
baz=54
I17A **Pilgrim Ck.** 54.23 63 ⇓P P 01 08 18.4 0.0
baz=54
MLAC **Mammoth Lakes** 54.30 74 ⇓P P 01 08 20.6 +1.6
baz=54
A25A **Svangstu Ranch** 54.33 54 ⇓P P 01 08 19.6 +0.8
baz=54,SNR=5.5
G20A **Bridger** 54.50 60 ⇑P P 01 08 21.1 +0.8
baz=54,SNR=6.9
H19A **Powell** 54.51 61 ⇓P P 01 08 21.8 +1.5
baz=54
D23A **Lindsay** 54.59 57 ⇑P P 01 08 21.7 +1.0
baz=54
F21A **Absaloka Mine,** 54.62 59 ⇑P P 01 08 21.6 +0.6
baz=54
C24A **Savage** 54.71 56 ⇓P P 01 08 22.8 +1.2
baz=54
E22A **Miles City** 54.76 58 ⇑P P 01 08 22.0 +0.1
baz=54
B25A **Knox Farm, Ray** 54.78 55 ⇓P P 01 08 21.8 -0.2
baz=55
A26A **Wade Farm, Ken** 54.85 53 ⇑P P 01 08 23.4 +0.8
baz=55
I19A **Meeteetse** 54.95 62 ⇑P P 01 08 24.8 +1.2
baz=55
G21A **Lodge Grass** 55.00 60 ⇑P P 01 08 24.7 +0.8
baz=55
D24A **Glendive** 55.05 56 ⇑P P 01 08 24.5 +0.4
baz=55
F22A **Rosebud** 55.07 59 ⇓P P 01 08 23.5 -0.8
baz=55
H20A **Greybull** 55.13 61 ⇓P P 01 08 25.1 +0.4
baz=55
C25A **Freed Ranch, W** 55.13 55 ⇑P P 01 08 26.4 +1.7
baz=55
B26A **Jensen Ranch,** 55.14 54 ⇓P P 01 08 24.0 -0.6
baz=55
AAK **Ala-Archa** 55.21 296 *e*P P 01 08 25.2 -0.2
AAK *e* 01 09 26.1
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK **Ala-Archa** 55.21 296 *e*P P 01 08 25.2 -0.2
comp=Z,8.2nm,0.9s
AAK *e*PcP **PcP** 01 09 26.1 +0.3
I20A **Worland** 55.45 61 ⇑P P 01 08 22.9 -4.2
baz=55
G22A **Birney** 55.46 59 ⇓P P 01 08 28.2 +1.1
baz=55,SNR=5.8
E24A **Baker** 55.46 57 ⇑P P 01 08 28.5 +1.5
baz=55
J19A **Crowheart** 55.47 62 ⇑P P 01 08 29.2 +1.9
baz=55
D25A **Fairfield** 55.51 56 ⇓P P 01 08 28.4 +1.1
baz=55
H21A **Big Horn, Sher** 55.51 60 ⇑P P 01 08 28.8 +1.3
baz=55,SNR=6.1
F23A **Volborg** 55.53 58 ⇓P P 01 08 28.6 +1.0
baz=55,SNR=8.3

EKS2 **Erkin-Say** 55.56 297 *e*P P 01 08 27.9 0.0
EKS2 *e* 01 09 27.8
EKS2 pmax pmax
comp=Z,13nm,0.9s
EKS2 **Erkin-Say** 55.56 297 *e*P P 01 08 27.9 0.0
comp=Z,13nm,0.9s
EKS2 *e*PcP **PcP** 01 09 27.8 +0.7
GRAC **Grapevine Rang** 55.56 73 ⇑P P 01 08 29.9 +2.0
baz=56
R11A **Troy Canyon, C** 55.56 71 ⇓P P 01 08 29.1 +1.1
baz=55
PDAR **Pinedale Array** 55.57 63 P P 01 08 28.9 +0.8
PDAR **Pinedale Array** 55.57 63 P P 01 08 28.9 +0.8
comp=Z,4.6nm,0.8s,baz=329,slow=2.5,SNR=38
C26A **Wahner Farm, P** 55.60 54 ⇑P P 01 08 28.1 +0.1
baz=55
A28A **Rude Farm, Bot** 55.66 52 ⇓P P 01 08 29.0 +0.6
baz=55
DUG **Dugway** 55.72 67 ⇑P P 01 08 30.9 +1.8
baz=56,SNR=7.6
PKM **Peak Mountain** 55.74 77 ⇓P P 01 08 29.8 +0.4
baz=56
KLMR **Klimovskoe** 55.77 330 *e*P P 01 08 25.7 -3.2
KLMR pmax pmax
comp=Z,10.0nm,0.9s
J20A **Shoshoni** 55.90 62 ⇓P P 01 08 32.0 +1.6
baz=56,SNR=7.5
F24A **Ekalaka** 55.91 57 ⇑P P 01 08 31.4 +1.1
baz=56
G23A **Biddle** 55.91 59 ⇓P P 01 08 31.0 +0.7
baz=56
ISA **Isabella** 55.93 75 ⇑P P 01 08 32.3 +1.8
baz=56
E25A **Miller Ranch,** 55.94 56 ⇓P P 01 08 31.7 +1.2
baz=56
B28A **Dugan Ranch, T** 55.95 53 ⇑P P 01 08 31.7 +1.3
baz=56,SNR=7.0
C27A **Sayler Ranch,** 55.95 54 ⇓P P 01 08 31.4 +0.9
baz=56
I21A **Big Trails, Te** 55.97 61 ⇓P P 01 08 31.8 +0.9
baz=56
D26A **Manning** 56.01 55 ⇓P P 01 08 32.8 +1.8
baz=56
A29A **Manning Farm,** 56.12 52 ⇑P P 01 08 33.2 +1.5
baz=56,SNR=5.7
MPMC **Manual Prospec** 56.18 74 ⇑P P 01 08 34.1 +1.6
baz=56
JOF **Joensuu** 56.21 335 *e*P P 01 08 31.5 -0.5
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF **Joensuu** 56.21 335 *ep* P 01 08 31.5 -0.5
comp=Z,2.2nm,0.4s
TPNV **Topopah Spring** 56.22 73 ⇑P P 01 08 34.3 +1.6
baz=56
FURC **Furnace Creek,** 56.23 73 ⇓P P 01 08 34.3 +1.7
baz=56
J21A **Lysite** 56.23 61 ⇑P P 01 08 34.1 +1.3
baz=56
G24A **Alzada** 56.30 58 ⇓P P 01 08 32.7 -0.4
baz=56,SNR=6.4
I22A **9 Mile Ranch,** 56.32 60 ⇓P P 01 08 34.4 +1.1
baz=56,SNR=5.9
F25A **Bowman** 56.33 57 ⇑P P 01 08 34.1 +0.8
baz=56
H23A **Clabaugh Cattl** 56.37 59 ⇓P P 01 08 33.7 +0.1
baz=56
D27A **Center** 56.38 55 ⇓P P 01 08 35.3 +1.7
baz=56
B29A **Wagenman Farm,** 56.40 52 ⇓P P 01 08 34.8 +1.2
baz=56
E26A **Carlson Angus** 56.41 56 ⇓P P 01 08 34.3 +0.5
baz=56
C28A **Hausauer Farms** 56.47 53 ⇑P P 01 08 35.7 +1.6
baz=56
LRMC **Laurel Mountai** 56.50 75 ⇑P P 01 08 36.0 +1.3
baz=56
A30A **Hoffart Farm,** 56.52 51 ⇓P P 01 08 35.5 +1.0
baz=56
ULM **Lac du Bonnet** 56.62 49 P P 01 08 35.7 +0.5
ULM pP pP 01 08 45.2 -5.9
ULM **Lac du Bonnet** 56.62 49 P P 01 08 35.7 +0.5
comp=Z,6.0nm,0.6s,baz=313,slow=7.2,SNR=9.2
ULM pP pP 01 08 45.2 -5.9
comp=Z,3.7nm,0.7s,baz=318,slow=7.9,SNR=4.3
H24A **Dirks Ranch, A** 56.65 58 ⇓P P 01 08 36.2 +0.6
baz=56
J22A **Midwest** 56.67 61 ⇑P P 01 08 37.2 +1.4
baz=56
KSH **Kashi** 56.68 293 P P 01 08 40.0 +4.1
KSH pP pP 01 08 56.1 +4.3
KSH sP sP 01 09 03.1 +4.4
KSH PcP **PcP** 01 09 35.1 +3.7
KSH S **S** 01 16 24.7 +1.0
KSH sS sS 01 16 54.1 +3.5
KSH ScS **ScS** 01 18 20.2 +0.6
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH pmax pmax
comp=Z,170nm,4.6s
KSH LR LR
comp=Z,130nm,4.5s
KSH LR LR
comp=Z,140nm,4.1s
KSH LR LR
comp=Z,250nm,5.9s
F26A **Lodgepole** 56.76 56 ⇑P P 01 08 37.0 +0.7
baz=56
EDW2 **Edwards Air Fo** 56.77 75 ⇓P P 01 08 38.3 +1.8
baz=57
D28A **Regan** 56.77 54 ⇑P P 01 08 32.9 -3.5
baz=56
K21A **Alcova** 56.84 62 ⇓P P 01 08 37.9 +0.8
baz=57
E27A **Carson** 56.86 55 ⇓P P 01 08 38.3 +1.3
baz=57
B30A **Myrvik Farm, E** 56.87 52 ⇑P P 01 08 38.0 +1.0
baz=57
G25A **Newell** 56.88 57 ⇓P P 01 08 38.0 +0.8
baz=57
KK31 **Karatay Array** 56.90 299 P P 01 08 36.2 -1.1
KK31 pmax pmax
comp=Z,4.0nm,0.7s
F27A **Lemmon** 57.05 56 ⇓P P 01 08 38.8 +0.4
baz=57
GSC **Goldstone** 57.12 74 ⇓P P 01 08 40.2 +1.2
baz=57
J23A **Dilts Ranch, B** 57.14 60 ⇑P P 01 08 39.2 0.0
baz=57
E28A **Huff** 57.16 55 ⇓P P 01 08 39.9 +0.8
baz=57
K22A **Casper** 57.20 61 ⇑P P 01 08 40.7 +1.1
baz=57
G26A **Maurine** 57.20 57 ⇓P P 01 08 40.1 +0.7
baz=57,SNR=6.7
H25A **Fruitdale** 57.21 58 ⇑P P 01 08 40.5 +1.0
baz=57
AB31 **Akbulak array** 57.35 310 *i* P P 01 08 39.3 -1.0
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR **Akbulak array** 57.35 310 *e*P P 01 08 39.0 -1.3
ABKAR *e*PcP **PcP** 01 09 33.3 -0.4
C30A **Mose, Pekin** 57.35 52 ⇑P P 01 08 41.3 +0.9
baz=57
BFSC **Mount Baldy Ra** 57.42 76 ⇑P P 01 08 42.6 +1.3
baz=57
G27A **Dupree** 57.46 56 ⇓P P 01 08 41.8 +0.6
baz=57,SNR=5.2
TUQ **Turquoise Moun** 57.50 74 ⇓P P 01 08 43.6 +1.8
baz=57
K23A **Bowen Ranch, D** 57.58 61 ⇑P P 01 08 42.0 -0.2
baz=57
I25A **Rochford** 57.59 58 ⇓P P 01 08 43.0 +0.7
baz=57,SNR=6.2
H26A **Fairpoint** 57.61 57 ⇓P P 01 08 43.4 +1.1
baz=57
CIS **Catalina Islan** 57.62 77 ⇓P P 01 08 45.2 +2.6
baz=58
J24A **Dixon Ranch, L** 57.63 60 ⇓P P 01 08 44.6 +2.0
baz=57
N20A **Spence Gulch,** 57.64 64 ⇓P P 01 08 44.7 +1.8
baz=58,SNR=11
F28A **McLaughlin** 57.65 55 ⇓P P 01 08 43.5 +0.9
baz=57
E29A **Napoleon** 57.66 54 ⇑P P 01 08 43.0 +0.4
baz=57
D30A **Buchanan** 57.67 53 ⇑P P 01 08 43.4 +0.8
baz=57

L22A **Ellis Ranch, M** 57.70 62 ⇓P P 01 08 44.9 +1.7
baz=58
HEC **Hector,Ludlow** 57.73 74 ⇓P P 01 08 44.9 +1.6
baz=58
SCI **San Clemente I** 57.86 77 ⇑P P 01 08 45.6 +1.4
baz=58
H27A **Howes** 57.94 57 ⇑P P 01 08 45.1 +0.5
baz=58
I26A **New Underwood** 58.00 58 ⇑P P 01 08 45.8 +0.7
baz=58
L23A **Garrett** 58.01 61 ⇑P P 01 08 46.0 +0.6
baz=58,SNR=7.1
J25A **Sunshine Ranch** 58.01 59 ⇓P P 01 08 46.1 +0.8
baz=58,SNR=9.4
E30A **Jud** 58.05 54 ⇑P P 01 08 46.2 +0.9
baz=58
KAF **Kangasniemi** 58.07 337 *e*P P 01 08 44.7 -0.5
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF **Kangasniemi** 58.07 337 *ep* P 01 08 44.7 -0.5
comp=Z,1.4nm,0.3s
M22A **Cedar Creek Ra** 58.08 62 ⇓P P 01 08 46.4 +0.5
baz=58
F29A **Eureka** 58.12 55 ⇓P P 01 08 46.9 +1.1
baz=58
GMRC **Granite Mounta** 58.13 74 ⇑P P 01 08 48.1 +1.9
baz=58
O20A **White River Ci** 58.16 64 ⇓P P 01 08 47.7 +1.3
baz=58
I27A **Quinn** 58.37 57 ⇓P P 01 08 48.7 +1.1
baz=58,SNR=6.0
H28A **Mission Ridge** 58.41 56 ⇓P P 01 08 49.7 +1.7
baz=58
J26A **Sides Ranch, S** 58.43 59 ⇑P P 01 08 49.2 +1.1
baz=58,SNR=5.7
M23A **Laramie** 58.47 62 ⇑P P 01 08 49.4 +0.8
baz=58
F30A **Leola** 58.49 54 ⇑P P 01 08 49.1 +0.7
baz=58
BELC **Belle Mtn. Jos** 58.52 75 ⇓P P 01 08 49.9 +0.9
baz=58
G29A **Hoven** 58.55 55 ⇑P P 01 08 48.9 0.0
baz=58,SNR=5.3
PFO **Pinyon Flat Ob** 58.56 75 ⇑P P 01 08 50.4 +1.2
baz=58
PFO **Pinyon Flat Ob** 58.56 75 LR LR 01 32 46.3
comp=Z,88nm,18.5s,baz=41,slow=35
N22A **Wattenberg Ran** 58.59 63 ⇓P P 01 08 51.3 +1.8
baz=58
FINES **FINESS Array B** 58.71 337 P P 01 08 49.4 -0.3
FINES **FINESS Array B** 58.71 337 P P 01 08 49.4 -0.3
comp=Z,4.8nm,0.6s,baz=42,slow=7.6,SNR=55
FINES LR LR 01 35 44.8
comp=Z,104nm,20.5s,baz=213,slow=38
U15A **North Rim** 58.75 70 ⇑P P 01 08 52.0 +1.3
baz=59
N23A **Red Feather La** 58.78 62 ⇑P P 01 08 52.3 +1.5
baz=59,SNR=6.7
K26A **Motz Farm, Whi** 58.83 59 ⇓P P 01 08 51.4 +0.5
baz=59
H29A **Onida** 58.84 56 ⇓P P 01 08 51.4 +0.6
baz=59
I28A **Midland** 58.84 57 ⇑P P 01 08 51.6 +0.7
baz=59,SNR=5.4
L25A **Engebretsen Ra** 58.85 60 ⇑P P 01 08 51.9 +0.8
baz=59
W13A **Hualapai Mount** 58.87 72 ⇓P P 01 08 51.9 +0.5
baz=59
IRM **Iron Mountain** 58.88 74 ⇓P P 01 08 53.3 +2.1
baz=59
M24A **Cheyenne** 58.93 61 ⇑P P 01 08 53.3 +1.6
baz=59
G30A **Faulkton** 58.96 55 ⇑P P 01 08 52.0 +0.3
baz=59
J27A **Elkhorn Farm,** 59.00 58 ⇑P P 01 08 53.4 +1.3
baz=59
O22A **Kremmling** 59.02 63 ⇑P P 01 08 52.8 +0.3
baz=59
BC3 **Big Chuckawall** 59.08 75 ⇑P P 01 08 53.9 +1.1
baz=59
TAPN **Taplejung** 59.19 274 *e*P P 01 08 54.7 +0.9
comp=Z,6.5nm,0.4s
J28A **Allard Ranch,** 59.24 57 ⇑P P 01 08 54.6 +0.9
baz=59,SNR=8.0
I29A **Vivian Onida** 59.24 56 ⇓P P 01 08 54.0 +0.3
baz=59
K27A **Flueckinger Fa** 59.29 59 ⇓P P 01 08 55.5 +1.3
baz=59
O23A **Lake Granby, G** 59.30 63 ⇑P P 01 08 55.9 +1.4
baz=59,SNR=7.4
PDMCI **Parker Dam,Lak** 59.33 73 ⇑P P 01 08 56.2 +1.9
baz=59
P22A **Eagle** 59.33 64 ⇓P P 01 08 56.6 +2.0
baz=59
M25A **Palm-Egli Farm** 59.34 61 ⇑P P 01 08 56.0 +1.5
baz=59
L26A **Underwood Farm** 59.38 60 ⇓P P 01 08 55.5 +0.8
baz=59
SWSC **Sam W. Stewart** 59.43 75 ⇓P P 01 08 56.4 +1.4
baz=59
Y12C **Blythe** 59.53 74 ⇓P P 01 08 56.6 +0.9
baz=59
BRSD **Miller** 59.57 55 ⇑P P 01 08 57.1 +1.2
baz=59
J29A **Okreek** 59.70 57 ⇑P P 01 08 57.8 +1.0
baz=60
CMAR **Chiang Mai Arr** 59.70 259 P P 01 08 57.4 +0.3
CMAR PcP **PcP** 01 09 43.8 +0.3
CMAR **Chiang Mai Arr** 59.70 259 P P 01 08 57.4 +0.3
comp=Z,5.0nm,0.7s,baz=29,slow=6.8,SNR=12
CMAR PcP **PcP** 01 09 43.8 +0.3
comp=Z,2.4nm,0.4s,baz=2.3,slow=3.4,SNR=6.3
CMAR LR LR 01 37 53.3
comp=Z,108nm,19.1s,baz=5.2,slow=39
K28A **Ten Mile Ranch** 59.71 58 ⇓P P 01 08 58.4 +1.5
baz=60
L27A **T5 Ranch, Ells** 59.72 59 ⇓P P 01 08 58.4 +1.4
baz=60
CM01 **Chiang Mai Arr** 59.72 259 *e*P P 01 08 57.1 -0.1
CM01 *e*PcP **PcP** 01 09 44.3 +0.7
I30A **Oacoma** 59.74 56 ⇑P P 01 08 57.7 +0.6
baz=60
ODAN **Odare** 59.74 274 *e*P P 01 08 57.8 +0.2
comp=Z,14nm,0.6s
ISCO **Idaho Springs** 59.77 63 ⇑P P 01 08 59.5 +1.9
baz=60
GUN **Gumba** 59.81 276 *e*P P 01 08 57.7 -0.5
comp=Z,14nm,0.4s
JIRN **Jiri** 59.82 276 *e*P P 01 08 58.8 +0.5
comp=Z,6.9nm,0.4s
GLA **Glamis** 59.88 75 ⇑P P 01 08 59.8 +1.5
baz=60
WUAZ **Wupatki** 59.93 70 ⇓P P 01 09 00.7 +2.0
baz=60
P23A **Jefferson** 59.97 63 ⇑P P 01 08 59.4 +0.3
baz=60
M27A **Reverse DX Ran** 60.10 60 ⇑P P 01 09 00.5 +0.9
baz=60
RAMN **Ramite** 60.13 275 *e*P P 01 08 59.5 -0.7
comp=Z,22nm,0.4s
J30A **Dallas** 60.16 56 ⇓P P 01 09 00.8 +0.9
baz=60
K29A **Lazy Trails An** 60.18 57 ⇓P P 01 09 01.5 +1.4
baz=60
MVCO **Mesa Verde** 60.20 67 ⇓P P 01 09 01.4 +0.8
baz=60
Y14A **Wickenburg** 60.22 73 ⇑P P 01 09 01.4 +0.8
baz=60
KKN **Kakani** 60.24 277 *e*P P 01 09 00.6 -0.4
comp=Z,9.9nm,0.5s
PKI **Pulchoki** 60.34 276 *e*P P 01 09 01.0 -0.7
comp=Z,7.3nm,0.5s
PKIN **Phulchoki** 60.34 276 *e*P P 01 09 01.0 -0.7
comp=Z,9.3nm,0.5s
P24A **Kohler Place,** 60.34 63 ⇑P P 01 09 03.2 +1.7
baz=60
GKN **Gorkha** 60.45 277 *e*P P 01 09 00.9 -1.4
comp=Z,5.5nm,0.3s
K30A **Basset** 60.59 57 ⇑P P 01 09 04.3 +1.4
baz=60
S22A **4UR Ranch, Cre** 60.68 65 ⇓P P 01 09 04.6 +0.7
baz=60,SNR=6.4
113A **Mohawk Valley,** 60.68 74 ⇑P P 01 09 04.3 +0.7
baz=61
DANN **Dangsing** 60.68 278 *e*P P 01 09 03.2 -0.9
comp=Z,12nm,0.5s
M28A **Bar X Bar Ranc** 60.70 59 ⇓P P 01 09 04.5 +0.7
baz=60

X16A **Lo Mia Camp, P** 60.72 71 ⇑P P 01 09 06.0 +1.9
baz=61
P25A **Willow Gulch B** 60.72 62 ⇑P P 01 09 04.4 +0.3
baz=60
R23A **Moffat** 60.86 64 ⇓P P 01 09 06.2 +1.0
baz=61
O27A **Beecher Island** 61.06 61 ⇑P P 01 09 06.6 +0.4
baz=61
L30A **Spencer Herefo** 61.09 57 ⇑P P 01 09 06.7 +0.3
baz=61
P26A **Davis Ranch, A** 61.10 62 ⇓P P 01 09 07.6 +1.0
baz=61
Q25A **Bedland, Calha** 61.13 63 ⇑P P 01 09 08.3 +1.5
baz=61
S23A **Nye Farm, Mont** 61.14 65 ⇑P P 01 09 08.7 +1.7
baz=61
N28A **Pribbeno Ranch** 61.15 60 ⇓P P 01 09 07.2 +0.4
baz=61
R24A **Sanders Place,** 61.20 64 ⇓P P 01 09 07.7 +0.3
baz=61
KOLN **Koldanda** 61.22 278 *eP* P 01 09 04.7 -2.9
comp=Z,12nm,0.7s
L31A **Butterfield Fa** 61.34 57 ⇓P P 01 09 09.0 +1.0
baz=61
OBN **Obninsk** 61.42 328⇑ *eP* P 01 09 07.4 -0.8
OBN *e* 01 11 20.8
OBN *eS* S 01 17 20.7 -3.6
OBN pmax pmax
comp=Z,38nm,2.5s
OBN MLR MLR
comp=Z,200nm,19.0s
X18A **Snowflake** 61.44 70 ⇓P P 01 09 10.7 +1.7
baz=61
O28A **Krutsinger Ran** 61.46 60 ⇓P P 01 09 10.4 +1.4
baz=61
P27A **Ficken Ranch,** 61.49 61 ⇑P P 01 09 10.2 +1.0
baz=61
Q26A **Hugo** 61.49 62 ⇑P P 01 09 10.3 +1.0
baz=61
N29A **Votaw Ranch, W** 61.50 59 ⇑P P 01 09 09.8 +0.6
baz=61
S24A **Houchin Ranch,** 61.60 64 ⇓P P 01 09 11.7 +1.5
baz=61
R25A **Fountain Ranch** 61.69 63 ⇓P P 01 09 11.6 +1.1
baz=62
U22A **Llaves** 61.69 66 ⇑P P 01 09 12.6 +1.8
baz=62
214A **Organ Pipe Nat** 61.82 74 ⇑P P 01 09 12.7 +1.3
baz=62
KSCO **Kaye Shedlock'** 61.88 62 ⇓P P 01 09 13.2 +1.4
baz=62
P28A **Saint Francis** 61.89 61 ⇑P P 01 09 12.9 +1.0
baz=62
M31A **Lambtecht Ranc** 61.91 57 ⇑P P 01 09 12.5 +0.6
baz=62
NB2 **NORSAR Subarra** 61.91 344 P P 01 09 10.9 -0.6
comp=Z,31nm,1.4s,baz=21,slow=6.9
NB2 **NORSAR Subarra** 61.91 344 P P 01 09 10.9 -0.6
baz=21,slow=6.9
NOA **NORSAR Array B** 61.91 344 P P 01 09 11.0 -0.6
NOA **NORSAR Array B** 61.91 344 P P 01 09 11.0 -0.6
comp=Z,5.1nm,0.7s,baz=19,slow=6.8,SNR=16
NOA LR LR 01 37 03.3
comp=Z,41nm,20.0s,baz=10.0,slow=37
O29A **4D Ranch, Culb** 61.95 60 ⇑P P 01 09 13.6 +1.4
baz=62
S25A **Robets Cordova** 61.98 64 ⇑P P 01 09 13.7 +1.2
baz=62
R26A **Arlington** 62.00 63 ⇑P P 01 09 14.1 +1.5
baz=62
V22A **San Miguel Ran** 62.02 67 ⇓P P 01 09 14.5 +1.6
baz=62
U23A **El Rito** 62.08 66 ⇑P P 01 09 14.9 +1.6
baz=62
BGNE **Belgrade** 62.26 57 ⇓P P 01 09 15.3 +1.1
baz=62
P29A **Atwood** 62.28 60 ⇑P P 01 09 16.1 +1.7
baz=62
R27A **Eads** 62.34 62 ⇑P P 01 09 16.0 +1.1
baz=62
T25A **Trinidad** 62.39 64 ⇓P P 01 09 16.5 +1.1
baz=62
S26A **Kim** 62.51 63 ⇓P P 01 09 16.7 +0.7
baz=62
V23A **Ortiz Mt. (NFS** 62.53 66 ⇑P P 01 09 17.8 +1.5
baz=62
P30A **Selden** 62.66 60 ⇓P P 01 09 17.5 +0.6
baz=62
Y20A **Horse Springs,** 62.76 69 ⇑P P 01 09 18.6 +0.8
baz=63
T26A **Comanche Natio** 62.79 64 ⇑P P 01 09 18.6 +0.6
baz=63
Q29A **Oakley** 62.80 61 ⇓P P 01 09 18.6 +0.7
baz=63
R28A **Tribune** 62.80 62 ⇓P P 01 09 17.9 -0.1
baz=63
U25A **Circle Dot Ran** 62.96 65 ⇑P P 01 09 19.4 +0.3
baz=63
V24A **Rampart Ranch,** 63.02 66 ⇑P P 01 09 20.6 +1.0
baz=63
R29A **Marienthal** 63.08 61 ⇑P P 01 09 20.7 +1.0
baz=63
P31A **Stockton** 63.11 59 ⇓P P 01 09 20.6 +0.7
baz=63
Q30A **Quinter** 63.11 60 ⇑P P 01 09 20.5 +0.6
baz=63
Z20A **Nine Sixteen R** 63.25 70 ⇓P P 01 09 22.4 +1.4
baz=63
V25A **Rancho No Teng** 63.28 65 ⇑P P 01 09 22.2 +0.9
baz=63
U26A **Atchley Ranch,** 63.30 64 ⇑P P 01 09 22.9 +1.4
baz=63
S28A **Manter** 63.34 62 ⇓P P 01 09 22.2 +0.7
baz=63
SCHQ **Schefferville** 63.34 29 P P 01 09 20.8 -0.3
SCHQ **Schefferville** 63.34 29 P P 01 09 20.8 -0.3
comp=Z,6.2nm,0.6s,baz=3.7,slow=7.2,SNR=15
W24A **Lazy 6 Ranch,** 63.34 66 ⇓P P 01 09 22.9 +1.2
baz=63
P32A **Huiting Farm,** 63.41 58 ⇓P P 01 09 21.9 +0.1
baz=63
Y22A **Socorro** 63.49 68 ⇓P P 01 09 24.2 +1.6
baz=63
T28A **Walsh** 63.59 63 ⇑P P 01 09 23.7 +0.6
baz=63
Z21A **St. Cloud Mine** 63.59 69 ⇓P P 01 09 24.8 +1.4
baz=64
R30A **Dighton** 63.62 61 ⇓P P 01 09 23.7 +0.5
baz=63
120A **U Bar Ranch, L** 63.66 70 ⇓P P 01 09 25.6 +1.8
baz=64
V26A **Tequesquite Ra** 63.74 65 ⇓P P 01 09 25.6 +1.4
baz=64
U27A **Thompson Grove** 63.76 64 ⇑P P 01 09 25.1 +0.7
baz=64
X24A **Lazy VL Ranch,** 63.82 67 ⇑P P 01 09 27.0 +2.1
baz=64
W25A **X Bar L Ranch,** 63.83 66 ⇑P P 01 09 25.6 +0.8
baz=64
Q32A **Meitler Ranch,** 63.92 59 ⇑P P 01 09 26.0 +0.7
baz=64
Y23A **Lovelace Mesa,** 63.98 68 ⇓P P 01 09 27.3 +1.4
baz=64
R31A **Burdett** 63.99 60 ⇑P P 01 09 25.9 +0.2
baz=64
Z22A **Elephant Butte** 64.01 69 ⇑P P 01 09 27.6 +1.5
baz=64
U28A **Mallet** 64.10 63 ⇓P P 01 09 27.3 +0.7
baz=64
121A **Cookes Peak, D** 64.13 70 ⇓P P 01 09 28.0 +1.1
baz=64
319A **Douglas** 64.20 72 ⇓P P 01 09 28.7 +1.4
baz=64
220A **Playas Peak, P** 64.21 71 ⇑P P 01 09 28.8 +1.5
baz=64
Q33A **Connelly Farm,** 64.28 58 ⇓P P 01 09 27.6 +0.1
baz=64
Y24A **Capitan** 64.31 67 ⇓P P 01 09 29.6 +1.5
baz=64
122A **Conniff Cattle** 64.42 69 ⇑P P 01 09 30.9 +2.2
baz=64
T30A **Plains** 64.44 62 ⇑P P 01 09 29.5 +0.8
baz=64
W27A **Bowe Ranch, En** 64.68 65 ⇓P P 01 09 31.2 +0.8
baz=64
X26A **CR and CF Fran** 64.69 66 ⇑P P 01 09 30.7 +0.3
baz=64
Y25A **Mesa, Roswell** 64.71 67 ⇓P P 01 09 32.2 +1.6
baz=64
Z24A **Sheeppen Canyo** 64.81 68 ⇑P P 01 09 32.5 +1.2
baz=65
T31A **Randall Ranch,** 64.84 61 ⇑P P 01 09 32.0 +0.8
baz=65
W28A **Vega** 64.97 64 ⇓P P 01 09 33.0 +0.8
baz=65
X27A **F and S Farms,** 64.98 65 ⇓P P 01 09 33.4 +1.0
baz=65
Z25A **Roswell** 65.19 67 ⇑P P 01 09 35.4 +1.6
baz=65
124A **Stringfield Ra** 65.25 68 ⇑P P 01 09 35.5 +1.3
baz=65
Y27A **Causey** 65.54 66 ⇓P P 01 09 36.9 +0.9
baz=65
Z26A **Caprock** 65.59 67 ⇓P P 01 09 37.4 +1.1
baz=65
MSTX **Muleshoe** 65.68 65 ⇓P P 01 09 37.4 +0.6
baz=66
224A **Cornudas Mount** 65.69 69 ⇑P P 01 09 37.9 +0.9
baz=66
125A **Gardner Draw,** 65.70 68 ⇓P P 01 09 37.8 +0.8
baz=66
V31A **Spring Creek L** 65.78 62 ⇑P P 01 09 38.3 +0.9
baz=66
X29A **Tulia** 65.87 64 ⇑P P 01 09 38.4 +0.4
baz=66
Z27A **Tatum** 65.96 66 ⇓P P 01 09 39.1 +0.5
baz=66
Y28A **McKinney Farm,** 66.00 65 ⇑P P 01 09 39.2 +0.3
baz=66
225A **Deer Hill, Car** 66.04 68 ⇑P P 01 09 40.0 +0.7
baz=66
126A **Clayton Basin,** 66.05 67 ⇑P P 01 09 40.1 +0.9
baz=66
W31A **Holland Ranch,** 66.19 62 ⇑P P 01 09 40.6 +0.6
baz=66
324A **Moseley Ranch,** 66.21 69 ⇓P P 01 09 41.1 +0.8
baz=66
X30A **Coker Ranch, T** 66.29 64 ⇓P P 01 09 41.3 +0.6
baz=66
Y29A **Porterfield Fa** 66.34 65 ⇓P P 01 09 41.6 +0.6
baz=66
127A **Arkansas Junct** 66.38 67 ⇑P P 01 09 42.2 +0.9
baz=66
Z28A **Tucker Farm, M** 66.41 65 ⇓P P 01 09 42.0 +0.5
baz=66
226B **Tecolote Peak,** 66.42 68 ⇑P P 01 09 42.6 +1.1
baz=66
U34A **Anderson Ranch** 66.42 60 ⇓P P 01 09 42.6 +1.2
baz=66
325A **Bean Ranch, Si** 66.54 69 ⇓P P 01 09 42.9 +0.5
baz=66
W32A **Sentinel** 66.59 62 ⇓P P 01 09 43.3 +0.7
baz=66
X31A **McDonald Ranch** 66.61 63 ⇑P P 01 09 43.1 +0.5
baz=66
Y30A **Stafford Cattl** 66.72 64 ⇓P P 01 09 44.5 +1.0
baz=66
Z29A **Hungry Hill Ra** 66.79 65 ⇓P P 01 09 44.5 +0.6
baz=67
128A **Castleberry Fa** 66.88 66 ⇓P P 01 09 45.7 +1.1
baz=67
425A **Indio Mountain** 66.98 69 ⇓P P 01 09 46.6 +1.3
baz=67
Z30A **Sanderson Ranc** 67.07 65 ⇓P P 01 09 46.0 +0.4
baz=67
326A **Caldwell Ranch** 67.11 68 ⇓P P 01 09 46.8 +0.8
baz=67
129A **Stewart Farms,** 67.20 66 ⇑P P 01 09 46.7 +0.2
baz=67
Y32A **R-V Farms, Ver** 67.37 63 ⇑P P 01 09 47.9 +0.4
baz=67
X33A **Lawton** 67.43 62 ⇑P P 01 09 48.6 +0.7
baz=67
AKASG **Malin Array Be** 67.46 330 *ceP* P 01 09 47.5 -0.2
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** 67.46 330 P P 01 09 46.8 -0.9
AKASG **Malin Array Be** 67.46 330 P P 01 09 46.8 -0.9
comp=Z,2.2nm,0.4s,baz=27,slow=6.9,SNR=7.3
AKASG LR LR 01 44 57.0
comp=Z,64nm,18.3s,baz=350,slow=41
Z31A **Sharp Cattle R** 67.55 64 ⇓P P 01 09 49.1 +0.4
baz=67
426A **McDonald Obser** 67.59 68 ⇑P P 01 09 50.0 +0.8
baz=67
MAK **Makhachkala** 67.62 314 *eP* P 01 09 50.4 +1.5
MAK *eS* S 01 18 41.0 0.0
MAK pmax pmax
comp=Z,215nm,2.4s
328A **Wristen Ranch,** 67.68 67 ⇓P P 01 09 50.4 +0.8
baz=68
X34A **Smith Ranch, M** 67.72 61 ⇑P P 01 09 50.8 +1.1
baz=68
427A **Hayter Ranch,** 67.78 68 ⇑P P 01 09 50.8 +0.6
baz=68
Y33A **Hilltop Ranch,** 67.79 62 ⇑P P 01 09 51.1 +1.0
baz=68
Z32A **Haskell** 67.90 63 ⇓P P 01 09 51.1 +0.3
baz=68
131A **Roby** 67.93 64 ⇑P P 01 09 51.6 +0.5
baz=68
526A **Mary Lane Ranc** 68.03 69 ⇓P P 01 09 53.2 +1.3
baz=68
329A **Wagon Wheel Ra** 68.03 66 ⇓P P 01 09 52.7 +0.9
baz=68
230A **Sterling City** 68.17 65 ⇓P P 01 09 53.8 +1.2
baz=68
527A **Woodward Ranch** 68.22 68 ⇑P P 01 09 54.1 +1.0
baz=68
428A **Kincaid Ranch,** 68.26 67 ⇑P P 01 09 54.6 +1.3
baz=68
Y34A **Reagan Ranch,** 68.27 62 ⇑P P 01 09 53.9 +0.8
baz=68
Z33A **Whitaker Ranch** 68.28 63 ⇓P P 01 09 53.8 +0.5
baz=68
ABTX **Abilene, Hawle** 68.36 64 ⇓P P 01 09 54.1 +0.4
baz=68
626A **Big Bend Ranch** 68.41 69 ⇑P P 01 09 54.7 +0.5
baz=68
528A **Cox Ranch, San** 68.65 68 ⇑P P 01 09 56.8 +1.1
baz=68
133A **Hamilton Ranch** 68.74 63 ⇑P P 01 09 57.3 +1.2
baz=69
429A **Davenport Ranc** 68.76 67 ⇓P P 01 09 56.9 +0.6
baz=69
TX31 **Lajitas Ar. Si** 68.83 69 *eP* P 01 09 57.5 +0.7
TXAR **Lajitas Array** 68.83 69 P P 01 09 58.0 +1.2
TXAR **Lajitas Array** 68.83 69 P P 01 09 58.0 +1.2
comp=Z,3.3nm,0.6s,baz=296,slow=4.1,SNR=63
KBZ **Khabaz** 68.84 317 P P 01 09 56.9 +0.4
KBZ **Khabaz** 68.84 317 P P 01 09 56.9 +0.4
KBZ **Khabaz** 68.84 317 P P 01 09 56.9 +0.4
comp=Z,5.0nm,0.9s,baz=45,slow=5.7,SNR=6.8
KBZ LR LR 01 43 32.4
comp=Z,190nm,21.1s,baz=18,slow=39
627A **Terlingua Ranc** 68.88 69 ⇓P P 01 09 58.3 +1.1
baz=69
232A **Coleman** 68.94 64 ⇓P P 01 09 58.0 +0.7
baz=69
430A **Baggett Ranch,** 68.98 66 ⇓P P 01 09 58.2 +0.6
baz=69
529A **Stev Forest Ra** 68.98 67 ⇓P P 01 09 58.9 +1.2
baz=69
331A **San Angelo** 68.99 65 ⇓P P 01 09 58.0 +0.3
baz=69
Z35A **Perchaven, San** 69.02 62 ⇓P P 01 09 58.2 +0.4
baz=69
628A **Black Gap, Mar** 69.12 68 ⇑P P 01 09 59.8 +1.2
baz=69
332A **Millersview** 69.29 65 ⇓P P 01 10 00.1 +0.6
baz=69
431A **Sonora** 69.39 66 ⇓P P 01 10 00.6 +0.4
baz=69
530A **J-C Ranch, Com** 69.43 67 ⇓P P 01 10 01.3 +0.9
baz=69
432A **Menard** 69.66 65 ⇓P P 01 10 02.4 +0.6
baz=70
333A **Richland Sprin** 69.73 64 ⇑P P 01 10 02.5 +0.3
baz=70
531A **Rocksprings** 69.83 66 ⇑P P 01 10 03.5 +0.6
baz=70
JCT **Junction City** 69.97 65 ⇓P P 01 10 04.1 +0.3
baz=70
334A **Lometa** 70.11 64 ⇓P P 01 10 05.0 +0.4
baz=70
433A **Art** 70.12 65 ⇑P P 01 10 05.4 +0.7
baz=70
532A **Rocksprings** 70.20 66 ⇓P P 01 10 05.5 +0.3
baz=70
KWP **Kalwaria Pacla** 70.22 333⇑ *iP* P 01 10 05.6 +0.7
631A **Perdido Creek** 70.41 67 ⇓P P 01 10 05.8 -0.6
baz=70
434A **Burnet** 70.50 64 ⇓P P 01 10 06.3 -0.7
baz=70
335A **Moody** 70.56 63 ⇓P P 01 10 07.9 +0.6
baz=70
KSP **Ksiaz** 70.62 338 *eP* P 01 10 07.2 -0.1
533A **Kerrville** 70.70 65 ⇓P P 01 10 08.8 +0.6
baz=70
632A **Uvalde** 70.75 66 ⇓P P 01 10 09.2 +0.6
baz=71
CLL **Collm** 70.86 340⇓ *iP* P 01 10 08.9 +0.1
CLL *i* *PP pP 01 10 23.5 -1.7
CLL pmax pmax
comp=Z,20nm,1.1s
CLL **Collm** 70.86 340⇓ *iP* P 01 10 08.9 +0.1
comp=Z,20nm,1.1s
CLL *i* pP pP 01 10 23.5 -1.7
UPC **Upice** 71.00 338 *i* P P 01 10 10.7 +1.1
UPC **Upice** 71.00 338 *i* P P 01 10 10.7 +1.1
534A **Blanco** 71.02 65 ⇑P P 01 10 10.4 +0.2
baz=71
DPC **Dobruska-Polom** 71.08 338 *i* P P 01 10 10.8 +0.6
DPC **Dobruska-Polom** 71.08 338 *i* P P 01 10 10.8 +0.6
BRG **Berggiesshubel** 71.08 339 *eP* P 01 10 10.0 -0.1
comp=Z,9.0nm,1.3s
BRG **Berggiesshubel** 71.08 339 *eP* P 01 10 10.0 -0.1
BRG pmax pmax
comp=Z,9.0nm,1.3s
OKC **Ostrava-Krasne** 71.14 336 *i* P P 01 10 11.3 +0.8
OKC **Ostrava-Krasne** 71.14 336 *i* P P 01 10 11.3 +0.8
732A **Laxson Ranch,** 71.27 67 ⇑P P 01 10 12.5 +0.8
baz=71
MORC **Moravsky Berou** 71.34 337⇑ *iP* P 01 10 11.4 -0.4
BUR04 **Bucovina Ar. S** 71.38 331 *eP* P 01 10 11.6 -0.6
BURAR **Bucovina Array** 71.38 331⇑ *iP* P 01 10 12.2 0.0
TRPA **Tarpa** 71.64 333⇑ *iP* P 01 10 14.6 +1.1
PRU **Pruhonice** 71.80 339 *i* P P 01 10 14.9 +0.4
PRU **Pruhonice** 71.80 339 *i* P P 01 10 14.9 +0.4
PRU *ex* x 01 10 20.1
NKC **Novy Kostel** 71.99 340 *i* P P 01 10 16.2 +0.5
NKC **Novy Kostel** 71.99 340 *i* P P 01 10 16.2 +0.5
HYB **Hyderabad** 72.19 275 *i* P P 01 10 15.0 -2.3
TREC **Trest** 72.25 338 *eP* P 01 10 18.0 +0.8
TREC **Trest** 72.25 338 *eP* P 01 10 18.0 +0.8
PSI **Prapat** 72.58 249 P P 01 10 20.3 +0.6
PSI **Prapat** 72.58 249 P P 01 10 20.3 +0.6
comp=Z,4.5nm,0.6s,baz=28,slow=13,SNR=5.6
CFR **Carcaliu** 72.73 328⇑ *iP* P 01 10 20.8 +0.7
GRF **Grafenberg Arr** 72.75 341 *eP* P 01 10 20.6 +0.4
comp=Z,12nm,1.1s
MEM **Membach** 72.77 344 P P 01 10 20.8 +0.5
comp=Z,17nm,1.6s
KHC **Kasperske Hory** 72.81 339 *ceP* P 01 10 19.9 -0.7
KHC pmax pmax
comp=Z,48nm,1.0s
KHC **Kasperske Hory** 72.81 339 *i* P P 01 10 21.4 +0.8
DRGR 72.83 332⇓ *iP* P 01 10 20.7 -0.1
GERES **GERESS Array B** 73.06 339 P P 01 10 22.2 +0.1
GERES **GERESS Array B** 73.06 339 P P 01 10 22.2 +0.1
comp=Z,3.3nm,0.9s,baz=33,slow=5.5,SNR=16
GERES LR LR 01 47 25.5
comp=Z,68nm,20.6s,baz=281,slow=40
MLR **Muntele Rosu** 73.11 329⇓ *iP* P 01 10 24.0 +1.5
TIRR **Tirgusor** 73.30 327⇓ *iP* P 01 10 23.5 +0.1
VOIR 73.42 330⇑ *iP* P 01 10 24.9 +0.6
ARR **Arges** 73.60 330⇑ *iP* P 01 10 25.6 +0.3
GZR **Gura Zlata** 74.10 331⇓ *iP* P 01 10 28.6 +0.4
BZS **Buzias** 74.20 332⇓ *iP* P 01 10 29.4 +0.6
CDF **Champ du Feu** 74.69 343 *eP* P 01 10 31.7 0.0
comp=Z,10nm,0.8s
CDF **Champ du Feu** 74.69 343 *eP* P 01 10 31.7 0.0
CDF pmax pmax
comp=Z,10.0nm,0.8s
CDF **Champ du Feu** 74.69 343 *eP* P 01 10 31.7 0.0
comp=Z,10nm,0.8s
PAGF **Fort de Pagny** 74.81 344 *eP* P 01 10 32.6 +0.4
comp=Z,4.7nm,0.7s
PAGF **Fort de Pagny** 74.81 344 *eP* P 01 10 32.6 +0.4
comp=Z,4.7nm,0.7s
KMSC **Kings Mountain** 75.06 49 ⇑P P 01 10 34.4 +0.5
baz=75
HAU **Haudompre** 75.24 343 *eP* P 01 10 34.6 -0.1
comp=Z,7.4nm,0.6s
HAU *eR*
comp=Z,128nm,19.2s
HAU **Haudompre** 75.24 343 *eP* P 01 10 34.6 -0.1
HAU pmax pmax
comp=Z,7.0nm,0.6s
HAU **Haudompre** 75.24 343 *eP* P 01 10 34.6 -0.1
comp=Z,7.4nm,0.6s
SFTF **Sexfontaines** 75.25 344 *eP* P 01 10 34.7 -0.1
comp=Z,22nm,0.8s,baz=19
SFTF **Sexfontaines** 75.25 344 *eP* P 01 10 34.7 -0.1
comp=Z,22nm,0.8s
ABTA **Abfaltersbach** 75.30 339⇑ *iP* P 01 10 35.5 +0.2
comp=Z,16nm,1.3s
FETA **Feichten** 75.40 340⇑ *iP* P 01 10 36.4 +0.6
comp=Z,16nm,1.2s
FLN **La Foliniere** 75.46 348 *eP* P 01 10 36.0 0.0
FLN *eR*
comp=Z,63nm,17.2s
FLN **La Foliniere** 75.46 348 *eP* P 01 10 36.0 0.0
FLN **La Foliniere** 75.46 348 *eP* P 01 10 36.0 0.0
BRTR **Keskin Array B** 75.77 321 P P 01 10 38.1 0.0
BRTR **Keskin Array B** 75.77 321 P P 01 10 38.1 0.0
comp=Z,2.6nm,0.6s,baz=28,slow=3.0,SNR=17
BRTR LR LR 01 45 50.1
comp=Z,51nm,21.7s,baz=16,slow=37
GRR **Gorron** 75.88 348 *eP* P 01 10 38.7 +0.4
GRR **Gorron** 75.88 348 *eP* P 01 10 38.7 +0.4
GRR **Gorron** 75.88 348 *eP* P 01 10 38.7 +0.4
BR231 **Keskin MP Arra** 75.97 322 *eP* P 01 10 38.0 -1.2
LOR **Lormes** 76.35 345 *eP* P 01 10 40.9 -0.2
LOR *eR*
comp=Z,97nm,20.5s
LOR **Lormes** 76.35 345 *eP* P 01 10 40.9 -0.2
SSF **Saint Saulge** 76.60 345 *eP* P 01 10 43.8 +1.3
comp=Z,59nm,1.5s
SSF **Saint Saulge** 76.60 345 *eP* P 01 10 43.8 +1.3
SSF pmax pmax
comp=Z,59nm,1.5s
SSF **Saint Saulge** 76.60 345 *eP* P 01 10 43.8 +1.3
comp=Z,59nm,1.5s
CABF **La Chapelle** 76.64 343 *eP* P 01 10 43.1 +0.3
CABF **La Chapelle** 76.64 343 *eP* P 01 10 43.1 +0.3
CABF **La Chapelle** 76.64 343 *eP* P 01 10 43.1 +0.3
AVF **Avril sur Loir** 76.89 345 *eP* P 01 10 44.0 -0.1
comp=Z,9.3nm,0.9s
AVF **Avril sur Loir** 76.89 345 *eP* P 01 10 44.0 -0.1
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF **Avril sur Loir** 76.89 345 *eP* P 01 10 44.0 -0.1
comp=Z,9.3nm,0.9s
DZM **Mont Dzumac** 76.96 176 *eLR* LR 01 34 29.7
comp=Z,146nm,27.1s
BGF **Bois d'Agland** 77.19 345 *eP* P 01 10 45.6 -0.2
BGF **Bois d'Agland** 77.19 345 *eP* P 01 10 45.6 -0.2
BGF **Bois d'Agland** 77.19 345 *eP* P 01 10 45.6 -0.2
MFF **Saint Martin d** 77.55 348 *eP* P 01 10 47.9 +0.1
MFF **Saint Martin d** 77.55 348 *eP* P 01 10 47.9 +0.1
MFF **Saint Martin d** 77.55 348 *eP* P 01 10 47.9 +0.1
LPL **La Plagne** 77.59 342 *eP* P 01 10 49.4 +1.1
comp=Z,24nm,1.0s
LPL **La Plagne** 77.59 342 *eP* P 01 10 49.4 +1.1
LPL pmax pmax
comp=Z,24nm,1.0s
LPL **La Plagne** 77.59 342 *eP* P 01 10 49.4 +1.1
comp=Z,24nm,1.0s
LPG **La Plagne** 77.60 342 *eP* P 01 10 49.5 +1.0
comp=Z,23nm,0.9s
LPG **La Plagne** 77.60 342 *eP* P 01 10 49.5 +1.0
LPG pmax pmax
comp=Z,23nm,0.9s
LPG **La Plagne** 77.60 342 *eP* P 01 10 49.5 +1.0
comp=Z,23nm,0.9s
ORIF **Oris-en-Rattie** 78.31 343 *eP* P 01 10 53.0 +0.8
comp=Z,20nm,0.9s
ORIF *eR*
comp=Z,69nm,17.8s
ORIF **Oris-en-Rattie** 78.31 343 *eP* P 01 10 53.0 +0.8

ORIF				pmax	pmax		
	comp=Z,20nm,0.9s						
ORIF	**Oris-en-Rattie**	**78.31**	**343**	*eP*	**P**	**01 10 53.0**	**+0.8**
	comp=Z,20nm,0.9s						
MBDF	**Montbardon**	**78.35**	**342**	*eP*	**P**	**01 10 53.1**	**+0.6**
	comp=Z,13nm,0.8s						
MBDF	**Montbardon**	**78.35**	**342**	*eP*	**P**	**01 10 53.1**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,13nm,0.8s						
MBDF	**Montbardon**	**78.35**	**342**	*eP*	**P**	**01 10 53.1**	**+0.6**
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**78.38**	**206**	*ceP*	**P**	**01 10 52.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,37nm,2.5s						
WRAB	**Tennant Creek**	**78.38**	**206**	P	**P**	**01 10 53.9**	**+1.3**
	comp=Z,66nm,0.9s,SNR=8.7						
WRA	**Warramunga Arr**	**78.39**	**206**	P	**P**	**01 10 53.5**	**+0.9**
WRA				pP	**PcP**	**01 11 03.4**	**+1.7**
WRA	**Warramunga Arr**	**78.39**	**206**	P	**P**	**01 10 53.5**	**+0.9**
	comp=Z,3.5nm,0.5s,baz=21,slow=5.9,SNR=17						
WRA				pP	**PcP**	**01 11 03.4**	**+1.7**
	comp=Z,7.5nm,0.8s,baz=20,slow=5.8,SNR=13						
FITZ	**Fitzroy Crossi**	**79.21**	**215**	P	**P**	**01 10 58.3**	**+1.2**
FITZ				pP	**PcP**	**01 11 07.9**	**+2.7**
FITZ	**Fitzroy Crossi**	**79.21**	**215**	P	**P**	**01 10 58.3**	**+1.2**
	comp=Z,4.5nm,0.6s,baz=21,slow=6.0,SNR=24						
FITZ				pP	**PcP**	**01 11 07.9**	**+2.7**
	comp=Z,8.3nm,0.9s,baz=31,slow=7.8,SNR=8.8						
FRF	**La Foret Royal**	**79.50**	**342**	*eP*	**P**	**01 10 59.1**	**+0.5**
	comp=Z,42nm,1.0s						
FRF	**La Foret Royal**	**79.50**	**342**	*eP*	**P**	**01 10 59.1**	**+0.5**
FRF				pmax	pmax		
	comp=Z,42nm,1.0s						
FRF	**La Foret Royal**	**79.50**	**342**	*eP*	**P**	**01 10 59.1**	**+0.5**
	comp=Z,42nm,1.0s						
PMOR	**Pomariorio Ree**	**81.62**	**131**	*eT*	T	02 40 53.5	
	comp=Z,5.0nm,0.2s						
AS01	**Alice Springs**	**82.05**	**206**	*eP*	**P**	**01 11 12.9**	**+0.6**
ASAR	**Alice Springs**	**82.07**	**206**	P	**P**	**01 11 13.7**	**+1.4**
ASAR				pP	**pP**	**01 11 24.1**	**-5.1**
ASAR	**Alice Springs**	**82.07**	**206**	P	**P**	**01 11 13.7**	**+1.4**
	comp=Z,6.9nm,0.6s,baz=16,slow=5.4,SNR=80						
ASAR				pP	**pP**	**01 11 24.1**	**-5.1**
	comp=Z,8.4nm,0.7s,baz=12,slow=5.6,SNR=23						
PPT2	**Papeete2**	**83.22**	**134**	*e*LR	LR	01 37 31.1	
	comp=Z,163nm,28.0s						
MVO	**Moncorvo**	**83.64**	**352**	*eP*	**P**	**01 11 21.3**	**+0.7**
	comp=Z,26nm,2.1s						
MTE	**Manteigas**	**84.45**	**352**	*eP*	**P**	**01 11 25.5**	**+0.8**
	comp=Z,47nm,1.9s						
ES19	**SONSECA Array**	**84.80**	**349**	*eP*	**P**	**01 11 26.8**	**+0.4**
ESDC	**Sonseca Array**	**84.83**	**349**	P	**P**	**01 11 27.3**	**+0.7**
ESDC	**Sonseca Array**	**84.83**	**349**	P	**P**	**01 11 27.3**	**+0.7**
	comp=Z,7.6nm,0.6s,baz=1.5,slow=4.7,SNR=56						
PCAS	**Casmilo, Conde**	**84.86**	**353**	*eP*	**P**	**01 11 27.5**	**+0.8**
	comp=Z,63nm,2.0s						
RAYN	**Ar Rayn**	**84.88**	**304**	P	**P**	**01 11 26.6**	**-0.5**
	comp=Z,68nm,0.6s,SNR=6.7						
PCBR	**Castelo Branco**	**85.00**	**352**	*eP*	**P**	**01 11 28.1**	**+0.7**
	comp=Z,35nm,1.8s						
PMRV	**Marv??o**	**85.40**	**352**	*eP*	**P**	**01 11 30.1**	**+0.7**
	comp=Z,26nm,1.6s						
PESTR	**Estremoz**	**85.97**	**352**	*eP*	**P**	**01 11 32.9**	**+0.6**
	comp=Z,24nm,1.5s						
EVO	**Evora**	**86.34**	**352**	*eP*	**P**	**01 11 33.7**	**-0.3**
	comp=Z,10nm,0.8s						
EVOP	**Sao Brissos**	**86.35**	**352**	*eP*	**P**	**01 11 33.7**	**-0.4**
EVOP				pmax	pmax		
	comp=Z,10.0nm,0.8s						
EVOP	**Sao Brissos**	**86.35**	**352**	*eP*	**P**	**01 11 33.7**	**-0.4**
	comp=Z,10nm,0.8s						
KEST	**Kesra**	**86.53**	**338**	P	**P**	**01 11 35.1**	**0.0**
KEST	**Kesra**	**86.53**	**338**	P	**P**	**01 11 35.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=301,slow=5.4,SNR=10						
PBAR	**Barrancos**	**86.61**	**351**	*eP*	**P**	**01 11 35.8**	**+0.4**
	comp=Z,14nm,1.9s						
PNCL	**Nicolau / Gran**	**86.80**	**353**	*eP*	**P**	**01 11 36.7**	**+0.4**
	comp=Z,26nm,1.8s						
STKA	**Stephens Creek**	**88.39**	**197**	P	**P**	**01 11 44.7**	**+1.0**
STKA	**Stephens Creek**	**88.39**	**197**	P	**P**	**01 11 44.7**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=22,slow=5.4,SNR=5.4						
STKA				LR	LR	01 47 22.4	
	comp=Z,57nm,20.3s,baz=26,slow=33						
TORD	**Torodi Ar. Bea**	**110.01**	**340**	PKiKP	**PKiKP**	**01 17 23.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**110.01**	**340**	PKiKP	**PKiKP**	**01 17 23.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=2.6,slow=2.9,SNR=3.4						
DBIC	**Dimbokro**	**117.48**	**345**	PKP	**PKPdf**	**01 17 38.0**	**+0.2**
DBIC	**Dimbokro**	**117.48**	**345**	PKP	**PKPdf**	**01 17 38.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=225,slow=2.9,SNR=4.1						
LPAZ	**La Paz**	**125.57**	**65**	PKP	**PKPdf**	**01 17 54.2**	**+0.3**
LPAZ	**La Paz**	**125.57**	**65**	PKP	**PKPdf**	**01 17 54.2**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=270,slow=1.0,SNR=2.6						
BOSA	**Boshof**	**139.29**	**293**	PKP	**PKPdf**	**01 18 21.3**	**+2.5**
BOSA	**Boshof**	**139.29**	**293**	PKP	**PKPdf**	**01 18 21.3**	**+2.5**
	comp=Z,3.7nm,0.9s,baz=88,slow=2.5,SNR=8.3						
SUR	**Sutherland**	**144.60**	**294**	PKP	**PKPdf**	**01 18 28.2**	**0.0**
SUR	**Sutherland**	**144.60**	**294**	PKP	**PKPdf**	**01 18 28.2**	**0.0**
	comp=Z,5.1nm,0.8s,baz=51,slow=6.5,SNR=4.8						
QSPA	**South Pole Qui**	**144.86**	**180**	PKP	**PKPab**	**01 18 26.6**	**-0.1**
QSPA	**South Pole Qui**	**144.86**	**180**	PKP	**PKPab**	**01 18 26.6**	**-0.1**
	comp=Z,1.11nm,0.6s,baz=250,slow=1.2,SNR=31						
TRQA	**Tornquist**	**145.97**	**78**	*e*PKPdf	**PKPbc**	**01 18 31.4**	**+0.3**

*ISCJB **05** 01:05:26.9±0.5, 13.66N±0.09×120.49E±0.06, h120km, mb3.9/15, Error ellipse: s-maj=13.5km s-min=8.5km az=8.1*

*MAN **05** 01:05:28, 13.81N×120.46E, h108km, mb4.5, ML3.4, MS3.3*

*IDC **05** 01:05:28.4±0.6, 13.84N×120.90E, h129km±4km, mb3.6/12, mb1 3.8/12, mb1mx3.6/25, mbtmp3.6/12, Error ellipse: s-maj=32.2km s-min=14.2km az=63.0*

ISC 05 01:05:28.2±0.6, 13.71N±0.09×120.50E±0.09, h120km, n34, σ1°38/39, mb3.8/15, 2C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.49**	**115**	↑*iP*	**Pn**	**01 05 45.7**	**-0.4**
TGY	**Tagaytay City**	**0.58**	**48**	↑*eP*	**Pn**	**01 05 47.2**	**+0.5**
TGY				*i* S	**Sn**	**01 06 01.5**	**+0.8**
TGY	**Tagaytay City**	**0.58**	**48**	P	**Pn**	**01 05 47.4**	**+0.7**
	897nm,0.3s,baz=205,slow=2.3,SNR=40						
TGY				S	**Sn**	**01 06 01.5**	**+0.8**
	2um,0.3s,baz=137,slow=19,SNR=34						
LQP	**Lukban**	**1.09**	**68**	↓*eP*	**Pn**	**01 05 51.8**	**+0.5**
LQP				*i* S	**Sn**	**01 06 12.2**	**+3.4**
GQP	**Guinayangan**	**1.90**	**84**	↓*eP*	**Pn**	**01 06 01.2**	**+0.7**
PCPH	**Palayan**	**1.93**	**17**	↓*eP*	**Pn**	**01 05 59.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.23**	**286**	P	**P**	**01 10 08.2**	**+3.4**
	3.6nm,0.8s,baz=97,slow=7.5,SNR=11						
TAPN	**Taplejung**	**33.45**	**299**	*eP*	**P**	**01 11 57.3**	**+1.1**
ODAN	**Odare**	**33.58**	**298**	*eP*	**P**	**01 11 58.5**	**+1.2**
	22nm,0.7s						
RAMN	**Ramite**	**34.28**	**298**	*eP*	**P**	**01 12 04.9**	**+1.5**
JIRN	**Jiri**	**34.83**	**299**	*eP*	**P**	**01 12 09.8**	**+1.6**
	12nm,0.3s						
GUN	**Gumba**	**35.16**	**299**	*eP*	**P**	**01 12 12.3**	**+1.2**
	8.8nm,0.3s						
PKI	**Pulchoki**	**35.47**	**298**	*eP*	**P**	**01 12 14.4**	**+0.7**
	6.9nm,0.5s						
PKIN	**Phulchoki**	**35.48**	**298**	*eP*	**P**	**01 12 14.9**	**+1.2**
	6.9nm,0.5s						
KKN	**Kakani**	**35.64**	**299**	*eP*	**P**	**01 12 16.5**	**+1.5**
SONM	**Songino Array**	**35.99**	**344**	P	**P**	**01 12 17.2**	**-0.4**
	2.2nm,0.6s,baz=162,slow=9.7,SNR=13						
WRA	**Warramunga Arr**	**36.11**	**158**	P	**P**	**01 12 16.7**	**-2.1**
	0.8nm,0.8s,baz=337,slow=9.2,SNR=4.8						
KOLN	**Koldanda**	**37.07**	**298**	*eP*	**P**	**01 12 28.3**	**+1.1**
DANN	**Dangsing**	**37.09**	**299**	*eP*	**P**	**01 12 28.3**	**+0.9**
	8.3nm,0.6s						
PYUN	**Piuthan**	**37.68**	**298**	*eP*	**P**	**01 12 32.7**	**+0.4**
	22nm,0.6s						
ASAR	**Alice Springs**	**39.40**	**160**	P	**P**	**01 12 45.9**	**-0.5**
	0.3nm,0.3s,baz=339,slow=7.8,SNR=4.5						
ASAR				pP	**pP**	**01 13 14.3**	**+0.9**
	1.2nm,0.6s,baz=338,slow=6.9,SNR=5.6						
ASAR				PcP	**PcP**	**01 14 51.8**	**-0.6**
	0.2nm,0.3s,baz=344,slow=3.1,SNR=4.1						
MKAR	**Makanchi Array**	**45.91**	**324**	P	**P**	**01 13 39.7**	**+1.0**
	2.9nm,0.6s,baz=128,slow=8.7,SNR=34						
ZALV	**Zalesovo Beam**	**48.96**	**333**	P	**P**	**01 14 01.9**	**-0.2**
	3.5nm,0.3s,baz=129,slow=6.7,SNR=16						
KBZ	**Khabaz**	**71.73**	**312**	P	**P**	**01 16 37.8**	**+0.5**
	1.7nm,0.9s,baz=130,slow=7.9,SNR=4.2						
JOF	**Joensuu**	**77.54**	**332**	*ep*	**P**	**01 17 09.3**	**-1.2**
	2.2nm,0.3s						
KEV	**Kevo**	**78.45**	**339**	*ep*	**P**	**01 17 13.4**	**-2.0**
	0.4nm,0.3s						
ILAR	**Eielson Array**	**78.83**	**26**	P	**P**	**01 17 15.5**	**-2.1**
	1.0nm,0.7s,baz=272,slow=4.4,SNR=3.4						
BRTR	**Keskin Array B**	**78.99**	**308**	P	**P**	**01 17 19.3**	**+0.1**
	1.0nm,0.8s,baz=123,slow=5.1,SNR=6.9						
ARCES	**ARCESS Array B**	**79.00**	**339**	P	**P**	**01 17 17.9**	**-0.6**
	1.3nm,0.5s,baz=74,slow=7.1,SNR=18						
KAF	**Kangasniemi**	**79.95**	**332**	*ep*	**P**	**01 17 22.4**	**-1.3**
	0.4nm,0.3s						
FINES	**FINESS Array B**	**80.18**	**331**	P	**P**	**01 17 23.8**	**-1.1**
	1.2nm,0.8s,baz=73,slow=4.8,SNR=8.7						
NB2	**NORSAR Subarra**	**87.16**	**333**	P	**P**	**01 17 59.0**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=68,slow=4.6						
NOA	**NORSAR Array B**	**87.16**	**333**	P	**P**	**01 17 59.2**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=67,slow=4.6,SNR=4.0						
PLCA	**Paso Flores**	**151.40**	**162**	PKPbc	**PKPbc**	**01 25 08.2**	**0.0**
	comp=Z,1.4nm,0.6s,baz=202,slow=5.9,SNR=4.0						

*SZGRF **05** 01:25:37.7, 28.53N×131.44E, h33km, mb4.7, Southeast of Ryukyu Islands, Japan*

*ISCJB **05** 01:25:59.7±0.3, 29.76N±0.03×129.64E±0.08, h161km±3km, mb3.8/17, Error ellipse: s-maj=12.3km s-min=4.3km az=18.2*

*NIED **05** 01:26:00, 29.80N×129.70E, h150km, Mw4.3 Best double couple: M0 3.10000×10^15 NP1:φ=11.00000°, δ=73.00000°, λ=93.00000°. NP2:φ=181.00000°, δ=17.00000°, λ=80.00000°.*

*JMA **05** 01:26:01.6±0.1, 29.76N×129.71E, h151km±1km, M4.2*

*IDC **05** 01:26:02.0±0.7, 29.88N×129.46E, h168km±6km, mb3.6/15, mb1 3.8/18, mb1mx3.7/28, mbtmp3.6/18, Error ellipse: s-maj=16.1km s-min=9.3km az=88.0*

ISC 05 01:26:00.9±0.6, 29.76N±0.04×129.59E±0.08, h160km±5km, n44, σ1°18/65, mb3.9/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.26**	**73**	P	**Pn**	**01 26 22.1**	**-0.5**
JNN				*eS*	**Sn**	**01 26 37.8**	**-1.3**
JKC	**Kuchinoerabu**	**0.87**	**37**	P	**Pn**	**01 26 25.1**	**-0.6**
JKC				*eS*	**Sn**	**01 26 43.6**	**-1.1**
JAM	**Amami Oshima**	**1.35**	**179**	P	**Pn**	**01 26 29.5**	**-0.3**
JAM				S	**Sn**	**01 26 50.1**	**-1.8**
JZK	**Kikaishima**	**1.48**	**167**	P	**Pn**	**01 26 31.8**	**+0.7**
JZK				*eS*	**Sn**	**01 26 54.4**	**+0.1**
JTN	**Tanegashima 3**	**1.50**	**53**	P	**Pn**	**01 26 30.4**	**-0.8**
JTN				S	**Sn**	**01 26 52.4**	**-2.1**
JAMN	**Amaminishikomi**	**1.56**	**194**	P	**Pn**	**01 26 31.6**	**-0.3**
JAMN				*eS*	**Sn**	**01 26 53.7**	**-2.0**
JTSR	**Tashiro 2**	**1.81**	**39**	P	**Pn**	**01 26 34.1**	**-0.5**
JTSR				S	**Sn**	**01 26 58.0**	**-2.6**
JSU	**Suzuyama**	**1.89**	**23**	P	**Pn**	**01 26 35.6**	**+0.2**
JSU				S	**Sn**	**01 27 01.3**	**-0.9**
JSJ	**Shimokoshiki**	**1.91**	**3**	P	**Pn**	**01 26 35.9**	**+0.2**
JSJ				S	**Sn**	**01 27 01.7**	**-0.9**
JTK	**Tokunoshima**	**2.05**	**196**	P	**Pn**	**01 26 37.1**	**-0.2**
JTK				S	**Sn**	**01 27 03.5**	**-1.8**
JNAR	**Kushima--Naru**	**2.28**	**39**	P	**Pn**	**01 26 39.7**	**-0.2**
JNAR				S	**Sn**	**01 27 08.4**	**-1.6**
JTZ	**Takazaki**	**2.49**	**31**	P	**Pn**	**01 26 42.7**	**+0.3**
JTZ				S	**Sn**	**01 27 12.8**	**-1.8**
JZO	**Okuchi**	**2.52**	**20**	P	**Pn**	**01 26 43.5**	**+0.7**
JZO				S	**Sn**	**01 27 15.3**	**0.0**
JNU	**Nakatsue**	**3.52**	**18**	P	**Pn**	**01 26 56.6**	**+1.3**
	14nm,0.3s,baz=205,slow=4.0,SNR=60						
JNU				S	**Sn**	**01 27 37.3**	**-0.4**
	5.3nm,0.3s,baz=11,slow=15,SNR=9.0						
KSRS	**Korea Array**	**7.79**	**350**	P	**Pn**	**01 27 52.2**	**+0.7**
	0.3nm,0.3s,baz=172,slow=13,SNR=7.3						
MJAR	**Matsushiro Arr**	**9.89**	**45**	P	**Pn**	**01 28 22.1**	**+2.8**
	0.7nm,0.3s,baz=241,slow=13,SNR=3.5						
MJAR				S	Sn	01 30 00.7	-8.3
	0.4nm,0.3s,baz=241,slow=15,SNR=3.2						
SONM	**Songino Array**	**25.38**	**322**	P	**P**	**01 31 12.1**	**-1.3**
	2.7nm,0.6s,baz=141,slow=9.8,SNR=25						
SONM				pP	**pP**	**01 31 48.2**	**+1.7**
	0.8nm,0.8s,baz=119,slow=9.0,SNR=1.6						
JIRN	**Jiri**	**37.96**	**278**	*eP*	**P**	**01 33 04.6**	**+1.0**
	5.2nm,0.3s						
GUN	**Gumba**	**38.17**	**278**	*eP*	**P**	**01 33 06.0**	**+0.6**
	22nm,0.4s						
PKI	**Pulchoki**	**38.65**	**278**	*eP*	**P**	**01 33 10.3**	**+0.9**
PKIN	**Phulchoki**	**38.66**	**278**	*eP*	**P**	**01 33 10.9**	**+1.5**
KKN	**Kakani**	**38.71**	**278**	*eP*	**P**	**01 33 11.0**	**+1.3**
GKN	**Gorkha**	**39.21**	**279**	*eP*	**P**	**01 33 14.5**	**+0.6**
	6.8nm,0.4s						
DANN	**Dangsing**	**39.89**	**280**	*eP*	**P**	**01 33 20.4**	**+0.8**
	12nm,0.5s						
KOLN	**Koldanda**	**40.16**	**279**	*eP*	**P**	**01 33 22.5**	**+0.8**
	3.4nm,0.3s						
MKAR	**Makanchi Array**	**40.18**	**308**	P	**P**	**01 33 20.4**	**-1.0**
	1.0nm,0.7s,baz=94,slow=11,SNR=11						
MKAR				pP	**pP**	**01 33 57.4**	**+1.1**
	0.7nm,0.8s,baz=99,slow=10,SNR=3.9						
MKAR				PcP	**PcP**	**01 35 22.1**	**-0.2**
	1.0nm,0.6s,baz=76,slow=3.2,SNR=12						
ZALV	**Zalesovo Beam**	**40.25**	**320**	P	**P**	**01 33 20.6**	**-1.2**
	1.5nm,0.6s,baz=108,slow=8.3,SNR=8.4						
ZALV				PcP	**PcP**	**01 35 21.9**	**-0.5**
	0.7nm,0.4s,baz=103,slow=3.2,SNR=5.9						
WRA	**Warramunga Arr**	**49.63**	**174**	P	**P**	**01 34 37.2**	**+1.0**
	1.4nm,0.5s,baz=356,slow=8.1,SNR=7.1						
WRA				pP	**pP**	**01 35 14.0**	**+1.6**
	1.3nm,0.5s,baz=352,slow=8.2,SNR=4.9						
WRA				PcP	**PcP**	**01 35 56.0**	**+0.8**
	0.2nm,0.3s,baz=357,slow=4.9,SNR=2.4						
ASAR	**Alice Springs**	**53.28**	**175**	P	**P**	**01 35 04.6**	**+1.2**
	1.0nm,0.5s,baz=8.5,slow=6.9,SNR=24						
ASAR				pP	**pP**	**01 35 41.8**	**+1.8**
	1.1nm,0.9s,baz=1.9,slow=6.9,SNR=5.3						
ASAR				PcP	**PcP**	**01 36 09.6**	**+0.7**
	0.6nm,1.0s,baz=353,slow=3.7,SNR=6.6						
ILAR	**Eielson Array**	**60.77**	**29**	P	**P**	**01 35 55.0**	**-0.5**
	0.5nm,0.8s,baz=298,slow=8.5,SNR=6.2						
KEV	**Kevo**	**66.60**	**338**	*ep*	**P**	**01 36 31.7**	**-1.8**
	0.9nm,0.4s						
ARCES	**ARCESS Array B**	**67.17**	**338**	P	**P**	**01 36 36.0**	**-1.2**
	1.7nm,0.6s,baz=64,slow=8.2,SNR=9.7						
KBZ	**Khabaz**	**67.88**	**309**	P	**P**	**01 36 42.7**	**+0.7**
	2.4nm,0.9s,baz=85,slow=2.4,SNR=3.7						
FINES	**FINESS Array B**	**70.39**	**330**	P	**P**	**01 36 56.1**	**-1.1**
	2.6nm,0.6s,baz=75,slow=6.1,SNR=34						
AKASG	**Malin Array Be**	**73.64**	**319**	P	**P**	**01 37 15.7**	**-0.9**
	0.5nm,0.3s,baz=58,slow=6.5,SNR=4.0						
YKA	**Yellowknife Ar**	**74.83**	**26**	P	**P**	**01 37 24.0**	**+0.7**
	1.2nm,0.7s,baz=304,slow=6.0,SNR=5.0						
BRTR	**Keskin Array B**	**75.83**	**308**	P	**P**	**01 37 29.4**	**-0.2**
	0.3nm,0.4s,baz=58,slow=5.1,SNR=4.2						
NB2	**NORSAR Subarra**	**76.68**	**334**	P	**P**	**01 37 32.4**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=50,slow=5.6						
NOA	**NORSAR Array B**	**76.68**	**334**	P	**P**	**01 37 32.3**	**-1.7**
	comp=Z,2.9nm,0.7s,baz=50,slow=5.6,SNR=10.0						
GERES	**GERESS Array B**	**83.11**	**323**	P	**P**	**01 38 08.0**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=39,slow=4.3,SNR=17						
GRF	**Grafenberg Arr**	**83.84**	**325**	*eP*	**P**	**01 38 12.7**	**+0.3**
	comp=Z,6.0nm,1.0s						
PDAR	**Pinedale Array**	**89.67**	**39**	P	**P**	**01 38 42.0**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=309,slow=2.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**114.12**	**303**	PKiKP	PKPdf	01 44 21.2	-0.7
	comp=Z,0.5nm,0.8s,baz=14,slow=3.2,SNR=3.3						
DBIC	**Dimbokro**	**123.22**	**302**	PKP	**PKPdf**	**01 44 39.2**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=180,slow=3.0,SNR=3.6						

MAN 05 01:31:54, 9.40N×125.52E, h15km, mb4.6, ML3.5, MS3.4, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.38**	**355**	↑*iP*	Pg	01 32 02.0	+0.3
SCPH				*i* S	Sb	01 32 08.5	+0.3
MSLP	**Maasin**	**0.98**	**318**	*eP*	Pb	01 32 12.7	0.0
MSLP				*eS*	Sb	01 32 24.6	-0.9
CGP	**Cagayan de Oro**	**1.24**	**221**	*eP*	Pn	01 32 16.2	-0.6
CGP				*i* S	Sb	01 32 33.2	+0.1
BIPH	**Bislig**	**1.47**	**145**	↓*eP*	Pn	01 32 18.8	-1.2
BIPH				*eS*	Sn	01 32 37.7	-1.2
LLP	**Lapu-Lapu**	**1.78**	**301**	*eP*	Pn	01 32 24.4	+0.1
LLP				*eS*	Sb	01 32 49.1	+0.5
PLP	**Palo**	**1.83**	**343**	↓*eP*	Pn	01 32 25.8	+0.8
PLP				*eS*	Sb	01 32 49.0	-1.1
DCPH	**Dipolog City**	**2.29**	**249**	↑*iP*	Pn	01 32 31.9	+0.6
PAGZ	**Pagadian**	**2.62**	**234**	*eP*	Pn	01 32 37.1	+1.4
PAGZ				*eS*	Sb	01 33 11.3	-1.3

*IDC **05** 01:51:45.0±2.2, 4.64S×130.12E, h0km, mb3.2/1, mb1 3.8/4, mb1mx3.6/20, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=101.1km s-min=27.2km az=75.0*

*AUST **05** 01:52:15.0, 5.98S×130.53E, h200km*

ISC 05 01:51:50.7±1.3, 5.16S±0.10×129.8E±0.2, h35km, n6, σ2°47/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.47**	**197**	Pn	**P**	**01 55 07.5**	**-0.8**
	0.3nm,0.3s,baz=21,slow=14,SNR=5.0						
FITZ				Sn	**Sn**	**01 57 29.8**	**+1.7**
	0.1nm,0.3s,baz=287,slow=8.2,SNR=3.6						
FITZ	**Fitzroy Crossi**	**13.47**	**197**	P	**P**	**01 55 08.7**	**+0.4**
	baz=13,SNR=5.2						
WRA	**Warramunga Arr**	**15.36**	**163**	Pn	**P**	**01 55 28.3**	**-1.0**
	0.3nm,0.3s,baz=347,slow=14,SNR=3.6						
WRA				Sn	**Sn**	**01 58 10.2**	**-3.9**
	0.2nm,0.3s,baz=332,slow=22,SNR=3.6						
MANU	**Manus Island**	**17.85**	**81**	P	**P**	**01 55 59.2**	**+2.2**
	baz=17,SNR=3.1						
ASAR	**Alice Springs**	**18.83**	**168**	P	**Pn**	**01 56 10.8**	**+2.4**
	0.7nm,0.3s,baz=345,slow=9.3,SNR=56						
ASAR				S	**Sn**	**01 59 36.4**	**-1.9**
	0.1nm,0.3s,baz=352,slow=26,SNR=3.5						
MKAR	**Makanchi Array**	**66.56**	**327**	P	**P**	**02 02 35.6**	**-1.7**
	0.1nm,0.5s,baz=113,slow=7.0,SNR=3.1						

*KRSC **05** 02:31:00.3±4.2, 55.44N×163.25E, h5km±5km, ML3.8*

*ISCJB **05** 02:31:02.2±1.0, 55.43N±0.02×163.26E±0.05, h14km±7km, mb3.4/6, Error ellipse: s-maj=4.4km s-min=3.8km az=177.3*

*IDC **05** 02:31:08.5±4.4, 55.42N×162.96E, h58km±51km, mb3.3/6, mb1 3.6/7, mb1mx3.3/28, mbtmp3.3/7, ML3.1/1, Error ellipse: s-maj=145.6km s-min=19.9km az=141.0*

ISC 05 02:31:02.3±1.5, 55.46N±0.03×163.21E±0.03, h9km±10km, n43, σ0°92/62, mb3.5/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.78**	**344**	P	**Pg**	**02 31 17.4**	**0.0**
KBTR				S	**Sb**	**02 31 28.5**	**-0.3**
KBG	**Krutoberegovo**	**0.85**	**340**	P	**Pg**	**02 31 18.7**	**+0.1**
KBG				S	**Sb**	**02 31 31.1**	**+0.4**
MKZ	**Mys Kozlova**	**1.25**	**224**	P	**Pn**	**02 31 24.0**	**-1.9**
MKZ				S	**Sb**	**02 31 40.3**	**-1.8**
ZLN	**Zelenaya**	**1.47**	**293**	S	**Sn**	**02 31 47.5**	**-1.1**
SMKR	**Semkarok**	**1.49**	**320**	P	**Pn**	**02 31 29.9**	**+0.3**
SMKR				S	**Sb**	**02 31 49.9**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.50**	**290**	P	**Pb**	**02 31 30.3**	**-0.2**
BZGR				S	**Sg**	**02 31 50.9**	**+0.3**
BDR	**Baidarnaya**	**1.58**	**315**	P	**Pn**	**02 31 30.6**	**0.0**
BDR				S	**Sn**	**02 31 51.4**	**+0.2**
BKI	**Bering**	**1.60**	**98**	P	**Pn**	**02 31 30.1**	**-0.7**
BKI				S	**Sn**	**02 31 50.5**	**-1.0**
BZMR	**Bezymyannaya**	**1.61**	**288**	P	**Pb**	**02 31 32.0**	**-0.4**
BZMR				S	**Sb**	**02 31 53.2**	**+0.3**
SRKR	**Sorokina**	**1.66**	**317**	P	**Pn**	**02 31 31.4**	**-0.3**
SRKR				S	**Sn**	**02 31 52.7**	**-0.4**
**K

TUMR				S	Sn	02 38 38.2	+0.4
KPT	**Kopyto**	**1.80**	**289**	P	Pb	02 38 16.4	-0.3
KPT				S	Sb	02 38 39.0	-0.6
KOZ	**Kozyrevsk**	**2.01**	**290**	P	Pb	02 38 19.2	-1.1
KOZ				S	Sn	02 38 44.4	+1.1
SRDR	**Sredinnyy**	**2.18**	**296**	P	Pn	02 38 21.5	+1.3
SRDR				S	Sn	02 38 48.6	+1.0
ESO	**Esso**	**2.62**	**283**	P	Pn	02 38 27.4	+1.2
ESO				S	Sn	02 38 58.6	+0.1
SDLR	**Sedlovina**	**3.34**	**232**	P	Pn	02 38 37.5	+1.3
SDLR				S	Sn	02 39 16.9	+0.5
KRER	**Koryakskii**	**3.39**	**233**	P	Pn	02 38 38.9	+2.0
KRER				S	Sn	02 39 18.7	+1.0
SMAR	**Somma**	**3.39**	**232**	P	Pn	02 38 37.8	+0.8
KRX	**Arik**	**3.40**	**234**	P	Pn	02 38 38.3	+1.3
UGLR	**Uglovaya**	**3.42**	**231**	P	Pn	02 38 40.0	+2.8
AVH	**Avacha**	**3.42**	**232**	P	Pn	02 38 39.5	+2.3
GNL	**Ganaly**	**3.55**	**243**	P	Pn	02 38 40.8	+1.8
PET	**Petropavlovsk**	**3.62**	**230**	S	Sb	02 39 27.8	-3.9
RUS	**Russkaya**	**4.11**	**225**	P	Pn	02 38 48.2	+1.7
MTVR	**Mutnovka**	**4.20**	**227**	P	Pn	02 38 50.5	+2.4
ASAK	**Asacha**	**4.40**	**228**	P	Pn	02 38 55.0	+4.3

IDC 05 02:40:55.8±2.0, 0.74N×126.42E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=175.1km s-min=25.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.97**	**160**	P	P	02 45 51.0	-0.5
	0.7nm,0.3s,baz=338,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**25.33**	**164**	P	P	02 46 24.9	+0.4
	0.1nm,0.3s,baz=343,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**59.84**	**326**	P	P	02 51 03.1	-0.1
	0.1nm,0.4s,baz=115,slow=7.1,SNR=2.8						

IDC 05 02:50:15.6±5.0, 20.39S×169.48E, h181km±48km, mb3.2/3, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, Error ellipse: s-maj=204.4km s-min=49.6km az=155.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.29**	**239**	P	Pn	02 51 08.5	+0.5
	4.2nm,0.3s,baz=65,slow=19,SNR=37						
DZM				S	Sn	02 51 48.9	0.0
	4.2nm,0.3s,baz=126,slow=19,SNR=7.6						
DZM	**Mont Dzumac**	**3.29**	**239**	*e*P	Pn	02 51 07.5	-0.5
WRA	**Warramunga Arr**	**32.95**	**265**	P	P	02 56 32.3	-1.1
	0.2nm,0.5s,baz=98,slow=8.3,SNR=2.9						
ASAR	**Alice Springs**	**33.09**	**258**	P	P	02 56 34.9	+0.3
	1.2nm,0.6s,baz=84,slow=9.0,SNR=20						
FITZ	**Fitzroy Crossi**	**41.37**	**265**	P	P	02 57 44.4	+0.2
	0.7nm,0.5s,baz=119,slow=10,SNR=4.4						
GERES	**GERESS Array B**	**145.60**	**331**	PKPbc	PKPdf	03 09 31.7	-0.6
	0.2nm,0.5s,baz=26,slow=4.7,SNR=3.1						

KRSC 05 02:50:50.9±3.6, 55.42N×163.28E, h5km±5km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.83**	**342**	P	Pb	02 51 08.1	+0.3
KBTR				S	Sb	02 51 19.7	+0.4
KBG	**Krutoberegovo**	**0.90**	**339**	P	Pb	02 51 09.4	+0.5
KBG				S	Sb	02 51 21.4	+0.2
MKZ	**Mys Kozlova**	**1.24**	**227**	P	Pn	02 51 15.0	+0.1
MKZ				S	Sb	02 51 31.1	0.0
SMKR	**Semkarok**	**1.55**	**320**	P	Pg	02 51 20.6	-0.1
SMKR				S	Sg	02 51 41.5	+0.7
BKI	**Bering**	**1.55**	**97**	P	Pg	02 51 20.9	+0.2
BKI				S	Sg	02 51 41.1	+0.3
BZGR	**Bezymyannyi-Gr**	**1.55**	**291**	S	Sg	02 51 42.2	+1.1
BDR	**Baidarnaya**	**1.64**	**316**	P	Pg	02 51 22.2	-0.2
BDR				S	Sg	02 51 43.7	0.0
BZMR	**Bezymyannaya**	**1.66**	**289**	S	Sg	02 51 44.8	+0.1
BZWR	**Bezymyannyi-We**	**1.67**	**290**	S	Sg	02 51 45.6	+0.7
SRKR	**Sorokina**	**1.71**	**317**	P	Pb	02 51 23.4	+0.4
SRKR				S	Sg	02 51 46.3	+0.2
KLY	**Klyuchi**	**1.73**	**302**	P	Pn	02 51 21.0	+0.6
KLY				S	Sn	02 51 41.5	-2.5
KZV	**Kizimen**	**1.74**	**261**	P	Pn	02 51 22.3	+0.4
KZV				S	Sn	02 51 44.0	-0.6
KMNR	**Kamenistaya**	**1.76**	**282**	P	Pb	02 51 23.2	-0.6
KMNR				S	Sn	02 51 45.0	0.0
TUMR	**Tumrok**	**1.79**	**267**	P	Pb	02 51 23.6	-0.8
TUMR				S	Sb	02 51 46.7	-0.6
KPT	**Kopyto**	**1.82**	**289**	P	Pb	02 51 24.6	-0.1
KPT				S	Sb	02 51 48.2	+0.3
KOZ	**Kozyrevsk**	**2.03**	**290**	P	Pb	02 51 27.6	-0.7
KOZ				S	Sb	02 51 53.7	-0.2
SRDR	**Sredinnyy**	**2.20**	**296**	P	Pn	02 51 29.3	+1.1
SRDR				S	Sn	02 51 56.3	+0.5
ESO	**Esso**	**2.64**	**283**	P	Pn	02 51 35.3	+1.1
SDLR	**Sedlovina**	**3.35**	**232**	P	Pn	02 51 45.8	+1.8
SDLR				S	Sn	02 52 25.8	+1.5
KRER	**Koryakskii**	**3.39**	**233**	P	Pn	02 51 47.0	+2.2
SMAR	**Somma**	**3.40**	**232**	P	Pn	02 51 45.3	+0.5
UGLR	**Uglovaya**	**3.42**	**232**	P	Pn	02 51 47.7	+2.7
AVH	**Avacha**	**3.42**	**233**	P	Pb	02 51 48.8	-3.3
GNL	**Ganaly**	**3.56**	**243**	P	Pn	02 51 48.6	+1.7
OSSR	**Ossora**	**3.84**	**358**	P	Pn	02 51 51.7	+1.1
MTVR	**Mutnovka**	**4.21**	**228**	P	Pn	02 51 58.7	+2.8

*ISK **05** 02:54:46.3, 39.40N×44.14E, h5km, MD3.4*
*CSEM **05** 02:54:46.9±0.2, 39.47N×44.12E, h2km, ML3.8, Error ellipse: s-maj=5.3km s-min=5.0km az=115.0*
*DDA **05** 02:54:47.7, 39.42N×44.04E, h6km, ML3.8*

ISC 05 02:54:46.1±1.1, 39.41N±0.02×44.14E±0.03, h5km±10km, n47, σ1s19/62, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.32**	**213**	*e*PG	**Pg**	**02 54 53.2**	**+0.8**
CLDR				*e*SG	**Sb**	**02 54 58.8**	**-1.2**
CLDR	**Caldiran**	**0.32**	**213**	*e*Pg	**Pg**	**02 54 53.2**	**+0.8**
CLDR				*e*Sg	**Sb**	**02 54 58.8**	**-1.2**
DYDN	**Diyadin**	**0.37**	**291**	*i* P	**Pg**	**02 54 53.3**	**-0.1**
DYDN				*i* S	**Sg**	**02 54 59.7**	**+1.4**
DYDN	**Diyadin**	**0.37**	**291**	*i* P	**Pg**	**02 54 53.3**	**-0.1**
DYDN				*i* S	**Sg**	**02 54 59.7**	**+1.4**
TUTA	**Tutak**	**1.03**	**270**	*i* P	**Pg**	**02 55 04.8**	**-1.0**
TUTA				*i* S	**Sg**	**02 55 19.1**	**0.0**
TVAN	**Van**	**1.05**	**213**	*i* P	**Pn**	**02 55 07.9**	**+0.2**
TVAN				*i* S	**Sn**	**02 55 22.8**	**0.0**
TVAN	**Van**	**1.05**	**213**	*i* P	**Pn**	**02 55 07.9**	**+0.2**
TVAN				*i* S	**Sn**	**02 55 22.8**	**0.0**
NAX	**Nakhchivan**	**1.08**	**102**	Pg	**Pn**	**02 55 08.3**	**+0.4**
NAX				Sg	**Sg**	**02 55 20.1**	**-0.7**
DIGO	**Kars**	**1.16**	**330**	*e*P	**Pb**	**02 55 09.1**	**+0.3**
DIGO	**Kars**	**1.16**	**330**	*e*P	**Pb**	**02 55 09.1**	**+0.3**
EAK	**Akyaka**	**1.33**	**342**	*i* P	**Pg**	**02 55 12.2**	**+0.5**
EAK				*i* S	**Sn**	**02 55 32.4**	**+2.7**
EAK	**Akyaka**	**1.33**	**342**	*i* P	**Pg**	**02 55 12.2**	**+0.5**
EATA	**Eleskirt**	**1.35**	**290**	*i* P	**Pn**	**02 55 10.7**	**-1.1**
EATA				*i* S	**Sn**	**02 55 30.6**	**+0.3**
EATA	**Eleskirt**	**1.35**	**290**	*i* P	**Pn**	**02 55 10.7**	**-1.1**
EATA				*i* S	**Sn**	**02 55 30.6**	**+0.3**
GEVA	**Gevas**	**1.39**	**218**	*i* P	**Pg**	**02 55 13.2**	**+0.6**
GEVA				*i* S	**Sn**	**02 55 32.9**	**+1.9**
GEVA	**Gevas**	**1.39**	**218**	*i* P	**Pg**	**02 55 13.2**	**+0.6**
GEVA				*i* S	**Sn**	**02 55 32.9**	**+1.9**
KARS	**Kars**	**1.46**	**326**	*e*PN	**Pg**	**02 55 14.5**	**+0.4**
KARS	**Kars**	**1.46**	**326**	*e*Pn	**Pg**	**02 55 14.5**	**+0.4**
EKAR	**Karacoban**	**1.62**	**265**	*e*P	**Pb**	**02 55 16.4**	**-0.1**
EKAR	**Karacoban**	**1.62**	**265**	*e*P	**Pb**	**02 55 16.4**	**-0.1**
TATV	**Tatvan**	**1.72**	**239**	*e*P	**Pg**	**02 55 19.6**	**+0.6**
TATV	**Tatvan**	**1.72**	**239**	*e*P	**Pg**	**02 55 19.6**	**+0.6**
HOMI	**Horasan**	**1.83**	**291**	*i* P	**Pb**	**02 55 19.7**	**-0.6**
HAKT	**HAKKARI**	**1.88**	**190**	*i* P	**Pg**	**02 55 22.5**	**+0.3**
HAKT	**HAKKARI**	**1.88**	**190**	*i* P	**Pg**	**02 55 22.5**	**+0.3**
GANJ	**Ganja**	**2.08**	**53**	Pn	**Pg**	**02 55 25.7**	**-0.2**
GANJ				Sg	**Sg**	**02 55 52.4**	**-0.5**
VRTB	**Varto-Mus**	**2.10**	**264**	*e*PN	**Pb**	**02 55 23.9**	**-0.8**
VRTB	**Varto-Mus**	**2.10**	**264**	*e*Pn	**Pb**	**02 55 23.9**	**-0.8**
EZM	**Erzurum**	**2.20**	**284**	*e*PN	**Pb**	**02 55 25.5**	**-1.0**
CUKT	**Cukurca**	**2.20**	**191**	*e*PN	**Pb**	**02 55 25.4**	**-1.0**
CUKT	**Cukurca**	**2.20**	**191**	*e*Pn	**Pb**	**02 55 25.4**	**-1.0**
SIRT	**Sirnak**	**2.33**	**215**	*e*PN	**Pb**	**02 55 27.3**	**-1.3**
SIRT	**Sirnak**	**2.33**	**215**	*e*Pn	**Pb**	**02 55 27.3**	**-1.3**
EPOS	**Posof**	**2.35**	**333**	*i* P	**Pn**	**02 55 22.6**	**-2.8**
DDEM	**Demirkent**	**2.35**	**310**	*i* P	**Pg**	**02 55 31.3**	**+0.1**
BNGL	**BINGOL**	**2.37**	**260**	*e*P	**Pb**	**02 55 28.3**	**-1.1**
BNGL				*i* S	**Sg**	**02 56 01.2**	**-1.0**
DAGI	**Agillar**	**2.38**	**315**	*i* P	**Pg**	**02 55 31.7**	**0.0**
BTMT	**Batman**	**2.40**	**240**	*e*PN	**Pb**	**02 55 28.4**	**-1.4**
BTMT	**Batman**	**2.40**	**240**	*e*Pn	**Pb**	**02 55 28.4**	**-1.4**
DBAD	**Bademkaya**	**2.46**	**311**	*i* P	**Pg**	**02 55 33.1**	**-0.2**
BNGB	**Bing¶ll**	**2.72**	**262**	*e*PN	**Pb**	**02 55 33.1**	**-2.2**
BINT	**Bingol**	**2.89**	**260**	*e*Pn	**Pb**	**02 55 33.1**	**+0.3**
SEKA	**Sheki**	**2.95**	**52**	Pn	**Pn**	**02 55 34.7**	**+1.1**
ERZN	**Erzincan**	**3.42**	**274**	*e*PN	**Pn**	**02 55 42.8**	**+2.7**
EZC	**Erzincan**	**3.71**	**277**	*e*Pn	**Pn**	**02 55 42.8**	**-1.4**
PTK	**Pertek**	**3.73**	**263**	*e*PN	**Pn**	**02 55 47.1**	**+2.7**
PTK	**Pertek**	**3.73**	**263**	*e*Pn	**Pn**	**02 55 47.1**	**+2.7**

*IDC **05** 03:07:23.9±1.2, 9.51S×115.02E, h0km, mb3.2/3, mb1 3.8/5, mb1mx3.6/23, mbtmp3.6/5, ML4.1/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/9, Error ellipse: s-maj=47.7km s-min=24.7km az=47.0*
*ISCJB **05** 03:07:34.2±0.8, 9.38S±0.09×115.61E±0.04, h81km±13km, mb3.2/2, Error ellipse: s-maj=15.0km s-min=7.3km az=177.1*
*DJA **05** 03:07:37.0±0.6, 9°S±6'×11°6E±°, h49km±11km, M4.1/10, MLv4.1/10*

ISC 05 03:07:34.3±1.1, 9.41S±0.10×115.58E±0.05, h75km±12km, n20, σ1s29/25, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**0.82**	**334**	P	**Pn**	**03 07 51.4**	**+0.5**
DNP				S	**Sn**	**03 08 03.0**	**-0.2**
KHKI	**Kahang-Kahang**	**1.04**	**2**	P	**Pn**	**03 07 54.1**	**+0.4**
KHKI				S	**Sn**	**03 08 15.0**	**-0.1**
SRBI	**Singaraja**	**1.37**	**345**	P	**Pn**	**03 07 58.4**	**+0.6**
SRBI				S	**Sn**	**03 08 15.4**	**0.0**
ABJI	**Asem Bagus**	**2.08**	**320**	P	**Pn**	**03 08 09.0**	**+1.7**
GMJI	**Gumukmas**	**2.39**	**298**	P	**Pn**	**03 08 12.0**	**+0.6**
GMJI				S	**Sn**	**03 08 40.1**	**+0.3**
BLJI	**Banyuglugur**	**2.57**	**310**	P	**Pn**	**03 08 14.7**	**+0.9**
BLJI				S	**Sn**	**03 08 44.7**	**+0.7**
KMMI	**Kalianget**	**2.84**	**326**	P	**Pn**	**03 08 19.6**	**+2.1**
PWJI	**Pagerwojo**	**3.98**	**290**	P	**Pn**	**03 08 33.9**	**+1.0**
SJI	**Sawahan**	**4.12**	**294**	P	**Pn**	**03 08 36.8**	**+1.8**
LBFI	**Labuhan Bajo,**	**4.36**	**78**	P	**Pn**	**03 08 40.5**	**+2.3**
PCJI	**Pacitan**	**4.51**	**285**	P	**Pn**	**03 08 41.8**	**+1.5**
KAPI	**Kappang**	**6.02**	**44**	Pn	**Pn**	**03 09 02.0**	**+1.1**
	1.9nm,0.3s,baz=246,slow=20,SNR=3.2						
KAPI				Sn	**Sn**	**03 10 08.5**	**0.0**
	3.7nm,0.3s,baz=240,slow=20,SNR=7.8						
FITZ	**Fitzroy Crossi**	**13.04**	**133**	Pn	**Pn**	**03 10 34.7**	**-1.9**
	1.5nm,0.3s,baz=314,slow=12,SNR=56						
FITZ				Sn	Sn	03 12 50.8	-9.0
	0.4nm,0.3s,baz=196,slow=20,SNR=3.9						
FITZ				LR	LR	03 15 32.7	
	comp=Z,36nm,20.4s,baz=262,slow=36						
WRA	**Warramunga Arr**	**20.93**	**122**	P	**P**	**03 12 11.9**	**+0.8**
	0.6nm,0.5s,baz=298,slow=12,SNR=2.4						
WRA				PcP	**PcP**	**03 16 17.2**	**+0.7**
	0.5nm,0.4s,baz=312,slow=1.7,SNR=3.0						
ASAR	**Alice Springs**	**22.53**	**131**	P	**P**	**03 12 29.1**	**+0.8**
	0.4nm,0.5s,baz=305,slow=9.0,SNR=9.2						
ASAR				PcP	**PcP**	**03 16 20.8**	**+1.1**
	0.3nm,0.4s,baz=316,slow=1.8,SNR=5.1						
H08S2	**Diego Garcia H**	**42.62**	**269**	T	T	04 00 36.1	
	baz=96,slow=75						
H08S3	**Diego Garcia H**	**42.63**	**269**	T	T	04 00 36.7	
	baz=96,slow=75						
H08S1	**Diego Carcia H**	**42.64**	**269**	T	T	04 00 24.4	
	baz=96						
MKAR	**Makanchi Array**	**63.34**	**335**	P	**P**	**03 17 53.4**	**-2.2**
	0.2nm,0.5s,baz=140,slow=6.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**115.20**	**280**	PKP	**PKPdf**	**03 26 07.8**	**-0.3**
	0.1nm,0.6s,baz=108,slow=1.0,SNR=3.5						

MEX 05 03:09:35.7±0.7, 15.65N×95.45W, h56km±12km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.64**	**281**	*e*P	Pn	03 09 47.4	-1.6
HUIG				*i* S	Sn	03 09 57.0	-1.7
VHO	**Vista Hermosa**	**1.87**	**319**	*i* P	Pn	03 10 03.6	-2.1
VHO				*i* S	Sn	03 10 26.6	-1.8
PCIG		**2.15**	**88**	*e*P	Pn	03 10 07.7	-1.5
PCIG				*i* S	Sn	03 10 33.2	-1.6
PNIG	**Pinotepa**	**2.67**	**286**	*i* P	Pn	03 10 15.5	-0.9
TLIG	**Tlapa**	**3.54**	**303**	*i* P	Pn	03 10 27.9	-0.4
TLIG				*i* S	Sn	03 11 08.3	-0.8

*NIED **05** 04:02:00, 24.40N×121.60E, h38km, Mw3.8 Best double couple: M0 5.61000×10^14 NP1:φs=35.00000°, δ77.00000°, λ60.00000°. NP2:φs=283.00000°, δ32.00000°, λ154.00000°.*
*JMA **05** 04:02:23.9±0.2, 24.40N×121.64E, h40km±3km, M3.5*
*ISCJB **05** 04:02:24.8±0.2, 24.44N±0.02×121.76E±0.02, h28km±2km, Error ellipse: s-maj=3.6km s-min=2.4km az=139.6*
*TAP **05** 04:02:24.2, 24.45N×121.71E, h35km, ML4.2, B*

ISC 05 04:02:24.9±0.9, 24.43N±0.02×121.73E±0.02, h33km±4km, n55, σ0s89/91, 9C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.01**	**113**	*i* P	**Pb**	**04 02 30.3**	**-0.1**
	baz=116						
ENA				*e*S	**Sb**	**04 02 35.3**	**+1.3**
	baz=116						
EHP	**Heping Village**	**0.12**	**174**	P	**Pb**	**04 02 30.6**	**-0.2**
	baz=164						
EHP				*e*S	**Sb**	**04 02 35.7**	**+0.9**
	baz=164						
TWC	**Suao**	**0.21**	**33**	*i* P	**Pb**	**04 02 31.4**	**-0.1**
	baz=35						
TWC				S	**Sb**	**04 02 35.4**	**-0.7**
	baz=35						
ENTT	**Nioudou**	**0.25**	**325**	*i* P	**Pb**	**04 02 31.6**	**-0.5**
	baz=327						
TWE	**Neicheng**	**0.29**	**349**	*i* P	**Pb**	**04 02 32.1**	**-0.5**
	baz=355						
TWE				*i* S	**Sb**	**04 02 37.6**	**-0.1**
	baz=355						
NNS	**Nan Shan**	**0.32**	**271**	*i* P	**Pb**	**04 02 32.5**	**-0.6**
	baz=264						
NNS				*e*S	**Sb**	**04 02 37.8**	**-0.8**
	baz=264						
ILA	**Ilan**	**0.33**	**3**	*e*P	**Pb**	**04 02 32.7**	**-0.4**
	baz=7.0						
ILA				*e*S	**Sb**	**04 02 39.0**	**+0.4**
	baz=7.0						
TWD	**Chiawan**	**0.37**	**199**	P	**Pb**	**04 02 32.7**	**-0.9**
	baz=201						
TWD				S	**Sb**	**04 02 39.6**	**+0.2**
	baz=201						
NSK	**Sanguang**	**0.41**	**306**	*i* P	**Pb**	**04 02 33.6**	**-0.7**
	baz=300						
NSK				*i* S	**Sb**	**04 02 39.5**	**-1.1**
	baz=300						
HWA	**Hwalien**	**0.47**	**194**	*e*P	**Pb**	**04 02 34.2**	**-0.8**
	baz=199						
WHF	**Hehuan Shan**	**0.51**	**236**	*i* P	**Pb**	**04 02 35.2**	**-0.7**
	baz=233						
WHF				*i* S	**Sb**	**04 02 42.7**	**-0.9**
	baz=233						
TWT	**Tachien**	**0.53**	**250**	*i* P	**Pb**	**04 02 35.9**	**-0.3**
	baz=246						
TWT				S	**Sb**	**04 02 43.8**	**-0.1**
	baz=246						
ESF	**Shoufeng Towns**	**0.59**	**200**	*e*P	**Pb**	**04 02 35.7**	**-1.3**
	baz=198						
TWB1	**Santiao Chiao**	**0.62**	**23**	P	**Pb**	**04 02 37.2**	**-0.2**
	baz=30						
TWB1				*i* S	**Sb**	**04 02 45.9**	**-0.1**
	baz=30						
TAP1	**Taipei**	**0.63**	**343**	*e*P	**Pb**	**04 02 36.7**	**-0.9**
	baz=343						
TAP1				S	**Sb**	**04 02 45.7**	**-0.6**
	baz=343						
TAP	**Taipei**	**0.64**	**342**	*e*P	**Pb**	**04 02 36.8**	**-0.9**
	baz=343						
TAP				S	**Sb**	**04 02 46.1**	**-0.3**
	baz=343						
ESL	**Shilin**	**0.67**	**204**	*e*P	**Pb**	**04 02 36.3**	**-2.0**
	baz=201						
NSTT	**Nanjuang**	**0.69**	**287**	*i* P	**Pb**	**04 02 38.4**	**-0.2**
	baz=286						
NSTT				S	**Sb**	**04 02 47.5**	**-0.4**
	baz=286						
NCU	**National Centr**	**0.72**	**318**	*e*P	**Pn**	**04 02 38.3**	**-0.6**
	baz=318						
NCU				*e*S	**Sn**	**04 02 49.1**	**+0.3**
	baz=318						
HSN	**Hsinchu**	**0.78**	**298**	P	**Pn**	**04 02 39.5**	**-0.2**
	baz=314						
HSN				S	**Sb**	**04 02 50.4**	**-0.1**
	baz=314						
TWY	**Chenhua**	**0.85**	**352**	*e*P	**Pn**	**04 02 39.8**	**-0.7**
	baz=341						
TWY				*e*S	**Sn**	**04 02 52.0**	**+0.2**
	baz=341						
TWQ1	**Liyutan**	**0.87**	**265**	*e*P	**Pb**	**04 02 41.9**	**+0.3**
	baz=264						
TWQ1				*i* S	**Sb**	**04 02 53.7**	**+0.6**
	baz=264						
NSY	**Sanyi**	**0.88**	**269**	P	**Pb**	**04 02 42.1**	**+0.3**
	baz=268						
NSY				*e*S	**Sb**	**04 02 55.0**	**+1.7**
	baz=268						
SMLT	**Sun Moon Lake**	**0.93**	**234**	P	**Pn**	**04 02 42.0**	**+0.1**
	baz=233						
SMLT				*e*S	**Sn**	**04 02 53.3**	**-0.9**
	baz=233						
TYC	**Yuchr**	**0.95**	**237**	*i* P	**Pn**	**04 02 42.2**	**+0.2**
	baz=232						
TYC				S	**Sn**	**04 02 54.6**	**+0.1**
	baz=232						
EHY	**Hungye**	**0.99**	**202**	*e*P	**Pn**	**04 02 40.3**	**-2.3**
	baz=201						
TCU	**Taichung**	**1.00**	**254**	*e*P	**Pb**	**04 02 44.0**	**+0.2**
	baz=253						
WNT	**Mingjian**	**1.10**	**240**	*e*P	**Pn**	**04 02 44.8**	**+0.8**
	baz=239						
WNT				*e*S	**Sb**	**04 03 01.2**	**+1.7**
	baz=239						
TWF1	**Yuli**	**1.15**	**200**	*e*P	**Pn**	**04 02 42.3**	**-2.4**
	baz=200						
YOJ	**Yonaguni jima**	**1.17**	**88**	P	**Pn**	**04 02 45.0**	**0.0**
YOJ				*e*S	**Sb**	**04 03 01.5**	**0.0**
YOJ	**Yonaguni jima**	**1.17**	**88**	*i* P	**Pn**	**04 02 44.8**	**-0.3**
	baz=75						
YOJ				*i* S	**Sb**	**04 03 01.6**	**0.0**
	baz=75						
YUS	**Yu-Shan**	**1.18**	**217**	*e*P	**Pn**	**04 02 45.4**	**-0.2**
	baz=206						
YUS				*e*S	**Sn**	**04 03 01.4**	**+0.7**
	baz=206						
PCYT	**Pengchaiyu**	**1.23**	**15**	*e*P	**Pn**	**04 02 45.4**	**-0.5**
	baz=15						
PCYT				*e*S	**Sn**	**04 03 01.8**	**+0.4**
	baz=15						
ALS	**Alishan**	**1.25**	**223**	*e*P	**Pn**	**04 02 46.8**	**+0.4**
	baz=212						
CHN5	**Tsauling**	**1.27**	**229**	P	**Pn**	**04 02 47.5**	**+1.1**
	baz=229						
CHN5				S	**Sb**	**04 03 05.0**	**+0.6**
	baz=229						
CHKT	**Chengkung**	**1.37**	**194**	*e*P	**Pn**	**04 02 46.8**	**-1.0**
	baz=194						
ELDTW	**Lidau**	**1.40**	**208**	*e*P	**Pn**	**04 02 46.4**	**-1.9**
	baz=196						
CHN2	**Minshiung**	**1.46**	**232**	*e*P	**Pb**	**04 02 51.6**	**+0.2**
	baz=246						
CHY	**Chiayi**	**1.51**	**232**	*e*P	**Pn**	**04 02 51.3**	**+1.6**
	baz=232						
CHY				*e*S	**Sb**	**04 03 11.2**	**0.0**
	baz=232						
WTP	**Ta-pu**	**1.56**	**221**	P	**Pn**	**04 02 52.0**	**+1.5**
	baz=208						
WTP				*e*S	**Sb**	**04 03 12.4**	**-0.2**
	baz=208						
TWK	**Hsinying**	**1.62**	**225**	*e*P	**Pn**	**04 02 52.8**	**+1.5**
	baz=225						
TWK				*e*S	**Sb**	**04 03 13.8**	**-0.7**
	baz=225						
CHN1	**Nanshi**	**1.66**	**222**	*e*P	**Pn**	**04 02 52.8**	**+1.0**
	baz=211						
CHN1				*e*S	**Sb**	**04 03 15.6**	**+0.1**
	baz=211						
SGST	**Jiashian**	**1.71**	**218**	*e*P	**Pn**	**04 02 53.5**	**+1.1**
	baz=219						
TWG	**Pinlang**	**1.71**	**201**	*e*P	**Pn**	**04 02 52.2**	**-0.3**
	baz=189						
IRIF	**Iriomote-Funau**	**1.83**	**93**	P	**Pn**	**04 02 53.5**	**-0.6**
IRIF				*e*S	**Sn**	**04 03 17.1**	**+1.0**
HATJ	**Hateruma jima**	**1.93**	**101**	P	**Pn**	**04 02 55.6**	**+0.1**
SSD	**Sandimen**	**1.96**	**211**	*e*P	**Pn**	**04 02 57.1**	**+1.3**
	baz=212						
ECL	**Taimali**	**1.96**	**201**	*e*P	**Pn**	**04 02 55.8**	**-0.2**
	baz=192						
TWM1	**Shoushan**	**2.00**	**217**	*e*P	**Pb**	**04 02 59.7**	**-1.0**
	baz=217						
JKRS	**Kuro-shima**	**2.09**	**95**	P	**Pn**	**04 02 57.7**	**0.0**
JKRS				*e*S	**Sn**	**04 03 24.1**	**+1.5**
JIJ	**Ishigaki jima**	**2.20**	**91**	P	**Pn**	**04 02 59.1**	**-0.1**
JIJ				*e*S	**Sn**	**04 03 26.2**

SRDR	**Sredinnyy**	**1.94**	**310**	P	Pb	04 35 09.2	-1.3
BKI	**Bering**	**2.07**	**85**	P	Pn	04 35 10.9	+1.5
BKI				S	Sn	04 35 35.0	+0.1
ESO	**Esso**	**2.25**	**293**	P	Pn	04 35 12.8	+0.8
ESO				S	Sn	04 35 39.5	+0.1
SPN	**Mys Shipunski**	**2.43**	**216**	S	Sn	04 35 42.9	-0.8
NLC	**Nalytchevo**	**2.62**	**224**	P	Pn	04 35 18.1	+1.1
NLC				S	Sn	04 35 48.8	+0.4
SDLR	**Sedlovina**	**2.74**	**230**	P	Pn	04 35 20.1	+1.3
SDLR				S	Sn	04 35 52.1	+0.5
KRER	**Koryakskii**	**2.78**	**231**	P	Pn	04 35 21.8	+2.3
KRER				S	Sn	04 35 54.9	+2.0
SMAR	**Somma**	**2.78**	**230**	P	Pn	04 35 21.3	+1.7
SMAR				S	Sn	04 35 53.8	+0.8
KRX	**Arik**	**2.79**	**233**	P	Pn	04 35 21.5	+2.0
KRX				S	Sn	04 35 54.1	+1.1
AVH	**Avacha**	**2.81**	**231**	P	Pn	04 35 22.3	+2.5
AVH				S	Sn	04 35 55.8	+2.4
UGLR	**Uglovaya**	**2.81**	**229**	P	Pn	04 35 22.2	+2.4
UGLR				S	Sn	04 35 55.6	+2.2
KOK	**Koryaka**	**2.84**	**232**	P	Pn	04 35 22.5	+2.3
KOK				S	Sn	04 35 56.1	+2.0
GNL	**Ganaly**	**2.94**	**243**	P	Pn	04 35 23.5	+1.9
GNL				S	Sn	04 35 57.0	+0.3
PET	**Petropavlovsk**	**3.01**	**228**	P	Pn	04 35 24.4	+2.0
PET				S	Sn	04 35 58.7	+0.6
RUS	**Russkaya**	**3.51**	**222**	P	Pn	04 35 31.7	+2.5
RUS				S	Sn	04 36 12.1	+1.7
MTVR	**Mutnovka**	**3.60**	**225**	P	Pn	04 35 33.2	+2.5
MTVR				S	Sn	04 36 14.6	+1.5
APC	**Apacha**	**3.76**	**237**	P	Pn	04 35 35.9	+3.2
APC				S	Sn	04 36 18.9	+2.3
ASAK	**Asacha**	**3.79**	**226**	P	Pn	04 35 35.1	+1.8
ASAK				S	Sn	04 36 17.2	-0.4

IDC 05 04:36:15.9±16.0, 7°94'S×118°94'E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/22, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=282.6km s-min=184.7km az=180.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.11**	**130**	P	P	04 40 40.8	+0.3
	0.1nm,0.3s,baz=306,slow=13,SNR=2.4						
ASAR	**Alice Springs**	**21.23**	**139**	P	P	04 41 03.9	+0.3
	0.6nm,0.5s,baz=316,slow=8.9,SNR=14						
STKA	**Stephens Creek**	**31.81**	**142**	P	P	04 42 42.1	-0.4
	0.8nm,0.4s,baz=324,slow=8.7,SNR=4.4						

RSPR 05 04:48:20.4, 18°60N×68°79W, h121km±1km, MD3.7/15, 14C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.40**	**103**	↑*e*P	Pn	04 48 37.5	-0.4
PCDR	**Punta Cana, DR**	**0.40**	**103**	*e*S	Sn	04 48 51.2	+0.1
DR12	**Loma Pena Alta**	**0.59**	**288**	↑*e*P	Pn	04 48 38.6	-0.6
DR12				*e*S	Sn	04 48 52.8	-0.5
IDE	**Isla Desecheo**	**1.27**	**99**	↑*e*P	Pn	04 48 44.3	-1.0
IDE	**Isla Desecheo**	**1.27**	**99**	*e*S	Sn	04 49 04.0	-0.2
AGPR	**Aguadilla, PR**	**1.60**	**95**	↑*e*P	Pn	04 48 49.2	+0.2
AGPR	**Aguadilla, PR**	**1.60**	**95**	*e*S	Sn	04 49 11.5	+0.6
LSP	**Las Mesas**	**1.67**	**104**	↑*e*P	Pn	04 48 50.5	+0.5
CRPR	**Cabo Rojo, PR**	**1.70**	**110**	↑*e*P	Pn	04 48 49.4	-0.9
CRPR	**Cabo Rojo, PR**	**1.70**	**110**	*e*S	Sn	04 49 11.7	-1.4
LRS	**Lares**	**1.87**	**99**	↓*e*P	Pn	04 48 52.3	-0.1
LRS				*e*S	Sn	04 49 17.5	+0.7
GBPR	**Guanica, Bosqu**	**1.92**	**109**	↑*e*P	Pn	04 48 53.7	+0.8
AOPR	**Arecibo Observ**	**1.95**	**97**	↑*e*P	Pn	04 48 52.6	-0.8
AOPR	**Arecibo Observ**	**1.95**	**97**	*e*S	Sn	04 49 18.2	-0.3
OBIP	**Obispado Ponce**	**2.15**	**105**	↑*e*P	Pn	04 48 55.6	-0.2
OBIP	**Obispado Ponce**	**2.15**	**105**	*e*S	Sn	04 49 22.4	-0.5
CELP	**Cerrillos**	**2.17**	**104**	↑*e*P	Pn	04 48 55.9	-0.2
CELP				*e*S	Sn	04 49 22.1	-1.2
SJG	**San Juan**	**2.56**	**101**	↑*e*P	Pn	04 49 01.0	+0.1
SJG	**San Juan**	**2.56**	**101**	↑*e*P	Pn	04 49 01.1	+0.2
SJG				*e*S	Sn	04 49 30.6	-1.5
CPD	**Cerro la Pandu**	**2.79**	**101**	↓*e*P	Pn	04 49 03.3	-0.7
CPD	**Cerro la Pandu**	**2.79**	**101**	*e*S	Sn	04 49 36.5	-1.1
CBYP	**Canovanas**	**2.81**	**96**	↑*e*P	Pn	04 49 03.8	-0.5
CBYP	**Canovanas**	**2.81**	**96**	*e*S	Sn	04 49 36.0	-2.1
HUMP	**Col San Antoni**	**2.83**	**99**	↓*e*P	Pn	04 49 03.7	-0.8
HUMP	**Col San Antoni**	**2.83**	**99**	*e*S	Sn	04 49 36.8	-1.7
MTP	**Monte Pirata**	**3.12**	**99**	*e*S	Sn	04 49 45.2	0.0
MTP	**Monte Pirata**	**3.12**	**99**	↓*e*P	Pn	04 49 07.5	-0.8
STVI	**Saint Thomas**	**3.65**	**93**	↓*e*P	Pn	04 49 14.2	-1.2
STVI	**Saint Thomas**	**3.65**	**93**	*e*S	Sn	04 49 55.4	-2.4

*IDC **05** 05:14:35.3±0.8,20°.61S×174°.18W,h0km,mb3.9/8, mb1 4.1/8,mb1mx4.0/21,mbtmp3.9/8,Error ellipse: s-maj=37.8km s-min=21.9km az=136.0*
*NEIC **05** 05:14:36.8±0.6,20°.46S×174°.18W,h10km,mb4.4/5,Error ellipse: s-maj=24.6km s-min=10.3km az=134.0*
*ISCJB **05** 05:14:37.8±0.8,20°.3S±0°.1×174°.3W±0°.2,h27km,mb4.0/11, Error ellipse: s-maj=27.9km s-min=9.9km az=37.5*
ISC 05 05:14:39.5±0.8, 20°.4S±0°.1×174°.2W±0°.2, h27km, n33, σ1°01/32, mb4.1/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.87**	**20**	*e*Pn	**Pn**	**05 16 16.5**	**-2.0**
	88nm,0.4s						
AFI				*e*Sn	**Sn**	**05 17 35.6**	**-0.2**
AFI	**Afiamalu**	**6.87**	**20**	Pn	**Pn**	**05 16 16.5**	**-2.0**
	30nm,0.3s,baz=202,slow=19,SNR=23						
AFI				Sn	Sn	05 17 27.4	-8.4
	baz=128,slow=19,SNR=1.7						
RAR	**Rarotonga**	**13.50**	**96**	*e*Pn	Pn	05 17 37.5	-12
RAR				*e*Sn	Sn	05 19 49.5	-29
RAR	**Rarotonga**	**13.50**	**96**	Pn	Pn	05 17 37.5	-12
	5.5nm,0.3s,baz=270,slow=7.0,SNR=16						
RAR				Sn	Sn	05 19 50.0	-28
	2.1nm,0.3s,baz=270,slow=14,SNR=5.4						
STKA	**Stephens Creek**	**41.05**	**245**	*e*P	**P**	**05 22 19.8**	**-1.0**
	1.7nm,1.4s						
STKA	**Stephens Creek**	**41.05**	**245**	P	**P**	**05 22 19.6**	**-1.2**
	0.6nm,0.4s,baz=82,slow=14,SNR=4.6						
ASAR	**Alice Springs**	**48.02**	**256**	P	**P**	**05 23 15.5**	**-1.1**
ASAR	**Alice Springs**	**48.02**	**256**	P	**P**	**05 23 15.5**	**-1.1**
	0.4nm,0.5s,baz=97,slow=7.8,SNR=7.4						
WRAB	**Tennant Creek**	**48.15**	**261**	*e*P	**P**	**05 23 17.5**	**-0.1**
	5.9nm,1.2s						
WRA	**Warramunga Arr**	**48.16**	**261**	P	**P**	**05 23 17.2**	**-0.5**
WRA	**Warramunga Arr**	**48.16**	**261**	P	**P**	**05 23 17.2**	**-0.5**
	0.2nm,0.4s,baz=97,slow=7.0,SNR=2.9						
FORT	**Forrest**	**52.61**	**246**	*e*P	**P**	**05 23 51.3**	**0.0**
	11nm,1.0s						
FITZ	**Fitzroy Crossi**	**56.59**	**261**	*e*P	**P**	**05 24 20.4**	**+0.2**
	4.4nm,1.3s						
QSPA	**South Pole Qui**	**69.66**	**180**	*e*P	**P**	**05 25 45.7**	**-0.7**
	3.4nm,1.1s						
QSPA	**South Pole Qui**	**69.66**	**180**	P	**P**	**05 25 45.9**	**-0.5**
	1.5nm,0.9s,baz=64,slow=1.5,SNR=7.0						
PETK	**Petropavlovsk-**	**77.17**	**343**	P	**P**	**05 26 32.8**	**+2.3**
PETK	**Petropavlovsk-**	**77.17**	**343**	P	**P**	**05 26 32.8**	**+2.3**
	2.4nm,0.7s,baz=128,slow=8.1,SNR=8.7						
NVAR	**Mina Array Bea**	**78.55**	**42**	P	**P**	**05 26 39.5**	**+0.8**
NVAR	**Mina Array Bea**	**78.55**	**42**	P	**P**	**05 26 39.5**	**+0.8**
	1.5nm,0.7s,baz=224,slow=8.8,SNR=11						
PDAR	**Pinedale Array**	**86.48**	**42**	P	**P**	**05 27 19.9**	**-0.2**
PDAR	**Pinedale Array**	**86.48**	**42**	P	**P**	**05 27 19.9**	**-0.2**
	0.5nm,0.9s,baz=212,slow=4.9,SNR=3.8						
ILAR	**Eielson Array**	**87.48**	**11**	P	**P**	**05 27 25.0**	**+0.9**
ILAR	**Eielson Array**	**87.48**	**11**	P	**P**	**05 27 25.0**	**+0.9**
	0.6nm,0.8s,baz=215,slow=5.8,SNR=7.4						
MKAR	**Makanchi Array**	**113.75**	**313**	PKiKP	**PKiKP**	**05 33 15.9**	**+0.3**
MKAR	**Makanchi Array**	**113.75**	**313**	PKiKP	**PKiKP**	**05 33 15.9**	**+0.3**
	0.2nm,0.6s,baz=270,slow=0.1,SNR=2.9						
AKASG	**Malin Array Be**	**144.59**	**334**	PKP	**PKPdf**	**05 34 13.2**	**-0.2**
AKASG	**Malin Array Be**	**144.59**	**334**	PKP	**PKPdf**	**05 34 13.2**	**-0.2**
	0.3nm,0.4s,baz=36,slow=3.8,SNR=11						
BRTR	**Keskin Array B**	**149.37**	**315**	PKPbc	**PKPbc**	**05 34 26.0**	**-0.4**
BRTR	**Keskin Array B**	**149.37**	**315**	PKPbc	**PKPbc**	**05 34 26.0**	**-0.4**
	0.4nm,0.5s,baz=114,slow=3.1,SNR=3.9						
MMAI	**Mount Meron Ar**	**150.85**	**302**	PKPbc	**PKPbc**	**05 34 30.5**	**+0.5**
MMAI	**Mount Meron Ar**	**150.85**	**302**	PKPbc	**PKPbc**	**05 34 30.5**	**+0.5**
	2.7nm,0.7s,baz=119,slow=1.8,SNR=2.5						
GERES	**GERESS Array B**	**150.94**	**349**	PKPbc	**PKPbc**	**05 34 30.6**	**+0.8**
GERES	**GERESS Array B**	**150.94**	**349**	PKPbc	**PKPbc**	**05 34 30.6**	**+0.8**
	0.2nm,0.3s,baz=77,slow=2.1,SNR=3.3						

MEX 05 05:14:42.7±0.6, 16°81N×100°27W, h8km±2km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.24**	**359**	*i* P	Pg	05 14 47.3	-0.2
CAIG				*i* S	Sg	05 14 50.5	-0.1
ACP2	**Acapulco**	**0.37**	**80**	*e*P	Pg	05 14 49.3	-0.6
ACP2				*e*S	Sg	05 14 54.7	-0.1
ACX	**Acapulco**	**0.39**	**81**	*e*P	Pg	05 14 48.7	-1.7
ACX				*e*S	Sg	05 14 54.4	-1.3
MEIG	**Mezcala**	**1.27**	**29**	*i* P	Pn	05 15 03.1	-3.8
MEIG				*i* S	Sb	05 15 18.4	-5.2
ARIG	**Puente Sto Nin**	**1.46**	**357**	*e*P	Pn	05 15 06.0	-3.5
ARIG				*i* S	Sn	05 15 23.9	-5.0
PLIG	**Platanillo**	**1.73**	**25**	*e*P	Pn	05 15 10.0	-3.3
PLIG				*e*S	Sn	05 15 31.1	-4.5
TLIG	**Tlapa**	**1.79**	**65**	*e*P	Pn	05 15 10.6	-3.5
TLIG				*i* S	Sn	05 15 32.7	-4.4
PNIG	**Pinotepa**	**2.09**	**101**	*e*P	Pn	05 15 15.0	-3.1
PNIG				*i* S	Sn	05 15 39.8	-4.6
UTMO	**Huajuapan**	**2.56**	**66**	*e*P	Pn	05 15 21.9	-3.0
UTMO				*e*S	Sn	05 15 52.4	-4.0
TPIG	**Tehuac#an**	**3.20**	**60**	*i* P	Pn	05 15 30.1	-3.4
TPIG				*e*S	Sn	05 16 08.3	-3.8

*IDC **05** 05:27:01.8±1.8, 16°.16S×173°.42W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/20, mbtmp3.8/6, MS3.7/7, Ms1 3.6/7, ms1mx3.3/33, Error ellipse: s-maj=114.9km s-min=22.2km az=145.0*
ISC 05 05:27:06.3±1.8, 15°.7S±0°.5×173°.5W±0°.5, h29km, n23, σ2s16/10, mb3.9/6, MS3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.39**	**43**	Pn	Pn	05 27 41.1	-2.5
	13nm,0.3s,baz=213,slow=23,SNR=14						
AFI				Sn	**Sn**	**05 28 08.3**	**-3.7**
	28nm,0.3s,baz=147,slow=18,SNR=13						
AFI				LR	LR	05 28 23.4	
	comp=Z,528nm,20.9s,baz=114,slow=30						
DZM	**Mont Dzumac**	**20.04**	**248**	*e*LR	LR	05 36 47.1	
	252nm,26.2s						
PPT2	**Papeete2**	**22.97**	**98**	*e*LR	LR	05 37 22.4	
	160nm,27.8s						
TBI	**Tubuai**	**23.87**	**112**	*e*LR	LR	05 37 38.8	
	166nm,30.0s						
HNR	**Honiara**	**26.66**	**280**	LR	LR	05 40 35.2	
	comp=Z,52nm,19.4s,baz=132,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.15**	**329**	T	T	06 16 31.0	
	baz=153,slow=77,SNR=28						
H11S3	**WAKE ISLAND Hy**	**39.16**	**329**	T	T	06 16 34.0	
	baz=153,slow=77,SNR=29						
H11S1	**WAKE ISLAND Hy**	**39.17**	**329**	T	T	06 16 33.9	
	baz=153,slow=77,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.10**	**331**	T	T	06 17 44.4	
	baz=153,slow=77,SNR=26						
H11N1	**WAKE ISLAND Hy**	**40.11**	**331**	T	T	06 17 44.8	
	baz=153,slow=77,SNR=26						
H11N2	**WAKE ISLAND Hy**	**40.12**	**331**	T	T	06 17 45.7	
	baz=153,slow=77,SNR=25						
STKA	**Stephens Creek**	**43.85**	**240**	P	**P**	**05 35 08.6**	**-1.5**
	1.3nm,0.7s,baz=75,slow=12,SNR=2.7						
STKA				LR	LR	05 50 03.4	
	comp=Z,65nm,20.0s,baz=24,slow=32						
WRA	**Warramunga Arr**	**49.72**	**257**	P	**P**	**05 35 55.4**	**-0.9**
	0.5nm,0.3s,baz=96,slow=6.5,SNR=7.0						
ASAR	**Alice Springs**	**49.96**	**252**	P	**P**	**05 35 56.8**	**-1.4**
	2.8nm,0.8s,baz=86,slow=8.4,SNR=27						
ASAR				LR	LR	05 54 58.7	
	comp=Z,73nm,18.1s,baz=169,slow=34						
PFO	**Pinyon Flat Ob**	**73.15**	**47**	LR	LR	06 03 57.4	
	comp=Z,83nm,18.1s,baz=306,slow=30						
YBH	**Yreka Blue Hor**	**73.85**	**37**	LR	LR	06 03 05.6	
	comp=Z,115nm,20.0s,baz=201,slow=29						
NVAR	**Mina Array Bea**	**74.57**	**42**	P	**P**	**05 38 45.0**	**+2.1**
	0.5nm,0.8s,baz=254,slow=6.5,SNR=3.7						
TXAR	**Lajitas Array**	**80.81**	**56**	LR	LR	06 08 39.1	
	comp=Z,49nm,20.7s,baz=170,slow=31						
PDAR	**Pinedale Array**	**82.51**	**42**	P	**P**	**05 39 28.1**	**+1.5**
	0.4nm,0.8s,baz=238,slow=5.0,SNR=3.0						
ILAR	**Eielson Array**	**82.72**	**11**	P	**P**	**05 39 28.8**	**+2.0**
	1.2nm,1.1s,baz=228,slow=6.5,SNR=5.4						
KMBO	**Kilima Mbogo**	**145.36**	**244**	PKPbc	**PKPbc**	**05 46 41.5**	**-1.1**
	1.3nm,0.8s,baz=48,slow=6.3,SNR=4.7						
BRTR	**Keskin Array B**	**146.32**	**321**	PKPbc	**PKPab**	**05 46 46.2**	**+0.7**
	5.0nm,1.1s,baz=89,slow=1.9,SNR=17						
GERES	**GERESS Array B**	**146.39**	**351**	PKPbc	**PKPab**	**05 46 46.7**	**+1.3**
	0.7nm,0.8s,baz=27,slow=3.3,SNR=5.5						

*NEIC **05** 05:30:11.8±0.6, 32°.41N×97°.00W, h5km, MN2.9, Error ellipse: s-maj=8.9km s-min=7.3km az=120.0*
NEIC Felt [III] at Venus and [II] at Maypearl and Midlothian. Also felt at Alvarado, Arlington, DeSoto, Grandview, Plano and Waxahachie.
ISC 05 05:30:11.7±1.2, 32°.40N±0°.02×97°.04W±0°.03, h2km±10km, n91, σ0s89/123, 48C-40D, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
135A	**Vickery Place,**	**0.35**	**297**	↑P	**Pg**	**05 30 18.7**	**+0.4**
	baz=20,SNR=74						
135A				↓S	**Sg**	**05 30 22.6**	**-0.2**
	baz=20						
135A	**Vickery Place,**	**0.35**	**297**	↑P	**Pg**	**05 30 18.7**	**+0.4**
	baz=0.4,SNR=74						
135A				↓S	**Sg**	**05 30 22.6**	**-0.2**
	baz=0.4						
WHTX	**Lake Whitney**	**0.54**	**221**	*e*Pg	**Pg**	**05 30 21.7**	**-0.2**
WHTX				*e*Sg	**Sg**	**05 30 25.4**	**-3.5**
WHTX	**Lake Whitney**	**0.54**	**221**	P	**Pg**	**05 30 21.8**	**-0.2**
	baz=20,SNR=20						
WHTX				↑S	**Sg**	**05 30 28.5**	**-0.4**
	baz=20						
WHTX	**Lake Whitney**	**0.54**	**221**	P	**Pg**	**05 30 21.8**	**-0.2**
	baz=0.6,SNR=20						
WHTX				↑S	**Sg**	**05 30 28.5**	**-0.4**
	baz=0.6						
134A	**White-Moore Ra**	**0.89**	**281**	P	**Pg**	**05 30 28.5**	**-0.2**
	baz=19,SNR=54						
134A				↓S	**Sg**	**05 30 40.3**	**-0.1**
	baz=19						
134A	**White-Moore Ra**	**0.89**	**281**	P	**Pg**	**05 30 28.5**	**-0.2**
	baz=0.9,SNR=54						
134A				↓S	**Sg**	**05 30 40.3**	**-0.1**
	baz=0.9						
Z35A	**Perchaven, San**	**0.94**	**349**	↑P	**Pb**	**05 30 30.8**	**0.0**
	baz=20						
Z35A				↑S	**Sb**	**05 30 43.3**	**-0.4**
	baz=20						
Z35A	**Perchaven, San**	**0.94**	**349**	↑P	**Pb**	**05 30 30.8**	**0.0**
	baz=0.9						
Z35A				↑S	**Sb**	**05 30 43.3**	**-0.4**
	baz=0.9						
335A	**Moody**	**1.16**	**196**	↓P	**Pg**	**05 30 33.9**	**-0.1**
	baz=20,SNR=36						
335A				↑S	**Sg**	**05 30 50.2**	**+1.1**
	baz=20						
335A	**Moody**	**1.16**	**196**	↓P	**Pg**	**05 30 33.9**	**-0.1**
	baz=1.2,SNR=36						
335A				↑S	**Sg**	**05 30 50.2**	**+1.1**
	baz=1.2						
Z34A	**Collier Ranch,**	**1.21**	**323**	↑P	**Pn**	**05 30 36.0**	**+0.3**
	baz=19,SNR=14						
Z34A	**Collier Ranch,**	**1.21**	**323**	↑P	**Pn**	**05 30 36.0**	**+0.3**
	baz=1.2,SNR=14						
Z34A				↓S	**Sg**	**05 30 51.3**	**+0.7**
	baz=1.2						
334A	**Lometa**	**1.47**	**224**	↑P	**Pn**	**05 30 38.3**	**-1.0**
	baz=19						
334A	**Lometa**	**1.47**	**224**	↑P	**Pn**	**05 30 38.3**	**-1.0**
	baz=1.5						
334A				↑S	**Sn**	**05 30 57.9**	**-1.3**
	baz=1.5						
133A	**Hamilton Ranch**	**1.59**	**278**	↑P	**Pn**	**05 30 41.1**	**+0.1**
	baz=18,SNR=11						
133A	**Hamilton Ranch**	**1.59**	**278**	↑P	**Pn**	**05 30 41.1**	**+0.1**
	baz=1.6,SNR=11						
133A				↓S	**Sn**	**05 31 02.3**	**+0.1**
	baz=1.6						
Y34A	**Reagan Ranch,**	**1.66**	**339**	↓P	**Pb**	**05 30 42.5**	**-0.5**
	baz=19,SNR=29						
Y34A	**Reagan Ranch,**	**1.66**	**339**	↓P	**Pb**	**05 30 42.5**	**-0.5**
	baz=1.7,SNR=29						
Y34A				↑S	**Sg**	**05 31 05.3**	**+0.2**
	baz=1.7						
Z33A	**Whitaker Ranch**	**1.70**	**302**	↑Pb	**Pb**	**05 30 43.5**	**-0.1**
	baz=18,SNR=70						
Z33A	**Whitaker Ranch**	**1.70**	**302**	↑Pb	**Pb**	**05 30 43.5**	**-0.1**
	baz=1.7,SNR=70						
Z33A				↑S	**Sb**	**05 31 06.0**	**+0.6**
	baz=1.7						
434A	**Burnet**	**1.90**	**214**	P	**Pn**	**05 30 44.8**	**-0.3**
	baz=20,SNR=59						
434A	**Burnet**	**1.90**	**214**	P	**Pn**	**05 30 44.8**	**-0.3**
	baz=1.9,SNR=59						
434A				↑S	**Sn**	**05 31 10.0**	**+0.3**
	baz=1.9						
333A	**Richland Sprin**	**1.97**	**237**	↓P	**Pn**	**05 30 45.9**	**-0.2**
	baz=19,SNR=31						
333A	**Richland Sprin**	**1.97**	**237**	↓P	**Pn**	**05 30 45.9**	**-0.2**
	baz=2.0,SNR=31						
333A				↑S	**Sn**	**05 31 11.7**	**+0.3**
	baz=2.0						
Y33A	**Hilltop Ranch,**	**2.08**	**321**	↑Sb	**Sb**	**05 31 17.9**	**+1.4**
	baz=2.1						
ABTX	**Abilene, Hawle**	**2.21**	**276**	*e*Pn	**Pn**	**05 30 49.7**	**+0.3**
ABTX				*e*Sg	**Sb**	**05 31 20.5**	**+0.4**
ABTX	**Abilene, Hawle**	**2.21**	**276**	↓Pb	**Pb**	**05 30 52.0**	**-0.3**
	baz=2.2,SNR=28						
ABTX				↓Sb	**Sb**	**05 31 20.8**	**+0.6**
	baz=2.2						
Z32A	**Haskell**	**2.24**	**294**	↑Sb	**Sb**	**05 31 22.0**	**+1.0**
	baz=2.3						
232A	**Coleman**	**2.27**	**258**	P	**Pn**	**05 30 50.0**	**-0.2**
	baz=2.3,SNR=24						
232A				↓Sb	**Sb**	**05 31 22.0**	**+0.1**
	baz=2.3						
X34A	**Smith Ranch, M**	**2.29**	**343**	↓P	**Pb**	**05 30 52.5**	**-1.3**
	baz=2.3,SNR=14						
X34A				↓Sb	**Sb**	**05 31 23.5**	**+1.0**
	baz=2.3						
433A	**Art**	**2.40**	**227**	↑P	**Pn**	**05 30 52.2**	**+0.2**
	baz=2.4,SNR=14						
433A				↓S	**Sn**	**05 31 22.6**	**+0.6**
	baz=2.4						
X33A	**Lawton**	**2.46**	**331**	↑Sb	**Sg**	**05 31 29.3**	**-1.3**
	baz=2.5						
332A	**Millersview**	**2.51**	**247**	↓P	**Pn**	**05 30 53.3**	**-0.3**
	baz=2.5,SNR=21						
332A				↑Sb	**Sb**	**05 31 29.1**	**+0.3**
	baz=2.5						
Y32A	**R-V Farms, Ver**	**2.57**	**309**	↓P	**Pn**	**05 30 55.4**	**+1.1**
	baz=2.6						
HKT	**Hockley**	**2.66**	**157**	*e*Pn	**Pn**	**05 30 56.0**	**+0.6**
534A	**Blanco**	**2.67**	**208**	↑P	**Pn**	**05 30 55.1**	**-0.6**
	baz=20						
534A	**Blanco**	**2.67**	**208**	↑P	**Pn**	**05 30 55.1**	**-0.6**
	baz=2.7						
WMOK	**Wichita Mounta**	**2.74**	**329**	*e*Pn	**Pn**	**05 30 57.5**	**+0.7**
WMOK				*e*Sg	**Sb**	**05 31 36.1**	**+0.5**
Z31A	**Sharp Cattle R**	**2.76**	**290**	↓P	**Pn**	**05 30 58.1**	**+1.0**
	baz=2.8						
432A	**Menard**	**2.80**	**238**	↑P	**Pn**	**05 30 57.7**	**+0.2**
	baz=2.8,SNR=8.5						
231A	**Bronte**	**2.81**	**261**	P	**Pn**	**05 30 57.7**	**0.0**
	baz=2.8,SNR=14						
533A	**Kerrville**	**2.88**	**217**	↓P	**Pn**	**05 30 58.7**	**0.0**
	baz=2.9						
JCT	**Junction City**	**3.04**	**232**	*e*Pn	**Pn**	**05 31 01.6**	**+0.7**
JCT				*e*Pg	**Pb**	**05 31 08.9**	**+2.4**
JCT				*e*Sg	**Sb**	**05 31 44.1**	**0.0**
JCT	**Junction City**	**3.04**	**232**	↓P	**Pn**	**05 31 00.9**	**0.0**
	baz=3.1						
331A	**San Angelo**	**3.08**	**250**	P	**Pn**	**05 31 00.9**	**-0.4**
	baz=3.1,SNR=6.8						
X31A	**McDonald Ranch**	**3.31**	**313**	↑P	**Pn**	**05 31 06.1**	**+1.5**
	baz=17						
X31A	**McDonald Ranch**	**3.31**	**313**	↑P	**Pn**	**05 31 06.1**	**+1.5**
	baz=3.3						
130A	**Snyder**	**3.32**	**274**	↓P	**Pn**	**05 31 04.7**	**0.0**
	baz=17						
130A	**Snyder**	**3.32**	**274**	↓P	**Pn**	**05 31 04.7**	**0.0**
	baz=3.3						
532A	**Rocksprings**	**3.34**	**228**	↑P	**Pn**	**05 31 05.2**	**+0.2**
	baz=3.4						
230A	**Sterling City**	**3.49**	**263**	↓P	**Pn**	**05 31 06.9**	**-0.1**
	baz=17						
230A	**Sterling City**	**3.49**	**263**	↓P	**Pn**	**05 31 06.9**	**-0.1**
	baz=3.5						
431A	**Sonora**	**3.49**	**242**	↓P	**Pn**	**05 31 07.3**	**+0.2**
	baz=3.5,SNR=15					

*IDC **05** 05:31:25.8±5.6, 37.67N×72.35E, h114km±40km, mb3.5/4, mb1 3.5/9, mb1mx3.2/32, mbtmp3.4/9, Error ellipse: s-maj=52.0km s-min=34.0km az=148.0*

*ISCJB **05** 05:31:26.4±1.1, 37.84N±0.09×72.1E±0.1, h113km, mb3.7/4, Error ellipse: s-maj=14.7km s-min=9.6km az=138.2*

*NNC **05** 05:31:33.0±6.2, 38.21N×72.02E, h154km±92km, mb3.0, mpv4.0, Error ellipse: s-maj=59.1km s-min=28.1km az=8.0*

ISC 05 05:31:26.7±1.5, 37.8N±0.1×72.1E±0.1, h113km, n23, σ1§14/25, mb3.8/4, 3C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=83	**4.52**	**15**	P			**Pn**	**05 32 34.1**	**+0.7**
UCH	**Uchtor** SNR=12	**4.81**	**21**	P			**Pn**	**05 32 38.1**	**+0.7**
KZA	**Kyzart** SNR=16	**4.92**	**28**	P			**Pn**	**05 32 39.1**	**+0.2**
EKS2	**Erkin-Say** SNR=63	**5.05**	**14**	P			**Pn**	**05 32 41.5**	**+1.2**
AAK	**Ala-Archa** SNR=31	**5.18**	**20**	P			**Pn**	**05 32 43.4**	**+1.2**
AAK	**Ala-Archa** 9.9nm,0.3s,baz=158,slow=5.0,SNR=110	**5.18**	**20**	P			**Pn**	**05 32 43.1**	**+1.0**
AAK	3.3nm,0.3s,baz=316,slow=22,SNR=16			S			**Sn**	**05 33 40.4**	**-0.4**
KBK	**Karagaybulak** SNR=5.4	**5.33**	**23**	P			**Pn**	**05 32 46.7**	**+2.5**
ULHL	**Ulahol** SNR=8.6	**5.47**	**34**	P			**Pn**	**05 32 46.9**	**+0.8**
KK31	**Karatay Array** 9.3nm,0.3s,baz=164,slow=12,SNR=238	**5.47**	**347**	⇓P			**Pn**	**05 32 47.1**	**+1.2**
KK31	7.7nm,0.3s,baz=167,slow=23,SNR=19			⇓S			**Sn**	**05 33 45.3**	**-2.4**
CHMS	**Chumysh** SNR=12	**5.59**	**20**	P			**Pn**	**05 32 48.4**	**+0.8**
USP	**Ospenovka** SNR=12	**5.78**	**17**	P			**Pn**	**05 32 50.5**	**+0.4**
TKM2	**Tokmak 2** 7.3nm,0.6s	**5.79**	**26**	⇓P			**Pn**	**05 32 50.9**	**+0.6**
TKM2	3.5nm,0.6s			⇓S			**Sn**	**05 33 55.3**	**-0.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=230,slow=18,SNR=6.1	**11.73**	**37**	P			**Pn**	**05 34 09.5**	**-0.9**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=205,slow=12,SNR=4.5	**13.64**	**17**	P			Pn	05 34 31.8	-3.4
AB31	**Akbulak array** 0.3nm,0.3s,baz=136,slow=13,SNR=12	**14.47**	**326**	⇑P			**Pn**	**05 34 45.5**	**-0.6**
AB31	0.7nm,0.5s,baz=132,slow=24,SNR=5.6			⇓S			Sn	05 37 15.1	-11
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=169,slow=12,SNR=5.7	**15.31**	**356**	P			**Pn**	**05 34 56.5**	**0.0**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=129,slow=13,SNR=4.2	**16.19**	**326**	P			**P**	**05 35 09.4**	**+0.9**
AKTO	**Aktyubinsk** 0.8nm,0.5s	**16.19**	**326**	⇑P			**P**	**05 35 10.4**	**+1.9**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=211,slow=11,SNR=6.4	**18.39**	**24**	P			**P**	**05 35 31.8**	**-0.9**
FINES	**FINESS Array B** 1.9nm,0.8s,baz=323,slow=3.5,SNR=3.7	**36.96**	**325**	P			**P**	**05 38 25.3**	**+0.8**
ARCES	**ARCESS Array B** 4.1nm,1.0s,baz=107,slow=8.2,SNR=5.1	**40.33**	**337**	P			**P**	**05 38 53.2**	**+0.5**
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=67,slow=5.9,SNR=3.2	**66.66**	**269**	P			**P**	**05 42 04.6**	**-1.0**
YKA	**Yellowknife Ar** 0.8nm,0.8s,baz=348,slow=5.8,SNR=3.0	**79.94**	**3**	P			**P**	**05 43 22.4**	**-0.4**

*IDC **05** 05:34:47.5±2.0, 6.68N×125.46E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/26, mbtmp3.5/5, Error ellipse: s-maj=150.2km s-min=20.5km az=68.0*

*MAN **05** 05:34:50, 6.42N×124.66E, h14km, mb4.6, ML3.5, MS3.4*

*ISCJB **05** 05:34:51.3±0.5, 6.43N±0.04×124.65E±0.07, h36km, mb3.4/5, Error ellipse: s-maj=10.5km s-min=5.2km az=3.9*

*DJA **05** 05:35:36.0±4.1, 3.1N±14.4×12.3E±.5, h19km±55km, M4.1/5, MLv4.1/5*

ISC 05 05:34:53.3±0.9, 6.53N±0.04×124.70E±0.07, h36km, n14, σ1§76/17, mb3.7/5, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.50**	**151**	⇓P			**Pn**	**05 35 02.4**	**-1.7**
GSPH				*i*	S		**Sn**	**05 35 14.3**	**+2.7**
KCP	**Kidapawan**	**0.61**	**39**	⇓*e*P			**Pn**	**05 35 03.7**	**-2.0**
KCP				*i*	S		**Sn**	**05 35 14.2**	**-0.1**
CTBH	**Cotabato--PC H**	**0.82**	**327**	⇓*i*P			**Pn**	**05 35 06.7**	**-1.7**
CTBH				*i*	S		**Sn**	**05 35 18.2**	**-1.1**
CGP	**Cagayan de Oro**	**1.92**	**360**	*e*P			**Pn**	**05 35 23.9**	**+0.5**
CGP				*e*S			**Sn**	**05 35 49.1**	**+2.8**
SGSI	**Sangihe**	**2.94**	**164**	P			**Sn**	**05 36 11.9**	**+0.3**
GTOI	**Gorontalo**	**6.09**	**196**	P			Pn	05 36 16.9	-3.9
MRSI	**Marisa**	**6.61**	**205**	P			**Pn**	**05 36 25.3**	**-2.7**
MRSI				S			Sn	05 37 04.3	-38
TOLI	**Toli-Toli**	**6.63**	**216**	P			**Pn**	**05 36 27.9**	**-0.4**
LUWI	**Luwuk**	**7.76**	**194**	P			**Pn**	**05 36 43.9**	**+0.1**
FITZ	**Fitzroy Crossi** 1.8nm,0.8s,baz=349,slow=10,SNR=2.8	**24.49**	**178**	P			**P**	**05 40 09.5**	**+0.3**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=343,slow=10,SNR=2.9	**27.96**	**160**	P			**P**	**05 40 39.9**	**-0.8**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=347,slow=7.6,SNR=2.7	**31.33**	**164**	P			**P**	**05 41 08.9**	**-1.5**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=118,slow=8.2,SNR=5.2	**54.12**	**325**	P			**P**	**05 44 16.8**	**+2.1**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=128,slow=5.7,SNR=4.7	**58.31**	**327**	P			**P**	**05 44 45.9**	**+1.4**

*CSEM **05** 05:40:23.4, 37.94N×27.08E, h5km, ML3.5, After DDA*

DDA 05 05:40:23.4, 37.94N×27.08E, h5km, ML3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.27**	**153**	*i*	P		Pg	05 40 28.6	0.0
GCAM				*i*	S		Sg	05 40 32.4	+0.3
GCAM	**G?zelcaml?**	**0.27**	**153**	*i*	P		Pg	05 40 28.6	0.0
GCAM				*i*	S		Sg	05 40 32.4	+0.3
URLA	**Izmir**	**0.57**	**318**	*e*	P		Pg	05 40 35.0	+0.7
URLA				*i*	S		Sb	05 40 43.3	-1.0
URLA	**Izmir**	**0.57**	**318**	*e*	P		Pg	05 40 35.0	+0.7
URLA				*i*	S		Sb	05 40 43.3	-1.0
AYDN	**Tasoluk**	**0.69**	**113**	*i*	P		Pb	05 40 38.0	-0.1
AYDN				*i*	S		Sg	05 40 46.1	+0.3
AYDN	**Tasoluk**	**0.69**	**113**	*i*	P		Pb	05 40 38.0	-0.1
AYDN				*i*	S		Sg	05 40 46.1	+0.2
BDRM	**Kayabasi**	**0.92**	**161**	*i*	P		Pg	05 40 41.2	+0.1
BDRM				*i*	S		Sb	05 40 54.5	0.0
BDRM	**Kayabasi**	**0.92**	**161**	*i*	P		Pg	05 40 41.2	+0.1
BDRM				*i*	S		Sb	05 40 54.5	0.0
AKHS	**Akhisar**	**1.10**	**31**	*i*	P		Pb	05 40 45.1	+0.2
AKHS				*i*	S		Sb	05 41 00.3	+0.6
AKHS	**Akhisar**	**1.10**	**31**	*i*	P		Pb	05 40 45.1	+0.1
AKHS				*i*	S		Sb	05 41 00.3	+0.6
MANT	**Manisa**	**1.29**	**64**	*i*	P		Pn	05 40 48.3	-0.1
MANT				*i*	S		Sg	05 41 03.8	-1.6
MANT	**Manisa**	**1.29**	**64**	*i*	P		Pn	05 40 48.3	-0.1
MANT				*i*	S		Sg	05 41 03.8	-1.6
BALY	**Balya**	**1.85**	**13**	*i*	P		Pb	05 40 57.3	-0.4
BALY				*i*	S		Sg	05 41 23.2	+0.3
BALY	**Balya**	**1.85**	**13**	*i*	P		Pb	05 40 57.3	-0.4
BALY				*i*	S		Sg	05 41 23.2	+0.3
DURS	**Dursunbey**	**1.98**	**33**	*e*	P		Pb	05 40 59.7	-0.5
DURS				*i*	S		Sg	05 41 27.3	-0.1
DURS	**Dursunbey**	**1.98**	**33**	*e*	P		Pb	05 40 59.7	-0.4
DURS				*i*	S		Sg	05 41 27.3	-0.1

*IDC **05** 05:43:31.7±7.5, 20.55S×178.12W, h504km±82km, mb3.2/8, mb1 3.4/8, mb1mx3.2/20, mbtmp3.2/8, Error ellipse: s-maj=83.3km s-min=32.9km az=151.0*

*ISCJB **05** 05:43:33.4±1.6, 20.65S±0.4×178.2W±0.3, h534km, mb3.6/8, Error ellipse: s-maj=70.6km s-min=17.9km az=145.8*

ISC 05 05:43:34.0±1.9, 20.7S±0.5×178.1W±0.3, h534km, n13, σ0§73/13, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 1.7nm,0.3s,baz=66,slow=16,SNR=2.7	**9.04**	**43**	S			S	05 47 13.0	-14
CTA	**Charters Tower** 2.1nm,0.4s,baz=91,slow=8.7,SNR=3.9	**33.37**	**265**	P			**P**	**05 49 28.2**	**0.0**
STKA	**Stephens Creek** 2.0nm,0.4s,baz=88,slow=8.4,SNR=10.0	**37.62**	**244**	P			**P**	**05 50 03.6**	**+0.1**
STKA	**Stephens Creek** baz=33,SNR=7.1	**37.62**	**244**	P			**P**	**05 50 03.8**	**+0.3**
HTT	**Hallett** baz=36,SNR=3.8	**40.05**	**242**	P			**P**	**05 50 23.1**	**0.0**
BBOO	**Buckleboo** baz=38,SNR=16	**42.38**	**244**	P			**P**	**05 50 41.1**	**-0.4**
ASAR	**Alice Springs** 3.2nm,0.5s,baz=95,slow=7.8,SNR=58	**44.38**	**257**	P			**P**	**05 50 57.2**	**-0.1**
ASAR	0.5nm,0.9s,baz=102,slow=4.1,SNR=3.5			PcP			**PcP**	**05 52 29.7**	**0.0**
WRA	**Warramunga Arr** 1.2nm,0.3s,baz=98,slow=7.1,SNR=12	**44.47**	**262**	P			**P**	**05 50 57.3**	**-0.8**
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=101,slow=5.1,SNR=6.1	**52.90**	**263**	P			**P**	**05 52 00.5**	**0.0**
NVAR	**Mina Array Bea** 0.2nm,0.5s,baz=253,slow=4.6,SNR=3.3	**81.22**	**43**	P			**P**	**05 54 55.1**	**+0.6**
ILAR	**Eielson Array** 0.5nm,1.1s,baz=204,slow=5.9,SNR=3.6	**88.50**	**13**	P			**P**	**05 55 28.0**	**-1.1**
CMAR	**Chiang Mai Arr** 0.6nm,0.5s,baz=130,slow=3.6,SNR=3.0	**90.07**	**290**	P			**P**	**05 55 39.0**	**+1.6**
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=139,slow=4.5,SNR=2.8	**146.88**	**312**	PKPbc			**PKPbc**	**06 02 16.2**	**-0.6**

*ISCJB **05** 06:03:35.2±0.9, 51.5S±0.1×139.2E±0.3, h14km, mb4.4/8, MS4.3/16, Error ellipse: s-maj=25.7km s-min=15.1km az=158.0*

*IDC **05** 06:03:35.1±0.8, 51.45S×139.26E, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.1/16, mbtmp4.1/7, ML3.9/1, MS4.4/16, Ms1 4.4/16, ms1mx4.3/22, Error ellipse: s-maj=32.2km s-min=20.0km az=73.0*

*NEIC **05** 06:03:36.3±0.6, 51.49S×139.21E, h10km, mb4.9/5, Error ellipse: s-maj=20.3km s-min=12.3km az=69.0*

*GCMT **05** 06:03:53.9±0.2, 51.57S×139.51E, h12km, MW5.1, Moment Tensor Solution. s35,c39; s91,c128; Moment tensor: Scale 10^16Nm; Mrr=4.67±.12; Mθθ=4.83±.10; Mφφ=0.15±.14; Mrθ=0.87±.39; Mθφ=0.24±.11; Mφr=0.13±.48; Best double couple: M0=4.80000×10^16 NP1:φ=91.00000°, δ=50.00000°, λ=-93.00000°. NP2:φ=275.00000°, δ=40.00000°, λ=-87.00000°. Principal axes: T 4.9200, Plg5.0000°, Azm183.0000°; N -0.1600, Plg2.0000°, Azm92.0000°; P -4.7500, Plg84.0000°, Azm341.0000°; Data Used: IU II CU IC G CN.*

ISC 05 06:03:37.1±0.7, 51.5S±0.1×139.3E±0.2, h14km, n57, σ0§98/30, mb4.4/8, MS4.4/16, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**15.25**	**179**	P			Pn	06 07 06.0	-5.7
DRV				R				06 10 00.0	
STKA	**Stephens Creek** 3.5nm,1.1s	**19.65**	**6**	*e*P			**Pn**	**06 08 06.2**	**-0.5**
STKA	**Stephens Creek** 0.2nm,0.3s,baz=148,slow=14,SNR=8.2	**19.65**	**6**	P			**Pn**	**06 08 05.6**	**-1.1**
STKA	comp=Z,3μm,21.7s,baz=176,slow=33			LR			LR	06 14 30.6	
FORT	**Forrest** 61nm,1.1s	**22.28**	**334**	*e*P			**P**	**06 08 33.9**	**+0.2**
RPZ	**Rata Peaks** 22nm,1.2s	**22.65**	**83**	*e*P			**P**	**06 08 38.1**	**+0.5**
RPZ	**Rata Peaks** 7.8nm,0.8s,baz=254,slow=3.8,SNR=2.9	**22.65**	**83**	P			**P**	**06 08 38.0**	**+0.4**
RPZ	comp=Z,700nm,18.2s,baz=245,slow=32			LR			LR	06 15 43.9	
H01W1	**Cape Leeuwin H** baz=138,slow=75,SNR=72	**24.52**	**303**	T			T	06 34 47.0	
H01W2	**Cape Leeuwin H** baz=138,slow=75,SNR=80	**24.52**	**303**	T			T	06 34 48.7	
H01W3	**Cape Leeuwin H** baz=138,slow=75,SNR=80	**24.53**	**303**	T			T	06 34 47.3	
NWAO	**Narrogin (SRO)** comp=Z,673nm,18.1s,baz=134,slow=32	**24.54**	**311**	LR			LR	06 16 40.0	
VNDA	**Vanda** comp=Z,770nm,18.7s,baz=342,slow=34	**27.48**	**170**	LR			LR	06 18 59.0	
ASAR	**Alice Springs**	**28.06**	**349**	P			**P**	**06 09 27.4**	**-0.7**
ASAR	**Alice Springs** 1.1nm,0.8s,baz=165,slow=9.9,SNR=8.0	**28.06**	**349**	P			**P**	**06 09 27.4**	**-0.7**
ASAR	comp=Z,1μm,18.3s,baz=148,slow=35			LR			LR	06 20 03.3	
URZ	**Urewera** comp=Z,243nm,18.7s,baz=235,slow=34	**29.53**	**78**	LR			LR	06 20 11.0	
WRA	**Warramunga Arr**	**31.70**	**351**	P			**P**	**06 09 58.9**	**-1.3**
WRA	**Warramunga Arr** 5.6nm,0.9s,baz=172,slow=7.8,SNR=14	**31.70**	**351**	P			**P**	**06 09 58.9**	**-1.3**
WRA	comp=Z,1μm,19.7s,baz=170,slow=34			LR			LR	06 21 41.5	
WRAB	**Tennant Creek** 30nm,1.4s	**31.71**	**351**	*e*P			**P**	**06 10 00.2**	**-0.1**
CTA	**Charters Tower** comp=Z,1μm,19.3s,baz=265,slow=36	**31.79**	**13**	LR			LR	06 22 31.1	
FITZ	**Fitzroy Crossi**	**35.00**	**337**	P			**P**	**06 10 28.2**	**-0.8**
FITZ	**Fitzroy Crossi** 1.3nm,0.9s,baz=190,slow=16,SNR=2.5	**35.00**	**337**	P			**P**	**06 10 28.2**	**-0.8**
DZM	**Mont Dzumac** 110nm,26.5s	**36.12**	**46**	*e*S			S	06 16 30.7	+13
DZM	1μm,24.9s			*e*	LR		LR	06 20 32.7	
QSPA	**South Pole Qui** 31nm,1.4s	**38.65**	**180**	*e*P			**P**	**06 10 59.1**	**-0.7**
QSPA	**South Pole Qui** 1.5nm,1.1s,baz=344,slow=4.9,SNR=4.2	**38.65**	**180**	P			**P**	**06 10 59.1**	**-0.7**
MAW	**Mawson** comp=Z,981nm,20.6s,baz=91,slow=33	**39.02**	**216**	LR			LR	06 24 54.9	
KAPI	**Kappang** 38nm,1.1s	**49.08**	**334**	*e*P			**P**	**06 12 25.0**	**+1.2**
KAPI	**Kappang** 15nm,1.0s,baz=196,slow=19,SNR=2.7	**49.08**	**334**	P			**P**	**06 12 25.6**	**+1.8**
SNAA	**Sanae** comp=Z,414nm,21.9s,baz=336,slow=35	**54.27**	**194**	LR			LR	06 35 21.2	
TBI	**Tubuai** 10°,34.5s	**60.52**	**91**	*e*LR			LR	06 32 18.1	
PPT2	**Papeete2** 178nm,25.8s,baz=218	**64.71**	**87**	*e*LR			LR	06 34 21.6	
PPT	**Papeete** comp=Z,156nm,20.6s,baz=200,slow=31	**64.73**	**87**	LR			LR	06 37 22.4	
H08S2	**Diego Garcia H** baz=142,slow=76,SNR=16	**69.67**	**284**	T			T	07 31 16.1	
RKT	**Rikitea** 164nm,29.2s	**69.68**	**102**	*e*LR			LR	06 36 19.8	
H08S1	**Diego Carcia H** baz=142,slow=76,SNR=6.4	**69.68**	**284**	T			T	07 31 14.8	
H08S3	**Diego Garcia H** baz=142,slow=76,SNR=14	**69.69**	**284**	T			T	07 31 17.6	
H08N1	**Diego Garcia H** baz=142	**71.59**	**283**	T			T	07 33 39.4	
H08N3	**Diego Garcia H** baz=142,slow=75	**71.60**	**283**	T			T	07 33 43.3	
H08N2	**Diego Garcia H** baz=142,slow=75	**71.61**	**283**	T			T	07 33 41.3	
CMAR	**Chiang Mai Arr** comp=Z,164nm,18.7s,baz=171,slow=36	**78.05**	**321**	LR			LR	06 50 32.7	
BOSA	**Boshof** comp=Z,185nm,20.4s,baz=150,slow=30	**81.50**	**234**	LR			LR	06 44 28.2	
MJAR	**Matsushiro Arr** comp=Z,257nm,18.6s,baz=190,slow=33	**87.64**	**359**	LR			LR	06 51 56.4	
KSRS	**Korea Array** comp=Z,100nm,22.0s,baz=324,slow=35	**89.11**	**351**	LR			LR	06 56 10.8	
CFAA	**Coronel Fontan** comp=Z,12nm,21.4s,baz=201,slow=33	**93.81**	**157**	LR			LR	06 54 46.5	
USRK	**Ussuriysk Arra** comp=Z,123nm,21.5s,baz=41,slow=34	**95.50**	**355**	LR			LR	06 57 35.2	
NVAR	**Mina Array Bea**	**126.05**	**72**	PKP			**PKPdf**	**06 22 40.6**	**+2.1**
NVAR	**Mina Array Bea** 0.1nm,0.4s,baz=168,slow=5.3,SNR=2.7	**126.05**	**72**	PKP			**PKPdf**	**06 22 40.6**	**+2.1**
TXAR	**Lajitas Array**	**128.95**	**90**	PKP			**PKPdf**	**06 22 43.4**	**-0.7**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=271,slow=4.1,SNR=3.7	**128.95**	**90**	PKP			**PKPdf**	**06 22 43.4**	**-0.7**
ILAR	**Eielson Array**	**129.07**	**32**	PKP			**PKPdf**	**06 22 42.9**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=226,slow=4.7,SNR=3.0	**129.07**	**32**	PKP			**PKPdf**	**06 22 42.9**	**-0.1**
ARCES	**ARCESS Array B**	**144.99**	**326**	PKP			**PKPdf**	**06 23 11.9**	**-0.3**
ARCES	**ARCESS Array B** 5.0nm,1.0s,baz=65,slow=5.8,SNR=6.3	**144.99**	**326**	PKP			**PKPdf**	**06 23 11.9**	**-0.3**
GERES	**GERESS Array B**	**145.71**	**288**	PKPbc			**PKPdf**	**06 23 13.7**	**-0.5**
GERES	**GERESS Array B** 2.0nm,1.0s,baz=153,slow=4.1,SNR=9.1	**145.71**	**288**	PKPbc			**PKPdf**	**06 23 13.7**	**-0.5**
ULM	**Lac du Bonnet**	**145.86**	**70**	PKPbc			**PKPdf**	**06 23 13.7**	**-0.6**
ULM	**Lac du Bonnet** 2.0nm,0.8s,baz=349,slow=2.2,SNR=2.9	**145.86**	**70**	PKPbc			**PKPdf**	**06 23 13.7**	**-0.6**
ESDC	**Sonseca Array**	**152.00**	**260**	PKPbc			**PKPbc**	**06 23 32.1**	**+0.9**
ESDC	**Sonseca Array** 1.0nm,0.8s,baz=83,slow=5.1,SNR=2.6	**152.00**	**260**	PKPbc			**PKPbc**	**06 23 32.1**	**+0.9**

*ISCJB **05** 06:30:00.4±0.5, 51.47S±0.07×139.6E±0.2, h14km, mb4.3/10, MS4.1/12, Error ellipse: s-maj=18.5km s-min=9.7km az=174.8*

*IDC **05** 06:30:00.1±0.6, 51.47S×139.56E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.2/17, mbtmp4.2/8, ML4.0/1, MS4.2/13, Ms1 4.2/13, ms1mx4.1/19, Error ellipse: s-maj=26.4km s-min=16.2km az=29.0*

*NEIC **05** 06:30:01.4±0.3, 51.52S×139.50E, h10km, mb4.7/6, Error ellipse: s-maj=12.7km s-min=8.0km az=80.0*

ISC 05 06:30:02.0±0.6, 51.47S±0.09×139.6E±0.2, h14km, n53, σ0§53/39, mb4.5/10, MS4.2/12, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**15.24**	**179**	P			Pn	06 33 28.0	-8.5
DRV				R				06 36 00.0	
STKA	**Stephens Creek** 2.5nm,1.0s	**19.64**	**5**	*e*P			**Pn**	**06 34 31.9**	**+0.4**
STKA	**Stephens Creek** 0.3nm,0.3s,baz=181,slow=15,SNR=9.1	**19.64**	**5**	P			**Pn**	**06 34 31.3**	**-0.2**
STKA	comp=Z,1μm,19.8s,baz=171,slow=33			LR			LR	06 40 56.2	
FORT	**Forrest** 21nm,0.8s	**22.36**	**333**	*e*P			**P**	**06 35 00.1**	**+0.5**
RPZ	**Rata Peaks** 20nm,1.0s	**22.48**	**82**	*e*P			**P**	**06 35 01.6**	**+0.9**
RPZ	**Rata Peaks** 16nm,0.9s,baz=225,slow=4.1,SNR=6.4	**22.48**	**82**	P			**P**	**06 35 01.3**	**+0.6**
RPZ	comp=Z,255nm,19.2s,baz=259,slow=32			LR			LR	06 41 50.8	
H01W1	**Cape Leeuwin H** baz=138,slow=75,SNR=30	**24.67**	**302**	T			T	07 00 59.7	
NWAO	**Narrogin (SRO)** comp=Z,588nm,19.2s,baz=28,slow=31	**24.67**	**310**	LR			LR	06 42 46.7	
H01W2	**Cape Leeuwin H** baz=138,slow=75,SNR=28	**24.67**	**302**	T			T	07 01 00.2	
H01W3	**Cape Leeuwin H** baz=138,slow=75,SNR=36	**24.68**	**302**	T			T	07 01 01.0	
VNDA	**Vanda**	**27.45**	**170**	P			**P**	**06 35 46.8**	**-0.1**
VNDA	**Vanda** 3.1nm,1.0s,baz=3.8,slow=9.2,SNR=3.3	**27.45**	**170**	P			**P**	**06 35 46.8**	**-0.1**
VNDA	comp=Z,528nm,19.3s,baz=341,slow=33			LR			LR	06 45 16.0	
ASAR	**Alice Springs**	**28.10**	**349**	P			**P**	**06 35 53.2**	**-0.1**
ASAR				PcP			**PcP**	**06 39 07.4**	**0.0**
ASAR	**Alice Springs** 0.9nm,0.8s,baz=163,slow=10,SNR=9.2	**28.10**	**349**	P			**P**	**06 35 53.2**	**-0.1**
ASAR	0.5nm,0.8s,baz=166,slow=3.3,SNR=4.1			PcP			**PcP**	**06 39 07.4**	**0.0**
ASAR	comp=Z,698nm,20.2s,baz=98,slow=34			LR			LR	06 45 42.0	
URZ	**Urewera** 7.5nm,0.7s,baz=272,slow=3.9,SNR=3.5	**29.36**	**78**	P			**P**	**06 36 03.8**	**-0.6**
URZ	**Urewera** 7.5nm,0.7s,baz=272,slow=3.9,SNR=3.5	**29.36**	**78**	P			**P**	**06 36 03.8**	**-0.6**
URZ	comp=μ,86nm,18.9s,baz=215,slow=32			LR			LR	06 45 44.2	
WRA	**Warramunga Arr**	**31.73**	**351**	P			**P**	**06 36 25.7**	**+0.3**
WRA	**Warramunga Arr** 4.5nm,0.8s,baz=172,slow=7.8,SNR=23	**31.73**	**351**	P			**P**	**06 36 25.7**	**+0.3**
WRA	comp=Z,629nm,20.9s,baz=175,slow=34			LR			LR	06 47 57.8	
WRAB	**Tennant Creek** 29nm,1.5s	**31.74**	**351**	*e*P			**P**	**06 36 25.8**	**+0.4**
FITZ	**Fitzroy Crossi** 17nm,1.5s	**35.08**	**337**	*e*P			**P**	**06 36 55.2**	**+0.7**
DZM	**Mont Dzumac** 555nm,26.1s	**36.00**	**46**	*e*	LR		LR	06 46 42.6	
QSPA	**South Pole Qui** 7.1nm,1.0s	**38.65**	**180**	*e*P			**P**	**06 37 24.8**	**+0.1**
QSPA	**South Pole Qui** 4.3nm,0.8s,baz=344,slow=3.6,SNR=17	**38.65**	**180**	P			**P**	**06 37 25.2**	**+0.5**
MAW	**Mawson** comp=Z,502nm,21.0s,baz=92,slow=32	**39.12**	**216**	LR			LR	06 51 11.9	
SNAA	**Sanae**	**54.31**	**194**	*e*P			**P**	**06 39 27.9**	**+0.5**
SNAA	**Sanae** 14nm,1.4s	**54.31**	**194**	*e*P			**P**	**06 39 27.7**	**+0.3**
SNAA	**Sanae** 0.7nm,0.7s,baz=172,slow=10,SNR=13	**54.31**	**194**	P			**P**	**06 39 27.8**	**+0.5**
VNA2	**Neumayer--Watz**	**55.63**	**193**	*e*P			**P**	**06 39 37.0**	**+0.2**
VNA1	**Neumayer--Stat**	**56.00**	**192**	*e*P			**P**	**06 39 40.2**	**+0.8**
PMSA	**Palmer Station** comp=Z,255nm,18.5s,baz=192,slow=34	**62.65**	**169**	LR			LR	07 05 56.2	
PPT2	**Papeete2** 102nm,28.5s	**64.54**	**86**	*e*LR			LR	07 00 06.2	
PPT	**Papeete** comp=Z,107nm,18.6s,baz=226,slow=30	**64.55**	**86**	LR			LR	07 02 17.3	
H08S2	**Diego Garcia H** baz=142,slow=76,SNR=9.1	**69.84**	**283**	T			T	07 57 14.8	
H08S1	**Diego Carcia H** baz=142,slow=76,SNR=4.7	**69.85**	**283**	T			T	07 57 16.2	
H08S3	**Diego Garcia H** baz=142,slow=76,SNR=8.5	**69.86**	**283**	T			T	07 57 16.3	
USHA	**Ushuaia** comp=Z,333nm,21.7s,baz=229,slow=31	**71.53**	**163**	LR			LR	07 06 34.0	
CMAR	**Chiang Mai Arr** comp=Z,95nm,18.9s,baz=2.3,slow=36	**78.16**	**321**	LR			LR	07 16 20.3	
BOSA	**Boshof** comp=Z,114nm,20.2s,baz=162,slow=29	**81.64**	**234**	LR			LR	07 09 33.0	
FINES	**FINESS Array B**	**143.52**	**312**	PKP			**PKPdf**	**06 49 33.7**	**-1.1**
FINES	**FINESS Array B** 2.0nm,0.9s,baz=119,slow=4.9,SNR=3.8	**143.52**	**312**	PKP			**PKPdf**	**06 49 33.7**	**-1.1**
ARCES	**ARCESS Array B**	**145.09**	**326**	PKPbc			**PKPab**	**06 49 37.0**	**0.0**
ARCES	**ARCESS Array B** 4.3nm,0.8s,baz=88,slow=2.9,SNR=7.0	**145.09**	**326**	PKPbc			**PKPab**	**06 49 37.0**	**0.0**
GERES	**GERESS Array B**	**145.87**

IDC ***05*** *06:34:37.3±2.1, 10°.73N×91°.29E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.5/27, mbtmp3.5/6, ML4.4/1, Error ellipse: s-maj=66.6km s-min=21.9km az=67.0*

ISCJB ***05*** *06:34:38.7±1.4, 10°.8N±0°.1×91°.5E±0°.2, h17km, mb3.4/5, Error ellipse: s-maj=34.2km s-min=18.9km az=163.1*

ISC 05 06:34:40.5±1.8, 10°.8N±0°.2×91°.4E±0°.3, h17km, n9, σ1§12/6, mb3.4/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.52**	**43**	Pn	**Pn**	**06 37 10.2**	**-0.4**
	0.9nm,0.3s,baz=226,slow=14,SNR=3.4						
H08S3	**Diego Garcia H**	**26.29**	**227**	T	T	07 08 27.1	
	baz=46,slow=75,SNR=984						
H08S2	**Diego Garcia H**	**26.29**	**227**	T	T	07 08 28.8	
	baz=46,slow=75,SNR=1361						
H08S1	**Diego Garcia H**	**26.30**	**227**	T	T	07 08 28.2	
	baz=46,slow=75,SNR=839						
MKAR	**Makanchi Array**	**36.70**	**349**	P	**P**	**06 41 45.5**	**-1.1**
	0.4nm,0.7s,baz=177,slow=9.4,SNR=4.6						
SONM	**Songino Array**	**39.00**	**16**	P	**P**	**06 42 07.5**	**+1.4**
	0.2nm,0.5s,baz=191,slow=12,SNR=2.5						
ZALV	**Zalesovo Beam**	**43.36**	**354**	P	**P**	**06 42 41.5**	**-0.2**
	0.2nm,0.3s,baz=184,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**52.13**	**126**	P	**P**	**06 43 49.8**	**-0.5**
	0.3nm,0.5s,baz=306,slow=8.5,SNR=2.5						
ASAR	**Alice Springs**	**53.83**	**130**	P	**P**	**06 44 03.2**	**+0.3**
	0.2nm,0.4s,baz=304,slow=7.1,SNR=6.5						

IDC ***05*** *06:39:37.3±0.8, 55°.77N×162°.69E, h0km, mb3.5/8, mb1 3.9/9, mb1mx3.7/28, mbtmp3.5/9, ML2.8/1, Error ellipse: s-maj=33.2km s-min=17.4km az=150.0*

KRSC ***05*** *06:39:38.8±4.8, 55°.45N×163°.26E, h21km±21km, ML4.0*

ISCJB ***05*** *06:39:41.3±0.5, 55°.46N±0°.03×163°.26E±0°.05, h36km±7km, mb3.5/8, Error ellipse: s-maj=4.5km s-min=4.4km az=22.6*

MOS ***05*** *06:39:42.0±0.9, 55°.82N×162°.58E, h48km, mb4.0/2, Error ellipse: s-maj=61.1km s-min=20.0km az=62.7*

ISC 05 06:39:43.0±2.1, 55°.50N±0°.04×163°.25E±0°.04, h35km±5km, n50, σ1§41/67, mb3.6/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.75**	**341**	*e*P	**Pn**	**06 39 54.8**	**-2.2**
KBTR				*e*S	**Sn**	**06 40 05.2**	**-2.0**
KBG	**Krutoberegovo**	**0.81**	**338**	*i* P	**Pn**	**06 39 56.1**	**-1.8**
KBG				*i* S	**Sn**	**06 40 07.6**	**-1.2**
SMKR	**Semkarok**	**1.47**	**318**	*e*P	**Pn**	**06 40 06.5**	**-0.6**
SMKR				*e*S	**Sn**	**06 40 25.3**	**+0.2**
ZLN	**Zelenaya**	**1.47**	**292**	P	**Pn**	**06 40 06.9**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.51**	**288**	*e*P	**Pn**	**06 40 06.3**	**-1.3**
BZGR				*e*S	**Sn**	**06 40 25.2**	**-0.8**
BDR	**Baidarnaya**	**1.56**	**314**	*i* P	**Pn**	**06 40 07.9**	**-0.4**
BDR				*e*S	**Sn**	**06 40 28.0**	**+0.6**
BKI	**Bering**	**1.59**	**100**	*i* P	**Pn**	**06 40 07.5**	**-1.0**
BKI				*i* S	**Sn**	**06 40 27.3**	**-0.4**
BZMR	**Bezymyannaya**	**1.62**	**287**	*e*P	**Pn**	**06 40 08.1**	**-1.0**
BZMR				*e*S	**Sn**	**06 40 28.5**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.62**	**288**	P	**Pn**	**06 40 08.3**	**-0.9**
BZWR				S	**Sn**	**06 40 28.7**	**-0.3**
SRKR	**Sorokina**	**1.64**	**316**	*e*P	**Pn**	**06 40 09.1**	**-0.3**
SRKR				*e*S	**Sn**	**06 40 29.9**	**+0.6**
KLY	**Klyuchi**	**1.67**	**300**	*e*P	**Pn**	**06 40 07.4**	**-2.3**
KLY				*e*S	**Sn**	**06 40 26.9**	**-3.0**
KRSR	**Krestovskiy**	**1.67**	**297**	*e*P	**Pn**	**06 40 08.6**	**-1.2**
KRSR				*e*S	**Sn**	**06 40 29.1**	**-1.0**
KIRR	**Kirishev**	**1.70**	**287**	*e*P	**Pn**	**06 40 10.1**	**-0.2**
KIRR				*e*S	**Sn**	**06 40 31.8**	**+0.9**
KMNR	**Kamenistaya**	**1.73**	**280**	*e*P	**Pn**	**06 40 09.8**	**-0.8**
KMNR				*e*S	**Sn**	**06 40 31.1**	**-0.3**
KZV	**Kizimen**	**1.73**	**258**	*e*P	**Pn**	**06 40 08.9**	**-1.8**
KZV				*e*S	**Sn**	**06 40 29.4**	**-2.2**
KPT	**Kopyto**	**1.77**	**286**	*e*P	**Pn**	**06 40 10.9**	**-0.3**
KPT				*e*S	**Sn**	**06 40 33.4**	**+0.9**
TUMR	**Tumrok**	**1.78**	**264**	*e*P	**Pn**	**06 40 10.5**	**-0.8**
TUMR				*e*S	**Sn**	**06 40 32.3**	**-0.5**
KOZ	**Kozyrevsk**	**1.98**	**288**	*e*P	**Pn**	**06 40 14.4**	**+0.4**
KOZ				*e*S	**Sn**	**06 40 39.1**	**+1.4**
SRDR	**Sredinnyy**	**2.15**	**294**	*e*P	**Pn**	**06 40 16.0**	**-0.3**
SRDR				*e*S	**Sn**	**06 40 41.3**	**-0.5**
ESO	**Esso**	**2.61**	**281**	*e*P	**Pn**	**06 40 22.3**	**-0.3**
ESO				S	**Sn**	**06 40 52.9**	**-0.1**
SPN	**Mys Shipunski**	**3.06**	**219**	S	**Sn**	**06 40 59.1**	**-5.0**
NLC	**Nalytchevo**	**3.27**	**226**	P	**Pn**	**06 40 30.5**	**-1.1**
NLC				*e*S	**Sn**	**06 41 07.3**	**-1.9**
SDLR	**Sedlovina**	**3.38**	**231**	*e*P	**Pn**	**06 40 32.4**	**-1.0**
KRER	**Koryakskii**	**3.43**	**232**	*e*P	**Pn**	**06 40 33.6**	**-0.4**
SMAR	**Somma**	**3.43**	**231**	*e*P	**Pn**	**06 40 33.3**	**-0.8**
KRX	**Arik**	**3.44**	**233**	*e*P	**Pn**	**06 40 33.3**	**-0.8**
AVH	**Avacha**	**3.46**	**231**	*e*P	**Pn**	**06 40 33.9**	**-0.5**
UGLR	**Uglovaya**	**3.46**	**230**	*e*P	**Pn**	**06 40 33.6**	**-0.8**
KOK	**Koryaka**	**3.49**	**232**	*e*P	**Pn**	**06 40 34.0**	**-0.8**
GNL	**Ganaly**	**3.58**	**242**	*e*P	**Pn**	**06 40 35.7**	**-0.3**
PET	**Petropavlovsk**	**3.66**	**229**	*e*PN	**Pn**	**06 40 37.8**	**+0.8**
PET				*e*S	**Sn**	**06 41 22.2**	**+3.3**
PET				smax	smax		
	comp=N,90nm,0.7s						
PET				smax	smax		
	comp=E,82nm,0.7s						
PET	**Petropavlovsk**	**3.66**	**229**	S	**Sn**	**06 41 19.0**	**+0.1**
OSSR	**Ossora**	**3.76**	**359**	P	**Pn**	**06 40 38.5**	**+0.1**
PETK	**Petropavlovsk-**	**4.04**	**236**	PN	**Pn**	**06 40 41.0**	**-1.2**
PETK						06 41 31.4	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.04**	**236**	Pn	**Pn**	**06 40 41.0**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=69,slow=16,SNR=14						
PETK				Sn	**Sn**	**06 41 31.4**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=100,slow=40,SNR=3.7						
MTVR	**Mutnovka**	**4.25**	**227**	P	**Pn**	**06 40 45.6**	**+0.3**
APC	**Apacha**	**4.41**	**237**	P	**Pn**	**06 40 46.5**	**-0.8**
TILK	**Tilichiki**	**5.19**	**16**	P	**Pn**	**06 40 59.8**	**+1.8**
MJAR	**Matsushiro Arr**	**25.49**	**232**	P	**P**	**06 45 05.9**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=29,slow=7.6,SNR=3.6						
ILAR	**Eielson Array**	**25.82**	**49**	P	**P**	**06 45 10.0**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=266,slow=8.9,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**35.82**	**174**	T	T	07 25 38.0	
	baz=360,slow=76,SNR=2.1						
H11N3	**WAKE ISLAND Hy**	**35.83**	**174**	T	T	07 25 47.1	
	baz=360,slow=76,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**35.84**	**174**	T	T	07 25 41.9	
	baz=360,slow=76,SNR=3.2						
MKAR	**Makanchi Array**	**48.78**	**296**	P	P	06 48 20.3	-3.9
MKAR	**Makanchi Array**	**48.78**	**296**	P	P	06 48 20.3	-3.9
	comp=Z,0.2nm,0.7s,baz=64,slow=6.6,SNR=3.2						
NVAR	**Mina Array Bea**	**53.24**	**74**	P	**P**	**06 48 59.0**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=316,slow=7.7,SNR=3.6						
PDAR	**Pinedale Array**	**54.77**	**64**	P	**P**	**06 49 10.3**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=330,slow=3.4,SNR=3.4						
TXAR	**Lajitas Array**	**68.03**	**70**	P	**P**	**06 50 39.8**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=297,slow=4.8,SNR=8.1						
GERES	**GERESS Array B**	**72.94**	**339**	P	**P**	**06 51 06.2**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=48,slow=4.5,SNR=2.1						
WRA	**Warramunga Arr**	**79.06**	**208**	P	**P**	**06 51 43.3**	**0.0**
	comp=Z,0.3nm,0.3s,baz=17,slow=6.0,SNR=8.2						

ISCJB ***05*** *06:53:05.2±0.6, 29°.11S±0°.04×68°.35W±0°.05, h95km±4km, mb4.1/19, Error ellipse: s-maj=8.4km s-min=5.8km az=141.5*

NEIC ***05*** *06:53:06.2±0.4, 29°.19S×68°.38W, h98km±4km, mb4.3/13, Error ellipse: s-maj=7.1km s-min=5.7km az=54.0*

IDC ***05*** *06:53:07.2±0.7, 29°.18S×68°.51W, h108km±5km, mb3.9/8, mb1 4.0/11, mb1mx3.9/19, mbtmp3.8/11, MS3.0/1, Ms1 3.2/1, ms1mx2.8/27, Error ellipse: s-maj=21.7km s-min=17.3km az=56.0*

GUC ***05*** *06:53:07.4±0.7, 29°.11S×68°.54W, h100km, ML4.4*

ISC 05 06:53:06.6±0.5, 29°.16S±0°.04×68°.44W±0°.05, h104km±4km, h103km; pP-P, n283, σ1§35/309, mb4.2/20, 122C-101D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.98**	**274**	⇑*i*P	**Pn**	**06 53 39.8**	**+0.5**
LCO				*i* S	**Sn**	**06 54 04.1**	**-0.3**
LCO				AML	AML	06 54 05.7	
	comp=E,3μm,0.4s						
LCO	**Las Campanas**	**1.98**	**274**	⇑*i*P	**Pn**	**06 53 39.8**	**+0.5**
LCO				*i* S	**Sn**	**06 54 04.1**	**-0.3**
VACH	**Vallenar**	**2.12**	**285**	⇑*i*P	**Pn**	**06 53 40.8**	**0.0**
VACH				*i* S	**Sn**	**06 54 06.1**	**-0.8**
VACH				AML	AML	06 54 09.6	
	comp=E,6μm,0.1s						
VACH	**Vallenar**	**2.12**	**285**	⇑*i*P	**Pn**	**06 53 40.8**	**0.0**
VACH				*i* S	**Sn**	**06 54 06.1**	**-0.8**
TLL	**Tololo Astrono**	**2.29**	**243**	⇑*i*P	**Pn**	**06 53 43.7**	**+0.4**
TLL				*i* S	**Sn**	**06 54 11.9**	**+0.5**
TLL				AML	AML	06 54 14.0	
	comp=E,1μm,0.5s						
TLL	**Tololo Astrono**	**2.29**	**243**	⇑*i*P	**Pn**	**06 53 43.7**	**+0.4**
TLL				*i* S	**Sn**	**06 54 11.9**	**+0.5**
CFAA	**Coronel Fontan**	**2.44**	**176**	P	**Pn**	**06 53 45.7**	**+0.6**
CFAA				S	**Sn**	**06 54 14.5**	**-0.2**
CFAA	**Coronel Fontan**	**2.44**	**176**	P	**Pn**	**06 53 45.7**	**+0.6**
	comp=E,6.7nm,0.3s,baz=350,slow=9.2,SNR=2928						
CFAA				S	**Sn**	**06 54 14.5**	**-0.2**
	comp=E,3.2nm,0.3s,baz=115,slow=19,SNR=7.8						
CPCH	**Copiapo**	**2.46**	**316**	⇑*i*P	**Pn**	**06 53 45.1**	**-0.2**
CPCH				*i* S	**Sn**	**06 54 13.7**	**-1.4**
CPCH	**Copiapo**	**2.46**	**316**	⇑*i*P	**Pn**	**06 53 45.1**	**-0.2**
CPCH				*i* S	**Sn**	**06 54 13.7**	**-1.4**
CDCH	**Caldera**	**2.96**	**314**	*e*P	**Pn**	**06 53 52.2**	**+0.3**
CDCH				*e*S	**Sn**	**06 54 25.3**	**-1.5**
CDCH	**Caldera**	**2.96**	**314**	*e*P	**Pn**	**06 53 52.2**	**+0.3**
CDCH				*e*S	**Sn**	**06 54 25.3**	**-1.5**
LVC	**Limon Verde**	**6.53**	**356**	*e*Pn	Pn	06 54 34.2	-6.2
LVC				*e*Sn	Sn	06 55 45.8	-7.8
CPUP	**Villa Florida**	**10.24**	**77**	*e*Pn	**Pn**	**06 55 29.5**	**-1.0**
	comp=E,0.7nm,0.4s						
CPUP	**Villa Florida**	**10.24**	**77**	P	**Pn**	**06 55 29.1**	**-1.4**
	comp=E,3.4nm,0.3s,baz=230,slow=13,SNR=21						
TRQA	**Tornquist**	**10.38**	**150**	*e*Pn	**Pn**	**06 55 31.1**	**-1.2**
PLCA	**Paso Flores**	**11.68**	**188**	P	**Pn**	**06 55 47.1**	**-2.7**
PLCA	**Paso Flores**	**11.68**	**188**	P	**Pn**	**06 55 47.1**	**-2.7**
	comp=E,0.1nm,0.3s,baz=337,slow=13,SNR=4.8						
LPAZ	**La Paz**	**12.81**	**1**	*e*Pn	**Pn**	**06 56 04.9**	**-0.7**
LPAZ	**La Paz**	**12.81**	**1**	P	**Pn**	**06 56 04.9**	**-0.7**
	comp=E,0.3nm,0.3s,baz=146,slow=7.5,SNR=9.8						
LPAZ				LR	LR	07 01 12.4	
	comp=E,74nm,20.5s,baz=76,slow=38						
SIV	**San Ignacio**	**14.76**	**29**	P	**Pn**	**06 56 29.5**	**-0.7**
SIV	**San Ignacio**	**14.76**	**29**	P	**Pn**	**06 56 29.5**	**-0.7**
	comp=E,0.6nm,0.3s,baz=240,slow=15,SNR=4.9						
SAML	**Samuel**	**20.70**	**15**	*e*P	Pn	06 57 41.5	-0.4
	comp=E,2.4nm,0.5s						
BDFB	**Brasilia**	**23.14**	**59**	P	**P**	**06 58 04.0**	**0.0**
BDFB	**Brasilia**	**23.14**	**59**	P	**P**	**06 58 04.0**	**0.0**
	comp=E,2.9nm,0.4s,baz=229,slow=10,SNR=10						
TIGA	**Tifton**	**61.96**	**345**	⇑P	**P**	**07 03 17.3**	**+1.8**
	baz=62						
732A	**Laxson Ranch,**	**64.98**	**330**	⇓P	**P**	**07 03 36.9**	**+1.5**
	baz=65						
KMSC	**Kings Mountain**	**65.10**	**348**	⇑P	**P**	**07 03 38.1**	**+2.0**
	baz=66						
632A	**Uvalde**	**65.57**	**330**	⇑P	**P**	**07 03 40.8**	**+1.5**
	baz=66						
434A	**Burnet**	**66.06**	**332**	⇑P	**P**	**07 03 43.2**	**+0.7**
	baz=66						
SWET	**Sewanee**	**66.12**	**344**	*e*P	**P**	**07 03 42.6**	**-0.1**
	comp=E,5.8nm,0.8s						
532A	**Rocksprings**	**66.16**	**330**	⇑P	**P**	**07 03 44.6**	**+1.5**
	baz=66						
433A	**Art**	**66.35**	**331**	⇓P	**P**	**07 03 45.1**	**+0.8**
	baz=67						
JCT	**Junction City**	**66.42**	**331**	⇓P	**P**	**07 03 45.6**	**+0.9**
	baz=67						
531A	**Rocksprings**	**66.47**	**330**	⇑P	**P**	**07 03 46.4**	**+1.3**
	baz=67						
334A	**Lometa**	**66.51**	**332**	⇑P	**P**	**07 03 46.1**	**+0.9**
	baz=67						
432A	**Menard**	**66.75**	**331**	⇑P	**P**	**07 03 48.0**	**+1.1**
	baz=67						
WHTX	**Lake Whitney**	**66.78**	**333**	⇓P	**P**	**07 03 48.0**	**+1.1**
	baz=67						
530A	**J-C Ranch, Com**	**66.80**	**329**	⇓P	**P**	**07 03 47.9**	**+0.7**
	baz=67						
333A	**Richland Sprin**	**66.81**	**332**	⇑P	**P**	**07 03 48.0**	**+0.9**
	baz=67						
431A	**Sonora**	**66.94**	**330**	⇓P	**P**	**07 03 48.9**	**+0.8**
	baz=67						
628A	**Black Gap, Mar**	**66.95**	**328**	⇓P	**P**	**07 03 49.2**	**+1.1**
	baz=67						
627A	**Terlingua Ranc**	**67.16**	**327**	⇑P	**P**	**07 03 50.0**	**+0.5**
	baz=68						
332A	**Millersview**	**67.17**	**331**	⇓P	**P**	**07 03 50.3**	**+0.8**
	baz=68						
529A	**Stev Forest Ra**	**67.18**	**328**	⇑P	**P**	**07 03 50.8**	**+1.2**
	baz=68						
TXAR	**Lajitas Array**	**67.19**	**327**	P	**P**	**07 03 50.2**	**+0.5**
TXAR				pP	**pP**	**07 04 15.8**	**+0.2**
TXAR	**Lajitas Array**	**67.19**	**327**	P	**P**	**07 03 50.2**	**+0.5**
	comp=E,0.5nm,0.6s,baz=152,slow=7.5,SNR=7.0						
TXAR				pP	**pP**	**07 04 15.8**	**+0.2**
	comp=E,0.4nm,0.7s,baz=134,slow=8.8,SNR=2.3						
430A	**Baggett Ranch,**	**67.30**	**330**	⇑P	**P**	**07 03 51.3**	**+0.9**
	baz=68						
331A	**San Angelo**	**67.40**	**331**	⇓P	**P**	**07 03 51.7**	**+0.8**
	baz=68						
429A	**Davenport Ranc**	**67.46**	**329**	⇓P	**P**	**07 03 52.5**	**+1.1**
	baz=68						
528A	**Cox Ranch, San**	**67.47**	**328**	⇑P	**P**	**07 03 52.3**	**+0.8**
	baz=68						
232A	**Coleman**	**67.57**	**332**	⇑P	**P**	**07 03 53.2**	**+1.2**
	baz=68						
626A	**Big Bend Ranch**	**67.60**	**327**	⇑P	**P**	**07 03 53.6**	**+1.4**
	baz=68,SNR=5.3						
330A	**Mertzon**	**67.81**	**330**	⇓P	**P**	**07 03 55.0**	**+1.5**
	baz=68						
527A	**Woodward Ranch**	**67.85**	**327**	⇓P	**P**	**07 03 55.0**	**+1.1**
	baz=68						
Z35A	**Perchaven, San**	**67.88**	**334**	⇑P	**P**	**07 03 55.6**	**+1.7**
	baz=68						
428A	**Kincaid Ranch,**	**67.90**	**328**	⇓P	**P**	**07 03 55.7**	**+1.6**
	baz=68						
526A	**Mary Lane Ranc**	**68.00**	**327**	⇑P	**P**	**07 03 56.4**	**+1.5**
	baz=68						
Z34A	**Collier Ranch,**	**68.17**	**334**	⇓P	**P**	**07 03 57.3**	**+1.6**
	baz=68						
230A	**Sterling City**	**68.19**	**330**	⇓P	**P**	**07 03 57.3**	**+1.4**
	baz=68						
ABTX	**Abilene, Hawle**	**68.21**	**332**	⇑P	**P**	**07 03 57.1**	**+1.2**
	baz=69						
329A	**Wagon Wheel Ra**	**68.23**	**329**	⇑P	**P**	**07 03 57.2**	**+1.0**
	baz=69						
427A	**Hayter Ranch,**	**68.34**	**328**	⇓P	**P**	**07 03 58.2**	**+1.3**
	baz=69						
Z33A	**Whitaker Ranch**	**68.43**	**333**	⇓P	**P**	**07 03 59.0**	**+1.7**
	baz=69						
426A	**McDonald Obser**	**68.48**	**327**	⇑P	**P**	**07 03 58.9**	**+1.0**
	baz=69						
Z32A	**Haskell**	**68.74**	**332**	⇑P	**P**	**07 04 01.1**	**+1.9**
	baz=69						
326A	**Caldwell Ranch**	**69.00**	**328**	⇑P	**P**	**07 04 02.2**	**+1.3**
	baz=69						
Z31A	**Sharp Cattle R**	**69.02**	**332**	⇑P	**P**	**07 04 02.5**	**+1.6**
	baz=69						
425A	**Indio Mountain**	**69.03**	**327**	⇓P	**P**	**07 04 02.4**	**+1.2**
	baz=69						
228A	**UT Block 9, Go**	**69.04**	**329**	⇓P	**P**	**07 04 03.0**	**+1.8**
	baz=69						
SYO	**Syowa Base**	**69.23**	**159**	⇑*e*P	**P**	**07 04 00.4**	**-1.4**
227A	**Bennet, Jal**	**69.27**	**329**	⇑P	**P**	**07 04 02.8**	**+0.2**
	baz=70						
Y32A	**R-V Farms, Ver**	**69.33**	**333**	⇑P	**P**	**07 04 03.3**	**+0.4**
	baz=70						
Z30A	**Sanderson Ranc**	**69.40**	**331**	⇑P	**P**	**07 04 04.0**	**+0.6**
	baz=70						
128A	**Castleberry Fa**	**69.42**	**330**	⇑P	**P**	**07 04 04.4**	**+0.9**
	baz=70						
X33A	**Lawton**	**69.43**	**334**	⇑P	**P**	**07 04 04.4**	**+1.0**
	baz=70						
325A	**Bean Ranch, Si**	**69.51**	**327**	⇑P	**P**	**07 04 04.8**	**+0.6**
	baz=70						
Y31A	**Rekieta Farm,**	**69.63**	**332**	⇑P	**P**	**07 04 05.8**	**+1.1**
	baz=70						
226B	**Tecolote Peak,**	**69.72**	**328**	⇑P	**P**	**07 04 07.5**	**+2.1**
	baz=70						
324A	**Moseley Ranch,**	**69.81**	**327**	⇓P	**P**	**07 04 06.0**	**0.0**
	baz=70						
Z28A	**Tucker Farm, M**	**69.94**	**330**	⇑P	**P**	**07 04 08.2**	**+1.4**
	baz=70						
W33A	**Caddo, Fort Co**	**69.96**	**334**	⇑P	**P**	**07 04 08.1**	**+1.4**
	baz=70						
225A	**Deer Hill, Car**	**70.05**	**328**	⇓P	**P**	**07 04 08.3**	**+0.7**
	baz=70						
X31A	**McDonald Ranch**	**70.09**	**333**	⇑P	**P**	**07 04 08.7**	**+1.1**
	baz=70						
Y29A	**Porterfield Fa**	**70.13**	**331**	⇑P	**P**	**07 04 08.4**	**+0.5**
	baz=70						
126A	**Clayton Basin,**	**70.13**	**329**	⇑P	**P**	**07 04 08.8**	**+0.9**
	baz=70						
V34A	**Guthrie**	**70.21**	**335**	⇓P	**P**	**07 04 08.8**	**+0.7**
	baz=71						
W32A	**Sentinel**	**70.23**	**334**	⇑P	**P**	**07 04 09.2**	**+0.8**
	baz=71						
X30A	**Coker Ranch, T**	**70.30**	**332**	⇑P	**P**	**07 04 08.8**	**0.0**
	baz=71						
Z27A	**Tatum**	**70.33**	**330**	⇓P	**P**	**07 04 09.7**	**+0.5**
	baz=71						
224A	**Cornudas Mount**	**70.36**	**327**	⇑P	**P**	**07 04 09.9**	**+0.5**
	baz=71						
Y28A	**McKinney Farm,**	**70.41**	**331**	⇓P	**P**	**07 04 10.9**	**+1.3**
	baz=71						
125A	**Gardner Draw,**	**70.43**	**328**	⇑P	**P**	**07 04 10.1**	**+0.3**
	baz=71						
V33A	**Lossen Ranch,**	**70.48**	**335**	⇑P	**P**	**07 04 10.8**	**+0.9**
	baz=71						
Z26A	**Caprock**	**70.64**	**329**	⇑P	**P**	**07 04 12.1**	**+1.1**
	baz=71						
MSTX	**Muleshoe**	**70.69**	**330**	*e*P	**P**	**07 04 11.8**	**+0.5**
MSTX	**Muleshoe**	**70.69**	**330**	⇓P	**P**	**07 04 12.3**	**+0.9**
	baz=71						
DBIC	**Dimbokro**	**70.69**	**70**	P	**P**	**07 04 12.3**	**+0.7**
DBIC	**Dimbokro**	**70.69**	**70**	P	**P**	**07 04 12.3**	**+0.7**
	comp=E,3.8nm,0.7s,baz=219,slow=8.3,SNR=5.0						
124A	**Stringfield Ra**	**70.84**	**327**	⇑P	**P**	**07 04 13.6**	**+1.2**
	baz=71						
Z25A	**Roswell**	**70.98**	**328**	⇓P	**P**	**07 04 14.6**	**+1.5**
	baz=71						
AMTX	**Amarillo**	**71.01**	**332**	⇓P	**P**	**07 04 14.5**	**+1.4**
	baz=71						
320A	**Kipp Ranch, An**	**71.23**	**324**	⇑P	**P**	**07 04 16.5**	**+1.8**
	baz=72						
U32A	**Winter Ranch,**	**71.25**	**334**	⇑P	**P**	**07 04 16.2**	**+1.7**
	baz=72						
Z24A	**Sheeppen Canyo**	**71.32**	**328**	⇑P	**P**	**07 04 16.4**	**+1.1**
	baz=72						
SFIN	**Scholer Farm**	**71.32**	**345**	⇓P	**P**	**07 04 17.3**	**+2.5**
	baz=72						
V30A	**Spur Ranch, Mi**	**71.36**	**333**	⇑P	**P**	**07 04 17.2**	**+2.0**
	baz=72						
Y25A	**Mesa, Roswell**	**71.50**	**329**	⇑P	**P**	**07 04 18.4**	**+2.2**
	baz=72						
W28A	**Vega**	**71.55**	**331**	⇓P	**P**	**07 04 18.4**	**+1.9**
	baz=72						
122A	**Conniff Cattle**	**71.58**	**326**	⇑P	**P**	**07 04 18.8**	**+2.1**
	baz=72						
Z23A	**Rita Site, Whi**	**71.67**	**327**	⇑P	**P**	**07 04 19.2**	**+1.9**
	baz=72						
220A	**Playas Peak, P**	**71.69**	**325**	⇑P	**P**	**07 04 19.3**	**+1.8**
	baz=72						
121A	**Cookes Peak, D**	**71.83**	**326**	⇓P	**P**	**07 04 20.2**	**+1.9**
	baz=72						
Z22A	**Elephant Butte**	**72.01**	**327**	⇑P	**P**	**07 04 21.5**	**+2.1**
	baz=72						
Y23A	**Lovelace Mesa,**	**72.14**	**328**	⇑P	**P**	**07 04 21.7**	**+1.5**
	baz=72						
120A	**U Bar Ranch, L**	**72.26**	**325**	⇑P	**P**	**07 04 23.2**	**+2.4**
	baz=73						
Z21A	**St. Cloud Mine**	**72.40**	**326**	⇓P	**P**	**07 04 23.5**	**+1.8**
	baz=73						
V26A	**Tequesquite Ra**	**72.68**	**330**	⇓P	**P**	**07 04 24.5**	**+1.2**
	baz=73						
T29A	**Hugoton**	**72.81**	**333**	⇑P	**P**	**07 04 26.2**	**+2.3**
	baz=73						
W24A	**Lazy 6 Ranch,**	**72.90**	**329**	⇑P	**P**	**07 04 26.1**	**+1.4**
	baz=73						
R32A	**Long Quarter,**	**72.94**	**336**	⇓P	**P**	**07 04 25.8**	**+1.2**
	baz=73						
V25A	**Rancho No Teng**	**73.08**	**330**	⇑P	**P**	**07 04 26.7**	**+1.0**
	baz=73						
R31A	**Burdett**	**73.12**	**335**	⇓P	**P**	**07 04 26.3**	**+0.7**
	baz=74						
S29A	**Ulysses**	**73.15**	**333**	⇑P	**P**	**07 04 27.0**	**+1.2**
	baz=74						
ANMO	**Albuquerque**	**73.16**	**328**	*e*P	**P**	**07 04 27.5**	**+1.3**
	comp=E,1.0nm,0.7s						
U26A	**Atchley Ranch,**	**73.17**	**331**	⇓P	**P

N22A	Wattenberg Ran baz=78	78.02	331	⇓P		P	07 04 56.0 +2.2
HEC	Hector,Ludlow baz=78	78.06	321	⇑P		P	07 04 55.8 +1.8
I30A	Oacoma baz=78	78.06	338	⇑P		P	07 04 54.7 +1.0
O20A	White River Ci baz=79	78.23	330	⇑P		P	07 04 57.2 +2.2
J28A	Allard Ranch, baz=79	78.25	336	⇓P		P	07 04 56.6 +1.8
M23A	Laramie baz=79	78.28	332	⇑P		P	07 04 56.8 +1.6
J27A	Elkhorn Farm, baz=79	78.38	336	⇓P		P	07 04 57.4 +1.9
CCUT	Cedar City comp=E,2.4nm,0.7s	78.58	325	*e*P		P	07 04 58.7 +1.7
M22A	Cedar Creek Ra baz=79	78.58	332	⇓P		P	07 04 59.2 +2.3
I28A	Midland baz=79	78.73	337	⇓P		P	07 04 58.9 +1.5
N20A	Spence Gulch, baz=79	78.81	330	⇓P		P	07 04 59.7 +1.5
J26A	Sides Ranch, S baz=79	78.82	335	⇑P		P	07 04 59.8 +1.8
SHOC	Shoshone baz=79	78.83	322	⇑P		P	07 05 00.6 +2.4
I27A	Quinn baz=80	79.10	336	⇑P		P	07 05 00.9 +1.5
J25A	Sunshine Ranch baz=80	79.16	335	⇓P		P	07 05 01.4 +1.6
I26A	New Underwood baz=80	79.36	335	⇓P		P	07 05 02.1 +1.3
BOSA	Boshof	79.55	117	P		P	07 05 02.6 +0.1
BOSA	Boshof comp=E,3.3nm,0.5s,baz=77,slow=4.1,SNR=12	79.55	117	P		P	07 05 02.6 +0.1
FURC	Furnace Creek, baz=80	79.57	322	⇑P		P	07 05 04.1 +2.0
K22A	Casper baz=80	79.59	332	⇓P		P	07 05 04.2 +1.9
H27A	Howes baz=80	79.60	336	⇑P		P	07 05 03.0 +0.8
TORD	Torodi Ar. Bea	79.63	69	P		P	07 05 03.5 +0.6
TORD				pP		pP	07 05 31.1 +1.6
TORD	Torodi Ar. Bea comp=E,7.0nm,0.7s,baz=276,slow=5.4,SNR=47	79.63	69	P		P	07 05 03.5 +0.6
TORD				pP		pP	07 05 31.1 +1.6
F30A	Leola comp=E,2.3nm,1.0s,baz=247,slow=5.1,SNR=3.4 baz=80	79.64	339	⇓P		P	07 05 02.6 +0.3
I25A	Rochford baz=80	79.67	335	⇑P		P	07 05 03.9 +1.2
RSSD	Black Hills comp=E,3.4nm,0.8s	79.87	335	*e*P		P	07 05 04.6 +0.8
K21A	Alcova baz=80,SNR=5.2	79.87	332	⇓P		P	07 05 05.1 +1.3
J22A	Midwest baz=81	80.21	333	⇑P		P	07 05 06.4 +0.9
R11A	Troy Canyon, C baz=81	80.32	324	⇑P		P	07 05 07.5 +1.1
G26A	Maurine baz=81	80.36	336	⇑P		P	07 05 06.8 +0.6
G25A	Newell baz=81	80.56	336	⇓P		P	07 05 08.2 +0.9
H24A	Dirks Ranch, A baz=81	80.59	335	⇓P		P	07 05 08.6 +1.0
I22A	9 Mile Ranch, baz=81,SNR=6.0	80.61	333	⇑P		P	07 05 08.3 +0.6
F27A	Lemmon baz=81	80.66	337	⇑P		P	07 05 08.6 +0.8
D30A	Buchanan baz=81	80.69	340	⇓P		P	07 05 08.7 +0.8
H23A	Clabaugh Cattl baz=81	80.76	334	⇑P		P	07 05 09.2 +0.8
J20A	Shoshoni baz=81	80.81	332	⇑P		P	07 05 10.4 +1.6
E28A	Huff baz=81	80.83	338	⇑P		P	07 05 09.8 +1.1
F26A	Lodgepole baz=81	80.87	337	⇓P		P	07 05 09.6 +0.7
I21A	Big Trails, Te baz=81,SNR=5.8	80.87	333	⇓P		P	07 05 09.9 +0.8
AGMN	Agassiz Nation comp=E,7.0nm,0.8s	80.93	342	*e*P		P	07 05 09.0 -0.1
BW06	Boulder Array comp=E,1.9nm,0.7s	80.95	331	*e*P		P	07 05 10.0 +0.3
PDAR	Pinedale Array	80.95	331	P		P	07 05 09.9 +0.2
PDAR	Pinedale Array comp=E,1.8nm,0.7s,baz=129,slow=6.8,SNR=14	80.95	331	P		P	07 05 09.9 +0.2
E27A	Carson baz=81	80.99	337	⇑P		P	07 05 10.4 +0.8
G24A	Alzada baz=81	81.04	335	⇓P		P	07 05 10.5 +0.6
J19A	Crowheart baz=82,SNR=6.4	81.14	331	⇓P		P	07 05 11.9 +1.3
H22A	Clearmont baz=82	81.15	334	⇑P		P	07 05 11.4 +0.9
F25A	Bowman baz=82	81.21	336	⇑P		P	07 05 11.8 +1.1
G23A	Biddle baz=82	81.29	335	⇓P		P	07 05 12.0 +0.8
I20A	Worland baz=82	81.32	332	⇑P		P	07 05 12.5 +1.0
D28A	Regan baz=82	81.34	338	⇑P		P	07 05 12.4 +1.0
H21A	Big Horn, Sher baz=82,SNR=5.9	81.45	333	⇑P		P	07 05 12.6 +0.5
F24A	Ekalaka baz=82	81.49	335	⇓P		P	07 05 13.2 +1.0
G22A	Birney baz=82	81.65	334	⇓P		P	07 05 13.8 +0.7
E25A	Miller Ranch, baz=82	81.68	336	⇓P		P	07 05 14.0 +0.8
H20A	Greybull baz=82,SNR=7.3	81.71	333	⇓P		P	07 05 14.0 +0.5
F23A	Volborg baz=82	81.74	335	⇓P		P	07 05 14.3 +0.7
I19A	Meeteetse baz=82	81.75	332	⇓P		P	07 05 15.3 +1.5
B30A	Myrvik Farm, E baz=82	81.77	340	⇑P		P	07 05 14.4 +0.8
NVAR	Mina Array Bea	81.79	323	P		P	07 05 14.2 0.0
NVAR	Mina Array Bea comp=E,0.8nm,0.9s,baz=153,slow=5.3,SNR=5.6	81.79	323	P		P	07 05 14.2 0.0
G21A	Lodge Grass baz=82	82.01	333	⇑P		P	07 05 15.8 +0.8
E24A	Baker baz=82	82.06	336	⇑P		P	07 05 16.2 +1.0
LOHW	Long Hollow comp=E,1.9nm,0.8s	82.08	331	*e*P		P	07 05 16.5 +0.9
C27A	Sayler Ranch, baz=82	82.10	338	⇓P		P	07 05 15.9 +0.6
F22A	Rosebud baz=82	82.11	334	⇑P		P	07 05 16.6 +1.1
D25A	Fairfield baz=83	82.22	337	⇑P		P	07 05 17.3 +1.3
H19A	Powell baz=83	82.27	332	⇓P		P	07 05 17.6 +1.1
I17A	Pilgrim Ck. baz=83	82.32	331	⇓P		P	07 05 18.9 +2.1
G20A	Bridger baz=83,SNR=8.9	82.41	333	⇑P		P	07 05 17.4 +0.3
IMW	Indian Meadow comp=E,4.0nm,1.0s	82.46	330	*e*P		P	07 05 18.6 +1.0
FLWY	Flagg Ranch comp=E,3.7nm,0.7s	82.50	331	*e*P		P	07 05 19.1 +1.3
D24A	Glendive baz=83	82.54	336	⇓P		P	07 05 18.7 +1.0
H18A	Shoshone NF, C baz=83,SNR=9.7	82.55	332	⇓P		P	07 05 18.5 +0.5
ULM	Lac du Bonnet	82.72	343	P		P	07 05 17.9 -0.5
ULM	Lac du Bonnet comp=E,1.3nm,0.5s,baz=164,slow=3.5,SNR=4.8	82.72	343	P		P	07 05 17.9 -0.5
D23A	Lindsay baz=83	82.90	336	⇑P		P	07 05 20.7 +1.2
C24A	Savage baz=83	82.93	336	⇑P		P	07 05 20.8 +1.2
F19A	Roth Farm, Mol baz=84	83.22	333	⇑P		P	07 05 22.0 +0.8
E20A	Meyer Farm, Mu baz=84,SNR=6.7	83.43	334	⇓P		P	07 05 23.1 +0.8
D21A	La Casta Ranch baz=84	83.47	335	⇑P		P	07 05 23.1 +0.6
DGMT	Dagmar baz=84	83.65	337	⇓P		P	07 05 24.5 +1.2
E19A	Rath Farm, Rou baz=84,SNR=8.2	83.65	333	⇑P		P	07 05 24.0 +0.6
HLID	Hailey baz=84	83.74	328	⇓P		P	07 05 24.9 +0.8
D20A	Manuel Ranch, baz=84,SNR=5.7	83.92	334	⇓P		P	07 05 25.3 +0.5
B22A	Reddig Ranch S baz=84	84.14	336	⇑P		P	07 05 26.6 +0.7
C21A	Desert Coulee baz=84,SNR=5.8	84.14	335	⇑P		P	07 05 26.1 +0.2
D19A	Cripps Ranch, baz=85	84.27	334	⇓P		P	07 05 26.6 +0.1
C20A	Veseth Ranch, baz=85	84.39	334	⇓P		P	07 05 27.5 +0.4
A22A	Carney Farms, baz=85	84.69	336	⇑P		P	07 05 29.5 +0.9
C19A	Slack Wire Ran baz=85	84.80	334	⇑P		P	07 05 30.1 +0.9
A21A	Bergtoll Ranch baz=85	85.05	336	⇓P		P	07 05 31.8 +1.4
A20A	Cobblestone Ra baz=86	85.33	335	⇑P		P	07 05 32.5 +0.7
B19A	Brinkman Farms baz=86	85.35	334	⇓P		P	07 05 32.6 +0.7
J08A	Circle Bar Ran comp=E,95nm,3.0s	85.52	326	*e*P		P	07 05 34.1 +1.2
A19A	Klindworth Far baz=86	85.67	335	⇓P		P	07 05 33.8 +0.3
MSO	Missoula baz=86	86.07	331	⇓P		P	07 05 37.7 +2.1
ASAR	Alice Springs	123.25	205	PKP		PKPdf	07 11 51.0 -0.9
ASAR	Alice Springs comp=E,1.1nm,0.6s,baz=132,slow=1.7,SNR=21	123.25	205	PKP		PKPdf	07 11 51.0 -0.9
WRA	Warramunga Arr	126.46	207	PKP		PKPdf	07 11 57.4 -0.7
WRA	Warramunga Arr comp=E,2.0nm,0.4s,baz=160,slow=1.7,SNR=22	126.46	207	PKP		PKPdf	07 11 57.4 -0.7
ZALV	Zalesovo Beam	148.51	31	PKPbc		PKPbc	07 12 41.5 +0.7
ZALV				pPKPbc		pPKPbc	07 13 09.7 +0.8
ZALV	Zalesovo Beam comp=E,9.9nm,0.4s,baz=312,slow=3.1,SNR=46	148.51	31	PKPbc		PKPbc	07 12 41.5 +0.7
ZALV				pPKPbc		pPKPbc	07 13 09.7 +0.8
KSH	Kashi comp=E,2.9nm,0.6s,baz=304,slow=3.8,SNR=3.5	149.03	61	PKPbc		PKPbc	07 12 43.2 +0.4
MKAR	Makanchi Array	151.22	44	PKPbc		PKPbc	07 12 48.0 +0.3
MKAR				PKPab		PKPab	07 12 56.9 +0.9
MKAR				pPKPbc		pPKPbc	07 13 17.7 +1.9
MKAR	Makanchi Array comp=E,5.0nm,0.6s,baz=302,slow=2.0,SNR=53	151.22	44	PKPbc		PKPbc	07 12 48.0 +0.3
MKAR				PKPab		PKPab	07 12 56.9 +0.9
MKAR				pPKPbc		pPKPbc	07 13 17.7 +1.9
WMQ	Urumqi comp=E,1.2nm,0.8s,baz=270,slow=2.8,SNR=3.1	155.98	46	PKP		PKPdf	07 12 48.0 -0.6
SONM	Songino Array	160.93	11	PKPab		PKPab	07 13 38.2 +0.7
SONM	Songino Array comp=E,0.3nm,0.7s,baz=338,slow=4.7,SNR=4.6	160.93	11	PKPab		PKPab	07 13 38.2 +0.7
CN2	Changchun	161.65	326	*e*PKP		PKPdf	07 12 54.9 -0.3
HHC	Hu-ho-hao-te	168.34	360	*e*PKP		PKPdf	07 12 58.7 -2.4
HHC				pPKP		pPKPdf	07 13 25.7 -4.0
HHC				sPKP			07 13 36.2
HHC				PKS		PKSdf	07 16 30.0 -3.7
HHC				PP		PP	07 17 59.6 +1.0
HHC				SKS		SKSdf	07 19 51.0 -4.5
HHC				SKKS		SKKSac	07 24 35.5 -1.3
HHC				SS		SS	07 38 40.0 -0.5
HHC				AMB		AMB	
	comp=E,160nm,9.7s						
HHC				LR		LR	
	comp=E,180nm,21.9s						
HHC				LR		LR	
	comp=E,170nm,22.2s						
HHC				LR		LR	
	comp=E,150nm,22.7s						
KMI	Kunming	171.18	115	PKP		PKPdf	07 13 05.8 +2.4
CD2	Chengdu	173.01	74	*e*PKP		PKPdf	07 13 03.5 -0.4

MEX 05 06:56:30.2±0.8, 16°33N×97°60W, h39km±17km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.51	277	*e*P		Pn		06 56 39.2	-2.0
PNIG				*i*S		Sn		06 56 47.1	-1.7
VHO	Vista Hermosa	1.11	48	*i*P		Pn		06 56 47.0	-2.5
VHO				*i*S		Sn		06 56 01.8	-2.0
UTMO	Huajuapan	1.51	352	*i*P		Pn		06 56 52.9	-2.1
UTMO				*i*S		Sn		06 57 11.5	-2.2
HUIG	Huatulco	1.54	111	*e*P		Pn		06 56 53.5	-1.6
HUIG				*i*S		Sn		06 57 12.4	-1.4
TLIG	Tlapa	1.54	323	*e*P		Pn		06 56 54.1	-1.3
TLIG				*i*S		Sn		06 57 12.5	-1.7
TPIG	Tehuac#an	2.09	6	*i*P		Pn		06 57 01.4	-1.6
TPIG				*i*S		Sn		06 57 25.9	-2.1
PLIG	Platanillo	2.75	319	*i*P		Pn		06 57 10.9	-0.9
PLIG				*i*S		Sn		06 57 42.4	-1.5
YAIG	Yautepec	2.88	331	*i*P		Pn		06 57 12.6	-1.3
YAIG				*i*S		Sn		06 57 45.4	-2.1

CASC 05 07:00:29.3±1.2, 13°31N×89°72W, h31km±5km, MD3.7, ML3.7, 3C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.54	10	⇓*i*P		Pb		07 00 40.9	+0.1
SNJE	San Jose	0.57	11	⇓*i*P		Pb		07 00 41.2	0.0
RTR	El Retiro	0.59	7	⇓*i*P		Pb		07 00 41.6	+0.1
BOQS	Boqueron	0.60	45	⇑*e*P		Pb		07 00 41.7	0.0
BOQS				*e*S		Sn		07 00 51.4	+0.5
SNET	Serv Nac Est T	0.61	51	⇓*e*P		Pb		07 00 41.4	-0.3
SNET				AML		AML		07 00 54.2	
	comp=Z,3μm,0.2s								
LFRS	El Faro	0.71	64	⇓*i*P		Pn		07 00 42.9	-0.5
LFRS				*e*S		Sn		07 00 53.6	+0.2
LFU	La Fuente	0.73	53	⇓*i*P		Pn		07 00 43.5	-0.1
LFU				*e*S		Sn		07 00 54.6	+0.7
LBRS	Las Brisas	0.78	57	⇓*i*P		Pn		07 00 44.3	-0.1
LBRS				*e*S		Sn		07 00 55.1	0.0
RBDL	Robledal	0.80	2	⇓*i*P		Pn		07 00 44.5	-0.2
SNVI	San Vicente	0.91	70	*e*P		Pn		07 00 45.8	-0.3
NBG	Las Nubes	1.41	334	⇓*e*P		Pn		07 00 54.0	+0.8
VSM	San Miguel	1.41	85	*e*P		Pn		07 00 53.0	-0.2
CAHU	Cacacuatique	1.54	72	*e*P		Pn		07 00 54.2	-0.7
MRL	Marmol	1.75	1	⇑*i*P		Pn		07 00 57.8	+0.1
MRL				⇑*e*P		Pn		07 00 58.7	+0.9
CNCH	Conchagua	1.84	91	*e*P		Pn		07 00 58.4	-0.5
JAT	Jato	2.12	299	*e*P		Pn		07 01 03.2	+0.7

*NEIC **05** 07:15:10.3, 40°.81S×172°.90E, h212km, MG4.0(WEL), After WEL:*
WEL 05 07:15:10.8±0.3, 40°.81S×172°.91E, h209km±2km, ML4.0/17, 17C-12D, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.29	266	PN		Pn		07 15 38.4	+0.1
QRZ				SN		S		07 15 58.7	-1.1
NNZ	Nelson	0.55	139	⇑PN		Pn		07 15 39.2	+0.2
NNZ				SN		S		07 16 00.3	-0.9
NNZ	Nelson	0.55	139	Pn		Pn		07 15 39.2	+0.2
NNZ				Sn		S		07 16 00.3	-0.9
DUWZ	D'Urville Isla	0.77	90	PN		Pn		07 15 40.4	+0.3
DUWZ				SN		S		07 16 02.3	-0.6
DUWZ	D'Urville Isla	0.77	90	Pn		Pn		07 15 40.4	+0.3
THZ	Tophouse	0.96	180	PN		Pn		07 15 41.4	+0.2
THZ				SN		S		07 16 04.0	-1.0
THZ	Tophouse	0.96	180	Pn		Pn		07 15 41.4	+0.2
TUWZ	Tuamarina	1.00	129	⇑PN		Pn		07 15 41.6	+0.3
TUWZ				SN		S		07 16 04.6	-0.6
TUWZ				AML		AML		07 16 05.3	
TUWZ	Tuamarina	1.00	129	Pn		Pn		07 15 41.6	+0.3
TCW	Tory Channel	1.11	112	⇑PN		Pn		07 15 42.5	+0.3
TCW				SN		S		07 16 05.2	-1.3
TCW				AML		AML		07 16 06.3	
TCW	Tory Channel	1.11	112	Pn		Pn		07 15 42.5	+0.3
BSWZ	Blackbirch Sta	1.17	142	⇑PN		Pn		07 15 42.7	+0.2
BSWZ				AML		AML		07 16 08.3	
BSWZ				AML		AML		07 16 08.8	
BSWZ	Blackbirch Sta	1.17	142	Pn		Pn		07 15 42.7	+0.2
DSZ	Denniston Nort	1.26	221	PN		Pn		07 15 42.9	-0.4
DSZ				SN		S		07 16 06.6	-1.9
DSZ	Denniston Nort	1.26	221	Pn		Pn		07 15 42.9	-0.4
DSZ				Sn		S		07 16 06.6	-1.9
SNZO	South Karori	1.45	111	PN		Pn		07 15 44.5	-0.2
SNZO						AML	AML	07 16 11.6	
SNZO						AML	AML	07 16 11.8	
SNZO	South Karori	1.45	111	Pn		Pn		07 15 44.5	-0.2
WEL	Wellington	1.48	109	PN		Pn		07 15 44.9	-0.1
WEL	Wellington	1.48	109	Pn		Pn		07 15 44.9	-0.1
KIW	Kapiti Island	1.52	93	PN		Pn		07 15 45.3	-0.1
KIW						AML	AML	07 16 11.5	
KIW						AML	AML	07 16 12.2	
KIW	Kapiti Island	1.52	93	Pn		Pn		07 15 45.3	-0.1
NMEZ	Namu Road	1.58	28	⇑PN		Pn		07 15 45.9	0.0
BHW	Baring Head	1.60	113	PN		Pn		07 15 45.7	-0.4
BHW						AML	AML	07 16 13.6	
BHW						AML	AML	07 16 13.6	
BHW	Baring Head	1.60	113	Pn		Pn		07 15 45.7	-0.4
CAW	Cannon Point	1.66	101	PN		Pn		07 15 46.5	-0.2
CAW						AML	AML	07 16 15.3	
CAW						AML	AML	07 16 15.4	
CAW	Cannon Point	1.66	101	Pn		Pn		07 15 46.5	-0.2
KHZ	Kahutara	1.68	164	⇑PN		Pn		07 15 46.2	-0.6
KHZ						AML	AML	07 16 13.6	
KHZ						AML	AML	07 16 14.0	
KHZ	Kahutara	1.68	164	Pn		Pn		07 15 46.2	-0.6
NWEZ	Newall Road	1.70	26	PN		Pn		07 15 46.9	-0.1
NWEZ	Newall Road	1.70	26	Pn		Pn		07 15 46.9	-0.1
OGWZ	Otaki Gorge	1.72	91	PN		Pn		07 15 47.2	+0.1
OGWZ	Otaki Gorge	1.72	91	Pn		Pn		07 15 47.2	+0.1
KHEZ	Kahui Hut	1.73	30	⇓PN		Pn		07 15 47.2	-0.3
DFE	Dawson Falls	1.74	32	PN		Pn		07 15 47.2	-0.4
DFE	Dawson Falls	1.74	32	Pn		Pn		07 15 47.2	-0.3
NEZ	North Egmont	1.78	31	PN		Pn		07 15 47.5	-0.4
NEZ	North Egmont	1.78	31	Pn		Pn		07 15 47.5	-0.4
PKE	Pukeiti	1.81	28	⇓PN		Pn		07 15 47.7	-0.4
PKE	Pukeiti	1.81	28	Pn		Pn		07 15 47.7	-0.4
MSWZ	Moikau Station	1.87	110	PN		Pn		07 15 48.2	-0.4
MSWZ						AML	AML	07 16 17.8	
MSWZ						AML	AML	07 16 18.1	
MSWZ	Moikau Station	1.87	110	Pn		Pn		07 15 48.2	-0.4
DREZ	Durham Road	1.89	32	PN		Pn		07 15 48.7	-0.3
DREZ	Durham Road	1.89	32	Pn		Pn		07 15 48.7	-0.3
WAZ	Wanganui	1.90	57	⇓PN		Pn		07 15 49.2	+0.1
WAZ	Wanganui	1.90	57	Pn		Pn		07 15 49.1	+0.1
PLWZ	Palliser	1.93	114	⇑PN		Pn		07 15 48.8	-0.5
PLWZ	Palliser	1.93	114	Pn		Pn		07 15 48.8	-0.5
HOWZ	Holdsworth Sta	1.98	94	PN		Pn		07 15 49.4	-0.3
HOWZ	Holdsworth Sta	1.98	94	Pn		Pn		07 15 49.5	-0.3
PAWZ	Paruwai Farm	1.99	108	PN		Pn		07 15 49.4	-0.4
PAWZ						AML	AML	07 16 20.1	
PAWZ						AML	AML	07 16 20.1	
PAWZ	Paruwai Farm	1.99	108	Pn		Pn		07 15 49.4	-0.4
MTW	Mount Morrison	1.99	101	PN		Pn		07 15 49.5	-0.3
MTW						AML	AML	07 16 20.1	
MTW						AML	AML	07 16 20.2	
MTW	Mount Morrison	1.99	101	Pn		Pn		07 15 49.5	-0.3
MRZ	Mangatainoka R	2.03	87	PN		Pn		07 15 49.9	-0.3
MRZ						AML	AML	07 16 21.6	
MRZ						AML	AML	07 16 22.9	
MRZ	Mangatainoka R	2.03	87	Pn		Pn		07 15 49.9	-0.3
MHEZ	Mangahewa	2.04	33	PN		Pn		07 15 50.3	-0.1
MHEZ	Mangahewa	2.04	33	Pn		Pn		07 15 50.3	-0.1
TRWZ	Traveller	2.18	107	⇑PN		Pn		07 15 51.7	-0.1
TRWZ						AML	AML	07 16 23.3	
TRWZ						AML	AML	07 16 24.4	
TRWZ	Traveller	2.18	107	Pn		Pn		07 15 51.7	-0.1
VRZ	Vera Road	2.20	41	PN		Pn		07 15 50.9	-1.1
VRZ	Vera Road	2.20	41	Pn		Pn		07 15 51.0	-1.0
POWZ	Post Office Ro	2.21	80	⇓PN		Pn		07 15 51.8	-0.3
POWZ	Post Office Ro	2.21	80	Pn		Pn		07 15 51.9	-0.3
TIWZ	Tintock	2.26	90	⇓PN		Pn		07 15 52.3	-0.3
TIWZ						AML	AML	07 16 25.4	
TIWZ						AML	AML	07 16 27.0	
TIWZ	Tintock	2.26	90	Pn		Pn		07 15 52.3	-0.3
TMWZ	Te Maipa	2.28	99	⇓PN		Pn		07 15 52.6	-0.3
TMWZ	Te Maipa	2.28	99	Pn		Pn		07 15 52.6	-0.3
PRWZ	Pori Road	2.34	85	⇓PN		Pn		07 15 53.5	0.0
PKVZ	Pokaka	2.41	52	⇑PN		Pn		07 15 53.6	-0.7
PKVZ	Pokaka	2.41	52	Pn		Pn		07 15 53.6	-0.7
MTVZ	Mangateitei	2.42	55	PN		Pn		07 15 53.7	-0.7
TSZ	Takapari Road	2.44	73	PN		Pn		07 15 54.3	-0.4
TSZ						AML	AML	07 16 28.5	
TSZ						AML	AML	07 16 29.7	
TSZ	Takapari Road	2.44	73	Pn		Pn		07 15 54.3	-0.4
CPWZ	Castlepoint	2.50	93	PN		Pn		07 15 55.4	+0.2
TRVZ	Turoa	2.52	54	PN		Pn		07 15 54.7	-1.1
TRVZ	Turoa	2.52	54	Pn		Pn		07 15 54.7	-1.1
DVKZ	Dannevirke	2.53	80	PN		Pn		07 15 55.1	-0.5
DVHZ	Dannevirke	2.53	80	Pn		Pn		07 15 55.1	-0.5
WNVZ	Wahianoa	2.54	55	⇓PN		Pn		07 15 54.8	-1.0
WNVZ	Wahianoa	2.54	55	Pn		Pn		07 15 54.8	-1.0
BFZ	Birch Farm	2.54	88	⇑PN		Pn		07 15 55.2	-0.4
BFZ	Birch Farm	2.54	88	Pn		Pn		07 15 55.2	-0.4
DRZ	Dome Shelter	2.55	54	PN		Pn		07 15 55.6	-0.5
DRZ	Dome Shelter	2.55	54	Pn		Pn		07 15 55.6	-0.5
FWVZ	Far West T-bar	2.55	54	⇓PN		Pn		07 15 54.9	-1.2
FWVZ	Far West T-bar	2.55	54	Pn		Pn		07 15 54.9	-1.2
WPVZ	Whakapapa	2.58	53	PN		Pn		07 15 55.2	-1.0
WPVZ	Whakapapa	2.58	53	Pn		Pn		07 15 55.2	-1.0
COVZ	Chateau Observ	2.58	52	⇑PN		Pn		07 15 55.2	-1.1
MOVZ	Moawhango	2.59	58	⇓PN		Pn		07 15 55.0	-1.2
MOVZ	Moawhango	2.59	58	Pn		Pn		07 15 55.0	-1.2
OXZ	Oxford	2.60	194	PN		Pn		07 15 55.3	-1.0
TWVZ	Taurewa	2.60	49	PN		Pn		07 15 55.1	-1.4
TWVZ	Taurewa	2.60	49	Pn		Pn		07 15 55.1	-1.4
TUVZ	Tukino	2.61	55	PN		Pn		07 15 55.6	-1.0
TUVZ	Tukino	2.61	55	Pn		Pn		07 15 55.6	-1.0
NGZ	Ngauruhoe	2.63	53	PN		Pn		07 15 55.6	-1.2
NGZ	Ngauruhoe	2.63	53	Pn		Pn		07 15 55.6	-1.2
WTVZ	West Tongariro	2.66	52	PN		Pn		07 15 56.0	-1.2
WTVZ	West Tongariro	2.66	52	Pn		Pn		07 15 56.0	-1.2
PNHZ	Pukenui	2.67

KNZ	Kokohu	4.07	66	Pn	Pn	07 16 12.3 -1.4
LBZ	Lake Benmore	4.11	208	PN	Pn	07 16 12.2 -1.9
LBZ	Lake Benmore	4.11	208	Pn	Pn	07 16 12.2 -1.9
URZ	Urewera	4.12	53	PN	Pn	07 16 11.8 -2.6
URZ	Urewera	4.12	53	Pn	Pn	07 16 11.8 -2.6
MHGZ	Mahia Peninsul	4.18	68	PN	Pn	07 16 14.5 -0.6
MHGZ	Mahia Peninsul	4.18	68	Pn	Pn	07 16 14.5 -0.6
PRGZ	Paritu Road	4.26	65	PN	Pn	07 16 15.0 -1.1
PRGZ	Paritu Road	4.26	65	Pn	Pn	07 16 15.0 -1.1
RIGZ	Rimuhau	4.29	62	PN	Pn	07 16 14.8 -1.7
MWZ	Matawai	4.34	57	PN	Pn	07 16 14.9 -2.2
MWZ	Matawai	4.34	57	Pn	Pn	07 16 14.9 -2.2
JCZ	Jackson Bay	4.48	222	PN	Pn	07 16 16.5 -2.4
JCZ	Jackson Bay	4.48	222	Pn	Pn	07 16 16.5 -2.4
ODZ	Otahua Downs	4.55	201	⇑PN	Pn	07 16 18.2 -1.4
ODZ	Otahua Downs	4.55	201	Pn	Pn	07 16 18.2 -1.4
CNGZ	Carnagh Statio	4.70	62	PN	Pn	07 16 20.6 -1.0
CNGZ	Carnagh Statio	4.70	62	Pn	Pn	07 16 20.6 -1.0
WKZ	Wanaka	4.94	214	PN	Pn	07 16 21.6 -2.9
WKZ	Wanaka	4.94	214	Pn	Pn	07 16 21.6 -2.9
PUZ	Puketiti	4.96	58	PN	Pn	07 16 22.4 -2.5
PUZ	Puketiti	4.96	58	Pn	Pn	07 16 22.4 -2.5
EAZ	Earnscleugh	5.15	210	⇑PN	Pn	07 16 24.2 -2.9
EAZ	Earnscleugh	5.15	210	Pn	Pn	07 16 24.2 -2.9
WHZ	Wether Hill Ro	6.24	214	PN	Pn	07 16 38.0 -3.2
WHZ	Wether Hill Ro	6.24	214	Pn	Pn	07 16 38.0 -3.2
APZ	The Paps	7.00	209	PN	Pn	07 16 48.1 -2.8
PYZ	Puysegur Point	7.02	218	PN	Pn	07 16 48.5 -2.6

*NEIC **05** 07:19:01.7±0.2, 12°.20N×125°.60E, h10km, mb4.8/21, Error ellipse: s-maj=9.0km s-min=5.1km az=62.0*
*MOS **05** 07:19:02.0±0.8, 12°.15N×125°.56E, h25km, mb4.9/30, Error ellipse: s-maj=14.5km s-min=7.0km az=122.3*
*MAN **05** 07:19:02, 12°.29N×125°.88E, h50km, mb5.0, ML3.9, MS4.0*
*IDC **05** 07:19:04.7±3.1, 12°.19N×125°.63E, h30km±21km, mb4.2/19, mb1 4.3/19, mb1mx4.2/27, mbtmp4.1/19, MS3.7/6, Ms1 3.7/6, ms1mx3.3/35, Error ellipse: s-maj=28.0km s-min=12.3km az=69.0*
*ISCJB **05** 07:19:05.4±1.0, 12°.19N±0°.04×125°.71E±0°.06, h55km±9km, mb4.6/65, MS3.7/8, Error ellipse: s-maj=10.1km s-min=6.1km az=149.1*

ISC 05 07:19:04.4±1.5, 12°.20N±0°.05×125°.61E±0°.07, h28km±9km, n151, σ0°.83/158, mb4.7/65, MS3.7/8, 3C-4D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	Palo	1.20	211	⇓eP	Pn	07 19 25.2	-0.2
PLP				eS	Sb	07 19 41.7	+0.1
MMPH	Masbate	1.95	275	⇓eP	Pb	07 19 37.5	-1.8
MMPH				i S	Sb	07 20 05.0	+1.9
SCPH	Surigao	2.41	183	eP	Pn	07 19 42.8	+0.8
SCPH				eS	Sn	07 20 11.9	+1.3
LLP	Lapu-Lapu	2.47	221	eP	Pn	07 19 44.5	+1.7
LLP				eS	Sb	07 20 16.6	-1.5
RCP	Roxas	2.88	258	⇓eP	Pn	07 19 50.6	+2.2
RCP				eS	Sb	07 20 28.6	-1.2
TGY	Tagaytay City	4.93	293	Pn	Pn	07 20 21.7	+5.0
TGY	Tagaytay City	4.93	293	Pn	Pn	07 20 21.7	+5.0
	42nm,0.3s,baz=104,slow=17,SNR=2.2						
KAPI	Kappang	18.07	199	P	P	07 23 16.5	+2.7
KAPI	Kappang	18.07	199	P	P	07 23 16.5	+2.7
	0.5nm,0.3s,baz=354,slow=8.1,SNR=5.8						
GUMO	Guam	18.82	84	eP	Pn	07 23 24.5	+1.8
	54nm,1.4s						
CHAI	Chaiyaphum	23.21	282	P	P	07 24 08.9	-0.4
	18nm,0.8s						
ENH	Enshi	23.38	323	eP	P	07 24 11.4	+0.4
	23nm,1.0s						
PBKT	Sadao Pong	24.25	283	P	P	07 24 20.4	+1.1
	18nm,0.9s,3μm						
KSAR	Wonju Array Be	25.22	4	P	P	07 24 27.1	-0.8
KSRS	Korea Array	25.23	4	P	P	07 24 27.0	-0.9
	2.8nm,0.9s,baz=185,slow=12,SNR=4.1						
KSRS				LR	LR	07 32 47.3	
	comp=Z,73nm,21.5s,baz=165,slow=33						
CRAI	Chiangrai	25.49	291	P	P	07 24 31.0	+0.4
	14nm,1.0s,11μm						
LAMP	Lampang	25.81	287	P	P	07 24 34.0	+0.5
	5.5nm,0.8s						
CM31	Chiang Mai Arr	26.44	287	eP	P	07 24 39.2	0.0
	7.4nm,0.4s						
CMAR	Chiang Mai Arr	26.44	287	P	P	07 24 39.4	+0.2
CMAR	Chiang Mai Arr	26.44	287	P	P	07 24 39.4	+0.2
	9.0nm,0.8s,baz=94,slow=7.8,SNR=26						
CMAR				LR	LR	07 36 29.2	
	comp=Z,144nm,18.1s,baz=100,slow=40						
CMMT	Chiang Mai	26.50	288	P	P	07 24 39.7	0.0
	8.6nm,0.9s						
CHTO	Chiang Mai	26.50	288	eP	P	07 24 39.4	-0.4
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	Chiang Mai	26.50	288	eP	P	07 24 39.4	-0.4
	comp=Z,6.1nm,0.8s						
CHTO	Chiang Mai	26.50	288	P	P	07 24 39.7	-0.1
	comp=Z,39nm,0.9s						
CMAI	Chiengmai2	26.64	290	P	P	07 24 41.2	+0.1
	comp=Z,16nm,1.1s,comp=Z,560nm						
MJAR	Matsushiro Arr	26.76	23	LR	LR	07 33 55.7	
	comp=Z,99nm,19.1s,baz=165,slow=33						
PSI	Prapat	28.03	253	LR	LR	07 36 20.3	
	comp=Z,250nm,18.1s,baz=42,slow=37						
FITZ	Fitzroy Crossi	30.11	180	eP	P	07 25 11.3	-0.6
	comp=Z,7.2nm,0.8s						
WRAB	Tennant Creek	33.07	165	eP	P	07 25 36.5	-1.4
WRAB				pmax	pmax		
	comp=Z,14nm,1.6s						
WRAB	Tennant Creek	33.07	165	eP	P	07 25 36.5	-1.4
	comp=Z,14nm,1.6s						
WRA	Warramunga Arr	33.08	165	P	P	07 25 36.4	-1.5
WRA				PcP	PcP	07 28 21.1	-0.1
WRA				ScP	ScP	07 32 02.7	-1.0
WRA	Warramunga Arr	33.08	165	P	P	07 25 36.4	-1.5
	comp=Z,0.7nm,0.6s,baz=338,slow=10,SNR=3.3						
WRA				PcP	PcP	07 28 21.1	-0.1
	comp=Z,2.3nm,0.8s,baz=340,slow=3.1,SNR=11						
WRA				ScP	ScP	07 32 02.7	-1.0
	comp=Z,0.6nm,0.5s,baz=332,slow=4.0,SNR=2.6						
ASAJ	Asahikawa	35.00	22	LR	LR	07 38 36.7	
	comp=Z,95nm,21.3s,baz=266,slow=34						
AS31	Alice Springs	36.56	167	eP	P	07 26 09.1	+1.1
ASAR	Alice Springs	36.56	167	P	P	07 26 07.5	-0.5
ASAR				PcP	PcP	07 28 30.7	-0.6
ASAR				ScP	ScP	07 32 14.8	-1.4
ASAR	Alice Springs	36.56	167	P	P	07 26 07.5	-0.5
	comp=Z,2.0nm,0.6s,baz=342,slow=6.8,SNR=39						
ASAR				PcP	PcP	07 28 30.7	-0.6
	comp=Z,2.0nm,0.9s,baz=350,slow=3.1,SNR=7.9						
ASAR				ScP	ScP	07 32 14.8	-1.4
	comp=Z,1.4nm,0.9s,baz=346,slow=3.3,SNR=8.9						
TAPN	Taplejung	38.54	299	eP	P	07 26 25.2	0.0
	comp=Z,22nm,0.9s						
TAPN	Taplejung	38.54	299	eP	P	07 26 25.2	0.0
	comp=Z,22nm,0.9s						
ODAN	Odare	38.69	298	eP	P	07 26 26.4	0.0
	comp=Z,57nm,0.8s						
ODAN	Odare	38.69	298	eP	P	07 26 26.4	0.0
	comp=Z,57nm,0.8s						
ULN	Ulaanbaatar	38.80	340	eP	P	07 26 27.7	+0.8
	comp=Z,8.7nm,1.1s						
SONM	Songino Array	39.00	339	P	P	07 26 28.7	+0.2
SONM				PcP	PcP	07 28 38.6	+0.1
SONM	Songino Array	39.00	339	P	P	07 26 28.7	+0.2
	comp=Z,5.8nm,1.0s,baz=156,slow=8.4,SNR=24						
SONM				PcP	PcP	07 28 38.6	+0.1
	comp=Z,0.6nm,0.8s,baz=159,slow=4.2,SNR=3.2						
RAMN	Ramite	39.40	298	eP	P	07 26 32.5	+0.2
	comp=Z,42nm,0.7s						
RAMN	Ramite	39.40	298	eP	P	07 26 32.5	+0.2
	comp=Z,42nm,0.7s						
JIRN	Jiri	39.93	299	eP	P	07 26 36.9	+0.1
	comp=Z,46nm,0.8s						
JIRN	Jiri	39.93	299	eP	P	07 26 36.9	+0.1
	comp=Z,46nm,0.8s						
H11S3	WAKE ISLAND Hy	40.03	76	T	T	08 09 25.2	
	baz=271,slow=68,SNR=34						
H11S1	WAKE ISLAND Hy	40.05	76	T	T	08 09 24.6	
	baz=271,slow=68,SNR=30						
H11S2	WAKE ISLAND Hy	40.05	76	T	T	08 09 26.5	
	baz=271,slow=68,SNR=36						
GUN	Gumba	40.26	299	eP	P	07 26 39.6	+0.1
	comp=Z,80nm,0.8s						
GUN	Gumba	40.26	299	eP	P	07 26 39.6	+0.1
	comp=Z,80nm,0.8s						
H11N1	WAKE ISLAND Hy	40.30	74	T	T	08 09 46.7	
	baz=269,slow=75,SNR=82						
H11N2	WAKE ISLAND Hy	40.31	74	T	T	08 09 45.5	
	baz=269,slow=75,SNR=62						
H11N3	WAKE ISLAND Hy	40.32	74	T	T	08 09 44.9	
	baz=269,slow=75,SNR=80						
HNR	Honiara	40.32	121	LR	LR	07 40 46.0	
	comp=Z,163nm,18.0s,baz=184,slow=32						
PKI	Pulchoki	40.58	298	eP	P	07 26 41.6	-0.6
	comp=Z,32nm,0.9s						
PKI	Pulchoki	40.58	298	eP	P	07 26 41.6	-0.6
PKI				pmax	pmax		
	comp=Z,19nm,0.7s						
PKI	Pulchoki	40.58	298	eP	P	07 26 41.6	-0.6
	comp=Z,18nm,0.7s						
PKIN	Phulchoki	40.59	298	eP	P	07 26 41.6	-0.6
	comp=Z,18nm,0.7s						
KKN	Kakani	40.74	299	eP	P	07 26 42.9	-0.5
	comp=Z,48nm,1.0s						
KKN	Kakani	40.74	299	eP	P	07 26 42.9	-0.5
KKN				pmax	pmax		
	comp=Z,48nm,1.0s						
KKN	Kakani	40.74	299	eP	P	07 26 42.9	-0.5
	comp=Z,48nm,1.0s						
DMN	Daman	40.84	298	eP	P	07 26 44.1	-0.2
	comp=Z,41nm,1.0s						
DMN	Daman	40.84	298	eP	P	07 26 44.1	-0.2
	comp=Z,41nm,1.0s						
GKN	Gorkha	41.34	299	eP	P	07 26 47.7	-0.6
	comp=Z,46nm,0.9s						
GKN	Gorkha	41.34	299	eP	P	07 26 47.7	-0.6
	comp=Z,46nm,0.9s						
DANN	Dangsing	42.18	299	eP	P	07 26 54.9	-0.4
	comp=Z,50nm,0.8s						
DANN	Dangsing	42.18	299	eP	P	07 26 54.9	-0.4
	comp=Z,50nm,0.8s						
KOLN	Koldanda	42.18	298	eP	P	07 26 55.1	-0.1
	comp=Z,53nm,0.9s						
KOLN	Koldanda	42.18	298	eP	P	07 26 55.1	-0.1
	comp=Z,53nm,0.9s						
FORT	Forrest	42.80	177	eP	P	07 26 59.2	-0.6
	comp=Z,21nm,0.9s						
BBOO	Buckleboo	45.86	168	eP	P	07 27 24.0	-0.3
STKA	Stephens Creek	46.42	161	eP	P	07 27 29.3	+0.5
	comp=Z,0.8nm,0.6s						
STKA				PcP	PcP	07 29 03.9	+0.6
STKA	Stephens Creek	46.42	161	P	P	07 27 29.2	+0.5
	comp=Z,1.5nm,0.7s,baz=337,slow=12,SNR=3.8						
STKA				PcP	PcP	07 29 03.9	+0.6
	comp=Z,3.9nm,0.8s,baz=318,slow=3.4,SNR=3.7						
YAK	Yakutsk	49.84	3	eP	P	07 27 55.1	+0.4
YAK				pmax	pmax		
	comp=Z,11nm,1.3s						
MK31	Makanchi Array	50.11	322	i P	P	07 27 57.5	+0.3
MK31				pmax	pmax		
	comp=Z,11nm,0.7s						
MK31	Makanchi Array	50.11	322	eP	P	07 27 58.0	+0.8
MKAR	Makanchi Array	50.11	322	P	P	07 27 58.1	+1.0
MKAR				pmax	pmax		
	comp=Z,12nm,0.8s						
MKAR	Makanchi Array	50.11	322	P	P	07 27 58.1	+1.0
MKAR	Makanchi Array	50.11	322	P	P	07 27 58.1	+1.0
	comp=Z,12nm,0.8s,baz=117,slow=8.5,SNR=101						
ZAA0	Zalesovo Array	52.63	331	eP	P	07 28 15.8	0.0
ZALV	Zalesovo Beam	52.63	331	P	P	07 28 15.7	-0.2
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	Zalesovo Beam	52.63	331	P	P	07 28 15.7	-0.2
ZALV	Zalesovo Beam	52.63	331	P	P	07 28 15.7	-0.2
	comp=Z,2.6nm,0.7s,baz=111,slow=7.1,SNR=16						
AAK	Ala-Archa	53.52	314	P	P	07 28 23.5	+0.7
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	Ala-Archa	53.52	314	P	P	07 28 23.5	+0.7
AAK	Ala-Archa	53.52	314	P	P	07 28 23.5	+0.7
	comp=Z,1.0nm,0.5s,baz=135,slow=8.5,SNR=4.2						
NVS	Novosibirsk	53.91	331	eP	P	07 28 24.6	-0.6
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
EKS2	Erkin-Say	54.03	314	eP	P	07 28 27.6	+1.1
EKS2				pmax	pmax		
	comp=Z,11nm,1.0s						
EKS2	Erkin-Say	54.03	314	eP	P	07 28 27.6	+1.1
	comp=Z,11nm,1.0s						
KURK	Kurchatov	54.12	325	P	P	07 28 20.5	-6.4
KURK				pmax	pmax		
	comp=Z,21nm,1.0s						
KURK	Kurchatov	54.12	325	eP	P	07 28 27.6	+0.8
	comp=Z,38nm,1.2s						
KBL	Kabul	55.73	304	eP	P	07 28 38.7	-0.3
KBL				pmax	pmax		
	comp=Z,13nm,0.8s						
KBL	Kabul	55.73	304	eP	P	07 28 38.7	-0.3
	comp=Z,13nm,0.8s						
KKAR	Karatay Array	56.45	314	eP	P	07 28 44.3	+0.5
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KKAR	Karatay Array	56.45	314	eP	P	07 28 44.3	+0.5
	comp=Z,9.6nm,0.8s						
TIXI	Tiksi	59.45	1	eP	P	07 29 04.4	+0.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	Tiksi	59.45	1	eP	P	07 29 03.4	-0.8
	comp=Z,8.0nm,1.1s						
BVA0	Borovoye Array	59.72	325	P	P	07 29 05.2	-1.3
BVA0				pmax	pmax		
	comp=Z,20nm,1.1s						
BRVK	Borovoye	59.79	325	eP	P	07 29 07.3	+0.3
BRVK				pmax	pmax		
	comp=Z,34nm,1.0s						
BRVK	Borovoye	59.79	325	eP	P	07 29 07.3	+0.3
	comp=Z,34nm,1.0s						
AB31	Akbulak array	65.00	319	i P	P	07 29 41.6	-0.3
AB31				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ABKAR	Akbulak array	65.00	319	eP	P	07 29 42.0	+0.1
	comp=Z,4.8nm,0.7s						
SVE	Sverdlovsk	66.25	327	⇑i P	P	07 29 50.4	+0.6
SVE				pmax	pmax		
	comp=Z,21nm,1.1s						
AKTO	Aktyubinsk	66.44	320	P	P	07 29 51.3	+0.1
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTO	Aktyubinsk	66.44	320	P	P	07 29 51.2	+0.1
AKTO	Aktyubinsk	66.44	320	P	P	07 29 51.2	+0.1
	comp=Z,3.5nm,0.8s,baz=96,slow=11,SNR=13						
ARU	Arti	67.27	326	c i P	P	07 29 56.1	-0.2
ARU						07 32 22.4	
ARU				S	S	07 38 49.6	0.0
ARU				pmax	pmax		
	comp=Z,13nm,1.2s						
ARU	Arti	67.27	326	eP	P	07 29 55.9	-0.5
	comp=Z,15nm,1.1s						
ZEI	Tsey	75.77	311	eP	P	07 30 48.7	+0.6
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KBZ	Khabaz	76.44	312	P	P	07 30 51.9	+0.2
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	Khabaz	76.44	312	P	P	07 30 51.9	+0.2
KBZ	Khabaz	76.44	312	P	P	07 30 51.9	+0.2
	comp=Z,2.1nm,0.9s,baz=166,slow=4.2,SNR=3.2						
KIV	Kislovodsk	76.57	313	⇓eP	P	07 30 53.5	+0.9
KIV				e		07 33 43.1	
KIV				eS	S	07 40 44.3	+7.1
KIV				eSS	SS	07 45 30.2	-2.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
ILAR	Eielson Array	78.00	26	P	P	07 30 59.3	-0.7
ILAR	Eielson Array	78.00	26	P	P	07 30 59.3	-0.7
	comp=Z,0.7nm,0.8s,baz=250,slow=7.1,SNR=5.8						
OBN	Obninsk	79.56	324	⇑eP	P	07 31 08.5	-0.2
OBN				e		07 34 08.3	
OBN				eS	S	07 41 11.3	+2.7
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s						
JOF	Joensuu	81.19	332	eP	P	07 31 17.0	-0.4
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	Joensuu	81.19	332	ep	P	07 31 17.0	-0.4
	comp=Z,0.6nm,0.3s						
KEV	Kevo	81.61	340	eP	P	07 31 19.5	+0.1
KEV	Kevo	81.61	340	ep	P	07 31 19.5	+0.1
	comp=Z,0.4nm,0.4s						
ARCES	ARCESS Array B	82.17	340	P	P	07 31 23.0	+0.6
ARCES	ARCESS Array B	82.17	340	P	P	07 31 23.0	+0.6
	comp=Z,11nm,0.9s,baz=57,slow=4.5,SNR=12						
INK	Inuvik	82.74	22	eP	P	07 31 25.4	0.0
	comp=Z,7.8nm,1.1s						
INK				e		07 31 36.2	
OPO	Ambohidratompo	83.13	249	P	P	07 31 27.9	-0.7
OPO	Ambohidratompo	83.13	249	P	P	07 31 27.9	-0.7
	comp=Z,1.9nm,0.7s,baz=74,slow=9.4,SNR=4.1						
KAF	Kangasniemi	83.63	332	eP	P	07 31 29.6	-0.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	Kangasniemi	83.63	332	ep	P	07 31 29.6	-0.5
	comp=Z,0.5nm,0.3s						
BRTR	Keskin Array B	83.82	309	P	P	07 31 31.4	-0.4
BRTR	Keskin Array B	83.82	309	P	P	07 31 31.4	-0.4
	comp=Z,1.2nm,0.8s,baz=110,slow=3.5,SNR=7.7						
FINES	FINESS Array B	83.90	332	P	P	07 31 31.5	0.0
FINES	FINESS Array B	83.90	332	P	P	07 31 31.5	0.0
	comp=Z,9.1nm,0.7s,baz=76,slow=5.5,SNR=18						
AKASG	Malin Array Be	84.67	321	P	P	07 31 34.8	-0.9
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKASG	Malin Array Be	84.67	321	P	P	07 31 34.8	-0.9
AKASG	Malin Array Be	84.67	321	P	P	07 31 34.8	-0.9
	comp=Z,6.6nm,0.9s,baz=65,slow=4.6,SNR=13						
AK01	Malin Array Si	84.68	321	eP	P	07 31 35.0	-0.7
KIEV	Kiev	84.68	321	eP	P	07 31 35.3	-0.4
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIEV	Kiev	84.68	321	eP	P	07 31 35.3	-0.4
	comp=Z,7.8nm,1.1s						
AK02	Malin Array Si	84.69	321	eP	P	07 31 35.5	-0.3
NB2	NORSAR Subarra	90.75	334	P	P	07 32 03.5	-1.3
	comp=Z,2.0nm,0.8s,baz=68,slow=5.1						
NOA	NORSAR Array B	90.75	334	P	P	07 32 03.8	-1.0
NOA	NORSAR Array B	90.75	334	P	P	07 32 03.8	-1.0
	comp=Z,2.6nm,0.8s,baz=64,slow=4.6,SNR=9.2						
MAW	Mawson	91.28	200	P	P	07 32 06.2	-0.7
MAW	Mawson	91.28	200	P	P	07 32 06.2	-0.7
	comp=Z,1.1nm,0.5s,baz=79,slow=10,SNR=3.8						
TXAR	Lajitas Array	117.04	48	PKP	PKPdf	07 37 48.1	+0.6
TXAR	Lajitas Array	117.04	48	PKP	PKPdf	07 37 48.1	+0.6
	comp=Z,0.2nm,0.7s,baz=198,slow=0.9,SNR=2.8						
TORD	Torodi Ar. Bea	118.95	293	PKP	PKPdf	07 37 50.5	-0.9
TORD	Torodi Ar. Bea	118.95	293	PKP	PKPdf	07 37 50.5	-0.9
	comp=Z,0.4nm,0.7s,baz=0.5,slow=3.5,SNR=3.0						
PLCA	Paso Flores	148.22	156	ePKPbc	PKPbc	07 38 48.4	+0.2
PLCA	Paso Flores	148.22	156	PKPbc	PKPbc	07 38 49.1	+0.8
	comp=Z,3.3nm,0.7s,baz=218,slow=3.3,SNR=6.5						

*IDC **05** 07:24:51.4±1.3, 36°.24N×141°.07E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.5/26, mbtmp3.4/6, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/25, Error ellipse: s-maj=29.4km s-min=24.8km az=22.0*
*ISCJB **05** 07:24:55.5±0.8, 36°.36N±0°.04×141°.05E±0°.07, h39km±8km, mb3.4/5, Error ellipse: s-maj=9.9km s-min=6.6km az=9.6*
*JMA **05** 07:24:56.3±0.1, 36°.34N×140°.96E, h46km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs33.00000°, δ79.00000°, λ90.00000°. NP2:ϕs213.00000°, δ11.00000°, λ90.00000°. Principal axes: T Plg56.0000°, Azm303.0000°; N Plg0.0000°, Azm33.0000°; P Plg34.0000°, Azm123.0000°;*

ISC 05 07:24:55.5±1.3, 36°.37N±0°.04×141°.07E±0°.06, h28km±9km, n21, σ0°.83/21, mb3.4/5, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.47	302	⇓P	Pb	07 25 06.0	+0.6
JHO				S	Sb	07 25 12.6	+0.6
CHOJ	Chosi	0.68	194	⇑P	Pb	07 25 09.1	+0.2
CHOJ				S	Sb	07 25 17.7	-0.2
JYT	Yasato	0.72	259	⇓P	Pb	07 25 09.0	-0.5
JYT				S	Sb	07 25 17.6	-1.3
ONAJ	Iwakimizuishiy	0.77	344	⇓P	Pb	07 25 10.4	+0.1
ONAJ				S	Sb	07 25 19.8	-0.6
JFK	Kawauchi	1.01	351	⇓P	Pn	07 25 13.6	-0.3
JFK				S	Sn	07 25 25.7	-1.6
JAG	Ashikaga	1.30	273	⇓P	Pn	07 25 17.4	-0.5
JKT	Katashina	1.52	286	⇓P	Pn	07 25 21.2	+0.3
MJAR	Matsushiro Arr	2.31	275	Pn	Pn	07 25 31.9	+0.1
	12nm,0.3s,baz=112,slow=8.5,SNR=59						
MJAR				Sn	Sn	07 25 59.2	-0.1
	3.4nm,0.3s,baz=94,slow=15,SNR=5.1						
MAT	Matsushiro	2.31	275	P	Pn	07 25 32.7	+0.9
MAT				S	Sn	07 25 59.2	-0.1
USRK	Ussuriysk Arra	10.45	321	LR	LR	07 31 26.7	
	comp=Z,54nm,19.7s,baz=185,slow=38						
SONM	Songino Array	27.93	305	P	P	07 30 44.8	+1.3
	0.2nm,0.4s,baz=104,slow=6.1,SNR=3.8						
H11N2	WAKE ISLAND Hy	28.06	119	T	T	08 00 23.1	
	baz=315,slow=76,SNR=7.6						
H11N1	WAKE ISLAND Hy	28.06	119	T	T	08 00 23.3	
	baz=315,slow=76,SNR=7.8						
H11N3	WAKE ISLAND Hy	28.07	119	T	T	08 00 24.4	
	baz=315,slow=76,SNR=6.2						
H11S1	WAKE ISLAND Hy	28.74	121	T	T	08 01 08.6	
	baz=318,slow=75,SNR=18						
H11S3	WAKE ISLAND Hy	28.74	121	T	T	08 01 08.1	
	baz=318,slow=75,SNR=17						
H11S2	WAKE ISLAND Hy	28.76	121	T	T	08 01 09.3	
	baz=318,slow=75,SNR=9.8						
ZALV	Zalesovo Beam	42.16	313	P	P	07

IDC ***05*** *07:40:14.8±1.6, 1°.31N×121°.70E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, MS2.8/1, Ms1 2.8/1, ms1mx2.6/14, Error ellipse: s-maj=216.9km s-min=27.0km az=61.0*

ISCJB ***05*** *07:40:16.9±1.3, 1°.35N±0°.09×121°.12E±0°.05, h10km, mb3.1/3, Error ellipse: s-maj=13.6km s-min=7.3km az=5.7*

DJA ***05*** *07:40:19.0±0.9, 1°.1N±8°×12°.1E±°, h10km, M4.1/6, mb4.2/1, MLv4.0/6*

ISC 05 07:40:17.4±1.4, **1°.3N**±0°.1×**121°.15E**±0°.06, **h10**km, **n9, σ2.9 10/11, mb3.1/3, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**0.40**	**244**	P	**Pg**	**07 40 25.5**	**+0.2**
TOLI				S	**Sg**	**07 40 29.9**	**-0.7**
MRSI	**Marisa**	**1.13**	**136**	P	**Pb**	**07 40 38.5**	**-0.6**
MRSI				S	**Sb**	**07 40 53.5**	**-0.4**
APSI	**Ampana**	**2.25**	**167**	P	**Pn**	**07 40 56.6**	**+1.9**
LUWI	**Luwuk**	**2.83**	**145**	P	**Pn**	**07 41 05.2**	**+2.5**
LUWI				S	**Sb**	**07 41 43.7**	**+0.8**
SPSI	**Sidrap Palu**	**5.41**	**195**	P	**Pn**	**07 41 39.8**	**+1.6**
FITZ	**Fitzroy Crossi** comp=Z,29nm,21.6s,baz=108,slow=37	**19.78**	**167**	LR	LR	07 52 17.6	
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=327,slow=11,SNR=3.5	**24.76**	**149**	P	**P**	**07 45 35.8**	**-3.6**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=342,slow=14,SNR=7.6	**27.74**	**154**	P	**P**	**07 46 03.7**	**-2.7**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=131,slow=7.1,SNR=4.5	**56.55**	**329**	P	**P**	**07 50 01.0**	**+0.8**

IDC ***05*** *07:47:52.9±0.8, 16°.11S×173°.51W, h0km, mb3.9/10, mb1 4.2/10, mb1mx4.1/22, mbtmp3.9/10, MS3.8/8, Ms1 3.8/8, ms1mx3.5/31, Error ellipse: s-maj=43.4km s-min=17.7km az=141.0*

NEIC ***05*** *07:47:54.5±0.4, 16°.09S×173°.54W, h10km, mb4.3/3, Error ellipse: s-maj=19.6km s-min=10.2km az=141.0*

ISCJB ***05*** *07:48:01.6±0.6, 16°.1S±0°.2×173°.7W±0°.1, h79km, mb3.9/12, Error ellipse: s-maj=26.3km s-min=13.8km az=142.4*

ISC 05 07:48:03.4±0.6, **16°.2S**±0°.2×**173°.6W**±0°.2, **h79**km, **n57, σ1.9 06/44, mb4.0/12, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.86**	**38**	*e*Pn	Pn	07 48 31.8	-15
AFI				*e*Sn	Sn	07 49 01.1	-19
AFI				TT		07 50 54.7	
AFI	**Afiamalu** 32nm,0.3s,baz=235,slow=6.0,SNR=21	**2.86**	**38**	Pn	Pn	07 48 31.6	-15
AFI				Sn	Sn	07 48 58.8	-22
AFI	70nm,0.3s,baz=61,slow=15,SNR=6.7			T	T	07 50 54.7	
RAR	**Rarotonga** comp=Z,352nm,19.8s,baz=88,slow=30	**14.01**	**113**	LR	LR	07 54 52.0	
DZM	**Mont Dzumac** 475nm,26.5s	**19.75**	**250**	*e*LR	LR	07 57 36.6	
DZM	**Mont Dzumac** comp=Z,136nm,21.3s,baz=306,slow=32	**19.75**	**250**	LR	LR	07 58 18.1	
PPT2	**Papeete2** 282nm,27.2s	**23.02**	**97**	*e*LR	LR	07 58 15.0	
URZ	**Urewera**	**23.47**	**199**	P	**P**	**07 53 04.2**	**-1.8**
URZ	**Urewera** 3.4nm,0.7s,baz=36,slow=19,SNR=5.0	**23.47**	**199**	P	**P**	**07 53 04.3**	**-1.8**
TBI	**Tubuai** 191nm,40.2s	**23.78**	**111**	*e*LR	LR	07 58 36.5	
HNR	**Honiara** comp=Z,296nm,19.6s,baz=300,slow=33	**26.64**	**281**	LR	LR	08 02 33.2	
RKT	**Rikitea** 182nm,27.2s	**36.93**	**107**	*e*LR	LR	08 04 31.1	
H11S2	**WAKE ISLAND Hy** baz=152,slow=76,SNR=28	**39.54**	**330**	T	T	08 37 24.0	
H11S3	**WAKE ISLAND Hy** baz=152,slow=76,SNR=20	**39.55**	**330**	T	T	08 37 25.1	
H11S1	**WAKE ISLAND Hy** baz=152,slow=76,SNR=24	**39.56**	**330**	T	T	08 37 19.9	
H11N3	**WAKE ISLAND Hy** baz=152,slow=75	**40.50**	**331**	T	T	08 38 29.5	
H11N1	**WAKE ISLAND Hy** baz=152,slow=75	**40.51**	**331**	T	T	08 38 36.2	
H11N2	**WAKE ISLAND Hy** baz=152,slow=75	**40.52**	**331**	T	T	08 38 30.9	
STKA	**Stephens Creek** 0.6nm,0.8s	**43.49**	**241**	*e*P	**P**	**07 55 58.7**	**-0.4**
STKA	**Stephens Creek** 2.5nm,0.9s,baz=72,slow=5.5,SNR=5.6	**43.49**	**241**	P	**P**	**07 55 58.8**	**-0.4**
WRAB	**Tennant Creek** 6.5nm,1.2s	**49.48**	**257**	*e*P	**P**	**07 56 46.7**	**+0.4**
WRA	**Warramunga Arr**	**49.49**	**257**	P	**P**	**07 56 45.8**	**-0.5**
WRA	**Warramunga Arr** 3.2nm,1.2s,baz=90,slow=6.6,SNR=8.7	**49.49**	**257**	P	**P**	**07 56 45.8**	**-0.5**
WRA	comp=Z,50nm,21.5s,baz=65,slow=33			LR	LR	08 15 22.8	
AS31	**Alice Springs**	**49.70**	**253**	*e*P	**P**	**07 56 47.5**	**-0.4**
ASAR	**Alice Springs**	**49.70**	**253**	P	**P**	**07 56 47.2**	**-0.6**
ASAR	**Alice Springs** 1.7nm,0.4s,baz=90,slow=7.4,SNR=30	**49.70**	**253**	P	**P**	**07 56 47.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**57.87**	**259**	P	**P**	**07 57 47.1**	**-0.4**
FITZ	**Fitzroy Crossi** 1.3nm,0.9s,baz=63,slow=2.3,SNR=3.1	**57.87**	**259**	P	**P**	**07 57 47.1**	**-0.4**
FITZ	comp=Z,64nm,19.5s,baz=103,slow=34			LR	LR	08 21 11.5	
QSPA	**South Pole Qui** 3.5nm,0.9s	**73.87**	**180**	*e*P	**P**	**07 59 31.0**	**+1.3**
NVAR	**Mina Array Bea**	**75.03**	**42**	P	**P**	**07 59 35.9**	**-1.0**
NVAR	**Mina Array Bea** 0.7nm,0.6s,baz=232,slow=9.9,SNR=5.1	**75.03**	**42**	P	**P**	**07 59 35.9**	**-1.0**
TXAR	**Lajitas Array**	**81.20**	**56**	P	**P**	**08 00 11.3**	**+0.2**
TXAR	**Lajitas Array** 0.7nm,1.1s,baz=271,slow=6.0,SNR=3.8	**81.20**	**56**	P	**P**	**08 00 11.3**	**+0.2**
TXAR	comp=Z,49nm,18.2s,baz=5.0,slow=30			LR	LR	08 28 35.2	
PDAR	**Pinedale Array**	**82.97**	**42**	P	**P**	**08 00 18.9**	**-1.2**
PDAR	**Pinedale Array** 0.7nm,0.8s,baz=217,slow=2.9,SNR=5.0	**82.97**	**42**	P	**P**	**08 00 18.9**	**-1.2**
PDAR	comp=Z,85nm,18.5s,baz=173,slow=32			LR	LR	08 32 11.0	
ILAR	**Eielson Array**	**83.24**	**11**	P	**P**	**08 00 19.1**	**-1.7**
ILAR	**Eielson Array** 0.9nm,0.9s,baz=224,slow=6.8,SNR=11	**83.24**	**11**	P	**P**	**08 00 19.1**	**-1.7**
PLCA	**Paso Flores** comp=Z,57nm,21.5s,baz=323,slow=31	**89.12**	**132**	LR	LR	08 33 28.7	
CMAR	**Chiang Mai Arr**	**92.69**	**288**	P	**P**	**08 01 08.3**	**+1.1**
CMAR	**Chiang Mai Arr** 0.5nm,0.4s,baz=100,slow=2.0,SNR=4.1	**92.69**	**288**	P	**P**	**08 01 08.4**	**+1.1**
ARCES	**ARCESS Array B**	**125.35**	**352**	PKP	**PKPdf**	**08 06 55.1**	**+0.5**
ARCES	**ARCESS Array B** 1.6nm,0.8s,baz=336,slow=2.7,SNR=5.3	**125.35**	**352**	PKP	**PKPdf**	**08 06 55.1**	**+0.5**
STHS	**Stebnicka Huta**	**144.72**	**343**	*e*PKP	**PKPdf**	**08 07 30.8**	**-0.3**
DPC	**Dobruska-Polom**	**144.99**	**349**	*e*PKP	**PKPdf**	**08 07 32.0**	**+0.4**
DPC				*ep*PKP	**PKiKP**	**08 07 37.0**	**+1.6**
KMBO	**Kilima Mbogo**	**145.03**	**243**	*e*PKPbc	**PKPdf**	**08 07 34.4**	**+1.3**
KMBO	**Kilima Mbogo** 3.3nm,0.8s,baz=41,slow=2.9,SNR=9.3	**145.03**	**243**	PKPbc	**PKPdf**	**08 07 34.5**	**+1.5**
OKC	**Ostrava-Krasne**	**145.11**	**347**	*e*PKP	**PKPbc**	**08 07 30.7**	**-0.6**
CRVS	**Cervenica-Dubn**	**145.12**	**343**	*e*PKP	**PKPbc**	**08 07 30.6**	**-0.9**
PRU	**Pruhonice**	**145.64**	**351**	*e*PKP	**PKPab**	**08 07 33.6**	**+0.2**
PRU				*ep*PKP	**PKiKP**	**08 07 38.9**	**+2.2**
KECS	**Kecovo**	**145.78**	**343**	*e*PKP	**PKPab**	**08 07 34.5**	**+0.5**
KHC	**Kasperske Hory**	**146.62**	**351**	*e*PKP	**PKPbc**	**08 07 35.6**	**-0.5**
KHC				*ep*PKP	**PKiKP**	**08 07 41.7**	**+2.9**
BR131	**Keskin Array S**	**146.64**	**320**	*e*PKPbc	**PKPbc**	**08 07 36.7**	**+0.1**
BRTR	**Keskin Array B**	**146.64**	**320**	PKPbc	**PKPab**	**08 07 37.1**	**-0.6**
BRTR	**Keskin Array B** 5.1nm,1.0s,baz=113,slow=1.9,SNR=18	**146.64**	**320**	PKPbc	**PKPab**	**08 07 37.1**	**-0.6**
GERES	**GERESS Array B**	**146.88**	**351**	PKPbc	**PKPbc**	**08 07 37.2**	**+0.3**
GERES	**GERESS Array B** 0.9nm,0.7s,baz=24,slow=1.6,SNR=8.1	**146.88**	**351**	PKPbc	**PKPbc**	**08 07 37.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**174.53**	**123**	PKP	**PKPdf**	**08 08 05.0**	**0.0**
TORD	**Torodi Ar. Bea** 0.9nm,0.9s,baz=291,slow=0.6,SNR=3.6	**174.53**	**123**	PKP	**PKPdf**	**08 08 05.0**	**0.0**

IDC 05 08:00:18.2±1.5, **2°.60S**×**127°.73E**, **h0**km, **mb3.4/3, mb1 3.6/5, mb1mx3.5/23, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=101.0km s-min=21.9km az=72.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=8.1,slow=14,SNR=3.2	**15.55**	**187**	Pn	Pn	08 03 59.4	+0.5
WRA	**Warramunga Arr**	**18.41**	**160**	P	P	08 04 35.4	+0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=8.1						
ASAR	**Alice Springs** 0.4nm,0.5s,baz=343,slow=12,SNR=10.0	**21.78**	**165**	P	P	08 05 11.1	-0.8
ASAR	0.1nm,0.3s,baz=353,slow=24,SNR=4.1			S	S	08 09 12.2	-1.6
SONM	**Songino Array** 0.4nm,0.6s,baz=155,slow=7.9,SNR=4.8	**53.58**	**342**	P	P	08 09 42.6	+1.4
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=123,slow=5.3,SNR=5.0	**63.33**	**327**	P	P	08 10 48.0	-1.2

ISC 05 08:02:42.6±1.0, **39°.67N**±0°.02×**29°.45E**±0°.02, **h12**km±8km, **n37, σ0.80/49, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.22**	**177**	*e*PG	**Pg**	**08 02 47.0**	**-0.2**
TVSB				*e*SG	**Sg**	**08 02 51.1**	**+0.7**
ULDT	**Uludag**	**0.53**	**333**	*i* P	**Pg**	**08 02 52.0**	**-1.0**
ULDT				*i* S	**Sb**	**08 03 01.1**	**-0.7**
GDZ	**Gediz**	**0.58**	**177**	*i* P	**Pg**	**08 02 53.1**	**-0.8**
GDZ				*i* S	**Sg**	**08 03 02.1**	**+0.6**
CAVI	**Cavuskoy**	**0.62**	**29**	*e*PG	**Pg**	**08 02 53.9**	**-0.7**
DURS	**Dursunbey**	**0.75**	**265**	*i* P	**Pg**	**08 02 56.7**	**-0.5**
DURS				*i* S	**Sb**	**08 03 07.7**	**-0.3**
ADVT	**Abdulvahap**	**0.80**	**16**	*e*PG	**Pg**	**08 02 57.5**	**-0.6**
BORA	**Eskisehir**	**0.81**	**74**	*i* P	**Pg**	**08 02 57.2**	**-0.9**
BORA				*i* S	**Sb**	**08 03 09.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.82**	**329**	*e*PG	**Pg**	**08 02 58.4**	**-0.2**
DEMI	**Demirci**	**0.84**	**223**	*i* P	**Pg**	**08 02 58.1**	**-0.8**
DEMI				*i* S	**Sn**	**08 03 12.2**	**-0.5**
ARMT	**Armutlu**	**1.00**	**334**	*e*PG	**Pg**	**08 03 01.5**	**-0.4**
KCTX	**Karacabey (Bur**	**1.03**	**306**	*e*PG	**Pb**	**08 03 02.5**	**+0.1**
KCTX				*e*SG	**Sn**	**08 03 18.5**	**+1.2**
SEYT	**Eskypehyr**	**1.09**	**97**	*i* P	**Pg**	**08 03 01.7**	**-1.9**
SEYT				*i* S	**Sn**	**08 03 18.9**	**-0.2**
GULT	**Gulveren**	**1.12**	**47**	*e*PN	**Pn**	**08 03 04.6**	**+0.3**
HRT	**Hereke**	**1.17**	**8**	*e*PN	**Pb**	**08 03 04.7**	**0.0**
BALB	**Balikesir**	**1.21**	**269**	*e*PN	**Pg**	**08 03 06.3**	**+0.5**
BUY	**Buyukada**	**1.21**	**348**	*e*PN	**Pg**	**08 03 05.5**	**-0.4**
BUY	**Buyukada**	**1.21**	**348**	*i* P	**Pb**	**08 03 04.8**	**-0.7**
BUY				*i* S	**Sn**	**08 03 21.8**	**+0.1**
KULA	**Kula-Manisa**	**1.30**	**208**	*e*PN	**Pb**	**08 03 07.0**	**-0.1**
KHL	**Karahalli**	**1.34**	**177**	*e*PN	**Pg**	**08 03 08.5**	**+0.1**
MANT	**Manisa**	**1.36**	**211**	*i* P	**Pn**	**08 03 07.8**	**+0.1**
MANT				*i* S	**Sb**	**08 03 23.6**	**-2.0**
EDC	**Edincik**	**1.39**	**300**	*e*PN	**Pg**	**08 03 08.8**	**-0.6**
SHUT	**Suhut-Afyon**	**1.41**	**142**	*e*PN	**Pg**	**08 03 09.7**	**+0.2**
GONE	**Gonen-Balikesi**	**1.41**	**286**	*e*PN	**Pg**	**08 03 09.0**	**-0.6**
BALY	**Balya**	**1.41**	**274**	*i* P	**Pn**	**08 03 06.5**	**-1.7**
BALY				*i* S	**Sg**	**08 03 29.1**	**+1.0**
ISK	**Istanbul-Kandi**	**1.43**	**348**	*e*PN	**Pg**	**08 03 09.6**	**-0.5**
AKHS	**Akhisar**	**1.49**	**239**	*i* P	**Pn**	**08 03 09.5**	**+0.3**
AKS	**Akhisar**	**1.49**	**239**	*e*PN	**Pb**	**08 03 10.1**	**-0.2**
SILT	**Sile**	**1.49**	**6**	*e*PN	**Pg**	**08 03 10.7**	**-0.6**
BOLV	**Bolvadin**	**1.50**	**129**	*i* P	**Pn**	**08 03 10.0**	**+0.5**
BOLV				*i* S	**Sn**	**08 03 29.3**	**+0.2**
MDUB	**Mudurnu**	**1.57**	**59**	*e*PN	**Pb**	**08 03 11.8**	**+0.2**
KLYT	**Kilyos**	**1.62**	**349**	*e*PN	**Pb**	**08 03 12.5**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.62**	**97**	*e*PN	**Pb**	**08 03 12.5**	**0.0**
MRMT	**Marmara Adasi**	**1.70**	**304**	*e*PN	**Pb**	**08 03 13.4**	**-0.4**
KRBG	**Karabiga-Canak**	**1.80**	**294**	*e*PN	**Pb**	**08 03 14.9**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.02**	**301**	*e*PN	**Pn**	**08 03 17.8**	**+1.3**
KIZT	**Kizilcal**	**2.04**	**112**	*e*PN	**Pn**	**08 03 18.4**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.40**	**289**	*e*PN	**Pn**	**08 03 23.2**	**+1.5**

WEL 05 08:07:19.0±0.5, **37°.65S**×**175°.86E**, **h273**km±6km, **ML3.6**/13, **Error ellipse: s-maj=12.5km s-min=9.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.16**	**122**	PN	Pn	08 07 57.3	0.0
URZ				SN	S	08 08 28.0	+0.5
MWZ	**Matawai**	**1.48**	**118**	PN	Pn	08 07 59.4	0.0
MWZ				SN	S	08 08 30.6	-0.8
BKZ	**Black Stump Fm**	**1.59**	**162**	PN	Pn	08 08 00.0	-0.2
BKZ				SN	S	08 08 31.5	-1.4
TUVZ	**Tukino**	**1.62**	**186**	PN	Pn	08 08 00.9	+0.3
NMHZ	**Naumai**	**1.62**	**153**	PN	Pn	08 08 01.1	+0.6
WNVZ	**Wahianoa**	**1.69**	**187**	PN	Pn	08 08 01.1	+0.1
MOVZ	**Moawhango**	**1.76**	**183**	PN	Pn	08 08 01.2	-0.3
RIGZ	**Rimuhau**	**1.83**	**126**	PN	Pn	08 08 02.0	0.0
MCHZ	**McNeill Hill**	**1.91**	**160**	PN	Pn	08 08 02.7	+0.1
MCHZ				SN	S	08 08 37.4	+0.3
PUZ	**Puketiti**	**1.94**	**103**	PN	Pn	08 08 03.0	+0.1
KNZ	**Kokohu**	**1.98**	**134**	PN	Pn	08 08 02.6	-0.5
WAZ	**Wanganui**	**2.21**	**198**	PN	Pn	08 08 05.0	-0.2
WAZ				SN	S	08 08 41.6	-0.3
PNHZ	**Pukenui**	**2.28**	**173**	PN	Pn	08 08 04.8	-1.0
KAHZ	**Kahuranaki**	**2.28**	**160**	PN	Pn	08 08 05.4	-0.5
TSZ	**Takapari Road**	**2.41**	**178**	PN	Pn	08 08 05.8	-1.2
WPHZ	**Waipukurau**	**2.45**	**170**	PN	Pn	08 08 05.6	-1.9
PXZ	**Patawanui**	**2.50**	**162**	PN	Pn	08 08 06.9	-1.0
DVHZ	**Dannevirke**	**2.66**	**175**	PN	Pn	08 08 07.9	-1.5
PRHZ	**Porangahau**	**2.68**	**167**	PN	Pn	08 08 08.5	-1.1
ANWZ	**Angora Road**	**2.85**	**171**	PN	Pn	08 08 10.0	-1.3
MRZ	**Mangatainoka R**	**3.02**	**184**	PN	Pn	08 08 10.9	-2.1
MRZ				AML	AML	08 08 54.9	
MRZ				AML	AML	08 08 55.0	
OGWZ	**Otaki Gorge**	**3.21**	**189**	PN	Pn	08 08 13.0	-2.0
HOWZ	**Holdsworth Sta**	**3.25**	**185**	PN	Pn	08 08 13.0	-2.5
KIW	**Kapiti Island**	**3.29**	**193**	PN	Pn	08 08 13.4	-2.5
CAW	**Cannon Point**	**3.51**	**190**	PN	Pn	08 08 15.4	-2.8
MTW	**Mount Morrison**	**3.51**	**184**	AML	AML	08 09 02.8	
TCW	**Tory Channel**	**3.76**	**199**	PN	Pn	08 08 18.4	-2.7
PLWZ	**Palliser**	**3.94**	**187**	PN	Pn	08 08 20.0	-3.2
TUWZ	**Tuamarina**	**4.05**	**201**	PN	Pn	08 08 21.7	-2.7
QRZ	**Quartz Range**	**4.09**	**218**	PN	Pn	08 08 21.3	-3.5
BSWZ	**Blackbirch Sta**	**4.34**	**200**	PN	Pn	08 08 24.7	-2.9
THZ	**Tophouse**	**4.70**	**208**	PN	Pn	08 08 28.0	-3.9
DSZ	**Denniston Nort**	**5.15**	**216**	PN	Pn	08 08 32.9	-4.4
MQZ	**McQueen's Vall**	**6.52**	**201**	PN	Pn	08 08 48.4	-5.5
FOZ	**Fox Glacier**	**7.54**	**217**	PN	Pn	08 09 00.5	-6.0

AUST ***05*** *08:12:56.5±7.8, 4°.20S×148°.66E, h0km, Error ellipse: s-maj=1.6km s-min=1.1km az=42.0*

IDC ***05*** *08:13:12.8±1.4, 5°.66S×147°.89E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.8/18, mbtmp3.8/5, ML3.5/2, MS3.3/1, Ms1 3.5/1, ms1mx2.6/34, Error ellipse: s-maj=63.5km s-min=24.1km az=120.0*

ISC 05 08:13:18.1±2.4, **5.7S**±0°.2×**147°.9E**±0°.3, **h35**km, **n13, σ0.74/14, mb3.6/3, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 9.2nm,0.3s,baz=15,slow=6.8,SNR=18	**3.76**	**191**	Pn	**Pn**	**08 14 13.6**	**0.0**
PMG	15nm,0.3s,baz=34,slow=12,SNR=4.4			Sn	Sn	08 14 50.7	-6.1
PMG	**Port Moresby** baz=5.4,SNR=15	**3.76**	**191**	P	**Pn**	**08 14 13.7**	**0.0**
PMG	baz=5.4,SNR=15			P	**Pn**	**08 14 13.7**	**0.0**
PMG	baz=5.4,SNR=15			P	**Pn**	**08 14 13.7**	**0.0**
KDU	**Kakadu** baz=18,SNR=5.0	**16.70**	**244**	P	**P**	**08 17 10.8**	**-0.7**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=48,slow=11,SNR=6.2	**19.33**	**222**	P	**P**	**08 17 39.3**	**-1.3**
WRA	baz=35,slow=2.0,SNR=3.0			PcP	**PcP**	**08 22 02.7**	**+0.4**
QLP	**Quilpie** baz=23,SNR=4.8	**21.07**	**189**	P	**P**	**08 17 59.7**	**+0.3**
KNRA	**Kununurra** baz=23,SNR=9.0	**21.21**	**241**	P	**P**	**08 18 01.7**	**+0.8**
ASAR	**Alice Springs** 1.1nm,0.5s,baz=49,slow=9.3,SNR=41	**22.36**	**216**	P	**P**	**08 18 12.5**	**-0.9**
ASAR	0.3nm,0.6s,baz=33,slow=22,SNR=3.1			S	S	08 22 11.2	-6.0
FITZ	**Fitzroy Crossi** 3.1nm,0.4s,baz=63,slow=9.0,SNR=25	**24.96**	**238**	P	**P**	**08 18 39.0**	**+0.5**
FITZ	**Fitzroy Crossi** baz=26,SNR=14	**24.96**	**238**	P	**P**	**08 18 39.2**	**+0.7**
MEEK	**Meekatharra** baz=36,SNR=3.7	**34.81**	**230**	P	**P**	**08 20 06.3**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,25nm,18.4s,baz=336,slow=35	**53.86**	**298**	LR	LR	08 44 51.0	
ILAR	**Eielson Array** 0.2nm,0.7s,baz=263,slow=4.4,SNR=3.3	**84.86**	**23**	P	P	08 25 48.9	0.0
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=93,slow=2.8,SNR=3.4	**145.84**	**285**	PKPbc	**PKPab**	**08 32 54.1**	**-1.1**

GUC 05 08:13:40.3±0.7, **27°.60S**×**69°.29W**, **h80**km, **ML3.8, 3C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.97**	**284**	*e*iP	Pn	08 13 59.1	+0.1
CPCH				*i* S	Sn	08 14 13.8	+0.7
CPCH	comp=E,12μm,0.0s			AML	AML	08 14 15.1	
CDCH	**Caldera**	**1.46**	**291**	*e*P	Pn	08 14 05.8	+0.7
CDCH				*i* S	Sn	08 14 24.1	+0.3
VACH	**Vallenar**	**1.62**	**233**	↑*e*iP	Pn	08 14 08.1	+0.8
VACH				*i* S	Sn	08 14 28.5	+0.8
VACH	comp=N,2μm,0.1s			AML	AML	08 14 30.0	
LCO	**Las Campanas**	**1.88**	**221**	↑*e*iP	Pn	08 14 11.5	+0.5
LCO				*i* S	Sn	08 14 35.2	+1.0
LCO	comp=E,307nm,0.5s			AML	AML	08 14 36.2	
TLL	**Tololo Astrono**	**2.88**	**207**	*e*P	Pn	08 14 24.9	+0.4
TLL				*i* S	Sn	08 14 59.4	+1.0

IDC ***05*** *08:35:46.4±1.2, 19°.86S×170°.06E, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.1/21, mbtmp4.2/9, ML3.5/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/30, Error ellipse: s-maj=33.0km s-min=21.5km az=133.0*

ISCJB ***05*** *08:35:49.3±1.1, 19°.8S±0°.1×170°.0E±0°.2, h30km, mb4.2/11, MS3.5/5, Error ellipse: s-maj=28.0km s-min=9.2km az=135.5*

NEIC ***05*** *08:35:51.9±0.8, 19°.83S×169°.99E, h35km, mb4.3/4, Error ellipse: s-maj=23.3km s-min=13.4km az=136.0*

ISC 05 08:35:51.1±1.1, **19.8S**±0°.2×**170°.1E**±0°.2, **h30**km, **n32, σ0.74/32, mb4.2/11, MS3.6/5, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.05**	**236**	*e*Pn	**Pn**	**08 36 50.5**	**-0.6**
DZM				*e*Sn	**Sn**	**08 37 38.4**	**+0.8**
DZM	**Mont Dzumac** 3.0nm,0.3s,baz=61,slow=19,SNR=78	**4.05**	**236**	Pn	**Pn**	**08 36 50.9**	**-0.1**
DZM	12nm,0.3s,baz=166,slow=23,SNR=13			Sn	**Sn**	**08 37 37.9**	**+0.3**
DZM	comp=Z,819nm,18.9s,baz=21,slow=37			LR	LR	08 38 16.0	
DZM	**Mont Dzumac**	**4.05**	**236**	*e*P	**Pn**	**08 36 50.8**	**-0.2**
DZM				*e*S	**Sn**	**08 37 37.5**	**0.0**
NOUC	**Port Laguerre**	**4.17**	**237**	*e*P	**Pn**	**08 36 52.8**	**+0.1**
NOUC				*e*S	**Sn**	**08 37 40.0**	**-0.5**
HNR	**Honiara** comp=Z,73nm,19.2s,baz=18,slow=34	**14.22**	**315**	LR	LR	08 43 47.2	
AFI	**Afiamalu** comp=Z,54nm,18.3s,baz=81,slow=31	**18.35**	**74**	LR	LR	08 45 21.8	
CTA	**Charters Tower**	**22.37**	**265**	P	**P**	**08 40 47.8**	**+0.8**
CTA	**Charters Tower** 3.3nm,0.7s,baz=74,slow=10,SNR=5.0	**22.37**	**265**	P	**P**	**08 40 47.8**	**+0.8**
STKA	**Stephens Creek** 1.8nm,1.4s	**28.19**	**239**	*e*P	**P**	**08 41 42.6**	**+1.5**
STKA	**Stephens Creek** 1.4nm,0.9s,baz=52,slow=12,SNR=2.4	**28.19**	**239**	P	**P**	**08 41 40.8**	**-0.3**
STKA	comp=Z,144nm,19.6s,baz=28,slow=34			LR	LR	08 51 42.7	
WRAB	**Tennant Creek** 6.2nm,1.3s	**33.54**	**264**	*e*P	**P**	**08 42 27.1**	**-1.3**
WRA	**Warramunga Arr**	**33.55**	**264**	P	**P**	**08 42 26.7**	**-1.9**
WRA	**Warramunga Arr** 1.3nm,0.8s,baz=92,slow=8.8,SNR=6.2	**33.55**	**264**	P	**P**	**08 42 26.7**	**-1.9**
WRA	comp=Z,55nm,21.3s,baz=190,slow=36			LR	LR	08 55 42.1	
AS31	**Alice Springs**	**33.74**	**257**	*e*P	**P**	**08 42 29.4**	**-0.8**
ASAR	**Alice Springs**	**33.74**	**257**	P	**P**	**08 42 29.6**	**-0.6**
ASAR	**Alice Springs** 4.3nm,0.6s,baz=87,slow=9.0,SNR=98	**33.74**	**257**	P	**P**	**08 42 29.6**	**-0.6**
ASAR	comp=Z,116nm,19.8s,baz=95,slow=36			LR	LR	08 55 54.0	
FORT	**Forrest** 14nm,0.9s	**39.30**	**245**	*e*P	**P**	**08 43 17.2**	**-0.3**
FITZ	**Fitzroy Crossi** 3.7nm,0.8s	**41.95**	**265**	*e*P	**P**	**08 43 39.5**	**-0.1**
KAPI	**Kappang**	**51.07**	**280**	P	**P**	**08 44 51.2**	**0.0**
KAPI	**Kappang** 14nm,0.6s,baz=104,slow=12,SNR=5.2	**51.07**	**280**	P	**P**	**08 44 51.2**	**0.0**
VNDA	**Vanda** comp=Z,34nm,18.2s,baz=179,slow=35	**57.87**	**182**	LR	LR	09 09 09.6	
QSPA	**South Pole Qui**	**70.23**	**180**	P	**P**	**08 47 01.0**	**-0.1**
**

QUBA	**Quba, Azerbaij**	**1.30**	**63**	P		**Pg**	**08 38 32.8**	**0.0**
	SNR=95								
QUBA				S		**Sg**	**08 38 49.6**	**-0.1**
KMKR	**Kumukh**	**1.35**	**5**	⇓*i* PG		**Pn**	**08 38 33.0**	**-0.8**
KMKR				pmax	pmax				
	comp=Z,580nm,0.3s								
KMKR	**Kumukh**	**1.35**	**5**	*i* Pg		**Pn**	**08 38 33.0**	**-0.8**
	comp=Z,580nm,0.3s								
DGRG	**David-gareji**	**1.36**	**300**	P		Pg	08 38 38.7	+4.7	
DGRG				S		**Sn**	**08 38 53.5**	**+1.1**	
GRS	**Goris**	**1.36**	**200**	⇑*i* P		**Pn**	**08 38 31.0**	**-2.8**	
GRS				⇓*i* S		**Sg**	**08 38 50.0**	**-1.6**	
GRS	**Goris**	**1.36**	**200**	⇑P		**Pn**	**08 38 31.0**	**-2.8**	
URKR	**Urkarakh**	**1.48**	**20**	⇓*i* PG		**Pb**	**08 38 36.0**	**0.0**	
URKR				*e*S		**Sb**	**08 38 54.5**	**-0.7**	
URKR	**Urkarakh**	**1.48**	**20**	*i* Pg		**Pb**	**08 38 36.0**	**0.0**	
URKR				*e*Sg		**Sb**	**08 38 54.5**	**-0.7**	
SIZA	**Siyzn**	**1.51**	**78**	P		**Pb**	**08 38 36.6**	**+0.1**	
	SNR=24								
SIZA				S		**Sg**	**08 38 58.0**	**+1.6**	
ATGJ	**Altiaghaj**	**1.52**	**86**	P		**Pb**	**08 38 36.6**	**0.0**	
	SNR=24								
ATGJ				S		**Sg**	**08 38 57.6**	**+1.1**	
GNBR	**Gunib**	**1.61**	**1**	*e*PN		**Pn**	**08 38 37.5**	**+0.4**	
GNBR				*i* S		**Sg**	**08 39 00.0**	**+0.5**	
GNBR	**Gunib**	**1.61**	**1**	*e*Pn		**Pn**	**08 38 37.5**	**+0.4**	
GNBR				*i* Sg		**Sg**	**08 39 00.0**	**+0.5**	
ALIB	**Äli-Bayra**	**1.78**	**117**	P		**Pb**	**08 38 40.8**	**-0.2**	
	SNR=9.8								
GNI	**Garni**	**1.80**	**250**	⇑*i* P		**Pb**	**08 38 42.0**	**+0.6**	
GNI				⇓*i* S		**Sg**	**08 39 07.2**	**+1.6**	
GNI	**Garni**	**1.80**	**250**	⇑P		**Pb**	**08 38 42.0**	**+0.6**	
GNI	**Garni**	**1.80**	**250**	Pn		**Pg**	**08 38 42.3**	**0.0**	
	comp=Z,17nm,0.3s								
GNI				S		**Sg**	**08 39 07.2**	**+1.6**	
GNI				Sg		**Sg**	**08 39 08.5**	**+3.0**	
	comp=Z,48nm,0.3s								
GNI	**Garni**	**1.80**	**250**	Pn		**Pg**	**08 38 42.3**	**0.0**	
	comp=Z,17nm,0.3s,baz=49,slow=3.0,SNR=24								
GNI				Sn		**Sg**	**08 39 08.5**	**+3.0**	
	comp=Z,48nm,0.3s,baz=74,slow=20,SNR=8.4								
ARKR	**Arakani**	**1.82**	**1**	*e*PN		**Pb**	**08 38 42.0**	**+0.2**	
ARKR				*e*S		**Sg**	**08 39 06.7**	**+0.3**	
ARKR				pmax	pmax				
	comp=Z,277nm,0.3s								
ARKR	**Arakani**	**1.82**	**1**	*e*Pn		**Pb**	**08 38 42.0**	**+0.2**	
	comp=Z,277nm,0.3s								
ARKR				*e*Sg		**Sg**	**08 39 06.7**	**+0.3**	
SEAG	**Tbilisi Sea**	**1.89**	**302**	P		**Pn**	**08 38 41.4**	**+0.4**	
SEAG				S		**Sb**	**08 39 06.6**	**-0.4**	
GLBA	**Clilabad**	**1.90**	**144**	P		**Pn**	**08 38 42.0**	**+1.0**	
	SNR=16								
GLBA				S		**Sb**	**08 39 07.2**	**+0.1**	
TBLG	**Delisi**	**1.92**	**300**	P		**Pn**	**08 38 41.2**	**-0.1**	
TBLG				S		**Sn**	**08 39 06.6**	**+0.7**	
UNCR	**Uncukul**	**1.93**	**357**	*e*PN		**Pb**	**08 38 43.0**	**-0.7**	
UNCR				*e*S		**Sg**	**08 39 10.5**	**+0.5**	
UNCR				pmax	pmax				
	comp=Z,135nm,0.5s								
UNCR	**Uncukul**	**1.93**	**357**	*e*Pn		**Pb**	**08 38 43.0**	**-0.7**	
	comp=Z,135nm,0.5s								
UNCR				*e*Sg		**Sg**	**08 39 10.5**	**+0.5**	
STEZ	**Stepenevan**	**1.94**	**277**	⇓*i* P		**Pn**	**08 38 39.6**	**-2.2**	
STEZ				⇓S		**Sn**	**08 39 06.6**	**-0.1**	
NAX	**Nakhchivan**	**1.95**	**215**	P		**Pn**	**08 38 43.1**	**+1.2**	
	SNR=11								
NAX				S		**Sn**	**08 39 07.8**	**+0.9**	
BTLR	**Botlikh**	**1.96**	**344**	*e*PN		**Pn**	**08 38 42.0**	**0.0**	
BTLR	**Botlikh**	**1.96**	**344**	*e*Pn		**Pn**	**08 38 42.0**	**0.0**	
STE	**Stepanavan**	**1.96**	**277**	⇓P		**Pn**	**08 38 39.6**	**-2.5**	
STE				S		**Sn**	**08 39 06.6**	**-0.7**	
MNSR	**Manas**	**2.01**	**17**	*e*PN		**Pb**	**08 38 45.0**	**+0.1**	
MNSR				*e*S		**Sg**	**08 39 13.5**	**+1.2**	
MNSR	**Manas**	**2.01**	**17**	*e*Pn		**Pb**	**08 38 45.0**	**+0.1**	
MNSR				*e*Sb		**Sg**	**08 39 13.5**	**+1.2**	
BUJR	**Buynaksk**	**2.05**	**3**	PN		**Pb**	**08 38 46.0**	**+0.4**	
BUJR				S		**Sg**	**08 39 14.1**	**+0.5**	
BUJR	**Buynaksk**	**2.05**	**3**	Pn		**Pb**	**08 38 46.0**	**+0.4**	
BUJR				Sb		**Sg**	**08 39 14.1**	**+0.5**	
MAK	**Makhachkala**	**2.22**	**11**	*e*PN		**Pb**	**08 38 47.7**	**-0.8**	
MAK				*e*			08 39 17.1		
MAK				smax	smax				
	comp=E,923nm,0.5s								
MAK				smax	smax				
	comp=N,1μm,0.5s								
MAK				MLR	MLR				
	comp=Z,344nm,10.0s								
MAK	**Makhachkala**	**2.22**	**11**	*e*Pn		**Pb**	**08 38 47.7**	**-0.8**	
MAK				*e*Sn		**Sb**	**08 39 17.1**	**+0.8**	
	comp=Z,344nm,10.0s								
DBC	**Dubki**	**2.24**	**358**	*e*PN		**Pn**	**08 38 46.9**	**+1.1**	
DBC				*i* S		**Sb**	**08 39 17.1**	**+0.1**	
DBC	**Dubki**	**2.24**	**358**	*e*Pn		**Pn**	**08 38 46.9**	**+1.1**	
DBC				*i* Sn		**Sb**	**08 39 17.1**	**+0.1**	
IMRD	**Marand**	**2.28**	**205**	*e*Pn		**Pb**	**08 38 50.2**	**+0.6**	
IMRD				*e*			08 39 30.7		
	comp=Z,10μm,0.3s								
IMRD	**Marand**	**2.28**	**205**	*e*Pn		**Pb**	**08 38 50.2**	**+0.6**	
LRK	**Lerik**	**2.39**	**153**	P		**Pn**	**08 38 49.5**	**+1.5**	
LRK				S		**Sn**	**08 39 19.2**	**+1.3**	
IHRS	**Heris**	**2.46**	**178**	*e*Pn		**Pb**	**08 38 51.3**	**-1.5**	
IHRS				*e*Sg		**Sb**	**08 39 22.9**	**-0.7**	
IHRS				*e*			08 39 26.1		
	comp=Z,6μm,0.1s								
IHRS	**Heris**	**2.46**	**178**	*e*Pn		**Pb**	**08 38 51.3**	**-1.5**	
GUDG	**Gudauri**	**2.50**	**313**	P		**Pn**	**08 38 49.4**	**-0.1**	
GUDG				S		**Sn**	**08 39 20.6**	**-0.1**	
LKRN	**Lenkeran, Azer**	**2.51**	**145**	P		**Pn**	**08 38 51.2**	**+1.8**	
LKRN				S		**Sn**	**08 39 22.0**	**+1.6**	
EAK	**Akyaka**	**2.54**	**269**	*i* P		**Pb**	**08 38 54.3**	**+0.2**	
EAK				*i* S		**Sb**	**08 39 25.1**	**-0.7**	
EAK	**Akyaka**	**2.54**	**269**	*i* P		**Pb**	**08 38 54.3**	**+0.2**	
EAK				*i* S		**Sb**	**08 39 25.1**	**-0.7**	
ITBZ	**Tabriz**	**2.62**	**194**	*e*Pn		**Pb**	**08 38 55.2**	**-0.3**	
ITBZ	**Tabriz**	**2.62**	**194**	*e*Pn		**Pb**	**08 38 55.2**	**-0.3**	
AKH	**Akhalkalaki**	**2.68**	**285**	P		**Pb**	**08 38 54.9**	**-1.6**	
AKH				S		**Sb**	**08 39 29.5**	**-0.4**	
GRO	**Groznyy**	**2.69**	**341**	*e*PN		**Pn**	**08 38 53.6**	**+1.7**	
GRO				*e*S		**Sn**	**08 39 26.5**	**+1.6**	
GRO	**Groznyy**	**2.69**	**341**	*e*Pn		**Pn**	**08 38 53.6**	**+1.7**	
GRO				*e*Sn		**Sn**	**08 39 26.5**	**+1.6**	
DIGO	**Kars**	**2.74**	**263**	*i* P		**Pn**	**08 38 54.9**	**+2.0**	
DIGO				*i* S		**Sn**	**08 39 28.7**	**+2.0**	
DIGO	**Kars**	**2.74**	**263**	*i* P		**Pn**	**08 38 54.9**	**+2.0**	
DIGO				*i* S		**Sn**	**08 39 28.7**	**+2.0**	
VLKR	**Vladikavkaz**	**2.83**	**324**	⇓*i* PN		**Pb**	**08 38 56.8**	**-2.1**	
VLKR				*e*S		**Sn**	**08 39 30.9**	**+2.5**	
VLKR	**Vladikavkaz**	**2.83**	**324**	*i* Pn		**Pb**	**08 38 56.8**	**-2.1**	
VLKR				*e*Sn		**Sn**	**08 39 30.9**	**+2.5**	
LACR	**Lac**	**2.84**	**317**	⇑*i* PN		**Pn**	**08 38 55.0**	**+0.8**	
LACR				*e*S		**Sn**	**08 39 29.2**	**+0.2**	
LACR	**Lac**	**2.84**	**317**	*i* Pn		**Pn**	**08 38 55.0**	**+0.8**	
LACR				*e*Sn		**Sn**	**08 39 29.2**	**+0.2**	
ISRB	**Sarab**	**3.00**	**169**	*e*Pn		**Pn**	**08 38 58.8**	**+2.3**	
ISRB				*e*			08 39 23.7		
	comp=Z,2μm,0.2s								
ISRB	**Sarab**	**3.00**	**169**	*e*Pn		**Pn**	**08 38 58.8**	**+2.3**	
ZEI	**Tsey**	**3.03**	**312**	⇓*i* PN		**Pn**	**08 38 57.6**	**+0.7**	
ZEI				*e*S		**Sn**	**08 39 33.4**	**-0.4**	
IBST	**Bostanabad**	**3.08**	**181**	*e*Pn		**Pn**	**08 39 00.4**	**+2.9**	
IBST				*e*			08 39 07.2		
	comp=Z,957nm,0.1s								
IBST				*e*Sg		**Sb**	**08 39 42.0**	**+0.7**	
IBST	**Bostanabad**	**3.08**	**181**	*e*Pn		**Pn**	**08 39 00.4**	**+2.9**	
ARNR	**Ardon**	**3.11**	**321**	*e*PN		**Pn**	**08 38 59.1**	**+1.3**	
ARNR				*e*S		**Sn**	**08 39 36.4**	**+1.0**	
BTKR	**Batakoyurt**	**3.15**	**326**	*e*PN		**Pb**	**08 39 05.6**	**+1.2**	
BTKR				*e*S		**Sb**	**08 39 42.6**	**-0.5**	
KORR	**Kora**	**3.15**	**318**	*e*PN		**Pn**	**08 38 59.7**	**+1.4**	
KORR				*e*S		**Sn**	**08 39 37.0**	**+0.7**	
KORR	**Kora**	**3.15**	**318**	*e*Pn		**Pn**	**08 38 59.7**	**+1.4**	
KORR				*e*Sn		**Sn**	**08 39 37.0**	**+0.7**	
ONI	**Oni**	**3.18**	**306**	P		**Pn**	**08 38 59.6**	**+0.8**	
ONI				S		**Sn**	**08 39 38.2**	**+1.0**	
IAZR	**Azarshahr**	**3.19**	**194**	*e*		**Sg**	**08 39 54.1**	**+3.8**	
	comp=Z,3μm,0.2s								
EPOS	**Posof**	**3.27**	**284**	*i* P		Pn	08 38 55.6	-4.4	
EPOS				*i* S		**Sn**	**08 39 39.2**	**-0.2**	
DIGR	**Digorskoe uzhe**	**3.29**	**311**	⇑*i* PN		**Pn**	**08 39 01.3**	**+1.0**	
DIGR				*e*S		**Sn**	**08 39 39.2**	**-0.8**	
DIGR	**Digorskoe uzhe**	**3.29**	**311**	*i* Pn		**Pn**	**08 39 01.3**	**+1.0**	
DIGR				*e*Sn		**Sn**	**08 39 39.2**	**-0.8**	
STDR	**Stavd-Durt**	**3.36**	**321**	⇓*i* PN		**Pn**	**08 39 02.5**	**+1.3**	
STDR				*e*S		**Sn**	**08 39 42.4**	**+0.9**	
STDR	**Stavd-Durt**	**3.36**	**321**	*i* Pn		**Pn**	**08 39 02.5**	**+1.3**	
STDR				*e*Sn		**Sn**	**08 39 42.4**	**+0.9**	
EATA	**Eleskirt**	**3.53**	**256**	*i* P		**Pg**	**08 39 10.6**	**+0.6**	
ARTV	**Artvin**	**3.82**	**278**	*i* P		**Pb**	**08 39 14.6**	**-1.4**	
ARTV				*i* S		**Sb**	**08 40 03.7**	**+1.1**	
DAGI	**Agillar**	**3.82**	**276**	*i* P		**Pb**	**08 39 16.2**	**+0.2**	
DAGI				*i* S		**Sb**	**08 40 05.7**	**+3.1**	
DDEM	**Demirkent**	**3.94**	**273**	*i* P		**Pb**	**08 39 18.5**	**+0.5**	
DBAD	**Bademkaya**	**3.99**	**275**	*i* P		**Pb**	**08 39 20.4**	**+1.6**	
DBAD				*i* S		**Sb**	**08 40 05.9**	**-1.5**	
DBOC	**Borcka**	**4.03**	**280**	*i* P		**Pb**	**08 39 20.7**	**+1.3**	
CHVG	**Ch'k'valeri**	**4.12**	**300**	P		Pb	08 39 16.8	-4.2	
CHVG				S		**Sb**	**08 40 10.4**	**-0.7**	
KBZ	**Khabaz**	**4.21**	**316**	PN		**Pn**	**08 39 13.4**	**+0.6**	
KBZ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KBZ	**Khabaz**	**4.21**	**316**	Pn		**Pn**	**08 39 13.4**	**+0.6**	
	comp=Z,1.0nm,0.3s								
KBZ	**Khabaz**	**4.21**	**316**	Pn		**Pn**	**08 39 13.4**	**+0.6**	
	comp=Z,0.7nm,0.3s,baz=158,slow=5.4,SNR=9.7								
KBZ				Sn		**Sb**	**08 40 12.1**	**-1.5**	
	comp=Z,1.4nm,0.3s,baz=303,slow=17,SNR=3.3								
KIV	**Kislovodsk**	**4.47**	**317**	⇓*e*PN		**Pn**	**08 39 16.7**	**+0.2**	
KIV				pmax	pmax				
	comp=Z,10.0nm,1.4s								
KIV				MLR	MLR				
	comp=Z,100nm,15.0s								
KIV	**Kislovodsk**	**4.47**	**317**	*e*Pn		**Pn**	**08 39 16.7**	**+0.2**	
	comp=Z,100nm,15.0s								
AKTO	**Aktyubinsk**	**12.37**	**35**	P		Pn	08 41 00.8	-3.9	
AKTO				MLR	MLR				
	comp=Z,23nm,18.3s								
AKTO	**Aktyubinsk**	**12.37**	**35**	Pn		Pn	08 41 00.8	-3.9	
	comp=Z,0.3nm,0.3s,baz=206,slow=14,SNR=7.0								
AKTO				Sn		Sn	08 43 11.4	-11	
	comp=Z,0.3nm,0.3s,baz=195,slow=20,SNR=4.2								
AKTO				LR	LR		08 47 33.3		
	comp=Z,23nm,18.2s,baz=330,slow=46								
AKTO	**Aktyubinsk**	**12.37**	**35**	⇑Pn		**Pn**	**08 41 02.3**	**-2.4**	
	comp=Z,2.6nm,0.6s								
AKTO				⇑Sn		Sn	08 43 15.0	-7.9	
	comp=Z,7.2nm,1.1s								
AB31	**Akbulak array**	**12.49**	**43**	⇓Pn		Pn	08 41 02.6	-3.7	
	comp=Z,0.4nm,0.3s,baz=239,slow=15,SNR=7.4								
AB31				⇑Sn		Sn	08 43 15.6	-10	
	comp=Z,1.8nm,0.6s,baz=244,slow=25,SNR=4.7								
AKASG	**Malin Array Be**	**15.82**	**315**	P		**Pn**	**08 41 49.4**	**-1.9**	
AKASG	**Malin Array Be**	**15.82**	**315**	Pn		**Pn**	**08 41 49.4**	**-1.9**	
	baz=119,slow=11,SNR=3.4								
OBN	**Obninsk**	**15.91**	**338**	⇓*e*P		**P**	**08 41 58.7**	**+2.5**	
OBN				*e*S		**Sn**	**08 44 52.2**	**+3.1**	
OBN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
OBN				MLR	MLR				
	comp=Z,100nm,14.0s								
OBN	**Obninsk**	**15.91**	**338**	*e*P		**P**	**08 41 58.7**	**+2.5**	
	comp=Z,6.0nm,1.0s								
ARU	**Arti**	**17.40**	**22**	*c i* P		**P**	**08 42 16.2**	**+3.5**	
ARU				S		**S**	**08 45 35.6**	**+1.6**	
ARU				pmax	pmax				
	comp=Z,9.0nm,1.7s								
ARU	**Arti**	**17.40**	**22**	*i* P		**P**	**08 42 16.2**	**+3.5**	
	comp=Z,9.0nm,1.7s								
ARU				S		**S**	**08 45 35.6**	**+1.6**	
KK31	**Karatay Array**	**17.68**	**75**	⇑P		**Pn**	**08 42 11.9**	**-3.1**	
	comp=Z,0.8nm,0.4s,baz=272,slow=11,SNR=22								
BRVK	**Borovoye**	**20.01**	**44**	*e*P		**P**	**08 42 41.3**	**-0.1**	
BRVK	**Borovoye**	**20.01**	**44**	*e*P		**P**	**08 42 41.3**	**-0.1**	
BVA0	**Borovoye Array**	**20.05**	**44**	P		**P**	**08 42 41.1**	**-0.8**	
	comp=Z,1.4nm,0.7s,SNR=5.2								
BVA0	**Borovoye Array**	**20.05**	**44**	⇓P		**P**	**08 42 41.1**	**-0.8**	
	comp=Z,1.4nm,0.7s,baz=247,slow=11,SNR=5.2								
BVAR	**Borovoye Array**	**20.05**	**44**	P		**P**	**08 42 39.9**	**-2.0**	
BVAR	**Borovoye Array**	**20.05**	**44**	P		**P**	**08 42 39.9**	**-2.0**	
	comp=Z,0.3nm,0.3s,baz=224,slow=10,SNR=4.2								
AAK	**Ala-Archa**	**20.62**	**76**	P		**P**	**08 42 47.2**	**-1.1**	
AAK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
AAK	**Ala-Archa**	**20.62**	**76**	P		**P**	**08 42 47.2**	**-1.1**	
	comp=Z,4.0nm,0.9s								
AAK	**Ala-Archa**	**20.62**	**76**	P		**P**	**08 42 47.2**	**-1.1**	
	comp=Z,4.0nm,0.9s,baz=249,slow=14,SNR=6.9								
KURBB	**Kurchatov Arra**	**23.99**	**55**	P		**P**	**08 43 21.5**	**-1.8**	
	comp=Z,0.5nm,0.6s,baz=260,slow=9.6,SNR=7.0								
KURK	**Kurchatov**	**24.06**	**55**	P		**P**	**08 43 21.5**	**-2.6**	
FINES	**FINESS Array B**	**24.28**	**335**	P		**P**	**08 43 23.9**	**-2.0**	
	comp=Z,2.1nm,0.7s,baz=143,slow=14,SNR=5.1								
GERES	**GERESS Array B**	**24.77**	**300**	P		**P**	**08 43 31.0**	**+0.3**	
	comp=Z,0.4nm,0.5s,baz=108,slow=8.3,SNR=6.4								
MK31	**Makanchi Array**	**26.06**	**65**	⇑P		**P**	**08 43 39.7**	**-2.6**	
	comp=Z,0.7nm,0.6s,baz=270,slow=7.8,SNR=7.5								
MKAR	**Makanchi Array**	**26.06**	**65**	P		**P**	**08 43 40.8**	**-1.5**	
MKAR	**Makanchi Array**	**26.06**	**65**	P		**P**	**08 43 40.8**	**-1.5**	
	comp=Z,1.1nm,0.7s,baz=275,slow=7.7,SNR=10								
ESK	**Eskdalemuir**	**35.71**	**311**	*i* P		P	08 45 10.6	+3.4	
ESK	**Eskdalemuir**	**35.71**	**311**	*i* P		P	08 45 10.6	+3.4	
TORD	**Torodi Ar. Bea**	**48.10**	**248**	P		**P**	**08 46 47.4**	**-1.5**	
	comp=Z,0.4nm,1.0s,baz=44,slow=8.5,SNR=2.4								

*BJI **05** 09:14:51.0, 66.80N×142.40W, h10km, mB5.1/13, mb4.7/20, Ms4.9/6, Ms7 4.6/10*
*PGC **05** 09:14:52.1±2.9, 67.03N×142.73W, h10km, ML4.8/2, Mw4.5, 332km Ene of Fairbanks, Ak Alaska*
*MOS **05** 09:14:53.8±0.8, 66.84N×142.35W, h10km, mb4.7/36, Error ellipse: s-maj=17.2km s-min=5.2km az=85.3*
*ISCJB **05** 09:14:53.8±0.1, 66.88N±0.02×142.46W±0.06, h10km, mb4.5/78, MS4.0/20, Error ellipse: s-maj=3.5km s-min=2.6km az=26.6*
*IDC **05** 09:14:54.9±0.5, 66.96N×142.29W, h0km, mb4.3/24, mb1 4.5/28, mb1mx4.5/34, mbtmp4.4/28, ML4.5/4, MS3.8/16, Ms1 3.8/16, ms1mx3.5/44, Error ellipse: s-maj=13.8km s-min=10.2km az=47.0*
*NEIC **05** 09:14:55.2, 66.82N×142.47W, h12km, mb4.7/28, MW4.5, ML4.8(AEIC), MW4.5(OTT), Moment Tensor Solution. s22 Moment tensor: Scale 10^15 Nm; Mrr 0.19; Mθθ -3.91; Mφφ 3.72; Mrθ -0.14; Mθφ -4.69; Mφr 1.17; Best double couple: M=6.20000×10^15 NP1:φ=289.00000°, δ80.00000°, λ175.00000°. NP2:φ=20.00000°, δ85.00000°, λ10.00000°. Principal axes: T 6.1600, Plg10.0000°, Azm244.0000°; N 0.0000, Plg78.0000°, Azm46.0000°; P -6.1600, Plg3.0000°, Azm154.0000°; After AEIC.*

ISC 05 09:14:56.1±0.4, 66.83N±0.03×142.38W±0.03, h15km±2km, n273, σ1§61/321, mb4.6/78, MS3.9/20, 1C-7D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.05**	**305**	P		**Pb**	**09 15 13.5**	**-2.6**
BM3				S		**Sn**	**09 15 31.3**	**+0.5**
GLM	**Gilmore Dome**	**2.76**	**230**	P		**Pn**	**09 15 39.0**	**-0.8**
GLM				S		**Sg**	**09 16 22.2**	**-2.6**
IL1	**Eielson Array**	**2.78**	**224**	P		**Pn**	**09 15 39.4**	**-0.6**
IL1				S		**Sg**	**09 16 22.3**	**-2.9**
ILAR	**Eielson Array**	**2.78**	**224**	Pn		**Pn**	**09 15 39.5**	**-0.5**
ILAR				Lg		Lg	09 16 21.5	
ILAR	**Eielson Array**	**2.78**	**224**	Pn		**Pn**	**09 15 39.5**	**-0.5**
	14nm,0.3s,baz=34,slow=13,SNR=958							
ILAR				Lg		Lg	09 16 21.5	
	344nm,0.3s,baz=39,slow=31,SNR=12							
SCRK	**Sand Creek**	**2.94**	**194**	P		Pn	09 15 38.8	-3.5
SCRK				S		**Sb**	**09 16 21.0**	**-3.0**
COLA	**College**	**2.98**	**231**	P		**Pn**	**09 15 42.3**	**-0.5**
COLA				S		**Sb**	**09 16 27.4**	**+2.3**
COLA	**College**	**2.98**	**231**	P		**Pn**	**09 15 42.3**	**-0.5**
COLA				S		**Sb**	**09 16 27.4**	**+2.3**
DAWY	**Dawson**	**3.04**	**154**	⇓Pn		**Pn**	**09 15 43.5**	**-0.2**
DAWY				⇓Sn		**Sn**	**09 16 22.0**	**+2.2**
DAWY	**Dawson**	**3.04**	**154**	*e*Pn		**Pn**	**09 15 43.4**	**-0.2**
DAWY				S		**Sn**	**09 16 15.3**	**-4.5**
MDM	**Murphy Dome**	**3.05**	**235**	P		**Pn**	**09 15 42.9**	**-0.8**
MDM				S		**Sb**	**09 16 29.4**	**+2.5**
HDA	**Harding Lake**	**3.08**	**220**	P		**Pn**	**09 15 43.8**	**-0.4**
HDA				S		**Sb**	**09 16 27.8**	**-0.2**
COLD	**Coldfoot**	**3.10**	**281**	P		**Pn**	**09 15 43.4**	**-0.9**
CCB	**Clear Creek Bu**	**3.13**	**228**	P		**Pn**	**09 15 44.4**	**-0.4**
CCB				S		**Sb**	**09 16 29.1**	**-0.2**
DOT	**Dot Lake**	**3.27**	**193**	*e*Pn		**Pn**	**09 15 47.8**	**+1.0**
DOT				S		**Sn**	**09 16 27.5**	**+2.1**
DOT				*e*Sg		**Sg**	**09 16 39.9**	**-1.1**
WRH	**Wood River Hil**	**3.35**	**228**	P		**Pn**	**09 15 47.0**	**-0.8**
WRH				S		**Sb**	**09 16 35.6**	**+0.2**
DDM	**Donnelly Dome**	**3.38**	**207**	P		**Pn**	**09 15 48.0**	**-0.4**
INK	**Inuvik**	**3.71**	**62**	⇓P		**Pn**	**09 15 50.4**	**-2.3**
INK				⇑Sn		**Sn**	**09 16 33.3**	**-2.7**
INK	**Inuvik**	**3.71**	**62**	*e*Pn		**Pn**	**09 15 51.6**	**-1.1**
INK				S		Sx	09 16 17.2	
INK				Sn		**Sn**	**09 16 34.0**	**-2.1**
INK	**Inuvik**	**3.71**	**62**	Pn		**Pn**	**09 15 51.4**	**-1.3**
	59nm,0.3s,baz=234,slow=15,SNR=470							
INK				Sn		**Sn**	**09 16 34.0**	**-2.1**
	79nm,0.3s,baz=322,slow=30,SNR=7.9							
INK				LR		LR	09 17 45.7	
	comp=Z,984nm,18.4s,baz=187,slow=47							
BCA3	**Beaver Creek A**	**3.79**	**176**	P		Pn	09 15 50.5	-3.4
MLY	**Manley**	**3.87**	**246**	P		**Pn**	**09 15 53.6**	**-1.4**
MLY				S		**Sb**	**09 16 50.8**	**+0.2**
MENT	**Mentasta**	**3.95**	**189**	P		**Pn**	**09 15 54.6**	**-1.5**
BWN	**Browne**	**3.98**	**231**	P		**Pn**	**09 15 54.8**	**-1.7**
PAX	**Paxson**	**4.09**	**200**	*e*P		**Pn**	**09 15 59.0**	**+0.9**
PAX	**Paxson**	**4.09**	**200**	*e*Pn		**Pn**	**09 15 59.0**	**+0.9**
MCK	**McKinley**	**4.15**	**225**	P		**Pn**	**09 15 58.7**	**-0.2**
MCK				S		**Sb**	**09 16 53.8**	**-4.9**
MCK	**McKinley**	**4.15**	**225**	P		**Pn**	**09 15 58.7**	**-0.2**
MCK				S		**Sb**	**09 16 53.8**	**-4.9**
RND	**Reindeer**	**4.39**	**222**	P		**Pn**	**09 16 02.4**	**+0.2**
RND	**Reindeer**	**4.39**	**222**	P		**Pn**	**09 16 02.4**	**+0.2**
HARP	**HAARP**	**4.60**	**196**	P		**Pn**	**09 16 03.2**	**-1.7**
IM04	**Indian Mountai**	**4.66**	**265**	*e*Pn		**Pn**	**09 16 05.1**	**-0.8**
IM04				*e*Sn		**Sn**	**09 16 59.8**	**+0.1**
TRF	**Thorofare Moun**	**4.75**	**228**	P		**Pn**	**09 16 07.0**	**-0.3**
TRF				S		**Sb**	**09 17 11.6**	**-4.6**
KTH	**Kantishna Hill**	**4.87**	**232**	P		**Pn**	**09 16 08.0**	**-0.9**
CHUM	**Lake Minchumin**	**5.10**	**239**	P		**Pn**	**09 16 11.3**	**-0.5**
CAST	**Castle Rocks**	**5.33**	**235**	*e*Pn		**Pn**	**09 16 14.7**	**-0.5**
SCM	**Sheep Creek Mo**	**5.46**	**206**	P		**Pn**	**09 16 17.7**	**+0.9**
SCM	**Sheep Creek Mo**	**5.46**	**206**	P		**Pn**	**09 16 17.7**	**+0.9**
MCARA	**McCarthy VSAT**	**5.47**	**183**	P		**Pn**	**09 16 14.0**	**-3.0**
VRDI	**Verde Repeater**	**5.64**	**185**	P		**Pn**	**09 16 17.5**	**-2.0**
PTPK	**Patty Peak**	**5.66**	**180**	P		**Pn**	**09 16 17.3**	**-2.5**
SML	**Sawmill**	**5.66**	**210**	*e*Pn		Pn	09 16 10.0	-10
	67nm,0.8s							
SML				*e*Sg		**Sb**	**09 17 43.5**	**+1.3**
**PP

SRU	**San Rafael**	**33.02**	**131**	*eP*		**P**	**09 21 31.1**	**+0.5**
	comp=Z,4.4nm,0.7s								
ISCO	**Idaho Springs**	**33.93**	**124**	*eP*		**P**	**09 21 39.4**	**+0.8**
ISCO					pmax	pmax			
	comp=Z,4.0nm,1.0s								
ISCO	**Idaho Springs**	**33.93**	**124**	*eP*		**P**	**09 21 39.4**	**+0.8**
	comp=Z,3.9nm,1.0s								
YAK	**Yakutsk**	**35.25**	**305**	*eP*		**P**	**09 21 50.2**	**+0.8**
YAK					pmax	pmax			
	comp=Z,12nm,1.0s								
SCHQ	**Schefferville**	**36.27**	**71**	P		**P**	**09 21 57.5**	**-0.8**
SCHQ	**Schefferville**	**36.27**	**71**	P		**P**	**09 21 57.5**	**-0.8**
	comp=Z,5.8nm,0.8s,baz=333,slow=8.4,SNR=6.6								
SCHQ					LR	LR	09 37 22.8		
	comp=Z,226nm,19.2s,baz=16,slow=37								
JFWS	**Jewell Farm**	**36.72**	**104**	*eP*		**P**	**09 22 02.9**	**+0.6**
JFWS	**Jewell Farm**	**36.72**	**104**	*eP*		**P**	**09 22 02.9**	**+0.6**
ANMO	**Albuquerque**	**38.10**	**129**	*eP*		**P**	**09 22 15.5**	**+1.3**
	comp=Z,3.4nm,1.0s								
YSS	**Yuzh-Sakhalins**	**42.28**	**281**	*eP*		**P**	**09 22 50.6**	**+2.1**
YSS					pmax	pmax			
	comp=Z,27nm,1.6s								
KEV	**Kevo**	**43.49**	**5**	*eP*		**P**	**09 22 56.0**	**-2.0**
KEV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KEV	**Kevo**	**43.49**	**5**	*ep*		**P**	**09 22 56.0**	**-2.0**
	comp=Z,0.5nm,0.3s								
ARCES	**ARCESS Array B**	**43.65**	**6**	P		**P**	**09 22 59.0**	**-0.3**
ARCES	**ARCESS Array B**	**43.65**	**6**	P		**P**	**09 22 59.0**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=12,slow=7.8,SNR=5.7								
TXAR	**Lajitas Array**	**44.17**	**128**	P		**P**	**09 23 05.7**	**+1.6**
TXAR	**Lajitas Array**	**44.17**	**128**	P		**P**	**09 23 05.7**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=345,slow=7.6,SNR=16								
TXAR					LR	LR	09 41 47.8		
	comp=Z,204nm,20.9s,baz=0.0,slow=36								
JCT	**Junction City**	**44.35**	**123**	*eP*		**P**	**09 23 03.2**	**-2.3**
JCT					pmax	pmax			
	comp=Z,9.0nm,0.8s								
JCT	**Junction City**	**44.35**	**123**	*eP*		**P**	**09 23 03.1**	**-2.3**
	comp=Z,8.6nm,0.8s								
OXF	**Oxford**	**44.38**	**110**	*eP*		**P**	**09 23 05.7**	**+0.1**
OXF					pmax	pmax			
	comp=Z,16nm,0.6s								
OXF	**Oxford**	**44.38**	**110**	*eP*		**P**	**09 23 05.7**	**+0.1**
	comp=Z,16nm,0.6s								
MDJ	**Mudanjiang**	**49.27**	**290**	P		**P**	**09 23 41.1**	**-2.6**
MDJ					pmax	pmax			
	comp=Z,29nm,1.7s								
MDJ					pmax	pmax			
	comp=Z,1μm,5.2s								
JOF	**Joensuu**	**50.47**	**4**	*eP*		**P**	**09 23 52.9**	**+0.4**
JOF					pmax	pmax			
	comp=Z,1.0nm,0.3s								
JOF	**Joensuu**	**50.47**	**4**	*ep*		**P**	**09 23 52.9**	**+0.4**
	comp=Z,0.5nm,0.3s								
NB2	**NORSAR Subarra**	**50.97**	**16**	P		**P**	**09 23 56.0**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=344,slow=7.9								
NOA	**NORSAR Array B**	**50.97**	**16**	P		**P**	**09 23 55.3**	**-1.1**
NOA	**NORSAR Array B**	**50.97**	**16**	P		**P**	**09 23 55.3**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=348,slow=7.6,SNR=12								
KAF	**Kangasniemi**	**51.09**	**7**	*eP*		**P**	**09 23 54.7**	**-2.6**
KAF	**Kangasniemi**	**51.09**	**7**	*ep*		**P**	**09 23 54.7**	**-2.6**
	comp=Z,0.3nm,0.2s								
CN2	**Changchun**	**51.50**	**292**	*eP*		**P**	**09 23 59.9**	**-0.6**
FIA1	**FINESS Array S**	**51.75**	**7**	P		**P**	**09 24 02.1**	**-0.1**
FINES	**FINESS Array B**	**51.75**	**7**	P		**P**	**09 24 02.0**	**-0.1**
FINES	**FINESS Array B**	**51.75**	**7**	P		**P**	**09 24 02.0**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=12,slow=8.6,SNR=20								
KLMR	**Klimovskoe**	**52.62**	**359**	*eP*		**P**	**09 24 08.4**	**-0.2**
KLMR					pmax	pmax			
	comp=Z,14nm,0.9s								
NVS	**Novosibirsk**	**53.91**	**329**	*eP*		**P**	**09 24 17.3**	**-0.9**
NVS					pmax	pmax			
	comp=Z,6.0nm,0.7s								
NVS					pmax	pmax			
	comp=E,2.0nm,0.6s								
SONM	**Songino Array**	**54.40**	**309**	P		**P**	**09 24 23.4**	**+1.3**
SONM	**Songino Array**	**54.40**	**309**	P		**P**	**09 24 23.4**	**+1.3**
	comp=E,1.4nm,0.8s,baz=22,slow=5.0,SNR=8.7								
SONM					LR	LR	09 51 38.9		
	comp=E,107nm,20.4s,baz=180,slow=41								
ZAA0	**Zalesovo Array**	**54.42**	**328**	*eP*		**P**	**09 24 21.9**	**-0.1**
ZALV	**Zalesovo Beam**	**54.42**	**328**	P		**P**	**09 24 22.3**	**+0.3**
ZALV					pmax	pmax			
	comp=Z,5.0nm,0.6s								
ZALV					MLR	MLR			
	comp=Z,93nm,18.7s								
ZALV	**Zalesovo Beam**	**54.42**	**328**	P		**P**	**09 24 22.3**	**+0.3**
ZALV	**Zalesovo Beam**	**54.42**	**328**	P		**P**	**09 24 22.3**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=16,slow=7.3,SNR=22								
ZALV					LR	LR	09 51 59.7		
	comp=Z,93nm,18.7s,baz=68,slow=41								
SVE	**Sverdlovsk**	**55.47**	**345**	*eP*		**P**	**09 24 27.3**	**-2.2**
SVE					pmax	pmax			
	comp=Z,7.0nm,0.5s								
ARU	**Arti**	**56.06**	**346**	*d iP*		**P**	**09 24 34.4**	**+0.6**
ARU							09 26 37.6		
ARU					PPP	PPP	09 27 51.3		
ARU					S	**S**	**09 32 23.9**	**+2.6**
ARU					SS	**SS**	**09 36 08.4**	**+1.9**
ARU					pmax	pmax			
	comp=Z,7.0nm,0.8s								
KSRS	**Korea Array**	**56.10**	**287**	P		**P**	**09 24 35.8**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=27,slow=6.9,SNR=5.3								
KSRS					LR	LR	09 49 02.3		
	comp=Z,75nm,20.2s,baz=185,slow=36								
KSAR	**Wonju Array B**	**56.12**	**287**	P		**P**	**09 24 35.8**	**+1.3**
BVAR	**Borovoye Array**	**57.94**	**337**	P		**P**	**09 24 47.4**	**+0.3**
BVAR					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BVAR	**Borovoye Array**	**57.94**	**337**	P		**P**	**09 24 47.4**	**+0.3**
BVAR	**Borovoye Array**	**57.94**	**337**	P		**P**	**09 24 47.4**	**+0.3**
	comp=Z,5.3nm,1.0s,baz=1.9,slow=4.5,SNR=17								
OBN	**Obninsk**	**58.38**	**1**	*||eP*		**P**	**09 24 50.7**	**+0.6**
OBN					pmax	pmax			
	comp=Z,10.0nm,1.2s								
OBN					MLR	MLR			
	comp=Z,100nm,16.0s								
KURK	**Kurchatov**	**58.73**	**331**	P		**P**	**09 24 53.8**	**+1.2**
KURK					pmax	pmax			
	comp=Z,7.0nm,0.9s								
KURK	**Kurchatov**	**58.73**	**331**	P		**P**	**09 24 53.8**	**+1.2**
KURBB	**Kurchatov Arra**	**58.84**	**331**	P		**P**	**09 24 53.8**	**+0.4**
	comp=Z,6.9nm,0.9s,baz=19,slow=6.3,SNR=43								
HHC	**Hu-ho-hao-te**	**58.98**	**302**	*eP*		**P**	**09 24 52.2**	**-2.5**
HHC					pP	**pP**	**09 24 56.7**	**-2.8**
HHC					sP	**sP**	**09 24 59.1**	**-2.3**
HHC					PP	**PP**	**09 27 03.9**	**-0.7**
HHC					PcS	**PcS**	**09 29 41.7**	**-3.8**
HHC					S	**S**	**09 32 55.2**	**-5.0**
HHC					ScS	**ScS**	**09 34 37.8**	**-6.0**
HHC					SS	**SS**	**09 36 50.1**	**-3.1**
HHC					pmax	pmax			
	comp=Z,25nm,1.2s								
HHC					pmax	pmax			
	comp=Z,410nm,7.0s								
HHC					LR	LR			
	comp=Z,370nm,17.3s								
HHC					LR	LR			
	comp=Z,840nm,17.3s								
HHC					LR	LR			
	comp=Z,310nm,17.3s								
GIVF	**Givet**	**60.77**	**24**	*eP*		**P**	**09 25 07.1**	**+0.4**
GIVF	**Givet**	**60.77**	**24**	*eP*		**P**	**09 25 07.1**	**+0.4**
GIVF	**Givet**	**60.77**	**24**	*eP*		**P**	**09 25 07.1**	**+0.4**
FLN	**La Foliniere**	**61.15**	**28**	*eP*		**P**	**09 25 09.4**	**+0.1**
FLN					*eR*				
	comp=Z,122nm,20.0s								
FLN	**La Foliniere**	**61.15**	**28**	*eP*		**P**	**09 25 09.4**	**+0.1**
FLN	**La Foliniere**	**61.15**	**28**	*eP*		**P**	**09 25 09.4**	**+0.1**
BRG	**Berggiesshubel**	**61.26**	**17**	*eP*		**P**	**09 25 10.7**	**+0.7**
	comp=Z,12nm,1.6s								
BRG	**Berggiesshubel**	**61.26**	**17**	*eP*		**P**	**09 25 10.7**	**+0.7**
BRG					pmax	pmax			
	comp=Z,13nm,1.6s								
LDF	**La Druitiere**	**61.38**	**28**	*eP*		**P**	**09 25 10.8**	**0.0**
	comp=Z,42nm,1.0s								
LDF	**La Druitiere**	**61.38**	**28**	*eP*		**P**	**09 25 10.8**	**0.0**
LDF					pmax	pmax			
	comp=Z,42nm,1.0s								
LDF	**La Druitiere**	**61.38**	**28**	*eP*		**P**	**09 25 10.8**	**0.0**
	comp=Z,42nm,1.0s								
GRR	**Gorron**	**61.44**	**28**	*eP*		**P**	**09 25 11.5**	**+0.3**
GRR	**Gorron**	**61.44**	**28**	*eP*		**P**	**09 25 11.5**	**+0.3**
GRR	**Gorron**	**61.44**	**28**	*eP*		**P**	**09 25 11.5**	**+0.3**
QUIF	**Quistinic**	**61.45**	**30**	*eP*		**P**	**09 25 11.5**	**+0.2**
QUIF	**Quistinic**	**61.45**	**30**	*eP*		**P**	**09 25 11.5**	**+0.2**
QUIF	**Quistinic**	**61.45**	**30**	*eP*		**P**	**09 25 11.5**	**+0.2**
MK31	**Makanchi Array**	**61.71**	**327**	*eP*		**P**	**09 25 12.5**	**-0.7**
MK31	**Makanchi Array**	**61.71**	**327**	*eP*		**P**	**09 25 12.5**	**-0.7**
MKAR	**Makanchi Array**	**61.71**	**327**	*ceP*		**P**	**09 25 12.8**	**-0.4**
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**61.71**	**327**	P		**P**	**09 25 12.7**	**-0.5**
MKAR	**Makanchi Array**	**61.71**	**327**	P		**P**	**09 25 12.7**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=43,slow=7.2,SNR=23								
MKAR					LR	LR	09 54 31.0		
	comp=Z,66nm,18.5s,baz=20,slow=39								
UPC	**Upice**	**61.85**	**15**	*i* P		**P**	**09 25 14.8**	**+0.8**
UPC	**Upice**	**61.85**	**15**	*i* P		**P**	**09 25 14.8**	**+0.8**
DPC	**Dobruska-Polom**	**62.03**	**15**	*i* P		**P**	**09 25 16.4**	**+1.1**
DPC	**Dobruska-Polom**	**62.03**	**15**	*i* P		**P**	**09 25 16.4**	**+1.1**
AKTO	**Aktyubinsk**	**62.04**	**345**	P		**P**	**09 25 15.9**	**+0.6**
AKTO					pmax	pmax			
	comp=Z,3.0nm,0.7s								
AKTO	**Aktyubinsk**	**62.04**	**345**	P		**P**	**09 25 15.9**	**+0.6**
AKTO	**Aktyubinsk**	**62.04**	**345**	P		**P**	**09 25 15.9**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=13,slow=7.4,SNR=11								
PRU	**Pruhonice**	**62.20**	**17**	*i* P		**P**	**09 25 18.1**	**+1.8**
PRU	**Pruhonice**	**62.20**	**17**	*i* P		**P**	**09 25 18.1**	**+1.8**
KRLC	**Kraliky**	**62.35**	**15**	*i* P		**P**	**09 25 18.2**	**+0.8**
KRLC	**Kraliky**	**62.35**	**15**	*i* P		**P**	**09 25 18.2**	**+0.8**
MEZF	**Maizieres J'vi**	**62.35**	**24**	*eP*		**P**	**09 25 17.3**	**-0.1**
MEZF	**Maizieres J'vi**	**62.35**	**24**	*eP*		**P**	**09 25 17.3**	**-0.1**
PAGF	**Fort de Pagny**	**62.41**	**23**	*eP*		**P**	**09 25 18.7**	**+0.9**
	comp=Z,3.6nm,0.7s								
PAGF	**Fort de Pagny**	**62.41**	**23**	*eP*		**P**	**09 25 18.7**	**+0.9**
	comp=Z,3.6nm,0.7s								
AKASG	**Malin Array Be**	**62.63**	**6**	P		**P**	**09 25 19.2**	**+0.1**
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**62.63**	**6**	P		**P**	**09 25 19.2**	**+0.1**
AKASG	**Malin Array Be**	**62.63**	**6**	P		**P**	**09 25 19.2**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=357,slow=7.1,SNR=13								
AK01	**Malin Array Si**	**62.63**	**6**	*eP*		**P**	**09 25 18.9**	**-0.3**
SFTF	**Sexfontaines**	**62.64**	**24**	*eP*		**P**	**09 25 19.7**	**+0.4**
SFTF	**Sexfontaines**	**62.64**	**24**	*eP*		**P**	**09 25 19.7**	**+0.4**
AK02	**Malin Array Si**	**62.67**	**6**	*eP*		**P**	**09 25 20.0**	**+0.6**
CDF	**Champ du Feu**	**62.79**	**22**	*eP*		**P**	**09 25 20.3**	**-0.1**
CDF	**Champ du Feu**	**62.79**	**22**	*eP*		**P**	**09 25 20.3**	**-0.1**
CDF	**Champ du Feu**	**62.79**	**22**	*eP*		**P**	**09 25 20.3**	**-0.1**
KHC	**Kasperske Hory**	**62.93**	**17**	*i* P		**P**	**09 25 22.8**	**+1.5**
KHC	**Kasperske Hory**	**62.93**	**17**	*i* P		**P**	**09 25 22.8**	**+1.5**
ABKAR	**Akbulak array**	**63.00**	**344**	*eP*		**P**	**09 25 22.2**	**+0.5**
	comp=Z,1.5nm,0.5s								
HAU	**Haudompre**	**63.04**	**23**	*eP*		**P**	**09 25 22.4**	**+0.4**
HAU					*eR*				
	comp=Z,95nm,20.0s								
HAU	**Haudompre**	**63.04**	**23**	*eP*		**P**	**09 25 22.4**	**+0.4**
HAU	**Haudompre**	**63.04**	**23**	*eP*		**P**	**09 25 22.4**	**+0.4**
HYF	**Humbligny**	**63.15**	**26**	*eP*		**P**	**09 25 23.5**	**+0.8**
HYF	**Humbligny**	**63.15**	**26**	*eP*		**P**	**09 25 23.5**	**+0.8**
GERES	**GERESS Array B**	**63.23**	**17**	P		**P**	**09 25 24.2**	**+0.9**
GERES	**GERESS Array B**	**63.23**	**17**	P		**P**	**09 25 24.2**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=357,slow=5.3,SNR=9.7								
WMQ	**Urumqi**	**63.27**	**322**	P		**P**	**09 25 26.0**	**+2.3**
WMQ					sP	**sP**	**09 25 33.0**	**+2.6**
WMQ					PcP	**PcP**	**09 26 04.0**	**+3.2**
WMQ					PP	**PP**	**09 27 46.0**	**+3.8**
WMQ					ScP		09 30 04.0		
WMQ					S	**S**	**09 33 55.0**	**+0.4**
WMQ					ScS	**SKKSac**	**09 35 15.0**	**-0.8**
WMQ					SS	**SS**	**09 38 03.0**	**+3.0**
WMQ					pmax	pmax			
	comp=Z,10.0nm,1.0s								
WMQ					pmax	pmax			
	comp=Z,69nm,5.0s								
WMQ					LR	LR			
	comp=Z,110nm,18.0s								
WMQ					LR	LR			
	comp=Z,78nm,16.0s								
WMQ					LR	LR			
	comp=Z,82nm,16.0s								
MFF	**Saint Martin d**	**63.29**	**28**	*eP*		**P**	**09 25 24.2**	**+0.5**
MFF	**Saint Martin d**	**63.29**	**28**	*eP*		**P**	**09 25 24.2**	**+0.5**
MFF	**Saint Martin d**	**63.29**	**28**	*eP*		**P**	**09 25 24.2**	**+0.5**
HINF	**Hinteralfeld**	**63.30**	**23**	*eP*		**P**	**09 25 24.2**	**+0.4**
HINF	**Hinteralfeld**	**63.30**	**23**	*eP*		**P**	**09 25 24.2**	**+0.4**
HINF	**Hinteralfeld**	**63.30**	**23**	*eP*		**P**	**09 25 24.2**	**+0.4**
LOR	**Lormes**	**63.36**	**25**	*eP*		**P**	**09 25 24.3**	**+0.2**
	comp=Z,6.4nm,0.6s								
LOR					*eR*				
	comp=Z,100nm,17.8s								
LOR	**Lormes**	**63.36**	**25**	*eP*		**P**	**09 25 24.3**	**+0.2**
	comp=Z,6.4nm,0.6s								
SSF	**Saint Saulge**	**63.50**	**25**	*eP*		**P**	**09 25 26.0**	**+1.0**
SSF	**Saint Saulge**	**63.50**	**25**	*eP*		**P**	**09 25 26.0**	**+1.0**
SSF	**Saint Saulge**	**63.50**	**25**	*eP*		**P**	**09 25 26.0**	**+1.0**
AVF	**Avril sur Loir**	**63.73**	**26**	*eP*		**P**	**09 25 26.9**	**+0.3**
AVF	**Avril sur Loir**	**63.73**	**26**	*eP*		**P**	**09 25 26.9**	**+0.3**
AVF	**Avril sur Loir**	**63.73**	**26**	*eP*		**P**	**09 25 26.9**	**+0.3**
BGF	**Bois d'Agland**	**63.87**	**26**	*eP*		**P**	**09 25 27.9**	**+0.4**
	comp=Z,22nm,0.8s								
BGF	**Bois d'Agland**	**63.87**	**26**	*eP*		**P**	**09 25 27.9**	**+0.4**
BGF					pmax	pmax			
	comp=Z,22nm,0.8s								
BGF	**Bois d'Agland**	**63.87**	**26**	*eP*		**P**	**09 25 27.9**	**+0.4**
	comp=Z,22nm,0.8s								
SMF	**Signal de Mont**	**63.96**	**25**	*eP*		**P**	**09 25 28.2**	**+0.1**
SMF	**Signal de Mont**	**63.96**	**25**	*eP*		**P**	**09 25 28.2**	**+0.1**
SMF	**Signal de Mont**	**63.96**	**25**	*eP*		**P**	**09 25 28.2**	**+0.1**
TCF	**Toulx Ste Croi**	**64.02**	**27**	*eP*		**P**	**09 25 28.8**	**+0.3**
	comp=Z,19nm,1.0s								
TCF	**Toulx Ste Croi**	**64.02**	**27**	*eP*		**P**	**09 25 28.8**	**+0.3**
TCF					pmax	pmax			
	comp=Z,19nm,1.0s								
TCF	**Toulx Ste Croi**	**64.02**	**27**	*eP*		**P**	**09 25 28.8**	**+0.3**
	comp=Z,19nm,1.0s								
NJ2	**Nanjing**	**64.29**	**291**	*eP*		**P**	**09 25 28.1**	**-2.3**
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
CABF	**La Chapelle**	**64.36**	**24**	*eP*		**P**	**09 25 31.6**	**+0.8**
	comp=Z,19nm,0.8s								
CABF	**La Chapelle**	**64.36**	**24**	*eP*		**P**	**09 25 31.6**	**+0.8**
CABF					pmax	pmax			
	comp=Z,19nm,0.8s								
CABF	**La Chapelle**	**64.36**	**24**	*eP*		**P**	**09 25 31.6**	**+0.8**
	comp=Z,19nm,0.8s								
LFF	**La Frestale**	**65.06**	**28**	*eP*		**P**	**09 25 35.8**	**+0.5**
LFF	**La Frestale**	**65.06**	**28**	*eP*		**P**	**09 25 35.8**	**+0.5**
LFF	**La Frestale**	**65.06**	**28**	*eP*		**P**	**09 25 35.8**	**+0.5**
CAF	**Calviac**	**65.31**	**27**	*eP*		**P**	**09 25 37.3**	**+0.3**
CAF	**Calviac**	**65.31**	**27**	*eP*		**P**	**09 25 37.3**	**+0.3**
CAF	**Calviac**	**65.31**	**27**	*eP*		**P**	**09 25 37.3**	**+0.3**
LPL	**La Plagne**	**65.53**	**23**	*eP*		**P**	**09 25 39.8**	**+1.2**
	comp=Z,6.4nm,0.7s								
LPL	**La Plagne**	**65.53**	**23**	*eP*		**P**	**09 25 39.8**	**+1.2**
LPL					pmax	pmax			
	comp=Z,6.0nm,0.7s								
LPL	**La Plagne**	**65.53**	**23**	*eP*		**P**	**09 25 39.8**	**+1.2**
	comp=Z,6.4nm,0.7s								
LPG	**La Plagne**	**65.55**	**23**	*eP*		**P**	**09 25 40.0**	**+1.2**
LPG	**La Plagne**	**65.55**	**23**	*eP*		**P**	**09 25 40.0**	**+1.2**
LPG	**La Plagne**	**65.55**	**23**	*eP*		**P**	**09 25 40.0**	**+1.2**
ORIF	**Oris-en-Rattie**	**65.97**	**24**	*eP*		**P**	**09 25 41.9**	**+0.6**
	comp=Z,11nm,1.0s								
ORIF					*eR*				
	comp=Z,64nm,17.5s								
ORIF	**Oris-en-Rattie**	**65.97**	**24**	*eP*		**P**	**09 25 41.9**	**+0.6**
ORIF					pmax	pmax			
	comp=Z,11nm,1.0s								
ORIF	**Oris-en-Rattie**	**65.97**	**24**	*eP*		**P**	**09 25 41.9**	**+0.6**
	comp=Z,11nm,1.0s								
SMRF	**Simiane la Rot**	**66.84**	**25**	*eP*		**P**	**09 25 47.2**	**+0.4**
	comp=Z,12nm,0.8s								
SMRF	**Simiane la Rot**	**66.84**	**25**	*eP*		**P**	**09 25 47.2**	**+0.4**
	comp=Z,12nm,0.8s								
AAK	**Ala-Archa**	**67.29**	**331**	*eP*		**P**	**09 25 51.5**	**+1.7**
AAK					pmax	pmax			
	comp=Z,19nm,1.7s								
AAK	**Ala-Archa**	**67.29**	**331**	P		**P**	**09 25 50.8**	**+0.9**
AAK	**Ala-Archa**	**67.29**	**331**	P		**P**	**09 25 50.8**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=62,slow=3.6,SNR=8.8								
ESDC	**Sonseca Array**	**69.17**	**33**	P		**P**	**09 26 02.2**	**+0.6**
ESDC	**Sonseca Array**	**69.17**	**33**	P		**P**	**09 26 02.2**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=342,slow=6.3,SNR=14								
EVOP	**Sao Brissos**	**69.32**	**37**	*eP*		**P**	**09 26 02.5**	**+0.1**
EVOP					pmax	pmax			
	comp=Z,15nm,0.9s								
EVOP	**Sao Brissos**	**69.32**	**37**	*eP*		**P**	**09 26 02.5**	**+0.1**
	comp=Z,14nm,0.9s								
EVO	**Evora**	**69.35**	**37**	*eP*		**P**	**09 26 02.5**	**-0.1**
	comp=Z,14nm,0.9s								
EVO					*eR*				
	comp=Z,67nm,20.5s								
KIV	**Kislovodsk**	**69.48**	**356**	*||eP*		**P**	**09 26 03.7**	**+0.3**
KIV					pmax	pmax			
	comp=Z,7.0nm,1.2s								
KIV					MLR	MLR			
	comp=Z,100nm,14.0s								
KBZ	**Khabaz**	**69.70**	**356**	P		**P**	**09 26 06.6**	**+2.0**
KBZ					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KBZ					MLR	MLR			
	comp=Z,49nm,18.6s								
KBZ	**Khabaz**	**69.70**	**356**	P		**P**	**09 26 06.6**	**+2.0**
KBZ	**Khabaz**	**69.70**	**356**	P		**P**	**09 26 06.6**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=327,slow=17,SNR=3.2								
KBZ					LR	LR	10 00 21.8		
	comp=Z,49nm,18.6s,baz=349,slow=39								
KSH	**Kashi**	**70.00**	**329**	P		**P**	**09 26 09.5**	**+2.7**
KSH					pP	**pP**	**09 26 14.5**	**+2.8**
KSH					sP	**sP**	**09 26 16.6**	**+3.1**
KSH					PcP	**PcP**	**09 26 31.6**	**+2.6**
KSH					PP	PP	09 28 46.3	+5.3
KSH					S	**S**	**09 35 19.6**	**+3.2**
KSH					SKS	**SKSac**	**09 36 05.1**	**-2.0**
KSH					ScS	**SKKSac**	**09 36 07.1**	**0.0**
KSH					pmax	pmax			
	comp=Z,3.0nm,0.5s								
KSH					pmax	pmax			
	comp=Z,79nm,4.5s								
KSH					LR	LR			
	comp=Z,310nm,5.6s								
CD2	**Chengdu**	**70.62**	**304**	*eP*		**P**	**09 26 10.2**	**-0.4**
CD2					pP	**pP**	**09 26 15.3**	**-0.2**
CD2					sP	**sP**	**09 26 17.8**	**+0.5**
CD2					PP	**PP**	**09 28 48.0**	**+1.5**
CD2					S	**S**	**09 35 21.2**	**-2.4**
CD2					sS	**sS**	**09 35 28.2**	**-3.6**
CD2					SS	**SS**	**09 39 53.2**	**-1.2**
CD2					pmax	pmax			
	comp=Z,10.0nm,1.2s								
CD2					pmax	pmax			
	comp=Z,30nm,4.8s								
CD2					LR	LR			
	comp=Z,320nm,16.2s								
CD2					LR	LR			
	comp=Z,240nm,14.2s								
CD2					LR	LR			
	comp=Z,250nm,10.8s								
BRTR	**Keskin Array B**	**73.73**	**3**	P		**P**	**09 26 29.6**	**+0.4**
BRTR	**Keskin Array B**	**73.73**	**3**	P		**P**	**09 26 29.6**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=340,slow=2.3,SNR=7.1								
BRTR					LR	LR	09 58 44.5		
	comp=Z,26nm,20.1s,baz=219,slow=36								
GYA	**Guiyang**	**73.73**	**299**	*eP*		**P**	**09 26 27.7**	**-1.6**
GYA					PP	**PP**	**09 29 13.2**	**-0.1**
GYA					S	**SKiKP**	**09 35 55.8**	**-1.9**
GYA					SKS	**SKSac**	**09 36 30.5**	**-5.0**
GYA					SS	**SS**	**09 40 41.2**	**-1.1**
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
GYA					pmax	pmax			
	comp=Z,90nm,5.4s								
GYA					LR	LR			
	comp=Z,320nm,19.4s								
GYA					LR	LR			
	comp=Z,250nm,20.2s								
GYA					LR	LR			
	comp=Z,330nm,18.6s								
KEST	**Kesra**	**75.50**	**23**	P		**P**	**09 26 40.2**	**+0.8**
KEST	**Kesra**	**75.50**	**23**	P		**P**	**09 26 40.2**	**+0.8**
	comp=Z,4.1nm,1.

ML3.8/10, 2C-1D, Error ellipse: s-maj=15.6km s-min=12.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.70**	**189**	⇓	PN	Pn	09 46 37.3	-0.2
PUZ					SN	S	09 47 14.2	-1.2
PUZ					AML	AML	09 47 15.9	
MWZ	**Matawai**	**3.10**	**199**	⇑	PN	Pn	09 46 42.1	+0.2
MWZ					SN	S	09 47 23.2	-0.2
CNGZ	**Carnagh Statio**	**3.11**	**189**		PN	Pn	09 46 42.7	+0.8
URZ	**Urewera**	**3.16**	**205**		PN	Pn	09 46 42.0	-0.5
URZ					SN	S	09 47 24.8	+0.3
RIGZ	**Rimuhau**	**3.40**	**194**		PN	Pn	09 46 45.2	-0.1
SNGZ	**Shannon Statio**	**3.57**	**199**	⇑	PN	Pn	09 46 47.5	+0.2
PRGZ	**Paritu Road**	**3.59**	**192**		PN	Pn	09 46 48.0	+0.5
KNZ	**Kokohu**	**3.72**	**194**		PN	Pn	09 46 48.4	-0.5
RAHZ	**Arahi**	**3.76**	**201**		PN	Pn	09 46 49.6	0.0
MHGZ	**Mahia Peninsul**	**3.81**	**191**		PN	Pn	09 46 50.0	0.0
WHHZ	**Waihua**	**3.87**	**199**		PN	Pn	09 46 51.0	+0.2
NMHZ	**Naumai**	**4.02**	**203**		PN	Pn	09 46 52.8	+0.2
MCHZ	**McNeill Hill**	**4.37**	**202**		PN	Pn	09 46 56.3	-0.5
KAHZ	**Kahuranaki**	**4.64**	**199**		PN	Pn	09 46 59.7	-0.4
PXZ	**Pawanui**	**4.87**	**198**		PN	Pn	09 47 01.6	-1.3
PRHZ	**Porangahau**	**5.15**	**199**		PN	Pn	09 47 05.2	-1.2
TSZ	**Takapari Road**	**5.16**	**205**		PN	Pn	09 47 05.6	-1.0
ANWZ	**Angora Road**	**5.37**	**199**		PN	Pn	09 47 08.4	-0.8
BFZ	**Birch Farm**	**5.64**	**200**		PN	Pn	09 47 11.2	-1.4
MRZ	**Mangatainoka R**	**5.83**	**205**		PN	Pn	09 47 13.2	-1.7
TIWZ	**Tintock**	**5.83**	**202**		PN	Pn	09 47 13.7	-1.4
HOWZ	**Holdsworth Sta**	**6.07**	**204**		PN	Pn	09 47 15.9	-2.0
OGWZ	**Otaki Gorge**	**6.12**	**207**		PN	Pn	09 47 16.8	-1.7
KIW	**Kapiti Island**	**6.25**	**208**		PN	Pn	09 47 18.6	-1.7
CAW	**Cannon Point**	**6.41**	**206**		PN	Pn	09 47 20.3	-1.9
TUWZ	**Tuamarina**	**7.12**	**211**		PN	Pn	09 47 27.3	-4.0
QRZ	**Quartz Range**	**7.33**	**221**		PN	Pn	09 47 33.1	-0.8
THZ	**Tophouse**	**7.85**	**214**		PN	Pn	09 47 39.1	-1.5

*IDC **05** 09:48:33.4±2.2, 12°.08N×125°.39E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/24, mbtmp3.3/4, Error ellipse: s-maj=95.3km s-min=23.3km az=57.0*
*ISCJB **05** 09:48:35.3±1.2, 12°.31N±0°.10×125°.8E±0°.2, h36km, mb3.4/4, Error ellipse: s-maj=22.4km s-min=13.1km az=15.9*
*MAN **05** 09:48:52, 11°.26N×124°.90E, h29km, mb4.2, ML3.0, MS2.7*

ISC 05 09:48:37.6±1.5, 12°.3N±0°.1×125°.7E±0°.2, h36km, n8, σ1%08/6, mb3.5/4, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.27**	**212**	⇑*eP*	**Pn**		**09 48 58.1**	**-0.8**
PLP				*i* S	**Sn**		**09 49 15.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**26.49**	**287**	P	**P**		**09 54 11.1**	**-0.7**
	0.9nm,0.6s,baz=102,slow=8.4,SNR=4.6							
WRA	**Warramunga Arr**	**33.11**	**165**	P	**P**		**09 55 09.8**	**-0.6**
	0.2nm,0.8s,baz=343,slow=8.8,SNR=2.9							
ASAR	**Alice Springs**	**36.59**	**167**	P	**P**		**09 55 41.3**	**+0.8**
	0.2nm,0.4s,baz=343,slow=6.9,SNR=4.9							
H11N1	**WAKE ISLAND Hy**	**40.23**	**74**	T	T		10 39 18.0	
	baz=269,slow=75,SNR=18							
H11N2	**WAKE ISLAND Hy**	**40.24**	**74**	T	T		10 39 17.3	
	baz=269,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy**	**40.25**	**74**	T	T		10 39 21.0	
	baz=269,slow=75,SNR=15							
MKAR	**Makanchi Array**	**50.11**	**322**	P	**P**		**09 57 29.9**	**+0.6**
	0.4nm,0.7s,baz=128,slow=9.5,SNR=3.2							

*IDC **05** 09:51:51.2±1.3, 10°.76S×164°.40E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, ML3.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/36, Error ellipse: s-maj=38.0km s-min=27.3km az=115.0*

ISC 05 09:51:55.8±1.2, 10°.8S±0°.1×164°.3E±0°.1, h29km, n15, σ1%58/9, mb4.0/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.51**	**287**		Pn	Pn	09 53 07.7	+5.5
	15nm,0.3s,baz=145,slow=3.2,SNR=17							
HNR				LR	LR		09 53 53.6	
	comp=Z,102nm,20.5s,baz=111,slow=27							
HNR				Sn	**Sb**		**09 54 06.3**	**-2.0**
	4.7nm,0.3s,baz=171,slow=19,SNR=2.1							
DZM	**Mont Dzumac**	**11.42**	**170**	Pn	**Pn**		**09 54 35.1**	**-2.0**
	0.7nm,0.3s,baz=54,slow=17,SNR=3.5							
DZM				LR	LR		09 58 05.1	
	comp=Z,218nm,18.3s,baz=132,slow=33							
CTA	**Charters Tower**	**19.71**	**240**	P	**Pn**		**09 56 27.1**	**+2.4**
	0.1nm,0.3s,baz=61,slow=9.7,SNR=3.9							
H11S2	**WAKE ISLAND Hy**	**29.17**	**5**	T	T		10 28 14.0	
	baz=186,slow=78,SNR=29							
H11S3	**WAKE ISLAND Hy**	**29.17**	**5**	T	T		10 28 14.2	
	baz=186,slow=78,SNR=17							
H11S1	**WAKE ISLAND Hy**	**29.19**	**5**	T	T		10 28 15.3	
	baz=186,slow=78,SNR=19							
STKA	**Stephens Creek**	**29.70**	**222**	P	**P**		**09 58 00.6**	**+1.2**
	3.7nm,1.0s,baz=48,slow=13,SNR=5.5							
WRA	**Warramunga Arr**	**30.27**	**249**	P	**P**		**09 58 04.9**	**+0.2**
	0.4nm,0.8s,baz=80,slow=9.2,SNR=4.6							
H11N1	**WAKE ISLAND Hy**	**30.40**	**5**	T	T		10 29 45.4	
	baz=186,slow=77,SNR=16							
H11N3	**WAKE ISLAND Hy**	**30.40**	**5**	T	T		10 29 45.7	
	baz=186,slow=77,SNR=13							
H11N2	**WAKE ISLAND Hy**	**30.42**	**5**	T	T		10 29 47.2	
	baz=186,slow=77,SNR=15							
ASAR	**Alice Springs**	**31.68**	**242**	P	**P**		**09 58 16.8**	**-0.2**
	0.2nm,0.4s,baz=72,slow=9.0,SNR=3.9							
QSPA	**South Pole Qui**	**79.23**	**180**	P	**P**		**10 03 58.3**	**+0.1**
	2.1nm,0.9s,baz=45,slow=6.5							
ILAR	**Eielson Array**	**83.70**	**19**	P	**P**		**10 04 21.6**	**+0.1**
	0.6nm,0.9s,baz=232,slow=6.9,SNR=6.0							
MKAR	**Makanchi Array**	**92.37**	**317**	P	**P**		**10 05 03.6**	**-0.1**
	0.7nm,0.8s,baz=111,slow=5.5,SNR=4.7							

IDC 05 09:57:55.6±1.9, 3°.35N×127°.37E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=150.3km s-min=25.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.13**	**164**	P	P		10 03 13.6	+0.1
	1.6nm,0.8s,baz=344,slow=10,SNR=13							
STKA	**Stephens Creek**	**37.55**	**160**	P	P		10 05 11.3	-0.4
	1.3nm,0.8s,baz=328,slow=9.5,SNR=3.7							
MKAR	**Makanchi Array**	**58.23**	**325**	P	P		10 07 51.9	0.0
	0.2nm,0.5s,baz=125,slow=7.7,SNR=3.0							

*IDC **05** 10:00:25.9±0.9, 8°.31S×118°.49E, h0km, mb4.0/6, mb1 4.1/9, mb1mx4.0/24, mbtmp4.1/9, ML4.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/40, Error ellipse: s-maj=44.6km s-min=16.5km az=64.0*
*NEIC **05** 10:00:30.7±0.6, 8°.28S×118°.61E, h35km, mb4.3/2, Error ellipse: s-maj=22.3km s-min=8.8km az=63.0*
NEIC Felt [III] at Bima.
*AUST **05** 10:00:31.4, 7°.99S×118°.47E, h100km*
*DJA **05** 10:00:36.0±2.1, 8°.5±2°×11°.9E±°, h29km±24km, M4.3/8, mb4.5/1, mB4.7/1, MLv4.3/8, Mw(mB)4.0/1*

ISC 05 10:00:30.8±1.9, 8°.27S±0°.05×118°.64E±0°.08, h32km±12km, n53, σ1%58/59, mb4.2/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.15**	**131**	P	Pb		10 01 13.0	+3.9
WSI				S	**Sb**		**10 01 38.6**	**+3.2**
WSI	**Waingapu**	**2.15**	**131**	P	Pb		10 01 11.8	+2.7
	baz=2.5,SNR=4.1							
MTNI	**Mataram**	**2.47**	**261**	P	Pb		10 01 15.8	+1.2
MTNI				S	Sb		10 01 55.0	+10
BKSI	**Bulukumba**	**3.27**	**27**	P	**Pn**		**10 01 20.5**	**+0.5**
BKSI				S	**Sn**		**10 01 57.2**	**-0.6**
KAPI	**Kappang**	**3.41**	**19**	Pn	**Pn**		**10 01 22.3**	**+0.4**
KAPI				Sn	**Sn**		**10 01 59.7**	**-1.5**
KAPI	**Kappang**	**3.41**	**19**	Pn	**Pn**		**10 01 22.3**	**+0.4**
	21nm,0.3s,baz=193,slow=7.5,SNR=53							
KAPI				Sn	**Sn**		**10 01 59.7**	**-1.5**
	101nm,0.3s,baz=295,slow=23,SNR=18							
MMRI	**Maumere**	**3.58**	**96**	P	**Pn**		**10 01 24.7**	**+0.6**
MMRI				S	**Sn**		**10 02 06.4**	**+1.1**
BNSI	**Bone**	**4.11**	**21**	P	Pn		10 01 34.2	+2.8
SPSI	**Sidrap Palu**	**4.42**	**15**	P	Pn		10 01 37.7	+2.0
SPSI				S	**Sn**		**10 02 26.4**	**+0.3**
MJSI	**Majene**	**4.70**	**4**	P	**Pn**		**10 01 40.5**	**+0.9**
MJSI				S	**Sn**		**10 02 32.7**	**-0.3**
GMJI	**Gumukmas**	**5.15**	**270**	P	Pn		10 01 46.3	+0.6
MMSI	**Mamuju**	**5.54**	**3**	P	**Pn**		**10 01 51.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.91**	**146**	*e*P	**Pn**		**10 03 18.6**	**0.0**
	13nm,0.8s							
FITZ				Sn	**Sn**		**10 05 26.1**	**-4.3**
FITZ	**Fitzroy Crossi**	**11.91**	**146**	Pn	**Pn**		**10 03 18.8**	**+0.2**
	1.1nm,0.3s,baz=339,slow=7.0,SNR=33							
FITZ				Sn	**Sn**		**10 05 26.1**	**-4.3**
	0.5nm,0.3s,baz=160,slow=18,SNR=3.9							
FITZ				LR	LR		10 09 18.5	
	comp=Z,44nm,18.4s,baz=217,slow=44							
FITZ	**Fitzroy Crossi**	**11.91**	**146**	P	**Pn**		**10 03 19.2**	**+0.6**
	baz=12,SNR=17							
KNRA	**Kununurra**	**12.34**	**128**	P	**Pn**		**10 03 25.1**	**+0.7**
	baz=13,SNR=16							
GIRL	**Giralia**	**14.91**	**196**	P	**Pn**		**10 04 00.2**	**+0.7**
	baz=15,SNR=4.2							
MEEK	**Meekatharra**	**18.27**	**180**	P	P		10 04 46.4	+4.4
	baz=19,SNR=11							
WRA	**Warramunga Arr**	**19.12**	**129**	P	**P**		**10 04 50.5**	**-0.9**
WRA				S	Sn		10 08 17.1	-8.9
WRA	**Warramunga Arr**	**19.12**	**129**	P	**P**		**10 04 50.5**	**-0.9**
	0.3nm,0.3s,baz=306,slow=13,SNR=12							
WRA				S	Sn		10 08 17.1	-8.9
	0.0nm,0.3s,baz=301,slow=18,SNR=3.0							
WRAB	**Tennant Creek**	**19.12**	**129**	*e*P	**P**		**10 04 51.0**	**-0.5**
	3.2nm,0.8s							
AS31	**Alice Springs**	**21.17**	**138**	*e*P	**P**		**10 05 13.8**	**+0.1**
AS31				*e*S	**S**		**10 09 06.4**	**-1.4**
ASAR	**Alice Springs**	**21.17**	**138**	P	**P**		**10 05 13.8**	**+0.1**
ASAR				S	**S**		**10 09 07.7**	**0.0**
ASAR				ScP	**ScP**		**10 12 59.0**	**+5.3**
ASAR	**Alice Springs**	**21.17**	**138**	P	**P**		**10 05 13.8**	**+0.1**
	3.4nm,0.6s,baz=307,slow=10,SNR=34							
ASAR				S	**S**		**10 09 07.7**	**0.0**
	0.8nm,0.8s,baz=312,slow=24,SNR=4.1							
ASAR				ScP	**ScP**		**10 12 59.0**	**+5.3**
	0.6nm,0.9s,baz=316,slow=1.3,SNR=3.5							
COEN	**Coen**	**24.72**	**105**	*e*P	**P**		**10 05 48.8**	**-0.8**
	21nm,0.6s							
COEN	**Coen**	**24.72**	**105**	P	**P**		**10 05 49.8**	**+0.3**
	baz=25,SNR=5.3							
STKA	**Stephens Creek**	**31.74**	**141**	P	**P**		**10 06 52.2**	**+0.1**
STKA	**Stephens Creek**	**31.74**	**141**	P	**P**		**10 06 52.2**	**+0.1**
	2.4nm,1.0s,baz=302,slow=10.0,SNR=5.4							
LHI	**Lord Howe Isla**	**44.13**	**127**	P	P		10 08 30.6	-5.9
	baz=44,SNR=3.6							
RAMN	**Ramite**	**46.80**	**319**	*e*P	**P**		**10 08 58.4**	**+0.3**
	8.0nm,0.6s							
RAMN	**Ramite**	**46.80**	**319**	*e*P	**P**		**10 08 58.4**	**+0.3**
JIRN	**Jiri**	**47.56**	**320**	*e*P	**P**		**10 09 05.0**	**+0.9**
	9.5nm,0.6s							
JIRN	**Jiri**	**47.56**	**320**	*e*P	**P**		**10 09 05.0**	**+0.9**
GUN	**Gumba**	**47.93**	**320**	*e*P	**P**		**10 09 07.6**	**+0.6**
	12nm,0.7s							
GUN	**Gumba**	**47.93**	**320**	*e*P	**P**		**10 09 07.6**	**+0.6**
PKI	**Pulchoki**	**48.00**	**319**	*e*P	**P**		**10 09 07.3**	**-0.2**
PKI	**Pulchoki**	**48.00**	**319**	*e*P	**P**		**10 09 07.4**	**-0.1**
PKIN	**Phulchoki**	**48.01**	**319**	*e*P	**P**		**10 09 07.4**	**-0.1**
	5.5nm,0.5s							
KOLN	**Koldanda**	**49.32**	**318**	*e*P	**P**		**10 09 17.6**	**+0.1**
KOLN	**Koldanda**	**49.32**	**318**	*e*P	**P**		**10 09 17.6**	**+0.1**
DANN	**Dangsing**	**49.60**	**319**	*e*P	**P**		**10 09 19.7**	**0.0**
	4.7nm,0.4s							
USRK	**Ussuriysk Arra**	**53.60**	**12**	P	**P**		**10 09 49.0**	**+0.1**
	2.0nm,0.7s,baz=178,slow=5.8,SNR=5.3							
SONM	**Songino Array**	**56.90**	**350**	P	**P**		**10 10 13.5**	**+0.7**
SONM	**Songino Array**	**56.90**	**350**	P	**P**		**10 10 13.5**	**+0.7**
	2.0nm,0.7s,baz=167,slow=8.2,SNR=12							
MKAR	**Makanchi Array**	**63.65**	**333**	P	**P**		**10 10 58.8**	**-0.1**
MKAR	**Makanchi Array**	**63.65**	**333**	P	**P**		**10 10 58.8**	**-0.1**
	0.8nm,0.4s,baz=150,slow=5.9,SNR=6.5							
ZALV	**Zalesovo Beam**	**68.23**	**339**	P	**P**		**10 11 26.8**	**-1.4**
ZALV	**Zalesovo Beam**	**68.23**	**339**	P	**P**		**10 11 26.8**	**-1.4**
	0.9nm,0.6s,baz=135,slow=5.8,SNR=4.3							
TORD	**Torodi Ar. Bea**	**117.98**	**280**	PKP	**PKPdf**		**10 19 14.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**117.98**	**280**	PKP	**PKPdf**		**10 19 14.6**	**-0.9**
	0.1nm,0.4s,baz=89,slow=1.3,SNR=4.9							
GCMT	**Greycliff**	**124.24**	**39**	*e*PKPdf	**PKPdf**		**10 19 23.8**	**-3.0**
CPUP	**Villa Florida**	**145.39**	**186**	PKPbc	**PKPdf**		**10 20 06.3**	**-0.1**
CPUP	**Villa Florida**	**145.39**	**186**	PKPbc	**PKPdf**		**10 20 06.3**	**-0.1**
	0.8nm,0.5s,baz=170,slow=6.1,SNR=3.8							

IDC 05 10:04:10.9±2.4, 20°.31S×177°.51W, h484km±31km, mb3.1/9, mb1 3.4/11, mb1mx3.2/22, mbtmp3.2/11, Error ellipse: s-maj=29.0km s-min=13.8km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.40**	**42**	P	P		10 06 11.6	+0.2
	2.4nm,0.3s,baz=225,slow=8.6,SNR=4.5							
AFI				S	S		10 07 45.3	-4.9
	6.2nm,0.3s,baz=135,slow=21,SNR=7.9							
URZ	**Urewera**	**18.48**	**193**	P	P		10 07 55.6	-0.7
	1.8nm,0.3s,baz=102,slow=12,SNR=16							
CTA	**Charters Tower**	**33.96**	**264**	P	P		10 10 13.7	+0.3
	1.7nm,0.3s,baz=68,slow=13,SNR=8.2							
STKA	**Stephens Creek**	**38.28**	**244**	P	P		10 10 49.3	+0.3
	0.6nm,0.7s,baz=95,slow=12,SNR=2.6							
ASAR	**Alice Springs**	**45.01**	**256**	P	P		10 11 42.6	0.0
	2.8nm,0.5s,baz=91,slow=7.7,SNR=40							
ASAR				S	S		10 17 42.0	-3.4
	0.7nm,0.9s,baz=93,slow=16,SNR=5.9							
WRA	**Warramunga Arr**	**45.08**	**262**	P	P		10 11 42.5	-0.6
	1.0nm,0.3s,baz=96,slow=7.6,SNR=61							
FITZ	**Fitzroy Crossi**	**53.51**	**262**	P	P		10 12 45.4	-0.2
	1.0nm,0.4s,baz=94,slow=18,SNR=7.8							
MJAR	**Matsushiro Arr**	**70.33**	**323**	P	P		10 14 34.9	-0.2
	0.8nm,0.5s,baz=134,slow=7.0,SNR=3.1							
NVAR	**Mina Array Bea**	**80.58**	**43**	P	P		10 15 31.8	-0.8
	0.4nm,0.7s,baz=227,slow=9.3,SNR=3.0							
TXAR	**Lajitas Array**	**86.57**	**57**	P	P		10 16 04.4	+1.9
	0.3nm,0.7s,baz=223,slow=5.0,SNR=4.9							
ILAR	**Eielson Array**	**88.03**	**13**	P	P		10 16 07.9	-0.5
	0.3nm,0.4s,baz=217,slow=5.7,SNR=6.6							

*IDC **05** 10:12:48.9±3.9, 17°.18S×168°.50E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.8/6, ML3.9/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/34, Error ellipse: s-maj=81.8km s-min=38.3km az=103.0*

ISC 05 10:12:52.8±3.2, 17°.4S±0°.1×168°.8E±0°.5, h35km, n21, σ1%02/9, mb3.9/5, MS3.5/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.16**	**205**	Pn	**Pn**		**10 14 07.0**	**-0.7**
	4.1nm,0.3s,baz=61,slow=20,SNR=28							
DZM				Sn	**Sn**		**10 15 05.9**	**0.0**
	1.8nm,0.3s,baz=127,slow=20,SNR=3.2							
DZM	**Mont Dzumac**	**5.16**	**205**	*e*P	**Pn**		**10 14 06.9**	**-0.7**
DZM				*e*S	**Sn**		**10 15 06.6**	**+0.6**
HNR	**Honiara**	**11.66**	**312**	LR	LR		10 18 30.9	
	comp=Z,54nm,18.1s,baz=172,slow=30							
URZ	**Urewera**	**22.05**	**162**	LR	LR		10 24 42.2	
	comp=Z,84nm,19.1s,baz=346,slow=32							
PMG	**Port Moresby**	**22.45**	**288**	LR	LR		10 24 30.3	
	comp=Z,51nm,18.1s,baz=120,slow=32							
RPZ	**Rata Peaks**	**26.33**	**176**	LR	LR		10 27 55.5	
	comp=Z,137nm,20.2s,baz=337,slow=34							
STKA	**Stephens Creek**	**28.51**	**234**	P	**P**		**10 18 46.2**	**+1.2**
	1.0nm,0.7s,baz=59,slow=12,SNR=2.5							
WRA	**Warramunga Arr**	**32.69**	**260**	P	**P**		**10 19 20.3**	**-1.8**
	0.4nm,0.8s,baz=85,slow=8.7,SNR=4.2							
ASAR	**Alice Springs**	**33.19**	**253**	P	**P**		**10 19 26.0**	**-0.5**
	1.2nm,0.6s,baz=77,slow=9.1,SNR=26							
H11S2	**WAKE ISLAND Hy**	**35.70**	**357**	T	T		10 57 28.9	
	baz=174							
H11S3	**WAKE ISLAND Hy**	**35.71**	**357**	T	T		10 57 27.7	
	baz=174							
H11S1	**WAKE ISLAND Hy**	**35.72**	**357**	T	T		10 57 26.7	
	baz=174							
H11N1	**WAKE ISLAND Hy**	**36.91**	**357**	T	T		10 58 58.5	
	baz=164,slow=72							
H11N3	**WAKE ISLAND Hy**	**36.91**	**357**	T	T		10 58 58.2	
	baz=164,slow=72							
H11N2	**WAKE ISLAND Hy**	**36.92**	**357**	T	T		10 59 04.7	
	baz=164,slow=72							
FITZ	**Fitzroy Crossi**	**41.02**	**262**	P	**P**		**10 20 33.0**	**0.0**
	2.5nm,1.0s,baz=84,slow=9.1,SNR=3.1							
FITZ				LR	LR		10 37 16.9	
	comp=Z,43nm,18.3s,baz=185,slow=36							
VNDA	**Vanda**	**60.27**	**182**	LR	LR		10 44 33.7	
	comp=Z,54nm,20.9s,baz=205,slow=32							
SONM	**Songino Array**	**85.47**	**323**	P	**P**		**10 25 27.1**	**+0.1**
	0.9nm,0.8s,baz=123,slow=5.3,SNR=3.7							
SNAA	**Sanae**	**90.99**	**183**	LR	LR		11 01 30.2	
	comp=Z,19nm,20.3s,baz=206,slow=32							
USHA	**Ushuaia**	**93.28**	**151**	LR	LR		10 58 37.8	
	comp=Z,226nm,18.1s,baz=241,slow=29							
PDAR	**Pinedale Array**	**95.68**	**47**	LR	LR		10 59 03.5	
	comp=Z,92nm,21.9s,baz=213,slow=29							

*IDC **05** 10:17:45.6±3.0, 3°.35S×101°.19E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.6/40, Error ellipse: s-maj=104.8km s-min=23.0km az=59.0*
*ISCJB **05** 10:17:48.6±2.7, 3°.3S±0°.3×101°.3E±0°.6, h32km, mb3.7/5, Error ellipse: s-maj=91.4km s-min=19.8km az=149.2*

ISC 05 10:17:50.4±3.0, 3°.3S±0°.4×101°.2E±0°.6, h32km, n10, σ0%49/6, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**18.55**	**96**	LR	LR		10 28 57.9	
	comp=Z,79nm,20.8s,baz=352,slow=36							
H08S2	**Diego Garcia H**	**28.91**	**260**	T	T		10 53 21.3	
	baz=83,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**28.92**	**260**	T	T		10 53 24.4	
	baz=83,slow=75,SNR=11							
H08S1	**Diego Carcia H**	**28.93**	**260**	T	T		10 53 25.3	
	baz=83,slow=75,SNR=10							
WRA	**Warramunga Arr**	**36.27**	**120**	P	**P**		**10 24 51.2**	**+0.1**
	0.5nm,0.5s,baz=302,slow=8.9,SNR=14							
ASAR	**Alice Springs**	**37.48**	**126**	P	**P**		**10 25 01.5**	**+0.1**
	0.4nm,0.6s,baz=301,slow=8.0,SNR=4.8							
SONM	**Songino Array**	**51.16**	**4**	P	**P**		**10 26 51.2**	**+0.7**
	0.5nm,0.6s,baz=187,slow=9.0,SNR=3.2							
MKAR	**Makanchi Array**	**52.64**	**344**	P	**P**		**10 27 01.2**	**-0.3**
	0.2nm,0.4s,baz=153,slow=8.7,SNR=5.3							
USRK	**Ussuriysk Arra**	**54.77**	**27**	P	**P**		**10 27 16.6**	**-0.4**
	2.0nm,0.8s,baz=206,slow=9.6,SNR=4.1							
TXAR	**Lajitas Array**	**144.97**	**40**	PKPbc	**PKPab**		**10 37 24.4**	**-0.2**
	0.1nm,0.7s,baz=264,slow=0.8,SNR=3.8							

IDC 05 10:40:21.1±3.2, 6°.18S×107°.05E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=148.5km s-min=21.3km az=56.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.83**	**120**	P	P		10 46 30.1	-0.2
	0.1nm,0.3s,baz=308,slow=9.3,SNR=6.2							
ASAR	**Alice Springs**	**31.13**	**127**	P	P		10 46 42.0	+0.2
	0.2nm,0.4s,baz=301,slow=8.0,SNR=14							
STKA	**Stephens Creek**	**41.16**	**133**	P	P		10 48 07.1	-0.4
	0.9nm,0.6s,baz=294,slow=8.6,SNR=5.0							
SONM	**Songino Array**	**53.78**	**359**	P	P		10 49 45.8	+0.2
	0.3nm,0.5s,baz=178,slow=9.8,SNR=2.9							
MKAR	**Makanchi Array**	**57.14**	**340**	P	P		10 50 09.2	-0.4
	0.3nm,0.5s,baz=153,slow=8.2,SNR=5.7							

*IDC **05** 10:49:55.8±1.1, 3°.76N×126°.39E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.8/6, Error ellipse: s-maj=98.4km s-min=19.2km az=70.0*
*ISCJB **05** 10:50:07.8±0.8, 3°.43N±0°.09×125°.85E±0°.09, h116km, mb3.6/6, Error ellipse: s-maj=13.4km s-min=11.6km az=146.7*
*DJA **05** 10:50:11.0±0.6, 3°.N±4°×12°.6E±°, h41km, M3.9/3, MLv3.9/3*

ISC 05 10:50:09.9±0.9, 3°.5N±0°.1×125°.8E±0°.1, h116km, n10, σ1%95/12, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.33**	**307**	P	Pn		10 50 22.9	-3.6
SGSI				S	**Sn**		**10 50 34.3**	**-4.7**
TNTI	**Ternate**	**

	27nm,1.2s							
RAMN	**Ramite**	59.25	8	*e*P	P	11 02 05.8	+0.5	
ODAN	**Odare**	59.26	9	*e*P	P	11 02 05.8	+0.4	
	8.3nm,0.7s							
ODAN	**Odare**	59.26	9	*e*P	P	11 02 05.8	+0.4	
PKI	**Pulchoki**	59.73	7	*e*P	P	11 02 09.1	+0.3	
PKI	**Pulchoki**	59.73	7	*e*P	P	11 02 09.1	+0.3	
PKIN	**Phulchoki**	59.74	7	*e*P	P	11 02 08.7	0.0	
DMN	**Daman**	59.74	6	*e*P	P	11 02 09.4	+0.7	
DMN	**Daman**	59.74	6	*e*P	P	11 02 09.4	+0.7	
KOLN	**Koldanda**	59.78	5	*e*P	P	11 02 08.9	0.0	
KOLN	**Koldanda**	59.78	5	*e*P	P	11 02 08.9	0.0	
TAPN	**Taplejung**	59.78	9	*e*P	P	11 02 09.2	+0.1	
	51nm,1.1s							
TAPN	**Taplejung**	59.78	9	*e*P	P	11 02 09.2	+0.1	
JIRN	**Jiri**	59.90	7	*e*P	P	11 02 10.3	+0.3	
	18nm,1.0s							
JIRN	**Jiri**	59.90	7	*e*P	P	11 02 10.3	+0.3	
KKN	**Kakani**	59.94	6	*e*P	P	11 02 10.7	+0.7	
KKN	**Kakani**	59.94	6	*e*P	P	11 02 10.7	+0.7	
GKN	**Gorkha**	60.09	6	*e*P	P	11 02 10.6	-0.4	
GKN	**Gorkha**	60.09	6	*e*P	P	11 02 10.6	-0.4	
GUN	**Gumba**	60.12	7	*e*P	P	11 02 11.9	+0.5	
	45nm,1.2s							
GUN	**Gumba**	60.12	7	*e*P	P	11 02 11.9	+0.5	
DANN	**Dangsing**	60.36	5	*e*P	P	11 02 12.3	-0.7	
	14nm,0.9s							
DANN	**Dangsing**	60.36	5	*e*P	P	11 02 12.3	-0.7	
KKAR	**Karatay Array**	75.31	354	*e*P	P	11 03 47.0	+0.4	
	6.2nm,0.8s							
GNI	**Garni**	78.62	334	LR	LR	11 36 10.6		
	comp=Z,37nm,18.5s,baz=164,slow=34							
MK31	**Makanchi Array**	78.66	2	*e*P	P	11 04 04.7	-0.6	
MKAR	**Makanchi Array**	78.66	2	P	P	11 04 03.8	-1.5	
MKAR	**Makanchi Array**	78.66	2	P	P	11 04 03.8	-1.5	
	2.5nm,1.0s,baz=183,slow=7.2,SNR=11							
BRTR	**Keskin Array B**	82.95	326	P	P	11 04 28.7	0.0	
BRTR	**Keskin Array B**	82.95	326	P	P	11 04 28.7	0.0	
	1.2nm,0.9s,baz=131,slow=5.1,SNR=5.5							
BRTR				LR	LR	11 38 21.7		
	comp=Z,47nm,18.1s,baz=102,slow=34							
SONM	**Songino Array**	83.37	18	P	P	11 04 30.5	-0.1	
SONM	**Songino Array**	83.37	18	P	P	11 04 30.5	-0.1	
	1.1nm,0.9s,baz=188,slow=5.7,SNR=5.6							
AKTO	**Aktyubinsk**	84.31	347	LR	LR	11 38 42.7		
	comp=Z,48nm,18.9s,baz=325,slow=33							
ZAA0	**Zalesovo Array**	85.92	3	*e*P	P	11 04 42.7	-0.4	
ZALV	**Zalesovo Beam**	85.92	3	P	P	11 04 42.4	-0.7	
ZALV	**Zalesovo Beam**	85.92	3	P	P	11 04 42.4	-0.7	
	2.2nm,0.8s,baz=194,slow=3.1,SNR=12							
TORD	**Torodi Ar. Bea**	86.42	288	P	P	11 04 46.5	0.0	
TORD	**Torodi Ar. Bea**	86.42	288	P	P	11 04 46.5	0.0	
	1.0nm,0.7s,baz=109,slow=4.4,SNR=6.8							
YKA	**Yellowknife Ar**	148.44	12	PKPbc	PKPbc	11 11 49.0	-0.5	
YKA	**Yellowknife Ar**	148.44	12	PKPbc	PKPbc	11 11 49.0	-0.5	
	0.9nm,0.6s,baz=321,slow=3.5,SNR=5.5							

IDC 05 11:03:15.3±1.5,5°12'N×126°43'E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.6/24,mbtmp3.8/4,Error ellipse: s-maj=138.7km s-min=20.2km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	26.09	163	P	P	11 08 51.3	+0.3
	1.4nm,0.5s,baz=343,slow=10,SNR=21						
ASAR	**Alice Springs**	29.53	166	P	P	11 09 22.2	+0.5
	0.2nm,0.4s,baz=341,slow=6.7,SNR=12						
ASAR				PcP	PcP	11 12 25.2	-2.0
	0.2nm,0.5s,baz=347,slow=2.3,SNR=5.6						
MKAR	**Makanchi Array**	56.25	325	P	P	11 12 57.6	+0.1
	0.3nm,0.4s,baz=116,slow=8.3,SNR=9.2						
KURBB	**Kurchatov Arra**	60.42	327	P	P	11 13 26.8	+0.3
	1.8nm,0.2s,baz=127,slow=6.9,SNR=10						

NIED ***05*** *11:10:00,32°.90N×136°.80E,h5km,Mw4.0 Best double couple: M0 1.09000×10^15 NP1:φ=257.00000°,δ78.00000°, λ-47.00000°. NP2:φ=359.00000°,δ44.00000°, λ-163.00000°.*

JMA ***05*** *11:10:19.8±0.1,32°.94N×136°.75E,h53km±2km,M3.7*

IDC ***05*** *11:10:19.6±1.1,33°.04N×136°.69E,h0km,mb3.6/6, mb1 3.7/9,mb1mx3.6/30,mbtmp3.5/9,ML3.2/3,MS3.0/4, Ms1 3.0/4,ms1mx2.8/46, Error ellipse: s-maj=30.2km s-min=20.7km az=64.0*

ISC 05 11:10:18.9±3.2,33°07'N±0°.06×136°73'E±0°.03,h0km±21km, n33,σ1§04/44,mb3.4/6,7C-7D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	0.55	5	⇓P	Pn	11 10 33.5	-0.3
TTO1				*e*S	Sn	11 10 43.8	+0.3
TTO2	**TONANKAI O.B.S**	0.71	21	⇓P	Pn	11 10 35.5	-0.4
TTO2				*e*S	Sn	11 10 47.6	+0.2
JWZ	**Kozaga**	0.96	299	⇑P	Pb	11 10 38.5	0.0
JWZ				*e*S	Sb	11 10 51.3	-0.5
TTO3	**TONANKAI O.B.S**	0.97	35	⇓P	Pb	11 10 38.7	+0.2
TTO3				*e*S	Sn	11 10 53.1	-0.9
TK01	**Tokai 1**	1.00	46	P	Pb	11 10 38.4	-0.5
TTO4	**TONANKAI O.B.S**	1.16	36	⇓P	Pn	11 10 41.0	-1.1
TTO4				*e*S	Sb	11 10 56.5	-0.5
JKN2	**Miekihoku**	1.23	342	⇑P	Pn	11 10 42.9	-0.4
JKN2				*e*S	Sb	11 10 58.6	-0.7
TK02	**Tokai 2**	1.23	44	⇓P	Pn	11 10 41.7	-1.4
TK02				*e*S	Sb	11 10 57.6	-1.5
JIE	**Ise**	1.32	359	⇓P	Pn	11 10 44.5	-0.1
JIE				*e*S	Sb	11 11 01.0	-1.0
JWM	**Minabe**	1.39	304	⇑P	Pn	11 10 44.8	-0.7
JWM				*e*S	Sn	11 11 02.3	-2.2
JWY	**Kouya**	1.48	321	⇑P	Pn	11 10 47.1	+0.2
JWY				*e*S	Sn	11 11 06.0	-1.1
TK04	**Tokai 4**	1.62	36	⇓P	Pn	11 10 47.8	-0.8
TK04				*e*S	Sn	11 11 08.0	-2.2
TSUJ	**Tsu 2**	1.66	351	P	Pn	11 10 49.3	+0.1
TSUJ				*e*S	Sn	11 11 09.6	-1.5
JHE	**Heguri**	1.80	332	⇑P	Pn	11 10 51.5	+0.3
JHE				*e*S	Sn	11 11 13.8	-1.0
JAI	**Aioi**	2.04	291	⇑P	Pn	11 10 53.9	-0.5
JAI				*e*S	Sn	11 11 18.3	-2.2
JAJ2	**Tsuna**	2.04	312	⇑P	Pn	11 10 54.9	+0.4
JAJ2				*e*S	Sn	11 11 19.6	-1.1
MAT	**Matsushiro**	3.67	19	P	Pn	11 11 17.7	+0.8
MAT				S	Sn	11 12 00.6	-0.4
MJAR	**Matsushiro Arr**	3.67	19	Pn	Pn	11 11 17.6	+0.7
	2.9nm,0.3s,baz=152,slow=10,SNR=14						
MJAR				Sn	Sn	11 12 00.9	-0.1
	5.0nm,0.3s,baz=68,slow=27,SNR=5.8						
JNU	**Nakatsue**	4.91	272	Pn	Pn	11 11 34.0	0.0
	0.9nm,0.3s,baz=127,slow=19,SNR=12						
JNU				Sn	Sn	11 12 28.9	-2.6
	1.0nm,0.3s,baz=176,slow=13,SNR=3.3						
JNU				LR	LR	11 13 28.0	
	comp=Z,129nm,20.6s,baz=352,slow=39						
KSRS	**Korea Array**	8.42	304	Pn	Pn	11 12 22.8	+0.6
	0.4nm,0.3s,baz=121,slow=14,SNR=6.0						
KSRS				LR	LR	11 15 46.4	
	comp=Z,75nm,19.9s,baz=272,slow=39						
ASAJ	**Asahikawa**	11.94	21	LR	LR	11 18 11.7	
	comp=Z,101nm,21.0s,baz=320,slow=39						
SONM	**Songino Array**	27.18	312	P	P	11 16 04.5	+0.3
	0.3nm,0.5s,baz=104,slow=12,SNR=3.3						
SONM				LR	LR	11 27 11.2	
	comp=Z,46nm,19.1s,baz=213,slow=37						
H11N2	**WAKE ISLAND Hy**	29.99	109	T	T	11 48 05.1	
	baz=305,slow=76,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	30.00	109	T	T	11 48 08.1	
	baz=305,slow=76,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	30.01	109	T	T	11 48 11.3	
	baz=305,slow=76,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	30.50	111	T	T	11 48 42.9	
	baz=308,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	30.51	111	T	T	11 48 43.8	
	baz=308,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	30.52	111	T	T	11 48 54.7	
	baz=308,slow=74,SNR=9.3						
MKAR	**Makanchi Array**	43.10	305	P	P	11 18 22.1	+1.4
	0.6nm,0.7s,baz=90,slow=8.5,SNR=5.6						
KURBB	**Kurchatov Arra**	45.53	311	P	P	11 18 40.6	+0.5
	0.3nm,0.6s,baz=97,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	52.76	183	P	P	11 19 35.7	-0.1
	0.6nm,0.8s,baz=1.3,slow=7.6,SNR=6.1						
ASAR	**Alice Springs**	56.48	183	P	P	11 20 03.5	+0.8
	0.3nm,0.7s,baz=8.8,slow=12,SNR=4.8						

TXAR	**Lajitas Array**	95.60	50	P	P	11 23 47.7	+1.1	
	0.4nm,1.0s,baz=345,slow=3.1,SNR=3.3							

IDC 05 11:18:14.4±7.1,17°70S×177°49E,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.7/18,mbtmp3.8/3,Error ellipse: s-maj=317.1km s-min=36.0km az=144.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	40.82	260	P	P	11 25 58.1	0.0
	0.2nm,0.4s,baz=92,slow=7.3,SNR=7.6						
ASAR	**Alice Springs**	41.09	254	P	P	11 25 59.9	-0.3
	2.1nm,0.6s,baz=87,slow=8.3,SNR=55						
ILAR	**Eielson Array**	86.61	14	P	P	11 30 59.3	+0.1
	1.0nm,1.0s,baz=221,slow=3.6,SNR=6.0						

CSEM ***05*** *11:19:06.0,67°.57N×30°.66E,h0km,ML1.4,Mining explosion. After HEL*

HEL 05 11:19:06.0±0.2,67°.57N×30°.66E,h0km,ML1.4, Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	0.44	295	*e*P	Pg	11 19 13.1	-1.4
VRF				*e*S	Sb	11 19 23.6	-0.3
VRF	**Varrio**	0.44	295	P	Pg	11 19 13.0	-1.5
VRF				S	Sb	11 19 23.6	-0.3
KU6	**Riekki**	1.58	191	*e*PG	Pn	11 19 52.9	-0.7
KU6				*e*S	Sn	11 19 52.9	-3.4
KU6				MSG		11 19 52.9	
	comp=Z,2.3nm,0.2s						
KU6	**Riekki**	1.58	191	Pg	Pn	11 19 34.4	-0.8
KU6				S	Sn	11 19 52.9	-3.4
SGF	**Sodankyl**	1.59	267	*e*P	Pn	11 19 33.8	-1.6
SGF				*e*SG	Sn	11 19 55.6	-1.1
SGF				MSG		11 19 55.6	
	comp=Z,2.2nm,0.4s						
SGF	**Sodankyl**	1.59	267	P	Pn	11 19 33.8	-1.6
SGF				Sg	Sn	11 19 55.6	-1.1
MSF	**Maaselka**	1.78	202	*e*PN	Pn	11 19 37.8	-0.2
MSF				*e*		11 19 56.0	
MSF				MSG		11 19 56.0	
	comp=Z,0.8nm,0.2s						
MSF	**Maaselka**	1.78	202	Pn	Pn	11 19 37.8	-0.2
RNF	**Rovaniemi**	2.06	244	*e*PB	Pn	11 19 41.9	+0.1
RNF				*e*SG	Sb	11 20 09.7	-0.5
RNF				MSG		11 20 09.7	
	comp=Z,2.1nm,0.4s						
RNF	**Rovaniemi**	2.06	244	Pb	Pn	11 19 41.9	+0.1
RNF				Sg	Sb	11 20 09.7	-0.5
KEV	**Kevo**	2.57	330	*e*P	Pn	11 19 49.4	+0.5
KEV				*e*SB	Sb	11 20 23.4	-1.7
KEV				MSG		11 20 23.4	
	comp=Z,3.1nm,0.4s						
KEV	**Kevo**	2.57	330	P	Pn	11 19 49.3	+0.5
KEV				Sb	Sb	11 20 23.4	-1.7
ARA0	**ARCESS Array S**	2.74	319	*e*P	Pn	11 19 51.2	0.0
ARA0				*e*SB	Sn	11 20 26.6	+1.7
ARA0				MSG		11 20 26.6	
	comp=Z,1.4nm,0.3s						
ARA0	**ARCESS Array S**	2.74	319	P	Pn	11 19 51.2	0.0
ARA0				Sb	Sn	11 20 26.6	+1.7
HEF	**Hetta**	2.77	291	*e*P	Pn	11 19 51.9	+0.3
HEF	**Hetta**	2.77	291	P	Pn	11 19 51.8	+0.2
OUL	**Oulu**	3.15	220	MSG	Sg	11 20 42.5	-4.4
	comp=Z,0.6nm,0.4s						
OUL				*e*SG	Sg	11 20 42.5	-4.4
OUL	**Oulu**	3.15	220	Sg	Sb	11 20 42.5	+1.0
KIF	**Kilpisjarvi**	3.94	296	*e*P	Pn	11 20 08.1	+0.5
KIF	**Kilpisjarvi**	3.94	296	P	Pn	11 20 08.1	+0.5

CSEM ***05*** *11:19:48.8,67°.55N×30°.29E,h0km,ML2.1,Mining explosion. After HEL*

HEL 05 11:19:48.8±0.2,67°.55N×30°.29E,h0km,ML2.1, Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	0.33	308	*e*S	Sg	11 19 59.3	-0.1
VRF	**Varrio**	0.33	308	S	Sg	11 19 59.3	-0.1
SGF	**Sodankyl**	1.45	267	*e*P	Pn	11 20 14.5	-1.8
SGF				MSG	Sn	11 20 36.4	+0.4
	comp=Z,15nm,0.4s						
SGF				*e*SN	Sn	11 20 36.4	+0.4
SGF	**Sodankyl**	1.45	267	P	Pn	11 20 14.5	-1.8
SGF				Sn	Sn	11 20 36.4	+0.4
KU6	**Riekki**	1.54	186	*e*PG	Pn	11 20 16.5	-0.9
KU6				MSG	S	11 20 36.1	-2.0
	comp=Z,9.5nm,0.4s						
KU6				*e*S	S	11 20 36.1	-2.0
KU6	**Riekki**	1.54	186	Pg	Pn	11 20 16.5	-1.0
KU6				S	Sn	11 20 36.1	-2.0
MSF	**Maaselka**	1.72	197	*e*PG	Pn	11 20 19.6	-0.3
MSF				*e*SG	Sn	11 20 41.8	-0.8
MSF				MSG		11 20 41.8	
	comp=Z,4.5nm,0.4s						
MSF	**Maaselka**	1.72	197	Pg	Pn	11 20 19.6	-0.3
MSF				Sg	Sn	11 20 41.8	-0.8
RNF	**Rovaniemi**	1.92	243	*e*PG	Pn	11 20 23.3	+0.6
RNF				*e*SG	Sb	11 20 48.5	-0.7
RNF				MSG		11 20 50.2	
	comp=Z,15nm,0.2s						
RNF	**Rovaniemi**	1.92	243	Pg	Pn	11 20 23.3	+0.6
RNF				Sg	Sb	11 20 48.4	-0.8
KEV	**Kevo**	2.52	333	MSG	Sb	11 21 03.6	-2.8
	comp=Z,19nm,0.4s						
KEV				*e*SB	Sb	11 21 03.6	-2.8
KEV	**Kevo**	2.52	333	Sb	Sn	11 21 03.6	+1.3
HEF	**Hetta**	2.64	292	*e*PB	Pn	11 20 34.2	+1.5
HEF				*e*SG	Sb	11 21 09.2	-0.8
HEF				MSG		11 21 09.2	
	comp=Z,6.3nm,0.2s						
HEF	**Hetta**	2.64	292	Pb	Pn	11 20 34.2	+1.5
HEF				Sg	Sb	11 21 09.2	-0.8
ARA0	**ARCESS Array S**	2.66	321	*e*P	Pn	11 20 33.4	+0.5
ARA0				*e*SB	Sb	11 21 09.3	-1.1
ARA0				MSG		11 21 09.3	
	comp=Z,16nm,0.3s						
ARA0	**ARCESS Array S**	2.66	321	P	Pn	11 20 33.4	+0.5
ARA0				Sb	Sb	11 21 09.3	-1.1
OUL	**Oulu**	3.04	218	MSG	Sg	11 21 22.2	-4.2
	comp=Z,2.2nm,0.2s						
OUL				*e*SG	Sg	11 21 22.2	-4.2
OUL	**Oulu**	3.04	218	Sg	Sb	11 21 22.2	+0.8
KIF	**Kilpisjarvi**	3.82	297	*e*P	Pn	11 20 48.7	0.0
KIF				*e*SG	Sb	11 21 46.2	+2.6
KIF				MSG		11 21 49.6	
	comp=Z,5.3nm,0.4s						
KIF	**Kilpisjarvi**	3.82	297	P	Pn	11 20 48.7	0.0
KIF				Sg	Sb	11 21 46.1	+2.5

IDC ***05*** *11:21:08.9±0.9,25°.88N×128°.34E,h0km,mb3.9/14, mb1 4.0/16,mb1mx4.0/28,mbtmp3.9/16,ML3.2/2,MS3.5/6, Ms1 3.5/6,ms1mx3.1/46, Error ellipse: s-maj=27.3km s-min=17.5km az=78.0*

JMA ***05*** *11:21:10.6±0.2,25°.86N×128°.50E,h42km±5km,M3.4*

ISC 05 11:21:09.2±2.0,25°88N±0°.05×128°47E±0°.04,h7km±12km, n45,σ1§17/51,mb3.9/15,MS3.7/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	0.70	292	P	Pn	11 21 24.7	-0.9
JJT2				S	Sn	11 21 34.6	-2.1
JOW	**Kunigami**	0.97	350	P	Pn	11 21 28.3	-1.0
JOW				S	Sb	11 21 40.9	-0.6
JIH	**Iheya**	1.24	339	P	Pg	11 21 32.9	-0.2
JIH				S	Sb	11 21 47.8	-1.4
JAGN	**Aguni-jima**	1.31	303	P	Pn	11 21 33.5	-0.5
JAGN				S	Sg	11 21 51.0	-0.5
JKE	**Kume jima 2**	1.58	287	P	Pn	11 21 36.8	-0.9
JTK	**Tokunoshima**	1.95	13	P	Pn	11 21 42.5	-0.3
JTK				S	Sn	11 22 05.4	-2.2
JAMN	**Amaminishikomi**	2.44	15	P	Pn	11 21 49.5	0.0
JAMN				*e*S	Sn	11 22 18.5	-1.2
JMZ	**Minamidaito 2**	2.48	91	P	Pn	11 21 49.0	-1.1
JMZ				S	Sn	11 22 16.2	-4.4
JAM	**Amami Oshima**	2.72	22	P	Pn	11 21 53.3	-0.1
JAM				*e*S	Sn	11 22 24.6	-2.0
JZK	**Kikaishima**	2.77	29	P	Pn	11 21 54.5	+0.4
JZK				*e*S	Sn	11 22 26.6	-1.3
JOGS	**Gusukube**	2.99	249	*e*S	Sn	11 22 31.9	-1.3
JTJ	**Tarama**	3.63	251	P	Pn	11 22 05.2	-0.7
JNU	**Nakatsue**	7.52	16	Pn	Pn	11 23 01.0	+1.6
	0.9nm,0.3s,baz=247,slow=10,SNR=7.7						
JNU				Sn	Sn	11 24 23.2	-1.8
	0.2nm,0.3s,baz=105,slow=19,SNR=1.8						
JNU				LR	LR	11 26 21.6	
	comp=Z,232nm,19.1s,baz=200,slow=41						
KSRS	**Korea Array**	11.55	358	LR	LR	11 28 00.2	
	comp=Z,57nm,21.7s,baz=358,slow=36						
USRK	**Ussuriysk Arra**	18.50	8	P	Pn	11 25 27.7	+1.6
	0.1nm,0.3s,baz=182,slow=12,SNR=3.8						
SONM	**Songino Array**	27.97	327	P	P	11 27 02.1	+1.5
	1.8nm,0.7s,baz=140,slow=9.8,SNR=13						
CMAR	**Chiang Mai Arr**	28.28	261	P	P	11 27 04.8	+1.2
	1.0nm,0.9s,baz=63,slow=7.1,SNR=6.0						
TAPN	**Taplejung**	36.36	282	*e*P	P	11 28 14.9	+0.3
	18nm,1.1s						
ODAN	**Odare**	36.71	281	*e*P	P	11 28 17.6	+0.1
	31nm,0.8s						
RAMN	**Ramite**	37.39	281	*e*P	P	11 28 23.3	0.0
JIRN	**Jiri**	37.66	282	*e*P	P	11 28 25.8	+0.1
GUN	**Gumba**	37.90	283	*e*P	P	11 28 27.7	0.0
	25nm,1.1s						
PKI	**Pulchoki**	38.36	282	*e*P	P	11 28 31.1	-0.5
	24nm,1.0s						
PKIN	**Phulchoki**	38.37	282	*e*P	P	11 28 31.2	-0.4
	4.4nm,0.4s						
KKN	**Kakani**	38.44	283	*e*P	P	11 28 31.9	-0.2
DMN	**Daman**	38.62	283	*e*P	P	11 28 33.3	-0.4
	28nm,1.1s						
GKN	**Gorkha**	38.98	283	*e*P	P	11 28 36.2	-0.4
DANN	**Dangsing**	39.71	284	*e*P	P	11 28 42.7	-0.1
	44nm,1.0s						
KOLN	**Koldanda**	39.92	283	*e*P	P	11 28 44.2	-0.3
	24nm,1.1s						
PYUN	**Piuthan**	40.41	284	*e*P	P	11 28 47.7	-0.9
	34nm,0.9s						
MKAR	**Makanchi Array**	41.93	312	P	P	11 29 00.4	-0.2
	1.0nm,0.7s,baz=100,slow=9.5,SNR=7.0						
ZALV	**Zalesovo Beam**	42.66	323	P	P	11 29 05.5	-0.9
	0.4nm,0.4s,baz=120,slow=5.7,SNR=2.9						
KURBB	**Kurchatov Arra**	45.26	317	P	P	11 29 27.1	-0.2
	1.6nm,1.0s,baz=104,slow=8.5,SNR=8.3						
WRA	**Warramunga Arr**	45.90	172	P	P	11 29 33.2	+0.5
	0.9nm,0.8s,baz=352,slow=8.5,SNR=12						
AAK	**Ala-Archa**	46.85	305	LR	LR	11 52 27.9	
	comp=Z,33nm,19.2s,baz=57,slow=40						
ASAR	**Alice Springs**	49.53	173	P	P	11 30 01.9	+1.1
	0.5nm,0.8s,baz=356,slow=7.3,SNR=4.4						
BVAR	**Borovoye Array**	50.68	318	P	P	11 30 10.0	+0.7
	0.8nm,0.6s,baz=87,slow=10,SNR=5.3						
BVAR				LR	LR	11 54 49.8	
	comp=Z,38nm,20.3s,baz=93,slow=40						
ILAR	**Eielson Array**	64.65	28	P	P	11 31 48.9	+1.6
	0.3nm,0.8s,baz=257,slow=8.0,SNR=2.7						
KBZ	**Khabaz**	69.55	310	P	P	11 32 18.6	-0.2
	2.4nm,0.8s,baz=82,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	73.28	331	P	P	11 32 41.0	-0.1
	3.6nm,1.0s,baz=94,slow=6.0,SNR=3.7						
FINES				LR	LR	12 09 04.3	
	comp=Z,141nm,18.2s,baz=322,slow=39						
RES	**Resolute Bay**	75.85	11	P	P	11 32 59.5	+3.7
	3.1nm,0.8s,baz=307,slow=5.4,SNR=4.6						
AKASG	**Malin Array Be**	75.94	320	P	P	11 32 56.5	-0.3
	0.6nm,0.4s,baz=55,slow=5.7,SNR=4.6						
BRTR	**Keskin Array B**	77.42	308	P	P	11 33 05.7	+0.2
	2.7nm,0.9s,baz=90,slow=4.9,SNR=13						
NOA	**NORSAR Array B**	79.73	334	P	P	11 33 17.6	-0.1
	1.3nm,0.9s,baz=51,slow=11,SNR=2.7						
GERES	**GERESS Array B**	85.61	323	LR	LR	12 13 58.5	
	comp=Z,67nm,19.6s,baz=63,slow=37						

IDC ***05*** *11:24:49.3±1.6,5°.62S×146°.30E,h0km,mb3.0/2, mb1 3.6/5,mb1mx3.4/19,mbtmp3.4/5,ML3.6/2,Error ellipse: s-maj=61.8km s-min=27.6km az=107.0*

ISCJB ***05*** *11:25:00.8±1.5,6°.3S±0°.1×146°.7E±0°.2,h110km,mb3.0/2, Error ellipse: s-maj=30.9km s-min=14.5km az=171.0*

ISC 05 11:25:01.9±1.4,6°3S±0°.1×146°8E±0°.3,h110km,n6, σ0§61/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.11	173	Pn	Pn	11 25 50.2	+0.8
	8.6nm,0.3s,baz=268,slow=4.3,SNR=34						
PMG				Sn	Sn	11 26 25.9	-0.2
	5.4nm,0.3s,baz=170,slow=23,SNR=13						
CTA	**Charters Tower**	13.71	182	Pn	P	11 28 15.9	-0.8
	0.6nm,0.3s,baz=358,slow=16,SNR=6.6						
WRA	**Warramunga Arr**	18.15	221	P	P	11 29 05.9	0.0
	0.1nm,0.3s,baz=38,slow=11,SNR=6.3						
ASAR	**Alice Springs**	21.24	214	P	P	11 29 39.5	+0.2
	0.2nm,0.4s,baz=53,slow=8.8,SNR=7.9						
ILAR	**Eielson Array**	85

INE	**Iliamna NE**	**0.50**	**229**	P	**Pn**	**11 46 06.4**	**-0.7**
ILW	**Iliamna West**	**0.53**	**232**	P	**Pn**	**11 46 06.4**	**-0.9**
HOM	**Homer**	**0.80**	**155**	P	**Pn**	**11 46 09.3**	**+0.1**
HOM				S	**Sn**	**11 46 24.0**	**+0.2**
SPU	**Mount Spurr**	**0.81**	**9**	*e*Pn	**Pn**	**11 46 08.9**	**-0.5**
CKL	**Chakachamna La**	**0.81**	**359**	P	**Pn**	**11 46 09.0**	**-0.5**
OPT	**Oil Point**	**0.87**	**213**	P	**Pn**	**11 46 09.5**	**-0.4**
OPT				S	**Sn**	**11 46 23.1**	**-1.9**
SPBG	**Spurr Blockage**	**0.88**	**358**	P	**Pn**	**11 46 09.7**	**-0.4**
SPBG				S	**Sn**	**11 46 24.2**	**-1.1**
BGL	**Barrier Glacie**	**0.88**	**357**	P	**Pn**	**11 46 09.8**	**-0.4**
CRP	**Crater Peak**	**0.89**	**5**	P	**Pn**	**11 46 09.9**	**-0.3**
CRP				S	**Sn**	**11 46 24.8**	**-0.8**
SPCG	**Spurr Capps Gl**	**0.92**	**9**	P	**Pn**	**11 46 10.2**	**-0.3**
SPCG				S	**Sn**	**11 46 25.2**	**-0.9**
CGLM	**Capps Glacier**	**0.94**	**9**	P	**Pn**	**11 46 10.3**	**-0.4**
BRLK	**Bradley Lake**	**0.95**	**130**	P	**Pn**	**11 46 10.2**	**-0.5**
BRLK				S	**Sn**	**11 46 25.1**	**-1.3**
SPNW	**Spurr Northwes**	**0.98**	**352**	P	**Pn**	**11 46 10.7**	**-0.4**
CNPM	**China Poot**	**1.02**	**147**	P	**Pn**	**11 46 11.1**	**-0.3**
CNPM				S	**Sn**	**11 46 27.2**	**-0.4**
SLKM	**Skilak Lake**	**1.04**	**82**	P	**Pn**	**11 46 11.4**	**-0.2**
STLK	**Strandline Lak**	**1.14**	**12**	P	**Pn**	**11 46 12.5**	**-0.3**
AUL	**Augustine Lava**	**1.15**	**210**	P	**Pn**	**11 46 12.6**	**-0.3**
AUL				S	**Sn**	**11 46 29.8**	**-0.3**
AUP	**Augustine Pinn**	**1.17**	**209**	P	**Pn**	**11 46 12.8**	**-0.3**
AUH	**Augustine H**	**1.17**	**210**	P	**Pn**	**11 46 12.8**	**-0.2**
FIB	**Fire Island**	**1.31**	**52**	P	**Pn**	**11 46 15.5**	**+1.1**
FIB				S	**Sn**	**11 46 35.6**	**+2.5**
SUA	**Susitna One**	**1.33**	**35**	P	**Pn**	**11 46 15.1**	**+0.3**
SUA				S	**Sn**	**11 46 34.5**	**+0.7**
RC01	**Rabbit Creek A**	**1.45**	**60**	P	**Pn**	**11 46 16.1**	**-0.1**
RC01				S	**Sn**	**11 46 35.6**	**-0.5**
SEW	**Seward**	**1.46**	**100**	P	**Pn**	**11 46 15.8**	**-0.4**
MCNL	**McNeil River**	**1.58**	**221**	P	**Pn**	**11 46 17.1**	**-0.6**
MCNL				S	**Sn**	**11 46 37.2**	**-1.6**
SKT	**Skwentna**	**1.65**	**13**	P	**Pn**	**11 46 18.1**	**-0.4**
SKT				S	**Sn**	**11 46 40.2**	**-0.1**
PTE	**Portage**	**1.69**	**72**	P	**Pn**	**11 46 18.6**	**-0.4**
PMR	**Palmer**	**1.97**	**51**	P	**Pn**	**11 46 21.7**	**-0.7**
PMR				S	**Sn**	**11 46 46.2**	**-1.1**
PWL	**Port Wells**	**2.02**	**75**	P	**Pn**	**11 46 22.1**	**-1.0**
PWL				S	**Sn**	**11 46 47.7**	**-0.9**
KAKN	**Katmai Knife C**	**2.52**	**215**	P	**Pn**	**11 46 29.3**	**-0.4**
PPLA	**Purkeypile**	**2.52**	**1**	P	**Pn**	**11 46 30.1**	**+0.3**
KDAK	**Kodiak Island**	**2.61**	**183**	P	**Pn**	**11 46 29.1**	**-1.7**
GLI	**Glacier Island**	**2.62**	**77**	P	**Pn**	**11 46 29.0**	**-1.9**
KELA	**Mount Kelaz**	**2.62**	**223**	P	**Pn**	**11 46 30.5**	**-0.5**
KABR	**Katmai Barrier**	**2.64**	**212**	P	**Pn**	**11 46 29.3**	**-1.9**
MGLS	**Mageik Landsli**	**2.69**	**214**	P	**Pn**	**11 46 31.0**	**-0.8**
CAHL	**Cahill**	**2.80**	**215**	P	**Pn**	**11 46 33.0**	**-0.3**
SCM	**Sheep Creek Mo**	**2.82**	**57**	P	**Pn**	**11 46 33.1**	**-0.5**
KJL	**Kejulik**	**2.88**	**217**	P	**Pn**	**11 46 34.5**	**+0.2**
HIN	**Hinchinbrook I**	**2.88**	**87**	P	**Pn**	**11 46 32.7**	**-1.6**
JPK	**Jack Peak**	**2.89**	**74**	P	**Pn**	**11 46 33.2**	**-1.3**
FID	**Port Fidalgo**	**2.90**	**80**	P	**Pn**	**11 46 32.6**	**-2.0**
FID				S	**Sn**	**11 47 05.2**	**-3.8**
VLZ	**Valdez**	**3.03**	**73**	P	**Pn**	**11 46 35.3**	**-0.9**
CAST	**Castle Rocks**	**3.05**	**2**	P	**Pn**	**11 46 36.1**	**-0.4**
TT01	**Tatalina**	**3.09**	**327**	P	**Pn**	**11 46 36.5**	**-0.5**
MID	**Middleton Isla**	**3.16**	**105**	P	**Pn**	**11 46 38.5**	**+0.6**
OHAK	**Old Harbor**	**3.21**	**190**	P	**Pn**	**11 46 36.5**	**-2.1**
TRF	**Thorofare Moun**	**3.22**	**16**	P	**Pn**	**11 46 38.4**	**-0.5**
KTH	**Kantishna Hill**	**3.25**	**11**	P	**Pn**	**11 46 38.7**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.25**	**84**	P	**Pn**	**11 46 37.5**	**-1.7**
DIV	**Divide**	**3.29**	**74**	*e*Pn	**Pn**	**11 46 39.4**	**-0.4**
DIV				*e*Sn	**Sn**	**11 47 16.2**	**-2.1**
KLU	**Klutina**	**3.31**	**68**	P	**Pn**	**11 46 38.6**	**-1.4**
PLK3	**Peulik 3**	**3.39**	**219**	P	**Pn**	**11 46 40.7**	**-0.3**
RND	**Reindeer**	**3.45**	**27**	P	**Pn**	**11 46 41.4**	**-0.5**
PLK4	**Peulik 4**	**3.46**	**219**	P	**Pn**	**11 46 42.1**	**0.0**
DHY	**Denali Highway**	**3.58**	**39**	P	**Pn**	**11 46 43.9**	**+0.2**
MCK	**McKinley**	**3.72**	**24**	P	**Pn**	**11 46 45.7**	**+0.3**
GOAT	**Goat Mountain**	**3.76**	**84**	P	**Pn**	**11 46 44.6**	**-1.4**
RAGM	**Ragged Mountai**	**3.79**	**87**	P	**Pn**	**11 46 45.8**	**-0.6**
BMRM	**Bremner River**	**3.84**	**78**	P	**Pn**	**11 46 45.6**	**-1.4**
KAIM	**Kayak Island**	**3.97**	**93**	P	**Pn**	**11 46 49.1**	**+0.3**
HARP	**HAARP**	**4.00**	**56**	P	**Pn**	**11 46 48.8**	**-0.3**
BWN	**Browne**	**4.03**	**18**	P	**Pn**	**11 46 49.9**	**+0.4**
NICHA	**Nichawak Mount**	**4.15**	**88**	P	**Pn**	**11 46 51.1**	**-0.2**
PAX	**Paxson**	**4.17**	**49**	P	**Pn**	**11 46 51.5**	**0.0**
SUCK	**Suckling Hills**	**4.27**	**90**	P	**Pn**	**11 46 52.8**	**0.0**
BERG	**Berg Lake**	**4.27**	**86**	P	**Pn**	**11 46 52.6**	**-0.3**
VRDI	**Verde Repeater**	**4.42**	**75**	P	**Pn**	**11 46 53.9**	**-1.1**
GRDL	**Grindle Hills**	**4.47**	**87**	P	**Pn**	**11 46 55.3**	**-0.3**
KHIT	**Khitrov Hills**	**4.49**	**85**	P	**Pn**	**11 46 55.0**	**-0.9**
WRH	**Wood River Hil**	**4.55**	**24**	P	**Pn**	**11 46 55.4**	**-1.1**
MCARA	**McCarthy VSAT**	**4.65**	**74**	P	**Pn**	**11 46 57.4**	**-0.4**
MLY	**Manley**	**4.72**	**8**	P	**Pn**	**11 46 58.4**	**-0.5**
HDA	**Harding Lake**	**4.74**	**29**	P	**Pn**	**11 46 59.0**	**-0.1**
CCB	**Clear Creek Bu**	**4.76**	**24**	P	**Pn**	**11 46 58.6**	**-0.8**
KULT	**Kultieth River**	**4.77**	**87**	P	**Pn**	**11 46 59.5**	**-0.2**
MENT	**Mentasta**	**4.83**	**54**	*e*Pn	**Pn**	**11 46 59.7**	**-0.7**
MENT				*e*Sn	**Sn**	**11 47 54.1**	**-1.0**
BARK	**Barkley Ridge**	**4.87**	**86**	P	**Pn**	**11 46 59.5**	**-1.4**
PTPK	**Patty Peak**	**4.89**	**76**	P	**Pn**	**11 47 00.8**	**-0.5**
KIAG	**Kiagna River**	**4.93**	**79**	P	**Pn**	**11 47 00.7**	**-1.1**
ISLE	**Juniper Island**	**4.94**	**83**	P	**Pn**	**11 47 00.4**	**-1.5**
BALM	**Baldy**	**4.94**	**78**	P	**Pn**	**11 47 00.9**	**-1.0**
COLA	**College**	**4.95**	**23**	P	**Pn**	**11 47 00.7**	**-1.2**
MDM	**Murphy Dome**	**4.96**	**21**	P	**Pn**	**11 47 01.9**	**-0.2**
IL1	**Eielson Array**	**5.07**	**27**	P	**Pn**	**11 47 01.8**	**-1.7**
ILAR	**Eielson Array**	**5.07**	**27**	P	**Pn**	**11 47 02.9**	**-0.6**
ILAR				S	**Sn**	**11 47 56.5**	**-4.3**
ILAR	**Eielson Array**	**5.07**	**27**	P	**Pn**	**11 47 02.9**	**-0.6**
	15nm,0.3s,baz=212,slow=14,SNR=972						
ILAR				S	**Sn**	**11 47 56.5**	**-4.3**
	16nm,0.3s,baz=188,slow=20,SNR=12						
DOT	**Dot Lake**	**5.08**	**46**	P	**Pn**	**11 47 03.8**	**+0.1**
GLM	**Gilmore Dome**	**5.14**	**24**	P	**Pn**	**11 47 04.5**	**-0.1**
GRNC	**Granite Creek**	**5.22**	**82**	P	**Pn**	**11 47 06.0**	**+0.2**
BARN	**Barnard Glacie**	**5.27**	**78**	P	**Pn**	**11 47 05.8**	**-0.7**
SCRK	**Sand Creek**	**5.31**	**44**	P	**Pn**	**11 47 06.4**	**-0.5**
LOGN	**Logan Glacier**	**5.59**	**81**	P	**Pn**	**11 47 11.2**	**+0.4**
IM04	**Indian Mountai**	**5.65**	**354**	*e*Pn	**Pn**	**11 47 11.1**	**-0.3**
IM04				*e*Sn	**Sn**	**11 48 14.0**	**-0.6**
IM3	**Indian Mountai**	**5.66**	**354**	P	**Pn**	**11 47 10.7**	**-0.8**
BCA3	**Beaver Creek A**	**5.68**	**57**	P	**Pn**	**11 47 10.7**	**-1.2**
COLD	**Coldfoot**	**6.93**	**7**	P	**Pn**	**11 47 28.3**	**-0.4**
DAWY	**Dawson**	**7.07**	**53**	*e*Pn	**Pn**	**11 47 30.9**	**+0.2**
DAWY				*e*Sn	**Sn**	**11 48 46.8**	**-2.6**
HYT	**Haines Junctio**	**7.30**	**80**	*e*Pn	**Pn**	**11 47 34.7**	**+0.8**
HYT				*e*Sn	**Sn**	**11 48 52.9**	**-2.2**
INK	**Inuvik**	**11.32**	**38**	*e*Pn	**Pn**	**11 48 27.4**	**-0.6**
INK	**Inuvik**	**11.32**	**38**	P	**Pn**	**11 48 26.4**	**-1.7**
	0.6nm,0.3s,baz=236,slow=16,SNR=10						
DLBC	**Dease Lake**	**11.51**	**90**	S	**Sn**	**11 50 33.4**	**-3.6**
	0.1nm,0.3s,baz=168,slow=20,SNR=2.6						
YKA	**Yellowknife Ar**	**17.98**	**67**	P	**Pn**	**11 49 52.9**	**+0.6**
YKA				pP	**pP**	**11 50 14.8**	**+3.2**
YKA	**Yellowknife Ar**	**17.98**	**67**	P	**Pn**	**11 49 52.9**	**+0.6**
	0.2nm,0.3s,baz=213,slow=18,SNR=7.9						
YKA				pP	**pP**	**11 50 14.8**	**+3.2**
	0.2nm,0.3s,baz=279,slow=10,SNR=4.5						
RES	**Resolute Bay**	**24.80**	**32**	P	**P**	**11 51 02.5**	**+1.6**
RES	**Resolute Bay**	**24.80**	**32**	P	**P**	**11 51 02.5**	**+1.6**
	2.4nm,0.7s,baz=305,slow=12,SNR=3.5						
ELK	**Elko**	**30.07**	**114**	P	P	11 51 52.1	+3.5
ELK	**Elko**	**30.07**	**114**	P	P	11 51 52.1	+3.5
	0.5nm,0.5s,baz=5.7,slow=10,SNR=3.3						
NVAR	**Mina Array Bea**	**30.61**	**120**	P	P	11 51 57.0	+3.6
NVAR	**Mina Array Bea**	**30.61**	**120**	P	P	11 51 57.0	+3.6
	0.6nm,0.9s,baz=310,slow=10,SNR=3.5						
PDAR	**Pinedale Array**	**31.16**	**105**	pP	pP	11 52 26.1	+3.5
	0.6nm,0.9s,baz=304,slow=6.4,SNR=3.2						
SUMG	**Summit**	**39.91**	**25**	*i* P	**P**	**11 53 13.2**	**+0.5**
	3.9nm,0.6s						
SCHQ	**Schefferville**	**43.07**	**58**	P	**P**	**11 53 39.1**	**+0.9**
SCHQ	**Schefferville**	**43.07**	**58**	P	**P**	**11 53 39.1**	**+0.9**
	3.8nm,1.1s,baz=343,slow=14,SNR=3.2						
TXAR	**Lajitas Array**	**44.80**	**112**	pP	pP	11 54 22.1	+4.0
	0.6nm,0.8s,baz=335,slow=8.3,SNR=7.1						
USRK	**Ussuriysk Arra**	**46.27**	**285**	P	**P**	**11 54 03.5**	**-0.3**
	1.1nm,0.6s,baz=44,slow=9.1,SNR=4.4						
KEV	**Kevo**	**50.15**	**0**	*ep*	**P**	**11 54 31.4**	**-1.8**
	0.6nm,0.3s						
ARCES	**ARCESS Array B**	**50.36**	**1**	P	**P**	**11 54 34.1**	**-0.7**
ARCES				PcP	**PcP**	**11 55 50.2**	**-1.4**
ARCES	**ARCESS Array B**	**50.36**	**1**	P	**P**	**11 54 34.1**	**-0.7**
	1.5nm,0.5s,baz=349,slow=5.6,SNR=12						
ARCES				PcP	**PcP**	**11 55 50.2**	**-1.4**
	3.1nm,0.9s,baz=341,slow=4.8,SNR=2.7						
KSRS	**Korea Array**	**53.43**	**283**	P	**P**	**11 54 59.0**	**+1.1**
	2.4nm,0.8s,baz=39,slow=7.3,SNR=5.5						
KSAR	**Wonju Array Be**	**53.46**	**283**	P	**P**	**11 54 59.0**	**+0.9**
SONM	**Songino Array**	**54.84**	**306**	P	**P**	**11 55 09.1**	**+0.8**
SONM				PcP	**PcP**	**11 56 09.9**	**+0.8**
SONM	**Songino Array**	**54.84**	**306**	P	**P**	**11 55 09.1**	**+0.8**
	2.3nm,0.4s,baz=48,slow=6.7,SNR=35						
SONM				PcP	**PcP**	**11 56 09.9**	**+0.8**
	0.7nm,0.8s,baz=36,slow=3.3,SNR=2.1						
JOF	**Joensuu**	**56.99**	**358**	*ep*	**P**	**11 55 22.2**	**-0.9**
	0.3nm,0.3s						
ZAA0	**Zalesovo Array**	**57.27**	**324**	*e*P	**P**	**11 55 25.1**	**-0.1**
ZALV	**Zalesovo Beam**	**57.27**	**324**	P	**P**	**11 55 25.4**	**+0.1**
ZALV	**Zalesovo Beam**	**57.27**	**324**	P	**P**	**11 55 25.4**	**+0.1**
	4.7nm,0.5s,baz=29,slow=6.8,SNR=22						
KAF	**Kangasniemi**	**57.82**	**1**	*ep*	**P**	**11 55 28.1**	**-0.9**
	1.5nm,0.3s						
NOA	**NORSAR Array B**	**58.24**	**9**	P	**P**	**11 55 31.6**	**-0.4**
NOA	**NORSAR Array B**	**58.24**	**9**	P	**P**	**11 55 31.6**	**-0.4**
	1.0nm,0.7s,baz=353,slow=7.0,SNR=3.6						
FINES	**FINESS Array B**	**58.49**	**1**	P	**P**	**11 55 33.2**	**-0.5**
FINES	**FINESS Array B**	**58.49**	**1**	P	**P**	**11 55 33.2**	**-0.5**
	1.9nm,0.6s,baz=19,slow=8.3,SNR=9.9						
BVAR	**Borovoye Array**	**61.89**	**332**	P	**P**	**11 55 55.3**	**-1.6**
BVAR	**Borovoye Array**	**61.89**	**332**	P	**P**	**11 55 55.3**	**-1.6**
	2.4nm,0.5s,baz=25,slow=6.0,SNR=12						
MKAR	**Makanchi Array**	**64.34**	**322**	P	**P**	**11 56 12.8**	**-0.5**
MKAR	**Makanchi Array**	**64.34**	**322**	P	**P**	**11 56 12.8**	**-0.5**
	1.7nm,0.5s,baz=41,slow=6.9,SNR=24						
GTA	**Gaotai**	**64.49**	**305**	*e*P	**P**	**11 56 14.4**	**-0.1**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WMQ	**Urumqi**	**65.22**	**316**	*e*P	P	11 56 23.2	+4.1
WMQ				pmax	pmax		
	comp=Z,11nm,1.0s						
AKTO	**Aktyubinsk**	**66.85**	**339**	P	**P**	**11 56 28.9**	**-0.4**
AKTO	**Aktyubinsk**	**66.85**	**339**	P	**P**	**11 56 28.9**	**-0.4**
	1.4nm,0.7s,baz=25,slow=5.0,SNR=6.3						
CD2	**Chengdu**	**70.07**	**297**	*e*P	**P**	**11 56 51.8**	**+2.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AAK	**Ala-Archa**	**70.44**	**325**	P	**P**	**11 56 51.5**	**-0.4**
AAK	**Ala-Archa**	**70.44**	**325**	P	**P**	**11 56 51.5**	**-0.4**
	1.4nm,0.5s,baz=150,slow=5.5,SNR=5.0						
GERES	**GERESS Array B**	**70.54**	**10**	P	**P**	**11 56 52.8**	**+0.5**
GERES	**GERESS Array B**	**70.54**	**10**	P	**P**	**11 56 52.8**	**+0.5**
	0.5nm,0.6s,baz=324,slow=6.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**83.02**	**295**	P	**P**	**11 58 01.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**83.02**	**295**	P	**P**	**11 58 01.5**	**-1.2**
	0.9nm,0.5s,baz=5.1,slow=6.3,SNR=6.8						
BOSA	**Boshof**	**148.19**	**4**	PKPbc	**PKPbc**	**12 05 22.2**	**-0.2**
BOSA	**Boshof**	**148.19**	**4**	PKPbc	**PKPbc**	**12 05 22.2**	**-0.2**
	4.8nm,0.6s,baz=32,slow=3.0,SNR=19						

IDC ***05*** *11:47:16.5±1.1, 12.°10N×90.°49E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.5/27, mbtmp3.5/7, ML3.5/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/27, Error ellipse: s-maj=33.1km s-min=22.2km az=52.0*

ISCJB ***05*** *11:47:19.4±0.7, 12.°21N±0.°07×90.°52E±0.°05, h33km, mb3.6/6, MS3.4/2, Error ellipse: s-maj=11.4km s-min=5.6km az=24.9*

ISC 05 11:47:21.5±0.9, 12.°32N±0.°10×90.°58E±0.°07, h35km, n28, σ1§48/25, mb3.7/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.22**	**107**	*e*P		**Pn**	**Pn**	**11 47 54.8**	**-0.9**
PBA				*e*S		**Sn**	**Sn**	**11 48 21.9**	**-0.1**
PBA				AML		AML		11 48 46.1	
	comp=N,2μm,1.0s								
PBA				AML		AML		11 48 47.1	
	comp=E,3μm,0.2s								
DGPR	**DIGLIPUR**	**2.45**	**69**	*e*P		**Pn**	**Pn**	**11 47 58.8**	**-0.1**
DGPR				*e*S		**Sn**	**Sn**	**11 48 29.6**	**+1.9**
DGPR				AML		AML		11 48 54.4	
	comp=E,1μm,1.1s								
DGPR				AML		AML		11 48 56.9	
	comp=N,2μm,0.7s								
VIS	**Vishakhapatnam**	**8.82**	**308**	*e*P		**Pn**	**Pn**	**11 49 25.0**	**-1.6**
VIS				*i* S		Sn	Sn	11 50 57.1	-7.8
VIS				*ex*		x	x	11 50 58.6	
	comp=N,100nm,0.6s								
VIS				*ex*		x	x	11 50 59.5	
	comp=E,94nm,0.5s								
CMAR	**Chiang Mai Arr**	**10.11**	**52**	Pn		**Pn**	**Pn**	**11 49 46.1**	**+1.8**
	comp=E,0.1nm,0.3s,baz=243,slow=14,SNR=5.5								
CMAR				Sn		**Sn**	**Sn**	**11 51 32.9**	**-3.6**
	comp=E,0.4nm,0.3s,baz=241,slow=28,SNR=5.4								
PSI	**Prapat**	**12.56**	**138**	LR		LR	LR	11 55 55.8	
	comp=E,294nm,19.5s,baz=7.1,slow=41								
SHL	**Shillong**	**13.23**	**5**	*e*P		**Pn**	**Pn**	**11 50 26.2**	**-0.9**
SHL				*e*S		Sn	Sn	11 52 43.2	-10
RAMN	**Ramite**	**15.03**	**346**	*e*P		**Pn**	**Pn**	**11 50 52.1**	**+0.6**
TAPN	**Taplejung**	**15.19**	**350**	*e*P		**Pn**	**Pn**	**11 50 53.3**	**-0.5**
JIRN	**Jiri**	**15.81**	**346**	*e*P		**P**	**P**	**11 51 02.8**	**-2.5**
PKI	**Pulchoki**	**15.93**	**343**	*e*P		**Pn**	**Pn**	**11 51 03.7**	**+0.4**
PKIN	**Phulchoki**	**15.94**	**343**	*e*P		**Pn**	**Pn**	**11 51 03.7**	**+0.3**
DMN	**Daman**	**16.05**	**342**	*e*P		**P**	**P**	**11 51 06.4**	**-1.5**
GUN	**Gumba**	**16.12**	**345**	*e*P		**Pn**	**Pn**	**11 51 06.4**	**+0.6**
GKN	**Gorkha**	**16.56**	**341**	*e*P		**P**	**P**	**11 51 11.9**	**-1.6**
KOLN	**Koldanda**	**16.70**	**338**	*e*P		**P**	**P**	**11 51 14.7**	**-0.4**
	comp=E,18nm,0.7s								
DANN	**Dangsing**	**17.17**	**339**	*e*P		**P**	**P**	**11 51 20.8**	**+0.4**
POO	**Poona**	**17.26**	**293**	*e*P		**Pn**	**Pn**	**11 51 19.0**	**-1.0**
H08S3	**Diego Garcia H**	**26.76**	**223**	T		T	T	12 22 34.1	
	baz=40								
H08S2	**Diego Garcia H**	**26.77**	**223**	T		T	T	12 22 02.8	
	baz=40,slow=75,SNR=13								
H08S1	**Diego Garcia H**	**26.78**	**223**	T		T	T	12 22 16.4	
	baz=40,slow=75,SNR=1.5								
MKAR	**Makanchi Array**	**35.07**	**350**	P		**P**	**P**	**11 54 13.1**	**+1.9**
	comp=E,1.6nm,0.8s,baz=167,slow=8.4,SNR=8.5								
SONM	**Songino Array**	**37.80**	**17**	P		**P**	**P**	**11 54 36.6**	**+2.1**
	comp=E,0.8nm,0.5s,baz=201,slow=8.4,SNR=11								
KSRS	**Korea Array**	**41.70**	**47**	LR		LR	LR	12 15 45.6	
	comp=E,60nm,18.8s,baz=228,slow=41								
ZALV	**Zalesovo Beam**	**41.78**	**355**	LR		LR	LR	12 15 17.1	
	comp=E,32nm,18.1s,baz=322,slow=40								
WRA	**Warramunga Arr**	**53.69**	**126**	P		**P**	**P**	**11 56 39.9**	**-0.4**
	comp=E,0.2nm,0.5s,baz=308,slow=7.8,SNR=6.9								
ASAR	**Alice Springs**	**55.44**	**130**	P		**P**	**P**	**11 56 52.8**	**-0.2**
	comp=E,0.2nm,0.6s,baz=312,slow=5.8,SNR=5.8								
BRTR	**Keskin Array B**	**56.90**	**310**	P		**P**	**P**	**11 57 03.0**	**-0.3**
	comp=E,0.7nm,0.6s,baz=122,slow=8.4,SNR=5.0								
TORD	**Torodi Ar. Bea**	**86.19**	**283**	P		**P**	**P**	**12 00 01.2**	**+1.3**
	comp=E,0.3nm,0.7s,baz=95,slow=5.2,SNR=2.6								

ISCJB ***05*** *11:51:08.5±0.5, 19.°72S±0.°04×69.°4W±0.°1, h125km±7km, mb3.9/3, Error ellipse: s-maj=16.1km s-min=6.7km az=173.9*

GUC ***05*** *11:51:09.4±0.5, 19.°69S×69.°34W, h105km±5km, ML4.0*

IDC ***05*** *11:51:10.9±3.8, 19.°61S×69.°10W, h124km±28km, mb3.7/4, mb1 3.6/7, mb1mx3.4/22, mbtmp3.6/7, Error ellipse: s-maj=44.8km s-min=23.8km az=28.0*

ISC 05 11:51:09.1±0.8, 19.°71S±0.°04×69.°36W±0.°09, h113km±8km, n23, σ1§24/22, mb3.8/3, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.72**	**279**	↑*i*P		**Pn**	**Pn**	**11 51 28.0**	**-0.2**
PSGC				*i* S		**Sn**	**Sn**	**11 51 42.3**	**-0.1**
PSGC				AML		AML		11 51 42.8	
	comp=N,3μm,0.3s								
HMBC	**Humberstone**	**0.75**	**221**	↑*i*P		**Pn**	**Pn**	**11 51 28.5**	**+0.1**
HMBC				*i* S		**Sn**	**Sn**	**11 51 43.1**	**+0.3**
HMBC				AML		AML		11 51 45.1	
	comp=N,5μm,0.5s								
PATCX	**Punta Patache**	**1.33**	**214**	↑*i*P		**Pn**	**Pn**	**11 51 35.0**	**+0.7**
PATCX				*i* S		**Sn**	**Sn**	**11 51 54.4**	**+1.1**
PATCX				AML		AML		11 52 00.2	
	comp=E,2μm,0.6s								
PB01	**Plate Boundary**	**1.33**	**185**	↑*i*P		**Pn**	**Pn**	**11 51 34.9**	**+0.6**
PB01				*i* S		**Sn**	**Sn**	**11 51 54.3**	**+1.0**
PB01				AML		AML		11 51 56.0	
	comp=E,3μm,0.5s								
ARCH	**Arica**	**1.50**	**324**	↑*i*P		**Pn**	**Pn**	**11 51 36.6**	**+0.4**
ARCH				*i* S		**Sn**	**Sn**	**11 51 56.8**	**+0.1**
ARCH				AML		AML		11 51 59.0	
	comp=E,5μm,0.5s								
PB09	**Plate Boundary**	**2.08**	**177**	*e*P		**Pn**	**Pn**	**11 51 44.4**	**+1.0**
PB09				*i* S		**Sn**	**Sn**	**11 52 11.2**	**+1.6**
PB09				AML		AML		11 52 17.1	
	comp=N,3μm,0.5s								
PB04	**Plate Boundary**	**2.54**	**183**	*e*P		Pn	Pn	11 51 53.1	+3.9
LPAZ	**La Paz**	**3.60**	**19**	P		**Pn**	**Pn**	**11 52 04.9**	**+1.0**
	comp=N,4.2nm,0.3s,baz=189,slow=6.6,SNR=102								
LPAZ				S		**Sn**	**Sn**	**11 52 48.4**	**+2.3**
	comp=N,1.3nm,0.3s,baz=211,slow=9.6,SNR=3.7								
SIV	**San Ignacio**	**8.72**	**66**	P		Pn	Pn	11 53 08.6	-3.9
	comp=N,1.1nm,0.3s,baz=265,slow=13,SNR=18								
CPUP	**Villa Florida**	**12.88**	**123**	P		**Pn**	**Pn**	**11 54 06.0**	**-2.0**
	comp=N,0.5nm,0.3s,baz=288,slow=12,SNR=5.3								
H03N1	**Juan Fernandez**	**16.11**	**210**	T		T	T	12 11 32.5	
	baz=31,slow=75,SNR=3.7								
H03N2	**Juan Fernandez**	**16.11**	**210**	T		T	T	12 11 34.6	
	baz=31,slow=75,SNR=2.7								
H03N3	**Juan Fernandez**	**16.12**	**210**	T		T	T	12 11 34.0	
	baz=31,slow=75,SNR=3.1								
BDFB	**Brasilia**	**20.74**	**82**	P		**P**	**P**	**11 55 40.8**	**-0.3**
	comp=N,2.6nm,0.5s,baz=252,slow=13,SNR=3.1								
DBIC	**Dimbokro**	**68.65**	**74**	P		**P**	**P**	**12 01 59.9**	**-0.8**
	comp=N,2.0nm,0.7s,baz=234,slow=4.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	**77.17**	**71**	P		**P**	**P**	**12 02 50.1**	**-0.9**
	comp=N,0.9nm,0.5s,baz=252,slow=5.6,SNR=13								
YBH	**Yreka Blue Hor**	**78.55**	**322**	P		**P**	**P**	**12 02 58.9**	**+0.7**
	comp=N,1.7nm,0.9s,baz=145,slow=5.5,SNR=3.1								
H11S2	**WAKE ISLAND Hy**	**27.21**	**279**	T		T	T	14 29 40.0	
	baz=104,slow=73,SNR=5.3								
H11S1	**WAKE ISLAND Hy**	**27.22**	**279**	T		T	T	14 29 37.0	
	baz=104,slow=73

	0.2nm,0.3s,baz=340,slow=7.0,SNR=6.8							
SONM	**Songino Array**	**45.67**	**342**	P		P	12 38 09.8	-0.9
	0.2nm,0.6s,baz=158,slow=8.0,SNR=2.9							
MKAR	**Makanchi Array**	**55.92**	**325**	P		P	12 39 29.1	+1.2
	0.4nm,0.3s,baz=114,slow=7.5,SNR=18							
ZALV	**Zalesovo Beam**	**58.94**	**333**	P		P	12 39 48.0	-1.1
	0.5nm,0.3s,baz=109,slow=7.4,SNR=3.2							
KURBB	**Kurchatov Arra**	**60.10**	**327**	P		P	12 39 57.3	+0.2
	0.6nm,0.6s,baz=127,slow=6.6,SNR=7.7							

IDC 05 12:42:00.1±1.6, 51.44S×139.65E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.8/14, mbtmp3.8/4, ML3.5/1, MS3.6/6, Ms1 3.5/6, ms1mx3.3/23, Error ellipse: s-maj=120.1km s-min=22.9km az=88.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**19.60**	**5**	P		Pn	12 46 30.8	-0.3
	0.1nm,0.3s,baz=219,slow=13,SNR=2.4							
STKA				LR		LR	12 52 45.8	
	comp=Z,164nm,20.9s,baz=207,slow=33							
H01W1	**Cape Leeuwin H**	**24.70**	**302**	T		T	13 12 56.2	
	baz=138,slow=75,SNR=9.5							
H01W2	**Cape Leeuwin H**	**24.70**	**302**	T		T	13 12 56.8	
	baz=138,slow=75,SNR=12							
H01W3	**Cape Leeuwin H**	**24.71**	**302**	T		T	13 12 57.6	
	baz=138,slow=75,SNR=12							
VNDA	**Vanda**	**27.46**	**170**	LR		LR	12 57 59.9	
	comp=Z,112nm,18.9s,baz=347,slow=35							
ASAR	**Alice Springs**	**28.08**	**349**	P		P	12 47 52.6	-0.7
	0.3nm,0.5s,baz=168,slow=11,SNR=3.3							
ASAR				LR		LR	12 57 19.6	
	comp=Z,106nm,20.5s,baz=99,slow=33							
WRA	**Warramunga Arr**	**31.71**	**350**	P		P	12 48 25.4	-0.1
	1.7nm,0.8s,baz=173,slow=7.6,SNR=16							
WRA				LR		LR	12 59 55.9	
	comp=Z,102nm,21.9s,baz=150,slow=34							
QSPA	**South Pole Qui**	**38.67**	**180**	P		P	12 49 25.0	-0.2
	1.9nm,1.0s,baz=12,slow=4.9,SNR=6.8							
MAW	**Mawson**	**39.17**	**216**	LR		LR	13 02 48.0	
	comp=Z,49nm,18.2s,baz=21,slow=32							
AFI	**Afiamalu**	**53.96**	**64**	LR		LR	13 07 39.2	
	comp=Z,91nm,21.5s,baz=40,slow=28							
GERES	**GERESS Array B**	**145.92**	**287**	PKPbc		PKPdf	13 01 40.3	+0.3
	0.5nm,0.6s,baz=134,slow=5.8,SNR=6.0							

FUNV 05 12:48:28.2, 10.45N×69.76W, h2km, MW4.0, 3C-5D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIQV	**Siquisique**	**0.20**	**345**	↓*i*P		Pg	12 48 31.7	-0.5
SIQV				*e*S		Sg	12 48 35.0	+0.2
CURV	**Curarigua**	**0.48**	**205**	↑*e*P		Pg	12 48 37.0	-0.6
CURV				*e*S		Sg	12 48 44.3	+0.4
TEPV	**Terepaima**	**0.74**	**131**	↓*e*P		Pg	12 48 42.3	-0.1
TEPV				*e*S		Sb	12 48 53.4	-1.0
QARV	**Quebrada Arrib**	**0.79**	**252**	↑*i*P		Pg	12 48 43.4	-0.1
QARV				*e*S		Sb	12 48 55.3	-0.8
SANV	**Sanarito**	**0.97**	**167**	↓*i*P		Pg	12 48 46.6	-0.4
SANV				*e*S		Sb	12 49 00.8	-0.5
DABV	**Dabajuro**	**0.98**	**298**	*e*P		Pg	12 48 47.3	+0.2
DABV				*e*S		Sb	12 49 00.8	-0.6
JACV	**Jacura**	**1.11**	**55**	↓*e*P		Pg	12 48 49.5	0.0
JACV				*e*S		Sb	12 49 04.9	-0.2
MAPV	**Macapo**	**1.42**	**116**	↑*e*P		Pn	12 48 55.0	-0.1
MAPV				*e*S		Sg	12 49 13.8	-0.2
MONV	**Montecano**	**1.51**	**352**	↓*e*P		Pn	12 48 55.1	-1.2
MONV				*e*S		Sn	12 49 16.2	-0.3
TURV	**Turiamo**	**1.89**	**90**	*e*P		Pn	12 49 00.4	-1.0
TURV				*e*S		Sn	12 49 24.4	-1.3
BAUV	**El Baul**	**2.26**	**131**	*e*P		Pn	12 49 06.6	0.0
BAUV				*e*S		Sn	12 49 33.3	-1.7
SOCV	**Socops**	**2.41**	**207**	*e*P		Pn	12 49 08.8	+0.1
SOCV				*e*S		Sn	12 49 36.8	-2.1
VIRV	**Villa del Rosa**	**2.61**	**271**	*e*P		Pn	12 49 10.2	-1.2
VIRV				*e*S		Sn	12 49 42.2	-1.5
MERV	**Las Mercedes**	**3.61**	**109**	*e*P		Pn	12 49 24.3	-0.9

*ASRS **05** 13:09:53.5±1.0, 49.80N×88.35E, h15km, Ms3.1/5*
*ISCJB **05** 13:09:55.4±0.5, 49.88N±0.04×88.16E±0.06, h11km, mb3.6/3, Error ellipse: s-maj=5.6km s-min=5.2km az=22.4*
*MOS **05** 13:09:55.7±1.6, 49.79N×88.22E, h13km, mb4.1/1, Error ellipse: s-maj=14.3km s-min=9.4km az=121.5*
*IDC **05** 13:09:55.5±1.0, 49.80N×88.32E, h0km, mb3.7/3, mb1 3.9/10, mb1mx3.6/34, mbtmp3.8/10, ML3.7/6, Error ellipse: s-maj=14.4km s-min=12.1km az=179.0*
*NNC **05** 13:09:59.0±2.0, 49.86N×87.83E, h0km, mb4.1, mpv4.1, Error ellipse: s-maj=16.2km s-min=10.4km az=83.0*

ISC 05 13:09:57.1±0.8, 49.87N±0.04×88.15E±0.05, h11km, n40, σ1s95/55, mb3.6/3, 14C-11D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKAR	**Aktash**	**0.56**	**323**	*i* PG		**Pg**	**13 10 06.9**	**-1.3**
AKAR				*i*			13 10 15.5	
AKAR	**Aktash**	**0.56**	**323**	*i* Pg		**Pg**	**13 10 06.9**	**-1.3**
AKAR				*i* Sg		**Sg**	**13 10 15.5**	**-0.1**
UKR	**Ust'-Kan**	**2.41**	**297**	*e*PN		**Pb**	**13 10 40.4**	**-0.2**
UKR				*e*			13 11 13.4	
UKR	**Ust'-Kan**	**2.41**	**297**	*e*Pg		**Pb**	**13 10 40.4**	**-0.2**
UKR				*e*Sg		**Sg**	**13 11 13.4**	**-1.2**
TASR	**Tashtagol**	**2.90**	**357**	*e*PN		**Pb**	**13 10 47.4**	**-1.4**
TASR	**Tashtagol**	**2.90**	**357**	*e*Pg		**Pb**	**13 10 47.4**	**-1.4**
TASR				*e*Sg		**Sb**	**13 11 26.9**	**+2.8**
ELT	**Yel'tsovka**	**3.60**	**341**	*e*Sg		**Sb**	**13 11 48.6**	**+4.3**
HVS	**Khovu-Aksy**	**3.76**	**68**	*d i*PN		**Pn**	**13 10 54.6**	**-0.5**
ZALV	**Zalesovo Beam**	**4.57**	**334**	PN		**Pn**	**13 11 06.9**	**+0.7**
ZALV							13 12 04.5	
ZALV				pmax		pmax		
	comp=Z,4.0nm,0.3s							
ZALV				smax		smax		
	comp=N,9.0nm,0.3s							
ZALV	**Zalesovo Beam**	**4.57**	**334**	Pn		**Pn**	**13 11 06.9**	**+0.7**
	comp=N,4.1nm,0.3s,baz=155,slow=13,SNR=47							
ZALV				Sn		**Sn**	**13 12 04.5**	**+5.2**
	comp=N,8.9nm,0.3s,baz=142,slow=24,SNR=4.1							
ZALV				Lg		Lg	13 12 19.3	
	comp=N,13nm,0.3s,baz=146,slow=28,SNR=6.6							
MK31	**Makanchi Array**	**4.98**	**234**	↓Pn		**Pn**	**13 11 13.0**	**+1.2**
	comp=N,8.9nm,0.5s,baz=52,slow=13,SNR=425							
MK31				↑Pg		**Pb**	**13 11 25.6**	**+1.4**
	comp=N,10nm,0.5s,baz=53,slow=16,SNR=8.2							
MK31				↑Sn		**Sn**	**13 12 10.4**	**+1.1**
	comp=N,11nm,0.4s							
MK31				Lg		Lg	13 12 32.2	
	comp=N,82nm,0.7s,baz=53,slow=31,SNR=8.4							
MKAR	**Makanchi Array**	**4.98**	**234**	PN		**Pn**	**13 11 13.2**	**+1.4**
MKAR							13 12 12.9	
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.3s							
MKAR				smax		smax		
	comp=N,9.0nm,0.3s							
MKAR	**Makanchi Array**	**4.98**	**234**	Pn		**Pn**	**13 11 13.2**	**+1.4**
	comp=N,3.8nm,0.3s,baz=50,slow=15,SNR=363							
MKAR				Sn		**Sn**	**13 12 12.9**	**+3.6**
	comp=N,9.2nm,0.3s,baz=55,slow=25,SNR=6.8							
MKAR				Lg		Lg	13 12 32.7	
	comp=N,20nm,0.3s,baz=51,slow=27,SNR=12							
NVS	**Novosibirsk**	**5.81**	**331**	*e*PN		**Pn**	**13 11 23.1**	**-0.1**
NVS				*e*			13 11 40.7	
NVS				*e*			13 12 54.3	
NVS	**Novosibirsk**	**5.81**	**331**	*e*Pn		**Pn**	**13 11 23.3**	**+0.1**
NVS				*e*Pg		**Pb**	**13 11 40.7**	**+2.2**
NVS				*e*Sg		**Sg**	**13 13 00.3**	**-3.4**
KURK	**Kurchatov**	**6.17**	**281**	PN		**Pn**	**13 11 30.4**	**+2.3**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.3s							
KURK	**Kurchatov**	**6.17**	**281**	↑Pn		**Pn**	**13 11 29.4**	**+1.3**
	comp=Z,12nm,0.6s							
KURK				↑Sn		**Sn**	**13 12 39.5**	**+0.9**
	comp=Z,19nm,0.6s							
KURK				↑Lg		Lg	13 13 10.5	
	comp=Z,38nm,0.5s							
KURBB	**Kurchatov Arra**	**6.22**	**281**	Pn		**Pn**	**13 11 30.4**	**+1.6**
	comp=Z,7.9nm,0.3s,baz=91,slow=14,SNR=106							
KURBB	**Kurchatov Arra**	**6.22**	**281**	↑Pn		**Pn**	**13 11 30.1**	**+1.3**
	comp=Z,17nm,0.3s							
KURBB				↑Sn		**Sn**	**13 12 41.2**	**+1.4**
	comp=Z,96nm,0.6s							
KURBB				↑Lg		Lg	13 13 12.3	
	comp=Z,190nm,0.7s							
ZAK	**Zakamensk**	**9.73**	**81**	*e*P		Pn	13 12 32.9	+16
ZAK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
TKM2	**Tokmak 2**	**11.11**	**236**	↓Pn		**Pn**	**13 12 35.4**	**-0.6**
	comp=Z,2.0nm,0.7s							
TKM2				↓Sn		**Sn**	**13 14 41.6**	**+1.4**
	comp=Z,2.3nm,0.7s							
TKM2				↓Lg		Lg	13 15 49.1	
	comp=Z,9.6nm,0.9s							
VOSK	**Vostochnaya**	**11.12**	**291**	↑Pn		**Pn**	**13 12 35.4**	**-0.6**
	comp=Z,1.8nm,0.5s							
VOSK				↓Sn		**Sn**	**13 14 38.5**	**-1.8**
	comp=Z,2.3nm,0.7s							
BVA0	**Borovoye Array**	**11.52**	**293**	↑Pn		**Pn**	**13 12 43.6**	**+2.2**
	comp=Z,1.7nm,0.5s,baz=102,slow=14,SNR=20							
BVA0				↓Sn		**Sn**	**13 14 46.6**	**-3.5**
	comp=Z,3.3nm,0.6s,baz=108,slow=23,SNR=5.4							
BVAR	**Borovoye Array**	**11.52**	**293**	P		**Pn**	**13 12 41.6**	**+0.1**
BVAR							13 14 47.2	
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BVAR				smax		smax		
	comp=N,1.0nm,0.3s							
BVAR	**Borovoye Array**	**11.52**	**293**	Pn		**Pn**	**13 12 41.6**	**+0.1**
	comp=N,1.1nm,0.3s,baz=105,slow=14,SNR=12							
BVAR				Sn		**Sn**	**13 14 47.2**	**-2.8**
	comp=N,0.7nm,0.3s,baz=105,slow=23,SNR=7.8							
BRVK	**Borovoye**	**11.59**	**293**	*e*P		Pn	13 12 46.8	+4.4
BRVK	**Borovoye**	**11.59**	**293**	↑Pn		**Pn**	**13 12 44.6**	**+2.2**
	comp=N,2.2nm,0.5s							
BRVK				↓Sn		**Sn**	**13 14 47.7**	**-3.9**
	comp=N,9.8nm,0.6s							
AAK	**Ala-Archa**	**11.90**	**238**	P		**Pn**	**13 12 47.9**	**+1.1**
AAK							13 14 52.6	
AAK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AAK	**Ala-Archa**	**11.90**	**238**	Pn		**Pn**	**13 12 47.9**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=100,slow=6.2,SNR=8.8							
AAK				Sn		Sn	13 14 52.6	-6.9
	comp=Z,0.1nm,0.3s,baz=285,slow=20,SNR=2.6							
AAK				Lg		Lg	13 16 11.3	
	comp=Z,0.2nm,0.3s,baz=156,slow=20,SNR=3.3							
SONM	**Songino Array**	**12.19**	**93**	Pn		**Pn**	**13 12 50.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=289,slow=13,SNR=5.0							
SONM				Lg		Lg	13 16 18.3	
	comp=Z,0.2nm,0.3s,baz=277,slow=27,SNR=9.8							
KK31	**Karatay Array**	**13.89**	**248**	↓Pn		**Pn**	**13 13 11.3**	**-2.6**
	comp=Z,1.1nm,0.5s,baz=52,slow=13,SNR=21							
KK31				↑Sn		**Sn**	**13 15 44.4**	**-3.7**
	comp=Z,2.6nm,0.8s,baz=52,slow=24,SNR=4.9							
KK31				↑Lg		Lg	13 17 13.6	
	comp=Z,4.9nm,0.8s							
AB31	**Akbulak array**	**18.27**	**279**	↑Pn		**P**	**13 14 12.0**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=79,slow=12,SNR=14							
ARU	**Arti**	**18.82**	**302**	*d i*P		**Pn**	**13 14 18.1**	**+1.1**
ARU				S		**S**	**13 17 50.9**	**+0.6**
ARU				pmax		pmax		
	comp=Z,7.0nm,1.7s							
AKTO	**Aktyubinsk**	**19.26**	**283**	P		**Pn**	**13 14 23.4**	**+1.0**
AKTO	**Aktyubinsk**	**19.26**	**283**	P		**Pn**	**13 14 23.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=74,slow=12,SNR=14							
AKTO	**Aktyubinsk**	**19.26**	**283**	↓Pn		**Pn**	**13 14 23.0**	**+0.6**
	comp=Z,3.9nm,0.8s							
FINES	**FINESS Array B**	**35.48**	**313**	P		**P**	**13 16 54.4**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=97,slow=11,SNR=2.6							
AKASG	**Malin Array Be**	**36.79**	**295**	*i* P		P	13 17 11.3	+6.7
WRA	**Warramunga Arr**	**80.63**	**137**	P		**P**	**13 22 09.7**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=340,slow=5.9,SNR=4.7							
ASAR	**Alice Springs**	**83.71**	**139**	P		**P**	**13 22 24.4**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=337,slow=5.1,SNR=4.1							

*IDC **05** 13:11:00.9±7.0, 12.30N×92.68E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, Error ellipse: s-maj=404.8km s-min=26.5km az=61.0*

ISC 05 13:10:59.6±1.5, 11.72N±0.09×91.6E±0.2, h10km, n7, σ1s65/7, mb3.5/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**1.11**	**93**	*e*P		**Pn**	**13 11 23.0**	**+1.8**
PBA				*e*S		Sn	13 11 50.6	+14
PBA				AML		AML	13 12 06.6	
	comp=N,1μm,0.8s							
PBA				AML		AML	13 12 06.7	
	comp=E,2μm,0.3s							
DGPR	**DIGLIPUR**	**1.94**	**41**	*e*P		Pn	13 11 26.6	-6.1
DGPR				*e*S		**Sn**	**13 11 55.5**	**-1.7**
DGPR				AML		AML	13 12 21.2	
	comp=E,670nm,0.5s							
DGPR				AML		AML	13 12 24.6	
	comp=N,991nm,0.5s							
CMBY	**CAMPBELL BAY**	**5.21**	**154**	*e*S		**Sb**	**13 13 31.8**	**-1.6**
MKAR	**Makanchi Array**	**35.84**	**349**	P		**P**	**13 17 59.1**	**-0.3**
	comp=N,0.9nm,0.7s,baz=171,slow=10,SNR=2.3							
WRA	**Warramunga Arr**	**52.52**	**126**	P		**P**	**13 20 12.9**	**-0.6**
	comp=N,0.2nm,0.5s,baz=310,slow=8.2,SNR=3.6							
ASAR	**Alice Springs**	**54.29**	**131**	P		**P**	**13 20 25.7**	**-0.7**
	comp=N,0.3nm,1.0s,baz=304,slow=7.2,SNR=2.9							
STKA	**Stephens Creek**	**64.55**	**134**	P		**P**	**13 21 38.4**	**+1.2**
	comp=N,0.7nm,0.6s,baz=307,slow=5.1,SNR=3.1							

IDC 05 13:14:27.9±38.0, 15.87S×177.07W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=735.3km s-min=158.7km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**40.75**	**239**	P		P	13 22 10.9	0.0
	0.2nm,0.3s,baz=100,slow=9.0,SNR=5.8							
WRA	**Warramunga Arr**	**46.29**	**257**	P		P	13 22 55.6	-0.2
	0.1nm,0.2s,baz=84,slow=7.2,SNR=8.1							
ASAR	**Alice Springs**	**46.60**	**252**	P		P	13 22 57.9	-0.3
	1.5nm,0.5s,baz=88,slow=8.0,SNR=30							
FITZ	**Fitzroy Crossi**	**54.65**	**259**	P		P	13 23 59.2	+0.1
	1.5nm,0.8s,baz=112,slow=11,SNR=3.1							

*ISCJB **05** 13:29:06.9±0.8, 80.0N±0.1×2.2W±0.3, h10km, mb3.4/5, Error ellipse: s-maj=16.2km s-min=7.2km az=176.1*
*IDC **05** 13:29:09.5±1.1, 80.43N×2.06W, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.4/27, mbtmp3.5/5, ML4.7/1, Error ellipse: s-maj=37.5km s-min=21.6km az=31.0*

ISC 05 13:29:09.1±0.9, 80.0N±0.2×2.07W±0.0, h10km, n11, σ1s21/10, mb3.4/5, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**2.78**	**105**	*e*P		**Pn**	**13 29 53.3**	**-0.2**
SPA0	**Spitsbergen Ar**	**3.93**	**108**	*e*P		**Pn**	**13 30 09.8**	**+0.5**
SPA0				*e*Pg		Pb	13 30 11.1	-7.2
SPA0				*e*Sg		**Sn**	**13 30 54.5**	**-0.9**
SPITS	**Spitsbergen Ar**	**3.93**	**108**	Pn		**Pn**	**13 30 09.9**	**+0.5**
	baz=334,slow=8.6,SNR=351							
SPITS				Sn		**Sn**	**13 30 53.9**	**-1.5**
	baz=317,slow=14,SNR=1.9							
DAG	**Danmarks Havn**	**4.63**	**234**	*i* P		Pn	13 30 22.4	+3.5
DAG				*i*			13 30 23.1	
DAG				*e*S		**Sn**	**13 31 12.9**	**+0.3**
SUMG	**Summit**	**11.11**	**248**	*i* P		**Pn**	**13 31 47.0**	**-1.0**
KULLO	**Kullorsuaq**	**12.73**	**275**	*i* P		Pn	13 32 04.5	-5.2
KULLO				*e*S		Sn	13 34 15.7	-15
GERES	**GERESS Array B**	**31.74**	**160**	P		P	13 35 40.7	+7.9
	0.3nm,0.6s,baz=321,slow=7.6,SNR=3.5							
ILAR	**Eielson Array**	**34.08**	**334**	P		**P**	**13 35 52.0**	**-1.0**
	0.4nm,0.8s,baz=17,slow=6.0,SNR=6.1							
MKAR	**Makanchi Array**	**43.35**	**85**	P		**P**	**13 37 12.9**	**+2.1**
	0.4nm,0.8s,baz=332,slow=8.5,SNR=3.7							
TXAR	**Lajitas Array**	**63.31**	**287**	P		**P**	**13 39 38.0**	**+0.3**
	0.2nm,0.6s,baz=49,slow=6.1,SNR=2.6							
TORD	**Torodi Ar. Bea**	**66.88**	**176**	P		P	13 40 06.7	+5.8
	0.6nm,0.8s,baz=360,slow=5.7,SNR=2.7							

*IDC **05** 13:50:19.5±2.0, 17.76S×178.73W, h535km±22km, mb3.0/10, mb1 3.3/12, mb1mx3.1/23, mbtmp3.1/12, Error ellipse: s-maj=22.5km s-min=14.9km az=146.0*
*ISCJB **05** 13:50:20.6±0.7, 17.75S±0.2×178.8W±0.1, h562km, mb3.4/10, Error ellipse: s-maj=25.3km s-min=14.3km az=149.9*

ISC 05 13:50:21.8±0.7, 17.8S±0.2×178.8W±0.2, h562km, n15, σ0s84/16, mb3.4/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.81**	**62**	P		P	13 52 13.7	-4.5
	3.2nm,0.3s,baz=20,slow=15,SNR=5.3							
DZM	**Mont Dzumac**	**14.48**	**250**	P		**P**	**13 53 25.0**	**-1.0**
	0.3nm,0.3s,baz=73,slow=16,SNR=3.5							
STKA	**Stephens Creek**	**38.34**	**241**	P		**P**	**13 56 56.5**	**+1.2**
	1.4nm,0.7s,baz=84,slow=4.9,SNR=5.4							
WRA	**Warramunga Arr**	**44.25**	**259**	P		**P**	**13 57 41.7**	**-0.6**
	0.3nm,0.6s,baz=92,slow=7.2,SNR=12							
WRA				PcP		**PcP**	**13 59 14.7**	**+0.3**
	0.4nm,0.7s,baz=94,slow=3.7,SNR=5.8							
ASAR	**Alice Springs**	**44.43**	**254**	P		**P**	**13 57 44.2**	**+0.5**
	2.3nm,0.5s,baz=88,slow=8.2,SNR=63							
ASAR				PcP		**PcP**	**13 59 14.8**	**-0.2**
	0.3nm,0.4s,baz=106,slow=3.8,SNR=5.8							
MJAR	**Matsushiro Arr**	**67.56**	**324**	P		**P**	**14 00 22.7**	**-0.1**
	0.9nm,0.4s,baz=162,slow=6.9,SNR=3.5							
QSPA	**South Pole Qui**	**72.28**	**180**	P		**P**	**14 00 50.6**	**+0.1**
	2.0nm,0.8s,baz=190,slow=1.5,SNR=4.6							
ILAR	**Eielson Array**	**85.85**	**13**	P		**P**	**14 02 00.7**	**-1.2**
	0.3nm,0.4s,baz=222,slow=5.0,SNR=10							
TXAR	**Lajitas Array**	**86.27**	**58**	P		**P**	**14 02 06.1**	**+1.2**
	0.5nm,0.7s,baz=222,slow=4.9,SNR=6.8							
PDAR	**Pinedale Array**	**87.54**	**44**	P		**P**	**14 02 10.5**	**-0.2**
	0.4nm,0.6s,baz=214,slow=4.5,SNR=3.6							
CMAR	**Chiang Mai Arr**	**88.45**	**290**	P		**P**	**14 02 16.4**	**+1.2**
	0.5nm,0.8s,baz=93,slow=3.2,SNR=4.2							
SNAA	**Sanae**	**90.74**	**179**	P		**P**	**14 02 24.0**	**-0.9**
	0.3nm,0.8s,baz=190,slow=14,SNR=5.6							
MKAR	**Makanchi Array**	**108.75**	**314**	PKiKP		**PKiKP**	**14 07 46.7**	**-0.7**
	0.2nm,0.5s,baz=67,slow=3.7,SNR=3.3							
BRTR	**Keskin Array B**	**144.40**	**315**	PKP		**PKPab**	**14 08 55.5**	**+0.2**
	1.0nm,0.8s,baz=46,slow=3.6,SNR=6.1							
GERES	**GERESS Array B**	**147.38**	**345**	PKPbc		**PKPbc**	**14 09 03.2**	**+0.3**
	1.2nm,0.5s,baz=23,slow=3.0,SNR=11							

*ISCJB **05** 13:50:52.8±0.5, 62.88S±0.07×158.3W±0.2, h10km, mb4.3/11, MS4.3/16, Error ellipse: s-maj=13.2km s-min=10.0km az=23.2*
*IDC **05** 13:50:53.3±0.7, 62.84S×158.16W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.4/14, mbtmp4.3/10, ML4.0/1, MS4.3/17, Ms1 4.3/17, ms1mx4.2/22, Error ellipse: s-maj=25.3km s-min=17.6km az=22.0*
*NEIC **05** 13:50:54.6±0.5, 62.86S×158.22W, h10km, mb4.7/5, Error ellipse: s-maj=17.9km s-min=13.3km az=194.0*
*GCMT **05** 13:51:00.2±0.2, 62.97S×158.01W, h28km±1km, MW5.2, Moment Tensor Solution. s35,c44; s81,c111; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.01±.35; $M_{\theta\theta}$9.29±.33; $M_{\phi\phi}$-6.28±.24; $M_{r\theta}$1.06±.46; $M_{r\phi}$1.00±.22; $M_{\theta\phi}$3.44±.50; Best double couple: $M_0$9.00000×10^{16} NP1:ϕ226.00000°, δ73.00000°, λ-152.00000°. NP2:ϕ127.00000°, δ63.00000°, λ-20.00000°. Principal axes: T 9.4900, Plg6.0000°, Azm355.0000°; N -1.0300, Plg57.0000°, Azm255.0000°; P -8.4600, Plg32.0000°, Azm89.0000°; Data Used: II IU G IC CU CN.*

ISC 05 13:50:54.9±0.5, 63.00S±0.08×158.2W±0.1, h10km, n64, σ1s58/42, mb4.5/11, MS4.3/16, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**19.16**	**205**	*e*P		**Pn**	**13 55 19.5**	**+0.7**
	26nm,1.2s							
VNDA				*e*Sn		**Sn**	**13 58 51.6**	**-1.5**
VNDA	**Vanda**	**19.16**	**205**	P		**Pn**	**13 55 21.5**	**+2.7**
	0.4nm,0.3s,baz=78,slow=16,SNR=24							
VNDA				S		**Sn**	**13 58 47.1**	**-6.0**
	0.2nm,0.3s,baz=158,slow=15,SNR=5.8							
VNDA				LR		LR	14 00 48.2	
	comp=Z,914nm,20.9s,baz=65,slow=31							
RPZ	**Rata Peaks**	**26.20**	**303**	LR		LR	14 04 51.3	
	comp=Z,300nm,19.6s,baz=322,slow=32							
QSPA	**South Pole Qui**	**27.11**	**180**	P		**P**	**13 56 39.1**	**+1.4**
QSPA	**South Pole Qui**	**27.11**	**180**	P		**P**	**13 56 39.1**	**+1.4**
	18nm,0.9s,baz=54,slow=2.9,SNR=59							
QSPA				LR		LR	14 05 20.3	
	comp=Z,651nm,21.9s,baz=240,slow=32							
URZ	**Urewera**	**28.93**	**317**	LR		LR	14 05 16.2	
	comp=Z,572nm,21.9s,baz=165,slow=30							
RAO	**Raoul Island**	**36.09**	**330**	LR		LR	14 08 49.5	
	comp=Z,341nm,

	comp=Z,219nm,19.8s,baz=160,slow=32						
WRAB	**Tennant Creek**	**62.20**	**281**	*e*P	**P**	**14 01 15.0**	**-1.4**
PMG	**Port Moresby**	**66.09**	**298**	LR	LR	14 26 08.8	
	comp=Z,174nm,18.1s,baz=26,slow=32						
CPUP	**Villa Florida**	**71.63**	**112**	P	**P**	**14 02 15.6**	**-0.8**
CPUP	**Villa Florida**	**71.63**	**112**	P	**P**	**14 02 15.6**	**-0.8**
	2.2nm,0.6s,baz=207,slow=5.3,SNR=3.7						
CPUP				LR	LR	14 29 45.7	
	comp=Z,233nm,18.1s,baz=14,slow=32						
LPAZ	**La Paz**	**75.68**	**98**	P	**P**	**14 02 41.3**	**+0.3**
LPAZ	**La Paz**	**75.68**	**98**	P	**P**	**14 02 41.3**	**+0.3**
	7.4nm,1.2s,baz=168,slow=2.1,SNR=12						
KAPI	**Kappang**	**81.93**	**275**	LR	LR	14 36 13.7	
	comp=Z,410nm,20.9s,baz=121,slow=33						
SAML	**Samuel**	**84.38**	**99**	*e*P	**P**	**14 03 25.8**	**-1.5**
	4.3nm,1.0s						
BDFB	**Brasilia**	**85.04**	**115**	LR	LR	14 38 37.6	
	comp=Z,324nm,18.6s,baz=32,slow=34						
OTAV	**Otavalo**	**85.56**	**81**	*e*P	**P**	**14 03 33.0**	**-0.8**
	7.0nm,1.0s						
BOSA	**Boshof**	**88.66**	**183**	LR	LR	14 39 16.4	
	comp=Z,219nm,20.2s,baz=177,slow=33						
ILAR	**Eielson Array**	**127.75**	**6**	PKP	**PKPdf**	**14 09 58.5**	**-0.2**
ILAR	**Eielson Array**	**127.75**	**6**	PKP	**PKPdf**	**14 09 58.5**	**-0.2**
	1.2nm,0.7s,baz=224,slow=1.7,SNR=6.8						
TORD	**Torodi Ar. Bea**	**128.22**	**155**	PKP	**PKPdf**	**14 10 03.4**	**+2.2**
TORD	**Torodi Ar. Bea**	**128.22**	**155**	PKP	**PKPdf**	**14 10 03.4**	**+2.2**
	0.9nm,0.9s,baz=225,slow=1.8,SNR=3.1						
MKAR	**Makanchi Array**	**143.21**	**273**	PKP	**PKPdf**	**14 10 28.9**	**+0.8**
MKAR	**Makanchi Array**	**143.21**	**273**	PKP	**PKPdf**	**14 10 28.9**	**+0.8**
	0.7nm,0.8s,baz=123,slow=4.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**147.14**	**284**	PKPbc	**PKPdf**	**14 10 34.8**	**+0.4**
ZALV	**Zalesovo Beam**	**147.14**	**284**	PKPbc	**PKPdf**	**14 10 34.8**	**+0.4**
	1.4nm,0.7s,baz=179,slow=2.6,SNR=5.2						
KURBB	**Kurchatov Arra**	**147.70**	**274**	PKPbc	**PKPbc**	**14 10 37.4**	**-1.0**
	3.4nm,0.9s,baz=134,slow=2.2,SNR=13						
KURK	**Kurchatov**	**147.73**	**275**	PKPbc	**PKPbc**	**14 10 37.4**	**-1.1**
ESDC	**Sonseca Array**	**152.02**	**134**	PKPbc	**PKPbc**	**14 10 51.6**	**+2.2**
ESDC				PKPab	**PKPab**	**14 10 57.4**	**-1.5**
ESDC	**Sonseca Array**	**152.02**	**134**	PKPbc	**PKPbc**	**14 10 51.6**	**+2.2**
	0.4nm,0.3s,baz=151,slow=2.9,SNR=6.8						
ESDC				PKPab	**PKPab**	**14 10 57.4**	**-1.5**
	0.4nm,0.3s,baz=237,slow=2.1,SNR=7.0						

*ISCJB **05** 14:00:59.3±0.5,25°.92N±0°.04×128°.59E±0°.04, h27km, mb3.7/12, Error ellipse: s-maj=6.0km s-min=5.1km az=11.4*
*JMA **05** 14:00:59.4±0.1,25°.86N×128°.53E, h49km±3km, M3.4*
*IDC **05** 14:01:04.8±3.9,26°.09N×128°.77E, h61km±40km, mb3.6/11, mb1 3.7/12, mb1mx3.6/25, mbtmp3.6/12, ML3.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/26, Error ellipse: s-maj=35.4km s-min=15.6km az=74.0*

ISC 05 14:01:00.9±0.7, 25°.93N±0°.06×128°.54E±0°.04, h27km, n23, σt 38/29, mb3.7/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.74**	**287**	P		P	**Pb**	**14 01 14.0**	**-1.3**
JJT2				S		S	**Sb**	**14 01 24.5**	**-0.5**
JOW	**Kunigami**	**0.93**	**345**	P		P	**Pn**	**14 01 17.2**	**-1.1**
JOW				S		S	**Sn**	**14 01 30.4**	**-0.4**
JIH	**Iheya**	**1.22**	**335**	P		P	**Pn**	**14 01 21.5**	**-0.7**
JIH				*e*S		S	**Sn**	**14 01 36.9**	**-0.9**
JAGN	**Aguni-jima**	**1.34**	**300**	P		P	**Pn**	**14 01 22.7**	**-1.1**
JAGN				S		S	**Sn**	**14 01 39.3**	**-1.5**
JKE	**Kume jima 2**	**1.63**	**285**	P		P	**Pn**	**14 01 26.1**	**-1.7**
JTK	**Tokunoshima**	**1.89**	**11**	P		P	**Pn**	**14 01 31.0**	**-0.4**
JAMN	**Amaminishikomi**	**2.38**	**14**	P		P	**Pn**	**14 01 37.7**	**-0.4**
JAMN				S		S	**Sn**	**14 02 05.6**	**-0.8**
JMZ	**Minamidaito 2**	**2.42**	**92**	P		P	**Pn**	**14 01 37.6**	**-1.1**
JMZ				S		S	**Sn**	**14 02 04.2**	**-3.2**
JAM	**Amami Oshima**	**2.65**	**21**	P		P	**Pn**	**14 01 41.6**	**-0.3**
JAM				S		S	**Sn**	**14 02 12.6**	**-0.6**
JNU	**Nakatsue**	**7.45**	**15**	P		P	**Pn**	**14 02 48.9**	**+1.0**
	0.5nm,0.3s,baz=168,slow=12,SNR=6.3								
JNU				S			**Sn**	**14 04 08.7**	**-2.9**
	baz=182,slow=11,SNR=2.3								
JNU				LR		LR	LR	14 05 58.9	
	comp=Z,118nm,19.7s,baz=212,slow=41								
KSRS	**Korea Array**	**11.50**	**358**	LR		LR	LR	14 08 30.0	
	comp=Z,115nm,18.8s,baz=161,slow=39								
SONM	**Songino Array**	**27.96**	**327**	P		**P**		**14 06 51.3**	**+2.0**
	1.9nm,0.8s,baz=140,slow=10,SNR=13								
CMAR	**Chiang Mai Arr**	**28.35**	**261**	P		**P**		**14 06 55.5**	**+2.6**
	0.4nm,0.5s,baz=57,slow=6.0,SNR=3.3								
MKAR	**Makanchi Array**	**41.94**	**312**	P		**P**		**14 08 48.8**	**-0.6**
	0.6nm,0.5s,baz=93,slow=11,SNR=9.8								
ZALV	**Zalesovo Beam**	**42.66**	**323**	P		**P**		**14 08 53.8**	**-1.2**
	0.5nm,0.4s,baz=96,slow=5.9,SNR=2.5								
KURBB	**Kurchatov Arra**	**45.26**	**317**	P		**P**		**14 09 15.8**	**-0.2**
	0.7nm,0.8s,baz=103,slow=8.7,SNR=4.7								
WRA	**Warramunga Arr**	**45.94**	**172**	P		**P**		**14 09 22.4**	**+0.8**
	0.7nm,0.6s,baz=353,slow=8.4,SNR=12								
ASAR	**Alice Springs**	**49.57**	**174**	P		**P**		**14 09 51.0**	**+1.2**
	0.5nm,0.7s,baz=6.8,slow=11,SNR=10								
FINES	**FINESS Array B**	**73.26**	**331**	P		**P**		**14 12 29.1**	**-0.4**
	2.4nm,0.9s,baz=116,slow=8.7,SNR=4.2								
AKASG	**Malin Array Be**	**75.94**	**320**	P		**P**		**14 12 45.5**	**+0.2**
	1.0nm,0.5s,baz=58,slow=6.7,SNR=5.1								
BRTR	**Keskin Array B**	**77.44**	**308**	P		**P**		**14 12 55.0**	**+0.8**
	1.1nm,0.7s,baz=94,slow=5.0,SNR=6.1								
NOA	**NORSAR Array B**	**79.71**	**334**	P		P		14 13 05.5	**-0.6**
	1.3nm,0.8s,baz=54,slow=5.1,SNR=3.4								
GERES	**GERESS Array B**	**85.61**	**323**	P		P		14 13 41.0	+4.0
	0.2nm,0.5s,baz=56,slow=7.3,SNR=3.1								

IDC 05 14:02:27.3±27.0, 21°.71S×173°.98W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/21, mbtmp3.9/4, Error ellipse: s-maj=502.3km s-min=153.1km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.12**	**265**	P		P	P	14 09 40.1	+0.2
	1.4nm,0.5s,baz=90,slow=11,SNR=3.8								
STKA	**Stephens Creek**	**40.69**	**246**	P		P		14 10 09.7	-0.1
	0.9nm,0.5s,baz=72,slow=13,SNR=4.0								
ASAR	**Alice Springs**	**47.91**	**257**	P		P		14 11 07.2	-0.5
	1.1nm,0.8s,baz=90,slow=8.1,SNR=11								
WRA	**Warramunga Arr**	**48.16**	**262**	P		P		14 11 09.6	-0.1
	0.9nm,0.7s,baz=102,slow=8.2,SNR=11								

KNET 05 14:04:55.2±0.5, 41°.95N×76°.40E, h11km±2km, ml2.2, 6C-9D, Error ellipse: s-maj=3.3km s-min=2.3km az=126.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.32**	**338**	⇓P		Pg		14 05 01.6	-0.4
	91nm,0.1s,SNR=1065								
ULHL				⇑S		Sg		14 05 07.3	+0.7
	140nm,0.1s								
KZA	**Kyzart**	**0.87**	**279**	⇑P		Pg		14 05 12.2	-0.3
	22nm,0.3s,SNR=35								
KZA				⇑S		Sb		14 05 25.2	+0.4
	23nm,0.2s								
TKM2	**Tokmak 2**	**1.14**	**329**	⇑P		Pb		14 05 16.5	-0.7
	14nm,0.2s,SNR=12								
TKM2				⇑S		Sn		14 05 33.4	+0.2
	61nm,0.1s								
KBK	**Karagaybulak**	**1.29**	**304**	⇓P		Pb		14 05 19.9	+0.2
	11nm,0.2s,SNR=9.0								
KBK				⇓S		Sg		14 05 39.3	+2.1
	56nm,0.2s								
UCH	**Uchtor**	**1.43**	**282**	⇓P		Pb		14 05 22.5	-0.1
	7.9nm,0.4s,SNR=5.5								
UCH				⇓S		Sg		14 05 43.4	+1.0
	9.5nm,0.2s								
AAK	**Ala-Archa**	**1.57**	**296**	⇓P		Pb		14 05 24.8	+0.2
	4.0nm,0.1s,SNR=9.6								
AAK				⇓S		Sg		14 05 46.8	+0.6
	37nm,0.2s								
CHMS	**Chumysh**	**1.61**	**311**	⇑P		Pb		14 05 25.1	+0.1
	9.1nm,0.1s,SNR=17								
CHMS				⇓S		Sg		14 05 48.2	+1.0
	31nm,0.3s								
USP	**Ospenovka**	**1.92**	**314**	⇓P		Pb		14 05 30.7	+0.3
	20nm,0.2s,SNR=20								

IDC 05 14:06:30.7±1.7, 35°.04S×99°.02W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.9/17, mbtmp3.8/3, MS4.1/13, Ms1 4.1/13, ms1mx4.0/21, Error ellipse: s-maj=56.6km s-min=40.5km az=148.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**16.69**	**90**	T		T	T	14 28 00.3	
	baz=245,slow=75,SNR=4.8								
H03N3	**Juan Fernandez**	**16.69**	**90**	T		T	T	14 27 52.9	
	baz=245,slow=75,SNR=6.3								
H03N1	**Juan Fernandez**	**16.70**	**90**	T		T	T	14 28 10.9	
	baz=245,slow=75,SNR=4.5								
LPAZ	**La Paz**	**33.32**	**64**	P		P	P	14 13 11.2	0.0
	1.4nm,0.8s,baz=217,slow=8.3,SNR=5.1								
ROSC	**El Rosal**	**45.99**	**35**	LR		LR	LR	14 31 01.5	
	comp=Z,177nm,20.0s,baz=152,slow=32								
URZ	**Urewera**	**65.07**	**240**	LR		LR	LR	14 37 56.7	
	comp=Z,154nm,18.5s,baz=212,slow=29								
RAO	**Raoul Island**	**65.42**	**251**	LR		LR	LR	14 36 47.2	
	comp=Z,165nm,21.0s,baz=121,slow=28								
RPZ	**Rata Peaks**	**66.77**	**232**	LR		LR	LR	14 38 39.6	
	comp=Z,230nm,19.2s,baz=8.5,slow=29								
AFI	**Afiamalu**	**68.12**	**268**	LR		LR	LR	14 39 11.3	
	comp=Z,69nm,19.5s,baz=117,slow=29								
NVAR	**Mina Array Bea**	**75.26**	**344**	P		P	P	14 18 16.2	+0.8
	0.5nm,0.8s,baz=168,slow=9.2,SNR=3.8								
NVAR				LR		LR	LR	14 44 38.4	
	comp=Z,155nm,20.6s,baz=314,slow=30								
MAW	**Mawson**	**76.75**	**173**	LR		LR	LR	14 51 20.1	
	comp=Z,102nm,18.3s,baz=191,slow=35								
PDAR	**Pinedale Array**	**78.03**	**352**	P		P	P	14 18 30.6	-0.5
	0.9nm,0.7s,baz=142,slow=7.4,SNR=8.4								
PDAR				LR		LR	LR	14 46 05.8	
	comp=Z,96nm,19.2s,baz=22,slow=30								
DZM	**Mont Dzumac**	**81.18**	**249**	LR		LR	LR	14 46 37.3	
	comp=Z,122nm,18.5s,baz=225,slow=30								
ULM	**Lac du Bonnet**	**84.97**	**2**	LR		LR	LR	14 55 39.0	
	comp=Z,130nm,21.5s,baz=330,slow=35								
STKA	**Stephens Creek**	**92.42**	**228**	LR		LR	LR	14 51 17.4	
	comp=Z,159nm,20.7s,baz=204,slow=29								
HNR	**Honiara**	**93.55**	**256**	LR		LR	LR	14 51 10.0	
	comp=Z,132nm,20.9s,baz=1.9,slow=29								
BOSA	**Boshof**	**97.70**	**133**	LR		LR	LR	14 54 55.3	
	comp=Z,67nm,20.9s,baz=66,slow=30								
CMAR	**Chiang Mai Arr**	**157.04**	**229**	PKPab		PKPab	PKPab	14 26 58.5	-0.4
	0.8nm,0.9s,baz=149,slow=3.8,SNR=3.1								

*IDC **05** 14:31:12.3±26.0, 19°.54S×174°.04W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/21, mbtmp4.2/4, MS4.0/1, Ms1 4.0/1, ms1mx2.9/26, Error ellipse: s-maj=478.4km s-min=148.0km az=74.0*
*AUST **05** 14:32:27.8, 21°.14S×179°.82W, h300km*

ISC 05 14:31:18.9±17.0, 20°.5S±0°.8×177°.4W±°, h27km, n10, σt 0§61/10, mb4.3/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.14**	**263**	P		P		**14 38 27.7**	**+0.1**
	2.7nm,0.7s,baz=90,slow=8.1,SNR=4.8								
CMSA	**Cobar Meteorol**	**37.60**	**245**	P		**P**		**14 38 31.7**	**+0.4**
	baz=32,SNR=8.7								
QLP	**Quilpie**	**38.57**	**253**	P		**P**		**14 38 39.2**	**-0.4**
	baz=33,SNR=4.3								
STKA	**Stephens Creek**	**41.11**	**245**	P		**P**		**14 39 00.8**	**+0.2**
	0.8nm,0.4s,baz=89,slow=12,SNR=6.3								
STKA	**Stephens Creek**	**41.11**	**245**	P		**P**		**14 39 01.0**	**+0.3**
	baz=36,SNR=4.8								
ASAR	**Alice Springs**	**48.09**	**256**	P		**P**		**14 39 55.9**	**-0.7**
	2.9nm,0.8s,baz=95,slow=8.2,SNR=34								
ASAR				LR		LR		14 58 43.7	
	comp=Z,140nm,18.1s,baz=47,slow=34								
WRA	**Warramunga Arr**	**48.23**	**261**	P		**P**		**14 39 56.6**	**-1.1**
	2.1nm,0.5s,baz=94,slow=8.0,SNR=45								
KDU	**Kakadu**	**51.62**	**270**	P		**P**		**14 40 23.9**	**+0.5**
	baz=46,SNR=3.9								
KNRA	**Kununurra**	**54.32**	**265**	P		**P**		**14 40 43.6**	**+0.3**
	baz=49,SNR=3.7								
FITZ	**Fitzroy Crossi**	**56.66**	**261**	P		**P**		**14 41 00.3**	**+0.1**
	baz=51,SNR=3.1								

IDC 05 15:26:08.3±8.0, 15°.93S×173°.67W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/15, Error ellipse: s-maj=359.4km s-min=34.6km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.52**	**281**	LR		LR		15 41 14.8	
	comp=Z,45nm,19.0s,baz=123,slow=34								
H11S2	**WAKE ISLAND Hy**	**39.28**	**330**	T		T		16 15 39.0	
	baz=153,slow=76,SNR=13								
H11S3	**WAKE ISLAND Hy**	**39.29**	**330**	T		T		16 15 38.0	
	baz=153,slow=76,SNR=15								
H11S1	**WAKE ISLAND Hy**	**39.30**	**330**	T		T		16 15 41.8	
	baz=153,slow=76,SNR=11								
H11N3	**WAKE ISLAND Hy**	**40.24**	**331**	T		T		16 16 52.4	
	baz=152,slow=77,SNR=4.5								
H11N1	**WAKE ISLAND Hy**	**40.24**	**331**	T		T		16 16 50.2	
	baz=152,slow=77,SNR=9.5								
H11N2	**WAKE ISLAND Hy**	**40.26**	**331**	T		T		16 16 53.7	
	baz=152,slow=77,SNR=7.9								
WRA	**Warramunga Arr**	**49.47**	**257**	P		P		15 35 00.4	-0.4
	0.4nm,0.8s,baz=93,slow=6.6,SNR=7.0								
ASAR	**Alice Springs**	**49.70**	**252**	P		P		15 35 02.2	-0.3
	0.6nm,0.7s,baz=89,slow=7.7,SNR=12								
ILAR	**Eielson Array**	**83.01**	**11**	P		P		15 38 34.5	-0.5
	0.2nm,0.7s,baz=204,slow=6.5,SNR=2.9								
BRTR	**Keskin Array B**	**146.40**	**320**	PKPbc		PKPab		15 45 52.1	-0.4
	0.7nm,0.7s,baz=335,slow=2.6,SNR=4.7								

IDC 05 15:30:19.6±3.3, 20°.28S×176°.05W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=166.0km s-min=53.5km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.35**	**256**	P		P		15 38 48.0	+0.2
	0.4nm,0.7s,baz=85,slow=8.6,SNR=5.8								
ASAR				PcP		PcP		15 40 21.2	-1.9
	0.2nm,0.5s,baz=106,slow=3.8,SNR=6.2								
WRA	**Warramunga Arr**	**46.45**	**261**	P		P		15 38 48.5	-0.1
	0.1nm,0.4s,baz=97,slow=7.5,SNR=12								
CMAR	**Chiang Mai Arr**	**91.77**	**289**	P		P		15 43 29.9	+0.1
	0.3nm,0.7s,baz=119,slow=2.1,SNR=5.1								
AKASG	**Malin Array Be**	**143.68**	**333**	PKP		PKPdf		15 49 55.1	-1.3
	1.5nm,0.5s,baz=43,slow=4.2,SNR=14								
BRTR	**Keskin Array B**	**148.03**	**314**	PKPbc		PKPbc		15 50 07.8	+0.3
	0.5nm,0.9s,baz=350,slow=6.0,SNR=2.8								

IDC 05 16:28:51.7±7.3, 5°.74S×147°.11E, h177km±41km, mb2.8/2, mb1 2.8/4, mb1mx2.7/18, mbtmp2.7/4, Error ellipse: s-maj=70.9km s-min=63.7km az=47.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**179**	P		P	Pn	16 29 48.5	+0.2
	0.7nm,0.3s,baz=312,slow=15,SNR=7.5								
PMG				S		Sn		16 30 32.9	+0.3
	0.7nm,0.3s,baz=225,slow=20,SNR=4.6								
WRA	**Warramunga Arr**	**18.81**	**220**	P		P		16 32 58.0	0.0
	0.1nm,0.3s,baz=38,slow=11,SNR=14								
ASAR	**Alice Springs**	**21.90**	**214**	P		P		16 33 30.8	-0.1
	0.3nm,0.7s,baz=50,slow=8.7,SNR=4.8								
STKA	**Stephens Creek**	**26.52**	**191**	P		P		16 34 12.9	0.0
	0.6nm,0.5s,baz=38,slow=12,SNR=2.4								

*BJI **05** 16:43:01.3, 0°.36S×126°.26E, h45km, mB5.1/40, mb5.0/50, Ms4.7/35, MS7 4.4/38*
*MOS **05** 16:43:06.8±1.3, 0°.52N×126°.14E, h33km, mb5.4/39, MS4.2/4, Error ellipse: s-maj=11.3km s-min=5.2km az=118.3*
*IDC **05** 16:43:07.3±2.3, 0°.42N×126°.05E, h22km±14km, mb4.8/27, mb1 4.8/28, mb1mx4.8/30, mbtmp4.8/28, ML4.7/1, MS4.1/13, Ms1 4.1/13, ms1mx3.7/39, Error ellipse: s-maj=16.6km s-min=8.0km az=69.0*
*ISCJB **05** 16:43:08.6±0.4, 0°.48N±0°.02×126°.12E±0°.02, h50km±4km, mb5.1/113, MS4.2/30, Error ellipse: s-maj=4.2km s-min=3.4km az=149.1*
*NEIC **05** 16:43:09.1±0.2, 0°.48N×126°.17E, mb5.1/32, Error ellipse: s-maj=6.5km s-min=4.8km az=62.0*
*DJA **05** 16:43:11.5±0.2, 0°.1N±2°×12°.6E±°, h51km±3km, M5.0/32, mB5.5/16, mb5.1/32, MLv5.2/14, Mw(mB)4.9/16*
*AUST **05** 16:43:12.2±0.8, 0°.30N×126°.03E, h65km±8km, Error ellipse: s-maj=6.4km s-min=4.4km az=8.0*
*GCMT **05** 16:43:12.3±0.2, 0°.65N×126°.09E, h32km, MW5.1, Moment Tensor Solution. s50,c61; s63,c96; Moment tensor: Scale 10^{16}Nm; M_{rr}4.98±.19; $M_{\theta\theta}$-1.67±.13; $M_{\phi\phi}$-3.30±.14; $M_{r\theta}$-1.87±.17; $M_{r\phi}$-2.59±.10; $M_{\theta r}$-0.55±.18; Best double couple: M0 5.50000×10^{16} NP1:ϕ_{s}229.00000°, δ55.00000°, λ105.00000°. NP2:ϕ_{s}24.00000°, δ38.00000°, λ70.00000°. Principal axes: T 5.4700, Plg75.0000°, Azm183.0000°; N -0.0300, Plg12.0000°, Azm40.0000°; P -5.4400, Plg9.0000°, Azm308.0000°; Data Used: II IU IC G CN.*

ISC 05 16:43:09.8±0.3, 0°.47N±0°.03×126°.16E±0°.04, h44km±1km, h44km:pP-P,n436,σt 9§48/549, mb5.0/114, MS4.2/31, 43C-40D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.24**	**76**	P		P	**Pn**	**16 43 29.8**	**-1.0**
TNTI				S		S	**Sn**	**16 43 47.2**	**+0.8**
TNTI	**Ternate**	**1.24**	**76**	*e*Pn		P	**Pn**	**16 43 29.8**	**-1.0**
KMSI	**Cibinong**	**2.18**	**273**	P		P	**Pn**	**16 43 42.6**	**-1.1**
GTOI	**Gorontalo**	**3.15**	**273**	P		P	**Pn**	**16 43 59.4**	**+2.4**
SGSI	**Sangihe**	**3.26**	**349**	P		P	**Pn**	**16 43 59.3**	**+0.8**
SGSI				S		S	**Sn**	**16 44 41.2**	**+5.2**
LUWI	**Luwuk**	**3.71**	**246**	P		P	**Pn**	**16 44 05.5**	**+0.9**
LUWI	**Luwuk**	**3.71**	**246**	⇓P		P	**Pn**	**16 44 05.4**	**+0.9**
	baz=3.5,SNR=165								
NLAI	**Namlea**	**3.80**	**166**	P		P	**Pn**	**16 44 06.5**	**+0.6**
NLAI				S		S	**Sn**	**16 44 49.9**	**+0.5**
MRSI	**Marisa**	**4.22**	**270**	P		P	**Pn**	**16 44 11.4**	**-0.3**
APSI	**Ampana**	**4.71**	**253**	P		P	**Pn**	**16 44 19.7**	**+1.2**
TOLI	**Toli-Toli**	**5.40**	**277**	P		P	Pn	16 44 33.8	+5.8
BNDI	**Bandanaira**	**6.21**	**143**	P		P	Pn	16 44 42.3	+3.3
	335nm,0.9s,3µm1.0nm								
KKSI	**Kolaka, Sulawe**	**6.45**	**224**	P		P	**Pn**	**16 44 43.9**	**+1.6**
	109nm,0.7s,4µm0.8nm								
BBSI	**Bau Bau**	**6.92**	**211**	P		P	**Pn**	**16 44 51.8**	**+3.0**
	309nm,1.1s,3µm1.0nm								
FAKI	**Fak Fak**	**6.96**	**119**	P		P	Pn	16 44 56.1	+6.8
FAKI	**Fak Fak**	**6.96**	**119**	⇓P		P	**Pn**	**16 44 49.9**	**+0.6**
	baz=7.0,SNR=36								
CTBH	**Cotabato--PC H**	**6.97**	**344**	⇑*e*P		P	**Pn**	**16 44 50.3**	**+0.8**
BNSI	**Bone**	**7.74**	**231**	P		P	**Pn**	**16 45 01.6**	**+1.5**
	257nm,1.1s,3µm0.7nm								
SPSI	**Sidrap Palu**	**7.76**	**235**	P		P	**Pn**	**16 45 01.8**	**+1.5**
	184nm,0.8s,2µm0.7nm								
MMSI	**Mamuju**	**7.90**	**247**	P		P	**Pn**	**16 45 02.9**	**+0.7**
	65nm,0.8s,562nm0.2nm								
MJSI	**Majene**	**8.21**	**241**	P		P	Pn	16 45 12.9	+6.4
BKSI	**Bulukumba**	**8.33**	**226**	P		P	**Pn**	**16 45 10.5**	**+2.3**
	96nm,1.1s,1µm								
KAPI	**Kappang**	**8.40**	**230**	P		P	**Pn**	**16 45 11.2**	**+2.0**
	606nm,1.1s,7µm								
KAPI	**Kappang**	**8.40**	**230**	*e*Pn		P	**Pn**	**16 45 11.0**	**+1.9**
KAPI						Sn	**Sn**	**16 46 42.8**	**+0.1**
KAPI	**Kappang**	**8.40**	**230**	Pn		Pn	**Pn**	**16 45 11.6**	**+2.4**
	691nm,1.3s,SNR=36								
KAPI	**Kappang**	**8.40**	**230**	Pn		Pn	**Pn**	**16 45 11.1**	**+1.9**
	27nm,0.3s,baz=81,slow=2.9,SNR=46								
KAPI						Sn	**Sn**	**16 46 42.8**	**+0.1**
	4.8nm,0.3s,baz=72,slow=20,SNR=3.0								
TLE	**Tual**	**8.94**	**133**	⇓P		P	**Pn**	**16 45 18.9**	**+2.4**
	baz=8.9,SNR=8.4								
TSM	**Tawau**	**9.11**	**295**	P		P	**Pn**	**16 45 19.0**	**+0.2**
BAKI	**Biak**	**10.08**	**99**	P		P	Pn	16 45 38.9	+6.7
SDKM	**Sandakan**	**10.32**	**300**	P		P	**Pn**	**16 45 36.2**	**+0.7**
SRPI	**Serui, Papua**	**10.34**	**103**	P		P	Pn	16 45 48.7	+13
KDM	**Kudat**	**11.29**	**305**	P		P	**Pn**	**16 45 49.6**	**+0.9**
MTKI	**Muara Teweh, K**	**11.35**	**263**	P		P	**Pn**	**16 45 51.0**	**+1.5**
	43nm,1.0s								
KKM	**Kota Kinabalu**	**11.37**	**299**	P		P	**Pn**	**16 45 51.0**	**+1.1**
KKM	**Kota Kinabalu**	**11.37**	**299**

baz=23,SNR=4.8
XMIS Christmas Isla 23.12 241 *e*P P 16 48 09.9 -2.4
comp=Z,360nm,0.8s
XMIS Christmas Isla 23.12 241 ⇓P P 16 48 11.2 -1.1
baz=23,SNR=3.6
TPUB Ta-pu 23.32 347 *e*P P 16 48 10.7 -3.5
SSLB Suanglung 23.73 348 *e*P P 16 48 15.4 -2.7
comp=Z,27nm,0.8s
QIZ Qiongzhong 24.42 320 P P 16 48 25.3 +0.8
QIZ pP **pP** 16 48 36.4 +0.1
QIZ sP **sP** 16 48 41.3 -0.3
QIZ S **S** 16 52 43.6 +2.0
QIZ pmax pmax
comp=Z,20nm,1.0s
QIZ pmax pmax
comp=Z,150nm,4.7s
QIZ LR LR
comp=Z,370nm,14.2s
QIZ LR LR
comp=Z,630nm,25.5s
FRIM Kepong 24.67 277 P P 16 48 24.9 -2.0
AS31 Alice Springs 25.14 163 *e*P P 16 48 31.1 +0.1
AS31 *ep*P **pP** 16 48 41.4 -1.3
AS31 *es*P **sP** 16 48 47.7 -0.4
ASAR Alice Springs 25.14 163 P P 16 48 30.8 -0.3
ASAR PcP **PcP** 16 52 04.7 +0.2
ASAR S **S** 16 52 58.9 +5.8
ASAR ScP **ScP** 16 55 42.5 +2.3
ASAR Alice Springs 25.14 163 P P 16 48 30.8 -0.3
comp=Z,28nm,0.5s,baz=347,slow=12,SNR=358
ASAR PcP **PcP** 16 52 04.7 +0.2
comp=Z,4.2nm,0.6s,baz=347,slow=2.3,SNR=7.1
ASAR S **S** 16 52 58.9 +5.8
comp=Z,5.3nm,0.9s,baz=347,slow=20,SNR=8.8
ASAR ScP **ScP** 16 55 42.5 +2.3
comp=Z,1.2nm,0.7s,baz=357,slow=2.5,SNR=6.0
QZH Quanzhou 25.41 344 ⇓*i*P P 16 48 34.6 +1.2
QZH S **S** 16 52 59.4 +2.2
QZH LR LR
comp=Z,1μm,21.0s
IPM Ipoh 25.42 279 P P 16 48 33.2 -0.5
IPM Ipoh 25.42 279 P P 16 48 32.4 -1.2
comp=Z,64nm,0.9s
IPM Ipoh 25.42 279 *e*P P 16 48 32.5 -1.2
comp=Z,46nm,0.9s
PPI Padang Panjang 25.78 268 P P 16 48 37.5 +0.6
comp=Z,73nm,1.0s,comp=Z,578nm
KULM Kulim 25.92 281 P P 16 48 35.3 -2.9
KULM Kulim 25.92 281 *e*P P 16 48 37.0 -1.2
comp=Z,127nm,2.1s
JOW Kunigami 26.29 4 *e*P P 16 48 39.9 -1.5
comp=Z,41nm,1.0s
RABL Rabaul 26.39 100 ⇑P P 16 48 44.6 +2.2
baz=26,SNR=5.1
CHBT CHBT 26.59 298 P P 16 48 43.7 -0.5
comp=Z,84nm,0.8s,comp=Z,970nm
PSI Prapat 27.32 275 P P 16 48 49.0 -2.0
comp=Z,40nm,1.1s,comp=Z,488nm
PSI Prapat 27.32 275 P P 16 48 49.2 -1.7
PSI Prapat 27.32 275 P P 16 48 49.2 -1.7
comp=Z,29nm,1.1s,baz=116,slow=3.4,SNR=14
PSI Prapat 27.32 275 ⇑P P 16 48 49.2 -1.7
baz=27,SNR=14
MEEK Meekatharra 27.91 195 ⇓P P 16 48 55.7 -0.3
baz=28,SNR=15
CTA Charters Tower 28.37 137 P P 16 49 00.6 +0.5
CTA Charters Tower 28.37 137 P P 16 49 00.6 +0.5
comp=Z,11nm,0.8s,baz=331,slow=11,SNR=9.7
CTAO Charters Tower 28.37 137 *e*P P 16 48 58.6 -1.5
CTAO pmax pmax
comp=Z,17nm,0.9s
CTAO Charters Tower 28.37 137 *e*P P 16 48 58.6 -1.5
comp=Z,17nm,0.9s
KCSI Kotacane, Aceh 28.53 276 P P 16 48 58.9 -2.7
comp=Z,26nm,1.4s
SRDT SRDT 30.09 299 P P 16 49 15.2 -0.2
comp=Z,90nm,0.8s,comp=Z,2μm
KHLT Khaolaem Dam 30.75 299 P P 16 49 20.9 -0.3
comp=Z,19nm,0.8s
SSE Sheshan 30.82 352 *e*P P 16 49 20.8 -0.9
SSE pP **pP** 16 49 31.9 -1.6
SSE sP **sP** 16 49 36.8 -2.0
SSE S **S** 16 54 22.8 +0.5
SSE sS **sS** 16 54 43.0 +0.8
SSE pmax pmax
comp=Z,28nm,0.8s
SSE pmax pmax
comp=Z,120nm,6.8s
SSE LR LR
comp=Z,370nm,26.0s
SSE LR LR
comp=Z,190nm,26.1s
SSE LR LR
comp=Z,520nm,23.6s
MORW Morawa 30.92 197 ⇓P P 16 49 22.5 -0.1
baz=31,SNR=5.6
FORT Forrest 31.13 177 *e*P P 16 49 23.7 -0.7
comp=Z,61nm,0.7s
FORT Forrest 31.13 177 ⇓P P 16 49 24.5 +0.1
baz=31,SNR=9.2
LAMP Lampang 31.63 306 P P 16 49 29.2 +0.2
comp=Z,51nm,1.1s
KMBL Kambalda 31.92 187 ⇑P P 16 49 31.4 0.0
baz=32,SNR=12
GYA Guiyang 31.94 326 P P 16 49 33.2 +1.5
GYA pP **pP** 16 49 43.6 0.0
GYA sP **sP** 16 49 51.0 +2.1
GYA PP **PnPn** 16 50 40.5 +2.6
GYA PcP **PcP** 16 52 21.3 -0.1
GYA S **S** 16 54 41.9 +1.7
GYA sS **sS** 16 55 01.4 +1.3
GYA ScP **ScP** 16 56 00.2 -1.3
GYA ScS **ScS** 16 59 57.8 -2.5
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,760nm,17.8s
GYA LR LR
comp=Z,590nm,18.0s
GYA LR LR
comp=Z,620nm,17.6s
WHN Wuhan 31.95 341 P P 16 49 35.8 +4.2
WHN S **S** 16 54 40.7 +0.8
WHN LR LR
comp=Z,1μm,22.2s
CRAI Chiangrai 31.97 310 P P 16 49 31.4 -0.6
comp=Z,268nm,0.9s
QLP Quilpie 32.04 148 ⇑P P 16 49 32.6 +0.2
baz=32,SNR=5.8
CM31 Chiang Mai Arr 32.15 305 *e*P P 16 49 32.3 -1.3
comp=Z,28nm,1.4s
CMAR Chiang Mai Arr 32.15 305 P P 16 49 32.5 -1.1
CMAR PcP **PcP** 16 52 23.9 +1.9
CMAR Chiang Mai Arr 32.15 305 P P 16 49 32.5 -1.1
comp=Z,4.8nm,0.8s,baz=138,slow=8.0,SNR=48
CMAR PcP **PcP** 16 52 23.9 +1.9
comp=Z,5.8nm,1.0s,baz=157,slow=1.9,SNR=14
CMAR LR LR 17 02 06.7
comp=Z,173nm,20.3s,baz=289,slow=36
NJ2 Nanjing 32.16 348 *e*P P 16 49 34.3 +0.8
NJ2 pP **pP** 16 49 45.0 -0.3
NJ2 sP **sP** 16 49 49.2 -1.4
NJ2 S **S** 16 54 46.0 +2.7
NJ2 sS **sS** 16 55 06.0 +2.9
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
NJ2 LR LR
comp=Z,380nm,20.8s
NJ2 LR LR
comp=Z,230nm,17.7s
NJ2 LR LR
comp=Z,210nm,20.9s
BLDU Balliduu 32.19 195 ⇓P P 16 49 33.5 -0.3
baz=32,SNR=7.3
CMMT Chiang Mai 32.33 306 P P 16 49 34.3 -0.9
comp=Z,17nm,1.0s
CHTO Chiang Mai 32.34 306 *e*P P 16 49 34.0 -1.2
CHTO pmax pmax
comp=Z,16nm,1.7s
CHTO Chiang Mai 32.34 306 *e*P P 16 49 34.0 -1.2
comp=Z,16nm,1.7s
CHTO Chiang Mai 32.34 306 P P 16 49 34.3 -0.9
comp=Z,79nm,1.3s
JNU Nakatsue 32.78 7 P P 16 49 39.2 +0.3
JNU Nakatsue 32.78 7 P P 16 49 39.2 +0.3
comp=Z,13nm,0.9s,baz=117,slow=6.8,SNR=6.3
CMAI Chiengmai2 32.84 308 P P 16 49 38.8 -1.0
comp=Z,18nm,1.5s
MHMT Maesarieng 32.85 304 P P 16 49 38.6 -1.1
comp=Z,15nm,1.2s
KLBR Kellerberrin 32.87 193 ⇑P P 16 49 39.6 0.0
baz=33,SNR=4.2
KMI Kunming 33.36 319 P P 16 49 45.2 +0.8
KMI pP **pP** 16 49 57.0 +0.8
KMI sP **sP** 16 50 01.9 +0.4
KMI PP **PP** 16 50 59.8 -0.6
KMI S **S** 16 55 04.6 +2.0
KMI sS **sS** 16 55 24.5 +2.0
KMI pmax pmax
comp=Z,9.0nm,1.5s
KMI pmax pmax
comp=Z,120nm,3.5s
KMI LR LR
comp=Z,280nm,16.0s
KMI LR LR
comp=Z,300nm,16.0s
KMI LR LR
comp=Z,470nm,20.1s
ENH Enshi 33.61 333 *e*P P 16 49 44.6 -1.7
comp=Z,15nm,0.8s
ENH *ep*P **pP** 16 49 57.0 -1.1
BBOO Buckleboo 34.39 165 *e*P P 16 49 51.7 -1.2
comp=Z,674nm,1.1s
BBOO Buckleboo 34.39 165 ⇑P P 16 49 52.9 0.0
baz=34,SNR=56
RMQ Roma 34.53 143 ⇑P P 16 49 54.7 +0.5
baz=35,SNR=6.1
EIDS Eidsvold 35.22 139 *e*P P 16 49 58.7 -1.5
comp=Z,19nm,1.0s
EIDS Eidsvold 35.22 139 ⇑P P 16 50 00.4 +0.2
baz=35,SNR=7.0
STKA Stephens Creek 35.33 157 P P 16 50 01.2 +0.1
comp=Z,70nm,0.8s
STKA PcP **PcP** 16 52 31.3 +0.5
STKA S **S** 16 55 33.1 +0.7
STKA Stephens Creek 35.33 157 P P 16 50 01.2 +0.1
comp=Z,17nm,0.4s,baz=329,slow=8.2,SNR=75
STKA PcP **PcP** 16 52 31.3 +0.5
comp=Z,4.3nm,0.7s,baz=5.1,slow=3.3,SNR=3.2
STKA S **S** 16 55 33.1 +0.7
comp=Z,4.9nm,0.7s,baz=158,slow=13,SNR=9.0
STKA Stephens Creek 35.33 157 ⇓P P 16 50 01.4 +0.3
baz=35,SNR=54
HTT Hallett 35.80 162 ⇓P P 16 50 05.4 +0.4
baz=36,SNR=19
RKGY Rocky Gully 35.94 193 ⇓P P 16 50 07.9 +1.7
baz=36,SNR=5.0
CMSA Cobar Meteorol 36.83 152 ⇑P P 16 50 14.4 +0.6
baz=37,SNR=19
KSAR Wonju Array Be 36.83 2 P P 16 50 14.8 +1.0
KSAR PcP **PcP** 16 52 36.5 +1.4
KSRS Korea Array 36.84 2 P P 16 50 14.8 +0.9
comp=Z,8.2nm,0.7s,baz=180,slow=9.9,SNR=43
KSRS PcP **PcP** 16 52 36.5 +1.4
comp=Z,3.5nm,0.9s,baz=194,slow=4.8,SNR=5.3
CD2 Chengdu 36.99 327 *e*P P 16 50 15.8 +0.5
CD2 pP **pP** 16 50 27.2 -0.1
CD2 sP **sP** 16 50 32.3 -0.2
CD2 PcP **PcP** 16 52 35.7 -0.1
CD2 S **S** 16 55 58.7 +0.8
CD2 PcS **PcS** 16 56 23.2 -0.9
CD2 ScS **ScS** 17 00 24.2 -2.7
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,190nm,7.2s
CD2 LR LR
comp=Z,350nm,21.4s
CD2 LR LR
comp=Z,470nm,22.6s
CD2 LR LR
comp=Z,600nm,20.2s
XAN Xi'an 37.10 336 P P 16 50 14.7 -1.5
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,24nm,5.2s
MAJO Matsushiro 37.59 16 *e*P P 16 50 18.4 -1.9
MAJO pmax pmax
comp=Z,25nm,0.7s
MAJO Matsushiro 37.59 16 *e*P P 16 50 18.4 -1.9
comp=Z,24nm,0.7s
MAT Matsushiro 37.59 16 P P 16 50 19.6 -0.7
MAT S **S** 16 56 07.4 +0.6
MJAR Matsushiro Arr 37.59 16 P P 16 50 19.9 -0.4
MJAR Matsushiro Arr 37.59 16 P P 16 50 19.9 -0.4
comp=Z,9.3nm,0.5s,baz=187,slow=9.4,SNR=23
MJAR LR LR 17 02 46.6
comp=Z,174nm,21.2s,baz=185,slow=31
ARMA Armidale 39.12 144 *e*P P 16 50 32.3 -1.1
comp=Z,50nm,1.1s
ARMA Armidale 39.12 144 ⇑P P 16 50 34.5 +1.2
baz=39,SNR=14
ARPS Mount Arapiles 39.80 160 ⇑P P 16 50 39.2 +0.5
baz=40,SNR=29
BJI Beijing 40.42 348 P P 16 50 43.3 -0.6
BJI S **S** 16 56 51.6 +2.4
BJI SS **SnSn** 16 59 54.6 -2.0
BJI pmax pmax
comp=Z,24nm,0.6s
BJI pmax pmax
comp=Z,180nm,6.2s
BJI LR LR
comp=Z,340nm,25.3s
BJI LR LR
comp=Z,400nm,25.1s
BJI LR LR
comp=Z,250nm,30.0s
LZH Lanzhou 41.06 332 *e*P P 16 50 48.9 -0.5
LZH pP **pP** 16 50 59.8 -1.7
LZH sP **sP** 16 51 05.1 -1.6
LZH PP **PnPn** 16 52 28.1 -1.3
LZH PcP **PcP** 16 52 49.4 +0.8
LZH *e*S **S** 16 56 59.6 +0.4
LZH pmax pmax
comp=Z,50nm,1.2s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,480nm,15.2s
LZH LR LR
comp=Z,520nm,16.8s
LZH LR LR
comp=Z,540nm,17.0s
CAN Canberra 41.50 151 *e*P P 16 50 52.0 -0.9
CAN *e**PP **pP** 16 51 03.2 -1.9
CAN *e**SP **sP** 16 51 08.2 -2.1
CAN pmax pmax
comp=Z,13nm,0.8s
CAN Canberra 41.50 151 *e*P P 16 50 52.0 -0.9
comp=Z,13nm,0.8s
CAN *ep*P **pP** 16 51 03.1 -1.9
CAN *es*P **sP** 16 51 08.2 -2.1
CNB Canberra Magne 41.67 151 ⇓P P 16 50 55.7 +1.4
baz=42,SNR=5.2
TOO Toolangi 41.86 157 ⇑P P 16 50 56.6 +0.8
baz=42,SNR=6.0
HHC Hu-ho-hao-te 42.32 344 *e*P P 16 51 01.2 +1.6
HHC pP **pP** 16 51 11.9 +0.2
HHC sP **sP** 16 51 17.3 +0.4
HHC PP **PP** 16 52 41.5 +3.2
HHC PcS **PcS** 16 56 43.4 -1.2
HHC S **S** 16 57 19.8 +2.2
HHC sS **sS** 16 57 39.0 +1.1
HHC ScS **ScS** 17 00 54.9 -3.1
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,540nm,5.2s
HHC LR LR
comp=Z,560nm,17.1s
HHC LR LR
comp=Z,420nm,16.5s
HHC LR LR
comp=Z,570nm,18.8s
VLA Vladivostok 42.77 6 P P 16 51 00.0 -3.0
VLA pmax pmax
comp=Z,63nm,1.4s
CN2 Changchun 43.15 359 *e*P P 16 51 06.4 +0.3
CN2 *ep*P **pP** 16 51 18.7 +0.4
CN2 *e*S **S** 16 57 30.8 +1.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
USRK Ussuriysk Arra 43.85 6 P P 16 51 13.1 +1.3
comp=Z,21nm,0.7s,baz=186,slow=6.2,SNR=43
MDJ Mudanjiang 44.06 4 P P 16 51 14.7 +1.3
MDJ pP **pP** 16 51 26.7 +1.0
MDJ sP **sP** 16 51 31.1 +0.2
MDJ PcP **PP** 16 52 55.0 -1.8
MDJ S **S** 16 57 46.4 +3.6
MDJ sS sS 16 58 09.2 +6.0
MDJ pmax pmax
comp=Z,35nm,1.0s
MDJ pmax pmax
comp=Z,900nm,6.1s
MDJ LR LR
comp=Z,93nm,25.6s
MDJ LR LR
comp=Z,100nm,23.1s
MDJ LR LR
comp=Z,140nm,25.6s
MDJ Mudanjiang 44.06 4 *e*P P 16 51 12.8 -0.6
comp=Z,34nm,0.9s
LSA Lhasa 44.23 314 *e*P P 16 51 13.6 -2.0
LSA pmax pmax
comp=Z,21nm,0.7s
LSA Lhasa 44.23 314 *e*P P 16 51 13.6 -2.0
comp=Z,21nm,0.7s
DZM Mont Dzumac 45.21 122 *e*LR LR 17 04 06.3
comp=Z,432nm,24.8s
DZM Mont Dzumac 45.21 122 P P 16 51 24.5 +1.4
DZM Mont Dzumac 45.21 122 P P 16 51 24.5 +1.4
comp=Z,15nm,0.9s,baz=279,slow=12,SNR=4.4
TAPN Taplejung 45.55 309 *e*P P 16 51 24.1 -1.9
comp=Z,20nm,0.5s
TAPN Taplejung 45.55 309 *e*P P 16 51 24.1 -1.9
ODAN Odare 45.56 308 *e*P P 16 51 24.2 -1.8
comp=Z,34nm,0.6s
ODAN Odare 45.56 308 *e*P P 16 51 24.2 -1.8
GTA Gaotai 45.63 331 *e*P P 16 51 25.6 -0.6
GTA pP **pP** 16 51 37.9 -0.5
GTA sP **sP** 16 51 43.3 -0.3
GTA S **S** 16 58 05.8 -0.1
GTA sS **sS** 16 58 27.0 +0.7
GTA pmax pmax
comp=Z,14nm,0.9s
GTA pmax pmax
comp=Z,310nm,5.2s
GTA LR LR
comp=Z,270nm,12.4s
GTA LR LR
comp=Z,360nm,12.1s
GTA LR LR
comp=Z,390nm,16.6s
ASAJ Asahikawa 45.86 16 P P 16 51 28.9 +1.2
ASAJ Asahikawa 45.86 16 P P 16 51 28.9 +1.2
comp=Z,29nm,0.8s,baz=262,slow=16,SNR=23
RAMN Ramite 46.23 308 *e*P P 16 51 29.7 -1.5
comp=Z,48nm,0.6s
RAMN Ramite 46.23 308 *e*P P 16 51 29.7 -1.5
JIRN Jiri 46.88 309 *e*P P 16 51 34.9 -1.6
comp=Z,22nm,0.6s
JIRN Jiri 46.88 309 *e*P P 16 51 34.9 -1.6
GUN Gumba 47.24 309 *e*P P 16 51 37.9 -1.4
comp=Z,46nm,0.6s
GUN Gumba 47.24 309 *e*P P 16 51 37.9 -1.4
PKI Pulchoki 47.45 308 *e*P P 16 51 38.8 -2.1
comp=Z,24nm,0.8s
PKI Pulchoki 47.45 308 *e*P P 16 51 38.8 -2.1
PKI Pulchoki 47.45 308 *e*P P 16 51 38.8 -2.1
PKIN Phulchoki 47.47 308 *e*P P 16 51 38.7 -2.2
comp=Z,15nm,0.6s
KKN Kakani 47.66 308 *e*P P 16 51 40.5 -1.9
comp=Z,22nm,0.8s
KKN Kakani 47.66 308 *e*P P 16 51 40.5 -1.9
KKN Kakani 47.66 308 *e*P P 16 51 40.5 -1.9
DMN Daman 47.71 308 *e*P P 16 51 40.9 -1.9
comp=Z,32nm,0.9s
DMN Daman 47.71 308 *e*P P 16 51 40.9 -1.9
GKN Gorkha 48.26 308 *e*P P 16 51 45.3 -1.6
comp=Z,11nm,0.4s
HABR Khabarovsk 48.43 8 *e*P P 16 51 45.3 -2.4
HABR *e**PP **pP** 16 51 55.2 -4.8
HABR *e* 16 51 59.2
HABR *e* 16 53 38.1
HABR S **S** 16 58 44.0 -1.3
HABR *e* 16 59 01.0
HABR *e*SS **SS** 17 02 15.4 -0.2
HABR *e*SSS SSS 17 03 27.5
HABR pmax pmax
comp=Z,122nm,1.9s
HABR MLR MLR
comp=Z,267nm,20.0s
YSS Yuzh-Sakhalins 48.52 15 *e*P P 16 51 49.1 +0.7
YSS pmax pmax
comp=Z,30nm,1.3s
HIA Hailar 48.92 354 *e*P P 16 51 49.7 -1.9
comp=Z,52nm,1.3s
KOLN Koldanda 48.97 307 *e*P P 16 51 51.0 -1.5
comp=Z,47nm,0.7s
KOLN Koldanda 48.97 307 *e*P P 16 51 51.0 -1.5
DANN Dangsing 49.10 308 *e*P P 16 51 51.8 -1.8
comp=Z,46nm,0.6s
DANN Dangsing 49.10 308 *e*P P 16 51 51.8 -1.8
PYUN Piuthan 49.60 307 *e*P P 16 51 55.9 -1.4
comp=Z,94nm,0.7s
PYUN Piuthan 49.60 307 *e*P P 16 51 55.9 -1.4
HYB Hyderabad 49.75 293 *i*P P 16 51 57.0 -1.4
ULN Ulaanbaatar 50.04 343 *e*P P 16 51 59.5 -0.7
comp=Z,16nm,0.9s
SONM Songino Array 50.21 343 P P 16 52 01.2 -0.3
SONM PcP **PcP** 16 53 21.3 +1.1
SONM Songino Array 50.21 343 P P 16 52 01.2 -0.3
comp=Z,8.6nm,0.7s,baz=154,slow=8.9,SNR=63
SONM PcP **PcP** 16 53 21.3 +1.1
comp=Z,4.1nm,0.8s,baz=165,slow=3.4,SNR=5.2
SONM LR LR 17 15 26.0
comp=Z,179nm,19.1s,baz=1.2,slow=39
CIT Chita 52.45 350 *e*P P 16 52 19.1 +1.0
CIT *e* 16 52 29.1
ZAK Zakamensk 53.41 342 *e*P P 16 52 24.9 -0.4
ZAK *e* 16 53 32.9
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 54.45 343 *e*P P 16 52 34.0 +1.3
TLY *e* 16 53 30.5
TLY *e* 16 54 37.0
TLY *e*S S 16 59 57.9 -10
TLY pmax pmax
comp=Z,15nm,0.9s
TLY MLR MLR
comp=Z,293nm,26.0s
IRK Irkutsk 54.77 344 *e*P P 16 52 34.5 -0.5
IRK pmax pmax
comp=Z,43nm,2.2s
WMQ Urumqi 55.09 327 P P 16 52 37.0 -0.6
WMQ pP **pP** 16 52 50.0 -0.1
WMQ sP **sP** 16 52 56.0 +0.8
WMQ PcP **PcP** 16 53 37.0 -1.6
WMQ PP **PP** 16 54 42.0 +0.8
WMQ ScP **ScP** 16 57 32.0 -1.9
WMQ S **S** 17 00 15.0 -2.2
WMQ ScS **ScS** 17 02 19.0 -4.3
WMQ pmax pmax
comp=Z,24nm,1.0s
WMQ pmax pmax
comp=Z,180nm,6.0s
WMQ LR LR
comp=Z,240nm,18.0s
WMQ LR LR
comp=Z,220nm,18.0s
WMQ LR LR
comp=Z,270nm,18.0s
MOY Mondy 55.25 341 *e*P P 16 52 38.1 -0.5
CLNS Chul'man 56.20 359 *e*P P 16 52 45.2 -0.1
CLNS pmax pmax
comp=Z,19nm,1.1s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS pmax pmax
comp=N,10.0nm,0.8s
PETK Petropavlovsk- 58.65 22 P P 16 53 04.0 +1.5
PETK Petropavlovsk- 58.65 22 P P 16 53 04.0 +1.5

PETK Petropavlovsk- 58.65 22 P **P** **16 53 04.0 +1.5**
comp=N,8.2nm,0.6s,baz=171,slow=4.3,SNR=29
MK31 Makanchi Array 59.92 327 *e*P **P** **16 53 10.6 -0.9**
MK31 *e**PP **pP** **16 53 23.6 -0.6**
MK31 *e* 16 53 57.7
MK31 Makanchi Array 59.92 327 *e*P **P** **16 53 10.6 -0.9**
MK31 *ep*P **pP** **16 53 23.6 -0.6**
MK31 *e*PcP **PcP** **16 53 57.7 +0.3**
MKAR Makanchi Array 59.92 327 *e*P **P** **16 53 10.6 -0.9**
MKAR 16 53 57.3
MKAR Makanchi Array 59.92 327 *e*P **P** **16 53 10.6 -0.9**
MKAR PcP **PcP** **16 53 57.3 -0.1**
MKAR Makanchi Array 59.92 327 P **P** **16 53 10.6 -0.9**
comp=N,14nm,0.6s,baz=121,slow=7.1,SNR=118
MKAR PcP **PcP** **16 53 57.3 -0.1**
comp=N,6.1nm,0.6s,baz=123,slow=4.5,SNR=5.4
MKAR LR LR 17 19 22.1
comp=N,270nm,20.9s,baz=128,slow=36
KSH Kashi 59.97 317 P **P** **16 53 12.4 +0.3**
KSH pP **pP** **16 53 24.2 -0.6**
KSH sP **sP** **16 53 30.1 +0.2**
KSH PP **PP** **16 55 28.1 +3.3**
KSH ScP **ScP** **16 57 55.0 -0.6**
KSH PcS **PcS** **16 58 00.5 +0.1**
KSH S **S** **17 01 17.8 -3.8**
KSH sS **sS** **17 01 45.3 +2.6**
KSH ScS **ScS** **17 02 58.1 -1.2**
KSH pmax pmax
comp=N,6.0nm,0.6s
KSH pmax pmax
comp=N,140nm,5.1s
KSH LR LR
comp=N,160nm,5.4s
KSH LR LR
comp=N,140nm,4.4s
KSH LR LR
comp=N,250nm,5.7s
BKZ Black Stump Fm 60.59 137 *e*P **P** **16 53 16.1 -0.2**
comp=N,216nm,2.8s
URZ Urewera 60.60 135 P **P** **16 53 16.0 -0.2**
URZ Urewera 60.60 135 P **P** **16 53 16.0 -0.2**
comp=N,6.8nm,0.6s,baz=27,slow=2.3,SNR=5.7
YAK Yakutsk 61.46 2 *e*P **P** **16 53 22.1 +0.5**
YAK *e*S **S** **17 01 43.0 +3.5**
YAK *e* 17 03 08.0
YAK pmax pmax
comp=Z,40nm,0.9s
YAK Yakutsk 61.46 2 *e*P **P** **16 53 22.3 +0.7**
TKM2 Tokmak 2 61.83 320 *e*P **P** **16 53 24.3 -0.5**
TKM2 pmax pmax
comp=Z,26nm,1.4s
TKM2 Tokmak 2 61.83 320 P **P** **16 53 23.8 -0.9**
SNR=10
TKM2 Tokmak 2 61.83 320 *e*P **P** **16 53 24.3 -0.5**
comp=Z,26nm,1.4s
KBK Karagaybulak 62.12 319 P **P** **16 53 26.2 -0.5**
SNR=8.5
UCH Uchtor 62.21 319 *i*P **P** **16 53 27.6 0.0**
UCH Uchtor 62.21 319 P **P** **16 53 27.6 0.0**
SNR=12
AAK Ala-Archa 62.41 319 *e*P **P** **16 53 28.8 +0.2**
AAK pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 62.41 319 *e*P **P** **16 53 26.9 -1.7**
AAK Ala-Archa 62.41 319 P **P** **16 53 28.9 +0.3**
comp=Z,66nm,0.8s,SNR=5.3
USP Ospenovka 62.70 320 *i*P **P** **16 53 29.9 -0.5**
USP Ospenovka 62.70 320 P **P** **16 53 29.9 -0.5**
SNR=13
AML Almayashu 62.70 318 *i*P **P** **16 53 30.7 -0.2**
AML Almayashu 62.70 318 P **P** **16 53 30.7 -0.2**
SNR=14
EKS2 Erkin-Say 62.89 319 *e*P **P** **16 53 31.5 -0.2**
EKS2 pmax pmax
comp=Z,28nm,1.3s
EKS2 Erkin-Say 62.89 319 P **P** **16 53 31.7 -0.1**
SNR=12
EKS2 Erkin-Say 62.89 319 *e*P **P** **16 53 31.5 -0.2**
comp=Z,26nm,1.3s
KBL Kabul 63.08 309 *e*P **P** **16 53 31.7 -1.6**
KBL pmax pmax
comp=Z,24nm,1.2s
KBL Kabul 63.08 309 *e*P **P** **16 53 31.7 -1.6**
comp=Z,24nm,1.2s
KBL Kabul 63.08 309 ⇓P **P** **16 53 33.2 -0.1**
baz=63,SNR=6.0
ZAA0 Zalesovo Array 63.24 334 *e*P **P** **16 53 31.4 -2.3**
ZAA0 *ep*P **pP** **16 53 44.5 -1.8**
ZAA0 *e*PcP **PcP** **16 54 09.9 -0.8**
ZALV Zalesovo Beam 63.24 334 *i*P **P** **16 53 32.5 -1.1**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 63.24 334 P **P** **16 53 32.5 -1.1**
ZALV Zalesovo Beam 63.24 334 P **P** **16 53 32.5 -1.1**
comp=Z,7.8nm,0.8s,baz=140,slow=5.4,SNR=21
ZALV LR LR 17 22 38.1
comp=Z,106nm,19.3s,baz=70,slow=38
KURK Kurchatov 64.19 329 P **P** **16 53 38.5 -1.5**
KURK pmax pmax
comp=Z,18nm,0.6s
KURK Kurchatov 64.19 329 *e*P **P** **16 53 39.2 -0.8**
KURK Kurchatov 64.19 329 P **P** **16 53 39.1 -0.8**
comp=Z,457nm,0.5s,SNR=37
NVS Novosibirsk 64.52 334⇑ *i*P **P** **16 53 40.0 -2.1**
NVS *e*S **S** **17 02 13.6 -4.4**
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.8s
NVS pmax pmax
comp=Z,19nm,0.8s
NVS smax smax
comp=N,12nm,2.2s
NVS smax smax
comp=E,18nm,2.1s
KK31 Karatay Array 65.24 318 *i*P **P** **16 53 45.6 -1.5**
KK31 pmax pmax
comp=Z,22nm,1.1s
KKAR Karatay Array 65.24 318 *e*P **P** **16 53 46.0 -1.1**
KKAR Karatay Array 65.24 318 *e*P **P** **16 53 46.0 -1.1**
BVA0 Borovoye Array 69.74 328 P **P** **16 54 14.5 -0.8**
BVA0 pmax pmax
comp=Z,61nm,1.4s
BVAR Borovoye Array 69.74 328 LR LR 17 25 27.2
comp=Z,144nm,20.4s,baz=311,slow=36
BRVK Borovoye 69.81 328 *e*P **P** **16 54 15.3 -0.5**
BRVK pmax pmax
comp=Z,34nm,1.1s
BRVK Borovoye 69.81 328 *e*P **P** **16 54 15.2 -0.5**
comp=Z,37nm,1.1s
BRVK Borovoye 69.81 328 P **P** **16 54 15.2 -0.5**
comp=Z,193nm,1.1s,SNR=22
TIXI Tiksi 71.09 1 *e*P **P** **16 54 23.1 0.0**
TIXI pmax pmax
comp=Z,23nm,1.2s
TIXI MLR MLR
comp=Z,199nm,23.0s
TIXI Tiksi 71.09 1 *e*P **P** **16 54 23.3 +0.2**
AB31 Akbulak array 74.31 321 P **P** **16 54 41.8 -0.9**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 74.31 321 *e*P **P** **16 54 42.3 -0.4**
AKTO Aktyubinsk 75.86 322 LR LR 17 29 43.4
comp=Z,124nm,18.0s,baz=289,slow=37
SVE Sverdlovsk 76.44 329 *d*P **P** **16 54 54.8 +0.1**
SVE pmax pmax
comp=Z,66nm,0.9s
ARU Arti 77.38 328 P **P** **16 54 59.1 -1.0**
comp=Z,252nm,0.8s,SNR=21
ARU Arti 77.38 328 *c*P **P** **16 54 59.5 -0.6**
ARU 16 57 50.1
ARU S **S** **17 04 47.2 0.0**
ARU pmax pmax
comp=Z,57nm,1.2s
ARU Arti 77.38 328 *e*P **P** **16 54 59.2 -0.8**
SOKR Solikamsk 79.27 331⇑ *i*P **P** **16 55 10.3 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.7s
VNDA Vanda 80.28 173 *e*P **P** **16 55 16.3 +0.7**
VNDA Vanda 80.28 173 P **P** **16 55 15.9 +0.3**
comp=Z,11nm,0.9s,baz=319,slow=5.2,SNR=23
VNDA LR LR 17 31 33.6
comp=Z,100nm,18.3s,baz=350,slow=36
MAW Mawson 80.52 200 *e*P **P** **16 55 16.0 -1.0**
comp=Z,2.3nm,1.1s
MAW *ep*P **pP** **16 55 29.1 -1.0**
MAW Mawson 80.52 200 P **P** **16 55 17.6 +0.7**
comp=Z,8.7nm,1.1s,baz=36,slow=4.4,SNR=7.9
MAW LR LR 17 30 41.8
comp=Z,51nm,18.2s,baz=227,slow=36
MAW Mawson 80.52 200 ⇓P **P** **16 55 17.9 +0.9**
baz=80,SNR=5.7
RAYN Ar Rayn 81.24 294 P **P** **16 55 21.6 -0.3**
comp=Z,132nm,0.8s,SNR=17
DGRG David-gareji 82.78 312 P **P** **16 55 31.0 +1.4**
SEAG Tbilisi Sea 83.23 312 P **P** **16 55 34.6 +2.6**
TBLG Delisi 83.28 312 P **P** **16 55 32.4 +0.2**
DUS Dusheti 83.34 312 P **P** **16 55 34.5 +2.0**
GUDG Gudauri 83.54 313 P **P** **16 55 34.7 +1.0**
ZEI Tsey 83.99 313 *e*P **P** **16 55 36.1 +0.1**
ZEI pmax pmax
comp=Z,29nm,0.6s
AKH Akhalkalaki 84.18 311 P **P** **16 55 38.0 +1.0**
ONI Oni 84.31 313 P **P** **16 55 38.4 +0.9**
PPT2 Papeete2 84.67 108 *e*LR LR 17 22 30.9
comp=Z,160nm,26.0s
GOF Gofitskoye 84.80 315 *e*P **P** **16 55 39.3 -0.5**
GOF pmax pmax
comp=Z,40nm,1.3s
KBZ Khabaz 84.80 314 P **P** **16 55 40.1 +0.4**
KBZ Khabaz 84.80 314 P **P** **16 55 40.1 +0.4**
KBZ Khabaz 84.80 314 P **P** **16 55 40.1 +0.4**
comp=Z,20nm,1.0s,baz=88,slow=3.4,SNR=22
KIV Kislovodsk 84.97 314⇑ *e*P **P** **16 55 41.1 +0.4**
KIV *i*S **S** **17 06 01.4 -5.3**
KIV pmax pmax
comp=Z,23nm,1.2s
KIV Kislovodsk 84.97 314 *e*P **P** **16 55 41.2 +0.4**
comp=Z,12nm,0.7s
CHVG Ch'k'valeri 85.32 313 P **P** **16 55 43.9 +1.5**
VRHR Novokhopersk 86.20 321 *e*P **P** **16 55 45.8 -0.8**
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,40nm,1.0s
COLD Coldfoot 87.10 23 *e*P **P** **16 55 49.1 -1.6**
comp=E,15nm,1.0s
VORD Divnogorie 87.66 321 *e*P **P** **16 55 53.1 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,1.0s
VSR Storozhevoye 87.75 321 *e*P **P** **16 55 53.5 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,20nm,1.2s
MALT Malatya 87.93 308 ⇓P **P** **16 55 56.4 +1.0**
MALT Malatya 87.93 308⇓ *i*P **P** **16 55 56.4 +1.0**
KLMR Klimovskoe 87.95 331 *e*P **P** **16 55 53.2 -1.7**
KLMR pmax pmax
comp=Z,41nm,1.1s
ILAR Eielson Array 88.27 25 P **P** **16 55 55.4 -1.0**
ILAR Eielson Array 88.27 25 P **P** **16 55 55.4 -1.0**
comp=Z,1.3nm,0.5s,baz=251,slow=4.9,SNR=34
ANN Anapa 88.77 315 *e*P **P** **16 55 57.0 -2.1**
ANN *e* 17 06 34.9
ANN pmax pmax
comp=Z,25nm,0.8s
PAX Paxson 88.84 27 *e*P **P** **16 55 59.8 +0.6**
PAX Paxson 88.84 27 *e*P **P** **16 55 59.8 +0.6**
KMBO Kilima Mbogo 88.92 269 *e*P **P** **16 56 01.9 +1.1**
KMBO Kilima Mbogo 88.92 269 P **P** **16 56 01.9 +1.2**
comp=Z,3.9nm,0.9s,baz=65,slow=7.1,SNR=12
SYO Syowa Base 89.20 201⇓ *e*P **P** **16 56 00.2 -0.4**
OBN Obninsk 89.39 325⇓ *e*P **P** **16 56 01.1 -0.6**
OBN *e*S S 17 06 26.4 -22
OBN pmax pmax
comp=Z,24nm,0.7s
OBN MLR MLR
comp=Z,100nm,21.0s
OBN Obninsk 89.39 325 *e*P **P** **16 56 01.5 -0.2**
QSPA South Pole Qui 90.40 180 *e*P **P** **16 56 04.9 -1.5**
BR131 Keskin Array S 91.65 310 *e*P **P** **16 56 10.3 -2.5**
comp=Z,2.6nm,0.6s
BRTR Keskin Array B 91.65 310 P **P** **16 56 11.7 -1.2**
BRTR Keskin Array B 91.65 310 P **P** **16 56 11.7 -1.2**
comp=Z,4.2nm,0.7s,baz=130,slow=6.4,SNR=14
BRTR LR LR 17 43 50.8
comp=Z,54nm,20.5s,baz=266,slow=40
JOF Joensuu 91.80 333 *e*P **P** **16 56 11.3 -1.5**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 91.80 333 *ep* **P** **16 56 11.3 -1.5**
comp=Z,1.1nm,0.4s
KEV Kevo 92.74 340 *e*P P 16 56 26.5 +9.5
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 92.74 340 *ep* P 16 56 26.5 +9.5
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 93.29 340 P **P** **16 56 18.9 -0.7**
ARCES ARCESS Array B 93.29 340 P **P** **16 56 18.9 -0.7**
comp=Z,5.3nm,0.8s,baz=73,slow=4.1,SNR=14
AKASG Malin Array Be 94.04 321 P **P** **16 56 22.6 -0.9**
AKASG Malin Array Be 94.04 321 P **P** **16 56 22.6 -0.9**
AKASG Malin Array Be 94.04 321 P **P** **16 56 22.6 -0.9**
comp=Z,3.1nm,0.8s,baz=72,slow=4.1,SNR=11
AKASG LR LR 17 41 58.9
comp=Z,114nm,19.7s,baz=40,slow=38
KIEV Kiev 94.06 321 *e*P **P** **16 56 23.2 -0.3**
KAF Kangasniemi 94.20 332 *e*P **P** **16 56 24.7 +0.8**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 94.20 332 *ep* **P** **16 56 24.7 +0.8**
comp=Z,0.7nm,0.4s
FINES FINESS Array B 94.42 332 P **P** **16 56 25.4 +0.5**
FINES FINESS Array B 94.42 332 P **P** **16 56 25.4 +0.5**
comp=Z,2.7nm,0.8s,baz=99,slow=12,SNR=5.2
FINES LR LR 17 42 19.9
comp=Z,121nm,18.8s,baz=36,slow=38
TESR Tescani 96.21 317⇑ *i*P **P** **16 56 33.0 -0.5**
PLOR Plostina 96.30 316⇑ *i*P **P** **16 56 34.4 +0.5**
PLOR Plostina 96.30 316⇑ *i*P **P** **16 56 34.4 +0.5**
SULR 96.72 315⇑ *i*P **P** **16 56 35.8 0.0**
MLR Muntele Rosu 96.83 316⇑ *i*P **P** **16 56 35.9 -0.6**
BURAR Bucovina Array 97.03 318 ⇑P Pdif 16 56 37.5 +0.1
BURAR Bucovina Array 97.03 318⇑ *i*P Pdif 16 56 37.5 +0.1
BUR08 Bucovina Ar. S 97.04 318 *e*P **P** **16 56 36.1 -1.2**
KOLS Kolonicke sedl 98.75 320 *e*P Pdif 16 56 45.7 +0.8
KOLS Kolonicke sedl 98.75 320 PDIF Pdif 16 56 45.7 +0.8
UZH Uzhgorod 98.80 319 *e*P **P** **16 56 44.7 -0.3**
UZH *i* 16 56 57.0
GZR Gura Zlata 99.05 316⇑ *i*P **Pdif** **16 56 50.2 +3.8**
GZR Gura Zlata 99.05 316⇑ *i*P **Pdif** **16 56 50.2 +3.8**
VTS Vitosha 99.21 313 ⇓P **Pdif** **16 56 48.5 +1.2**
VTS Vitosha 99.21 313⇓ *i*P **Pdif** **16 56 48.5 +1.2**
CRVS Cervenica-Dubn 99.28 320 *e*P **Pdif** **16 56 47.4 +0.1**
CRVS Cervenica-Dubn 99.28 320 PDIF **Pdif** **16 56 47.4 +0.1**
STHS Stebnicka Huta 99.32 320 *e*P **Pdif** **16 56 49.4 +2.0**
STHS Stebnicka Huta 99.32 320 PDIF **Pdif** **16 56 49.4 +2.0**
BOSA Boshof 99.80 241 LR LR 17 37 24.1
comp=Z,96nm,21.6s,baz=159,slow=33
KECS Kecovo 100.00 319 *e*P **Pdif** **16 56 51.3 +0.8**
KECS Kecovo 100.00 319 PDIF **Pdif** **16 56 51.2 +0.8**
NOA NORSAR Array B 101.43 333 P **Pdif** **16 56 55.4 -1.2**
NOA NORSAR Array B 101.43 333 P **Pdif** **16 56 55.4 -1.2**
comp=Z,1.3nm,0.8s,baz=68,slow=4.7,SNR=4.4
YKA Yellowknife Ar 102.68 25 P **Pdif** **16 57 02.5 +0.5**
YKA PKiKP **PKiKP** **17 01 23.7 +1.0**
YKA Yellowknife Ar 102.68 25 P **Pdif** **16 57 02.5 +0.5**
comp=Z,1.0nm,0.7s,baz=301,slow=4.9,SNR=3.6
YKA PKiKP **PKiKP** **17 01 23.7 +1.0**
comp=Z,1.1nm,0.8s,baz=302,slow=1.8,SNR=5.5
GERES GERESS Array B 104.26 321 Pdif **Pdif** **16 57 10.0 +0.5**
GERES PKiKP **PKiKP** **17 01 26.4 +0.3**
GERES GERESS Array B 104.26 321 Pdiff **Pdif** **16 57 10.0 +0.5**
comp=Z,0.5nm,0.8s,baz=47,slow=12,SNR=2.9
GERES PKiKP **PKiKP** **17 01 26.4 +0.3**
comp=Z,0.3nm,0.6s,baz=88,slow=3.0,SNR=2.9
PDAR Pinedale Array 114.16 42 PKP PKPdf 17 01 46.2 +1.1
PDAR PKKPbc **PKKPbc** **17 12 25.2 -1.9**
PDAR Pinedale Array 114.16 42 PKP PKPdf 17 01 46.2 +1.1
comp=Z,0.6nm,0.8s,baz=211,slow=1.6,SNR=3.4
PDAR PKKPbc **PKKPbc** **17 12 25.2 -1.9**
comp=Z,0.6nm,0.8s,baz=126,slow=4.6,SNR=5.5
RSSD Black Hills 117.09 38 *e*P **Pdif** **16 58 02.1 -4.8**
RSSD Black Hills 117.09 38 *e*Pdif **Pdif** **16 58 02.1 -4.8**
ULM Lac du Bonnet 118.07 29 PKP **PKPdf** **17 01 52.2 +0.1**
ULM Lac du Bonnet 118.07 29 PKP **PKPdf** **17 01 52.2 +0.1**
comp=Z,2.0nm,0.6s,baz=287,slow=2.0,SNR=5.1
325A Bean Ranch, Si 122.18 52 P **PKPdf** **17 02 01.2 +0.4**
baz=122
425A Indio Mountain 122.39 53 ⇓P **PKPdf** **17 02 01.1 -0.1**
baz=122
226B Tecolote Peak, 122.53 51 ⇓P **PKPdf** **17 02 01.5 +0.2**
baz=122
Y27A Causey 122.53 48 P **PKPdf** **17 02 01.8 +0.5**
baz=122
Z27A Tatum 122.73 49 P **PKPdf** **17 02 02.3 +0.6**
baz=123
MSTX Muleshoe 122.78 48 P **PKPdf** **17 02 02.3 +0.6**
baz=123
127A Arkansas Junct 122.90 50 P **PKPdf** **17 02 02.0 0.0**
baz=123
TOA0 Torodi Ar. Sit 123.33 286 *e*PKPdf **PKPdf** **17 02 02.1 -1.0**
TORD Torodi Ar. Bea 123.33 286 PKP **PKPdf** **17 02 03.5 +0.3**
TORD PP PP 17 03 35.0 -9.1
TORD PKKPab **PKKPab** **17 11 54.2 +1.3**
TORD Torodi Ar. Bea 123.33 286 PKP **PKPdf** **17 02 03.5 +0.3**
comp=Z,4.9nm,0.9s,baz=59,slow=1.7,SNR=20
TORD PP PP 17 03 35.0 -9.1
comp=Z,1.1nm,0.9s,baz=67,slow=6.1,SNR=4.0
TORD PKKPab **PKKPab** **17 11 54.2 +1.3**
comp=Z,4.1nm,0.9s,baz=282,slow=4.0,SNR=18
526A Mary Lane Ranc 123.39 53 ⇓P **PKPdf** **17 02 04.5 +1.4**
baz=123,SNR=5.9
427A Hayter Ranch, 123.62 52⇑P **PKPdf** **17 02 03.2 -0.3**
baz=124
527A Woodward Ranch1 123.73 53 ⇓P **PKPdf** **17 02 04.5 +0.7**
baz=124,SNR=6.2
328A Wristen Ranch, 123.86 51 ⇓P **PKPdf** **17 02 05.0 +1.1**
baz=124,SNR=6.0
Z29A Hungry Hill Ra 123.89 48 P **PKPdf** **17 02 04.8 +1.0**
baz=124
TXAR Lajitas Array 124.01 54 PKP **PKPdf** **17 02 05.0 +0.8**
TXAR Lajitas Array 124.01 54 PKP **PKPdf** **17 02 05.0 +0.8**
comp=Z,1.4nm,0.8s,baz=284,slow=1.0,SNR=14
627A Terlingua Ranc 124.19 53⇑P **PKPdf** **17 02 05.8 +1.2**
baz=124,SNR=5.8
428A Kincaid Ranch, 124.23 52 ⇓P **PKPdf** **17 02 05.7 +1.1**
baz=124
Z30A Sanderson Ranc 124.31 48 P **PKPdf** **17 02 05.4 +0.7**
baz=124
U32A Winter Ranch, 124.35 44 P **PKPdf** **17 02 05.5 +0.9**
baz=124
528A Cox Ranch, San 124.38 52⇑P **PKPdf** **17 02 06.5 +1.6**
baz=124
229A Bryant Ranch, 124.39 50 P **PKPdf** **17 02 06.0 +1.2**
baz=124
329A Wagon Wheel Ra 124.46 51⇑P **PKPdf** **17 02 04.9 -0.1**
baz=124
X31A McDonald Ranch 124.53 46 P **PKPdf** **17 02 05.9 +0.9**
baz=124
628A Black Gap, Mar 124.57 53 ⇓P **PKPdf** **17 02 07.0 +1.7**
baz=124
529A Stev Forest Ra 124.85 52⇑P **PKPdf** **17 02 06.7 +0.9**
baz=125,SNR=6.6
429A Davenport Ranc 124.89 51 ⇓P **PKPdf** **17 02 06.4 +0.6**
baz=125,SNR=7.0
430A Baggett Ranch, 125.34 51⇑P **PKPdf** **17 02 07.1 +0.4**
baz=125,SNR=5.5
Z32A Haskell 125.53 47 P **PKPdf** **17 02 07.6 +0.6**
baz=125
530A J-C Ranch, Com 125.53 52⇑P **PKPdf** **17 02 08.5 +1.5**
baz=125,SNR=5.2
231A Bronte 125.54 49⇑P **PKPdf** **17 02 07.1 +0.1**
baz=125
431A Sonora 125.87 51⇑P **PKPdf** **17 02 08.0 +0.3**
baz=126
232A Coleman 126.06 49 P **PKPdf** **17 02 08.8 +0.8**
baz=126
531A Rocksprings 126.14 51⇑P **PKPdf** **17 02 08.8 +0.6**
baz=126,SNR=6.5
332A Millersview 126.22 50⇑P **PKPdf** **17 02 08.9 +0.6**
baz=126
631A Perdido Creek 126.44 52⇑P **PKPdf** **17 02 10.0 +1.2**
baz=126,SNR=5.3
Y34A Reagan Ranch, 126.46 46 P **PKPdf** **17 02 09.6 +1.0**
baz=126
JCT Junction City 126.58 51 *e*PKIKP **PKPdf** **17 02 06.3 -2.7**
JCT Junction City 126.58 51 *e*PKPdf **PKPdf** **17 02 06.3 -2.7**
JCT Junction City 126.58 51⇑P **PKPdf** **17 02 10.1 +1.1**
baz=126,SNR=5.3
532A Rocksprings 126.66 51 ⇓P **PKPdf** **17 02 09.5 +0.3**
baz=127
333A Richland Sprin 126.83 49 ⇓P **PKPdf** **17 02 09.9 +0.4**
baz=127
433A Art 127.01 50 ⇓P **PKPdf** **17 02 10.7 +0.9**
baz=127
632A Uvalde 127.02 52 ⇓P **PKPdf** **17 02 11.2 +1.3**
baz=127
732A Laxson Ranch, 127.21 53⇑P **PKPdf** **17 02 12.3 +2.1**
baz=127
533A Kerrville 127.36 51 ⇓P **PKPdf** **17 02 12.2 +1.6**
baz=127
334A Lometa 127.39 49⇑P **PKPdf** **17 02 11.5 +0.9**
baz=127
434A Burnet 127.61 49 P **PKPdf** **17 02 12.1 +1.2**
baz=128
534A Blanco 127.81 50 ⇓P **PKPdf** **17 02 12.7 +1.3**
baz=128
DBIC Dimbokro 130.61 279 PKP **PKPdf** **17 02 19.4 +2.3**
DBIC Dimbokro 130.61 279 PKP **PKPdf** **17 02 19.4 +2.3**
comp=Z,4.0nm,0.9s,baz=1.4,slow=3.1,SNR=3.3
PLCA Paso Flores 137.15 161 PKP **PKPdf** **17 02 30.1 +1.3**
PLCA Paso Flores 137.15 161 PKP **PKPdf** **17 02 30.1 +1.3**
comp=Z,8.2nm,1.0s,baz=192,slow=5.6,SNR=6.7
CFAA Coronel Fontan 146.17 158 PKPbc **PKPdf** **17 02 45.6 +0.6**
CFAA Coronel Fontan 146.17 158 PKPbc **PKPdf** **17 02 45.6 +0.6**
comp=Z,2.9nm,0.7s,baz=229,slow=3.3,SNR=29
JTS JuntasAbangare 147.25 70 *e*PKPbc **PKPdf** **17 02 47.6 +0.3**
LCO Las Campanas 147.37 152 *e*PKPbc **PKPdf** **17 02 48.2 +0.8**
CPUP Villa Florida 154.07 173 PKP **PKPdf** **17 02 58.2 +0.7**
CPUP PKPbc **PKiKP** **17 03 06.5 +0.8**
CPUP PKPab **PKPab** **17 03 18.8 -0.2**
CPUP Villa Florida 154.07 173 PKP **PKPdf** **17 02 58.2 +0.7**
comp=Z,0.6nm,0.4s,baz=100,slow=6.1,SNR=3.1
CPUP PKPbc **PKiKP** **17 03 06.5 +0.8**
comp=Z,15nm,0.9s,baz=202,slow=1.5,SNR=16
CPUP PKPab **PKPab** **17 03 18.8 -0.2**
comp=Z,9.6nm,0.8s,baz=159,slow=6.6,SNR=6.1
ATAH Atahualpa 154.63 106 PKPab **PKPab** **17 03 25.9 +3.4**
comp=Z,19nm,1.0s,baz=313,slow=6.7,SNR=4.0
LPAZ La Paz 158.89 139 PKP **PKPdf** **17 03 05.7 +0.9**
LPAZ La Paz 158.89 139 PKP **PKPdf** **17 03 05.7 +0.9**
comp=Z,5.3nm,1.0s,baz=18,slow=1.2,SNR=9.9
SIV San Ignacio 163.00 156 PKP **PKPdf** **17 03 10.2 +1.8**
SIV San Ignacio 163.00 156 PKP **PKPdf** **17 03 10.2 +1.8**
comp=Z,4.8nm,0.9s,baz=181,slow=3.1,SNR=8.6

ISCJB ***05*** *16:53:53.4±0.6,33°.72N±0°.09×137°.24E±0°.09, h369km±5km, mb3.0/5, Error ellipse: s-maj=15.1km s-min=9.9km az=152.2*
JMA ***05*** *16:53:53.7±0.4,33°.70N×137°.17E, h367km±4km, M2.8*
IDC ***05*** *16:53:54.2±0.9,33°.70N×137°.25E, h359km±12km, mb2.9/5, mb1 3.0/8, mb1mx2.8/29, mbtmp2.8/8, Error ellipse: s-maj=25.9km s-min=15.1km az=67.0*
ISC 05 16:53:54.2±0.9, 33°.8N±0°.1×137°.22E±0°.07, h364km±7km, n28, σ1°.42/36, mb2.8/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	TONANKAI O.B.S	0.34	51	P	Pn	16 54 40.3	+1.0
TK02	Tokai 2	0.47	71	P	Pn	16 54 40.6	+1.1
TTO5	TONANKAI O.B.S	0.61	42	P	Pn	16 54 41.2	+1.3
JIE	Ise	0.73	324	P	Pn	16 54 41.0	+0.6
JKN2	Miekihoku	0.90	299	P	Pn	16 54 41.2	+0.2
JKN2				*e*S	S	16 55 16.8	-1.8
JHMK	Hamakita	1.11	23	P	Pn	16 54 42.3	+0.7
HMMJ	Hamamatsu 2	1.13	21	P	Pn	16 54 42.6	+0.8
JAO	Obara	1.47	1	P	Pn	16 54 44.5	+1.0
JNY	Yasuok	1.64	19	P	Pn	16 54 45.4	+0.9
JGM	Miyama	1.94	348	P	Pn	16 54 47.2	+0.9
JWT	Wachi	2.11	315	P	Pn	16 54 47.9	+0.5
JOD2	Odawara 2	2.12	46	P	Pn	16 54 48.6	+1.1
JAI	Aioi	2.31	271	P	Pn	16 54 48.5	-0.4

JRY	**Ryogami san**	**2.61**	**31**	P		**Pn**	**16 54 52.7**	**+1.5**
JRY				*e*S		**S**	**16 55 38.6**	**+1.4**
JHU	**Hanno**	**2.66**	**39**	P		**Pn**	**16 54 52.4**	**+0.8**
JHU				*e*S		**S**	**16 55 37.3**	**-0.6**
BSO4	**Boso 4**	**2.84**	**64**	P		**Pn**	**16 54 53.5**	**+0.5**
BSO4				*e*S		**S**	**16 55 41.5**	**+1.1**
MJAR	**Matsushiro Arr**	**2.85**	**16**	P		**Pn**	**16 54 53.8**	**+0.6**
	1.0nm,0.3s,baz=192,slow=10,SNR=12							
MJAR				S		**S**	**16 55 41.9**	**+1.0**
	0.3nm,0.3s,baz=136,slow=42,SNR=2.9							
MAT	**Matsushiro**	**2.85**	**16**	P		**Pn**	**16 54 54.1**	**+0.9**
JAG	**Ashikaga**	**3.20**	**34**	P		**Pn**	**16 54 56.1**	**-0.1**
JAG				*e*S		**S**	**16 55 43.9**	**-2.4**
JYT	**Yasato**	**3.44**	**44**	P		**Pn**	**16 54 57.8**	**-0.6**
JYT				*e*S		**S**	**16 55 46.2**	**-4.1**
JHO	**Hitachi**	**3.92**	**43**	P		**Pn**	**16 55 03.0**	**-0.1**
JHO				*e*S		**S**	**16 55 55.2**	**-3.7**
JNU	**Nakatsue**	**5.34**	**264**	P		**Pn**	**16 55 17.8**	**-0.4**
	0.4nm,0.3s,baz=135,slow=17,SNR=4.4							
KSRS	**Korea Array**	**8.40**	**298**	P		**P**	**16 55 54.2**	**-0.9**
	0.1nm,0.3s,baz=109,slow=13,SNR=3.9							
SONM	**Songino Array**	**27.01**	**311**	P		**P**	**16 59 06.5**	**+2.2**
	0.3nm,0.7s,baz=106,slow=9.2,SNR=3.3							
MKAR	**Makanchi Array**	**43.03**	**304**	P		**P**	**17 01 19.3**	**0.0**
	0.4nm,0.7s,baz=86,slow=8.5,SNR=6.1							
WRA	**Warramunga Arr**	**53.51**	**183**	P		**P**	**17 02 38.5**	**-0.1**
	0.4nm,0.4s,baz=360,slow=7.6,SNR=19							
ASAR	**Alice Springs**	**57.23**	**184**	P		**P**	**17 03 04.3**	**-0.5**
	0.3nm,0.8s,baz=357,slow=5.0,SNR=11							
FINES	**FINESS Array B**	**70.05**	**332**	P		**P**	**17 04 27.9**	**+0.7**
	2.8nm,0.9s,baz=46,slow=4.0,SNR=5.0							

KRSC 05 16:54:19.1±2.4,55°.47N×166°.29E,h30^{km}±30^{km},ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**0.32**	**214**	*i* P		Pb	16 54 26.8	0.0
BKI				*i* S		Sb	16 54 31.9	-0.2
KBTR	**Krutoberegovo**	**2.09**	**292**	P		Pn	16 54 52.1	0.0
KBTR				S		Sn	16 55 16.1	-1.0
MKZ	**Mys Kozlova**	**2.78**	**253**	P		Pn	16 55 02.9	+1.4
MKZ				S		Sn	16 55 34.6	+0.6
KZV	**Kizimen**	**3.45**	**267**	P		Pn	16 55 12.7	+1.8
KZV				S		Sn	16 55 51.9	+1.0
TUMR	**Tumrok**	**3.51**	**269**	*e*P		Pn	16 55 14.4	+2.7
TUMR				S		Sn	16 55 54.1	+1.8
NLC	**Nalytchevo**	**4.67**	**243**	S		Sn	16 56 20.7	+0.1
SDLR	**Sedlovina**	**4.86**	**246**	P		Pn	16 55 33.1	+2.9
KRER	**Koryakskii**	**4.91**	**247**	P		Pn	16 55 34.1	+3.0
UGLR	**Uglovaya**	**4.92**	**246**	P		Pn	16 55 34.3	+3.2
AVH	**Avacha**	**4.94**	**247**	P		Pn	16 55 34.2	+2.9
KRX	**Arik**	**4.94**	**248**	P		Pn	16 55 34.4	+3.0
KOK	**Koryaka**	**4.98**	**247**	P		Pn	16 55 34.6	+2.7
GNL	**Ganaly**	**5.17**	**253**	P		Pn	16 55 38.0	+3.5
MTVR	**Mutnovka**	**5.64**	**241**	P		Pn	16 55 43.4	+2.4
MTVR				S		Sn	16 56 46.4	+1.5

GUC 05 16:57:47.6±0.8,20°.69S×69°.15W,h110^{km}±6^{km},ML4.0, 5C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB01	**Plate Boundary**	**0.48**	**221**	*i* P		Pn	16 58 04.8	+0.3
PB01				*i* S		Sn	16 58 17.5	+0.4
PB01				AML		AML	16 58 18.0	
	comp=N,19μm,0.3s							
HMBC	**Humberstone**	**0.80**	**300**	⇑*i* P		Pn	16 58 07.2	+0.1
HMBC				*i* S		Sn	16 58 22.1	+0.4
PATCX	**Punta Patache**	**0.95**	**262**	⇑*i* P		Pn	16 58 08.8	+0.4
PATCX				*i* S		Sn	16 58 25.4	+1.3
PATCX				AML		AML	16 58 26.4	
	comp=N,1μm,0.3s							
PB09	**Plate Boundary**	**1.11**	**184**	⇑*i* P		Pn	16 58 10.9	+0.7
PB09				*i* S		Sn	16 58 28.4	+1.0
PB09				AML		AML	16 58 32.2	
	comp=E,8μm,0.7s							
PB07	**Plate Boundary**	**1.24**	**213**	⇑*i* P		Pn	16 58 12.2	+0.5
PB07				*i* S		Sn	16 58 30.5	+0.6
PB07				AML		AML	16 58 31.6	
	comp=E,1μm,0.5s							
MNMC	**Minimini**	**1.60**	**345**	⇑*i* P		Pn	16 58 16.4	+0.3
MNMC				*i* S		Sn	16 58 39.0	+1.3
MNMC				AML		AML	16 58 40.6	
	comp=E,2μm,0.2s							
MACH	**Maria Elena**	**1.61**	**201**	⇓*i* P		Pn	16 58 16.8	+0.7
MACH				*i* S		Sn	16 58 37.7	+0.1

*IDC **05** 17:14:16.5±2.3, 16°.42N×146°.48E, h0^{km}, mb3.9/7, mb1 4.0/7, mb1mx3.7/27, mbtmp3.9/7, MS3.4/2, Ms1 3.4/2, ms1mx2.8/42, Error ellipse: s-maj=79.9km s-min=18.9km az=77.0*

*ISCJB **05** 17:14:19.8±2.0, 16°.4N±0°.2×146°.4E±0°.5, h33^{km}, mb3.9/7, MS3.4/2, Error ellipse: s-maj=69.1km s-min=17.6km az=166.0*

ISC 05 17:14:22.3±2.6,16°.4N±0°.2×146°.3E±0°.6,h35^{km},n15, σ0^{s}50/7,mb3.9/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**19.57**	**81**	T		T	17 39 06.0	
	baz=279,slow=72,SNR=5.1							
H11S1	**WAKE ISLAND Hy**	**19.58**	**81**	T		T	17 39 03.5	
	baz=279,slow=72,SNR=6.3							
H11S2	**WAKE ISLAND Hy**	**19.58**	**81**	T		T	17 39 05.8	
	baz=279,slow=72,SNR=2.9							
H11N1	**WAKE ISLAND Hy**	**19.86**	**77**	T		T	17 39 02.6	
	baz=278							
H11N2	**WAKE ISLAND Hy**	**19.86**	**77**	T		T	17 39 03.5	
	baz=278							
H11N3	**WAKE ISLAND Hy**	**19.88**	**77**	T		T	17 39 04.4	
	baz=278							
KSRS	**Korea Array**	**26.54**	**326**	LR		LR	17 27 40.1	
	comp=Z,43nm,22.0s,baz=2.4,slow=30							
WRA	**Warramunga Arr**	**37.96**	**198**	P		**P**	**17 21 36.9**	**0.0**
	1.3nm,0.4s,baz=25,slow=9.2,SNR=46							
ASAR	**Alice Springs**	**41.60**	**197**	P		**P**	**17 22 07.0**	**-0.2**
	0.4nm,0.4s,baz=16,slow=6.9,SNR=19							
CMAR	**Chiang Mai Arr**	**45.14**	**280**	P		**P**	**17 22 35.8**	**-0.1**
	0.5nm,0.5s,baz=81,slow=6.0,SNR=7.6							
STKA	**Stephens Creek**	**48.19**	**185**	P		**P**	**17 22 59.5**	**+0.2**
	0.4nm,0.3s,baz=351,slow=9.7,SNR=6.3							
MKAR	**Makanchi Array**	**60.49**	**315**	P		**P**	**17 24 29.6**	**+0.7**
	0.7nm,0.4s,baz=91,slow=8.3,SNR=26							
URZ	**Urewera**	**61.56**	**153**	LR		LR	17 46 21.6	
	comp=Z,76nm,19.7s,baz=320,slow=31							
KURBB	**Kurchatov Arra**	**63.43**	**319**	P		**P**	**17 24 48.8**	**+0.3**
	2.4nm,0.7s,baz=99,slow=6.8,SNR=18							
BVAR	**Borovoye Array**	**68.63**	**321**	P		**P**	**17 25 21.2**	**-0.6**
	0.5nm,0.4s,baz=92,slow=8.9,SNR=6.2							

*NOU **05** 17:33:35.5±1.7, 17°.50S×166°.93E, h24^{km}±999^{km}, MD3.7, MS2.4*

*BJI **05** 17:33:35.7, 18°.68S×167°.86E, h35^{km}, mB5.3/9, mb4.7/20, Ms5.1/4, Ms7 4.7/5*

*IDC **05** 17:33:36.6±0.6, 17°.93S×167°.11E, h0^{km}, mb4.4/17, mb1 4.5/19, mb1mx4.4/24, mbtmp4.3/19, ML4.0/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/33, Error ellipse: s-maj=19.4km s-min=15.2km az=94.0*

*ISCJB **05** 17:33:38.0±2.9, 17°.99S±0°.04×167°.09E±0°.07, h16^{km}±20^{km}, mb4.5/31, MS3.9/11, Error ellipse: s-maj=11.3km s-min=6.9km az=172.0*

*NEIC **05** 17:33:39.0±0.6, 17°.95S×167°.13E, h16^{km}±3^{km}, mb4.7/13, Error ellipse: s-maj=9.6km s-min=7.5km az=133.0*

ISC 05 17:33:41.9±0.6,17°.99S±0°.09×167°.20E±0°.09,h36^{km}±4^{km}, n116,σ1^{s}26/121,mb4.6/28,MS3.8/11,1C-1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.12**	**190**	*e*Pn		**Pn**	**17 34 41.7**	**-0.7**
	34nm,0.2s							
DZM				*e*LR		LR	17 35 32.8	
	331nm,24.1s							
DZM	**Mont Dzumac**	**4.12**	**190**	Pn		**Pn**	**17 34 41.5**	**-0.9**
DZM				Sn		**Sn**	**17 35 28.8**	**-0.6**
DZM	**Mont Dzumac**	**4.12**	**190**	Pn		**Pn**	**17 34 41.5**	**-0.9**
	7.7nm,0.3s,baz=28,slow=18,SNR=78							
DZM				Sn		**Sn**	**17 35 28.8**	**-0.6**
	18nm,0.3s,baz=146,slow=22,SNR=4.0							
DZM				LR		LR	17 36 11.4	
	comp=Z,420nm,19.8s,baz=34,slow=37							
DZM	**Mont Dzumac**	**4.12**	**190**	*e*P		**Pn**	**17 34 41.4**	**-1.0**
DZM				*e*S		**Sn**	**17 35 30.1**	**+0.8**
DZM				AMP			17 35 37.6	
	comp=Z,601nm,10.5s							
NOUC	**Port Laguerre**	**4.17**	**192**	*e*P		**Pn**	**17 34 41.5**	**-1.5**
NOUC				*i* S		**Sn**	**17 35 30.7**	**+0.1**
NOUC				AMP			17 35 46.2	
	comp=Z,26nm,12.8s							
NORM	**Noumea**	**4.27**	**189**	*e*P		**Pn**	**17 34 43.9**	**-0.4**
NORM				*e*S		**Sn**	**17 35 35.5**	**+2.6**
PLUM	**Mont Dore**	**4.29**	**187**	*e*P		**Pn**	**17 34 44.2**	**-0.4**
PLUM				*e*S		**Sn**	**17 35 33.9**	**+0.4**
HNR	**Honiara**	**11.05**	**319**	LR		LR	17 39 24.7	
	comp=Z,190nm,19.8s,baz=185,slow=32							
EIDS	**Eidsvold**	**16.67**	**241**	P		**Pn**	**17 37 30.2**	**-2.6**
RMQ	**Roma**	**19.03**	**240**	P		**Pn**	**17 38 03.5**	**+1.6**
	baz=12,SNR=7.9							
CTA	**Charters Tower**	**19.91**	**261**	P		**P**	**17 38 11.2**	**+0.6**
CTA	**Charters Tower**	**19.91**	**261**	P		**P**	**17 38 11.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=94,slow=12,SNR=9.7							
CTAO	**Charters Tower**	**19.91**	**261**	*e*P		**Pn**	**17 38 12.0**	**-0.5**
	comp=Z,9.1nm,0.8s							
AFI	**Afiamalu**	**20.61**	**82**	LR		LR	17 44 27.2	
	comp=Z,262nm,21.3s,baz=257,slow=31							
PMG	**Port Moresby**	**21.24**	**291**	LR		LR	17 45 04.5	
	comp=Z,120nm,20.2s,baz=268,slow=32							
URZ	**Urewera**	**21.97**	**159**	P		**P**	**17 38 34.7**	**+2.1**
URZ	**Urewera**	**21.97**	**159**	P		**P**	**17 38 34.7**	**+2.1**
	comp=Z,5.4nm,0.7s,baz=313,slow=11,SNR=3.8							
QLP	**Quilpie**	**22.88**	**244**	P		**P**	**17 38 42.6**	**+0.1**
	baz=16,SNR=7.9							
YNG	**Young**	**23.36**	**222**	P		**P**	**17 38 49.2**	**+2.0**
	baz=17,SNR=6.8							
CNB	**Canberra Magne**	**23.42**	**219**	P		**P**	**17 38 50.1**	**+2.2**
	baz=18,SNR=5.7							
CMSA	**Cobar Meteorol**	**23.68**	**231**	P		**P**	**17 38 51.1**	**+0.8**
	baz=17,SNR=12							
RPZ	**Rata Peaks**	**25.85**	**174**	P		**P**	**17 39 10.8**	**+0.8**
RPZ	**Rata Peaks**	**25.85**	**174**	P		**P**	**17 39 10.8**	**+0.8**
	comp=Z,8.7nm,0.7s,baz=236,slow=3.4,SNR=4.4							
RPZ				LR		LR	17 46 58.0	
	comp=Z,66nm,21.4s,baz=187,slow=31							
STKA	**Stephens Creek**	**26.93**	**234**	*e*P		**P**	**17 39 20.4**	**+0.5**
	comp=Z,5.6nm,0.9s							
STKA	**Stephens Creek**	**26.93**	**234**	P		**P**	**17 39 20.8**	**+0.8**
	comp=Z,21nm,0.8s,baz=62,slow=7.5,SNR=53							
STKA				LR		LR	17 49 42.2	
	comp=Z,120nm,19.7s,baz=26,slow=36							
STKA	**Stephens Creek**	**26.93**	**234**	P		**P**	**17 39 20.8**	**+0.8**
	baz=20,SNR=18							
HTT	**Hallett**	**29.63**	**233**	P		**P**	**17 39 44.6**	**+0.5**
	baz=23,SNR=4.6							
WRAB	**Tennant Creek**	**31.10**	**261**	P		**P**	**17 39 54.5**	**-2.6**
	comp=Z,2.7nm,0.7s							
WRA	**Warramunga Arr**	**31.11**	**261**	P		**P**	**17 39 55.2**	**-2.0**
WRA	**Warramunga Arr**	**31.11**	**261**	P		**P**	**17 39 55.2**	**-2.0**
	comp=Z,1.1nm,0.6s,baz=92,slow=9.4,SNR=23							
AS01	**Alice Springs**	**31.54**	**254**	*e*P		**P**	**17 39 59.1**	**-1.9**
AS31	**Alice Springs**	**31.58**	**254**	*e*P		**P**	**17 39 59.9**	**-1.5**
ASAR	**Alice Springs**	**31.58**	**254**	P		**P**	**17 40 00.2**	**-1.1**
ASAR				PcP		**PcP**	**17 42 52.2**	**-1.2**
ASAR	**Alice Springs**	**31.58**	**254**	P		**P**	**17 40 00.2**	**-1.1**
	comp=Z,6.2nm,0.9s,baz=80,slow=8.5,SNR=85							
ASAR				PcP		**PcP**	**17 42 52.2**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=90,slow=1.9,SNR=4.9							
ASAR				LR		LR	17 52 19.9	
	comp=Z,198nm,18.9s,baz=171,slow=36							
BBOO	**Buckleboo**	**31.62**	**236**	*e*P		**P**	**17 40 01.7**	**+0.1**
	comp=Z,129nm,0.8s							
BBOO	**Buckleboo**	**31.62**	**236**	P		**P**	**17 40 02.0**	**+0.4**
	baz=25,SNR=14							
KNRA	**Kununurra**	**36.82**	**268**	P		**P**	**17 40 45.4**	**-1.4**
	baz=30,SNR=7.7							
FORT	**Forrest**	**37.66**	**243**	*e*P		**P**	**17 40 53.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.46**	**263**	*e*P		**P**	**17 41 08.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.46**	**263**	P		**P**	**17 41 08.5**	**-0.5**
	baz=33,SNR=9.1							
TBI	**Tuai**	**40.78**	**105**	*e*LR		LR	17 52 42.2	
	comp=Z,159nm,33.0s							
PPT2	**Papeete2**	**41.09**	**96**	*e*LR		LR	17 52 49.9	
	comp=Z,266nm,27.5s							
PPT	**Papeete**	**41.09**	**96**	LR		LR	17 54 16.4	
	comp=Z,196nm,19.0s,baz=292,slow=30							
KMBL	**Kambalda**	**42.99**	**243**	P		**P**	**17 41 37.9**	**-0.1**
	baz=36,SNR=5.2							
MBWA	**Marble Bar**	**44.71**	**258**	P		**P**	**17 41 51.4**	**-0.5**
	comp=Z,24nm,1.2s							
MEEK	**Meekatharra**	**45.54**	**250**	P		**P**	**17 41 58.2**	**-0.3**
	baz=39,SNR=7.3							
KLBR	**Kellerberrin**	**46.52**	**243**	P		**P**	**17 42 05.4**	**-0.7**
	baz=40,SNR=8.4							
VNDA	**Vanda**	**59.61**	**181**	P		**P**	**17 43 41.7**	**0.0**
VNDA	**Vanda**	**59.61**	**181**	P		**P**	**17 43 41.7**	**0.0**
	comp=Z,1.2nm,0.7s,baz=17,slow=4.6,SNR=3.5							
BTDF	**Bukit Timah Da**	**65.27**	**280**	P		P	17 44 28.3	+7.7
	baz=60,SNR=3.1							
BTDF				P		P	17 44 28.3	+7.7
	baz=60,SNR=3.1							
NJ2	**Nanjing**	**67.98**	**317**	*e*P		**P**	**17 44 40.0**	**+2.5**
PETK	**Petropavlovsk-**	**71.28**	**354**	P		**P**	**17 44 56.9**	**-0.5**
PETK	**Petropavlovsk-**	**71.28**	**354**	P		**P**	**17 44 56.9**	**-0.5**
	comp=Z,6.6nm,0.9s,baz=224,slow=10,SNR=4.5							
QSPA	**South Pole Qui**	**72.05**	**180**	*e*P		**P**	**17 45 02.3**	**+0.2**
	comp=Z,9.3nm,1.1s							
QSPA	**South Pole Qui**	**72.05**	**180**	P		**P**	**17 45 03.0**	**+0.9**
	comp=Z,5.1nm,0.9s,baz=60,slow=3.4,SNR=16							
CN2	**Changchun**	**72.41**	**330**	*e*P		P	17 45 07.8	+3.5
GYA	**Guiyang**	**73.53**	**306**	*e*P		**P**	**17 45 13.2**	**+1.7**
GYA				pP		**pP**	**17 45 24.3**	**+1.6**
GYA				PP		PP	17 48 01.8	+5.8
GYA				S		**SKiKP**	**17 54 40.0**	**+4.4**
GYA				sS		**sS**	**17 54 58.6**	**+1.0**
GYA				SKS		**SKSac**	**17 55 11.7**	**-4.1**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.6s							
GYA				LR		LR		
	comp=Z,340nm,19.6s							
GYA				LR		LR		
	comp=Z,290nm,20.0s							
GYA				LR		LR		
	comp=Z,360nm,18.9s							
KMI	**Kunming**	**75.98**	**303**	P		**P**	**17 45 27.4**	**+1.5**
KMI				pP		**PcP**	**17 45 39.1**	**+0.9**
KMI				S		**S**	**17 55 08.5**	**+1.6**
KMI				pmax		pmax		
	comp=Z,9.0nm,1.3s							
KMI				LR		LR		
	comp=Z,30nm,17.0s							
CM01	**Chiang Mai Arr**	**76.20**	**295**	*e*P		**P**	**17 45 27.6**	**+0.6**
CM31	**Chiang Mai Arr**	**76.23**	**295**	*e*P		**P**	**17 45 28.2**	**+1.0**
	comp=Z,6.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**76.23**	**295**	P		**P**	**17 45 28.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**76.23**	**295**	P		**P**	**17 45 28.3**	**+1.1**
	comp=Z,5.8nm,0.8s,baz=131,slow=4.5,SNR=61							
CHTO	**Chiang Mai**	**76.38**	**295**	*e*P		**P**	**17 45 28.7**	**+0.7**
	comp=Z,1.8nm,0.9s							
CD2	**Chengdu**	**77.95**	**308**	*e*P		**P**	**17 45 37.5**	**+0.8**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.4s							
HHC	**Hu-ho-hao-te**	**78.03**	**320**	*e*P		**P**	**17 45 37.8**	**+0.9**
HHC				pP		**pP**	**17 45 48.2**	**+0.1**
HHC				sP		**sP**	**17 45 52.1**	**-0.2**
HHC				PP		**PP**	**17 48 36.6**	**+2.9**
HHC				S		**S**	**17 55 29.7**	**+1.3**
HHC				SKS		**SKSac**	**17 55 44.4**	**-4.1**
HHC				ScS		**ScS**	**17 55 51.8**	**-2.2**
HHC				pmax		pmax		
	comp=Z,26nm,1.2s							
HHC				pmax		pmax		
	comp=Z,310nm,7.9s							
HHC				LR		LR		
	comp=Z,300nm,17.5s							
HHC				LR		LR		
	comp=Z,480nm,16.7s							
HHC				LR		LR		
	comp=Z,190nm,16.7s							
MAW	**Mawson**	**78.85**	**202**	*e*P		**P**	**17 45 41.8**	**+0.9**
	comp=Z,4.4nm,1.6s							
MAW	**Mawson**	**78.85**	**202**	P		**P**	**17 45 41.5**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=103,slow=5.6,SNR=4.4							
ULN	**Ulaanbaatar**	**84.72**	**324**	*e*P		**P**	**17 46 11.8**	**-0.5**
	comp=Z,2.6nm,0.9s							
GTA	**Gaotai**	**84.87**	**314**	*e*P		**P**	**17 46 14.0**	**+0.7**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SONM	**Songino Array**	**85.07**	**324**	P		**P**	**17 46 13.9**	**-0.2**
SONM	**Songino Array**	**85.07**	**324**	P		**P**	**17 46 13.9**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=136,slow=4.5,SNR=6.4							
SONA1	**Songino Array**	**85.08**	**324**	*e*P		**P**	**17 46 13.7**	**-0.4**
YAK	**Yakutsk**	**85.12**	**343**	*e*P		**P**	**17 46 13.3**	**-0.4**
	comp=Z,15nm,1.0s							
SYO	**Syowa Base**	**85.58**	**197**	‖*e*P		**P**	**17 46 15.0**	**-1.1**
SYO	**Syowa Base**	**85.58**	**197**	‖*e*pP		P	17 46 20.2	+4.1
RC01	**Rabbit Creek A**	**86.01**	**19**	*e*sP		sP	17 46 25.4	-8.3
CLTC	**Calectric**	**88.47**	**53**	*e*P		**P**	**17 46 30.0**	**-0.8**
CRY	**Cary Ranch**	**88.71**	**54**	*e*P		P	17 46 26.7	-5.4
CRY				*e*PcP		**PcP**	**17 46 31.7**	**-1.9**
SNDA	**J Saunders Pla**	**88.81**	**54**	*e*PKiKP		**PKiKP**	**17 51 31.6**	**-0.8**
PFO	**Pinyon Flat Ob**	**88.95**	**54**	*e*P		P	17 46 29.5	-3.7
	comp=Z,40nm,2.2s							
PFO	**Pinyon Flat Ob**	**88.95**	**54**	LR		LR	18 19 53.9	
	comp=Z,65nm,19.8s,baz=307,slow=31							
NVAR	**Mina Array Bea**	**89.44**	**49**	P		**P**	**17 46 36.8**	**+1.3**
NVAR	**Mina Array Bea**	**89.44**	**49**	P		**P**	**17 46 36.8**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=230,slow=9.2,SNR=4.8							
ILAR	**Eielson Array**	**89.64**	**18**	P		**P**	**17 46 34.0**	**-1.5**
ILAR	**Eielson Array**	**89.64**	**18**	P		**P**	**17 46 34.0**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=237,slow=5.1,SNR=8.4							
SNAA	**Sanae**	**90.30**	**183**	*e*P		**P**	**17 46 38.9**	**+0.1**
SNAA	**Sanae**	**90.30**	**183**	*e*P		**P**	**17 46 37.1**	**-1.7**
	comp=Z,6.3nm,1.0s							
SNAA	**Sanae**	**90.30**	**183**	P		**P**	**17 46 38.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=207,slow=6.3,SNR=15							
LPIG	**La Paz**	**90.63**	**65**	LR		LR	18 17 03.9	
	comp=Z,97nm,19.4s,baz=250,slow=29							
VNA2	**Neumayer--Watz**	**91.23**	**182**	*e*P		**P**	**17 46 43.7**	**+0.6**
G08A	**Pilot Rock**	**91.75**	**43**	*e*P		**P**	**17 46 46.7**	**+0.7**
	comp=Z,66nm,2.8s							
WMQ	**Urumqi**	**94.96**	**314**	P		**P**	**17 47 01.4**	**+0.7**
PDAR	**Pinedale Array**	**97.19**	**47**	P		Pdif	17 47 12.6	+1.3
PDAR	**Pinedale Array**	**97.19**	**47**	P		Pdif	17 47 12.6	+1.3
	comp=Z,0.2nm,0.6s,baz=254,slow=6.5,SNR=2.6							
TXAR	**Lajitas Array**	**97.88**	**62**	P		Pdif	17 47 15.1	+0.7
TXAR	**Lajitas Array**	**97.88**	**62**	P		Pdif	17 47 15.1	+0.7
	comp=Z,0.3nm,0.7s,baz=182,slow=3.2,SNR=3.7							
MKAR	**Makanchi Array**	**99.50**	**316**	P		**Pdif**	**17 47 20.3**	**-0.8**
MKAR	**Makanchi Array**	**99.50**	**316**	P		**Pdif**	**17 47 20.3**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=104,slow=5.1,SNR=4.6							
FINES	**FINESS Array B**	**128.70**	**337**	PKP		**PKPdf**	**17 52 45.3**	**+0.4**
FINES	**FINESS Array B**	**128.70**	**337**	PKP		**PKPdf**	**17 52 45.3**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=299,slow=2.9,SNR=3.3							
BRTR	**Keskin Array B**	**134.53**	**308**	PKP		**PKPdf**	**17 52 57.3**	**+0.4**
BRTR	**Keskin Array B**	**134.53**	**308**	PKP		**PKPdf**	**17 52 57.3**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=101,slow=1.5,SNR=3.3							
GERES	**GERESS Array B**	**142.48**	**331**	PKP		**PKPdf**	**17 53 10.9**	**-0.2**
GERES	**GERESS Array B**	**142.48**	**331**	PKP		**PKPdf**	**17 53 10.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=343,slow=3.1,SNR=3.1							
FETA	**Feichten**	**145.18**	**331**	*i* PKPdf		**PKPdf**	**17 53 16.0**	**+0.1**
	comp=Z,12nm,0.9s,SNR=15							
BFO	**Black Forest**	**145.19**	**335**	*e*PKPbc		**PKPbc**	**17 53 14.7**	**-0.6**
DAVA	**Damuels**	**145.36**	**332**	*i* PKPdf		**PKPab**	**17 53 16.4**	**+0.2**
	comp=Z,12nm,0.8s,SNR=7.0							
FUORN	**Ofenpass-Fuorn**	**145.69**	**331**	*e*PKPdf		**PKPab**	**17 53 17.8**	**+0.1**
DAVOX	**Davos/Dischmat**	**145.74**	**332**	PKPbc		**PKPab**	**17 53 18.0**	**+0.3**
DAVOX	**Davos/Dischmat**	**145.74**	**332**	PKPbc		**PKPab**	**17 53 18.0**	**+0.3**
	comp=Z,8.8nm,0.8s,baz=27,slow=2.7,SNR=18							
TUE	**Stuetta**	**146.22**	**332**	*e*PKPdf		**PKPbc**	**17 53 18.4**	**-0.5**

H11S1	WAKE ISLAND Hy baz=24,slow=77,SNR=18	38.43	218	T	T	18 49 35.4	
H11S2	WAKE ISLAND Hy baz=24,slow=77,SNR=14	38.45	218	T	T	18 49 38.0	
H11S3	WAKE ISLAND Hy baz=24,slow=77,SNR=11	38.45	218	T	T	18 49 47.2	
YMR	Madison River 6.4nm,0.7s	38.64	77	*e*P	P	18 08 27.2	+2.3
BW06	Boulder Array 3.4nm,1.0s	40.54	79	*e*P	P	18 08 39.9	-0.8
PDAR	Pinedale Array	40.54	79	P	P	18 08 40.5	-0.2
PDAR	Pinedale Array 1.8nm,1.0s,baz=293,slow=4.2,SNR=10	40.54	79	P	P	18 08 40.5	-0.2
MNTX	Cornudas Mount 1.4nm,0.8s	50.15	88	*e*P	P	18 09 56.0	-0.6
TXAR	Lajitas Array	52.86	89	P	P	18 10 16.6	-0.4
TXAR	Lajitas Array 1.7nm,0.7s,baz=300,slow=6.3,SNR=25	52.86	89	P	P	18 10 16.6	-0.4
GUMO	Guam 16nm,0.8s	52.92	241	P	P	18 10 21.9	+4.5
KURK	Kurchatov	62.43	318	P	P	18 11 25.1	+1.3
KURBB	Kurchatov Arra 0.3nm,0.4s,baz=44,slow=8.1,SNR=8.1	62.54	318	P	P	18 11 25.1	+0.6
BRVK	Borovoye 6.0nm,1.3s	63.80	324	P	P	18 11 35.9	+3.1
MKAR	Makanchi Array	63.85	313	P	P	18 11 33.7	+0.4
MKAR	Makanchi Array 0.2nm,0.5s,baz=38,slow=5.7,SNR=4.1	63.85	313	P	P	18 11 33.7	+0.4
FINES	FINESS Array B	66.03	352	P	P	18 11 47.6	+0.4
FINES	FINESS Array B 2.6nm,0.9s,baz=15,slow=7.9,SNR=8.4	66.03	352	P	P	18 11 47.6	+0.4
HFS	Hagfors	68.00	358	P	P	18 11 59.4	-0.3
HFS	Hagfors 1.9nm,0.8s,baz=0.0,slow=3.5,SNR=6.8	68.00	358	P	P	18 11 59.4	-0.3
AAK	Ala-Archa	70.55	315	P	P	18 12 24.8	+8.7
CMAR	Chiang Mai Arr	76.55	283	P	P	18 12 51.1	-0.3
CMAR	Chiang Mai Arr 0.5nm,0.6s,baz=30,slow=6.4,SNR=5.7	76.55	283	P	P	18 12 51.1	-0.3
ASAR	Alice Springs	90.20	230	P	P	18 14 00.6	-0.7
ASAR	Alice Springs 0.7nm,0.6s,baz=32,slow=5.0,SNR=18	90.20	230	P	P	18 14 00.6	-0.7

CASC 05 18:06:04.7±1.4, 13°29N×89°74W, h32km±3km, MD3.6, 1C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.56	12	↓*i*P	Pb	18 06 16.4	-0.1
SBLS				*e*S	Sn	18 06 26.0	+0.9
SNJE	San Jose	0.59	13	↓*i*P	Pb	18 06 16.8	-0.2
RTR	El Retiro	0.61	9	↓*i*P	Pb	18 06 17.2	-0.1
BOQS	Boqueron	0.63	46	*e*P	Pb	18 06 17.3	-0.4
BOQS				*e*S	Sn	18 06 27.9	+1.0
SNET	Serv Nac Est T	0.63	52	*e*P	Pb	18 06 16.7	-0.8
SNET				*e*S	Sn	18 06 27.5	+0.8
LFRS	El Faro	0.74	64	↓*i*P	Pn	18 06 18.6	-0.5
LFRS				*e*S	Sb	18 06 29.3	0.0
LFU	La Fuente	0.76	53	*e*P	Pn	18 06 19.1	-0.3
LFU				*e*S	Sb	18 06 30.8	+1.0
LBRS	Las Brisas	0.81	57	↓*i*P	Pn	18 06 19.9	-0.1
RBDL	Robledal	0.82	4	↓*i*P	Pn	18 06 20.0	-0.3
SNVI	San Vicente	0.94	70	*e*P	Pn	18 06 21.7	-0.1
SNVI				*e*S	Sb	18 06 34.7	-0.3
IXG	Ixpaco	1.11	322	*e*P	Pn	18 06 24.1	-0.3
IXG				*e*S	Sn	18 06 38.7	-0.1
NBG	Las Nubes	1.41	336	↓*e*P	Pn	18 06 29.3	+0.7
VSM	San Miguel	1.44	84	*e*P	Pn	18 06 28.6	-0.3
VSM				*e*S	Sn	18 06 48.0	+1.1
MRL	Marmol	1.76	2	↑*e*P	Pn	18 06 34.1	+0.8
CNCH	Conchagua	1.86	90	*e*P	Pn	18 06 34.2	-0.3
JAT	Jato	2.10	299	*e*P	Pn	18 06 39.1	+1.5

*ISCJB **05** 18:06:36.1±0.4, 26°.14S±0°.07×70°.87E±0°.09, h11km, mb4.3/29, MS3.7/12, Error ellipse: s-maj=12.3km s-min=10.2km az=11.6*
*IDC **05** 18:06:36.2±0.5, 26°.11S×70°.86E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.1/29, mbtmp4.1/17, MS3.7/12, Ms1 3.6/12, ms1mx3.4/35, Error ellipse: s-maj=17.3km s-min=15.8km az=81.0*
*NEIC **05** 18:06:37.7±0.3, 26°.15S×70°.79E, h10km, mb4.6/17, Error ellipse: s-maj=8.8km s-min=7.7km az=100.0*
ISC 05 18:06:38.0±0.5, 26°2S±0°.1×70°.8E±0°.1, h11km, n67, σ0s67/53, mb4.3/29, MS3.8/12, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H baz=186,slow=75,SNR=19	18.47	5	T	T	18 29 57.6	
H08S2	Diego Garcia H baz=186,slow=75,SNR=60	18.47	5	T	T	18 30 05.2	
H08S3	Diego Garcia H baz=186,slow=75,SNR=70	18.49	5	T	T	18 29 51.4	
OPO	Ambohidratompo comp=Z,65nm,19.0s,baz=174,slow=32	23.09	284	LR	LR	18 18 43.4	
H01W2	Cape Leeuwin H baz=271,slow=75,SNR=20	38.08	114	T	T	18 54 11.6	
H01W3	Cape Leeuwin H baz=271,slow=75,SNR=21	38.08	114	T	T	18 54 11.5	
H01W1	Cape Leeuwin H baz=271,slow=75,SNR=21	38.10	114	T	T	18 54 12.6	
PSI	Prapat comp=Z,111nm,20.9s,baz=113,slow=30	39.59	48	LR	LR	18 26 06.0	
BOSA	Boshof 14nm,1.4s	40.35	256	*e*P	P	18 14 15.1	-0.9
BOSA	Boshof 4.7nm,1.1s,baz=78,slow=8.8,SNR=5.2	40.35	256	P	P	18 14 15.5	-0.5
BOSA	comp=Z,105nm,18.1s,baz=265,slow=32			LR	LR	18 28 05.3	
KMBO	Kilima Mbogo	40.77	302	P	P	18 14 20.1	+0.3
KMBO	Kilima Mbogo 1.5nm,0.9s,baz=49,slow=19,SNR=5.2	40.77	302	P	P	18 14 20.1	+0.3
LSZ	Lusaka 10.0nm,1.4s	41.15	277	*e*P	P	18 14 22.7	-0.1
LSZ	Lusaka 1.0nm,0.5s,baz=107,slow=8.7,SNR=3.6	41.15	277	P	P	18 14 23.4	+0.7
MAW	Mawson comp=Z,131nm,18.1s,baz=179,slow=31	41.76	185	LR	LR	18 28 12.9	
CM31	Chiang Mai Arr 7.3nm,1.0s	52.09	35	*e*P	P	18 15 49.8	+1.5
CMAR	Chiang Mai Arr	52.09	35	P	P	18 15 48.2	0.0
CMAR	Chiang Mai Arr 3.4nm,1.1s,baz=227,slow=7.3,SNR=23	52.09	35	P	P	18 15 48.2	0.0
CMAR	comp=Z,48nm,18.9s,baz=358,slow=31			LR	LR	18 33 49.9	
CHTO	Chiang Mai 18nm,2.0s	52.39	34	*e*P	P	18 15 51.2	+0.7
ASAR	Alice Springs	56.77	102	P	P	18 16 21.9	-0.7
ASAR	Alice Springs 1.2nm,0.7s,baz=250,slow=6.6,SNR=20	56.77	102	P	P	18 16 21.9	-0.7
WRA	Warramunga Arr	58.29	98	P	P	18 16 33.0	-0.2
WRA	Warramunga Arr 1.6nm,0.8s,baz=253,slow=6.8,SNR=9.9	58.29	98	P	P	18 16 33.0	-0.2
WRAB	Tennant Creek 2.2nm,0.7s	58.30	98	P	P	18 16 28.0	-5.4
LSA	Lhasa	58.85	21	P	P	18 16 37.9	+0.5
SNAA	Sanae	60.27	200	*e*P	P	18 16 47.0	+0.8
SNAA	Sanae	60.27	200	P	P	18 16 46.5	+0.3
SNAA	Sanae 0.5nm,0.7s,baz=67,slow=5.7,SNR=8.7	60.27	200	P	P	18 16 46.5	+0.3
SNAA	comp=Z,14nm,18.4s,baz=51,slow=32			LR	LR	18 38 50.7	
KBL	Kabul 8.6nm,1.1s	60.38	358	*e*P	P	18 16 48.2	+0.8
STKA	Stephens Creek	61.18	114	P	P	18 16 52.7	-0.3
VNA2	Neumayer--Watz	61.68	201	*e*P	P	18 16 56.9	+1.2
QSPA	South Pole Qui 7.9nm,1.2s	63.98	180	*e*P	P	18 17 10.9	-0.3
QSPA	South Pole Qui 5.5nm,1.0s,baz=277,slow=2.9,SNR=15	63.98	180	P	P	18 17 11.2	0.0
VNDA	Vanda 18nm,1.4s	64.89	166	*e*P	P	18 17 17.3	+0.4
VNDA				*e*		18 17 22.9	
VNDA	Vanda 10nm,1.0s,baz=271,slow=6.3,SNR=14	64.89	166	P	P	18 17 17.4	+0.5
SBA	Scott Base 11nm,0.9s	65.88	167	P	P	18 17 24.1	+0.8
AAK	Ala-Archa 6.9nm,1.4s	68.52	3	P	P	18 17 39.3	-1.3
AAK	Ala-Archa comp=Z,58nm,20.2s,baz=116,slow=32	68.52	3	LR	LR	18 42 53.2	
TKM2	Tokmak 2 10.0nm,1.1s	68.87	4	*e*P	P	18 17 42.5	-0.3
KKAR	Karatay Array 7.2nm,1.1s	68.91	360	*e*P	P	18 17 43.1	+0.3
MK31	Makanchi Array	73.34	8	*e*P	P	18 18 08.5	-1.1
MK31				*e*		18 18 14.9	
MKAR	Makanchi Array	73.34	8	P	P	18 18 09.2	-0.3
MKAR	Makanchi Array 2.6nm,0.9s,baz=199,slow=6.2,SNR=17	73.34	8	P	P	18 18 09.2	-0.3
KBZ	Khabaz comp=Z,59nm,18.4s,baz=285,slow=35	74.11	339	LR	LR	18 49 25.9	
BRTR	Keskin Array B	74.14	331	P	P	18 18 14.9	+0.4
BRTR	Keskin Array B 1.4nm,0.9s,baz=147,slow=7.4,SNR=5.8	74.14	331	P	P	18 18 14.9	+0.4
BRTR	comp=Z,17nm,19.0s,baz=3.0,slow=34			LR	LR	18 48 58.2	
ABKAR	Akbulak array 4.4nm,1.2s	75.69	353	*e*P	P	18 18 22.9	-0.2
KURK	Kurchatov 5.3nm,1.1s	76.83	5	*e*P	P	18 18 29.8	+0.2
KURK				*e*		18 18 35.9	
AKTO	Aktyubinsk	77.08	352	P	P	18 18 31.3	+0.3
AKTO	Aktyubinsk 1.6nm,0.6s,baz=6.3,slow=1.1,SNR=4.0	77.08	352	P	P	18 18 31.3	+0.3
TOA0	Torodi Ar. Sit	77.70	291	*e*P	P	18 18 35.1	-0.2
TORD	Torodi Ar. Bea	77.70	291	P	P	18 18 35.6	+0.3
TORD	Torodi Ar. Bea 1.5nm,0.9s,baz=107,slow=5.6,SNR=7.2	77.70	291	P	P	18 18 35.6	+0.3
BVAR	Borovoye Array	78.84	360	P	P	18 18 40.0	-0.7
BVAR	Borovoye Array 0.9nm,0.8s,baz=159,slow=6.3,SNR=6.2	78.84	360	P	P	18 18 40.0	-0.7
BRVK	Borovoye	78.87	360	P	P	18 18 40.5	-0.3
DBIC	Dimbokro 8.0nm,1.3s	80.19	282	P	P	18 18 47.3	-1.7
DBIC	Dimbokro 2.4nm,1.0s,baz=82,slow=16,SNR=3.2	80.19	282	P	P	18 18 48.7	-0.3
DBIC	comp=Z,46nm,18.1s,baz=200,slow=34			LR	LR	18 52 26.3	
SONM	Songino Array	80.29	23	P	P	18 18 48.6	-0.3
SONM	Songino Array 2.0nm,1.1s,baz=219,slow=6.1,SNR=9.1	80.29	23	P	P	18 18 48.6	-0.3
ULN	Ulaanbaatar 4.2nm,1.2s	80.56	24	*e*P	P	18 18 50.0	-0.4
ZAA0	Zalesovo Array	80.68	8	P	P	18 18 49.2	-1.4
ZALV	Zalesovo Beam	80.68	8	P	P	18 18 49.6	-1.0
ZALV	Zalesovo Beam 1.2nm,0.7s,baz=212,slow=4.2,SNR=7.2	80.68	8	P	P	18 18 49.6	-1.0
ARU	Arti 6.8nm,1.2s	82.91	353	*e*P	P	18 19 02.9	+0.5
ARU				*e*		18 19 09.5	
KSRS	Korea Array comp=Z,61nm,18.6s,baz=190,slow=36	82.93	42	LR	LR	18 56 16.8	
USRK	Ussuriysk Array comp=Z,87nm,19.3s,baz=232,slow=34	89.59	39	LR	LR	18 57 45.3	

*JMA **05** 18:12:24.5, 24°.45N×121°.70E, h33km±1km, M2.9*
*TAP **05** 18:12:24.8, 24°.48N×121°.71E, h32km, ML3.6, B*
*ISCJB **05** 18:12:25.4±0.2, 24°.47N±0°.02×121°.77E±0°.02, h27km±2km, Error ellipse: s-maj=3.2km s-min=2.4km az=145.1*
ISC 05 18:12:25.5±0.9, 24°46N±0°.02×121°74E±0°.02, h31km±5km, n60, σ0s95/106, 8C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau baz=146	0.03	175	↑*i*P	Pb	18 12 30.6	-0.1
ENA				*e*S	Sb	18 12 34.5	+0.3
EHP	Heping Village baz=169	0.15	179	*e*P	Pb	18 12 31.2	-0.2
EHP				S	Sb	18 12 35.8	+0.5
TWC	Suao baz=45	0.18	35	↑*i*P	Pb	18 12 31.5	-0.1
TWC				*i* S	Sn	18 12 35.8	-0.3
ENTT	Nioudou baz=320	0.24	319	↑*i*P	Pb	18 12 31.7	-0.5
ENTT				S	Sb	18 12 36.4	-0.5
TWE	Neicheng baz=353	0.27	346	↑*i*P	Pb	18 12 32.1	-0.4
TWE				*i* S	Sb	18 12 37.1	-0.3
ILA	Ilan baz=6.0	0.30	2	P	Pb	18 12 32.8	-0.2
ILA				S	Sb	18 12 38.1	-0.1
NNS	Nan Shan baz=263	0.33	266	↑*i*P	Pb	18 12 32.9	-0.6
NNS				S	Sb	18 12 38.2	-0.9
TWD	Chiawan baz=202	0.40	199	↓*i*P	Pb	18 12 33.3	-1.1
TWD				S	Sb	18 12 40.9	+0.3
NSK	Sanguang baz=301	0.41	302	↑*i*P	Pb	18 12 33.9	-0.7
NSK				*i* S	Sb	18 12 39.6	-1.2
HWA	Hwalien baz=198	0.50	194	*e*P	Pb	18 12 35.2	-0.7
WHF	Hehuan Shan baz=223	0.53	234	↓*i*P	Pb	18 12 35.9	-0.9
WHF				S	Sb	18 12 43.5	-1.1
TWT	Tachien baz=241	0.55	248	*e*P	Pb	18 12 36.6	-0.3
TWT				S	Sb	18 12 44.4	-0.4
TWB1	Santiao Chiao baz=30	0.59	23	↓*i*P	Pb	18 12 37.2	-0.2
TWB1				S	Sb	18 12 45.4	-0.2
TAP1	Taipei baz=332	0.61	341	↓P	Pb	18 12 36.9	-0.8
TAP1				*e*S	Sb	18 12 45.5	-0.5
TAP	Taipei baz=332	0.61	340	*e*P	Pb	18 12 37.2	-0.6
TAP				*e*S	Sn	18 12 46.1	-0.7
ESF	Shoufeng Towns baz=198	0.62	200	*e*P	Pb	18 12 36.7	-1.3
NSTT	Nanjuang baz=283	0.69	284	↑*i*P	Pb	18 12 38.8	-0.2
NSTT				S	Sb	18 12 47.9	-0.5
TWS1	Kuangyinshan baz=336	0.70	335	*e*P	Pb	18 12 38.4	-0.9
TWS1				*e*S	Sn	18 12 49.0	0.0
ESL	Shilin baz=202	0.70	203	↓*e*P	Pb	18 12 37.0	-2.2
ESL				*e*S	Sb	18 12 48.4	-0.3
NCU	National Centr baz=315	0.71	315	*e*P	Pb	18 12 39.0	-0.5
NCU				*e*S	Sn	18 12 49.3	+0.1
HSN	Hsinchu baz=310	0.78	296	*e*P	Pn	18 12 39.8	-0.5
HSN				*e*S	Sn	18 12 50.8	0.0
TWY	Chenhua baz=340	0.82	351	*e*P	Pn	18 12 40.3	-0.6
TWQ1	Liyutan baz=262	0.89	263	↑*i*P	Pb	18 12 42.6	+0.3
TWQ1				S	Sb	18 12 54.4	+0.5
NSY	Sanyi baz=266	0.89	267	*e*P	Pb	18 12 42.8	+0.3
NSY				*e*S	Sb	18 12 55.0	+1.0
SMLT	Sun Moon Lake baz=228	0.96	233	↓P	Pn	18 12 42.8	-0.1
SMLT				*e*S	Sn	18 12 54.9	-0.6
TYC	Yuchr baz=230	0.98	236	↓*i*P	Pn	18 12 43.1	0.0
TYC				*e*S	Sn	18 12 56.0	+0.2
TCU	Taichung baz=251	1.02	252	*e*P	Pb	18 12 44.4	-0.1
TCU				*e*S	Sb	18 12 58.7	+1.1
EHY	Hungye baz=201	1.02	202	*e*P	Pn	18 12 41.2	-2.5
WNT	Mingjian baz=239	1.12	239	*e*P	Pb	18 12 46.2	-0.2
WNT				*e*S	Sb	18 13 01.9	+1.3
YOJ	Yonaguni jima baz=239	1.16	90	P	Pn	18 12 45.6	+0.1
YOJ				S	Sb	18 13 01.4	-0.2
YOJ	Yonaguni jima baz=77	1.16	90	↓*i*P	Pn	18 12 45.7	+0.2
YOJ				S	Sn	18 13 01.1	+0.8
TWF1	Yuli baz=199	1.18	200	*e*P	Pn	18 12 43.2	-2.6
YUS	Yu-Shan baz=207	1.21	217	*e*P	Pn	18 12 46.3	-0.3
YUS				*e*S	Sb	18 13 04.2	+0.8
ALS	Alishan baz=209	1.27	222	*e*P	Pn	18 12 47.7	+0.3
ALS				*e*S	Sn	18 13 04.4	+0.8
CHN5	Tsauling baz=229	1.30	229	P	Pn	18 12 48.6	+1.1
CHN5				*e*S	Sb	18 13 06.6	+1.0
WGK	Gukeng baz=234	1.32	235	*e*P	Pb	18 12 48.9	-0.8
WGK				*e*S	Sb	18 13 06.6	+0.3
CHKT	Chengkung baz=195	1.40	194	*e*P	Pn	18 12 47.9	-0.9
CHKT				*e*S	Sn	18 13 06.5	+0.3
ELDTW	Lidau baz=199	1.43	208	*e*P	Pn	18 12 47.5	-1.8
ELDTW				*e*S	Sn	18 13 07.6	+0.4
WTCT	Ta-ch'eng baz=258	1.46	246	*e*P	Pn	18 12 49.8	+0.2
WTCT				*e*S	Sn	18 13 08.6	+0.9
CHN2	Minshiung baz=232	1.48	232	*e*P	Pb	18 12 51.9	-0.4
CHN2				*e*S	Sb	18 13 12.1	+1.3
CHY	Chiayi baz=232	1.54	232	*e*P	Pn	18 12 51.9	+1.2
WTP	Ta-pu baz=208	1.59	221	*e*P	Pn	18 12 52.7	+1.2
WTP				*e*S	Sb	18 13 14.4	+0.5
WSF	Szhu baz=239	1.61	240	*e*P	Pn	18 12 52.3	+0.5
WSF				*e*S	Sb	18 13 13.4	-1.0
TWK	Hsinying baz=225	1.65	224	↓P	Pn	18 12 53.7	+1.3
TWK				*e*S	Sb	18 13 15.8	+0.1
CHN1	Nanshi baz=211	1.69	221	*e*P	Pn	18 12 54.2	+1.4
CHN1				*e*S	Sb	18 13 16.8	0.0
SGST	Jiashian baz=208	1.73	218	↓*e*P	Pn	18 12 54.6	+1.2
SGST				*e*S	Sb	18 13 17.6	-0.4
TWG	Pinlang baz=193	1.74	201	*e*P	Pn	18 12 53.3	-0.3
TWG				*e*S	Sn	18 13 14.0	-0.8
IRIF	Iriomote-Funau	1.82	94	P	Pn	18 12 54.4	-0.2
IRIF				S	Sn	18 13 17.1	+0.5
CHN3	Shinhua baz=223	1.87	223	*e*P	Pn	18 12 56.3	+1.0
HATJ	Hateruma jima	1.93	102	*e*S	Sn	18 13 20.4	+1.1
TAI1	Yung-k'ang baz=225	1.98	225	*e*P	Pn	18 12 58.9	+2.1
SSD	Sandimen baz=198	1.99	211	*e*P	Pn	18 12 58.1	+1.1
SSD				*e*S	Sb	18 13 24.0	-1.3
ECL	Taimali baz=191	1.99	201	*e*P	Pn	18 12 56.7	-0.3
TWM1	Shoushan baz=216	2.03	217	*e*P	Pb	18 12 60.0	-1.7
SGLT	Jiouru baz=214	2.07	214	*e*P	Pb	18 13 00.8	-1.6
JKRS	Kuro-shima	2.08	96	P	Pn	18 12 58.6	+0.4
JKRS				S	Sn	18 13 24.7	+1.6
JIJ	Ishigaki jima	2.19	92	P	Pn	18 13 00.2	+0.4
JIJ				*e*S	Sn	18 13 26.5	+0.6
SCZT	Fangliau baz=196	2.32	206	*e*P	Pn	18 13 03.7	+2.2
SCZT				*e*S	Sn	18 13 31.8	+2.8
TWK1	Hengchun baz=190	2.65	199	*e*P	Pn	18 13 07.1	+1.0
JTJ	Tarama	2.71	86	P	Pn	18 13 07.3	+0.5

*ISCJB **05** 18:12:27.2±0.2, 45°.80N±0°.02×26°.82E±0°.02, h119km±2km, mb3.7/11, Error ellipse: s-maj=2.7km s-min=2.5km az=170.0*
*MOS **05** 18:12:27.4±0.8, 45°.81N×26°.84E, h115km, mb3.9/5, Error ellipse: s-maj=6.5km s-min=4.6km az=103.0*
*SOF **05** 18:12:27.6, 45°.81N×26°.73E, h98km, MD3.2*
*CSEM **05** 18:12:28.1±0.1, 45°.81N×26°.82E, h113km±1km, mb3.9/5, Error ellipse: s-maj=2.6km s-min=2.2km az=2.0*
*BUC **05** 18:12:28.2±0.8, 45°.82N×26°.81E, h117km±8km, MD4.6/2, Error ellipse: s-maj=6.9km s-min=5.0km az=120.0*
*IDC **05** 18:12:28.2±0.5, 45°.74N×26°.67E, h111km±6km, mb3.5/9, mb1 3.5/14, mb1mx3.4/30, mbtmp3.8/14, MS2.6/1, Ms1 2.6/1, ms1mx2.0/34, Error ellipse: s-maj=18.6km s-min=12.2km az=142.0*
*PRU **05** 18:12:33.1, 45°.61N×26°.31E, h90km*
ISC 05 18:12:28.6±0.6, 45°81N±0°02×26°82E±0°02, h116km±4km, n295, σ1s00/386, mb3.8/11, 102C-70D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.08	312	↑P	Pn	18 12 44.2	-0.4
VRI				S	Sn	18 12 55.8	-0.8
VRI	Vrincioaia	0.08	312	↑*i*P	Pn	18 12 44.2	-0.4
VRI	Vrincioaia	0.08	312	↑*i*P	Pn	18 12 44.2	-0.4
VRI				*i* S	Sn	18 12 55.8	-0.8
VRI	Vrincioaia	0.08	312	↑*i*P	Pn	18 12 44.2	-0.4
VRI				*i* S	Sn	18 12 55.8	-0.8
PLOR	Plostina	0.12	289	↑P	Pn	18 12 44.1	-0.5
PLOR				S	Sn	18 12 55.6	-1.1
PLOR	Plostina	0.12	289	↑*i*P	Pn	18 12 44.1	-0.5
PLOR	Plostina	0.12	289	↑*i*P	Pn	18 12 44.1	-0.5
PLOR				*i* S	Sn	18 12 55.6	-1.1
PLOR	Plostina	0.12	289	↑*i*P	Pn	18 12 44.1	-0.5
PLOR				*i* S	Sn	18 12 55.6	-1.1
ODBI	Odobesti	0.17	106	↓*i*P	Pn	18 12 45.0	+0.3
ODBI	Odobesti	0.17	106	↓*i*P	Pn	18 12 45.0	+0.3
ODBI				*i* S	Sn	18 12 57.2	+0.4
ODBI	Odobesti	0.17	106	↓*i*P	Pn	18 12 45.0	+0.3
ODBI				*i* S	Sn	18 12 57.2	+0.4
PETR	Petresti	0.30	107	↑*i*P	Pn	18 12 44.9	-0.2
PETR	Petresti	0.30	107	↑*i*P	Pn	18 12 44.9	-0.2
PETR				*i* S	Sn	18 12 57.4	-0.1
PETR	Petresti	0.30	107	↑*i*P	Pn	18 12 44.9	-0.2
PETR				*i* S	Sn	18 12 57.4	-0.1
GRER		0.45	165	↑*i*P	Pn	18 12 46.5	+0.7
GRER		0.45	165	↑*i*P	Pn	18 12 46.5	+0.7
GRER		0.45	165	↑*i*P	Pn	18 12 46.5	+0.7
GHRR		0.48	59	↑*i*P	Pn	18 12 45.9	-0.1
GHRR		0.48	59	↑*i*P	Pn	18 12 45.9	-0.1
GHRR				*i* S	Sn	18 12 58.4	-0.7
GHRR		0.48	59	↑*i*P	Pn	18 12 45.9	-0.1
GHRR				*i* S	Sn	18 12 58.4	-0.7
MLR	Muntele Rosu	0.69	243	↑*i*P	Pn	18 12 47.6	0.0
MLR	Muntele Rosu	0.69	243	↑*i*P	Pn	18 12 47.6	0.0
MLR				*i* S	Sn	18 13 00.7	-1.3
MLR	Muntele Rosu 50nm,0.3s	0.69	243	P	Pn	18 12 47.4	-0.2
MLR				*i* S	Sn	18 13 00.7	-1.3
MLR	Muntele Rosu 50nm,0.3s,baz=67,slow=14,SNR=3845	0.69	243	P	Pn	18 12 47.4	-0.2
MLR	234nm,0.3s,baz=24,slow=20,SNR=134			S	Sn	18 13 00.3	-1.7
TESR	Tescani	0.71	351	↑*i*P	Pn	18 12 46.9	-0.7

TESR	**Tescani**	**0.71**	**351**	⇑	*i*P	**Pn**	**18 12 46.9**	**-0.7**
TESR					*i*S	**Sn**	**18 12 59.8**	**-2.3**
TESR	**Tescani**	**0.71**	**351**	⇑	*i*P	**Pn**	**18 12 46.9**	**-0.7**
TESR					*i*S	**Sn**	**18 12 59.8**	**-2.3**
ISR	**Istrita**	**0.72**	**196**	⇑	P	**Pn**	**18 12 47.9**	**+0.1**
ISR					S	**Sn**	**18 13 00.3**	**-1.9**
ISR	**Istrita**	**0.72**	**196**	⇑	*i*P	**Pn**	**18 12 47.9**	**+0.1**
ISR	**Istrita**	**0.72**	**196**	⇑	*i*P	**Pn**	**18 12 47.9**	**+0.1**
ISR	**Istrita**	**0.72**	**196**	⇑	*i*P	**Pn**	**18 12 47.9**	**+0.1**
ISR					S	**Sn**	**18 13 00.3**	**-1.9**
PGOR	**Pogoanele**	**0.91**	**172**	⇑	*i*P	**Pn**	**18 12 49.5**	**+0.1**
PGOR	**Pogoanele**	**0.91**	**172**	⇑	*i*P	**Pn**	**18 12 49.5**	**+0.1**
PGOR					*i*S	**Sn**	**18 13 05.7**	**+0.6**
PGOR	**Pogoanele**	**0.91**	**172**	⇑	*i*P	**Pn**	**18 12 49.5**	**+0.1**
PGOR					*i*S	**Sn**	**18 13 05.7**	**+0.6**
SECR		**0.94**	**214**	⇑	*i*P	**Pn**	**18 12 50.1**	**+0.4**
SECR		**0.94**	**214**	⇑	*i*P	**Pn**	**18 12 50.1**	**+0.4**
SECR					*i*S	**Sn**	**18 13 05.9**	**+0.3**
SECR		**0.94**	**214**	⇑	*i*P	**Pn**	**18 12 50.1**	**+0.4**
SECR					*i*S	**Sn**	**18 13 05.9**	**+0.3**
DOPR	**Dopca**	**1.01**	**279**	⇓	*i*P	**Pn**	**18 12 50.1**	**-0.3**
DOPR	**Dopca**	**1.01**	**279**	⇓	*i*P	**Pn**	**18 12 50.1**	**-0.3**
DOPR					*i*S	**Sn**	**18 13 06.0**	**-0.9**
DOPR	**Dopca**	**1.01**	**279**	⇓	*i*P	**Pn**	**18 12 50.1**	**-0.3**
DOPR					*i*S	**Sn**	**18 13 06.0**	**-0.9**
PLAR	**PLOIESTI**	**1.05**	**212**	⇑	*i*P	**Pn**	**18 12 51.2**	**+0.4**
PLAR	**PLOIESTI**	**1.05**	**212**	⇑	*i*P	**Pn**	**18 12 51.2**	**+0.4**
PLAR					*i*S	**Sn**	**18 13 08.2**	**+0.6**
PLAR	**PLOIESTI**	**1.05**	**212**	⇑	*i*P	**Pn**	**18 12 51.2**	**+0.4**
PLAR					*i*S	**Sn**	**18 13 08.2**	**+0.6**
CFR	**Carcaliu**	**1.12**	**124**	⇑	P	**Pn**	**18 12 51.0**	**-0.5**
CFR					S	**Sn**	**18 13 08.1**	**-0.8**
CFR	**Carcaliu**	**1.12**	**124**	⇑	*i*P	**Pn**	**18 12 51.0**	**-0.5**
CFR	**Carcaliu**	**1.12**	**124**	⇑	*i*P	**Pn**	**18 12 51.0**	**-0.5**
CFR					*i*S	**Sn**	**18 13 07.4**	**-1.5**
CFR	**Carcaliu**	**1.12**	**124**	⇑	*i*P	**Pn**	**18 12 51.0**	**-0.5**
CFR					S	**Sn**	**18 13 08.1**	**-0.8**
LEOM	**Leova**	**1.20**	**56**	⇑	P	**Pn**	**18 12 52.3**	**0.0**
LEOM					S	**Sn**	**18 13 09.6**	**-0.6**
LEOM	**Leova**	**1.20**	**56**	⇑	*i*P	**Pn**	**18 12 52.3**	**0.0**
LEOM	**Leova**	**1.20**	**56**	⇑	*i*P	**Pn**	**18 12 52.3**	**0.0**
LEOM					*i*S	**Sn**	**18 13 09.8**	**-0.4**
LEOM	**Leova**	**1.20**	**56**	⇑	*i*P	**Pn**	**18 12 52.3**	**0.0**
LEOM					S	**Sn**	**18 13 09.6**	**-0.6**
SULR		**1.20**	**199**	⇑	*i*P	**Pn**	**18 12 52.5**	**+0.2**
SULR		**1.20**	**199**	⇑	*i*P	**Pn**	**18 12 52.5**	**+0.2**
SULR					*i*S	**Sn**	**18 13 10.7**	**+0.4**
SULR		**1.20**	**199**	⇑	*i*P	**Pn**	**18 12 52.5**	**+0.2**
SULR					*i*S	**Sn**	**18 13 10.7**	**+0.4**
AMRR	**Amara**	**1.25**	**163**	⇑	P	**Pn**	**18 12 52.8**	**-0.2**
AMRR					S	**Sn**	**18 13 11.3**	**-0.1**
AMRR	**Amara**	**1.25**	**163**	⇑	*i*P	**Pn**	**18 12 52.8**	**-0.2**
AMRR	**Amara**	**1.25**	**163**	⇑	*i*P	**Pn**	**18 12 52.8**	**-0.2**
AMRR					*i*S	**Sn**	**18 13 11.3**	**-0.1**
AMRR	**Amara**	**1.25**	**163**	⇑	*i*P	**Pn**	**18 12 52.8**	**-0.2**
AMRR					*i*S	**Sn**	**18 13 11.3**	**-0.1**
MTUR	**Matau**	**1.36**	**245**	⇓	P	**Pn**	**18 12 54.6**	**+0.3**
MTUR	**Matau**	**1.36**	**245**	⇓	*i*P	**Pn**	**18 12 54.6**	**+0.3**
MTUR	**Matau**	**1.36**	**245**	⇓	*i*P	**Pn**	**18 12 54.6**	**+0.3**
MTUR	**Matau**	**1.36**	**245**	⇓	*i*P	**Pn**	**18 12 54.6**	**+0.3**
HARR	**Harsova**	**1.37**	**144**	⇓	P	**Pn**	**18 12 53.8**	**-0.4**
HARR	**Harsova**	**1.37**	**144**	⇓	*i*P	**Pn**	**18 12 53.8**	**-0.4**
HARR	**Harsova**	**1.37**	**144**	⇓	*i*P	**Pn**	**18 12 53.8**	**-0.4**
HARR	**Harsova**	**1.37**	**144**	⇓	*i*P	**Pn**	**18 12 53.8**	**-0.4**
INCR	**INCERC-Sediu C**	**1.45**	**199**		S	**Sn**	**18 13 14.4**	**-0.8**
INCR	**INCERC-Sediu C**	**1.45**	**199**		*i*S	**Sn**	**18 13 14.4**	**-0.8**
INCR	**INCERC-Sediu C**	**1.45**	**199**		*i*S	**Sn**	**18 13 14.4**	**-0.8**
IAS	**Iasi**	**1.48**	**20**	⇑	P	**Pn**	**18 12 55.2**	**-0.2**
IAS					S	**Sn**	**18 13 14.5**	**-1.4**
IAS	**Iasi**	**1.48**	**20**	⇑	*i*P	**Pn**	**18 12 55.2**	**-0.2**
IAS	**Iasi**	**1.48**	**20**	⇑	*i*P	**Pn**	**18 12 55.2**	**-0.2**
IAS					*i*S	**Sn**	**18 13 14.4**	**-1.4**
IAS	**Iasi**	**1.48**	**20**	⇑	*i*P	**Pn**	**18 12 55.2**	**-0.2**
IAS					S	**Sn**	**18 13 14.5**	**-1.4**
BAPR	**Bucharest-Chil**	**1.49**	**200**	⇓	*i*P	**Pn**	**18 12 55.4**	**-0.2**
BAPR	**Bucharest-Chil**	**1.49**	**200**	⇓	*i*P	**Pn**	**18 12 55.4**	**-0.2**
BAPR					*i*S	**Sn**	**18 13 15.0**	**-1.1**
BAPR	**Bucharest-Chil**	**1.49**	**200**	⇓	*i*P	**Pn**	**18 12 55.4**	**-0.2**
BAPR					*i*S	**Sn**	**18 13 15.0**	**-1.1**
TLB	**Topalu**	**1.50**	**144**	⇓	P	**Pn**	**18 12 55.3**	**-0.4**
TLB					S	**Sn**	**18 13 15.0**	**-1.4**
TLB	**Topalu**	**1.50**	**144**	⇓	*i*P	**Pn**	**18 12 55.3**	**-0.4**
TLB	**Topalu**	**1.50**	**144**	⇓	*i*P	**Pn**	**18 12 55.3**	**-0.4**
TLB					*i*S	**Sn**	**18 13 14.2**	**-2.2**
TLB	**Topalu**	**1.50**	**144**	⇓	*i*P	**Pn**	**18 12 55.3**	**-0.4**
TLB					S	**Sn**	**18 13 15.0**	**-1.4**
CIOR	**Ciorogarla**	**1.51**	**206**	⇑	*i*P	**Pn**	**18 12 55.6**	**-0.3**
CIOR	**Ciorogarla**	**1.51**	**206**	⇑	*i*P	**Pn**	**18 12 55.6**	**-0.3**
CIOR					*i*S	**Sn**	**18 13 15.8**	**-0.9**
CIOR	**Ciorogarla**	**1.51**	**206**	⇑	*i*P	**Pn**	**18 12 55.6**	**-0.3**
CIOR					*i*S	**Sn**	**18 13 15.8**	**-0.9**
TLCR		**1.54**	**113**	⇑	P	**Pn**	**18 12 56.0**	**-0.2**
TLCR					S	**Sn**	**18 13 16.4**	**-0.8**
TLCR		**1.54**	**113**	⇓	*i*P	**Pn**	**18 12 55.7**	**-0.5**
TLCR		**1.54**	**113**	⇓	*i*P	**Pn**	**18 12 55.7**	**-0.5**
TLCR					*i*S	**Sn**	**18 13 15.8**	**-1.4**
TLCR		**1.54**	**113**	⇓	*i*P	**Pn**	**18 12 55.7**	**-0.5**
TLCR					S	**Sn**	**18 13 16.4**	**-0.8**
BUC1	**Bucharest**	**1.56**	**201**	⇑	P	**Pn**	**18 12 56.3**	**-0.2**
BUC1					S	**Sn**	**18 13 16.7**	**-1.0**
BUC1	**Bucharest**	**1.56**	**201**	⇑	*i*P	**Pn**	**18 12 56.3**	**-0.2**
BUC1	**Bucharest**	**1.56**	**201**	⇑	*i*P	**Pn**	**18 12 56.3**	**-0.2**
BUC1					*i*S	**Sn**	**18 13 16.7**	**-1.0**
BUC1	**Bucharest**	**1.56**	**201**	⇑	*i*P	**Pn**	**18 12 56.3**	**-0.2**
BUC1					*i*S	**Sn**	**18 13 16.7**	**-1.0**
ARR	**Arges**	**1.59**	**255**	⇓	*i*P	**Pn**	**18 12 56.9**	**0.0**
ARR	**Arges**	**1.59**	**255**	⇓	*i*P	**Pn**	**18 12 56.9**	**0.0**
ARR					*i*S	**Sn**	**18 13 19.5**	**+1.0**
ARR	**Arges**	**1.59**	**255**	⇓	*i*P	**Pn**	**18 12 56.9**	**0.0**
ARR					*i*S	**Sn**	**18 13 19.5**	**+1.0**
PRAR	**RASCA**	**1.60**	**346**	⇑	*i*P	**Pn**	**18 12 56.3**	**-0.7**
PRAR	**RASCA**	**1.60**	**346**	⇑	*i*P	**Pn**	**18 12 56.3**	**-0.7**
PRAR	**RASCA**	**1.60**	**346**	⇑	*i*P	**Pn**	**18 12 56.3**	**-0.7**
GOLR		**1.63**	**234**		S	**Sn**	**18 13 18.7**	**-0.4**
GOLR		**1.63**	**234**		*i*S	**Sn**	**18 13 18.7**	**-0.4**
GOLR		**1.63**	**234**		*i*S	**Sn**	**18 13 18.7**	**-0.4**
CVD	**Cernavoda**	**1.73**	**150**	⇓	P	**Pn**	**18 12 57.9**	**-0.5**
CVD					S	**Sn**	**18 13 19.7**	**-1.5**
CVD	**Cernavoda**	**1.73**	**150**	⇓	*i*P	**Pn**	**18 12 57.9**	**-0.5**
CVD	**Cernavoda**	**1.73**	**150**	⇓	*i*P	**Pn**	**18 12 57.9**	**-0.5**
CVD					*i*S	**Sn**	**18 13 19.7**	**-2.1**
CVD	**Cernavoda**	**1.73**	**150**	⇓	*i*P	**Pn**	**18 12 57.9**	**-0.5**
CVD					S	**Sn**	**18 13 19.7**	**-1.5**
MDB	**Medias**	**1.73**	**282**	⇑	P	**Pn**	**18 12 59.0**	**+0.5**
MDB	**Medias**	**1.73**	**282**	⇑	*i*P	**Pn**	**18 12 59.0**	**+0.5**
MDB	**Medias**	**1.73**	**282**	⇑	*i*P	**Pn**	**18 12 59.0**	**+0.5**
MDB	**Medias**	**1.73**	**282**	⇑	*i*P	**Pn**	**18 12 59.0**	**+0.5**
TIRR	**Tirgusor**	**1.76**	**140**	⇓	P	**Pn**	**18 12 58.4**	**-0.5**
TIRR					S	**Sn**	**18 13 20.6**	**-1.4**
TIRR	**Tirgusor**	**1.76**	**140**	⇓	*i*P	**Pn**	**18 12 58.4**	**-0.5**
TIRR	**Tirgusor**	**1.76**	**140**	⇓	*i*P	**Pn**	**18 12 58.4**	**-0.5**
TIRR					*i*S	**Sn**	**18 13 19.8**	**-2.2**
TIRR	**Tirgusor**	**1.76**	**140**	⇓	*i*P	**Pn**	**18 12 58.4**	**-0.5**
TIRR					S	**Sn**	**18 13 20.6**	**-1.4**
HUMR	**Humele**	**1.82**	**226**	⇓	*i*P	**Pn**	**18 12 59.1**	**-0.6**
HUMR	**Humele**	**1.82**	**226**	⇓	*i*P	**Pn**	**18 12 59.1**	**-0.6**
HUMR					*i*S	**Sn**	**18 13 21.7**	**-1.6**
HUMR	**Humele**	**1.82**	**226**	⇓	*i*P	**Pn**	**18 12 59.1**	**-0.6**
HUMR					*i*S	**Sn**	**18 13 21.7**	**-1.6**
KIS	**Kishinev**	**1.82**	**49**	⇑	*i*P	**Pn**	**18 12 59.5**	**-0.1**
	400nm,0.4s							
KIS					*i*S	**Sn**	**18 13 22.5**	**-0.8**
	4µm,0.5s							
KIS	**Kishinev**	**1.82**	**49**	⇑	*i*P	**Pn**	**18 12 59.5**	**-0.1**
KIS					*i*S	**Sn**	**18 13 22.5**	**-0.8**
KIS					pmax	pmax		
	comp=Z,400nm,0.4s							
KIS					smax	smax		
	comp=N,4µm,0.5s							
KIS					smax	smax		
	comp=E,4µm,0.6s							
KIS					smax	smax		
	comp=N,4µm,0.5s							
KIS					smax	smax		
	comp=E,5µm,1.2s							
KIS	**Kishinev**	**1.82**	**49**	⇓	*i*P	**Pn**	**18 12 59.7**	**+0.1**
KIS	**Kishinev**	**1.82**	**49**	⇓	*i*P	**Pn**	**18 12 59.7**	**+0.1**
KIS	**Kishinev**	**1.82**	**49**	*i*	P	**Pn**	**18 12 59.5**	**-0.1**
	comp=E,400nm,0.4s							
KIS					*i*S	**Sn**	**18 13 22.5**	**-0.8**

	comp=E,4µm,0.5s								
BURAR	**Bucovina Array**	**2.11**	**329**	⇓	P	**Pn**	**18 13 04.3**	**+1.0**
BURAR					S	**Sn**	**18 13 32.0**	**+2.0**
BURAR	**Bucovina Array**	**2.11**	**329**	⇓	*i*P	**Pn**	**18 13 04.5**	**+1.2**
BURAR	**Bucovina Array**	**2.11**	**329**	⇓	*i*P	**Pn**	**18 13 04.5**	**+1.2**
BURAR	**Bucovina Array**	**2.11**	**329**	⇓	*i*P	**Pn**	**18 13 04.5**	**+1.2**
EFOR	**EFORIE**	**2.16**	**143**	⇓	*i*P	**Pn**	**18 13 03.7**	**-0.1**
EFOR	**EFORIE**	**2.16**	**143**	⇓	*i*P	**Pn**	**18 13 03.7**	**-0.1**
EFOR					*i*S	**Sn**	**18 13 29.2**	**-1.6**
EFOR	**EFORIE**	**2.16**	**143**	⇓	*i*P	**Pn**	**18 13 03.7**	**-0.1**
EFOR					*i*S	**Sn**	**18 13 29.2**	**-1.6**
LOT	**Lotru**	**2.17**	**261**	⇓	*i*P	**Pn**	**18 13 03.6**	**-0.5**
LOT	**Lotru**	**2.17**	**261**	⇓	*i*P	**Pn**	**18 13 03.6**	**-0.5**
LOT					*i*S	**Sn**	**18 13 29.5**	**-1.7**
LOT	**Lotru**	**2.17**	**261**	⇓	*i*P	**Pn**	**18 13 03.6**	**-0.5**
LOT					*i*S	**Sn**	**18 13 29.5**	**-1.7**
PSN	**Preselentsi**	**2.34**	**155**	⇑	P	**Pn**	**18 13 06.5**	**+0.3**
PSN	**Preselentsi**	**2.34**	**155**	*i*	P	**Pn**	**18 13 06.2**	**0.0**
PSN	**Preselentsi**	**2.34**	**155**	⇓	*i*P	**Pn**	**18 13 06.5**	**+0.3**
PSN	**Preselentsi**	**2.34**	**155**	⇓	*i*P	**Pn**	**18 13 06.5**	**+0.3**
PSN	**Preselentsi**	**2.34**	**155**	*i*	P	**Pn**	**18 13 06.2**	**0.0**
ZIMR		**2.39**	**206**	⇑	P	**Pn**	**18 13 06.1**	**-0.7**
ZIMR		**2.39**	**206**	⇑	*i*P	**Pn**	**18 13 06.1**	**-0.7**
ZIMR		**2.39**	**206**	⇑	*i*P	**Pn**	**18 13 06.1**	**-0.7**
ZIMR					*i*S	**Sn**	**18 13 33.8**	**-2.2**
SORM	**Soroca**	**2.55**	**24**	⇓	P	**Pn**	**18 13 08.2**	**-0.6**
SORM	**Soroca**	**2.55**	**24**	⇓	*i*P	**Pn**	**18 13 08.2**	**-0.6**
SORM	**Soroca**	**2.55**	**24**	⇓	*i*P	**Pn**	**18 13 08.2**	**-0.6**
SORM	**Soroca**	**2.55**	**24**	⇓	*i*P	**Pn**	**18 13 08.2**	**-0.6**
SZH	**Strazhica**	**2.62**	**194**	*i*	P	**Pn**	**18 13 09.4**	**-0.4**
SZH	**Strazhica**	**2.62**	**194**	*i*	P	**Pn**	**18 13 09.4**	**-0.4**
PRD	**Provadia**	**2.64**	**171**	⇓	P	**Pn**	**18 13 10.4**	**+0.3**
PRD	**Provadia**	**2.64**	**171**	*i*	P	**Pn**	**18 13 10.4**	**+0.3**
PRD	**Provadia**	**2.64**	**171**	*i*	P	**Pn**	**18 13 10.4**	**+0.3**
DEV	**Deva**	**2.73**	**273**	⇑	P	**Pn**	**18 13 11.8**	**+0.6**
DEV					S	**Sn**	**18 13 44.2**	**+0.1**
DEV	**Deva**	**2.73**	**273**	⇑	*i*P	**Pn**	**18 13 11.8**	**+0.6**
DEV	**Deva**	**2.73**	**273**	⇑	*i*P	**Pn**	**18 13 11.8**	**+0.6**
DEV	**Deva**	**2.73**	**273**	⇑	*i*P	**Pn**	**18 13 11.8**	**+0.6**
DEV					S	**Sn**	**18 13 44.2**	**+0.1**
ROIA	**ROIAK**	**2.75**	**171**	*i*	P	**Pn**	**18 13 11.6**	**+0.2**
SRE	**Strehaia**	**2.80**	**247**		S	**Sn**	**18 13 43.2**	**-2.3**
SRE	**Strehaia**	**2.80**	**247**	*i*	S	**Sn**	**18 13 43.2**	**-2.3**
PVL	**Pavlikeni**	**2.80**	**203**	*i*	P	**Pn**	**18 13 13.3**	**+1.2**
PVL	**Pavlikeni**	**2.80**	**203**	*i*	P	**Pn**	**18 13 13.3**	**+1.2**
GZR	**Gura Zlata**	**2.87**	**263**	⇓	P	**Pn**	**18 13 13.2**	**+0.2**
GZR	**Gura Zlata**	**2.87**	**263**	⇓	P	**Pn**	**18 13 13.2**	**+0.2**
GZR	**Gura Zlata**	**2.87**	**263**	⇓	P	**Pn**	**18 13 13.2**	**+0.2**
BMR	**Baia Mare**	**2.95**	**310**	⇑	P	**Pn**	**18 13 14.4**	**+0.4**
BMR	**Baia Mare**	**2.95**	**310**	⇑	P	**Pn**	**18 13 14.4**	**+0.4**
BMR	**Baia Mare**	**2.95**	**310**	⇑	P	**Pn**	**18 13 14.4**	**+0.4**
BMR	**Baia Mare**	**2.95**	**310**	⇑	P	**Pn**	**18 13 14.4**	**+0.4**
RMGR	**Halanga-Turnu**	**3.13**	**250**	⇓	P	**Pn**	**18 13 15.7**	**-0.7**
RMGR	**Halanga-Turnu**	**3.13**	**250**	⇓	P	**Pn**	**18 13 15.7**	**-0.7**
RMGR					*i*S	**Sn**	**18 13 50.1**	**-3.2**
RMGR	**Halanga-Turnu**	**3.13**	**250**	⇓	*i*P	**Pn**	**18 13 15.7**	**-0.7**
DJES	**Djerdap**	**3.24**	**251**	*i*	Pn	**Pn**	**18 13 15.9**	**-2.0**
MPEP	**Malo Peshtene**	**3.29**	**223**	*i*	P	**Pn**	**18 13 18.0**	**-0.6**
JMB	**Yambol**	**3.35**	**183**	⇑	P	**Pn**	**18 13 19.1**	**-0.2**
JMB	**Yambol**	**3.35**	**183**	*i*	P	**Pn**	**18 13 19.2**	**-0.1**
JMB	**Yambol**	**3.35**	**183**	*i*	P	**Pn**	**18 13 19.2**	**-0.1**
SIRR	**Siria**	**3.62**	**279**	⇑	P	**Pn**	**18 13 22.5**	**-0.4**
SIRR	**Siria**	**3.62**	**279**	⇑	P	**Pn**	**18 13 22.5**	**-0.4**
SIRR	**Siria**	**3.62**	**279**	⇑	P	**Pn**	**18 13 22.5**	**-0.4**
TRPA	**Tarpa**	**3.73**	**310**	⇑	P	**Pn**	**18 13 23.8**	**-0.6**
TRPA	**Tarpa**	**3.73**	**310**	⇑	P	**Pn**	**18 13 23.8**	**-0.6**
TRPA	**Tarpa**	**3.73**	**310**	⇑	P	**Pn**	**18 13 23.8**	**-0.6**
BOLS	**Boljevac**	**3.99**	**242**	*e*	Pn	**Pn**	**18 13 24.8**	**-3.0**
VTS	**Vitosha**	**4.13**	**220**	⇑	P	**Pn**	**18 13 29.3**	**-0.6**
VTS	**Vitosha**	**4.13**	**220**	*e*	P	**Pn**	**18 13 28.7**	**-1.2**
VTS	**Vitosha**	**4.13**	**220**	*i*	P	**Pn**	**18 13 29.1**	**-0.8**
VTS	**Vitosha**	**4.13**	**220**	⇑	P	**Pn**	**18 13 29.3**	**-0.6**
VTS	**Vitosha**	**4.13**	**220**	⇑	P	**Pn**	**18 13 29.3**	**-0.6**
VTS	**Vitosha**	**4.13**	**220**	⇑	P	**Pn**	**18 13 29.3**	**-0.6**
UZH	**Uzhgorod**	**4.18**	**314**	*e*	P	**Pn**	**18 13 29.5**	**-0.8**
UZH					*e*S	**Sn**	**18 14 16.6**	**-1.6**
UZH					smax	smax		
	comp=N,10.0nm,1.0s							
UZH					smax	smax		
	comp=E,20nm,1.0s							
UZH	**Uzhgorod**	**4.18**	**314**	*e*	P	**Pn**	**18 13 29.5**	**-0.8**
UZH					*e*S	**Sn**	**18 14 16.6**	**-1.6**
KDZ	**Kurdzhali**	**4.28**	**194**	⇓	P	**Pn**	**18 13 32.0**	**+0.2**
KDZ	**Kurdzhali**	**4.28**	**194**	*i*	P	**Pn**	**18 13 32.1**	**+0.2**
KDZ	**Kurdzhali**	**4.28**	**194**	⇑	P	**Pn**	**18 13 32.0**	**+0.2**
KDZ	**Kurdzhali**	**4.28**	**194**	⇑	P	**Pn**	**18 13 32.0**	**+0.2**
KDZ	**Kurdzhali**	**4.28**	**194**	⇑	P	**Pn**	**18 13 32.0**	**+0.2**
KOLS	**Kolonicke sedl**	**4.39**	**317**	*e*	P	**Pn**	**18 13 33.8**	**+0.6**
KOLS	**Kolonicke sedl**	**4.39**	**317**	*e*	P	**Pn**	**18 13 33.8**	**+0.6**
KOLS	**Kolonicke sedl**	**4.39**	**317**	*e*	P	**Pn**	**18 13 33.8**	**+0.6**
RZN	**Rozhen**	**4.39**	**201**	*e*	P	**Pn**	**18 13 33.6**	**+0.1**
RZN	**Rozhen**	**4.39**	**201**	*e*	P	**Pn**	**18 13 33.6**	**+0.1**
LVV	**L'vov**	**4.43**	**336**	*e*	P	**Pn**	**18 13 32.0**	**-1.7**
LVV					*e*S	**Sn**	**18 14 24.0**	**-0.3**
LVV	**L'vov**	**4.43**	**336**	*e*	P	**Pn**	**18 13 32.0**	**-1.7**
LVV					*e*S	**Sn**	**18 14 24.0**	**-0.3**
GRUS	**Gruza**	**4.74**	**248**	⇑	Pn	**Pn**	**18 13 36.9**	**-1.1**
RDO	**Rodhopi**	**4.75**	**192**	*e*	P	**Pn**	**18 13 37.8**	**-0.3**
CRVS	**Cervenica-Dubn**	**4.78**	**312**	*e*	P	**Pn**	**18 13 38.6**	**+0.2**
CRVS	**Cervenica-Dubn**	**4.78**	**312**	*e*	P	**Pn**	**18 13 38.6**	**+0.2**
CRVS	**Cervenica-Dubn**	**4.78**	**312**	*e*	P	**Pn**	**18 13 38.6**	**+0.2**
MMB	**Musomiste**	**4.78**	**209**		P	**Pn**	**18 13 38.0**	**-0.5**
MMB	**Musomiste**	**4.78**	**209**		P	**Pn**	**18 13 38.0**	**-0.5**
TRUS	**Trudelj**	**4.81**	**253**	⇓	iPn	**Pn**	**18 13 36.7**	**-2.2**
ALN	**Alexandroupoli**	**4.94**	**187**	*e*	P	**Pn**	**18 13 39.8**	**-0.9**
NVR	**Nevrokopi**	**4.95**	**207**	*e*	P	**Pn**	**18 13 39.3**	**-1.5**
FGSL	**Fruska Gora**	**4.97**	**265**	⇑	iPn	**Pn**	**18 13 40.9**	**-0.1**
SEV	**Sevastopol'**	**5.01**	**102**	⇓	*e*P	**Pn**	**18 13 40.1**	**-1.4**
SEV					*e*S	**Sn**	**18 14 36.9**	**-1.3**
SEV	**Sevastopol'**	**5.01**	**102**		*e*P	**Pn**	**18 13 40.1**	**-1.4**
SEV					*e*S	**Sn**	**18 14 36.9**	**-1.3**
KECS	**Kecovo**	**5.08**	**304**		*e*P	**Pn**	**18 13 42.4**	**0.0**
KECS	**Kecovo**	**5.08**	**304**		*e*P	**Pn**	**18 13 42.4**	**0.0**
KECS	**Kecovo**	**5.08**	**304**		*e*P	**Pn**	**18 13 42.4**	**0.0**
KAVA	**Kavala**	**5.09**	**200**		*e*P	**Pn**	**18 13 42.6**	**-0.1**
DIVS	**Divibare**	**5.14**	**253**	⇓	iPn	**Pn**	**18 13 41.9**	**-1.4**
KIEV	**Kiev**	**5.14**	**17**		*e*P	**Pn**	**18 13 43.4**	**+0.1**
KIEV	**Kiev**	**5.14**	**17**		*e*P	**Pn**	**18 13 43.4**	**+0.1**
AKASG	**Malin Array Be**	**5.15**	**17**		P	**Pn**	**18 13 42.7**	**-0.7**
AKASG					S	**Sn**	**18 14 37.9**	**-3.8**
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.3s							
AKASG					smax	smax		
	comp=N,9.0nm,0.3s							
AKASG	**Malin Array Be**	**5.15**	**17**		P	**Pn**	**18 13 42.7**	**-0.7**
	comp=N,2.0nm,0.3s							
AKASG					S	**Sn**	**18 14 37.9**	**-3.8**
	comp=N,9.0nm,0.3s							
AKASG	**Malin Array Be**	**5.15**	**17**		P	**Pn**	**18 13 42.7**	**-0.7**
	comp=N,2.3nm,0.3s,baz=206,slow=12,SNR=8.0							
AKASG					S	**Sn**	**18 14 37.9**	**-3.8**
	comp=N,8.8nm,0.3s,baz=203,slow=21,SNR=5.7							
SIM	**Simferopol'**	**5.21**	**97**	*e*	P	**Pn**	**18 13 43.1**	**-1.2**
SIM					*e*S	**Sn**	**18 14 41.5**	**-1.8**
SIM	**Simferopol'**	**5.21**	**97**	*e*	P	**Pn**	**18 13 43.1**	**-1.2**
SIM					*e*S	**Sn**	**18 14 41.5**	**-1.8**
STHS	**Stebnicka Huta**	**5.21**	**316**	*e*	P	**Pn**	**18 13 45.3**	**+1.0**
STHS	**Stebnicka Huta**	**5.21**	**316**	*e*	P	**Pn**	**18 13 45.3**	**+1.0**
STHS	**Stebnicka Huta**	**5.21**	**316**	*e*	P	**Pn**	**18 13 45.3**	**+1.0**
SRS	**Serrai**	**5.25**	**208**	*e*	P	**Pn**	**18 13 44.5**	**-0.3**
IVAS	**Ivanjica**	**5.25**	**247**	*e*	Pn	**Pn**	**18 13 43.8**	**-1.0**
YAL	**Yalta**	**5.36**	**102**	⇑	*i*P	**Pn**	**18 13 45.6**	**-0.6**
YAL					*e*S	**Sn**	**18 14 45.4**	**-1.3**
YAL	**Yalta**	**5.36**	**102**	*i*	P	**Pn**	**18 13 45.6**	**-0.6**
YAL					*e*S	**Sn**	**18 14 45.4**	**-1.3**
SMTH	**Samothraki Isl**	**5.42**	**190**	*e*	P	**Pn**	**18 13 47.2**	**+0.1**
KNT	**Kendrikon**	**5.45**	**213**	*e*	P	**Pn**	**18 13 47.4**	**-0.1**
ALU	**Alushta**	**5.48**	**99**	*e*	P	**Pn**	**18 13 47.3**	**-0.5**
ALU					*e*S	**Sn**	**18 14 49.3**	**-0.2**
ALU	**Alushta**	**5.48**	**99**	*e*	P	**Pn**	**18 13 47.3**	**-0.5**
ALU					*e*S	**Sn**	**18 14 49.3**	**-0.2**
SOH	**Sokhos**	**5.59**	**208**	*e*	P	**Pn**	**18 13 48.6**	**-0.8**
BBLS	**Lazići**	**5.62**	**252**	⇑	iPn	**Pn**	**18 13 48.9**	**-0.9**
PKSM	**Moragy**	**5.71**	**277**	⇓	P	**Pn**	**18 13 50.9**	**0.0**
PKSM	**Moragy**	**5.71**	**277**		P	**Pn**	**18 13 50.9**	**0.0**
GRG	**Griva**	**5.82**	**215**	*e*	P	**Pn**	**18 13 51.9**	**-0.6**
SUDU	**Sudak**	**5.84**	**

n78,σ0.992/103, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINB	**Pinarbasi**	**0.65**	**174**	*i* P	**Pg**	**18 49 27.6**	**-1.4**
PINB				*i* S	**Sg**	**18 49 36.8**	**-0.7**
SVSK	**Karacayir**	**0.79**	**42**	*e*PG	**Pg**	**18 49 31.0**	**-0.7**
SVSK				*e*SG	**Sb**	**18 49 42.7**	**-1.6**
SVSK	**Karacayir**	**0.79**	**42**	*e*Pg	**Pg**	**18 49 31.0**	**-0.7**
SVSK				*e*Sg	**Sb**	**18 49 42.7**	**-1.6**
YOZ	**Yozgat**	**0.83**	**292**	*e*PG	**Pg**	**18 49 31.7**	**-0.6**
YOZ				*e*SG	**Sg**	**18 49 43.7**	**+0.6**
YOZ	**Yozgat**	**0.83**	**292**	*e*Pg	**Pg**	**18 49 31.7**	**-0.6**
YOZ				*e*Sg	**Sg**	**18 49 43.7**	**+0.6**
SCER	**sogukcermik**	**0.83**	**50**	*i* P	**Pg**	**18 49 31.5**	**-0.9**
SCER				*i* S	**Sb**	**18 49 44.7**	**-0.8**
SCER	**sogukcermik**	**0.83**	**50**	*i* P	**Pg**	**18 49 31.5**	**-0.9**
SCER				*i* S	**Sb**	**18 49 44.7**	**-0.8**
TOKA	**Tokat**	**1.00**	**7**	*i* P	**Pb**	**18 49 36.5**	**-0.2**
TOKA				*i* S	**Sn**	**18 49 50.7**	**-1.9**
TOKA	**Tokat**	**1.00**	**7**	*i* P	**Pb**	**18 49 36.5**	**-0.2**
TOKA				*i* S	**Sn**	**18 49 50.7**	**-1.9**
DARE	**Darende-Malaty**	**1.19**	**129**	*e*PN	**Pn**	**18 49 40.5**	**+0.1**
DARE				*e*SN	**Sn**	**18 49 58.7**	**+1.6**
AVNT	**Avonos**	**1.26**	**245**	*i* P	**Pg**	**18 49 39.9**	**-0.7**
AVNT				*i* S	**Sg**	**18 49 57.2**	**+0.3**
AVNT	**Avonos**	**1.26**	**245**	*i* P	**Pg**	**18 49 39.9**	**-0.7**
AVNT				*i* S	**Sg**	**18 49 57.2**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.32**	**36**	*e*PN	**Pn**	**18 49 41.1**	**-1.1**
RSDY	**Resadiye-TOKAT**	**1.32**	**36**	*e*Pn	**Pn**	**18 49 41.1**	**-1.1**
ERBA	**Erbaa**	**1.40**	**14**	*i* P	**Pg**	**18 49 43.2**	**0.0**
ERBA				*i* S	**Sn**	**18 50 03.9**	**+1.6**
ERBA	**Erbaa**	**1.40**	**14**	*i* P	**Pg**	**18 49 43.2**	**0.0**
CDAG	**Cicekdag**	**1.53**	**282**	*i* P	**Pn**	**18 49 44.6**	**-0.4**
CDAG				*i* S	**Sg**	**18 50 06.6**	**+1.0**
CDAG	**Cicekdag**	**1.53**	**282**	*i* P	**Pn**	**18 49 44.6**	**-0.4**
CDAG				*i* S	**Sg**	**18 50 06.6**	**+1.0**
CORM	**Corum**	**1.55**	**304**	*e*PN	**Pn**	**18 49 44.5**	**-0.8**
CORM	**Corum**	**1.55**	**304**	*e*Pn	**Pn**	**18 49 44.6**	**-0.8**
KEMA	**Kemaliye**	**1.70**	**91**	*i* P	**Pn**	**18 49 47.2**	**-0.1**
KEMA				*i* S	**Sg**	**18 50 11.3**	**+0.3**
KEMA	**Kemaliye**	**1.70**	**91**	*i* P	**Pn**	**18 49 47.2**	**-0.1**
KEMA				*i* S	**Sg**	**18 50 11.3**	**+0.3**
SUSE	**Susehri**	**1.70**	**58**	*i* P	**Pn**	**18 49 47.6**	**+0.1**
SUSE				*i* S	**Sg**	**18 50 13.6**	**+2.3**
SUSE	**Susehri**	**1.70**	**58**	*i* P	**Pn**	**18 49 47.6**	**+0.1**
CTKT	**Corum**	**1.74**	**318**	*i* P	**Pg**	**18 49 50.0**	**+0.1**
CTKT				*i* S	**Sg**	**18 50 16.8**	**+4.4**
CTKT	**Corum**	**1.74**	**318**	*i* P	**Pg**	**18 49 50.0**	**+0.1**
ILIC	**ilic-Erzincan**	**1.75**	**85**	*e*PN	**Pn**	**18 49 48.2**	**0.0**
ILIC	**ilic-Erzincan**	**1.75**	**85**	*e*Pn	**Pn**	**18 49 48.2**	**0.0**
KVT	**Kavak**	**1.76**	**354**	*e*PN	**Pn**	**18 49 47.6**	**-0.6**
KVT	**Kavak**	**1.76**	**354**	*e*Pn	**Pn**	**18 49 47.6**	**-0.6**
HAVZ	**Havza**	**1.80**	**346**	*i* P	**Pg**	**18 49 50.3**	**-0.7**
HAVZ				*i* S	**Sg**	**18 50 16.7**	**+2.3**
HAVZ	**Havza**	**1.80**	**346**	*i* P	**Pg**	**18 49 50.3**	**-0.7**
KMRS	**Kahramanmaras**	**1.88**	**165**	*e*PN	**Pn**	**18 49 50.5**	**+0.7**
KMRS	**Kahramanmaras**	**1.88**	**165**	*e*Pn	**Pn**	**18 49 50.5**	**+0.7**
KOZT	**Kozan**	**1.88**	**192**	*e*PN	**Pn**	**18 49 50.4**	**+0.6**
KOZT	**Kozan**	**1.88**	**192**	*e*Pn	**Pn**	**18 49 50.4**	**+0.6**
MALT	**Malatya**	**1.94**	**121**	*e*PN	**Pb**	**18 49 52.1**	**-0.6**
MALT	**Malatya**	**1.94**	**121**	*e*Pn	**Pb**	**18 49 52.1**	**-0.6**
GZT	**Gaziantep**	**2.20**	**153**	*i* P	**Pb**	**18 49 56.8**	**-0.5**
GZT				*i* S	**Sn**	**18 50 23.0**	**+0.7**
ELZG	**Elazig**	**2.25**	**111**	*i* P	**Pn**	**18 49 55.9**	**+0.9**
ELZG				*i* S	**Sg**	**18 50 29.0**	**+0.3**
ELZG	**Elazig**	**2.25**	**111**	*i* P	**Pn**	**18 49 55.9**	**+0.9**
KARA	**Karaisali**	**2.29**	**206**	*e*PN	**Pn**	**18 49 55.9**	**+0.5**
KARA	**Karaisali**	**2.29**	**206**	*e*Pn	**Pn**	**18 49 55.9**	**+0.5**
GULE	**Gulek**	**2.37**	**211**	*i* P	**Pb**	**18 49 57.3**	**+0.6**
GULE				*i* S	**Sn**	**18 50 26.4**	**-0.1**
GULE	**Gulek**	**2.37**	**211**	*i* P	**Pn**	**18 49 57.3**	**+0.6**
GULE				*i* S	**Sn**	**18 50 26.4**	**-0.1**
EZC	**Erzincan**	**2.39**	**79**	*e*Pn	**Pb**	**18 50 01.0**	**+0.6**
KELT	**Kelkit**	**2.42**	**69**	*i* P	**Pn**	**18 49 58.3**	**+1.0**
KELT				*i* S	**Sn**	**18 50 28.6**	**+1.0**
KELT	**Kelkit**	**2.42**	**69**	*i* P	**Pn**	**18 49 58.3**	**+1.0**
KELT				*i* S	**Sn**	**18 50 28.6**	**+1.0**
CANT	**Cankiri**	**2.43**	**303**	*e*PN	**Pn**	**18 49 57.1**	**-0.3**
PTK	**Pertek**	**2.44**	**99**	*e*PN	**Pn**	**18 49 58.1**	**+0.5**
PTK	**Pertek**	**2.44**	**99**	*e*Pn	**Pn**	**18 49 58.1**	**+0.5**
ESPY	**Espiye-Giresun**	**2.44**	**49**	*e*PN	**Pn**	**18 49 57.5**	**0.0**
ESPY	**Espiye-Giresun**	**2.44**	**49**	*e*Pn	**Pn**	**18 49 57.5**	**0.0**
DIKM	**Dikmen**	**2.45**	**341**	*e*PN	**Pn**	**18 49 57.4**	**-0.3**
DIKM	**Dikmen**	**2.45**	**341**	*e*Pn	**Pn**	**18 49 57.4**	**-0.3**
SULT	**Sultanhani-AKS**	**2.46**	**244**	*e*PN	**Pn**	**18 49 58.2**	**+0.4**
SULT	**Sultanhani-AKS**	**2.46**	**244**	*e*Pn	**Pn**	**18 49 58.2**	**+0.4**
AFSR	**Af˙ar-Bala (A**	**2.51**	**274**	*e*PN	**Pn**	**18 49 58.3**	**-0.2**
AFSR	**Af˙ar-Bala (A**	**2.51**	**274**	*e*Pn	**Pn**	**18 49 58.3**	**-0.2**
ERZN	**Erzincan**	**2.66**	**83**	*e*PN	**Pn**	**18 50 00.9**	**+0.4**
GUMT	**Gumushane**	**2.69**	**64**	*e*PN	**Pn**	**18 50 01.5**	**+0.5**
GUMT	**Gumushane**	**2.69**	**64**	*e*Pn	**Pn**	**18 50 01.5**	**+0.5**
ANTO	**Ankara**	**2.77**	**282**	*e*PN	**Pn**	**18 50 02.7**	**+0.7**
ANTO	**Ankara**	**2.77**	**282**	*e*Pn	**Pn**	**18 50 02.7**	**+0.7**
LOD	**Lodumlu**	**2.79**	**283**	*e*PN	**Pn**	**18 50 02.6**	**+0.2**
LOD	**Lodumlu**	**2.79**	**283**	*e*Pn	**Pn**	**18 50 02.6**	**+0.2**
MERS	**Mersin**	**2.83**	**210**	*e*PN	**Pn**	**18 50 03.9**	**+1.0**
MERS	**Mersin**	**2.83**	**210**	*e*Pn	**Pn**	**18 50 03.9**	**+1.0**
TAHT	**Tahtakopru-Hat**	**2.95**	**182**	*e*PN	**Pn**	**18 50 05.9**	**+1.4**
TAHT	**Tahtakopru-Hat**	**2.95**	**182**	*e*Pn	**Pn**	**18 50 05.9**	**+1.4**
BZK	**Bozkurt**	**3.16**	**327**	*e*PN	**Pn**	**18 50 07.3**	**0.0**
BZK	**Bozkurt**	**3.16**	**327**	*e*Pn	**Pn**	**18 50 07.3**	**0.0**
BINT	**Bingol**	**3.28**	**97**	*e*Pn	Pb	18 50 12.2	-3.4
SAFT	**Safranbolu**	**3.36**	**306**	*e*PN	**Pn**	**18 50 10.3**	**+0.1**
SAFT	**Safranbolu**	**3.36**	**306**	*e*Pn	**Pn**	**18 50 10.3**	**+0.1**
BNGB	**Bing˙ll**	**3.41**	**94**	*e*PN	**Pn**	**18 50 12.2**	**+1.2**
BCAM	**Yenicaga**	**3.58**	**296**	*i* P	**Pn**	**18 50 13.3**	**+0.1**
BCAM	**Yenicaga**	**3.58**	**296**	*i* P	**Pn**	**18 50 13.3**	**+0.1**

*IDC **05** 19:27:13.6±1.5, 1°.39N×123°.11E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/23, Error ellipse: s-maj=59.8km s-min=23.4km az=75.0*

*ISCJB **05** 19:27:17.4±1.0, 1°.37N±0°.09×123°.09E±0°.05, h39km, mb3.5/4, Error ellipse: s-maj=12.5km s-min=7.2km az=4.2*

*DJA **05** 19:27:17.0±0.9, 1°N±8°×12°3E±°, h10km, M4.5/9, mb4.7/6, mB4.7/2, MLv4.3/9, Mw(mB)3.9/2*

ISC 05 19:27:19.0±1.2, 1.4N±0.1×123.11E±0.06, h39km, n19, σ1.950/19, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.71**	**188**	P	Pn	19 27 25.9	-6.7
KMSI	**Cibinong**	**1.16**	**131**	P	**Pn**	**19 27 36.7**	**-2.0**
KMSI				S	**Sn**	**19 27 54.6**	**+1.2**
MRSI	**Marisa**	**1.46**	**234**	P	**Pn**	**19 27 39.8**	**-3.0**
MRSI				S	**Sn**	**19 27 59.9**	**-0.7**
TOLI	**Toli-Toli**	**2.33**	**264**	P	**Pn**	**19 27 55.2**	**+0.4**
LUWI	**Luwuk**	**2.40**	**188**	P	**Pn**	**19 27 54.1**	**-1.6**
APSI	**Ampana**	**2.68**	**213**	P	**Pn**	**19 28 00.7**	**+1.1**
KKSI	**Kolaka, Sulawe**	**5.67**	**195**	P	Pn	19 28 47.1	+6.3
MMSI	**Mamuju** 52nm,0.7s,550nm0.2nm	**5.81**	**226**	P	**Pn**	**19 28 43.6**	**+0.9**
NLAI	**Namlea** 30nm,0.6s,0.1nm	**6.05**	**139**	P	**Pn**	**19 28 47.1**	**+1.1**
SPSI	**Sidrap Palu** 37nm,0.6s,556nm0.2nm	**6.25**	**212**	P	**Pn**	**19 28 49.7**	**+1.1**
BNSI	**Bone** 59nm,0.8s	**6.45**	**208**	P	**Pn**	**19 28 52.7**	**+1.2**
KAPI	**Kappang** 95nm,0.9s	**7.16**	**208**	P	**Pn**	**19 29 00.8**	**-0.4**
KAPI	**Kappang** 4.8nm,0.3s,baz=32,slow=6.6,SNR=8.4	**7.16**	**208**	Pn	**Pn**	**19 29 00.5**	**-0.7**
KAPI	comp=Z,151nm,18.7s,baz=283,slow=42			LR	LR	19 32 17.2	
BKSI	**Bulukumba**	**7.27**	**204**	P	**Pn**	**19 29 04.5**	**+1.8**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=0.8,slow=13,SNR=7.7	**19.49**	**173**	P	**P**	**19 31 40.8**	**-2.0**
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=335,slow=9.9,SNR=5.7	**23.85**	**153**	P	**P**	**19 32 28.2**	**-0.6**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=338,slow=7.0,SNR=4.7	**26.99**	**158**	P	**P**	**19 32 59.5**	**+2.1**
STKA	**Stephens Creek** 0.9nm,0.7s,baz=324,slow=13,SNR=3.1	**37.40**	**154**	P	**P**	**19 34 28.2**	**-0.2**
SONM	**Songino Array** 0.5nm,0.8s,baz=164,slow=8.6,SNR=5.0	**48.52**	**345**	P	**P**	**19 35 58.3**	**+0.1**

NEIC 05 19:34:30.8, 53.81N×164.25W, h18km, ML3.7(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**0.70**	**344**	P	Pb	19 34 43.5	-1.0
WESN	**West Dahl Nort**	**0.79**	**346**	P	Pb	19 34 44.8	-1.2
AKUT	**Akutan**	**0.96**	**291**	P	Pb	19 34 47.2	-1.6
AKUT				S	Sb	19 35 00.1	-1.0
SSBA	**Shishaldin**	**0.97**	**4**	P	Pb	19 34 47.1	-2.0
SSBA				S	Sb	19 35 00.1	-1.6
SSLW	**Shishaldin Wes**	**0.97**	**4**	P	Pb	19 34 47.2	-1.9
SSLN	**Shishaldin Nor**	**1.02**	**8**	P	Pb	19 34 48.3	-1.6
ZRO	**Akutan Zero**	**1.06**	**286**	P	Pb	19 34 48.6	-2.0
ZRO				S	Sb	19 35 02.3	-1.9
AKGG	**Akutan Green G**	**1.10**	**292**	P	Pn	19 34 49.2	-2.1
AKGG				S	Sb	19 35 04.0	-1.3
LVA	**Lava Point**	**1.11**	**289**	P	Pn	19 34 49.4	-2.0
AKRB	**Akutan Reef Bi**	**1.12**	**288**	P	Pn	19 34 49.5	-2.1
FALS	**False Pass**	**1.16**	**24**	P	Pn	19 34 50.0	-2.1
FALS				S	Sb	19 35 05.4	-1.5
MSW	**Makushin Switc**	**1.50**	**275**	P	Pn	19 34 54.7	-2.2
MGOD	**Makushin Gods**	**1.56**	**271**	P	Pn	19 34 55.8	-1.8
MGOD				S	Sn	19 35 14.7	-2.6
MSOM	**Makushin Julie**	**1.60**	**272**	P	Pn	19 34 56.3	-1.8
OKFG	**Magazine Ridge**	**2.22**	**261**	P	Pn	19 35 05.7	-0.9
OKFG				S	Sn	19 35 32.6	-0.8
OKRE	**Okmok R'deer P**	**2.35**	**265**	P	Pn	19 35 07.7	-0.7
SDPT	**Sand Point**	**2.69**	**53**	P	Pn	19 35 11.4	-1.6
SDPT				S	Sn	19 35 44.5	-0.5
ANPK	**Aniakchak Peak**	**4.63**	**46**	P	Pn	19 35 39.8	-0.1

*ISCJB **05** 20:12:50.8±0.8, 0°.9N±0°.2×28°.0W±0°.2, h17km, mb3.9/8, MS3.6/8, Error ellipse: s-maj=35.9km s-min=13.8km az=146.0*

*IDC **05** 20:12:50.6±1.0, 1°.05N×28°.00W, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/26, mbtmp4.0/9, ML4.1/1, MS3.5/10, Ms1 3.5/10, ms1mx3.3/30, Error ellipse: s-maj=40.7km s-min=24.4km az=150.0*

ISC 05 20:12:53.1±0.8, 1.0N±0°.2×28.0W±0°.2, h17km, n23, σ1.903/11, mb4.0/8, MS3.5/8, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo** 1.6nm,0.3s,baz=34,slow=15,SNR=11	**10.44**	**229**	Pn	**Pn**	**20 15 22.3**	**+0.1**
RCBR				Sn	Sn	20 17 09.9	-9.0
RCBR	0.6nm,0.3s,baz=102,slow=15,SNR=3.7			LR	LR	20 18 38.6	
H10N3	comp=Z,111nm,20.5s,baz=356,slow=33 **ASCENSION HYDR** baz=303,slow=75,SNR=40	**16.05**	**123**	T	T	20 32 51.4	
H10N2	**ASCENSION HYDR** baz=303,slow=75,SNR=50	**16.06**	**123**	T	T	20 32 52.0	
H10N1	**ASCENSION HYDR** baz=303,slow=75,SNR=60	**16.07**	**123**	T	T	20 32 53.2	
H10S3	**ASCENSION HYDR** baz=306,slow=75,SNR=37	**16.54**	**127**	T	T	20 33 24.9	
H10S1	**ASCENSION HYDR** baz=306,slow=75,SNR=40	**16.55**	**127**	T	T	20 33 26.2	
H10S2	**ASCENSION HYDR** baz=306,slow=75,SNR=33	**16.56**	**127**	T	T	20 33 31.1	
BBTS	**Babate** comp=Z,54nm,20.7s,baz=339,slow=29	**17.66**	**39**	LR	LR	20 21 29.3	
DBIC	**Dimbokro** 3.2nm,0.8s,baz=246,slow=13,SNR=5.2	**23.73**	**76**	P	**P**	**20 18 03.2**	**-1.4**
DBIC	comp=Z,123nm,20.3s,baz=327,slow=31			LR	LR	20 25 05.5	
BDFB	**Brasilia** comp=Z,100nm,18.2s,baz=226,slow=33	**25.81**	**229**	LR	LR	20 27 03.4	
TORD	**Torodi Ar. Bea** 1.5nm,0.6s,baz=255,slow=10,SNR=19	**31.76**	**66**	P	**P**	**20 19 16.1**	**-0.7**
TORD	comp=Z,101nm,20.6s,baz=210,slow=32			LR	LR	20 29 56.5	
CPUP	**Villa Florida** comp=Z,70nm,20.9s,baz=212,slow=35	**39.26**	**224**	LR	LR	20 35 40.2	
LPAZ	**La Paz** comp=Z,32nm,19.0s,baz=72,slow=38	**43.20**	**245**	LR	LR	20 39 56.6	
ROSC	**El Rosal** comp=Z,86nm,19.3s,baz=37,slow=35	**46.45**	**276**	LR	LR	20 40 04.4	
GERES	**GERESS Array B** 0.4nm,0.7s,baz=243,slow=5.8,SNR=3.6	**59.57**	**31**	P	**P**	**20 22 55.8**	**-0.2**
TKL	**Tuckaleechee C** comp=Z,89nm,18.5s,baz=351,slow=34	**62.11**	**310**	LR	LR	20 47 27.6	
NOA	**NORSAR Array B** 0.8nm,0.8s,baz=247,slow=5.3,SNR=3.3	**66.89**	**20**	P	**P**	**20 23 44.9**	**+0.7**
BRTR	**Keskin Array B** 1.2nm,0.7s,baz=232,slow=6.0,SNR=8.9	**67.80**	**47**	P	**P**	**20 23 51.5**	**+0.8**
AKASG	**Malin Array Be** 4.2nm,0.8s,baz=242,slow=6.4,SNR=17	**69.02**	**35**	P	**P**	**20 23 58.5**	**+0.7**
KBZ	**Khabaz** 1.8nm,1.1s,baz=234,slow=8.7,SNR=3.7	**75.54**	**45**	P	**P**	**20 24 37.4**	**+0.5**
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=100,slow=4.8,SNR=3.4	**83.14**	**313**	P	**P**	**20 25 17.1**	**-1.6**
PDAR	comp=Z,68nm,19.4s,baz=104,slow=32			LR	LR	20 56 44.7	
CMAR	**Chiang Mai Arr** 0.8nm,1.0s,baz=260,slow=3.1,SNR=5.0	**124.36**	**67**	PKP	**PKPdf**	**20 31 53.5**	**+1.3**
ASAR	**Alice Springs** 1.2nm,0.8s,baz=206,slow=2.4,SNR=18	**151.43**	**143**	PKPbc	**PKPbc**	**20 32 47.4**	**+0.2**

*NEIC **05** 20:27:37.8±1.0, 32°.28N×115°.05W, h10km, ML3.6(PAS), ML3.9(ECX), Error ellipse: s-maj=13.5km s-min=6.5km az=201.0*

*ECX **05** 20:27:40.7±0.6, 32°.43N×115°.12W, h8km, MD3.7, ML3.9*

ISC 05 20:27:38.0±1.0, 32.33N±0°.03×115.05W±0°.03, h13km±8km, n41, σ1.890/56, 10C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.24**	**293**	↑*e*P	**Pb**	**20 27 43.9**	**-0.3**
CPBX				*e*S	**Sg**	**20 27 46.6**	**+0.2**
CPBX	comp=E,136μm,1.1s			↑*e*		20 28 14.5	
CPBX	comp=N,81μm,0.6s			↑*e*		20 28 16.3	
EMX	**El Mayor**	**0.37**	**206**	↑*e*P	**Pn**	**20 27 47.8**	**-1.4**
EMX				*e*S	**Sb**	**20 27 53.7**	**+1.5**
EMX				*i* S	Sg	20 27 54.3	+3.8
SGL	**Mount Signal**	**0.66**	**300**	↑*i*P	**Pg**	**20 27 50.5**	**-0.4**
GLA	**Glamis**	**0.75**	**14**	*e*Pg	**Pg**	**20 27 52.2**	**-0.4**
GLA				*e*Sg	**Sg**	**20 28 01.8**	**-0.6**
COK	**Cook Ranch**	**0.78**	**312**	*e*P	**Pg**	**20 27 52.6**	**-0.5**
YUH	**Yuha Desert**	**0.81**	**294**	↑*i*P	**Pg**	**20 27 52.9**	**-0.8**
ECBX	**El Chinero**	**0.85**	**180**	↓*e*P	**Pn**	**20 27 55.7**	**0.0**
ECBX				*e*S	**Sn**	**20 28 08.6**	**+0.5**
RDX	**Rancho Dawling**	**0.86**	**243**	↑*e*P	**Pn**	**20 27 55.5**	**-0.5**
RDX				*e*S	**Sn**	**20 28 07.6**	**-0.9**
RDX	comp=N,2μm,0.7s			↑*e*		20 28 17.3	
RMX	**La Rumorosa**	**0.92**	**288**	*e*P	**Pg**	**20 27 55.1**	**-0.6**
ZAX	**El Zacaton**	**1.32**	**233**	↑*e*P	**Pg**	**20 28 03.8**	**+0.4**
BAR	**Barrett**	**1.42**	**285**	*e*Pn	**Pn**	**20 28 02.5**	**-1.1**
ECNX	**Esteban Cantu**	**1.48**	**244**	↓*e*P	**Pg**	**20 28 06.4**	**0.0**
PBX	**Punta Banda**	**1.54**	**248**	*e*P	**Pg**	**20 28 07.0**	**-0.5**
PBX				↓*e*		20 28 42.9	
PBX	comp=E,2μm,0.9s			↑*e*		20 28 51.7	
PFO	comp=N,1μm,0.7s **Pinyon Flat Ob**	**1.74**	**318**	*e*Pn	**Pn**	**20 28 08.4**	**+0.3**
214A	**Organ Pipe Nat**	**1.93**	**100**	*e*Pn	**Pn**	**20 28 10.2**	**-0.4**
LDFC	**Landfair**	**2.75**	**359**	*e*Pn	**Pn**	**20 28 22.8**	**+0.9**
MWC	**Mount Wilson**	**3.15**	**308**	*e*Pn	**Pb**	**20 28 34.5**	**+0.4**
PASC	**Pasadena Art C**	**3.21**	**306**	*e*Pn	**Pb**	**20 28 35.5**	**+0.6**
GSC	**Goldstone**	**3.31**	**334**	*e*Pn	**Pn**	**20 28 32.3**	**+2.6**
TUC	**Tucson**	**3.61**	**89**	*e*Pn	**Pn**	**20 28 34.4**	**+0.7**
OSI	**Osito Adit**	**3.83**	**308**	*e*Pg	**Pg**	**20 28 52.6**	**+1.2**
SHPR	**Sheep Range**	**4.17**	**359**	*e*Pn	**Pn**	**20 28 42.3**	**+0.7**
SHPR				*e*Pg	**Pg**	**20 28 56.3**	**-1.7**
SHPR				*e*S	**Sb**	**20 29 45.3**	**+3.6**
ISA	**Isabella**	**4.38**	**320**	Pn	**Pn**	**20 28 45.1**	**+0.8**
ISA				*e*Pg	**Pg**	**20 29 03.3**	**+1.4**
WUAZ	**Wupatki**	**4.41**	**43**	*e*Pn	**Pn**	**20 28 47.0**	**+2.1**
WUAZ				*e*Pg	**Pg**	**20 29 05.0**	**+2.5**
W18A	**Petrified Fore**	**5.23**	**56**	*e*Pn	**Pn**	**20 28 56.3**	**+0.2**
CCUT	**Cedar City** comp=N,27nm,1.0s	**5.39**	**14**	*e*Pn	**Pn**	**20 28 59.5**	**+1.0**
CCUT				*e*Pg	**Pg**	**20 29 21.1**	**-0.2**
ARUT	**Antelope Range** comp=N,229nm,0.5s	**5.61**	**13**	*e*Pn	**Pn**	**20 28 59.3**	**-2.0**
ARUT				*e*Pb	Pb	20 29 10.5	-5.3
ARUT				*e*Pg	Pg	20 29 21.1	-4.3
TPH	**Tonopah**	**6.01**	**343**	Pn	**Pn**	**20 29 09.3**	**+2.5**
R11A	**Troy Canyon, C**	**6.03**	**356**	*e*Pn	**Pn**	**20 29 05.8**	**-1.3**
R11A				*e*Pb	**Pb**	**20 29 21.6**	**-1.4**
R11A				*e*Pg	**Pg**	**20 29 30.5**	**-2.9**
R11A				*e*Sg	Sb	20 30 44.0	+8.8
121A	**Cookes Peak, D**	**6.14**	**86**	*e*Pn	**Pn**	**20 29 09.6**	**+0.9**
MVU	**Marysvale**	**6.58**	**20**	Pn	**Pn**	**20 29 16.3**	**+1.6**
MVU				*e*Pg	**Pb**	**20 29 35.4**	**+2.8**
LENM	**Lemitar**	**7.01**	**73**	Pn	Pn	20 29 14.9	-5.7
MVCO	**Mesa Verde** comp=N,13nm,0.6s	**7.26**	**46**	*e*Pn	**Pn**	**20 29 24.5**	**+0.4**
MVCO				*e*Pg	**Pg**	**20 29 58.9**	**+1.9**
MVCO				*e*Sg	**Sg**	**20 31 26.5**	**-4.6**
ANMO	**Albuquerque** comp=N,4.5nm,0.8s	**7.62**	**68**	Pn	**Pn**	**20 29 28.6**	**-0.4**
ANMO				*e*Pb	**Pb**	**20 29 52.2**	**+2.0**
ANMO				*e*Pg	Pg	20 30 07.8	+3.8
SRU	**San Rafael**	**7.70**	**27**	*e*Pn	**Pn**	**20 29 30.5**	**+0.4**
SRU				*e*Pb	**Pb**	**20 29 50.0**	**-1.5**
SRU				*e*Pg	Pg	20 29 59.4	-6.1
SRU				*e*Sg	Sg	20 31 37.9	-7.3
PV10	**Paradox Valley** comp=N,460nm,0.8s	**7.78**	**37**	*e*Pn	**Pn**	**20 29 33.6**	**+2.4**
PV10				*e*Pg	Pg	20 30 02.7	-4.2
PV10				*e*Sg	**Sg**	**20 31 42.9**	**-4.7**
PV01	**Paradox Valley** comp=N,2μm,1.0s	**7.85**	**41**	*e*Pn	Pn	20 29 35.5	+3.4
PV01				*e*Sg	**Sg**	**20 31 46.2**	**-3.8**
PV04	**Paradox Valley**	**7.86**	**38**	*e*Pn	Pn	20 29 37.2	+5.0
PV04				*e*Pg	Pg	20 30 02.5	-5.9
PV04				*e*Sg	**Sg**	**20 31 44.7**	**-5.6**
MNTX	**Cornudas Mount**	**8.23**	**92**	*e*Pn	**Pn**	**20 29 37.2**	**0.0**
MNTX				*e*Sn	Sn	20 31 17.4	+7.4
SDCO	**Great Sand Dun**	**9.51**	**53**	Pn	Pn	20 30 00.8	+5.8
ISCO	**Idaho Springs**	**10.67**	**43**	Pn	Pn	20 30 07.7	-3.1

*ISCJB **05** 21:05:08.2±0.8, 56°.5S±0°.1×27°.0W±0°.4, h101km, mb4.2/5, Error ellipse: s-maj=32.2km s-min=14.0km az=157.9*

*IDC **05** 21:05:12.8±12.0, 56°.51S×27°.15W, h126km±113km, mb3.9/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.9/5, Error ellipse: s-maj=31.7km s-min=22.9km az=82.0*

ISC 05 21:05:09.8±0.8, 56.5S±0°.1×27.1W±0°.2, h101km, n8, σ0.965/8, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA2	**Neumayer--Watz**	**16.72**	**157**	*e*P	**Pn**	**21 08 57.6**	**+0.1**
SNAA	**Sanae**	**18.27**	**155**	*e*P	**P**	**21 09 14.5**	**-0.7**
CPUP	**Villa Florida** 0.8nm,0.5s,baz=145,slow=6.4,SNR=3.7	**37.17**	**312**	P	**P**	**21 12 10.3**	**-0.5**
VNDA	**Vanda** 4.0nm,1.1s,baz=188,slow=11,SNR=9.5	**46.08**	**183**	P	**P**	**21 13 23.4**	**+0.6**
LPAZ	**La Paz** 4.9nm,0.4s,baz=146,slow=4.8,SNR=18	**50.70**	**305**	P	**P**	**21 14 00.2**	**+0.5**
DBIC	**Dimbokro** 1.0nm,0.5s,baz=237,slow=4.7,SNR=3.0	**65.60**	**24**	P	**P**	**21 15 42.7**	**0.0**
TORD	**Torodi Ar. Bea** 2.2nm,0.4s,baz=200,slow=6.4,SNR=69	**73.46**	**29**	P	**P**	**21 16 31.4**	**+0.4**
ILAR	**Eielson Array** 1.0nm,0.9s,baz=150,slow=1.2,SNR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.74 109**		*i* PG	**Pn**	**22 31 28.0**	**-0.4**
SHL				*i* SG	**Sn**	**22 31 48.0**	**-1.6**
IMP	**Imphal**	**3.75 110**		*eP*	**Pn**	**22 31 54.0**	**-2.1**
IMP				*eS*	**Sb**	**22 32 53.0**	**+2.0**
AAK	**Ala-Archa**	**20.82 326**		P	**P**	**22 35 37.5**	**-1.8**
	0.8nm,0.5s,baz=140,slow=4.9,SNR=5.3						
MKAR	**Makanchi Array**	**21.52 345**		P	**P**	**22 35 47.4**	**+0.8**
	0.8nm,0.7s,baz=163,slow=12,SNR=9.8						
SONM	**Songino Array**	**25.18 26**		P	**P**	**22 36 23.2**	**+0.3**
	0.4nm,0.6s,baz=218,slow=9.0,SNR=5.5						
KURBB	**Kurchatov Arra**	**26.00 343**		P	**P**	**22 36 30.9**	**+0.8**
	0.5nm,0.7s,baz=162,slow=8.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**28.05 353**		LR	LR	22 47 55.6	
	comp=Z,22nm,18.0s,baz=75,slow=36						
WRA	**Warramunga Arr**	**62.81 132**		P	**P**	**22 41 23.6**	**+0.5**
	0.4nm,0.6s,baz=325,slow=6.9,SNR=5.5						
ASAR	**Alice Springs**	**65.19 136**		P	**P**	**22 41 40.1**	**+1.4**
	0.2nm,0.6s,baz=316,slow=6.4,SNR=6.2						

MOS ***05*** *22:52:31.1±1.0, 46˚.85N×147˚.15E, h315km, mb3.9/2, Error ellipse: s-maj=25.9km s-min=18.0km az=108.9*

IDC ***05*** *22:52:32.9±3.8, 46˚.91N×147˚.01E, h310km±42km, mb3.2/8, mb1 3.3/11, mb1mx3.1/29, mbtmp3.2/11, Error ellipse: s-maj=59.1km s-min=45.2km az=160.0*

SKHL ***05*** *22:52:33.9±5.9, 46˚.69N×146˚.91E, h337km±20km, mb4.2/3, msh4.8/1*

ISCJB ***05*** *22:52:34.5±0.7, 46˚.49N±0˚.06×146˚.6E±0˚.2, h332km±5km, mb3.3/9, Error ellipse: s-maj=17.5km s-min=8.6km az=9.9*

JMA ***05*** *22:52:36.1±0.6, 46˚.10N×147˚.02E, h344km, M3.8*

ISC 05 22:52:34.9±0.9, 46˚.44N±0˚.08×146˚.6E±0˚.1, h332km±9km, n49,σ1s66/54, mb3.3/9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.48 144**		*e*PN	Pn	22 53 17.0	-4.1
KUR	**Kuril'sk**	**1.48 144**		*e*P	**Pn**	**22 53 22.0**	**+0.9**
KUR				AMB	AMB	22 53 22.7	
	90nm,0.7s						
KUR				*e*S	**S**	**22 53 59.5**	**+1.5**
KUR				A	A	22 54 17.6	
	80nm,0.4s						
YSS	**Yuzh-Sakhalins**	**2.73 282**		*e*P	**Pn**	**22 53 30.3**	**0.0**
JTKR	**Abashiri--Toko**	**3.14 219**		P	**Pn**	**22 53 36.2**	**+2.0**
NEM2	**Nemuro 2**	**3.14 192**		P	**Pn**	**22 53 33.9**	**-0.4**
NEM2				*e*S	**S**	**22 54 19.4**	**-2.5**
JKA	**Kamikawa-asahi**	**3.68 232**		*e*P	**Pn**	**22 53 42.1**	**+2.5**
ASAJ	**Asahikawa**	**3.68 232**		P	**Pn**	**22 53 42.2**	**+2.6**
ASAJ	**Asahikawa**	**3.68 232**		P	**Pn**	**22 53 42.1**	**+2.6**
	3.9nm,0.3s,baz=51,slow=11,SNR=26						
JAK	**Akkeshi**	**3.71 203**		P	**Pn**	**22 53 40.0**	**+0.1**
JAK				*e*S	**S**	**22 54 30.2**	**-2.0**
JAR	**Ashorobuto**	**3.75 214**		P	**Pn**	**22 53 42.3**	**+2.0**
UGL	**Uglegorsk**	**4.06 312**		*e*P	**Pn**	**22 53 42.6**	**-0.7**
UGL				AMB	AMB	22 53 43.0	
	40nm,0.4s						
JCH	**Churui**	**4.49 213**		P	**Pn**	**22 53 48.4**	**+0.3**
JCH				*e*S	**S**	**22 54 44.6**	**-2.4**
JNBK	**Urakawa-nobuka**	**5.01 215**		P	**Pn**	**22 53 53.8**	**0.0**
JNBK				*e*S	**S**	**22 54 55.4**	**-2.1**
TYV	**Tymovskoe**	**5.15 331**		*e*P	**Pn**	**22 53 54.1**	**-1.1**
TYV				AMB	AMB	22 53 57.7	
	20nm,0.6s						
JEW	**Eniwo**	**5.17 228**		P	**Pn**	**22 53 57.9**	**+2.3**
JKB	**Kayabe**	**6.08 224**		P	**Pn**	**22 54 06.6**	**+0.5**
JOT	**Ohata**	**6.47 221**		P	**Pn**	**22 54 10.2**	**-0.5**
JOT				*e*S	**S**	**22 55 23.5**	**-4.7**
JANG	**Nango**	**7.12 213**		P	**Pn**	**22 54 17.9**	**-0.5**
NKL	**Nikolayevsk**	**7.74 332**		*e*P	**Pn**	**22 54 24.7**	**-0.7**
JOM	**Ohasama**	**7.99 211**		P	**Pn**	**22 54 29.2**	**+0.5**
USRK	**Ussuriysk Arra**	**10.56 263**		P	**P**	**22 55 01.4**	**+0.2**
	0.6nm,0.3s,baz=68,slow=12,SNR=22						
MJAR	**Matsushiro Arr**	**11.73 216**		*e*P	**P**	**22 55 16.9**	**+2.5**
MJAR	**Matsushiro Arr**	**11.73 216**		P	**P**	**22 55 16.9**	**+2.5**
	0.5nm,0.3s,baz=19,slow=12,SNR=8.6						
SONM	**Songino Array**	**27.20 288**		P	**P**	**22 57 49.7**	**+0.6**
	0.4nm,0.3s,baz=84,slow=9.4,SNR=16						
ZALV	**Zalesovo Beam**	**39.14 304**		P	**P**	**22 59 29.7**	**-1.3**
ZALV	**Zalesovo Beam**	**39.14 304**		P	**P**	**22 59 29.7**	**-1.3**
	0.3nm,0.3s,baz=88,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**43.07 295**		P	**P**	**23 00 02.8**	**-0.2**
MKAR	**Makanchi Array**	**43.07 295**		*e*P	**P**	**23 00 02.8**	**-0.2**
MKAR	**Makanchi Array**	**43.07 295**		P	**P**	**23 00 02.8**	**-0.2**
	0.7nm,0.6s,baz=71,slow=7.8,SNR=14						
KURK	**Kurchatov**	**43.77 302**		P	**P**	**23 00 08.4**	**0.0**
KURK	**Kurchatov**	**43.77 302**		*e*P	**P**	**23 00 08.4**	**0.0**
KURBB	**Kurchatov Arra**	**43.86 301**		P	**P**	**23 00 08.3**	**-0.7**
	0.3nm,0.3s,baz=70,slow=8.6,SNR=6.2						
BVAR	**Borovoye Array**	**47.55 307**		P	**P**	**23 00 37.2**	**-0.5**
BVAR	**Borovoye Array**	**47.55 307**		P	**P**	**23 00 37.2**	**-0.5**
	0.6nm,0.6s,baz=64,slow=9.8,SNR=4.2						
TAPN	**Taplejung**	**49.65 269**		*e*P	**P**	**23 00 56.5**	**+2.3**
	3.3nm,0.6s						
JIRN	**Jiri**	**50.50 270**		*e*P	**P**	**23 01 02.5**	**+1.8**
	3.9nm,0.2s						
GUN	**Gumba**	**50.56 271**		*e*P	**P**	**23 01 02.4**	**+1.3**
	4.1nm,0.4s						
RAMN	**Ramite**	**50.66 269**		*e*P	**P**	**23 01 03.3**	**+1.6**
	3.4nm,0.2s						
DANN	**Dangsing**	**51.75 273**		*e*P	**P**	**23 01 11.7**	**+1.9**
	3.9nm,0.3s						
KOLN	**Koldanda**	**52.23 272**		*e*P	**P**	**23 01 14.9**	**+1.8**
	1.3nm,0.2s						
JOF	**Joensuu**	**59.55 331**		*e*P	**P**	**23 02 02.1**	**-1.6**
JOF	**Joensuu**	**59.55 331**		*e*p	**P**	**23 02 02.1**	**-1.6**
	0.3nm,0.3s						
JOF	**Joensuu**	**59.55 331**		*e*P	**P**	**23 02 02.1**	**-1.6**
FINES	**FINESS Array B**	**62.32 332**		P	**P**	**23 02 19.6**	**-2.6**
	1.8nm,0.7s,baz=43,slow=8.1,SNR=11						
KBZ	**Khabaz**	**67.76 310**		P	**P**	**23 02 58.1**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**67.76 310**		*e*P	**P**	**23 02 58.1**	**+0.8**
KBZ	**Khabaz**	**67.76 310**		P	**P**	**23 02 58.1**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=58,slow=6.9,SNR=6.0						
AKASG	**Malin Array Be**	**69.21 323**		P	**P**	**23 03 05.3**	**-0.8**
AKASG	**Malin Array Be**	**69.21 323**		P	**P**	**23 03 05.2**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=39,slow=6.4,SNR=4.2						

ISCJB ***05*** *22:56:11.0±0.6, 17˚.93S±0˚.05×178˚.56W±0˚.03, h566km±7km, mb4.8/138, Error ellipse: s-maj=7.3km s-min=3.2km az=160.4*

MOS ***05*** *22:56:11.2±1.0, 17˚.81S×178˚.52W, h562km, mb4.7/28, Error ellipse: s-maj=11.7km s-min=9.0km az=143.9*

IDC ***05*** *22:56:11.9±0.9, 17˚.94S×178˚.47W, h566km±9km, mb4.2/24, mb1 4.3/26, mb1mx4.3/29, mbtmp5.1/26, Error ellipse: s-maj=10.8km s-min=7.8km az=142.0*

NEIC ***05*** *22:56:12.7±0.5, 17˚.88S×178˚.53W, h576km±6km, mb4.8/74, Error ellipse: s-maj=7.8km s-min=3.7km az=152.0*

AUST ***05*** *22:56:12.5±0.6, 17˚.89S×178˚.35W, h582km±10km, Error ellipse: s-maj=10.8km s-min=6.7km az=130.0*

BJI ***05*** *22:56:12.4, 17˚.90S×178˚.50W, h584km, mB5.2/19, mb4.7/30*

DJA ***05*** *22:56:14.0±0.8, 18˚S±7˚×17˚8W±˚, h596km±12km, M4.9/49, mB5.4/17, mb5.3/49, Mw(mB)4.9/17*

ISC 05 22:56:13.1±0.3, 17˚.97S±0˚.05×178˚.39W±0˚.05, h586km±3km, h587km:pP-P, n785,σ1s22/838, mb4.8/138, 199C-208D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**59**	*e*P	**P**	**22 58 05.8**	**-1.8**
AFI				S	**S**	**22 59 36.5**	**-4.9**
AFI	**Afiamalu**	**7.54**	**59**	P	**P**	**22 58 05.7**	**-1.9**
	34nm,0.3s,baz=150,slow=1.8,SNR=18						
AFI				S	**S**	**22 59 36.5**	**-4.9**
	8.9nm,0.3s,baz=45,slow=20,SNR=3.9						
NIUE	**Niue**	**8.11**	**99**	⇑P	**P**	**22 58 13.4**	**+0.5**
	baz=8.1,SNR=29						
RAO	**Raoul Island**	**11.24 178**		S	**S**	**23 00 46.0**	**-1.9**
RAO	**Raoul Island**	**11.24 178**		S	**S**	**23 00 46.0**	**-1.9**
	65nm,0.3s,baz=72,slow=20,SNR=2.4						
DZM	**Mont Dzumac**	**14.82 252**		P	**P**	**22 59 19.5**	**-0.7**
DZM	**Mont Dzumac**	**14.82 252**		P	**P**	**22 59 19.5**	**-0.7**
	6.1nm,0.3s,baz=79,slow=17,SNR=45						
KNTN	**Kanton**	**16.46**	**24**	*e*P	**P**	**22 59 34.4**	**-0.9**
	217nm,0.8s						
OUZ	**Omahuta**	**18.60 201**		*e*P	**P**	**22 59 56.0**	**+1.4**
	92nm,1.3s						
URZ	**Urewera**	**20.60 190**		*e*P	**P**	**23 00 11.2**	**-1.5**
	29nm,0.7s						
URZ	**Urewera**	**20.60 190**		P	**P**	**23 00 12.1**	**-0.5**
	40nm,0.8s,baz=149,slow=3.5,SNR=11						
HNR	**Honiara**	**22.67 289**		*e*P	**P**	**23 00 29.5**	**-2.1**
	114nm,0.8s						
HNR	**Honiara**	**22.67 289**		P	**P**	**23 00 30.1**	**-1.4**
	89nm,0.5s,baz=238,slow=1.8,SNR=11						
RPZ	**Rata Peaks**	**27.17 197**		P	**P**	**23 01 09.6**	**-1.2**
	3.7nm,0.5s,baz=4.8,slow=4.5,SNR=4.6						
EIDS	**Eidsvold**	**29.26 250**		*e*P	**P**	**23 01 28.7**	**-0.6**
	78nm,0.8s						
EIDS	**Eidsvold**	**29.26 250**		⇑P	**P**	**23 01 28.4**	**-0.8**
	baz=29,SNR=25						
ARMA	**Armidale**	**29.92 240**		*e*P	**P**	**23 01 35.7**	**+0.7**
	78nm,0.8s						
ARMA	**Armidale**	**29.92 240**		⇑P	**P**	**23 01 35.4**	**+0.3**
	baz=30,SNR=71						
RMQ	**Roma**	**31.50 249**		⇓P	**P**	**23 01 48.4**	**-0.1**
	baz=32,SNR=65						
CNB	**Canberra Magne**	**33.40 232**		⇑P	**P**	**23 02 05.0**	**+0.5**
	baz=34,SNR=207						
CTA	**Charters Tower**	**33.45 261**		P	**P**	**23 02 04.5**	**-0.5**
CTA				ScP	**ScP**	**23 07 20.6**	**+2.4**
CTA	**Charters Tower**	**33.45 261**		P	**P**	**23 02 04.5**	**-0.5**
	78nm,0.7s,baz=89,slow=11,SNR=116						
CTA				ScP	**ScP**	**23 07 20.6**	**+2.4**
	6.1nm,0.8s,baz=173,slow=4.6,SNR=4.6						
CTAO	**Charters Tower**	**33.45 261**		*e*P	**P**	**23 02 04.6**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,88nm,0.7s						
CTAO	**Charters Tower**	**33.45 261**		*e*P	**P**	**23 02 04.6**	**-0.5**
	comp=Z,88nm,0.7s						
PATS	**Pohnpei**	**33.71 315**		⇑P	**P**	**23 02 07.4**	**+0.2**
	baz=34						
YNG	**Yong**	**33.77 235**		⇓P	**P**	**23 02 07.6**	**0.0**
	baz=34,SNR=11						
PMG	**Port Moresby**	**34.48 280**		P	**P**	**23 02 13.9**	**+0.2**
	comp=Z,321nm,0.9s,comp=Z,3μmcomp=Z,1.1nm						
PMG	**Port Moresby**	**34.48 280**		P	**P**	**23 02 13.9**	**+0.2**
	comp=Z,321nm,0.9s,comp=Z,3μm						
PMG	**Port Moresby**	**34.48 280**		P	**P**	**23 02 14.2**	**+0.5**
	comp=Z,241nm,0.8s,baz=79,slow=5.8,SNR=83						
PMG	**Port Moresby**	**34.48 280**		⇑P	**P**	**23 02 13.9**	**+0.2**
	baz=34,SNR=43						
PMG				⇑P	**P**	**23 02 13.9**	**+0.2**
	baz=34,SNR=43						
PMG				⇑P	**P**	**23 02 13.9**	**+0.2**
	baz=34,SNR=43						
CMSA	**Cobar Meteorol**	**35.13 240**		⇓P	**P**	**23 02 18.8**	**-0.1**
	baz=35,SNR=218						
QLP	**Quilpie**	**35.53 249**		⇑P	**P**	**23 02 21.8**	**-0.4**
	baz=36,SNR=151						
COEN	**Coen**	**37.12 270**		*e*P	**P**	**23 02 35.7**	**+0.2**
	comp=Z,1μm,0.8s						
COEN	**Coen**	**37.12 270**		⇓P	**P**	**23 02 35.4**	**0.0**
	baz=37,SNR=88						
TOO	**Toolangi**	**37.14 231**		⇑P	**P**	**23 02 35.7**	**+0.3**
	baz=37,SNR=42						
STKA	**Stephens Creek**	**38.61 241**		*e*P	**P**	**23 02 48.0**	**+0.7**
	comp=Z,31nm,0.9s						
STKA				ScP	**ScP**	**23 07 40.4**	**+3.1**
STKA	**Stephens Creek**	**38.61 241**		P	**P**	**23 02 47.8**	**+0.5**
	comp=Z,105nm,0.6s,baz=89,slow=9.2,SNR=347						
STKA				ScP	**ScP**	**23 07 40.4**	**+3.1**
	comp=Z,2.8nm,0.9s,baz=288,slow=1.7,SNR=3.0						
STKA	**Stephens Creek**	**38.61 241**		⇑P	**P**	**23 02 47.4**	**+0.1**
	baz=39,SNR=204						
ARPS	**Mount Arapiles**	**39.63 234**		⇑P	**P**	**23 02 55.3**	**-0.1**
	baz=40,SNR=21						
HTT	**Hallett**	**41.13 240**		⇑P	**P**	**23 03 07.1**	**-0.3**
	baz=41,SNR=144						
JAY	**Jayapura**	**42.94 286**		⇓P	**P**	**23 03 21.7**	**-0.1**
	baz=43,SNR=20						
BBOO	**Buckleboo**	**43.39 241**		⇑P	**P**	**23 03 24.7**	**-0.4**
	baz=43,SNR=184						
GENI	**Genyem**	**43.40 286**		P	**P**	**23 03 26.2**	**+0.8**
	comp=Z,261nm,0.8s,comp=Z,3μm						
GENI	**Genyem**	**43.40 286**		P	**P**	**23 03 26.0**	**+0.6**
	comp=Z,261nm,0.8s,comp=Z,3μm						
WRAB	**Tennant Creek**	**44.63 260**		*d iP*	**P**	**23 03 33.4**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,218nm,0.7s						
WRA	**Warramunga Arr**	**44.64 260**		P	**P**	**23 03 34.1**	**-0.7**
WRA				PcP	**PcP**	**23 05 04.9**	**+0.1**
WRA				ScP	**ScP**	**23 08 03.0**	**+1.3**
WRA	**Warramunga Arr**	**44.64 260**		P	**P**	**23 03 34.1**	**-0.7**
	comp=Z,51nm,0.4s,baz=90,slow=7.8,SNR=173						
WRA				PcP	**PcP**	**23 05 04.9**	**+0.1**
	comp=Z,9.2nm,0.7s,baz=88,slow=4.6,SNR=5.3						
WRA				ScP	**ScP**	**23 08 03.0**	**+1.3**
	comp=Z,3.7nm,1.0s,baz=87,slow=4.1,SNR=5.7						
ASAR	**Alice Springs**	**44.79 254**		P	**P**	**23 03 35.6**	**-0.4**
ASAR				PcP	**PcP**	**23 05 05.2**	**-0.1**
ASAR				ScP	**ScP**	**23 08 03.1**	**+0.8**
ASAR				S	**S**	**23 09 29.2**	**-2.4**
ASAR	**Alice Springs**	**44.79 254**		P	**P**	**23 03 35.6**	**-0.4**
	comp=Z,448nm,0.6s,baz=88,slow=8.5,SNR=4072						
ASAR				PcP	**PcP**	**23 05 05.2**	**-0.1**
	comp=Z,14nm,0.7s,baz=103,slow=4.2,SNR=5.1						
ASAR				ScP	**ScP**	**23 08 03.1**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=97,slow=4.5,SNR=6.6						
ASAR				S	**S**	**23 09 29.2**	**-2.4**
	comp=Z,3.1nm,0.9s,baz=85,slow=16,SNR=10						
KDU	**Kakadu**	**47.57 269**		⇑P	**P**	**23 03 55.8**	**-1.3**
	baz=48,SNR=104						
BAKI	**Biak**	**47.68 285**		P	**P**	**23 03 58.4**	**+0.5**
	comp=Z,185nm,0.8s						
BAKI	**Biak**	**47.68 285**		P	**P**	**23 03 58.2**	**+0.3**
	comp=Z,185nm,0.8s						
MTN	**Manton Dam**	**48.81 268**		⇑P	**P**	**23 04 04.8**	**-1.5**
	baz=49,SNR=49						
TLE	**Tual**	**49.23 278**		⇓P	**P**	**23 04 09.2**	**-0.2**
	baz=49,SNR=9.0						
SAUI	**Saumlaki**	**49.88 275**		P	**P**	**23 04 14.1**	**-0.1**
	comp=Z,199nm,1.1s						
FORT	**Forrest**	**49.99 245**		⇓P	**P**	**23 04 13.8**	**-0.9**
	baz=50,SNR=98						
KNRA	**Kununurra**	**50.50 264**		⇓P	**P**	**23 04 17.8**	**-0.9**
	baz=50,SNR=52						
FAKI	**Fak Fak**	**50.60 281**		P	**P**	**23 04 18.3**	**-1.2**
	comp=Z,48nm,1.2s						
FAKI	**Fak Fak**	**50.60 281**		⇑P	**P**	**23 04 18.6**	**-0.8**
	baz=51,SNR=5.6						
BNDI	**Bandanaira**	**52.26 278**		P	**P**	**23 04 31.0**	**-0.3**
	comp=Z,203nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.03 261**		*e*P	**P**	**23 04 36.5**	**-0.3**
KMBL	**Kambalda**	**55.30 244**		⇓P	**P**	**23 04 51.5**	**-1.1**
	baz=55,SNR=18						
NLAI	**Namlea**	**55.32 279**		P	**P**	**23 04 52.5**	**-0.5**
	comp=Z,164nm,0.8s						
NLAI	**Namlea**	**55.32 279**		P	**P**	**23 04 52.4**	**-0.5**
	comp=Z,164nm,0.7s						
TNTI	**Ternate**	**56.49 283**		P	**P**	**23 05 00.4**	**-0.6**
	comp=Z,213nm,0.9s						
TNTI	**Ternate**	**56.49 283**		*e*P	**P**	**23 05 00.0**	**-1.0**
	comp=Z,178nm,0.9s						
MBWA	**Marble Bar**	**58.07 256**		*e*P	**P**	**23 05 10.3**	**-1.3**
	comp=Z,59nm,0.8s						
MMRI	**Maumere**	**58.31 271**		P	**P**	**23 05 12.3**	**-1.1**
MMRI	**Maumere**	**58.31 271**		P	**P**	**23 05 12.2**	**-1.1**
	comp=Z,136nm,0.8s						
MMRI	**Maumere**	**58.31 271**		*e*P	**P**	**23 05 11.5**	**-1.8**
	comp=Z,79nm,0.8s						
MEEK	**Meekatharra**	**58.43 249**		P	**P**	**23 05 13.0**	**-1.0**
	baz=58,SNR=62						
KLBR	**Kellerberrin**	**58.82 244**		P	**P**	**23 05 15.8**	**-0.7**
	baz=59,SNR=36						
SGSI	**Sangihe**	**59.30 286**		P	**P**	**23 05 19.2**	**-0.8**
	comp=Z,158nm,0.8s						
RKGY	**Rocky Gully**	**59.35 240**		⇓P	**P**	**23 05 19.9**	**-0.1**
	baz=59,SNR=12						
KMSI	**Cibinong**	**59.56 282**		P	**P**	**23 05 21.3**	**-0.4**
	comp=Z,217nm,0.8s,comp=Z,7μm						
BLDU	**Ballidu**	**59.77 245**		⇓P	**P**	**23 05 21.9**	**-1.0**
	baz=60,SNR=57						
LUWI	**Luwuk**	**60.13 279**		P	**P**	**23 05 25.5**	**0.0**
	comp=Z,153nm,1.2s,comp=Z,2μm						
LUWI	**Luwuk**	**60.13 279**		P	**P**	**23 05 25.7**	**+0.2**
	baz=60,SNR=10						
VNDA	**Vanda**	**60.39 185**		P	**P**	**23 05 27.5**	**+1.5**
VNDA	**Vanda**	**60.39 185**		P	**P**	**23 05 27.5**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=354,slow=6.6,SNR=12						
MORW	**Morawa**	**60.47 246**		⇑P	**P**	**23 05 26.2**	**-1.3**
	baz=60,SNR=36						
GTOI	**Gorontalo**	**60.49 281**		P	**P**	**23 05 28.2**	**+0.4**
	comp=Z,100nm,0.8s,comp=Z,963nm						
APSI	**Ampana**	**61.23 279**		P	**P**	**23 05 33.1**	**+0.4**
	comp=Z,221nm,1.1s,comp=Z,2μm						
BKSI	**Bulukumba**	**61.27 274**		P	**P**	**23 05 31.7**	**-1.2**
BKSI	**Bulukumba**	**61.27 274**		P	**P**	**23 05 32.1**	**-0.8**
	comp=Z,29nm,0.7s						
MRSI	**Marisa**	**61.44 281**		P	**P**	**23 05 33.5**	**-0.5**
	comp=Z,68nm,0.8s						
BNSI	**Bone**	**61.56 275**		P	**P**	**23 05 34.2**	**-0.6**
BNSI	**Bone**	**61.56 275**		P	**P**	**23 05 34.4**	**-0.4**
	comp=Z,83nm,1.0s						
KAPI	**Kappang**	**61.71 274**		P	**P**	**23 05 32.8**	**-3.0**
KAPI	**Kappang**	**61.71 274**		P	**P**	**23 05 35.3**	**-0.5**
	comp=Z,150nm,1.2s						
KAPI	**Kappang**	**61.71 274**		*e*P	**P**	**23 05 34.1**	**-1.7**
SPSI	**Sidrap Palu**	**62.02 275**		P	**P**	**23 05 36.2**	**-1.6**
SPSI	**Sidrap Palu**	**62.02 275**		P	**P**	**23 05 36.4**	**-1.4**
	comp=Z,54nm,0.8s						
GIRL	**Giralia**	**62.89 253**		P	**P**	**23 05 44.0**	**+0.7**
	baz=63,SNR=20						
MJSI	**Majene**	**62.89 275**		P	**P**	**23 05 40.6**	**-2.8**
MJSI	**Majene**	**62.89 275**		P	**P**	**23 05 44.1**	**+0.7**
	comp=Z,162nm,0.8s,comp=Z,1μm						
MMSI	**Mamuju**	**63.23 276**		P	**P**	**23 05 44.9**	**-0.7**
MMSI	**Mamuju**	**63.23 276**		P	**P**	**23 05 45.7**	**+0.1**
	comp=Z,25nm,0.7s,comp=Z,271nm						
RPN	**Rapa Nui**	**63.75 112**		P	**P**	**23 05 49.0**	**+0.3**
RPN	**Rapa Nui**	**63.75 112**		P	**P**	**23 05 49.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=226,slow=9.9,SNR=4.1						
MTNI	**Mataram**	**64.09 269**		P	**P**	23 05 54.5	+3.4
MTNI	**Mataram**	**64.09 269**		P	**P**	**23 05 50.3**	**-0.8**
	comp=Z,47nm,0.7s						
CASY	**Casey**	**66.09 205**		*e*P	**P**	**23 06 03.0**	**+0.4**
	comp=Z,29nm,1.1s						
TSM	**Tawau**	**66.59 283**		P	**P**	**23 06 07.2**	**+0.5**
GMJI	**Gumukmas**	**66.78 269**		P	**P**	**23 06 04.9**	**-3.0**
	comp=Z,116nm,1.1s,comp=Z,0.4nm						
GMJI	**Gumukmas**	**66.78 269**		P	**P**	23 06 13.2	+5.3
	comp=Z,68nm,0.8s						
GMJI	**Gumukmas**	**66.78 269**		P	**P**	**23 06 06.9**	**-0.9**
	comp=Z,116nm,1.1s						
SDKM	**Sandakan**	**67.72 284**		P	**P**	**23 06 14.5**	**+0.8**
MJAR	**Matsushiro Arr**	**67.97 323**		P	**P**	**23 06 14.1**	**-0.6**
MJAR	**Matsushiro Arr**	**67.97 323**		P	**P**	**23 06 14.1**	**-0.6**
	comp=Z,8.3nm,0.6s,baz=158,slow=6.1,SNR=28						
MAJO	**Matsushiro**	**67.97 323**		*e*P	**P**	**23 06 14.4**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,3μm,2.9s						
MAJO	**Matsushiro**	**67.97 323**		*e*P	**P**	**23 06 14.4**	**-0.2**
	comp=Z,3μm,2.9s						
MAT	**Matsushiro**	**67.97 323**		P	**P**	**23 06 14.0**	**-0.6**
GRJI	**Gresik**	**68.08 270**		P	**P**	**23 06 13.2**	**-2.6**
PWJI	**Pagerwojo**	**68.41 268**		P	**P**	**23 06 17.3**	**-0.5**
	comp=Z,95nm,1.0s						
KDM	**Kudat**	**68.53 285**		P	**P**	**23 06 19.9**	**+1.5**
KKM	**Kota Kinabalu**	**68.77 284**		P	**P**	**23 06 20.3**	**+0.3**
KKM	**Kota Kinabalu**	**68.77 284**		P	**P**	**23 06 20.0**	**-0.1**
	comp=Z,63nm,0.9s,comp=Z,816nm						
KKM	**Kota Kinabalu**	**68.77 284**		*e*P	**P**	**23 06 19.9**	**-0.2**
KKM	**Kota Kinabalu**	**68.77 284**		P	**P**	**23 06 20.0**	**-0.1**
	baz=69,SNR=8.9						
NGJI	**Ngawi**	**68.92 269**		P	P	23 06 27.7	+6.9
PCJI	**Pacitan**	**68.96 268**		P	**P**	**23 06 20.9**	**-0.2**
	comp=Z,428nm,0.7s						
ADK	**Adak**	**69.57**	**1**	*e*P	**P**	**23 06 22.8**	**-1.0**
ADK				pmax	pmax		
	comp=Z,1μm,2.8s						
ADK	**Adak**	**69.57**	**1**	*e*P	**P**	**23 06 22.8**	**-1.0**
	comp=Z,1μm,2.8s						
UGM	**Wanagama**	**69.66 268**		P	**P**	**23 06 24.9**	**-0.5**
	baz=70,SNR=12						
SMRI	**Semarang**	**69.98 269**		P	**P**	**23 06 27.5**	**+0.3**
SMRI	**Semarang**	**69.98 269**		P	**P**	**23 06 27.5**	**+0.3**
	baz=70,SNR=5.5						
BJII	**Banjamgara**	**70.60 268**		P	**P**	**23

NJ2 Nanjing 77.99 309 *e*P P 23 07 13.1 +1.2
NJ2 pmax pmax
comp=Z,20nm,0.6s
HABR Khabarovsk 78.07 330 *e*P P 23 07 17.9 +5.9
HABR *e* 23 10 16.6
HABR *e* 23 16 38.3
HABR *e*SSS SSS 23 25 06.9
HABR pmax pmax
comp=Z,44nm,2.0s
N02D Trinity Center 78.11 40 ⇑P P 23 07 13.7 +1.2
baz=78
PFO Pinyon Flat Ob 78.19 49 *e*P P 23 07 14.3 +1.2
comp=Z,9.2nm,0.9s
PFO Pinyon Flat Ob 78.19 49 ⇑P P 23 07 14.6 +1.5
baz=78
MDJ Mudanjiang 78.25 325 P P 23 07 14.3 +1.3
MDJ pmax pmax
comp=Z,44nm,1.6s
MDJ pmax pmax
comp=Z,1μm,6.1s
M02C Callahan 78.27 39 ⇑P P 23 07 14.7 +1.3
baz=78
L02D Cave Junction, 78.29 38 ⇑P P 23 07 14.4 +1.1
baz=78
KEBM Edson Butte 78.30 37 *e*P P 23 07 14.9 +1.5
comp=Z,112nm,1.5s
SWSC Sam W. Stewart 78.32 50 ⇑P P 23 07 14.7 +1.0
baz=78,SNR=9.3
KDAK Kodiak Island 78.46 14 *e*P P 23 07 14.2 +0.4
comp=Z,275nm,1.6s
YBH Yreka Blue Hor 78.56 39 *e*P P 23 07 16.7 +1.8
comp=Z,23nm,0.8s
YBH Yreka Blue Hor 78.56 39 P P 23 07 16.5 +1.6
comp=Z,24nm,0.7s,baz=175,slow=2.1,SNR=56
MLAC Mammoth Lakes 78.67 44 ⇓P P 23 07 17.3 +1.5
baz=79
BELC Belle Mtn. Jos 78.71 49 ⇑P P 23 07 17.2 +1.2
baz=79
MPMC Manual Prospec 78.73 46 ⇑P P 23 07 17.1 +1.0
baz=79,SNR=20
GSC Goldstone 78.81 47 ⇓P P 23 07 17.7 +1.3
baz=79
BTDF Bukit Timah Da 78.86 275 ⇓P P 23 07 17.4 +0.4
baz=79,SNR=5.2
BTDF ⇓P P 23 07 17.4 +0.4
baz=79,SNR=5.2
HEC Hector,Ludlow 78.90 48 ⇑P P 23 07 17.8 +0.9
baz=79,SNR=11
MYKOM Kota Tinggi 78.92 276 P P 23 07 17.8 +0.4
MYKOM Kota Tinggi 78.92 276 *e*P P 23 07 15.8 -1.6
BC3 Big Chuckawall 78.93 49 ⇓P P 23 07 18.4 +1.4
baz=79,SNR=8.4
HUMO Hull Mountain 78.94 38 *e*P P 23 07 18.7 +1.9
comp=Z,27nm,1.1s
GLA Glamis 79.08 50 *e*P P 23 07 18.7 +0.9
GLA pmax pmax
comp=Z,5.0nm,0.8s
GLA Glamis 79.08 50 *e*P P 23 07 18.7 +0.9
comp=Z,5.3nm,0.8s
GLA Glamis 79.08 50 ⇑P P 23 07 19.4 +1.5
baz=79,SNR=10
M04C Macdoel 79.12 39 ⇓P P 23 07 18.9 +1.0
baz=79
GRAC Grapevine Rang 79.31 45 ⇓P P 23 07 20.4 +1.4
baz=80,SNR=5.5
GMRC Granite Mounta 79.35 48 ⇑P P 23 07 20.3 +1.0
baz=80,SNR=8.0
I03D Drain, OR 79.37 37 ⇓P P 23 07 20.2 +1.2
baz=80
FURC Furnace Creek, 79.38 46 ⇓P P 23 07 20.7 +1.5
baz=80,SNR=7.0
IRM Iron Mountain 79.40 49 ⇑P P 23 07 20.8 +1.3
baz=80,SNR=9.2
NV01 Mina Array Sit 79.46 44 *e*P P 23 07 20.0 +0.1
NVAR Mina Array Bea 79.46 44 P P 23 07 21.2 +1.3
NVAR Mina Array Bea 79.46 44 P P 23 07 21.2 +1.3
comp=Z,18nm,0.7s,baz=229,slow=8.5,SNR=60
PAHR Pah Rah Range 79.46 42 *e*P P 23 07 20.5 +0.7
comp=Z,34nm,1.2s
SHOC Shoshone 79.49 47 ⇓P P 23 07 20.9 +1.1
baz=80,SNR=5.4
KGM Kluang 79.49 276 P P 23 07 21.1 +0.7
TUQ Turquoise Moun 79.50 47 ⇓P P 23 07 21.9 +1.9
baz=80
Y12C Blythe 79.65 50 ⇓P P 23 07 22.2 +1.5
baz=80,SNR=6.9
K04D Chiloquin, OR 79.66 39 ⇓P P 23 07 22.2 +1.4
baz=80
113A Mohawk Valley, 79.72 51 ⇓P P 23 07 22.6 +1.5
baz=80,SNR=8.8
J04D Umpqua Nationa 79.82 38 ⇑P P 23 07 22.8 +1.2
baz=80
I04A Tendick Farm, 79.97 38 ⇑P P 23 07 23.0 +0.8
baz=80
TPH Tonopah 79.98 45 *e*P P 23 07 23.3 +0.6
TPH pmax pmax
comp=Z,31nm,1.2s
TPH Tonopah 79.98 45 *e*P P 23 07 23.3 +0.6
comp=Z,31nm,1.2s
214A Organ Pipe Nat 80.04 52 ⇑P P 23 07 24.3 +1.5
baz=80,SNR=10
TPNV Topopah Spring 80.05 46 *e*P P 23 07 23.5 +0.5
TPNV Topopah Spring 80.05 46 *e*P P 23 07 23.4 +0.5
TPNV Topopah Spring 80.05 46 ⇓P P 23 07 23.7 +0.7
baz=80,SNR=12
CN2 Changchun 80.08 322 *e*P P 23 07 23.7 +1.0
CN2 *e*pP pP 23 09 31.1 +4.9
CN2 *e*S S 23 16 40.1 +0.4
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
NEE2 Needles Airpor 80.08 49 ⇑P P 23 07 24.5 +1.5
baz=80
MOD Modoc 80.12 40 *e*P P 23 07 23.6 +0.4
comp=Z,8.6nm,0.7s
PDMCI Parker Dam,Lak 80.19 49 ⇑P P 23 07 24.8 +1.3
baz=80,SNR=5.6
K05A Summer Lake 80.24 39 *e*P P 23 07 24.7 +0.9
comp=Z,57nm,1.0s
G03D McMinnville, O 80.34 36 ⇑P P 23 07 25.2 +1.2
baz=81
J05D Fort Rock, OR 80.36 38 ⇑P P 23 07 25.9 +1.5
baz=81
SHPR Sheep Range 80.57 47 *e*P P 23 07 26.9 +1.2
Z14A Wintersburg 80.61 50 ⇓P P 23 07 27.4 +1.7
baz=81,SNR=3.0
H04A Detroit Lake 80.63 37 *e*P P 23 07 25.7 +0.1
comp=Z,24nm,0.6s
W13A Hualapai Mount 80.77 49 ⇑P P 23 07 28.0 +1.2
baz=81,SNR=7.7
Y14A Wickenburg 80.84 50 ⇓P P 23 07 28.2 +1.2
baz=81,SNR=10
RSO Redoubt South 80.86 13 *e*P P 23 07 25.9 -0.7
PINOR Pine Mountain 80.88 38 *e*P P 23 07 26.1 -0.7
I05D Terrebonne, OR 80.92 38 ⇓P P 23 07 28.0 +0.9
baz=81
E03A Lebam 80.99 35 *e*P P 23 07 28.7 +1.3
comp=Z,42nm,0.9s
F04D Rainier, OR 81.01 35 ⇑P P 23 07 29.1 +1.7
baz=81
R11A Troy Canyon, C 81.23 45 ⇓P P 23 07 29.9 +0.9
baz=81,SNR=12
F04A Amboy 81.25 36 *e*P P 23 07 29.6 +0.9
comp=Z,79nm,1.5s
NLWA Neilton Lookou 81.35 34 *e*P P 23 07 30.4 +1.2
comp=Z,40nm,1.2s
WVOR Wild Horse Val 81.44 40 *e*P P 23 07 31.0 +1.0
WVOR pmax pmax
comp=Z,40nm,1.0s
WVOR Wild Horse Val 81.44 40 *e*P P 23 07 31.0 +1.0
comp=Z,40nm,1.0s
G05D Wamic, OR 81.46 37 ⇓P P 23 07 31.0 +1.2
baz=82
FRIM Kepong 81.48 276 P P 23 07 31.0 +0.4
TUC Tucson 81.72 52 *e*P P 23 07 33.4 +1.8
TUC pmax pmax
comp=Z,28nm,1.1s
TUC Tucson 81.72 52 *e*P P 23 07 33.4 +1.8
comp=Z,28nm,1.1s
I07A Izee 81.84 39 *e*P P 23 07 33.3 +1.4
comp=Z,33nm,0.8s
G06A Carlson Farm, 81.85 37 *e*P P 23 07 32.8 +0.9
comp=Z,16nm,0.9s
J08A Circle Bar Ran 82.06 40 *e*P P 23 07 33.8 +0.8
comp=Z,42nm,1.0s
LON Longmire 82.08 35 *e*P P 23 07 33.5 +0.5
LON pmax pmax
comp=Z,7.0nm,0.7s
LON Longmire 82.08 35 *e*P P 23 07 33.5 +0.5
comp=Z,6.7nm,0.7s
X16A Lo Mia Camp, P 82.21 50 ⇓P P 23 07 35.8 +1.7
baz=82
D05A Enumclaw 82.24 35 *e*P P 23 07 34.8 +1.0
comp=Z,83nm,1.4s
CCUT Cedar City 82.34 47 *e*P P 23 07 36.5 +1.7
comp=Z,18nm,0.9s
ARUT Antelope Range 82.41 46 *e*P P 23 07 36.0 +1.0
ARUT Antelope Range 82.41 46 *e*P P 23 07 36.0 +1.0
IPM Ipoh 82.44 277 P P 23 07 36.1 +0.6
IPM Ipoh 82.44 277 *e*P P 23 07 35.9 +0.3
319A Douglas 82.45 54 ⇓P P 23 07 37.3 +2.0
baz=83
U15A North Rim 82.55 48 ⇑P P 23 07 37.6 +1.7
baz=83
ELK Elko 82.69 43 *e*P P 23 07 37.2 +0.8
comp=Z,15nm,0.9s
WUAZ Wupatki 82.77 49 *e*P P 23 07 37.4 +0.5
comp=Z,22nm,1.0s
WUAZ Wupatki 82.77 49 ⇑P P 23 07 38.4 +1.5
baz=83
G08A Pilot Rock 82.85 38 *e*P P 23 07 38.3 +1.3
comp=Z,17nm,0.8s
320A Kipp Ranch, An 83.01 54 ⇓P P 23 07 40.5 +2.3
baz=83
KULM Kulim 83.06 278 P P 23 07 39.9 +1.3
HAWA Hanford 83.14 37 *e*P P 23 07 39.4 +1.1
comp=Z,29nm,0.9s
BMRM Bremner River 83.21 16 *e*P P 23 07 38.5 +0.1
220A Playas Peak, P 83.26 54 ⇑P P 23 07 41.3 +2.0
baz=83
X18A Snowflake 83.35 51 ⇑P P 23 07 41.0 +1.1
baz=84
120A U Bar Ranch, L 83.46 53 ⇑P P 23 07 42.0 +1.6
baz=84
MFID Camas Ranch 83.71 41 *e*P P 23 07 42.0 +0.6
comp=Z,23nm,1.0s
Z20A Nine Sixteen R 83.74 52 ⇓P P 23 07 43.5 +1.7
baz=84
MAW Mawson 83.81 200 P P 23 07 42.1 +0.9
MAW Mawson 83.81 200 P P 23 07 42.1 +0.9
comp=Z,13nm,0.8s,baz=121,slow=6.3,SNR=17
MAW Mawson 83.81 200 ⇓P P 23 07 41.9 +0.7
baz=84,SNR=11
BJI Beijing 83.84 315 P P 23 07 42.5 +0.7
BJI pmax pmax
comp=Z,16nm,0.9s
D08A Wollman Farm, 83.87 36 *e*P P 23 07 43.0 +1.1
comp=Z,24nm,0.9s
221A Mesquite Ranch 83.88 54 ⇑P P 23 07 44.4 +2.0
baz=84
PSI Prapat 83.91 275 ⇑P P 23 07 42.0 -1.0
baz=84,SNR=17
E09A Wood Farm, Sta 84.00 37 *e*P P 23 07 43.4 +0.9
comp=Z,42nm,1.6s
DUG Dugway 84.01 45 *e*P P 23 07 43.6 +0.7
DUG pmax pmax
comp=Z,66nm,2.5s
DUG Dugway 84.01 45 *e*P P 23 07 43.6 +0.7
comp=Z,66nm,2.5s
DUG Dugway 84.01 45 ⇓P P 23 07 43.9 +1.0
baz=84
121A Cookes Peak, D 84.10 53 ⇑P P 23 07 45.3 +1.8
baz=84
F10A Beach Ranch, E 84.24 38 *e*P P 23 07 43.8 0.0
comp=Z,38nm,0.9s
Y20A Horse Springs, 84.25 52 ⇑P P 23 07 45.8 +1.5
baz=84
ENH Enshi 84.32 304 *e*P P 23 07 45.4 +0.9
comp=Z,24nm,0.8s
B08A Colville Reser 84.38 35 *e*P P 23 07 44.3 -0.1
comp=Z,20nm,0.8s
222A Williams Famil 84.44 54 ⇓P P 23 07 47.0 +1.8
baz=85
Z21A St. Cloud Mine 84.52 53 ⇑P P 23 07 47.5 +1.9
baz=85
C09A Chrisman Ranch 84.65 36 *e*P P 23 07 45.9 +0.2
comp=Z,18nm,0.8s
HLID Hailey 84.67 41 *e*P P 23 07 46.3 +0.2
comp=Z,15nm,0.8s
HLID Hailey 84.67 41 ⇓P P 23 07 47.6 +1.5
baz=85
HVU Hansel Valley 84.82 43 *e*P P 23 07 47.4 +0.6
HVU pmax pmax
comp=Z,62nm,1.9s
HVU Hansel Valley 84.82 43 *e*P P 23 07 47.4 +0.6
comp=Z,62nm,1.9s
Z22A Elephant Butte 85.03 53 ⇑P P 23 07 49.4 +1.3
baz=85
SRU San Rafael 85.05 46 *e*P P 23 07 48.8 +0.8
SRU pmax pmax
comp=Z,14nm,0.7s
SRU San Rafael 85.05 46 *e*P P 23 07 48.8 +0.8
comp=Z,14nm,0.7s
GYA Guiyang 85.08 300 *e*P P 23 07 48.0 -0.4
GYA pP **pP** 23 09 54.3 +0.4
GYA sP **sP** 23 10 51.6 -1.3
GYA PP **PP** 23 11 19.4 +2.4
GYA SKS **SKSac** 23 17 15.0 -3.1
GYA S **S** 23 17 28.9 -1.3
GYA sS **sS** 23 21 11.0 -2.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.4s
MENT Mentasta 85.10 15 *e*P P 23 07 48.2 +0.6
Y22A Socorro 85.32 52 ⇓P P 23 07 50.6 +1.2
baz=86
LAZ Ladron 85.38 52 *e*P P 23 07 49.5 -0.3
324A Moseley Ranch, 85.42 55 ⇓P P 23 07 51.3 +1.3
baz=86,SNR=17
425A Indio Mountain 85.54 56 ⇑P P 23 07 52.1 +1.6
baz=86,SNR=16
NEW Newport 85.55 36 *e*P P 23 07 49.2 -0.9
comp=Z,11nm,0.8s
NEW Newport 85.55 36 ⇑P P 23 07 50.5 +0.4
baz=86,SNR=10
Z23A Rita Site, Whi 85.59 53 ⇓P P 23 07 52.0 +1.3
baz=86
MNTX Cornudas Mount 85.60 55 *e*P P 23 07 52.0 +1.3
comp=Z,6.8nm,0.8s
224A Cornudas Mount 85.64 54 ⇓P P 23 07 52.4 +1.4
baz=86,SNR=16
BNM Barren Site 85.66 52 *e*P P 23 07 52.2 +1.1
LPM Los Pinos Moun 85.72 52 *e*P P 23 07 50.5 -0.9
626A Big Bend Ranch 85.73 57 ⇓P P 23 07 53.1 +1.7
baz=86,SNR=25
PV09 Paradox Valley 85.73 47 *e*P P 23 07 52.4 +0.9
325A Bean Ranch, Si 85.79 55 ⇓P P 23 07 52.8 +1.0
baz=86,SNR=12
COLA College 85.83 13*c iP* P 23 07 50.2 -0.7
COLA pmax pmax
comp=Z,65nm,1.0s
COLA College 85.83 13 *e*P P 23 07 50.1 -0.8
comp=Z,14nm,1.4s
DLBC Dease Lake 85.88 23 *e*P P 23 07 50.5 -1.0
DLBC Dease Lake 85.88 23 P P 23 07 52.1 +0.7
comp=Z,6.3nm,0.7s,baz=215,slow=6.0,SNR=12
IL1 Eielson Array 85.94 13 *e*P P 23 07 50.1 -1.3
ILAR Eielson Array 85.94 13 P P 23 07 50.6 -0.8
ILAR PP PP 23 11 25.1 +2.3
ILAR Eielson Array 85.94 13 P P 23 07 50.6 -0.8
comp=Z,5.3nm,0.5s,baz=225,slow=5.0,SNR=75
ILAR PP PP 23 11 25.1 +2.3
comp=Z,1.9nm,0.9s,baz=215,slow=6.8,SNR=5.9
124A Stringfield Ra 85.95 54 ⇑P P 23 07 54.0 +1.4
baz=86,SNR=7.5
526A Mary Lane Ranc 85.96 57 ⇑P P 23 07 54.6 +2.0
baz=86,SNR=16
PV01 Paradox Valley 85.97 48 *e*P P 23 07 52.8 +0.2
Y23A Lovelace Mesa, 86.00 53 ⇓P P 23 07 53.5 +0.7
baz=86,SNR=6.1
TX31 Lajitas Ar. Si 86.01 58 *e*P P 23 07 54.5 +1.7
TXAR Lajitas Array 86.02 58 P P 23 07 55.0 +2.2
TXAR pP **pP** 23 09 59.3 +0.6
TXAR Lajitas Array 86.02 58 P P 23 07 55.0 +2.2
comp=Z,16nm,0.8s,baz=222,slow=6.2,SNR=193
TXAR pP **pP** 23 09 59.3 +0.6
comp=Z,0.5nm,0.9s,baz=254,slow=7.7,SNR=4.4
ANMO Albuquerque 86.12 52 *e*P P 23 07 53.8 +0.5
comp=Z,8.6nm,0.9s
V22A San Miguel Ran 86.20 50 ⇑P P 23 07 54.8 +1.1
baz=86
225A Deer Hill, Car 86.20 55 ⇑P P 23 07 54.9 +1.2
baz=86,SNR=10
426A McDonald Obser 86.25 56 ⇓P P 23 07 55.3 +1.3
baz=86,SNR=15
MCMT McKenzie Canyo 86.28 40 *e*P P 23 07 54.7 +0.9
Z24A Sheeppen Canyo 86.28 53 ⇑P P 23 07 55.3 +1.2
baz=86
627A Terlingua Ranc 86.28 58 ⇓P P 23 07 56.0 +1.9
baz=86,SNR=39
XAN Xi'an 86.31 307 P P 23 07 55.1 +1.1
XAN pmax pmax
comp=Z,10.0nm,1.0s
527A Woodward Ranch 86.38 57 ⇓P P 23 07 56.1 +1.5
baz=87,SNR=16
U22A Llaves 86.44 50 ⇑P P 23 07 55.9 +1.1
baz=87
W23A Werner Place, 86.44 51 ⇑P P 23 07 55.8 +1.0
baz=87
Y24A Capitan 86.47 53 ⇑P P 23 07 56.3 +1.3
baz=87,SNR=25
PBKT Sadao Pong 86.47 289 P P 23 07 56.4 +1.4
comp=Z,13nm,1.1s
RRI2 Red Ridge 86.52 42 *e*P P 23 07 56.0 +1.0
comp=Z,35nm,0.8s
326A Caldwell Ranch 86.54 56 ⇓P P 23 07 56.2 +1.0
baz=87
125A Gardner Draw, 86.55 54 ⇓P P 23 07 56.5 +1.3
baz=87
MSO Missoula 86.62 38 *e*P P 23 07 56.4 +1.1
comp=Z,5.1nm,0.6s
MSO Missoula 86.62 38 ⇓P P 23 07 55.6 +0.4
baz=87,SNR=7.4
BSMT Bassoo Peak 86.66 37 *e*P P 23 07 56.0 +0.5
V23A Ortiz Mt. (NFS 86.66 51 ⇓P P 23 07 57.7 +1.9
baz=87,SNR=7.2
DLMT Dillon 86.69 40 *e*P P 23 07 56.8 +1.1
comp=Z,14nm,0.8s
226B Tecolote Peak, 86.70 55 ⇓P P 23 07 57.2 +1.3
baz=87,SNR=9.8
628A Black Gap, Mar 86.70 58 ⇑P P 23 07 57.4 +1.5
baz=87,SNR=19
Z25A Roswell 86.75 54 ⇓P P 23 07 57.5 +1.3
baz=87,SNR=5.2
427A Hayter Ranch, 86.82 56 ⇑P P 23 07 58.6 +2.1
baz=87,SNR=18
TPAW Teton Pass 86.82 42 *e*P P 23 07 57.7 +1.2
comp=Z,16nm,1.0s
REDW Red Top Meadow 86.82 42 *e*P P 23 07 57.6 +1.2
comp=Z,28nm,1.0s
U23A El Rito 86.90 50 ⇓P P 23 07 57.8 +0.9
baz=87
SNOW Snow King Moun 86.93 42 *e*P P 23 07 57.8 +0.9
comp=Z,33nm,1.1s
LRM Limekiln Ridge 87.01 40 *e*P P 23 07 56.8 -0.5
W24A Lazy 6 Ranch, 87.02 52 ⇓P P 23 07 58.4 +0.9
baz=87,SNR=5.8
IMW Indian Meadow 87.02 42 *e*P P 23 07 58.2 +0.8
comp=Z,25nm,0.8s
Y25A Mesa, Roswell 87.03 53 ⇓P P 23 07 58.5 +1.0
baz=87,SNR=9.6
126A Clayton Basin, 87.04 54 ⇓P P 23 07 58.6 +1.0
baz=87
S22A 4UR Ranch, Cre 87.04 49 ⇓P P 23 07 58.9 +1.2
baz=87,SNR=8.3
528A Cox Ranch, San 87.04 57 ⇑P P 23 07 59.3 +1.7
baz=87,SNR=13
CHMT Chamberlain Mo 87.07 39 *e*P P 23 07 57.6 +0.1
MOOW Moose Ponds 87.07 42 *e*P P 23 07 58.1 +0.6
comp=Z,8.5nm,1.0s
O20A White River Ci 87.08 46 ⇓P P 23 07 58.7 +1.0
baz=87,SNR=5.3
LOHW Long Hollow 87.10 42 *e*P P 23 07 59.1 +1.4
comp=Z,9.5nm,0.7s
I17A Pilgrim Ck. 87.26 42 ⇓P P 23 07 60.0 +1.5
baz=88,SNR=5.1
T23A Casias Ranch, 87.31 50 ⇓P P 23 07 59.7 +0.8
baz=88
Z26A Caprock 87.31 54 ⇓P P 23 07 59.9 +1.0
baz=88,SNR=13
HHC Hu-ho-hao-te 87.33 314 *e*P P 23 07 57.2 -1.5
HHC pP **pP** 23 10 07.0 +1.9
HHC sP **sP** 23 11 06.0 +2.2
HHC PP **PP** 23 11 35.5 +1.0
HHC SKS **SKSac** 23 17 27.2 -3.8
HHC S **S** 23 17 47.0 -3.7
HHC sS **sS** 23 21 36.4 +0.4
HHC SS **SS** 23 23 54.8 +0.8
HHC pmax pmax
comp=Z,32nm,1.2s
HHC pmax pmax
comp=Z,410nm,7.8s
V24A Rampart Ranch, 87.33 51 ⇑P P 23 07 59.9 +0.9
baz=88,SNR=5.4
428A Kincaid Ranch, 87.34 57 ⇓P P 23 08 00.4 +1.5
baz=88
N20A Spence Gulch, 87.38 46 ⇑P P 23 08 00.1 +1.0
baz=88,SNR=6.3
BW06 Boulder Array 87.39 43 *e*P P 23 07 59.8 +0.7
PDAR Pinedale Array 87.39 43 P P 23 07 59.7 +0.6
PDAR pP **pP** 23 10 04.5 -1.0
PDAR PP **PP** 23 11 32.9 -2.1
PDAR Pinedale Array 87.39 43 P P 23 07 59.7 +0.6
comp=Z,11nm,0.6s,baz=218,slow=3.2,SNR=65
PDAR pP **pP** 23 10 04.5 -1.0
comp=Z,1.1nm,1.0s,baz=230,slow=3.5,SNR=4.7
PDAR PP **PP** 23 11 32.9 -2.1
comp=Z,2.3nm,1.0s,baz=238,slow=5.1,SNR=10.0
529A Stev Forest Ra 87.48 57 ⇓P P 23 08 00.7 +1.1
baz=88,SNR=5.8
H17A Grant Village 87.49 42 ⇓P P 23 08 01.6 +2.1
baz=88
328A Wristen Ranch, 87.49 56 ⇓P P 23 08 00.7 +1.0
baz=88,SNR=7.4
127A Arkansas Junct 87.56 55 ⇓P P 23 08 01.0 +1.0
baz=88,SNR=8.0
Y26A Elida 87.69 53 ⇑P P 23 08 01.4 +0.8
baz=88
W25A X Bar L Ranch, 87.73 52 ⇓P P 23 08 01.3 +0.5
baz=88
T24B San Luis 87.80 50 ⇑P P 23 08 01.9 +0.7
baz=88
V25A Rancho No Teng 87.86 51 ⇓P P 23 08 02.0 +0.6
baz=88,SNR=5.8
KMI Kunming 87.87 297 P P 23 08 03.1 +1.3
KMI pP **pP** 23 10 10.6 +2.3
KMI S **S** 23 17 55.7 -1.0
KMI sS **sS** 23 21 38.1 -4.2
KMI SS **SS** 23 24 03.4 +0.8
KMI pmax pmax
comp=Z,14nm,0.8s
KMI pmax pmax
comp=Z,81nm,6.3s
P22A Eagle 87.88 47 ⇑P P 23 08 02.5 +1.1
baz=88
Z27A Tatum 87.92 54 ⇓P P 23 08 02.6 +0.9
baz=88
429A Davenport Ranc 87.93 57 ⇑P P 23 08 02.9 +1.2
baz=88,SNR=31
J19A Crowheart 87.94 43 ⇓P P 23 08 02.4 +0.8
baz=88,SNR=11
R23A Moffat 87.94 49 ⇓P P 23 08 02.6 +0.7
baz=88
228A UT Block 9, Go 87.94 55 ⇓P P 23 08 02.9 +1.1
baz=88
X26A CR and CF Fran 87.95 53 ⇓P P 23 08 02.7 +0.9
baz=88
S24A Houchin Ranch, 88.16 49 ⇓P P 23 08 03.8 +0.9
baz=88
Y27A Causey 88.18 54 ⇓P P 23 08 03.6 +0.8
baz=88,SNR=5.8
329A Wagon Wheel Ra 88.19 56 ⇑P P 23 08 04.0 +1.1
baz=88,SNR=5.1
H18A Shoshone NF, C 88.19 42 ⇓P P 23 08 04.0 +1.2
baz=88
530A J-C Ranch, Com 88.20 58 ⇓P P 23 08 03.9 +1.0
baz=88,SNR=7.9
W26A Owens Ranch, T 88.20 52 ⇓P P 23 08 03.6 +0.7
baz=88
128A Castleberry Fa 88.22 55 ⇓P P 23 08 04.2 +1.1
baz=88,SNR=9.8
CRAI Chiangrai 88.23 292 P P 23 08 04.8 +1.5
comp=Z,106nm,1.0s
U25A Circle Dot Ran 88.24 51 ⇓P P 23 08 03.8 +0.6
baz=88
O22A Kremmling 88.26 47 ⇑P P 23 08 04.3 +1.0
baz=88,SNR=9.7
LAMP Lampang 88.32 290 P P 23 08 04.9 +1.2
comp=Z,7.7nm,0.9s

I19A Meeteetse 88.33 42 ⇑P P 23 08 04.4 +1.0
baz=88,SNR=7.3
V26A Tequesquite Ra 88.46 52 ⇓P P 23 08 04.6 +0.4
baz=89
R24A Sanders Place, 88.47 49 ⇑P P 23 08 05.5 +1.3
baz=89
229A Bryant Ranch, 88.50 56 ⇓P P 23 08 05.5 +1.1
baz=89
430A Baggett Ranch, 88.52 57 ⇓P P 23 08 05.4 +1.0
baz=89,SNR=6.3
MSTX Muleshoe 88.52 54 ⇑P P 23 08 05.1 +0.6
baz=89,SNR=9.3
X27A F and S Farms, 88.53 53 ⇑P P 23 08 05.3 +0.8
baz=89
T25A Trinidad 88.54 50 ⇑P P 23 08 05.6 +1.0
baz=89
631A Perdido Creek 88.54 59 ⇑P P 23 08 05.9 +1.4
baz=89,SNR=21
Z28A Tucker Farm, M 88.55 54 ⇑P P 23 08 05.0 +0.4
baz=89
N22A Wattenberg Ran 88.60 46 ⇓P P 23 08 06.3 +1.4
baz=89,SNR=12
J20A Shoshoni 88.61 43 ⇓P P 23 08 06.1 +1.4
baz=89,SNR=9.9
H19A Powell 88.62 42 ⇑P P 23 08 06.1 +1.5
baz=89
129A Stewart Farms, 88.71 55 ⇑P P 23 08 06.3 +1.0
baz=89
W27A Bowe Ranch, En 88.72 53 ⇑P P 23 08 05.8 +0.4
baz=89
O23A Lake Granby, G 88.72 47 ⇓P P 23 08 06.7 +1.2
baz=89
S25A Robets Cordova 88.73 50 ⇑P P 23 08 06.3 +0.9
baz=89
U26A Atchley Ranch, 88.73 51 ⇓P P 23 08 06.5 +1.0
baz=89
Q24A Divide 88.75 48 ⇓P P 23 08 06.3 +0.7
baz=89
M22A Cedar Creek Ra 88.76 46 ⇑P P 23 08 06.4 +0.8
baz=89,SNR=11
ISCO Idaho Springs 88.76 47 ⇓P P 23 08 06.5 +0.8
baz=89
732A Laxson Ranch, 88.79 59 ⇓P P 23 08 06.9 +1.2
baz=89,SNR=6.0
330A Mertzon 88.79 57 ⇑P P 23 08 05.8 +0.1
baz=89
531A Rocksprings 88.84 58 ⇑P P 23 08 07.5 +1.6
baz=89,SNR=14
K21A Alcova 88.85 44 ⇑P P 23 08 06.7 +0.8
baz=89,SNR=10
I20A Worland 88.85 43 ⇑P P 23 08 06.7 +0.9
baz=89,SNR=5.7
CM01 Chiang Mai Arr 88.89 290 *e*P P 23 08 06.9 +0.6
Y28A McKinney Farm, 88.89 54 ⇑P P 23 08 06.4 +0.3
baz=89,SNR=5.7
CMAR Chiang Mai Arr 88.92 290 P P 23 08 07.6 +1.1
CMAR PP PP 23 11 49.5 +2.2
CMAR Chiang Mai Arr 88.92 290 P P 23 08 07.6 +1.1
comp=Z,12nm,0.9s,baz=109,slow=3.0,SNR=53
CMAR PP PP 23 11 49.5 +2.2
comp=Z,0.9nm,0.3s,baz=124,slow=6.4,SNR=6.7
431A Sonora 88.98 57 ⇑P P 23 08 07.7 +1.1
baz=89
N23A Red Feather La 88.99 46 ⇓P P 23 08 07.9 +1.3
baz=89,SNR=8.6
230A Sterling City 89.02 56 ⇑P P 23 08 07.4 +0.6
baz=89
J21A Lysite 89.03 44 ⇓P P 23 08 07.8 +1.1
baz=89,SNR=7.4
CMMT Chiang Mai 89.03 290 P P 23 08 07.7 +0.7
comp=Z,21nm,1.0s
CHTO Chiang Mai 89.04 290 *e*P P 23 08 06.7 -0.3
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 89.04 290 *e*P P 23 08 06.7 -0.3
comp=Z,3.2nm,0.8s
Z29A Hungry Hill Ra 89.07 55 ⇑P P 23 08 07.5 +0.5
baz=89
SYO Syowa Base 89.10 193⇑ *e*P P 23 08 04.2 -2.1
SYO Syowa Base 89.10 193⇓ *e*PcP P 23 08 06.4 +0.1
CD2 Chengdu 89.11 303 *e*P P 23 08 07.6 +0.4
CD2 pP **pP** 23 10 15.0 +0.8
CD2 sP **sP** 23 11 11.9 -0.8
CD2 PP **PP** 23 11 50.1 +1.4
CD2 SKS **SKSac** 23 17 41.6 -0.2
CD2 S **S** 23 18 06.1 -1.4
CD2 sS **sS** 23 21 51.8 -2.1
CD2 SS **SS** 23 24 22.2 +2.3
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,30nm,6.8s
L22A Ellis Ranch, M 89.14 45 ⇓P P 23 08 08.5 +1.3
baz=89,SNR=11
T26A Comanche Natio 89.15 50 ⇓P P 23 08 08.0 +0.6
baz=89
V27A Dan Oppiter Fa 89.16 52 ⇑P P 23 08 08.7 +1.3
baz=89
X28A Dimmitt 89.17 53 ⇓P P 23 08 08.2 +0.8
baz=89
H20A Greybull 89.17 42 ⇓P P 23 08 08.1 +0.8
baz=89,SNR=5.0
F19A Roth Farm, Mol 89.19 41 ⇓P P 23 08 08.3 +1.0
baz=89
632A Uvalde 89.22 59 ⇓P P 23 08 09.3 +1.6
baz=89,SNR=6.1
O24A Longmont 89.27 47 ⇑P P 23 08 09.5 +1.6
baz=90
CMAI Chiengmai2 89.31 291 P P 23 08 09.6 +1.1
comp=Z,13nm,1.0s
Y29A Porterfield Fa 89.32 54 ⇓P P 23 08 09.2 +1.0
baz=90,SNR=9.0
I21A Big Trails, Te 89.33 43 ⇓P P 23 08 08.7 +0.6
baz=90,SNR=13
K22A Casper 89.34 45 ⇑P P 23 08 09.1 +1.0
baz=90
532A Rocksprings 89.34 58 ⇓P P 23 08 09.2 +0.9
baz=90,SNR=8.3
331A San Angelo 89.35 57 ⇑P P 23 08 08.8 +0.5
baz=90,SNR=5.6
G20A Bridger 89.36 42 ⇑P P 23 08 09.2 +1.1
baz=90
M23A Laramie 89.38 46 ⇑P P 23 08 09.4 +1.0
baz=90,SNR=8.6
130A Snyder 89.40 55 ⇑P P 23 08 09.1 +0.7
baz=90
S26A Kim 89.41 50 ⇓P P 23 08 09.7 +1.2
baz=90
U27A Thompson Grove 89.42 51 ⇑P P 23 08 09.3 +0.7
baz=90
W28A Vega 89.44 53 ⇓P P 23 08 09.3 +0.7
baz=90
X29A Tulia 89.52 54 ⇑P P 23 08 09.7 +0.7
baz=90
Z30A Sanderson Ranc 89.53 55 ⇓P P 23 08 10.0 +0.9
baz=90
JCT Junction City 89.55 58 ⇑P P 23 08 09.9 +0.7
baz=90
E19A Rath Farm, Rou 89.56 40 ⇑P P 23 08 10.2 +1.3
baz=90
V28A Channing 89.61 52 ⇑P P 23 08 10.3 +0.8
baz=90
F20A Billings 89.66 41 ⇑P P 23 08 10.9 +1.5
baz=90
P25A Willow Gulch B 89.66 48 ⇓P P 23 08 10.8 +1.1
baz=90
L23A Garrett 89.67 45 ⇓P P 23 08 10.9 +1.2
baz=90,SNR=16
231A Bronte 89.67 56 ⇓P P 23 08 10.5 +0.8
baz=90,SNR=14
EGMT Eagleton 89.69 39 ⇑P P 23 08 10.6 +1.1
baz=90
J22A Midwest 89.69 44 ⇓P P 23 08 10.7 +1.0
baz=90
N24A Carr 89.69 47 ⇓P P 23 08 11.4 +1.6
baz=90,SNR=6.8
AMTX Amarillo 89.70 53 ⇑P P 23 08 10.7 +0.8
baz=90
R26A Arlington 89.70 49 ⇓P P 23 08 10.6 +0.7
baz=90
432A Menard 89.70 57 ⇑P P 23 08 11.0 +1.1
baz=90,SNR=19
T27A Campo 89.75 51 ⇑P P 23 08 11.1 +1.1
baz=90
W29A Amraillo 89.81 53 ⇓P P 23 08 11.1 +0.7
baz=90
D19A Cripps Ranch, 89.82 40 ⇓P P 23 08 11.5 +1.4
baz=90,SNR=5.5
H21A Big Horn, Sher 89.85 43 ⇓P P 23 08 11.5 +1.2
baz=90
131A Roby 89.88 56 ⇑P P 23 08 11.5 +0.8
baz=90,SNR=5.1
I22A 9 Mile Ranch, 89.89 43 ⇑P P 23 08 11.7 +1.1
baz=90,SNR=8.6
Y30A Stafford Cattl 89.92 54 ⇑P P 23 08 11.6 +0.7
baz=90,SNR=5.0
332A Millersview 89.92 57 ⇑P P 23 08 12.0 +1.1
baz=90,SNR=21
O25A Wiggins 89.94 48 ⇓P P 23 08 11.8 +0.9
baz=90
C19A Slack Wire Ran 89.97 39 ⇑P P 23 08 12.1 +1.3
baz=90
E20A Meyer Farm, Mu 89.98 41 ⇑P P 23 08 12.0 +1.2
baz=90
K23A Bowen Ranch, D 89.98 45 ⇑P P 23 08 11.9 +0.8
baz=90
M24A Cheyenne 90.00 46 ⇑P P 23 08 12.6 +1.4
baz=90,SNR=5.4
533A Kerrville 90.03 58 ⇑P P 23 08 12.8 +1.3
baz=90
X30A Coker Ranch, T 90.15 54 ⇓P P 23 08 12.2 +0.3
baz=90
232A Coleman 90.18 57 ⇑P P 23 08 13.1 +1.0
baz=90
T28A Walsh 90.22 51 ⇑P P 23 08 13.3 +1.1
baz=90
433A Art 90.22 58 ⇑P P 23 08 13.3 +1.0
baz=90,SNR=16
D20A Manuel Ranch, 90.24 40 ⇑P P 23 08 13.7 +1.7
baz=90,SNR=7.7
P26A Davis Ranch, A 90.27 48 ⇓P P 23 08 13.5 +1.1
baz=90
H22A Clearmont 90.28 43 ⇑P P 23 08 13.6 +1.3
baz=90
Z31A Sharp Cattle R 90.31 55 ⇓P P 23 08 13.3 +0.7
baz=90,SNR=6.9
F21A Absaloka Mine, 90.31 41 ⇓P P 23 08 13.7 +1.3
baz=90
B19A Brinkman Farms 90.36 39 ⇓P P 23 08 13.7 +1.1
baz=90
Y31A Rekieta Farm, 90.45 54 ⇓P P 23 08 13.8 +0.6
baz=91
ABTX Abilene, Hawle 90.45 56 ⇑P P 23 08 14.3 +1.0
baz=91,SNR=6.9
534A Blanco 90.47 59 ⇑P P 23 08 14.8 +1.3
baz=91,SNR=14
333A Richland Sprin 90.51 57 ⇓P P 23 08 14.5 +0.9
baz=91,SNR=5.3
M25A Palm-Egli Farm 90.51 46 ⇑P P 23 08 14.9 +1.4
baz=91
SNAA Sanae 90.54 179 *e*P P 23 08 11.8 -1.2
S28A Manter 90.55 51 ⇑P P 23 08 14.6 +0.9
baz=91
G22A Birney 90.58 42 ⇓P P 23 08 14.8 +1.1
baz=91
C20A Veseth Ranch, 90.60 40 ⇓P P 23 08 15.1 +1.5
baz=91,SNR=13
E21A Keefer Ranch, 90.65 41 ⇓P P 23 08 15.6 +1.7
baz=91
A19A Klindworth Far 90.70 38 ⇑P P 23 08 15.3 +1.2
baz=91
V30A Spr Ranch, Mi 90.78 53 ⇑P P 23 08 15.9 +1.1
baz=91
Z32A Haskell 90.82 55 ⇓P P 23 08 15.9 +0.9
baz=91,SNR=7.9
N26A Koester Ranch, 90.85 47 ⇓P P 23 08 16.7 +1.7
baz=91
L25A Engebretsen Ra 90.86 46 ⇑P P 23 08 16.7 +1.6
baz=91
R28A Tribune 90.90 50 ⇓P P 23 08 16.6 +1.2
baz=91,SNR=5.4
X31A McDonald Ranch 90.91 54 ⇓P P 23 08 16.2 +0.8
baz=91
434A Burnet 90.91 58 ⇑P P 23 08 16.4 +1.0
baz=91,SNR=9.7
D21A La Casta Ranch 90.93 40 ⇑P P 23 08 16.6 +1.4
baz=91,SNR=8.6
LZH Lanzhou 90.94 308 *e*P P 23 08 17.0 +1.3
LZH pP **pP** 23 10 26.5 +3.5
LZH sP **sP** 23 11 25.1 +3.8
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.7s
133A Hamilton Ranch 91.02 56 ⇓P P 23 08 16.9 +1.0
baz=91
Y32A R-V Farms, Ver 91.10 55 ⇑P P 23 08 16.8 +0.6
baz=91
K25A Mack Ranch, Ha 91.11 45 ⇓P P 23 08 17.8 +1.6
baz=91
334A Lometa 91.11 57 ⇓P P 23 08 17.6 +1.2
baz=91,SNR=9.8
VNA2 Neumayer--Watz 91.12 177 *e*P P 23 08 16.3 +0.7
W31A Holland Ranch, 91.13 53 ⇓P P 23 08 17.5 +1.1
baz=91,SNR=6.7
S29A Ulysses 91.14 51 ⇓P P 23 08 17.5 +1.1
baz=91
G23A Biddle 91.15 43 ⇑P P 23 08 17.2 +0.8
baz=91
A20A Cobblestone Ra 91.16 38 ⇓P P 23 08 17.3 +1.1
baz=91,SNR=7.2
C21A Desert Coulee 91.20 40 ⇓P P 23 08 17.5 +1.1
baz=91
E22A Miles City 91.31 41 ⇓P P 23 08 18.9 +1.9
baz=92
VNA1 Neumayer--Stat 91.34 177 *e*P P 23 08 17.4 +0.8
F23A Volborg 91.36 42 ⇓P P 23 08 18.1 +0.9
baz=92,SNR=6.2
X32A Elmer 91.37 54 ⇓P P 23 08 18.2 +0.7
baz=92
T30A Plains 91.37 51 ⇑P P 23 08 18.5 +1.0
baz=92
Z33A Whitaker Ranch 91.37 56 ⇑P P 23 08 18.9 +1.4
baz=92
L26A Underwood Farm 91.42 46 ⇑P P 23 08 19.1 +1.4
baz=92
V31A Spring Creek L 91.42 53 ⇓P P 23 08 19.1 +1.3
baz=92
R29A Marienthal 91.42 50 ⇓P P 23 08 19.1 +1.4
baz=92
J25A Sunshine Ranch 91.46 45 ⇓P P 23 08 18.1 +0.2
baz=92
D22A Cohagen 91.47 41 ⇓P P 23 08 19.2 +1.5
baz=92
B21A Ellsworth Farm 91.50 39 ⇓P P 23 08 19.1 +1.4
baz=92
H24A Dirks Ranch, A 91.51 43 ⇓P P 23 08 18.9 +0.9
baz=92,SNR=15
K26A Motz Farm, Whi 91.61 45 ⇑P P 23 08 19.5 +1.0
baz=92,SNR=5.7
S30A Montezuma 91.63 51 ⇓P P 23 08 19.5 +0.8
baz=92
W32A Sentinel 91.64 54 ⇓P P 23 08 20.0 +1.2
baz=92,SNR=5.9
134A White-Moore Ra 91.67 56 ⇓P P 23 08 20.0 +1.1
baz=92
Q29A Oakley 91.71 50 ⇑P P 23 08 20.4 +1.4
baz=92
Y33A Hilltop Ranch, 91.73 55 ⇓P P 23 08 20.1 +0.9
baz=92
I25A Rochford 91.76 44 ⇓P P 23 08 22.5 +3.2
baz=92,SNR=8.1
A21A Bergtoll Ranch 91.80 39 ⇓P P 23 08 20.4 +1.2
baz=92,SNR=6.7
C22A Vida 91.90 40 ⇓P P 23 08 21.0 +1.3
baz=92
INK Inuvik 91.94 15 *e*P P 23 08 19.1 -0.2
comp=Z,16nm,1.0s
INK Inuvik 91.94 15 P P 23 08 19.1 -0.2
comp=Z,11nm,0.9s,baz=235,slow=4.7,SNR=29
R30A Dighton 92.00 50 ⇑P P 23 08 21.9 +1.5
baz=92
V32A Arapaho 92.01 53 ⇑P P 23 08 22.0 +1.6
baz=92
X33A Lawton 92.02 54 ⇓P P 23 08 20.8 +0.3
baz=92
T31A Randall Ranch, 92.02 52 ⇑P P 23 08 21.3 +0.9
baz=92
F24A Ekalaka 92.02 42 ⇑P P 23 08 21.6 +1.3
baz=92
B22A Reddig Ranch S 92.07 40 ⇓P P 23 08 22.0 +1.5
baz=92,SNR=6.2
D23A Lindsay 92.08 41 ⇑P P 23 08 22.3 +1.7
baz=92
135A Vickery Place, 92.19 57 ⇓P P 23 08 22.7 +1.4
baz=92
W33A Caddo, Fort Co 92.25 54 ⇓P P 23 08 23.2 +1.7
baz=92
K27A Flueckinger Fa 92.25 46 ⇓P P 23 08 22.8 +1.3
baz=92
U32A Winter Ranch, 92.27 53 ⇑P P 23 08 22.8 +1.2
baz=92
Q30A Quinter 92.29 50 ⇓P P 23 08 23.3 +1.6
baz=92
I26A New Underwood 92.34 44 ⇑P P 23 08 23.4 +1.6
baz=92
S31A Mullinville 92.35 51 ⇓P P 23 08 23.4 +1.5
baz=92
C23A Lambert 92.36 40 ⇓P P 23 08 23.3 +1.5
baz=92,SNR=12
A22A Carney Farms, 92.41 39 ⇓P P 23 08 22.6 +0.7
baz=93
P30A Selden 92.48 49 ⇑P P 23 08 23.5 +1.0
baz=93
X34A Smith Ranch, M 92.55 55 ⇓P P 23 08 24.1 +1.2
baz=93
R31A Burdett 92.55 51 ⇑P P 23 08 24.0 +1.1
baz=93
D24A Glendive 92.61 41 ⇑P P 23 08 24.5 +1.6
baz=93
T32A Huddler Ranch, 92.61 52 ⇓P P 23 08 24.4 +1.2
baz=93
J27A Elkhorn Farm, 92.62 45 ⇓P P 23 08 24.7 +1.6
baz=93
V33A Lossen Ranch, 92.62 53 ⇑P P 23 08 24.5 +1.3
baz=93
H26A Fairpoint 92.62 44 ⇑P P 23 08 24.3 +1.3
baz=93
F25A Bowman 92.69 42 ⇓P P 23 08 24.9 +1.6
baz=93
B23A Brockton 92.74 40 ⇑P P 23 08 25.3 +1.8
baz=93,SNR=9.1
S32A Newby Ranch, P 92.78 51 ⇑P P 23 08 25.2 +1.2
baz=93
G26A Maurine 93.00 43 ⇓P P 23 08 25.3 +0.5
baz=93
F26A Lodgepole 93.17 43 ⇑P P 23 08 26.6 +1.0
baz=93
R32A Long Quarter, 93.20 51 ⇑P P 23 08 27.1 +1.2
baz=93,SNR=8.5
L29A Maesberg Ranch 93.23 47 ⇑P P 23 08 27.1 +1.2
baz=93
DGMT Dagmar 93.23 40 ⇓P P 23 08 27.0 +1.3
baz=93,SNR=5.1
D25A Fairfield 93.25 41 ⇓P P 23 08 27.3 +1.4
baz=93
I28A Midland 93.46 45 ⇓P P 23 08 31.5 +4.6
baz=94
Q32A Meitler Ranch, 93.51 50 ⇑P P 23 08 28.6 +1.4
baz=94,SNR=5.4
SONA1 Songino Array 93.61 319 *e*P P 23 08 27.0 -0.6
SONM Songino Array 93.61 319 P P 23 08 27.8 +0.2
SONM Songino Array 93.61 319 P P 23 08 27.8 +0.2
comp=Z,1.0nm,0.7s,baz=125,slow=3.9,SNR=9.3
R33A Olander Ranch, 93.70 51 ⇓P P 23 08 29.3 +1.2
baz=94
L30A Spencer Herefo 93.71 47 ⇓P P 23 08 29.3 +1.2
baz=94
D26A Manning 93.77 42 ⇑P P 23 08 29.6 +1.4
baz=94
B25A Knox Farm, Ray 93.79 40 ⇓P P 23 08 29.9 +1.6
baz=94
J29A Okreek 93.81 46 ⇓P P 23 08 29.6 +1.1
baz=94
M31A Lambtecht Ranc 94.02 48 ⇑P P 23 08 31.1 +1.6
baz=94
Q33A Connelly Farm, 94.04 50 ⇑P P 23 08 30.6 +1.0
baz=94
I29A Vivian Onida 94.05 45 ⇓P P 23 08 30.7 +1.1
baz=94
E27A Carson 94.10 42 ⇑P P 23 08 31.0 +1.3
baz=94
P33A Williams Farm, 94.29 50 ⇓P P 23 08 31.8 +1.1
baz=94
H29A Onida 94.33 45 ⇓P P 23 08 31.9 +1.1
baz=94
D27A Center 94.37 42 ⇓P P 23 08 31.6 +0.7
baz=94
YKA Yellowknife Ar 94.38 25 P P 23 08 30.3 -0.2
YKA Yellowknife Ar 94.38 25 P P 23 08 30.3 -0.2
comp=Z,2.0nm,0.6s,baz=238,slow=4.6,SNR=11
YKB5 Yellowknife Ar 94.38 25 *e*P P 23 08 29.6 -0.9
BGNE Belgrade 94.63 48 ⇑P P 23 08 33.2 +1.0
baz=95
A26A Wade Farm, Ken 94.72 40 ⇑P P 23 08 33.6 +1.2
baz=95
GTA Gaotai 95.08 310 *e*P P 23 08 35.1 +0.6
GTA pmax pmax
comp=Z,4.0nm,0.9s
A29A Manning Farm, 96.45 41 ⇑P P 23 08 40.8 +0.5
baz=97
A30A Hoffart Farm, 97.04 41 ⇑P P 23 08 43.5 +0.6
baz=97
ZALV Zalesovo Beam 108.29 322 PKiKP **PKiKP** 23 13 34.4 -0.8
ZALV Zalesovo Beam 108.29 322 PKiKP **PKiKP** 23 13 34.4 -0.8
comp=Z,1.1nm,0.6s,baz=109,slow=0.8,SNR=7.8
MKAR Makanchi Array 109.19 314 PKiKP **PKiKP** 23 13 36.1 -1.0
MKAR Makanchi Array 109.19 314 PKiKP **PKiKP** 23 13 36.1 -1.0
comp=Z,1.3nm,0.5s,baz=174,slow=0.4,SNR=37
KSH Kashi 113.13 306 PKP **PKiKP** 23 13 43.0 -2.0
KSH sPKP 23 16 59.1
KSH PKS **PKSdf** 23 17 19.2 -2.6
KSH SKS **SKSdf** 23 19 59.1 -3.1
KSH SKKS **SKKSac** 23 20 41.1 -6.1
KSH SS **SS** 23 29 51.0 +3.1
KSH AMB AMB
comp=Z,170nm,5.6s
ARU Arti 122.91 326 *i* PKIKP **PKPdf** 23 14 02.5 -0.6
ARU 23 20 09.2
KEV Kevo 125.93 349 *e*PKIKP PKPdf 23 14 20.7 +12
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 125.93 349 *ep* PKPdf 23 14 20.7 +12
comp=Z,0.7nm,0.3s
ARCES ARCESS Array B 126.38 350 PKP **PKPdf** 23 14 08.7 -0.7
ARCES ARCESS Array B 126.38 350 PKP **PKPdf** 23 14 08.7 -0.7
comp=Z,5.1nm,0.9s,baz=108,slow=2.7,SNR=4.9
BOSA Boshof 128.35 207 PKP **PKPdf** 23 14 15.2 +0.6
BOSA Boshof 128.35 207 PKP **PKPdf** 23 14 15.2 +0.6
comp=Z,3.7nm,0.9s,baz=102,slow=6.1,SNR=4.1
JOF Joensuu 130.62 343 *e*PKIKP **PKPdf** 23 14 16.8 -0.8
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 130.62 343 *ep* **PKPdf** 23 14 16.8 -0.8
comp=Z,0.5nm,0.4s
KAF Kangasniemi 132.63 345 *e*PKIKP **PKPdf** 23 14 19.7 -1.7
KAF pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 132.63 345 *ep* **PKPdf** 23 14 19.7 -1.7
comp=Z,0.5nm,0.5s
FINES FINESS Array B 133.25 344 PKPpre PKPpre 23 14 17.7
FINES PKP **PKPdf** 23 14 23.3 +0.7
FINES SKPbc **SKPbc** 23 16 57.8 +1.2
FINES FINESS Array B 133.25 344 PKHKP PKPpre 23 14 17.7
comp=Z,3.4nm,1.0s,baz=169,slow=3.9,SNR=4.7
FINES PKP **PKPdf** 23 14 23.3 +0.7
comp=Z,4.8nm,1.0s,baz=50,slow=3.0,SNR=3.8
FINES SKPbc **SKPbc** 23 16 57.8 +1.2
comp=Z,2.9nm,0.9s,baz=350,slow=5.8,SNR=6.2
OBN Obninsk 134.36 333 ⇓ *i* PKIKP **PKPdf** 23 14 25.7 +0.9
OBN *e* 23 17 01.9
OBN *e* 23 20 47.7
OBN pmax pmax
comp=Z,24nm,2.0s
NOA NORSAR Array B 136.44 353 SKPbc **SKPbc** 23 17 07.7 +1.1
NOA NORSAR Array B 136.44 353 SKPbc **SKPbc** 23 17 07.7 +1.1
comp=Z,2.1nm,0.8s,baz=16,slow=4.5,SNR=3.3
KBZ Khabaz 136.86 316 PKIKP **PKPdf** 23 14 30.1 +0.2
KBZ pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 136.86 316 PKP **PKPdf** 23 14 30.1 +0.2
KBZ Khabaz 136.86 316 PKP **PKPdf** 23 14 30.1 +0.2
comp=Z,0.9nm,0.7s,baz=181,slow=7.6,SNR=3.8
KMBO Kilima Mbogo 140.12 245 PKPpre PKPpre 23 14 30.6
KMBO PKP **PKiKP** 23 14 38.9 -0.8
KMBO SKPbc **SKiKP** 23 17 20.5 -0.4
KMBO Kilima Mbogo 140.12 245 PKHKP PKPpre 23 14 30.6
comp=Z,1.0nm,0.4s,baz=62,slow=22,SNR=8.1
KMBO PKP **PKiKP** 23 14 38.9 -0.8
comp=Z,2.1nm,0.7s,baz=230,slow=23,SNR=6.4
KMBO SKPbc **SKiKP** 23 17 20.5 -0.4
comp=Z,1.0nm,0.5s,baz=224,slow=24,SNR=5.8
AKASG Malin Array Be 140.62 332 PKHKP PKPpre 23 14 30.2

AKASG 23 14 37.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 140.62 332 PKPpre PKPpre 23 14 30.2
AKASG PKP **PKPdf 23 14 37.1 +0.7**
AKASG Malin Array Be 140.62 332 PKhKP PKPpre 23 14 30.2
comp=Z,0.4nm,0.3s,baz=45,slow=4.1,SNR=7.4
AKASG PKP **PKPdf 23 14 37.1 +0.7**
comp=Z,1.3nm,0.4s,baz=42,slow=3.2,SNR=5.9
MALT Malatya 142.07 310 ↑*i*P **PKPdf 23 14 36.7 -2.9**
LEOM Leova 144.06 328 ↓↓PKIKP **PKPdf 23 14 43.2 +0.5**
LEOM Leova 144.06 328 ↓*i*P **PKPdf 23 14 43.2 +0.5**
KWP Kalwaria Pacla 144.13 336 *e*PKIKP PKPbc 23 14 42.6 +0.1
KWP Kalwaria Pacla 144.13 336 *e*PKP PKPbc 23 14 42.6 +0.1
KWP Kalwaria Pacla 144.13 336 ↑*i*P PKPbc 23 14 42.6 +0.1
TLCR 144.63 326 ↓↓PKIKP **PKPab 23 14 44.8 0.0**
TLCR 144.63 326 ↓↓*i*P **PKPab 23 14 44.8 0.0**
BUR04 Bucovina Ar. S 144.67 332 *e*PKPdf **PKPdf 23 14 44.2 +0.3**
BURAR Bucovina Array 144.67 332 ↓↓PKIKP **PKPab 23 14 45.3 +0.2**
BURAR Bucovina Array 144.67 332 ↓↓*i*P **PKPab 23 14 45.3 +0.2**
GHRR 144.76 328 ↑↑*i*P **PKPab 23 14 45.5 +0.2**
TESR Tescani 144.82 330 ↑↑*i*P PKPbc 23 14 44.5 -0.2
BRTR Keskin Array B 144.84 315 PKP PKPbc 23 14 44.9 -0.2
BRTR Keskin Array B 144.84 315 PKP PKPbc 23 14 44.9 -0.2
comp=Z,12nm,0.9s,baz=123,slow=4.0,SNR=48
KOLS Kolonicke sedl 144.87 336 *e*PKIKP PKPbc 23 14 44.9 +0.2
KOLS Kolonicke sedl 144.87 336 *e*PKP PKPbc 23 14 44.9 +0.2
CFR Carcaliu 145.00 327 ↑↑PKIKP PKPbc 23 14 45.7 +0.5
CFR Carcaliu 145.00 327 ↑↑*i*P PKPbc 23 14 45.7 +0.5
UZH Uzhgorod 145.10 336 *e*PKIKP **PKPbc 23 14 45.7 +0.3**
KSP Ksiaz 145.17 344 *e*PKIKP **PKPbc 23 14 46.1 +0.5**
KSP Ksiaz 145.17 344 *e*PKP **PKPab 23 14 46.3 -0.4**
CRVS Cervenica-Dubn 145.20 337 *e*PKIKP **PKPbc 23 14 45.9 +0.2**
CRVS Cervenica-Dubn 145.20 337 *e*PKP **PKPbc 23 14 45.9 +0.2**
VRI Vrincioaia 145.24 329 ↓↓PKIKP **PKPbc 23 14 46.2 +0.3**
VRI Vrincioaia 145.24 329 ↓↓*i*P **PKPbc 23 14 46.2 +0.3**
PLOR Plostina 145.29 329 ↑↑PKIKP **PKPbc 23 14 46.3 +0.2**
PLOR Plostina 145.29 329 ↑↑*i*P **PKPbc 23 14 46.3 +0.2**
ANTO Ankara 145.33 316 ↑↑PKIKP **PKPbc 23 14 46.6 +0.1**
ANTO Ankara 145.33 316 ↑↑*i*P **PKPbc 23 14 46.6 +0.1**
BR231 Keskin MP Arra 145.36 315 *e*PKPdf **PKPdf 23 14 45.1 -0.2**
TRPA Tarpa 145.41 335 ↑↑*i*P **PKPbc 23 14 46.8 +0.5**
TLB Topalu 145.44 326 ↑↑PKP2 **PKPbc 23 14 47.2 +0.7**
TLB Topalu 145.44 326 ↑↑*i*P **PKPbc 23 14 47.2 +0.7**
CLL Collm 145.53 347 ↓↓PKIKP **PKPbc 23 14 46.8 +0.3**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 145.53 347 ↓↓PKPbc **PKPbc 23 14 46.8 +0.3**
comp=Z,10.0nm,0.8s
CLL *i* PKPab **PKPab 23 14 48.2 +0.1**
CLL *e* 23 15 05.0
CLL *e*SKPbc **SKiKP 23 17 32.0 +1.5**
CLL Collm 145.53 347 *i* (PKP) PKPab 23 14 56.9 +8.8
comp=Z,8.0nm,0.9s
OKC Ostrava-Krasne 145.53 341 *i* PKIKP **PKPbc 23 14 46.1 -0.5**
OKC Ostrava-Krasne 145.53 341 *i* PKP **PKPbc 23 14 46.1 -0.5**
UPC Upice 145.55 344 *i* PKP2 **PKPbc 23 14 47.3 +0.6**
UPC Upice 145.55 344 *i* PKP **PKPbc 23 14 47.3 +0.6**
DPC Dobruska-Polom 145.61 343 *i* PKP2 **PKPbc 23 14 47.5 +0.6**
DPC Dobruska-Polom 145.61 343 *i* PKP **PKPbc 23 14 47.5 +0.6**
DPC *ex* x 23 14 55.6
BRG Berggiesshubel 145.73 346 *e*PKP **PKPbc 23 14 47.7 +0.6**
comp=Z,8.9nm,1.2s
BRG Berggiesshubel 145.73 346 *e*PKP2 **PKPbc 23 14 47.7 +0.6**
BRG pmax pmax
comp=Z,9.0nm,1.2s
DOPR Dopca 145.82 330 ↓↓*i*P **PKPab 23 14 48.7 -0.8**
ISR Istrita 145.86 328 ↑↑PKP2 **PKPbc 23 14 48.4 +0.6**
ISR Istrita 145.86 328 ↑↑*i*P **PKPbc 23 14 48.4 +0.6**
MLR Muntele Rosu 145.89 329 ↑↑*i*P **PKPdf 23 14 45.2 -0.9**
PVCC Panska Ves 145.90 345 *i* PKIKP **PKPbc 23 14 48.0 +0.4**
PVCC Panska Ves 145.90 345 *i* PKP **PKPbc 23 14 48.0 +0.4**
KECS Kecovo 145.91 337 *e*PKIKP **PKPdf 23 14 46.8 +1.0**
KECS Kecovo 145.91 337 *e*PKP **PKPdf 23 14 46.8 +1.0**
MBAR Mbarara 145.91 240 *e*PKPdf **PKPdf 23 14 47.5 +0.4**
VOIR 146.37 330 ↓↓PKIKP **PKPdf 23 14 47.8 +1.0**
VOIR 146.37 330 ↓↓*i*P **PKPdf 23 14 47.8 +1.0**
PRU Pruhonice 146.41 345 *i* PKIKP **PKPbc 23 14 49.1 0.0**
PRU Pruhonice 146.41 345 *i* PKP **PKPbc 23 14 49.1 0.0**
VRAC Vranov 146.47 342 ↑↑*i*P **PKPdf 23 14 48.0 +1.2**
PSZ Piszkesteto 146.60 337 ↓↓PKIKP **PKPbc 23 14 49.8 +0.1**
PSZ Piszkesteto 146.60 337 ↓↓*i*P **PKPbc 23 14 49.8 +0.1**
ARR Arges 146.62 330 ↓↓*i*P **PKPdf 23 14 48.0 +0.8**
NKC Novy Kostel 146.66 347 *i* PKP2 **PKPbc 23 14 49.9 +0.1**
NKC Novy Kostel 146.66 347 *i* PKP **PKPbc 23 14 49.9 +0.1**
LOT Lotru 146.96 331 ↑↑*i*P **PKPbc 23 14 50.7 -0.2**
SIRR Siria 147.26 334 ↑↑*i*P **PKPbc 23 14 52.0 +0.5**
GRF Grafenberg Arr 147.42 348 *e*PKP **PKPbc 23 14 52.0 +0.2**
KHC Kasperske Hory 147.44 345 *i* PKP2 **PKPbc 23 14 52.1 +0.2**
KHC Kasperske Hory 147.44 345 *i* PKP **PKPbc 23 14 52.1 +0.2**
JMB Yambol 147.64 324 ↓↓PKP2 **PKPbc 23 14 52.9 +0.4**
JMB Yambol 147.64 324 ↓↓*i*P **PKPbc 23 14 52.9 +0.4**
GERES GERESS Array B 147.67 345 PKPbc **PKPbc 23 14 52.7 +0.1**
GERES GERESS Array B 147.67 345 PKPbc **PKPbc 23 14 52.7 +0.1**
comp=Z,4.1nm,0.5s,baz=25,slow=3.0,SNR=51
BZS Buzias 147.79 333 ↑↑PKIKP **PKPdf 23 14 50.2 +1.2**
BZS Buzias 147.79 333 ↑↑*i*P **PKPdf 23 14 50.2 +1.2**
CONA Conrad Observa 147.93 342 *i* PKiKP **PKPbc 23 14 53.7 +0.5**
comp=Z,4.7nm,0.6s,SNR=8.0
KDZ Kurdzhali 148.83 324 ↑↑PKHKP **PKPbc 23 14 55.7 +0.1**
KDZ Kurdzhali 148.83 324 ↑↑*i*P **PKPbc 23 14 55.7 +0.1**
ALN Alexandroupoli 148.97 323 *e*P **PKPbc 23 14 54.2 -1.7**
RDO Rodhopi 149.10 323 *e*P **PKPbc 23 14 55.6 -0.6**
SOKA Soboth 149.30 342 *i* PKPbc **PKPbc 23 14 56.3 -0.3**
comp=Z,5.8nm,1.0s,SNR=5.0
PERS Pernice 149.31 342 *i* PKPbc **PKPbc 23 14 56.3 -0.3**
VTS Vitosha 149.35 328 ↓↓PKHKP **PKPbc 23 14 56.9 -0.1**
VTS Vitosha 149.35 328 ↓↓*i*P **PKPbc 23 14 56.9 -0.1**
SMTH Samothraki Isl 149.54 322 *e*P **PKPbc 23 14 56.4 -0.9**
WTTA Wattenberg 149.64 346 ↓↓PKiKP **PKPbc 23 14 57.8 +0.3**
comp=Z,8.5nm,0.6s
MOTA Moosalm 149.68 347 ↑↑*i*PKPbc **PKPbc 23 14 57.6 0.0**
comp=Z,2.9nm,0.6s
KAVA Kavala 149.77 324 *e*P **PKPbc 23 14 57.3 -0.5**
MMB Musomiste 149.79 326 ↑↑PKHKP **PKPbc 23 14 57.4 -0.5**
MMB Musomiste 149.79 326 ↑↑*i*P **PKPbc 23 14 57.4 -0.5**
NVR Nevrokopi 149.89 325 *e*P **PKPbc 23 14 57.4 -0.7**
VNDS Vrh nad Dolski 149.92 342 *i* PKPbc **PKPbc 23 14 57.9 -0.1**
ABTA Abfaltersbach 149.92 345 *i* PKPdf **PKPdf 23 14 52.7 +0.2**
comp=Z,5.7nm,1.0s,SNR=4.1
ABTA ↓↓*i*PKPbc **PKPbc 23 14 57.7 -0.4**
comp=Z,8.6nm,0.7s
FETA Feichten 150.07 347 *i* PKiKP **PKiKP 23 14 58.9 -0.2**
comp=Z,8.0nm,1.0s,SNR=5.3
LIA Limnos Island 150.12 322 *e*P **PKPbc 23 14 57.4 -1.2**
SIGR SIGRI 150.15 320 *e*P **PKPbc 23 14 57.1 -1.6**
SRS Serrai 150.20 325 *e*P **PKPbc 23 14 57.4 -1.4**
VOJS Vojsko 150.22 343 *i* PKPbc **PKPbc 23 14 58.4 -0.4**
SMG Samos 150.42 317 *e*P **PKPbc 23 14 57.5 -1.9**
CHOS Chios island 150.52 319 *e*P **PKPbc 23 14 58.7 -1.0**
FUORN Ofenpass-Fuorn 150.55 348 *e*PKPbc **PKPbc 23 15 00.5 +0.8**
PLG Polygyros 150.79 324 *e*P **PKPbc 23 14 58.9 -1.3**
HORT Hortiatis 150.83 325 *e*P **PKPbc 23 14 57.7 -2.7**
TUE Stuetta 150.86 349 *e*PKPbc **PKPbc 23 15 01.1 +0.6**
KARP Karpathos 151.37 313 *e*P **PKPbc 23 15 01.1 -0.6**
FNA Florina 151.60 327 *e*P **PKPbc 23 15 01.4 -0.7**
SMIA Simia 151.94 322 *e*P **PKPbc 23 15 01.1 -1.7**
NEST Nestorio 152.05 327 *e*P **PKPbc 23 15 02.8 -0.3**
PTL Penteli 152.09 320 *e*P **PKPbc 23 15 01.8 -1.4**
THL Klokotos Trika 152.14 325 *e*P **PKPbc 23 15 00.6 -2.6**
VIL2 Platees 152.34 321 *e*P **PKPbc 23 15 01.6 -2.1**
AGG Agios Georgios 152.34 324 *e*P **PKPbc 23 15 02.4 -1.3**
MAKR Makrakomi, Fth 152.46 324 *e*P **PKPbc 23 15 02.9 -1.1**
NPS Neapolis 152.60 314 *e*P **PKPbc 23 15 04.0 -0.4**
DSF Desfina 152.65 322 *e*P **PKPbc 23 15 03.2 -1.3**
EVR Evrytania 152.71 324 *e*P **PKPbc 23 15 04.5 -0.1**
DID Didima 152.82 320 *e*P **PKPbc 23 15 03.0 -1.8**
KALE Kalithea 152.88 323 *e*P **PKPbc 23 15 04.2 -0.8**
GUR Goura 153.07 322 *e*P **PKPbc 23 15 04.7 -0.8**
LAKA Lakka 153.08 323 *e*P **PKPbc 23 15 05.1 -0.3**
KLV Kalavryta, Ach 153.11 322 *e*P **PKPbc 23 15 04.7 -0.8**
PDO Prodromos 153.28 324 *e*P **PKPbc 23 15 05.7 0.0**
DRO Drossia 153.43 323 *e*P **PKPbc 23 15 09.2 +3.1**
VLS Valsamata 153.91 324 *e*P **PKPbc 23 15 03.9 -3.2**
ESDC Sonseca Array 157.84 11 PKPab **PKPab 23 15 40.4 +0.1**
ESDC Sonseca Array 157.84 11 PKPab **PKPab 23 15 40.4 +0.1**
comp=Z,2.3nm,0.8s,baz=337,slow=3.1,SNR=9.2
DBIC Dimbokro 167.12 150 PKP **PKPdf 23 15 12.2 -1.1**
DBIC Dimbokro 167.12 150 PKP **PKPdf 23 15 12.2 -1.1**
comp=Z,1.8nm,0.7s,baz=358,slow=2.9,SNR=3.9
TOA0 Torodi Ar. Sit 175.21 181 *e*PKPdf **PKPdf 23 15 16.1 -1.2**
TOA0 *e*PKPab **PKPab 23 16 56.5 -0.8**
TORD Torodi Ar. Bea 175.21 181 PKP **PKPdf 23 15 16.4 -0.9**
TORD PKPab **PKPab 23 16 57.4 +0.1**
TORD PP **PP 23 20 51.5 +2.6**
TORD Torodi Ar. Bea 175.21 181 PKP **PKPdf 23 15 16.4 -0.9**
comp=Z,1.4nm,0.9s,baz=306,slow=1.3,SNR=7.9
TORD PKPab **PKPab 23 16 57.4 +0.1**
comp=Z,0.7nm,0.7s,baz=196,slow=4.0,SNR=7.0
TORD PP **PP 23 20 51.5 +2.6**
comp=Z,1.2nm,0.9s,baz=174,slow=4.5,SNR=4.6

*NEIC **05** 23:27:03.3, 65.76N×168.23W, h17km, ML3.9(AEIC), After AEIC.*
*ISCJB **05** 23:27:04.6±0.7, 65.51N±0.08×167.55W±0.10, h21km±6km, mb3.8/4, Error ellipse: s-maj=13.9km s-min=6.3km az=167.2*
*IDC **05** 23:27:05.9±2.3, 65.74N×168.38W, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/28, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=65.6km s-min=15.8km az=8.0*
ISC 05 23:27:06.3±1.0, 65.63N±0.10×167.95W±0.06, h16km±6km, n15, σ2s00/21, mb3.8/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**0.07**	**170**	P		**Pg**	**23 27 08.7**	**-0.7**
TNA				S		**Sg**	**23 27 12.9**	**+1.4**
GAMB	**Gambell**	**2.46**	**223**	P		**Pn**	**23 27 44.8**	**-0.9**
GAMB				S		**Sn**	**23 28 14.9**	**-0.4**
IM3	**Indian Mountai**	**5.85**	**80**	P		**Pn**	**23 28 32.5**	**+0.3**
TT01	**Tatalina**	**5.87**	**112**	P		**Pn**	**23 28 30.7**	**-1.8**
TT01				S		**Sn**	**23 29 43.5**	**+4.1**
CHUM	**Lake Minchumin**	**6.91**	**97**	P		**Pn**	**23 28 45.2**	**-1.6**
CHUM				S		**Sn**	**23 30 07.3**	**+2.4**
COLD	**Coldfoot**	**7.29**	**69**	P		**Pn**	**23 28 49.7**	**-2.2**
COLD				S		**Sn**	**23 30 13.7**	**-0.6**
KTH	**Kantishna Hill**	**7.61**	**98**	P		**Pn**	**23 28 55.0**	**-1.4**
COLA	**College**	**8.46**	**86**	P		**Pn**	**23 29 06.1**	**-1.9**
RND	**Reindeer**	**8.52**	**96**	P		**Pn**	**23 29 07.3**	**-1.7**
ILAR	**Eielson Array**	**8.88**	**86**	Pn		**Pn**	**23 29 13.3**	**-0.5**
	0.1nm,0.3s,baz=286,slow=14,SNR=8.0							
ILAR				Sn		**Sn**	**23 30 49.4**	**-4.1**
	0.3nm,0.3s,baz=280,slow=26,SNR=5.1							
ILAR				Lg		Lg	23 31 50.9	
	0.1nm,0.3s,baz=284,slow=29,SNR=5.0							
IL1	**Eielson Array**	**8.88**	**86**	P		**Pn**	**23 29 12.2**	**-1.6**
SONM	**Songino Array**	**46.09**	**291**	P		**P**	**23 35 30.0**	**+0.8**
	1.7nm,1.2s,baz=35,slow=5.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**48.61**	**311**	P		**P**	**23 35 49.0**	**+0.4**
	0.4nm,0.5s,baz=31,slow=9.0,SNR=4.0							
AKASG	**Malin Array Be**	**63.25**	**348**	P		**P**	**23 37 34.4**	**+1.0**
	1.0nm,0.6s,baz=12,slow=6.4,SNR=6.5							
GERES	**GERESS Array B**	**65.86**	**359**	P		**P**	**23 37 51.3**	**+0.7**
	0.1nm,0.3s,baz=352,slow=6.0,SNR=3.7							

IDC 05 23:48:08.7±4.3, 16.37S×123.50E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=83.9km s-min=36.1km az=39.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**2.67**	**130**	Pn		Pn	23 48 54.8	+1.7
	3.3nm,0.3s,baz=298,slow=10,SNR=126							
FITZ				Lg		Lg	23 49 32.9	
	1.3nm,0.3s,baz=180,slow=21,SNR=11							
WRA	**Warramunga Arr**	**10.90**	**111**	Pn		Pn	23 50 47.8	+1.7
	0.2nm,0.3s,baz=283,slow=14,SNR=4.6							
WRA				Sn		Sn	23 52 51.7	+2.9
	0.2nm,0.3s,baz=292,slow=25,SNR=3.1							
ASAR	**Alice Springs**	**12.18**	**128**	Pn		Pn	23 51 01.6	-2.0
	0.2nm,0.3s,baz=305,slow=15,SNR=11							
ASAR				Sn		Sn	23 53 13.7	-6.5
	0.1nm,0.3s,baz=304,slow=23,SNR=3.1							
STKA	**Stephens Creek**	**22.56**	**136**	P		P	23 53 09.6	-0.9
	2.2nm,0.8s,baz=339,slow=14,SNR=4.4							

*ISCJB **06** 00:07:22.0±2.8, 31.75S±0.2×179.1W±0.4, h33km, mb3.7/3, Error ellipse: s-maj=54.1km s-min=25.3km az=157.3*
*IDC **06** 00:07:32.5±9.0, 32.10S×179.57W, h88km±66km, mb3.5/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/19, Error ellipse: s-maj=81.6km s-min=29.8km az=46.0*
ISC 06 00:07:24.4±1.8, 31.7S±0.2×179.1W±0.3, h35km, n10, σ1s13/6, mb3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.64**	**23**	LR		LR	00 09 01.3	
	comp=Z,470nm,19.3s,baz=357,slow=28							
URZ	**Urewera**	**7.25**	**204**	P		**Pn**	**00 09 08.4**	**+0.6**
	0.4nm,0.3s,baz=59,slow=5.9,SNR=3.0							
ASAR	**Alice Springs**	**42.11**	**269**	P		**P**	**00 15 13.1**	**-0.4**
	0.9nm,0.8s,baz=110,slow=7.5,SNR=9.3							
WRA	**Warramunga Arr**	**43.22**	**274**	P		**P**	**00 15 22.0**	**-0.4**
	0.4nm,0.6s,baz=114,slow=8.1,SNR=3.2							
QSPA	**South Pole Qui**	**58.42**	**180**	P		**P**	**00 17 16.2**	**-0.2**
	2.1nm,0.8s,baz=16,slow=6.4,SNR=6.9							
H03N3	**Juan Fernandez**	**80.74**	**124**	T		T	01 48 19.4	
	baz=238,slow=75,SNR=17							
H03N2	**Juan Fernandez**	**80.75**	**124**	T		T	01 48 17.8	
	baz=238,slow=75,SNR=16							
H03N1	**Juan Fernandez**	**80.76**	**124**	T		T	01 48 20.0	
	baz=238,slow=75,SNR=76							
FINES	**FINESS Array B**	**146.01**	**339**	PKPbc		**PKPab**	**00 27 01.7**	**+1.3**
	5.1nm,1.2s,baz=45,slow=5.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**161.53**	**182**	PKPab		**PKPab**	**00 28 05.4**	**-1.2**
	0.2nm,0.5s,baz=154,slow=2.2,SNR=2.1							

*JMA **06** 00:23:52.7±0.1, 29.22N×129.99E, h63km±3km, M3.4*
*ISCJB **06** 00:23:53.1±0.5, 29.22N±0.04×130.0E±0.1, h60km±5km, mb3.8/6, Error ellipse: s-maj=15.2km s-min=4.4km az=17.7*
*IDC **06** 00:23:56.1±2.3, 29.22N×129.74E, h68km±22km, mb3.5/6, mb1 3.5/8, mb1mx3.3/29, mbtmp3.5/8, MS3.0/2, Ms1 3.0/2, ms1mx2.5/28, Error ellipse: s-maj=32.0km s-min=14.1km az=94.0*
ISC 06 00:23:53.8±1.0, 29.21N±0.04×129.97E±0.10, h48km±11km, n16, σ1s03/23, mb3.7/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.63**	**353**	P		**Pn**	**00 24 06.1**	**-0.5**
JNN				*e*S		**Sn**	**00 24 16.5**	**+0.7**
JAM	**Amami Oshima**	**0.86**	**202**	P		**Pn**	**00 24 09.0**	**-0.6**
JAM				*e*S		**Sn**	**00 24 21.1**	**-0.1**
JZK	**Kikaishima**	**0.90**	**180**	P		**Pn**	**00 24 09.7**	**-0.4**
JZK				*e*S		**Sn**	**00 24 22.7**	**+0.7**
JAMN	**Amaminishikomi**	**1.19**	**216**	P		**Pn**	**00 24 13.8**	**-0.3**
JAMN				*e*S		**Sn**	**00 24 29.8**	**+0.6**
JKC	**Kuchinoerabu**	**1.26**	**9**	P		**Pn**	**00 24 14.7**	**-0.3**
JKC				*e*S		**Sn**	**00 24 31.2**	**+0.4**
JTK	**Tokunoshima**	**1.68**	**212**	P		**Pn**	**00 24 21.0**	**+0.2**
JTK				*e*S		**Sn**	**00 24 41.6**	**+0.4**
JTN	**Tanegashima 3**	**1.68**	**31**	P		**Pn**	**00 24 20.6**	**-0.2**
JTN				*e*S		**Sn**	**00 24 41.2**	**0.0**
JOW	**Kunigami**	**2.81**	**213**	P		**Pn**	**00 24 37.8**	**+1.6**
	1.7nm,0.3s,baz=91,slow=23,SNR=8.0							
JOW				S		**Sn**	**00 25 09.5**	**+0.7**
	2.1nm,0.3s,baz=102,slow=30,SNR=2.1							
JNU	**Nakatsue**	**3.97**	**11**	P		**Pn**	**00 24 54.4**	**+2.1**
	2.3nm,0.3s,baz=222,slow=15,SNR=22							
KSRS	**Korea Array**	**8.39**	**349**	LR		LR	00 29 03.5	
	comp=Z,60nm,19.5s,baz=159,slow=37							
SONM	**Songino Array**	**26.02**	**322**	P		**P**	**00 29 23.0**	**+0.6**
	1.3nm,0.6s,baz=141,slow=9.3,SNR=9.1							
SONM				LR		LR	00 41 03.8	
	comp=Z,41nm,18.4s,baz=209,slow=40							
KURBB	**Kurchatov Arra**	**43.83**	**314**	P		**P**	**00 31 52.4**	**-2.6**
	0.4nm,0.4s,baz=97,slow=8.7,SNR=4.5							
WRA	**Warramunga Arr**	**49.05**	**175**	P		**P**	**00 32 35.7**	**-0.5**
	0.9nm,0.8s,baz=353,slow=8.3,SNR=4.2							
BVAR	**Borovoye Array**	**49.13**	**316**	P		**P**	**00 32 35.3**	**-1.2**
	1.1nm,0.7s,baz=94,slow=10,SNR=4.5							
ASAR	**Alice Springs**	**52.71**	**175**	P		**P**	**00 33 04.5**	**+0.8**
	0.3nm,0.5s,baz=8.1,slow=13,SNR=7.3							
RES	**Resolute Bay**	**72.33**	**11**	P		**P**	**00 35 14.6**	**+0.7**
	1.7nm,0.8s,baz=324,slow=8.7,SNR=4.1							

*IDC **06** 00:37:53.2±1.1, 23.83N×93.92E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, Error ellipse: s-maj=44.7km s-min=21.8km az=73.0*
*ISCJB **06** 00:37:58.9±0.6, 23.8N±0.1×93.61E±0.08, h57km, mb3.5/7, Error ellipse: s-maj=18.2km s-min=6.4km az=31.2*
ISC 06 00:38:00.6±0.8, 23.9N±0.1×93.6E±0.1, h57km, n21, σ1s61/26, mb3.6/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**6.35**	**305**	*e*Pn		**Pn**	**00 39 33.9**	**+2.1**
TAPN				*e*Sn		**Sn**	**00 40 43.1**	**0.0**
	201nm,0.9s							
ODAN	**Odare**	**6.35**	**299**	*e*Pn		**Pn**	**00 39 33.9**	**+2.0**
ODAN				*e*Sn		**Sn**	**00 40 42.3**	**-0.9**
	122nm,0.5s							
RAMN	**Ramite**	**7.03**	**298**	*e*Pn		**Pn**	**00 39 43.3**	**+2.1**
RAMN				*e*Sn		**Sn**	**00 40 57.5**	**-2.3**
	40nm,0.3s							
CMAR	**Chiang Mai Arr**	**7.33**	**136**	Pn		**Pn**	**00 39 45.2**	**+0.1**
	0.7nm,0.3s,baz=317,slow=14,SNR=7.5							
JIRN	**Jiri**	**7.67**	**301**	*e*Pn		**Pn**	**00 39 52.0**	**+1.9**
JIRN				*e*Sn		**Sn**	**00 41 13.0**	**-2.7**
	39nm,0.3s							
GUN	**Gumba**	**8.03**	**302**	*e*Pn		**Pn**	**00 39 56.6**	**+1.6**
GUN				*e*Sn		**Sn**	**00 41 22.1**	**-2.4**
	55nm,0.4s							
PKI	**Pulchoki**	**8.25**	**298**	*e*Pn		**Pn**	**00 39 59.3**	**+1.3**
PKIN	**Phulchoki**	**8.26**	**298**	*e*Pn		**Pn**	**00 39 59.1**	**+1.0**
KKN	**Kakani**	**8.45**	**299**	*e*Pn		**Pn**	**00 40 01.9**	**+1.3**
DMN	**Daman**	**8.51**	**298**	*e*Pn		**Pn**	**00 40 03.0**	**+1.5**
GKN	**Gorkha**	**9.05**	**299**	*e*Pn		**Pn**	**00 40 09.5**	**+0.7**
KOLN	**Koldanda**	**9.80**	**296**	*e*Pn		**Pn**	**00 40 19.9**	**+0.8**
DANN	**Dangsing**	**9.90**	**299**	*e*Pn		**Pn**	**00 40 20.6**	**+0.1**
PYUN	**Piuthan**	**10.43**	**296**	*e*Pn		**Pn**	**00 40 27.5**	**-0.1**
MKAR	**Makanchi Array**	**24.63**	**341**	P		**P**	**00 43 16.9**	**+1.3**
	0.4nm,0.6s,baz=157,slow=8.4,SNR=4.5							
SONM	**Songino Array**	**26.02**	**20**	P		**P**	**00 43 27.7**	**-0.7**
	0.3nm,0.4s,baz=196,slow=9.9,SNR=2.4							
ZALV	**Zalesovo Beam**	**30.78**	**350**	P		**P**	**00 44 12.3**	**+1.8**
	0.4nm,0.3s,baz=144,slow=6.6,SNR=2.7							
WRA	**Warramunga Arr**	**58.92**	**134**	P		**P**	**00 47 52.7**	**-1.6**
	0.4nm,0.6s,baz=324,slow=7.4,SNR=3.8							
ASAR	**Alice Springs**	**61.34**	**137**	P		**P**	**00 48 10.3**	**-0.5**
	0.5nm,0.6s,baz=319,slow=6.7,SNR=9.5							
ILAR	**Eielson Array**	**80.22**	**22**	P		**P**	**00 50 03.1**	**-1.7**
	0.2nm,0.8s,baz=294,slow=5.6,SNR=3.2							
BOSA	**Boshof**	**83.93**	**235**	P		**P**	**00 50 26.3**	**+1.4**
	2.4nm,0.9s,baz=0.0,slow=5.1,SNR=3.9							

*IDC **06** 01:00:25.3±0.9, 7.63S×107.97E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, Error ellipse: s-maj=46.6km s-min=18.9km az=48.0*
*DJA **06** 01:00:31.0±0.7, 8°S±3'×107°8E±°, h10km, M4.2/11, MLv4.2/11*
*ISCJB **06** 01:00:32.5±0.7, 7.99S±0.09×107.89E±0.06, h70km, mb3.5/8, Error ellipse: s-maj=13.0km s-min=7.4km az=19.6*
ISC 06 01:00:34.0±0.8, 7.9S±0.1×107.90E±0.08, h70km, n25, σ1s33/20, mb3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.39**	**348**	P		**Pn**	**01 00 44.7**	**-1.3**
CISI				S		**Sn**	**01 00 53.3**	**-1.3**
LEM	**Lembang**	**1.14**	**346**	P		**Pn**	**01 00 55.8**	**+1.3**
LEM				S		Sn	01 01 16.7	+7.1
BJII	**Banjamegara**	**1.89**	**72**	P		**Pn**	**01 01 03.6**	**-0.7**
BJII				S		**Sn**	**01 01 29.0**	**+1.6**
YOGI	**Yogyakarta**	**2.38**	**87**	P		**Pn**	**01 01 09.6**	**-1.2**
UGM	**Wanagama**	**2.60**	**90**	P		**Pn**	**01 01 12.6**	**-1.3**
SMRI	**Semarang**	**2.67**	**71**	P		**Pn**	**01 01 15.8**	**+1.0**
PCJI	**Pacitan**	**3.26**	**95**	P		**Pn**	**01 01 22.2**	**-0.6**
NGJI	**Ngawi**	**3.58**	**81**	P		**Pn**	**01 01 26.9**	**-0.2**
PWJI	**Pagerwojo**	**3.87**	**92**	P		**Pn**	**01 01 30.0**	**-1.1**
KASI	**Kota Agung**	**4.14**	**305**	P		Pn	01 01 38.8	+4.0
GRJI	**Gresik**	**4.66**	**78**	P		**Pn**	**01 01 41.6**	**-0.3**
WRA	**Warramunga Arr**	**28.25**	**118**	P		**P**	**01 06 19.4**	**-1.4**
	0.4nm,

SNR=50
AAK Ala-Archa 5.86 22 P Pn 01 10 37.0 +3.2
SNR=28
AAK Ala-Archa 5.86 22 P Pn 01 10 37.3 +3.5
7.4nm,0.3s,baz=162,slow=5.0,SNR=137
AAK S **Sn 01 11 39.5 -0.2**
4.2nm,0.3s,baz=306,slow=24,SNR=24
KK31 Karatay Array 5.89 353 P Pn 01 10 40.2 +6.1
9.6nm,0.4s,baz=156,slow=11,SNR=349
KK31 S **Sn 01 11 42.7 +2.4**
4.0nm,0.2s,baz=160,slow=18,SNR=16
KBK Karagaybulak 6.02 25 P Pn 01 10 40.7 +4.6
SNR=11
ULHL Ulahol 6.20 35 P **Pn 01 10 39.9 +1.5**
SNR=20
CHMS Chumysh 6.27 23 P **Pn 01 10 42.0 +2.8**
SNR=8.6
USP Ospenovka 6.44 20 P **Pn 01 10 44.0 +2.4**
SNR=16
TKM2 Tokmak 2 6.49 28 P **Pn 01 10 44.9 +2.5**
SNR=11
TKM2 Tokmak 2 6.49 28 ⇑P **Pn 01 10 44.5 +2.2**
11nm,0.7s
TKM2 ⇓S Sn 01 11 47.2 -7.8
4.8nm,0.7s
MK31 Makanchi Array 12.46 37 ⇓P **Pn 01 12 00.9 -1.8**
0.6nm,0.5s,baz=207,slow=11,SNR=15
MKAR Makanchi Array 12.46 37 P **Pn 01 12 01.2 -1.6**
0.1nm,0.3s,baz=205,slow=9.8,SNR=6.2
KURBB Kurchatov Arra 14.29 18 P **Pn 01 12 28.2 +1.8**
0.4nm,0.3s,baz=203,slow=10,SNR=16
AB31 Akbulak array 14.62 329 ⇑P **P 01 12 34.7 +0.7**
0.6nm,0.4s,baz=132,slow=10,SNR=17
AB31 ⇑S **Sn 01 15 08.1 -3.8**
1.1nm,0.7s,baz=144,slow=22,SNR=5.0
BVA0 Borovoye Array 15.79 358 ⇑P **Pn 01 12 45.7 +0.3**
1.9nm,0.7s,baz=166,slow=12,SNR=10
BVAR Borovoye Array 15.79 358 P **Pn 01 12 44.4 -0.9**
0.4nm,0.3s,baz=159,slow=12,SNR=13
BRVK Borovoye 15.83 357 ⇓P **Pn 01 12 42.7 -3.1**
5.1nm,0.8s
AKTO Aktyubinsk 16.33 328 P **P 01 12 57.2 +4.2**
0.2nm,0.3s,baz=113,slow=12,SNR=4.4
AKTO Aktyubinsk 16.33 328 ⇑P **P 01 12 56.3 +3.4**
2.1nm,0.9s
AKTO ⇑S **Sn 01 15 49.6 -3.4**
0.1nm,0.3s
ZALV Zalesovo Beam 19.08 25 P **P 01 13 20.0 -3.0**
1.3nm,0.3s,baz=215,slow=10,SNR=30
BRTR Keskin Array B 29.57 287 P P 01 15 07.8 +3.9
0.4nm,0.5s,baz=84,slow=6.2,SNR=6.3
EIL Elat 31.25 267 LR LR 01 30 30.4
comp=Z,8.2nm,19.2s,baz=9.1,slow=40
FINES FINESS Array B 37.08 325 P **P 01 16 09.0 +0.5**
2.1nm,1.0s,baz=116,slow=9.4,SNR=3.8
ARCES ARCESS Array B 40.60 337 P **P 01 16 37.4 -0.5**
5.0nm,0.9s,baz=123,slow=10,SNR=6.1
NOA NORSAR Array B 44.01 323 P **P 01 17 05.5 -0.1**
0.9nm,1.0s,baz=94,slow=7.6,SNR=2.6
ESDC Sonseca Array 57.44 298 P **P 01 18 47.3 +0.6**
0.1nm,0.4s,baz=56,slow=6.8,SNR=3.4
TORD Torodi Ar. Bea 66.11 269 P **P 01 19 44.4 -0.7**
0.6nm,0.4s,baz=47,slow=5.5,SNR=7.6

*IDC **06** 01:21:29.1±9.6,4.°97S×152.°57E,h89km±64km,mb3.1/5, mb1 3.2/6,mb1mx3.1/19,mbtmp3.1/6,ML2.8/1,Error ellipse: s-maj=108.2km s-min=29.8km az=103.0*
ISC 06 01:21:22.9±2.5,4.9S±0.°3×152.°9E±0.4,h43km,n7,σ1s34/8, mb3.4/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.26**	**232**	P	**Pn**	**01 23 08.3**	**+1.9**
	1.1nm,0.3s,baz=61,slow=19,SNR=3.3						
PMG				S	**Sn**	**01 24 25.9**	**-1.7**
	0.7nm,0.3s,baz=297,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**23.46**	**229**	P	**P**	**01 26 28.4**	**-0.3**
	0.5nm,0.4s,baz=54,slow=9.5,SNR=4.5						
ASAR	**Alice Springs**	**26.15**	**223**	P	**P**	**01 26 52.8**	**-0.5**
	0.3nm,0.6s,baz=57,slow=8.5,SNR=3.7						
SONM	**Songino Array**	**66.50**	**328**	P	**P**	**01 32 09.0**	**+0.7**
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.6						
MKAR	**Makanchi Array**	**80.51**	**319**	P	**P**	**01 33 30.5**	**-0.1**
	0.2nm,0.7s,baz=98,slow=9.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**81.33**	**326**	P	**P**	**01 33 33.8**	**-0.9**
	0.3nm,0.3s,baz=67,slow=3.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**150.47**	**288**	PKPbc	**PKPbc**	**01 41 10.0**	**-0.9**
	1.1nm,0.7s,baz=78,slow=2.1,SNR=7.5						

IDC 06 01:26:27.3±10.0,28.°15N×57.°21E,h0km,mb3.5/3, mb1 3.5/3,mb1mx3.2/28,mbtmp3.5/3,Error ellipse: s-maj=417.7km s-min=30.1km az=148.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**27.07**	**40**	P	P	01 32 11.8	+0.2
	0.1nm,0.4s,baz=224,slow=9.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**32.75**	**30**	P	P	01 33 01.5	-0.3
	0.4nm,0.3s,baz=214,slow=8.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**53.62**	**266**	P	P	01 35 50.7	-0.1
	0.4nm,0.6s,baz=60,slow=7.0,SNR=5.1						

MEX 06 01:31:15.2±0.6,16.°41N×97.°98W,h5km,MD4.0,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**265**	*eP*	Pg	01 31 17.3	-0.9
PNIG				*i* S	Sg	01 31 20.5	+0.3
TLIG	**Tlapa**	**1.28**	**334**	*eP*	Pn	01 31 36.3	-3.7
TLIG				*i* S	Sg	01 31 52.1	-4.7
VHO	**Vista Hermosa**	**1.36**	**61**	*eP*	Pn	01 31 36.8	-4.3
VHO				*i* S	Sb	01 31 53.7	-5.7
UTMO	**Huajuapan**	**1.43**	**7**	*eP*	Pn	01 31 38.6	-3.5
UTMO				*i* S	Sb	01 31 56.3	-5.0
HUIG	**Huatulco**	**1.90**	**109**	*eP*	Pn	01 31 45.4	-3.0
HUIG				*i* S	Sn	01 32 08.2	-4.5
TPIG	**Tehuac#an**	**2.09**	**16**	*i* P	Pn	01 31 48.2	-2.9
TPIG				*i* S	Sn	01 32 13.5	-4.1
MEIG	**Mezcala**	**2.18**	**314**	*i* P	Pn	01 31 49.2	-3.1
MEIG				*i* S	Sn	01 32 15.5	-4.3
PLIG	**Platanillo**	**2.46**	**324**	*eP*	Pn	01 31 53.5	-2.6
PLIG				*i* S	Sn	01 32 22.3	-4.2
YAIG	**Yautepec**	**2.66**	**337**	*eP*	Pn	01 31 56.2	-2.7
YAIG				*i* S	Sn	01 32 27.8	-3.8
ARIG	**Puente Sto Nin**	**2.93**	**310**	*i* P	Pn	01 32 00.1	-2.5
ARIG				*i* S	Sn	01 32 34.5	-3.8

*IDC **06** 01:59:18.4±1.1,12.°00N×141.°43E,h0km,mb4.0/5, mb1 4.3/5,mb1mx3.7/24,mbtmp4.0/5,MS3.4/2,Ms1 3.4/2, ms1mx2.9/41,Error ellipse: s-maj=95.3km s-min=22.4km az=104.0*
*ISCJB **06** 01:59:23.6±0.6,11.°94N±0.°09×141.°41E±0.°09,h51km, mb4.1/9,MS3.4/2,Error ellipse: s-maj=15.8km s-min=8.5km az=140.9*
*NEIC **06** 01:59:24.1±2.0,11.°99N×141.°34E,h38km±20km,mb4.5/4, Error ellipse: s-maj=19.5km s-min=9.4km az=100.0*
ISC 06 01:59:25.4±0.7,12.°0N±0.°1×141.°4E±0.°1,h51km,n24, σ0s49/17,mb4.2/9,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.75**	**65**	*eP*n	**Pn**	**02 00 20.0**	**-0.7**
GUMO				*e*Sn	**Sn**	**02 01 03.7**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**25.23**	**72**	T	T	02 31 09.7	
	baz=264						
H11S1	**WAKE ISLAND Hy**	**25.25**	**72**	T	T	02 31 00.7	
	baz=259						
H11S2	**WAKE ISLAND Hy**	**25.25**	**72**	T	T	02 31 00.4	
	baz=259						
H11N1	**WAKE ISLAND Hy**	**25.68**	**69**	T	T	02 31 34.3	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**25.69**	**69**	T	T	02 31 31.3	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**25.70**	**69**	T	T	02 31 30.5	
	baz=259						
KSRS	**Korea Array**	**28.08**	**337**	LR	LR	02 14 05.4	
	comp=Z,21nm,20.4s,baz=150,slow=32						
CTAO	**Charters Tower**	**32.24**	**171**	*eP*	**P**	**02 05 49.6**	**+0.5**
	4.6nm,0.7s						
WRAB	**Tennant Creek**	**32.48**	**192**	*eP*	**P**	**02 05 50.6**	**-0.6**
	2.9nm,0.5s						
WRA	**Warramunga Arr**	**32.49**	**192**	P	**P**	**02 05 50.8**	**-0.5**
	2.1nm,0.6s,baz=15,slow=9.8,SNR=17						
AS31	**Alice Springs**	**36.19**	**192**	*eP*	**P**	**02 06 23.1**	**-0.2**
ASAR	**Alice Springs**	**36.19**	**192**	P	**P**	**02 06 23.3**	**0.0**
ASAR	**Alice Springs**	**36.19**	**192**	P	**P**	**02 06 23.3**	**0.0**
	1.0nm,0.4s,baz=24,slow=10,SNR=15						
CHTO	**Chiang Mai**	**41.40**	**285**	*eP*	**P**	**02 07 07.0**	**-0.1**
	1.0nm,0.4s						
EKS2	**Erkin-Say**	**65.52**	**311**	*eP*	**P**	**02 10 03.9**	**0.0**
	4.7nm,1.2s						
ILAR	**Eielson Array**	**71.45**	**25**	P	**P**	**02 10 40.4**	**+0.2**
ILAR	**Eielson Array**	**71.45**	**25**	P	**P**	**02 10 40.4**	**+0.2**
	0.7nm,1.0s,baz=252,slow=6.2,SNR=4.4						
YKA	**Yellowknife Ar**	**85.82**	**27**	P	**P**	**02 11 59.9**	**+0.8**
YKA	**Yellowknife Ar**	**85.82**	**27**	P	**P**	**02 11 59.9**	**+0.8**
	0.4nm,0.6s,baz=288,slow=4.8,SNR=3.0						
FINES	**FINESS Array B**	**91.14**	**334**	P	**P**	**02 12 24.0**	**-0.5**
FINES	**FINESS Array B**	**91.14**	**334**	P	**P**	**02 12 24.0**	**-0.5**
	2.7nm,0.9s,baz=90,slow=6.9,SNR=4.0						
HFS	**Hagfors**	**96.93**	**336**	LR	LR	03 00 09.4	
	comp=Z,61nm,18.7s,baz=89,slow=38						

*ISCJB **06** 02:16:17.2±0.3,21.°76S±0.°03×68.°30W±0.°03,h107km±2km, mb4.8/108,Error ellipse: s-maj=5.8km s-min=4.1km az=141.2*
*GUC **06** 02:16:18.8±0.9,21.°95S×68.°65W,h121km±5km,ML5.1*
*NEIC **06** 02:16:18.8,21.°95S×68.°65W,h121km,mb4.8/86,After GUC.*
*IDC **06** 02:16:20.2±0.4,21.°85S×68.°33W,h126km±3km,mb4.5/18, mb1 4.5/23,mb1mx4.4/26,mbtmp4.4/23,MS3.5/5, Ms1 3.5/5,ms1mx3.2/31,Error ellipse: s-maj=13.0km s-min=10.1km az=51.0*
ISC 06 02:16:19.5±0.3,21.°88S±0.°03×68.°47W±0.°05,h121km±2km, h121km:pP-P,n581,σ1s25/649,mb4.8/109,177C-178D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.73**	**276**	⇑*i*P	**Pn**	**02 16 38.4**	**-1.0**
PB09				*i* S	**Sn**	**02 16 52.3**	**-2.0**
PB09				AML	AML	02 16 58.2	
	comp=N,78μm,0.8s						
PB09	**Plate Boundary**	**0.73**	**276**	⇑*i*P	**Pn**	**02 16 38.4**	**-1.0**
PB09				*i* S	**Sn**	**02 16 52.3**	**-2.0**
LVC	**Limon Verde**	**0.84**	**209**	*e*Pn	**Pn**	**02 16 38.7**	**-1.7**
LVC				*e*Sn	**Sn**	**02 16 53.7**	**-2.6**
PB04	**Plate Boundary**	**1.02**	**248**	⇑*i*P	Pn	02 16 46.6	+4.8
PB04				*i* S	Sn	02 17 07.2	+8.5
PB04				AML	AML	02 17 13.8	
	comp=E,28μm,0.4s						
PB04	**Plate Boundary**	**1.02**	**248**	⇑*i*P	Pn	02 16 46.6	+4.8
PB04				*i* S	Sn	02 17 07.2	+8.5
SPCH	**San Pedro de A**	**1.05**	**167**	⇑*i*P	**Pn**	**02 16 42.4**	**-0.1**
SPCH				*i* S	**Sn**	**02 17 00.0**	**+0.1**
SPCH				AML	AML	02 17 14.5	
	comp=N,27μm,0.5s						
SPCH	**San Pedro de A**	**1.05**	**167**	⇑*i*P	**Pn**	**02 16 42.4**	**-0.1**
SPCH				*i* S	**Sn**	**02 17 00.0**	**+0.1**
MACH	**Maria Elena**	**1.24**	**255**	⇑*i*P	**Pn**	**02 16 42.5**	**-1.8**
MACH				*i* S	**Sn**	**02 17 00.5**	**-2.7**
MACH	**Maria Elena**	**1.24**	**255**	⇑*i*P	**Pn**	**02 16 42.5**	**-1.8**
MACH				*i* S	**Sn**	**02 17 00.5**	**-2.7**
PB01	**Plate Boundary**	**1.26**	**311**	⇑*i*P	**Pn**	**02 16 43.4**	**-1.0**
PB01				*i* S	**Sn**	**02 17 02.2**	**-1.2**
PB01				AML	AML	02 17 03.9	
	comp=E,41μm,0.3s						
PB01	**Plate Boundary**	**1.26**	**311**	⇑*i*P	**Pn**	**02 16 43.4**	**-1.0**
PB01				*i* S	**Sn**	**02 17 02.2**	**-1.2**
PB07	**Plate Boundary**	**1.33**	**276**	⇑*i*P	**Pn**	**02 16 43.7**	**-1.5**
PB07				*i* S	**Sn**	**02 17 02.3**	**-2.5**
PB07				AML	AML	02 17 03.2	
	comp=E,47μm,0.3s						
PB07	**Plate Boundary**	**1.33**	**276**	⇑*i*P	**Pn**	**02 16 43.7**	**-1.5**
PB07				*i* S	**Sn**	**02 17 02.3**	**-2.5**
PATCX	**Punta Patache**	**1.89**	**303**	⇓*i*P	**Pn**	**02 16 50.2**	**-1.6**
PATCX				*i* S	**Sn**	**02 17 14.6**	**-1.8**
PATCX				AML	AML	02 17 17.0	
	comp=N,26μm,0.5s						
HMBC	**Humberstone**	**2.07**	**320**	⇓*i*P	**Pn**	**02 16 52.7**	**-1.4**
HMBC				*i* S	**Sn**	**02 17 18.8**	**-1.7**
HMBC				AML	AML	02 17 22.0	
	comp=E,31μm,0.8s						
HMBC	**Humberstone**	**2.07**	**320**	⇓*i*P	**Pn**	**02 16 52.7**	**-1.4**
HMBC				*i* S	**Sn**	**02 17 18.8**	**-1.7**
CEN1	**Los Morros**	**2.20**	**226**	⇓*i*P	**Pn**	**02 16 56.6**	**+1.0**
CEN1				*e*S	**Sn**	**02 17 24.8**	**+1.5**
CEN1				AML	AML	02 17 30.6	
	comp=N,7μm,0.6s						
CEN1	**Los Morros**	**2.20**	**226**	⇓*i*P	**Pn**	**02 16 56.6**	**+1.0**
CEN1				*e*S	**Sn**	**02 17 24.8**	**+1.5**
ANCH	**Antofagasta**	**2.54**	**225**	⇓*i*P	**Pn**	**02 16 57.6**	**-2.2**
ANCH	**Antofagasta**	**2.54**	**225**	⇓*i*P	**Pn**	**02 16 57.6**	**-2.2**
PSGC	**Pisagua**	**2.75**	**325**	⇓*i*P	**Pn**	**02 17 00.4**	**-2.3**
PSGC				*e*S	**Sn**	**02 17 33.3**	**-2.6**
PSGC				AML	AML	02 17 36.0	
	comp=N,5μm,0.4s						
PSGC	**Pisagua**	**2.75**	**325**	⇓*i*P	**Pn**	**02 17 00.4**	**-2.3**
PSGC				*e*S	**Sn**	**02 17 33.3**	**-2.6**
MNMC	**Minimini**	**2.93**	**339**	⇓*i*P	**Pn**	**02 17 04.6**	**-0.6**
MNMC				*i* S	**Sn**	**02 17 40.5**	**+0.1**
MNMC				AML	AML	02 17 42.8	
	comp=E,12μm,0.3s						
MNMC	**Minimini**	**2.93**	**339**	⇓*i*P	**Pn**	**02 17 04.6**	**-0.6**
MNMC				*i* S	**Sn**	**02 17 40.5**	**+0.1**
LPAZ	**La Paz**	**5.57**	**3**	*e*Pn	**Pn**	**02 17 42.4**	**+1.6**
LPAZ	**La Paz**	**5.57**	**3**	P	**Pn**	**02 17 42.5**	**+1.8**
	comp=E,5.3nm,0.3s,baz=197,slow=6.3,SNR=97						
LPAZ				LR	LR	02 19 42.6	
	comp=E,291nm,18.0s,baz=182,slow=36						
LCO	**Las Campanas**	**7.38**	**195**	*e*Pn	Pn	02 17 58.8	-6.0
	comp=E,106nm,0.7s						
SIV	**San Ignacio**	**9.12**	**51**	P	**Pn**	**02 18 25.9**	**-2.3**
SIV				S	Sn	02 20 02.2	-7.0
SIV	**San Ignacio**	**9.12**	**51**	P	**Pn**	**02 18 25.9**	**-2.3**
	comp=E,20nm,0.3s,baz=249,slow=12,SNR=199						
SIV				S	Sn	02 20 02.2	-7.0
	comp=E,4.1nm,0.3s,baz=156,slow=20,SNR=7.6						
CFAA	**Coronel Fontan**	**9.69**	**179**	P	Pn	02 18 30.4	-5.4
CFAA	**Coronel Fontan**	**9.69**	**179**	P	Pn	02 18 30.4	-5.4
	comp=E,0.3nm,0.3s,baz=351,slow=13,SNR=22						
CPUP	**Villa Florida**	**11.09**	**116**	*e*Pn	**Pn**	**02 18 51.8**	**-2.8**
	comp=E,2.3nm,0.8s						
CPUP	**Villa Florida**	**11.09**	**116**	P	**Pn**	**02 18 52.0**	**-2.7**
	comp=E,2.1nm,0.3s,baz=272,slow=11,SNR=36						
CPUP				LR	LR	02 22 58.9	
	comp=E,216nm,18.3s,baz=185,slow=36						
SAML	**Samuel**	**13.82**	**22**	*e*Pn	**Pn**	**02 19 27.4**	**-3.1**
TRQA	**Tornquist**	**17.07**	**162**	*e*P	**P**	**02 20 08.1**	**-2.5**
	comp=E,335nm,1.9s						
TRQA				*e*Sn	**Sn**	**02 23 18.6**	**-2.2**
ATAH	**Atahualpa**	**17.51**	**325**	P	**P**	**02 20 15.8**	**-0.2**
ATAH	**Atahualpa**	**17.51**	**325**	P	**P**	**02 20 15.8**	**-0.2**
	comp=E,0.6nm,0.3s,baz=53,slow=10,SNR=5.9						
PLCA	**Paso Flores**	**18.88**	**185**	*e*P	**P**	**02 20 28.0**	**-2.5**
	comp=E,9.4nm,0.8s						
PLCA	**Paso Flores**	**18.88**	**185**	P	**P**	**02 20 29.7**	**-0.8**
	comp=E,0.3nm,0.3s,baz=349,slow=9.8,SNR=4.7						
PLCA				LR	LR	02 28 58.0	
	comp=E,158nm,19.5s,baz=292,slow=40						
SPB	**Sao Paulo**	**19.48**	**99**	*e*P	**P**	**02 20 36.3**	**-0.7**
	comp=E,60nm,0.7s						
BDFB	**Brasilia**	**20.32**	**76**	*e*P	**P**	**02 20 45.0**	**-1.4**
BDFB	**Brasilia**	**20.32**	**76**	P	**P**	**02 20 45.0**	**-1.4**
	comp=E,36nm,0.6s,baz=245,slow=12,SNR=100						
PTGA	**Pitinga**	**22.59**	**23**	*e*P	**P**	**02 21 08.1**	**-2.0**
	comp=E,57nm,1.4s						
OTAV	**Otavalo**	**24.04**	**335**	*e*P	**P**	**02 21 25.6**	**+1.5**
	comp=E,15nm,0.9s						
ROSC	**El Rosal**	**27.18**	**347**	*e*P	**P**	**02 21 52.3**	**0.0**
ROSC	**El Rosal**	**27.18**	**347**	P	**P**	**02 21 52.2**	**-0.2**
	comp=E,4.0nm,0.5s,baz=90,slow=19,SNR=4.0						
ROSC				LR	LR	02 32 26.9	
	comp=E,93nm,19.3s,baz=164,slow=36						
SDV	**Santo Domingo**	**30.65**	**356**	*e*P	**P**	**02 22 22.0**	**-0.8**
	comp=E,3.4nm,1.1s						
SDV				*e*pP	**pP**	**02 22 49.7**	**+0.5**
BCIP	**Isla Barro Col**	**32.81**	**339**	*e*P	**P**	**02 22 43.2**	**+1.7**
	comp=E,41nm,0.8s						
GRGR	**Grenville**	**34.45**	**12**	*e*P	**P**	**02 22 54.6**	**-1.2**
	comp=E,247nm,1.2s						
RCBR	**Riachuelo**	**35.29**	**68**	*e*P	**P**	**02 23 02.6**	**-0.5**
	comp=E,72nm,0.8s						
RCBR	**Riachuelo**	**35.29**	**68**	P	**P**	**02 23 02.6**	**-0.5**
	comp=E,73nm,0.7s,baz=226,slow=10,SNR=44						
JTS	**JuntasAbangare**	**35.83**	**332**	P	**P**	**02 23 09.8**	**+2.1**
JTS	**JuntasAbangare**	**35.83**	**332**	P	**P**	**02 23 09.8**	**+2.1**
	comp=E,6.1nm,0.7s,baz=234,slow=21,SNR=4.9						
CRPR	**Cabo Rojo, PR**	**39.66**	**2**	*e*P	**P**	**02 23 38.2**	**-1.6**
	comp=E,13nm,0.7s						
SJG	**San Juan**	**39.81**	**3**	P	**P**	**02 23 39.2**	**-1.8**
SJG				pP	**pP**	**02 24 08.3**	**+0.1**
SJG	**San Juan**	**39.81**	**3**	P	**P**	**02 23 39.2**	**-1.8**
	comp=E,9.5nm,0.4s,baz=24,slow=2.2,SNR=6.7						
SJG				pP	**pP**	**02 24 08.3**	**+0.1**
	comp=E,43nm,0.7s,baz=156,slow=0.2,SNR=7.2						
APG	**El Apazote**	**42.53**	**328**	P	**P**	**02 24 03.1**	**-0.4**
APG	**El Apazote**	**42.53**	**328**	P	**P**	**02 24 03.1**	**-0.4**
	comp=E,16nm,0.8s,baz=160,slow=5.3,SNR=9.4						
ASCN	**Ascension**	**53.83**	**84**	*e*P	**P**	**02 25 29.9**	**-0.4**
	comp=E,71nm,0.7s						
KMSC	**Kings Mountain**	**58.01**	**348**	⇑P	**P**	**02 25 59.9**	**+0.3**
	baz=58						
732A	**Laxson Ranch,**	**58.78**	**328**	⇑P	**P**	**02 26 05.2**	**+0.1**
	baz=59,SNR=6.3						
534A	**Blanco**	**59.13**	**330**	⇓P	**P**	**02 26 07.0**	**-0.6**
	baz=59						
SWET	**Sewanee**	**59.15**	**343**	*e*P	**P**	**02 26 07.4**	**-0.2**
	comp=E,132nm,2.0s						
SHEL	**Horse Pasture**	**59.28**	**96**	*e*P	**P**	**02 26 07.0**	**-2.0**
	comp=E,105nm,0.8s						
632A	**Uvalde**	**59.33**	**328**	⇑P	**P**	**02 26 09.1**	**+0.2**
	baz=60						
631A	**Perdido Creek**	**59.64**	**327**	⇑P	**P**	**02 26 10.8**	**-0.3**
	baz=60,SNR=10						
434A	**Burnet**	**59.70**	**330**	⇓P	**P**	**02 26 11.1**	**-0.3**
	baz=60						
335A	**Moody**	**59.71**	**331**	⇓P	**P**	**02 26 11.7**	**+0.2**
	baz=60						
VNA1	**Neumayer--Stat**	**59.79**	**160**	*e*P	**P**	**02 26 12.0**	**+0.5**
VNA1	**Neumayer--Stat**	**59.79**	**160**	*e*	P	02 26 20.1	+8.6
532A	**Rocksprings**	**59.90**	**329**	⇑P	**P**	**02 26 13.0**	**+0.2**
	baz=60,SNR=6.4						
433A	**Art**	**60.03**	**330**	⇓P	**P**	**02 26 13.6**	**-0.1**
	baz=60,SNR=8.1						
334A	**Lometa**	**60.12**	**331**	⇓P	**P**	**02 26 14.3**	**0.0**
	baz=60						
JCT	**Junction City**	**60.14**	**329**	*e*P	**P**	**02 26 14.9**	**+0.4**
	comp=E,12nm,0.8s						
JCT				*e*pP	**pP**	**02 26 43.6**	**0.0**
JCT				*e*PcP	**PcP**	**02 26 59.0**	**0.0**
JCT	**Junction City**	**60.14**	**329**	⇑P	**P**	**02 26 14.7**	**+0.2**
	baz=60,SNR=7.1						
VNA2	**Neumayer--Watz**	**60.16**	**161**	*e*P	**P**	**02 26 14.1**	**+0.1**
VNA2	**Neumayer--Watz**	**60.16**	**161**	*e*	P	02 26 21.9	+7.9
531A	**Rocksprings**	**60.24**	**328**	⇑P	**P**	**02 26 15.6**	**+0.4**
	baz=60,SNR=12						
WHTX	**Lake Whitney**	**60.33**	**332**	⇑P	**P**	**02 26 15.9**	**+0.3**
	baz=61						
333A	**Richland Sprin**	**60.46**	**330**	⇓P	**P**	**02 26 16.3**	**-0.3**
	baz=61,SNR=6.4						
432A	**Menard**	**60.46**	**329**	⇓P	**P**	**02 26 16.5**	**-0.1**
	baz=61,SNR=11						
WVT	**Waverly**	**60.53**	**342**	*e*P	**P**	**02 26 16.0**	**-1.0**
	comp=E,12nm,0.7s						
WVT				*e*pP	**pP**	**02 26 45.4**	**-0.8**
530A	**J-C Ranch, Com**	**60.62**	**327**	⇓P	**P**	**02 26 18.0**	**+0.2**
	baz=61,SNR=13						
431A	**Sonora**	**60.70**	**328**	⇑P	**P**	**02 26 18.2**	**-0.1**
	baz=61,SNR=9.5						
135A	**Vickery Place,**	**60.79**	**332**	⇓P	**P**	**02 26 18.6**	**-0.2**
	baz=61						
332A	**Millersview**	**60.86**	**329**	⇓P	**P**	**02 26 19.3**	**0.0**
	baz=61,SNR=8.9						
628A	**Black Gap, Mar**	**60.88**	**326**	⇑P	**P**	**02 26 20.4**	**+0.9**
	baz=61,SNR=13						
MIAR	**Mount Ida**	**60.98**	**336**	*e*P	**P**	**02 26 19.6**	**-0.4**
	comp=E,12nm,1.0s						
529A	**Stev Forest Ra**	**61.05**	**327**	⇓P	**P**	**02 26 21.2**	**+0.6**
	baz=61,SNR=20						
430A	**Baggett Ranch,**	**61.09**	**328**	⇓P	**P**	**02 26 20.9**	**0.0**
	baz=61,SNR=6.6						
627A	**Terlingua Ranc**	**61.12**	**325**	⇑P	**P**	**02 26 21.4**	**+0.2**
	baz=61,SNR=7.5						
331A	**San Angelo**	**61.12**	**329**	⇑P	**P**	**02 26 21.0**	**-0.1**
	baz=61						
TXAR	**Lajitas Array**	**61.17**	**325**	P	**P**	**02 26 21.6**	**0.0**
TXAR				pP	**pP**	**02 26 51.7**	**+0.9**
TXAR	**Lajitas Array**	**61.17**	**325**	P	**P**	**02 26 21.6**	**0.0**
	comp=E,1.7nm,0.7s,baz=149,slow=9.3,SNR=27						
TXAR				pP	**pP**	**02 26 51.7**	**+0.9**
	comp=E,2.0nm,0.8s,baz=148,slow=9.0,SNR=7.1						
232A	**Coleman**	**61.23**	**330**	⇓P	**P**	**02 26 21.8**	**0.0**
	baz=62,SNR=5.3						
429A	**Davenport Ranc**	**61.29**	**327**	⇑P	**P**	**02 26 22.5**	**+0.2**
	baz=62,SNR=9.8						
528A	**Cox Ranch, San**	**61.37**	**326**	⇑P	**P**	**02 26 23.0**	**0.0**
	baz=62,SNR=7.6						
Z35A	**Perchaven, San**	**61.39**	**333**	⇓P	**P**	**02 26 23.2**	**+0.4**
	baz=62						
133A	**Hamilton Ranch**	**61.50**	**331**	⇓P	**P**	**02 26 23.6**	**0.0**
	baz=62						
330A	**Mertzon**	**61.57**	**328**	⇓P	**P**	**02 26 23.9**	**-0.3**
	baz

128A	Castleberry Fa baz=63	63.20	328	⇑P		P	02 26 34.9	-0.1
W34A	Bridge Creek, baz=64	63.24	333	⇑P		P	02 26 35.4	+0.3
Y31A	Rekieta Farm, baz=64,SNR=6.9	63.25	331	⇑P		P	02 26 35.3	0.0
Z29A	Hungry Hill Ra baz=64,SNR=6.7	63.34	329	⇑P		P	02 26 35.4	-0.5
W33A	Caddo, Fort Co baz=64	63.46	333	⇓P		P	02 26 37.1	+0.5
325A	Bean Ranch, Si baz=64,SNR=28	63.47	325	⇓P		P	02 26 37.2	+0.3
Y30A	Stafford Cattl baz=64	63.47	330	⇑P		P	02 26 37.1	+0.3
226B	Tecolote Peak, baz=64	63.61	326	⇑P		P	02 26 38.5	+0.8
V34A	Guthrie baz=64	63.65	334	⇓P		P	02 26 37.8	0.0
127A	Arkansas Junct baz=64	63.67	327	⇓P		P	02 26 38.3	+0.1
X31A	McDonald Ranch baz=64,SNR=7.7	63.68	331	⇑P		P	02 26 37.8	-0.2
Z28A	Tucker Farm, M baz=64,SNR=5.5	63.69	329	⇑P		P	02 26 37.8	-0.4
W32A	Sentinel baz=64,SNR=5.7	63.77	332	⇓P		P	02 26 38.6	-0.1
324A	Moseley Ranch, baz=64,SNR=19	63.80	325	⇓P		P	02 26 38.6	-0.4
Y29A	Porterfield Fa baz=64,SNR=6.1	63.82	329	⇑P		P	02 26 38.7	-0.4
X30A	Coker Ranch, T baz=64	63.93	330	⇑P		P	02 26 39.5	-0.3
MNTX	Cornudas Mount comp=E,9.8nm,1.1s	63.94	325	eP		P	02 26 39.3	-0.5
MNTX				epP		pP	02 27 08.9	-0.4
V33A	Lossen Ranch, baz=64	63.96	333	⇑P		P	02 26 39.9	+0.1
225A	Deer Hill, Car baz=64,SNR=11	63.97	326	⇓P		P	02 26 40.5	+0.2
126A	Clayton Basin, baz=64,SNR=6.0	63.98	327	⇓P		P	02 26 40.4	+0.2
Z27A	Tatum baz=64,SNR=8.9	64.12	328	⇑P		P	02 26 40.6	-0.4
Y28A	McKinney Farm, baz=64	64.13	329	⇓P		P	02 26 40.9	-0.3
U34A	Anderson Ranch baz=64	64.18	334	⇑P		P	02 26 41.2	-0.1
V32A	Arapaho baz=64	64.19	333	⇑P		P	02 26 41.6	+0.2
224A	Cornudas Mount baz=64,SNR=15	64.31	325	⇑P		P	02 26 42.2	-0.2
X29A	Tulia baz=64	64.31	330	⇓P		P	02 26 42.2	-0.1
125A	Gardner Draw, baz=64,SNR=5.6	64.32	326	⇑P		P	02 26 42.1	-0.3
MSTX	Muleshoe	64.43	329	eP		P	02 26 43.2	+0.1
MSTX				epP		pP	02 27 10.9	-1.7
MSTX	Muleshoe baz=65,SNR=13	64.43	329	⇓P		P	02 26 42.9	-0.2
Z26A	Caprock baz=65,SNR=5.8	64.46	327	⇑P		P	02 26 43.3	0.0
Y27A	Causey baz=65,SNR=9.2	64.55	328	⇑P		P	02 26 43.6	-0.4
V31A	Spring Creek L baz=65	64.58	332	⇓P		P	02 26 44.1	+0.1
X28A	Dimmitt baz=65	64.61	329	⇑P		P	02 26 44.4	+0.2
124A	Stringfield Ra baz=65,SNR=12	64.77	326	⇓P		P	02 26 45.9	+0.4
Z25A	Roswell baz=65,SNR=11	64.84	327	⇓P		P	02 26 45.6	-0.2
W29A	Amraillo baz=65	64.84	330	⇑P		P	02 26 46.2	+0.5
Y26A	Elida baz=65	64.91	328	⇓P		P	02 26 47.7	+1.5
V30A	Spur Ranch, Mi baz=65	64.94	331	⇓P		P	02 26 48.0	+1.6
X27A	F and S Farms, baz=65	65.14	329	⇓P		P	02 26 48.0	+0.3
222A	Williams Famil baz=65	65.18	324	⇓P		P	02 26 49.0	+1.0
Z24A	Sheeppen Canyo baz=65,SNR=10	65.21	326	⇓P		P	02 26 48.5	+0.2
Y25A	Mesa, Roswell baz=66,SNR=8.3	65.34	327	⇓P		P	02 26 48.9	-0.2
320A	Kipp Ranch, An baz=66,SNR=6.9	65.38	323	⇓P		P	02 26 50.5	+1.1
T32A	Huddler Ranch, baz=66	65.38	334	⇑P		P	02 26 50.1	+1.0
X26A	CR and CF Fran baz=66,SNR=6.1	65.41	328	⇑P		P	02 26 49.6	+0.2
W27A	Bowe Ranch, En baz=66	65.46	329	⇑P		P	02 26 50.3	+0.6
221A	Mesquite Ranch baz=66	65.47	324	⇓P		P	02 26 51.6	+1.7
Z23A	Rita Site, Whi baz=66,SNR=8.6	65.61	326	⇑P		P	02 26 51.7	+1.0
T31A	Randall Ranch, baz=66	65.63	333	⇑P		P	02 26 50.7	0.0
V28A	Channing baz=66	65.63	330	⇑P		P	02 26 51.4	+0.6
Y24A	Capitan baz=66	65.72	327	⇓P		P	02 26 54.5	+2.9
220A	Playas Peak, P baz=66,SNR=18	65.81	323	⇑P		P	02 26 53.1	+1.0
W26A	Owens Ranch, T baz=66	65.82	329	⇓P		P	02 26 53.3	+1.2
319A	Douglas baz=66,SNR=8.3	65.84	322	⇑P		P	02 26 53.5	+1.3
121A	Cookes Peak, D	65.88	324	eP		P	02 26 53.5	+1.0
121A	Cookes Peak, D baz=66,SNR=16	65.88	324	⇓P		P	02 26 53.9	+1.4
R33A	Olander Ranch, baz=66	65.97	335	⇓P		P	02 26 53.2	+0.3
Z22A	Elephant Butte baz=66,SNR=25	65.99	325	⇓P		P	02 26 54.7	+1.4
Y23A	Lovelace Mesa, baz=66	66.04	326	⇑P		P	02 26 54.6	+1.0
U28A	Mallet baz=66	66.15	331	⇓P		P	02 26 54.9	+0.7
W25A	X Bar L Ranch, baz=66,SNR=10	66.26	328	⇑P		P	02 26 55.0	+0.1
120A	U Bar Ranch, L baz=66,SNR=7.7	66.35	324	⇓P		P	02 26 56.8	+1.2
R32A	Long Quarter, baz=67	66.36	334	⇑P		P	02 26 55.8	+0.5
T29A	Hugoton baz=67	66.38	332	⇓P		P	02 26 55.3	-0.2
V26A	Tequesquite Ra baz=67,SNR=9.3	66.40	329	⇑P		P	02 26 56.0	+0.2
Z21A	St. Cloud Mine baz=67,SNR=24	66.41	325	⇑P		P	02 26 57.4	+1.4
BNM	Barren Site comp=E,3.6nm,0.7s	66.51	326	eP		P	02 26 57.8	+1.2
Y22A	Socorro baz=67,SNR=5.8	66.52	326	⇑P		P	02 26 57.7	+1.0
LPM	Los Pinos Moun	66.64	326	eP		P	02 26 58.8	+1.4
S29A	Ulysses baz=67	66.69	332	⇓P		P	02 26 58.6	+1.1
LENM	Lemitar comp=E,4.4nm,0.8s	66.70	326	eP		P	02 26 58.9	+1.1
T28A	Walsh baz=67	66.71	331	⇑P		P	02 26 57.9	+0.2
W24A	Lazy 6 Ranch, baz=67,SNR=5.7	66.72	328	⇓P		P	02 26 58.3	+0.4
Z20A	Nine Sixteen R baz=67	66.76	324	⇓P		P	02 26 59.9	+1.8
V25A	Rancho No Teng baz=67,SNR=7.5	66.83	329	⇑P		P	02 26 59.0	+0.4
U26A	Atchley Ranch, baz=67,SNR=12	66.86	330	⇓P		P	02 26 59.2	+0.4
R30A	Dighton baz=67	66.89	333	⇑P		P	02 26 59.4	+0.7
T27A	Campo baz=67	66.93	331	⇑P		P	02 26 59.8	+0.7
LAZ	Ladron comp=E,9.8nm,1.4s	66.97	326	eP		P	02 27 00.4	+0.9
LAZ				epP		pP	02 27 29.1	-0.2
S28A	Manter baz=67,SNR=6.3	67.00	332	⇑P		P	02 26 59.9	+0.4
ANMO	Albuquerque comp=E,13nm,0.9s	67.04	327	eP		P	02 27 01.0	+1.0
W23A	Werner Place, baz=67,SNR=11	67.05	327	⇑P		P	02 27 00.9	+0.8
V24A	Rampart Ranch, baz=67,SNR=12	67.06	328	⇓P		P	02 27 00.7	+0.6
Q31A	Ellis baz=67	67.14	334	⇑P		P	02 27 01.0	+0.7
U25A	Circle Dot Ran baz=67,SNR=9.5	67.18	329	⇑P		P	02 27 01.3	+0.5
Y20A	Horse Springs, baz=67,SNR=16	67.25	325	⇑P		P	02 27 02.8	+1.5
TUC	Tucson comp=E,29nm,1.6s	67.39	322	eP		P	02 27 03.2	+1.2
TUC				epP		PcP	02 27 29.4	+0.6
T26A	Comanche Natio baz=68,SNR=7.8	67.43	330	⇓P		P	02 27 03.0	+0.7
V23A	Ortiz Mt. (NFS baz=68,SNR=11	67.53	327	⇓P		P	02 27 04.0	+1.0
P31A	Stockton baz=68	67.57	335	⇑P		P	02 27 03.7	+0.7
Q29A	Oakley baz=68	67.69	333	⇑P		P	02 27 04.2	+0.4
S26A	Kim baz=68,SNR=12	67.73	331	⇓P		P	02 27 05.0	+0.8
O32A	Brockman Farm, baz=68	67.78	336	⇑P		P	02 27 04.2	-0.1
T25A	Trinidad baz=68,SNR=5.1	67.78	330	⇑P		P	02 27 05.5	+0.9
R27A	Eads baz=68	67.98	331	⇓P		P	02 27 06.5	+0.9
U23A	El Rito baz=68	67.99	328	⇓P		P	02 27 07.0	+1.1
V22A	San Miguel Ran baz=68,SNR=12	68.03	327	⇓P		P	02 27 07.6	+1.4
LIC	Lamto comp=E,64nm,0.6s	68.10	73	eP		P	02 27 06.0	-0.8
T24B	San Luis baz=68,SNR=6.5	68.18	329	⇓P		P	02 27 08.6	+1.4
S25A	Robets Cordova baz=68,SNR=9.1	68.21	330	⇓P		P	02 27 08.1	+0.8
R26A	Arlington baz=68,SNR=7.0	68.28	331	⇓P		P	02 27 08.1	+0.6
TIC	Toumodi comp=E,66nm,0.9s	68.29	73	eP		P	02 27 07.2	-0.8
QSPA	South Pole Qui comp=E,9.3nm,0.6s	68.31	180	eP		P	02 27 08.0	+0.5
214A	Organ Pipe Nat	68.32	320	eP		P	02 27 09.2	+1.4
214A				epP		pP	02 27 36.7	-1.0
214A	Organ Pipe Nat baz=68,SNR=12	68.32	320	⇓P		P	02 27 09.4	+1.6
U22A	Llaves baz=69,SNR=7.0	68.36	327	⇓P		P	02 27 09.9	+1.6
KIC	Kosan Boka comp=E,105nm,0.6s	68.41	73	eP		P	02 27 08.2	-0.6
DBIC	Dimbokro comp=E,62nm,0.8s	68.45	73	eP		P	02 27 08.5	-0.5
DBIC	Dimbokro comp=E,54nm,0.7s,baz=220,slow=6.4,SNR=116	68.45	73	P		P	02 27 08.5	-0.5
DBIC					LR	LR	02 54 11.9	
T23A	comp=E,40nm,19.4s,baz=259,slow=33 Casias Ranch, baz=69	68.48	328	⇓P		P	02 27 10.2	+1.2
KSCO	Kaye Shedlock'	68.50	332	eP		P	02 27 09.7	+0.8
KSCO	Kaye Shedlock' baz=69	68.50	332	⇑P		P	02 27 10.2	+1.3
R25A	Fountain Ranch baz=69	68.53	330	⇑P		P	02 27 10.0	+0.8
S24A	Houchin Ranch, baz=69,SNR=8.9	68.56	329	⇓P		P	02 27 10.8	+1.3
X18A	Snowflake baz=69	68.57	324	⇑P		P	02 27 11.1	+1.6
BGNE	Belgrade	68.72	336	eP		P	02 27 10.5	+0.4
BGNE				epP		pP	02 27 39.8	-0.2
BGNE	Belgrade baz=69	68.72	336	⇑P		P	02 27 10.3	+0.2
SDCO	Great Sand Dun comp=E,10nm,0.8s	68.78	329	eP		P	02 27 12.0	+1.1
SDCO				epP		pP	02 27 41.0	+0.2
Q26A	Hugo baz=69	68.82	331	⇓P		P	02 27 11.9	+0.9
W18A	Petrified Fore	68.89	325	eP		P	02 27 13.3	+1.8
W18A	Petrified Fore baz=69	68.89	325	⇑P		P	02 27 13.1	+1.6
P27A	Ficken Ranch, baz=69	68.93	332	⇓P		P	02 27 12.6	+1.0
M31A	Lambtecht Ranc baz=69	68.98	336	⇓P		P	02 27 12.3	+0.6
R24A	Sanders Place, baz=69,SNR=12	68.99	330	⇓P		P	02 27 13.3	+1.2
S23A	Nye Farm, Mont baz=69	68.99	329	⇑P		P	02 27 13.8	+1.6
Q25A	Bedland, Calha baz=69	69.14	331	⇓P		P	02 27 13.9	+0.9
P26A	Davis Ranch, A baz=70	69.27	332	⇑P		P	02 27 14.5	+0.8
R23A	Moffat baz=70	69.29	329	⇓P		P	02 27 15.3	+1.3
X16A	Lo Mia Camp, P baz=70,SNR=21	69.31	323	⇓P		P	02 27 15.7	+1.6
Z14A	Wintersburg baz=70	69.40	321	⇑P		P	02 27 15.9	+1.5
O27A	Becher Island baz=70	69.41	333	⇓P		P	02 27 16.0	+1.4
S22A	4UR Ranch, Cre baz=70,SNR=5.3	69.42	328	⇑P		P	02 27 15.9	+1.1
N28A	Pribbeno Ranch baz=70	69.44	334	⇑P		P	02 27 16.0	+1.3
113A	Mohawk Valley, baz=70	69.46	320	⇑P		P	02 27 16.3	+1.5
P25A	Willow Gulch B baz=70,SNR=11	69.59	331	⇓P		P	02 27 16.8	+1.1
Q24A	Divide baz=70,SNR=6.0	69.59	330	⇓P		P	02 27 16.8	+0.8
L31A	Butterfield Fa baz=70	69.64	336	⇓P		P	02 27 16.8	+1.0
MVCO	Mesa Verde comp=E,20nm,0.8s	69.84	327	eP		P	02 27 18.6	+1.2
MVCO	Mesa Verde baz=70,SNR=18	69.84	327	⇑P		P	02 27 18.6	+1.2
Y14A	Wickenburg baz=70,SNR=13	69.85	322	⇓P		P	02 27 18.7	+1.4
P24A	Kohler Place, baz=70	69.93	331	⇓P		P	02 27 19.9	+2.1
O25A	Wiggins baz=70	70.06	332	⇑P		P	02 27 20.5	+1.9
WUAZ	Wupatki comp=E,30nm,0.9s	70.08	324	eP		P	02 27 20.9	+2.2
WUAZ	Wupatki baz=70,SNR=10	70.08	324	⇓P		P	02 27 20.5	+1.7
L29A	Maesberg Ranch baz=70	70.17	335	⇓P		P	02 27 20.5	+1.4
P23A	Jefferson baz=70	70.24	330	⇓P		P	02 27 22.7	+2.8
GLA	Glamis comp=E,13nm,1.0s	70.29	320	eP		P	02 27 21.9	+1.9
GLA	Glamis baz=70	70.29	320	⇓P		P	02 27 21.9	+1.9
K30A	Basset baz=71	70.36	336	⇑P		P	02 27 21.5	+1.3
ISCO	Idaho Springs comp=E,31nm,1.8s	70.48	330	eP		P	02 27 22.2	+1.0
ISCO	Idaho Springs baz=71,SNR=7.4	70.48	330	⇑P		P	02 27 22.3	+1.0
PV01	Paradox Valley comp=E,2μm,1.1s	70.59	327	eP		P	02 27 23.1	+1.2
Y12C	Blythe baz=71,SNR=5.5	70.60	321	⇓P		P	02 27 23.4	+1.6
SMCO	Snowmass comp=E,8.9nm,0.8s	70.62	329	eP		P	02 27 23.8	+1.5
K29A	Lazy Trails An baz=71,SNR=5.4	70.71	336	⇓P		P	02 27 22.8	+0.5
PDMCI	Parker Dam,Lak baz=71	70.76	321	⇑P		P	02 27 24.7	+1.9
P22A	Eagle baz=71,SNR=7.3	70.85	330	⇓P		P	02 27 24.6	+1.1
J30A	Dallas baz=71	70.88	337	⇓P		P	02 27 24.2	+0.9
O23A	Lake Granby, G baz=71,SNR=9.2	70.95	330	⇑P		P	02 27 25.2	+1.1
PV04	Paradox Valley	70.95	327	eP		P	02 27 25.6	+1.5
N24A	Carr baz=71	70.98	332	⇓P		P	02 27 26.3	+2.2
K28A	Ten Mile Ranch baz=71	71.07	335	⇑P		P	02 27 26.2	+1.6
BC3	Big Chuckawall baz=71	71.09	320	⇑P		P	02 27 26.7	+1.8
BAR	Barrett comp=E,12nm,0.9s	71.16	318	eP		P	02 27 27.0	+1.8
W13A	Hualapai Mount baz=71	71.19	322	⇑P		P	02 27 27.5	+1.9
L26A	Underwood Farm baz=72	71.20	333	⇓P		P	02 27 27.2	+1.8
O22A	Kremmling baz=71,SNR=10.0	71.20	330	⇑P		P	02 27 26.6	+0.9
U15A	North Rim	71.25	324	⇑P		P	02 27 27.9	+1.8
IRM	Iron Mountain baz=71,SNR=6.7	71.26	320	⇑P		P	02 27 27.3	+1.5
J29A	Okreek baz=72	71.26	336	⇓P		P	02 27 26.9	+1.3
I30A	Oacoma baz=72	71.36	337	⇓P		P	02 27 26.9	+0.7
K27A	Fluecklinger Fa baz=72	71.41	334	⇑P		P	02 27 28.2	+1.6
M24A	Cheyenne baz=72,SNR=6.6	71.47	332	⇓P		P	02 27 28.4	+1.3
N23A	Red Feather La baz=72,SNR=5.6	71.51	331	⇑P		P	02 27 28.6	+1.2
PHWY	Pilot Hill comp=E,9.7nm,1.0s	71.62	331	eP		P	02 27 29.5	+1.4
J28A	Allard Ranch, baz=72,SNR=5.9	71.62	335	⇑P		P	02 27 28.5	+0.7
BELC	Belle Mtn. Jos baz=72	71.65	320	⇓P		P	02 27 30.1	+1.8
PFO	Pinyon Flat Ob comp=E,8.1nm,0.7s	71.66	319	eP		P	02 27 29.9	+1.6
PFO	Pinyon Flat Ob baz=72	71.66	319	⇓P		P	02 27 30.2	+1.8
N22A	Wattenberg Ran baz=72,SNR=7.4	71.67	331	⇑P		P	02 27 29.8	+1.4
I29A	Vivian Onida baz=72	71.78	336	⇑P		P	02 27 29.1	+0.5
J27A	Elkhorn Farm, baz=72,SNR=6.0	71.78	335	⇑P		P	02 27 30.1	+1.3
M23A	Laramie baz=72	71.87	331	⇓P		P	02 27 31.5	+1.9
LDFC	Landfair comp=E,19nm,0.9s	71.88	321	eP		P	02 27 31.7	+2.1
O20A	White River Ci	71.98	329	eP		P	02 27 31.5	+1.4
O20A	White River Ci baz=72,SNR=15	71.98	329	⇓P		P	02 27 31.4	+1.2
GMRC	Granite Mounta baz=72,SNR=20	71.99	321	⇑P		P	02 27 32.0	+1.7
I28A	Midland baz=72	72.09	336	⇓P		P	02 27 32.8	+2.2
MURC	Murrieta baz=72	72.11	319	⇑P		P	02 27 32.5	+1.6
M22A	Cedar Creek Ra baz=72	72.21	331	⇑P		P	02 27 33.2	+1.6
J26A	Sides Ranch, S baz=72	72.26	334	⇓P		P	02 27 33.2	+1.6
H29A	Onida baz=72	72.26	337	⇑P		P	02 27 33.0	+1.4
SRU	San Rafael comp=E,27nm,0.7s	72.32	327	eP		P	02 27 33.5	+1.3
L23A	Garrett baz=73	72.38	332	⇓P		P	02 27 34.0	+1.4
HEC	Hector,Ludlow baz=73	72.42	320	⇓P		P	02 27 34.6	+1.8
I27A	Quinn baz=73	72.48	335	⇓P		P	02 27 35.1	+2.2
N20A	Spence Gulch, baz=73,SNR=5.9	72.53	329	⇓P		P	02 27 34.7	+1.1
TUQ	Turquoise Moun baz=73,SNR=7.3	72.60	321	⇑P		P	02 27 35.3	+1.4
H28A	Mission Ridge baz=73	72.61	336	⇑P		P	02 27 34.6	+1.0
J25A	Sunshine Ranch baz=73	72.62	334	⇓P		P	02 27 35.5	+1.7
L22A	Ellis Ranch, M baz=73	72.64	331	⇑P		P	02 27 36.2	+2.1
CCUT	Cedar City comp=E,30nm,0.8s	72.66	324	eP		P	02 27 36.6	+2.3
MVU	Marysvale comp=E,24nm,0.8s	72.74	325	eP		P	02 27 36.5	+1.7
BFSC	Mount Baldy Ra baz=73	72.82	319	⇑P		P	02 27 37.2	+1.9
K23A	Bowen Ranch, D baz=73	72.87	332	⇓P		P	02 27 36.8	+1.5
ARUT	Antelope Range comp=E,493nm,0.9s	72.87	324	eP		P	02 27 37.5	+2.0
SHPR	Sheep Range	72.91	322	eP		P	02 27 37.4	+1.6
J24A	Dixon Ranch, L baz=73	72.92	333	⇓P		P	02 27 37.4	+1.8
H27A	Howes baz=73	72.97	336	⇑P		P	02 27 36.7	+1.0
GSC	Goldstone comp=E,32nm,1.6s	73.03	320	eP		P	02 27 38.2	+1.8
GSC	Goldstone baz=73,SNR=5.9	73.03	320	⇑P		P	02 27 38.0	+1.5
MWC	Mount Wilson comp=E,12nm,0.8s	73.05	319	eP		P	02 27 38.4	+1.7
I25A	Rochford baz=73,SNR=13	73.11	334	⇑P		P	02 27 37.9	+1.1
SHOC	Shoshone baz=73	73.13	321	⇑P		P	02 27 39.1	+2.2
K22A	Casper	73.17	332	eP		P	02 27 38.6	+1.4
K22A	Casper baz=73	73.17	332	⇓P		P	02 27 38.8	+1.6
H26A	Fairpoint baz=74	73.23	335	⇑P		P	02 27 39.1	+1.8
DECC	Green Verdugo baz=73	73.24	319	⇑P		P	02 27 39.1	+1.5
RSSD	Black Hills comp=E,9.6nm,1.1s	73.32	334	eP		P	02 27 39.2	+1.1
I24A	Kuemmerle Ranc baz=74	73.34	334	⇑P		P	02 27 39.9	+1.8
EDW2	Edwards Air Fo baz=74,SNR=6.5	73.45	319	⇓P		P	02 27 39.9	+1.1
K21A	Alcova baz=74,SNR=22	73.48	331	⇑P		P	02 27 40.2	+1.1
F28A	McLaughlin baz=74	73.53	337	⇑P		P	02 27 40.7	+1.7
G27A	Dupree baz=74	73.54	336	⇑P		P	02 27 40.4	+1.2
H25A	Fruitdale baz=74	73.55	335	⇓P		P	02 27 40.6	+1.3
MPU	Maple Canyon comp=E,16nm,0.9s	73.56	327	eP		P	02 27 41.2	+1.7
DAU	Daniels Canyon	73.67	327	eP		P	02 27 41.8	+1.5
LRMC	Laurel Mountai baz=74,SNR=7.4	73.68	320	⇓P		P	02 27 41.6	+1.4
G26A	Maurine baz=74	73.72	336	⇑P		P	02 27 41.3	+1.1
NLU	North Lily Min comp=E,5.7nm,0.8s	73.74	326	eP		P	02 27 42.4	+1.7
TPNV	Topopah Spring baz=74,SNR=7.8	73.84	322	⇑P		P	02 27 43.0	+1.8
FURC	Furnace Creek, baz=74,SNR=6.6	73.87	321	⇓P		P	02 27 42.7	+1.6
JLU	Jordanelle comp=E,12nm,0.7s	73.91	327	eP		P	02 27 43.1	+1.4
MPMC	Manual Prospec baz=74,SNR=7.8	73.95	320	⇓P		P	02 27 43.1	+1.2
H24A	Dirks Ranch, A baz=74,SNR=7.9	74.04	334	⇑P		P	02 27 42.5	+0.4
I22A	9 Mile Ranch, baz=74,SNR=9.2	74.15	332	⇓P		P	02 27 43.6	+0.8
F26A	Lodgepole baz=74,SNR=6.5	74.22	336	⇓P		P	02 27 43.9	+0.8
ISA	Isabella comp=E,3.0nm,0.8s	74.27	320	eP		P	02 27 45.3	+1.6
ISA	Isabella baz=74,SNR=12	74.27	320	⇓P		P	02 27 45.3	+1.6
DUG	Dugway comp=E,13nm,0.9s	74.30	326	eP		P	02 27 45.3	+1.5
DUG	Dugway baz=74,SNR=14	74.30	326	⇑P		P	02 27 45.1	+1.4
I21A	Big Trails, Te baz=75,SNR=19	74.44	332	⇑P		P	02 27 45.0	+0.5
R11A	Troy Canyon, C comp=E,6.0nm,0.7s	74.45	323	eP		P	02 27 46.4	+1.6
R11A	Troy Canyon, C baz=75,SNR=14	74.45	323	⇑P		P	02 27 46.4	+1.6
G24A	Alzada baz=75	74.47	335	⇑P		P	02 27 45.4	+0.9
F25A	Bowman baz=75	74.58	335	⇓P		P	02 27 46.5	+1.3
PKM	Peak Mountain baz=75	74.58	318	⇓P		P	02 27 47.1	+1.5
BW06	Boulder Array comp=E,28nm,1.9s	74.64	330	eP		P	02 27 46.2	+0.4
PDAR	Pinedale Array	74.64	330	P		P	02 27 46.2	+0.4
PDAR	Pinedale Array comp=E,2.3nm,0.6s,baz=132,slow=7.6,SNR=24	74.64	330	P		P	02 27 46.2	+0.4
G23A	Biddle baz=75,SNR=5.6	74.75	334	⇓P		P	02 27 46.9	+0.6
J19A	Crowheart baz=75,SNR=14	74.80	330	⇑P		P	02 27 47.5	+0.9
MDND	Maddock	74.83	339	eP		P	02 27 46.0	-0.5
MDND	Maddock baz=75	74.83	339	⇑P		P	02 27 46.3	-0.2
F24A	Ekalaka	74.90	335	⇓P		P	02 27 48.2	+1.1

I20A **Worland** 74.92 331 ⇑P P 02 27 48.0 +0.8
baz=75,SNR=6.7
B30A **Myrvik Farm, E** 74.94 340 ⇓P P 02 27 48.3 +1.2
baz=75
H21A **Big Horn, Sher** 74.98 333 ⇓P P 02 27 47.8 +0.2
baz=75,SNR=11
E25A **Miller Ranch,** 75.04 336 ⇓P P 02 27 49.0 +1.2
baz=75
G22A **Birney** 75.14 333 ⇑P P 02 27 49.4 +1.0
baz=75
RCTC **Rector, Farmer** 75.17 320 ⇑P P 02 27 50.1 +1.4
baz=75
TPH **Tonopah** 75.18 322 eP P 02 27 50.4 +1.4
comp=E,10nm,0.9s
F23A **Volborg** 75.19 334 ⇑P P 02 27 49.2 +0.6
baz=75,SNR=10.0
B29A **Wagenman Farm,** 75.28 339 ⇓P P 02 27 50.2 +1.1
baz=76
H20A **Greybull** 75.28 332 ⇑P P 02 27 49.7 +0.4
baz=76,SNR=11
A30A **Hoffart Farm,** 75.36 340 ⇑P P 02 27 50.7 +1.1
baz=76
I19A **Meeteetse** 75.37 331 ⇓P P 02 27 50.9 +0.9
baz=76,SNR=10
E24A **Baker** 75.44 335 ⇓P P 02 27 50.9 +0.8
baz=76,SNR=5.3
HVU **Hansel Valley** 75.45 327 eP P 02 27 51.5 +1.1
comp=E,11nm,0.8s
G21A **Lodge Grass** 75.53 333 ⇑P P 02 27 51.3 +0.6
baz=76,SNR=6.4
D25A **Fairfield** 75.56 336 ⇓P P 02 27 51.7 +1.0
baz=76,SNR=5.4
F22A **Rosebud** 75.58 334 ⇑P P 02 27 51.5 +0.6
baz=76,SNR=8.9
B28A **Dugan Ranch, T** 75.61 339 ⇑P P 02 27 51.9 +1.0
baz=76
A29A **Manning Farm,** 75.64 340 ⇓P P 02 27 51.0 -0.2
baz=76,SNR=5.5
REDW **Red Top Meadow** 75.71 330 eP P 02 27 53.0 +1.1
comp=E,12nm,0.8s
E23A **Ismay** 75.78 335 ⇓P P 02 27 52.8 +0.8
baz=76
LOHW **Long Hollow** 75.78 330 eP P 02 27 53.4 +1.1
comp=E,8.5nm,0.6s
ULM **Lac du Bonnet** 75.80 342 P P 02 27 51.5 -0.4
ULM **Lac du Bonnet** 75.80 342 P P 02 27 51.5 -0.4
comp=E,3.2nm,0.6s,baz=160,slow=3.9,SNR=10.0
MLAC **Mammoth Lakes** 75.81 321 ⇓P P 02 27 54.3 +1.6
baz=76
H19A **Powell** 75.86 331 ⇑P P 02 27 53.5 +0.9
baz=76,SNR=7.0
D24A **Glendive** 75.91 336 ⇓P P 02 27 54.2 +1.5
baz=76
G20A **Bridger** 75.96 332 ⇓P P 02 27 53.5 +0.4
baz=76,SNR=7.6
ELK **Elko** 75.97 325 eP P 02 27 54.8 +1.4
comp=E,6.1nm,0.8s
F21A **Absaloka Mine,** 75.97 333 ⇑P P 02 27 54.1 +1.0
baz=76
E22A **Miles City** 75.99 334 ⇑P P 02 27 54.0 +0.8
baz=76
FXWY **Fox Creek** 76.00 330 eP P 02 27 54.6 +1.0
comp=E,8.8nm,1.1s
C25A **Freed Ranch, W** 76.00 337 ⇑P P 02 27 55.0 +1.8
baz=76
SYO **Syowa Base** 76.00 159⇓ eP P 02 27 51.6 -1.4
SYO **Syowa Base** 76.00 159⇑ epP pP 02 28 22.6 -0.7
I17A **Pilgrim Ck.** 76.00 330 ⇓P P 02 27 55.6 +2.0
baz=76
NVAR **Mina Array Bea** 76.05 322 P P 02 27 54.3 +0.4
NVAR pP pP 02 28 25.9 +1.6
NVAR **Mina Array Bea** 76.05 322 P P 02 27 54.3 +0.4
comp=E,4.0nm,0.7s,baz=157,slow=6.6,SNR=22
NVAR pP pP 02 28 25.9 +1.6
comp=E,2.6nm,0.8s,baz=145,slow=6.7,SNR=3.7
IMW **Indian Meadow** 76.16 330 eP P 02 27 55.9 +1.3
comp=E,11nm,0.8s
H18A **Shoshone NF, C** 76.17 331 ⇑P P 02 27 55.4 +0.9
baz=76,SNR=20
FLWY **Flagg Ranch** 76.19 330 eP P 02 27 56.3 +1.7
comp=E,22nm,0.9s
B26A **Jensen Ranch,** 76.19 338 ⇑P P 02 27 55.8 +1.5
baz=76
C24A **Savage** 76.29 336 ⇑P P 02 27 56.0 +1.1
baz=77,SNR=5.4
D23A **Lindsay** 76.30 335 ⇓P P 02 27 56.0 +1.1
baz=77,SNR=5.6
F20A **Billings** 76.39 333 ⇑P P 02 27 56.8 +1.2
baz=77
E21A **Keefer Ranch,** 76.53 334 ⇓P P 02 27 57.3 +1.0
baz=77
D22A **Cohagen** 76.66 335 ⇑P P 02 27 58.2 +1.2
baz=77,SNR=6.0
YMR **Madison River** 76.76 330 eP P 02 28 00.2 +2.4
comp=E,44nm,1.5s
F19A **Roth Farm, Mol** 76.77 332 ⇓P P 02 27 58.6 +0.9
baz=77,SNR=8.3
C23A **Lambert** 76.80 336 ⇓P P 02 27 58.7 +0.9
baz=77
D21A **La Casta Ranch** 76.92 334 ⇓P P 02 27 59.5 +1.0
baz=77,SNR=6.6
E20A **Meyer Farm, Mu** 76.94 333 ⇑P P 02 27 59.6 +1.0
baz=77,SNR=11
DGMT **Dagmar** 76.98 336 eP P 02 28 00.2 +1.5
comp=E,161nm,2.3s
DGMT **Dagmar** 76.98 336 ⇓P P 02 27 59.9 +1.2
baz=77
C22A **Vida** 77.03 335 ⇑P P 02 28 00.2 +1.2
baz=77
TOA0 **Torodi Ar. Sit** 77.09 70 eP P 02 27 59.1 -0.9
TORD **Torodi Ar. Bea** 77.09 70 P P 02 27 59.4 -0.7
TORD pP pP 02 28 31.8 +1.3
TORD **Torodi Ar. Bea** 77.09 70 P P 02 27 59.4 -0.7
comp=E,25nm,0.5s,baz=257,slow=5.5,SNR=294
TORD pP pP 02 28 31.8 +1.3
comp=E,6.9nm,0.7s,baz=253,slow=5.0,SNR=1.7
E19A **Rath Farm, Rou** 77.18 333 ⇓P P 02 28 00.8 +0.9
baz=77,SNR=19
B23A **Brockton** 77.27 336 ⇑P P 02 28 01.7 +1.3
baz=78
A24A **Westby** 77.29 337 ⇓P P 02 28 02.0 +1.6
baz=78
D20A **Manuel Ranch,** 77.41 333 ⇑P P 02 28 02.0 +0.8
baz=78,SNR=7.3
B22A **Reddig Ranch S** 77.52 335 ⇓P P 02 28 02.9 +1.1
baz=78
PAHR **Pah Rah Range** 77.53 322 eP P 02 28 03.8 +1.7
comp=E,32nm,0.8s
C21A **Desert Coulee** 77.57 334 ⇑P P 02 28 03.1 +1.0
baz=78
HLID **Hailey** 77.58 328 eP P 02 28 04.0 +1.7
comp=E,17nm,0.8s
HLID **Hailey** 77.58 328 ⇓P P 02 28 04.0 +1.7
baz=78,SNR=30
MCMT **McKenzie Canyo** 77.76 329 eP P 02 28 04.5 +1.0
comp=E,7.2nm,1.0s
D19A **Cripps Ranch,** 77.78 333 ⇑P P 02 28 04.5 +1.2
baz=78
BOZ **Bozeman (W)** 77.81 331 eP P 02 28 04.6 +1.1
comp=E,16nm,1.4s
C20A **Veseth Ranch,** 77.85 334 ⇑P P 02 28 04.6 +1.0
baz=78
B21A **Ellsworth Farm** 78.03 335 ⇑P P 02 28 06.1 +1.6
baz=78
SUR **Sutherland** 78.03 120 eP P 02 28 05.9 +0.6
comp=E,18nm,0.7s
A22A **Carney Farms,** 78.06 336 ⇓P P 02 28 05.7 +1.0
baz=78,SNR=6.4
MFID **Camas Ranch** 78.19 327 eP P 02 28 07.4 +1.7
comp=E,22nm,1.4s
C19A **Slack Wire Ran** 78.30 333 ⇓P P 02 28 07.2 +1.1
baz=78
LRM **Limekiln Ridge** 78.32 330 eP P 02 28 07.1 +0.6
B20A **Solberg Farm,** 78.44 334 ⇓P P 02 28 08.1 +1.2
baz=79
A21A **Bergtoll Ranch** 78.44 335 ⇑P P 02 28 07.8 +1.0
baz=79
A20A **Cobblestone Ra** 78.75 335 ⇑P P 02 28 09.6 +1.1
baz=79
EGMT **Eagleton** 78.82 333 ⇑P P 02 28 09.7 +0.8
baz=79
B19A **Brinkman Farms** 78.82 334 ⇓P P 02 28 10.3 +1.4
baz=79
WVOR **Wild Horse Val** 78.97 325 eP P 02 28 11.0 +1.0
comp=E,57nm,2.8s
A19A **Klindworth Far** 79.11 334 ⇑P P 02 28 11.5 +0.9
baz=79

J08A **Circle Bar Ran** 79.52 325 eP P 02 28 14.5 +1.6
comp=E,5.8nm,0.8s
MOD **Modoc** 79.52 323 eP P 02 28 14.1 +1.1
comp=E,3.8nm,1.0s
MOD epP pP 02 28 44.3 +0.6
TSUM **Tsumeb** 79.54 107 eP P 02 28 14.1 +0.4
comp=E,47nm,0.9s
MSO **Missoula** 79.76 330 ⇓P P 02 28 16.0 +1.9
baz=80
BMO **Blue Mountains** 79.96 327 eP P 02 28 15.7 +0.5
comp=E,14nm,0.9s
BMO epP pP 02 28 46.4 +0.5
N02D **Trinity Center** 80.27 321 ⇑P P 02 28 18.1 +1.1
baz=80
SWMT **Swartz Lake** 80.29 331 eP P 02 28 18.1 +1.1
comp=E,2.7nm,0.8s
M04C **Macdoel** 80.30 322 ⇑P P 02 28 18.6 +1.4
baz=80
K05A **Summer Lake** 80.39 324 eP P 02 28 19.5 +1.8
I07A **Izee** 80.56 325 eP P 02 28 19.9 +1.4
comp=E,12nm,1.0s
M02C **Callahan** 80.62 322 ⇑P P 02 28 20.1 +1.2
baz=81
F10A **Beach Ranch, E** 80.71 328 eP P 02 28 20.6 +1.3
comp=E,9.1nm,0.9s
BSMT **Bassoo Peak** 80.90 330 eP P 02 28 21.2 +0.9
J05D **Fort Rock, OR** 80.95 324 ⇑P P 02 28 22.5 +1.8
baz=81
G08A **Pilot Rock** 81.10 327 eP P 02 28 22.6 +1.3
comp=E,26nm,1.8s
PINOR **Pine Mountain** 81.11 325 eP P 02 28 22.9 +1.6
J04D **Umpqua Nationa** 81.40 323 ⇓P P 02 28 24.9 +1.7
baz=82
FFC **Flin Flon** 81.52 341 eP P 02 28 23.5 +0.3
comp=E,2.3nm,0.6s
E09A **Wood Farm, Sta** 81.54 328 eP P 02 28 24.2 +0.7
comp=E,8.3nm,1.2s
E09A epP pP 02 28 56.2 +2.0
L02D **Cave Junction,** 81.55 322 ⇑P P 02 28 25.3 +1.7
baz=82
I05D **Terrebonne, OR** 81.71 325 ⇓P P 02 28 26.0 +1.5
baz=82
PBDV **Barranco-do-Ve** 81.87 45 eP P 02 28 26.8 +1.3
comp=E,37nm,1.6s
I04A **Tendick Farm,** 81.93 324 ⇑P P 02 28 26.5 +0.8
baz=82
PNCL **Nicolau / Gran** 81.99 44 eP P 02 28 26.9 +0.9
comp=E,51nm,1.8s
PCVE **Castro Verde** 82.03 44 eP P 02 28 27.0 +0.7
comp=E,32nm,1.4s
PVAQ **Vaqueiros** 82.11 45 eP P 02 28 27.4 +0.7
comp=E,38nm,1.5s
HAWA **Hanford** 82.15 327 eP P 02 28 27.8 +1.1
comp=E,30nm,1.4s
NEW **Newport** 82.28 330 ⇓P P 02 28 28.2 +0.8
baz=82
G05D **Wamic, OR** 82.30 325 ⇓P P 02 28 29.1 +1.6
baz=82
D08A **Wollman Farm,** 82.30 328 eP P 02 28 28.8 +1.3
comp=E,21nm,1.4s
I03D **Drain, OR** 82.39 323 ⇓P P 02 28 30.0 +2.0
baz=83
H04A **Detroit Lake** 82.39 325 eP P 02 28 28.6 +0.6
comp=E,132nm,3.0s
C09A **Chrisman Ranch** 82.50 329 eP P 02 28 29.8 +1.3
comp=E,58nm,1.4s
C09A epP pP 02 29 00.8 +1.5
PMTG **Montargil** 82.74 43 eP P 02 28 30.2 +0.3
comp=E,49nm,1.6s
BOSA **Boshof** 82.91 118 eP P 02 28 31.1 -0.2
comp=E,23nm,0.8s
BOSA **Boshof** 82.91 118 P P 02 28 31.0 -0.4
comp=E,21nm,0.8s,baz=261,slow=5.1,SNR=29
PBAR **Barrancos** 82.99 44 eP P 02 28 30.8 -0.4
comp=E,25nm,1.6s
F04A **Amboy** 83.33 325 eP P 02 28 33.7 +0.9
comp=E,34nm,1.4s
B08A **Colville Reser** 83.40 329 eP P 02 28 33.8 +0.6
comp=E,7.6nm,0.9s
MAW **Mawson** 83.85 163 P P 02 28 34.6 -0.6
MAW **Mawson** 83.85 163 P P 02 28 34.6 -0.6
comp=E,7.6nm,0.6s,baz=204,slow=6.9,SNR=16
EDM **Edmonton** 84.28 335 eP P 02 28 36.9 -0.6
LBTB **Lobatse** 84.48 115 eP P 02 28 39.3 -0.1
comp=E,24nm,0.8s
TAM **Tamanrasset** 84.62 63 eP P 02 28 40.1 0.0
comp=E,8.8nm,0.8s
TAM epP pP 02 29 13.6 +2.5
ESDC **Sonseca Array** 85.81 44 P P 02 28 45.8 +0.3
ESDC pP pP 02 29 19.1 +2.5
ESDC **Sonseca Array** 85.81 44 P P 02 28 45.8 +0.3
comp=E,5.2nm,1.1s,baz=232,slow=5.3,SNR=10
ESDC pP pP 02 29 19.1 +2.5
comp=E,3.6nm,1.1s,baz=238,slow=4.2,SNR=3.4
LSZ **Lusaka** 90.39 107 eP P 02 29 08.6 +0.6
comp=E,3.8nm,0.9s
YKA **Yellowknife Ar** 91.68 340 P P 02 29 12.8 +0.2
YKA pP pP 02 29 45.0 +1.1
YKA **Yellowknife Ar** 91.68 340 P P 02 29 12.8 +0.2
comp=E,3.4nm,0.6s,baz=135,slow=4.3,SNR=23
YKA pP pP 02 29 45.0 +1.1
comp=E,5.9nm,0.8s,baz=136,slow=4.4,SNR=9.7
YKW3 **Yellowknife Ar** 91.73 340 eP P 02 29 12.8 -0.1
comp=E,0.1nm,0.8s
YKW3 epP pP 02 29 44.9 +0.7
KEST **Kesra** 93.20 53 P P 02 29 20.9 +0.4
KEST **Kesra** 93.20 53 P P 02 29 20.9 +0.4
comp=E,2.0nm,0.9s,baz=306,slow=8.7,SNR=3.2
DLBC **Dease Lake** 94.73 332 pP pP 02 30 00.3 +2.1
DLBC **Dease Lake** 94.73 332 pP pP 02 30 00.3 +2.1
comp=E,4.0nm,1.1s,baz=132,slow=7.1,SNR=3.8
INK **Inuvik** 101.44 340 pP pP 02 30 29.0 +0.8
comp=E,1.7nm,1.0s,baz=143,slow=3.7,SNR=3.6
BUR08 **Bucovina Ar. S** 108.25 45 ePKP PKiKP 02 34 32.0 -1.4
KBZ **Khabaz** 120.03 51 PKP PKPdf 02 34 56.2 +0.4
KBZ pPKP pPKPdf 02 35 30.6 +2.1
KBZ **Khabaz** 120.03 51 PKP PKPdf 02 34 56.2 +0.4
comp=E,3.4nm,0.9s,baz=38,slow=2.4,SNR=6.7
KBZ pPKP pPKPdf 02 35 30.6 +2.1
comp=E,2.8nm,0.8s,baz=299,slow=1.8,SNR=4.9
NWAO **Narrogin (SRO)** 125.23 186 PKP PKPdf 02 35 04.3 -2.1
NWAO **Narrogin (SRO)** 125.23 186 PKP PKPdf 02 35 04.3 -2.1
comp=E,2.2nm,0.3s,baz=37,slow=5.1,SNR=7.7
ARU **Arti** 128.23 34 ePKPdf PKPdf 02 35 12.2 +1.0
H11S2 **WAKE ISLAND Hyl** 128.33 277 T T 04 55 36.4
baz=105,slow=72,SNR=82
H11S1 **WAKE ISLAND Hyl** 128.34 277 T T 04 55 38.1
baz=105,slow=72,SNR=52
H11S3 **WAKE ISLAND Hyl** 128.35 277 T T 04 55 38.0
baz=105,slow=72,SNR=54
H11N3 **WAKE ISLAND Hyl** 128.42 278 T T 04 55 31.5
baz=106,slow=75,SNR=38
H11N2 **WAKE ISLAND Hyl** 128.44 278 T T 04 55 31.8
baz=106,slow=75,SNR=36
H11N1 **WAKE ISLAND Hyl** 128.44 278 T T 04 55 40.0
baz=106,slow=75,SNR=22
ASAR **Alice Springs** 129.77 207 PKP PKPdf 02 35 15.4 +0.1
ASAR pPKP pPKPdf 02 35 47.6 -0.3
ASAR **Alice Springs** 129.77 207 PKP PKPdf 02 35 15.4 +0.1
comp=E,1.0nm,0.8s,baz=138,slow=1.7,SNR=6.3
ASAR pPKP pPKPdf 02 35 47.6 -0.3
comp=E,1.7nm,0.9s,baz=143,slow=2.2,SNR=5.4
ABKAR **Akbulak array** 131.15 43 ePKPdf PKPdf 02 35 17.8 +0.8
COEN **Coen** 132.76 224 ePKPdf PKPdf 02 35 22.3 +1.2
WRA **Warramunga Arr** 132.84 210 PKP PKPdf 02 35 21.4 +0.2
WRA pPKP pPKPdf 02 35 54.0 +0.2
WRA SKPbc SKPbc 02 38 38.1 +0.4
WRA **Warramunga Arr** 132.84 210 PKP PKPdf 02 35 21.4 +0.2
comp=E,1.1nm,0.7s,baz=152,slow=1.7,SNR=4.6
WRA pPKP pPKPdf 02 35 54.0 +0.2
comp=E,1.1nm,0.6s,baz=154,slow=1.7,SNR=3.7
WRA SKPbc SKPbc 02 38 38.1 +0.4
comp=E,1.0nm,0.9s,baz=150,slow=3.6,SNR=3.7
WRAB **Tennant Creek** 132.84 210 ePKPdf PKPdf 02 35 22.7 +1.6
PMG **Port Moresby** 133.22 232 ePKPdf PKPdf 02 35 24.5 +2.5
KURK **Kurchatov** 141.41 34 PKPpre PKPpre 02 35 31.4
KURK ePKPdf PKPdf 02 35 35.6 -0.4
KURBB **Kurchatov Arra** 141.42 34 PKhKP PKPpre 02 35 31.4
comp=E,0.3nm,0.4s,baz=307,slow=3.4,SNR=6.4
KURBB PKP PKPdf 02 35 36.8 +0.8
comp=E,0.9nm,0.7s,baz=304,slow=2.9,SNR=7.7
ZAA0 **Zalesovo Array** 142.12 26 ePKPpre PKPpre 02 35 33.7
ZAA0 ePKPdf PKPdf 02 35 37.4 +0.3
ZALV **Zalesovo Beam** 142.12 26 PKPpre PKPpre 02 35 33.7
ZALV PKP PKPdf 02 35 38.0 +0.9
ZALV pPKP pPKPdf 02 36 11.1 +1.3

ZALV SKPbc SKPbc 02 39 04.1 +0.4
ZALV **Zalesovo Beam** 142.12 26 PKhKP PKPpre 02 35 33.7
comp=E,2.5nm,0.5s,baz=292,slow=2.4,SNR=7.6
ZALV PKP PKPdf 02 35 38.0 +0.9
comp=E,2.5nm,0.5s,baz=311,slow=2.9,SNR=9.5
ZALV pPKP pPKPdf 02 36 11.1 +1.3
comp=E,3.7nm,0.7s,baz=302,slow=2.8,SNR=4.8
ZALV SKPbc SKPbc 02 39 04.1 +0.4
comp=E,1.3nm,0.6s,baz=307,slow=3.7,SNR=4.2
EKS2 **Erkin-Say** 142.36 48 ePKPdf PKPdf 02 35 36.6 -1.5
AAK **Ala-Archa** 142.86 47 ePKPdf PKPdf 02 35 40.3 +1.2
AAK **Ala-Archa** 142.86 47 PKP PKPdf 02 35 37.7 -1.4
comp=E,0.8nm,0.4s,baz=94,slow=2.9,SNR=4.9
TKM2 **Tokmak 2** 143.50 46 ePKPdf PKPdf 02 35 40.2 0.0
YSS **Yuzh-Sakhalins** 144.49 322 ePKPdf PKPdf 02 35 42.1 +0.6
KSH **Kashi** 145.01 52 PKP PKPbc 02 35 42.1 -0.4
KSH PKS PKSdf 02 39 16.1 -2.4
KSH SKS SKSdf 02 42 41.1 -0.1
KSH AMB AMB
comp=E,200nm,5.9s
KSH LR LR
comp=E,190nm,5.0s
KSH LR LR
comp=E,140nm,5.4s
KSH LR LR
comp=E,160nm,5.4s
MK31 **Makanchi Array** 145.69 37 ePKPbc PKPbc 02 35 44.1 -0.1
MKAR **Makanchi Array** 145.69 37 PKPbc PKPbc 02 35 44.2 0.0
MKAR pPKPbc pPKPbc 02 36 18.3 +1.9
MKAR **Makanchi Array** 145.69 37 PKPbc PKPbc 02 35 44.2 0.0
comp=E,6.5nm,0.6s,baz=335,slow=2.9,SNR=61
MKAR pPKPbc pPKPbc 02 36 18.3 +1.9
comp=E,6.5nm,0.8s,baz=323,slow=3.6,SNR=5.1
HYB **Hyderabad** 148.66 92 i PKP PKPdf 02 35 47.0 -2.5
WMQ **Urumqi** 150.53 36 P PKPbc 02 35 58.0 +0.8
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ **Urumqi** 150.53 36 PKPbc PKPdf 02 35 52.0 +0.3
USRK **Ussuriysk Arra** 152.05 328 PKP PKPdf 02 35 54.6 +0.7
comp=Z,1.6nm,0.8s,baz=104,slow=4.6,SNR=2.8
USRK PKPbc PKiKP 02 36 00.9 0.0
comp=Z,3.0nm,0.9s,baz=226,slow=5.0,SNR=4.8
USRK pPKP pPKPdf 02 36 27.2 +0.6
comp=Z,1.1nm,0.6s,baz=329,slow=3.1,SNR=2.1
USRK pPKPbc pPKPbc 02 36 34.1 +1.1
comp=Z,5.4nm,0.7s,baz=13,slow=1.4,SNR=6.8
KAPI **Kappang** 152.09 198 ePKPdf PKPdf 02 35 53.3 -1.6
KAPI ePKPbc PKPbc 02 36 00.2 -1.4
KAPI ePKPab PKPab 02 36 10.7 -0.6
MJAR **Matsushiro Arr** 152.63 308 PKPbc PKPbc 02 36 03.0 +0.8
MJAR pPKPbc pPKPbc 02 36 36.2 +1.5
MJAR **Matsushiro Arr** 152.63 308 PKPbc PKPbc 02 36 03.0 +0.8
comp=Z,0.9nm,0.6s,baz=26,slow=5.9,SNR=2.8
MJAR pPKPbc pPKPbc 02 36 36.2 +1.5
comp=Z,2.8nm,0.8s,baz=67,slow=1.2,SNR=4.5
MDJ **Mudanjiang** 152.88 331 PKPbc PKPdf 02 35 55.4 +0.3
SONM **Songino Array** 153.77 8 PKP PKPdf 02 35 57.5 +1.0
SONM PKPbc PKiKP 02 36 05.9 +1.4
SONM PKPab PKPab 02 36 17.7 -0.1
SONM **Songino Array** 153.77 8 PKP PKPdf 02 35 57.5 +1.0
comp=Z,0.7nm,0.9s,baz=166,slow=0.1,SNR=3.5
SONM PKPbc PKiKP 02 36 05.9 +1.4
comp=Z,0.6nm,0.5s,baz=274,slow=1.8,SNR=4.9
SONM PKPab PKPab 02 36 17.7 -0.1
comp=Z,0.9nm,0.7s,baz=320,slow=3.2,SNR=4.4
CN2 **Changchun** 155.28 335 ePKP PKPdf 02 36 00.0 +1.5
HHC **Hu-ho-hao-te** 161.09 360 ePKP PKPdf 02 36 05.7 -0.1
HHC pPKP pPKPdf 02 36 33.0 -5.6
HHC PKS PKSdf 02 39 38.0 -1.2
HHC PP PP 02 40 36.5 +4.8
HHC SKS SKSdf 02 42 59.4 -0.5
HHC SKKS SKKSac 02 47 13.4 +3.7
HHC SS SS 03 00 39.4 +3.6
HHC AMB AMB
comp=Z,130nm,9.6s
HHC LR LR
comp=Z,330nm,22.1s
HHC LR LR
comp=Z,260nm,21.3s
HHC LR LR
comp=Z,150nm,22.8s
CMAR **Chiang Mai Arr** 167.70 104 PKP PKPdf 02 36 12.9 +0.7
CMAR PP PP 02 41 08.4 +0.1
CMAR **Chiang Mai Arr** 167.70 104 PKP PKPdf 02 36 12.9 +0.7
comp=Z,2.1nm,0.3s,baz=20,slow=2.9,SNR=3.0
CMAR PP PP 02 41 08.4 +0.1
comp=Z,0.6nm,0.3s,baz=267,slow=5.7,SNR=4.1
CHTO **Chiang Mai** 167.80 102 ePKPdf PKPdf 02 36 12.4 +0.2
CHTO ePKPab PKPab 02 37 18.8 -0.9
NJ2 **Nanjing** 167.95 329 ePKP PKPdf 02 36 12.3 +0.3
CD2 **Chengdu** 168.62 36 ePKP PKPdf 02 36 11.1 -1.4
KMI **Kunming** 171.31 66 PKP PKPdf 02 36 11.9 -2.6
GYA **Guiyang** 173.63 43 ePKP PKPdf 02 36 14.8 -0.5
GYA PKPab PKPab 02 37 46.4 +1.1
GYA PKS PKSdf 02 39 44.9 -2.9
GYA PP PP 02 41 39.3 +2.4
GYA AMB AMB
comp=Z,90nm,8.0s

MEX 06 02:22:05.6±0.7, 17.77N×101.46W, h27km±8km, MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.16**	**182**	*i* P	Pb	02 22 09.9	-1.1
ZIIG				*i* S	Sb	02 22 13.0	-1.7
ARIG	**Puente Sto Nin**	**1.18**	**64**	*e*P	Pn	02 22 23.4	-3.0
ARIG				*i* S	Sn	02 22 38.0	-3.5
CAIG	**El Cayaco**	**1.34**	**122**	*e*P	Pn	02 22 25.5	-3.1
CAIG				*i* S	Sn	02 22 42.5	-3.1
MEIG	**Mezcala**	**1.76**	**85**	*i* P	Pn	02 22 31.5	-2.9
MEIG				*i* S	Sn	02 22 53.5	-2.5
ACX	**Acapulco**	**1.77**	**120**	*i* P	Pn	02 22 29.7	-4.8
ACX				*i* S	Sn	02 22 50.9	-5.2
MMIG	**Aquila**	**1.87**	**286**	*i* P	Pn	02 22 34.0	-1.8
MMIG				*i* S	Sn	02 22 56.1	-2.5
PLIG	**Platanillo**	**1.96**	**71**	*e*P	Pn	02 22 34.3	-2.9
PLIG				*i* S	Sn	02 22 58.8	-2.3
TLIG	**Tlapa**	**2.76**	**94**	*e*P	Pn	02 22 46.3	-2.0
TLIG				*i* S	Sn	02 23 18.2	-2.7

*AUST **06** 02:27:41.0,5.5°50N×125.5°51E,h60km*
*ISCJB **06** 02:28:02.9±0.4,3.4°46N±0.05°×125.67°E±0.07,h100km,*
mb4.2/13,Error ellipse: s-maj=10.0km s-min=6.7km
az=173.8
*NEIC **06** 02:28:06.2±2.4,3.38N×125.43E,h117km±23km,mb4.5/4,*
Error ellipse: s-maj=26.7km s-min=7.7km az=72.0
*IDC **06** 02:28:06.5±2.7,3.39N×125.45E,h117km±26km,mb3.9/9,*
mb1 4.1/10,mb1mx3.7/24,mbtmp4.3/10,MS2.8/1,
Ms1 2.8/1,ms1mx2.4/43,Error ellipse: s-maj=39.5km
s-min=12.6km az=83.0
*DJA **06** 02:28:11.7±1.5,3°N±18°×12°6E±°,h47km±41km,M4.8/4,*
mb5.2/3,mB5.4/2,MLv4.6/4,Mw(mB)4.9/2

ISC 06 02:28:05.2±0.6, 3°40N±0.07°×125°58E±0.09, h100km, n44,
σ1s55/40, mb4.2/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.29**	**350**	P	Pn	02 28 23.5	+3.7
SGSI				S	**Sn**	**02 28 35.9**	**+5.2**
GTOI	**Gorontalo**	**3.76**	**223**	P	Pn	02 29 06.0	+4.9
MRSI	**Marisa**	**4.65**	**231**	P	Pn	02 29 16.4	+6.2
MRSI				S	**Sn**	**02 30 10.1**	**+4.0**
LUWI	**Luwuk**	**5.23**	**213**	P	Pn	02 29 27.3	+6.2
	208nm,1.0s,2μm0.6nm						
NLAI	**Namlea**	**6.77**	**167**	P	**Pn**	**02 29 42.9**	**+0.9**
	97nm,0.6s,8μm						
FAKI	**Fak Fak**	**9.16**	**133**	P	**Pn**	**02 30 16.9**	**+2.4**
	baz=11,SNR=3.3						
KKM	**Kota Kinabalu**	**9.69**	**286**	*e*Pn	**Pn**	**02 30 21.5**	**-0.4**
KAPI	**Kappang**	**10.18**	**215**	P	**Pn**	**02 30 27.2**	**-1.3**
KAPI	**Kappang**	**10.18**	**215**	P	**Pn**	**02 30 27.2**	**-1.3**
	1.9nm,0.3s,baz=146,slow=4.3,SNR=5.2						
TGY	**Tagaytay City**	**11.58**	**337**	LR	LR	02 36 06.4	
	comp=Z,47nm,21.7s,baz=120,slow=42						
MTN	**Manton Dam**	**17.05**	**161**	P	**Pn**	**02 31 56.3**	**-1.3**
	baz=19,SNR=19						
KDU	**Kakadu**	**17.39**	**157**	P	**P**	**02 31 59.8**	**-1.7**
	baz=20,SNR=8.1						
KNRA	**Kununurra**	**19.21**	**171**	P	**P**	**02 32 22.4**	**+0.9**
	baz=21,SNR=17						

FITZ	**Fitzroy Crossi**	**21.36**	**180**	*e*P		**P**	**02 32 44.7**	**0.0**
	9.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.36**	**180**	P		**P**	**02 32 45.0**	**+0.4**
	12nm,0.6s,baz=11,slow=8.6,SNR=42							
FITZ	**Fitzroy Crossi**	**21.36**	**180**	P		**P**	**02 32 44.1**	**-0.5**
	baz=24,SNR=40							
WRAB	**Tennant Creek**	**24.73**	**160**	*e*P		**P**	**02 33 16.8**	**-0.7**
	11nm,1.0s							
WRA	**Warramunga Arr**	**24.74**	**160**	P		**P**	**02 33 17.0**	**-0.6**
WRA	**Warramunga Arr**	**24.74**	**160**	P		**P**	**02 33 17.0**	**-0.6**
	3.8nm,0.4s,baz=343,slow=10.0,SNR=24							
AS31	**Alice Springs**	**28.10**	**164**	*e*P		**P**	**02 33 47.0**	**-0.7**
ASAR	**Alice Springs**	**28.10**	**164**	P		**P**	**02 33 47.6**	**-0.2**
ASAR				ScP		**ScP**	**02 40 28.4**	**-3.5**
ASAR	**Alice Springs**	**28.10**	**164**	P		**P**	**02 33 47.6**	**-0.2**
	1.0nm,0.5s,baz=349,slow=7.6,SNR=20							
ASAR				ScP		**ScP**	**02 40 28.4**	**-3.5**
	0.6nm,0.8s,baz=358,slow=1.4,SNR=4.6							
MEEK	**Meekatharra**	**30.61**	**192**	P		**P**	**02 34 09.9**	**0.0**
	baz=33,SNR=10							
MORW	**Morawa**	**33.55**	**195**	P		**P**	**02 34 35.7**	**0.0**
	baz=36,SNR=3.4							
KSAR	**Wonju Array Be**	**33.95**	**3**	P		**P**	**02 34 38.5**	**-0.5**
KSRS	**Korea Array**	**33.96**	**3**	P		**P**	**02 34 38.5**	**-0.6**
	1.0nm,0.2s,baz=191,slow=8.3,SNR=4.9							
FORT	**Forrest**	**34.07**	**176**	*e*P		**P**	**02 34 39.6**	**-0.5**
	9.2nm,0.6s							
FORT	**Forrest**	**34.07**	**176**	P		**P**	**02 34 40.1**	**+0.1**
	baz=36,SNR=8.6							
KMBL	**Kambalda**	**34.75**	**186**	P		**P**	**02 34 46.2**	**+0.2**
	baz=37,SNR=6.1							
BBOO	**Buckleboo**	**37.35**	**165**	P		**P**	**02 35 08.2**	**0.0**
	baz=40,SNR=20							
STKA	**Stephens Creek**	**38.24**	**158**	P		**P**	**02 35 16.0**	**+0.3**
STKA	**Stephens Creek**	**38.24**	**158**	P		**P**	**02 35 16.0**	**+0.3**
	2.1nm,0.4s,baz=334,slow=9.3,SNR=9.7							
STKA	**Stephens Creek**	**38.24**	**158**	P		**P**	**02 35 16.1**	**+0.4**
	baz=40,SNR=7.0							
HTT	**Hallett**	**38.74**	**162**	P		**P**	**02 35 20.6**	**+0.7**
	baz=41,SNR=5.7							
USRK	**Ussuriysk Arra**	**41.03**	**7**	P		**P**	**02 35 38.3**	**-0.3**
	0.6nm,0.5s,baz=212,slow=14,SNR=4.3							
PETK	**Petropavlovsk-**	**56.17**	**23**	P		**P**	**02 37 34.3**	**-0.2**
PETK	**Petropavlovsk-**	**56.17**	**23**	P		**P**	**02 37 34.3**	**-0.2**
	2.9nm,0.8s,baz=230,slow=3.4,SNR=3.0							
AAK	**Ala-Archa**	**59.83**	**318**	*e*P		P	02 37 58.1	-2.4
	10.0nm,1.6s							
KURBB	**Kurchatov Arra**	**61.40**	**328**	P		**P**	**02 38 11.0**	**+0.2**
	0.1nm,0.4s,baz=133,slow=6.2,SNR=4.0							
KURK	**Kurchatov**	**61.41**	**328**	P		**P**	**02 38 11.0**	**+0.2**
VNDA	**Vanda**	**83.25**	**173**	P		**P**	**02 40 19.8**	**-0.3**
VNDA	**Vanda**	**83.25**	**173**	P		**P**	**02 40 19.8**	**-0.3**
	0.9nm,0.8s,baz=354,slow=7.7,SNR=3.0							
ARCES	**ARCESS Array B**	**90.36**	**340**	P		P	02 40 52.8	-2.1
ARCES	**ARCESS Array B**	**90.36**	**340**	P		P	02 40 52.8	-2.1
	5.3nm,1.1s,baz=80,slow=5.6,SNR=2.7							

IDC 06 02:44:16.7±6.5,31°.20S×179°.57W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.7/17,mbtmp3.6/2,MS3.9/2,Ms1 3.9/2, ms1mx3.2/27,Error ellipse: s-maj=255.3km s-min=61.9km az=156.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.55**	**200**	LR	LR	02 48 44.8	
	comp=Z,40nm,18.8s,baz=316,slow=36						
ASAR	**Alice Springs**	**41.73**	**269**	P	P	02 52 07.4	-0.3
	0.8nm,0.8s,baz=103,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**42.79**	**274**	P	P	02 52 16.5	+0.1
	0.6nm,0.6s,baz=114,slow=7.9,SNR=3.7						
JCJ	**Chichijima**	**68.50**	**324**	LR	LR	03 21 09.0	
	comp=Z,79nm,20.2s,baz=122,slow=32						
TXAR	**Lajitas Array**	**93.96**	**58**	LR	LR	03 33 27.3	
	comp=Z,63nm,21.2s,baz=5.0,slow=31						
FINES	**FINESS Array B**	**145.41**	**339**	PKPbc	PKPbc	03 03 54.9	-0.9
	2.3nm,0.9s,baz=22,slow=4.5,SNR=3.4						

*AUST **06** 02:47:24.3,0°.07N×97°.00E,h0km*
*IDC **06** 02:47:24.3±0.5,0°.00S×97°.04E,h0km,mb4.4/30, mb1 4.4/32,mb1mx4.4/37,mbtmp4.3/32,ML4.1/2,MS3.7/8, Ms1 3.8/8,ms1mx3.4/38,Error ellipse: s-maj=15.3km s-min=11.8km az=35.0*
*ISCJB **06** 02:47:25.2±1.0,0°.05N±0°.03×97°.09E±0°.03,h15km±6km, mb4.6/76,MS4.0/19,Error ellipse: s-maj=6.0km s-min=4.6km az=142.2*
*DJA **06** 02:47:27.4±0.8,0°N±5°×97°E±°,h20km,M4.6/5,mB4.9/1, mb4.8/5,MLv4.4/4,Mw(mB)4.2/1*
*MOS **06** 02:47:28.0±1.0,0°.10N×97°.17E,h35km,mb4.8/45,Error ellipse: s-maj=10.1km s-min=6.4km az=108.5*
*NEIC **06** 02:47:29.4±0.2,0°.08N×97°.11E,mb4.7/25,Error ellipse: s-maj=6.3km s-min=5.7km az=200.0*
*BJI **06** 02:47:29.0,0°.04N×97°.12E,h36km,mB5.0/19,mb4.6/25, Ms4.5/17,Ms7 4.3/19*
*BKK **06** 02:47:54.2±1.9,1°N±11°×99°E±1°5,h89km±12km,M4.4/11, mB5.2/5,mb4.5/11,MLv4.2/4,Mw(mB)4.7/5*

ISC 06 02:47:29.3±0.4,0°.07N±0°.04×97°.07E±0°.05,h32km±2km, h32km:pP-P,n259,σ1°38/297,mb4.6/76,MS4.1/19,7C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.33**	**22**	P	**Pn**	**02 47 50.0**	**-1.7**
GSI	**Gunungsitoli**	**1.33**	**22**	*e*Pn	**Pn**	**02 47 50.4**	**-1.3**
SNSI	**Sinabang, Aceh**	**2.44**	**342**	P	**Pn**	**02 48 05.5**	**-1.5**
SNSI				S	**Sn**	**02 48 34.7**	**-1.1**
PSI	**Prapat**	**3.29**	**34**	P	**Pn**	**02 48 16.4**	**-2.3**
PSI	**Prapat**	**3.29**	**34**	Pn	**Pn**	**02 48 16.4**	**-2.3**
PSI	**Prapat**	**3.29**	**34**	Pn	**Pn**	**02 48 16.4**	**-2.3**
	4.2nm,0.3s,baz=209,slow=9.2,SNR=18						
PSI				LR	LR	02 49 03.2	
	comp=Z,510nm,19.6s,baz=86,slow=30						
PSI	**Prapat**	**3.29**	**34**	P	**Pn**	**02 48 16.4**	**-2.3**
	baz=3.3,SNR=13						
KCSI	**Kotacane, Aceh**	**3.50**	**11**	P	**Pn**	**02 48 19.4**	**-2.2**
KCSI				S	**Sn**	**02 48 59.5**	**-2.5**
BKNI	**Bangkinang**	**3.98**	**86**	P	Pn	02 48 32.8	+4.7
FRIM	**Kepong**	**5.53**	**55**	P	**Pn**	**02 48 49.2**	**-0.3**
IPM	**Ipoh**	**5.90**	**42**	P	**Pn**	**02 48 54.9**	**+0.3**
IPM	**Ipoh**	**5.90**	**42**	P	**Pn**	**02 48 54.1**	**-0.5**
	59nm,0.7s						
IPM	**Ipoh**	**5.90**	**42**	*e*Pn	**Pn**	**02 48 54.0**	**-0.5**
KULM	**Kulim**	**6.30**	**34**	P	**Pn**	**02 48 59.0**	**-1.1**
KULM	**Kulim**	**6.30**	**34**	P	**Pn**	**02 48 58.4**	**-1.7**
	85nm,0.8s,945nm						
KULM	**Kulim**	**6.30**	**34**	*e*Pn	**Pn**	**02 48 58.1**	**-2.0**
KGM	**Kluang**	**6.54**	**73**	P	**Pn**	**02 49 02.8**	**-0.5**
MYKOM	**Kota Tinggi**	**6.99**	**76**	P	**Pn**	**02 49 08.8**	**-0.7**
MYKOM	**Kota Tinggi**	**6.99**	**76**	P	**Pn**	**02 49 08.5**	**-1.0**
	43nm,1.1s						
MYKOM	**Kota Tinggi**	**6.99**	**76**	*e*Pn	**Pn**	**02 49 08.5**	**-1.0**
MNAI	**Manna**	**7.34**	**127**	P	**Pn**	**02 49 12.9**	**-1.4**
	baz=7.4,SNR=7.9						
LHSI	**Lahat**	**7.52**	**121**	P	**Pn**	**02 49 16.1**	**-0.7**
	123nm,0.9s						
CMBY	**CAMPBELL BAY**	**7.58**	**336**	*e*P	**Pn**	**02 49 17.3**	**-0.3**
CMBY				AMB	AMB	02 49 28.2	
	comp=Z,94nm,0.0s						
MDSI	**Maura Dua**	**8.42**	**123**	P	**Pn**	**02 49 27.4**	**-1.7**
PBA	**Port Blair**	**12.29**	**340**	*e*P	**Pn**	**02 50 22.9**	**+0.7**
PBA				AMB	AMB	02 50 24.4	
	comp=Z,90nm,3.2s						
KSM	**Kuching**	**13.31**	**84**	P	P	02 50 41.2	-4.2
KSM	**Kuching**	**13.31**	**84**	P	**P**	**02 50 46.3**	**+0.9**
CHBT	**CHBT**	**13.64**	**22**	P	**P**	**02 50 50.5**	**+1.4**
DGPR	**DIGLIPUR**	**13.66**	**343**	*e*P	**Pn**	**02 50 41.4**	**+0.5**
DGPR				AMB	AMB	02 50 47.5	
	comp=Z,31nm,1.4s						
SBUM	**Sibu**	**15.33**	**81**	P	**Pn**	**02 51 03.8**	**+0.3**
SBUM	**Sibu**	**15.33**	**81**	*e*Pn	**Pn**	**02 51 03.0**	**-0.5**
	comp=Z,27nm,0.8s						
BTM	**Bintulu**	**16.30**	**79**	P	**P**	**02 51 17.9**	**-0.9**
PBKT	**Sadao Pong**	**16.84**	**13**	P	**P**	**02 51 24.8**	**+0.1**
	comp=Z,18nm,0.9s,comp=Z,2μm						
UBPT	**Khong Chiam**	**17.24**	**28**	P	**P**	**02 51 30.0**	**+0.9**
	comp=Z,34nm,2.1s						
CMAR	**Chiang Mai Arr**	**18.37**	**6**	P	**P**	**02 51 40.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**18.37**	**6**	P	**P**	**02 51 40.3**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=198,slow=12,SNR=12						
CMAR				LR	LR	02 59 56.3	
	comp=Z,217nm,19.9s,baz=353,slow=41						
CMMT	**Chiang Mai**	**18.72**	**6**	P	Pn	02 52 00.6	+15
CHTO	**Chiang Mai**	**18.72**	**6**	*e*P	**P**	**02 51 44.2**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**18.72**	**6**	*e*P	**P**	**02 51 44.2**	**-1.2**
	comp=Z,5.5nm,0.8s						
CHTO	**Chiang Mai**	**18.72**	**6**	P	Pn	02 52 00.5	+14
CMAI	**Chiengmai2**	**19.84**	**5**	P	Pn	02 52 08.5	+9.0
	comp=Z,16nm,0.6s,comp=Z,4μm						
KKM	**Kota Kinabalu**	**20.01**	**72**	P	**P**	**02 52 00.0**	**+0.4**
KKM	**Kota Kinabalu**	**20.01**	**72**	*e*P	**P**	**02 51 59.4**	**-0.3**
	comp=Z,64nm,0.8s						
KKM	**Kota Kinabalu**	**20.01**	**72**	P	**P**	**02 51 59.6**	**0.0**
	baz=20,SNR=9.7						
CRAI	**Chiangrai**	**20.30**	**9**	P	Pn	02 52 04.6	-0.2
	comp=Z,9.5nm,1.1s						
SDKM	**Sandakan**	**20.84**	**74**	P	**P**	**02 52 08.2**	**-0.4**
KDM	**Kudat**	**20.85**	**71**	P	**P**	**02 52 08.8**	**+0.1**
TSM	**Tawau**	**21.20**	**78**	P	**P**	**02 52 13.0**	**+0.5**
VIS	**Vishakhapatnam**	**22.15**	**323**	*e*P	**P**	**02 52 23.5**	**+0.8**
QIZ	**Qiongzhong**	**22.63**	**33**	P	**P**	**02 52 27.8**	**0.0**
QIZ				pP	**pP**	**02 52 34.6**	**-1.8**
QIZ				sP	**sP**	**02 52 39.9**	**-0.6**
QIZ				S	**S**	**02 56 33.2**	**-0.6**
QIZ				sS	**sS**	**02 56 45.9**	**-2.6**
QIZ				pmax	pmax		
	comp=Z,18nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,150nm,4.3s						
QIZ				LR	LR		
	comp=Z,650nm,12.8s						
QIZ				LR	LR		
	comp=Z,520nm,12.2s						
KAPI	**Kappang**	**23.21**	**103**	*e*P	**P**	**02 52 33.0**	**-0.8**
	comp=Z,51nm,0.6s						
KAPI	**Kappang**	**23.21**	**103**	P	**P**	**02 52 33.1**	**-0.7**
	comp=Z,19nm,0.5s,baz=104,slow=18,SNR=5.3						
KAPI				LR	LR	03 03 51.7	
	comp=Z,338nm,20.3s,baz=83,slow=42						
HYB	**Hyderabad**	**25.09**	**314**	*i* P	**P**	**02 52 51.0**	**-0.4**
KMI	**Kunming**	**25.51**	**12**	P	**P**	**02 52 54.9**	**-0.3**
KMI				pP	**pP**	**02 53 03.7**	**-0.8**
KMI				sP	**sP**	**02 53 07.3**	**-1.1**
KMI				S	**S**	**02 57 21.6**	**+0.7**
KMI				sS	**sS**	**02 57 36.2**	**0.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,100nm,3.9s						
KMI				LR	LR		
	comp=Z,520nm,12.5s						
KMI				LR	LR		
	comp=Z,370nm,10.2s						
KMI				LR	LR		
	comp=Z,600nm,12.8s						
H08S2	**Diego Garcia H**	**25.68**	**252**	T	T	03 19 43.2	
	baz=72,slow=75						
H08S3	**Diego Garcia H**	**25.68**	**252**	T	T	03 19 43.5	
	baz=72,slow=75						
H08S1	**Diego Garcia H**	**25.70**	**252**	T	T	03 20 00.8	
	baz=72						
SHL	**Shillong**	**25.84**	**349**	*e*P	**P**	**02 52 56.1**	**-2.1**
SHL				AMB	AMB	02 53 01.9	
	comp=Z,16nm,1.6s						
BOK	**Bokaro**	**25.97**	**336**	*e*P	**P**	**02 53 00.1**	**+0.9**
BOK				AMB	AMB	02 53 12.9	
	comp=Z,19nm,2.1s						
H08N1	**Diego Carcia H**	**26.77**	**256**	T	T	03 22 38.9	
	baz=111,slow=75						
H08N2	**Diego Carcia H**	**26.78**	**256**	T	T	03 22 34.5	
	baz=111,slow=68						
H08N3	**Diego Garcia H**	**26.80**	**256**	T	T	03 22 21.0	
	baz=111,slow=75						
NGP	**Nagpur**	**27.37**	**321**	*e*P	**P**	**02 53 12.7**	**+0.8**
GYA	**Guiyang**	**27.82**	**19**	*e*P	**P**	**02 53 15.4**	**-0.6**
GYA				pP	**pP**	**02 53 26.8**	**+1.5**
GYA				PP	**PnPn**	**02 54 06.3**	**+3.3**
GYA				PcP	**PcP**	**02 56 33.0**	**+1.2**
GYA				S	**S**	**02 57 55.9**	**-1.3**
GYA				sS	**sS**	**02 58 12.2**	**-0.3**
GYA				SS	**SnSn**	**02 59 18.4**	**+6.6**
GYA				ScP	**ScP**	**03 00 10.0**	**-0.4**
GYA				ScS	**ScS**	**03 04 00.6**	**-2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=Z,390nm,15.8s						
GYA				LR	LR		
	comp=Z,210nm,16.2s						
GYA				LR	LR		
	comp=Z,350nm,16.9s						
ODAN	**Odare**	**28.22**	**341**	*e*P	**P**	**02 53 21.4**	**+1.7**
ODAN	**Odare**	**28.22**	**341**	*e*P	**P**	**02 53 21.4**	**+1.7**
RAMN	**Ramite**	**28.57**	**340**	*e*P	**P**	**02 53 25.0**	**+2.2**
RAMN	**Ramite**	**28.57**	**340**	*e*P	**P**	**02 53 25.0**	**+2.2**
POO	**Poona**	**29.27**	**310**	*e*P	**P**	**02 53 28.2**	**-0.7**
POO				AMB	AMB	02 53 34.7	
	comp=Z,13nm,1.6s						
JIRN	**Jiri**	**29.36**	**340**	*e*P	**P**	**02 53 31.6**	**+1.7**
	comp=Z,22nm,0.7s						
JIRN	**Jiri**	**29.36**	**340**	*e*P	**P**	**02 53 31.6**	**+1.7**
PKI	**Pulchoki**	**29.55**	**339**	*e*P	**P**	**02 53 33.9**	**+2.3**
PKI	**Pulchoki**	**29.55**	**339**	*e*P	**P**	**02 53 33.9**	**+2.3**
PKIN	**Phulchoki**	**29.56**	**339**	*e*P	**P**	**02 53 33.9**	**+2.3**
	comp=Z,8.7nm,0.7s						
GUN	**Gumba**	**29.70**	**340**	*e*P	**P**	**02 53 34.8**	**+1.9**
	comp=Z,49nm,1.1s						
GUN	**Gumba**	**29.70**	**340**	*e*P	**P**	**02 53 34.8**	**+1.9**
DMN	**Daman**	**29.70**	**338**	*e*P	**P**	**02 53 33.7**	**+0.9**
DMN	**Daman**	**29.70**	**338**	*e*P	**P**	**02 53 33.7**	**+0.9**
KKN	**Kakani**	**29.80**	**339**	*e*P	**P**	**02 53 35.6**	**+1.9**
KKN	**Kakani**	**29.80**	**339**	*e*P	**P**	**02 53 35.6**	**+1.9**
KKN	**Kakani**	**29.80**	**339**	*e*P	**P**	**02 53 35.6**	**+1.9**
BHPL	**Bhopal**	**29.92**	**322**	*e*P	**P**	**02 53 32.3**	**-2.3**
GKN	**Gorkha**	**30.23**	**338**	*e*P	**P**	**02 53 39.1**	**+1.7**
	comp=Z,24nm,0.9s						
GKN	**Gorkha**	**30.23**	**338**	*e*P	**P**	**02 53 39.1**	**+1.7**
KOLN	**Koldanda**	**30.43**	**336**	*e*P	**P**	**02 53 40.5**	**+1.3**
	comp=Z,25nm,0.7s						
KOLN	**Koldanda**	**30.43**	**336**	*e*P	**P**	**02 53 40.5**	**+1.3**
DANN	**Dangsing**	**30.88**	**337**	*e*P	**P**	**02 53 44.3**	**+1.0**
	comp=Z,15nm,0.8s						
DANN	**Dangsing**	**30.88**	**337**	*e*P	**P**	**02 53 44.3**	**+1.0**
PYUN	**Piuthan**	**30.97**	**335**	*e*P	**P**	**02 53 44.9**	**+0.9**
PYUN	**Piuthan**	**30.97**	**335**	*e*P	**P**	**02 53 44.9**	**+0.9**
CD2	**Chengdu**	**31.32**	**11**	*e*P	**P**	**02 53 48.7**	**+1.8**
CD2				pP	**pP**	**02 53 58.6**	**+2.4**
CD2				sP	**sP**	**02 54 03.2**	**+3.1**
CD2				PP	**PnPn**	**02 54 53.0**	**+3.0**
CD2				S	**S**	**02 58 52.5**	**+0.5**
CD2				sS	**sS**	**02 59 09.1**	**+1.7**
CD2				SS	**SnSn**	**03 00 40.5**	**+3.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=Z,420nm,13.2s						
CD2				LR	LR		
	comp=Z,650nm,13.2s						
CD2				LR	LR		
	comp=Z,480nm,10.6s						
FITZ	**Fitzroy Crossi**	**33.39**	**124**	*e*P	**P**	**02 54 06.4**	**+1.3**
	comp=Z,7.3nm,1.0s						
FITZ	**Fitzroy Crossi**	**33.39**	**124**	P	**P**	**02 54 04.5**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=330,slow=6.7,SNR=5.7						
FITZ	**Fitzroy Crossi**	**33.39**	**124**	P	**P**	**02 54 05.9**	**+0.8**
	baz=34,SNR=3.4						
BHJ	**Bhuj**	**35.23**	**313**	*e*P	**P**	**02 54 21.1**	**+0.1**
BHJ				AMB	AMB	02 54 47.3	
	comp=Z,36nm,0.4s						
XAN	**Xi'an**	**35.58**	**17**	P	**P**	**02 54 25.5**	**+1.6**
XAN				pP	**pP**	**02 54 35.0**	**+1.7**
XAN				sP	**sP**	**02 54 39.8**	**+2.6**
XAN				S	**S**	**02 59 57.2**	**-0.7**
XAN				pmax	pmax		
	comp=Z,56nm,5.9s						
XAN				LR	LR		
	comp=Z,230nm,11.2s						
XAN				LR	LR		
	comp=Z,100nm,12.2s						
SMLA	**Simla**	**36.21**	**330**	*e*P	**P**	**02 54 27.9**	**-1.3**
DHRM	**DHARAMSHALA**	**37.55**	**330**	*e*P	**P**	**02 54 40.2**	**-0.8**
DHRM				AMB	AMB	02 54 52.1	
	comp=Z,9.1nm,0.8s						
NJ2	**Nanjing**	**37.89**	**31**	*e*P	**P**	**02 54 44.1**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2				LR	LR		
	comp=Z,370nm,13.4s						
H01W3	**Cape Leeuwin H**	**38.25**	**157**	T	T	03 35 19.3	
	baz=326,slow=75						
H01W2	**Cape Leeuwin H**	**38.27**	**157**	T	T	03 35 23.8	
	baz=326,slow=75						
H01W1	**Cape Leeuwin H**	**38.27**	**157**	T	T	03 35 18.5	
	baz=326						
WRA	**Warramunga Arr**	**41.56**	**121**	P	**P**	**02 55 13.3**	**-1.1**
WRA	**Warramunga Arr**	**41.56**	**121**	P	**P**	**02 55 13.3**	**-1.1**
	comp=Z,5.3nm,0.8s,baz=300,slow=9.2,SNR=24						
WRAB	**Tennant Creek**	**41.56**	**121**	*e*P	**P**	**02 55 11.9**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,32nm,1.7s						
WRAB	**Tennant Creek**	**41.56**	**121**	*e*P	**P**	**02 55 12.8**	**-1.6**
	comp=Z,8.2nm,0.9s						
FORT	**Forrest**	**42.50**	**139**	*e*P	**P**	**02 55 22.9**	**+1.1**
	comp=Z,8.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**42.67**	**16**	*e*P	**P**	**02 55 23.9**	**+0.7**
HHC				PP	**PP**	**02 57 06.8**	**+4.2**
HHC				ScP	**ScP**	**03 01 03.6**	**0.0**
HHC				PcS	**PcS**	**03 01 06.6**	**-0.4**
HHC				S	**S**	**03 01 44.8**	**+0.2**
HHC				sS	**sS**	**03 02 00.2**	**-0.1**
HHC				SS	**SS**	**03 04 49.8**	**-6.0**
HHC				ScS	**ScS**	**03 05 20.8**	**-1.6**
HHC				pmax	pmax		
	comp=Z,29nm,1.0s						
HHC				pmax	pmax		
	comp=Z,380nm,5.2s						
HHC				LR	LR		
	comp=Z,700nm,15.1s						
HHC				LR	LR		
	comp=Z,860nm,15.5s						
HHC				LR	LR		
	comp=Z,460nm,16.0s						
AS31	**Alice Springs**	**42.83**	**126**	*e*P	**P**	**02 55 26.8**	**+2.1**
ASAR	**Alice Springs**	**42.83**	**126**	P	**P**	**02 55 23.8**	**-0.8**
ASAR	**Alice Springs**	**42.83**	**126**	P	**P**	**02 55 23.8**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=299,slow=7.6,SNR=7.6						
BJI	**Beijing**	**43.43**	**21**	P	**P**	**02 55 32.2**	**+3.0**
BJI				pmax	pmax		
	comp=Z,15nm,0.5s						
BJI				LR	LR		
	comp=Z,470nm,5.0s						
BJI				LR	LR		
	comp=Z,390nm,4.5s						
BJI				LR	LR		
	comp=Z,72nm,17.9s						
WMQ	**Urumqi**	**44.36**	**350**	P	**P**	**02 55 36.0**	**-0.7**
WMQ				pP	**pP**	**02 55 46.0**	**-0.3**
WMQ				sP	**sP**	**02 55 50.0**	**-0.1**
WMQ				PP	**PP**	**02 57 21.0**	**+0.4**
WMQ				ScP	**ScP**	**03 01 09.0**	**-1.3**
WMQ				S	**S**	**03 02 07.0**	**-2.1**
WMQ				sS	**sS**	**03 02 23.0**	**-1.9**
WMQ				SS	SS	03 05 19.0	-10
WMQ				pmax	pmax		
	comp=Z,12nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,84nm,4.0s						
WMQ				LR	LR		
	comp=Z,71nm,15.0s						
WMQ				LR	LR		
	comp=Z,77nm,15.0s						
WMQ				LR	LR		
	comp=Z,49nm,15.0s						
KSAR	**Wonju Array Be**	**46.82**	**34**	P	**P**	**02 55 56.1**	**0.0**
KSRS	**Korea Array**	**46.85**	**34**	P	**P**	**02 55 56.1**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=225,slow=7.8,SNR=16						
KSRS				LR	LR	03 14 35.1	
	comp=Z,96nm,20.1s,baz=11,slow=35						
AAK	**Ala-Archa**	**46.99**	**337**	LR	LR	03 18 05.9	
	comp=Z,101nm,18.1s,baz=53,slow=39						
SONM	**Songino Array**	**48.26**	**8**	P	**P**	**02 56 07.9**	**+0.4**
SONM	**Songino Array**	**48.26**	**8**	P	**P**	**02 56 07.9**	**+0.4**
	comp=Z,3.1nm,1.0s,baz=191,slow=8.7,SNR=13						
MK31	**Makanchi Array**	**48.30**	**346**	*e*P	**P**	**02 56 08.3**	**+0.6**
MK31	**Makanchi Array**	**48.30**	**346**	*e*P	**P**	**02 56 08.2**	**+0.6**
MKAR	**Makanchi Array**	**48.30**	**346**	P	**P**	**02 56 08.5**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,59nm,18.6s						
MKAR	**Makanchi Array**	**48.30**	**346**	P	**P**	**02 56 08.5**	**+0.9**
MKAR	**Makanchi Array**	**48.30**	**346**	P	**P**	**02 56 08.5**	**+0.9**
	comp=Z,6.2nm,0.6s,baz=160,slow=8.5,SNR=86						
MKAR				LR	LR	03 21 07.8	
	comp=Z,59nm,18.6s,baz=172,slow=42						
ULN	**Ulaanbaatar**	**48.39**	**9**	*e*P	**P**	**02 56 09.6**	**+1.1**
	comp=Z,9.7nm,1.4s						
CN2	**Changchun**	**50.37**	**27**	*e*P	**P**	**02 56 26.1**	**+2.7**
CN2				*e*S	**S**	**03 03 35.8**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
PMG	**Port

CMSA	**Cobar Meteorol**	**55.68**	**129**	P		**P**	02 57 04.3	+1.5
	baz=56,SNR=10							
NVS	**Novosibirsk**	**55.77**	**350**	*e*P		**P**	02 57 01.6	-1.3
NVS				pmax		pmax		
	comp=N,10.0nm,1.1s							
NVS				pmax		pmax		
	comp=E,6.0nm,1.1s							
NVS				pmax		pmax		
	comp=Z,18nm,1.1s							
BRVK	**Borovoye**	**57.34**	**341**	*e*P		**P**	02 57 13.8	-0.4
BRVK				*e**PP		**pP**	02 57 24.1	+0.1
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.5s							
BRVK	**Borovoye**	**57.34**	**341**	*e*P		**P**	02 57 13.8	-0.4
	comp=Z,3.3nm,0.5s							
BRVK				*e*pP		**pP**	02 57 24.1	+0.1
ABKAR	**Akbulak array**	**58.45**	**332**	*e*P		**P**	02 57 21.9	-0.2
ERM	**Erimo**	**58.83**	**39**	*ce*P		**P**	02 57 23.5	-1.3
ERM				pmax		pmax		
	comp=Z,36nm,1.2s							
KMBO	**Kilima Mbogo**	**59.83**	**269**	*e*P		**P**	02 57 33.4	+0.8
KMBO	**Kilima Mbogo**	**59.83**	**269**	P		**P**	02 57 32.5	-0.1
	comp=Z,0.4nm,0.2s,baz=226,slow=23,SNR=6.0							
AKTO	**Aktyubinsk**	**60.17**	**332**	P		**P**	02 57 33.2	-0.8
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.7s							
AKTO	**Aktyubinsk**	**60.17**	**332**	P		**P**	02 57 33.2	-0.8
AKTO	**Aktyubinsk**	**60.17**	**332**	P		**P**	02 57 33.2	-0.8
	comp=Z,1.7nm,0.7s,baz=115,slow=7.9,SNR=7.2							
YSS	**Yuzh-Sakhalins**	**61.35**	**34**	*e*P		P	02 57 35.5	-6.5
YSS				pmax		pmax		
	comp=Z,20nm,0.5s							
YSS	**Yuzh-Sakhalins**	**61.35**	**34**	*e*P		P	02 57 35.5	-6.5
	comp=Z,20nm,0.5s							
GNI	**Garni**	**62.02**	**317**	*e*P		**P**	02 57 45.5	-1.4
	comp=Z,13nm,1.1s							
GNI	**Garni**	**62.02**	**317**	P		**P**	02 57 47.7	+0.8
	comp=Z,4.2nm,0.8s,baz=171,slow=16,SNR=5.0							
SVE	**Sverdlovsk**	**63.69**	**339**	*e*P		**P**	02 57 57.6	+0.1
SVE				pmax		pmax		
	comp=Z,13nm,1.6s							
ARU	**Arti**	**64.17**	**337**	*d*iP		**P**	02 58 00.6	-0.1
ARU				S		**S**	03 06 36.8	+1.2
ARU				SS		**SS**	03 10 40.3	-5.0
ARU				pmax		pmax		
	comp=Z,13nm,1.7s							
KBZ	**Khabaz**	**64.84**	**320**	P		**P**	02 58 05.5	+0.3
KBZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**64.84**	**320**	P		**P**	02 58 05.5	+0.3
KBZ	**Khabaz**	**64.84**	**320**	P		**P**	02 58 05.5	+0.3
	comp=Z,2.8nm,0.8s,baz=114,slow=6.1,SNR=7.8							
ASF	**Jabal al Asfar**	**65.02**	**306**	P		**P**	02 58 07.4	+0.7
ASF	**Jabal al Asfar**	**65.02**	**306**	P		**P**	02 58 07.4	+0.7
	comp=Z,3.9nm,0.9s,baz=102,slow=14,SNR=3.2							
KIV	**Kislovodsk**	**65.08**	**320**	*e*P		**P**	02 58 06.8	-0.2
KIV				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,34nm,16.0s							
KIV	**Kislovodsk**	**65.08**	**320**	*e*P		**P**	02 58 07.7	+0.8
	comp=Z,5.9nm,0.7s							
EIL	**Elat**	**65.95**	**303**	P		**P**	02 58 13.3	+0.6
EIL	**Elat**	**65.95**	**303**	P		**P**	02 58 13.3	+0.6
	comp=Z,4.5nm,0.7s,baz=135,slow=4.3,SNR=5.6							
MBAR	**Mbarara**	**66.34**	**269**	P		**P**	02 58 15.9	+0.1
MBAR	**Mbarara**	**66.34**	**269**	P		**P**	02 58 15.9	+0.1
	comp=Z,1.6nm,0.2s,baz=146,slow=20,SNR=4.7							
MMAI	**Mount Meron Ar**	**66.46**	**306**	P		**P**	02 58 15.9	-0.2
MMAI	**Mount Meron Ar**	**66.46**	**306**	P		**P**	02 58 15.9	-0.2
	comp=Z,0.9nm,0.5s,baz=108,slow=8.2,SNR=3.5							
YAK	**Yakutsk**	**66.54**	**16**	*e*P		**P**	02 58 17.0	+1.2
YAK				pmax		pmax		
	comp=Z,9.0nm,1.0s							
VRHR	**Novokhopersk**	**68.99**	**326**	*e*P		**P**	02 58 31.5	0.0
VRHR				pmax		pmax		
	comp=N,20nm,0.6s							
VRHR				pmax		pmax		
	comp=E,5.0nm,0.6s							
VRHR				pmax		pmax		
	comp=Z,8.0nm,0.6s							
LSZ	**Lusaka**	**69.67**	**254**	*e*P		**P**	02 58 36.6	0.0
	comp=Z,20nm,1.8s							
BR131	**Keskin Array S**	**69.78**	**313**	*e*P		**P**	02 58 35.9	-1.0
	comp=Z,2.6nm,0.8s							
BR131				*e*pP		**pP**	02 58 46.6	-0.3
BRTR	**Keskin Array B**	**69.78**	**313**	P		**P**	02 58 36.4	-0.5
BRTR	**Keskin Array B**	**69.78**	**313**	P		**P**	02 58 36.4	-0.5
	comp=Z,2.6nm,0.7s,baz=133,slow=6.8,SNR=16							
VORD	**Divnogorie**	**70.24**	**325**	*e*P		**P**	02 58 38.5	-0.7
VORD				pmax		pmax		
	comp=N,8.0nm,0.7s							
VORD				pmax		pmax		
	comp=E,7.0nm,0.7s							
VORD				pmax		pmax		
	comp=Z,5.0nm,0.7s							
VSR	**Storozhevoye**	**70.42**	**326**	*e*P		**P**	02 58 40.4	0.0
VSR				pmax		pmax		
	comp=N,2.0nm,0.4s							
VSR				pmax		pmax		
	comp=E,4.0nm,0.4s							
VSR				pmax		pmax		
	comp=Z,7.0nm,0.4s							
MAW	**Mawson**	**71.59**	**193**	P		**P**	02 58 44.2	-2.8
MAW	**Mawson**	**71.59**	**193**	P		**P**	02 58 44.2	-2.8
	comp=Z,4.0nm,1.0s,baz=52,slow=9.8,SNR=2.4							
LBTB	**Lobatse**	**73.28**	**244**	*e*P		**P**	02 58 58.6	+0.4
	comp=Z,5.6nm,0.9s							
NFK	**Norfolk Island**	**73.35**	**120**	P		**P**	02 58 59.2	+0.8
	baz=73,SNR=3.9							
OBN	**Obninsk**	**73.51**	**329**	*e*P		**P**	02 58 59.6	+0.8
OBN				*i*			02 59 08.9	
OBN				*e*S		**SKiKP**	03 08 30.6	+3.5
OBN				pmax		pmax		
	comp=Z,15nm,1.2s							
BOSA	**Boshof**	**74.11**	**240**	*e*P		**P**	02 59 03.1	+0.1
	comp=Z,12nm,1.3s							
BOSA	**Boshof**	**74.11**	**240**	P		**P**	02 59 03.1	+0.1
	comp=Z,2.6nm,0.8s,baz=148,slow=4.4,SNR=5.3							
TIXI	**Tiksi**	**74.32**	**10**	⇓*i*P		**P**	02 59 03.7	+0.5
TIXI				pmax		pmax		
	comp=Z,12nm,2.5s							
KLMR	**Klimovskoe**	**74.71**	**335**	*e*P		**P**	02 59 05.1	-0.6
KLMR				pmax		pmax		
	comp=Z,17nm,1.3s							
IDI	**Anoyia**	**75.47**	**306**	P		**P**	02 59 11.1	+0.4
IDI	**Anoyia**	**75.47**	**306**	P		**P**	02 59 11.1	+0.4
	comp=Z,6.8nm,0.8s,baz=42,slow=9.0,SNR=5.2							
AK02	**Malin Array Si**	**76.07**	**323**	*e*P		**P**	02 59 13.0	-0.7
AK02				*e*pP		**pP**	02 59 23.4	-0.4
AKASG	**Malin Array Be**	**76.08**	**323**	*ce*P		**P**	02 59 13.3	-0.4
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.6s							
AKASG	**Malin Array Be**	**76.08**	**323**	P		**P**	02 59 13.0	-0.7
AKASG	**Malin Array Be**	**76.08**	**323**	P		**P**	02 59 13.0	-0.7
	comp=Z,3.2nm,0.7s,baz=92,slow=4.8,SNR=38							
AK01	**Malin Array Si**	**76.08**	**323**	*e*P		**P**	02 59 12.9	-0.8
AK01				*e*pP		**pP**	02 59 23.3	-0.6
KIEV	**Kiev**	**76.08**	**323**	*e*P		**P**	02 59 12.6	-1.1
KIEV				*e**PP		**pP**	02 59 23.1	-0.8
KIEV				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KIEV	**Kiev**	**76.08**	**323**	*e*P		**P**	02 59 12.6	-1.1
	comp=Z,6.3nm,0.7s							
KIEV				*e*pP		**pP**	02 59 23.1	-0.8
VRI	**Vrincioaia**	**76.36**	**317**	⇓*i*P		**P**	02 59 16.5	+1.0
PLOR	**Plostina**	**76.41**	**317**	⇓*i*P		**P**	02 59 17.3	+1.5
TESR	**Tescani**	**76.57**	**318**	⇓*i*P		**P**	02 59 16.9	+0.2
MLR	**Muntele Rosu**	**76.80**	**317**	⇑*i*P		**P**	02 59 19.8	+1.6
MLR	**Muntele Rosu**	**76.80**	**317**	P		**P**	02 59 17.9	-0.2
MLR	**Muntele Rosu**	**76.80**	**317**	P		**P**	02 59 17.9	-0.2
	comp=Z,1.8nm,1.0s,baz=36,slow=0.5,SNR=7.3							
VOIR		**77.40**	**317**	⇑*i*P		**P**	02 59 21.4	-0.1
VOIR		**77.40**	**317**	⇑*i*P		**P**	02 59 21.4	-0.1
ARR	**Arges**	**77.67**	**317**	⇓*i*P		**P**	02 59 23.6	+0.6
BURAR	**Bucovina Array**	**77.79**	**319**	⇓P		**P**	02 59 23.8	+0.2
BURAR	**Bucovina Array**	**77.79**	**319**	⇓*i*P		**P**	02 59 23.8	+0.2
BUR08	**Bucovina Ar. S**	**77.81**	**319**	*e*P		**P**	02 59 24.4	+0.6
BUR08				*e*pP		**pP**	02 59 35.0	+1.1
VTS	**Vitosha**	**78.11**	**314**	⇑P		**P**	02 59 25.3	-0.3
VTS	**Vitosha**	**78.11**	**314**	⇑*i*P		**P**	02 59 25.3	-0.3
DRGR		**79.28**	**318**	⇓P		**P**	02 59 33.1	+1.3
DRGR		**79.28**	**318**	⇓*i*P		**P**	02 59 33.1	+1.3
BZS	**Buzias**	**79.80**	**316**	⇓P		**P**	02 59 34.7	+0.1
BZS	**Buzias**	**79.80**	**316**	⇓*i*P		**P**	02 59 34.7	+0.1
SIRR	**Siria**	**79.89**	**317**	⇓*i*P		**P**	02 59 36.0	+0.9
TSUM	**Tsumeb**	**80.09**	**251**	*e*P		P	02 59 29.8	-7.1
	comp=Z,12nm,1.6s							
SUW	**Suwalki**	**80.52**	**325**	*e*P		**P**	02 59 38.7	+0.5
SUW				pmax		pmax		
	comp=Z,23nm,1.0s							
SUW	**Suwalki**	**80.52**	**325**	*e*P		**P**	02 59 38.8	+0.5
SUW	**Suwalki**	**80.52**	**325**	*e*P		**P**	02 59 38.6	+0.5
	comp=Z,23nm,1.0s							
FINES	**FINESS Array B**	**80.94**	**333**	P		**P**	02 59 40.2	-0.1
FINES	**FINESS Array B**	**80.94**	**333**	P		**P**	02 59 40.2	-0.1
	comp=Z,2.6nm,0.6s,baz=93,slow=5.0,SNR=12							
MORC	**Moravsky Berou**	**83.18**	**320**	*e*P		**P**	02 59 53.0	+0.5
MORC				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MORC	**Moravsky Berou**	**83.18**	**320**	*e*P		**P**	02 59 53.0	+0.5
	comp=Z,2.7nm,0.8s							
ARCES	**ARCESS Array B**	**83.55**	**340**	P		**P**	02 59 54.8	+0.9
ARCES	**ARCESS Array B**	**83.55**	**340**	P		**P**	02 59 54.8	+0.9
	comp=Z,6.8nm,1.1s,baz=1.4,slow=4.9,SNR=4.2							
KSP	**Ksiaz**	**84.12**	**321**	*e*P		**P**	02 59 59.0	+1.8
VNDA	**Vanda**	**84.75**	**169**	*e*P		**P**	02 59 59.8	0.0
	comp=Z,7.9nm,1.5s							
GERES	**GERESS Array B**	**85.58**	**319**	P		**P**	03 00 05.3	+0.7
GERES	**GERESS Array B**	**85.58**	**319**	P		**P**	03 00 05.3	+0.7
	comp=Z,1.0nm,0.8s,baz=90,slow=4.3,SNR=12							
TAM	**Tamanrasset**	**91.41**	**293**	*e*P		**P**	03 00 33.7	+0.6
TAM				pmax		pmax		
	comp=Z,5.0nm,1.2s							
TAM	**Tamanrasset**	**91.41**	**293**	*e*P		**P**	03 00 33.7	+0.6
	comp=Z,5.4nm,1.2s							
SNAA	**Sanae**	**93.18**	**198**	*e*P		**P**	03 00 41.1	+1.0
	comp=Z,2.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**95.22**	**283**	P		**P**	03 00 49.1	-1.5
TORD	**Torodi Ar. Bea**	**95.22**	**283**	P		**P**	03 00 49.1	-1.5
	comp=Z,0.4nm,0.7s,baz=101,slow=6.1,SNR=4.2							
FFC	**Flin Flon**	**123.19**	**13**	*e*PKIKP		**PKPdf**	03 06 24.7	+1.9
FFC	**Flin Flon**	**123.19**	**13**	*e*PKPdf		**PKPdf**	03 06 24.7	+1.9
ULM	**Lac du Bonnet**	**128.67**	**11**	*e*PKPdf		**PKPdf**	03 06 34.0	+0.6
NVAR	**Mina Array Bea**	**129.77**	**36**	PKP		**PKPdf**	03 06 38.0	+1.8
NVAR	**Mina Array Bea**	**129.77**	**36**	PKP		**PKPdf**	03 06 38.0	+1.8
	comp=Z,0.9nm,0.9s,baz=321,slow=3.6,SNR=2.1							
TRQA	**Tornquist**	**137.56**	**205**	*e*PKPdf		**PKPdf**	03 06 51.5	+0.9
WVT	**Waverly**	**143.70**	**7**	*e*PKIKP		**PKPdf**	03 07 02.6	+0.9
WVT	**Waverly**	**143.70**	**7**	*e*PKPdf		**PKPdf**	03 07 02.6	+0.9
CPUP	**Villa Florida**	**144.08**	**221**	*e*PKPdf		PKPbc	03 07 01.3	+0.7
CPUP	**Villa Florida**	**144.08**	**221**	PKP		PKPbc	03 07 00.9	+0.4
	comp=Z,3.8nm,0.7s,baz=40,slow=4.1,SNR=5.0							
TXAR	**Lajitas Array**	**144.69**	**32**	PKP		**PKPdf**	03 07 03.5	-0.3
TXAR	**Lajitas Array**	**144.69**	**32**	PKP		**PKPdf**	03 07 03.5	-0.3
	comp=Z,2.5nm,0.8s,baz=202,slow=0.8,SNR=16							
JCT	**Junction City**	**145.64**	**26**	*e*PKP2		**PKPab**	03 07 05.9	+0.1
JCT	**Junction City**	**145.64**	**26**	*e*PKPbc		**PKPab**	03 07 05.9	+0.1
JCT				*ep*PKPdf		**pPKPdf**	03 07 15.5	-0.3
CFAA	**Coronel Fontan**	**145.69**	**203**	PKPbc		**PKPdf**	03 07 04.2	-1.1
CFAA	**Coronel Fontan**	**145.69**	**203**	PKPbc		**PKPdf**	03 07 04.2	-1.1
	comp=Z,0.4nm,0.5s,baz=147,slow=4.0,SNR=9.1							
HKT	**Hockley**	**147.72**	**21**	*e*PKP2		**PKPbc**	03 07 10.5	-0.9
HKT	**Hockley**	**147.72**	**21**	*e*PKPbc		**PKPbc**	03 07 10.5	-0.9
LPAZ	**La Paz**	**158.25**	**221**	*e*PKPdf		**PKPdf**	03 07 23.2	-1.9
LPAZ				*e*PKPab		**PKPab**	03 07 59.0	0.0
OTAV	**Otavalo**	**175.51**	**274**	*e*PKPab		**PKPab**	03 09 14.6	-0.7

*IDC **06** 02:47:33.1±2.1,71˚.16N×7˚.04W, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.3/30, mbtmp3.6/4, ML2.9/3, MS2.8/1, Ms1 2.9/1, ms1mx2.4/33, Error ellipse: s-maj=61.2km s-min=12.6km az=173.0*

*ISCJB **06** 02:47:34.1±0.4, 70˚.75N±0˚.03×6˚.68W±0˚.08, h9km, mb3.3/1, Error ellipse: s-maj=5.2km s-min=3.3km az=154.0*

*NAO **06** 02:47:35.8±3.4, 70˚.71N×6˚.84W, h14km±3.53km, ML3.5*

*CSEM **06** 02:47:36.6±0.2, 70˚.81N×6˚.70W, h10km, ML2.9, Error ellipse: s-maj=9.7km s-min=3.8km az=136.0*

*BER **06** 02:47:39.4±3.0, 70˚.87N×6˚.96W, h10km, MD2.9, ML2.9, ML3.5(NAO)*

*REY **06** 02:47:42.4, 70˚.48N×7˚.86W, h10km, ML3.4, ML3.1*

ISC 06 02:47:35.8±0.7, 70˚.78N±0˚.06×6˚.55W±0˚.04, h9km, n45, σ1s97/64, 1C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**0.68**	**289**	Pg	**Pg**	**02 47 48.2**	**-0.8**
JMIC				Lg	Lg	02 47 56.3	
JMIC	**Jan Mayen**	**0.68**	**289**	⇑*i*P	**Pg**	**02 47 48.1**	**-0.8**
JMIC				*e*S	**Sg**	**02 47 56.1**	**-1.6**
JMIC				IAML		02 47 57.2	
	comp=Z,6μm,0.2s						
JMIC	**Jan Mayen**	**0.68**	**289**	Pn	**Pg**	**02 47 48.0**	**-0.8**
	comp=Z,134nm,0.3s,baz=48,slow=2.4,SNR=548						
JMIC				Sn	**Sg**	**02 47 56.1**	**-1.6**
	comp=Z,2μm,0.3s,baz=151,slow=19,SNR=391						
IGIL	**Gilhagi**	**5.94**	**222**	P	**Pn**	**02 49 03.9**	**+0.1**
IGIL				S	**Sn**	**02 50 10.5**	**-1.4**
IDIM	**Dimmadals¯¡s**	**6.17**	**223**	P	**Pn**	**02 49 07.2**	**+0.2**
IDIM				S	**Sn**	**02 50 15.3**	**-2.2**
IGHA	**Grjothals**	**6.21**	**222**	P	**Pn**	**02 49 08.2**	**+0.7**
IGHA				S	**Sn**	**02 50 17.7**	**-0.8**
IGRS	**Grimsstaoir**	**6.27**	**219**	P	**Pn**	**02 49 08.9**	**+0.6**
IGRS				S	**Sn**	**02 50 19.4**	**-0.5**
IGRA	**Granastaoir**	**6.35**	**225**	P	**Pn**	**02 49 10.8**	**+1.3**
IGRA				S	**Sn**	**02 50 19.6**	**-2.4**
IMEL	**Melhnausar**	**6.44**	**221**	P	**Pn**	**02 49 12.4**	**+1.7**
IMEL				S	**Sn**	**02 50 22.9**	**-1.3**
IHLA	**Hella**	**6.53**	**228**	P	**Pn**	**02 49 13.7**	**+1.9**
IHLA				S	**Sn**	**02 50 24.0**	**-2.3**
IGLU	**Glumsstadir**	**6.65**	**213**	P	**Pn**	**02 49 15.2**	**+1.7**
IGLU				S	**Sn**	**02 50 28.6**	**-0.7**
IADA	**Aoalbol**	**6.71**	**215**	P	**Pn**	**02 49 15.9**	**+1.6**
IADA				S	**Sn**	**02 50 30.8**	**+0.1**
IHVA	**Hvannstoosfjol**	**6.82**	**215**	P	**Pn**	**02 49 17.2**	**+1.3**
IHVA				S	**Sn**	**02 50 34.4**	**+0.8**
IASK	**Askja**	**6.89**	**218**	P	**Pn**	**02 49 19.0**	**+2.1**
IVSH	**V-Sauoahnukur**	**6.92**	**214**	P	**Pn**	**02 49 18.6**	**+1.2**
IVSH				S	**Sn**	**02 50 37.0**	**+0.8**
IBRU	**Bruarjokull**	**6.97**	**216**	P	**Pn**	**02 49 19.2**	**+1.1**
LOF	**Lofoten**	**7.53**	**101**	*e*P	**Pn**	**02 49 26.9**	**+1.2**
LOF				*e*S	**Sn**	**02 50 48.4**	**-2.5**
LOF				AML	AML	02 50 51.6	
	comp=Z,6.3nm,0.6s						
LOF	**Lofoten**	**7.53**	**101**	*e*P	**Pn**	**02 49 26.9**	**+1.2**
	SNR=47						
KONS	**Konsvik**	**8.34**	**111**	*e*P	**Pn**	**02 49 38.2**	**+1.6**
KONS				*e*S	**Sn**	**02 51 05.2**	**-5.5**
KONS				AML	AML	02 51 12.0	
	comp=Z,6.8nm,0.6s						
STOK	**Stokkvaagen**	**8.41**	**112**	*e*P	**Pn**	**02 49 39.1**	**+1.5**
STOK				*e*S	**Sn**	**02 51 07.4**	**-5.2**
STOK				AML	AML	02 51 14.9	
	comp=N,13nm,0.7s						
FLOS	**Flostrand**	**8.52**	**112**	*e*P	**Pn**	**02 49 41.1**	**+2.0**
FLOS				*e*S	**Sn**	**02 51 11.0**	**-4.1**
FLOS				AML	AML	02 51 18.3	
	comp=Z,15nm,0.6s						
TRO	**Tromso**	**8.69**	**85**	*e*P	**Pn**	**02 49 41.2**	**-0.2**
TRO				AML	AML	02 51 23.2	
	comp=Z,3.6nm,0.5s						
TRO	**Tromso**	**8.69**	**85**	*e*P	**Pn**	**02 49 41.2**	**-0.2**
	SNR=47						
MOR8	**Moi Rana**	**8.96**	**111**	*e*P	**Pn**	**02 49 48.1**	**+2.9**
MOR8				*e*S	**Sn**	**02 51 23.1**	**-2.9**
MOR8				AML	AML	02 51 32.8	
	comp=Z,6.3nm,0.4s						
MOR8	**Moi Rana**	**8.96**	**111**	*e*P	**Pn**	**02 49 48.1**	**+2.9**
	SNR=47						
NSS	**Namsos**	**9.39**	**123**	*e*P	**Pn**	**02 49 53.4**	**+2.3**
NSS				*e*S	**Sn**	**02 51 31.9**	**-4.9**
NSS				AML	AML	02 51 40.1	
	comp=Z,8.5nm,0.4s						
NSS	**Namsos**	**9.39**	**123**	*e*P	**Pn**	**02 49 53.4**	**+2.3**
	SNR=47						
KBS	**Kingsbay**	**9.43**	**22**	Pn	**Pn**	**02 49 52.2**	**+0.6**
KBS	**Kingsbay**	**9.43**	**22**	*e*P	**Pn**	**02 49 51.4**	**-0.1**
KBS				Pn	Pn	02 49 52.2	+0.6
KBS	**Kingsbay**	**9.43**	**22**	*e*P	**Pn**	**02 49 51.4**	**-0.1**
	SNR=47						
SPA0	**Spitsbergen Ar**	**9.53**	**29**	Pn	**Pn**	**02 49 54.7**	**+1.7**
	baz=228,slow=14						
SPA0	**Spitsbergen Ar**	**9.53**	**29**	*e*P	**Pn**	**02 49 54.5**	**+1.5**
SPA0				Pn	Pn	02 49 54.7	+1.6
	baz=228,slow=14						
SPA0	**Spitsbergen Ar**	**9.53**	**29**	*e*P	**Pn**	**02 49 54.5**	**+1.5**
	SNR=47						
SPA0	**Spitsbergen Ar**	**9.53**	**29**	Pn	**Pn**	**02 49 54.7**	**+1.7**
	baz=228,slow=14,SNR=50						
SPITS	**Spitsbergen Ar**	**9.53**	**29**	Pn	**Pn**	**02 49 54.5**	**+1.5**
	baz=220,slow=13,SNR=31						
ARA0	**ARCESS Array S**	**10.89**	**81**	Pn	**Pn**	**02 50 12.1**	**+0.6**
	baz=288,slow=12						
ARA0	**ARCESS Array S**	**10.89**	**81**	Pn	**Pn**	**02 50 12.1**	**+0.6**
	baz=288,slow=12						
ARA0	**ARCESS Array S**	**10.89**	**81**	Pn	**Pn**	**02 50 12.1**	**+0.6**
	baz=288,slow=12,SNR=50						
ARCES	**ARCESS Array B**	**10.89**	**81**	Pn	**Pn**	**02 50 11.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=292,slow=12,SNR=15						
ARCES				Sn	**Sn**	**02 52 12.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=294,slow=21,SNR=2.7						
NOA	**NORSAR Array B**	**12.10**	**135**	LR	LR	02 54 18.4	
	comp=Z,44nm,18.2s,baz=145,slow=32						
HFS	**Hagfors**	**13.49**	**132**	Pn	**Pn**	**02 50 49.7**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=334,slow=9.6,SNR=5.3						
FIA0	**FINESS Array S**	**15.95**	**109**	P	**Pn**	**02 51 21.7**	**+1.7**
	baz=330,slow=16						
FIA0	**FINESS Array S**	**15.95**	**109**	P	**Pn**	**02 51 21.7**	**+1.7**
	baz=330,slow=16						
FINES	**FINESS Array B**	**15.95**	**109**	Pn	**Pn**	**02 51 21.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=321,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**57.82**	**171**	P	**P**	**02 57 29.7**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=347,slow=5.9,SNR=2.5						

*NEIC **06** 02:49:41.8±0.2, 0˚.03N×97˚.09E, mb4.6/22, Error ellipse: s-maj=6.0km s-min=5.1km az=45.0*

*IDC **06** 02:49:41.9±0.6, 0˚.01S×96˚.99E, h31km±3km, mb4.0/27, mb1 4.1/29, mb1mx4.1/35, mbtmp4.0/29, ML4.0/2, MS3.8/3, Ms1 3.8/3, ms1mx3.2/40, Error ellipse: s-maj=15.5km s-min=11.3km az=46.0*

ISC 06 02:49:41.8±0.5, 0˚.03N±0˚.07×97˚.07E±0˚.07, h32km±3km, h31km:pP-P, n109, σ0s77/129, mb4.4/44, MS3.9/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.32**	**34**	Pn	**Pn**	**02 50 29.8**	**-2.0**
PSI				Sn	**Sn**	**02 51 10.4**	**+0.2**
PSI	**Prapat**	**3.32**	**34**	Pn	**Pn**	**02 50 29.8**	**-2.0**
	2.4nm,0.3s,baz=234,slow=19,SNR=2.7						
PSI				Sn	**Sn**	**02 51 10.4**	**+0.2**
	3.1nm,0.3s,baz=187,slow=8.1,SNR=3.2						
IPM	**Ipoh**	**5.93**	**42**	*e*Pn	**Pn**	**02 51 06.3**	**-1.3**
KULM	**Kulim**	**6.33**	**34**	*e*Pn	**Pn**	**02 51 10.9**	**-2.2**
CMAR	**Chiang Mai Arr**	**18.41**	**6**	P	**Pn**	**02 53 55.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**18.41**	**6**	P	**Pn**	**02 53 55.9**	**+1.1**
	0.6nm,0.3s,baz=197,slow=12,SNR=3.9						
CHTO	**Chiang Mai**	**18.76**	**6**	*e*P	**Pn**	**02 53 59.3**	**+0.2**
	4.4nm,0.8s						
KKM	**Kota Kinabalu**	**20.02**	**72**	*e*P	**P**	**02 54 11.8**	**-0.6**
	20nm,0.5s						
KAPI	**Kappang**	**23.20**	**103**	*e*P	**P**	**02 54 46.4**	**0.0**
	32nm,0.5s						
KAPI	**Kappang**	**23.20**	**103**	P	**P**	**02 54 47.0**	**+0.7**
	9.1nm,0.4s,baz=230,slow=7.9,SNR=3.5						
H08S2	**Diego Garcia H**	**25.66**	**252**	T	T	03 21 56.8	
	baz=72,slow=74,SNR=8.4						
H08S3	**Diego Garcia H**	**25.66**	**252**	T	T	03 21 55.2	
	baz=72,slow=74,SNR=9.6						
H08S1	**Diego Garcia H**	**25.

KBZ	Khabaz	64.87	320	P		P	03 00 17.4	-0.7
KBZ	Khabaz	64.87	320	P		P	03 00 17.4	-0.7
	2.9nm,1.0s,baz=185,slow=4.4,SNR=4.3							
KIV	Kislovodsk	65.11	320	*e*P		P	03 00 19.5	-0.2
	7.2nm,1.0s							
MMAI	Mount Meron Ar	66.48	306	P		P	03 00 30.4	+1.6
MMAI	Mount Meron Ar	66.48	306	P		P	03 00 30.4	+1.6
	1.2nm,0.6s,baz=100,slow=12,SNR=2.6							
BR131	Keskin Array S	69.80	313	*e*P		P	03 00 48.5	-1.1
	1.3nm,0.6s							
BR131				*ep*P		pP	03 00 58.9	-0.5
BRTR	Keskin Array B	69.80	313	P		P	03 00 48.9	-0.8
BRTR				pP		pP	03 00 58.6	-0.8
BRTR	Keskin Array B	69.80	313	P		P	03 00 48.9	-0.8
	1.8nm,0.7s,baz=136,slow=7.2,SNR=7.8							
BRTR				pP		pP	03 00 58.6	-0.8
	1.5nm,0.7s,baz=138,slow=6.6,SNR=5.0							
DZM	Mont Dzumac	70.94	113	*e*P		P	03 00 56.6	-0.3
	7.5nm,0.7s							
LBTB	Lobatse	73.25	244	*e*P		P	03 01 11.3	+0.6
	3.3nm,0.7s							
BOSA	Boshof	74.08	240	*e*P		P	03 01 15.6	+0.1
	13nm,1.3s							
BOSA	Boshof	74.08	240	P		P	03 01 14.5	-1.0
	2.2nm,0.7s,baz=89,slow=4.2,SNR=5.7							
IDI	Anoyia	75.48	306	P		P	03 01 23.2	-0.2
IDI	Anoyia	75.48	306	P		P	03 01 23.2	-0.2
	6.5nm,0.6s,baz=162,slow=3.2,SNR=3.0							
AK02	Malin Array Si	76.10	323	*e*P		P	03 01 25.5	-1.0
AK02				*ep*P		pP	03 01 35.7	-0.8
AKASG	Malin Array Be	76.10	323	P		P	03 01 25.9	-0.6
AKASG				pP		pP	03 01 35.6	-0.8
AKASG	Malin Array Be	76.10	323	P		P	03 01 25.9	-0.6
	3.4nm,0.6s,baz=92,slow=4.8,SNR=14							
AKASG				pP		pP	03 01 35.6	-0.8
	2.1nm,0.5s,baz=90,slow=5.0,SNR=8.7							
AKBB	Malin Array Si	76.10	323	*e*P		P	03 01 25.9	-0.6
AK01	Malin Array Si	76.10	323	*e*P		P	03 01 25.5	-1.0
AK01				*ep*P		pP	03 01 35.6	-0.9
KIEV	Kiev	76.11	323	*e*P		P	03 01 25.7	-0.8
	4.6nm,0.6s							
KIEV				*ep*P		pP	03 01 35.3	-1.2
MLR	Muntele Rosu	76.82	317	P		P	03 01 31.5	+0.6
MLR	Muntele Rosu	76.82	317	P		P	03 01 31.5	+0.6
	0.6nm,0.8s,baz=100,slow=6.6,SNR=3.4							
BUR08	Bucovina Ar. S	77.83	319	*e*P		P	03 01 36.8	+0.3
BUR08				*ep*P		pP	03 01 47.5	+1.1
SUR	Sutherland	78.42	237	*e*P		P	03 01 39.9	-0.2
	23nm,1.1s							
FINES	FINESS Array B	80.97	333	P		P	03 01 53.1	+0.1
FINES				pP		pP	03 02 03.4	+0.3
FINES	FINESS Array B	80.97	333	P		P	03 01 53.1	+0.1
	2.2nm,0.7s,baz=93,slow=6.1,SNR=6.0							
FINES				pP		pP	03 02 03.4	+0.3
	2.6nm,0.7s,baz=83,slow=4.5,SNR=3.0							
MORC	Moravsky Berou	83.21	320	*e*P		P	03 02 05.0	-0.3
	7.1nm,1.3s							
ARCES	ARCESS Array B	83.59	340	P		P	03 02 06.8	+0.2
ARCES	ARCESS Array B	83.59	340	P		P	03 02 06.8	+0.2
	2.0nm,0.8s,baz=101,slow=3.8,SNR=4.0							
GERES	GERESS Array B	85.60	319	P		P	03 02 17.2	-0.2
GERES	GERESS Array B	85.60	319	P		P	03 02 17.2	-0.2
	1.2nm,1.0s,baz=103,slow=4.4,SNR=4.4							
DAVOX	Davos/Dischmat	88.05	317	P		P	03 02 29.7	+0.2
DAVOX	Davos/Dischmat	88.05	317	P		P	03 02 29.7	+0.2
	1.6nm,0.8s,baz=113,slow=15,SNR=3.4							
QSPA	South Pole Qui	89.98	180	P		P	03 02 38.4	+0.3
QSPA	South Pole Qui	89.98	180	P		P	03 02 38.4	+0.3
	0.9nm,0.7s,baz=289,slow=2.5,SNR=4.8							
WLF	Walferdange	90.57	319	*e*P		P	03 02 40.8	-0.3
	42nm,1.4s							
TOA0	Torodi Ar. Sit	95.23	283	*e*P		P	03 03 03.8	+0.6
TORD	Torodi Ar. Bea	95.23	283	P		P	03 03 03.6	+0.4
TORD	Torodi Ar. Bea	95.23	283	P		P	03 03 03.6	+0.4
	0.5nm,1.0s,baz=94,slow=4.9,SNR=2.5							
NEW	Newport	123.53	27	*e*PKPdf		PKPdf	03 08 35.6	-0.8
DUG	Dugway	131.59	31	*e*PKPdf		PKPdf	03 08 51.6	-0.5
SDCO	Great Sand Dun	137.03	27	*e*PKPdf		PKPdf	03 09 02.0	-0.6
CPUP	Villa Florida	144.05	221	*e*PKPdf		PKPdf	03 09 14.6	-0.6
CPUP	Villa Florida	144.05	221	PKP		PKPbc	03 09 13.6	+0.5
	1.1nm,0.5s,baz=146,slow=4.2,SNR=3.5							
TXAR	Lajitas Array	144.72	32	PKP		PKPdf	03 09 16.1	-0.3
TXAR				pPKP		pPKPdf	03 09 26.1	-0.7
TXAR	Lajitas Array	144.72	32	PKP		PKPdf	03 09 16.1	-0.3
	1.3nm,0.8s,baz=330,slow=0.4,SNR=4.6							
TXAR				pPKP		pPKPdf	03 09 26.1	-0.7
	1.0nm,0.5s,baz=290,slow=1.2,SNR=5.6							
CFAA	Coronel Fontan	145.65	203	PKPbc		PKPab	03 09 18.5	+0.1
CFAA	Coronel Fontan	145.65	203	PKPbc		PKPab	03 09 18.5	+0.1
	0.5nm,0.6s,baz=147,slow=2.8,SNR=8.0							
JCT	Junction City	145.68	26	*e*PKPbc		PKPdf	03 09 18.1	+0.2
HKT	Hockley	147.75	21	*e*PKPbc		PKPbc	03 09 24.1	0.0
LVC	Limon Verde	153.73	210	*e*PKPbc		PKPbc	03 09 37.2	-1.8
LPAZ	La Paz	158.22	221	*e*PKPab		PKPab	03 10 11.1	-0.4

*IDC **06** 02:54:28.8±1.2,39.48N×73.91E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/28,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=38.6km s-min=16.1km az=95.0*

ISC 06 02:54:31.6±1.6,39.57N±0.09×74.29E±0.08,h28km,n16, σ1§94/16,mb3.6/3,3C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.31	92	Pg	Pb	02 54 55.0	-0.6
KSH				Sg	Sb	02 55 12.8	+0.8
KSH				smax	smax		
	comp=N,160nm,0.9s						
KSH				smax	smax		
	comp=E,190nm,1.0s						
AML	Almayashu	2.60	350	P	Pb	02 55 16.5	-1.3
	SNR=26						
KZA	Kyzart	2.61	16	P	Pb	02 55 18.1	+0.2
	SNR=15						
UCH	Uchtor	2.66	4	P	Pb	02 55 17.1	-1.8
	SNR=31						
ULHL	Ulahol	3.06	28	P	Pb	02 55 24.7	-0.7
	SNR=10						
AAK	Ala-Archa	3.06	3	P	Pb	02 55 23.5	-2.1
	SNR=19						
AAK	Ala-Archa	3.06	3	Pn	Pb	02 55 23.4	-2.1
	comp=E,4.3nm,0.3s,baz=172,slow=6.8,SNR=34						
AAK				Sn	Sb	02 56 04.9	+2.3
	comp=E,3.9nm,0.3s,baz=110,slow=19,SNR=9.7						
EKS2	Erkin-Say	3.11	353	P	Pb	02 55 24.7	-1.6
	SNR=7.3						
KBK	Karagaybulak	3.12	9	P	Pb	02 55 24.7	-1.9
	SNR=23						
TKM2	Tokmak 2	3.49	16	P	Pb	02 55 29.7	-3.2
	SNR=8.9						
TKM2	Tokmak 2	3.49	16	⇑Pn	Pb	02 55 30.1	-2.8
	comp=E,6.8nm,0.5s						
TKM2				⇑Lg	Lg	02 56 20.1	
	comp=E,27nm,0.8s						
USP	Ospenovka	3.70	2	P	Pb	02 55 37.2	+1.0
	SNR=10						
KK31	Karatay Array	4.53	322	⇓Pn	Pn	02 55 40.3	+1.9
	comp=E,1.3nm,0.3s,baz=126,slow=12,SNR=54						
KK31				⇓Sn	Sn	02 56 31.8	+1.7
	comp=E,2.9nm,0.3s,baz=138,slow=25,SNR=5.2						
KK31				⇑Lg	Lg	02 56 47.8	
	comp=E,7.4nm,0.5s,baz=146,slow=33,SNR=4.1						
TORD	Torodi Ar. Bea	68.36	269	P	P	03 05 30.7	-0.1
	comp=E,0.3nm,0.5s,baz=59,slow=4.6,SNR=5.0						
WRA	Warramunga Arr	81.50	124	P	P	03 06 49.7	+3.2
	comp=E,0.5nm,0.8s,baz=330,slow=4.9,SNR=3.9						
ASAR	Alice Springs	83.96	127	P	P	03 07 01.6	+2.3
	comp=E,0.2nm,0.6s,baz=324,slow=5.6,SNR=2.9						

*IDC **06** 02:57:21.5±0.7,36.29S×97.12W,h0km,mb4.3/13, mb1 4.5/13,mb1mx4.3/22,mbtmp4.3/13,MS3.9/12, Ms1 3.8/12,ms1mx3.7/28,Error ellipse: s-maj=20.4km s-min=17.9km az=82.0*

*ISCJB **06** 02:57:22.9±0.3,36.29S±0.06×96.8W±0.1,h10km, mb4.5/41,MS3.9/13,Error ellipse: s-maj=12.5km s-min=8.2km az=158.7*

*NEIC **06** 02:57:24.5±0.4,36.32S×96.77W,h10km,mb4.7/31,Error ellipse: s-maj=15.2km s-min=11.5km az=75.0*

*GCMT **06** 02:57:24.3±0.3,36.41S×97.24W,h19km±1km,MW5.0, Moment Tensor Solution. s29,c33; s88,c110; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.54±.15; $M_{\theta\theta}$=0.39±.14; $M_{\phi\phi}$=0.15±.13; $M_{r\theta}$=0.08±.26; $M_{\theta\phi}$=-3.91±.13; $M_{\phi r}$=0.41±.24;*

Best double couple: M_0=3.90000×10^{16} NP1:φ=179.00000°, δ=87.00000°,λ=-6.00000°. NP2:φ=269.00000°,δ=84.00000°, λ=-177.00000°. Principal axes: T 4.1900, Plg3.0000°, Azm224.0000°; N -0.5100, Plg83.0000°, Azm338.0000°; P -3.6800, Plg6.0000°, Azm134.0000°; Data Used: IU II G CN CU IC.

ISC 06 02:57:24.4±0.4,36.29S±0.09×96.76W±0.10,h10km,n107, σ1§50/97,mb4.6/40,MS4.0/13,2C,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	14.91	84	T	T	03 16 52.6	
	baz=254,slow=74,SNR=161						
H03N3	Juan Fernandez	14.91	84	T	T	03 16 52.5	
	baz=254,slow=74,SNR=209						
H03N1	Juan Fernandez	14.92	84	T	T	03 16 53.8	
	baz=254,slow=74,SNR=203						
PLCA	Paso Flores	20.95	110	*e*P	Pn	03 02 11.2	+1.1
	8.2nm,0.9s						
PLCA	Paso Flores	20.95	110	P	P	03 02 08.1	+0.6
	2.2nm,0.8s,baz=281,slow=13,SNR=3.6						
PLCA				LR	LR	03 08 17.4	
	comp=Z,168nm,20.4s,baz=278,slow=31						
CFAA	Coronel Fontan	24.07	87	P	P	03 02 40.9	+0.8
CFAA	Coronel Fontan	24.07	87	P	P	03 02 40.9	+0.8
	0.7nm,0.9s,baz=255,slow=7.8,SNR=8.0						
CFAA				LR	LR	03 10 00.0	
	comp=Z,32nm,20.8s,baz=254,slow=31						
USHA	Ushuaia	26.86	143	P	P	03 03 04.0	-1.0
USHA	Ushuaia	26.86	143	P	P	03 03 04.0	-1.0
	7.9nm,0.9s,baz=299,slow=10,SNR=2.1						
USHA				LR	LR	03 11 13.9	
	comp=Z,374nm,21.7s,baz=136,slow=31						
LVC	Limon Verde	27.70	68	*e*P	P	03 03 14.7	+1.6
	16nm,1.1s						
LPAZ	La Paz	32.29	59	*e*P	P	03 03 55.5	+1.2
	23nm,1.4s						
LPAZ	La Paz	32.29	59	P	P	03 03 56.0	+1.7
	5.1nm,0.9s,baz=214,slow=6.6,SNR=13						
LPAZ				LR	LR	03 14 13.0	
	comp=Z,86nm,18.8s,baz=230,slow=31						
ATAH	Atahualpa	33.52	34	P	P	03 04 04.5	-0.3
ATAH	Atahualpa	33.52	34	P	P	03 04 04.5	-0.3
	4.7nm,0.7s,baz=276,slow=19,SNR=4.5						
CPUP	Villa Florida	34.91	85	LR	LR	03 16 41.2	
	comp=Z,158nm,18.5s,baz=56,slow=33						
RKT	Rikitea	35.47	281	*e*LQ	LQ	03 12 16.1	
	855nm,28.0s						
RKT				*e*LR	LR	03 13 27.9	
	231nm,32.2s						
SIV	San Ignacio	37.58	67	P	P	03 04 39.7	+0.5
SIV	San Ignacio	37.58	67	P	P	03 04 39.7	+0.5
	1.5nm,0.7s,baz=243,slow=11,SNR=5.0						
SAML	Samuel	40.88	57	*e*P	P	03 05 06.1	-0.7
	9.2nm,1.3s						
ROSC	El Rosal	46.00	32	LR	LR	03 21 35.2	
	comp=Z,228nm,21.5s,baz=186,slow=32						
TBI	Tubuai	46.99	271	*e*LR	LR	03 18 56.3	
	176nm,29.8s						
BDFB	Brasilia	47.84	78	P	P	03 06 02.9	+0.2
BDFB	Brasilia	47.84	78	P	P	03 06 02.9	+0.2
	3.6nm,1.0s,baz=331,slow=5.5,SNR=3.6						
BDFB				LR	LR	03 25 09.5	
	comp=Z,173nm,18.1s,baz=42,slow=35						
MEH	Mehetia	48.64	278	*e*T	T	03 57 23.3	
	13nm,0.2s						
PPT2	Papeete2	50.01	277	*e*LR	LR	03 20 21.5	
	79nm,24.2s						
QSPA	South Pole Qui	53.93	180	*e*P	P	03 06 48.5	+0.6
	9.2nm,1.0s						
QSPA	South Pole Qui	53.93	180	P	P	03 06 47.9	-0.1
	3.2nm,0.8s,baz=136,slow=2.5,SNR=8.6						
VNA1	Neumayer--Stat	55.76	156	*e*P	P	03 07 02.5	+1.6
VNA2	Neumayer--Watz	55.98	157	*e*P	P	03 07 03.9	+1.4
H06S1	SOCORRO T	56.35	344	T	T	04 06 34.9	
	SNR=6.4						
SNAA	Sanae	57.21	158	*e*P	P	03 07 11.9	+0.5
SNAA	Sanae	57.21	158	*e*P	P	03 07 12.3	+1.0
	6.0nm,1.1s						
VNDA	Vanda	57.29	195	*e*P	P	03 07 12.3	+0.6
	4.3nm,1.2s						
VNDA	Vanda	57.29	195	LR	LR	03 26 05.9	
	comp=Z,112nm,20.5s,baz=5.3,slow=30						
TXAR	Lajitas Array	65.60	353	P	P	03 08 06.7	-1.8
TXAR	Lajitas Array	65.60	353	P	P	03 08 06.7	-1.8
	1.6nm,0.9s,baz=172,slow=8.2,SNR=4.8						
URZ	Urewera	66.03	239	LR	LR	03 31 42.2	
	comp=Z,97nm,18.3s,baz=215,slow=31						
JCT	Junction City	66.48	357	*e*P	P	03 08 15.6	+1.5
	9.4nm,1.1s						
RPZ	Rata Peaks	67.45	232	P	P	03 08 15.9	-4.4
RPZ	Rata Peaks	67.45	232	P	P	03 08 15.9	-4.4
	12nm,1.0s,baz=22,slow=5.4,SNR=2.7						
MNTX	Cornudas Mount	68.11	352	*e*P	P	03 08 23.4	-0.9
	2.0nm,1.0s						
MSTX	Muleshoe	70.12	355	*e*P	P	03 08 33.1	-3.8
SYO	Syowa Base	70.18	165⇑	*e*P	P	03 08 36.3	-0.5
SYO	Syowa Base	70.18	165⇑	*ep*P	pP	03 08 39.2	-0.9
AMTX	Amarillo	70.95	356	*e*P	P	03 08 44.2	+2.3
	11nm,0.8s						
ANMO	Albuquerque	71.44	352	*e*P	P	03 08 45.1	0.0
	5.1nm,1.3s						
MVCO	Mesa Verde	73.94	350	*e*P	P	03 09 00.3	+0.4
	8.4nm,1.1s						
WCI	Wyandotte Cave	74.78	9	*e*P	P	03 09 06.0	+1.5
	5.2nm,0.8s						
PV01	Paradox Valley	74.85	350	*e*P	P	03 09 02.9	-2.4
	378nm,1.0s						
CCUT	Cedar City	75.06	346	*e*P	P	03 09 07.9	+1.5
	4.4nm,1.0s						
PV04	Paradox Valley	75.15	350	*e*P	P	03 09 06.5	-0.3
MAW	Mawson	75.28	172	P	P	03 09 07.1	0.0
MAW	Mawson	75.28	172	P	P	03 09 07.1	0.0
	2.3nm,0.8s,baz=210,slow=8.1,SNR=3.1						
MAW				LR	LR	03 40 40.2	
	comp=Z,62nm,18.7s,baz=192,slow=34						
SMCO	Snowmass	75.68	352	*e*P	P	03 09 11.0	+0.8
	5.5nm,0.9s						
O20A	White River Ci	76.78	351	*e*P	P	03 09 18.4	+2.3
	7.6nm,1.1s						
NV11	Mina Array Sit	76.94	343	*e*P	P	03 09 14.8	-2.2
NVAR	Mina Array Bea	76.97	343	P	P	03 09 15.6	-1.7
NVAR	Mina Array Bea	76.97	343	P	P	03 09 15.6	-1.7
	4.8nm,0.8s,baz=181,slow=7.2,SNR=10						
CMB	Columbia Colle	77.12	341	*e*P	P	03 09 16.2	-1.7
	91nm,3.0s						
DAU	Daniels Canyon	77.48	349	*e*P	P	03 09 18.9	-1.3
ELK	Elko	78.52	346	*e*P	P	03 09 27.4	+1.6
	1.9nm,0.8s						
K22A	Casper	79.07	353	*e*P	P	03 09 31.4	+2.6
	14nm,1.4s						
BW06	Border Array	79.54	350	*e*P	P	03 09 28.9	-2.6
	91nm,2.8s						
PDAR	Pinedale Array	79.54	350	P	P	03 09 29.3	-2.1
PDAR	Pinedale Array	79.54	350	P	P	03 09 29.3	-2.1
	4.5nm,0.8s,baz=155,slow=7.4,SNR=18						
RSSD	Black Hills	80.31	355	*e*P	P	03 09 34.2	-1.3
	1.3nm,0.9s						
TPAW	Teton Pass	80.45	350	*e*P	P	03 09 38.3	+1.9
	9.7nm,1.0s						
FXWY	Fox Creek	80.60	350	*e*P	P	03 09 37.1	-0.1
	2.4nm,0.8s						
FLWY	Flagg Ranch	80.99	350	*e*P	P	03 09 41.7	+2.6
	12nm,1.1s						
HLID	Hailey	81.08	347	*e*P	P	03 09 38.0	-1.6
	4.1nm,0.8s						
SPMN	St. Paul	81.21	3	*e*P	P	03 09 40.6	+0.5
J08A	Circle Bar Ran	81.70	344	*e*P	P	03 09 45.1	+2.3
	5.8nm,0.9s						
I07A	Izee	82.62	344	*e*P	P	03 09 47.1	-0.5
	63nm,2.5s						
G08A	Pilot Rock	83.65	344	*e*P	P	03 09 55.2	+2.3
	30nm,2.3s						
F10A	Beach Ranch, E	83.94	346	*e*P	P	03 09 56.0	+1.6
	8.2nm,1.3s						
ULM	Lac du Bonnet	86.17	1	*e*P	P	03 10 05.0	-0.3
	6.7nm,1.2s						
ULM	Lac du Bonnet	86.17	1	P	P	03 10 04.7	-0.6
	1.8nm,0.6s,baz=213,slow=5.2,SNR=3.0						
STKA	Stephens Creek	92.92	226	LR	LR	03 43 23.9	
	comp=Z,176nm,19.9s,baz=204,slow=30						
BOSA	Boshof	95.50	132	LR	LR	03 45 14.4	
	comp=Z,59nm,21.0s,baz=56,slow=30						
CTAO	Charters Tower	98.25	238	*e*P	Pdif	03 11 04.0	+1.6
	20nm,1.4s						
H01W1	Cape Leeuwin H	103.55	206	T	T	05 07 32.6	
	baz=154,slow=76,SNR=4.9						
H01W2	Cape Leeuwin H	103.55	206	T	T	05 07 29.8	
	baz=154,slow=76,SNR=5.2						
H01W3	Cape Leeuwin H	103.56	206	T	T	05 07 36.8	
	baz=154,slow=76,SNR=5.5						
GERES	GERESS Array B	128.97	53	PKP	PKPdf	03 16 30.0	-2.1
GERES	GERESS Array B	128.97	53	PKP	PKPdf	03 16 30.0	-2.1
	0.1nm,0.7s,baz=300,slow=7.8,SNR=2.1						
MORC	Moravsky Berou	131.62	52	*e*PKPdf	PKPdf	03 16 37.3	+0.3
AKASG	Malin Array Be	139.17	52	PKP	PKPdf	03 16 51.9	+0.9
AKASG	Malin Array Be	139.17	52	PKP	PKPdf	03 16 51.9	+0.9
	0.3nm,0.5s,baz=281,slow=3.0,SNR=3.5						
BR131	Keskin Array S	141.16	69	*e*PKPdf	PKPdf	03 16 53.7	-1.5
MDJ	Mudanjiang	144.17	298	PKP	PKPdf	03 17 00.2	+0.1
KSRS	Korea Array	144.49	286	PKP	PKPab	03 16 58.8	-0.5
	0.9nm,0.7s,baz=107,slow=4.3,SNR=4.9						
KSAR	Wonju Array Be	144.52	286	PKP	PKPab	03 16 58.8	-0.6
KULM	Kulim	145.25	212	*e*PKPbc	PKPbc	03 17 01.2	-1.4
CN2	Changchun	147.12	296	*e*PKPbc	PKPdf	03 17 02.0	-3.2
AKTO	Aktyubinsk	156.99	44	PKPab	PKPab	03 17 50.0	+0.1
AKTO	Aktyubinsk	156.99	44	PKPab	PKPab	03 17 50.0	+0.1
	1.3nm,0.7s,baz=315,slow=5.7,SNR=5.1						
HHC	Hu-ho-hao-te	157.44	290	*e*PKP	PKPdf	03 17 21.6	+0.9
HHC				PKS	PKSdf	03 20 54.4	-0.1
HHC				PP	PP	03 21 35.3	+3.3
HHC				SKS	SKSdf	03 24 25.8	-0.9
HHC				SKKS	SKKSac	03 28 22.8	+1.8
HHC				SS	SS	03 41 29.1	+0.6
HHC				AMB	AMB		
	comp=Z,180nm,9.4s						
HHC				LR	LR		
	comp=Z,210nm,22.7s						
GYA	Guiyang	157.78	250	*e*PKP	PKPdf	03 17 20.8	-0.8
GYA				PKPab	PKPab	03 17 55.0	+0.8
GYA				PKS	PKSdf	03 20 52.3	-3.3
GYA				PP	PP	03 21 35.4	+1.5
CD2	Chengdu	162.10	258	*e*PKP	PKPdf	03 17 26.0	-0.3
ZALV	Zalesovo Beam	162.31	357	PKP	PKPdf	03 17 23.8	-1.8
ZALV				PKPab	PKPab	03 18 11.2	-1.7
ZALV	Zalesovo Beam	162.31	357	PKP	PKPdf	03 17 23.8	-1.8
	0.4nm,0.5s,baz=306,slow=5.0,SNR=2.2						
ZALV				PKPab	PKPab	03 18 11.2	-1.7
	1.0nm,0.7s,baz=328,slow=5.1,SNR=2.5						
LZH	Lanzhou	163.36	275	*e*PKP	PKPdf	03 17 28.5	+1.0
LZH				pPKP	pPKPdf	03 17 31.8	+0.9
LZH				sPKP		03 17 33.0	
LZH				LR	LR		
	comp=N,150nm,17.9s						
LZH				LR	LR		
	comp=E,150nm,18.0s						
LZH				LR	LR		
	comp=Z,180nm,20.1s						
KURK	Kurchatov	165.20	12	PKP	PKPdf	03 17 25.4	-3.0
KURK				PKPab	PKPab	03 18 24.1	-1.5
KURBB	Kurchatov Arra	165.27	12	PKP	PKPdf	03 17 25.4	-3.0
	1.1nm,0.4s,baz=8.3,slow=3.2,SNR=2.8						
KURBB				PKPab	PKPab	03 18 24.1	-1.8
	0.7nm,0.3s,baz=345,slow=4.7,SNR=4.0						
MK31	Makanchi Array	169.48	4	*e*PKPdf	PKPdf	03 17 32.2	+0.5
MKAR	Makanchi Array	169.48	4	PKPab	PKPab	03 18 45.5	+0.8
MKAR	Makanchi Array	169.48	4	PKPab	PKPab	03 18 45.5	+0.8
	0.2nm,0.6s,baz=311,slow=0.8,SNR=2.6						

*IDC **06** 02:57:59.5±1.0,0.16S×96.84E,h30km±4km,mb3.8/10, mb1 3.9/11,mb1mx3.7/26,mbtmp3.8/11,Error ellipse: s-maj=35.0km s-min=18.3km az=52.0*

*NEIC **06** 02:58:00.5±0.5,0.12N×97.18E,mb4.2/5,Error ellipse: s-maj=13.0km s-min=9.0km az=55.0*

ISC 06 02:57:60.0±0.8,0.0N±0.1×97.0E±0.1,h30km±4km, h30km:pP-P,n45,σ0§81/54,mb4.1/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.33	34	Pn	Pn	02 58 44.6	-5.6
PSI	Prapat	3.33	34	Pn	Pn	02 58 44.6	-5.6
	1.1nm,0.3s,baz=213,slow=17,SNR=3.3						
IPM	Ipoh	5.95	42	*e*Pn	Pn	02 59 24.9	-1.2
KULM	Kulim	6.35	35	*e*Pn	Pn	02 59 29.8	-1.8
CMAR	Chiang Mai Arr	18.41	6	P	Pn	03 02 13.6	+0.5
CMAR	Chiang Mai Arr	18.41	6	P	Pn	03 02 13.6	+0.5
	baz=197,slow=12,SNR=4.3						
KKM	Kota Kinabalu	20.05	72	*e*P	P	03 02 30.6	-0.5
	14nm,0.9s						
H08S2	Diego Garcia H	25.64	252	T	T	03 30 13.0	
	baz=75,SNR=27						
H08S3	Diego Garcia H	25.64	252	T	T	03 30 12.7	
	baz=75,slow=75,SNR=37						
H08S1	Diego Carcia H	25.65	252	T	T	03 30 13.9	
	baz=75,slow=75,SNR=36						
MBWA	Marble Bar	30.57	135	*e*P	P	03 04 12.5	+1.1
	24nm,1.3s						
H01W3	Cape Leeuwin H	38.23	157	T	T	03 45 51.1	
	baz=330,slow=75						
H01W2	Cape Leeuwin H	38

0.3nm,0.8s,baz=346,slow=1.5,SNR=4.2
JCT Junction City 145.69 26 *e*PKPbc **PKPab 03 17 37.6 +0.7**

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*IDC **06** 03:37:47.5±0.5, 3°.39N×126°.84E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.4/28, mbtmp4.3/22, ML5.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/35, Error ellipse: s-maj=25.4km s-min=12.1km az=77.0*
*BJI **06** 03:37:51.8, 3°.30N×127°.11E, h38km, mB5.0/15, mb4.5/23, Ms4.6/11, Ms7 4.4/11*
*ISCJB **06** 03:37:52.7±0.3, 3°.41N±0°.04×126°.96E±0°.06, h48km, mb4.5/54, MS4.1/6, Error ellipse: s-maj=9.6km s-min=4.8km az=162.6*
*NEIC **06** 03:37:53.3±1.2, 3°.43N×127°.08E, h42km±11km, mb4.7/24, Error ellipse: s-maj=12.6km s-min=6.0km az=77.0*
*AUST **06** 03:38:00.0±0.5, 3°.42N×127°.29E, h99km, Error ellipse: s-maj=1.2km s-min=1.1km az=272.0*
ISC 06 03:37:54.5±0.4, **3°.48N**±0°.05×**127°.06E**±0°.07, **h48**km, **n113,** σ1§**92**/140, **mb4.5**/54, **MS4.0/7, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.86**	**338**	*e*Pn	**Pn**	**03 38 49.0**	**-2.4**
LUWI	**Luwuk**	**6.20**	**224**	P	Pn	03 39 33.0	+9.4
	baz=6.3,SNR=5.4						
FAKI	**Fak Fak**	**8.21**	**141**	P	**Pn**	**03 39 53.5**	**+2.4**
	baz=8.0,SNR=8.3						
PALU	**Palau**	**8.32**	**62**	P	Pn	03 39 57.7	+5.0
	baz=8.2,SNR=3.5						
KKM	**Kota Kinabalu**	**11.10**	**284**	*e*Pn	**Pn**	**03 40 32.8**	**+2.0**
KAPI	**Kappang**	**11.15**	**221**	*e*Pn	**Pn**	**03 40 30.2**	**-1.2**
KAPI	**Kappang**	**11.15**	**221**	LR	LR	03 45 04.9	
	comp=Z,184nm,20.0s,baz=64,slow=40						
TGY	**Tagaytay City**	**12.16**	**331**	Pn	**Pn**	**03 40 43.3**	**-2.0**
TGY	**Tagaytay City**	**12.16**	**331**	Pn	**Pn**	**03 40 43.3**	**-2.0**
	43nm,0.3s,baz=187,slow=16,SNR=2.3						
MTN	**Manton Dam**	**16.71**	**166**	P	Pn	03 41 38.0	-7.4
	baz=17,SNR=3.5						
KSM	**Kuching**	**16.85**	**264**	*e*Pn	**P**	**03 41 49.2**	**+0.6**
	12nm,0.9s						
KDU	**Kakadu**	**16.94**	**162**	P	**P**	**03 41 52.2**	**+2.6**
	baz=17,SNR=3.8						
KNRA	**Kununurra**	**19.11**	**175**	P	**P**	**03 42 13.0**	**-0.5**
	baz=19,SNR=8.6						
TPUB	**Ta-pu**	**20.66**	**343**	*e*P	**P**	**03 42 30.1**	**-0.3**
	35nm,0.8s						
SSLB	**Suanglung**	**21.03**	**344**	*e*P	**P**	**03 42 34.0**	**-0.5**
	30nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.49**	**184**	*e*P	**P**	**03 42 38.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.49**	**184**	P	**P**	**03 42 37.7**	**-1.6**
	3.0nm,0.5s,baz=12,slow=10,SNR=15						
FITZ	**Fitzroy Crossi**	**21.49**	**184**	P	**P**	**03 42 40.4**	**+1.1**
	baz=22,SNR=6.3						
YHNB	**Yeheng**	**21.77**	**346**	*e*P	**P**	**03 42 42.2**	**-0.2**
	31nm,0.8s						
PMBI	**Palembang**	**23.16**	**254**	*e*P	**P**	**03 43 01.3**	**+4.2**
	508nm,0.4s						
PMBI	**Palembang**	**23.16**	**254**	P	**P**	**03 43 00.8**	**+3.7**
	baz=23,SNR=5.6						
COEN	**Coen**	**23.57**	**138**	*e*P	**P**	**03 42 58.6**	**-2.4**
PMG	**Port Moresby**	**23.77**	**123**	*e*P	P	03 42 57.3	-5.6
	6.8nm,0.8s						
WRAB	**Tennant Creek**	**24.34**	**163**	*e*P	**P**	**03 43 07.0**	**-1.1**
	26nm,1.0s						
WRA	**Warramunga Arr**	**24.35**	**163**	P	**P**	**03 43 07.2**	**-0.9**
WRA	**Warramunga Arr**	**24.35**	**163**	P	**P**	**03 43 07.2**	**-0.9**
	18nm,0.8s,baz=341,slow=10,SNR=43						
MBWA	**Marble Bar**	**25.52**	**196**	*e*P	**P**	**03 43 15.0**	**-3.7**
	37nm,1.4s						
AS31	**Alice Springs**	**27.79**	**166**	*e*P	**P**	**03 43 38.8**	**-0.4**
ASAR	**Alice Springs**	**27.79**	**166**	P	**P**	**03 43 38.1**	**-1.1**
ASAR	**Alice Springs**	**27.79**	**166**	P	**P**	**03 43 38.1**	**-1.1**
	2.0nm,0.8s,baz=349,slow=7.2,SNR=34						
NJ2	**Nanjing**	**29.45**	**346**	*e*P	**P**	**03 43 54.5**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
GYA	**Guiyang**	**30.07**	**321**	*e*P	**P**	**03 44 02.1**	**+2.6**
GYA				pP	**pP**	**03 44 12.8**	**+0.7**
GYA				PP	**PnPn**	**03 45 01.4**	**+3.4**
GYA				PcP	**PcP**	**03 47 02.5**	**+1.8**
GYA				S	**S**	**03 48 58.7**	**+3.8**
GYA				sS	**sS**	**03 49 16.0**	**0.0**
GYA				ScP	**ScP**	**03 50 41.2**	**+2.1**
GYA				ScS	**ScS**	**03 54 35.9**	**+1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,70nm,4.5s						
MEEK	**Meekatharra**	**31.03**	**195**	P	P	03 44 11.7	+3.8
	baz=31,SNR=3.1						
CMAR	**Chiang Mai Arr**	**31.28**	**301**	P	**P**	**03 44 07.9**	**-2.3**
CMAR	**Chiang Mai Arr**	**31.28**	**301**	P	**P**	**03 44 07.9**	**-2.3**
	1.0nm,0.4s,baz=110,slow=7.8,SNR=5.8						
CHTO	**Chiang Mai**	**31.43**	**301**	*e*P	**P**	**03 44 10.7**	**-0.8**
	4.4nm,0.8s						
KMI	**Kunming**	**31.79**	**315**	P	**P**	**03 44 18.0**	**+3.2**
KMI				pP	**pP**	**03 44 26.2**	**-1.2**
KMI				sP	**sP**	**03 44 31.3**	**-1.8**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSAR	**Wonju Array Be**	**33.81**	**1**	P	**P**	**03 44 32.0**	**-0.1**
KSRS	**Korea Array**	**33.82**	**1**	P	**P**	**03 44 32.0**	**-0.2**
	2.8nm,0.7s,baz=180,slow=8.9,SNR=9.5						
KSRS				LR	LR	03 58 10.3	
	comp=Z,77nm,18.0s,baz=3.0,slow=36						
FORT	**Forrest**	**34.08**	**178**	*e*P	**P**	**03 44 33.6**	**-0.9**
	16nm,0.8s						
MJAR	**Matsushiro Arr**	**34.47**	**16**	P	**P**	**03 44 38.9**	**+1.0**
MJAR	**Matsushiro Arr**	**34.47**	**16**	P	**P**	**03 44 38.9**	**+1.0**
	1.7nm,1.0s,baz=182,slow=8.4,SNR=4.4						
XAN	**Xi'an**	**34.79**	**333**	P	**P**	**03 44 39.0**	**-1.7**
XAN				pP	**pP**	**03 44 48.5**	**-4.8**
XAN				sP	sP	03 44 53.3	-5.7
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CD2	**Chengdu**	**35.04**	**324**	*e*P	**P**	**03 44 44.2**	**+1.3**
CD2				pP	**pP**	**03 44 54.2**	**-1.4**
CD2				sP	**sP**	**03 44 59.2**	**-2.0**
CD2				PP	**PP**	**03 46 03.6**	**+0.5**
CD2				S	**S**	**03 50 14.6**	**+2.6**
CD2				sS	**sS**	**03 50 31.4**	**-1.9**
CD2				SS	**SnSn**	**03 52 32.4**	**+1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,40nm,4.5s						
CD2				LR	LR		
	comp=E,160nm,11.8s						
CD2				LR	LR		
	comp=Z,260nm,11.4s						
BBOO	**Buckleboo**	**37.09**	**167**	*e*P	**P**	**03 45 00.2**	**0.0**
	717nm,1.8s						
BBOO	**Buckleboo**	**37.09**	**167**	P	**P**	**03 45 01.0**	**+0.7**
	baz=37,SNR=31						
STKA	**Stephens Creek**	**37.78**	**160**	*e*P	**P**	**03 45 06.2**	**0.0**
	3.1nm,0.8s						
STKA	**Stephens Creek**	**37.78**	**160**	P	**P**	**03 45 05.8**	**-0.4**
	14nm,0.8s,baz=330,slow=8.0,SNR=26						
STKA	**Stephens Creek**	**37.78**	**160**	P	**P**	**03 45 06.4**	**+0.2**
	baz=38,SNR=12						
HTT	**Hallett**	**38.39**	**164**	P	**P**	**03 45 12.4**	**+1.1**
	baz=38,SNR=3.7						
LZH	**Lanzhou**	**38.88**	**329**	*e*P	P	03 45 19.3	+3.7
LZH				pP	pP	03 45 29.8	+1.4
LZH				sP	sP	03 45 33.9	-0.2
LZH				PP	**PnPn**	**03 46 53.0**	**+4.9**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,69nm,5.6s						
LZH				LR	LR		
	comp=N,320nm,13.4s						
LZH				LR	LR		
	comp=E,320nm,13.5s						
LZH				LR	LR		
	comp=Z,380nm,17.6s						
HHC	**Hu-ho-hao-te**	**39.74**	**342**	*e*P	**P**	**03 45 24.6**	**+2.0**
HHC				PP	**PnPn**	**03 47 01.2**	**+3.1**
HHC				PcP	**PcP**	**03 47 30.4**	**+2.0**
HHC				ScP	**ScP**	**03 51 16.3**	**+2.8**
HHC				PcS	**PcS**	**03 51 20.4**	**+1.8**
HHC				S	**S**	**03 51 26.9**	**+3.7**
HHC				SS	**SS**	**03 54 17.8**	**-2.7**
HHC				ScS	**ScS**	**03 55 26.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,30nm,1.0s						
HHC				pmax	pmax		
	comp=Z,340nm,5.6s						
HHC				LR	LR		
	comp=N,650nm,15.2s						
HHC				LR	LR		
	comp=E,540nm,15.3s						
HHC				LR	LR		
	comp=Z,390nm,15.6s						
CN2	**Changchun**	**40.18**	**358**	*e*P	**P**	**03 45 28.5**	**+2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Arra**	**40.79**	**5**	P	**P**	**03 45 31.5**	**+0.4**
	1.9nm,0.7s,baz=176,slow=4.3,SNR=3.5						
MDJ	**Mudanjiang**	**41.03**	**3**	P	**P**	**03 45 34.1**	**+1.0**
MDJ				pP	**pP**	**03 45 42.9**	**-3.1**
MDJ				sP	**sP**	**03 45 46.8**	**-4.8**
MDJ				ScP	**ScP**	**03 51 20.5**	**+2.2**
MDJ				PcS	**PcS**	**03 51 23.7**	**+0.5**
MDJ				S	**S**	**03 51 45.6**	**+3.4**
MDJ				sS	**sS**	**03 52 01.0**	**-2.7**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,480nm,4.5s						
MDJ				LR	LR		
	comp=N,100nm,24.5s						
MDJ				LR	LR		
	comp=E,170nm,30.5s						
MDJ				LR	LR		
	comp=Z,110nm,32.8s						
ARMA	**Armidale**	**41.08**	**147**	P	**P**	**03 45 35.3**	**+1.5**
	baz=41,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**41.54**	**66**	T	T	04 30 06.1	
	baz=254,slow=73,SNR=32						
H11S2	**WAKE ISLAND Hy**	**41.55**	**66**	T	T	04 30 09.1	
	baz=254,slow=73,SNR=27						
H11S1	**WAKE ISLAND Hy**	**41.55**	**66**	T	T	04 30 07.6	
	baz=254,slow=73,SNR=14						
ASAJ	**Asahikawa**	**42.74**	**17**	P	**P**	**03 45 48.7**	**+1.7**
ASAJ	**Asahikawa**	**42.74**	**17**	P	**P**	**03 45 48.7**	**+1.7**
	9.1nm,0.7s,baz=145,slow=6.9,SNR=6.0						
LSA	**Lhasa**	**42.85**	**311**	*e*P	**P**	**03 45 47.9**	**-0.8**
	8.3nm,0.8s						
GTA	**Gaotai**	**43.48**	**329**	*e*P	**P**	**03 45 56.1**	**+2.8**
GTA				pP	**pP**	**03 46 05.4**	**-0.9**
GTA				sP	**sP**	**03 46 10.0**	**-1.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ULN	**Ulaanbaatar**	**47.46**	**342**	*e*P	**P**	**03 46 25.6**	**+0.9**
	5.4nm,0.9s						
SONM	**Songino Array**	**47.64**	**341**	P	**P**	**03 46 26.5**	**+0.4**
SONM	**Songino Array**	**47.64**	**341**	P	**P**	**03 46 26.5**	**+0.4**
	2.0nm,0.7s,baz=153,slow=9.2,SNR=9.8						
WMQ	**Urumqi**	**53.12**	**325**	P	**P**	**03 47 09.0**	**+1.5**
WMQ				sP	**sP**	**03 47 23.0**	**-3.3**
WMQ				PP	**PP**	**03 49 11.0**	**+3.2**
WMQ				ScP	**ScP**	**03 52 11.0**	**+1.9**
WMQ				S	**S**	**03 54 36.0**	**+1.4**
WMQ				ScS	**ScS**	**03 56 52.0**	**-1.1**
WMQ				SS	**SS**	**03 58 16.0**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,11nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,55nm,4.0s						
WMQ				LR	LR		
	comp=N,150nm,16.0s						
WMQ				LR	LR		
	comp=E,79nm,16.0s						
WMQ				LR	LR		
	comp=Z,71nm,16.0s						
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**	**03 47 24.4**	**-0.4**
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**	**03 47 24.4**	**-0.4**
	4.4nm,0.9s,baz=160,slow=4.7,SNR=5.5						
PETK				LR	LR	04 10 16.0	
	comp=Z,77nm,20.0s,baz=159,slow=35						
MK31	**Makanchi Array**	**57.95**	**325**	*e*P	**P**	**03 47 41.9**	**-0.2**
MKAR	**Makanchi Array**	**57.95**	**325**	*e*P	**P**	**03 47 42.0**	**-0.1**
MKAR	**Makanchi Array**	**57.95**	**325**	P	**P**	**03 47 41.4**	**-0.7**
	1.7nm,0.6s,baz=120,slow=6.8,SNR=19						
TKM2	**Tokmak 2**	**60.15**	**319**	*e*P	**P**	**03 47 58.4**	**+0.7**
	5.0nm,1.0s						
AAK	**Ala-Archa**	**60.76**	**318**	*e*P	**P**	**03 48 02.2**	**+0.4**
	9.0nm,1.4s						
ZALV	**Zalesovo Beam**	**60.96**	**333**	P	**P**	**03 48 01.7**	**-0.9**
ZALV	**Zalesovo Beam**	**60.96**	**333**	P	**P**	**03 48 01.7**	**-0.9**
	0.7nm,0.3s,baz=108,slow=4.8,SNR=6.7						
EKS2	**Erkin-Say**	**61.25**	**318**	*e*P	**P**	**03 48 03.9**	**-1.2**
	4.6nm,1.0s						
KURBB	**Kurchatov Arra**	**62.12**	**327**	P	**P**	**03 48 10.1**	**-0.5**
	7.2nm,0.7s,baz=126,slow=6.2,SNR=34						
KURK	**Kurchatov**	**62.12**	**327**	*e*P	**P**	**03 48 10.0**	**-0.6**
	9.8nm,0.8s						
KKAR	**Karatay Array**	**63.64**	**317**	*e*P	**P**	**03 48 20.8**	**0.0**
	1.6nm,0.7s						
BVAR	**Borovoye Array**	**67.71**	**327**	P	**P**	**03 48 47.1**	**+0.3**
BVAR	**Borovoye Array**	**67.71**	**327**	P	**P**	**03 48 47.1**	**+0.3**
	2.2nm,0.7s,baz=141,slow=5.7,SNR=12						
BRVK	**Borovoye**	**67.78**	**327**	*e*P	**P**	**03 48 45.3**	**-1.9**
	6.5nm,0.9s						
TIXI	**Tiksi**	**68.09**	**1**	*e*P	**P**	**03 48 47.8**	**-1.0**
	5.5nm,0.4s						
ABKAR	**Akbulak array**	**72.55**	**321**	*e*P	**P**	**03 49 17.2**	**+0.7**
ARU	**Arti**	**75.32**	**328**	*e*P	**P**	**03 49 33.1**	**+0.5**
	4.0nm,0.8s						
VNDA	**Vanda**	**83.14**	**173**	*e*P	P	03 50 11.1	-3.7
	3.6nm,1.1s						
COLD	**Coldfoot**	**84.00**	**23**	*e*P	**P**	**03 50 22.3**	**+2.8**
MCK	**McKinley**	**84.24**	**26**	*e*P	**P**	**03 50 21.9**	**+1.1**
	6.8nm,0.8s						
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**03 50 26.3**	**+0.8**
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**03 50 26.3**	**+0.8**
	0.6nm,0.3s,baz=259,slow=7.3,SNR=7.0						
KMBO	**Kilima Mbogo**	**89.87**	**269**	*e*P	**P**	**03 50 49.6**	**+0.1**
	4.1nm,1.2s						
KMBO	**Kilima Mbogo**	**89.87**	**269**	P	**P**	**03 50 48.9**	**-0.6**
	0.9nm,0.5s,baz=47,slow=7.3,SNR=6.3						
INK	**Inuvik**	**90.28**	**22**	P	**P**	**03 50 49.7**	**-0.2**
INK	**Inuvik**	**90.28**	**22**	P	**P**	**03 50 49.7**	**-0.2**
	1.5nm,1.0s,baz=214,slow=7.5,SNR=3.3						
BR131	**Keskin Array S**	**90.43**	**310**	*e*P	**P**	**03 50 50.1**	**-1.3**
	2.5nm,0.9s						
BRTR	**Keskin Array B**	**90.43**	**310**	P	**P**	**03 50 49.7**	**-1.7**
BRTR	**Keskin Array B**	**90.43**	**310**	P	**P**	**03 50 49.7**	**-1.7**
	2.2nm,1.0s,baz=132,slow=5.2,SNR=12						
ARCES	**ARCESS Array B**	**90.80**	**340**	P	**P**	**03 50 51.7**	**-0.6**
ARCES	**ARCESS Array B**	**90.80**	**340**	P	**P**	**03 50 51.7**	**-0.6**
	3.8nm,0.8s,baz=77,slow=4.7,SNR=5.4						
ARE0	**ARCESS Array S**	**90.80**	**340**	*e*P	**P**	**03 50 52.1**	**-0.2**
FINES	**FINESS Array B**	**92.20**	**332**	P	**P**	**03 51 00.3**	**+1.4**
FINES	**FINESS Array B**	**92.20**	**332**	P	**P**	**03 51 00.3**	**+1.4**
	3.7nm,1.0s,baz=8.5,slow=2.8,SNR=3.1						
AKASG	**Malin Array Be**	**92.29**	**321**	P	**P**	**03 50 58.8**	**-0.8**
AKASG	**Malin Array Be**	**92.29**	**321**	P	**P**	**03 50 58.8**	**-0.8**
	0.4nm,0.5s,baz=72,slow=4.3,SNR=6.0						
BUR08	**Bucovina Ar. S**	**95.41**	**318**	*e*P	**P**	**03 51 13.5**	**-0.7**
SNAA	**Sanae**	**105.05**	**195**	*e*P	**Pdif**	**03 52 04.4**	**+7.7**
TXAR	**Lajitas Array**	**121.50**	**52**	PKP	**PKPdf**	**03 56 44.7**	**+1.1**
TXAR	**Lajitas Array**	**121.50**	**52**	PKP	**PKPdf**	**03 56 44.7**	**+1.1**
	0.3nm,0.8s,baz=321,slow=1.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**123.31**	**288**	PKP	**PKPdf**	**03 56 46.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**123.31**	**288**	PKP	**PKPdf**	**03 56 46.9**	**-0.4**
	1.0nm,0.8s,baz=358,slow=1.3,SNR=6.4						
CFAA	**Coronel Fontan**	**148.54**	**154**	PKPbc	**PKPbc**	**03 57 36.0**	**-0.9**
CFAA	**Coronel Fontan**	**148.54**	**154**	PKPbc	**PKPbc**	**03 57 36.0**	**-0.9**
	0.2nm,0.7s,baz=299,slow=3.1,SNR=4.3						

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*ISCJB **06** 03:41:17.7±0.4, 20°.40S±0°.03×68°.94W±0°.06, h112km±4km, mb4.1/18, Error ellipse: s-maj=10.2km s-min=4.5km az=166.4*
*IDC **06** 03:41:17.3±2.8, 20°.40S×68°.88W, h89km±25km, mb3.9/10, mb1 4.0/12, mb1mx3.9/19, mbtmp4.2/12, MS1.8/1, Ms1 1.8/1, ms1mx1.7/35, Error ellipse: s-maj=27.4km s-min=19.7km az=31.0*
*GUC **06** 03:41:18.8±0.4, 20°.43S×69°.15W, h110km±3km, ML4.5*
*NEIC **06** 03:41:18.8, 20°.43S×69°.15W, h110km, mb4.3/14, After GUC.*
ISC 06 03:41:18.4±0.7, **20°.40S**±0°.03×**68°.97W**±0°.07, **h102**km±6km, **n76,** σ0§**97**/85, **mb4.2**/18, **10C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.81**	**217**	⇓*i*P	**Pn**	**03 41 37.2**	**+0.1**
PB01				*i* S	**Sn**	**03 41 51.5**	**+0.3**
PB01				AML	AML	03 41 53.8	
	comp=N,11μm,0.4s						
PB01	**Plate Boundary**	**0.81**	**217**	⇓*i*P	**Pn**	**03 41 37.2**	**+0.1**
PB01				*i* S	**Sn**	**03 41 51.5**	**+0.3**
PSGC	**Pisagua**	**1.34**	**306**	⇑*i*P	**Pn**	**03 41 43.0**	**0.0**
PSGC				*i* S	**Sn**	**03 42 01.6**	**0.0**
PSGC				AML	AML	03 42 06.5	
	comp=E,5μm,0.3s						
PSGC	**Pisagua**	**1.34**	**306**	⇑*i*P	**Pn**	**03 41 43.0**	**0.0**
PSGC				*i* S	**Sn**	**03 42 01.6**	**0.0**
MNMC	**Minimini**	**1.39**	**335**	⇑*i*P	**Pn**	**03 41 44.8**	**+1.0**
MNMC				*i* S	**Sn**	**03 42 04.9**	**+2.0**
MNMC				AML	AML	03 42 06.7	
	comp=N,12μm,0.2s						
MNMC	**Minimini**	**1.39**	**335**	⇑*i*P	**Pn**	**03 41 44.8**	**+1.0**
MNMC				*i* S	**Sn**	**03 42 04.9**	**+2.0**
PB09	**Plate Boundary**	**1.42**	**190**	⇓*i*P	**Pn**	**03 41 44.8**	**+0.8**
PB09				*i* S	**Sn**	**03 42 04.7**	**+1.4**
PB09				AML	AML	03 42 08.6	
	comp=E,12μm,1.0s						
PB09	**Plate Boundary**	**1.42**	**190**	⇓*i*P	**Pn**	**03 41 44.8**	**+0.8**
PB09				*i* S	**Sn**	**03 42 04.7**	**+1.4**
PB07	**Plate Boundary**	**1.58**	**213**	⇑*i*P	**Pn**	**03 41 46.0**	**+0.1**
PB07				*i* S	**Sn**	**03 42 06.7**	**-0.1**
PB07				AML	AML	03 42 11.6	
	comp=E,4μm,0.4s						
PB07	**Plate Boundary**	**1.58**	**213**	⇑*i*P	**Pn**	**03 41 46.0**	**+0.1**
PB07				*i* S	**Sn**	**03 42 06.7**	**-0.1**
MACH	**Maria Elena**	**1.94**	**202**	⇑*i*P	**Pn**	**03 41 51.0**	**+0.5**
MACH				*i* S	**Sn**	**03 42 15.3**	**+0.5**
MACH	**Maria Elena**	**1.94**	**202**	⇑*i*P	**Pn**	**03 41 51.0**	**+0.5**
MACH				*i* S	**Sn**	**03 42 15.3**	**+0.5**
LVC	**Limon Verde**	**2.21**	**179**	*e*Pn	**Pn**	**03 41 55.4**	**+1.4**
LVC				*e*Sn	**Sn**	**03 42 24.0**	**+2.8**
ARCH	**Arica**	**2.27**	**326**	⇑*i*P	**Pn**	**03 41 55.2**	**+0.6**
ARCH				*i* S	**Sn**	**03 42 23.1**	**+0.8**
ARCH				AML	AML	03 42 31.4	
	comp=E,10μm,0.9s						
ARCH	**Arica**	**2.27**	**326**	⇑*i*P	**Pn**	**03 41 55.2**	**+0.6**
ARCH				*i* S	**Sn**	**03 42 23.1**	**+0.8**
LPAZ	**La Paz**	**4.16**	**11**	*e*Pn	**Pn**	**03 42 23.0**	**+2.5**
LPAZ	**La Paz**	**4.16**	**11**	P	Pn	03 42 24.1	+3.6
	comp=E,25nm,0.3s,baz=201,slow=6.0,SNR=240						
ARE	**Arequipa**	**4.59**	**328**	*e*P	Pn	03 42 29.0	+3.1
ARE				*e*S	**Sn**	**03 43 18.0**	**-0.3**
SIV	**San Ignacio**	**8.69**	**61**	P	**Pn**	**03 43 20.2**	**-1.2**
SIV				S	Sn	03 44 43.3	-14
SIV	**San Ignacio**	**8.69**	**61**	P	**Pn**	**03 43 20.2**	**-1.2**
	comp=E,4.6nm,0.3s,baz=258,slow=13,SNR=79						
SIV				S	Sn	03 44 43.3	-14
	baz=126,slow=19,SNR=2.4						
LCO	**Las Campanas**	**8.72**	**190**	*e*Pn	**Pn**	**03 43 22.0**	**+0.1**
	comp=E,16nm,0.3s						
LCO				*e*Lg	Lg	03 45 18.7	
CFAA	**Coronel Fontan**	**11.18**	**177**	P	**Pn**	**03 43 53.1**	**-2.1**
CFAA				S	Sn	03 46 07.1	+8.9
CFAA	**Coronel Fontan**	**11.18**	**177**	P	**Pn**	**03 43 53.1**	**-2.1**
	comp=E,0.1nm,0.3s,baz=7.0,slow=12,SNR=3.5						
CFAA				S	Sn	03 46 07.1	+8.9
	comp=E,0.1nm,0.3s,baz=144,slow=19,SNR=2.3						
CFAA				LR	LR	03 48 12.2	
	comp=E,14nm,28.6s,baz=124,slow=37						
CPUP	**Villa Florida**	**12.21**	**121**	*e*Pn	**Pn**	**03 44 08.3**	**-0.6**
CPUP	**Villa Florida**	**12.21**	**121**	P	**Pn**	**03 44 07.6**	**-1.3**
	comp=E,0.6nm,0.3s,baz=288,slow=11,SNR=9.4						
SAML	**Samuel**	**12.68**	**27**	*e*Pn	**Pn**	**03 44 13.4**	**-1.7**
	comp=E,5.1nm,0.8s						
TRQA	**Tornquist**	**18.61**	**162**	*e*P	**P**	**03 45 27.5**	**-0.4**
	comp=E,4.0nm,0.7s						
BDFB	**Brasilia**	**20.48**	**80**	P	**P**	**03 45 47.8**	**-0.6**
BDFB	**Brasilia**	**20.48**	**80**	P	**P**	**03 45 47.8**	**-0.6**
	comp=E,1.8nm,0.4s,baz=215,slow=12,SNR=4.1						
OTAV	**Otavalo**	**22.51**	**335**	*e*P	**P**	**03 46 10.9**	**+0.6**
	comp=E,6.9nm,1.0s						
ROSC	**El Rosal**	**25.64**	**348**	*e*P	**P**	**03 46 38.8**	**-0.4**
ROSC	**El Rosal**	**25.64**	**348**	P	**P**	**03 46 40.0**	**+0.8**
	comp=E,4.0nm,0.5s,baz=270,slow=19,SNR=4.2						
RCBR	**Riachuelo**	**35.21**	**70**	*e*P	**P**	**03 48 04.8**	**+1.6**
	comp=E,22nm,1.3s						
LRS	**Lares**	**38.50**	**3**	*e*P	**P**	**03 48 29.8**	**-1.2**
WVT	**Waverly**	**58.98**	**342**	*e*P	**P**	**03 51 06.5**	**-0.8**
	comp=E,7.0nm,0.7s						
TXAR	**Lajitas Array**	**59.70**	**325**	P	**P**	**03 51 12.1**	**-0.5**
TXAR	**Lajitas Array**	**59.70**	**325**	P	**P**	**03 51 12.1**	**-0.5**
	comp=E,0.2nm,0.6s,baz=148,slow=10,SNR=4.5						
WCI	**Wyandotte Cave**	**60.54**	**344**	*e*P	**P**	**03 51 17.2**	**-0.9**
	comp=E,7.0nm,0.8s						
SNAA	**Sanae**	**63.34**	**161**	*e*P	**P**	**03 51 37.0**	**+0.6**
	comp=E,2.1nm,0.8s						
SDCO	**Great Sand Dun**	**67.27**	**329**	*e*P	**P**	**03 52 03.7**	**+1.2**
	comp=E,

*TRN **06** 03:42:21.0, 18°.68N×64°.37W, h49km, MD3.5(RSPR)*
*NEIC **06** 03:42:23.0, 18°.77N×64°.36W, h44km, MD3.5(RSPR), After RSPR.*
*RSPR **06** 03:42:23.0, 18°.77N×64°.36W, h44km±4km, MD3.5/12*

ISC 06 03:42:22.0±1.6, 18°.78N±0°.09×64°.35W±0°.04, h42km, n63, σ0°.58/97, 34C-26D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.44**	**216**	eP	**Pn**	**03 42 32.6**	**+0.6**
TBVI	**Tortola**	**0.44**	**216**	eP	**Pn**	**03 42 32.6**	**+0.6**
TBVI	**Tortola**	**0.44**	**216**	eP	**Pn**	**03 42 32.6**	**+0.6**
STVI	**Saint Thomas**	**0.71**	**234**	eP	**Pn**	**03 42 35.5**	**-0.1**
STVI	**Saint Thomas**	**0.71**	**234**	eP	**Pn**	**03 42 35.5**	**-0.1**
STVI				eS	**Sn**	**03 42 45.1**	**-0.3**
STVI	**Saint Thomas**	**0.71**	**234**	eP	**Pn**	**03 42 35.5**	**-0.1**
STVI				eS	**Sn**	**03 42 45.1**	**-0.3**
CDVI	**St. Croix**	**1.09**	**201**	eP	**Pn**	**03 42 40.7**	**-0.2**
CDVI	**St. Croix**	**1.09**	**201**	eP	**Pn**	**03 42 40.7**	**-0.2**
CDVI				eS	**Sn**	**03 42 54.3**	**-0.4**
CDVI	**St. Croix**	**1.09**	**201**	eP	**Pn**	**03 42 40.7**	**-0.2**
CDVI				eS	**Sn**	**03 42 54.3**	**-0.4**
MTP	**Monte Pirata**	**1.33**	**240**	eP	**Pn**	**03 42 43.8**	**-0.3**
MTP	**Monte Pirata**	**1.33**	**240**	eP	**Pn**	**03 42 43.8**	**-0.3**
MTP				eS	**Sn**	**03 42 59.9**	**-0.7**
MTP	**Monte Pirata**	**1.33**	**240**	eP	**Pn**	**03 42 43.8**	**-0.3**
MTP				eS	**Sn**	**03 42 59.9**	**-0.7**
CBYP	**Canovanas**	**1.52**	**251**	eP	**Pn**	**03 42 46.0**	**-0.8**
CBYP	**Canovanas**	**1.52**	**251**	eP	**Pn**	**03 42 46.0**	**-0.8**
CBYP				eS	**Sn**	**03 43 05.4**	**+0.1**
CBYP	**Canovanas**	**1.52**	**251**	eP	**Pn**	**03 42 46.0**	**-0.8**
CBYP				eS	**Sn**	**03 43 05.4**	**+0.1**
SABA	**Saba**	**1.56**	**137**	eP	**Pn**	**03 42 47.0**	**-0.3**
SABA	**Saba**	**1.56**	**137**	eP	**Pn**	**03 42 47.0**	**-0.3**
SABA				eS	**Sn**	**03 43 06.4**	**+0.2**
SABA	**Saba**	**1.56**	**137**	eP	**Pn**	**03 42 47.0**	**-0.3**
SABA				eS	**Sn**	**03 43 06.4**	**+0.2**
HUMP	**Col San Antoni**	**1.56**	**246**	eP	**Pn**	**03 42 46.8**	**-0.5**
HUMP	**Col San Antoni**	**1.56**	**246**	eP	**Pn**	**03 42 46.8**	**-0.5**
HUMP				eS	**Sn**	**03 43 06.2**	**0.0**
HUMP	**Col San Antoni**	**1.56**	**246**	eP	**Pn**	**03 42 46.8**	**-0.5**
HUMP				eS	**Sn**	**03 43 06.2**	**0.0**
CPD	**Cerro la Pandu**	**1.66**	**244**	eP	**Pn**	**03 42 48.4**	**-0.3**
CPD	**Cerro la Pandu**	**1.66**	**244**	eP	**Pn**	**03 42 48.4**	**-0.3**
CPD	**Cerro la Pandu**	**1.66**	**244**	eP	**Pn**	**03 42 48.4**	**-0.3**
SJG	**San Juan**	**1.83**	**249**	eP	**Pn**	**03 42 50.6**	**-0.4**
SJG	**San Juan**	**1.83**	**249**	eP	**Pn**	**03 42 50.7**	**-0.4**
SJG	**San Juan**	**1.83**	**249**	eP	**Pn**	**03 42 50.6**	**-0.4**
SJG				eS	**Sn**	**03 43 12.4**	**-0.6**
SJG	**San Juan**	**1.83**	**249**	eP	**Pn**	**03 42 50.6**	**-0.4**
SJG				eS	**Sn**	**03 43 12.4**	**-0.6**
CELP	**Cerrillos**	**2.23**	**252**	eP	**Pn**	**03 42 56.6**	**+0.1**
CELP				eS	**Sn**	**03 43 22.7**	**-0.1**
CELP	**Cerrillos**	**2.23**	**252**	eP	**Pn**	**03 42 56.6**	**+0.1**
CELP				eS	**Sn**	**03 43 22.7**	**-0.1**
CELP	**Cerrillos**	**2.23**	**252**	eP	**Pn**	**03 42 56.6**	**+0.1**
CELP				eS	**Sn**	**03 43 22.7**	**-0.1**
OBIP	**Obispado Ponce**	**2.27**	**252**	eP	**Pn**	**03 42 57.5**	**+0.5**
OBIP	**Obispado Ponce**	**2.27**	**252**	eP	**Pn**	**03 42 57.5**	**+0.5**
OBIP				eS	**Sn**	**03 43 23.7**	**+0.1**
OBIP	**Obispado Ponce**	**2.27**	**252**	eP	**Pn**	**03 42 57.5**	**+0.5**
OBIP				eS	**Sn**	**03 43 23.7**	**+0.1**
AOPR	**Arecibo Observ**	**2.32**	**260**	eP	**Pn**	**03 42 57.4**	**-0.4**
AOPR	**Arecibo Observ**	**2.32**	**260**	eP	**Pn**	**03 42 57.4**	**-0.4**
AOPR				eS	**Sn**	**03 43 25.4**	**+0.3**
AOPR	**Arecibo Observ**	**2.32**	**260**	eP	**Pn**	**03 42 57.4**	**-0.4**
AOPR				eS	**Sn**	**03 43 25.4**	**+0.3**
LRS	**Lares**	**2.42**	**259**	eP	**Pn**	**03 42 59.2**	**+0.1**
LRS				eS	**Sn**	**03 43 27.3**	**-0.2**
LRS	**Lares**	**2.42**	**259**	eP	**Pn**	**03 42 59.2**	**+0.1**
LRS				eS	**Sn**	**03 43 27.3**	**-0.2**
LRS	**Lares**	**2.42**	**259**	eP	**Pn**	**03 42 59.2**	**+0.1**
LRS				eS	**Sn**	**03 43 27.3**	**-0.2**
GBPR	**Guanica, Bosqu**	**2.53**	**252**	eP	**Pn**	**03 43 01.6**	**+1.0**
GBPR	**Guanica, Bosqu**	**2.53**	**252**	eP	**Pn**	**03 43 01.6**	**+1.0**
GBPR				eS	**Sn**	**03 43 32.2**	**+1.9**
GBPR	**Guanica, Bosqu**	**2.53**	**252**	eP	**Pn**	**03 43 01.6**	**+1.0**
GBPR				eS	**Sn**	**03 43 32.2**	**+1.9**
AGPR	**Aguadilla, PR**	**2.64**	**264**	eP	**Pn**	**03 43 02.0**	**-0.1**
AGPR	**Aguadilla, PR**	**2.64**	**264**	eP	**Pn**	**03 43 02.0**	**-0.1**
AGPR				eS	**Sn**	**03 43 32.2**	**-0.7**
AGPR	**Aguadilla, PR**	**2.64**	**264**	eP	**Pn**	**03 43 02.0**	**-0.1**
AGPR				eS	**Sn**	**03 43 32.2**	**-0.7**
LSP	**Las Mesas**	**2.67**	**258**	eP	**Pn**	**03 43 02.8**	**+0.3**
LSP	**Las Mesas**	**2.67**	**258**	eP	**Pn**	**03 43 02.8**	**+0.3**
LSP				eS	**Sn**	**03 43 33.5**	**-0.1**
LSP	**Las Mesas**	**2.67**	**258**	eP	**Pn**	**03 43 02.8**	**+0.3**
LSP				eS	**Sn**	**03 43 33.5**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.73**	**254**	eP	**Pn**	**03 43 04.5**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.73**	**254**	eP	**Pn**	**03 43 04.5**	**+1.1**
CRPR				eS	**Sn**	**03 43 35.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.73**	**254**	eP	**Pn**	**03 43 04.5**	**+1.1**
CRPR				eS	**Sn**	**03 43 35.0**	**-0.2**
IDE	**Isla Desecheo**	**2.99**	**263**	eP	**Pn**	**03 43 07.0**	**0.0**
IDE	**Isla Desecheo**	**2.99**	**263**	eP	**Pn**	**03 43 07.0**	**0.0**
IDE				eS	**Sn**	**03 43 40.6**	**-1.0**
IDE	**Isla Desecheo**	**2.99**	**263**	eP	**Pn**	**03 43 07.0**	**0.0**
IDE				eS	**Sn**	**03 43 40.6**	**-1.0**
MLG	**Mont-d'or**	**3.69**	**137**	eP	**Pn**	**03 43 16.6**	**0.0**
BCG	**Bois Riant Cap**	**3.73**	**135**	eP	**Pn**	**03 43 17.5**	**+0.3**
HMG	**Houelmont**	**3.75**	**137**	eP	**Pn**	**03 43 17.5**	**0.0**
PCDR	**Punta Cana, DR**	**3.83**	**267**	eP	**Pn**	**03 43 19.8**	**+1.3**
PCDR	**Punta Cana, DR**	**3.83**	**267**	eP	**Pn**	**03 43 19.8**	**+1.3**
PCDR	**Punta Cana, DR**	**3.83**	**267**	eP	**Pn**	**03 43 19.8**	**+1.3**
DR12	**Loma Pena Alta**	**4.77**	**271**	eP	**Pn**	**03 43 31.2**	**-0.2**
DR12	**Loma Pena Alta**	**4.77**	**271**	eP	**Pn**	**03 43 31.2**	**-0.2**

*ISCJB **06** 03:48:43.7±0.5, 24°.27S±0°.06×179°.47W±0°.07, h490km, mb4.2/15, Error ellipse: s-maj=10.0km s-min=7.1km az=43.3*
*NEIC **06** 03:48:43.6±1.0, 24°.41S×179°.53W, h464km±10km, mb4.5/8, Error ellipse: s-maj=10.8km s-min=9.8km az=145.0*
*IDC **06** 03:48:43.5±2.6, 24°.47S×179°.48W, h459km±27km, mb3.9/10, mb1 3.9/13, mb1mx3.7/25, mbtmp4.8/13, Error ellipse: s-maj=18.2km s-min=14.5km az=50.0*
*AUST **06** 03:48:43.7±1.6, 24°.29S×179°.49W, h459km, Error ellipse: s-maj=2.1km s-min=1.3km az=321.0*

ISC 06 03:48:45.9±0.5, 24°.42S±0°.07×179°.59W±0°.09, h490km, n80, σ1°.04/85, mb4.4/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**10.44**	**61**	P	**P**	**03 51 05.8**	**-2.1**
	baz=10,SNR=3.6						
AFI	**Afiamalu**	**12.79**	**37**	P	**P**	**03 51 30.3**	**-2.8**
AFI				S	S	03 53 42.2	-8.8
AFI	**Afiamalu**	**12.79**	**37**	P	**P**	**03 51 30.3**	**-2.8**
	9.8nm,0.3s,baz=344,slow=8.6,SNR=8.6						
AFI				S	S	03 53 42.2	-8.8
	4.2nm,0.3s,baz=52,slow=19,SNR=5.0						
DZM	**Mont Dzumac**	**13.05**	**278**	P	**P**	**03 51 34.2**	**-1.6**
DZM	**Mont Dzumac**	**13.05**	**278**	P	**P**	**03 51 34.2**	**-1.6**
	0.8nm,0.3s,baz=90,slow=16,SNR=10.0						
URZ	**Urewera**	**14.08**	**191**	P	**P**	**03 51 44.0**	**-2.4**
URZ				S	**S**	**03 54 15.2**	**-0.1**
URZ	**Urewera**	**14.08**	**191**	P	**P**	**03 51 44.0**	**-2.4**
	3.2nm,0.3s,baz=40,slow=8.1,SNR=14						
URZ				S	**S**	**03 54 15.2**	**-0.1**
	1.3nm,0.3s,baz=231,slow=22,SNR=13						
RPZ	**Rata Peaks**	**20.72**	**199**	eP	**P**	**03 52 50.2**	**-1.2**
	14nm,0.7s						
RPZ	**Rata Peaks**	**20.72**	**199**	P	**P**	**03 52 49.4**	**-2.0**
	10nm,0.6s,baz=80,slow=2.9,SNR=8.3						
EIDS	**Eidsvold**	**26.60**	**262**	eP	**P**	**03 53 44.7**	**+0.5**
	11nm,0.9s						
EIDS	**Eidsvold**	**26.60**	**262**	P	**P**	**03 53 45.1**	**+0.9**
	baz=27,SNR=6.4						
RMQ	**Roma**	**28.62**	**259**	P	**P**	**03 54 03.9**	**+1.9**
	baz=29,SNR=5.2						
CMSA	**Cobar Meteorol**	**31.37**	**249**	P	**P**	**03 54 26.4**	**+0.7**
	baz=32,SNR=14						
CTA	**Charters Tower**	**31.85**	**271**	P	**P**	**03 54 31.1**	**+1.1**
CTA	**Charters Tower**	**31.85**	**271**	P	**P**	**03 54 31.1**	**+1.1**
	19nm,0.5s,baz=100,slow=10,SNR=31						
CTAO	**Charters Tower**	**31.85**	**271**	eP	**P**	**03 54 30.5**	**+0.5**
	20nm,0.5s						
QLP	**Quilpie**	**32.65**	**258**	P	**P**	**03 54 37.3**	**+0.6**
	baz=33,SNR=11						
STKA	**Stephens Creek**	**34.88**	**249**	P	**P**	**03 54 56.1**	**+0.6**
STKA	**Stephens Creek**	**34.88**	**249**	P	**P**	**03 54 56.1**	**+0.6**
	5.2nm,0.6s,baz=96,slow=8.3,SNR=25						
STKA	**Stephens Creek**	**34.88**	**249**	P	**P**	**03 54 56.2**	**+0.7**
	baz=35,SNR=21						
PMG	**Port Moresby**	**35.02**	**289**	eP	**P**	**03 54 57.1**	**+0.4**
	30nm,1.0s						
PMG	**Port Moresby**	**35.02**	**289**	P	**P**	**03 54 57.4**	**+0.6**
	22nm,1.0s,baz=131,slow=6.3,SNR=4.8						
COEN	**Coen**	**36.57**	**280**	eP	**P**	**03 55 09.0**	**-0.7**
HTT	**Hallett**	**37.20**	**246**	P	**P**	**03 55 15.0**	**+0.2**
	baz=37,SNR=16						
BBOO	**Buckleboo**	**39.59**	**247**	P	**P**	**03 55 33.9**	**-0.3**
	baz=40,SNR=28						
AS31	**Alice Springs**	**42.32**	**261**	eP	**P**	**03 55 56.2**	**0.0**
ASAR	**Alice Springs**	**42.32**	**261**	P	**P**	**03 55 56.4**	**+0.2**
ASAR	**Alice Springs**	**42.32**	**261**	P	**P**	**03 55 56.4**	**+0.2**
	8.6nm,0.9s,baz=89,slow=6.7,SNR=61						
WRAB	**Tennant Creek**	**42.74**	**267**	eP	**P**	**03 55 58.8**	**-0.6**
	15nm,1.0s						
WRA	**Warramunga Arr**	**42.74**	**267**	P	**P**	**03 55 59.4**	**-0.2**
WRA	**Warramunga Arr**	**42.74**	**267**	P	**P**	**03 55 59.4**	**-0.2**
	11nm,0.6s,baz=102,slow=8.1,SNR=21						
FORT	**Forrest**	**46.48**	**250**	eP	**P**	**03 56 27.4**	**-0.9**
	26nm,0.7s						
FORT	**Forrest**	**46.48**	**250**	P	**P**	**03 56 27.7**	**-0.6**
	baz=46,SNR=13						
KDU	**Kakadu**	**46.71**	**276**	P	**P**	**03 56 29.8**	**-0.3**
	baz=47,SNR=8.5						
MTN	**Manton Dam**	**47.87**	**275**	P	**P**	**03 56 38.5**	**-0.4**
	baz=48,SNR=4.0						
KNRA	**Kununurra**	**49.06**	**270**	P	**P**	**03 56 48.2**	**+0.4**
	baz=49,SNR=12						
FAKI	**Fak Fak**	**51.09**	**287**	P	**P**	**03 57 02.7**	**-0.1**
	baz=51,SNR=3.1						
FITZ	**Fitzroy Crossi**	**51.16**	**266**	P	**P**	**03 57 03.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.16**	**266**	P	**P**	**03 57 03.7**	**+0.4**
	12nm,0.6s,baz=98,slow=11,SNR=39						
VNDA	**Vanda**	**53.90**	**185**	eP	**P**	**03 57 22.3**	**+0.4**
	11nm,1.7s						
KLBR	**Kellerberrin**	**55.13**	**247**	P	**P**	**03 57 31.4**	**0.0**
	baz=55,SNR=4.8						
MEEK	**Meekatharra**	**55.32**	**254**	P	**P**	**03 57 32.4**	**-0.5**
	baz=55,SNR=4.8						
MBWA	**Marble Bar**	**55.65**	**260**	eP	**P**	**03 57 34.2**	**-1.0**
	13nm,0.9s						
MORW	**Morawa**	**57.05**	**250**	P	**P**	**03 57 44.8**	**0.0**
	baz=57,SNR=5.0						
QSPA	**South Pole Qui**	**65.67**	**180**	P	**P**	**03 58 42.4**	**+1.5**
QSPA	**South Pole Qui**	**65.67**	**180**	P	**P**	**03 58 42.3**	**+1.5**
	1.1nm,0.8s,baz=57,slow=4.1,SNR=3.7						
MAW	**Mawson**	**77.39**	**200**	P	**P**	**03 59 49.7**	**+0.4**
MAW	**Mawson**	**77.39**	**200**	P	**P**	**03 59 49.7**	**+0.4**
	1.3nm,0.6s,baz=223,slow=5.1,SNR=3.5						
PMSA	**Palmer Station**	**78.29**	**157**	P	**P**	**03 59 53.8**	**-0.4**
PMSA	**Palmer Station**	**78.29**	**157**	P	**P**	**03 59 53.8**	**-0.4**
	18nm,0.7s,baz=239,slow=5.9,SNR=11						
NVAR	**Mina Array Bea**	**84.87**	**44**	P	**P**	**04 00 30.6**	**+2.0**
NVAR	**Mina Array Bea**	**84.87**	**44**	P	**P**	**04 00 30.6**	**+2.0**
	0.1nm,0.5s,baz=193,slow=3.5,SNR=2.0						
MKAR	**Makanchi Array**	**112.78**	**312**	PKiKP	**PKiKP**	**04 06 26.0**	**-0.3**
MKAR	**Makanchi Array**	**112.78**	**312**	PKiKP	**PKiKP**	**04 06 26.0**	**-0.3**
	0.1nm,0.4s,baz=116,slow=1.4,SNR=3.6						
TKM2	**Tokmak 2**	**116.75**	**307**	ePKPdf	**PKPdf**	**04 06 33.5**	**-0.8**
EKS2	**Erkin-Say**	**118.04**	**307**	ePKPdf	**PKPdf**	**04 06 36.1**	**-0.6**
ARU	**Arti**	**127.52**	**323**	ePKPdf	**PKPdf**	**04 06 54.3**	**0.0**
ARCES	**ARCESS Array B**	**132.47**	**348**	PKP	**PKPdf**	**04 07 04.2**	**+0.8**
ARCES	**ARCESS Array B**	**132.47**	**348**	PKP	**PKPdf**	**04 07 04.2**	**+0.8**
	4.0nm,0.9s,baz=25,slow=4.1,SNR=6.3						
TSUM	**Tsumeb**	**133.52**	**203**	ePKPdf	**PKPdf**	**04 07 08.0**	**+1.0**
FINES	**FINESS Array B**	**139.05**	**341**	PKP	**PKPdf**	**04 07 17.9**	**+2.2**
FINES	**FINESS Array B**	**139.05**	**341**	PKP	**PKPdf**	**04 07 17.9**	**+2.2**
	3.8nm,0.9s,baz=48,slow=2.1,SNR=6.9						
HFS	**Hagfors**	**143.12**	**349**	PKPpre	PKPpre	04 07 20.7	
HFS	**Hagfors**	**143.12**	**349**	PKhKP	PKPpre	04 07 20.7	
	1.7nm,0.4s,baz=60,slow=3.6,SNR=21						
AKASG	**Malin Array Be**	**145.61**	**327**	PKPbc	**PKPbc**	**04 07 28.4**	**-0.6**
AKASG	**Malin Array Be**	**145.61**	**327**	PKPbc	**PKPbc**	**04 07 28.4**	**-0.6**
	0.7nm,0.3s,baz=41,slow=3.9,SNR=7.3						
AKBB	**Malin Array Si**	**145.61**	**327**	ePKPbc	**PKPab**	**04 07 29.7**	**-0.6**
KIEV	**Kiev**	**145.62**	**327**	ePKPbc	**PKPbc**	**04 07 28.5**	**-0.5**
BR131	**Keskin Array S**	**148.19**	**307**	ePKPdf	**PKPdf**	**04 07 32.8**	**+0.3**
BR131				ePKPbc	**PKPbc**	**04 07 36.5**	**0.0**
BRTR	**Keskin Array B**	**148.19**	**307**	PKPbc	**PKPbc**	**04 07 36.8**	**+0.3**
BRTR	**Keskin Array B**	**148.19**	**307**	PKPbc	**PKPbc**	**04 07 36.8**	**+0.3**
	0.6nm,0.6s,baz=146,slow=5.0,SNR=5.2						
EKA	**Eskdalemuir Ar**	**149.01**	**4**	PKPbc	**PKPbc**	**04 07 37.9**	**+0.1**
EKA	**Eskdalemuir Ar**	**149.01**	**4**	PKPbc	**PKPbc**	**04 07 37.9**	**+0.1**
	2.7nm,0.9s,baz=350,slow=2.9,SNR=4.4						
BUR08	**Bucovina Ar. S**	**149.59**	**326**	ePKPbc	**PKPbc**	**04 07 40.9**	**+1.3**
PSZ	**Piszkesteto**	**151.92**	**332**	ePKPdf	**PKPdf**	**04 07 38.4**	**+0.5**
PSZ				ePKPbc	**PKiKP**	**04 07 45.7**	**+0.6**
GERES	**GERESS Array B**	**153.47**	**340**	PKPbc	**PKPbc**	**04 07 48.8**	**+0.5**
GERES				PKPab	**PKPab**	**04 08 03.4**	**+0.4**
GERES	**GERESS Array B**	**153.47**	**340**	PKPbc	**PKPbc**	**04 07 48.8**	**+0.5**
	0.1nm,0.5s,baz=42,slow=12,SNR=2.3						
GERES				PKPab	**PKPab**	**04 08 03.4**	**+0.4**
	0.2nm,0.6s,baz=70,slow=8.5,SNR=2.8						
WLF	**Walferdange**	**154.40**	**351**	ePKPdf	**PKPdf**	**04 07 42.2**	**+1.0**
WLF				ePKPbc	**PKPbc**	**04 07 50.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**168.72**	**186**	PKPab	**PKPab**	**04 09 10.2**	**0.0**
TORD	**Torodi Ar. Bea**	**168.72**	**186**	PKPab	**PKPab**	**04 09 10.2**	**0.0**
	0.4nm,0.8s,baz=172,slow=3.7,SNR=4.4						

*BJI **06** 04:19:11.2, 58°.20N×155°.90W, h137km, mb4.7/4*
*ISCJB **06** 04:19:12.6±0.2, 58°.33N±0°.03×155°.95W±0°.05, h149km±2km, mb4.2/45, Error ellipse: s-maj=5.8km s-min=3.2km az=143.8*
*IDC **06** 04:19:15.3±2.9, 58°.75N×156°.18W, h139km±24km, mb3.8/16, mb1 3.9/18, mb1mx3.8/27, mbtmp4.2/18, Error ellipse: s-maj=20.6km s-min=12.8km az=6.0*
*NEIC **06** 04:19:15.3, 58°.25N×155°.86W, h138km, mb4.3/21, After AEIC.*

ISC 06 04:19:13.7±0.6, 58°.37N±0°.05×155°.91W±0°.04, h140km±5km, n232, σ1°.16/250, mb4.3/45, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNTC	**Contact Creek**	**0.11**	**173**	P	**Pn**	**04 19 33.0**	**+0.3**
KELA	**Mount Kelaz**	**0.11**	**53**	P	**Pn**	**04 19 33.0**	**+0.3**
KELA				S	**Sn**	**04 19 47.0**	**-0.2**
KVTA	**Katmai Vly 10**	**0.32**	**88**	P	**Pn**	**04 19 33.6**	**+0.5**
KABU	**Katmai Buttres**	**0.35**	**107**	P	**Pn**	**04 19 33.8**	**+0.5**
KABU				S	**Sn**	**04 19 49.0**	**+0.9**
KJL	**Kejulik**	**0.37**	**151**	P	**Pn**	**04 19 33.7**	**+0.4**
PLWL	**Peulik Whale M**	**0.40**	**215**	P	**Pn**	**04 19 33.3**	**-0.1**
KAKN	**Katmai Knife C**	**0.45**	**99**	P	**Pn**	**04 19 34.2**	**+0.5**
KAKN				S	**Sn**	**04 19 49.4**	**+0.4**
CAHL	**Cahill**	**0.46**	**135**	P	**Pn**	**04 19 34.0**	**+0.3**
MGLS	**Mageik Landsli**	**0.46**	**121**	P	**Pn**	**04 19 34.1**	**+0.4**
KABR	**Katmai Barrier**	**0.55**	**116**	P	**Pn**	**04 19 34.5**	**+0.2**
KAWH	**Katmai**	**0.58**	**89**	P	**Pn**	**04 19 34.9**	**+0.4**
KAWH				S	**Sn**	**04 19 50.9**	**+0.7**
PLK5	**Peulik 5**	**0.64**	**234**	P	**Pn**	**04 19 35.0**	**+0.3**
PLK3	**Peulik 3**	**0.71**	**196**	P	**Pn**	**04 19 35.3**	**+0.1**
PLK3				S	**Sn**	**04 19 51.6**	**+0.1**
PLK4	**Peulik 4**	**0.78**	**198**	P	**Pn**	**04 19 35.8**	**0.0**
PLBL	**Peulik Blue Cr**	**0.83**	**216**	P	**Pn**	**04 19 36.0**	**-0.1**
KAPH	**Katmai Pasha**	**0.85**	**74**	P	**Pn**	**04 19 37.3**	**+1.0**
KAPH				S	**Sn**	**04 19 55.3**	**+1.7**
MCNL	**McNeil River**	**1.15**	**44**	P	**Pn**	**04 19 40.0**	**+1.1**
MCNL				S	**Sn**	**04 19 59.6**	**+1.4**
AUI	**Augustine Isla**	**1.61**	**52**	P	**Pn**	**04 19 45.1**	**+1.5**
AUI				S	**Sn**	**04 20 08.6**	**+2.0**
AUH	**Augustine H**	**1.62**	**51**	P	**Pn**	**04 19 45.4**	**+1.6**
AUP	**Augustine Pinn**	**1.63**	**51**	P	**Pn**	**04 19 45.6**	**+1.7**
AUL	**Augustine Lava**	**1.64**	**51**	P	**Pn**	**04 19 45.5**	**+1.6**
OHAK	**Old Harbor**	**1.82**	**128**	P	**Pn**	**04 19 45.3**	**-0.7**
OHAK				S	**Sn**	**04 20 08.7**	**-2.1**
KDAK	**Kodiak Island**	**1.86**	**107**	P	**Pn**	**04 19 46.1**	**-0.3**
KDAK				S	**Sn**	**04 20 10.8**	**-0.9**
OPT	**Oil Point**	**1.89**	**46**	P	**Pn**	**04 19 48.5**	**+1.7**
ANPK	**Aniakchak Peak**	**1.94**	**219**	P	**Pn**	**04 19 47.1**	**-0.5**
ANPB	**Aniakchak Plen**	**2.03**	**220**	P	**Pn**	**04 19 47.8**	**-0.7**
ILW	**Iliamna West**	**2.21**	**39**	P	**Pn**	**04 19 52.2**	**+1.4**
CHGN	**Chignik**	**2.48**	**214**	P	**Pn**	**04 19 53.1**	**-0.9**
RSO	**Redoubt South**	**2.64**	**36**	ePn	**Pn**	**04 19 57.9**	**+1.7**
NCT	**North Crescent**	**2.67**	**33**	P	**Pn**	**04 19 58.2**	**+1.8**
RDN	**Redoubt North**	**2.68**	**35**	P	**Pn**	**04 19 58.7**	**+2.0**
CNPM	**China Poot**	**2.68**	**63**	P	**Pn**	**04 19 57.7**	**+1.2**
CNPM				S	**Sn**	**04 20 29.1**	**-0.5**
DFR	**Drift River**	**2.77**	**35**	P	**Pn**	**04 19 59.5**	**+1.9**
VNHG	**Veniaminof 1**	**2.79**	**221**	P	**Pn**	**04 19 58.4**	**+0.4**
BRLK	**Bradley Lake**	**2.94**	**60**	P	**Pn**	**04 20 01.1**	**+1.2**
CKL	**Chakachamna La**	**3.36**	**31**	P	**Pn**	**04 20 07.2**	**+1.9**
BGL	**Barrier Glacie**	**3.40**	**30**	P	**Pn**	**04 20 07.8**	**+2.0**
SPBG	**Spurr Blockage**	**3.40**	**30**	P	**Pn**	**04 20 08.1**	**+2.3**
CGLM	**Capps Glacier**	**3.54**	**32**	P	**Pn**	**04 20 10.3**	**+2.7**
SLKM	**Skilak Lake**	**3.61**	**51**	P	**Pn**	**04 20 10.3**	**+1.9**
SEW	**Seward**	**3.74**	**60**	P	**Pn**	**04 20 11.4**	**+1.2**
STLK	**Strandline Lak**	**3.75**	**31**	P	**Pn**	**04 20 12.2**	**+1.9**
SDPT	**Sand Point**	**3.93**	**222**	P	**Pn**	**04 20 11.2**	**-1.5**
FIB	**Fire Island**	**4.03**	**44**	P	**Pn**	**04 20 16.0**	**+2.1**
SUA	**Susitna One**	**4.04**	**38**	P	**Pn**	**04 20 15.7**	**+1.4**
RC01	**Rabbit Creek A**	**4.14**	**46**	P	**Pn**	**04 20 16.6**	**+1.2**
SKT	**Skwentna**	**4.23**	**29**	P	**Pn**	**04 20 18.6**	**+2.1**
TT01	**Tatalina**	**4.55**	**359**	P	**Pn**	**04 20 22.4**	**+1.6**
PWL	**Port Wells**	**4.58**	**54**	P	**Pn**	**04 20 21.4**	**+0.2**
PMR	**Palmer**	**4.69**	**44**	P	**Pn**	**04 20 23.4**	**+0.8**
PPLA	**Purkeypile**	**4.89**	**20**	ePn	**Pn**	04 20 28.7	+3.2
	119nm,0.5s						
CUT	**Chulitna**	**4.92**	**32**	P	**Pn**	**04 20 26.8**	**+1.2**
MID	**Middleton Isla**	**5.07**	**74**	P	**Pn**	**04 20 28.2**	**+0.5**
GLI	**Glacier Island**	**5.13**	**57**	P	**Pn**	**04 20 28.5**	**0.0**
HIN	**Hinchinbrook I**	**5.22**	**63**	P	**Pn**	**04 20 30.2**	**+0.5**
FID	**Port Fidalgo**	**5.35**	**60**	P	**Pn**	**04 20 31.4**	**-0.1**
CAST	**Castle Rocks**	**5.40**	**19**	P	**Pn**	**04 20 34.4**	**+2.3**
JPK	**Jack Peak**	**5.42**	**56**	P	**Pn**	**04 20 33.3**	**+0.8**
FALS	**False Pass**	**5.44**	**233**	ePn	**Pn**	**04 20 32.3**	**-0.4**
FALS				eSn	**Sn**	**04 21 34.6**	**+0.3**
SCM	**Sheep Creek Mo**	**5.52**	**47**	P	**Pn**	**04 20 33.9**	**+0.2**
VLZ	**Valdez**	**5.58**	**56**	P	**Pn**	**04 20 35.2**	**+0.9**
EYAK	**Cordova Ski Ar**	**5.62**	**63**	P	**Pn**	**04 20 35.4**	**+0.4**
KTH	**Kantishna Hill**	**5.74**	**23**	P	**Pn**	**04 20 37.5**	**+0.8**
TRF	**Thorofare Moun**	**5.78**	**26**	P	**Pn**	**04 20 38.2**	**+0.9**
DIV	**Divide**	**5.82**	**57**	P	**Pn**	**04 20 38.4**	**+0.6**
RAGM	**Ragged Mountai**	**6.09**	**66**	P	**Pn**	**04 20 41.9**	**+0.6**

NOA	**NORSAR Array B**	**60.50**	**7**	P		**P**	**04 29 07.6**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=353,slow=6.8,SNR=6.6							
FINES	**FINESS Array B**	**60.51**	**359**	P		**P**	**04 29 07.2**	**-0.9**
FINES	**FINESS Array B**	**60.51**	**359**	P		**P**	**04 29 07.2**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=7.7,slow=7.1,SNR=20							
ARU	**Arti**	**62.27**	**339**	*eP*		**P**	**04 29 18.8**	**-1.2**
	comp=Z,4.9nm,0.8s							
KURK	**Kurchatov**	**62.51**	**324**	*eP*		**P**	**04 29 21.0**	**-0.7**
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**64.74**	**320**	*eP*		**P**	**04 29 36.1**	**-0.4**
MKAR	**Makanchi Array**	**64.74**	**320**	P		**P**	**04 29 35.8**	**-0.6**
MKAR	**Makanchi Array**	**64.74**	**320**	P		**P**	**04 29 35.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=27,slow=5.7,SNR=11							
ABKAR	**Akbulak array**	**68.76**	**336**	*eP*		**P**	**04 30 00.9**	**-1.0**
	comp=Z,1.1nm,0.6s							
TKM2	**Tokmak 2**	**70.38**	**322**	*eP*		**P**	**04 30 12.3**	**+0.1**
	comp=Z,6.3nm,1.3s							
AAK	**Ala-Archa**	**70.99**	**323**	*eP*		**P**	**04 30 15.7**	**-0.2**
	comp=Z,1.9nm,0.6s							
AAK	**Ala-Archa**	**70.99**	**323**	P		**P**	**04 30 15.6**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=344,slow=10,SNR=4.0							
EKS2	**Erkin-Say**	**71.19**	**324**	*eP*		**P**	**04 30 17.0**	**0.0**
	comp=Z,3.5nm,0.9s							
AKASG	**Malin Array Be**	**71.20**	**357**	P		**P**	**04 30 15.3**	**-1.4**
AKASG	**Malin Array Be**	**71.20**	**357**	P		**P**	**04 30 15.3**	**-1.4**
	comp=Z,2.8nm,0.4s,baz=5.6,slow=6.0,SNR=26							
AKBB	**Malin Array Si**	**71.20**	**357**	*eP*		**P**	**04 30 15.0**	**-1.7**
KIEV	**Kiev**	**71.21**	**357**	*eP*		**P**	**04 30 14.7**	**-2.1**
	comp=Z,4.9nm,0.6s							
FLN	**La Foliniere**	**71.33**	**17**	*eP*		**P**	**04 30 17.0**	**-0.5**
FLN	**La Foliniere**	**71.33**	**17**	*eP*		**P**	**04 30 17.0**	**-0.5**
LDF	**La Druitiere**	**71.55**	**17**	*eP*		**P**	**04 30 18.4**	**-0.4**
LDF	**La Druitiere**	**71.55**	**17**	*eP*		**P**	**04 30 18.4**	**-0.4**
GRR	**Gorron**	**71.63**	**17**	*eP*		**P**	**04 30 19.1**	**-0.2**
	comp=Z,10nm,0.6s							
GRR	**Gorron**	**71.63**	**17**	*eP*		**P**	**04 30 19.1**	**-0.2**
	comp=Z,10nm,0.6s							
KKAR	**Karatay Array**	**71.78**	**326**	*eP*		**P**	**04 30 20.0**	**-0.4**
	comp=Z,0.8nm,0.6s							
MORC	**Moravsky Berou**	**72.08**	**4**	*eP*		**P**	**04 30 20.7**	**-1.4**
	comp=Z,2.8nm,0.9s							
MEZF	**Maizieres J'vi**	**72.34**	**13**	*eP*		**P**	**04 30 23.2**	**-0.3**
MEZF	**Maizieres J'vi**	**72.34**	**13**	*eP*		**P**	**04 30 23.2**	**-0.3**
PAGF	**Fort de Pagny**	**72.36**	**13**	*eP*		**P**	**04 30 23.6**	**-0.1**
PAGF	**Fort de Pagny**	**72.36**	**13**	*eP*		**P**	**04 30 23.6**	**-0.1**
SFTF	**Sexfontaines**	**72.63**	**13**	*eP*		**P**	**04 30 24.5**	**-0.8**
SFTF	**Sexfontaines**	**72.63**	**13**	*eP*		**P**	**04 30 24.5**	**-0.8**
CDF	**Champ du Feu**	**72.68**	**12**	*eP*		**P**	**04 30 25.2**	**-0.5**
	comp=Z,7.6nm,0.7s							
CDF	**Champ du Feu**	**72.68**	**12**	*eP*		**P**	**04 30 25.2**	**-0.5**
	comp=Z,7.6nm,0.7s							
GERES	**GERESS Array B**	**72.80**	**7**	P		**P**	**04 30 26.1**	**-0.3**
GERES	**GERESS Array B**	**72.80**	**7**	P		**P**	**04 30 26.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=353,slow=4.6,SNR=15							
HAU	**Haudompre**	**72.98**	**12**	*eP*		**P**	**04 30 27.0**	**-0.4**
	comp=Z,8.6nm,0.6s							
HAU	**Haudompre**	**72.98**	**12**	*eP*		**P**	**04 30 27.0**	**-0.4**
	comp=Z,8.6nm,0.6s							
HYF	**Humbligny**	**73.24**	**15**	*eP*		**P**	**04 30 28.9**	**0.0**
HYF	**Humbligny**	**73.24**	**15**	*eP*		**P**	**04 30 28.9**	**0.0**
LOR	**Lormes**	**73.40**	**14**	*eP*		**P**	**04 30 29.4**	**-0.5**
	comp=Z,9.0nm,0.8s							
LOR	**Lormes**	**73.40**	**14**	*eP*		**P**	**04 30 29.4**	**-0.5**
	comp=Z,9.0nm,0.8s							
MFF	**Saint Martin d**	**73.48**	**17**	*eP*		**P**	**04 30 30.0**	**-0.3**
	comp=Z,7.3nm,0.6s							
MFF	**Saint Martin d**	**73.48**	**17**	*eP*		**P**	**04 30 30.0**	**-0.3**
	comp=Z,7.3nm,0.6s							
SSF	**Saint Saulge**	**73.56**	**15**	*eP*		**P**	**04 30 30.4**	**-0.4**
	comp=Z,15nm,0.8s							
SSF	**Saint Saulge**	**73.56**	**15**	*eP*		**P**	**04 30 30.4**	**-0.4**
	comp=Z,15nm,0.8s							
AVF	**Avril sur Loir**	**73.81**	**15**	*eP*		**P**	**04 30 31.7**	**-0.5**
	comp=Z,5.1nm,0.5s							
AVF	**Avril sur Loir**	**73.81**	**15**	*eP*		**P**	**04 30 31.7**	**-0.5**
	comp=Z,5.1nm,0.5s							
BGF	**Bois d'Agland**	**73.97**	**15**	*eP*		**P**	**04 30 32.7**	**-0.4**
	comp=Z,20nm,0.8s							
BGF	**Bois d'Agland**	**73.97**	**15**	*eP*		**P**	**04 30 32.7**	**-0.4**
	comp=Z,20nm,0.8s							
SMF	**Signal de Mont**	**74.01**	**14**	*eP*		**P**	**04 30 32.8**	**-0.6**
SMF	**Signal de Mont**	**74.01**	**14**	*eP*		**P**	**04 30 32.8**	**-0.6**
PSZ	**Piszkesteto**	**74.02**	**3**	*eP*		**P**	**04 30 34.2**	**+0.7**
	comp=Z,1.9nm,0.6s							
TCF	**Toulx Ste Croi**	**74.14**	**16**	*eP*		**P**	**04 30 33.6**	**-0.6**
TCF	**Toulx Ste Croi**	**74.14**	**16**	*eP*		**P**	**04 30 33.6**	**-0.6**
CABF	**La Chapelle**	**74.32**	**13**	*eP*		**P**	**04 30 35.2**	**-0.1**
CABF	**La Chapelle**	**74.32**	**13**	*eP*		**P**	**04 30 35.2**	**-0.1**
BUR08	**Bucovina Ar. S**	**74.34**	**359**	*eP*		**P**	**04 30 34.4**	**-1.0**
RJF	**Les Rejaudoux**	**75.00**	**16**	*eP*		**P**	**04 30 38.4**	**-0.8**
	comp=Z,6.0nm,0.5s							
RJF	**Les Rejaudoux**	**75.00**	**16**	*eP*		**P**	**04 30 38.4**	**-0.8**
	comp=Z,6.0nm,0.5s							
LFF	**La Frestale**	**75.24**	**17**	*eP*		**P**	**04 30 40.4**	**-0.1**
	comp=Z,13nm,0.5s							
LFF	**La Frestale**	**75.24**	**17**	*eP*		**P**	**04 30 40.4**	**-0.1**
	comp=Z,13nm,0.5s							
CAF	**Calviac**	**75.45**	**16**	*eP*		**P**	**04 30 41.2**	**-0.6**
	comp=Z,11nm,0.9s							
CAF	**Calviac**	**75.45**	**16**	*eP*		**P**	**04 30 41.2**	**-0.6**
	comp=Z,11nm,0.9s							
VIVF	**Saint-Julien-l**	**75.88**	**14**	*eP*		**P**	**04 30 43.8**	**-0.4**
VIVF	**Saint-Julien-l**	**75.88**	**14**	*eP*		**P**	**04 30 43.8**	**-0.4**
BNI	**Bardonecchia**	**75.93**	**13**	*eP*		**P**	**04 30 45.2**	**+0.6**
	comp=Z,7.3nm,1.2s							
ORIF	**Oris-en-Rattie**	**75.97**	**13**	*eP*		**P**	**04 30 44.6**	**-0.2**
ORIF	**Oris-en-Rattie**	**75.97**	**13**	*eP*		**P**	**04 30 44.6**	**-0.2**
ETSF	**Etsaut**	**77.03**	**18**	*eP*		**P**	**04 30 50.9**	**+0.2**
	comp=Z,8.4nm,0.7s							
ETSF	**Etsaut**	**77.03**	**18**	*eP*		**P**	**04 30 50.9**	**+0.2**
	comp=Z,8.4nm,0.7s							
ESDC	**Sonseca Array**	**79.54**	**22**	P		**P**	**04 31 04.8**	**+0.2**
ESDC	**Sonseca Array**	**79.54**	**22**	P		**P**	**04 31 04.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=342,slow=5.3,SNR=13							
BR131	**Keskin Array S**	**81.94**	**353**	*eP*		**P**	**04 31 16.8**	**-0.6**
	comp=Z,0.4nm,0.5s							
BRTR	**Keskin Array B**	**81.94**	**353**	P		**P**	**04 31 16.8**	**-0.6**
BRTR	**Keskin Array B**	**81.94**	**353**	P		**P**	**04 31 16.8**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=332,slow=2.4,SNR=6.0							
KKM	**Kota Kinabalu**	**83.78**	**271**	*eP*		**P**	**04 31 27.3**	**+0.1**
	comp=Z,28nm,1.3s							
PLCA	**Paso Flores**	**121.33**	**118**	PKP		**PKPdf**	**04 37 52.0**	**+2.7**
PLCA	**Paso Flores**	**121.33**	**118**	PKP		**PKPdf**	**04 37 52.0**	**+2.7**
	comp=Z,1.4nm,0.7s,baz=200,slow=15,SNR=3.0							
KMBO	**Kilima Mbogo**	**121.98**	**344**	PKP		**PKPdf**	**04 37 54.1**	**+2.5**
KMBO	**Kilima Mbogo**	**121.98**	**344**	PKP		**PKPdf**	**04 37 54.1**	**+2.5**
	comp=Z,1.0nm,0.4s,baz=334,slow=12,SNR=4.8							
BOSA	**Boshof**	**150.24**	**358**	PKPbc		**PKPbc**	**04 38 46.9**	**-0.8**
BOSA	**Boshof**	**150.24**	**358**	PKPbc		**PKPbc**	**04 38 46.9**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=302,slow=3.8,SNR=10							

*IDC **06** 04:31:23.6±1.9, 51.52N×179.17E, h0km, mb3.4/4, mb1 3.9/5, mb1mx3.7/28, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=57.3km s-min=12.9km az=9.0*
*ISCJB **06** 04:31:27.3±0.9, 51.32N±0.10×178.68E±0.07, h62km±6km, mb3.4/4, Error ellipse: s-maj=17.0km s-min=6.0km az=12.5*
*NEIC **06** 04:31:28.6, 51.36N×178.73E, h42km, ML3.2(AEIC), After AEIC.*

ISC 06 04:31:28.7±1.4, 51.3N±0.1×178.73E±0.05, h53km±9km, n35, σ1s34/38, mb3.5/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AMKA	**Amchitka**	**0.36**	**84**	P		**Pn**	**04 31 38.3**	**-0.4**
AMKA				S		**Sn**	**04 31 45.1**	**-0.8**
LSPA	**Little Sitkin**	**0.62**	**351**	P		**Pn**	**04 31 41.3**	**-0.4**
LSPA				S		**Sn**	**04 31 50.5**	**-0.6**
LSSA	**Little Sitkin**	**0.62**	**347**	P		**Pn**	**04 31 41.2**	**-0.5**
LSNW	**Little Sitkin**	**0.64**	**348**	P		**Pn**	**04 31 41.3**	**-0.6**
CESW	**Semis' Southwe**	**0.76**	**42**	P		**Pn**	**04 31 43.2**	**-0.2**
CERB	**Semis' Cerberu**	**0.81**	**43**	P		**Pn**	**04 31 44.0**	**-0.1**
CERB				S		**Sn**	**04 31 56.2**	**+0.9**
CERAA	**Semis' Rag'd T**	**0.82**	**46**	P		**Pn**	**04 31 43.8**	**-0.3**
GANE	**Gareloi Northe**	**1.62**	**72**	P		**Pn**	**04 31 55.3**	**+0.3**
TASE	**Tanaga Southea**	**2.07**	**75**	P		**Pn**	**04 32 01.6**	**+0.5**
TAFP	**Tanaga Falls P**	**2.12**	**73**	P		**Pn**	**04 32 01.9**	**+0.2**
TAFP				S		**Sn**	**04 32 26.9**	**-0.1**
TAPA	**Tanaga Point A**	**2.21**	**76**	P		**Pn**	**04 32 03.3**	**+0.3**
KIKV	**Kanaga Island**	**2.61**	**77**	P		**Pn**	**04 32 09.1**	**+0.6**
KIRH	**Kanaga Island**	**2.66**	**76**	P		**Pn**	**04 32 09.7**	**+0.6**
ADK	**Adak**	**2.91**	**77**	P		**Pn**	**04 32 12.8**	**+0.3**
ADK				S		**Sn**	**04 32 46.6**	**+0.5**
ETKA	**Kagalaska Isla**	**3.08**	**78**	P		**Pn**	**04 32 15.6**	**+0.8**
GSCK	**Great Sitkin C**	**3.25**	**76**	P		**Pn**	**04 32 17.9**	**+0.7**
GSMY	**Great Sitkin M**	**3.32**	**76**	P		**Pn**	**04 32 18.6**	**+0.5**
FX1	**Attu Island--F**	**3.76**	**296**	P		**Pn**	**04 32 24.7**	**+0.5**
FX1	**Attu Island--F**	**3.76**	**296**	Pn		**Pn**	**04 32 23.9**	**-0.3**
	7.9nm,0.3s,baz=111,slow=14,SNR=6.4							
FX1				Sn		**Sn**	**04 33 07.4**	**+0.2**
	8.4nm,0.3s,baz=105,slow=19,SNR=2.9							
KOWE	**Korovin West**	**4.47**	**74**	P		**Pn**	**04 32 34.2**	**+0.3**
KOKL	**Mount Kliuchef**	**4.49**	**75**	P		**Pn**	**04 32 34.8**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**8.35**	**71**	P		**Pn**	**04 33 29.4**	**+2.4**
OKFG	**Magazine Ridge**	**8.43**	**71**	P		**Pn**	**04 33 31.2**	**+3.1**
MREP	**Makushin Rep't**	**9.18**	**69**	P		**Pn**	**04 33 40.9**	**+2.5**
UNV	**Unalaska Valle**	**9.33**	**69**	P		**Pn**	**04 33 42.1**	**+1.8**
LVA	**Lava Point**	**9.66**	**67**	P		**Pn**	**04 33 47.1**	**+2.2**
AKGG	**Akutan Green G**	**9.69**	**67**	P		**Pn**	**04 33 47.4**	**+2.1**
ILAR	**Eielson Array**	**22.25**	**40**	P		**P**	**04 36 19.6**	**-1.1**
	0.2nm,0.3s,baz=246,slow=8.0,SNR=15							
H11N2	**WAKE ISLAND Hy**	**32.90**	**201**	T		T	05 13 11.5	
	baz=20							
H11N3	**WAKE ISLAND Hy**	**32.91**	**201**	T		T	05 13 24.5	
	baz=20							
H11N1	**WAKE ISLAND Hy**	**32.91**	**201**	T		T	05 13 23.0	
	baz=20							
YKA	**Yellowknife Ar**	**36.37**	**46**	P		**P**	**04 38 25.6**	**-1.7**
	0.3nm,0.4s,baz=285,slow=7.5,SNR=4.1							
PDAR	**Pinedale Array**	**47.79**	**71**	P		**P**	**04 39 59.3**	**-1.4**
	0.3nm,0.5s,baz=1.5,slow=3.3,SNR=4.7							
TXAR	**Lajitas Array**	**60.18**	**79**	P		**P**	**04 41 30.3**	**-0.8**
	0.4nm,0.6s,baz=297,slow=5.3,SNR=8.8							
TORD	**Torodi Ar. Bea**	**115.73**	**357**	PKP		**PKPdf**	**04 50 08.9**	**+3.7**
	0.6nm,0.9s,baz=0.0,slow=1.4,SNR=2.2							

*LDG **06** 04:33:12.1±0.1, 35.67N×77.29E, h54km, Mb5.5/44, Ms3.9/8, Error ellipse: s-maj=6.4km s-min=5.9km az=40.0*
*MOS **06** 04:33:14.7±1.0, 35.71N×77.37E, h69km, mb5.7/89, MS4.1/10, Error ellipse: s-maj=5.8km s-min=2.7km az=124.7*
*ISCJB **06** 04:33:14.2±0.3, 35.76N±0.02×77.38E±0.02, h62km±3km, mb5.3/248, Error ellipse: s-maj=2.8km s-min=2.1km az=42.3*
*SZGRF **06** 04:33:15.3, 35.68N×78.01E, h94km, mb5.6, Eastern Kashmir*
*DJA **06** 04:33:16.4±0.9, 36°N±7°×7°7E±°, h51km±10km, M5.7/16, mB5.8/5, mb5.3/16, MLv6.1/2, Mw(mB)5.4/5*
*NEIC **06** 04:33:16.9±0.5, 35.78N×77.35E, h72km±4km, mb5.3/72, Error ellipse: s-maj=4.2km s-min=2.7km az=204.0*
*IDC **06** 04:33:16.5±1.7, 35.74N×77.35E, h70km±14km, mb4.6/33, mb1 4.7/37, mb1mx4.7/37, mbtmp4.6/37, MS4.0/18, Ms1 4.0/18, ms1mx3.9/27, Error ellipse: s-maj=11.8km s-min=8.5km az=18.0*
*TEH **06** 04:33:16.0, 35.80N×77.35E, h61km, ML5.4*
*BJI **06** 04:33:17.3, 35.93N×77.44E, h72km, mB5.2/30, mb4.8/43, Ms4.6/32, Ms7 4.2/25*
*GCMT **06** 04:33:21.5±0.2, 35.72N×77.23E, h111km±2km, MW5.2, Moment Tensor Solution. s66,c92; s99,c170; Moment tensor: Scale 10^16Nm; Mrr2.23±.19; Mθθ-0.57±.23; Mφφ-1.66±.21; Mrθ7.52±.13; Mrφ2.29±.22; Mθφ-0.43±.13; Best double couple: M08.10000×10^16 NP1:φ99.00000°, δ83.00000°, λ73.00000°. NP2:φ348.00000°, δ19.00000°, λ158.00000°. Principal axes: T 8.6100, Plg49.0000°, Azm350.0000°; N -1.0700, Plg17.0000°, Azm101.0000°; P -7.5400, Plg36.0000°, Azm204.0000°; Data Used: II IU IC G CN CU. Surface waves from 107 sta.*
*NNC **06** 04:33:28.3±3.2, 36.62N×77.00E, h108km±23km, mb4.9, mpv5.1 Error ellipse: s-maj=27.0km s-min=22.9km az=60.0*
*BGS **06** 04:33:30.3±1.6, 37.20N×75.78E, h70km, mb5.3*

ISC 06 04:33:16.1±0.3, 35.74N±0.03×77.33E±0.03, h66km±2km, h66km:pP-P, n980, σ1s36/1088, mb5.4/248, 100C-59D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**3.58**	**194**	*eP*		Pn	04 34 12.9	+3.5
DHRM				*eS*		**Sn**	**04 34 52.0**	**+1.4**
JMU	**Jammu**	**3.62**	**214**	*eP*		Pn	04 34 14.0	+4.3
JMU				*ex*		**Sn**	**04 34 50.0**	**-1.3**
KSH	**Kashi**	**3.92**	**344**	P		**Pn**	**04 34 13.2**	**-0.8**
KSH				sP		sP	04 34 29.5	
KSH				S		**Sn**	**04 34 56.1**	**-2.7**
BHK	**Bhakra**	**4.38**	**190**	*eP*		**Pn**	**04 34 22.1**	**+2.0**
BHK				*ex*		**Sn**	**04 35 10.9**	**+1.1**
SMLA	**Simla**	**4.60**	**182**	*i* P		Pn	04 34 26.6	+3.5
SMLA				*i* x		**Sn**	**04 35 17.1**	**+2.0**
CEP	**Cherat**	**4.85**	**248**	P		**Pn**	**04 34 28.1**	**+1.4**
DDI	**Dehra Dun**	**5.43**	**173**	*eP*		**Pn**	**04 34 34.8**	**+0.3**
DDI				AMB		AMB	04 34 40.6	
	comp=Z,992nm,0.7s							
DDI				*eS*		Sn	04 35 30.2	-5.6
THW	**Thamme Wali**	**5.48**	**239**	P		**Pn**	**04 34 36.8**	**+1.6**
KKR	**Kurukshetra**	**5.78**	**184**	*i* P		**Pn**	**04 34 40.5**	**+1.3**
KKR				*ex*		Sn	04 35 38.0	-6.1
KZA	**Kyzart**	**6.54**	**346**	*i* P		**Pn**	**04 34 51.5**	**+1.6**
KZA	**Kyzart**	**6.54**	**346**	P		**Pn**	**04 34 51.5**	**+1.6**
	SNR=79							
ULHL	**Ulahol**	**6.55**	**353**	*i* P		**Pn**	**04 34 52.5**	**+2.5**
ULHL	**Ulahol**	**6.55**	**353**	P		**Pn**	**04 34 52.5**	**+2.5**
	SNR=8.2							
PTH	**Pithoragarh**	**6.63**	**158**	*ex*		Pn	04 34 45.3	-5.8
PTH				*ex*		x	04 35 49.4	
UCH	**Uchtor**	**6.84**	**342**	*i* P		**Pn**	**04 34 56.5**	**+2.4**
UCH	**Uchtor**	**6.84**	**342**	P		**Pn**	**04 34 56.6**	**+2.4**
	SNR=108							
KBL	**Kabul**	**6.89**	**262**	*eP*		**Pn**	**04 34 54.1**	**-0.6**
KBL				*e*			04 36 09.4	
KBL	**Kabul**	**6.89**	**262**	*ePn*		**Pn**	**04 34 54.1**	**-0.6**
KBL				*eSn*		**Sn**	**04 36 09.4**	**-2.4**
AML	**Almayashu**	**6.99**	**337**	*i* P		**Pn**	**04 34 57.8**	**+1.8**
AML	**Almayashu**	**6.99**	**337**	P		**Pn**	**04 34 57.8**	**+1.8**
	SNR=156							
NDI	**New Delhi**	**7.03**	**181**	*i* P		**Pn**	**04 34 56.5**	**+0.1**
NDI				*ex*		x	04 35 22.8	
NDI				AMB		AMB	04 35 26.0	
	comp=Z,517nm,1.0s							
NDI				*ex*		x	04 36 09.0	
KBK	**Karagaybulak**	**7.15**	**346**	*i* P		**Pn**	**04 35 00.3**	**+2.1**
KBK	**Karagaybulak**	**7.15**	**346**	P		**Pn**	**04 35 00.2**	**+2.1**
	SNR=112							
AAK	**Ala-Archa**	**7.23**	**343**	Pn		**Pn**	**04 35 01.5**	**+2.3**
	SNR=42							
AAK	**Ala-Archa**	**7.23**	**343**	*eP*		**Pn**	**04 35 00.9**	**+1.7**
AAK				S		**Sn**	**04 36 20.6**	**+0.7**
AAK	**Ala-Archa**	**7.23**	**343**	P		**Pn**	**04 35 01.8**	**+2.6**
	SNR=62							
AAK	**Ala-Archa**	**7.23**	**343**	*ePn*		**Pn**	**04 35 00.8**	**+1.7**
AAK				S		**Sn**	**04 36 20.6**	**+0.7**
AAK	**Ala-Archa**	**7.23**	**343**	P		**Pn**	**04 34 59.2**	**0.0**
	comp=Z,12nm,0.3s,baz=163,slow=13,SNR=68							
AAK				S		**Sn**	**04 36 20.6**	**+0.7**
	comp=Z,13nm,0.3s,baz=30,slow=16,SNR=4.2							
AYAN	**Aya Nagar**	**7.24**	**181**	*i* P		**Pn**	**04 35 00.8**	**+1.6**
AYAN				*ex*		x	04 36 13.3	
TKM2	**Tokmak 2**	**7.30**	**350**	*i* P		**Pn**	**04 35 02.5**	**+2.4**
TKM2	**Tokmak 2**	**7.30**	**350**	P		**Pn**	**04 35 02.5**	**+2.4**
	SNR=23							
TKM2	**Tokmak 2**	**7.30**	**350**	*ePn*		**Pn**	**04 35 01.4**	**+1.2**
	comp=Z,626nm,1.1s							
TKM2	**Tokmak 2**	**7.30**	**350**	⇓P		**Pn**	**04 35 01.5**	**+1.4**
	comp=Z,63nm,0.6s							
TKM2				⇓S		Sn	04 36 15.0	-6.7
	comp=Z,926nm,1.3s							
FRU	**Bishkek**	**7.39**	**344**	*i* P		**Pn**	**04 35 03.0**	**+1.7**
FRU				*i* S		**Sn**	**04 36 24.0**	**+0.3**
FRU				pmax		pmax		
	comp=Z,1μm,1.6s							
EKS2	**Erkin-Say**	**7.44**	**339**	*i* P		**Pn**	**04 35 04.9**	**+2.8**
EKS2	**Erkin-Say**	**7.44**	**339**	P		**Pn**	**04 35 04.9**	**+2.8**
	SNR=26							
EKS2	**Erkin-Say**	**7.44**	**339**	*ePn*		**Pn**	**04 35 04.7**	**+2.6**
	comp=Z,154nm,0.9s							
KNDC	**Almaty**	**7.48**	**358**	⇑P		**Pn**	**04 35 05.0**	**+2.6**
	comp=Z,195nm,0.7s							
KNDC				⇑S		Sn	04 36 15.4	-10
CHMS	**Chumysh**	**7.52**	**345**	*i* P		**Pn**	**04 35 05.4**	**+2.4**
CHMS	**Chumysh**	**7.52**	**345**	P		**Pn**	**04 35 05.5**	**+2.4**
	SNR=46							
AAA	**Alma-Ata**	**7.53**	**358**	*i* P		**Pn**	**04 35 05.2**	**+2.0**
AAA				*i* S		**Sn**	**04 36 28.8**	**+1.7**
AAA				pmax		pmax		
	comp=Z,1μm,1.6s							
AAA				smax		smax		
	comp=N,3μm,1.3s							
KUDL	**Kundal**	**7.60**	**186**	⇓*i* P		**Pn**	**04 35 06.4**	**+2.2**
KUDL				*eS*		**Sn**	**04 36 23.7**	**-5.2**
KHET	**Khetri**	**7.75**	**190**	⇑*i* P		**Pn**	**04 35 07.7**	**+1.5**
KHET				*ex*		x	04 36 22.9	
USP	**Ospenovka**	**7.83**	**345**	*i* P		**Pn**	**04 35 09.3**	**+2.0**
USP	**Ospenovka**	**7.83**	**345**	P		**Pn**	**04 35 09.3**	**+2.0**
	SNR=24							
PYUN	**Piuthan**	**9.00**	**146**	*eP*		**Pn**	**04 35 23.5**	**0.0**
	comp=N,700nm,0.3s							
PYUN				*eS*		Sn	04 36 57.3	-6.2
PYUN	**Piuthan**	**9.00**	**146**	*eP*		**Pn**	**04 35 23.5**	**0.0**
PYUN				*eS*		Sn	04 36 57.3	-6.2
KK31	**Karatay Array**	**9.05**	**326**	P		**Pn**	**04 35 23.7**	**-0.2**
KK31							04 36 57.9	
KK31				pmax		pmax		
	comp=Z,45nm,0.2s							
KK31				smax		smax		
	comp=Z,99nm,0.2s							
KK31	**Karatay Array**	**9.05**	**326**	⇓P		**Pn**	**04 35 22.6**	**-1.3**
	comp=Z,25nm,0.3s,baz=134,slow=11,SNR=1369							
KK31				⇓S		Sn	04 36 55.7	-8.6
	comp=Z,375nm,0.8s,baz=137,slow=21,SNR=7.0							
KKAR	**Karatay Array**	**9.05**	**326**	*eP*		**Pn**	**04 35 22.8**	**-1.1**
KKAR	**Karatay Array**	**9.05**	**326**	*ePn*		**Pn**	**04 35 22.8**	**-1.1**
KKAR				*eSn*		Sn	04 36 55.1	-9.1
DANN	**Dangsing**	**9.16**	**142**	*eP*		**Pn**	**04 35 25.3**	**-0.5**
	comp=Z,446nm,0.2s							
DANN				*eS*		Sn	04 36 59.7	-7.8
DANN	**Dangsing**	**9.16**	**142**	*eP*		**Pn**	**04 35 25.3**	**-0.5**
DANN				*eS*		Sn	04 36 59.7	-7.8
KOLN	**Koldanda**	**9.57**	**144**	*eP*		**Pn**	**04 35 31.2**	**0.0**
	comp=Z,452nm,0.3s							
KOLN				*eS*		Sn	04 37 10.1	-7.1
KOLN	**Koldanda**	**9.57**	**144**	*eP*		**Pn**	**04 35 31.2**	**0.0**
KOLN				*eS*		Sn	04 37 10.1	-7.1
GKN	**Gorkha**	**9.90**	**139**	*eP*		**Pn**	**04 35 35.0**	**-0.7**
	comp=Z,456nm,0.2s							
GKN				*eS*		Sn	04 37 17.7	-7.6
GKN	**Gorkha**	**9.90**	**139**	*eP*		**Pn**	**04 35 35.0**	**-0.7**
GKN				*eS*		Sn	04 37 17.7	-7.6
KKN	**Kakani**	**10.41**	**137**	*eP*		**Pn**	**04 35 40.9**	**-1.9**
	comp=Z,142nm,0.2s							
KKN	**Kakani**	**10.41**	**137**	*eP*		**Pn**	**04 35 40.9**	**-1.9**
KKN	**Kakani**	**10.41**	**137**	*eP*		**Pn**	**04 35 40.9**	**-1.9**
DMN	**Daman**	**10.46**	**139**	*eP*		**Pn**	**04 35 42.3**	**-1.2**
	comp=Z,285nm,0.3s							
DMN	**Daman**	**10.46**	**139**	*eP*		**Pn**	**04 35 42.3**	**-1.2**
PKIN	**Phulchoki**	**10.64**	**138**	*eP*		**Pn**	**04 35 44.5**	**-1.5**
	comp=Z,296nm,0.4s							
PKI	**Pulchoki**	**10.65**	**138**	*eP*		**Pn**	**04 35 44.7**	**-1.5**
	comp=Z,

comp=Z,228nm,0.8s,baz=155,slow=9.6,SNR=578
BVA0 ⇑S Sn 04 40 29.7 -11
comp=Z,63nm,1.1s
BVAR Borovoye Array 17.97 346 P P 04 37 19.8 -1.1
BVAR S Sn **04 40 37.8 -2.9**
BVAR Borovoye Array 17.97 346 P P **04 37 19.8 -1.1**
BVAR S Sn **04 40 37.8 -2.9**
BVAR Borovoye Array 17.97 346 P P **04 37 19.8 -1.1**
comp=Z,22nm,0.3s,baz=170,slow=11,SNR=93
BVAR S Sn **04 40 37.8 -2.9**
baz=170,slow=20,SNR=2.4
BRVK Borovoye 18.02 346 P P **04 37 21.2 -0.1**
SNR=159
BRVK Borovoye 18.02 346 *e*P P **04 37 21.3 -0.1**
BRVK *e* 04 40 39.6
BRVK pmax pmax
comp=Z,330nm,0.8s
BRVK Borovoye 18.02 346 *e*Pn P **04 37 21.3 -0.1**
comp=Z,330nm,0.8s
BRVK *e*Sn **Sn** **04 40 39.6 -2.4**
BRVK Borovoye 18.02 346 ⇓P P **04 37 20.1 -1.4**
comp=Z,918nm,1.3s
BRVK ⇓S Sn 04 40 30.5 -12
comp=Z,85nm,1.2s
GTA Gaotai 18.19 72 *e*P **Pn** **04 37 25.7 +1.7**
GTA pP **pP** **04 37 36.8 -0.5**
GTA sP **sP** **04 37 44.6 -1.1**
GTA S **Sn** **04 40 46.6 +0.2**
GTA sS sS 04 41 04.8 -5.9
GTA ScS **ScS** **04 49 01.3 -2.9**
GTA pmax pmax
comp=Z,16nm,1.1s
GTA pmax pmax
comp=Z,230nm,6.7s
GTA LR LR
comp=Z,710nm,10.9s
GTA LR LR
comp=Z,560nm,10.0s
GTA LR LR
comp=Z,470nm,12.3s
HYB Hyderabad 18.28 176 *i* P **P** **04 37 21.0 -3.6**
comp=Z,130nm,1.0s
HYB *e*PP **PnPn** **04 37 40.0 +1.4**
HYB *e*S **Sn** **04 40 44.0 -4.8**
HYB Hyderabad 18.28 176 *e*P **Pn** **04 37 25.5 +0.4**
HYB AMB AMB 04 37 27.8
comp=Z,192nm,1.4s
AB31 Akbulak array 18.56 322 *i* P **P** **04 37 26.2 -1.2**
AB31 pmax pmax
comp=Z,10.0nm,0.2s
AB31 Akbulak array 18.56 322 ⇑P **P** **04 37 26.2 -1.2**
comp=Z,49nm,0.7s,baz=128,slow=13,SNR=541
AB31 ⇑S S 04 40 42.2 -13
comp=Z,11nm,0.5s,baz=127,slow=25,SNR=5.8
ABKAR Akbulak array 18.56 322 *e*P **P** **04 37 26.1 -1.3**
ABKAR *e*S S 04 40 39.8 -15
KAD Karad 18.57 189 *i* x **Pn** **04 37 28.4 -0.3**
KAD *i* x x 04 40 41.6
IBAF Bafgh 18.58 263 *e*P **Pn** **04 37 29.0 +0.2**
VIS Vishakhapatnam 18.72 162 *i* P **P** **04 37 29.2 -0.1**
VIS *i* x x 04 40 44.6
ZAA0 Zalesovo Array 18.95 14 *e*P **P** **04 37 30.0 -1.6**
ZALV Zalesovo Beam 18.95 14 P **P** **04 37 30.9 -0.7**
ZALV Zalesovo Beam 18.95 14 P **P** **04 37 30.9 -0.7**
ZALV S **Sn** **04 41 10.2 +5.9**
ZALV Zalesovo Beam 18.95 14 P **P** **04 37 30.9 -0.7**
comp=Z,9.9nm,0.3s,baz=201,slow=8.6,SNR=93
ZALV S **Sn** **04 41 10.2 +5.9**
comp=Z,0.2nm,0.3s,baz=212,slow=14,SNR=3.5
IGLO Ghaloghah 19.00 279 *e*P **Pn** **04 37 34.7 +0.8**
IANJ Anjilo 19.04 276 *e*P **P** **04 37 33.1 +0.1**
IKIA Kiasar 19.14 278 *e*P **Pn** **04 37 35.7 +0.1**
ICHK Chekchek 19.32 266 *e*P **P** **04 37 36.8 +0.7**
IMEH Mehriz 19.41 264 *e*P P 04 37 29.1 -8.0
ISHM Shahmirzad 19.50 277 *e*P **P** **04 37 38.9 +0.8**
IBND Bandar-abas 19.52 251 *e*P **P** **04 37 36.8 -1.2**
IBND *e*P **Pn** **04 37 38.0 -1.9**
NVS Novosibirsk 19.54 10⇑ *i*P **P** **04 37 36.3 -1.7**
NVS *e*S **S** **04 41 08.8 -6.1**
NVS pmax pmax
comp=N,277nm,1.4s
NVS pmax pmax
comp=Z,235nm,1.4s
NVS pmax pmax
comp=E,67nm,1.2s
NVS smax smax
comp=N,127nm,2.1s
NVS smax smax
comp=E,151nm,2.6s
ILAS Lasjerd 19.82 276 *e*P **P** **04 37 41.9 +0.3**
IALA Alasht 19.86 278 *e*P **P** **04 37 43.3 +1.3**
ISAD Sadrabad 20.00 266 *e*P **P** **04 37 43.4 -0.2**
IPRN Peran 20.22 279 *e*P **P** **04 37 47.0 +1.2**
AKTO Aktyubinsk 20.28 322 P **P** **04 37 46.1 0.0**
AKTO S S 04 41 21.6 -8.1
AKTO Aktyubinsk 20.28 322 P **P** **04 37 46.0 0.0**
AKTO S S 04 41 21.6 -8.1
AKTO Aktyubinsk 20.28 322 P **P** **04 37 46.0 0.0**
comp=E,178nm,0.5s,baz=115,slow=11,SNR=146
AKTO S S 04 41 21.6 -8.1
comp=E,21nm,0.9s,baz=298,slow=21,SNR=6.0
AKTO Aktyubinsk 20.28 322 ⇓P **P** **04 37 45.8 -0.3**
comp=E,171nm,0.7s
AKTO ⇓S S 04 41 21.5 -8.1
comp=E,104nm,1.1s
GOA Goa 20.41 190 *e*P Pn 04 37 50.0 -0.3
BANOM Banah 20.50 247 P Pn 04 37 52.3 +0.8
SNR=7.4
WBK Wadi Bani Khal 20.65 236 P Pn 04 37 53.0 -0.2
SNR=28
IZEF Zefreh 20.83 269 *e*P **P** **04 37 53.1 +0.6**
SMDO Samad 20.97 238 P Pn 04 37 56.3 -0.9
SNR=36
UOSS Wadi Hilu 21.13 245 P **P** **04 37 55.5 0.0**
comp=E,275nm,0.8s,SNR=6.4
HOQ Hoqain 21.15 241 P **P** **04 37 58.5 +2.7**
SNR=14
IGAR Gharneh 21.20 268 *e*P **P** **04 37 57.1 +0.7**
IPAR Pars 21.22 261 *e*P **P** **04 37 56.6 -0.2**
IKLH Kolahrood 21.34 271 *e*P **P** **04 37 57.8 -0.1**
ASHO Ashiyiah 21.39 245 P **P** **04 38 00.3 +2.0**
SNR=42
JMDO Jabal Madar 21.39 237 P **P** **04 38 00.9 +2.5**
SNR=34
LZH Lanzhou 21.46 81 *e*P **P** **04 37 59.6 +0.5**
LZH pP **pP** **04 38 13.5 +0.3**
LZH sP **sP** **04 38 21.0 -0.5**
LZH PP **PnPn** **04 38 26.1 +4.2**
LZH *e*S **S** **04 41 49.0 -4.6**
LZH sS Sn 04 42 09.5 +4.3
LZH SS **SnSn** **04 42 26.2 +5.0**
LZH pmax pmax
comp=E,77nm,1.3s
LZH pmax pmax
comp=E,270nm,4.5s
LZH LR LR
comp=E,640nm,11.3s
LZH LR LR
comp=E,550nm,11.5s
LZH LR LR
comp=E,890nm,15.0s
BSY Bisya 21.77 239 P **P** **04 38 05.1 +2.7**
SNR=27
ARQ Araqi 21.87 241 P **P** **04 38 06.4 +3.0**
SNR=17
CD2 Chengdu 22.57 95 *e*P **P** **04 38 12.0 +1.0**
CD2 pP **pP** **04 38 25.6 +0.5**
CD2 sP **sP** **04 38 33.2 -0.2**
CD2 PP **PnPn** **04 38 41.3 +4.2**
CD2 S **S** **04 42 08.9 -4.9**
CD2 sS Sn 04 42 32.9 +1.3
CD2 SS **SnSn** **04 42 54.2 +5.9**
CD2 pmax pmax
comp=E,50nm,1.4s
CD2 pmax pmax
comp=E,170nm,8.2s
CD2 LR LR
comp=E,1μm,19.0s
CD2 LR LR
comp=E,620nm,26.2s
CD2 LR LR
comp=E,550nm,21.4s
MOY Mondy 23.21 39 *e*P **P** **04 38 19.0 +1.6**
MOY pmax pmax
comp=Z,214nm,2.6s

ZAK Zakamensk 23.79 44⇑ *i*P **P** **04 38 23.9 +1.3**
ZAK *e* 04 38 43.1
ZAK pmax pmax
comp=Z,50nm,1.2s
SVE Sverdlovsk 23.92 337 *d i*P **P** **04 38 24.1 +0.5**
SVE *e*S **S** **04 42 33.7 -1.4**
SVE pmax pmax
comp=Z,149nm,1.2s
MAK Makhachkala 24.08 297 *e*P **P** **04 38 24.7 -0.5**
MAK *e* 04 38 51.0
MAK *i* 04 42 02.6
MAK *e*S **S** **04 42 37.9 0.0**
MAK *e* 04 43 08.9
MAK *e*SS **SnSn** **04 43 25.9 +1.0**
MAK pmax pmax
comp=Z,91nm,0.9s
KMI Kunming 24.26 109 P **P** **04 38 28.3 +1.0**
KMI pP **pP** **04 38 41.9 -1.2**
KMI sP **sP** **04 38 49.7 -1.3**
KMI PP **PnPn** **04 39 04.9 +4.5**
KMI S **S** **04 42 40.0 -1.6**
KMI sS **sS** **04 43 04.6 -4.0**
KMI SS **SnSn** **04 43 36.4 +6.4**
KMI pmax pmax
comp=Z,22nm,0.9s
KMI pmax pmax
comp=Z,130nm,3.3s
KMI LR LR
comp=Z,390nm,10.0s
KMI LR LR
comp=Z,250nm,8.9s
KMI LR LR
comp=Z,200nm,9.9s
IHRS Heris 24.27 285 *e*P **P** **04 38 28.5 +1.3**
ARU Arti 24.30 334 P **P** **04 38 27.0 -0.1**
comp=Z,875nm,0.7s,SNR=52
ARU Arti 24.30 334 *c i*P **P** **04 38 26.9 -0.1**
ARU 04 38 57.6
ARU S **S** **04 42 41.6 +0.4**
ARU SS **SnSn** **04 43 35.9 +5.8**
ARU pmax pmax
comp=Z,146nm,1.0s
ARU Arti 24.30 334 *e*P **P** **04 38 26.9 -0.1**
comp=Z,135nm,1.0s
IBST Bostanabad 24.43 284 *e*P **P** **04 38 29.7 +1.0**
TLY Talaya 24.62 41 *e*P **P** **04 38 32.3 +2.3**
TLY *e*S **S** **04 42 40.0 -6.6**
TLY pmax pmax
comp=Z,44nm,1.3s
TLY MLR MLR
comp=Z,271nm,12.0s
TLY Talaya 24.62 41 *e*P **P** **04 38 32.4 +2.3**
comp=Z,31nm,1.1s
SONM Songino Array 24.66 52 P **P** **04 38 32.5 +1.9**
SONM PcP **PcP** **04 42 06.9 +0.6**
SONM Songino Array 24.66 52 P **P** **04 38 32.5 +1.9**
comp=Z,133nm,1.1s,baz=248,slow=8.0,SNR=246
SONM PcP **PcP** **04 42 06.9 +0.6**
comp=Z,3.1nm,0.9s,baz=264,slow=4.3,SNR=3.2
SONM LR LR 04 50 04.1
comp=Z,490nm,19.6s,baz=85,slow=41
CMAI Chiengmai2 24.75 124 P **P** **04 38 31.9 +0.3**
comp=Z,60nm,1.4s
ITBZ Tabriz 24.98 285 *e*P **P** **04 38 35.0 +1.4**
ULN Ulaanbaatar 25.09 52 P **P** **04 38 36.3 +1.8**
SNR=22
ULN Ulaanbaatar 25.09 52 P **P** **04 38 35.4 +0.9**
comp=Z,78nm,1.0s,comp=Z,1μm
ULN Ulaanbaatar 25.09 52 *e*P **P** **04 38 35.8 +1.2**
comp=Z,82nm,1.0s
IRK Irkutsk 25.24 41 *e*P **P** **04 38 36.8 +1.1**
IRK *e*S **S** **04 43 02.4 +6.0**
IRK pmax pmax
comp=Z,131nm,2.6s
IDHR Dehrash 25.25 277 *e*P **P** **04 38 35.9 -0.3**
MHMT Maesarieng 25.27 128 P **P** **04 38 37.7 +1.5**
comp=Z,39nm,1.0s,comp=Z,819nm
IMRD Marand 25.30 286 *e*P **P** **04 38 37.7 +1.2**
CRAI Chiangrai 25.46 121 P **P** **04 38 39.0 +1.1**
comp=Z,47nm,1.3s,comp=Z,2μm
CHTO Chiang Mai 25.46 126 P **P** **04 38 38.4 +0.4**
SNR=7.2
CHTO Chiang Mai 25.46 126 *e*P **P** **04 38 37.5 -0.5**
CHTO Chiang Mai 25.46 126 P **P** **04 38 37.8 -0.2**
comp=Z,144nm,1.0s
CHTO Chiang Mai 25.46 126 *e*P **P** **04 38 37.5 -0.5**
comp=Z,6.5nm,0.9s
CHTO Chiang Mai 25.46 126 P **P** **04 38 38.4 +0.4**
comp=Z,144nm,1.0s
CMMT Chiang Mai 25.47 126 P **P** **04 38 38.3 +0.3**
comp=Z,32nm,0.9s
DGRG David-gareji 25.53 293 P **P** **04 38 41.3 +2.8**
CM31 Chiang Mai Arr 25.72 126 *e*P **P** **04 38 41.4 +1.1**
comp=Z,12nm,0.5s
CMAR Chiang Mai Arr 25.72 126 P **P** **04 38 40.8 +0.5**
CMAR ScP **ScP** **04 45 41.2 -1.4**
CMAR Chiang Mai Arr 25.72 126 P **P** **04 38 40.8 +0.5**
comp=Z,18nm,0.8s,baz=312,slow=9.5,SNR=35
CMAR ScP **ScP** **04 45 41.2 -1.4**
comp=Z,3.1nm,0.6s,baz=298,slow=4.0,SNR=9.9
CMAR LR LR 04 50 53.4
comp=Z,112nm,20.2s,baz=322,slow=41
XAN Xi'an 25.91 84 P **P** **04 38 42.2 +0.2**
XAN pP **pP** **04 38 56.9 -0.9**
XAN sP **sP** **04 39 04.2 -1.5**
XAN S **S** **04 43 04.2 -3.2**
XAN sS **sS** **04 43 30.6 -4.1**
XAN PcS **PcS** **04 45 54.0 +3.8**
XAN LR LR
comp=Z,370nm,19.3s
GNI Garni 25.99 290 P **P** **04 38 46.0 +3.2**
SNR=18
GNI Garni 25.99 290 *e*P **P** **04 38 45.0 +2.2**
comp=Z,109nm,1.0s
GNI Garni 25.99 290 P **P** **04 38 45.3 +2.5**
comp=Z,61nm,0.8s,baz=82,slow=1.0,SNR=35
TBLG Delisi 26.02 293 P **P** **04 38 44.9 +2.1**
LAMP Lampang 26.13 125 P **P** **04 38 44.7 +0.7**
comp=Z,8.7nm,1.0s
DGPR DIGLIPUR 26.50 144 *e*P **P** **04 38 45.6 -1.7**
DGPR AMB AMB 04 38 50.7
comp=Z,78nm,0.2s
GYA Guiyang 26.68 102 ⇓ *i*P **P** **04 38 51.6 +2.5**
GYA pP **pP** **04 39 04.2 -0.8**
GYA sP **sP** **04 39 13.8 +1.0**
GYA PP **PnPn** **04 39 36.4 +3.1**
GYA PcP **PcP** **04 42 13.7 +2.4**
GYA S **S** **04 43 18.9 -0.9**
GYA SS **SnSn** **04 44 33.1 +4.1**
GYA ScP **ScP** **04 45 48.6 +3.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.7s
GYA LR LR
comp=Z,560nm,16.3s
GYA LR LR
comp=Z,490nm,17.0s
GYA LR LR
comp=Z,530nm,16.0s
ZEI Tsey 26.70 295 *e*P **P** **04 38 49.5 +0.3**
ZEI pmax pmax
comp=Z,30nm,1.0s
AKH Akhalkalaki 26.94 292 P **P** **04 38 54.4 +3.0**
ONI Oni 27.02 295 P **P** **04 38 54.1 +2.2**
TRD Trivandrum 27.11 181 *e*P **P** **04 38 54.5 +1.8**
TRD AMB AMB 04 38 55.5
comp=Z,30nm,0.7s
HHC Hu-ho-hao-te 27.24 69 *e*P **P** **04 38 53.7 -0.2**
HHC PP **PnPn** **04 39 41.8 +1.1**
HHC PcP **PcP** **04 42 13.0 +0.6**
HHC S **S** **04 43 25.9 -2.4**
HHC SS **SnSn** **04 44 44.5 +2.4**
HHC ScP **ScP** **04 45 47.3 +0.4**
HHC PcS **PcS** **04 45 53.7 -0.4**
HHC pmax pmax
comp=Z,41nm,0.7s
HHC pmax pmax
comp=Z,330nm,4.6s
HHC LR LR
comp=Z,940nm,12.6s
HHC LR LR
comp=Z,710nm,11.9s
HHC LR LR
comp=Z,440nm,12.3s

KBZ Khabaz 27.50 297 P **P** **04 38 57.2 +1.0**
KBZ Khabaz 27.50 297 P **P** **04 38 57.1 +1.0**
KBZ Khabaz 27.50 297 P **P** **04 38 57.1 +1.0**
comp=Z,12nm,1.0s,baz=121,slow=5.9,SNR=16
KBZ LR LR 04 51 14.4
comp=Z,274nm,21.0s,baz=89,slow=39
GOF Gofitskoye 27.55 300⇓ *i*P **P** **04 38 58.2 +1.7**
GOF pmax pmax
comp=Z,89nm,1.3s
KIV Kislovodsk 27.68 298 P **P** **04 38 59.7 +1.9**
SNR=5.2
KIV Kislovodsk 27.68 298 *e*P **P** **04 38 57.7 -0.1**
KIV *e* 04 42 16.0
KIV *e*S **S** **04 43 32.0 -3.2**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,196nm,15.0s
KIV Kislovodsk 27.68 298 *e*P **P** **04 38 58.9 +1.0**
comp=Z,32nm,0.7s
CHVG Ch'k'valeri 28.03 295 P P 04 39 04.4 +3.5
PBKT Sadao Pong 28.41 126 P **P** **04 39 05.8 +1.4**
comp=Z,20nm,1.0s,comp=Z,1μm
VRHR Novokhopersk 29.79 312 *e*P **P** **04 39 16.1 -0.2**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,70nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.3s
SOC Sochi 29.80 297 *c i*P **P** **04 39 17.5 +1.0**
SOC *e**SP sP 04 39 46.1 +5.8
SOC *e* 04 40 17.9
SOC *e*S **S** **04 44 08.7 +0.4**
SOC pmax pmax
comp=Z,29nm,1.1s
SOC MLR MLR
comp=Z,213nm,17.0s
BJI Beijing 30.79 70 P **P** **04 39 27.1 +1.8**
BJI PcP **PcP** **04 42 21.8 +0.7**
BJI S S 04 44 31.4 +7.6
BJI ScS **ScS** **04 49 54.3 -0.4**
BJI pmax pmax
comp=Z,15nm,0.9s
BJI pmax pmax
comp=Z,340nm,5.0s
BJI LR LR
comp=Z,490nm,5.4s
BJI LR LR
comp=Z,200nm,6.3s
MALT Malatya 31.01 286⇑ P **P** **04 39 29.8 +2.3**
MALT Malatya 31.01 286⇑ *i*P **P** **04 39 29.8 +2.3**
VSR Storozhevoye 31.31 312 *e*P **P** **04 39 29.7 0.0**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,100nm,0.8s
VSR pmax pmax
comp=Z,100nm,0.8s
VSR MLR MLR
comp=N,450nm,18.0s
VSR MLR MLR
comp=E,560nm,18.0s
VSR MLR MLR
comp=Z,590nm,18.0s
VOR Voronezh 31.42 313 *e*P **P** **04 39 30.0 -0.7**
VOR pmax pmax
comp=Z,260nm,1.2s
ANN Anapa 31.49 299 *e*P **P** **04 39 31.1 -0.3**
ANN *e**PP **pP** **04 39 50.2 +2.7**
ANN *e*S **S** **04 44 34.0 -0.8**
ANN pmax pmax
comp=Z,49nm,1.7s
SURT Suratani 33.07 139 P **P** **04 39 47.7 +2.2**
comp=Z,25nm,1.2s
QIZ Qiongzhong 33.12 111 P **P** **04 39 45.8 -0.2**
QIZ S **S** **04 45 01.8 +1.2**
QIZ pmax pmax
comp=Z,13nm,1.6s
QIZ LR LR
comp=Z,250nm,11.0s
QIZ LR LR
comp=Z,250nm,20.9s
MOS Moscow 33.54 319 *e*P **P** **04 39 48.9 -0.3**
MOS *e**PP pP 04 40 11.8 +6.5
MOS *e*S **S** **04 45 00.9 -5.4**
MOS *e* 04 47 19.1
MOS pmax pmax
comp=Z,300nm,1.2s
MOS pmax pmax
comp=Z,185nm,0.8s
SIM Simferopol' **33.86 299** *c i*P **P** **04 39 53.0 +0.9**
SIM *i* S **S** **04 45 11.5 0.0**
SIM *i* *SS **sS** **04 45 44.0 +5.0**
SIM pmax pmax
comp=Z,87nm,1.1s
OBN Obninsk 33.91 318 *c i*P P **04 39 52.6 +0.3**
OBN *i* 04 40 16.3
OBN *i* 04 41 08.4
OBN *i* S **S** **04 45 11.4 -0.6**
OBN *e*SS **SnSn** **04 47 26.2 +2.7**
OBN pmax pmax
comp=Z,131nm,0.9s
OBN Obninsk 33.91 318 *e*P **P** **04 39 51.6 -0.7**
comp=Z,185nm,1.2s
NJ2 Nanjing 34.48 84 *e*P **P** **04 39 56.5 -1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
MMAI Mount Meron Ar 34.53 278 P **P** **04 39 59.7 +1.5**
MMAI PcP **PcP** **04 42 31.4 -0.4**
MMAI Mount Meron Ar 34.53 278 P **P** **04 39 59.7 +1.5**
comp=Z,2.6nm,0.6s,baz=51,slow=12,SNR=4.0
MMAI PcP **PcP** **04 42 31.4 -0.4**
comp=Z,1.9nm,0.6s,baz=77,slow=3.1,SNR=3.8
BR131 Keskin Array S 34.53 290 *e*P **P** **04 39 58.8 +0.6**
comp=Z,17nm,0.6s
BRTR Keskin Array B 34.53 290 P **P** **04 39 59.4 +1.2**
BRTR Keskin Array B 34.53 290 P **P** **04 39 59.4 +1.2**
comp=Z,18nm,0.7s,baz=107,slow=9.5,SNR=136
KLMR Klimovskoe 34.75 328 *c i*P **P** **04 39 59.4 -0.2**
KLMR *e**PP pP 04 40 21.2 +5.5
KLMR *e* 04 41 18.0
KLMR pmax pmax
comp=Z,295nm,1.5s
ANTO Ankara 35.16 290 P **P** **04 40 05.6 +2.1**
SNR=7.0
ANTO Ankara 35.16 290 *e*P **P** **04 40 05.2 +1.7**
ANTO pmax pmax
comp=Z,87nm,1.5s
ANTO Ankara 35.16 290⇑ *i*P **P** **04 40 04.9 +1.4**
ANTO Ankara 35.16 290 *e*P **P** **04 40 05.2 +1.7**
comp=Z,87nm,1.5s
CSS Prodhromos 35.67 282 *e*P **P** **04 40 07.9 0.0**
comp=Z,3.3nm,1.0s
EIL Elat 35.96 273 P **P** **04 40 11.1 +0.7**
EIL Elat 35.96 273 P **P** **04 40 11.1 +0.7**
comp=Z,4.9nm,0.7s,baz=90,slow=3.0,SNR=2.9
TMCR Tamitsa 37.01 333 *e*P **P** **04 40 19.5 +0.7**
TMCR *e* 04 41 47.4
TMCR pmax pmax
comp=Z,303nm,1.2s
KULM Kulim 37.13 139 P **P** **04 40 20.8 +0.3**
comp=Z,71nm,1.4s,comp=Z,956nm
KULM Kulim 37.13 139 *e*P **P** **04 40 21.7 +1.2**
comp=Z,103nm,1.3s
CN2 Changchun 37.41 63 *e*P **P** **04 40 23.5 +1.0**
CN2 *e*pP **pP** **04 40 39.4 +0.6**
CN2 *e*S **S** **04 46 06.2 +0.3**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,16.0s
AKASG Malin Array Be 37.42 309 P **P** **04 40 22.1 -0.4**
AKASG Malin Array Be 37.42 309 P **P** **04 40 22.1 -0.4**
AKASG Malin Array Be 37.42 309 P **P** **04 40 22.1 -0.4**
comp=Z,29nm,0.4s,baz=80,slow=8.0,SNR=166
AKASG LR LR 04 59 04.5
comp=Z,200nm,18.1s,baz=105,slow=41
AKBB Malin Array Si 37.42 309 *e*P **P** **04 40 22.1 -0.4**

AKBB **Malin Array Si** 37.42 309 *e*P P 04 40 22.1 -0.4
KIEV **Kiev** 37.43 309 *e*P P 04 40 22.0 -0.6
KIEV *e* 04 41 47.1
KIEV *e*S S 04 46 03.8 -2.2
KIEV pmax pmax
comp=Z,54nm,0.6s
KIEV **Kiev** 37.43 309 *e*P P 04 40 22.0 -0.6
comp=Z,54nm,0.6s
KIEV *e*PP PP 04 41 47.1 -1.8
KIEV *e*S S 04 46 03.8 -2.2
SORM **Soroca** 37.87 305 ⇑P P 04 40 26.9 +0.6
SORM **Soroca** 37.87 305 ⇑*i*P P 04 40 26.9 +0.6
TIRR **Tirgusor** 37.94 299 *e*P P 04 40 27.9 +1.0
TIRR pmax pmax
comp=Z,60nm,1.7s
TIRR **Tirgusor** 37.94 299 ⇑*i*P P 04 40 27.6 +0.6
TIRR **Tirgusor** 37.94 299 *e*P P 04 40 27.9 +1.0
comp=Z,60nm,1.7s
LEOM **Leova** 37.95 302 ⇑P P 04 40 28.6 +1.5
LEOM **Leova** 37.95 302 ⇑*i*P P 04 40 28.6 +1.5
IPM **Ipoh** 38.02 139 P P 04 40 28.4 +0.5
comp=Z,77nm,1.2s,comp=Z,942nm
IPM **Ipoh** 38.02 139 *e*P P 04 40 28.5 +0.5
comp=Z,62nm,1.0s
CLNS **Chul'man** 38.05 41 *e*P P 04 40 27.5 -0.3
CLNS pmax pmax
comp=Z,27nm,1.3s
CLNS pmax pmax
comp=E,18nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CFR **Carcaliu** 38.09 300 ⇑P P 04 40 28.7 +0.5
CFR **Carcaliu** 38.09 300 ⇑*i*P P 04 40 28.7 +0.5
PSN **Preselentsi** 38.16 297 ⇑P P 04 40 30.7 +1.8
PSN **Preselentsi** 38.16 297 ⇑*i*P P 04 40 30.7 +1.8
TLB **Topalu** 38.19 299 ⇑P P 04 40 29.9 +0.8
TLB **Topalu** 38.19 299 ⇑*i*P P 04 40 29.9 +0.8
HARR **Harsova** 38.26 299 ⇑P P 04 40 30.8 +1.1
HARR **Harsova** 38.26 299 ⇑*i*P P 04 40 30.8 +1.1
MSAB **Monastry St. A** 38.38 298 ⇓*i*P P 04 40 32.0 +1.3
PSI **Prapat** 38.39 144 P P 04 40 29.8 -1.4
comp=N,26nm,1.0s
PSI **Prapat** 38.39 144 P P 04 40 30.4 -0.8
PSI **Prapat** 38.39 144 P P 04 40 30.4 -0.8
comp=N,13nm,0.6s,baz=309,slow=7.2,SNR=14
GHRR 38.55 301 ⇓*i*P P 04 40 33.9 +1.8
MICGM **Minsk** 38.66 315 *e*P P 04 40 32.0 -1.0
PETR **Petresti** 38.69 301 ⇓*i*P P 04 40 35.6 +2.3
MNK **Minsk** 38.69 315 ⇑*e*P P 04 40 32.0 -1.2
MNK pmax pmax
comp=E,290nm,1.4s
MNK pmax pmax
comp=Z,320nm,1.2s
PRD **Provadia** 38.78 297 ⇓P P 04 40 35.9 +1.9
PRD **Provadia** 38.78 297 *i*P P 04 40 35.4 +1.4
GRER 38.89 300 ⇑*i*P P 04 40 36.9 +1.9
VRI **Vrincioaia** 39.03 301 ⇑P P 04 40 37.8 +1.6
VRI **Vrincioaia** 39.03 301 ⇑*i*P P 04 40 37.8 +1.6
TESR **Tescani** 39.05 302 ⇓*i*P P 04 40 37.3 +0.9
GSI **Gunungsitoli** 39.08 147 *e*P P 04 40 38.5 +1.7
PLOR **Plostina** 39.09 301 ⇑P P 04 40 38.5 +1.8
PLOR **Plostina** 39.09 301 ⇑*i*P P 04 40 38.5 +1.8
JOF **Joensuu** 39.14 329 *e*P P 04 40 37.1 +0.3
JOF **Joensuu** 39.14 329 *e*p P 04 40 37.1 +0.3
ISR **Istrita** 39.21 300 ⇑P P 04 40 38.9 +1.1
ISR **Istrita** 39.21 300 ⇑*i*P P 04 40 38.9 +1.1
PRAR **RASCA** 39.31 303 ⇑*i*P P 04 40 39.7 +1.2
NACGM **Naroch** 39.35 315 *e*P P 04 40 37.0 -1.7
IDID **Didziasalis** 39.44 316 *e*P P 04 40 41.9 +2.5
IDID AMB AMB 04 40 43.8
comp=Z,36nm,1.1s
JMB **Yambol** 39.46 296 ⇑P P 04 40 42.2 +2.4
JMB **Yambol** 39.46 296 *i*P P 04 40 42.2 +2.4
JMB **Yambol** 39.46 296 ⇑*i*P P 04 40 42.2 +2.4
SECR 39.56 300 ⇑*i*P P 04 40 43.3 +2.7
MLR **Muntele Rosu** 39.61 300 ⇑*i*P P 04 40 43.5 +2.4
IIGN **Ignalina** 39.73 316 *e*P P 04 40 42.1 +0.2
ISAL **Salakas** 39.82 316 *e*P P 04 40 42.9 +0.4
ISAL AMB AMB 04 40 45.1
comp=Z,51nm,1.1s
SZH **Strazhica** 39.84 297 *i*P P 04 40 44.0 +1.1
YULB **Yu-li** 39.86 96 *e*P P 04 40 42.4 -1.0
comp=Z,16nm,1.0s
DOPR **Dopca** 39.96 301 ⇓*i*P P 04 40 46.0 +2.1
BURAR **Bucovina Array** 39.99 304 ⇓P P 04 40 45.0 +0.8
BURAR **Bucovina Array** 39.99 304 ⇓*i*P P 04 40 45.0 +0.8
VSU **Vasula** 39.99 321 *e*P P 04 40 43.8 -0.1
VSU pmax pmax
comp=Z,224nm,1.0s
BUR08 **Bucovina Ar. S** 40.00 304 *e*P P 04 40 44.8 +0.5
ALN **Alexandroupoli** 40.10 293 *e*P P 04 40 45.2 +0.1
SMG **Samos** 40.12 288 *e*P P 04 40 46.3 +0.9
LVZ **Lovozero** 40.13 337 P P 04 40 45.6 +0.5
comp=Z,1μm,1.0s,SNR=9.0
LVZ **Lovozero** 40.13 337 *e*P P 04 40 45.5 +0.5
LVZ pmax pmax
comp=Z,258nm,1.0s
LVZ **Lovozero** 40.13 337 *e*P P 04 40 44.7 -0.3
comp=Z,239nm,1.0s
KSAR **Wonju Array Be** 40.23 72 P P 04 40 45.2 -1.0
PRK **Paraskevi** 40.23 291 *e*P P 04 40 46.0 -0.2
VOIR 40.24 300 ⇑P P 04 40 47.5 +1.2
VOIR 40.24 300 ⇑*i*P P 04 40 47.5 +1.2
KSRS **Korea Array** 40.26 72 P P 04 40 45.2 -1.2
comp=Z,1.9nm,0.5s,baz=280,slow=7.5,SNR=7.4
KSRS LR LR 05 01 15.6
comp=Z,47nm,21.6s,baz=102,slow=42
PVL **Pavlikeni** 40.28 297 *i*P P 04 40 48.6 +2.1
DIM **Dimitrovgrad** 40.29 295 *i*P P 04 40 47.7 +1.0
MDJ **Mudanjiang** 40.30 61 P P 04 40 47.3 +0.6
MDJ pP pP 04 41 02.5 -0.7
MDJ sP sP 04 41 09.7 -1.2
MDJ PP PP 04 42 21.1 +0.7
MDJ ScP ScP 04 46 33.4 +0.9
MDJ PcS PcS 04 46 40.2 +0.7
MDJ S S 04 46 50.8 +1.4
MDJ sS sS 04 47 17.5 +0.1
MDJ pmax pmax
comp=Z,19nm,1.8s
MDJ LR LR
comp=Z,72nm,20.4s
MDJ LR LR
comp=Z,120nm,28.3s
MDJ LR LR
comp=Z,130nm,29.4s
APA **Apatity** 40.38 336 ⇑*i*P P 04 40 47.4 +0.4
APA *i* 04 42 23.0
APA *i* 04 42 53.0
APA *i*S S 04 46 50.0 +0.1
APA *i*SS SS 04 49 50.0 -0.7
APA pmax pmax
comp=Z,97nm,1.4s
HUMR **Humele** 40.38 299 ⇑*i*P P 04 40 49.1 +1.8
KARP **Karpathos** 40.40 285 *e*P P 04 40 47.9 +0.2
RDO **Rodhopi** 40.43 294 *e*P P 04 40 49.0 +1.2
KDZ **Kurdzhali** 40.44 295 *i*P P 04 40 49.5 +1.6
ARR **Arges** 40.54 300 ⇓*i*P P 04 40 50.1 +1.3
SMTH **Samothraki Isl** 40.56 293 *e*P P 04 40 49.6 +0.7
CHOS **Chios island** 40.58 290 *e*P P 04 40 49.8 +0.6
LVV **L'vov** 40.72 307 *e*P P 04 40 50.6 +0.5
PLD **Plovdiv** 40.90 295 *i*P P 04 40 52.8 +1.2
LIA **Limnos Island** 40.93 292 *e*P P 04 40 51.9 0.0
RZN **Rozhen** 40.95 295 *i*P P 04 40 53.4 +1.0
FIA1 **FINESS Array S** 41.01 325 *e*P P 04 40 52.1 -0.2
FINES **FINESS Array B** 41.01 325 P P 04 40 52.2 -0.1
FINES **FINESS Array B** 41.01 325 P P 04 40 52.2 -0.1
comp=Z,56nm,0.5s,baz=112,slow=9.1,SNR=582
FINES LR LR 04 58 26.8
comp=Z,279nm,19.8s,baz=263,slow=37
KAF **Kangasniemi** 41.08 326 *e*P P 04 40 53.2 +0.3
KAF **Kangasniemi** 41.08 326 *e*p P 04 40 53.2 +0.3
CJR **Cluj-Napoca** 41.14 303 ⇑P P 04 40 55.9 +2.2
CJR **Cluj-Napoca** 41.14 303 ⇑*i*P P 04 40 55.9 +2.2
BMR **Baia Mare** 41.15 304 ⇑P P 04 40 55.2 +1.6
BMR **Baia Mare** 41.15 304 ⇑*i*P P 04 40 55.2 +1.6
PGB **Panagyurishte** 41.22 296 *i*P P 04 40 55.9 +1.5
KAVA **Kavala** 41.22 294 *e*P P 04 40 54.5 +0.2
APE **Apeiranthos** 41.29 288 *e*P P 04 40 55.4 +0.4
SUW **Suwalki** 41.36 314 *e*P P 04 40 55.0 -0.2
SUW pmax pmax
comp=Z,200nm,1.1s
SUW MLR MLR
comp=Z,400nm,26.8s
SUW **Suwalki** 41.36 314 *e*P P 04 40 55.0 -0.2
SUW LMZ LR 04 57 39.8
SUW **Suwalki** 41.36 314 *e*P P 04 40 55.0 -0.2
comp=Z,108nm,0.9s
SUW *e*PP PP 04 42 32.0 +0.3
MPEP **Malo Peshtene** 41.41 297 *i*P P 04 40 57.0 +1.1
KLR **Kul'dur** 41.46 54 *e*P P 04 40 53.3 -2.9
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,85nm,1.6s
KLR MLR MLR
comp=Z,2μm,12.0s
KWP **Kalwaria Pacla** 41.58 307 *e*P P 04 40 58.2 +1.1
KWP pmax pmax
comp=Z,200nm,1.4s
KWP **Kalwaria Pacla** 41.58 307 *e*P P 04 40 58.1 +0.9
KWP LMZ LR 04 56 02.2
KWP **Kalwaria Pacla** 41.58 307 ⇑*i*P P 04 40 58.3 +1.1
KWP **Kalwaria Pacla** 41.58 307 *e*P P 04 40 57.7 +0.5
comp=Z,31nm,0.4s
NVR **Nevrokopi** 41.64 294 P P 04 40 59.4 +1.6
NVR **Nevrokopi** 41.64 294 *e*P P 04 40 59.3 +1.5
NVR **Nevrokopi** 41.64 294 P P 04 40 59.4 +1.6
YAK **Yakutsk** 41.66 34 *e*P P 04 40 56.1 -1.5
YAK *e* 04 41 19.8
YAK *e* 04 42 38.9
YAK *e* 04 42 53.0
YAK *e*S S 04 47 04.8 -4.3
YAK pmax pmax
comp=Z,102nm,1.3s
YAK **Yakutsk** 41.66 34 *e*P P 04 40 58.0 +0.4
comp=Z,76nm,0.9s
DEV **Deva** 41.70 301 ⇑P P 04 41 00.0 +1.8
DEV **Deva** 41.70 301 ⇑*i*P P 04 41 00.0 +1.8
NPS **Neapolis** 41.70 285 *e*P P 04 40 58.3 0.0
MMB **Musomiste** 41.70 295 ⇑P P 04 40 59.7 +1.4
MMB **Musomiste** 41.70 295 *i*P P 04 40 59.1 +0.8
MMB **Musomiste** 41.70 295 ⇑*i*P P 04 40 59.7 +1.4
DRGR 41.74 303 ⇓P P 04 41 00.0 +1.4
DRGR 41.74 303 ⇓*i*P P 04 41 00.0 +1.4
TRPA **Tarpa** 41.76 305 ⇑*i*P P 04 41 00.0 +1.4
TRPA **Tarpa** 41.76 305 ⇓*e* P 04 41 00.8 +2.2
MYKOM **Kota Tinggi** 41.78 138 P P 04 41 00.7 +1.5
comp=Z,49nm,1.4s
MYKOM **Kota Tinggi** 41.78 138 *e*P P 04 41 00.5 +1.3
GZR **Gura Zlata** 41.84 301 ⇑*i*P P 04 41 00.8 +1.4
SRS **Serrai** 41.88 294 P P 04 41 00.6 +0.8
SRS **Serrai** 41.88 294 P P 04 41 00.6 +0.8
SRS **Serrai** 41.88 294 *e*P P 04 41 00.6 +0.8
SRS **Serrai** 41.88 294 P P 04 41 00.6 +0.8
KOLS **Kolonicke sedl** 41.89 306 *e*P P 04 41 00.3 +0.6
KOLS pmax pmax
comp=Z,44nm,1.3s
KOLS **Kolonicke sedl** 41.89 306 *e*P P 04 41 00.3 +0.6
UZH **Uzhgorod** 41.90 305 ⇓*i*P P 04 40 59.9 +0.2
UZH *e* 04 41 16.1
UZH *e* 04 41 22.9
UZH *e* 04 42 50.9
VTS **Vitosha** 41.91 296 P P 04 41 01.6 +1.4
VTS **Vitosha** 41.91 296 P P 04 41 01.6 +1.4
VTS **Vitosha** 41.91 296 *i*P P 04 41 00.3 +0.1
VTS **Vitosha** 41.91 296 ⇑*i*P P 04 41 01.0 +0.8
VTS **Vitosha** 41.91 296 P P 04 41 01.6 +1.4
PAIG **Paliouri** 42.05 292 *e*P P 04 41 00.4 -0.7
USRK **Ussuriysk Arra** 42.06 61 P P 04 41 01.6 +0.5
comp=Z,2.0nm,0.7s,baz=283,slow=6.7,SNR=6.1
USRK LR LR 04 59 38.2
comp=Z,186nm,20.4s,baz=248,slow=38
SOH **Sokhos** 42.12 294 P P 04 41 02.8 +1.1
SOH **Sokhos** 42.12 294 P P 04 41 02.8 +1.1
SOH **Sokhos** 42.12 294 *e*P P 04 41 02.1 +0.4
SOH **Sokhos** 42.12 294 P P 04 41 02.8 +1.1
KKB **Krupnik** 42.13 295 *i*P P 04 41 02.1 +0.4
PLG **Polygyros** 42.14 293 P P 04 41 04.3 +2.4
PLG **Polygyros** 42.14 293 P P 04 41 04.3 +2.4
PLG **Polygyros** 42.14 293 *e*P P 04 41 03.3 +1.4
PLG **Polygyros** 42.14 293 P P 04 41 04.3 +2.4
IDI **Anoyia** 42.26 285 P P 04 41 02.4 -0.6
IDI **Anoyia** 42.26 285 P P 04 41 02.4 -0.6
comp=Z,6.1nm,0.4s,baz=55,slow=5.1,SNR=13
PTL **Penteli** 42.33 290 *e*P P 04 41 04.6 +1.1
HORT **Hortiatis** 42.35 293 *e*P P 04 41 04.1 +0.4
MRKA **Markates** 42.39 291 *e*P P 04 41 04.6 +0.7
KNT **Kendrikon** 42.39 294 P P 04 41 05.0 +1.1
KNT **Kendrikon** 42.39 294 P P 04 41 05.0 +1.1
KNT **Kendrikon** 42.39 294 *e*P P 04 41 04.7 +0.8
KNT **Kendrikon** 42.39 294 P P 04 41 05.0 +1.1
CRVS **Cervenica-Dubn** 42.43 306 *e*P P 04 41 04.8 +0.7
CRVS pmax pmax
comp=Z,13nm,0.9s
CRVS **Cervenica-Dubn** 42.43 306 *e*P P 04 41 04.8 +0.7
THE **Thessaloniki** 42.45 294 *e*P P 04 41 04.5 +0.2
SIRR **Siria** 42.52 302 ⇑*i*P P 04 41 06.9 +2.0
STHS **Stebnicka Huta** 42.54 307 *e*P P 04 41 05.1 +0.1
STHS pmax pmax
comp=Z,25nm,0.6s
STHS **Stebnicka Huta** 42.54 307 *e*P P 04 41 05.1 +0.1
XOR **Xorichti** 42.54 292 *e*P P 04 41 04.9 -0.3
VAY **Valandovo** 42.60 295 P P 04 41 06.3 +0.7
VAY **Valandovo** 42.60 295 P P 04 41 06.3 +0.7
VAY **Valandovo** 42.60 295 P P 04 41 06.3 +0.7
BZS **Buzias** 42.62 301 ⇑P P 04 41 07.4 +1.7
BZS **Buzias** 42.62 301 ⇑*i*P P 04 41 07.4 +1.7
SMIA **Simia** 42.64 291 *e*P P 04 41 02.8 -3.2
BEL **Belsk** 42.75 310 *e*P P 04 41 07.3 +0.6
BEL pmax pmax
comp=Z,200nm,0.9s
BEL MLR MLR
comp=Z,400nm,26.6s
BEL **Belsk** 42.75 310 *e*P P 04 41 07.2 +0.6
BEL LMZ LR 04 58 55.9
VIL2 **Platees** 42.75 290 *e*P P 04 41 05.6 -1.3
VAM **Vamos** 42.77 286 *e*P P 04 41 06.9 -0.1
GRG **Griva** 42.80 294 P P 04 41 08.0 +0.7
GRG **Griva** 42.80 294 P P 04 41 08.0 +0.7
GRG **Griva** 42.80 294 *e*P P 04 41 07.6 +0.3
GRG **Griva** 42.80 294 P P 04 41 08.0 +0.7
LKR **Lokris** 42.85 291 *e*P P 04 41 07.8 +0.2
LIT **Litokhoron** 42.91 293 P P 04 41 08.5 +0.4
LIT **Litokhoron** 42.91 293 P P 04 41 08.5 +0.4
LIT **Litokhoron** 42.91 293 *e*P P 04 41 08.7 +0.6
LIT **Litokhoron** 42.91 293 P P 04 41 08.5 +0.4
DID **Didima** 42.95 294 *e*P P 04 41 07.2 -1.3
LTK **Loutraki** 43.03 290 *e*P P 04 41 08.6 -0.5
KECS **Kecovo** 43.10 305 *e*P P 04 41 10.6 +1.0
KECS pmax pmax
comp=Z,11nm,0.7s
KECS **Kecovo** 43.10 305 *e*P P 04 41 10.6 +1.0
NIE **Niedzica** 43.15 307 *e*P P 04 41 11.5 +1.5
NIE **Niedzica** 43.15 307 *e*P P 04 41 11.5 +1.5
DESF **Desfina** 43.26 291 *e*P P 04 41 21.2 +10
DSF **Desfina** 43.27 291 *e*P P 04 41 10.1 -1.0
THL **Klokotos Trika** 43.39 292 P P 04 41 12.0 +0.1
THL **Klokotos Trika** 43.39 292 *e*P P 04 41 12.0 +0.1
VLI **Veliai** 43.39 288 *e*P P 04 41 10.6 -1.4
KZN **Kozani** 43.40 293 P P 04 41 13.4 +1.2
KZN **Kozani** 43.40 293 P P 04 41 13.4 +1.2
KZN **Kozani** 43.40 293 *e*P P 04 41 13.1 +0.9
KZN **Kozani** 43.40 293 P P 04 41 13.4 +1.2
MAKR **Makrakomi, Fth** 43.42 291 *e*P P 04 41 12.7 +0.4
KYTH **Kithira** 43.43 287 P P 04 41 12.4 0.0
KYTH **Kithira** 43.43 287 P P 04 41 12.4 0.0
OJC **Ojcow** 43.43 308 *e*P P 04 41 12.2 0.0
OJC **Ojcow** 43.43 308 *e*P P 04 41 12.2 0.0
KEV **Kevo** 43.45 337 *e*P P 04 41 12.6 +0.5
KEV pmax pmax
comp=Z,106nm,1.1s
KEV **Kevo** 43.45 337 *e*p P 04 41 12.4 +0.3
comp=Z,23nm,0.3s
KEV **Kevo** 43.45 337 *e*P P 04 41 12.6 +0.5
comp=Z,106nm,1.1s
GUR **Goura** 43.53 290 *e*P P 04 41 12.8 -0.4
PSZ **Piszkesteto** 43.55 305 *e*P P 04 41 14.7 +1.5
PSZ pmax pmax
comp=Z,51nm,1.1s
PSZ **Piszkesteto** 43.55 305 ⇑*i*P P 04 41 14.4 +1.2
PSZ **Piszkesteto** 43.55 305 *e*P P 04 41 14.7 +1.5
comp=Z,51nm,1.1s
PSZ **Piszkesteto** 43.55 305 ⇑*e* P 04 41 14.3 +1.1
KALE **Kalithea** 43.57 291 *e*P P 04 41 13.3 -0.2
FNA **Florina** 43.60 294 P P 04 41 13.9 +0.2
FNA **Florina** 43.60 294 *e*P P 04 41 13.7 0.0
FNA **Florina** 43.60 294 P P 04 41 13.9 +0.2
VLX **Vlachokerasia** 43.64 289 *e*P P 04 41 13.6 -0.6
KLV **Kalavryta, Ach** 43.65 290 *e*P P 04 41 14.3 +0.2
PKSN **Nyarlorinc** 43.67 303 ⇓*e* P 04 41 16.3 +2.2
HABR **Khabarovsk** 43.68 55 *e*P P 04 41 13.0 -1.2
HABR *e**PP pP 04 41 31.6 +0.8
HABR *e* 04 41 41.1
HABR *e* 04 42 55.4
HABR *e* 04 42 58.2
HABR *e*PPP PPP 04 43 32.4
HABR pmax pmax
comp=Z,34nm,1.7s
HABR MLR MLR
comp=Z,280nm,18.0s
EVR **Evrytania** 43.69 291 P P 04 41 14.8 +0.3
EVR **Evrytania** 43.69 291 *e*P P 04 41 14.9 +0.4
EVR **Evrytania** 43.69 291 P P 04 41 14.8 +0.3
LAKA **Lakka** 43.73 290 *e*P P 04 41 14.2 -0.6
PSA1 **Psathopyrgos** 43.78 291 *e*P P 04 41 15.9 +0.8
JNU **Nakatsue** 43.79 77 P P 04 41 16.1 +0.8
JNU **Nakatsue** 43.79 77 P P 04 41 16.1 +0.8
comp=Z,31nm,1.1s,baz=185,slow=3.4,SNR=4.7
ARCES **ARCESS Array B** 43.85 336 P P 04 41 15.4 +0.2
ARCES **ARCESS Array B** 43.85 336 P P 04 41 15.4 +0.2
comp=Z,100nm,0.6s,baz=110,slow=8.6,SNR=983
ARE0 **ARCESS Array S** 43.85 336 ⇑*i*P P 04 41 15.6 +0.3
ARE0 **ARCESS Array S** 43.85 336 *e*P P 04 41 15.2 -0.1
PKS6 **Bocsa** 43.92 303 ⇓*e* P 04 41 17.6 +1.5
NEST **Nestorio** 43.92 294 P P 04 41 17.2 +0.8
NEST **Nestorio** 43.92 294 *e*P P 04 41 16.6 +0.2
MEV **Metsovon** 43.93 293 P P 04 41 16.6 +0.1
MEV **Metsovon** 43.93 293 P P 04 41 16.6 +0.1
DIVS **Divibare** 43.98 299 P P 04 41 18.1 +1.3
DRO **Drossia** 44.01 290 *e*P P 04 41 16.9 -0.1
ITM **Ithomi** 44.04 289 *e*P P 04 41 16.1 -1.2
RLS **Riolos of Patr** 44.16 290 *e*P P 04 41 17.9 -0.3
BUD **Budapest** 44.18 304 ⇓*e* P 04 41 19.9 +1.7
JAN **Janina** 44.24 293 P P 04 41 19.3 +0.5
JAN **Janina** 44.24 293 P P 04 41 19.3 +0.5
JAN **Janina** 44.24 293 *e*P P 04 41 19.4 +0.6
JAN **Janina** 44.24 293 P P 04 41 19.3 +0.5
PDO **Prodromos** 44.24 291 P P 04 41 18.7 -0.1
PDO **Prodromos** 44.24 291 *e*P P 04 41 18.6 -0.2
PYL **PYLOS** 44.26 289 *e*P P 04 41 18.1 -0.9
IVA **Berane** 44.27 297 ⇑P P 04 41 20.3 +1.2
PVY **Plav** 44.27 297 *e*P P 04 41 20.7 +1.5
OKC **Ostrava-Krasne** 44.52 308 *e*P P 04 41 21.4 +0.5
OKC **Ostrava-Krasne** 44.52 308 *e*P P 04 41 21.4 +0.5
OKC *e*x x 04 41 57.2
PLE **Pljevlja** 44.55 298 *e*P P 04 41 22.6 +1.3
LKD2 **Lefkada island** 44.59 292 *e*P P 04 41 21.1 -0.6
PKSM **Moragy** 44.60 302 ⇑P P 04 41 22.6 +1.0
PKSM **Moragy** 44.60 302 ⇑*i*P P 04 41 22.6 +1.0
TIXI **Tiksi** 44.62 21 ⇓*i*P P 04 41 21.3 0.0
TIXI pmax pmax
comp=Z,77nm,1.7s
TIXI MLR MLR
comp=Z,302nm,21.0s
TIXI **Tiksi** 44.62 21 *e*P P 04 41 20.7 -0.6
comp=Z,89nm,1.5s
IGT **Igoumenitsa** 44.66 293 P P 04 41 21.5 -0.6
IGT **Igoumenitsa** 44.66 293 P P 04 41 21.5 -0.6
IGT **Igoumenitsa** 44.66 293 *e*P P 04 41 21.3 -0.8
IGT **Igoumenitsa** 44.66 293 P P 04 41 21.5 -0.6
PKS9 **Tamasi** 44.80 303 ⇓*e* P 04 41 24.3 +1.2
VLS **Valsamata** 44.80 291 *e*P P 04 41 22.3 -1.0
TTG **Podgorica** 44.81 297 ⇑*i*P P 04 41 24.2 +0.9
PKST **T''s** 44.87 304 ⇓*e* P 04 41 24.7 +0.9
GKP **Gorka Klasztor** 44.88 312 *e*P P 04 41 24.2 +0.5
GKP pmax pmax
comp=Z,200nm,0.9s
GKP **Gorka Klasztor** 44.88 312 *e*P P 04 41 24.1 +0.4
GKP LMZ LR 04 58 30.2
MORC **Moravsky Berou** 44.92 307 *e*P P 04 41 24.4 +0.3
MORC pmax pmax
comp=Z,89nm,1.2s
MORC **Moravsky Berou** 44.92 307 ⇑*i*P P 04 41 25.7 +1.6
MORC **Moravsky Berou** 44.92 307 *e*P P 04 41 24.4 +0.3
comp=Z,89nm,1.2s
UPM **Unac-Piva** 44.92 298 ⇑*i*P P 04 41 25.6 +1.2
ULC **Ulcinj** 44.92 296 ⇑*i*P P 04 41 25.0 +0.8
NKY **Niksic** 44.93 298 ⇑*i*P P 04 41 26.1 +1.7
NKME **Niksic** 44.97 297 ⇓*i*P P 04 41 25.6 +1.0
KEK **Kerkira** 45.01 293 *e*P P 04 41 24.1 -0.9
BUM **Brajici-Budva** 45.10 297 ⇑*i*P P 04 41 25.9 +0.2
BRY **Bratogost** 45.24 298 ⇑*i*P P 04 41 27.5 +0.6
HCY **Herceg Novi** 45.36 297 ⇑*i*P P 04 41 28.4 +0.7
VRAC **Vranov** 45.58 307 ⇑*i*P P 04 41 30.4 +1.1
KSP **Ksiaz** 45.62 309 ⇑*e*P P 04 41 29.9 +0.3
KSP **Ksiaz** 45.62 309 *e*P P 04 41 30.3 +0.7
KSP LMZ LR 04 58 15.7
DPC **Dobruska-Polom** 45.65 308 *e*P P 04 41 30.6 +0.7
DPC **Dobruska-Polom** 45.65 308 *e*P P 04 41 30.6 +0.7
DPC *e*x x 04 42 05.3
DPC **Dobruska-Polom** 45.65 308 *e*P P 04 41 30.7 +0.8
KSM **Kuching** 45.80 131 P P 04 41 33.3 +1.9
comp=Z,24nm,1.1s
KSM **Kuching** 45.80 131 *e*P P 04 41 32.0 +0.5
comp=Z,29nm,1.2s
SOP **Sopron** 45.81 305 ⇑*e*P P 04 41 32.1 +1.0
UPC **Upice** 45.83 309 *e*P P 04 41 32.3 +1.0
UPC **Upice** 45.83 309 *e*P P 04 41 32.3 +1.0
UPC *e*x x 04 42 06.0
BEHE **Becsehely** 45.84 303 ⇓*e*P P 04 41 33.2 +1.8
STON **Ston** 45.85 298 P P 04 41 31.3 -0.1
TRO **Tromso** 46.06 336 *e*P P 04 41 33.5 +0.7
BSD **Bornholm Skovb** 46.18 315 *i*P P 04 41 33.0 -0.9
BSD pmax pmax
comp=Z,50nm,0.9s
BSD **Bornholm Skovb** 46.18 315 *i*P P 04 41 33.0 -0.9
comp=Z,50nm,0.8s
CONA **Conrad Observa** 46.24 305 ⇑*i*P P 04 41 35.7 +1.0
comp=Z,115nm,1.1s,SNR=52
SBUM **Sibu** 46.26 128 *e*P P 04 41 35.6 +0.6
TREC **Trest** 46.30 307 *e*P P 04 41 36.1 +1.1
TREC **Trest** 46.30 307 *e*P P 04 41 36.1 +1.1
TREC *e*x x 04 42 10.6
KKM **Kota Kinabalu** 46.32 120 *e*P P 04 41 35.6 0.0
comp=Z,25nm,1.1s
ARSA **Arzberg** 46.57 304 ⇑*i*P P 04 41 37.9 +0.7
comp=Z,45nm,1.1s,SNR=20
PVCC **Panska Ves** 46.74 309 *e*P P 04 41 39.9 +1.5
PVCC **Panska Ves** 46.74 309 *e*P P 04 41 39.9 +1.5
PRU **Pruhonice** 46.82 308 *e*P P 04 41 39.5 +0.4
PRU **Pruhonice** 46.82 308 *e*P P 04 41 39.5 +0.4
PRU *e*x x 04 42 13.6
PRA **Prague** 46.88 308 P P 04 41 39.0 -0.5
UDBI **Udbina** 46.89 301 P P 04 41 40.2 +0.5
PERS **Pernice** 46.94 303 *i*P P 04 41 40.6 +0.5
STEI **Steigen** 46.98 333 *e*P P 04 41 40.0 +0.1
STEI AMB AMB 04 41 41.4
comp=Z,110nm,2.0s
SOKA **Soboth** 46.99 304 ⇑*i*P P 04 41 41.3 +0.8
comp=Z,116nm,0.9s,SNR=66
MOR8 **Moi Rana** 47.00 330 ⇑*i*P P 04 41 39.6 -0.6
MOR8 AMB AMB 04 41 41.5
comp=Z,199nm,0.9s
RUE **Ruedersdorf** 47.03 312 *e*P P 04 41 41.1 +0.5
comp=Z,58nm,0.9s
BOJS **Bojanci** 47.05 302 *i*P P 04 41 41.8 +0.8
BRG **Berggiesshubel** 47.10 309 *i*P P 04 41 42.6 +1.4
comp=Z,91nm,1.0s
BRG *i* 04 42 15.8
comp=Z,17nm,0.8s
BRG PP PP 04 43 36.5 +4.2
comp=Z,9.3nm,1.2s
BRG *e* 05 02 02.5
comp=Z,31nm,2.0s
BRG **Berggiesshubel** 47.10 309 *i*P P 04 41 42.6 +1.4
BRG 04 43 36.5
BRG pmax pmax
comp=Z,91nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG **Berggiesshubel** 47.10 309 *e*P P 04 41 41.9 +0.7
comp=Z,90nm,1.0s
VISS **Visnje** 47.28 302 *i*P P 04 41 43.6 +0.9
MOA **Molln** 47.31 305 ⇑*i*P P 04 41 43.4 +0.5
comp=Z,51nm,1.0s,SNR=14
OBKA **Obir** 47.35 303 ⇓*i*P P 04 41 44.6 +1.3

comp=Z,72nm,1.0s,SNR=18
TIP Timpagrande 47.43 293 P **P** **04 41 44.4 +0.4**
TIP Timpagrande 47.43 293 *eP* **P** **04 41 44.4 +0.4**
comp=Z,40nm,0.9s
FLOS Flostrand 47.46 331 *eP* **P** **04 41 43.9 +0.2**
NVLJ Novalja 47.51 301 P **P** **04 41 44.6 +0.2**
GEC2 GERESS Array S 47.53 307 *eP* **P** **04 41 45.9 +1.2**
GEC2 GERESS Array S 47.53 307 *eP* **P** **04 41 45.5 +0.8**
comp=Z,57nm,1.2s
GEC2 GERESS Array S 47.53 307 *eP* **P** **04 41 45.9 +1.2**
GERES GERESS Array B 47.53 307 P **P** **04 41 45.4 +0.8**
GERES GERESS Array B 47.53 307 P **P** **04 41 45.4 +0.8**
comp=Z,15nm,0.9s,baz=78,slow=7.0,SNR=88
GERES LR LR 05 02 51.3
comp=Z,199nm,19.1s,baz=88,slow=37
KHC Kasperske Hory 47.56 307 *eP* **P** **04 41 45.9 +1.0**
KHC pmax pmax
comp=Z,46nm,0.9s
KHC Kasperske Hory 47.56 307 *eP* **P** **04 41 45.6 +0.7**
KHC *ex* x 04 42 19.8
KHC Kasperske Hory 47.56 307 *eP* **P** **04 41 45.9 +1.0**
comp=Z,46nm,0.9s
COP Copenhagen 47.57 316 *i* P **P** **04 41 45.3 +0.6**
COP pmax pmax
comp=Z,82nm,0.9s
COP Copenhagen 47.57 316 *i* P **P** **04 41 45.3 +0.6**
comp=Z,82nm,0.9s
KONS Konsvik 47.58 331 *eP* **P** **04 41 44.8 +0.2**
STOK Stokkvaagen 47.60 330 *eP* **P** **04 41 45.5 +0.7**
CLL Collm 47.63 310⇑ *iP* **P** **04 41 45.7 +0.4**
CLL *eS* **S** **04 48 34.0 -1.9**
CLL pmax pmax
comp=Z,60nm,1.0s
CLL MLR MLR
comp=Z,200nm,20.2s
CLL Collm 47.63 310 *eP* **P** **04 41 45.5 +0.2**
comp=Z,60nm,1.0s
CLL *es*P sP 04 42 18.9 +9.2
CLL Collm 47.63 310⇑ *iP* **P** **04 41 45.7 +0.4**
comp=Z,60nm,1.0s
CLL *i* sP sP 04 42 19.6 +10
CLL *e*PP **PP** **04 43 39.0 +1.8**
CLL *eS* **S** **04 48 34.0 -1.9**
CLL *es*S sS 04 49 13.0 +8.6
CLL *es*S **SS** **04 52 10.0 +5.7**
CLL *es*SS 04 52 45.0
CLL LmV 05 04 00.0
comp=Z,200nm,20.2s
LOF Lofoten 47.64 333 *eP* **P** **04 41 44.5 -0.6**
LLD Lille Linde 47.72 316 *i* P **P** **04 41 46.8 +0.9**
LLD pmax pmax
comp=Z,150nm,0.9s
LLD Lille Linde 47.72 316 *i* P **P** **04 41 46.8 +0.9**
comp=Z,153nm,0.9s
JAVS Javornik 47.80 303 *i* P **P** **04 41 47.3 +0.5**
NSS Namsos 47.86 328 *eP* **P** **04 41 46.4 -0.4**
VOY Vojsko 47.89 303 *eP* **P** **04 41 47.8 +0.3**
VOY *e* 04 41 55.7
VOY *e* 04 42 29.1
NC602 NORSAR Array S 47.90 323⇑ *iP* **P** **04 41 47.1 -0.2**
CUC Castrocucco 47.91 295 *eP* **P** **04 41 47.3 -0.4**
comp=Z,62nm,0.8s
MYKA Terra Mystica 47.94 304⇓ *iP* **P** **04 41 48.5 +0.6**
comp=Z,16nm,0.9s,SNR=6.8
WET Wettzell 48.02 307 *eP* **P** **04 41 49.2 +0.8**
comp=Z,51nm,1.2s
KBA Koelnbreinsper 48.06 304⇑ *iP* **P** **04 41 49.3 +0.4**
comp=Z,19nm,0.9s,SNR=8.4
NB2 NORSAR Subarra 48.07 323 P **P** **04 41 48.0 -0.6**
comp=Z,82nm,0.8s,baz=90,slow=7.9
NB2 NORSAR Subarra 48.07 323 P **P** **04 41 48.0 -0.6**
baz=90,slow=7.9
NOA NORSAR Array B 48.07 323 P **P** **04 41 48.2 -0.4**
NOA NORSAR Array B 48.07 323 P **P** **04 41 48.2 -0.4**
comp=Z,44nm,0.7s,baz=91,slow=7.6,SNR=108
NOA LR LR 05 02 45.4
comp=Z,230nm,21.0s,baz=90,slow=37
TANN Tannenbergstha 48.09 309 *eP* **P** **04 41 49.7 +0.7**
comp=Z,43nm,1.0s
NKC Novy Kostel 48.13 309 *eP* **P** **04 41 50.5 +1.3**
NKC Novy Kostel 48.13 309 *eP* **P** **04 41 50.5 +1.3**
NAO01 NORSAR Array S 48.23 323 *eP* **P** **04 41 49.1 -0.6**
comp=Z,73nm,0.8s
OSL Oslo 48.32 322 *eP* **P** **04 41 51.0 +0.5**
CEL Celeste 48.33 292 *eP* **P** **04 41 52.1 +1.1**
comp=Z,72nm,1.0s
ROTZ Rotzenmuhle 48.35 308 *eP* **P** **04 41 52.3 +1.4**
comp=Z,65nm,1.1s
ROTZ *es*P sP 04 42 25.6 +10
MAJO Matsushiro 48.42 70 *eP* **P** **04 41 51.6 -0.1**
MAJO pmax pmax
comp=Z,11nm,0.6s
MAJO Matsushiro 48.42 70 *eP* **P** **04 41 51.6 -0.1**
comp=Z,11nm,0.6s
MJAR Matsushiro Arr 48.43 70 P **P** **04 41 51.9 +0.2**
MJAR Matsushiro Arr 48.43 70 P **P** **04 41 51.9 +0.2**
comp=Z,12nm,1.0s,baz=292,slow=8.9,SNR=15
TBLU Trondheim 48.55 326 *eP* **P** **04 41 52.0 -0.2**
ABTA Abfaltersbach 48.68 304⇑ *iP* **P** **04 41 53.5 -0.1**
comp=Z,23nm,0.9s,SNR=15
KONO Kongsberg 48.89 321 *eP* **P** **04 41 54.8 0.0**
KONO Kongsberg 48.89 321 *eP* **P** **04 41 55.3 +0.4**
KONO pmax pmax
comp=Z,86nm,0.9s
KONO Kongsberg 48.89 321 *eP* **P** **04 41 55.3 +0.4**
comp=Z,86nm,0.9s
BSEG Bad Segeberg 48.95 314 *eP* **P** **04 41 56.2 +0.9**
comp=Z,129nm,0.9s
GRF Grafenberg Arr 48.99 308 *eP* **P** **04 41 57.3 +1.4**
comp=Z,106nm,1.1s
GRFO Grafenberg 48.99 308 *eP* **P** **04 41 57.1 +1.2**
GRFO pmax pmax
comp=Z,104nm,1.2s
GRFO Grafenberg 48.99 308 *eP* **P** **04 41 57.1 +1.2**
comp=Z,104nm,1.2s
YSS Yuzh-Sakhalins 49.05 56⇑ *eP* **P** **04 41 56.0 -0.3**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 49.05 56 *eP* **P** **04 41 55.6 -0.7**
comp=Z,65nm,1.2s
WTTA Wattenberg 49.17 305⇑ *iP* **P** **04 41 57.4 0.0**
comp=Z,62nm,1.2s,SNR=16
CLZ Clausthal 49.19 311 *eP* **P** **04 41 58.0 +0.7**
comp=Z,106nm,1.1s
WATA Walderalm 49.20 305⇑ *iP* **P** **04 41 57.3 -0.3**
comp=Z,24nm,1.0s,SNR=15
FUR Furstenfeldbru 49.23 306 *eP* **P** **04 41 58.7 +1.0**
comp=Z,165nm,0.9s
NRDL Niedersach Rie 49.26 312 *eP* **P** **04 41 58.7 +1.0**
comp=Z,137nm,1.0s
MUD Monsted U'grnd 49.33 317 *i* P **P** **04 41 59.0 +0.8**
MUD pmax pmax
comp=Z,38nm,1.0s
MUD Monsted U'grnd 49.33 317 *i* P **P** **04 41 59.0 +0.8**
comp=Z,38nm,1.0s
SPA0 Spitsbergen Ar 49.43 346 *eP* **P** **04 41 59.9 +1.1**
MOTA Moosalm 49.51 305⇑ *iP* **P** **04 41 59.6 -0.4**
comp=Z,31nm,0.8s,SNR=22
UBBA Unterbreizbach 49.58 310 *eP* **P** **04 42 00.6 +0.5**
comp=Z,84nm,1.7s
UBBA *es*P sP 04 42 34.0 +9.4
RETA Reutte 49.71 305⇑ *iP* **P** **04 42 01.5 +0.1**
comp=Z,32nm,0.8s,SNR=11
MOL Molde 49.79 325 *eP* **P** **04 42 02.7 +1.0**
MOL AMB AMB 04 42 03.8
comp=Z,124nm,1.6s
FETA Feichten 49.83 305 *i* P **P** **04 42 02.2 -0.2**
comp=Z,45nm,1.1s,SNR=14
SNART Snartemo 50.21 320⇑ *iP* **P** **04 42 05.5 +0.6**
FUORN Ofenpass-Fuorn 50.23 304 *eP* **P** **04 42 05.9 +0.4**
DAVA Damuels 50.33 305 *i* P **P** **04 42 06.5 +0.2**
comp=Z,106nm,0.7s,SNR=32
STU Stuttgart 50.47 307 *eP* **P** **04 42 07.5 +0.4**
STU pmax pmax
comp=Z,100nm,1.1s
STU Stuttgart 50.47 307 *eP* **P** **04 42 07.9 +0.8**
comp=Z,110nm,1.2s
STU Stuttgart 50.47 307 *eP* **P** **04 42 07.5 +0.4**
comp=Z,100nm,1.1s
HYA Hoyanger 50.50 324 *eP* **P** **04 42 07.8 +0.8**
BLS5 Blasjo 50.51 321 *eP* **P** **04 42 08.5 +1.3**
BLS5 AMB AMB 04 42 11.3
comp=Z,33nm,1.6s
KBS Kingsbay 50.51 347 *eP* **P** **04 42 07.7 +0.8**
KBS Kingsbay 50.51 347 *eP* **P** **04 42 07.1 +0.2**
KBS pmax pmax
comp=Z,56nm,1.0s
KBS Kingsbay 50.51 347 *eP* **P** **04 42 07.1 +0.2**
comp=Z,56nm,1.0s
IBBN Ibbenburen 50.71 312 *eP* **P** **04 42 09.3 +0.6**
comp=Z,112nm,1.2s
VLC Villacollemand 50.73 301 *eP* **P** **04 42 09.7 +0.6**
comp=Z,71nm,0.8s
TUE Stuetta 50.87 304 *eP* **P** **04 42 10.0 -0.4**
ASK Askoy 51.04 323 *eP* **P** **04 42 10.7 -0.5**
BFO Black Forest 51.13 307 *eP* **P** **04 42 12.2 +0.2**
BFO pmax pmax
comp=Z,24nm,1.1s
BFO Black Forest 51.13 307 *eP* **P** **04 42 12.1 +0.1**
comp=Z,23nm,1.1s
BFO Black Forest 51.13 307 *eP* **P** **04 42 12.2 +0.2**
comp=Z,24nm,1.1s
BUG Bochum--Univer 51.16 311 *eP* **P** **04 42 12.7 +0.5**
comp=Z,108nm,1.1s
LANF Langenberg 51.32 308⇓ *eP* **P** **04 42 14.6 +1.1**
WTSB Winterswijk 51.35 312 *eP* **P** **04 42 14.2 +0.6**
comp=Z,66nm,0.8s
FELD Feldberg im Sc 51.44 306⇓ *eP* **P** **04 42 15.1 +0.6**
CDF Champ du Feu 51.79 307 *eP* **P** **04 42 16.9 -0.2**
comp=Z,131nm,1.4s
CDF Champ du Feu 51.79 307 *eP* **P** **04 42 16.9 -0.2**
CDF pmax pmax
comp=Z,131nm,1.4s
CDF Champ du Feu 51.79 307 *eP* **P** **04 42 16.9 -0.2**
comp=Z,131nm,1.4s
ECH Echery 51.91 307⇓ *eP* **P** **04 42 18.7 +0.8**
MOF Molkenrain 52.02 306⇓ *eP* **P** **04 42 19.5 +0.7**
MEM Membach 52.11 310 P **P** **04 42 19.9 +0.6**
comp=Z,32nm,1.2s
MEM Membach 52.11 310 *eP* **P** **04 42 20.3 +1.0**
MEM Membach 52.11 310 *eP* **P** **04 42 20.3 +1.0**
HGN Heimansgroeve 52.12 310 *eP* **P** **04 42 19.6 +0.3**
comp=Z,19nm,0.8s
PGF Pioggiola 52.14 300 *eP* **P** **04 42 19.4 -0.4**
comp=Z,53nm,0.8s
PGF Pioggiola 52.14 300 *eP* **P** **04 42 19.4 -0.4**
PGF pmax pmax
comp=Z,53nm,0.8s
PGF Pioggiola 52.14 300 *eP* **P** **04 42 19.4 -0.4**
comp=Z,53nm,0.8s
HINF Hinteralfeld 52.21 306 *eP* **P** **04 42 20.0 -0.1**
comp=Z,162nm,1.0s
HINF Hinteralfeld 52.21 306 *eP* **P** **04 42 20.0 -0.1**
HINF pmax pmax
comp=Z,162nm,1.0s
HINF Hinteralfeld 52.21 306 *eP* **P** **04 42 20.0 -0.1**
comp=Z,162nm,1.0s
WLF Walferdange 52.23 309 P **P** **04 42 20.8 +0.7**
comp=Z,55nm,1.3s
WLF Walferdange 52.23 309 *eP* **P** **04 42 20.7 +0.5**
WLF pmax pmax
comp=Z,89nm,1.1s
WLF Walferdange 52.23 309 *eP* **P** **04 42 21.0 +0.8**
comp=Z,81nm,1.0s
WLF Walferdange 52.23 309 *eP* **P** **04 42 20.7 +0.5**
comp=Z,89nm,1.1s
BEBN Eben Emael 52.27 310 P **P** **04 42 21.3 +0.9**
comp=Z,11nm,1.3s
SENIN Lac Senin/Sane 52.27 305 *eP* **P** **04 42 21.2 +0.4**
KMBO Kilima Mbogo 52.34 234 P **P** **04 42 23.2 +1.5**
SNR=8.8
KMBO Kilima Mbogo 52.34 234 *eP* **P** **04 42 22.3 +0.6**
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 52.34 234 P **P** **04 42 22.8 +1.1**
comp=Z,6.9nm,0.6s,baz=38,slow=12,SNR=30
LOMF Lomont 52.34 306 *eP* **P** **04 42 21.7 +0.6**
HAU Haudompre 52.49 307 *eP* **P** **04 42 22.0 -0.2**
comp=Z,191nm,1.1s
HAU *eR*
comp=Z,209nm,18.5s
HAU Haudompre 52.49 307 *eP* **P** **04 42 22.0 -0.2**
HAU pmax pmax
comp=Z,191nm,1.1s
HAU Haudompre 52.49 307 *eP* **P** **04 42 22.0 -0.2**
comp=Z,191nm,1.1s
BCLA Clavier 52.59 310 P **P** **04 42 23.7 +0.9**
comp=Z,26nm,1.7s
THEF They Montfort 52.67 307⇓ *eP* **P** **04 42 24.5 +1.0**
OG01 Vacheresse 52.70 305⇓ *eP* **P** **04 42 24.6 +0.8**
SAOF Saorge 52.74 302⇓ *eP* **P** **04 42 25.3 +1.2**
PAGF Fort de Pagny 52.76 308 *eP* **P** **04 42 24.5 +0.4**
comp=Z,44nm,1.1s
PAGF Fort de Pagny 52.76 308 *eP* **P** **04 42 24.5 +0.4**
comp=Z,44nm,1.1s
AUTN L'Aution 52.83 302⇓ *eP* **P** **04 42 24.0 -1.0**
SBF Sospel 52.86 302 *eP* **P** **04 42 25.3 +0.3**
comp=Z,303nm,0.9s
SBF Sospel 52.86 302 *eP* **P** **04 42 25.3 +0.3**
SBF pmax pmax
comp=Z,303nm,0.9s
SBF Sospel 52.86 302 *eP* **P** **04 42 25.3 +0.3**
comp=Z,303nm,0.9s
LPG La Plagne 52.87 304 *eP* **P** **04 42 25.7 +0.3**
comp=Z,202nm,1.0s
LPG La Plagne 52.87 304 *eP* **P** **04 42 25.7 +0.3**
LPG pmax pmax
comp=Z,202nm,1.0s
LPG La Plagne 52.87 304 *eP* **P** **04 42 25.7 +0.3**
comp=Z,202nm,1.0s
LPL La Plagne 52.88 304 *eP* **P** **04 42 25.7 +0.4**
comp=Z,249nm,1.0s
LPL La Plagne 52.88 304 *eP* **P** **04 42 25.7 +0.4**
LPL pmax pmax
comp=Z,249nm,1.0s
LPL La Plagne 52.88 304 *eP* **P** **04 42 25.7 +0.4**
comp=Z,249nm,1.0s
RSL Roselend 52.91 304⇓ *eP* **P** **04 42 26.4 +1.0**
LUCF Luceram 52.91 302⇓ *eP* **P** **04 42 26.6 +1.2**
OG22 Abries 52.93 303⇓ *eP* **P** **04 42 26.8 +1.2**
REVF Revere 52.94 301⇓ *eP* **P** **04 42 26.5 +0.9**
TOUF Mont Tournerai 52.95 302⇓ *eP* **P** **04 42 25.8 0.0**
GIVF Givet 52.96 310 *eP* **P** **04 42 26.1 +0.5**
comp=Z,150nm,1.0s
GIVF Givet 52.96 310 *eP* **P** **04 42 26.1 +0.5**
GIVF pmax pmax
comp=Z,151nm,1.0s
GIVF Givet 52.96 310 *eP* **P** **04 42 26.1 +0.5**
comp=Z,150nm,1.0s
CABF La Chapelle 53.02 305 *eP* **P** **04 42 26.1 -0.1**
comp=Z,114nm,1.0s
CABF La Chapelle 53.02 305 *eP* **P** **04 42 26.1 -0.1**
CABF pmax pmax
comp=Z,114nm,1.0s
CABF La Chapelle 53.02 305 *eP* **P** **04 42 26.1 -0.1**
comp=Z,114nm,1.0s
BNI Bardonecchia 53.04 303 *eP* **P** **04 42 26.6 +0.1**
BNI pmax pmax
comp=Z,47nm,0.9s
BNI Bardonecchia 53.04 303 *eP* **P** **04 42 26.6 +0.1**
comp=Z,47nm,0.9s
MVIF Mont Vial 53.05 302⇓ *eP* **P** **04 42 27.5 +1.0**
MBDF Montbardon 53.07 303 *eP* **P** **04 42 26.2 -0.5**
comp=Z,51nm,0.8s
MBDF Montbardon 53.07 303 *eP* **P** **04 42 26.2 -0.5**
MBDF pmax pmax
comp=Z,51nm,0.8s
MBDF Montbardon 53.07 303 *eP* **P** **04 42 26.2 -0.5**
comp=Z,51nm,0.8s
DOU Dourbes 53.11 310 P **P** **04 42 27.3 +0.7**
comp=Z,40nm,1.5s
SNF Seneffe 53.20 310 P **P** **04 42 28.1 +0.8**
MEZF Maizieres J'vi 53.21 308 *eP* **P** **04 42 27.7 +0.3**
comp=Z,370nm,1.4s
MEZF Maizieres J'vi 53.21 308 *eP* **P** **04 42 27.7 +0.3**
comp=Z,370nm,1.4s
CALN Calern 53.27 302⇓ *eP* **P** **04 42 29.1 +1.0**
SFTF Sexfontaines 53.29 307 *eP* **P** **04 42 27.9 -0.2**
comp=Z,184nm,1.2s
SFTF Sexfontaines 53.29 307 *eP* **P** **04 42 27.9 -0.2**
comp=Z,184nm,1.2s
FRF La Foret Royal 53.49 301 *eP* **P** **04 42 29.5 -0.1**
comp=Z,89nm,0.8s
FRF La Foret Royal 53.49 301 *eP* **P** **04 42 29.5 -0.1**
FRF pmax pmax
comp=Z,89nm,0.8s
FRF La Foret Royal 53.49 301 *eP* **P** **04 42 29.5 -0.1**
comp=Z,89nm,0.8s
ORIF Oris-en-Rattie 53.62 303 *eP* **P** **04 42 30.0 -0.7**
comp=Z,35nm,0.8s
ORIF *eR*
comp=Z,141nm,19.2s
ORIF Oris-en-Rattie 53.62 303 *eP* **P** **04 42 30.0 -0.7**
ORIF pmax pmax
comp=Z,35nm,0.8s
ORIF Oris-en-Rattie 53.62 303 *eP* **P** **04 42 30.0 -0.7**
comp=Z,35nm,0.8s
LMR La Mourre 53.66 301 *eP* **P** **04 42 30.5 -0.3**
comp=Z,44nm,0.9s
LMR La Mourre 53.66 301 *eP* **P** **04 42 30.5 -0.3**
LMR pmax pmax
comp=Z,44nm,0.9s
LMR La Mourre 53.66 301 *eP* **P** **04 42 30.5 -0.3**
comp=Z,44nm,0.9s
STOF St-Etienne Org 53.87 302 *eP* **P** **04 42 34.0 +1.6**
TAVF Tavernes 53.88 302 *eP* **P** **04 42 33.6 +1.1**
SMRF Simiane la Rot 54.11 302 *eP* **P** **04 42 34.1 -0.1**
comp=Z,29nm,0.9s
SMRF Simiane la Rot 54.11 302 *eP* **P** **04 42 34.1 -0.1**
comp=Z,29nm,0.9s
KEST Kesra 54.11 291 *eP* **P** **04 42 35.0 +0.6**
KEST Kesra 54.11 291 P **P** **04 42 35.2 +0.9**
comp=Z,7.9nm,0.8s,baz=296,slow=3.5,SNR=18
LEPF PUYLOUBIER 54.16 302 *eP* **P** **04 42 35.7 +1.2**
BERF Bertagne 54.23 301 *eP* **P** **04 42 36.4 +1.3**
LOR Lormes 54.31 306 *eP* **P** **04 42 34.9 -0.6**
comp=Z,116nm,1.1s
LOR *eR*
comp=Z,222nm,19.0s
LOR Lormes 54.31 306 *eP* **P** **04 42 34.9 -0.6**
comp=Z,116nm,1.1s
TREF Trevarasse 54.35 302 *eP* **P** **04 42 37.4 +1.5**
GELF Grande-Etoile 54.39 302 *eP* **P** **04 42 37.4 +1.2**
SSB Saint Sauveur 54.43 304⇓ *eP* **P** **04 42 37.3 +0.9**
SSB Saint Sauveur 54.43 304 *eP* **P** **04 42 36.5 0.0**
SSB pmax pmax
comp=Z,40nm,1.0s
SSB Saint Sauveur 54.43 304 *eP* **P** **04 42 36.5 0.0**
comp=Z,40nm,1.0s
VIVF Saint-Julien-l 54.46 303 *eP* **P** **04 42 36.6 -0.1**
comp=Z,48nm,0.9s
VIVF Saint-Julien-l 54.46 303 *eP* **P** **04 42 36.6 -0.1**
VIVF pmax pmax
comp=Z,48nm,0.9s
VIVF Saint-Julien-l 54.46 303 *eP* **P** **04 42 36.6 -0.1**
comp=Z,48nm,0.9s
SMF Signal de Mont 54.50 306 *eP* **P** **04 42 36.5 -0.4**
comp=Z,152nm,0.8s
SMF Signal de Mont 54.50 306 *eP* **P** **04 42 36.5 -0.4**
SMF pmax pmax
comp=Z,152nm,0.8s
SMF Signal de Mont 54.50 306 *eP* **P** **04 42 36.5 -0.4**
comp=Z,152nm,0.8s
SSF Saint Saulge 54.60 306 *eP* **P** **04 42 37.2 -0.4**
comp=Z,92nm,0.9s
SSF Saint Saulge 54.60 306 *eP* **P** **04 42 37.2 -0.4**
SSF pmax pmax
comp=Z,92nm,0.9s
SSF Saint Saulge 54.60 306 *eP* **P** **04 42 37.2 -0.4**
comp=Z,92nm,0.9s
AVF Avril sur Loir 54.78 306 *eP* **P** **04 42 38.6 -0.3**
comp=Z,159nm,0.9s
AVF *ep*P **pP** **04 42 53.0 -3.0**
AVF Avril sur Loir 54.78 306 *eP* **P** **04 42 38.6 -0.3**
AVF *e**PP **pP** **04 42 53.0 -3.0**
AVF pmax pmax
comp=Z,159nm,0.9s
AVF Avril sur Loir 54.78 306 *eP* **P** **04 42 38.6 -0.3**
comp=Z,159nm,0.9s
AVF *ep*P **pP** **04 42 53.0 -3.0**
PLDF La Plantade 54.84 305⇓ *eP* **P** **04 42 40.0 +0.6**
HYF Humbligny 55.10 307 *eP* **P** **04 42 41.4 +0.1**
HYF Humbligny 55.10 307 *eP* **P** **04 42 41.4 +0.1**
AGO Saint Agoulin 55.14 305⇓ *eP* **P** **04 42 42.3 +0.7**
BGF Bois d'Agland 55.18 306 *eP* **P** **04 42 41.4 -0.4**
comp=Z,48nm,0.9s
BGF Bois d'Agland 55.18 306 *eP* **P** **04 42 41.4 -0.4**
BGF pmax pmax
comp=Z,48nm,0.9s
BGF Bois d'Agland 55.18 306 *eP* **P** **04 42 41.4 -0.4**
comp=Z,48nm,0.9s
LASF Ste Croix 55.26 303 *eP* **P** **04 42 42.6 +0.2**
comp=Z,114nm,1.1s
LASF Ste Croix 55.26 303 *eP* **P** **04 42 42.6 +0.2**
comp=Z,114nm,1.1s
LBL Lubilhac 55.31 304⇓ *eP* **P** **04 42 43.8 +0.9**
PYM Petit Puy Mans 55.31 305⇓ *eP* **P** **04 42 43.6 +0.7**
DRUM Mains of Drumt 55.59 319 *eP* **P** **04 42 44.5 0.0**
DRUM AMB AMB 04 42 48.2
comp=Z,133nm,1.6s
TCF Toulx Ste Croi 55.68 306 *eP* **P** **04 42 45.5 +0.1**
comp=Z,180nm,1.1s
TCF Toulx Ste Croi 55.68 306 *eP* **P** **04 42 45.5 +0.1**
TCF pmax pmax
comp=Z,180nm,1.1s
TCF Toulx Ste Croi 55.68 306 *eP* **P** **04 42 45.5 +0.1**
comp=Z,180nm,1.1s
MCD Coleburn Disti 55.83 320 *eP* **P** **04 42 46.0 -0.3**
MCD *eP* **P** **04 42 46.4 +0.1**
HPK Haverah Park 55.86 316 *eP* **P** **04 42 46.6 0.0**
HPK AMB AMB 04 42 47.0
comp=Z,142nm,1.7s
ESY Stoneypath 55.91 318 *eP* **P** **04 42 46.8 0.0**
KBI1 Birley Grange 55.99 315 *eP* **P** **04 42 46.8 -0.7**
KBI1 *eP* **P** **04 42 46.8 -0.7**
EBL Broad Law 56.18 318 *eP* **P** **04 42 49.1 +0.3**
CAF Calviac 56.20 304 *eP* **P** **04 42 49.4 +0.2**
comp=Z,120nm,1.0s
CAF Calviac 56.20 304 *eP* **P** **04 42 49.4 +0.2**
CAF pmax pmax
comp=Z,120nm,1.0s
CAF Calviac 56.20 304 *eP* **P** **04 42 49.4 +0.2**
comp=Z,120nm,1.0s
MVH1 Achvaich 56.23 321 *eP* **P** **04 42 49.4 +0.3**
MVH1 *eP* **P** **04 42 49.4 +0.3**
WOL Wolverton 56.36 312 *eP* **P** **04 42 50.6 +0.5**
WOL AMB AMB 04 42 51.9
comp=Z,192nm,1.3s
ESK Eskdalemuir 56.39 317 *eP* **P** **04 42 49.9 -0.4**
ESK AMB AMB 04 42 52.7
comp=Z,155nm,4.0s
ESK Eskdalemuir 56.39 317 *eP* **P** **04 42 50.4 +0.1**
ESK pmax pmax
comp=Z,108nm,1.3s
ESK Eskdalemuir 56.39 317 *eP* **P** **04 42 50.4 +0.1**
comp=Z,108nm,1.3s
MDO Dochfour 56.45 320 *eP* **P** **04 42 50.3 -0.4**
MDO *eP* **P** **04 42 50.5 -0.2**
RJF Les Rejaudoux 56.45 305 *eP* **P** **04 42 51.3 +0.4**
comp=Z,63nm,1.0s
RJF *eR*
comp=Z,163nm,18.0s
RJF Les Rejaudoux 56.45 305 *eP* **P** **04 42 51.3 +0.4**
RJF pmax pmax
comp=Z,63nm,1.0s
RJF Les Rejaudoux 56.45 305 *eP* **P** **04 42 51.3 +0.4**
comp=Z,63nm,1.0s
LDF La Druitiere 56.48 309 *eP* **P** **04 42 50.6 -0.5**
comp=Z,169nm,0.8s
LDF La Druitiere 56.48 309 *eP* **P** **04 42 50.6 -0.5**
LDF pmax pmax
comp=Z,169nm,0.8s
LDF La Druitiere 56.48 309 *eP* **P** **04 42 50.6 -0.5**
comp=Z,169nm,0.8s
KESW Keswick, Cumbr 56.53 317 *eP* **P** **04 42 51.5 +0.2**
MTLF Montolieu 56.62 302 *eP* **P** **04 42 52.2 0.0**
comp=Z,41nm,0.8s
MTLF Montolieu 56.62 302 *eP* **P** **04 42 52.2 0.0**
MTLF pmax pmax
comp=Z,41nm,0.8s
MTLF Montolieu 56.62 302 *eP* **P** **04 42 52.2 0.0**
comp=Z,41nm,0.8s
FLN La Foliniere 56.66 309 *eP* **P** **04 42 51.7 -0.6**
comp=Z,137nm,1.1s
FLN *eR*
comp=Z,168nm,18.5s
FLN La Foliniere 56.66 309 *eP* **P** **04 42 51.7 -0.6**
FLN pmax pmax
comp=Z,137nm,1.1s
FLN La Foliniere 56.66 309 *eP* **P** **04 42 51.7 -0.6**
comp=Z,137nm,1.1s
EAB Aberfoyle 56.77 319 *eP* **P** **04 42 53.5 +0.5**
KAPI Kappang 56.78 127 *eP* **P** **04 42 53.1 -0.5**
comp=Z,46nm,1.2s
DAG Danmarks Havn 56.89 344 *eP* **P** **04 42 54.1 +0.6**
DAG pmax pmax
comp=Z,23nm,1.0s
DAG Danmarks Havn 56.89 344 *i* P **P** **04 42 54.1 +0.6**

comp=Z,23nm,1.0s
PETK Petropavlovsk- 56.91 45 P **P** 04 42 54.9 +0.9
PETK Petropavlovsk- 56.91 45 P **P** 04 42 54.9 +0.9
PETK Petropavlovsk- 56.91 45 P **P** 04 42 54.9 +0.9
comp=Z,11nm,1.1s,baz=274,slow=8.2,SNR=4.7
KAC Achnashellach 56.92 320 *e*P **P** 04 42 53.5 -0.5
KAC *e*P **P** 04 42 54.1 0.0
PGBU Glenifferbraes 56.95 318 AMB AMB 04 42 54.2
comp=Z,185nm,1.7s
PGBU *e*P **P** 04 42 54.3 0.0
HLM1 Long Mynd 56.99 314 *e*P **P** 04 42 54.5 -0.1
GRR Gorron 57.01 309 *e*P **P** 04 42 54.3 -0.5
comp=Z,204nm,0.8s
GRR Gorron 57.01 309 *e*P **P** 04 42 54.3 -0.5
GRR pmax pmax
comp=Z,204nm,0.8s
GRR Gorron 57.01 309 *e*P **P** 04 42 54.3 -0.5
comp=Z,204nm,0.8s
FOEL Foel Wylfa 57.07 315 *e*P **P** 04 42 55.2 +0.1
FOEL AMB AMB 04 42 56.6
comp=Z,110nm,1.6s
LFF La Frestale 57.09 305 *e*P **P** 04 42 55.6 +0.2
comp=Z,72nm,0.8s
LFF La Frestale 57.09 305 *e*P **P** 04 42 55.6 +0.2
LFF pmax pmax
comp=Z,72nm,0.8s
LFF La Frestale 57.09 305 *e*P **P** 04 42 55.6 +0.2
comp=Z,72nm,0.8s
MFF Saint Martin d 57.13 307 *e*P **P** 04 42 55.1 -0.6
comp=Z,38nm,0.7s
MFF Saint Martin d 57.13 307 *e*P **P** 04 42 55.1 -0.6
MFF pmax pmax
comp=Z,38nm,0.7s
MFF Saint Martin d 57.13 307 *e*P **P** 04 42 55.1 -0.6
comp=Z,38nm,0.7s
MCH1 Michaelchurch 57.21 314 *e*P **P** 04 42 55.9 -0.3
MCH1 AMB AMB 04 42 56.6
comp=Z,100nm,1.2s
GAL1 Galloway 57.34 317 AMB AMB 04 42 57.0
comp=Z,105nm,1.5s
GAL1 *e*P **P** 04 42 57.3 +0.3
WPM1 Penmaenmawr 57.36 315 *e*P **P** 04 42 57.6 +0.4
MLS Moulis 57.53 302‖ *e*P **P** 04 42 59.0 +0.4
YRE Yr Eifl 57.75 315 *e*P **P** 04 43 00.5 +0.6
YRC Rhoscolyn 57.75 315 *e*P **P** 04 42 59.9 +0.1
EPF Esparros 58.02 303 *e*P **P** 04 43 01.0 -1.1
comp=Z,50nm,1.2s
EPF Esparros 58.02 303 *e*P **P** 04 43 01.0 -1.1
EPF pmax pmax
comp=Z,50nm,1.2s
EPF Esparros 58.02 303 *e*P **P** 04 43 01.0 -1.1
comp=Z,50nm,1.2s
RESF Ens 58.10 302‖ *e*P **P** 04 43 03.8 +1.1
SGMF Saint Gilles 58.13 309 *e*P **P** 04 43 02.4 -0.3
comp=Z,156nm,1.0s
SGMF Saint Gilles 58.13 309 *e*P **P** 04 43 02.4 -0.3
SGMF pmax pmax
comp=Z,156nm,1.0s
SGMF Saint Gilles 58.13 309 *e*P **P** 04 43 02.4 -0.3
comp=Z,156nm,1.0s
ROSF Rostrenen 58.55 309 *e*P **P** 04 43 05.2 -0.4
comp=Z,145nm,0.9s
ROSF Rostrenen 58.55 309 *e*P **P** 04 43 05.2 -0.4
ROSF pmax pmax
comp=Z,145nm,0.9s
ROSF Rostrenen 58.55 309 *e*P **P** 04 43 05.2 -0.4
comp=Z,145nm,0.9s
QUIF Quistinic 58.63 309 *e*P **P** 04 43 05.6 -0.5
comp=Z,94nm,0.8s
QUIF Quistinic 58.63 309 *e*P **P** 04 43 05.6 -0.5
QUIF pmax pmax
comp=Z,94nm,0.8s
QUIF Quistinic 58.63 309 *e*P **P** 04 43 05.6 -0.5
comp=Z,94nm,0.8s
ETSF Etsaut 58.68 303 *e*P **P** 04 43 06.8 +0.1
comp=Z,39nm,0.6s
ETSF Etsaut 58.68 303 *e*P **P** 04 43 06.8 +0.1
ETSF pmax pmax
comp=Z,39nm,0.6s
ETSF Etsaut 58.68 303 *e*P **P** 04 43 06.8 +0.1
comp=Z,39nm,0.6s
SJPF Ste Jean 59.06 303 *e*P **P** 04 43 09.4 +0.2
comp=Z,40nm,1.0s
SJPF Ste Jean 59.06 303 *e*P **P** 04 43 09.4 +0.2
SJPF pmax pmax
comp=Z,40nm,1.0s
SJPF Ste Jean 59.06 303 *e*P **P** 04 43 09.4 +0.2
comp=Z,40nm,1.0s
SCO Scoresbysund 59.76 337 *i* P **P** 04 43 15.0 +1.4
SCO pmax pmax
comp=Z,11nm,1.0s
SCO Scoresbysund 59.76 337 *i* P **P** 04 43 15.0 +1.4
comp=Z,11nm,1.0s
ALE Alert 60.33 354 P **P** 04 43 17.9 +0.5
comp=Z,100nm,1.0s,SNR=7.3
ABPO Ambohimpanom 61.48 213 *e*P **P** 04 43 26.4 +0.3
ABPO Ambohimpanom 61.48 213 *e*P **P** 04 43 26.4 +0.3
comp=Z,2.6nm,0.6s
ESDC Sonseca Array 62.30 301 P **P** 04 43 31.4 -0.1
ESDC PP **PP** 04 45 48.5 -0.4
ESDC Sonseca Array 62.30 301 P **P** 04 43 31.4 -0.1
comp=Z,3.9nm,0.5s,baz=55,slow=6.8,SNR=65
ESDC PP **PP** 04 45 48.5 -0.4
comp=Z,5.3nm,1.2s,baz=60,slow=9.6,SNR=4.7
ESDC LR LR 05 09 49.1
comp=Z,104nm,19.7s,baz=0.0,slow=35
TAM Tamanrasset 62.72 279 *e*P **P** 04 43 34.5 0.0
TAM Tamanrasset 62.72 279 *e*P **P** 04 43 34.5 0.0
comp=Z,2.1nm,0.8s
SUMG Summit 63.39 342 *i* P **P** 04 43 39.4 +0.9
SUMG *i* *PP pP 04 44 04.2 +8.1
SUMG pmax pmax
comp=Z,52nm,1.1s
SUMG Summit 63.39 342 *i* P **P** 04 43 39.4 +0.9
comp=Z,52nm,1.1s
SUMG *i* pP pP 04 44 04.2 +8.1
SUMG Summit 63.39 342 *e*P **P** 04 43 38.9 +0.4
comp=Z,74nm,1.0s
SUMG *e* 04 44 03.3
SUMG *e*PcP **PcP** 04 44 14.1 -0.8
MVO Moncorvo 63.79 303 *e*P **P** 04 43 42.1 +0.8
comp=Z,68nm,1.6s
MTE Manteigas 64.48 303 *e*P **P** 04 43 46.6 +0.8
comp=Z,90nm,1.9s
PBAR Barrancos 65.11 300 *e*P **P** 04 43 50.4 +0.5
comp=Z,45nm,1.8s
EVO Evora 65.64 301 *e*P **P** 04 43 54.1 +0.9
comp=Z,50nm,1.7s
PVAQ Vaqueiros 65.94 300 *e*P **P** 04 43 56.5 +1.3
comp=Z,44nm,1.3s
KULLO Kullorsuaq 65.95 348 *i* P **P** 04 43 54.7 +0.1
KULLO pmax pmax
comp=Z,28nm,1.0s
KULLO Kullorsuaq 65.95 348 *i* P **P** 04 43 54.7 +0.1
comp=Z,28nm,1.0s
PBDV Barranco-do-Ve 66.17 300 *e*P **P** 04 43 57.6 +0.9
comp=Z,70nm,1.6s
ILULI Ilulissat 68.74 343 *e*P **P** 04 44 12.4 +0.1
ILULI pmax pmax
comp=Z,27nm,1.4s
ILULI Ilulissat 68.74 343 *i* P **P** 04 44 12.4 +0.1
comp=Z,27nm,1.3s
LSZ Lusaka 68.81 232 *e*P **P** 04 44 13.3 -0.3
comp=Z,15nm,1.2s
MBWA Marble Bar 69.38 138 *e*P **P** 04 44 17.2 +0.3
comp=Z,14nm,1.0s
RES Resolute Bay 69.74 358 *e*P **P** 04 44 18.1 -0.3
comp=Z,9.6nm,1.1s
RES Resolute Bay 69.74 358 P **P** 04 44 18.4 0.0
comp=Z,3.9nm,0.8s,baz=29,slow=11,SNR=5.5
TOA0 Torodi Ar. Sit 70.85 273 *e*P **P** 04 44 25.1 -1.0
TORD Torodi Ar. Bea 70.85 273 P **P** 04 44 25.6 -0.6
TORD Torodi Ar. Bea 70.85 273 P **P** 04 44 25.6 -0.6
comp=Z,12nm,0.8s,baz=54,slow=6.4,SNR=87
TORD LR LR 05 17 53.7
comp=Z,63nm,18.2s,baz=275,slow=38
COLD Coldfoot 71.23 18 *e*P **P** 04 44 28.0 +0.3
comp=Z,55nm,1.1s
COLD *e* 04 44 52.0
COLD *e* 04 45 03.0
IM04 Indian Mountai 71.25 20 *e*P **P** 04 44 27.4 -0.4
IM04 *e*PP **PP** 04 47 03.5 -2.4
COLA College 73.68 18 *e*P **P** 04 44 41.7 -0.5
COLA *e* 04 45 06.8
COLA pmax pmax
comp=Z,72nm,1.1s
COLA College 73.68 18 *e*P **P** 04 44 41.7 -0.5
comp=Z,72nm,1.1s
COLA *e* 04 45 06.8
INK Inuvik 73.73 11 *e*P **P** 04 44 42.3 -0.2
comp=Z,56nm,1.2s
INK *e* 04 45 06.7
INK *e* 04 45 16.9
ILAR Eielson Array 74.01 18 P **P** 04 44 43.6 -0.6
ILAR PP **PP** 04 47 32.2 +2.9
ILAR Eielson Array 74.01 18 P **P** 04 44 43.6 -0.6
comp=Z,16nm,0.9s,baz=318,slow=4.1,SNR=100
ILAR PP **PP** 04 47 32.2 +2.9
comp=Z,6.2nm,1.2s,baz=321,slow=7.0,SNR=6.1
ILAR LR LR 05 18 50.6
comp=Z,200nm,20.4s,baz=338,slow=37
MCK McKinley 74.31 20 *e*P **P** 04 44 46.2 +0.3
MCK pmax pmax
comp=Z,36nm,1.5s
MCK McKinley 74.31 20 *e*P **P** 04 44 46.2 +0.3
comp=Z,36nm,1.5s
PAX Paxson 75.85 19 *e*P **P** 04 44 54.7 -0.2
PAX pmax pmax
comp=Z,69nm,1.2s
PAX Paxson 75.85 19 *e*P **P** 04 44 54.7 -0.2
comp=Z,69nm,1.2s
MENT Mentasta 76.32 18 *e*P **P** 04 44 58.6 +1.1
DAWY Dawson 76.38 16 *e*P **P** 04 44 57.4 -0.4
WRA Warramunga Arr 77.31 126 P **P** 04 45 03.7 0.0
WRA PKKPbc **PKKPbc** 05 04 08.8 +0.1
WRA Warramunga Arr 77.31 126 P **P** 04 45 03.7 0.0
comp=Z,7.0nm,0.8s,baz=326,slow=5.4,SNR=33
WRA PKKPbc **PKKPbc** 05 04 08.8 +0.1
comp=Z,0.3nm,0.3s,baz=128,slow=2.1,SNR=3.3
WRAB Tennant Creek 77.31 126 *e*P **P** 04 45 03.4 -0.2
WRAB pmax pmax
comp=Z,18nm,1.0s
WRAB Tennant Creek 77.31 126 *e*P **P** 04 45 03.4 -0.2
comp=Z,18nm,1.0s
LBTB Lobatse 77.72 227 *e*P **P** 04 45 06.2 +0.3
comp=Z,64nm,1.3s
TSUM Tsumeb 78.62 236 *e*P **P** 04 45 11.6 +0.5
comp=Z,24nm,1.3s
COEN Coen 79.41 116 *e*P **P** 04 45 14.7 -0.6
PMG Port Moresby 79.49 110 *e*P **P** 04 45 16.6 +0.8
comp=Z,21nm,1.1s
HYT Haines Junctio 79.65 17 *e*P **P** 04 45 18.0 +1.9
AS31 Alice Springs 79.70 129 *e*P **P** 04 45 16.6 -0.2
ASAR Alice Springs 79.70 129 P **P** 04 45 16.5 -0.2
ASAR PKKPbc **PKKPbc** 05 04 03.8 +0.2
ASAR Alice Springs 79.70 129 P **P** 04 45 16.5 -0.2
comp=Z,4.1nm,0.8s,baz=321,slow=5.6,SNR=36
ASAR PKKPbc **PKKPbc** 05 04 03.8 +0.2
comp=Z,0.4nm,0.6s,baz=124,slow=2.0,SNR=6.3
ASAR LR LR 05 29 06.8
comp=Z,74nm,20.4s,baz=352,slow=42
DBIC Dimbokro 79.81 271 *e*P **P** 04 45 17.5 -0.1
comp=Z,12nm,1.0s
DBIC Dimbokro 79.81 271 P **P** 04 45 17.4 -0.1
comp=Z,6.1nm,0.8s,baz=47,slow=5.1,SNR=10
DBIC LR LR 05 20 44.1
comp=Z,86nm,19.1s,baz=33,slow=36
KIC Kosan Boka 79.89 271 *e*P **P** 04 45 17.9 -0.2
comp=Z,22nm,1.0s
TIC Toumodi 79.96 271 *e*P **P** 04 45 20.6 +2.2
comp=Z,15nm,0.7s
LIC Lamto 80.20 271 *e*P **P** 04 45 19.6 -0.1
comp=Z,22nm,1.1s
LIC Lamto 80.20 271 *e*P **P** 04 45 20.7 +1.0
comp=Z,22nm,1.0s
LIC Lamto 80.20 271 *e*P **P** 04 45 19.6 -0.1
comp=Z,22nm,1.1s
BOSA Bosof 80.64 225 *e*P **P** 04 45 21.3 -0.5
comp=Z,21nm,0.8s
BOSA Boshof 80.64 225 P **P** 04 45 21.6 -0.2
comp=Z,13nm,0.5s,baz=27,slow=3.5,SNR=76
BOSA LR LR 05 18 41.4
comp=Z,63nm,18.2s,baz=351,slow=34
FORT Forrest 81.54 138 *e*P **P** 04 45 27.1 +0.7
comp=Z,16nm,0.8s
YKW3 Yellowknife Ar 81.57 6 *e*P **P** 04 45 25.7 -0.5
YKW3 *e* 04 46 01.2
YKA Yellowknife Ar 81.64 6 P **P** 04 45 25.8 -0.7
YKA PKKPbc **PKKPbc** 05 03 57.4 -1.2
YKA Yellowknife Ar 81.64 6 P **P** 04 45 25.8 -0.7
comp=Z,13nm,0.8s,baz=343,slow=5.5,SNR=66
YKA PKKPbc **PKKPbc** 05 03 57.3 -1.2
comp=Z,0.3nm,0.6s,baz=150,slow=2.3,SNR=2.8
DLBC Dease Lake 83.43 14 *e*P **P** 04 45 36.5 +0.5
SCHQ Schefferville 84.68 340 P **P** 04 45 40.8 -1.6
SCHQ Schefferville 84.68 340 P **P** 04 45 40.8 -1.6
comp=Z,12nm,1.0s,baz=23,slow=2.6,SNR=5.1
SCHQ LR LR 05 30 42.2
comp=Z,126nm,18.0s,baz=88,slow=41
CTAO Charters Tower 85.61 118 *e*P **P** 04 45 48.5 +1.0
CTAO pmax pmax
comp=Z,13nm,0.8s
CTAO Charters Tower 85.61 118 *e*P **P** 04 45 48.5 +1.0
comp=Z,13nm,0.8s
SUR Sutherland 86.00 225 *e*P **P** 04 45 49.8 +0.5
comp=Z,14nm,0.6s
FFC Flin Flon 89.90 360 *e*P **P** 04 46 07.1 -0.5
FFC pmax pmax
comp=Z,31nm,1.4s
FFC Flin Flon 89.90 360 *e*P **P** 04 46 07.1 -0.5
comp=Z,31nm,1.4s
STKA Stephens Creek 90.29 130 P **P** 04 46 10.1 +0.5
STKA Stephens Creek 90.29 130 P **P** 04 46 10.1 +0.5
comp=Z,0.5nm,0.3s,baz=348,slow=3.5,SNR=5.4
STKA LR LR 05 28 06.8
comp=Z,103nm,20.6s,baz=119,slow=36
EDM Edmonton 90.92 6 *e*P **P** 04 46 12.2 -0.2
EDM *e* 04 46 37.7
EDM Edmonton 90.92 6 *e*P **P** 04 46 12.2 -0.2
EDM *e* 04 46 37.7
ULM Lac du Bonnet 94.17 356 *e*P **P** 04 46 26.4 -1.0
comp=Z,7.2nm,0.9s
ULM Lac du Bonnet 94.17 356 P **P** 04 46 27.1 -0.4
comp=Z,5.6nm,0.9s,baz=18,slow=3.0,SNR=6.5
ULM LR LR 05 31 50.6
comp=Z,143nm,18.1s,baz=34,slow=37
NEW Newport 95.38 10 P **P** 04 46 33.0 -0.1
baz=95
A19A Klindworth Far 95.53 4 P **P** 04 46 33.6 -0.1
baz=95
A21A Bergtoll Ranch 95.56 3 P **P** 04 46 33.5 -0.3
baz=95
A30A Hoffart Farm, 95.61 357 P **P** 04 46 33.9 -0.1
baz=95
A29A Manning Farm, 95.66 358 P **P** 04 46 33.4 -0.9
baz=95
A24A Westby 95.70 1 P **P** 04 46 34.6 +0.1
baz=95
A26A Wade Farm, Ken 95.74 360 P **P** 04 46 34.7 +0.1
baz=95
B30A Myrvik Farm, E 96.10 357 P **P** 04 46 36.2 0.0
baz=96
B29A Wagenman Farm, 96.12 358 P **P** 04 46 36.0 -0.4
baz=96
B23A Brockton 96.15 2 P **P** 04 46 36.7 +0.2
baz=96
DGMT Dagmar 96.16 1 *e*P **P** 04 46 36.9 +0.4
comp=Z,13nm,0.9s
DGMT Dagmar 96.16 1 P **P** 04 46 36.8 +0.2
baz=96
B28A Dugan Ranch, T 96.16 358 P **P** 04 46 36.5 0.0
baz=96
B26A Jensen Ranch, 96.26 360 P **P** 04 46 37.6 +0.6
baz=96
B22A Reddig Ranch S 96.28 2 P **P** 04 46 37.7 +0.5
baz=96
C23A Lambert 96.80 2 P **P** 04 46 40.3 +0.8
baz=96
SLMT Seeley Lake 96.83 7 *e*P **P** 04 46 38.5 -1.3
comp=Z,6.3nm,1.2s
C22A Vida 96.84 2 P **P** 04 46 40.2 +0.5
baz=96
C24A Savage 97.09 1 P Pdif 04 46 41.5 +0.6
baz=97
MSO Missoula 97.19 8 P **P** 04 46 40.8 -0.6
baz=97
D22A Cohagen 97.43 2 P **P** 04 46 42.3 0.0
baz=97
D23A Lindsay 97.43 2 P Pdif 04 46 42.7 +0.2
baz=97
D30A Buchanan 97.45 357 P Pdif 04 46 42.4 0.0
baz=97
D25A Fairfield 97.48 0 P Pdif 04 46 43.1 +0.4
baz=97
E20A Meyer Farm, Mu 97.99 4 P **P** 04 46 44.6 -0.3
baz=98
E19A Rath Farm, Rou 97.99 4 P **P** 04 46 44.9 0.0
baz=98
F19A Roth Farm, Mol 98.59 4 P **P** 04 46 46.7 -1.0
baz=98
TXAR Lajitas Array 115.27 1 PKP **PKPdf** 04 51 52.0 +1.5
TXAR Lajitas Array 115.27 1 PKP **PKPdf** 04 51 52.0 +1.5
comp=Z,0.1nm,0.5s,baz=318,slow=1.2,SNR=3.7
SNAA Sanae 120.51 201 *e*PKPdf **PKPdf** 04 51 58.9 -0.1
QSPA South Pole Qui 125.53 180 *e*PKPdf **PKPdf** 04 52 08.7 -0.1
BCIP Isla Barro Col 130.42 330 *e*PKPdf **PKPdf** 04 52 18.9 -0.7
ROSC El Rosal 131.65 321 *e*PKPdf **PKPdf** 04 52 22.8 +0.3
ROSC PKP **PKPdf** 04 52 24.3 +1.8
ROSC SKPbc **SKPbc** 04 55 41.1 -1.2
ROSC El Rosal 131.65 321 PKP **PKPdf** 04 52 24.3 +1.8
comp=Z,2.0nm,0.4s,baz=90,slow=6.1,SNR=3.5
ROSC SKPbc **SKPbc** 04 55 41.1 -1.2
comp=Z,3.4nm,0.6s,baz=72,slow=7.7,SNR=5.4
SAML Samuel 135.25 297 *e*PKPdf **PKPdf** 04 52 28.9 +0.2
LPAZ La Paz 143.68 293 *e*PKPdf PKPbc 04 52 42.1 -0.2
LPAZ La Paz 143.68 293 PKhKP PKPpre 04 52 41.7
comp=Z,1.3nm,0.5s,baz=28,slow=2.2,SNR=7.7
ATAH Atahualpa 143.87 316 PKP **PKPdf** 04 52 44.1 -0.7
ATAH Atahualpa 143.87 316 PKP **PKPdf** 04 52 44.1 -0.7
comp=Z,3.8nm,0.5s,baz=46,slow=8.1,SNR=4.8
TRQA Tornquist 147.56 254 *e*PKPbc **PKPbc** 04 52 53.7 +1.0
LVC Limon Verde 147.92 285 *e*PKPdf **PKPdf** 04 52 51.7 +0.4
LVC *e*PKPbc **PKPbc** 04 52 54.8 +0.4
LVC *e*PKPab **PKPab** 04 52 57.2 +0.1
PLCA Paso Flores 154.37 249 PKPab **PKPab** 04 53 21.6 -1.7
PLCA Paso Flores 154.37 249 PKPab **PKPab** 04 53 21.6 -1.7
comp=Z,0.7nm,0.2s,baz=72,slow=3.2,SNR=3.0

*ISCJB **06** 04:35:37.8±0.4,24.05S±0.04×66.76W±0.06,h181km, mb4.1/19, Error ellipse: s-maj=8.2km s-min=5.5km az=1.9*
*IDC **06** 04:35:38.5±1.5,24.07S×66.79W,h177km±13km, mb3.8/7, mb1 3.9/11,mb1mx3.8/19,mbtmp4.2/11, Error ellipse: s-maj=16.6km s-min=12.7km az=89.0*
*NEIC **06** 04:35:39.7±0.6,24.04S×66.74W,h190km±5km, mb4.3/17, Error ellipse: s-maj=8.6km s-min=6.7km az=78.0*

ISC 06 04:35:38.9±0.5,24.07S±0.05×66.76W±0.07,h181km,n57,
σ1§16/61,**mb4.3**/19,**Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.46**	**306**	*e*Pn		**Pn**	**04 36 23.2**	**+1.7**
LVC				*e*Sn		**Sn**	**04 36 55.7**	**+1.3**
LCO	**Las Campanas** 17nm,0.3s	**6.06**	**215**	*e*Pn		**Pn**	**04 37 07.3**	**+0.4**
LCO				*e*Sn		Sn	04 38 06.2	-10
CFAA	**Coronel Fontan**	**7.62**	**190**	P		**Pn**	**04 37 28.4**	**+1.2**
CFAA				S		**Sn**	**04 38 49.9**	**-3.0**
CFAA	**Coronel Fontan** 0.3nm,0.3s,baz=3.8,slow=12,SNR=65	**7.62**	**190**	P		**Pn**	**04 37 28.4**	**+1.2**
CFAA	1.1nm,0.3s,baz=260,slow=20,SNR=36			S		**Sn**	**04 38 49.9**	**-3.0**
LPAZ	**La Paz** 4.4nm,0.4s	**7.85**	**350**	*e*Pn		**Pn**	**04 37 32.0**	**+1.1**
LPAZ				*e*Sn		**Sn**	**04 38 56.7**	**-2.7**
LPAZ	**La Paz** 0.8nm,0.3s,baz=174,slow=8.2,SNR=25	**7.85**	**350**	P		**Pn**	**04 37 31.8**	**+0.9**
LPAZ	0.4nm,0.3s,baz=12,slow=18,SNR=4.2			S		**Sn**	**04 38 56.3**	**-3.1**
CPUP	**Villa Florida** 0.2nm,0.6s	**8.83**	**107**	*e*Pn		**Pn**	**04 37 44.1**	**+1.0**
CPUP	**Villa Florida** 0.5nm,0.3s,baz=270,slow=13,SNR=6.8	**8.83**	**107**	P		**Pn**	**04 37 44.3**	**+1.2**
SIV	**San Ignacio**	**9.65**	**35**	P		**Pn**	**04 37 53.6**	**-0.4**
SIV				S		**Sn**	**04 39 40.4**	**-1.2**
SIV	**San Ignacio** 0.8nm,0.3s,baz=236,slow=14,SNR=9.8	**9.65**	**35**	P		**Pn**	**04 37 53.6**	**-0.4**
SIV	0.0nm,0.3s,baz=297,slow=14,SNR=2.0			S		**Sn**	**04 39 40.4**	**-1.2**
TRQA	**Tornquist** 5.7nm,0.6s	**14.52**	**165**	*e*Pn		**Pn**	**04 38 56.5**	**+0.5**
SAML	**Samuel** 6.3nm,0.7s	**15.42**	**13**	*e*P		**Pn**	**04 39 06.3**	**-0.9**
BDFB	**Brasilia**	**19.50**	**68**	P		**P**	**04 39 53.7**	**+1.1**
BDFB	**Brasilia** 1.2nm,0.3s,baz=241,slow=12,SNR=28	**19.50**	**68**	P		**P**	**04 39 53.7**	**+1.1**
HKT	**Hockley** 7.3nm,1.4s	**60.54**	**331**	*e*P		**P**	**04 45 29.9**	**-0.1**
JCT	**Junction City** 5.5nm,0.8s	**62.82**	**328**	*e*P		**P**	**04 45 45.2**	**-0.2**
WVT	**Waverly** 11nm,0.7s	**63.10**	**341**	*e*P		**P**	**04 45 45.6**	**-1.5**
TXAR	**Lajitas Array**	**63.87**	**324**	P		**P**	**04 45 52.6**	**+0.2**
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=153,slow=8.2,SNR=12	**63.87**	**324**	P		**P**	**04 45 52.6**	**+0.2**
WCI	**Wyandotte Cave** 7.8nm,0.6s	**64.63**	**343**	*e*P		**P**	**04 45 55.5**	**-1.6**
MNTX	**Cornudas Mount** 2.4nm,0.9s	**66.64**	**325**	*e*P		**P**	**04 46 09.4**	**-0.7**
DBIC	**Dimbokro**	**67.61**	**71**	P		**P**	**04 46 16.5**	**-0.1**
DBIC	**Dimbokro** 4.8nm,0.7s,baz=285,slow=5.3,SNR=2.9	**67.61**	**71**	P		**P**	**04 46 16.5**	**-0.1**
ANMO	**Albuquerque** 1.9nm,0.8s	**69.73**	**326**	*e*P		**P**	**04 46 30.2**	**+0.7**
SDCO	**Great Sand Dun** 2.5nm,0.7s	**71.47**	**328**	*e*P		**P**	**04 46 40.8**	**+0.8**
VNDA	**Vanda** 5.3nm,1.4s	**74.67**	**190**	*e*P		**P**	**04 47 00.1**	**+2.2**
TOA0	**Torodi Ar. Sit**	**76.39**	**69**	*e*P		**P**	**04 47 08.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**76.39**	**69**	P		**P**	**04 47 08.8**	**0.0**
TORD	**Torodi Ar. Bea** 0.9nm,0.5s,baz=270,slow=7.0,SNR=9.6	**76.39**	**69**	P		**P**	**04 47 08.8**	**0.0**
DUG	**Dugway** 5.7nm,1.3s	**76.99**	**326**	*e*P		**P**	**04 47 11.6**	**-0.2**
PDAR	**Pinedale Array**	**77.32**	**329**	P		**P**	**04 47 14.1**	**+0.4**
PDAR	**Pinedale Array** 0.7nm,0.5s,baz=120,slow=6.7,SNR=8.8	**77.32**	**329**	P		**P**	**04 47 14.1**	**+0.4**
ULM	**Lac du Bonnet**	**78.37**	**341**	P		**P**	**04 47 18.7**	**-0.2**
ULM	**Lac du Bonnet** 4.5nm,0.5s,baz=143,slow=4.3,SNR=10	**78.37**	**341**	P		**P**	**04 47 18.7**	**-0.2**
NVAR	**Mina Array Bea**	**78.73**	**321**	P		**P**	**04 47 22.4**	**+0.9**
NVAR	**Mina Array Bea** 0.5nm,0.5s,baz=151,slow=4.0,SNR=4.3	**78.73**	**321**	P		**P**	**04 47 22.4**	**+0.9**
HLID	**Hailey** 5.3nm,0.9s	**80.27**	**327**	*e*P		**P**	**04 47 30.7**	**+1.1**
LBTB	**Lobatse** 18nm,1.5s	**82.15**	**114**	*e*P		**P**	**04 47 40.6**	**+0.5**
LSZ	**Lusaka** 7.3nm,1.3s	**88.27**	**106**	*e*P		**P**	**04 48 10.5**	**0.0**
YKA	**Yellowknife Ar**	**94.27**	**340**	P		**P**	**04 48 36.9**	**-0.1**
YKA	**Yellowknife Ar** 1.2nm,0.5s,baz=134,slow=4.7,SNR=15	**94.27**	**340**	P		**P**	**04 48 36.9**	**-0.1**
ASAR	**Alice Springs**	**128.48**	**204**	PKP		**PKPdf**	**04 54 24.9**	**0.0**
ASAR	**Alice Springs** 1.0nm,0.8s,baz=137,slow=2.0,SNR=13	**128.48**	**204**	PKP		**PKPdf**	**04 54 24.9**	**0.0**
ABKAR	**Akbulak array** 3.5nm,0.6s,baz=332,slow=2.3,SNR=31	**131.63**	**45**	*e*PKPdf		**PKPdf**	**04 54 30.4**	**+0.5**
WRA	**Warramunga Arr**	**131.66**	**207**	PKP		**PKPdf**	**04 54 29.1**	**-1.9**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=154,slow=1.8,SNR=7.8	**131.66**	**207**	PKP		**PKPdf**	**04 54 29.1**	**-1.9**
WRAB	**Tennant Creek**	**131.67**	**207**	*e*PKPdf		**PKPdf**	**04 54 31.2**	**+0.2**
EKS2	**Erkin-Say**	**142.60**	**51**	*e*PKPdf		**PKPdf**	**04 54 51.1**	**+0.5**
AAK	**Ala-Archa**	**143.11**	**50**	*e*PKPdf		PKPbc	04 54 50.0	+1.1
ZALV	**Zalesovo Beam**	**143.35**	**28**	PKP		PKPbc	04 54 49.4	+0.4
ZALV	**Zalesovo Beam** 1.5nm,0.4s,baz=302,slow=4.8,SNR=11	**143.35**	**28**	PKP		PKPbc	04 54 49.4	+0.4
TKM2	**Tokmak 2**	**143.79**	**49**	*e*PKPdf		PKPab	04 54 50.4	+0.3
MK31	**Makanchi Array**	**146.44**	**40**	*e*PKPbc		**PKPbc**	**04 54 57.9**	**-0.7**
MK31				*e*PKPab		**PKPab**	**04 54 59.4**	**-0.5**
MKAR	**Makanchi Array**	**146.44**	**40**	PKPbc		**PKPbc**	**04 54 57.9**	**-0.7**
MKAR	**Makanchi Array** 3.5nm,0.6s,baz=332,slow=2.3,SNR=31	**146.44**	**40**	PKPbc		**PKPbc**	**04 54 57.9**	**-0.7**
SONM	**Songino Array**	**155.67**	**11**	PKPab		**PKPab**	**04 55 38.1**	**0.0**
SONM	**Songino Array** 0.4nm,0.8s,baz=344,slow=3.6,SNR=4.6	**155.67**	**11**	PKPab		**PKPab**	**04 55 38.1**	**0.0**

*ISCJB **06** 05:06:00.4±0.8,16.8S±0.2×174.2W±0.2,h124km,mb4.2/8, Error ellipse: s-maj=32.2km s-min=8.9km az=135.5*
*IDC **06** 05:06:01.4±2.5,16.94S×174.21W,h120km±22km, mb4.0/8, mb1 4.2/10,mb1mx3.9/22,mbtmp4.0/10, Error ellipse: s-maj=29.9km s-min=14.9km az=136.0*

ISC 06 05:06:01.4±0.8,16.9S±0.2×174.1W±0.2,h124km,n18,
σ0§90/21,**mb4.3/8**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.74**	**38**	P		**Pn**	**05 06 58.5**	**+0.9**

	48nm,0.3s,baz=205,slow=1.1,SNR=14							
AFI				S	**Sn**	**05 07 39.2**	**-2.0**
	124nm,0.3s,baz=53,slow=22,SNR=19							
DZM	**Mont Dzumac**	**19.01**	**251**	P	**P**	**05 10 14.3**	**+0.5**
	0.2nm,0.3s,baz=96,slow=19,SNR=2.3							
URZ	**Urewera**	**22.64**	**198**	P	**P**	**05 10 51.7**	**-0.3**
	9.6nm,0.9s,baz=339,slow=1.6,SNR=5.9							
STKA	**Stephens Creek**	**42.69**	**241**	P	**P**	**05 13 46.2**	**0.0**
	7.3nm,0.8s,baz=88,slow=9.2,SNR=17							
WRA	**Warramunga Arr**	**48.83**	**258**	P	**P**	**05 14 33.3**	**-1.3**
	1.9nm,0.4s,baz=96,slow=7.0,SNR=52							
WRA				PcP	**PcP**	**05 15 57.9**	**+0.4**
	1.5nm,1.0s,baz=88,slow=3.8,SNR=5.6							
ASAR	**Alice Springs**	**48.99**	**253**	P	**P**	**05 14 35.4**	**-0.5**
	30nm,0.7s,baz=88,slow=8.7,SNR=579							
ASAR				PcP	**PcP**	**05 15 58.0**	**0.0**
	1.8nm,0.8s,baz=100,slow=3.5,SNR=6.7							
PETK	**Petropavlovsk-**	**73.83**	**343**	P	**P**	**05 17 23.4**	**+1.2**
	4.3nm,0.7s,baz=153,slow=11,SNR=3.6							
PDAR	**Pinedale Array**	**83.84**	**42**	P	**P**	**05 18 18.3**	**+0.9**
	0.3nm,0.6s,baz=229,slow=11,SNR=2.8							
ILAR	**Eielson Array**	**84.03**	**11**	P	**P**	**05 18 17.9**	**+0.3**
	0.6nm,0.5s,baz=233,slow=6.4,SNR=12							
CMAR	**Chiang Mai Arr**	**92.41**	**288**	P	**P**	**05 18 59.2**	**+0.5**
	0.8nm,0.3s,baz=94,slow=2.7,SNR=5.1							
KURBB	**Kurchatov Arra**	**113.84**	**318**	PKiKP	**PKiKP**	**05 24 25.1**	**-0.2**
	0.1nm,0.5s,baz=92,slow=1.2,SNR=4.1							
BVAR	**Borovoye Array**	**118.61**	**322**	PKP	**PKPdf**	**05 24 33.6**	**-0.9**
	0.8nm,0.6s,baz=22,slow=1.6,SNR=4.6							
KMBO	**Kilima Mbogo**	**144.24**	**243**	PKP	PKPbc	05 25 22.8	+0.2
	5.0nm,0.9s,baz=62,slow=5.2,SNR=18							
BRTR	**Keskin Array B**	**146.83**	**319**	PKPbc	**PKPab**	**05 25 30.4**	**-0.8**
	2.3nm,0.8s,baz=135,slow=3.7,SNR=13							
MLR	**Muntele Rosu**	**146.90**	**334**	PKPbc	**PKPab**	**05 25 30.4**	**-0.7**
	0.6nm,1.0s,baz=181,slow=5.4,SNR=3.4							
GERES	**GERESS Array B**	**147.49**	**350**	PKPbc	**PKPbc**	**05 25 30.3**	**-0.7**
	0.6nm,0.8s,baz=29,slow=3.0,SNR=4.2							
DAVOX	**Davos/Dischmat**	**150.01**	**354**	PKPbc	**PKPbc**	**05 25 38.5**	**+0.8**
	4.5nm,0.8s,baz=279,slow=1.9,SNR=8.6							
TORD	**Torodi Ar. Bea**	**174.52**	**132**	PKP	**PKPdf**	**05 25 56.1**	**-1.3**
	0.6nm,1.0s,baz=292,slow=1.2,SNR=2.6							
TORD				PKPab	**PKPab**	**05 27 31.5**	**+0.5**
	0.3nm,0.8s,baz=223,slow=5.9,SNR=3.2							

IDC 06 05:33:07.1±8.0, 6°33S×146°07E, h94km±57km, mb3.1/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.1/4, ML3.0/2, Error ellipse: s-maj=90.3km s-min=53.8km az=49.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.24**	**161**	P	Pn	05 33 56.6	+0.6
	3.1nm,0.3s,baz=359,slow=7.1,SNR=9.9						
PMG				S	Sn	05 34 34.0	+0.3
	10.0nm,0.3s,baz=150,slow=22,SNR=22						
CTA	**Charters Tower**	**13.68**	**179**	P	Pn	05 36 19.8	+2.7
	0.7nm,0.3s,baz=1.8,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**17.69**	**219**	P	P	05 37 06.8	-0.4
	0.1nm,0.3s,baz=39,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**20.83**	**213**	P	P	05 37 41.9	+0.5
	0.3nm,0.4s,baz=39,slow=8.7,SNR=9.3						
STKA	**Stephens Creek**	**25.76**	**189**	P	P	05 38 28.7	-0.4
	1.5nm,0.8s,baz=8.1,slow=7.1,SNR=3.1						

GUC 06 05:51:05.2±0.8, 19°70S×69°34W, h107km±6km, ML3.8, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.62**	**337**	⇑*i*P	Pn	05 51 23.4	+0.4
MNMC				*i* S	Sn	05 51 36.7	+0.4
MNMC				AML	AML	05 51 37.2	
	comp=E,10μm,0.2s						
PSGC	**Pisagua**	**0.75**	**278**	⇑*i*P	Pn	05 51 24.2	+0.4
PSGC				*i* S	Sn	05 51 38.3	+0.5
PSGC				AML	AML	05 51 39.0	
	comp=N,2μm,0.3s						
HMBC	**Humberstone**	**0.78**	**222**	⇑*i*P	Pn	05 51 24.6	+0.5
HMBC				*i* S	Sn	05 51 39.2	+0.9
HMBC				AML	AML	05 51 39.6	
	comp=N,3μm,0.5s						
PB01	**Plate Boundary**	**1.34**	**186**	⇑*i*P	Pn	05 51 30.9	+0.8
PB01				*i* S	Sn	05 51 50.0	+1.1
PB01				AML	AML	05 51 51.3	
	comp=N,2μm,0.3s						
ARCH	**Arica**	**1.51**	**323**	*e*P	Pn	05 51 32.7	+0.7
ARCH				*i* S	Sn	05 51 53.2	+1.0
ARCH				AML	AML	05 51 57.1	
	comp=N,1μm,0.3s						
PB07	**Plate Boundary**	**2.08**	**194**	⇑*i*P	Pn	05 51 39.8	+0.4
PB07				AML	AML	05 52 13.1	
	comp=E,369nm,0.3s						
PB04	**Plate Boundary**	**2.56**	**183**	⇑*i*P	Pn	05 51 48.5	+3.3

*ISCJB **06** 06:02:50.2±0.4, 14°10N±0°05×120°71E±0°06, h182km±4km, mb4.2/31, Error ellipse: s-maj=9.9km s-min=6.6km az=153.3*
*IDC **06** 06:02:50.5±0.6, 14°15N×120°74E, h172km±5km, mb3.9/19, mb1 4.0/20, mb1mx3.9/30, mbtmp3.9/20, Error ellipse: s-maj=16.8km s-min=10.7km az=67.0*
*BJI **06** 06:02:54.5, 14°17N×120°77E, h216km, mB4.7/10, mb4.4/18*
*NEIC **06** 06:02:55.4±0.8, 14°18N×120°72E, h217km±8km, mb4.5/6, Error ellipse: s-maj=10.6km s-min=6.3km az=80.0*

ISC 06 06:02:52.0±0.8, 14°19N±0°05×120°70E±0°07, h187km±6km, n102, σ1§57/121, mb4.4/32, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.25**	**110**	⇑*i*P	**Pn**	**06 03 13.9**	**-3.1**
TGY	**Tagaytay City**	**0.25**	**110**	P	**Pn**	**06 03 13.8**	**-3.1**
	928nm,0.3s,baz=276,slow=2.0,SNR=64						
PGP	**Puerto Galera**	**0.73**	**160**	⇑*i*P	Pn	06 03 14.9	-3.9
LQP	**Lukban**	**0.82**	**95**	⇑*e*P	**Pn**	**06 03 17.2**	**-2.4**
PCPH	**Palayan**	**1.42**	**16**	⇑*i*P	**Pn**	**06 03 21.0**	**-2.9**
GQP	**Guinayangan**	**1.72**	**99**	*e*P	**Pn**	**06 03 24.2**	**-2.5**
RCP	**Roxas**	**3.29**	**142**	⇓*e*P	**Pn**	**06 03 44.0**	**-0.6**
PIP	**Pasuquin**	**4.11**	**359**	⇓*e*P	**Pn**	**06 03 54.1**	**-0.7**
DAV	**Davao City (W)**	**8.55**	**145**	*e*Pn	Pn	06 04 57.8	+5.3
	283nm,0.4s						
TWG	**Pinlang**	**8.59**	**2**	*e*Pn	Pn	06 04 55.0	+1.9
KKM	**Kota Kinabalu**	**9.22**	**209**	*e*Pn	Pn	06 05 05.4	+4.0
NACB	**Ninganchiao**	**9.97**	**5**	*e*Pn	Pn	06 05 13.2	+2.2
SBUM	**Sibu**	**14.36**	**216**	*e*Pn	**P**	**06 06 10.5**	**+1.8**
NJ2	**Nanjing**	**17.86**	**355**	*e*P	**Pn**	**06 06 51.1**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
GYA	**Guiyang**	**17.93**	**315**	P	**Pn**	**06 06 51.2**	**+1.1**
GYA				sP	sP	06 07 51.5	+8.5
GYA				S	**S**	**06 10 01.0**	**-3.3**
GYA				PcP	**PcP**	**06 11 16.8**	**+1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KAPI	**Kappang**	**19.10**	**183**	*e*P	**Pn**	**06 07 01.7**	**-2.1**
KAPI	**Kappang**	**19.10**	**183**	P	**Pn**	**06 07 01.2**	**-2.6**
	1.2nm,0.3s,baz=344,slow=7.4,SNR=4.8						
KMI	**Kunming**	**20.08**	**306**	P	Pn	06 07 15.5	-0.3
KMI				sP	sP	06 08 19.5	+13
KMI				S	**S**	**06 10 43.9**	**-3.1**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**21.30**	**284**	P	**P**	**06 07 25.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**21.30**	**284**	P	**P**	**06 07 25.1**	**+0.9**
	3.3nm,0.8s,baz=93,slow=7.6,SNR=14						
CD2	**Chengdu**	**22.79**	**320**	*e*P	**P**	**06 07 39.7**	**+1.0**
CD2				sP	sP	06 08 46.6	+11
CD2				S	**S**	**06 11 30.1**	**-3.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,50nm,8.2s						
PSI	**Prapat**	**24.29**	**244**	P	**P**	**06 07 52.3**	**-0.2**
PSI	**Prapat**	**24.29**	**244**	P	**P**	**06 07 52.3**	**-0.2**
	9.3nm,0.9s,baz=60,slow=8.1,SNR=5.4						
LZH	**Lanzhou**	**26.53**	**328**	*e*P	**P**	**06 08 14.1**	**+1.5**
LZH				sP	sP	06 09 18.2	+5.8
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,65nm,4.3s						
HHC	**Hu-ho-hao-te**	**27.73**	**345**	*e*P	**P**	**06 08 24.8**	**+1.6**
HHC				PP	**PP**	**06 09 25.6**	**-4.1**
HHC				PcP	**PcP**	**06 11 34.9**	**-0.1**
HHC				S	**S**	**06 12 50.0**	**-1.7**
HHC				SS	SS	06 14 32.6	-24
HHC				ScP	**ScP**	**06 14 53.1**	**-5.0**
HHC				PcS	**PcS**	**06 15 16.1**	**-1.1**
HHC				ScS	ScS	06 18 44.3	-6.2
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,4.4s						
HHC				LR	LR		
	comp=N,300nm,11.8s						
HHC				LR	LR		
	comp=E,220nm,11.7s						
HHC				LR	LR		
	comp=Z,300nm,11.4s						
CN2	**Changchun**	**29.79**	**7**	*e*P	P	06 08 44.9	+3.7
CN2				*e*pP	pP	06 09 27.5	+7.8
CN2				*e*S	**S**	**06 13 24.5**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
MDJ	**Mudanjiang**	**31.26**	**12**	P	**P**	**06 08 55.9**	**+1.8**
MDJ				pP	pP	06 09 38.5	+5.7
MDJ				sP	sP	06 10 03.1	+8.7
MDJ				S	**S**	**06 13 47.3**	**+0.7**
MDJ				sS	**ScP**	**06 15 04.2**	**-5.0**
MDJ				ScP	ScP	06 15 07.3	-1.9
MDJ				pmax	pmax		
	comp=Z,28nm,2.4s						
TAPN	**Taplejung**	**33.39**	**298**	*e*P	**P**	**06 09 13.9**	**+0.6**
	9.6nm,0.6s						
TAPN	**Taplejung**	**33.39**	**298**	*e*P	**P**	**06 09 13.9**	**+0.6**
ODAN	**Odare**	**33.53**	**297**	*e*P	**P**	**06 09 15.1**	**+0.7**
	34nm,0.7s						
ODAN	**Odare**	**33.53**	**297**	*e*P	**P**	**06 09 15.1**	**+0.7**
RAMN	**Ramite**	**34.24**	**297**	*e*P	**P**	**06 09 21.4**	**+0.9**
	21nm,0.6s						
RAMN	**Ramite**	**34.24**	**297**	*e*P	**P**	**06 09 21.4**	**+0.9**
JIRN	**Jiri**	**34.77**	**298**	*e*P	**P**	**06 09 26.1**	**+0.8**
	30nm,0.5s						
JIRN	**Jiri**	**34.77**	**298**	*e*P	**P**	**06 09 26.1**	**+0.8**
GUN	**Gumba**	**35.11**	**299**	*e*P	**P**	**06 09 28.8**	**+0.7**
	24nm,0.5s						
GUN	**Gumba**	**35.11**	**299**	*e*P	**P**	**06 09 28.8**	**+0.7**
PMG	**Port Moresby**	**35.19**	**130**	P	**P**	**06 09 28.5**	**0.0**
PMG	**Port Moresby**	**35.19**	**130**	P	**P**	**06 09 28.5**	**0.0**
	4.8nm,0.5s,baz=311,slow=9.3,SNR=3.4						
PKI	**Pulchoki**	**35.42**	**298**	*e*P	**P**	**06 09 30.9**	**+0.1**
	15nm,0.5s						
PKI	**Pulchoki**	**35.42**	**298**	*e*P	**P**	**06 09 30.9**	**+0.1**
PKIN	**Phulchoki**	**35.43**	**298**	*e*P	**P**	**06 09 30.8**	**0.0**
	9.8nm,0.5s						
KKN	**Kakani**	**35.59**	**298**	*e*P	**P**	**06 09 32.3**	**+0.3**
	11nm,0.6s						
KKN	**Kakani**	**35.59**	**298**	*e*P	**P**	**06 09 32.3**	**+0.3**
SONM	**Songino Array**	**35.59**	**343**	P	**P**	**06 09 32.4**	**+0.7**
SONM				PcP	**PcP**	**06 11 56.3**	**+0.1**
SONM	**Songino Array**	**35.59**	**343**	P	**P**	**06 09 32.4**	**+0.7**
	1.5nm,0.6s,baz=158,slow=9.0,SNR=13						
SONM				PcP	**PcP**	**06 11 56.3**	**+0.1**
	0.6nm,0.6s,baz=165,slow=3.9,SNR=3.5						
DMN	**Daman**	**35.69**	**298**	*e*P	**P**	**06 09 33.2**	**+0.2**
	8.6nm,0.5s						
DMN	**Daman**	**35.69**	**298**	*e*P	**P**	**06 09 33.2**	**+0.2**
GKN	**Gorkha**	**36.19**	**298**	*e*P	**P**	**06 09 37.1**	**0.0**
GKN	**Gorkha**	**36.19**	**298**	*e*P	**P**	**06 09 37.1**	**0.0**
WRAB	**Tennant Creek**	**36.47**	**158**	*e*P	**P**	**06 09 38.7**	**-0.6**
	7.5nm,0.6s						
WRA	**Warramunga Arr**	**36.48**	**158**	P	**P**	**06 09 37.7**	**-1.7**
WRA	**Warramunga Arr**	**36.48**	**158**	P	**P**	**06 09 37.7**	**-1.7**
	8.1nm,0.6s,baz=337,slow=9.4,SNR=5.1						
KOLN	**Koldanda**	**37.02**	**297**	*e*P	**P**	**06 09 44.4**	**+0.2**
KOLN	**Koldanda**	**37.02**	**297**	*e*P	**P**	**06 09 44.4**	**+0.2**
DANN	**Dangsing**	**37.03**	**298**	*e*P	**P**	**06 09 44.6**	**+0.3**
DANN	**Dangsing**	**37.03**	**298**	*e*P	**P**	**06 09 44.6**	**+0.3**
PYUN	**Piuthan**	**37.63**	**298**	*e*P	**P**	**06 09 49.7**	**+0.4**
	33nm,0.8s						
PYUN	**Piuthan**	**37.63**	**298**	*e*P	**P**	**06 09 49.7**	**+0.4**
AS31	**Alice Springs**	**39.78**	**161**	*e*P	**P**	**06 10 06.0**	**-0.9**
ASAR	**Alice Springs**	**39.78**	**161**	P	**P**	**06 10 06.3**	**-0.6**
ASAR				PcP	**PcP**	**06 12 09.0**	**-0.4**
ASAR	**Alice Springs**	**39.78**	**161**	P	**P**	**06 10 06.3**	**-0.6**
	4.5nm,0.5s,baz=338,slow=6.7,SNR=147						
ASAR				PcP	**PcP**	**06 12 09.0**	**-0.4**
	1.2nm,0.8s,baz=336,slow=2.5,SNR=5.9						
WMQ	**Urumqi**	**40.82**	**323**	P	**P**	**06 10 16.8**	**+1.5**
WMQ				pP	pP	06 11 00.8	+5.4
WMQ				sP	sP	06 11 23.8	+7.1
WMQ				PP	**PnPn**	**06 11 57.8**	**-1.6**
WMQ				ScP	**ScP**	**06 15 42.8**	**-1.7**
WMQ				S	**S**	**06 16 11.8**	**-0.4**
WMQ				sS	sS	06 17 27.8	+5.1
WMQ				SS	**SS**	**06 19 16.8**	**-4.4**
WMQ				ScS	**ScS**	**06 19 56.8**	**-3.2**
WMQ				pmax	pmax		
	comp=Z,12nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,64nm,4.0s						
WMQ				LR	LR		
	comp=N,65nm,16.0s						
WMQ				LR	LR		
	comp=E,66nm,16.0s						
WMQ				LR	LR		
	comp=Z,49nm,16.0s						
MKAR	**Makanchi Array**	**45.64**	**323**	P	**P**	**06 10 55.0**	**+1.2**
MKAR				PcP	**PcP**	**06 12 29.1**	**+0.4**
MKAR	**Makanchi Array**	**45.64**	**323**	P	**P**	**06 10 55.0**	**+1.2**
	1.4nm,0.8s,baz=116,slow=9.5,SNR=10						
MKAR				PcP	**PcP**	**06 12 29.1**	**+0.4**
	2.1nm,0.8s,baz=113,slow=4.3,SNR=9.6						
KSH	**Kashi**	**46.58**	**311**	P	P	06 11 05.1	+3.7
KSH				pP	pP	06 11 53.0	+11
KSH				sP	sP	06 12 18.1	+15
KSH				PcP	**PcP**	**06 12 35.1**	**+2.7**
KSH				PP	**PP**	**06 12 58.0**	**+4.8**
KSH				S	**S**	**06 17 36.0**	**+0.1**
KSH				sS	sS	06 19 02.0	+14
KSH				SS	**SS**	**06 21 02.1**	**-2.4**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,190nm,6.6s						
KSH				LR	LR		
	comp=N,160nm,6.2s						
KSH				LR	LR		
	comp=E,130nm,5.6s						
KSH				LR	LR		
	comp=Z,92nm,5.1s						
ZALV	**Zalesovo Beam**	**48.62**	**333**	P	**P**	**06 11 16.9**	**+0.2**
ZALV	**Zalesovo Beam**	**48.62**	**333**	P	**P**	**06 11 16.9**	**+0.2**
	3.1nm,0.3s,baz=120,slow=7.1,SNR=29						
KURK	**Kurchatov**	**49.78**	**326**	*e*P	**P**	**06 11 26.7**	**+1.1**
	9.8nm,0.6s						
BRVK	**Borovoye**	**55.44**	**326**	*e*P	**P**	**06 12 08.0**	**+1.0**
	9.8nm,0.7s						
ABKAR	**Akbulak array**	**60.37**	**319**	*e*P	**P**	**06 12 41.9**	**+0.6**
ARU	**Arti**	**62.98**	**327**	*e*P	**P**	**06 12 58.6**	**0.0**
	4.9nm,0.7s						
CAST	**Castle Rocks**	**76.19**	**28**	*e*P	**P**	**06 14 20.7**	**+1.3**
	8.9nm,0.8s						
MCK	**McKinley**	**77.56**	**27**	*e*P	**P**	**06 14 27.5**	**+0.5**
	398nm,3.0s						
ILAR	**Eielson Array**	**78.31**	**26**	P	**P**	**06 14 31.0**	**-0.1**
ILAR	**Eielson Array**	**78.31**	**26**	P	**P**	**06 14 31.0**	**-0.1**
	1.3nm,0.8s,baz=296,slow=4.1,SNR=14						
ARCES	**ARCESS Array B**	**78.63**	**339**	P	**P**	**06 14 33.1**	**+0.4**
ARCES	**ARCESS Array B**	**78.63**	**339**	P	**P**	**06 14 33.1**	**+0.4**
	16nm,1.2s,baz=79,slow=6.7,SNR=13						
BRTR	**Keskin Array B**	**78.85**	**308**	P	**P**	**06 14 34.7**	**0.0**
BRTR	**Keskin Array B**	**78.85**	**308**	P	**P**	**06 14 34.7**	**0.0**
	1.1nm,0.8s,baz=102,slow=4.7,SNR=5.7						
FINES	**FINESS Array B**	**79.86**	**331**	P	**P**	**06 14 39.4**	**-0.1**
FINES	**FINESS Array B**	**79.86**	**331**	P	**P**	**06 14 39.4**	**-0.1**
	1.5nm,0.6s,baz=62,slow=6.5,SNR=8.5						
AKASG	**Malin Array Be**	**80.09**	**320**	P	**P**	**06 14 40.4**	**-0.6**
AKASG	**Malin Array Be**	**80.09**	**320**	P	**P**	**06 14 40.4**	**-0.6**
	1.3nm,0.6s,baz=70,slow=4.2,SNR=6.4						
INK	**Inuvik**	**82.64**	**21**	P	**P**	**06 14 54.7**	**+0.7**
INK	**Inuvik**	**82.64**	**21**	P	**P**	**06 14 54.7**	**+0.7**
	4.7nm,0.7s,baz=290,slow=5.4,SNR=21						
BUR08	**Bucovina Ar. S**	**83.30**	**317**	*e*P	**P**	**06 14 58.7**	**+0.7**
KMBO	**Kilima Mbogo**	**83.92**	**267**	*e*P	**P**	**06 15 03.5**	**+1.5**
	2.6nm,0.9s						
KMBO	**Kilima Mbogo**	**83.92**	**267**	P	**P**	**06 15 03.4**	**+1.5**
	0.9nm,0.3s,baz=44,slow=9.5,SNR=8.7						
NB2	**NORSAR Subarra**	**86.83**	**333**	P	**P**	**06 15 14.7**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=67,slow=4.6						
NOA	**NORSAR Array B**	**86.83**	**333**	P	**P**	**06 15 14.4**	**-0.8**
NOA	**NORSAR Array B**	**86.83**	**333**	P	**P**	**06 15 14.4**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=74,slow=4.3,SNR=6.4						
RES	**Resolute Bay**	**88.56**	**9**	P	**P**	**06 15 23.8**	**+0.7**
RES	**Resolute Bay**	**88.56**	**9**	P	**P**	**06 15 23.8**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=301,slow=6.6,SNR=11						
GERES	**GERESS Array B**	**90.25**	**321**	P	**P**	**06 15 31.7**	**+0.1**
GERES	**GERESS Array B**	**90.25**	**321**	P	**P**	**06 15 31.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=72,slow=4.3,SNR=7.2						
YKA	**Yellowknife Ar**	**92.33**	**22**	P	**P**	**06 15 41.7**	**+0.9**
YKA	**Yellowknife Ar**	**92.33**	**22**	P	**P**	**06 15 41.7**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=308,slow=4.4,SNR=16						
TXAR	**Lajitas Array**	**119.13**	**44**	PKP	**PKPdf**	**06 21 20.2**	**+0.8**
TXAR	**Lajitas Array**	**119.13**	**44**	PKP	**PKPdf**	**06 21 20.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=270,slow=0.8,SNR=14						
PLCA	**Paso Flores**	**151.79**	**162**	PKPbc	**PKPbc**	**06 22 24.9**	**+0.1**
PLCA	**Paso Flores**	**151.79**	**162**	PKPbc	**PKPbc**	**06 22 24.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=287,slow=3.6,SNR=5.0						

WEL 06 06:03:26.9±0.3, 45°08S×167°32E, h118km±2km, ML3.5/11, 3C-2D, Error ellipse: s-maj=2.2km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.41**	**197**	PN	Pn	06 03 43.9	-0.2
DCZ				SN	Sn	06 03 56.6	-0.4
DCZ				AML	AML	06 03 57.4	
DCZ				AML	AML	06 03 57.4	
DCZ				AML	AML	06 03 57.7	
MSZ	**Milford Sound**	**0.59**	**47**	⇑PN	Pn	06 03 45.5	+0.3
MSZ				SN	Sn	06 03 58.7	-0.3
MSZ				AML	AML	06 03 60.0	
MSZ				AML	AML	06 04 00.3	
MSZ				AML	AML	06 04 01.2	
MLZ	**Mavora Lakes**	**0.66**	**114**	PN	Pn	06 03 45.4	-0.3
MLZ				SN	Sn	06 03 59.3	-0.6
MLZ				AML	AML	06 03 60.0	
WHZ	**Wether Hill Ro**	**0.92**	**152**	PN	Pn	06 03 47.9	0.0
WHZ				SN	Sn	06 04 03.4	-0.5
WHZ				AML	AML	06 04 03.8	
PYZ	**Puysegur Point**	**1.18**	**202**	PN	Pn	06 03 50.5	0.0
WKZ	**Wanaka**	**1.23**	**79**	PN	Pn	06 03 51.0	-0.2
WKZ				AML	AML	06 04 10.1	
WKZ				AML	AML	06 04 10.1	
WKZ				AML	AML	06 04 11.4	
WKZ				AML	AML	06 04 11.4	
EAZ	**Earnscleugh**	**1.41**	**97**	⇓PN	Pn	06 03 52.9	-0.3
EAZ				AML	AML	06 04 11.5	
EAZ				AML	AML	06 04 12.3	
EAZ				AML	AML	06 04 13.1	
EAZ				AML	AML	06 04 13.1	
JCZ	**Jackson Bay**	**1.44**	**46**	⇑PN	Pn	06 03 53.0	-0.6
JCZ				AML	AML	06 04 12.3	
JCZ				AML	AML	06 04 15.0	
APZ	**The Paps**	**1.81**	**165**	PN	Pn	06 03 57.7	-0.2
TUZ	**Tuapeka**	**1.84**	**119**	PN	Pn	06 03 57.9	-0.4
TUZ				AML	AML	06 04 19.4	
TUZ				AML	AML	06 04 19.8	
SYZ	**Scrubby Hill**	**1.93**	**140**	PN	Pn	06 03 59.1	-0.2
SYZ				AML	AML	06 04 22.3	
SYZ				AML	AML	06 04 22.9	
SYZ				AML	AML	06 04 23.0	
SYZ				AML	AML	06 04 23.7	
LBZ	**Lake Benmore**	**2.15**	**72**	⇓PN	Pn	06 04 00.5	-1.7
LBZ				AML	AML	06 04 26.1	
LBZ				AML	AML	06 04 26.7	
ODZ	**Otahua Downs**	**2.35**	**90**	⇑PN	Pn	06 04 03.3	-1.4
HHSZ	**Highcliff Hill**	**2.44**	**110**	PN	Pn	06 04 05.1	-0.8

*ISCJB **06** 06:09:13.9±0.5, 32°39N±0°03×115°07W±0°04, h20km±5km, Error ellipse: s-maj=6.3km s-min=4.8km az=138.1*
*ECX **06** 06:09:15.3±0.7, 32°39N×115°09W, h8km, MD3.5, ML3.6*
*NEIC **06** 06:09:15.2, 32°38N×115°09W, h8km, ML3.3(PAS), ML3.6(ECX), After ECX.*

ISC 06 06:09:14.7±1.0, 32°38N±0°03×115°13W±0°03, h17km±7km, n22, σ1§38/28, 9C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.15**	**283**	⇑*e*P	**Pg**	**06 09 18.9**	**+0.1**
CPBX				*e*S	**Sg**	**06 09 22.0**	**+0.3**
CPBX				*e*		06 09 26.8	
	comp=N,26μm,0.4s						
EMX	**El Mayor**	**0.41**	**194**	⇓*e*P	**Pg**	**06 09 22.5**	**-0.5**
EMX				*e*S	**Sg**	**06 09 28.7**	**+0.1**
EMX				⇑*e*		06 09 29.6	
	comp=N,4μm,0.5s						
**

ISAD	**Sadrabad**	**4.48**	**327**	*e*Pn	**Pn**	**06 22 48.7**	**+2.2**
ISAD				*e*		06 24 12.7	
	comp=Z,388nm,0.3s						
ISAD	**Sadrabad**	**4.48**	**327**	*e*Pn	**Pn**	**06 22 48.7**	**+2.2**
IKOO	**Kooshah**	**4.76**	**26**	*e*Pn	**Pn**	**06 22 52.8**	**+2.6**
IKOO				*e*		06 24 18.1	
	comp=Z,517nm,0.2s						
IKOO	**Kooshah**	**4.76**	**26**	*e*Pn	**Pn**	**06 22 52.8**	**+2.6**
IDAH	**Dahanechah**	**5.40**	**31**	*e*Pn	Pn	06 23 01.7	+2.7
IDAH				*e*		06 24 56.5	
	comp=Z,305nm,0.5s						
IDAH	**Dahanechah**	**5.40**	**31**	*e*Pn	Pn	06 23 01.7	+2.7
IGAR	**Gharneh**	**5.74**	**319**	*e*		06 23 17.8	
	comp=Z,204nm,0.1s						
IGAR				*e*Pn	**Pn**	**06 23 05.8**	**+2.1**
IZEF	**Zefreh**	**5.95**	**324**	*e*		06 23 18.5	
	comp=Z,86nm,0.2s						
IZEF				*e*Pn	**Pn**	**06 23 08.0**	**+1.4**
IKLH	**Kolahrood**	**6.68**	**322**	*e*Pn	**Pn**	**06 23 18.3**	**+1.7**
IKLH	**Kolahrood**	**6.68**	**322**	*e*Pn	**Pn**	**06 23 18.3**	**+1.7**
BRTR	**Keskin Array B**	**22.15**	**307**	P	**P**	**06 26 33.6**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=121,slow=9.3,SNR=3.2						
AKTO	**Aktyubinsk**	**22.27**	**3**	P	**P**	**06 26 34.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=200,slow=14,SNR=2.1						
BVAR	**Borovoye Array**	**26.88**	**19**	P	**P**	**06 27 17.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=220,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**27.44**	**40**	P	**P**	**06 27 22.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=228,slow=8.8,SNR=8.8						
KURBB	**Kurchatov Arra**	**27.95**	**31**	P	**P**	**06 27 26.9**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=229,slow=8.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**33.04**	**31**	P	**P**	**06 28 11.8**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=233,slow=7.0,SNR=7.1						
FINES	**FINESS Array B**	**38.97**	**337**	P	**P**	**06 29 01.8**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=155,slow=6.9,SNR=5.0						
ARCES	**ARCESS Array B**	**45.12**	**345**	P	**P**	**06 29 52.8**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=148,slow=9.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**53.02**	**265**	P	**P**	**06 30 54.3**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=63,slow=8.0,SNR=4.2						

NEIC ***06*** *06:44:20.9±0.2, 7.˚89S×118.˚94E, h10km, mb5.0/13, Error ellipse: s-maj=9.4km s-min=4.8km az=62.0*
NEIC Felt [III] at Bima, Indonesia.
ISCJB ***06*** *06:44:21.8±1.1, 7.˚89S±0.˚03×119.˚06E±0.˚04, h26km±8km, mb4.7/57, MS3.9/15, Error ellipse: s-maj=6.8km s-min=3.9km az=158.8*
MOS ***06*** *06:44:21.6±1.2, 7.˚86S×118.˚99E, h25km, mb5.0/15, Error ellipse: s-maj=14.9km s-min=7.2km az=123.1*
AUST ***06*** *06:44:23.3±0.5, 8.˚20S×119.˚23E, h0km, Error ellipse: s-maj=8.8km s-min=4.3km az=5.0*
IDC ***06*** *06:44:25.2±0.5, 7.˚86S×118.˚97E, h38km±3km, mb4.2/22, mb1 4.4/24, mb1mx4.3/31, mbtmp4.3/24, ML4.6/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/28, Error ellipse: s-maj=17.7km s-min=9.6km az=71.0*
DJA ***06*** *06:44:25.2±3.0, 8.˚3S±2.˚1×119.˚9E±.˚, h30km±36km, M4.8/13, mb4.9/7, mB5.2/4, MLv4.9/12, Mw(mB)4.6/4*
BKK ***06*** *06:44:37.1±1.0, 8.˚5S±8.˚×122.˚0E±.˚, h83km±11km, M4.7/12, mB5.1/1, mb4.9/12, MLv4.5/1, Mw(mB)4.4/1*
ISC 06 06:44:23.3±0.4,**7.˚92S**±0.˚04×**119.˚01E**±0.˚05,**h23**km±2km,
h23km:**pP-P,n195,**σ1%**61**/253,**mb4.8**/57,**MS3.9**/16,
12C-14D,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.15**	**144**	P	**Pn**	**06 44 59.1**	**+1.3**
WSI				S	**Sb**	**06 45 26.6**	**-1.2**
BKSI	**Bulukumba**	**2.81**	**23**	P	**Pn**	**06 45 06.4**	**-0.4**
BKSI				S	**Sn**	**06 45 37.5**	**-2.5**
MTNI	**Mataram**	**2.90**	**256**	P	**Pb**	**06 45 14.5**	**+0.2**
KAPI	**Kappang**	**2.98**	**14**	P	**Pn**	**06 45 07.8**	**-1.4**
KAPI	**Kappang**	**2.98**	**14**	*e*Pn	**Pn**	**06 45 08.5**	**-0.7**
KAPI				Sn	Sn	06 45 33.0	-11
KAPI	**Kappang**	**2.98**	**14**	Pn	**Pn**	**06 45 08.7**	**-0.5**
	3µm,0.7s,SNR=62						
KAPI	**Kappang**	**2.98**	**14**	Pn	**Pn**	**06 45 08.6**	**-0.6**
	38nm,0.3s,baz=216,slow=12,SNR=256						
KAPI				Sn	Sn	06 45 33.0	-11
	82nm,0.3s,baz=173,slow=17,SNR=5.8						
KAPI				LR	LR	06 46 35.8	
	comp=Z,3µm,18.9s,baz=171,slow=44						
MMRI	**Maumere**	**3.27**	**103**	P	**Pn**	**06 45 13.5**	**+0.3**
BNSI	**Bone**	**3.66**	**17**	P	**Pn**	**06 45 18.9**	**+0.3**
SPSI	**Sidrap Palu**	**4.00**	**11**	P	**Pn**	**06 45 22.2**	**-1.0**
MJSI	**Majene**	**4.34**	**360**	P	**Pn**	**06 45 27.6**	**-0.3**
KKSI	**Kolaka, Sulawe**	**4.56**	**35**	P	Pn	06 45 33.9	+3.0
ABJI	**Asem Bagus**	**4.74**	**271**	P	**Pn**	**06 45 33.5**	**+0.2**
MMSI	**Mamuju**	**5.20**	**359**	P	**Pn**	**06 45 38.6**	**-1.1**
	250nm,0.7s,3µm0.8nm						
GMJI	**Gumukmas**	**5.52**	**266**	P	Pn	06 45 47.7	+3.5
	198nm,1.2s,2µm0.8nm						
APSI	**Ampana**	**7.44**	**21**	P	Pn	06 46 17.0	+6.5
LUWI	**Luwuk**	**7.79**	**29**	P	**Pn**	**06 46 16.5**	**+1.1**
	80nm,0.9s,825nm						
MRSI	**Marisa**	**8.84**	**19**	P	**Pn**	**06 46 30.9**	**+1.2**
	55nm,1.0s,2µm						
GTOI	**Gorontalo**	**9.39**	**25**	P	Pn	06 46 43.9	+6.6
CISI	**Cisompet, Garu**	**11.10**	**271**	⇓P	Pn	06 47 06.5	+5.7
	baz=11						
FITZ	**Fitzroy Crossi**	**12.00**	**148**	*e*Pn	**Pn**	**06 47 11.6**	**-1.4**
FITZ				Sn	Sn	06 49 17.5	-8.8
FITZ	**Fitzroy Crossi**	**12.00**	**148**	Pn	**Pn**	**06 47 11.5**	**-1.5**
	0.9nm,0.3s,baz=325,slow=11,SNR=19						
FITZ				Sn	Sn	06 49 17.5	-8.8
	2.3nm,0.3s,baz=208,slow=18,SNR=5.4						
FITZ				LR	LR	06 52 18.2	
	comp=Z,285nm,19.6s,baz=327,slow=39						
FITZ	**Fitzroy Crossi**	**12.00**	**148**	⇑P	**Pn**	**06 47 11.5**	**-1.5**
	baz=12,SNR=22						
KNRA	**Kununurra**	**12.26**	**130**	⇓P	**Pn**	**06 47 14.8**	**-1.8**
	baz=12,SNR=10						
KSM	**Kuching**	**12.74**	**317**	*e*Pn	**Pn**	**06 47 25.1**	**+1.9**
MTN	**Manton Dam**	**12.88**	**113**	⇓P	**Pn**	**06 47 23.1**	**-2.0**
	baz=13,SNR=16						
MBWA	**Marble Bar**	**13.18**	**177**	*e*Pn	**Pn**	**06 47 28.3**	**-0.8**
KKM	**Kota Kinabalu**	**14.15**	**349**	*e*Pn	Pn	06 47 39.0	-3.5
	19nm,1.1s						
BAKI	**Biak**	**18.30**	**69**	P	P	06 48 40.4	+4.6
MEEK	**Meekatharra**	**18.62**	**181**	⇓P	**Pn**	**06 48 40.7**	**+1.0**
	baz=18,SNR=21						
WB0	**Warramunga Arr**	**19.00**	**130**	⇓P	**P**	**06 48 43.2**	**-0.3**
	baz=19						
WB9	**Warramunga Arr**	**19.00**	**130**	⇑P	**P**	**06 48 43.1**	**-0.5**
	baz=19						
WRA	**Warramunga Ar**	**19.06**	**130**	P	**P**	**06 48 43.4**	**-0.8**
WRA				S	Sn	06 52 05.2	-13
WRA	**Warramunga Ar**	**19.06**	**130**	P	**P**	**06 48 43.4**	**-0.8**
	3.0nm,0.3s,baz=305,slow=13,SNR=134						
WRA				S	Sn	06 52 05.2	-13
	baz=302,slow=25,SNR=2.6						
WRA				LR	LR	06 57 17.3	
	comp=Z,145nm,20.9s,baz=345,slow=40						
WR1	**Warramunga Arr**	**19.06**	**130**	⇑P	**P**	**06 48 43.7**	**-0.5**
	baz=19						
WRAB	**Tennant Creek**	**19.06**	**130**	*e*P	**P**	**06 48 43.9**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,50nm,0.8s						
WRAB	**Tennant Creek**	**19.06**	**130**	*e*Pn	**P**	**06 48 43.9**	**-0.3**
	comp=Z,50nm,0.8s						
WRAB	**Tennant Creek**	**19.06**	**130**	P	**P**	**06 48 43.0**	**-1.2**
	comp=Z,400nm,0.7s,SNR=63						
WR5	**Warramunga Ar**	**19.13**	**130**	⇓P	**P**	**06 48 44.7**	**-0.3**
	baz=19						
ASPA	**Alice Springs**	**21.19**	**139**	⇓P	**P**	**06 49 07.9**	**+0.6**
	baz=21						
AS31	**Alice Springs**	**21.19**	**139**	*e*P	**P**	**06 49 07.5**	**+0.1**
AS31				*e*S	**S**	**06 52 57.7**	**-4.4**
ASAR	**Alice Springs**	**21.19**	**139**	P	**P**	**06 49 07.4**	**0.0**
ASAR				S	S	06 52 52.6	-9.5
ASAR	**Alice Springs**	**21.19**	**139**	P	**P**	**06 49 07.4**	**0.0**
	comp=Z,28nm,0.8s,baz=316,slow=9.0,SNR=146						
ASAR				S	S	06 52 52.6	-9.5
	comp=Z,2.0nm,0.9s,baz=319,slow=22,SNR=3.0						
ASAR				LR	LR	06 59 06.2	
	comp=Z,244nm,18.1s,baz=310,slow=41						
AS10	**Alice Springs**	**21.22**	**139**	⇑P	**P**	**06 49 07.9**	**+0.3**
	baz=21						
MORW	**Morawa**	**21.22**	**187**	⇑P	**P**	**06 49 08.8**	**+1.2**
	baz=21,SNR=13						
BLDU	**Ballidu**	**22.68**	**185**	⇑P	**P**	**06 49 23.6**	**+0.3**
	baz=22,SNR=50						
PSI	**Prapat**	**22.69**	**297**	P	**P**	**06 49 22.9**	**-0.8**
PSI	**Prapat**	**22.69**	**297**	P	**P**	**06 49 22.9**	**-0.8**
	comp=Z,5.5nm,0.7s,baz=124,slow=14,SNR=2.6						
KLBR	**Kellerberrin**	**23.58**	**183**	⇓P	**P**	**06 49 32.8**	**+0.4**
	baz=23,SNR=16						
FORT	**Forrest**	**24.27**	**161**	*e*P	**P**	**06 49 39.1**	**+0.3**
	comp=Z,46nm,0.7s						
FORT	**Forrest**	**24.27**	**161**	⇓P	**P**	**06 49 38.9**	**+0.1**
	baz=24,SNR=24						
COEN	**Coen**	**24.46**	**106**	*e*P	**P**	**06 49 40.3**	**-0.4**
	comp=Z,484nm,1.1s						
COEN	**Coen**	**24.46**	**106**	⇓P	**P**	**06 49 40.6**	**-0.2**
	baz=24,SNR=19						
NWAO	**Narrogin (SRO)**	**24.94**	**184**	P	**P**	**06 49 45.4**	**+0.5**
NWAO				S	S	06 54 14.7	+7.5
NWAO	**Narrogin (SRO)**	**24.94**	**184**	P	**P**	**06 49 45.4**	**+0.5**
	comp=Z,47nm,0.8s,baz=0.1,slow=11,SNR=21						
NWAO				S	S	06 54 14.7	+7.5
	comp=Z,4.1nm,0.7s,baz=24,slow=19,SNR=3.0						
NWAO				LR	LR	06 59 37.9	
	comp=Z,147nm,19.2s,baz=345,slow=36						
RKGY	**Rocky Gully**	**26.63**	**184**	⇓P	**P**	**06 50 02.9**	**+2.7**
	baz=26,SNR=11						
CTA	**Charters Tower**	**29.01**	**117**	P	**P**	**06 50 22.1**	**+0.3**
CTA	**Charters Tower**	**29.01**	**117**	P	**P**	**06 50 22.1**	**+0.3**
	comp=Z,15nm,0.8s,baz=282,slow=9.3,SNR=11						
CTA	**Charters Tower**	**29.01**	**117**	⇑P	**P**	**06 50 22.7**	**+0.9**
	baz=29						
CTAO	**Charters Tower**	**29.01**	**117**	*e*P	**P**	**06 50 22.5**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,30nm,1.0s						
CTAO	**Charters Tower**	**29.01**	**117**	*e*P	**P**	**06 50 22.5**	**+0.8**
	comp=Z,30nm,1.0s						
BBOO	**Buckleboo**	**29.38**	**150**	*e*P	**P**	**06 50 25.0**	**+0.1**
	comp=Z,406nm,0.6s						
STKA	**Stephens Creek**	**31.78**	**142**	*e*P	**P**	**06 50 46.3**	**+0.2**
	comp=Z,3.8nm,0.8s						
STKA				PcP	**PcP**	**06 53 36.3**	**-0.8**
STKA	**Stephens Creek**	**31.78**	**142**	P	**P**	**06 50 46.2**	**+0.2**
	comp=Z,17nm,0.7s,baz=316,slow=10,SNR=58						
STKA				PcP	**PcP**	**06 53 36.3**	**-0.8**
	comp=Z,7.3nm,0.6s,baz=335,slow=2.8,SNR=8.4						
STKA				LR	LR	07 05 17.3	
	comp=Z,59nm,18.4s,baz=203,slow=39						
STKA	**Stephens Creek**	**31.78**	**142**	⇓P	**P**	**06 50 46.4**	**+0.4**
	baz=32						
CMAR	**Chiang Mai Arr**	**32.85**	**323**	P	**P**	**06 50 55.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**32.85**	**323**	P	**P**	**06 50 55.4**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=139,slow=7.2,SNR=3.8						
CMAR				LR	LR	07 05 29.3	
	comp=Z,136nm,20.4s,baz=170,slow=39						
CMMT	**Chiang Mai**	**33.12**	**324**	P	P	06 51 13.1	+15
	comp=Z,12nm,1.0s						
CHTO	**Chiang Mai**	**33.13**	**324**	P	P	06 51 13.6	+16
	comp=Z,33nm,1.2s						
CRAI	**Chiangrai**	**33.45**	**327**	P	P	06 51 13.1	+12
	comp=Z,17nm,1.7s						
EIDS	**Eidsvold**	**35.14**	**123**	⇓P	**P**	**06 51 15.8**	**+0.4**
	baz=35						
GYA	**Guiyang**	**36.22**	**341**	P	**P**	**06 51 26.8**	**+2.1**
GYA				PP	**PP**	**06 52 49.7**	**+2.3**
GYA				PcP	**PcP**	**06 53 51.0**	**+1.1**
GYA				S	**S**	**06 57 06.9**	**+3.0**
GYA				ScP	**ScP**	**06 57 37.4**	**+2.2**
GYA				SS	**SnSn**	**06 59 31.2**	**+0.1**
GYA				ScS	**ScS**	**07 01 42.0**	**+0.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=Z,580nm,17.5s						
GYA				LR	LR		
	comp=Z,510nm,18.2s						
GYA				LR	LR		
	comp=Z,550nm,17.9s						
KMI	**Kunming**	**36.47**	**335**	P	**P**	**06 51 29.3**	**+2.3**
KMI				sP	sP	06 51 33.4	-3.4
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				LR	LR		
	comp=Z,130nm,19.1s						
KMI				LR	LR		
	comp=Z,170nm,19.5s						
KMI				LR	LR		
	comp=Z,190nm,14.1s						
ARMA	**Armidale**	**37.84**	**131**	*e*P	**P**	**06 51 41.0**	**+2.4**
	comp=Z,167nm,2.3s						
CAN	**Canberra**	**38.70**	**139**	⇑P	**P**	**06 51 47.0**	**+1.3**
	baz=38						
CNB	**Canberra Magne**	**38.93**	**139**	⇑P	**P**	**06 51 49.0**	**+1.4**
	baz=39						
NJ2	**Nanjing**	**39.75**	**360**	*e*P	**P**	**06 51 54.2**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNR	**Honiara**	**40.48**	**95**	*e*P	**P**	**06 52 03.4**	**+2.7**
	comp=Z,3.9nm,1.2s						
CD2	**Chengdu**	**41.29**	**340**	*e*P	**P**	**06 52 07.2**	**+0.1**
CD2				pP	**pP**	**06 52 12.8**	**-1.3**
CD2				sP	**sP**	**06 52 14.8**	**-2.1**
CD2				PP	**PnPn**	**06 53 46.8**	**-0.6**
CD2				S	**S**	**06 58 22.9**	**+2.8**
CD2				sS	**sS**	**06 58 29.8**	**-1.9**
CD2				SS	**SS**	**07 01 21.9**	**-2.3**
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,100nm,5.8s						
CD2				LR	LR		
	comp=Z,190nm,14.2s						
CD2				LR	LR		
	comp=Z,150nm,16.6s						
XAN	**Xi'an**	**42.81**	**348**	P	P	06 52 28.5	+9.0
XAN				pP	pP	06 52 34.8	+8.2
XAN				sP	sP	06 52 38.1	+8.7
XAN				S	S	06 58 58.7	+16
XAN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,37nm,5.8s						
XAN				LR	LR		
	comp=N,120nm,13.2s						
KSAR	**Wonju Array Be**	**45.88**	**10**	P	**P**	**06 52 43.8**	**-0.1**
KSRS	**Korea Array**	**45.90**	**10**	P	**P**	**06 52 43.8**	**-0.3**
	comp=N,2.1nm,0.8s,baz=196,slow=7.5,SNR=3.1						
KSRS				LR	LR	07 15 44.2	
	comp=N,35nm,18.6s,baz=313,slow=41						
LZH	**Lanzhou**	**46.04**	**343**	*e*P	**P**	**06 52 44.3**	**-1.2**
LZH				pP	pP	06 52 47.5	-5.1
LZH				*e*PP	**PP**	**06 54 32.7**	**-1.1**
LZH				*e*S	**S**	**06 59 29.5**	**-0.2**
LZH				sS	sS	06 59 37.5	-3.9
LZH				*e*SS	**ScS**	**07 02 46.2**	**+6.0**
LZH				pmax	pmax		
	comp=N,25nm,1.0s						
LZH				pmax	pmax		
	comp=N,150nm,6.5s						
LZH				LR	LR		
	comp=N,260nm,14.2s						
LZH				LR	LR		
	comp=N,270nm,15.0s						
LZH				LR	LR		
	comp=N,360nm,18.3s						
ODAN	**Odare**	**46.21**	**320**	*e*P	**P**	**06 52 47.3**	**+0.2**
	comp=N,58nm,0.9s						
ODAN	**Odare**	**46.21**	**320**	*e*P	**P**	**06 52 47.3**	**+0.2**
TAPN	**Taplejung**	**46.35**	**320**	*e*P	**P**	**06 52 49.0**	**+0.8**
	comp=N,73nm,1.0s						
TAPN	**Taplejung**	**46.35**	**320**	*e*P	**P**	**06 52 49.0**	**+0.8**
RAMN	**Ramite**	**46.78**	**319**	*e*P	**P**	**06 52 52.4**	**+0.8**
	comp=N,56nm,0.9s						
RAMN	**Ramite**	**46.78**	**319**	*e*P	**P**	**06 52 52.4**	**+0.8**
JIRN	**Jiri**	**47.53**	**319**	*e*P	**P**	**06 52 57.7**	**+0.1**
	comp=N,65nm,0.9s						
JIRN	**Jiri**	**47.53**	**319**	*e*P	**P**	**06 52 57.7**	**+0.1**
MJAR	**Matsushiro Arr**	**47.76**	**21**	P	**P**	**06 52 58.6**	**-0.2**
MJAR	**Matsushiro Arr**	**47.76**	**21**	P	**P**	**06 52 58.6**	**-0.2**
	comp=N,1.6nm,0.8s,baz=174,slow=6.6,SNR=4.0						
GUN	**Gumba**	**47.91**	**319**	*e*P	**P**	**06 53 00.9**	**+0.5**
	comp=N,89nm,0.8s						
GUN	**Gumba**	**47.91**	**319**	*e*P	**P**	**06 53 00.9**	**+0.5**
PKI	**Pulchoki**	**47.98**	**319**	*e*P	**P**	**06 53 00.8**	**-0.2**
	comp=N,27nm,0.8s						
PKI	**Pulchoki**	**47.98**	**319**	*e*P	**P**	**06 53 00.8**	**-0.2**
PKI	**Pulchoki**	**47.98**	**319**	*e*P	**P**	**06 53 00.8**	**-0.2**
PKIN	**Phulchoki**	**47.99**	**319**	*e*P	**P**	**06 53 00.6**	**-0.4**
	comp=N,22nm,0.8s						
DMN	**Daman**	**48.21**	**318**	*e*P	**P**	**06 53 02.7**	**+0.1**
	comp=N,62nm,0.9s						
DMN	**Daman**	**48.21**	**318**	*e*P	**P**	**06 53 02.7**	**+0.1**
KKN	**Kakani**	**48.21**	**319**	*e*P	**P**	**06 53 03.1**	**+0.5**
	comp=N,29nm,0.8s						
KKN	**Kakani**	**48.21**	**319**	*e*P	**P**	**06 53 03.1**	**+0.5**
KKN	**Kakani**	**48.21**	**319**	*e*P	**P**	**06 53 03.1**	**+0.5**
GKN	**Gorkha**	**48.78**	**318**	*e*P	**P**	**06 53 06.8**	**-0.1**
	comp=N,36nm,0.8s						
GKN	**Gorkha**	**48.78**	**318**	*e*P	**P**	**06 53 06.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**49.01**	**353**	*e*P	**P**	**06 53 09.0**	**+0.6**
HHC				PcP	**PcP**	**06 54 32.2**	**0.0**
HHC				PP	**PP**	**06 55 03.8**	**+1.6**
HHC				ScP	**ScP**	**06 58 25.4**	**-0.7**
HHC				PcS	**PcS**	**06 58 27.8**	**-0.7**
HHC				S	**S**	**07 00 13.2**	**+1.5**
HHC				ScS	**ScS**	**07 02 57.6**	**-1.9**
HHC				SS	**SS**	**07 03 40.1**	**-3.0**
HHC				pmax	pmax		
	comp=N,22nm,1.1s						
HHC				pmax	pmax		
	comp=N,390nm,5.9s						
HHC				LR	LR		
	comp=N,370nm,15.7s						
HHC				LR	LR		
	comp=N,570nm,16.1s						
HHC				LR	LR		
	comp=N,370nm,16.4s						
KOLN	**Koldanda**	**49.31**	**317**	*e*P	**P**	**06 53 10.5**	**-0.6**
	comp=N,44nm,0.8s						
KOLN	**Koldanda**	**49.31**	**317**	*e*P	**P**	**06 53 10.5**	**-0.6**
DANN	**Dangsing**	**49.59**	**318**	*e*P	**P**	**06 53 13.1**	**-0.2**
	comp=N,71nm,0.7s						
DANN	**Dangsing**	**49.59**	**318**	*e*P	**P**	**06 53 13.1**	**-0.2**
PYUN	**Piuthan**	**49.94**	**317**	*e*P	**P**	**06 53 15.8**	**0.0**
	comp=N,49nm,0.9s						
PYUN	**Piuthan**	**49.94**	**317**	*e*P	**P**	**06 53 15.8**	**0.0**
GTA	**Gaotai**	**50.34**	**341**	*e*P	**P**	**06 53 19.3**	**+0.7**
GTA				pP	**pP**	**06 53 23.3**	**-2.5**
GTA				sP	**sP**	**06 53 26.9**	**-1.7**
GTA				pmax	pmax		
	comp=N,3.0nm,0.7s						
MDJ	**Mudanjiang**	**53.16**	**9**	P	**P**	**06 53 41.0**	**+1.6**
MDJ				pP	**pP**	**06 53 44.1**	**-2.4**
MDJ				sP	sP	06 53 45.4	-3.9
MDJ				ScP	**ScP**	**06 58 45.7**	**+2.0**
MDJ				PcS	**PcS**	**06 58 46.9**	**+0.9**
MDJ				S	**S**	**07 01 13.9**	**+5.2**
MDJ				sS	**sS**	**07 01 19.5**	**-1.1**
MDJ				pmax	pmax		
	comp=N,9.0nm,1.4s						
MDJ				pmax	pmax		
	comp=N,140nm,3.4s						
MDJ				LR	LR		
	comp=N,24nm,19.3s						
MDJ				LR	LR		
	comp=N,24nm,17.2s						
MDJ				LR	LR		
	comp=N,51nm,17.8s						
USRK	**Ussuriysk Arra**	**53.19**	**12**	P	**P**	**06 53 39.3**	**-0.3**
	comp=N,1.2nm,0.6s,baz=193,slow=12,SNR=3.7						
ULN	**Ulaanbaatar**	**56.54**	**350**	*e*P	**P**	**06 54 04.1**	**+0.1**
	comp=N,3.3nm,0.8s						
SONM	**Songino Array**	**56.62**	**350**	P	**P**	**06 54 04.5**	**0.0**
SONM				pP	**pP**	**06 54 16.1**	**+4.3**
SONM	**Songino Array**	**56.62**	**350**	P	**P**	**06 54 04.5**	**0.0**
	comp=N,2.5nm,1.0s,baz=167,slow=8.2,SNR=10						
SONM				pP	**pP**	**06 54 16.1**	**+4.3**
	comp=N,3.7nm,0.8s,baz=169,slow=9.1,SNR=13						
WMQ	**Urumqi**	**58.80**	**334**	P	**P**	**06 54 21.0**	**+1.1**
WMQ				sP	**sP**	**06 54 28.0**	**-1.9**
WMQ				PP	**PP**	**06 56 33.0**	**+2.8**
WMQ				ScP	**ScP**	**06 59 09.0**	**+0.3**
WMQ				S	**S**	**07 02 24.0**	**0.0**
WMQ				ScS	**ScS**	**07 04 07.0**	**-1.5**
WMQ				pmax	pmax		
	comp=N,12nm,1.0s						
WMQ				pmax	pmax		
	comp=N,87nm,5.0s						
WMQ				LR	LR		
	comp=N,84nm,18.0s						
WMQ				LR	LR		
	comp=N,79nm,18.0s						
WMQ				LR	LR		
	comp=N,67nm,18.0s						
ZAK	**Zakamensk**	**59.65**	**348**	*e*P	**P**	**06 54 26.4**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,2.0s						
KSH	**Kashi**	**61.75**	**323**	P	**P**	**06 54 39.5**	**-0.8**
KSH				pP	pP	06 54 43.0	-4.6
KSH				sP	sP	06 54 46.1	-4.2
KSH				PcP	**PcP**	**06 55 19.0**	**-2.4**
KSH				PP	**PP**	**06 56 57.1**	**+0.6**
KSH				S	**S**	**07 02 58.0**	**-4.2**
KSH				sS	sS	07 03 10.2	-4.0
KSH				ScS	**SKSac**	**07 04 29.3**	**-1.6**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,120nm,6.1s						
KSH				LR	LR		
	comp=Z,140nm,9.4s						
KSH				LR	LR		
	comp=Z,220nm,7.5s						
KSH				LR	LR		
	comp=Z,170nm,6.1s						
KBL	**Kabul**	**63.34**	**315**	*e*P	**P**	**06 54 49.8**	**-1.3**
KBL				pmax	pmax		
	comp=Z,27nm,1.1s						
KBL	**Kabul**	**63.34**	**315**	*e*P	**P**	**06 54 49.8**	**-1.3**
	comp=Z,27nm,1.1s						
MK31	**Makanchi Array**	**63.51**	**333**	*i* P	**P**	**06 54 51.4**	**-0.3**
MK31				pmax	pmax		
	comp=Z,12nm,

	comp=E,7.0nm,1.3s							
NVS					pmax	pmax		
	comp=Z,9.0nm,1.3s							
YAK	**Yakutsk**	**70.23**	**5**	*eP*	**P**	**06 55 35.1**	**+1.0**	
YAK				pmax	pmax			
	comp=Z,8.0nm,0.6s							
MAW	**Mawson**	**70.25**	**200**	P	**P**	**06 55 34.9**	**+0.7**	
MAW	**Mawson**	**70.25**	**200**	P	**P**	**06 55 34.9**	**+0.7**	
	comp=Z,8.2nm,0.7s,baz=45,slow=2.9,SNR=11							
OPO	**Ambohidratompo**	**70.34**	**253**	P	**P**	**06 55 35.7**	**-0.2**	
OPO	**Ambohidratompo**	**70.34**	**253**	P	**P**	**06 55 35.7**	**-0.2**	
	comp=Z,4.0nm,0.8s,baz=90,slow=7.1,SNR=4.9							
VNDA	**Vanda**	**73.04**	**171**	*eP*	**P**	**06 55 51.3**	**+0.3**	
	comp=Z,16nm,1.3s							
VNDA	**Vanda**	**73.04**	**171**	P	**P**	**06 55 51.7**	**+0.8**	
	comp=Z,4.1nm,0.7s,baz=317,slow=7.6,SNR=29							
BVA0	**Borovoye Array**	**73.36**	**332**	*i* P	**P**	**06 55 51.8**	**-1.4**	
BVA0				pmax	pmax			
	comp=Z,14nm,1.1s							
BVAR	**Borovoye Array**	**73.36**	**332**	P	**P**	**06 55 52.4**	**-0.8**	
BVAR				*PP	**pP**	**06 56 03.6**	**+3.0**	
BVAR	**Borovoye Array**	**73.36**	**332**	P	**P**	**06 55 52.4**	**-0.8**	
BVAR				pP	**pP**	**06 56 03.6**	**+3.0**	
BVAR	**Borovoye Array**	**73.36**	**332**	P	**P**	**06 55 52.4**	**-0.8**	
	comp=Z,1.6nm,0.9s,baz=94,slow=4.3,SNR=6.1							
BVAR				pP	**pP**	**06 56 03.6**	**+3.0**	
	comp=Z,5.8nm,0.8s,baz=133,slow=8.7,SNR=17							
BRVK	**Borovoye**	**73.43**	**332**	*ceP*	**P**	**06 55 52.7**	**-0.9**	
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.2s							
AB31	**Akbulak array**	**76.69**	**325**	*i* P	**P**	**06 56 09.8**	**-2.7**	
AB31				pmax	pmax			
	comp=Z,7.0nm,0.7s							
ABKAR	**Akbulak array**	**76.69**	**325**	*eP*	**P**	**06 56 11.6**	**-0.9**	
	comp=Z,14nm,1.0s							
ABKAR				*eP*cP	**PcP**	**06 56 22.9**	**-0.9**	
AKTO	**Aktyubinsk**	**78.35**	**325**	P	**P**	**06 56 20.8**	**-1.0**	
AKTO				*PP	**PcP**	**06 56 32.3**	**+1.3**	
AKTO	**Aktyubinsk**	**78.35**	**325**	P	**P**	**06 56 20.8**	**-1.0**	
AKTO				pP	**PcP**	**06 56 32.3**	**+1.3**	
AKTO	**Aktyubinsk**	**78.35**	**325**	P	**P**	**06 56 20.8**	**-1.0**	
	comp=Z,1.6nm,0.8s,baz=121,slow=5.9,SNR=4.7							
AKTO				pP	**PcP**	**06 56 32.3**	**+1.3**	
	comp=Z,9.2nm,1.0s,baz=114,slow=5.3,SNR=13							
SYO	**Syowa Base**	**78.86**	**201**‖	*eP*	**P**	**06 56 24.4**	**+0.2**	
SYO	**Syowa Base**	**78.86**	**201**‖	*ep*P	**P**	**06 56 26.4**	**+2.2**	
ARU	**Arti**	**80.93**	**331**	*c i*P	**P**	**06 56 34.3**	**-1.3**	
ARU						06 59 35.6		
ARU				S	**S**	**07 06 42.4**	**-0.6**	
ARU				SS	**SS**	**07 11 52.7**	**-4.9**	
ARU				pmax	pmax			
	comp=Z,8.0nm,2.5s							
KMBO	**Kilima Mbogo**	**81.69**	**270**	*eP*	**P**	**06 56 39.4**	**-1.6**	
KMBO	**Kilima Mbogo**	**81.69**	**270**	P	**P**	**06 56 38.9**	**-2.0**	
	comp=Z,1.6nm,0.5s,baz=240,slow=23,SNR=8.1							
ZEI	**Tsey**	**84.56**	**314**	*eP*	**P**	**06 56 56.3**	**+1.2**	
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.4s							
LSZ	**Lusaka**	**88.73**	**255**	*eP*	**P**	**06 57 13.8**	**-2.1**	
	comp=Z,15nm,1.5s							
BOSA	**Boshof**	**89.53**	**241**	LR	LR	07 29 48.9		
	comp=Z,38nm,19.2s,baz=1.8,slow=30							
SNAA	**Sanae**	**92.03**	**196**	*eP*	**P**	**06 57 30.7**	**+0.6**	
SNAA	**Sanae**	**92.03**	**196**	*eP*	**P**	**06 57 30.8**	**+0.6**	
	comp=Z,8.4nm,0.8s							
VNA2	**Neumayer--Watz**	**93.67**	**195**	*eP*	**P**	**06 57 38.7**	**+1.1**	
APA	**Apatity**	**95.58**	**337**	*eP*	**P**	**06 57 46.6**	**+0.3**	
APA				MLR	MLR			
	comp=Z,500nm,24.0s							
ARCES	**ARCESS Array B**	**98.60**	**339**	LR	LR	07 49 28.9		
	comp=Z,72nm,18.2s,baz=201,slow=40							
ILAR	**Eielson Array**	**98.86**	**26**	P	**P**	**06 57 58.7**	**-2.5**	
ILAR	**Eielson Array**	**98.86**	**26**	P	**P**	**06 57 58.7**	**-2.5**	
	comp=Z,0.3nm,0.7s,baz=264,slow=4.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**118.28**	**281**	PKP	**PKPdf**	**07 03 07.8**	**-2.0**	
TORD	**Torodi Ar. Bea**	**118.28**	**281**	PKP	**PKPdf**	**07 03 07.8**	**-2.0**	
	comp=Z,1.1nm,0.6s,baz=74,slow=1.5,SNR=5.3							
NVAR	**Mina Array Bea**	**120.32**	**50**	PKP	**PKPdf**	**07 03 12.6**	**-0.8**	
NVAR	**Mina Array Bea**	**120.32**	**50**	PKP	**PKPdf**	**07 03 12.6**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=298,slow=1.9,SNR=3.5							
TXAR	**Lajitas Array**	**134.64**	**56**	PKP	**PKPdf**	**07 03 40.3**	**-0.5**	
TXAR	**Lajitas Array**	**134.64**	**56**	PKP	**PKPdf**	**07 03 40.3**	**-0.5**	
	comp=Z,0.7nm,0.9s,baz=302,slow=1.7,SNR=6.3							
LRAL	**Lakeview Retre**	**145.30**	**40**	*e*PKPbc	**PKPbc**	**07 03 58.2**	**-1.3**	
TKL	**Tuckaleechee C**	**145.41**	**34**	*e*PKPbc	**PKPbc**	**07 03 59.1**	**-0.7**	
CPUP	**Villa Florida**	**145.77**	**186**	*e*PKPbc	**PKPdf**	**07 04 01.0**	**+0.2**	
CPUP				pPKPbc	pPKPbc	07 04 13.1	+4.2	
CPUP	**Villa Florida**	**145.77**	**186**	PKPbc	**PKPdf**	**07 04 01.1**	**+0.2**	
	comp=Z,2.7nm,0.7s,baz=165,slow=0.7,SNR=6.4							
CPUP				pPKPbc	pPKPbc	07 04 13.1	+4.2	
	comp=Z,3.9nm,0.6s,baz=128,slow=1.8,SNR=4.6							
BDFB	**Brasilia**	**153.29**	**209**	PKP	**PKPdf**	**07 04 12.5**	**-0.7**	
BDFB				PKPbc	**PKPbc**	**07 04 20.2**	**-0.5**	
BDFB	**Brasilia**	**153.29**	**209**	PKP	**PKPdf**	**07 04 12.5**	**-0.7**	
	comp=Z,4.3nm,0.8s,baz=180,slow=3.0,SNR=6.4							
BDFB				PKPbc	**PKPbc**	**07 04 20.2**	**-0.5**	
	comp=Z,3.6nm,1.0s,baz=288,slow=3.2,SNR=3.3							
LPAZ	**La Paz**	**154.93**	**164**	*e*PKPdf	**PKPdf**	**07 04 15.6**	**-0.6**	
LPAZ				PKPbc	**PKPbc**	**07 04 23.8**	**-1.1**	
LPAZ				*e*PKPbc	**PKiKP**	**07 04 24.8**	**-0.1**	
LPAZ				*e*PKPab	**PKPab**	**07 04 40.5**	**+0.6**	
LPAZ				PKPab	PKPab	07 04 40.8	+0.9	
LPAZ	**La Paz**	**154.93**	**164**	PKPbc	**PKPbc**	**07 04 23.8**	**-1.1**	
	comp=Z,1.3nm,0.6s,baz=115,slow=3.2,SNR=7.9							
LPAZ				PKPab	**PKPab**	**07 04 40.8**	**+0.9**	
	comp=Z,4.7nm,0.8s,baz=168,slow=2.5,SNR=14							
SIV	**San Ignacio**	**156.24**	**180**	PKPab	**PKPab**	**07 04 45.6**	**+0.8**	
SIV	**San Ignacio**	**156.24**	**180**	PKPab	**PKPab**	**07 04 45.6**	**+0.8**	
	comp=Z,2.5nm,0.6s,baz=178,slow=3.2,SNR=8.2							

*CSEM **06** 07:01:05.1,39°.19N×16°.32E,h8km,MD2.6/4,After ROM*
ROM 06 07:01:05.1±0.2,39°.19N×16°.32E,h8km,Md2.6/4,Ml2.7/1, 2C,Error ellipse: s-maj=2.6km s-min=1.5km az=139.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERS	**Sersale**	**0.33**	**117**⇑	*i*Pg	Pb	07 01 12.6	-0.7
SERS				Sg	Sb	07 01 17.7	-1.2
SERS	**Sersale**	**0.33**	**117**⇑	*i*Pg	Pb	07 01 12.6	-0.7
SERS				Sg	Sb	07 01 17.7	-1.2
PIPA	**Pietrapaola**	**0.49**	**52**	Pg	Pb	07 01 15.4	-0.6
	498nm,0.4s						
PIPA	**Pietrapaola**	**0.49**	**52**	Pg	Pb	07 01 15.4	-0.6
	498nm,0.4s						
PLAC	**Placanica**	**0.74**	**173**	Pg	Pb	07 01 20.0	-0.3
PLAC				Sg	Sb	07 01 30.6	0.0
PLAC	**Placanica**	**0.74**	**173**	Pg	Pb	07 01 20.0	-0.3
PLAC				Sg	Sb	07 01 30.6	0.0
CEL	**Celeste**	**0.98**	**200**	Pg	Pg	07 01 23.5	-0.6
CEL				Sg	Sg	07 01 37.0	+0.1
CEL	**Celeste**	**0.98**	**200**	Pg	Pg	07 01 23.5	-0.6
CEL				Sg	Sg	07 01 37.0	+0.1
SOI	**Samo**	**1.13**	**191**	Pg	Pg	07 01 26.2	-0.6
SOI				Sg	Sb	07 01 42.3	+0.5
SOI	**Samo**	**1.13**	**191**	Pg	Pg	07 01 26.2	-0.6
SOI				Sg	Sb	07 01 42.3	+0.5

*CSEM **06** 07:01:10.7,39°.93N×15°.94E,h9km,MD2.5/8,After ROM*
ROM 06 07:01:10.7±0.1,39°.93N×15°.94E,h9km±1km,Md2.5/8, Ml2.4/6,2C,Error ellipse: s-maj=2.3km s-min=1.3km az=36.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.05**	**134**	Pg	Pg	07 01 13.0	+0.4
MMN				Sg	Sg	07 01 14.4	+0.5
MMN	**Mormanno**	**0.05**	**134**	Pg	Pg	07 01 13.0	+0.4
MMN				Sg	Sg	07 01 14.4	+0.5
CUC	**Castrocucco**	**0.12**	**305**⇑	*i*Pg	Pg	07 01 14.1	+0.5
CUC				Sg	Sg	07 01 16.3	+0.6
CUC	**Castrocucco**	**0.12**	**305**⇑	*i*Pg	Pg	07 01 14.1	+0.5
CUC				Sg	Sg	07 01 16.3	+0.6
SIRI	**Monte Sirino -**	**0.26**	**347**	Pg	Pg	07 01 16.8	+0.6
SIRI				Sg	Sb	07 01 21.5	-1.0
SIRI	**Monte Sirino -**	**0.26**	**347**	Pg	Pg	07 01 16.8	+0.6
SIRI				Sg	Sb	07 01 21.5	-1.0
SCHR	**S. Chirico Rap**	**0.29**	**20**	Pg	Pg	07 01 16.9	+0.2
SCHR				Sg	Sg	07 01 21.8	+1.0
SCHR	**S. Chirico Rap**	**0.29**	**20**	Pg	Pg	07 01 16.9	+0.2
SCHR				Sg	Sg	07 01 21.8	+1.0
SALB	**San Lorenzo Be**	**0.31**	**99**	Pg	Pg	07 01 17.2	+0.1
SALB				Sg	Sb	07 01 23.3	-0.7
	465nm,0.4s						
SALB	**San Lorenzo Be**	**0.31**	**99**	Pg	Pg	07 01 17.2	+0.1
SALB				Sg	Sb	07 01 23.3	-0.7
	465nm,0.4s						
MGR	**Morigerati**	**0.37**	**305**	Pg	Pg	07 01 18.2	+0.2
MGR				Sg	Sb	07 01 25.2	-0.1
	359nm,0.3s						
MGR	**Morigerati**	**0.37**	**305**	Pg	Pg	07 01 18.2	+0.2
MGR				Sg	Sb	07 01 25.2	-0.1
	359nm,0.3s						
ORI	**Oriolo Calabro**	**0.41**	**70**	Pg	Pb	07 01 19.9	-0.3
ORI				Sg	Sg	07 01 24.8	+0.5
	652nm,0.4s						
ORI	**Oriolo Calabro**	**0.41**	**70**	Pg	Pb	07 01 19.9	-0.3
ORI				Sg	Sg	07 01 24.8	+0.5
	652nm,0.4s						
MCEL	**Monticello**	**0.41**	**345**	Pg	Pg	07 01 19.3	+0.3
MCEL	**Monticello**	**0.41**	**345**	Pg	Pg	07 01 19.3	+0.3
BULG	**Bulgheria - Ca**	**0.46**	**290**	Pg	Pg	07 01 20.2	+0.4
	244nm,0.3s						
BULG	**Bulgheria - Ca**	**0.46**	**290**	Pg	Pg	07 01 20.2	+0.4
	244nm,0.3s						
CRAC	**Craco**	**0.58**	**40**	Pg	Pb	07 01 22.8	-0.2
	179nm,0.6s						
CRAC	**Craco**	**0.58**	**40**	Pg	Pb	07 01 22.8	-0.2
	179nm,0.6s						
PTRP	**Pietrapertosa**	**0.60**	**9**	Pg	Pb	07 01 23.3	-0.3
PTRP	**Pietrapertosa**	**0.60**	**9**	Pg	Pb	07 01 23.3	-0.3
CDRU	**Civita di Ruta**	**0.75**	**319**	Pg	Pg	07 01 25.2	-0.1
	71nm,0.5s						
CDRU	**Civita di Ruta**	**0.75**	**319**	Pg	Pg	07 01 25.2	-0.1
	71nm,0.5s						
SGO	**Sicignano**	**0.80**	**323**	Pg	Pg	07 01 26.3	+0.1
	29nm,0.5s						
SGO	**Sicignano**	**0.80**	**323**	Pg	Pg	07 01 26.3	+0.1
	29nm,0.5s						

*IDC **06** 07:09:10.4±1.5, 19°.43N×69°.12W,h0km,mb3.5/3, mb1 4.0/4,mb1mx3.5/25,mbtmp3.6/4,ML4.0/1,Error ellipse: s-maj=93.5km s-min=19.7km az=29.0*
*ISCJB **06** 07:09:17.3±0.4, 18°.80N±0°.10×68°.92W±0°.05,h129km, mb3.2/3,Error ellipse: s-maj=14.6km s-min=3.6km az=20.3*
*RSPR **06** 07:09:18.6, 18°.86N×68°.92W,h112km±2km,MD3.8/11*
ISC 06 07:09:18.6±1.0, 18°.8N±0°.1×68°.95W±0°.05,h129km,n38, σ1s37/38,mb3.4/3,14C-4D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.41**	**274**⇑	*i*P	**Pn**	**07 09 34.2**	**-2.9**
PCDR	**Punta Cana, DR**	**0.59**	**114**‖	*e*P	**Pn**	**07 09 35.8**	**-2.3**
PCDR	**Punta Cana, DR**	**0.59**	**114**	*e*S	**Sn**	**07 09 50.2**	**-2.6**
IMO	**Isla Mona**	**1.18**	**123**‖	*e*P	**Pn**	**07 09 41.9**	**-1.3**
IDE	**Isla Desecheo**	**1.45**	**104**	*e*S	**Sn**	**07 10 06.5**	**-0.4**
IDE	**Isla Desecheo**	**1.45**	**104**‖	*e*P	**Pn**	**07 09 44.0**	**-2.0**
AGPR	**Aguadilla, PR**	**1.77**	**99**	*e*S	**Sn**	**07 10 14.4**	**+0.9**
AGPR	**Aguadilla, PR**	**1.77**	**99**‖	*e*P	**Pn**	**07 09 49.0**	**-0.7**
LSP	**Las Mesas**	**1.86**	**108**‖	*e*P	**Pn**	**07 09 49.7**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.90**	**113**	*e*S	**Sn**	**07 10 14.3**	**-2.0**
CRPR	**Cabo Rojo, PR**	**1.90**	**113**‖	*e*P	**Pn**	**07 09 50.2**	**-1.1**
AOPR	**Arecibo Observ**	**2.12**	**101**	*e*S	**Sn**	**07 10 21.5**	**+0.3**
AOPR	**Arecibo Observ**	**2.12**	**101**‖	*e*P	**Pn**	**07 09 53.0**	**-1.0**
SDDR	**Presa de Saban**	**2.22**	**276**	*e*S	**Sn**	**07 10 23.8**	**+0.3**
SDDR	**Presa de Saban**	**2.22**	**276**‖	*e*P	**Pn**	**07 09 55.5**	**+0.2**
OBIP	**Obispado Ponce**	**2.34**	**107**	*e*S	**Sn**	**07 10 24.5**	**-1.4**
OBIP	**Obispado Ponce**	**2.34**	**107**‖	*e*P	**Pn**	**07 09 55.7**	**-1.0**
CELP	**Cerrillos**	**2.35**	**106**‖	*e*P	**Pn**	**07 09 55.9**	**-1.0**
CELP				*e*S	**Sn**	**07 10 25.4**	**-0.9**
SJG	**San Juan**	**2.74**	**103**⇑	*e*P	**Pn**	**07 10 00.7**	**-1.0**
SJG	**San Juan**	**2.74**	**103**	*e*S	**Sn**	**07 10 34.7**	**-0.2**
SJG	**San Juan**	**2.74**	**103**⇑	*e*P	**Pn**	**07 10 00.8**	**-1.0**
SJG	**San Juan**	**2.74**	**103**	Pn	**Pn**	**07 10 00.9**	**-0.8**
	0.3nm,0.3s,baz=271,slow=7.1,SNR=25			Sn			
SJG					**Sn**	**07 10 34.1**	**-0.9**
	0.8nm,0.3s,baz=270,slow=23,SNR=20						
CPD	**Cerro la Pandu**	**2.97**	**103**⇑	*e*P	**Pn**	**07 10 03.6**	**-1.2**
CPD	**Cerro la Pandu**	**2.97**	**103**	*e*S	**Sn**	**07 10 39.6**	**-0.9**
CBYP	**Canovanas**	**2.98**	**99**‖	*e*P	**Pn**	**07 10 03.4**	**-1.5**
CBYP	**Canovanas**	**2.98**	**99**	*e*S	**Sn**	**07 10 39.7**	**-0.9**
HUMP	**Col San Antoni**	**3.01**	**101**‖	*e*P	**Pn**	**07 10 03.9**	**-1.3**
HUMP	**Col San Antoni**	**3.01**	**101**	*e*S	**Sn**	**07 10 39.9**	**-1.4**
MTP	**Monte Pirata**	**3.29**	**101**	*e*S	**Sn**	**07 10 47.6**	**-0.3**
MTP	**Monte Pirata**	**3.29**	**101**‖	*e*P	**Pn**	**07 10 07.7**	**-1.3**
GRTK	**Grand Turk**	**3.42**	**324**‖	*e*P	**Pn**	**07 10 10.1**	**-0.5**
GRTK	**Grand Turk**	**3.42**	**324**	*e*S	**Sn**	**07 10 49.1**	**-1.8**
CDVI	**St. Croix**	**4.10**	**103**‖	*e*P	**Pn**	**07 10 19.2**	**-0.4**
H05N1	**Guadeloupe/Mar**	**7.91**	**107**	Pn	**Pn**	**07 11 12.0**	**+1.1**
H05S1	**Guadeloupe/Mar**	**8.89**	**118**	Pn	Pn	07 11 26.3	+2.2
TXAR	**Lajitas Array**	**33.29**	**295**	P	**P**	**07 15 45.9**	**+1.7**
	0.3nm,0.6s,baz=110,slow=8.3,SNR=7.0						
NVAR	**Mina Array Bea**	**46.95**	**305**	P	P	07 17 39.6	+2.9
	0.6nm,0.8s,baz=84,slow=8.3,SNR=4.6						
YKA	**Yellowknife Ar**	**53.80**	**336**	P	**P**	**07 18 29.3**	**+1.8**
	0.3nm,0.6s,baz=108,slow=6.9,SNR=4.3						

MEX 06 07:36:12.2±0.4,16°.09N×97°.20W,h22km±25km,MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.94**	**289**	*e*P	Pb	07 36 26.7	-3.1
PNIG				*i* S	Sb	07 36 38.7	-3.2
VHO	**Vista Hermosa**	**1.08**	**25**	*e*P	Pn	07 36 29.0	-3.3
VHO				*i* S	Sb	07 36 42.3	-4.1
HUIG	**Huatulco**	**1.10**	**107**	*e*P	Pn	07 36 29.8	-2.5
HUIG				*e*S	Sb	07 36 43.3	-3.2
UTMO	**Huajuapan**	**1.83**	**342**	*e*P	Pn	07 36 39.8	-2.8
UTMO				*e*S	Sn	07 37 01.7	-3.6
TLIG	**Tlapa**	**1.96**	**319**	*i* P	Pn	07 36 42.1	-2.3
TLIG				*i* S	Sn	07 37 05.0	-3.5
TPIG	**Tehuac#an**	**2.32**	**356**	*e*P	Pn	07 36 46.7	-2.7
TPIG				*i* S	Sn	07 37 14.3	-3.2

*ISCJB **06** 07:54:38.1±0.8,60°.34N±0°.03×28°.28E±0°.10,h0km,Error ellipse: s-maj=7.1km s-min=4.8km az=179.1*
*HEL **06** 07:54:42.8±0.3,60°.36N×27°.98E,h0km,ML2.4, ML1.5(UPP),Explosion*
*CSEM **06** 07:54:42.6±0.5,60°.46N×27°.93E,h1km,ML2.4,Error ellipse: s-maj=9.6km s-min=5.7km az=127.0,Mining explosion.*
*NAO **06** 07:54:43.2±1.7,60°.36N×27°.89E,ML2.6*
*IDC **06** 07:54:43.7±1.2,60°.39N×27°.82E,h0km,mb1 3.4/4, mb1mx3.2/28,mbtmp3.4/4,ML3.5/4,Error ellipse: s-maj=11.7km s-min=8.7km az=78.0*
*BER **06** 07:54:43.2±4.3,60°.39N×28°.01E,h0km±20km, ML2.6(NAO)*
*UPP **06** 07:54:47.6,60°.40N×27°.32E,h0km,ML1.5,Suspected Mining explosion.*
ISC 06 07:54:41.1±1.1,60°.50N±0°.04×28°.04E±0°.05,h0km,n58, σ1s54/79,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.24**	**280**	*e*P	**Pb**	**07 54 47.6**	**+1.9**
VJF				*e*S	**Sb**	**07 54 51.6**	**+2.7**
VJF	**Virojoki**	**0.24**	**280**	P	**Pb**	**07 54 47.5**	**+1.9**
VJF				S	**Sb**	**07 54 51.5**	**+2.7**
PVF	**Pernaja**	**1.08**	**274**	*e*P	**Pg**	**07 55 01.4**	**-0.3**
PVF				*e*S	**Sg**	**07 55 16.2**	**+0.6**
PVF	**Pernaja**	**1.08**	**274**	P	**Pg**	**07 55 01.4**	**-0.3**
PVF				S	**Sg**	**07 55 16.2**	**+0.6**
FIA0	**FINESS Array S**	**1.35**	**316**	Pg	**Pb**	**07 55 07.3**	**+0.2**
	baz=142,slow=16						
FIA0				Lg	Lg	07 55 27.8	
	baz=142,slow=37						
FIA0				Rg	Rg	07 55 35.1	
	baz=144,slow=37						
FIA0	**FINESS Array S**	**1.35**	**316**	Pg	**Pb**	**07 55 07.3**	**+0.2**
	baz=142,slow=16						
FIA0				Lg	Lg	07 55 27.8	
	baz=142,slow=37						
FIA0				Rg	Rg	07 55 35.1	
	baz=144,slow=37						
FIA0	**FINESS Array S**	**1.35**	**316**	*e*P	**Pb**	**07 55 09.1**	**+1.9**
FIA0				*e*S	**Sn**	**07 55 27.2**	**+1.6**
FIA0	**FINESS Array S**	**1.35**	**316**	Pg	**Pb**	**07 55 07.3**	**+0.2**
	baz=142,slow=14,SNR=780						
FIA0	**FINESS Array S**	**1.35**	**316**	P	**Pb**	**07 55 09.0**	**+1.9**
FIA0				Lg	Lg	07 55 27.8	
FINES	**FINESS Array B**	**1.35**	**316**	Pg	**Pb**	**07 55 07.5**	**+0.4**
	6.9nm,0.3s,baz=143,slow=14,SNR=358						
FINES				Lg	Lg	07 55 27.4	
	22nm,0.3s,baz=140,slow=35,SNR=54						
FINES				Rg	Rg	07 55 35.0	
	71nm,0.6s,baz=127,slow=28,SNR=34						
MEF	**Metsahovi**	**1.83**	**263**	*e*P	**Pb**	**07 55 15.2**	**-0.2**
MEF				*e*S	**Sn**	**07 55 38.6**	**+1.0**
MEF	**Metsahovi**	**1.83**	**263**	P	**Pb**	**07 55 15.1**	**-0.2**
MEF				S	**Sn**	**07 55 38.5**	**+1.0**
SRPE	**Suurupi**	**2.11**	**242**	*e*P	**Pn**	**07 55 17.8**	**+0.3**
SRPE				*e*SG	**Sn**	**07 55 45.0**	**+0.5**
SRPE	**Suurupi**	**2.11**	**242**	P	**Pn**	**07 55 17.8**	**+0.3**
VSU	**Vasula**	**2.15**	**199**	*e*P	**Pn**	**07 55 18.5**	**+0.4**
VSU				*e*SG	**Sn**	**07 55 45.4**	**0.0**
SUF	**Sumiainen**	**2.41**	**339**	*e*P	**Pb**	**07 55 25.3**	**+0.2**
SUF				*e*SB	**Sg**	**07 55 58.3**	**0.0**
SUF				MSG		07 56 01.1	
	comp=Z,24nm,0.3s						
JOF	**Joensuu**	**2.89**	**31**	MSG		07 56 13.9	
	comp=Z,17nm,0.2s						
RAF	**Rauma**	**3.12**	**282**	MSG		07 56 22.6	
	comp=Z,8.9nm,0.3s						
AAL	**Aland**	**4.01**	**269**	*e*P	**Pn**	**07 55 44.6**	**+1.0**
AAL	**Aland**	**4.01**	**269**	P	**Pn**	**07 55 44.7**	**+1.0**
GRAU	**Graesoe**	**4.71**	**272**	*e*P	**Pn**	**07 55 53.4**	**+0.1**
GRAU	**Graesoe**	**4.71**	**272**	P	**Pn**	**07 55 53.4**	**+0.1**
NRTU	**Norrtaelje**	**4.78**	**264**	*e*P	**Pn**	**07 55 54.5**	**+0.3**
NRTU	**Norrtaelje**	**4.78**	**264**	P	**Pn**	**07 55 54.5**	**+0.3**
	baz=57						
FLYU	**Flymyra**	**5.06**	**270**	*e*P	**Pn**	**07 55 59.3**	**+1.2**
FLYU	**Flymyra**	**5.06**	**270**	P	**Pn**	**07 55 59.3**	**+1.2**
HEMU	**Hemsoen**	**5.25**	**299**	*e*P	**Pn**	**07 56 03.4**	**+2.7**
HEMU	**Hemsoen**	**5.25**	**299**	P	**Pn**	**07 56 03.4**	**+2.7**
IGGU	**Iggoen**	**5.28**	**279**	*e*P	**Pn**	**07 56 01.4**	**+0.3**
IGGU	**Iggoen**	**5.28**	**279**	P	**Pn**	**07 56 01.4**	**+0.3**
NYNU	**Nynaeshamn**	**5.29**	**258**	*e*P	**Pn**	**07 56 02.4**	**+1.2**
NYNU	**Nynaeshamn**	**5.29**	**258**	P	**Pn**	**07 56 02.4**	**+1.2**
OSTU	**Oestervaala**	**5.42**	**272**	*e*P	**Pn**	**07 56 04.2**	**+1.2**
OSTU				*e*S	**Sn**	**07 57 03.9**	**-2.1**
OSTU	**Oestervaala**	**5.42**	**272**	P	**Pn**	**07 56 04.2**	**+1.2**
OSTU				S	**Sn**	**07 57 03.9**	**-2.1**
BACU	**Backbrunna**	**5.50**	**268**	*e*P	**Pn**	**07 56 05.0**	**+1.0**
BACU				*e*S	**Sn**	**07 57 05.7**	**-2.1**
BACU	**Backbrunna**	**5.50**	**268**	P	**Pn**	**07 56 05.0**	**+1.0**
BACU				S	**Sn**	**07 57 05.7**	**-2.1**
ROTU	**Roteberg**	**6.03**	**284**	*e*P	**Pn**	**07 56 12.0**	**+0.7**
ROTU	**Roteberg**	**6.03**	**284**	P	**Pn**	**07 56 12.0**	**+0.7**
FALU	**Falun**	**6.03**	**275**	*e*P	**Pn**	**07 56 13.1**	**+1.7**
FALU	**Falun**	**6.03**	**275**	P	**Pn**	**07 56 13.1**	**+1.7**
VIKU	**Vikbolandet**	**6.11**	**256**	*e*P	**Pn**	**07 56 13.2**	**+0.7**
VIKU	**Vikbolandet**	**6.11**	**256**	P	**Pn**	**07 56 13.2**	**+0.7**
HFS	**Hagfors**	**7.13**	**273**	Pn	**Pn**	**07 56 27.1**	**+0.6**
	baz=107,slow=16						
HFS				Sn	**Sn**	**07 57 45.2**	**-3.0**
	baz=83,slow=28						
HFS				Lg	Lg	07 58 23.0	
	baz=85,slow=37						
HFS	**Hagfors**	**7.13**	**273**	Pn	**Pn**	**07 56 27.1**	**+0.6**
	baz=107,slow=14,SNR=9.2						
HFS	**Hagfors**	**7.13**	**273

JNBK				S	**S**	**09 28 09.8**	**0.0**			
JHR	**Hokuryu**	**3.27**	**37**	P	**Pn**	**09 27 34.4**	**+1.0**			
JFR	**Furan**	**3.33**	**52**	P	**Pn**	**09 27 34.5**	**+0.4**			
JCH	**Churui**	**3.55**	**64**	P	**Pn**	**09 27 36.6**	**-0.1**			
JCH				S	**S**	**09 28 19.0**	**-2.2**			
ASAJ	**Asahikawa**	**3.97**	**40**	P	**Pn**	**09 27 41.9**	**+0.2**			
	10nm,0.3s,baz=217,slow=10,SNR=141									
ASAJ				S	**S**	**09 28 29.0**	**-1.3**			
	1.3nm,0.3s,baz=210,slow=20,SNR=7.1									
MJAR	**Matsushiro Arr**	**4.64**	**188**	P	**Pn**	**09 27 50.5**	**+0.3**			
	0.7nm,0.3s,baz=0.0,slow=14,SNR=7.4									
USRK	**Ussuriysk Arra**	**6.02**	**303**	P	**Pn**	**09 28 07.2**	**-0.2**			
	0.2nm,0.3s,baz=113,slow=14,SNR=6.7									
ZALV	**Zalesovo Beam**	**37.84**	**309**	P	**P**	**09 33 34.4**	**-0.8**			
	0.8nm,0.6s,baz=86,slow=9.4,SNR=3.9									
KURBB	**Kurchatov Arra**	**42.08**	**304**	P	**P**	**09 34 09.1**	**-0.9**			
	1.4nm,0.6s,baz=80,slow=9.0,SNR=11									
ILAR	**Eielson Array**	**47.08**	**34**	P	**P**	**09 34 49.7**	**+0.4**			
	0.7nm,0.9s,baz=272,slow=6.2,SNR=6.8									
INK	**Inuvik**	**51.61**	**28**	P	**P**	**09 35 23.9**	**+0.5**			
	1.7nm,1.2s,baz=282,slow=5.9,SNR=6.7									
WRA	**Warramunga Arr**	**60.93**	**185**	P	**P**	**09 36 29.0**	**-0.8**			
	0.4nm,0.5s,baz=4.3,slow=7.3,SNR=11									
NVAR	**Mina Array Bea**	**74.00**	**53**	P	**P**	**09 37 53.5**	**+1.8**			
	0.3nm,0.5s,baz=287,slow=4.6,SNR=3.0									
PDAR	**Pinedale Array**	**76.09**	**45**	P	**P**	**09 38 04.4**	**+0.8**			
	0.4nm,0.5s,baz=11,slow=0.8,SNR=3.7									
TXAR	**Lajitas Array**	**89.03**	**51**	P	**P**	**09 39 10.2**	**-0.1**			
	0.1nm,0.7s,baz=292,slow=4.8,SNR=2.5									

MEX 06 09:42:44.8±0.4, 19°18N×96°27W, h16km±8km, MD3.5, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.56**	**345**	*i* P	Pg	09 42 53.9	-2.0
LVIG				*e*S	Sg	09 43 01.5	-1.9
TPIG	**Tehuac#an**	**1.28**	**234**	*e*P	Pn	09 43 04.6	-3.7
TPIG				*e*S	Sb	09 43 20.0	-5.3
UTMO	**Huajuapan**	**1.98**	**228**	*e*P	Pn	09 43 15.2	-2.7
UTMO				*i* S	Sn	09 43 37.8	-4.9
VHO	**Vista Hermosa**	**2.14**	**192**	*e*P	Pn	09 43 16.9	-3.3
VHO				*i* S	Sn	09 43 41.6	-5.1

*ISCJB **06** 09:52:44.5±0.6,26°20S±0°03×28°17E±0°03, h5km±3km, mb3.8/1, Error ellipse: s-maj=5.3km s-min=4.4km az=6.4*
*PRE **06** 09:52:45.5±3.2,26°22S×28°11E, h2km, ML3.0*
*IDC **06** 09:52:48.0±3.5,26°08S×27°48E, h0km, mb3.7/1, mb1 3.4/2, mb1mx3.2/25, mbtmp3.4/2, ML3.0/1, Error ellipse: s-maj=99.8km s-min=19.1km az=114.0*

ISC 06 09:52:44.8±1.5, 26°17S±0°03×27°99E±0°04, h0km±12km, n15, σ1§38/26, 1C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBSV	**Observatory**	**0.07**	**101**	⇑*i* P	**Pg**	**09 52 46.8**	**+0.5**
OBSV				*e*S	**Sg**	**09 52 47.9**	**+0.6**
OBSV				AML	AML	09 52 48.5	
	comp=Z,27µm,0.5s						
ERPM	**east rand prop**	**0.28**	**128**	⇓*i* P	Pg	09 52 47.6	-2.7
ERPM				*e*S	Sg	09 52 49.0	-4.9
ERPM				AML	AML	09 52 49.7	
	comp=Z,12µm,0.5s						
KLOF	**Kloof**	**0.39**	**242**	*e*P	**Pb**	**09 52 54.7**	**0.0**
KLOF				*e*S	**Sb**	**09 53 00.9**	**-0.3**
KLOF				AML	AML	09 53 02.0	
	comp=Z,835nm,0.2s						
SLR	**Silverton**	**0.51**	**31**	*e*P	**Pg**	**09 52 54.4**	**-0.2**
SLR				*e*S	**Sg**	**09 53 01.3**	**+0.2**
SLR				AML	AML	09 53 05.9	
	comp=Z,2µm,0.6s						
PRYS	**Parys**	**0.94**	**217**	*e*P	**Pb**	**09 53 03.6**	**-0.6**
PRYS				*e*S	**Sn**	**09 53 19.1**	**-0.6**
PRYS				AML	AML	09 53 25.8	
	comp=Z,186nm,0.7s						
KSR	**Koster**	**1.04**	**288**	*e*P	**Pn**	**09 53 07.5**	**+0.7**
KSR				*e*S	**Sn**	**09 53 25.8**	**+3.7**
KSR				AML	AML	09 53 26.9	
	comp=Z,113nm,0.2s						
SEK	**Senekal**	**2.17**	**189**	*e*P	**Pn**	**09 53 23.7**	**+1.4**
SEK				*e*S	**Sn**	**09 53 49.0**	**-1.0**
SEK				AML	AML	09 53 52.0	
	comp=Z,103nm,0.3s						
LBTB	**Lobatse**	**2.45**	**298**	*e*P	**Pb**	**09 53 29.1**	**-0.7**
LBTB				*e*S	**Sb**	**09 53 59.9**	**-0.8**
LBTB				AML	AML	09 54 05.3	
	comp=Z,130nm,0.4s						
SWZ	**Schweizer**	**2.58**	**246**	*e*P	**Pn**	**09 53 29.0**	**+0.9**
SWZ				*e*S	**Sb**	**09 54 02.5**	**-2.1**
SWZ				AML	AML	09 54 09.6	
	comp=Z,92nm,0.3s						
BOSA	**Boshof**	**3.44**	**224**	*e*P	**Pn**	**09 53 40.2**	**+0.4**
BOSA				*e*S	**Sn**	**09 54 18.6**	**-2.8**
BOSA				AML	AML	09 54 36.8	
	comp=Z,34nm,0.5s						
BOSA	**Boshof**	**3.44**	**224**	Pn	**Pn**	**09 53 39.2**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=44,slow=15,SNR=24						
BOSA				Pg	**Pb**	**09 53 45.6**	**-1.1**
	comp=Z,2.4nm,0.3s,baz=48,slow=17,SNR=18						
BOSA				Lg	Lg	09 54 31.1	
	comp=Z,9.4nm,0.3s,baz=322,slow=14,SNR=13						
MSNA	**Messina**	**4.24**	**26**	*e*P	**Pn**	**09 53 49.9**	**-0.7**
MSNA				*e*S	**Sn**	**09 54 39.4**	**-1.5**
MSNA				AML	AML	09 54 57.2	
	comp=Z,42nm,0.6s						
KSD	**Kokstad**	**4.53**	**164**	*e*P	**Pn**	**09 53 55.8**	**+1.0**
KSD				*e*S	**Sn**	**09 54 48.3**	**0.0**
KSD				AML	AML	09 55 10.5	
	comp=Z,9.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**46.71**	**324**	P	**P**	**10 01 15.9**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=142,slow=7.4,SNR=7.2						
NVAR	**Mina Array Bea**	**149.17**	**302**	PKPbc	**PKPbc**	**10 12 37.6**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=87,slow=3.2,SNR=8.4						

IDC 06 10:01:50.2±3.0, 1°99S×133°86E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=127.8km s-min=25.8km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.85**	**179**	P	Pn	10 05 59.3	-0.9
	0.1nm,0.3s,baz=356,slow=12,SNR=12						
FITZ	**Fitzroy Crossi**	**17.93**	**206**	P	Pn	10 06 01.0	-0.1
	0.2nm,0.3s,baz=49,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**21.55**	**180**	P	**P**	10 06 41.8	+0.5
	0.9nm,0.7s,baz=6.6,slow=13,SNR=13						
MKAR	**Makanchi Array**	**66.31**	**324**	P	**P**	10 12 40.6	0.0
	0.4nm,0.6s,baz=131,slow=6.2,SNR=1.9						

KRSC 06 10:16:29.2±4.0, 54°94N×162°27E, h21km±21km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.50**	**219**	*e*P	Pn	10 16 41.3	+0.3
MKZ				*i* S	Sn	10 16 49.3	+0.4
KZV	**Kizimen**	**1.15**	**279**	*e*P	Pb	10 16 50.8	+0.2
KZV				*i* S	Sb	10 17 05.0	-0.2
TUMR	**Tumrok**	**1.27**	**287**	*e*P	Pb	10 16 52.9	+0.4
TUMR				*i* S	Sb	10 17 09.2	+0.7
KBTR	**Krutoberegovo**	**1.31**	**14**	*e*P	Pb	10 16 53.3	+0.2
KBTR				*i* S	Sb	10 17 10.6	+1.2
KBG	**Krutoberegovo**	**1.34**	**10**	*e*P	Pb	10 16 56.5	+2.9
KBG				*i* S	Sb	10 17 16.2	+5.9
BZGR	**Bezymyannyi-Gr**	**1.34**	**319**	*e*P	Pb	10 16 54.1	+0.3
BZGR				*i* S	Sb	10 17 11.3	+0.6
ZLN	**Zelenaya**	**1.36**	**323**	*e*P	Pb	10 16 54.2	0.0
ZLN				*i* S	Sb	10 17 12.0	+0.7
KMNR	**Kamenistaya**	**1.42**	**306**	*e*P	Pb	10 16 55.5	+0.4
KMNR				*i* S	Sb	10 17 14.4	+1.5
BZMR	**Bezymyannaya**	**1.42**	**315**	*e*P	Pb	10 16 54.9	-0.3
BZWR	**Bezymyannyi-We**	**1.44**	**316**	*e*P	Pb	10 16 55.9	+0.4
KPT	**Kopyto**	**1.56**	**312**	*e*P	Pb	10 16 59.2	+1.8
KRSR	**Krestovskiy**	**1.60**	**324**	*e*P	Pb	10 16 57.4	-0.9
KRSR				*i* S	Sb	10 17 17.8	-0.4
KLY	**Klyuchi**	**1.65**	**327**	*e*P	Pb	10 16 58.1	-0.8
KLY				*i* S	Sb	10 17 18.9	-0.4
SMKR	**Semkarok**	**1.71**	**345**	*e*P	Pb	10 16 59.7	-0.3
BDR	**Baidarnaya**	**1.74**	**340**	*e*P	Pb	10 17 02.0	+1.5
KOZ	**Kozyrevsk**	**1.77**	**310**	*e*P	Pb	10 17 00.5	-0.4
KOZ				*i* S	Sb	10 17 23.0	+0.4
SRKR	**Sorokina**	**1.83**	**341**	*e*P	Pb	10 17 01.6	-0.4
SRDR	**Sredinnyy**	**2.00**	**315**	*e*P	Pb	10 17 05.2	+0.3
ESO	**Esso**	**2.26**	**297**	*e*P	Pb	10 17 07.6	-1.7
ESO				*i* S	Sb	10 17 35.3	-1.6
SPN	**Mys Shipunski**	**2.27**	**217**	*e*P	Pn	10 17 05.9	+0.4
SPN				*i* S	Sn	10 17 31.8	-1.0
NLC	**Nalytchevo**	**2.47**	**225**	*e*P	Pn	10 17 09.9	+1.7
NLC				*i* S	Sn	10 17 39.4	+1.7
SDLR	**Sedlovina**	**2.60**	**232**	*e*P	Pb	10 17 12.8	-2.4
SDLR				*i* S	Sb	10 17 44.4	-2.3
KRER	**Koryakskii**	**2.64**	**233**	*e*P	Pb	10 17 13.8	-2.2
SMAR	**Somma**	**2.65**	**232**	*e*P	Pb	10 17 13.6	-2.5
KRX	**Arik**	**2.65**	**235**	*e*P	Pb	10 17 14.0	-2.2
UGLR	**Uglovaya**	**2.67**	**231**	*e*P	Pb	10 17 13.8	-2.6
AVH	**Avacha**	**2.67**	**233**	*e*P	Pn	10 17 13.7	+2.6
KOK	**Koryaka**	**2.70**	**234**	*e*P	Pb	10 17 14.3	-2.6
GNL	**Ganaly**	**2.83**	**246**	*e*P	Pn	10 17 15.9	+2.7
PET	**Petropavlovsk**	**2.87**	**230**	*e*P	Pb	10 17 16.7	-3.0
PET				*i* S	Sn	10 17 50.5	+3.0
RUS	**Russkaya**	**3.36**	**223**	*e*P	Pn	10 17 22.4	+2.0
GRL	**Gorelyy**	**3.45**	**228**	*e*P	Pn	10 17 22.5	+0.6
MTVR	**Mutnovka**	**3.46**	**226**	*e*P	Pn	10 17 24.9	+3.0
APC	**Apacha**	**3.63**	**238**	*e*P	Pn	10 17 27.8	+3.7
ASAK	**Asacha**	**3.65**	**227**	*e*P	Pn	10 17 28.5	+4.0

*ISCJB **06** 10:19:45.7±0.3, 37°26N±0°03×72°13E±0°06, h130km, mb3.5/13, Error ellipse: s-maj=6.8km s-min=3.4km az=168.3*
*IDC **06** 10:19:47.6±3.4, 37°27N×71°91E, h123km±30km, mb3.4/12, mb1 3.5/15, mb1mx3.4/31, mbtmp3.4/15, Error ellipse: s-maj=21.2km s-min=16.4km az=171.0*
*NNC **06** 10:19:57.5±2.0, 38°24N×71°71E, h186km±17km, mb3.3, mpv4.2, Error ellipse: s-maj=17.1km s-min=10.1km az=11.0*

ISC 06 10:19:47.3±0.6, 37°29N±0°05×72°18E±0°07, h130km, n59, σ1§84/63, mb3.5/13, 6C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.46**	**184**	P	**Pn**	**10 20 41.4**	**+1.3**
CEP				S	**Sn**	**10 21 22.0**	**+1.1**
AML	**Almayashu**	**4.98**	**13**	P	**Pn**	**10 21 00.5**	**+0.1**
	SNR=92						
UCH	**Uchtor**	**5.25**	**19**	P	**Pn**	**10 21 04.9**	**+0.7**
	SNR=20						
KZA	**Kyzart**	**5.34**	**25**	P	**Pn**	**10 21 06.2**	**+1.0**
	SNR=16						
EKS2	**Erkin-Say**	**5.51**	**12**	P	**Pn**	**10 21 07.8**	**+0.6**
	SNR=95						
AAK	**Ala-Archa**	**5.63**	**18**	P	**Pn**	**10 21 10.0**	**+1.0**
	SNR=21						
AAK	**Ala-Archa**	**5.63**	**18**	P	**Pn**	**10 21 10.0**	**+1.0**
	8.7nm,0.3s,baz=177,slow=6.0,SNR=103						
AAK				S	**Sn**	**10 22 11.7**	**-0.8**
	4.5nm,0.3s,baz=357,slow=14,SNR=18						
KBK	**Karagaybulak**	**5.77**	**21**	P	**Pn**	**10 21 11.8**	**+1.0**
	SNR=8.9						
ULHL	**Ulahol**	**5.86**	**31**	P	**Pn**	**10 21 14.0**	**+2.0**
	SNR=9.3						
KK31	**Karatay Array**	**5.95**	**348**	⇓P	**Pn**	**10 21 11.0**	**-2.1**
	21nm,0.3s,baz=166,slow=10,SNR=712						
KK31				⇑S	Sn	10 22 09.3	-11
	20nm,0.4s,baz=167,slow=21,SNR=14						
CHMS	**Chumysh**	**6.04**	**18**	P	**Pn**	**10 21 15.2**	**+0.9**
	SNR=24						
TKM2	**Tokmak 2**	**6.21**	**24**	P	**Pn**	**10 21 17.9**	**+1.2**
	SNR=19						
TKM2	**Tokmak 2**	**6.21**	**24**	⇓P	**Pn**	**10 21 17.8**	**+1.1**
	8.1nm,0.6s						
TKM2				⇑S	**Sn**	**10 22 22.9**	**-3.7**
	31nm,0.8s						
USP	**Ospenovka**	**6.23**	**16**	P	**Pn**	**10 21 17.3**	**+0.4**
	SNR=12						
BHK	**Bhakra**	**6.82**	**148**	*e*S	**Sn**	**10 22 38.4**	**-2.8**
SDNR	**Sundarnagar**	**7.00**	**144**	*e*P	**Pn**	**10 21 29.0**	**+1.7**
SDNR				*e*		10 22 45.0	
SMLA	**Simla**	**7.40**	**145**	*i* P	**Pn**	**10 21 32.4**	**-0.3**
SMLA				*i*		10 22 51.3	
KALG	**Kalgarh**	**9.50**	**143**	*e*	Pn	10 22 11.4	+10
KALG				*e*		10 23 23.8	
KALG				AML	AML	10 23 33.7	
	comp=E,109nm,0.7s						
NDI	**New Delhi**	**9.56**	**152**	*e*P	**Pn**	**10 22 01.5**	**-0.3**
NDI				*e*		10 23 43.0	
KHET	**Khetri**	**9.68**	**161**	*e*P9	**Pn**	**10 22 02.8**	**-0.6**
KHET				*e*S	Sn	10 23 43.2	-7.2
KHET				AML	AML	10 23 46.8	
	comp=E,167nm,0.5s						
KHET				AML	AML	10 23 48.6	
	comp=N,105nm,0.4s						
AYAN	**Aya Nagar**	**9.71**	**153**	*e*P	**Pn**	**10 22 03.8**	**0.0**
AYAN				*e*		10 23 43.2	
KUDL	**Kundal**	**9.81**	**157**	*e*	**Pn**	**10 22 03.2**	**-1.9**
KUDL				*e*S	**Sn**	**10 23 48.5**	**-4.9**
KUDL				AML	AML	10 23 53.9	
	comp=E,29nm,0.5s						
KUDL				AML	AML	10 23 55.0	
	comp=N,15nm,0.3s						
AGRA	**Agra**	**11.14**	**152**	*e*P	**Pn**	**10 22 20.6**	**-2.4**
AGRA				*e*S	Sn	10 24 01.1	-25
AGRA				AML	AML	10 25 02.3	
	comp=N,129nm,0.7s						
AGRA				AML	AML	10 25 04.7	
	comp=E,108nm,0.9s						
MK31	**Makanchi Array**	**12.10**	**35**	⇓P	**Pn**	**10 22 36.6**	**+1.2**
	comp=E,2.3nm,0.9s,baz=222,slow=16,SNR=4.9						
MK31				⇓S	**Sn**	**10 24 47.3**	**-1.4**
	comp=E,1.7nm,0.8s						
MKAR	**Makanchi Array**	**12.10**	**35**	P	**Pn**	**10 22 36.7**	**+1.3**
	comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=6.4						
PYUN	**Piuthan**	**12.90**	**132**	*e*P	**Pn**	**10 22 45.0**	**-1.1**
DANN	**Dangsing**	**13.19**	**129**	*e*P	**Pn**	**10 22 48.5**	**-1.4**
	comp=E,62nm,0.4s						
DANN				*e*S	Sn	10 25 06.1	-9.5
KOLN	**Koldanda**	**13.51**	**131**	*e*P	**Pn**	**10 22 52.8**	**-1.2**
	comp=E,38nm,0.5s						
GKN	**Gorkha**	**13.98**	**128**	*e*P	**Pn**	**10 22 58.9**	**-1.0**
	comp=E,66nm,0.7s						
KURBB	**Kurchatov Arra**	**14.09**	**17**	P	**Pn**	**10 22 58.9**	**-2.0**
	comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=3.7						
KKN	**Kakani**	**14.54**	**127**	*e*P	**Pn**	**10 23 05.3**	**-1.7**
DMN	**Daman**	**14.55**	**128**	*e*P	**Pn**	**10 23 06.2**	**-1.1**
	comp=E,55nm,0.8s						
PKIN	**Phulchoki**	**14.76**	**127**	*e*P	**Pn**	**10 23 08.4**	**-1.5**
	comp=E,24nm,0.5s						
PKI	**Pulchoki**	**14.77**	**127**	*e*P	**Pn**	**10 23 08.7**	**-1.4**
	comp=E,54nm,0.8s						
GUN	**Gumba**	**14.84**	**125**	*e*P	**Pn**	**10 23 09.3**	**-1.7**
	comp=E,77nm,0.9s						
AB31	**Akbulak array**	**14.90**	**327**	P	Pn	10 23 06.0	-5.2
	comp=E,13nm,0.9s,baz=141,slow=13,SNR=57						
AB31				⇑S	Sn	10 25 38.3	-18
	comp=E,4.9nm,0.6s,baz=130,slow=24,SNR=4.2						
JIRN	**Jiri**	**15.21**	**125**	*e*P	**Pn**	**10 23 14.5**	**-1.2**
	comp=E,75nm,0.4s						
BVA0	**Borovoye Array**	**15.79**	**356**	⇓P	**Pn**	**10 23 19.2**	**-3.1**
	comp=E,2.3nm,0.9s,baz=163,slow=14,SNR=12						
BVA0				⇑S	Sn	10 26 03.1	-14
	comp=E,2.6nm,1.0s,baz=163,slow=25,SNR=4.0						
BVAR	**Borovoye Array**	**15.79**	**356**	*i* P	**Pn**	**10 23 19.3**	**-2.9**
	comp=E,0.6nm,0.3s,baz=159,slow=11,SNR=11						
BVAR				S	Sn	10 26 06.8	-11
	comp=E,0.1nm,0.3s,baz=166,slow=24,SNR=5.2						
BRVK	**Borovoye**	**15.83**	**356**	⇓P	**Pn**	**10 23 19.5**	**-3.2**
	comp=E,3.6nm,0.8s						
BRVK				⇓S	Sn	10 26 03.1	-15
	comp=E,3.0nm,0.6s						
RAMN	**Ramite**	**15.96**	**126**	*e*P	**Pn**	**10 23 24.1**	**-0.7**
	comp=E,48nm,0.5s						
TAPN	**Taplejung**	**16.42**	**123**	*e*P	**Pn**	**10 23 29.8**	**-0.8**
	comp=E,35nm,0.6s						
ODAN	**Odare**	**16.54**	**125**	*e*P	**Pn**	**10 23 31.9**	**0.0**
	comp=E,41nm,0.6s						
AKTO	**Aktyubinsk**	**16.61**	**327**	P	**Pn**	**10 23 29.1**	**-3.2**
	comp=E,1.7nm,0.3s,baz=133,slow=13,SNR=24						
AKTO				S	Sn	10 26 17.7	-19
	comp=E,0.1nm,0.3s,baz=350,slow=16,SNR=3.8						
AKTO	**Aktyubinsk**	**16.61**	**327**	⇑P	**Pn**	**10 23 28.8**	**-3.5**
	comp=E,17nm,0.9s						
AKTO				⇑S	Sn	10 26 20.5	-17
	comp=E,4.4nm,0.9s						
ZALV	**Zalesovo Beam**	**18.81**	**24**	P	**Pn**	**10 23 58.1**	**-0.5**
	comp=E,0.3nm,0.3s,baz=220,slow=11,SNR=10						
KBZ	**Khabaz**	**23.10**	**295**	P	**P**	**10 24 45.1**	**+3.5**
	comp=E,1.3nm,0.7s,baz=127,slow=5.1,SNR=3.0						
SONM	**Songino Array**	**27.11**	**56**	P	**P**	**10 25 21.8**	**+3.8**
	comp=E,0.2nm,0.4s,baz=261,slow=7.2,SNR=2.7						
BRTR	**Keskin Array B**	**30.11**	**287**	P	**P**	**10 25 44.3**	**-0.4**
	comp=E,0.7nm,0.7s,baz=96,slow=11,SNR=4.8						
MLR	**Muntele Rosu**	**35.23**	**298**	P	**P**	**10 26 29.4**	**+0.2**
	comp=E,0.4nm,0.9s,baz=135,slow=16,SNR=2.5						
FINES	**FINESS Array B**	**37.37**	**325**	P	**P**	**10 26 47.1**	**+0.1**
	comp=E,1.2nm,0.3s,baz=120,slow=9.2,SNR=24						
ARCES	**ARCESS Array B**	**40.79**	**337**	P	**P**	**10 27 15.6**	**+0.2**
	comp=E,0.9nm,0.4s,baz=117,slow=8.5,SNR=17						
HFS	**Hagfors**	**43.04**	**321**	P	**P**	**10 27 33.6**	**-0.2**
	comp=E,1.6nm,0.4s,baz=98,slow=11,SNR=16						
NOA	**NORSAR Array B**	**44.33**	**322**	P	**P**	**10 27 43.2**	**-0.9**
	comp=E,0.7nm,0.8s,baz=105,slow=6.9,SNR=2.6						
KMBO	**Kilima Mbogo**	**50.06**	**228**	P	**P**	**10 28 29.6**	**+0.4**
	comp=E,0.8nm,0.4s,baz=33,slow=15,SNR=7.0						
TORD	**Torodi Ar. Bea**	**66.68**	**269**	P	**P**	**10 30 23.0**	**-1.5**
	comp=E,0.5nm,0.5s,baz=54,slow=6.0,SNR=8.9						
INK	**Inuvik**	**72.97**	**10**	P	**P**	**10 31 03.8**	**+1.7**
	comp=E,1.2nm,0.9s,baz=338,slow=5.8,SNR=4.8						
YKA	**Yellowknife Ar**	**80.41**	**3**	P	**P**	**10 31 44.9**	**+1.0**
	comp=E,0.5nm,0.6s,baz=347,slow=5.4,SNR=5.8						
WRA	**Warramunga Arr**	**81.61**	**123**	P	**P**	**10 31 52.4**	**+1.4**
	comp=E,0.3nm,0.8s,baz=327,slow=5.2,SNR=5.6						
WRA				pP	**pP**	**10 32 27.0**	**+3.3**
	comp=E,0.3nm,0.6s,baz=323,slow=5.2,SNR=2.8						

*ISCJB **06** 10:24:44.0±0.9, 13°48N±0°08×91°71W±0°08, h28km, mb3.9/7, MS3.1/1, Error ellipse: s-maj=13.0km s-min=9.0km az=38.4*
*IDC **06** 10:24:52.7±3.3, 13°79N×91°39W, h77km±26km, mb3.6/7, mb1 3.7/10, mb1mx3.5/27, mbtmp3.5/10, MS3.3/1, Ms1 3.3/1, ms1mx2.6/25, Error ellipse: s-maj=41.9km s-min=27.9km az=46.0*

ISC 06 10:24:47.6±1.2, 13°54N±0°09×91°7W±0°1, h28km, n12, σ1§45/11, mb3.9/7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.91**	**40**	P	**Pn**	**10 25 17.7**	**-0.8**
	59nm,0.3s,baz=202,slow=9.6,SNR=140						
APG				S	**Sn**	**10 25 43.6**	**+1.8**
	13nm,0.3s,baz=275,slow=21,SNR=3.6						
JTS	**JuntasAbangare**	**7.38**	**115**	P	**Pn**	**10 26 35.2**	**+1.6**
	0.2nm,0.3s,baz=292,slow=19,SNR=2.0						
JTS				S	**Sn**	**10 27 54.2**	**-2.3**
	0.3nm,0.3s,baz=288,slow=20,SNR=1.4						
JTS				Lg	Lg	10 28 35.7	
	0.1nm,0.3s,baz=287,slow=19,SNR=2.4						
TEIG	**Tepich**	**7.43**	**26**	P	**Pn**	**10 26 34.3**	**+0.1**
	5.1nm,0.3s,baz=339,slow=22,SNR=30						
TEIG				S	**Sn**	**10 27 57.9**	**+0.3**
	baz=311,slow=20,SNR=1.8						
TXAR	**Lajitas Array**	**19.22**	**327**	P	**P**	**10 29 09.6**	**-0.1**
	0.0nm,0.3s,baz=152,slow=11,SNR=9.0						
TKL	**Tuckaleechee C**	**23.16**	**17**	P	**P**	**10 29 50.1**	**-1.8**
	3.5nm,0.8s,baz=181,slow=14,SNR=4.0						
TKL				LR	LR	10 39 31.1	
	comp=Z,71nm,20.1s,baz=351,slow=38						
ANMO	**Albuquerque**	**25.13**	**331**	P	**P**	**10 30 11.7**	**+1.2**
	1.3nm,0.7s,baz=141,slow=9.8,SNR=9.0						
NVAR	**Mina Array Bea**	**34.19**	**321**	P	**P**	**10 31 30.7**	**-0.3**
	0.7nm,0.8s,baz=129,slow=8.3,SNR=5.3						
SCHQ	**Schefferville**	**45.57**	**20**	P	P	10 33 01.4	-3.6
	3.3nm,0.6s,baz=236,slow=9.3,SNR=6.1						
YKA	**Yellowknife Ar**	**51.53**	**347**	P	P	10 33 48.5	-2.2
	1.2nm,0.6s,baz=148,slow=7.5,SNR=12						
INK	**Inuvik**	**60.95**	**344**	P	P	10 34 55.8	-2.0
	1.3nm,0.8s,baz=140,slow=8.7,SNR=5.7						
ILAR	**Eielson Array**	**63.36**	**337**	P	P	10 35 12.8	-1.2
	0.4nm,0.8s,baz=91,slow=7.3,SNR=7.6						
CMAR	**Chiang Mai Arr**	**146.51**	**341**	PKPbc	**PKPdf**	**10 44 25.7**	**-0.2**
	0.9nm,0.6s,baz=343,slow=4.4,SNR=5.0						

*IDC **06** 10:25:27.2±1.1, 33°01N×88°68E, h0km, mb3.3/5, mb1 3.3/7, mb1mx3.3/28, mbtmp3.2/7, ML2.6/1, Error ellipse: s-maj=47.0km s-min=19.5km az=58.0*
*ISCJB **06** 10:25:31.2±0.9, 33°2N±0°1×88°8E±0°2, h33km

0.7nm,0.5s,baz=141,slow=1.4,SNR=5.9
ARCES ARCESS Array B 129.13 349 PKP **PKPdf 10 47 52.6 -0.8**
2.3nm,0.9s,baz=347,slow=3.7,SNR=5.5
FINES FINESS Array B 135.90 343 PKP **PKPdf 10 48 07.2 +1.0**
9.1nm,1.2s,baz=20,slow=6.1,SNR=4.3
FINES SKPbc **SKiKP 10 50 41.1 -3.1**
4.2nm,1.1s,baz=72,slow=4.5,SNR=3.8
HFS Hagfors 139.77 350 PKhKP PKPpre 10 48 06.6
4.3nm,1.0s,baz=82,slow=3.1,SNR=5.0
AKASG Malin Array Be 142.94 330 PKhKP PKPpre 10 48 16.6
6.5nm,0.6s,baz=43,slow=4.3,SNR=29
BRTR Keskin Array B 146.49 311 PKPbc **PKPbc 10 48 28.4 -0.3**
1.5nm,0.6s,baz=133,slow=4.8,SNR=8.7
MMAI Mount Meron Ar 147.30 299 PKPbc **PKPbc 10 48 31.9 +0.9**
1.8nm,0.4s,baz=77,slow=3.8,SNR=4.3
MLR Muntele Rosu 148.09 326 PKPbc **PKPbc 10 48 32.2 -0.4**
0.6nm,0.8s,baz=304,slow=3.6,SNR=3.2
GERES GERESS Array B 150.33 343 PKPbc **PKPbc 10 48 37.6 -0.3**
1.3nm,0.8s,baz=29,slow=3.0,SNR=11
DAVOX Davos/Dischmat 153.19 347 PKPbc **PKPbc 10 48 44.2 -0.1**
1.5nm,0.5s,baz=349,slow=5.2,SNR=4.0

*ISCJB **06** 10:31:12.6±0.6,25.°14N±0.°07×123.°17E±0.°06, h145km±6km, mb3.3/6, Error ellipse: s-maj=13.7km s-min=7.0km az=146.1*
*JMA **06** 10:31:14.6±0.3,24.°96N×123.°16E, h144km±4km, M3.6*
*IDC **06** 10:31:27.1±6.2,25.°26N×123.°24E, h286km±73km, mb2.9/6, mb1 3.1/7, mb1mx2.9/27, mbtmp2.9/7, Error ellipse: s-maj=32.9km s-min=15.8km az=64.0*
ISC 06 10:31:13.9±0.8,25.°14N±0.°09×123.°15E±0.°07, h140km±10km, n24, σ0.86/31, mb3.4/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.68**	**191**	P			**Pn**	**10 31 35.5**	**+0.3**
YOJ				S			**Sn**	**10 31 51.4**	**0.0**
IRIF	**Iriomote-Funau**	**0.95**	**146**	P			**Pn**	**10 31 37.1**	**-0.2**
IRIF				S			**Sn**	**10 31 54.2**	**-0.9**
JIJ	**Ishigaki jima**	**1.18**	**130**	P			**Pn**	**10 31 39.2**	**-0.2**
JIJ				S			**Sn**	**10 31 57.1**	**-1.8**
JKRS	**Kuro-shima**	**1.19**	**139**	P			**Pn**	**10 31 39.6**	**+0.1**
JKRS				S			**Sn**	**10 31 58.3**	**-0.6**
HATJ	**Hateruma jima**	**1.23**	**151**	P			**Pn**	**10 31 40.0**	**+0.1**
HATJ				S			**Sn**	**10 31 59.6**	**0.0**
JTJ	**Tarama**	**1.49**	**109**	P			**Pn**	**10 31 42.9**	**+0.3**
JTJ				S			**Sn**	**10 32 04.4**	**-0.1**
JMJ	**Miyako jima 2**	**1.97**	**99**	P			**Pn**	**10 31 49.1**	**+1.1**
JMJ				S			**Sn**	**10 32 14.1**	**-0.1**
JOGS	**Gusukube**	**2.08**	**100**	P			**Pn**	**10 31 50.4**	**+1.0**
JOGS				eS			**Sn**	**10 32 16.7**	**+0.1**
JKE	**Kume jima 2**	**3.48**	**69**	P			**Pn**	**10 32 07.3**	**+0.2**
JKE				S			**Sn**	**10 32 48.9**	**+0.5**
JAGN	**Aguni-jima**	**3.96**	**68**	P			**Pn**	**10 32 13.3**	**0.0**
JAGN				S			**Sn**	**10 33 00.1**	**+0.6**
JJT2	**Tamagusuku 2**	**4.27**	**75**	P			**Pn**	**10 32 17.4**	**0.0**
JJT2				S			Sn	10 33 00.1	-6.7
JIH	**Iheya**	**4.72**	**65**	P			**Pn**	**10 32 22.9**	**-0.6**
JOW	**Kunigami**	**4.91**	**69**	P			**Pn**	**10 32 24.7**	**-1.3**
JTK	**Tokunoshima**	**5.83**	**62**	P			**Pn**	**10 32 36.4**	**-1.8**
JAMN	**Amaminishikomi**	**6.21**	**59**	P			Pn	10 32 41.2	-2.1
JAM	**Amami Oshima**	**6.63**	**59**	P			Pn	10 32 46.3	-2.6
JMZ	**Minamidaito 2**	**7.32**	**83**	P			Pn	10 32 55.1	-3.2
JMZ				eS			Sn	10 34 10.8	-9.2
KSRS	**Korea Array**	**12.94**	**17**	P			**P**	**10 34 18.9**	**+1.2**
	0.2nm,0.3s,baz=197,slow=12,SNR=4.3								
CMAR	**Chiang Mai Arr**	**23.42**	**250**	P			**P**	**10 36 12.2**	**+1.7**
	0.4nm,0.3s,baz=66,slow=9.0,SNR=2.9								
SONM	**Songino Array**	**26.25**	**334**	P			**P**	**10 36 36.3**	**+0.3**
	0.2nm,0.5s,baz=150,slow=9.5,SNR=2.7								
MKAR	**Makanchi Array**	**38.93**	**314**	P			**P**	**10 38 25.3**	**-0.8**
	0.7nm,0.4s,baz=98,slow=9.5,SNR=15								
ZALV	**Zalesovo Beam**	**40.45**	**326**	P			**P**	**10 38 37.0**	**-1.4**
	0.3nm,0.4s,baz=87,slow=8.8,SNR=2.5								
WRA	**Warramunga Arr**	**46.11**	**165**	P			**P**	**10 39 23.7**	**-0.5**
	0.7nm,0.5s,baz=348,slow=8.6,SNR=5.5								
ASAR	**Alice Springs**	**49.62**	**167**	P			**P**	**10 39 51.1**	**-0.1**
	0.5nm,0.8s,baz=352,slow=14,SNR=4.6								

*IDC **06** 10:41:32.6±1.8, 17.°98S×167.°24E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=45.2km s-min=26.6km az=113.0*
*ISCJB **06** 10:41:34.3±1.5, 18.°00S±0.°08×167.°1E±0.°2, h20km, mb3.5/5, Error ellipse: s-maj=33.6km s-min=12.0km az=179.3*
ISC 06 10:41:35.8±1.6, 18.°0S±0.°1×167.°2E±0.°3, h20km, n6, σ1.9/07/7, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.12**	**190**	Pn			**Pn**	**10 42 38.0**	**+0.3**
	1.0nm,0.3s,baz=14,slow=19,SNR=23								
DZM							Sn	**10 43 25.2**	**-0.2**
	2.0nm,0.3s,baz=322,slow=23,SNR=5.7								
STKA	**Stephens Creek**	**26.96**	**234**	P			**P**	**10 47 16.5**	**+0.3**
	2.1nm,0.8s,baz=67,slow=9.6,SNR=5.2								
WRA	**Warramunga Arr**	**31.15**	**261**	P			**P**	**10 47 52.6**	**-1.0**
	0.2nm,0.7s,baz=89,slow=8.5,SNR=4.2								
ASAR	**Alice Springs**	**31.62**	**254**	P			**P**	**10 47 56.9**	**-0.8**
	0.4nm,0.6s,baz=78,slow=8.4,SNR=8.7								
CMAR	**Chiang Mai Arr**	**76.27**	**295**	P			**P**	**10 53 25.1**	**+1.5**
	0.4nm,0.4s,baz=108,slow=2.9,SNR=4.9								
ILAR	**Eielson Array**	**89.63**	**18**	P			**P**	**10 54 31.1**	**-0.7**
	0.3nm,0.8s,baz=232,slow=4.4,SNR=3.9								

*CSEM **06** 11:12:30.9±0.5,41.°79N×19.°23E, h20km, ML2.4, Error ellipse: s-maj=9.0km s-min=4.8km az=8.0*
*TIR **06** 11:12:31.7±1.4,41.°94N×19.°28E, h6km±75km, ML2.5*
*PDG **06** 11:12:32.3±0.2,41.°89N×19.°23E, h12km, MD2.5/1, ML2.4/10, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0*
*BEO **06** 11:12:33.1±0.7,41.°95N×19.°34E, h11km±3km, ML2.3/9*
ISC 06 11:12:32.8±1.0,41.°93N±0.°04×19.°27E±0.°02, h12km±5km, n51, σ1.9/07/99, 10C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.04**	**326**	⇑*i*P			**Pg**	**11 12 35.0**	**-0.1**
ULC							**Sg**	**11 12 36.8**	**+0.1**
ULC	**Ulcinj**	**0.04**	**326**	⇑*i*Pg			**Pg**	**11 12 35.0**	**-0.1**
ULC							**Sg**	**11 12 36.8**	**+0.1**
BUM	**Brajici-Budva**	**0.46**	**323**	⇓*i*Pg			**Pg**	**11 12 41.2**	**-0.7**
BUM							**Sb**	**11 12 49.2**	**-0.6**
BUM	**Brajici-Budva**	**0.46**	**323**	⇓*i*Pg			**Pg**	**11 12 41.2**	**-0.7**
BUM							**Sb**	**11 12 49.2**	**-0.6**
PUK	**Puka**	**0.48**	**77**	*e*PG			**Pb**	**11 12 42.5**	**-0.7**
PUK							**Sb**	**11 12 50.4**	**+0.1**
PUK	**Puka**	**0.48**	**77**	*e*Pg			**Pb**	**11 12 42.5**	**-0.7**
	SNR=100								
PUK				*e*Sg			**Sb**	**11 12 50.3**	**+0.1**
	SNR=100								
PDG	**Podgorica**	**0.50**	**359**	*e*Pg			**Pg**	**11 12 42.1**	**-0.4**
PDG	**Podgorica**	**0.50**	**359**	⇓*i*Pg			**Pg**	**11 12 42.2**	**-0.3**
PDG							**Sb**	**11 12 50.9**	**+0.2**
TTG	**Podgorica**	**0.50**	**359**	⇓*i*Pg			**Pg**	**11 12 42.2**	**-0.3**
TTG							**Sb**	**11 12 50.9**	**+0.2**
BCI	**Bajram Curri**	**0.73**	**54**	*e*PG			**Pb**	**11 12 47.0**	**-0.6**
BCI				*e*SG			**Sn**	**11 13 00.1**	**-0.1**
BCI	**Bajram Curri**	**0.73**	**54**	*e*Pg			**Pb**	**11 12 47.0**	**-0.6**
	SNR=96								
BCI				*e*Sg			**Sn**	**11 13 00.1**	**-0.1**
	SNR=96								
HCY	**Herceg Novi**	**0.77**	**312**	⇑*i*Pg			**Pg**	**11 12 46.6**	**-1.2**
HCY							**Sb**	**11 12 58.9**	**+0.2**
HCY	**Herceg Novi**	**0.77**	**312**	⇑*i*Pg			**Pg**	**11 12 46.6**	**-1.2**
HCY							**Sb**	**11 12 58.9**	**+0.2**
PVY	**Plav**	**0.83**	**37**	⇑*i*Pg			**Pg**	**11 12 48.8**	**-0.2**
PVY							**Sn**	**11 13 03.3**	**+0.5**
PVY	**Plav**	**0.83**	**37**	⇑*i*Pg			**Pg**	**11 12 48.8**	**-0.2**
PVY							**Sn**	**11 13 03.3**	**+0.5**
NKME	**Niksic**	**0.86**	**344**	⇑*i*Pg			**Pg**	**11 12 49.2**	**-0.3**
NKME							**Sn**	**11 13 03.6**	**+0.1**
NKME	**Niksic**	**0.86**	**344**	⇑*i*Pg			**Pg**	**11 12 49.2**	**-0.3**
NKME							**Sn**	**11 13 03.6**	**+0.1**
NKY	**Niksic**	**0.90**	**347**	⇑*i*Pg			**Pb**	**11 12 50.1**	**-0.4**
NKY							**Sn**	**11 13 05.1**	**+0.6**
NKY	**Niksic**	**0.90**	**347**	⇑*i*Pg			**Pb**	**11 12 50.1**	**-0.4**
NKY							**Sn**	**11 13 05.1**	**+0.6**
PHP	**Peshkopia**	**0.91**	**106**	*e*PG			**Pn**	**11 12 52.4**	**+0.9**
PHP				*e*SG			**Sn**	**11 13 05.8**	**+1.2**
PHP	**Peshkopia**	**0.91**	**106**	*e*Pg			**Pn**	**11 12 52.4**	**+0.9**
	SNR=95								
TREB	**Trebinje**	**1.04**	**319**	*e*Pg			**Pn**	**11 12 53.2**	**0.0**
TREB				*e*Sg			**Sn**	**11 13 08.1**	**+0.4**
TREB	**Trebinje**	**1.04**	**319**	*e*Pg			**Pn**	**11 12 53.2**	**0.0**
TREB				*e*Sg			**Sn**	**11 13 08.1**	**+0.4**
BEY	**Berane**	**1.04**	**26**	⇓*i*Pg			**Pn**	**11 12 52.8**	**-0.6**
BEY				*e*Sg			**Sn**	**11 13 10.3**	**+2.3**
IVA	**Berane**	**1.04**	**26**	⇓*i*Pg			**Pn**	**11 12 52.8**	**-0.6**
IVA				*e*Sg			**Sn**	**11 13 10.3**	**+2.3**
BRY	**Bratogost**	**1.11**	**331**	⇓*i*Pg			**Pb**	**11 12 53.0**	**-1.0**
BRY				*e*Sg			**Sn**	**11 13 11.1**	**+1.5**
BRY	**Bratogost**	**1.11**	**331**	⇓*i*Pg			**Pb**	**11 12 53.0**	**-1.0**
BRY				*e*Sg			**Sn**	**11 13 11.1**	**+1.5**
UPM	**Unac-Piva**	**1.30**	**348**	*e*Pg			**Pb**	**11 12 57.1**	**-0.2**
UPM				*e*Sg			**Sg**	**11 13 17.9**	**+3.3**
UPM	**Unac-Piva**	**1.30**	**348**	*e*Pg			**Pb**	**11 12 57.1**	**-0.2**
UPM				*e*Sg			**Sg**	**11 13 17.9**	**+3.3**
PLE	**Pljevlja**	**1.40**	**4**	*e*Pg			**Pg**	**11 12 59.7**	**0.0**
PLE				*e*Sg			**Sg**	**11 13 21.2**	**+3.3**
PLE	**Pljevlja**	**1.40**	**4**	*e*Pg			**Pg**	**11 12 59.7**	**0.0**
PLE				*e*Sg			**Sg**	**11 13 21.2**	**+3.3**
SJES	**Sjenica**	**1.42**	**21**	*e*Pg			**Pn**	**11 12 57.5**	**-1.1**
SJES				*e*Sg			**Sb**	**11 13 17.3**	**-0.3**
SJES	**Sjenica**	**1.42**	**21**	*e*Pg			**Pn**	**11 12 57.5**	**-1.1**
SJES				*e*Sg			**Sb**	**11 13 17.3**	**-0.3**
STON	**Ston**	**1.49**	**309**	*e*Pg			**Pn**	**11 12 59.0**	**-0.5**
STON				Sg			**Sb**	**11 13 19.7**	**+0.3**
STON	**Ston**	**1.49**	**309**	*e*Pg			**Pn**	**11 12 59.5**	**0.0**
STON				*e*Sg			**Sg**	**11 13 20.9**	**0.0**
STON	**Ston**	**1.49**	**309**	*e*Pg			**Pn**	**11 12 58.9**	**-0.5**
STON				Sg			**Sb**	**11 13 19.7**	**+0.3**
IVAS	**Ivanjica**	**1.77**	**21**	*e*Pg			**Pb**	**11 13 04.8**	**-0.4**
IVAS				*e*Sg			**Sg**	**11 13 28.4**	**-1.2**
IVAS	**Ivanjica**	**1.77**	**21**	*e*Pg			**Pb**	**11 13 04.8**	**-0.4**
IVAS				*e*Sg			**Sg**	**11 13 28.4**	**-1.2**
SELS	**Selova**	**1.87**	**46**	*e*Pg			**Pb**	**11 13 06.2**	**-0.8**
BBLS	**Lazići**	**1.93**	**3**	*e*Pg			**Pb**	**11 13 06.9**	**-1.2**
BBLS				*e*Sg			**Sg**	**11 13 34.3**	**-0.7**
BBLS	**Lazići**	**1.93**	**3**	*e*Pg			**Pb**	**11 13 06.9**	**-1.2**
BBLS				*e*Sg			**Sg**	**11 13 34.3**	**-0.7**
GRUS	**Gruza**	**2.22**	**28**	*e*Pg			**Pb**	**11 13 12.0**	**-0.9**
GRUS				*e*Sg			**Sb**	**11 13 41.7**	**+1.3**
GRUS	**Gruza**	**2.22**	**28**	*e*Pg			**Pb**	**11 13 12.0**	**-0.9**
GRUS				*e*Sg			**Sb**	**11 13 41.7**	**+1.3**
DIVS	**Divibare**	**2.23**	**13**	*e*Pn			**Pn**	**11 13 09.8**	**+0.1**
DIVS				*e*Sn			**Sn**	**11 13 36.6**	**-0.5**
DIVS	**Divibare**	**2.23**	**13**	*e*Pn			**Pn**	**11 13 09.8**	**+0.1**
DIVS				*e*Sn			**Sn**	**11 13 36.6**	**-0.5**
ZAPS	**Zavoj**	**2.82**	**61**	*e*Pn			**Pn**	**11 13 16.6**	**-1.2**
ZAPS				*e*Sn			**Sn**	**11 13 51.8**	**+0.1**
ZAPS	**Zavoj**	**2.82**	**61**	*e*Pn			**Pn**	**11 13 16.6**	**-1.2**
ZAPS				*e*Sn			**Sn**	**11 13 51.8**	**+0.1**
UDBI	**Udbina**	**3.65**	**317**	*e*Pn			**Pn**	**11 13 29.2**	**+0.1**
UDBI				Sn			**Sn**	**11 14 13.4**	**+1.3**
UDBI	**Udbina**	**3.65**	**317**	*e*Pn			**Pn**	**11 13 29.2**	**+0.1**
UDBI				Sn			**Sn**	**11 14 13.3**	**+1.3**
BZS	**Buzias**	**4.05**	**24**	*e*Pn			**Pn**	**11 13 35.4**	**+0.7**
BZS				*e*Sn			**Sn**	**11 14 19.7**	**-2.4**
BZS	**Buzias**	**4.05**	**24**	*e*Pn			**Pn**	**11 13 35.4**	**+0.7**
BZS				*e*Sn			**Sn**	**11 14 19.7**	**-2.4**

*IDC **06** 11:16:18.1±0.4,33.°06N×88.°60E, h0km, mb4.4/35, mb1 4.4/39, mb1mx4.4/45, mbtmp4.3/39, ML3.9/4, MS3.7/22, Ms1 3.7/22, ms1mx3.6/44, Error ellipse: s-maj=12.2km s-min=10.7km az=44.0*
*LDG **06** 11:16:21.9±0.2,33.°28N×88.°46E, h33km, Mb5.0/17, Ms3.4/2, Error ellipse: s-maj=8.0km s-min=3.4km az=114.0*
*MOS **06** 11:16:22.0±1.1,33.°23N×88.°63E, h33km, mb5.0/33, Error ellipse: s-maj=7.8km s-min=4.2km az=119.2*
*BJI **06** 11:16:23.6,33.°30N×88.°60E, h52km, mB5.0/28, mb4.8/37, Ms4.4/43, Ms7 4.2/38*
*ISCJB **06** 11:16:24.0±0.5,33.°19N±0.°03×88.°58E±0.°02, h53km±5km, mb4.6/83, MS3.8/27, Error ellipse: s-maj=4.3km s-min=3.2km az=14.1*
*BKK **06** 11:16:25.0±0.5,33.°N±6.°×8.°9E±.°, h10km, M4.7/11, mB4.7/1, mb4.7/11, Mw(mB)3.9/1*
*NEIC **06** 11:16:26.0±0.7,33.°20N×88.°57E, h55km±6km, mb4.8/28, Error ellipse: s-maj=6.3km s-min=4.0km az=46.0*
*NDI **06** 11:16:27.7±3.2,32.°89N×88.°51E, h33km, mb4.7, mb4.8(NEIC)*
*SZGRF **06** 11:16:29.2,34.°37N×88.°32E, h12km, mb4.9, Xizang*
ISC 06 11:16:25.4±0.4,33.°17N±0.°04×88.°58E±0.°03, h48km±3km, n336, σ1.9/40/368, mb4.6/83, MS3.8/27, 13C-9D, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.10**	**147**	P			**Pn**	**11 17 27.7**	**+1.8**
LSA				S			Sn	11 18 23.0	+10
LSA	**Lhasa**	**4.10**	**147**	*e*P			**Pn**	**11 17 27.9**	**+2.0**
LSA	**Lhasa**	**4.10**	**147**	*e*Pn			**Pn**	**11 17 27.9**	**+2.0**
GUN	**Gumba**	**5.73**	**205**	*e*P			**Pn**	**11 17 48.3**	**0.0**
	214nm,1.0s								
GUN	**Gumba**	**5.73**	**205**	*e*P			**Pn**	**11 17 48.3**	**0.0**
TAPN	**Taplejung**	**5.85**	**188**	*e*P			**Pn**	**11 17 50.6**	**+0.8**
	78nm,0.4s								
TAPN	**Taplejung**	**5.85**	**188**	*e*P			**Pn**	**11 17 50.6**	**+0.8**
JIRN	**Jiri**	**5.86**	**201**	*e*P			**Pn**	**11 17 50.9**	**+0.8**
	262nm,0.6s								
JIRN	**Jiri**	**5.86**	**201**	*e*P			**Pn**	**11 17 50.9**	**+0.8**
KKN	**Kakani**	**6.07**	**209**	*e*P			**Pn**	**11 17 53.6**	**+0.8**
	41nm,0.6s								
KKN	**Kakani**	**6.07**	**209**	*e*P			**Pn**	**11 17 53.6**	**+0.8**
KKN	**Kakani**	**6.07**	**209**	*e*P			**Pn**	**11 17 53.6**	**+0.8**
GKN	**Gorkha**	**6.17**	**214**	*e*P			**Pn**	**11 17 54.4**	**+0.3**
	40nm,0.6s								
GKN	**Gorkha**	**6.17**	**214**	*e*P			**Pn**	**11 17 54.4**	**+0.3**
PKI	**Pulchoki**	**6.21**	**207**	*e*P			**Pn**	**11 17 55.2**	**+0.3**
	73nm,0.5s								
PKI	**Pulchoki**	**6.21**	**207**	*e*P			**Pn**	**11 17 55.2**	**+0.3**
PKI	**Pulchoki**	**6.21**	**207**	*e*P			**Pn**	**11 17 55.2**	**+0.3**
PKIN	**Phulchoki**	**6.21**	**207**	*e*P			**Pn**	**11 17 55.1**	**+0.3**
	56nm,0.6s								
DMN	**Daman**	**6.30**	**209**	*e*P			**Pn**	**11 17 57.0**	**+1.0**
	65nm,0.5s								
DMN	**Daman**	**6.30**	**209**	*e*P			**Pn**	**11 17 57.0**	**+1.0**
DANN	**Dangsing**	**6.34**	**222**	*e*P			**Pn**	**11 17 57.1**	**+0.5**
	56nm,0.6s								
DANN	**Dangsing**	**6.34**	**222**	*e*P			**Pn**	**11 17 57.1**	**+0.5**
ODAN	**Odare**	**6.37**	**190**	*e*P			**Pn**	**11 17 57.0**	**+0.1**
	235nm,0.6s								
ODAN	**Odare**	**6.37**	**190**	*e*P			**Pn**	**11 17 57.0**	**+0.1**
RAMN	**Ramite**	**6.43**	**196**	*e*P			**Pn**	**11 17 57.9**	**+0.1**
	154nm,0.6s								
RAMN	**Ramite**	**6.43**	**196**	*e*P			**Pn**	**11 17 57.9**	**+0.1**
KOLN	**Koldanda**	**6.88**	**220**	*e*P			**Pn**	**11 18 05.1**	**+1.1**
	38nm,0.7s								
KOLN	**Koldanda**	**6.88**	**220**	*e*P			**Pn**	**11 18 05.1**	**+1.1**
SHL	**Shillong**	**8.10**	**158**	*e*P			**Pn**	**11 18 20.0**	**-0.7**
SHL				*i* x			x	11 20 40.0	
DDI	**Dehra Dun**	**9.40**	**255**	*e*P			**Pn**	**11 18 39.7**	**+1.5**
DDI				*ex*			x	11 20 27.1	
BOK	**Bokaro**	**9.63**	**195**	*e*P			**Pn**	**11 18 40.2**	**-1.2**
SMLA	**Simla**	**9.89**	**261**	*e*P			**Pn**	**11 18 44.7**	**-0.1**
WMQ	**Urumqi**	**10.66**	**357**	P			**Pn**	**11 18 54.0**	**-1.5**
WMQ				sP				11 19 09.0	
WMQ				SS			**SnSn**	**11 21 06.0**	**+0.1**
WMQ				pmax			pmax		
	comp=Z,12nm,0.8s								
WMQ				LR			LR		
	comp=N,1μm,5.0s								
WMQ				LR			LR		
	comp=E,1μm,5.0s								
WMQ				LR			LR		
	comp=Z,440nm,4.0s								
NDI	**New Delhi**	**10.73**	**248**	*ex*			Pn	11 18 53.0	-3.4
GTA	**Gaotai**	**11.00**	**52**	*e*P			**Pn**	**11 19 01.0**	**+0.8**
GTA				pP				11 19 11.2	
GTA				sP				11 19 15.1	
GTA				S			**Sn**	**11 21 02.9**	**+1.1**
GTA				SS			**SnSn**	**11 21 15.0**	**+1.1**
GTA				pmax			pmax		
	comp=Z,7.0nm,1.1s								
GTA				pmax			pmax		
	comp=Z,230nm,5.0s								
GTA				LR			LR		
	comp=N,1μm,16.9s								
GTA				LR			LR		
	comp=E,860nm,11.2s								
GTA				LR			LR		
	comp=Z,710nm,11.9s								
KSH	**Kashi**	**11.97**	**306**	P			**Pn**	**11 19 14.9**	**+1.4**
KSH				pP				11 19 23.2	
KSH				PP			**PnPn**	**11 19 26.3**	**+4.9**
KSH				sP				11 19 30.1	
KSH				S			**Sn**	**11 21 25.7**	**+0.1**
KSH				SS			**SnSn**	**11 21 46.3**	**+8.4**
KSH				pmax			pmax		
	comp=Z,5.0nm,0.8s								
KSH				pmax			pmax		
	comp=Z,100nm,3.7s								
KSH				LR			LR		
	comp=N,580nm,9.5s								
KSH				LR			LR		
	comp=E,530nm,7.5s								
KSH				LR			LR		
	comp=Z,700nm,8.1s								
LZH	**Lanzhou**	**12.91**	**73**	*e*P			**Pn**	**11 19 28.5**	**+2.2**
LZH				pP			**P**	**11 19 37.2**	**+1.4**
LZH				PP			**PnPn**	**11 19 39.6**	**+5.4**
LZH				*e*S			**Sn**	**11 21 51.0**	**+2.5**
LZH				pmax			pmax		
	comp=Z,24nm,1.1s								
LZH				pmax			pmax		
	comp=Z,200nm,6.2s								
LZH				LR			LR		
	comp=N,2μm,10.0s								
LZH				LR			LR		
	comp=E,1μm,9.0s								
LZH				LR			LR		
	comp=Z,2μm,12.5s								
CD2	**Chengdu**	**13.07**	**96**	*e*P			**Pn**	**11 19 29.9**	**+1.4**
CD2				pP			**P**	**11 19 39.0**	**+1.5**
CD2				sP				11 19 41.8	
CD2				S			**Sn**	**11 21 54.2**	**+1.7**
CD2				sS			S	11 22 08.3	-7.3
CD2				SS			**SnSn**	**11 22 10.2**	**+5.4**
CD2				pmax			pmax		
	comp=Z,40nm,1.2s								
CD2				pmax			pmax		
	comp=Z,120nm,4.6s								
CD2				LR			LR		
	comp=N,860nm,13.2s								
CD2				LR			LR		
	comp=E,1μm,8.2s								
CD2				LR			LR		
	comp=Z,2μm,8.4s								
ULHL	**Ulahol**	**13.31**	**316**	*i* P			**Pn**	**11 19 33.2**	**+1.4**
ULHL	**Ulahol**	**13.31**	**316**	P			**Pn**	**11 19 33.2**	**+1.4**
	SNR=14								
BHPL	**Bhopal**	**13.93**	**228**	*e*P			**Pn**	**11 19 41.4**	**+1.1**
BHPL				AMB			AMB	11 19 49.2	
	comp=Z,15nm,1.1s								
TKM2	**Tokmak 2**	**14.11**	**317**	*i* P			**Pn**	**11 19 41.9**	**-0.7**
TKM2	**Tokmak 2**	**14.11**	**317**	P			**Pn**	**11 19 42.0**	**-0.7**
	SNR=5.8								
TKM2	**Tokmak 2**	**14.11**	**317**	*e*Pn			**Pn**	**11 19 42.8**	**+0.2**
KBK	**Karagaybulak**	**14.32**	**315**	P			**Pn**	**11 19 46.2**	**+0.7**
	SNR=5.5								
UCH	**Uchtor**	**14.33**	**313**	*i* P			**Pn**	**11 19 45.9**	**+0.1**
UCH	**Uchtor**	**14.33**	**313**	P			**Pn**	**11 19 45.9**	**+0.1**
	SNR=6.3								
MK31	**Makanchi Array**	**14.43**	**342**	P			Pn	11 19 43.4	-3.4
MK31				pmax			pmax		
	comp=Z,16nm,0.9s								
MK31	**Makanchi Array**	**14.43**	**342**	*e*Pn			**Pn**	**11 19 44.3**	**-2.5**
MKAR	**Makanchi Array**	**14.43**	**342**	P			Pn	11 19 43.4	-3.4
MKAR				MLR			MLR		
	comp=Z,130nm,18.6s								
MKAR	**Makanchi Array**	**14.43**	**342**	*e*Pn			**Pn**	**11 19 44.4**	**-2.3**
MKAR	**Makanchi Array**	**14.43**	**342**	Pn			Pn	11 19 43.4	-3.4
	comp=Z,0.2nm,0.3s,baz=147,slow=14,SNR=16								
MKAR				LR			LR	11 25 30.8	
	comp=Z,130nm,18.6s,baz=158,slow=38								
AAK	**Ala-Archa**	**14.57**	**314**	P			**Pn**	**11 19 49.0**	**+0.2**
AAK				MLR			MLR		
	comp=Z,78nm,21.0s								
AAK	**Ala-Archa**	**14.57**	**314**	*e*

comp=Z,0.8nm,0.3s,baz=141,slow=12,SNR=115
KURK Kurchatov 19.00 340 P **P** **11 20 40.0 -2.9**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 19.00 340 *e*P **P** **11 20 41.2 -1.8**
comp=Z,12nm,1.0s
POO Poona 19.67 226 *e*P **P** **11 20 50.3 -0.2**
POO *ex* x 11 20 51.0
HHC Hu-ho-hao-te 19.86 61 *e*P **P** **11 20 52.1 -0.4**
HHC PP **PnPn** **11 21 11.4 +2.0**
HHC S **S** **11 24 26.4 -7.1**
HHC SS **SnSn** **11 24 54.6 +3.0**
HHC PcP **PcP** **11 25 09.3 +0.9**
HHC ScP **ScP** **11 28 40.8 +0.3**
HHC PcS **PcS** **11 28 46.0 +0.2**
HHC pmax pmax
comp=Z,38nm,0.7s
HHC pmax pmax
comp=Z,270nm,4.5s
HHC LR LR
comp=Z,550nm,9.6s
HHC LR LR
comp=Z,620nm,9.2s
HHC LR LR
comp=Z,320nm,9.4s
SONM Songino Array 19.89 37 P **P** **11 20 53.1 +0.4**
SONM Songino Array 19.89 37 P **P** **11 20 53.1 +0.4**
comp=Z,0.3nm,0.3s,baz=222,slow=11,SNR=16
PBKT Sadao Pong 19.96 143 P **Pn** **11 20 55.7 +0.1**
ULN Ulaanbaatar 20.24 38 *e*P **P** **11 20 57.0 +0.3**
comp=Z,54nm,1.2s
ZAK Zakamensk 20.33 28⇓ *i*P **P** **11 20 58.0 +0.4**
ZAK pmax pmax
comp=Z,19nm,1.0s
MOY Mondy 20.58 22 *e*P **P** **11 21 01.2 +1.0**
ZAA0 Zalesovo Array 20.95 354 *e*P **P** **11 21 03.4 -0.6**
ZALV Zalesovo Beam 20.95 354 P **P** **11 21 03.5 -0.5**
ZALV Zalesovo Beam 20.95 354 P **P** **11 21 03.5 -0.5**
ZALV Zalesovo Beam 20.95 354 P **P** **11 21 03.5 -0.5**
comp=Z,19nm,0.7s,baz=170,slow=12,SNR=66
ZALV LR LR 11 30 09.6
comp=Z,336nm,18.8s,baz=128,slow=40
TLY Talaya 21.51 26 *e*P **P** **11 21 07.1 -3.0**
TLY pmax pmax
comp=Z,18nm,1.4s
TLY MLR MLR
comp=Z,119nm,12.0s
NVS Novosibirsk 21.99 352⇓ *i*P **P** **11 21 12.6 -2.6**
NVS *e*S S 11 25 02.8 -12
NVS pmax pmax
comp=N,38nm,1.6s
NVS pmax pmax
comp=Z,47nm,1.6s
NVS pmax pmax
comp=E,13nm,1.4s
NVS smax smax
comp=N,45nm,4.0s
NVS smax smax
comp=E,58nm,4.0s
WHN Wuhan 22.03 90 P **P** **11 21 14.1 -1.7**
WHN LR LR
comp=E,1μm,6.2s
WHN LR LR
comp=E,820nm,9.1s
WHN LR LR
comp=E,850nm,6.8s
IRK Irkutsk 22.19 26 *e*P **P** **11 21 17.8 +0.4**
IRK pmax pmax
comp=Z,45nm,1.8s
BJI Beijing 23.14 65 P **P** **11 21 28.3 +0.9**
BJI pP **pP** **11 21 37.3 -1.6**
BJI sP **sP** **11 21 42.0 -2.9**
BJI pmax pmax
comp=Z,12nm,0.8s
BJI pmax pmax
comp=Z,240nm,7.1s
BJI LR LR
comp=Z,750nm,12.9s
BJI LR LR
comp=Z,210nm,6.5s
BJI LR LR
comp=Z,160nm,16.6s
QIZ Qiongzhong 23.66 121 P **P** **11 21 32.6 0.0**
QIZ S **S** **11 25 45.1 +1.1**
QIZ pmax pmax
comp=Z,17nm,2.1s
QIZ pmax pmax
comp=Z,110nm,3.6s
QIZ LR LR
comp=Z,220nm,8.6s
QIZ LR LR
comp=Z,420nm,8.8s
BVA0 Borovoye Array 23.76 332 P **P** **11 21 32.3 -0.9**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 23.76 332 P **P** **11 21 32.9 -0.3**
BVAR 11 25 16.5
BVAR Borovoye Array 23.76 332 P **P** **11 21 32.9 -0.3**
BVAR PcP **PcP** **11 25 16.5 +0.8**
BVAR Borovoye Array 23.76 332 P **P** **11 21 32.9 -0.3**
comp=Z,3.7nm,0.7s,baz=132,slow=8.5,SNR=13
BVAR PcP **PcP** **11 25 16.5 +0.8**
comp=Z,1.0nm,0.6s,baz=158,slow=2.9,SNR=5.9
BVAR LR LR 11 32 10.1
comp=Z,170nm,19.3s,baz=138,slow=40
BRVK Borovoye 23.82 332 *de*P **P** **11 21 33.3 -0.5**
BRVK pmax pmax
comp=Z,22nm,1.7s
BRVK Borovoye 23.82 332 *e*P **P** **11 21 33.0 -0.7**
comp=Z,7.8nm,0.8s
NJ2 Nanjing 25.49 84 *e*P **P** **11 21 46.6 -2.5**
NJ2 S **S** **11 26 14.0 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,3μm,16.2s
NJ2 LR LR
comp=Z,2μm,23.8s
NJ2 LR LR
comp=Z,450nm,14.2s
AB31 Akbulak array 26.66 316 *i* P **P** **11 21 59.5 -0.1**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 26.66 316 *e*P **P** **11 22 00.0 +0.4**
comp=Z,7.4nm,0.8s
AKTO Aktyubinsk 28.30 317 P **P** **11 22 14.2 0.0**
AKTO 11 25 27.0
AKTO Aktyubinsk 28.30 317 P **P** **11 22 14.2 0.0**
AKTO PcP **PcP** **11 25 27.0 +0.8**
AKTO Aktyubinsk 28.30 317 P **P** **11 22 14.2 0.0**
comp=Z,1.3nm,0.6s,baz=130,slow=10,SNR=3.9
AKTO PcP **PcP** **11 25 27.0 +0.8**
comp=Z,2.3nm,0.6s,baz=73,slow=2.2,SNR=9.0
AKTO LR LR 11 34 33.3
comp=Z,158nm,21.2s,baz=118,slow=39
SVE Sverdlovsk 30.44 329⇓ *i*P **P** **11 22 33.7 +0.6**
SVE pmax pmax
comp=Z,24nm,1.4s
SVE MLR MLR
comp=Z,395nm,17.0s
CN2 Changchun 30.52 59 *e*P **P** **11 22 35.9 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
ARU Arti 31.11 327 *c i*P **P** **11 22 38.1 -0.9**
ARU 11 23 37.7
ARU S **S** **11 27 44.9 +3.9**
ARU SS **SnSn** **11 29 20.6 -5.1**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU MLR MLR
comp=Z,263nm,16.0s
ARU Arti 31.11 327 *e*P **P** **11 22 38.8 -0.2**
comp=Z,7.0nm,1.0s
PSI Prapat 31.73 160 P **P** **11 22 44.5 -0.4**
PSI Prapat 31.73 160 P **P** **11 22 44.5 -0.4**
comp=Z,7.1nm,0.7s,baz=329,slow=12,SNR=4.2
KSAR Wonju Array Be 32.20 71 P **P** **11 22 48.7 -0.1**
KSRS Korea Array 32.23 71 P **P** **11 22 48.7 -0.4**
comp=Z,5.2nm,0.7s,baz=273,slow=4,SNR=15
KSRS LR LR 11 36 29.9
comp=Z,95nm,19.0s,baz=295,slow=38
MDJ Mudanjiang 33.58 58 P **P** **11 22 59.7 -1.1**
MDJ pP **pP** **11 23 12.5 -1.0**
MDJ sP **sP** **11 23 18.9 -0.3**
MDJ S **S** **11 28 17.9 -1.9**
MDJ sS **sS** **11 28 40.8 -0.2**
MDJ ScP **ScP** **11 29 20.0 -0.9**
MDJ PcS **PcS** **11 29 25.7 -0.3**
MDJ pmax pmax
comp=Z,4.0nm,1.2s
MDJ pmax pmax
comp=Z,320nm,4.2s
MDJ LR LR
comp=Z,220nm,21.1s
MDJ LR LR
comp=Z,28nm,20.0s
MDJ LR LR
comp=Z,130nm,17.8s
JNU Nakatsue 35.24 78 LR LR 11 38 40.1
comp=Z,113nm,18.3s,baz=92,slow=38
USRK Ussuriysk Arra 35.26 59 P **P** **11 23 12.9 -2.4**
comp=Z,3.6nm,1.0s,baz=273,slow=8.1,SNR=4.1
KLR Kul'dur 35.69 50 *e*P **P** **11 23 15.9 -3.1**
KBZ Khabaz 36.88 300 LR LR 11 41 25.9
comp=Z,127nm,19.2s,baz=30,slow=41
KIV Kislovodsk 37.04 301 *e*P **P** **11 23 32.1 +1.4**
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,73nm,15.0s
VRHR Novokhopersk 38.41 312 *e*P **P** **11 23 41.9 -0.1**
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
YAK Yakutsk 38.91 30 *e*P **P** **11 23 44.3 -1.7**
YAK pmax pmax
comp=Z,6.0nm,0.7s
VORD Divnogorie 39.84 312 *e*P **P** **11 23 53.8 -0.2**
VORD pmax pmax
comp=N,20nm,1.1s
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 39.95 312 *e*P **P** **11 23 55.0 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,5.0nm,0.4s
VSR pmax pmax
comp=E,20nm,0.9s
MJAR Matsushiro Arr 40.51 71 P **P** **11 23 59.5 -0.2**
MJAR Matsushiro Arr 40.51 71 P **P** **11 23 59.5 -0.2**
comp=E,1.9nm,0.8s,baz=234,slow=5.4,SNR=4.4
MOS Moscow 41.59 319 *e*P **P** **11 24 07.8 -0.5**
MOS pmax pmax
comp=Z,69nm,1.3s
KLMR Klimovskoe 41.94 326 *e*P **P** **11 24 10.0 -1.1**
KLMR pmax pmax
comp=Z,32nm,1.1s
OBN Obninsk 42.07 317 *ce*P **P** **11 24 12.3 +0.1**
OBN *e*S **S** **11 30 28.0 0.0**
OBN pmax pmax
comp=Z,43nm,1.6s
OBN MLR MLR
comp=Z,100nm,17.0s
TIXI Tiksi 44.02 17⇑ *e*P **P** **11 24 27.3 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
BR131 Keskin Array S 44.09 295 *e*P **P** **11 24 29.6 +0.6**
comp=Z,4.6nm,0.8s
BRTR Keskin Array B 44.09 295 P **P** **11 24 29.1 +0.1**
BRTR Keskin Array B 44.09 295 P **P** **11 24 29.1 +0.1**
comp=Z,4.7nm,0.8s,baz=98,slow=9.1,SNR=15
BRTR LR LR 11 45 09.5
comp=Z,72nm,20.7s,baz=260,slow=39
ANTO Ankara 44.71 295 *e*P **P** **11 24 35.0 +1.1**
ANTO pmax pmax
comp=Z,20nm,1.0s
ANTO Ankara 44.71 295 *e*P **P** **11 24 35.0 +1.1**
comp=Z,20nm,1.0s
EIL Elat 45.49 281 P **P** **11 24 39.7 -0.3**
EIL Elat 45.49 281 P **P** **11 24 39.7 -0.3**
comp=Z,5.6nm,0.5s,baz=254,slow=3.0,SNR=4.7
AKASG Malin Array Be 46.20 311 P **P** **11 24 45.1 -0.3**
AKASG Malin Array Be 46.20 311 P **P** **11 24 45.1 -0.3**
AKASG Malin Array Be 46.20 311 P **P** **11 24 45.1 -0.3**
comp=Z,6.4nm,0.7s,baz=79,slow=7.5,SNR=45
AKASG LR LR 11 47 06.7
comp=Z,71nm,18.0s,baz=310,slow=40
AKBB Malin Array Si 46.20 311 *e*P **P** **11 24 45.1 -0.3**
AKBB Malin Array Si 46.20 311 *e*P **P** **11 24 45.1 -0.3**
AK01 Malin Array Si 46.21 311 *e*P **P** **11 24 45.3 -0.2**
KIEV Kiev 46.21 311 *e*P **P** **11 24 44.4 -1.1**
KIEV pmax pmax
comp=Z,14nm,1.0s
KIEV Kiev 46.21 311 *e*P **P** **11 24 44.4 -1.1**
comp=Z,14nm,1.0s
AK02 Malin Array Si 46.22 311 *e*P **P** **11 24 45.2 -0.3**
ISP Isparta 46.85 293⇑ *i*P P 11 24 54.4 +3.6
VSU Vasula 47.84 321 *de*P **P** **11 24 57.9 -0.1**
VSU pmax pmax
comp=Z,151nm,1.7s
FINES FINESS Array B 48.42 325 P **P** **11 25 02.5 0.0**
FINES FINESS Array B 48.42 325 P **P** **11 25 02.5 0.0**
comp=Z,3.8nm,0.7s,baz=93,slow=7.8,SNR=13
FINES LR LR 11 46 51.2
comp=Z,96nm,18.4s,baz=125,slow=38
MLR Muntele Rosu 48.84 304⇑ *i*P **P** **11 25 07.9 +1.8**
MLR Muntele Rosu 48.84 304 P **P** **11 25 07.7 +1.6**
MLR Muntele Rosu 48.84 304 P **P** **11 25 07.7 +1.6**
comp=Z,3.2nm,0.8s,baz=58,slow=8.5
SEY Seymchan 49.19 33 P **P** **11 25 08.9 +0.6**
SEY Seymchan 49.19 33 P **P** **11 25 08.9 +0.6**
SEY Seymchan 49.19 33 P **P** **11 25 08.9 +0.6**
comp=Z,2.2nm,0.6s,baz=227,slow=19,SNR=5.6
LVV L'vov 49.58 310 *e*P **P** **11 25 12.2 +0.6**
SUW Suwalki 49.79 315 *e*P **P** **11 25 12.9 -0.1**
SUW pmax pmax
comp=Z,41nm,1.0s
SUW Suwalki 49.79 315 *e*P **P** **11 25 13.2 +0.2**
SUW Suwalki 49.79 315 *e*P **P** **11 25 12.8 -0.1**
comp=Z,41nm,1.0s
ARCES ARCESS Array B 49.96 336 P **P** **11 25 14.6 +0.4**
ARCES ARCESS Array B 49.96 336 P **P** **11 25 14.6 +0.4**
comp=Z,2.6nm,0.7s,baz=99,slow=7.4,SNR=17
ARCES LR LR 11 46 39.1
comp=Z,95nm,21.4s,baz=276,slow=36
KWP Kalwaria Pacla 50.46 310 *e*P **P** **11 25 19.0 +0.8**
KWP Kalwaria Pacla 50.46 310 *e*P **P** **11 25 19.0 +0.8**
KWP Kalwaria Pacla 50.46 310⇓ *i*P **P** **11 25 19.4 +1.2**
TRPA Tarpa 50.77 308⇑ *i*P **P** **11 25 21.5 +1.0**
DRGR 50.86 306⇓ *i*P **P** **11 25 22.4 +1.0**
VTS Vitosha 51.30 301⇑ *i*P **P** **11 25 26.7 +1.9**
BZS Buzias 51.81 305⇑ *i*P **P** **11 25 29.5 +1.1**
IDI Anoyia 51.88 291 P **P** **11 25 29.3 +0.1**
IDI Anoyia 51.88 291 P **P** **11 25 29.3 +0.1**
comp=Z,18nm,0.9s,baz=42,slow=17
PSZ Piszkesteto 52.55 308⇑ *i*P **P** **11 25 35.5 +1.5**
OKC Ostrava-Krasne 53.35 311 *e*P **P** **11 25 40.6 +0.9**
OKC Ostrava-Krasne 53.35 311 *e*P **P** **11 25 40.6 +0.9**
OKC *ex* x 11 25 43.4
PKSM Moragy 53.73 306⇑ *i*P **P** **11 25 43.1 +0.6**
MORC Moravsky Berou 53.75 311 *e*P **P** **11 25 43.2 +0.5**
MORC pmax pmax
comp=Z,22nm,1.5s
MORC Moravsky Berou 53.75 311⇑ *i*P **P** **11 25 43.7 +1.0**
MORC Moravsky Berou 53.75 311 *e*P **P** **11 25 43.2 +0.5**
comp=Z,22nm,1.5s
SPITS Spitsbergen Ar 54.15 346 LR LR 11 52 48.3
comp=Z,78nm,19.0s,baz=15,slow=40
KSP Ksiaz 54.35 312 *e*P **P** **11 25 47.7 +0.7**
KSP Ksiaz 54.35 312 *e*P **P** **11 25 47.9 +0.9**
DPC Dobruska-Polom 54.42 311 *e*P **P** **11 25 48.7 +1.1**
DPC *e* 11 25 55.9
DPC Dobruska-Polom 54.42 311 *e*P **P** **11 25 48.7 +1.1**
DPC *ex* x 11 25 52.0
DPC *ex* x 11 25 55.9
DPC Dobruska-Polom 54.42 311 *e*P **P** **11 25 48.7 +1.1**
VRAC Vranov 54.45 310⇓ *i*P **P** **11 25 48.8 +1.0**
VRAC Vranov 54.45 310 LR LR 11 49 17.9
comp=Z,113nm,21.0s,baz=197,slow=36
HFS Hagfors 54.49 324 P **P** **11 25 47.8 -0.1**
HFS Hagfors 54.49 324 P **P** **11 25 47.8 -0.1**
comp=Z,9.8nm,0.6s,baz=100,slow=7.5,SNR=6.9
UPC Upice 54.58 312 *e*P **P** **11 25 49.9 +1.2**
UPC Upice 54.58 312 *e*P **P** **11 25 49.9 +1.2**
UPC *ex* x 11 25 53.4
TREC Trest 55.16 310 *e*P **P** **11 25 53.7 +0.8**
TREC Trest 55.16 310 *e*P **P** **11 25 53.7 +0.8**
TREC *ex* x 11 25 57.9
CONA Conrad Observa 55.21 309⇑ *i*P **P** **11 25 53.8 +0.4**
comp=Z,16nm,1.1s,SNR=7.8
NB2 NORSAR Subarra 55.60 325 P **P** **11 25 55.6 -0.3**
comp=Z,12nm,0.8s,baz=82,slow=7.4
NOA NORSAR Array B 55.60 325 P **P** **11 25 55.7 -0.2**
NOA NORSAR Array B 55.60 325 P **P** **11 25 55.7 -0.2**
comp=Z,7.8nm,0.6s,baz=83,slow=7.2,SNR=25
NOA LR LR 11 51 01.5
comp=Z,108nm,18.2s,baz=65,slow=37
PRU Pruhonice 55.61 311 *e*P **P** **11 25 57.1 +1.0**
PRU Pruhonice 55.61 311 *e*P **P** **11 25 57.1 +1.0**
PRU *ex* x 11 26 00.2
NAO01 NORSAR Array S 55.78 325 *e*P **P** **11 25 56.8 -0.5**
comp=Z,6.9nm,0.6s
BRG Berggiesshubel 55.80 312 *e*P **P** **11 25 58.2 +0.8**
comp=Z,11nm,0.8s
BRG *e* 11 26 01.1
comp=Z,9.2nm,0.8s
BRG Berggiesshubel 55.80 312 *e*P **P** **11 25 58.2 +0.8**
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,0.8s
PERS Pernice 56.01 307 *i* P **P** **11 25 59.5 +0.4**
SOKA Soboth 56.05 307 *i* P **P** **11 25 60.0 +0.6**
comp=Z,19nm,1.6s,SNR=11
BOJS Bojanci 56.20 306 *i* P P 11 26 03.7 +3.3
CLL Collm 56.29 313 *e*P **P** **11 26 01.0 +0.1**
CLL Collm 56.29 313 *e*P **P** **11 26 01.0 +0.1**
CLL *i* Pmax 11 26 04.4
comp=Z,18nm,1.4s
CLL *es*P sP 11 26 27.0 +7.1
VISS Visnje 56.40 306 *i* P **P** **11 26 02.2 +0.4**
GERES GERESS Array B 56.40 310 P **P** **11 26 02.8 +0.9**
GERES GERESS Array B 56.40 310 P **P** **11 26 02.8 +0.9**
comp=Z,5.7nm,0.7s,baz=74,slow=6.0,SNR=54
GERES LR LR 11 51 35.5
comp=Z,123nm,20.9s,baz=86,slow=38
KHC Kasperske Hory 56.42 310⇑ *e*P **P** **11 26 02.9 +0.9**
KHC pmax pmax
comp=Z,59nm,1.7s
KHC Kasperske Hory 56.42 310 *e*P **P** **11 26 02.8 +0.8**
KHC *ex* x 11 26 06.0
NKC Novy Kostel 56.87 312 *e*P **P** **11 26 02.2 -3.0**
NKC *e* 11 26 09.1
NKC Novy Kostel 56.87 312 *e*P **P** **11 26 02.2 -3.0**
NKC *ex* x 11 26 05.8
NKC *ex* x 11 26 09.1
GRF Grafenberg Arr 57.77 311 *e*P **P** **11 26 12.7 +1.2**
comp=Z,15nm,1.1s
GRF *ep*P pP 11 26 16.0 -8.9
RETA Reutte 58.66 309 *i* P **P** **11 26 17.9 +0.1**
comp=Z,12nm,1.6s,SNR=4.4
FETA Feichten 58.81 309 *i* P **P** **11 26 18.7 -0.2**
comp=Z,15nm,1.5s,SNR=4.8
KMBO Kilima Mbogo 59.11 245 P **P** **11 26 21.1 -0.5**
KMBO Kilima Mbogo 59.11 245 P **P** **11 26 21.1 -0.5**
comp=Z,0.5nm,0.3s,baz=41,slow=20,SNR=2.8
DAVOX Davos/Dischmat 59.44 308 P **P** **11 26 23.0 -0.3**
DAVOX Davos/Dischmat 59.44 308 P **P** **11 26 23.0 -0.3**
comp=Z,3.3nm,0.7s,baz=97,slow=8.1
DAVOX LR LR 11 54 37.1
comp=Z,162nm,21.1s,baz=318,slow=39
CDF Champ du Feu 60.62 311 *e*P **P** **11 26 31.0 -0.3**
comp=Z,28nm,1.1s
CDF Champ du Feu 60.62 311 *e*P **P** **11 26 31.0 -0.3**
CDF pmax pmax
comp=Z,28nm,1.1s
CDF Champ du Feu 60.62 311 *e*P **P** **11 26 31.0 -0.3**
comp=Z,28nm,1.1s
HINF Hinteralfeld 61.08 310 *e*P **P** **11 26 33.9 -0.5**
comp=Z,21nm,1.1s
HINF Hinteralfeld 61.08 310 *e*P **P** **11 26 33.9 -0.5**
HINF pmax pmax
comp=Z,21nm,1.1s
HINF Hinteralfeld 61.08 310 *e*P **P** **11 26 33.9 -0.5**
comp=Z,21nm,1.1s
JMIC Jan Mayen 61.28 338 LR LR 11 54 12.6
comp=Z,168nm,20.6s,baz=350,slow=37
PGF Pioggiola 61.38 304 *e*P **P** **11 26 35.9 -0.7**
comp=Z,18nm,0.8s
PGF Pioggiola 61.38 304 *e*P **P** **11 26 35.9 -0.7**
PGF pmax pmax
comp=Z,18nm,0.8s
PGF Pioggiola 61.38 304 *e*P **P** **11 26 35.9 -0.7**
comp=Z,18nm,0.8s
PAGF Fort de Pagny 61.56 311 *e*P **P** **11 26 37.8 +0.3**
PAGF Fort de Pagny 61.56 311 *e*P **P** **11 26 37.8 +0.3**
LPG La Plagne 61.91 308 *e*P **P** **11 26 40.3 0.0**
comp=Z,52nm,1.2s
LPG La Plagne 61.91 308 *e*P **P** **11 26 40.3 0.0**
LPG pmax pmax
comp=Z,52nm,1.2s
LPG La Plagne 61.91 308 *e*P **P** **11 26 40.3 0.0**
comp=Z,52nm,1.2s
LPL La Plagne 61.91 308 *e*P **P** **11 26 40.3 +0.1**
LPL La Plagne 61.91 308 *e*P **P** **11 26 40.3 +0.1**
LPL La Plagne 61.91 308 *e*P **P** **11 26 40.3 +0.1**
SBF Sospel 62.01 306 *e*P **P** **11 26 40.4 -0.3**
comp=Z,29nm,0.8s
SBF Sospel 62.01 306 *e*P **P** **11 26 40.4 -0.3**
SBF pmax pmax
comp=Z,29nm,0.8s
SBF Sospel 62.01 306 *e*P **P** **11 26 40.4 -0.3**
comp=Z,29nm,0.8s
SFTF Sexfontaines 62.10 311 *e*P **P** **11 26 40.7 -0.5**
SFTF Sexfontaines 62.10 311 *e*P **P** **11 26 40.7 -0.5**
MBDF Montbardon 62.16 307 *e*P **P** **11 26 41.7 -0.1**
comp=Z,12nm,0.8s
MBDF Montbardon 62.16 307 *e*P **P** **11 26 41.7 -0.1**
MBDF pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 62.16 307 *e*P **P** **11 26 41.7 -0.1**
comp=Z,12nm,0.8s
FRF La Foret Royal 62.65 306 *e*P **P** **11 26 44.3 -0.6**
FRF La Foret Royal 62.65 306 *e*P **P** **11 26 44.3 -0.6**
FRF La Foret Royal 62.65 306 *e*P **P** **11 26 44.3 -0.6**
ORIF Oris-en-Rattie 62.68 308 *e*P **P** **11 26 45.2 -0.1**
comp=Z,13nm,0.9s
ORIF Oris-en-Rattie 62.68 308 *e*P **P** **11 26 45.2 -0.1**
ORIF pmax pmax
comp=Z,13nm,0.9s
ORIF Oris-en-Rattie 62.68 308 *e*P **P** **11 26 45.2 -0.1**
comp=Z,13nm,0.9s
LOR Lormes 63.17 311 *e*P **P** **11 26 47.4 -1.0**
LOR Lormes 63.17 311 *e*P **P** **11 26 47.4 -1.0**
SMF Signal de Mont 63.41 310 *e*P **P** **11 26 49.4 -0.5**
comp=Z,28nm,1.1s
SMF Signal de Mont 63.41 310 *e*P **P** **11 26 49.4 -0.5**
SMF pmax pmax
comp=Z,28nm,1.1s
SMF Signal de Mont 63.41 310 *e*P **P** **11 26 49.4 -0.5**
comp=Z,28nm,1.1s
SSF Saint Saulge 63.47 310 *e*P **P** **11 26 49.7 -0.6**
comp=Z,49nm,1.3s
SSF Saint Saulge 63.47 310 *e*P **P** **11 26 49.7 -0.6**
SSF pmax pmax
comp=Z,49nm,1.3s
SSF Saint Saulge 63.47 310 *e*P **P** **11 26 49.7 -0.6**
comp=Z,49nm,1.3s
AVF Avril sur Loir 63.67 310 *e*P **P** **11 26 51.1 -0.5**
AVF Avril sur Loir 63.67 310 *e*P **P** **11 26 51.1 -0.5**
AVF Avril sur Loir 63.67 310 *e*P **P** **11 26 51.1 -0.5**
LASF Ste Croix 64.34 307 *e*P **P** **11 26 56.0 -0.1**
LASF Ste Croix 64.34 307 *e*P **P** **11 26 56.0 -0.1**
TCF Toulx Ste Croi 64.59 310 *e*P **P** **11 26 57.4 -0.3**
TCF Toulx Ste Croi 64.59 310 *e*P **P** **11 26 57.4 -0.3**
TCF Toulx Ste Croi 64.59 310 *e*P **P** **11 26 57.4 -0.3**
OPO Ambohidratompo 64.88 224 P **P** **11 26 59.3 -0.7**
OPO Ambohidratompo 64.88 224 P **P** **11 26 59.3 -0.7**
comp=Z,8.0nm,0.3s,baz=50,slow=8.2,SNR=15
RJF Les Rejaudoux 65.41 309 *e*P **P** **11 27 03.3 +0.3**
comp=Z,95nm,1.6s
RJF Les Rejaudoux 65.41 309 *e*P **P** **11 27 03.3 +0.3**
RJF pmax pmax
comp=Z,95nm,1.6s
RJF Les Rejaudoux 65.41 309 *e*P **P** **11 27 03.3 +0.3**
comp=Z,95nm,1.6s
ETSF Etsaut 67.75 307 *e*P **P** **11 27 17.7 -0.4**
comp=Z,32nm,1.1s
ETSF Etsaut 67.75 307 *e*P **P** **11 27 17.7 -0.4**

ETSF				pmax	pmax		
	comp=Z,32nm,1.1s						
ETSF	**Etsaut**	**67.75**	**307**	*e*P	**P**	**11 27 17.7**	**-0.4**
	comp=Z,32nm,1.1s						
SUMG	**Summit**	**68.47**	**345**	*e*P	**P**	**11 27 22.9**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SUMG	**Summit**	**68.47**	**345**	*e*P	**P**	**11 27 22.9**	**+0.4**
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**68.54**	**134**	P	**P**	**11 27 22.5**	**-0.6**
WRA	**Warramunga Arr**	**68.54**	**134**	P	**P**	**11 27 22.5**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=329,slow=6.2,SNR=11						
WRAB	**Tennant Creek**	**68.54**	**134**	*e*P	**P**	**11 27 22.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**68.54**	**134**	*e*P	**P**	**11 27 22.9**	**-0.2**
	comp=Z,2.9nm,0.8s						
ASAR	**Alice Springs**	**71.13**	**136**	P	**P**	**11 27 38.1**	**-0.9**
ASAR	**Alice Springs**	**71.13**	**136**	P	**P**	**11 27 38.1**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=323,slow=5.3,SNR=18						
ESDC	**Sonseca Array**	**71.49**	**306**	P	**P**	**11 27 40.4**	**-0.7**
ESDC	**Sonseca Array**	**71.49**	**306**	P	**P**	**11 27 40.4**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=58,slow=6.9,SNR=8.5						
ILAR	**Eielson Array**	**73.25**	**22**	P	**P**	**11 27 50.0**	**-1.1**
ILAR	**Eielson Array**	**73.25**	**22**	P	**P**	**11 27 50.0**	**-1.1**
	comp=Z,1.2nm,1.1s,baz=303,slow=5.5,SNR=6.5						
INK	**Inuvik**	**74.09**	**15**	P	**P**	**11 27 56.2**	**+0.2**
INK	**Inuvik**	**74.09**	**15**	P	**P**	**11 27 56.2**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=331,slow=6.1,SNR=2.9						
LSZ	**Lusaka**	**75.08**	**240**	P	**P**	**11 28 02.1**	**-0.5**
LSZ	**Lusaka**	**75.08**	**240**	P	**P**	**11 28 02.1**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=66,slow=8.9,SNR=4.3						
MDT	**Midelt**	**75.26**	**300**	P	**P**	**11 28 03.5**	**-0.1**
MDT	**Midelt**	**75.26**	**300**	P	**P**	**11 28 03.5**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=72,slow=4.8,SNR=3.6						
SFJD	**Kangerlussuaq**	**75.45**	**345**	LR	LR	12 02 20.7	
	comp=Z,75nm,21.9s,baz=5.9,slow=37						
MATP	**Matopo**	**78.26**	**236**	P	**P**	**11 28 19.7**	**-0.8**
MATP	**Matopo**	**78.26**	**236**	P	**P**	**11 28 19.7**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=53,slow=5.3,SNR=7.1						
TORD	**Torodi Ar. Bea**	**80.36**	**279**	P	**P**	**11 28 31.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**80.36**	**279**	P	**P**	**11 28 31.0**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=47,slow=4.7,SNR=10.0						
FRB	**Frobisher Bay**	**81.72**	**350**	P	**P**	**11 28 37.2**	**-1.1**
FRB	**Frobisher Bay**	**81.72**	**350**	P	**P**	**11 28 37.2**	**-1.1**
	comp=Z,4.5nm,0.6s,baz=75,slow=3.5,SNR=5.1						
STKA	**Stephens Creek**	**81.77**	**137**	P	**P**	**11 28 39.2**	**+0.1**
STKA	**Stephens Creek**	**81.77**	**137**	P	**P**	**11 28 39.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=352,slow=8.9,SNR=2.9						
YKA	**Yellowknife Ar**	**82.86**	**11**	P	**P**	**11 28 44.5**	**+0.2**
YKA	**Yellowknife Ar**	**82.86**	**11**	P	**P**	**11 28 44.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=329,slow=4.9,SNR=6.2						
LBTB	**Lobatse**	**83.30**	**234**	P	**P**	**11 28 45.2**	**-2.1**
LBTB	**Lobatse**	**83.30**	**234**	P	**P**	**11 28 45.2**	**-2.1**
	comp=Z,3.3nm,0.9s,baz=90,slow=9.0,SNR=4.3						
BOSA	**Boshof**	**85.89**	**232**	P	**P**	**11 28 59.3**	**-1.0**
BOSA	**Boshof**	**85.89**	**232**	P	**P**	**11 28 59.3**	**-1.0**
	comp=Z,4.9nm,0.8s,baz=49,slow=4.6,SNR=6.2						
BOSA				LR	LR	12 02 45.4	
	comp=Z,38nm,19.4s,baz=0.7,slow=32						
DBIC	**Dimbokro**	**89.26**	**277**	LR	LR	12 13 03.4	
	comp=Z,62nm,18.9s,baz=37,slow=38						
TXAR	**Lajitas Array**	**116.77**	**12**	PKP	**PKPdf**	**11 35 04.5**	**-0.4**
TXAR	**Lajitas Array**	**116.77**	**12**	PKP	**PKPdf**	**11 35 04.5**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=285,slow=2.5,SNR=4.6						
QSPA	**South Pole Qui**	**122.95**	**180**	PKP	**PKPdf**	**11 35 14.6**	**-0.9**
QSPA	**South Pole Qui**	**122.95**	**180**	PKP	**PKPdf**	**11 35 14.6**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=344,slow=2.0,SNR=4.0						
SDV	**Santo Domingo**	**133.73**	**331**	*e*PKPdf	**PKPdf**	**11 35 38.6**	**+0.9**
SAML	**Samuel**	**144.51**	**306**	*e*PKPdf	PKPbc	11 35 56.1	+0.3
OTAV	**Otavalo**	**144.60**	**337**	*e*PKPdf	**PKPdf**	**11 35 57.9**	**0.0**
SIV	**San Ignacio**	**147.70**	**295**	PKPbc	**PKPdf**	**11 36 02.5**	**0.0**
SIV	**San Ignacio**	**147.70**	**295**	PKPbc	**PKPdf**	**11 36 02.5**	**0.0**
	comp=Z,4.7nm,1.1s,baz=64,slow=4.1,SNR=5.9						
CPUP	**Villa Florida**	**149.72**	**274**	*e*PKPbc	**PKPbc**	**11 36 09.9**	**-0.3**
CPUP	**Villa Florida**	**149.72**	**274**	PKPbc	**PKPbc**	**11 36 09.8**	**-0.4**
	comp=Z,9.0nm,0.6s,baz=51,slow=3.1,SNR=21						
ATAH	**Atahualpa**	**151.42**	**332**	PKPbc	**PKPbc**	**11 36 16.9**	**+1.8**
ATAH	**Atahualpa**	**151.42**	**332**	PKPbc	**PKPbc**	**11 36 16.9**	**+1.8**
	comp=Z,4.3nm,0.5s,baz=46,slow=0.5,SNR=4.6						
LPAZ	**La Paz**	**153.08**	**303**	*e*PKPbc	**PKPbc**	**11 36 18.9**	**-0.1**
LPAZ	**La Paz**	**153.08**	**303**	PKPbc	**PKPbc**	**11 36 18.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=55,slow=4.6,SNR=5.0						
CFAA	**Coronel Fontan**	**160.36**	**268**	PKP	**PKPdf**	**11 36 19.9**	**+0.1**
CFAA	**Coronel Fontan**	**160.36**	**268**	PKP	**PKPdf**	**11 36 19.9**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=317,slow=4.6,SNR=3.7						

*IDC **06** 11:30:16.1±1.1,2°.03S×133°.86E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/21, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=61.4km s-min=19.2km az=83.0*
*ISCJB **06** 11:30:20.4±0.9, 2°.19S±0°.07×133°.2E±0°.3, h33km, mb3.8/6, Error ellipse: s-maj=39.4km s-min=10.5km az=179.3*
*AUST **06** 11:30:31.3, 2°.97S×134°.01E, h25km*
ISC 06 11:30:22.8±1.2, 2°.31S±0°.09×133°.3E±0°.3, h35km, n13, σ2§97/13, mb3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**3.35**	**190**	P	Pn	11 31 17.8	+5.1
	baz=3.0,SNR=4.3						
KDU	**Kakadu**	**10.34**	**185**	P	**Pn**	**11 32 51.0**	**+2.3**
	baz=9.8,SNR=8.7						
MTN	**Manton Dam**	**10.68**	**191**	P	**Pn**	**11 32 55.6**	**+2.2**
	baz=10,SNR=6.7						
KNRA	**Kununurra**	**14.02**	**198**	P	**Pn**	**11 33 40.6**	**+1.6**
	baz=14,SNR=12						
FITZ	**Fitzroy Crossi**	**17.40**	**205**	P	**P**	**11 34 24.6**	**+0.7**
	0.3nm,0.3s,baz=34,slow=15,SNR=9.5						
FITZ				S	**Sn**	**11 37 31.0**	**-4.6**
	0.2nm,0.3s,baz=188,slow=14,SNR=4.6						
FITZ	**Fitzroy Crossi**	**17.40**	**205**	P	**P**	**11 34 27.1**	**+3.2**
	baz=17,SNR=5.7						
WRA	**Warramunga Arr**	**17.55**	**177**	P	**P**	**11 34 25.2**	**-0.4**
	0.3nm,0.3s,baz=356,slow=12,SNR=21						
WRA				S	**Sn**	**11 37 33.5**	**-5.9**
	0.0nm,0.3s,baz=356,slow=21,SNR=2.8						
ASAR	**Alice Springs**	**21.24**	**178**	P	**P**	**11 35 08.3**	**+2.4**
	1.3nm,0.5s,baz=12,slow=13,SNR=30						
SONM	**Songino Array**	**55.20**	**338**	P	**P**	**11 39 50.6**	**-1.6**
	0.3nm,0.6s,baz=156,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**66.24**	**324**	P	**P**	**11 41 07.0**	**-0.3**
	0.9nm,0.6s,baz=115,slow=8.2,SNR=12						
KURBB	**Kurchatov Arra**	**70.35**	**326**	P	**P**	**11 41 32.2**	**-0.7**
	0.5nm,0.4s,baz=119,slow=5.3,SNR=6.1						
QSPA	**South Pole Qui**	**87.63**	**180**	P	**P**	**11 43 07.3**	**-0.1**
	1.4nm,1.1s,baz=259,slow=1.2,SNR=3.5						
ILAR	**Eielson Array**	**87.73**	**25**	P	P	11 43 03.6	-4.1
	0.4nm,0.9s,baz=264,slow=5.0,SNR=4.4						

*ISCJB **06** 12:02:32.3±2.3, 42°.60N±0°.09×41°.7E±0°.2, h10km, Error ellipse: s-maj=23.3km s-min=6.2km az=32.0*
*DDA **06** 12:02:34.7, 42°.50N×42°.22E, h11km, MD2.7*
ISC 06 12:02:33.0±4.8, 42°.6N±0°.2×41°.7E±0°.3, h10km, n4, σ0§57/7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHVG	**Ch'k'valeri**	**0.30**	**60**	P	Pg	12 02 38.8	-0.4
CHVG				S	**Sg**	**12 02 43.3**	**0.0**
ARTV	**Artvin**	**1.39**	**174**	*i* P	**Pn**	**12 02 58.4**	**-0.2**
ARTV				*i* S	**Sn**	**12 03 16.7**	**-0.4**
DAGI	**Agillar**	**1.49**	**175**	*i* P	**Pn**	**12 02 59.9**	**0.0**
DAGI				*i* S	**Sn**	**12 03 20.5**	**+0.9**
DBAD	**Bademkaya**	**1.54**	**181**	*i* P	**Pn**	**12 03 00.9**	**+0.2**
DBAD				*i* S	**Sn**	**12 03 20.5**	**-0.4**

*AUST **06** 12:02:48.1, 7°.50N×126°.52E, h0km*
*IDC **06** 12:03:07.6±0.7, 5°.31N×126°.30E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/24, mbtmp3.9/12, MS3.3/3, Ms1 3.4/3, ms1mx2.9/33, Error ellipse: s-maj=47.8km s-min=13.6km az=71.0*
*MAN **06** 12:03:12, 5°.13N×126°.31E, h74km, mb4.8, ML3.8, MS3.8*
*ISCJB **06** 12:03:14.6±0.7, 5°.22N±0°.04×126°.17E±0°.08, h66km±8km, mb3.7/12, Error ellipse: s-maj=13.4km s-min=6.2km az=178.5*
*DJA **06** 12:04:32.4±0.6, 0°.N±4°×12°.3E±°, h10km, M2.4/4, MLv2.4/4*
ISC 06 12:03:16.0±1.3, 5°.23N±0°.06×126°.07E±0°.09, h60km±12km, n37, σ1§40/37, mb3.8/12, MS3.4/3, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.41**	**307**	‖ *i* P	**Pn**	**12 03 38.9**	**-0.7**
GSPH				*i* S	**Sn**	**12 03 58.0**	**+0.8**
MATI	**Mati**	**1.72**	**6**	*e*P	**Pn**	**12 03 42.3**	**-1.3**
DMPH	**Davao City--Mi**	**1.93**	**343**	*e*P	**Pn**	**12 03 46.9**	**+0.4**
DMPH				*e*S	**Sn**	**12 04 08.9**	**-0.7**
KCP	**Kidapawan**	**2.02**	**331**	‖ *e*P	**Pn**	**12 03 47.4**	**-0.4**
KCP				*i* S	**Sn**	**12 04 14.2**	**+2.2**
CTBH	**Cotabato--PC H**	**2.69**	**318**	*e*P	**Pn**	**12 03 58.2**	**+1.4**
CTBH				*i* S	**Sn**	**12 04 22.8**	**-5.4**
BUKP	**Musuan**	**2.82**	**339**	*e*P	**Pn**	**12 03 59.0**	**+0.4**
BIPH	**Bislig**	**2.95**	**6**	‖ *e*P	**Pn**	**12 03 59.3**	**-1.1**
BIPH				*e*S	**Sn**	**12 04 36.7**	**+2.1**
CGP	**Cagayan de Oro**	**3.48**	**337**	*e*P	**Pn**	**12 04 08.0**	**+0.3**
BUTP	**Butuan**	**3.74**	**353**	*e*P	**Pn**	**12 04 12.0**	**+0.8**
MSLP	**Maasin**	**5.02**	**346**	*e*P	**Pn**	**12 04 29.7**	**+0.9**
GTOI	**Gorontalo**	**5.49**	**214**	P	Pn	12 04 38.8	+3.5
MRSI	**Marisa**	**6.27**	**221**	P	**Pn**	**12 04 46.7**	**+0.8**
MRSI				S	Sn	12 04 58.4	-58
LUWI	**Luwuk**	**7.05**	**208**	P	Pn	12 04 58.9	+2.3
LUWI	**Luwuk**	**7.05**	**208**	P	Pn	12 05 03.7	+7.1
	baz=9.3,SNR=5.3						
APSI	**Ampana**	**7.53**	**216**	P	**Pn**	**12 05 03.4**	**+0.2**
MTN	**Manton Dam**	**18.64**	**164**	P	**P**	**12 07 27.9**	**-1.1**
	baz=21,SNR=5.2						
KDU	**Kakadu**	**18.90**	**160**	P	**Pn**	**12 07 32.5**	**-0.5**
	baz=21,SNR=3.6						
KNRA	**Kununurra**	**20.94**	**173**	P	**P**	**12 07 54.6**	**+0.6**
	baz=23,SNR=12						
FITZ	**Fitzroy Crossi**	**23.19**	**181**	P	**P**	**12 08 17.8**	**+0.1**
	1.8nm,0.5s,baz=7.7,slow=11,SNR=6.6						
FITZ	**Fitzroy Crossi**	**23.19**	**181**	P	**P**	**12 08 18.7**	**+1.0**
	baz=26,SNR=7.5						
PMG	**Port Moresby**	**25.55**	**125**	P	P	12 08 33.7	-5.8
	baz=27,SNR=4.6						
PMG				P	P	12 08 33.7	-5.8
	baz=27,SNR=4.6						
PMG				P	P	12 08 33.7	-5.8
	baz=27,SNR=4.6						
WRA	**Warramunga Arr**	**26.30**	**162**	P	**P**	**12 08 45.2**	**-1.0**
	1.6nm,0.5s,baz=342,slow=10,SNR=24						
CMAR	**Chiang Mai Arr**	**29.57**	**299**	P	**P**	**12 09 17.3**	**+1.9**
	0.3nm,0.3s,baz=106,slow=9.5,SNR=2.6						
CMAR					LR	LR	12 21 54.7
	comp=Z,21nm,21.4s,baz=165,slow=38						
ASAR	**Alice Springs**	**29.72**	**165**	P	**P**	**12 09 15.8**	**-0.8**
	0.3nm,0.4s,baz=346,slow=6.9,SNR=12						
KSRS	**Korea Array**	**32.12**	**3**	P	**P**	**12 09 37.4**	**-0.1**
	0.4nm,0.5s,baz=178,slow=8.6,SNR=3.6						
MEEK	**Meekatharra**	**32.49**	**192**	P	**P**	**12 09 41.4**	**+0.4**
	baz=35,SNR=4.3						
STKA	**Stephens Creek**	**39.75**	**159**	P	**P**	**12 10 41.9**	**-1.1**
	1.4nm,0.5s,baz=331,slow=9.9,SNR=9.0						
STKA					LR	LR	12 27 10.8
	comp=Z,55nm,18.5s,baz=26,slow=36						
STKA	**Stephens Creek**	**39.75**	**159**	P	**P**	**12 10 45.1**	**+2.1**
	baz=42,SNR=5.5						
SONM	**Songino Array**	**45.68**	**342**	P	**P**	**12 11 31.1**	**+0.2**
	0.4nm,0.5s,baz=146,slow=6.0,SNR=3.0						
MKAR	**Makanchi Array**	**55.96**	**325**	P	**P**	**12 12 47.8**	**-0.4**
	0.7nm,0.5s,baz=121,slow=8.0,SNR=15						
ZALV	**Zalesovo Beam**	**58.96**	**333**	P	**P**	**12 13 07.6**	**-1.5**
	0.4nm,0.5s,baz=108,slow=7.7,SNR=3.0						
RPZ	**Rata Peaks**	**63.36**	**145**	LR	LR	12 39 04.2	
	comp=Z,61nm,18.9s,baz=161,slow=34						
ARCES	**ARCESS Array B**	**88.83**	**340**	P	**P**	**12 16 02.9**	**-0.3**
	2.7nm,0.9s,baz=94,slow=8.2,SNR=3.3						
FINES	**FINESS Array B**	**90.21**	**332**	P	**P**	**12 16 09.2**	**-0.5**
	2.5nm,1.0s,baz=60,slow=3.4,SNR=4.1						
AKASG	**Malin Array Be**	**90.33**	**321**	P	**P**	**12 16 09.8**	**-0.7**
	0.1nm,0.3s,baz=54,slow=4.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**121.83**	**289**	PKP	**PKPdf**	**12 22 04.7**	**+0.3**
	0.4nm,0.8s,baz=0.0,slow=1.4,SNR=2.9						
CFAA	**Coronel Fontan**	**150.53**	**155**	PKPbc	**PKPbc**	**12 23 01.9**	**+0.2**
	0.1nm,0.4s,baz=259,slow=5.0,SNR=3.6						

IDC 06 12:06:51.9±3.6, 6°.14S×148°.93E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=105.8km s-min=41.2km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.68**	**208**	Pn	Pn	12 07 51.9	+1.8
	1.9nm,0.3s,baz=17,slow=17,SNR=9.8						
PMG					Sn	Sn	12 08 31.4	-2.9
	7.4nm,0.3s,baz=40,slow=23,SNR=16						
WRA	**Warramunga Arr**	**19.72**	**225**	P	P	12 11 23.2	-0.1
	0.1nm,0.3s,baz=51,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**22.64**	**218**	P	P	12 11 53.8	-0.9
	0.3nm,0.7s,baz=49,slow=9.2,SNR=3.2						
FITZ	**Fitzroy Crossi**	**25.64**	**240**	P	P	12 12 23.4	0.0
	0.6nm,0.4s,baz=41,slow=8.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**146.98**	**285**	PKPbc	PKPbc	12 26 37.0	-0.7
	0.1nm,0.4s,baz=93,slow=3.5,SNR=3.2						

*IDC **06** 12:20:37.8±2.2, 10°.76N×91°.29E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.4/28, mbtmp3.4/6, ML3.7/1, Error ellipse: s-maj=67.8km s-min=21.4km az=69.0*
*ISCJB **06** 12:20:39.8±1.5, 10°.9N±0°.1×91°.5E±0°.3, h20km, mb3.4/5, Error ellipse: s-maj=37.3km s-min=17.5km az=169.1*
ISC 06 12:20:41.4±1.7, 10°.8N±0°.2×91°.4E±0°.3, h20km, n9, σ0§73/6, mb3.4/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.52**	**43**	Pn	**Pn**	**12 23 11.0**	**-0.1**
	0.2nm,0.3s,baz=233,slow=16,SNR=3.1						
H08S3	**Diego Garcia H**	**26.29**	**227**	T	T	12 54 09.7	
	baz=46,slow=75,SNR=235						
H08S2	**Diego Garcia H**	**26.29**	**226**	T	T	12 54 17.4	
	baz=46,slow=75,SNR=244						
H08S1	**Diego Garcia H**	**26.30**	**227**	T	T	12 54 15.1	
	baz=46,slow=75,SNR=98						
MKAR	**Makanchi Array**	**36.66**	**350**	P	**P**	**12 27 46.4**	**-0.4**
	0.3nm,0.5s,baz=168,slow=8.5,SNR=3.2						
SONM	**Songino Array**	**38.98**	**16**	P	**P**	**12 28 06.9**	**+0.5**
	0.1nm,0.3s,baz=199,slow=7.5,SNR=2.5						
FITZ	**Fitzroy Crossi**	**44.38**	**130**	P	**P**	**12 28 50.1**	**-0.7**
	1.6nm,1.0s,baz=301,slow=5.9,SNR=3.2						
WRA	**Warramunga Arr**	**52.17**	**126**	P	**P**	**12 29 50.6**	**-0.5**
	0.2nm,0.3s,baz=301,slow=9.9,SNR=6.0						
ASAR	**Alice Springs**	**53.88**	**130**	P	**P**	**12 30 04.3**	**+0.7**
	0.2nm,0.5s,baz=309,slow=7.0,SNR=5.0						

*ISCJB **06** 12:30:12.7±0.7, 24°.02S±0°.05×66°.9W±0°.1, h181km, mb3.8/3, Error ellipse: s-maj=14.6km s-min=7.1km az=8.0*
*IDC **06** 12:30:13.7±1.9, 24°.04S×66°.86W, h171km±17km, mb3.6/3, mb1 3.6/8, mb1mx3.4/22, mbtmp4.0/8, Error ellipse: s-maj=27.8km s-min=15.5km az=110.0*
ISC 06 12:30:13.9±0.8, 23°.97S±0°.07×66°.8W±0°.1, h181km, n12, σ1§13/14, mb3.7/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.71**	**189**	P	**Pn**	**12 32 01.9**	**-1.5**
	0.1nm,0.3s,baz=358,slow=14,SNR=15						
CFAA				S	Sn	12 33 21.1	-8.9
	0.3nm,0.3s,baz=280,slow=21,SNR=8.3						
LPAZ	**La Paz**	**7.75**	**351**	P	**Pn**	**12 32 05.7**	**+1.1**
	0.9nm,0.3s,baz=166,slow=8.2,SNR=32						
LPAZ				S	**Sn**	**12 33 29.5**	**-2.4**
	0.0nm,0.3s,baz=280,slow=12,SNR=3.1						
CPUP	**Villa Florida**	**8.90**	**107**	P	**Pn**	**12 32 18.3**	**-0.7**
	0.5nm,0.3s,baz=260,slow=18,SNR=3.2						
SIV	**San Ignacio**	**9.59**	**35**	P	**Pn**	**12 32 28.7**	**+0.4**
	1.4nm,0.3s,baz=223,slow=13,SNR=27						
SIV				S	**Sn**	**12 34 15.2**	**-0.1**
	0.2nm,0.3s,baz=133,slow=19,SNR=3.0						
PLCA	**Paso Flores**	**17.01**	**190**	P	**P**	**12 34 00.1**	**0.0**
	0.4nm,0.3s,baz=14,slow=12,SNR=4.6						
BDFB	**Brasilia**	**19.51**	**68**	P	**Pn**	**12 34 30.0**	**-1.0**
	2.4nm,0.3s,baz=241,slow=11,SNR=44						
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**12 39 57.2**	**+0.8**
	0.6nm,0.8s,baz=270,slow=10,SNR=5.8						
QSPA	**South Pole Qui**	**66.23**	**180**	P	**P**	**12 40 43.1**	**+0.9**
	1.5nm,0.3s,baz=108,slow=4.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.39**	**69**	P	**P**	**12 41 44.8**	**+1.0**
	0.5nm,0.3s,baz=270,slow=7.3,SNR=22						
ASAR	**Alice Springs**	**128.56**	**204**	PKP	**PKPdf**	**12 49 00.1**	**0.0**
	0.4nm,0.5s,baz=148,slow=2.2,SNR=4.5						
WRA	**Warramunga Arr**	**131.73**	**207**	PKP	**PKPdf**	**12 49 06.4**	**+0.3**
	0.3nm,0.3s,baz=160,slow=1.7,SNR=5.7						
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc	**PKPbc**	**12 49 33.8**	**+0.3**
	0.4nm,0.7s,baz=323,slow=1.7,SNR=3.4						

*IDC **06** 12:32:10.0±0.6, 46°.77N×81°.88E, h0km, mb3.9/14, mb1 4.1/19, mb1mx4.0/31, mbtmp3.9/19, ML4.3/5, MS3.2/6, Ms1 3.2/6, ms1mx3.0/39, Error ellipse: s-maj=12.8km s-min=5.1km az=3.0*
*MOS **06** 12:32:10.4±1.1, 46°.90N×82°.02E, h18km, mb5.0/4, Error ellipse: s-maj=8.0km s-min=6.1km az=87.7*
*NNC **06** 12:32:11.5±0.7, 46°.87N×81°.95E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=13.3km s-min=3.3km az=16.0*
*ISCJB **06** 12:32:11.0±0.3, 46°.84N±0°.02×82°.02E±0°.04, h23km±2km, mb4.1/21, MS3.1/2, Error ellipse: s-maj=4.5km s-min=4.0km az=149.5*
*BJI **06** 12:32:12.0, 46°.82N×82°.09E, h5km, mB4.4/3, mb4.1/9, ML4.6/8, Ms4.0/3, Ms7 3.7/2*
*NEIC **06** 12:32:12.5±0.7, 46°.83N×82°.03E, h18km±5km, mb4.3/8, Error ellipse: s-maj=7.4km s-min=6.2km az=175.0*
ISC 06 12:32:11.6±0.8, 46°.86N±0°.03×81°.93E±0°.03, h13km±6km, n146, σ1§72/173, mb4.1/21, 30C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK09	**Makanchi Array**	**0.25**	**111**	⇑P	**Pg**	**12 32 16.6**	**-0.4**
MK09				⇓S	**Sg**	**12 32 19.6**	**-1.0**
MK31	**Makanchi Array**	**0.25**	**106**	*e*PG	**Pg**	**12 32 16.7**	**-0.3**
MK31	**Makanchi Array**	**0.25**	**106**	*e*Pg	**Pg**	**12 32 16.7**	**-0.3**
MK31	**Makanchi Array**	**0.25**	**106**	⇑P	**Pg**	**12 32 16.8**	**-0.3**
	1μm,0.3s						
MK31				⇑S	**Sg**	**12 32 19.8**	**-0.9**
	3μm,0.4s						
MKAR	**Makanchi Array**	**0.25**	**106**	PG	**Pg**	**12 32 16.6**	**-0.5**
MKAR						12 32 20.1	
MKAR	**Makanchi Array**	**0.25**	**106**	Pg	**Pg**	**12 32 16.6**	**-0.5**
MKAR				Lg	Lg	12 32 20.1	
MKAR	**Makanchi Array**	**0.25**	**106**	Pg	**Pg**	**12 32 16.6**	**-0.5**
	3μm,0.3s,baz=264,slow=12						
MKAR				Lg	Lg	12 32 20.1	
	4μm,0.3s,baz=280,slow=26,SNR=117						
MK05	**Makanchi Array**	**0.26**	**106**	⇑*i* P	**Pg**	**12 32 16.8**	**-0.3**
MK05				⇓S	**Sg**	**12 32 20.1**	**-0.6**
MK04	**Makanchi Array**	**0.26**	**110**	⇑P	**Pg**	**12 32 16.7**	**-0.5**
MK04				⇓S	**Sg**	**12 32 19.9**	**-1.1**
MK08	**Makanchi Array**	**0.27**	**114**	⇑P	**Pg**	**12 32 16.7**	**-0.5**
MK08				⇑S	**Sg**	**12 32 19.6**	**-1.4**
MK01	**Makanchi Array**	**0.27**	**110**	⇑P	**Pg**	**12 32 16.8**	**-0.5**
MK01				⇑S	**Sg**	**12 32 19.8**	**-1.3**
MK03	**Makanchi Array**	**0.27**	**111**	⇑P	**Pg**	**12 32 16.9**	**-0.4**
MK03				⇑S	**Sg**	**12 32 20.0**	**-1.2**
MK06	**Makanchi Array**	**0.28**	**109**	⇑P	**Pg**	**12 32 16.8**	**-0.6**
MK06				⇑S	**Sg**	**12 32 20.2**	**-1.1**
MK07	**Makanchi Array**	**0.28**	**112**	⇑P	**Pg**	**12 32 16.9**	**-0.6**
MK07				⇑S	**Sg**	**12 32 20.2**	**-1.3**
KURBB	**Kurchatov Arra**	**4.38**	**330**	Pn	**Pn**	**12 33 20.4**	**+2.5**
	9.0nm,0.3s,baz=145,slow=13,SNR=115						
KURBB				⇓Sn	**Sn**	**12 34 06.1**	**-2.7**
	36nm,0.3s,baz=145,slow=29,SNR=5.5						
KURBB				Lg	Lg	12 34 32.3	

KK31				⇓Lg	Lg	12 36 51.0			
	comp=Z,83nm,0.5s,baz=51,slow=28,SNR=4.7								
KKAR	**Karatay Array**	**8.92**	**249**	*e*P	**Pn**	**12 34 20.8**	**+0.6**		
KKAR	**Karatay Array**	**8.92**	**249**	*e*Pn	**Pn**	**12 34 20.8**	**+0.6**		
BVA0	**Borovoye Array**	**9.66**	**314**	P	**Pn**	**12 34 32.0**	**+1.8**		
BVA0				*i*		12 36 20.7			
BVA0				pmax	pmax				
	comp=Z,8.0nm,0.5s								
BVA0				smax	smax				
	comp=Z,14nm,0.4s								
BVA0	**Borovoye Array**	**9.66**	**314**	⇑Pn	**Pn**	**12 34 32.1**	**+1.8**		
	comp=Z,8.3nm,0.5s,baz=120,slow=12,SNR=12								
BVA0				⇓Sn	**Sn**	**12 36 20.5**	**+2.0**		
	comp=Z,13nm,0.4s,baz=114,slow=16,SNR=4.8								
BVA0				⇑Lg	Lg	12 37 18.1			
	comp=Z,112nm,0.8s,baz=86,slow=161,SNR=4.3								
BVAR	**Borovoye Array**	**9.66**	**314**	P	**Pn**	**12 34 30.3**	**0.0**		
BVAR						12 36 19.9			
BVAR	**Borovoye Array**	**9.66**	**314**	Pn	**Pn**	**12 34 30.3**	**0.0**		
BVAR				Sn	**Sn**	**12 36 19.9**	**+1.4**		
BVAR				Lg	Lg	12 37 15.2			
BVAR	**Borovoye Array**	**9.66**	**314**	Pn	**Pn**	**12 34 30.3**	**0.0**		
	comp=Z,2.1nm,0.3s,baz=116,slow=15,SNR=29								
BVAR				Sn	**Sn**	**12 36 19.9**	**+1.4**		
	comp=Z,8.1nm,0.3s,baz=101,slow=21,SNR=8.2								
BVAR				Lg	Lg	12 37 15.2			
	comp=Z,9.2nm,0.3s,baz=130,slow=23,SNR=3.6								
BRVK	**Borovoye**	**9.73**	**314**	P	**Pn**	**12 34 34.0**	**+2.8**		
BRVK				pmax	pmax				
	comp=Z,8.0nm,0.3s								
BRVK	**Borovoye**	**9.73**	**314**	*e*Pn	**Pn**	**12 34 32.9**	**+1.7**		
BRVK	**Borovoye**	**9.73**	**314**	⇑Pn	**Pn**	**12 34 33.2**	**+2.0**		
	comp=Z,9.9nm,0.5s								
BRVK				⇓Sn	**Sn**	**12 36 23.1**	**+2.9**		
	comp=Z,48nm,0.5s								
BRVK				⇑Lg	Lg	12 37 20.4			
	comp=Z,225nm,0.7s								
ZAK	**Zakamensk**	**14.54**	**68**	*e*P	**P**	**12 35 43.2**	**-0.4**		
ZAK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
AB31	**Akbulak array**	**14.89**	**287**	*e*P	**Pn**	**12 35 40.4**	**-1.3**		
AB31				pmax	pmax				
	comp=Z,3.0nm,0.3s								
AB31	**Akbulak array**	**14.89**	**287**	⇓Pn	**Pn**	**12 35 40.1**	**-1.6**		
	comp=Z,5.1nm,0.6s,baz=95,slow=12,SNR=102								
AB31				⇑Sn	**Sn**	**12 38 29.1**	**+2.8**		
	comp=Z,1.5nm,0.5s								
AB31				⇑Lg	Lg	12 40 04.5			
	comp=Z,22nm,0.9s,baz=88,slow=29,SNR=3.7								
ABKAR	**Akbulak array**	**14.89**	**287**	*e*Pn	**Pn**	**12 35 39.3**	**-2.4**		
GTA	**Gaotai**	**15.01**	**113**	*e*P	**P**	**12 35 47.6**	**-1.3**		
GTA				pP	pP	12 35 51.9	-0.7		
GTA				sP	sP	12 35 55.4	+1.1		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KBL	**Kabul**	**15.69**	**223**	*e*P	**P**	**12 35 59.3**	**+2.7**		
KBL				pmax	pmax				
	comp=Z,6.0nm,0.7s								
KBL	**Kabul**	**15.69**	**223**	*e*P	**P**	**12 35 59.3**	**+2.7**		
	comp=Z,6.1nm,0.7s								
AKTO	**Aktyubinsk**	**16.18**	**292**	P	**Pn**	**12 35 57.5**	**-1.1**		
AKTO						12 38 52.6			
AKTO	**Aktyubinsk**	**16.18**	**292**	Pn	**Pn**	**12 35 57.5**	**-1.1**		
AKTO				Sn	**Sn**	**12 38 52.6**	**-5.2**		
AKTO				Lg	Lg	12 40 42.5			
AKTO	**Aktyubinsk**	**16.18**	**292**	Pn	**Pn**	**12 35 57.5**	**-1.1**		
	comp=Z,0.7nm,0.3s,baz=100,slow=14,SNR=13								
AKTO				Sn	**Sn**	**12 38 52.6**	**-5.2**		
	comp=Z,0.3nm,0.3s,baz=77,slow=14,SNR=2.2								
AKTO				Lg	Lg	12 40 42.5			
	comp=Z,0.3nm,0.3s,baz=40,slow=13,SNR=4.5								
AKTO				LR	LR	12 42 41.6			
	comp=Z,72nm,18.6s,baz=281,slow=39								
AKTO	**Aktyubinsk**	**16.18**	**292**	⇑Pn	**Pn**	**12 35 58.4**	**-0.2**		
	comp=Z,6.9nm,0.8s								
AKTO				⇑Sn	**Sn**	**12 39 00.9**	**+3.0**		
	comp=Z,6.0nm,1.0s								
AKTO				⇑Lg	Lg	12 40 45.3			
	comp=Z,38nm,1.1s								
SVE	**Sverdlovsk**	**16.44**	**315**	*e*P	**Pn**	**12 36 03.1**	**+1.3**		
SVE				*e*S	**Sn**	**12 38 59.2**	**-4.8**		
SVE				pmax	pmax				
	comp=Z,15nm,1.1s								
SONM	**Songino Array**	**16.59**	**78**	Pn	**Pn**	**12 36 03.2**	**-0.8**		
SONM				Lg	Lg	12 40 51.1			
SONM	**Songino Array**	**16.59**	**78**	Pn	**Pn**	**12 36 03.2**	**-0.8**		
	comp=Z,0.3nm,0.3s,baz=278,slow=10,SNR=20								
SONM				Lg	Lg	12 40 51.1			
	comp=Z,0.2nm,0.3s,baz=286,slow=27,SNR=7.9								
SONM				LR	LR	12 42 36.1			
	comp=Z,69nm,19.9s,baz=297,slow=38								
ULN	**Ulaanbaatar**	**17.03**	**77**	*e*P	**P**	**12 36 10.5**	**-0.8**		
	comp=Z,3.6nm,1.0s								
ARU	**Arti**	**17.30**	**312**	*d i*P	**P**	**12 36 16.4**	**+2.4**		
ARU				pmax	pmax				
	comp=Z,21nm,2.5s								
ARU	**Arti**	**17.30**	**312**	*e*P	**P**	**12 36 15.4**	**+1.4**		
	comp=Z,5.1nm,0.6s								
DANN	**Dangsing**	**18.54**	**175**	*e*P	**P**	**12 36 27.7**	**-0.5**		
	comp=Z,17nm,0.6s								
DANN	**Dangsing**	**18.54**	**175**	*e*P	**P**	**12 36 27.7**	**-0.5**		
LSA	**Lhasa**	**18.58**	**154**	*e*P	**P**	**12 36 28.8**	**0.0**		
LSA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
LSA	**Lhasa**	**18.58**	**154**	*e*P	**P**	**12 36 28.8**	**0.0**		
	comp=Z,4.4nm,0.7s								
GKN	**Gorkha**	**18.95**	**173**	*e*P	**P**	**12 36 31.8**	**-0.7**		
	comp=Z,20nm,0.5s								
GKN	**Gorkha**	**18.95**	**173**	*e*P	**P**	**12 36 31.8**	**-0.7**		
KOLN	**Koldanda**	**19.10**	**175**	*e*P	**Pn**	**12 36 34.8**	**-0.3**		
	comp=Z,26nm,0.9s								
KOLN	**Koldanda**	**19.10**	**175**	*e*P	**Pn**	**12 36 34.8**	**-0.3**		
GUN	**Gumba**	**19.17**	**169**	*e*P	**P**	**12 36 34.5**	**-0.7**		
	comp=Z,25nm,0.4s								
KKN	**Kakani**	**19.22**	**171**	*e*P	**P**	**12 36 35.2**	**-0.4**		
	comp=Z,25nm,0.6s								
KKN	**Kakani**	**19.22**	**171**	*e*P	**P**	**12 36 35.2**	**-0.4**		
KKN	**Kakani**	**19.22**	**171**	*e*P	**P**	**12 36 35.2**	**-0.4**		
DMN	**Daman**	**19.38**	**171**	*e*P	**P**	**12 36 37.6**	**+0.2**		
DMN	**Daman**	**19.38**	**171**	*e*P	**P**	**12 36 37.6**	**+0.2**		
PKIN	**Phulchoki**	**19.44**	**171**	*e*P	**P**	**12 36 37.7**	**-0.4**		
	comp=Z,19nm,0.6s								
PKI	**Pulchoki**	**19.45**	**171**	*e*P	**P**	**12 36 37.8**	**-0.4**		
	comp=Z,16nm,0.4s								
JIRN	**Jiri**	**19.46**	**169**	*e*P	**P**	**12 36 38.0**	**-0.4**		
	comp=Z,24nm,0.4s								
TAPN	**Taplejung**	**20.00**	**165**	*e*P	**P**	**12 36 43.2**	**-1.0**		
	comp=Z,23nm,0.9s								
TAPN	**Taplejung**	**20.00**	**165**	*e*P	**P**	**12 36 43.2**	**-1.0**		
RAMN	**Ramite**	**20.21**	**168**	*e*P	**P**	**12 36 45.3**	**-1.2**		
	comp=Z,33nm,0.5s								
RAMN	**Ramite**	**20.21**	**168**	*e*P	**P**	**12 36 45.3**	**-1.2**		
ODAN	**Odare**	**20.43**	**166**	*e*P	**P**	**12 36 48.1**	**-0.7**		
	comp=Z,24nm,0.5s								
ODAN	**Odare**	**20.43**	**166**	*e*P	**P**	**12 36 48.1**	**-0.7**		
HHC	**Hu-ho-hao-te**	**22.11**	**95**	*e*P	**P**	**12 37 05.8**	**-1.0**		
HHC				S	**S**	**12 41 04.5**	**-5.7**		
HHC				pmax	pmax				
	comp=Z,23nm,0.7s								
XAN	**Xi'an**	**24.07**	**112**	P	P	12 37 34.3	+7.7		
XAN				pP	pP	12 37 42.9	+12		
XAN				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KBZ	**Khabaz**	**27.45**	**278**	LR	LR	12 49 48.4			
	comp=Z,84nm,18.9s,baz=46,slow=39								
GNI	**Garni**	**27.60**	**270**	LR	LR	12 51 11.0			
	comp=Z,37nm,21.9s,baz=149,slow=41								
CMAR	**Chiang Mai Arr**	**31.60**	**148**	P	**P**	**12 38 33.4**	**-0.7**		
CMAR	**Chiang Mai Arr**	**31.60**	**148**	P	**P**	**12 38 33.4**	**-0.7**		
	comp=Z,0.5nm,0.3s,baz=320,slow=8.3,SNR=4.6								
AKASG	**Malin Array Be**	**34.33**	**296**	P	**P**	**12 38 58.4**	**+0.7**		
AKASG	**Malin Array Be**	**34.33**	**296**	P	**P**	**12 38 58.4**	**+0.7**		
AKASG	**Malin Array Be**	**34.33**	**296**	P	**P**	**12 38 58.4**	**+0.7**		
	comp=Z,0.3nm,0.4s,baz=64,slow=8.7,SNR=3.6								
FINES	**FINESS Array B**	**34.61**	**316**	P	**P**	**12 39 00.6**	**+0.6**		
FINES	**FINESS Array B**	**34.61**	**316**	P	**P**	**12 39 00.6**	**+0.6**		
	comp=Z,0.9nm,0.6s,baz=91,slow=7.6,SNR=9.0								
USRK	**Ussuriysk Arra**	**34.69**	**76**	P	**P**	**12 39 00.6**	**-0.3**		
	comp=Z,1.9nm,0.7s,baz=300,slow=8.4,SNR=4.6								
KSAR	**Wonju Array Be**	**34.90**	**89**	P	**P**	**12 39 02.2**	**-0.5**		
KSRS	**Korea Array**	**34.92**	**89**	P	**P**	**12 39 02.2**	**-0.7**		
	comp=Z,0.8nm,0.7s,baz=290,slow=8.5,SNR=3.5								
BRTR	**Keskin Array B**	**35.40**	**276**	P	**P**	**12 39 06.0**	**-1.2**		
BRTR	**Keskin Array B**	**35.40**	**276**	P	**P**	**12 39 06.0**	**-1.2**		
	comp=Z,0.2nm,0.4s,baz=52,slow=9.5,SNR=2.8								
ARCES	**ARCESS Array B**	**35.47**	**330**	P	**P**	**12 39 07.0**	**-0.4**		
	comp=Z,3.1nm,1.0s,baz=88,slow=7.5,SNR=6.6								
NB2	**NORSAR Subarra**	**41.78**	**316**	P	**P**	**12 40 00.4**	**+0.1**		
	comp=Z,2.8nm,0.7s,baz=76,slow=8.6								
NOA	**NORSAR Array B**	**41.78**	**316**	P	**P**	**12 40 00.5**	**+0.1**		
NOA	**NORSAR Array B**	**41.78**	**316**	P	**P**	**12 40 00.5**	**+0.1**		
	comp=Z,1.3nm,0.5s,baz=77,slow=8.1,SNR=6.3								
LPG	**La Plagne**	**50.17**	**298**	*e*P	**P**	**12 41 07.7**	**+0.7**		
	comp=Z,6.1nm,0.5s								
LPG	**La Plagne**	**50.17**	**298**	*e*P	**P**	**12 41 07.7**	**+0.7**		
LPG				pmax	pmax				
	comp=Z,6.0nm,0.5s								
LPG	**La Plagne**	**50.17**	**298**	*e*P	**P**	**12 41 07.7**	**+0.7**		
	comp=Z,6.1nm,0.5s								
LPL	**La Plagne**	**50.17**	**298**	*e*P	**P**	**12 41 08.1**	**+1.2**		
	comp=Z,7.1nm,0.5s								
LPL	**La Plagne**	**50.17**	**298**	*e*P	**P**	**12 41 08.1**	**+1.2**		
LPL				pmax	pmax				
	comp=Z,7.0nm,0.4s								
LPL	**La Plagne**	**50.17**	**298**	*e*P	**P**	**12 41 08.1**	**+1.2**		
	comp=Z,7.1nm,0.4s								
MBDF	**Montbardon**	**50.55**	**297**	*e*P	**P**	**12 41 09.8**	**+0.1**		
	comp=Z,10nm,0.8s								
MBDF	**Montbardon**	**50.55**	**297**	*e*P	**P**	**12 41 09.8**	**+0.1**		
MBDF				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MBDF	**Montbardon**	**50.55**	**297**	*e*P	**P**	**12 41 09.8**	**+0.1**		
	comp=Z,10nm,0.8s								
ESDC	**Sonseca Array**	**59.97**	**297**	P	**P**	**12 42 18.5**	**+0.8**		
ESDC	**Sonseca Array**	**59.97**	**297**	P	**P**	**12 42 18.5**	**+0.8**		
	comp=Z,0.2nm,0.4s,baz=56,slow=6.4,SNR=2.6								
INK	**Inuvik**	**62.13**	**14**	*e*P	**P**	**12 42 31.5**	**-0.2**		
	comp=Z,6.8nm,1.0s								
ILAR	**Eielson Array**	**62.38**	**21**	P	**P**	**12 42 32.3**	**-1.2**		
ILAR	**Eielson Array**	**62.38**	**21**	P	**P**	**12 42 32.3**	**-1.2**		
	comp=Z,1.9nm,0.6s,baz=324,slow=5.3,SNR=41								
YKA	**Yellowknife Ar**	**70.19**	**8**	P	**P**	**12 43 22.9**	**-0.7**		
YKA	**Yellowknife Ar**	**70.19**	**8**	P	**P**	**12 43 22.9**	**-0.7**		
	comp=Z,1.3nm,0.3s,baz=346,slow=6.6,SNR=26								
TORD	**Torodi Ar. Bea**	**73.88**	**272**	P	**P**	**12 43 46.0**	**-0.3**		
TORD	**Torodi Ar. Bea**	**73.88**	**272**	P	**P**	**12 43 46.0**	**-0.3**		
	comp=Z,0.5nm,0.5s,baz=33,slow=4.7,SNR=8.4								
ASAR	**Alice Springs**	**84.42**	**133**	P	**P**	**12 44 42.4**	**-1.3**		
ASAR	**Alice Springs**	**84.42**	**133**	P	**P**	**12 44 42.4**	**-1.3**		
	comp=Z,0.3nm,0.5s,baz=339,slow=5.4,SNR=4.6								
PDAR	**Pinedale Array**	**90.17**	**8**	P	**P**	**12 45 10.9**	**-0.9**		
PDAR	**Pinedale Array**	**90.17**	**8**	P	**P**	**12 45 10.9**	**-0.9**		
	comp=Z,0.7nm,0.5s,baz=58,slow=3.1,SNR=10								
NVAR	**Mina Array Bea**	**93.17**	**16**	P	**P**	**12 45 26.1**	**+0.3**		
NVAR	**Mina Array Bea**	**93.17**	**16**	P	**P**	**12 45 26.1**	**+0.3**		
	comp=Z,0.5nm,0.6s,baz=350,slow=4.8,SNR=2.8								

*IDC **06** 12:38:05.5±10.0, 6.°69S×129.°36E, h107km±103km, mb3.6/3, mb1 3.7/5, mb1mx3.4/20, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=77.9km s-min=35.0km az=57.0*
*AUST **06** 12:38:07.1, 6.°48S×129.°53E, h100km*
*ISCJB **06** 12:38:08.2±1.0, 6.°50S±0.°07×129.°6E±0.°1, h146km, mb3.7/3, Error ellipse: s-maj=18.9km s-min=9.2km az=10.1*

ISC 06 12:38:09.6±1.1, **6.°56S**±0.°09×**129.°8E**±0.°2, **h146**km, **n11,** σ1°**98**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.10**	**73**	P	P	Pn	12 39 00.4	+2.3
	baz=3.3,SNR=29							
FAKI	**Fak Fak**	**4.38**	**35**	P	**P**	**Pn**	**12 39 14.4**	**-0.4**
	baz=4.5,SNR=6.5							
MTN	**Manton Dam**	**6.39**	**168**	P	**P**	**Pn**	**12 39 43.3**	**+1.7**
	baz=6.6,SNR=22							
KDU	**Kakadu**	**6.65**	**156**	P	**P**	**Pn**	**12 39 46.0**	**+0.9**
	baz=6.8,SNR=104							
KNRA	**Kununurra**	**9.12**	**186**	P	**P**	**Pn**	**12 40 19.1**	**+1.2**
	baz=9.2,SNR=4.8							
FITZ	**Fitzroy Crossi**	**12.16**	**199**	P	**P**	**Pn**	**12 40 59.0**	**+0.9**
	baz=12,SNR=6.9							
WRA	**Warramunga Arr**	**14.03**	**162**	P	P	Pn	12 41 19.1	-3.0
	0.3nm,0.3s,baz=342,slow=13,SNR=18							
WRA				S	S	Sn	12 43 47.1	-10
	1.2nm,0.3s,baz=338,slow=23,SNR=10							
ASAR	**Alice Springs**	**17.47**	**167**	P	**P**	**P**	**12 42 03.8**	**+0.4**
	1.3nm,0.3s,baz=344,slow=10,SNR=129							
ASAR				S	**S**		**12 45 13.7**	**-4.3**
	0.2nm,0.3s,baz=350,slow=24,SNR=5.3							
CTA	**Charters Tower**	**20.91**	**132**	P	**P**		**12 42 42.1**	**+1.4**
	1.5nm,0.5s,baz=315,slow=8.6,SNR=3.1							
STKA	**Stephens Creek**	**27.51**	**158**	P	**P**		**12 43 41.7**	**-0.8**
	0.6nm,0.3s,baz=329,slow=11,SNR=7.9							
MKAR	**Makanchi Array**	**67.72**	**327**	P	**P**		**12 48 50.9**	**-0.4**
	0.8nm,0.4s,baz=127,slow=8.1,SNR=19							

*ISCJB **06** 13:03:41.4±0.5, 26.°25S±0.°03×28.°18E±0.°04, h10km±3km, mb3.7/3, Error ellipse: s-maj=5.3km s-min=4.4km az=10.5*
*PRE **06** 13:03:42.3±3.1, 26.°26S×28.°12E, h2km, ML3.3*
*IDC **06** 13:03:42.5±1.2, 26.°26S×28.°01E, h0km, mb3.7/3, mb1 3.8/8, mb1mx3.6/29, mbtmp3.8/8, ML3.4/3, Error ellipse: s-maj=18.4km s-min=15.8km az=130.0*

ISC 06 13:03:42.0±0.9, **26.°26S**±0.°03×**28.°14E**±0.°03, **h7**km±6km, **n23,** σ1°**49**/39, **mb3.8**/3, **2C-2D, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OBSV	**Observatory**	**0.10**	**321**	⇑*i*P		**Pg**	**13 03 44.3**	**-0.1**
OBSV				*e*S		**Sg**	**13 03 45.4**	**-0.8**
OBSV				AML		AML	13 03 46.1	
	comp=Z,39μm,0.4s							
ERPM	**east rand prop**	**0.12**	**132**	⇑*i*P		**Pg**	**13 03 45.1**	**+0.4**
ERPM				*e*S		**Sg**	**13 03 46.4**	**-0.2**
ERPM				AML		AML	13 03 47.3	
	comp=Z,16μm,0.5s							
KLOF	**Kloof**	**0.49**	**260**	*e*P		**Pg**	**13 03 52.1**	**+0.6**
KLOF				*e*S		**Sg**	**13 03 57.9**	**0.0**
KLOF				AML		AML	13 03 59.5	
	comp=Z,2μm,0.6s							
SLR	**Silverton**	**0.54**	**13**	⇓*i*P		**Pg**	**13 03 52.1**	**-0.4**
SLR				*e*S		**Sg**	**13 03 59.0**	**-0.6**
SLR				AML		AML	13 04 03.5	
	comp=Z,2μm,0.6s							
PRYS	**Parys**	**0.96**	**227**	⇓*i*P		**Pb**	**13 04 01.2**	**+0.2**
PRYS				*e*S		**Sn**	**13 04 16.9**	**+0.8**
PRYS				AML		AML	13 04 23.4	
	comp=Z,229nm,0.7s							
KSR	**Koster**	**1.19**	**290**	*e*P		**Pg**	**13 04 04.8**	**-0.2**
KSR				*e*S		**Sg**	**13 04 20.4**	**-0.1**
KSR				AML		AML	13 04 24.6	
	comp=Z,153nm,0.2s							
SEK	**Senekal**	**2.10**	**193**	*e*P		**Pb**	**13 04 21.1**	**+0.6**
SEK				*e*S		**Sb**	**13 04 46.5**	**-0.5**
SEK				AML		AML	13 04 49.3	
	comp=Z,131nm,0.3s							
LBTB	**Lobatse**	**2.61**	**298**	*e*P		**Pn**	**13 04 26.5**	**+1.7**
LBTB				*e*S		**Sn**	**13 04 57.8**	**+1.1**
LBTB				AML		AML	13 05 02.9	
	comp=Z,190nm,0.3s							
LBTB	**Lobatse**	**2.61**	**298**	Pn		**Pn**	**13 04 26.4**	**+1.7**
	comp=Z,30nm,0.3s,baz=125,slow=16,SNR=293							
LBTB				Pg		**Pb**	**13 04 28.4**	**-0.8**
	comp=Z,30nm,0.3s,baz=120,slow=16,SNR=289							
LBTB				Lg		Lg	13 05 01.5	
	comp=Z,74nm,0.3s,baz=214,slow=14,SNR=25							
SWZ	**Schweizer**	**2.68**	**249**	*e*P		**Pn**	**13 04 26.8**	**+1.2**
SWZ				*e*S		**Sn**	**13 05 00.9**	**+2.5**
SWZ				AML		AML	13 05 12.9	
	comp=Z,122nm,0.7s							
BOSA	**Boshof**	**3.47**	**227**	*e*P		**Pn**	**13 04 36.1**	**-0.5**
BOSA				*e*S		**Sn**	**13 05 15.8**	**-2.2**
BOSA				AML		AML	13 05 34.3	
	comp=Z,40nm,0.5s							
BOSA	**Boshof**	**3.47**	**227**	Pn		**Pn**	**13 04 37.1**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=46,slow=15,SNR=31							
BOSA				Pg		**Pb**	**13 04 43.2**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=53,slow=13,SNR=15							
BOSA				Sn		**Sn**	**13 05 16.2**	**-1.8**
	comp=Z,2.5nm,0.3s,baz=79,slow=12,SNR=4.8							
BOSA				Lg		Lg	13 05 28.7	
	comp=Z,12nm,0.3s,baz=328,slow=16,SNR=8.0							
MSNA	**Messina**	**4.26**	**24**	*e*P		**Pn**	**13 04 48.1**	**+0.7**
MSNA				*e*S		**Sn**	**13 05 36.4**	**-1.0**
MSNA				AML		AML	13 05 54.7	
	comp=Z,54nm,0.7s							
KSD	**Kokstad**	**4.41**	**166**	*e*P		**Pn**	**13 04 51.8**	**+2.4**
KSD				*e*S		**Sn**	**13 05 39.1**	**-1.9**
KSD				AML		AML	13 06 08.2	
	comp=Z,11nm,0.4s							
HVD	**Gariep Dam**	**4.91**	**208**	*e*P		**Pn**	**13 04 55.9**	**-0.5**
HVD				*e*S		**Sn**	**13 05 52.1**	**-1.5**
HVD				AML		AML	13 06 21.0	
	comp=Z,25nm,0.5s							
SUR	**Sutherland**	**8.84**	**225**	Pn		**Pn**	**13 05 51.5**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=56,slow=13,SNR=6.2							
SUR				Sn		**Sn**	**13 07 24.7**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=22,slow=19,SNR=3.8							
SUR				Lg		Lg	13 08 15.7	
	comp=Z,1.4nm,0.3s,baz=330,slow=20,SNR=3.3							
KOMG	**Komaggas**	**10.05**	**247**	*e*S		Sn	13 07 53.9	-6.0
KOMG				AML		AML	13 09 04.7	
	comp=Z,8.1nm,0.5s							
LSZ	**Lusaka**	**10.93**	**0**	Pn		**Pn**	**13 06 19.6**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=176,slow=14,SNR=6.0							
LSZ				Sn		Sn	13 08 15.0	-6.7
	comp=Z,0.1nm,0.3s,baz=253,slow=20,SNR=2.8							
LSZ				Lg		Lg	13 09 16.7	
	comp=Z,0.5nm,0.3s,baz=292,slow=19,SNR=2.6							
TSUM	**Tsumeb**	**12.01**	**304**	Pn		**Pn**	**13 06 33.2**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=135,slow=13,SNR=6.4							
TSUM				Lg		Lg	13 09 52.8	
	comp=Z,0.3nm,0.3s,baz=227,slow=19,SNR=2.7							
TORD	**Torodi Ar. Bea**	**46.87**	**324**	P		**P**	**13 12 13.5**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=142,slow=7.5,SNR=9.4							
ESDC	**Sonseca Array**	**72.11**	**334**	P		**P**	**13 15 07.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=159,slow=6.0,SNR=4.1							
MKAR	**Makanchi Array**	**87.62**	**34**	P		**P**	**13 16 32.0**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=221,slow=5.7,SNR=3.4							
NVAR	**Mina Array Bea**	**149.34**	**302**	PKPbc		**PKPab**	**13 23 35.1**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=74,slow=4.1,SNR=8.7							

*IDC **06** 13:22:17.1±6.4, 23.°11N×121.°76E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/27, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=124.6km s-min=74.3km az=142.0*
*ISCJB **06** 13:22:33.5±0.3, 24.°50N±0.°02×121.°74E±0.°02, h60km±3km, mb3.5/3, Error ellipse: s-maj=3.7km s-min=2.5km az=145.0*
*TAP **06** 13:22:33.7, 24.°47N×121.°69E, h55km, ML4.1, B*
*JMA **06** 13:22:33.4±0.2, 24.°40N×121.°67E, h57km±2km, M3.4*

ISC 06 13:22:33.7±0.8, **24.°49N**±0.°03×**121.°73E**±0.°02, **h55**km±5km, **n68,** σ1°**03**/114, **mb3.4**/3, **13C-14D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.06**	**169**	⇓*e*P		**Pn**	**13 22 42.2**	**+0.2**
	baz=131							
ENA				*e*S		**Sn**	**13 22 48.5**	**+0.6**
	baz=131							
TWC	**Suao**	**0.17**	**41**	⇓*i*P		**Pn**	**13 22 43.1**	**+0.7**
	baz=46							
TWC				S		**Sn**	**13 22 49.3**	**+0.6**
	baz=46							
EHP	**Heping Village**	**0.17**	**176**	*e*P		**Pn**	**13 22 43.0**	**+0.6**
	baz=169							
ENTT	**Nioudou**	**0.21**	**316**	⇓*i*P		**Pn**	**13 22 43.1**	**+0.4**
	baz=327							
ENTT				*e*S		**Sn**	**13 22 49.1**	**-0.1**
	baz=327							
TWE	**Neicheng**	**0.24**	**346**	⇓*i*P		**Pn**	**13 22 43.5**	**+0.6**
	baz=355							
TWE				*i* S		**Sn**	**13 22 49.5**	**0.0**
	baz=355							
ILA	**Ilan**	**0.28**	**3**	P		**Pn**	**13 22 43.8**	**+0.6**
	baz=

		baz=80								
PCYT	**Pengchaiyu**		**1.18**	**15**	*e*P		**Pn**	**13 22 54.0**	**0.0**
		baz=15								
TWF1	**Yuli**		**1.20**	**199**	*e*P		**Pn**	**13 22 52.3**	**-1.9**
		baz=199								
YUS	**Yu-Shan**		**1.22**	**216**	⇑*i*P		**Pn**	**13 22 55.5**	**+0.5**
		baz=208								
YUS					S		**Sn**	**13 23 11.1**	**+0.4**
		baz=208								
ALS	**Alishan**		**1.29**	**221**	*e*P		**Pn**	**13 22 56.7**	**+0.9**
		baz=213								
ALS					*e*S		**Sn**	**13 23 13.5**	**+1.4**
		baz=213								
CHN5	**Tsauling**		**1.31**	**228**	⇓*i*P		**Pn**	**13 22 56.7**	**+0.9**
		baz=229								
CHN5					S		**Sn**	**13 23 14.1**	**+1.9**
		baz=229								
WGK	**Gukeng**		**1.33**	**234**	*e*P		**Pn**	**13 22 57.1**	**+1.1**
		baz=244								
WGK					*e*S		**Sn**	**13 23 15.1**	**+2.4**
		baz=244								
CHKT	**Chengkung**		**1.42**	**194**	*e*P		**Pn**	**13 22 56.5**	**-0.7**
		baz=194								
ELDTW	**Lidau**		**1.45**	**207**	*e*P		**Pn**	**13 22 56.9**	**-0.8**
		baz=200								
WTCT	**Ta-ch'eng**		**1.46**	**245**	*e*P		**Pn**	**13 22 57.8**	**+0.1**
		baz=256								
WTCT					*e*S		**Sn**	**13 23 16.1**	**+0.3**
		baz=256								
CHN2	**Minshiung**		**1.49**	**231**	*e*P		**Pn**	**13 22 58.9**	**+0.8**
		baz=243								
CHN2					*e*S		**Sn**	**13 23 18.9**	**+2.4**
		baz=243								
CHY	**Chiayi**		**1.55**	**231**	⇓*e*P		**Pn**	**13 22 59.8**	**+0.8**
		baz=242								
CHY					*e*S		**Sn**	**13 23 18.8**	**+0.8**
		baz=242								
WTP	**Ta-pu**		**1.60**	**220**	⇓P		**Pn**	**13 23 00.7**	**+1.0**
		baz=232								
WTP					*e*S		**Sn**	**13 23 21.3**	**+2.0**
		baz=232								
WSF	**Szhu**		**1.61**	**239**	⇓P		**Pn**	**13 23 00.1**	**+0.2**
		baz=240								
WSF					*e*S		**Sn**	**13 23 20.1**	**+0.5**
		baz=240								
TWK	**Hsinying**		**1.66**	**223**	⇓P		**Pn**	**13 23 01.4**	**+0.8**
		baz=225								
TWK					*e*S		**Sn**	**13 23 23.2**	**+2.4**
		baz=225								
CHN1	**Nanshi**		**1.70**	**221**	*e*P		**Pn**	**13 23 01.8**	**+0.8**
		baz=223								
CHN1					*e*S		**Sn**	**13 23 23.2**	**+1.5**
		baz=223								
SGST	**Jiashian**		**1.75**	**217**	⇓*e*P		**Pn**	**13 23 02.9**	**+1.2**
		baz=230								
SGST					*e*S		**Sn**	**13 23 24.7**	**+1.9**
		baz=230								
TWG	**Pinlang**		**1.76**	**200**	*e*P		**Pn**	**13 22 59.6**	**-2.3**
		baz=192								
TTN	**Taitung**		**1.80**	**197**	*e*P		**Pn**	**13 23 02.0**	**-0.4**
		baz=190								
IRIF	**Iriomote-Funau**		**1.83**	**94**	P		**Pn**	**13 23 03.0**	**+0.2**
IRIF					S		**Sn**	**13 23 25.5**	**+0.7**
CHN3	**Shinhua**		**1.88**	**222**	*e*P		**Pn**	**13 23 06.3**	**+2.8**
		baz=223								
HATJ	**Hateruma jima**		**1.94**	**102**	P		**Pn**	**13 23 05.7**	**+1.4**
HATJ					S		**Sn**	**13 23 28.8**	**+1.2**
SSD	**Sandimen**		**2.00**	**210**	*e*P		**Pn**	**13 23 06.3**	**+1.1**
		baz=213								
SSD					*e*S		**Sn**	**13 23 30.1**	**+1.0**
		baz=213								
ECL	**Taimali**		**2.01**	**201**	*e*P		**Pn**	**13 23 04.1**	**-1.2**
		baz=194								
JKRS	**Kuro-shima**		**2.09**	**96**	P		**Pn**	**13 23 07.1**	**+0.7**
JKRS					S		**Sn**	**13 23 31.6**	**+0.3**
PNG	**Penghu**		**2.19**	**246**	*e*P		**Pn**	**13 23 06.6**	**-1.1**
		baz=246								
JIJ	**Ishigaki jima**		**2.20**	**93**	P		**Pn**	**13 23 08.0**	**+0.1**
JIJ					S		**Sn**	**13 23 33.1**	**-0.9**
SCZT	**Fangliau**		**2.34**	**206**	*e*P		**Pn**	**13 23 10.9**	**+1.2**
		baz=209								
SCZT					*e*S		**Sn**	**13 23 37.9**	**+0.6**
		baz=209								
TWK1	**Hengchun**		**2.67**	**199**	*e*P		**Pn**	**13 23 14.2**	**0.0**
		baz=193								
JTJ	**Tarama**		**2.71**	**86**	P		**Pn**	**13 23 15.9**	**+1.1**
JTJ					S		**Sn**	**13 23 46.8**	**+0.4**
KNM	**Kinmen**		**3.00**	**269**	*e*P		**Pn**	**13 23 19.4**	**+0.5**
		baz=269								
KSRS	**Korea Array**		**13.97**	**21**	Pn		**P**	**13 25 55.6**	**+0.4**
		0.2nm,0.3s,baz=203,slow=12,SNR=5.8								
SONM	**Songino Array**		**26.29**	**336**	P		**P**	**13 28 04.5**	**+0.4**
		0.3nm,0.7s,baz=157,slow=7.8,SNR=3.1								
MKAR	**Makanchi Array**		**38.47**	**315**	P		**P**	**13 29 50.2**	**-0.2**
		0.3nm,0.6s,baz=118,slow=9.0,SNR=3.8								
HFS	**Hagfors**		**77.55**	**331**	P		**P**	**13 34 21.2**	**-2.3**
		3.4nm,0.9s,baz=89,slow=6.1,SNR=2.9								

*ISCJB **06** 13:39:31.8±0.2,45°.83N±0°.01×11°.79E±0°.01, h11km±1km, Error ellipse: s-maj=2.0km s-min=1.3km az=166.7*
*CSEM **06** 13:39:32.3±0.1,45°.82N×11°.84E, h5km, ML3.5/33, Error ellipse: s-maj=1.6km s-min=1.0km az=157.0*
*ZUR **06** 13:39:32.4,45°.87N×11°.77E, h1km, ML3.0/5*
*ROM **06** 13:39:32.8±0.1,45°.85N×11°.84E, h10km±1km, Ml3.3/32, Error ellipse: s-maj=1.7km s-min=1.6km az=121.0*
*VIE **06** 13:39:33.2±0.2,45°.86N×11°.83E, h10km, mb2.9/14, ML3.5/17, Error ellipse: s-maj=2.1km s-min=1.2km az=20.0 36 km SE of Borgo*
*LDG **06** 13:39:33.6±0.1,45°.80N×11°.98E, h10km, Ml3.2/22, Error ellipse: s-maj=3.4km s-min=1.8km az=171.0*
*PRU **06** 13:39:33.4,45°.81N×11°.86E, h8km*
*GEN **06** 13:39:36.3,45°.81N×11°.77E, h37km, ML3.2*
*STR **06** 13:39:38.7±0.2,45°.79N×11°.36E, h10km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 06 13:39:32.1±0.6, 45°.82N±0°.01×11°.82E±0°.01, h12km±3km, n310, σ1$29/479, 40C-32D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CGRP	**Cima Grappa**	**0.06**	**345**	⇓*i*Pg		**Pg**	**13 39 34.8**	**0.0**
CGRP				*i* Sg		**Sg**	**13 39 36.4**	**-0.3**
CGRP	**Cima Grappa**	**0.06**	**345**	Pg		**Pg**	**13 39 34.8**	**0.0**
CGRP				Sg		**Sg**	**13 39 36.4**	**-0.3**
	17µm,0.4s							
CGRP	**Cima Grappa**	**0.06**	**345**	⇓*i*Pg		**Pg**	**13 39 34.8**	**0.0**
CGRP				Sg		**Sg**	**13 39 36.4**	**-0.3**
	17µm,0.4s							
MTLO	**Montello**	**0.19**	**93**	⇑*e*Pg		**Pg**	**13 39 36.9**	**+0.5**
MTLO				*e*Sg		**Sg**	**13 39 40.5**	**+1.2**
MTLO	**Montello**	**0.19**	**93**	⇑*e*Pg		**Pg**	**13 39 36.9**	**+0.5**
MTLO				*e*Sg		**Sg**	**13 39 40.5**	**+1.2**
VARN	**Col Varnada, M**	**0.26**	**49**	⇓*e*Pg		**Pg**	**13 39 37.1**	**-0.5**
VARN				*e*Sg		**Sg**	**13 39 40.8**	**-0.5**
VARN	**Col Varnada, M**	**0.26**	**49**	⇓*e*Pg		**Pg**	**13 39 37.1**	**-0.5**
VARN				*e*Sg		**Sg**	**13 39 40.8**	**-0.5**
FAU	**Forcella Aurin**	**0.42**	**15**	⇓*i*Pg		**Pg**	**13 39 40.0**	**-0.5**
FAU	**Forcella Aurin**	**0.42**	**15**	⇓*i*Pg		**Pg**	**13 39 40.0**	**-0.5**
PANI	**Panarotta**	**0.42**	**302**	⇑*i*Pg		**Pg**	**13 39 41.1**	**+0.5**
PANI				*i* Sg		**Sg**	**13 39 46.5**	**+0.2**
PANI	**Panarotta**	**0.42**	**302**	⇑*i*Pg		**Pg**	**13 39 41.1**	**+0.5**
PANI				*i* Sg		**Sg**	**13 39 46.5**	**+0.2**
DDS	**Dosso del Somm**	**0.45**	**277**	⇑*i*Pg		**Pg**	**13 39 41.7**	**+0.7**
DDS				*i* Sg		**Sg**	**13 39 48.0**	**+1.1**
DDS	**Dosso del Somm**	**0.45**	**277**	⇑*i*Pg		**Pg**	**13 39 41.7**	**+0.7**
DDS				*i* Sg		**Sg**	**13 39 48.0**	**+1.1**
CAE	**Caneva**	**0.47**	**67**	*e*Pg		**Pg**	**13 39 40.9**	**-0.4**
MARN	**Marana (Italy)**	**0.47**	**247**	⇑*e*Pg		**Pg**	**13 39 42.0**	**+0.7**
MARN				*e*Sg		**Sg**	**13 39 48.9**	**+1.4**
MARN	**Marana (Italy)**	**0.47**	**247**	⇑*e*Pg		**Pg**	**13 39 42.0**	**+0.7**
MARN				*e*Sg		**Sg**	**13 39 48.9**	**+1.4**
TEOL	**Teolo**	**0.48**	**193**	Pg		**Pg**	**13 39 42.2**	**+0.7**
TEOL				Sg		**Sg**	**13 39 49.5**	**+1.7**
	5µm,0.6s							
TEOL	**Teolo**	**0.48**	**193**	Pg		**Pg**	**13 39 42.2**	**+0.7**
TEOL				Sg		**Sg**	**13 39 49.5**	**+1.7**
	5µm,0.6s							
AGOR	**Agordo**	**0.48**	**19**	⇓*e*Pg		**Pg**	**13 39 41.2**	**-0.4**
AGOR	**Agordo**	**0.48**	**19**	Pg		**Pg**	**13 39 41.5**	**-0.2**
	479nm,0.4s							
POLC	**Polcenigo**	**0.52**	**67**	Pg		**Pg**	**13 39 42.0**	**-0.2**
POLC				Sg		**Sg**	**13 39 49.8**	**+0.8**
	3µm,0.3s							
POLC	**Polcenigo**	**0.52**	**67**	⇑*e*Pg		**Pg**	**13 39 42.0**	**-0.2**
POLC				*e*Sg		**Sg**	**13 39 49.5**	**+0.5**
ROVR	**Rover˜¤ Verone**	**0.55**	**252**	Pg		**Pg**	**13 39 43.7**	**+0.7**
ROVR				Sg		**Sg**	**13 39 51.6**	**+1.3**
	886nm,0.2s							
ROVR	**Rover˜¤ Verone**	**0.55**	**252**	Pg		**Pg**	**13 39 43.7**	**+0.7**
ROVR				Sg		**Sg**	**13 39 51.6**	**+1.3**
	886nm,0.2s							
CSO	**Casso**	**0.57**	**38**	*e*Pg		**Pg**	**13 39 42.1**	**-1.2**
MLNI	**Malnisio**	**0.64**	**59**	*e*Pg		**Pg**	**13 39 43.8**	**-0.8**
MLNI	**Malnisio**	**0.64**	**59**	*e*Pg		**Pg**	**13 39 43.8**	**-0.8**
CIMO	**Cimolais**	**0.65**	**41**	⇓*e*Pg		**Pg**	**13 39 43.3**	**-1.5**
CIMO				*e*Sg		**Sg**	**13 39 54.3**	**+1.0**
CIMO	**Cimolais**	**0.65**	**41**	⇓*e*Pg		**Pg**	**13 39 43.3**	**-1.5**
CIMO				*e*Sg		**Sg**	**13 39 54.3**	**+1.0**
KOSI	**Kohlern**	**0.71**	**334**	Pg		**Pg**	**13 39 46.1**	**+0.2**
KOSI				Sg		**Sg**	**13 39 55.7**	**+0.4**
	649nm,0.3s							
KOSI	**Kohlern**	**0.71**	**334**	⇓*i*Pg		**Pg**	**13 39 46.3**	**+0.4**
KOSI				Sg		**Sg**	**13 39 55.7**	**+0.4**
	649nm,0.3s							
AFL	**Alpe Faloria**	**0.75**	**19**	⇓*e*Pg		**Pg**	**13 39 47.2**	**+0.5**
AFL	**Alpe Faloria**	**0.75**	**19**	⇓*e*Pg		**Pg**	**13 39 47.2**	**+0.5**
BOSI	**Bolzano**	**0.76**	**333**	Pg		**Pb**	**13 39 48.1**	**+0.9**
BOSI				Sg		**Sg**	**13 39 57.5**	**+0.8**
	1µm,0.3s							
BOSI	**Bolzano**	**0.76**	**333**	⇑*e*Pg		**Pg**	**13 39 47.5**	**+0.7**
BOSI				Sg		**Sg**	**13 39 57.5**	**+0.8**
	1µm,0.3s							
APPI	**Appiano**	**0.77**	**328**	Pg		**Pg**	**13 39 47.6**	**+0.5**
APPI				Sg		**Sg**	**13 39 57.6**	**+0.3**
	905nm,0.3s							
APPI	**Appiano**	**0.77**	**328**	Pg		**Pg**	**13 39 47.6**	**+0.5**
APPI				Sg		**Sg**	**13 39 57.6**	**+0.3**
	905nm,0.3s							
MAGA	**Magasa**	**0.84**	**267**	Pg		**Pg**	**13 39 48.7**	**+0.4**
MAGA				Sg		**Sg**	**13 40 00.5**	**+1.3**
	678nm,0.2s							
MAGA	**Magasa**	**0.84**	**267**	Pg		**Pg**	**13 39 48.7**	**+0.4**
MAGA				Sg		**Sg**	**13 40 00.5**	**+1.3**
	678nm,0.2s							
CSMI	**Casera Mimoias**	**0.90**	**40**	⇑*e*Pg		**Pg**	**13 39 49.1**	**-0.4**
CSMI	**Casera Mimoias**	**0.90**	**40**	⇑*e*Pg		**Pg**	**13 39 49.1**	**-0.4**
TLI	**Talmassons**	**0.90**	**83**	*e*Pg		**Pg**	**13 39 49.2**	**-0.3**
MPRI	**Monte Prat**	**0.91**	**62**	*e*Pg		**Pg**	**13 39 49.3**	**-0.5**
MPRI	**Monte Prat**	**0.91**	**62**	*e*Pg		**Pg**	**13 39 49.3**	**-0.5**
MABI	**Malga Bissina**	**0.94**	**285**	Pg		**Pg**	**13 39 50.4**	**+0.1**
MABI				Sg		**Sg**	**13 40 03.7**	**+1.1**
	155nm,0.1s							
MABI	**Malga Bissina**	**0.94**	**285**	Pg		**Pg**	**13 39 50.4**	**+0.1**
MABI				Sg		**Sg**	**13 40 03.7**	**+1.1**
	155nm,0.1s							
ABSI	**Aberstueckl**	**0.97**	**339**	Pg		**Pg**	**13 39 50.8**	**0.0**
ABSI				Sg		**Sg**	**13 40 04.3**	**+0.8**
	1µm,0.2s							
ABSI	**Aberstueckl**	**0.97**	**339**	⇓*e*Pg		**Pg**	**13 39 51.0**	**+0.2**
ABSI				Sg		**Sg**	**13 40 04.3**	**+0.8**
	1µm,0.2s							
BUA	**Buia**	**0.99**	**66**	*e*Pg		**Pg**	**13 39 51.1**	**-0.1**
BUA	**Buia**	**0.99**	**66**	*e*Pg		**Pg**	**13 39 51.1**	**-0.1**
SBPO	**S.Benedetto Po**	**1.00**	**220**	Pg		**Pn**	**13 39 52.8**	**+0.9**
	2µm,0.5s							
SBPO	**S.Benedetto Po**	**1.00**	**220**	Pg		**Pn**	**13 39 52.8**	**+0.9**
	2µm,0.5s							
FUSE	**Fusea**	**1.01**	**54**	⇓*e*Pg		**Pg**	**13 39 51.8**	**+0.2**
FUSE	**Fusea**	**1.01**	**54**	⇓*e*Pg		**Pg**	**13 39 51.8**	**+0.2**
BOO	**Bordano**	**1.02**	**60**	*e*Pg		**Pg**	**13 39 50.9**	**-0.8**
BOO	**Bordano**	**1.02**	**60**	*e*Pg		**Pg**	**13 39 50.9**	**-0.8**
FVI	**Forni Avoltri**	**1.02**	**40**	Pg		**Pg**	**13 39 52.0**	**+0.2**
	430nm,0.4s							
FVI	**Forni Avoltri**	**1.02**	**40**	Pg		**Pg**	**13 39 52.0**	**+0.2**
	430nm,0.4s							
GEPF	**Gemona**	**1.02**	**63**	Pg		**Pg**	**13 39 51.9**	**+0.1**
	429nm,0.3s							
GEPF	**Gemona**	**1.02**	**63**	Pg		**Pg**	**13 39 51.9**	**+0.1**
	429nm,0.3s							
ABTA	**Abfaltersbach**	**1.04**	**27**	*e*Pg		**Pg**	**13 39 52.4**	**+0.2**
	SNR=240							
ABTA				⇑*i*Sg		**Sb**	**13 40 07.5**	**+1.8**
	77nm,0.2s							
ABTA	**Abfaltersbach**	**1.04**	**27**	*e*Pg		**Pg**	**13 39 52.4**	**+0.2**
ABTA				Sg		**Sb**	**13 40 07.5**	**+1.8**
	77nm,0.2s							
BAD	**Bernadia**	**1.07**	**67**	*e*Pg		**Pg**	**13 39 51.9**	**-0.8**
BAD				*e*Sg		**Sb**	**13 40 08.1**	**+1.5**
BAD	**Bernadia**	**1.07**	**67**	*e*Pg		**Pg**	**13 39 51.9**	**-0.8**
BAD				*e*Sg		**Sb**	**13 40 08.1**	**+1.5**
ZOU	**Zoufplan**	**1.08**	**47**	*e*Pg		**Pg**	**13 39 52.9**	**-0.1**
ZOU				*e*Sg		**Sn**	**13 40 09.3**	**+1.0**
ZOU	**Zoufplan**	**1.08**	**47**	*e*Pg		**Pg**	**13 39 53.0**	**-0.1**
ZOU				*e*Sg		**Sn**	**13 40 09.3**	**+1.0**
ZOU	**Zoufplan**	**1.08**	**47**	*e*Pg		**Pg**	**13 39 53.0**	**-0.1**
ZOU				*e*Sg		**Sn**	**13 40 09.3**	**+1.0**
VINO	**Villanova**	**1.10**	**66**	*e*Pg		**Pg**	**13 39 52.2**	**-1.1**
VINO	**Villanova**	**1.10**	**66**	Pg		**Pg**	**13 39 53.4**	**0.0**
	626nm,0.4s							
VINO	**Villanova**	**1.10**	**66**	Pg		**Pg**	**13 39 53.4**	**0.0**
	626nm,0.4s							
VINO				*e*Sg		**Sn**	**13 40 09.3**	**+0.7**
COLI	**Coloredo**	**1.13**	**74**	*e*Pg		**Pb**	**13 39 54.4**	**+0.9**
COLI	**Coloredo**	**1.13**	**74**	*e*Pg		**Pb**	**13 39 54.4**	**+0.9**
ROSI	**Rosskopf**	**1.14**	**346**	Pg		**Pb**	**13 39 54.1**	**+0.2**
	580nm,0.3s							
ROSI	**Rosskopf**	**1.14**	**346**	⇓*e*Pg		**Pb**	**13 39 54.2**	**+0.3**
ROSI				*e*Sg		**Sb**	**13 40 09.1**	**+0.4**
PLRO	**Paularo**	**1.17**	**51**	*e*Pg		**Pb**	**13 39 54.7**	**+0.3**
PLRO	**Paularo**	**1.17**	**51**	*e*Pg		**Pb**	**13 39 54.7**	**+0.3**
RAVA	**Ravarino**	**1.18**	**205**	Pg		**Pg**	**13 39 56.2**	**+1.5**
	1µm,0.4s							
RAVA	**Ravarino**	**1.18**	**205**	Pg		**Pg**	**13 39 56.2**	**+1.5**
	1µm,0.4s							
MOSI	**Grossmontoni**	**1.19**	**312**	Pg		**Pb**	**13 39 55.3**	**+0.6**
	729nm,0.3s							
MOSI	**Grossmontoni**	**1.19**	**312**	Pg		**Pb**	**13 39 55.3**	**+0.6**
	729nm,0.3s							
MOSI				*e*Sg		**Sb**	**13 40 11.3**	**+1.2**
BRMO	**Bormio**	**1.20**	**303**	Pg		**Pb**	**13 39 55.4**	**+0.6**
	238nm,0.2s							
BRMO	**Bormio**	**1.20**	**303**	Pg		**Pb**	**13 39 55.4**	**+0.6**
	238nm,0.2s							
FIU	**Minerbio Fiu**	**1.21**	**191**	Pg		**Pg**	**13 39 56.3**	**+1.0**
	913nm,0.5s							
FIU	**Minerbio Fiu**	**1.21**	**191**	Pg		**Pg**	**13 39 56.3**	**+1.0**
	913nm,0.5s							
PTCC	**Patocco-Chiusa**	**1.21**	**61**	Pg		**Pn**	**13 39 55.1**	**+0.2**
	356nm,0.4s							
PTCC	**Patocco-Chiusa**	**1.21**	**61**	Pg		**Pn**	**13 39 55.1**	**+0.2**
	356nm,0.4s							
ROBS	**Robic**	**1.25**	**70**	*i* Pn		**Pn**	**13 39 56.1**	**+0.8**
ROBS				*i* Sn		**Sn**	**13 40 14.0**	**+1.9**
ROBS	**Robic**	**1.25**	**70**	Pn		**Pn**	**13 39 56.2**	**+0.8**
ROBS				*i* Sn		**Sn**	**13 40 14.0**	**+1.9**
SABO	**M.te Sabotino**	**1.25**	**82**	⇓*e*Pg		**Pn**	**13 39 56.1**	**+0.7**
SABO				*e*Sg		**Sn**	**13 40 14.8**	**+2.6**
SABO	**M.te Sabotino**	**1.25**	**82**	Pg		**Pn**	**13 39 56.4**	**+1.0**
	1µm,0.6s							
SABO	**M.te Sabotino**	**1.25**	**82**	Pg		**Pn**	**13 39 56.4**	**+1.0**
	1µm,0.6s							
SABO				*e*Sg		**Sn**	**13 40 14.8**	**+2.6**
NOVE	**Novellara**	**1.29**	**218**	Pg		**Pn**	**13 39 57.1**	**+1.2**
	2µm,0.3s							
NOVE	**Novellara**	**1.29**	**218**	Pg		**Pn**	**13 39 57.1**	**+1.2**
	2µm,0.3s							
DRE	**Drenchia**	**1.32**	**74**	⇑*e*Pg		**Pn**	**13 39 57.1**	**+0.8**
DRE				*e*Sg		**Sg**	**13 40 15.9**	**+1.4**
DRE	**Drenchia**	**1.32**	**74**	⇑*e*Pg		**Pn**	**13 39 57.2**	**+0.8**
DRE				*e*Sg		**Sg**	**13 40 15.9**	**+1.4**
FUORN	**Ofenpass-Fuorn**	**1.34**	**307**	⇑*i*P*P		**Pn**	**13 39 57.8**	**+0.9**
	567nm,0.4s							
FUORN	**Ofenpass-Fuorn**	**1.34**	**307**	Pg		**Pn**	**13 39 57.8**	**+0.9**
FUORN	**Ofenpass-Fuorn**	**1.34**	**307**	Pg		**Pn**	**13 39 57.8**	**+0.9**
LSR	**Lussari**	**1.35**	**61**	⇓*e*Pg		**Pn**	**13 39 57.9**	**+0.9**
LSR				*e*Sg		**Sg**	**13 40 16.8**	**+1.1**
LSR	**Lussari**	**1.35**	**61**	⇓*e*Pg		**Pn**	**13 39 57.9**	**+0.9**
LSR				*e*Sg		**Sg**	**13 40 16.8**	**+1.1**
TRI	**Trieste**	**1.36**	**94**	⇑*e*Pg		**Pn**	**13 39 57.4**	**+0.4**
TRI				*e*Sg		**Sn**	**13 40 16.1**	**+1.2**
TRI	**Trieste**	**1.36**	**94**	⇑*e*Pg		**Pn**	**13 39 57.3**	**+0.4**
TRI				*e*Sg		**Sn**	**13 40 16.1**	**+1.2**
ACOM	**Acomizza, Ital**	**1.38**	**58**	⇑*e*Pg		**Pb**	**13 39 58.9**	**+1.0**
ACOM				*e*Sg		**Sn**	**13 40 18.5**	**+2.0**
ACOM	**Acomizza, Ital**	**1.38**	**58**	Pn		**Pn**	**13 39 58.2**	**+0.9**
	999nm,0.3s							
ACOM	**Acomizza, Ital**	**1.38**	**58**	Pn		**Pn**	**13 39 58.2**	**+0.9**
	999nm,0.3s							
ACOM	**Acomizza, Ital**	**1.38**	**58**	⇑*e*Pg		**Pb**	**13 39 58.9**	**+1.0**
ACOM				*e*Sg		**Sn**	**13 40 17.1**	**+1.5**
CADS	**Cadrg**	**1.39**	**72**	*i* Pn		**Pn**	**13 39 58.4**	**+1.0**
CADS				*i* Sn		**Sg**	**13 40 17.9**	**+0.9**
CADS	**Cadrg**	**1.39**	**72**	*i* Pn		**Pn**	**13 39 58.4**	**+1.0**
CADS				*i* Sn		**Sg**	**13 40 17.9**	**+0.9**
FETA	**Feichten**	**1.42**	**328**	*e*Pn		**Pn**	**13 39 59.1**	**+1.3**
	SNR=84							
FETA				⇓*i*Sn		**Sn**	**13 40 17.3**	**+0.8**
FETA	**Feichten**	**1.42**	**328**	*e*Pn		**Pn**	**13 39 59.1**	**+1.3**
FETA				*i* Sn		**Sn**	**13 40 17.3**	**+0.8**
WTTA	**Wattenberg**	**1.45**	**355**	⇓*e*Pn		**Pb**	**13 39 59.9**	**+0.8**
	SNR=246							
WTTA				⇑*i*Sn		**Sn**	**13 40 18.7**	**+1.5**
WTTA	**Wattenberg**	**1.45**	**355**	Pn		**Pb**	**13 39 59.9**	**+0.8**
	335nm,0.6s							
WTTA	**Wattenberg**	**1.45**	**355**	Pn		**Pb**	**13 39 59.9**	**+0.8**
	335nm,0.6s							
WTTA				*i* Sn		**Sn**	**13 40 18.7**	**+1.5**
VOJS	**Vojsko**	**1.45**	**81**	*i* Pn		**Pn**	**13 39 59.0**	**+0.8**
VOJS				*i* Sn		**Sb**	**13 40 19.2**	**+1.6**
VOY	**Vojsko**	**1.46**	**81**	⇑*i*Pn		**Pn**	**13 39 58.7**	**+0.3**
VOY				*e*Sn		**Sn**	**13 40 18.5**	**+1.0**
MDI	**Monti de Nese**	**1.48**	**269**	Pn		**Pn**	**13 39 59.7**	**+1.1**
	280nm,0.5s							
MDI	**Monti de Nese**	**1.48**	**269**	Pn		**Pn**	**13 39 59.7**	**+1.1**
	280nm,0.5s							
MYKA	**Terra Mystica**	**1.50**	**57**	⇑*e*Pn		**Pn**	**13 40 00.3**	**+1.4**
	SNR=46							
MYKA				⇑*i*Sg		**Sg**	**13 40 21.8**	**+1.5**
	105nm,0.3s							
MYKA	**Terra Mystica**	**1.50**	**57**	⇑*e*Pn		**Pn**	**13 40 00.3**	**+1.4**
MYKA				Sg		**Sg**	**13 40 21.8**	**+1.5**
	105nm,0.3s							
WATA	**Walderalm**	**1.52**	**354**	⇑*e*Pn		**Pb**	**13 40 01.2**	**+0.9**
	SNR=412							
WATA				⇑*i*Sg		**Sg**	**13 40 22.9**	**+1.8**
	106nm,0.3s							
WATA	**Walderalm**	**1.52**	**354**	⇑*e*Pn		**Pb**	**13 40 01.2**	**+0.9**
WATA				Sg		**Sg**	**13 40 22.9**	**+1.8**
	106nm,0.3s							
SKDS	**Skadanscina**	**1.56**	**99**	*i* Pn		**Pn**	**13 40 00.5**	**+0.7**
SKDS				*i* Sn		**Sb**	**13 40 21.7**	**+1.1**
SKDS	**Skadanscina**	**1.56**	**99**	*i* Pn		**Pn**	**13 40 00.4**	**+0.7**
SKDS				*i* Sn		**Sb**	**13 40 21.7**	**+1.1**
MOTA	**Moosalm**	**1.60**	**342**	⇓*e*Pn		**Pn**	**13 40 02.0**	**+1.7**
	SNR=61							
MOTA				⇑*i*Sn		**Sb**	**13 40 23.0**	**+1.1**
MOTA	**Moosalm**	**1.60**	**342**	⇓*e*Pn		**Pn**	**13 40 02.0**	**+1.7**
MOTA				*i* Sn		**Sb**	**13 40 23.0**	**+1.1**
KBA	**Koelnbreinsper**	**1.64**	**39**	⇑*e*Pn		**Pn**	**13 40 02.0**	**+1.1**
	SNR=174							
KBA				⇑*i*Sg		**Sg**	**13 40 26.1**	**+1.3**
	220nm,0.3s							
KBA	**Koelnbreinsper**	**1.64**	**39**	⇑*e*Pn		**Pn**	**13 40 02.0**	**+1.1**

	16nm,0.5s								
SAOF	**Saorge**	**3.54**	**240**	Pn	**Pn**	13 40 28.3	**+1.4**		
SAOF	**Saorge**	**3.54**	**240**	Pg	**Pg**	13 40 40.0	**0.0**		
SAOF	**Saorge**	**3.54**	**240**	Pn	**Pn**	13 40 28.3	**+1.4**		
SAOF	**Saorge**	**3.54**	**240**	Pg	**Pg**	13 40 40.0	**0.0**		
LPG	**La Plagne**	**3.57**	**267**	*e*Pn	**Pn**	13 40 29.4	**+1.9**		
	SNR=1.0								
LPG				*e*Sn	**Sn**	13 41 09.6	**-0.2**		
	SNR=1.0								
LPG				*e*Sg	**Sg**	13 41 29.3	**+2.5**		
	11nm,0.3s,SNR=1.0								
LPG	**La Plagne**	**3.57**	**267**	*e*Pn	**Pn**	13 40 29.4	**+1.9**		
	SNR=1.0								
LPG				*e*Sn	**Sn**	13 41 09.6	**-0.2**		
	SNR=1.0								
LPG				*e*Sg	**Sg**	13 41 29.3	**+2.5**		
	5.4nm,0.3s,SNR=1.0								
LPL	**La Plagne**	**3.58**	**267**	*e*Pn	**Pn**	13 40 29.2	**+1.6**		
	SNR=1.0								
LPL				*e*Sn	**Sn**	13 41 10.8	**+0.8**		
	SNR=1.0								
LPL				*e*Sg	**Sg**	13 41 29.4	**+2.3**		
	11nm,0.4s,SNR=1.0								
LPL	**La Plagne**	**3.58**	**267**	*e*Pn	**Pn**	13 40 29.2	**+1.6**		
	SNR=1.0								
LPL				*e*Sn	**Sn**	13 41 10.8	**+0.8**		
	SNR=1.0								
LPL				*e*Sg	**Sg**	13 41 29.4	**+2.3**		
	5.7nm,0.4s,SNR=1.0								
AUTN	**L'Aution**	**3.62**	**241**	Pn	**Pn**	13 40 29.6	**+1.5**		
AUTN	**L'Aution**	**3.62**	**241**	Pn	**Pn**	13 40 29.6	**+1.5**		
SBF	**Sospel**	**3.69**	**239**	*e*Pn	**Pn**	13 40 29.9	**+1.0**		
	SNR=1.0								
SBF				*e*Sn	**Sn**	13 41 11.6	**-0.7**		
	SNR=1.0								
SBF				*e*Sg	**Sg**	13 41 31.9	**+1.5**		
	30nm,0.4s,SNR=1.0								
SBF	**Sospel**	**3.69**	**239**	*e*Pn	**Pn**	13 40 29.9	**+1.0**		
	SNR=1.0								
SBF				*e*Sn	**Sn**	13 41 11.6	**-0.7**		
	SNR=1.0								
SBF				*e*Sg	**Sg**	13 41 31.9	**+1.5**		
	15nm,0.4s,SNR=1.0								
TOUF	**Mont Tournerai**	**3.72**	**243**	Pn	**Pn**	13 40 30.4	**+0.9**		
TOUF	**Mont Tournerai**	**3.72**	**243**	Pg	**Pg**	13 40 42.2	**-1.1**		
TOUF	**Mont Tournerai**	**3.72**	**243**	Pn	**Pn**	13 40 30.4	**+0.9**		
TOUF	**Mont Tournerai**	**3.72**	**243**	Pg	**Pg**	13 40 42.2	**-1.1**		
LUCF	**Luceram**	**3.72**	**240**	Pn	**Pn**	13 40 31.0	**+1.5**		
LUCF	**Luceram**	**3.72**	**240**	Pn	**Pn**	13 40 31.0	**+1.5**		
MBDF	**Montbardon**	**3.73**	**255**	*e*Pn	**Pn**	13 40 29.4	**-0.2**		
	SNR=1.0								
MBDF				*e*Sn	**Sn**	13 41 13.2	**-0.3**		
MBDF				*e*Sg	**Sg**	13 41 33.5	**+1.6**		
	10nm,0.4s,SNR=1.0								
MBDF	**Montbardon**	**3.73**	**255**	*e*Pn	**Pn**	13 40 29.4	**-0.2**		
	SNR=1.0								
MBDF				*e*Sn	**Sn**	13 41 13.2	**-0.3**		
MBDF				*e*Sg	**Sg**	13 41 33.5	**+1.6**		
	5.1nm,0.4s,SNR=1.0								
LOMF	**Lomont**	**3.77**	**296**	Pn	**Pn**	13 40 31.3	**+1.3**		
LOMF	**Lomont**	**3.77**	**296**	Pn	**Pn**	13 40 31.3	**+1.3**		
REVF	**Revere**	**3.79**	**238**	Pn	**Pn**	13 40 31.4	**+1.0**		
REVF	**Revere**	**3.79**	**238**	Pn	**Pn**	13 40 31.4	**+1.0**		
MOF	**Molkenrain**	**3.80**	**304**	Pn	**Pn**	13 40 33.0	**+2.4**		
MOF	**Molkenrain**	**3.80**	**304**	Pn	**Pn**	13 40 33.0	**+2.4**		
MVIF	**Mont Vial**	**3.84**	**242**	Pn	**Pn**	13 40 32.0	**+0.9**		
MVIF	**Mont Vial**	**3.84**	**242**	Pn	**Pn**	13 40 32.0	**+0.9**		
PGF	**Pioggiola**	**3.85**	**213**	*e*P	Pn	13 40 35.3	+4.0		
	SNR=1.0								
PGF				*e*Sn	**Sn**	13 41 14.4	**-2.1**		
	6.6nm,0.3s								
PGF	**Pioggiola**	**3.85**	**213**	*e*P	Pn	13 40 35.3	+4.0		
	SNR=1.0								
PGF				*e*Sn	**Sn**	13 41 14.4	**-2.1**		
	3.3nm,0.3s								
GRF	**Grafenberg Arr**	**3.89**	**354**	*e*Pg	**Pg**	13 40 46.0	**-0.6**		
GRF				*e*Sg	**Sg**	13 41 36.2	**-0.8**		
HINF	**Hinteralfeld**	**3.95**	**302**	*e*Pn	**Pn**	13 40 34.4	**+1.9**		
	SNR=1.0								
HINF	**Hinteralfeld**	**3.95**	**302**	*e*Pg	**Pg**	13 40 47.8	**+0.1**		
HINF				*e*Sn	**Sn**	13 41 18.3	**-0.5**		
	15nm,0.4s,SNR=1.0								
HINF	**Hinteralfeld**	**3.95**	**302**	*e*Pn	**Pn**	13 40 34.4	**+1.9**		
	SNR=1.0								
HINF	**Hinteralfeld**	**3.95**	**302**	*e*Pg	**Pg**	13 40 47.8	**+0.1**		
HINF				*e*Sn	**Sn**	13 41 18.3	**-0.5**		
	7.7nm,0.4s,SNR=1.0								
ROTZ	**Rotzenmuhle**	**3.95**	**4**	*e*Pn	**Pn**	13 40 32.7	**+0.2**		
ROTZ				*e*Pg	**Pg**	13 40 45.8	**-2.0**		
ROTZ				*e*Sg	**Sg**	13 41 37.9	**-1.1**		
ECH	**Echery**	**3.99**	**309**	Pn	**Pn**	13 40 34.7	**+1.7**		
ECH				Sg	**Sg**	13 41 41.8	**+1.7**		
ECH	**Echery**	**3.99**	**309**	Pn	**Pn**	13 40 34.7	**+1.7**		
ECH				Sg	**Sg**	13 41 41.8	**+1.7**		
CDF	**Champ du Feu**	**4.04**	**311**	*e*Pn	**Pn**	13 40 35.7	**+1.9**		
	SNR=1.0								
CDF				*e*Sn	**Sn**	13 41 20.1	**-1.0**		
CDF				*e*Sg	**Sg**	13 41 42.3	**+0.5**		
	25nm,0.6s								
CDF	**Champ du Feu**	**4.04**	**311**	*e*Pn	**Pn**	13 40 35.7	**+1.9**		
	SNR=1.0								
CDF				*e*Sn	**Sn**	13 41 20.1	**-1.0**		
CDF				*e*Sg	**Sg**	13 41 42.3	**+0.5**		
	12nm,0.6s								
CABF	**La Chapelle**	**4.06**	**283**	*e*Pn	**Pn**	13 40 35.9	**+1.8**		
	SNR=1.0								
CABF	**La Chapelle**	**4.06**	**283**	*e*Pg	**Pg**	13 40 50.6	**+0.8**		
CABF				*e*Sn	**Sn**	13 41 21.1	**-0.4**		
	SNR=1.0								
CABF				*e*Sg	**Sg**	13 41 44.3	**+1.9**		
	7.8nm,0.5s,SNR=1.0								
CABF	**La Chapelle**	**4.06**	**283**	*e*Pn	**Pn**	13 40 35.9	**+1.8**		
	SNR=1.0								
CABF	**La Chapelle**	**4.06**	**283**	*e*Pg	**Pg**	13 40 50.6	**+0.8**		
CABF				*e*Sn	**Sn**	13 41 21.1	**-0.4**		
	SNR=1.0								
CABF				*e*Sg	**Sg**	13 41 44.3	**+1.9**		
	3.9nm,0.5s,SNR=1.0								
CALN	**Calern**	**4.08**	**241**	Pn	**Pn**	13 40 35.3	**+0.9**		
CALN	**Calern**	**4.08**	**241**	Pn	**Pn**	13 40 35.3	**+0.9**		
LANF	**Langenberg**	**4.17**	**321**	Pn	**Pn**	13 40 38.0	**+2.4**		
LANF				Sg	**Sg**	13 41 49.0	**+3.0**		
LANF	**Langenberg**	**4.17**	**321**	Pn	**Pn**	13 40 38.0	**+2.4**		
LANF				Sg	**Sg**	13 41 49.0	**+3.0**		
TREC	**Trest**	**4.27**	**34**	*e*SG	**Sg**	13 41 48.6	**-0.5**		
	7.7nm,0.4s								
TREC	**Trest**	**4.27**	**34**	Sg	**Sg**	13 41 48.6	**-0.5**		
	7.7nm,0.4s								
ORIF	**Oris-en-Rattie**	**4.28**	**260**	*e*Pn	**Pn**	13 40 39.5	**+2.3**		
	SNR=1.0								
ORIF				*e*Sn	**Sn**	13 41 27.1	**0.0**		
	13nm,0.3s								
ORIF	**Oris-en-Rattie**	**4.28**	**260**	*e*Pn	**Pn**	13 40 39.5	**+2.3**		
	SNR=1.0								
ORIF				*e*Sn	**Sn**	13 41 27.1	**0.0**		
	6.7nm,0.3s								
TOD	**Tromm**	**4.30**	**333**	Pn	Pn	13 40 41.0	+3.7		
FRF	**La Foret Royal**	**4.33**	**240**	*e*Pn	**Pn**	13 40 38.1	**+0.4**		
	SNR=1.0								
FRF				*e*Sn	**Sn**	13 41 27.6	**-0.5**		
	9.9nm,0.2s,SNR=1.0								
FRF	**La Foret Royal**	**4.33**	**240**	*e*Pn	**Pn**	13 40 38.1	**+0.4**		
	SNR=1.0								
FRF				*e*Sn	**Sn**	13 41 27.6	**-0.5**		
	4.9nm,0.2s,SNR=1.0								
HAU	**Haudompre**	**4.34**	**302**	*e*Pn	**Pn**	13 40 39.6	**+1.7**		
	SNR=1.0								
HAU				*e*Sn	**Sn**	13 41 28.2	**-0.2**		
	39nm,0.5s,SNR=1.0								
HAU	**Haudompre**	**4.34**	**302**	*e*Pn	**Pn**	13 40 39.6	**+1.7**		
	SNR=1.0								
HAU				*e*Sn	**Sn**	13 41 28.2	**-0.2**		
	20nm,0.5s,SNR=1.0								
ROHR	**Rohrbach**	**4.43**	**4**	*e*Pg	**Pg**	13 40 55.8	**-1.0**		
ROHR				*e*Sn	**Sn**	13 41 29.4	**-1.1**		
NKC	**Novy Kostel**	**4.43**	**5**	*e*Pg	**Pg**	13 40 55.8	**-1.1**		
NKC				*e*Sg	**Sg**	13 41 51.9	**-2.4**		
NKC	**Novy Kostel**	**4.43**	**5**	*e*PN	**Pn**	13 40 40.6	**+1.5**		
NKC				*e*PG	**Pg**	13 40 54.5	**-2.4**		
NKC				*e*SN	**Sn**	13 41 32.3	**+1.7**		
NKC				*e*SG	**Sg**	13 41 53.7	**-0.6**		
	9.8nm,0.4s								
NKC	**Novy Kostel**	**4.43**	**5**	Pn	**Pn**	13 40 40.6	**+1.5**		
WERN	**Wernitzgruen**	**4.48**	**5**	*e*Pg	**Pg**	13 40 56.3	**-1.6**		
LMR	**La Mourre**	**4.54**	**239**	*e*Pn	**Pn**	13 40 41.3	**+0.7**		
	SNR=1.0								
LMR				*e*Sn	**Sn**	13 41 31.9	**-1.3**		
	7.6nm,0.3s,SNR=1.0								
LMR	**La Mourre**	**4.54**	**239**	*e*Pn	**Pn**	13 40 41.3	**+0.7**		
	SNR=1.0								
LMR				*e*Sn	**Sn**	13 41 31.9	**-1.3**		
	3.8nm,0.3s,SNR=1.0								
PRU	**Pruhonice**	**4.55**	**23**	*e*PG	**Pb**	13 40 55.0	**+3.2**		
PRU				*e*SN	**Sn**	13 41 34.1	**+0.6**		
PRU				*e*SG	**Sg**	13 41 58.1	**0.0**		
	7.7nm,0.5s								
PRU	**Pruhonice**	**4.55**	**23**	Pg	**Pb**	13 40 55.0	**+3.2**		
PRU				Sn	**Sn**	13 41 34.1	**+0.6**		
PRU				Sg	**Sg**	13 41 58.1	**0.0**		
	7.7nm,0.5s								
GUNZ	**Gunzen**	**4.56**	**4**	*e*Pn	**Pn**	13 40 41.0	**+0.2**		
GUNZ				*e*Pg	**Pg**	13 40 57.9	**-1.4**		
GUNZ				*e*Sg	**Sg**	13 41 56.7	**-1.6**		
STOF	**St-Etienne Org**	**4.58**	**249**	Pn	**Pn**	13 40 42.5	**+1.3**		
STOF	**St-Etienne Org**	**4.58**	**249**	Pn	**Pn**	13 40 42.5	**+1.3**		
TANN	**Tannenbergstha**	**4.61**	**5**	*e*Pn	**Pn**	13 40 43.6	**+1.9**		
TANN				*e*Pg	**Pg**	13 40 59.0	**-1.4**		
WERD	**Werda**	**4.64**	**4**	*e*Pn	**Pn**	13 40 41.7	**-0.3**		
WERD				*e*Pg	**Pg**	13 40 59.5	**-1.4**		
WERD				*e*Sg	**Sg**	13 41 59.9	**-1.0**		
TAVF	**Tavernes**	**4.66**	**244**	Pn	**Pn**	13 40 43.1	**+0.8**		
TAVF	**Tavernes**	**4.66**	**244**	Pn	**Pn**	13 40 43.1	**+0.8**		
PLN	**Plauen**	**4.67**	**3**	*e*Pg	**Pg**	13 41 00.4	**-1.1**		
VILF	**Villemus**	**4.77**	**248**	Pn	**Pn**	13 40 45.0	**+1.2**		
VILF	**Villemus**	**4.77**	**248**	Pn	**Pn**	13 40 45.0	**+1.2**		
SMRF	**Simiane la Rot**	**4.81**	**250**	*e*Pn	**Pn**	13 40 45.3	**+1.0**		
	SNR=1.0								
SMRF				*e*Sn	**Sn**	13 41 39.0	**-0.9**		
	5.1nm,0.3s								
SMRF	**Simiane la Rot**	**4.81**	**250**	*e*Pn	**Pn**	13 40 45.3	**+1.0**		
	SNR=1.0								
SMRF				*e*Sn	**Sn**	13 41 39.0	**-0.9**		
	2.5nm,0.3s								
LEPF	**PUYLOUBIER**	**4.93**	**244**	Pn	**Pn**	13 40 46.4	**+0.4**		
LEPF	**PUYLOUBIER**	**4.93**	**244**	Pn	**Pn**	13 40 46.4	**+0.4**		
PAGF	**Fort de Pagny**	**4.97**	**306**	*e*Pn	**Pn**	13 40 47.6	**+1.1**		
PAGF	**Fort de Pagny**	**4.97**	**306**	*e*Pg	**Pg**	13 41 07.1	**-0.2**		
PAGF	**Fort de Pagny**	**4.97**	**306**	*e*Pn	**Pn**	13 40 47.6	**+1.1**		
PAGF	**Fort de Pagny**	**4.97**	**306**	*e*Pg	**Pg**	13 41 07.1	**-0.2**		
RUP	**Ruppelstein**	**5.04**	**322**	Pn	**Pn**	13 40 50.0	**+2.6**		
PVCC	**Panska Ves**	**5.05**	**20**	*e*SG	**Sg**	13 42 13.5	**-0.7**		
	16nm,0.5s								
PVCC	**Panska Ves**	**5.05**	**20**	Sg	**Sg**	13 42 13.5	**-0.7**		
	16nm,0.5s								
TREF	**Trevaresse**	**5.09**	**247**	Pn	**Pn**	13 40 48.7	**+0.6**		
TREF	**Trevaresse**	**5.09**	**247**	Pn	**Pn**	13 40 48.7	**+0.6**		
VIVF	**Saint-Julien-l**	**5.13**	**262**	*e*Pn	**Pn**	13 40 49.5	**+0.7**		
	SNR=1.0								
VIVF				*e*Sn	**Sn**	13 41 46.3	**-1.6**		
	3.4nm,0.3s,SNR=1.0								
VIVF	**Saint-Julien-l**	**5.13**	**262**	*e*Pn	**Pn**	13 40 49.5	**+0.7**		
	SNR=1.0								
VIVF				*e*Sn	**Sn**	13 41 46.3	**-1.6**		
	1.7nm,0.3s,SNR=1.0								
STON	**Ston**	**5.14**	**123**	*i* Pn	**Pn**	13 40 49.0	**+0.1**		
STON				Sn	**Sn**	13 41 45.5	**-2.6**		
BRG	**Berggiesshubel**	**5.25**	**15**	PG	**Pg**	13 41 10.7	**-1.8**		
BRG				SN	**Sn**	13 41 50.7	**+0.1**		
BRG				SG	**Sg**	13 42 21.1	**+0.7**		
	7.0nm,0.6s								
MEZF	**Maizieres J'vi**	**5.34**	**303**	*e*Sn	**Sn**	13 41 54.7	**+1.8**		
	7.1nm,0.6s,SNR=1.0								
MEZF	**Maizieres J'vi**	**5.34**	**303**	*e*Sn	**Sn**	13 41 54.7	**+1.8**		
	3.5nm,0.6s,SNR=1.0								
KRLC	**Kraliky**	**5.40**	**36**	Sg	**Sg**	13 42 24.6	**-0.8**		
DPC	**Dobruska-Polom**	**5.44**	**32**	*e*PN	**Pn**	13 40 54.1	**+1.1**		
DPC				*e*PG	Pg	13 41 13.0	-3.2		
DPC				*e*SN	**Sn**	13 41 54.2	**-1.3**		
DPC				*e*SG	**Sg**	13 42 26.1	**-0.5**		
DPC	**Dobruska-Polom**	**5.44**	**32**	Pn	**Pn**	13 40 54.1	**+1.1**		
DPC				Sg	**Sg**	13 42 26.1	**-0.5**		
UPC	**Upice**	**5.46**	**29**	*e*PG	Pb	13 41 11.9	+4.6		
UPC				*e*SG	**Sg**	13 42 26.7	**-0.6**		
	6.2nm,0.6s								
CLL	**Collm**	**5.54**	**8**	*e*Pn	**Pn**	13 40 56.0	**+1.7**		
CLL				*e*Pg	**Pg**	13 41 17.0	**-1.2**		
CLL				*e*Sg	**Sg**	13 42 27.0	**-2.9**		
SMF	**Signal de Mont**	**5.60**	**281**	*e*Pn	**Pn**	13 40 56.5	**+1.4**		
	SNR=1.0								
SMF				*e*Sn	**Sn**	13 41 57.8	**-1.5**		
	7.7nm,0.3s								
SMF	**Signal de Mont**	**5.60**	**281**	*e*Pn	**Pn**	13 40 56.5	**+1.4**		
	SNR=1.0								
LOR	**Lormes**	**5.68**	**288**	*e*Pn	**Pn**	13 40 57.9	**+1.6**		
	SNR=1.0								
LOR				*e*Sn	**Sn**	13 42 00.2	**-1.2**		
	9.4nm,0.3s,SNR=1.0								
LOR	**Lormes**	**5.68**	**288**	*e*Pn	**Pn**	13 40 57.9	**+1.6**		
	SNR=1.0								
SSF	**Saint Saulge**	**5.88**	**285**	*e*Pn	**Pn**	13 40 59.9	**+0.9**		
	SNR=1.0								
SSF				*e*Sn	**Sn**	13 42 05.8	**-0.5**		
	4.4nm,0.6s,SNR=1.0								
SSF	**Saint Saulge**	**5.88**	**285**	*e*Pn	**Pn**	13 40 59.9	**+0.9**		
	SNR=1.0								
SSF				*e*Sn	**Sn**	13 42 05.8	**-0.5**		
	2.2nm,0.6s,SNR=1.0								
LASF	**Ste Croix**	**5.92**	**256**	*e*Pn	**Pn**	13 40 59.3	**-0.2**		
LASF				*e*Sn	**Sn**	13 42 05.4	**-1.8**		
	3.2nm,0.2s,SNR=1.0								
LASF	**Ste Croix**	**5.92**	**256**	*e*Pn	**Pn**	13 40 59.3	**-0.2**		
AVF	**Avril sur Loir**	**5.95**	**282**	*e*Pn	**Pn**	13 41 01.2	**+1.3**		
	SNR=1.0								
AVF				*e*Sn	**Sn**	13 42 06.2	**-1.7**		
	1.9nm,0.3s,SNR=1.0								
AVF	**Avril sur Loir**	**5.95**	**282**	*e*Pn	**Pn**	13 41 01.2	**+1.3**		
	SNR=1.0								
BGF	**Bois d'Agland**	**6.28**	**280**	*e*Pn	**Pn**	13 41 05.7	**+1.3**		
	SNR=1.0								
BGF				*e*Sn	**Sn**	13 42 14.6	**-1.4**		
	8.8nm,0.4s								
BGF	**Bois d'Agland**	**6.28**	**280**	*e*Pn	**Pn**	13 41 05.7	**+1.3**		
	SNR=1.0								
GIVF	**Givet**	**6.36**	**315**	*e*Pn	**Pn**	13 41 06.5	**+1.0**		
	SNR=1.0								
GIVF	**Givet**	**6.36**	**315**	*e*Pn	**Pn**	13 41 06.5	**+1.0**		
	SNR=1.0								
TCF	**Toulx Ste Croi**	**6.71**	**277**	*e*Pn	**Pn**	13 41 11.3	**+0.9**		
	SNR=1.0								
TCF	**Toulx Ste Croi**	**6.71**	**277**	*e*Pn	**Pn**	13 41 11.3	**+0.9**		
	SNR=1.0								
CAF	**Calviac**	**6.93**	**266**	*e*Pn	**Pn**	13 41 15.0	**+1.5**		
	SNR=1.0								
CAF				*e*Sn	**Sn**	13 42 32.3	**+0.1**		
	2.6nm,0.5s,SNR=1.0								
CAF	**Calviac**	**6.93**	**266**	*e*Pn	**Pn**	13 41 15.0	**+1.5**		
	SNR=1.0								
CAF				*e*Sn	**Sn**	13 42 32.3	**+0.1**		
	1.3nm,0.5s,SNR=1.0								
RJF	**Les Rejaudoux**	**7.25**	**270**	*e*Pn	**Pn**	13 41 18.9	**+1.0**		
RJF	**Les Rejaudoux**	**7.25**	**270**	*e*Pn	**Pn**	13 41 18.9	**+1.0**		
MFF	**Saint Martin d**	**8.34**	**280**	*e*Pn	**Pn**	13 41 34.4	**+1.7**		
	SNR=1.0								
MFF	**Saint Martin d**	**8.34**	**280**	*e*Pn	**Pn**	13 41 34.4	**+1.7**		
	SNR=1.0								
EPF	**Esparros**	**8.68**	**255**	*e*Pn	**Pn**	13 41 38.4	**+1.0**		
	SNR=1.0								
EPF	**Esparros**	**8.68**	**255**	*e*Pn	**Pn**	13 41 38.4	**+1.0**		
	SNR=1.0								

*ISCJB **06** 13:45:13.7±0.9, 56°6S±0.1×26°1W±0.4, h88km, mb4.1/4, Error ellipse: s-maj=35.1km s-min=16.4km az=166.2*
*IDC **06** 13:45:17.5±8.6, 56°63S×26°29W, h108km±78km, mb3.8/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=33.6km s-min=25.2km az=79.0*
ISC 06 13:45:15.4±0.9, 56°6S±0.1×26°4W±0°3, h88km, n13, σ0°78/9, mb4.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.03**	**156**	P		**P**	**P**	**13 49 19.0**	**0.0**
	baz=307,slow=11								
SNAA				S			Sn	13 52 28.2	-12
	0.0nm,0.3s,baz=344,slow=20,SNR=2.1								
VNDA	**Vanda**	**46.02**	**182**	P		**P**	**P**	**13 53 29.4**	**+0.1**
	1.0nm,0.7s,baz=193,slow=7.0,SNR=5.0								
H10S2	**ASCENSION HYDR**	**48.42**	**16**	T		T	T	14 46 32.0	
	baz=189,slow=75,SNR=7.1								
H10S3	**ASCENSION HYDR**	**48.42**	**16**	T		T	T	14 46 32.3	
	baz=189,slow=75,SNR=7.8								
H10S1	**ASCENSION HYDR**	**48.44**	**16**	T		T	T	14 46 33.4	
	baz=189,slow=75,SNR=6.6								
H10N1	**ASCENSION HYDR**	**49.54**	**16**	T		T	T	14 47 58.2	
	baz=197,slow=67,SNR=2.5								
H10N3	**ASCENSION HYDR**	**49.54**	**16**	T		T	T	14 47 56.2	
	baz=197,slow=67,SNR=5.2								
H10N2	**ASCENSION HYDR**	**49.56**	**16**	T		T	T	14 47 57.8	
	baz=197,slow=67,SNR=3.9								
LPAZ	**La Paz**	**51.09**	**305**	P		**P**	**P**	**13 54 09.8**	**+0.3**
	1.2nm,0.5s,baz=149,slow=5.9,SNR=5.5								
DBIC	**Dimbokro**	**65.50**	**24**	P		**P**	**P**	**13 55 49.0**	**-0.1**
	1.8nm,0.6s,baz=150,slow=6.9,SNR=3.9								
TORD	**Torodi Ar. Bea**	**73.33**	**29**	P		**P**	**P**	**13 56 37.2**	**-0.1**
	3.9nm,0.5s,baz=200,slow=6.4,SNR=60								
TORD				pP			**pP**	**13 57 00.5**	**+0.4**
	0.5nm,0.6s,baz=205,slow=7.5,SNR=2.0								
SONM	**Songino Array**	**150.29**	**87**	PKPbc		**PKPbc**	**PKPbc**	**14 04 54.8**	**-0.7**
	0.9nm,0.5s,baz=216,slow=3.7,SNR=11								
SONM				pPKPbc			**pPKPbc**	**14 05 21.2**	**+1.4**
	0.2nm,0.4s,baz=214,slow=3.8,SNR=2.3								
ILAR	**Eielson Array**	**150.85**	**311**	PKPbc		**PKPbc**	**PKPbc**	**14 04 55.1**	**-0.9**
	0.5nm,1.0s,baz=113,slow=2.3,SNR=3.9								

*ISCJB **06** 13:46:01.4±0.4, 31°78S±0°03×68°25W±0°05, h112km±5km, mb3.8/8, Error ellipse: s-maj=6.7km s-min=4.6km az=23.5*
*NEIC **06** 13:46:02.1±0.4, 31°78S×68°20W, h110km±10km, mb4.9/6, Error ellipse: s-maj=8.6km s-min=5.6km az=86.0*
*IDC **06** 13:46:02.4±0.6, 31°83S×68°31W, h102km±3km, mb3.6/7, mb1 3.8/11, mb1mx3.8/20, mbtmp3.7/11, Error ellipse: s-maj=20.5km s-min=14.6km az=92.0*
*GUC **06** 13:46:02.7±0.7, 31°80S×68°54W, h150km, ML4.7*
ISC 06 13:46:02.3±0.6, 31°78S±0°04×68°26W±0°05, h105km±5km, n54, σ0°82/76, mb3.8/8, 12C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.17**	**6**	P			**Pn**	**13 46 18.2**	**+1.1**
	baz=201,slow=3.5								
CFAA				S			**Sn**	**13 46 29.5**	**+1.2**
	180nm,0.3s,baz=221,slow=19,SNR=212								
JACH	**Jahuel**	**2.18**	**245**	*e*P			**Pn**	**13 46 38.0**	**+0.6**
JACH	**Jahuel**	**2.18**	**245**	*e*P			**Pn**	**13 46 38.0**	**+0.6**
CMCH	**Combarbala**	**2.42**	**284**	⇓*i*P			**Pn**	**13 46 40.7**	**+0.1**
CMCH				*i* S			**Sn**	**13 47 09.9**	**-0.1**
CMCH				AML		AML	AML	13 47 12.2	
	comp=N,11μm,0.8s								
CMCH	**Combarbala**	**2.42**	**284**	⇓*i*P			**Pn**	**13 46 40.7**	**+0.1**
CMCH				*i* S			**Sn**	**13 47 09.9**	**-0.1**
PEL	**Peldehue**	**2.46**	**236**	⇑*i*P			**Pn**	**13 46 41.3**	**+0.1**
PEL				*i* S			**Sn**	**13 47 10.7**	**-0.3**
PEL				AML		AML	AML	13 47 13.8	
	comp=N,4μm,0.3s								
CLCH	**Cerro Calan**	**2.51**	**229**	⇓*i*P			**Pn**	**13 46 42.3**	**+0.5**
CLCH				*i* S			**S

comp=E,0.3nm,0.8s,baz=270,slow=2.3,SNR=2.7
MKAR PKPab **PKPab 14 05 59.2 +0.7**
comp=E,0.2nm,0.6s,baz=303,slow=2.0,SNR=4.1

*IDC **06** 15:09:53.5±0.8, 20.°06S×173.°84W, h0km, mb4.1/12, mb1 4.4/13, mb1mx4.2/22, mbtmp4.1/13, ML4.3/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/30, Error ellipse: s-maj=31.5km s-min=16.8km az=136.0*

ISC 06 15:09:56.5±0.8, **20.°4S**±0.°1×**173.°6W**±0.°2, **h21**km, **n27, s19/89/18, mb4.2/13, MS3.8/4, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.64**	**16**	Pn		Pn	15 11 26.7	-6.4
	6.3nm,0.3s,baz=145,slow=3.7,SNR=16							
AFI				Sn		Sn	15 12 31.8	-16
	3.6nm,0.3s,baz=128,slow=20,SNR=2.4							
RAO	**Raoul Island**	**9.69**	**203**	Sn		**Sn**	**15 14 00.0**	**-2.9**
	50nm,0.3s,baz=75,slow=20,SNR=5.2							
RAR	**Rarotonga**	**12.97**	**96**	Pn		Pn	15 12 51.7	-7.9
	3.5nm,0.3s,baz=270,slow=11,SNR=14							
RAR				Sn		Sn	15 15 02.6	-21
	0.5nm,0.3s,baz=270,slow=19,SNR=3.1							
DZM	**Mont Dzumac**	**18.68**	**261**	P		**Pn**	**15 14 16.6**	**+2.7**
	0.5nm,0.3s,baz=90,slow=20,SNR=6.3							
URZ	**Urewera**	**19.57**	**202**	P		**Pn**	**15 14 25.7**	**+1.2**
	0.8nm,0.3s,baz=76,slow=2.6,SNR=6.1							
URZ				S		S	15 17 50.1	-13
	0.2nm,0.3s,baz=233,slow=20,SNR=3.2							
TBI	**Tubuai**	**22.60**	**102**	eLR		LR	15 19 56.3	
	196nm,32.0s							
PPT2	**Papeete2**	**22.89**	**87**	eLR		LR	15 20 06.8	
	157nm,27.8s							
PPT	**Papeete**	**22.89**	**87**	LR		LR	15 21 29.3	
	comp=Z,33nm,21.1s,baz=272,slow=30							
RPZ	**Rata Peaks**	**26.59**	**205**	P		**P**	**15 15 36.8**	**+3.5**
	4.8nm,0.7s,baz=27,slow=6.8,SNR=2.9							
HNR	**Honiara**	**27.72**	**289**	LR		LR	15 25 22.9	
	comp=Z,88nm,18.4s,baz=152,slow=34							
CTA	**Charters Tower**	**37.60**	**263**	P		**P**	**15 17 09.4**	**-0.6**
	3.2nm,0.5s,baz=67,slow=11,SNR=6.7							
STKA	**Stephens Creek**	**41.57**	**245**	P		**P**	**15 17 41.8**	**-1.1**
	1.6nm,0.6s,baz=103,slow=10,SNR=9.8							
ASAR	**Alice Springs**	**48.56**	**256**	P		**P**	**15 18 36.9**	**-1.8**
	2.3nm,1.0s,baz=90,slow=8.7,SNR=27							
WRA	**Warramunga Arr**	**48.70**	**261**	P		P	15 18 37.4	-2.4
	3.6nm,1.0s,baz=96,slow=7.7,SNR=32							
MJAR	**Matsushiro Arr**	**72.61**	**321**	P		**P**	**15 21 21.0**	**-1.4**
	1.2nm,0.5s,baz=181,slow=1.6,SNR=4.5							
PETK	**Petropavlovsk-**	**77.27**	**343**	P		**P**	**15 21 48.5**	**-0.4**
	4.1nm,0.8s,baz=141,slow=9.3,SNR=4.2							
YBH	**Yreka Blue Hor**	**77.66**	**36**	LR		LR	15 47 37.9	
	comp=Z,160nm,20.9s,baz=70,slow=29							
NVAR	**Mina Array Bea**	**78.14**	**41**	P		**P**	**15 21 54.9**	**+0.4**
	0.9nm,0.7s,baz=230,slow=7.0,SNR=6.5							
KSRS	**Korea Array**	**79.56**	**316**	P		**P**	**15 22 02.2**	**+0.2**
	1.3nm,0.8s,baz=122,slow=7.1,SNR=3.3							
TXAR	**Lajitas Array**	**83.54**	**56**	P		**P**	**15 22 22.9**	**-0.5**
	0.8nm,1.1s,baz=235,slow=3.2,SNR=4.5							
PDAR	**Pinedale Array**	**86.07**	**42**	P		**P**	**15 22 36.1**	**0.0**
	0.9nm,1.0s,baz=193,slow=7.4,SNR=5.7							
PLCA	**Paso Flores**	**86.35**	**132**	LR		LR	15 56 44.7	
	comp=Z,76nm,18.3s,baz=112,slow=32							
ILAR	**Eielson Array**	**87.32**	**11**	P		**P**	**15 22 40.4**	**-0.9**
	0.6nm,0.8s,baz=232,slow=5.7,SNR=7.4							
CMAR	**Chiang Mai Arr**	**93.97**	**288**	P		**P**	**15 23 15.1**	**+1.6**
	1.8nm,1.0s,baz=110,slow=2.9,SNR=12							
AKASG	**Malin Array Be**	**144.76**	**335**	PKP		**PKPab**	**15 29 29.6**	**-0.9**
	1.3nm,0.5s,baz=35,slow=3.7,SNR=9.7							
BRTR	**Keskin Array B**	**149.71**	**316**	PKPbc		**PKPdf**	**15 29 43.8**	**+3.3**
	1.3nm,0.9s,baz=52,slow=2.0,SNR=5.2							
GERES	**GERESS Array B**	**150.97**	**350**	PKPbc		**PKPbc**	**15 29 46.6**	**-1.2**
	1.7nm,1.2s,baz=8.7,slow=1.8,SNR=5.4							

*GUC **06** 16:31:53.1±0.9, 22.°81S×70.°52W, h39km±3km, ML4.0*
*IDC **06** 16:32:00.9±2.5, 23.°36S×69.°45W, h85km±22km, mb3.2/2, mb1 3.4/6, mb1mx3.3/20, mbtmp3.2/6, MS3.0/2, Ms1 3.0/2, ms1mx2.6/7, Error ellipse: s-maj=37.6km s-min=21.3km az=94.0*

ISC 06 16:31:50.2±2.4, **22.°79S**±0.°06×**70.°7W**±0.°1, **h16**km±13km, **n28, s0/91/20, 4C-3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB10	**Plate Boundary**	**0.72**	**172**	↑P	*i*	**Pn**	**16 32 06.4**	**+0.6**
PB10					*i*	**Sn**	**16 32 16.1**	**-0.4**
PB10					AML	AML	16 32 17.1	
	comp=E,24μm,0.4s							
CEN1	**Los Morros**	**0.73**	**144**	↓P	*i*	Pn	16 32 08.0	+2.0
CEN1					*i*	**Sn**	**16 32 18.8**	**+2.0**
CEN1					AML	AML	16 32 20.6	
	comp=E,4μm,1.1s							
ANCH	**Antofagasta**	**0.92**	**165**	↑P		**Pn**	**16 32 09.5**	**+1.1**
ANCH					*i*	**Sn**	**16 32 21.0**	**-0.2**
MACH	**Maria Elena**	**1.03**	**55**	↓P		**Pg**	**16 32 10.5**	**+0.3**
MACH					*i*	**Sg**	**16 32 23.2**	**-0.4**
PB04	**Plate Boundary**	**1.21**	**64**	↑P		Pn	16 32 05.4	-7.0
PB04					*i*	Sb	16 32 14.0	-14
PB04					AML	AML	16 32 16.4	
	comp=E,22μm,0.3s							
PB07	**Plate Boundary**	**1.28**	**34**	↑P	*i*	**Pb**	**16 32 14.6**	**+0.6**
PB07					*i*	**Sb**	**16 32 30.6**	**+0.3**
PB07					AML	AML	16 32 31.9	
	comp=N,2μm,0.5s							
PB09	**Plate Boundary**	**1.65**	**53**	↓P		**Pb**	**16 32 20.0**	**-0.3**
PB09					*i*	**Sb**	**16 32 40.5**	**-0.3**
PB09					AML	AML	16 32 44.6	
	comp=E,7μm,0.4s							
PB01	**Plate Boundary**	**2.06**	**32**	*e*P		**Pn**	**16 32 25.6**	**+1.5**
LPAZ	**La Paz**	**6.90**	**21**	P		Pb	16 33 43.0	-7.1
	comp=E,0.9nm,0.3s,baz=201,slow=8.5,SNR=11							
CFAA	**Coronel Fontan**	**9.04**	**167**	P		**Pn**	**16 33 58.8**	**-1.2**
	comp=E,0.1nm,0.3s,baz=354,slow=14,SNR=17							
CFAA					S	Sn	16 35 32.7	-8.9
	comp=E,0.0nm,0.3s,baz=109,slow=18,SNR=1.8							
SIV	**San Ignacio**	**11.30**	**55**	P		**Pn**	**16 34 30.2**	**-0.8**
	comp=E,0.4nm,0.3s,baz=256,slow=13,SNR=7.1							
H03N1	**Juan Fernandez**	**12.86**	**213**	T		T	16 48 12.4	
	baz=37,slow=74,SNR=68							
H03N2	**Juan Fernandez**	**12.87**	**213**	T		T	16 48 13.1	
	baz=37,slow=74,SNR=57							
H03N3	**Juan Fernandez**	**12.88**	**213**	T		T	16 48 05.8	
	baz=37,slow=74,SNR=170							
PLCA	**Paso Flores**	**12.89**	**180**	P		**P**	**16 35 59.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=350,slow=15,SNR=4.2							
PLCA					LR	LR	16 43 51.3	
	comp=E,46nm,18.5s,baz=78,slow=41							
BDFB	**Brasilia**	**22.52**	**76**	LR		LR	16 46 37.4	
	comp=E,51nm,20.9s,baz=272,slow=41							
TXAR	**Lajitas Array**	**60.79**	**327**	P		P	16 42 12.4	+11
	comp=E,0.2nm,0.7s,baz=140,slow=5.7,SNR=2.4							
TORD	**Torodi Ar. Bea**	**79.32**	**71**	P		**P**	**16 43 54.6**	**-1.0**
	comp=E,0.7nm,0.7s,baz=244,slow=5.1,SNR=4.9							
H11S2	**WAKE ISLAND Hyl**	**26.42**	**277**	T		T	19 10 23.2	
	baz=108							
H11S1	**WAKE ISLAND Hyl**	**26.43**	**277**	T		T	19 10 26.7	
	baz=108							
H11S3	**WAKE ISLAND Hyl**	**26.44**	**277**	T		T	19 10 33.9	
	baz=108							
H11N3	**WAKE ISLAND Hyl**	**26.54**	**278**	T		T	19 10 26.4	
	baz=106							
H11N1	**WAKE ISLAND Hyl**	**26.56**	**278**	T		T	19 10 34.7	
	baz=106							
H11N2	**WAKE ISLAND Hyl**	**26.56**	**278**	T		T	19 10 27.7	
	baz=106							
ASAR	**Alice Springs**	**128.01**	**209**	PKP		**PKPdf**	**16 50 55.9**	**-0.2**
	comp=E,0.4nm,0.7s,baz=169,slow=0.9,SNR=5.9							
WRA	**Warramunga Arr**	**131.01**	**212**	PKP		**PKPdf**	**16 51 02.1**	**+0.2**
	comp=E,0.4nm,1.0s,baz=147,slow=1.7,SNR=3.6							
ZALV	**Zalesovo Beam**	**143.80**	**25**	PKP		**PKPdf**	**16 51 25.4**	**+1.2**
	comp=E,0.3nm,0.5s,baz=339,slow=3.6,SNR=2.8							
MKAR	**Makanchi Array**	**147.63**	**36**	PKPbc		**PKPbc**	**16 51 33.7**	**-0.1**
	comp=E,0.4nm,0.7s,baz=288,slow=0.5,SNR=3.2							

*ISCJB **06** 16:49:35.0±0.4, 33.°73N±0.°02×54.°18E±0.°03, h10km, Error ellipse: s-maj=3.7km s-min=3.4km az=167.0*
*CSEM **06** 16:49:35.1±0.1, 33.°77N×54.°22E, h2km, ML3.8, Error ellipse: s-maj=3.2km s-min=2.9km az=51.0*
*TEH **06** 16:49:36.5, 33.°77N×54.°21E, h10km, ML3.8*

ISC 06 16:49:36.0±0.9, **33.°79N**±0.°03×**54.°25E**±0.°03, **h10**km, **n39, s0/86/54, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ICHK	**Chekchek**	**1.55**	**175**	*e*Sg		**Sn**	**16 50 23.8**	**-0.3**
ICHK				*e*Pn		**Pn**	**16 50 03.4**	**-0.4**
ICHK				*e*			16 50 28.6	
	comp=Z,17μm,0.3s							
NASN	**Na'in**	**1.56**	**231**	*e*Pg		**Pn**	**16 50 03.7**	**-0.4**
IANJ	**Anjilo**	**1.70**	**351**	*e*			16 50 32.5	
	comp=Z,11μm,0.2s							
IANJ				*e*Pn		**Pn**	**16 50 05.3**	**-0.6**
ISFB	**Sefidab**	**1.76**	**289**	*e*Sg		**Sb**	**16 50 30.2**	**-0.4**
ISFB				*e*Pn		**Pn**	**16 50 06.8**	**+0.2**
ISFB				*e*			16 50 32.1	
	comp=Z,8μm,0.1s							
IZEF	**Zefreh**	**1.84**	**242**	*e*Sg		**Sb**	**16 50 32.5**	**-0.5**
IZEF				*e*Pn		**Pn**	**16 50 07.4**	**-0.5**
IZEF				*e*			16 50 34.7	
	comp=Z,12μm,0.2s							
ILAS	**Lasjerd**	**1.91**	**326**	*e*Sg		**Sg**	**16 50 37.0**	**-0.5**
ILAS				*e*Pn		**Pn**	**16 50 09.4**	**+0.5**
ILAS				*e*			16 50 39.1	
	comp=Z,8μm,0.2s							
ISAD	**Sadrabad**	**1.93**	**194**	*e*Sg		**Sb**	**16 50 36.7**	**+1.0**
ISAD				*e*Pn		**Pn**	**16 50 09.2**	**+0.1**
ISAD				*e*			16 50 39.1	
	comp=Z,13μm,0.1s							
ISHM	**Shahmirzad**	**2.16**	**339**	*e*Pn		**Pn**	**16 50 12.1**	**-0.2**
ISHM				*e*Sg		**Sb**	**16 50 43.6**	**+1.3**
ISHM				*e*			16 50 44.4	
	comp=Z,24μm,0.2s							
ISHM	**Shahmirzad**	**2.16**	**339**	*e*Pn		**Pn**	**16 50 12.1**	**-0.2**
ISHM				*e*Sg		**Sb**	**16 50 43.6**	**+1.3**
IKLH	**Kolahrood**	**2.28**	**259**	*e*Pn		**Pn**	**16 50 13.9**	**0.0**
IKLH				*e*Sg		**Sb**	**16 50 46.1**	**+0.4**
IKLH				*e*			16 50 47.9	
	comp=Z,5μm,0.2s							
IKLH	**Kolahrood**	**2.28**	**259**	*e*Pn		**Pn**	**16 50 13.9**	**0.0**
IKLH				*e*Sg		**Sb**	**16 50 46.1**	**+0.4**
IGAR	**Gharneh**	**2.31**	**234**	*e*Pn		**Pn**	**16 50 14.3**	**0.0**
IGAR				*e*Sg		**Sb**	**16 50 47.6**	**+1.0**
IGAR				*e*			16 50 54.3	
	comp=Z,3μm,0.3s							
IGAR	**Gharneh**	**2.31**	**234**	*e*Pn		**Pn**	**16 50 14.3**	**0.0**
IGAR				*e*Sg		**Sb**	**16 50 47.6**	**+1.0**
TABS	**Tabas**	**2.40**	**93**	*e*Pn		**Pn**	**16 50 15.5**	**+0.1**
IMEH	**Mehriz**	**2.41**	**173**	*e*Pn		**Pn**	**16 50 16.1**	**+0.4**
IMEH				*e*Sg		**Sb**	**16 50 51.4**	**+1.9**
IMEH				*e*			16 50 56.9	
	comp=Z,4μm,0.1s							
IMEH	**Mehriz**	**2.41**	**173**	*e*Pn		**Pn**	**16 50 16.1**	**+0.4**
IMEH				*e*Sg		**Sb**	**16 50 51.4**	**+1.9**
IBAF	**Bafgh**	**2.46**	**153**	*e*Pn		**Pn**	**16 50 16.7**	**+0.4**
IBAF				*e*			16 50 54.1	
	comp=Z,5μm,0.2s							
IBAF	**Bafgh**	**2.46**	**153**	*e*Pn		**Pn**	**16 50 16.7**	**+0.4**
IDMV	**Damavand**	**2.55**	**315**	*e*Pn		**Pn**	**16 50 17.8**	**+0.1**
IDMV				*e*Sg		**Sb**	**16 50 55.9**	**+2.3**
IDMV				*e*			16 50 58.3	
	comp=Z,3μm,0.1s							
IDMV	**Damavand**	**2.55**	**315**	*e*Pn		**Pn**	**16 50 17.8**	**+0.1**
IDMV				*e*Sg		**Sb**	**16 50 55.9**	**+2.3**
DAMV	**Damavand**	**2.63**	**315**	*e*Pn		**Pn**	**16 50 19.7**	**+1.0**
SHRD	**Shahrood**	**2.63**	**33**	*e*Pn		**Pn**	**16 50 18.6**	**0.0**
CHTH	**Charan**	**3.33**	**310**	*e*Pn		**Pn**	**16 50 29.6**	**+1.3**
IMHD	**Mahdasht**	**3.50**	**304**	*e*Pn		**Pn**	**16 50 31.1**	**+0.5**
IMHD				*e*			16 51 31.5	
	comp=Z,901nm,0.1s							
IMHD	**Mahdasht**	**3.50**	**304**	*e*Pn		**Pn**	**16 50 31.1**	**+0.5**
ASAO	**Ashtian**	**3.58**	**283**	*e*Pn		**Pn**	**16 50 33.6**	**+1.8**
ITEG	**Tejag**	**3.87**	**102**	*e*Pn		**Pn**	**16 50 36.1**	**+0.4**
ITEG				*e*			16 51 54.7	
	comp=Z,845nm,0.2s							
ITEG	**Tejag**	**3.87**	**102**	*e*Pn		**Pn**	**16 50 36.1**	**+0.4**
IKOO	**Kooshah**	**4.22**	**108**	*e*Pn		**Pn**	**16 50 40.8**	**+0.3**
IKOO				*e*			16 52 05.1	
	comp=Z,1μm,0.2s							
IKOO	**Kooshah**	**4.22**	**108**	*e*Pn		**Pn**	**16 50 40.8**	**+0.3**
ISFR	**Sfrayin**	**4.47**	**42**	*e*Pn		**Pn**	**16 50 44.5**	**+0.5**
ISFR				*e*			16 52 11.6	
	comp=Z,910nm,0.3s							
ISFR	**Sfrayin**	**4.47**	**42**	*e*Pn		**Pn**	**16 50 44.5**	**+0.5**
IMON	**Monand**	**4.56**	**96**	*e*Pn		**Pn**	**16 50 46.0**	**+0.7**
IMON	**Monand**	**4.56**	**96**	*e*Pn		**Pn**	**16 50 46.0**	**+0.7**
IKRD	**Kardeh**	**4.59**	**48**	*e*Pn		**Pb**	**16 50 54.8**	**-1.9**
IKRD				*e*			16 52 37.9	
	comp=Z,162nm,0.3s							
ISHV	**Shirvan**	**4.67**	**36**	*e*Pn		**Pn**	**16 50 46.7**	**-0.1**
ISHV				*e*			16 52 29.2	
	comp=Z,492nm,0.2s							
ISHV	**Shirvan**	**4.67**	**36**	*e*Pn		**Pn**	**16 50 46.7**	**-0.1**
IDAH	**Dahanechah**	**4.82**	**101**	*e*Pn		**Pn**	**16 50 49.2**	**+0.3**
IDAH				*e*			16 51 10.9	
	comp=Z,300nm,0.2s							
IDAH	**Dahanechah**	**4.82**	**101**	*e*Pn		**Pn**	**16 50 49.2**	**+0.3**

*ISCJB **06** 16:59:38.9±0.8, 31.°2N±0.°1×103.°8E±0.°2, h14km, mb3.4/6, Error ellipse: s-maj=20.0km s-min=13.7km az=155.6*
*IDC **06** 16:59:38.8±1.0, 31.°22N×103.°75E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.4/28, mbtmp3.5/8, ML3.4/1, Error ellipse: s-maj=35.9km s-min=17.9km az=52.0*

ISC 06 16:59:41.0±1.1, **31.°2N**±0.°1×**103.°8E**±0.°2, **h14**km, **n8, s0/68/8, mb3.5/6, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.45**	**200**	Pn		**Pn**	**17 02 51.6**	**+0.1**
	0.1nm,0.3s,baz=17,slow=9.4,SNR=2.8							
KSRS	**Korea Array**	**20.86**	**66**	P		**P**	**17 04 22.6**	**+0.2**
	1.1nm,0.7s,baz=252,slow=9.4,SNR=4.9							
MKAR	**Makanchi Array**	**22.70**	**319**	P		**P**	**17 04 41.6**	**-0.6**
	1.2nm,0.9s,baz=129,slow=13,SNR=5.8							
AAK	**Ala-Archa**	**25.90**	**304**	P		**P**	**17 05 13.2**	**+0.5**
	0.3nm,0.3s,baz=151,slow=10,SNR=2.9							
ZALV	**Zalesovo Beam**	**26.49**	**335**	P		**P**	**17 05 18.2**	**+0.6**
	0.9nm,0.8s,baz=90,slow=4.4,SNR=4.3							
KURBB	**Kurchatov Arra**	**26.97**	**323**	P		**P**	**17 05 21.0**	**-1.1**
	1.1nm,0.9s,baz=130,slow=9.3,SNR=11							
WRA	**Warramunga Arr**	**58.73**	**146**	P		**P**	**17 09 38.2**	**-0.4**
	0.5nm,0.8s,baz=338,slow=7.8,SNR=5.6							
ASAR	**Alice Springs**	**61.75**	**148**	P		**P**	**17 09 59.2**	**0.0**
	0.3nm,0.8s,baz=333,slow=6.9,SNR=4.8							

*IDC **06** 17:14:27.4±1.6, 36.°16N×24.°68E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.2/27, mbtmp3.5/4, Error ellipse: s-maj=625.7km s-min=27.3km az=139.0*
*CSEM **06** 17:14:30.9±0.4, 34.°51N×26.°32E, h15km, MD3.2, Error ellipse: s-maj=9.8km s-min=4.3km az=171.0*
*ATH **06** 17:14:30.8, 34.°53N×26.°31E, h31km±1km, MD3.2/9*

ISC 06 17:14:29.9±1.8, **34.°47N**±0.°07×**26.°33E**±0.°03, **h16**km±10km, **n40, s0/82/52, mb3.6/4, Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.65**	**351**	*e*Pn		**Pb**	**17 14 43.1**	**+0.3**
ZKR				*e*Sn		**Sb**	**17 14 52.2**	**+0.5**
ZKR	**Zakros**	**0.65**	**351**	*e*Pn		**Pb**	**17 14 43.1**	**+0.3**
ZKR				*e*Sn		**Sb**	**17 14 52.2**	**+0.5**
LAST	**Lasithi**	**0.98**	**314**	*e*Pn		**Pg**	**17 14 48.9**	**0.0**
LAST				*e*Sn		**Sg**	**17 15 01.5**	**-0.4**
LAST	**Lasithi**	**0.98**	**314**	*e*Pn		**Pg**	**17 14 48.9**	**0.0**
LAST				*e*Sn		**Sg**	**17 15 01.5**	**-0.4**
NPS	**Neapolis**	**0.99**	**323**	*e*Pn		**Pg**	**17 14 48.9**	**-0.1**
NPS				*e*SN		**Sg**	**17 15 01.5**	**-0.4**
NPS	**Neapolis**	**0.99**	**323**	*e*Pn		**Pg**	**17 14 48.9**	**-0.1**
NPS				*e*Sn		**Sg**	**17 15 01.5**	**-0.4**
KARP	**Karpathos**	**1.27**	**32**	*e*Pn		**Pb**	**17 14 53.9**	**+0.5**
KARP				*e*SN		**Sg**	**17 15 10.4**	**-0.5**
KARP	**Karpathos**	**1.27**	**32**	*e*Pn		**Pb**	**17 14 53.9**	**+0.5**
KARP				*e*Sn		**Sg**	**17 15 10.4**	**-0.5**
SIVA	**Sivas**	**1.37**	**294**	*e*PN		**Pb**	**17 14 55.1**	**0.0**
SIVA				*e*SN		**Sb**	**17 15 12.8**	**+0.4**
SIVA	**Sivas**	**1.37**	**294**	*e*Pn		**Pb**	**17 14 55.1**	**0.0**
SIVA				*e*Sn		**Sb**	**17 15 12.8**	**+0.4**
IDI	**Anoyia**	**1.44**	**305**	*e*PN		**Pb**	**17 14 56.3**	**-0.1**
IDI				*e*SN		**Sb**	**17 15 15.0**	**+0.5**
IDI	**Anoyia**	**1.44**	**305**	*e*Pn		**Pb**	**17 14 56.3**	**-0.1**
IDI				*e*Sn		**Sb**	**17 15 15.0**	**+0.5**
GVD	**Gavdhos**	**1.89**	**282**	*e*PN		**Pn**	**17 15 02.2**	**+0.7**
GVD	**Gavdhos**	**1.89**	**282**	*e*Pn		**Pn**	**17 15 02.2**	**+0.7**
VAM	**Vamos**	**1.99**	**299**	*e*PN		**Pn**	**17 15 04.0**	**+1.2**
VAM	**Vamos**	**1.99**	**299**	*e*Pn		**Pn**	**17 15 04.0**	**+1.2**
ARG	**Arkhangelos**	**2.27**	**40**	*e*PN		**Pn**	**17 15 08.2**	**+1.4**
ARG	**Arkhangelos**	**2.27**	**40**	*e*Pn		**Pn**	**17 15 08.2**	**+1.4**
APE	**Apeiranthos**	**2.67**	**346**	*e*PN		**Pn**	**17 15 12.3**	**0.0**
APE	**Apeiranthos**	**2.67**	**346**	*e*Pn		**Pn**	**17 15 12.3**	**0.0**
BDRM	**Kayabasi**	**2.74**	**19**	*i* P		**Pn**	**17 15 14.6**	**+1.4**
BDRM	**Kayabasi**	**2.74**	**19**	*i* P		**Pn**	**17 15 14.6**	**+1.4**
TURN	**Turunc**	**3.02**	**37**	*i* P		Pn	17 15 14.1	-3.0
TURN					*i* S	Sn	17 15 44.9	-8.1
TURN	**Turunc**	**3.02**	**37**	*i* P		Pn	17 15 14.1	-3.0
AKAS	**Kas**	**3.20**	**56**	*i* P		**Pn**	**17 15 20.3**	**+0.6**
AKAS					*i* S	**Sn**	**17 15 56.6**	**-0.9**
AKAS	**Kas**	**3.20**	**56**	*i* P		**Pn**	**17 15 20.3**	**+0.6**
AKAS					*i* S	**Sn**	**17 15 56.6**	**-0.9**
AYDN	**Tasoluk**	**3.42**	**21**	*i* P		**Pn**	**17 15 23.2**	**+0.6**
AYDN	**Tasoluk**	**3.42**	**21**	*i* P		**Pn**	**17 15 23.2**	**+0.6**
VLI	**Veliai**	**3.56**	**310**	*e*PN		**Pn**	**17 15 24.4**	**-0.1**
VLI	**Veliai**	**3.56**	**310**	*e*Pn		**Pn**	**17 15 24.4**	**-0.1**
GOLH	**Golhisar**	**3.80**	**43**	*i* P		**Pn**	**17 15 28.9**	**+1.0**
GOLH	**Golhisar**	**3.80**	**43**	*i* P		**Pn**	**17 15 28.9**	**+1.0**
DID	**Didima**	**3.93**	**321**	*e*PN		**Pn**	**17 15 30.0**	**+0.4**
DID	**Didima**	**3.93**	**321**	*e*Pn		**Pn**	**17 15 30.0**	**+0.4**
VLX	**Vlachokerasia**	**4.32**	**313**	*e*PN		**Pn**	**17 15 37.2**	**+2.2**
VLX	**Vlachokerasia**	**4.32**	**313**	*e*Pn		**Pn**	**17 15 37.2**	**+2.2**
TORD	**Torodi Ar. Bea**	**30.81**	**232**	P		**P**	**17 20 45.4**	**+0.2**
	0.5nm,0.7s,baz=34,slow=9.3,SNR=3.7							
KURBB	**Kurchatov Arra**	**40.81**	**50**	P		**P**	**17 22 10.1**	**-0.3**
	0.1nm,0.8s,baz=276,slow=9.2,SNR=3.7							
ZALV	**Zalesovo Beam**	**44.79**	**46**	P		**P**	**17 22 41.1**	**-1.5**
	0.7nm,0.4s,baz=275,slow=9.3,SNR=4.9							
SONM	**Songino Array**	**59.17**	**51**	P		**P**	**17 24 29.9**	**-0.2**
	0.3nm,0.4s,baz=290,slow=8.4,SNR=4.5							

*ISCJB **06** 17:36:33.0±1.1, 10.°15S±0.°02×33.°79E±0.°03, h0km±7km, mb5.6/221, MS5.5/213, Error ellipse: s-maj=4.2km s-min=3.8km az=178.5*
*BJI **06** 17:36:33.9, 9.°91S×33.°39E, h10km, mB6.0/42, mb5.4/50, Ms5.7/51, Ms7 5.4/48*
*SZGRF **06** 17:36:34.4, 10.°28S×35.°19E, h33km, mb5.8, MS4.7, Tanzania*
*IDC **06** 17:36:35.1±0.3, 10.°02S×33.°86E, h0km, mb5.0/38, mb1 5.1/41, mb1mx5.1/42, mbtmp5.0/41, ML3.0/1, MS5.4/30, Ms1 5.4/30, ms1mx5.3/38, Error ellipse: s-maj=12.7km s-min=9.7km az=103.0*
*MOS **06** 17:36:35.0±0.9, 9.°99S×33.°83E, h10km, mb5.9/81, MS5.2/46, Error ellipse: s-maj=7.6km s-min=3.8km az=91.1*
*BUL **06** 17:36:35.3±8.2, 10.°16S×33.°40E, h0km±32km, MD4.6*
*NEIC **06** 17:36:36.0±0.1, 10.°13S×33.°87E, h9km, mb5.8/101, ME5.5, MS5.6/145, MW5.7, MW5.8, Error ellipse: s-maj=3.8km s-min=3.1km az=93.0, Moment Tensor Solution. s44 Moment tensor: Scale 10^17 Nm; Mrr=4.68; Mθθ 0.79; Mϕϕ 3.89; Mrθ 3.52; Mθϕ -1.19; Mϕr 0.02; Best double couple: Mo 5.70000×10^17 NP1: ϕs 313.00000°, δ 59.00000°, λ -119.00000°. NP2: ϕs 180.00000°, δ 41.00000°, λ -51.00000°. Principal axes: T 4.4900, Plg 9.0000°, Azm 63.0000°; N 1.9400, Plg 24.0000°, Azm 328.0000°; P -6.4300, Plg 63.0000°, Azm 173.0000°; Broadband fault plane solution: P waves. NP1: ϕs 135.00000°, δ 25.00000°, λ -90.00000°. NP2: ϕs 315.00000°, δ 65.00000°, λ -90.00000°. Principal axes: T Plg 20.0000°, Azm 45.0000°; N Plg 0.0000°, Azm 0.0000°; P Plg 70.0000°, Azm 225.0000°; Depth from synthet

SLR AMB AMB 17 40 30.5
comp=Z,236nm,1.5s
SLR Silverton 16.36 198 P **Pn** **17 40 25.4 -1.6**
SLR pmax pmax
comp=Z,236nm,1.5s
SLR Silverton 16.36 198 P **Pn** **17 40 25.4 -1.6**
comp=Z,236nm,1.5s
LBTB Lobatse 16.72 207 *e*P **Pn** **17 40 26.9 -4.6**
LBTB AMB AMB 17 40 37.4
comp=Z,411nm,1.4s
LBTB Lobatse 16.72 207 Pn **Pn** **17 40 27.2 -4.3**
LBTB *e*Pn P 17 40 27.4 -6.4
LBTB Lobatse 16.72 207 Pn **Pn** **17 40 27.2 -4.3**
comp=Z,11nm,0.3s,baz=41,slow=14,SNR=38
LBTB Sn Sn 17 43 29.4 -7.6
comp=Z,9.8nm,0.3s,baz=126,slow=19,SNR=3.5
LBTB Lg Lg 17 45 25.6
comp=Z,27nm,0.3s,baz=126,slow=18,SNR=4.3
LBTB LR LR 17 46 07.7
comp=Z,9μm,21.1s,baz=43,slow=34
OBSV Observatory 16.84 198 *e*P **Pn** **17 40 29.6 -3.6**
KSR Koster 16.93 202 *e*P **Pn** **17 40 30.6 -3.7**
KSR AMB AMB 17 40 41.3
comp=Z,193nm,1.2s
KSR Koster 16.93 202 P **Pn** **17 40 30.6 -3.7**
comp=Z,193nm,1.2s
ERPM east rand prop 16.94 197 *e*P **Pn** **17 40 29.7 -4.7**
ERPM AMB AMB 17 40 40.3
comp=Z,243nm,1.1s
ERPM east rand prop 16.94 197 P **Pn** **17 40 29.7 -4.7**
comp=Z,243nm,1.1s
KLOF Kloof 17.14 199 *e*P **Pn** **17 40 33.1 -3.9**
KLOF AMB AMB 17 40 43.6
comp=Z,248nm,1.2s
KLOF Kloof 17.14 199 P **Pn** **17 40 34.2 -2.8**
comp=Z,248nm,1.2s
PRYS Parys 17.76 199 *e*P **Pn** **17 40 41.6 -3.0**
PRYS AMB AMB 17 41 01.5
comp=Z,154nm,1.8s
PRYS Parys 17.76 199 P **Pn** **17 40 41.6 -3.0**
comp=Z,154nm,1.8s
TSUM Tsumeb 18.09 238 *e*P **Pn** **17 40 46.4 -2.3**
TSUM Tsumeb 18.09 238 P **Pn** **17 40 47.4 -1.3**
comp=Z,480nm,2.9s
TSUM S Sn 17 43 57.1 -13
TSUM Lg Lg 17 46 02.7
TSUM Tsumeb 18.09 238 P **Pn** **17 40 47.4 -1.3**
comp=Z,2.7nm,0.3s,baz=54,slow=11,SNR=73
TSUM S Sn 17 43 57.1 -13
comp=Z,2.8nm,0.3s,baz=325,slow=11,SNR=4.6
TSUM Lg Lg 17 46 02.7
comp=Z,6.6nm,0.3s,baz=122,slow=18,SNR=3.0
TSUM LR LR 17 48 00.9
comp=Z,43μm,19.3s,baz=54,slow=38
SWZ Schweizer 18.73 204 *e*P **P** **17 40 52.0 -4.0**
SWZ AMB AMB 17 40 58.4
comp=Z,454nm,4.0s
SWZ Schweizer 18.73 204 P **P** **17 40 52.0 -4.0**
comp=Z,454nm,4.0s
SWZ Schweizer 18.73 204 *i* P **Pn** **17 40 57.3 +0.8**
SEK Senekal 18.99 197 *e*P **P** **17 40 58.4 -0.5**
SEK AMB AMB 17 41 05.7
comp=Z,364nm,0.9s
SEK Senekal 18.99 197 P **P** **17 40 58.4 -0.5**
comp=Z,364nm,0.9s
SEK Senekal 18.99 197 *i* P **Pn** **17 41 02.8 +3.3**
FURI Furi 19.54 14 *i* P **Pn** **17 41 06.7 +0.3**
FURI S Sn 17 45 03.4 +17
AAE Adis Abeba 19.69 15 *i* P **Pn** **17 41 08.6 +0.4**
AAE *i* S Sn 17 45 00.5 +11
BOSA Boshof 20.04 202 *e*P **P** **17 41 08.9 -1.5**
BOSA AMB AMB 17 41 14.5
comp=Z,424nm,3.7s
BOSA Boshof 20.04 202 P **P** **17 41 10.7 +0.3**
comp=Z,136nm,1.4s
BOSA S S 17 44 45.9 -10
BOSA Lg Lg 17 47 06.6
BOSA Boshof 20.04 202 P **P** **17 41 10.7 +0.3**
comp=Z,80nm,0.6s,baz=28,slow=13,SNR=100
BOSA S S 17 44 45.9 -10
comp=Z,88nm,0.7s,baz=25,slow=10,SNR=4.2
BOSA Lg Lg 17 47 06.6
comp=Z,687nm,0.9s,baz=106,slow=20,SNR=4.0
BOSA LR LR 17 49 40.0
comp=Z,3μm,19.5s,baz=29,slow=39
WIN Windhoek 20.21 230 *e*P **P** **17 41 12.7 +0.3**
WIN AMB AMB 17 41 18.8
comp=Z,224nm,3.7s
WIN Windhoek 20.21 230 P **P** **17 41 12.7 +0.3**
WIN pmax pmax
comp=Z,224nm,3.7s
WIN Windhoek 20.21 230 P **P** **17 41 12.7 +0.3**
comp=Z,224nm,3.7s
KSD Kokstad 20.69 191 *e*P Pn 17 41 20.2 +0.3
KSD AMB AMB 17 41 24.9
comp=Z,77nm,1.6s
KSD Kokstad 20.69 191 P Pn 17 41 20.2 +0.3
comp=Z,266nm,1.6s
HVD Gariep Dam 21.77 200 *e*P **P** **17 41 29.4 +0.3**
HVD AMB AMB 17 41 34.4
comp=Z,322nm,1.2s
HVD Gariep Dam 21.77 200 P **P** **17 41 29.4 +0.3**
HVD pmax pmax
comp=Z,322nm,1.2s
HVD Gariep Dam 21.77 200 P **P** **17 41 29.4 +0.3**
comp=Z,322nm,1.2s
HVD Gariep Dam 21.77 200 *i* P **P** **17 41 30.8 +1.7**
MSKU Masuku 21.79 292 PFAKE 17 41 40.0 +11
MSKU LR LR
comp=Z,2.0nm,21.0s
DESE Dese 21.91 15 *i* P **P** **17 41 34.0 +3.1**
DESE *e*S Sn 17 45 51.8 +8.6
MSEY Mahe Island 22.15 77 P **P** **17 41 36.5 +3.3**
SNR=8.0
MSEY Mahe Island 22.15 77 *e*P **P** **17 41 32.0 -1.2**
comp=Z,878nm,2.4s
MSEY LR LR
comp=Z,11μm,21.0s
SOE Somerset East 23.70 198 *e*P **P** **17 41 48.6 -0.5**
SOE AMB AMB 17 41 52.5
comp=Z,324nm,2.8s
SOE Somerset East 23.70 198 P **P** **17 41 48.6 -0.5**
comp=Z,324nm,2.8s
RER Riviere de l'E 23.74 120 *e*P P 17 41 44.4 -5.1
comp=Z,60nm,0.9s
RER LR LR
comp=Z,7μm,20.0s
GRM Grahamstown 24.01 195 *e*P **P** **17 41 52.9 +0.9**
GRM AMB AMB 17 41 55.4
comp=Z,457nm,3.7s
GRM Grahamstown 24.01 195 P **P** **17 41 52.9 +0.9**
GRM pmax pmax
comp=Z,457nm,3.7s
GRM Grahamstown 24.01 195 P **P** **17 41 52.9 +0.9**
comp=Z,457nm,3.7s
GRM Grahamstown 24.01 195 *i* P **P** **17 41 52.4 +0.5**
KOMG Komaggas 24.79 216 *e*P **P** **17 41 59.0 -0.2**
KOMG AMB AMB 17 42 04.5
comp=Z,241nm,2.7s
KOMG Komaggas 24.79 216 P **P** **17 41 59.0 -0.2**
comp=Z,241nm,2.7s
MRIV Mauritius Mete 24.93 117 *e*P **P** **17 42 01.0 +0.5**
SUR Sutherland 25.17 207 P **P** **17 42 07.3 +4.6**
SNR=6.4
SUR Sutherland 25.17 207 P **P** **17 42 02.7 -0.1**
comp=Z,17nm,1.8s
SUR S S 17 46 37.5 +10
SUR Lg Lg 17 49 50.6
SUR Sutherland 25.17 207 P **P** **17 42 02.7 -0.1**
comp=Z,50nm,1.0s,baz=36,slow=12,SNR=10
SUR S S 17 46 37.5 +10
comp=Z,29nm,0.8s,baz=107,slow=19,SNR=1.9
SUR Lg Lg 17 49 50.6
comp=Z,424nm,1.0s,baz=120,slow=20,SNR=3.9
SUR LR LR 17 52 25.9
comp=Z,6μm,21.7s,baz=33,slow=38
ELIM Elim 27.52 206 *e*P **P** **17 42 23.0 -0.8**
ELIM AMB AMB 17 42 28.9
comp=Z,175nm,2.6s
ELIM Elim 27.52 206 P **P** **17 42 23.6 -0.2**
comp=Z,175nm,2.6s
ABTO Aybut 33.43 35 P **P** **17 43 18.2 +2.1**
SNR=13
RBK Rabkut 34.07 36 P **P** **17 43 23.4 +1.7**
SNR=8.5
KUK Kukurantumi 37.73 294 *i* P P 17 43 48.8 -4.3
KUK *i* S **S** **17 49 38.2 -5.2**
DGAR Diego Garcia 38.26 89 *de*P **P** **17 43 55.4 -2.2**
DGAR Diego Garcia 38.26 89 PFAKE 17 44 10.0 +12
DGAR LR LR
comp=Z,10μm,19.0s
SHEL Horse Pasture 38.93 257 *e*P **P** **17 44 02.0 -1.3**
SHEL pmax pmax
comp=Z,139nm,0.9s
SHEL MLR MLR
comp=Z,6μm,20.0s
SHEL Horse Pasture 38.93 257 *e*P **P** **17 44 02.0 -1.3**
comp=Z,140nm,0.9s
SHEL LR LR
comp=Z,6μm,20.0s
TOA0 Torodi Ar. Sit 39.41 305 *e*P **P** **17 44 06.2 -1.1**
TORD Torodi Ar. Bea 39.41 305 P **P** **17 44 05.8 -1.5**
TORD PP **PnPn** **17 45 40.4 -0.4**
TORD Torodi Ar. Bea 39.41 305 P **P** **17 44 05.8 -1.5**
comp=Z,25nm,1.1s,baz=115,slow=5.2,SNR=98
TORD PP **PnPn** **17 45 40.4 -0.4**
comp=Z,28nm,0.8s,baz=121,slow=8.7,SNR=6.2
TORD LR LR 18 00 37.2
comp=Z,7μm,19.2s,baz=125,slow=37
EIL Elat 39.61 2 P **P** **17 44 07.8 -0.9**
EIL Elat 39.61 2 P **P** **17 44 07.8 -0.9**
comp=Z,12nm,1.1s,baz=173,slow=5.9,SNR=9.4
BSY Bisya 39.92 35 P **P** **17 44 12.8 +1.3**
SNR=24
ARQ Araqi 40.02 33 P **P** **17 44 13.4 +1.1**
SNR=11
JMDO Jabal Madar 40.15 36 P **P** **17 44 14.0 +0.7**
SNR=10
KAAM Kaadhehdhoo 40.38 77 P P 17 44 19.7 +4.3
comp=Z,94nm,2.6s,comp=Z,3μm
HOQ Hoqain 40.65 34 P **P** **17 44 18.6 +1.2**
SNR=12
SMDO Samad 40.65 35 P **P** **17 44 17.7 +0.2**
SNR=24
WBK Wadi Bani Khal 40.84 37 P **P** **17 44 21.0 +2.0**
SNR=21
ASHO Ashiyiah 40.87 32 P **P** **17 44 20.1 +0.8**
SNR=17
KIC Kosan Boka 41.77 292 *e*P **P** **17 44 25.7 -1.1**
comp=Z,585nm,1.4s
LIC Lamto 41.98 291 *e*P **P** **17 44 27.2 -1.3**
comp=Z,250nm,1.1s,baz=110
LIC *e*R
comp=Z,18μm,22.2s
LIC Lamto 41.98 291 *e*P **P** **17 44 27.7 -0.8**
comp=Z,414nm,1.4s
LIC Lamto 41.98 291 *e*P **P** **17 44 27.2 -1.3**
comp=Z,250nm,1.1s
DBIC Dimbokro 41.99 292 *e*P **P** **17 44 27.5 -1.2**
DBIC Dimbokro 41.99 292 *e*P **P** **17 44 27.6 -1.0**
comp=Z,126nm,1.1s
DBIC Dimbokro 41.99 292 P **P** **17 44 27.2 -1.5**
comp=Z,66nm,1.0s,baz=93,slow=9.6,SNR=59
DBIC LR LR 18 00 50.3
comp=Z,8μm,21.5s,baz=100,slow=35
BANOM Banah 42.01 31 P **P** **17 44 29.1 +0.5**
SNR=8.3
TIC Toumodi 42.13 292 *e*P **P** **17 44 28.8 -1.0**
comp=Z,782nm,1.3s
ASF Jabal al Asfar 42.19 4 P **P** **17 44 30.0 -0.1**
ASF Jabal al Asfar 42.19 4 P **P** **17 44 30.0 -0.1**
comp=Z,22nm,1.0s,baz=140,slow=1.7,SNR=16
TAM Tamanrasset 42.91 320 *e*P **P** **17 44 35.4 -0.7**
TAM pmax pmax
comp=Z,563nm,2.6s
TAM MLR MLR
comp=Z,3μm,21.0s
TAM Tamanrasset 42.91 320 *e*P **P** **17 44 35.4 -0.7**
comp=Z,563nm,2.6s
TAM LR LR
comp=Z,3μm,21.0s
IBND Bandar-abas 43.39 30 *e*P **P** **17 44 40.8 +1.1**
IPAR Pars 43.87 24 *e*P **P** **17 44 42.6 -1.3**
CSS Prodhromos 44.88 359 PFAKE 17 45 00.0 +8.4
CSS LR LR
comp=Z,773nm,20.0s
IGAR Gharneh 45.76 22 *e*P **P** **17 44 59.8 +0.9**
IGHG Ghaleghazi 45.87 15 *e*P **P** **17 45 00.1 +0.4**
IMEH Mehriz 45.87 25 *e*P **P** **17 44 59.5 -0.3**
ISAD Sadrabad 45.95 24 *e*P **P** **17 45 02.0 +1.5**
IKOM Komasi 45.97 16 *e*P **P** **17 45 00.5 +0.1**
IVIS Veis 46.12 15 *e*P **P** **17 45 01.6 0.0**
IZEF Zefreh 46.31 22 *e*P **P** **17 45 03.0 -0.3**
IKLH Kolahrood 46.42 21 *e*P **P** **17 45 03.9 -0.3**
IBAF Bafgh 46.44 26 *e*P **P** **17 45 03.4 -0.8**
ICHK Chekchek 46.53 24 *e*P **P** **17 45 03.7 -1.3**
TRD Trivandrum 46.77 68 *e*P **P** **17 45 05.6 -1.3**
TRD AMS AMS 18 00 17.5
comp=Z,5μm,18.9s
SANT Santorini 46.95 351 PFAKE 17 45 20.0 +12
SANT LR LR
comp=Z,2μm,19.0s
GOA Goa 47.11 58 *e*P **P** **17 45 07.9 -1.5**
ISFB Sefidab 47.59 21 *e*P **P** **17 45 14.1 +1.1**
ASCN Ascension 47.60 269 PFAKE 17 45 20.0 +6.5
ASCN LR LR
comp=Z,3μm,20.0s
ISP Isparta 47.83 356 PFAKE 17 45 20.0 +5.1
ISP LR LR
comp=Z,2μm,19.0s
BHJ Bhuj 48.29 46 *e*P **P** **17 45 18.4 -0.2**
MALT Malatya 48.41 5 ⇑*i*P **P** **17 45 21.3 +2.0**
IDMV Damavand 48.63 20 *e*P **P** **17 45 22.3 +1.0**
IKOO Kooshah 48.70 29 *e*P **P** **17 45 22.3 +0.4**
POO Poona 48.70 54 *e*P **P** **17 45 20.8 -1.1**
ILAS Lasjerd 48.77 21 *e*P **P** **17 45 23.0 +0.6**
ITEG Tejag 48.97 28 *e*P **P** **17 45 23.9 0.0**
IBST Bostanabad 49.16 14 *e*P **P** **17 45 25.0 -0.2**
IANJ Anjilo 49.19 22 *e*P **P** **17 45 26.3 +0.7**
WDD Wield Dalam 49.27 339 PFAKE 17 45 40.0 +14
WDD LR LR
comp=Z,8μm,20.0s
ISHM Shahmirzad 49.27 21 *e*P **P** **17 45 27.4 +1.2**
IDAH Dahanechah 49.37 29 *e*P **P** **17 45 27.2 +0.2**
TRIS Tristan da Cun 49.40 229 PFAKE 17 45 40.0 +13
TRIS LR LR
comp=Z,9μm,20.0s
BR131 Keskin Array S 49.63 360 *e*P **P** **17 45 27.7 -1.0**
comp=Z,18nm,0.9s
BRTR Keskin Array B 49.63 360 P **P** **17 45 28.4 -0.4**
BRTR Keskin Array B 49.63 360 P **P** **17 45 28.4 -0.4**
comp=Z,20nm,0.9s,baz=178,slow=8.7,SNR=66
IHRS Heris 49.78 14 *e*P **P** **17 45 30.4 +0.4**
ANTO Ankara 49.78 359 P **P** **17 45 30.4 +0.6**
SNR=5.7
ANTO Ankara 49.78 359 *e*P **P** **17 45 28.5 -1.3**
ANTO pmax pmax
comp=Z,47nm,1.3s
ANTO MLR MLR
comp=Z,2μm,19.0s
ANTO Ankara 49.78 359 ⇑*i*P **P** **17 45 30.3 +0.6**
ANTO Ankara 49.78 359 *e*P **P** **17 45 28.5 -1.3**
comp=Z,47nm,1.3s
ANTO LR LR
comp=Z,2μm,19.0s
IMRD Marand 49.87 12 *e*P **P** **17 45 31.3 +0.7**
LATR Latur 50.84 56 *ex* x 17 45 12.8
CEL Celeste 51.00 342 PFAKE 17 45 50.0 +11
CEL LR LR
comp=Z,2μm,19.0s
GNI Garni 51.06 11 P **P** **17 45 41.3 +1.7**
SNR=16
GNI Garni 51.06 11 *e*P **P** **17 45 38.4 -1.2**
comp=Z,368nm,2.2s
GNI LR LR
comp=Z,3μm,21.0s
KEST Kesra 51.16 334 *e*P **P** **17 45 39.0 -1.3**
KEST Kesra 51.16 334 P **P** **17 45 39.3 -1.0**
comp=Z,14nm,1.1s,baz=126,slow=2.0,SNR=22
KEST LR LR 18 09 33.2
comp=Z,1μm,18.9s,baz=300,slow=39
MDRS Chennai 51.54 64 *e*P **P** **17 45 43.2 -0.2**
MDRS *e*S **S** **17 53 04.2 +0.4**
TIP Timpagrande 51.59 343 PFAKE 17 45 50.0 +6.5
TIP LR LR
comp=Z,1μm,21.0s
HYB Hyderabad 52.00 58 *i* P **P** **17 45 45.0 -1.8**
HYB *e*PcP **PcP** **17 46 59.0 -0.2**
HYB *e*PP **PP** **17 47 44.0 -1.1**
HYB *e*S **S** **17 53 08.0 -2.1**
HYB Hyderabad 52.00 58 *e*P **P** **17 45 45.0 -1.8**
AKH Akhalkalaki 52.08 9 P **P** **17 45 47.3 +0.1**
IAKL Akhelmad 52.09 25 *e*P **P** **17 45 47.1 -0.4**
KDZ Kurdzhali 52.13 352 P **P** **17 45 47.1 -0.2**
KDZ Kurdzhali 52.13 352 ⇓*i*P **P** **17 45 47.2 -0.1**
IKRD Kardeh 52.14 25 *e*P P 17 45 51.1 +3.3
ISRO Mashad 52.15 26 *e*P **P** **17 45 46.9 -0.8**
ISFR Sfrayin 52.16 25 *e*P **P** **17 45 48.5 +0.5**
BIA Bitola 52.21 348 *e*P **P** **17 45 47.1 -0.9**
VAY Valandovo 52.26 349 *i* P **P** **17 45 48.0 -0.3**
RZN Rozhen 52.27 351 P **P** **17 45 47.3 -1.3**
MMB Musomiste 52.32 350 P **P** **17 45 46.8 -2.0**
MMB Musomiste 52.32 350 ⇓*i*P **P** **17 45 48.3 -0.5**
ABSA Djebel Ababsia 52.43 333 P **P** **17 45 50.4 +0.6**
DGRG David-gareji 52.44 11 P **P** **17 45 51.2 +1.5**
IMYA Miami 52.46 27 *e*P **P** **17 45 50.5 +0.4**
ISHV Shirvan 52.46 24 *e*P **P** **17 45 50.2 +0.1**
TBLG Delisi 52.60 10 P **P** **17 45 51.6 +0.7**
CUC Castrocucco 52.62 343 PFAKE 17 46 00.0 +8.9
CUC LR LR
comp=Z,1μm,22.0s
KKB Krupnik 52.70 350 P **P** **17 45 49.4 -2.2**
CTEI Djebel Teioual 52.74 332 P **P** **17 45 52.5 +0.3**
CMAH Djebel Manchou 52.75 333 P **P** **17 45 52.6 +0.5**
JMB Yambol 52.79 353 P **P** **17 45 50.4 -1.8**
CASM Ain Smara 52.87 332 P **P** **17 45 52.9 -0.1**
CKFL Kef-Lekhel 52.88 333 P **P** **17 45 53.7 +0.6**
ABKT Ailbek 52.96 24 P **P** **17 45 53.1 -0.6**
comp=Z,56nm,0.9s,SNR=8.2
SKO Skopje 53.11 348 *e*P **P** **17 45 54.0 -0.6**
CKHR Kef el Ahmar 53.12 331 P **P** **17 45 54.8 -0.2**
CAEH 'Ain El Ouahch 53.13 333 P **P** **17 45 55.5 +0.6**
PGB Panagyurishte 53.19 351 P **P** **17 45 54.8 -0.5**
ONI Oni 53.23 9 P **P** **17 45 54.5 -1.0**
SET Setif 53.32 331 P **P** **17 45 57.0 +0.6**
DFRA Djebel Bou Aff 53.38 332 P **P** **17 45 57.0 +0.2**
VTS Vitosha 53.38 350 P **P** **17 45 55.6 -1.2**
VTS Vitosha 53.38 350 ⇑*i*P **P** **17 45 55.5 -1.2**
PRD Provadia 53.42 354 P **P** **17 45 55.6 -1.2**
ZEI Tsey 53.49 9 *e*P **P** **17 45 56.0 -1.6**
ZEI pmax pmax
comp=Z,74nm,1.6s
ULC Ulcinj 53.57 347 ⇓*i*P **P** **17 45 56.7 -1.3**
PVL Pavlikeni 53.68 352 P **P** **17 45 57.7 -1.0**
SOC Sochi 53.75 5 *d*P **P** **17 45 57.1 -2.2**
SOC *e* 17 47 04.5
SOC *e* 17 47 54.5
SOC *e*PPP PPP 17 49 05.7
SOC *e*S **S** **17 53 32.1 -1.0**
SOC *e* 17 55 38.8
SOC *e*SS **SKiKP** **17 57 13.7 +0.1**
SOC *e*SSS SSS 17 58 58.9
SOC pmax pmax
comp=Z,45nm,1.1s
SOC MLR MLR
comp=Z,2μm,11.0s
AKET Djebel Ketaf 53.93 330 P **P** **17 46 03.4 +2.4**
BUM Brajici-Budva 53.97 346 ⇓*i*P **P** **17 46 00.1 -0.9**
TTG Podgorica 54.01 347 ⇓*i*P **P** **17 46 00.9 -0.2**
PVY Plav 54.01 347 *e*P **P** **17 46 00.4 -0.9**
MPEP Malo Peshtene 54.05 351 P **P** **17 45 59.9 -1.5**
BHPL Bhopal 54.05 52 *e*P **P** **17 45 59.9 -2.0**
HCY Herceg Novi 54.20 346 ⇓*i*P **P** **17 46 01.6 -1.0**
NGP Nagpur 54.24 55 *e*P **P** **17 46 01.0 -2.3**
NGP *ex* x 17 53 11.4
ADJB Djebel Djouab 54.24 330 P **P** **17 46 04.6 +1.5**
KBZ Khabaz 54.26 8 P **P** **17 46 02.7 -0.2**
KBZ Khabaz 54.26 8 P **P** **17 46 02.7 -0.2**
KBZ Khabaz 54.26 8 P **P** **17 46 02.7 -0.2**
comp=Z,4.7nm,0.9s,baz=229,slow=2.4,SNR=6.8
KBZ LR LR 18 09 52.2
comp=Z,2μm,19.7s,baz=44,slow=37
IVA Berane 54.29 347 ⇓*i*P **P** **17 46 02.3 -1.0**
MAK Makhachkala 54.32 12 *e*P **P** **17 46 04.5 +1.1**
MAK *e* 17 47 05.3
MAK *e* 17 48 08.6
MAK *e*PPP PPP 17 49 17.4
MAK *e*S **S** **17 53 45.3 +4.5**
MAK *e* 17 55 52.8
MAK *e*SS **SKiKP** **17 57 14.0 -0.2**
MAK pmax pmax
comp=Z,56nm,0.7s
MAK MLR MLR
comp=Z,3μm,15.0s
VSL Villasalto 54.37 337 PFAKE 17 46 10.0 +6.1
VSL LR LR
comp=Z,1μm,20.0s
NKME Niksic 54.40 347 *e*P **P** **17 46 03.9 -0.2**
NKY Niksic 54.43 347 *e*P **P** **17 46 03.1 -1.3**
KIV Kislovodsk 54.45 8 P **P** **17 46 05.2 +0.6**
SNR=12
KIV Kislovodsk 54.45 8 *e*P **P** **17 46 04.6 +0.1**
KIV *e* 17 47 09.0
KIV *e* 17 48 06.7
KIV *e*S **S** **17 53 43.3 +0.5**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,2μm,16.0s
KIV Kislovodsk 54.45 8 *e*P **P** **17 46 03.9 -0.6**
comp=Z,139nm,1.9s
KIV LR LR
comp=Z,2μm,21.0s
BRY Bratogost 54.62 346 *e*P **P** **17 46 04.3 -1.5**
TLB Topalu 54.74 355 ⇓*i*P **P** **17 46 06.4 0.0**
ANN Anapa 54.80 3 *e*P **P** **17 46 04.7 -2.1**
ANN *e*S **S** **17 53 46.4 -0.7**
ANN pmax pmax
comp=Z,25nm,1.0s
ANN MLR MLR
comp=E,2μm,22.0s
ANN MLR MLR
comp=Z,3μm,22.0s
ANN MLR MLR
comp=N,1μm,22.0s
UPM Unac-Piva 54.82 347 *e*P **P** **17 46 05.7 -1.6**
PLE Pljevlja 54.84 347 ⇓*i*P **P** **17 46 06.6 -0.7**
SIM Simferopol' 54.85 0 *d*P **P** **17 46 06.5 -0.7**
SIM *e*S **S** **17 53 49.6 +1.7**
SIM *e*SS **SS** **17 57 32.0 +0.4**
SIM pmax pmax
comp=Z,38nm,1.3s
SIM MLR MLR
comp=N,1μm,17.5s
ABA Alger-Bouzarea 54.95 330 P **P** **17 46 07.0 -1.1**
CFR Carcaliu 55.32 355 ⇑*i*P **P** **17 46 10.9 +0.3**
ISR Istrita 55.41 354 ⇓*i*P **P** **17 46 12.4 +1.0**
GOF Gofitskoye 55.59 8 ⇑*i*P **P** **17 46 13.1 +0.5**
GOF pmax pmax
comp=Z,80nm,1.3s
KBL Kabul 55.59 35 *e*P **P** **17 46 11.8 -1.3**
KBL pmax pmax
comp=Z,102nm,1.8s
KBL Kabul 55.59 35 *e*P **P** **17 46 11.8 -1.3**
comp=Z,102nm,1.8s
BBTS Babate 55.68 296 P **P** **17 46 13.9 +0.2**
BBTS Babate 55.68 296 P **P** **17 46 13.9 +0.2**
comp=Z,79nm,1.1s,baz=149,slow=1.0,SNR=8.8
MLR Muntele Rosu 55.84 353 ⇑*i*P **P** **17 46 15.1 +0.5**
VOIR 55.90 353 ⇑*i*P **P** **17 46 14.7 -0.2**
JBP Jabalpur 56.01 53 ⇑*i*P **P** **17 46 15.5 -0.5**
JBP *ex* x 17 53 60.0
JBP *i* x x 18 07 02.6
comp=Z,4μm,19.0s
PLOR Plostina 56.12 354 ⇑*i*P **P** **17 46 16.8 +0.3**
VRI Vrincioaia 56.13 354 ⇑*i*P **P** **17 46 17.0 +0.5**
GZR Gura Zlata 56.18 351 ⇑*i*P **P** **17 46 17.0 +0.1**
VIS Vishakhapatnam 56.19 61 *e*P **P** **17 46 15.1 -2.3**
VIS AMS AMS 18 06 27.3
comp=Z,3μm,16.1s
MDT Midelt 56.30 321 P **P** **17 46 17.2 -0.9**
MDT Midelt 56.30 321 P **P** **17 46 17.2 -0.9**
comp=Z,30nm,1.1s,baz=131,slow=6.9,SNR=37
TESR Tescani 56.78 354 ⇑*i*P **P** **17 46 21.2 +0.1**
NDI New Delhi 56.98 46 *e*P **P** **17 46 21.0 -1.9**
NDI *ex* x 17 46 43.0
NDI *e*S **S** **17 54 18.0 +1.1**
KIS Kishinev 57.07 356 ⇑*i*P **P** **17 46 23.0 -0.1**
comp=Z,500nm,3.0s
KIS *e*S **S** **17 54 16.0 -1.4**
KIS LRM MLR 18 11 40.0
comp=Z,2μm,20.0s
KIS Kishinev 57.07 356 *α i*P **P** **17 46 23.0 -0.1**

KIS *e* 17 48 25.0
KIS *eS* **S** **17 54 16.0 -1.4**
KIS pmax pmax
comp=N,400nm,3.0s
KIS pmax pmax
comp=Z,500nm,3.0s
KIS pmax pmax
comp=Z,1µm,5.0s
KIS pmax pmax
comp=N,1µm,4.0s
KIS MLR MLR
comp=Z,2µm,18.0s
KIS MLR MLR
comp=Z,2µm,20.0s
PGF Pioggiola 57.16 338 *eP* **P** **17 46 23.3 -0.7**
PGF Pioggiola 57.16 338 *eP* **P** **17 46 23.3 -0.7**
PGF Pioggiola 57.16 338 *eP* **P** **17 46 23.3 -0.7**
SIRR Siria 57.22 350⇑ *iP* **P** **17 46 24.9 +0.7**
CJR Cluj-Napoca 57.35 352⇓ *iP* **P** **17 46 26.0 +0.8**
DRGR 57.56 351⇑ *iP* **P** **17 46 27.4 +0.7**
PKSM Moragy 57.74 348⇑ *iP* **P** **17 46 28.3 +0.4**
PKSM Moragy 57.74 348⇓ *eP* **P** **17 46 27.6 -0.3**
BOJS Bojanci 57.88 345 *i P* **P** **17 46 29.1 +0.2**
PKS2 Kecel 57.89 348⇑ *eP* **P** **17 46 29.2 +0.3**
PKS6 Bocsa 57.92 348⇑ *eP* **P** **17 46 29.7 +0.6**
BURAR Bucovina Array 58.02 353⇓ *iP* **P** **17 46 30.9 +0.9**
BUR08 Bucovina Ar. S 58.05 353 *eP* **P** **17 46 28.6 -1.6**
VLC Villacollemand 58.10 340 PFAKE 17 46 40.0 +10
VLC LR LR
comp=Z,876nm,19.0s
PKSN Nyarlorinc 58.15 349⇑ *eP* **P** **17 46 32.0 +1.3**
PKS9 Tamasi 58.18 347⇑ *eP* **P** **17 46 31.3 +0.4**
VISS Visnje 58.26 344 *i P* **P** **17 46 31.9 +0.3**
BMR Baia Mare 58.30 352⇑ *iP* **P** **17 46 32.7 +0.9**
SMLA Simla 58.41 44 *eP* **P** **17 46 32.1 -0.7**
RTC Rabat Centre 58.48 321 PFAKE 17 46 40.0 +6.8
RTC LR LR
comp=Z,5µm,19.0s
DHRM DHARAMSHALA 58.52 42 *eP* **P** **17 46 32.9 -1.0**
DDI Dehra Dun 58.54 45 *eP* **P** **17 46 33.3 -0.6**
JAVS Javornik 58.55 344 *i P* **P** **17 46 34.0 +0.3**
LMR La Mourre 58.77 337 *eP* **P** **17 46 34.7 -0.4**
LMR La Mourre 58.77 337 *eP* **P** **17 46 34.7 -0.4**
LMR La Mourre 58.77 337 *eP* **P** **17 46 34.7 -0.4**
REVF Revere 58.79 338⇑ *eP* **P** **17 46 35.8 +0.5**
PKST T''s 58.87 347⇑ *eP* **P** **17 46 35.5 -0.3**
SBF Sospel 58.87 338 *eP* **P** **17 46 35.4 -0.5**
comp=Z,173nm,1.4s
SBF Sospel 58.87 338 *eP* **P** **17 46 35.4 -0.5**
SBF pmax pmax
comp=Z,173nm,1.4s
SBF Sospel 58.87 338 *eP* **P** **17 46 35.4 -0.5**
comp=Z,173nm,1.4s
BUD Budapest 58.88 348⇑ *eP* **P** **17 46 36.2 +0.4**
TRPA Tarpa 58.89 351⇓ *iP* **P** **17 46 36.5 +0.6**
TRPA Tarpa 58.89 351⇑ *eP* **P** **17 46 36.4 +0.6**
SYO Syowa Base 58.91 178⇓ *eP* **P** **17 46 36.6 +0.9**
FRF La Foret Royal 58.91 337 *eP* **P** **17 46 35.7 -0.4**
comp=Z,203nm,1.7s
FRF La Foret Royal 58.91 337 *eP* **P** **17 46 35.7 -0.4**
FRF pmax pmax
comp=Z,203nm,1.7s
FRF La Foret Royal 58.91 337 *eP* **P** **17 46 35.7 -0.4**
comp=Z,203nm,1.7s
PKSG 58.92 348⇑ *eP* **P** **17 46 36.3 +0.2**
LUCF Luceram 58.93 338⇑ *eP* **P** **17 46 36.9 +0.5**
SAOF Saorge 58.94 338⇑ *eP* **P** **17 46 36.3 0.0**
PERS Pernice 58.96 345 *i P* **P** **17 46 37.5 +1.1**
AUTN L'Aution 58.99 338⇑ *eP* **P** **17 46 37.6 +0.7**
OBKA Obir 58.99 345⇑ *iP* **P** **17 46 37.3 +0.6**
comp=Z,39nm,1.2s,SNR=13
MVIF Mont Vial 59.01 338 *eP* **P** **17 46 37.8 +0.8**
SOKA Soboth 59.02 345 *i P* **P** **17 46 37.7 +0.7**
comp=Z,57nm,1.6s,SNR=21
TOUF Mont Tournerai 59.07 338⇑ *eP* **P** **17 46 38.2 +0.7**
PSZ Piszkesteto 59.13 349 *eP* **P** **17 46 37.0 -0.6**
PSZ pmax pmax
comp=Z,142nm,1.4s
PSZ MLR MLR
comp=Z,1µm,19.0s
PSZ Piszkesteto 59.13 349⇑ *iP* **P** **17 46 37.7 +0.1**
PSZ Piszkesteto 59.13 349 *eP* **P** **17 46 37.0 -0.6**
comp=Z,142nm,1.4s
PSZ LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 59.13 349⇑ *eP* **P** **17 46 37.7 +0.1**
MYKA Terra Mystica 59.35 344 *i P* **P** **17 46 39.8 +0.6**
comp=Z,31nm,1.5s,SNR=9.7
UZH Uzhgorod 59.41 351⇑ *iP* **P** **17 46 38.4 -1.1**
UZH *e* 17 47 27.6
UZH *ePPP* PPP 17 50 17.8
UZH *eS* **S** **17 54 42.6 -5.3**
UZH MLR MLR
comp=N,800nm,17.0s
UZH MLR MLR
comp=E,1µm,17.0s
UZH MLR MLR
comp=Z,660nm,17.0s
ARSA Arzberg 59.44 346⇑ *iP* **P** **17 46 40.0 +0.3**
comp=Z,38nm,1.4s,SNR=17
KECS Kecovo 59.56 350 *eP* **P** **17 46 40.2 -0.3**
KECS pmax pmax
comp=Z,24nm,1.7s
KECS Kecovo 59.56 350 *eP* **P** **17 46 40.2 -0.3**
SOP Sopron 59.60 347⇓ *eP* **P** **17 46 39.4 -1.4**
SMRF Simiane la Rot 59.68 337 *eP* **P** **17 46 41.6 +0.1**
comp=Z,108nm,1.6s
SMRF Simiane la Rot 59.68 337 *eP* **P** **17 46 41.6 +0.1**
comp=Z,108nm,1.6s
KOLS Kolonicke sedl 59.71 351 *eP* **P** **17 46 41.3 -0.2**
KOLS pmax pmax
comp=Z,82nm,1.7s
KOLS Kolonicke sedl 59.71 351 *eP* **P** **17 46 41.3 -0.2**
FILF Fillols 59.76 334 *eP* **P** **17 46 43.5 +1.4**
ABTA Abfaltersbach 59.77 343 *i P* **P** **17 46 42.7 +0.6**
comp=Z,19nm,1.0s,SNR=8.5
CRVS Cervenica-Dubn 59.81 351 *eP* **P** **17 46 41.9 -0.3**
CRVS pmax pmax
comp=Z,96nm,1.6s
CRVS Cervenica-Dubn 59.81 351 *eP* **P** **17 46 41.9 -0.3**
KBA Koelnbreinsper 59.84 344⇑ *iP* **P** **17 46 42.8 +0.1**
comp=Z,28nm,1.0s,SNR=10
MBDF Montbardon 59.86 338 *eP* **P** **17 46 43.0 +0.2**
comp=Z,137nm,1.4s
MBDF Montbardon 59.86 338 *eP* **P** **17 46 43.0 +0.2**
MBDF pmax pmax
comp=Z,137nm,1.4s
MBDF Montbardon 59.86 338 *eP* **P** **17 46 43.0 +0.2**
comp=Z,137nm,1.4s
OG22 Abries 59.88 338⇑ *eP* **P** **17 46 44.5 +1.5**
CONA Conrad Observa 59.99 346 *i P* **P** **17 46 43.8 +0.3**
comp=Z,55nm,1.2s,SNR=17
CARF Carcanieres 60.08 333 *eP* **P** **17 46 45.2 +0.8**
BNI Bardonecchia 60.17 338 *eP* **P** **17 46 43.9 -1.1**
BNI pmax pmax
comp=Z,65nm,1.3s
BNI MLR MLR
comp=Z,2µm,21.0s
BNI Bardonecchia 60.17 338 *eP* **P** **17 46 43.9 -1.1**
comp=Z,65nm,1.3s
BNI LR LR
comp=Z,2µm,21.0s
MOA Molln 60.31 345 *i P* **P** **17 46 45.8 +0.1**
comp=Z,62nm,1.2s,SNR=22
FUORN Ofenpass-Fuorn 60.33 342 *eP* **P** **17 46 44.7 -1.4**
comp=Z,60nm,1.4s
KWP Kalwaria Pacla 60.33 352 *eP* **P** **17 46 46.0 +0.2**
KWP Kalwaria Pacla 60.33 352 *eP* **P** **17 46 45.9 +0.2**
KWP Kalwaria Pacla 60.33 352⇑ *iP* **P** **17 46 46.3 +0.5**
KWP Kalwaria Pacla 60.33 352 PFAKE 17 46 50.0 +4.2
KWP LR LR
comp=Z,1µm,21.0s
LVV L'vov 60.34 353 *eP* **P** **17 46 44.8 -1.0**
LVV *eS* **S** **17 54 59.6 -0.2**
LVV *eSS* **SS** **17 58 59.2 +1.4**
LVV MLR MLR
comp=Z,600nm,15.0s
LVV MLR MLR
comp=E,200nm,14.0s
LVV MLR MLR
comp=N,100nm,13.0s
STHS Stebnicka Huta 60.34 351 *eP* **P** **17 46 45.9 0.0**
STHS pmax pmax
comp=Z,39nm,2.0s
STHS Stebnicka Huta 60.34 351 *eP* **P** **17 46 45.9 0.0**
ORIF Oris-en-Rattie 60.35 337 *eP* **P** **17 46 46.1 -0.1**
comp=Z,147nm,1.8s
ORIF *eR*
comp=Z,3µm,19.5s
ORIF Oris-en-Rattie 60.35 337 *eP* **P** **17 46 46.1 -0.1**
ORIF pmax pmax
comp=Z,147nm,1.8s
ORIF Oris-en-Rattie 60.35 337 *eP* **P** **17 46 46.1 -0.1**
comp=Z,147nm,1.8s
LASF Ste Croix 60.45 336 *eP* **P** **17 46 47.0 +0.3**
comp=Z,120nm,1.4s
LASF Ste Croix 60.45 336 *eP* **P** **17 46 47.0 +0.3**
comp=Z,120nm,1.4s
TUE Stuetta 60.48 341 *eP* **P** **17 46 45.5 -1.6**
comp=Z,229nm,1.9s
TUE LR LR
comp=Z,1µm,20.0s
WTTA Wattenberg 60.49 343 *i P* **P** **17 46 47.3 +0.2**
comp=Z,44nm,1.1s,SNR=13
NIE Niedzica 60.50 350 *eP* **P** **17 46 46.3 -0.7**
NIE Niedzica 60.50 350 *eP* **P** **17 46 46.3 -0.7**
LPG La Plagne 60.53 338 *eP* **P** **17 46 46.7 -0.9**
comp=Z,128nm,1.5s
LPG La Plagne 60.53 338 *eP* **P** **17 46 46.7 -0.9**
LPG pmax pmax
comp=Z,128nm,1.5s
LPG La Plagne 60.53 338 *eP* **P** **17 46 46.7 -0.9**
comp=Z,128nm,1.5s
MTLF Montolieu 60.53 334 *eP* **P** **17 46 47.2 -0.1**
comp=Z,136nm,1.8s
MTLF Montolieu 60.53 334 *eP* **P** **17 46 47.2 -0.1**
MTLF pmax pmax
comp=Z,137nm,1.8s
MTLF Montolieu 60.53 334 *eP* **P** **17 46 47.2 -0.1**
comp=Z,136nm,1.8s
FETA Feichten 60.54 342⇑ *iP* **P** **17 46 47.8 +0.3**
comp=Z,37nm,1.0s,SNR=9.8
LPL La Plagne 60.55 338 *eP* **P** **17 46 46.7 -0.9**
comp=Z,141nm,1.4s
LPL La Plagne 60.55 338 *eP* **P** **17 46 46.7 -0.9**
LPL pmax pmax
comp=Z,141nm,1.4s
LPL La Plagne 60.55 338 *eP* **P** **17 46 46.7 -0.9**
comp=Z,141nm,1.4s
MAW Mawson 60.55 168 P **P** **17 46 49.1 +2.1**
MAW Mawson 60.55 168 P **P** **17 46 49.1 +2.1**
comp=Z,9.4nm,0.7s,baz=314,slow=7.5,SNR=10
MAW LR LR 18 10 20.1
comp=Z,1µm,18.3s,baz=305,slow=33
WATA Walderalm 60.57 343⇑ *iP* **P** **17 46 47.6 -0.1**
comp=Z,31nm,1.3s,SNR=8.2
AK02 Malin Array Si 60.69 357 *eP* P 17 46 44.1 -4.1
MOSTA Moosalm 60.72 342⇑ *iP* **P** **17 46 48.3 -0.3**
comp=Z,30nm,1.0s,SNR=14
ESDC Sonseca Array 60.72 327 P **P** **17 46 48.5 -0.2**
ESDC Sonseca Array 60.72 327 P **P** **17 46 48.5 -0.2**
comp=Z,16nm,0.9s,baz=140,slow=6.6,SNR=53
ESDC LR LR 18 11 39.1
comp=Z,2µm,18.2s,baz=145,slow=35
AK01 Malin Array Si 60.73 357 *eP* **P** **17 46 46.8 -1.6**
KIEV Kiev 60.73 357 *eP* **P** **17 46 47.8 -0.6**
KIEV pmax pmax
comp=Z,113nm,1.4s
KIEV MLR MLR
comp=Z,1µm,20.0s
KIEV Kiev 60.73 357 *eP* **P** **17 46 47.8 -0.6**
comp=Z,112nm,1.4s
KIEV LR LR
comp=Z,1µm,20.0s
AKASG Malin Array Be 60.74 357 P **P** **17 46 47.0 -1.5**
AKASG Malin Array Be 60.74 357 P **P** **17 46 47.0 -1.5**
AKASG Malin Array Be 60.74 357 P **P** **17 46 47.0 -1.5**
comp=Z,38nm,1.1s,baz=185,slow=6.4,SNR=112
AKASG LR LR 18 13 25.1
comp=Z,986nm,18.9s,baz=155,slow=36
AKBB Malin Array Si 60.74 357 *eP* **P** **17 46 46.7 -1.8**
AKBB Malin Array Si 60.74 357 *eP* **P** **17 46 46.7 -1.8**
VIVF Saint-Julien-l 60.77 337 *eP* **P** **17 46 49.3 +0.4**
comp=Z,298nm,1.6s
VIVF Saint-Julien-l 60.77 337 *eP* **P** **17 46 49.3 +0.4**
VIVF pmax pmax
comp=Z,299nm,1.6s
VIVF Saint-Julien-l 60.77 337 *eP* **P** **17 46 49.3 +0.4**
comp=Z,298nm,1.6s
MELF Melles 60.81 333 *eP* **P** **17 46 50.6 +1.3**
PAB San Pablo 60.84 327 *eP* **P** **17 46 48.4 -1.1**
PAB pmax pmax
comp=Z,264nm,2.3s
PAB MLR MLR
comp=Z,3µm,19.0s
PAB San Pablo 60.84 327 *eP* **P** **17 46 48.4 -1.1**
comp=Z,264nm,2.3s
PAB LR LR
comp=Z,3µm,19.0s
RETA Reutte 60.95 342⇓ *iP* **P** **17 46 50.4 +0.3**
comp=Z,64nm,1.2s,SNR=16
DAVA Damuels 61.04 342⇑ *iP* **P** **17 46 51.2 +0.4**
comp=Z,113nm,1.6s,SNR=19
BOK Boko 61.04 56 *eP* **P** **17 46 50.5 -0.7**
VORD Divnogorie 61.05 4 *eP* **P** **17 46 49.8 -0.8**
VORD pmax pmax
comp=Z,50nm,1.5s
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VORD MLR MLR
comp=Z,2µm,20.0s
VORD MLR MLR
comp=N,2µm,21.0s
VORD MLR MLR
comp=E,1µm,16.0s
SENIN Lac Senin/Sane 61.08 339 *eP* **P** **17 46 49.6 -1.7**
comp=E,194nm,2.5s
VRAC Vranov 61.12 347⇓ *iP* **P** **17 46 51.0 -0.2**
EPF Esparros 61.12 332 *eP* **P** **17 46 51.7 +0.3**
comp=E,208nm,1.6s
EPF Esparros 61.12 332 *eP* **P** **17 46 51.7 +0.3**
EPF pmax pmax
comp=Z,208nm,1.6s
EPF Esparros 61.12 332 *eP* **P** **17 46 51.7 +0.3**
comp=Z,208nm,1.6s
SSB Saint Sauveur 61.17 337⇑ *eP* **P** **17 46 52.9 +1.2**
SSB Saint Sauveur 61.17 337 PFAKE 17 47 00.0 +8.3
SSB LR LR
comp=Z,4µm,20.0s
KOLN Koldanda 61.17 51 *eP* **P** **17 46 50.6 -1.6**
comp=Z,328nm,1.5s
KOLN Koldanda 61.17 51 *eP* **P** **17 46 50.6 -1.6**
comp=Z,328nm,1.5s
LABF Labassere 61.26 332 *eP* **P** **17 46 53.6 +1.3**
PVAQ Vaqueiros 61.26 323 *eLR* LR 18 07 04.0
comp=Z,2µm,20.0s
VSR Storozhevoye 61.30 4 *eP* **P** **17 46 51.5 -0.8**
VSR pmax pmax
comp=Z,40nm,1.3s
VSR pmax pmax
comp=N,40nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR MLR MLR
comp=Z,1µm,16.0s
VSR MLR MLR
comp=N,670nm,19.0s
VSR MLR MLR
comp=E,810nm,14.0s
OKC Ostrava-Krasne 61.30 348 *eP* **P** **17 46 52.0 -0.4**
OKC MLR MLR
comp=Z,1µm,15.6s
OKC Ostrava-Krasne 61.30 348 *eP* **P** **17 46 52.0 -0.4**
OKC AMS AMS 18 21 50.0
comp=Z,1µm,15.6s
TREC Trest 61.36 346 *eP* **P** **17 46 51.7 -1.1**
TREC MLR MLR
comp=Z,2µm,12.9s
TREC Trest 61.36 346 *eP* **P** **17 46 51.7 -1.1**
TREC AMS AMS 18 22 10.0
comp=Z,2µm,12.9s
OJC Ojcow 61.36 350 *eP* **P** **17 46 52.4 -0.4**
OJC Ojcow 61.36 350 *eP* **P** **17 46 52.4 -0.4**
MORC Moravsky Berou 61.36 348 *eP* **P** **17 46 51.4 -1.5**
MORC pmax pmax
comp=Z,126nm,1.5s
MORC Moravsky Berou 61.36 348⇑ *iP* **P** **17 46 53.0 +0.1**
MORC Moravsky Berou 61.36 348 *eP* **P** **17 46 51.4 -1.5**
comp=Z,126nm,1.5s
GEC2 GERESS Array S 61.37 345 *eP* **P** **17 46 52.1 -0.9**
GEC2 GERESS Array S 61.37 345 *eP* **P** **17 46 52.1 -0.9**
GERES GERESS Array B 61.37 345 P **P** **17 46 51.8 -1.2**
GERES PP **PP** **17 49 09.3 +0.9**
GERES GERESS Array B 61.37 345 P **P** **17 46 51.8 -1.2**
comp=Z,17nm,0.9s,baz=152,slow=5.9,SNR=91
GERES PP **PP** **17 49 09.3 +0.9**
comp=Z,3.5nm,0.8s,baz=156,slow=7.5,SNR=3.7
GERES LR LR 18 13 53.6
comp=Z,1µm,21.0s,baz=145,slow=36
VRHR Novokhopersk 61.38 6 *eP* **P** **17 46 53.1 +0.3**
VRHR pmax pmax
comp=Z,150nm,1.6s
VRHR pmax pmax
comp=N,80nm,1.1s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR MLR MLR
comp=Z,820nm,18.0s
VRHR MLR MLR
comp=N,510nm,17.0s
VRHR MLR MLR
comp=E,1µm,23.0s
ETSF Etsaut 61.43 332 *eP* **P** **17 46 53.8 +0.3**
ETSF Etsaut 61.43 332 *eP* **P** **17 46 53.8 +0.3**
ETSF Etsaut 61.43 332 *eP* **P** **17 46 53.8 +0.3**
DANN Dangsing 61.59 50 *eP* **P** **17 46 53.8 -1.4**
comp=E,273nm,1.5s
DANN Dangsing 61.59 50 *eP* **P** **17 46 53.8 -1.4**
comp=E,273nm,1.5s
ATE Arette 61.64 332 *eP* **P** **17 46 56.2 +1.3**
KHC Kasperske Hory 61.67 345 *eP* **P** **17 46 54.0 -0.9**
KHC *e* 17 47 37.5
KHC *e* 17 49 09.3
KHC MLR MLR
comp=Z,2µm,16.5s
KHC Kasperske Hory 61.67 345 *eP* **P** **17 46 54.0 -0.9**
KHC *ex* x 17 47 15.5
KHC *ePCP* **PcP** **17 47 37.5 +1.2**
KHC *ePP* **PP** **17 49 09.3 -1.6**
KHC AMS AMS 18 19 20.0
comp=Z,2µm,16.5s
KHC Kasperske Hory 61.67 345 *eP* **P** **17 46 52.7 -2.2**
comp=Z,40nm,0.9s
COLF Collangettes 61.70 336⇑ *eP* **P** **17 46 56.0 +0.8**
CABF La Chapelle 61.72 339 *eP* **P** **17 46 55.0 -0.4**
comp=Z,395nm,1.7s
CABF La Chapelle 61.72 339 *eP* **P** **17 46 55.0 -0.4**
CABF pmax pmax
comp=Z,395nm,1.7s
CABF La Chapelle 61.72 339 *eP* **P** **17 46 55.0 -0.4**
comp=Z,395nm,1.7s
COCO West Island 61.73 98 PFAKE 17 47 10.0 +14
COCO LR LR
comp=Z,1µm,21.0s
PFVI Vila Bisbo 61.75 322 *eP* **P** **17 46 57.0 +1.4**
comp=Z,226nm,1.9s
MORF Marmelete 61.75 322 *eP* **P** **17 46 55.6 -0.2**
comp=Z,108nm,1.9s
KRLC Kraliky 61.80 348 *eP* **P** **17 46 55.4 -0.4**
KRLC Kraliky 61.80 348 *eP* **P** **17 46 55.4 -0.4**
VOR Voronezh 61.81 4 P **P** **17 46 55.0 -0.7**
VOR pmax pmax
comp=Z,280nm,1.6s
CAF Calviac 61.88 335 *eP* **P** **17 46 56.7 +0.3**
comp=Z,208nm,1.9s
CAF Calviac 61.88 335 *eP* **P** **17 46 56.7 +0.3**
CAF pmax pmax
comp=Z,208nm,1.9s
CAF Calviac 61.88 335 *eP* **P** **17 46 56.7 +0.3**
comp=Z,208nm,1.9s
SJPF Ste Jean 61.91 332 *eP* **P** **17 46 57.1 +0.5**
comp=Z,251nm,1.7s
SJPF Ste Jean 61.91 332 *eP* **P** **17 46 57.1 +0.5**
SJPF pmax pmax
comp=Z,251nm,1.7s
SJPF Ste Jean 61.91 332 *eP* **P** **17 46 57.1 +0.5**
comp=Z,251nm,1.7s
PTEO Sao Teotonio 61.95 322 *eP* **P** **17 46 59.7 +2.7**
comp=Z,148nm,2.2s
GKN Gorkha 62.08 51 *eP* **P** **17 46 56.4 -1.9**
comp=Z,518nm,2.0s
GKN Gorkha 62.08 51 *eP* **P** **17 46 56.4 -1.9**
comp=Z,518nm,2.0s
LOMF Lomont 62.09 340⇑ *eP* **P** **17 46 58.8 +0.9**
NVL N'lazarevskaya 62.10 188 *eP* **P** **17 46 59.3 +1.8**
NVL *eS* S 17 55 30.7 +8.9
NVL pmax pmax
comp=Z,31nm,1.0s
FELD Feldberg im Sc 62.16 341⇑ *eP* **P** **17 46 58.8 +0.4**
DPC Dobruska-Polom 62.16 347 *eP* **P** **17 46 57.6 -0.6**
DPC *e* 17 47 00.5
DPC Dobruska-Polom 62.16 347 *eP* **P** **17 46 57.6 -0.6**
DPC *epP* **pP** **17 47 00.5 -2.6**
DPC AMS AMS 18 22 20.0
DPC Dobruska-Polom 62.16 347 *eP* **P** **17 46 55.9 -2.3**
PYM Petit Puy Mans 62.17 336⇑ *eP* **P** **17 47 00.7 +2.3**
PESTR Estremoz 62.17 324 *eP* **P** **17 46 58.3 -0.2**
comp=Z,114nm,1.7s
EVO Evora 62.19 324 *eP* **P** **17 46 59.6 +1.0**
comp=Z,61nm,1.8s
PRU Pruhonice 62.23 346 *eP* **P** **17 46 57.4 -1.2**
PRU *e* 17 47 00.5
PRU MLR MLR
comp=Z,2µm,16.7s
PRU Pruhonice 62.23 346 *eP* **P** **17 46 57.4 -1.2**
PRU *epP* **pP** **17 47 00.5 -2.9**
PRU AMS AMS 18 19 40.0
comp=Z,2µm,16.7s
CMBY CAMPBELL BAY 62.23 77 *ex* x 17 46 53.3
DMN Daman 62.24 51 *eP* **P** **17 46 57.4 -2.1**
comp=Z,210nm,1.6s
DMN Daman 62.24 51 *eP* **P** **17 46 57.4 -2.1**
comp=Z,210nm,1.6s
PRA Prague 62.33 346 P **P** **17 46 58.0 -1.3**
AGO Saint Agoulin 62.37 336⇑ *eP* **P** **17 47 01.7 +2.0**
UPC Upice 62.38 347 *eP* **P** **17 46 58.8 -0.8**
UPC Upice 62.38 347 *eP* **P** **17 46 58.8 -0.8**
RJF Les Rejaudoux 62.41 335 *eP* **P** **17 46 59.9 -0.1**
comp=Z,250nm,1.8s
RJF *eR*
comp=Z,2µm,18.8s
RJF Les Rejaudoux 62.41 335 *eP* **P** **17 46 59.9 -0.1**
RJF pmax pmax
comp=Z,250nm,1.8s
RJF Les Rejaudoux 62.41 335 *eP* **P** **17 46 59.9 -0.1**
comp=Z,250nm,1.8s
MOF Molkenrain 62.42 340⇑ *eP* **P** **17 47 00.5 +0.4**
PMRV Marv??o 62.44 325 *eP* **P** **17 47 00.6 +0.3**
comp=Z,31nm,1.6s
PMRV Marv??o 62.44 325 *eLR* LR 18 07 57.1
comp=Z,2µm,16.0s
BFO Black Forest 62.45 341 *eP* **P** **17 46 58.7 -1.5**
BFO pmax pmax
comp=Z,110nm,1.6s
BFO MLR MLR
comp=Z,943nm,21.0s
BFO Black Forest 62.45 341 *eP* **P** **17 46 58.7 -1.5**
comp=Z,110nm,1.6s
BFO LR LR
comp=Z,943nm,21.0s
LFF La Frestale 62.45 334 *eP* **P** **17 47 00.4 +0.2**
LFF La Frestale 62.45 334 *eP* **P** **17 47 00.4 +0.2**
LFF La Frestale 62.45 334 *eP* **P** **17 47 00.4 +0.2**
PKIN Phulchoki 62.45 52 *eP* **P** **17 46 59.6 -1.3**
comp=Z,218nm,1.8s
PKI Pulchoki 62.46 52 *eP* **P** **17 46 59.4 -1.6**
comp=Z,233nm,1.8s
PKI Pulchoki 62.46 52 *eP* **P** **17 46 59.6 -1.4**
PKI Pulchoki 62.46 52 *eP* **P** **17 46 59.6 -1.4**
comp=Z,218nm,1.8s
KKN Kakani 62.47 51 *eP* **P** **17 46 59.4 -1.6**
comp=Z,242nm,1.7s
KKN Kakani 62.47 51 *eP* **P** **17 46 59.4 -1.6**
KKN Kakani 62.47 51 *eP* **P** **17 46 59.4 -1.6**
comp=Z,242nm,1.7s
HINF Hinteralfeld 62.49 340 *eP* **P** **17 46 59.9 -0.6**
comp=Z,111nm,1.5s
HINF Hinteralfeld 62.49 340 *eP* **P** **17 46 59.9 -0.6**
HINF pmax pmax
comp=Z,111nm,1.5s
HINF Hinteralfeld 62.49 340 *eP* **P** **17 46 59.9 -0.6**
comp=Z,111nm,1.5s
STU Stuttgart 62.57 342 *eP* **P** **17 46 59.6 -1.3**

STU pmax pmax
comp=Z,211nm,1.7s
STU Stuttgart 62.57 342 *e*P **P 17 46 59.6 -1.3**
comp=Z,211nm,1.7s
SMF Signal de Mont 62.58 337 *e*P **P 17 47 00.5 -0.6**
comp=Z,89nm,1.1s
SMF Signal de Mont 62.58 337 *e*P **P 17 47 00.5 -0.6**
SMF pmax pmax
comp=Z,89nm,1.1s
SMF Signal de Mont 62.58 337 *e*P **P 17 47 00.5 -0.6**
comp=Z,89nm,1.1s
KSP Ksiaz 62.63 348⇑ *e*P **P 17 47 00.5 -0.8**
KSP MLR MLR
comp=Z,2µm,21.4s
KSP Ksiaz 62.63 348 *e*P **P 17 46 59.8 -1.5**
PMTG Montargil 62.67 324 *e*P **P 17 47 01.5 -0.3**
comp=Z,64nm,1.4s
KKAR Karatay Array 62.68 30 *e*P **P 17 47 00.3 -1.6**
KKAR pmax pmax
comp=Z,43nm,1.0s
KKAR Karatay Array 62.68 30 *e*P **P 17 47 00.3 -1.6**
comp=Z,44nm,1.0s
PVCC Panska Ves 62.72 346 *e*P **P 17 47 00.7 -1.2**
PVCC Panska Ves 62.72 346 *e*P **P 17 47 00.7 -1.2**
PVCC AMS AMS 18 19 50.0
ECH Echery 62.73 340⇑ *e*P **P 17 47 02.5 +0.4**
ECH Echery 62.73 340 PFAKE 17 47 10.0 +7.9
ECH LR LR
comp=Z,946nm,19.0s
BEL Belsk 62.76 351 *e*P **P 17 47 01.6 -0.6**
BEL Belsk 62.76 351 *e*P **P 17 47 01.5 -0.6**
GRF Grafenberg Arr 62.80 344 *e*P **P 17 47 02.0 -0.5**
comp=Z,104nm,1.4s
GRF *e*PP **PP 17 49 19.4 -1.5**
GRF *e*L L 18 21 31.9
comp=Z,600nm,21.2s
GRFO Grafenberg 62.80 344 *e*P **P 17 47 01.0 -1.5**
GRFO pmax pmax
comp=Z,80nm,1.1s
GRFO Grafenberg 62.80 344 *e*P **P 17 47 01.0 -1.5**
comp=Z,80nm,1.1s
HAU Haudompre 62.82 340 *e*P **P 17 47 02.2 -0.5**
comp=Z,249nm,1.6s
HAU *e*R
comp=Z,1µm,17.2s
HAU Haudompre 62.82 340 *e*P **P 17 47 02.2 -0.5**
HAU pmax pmax
comp=Z,249nm,1.6s
HAU Haudompre 62.82 340 *e*P **P 17 47 02.2 -0.5**
comp=Z,249nm,1.6s
CDF Champ du Feu 62.86 340 *e*P **P 17 47 02.3 -0.7**
comp=Z,190nm,1.5s
CDF Champ du Feu 62.86 340 *e*P **P 17 47 02.3 -0.7**
CDF pmax pmax
comp=Z,190nm,1.5s
CDF Champ du Feu 62.86 340 *e*P **P 17 47 02.3 -0.7**
comp=Z,190nm,1.5s
AVF Avril sur Loir 62.89 337 *e*P **P 17 47 02.6 -0.5**
comp=Z,89nm,1.1s
AVF Avril sur Loir 62.89 337 *e*P **P 17 47 02.6 -0.5**
AVF pmax pmax
comp=Z,89nm,1.1s
AVF Avril sur Loir 62.89 337 *e*P **P 17 47 02.6 -0.5**
comp=Z,89nm,1.1s
BGF Bois d'Agland 62.89 336 *e*P **P 17 47 03.1 0.0**
comp=Z,74nm,1.2s
BGF Bois d'Agland 62.89 336 *e*P **P 17 47 03.1 0.0**
BGF pmax pmax
comp=Z,75nm,1.2s
BGF Bois d'Agland 62.89 336 *e*P **P 17 47 03.1 0.0**
comp=Z,74nm,1.2s
TCF Toulx Ste Croi 62.92 336 *e*P **P 17 47 03.7 +0.3**
comp=Z,266nm,1.6s
TCF Toulx Ste Croi 62.92 336 *e*P **P 17 47 03.7 +0.3**
TCF pmax pmax
comp=Z,266nm,1.6s
TCF Toulx Ste Croi 62.92 336 *e*P **P 17 47 03.7 +0.3**
comp=Z,266nm,1.6s
NKC Novy Kostel 62.97 345 *e*P **P 17 47 03.3 -0.3**
NKC MLR MLR
comp=Z,1µm,15.3s
NKC Novy Kostel 62.97 345 *e*P **P 17 47 03.3 -0.3**
NKC AMS AMS 18 19 10.0
comp=Z,1µm,15.3s
GUN Gumba 62.99 52 *e*P **P 17 47 03.1 -1.5**
comp=Z,474nm,1.6s
GUN Gumba 62.99 52 *e*P **P 17 47 03.1 -1.5**
comp=Z,474nm,1.6s
KSH Kashi 63.03 36 P P 17 47 00.8 -3.5
KSH pP pP 17 47 05.1 -4.1
KSH sP sP 17 47 07.1 -3.9
KSH PP **PP 17 49 20.0 -3.2**
KSH S S 17 55 24.8 -10
KSH sS sS 17 55 35.4 -7.2
KSH ScS SKSac 17 56 49.0 -8.0
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,350nm,5.7s
KSH LR LR
comp=Z,2µm,13.7s
KSH LR LR
comp=Z,750nm,12.9s
KSH LR LR
comp=Z,2µm,17.0s
SSF Saint Saulge 63.05 337 *e*P **P 17 47 03.5 -0.7**
comp=Z,58nm,1.4s
SSF Saint Saulge 63.05 337 *e*P **P 17 47 03.5 -0.7**
SSF pmax pmax
comp=Z,58nm,1.4s
SSF Saint Saulge 63.05 337 *e*P **P 17 47 03.5 -0.7**
comp=Z,58nm,1.4s
DGPR DIGLIPUR 63.08 70 *e*P **P 17 47 04.7 -0.3**
RAMN Ramite 63.09 53 *e*P **P 17 47 03.4 -1.7**
comp=Z,290nm,2.0s
RAMN Ramite 63.09 53 *e*P **P 17 47 03.4 -1.7**
comp=Z,290nm,2.0s
LOR Lormes 63.09 338 *e*P **P 17 47 03.9 -0.6**
comp=Z,120nm,1.4s,baz=178
LOR *e*R
comp=Z,3µm,17.5s
LOR Lormes 63.09 338 *e*P **P 17 47 03.9 -0.6**
comp=Z,120nm,1.4s
JIRN Jiri 63.11 52 *e*P **P 17 47 04.0 -1.4**
comp=Z,38nm,0.9s
JIRN Jiri 63.11 52 *e*P **P 17 47 04.0 -1.4**
comp=Z,38nm,0.9s
THEF They Montfort 63.14 340⇑ *e*P **P 17 47 05.5 +0.8**
MTE Manteigas 63.18 326 *e*LR LR 18 10 59.4
comp=Z,2µm,16.0s
MTE Manteigas 63.18 326 PFAKE 17 47 10.0 +4.7
MTE LR LR
comp=Z,2µm,21.0s
LANF Langenberg 63.19 341⇑ *e*P **P 17 47 05.7 +0.6**
BRG Berggiesshubel 63.19 346 *e*P **P 17 47 04.2 -0.8**
comp=Z,109nm,1.9s
BRG PP **PP 17 49 24.7 +0.4**
comp=Z,55nm,1.9s
BRG
comp=N,1µm,17.8s
BRG
comp=E,967nm,17.2s
BRG
comp=Z,2µm,19.7s
BRG Berggiesshubel 63.19 346 *e*P **P 17 47 04.2 -0.8**
BRG 17 49 24.7
BRG pmax pmax
comp=Z,109nm,1.9s
BRG pmax pmax
comp=Z,55nm,1.9s
BRG MLR MLR
comp=N,1µm,17.8s
BRG MLR MLR
comp=E,967nm,17.2s
BRG MLR MLR
comp=Z,2µm,19.7s
MVO Moncorvo 63.43 326 *e*P **P 17 47 07.5 +0.6**
comp=Z,62nm,2.1s
MVO Moncorvo 63.43 326 *e*LR LR 18 08 13.7
comp=Z,3µm,16.0s
SFTF Sexfontaines 63.45 339 *e*P **P 17 47 06.8 0.0**
comp=Z,302nm,1.5s,baz=133
SFTF Sexfontaines 63.45 339 *e*P **P 17 47 06.8 0.0**
comp=Z,302nm,1.5s
AB31 Akbulak array 63.46 19 P **P 17 47 04.7 -2.1**
AB31 pmax pmax
comp=Z,28nm,1.4s
ABKAR Akbulak array 63.46 19 *e*P **P 17 47 06.0 -0.9**
PAGF Fort de Pagny 63.51 340 *e*P **P 17 47 07.1 -0.1**
comp=Z,95nm,1.8s,baz=156
PAGF Fort de Pagny 63.51 340 *e*P **P 17 47 07.1 -0.1**
comp=Z,95nm,1.8s
AML Almayashu 63.58 32 *i*P **P 17 47 07.3 -1.0**
AML Almayashu 63.58 32 P **P 17 47 07.3 -1.0**
SNR=15
ODAN Odare 63.67 53 *e*P **P 17 47 07.5 -1.5**
comp=Z,367nm,1.7s
ODAN Odare 63.67 53 *e*P **P 17 47 07.5 -1.5**
comp=Z,367nm,1.7s
MEZF Maizieres J'vi 63.70 339 *e*P **P 17 47 08.6 +0.2**
comp=Z,290nm,1.6s,baz=170
MEZF Maizieres J'vi 63.70 339 *e*P **P 17 47 08.6 +0.2**
comp=Z,290nm,1.6s
PBRG Braganca 63.72 327 *e*P **P 17 47 09.9 +1.1**
comp=Z,60nm,1.5s
CLL Collm 63.82 346⇓ *i*P **P 17 47 07.1 -2.0**
CLL *i* 17 47 11.0
CLL pmax pmax
comp=Z,75nm,1.6s
CLL MLR MLR
comp=Z,1µm,18.2s
CLL Collm 63.82 346⇓ *i*P **P 17 47 07.1 -2.0**
comp=Z,75nm,1.6s
CLL *i*pP **pP 17 47 11.0 -3.0**
comp=Z,74nm,1.6s
CLL *e*PP **PP 17 49 30.0 +0.2**
CLL *e*S S 17 55 52.0 +8.3
CLL *e*SS **SS 17 59 48.0 -4.3**
CLL LmV 18 21 00.0
comp=Z,1µm,18.2s
PVRL Vila Real 63.88 326 *e*P **P 17 47 11.3 +1.5**
comp=Z,96nm,1.6s
AKTO Aktyubinsk 63.92 17 P **P 17 47 08.0 -1.9**
AKTO pmax pmax
comp=Z,43nm,1.3s
AKTO Aktyubinsk 63.92 17 P **P 17 47 09.1 -0.8**
AKTO Aktyubinsk 63.92 17 P **P 17 47 09.1 -0.8**
comp=Z,14nm,0.9s,baz=208,slow=6.8,SNR=29
POLO Lamas de Olo 63.99 326 *e*P **P 17 47 12.1 +1.5**
comp=Z,50nm,2.3s
EKS2 Erkin-Say 64.00 32 *e*P **P 17 47 09.5 -1.2**
EKS2 pmax pmax
comp=Z,68nm,1.6s
EKS2 MLR MLR
comp=Z,4µm,20.0s
EKS2 Erkin-Say 64.00 32 P **P 17 47 11.2 +0.5**
SNR=15
EKS2 Erkin-Say 64.00 32 *e*P **P 17 47 09.5 -1.2**
comp=Z,68nm,1.6s
EKS2 LR LR
comp=Z,4µm,20.0s
UCH Uchtor 64.08 33 *i*P **P 17 47 12.1 +0.5**
UCH Uchtor 64.08 33 P **P 17 47 12.2 +0.5**
SNR=24
TAPN Taplejung 64.15 53 *e*P **P 17 47 10.9 -1.3**
comp=Z,507nm,1.9s
TAPN Taplejung 64.15 53 *e*P **P 17 47 10.9 -1.3**
comp=Z,507nm,1.9s
MFF Saint Martin d 64.15 335 *e*P **P 17 47 11.3 -0.1**
MFF Saint Martin d 64.15 335 *e*P **P 17 47 11.3 -0.1**
MFF Saint Martin d 64.15 335 *e*P **P 17 47 11.3 -0.1**
WLF Walferdange 64.32 340 P **P 17 47 12.3 -0.2**
comp=Z,74nm,3.1s
WLF Walferdange 64.32 340 *e*P **P 17 47 11.3 -1.2**
WLF pmax pmax
comp=Z,69nm,1.4s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 64.32 340 *e*P **P 17 47 11.3 -1.2**
comp=Z,69nm,1.4s
WLF LR LR
comp=Z,2µm,19.0s
AAK Ala-Archa 64.35 32 P **P 17 47 13.5 +0.4**
SNR=18
AAK Ala-Archa 64.35 32*c i*P **P 17 47 13.0 -0.1**
AAK pmax pmax
comp=Z,141nm,2.5s
AAK MLR MLR
comp=Z,7µm,17.0s
AAK Ala-Archa 64.35 32 P **P 17 47 14.2 +1.1**
SNR=11
AAK Ala-Archa 64.35 32 P **P 17 47 12.0 -1.1**
comp=Z,5.3nm,1.7s
AAK LR LR
comp=Z,3µm,21.0s
AAK Ala-Archa 64.35 32 P **P 17 47 12.0 -1.1**
comp=Z,10nm,1.2s,baz=243,slow=6.7,SNR=18
KZA Kyzart 64.37 33 *i*P **P 17 47 13.4 -0.1**
KZA Kyzart 64.37 33 P **P 17 47 13.4 -0.1**
SNR=17
SUW Suwalki 64.56 353 *e*P **P 17 47 13.1 -0.8**
SUW pmax pmax
comp=Z,168nm,1.3s
SUW Suwalki 64.56 353 *e*P **P 17 47 13.7 -0.2**
SUW Suwalki 64.56 353 *e*P **P 17 47 13.1 -0.8**
comp=Z,168nm,1.3s
FRU Bishkek 64.56 32⇑ *i*P **P 17 47 14.0 -0.3**
FRU pmax pmax
comp=Z,160nm,2.0s
KBK Karagaybulak 64.61 32 P **P 17 47 15.7 +0.9**
SNR=35
MNK Minsk 64.61 356⇑ *e*P **P 17 47 13.0 -1.3**
MNK pmax pmax
comp=Z,160nm,1.4s
PGAV Gavieira, Arco 64.65 326 *e*P **P 17 47 14.8 -0.2**
PMOZ Porto Moniz, M 64.73 314 *e*LR LR 18 09 31.4
comp=Z,4µm,20.0s
CHMS Chumysh 64.74 32 *i*P **P 17 47 14.8 -0.7**
CHMS Chumysh 64.74 32 P **P 17 47 14.8 -0.7**
SNR=17
GKP Gorka Klasztor 64.75 349 *e*P **P 17 47 15.7 +0.5**
GKP Gorka Klasztor 64.75 349 *e*P **P 17 47 15.7 +0.5**
USP Ospenovka 64.80 32 *i*P **P 17 47 16.0 +0.2**
USP Ospenovka 64.80 32 P **P 17 47 16.0 +0.2**
SNR=30
OBN Obninsk 65.07 2⇑ *i*P **P 17 47 16.4 -0.8**
OBN *i* 17 47 50.1
OBN *i*S **S 17 56 03.2 +4.3**
OBN pmax pmax
comp=Z,107nm,1.5s
OBN MLR MLR
comp=Z,1µm,15.0s
OBN Obninsk 65.07 2 *e*P **P 17 47 15.3 -1.8**
comp=Z,196nm,1.7s
OBN LR LR
comp=Z,2µm,20.0s
NACGM Naroch 65.08 356 *e* P 17 47 13.0 -4.3
TKM2 Tokmak 2 65.14 33 *e*P **P 17 47 17.1 -1.2**
TKM2 pmax pmax
comp=Z,158nm,1.8s
TKM2 MLR MLR
comp=Z,4µm,19.0s
TKM2 Tokmak 2 65.14 33 P **P 17 47 17.2 -1.0**
SNR=38
TKM2 Tokmak 2 65.14 33 *e*P **P 17 47 17.1 -1.2**
comp=Z,158nm,1.8s
TKM2 LR LR
comp=Z,4µm,19.0s
GIVF Givet 65.14 340 *e*P **P 17 47 17.3 -0.5**
comp=Z,112nm,1.4s
GIVF Givet 65.14 340 *e*P **P 17 47 17.3 -0.5**
GIVF pmax pmax
comp=Z,112nm,1.4s
GIVF Givet 65.14 340 *e*P **P 17 47 17.3 -0.5**
comp=Z,112nm,1.4s
MEM Membach 65.18 341 P **P 17 47 17.6 -0.5**
MEM Membach 65.18 341 *e*P **P 17 47 16.3 -1.8**
MEM pmax pmax
comp=Z,98nm,1.6s
MEM Membach 65.18 341 *e*P **P 17 47 16.3 -1.8**
comp=Z,98nm,1.6s
DOU Dourbes 65.21 340 P **P 17 47 17.9 -0.4**
BCLA Clavier 65.25 340 P **P 17 47 19.5 +1.0**
comp=Z,108nm,2.7s
HGN Heimansgroeve 65.34 341 *e*P **P 17 47 19.7 +0.6**
comp=Z,320nm,2.1s
SNAA Sanae 65.41 192 *e*P P 17 47 22.7 +3.3
SNAA Sanae 65.41 192 *e*P **P 17 47 20.0 +0.6**
SNAA Sanae 65.41 192 *e*P **P 17 47 18.9 -0.5**
comp=Z,49nm,1.3s
SNAA Sanae 65.41 192 P **P 17 47 21.0 +1.6**
comp=Z,7.4nm,1.1s,baz=66,slow=5.2,SNR=13
BEBN Eben Emael 65.45 341 P **P 17 47 20.9 +1.1**
SNF Seneffe 65.67 340 P **P 17 47 22.2 +1.0**
LDF La Druitiere 65.72 336 *e*P **P 17 47 21.0 -0.6**
comp=Z,221nm,1.8s
LDF La Druitiere 65.72 336 *e*P **P 17 47 21.0 -0.6**
LDF pmax pmax
comp=Z,221nm,1.8s
LDF La Druitiere 65.72 336 *e*P **P 17 47 21.0 -0.6**
comp=Z,221nm,1.8s
MOS Moscow 65.73 2 *e*P **P 17 47 20.0 -1.5**
MOS *e* 17 49 44.0
MOS pmax pmax
comp=Z,140nm,1.6s
MOS pmax pmax
comp=Z,818nm,3.2s
MOS MLR MLR
comp=Z,800nm,17.0s
GRR Gorron 65.86 335 *e*P **P 17 47 21.9 -0.6**
GRR Gorron 65.86 335 *e*P **P 17 47 21.9 -0.6**
GRR Gorron 65.86 335 *e*P **P 17 47 21.9 -0.6**
VNA2 Neumayer--Watz 65.86 194 *e*P P 17 47 25.7 +3.4
VNA1 Neumayer--Stat 65.87 194 *e*P P 17 47 26.5 +4.2
FLN La Foliniere 66.00 336 *e*P **P 17 47 23.8 +0.4**
baz=156
FLN *e*R
comp=Z,2µm,17.8s
FLN La Foliniere 66.00 336 *e*P **P 17 47 23.8 +0.4**
FLN La Foliniere 66.00 336 *e*P **P 17 47 23.8 +0.4**
PSI Prapat 66.08 82 P **P 17 47 24.7 -0.1**
comp=Z,27nm,2.8s,comp=Z,1µm
PSI Prapat 66.08 82 P **P 17 47 25.1 +0.3**
PSI Prapat 66.08 82 P **P 17 47 25.1 +0.3**
comp=Z,8.6nm,0.8s,baz=259,slow=7.8,SNR=7.1
PSI LR LR 18 14 14.6
comp=Z,4µm,18.2s,baz=261,slow=34
WTSB Winterswijk 66.11 342 *e*P **P 17 47 25.2 +1.2**
comp=Z,343nm,2.1s
MENF Mencas 66.45 339 *e*P **P 17 47 26.4 +0.1**
SGMF Saint Gilles 66.46 334 *e*P **P 17 47 26.8 +0.4**
comp=Z,340nm,1.7s
SGMF Saint Gilles 66.46 334 *e*P **P 17 47 26.8 +0.4**
SGMF pmax pmax
comp=Z,341nm,1.7s
SGMF Saint Gilles 66.46 334 *e*P **P 17 47 26.8 +0.4**
comp=Z,340nm,1.7s
QUIF Quistinic 66.46 334 *e*P **P 17 47 26.9 +0.5**
comp=Z,552nm,1.9s
QUIF Quistinic 66.46 334 *e*P **P 17 47 26.9 +0.5**
QUIF pmax pmax
comp=Z,553nm,1.9s
QUIF Quistinic 66.46 334 *e*P **P 17 47 26.9 +0.5**
comp=Z,552nm,1.9s
SHL Shilong 66.72 57 *e*P **P 17 47 26.0 -2.7**
LSA Lhasa 67.91 52 *e*P **P 17 47 35.3 -1.3**
LSA pmax pmax
comp=Z,123nm,1.6s
LSA MLR MLR
comp=Z,3µm,20.0s
LSA Lhasa 67.91 52 *e*P **P 17 47 35.3 -1.3**
comp=Z,123nm,1.6s
LSA LR LR
comp=Z,3µm,20.0s
IMP Imphal 68.10 58 *ex* **P 17 47 39.0 +1.6**
KULM Kulim 68.30 80 P P **17 47 40.0 +1.2**
KULM Kulim 68.30 80 P P **17 47 38.8 0.0**
comp=Z,34nm,2.1s,comp=Z,1µm
KULM Kulim 68.30 80 *e*P **P 17 47 37.1 -1.6**
comp=Z,188nm,2.1s
KULM LR LR
comp=Z,7µm,20.0s
IPM Ipoh 68.48 81 P P **17 47 41.1 +1.2**
IPM Ipoh 68.48 81 P P **17 47 40.4 +0.4**
comp=Z,45nm,2.0s,comp=Z,2µm
IPM Ipoh 68.48 81 *e*P **P 17 47 38.0 -1.9**
comp=Z,228nm,2.0s
VSU Vasula 68.63 356*d i*P **P 17 47 38.4 -1.4**
VSU pmax pmax
comp=Z,175nm,1.2s
VSU MLR MLR
comp=Z,2µm,16.0s
FRIM Kepong 68.80 83 P **P 17 47 43.7 +1.8**
RCBR Riachuelo 69.08 268 P **P 17 47 44.2 +0.5**
RCBR LR LR
comp=Z,3µm,19.0s
RCBR Riachuelo 69.08 268 P **P 17 47 44.2 +0.5**
comp=Z,23nm,1.0s,baz=37,slow=4.9,SNR=3.9
MHMT Maesarieng 69.24 66 P **P 17 47 45.8 +1.3**
comp=Z,26nm,1.2s,comp=Z,596nm
ARU Arti 69.45 14*d i*P **P 17 47 44.0 -1.0**
ARU 17 48 09.1
ARU 17 50 20.7
ARU S **S 17 56 53.4 +1.7**
ARU SS **SS 18 01 16.3 -3.2**
ARU pmax pmax
comp=Z,98nm,1.2s
ARU MLR MLR
comp=Z,2µm,20.0s
ARU Arti 69.45 14 *e*P **P 17 47 44.5 -0.5**
ARU LR LR
comp=Z,2µm,21.0s
BRVK Borovoye 70.23 22 P **P 17 47 50.3 +0.4**
SNR=19
BRVK Borovoye 70.23 22⇓ *e*P **P 17 47 48.9 -1.0**
BRVK pmax pmax
comp=Z,93nm,2.5s
BRVK MLR MLR
comp=Z,6µm,20.0s
BRVK Borovoye 70.23 22 *e*P **P 17 47 48.8 -1.1**
BRVK LR LR
comp=Z,6µm,21.0s
CM31 Chiang Mai Arr 70.24 66 *e*P **P 17 47 49.8 -0.9**
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 70.24 66 P **P 17 47 49.7 -1.0**
CMAR P'P' 18 15 54.8
CMAR Chiang Mai Arr 70.24 66 P **P 17 47 49.7 -1.0**
comp=Z,12nm,0.9s,baz=258,slow=6.7,SNR=71
CMAR PKPPKP **P'P'df 18 15 54.8 +1.2**
comp=Z,1.2nm,1.1s,baz=15,slow=1.4,SNR=5.1
CMAR LR LR 18 15 58.6
comp=Z,2µm,19.3s,baz=266,slow=34
BVA0 Borovoye Array 70.24 22 *i*P **P 17 47 48.5 -1.5**
BVA0 pmax pmax
comp=Z,39nm,1.4s
BVAR Borovoye Array 70.24 22 P **P 17 47 48.0 -2.0**
BVAR Borovoye Array 70.24 22 P **P 17 47 48.0 -2.0**
BVAR Borovoye Array 70.24 22 P **P 17 47 48.0 -2.0**
comp=Z,6.3nm,0.7s,baz=207,slow=6.2,SNR=35
SVE Sverdlovsk 70.33 15⇓ *e*P **P 17 47 49.9 -0.5**
SVE *e* 17 50 25.4
SVE *e*S **S 17 57 03.1 +1.1**
SVE *e* 17 57 39.9
SVE *e*SSS SSS 18 04 41.9
SVE pmax pmax
comp=Z,70nm,1.5s
SVE MLR MLR
comp=Z,2µm,18.0s
CHTO Chiang Mai 70.36 66 P **P 17 47 51.9 +0.5**
SNR=23
CHTO Chiang Mai 70.36 66 *e*P **P 17 47 50.1 -1.3**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 70.36 66 P **P 17 47 50.4 -1.0**
comp=Z,178nm,2.4s,comp=Z,6µm
CHTO Chiang Mai 70.36 66 *e*P **P 17 47 50.1 -1.3**
comp=Z,9.6nm,1.0s
CHTO LR LR
comp=Z,2µm,20.0s
CHTO Chiang Mai 70.36 66 P **P 17 47 51.0 -0.4**
comp=Z,178nm,2.4s,comp=Z,6µm
CMMT Chiang Mai 70.36 66 P **P 17 47 50.9 -0.5**
comp=Z,92nm,1.3s,comp=Z,1µm
PATY Pattaya 70.40 72 P **P 17 47 54.7 +3.0**
comp=Z,7.6nm,0.7s
MYKOM Kota Tinggi 70.69 85 P P 17 47 57.5 +4.0
comp=Z,5.9nm,2.0s,comp=Z,1µm
MYKOM Kota Tinggi 70.69 85 *e*P **P 17 47 51.4 -2.2**
comp=Z,134nm,1.6s
CMAI Chiengmai2 70.80 65 P P **P 17 47 55.1 +0.8**
comp=Z,56nm,1.1s,comp=Z,4µm
LAMP Lampang 70.88 66 P P **P 17 47 55.1 +0.5**
comp=Z,12nm,1.1s,comp=Z,127nm
KLMR Klimovskoe 70.93 3*c i*P **P 17 47 53.6 -0.4**
KLMR pmax pmax
comp=Z,262nm,1.5s

KLMR MLR MLR
comp=Z,1μm,18.0s
MK31 Makanchi Array 71.26 33 *i*P **P 17 47 55.2 -1.2**
MK31 pmax pmax
comp=Z,89nm,1.1s
MK31 Makanchi Array 71.26 33 *e*P **P 17 47 54.5 -1.9**
MKAR Makanchi Array 71.26 33 P **P 17 47 55.5 -0.9**
MKAR Makanchi Array 71.26 33 P **P 17 47 55.5 -0.9**
MKAR Makanchi Array 71.26 33 P **P 17 47 55.5 -0.9**
comp=Z,40nm,0.9s,baz=227,slow=5.2,SNR=119
MKAR LR LR 18 21 59.3
comp=Z,3μm,19.0s,baz=247,slow=38
PBKT Sadao Pong 71.52 69 P **P 17 47 58.9 +0.5**
comp=Z,47nm,1.3s,comp=Z,1μm
FINES FINESS Array B 71.63 356 P **P 17 47 57.6 -0.6**
FINES FINESS Array B 71.63 356 P **P 17 47 57.6 -0.6**
comp=Z,14nm,0.9s,baz=142,slow=6.8,SNR=19
CHBT CHBT 71.73 73 P **P 17 48 01.2 +1.4**
comp=Z,40nm,2.3s
SOKR Solikamsk 71.93 12*c i*P **P 17 48 00.6 +0.6**
SOKR S **S 17 57 19.3 -1.1**
SOKR pmax pmax
comp=Z,100nm,1.2s
SOKR MLR MLR
comp=Z,1μm,15.0s
KURK Kurchatov 72.01 28 P **P 17 48 01.0 +0.2**
SNR=34
KURK Kurchatov 72.01 28 P **P 17 47 59.6 -1.1**
KURK pmax pmax
comp=Z,60nm,1.4s
KURK Kurchatov 72.01 28 *e*P **P 17 47 59.0 -1.7**
KURK LR LR
comp=Z,4μm,21.0s
CRAI Chiangrai 72.08 65 P **P 17 48 02.7 +0.9**
comp=Z,171nm,0.8s,comp=Z,12μm
WMQ Urumqi 72.59 38 P **P 17 48 05.0 +0.5**
WMQ sP **sP 17 48 12.0 +0.8**
WMQ PcP **PcP 17 48 23.0 +1.0**
WMQ PP **PP 17 50 49.0 +2.8**
WMQ S **S 17 57 28.0 -0.8**
WMQ ScS **SKSac 17 58 08.0 -1.1**
WMQ SS **SS 18 02 09.0 +0.6**
WMQ pmax pmax
comp=Z,45nm,1.0s
WMQ pmax pmax
comp=Z,120nm,6.0s
WMQ LR LR
comp=Z,3μm,18.0s
WMQ LR LR
comp=Z,2μm,18.0s
WMQ LR LR
comp=Z,2μm,18.0s
NAO01 NORSAR Array S 73.07 348 *e*P **P 17 48 06.2 -0.7**
comp=Z,91nm,1.3s
CMLA Cha da Macela 73.09 315 PFAKE 17 48 20.0 +13
CMLA LR LR
comp=Z,10μm,19.0s
NB2 NORSAR Subarra 73.19 349 P **P 17 48 07.2 -0.4**
comp=Z,72nm,1.1s,baz=158,slow=5.6
NB2 NORSAR Subarra 73.19 349 P **P 17 48 07.2 -0.4**
baz=158,slow=5.6
NOA NORSAR Array B 73.19 349 P **P 17 48 06.8 -0.8**
NOA NORSAR Array B 73.19 349 P **P 17 48 06.8 -0.8**
comp=Z,24nm,1.0s,baz=159,slow=5.4,SNR=21
NOA LR LR 18 26 36.7
comp=Z,625nm,18.2s,baz=140,slow=41
TMCR Tamitsa 74.17 2 *e*P **P 17 48 13.6 +0.4**
TMCR *e* 17 48 28.3
TMCR *e* 17 51 02.8
TMCR pmax pmax
comp=Z,95nm,1.3s
UBPT Khong Chiam 75.33 71 P **P 17 48 21.8 +0.8**
comp=Z,24nm,1.9s,comp=Z,1μm
CASY Casey 75.42 156 *e*P **P 17 48 19.6 -1.0**
comp=Z,63nm,1.5s
CASY LR LR
comp=Z,1μm,19.0s
KMI Kunming 75.69 61 P **P 17 48 24.3 +1.1**
KMI pP **pP 17 48 29.0 +0.8**
KMI sP **sP 17 48 31.0 +1.0**
KMI PP **PP 17 51 10.0 -3.2**
KMI S **S 17 58 05.0 +0.2**
KMI SKS **SKSac 17 58 30.0 -3.6**
KMI SS **SS 18 03 01.1 +4.4**
KMI pmax pmax
comp=Z,33nm,1.5s
KMI pmax pmax
comp=Z,770nm,3.1s
KMI LR LR
comp=Z,720nm,24.4s
KMI LR LR
comp=Z,1μm,23.1s
KMI LR LR
comp=Z,2μm,34.7s
NVS Novosibirsk 76.84 27⇑ *i*P **P 17 48 27.7 -1.1**
NVS *e* 17 48 42.9
NVS *i* 17 51 17.6
NVS *e*S **S 17 58 13.2 -2.5**
NVS pmax pmax
comp=Z,328nm,2.4s
NVS pmax pmax
comp=N,118nm,2.3s
NVS pmax pmax
comp=E,55nm,2.5s
NVS pmax pmax
comp=Z,170nm,2.8s
NVS pmax pmax
comp=N,72nm,2.5s
NVS pmax pmax
comp=E,35nm,2.5s
NVS smax smax
comp=N,70nm,3.3s
NVS smax smax
comp=E,86nm,3.5s
KSM Kuching 76.96 86 P **P 17 48 31.7 +1.3**
KSM Kuching 76.96 86 P **P 17 48 31.8 +1.4**
comp=E,40nm,1.9s,comp=E,1μm
KSM Kuching 76.96 86 *e*P **P 17 48 30.9 +0.5**
KSM LR LR
comp=Z,5μm,20.0s
ZAA0 Zalesovo Array 77.00 28 *e*P **P 17 48 26.9 -2.8**
ZALV Zalesovo Beam 77.00 28 P **P 17 48 28.2 -1.5**
ZALV 17 51 23.9
ZALV Zalesovo Beam 77.00 28 P **P 17 48 28.1 -1.5**
ZALV PP **PP 17 51 23.9 +0.6**
ZALV Zalesovo Beam 77.00 28 P **P 17 48 28.1 -1.5**
comp=Z,9.1nm,0.8s,baz=260,slow=5.9,SNR=38
PP **PP 17 51 23.9 +0.6**
ZALV comp=Z,3.0nm,0.8s,baz=258,slow=7.4,SNR=5.7
ZALV LR LR 18 25 37.5
comp=Z,3μm,19.6s,baz=240,slow=38
APA Apatity 77.53 360‖ *i*P **P 17 48 32.4 +0.1**
APA MLR MLR
comp=Z,1μm,17.0s
LVZ Lovozero 77.86 0 PFAKE 17 48 40.0 +5.7
LVZ LR LR
comp=Z,1μm,19.0s
SPB Sao Paulo 78.05 248 *e*P **P 17 48 35.9 -0.4**
comp=Z,94nm,1.1s
SPB LR LR
comp=Z,3μm,20.0s
CD2 Chengdu 78.42 55 P **P 17 48 37.8 -0.4**
CD2 pP **pP 17 48 42.5 -0.7**
CD2 sP **sP 17 48 45.6 +0.6**
CD2 PcP **PcP 17 48 48.9 +1.5**
CD2 PP **PP 17 51 37.2 +1.4**
CD2 S **S 17 58 32.8 -1.1**
CD2 sS **sS 17 58 40.6 -1.5**
CD2 ScS **SKKSac 17 58 55.2 +1.2**
CD2 SS **SS 18 03 39.2 +1.8**
CD2 pmax pmax
comp=Z,50nm,1.8s
CD2 pmax pmax
comp=Z,770nm,9.4s
CD2 LR LR
comp=Z,2μm,22.6s
CD2 LR LR
comp=Z,1μm,22.6s
CD2 LR LR
comp=Z,1μm,22.4s
GTA Gaotai 78.49 46 *e*P **P 17 48 38.8 +0.3**
GTA pP **pP 17 48 43.6 +0.1**
GTA sP **sP 17 48 46.5 +1.2**
GTA S **S 17 58 35.1 +0.6**
GTA sS **sS 17 58 43.5 +0.8**
GTA SS **SS 18 03 42.0 +3.7**
GTA pmax pmax
comp=Z,22nm,1.4s
GTA pmax pmax
comp=Z,750nm,4.3s
GTA LR LR
comp=Z,2μm,17.3s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,2μm,17.1s
SBUM Sibu 79.02 86 P **P 17 48 43.8 +2.0**
SBUM Sibu 79.02 86 P **P 17 48 43.8 +2.0**
comp=Z,29nm,2.0s,comp=Z,1μm
SBUM Sibu 79.02 86 *e*P **P 17 48 43.4 +1.6**
comp=Z,62nm,1.6s
NWAO Narrogin (SRO) 79.06 122 P **P 17 48 42.1 +0.4**
NWAO LR LR
comp=Z,1.0nm,20.0s
NWAO Narrogin (SRO) 79.06 122 P **P 17 48 42.1 +0.4**
comp=Z,24nm,1.1s,baz=288,slow=5.8,SNR=3.4
GYA Guiyang 79.47 61⇑ *i*P **P 17 48 44.0 -0.2**
GYA PcP **PcP 17 48 51.2 -1.0**
GYA PP **PP 17 51 46.9 +2.2**
GYA S **S 17 58 44.7 -0.8**
GYA SKS **SKSac 17 58 55.0 -5.7**
GYA SS **SS 18 03 55.2 +1.7**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.4s
GYA LR LR
comp=Z,820nm,19.6s
GYA LR LR
comp=Z,680nm,20.0s
GYA LR LR
comp=Z,740nm,19.2s
BDFB Brasilia 79.54 256 P **P 17 48 45.8 +1.1**
BDFB Brasilia 79.54 256 P **P 17 48 45.8 +1.1**
comp=Z,30nm,0.9s,baz=80,slow=6.3,SNR=37
BDFB LR LR 18 21 37.4
comp=Z,4μm,18.2s,baz=93,slow=34
ARE0 ARCESS Array S 79.71 357 *e*P **P 17 48 43.3 -1.1**
ARCES ARCESS Array B 79.71 357 P **P 17 48 44.1 -0.3**
ARCES ARCESS Array B 79.71 357 P **P 17 48 44.1 -0.3**
comp=Z,30nm,1.1s,baz=182,slow=4.4,SNR=21
KEV Kevo 79.86 358 *e*P **P 17 48 44.5 -0.7**
KEV pmax pmax
comp=Z,377nm,2.1s
KEV MLR MLR
comp=Z,2μm,21.0s
KEV Kevo 79.86 358 *e*P **P 17 48 44.5 -0.7**
comp=Z,377nm,2.1s
KEV LR LR
comp=Z,2μm,21.0s
QSPA South Pole Qui 79.93 180 P **P 17 48 46.6 +0.7**
QSPA LR LR
comp=Z,2μm,21.0s
QSPA South Pole Qui 79.93 180 P **P 17 48 46.6 +0.7**
comp=Z,28nm,1.2s,baz=245,slow=3.2,SNR=21
LZH Lanzhou 80.23 51⇑ *i*P **P 17 48 49.2 +1.1**
LZH pP **pP 17 48 52.5 -0.6**
LZH sP **sP 17 48 54.0 -0.9**
LZH PP **PP 17 51 53.7 +2.8**
LZH S **S 17 58 53.0 -0.2**
LZH sS **sS 17 59 02.0 +0.6**
LZH SS **SS 18 04 06.5 +2.0**
LZH pmax pmax
comp=Z,190nm,1.5s
LZH pmax pmax
comp=Z,750nm,6.6s
LZH LR LR
comp=Z,2μm,18.0s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,3μm,19.7s
QIZ Qiongzhong 80.31 69 P **P 17 48 50.4 +1.7**
QIZ sP **sP 17 48 52.8 -2.7**
QIZ PP **PP 17 51 50.6 -1.1**
QIZ S **S 17 58 53.4 -1.0**
QIZ sS **sS 17 59 01.2 -1.4**
QIZ pmax pmax
comp=Z,24nm,1.9s
QIZ pmax pmax
comp=Z,580nm,9.4s
QIZ LR LR
comp=Z,890nm,24.0s
QIZ LR LR
comp=Z,590nm,23.6s
QIZ LR LR
comp=Z,2μm,21.4s
QIZ Qiongzhong 80.31 69 PFAKE 17 49 00.0 +11
QIZ LR LR
comp=Z,2μm,20.0s
MBWA Marble Bar 82.62 110 *e*P **P 17 49 01.8 +0.9**
comp=Z,30nm,1.0s
MBWA LR LR
comp=Z,2μm,22.0s
ENH Enshi 82.93 58 *e*P **P 17 49 01.2 -1.2**
comp=Z,13nm,1.0s
ENH LR LR
comp=Z,32nm,21.0s
EFI East Falkland 83.29 219 PFAKE 17 49 10.0 +6.2
EFI LR LR
comp=Z,8μm,22.0s
XAN Xi'an 83.53 54 P **P 17 49 05.6 +0.2**
XAN pP **pP 17 49 14.7 +4.3**
XAN PP **PP 17 52 19.2 +1.2**
XAN SKS **S 17 59 22.9 -4.2**
XAN pmax pmax
comp=Z,9.0nm,1.7s
XAN pmax pmax
comp=Z,110nm,5.4s
XAN LR LR
comp=Z,990nm,23.4s
XAN LR LR
comp=Z,460nm,24.4s
KKM Kota Kinabalu 83.61 83 PFAKE 17 49 20.0 +14
KKM LR LR
comp=Z,3μm,22.0s
MOY Mondy 84.21 35 *e*P **P 17 49 10.0 +1.4**
PMSA Palmer Station 84.23 205 PFAKE 17 49 20.0 +12
PMSA LR LR
comp=Z,3μm,21.0s
SDKM Sandakan 84.49 83 P **P 17 49 11.5 +0.7**
TSM Tawau 84.91 85 P **P 17 49 14.0 +1.2**
ZAK Zakamensk 85.03 37 *e*P **P 17 49 12.9 +0.2**
ZAK pmax pmax
comp=Z,70nm,1.7s
KAPI Kappang 85.13 94 P **P 17 49 15.3 +1.4**
SNR=9.0
KAPI Kappang 85.13 94 P **P 17 49 15.3 +1.4**
comp=Z,216nm,3.0s,comp=Z,7μm
KAPI Kappang 85.13 94 *e*P **P 17 49 14.8 +0.9**
KAPI LR LR
comp=Z,2μm,21.0s
LPA La Plata 85.70 235 *de*P P 17 49 20.0 +3.7
LPA PKIKP **PKiKP 17 54 28.0 +1.8**
TLY Talaya 85.74 36 PFAKE 17 49 30.0 +14
TLY LR LR
comp=Z,3μm,19.0s
SONM Songino Array 86.03 40 P **P 17 49 18.0 +0.2**
SONM Songino Array 86.03 40 P **P 17 49 18.0 +0.2**
comp=Z,11nm,0.9s,baz=244,slow=4.7,SNR=50
SONM LR LR 18 30 30.2
comp=Z,2μm,21.4s,baz=275,slow=38
ULN Ulaanbaatar 86.46 40 P **P 17 49 21.7 +1.7**
SNR=16
ULN Ulaanbaatar 86.46 40 P **P 17 49 20.8 +0.8**
ULN Ulaanbaatar 86.46 40 *e*P **P 17 49 19.7 -0.3**
comp=Z,175nm,2.0s
ULN LR LR
comp=Z,2μm,19.0s
CPUP Villa Florida 86.59 244 *e*P **P 17 49 20.1 -0.8**
comp=Z,3.3nm,1.3s
CPUP Villa Florida 86.59 244 P **P 17 49 22.7 +1.8**
comp=Z,10nm,0.9s,baz=77,slow=4.1,SNR=9.0
CPUP LR LR 18 25 16.8
comp=Z,4μm,18.8s,baz=96,slow=34
DRV Dumont d'Urvil 87.05 157 S S 18 00 08.0 +7.4
WHN Wuhan 87.06 58 P **P 17 49 24.4 +1.3**
WHN SKS **SKSac 17 59 48.9 -1.3**
WHN S **S 18 00 03.9 +1.9**
WHN LR LR
comp=Z,1μm,14.2s
WHN LR LR
comp=Z,2μm,17.0s
WHN LR LR
comp=Z,3μm,21.4s
HHC Hu-ho-hao-te 87.45 48 *e*P **P 17 49 23.6 -1.3**
HHC sP **sP 17 49 30.6 -1.1**
HHC PP **PP 17 52 51.5 +1.7**
HHC SKS **SKSac 17 59 49.3 -3.2**
HHC S **SKKSac 18 00 02.4 +0.6**
HHC sS **ScS 18 00 10.9 -1.8**
HHC SS **SS 18 05 53.0 +1.9**
HHC pmax pmax
comp=Z,38nm,1.4s
HHC pmax pmax
comp=Z,2μm,8.1s
HHC LR LR
comp=Z,2μm,17.5s
HHC LR LR
comp=Z,2μm,17.7s
HHC LR LR
comp=Z,3μm,17.7s
VNDA Vanda 87.76 170 *e*P **P 17 49 27.9 +2.3**
comp=Z,45nm,2.2s
VNDA Vanda 87.76 170 P **P 17 49 27.1 +1.5**
comp=Z,2.3nm,0.9s,baz=261,slow=8.2,SNR=6.7
VNDA LR LR 18 26 54.3
comp=Z,2μm,18.2s,baz=220,slow=34
SBA Scott Base 88.33 171 PFAKE 17 49 40.0 +12
SBA LR LR
comp=Z,1μm,20.0s
TRQA Tornquist 88.34 232 *e*P **P 17 49 32.1 +3.0**
comp=Z,983nm,2.9s
TRQA LR LR
comp=Z,3μm,20.0s
KBS Kingsbay 89.73 356 PFAKE 17 49 40.0 +5.3
KBS LR LR
comp=Z,1μm,20.0s
BJT Baijiatuan 90.66 50 PFAKE 17 49 50.0 +10
BJT LR LR
comp=Z,2μm,21.0s
BJI Beijing 90.67 50 P **P 17 49 40.5 +0.6**
BJI S **S 18 00 36.7 +1.1**
BJI SS **SS 18 06 39.4 +1.8**
BJI pmax pmax
comp=Z,16nm,0.5s
BJI pmax pmax
comp=Z,380nm,5.5s
BJI LR LR
comp=Z,1μm,19.5s
BJI LR LR
comp=Z,990nm,29.6s
BJI LR LR
comp=Z,1μm,34.0s
NJ2 Nanjing 91.15 58 *e*P **P 17 49 41.7 -0.6**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 Nanjing 91.15 58 *e*P **P 17 49 42.7 +0.4**
NJ2 pP **PcP 17 49 44.8 +1.5**
NJ2 S **S 18 00 42.0 +1.7**
NJ2 sS sS 18 00 54.0 +5.3
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,120nm,5.3s
NJ2 LR LR
comp=Z,2μm,20.8s
NJ2 LR LR
comp=Z,3μm,23.9s
NJ2 LR LR
comp=Z,2μm,21.8s
YHNB Yeheng 91.97 65 PFAKE 17 50 00.0 +14
YHNB LR LR
comp=Z,2μm,20.0s
SSE Sheshan 92.93 59 *e*P **P 17 49 47.9 -2.7**
SSE S **S 18 00 53.7 -2.7**
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,98nm,4.2s
SSE LR LR
comp=Z,350nm,20.3s
SSE LR LR
comp=Z,900nm,20.3s
SSE LR LR
comp=Z,1μm,20.1s
DAV Davao City (W) 92.94 83 PFAKE 17 50 00.0 +9.0
DAV LR LR
comp=Z,2μm,22.0s
PTGA Pitinga 93.61 269 *e*P **P 17 49 56.5 +2.3**
comp=Z,29nm,1.1s
PTGA LR LR
comp=Z,4μm,21.0s
PLCA Paso Flores 94.12 228 P **P 17 49 55.0 -1.1**
PLCA Paso Flores 94.12 228 P **P 17 49 55.0 -1.1**
comp=Z,2.4nm,1.1s,baz=294,slow=1.2,SNR=1.8
PLCA LR LR 18 27 07.9
comp=Z,4μm,21.9s,baz=106,slow=32
HIA Hailar 94.96 41 *e*P **P 17 49 58.0 -1.6**
comp=Z,115nm,1.6s
HIA LR LR
comp=Z,2μm,20.0s
ASAR Alice Springs 95.05 115 P **P 17 49 59.8 -0.9**
ASAR Alice Springs 95.05 115 P **P 17 49 59.8 -0.9**
comp=Z,6.2nm,0.6s,baz=260,slow=4.3,SNR=77
ASAR LR LR 18 28 07.4
comp=Z,6μm,20.0s,baz=270,slow=32
AS31 Alice Springs 95.05 115 *e*P **P 17 49 59.4 -1.2**
SAML Samuel 95.26 260 *e*P **P 17 50 04.4 +2.7**
comp=Z,11nm,1.5s
SAML LR LR
comp=Z,3μm,20.0s
BBGH Gun Hill 95.52 282 PFAKE 17 50 10.0 +7.2
BBGH LR LR
comp=Z,3μm,20.0s
WRA Warramunga Arr 96.29 111 P **P 17 50 05.4 -1.0**
WRA Warramunga Arr 96.29 111 P **P 17 50 05.4 -1.0**
comp=Z,6.3nm,1.0s,baz=261,slow=2.6,SNR=28
WRA LR LR 18 28 16.4
comp=Z,3μm,21.4s,baz=265,slow=32
WRAB Tennant Creek 96.31 111 *e*P **P 17 50 06.8 +0.4**
WRAB pmax pmax
comp=Z,39nm,1.7s
WRAB MLR MLR
comp=Z,3μm,21.0s
WRAB Tennant Creek 96.31 111 *e*P **P 17 50 06.8 +0.4**
comp=Z,39nm,1.7s
WRAB LR LR
comp=Z,3μm,21.0s
FDF Fort de France 97.29 284 PFAKE 17 50 20.0 +9.0
FDF LR LR
comp=Z,766nm,21.0s
GRGR Grenville 97.38 281 PFAKE 17 50 20.0 +8.6
GRGR LR LR
comp=Z,1μm,22.0s
LCO Las Campanas 97.57 239 PFAKE 17 50 20.0 +7.6
LCO LR LR
comp=Z,5μm,21.0s
LVC Limon Verde 97.68 245 PFAKE 17 50 20.0 +7.1
LVC LR LR
comp=Z,2μm,19.0s
CN2 Changchun 98.11 47 *e*P **P 17 50 13.9 0.0**
CN2 *e*sP **sP 17 50 20.9 +0.1**
CN2 *e*S **ScS 18 01 42.3 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,2μm,19.0s
INCN Inchon 98.31 53 PFAKE 17 50 20.0 +4.9
INCN LR LR
comp=Z,917nm,21.0s
ANWB Willy Bob 98.32 286 PFAKE 17 50 20.0 +4.6
ANWB LR LR
comp=Z,893nm,21.0s
LPAZ La Paz 98.45 252 P Pdif 17 50 17.8 +0.8
LPAZ La Paz 98.45 252 P Pdif 17 50 17.8 +0.8
comp=Z,1.2nm,0.8s,baz=70,slow=3.6,SNR=3.1
LPAZ LR LR 18 33 23.1
comp=Z,5μm,19.3s,baz=106,slow=35
KSAR Wonju Array Be 99.30 54 P **Pdif 17 50 18.9 -0.5**
KSRS Korea Array 99.33 54 P **Pdif 17 50 18.9 -0.6**

comp=Z,4.1nm,0.9s,baz=260,slow=3.9,SNR=9.6
KSRS LR LR 18 38 14.1
comp=Z,752nm,19.4s,baz=292,slow=37
STKA Stephens Creek 99.41 125 LR LR 18 30 36.5
comp=Z,2μm,20.7s,baz=243,slow=33
MDJ Mudanjiang 101.15 46 P **Pdif 17 50 26.5 -1.0**
MDJ S **Sdif 18 02 05.0 -1.2**
MDJ SS **SS 18 09 03.9 -2.1**
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,61nm,5.0s
MDJ LR LR
comp=Z,770nm,27.7s
MDJ LR LR
comp=Z,1μm,32.2s
MDJ LR LR
comp=Z,1μm,28.5s
MDJ Mudanjiang 101.15 46 PFAKE 17 50 40.0 +13
MDJ LR LR
comp=Z,1μm,22.0s
TIXI Tiksi 101.16 19⇑ *e*P **Pdif 17 50 26.5 -0.4**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 101.16 19 PFAKE 17 50 40.0 +13
TIXI LR LR
comp=Z,2μm,21.0s
SJG San Juan 102.49 286 PFAKE 17 50 40.0 +6.0
SJG LR LR
comp=Z,2μm,21.0s
CAN Canberra 103.98 130 PFAKE 17 50 50.0 +10
CAN LR LR
comp=Z,1μm,19.0s
SDV Santo Domingo 105.65 276 PFAKE 17 55 10.0
SDV LR LR
comp=Z,544nm,21.0s
PKME Peaks-Kenny Pk 106.37 314 PFAKE 17 55 10.0
PKME LR LR
comp=Z,3μm,19.0s
CTAO Charters Tower 107.05 115 PFAKE 17 55 10.0
CTAO LR LR
comp=Z,2μm,19.0s
SDDR Presa de Saban 107.43 287 PFAKE 17 55 10.0
SDDR LR LR
comp=Z,2μm,19.0s
GRTK Grand Turk 107.49 289 PFAKE 17 55 10.0
GRTK LR LR
comp=Z,2μm,22.0s
MAJO Matsushiro 107.51 55 PFAKE 17 55 10.0
MAJO LR LR
comp=Z,2μm,22.0s
NCB Newcomb 109.97 313 PFAKE 17 55 20.0
NCB LR LR
comp=Z,3μm,20.0s
LONY Lake Ozonia 110.16 314 PFAKE 17 55 20.0
LONY LR LR
comp=Z,2μm,19.0s
PMG Port Moresby 110.88 104 PFAKE 17 55 20.0
PMG LR LR
comp=Z,2μm,20.0s
ERM Erimo 111.08 49 PFAKE 17 55 20.0
ERM LR LR
comp=Z,2μm,19.0s
GTBY Guantanamo Bay 111.10 287 PFAKE 17 55 20.0
GTBY LR LR
comp=Z,1μm,19.0s
BINY Binghamton 111.42 311 PFAKE 17 55 20.0
BINY LR LR
comp=Z,6μm,20.0s
OTAV Otavalo 111.96 266 PFAKE 17 55 20.0
OTAV LR LR
comp=Z,3μm,21.0s
CBN Corbin 112.85 307 PFAKE 17 55 20.0
CBN LR LR
comp=Z,4μm,22.0s
MTDJ Mount Denham 113.28 285 PFAKE 17 55 30.0
MTDJ LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 113.50 304 PFAKE 17 55 30.0
CNNC LR LR
comp=Z,3μm,20.0s
ERPA Erie 114.38 312 PFAKE 17 55 30.0 +13
ERPA LR LR
comp=Z,4μm,22.0s
MCWV Mont Chateau 114.61 309 PFAKE 17 55 30.0 +12
MCWV LR LR
comp=Z,4μm,20.0s
BCIP Isla Barro Col 114.70 275 PFAKE 17 55 30.0 +11
BCIP LR LR
comp=Z,1μm,21.0s
BLA Blacksburg 115.36 306 PFAKE 17 55 30.0 +11
BLA LR LR
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 116.91 310 PFAKE 17 55 30.0 +7.9
ACSO LR LR
comp=Z,3μm,20.0s
AAM Ann Arbor 117.03 312 PFAKE 17 55 30.0 +7.8
AAM LR LR
comp=Z,4μm,21.0s
SNZO South Karori 117.40 148 PFAKE 17 55 30.0 +7.0
SNZO LR LR
comp=Z,670nm,19.0s
PETK Petropavlovsk- 118.08 35 PKIKP **PKPdf 17 55 23.9 -0.1**
PETK Petropavlovsk- 118.08 35 PKP **PKPdf 17 55 23.9 -0.1**
PETK Petropavlovsk- 118.08 35 PKP **PKPdf 17 55 23.9 -0.1**
comp=Z,3.9nm,0.9s,baz=270,slow=2.5,SNR=4.2
PET Petropavlovsk 118.64 34 PFAKE 17 55 30.0 +5.0
PET LR LR
comp=Z,2μm,20.0s
JTS JuntasAbangare 119.84 276 PFAKE 17 55 40.0 +12
JTS LR LR
comp=Z,2μm,20.0s
COWI Conover 119.91 318 PFAKE 17 55 40.0 +12
COWI LR LR
comp=Z,2μm,20.0s
EYMN Ely 120.82 320 PFAKE 17 55 40.0 +11
EYMN LR LR
comp=Z,3μm,19.0s
HDIL Hopedale 121.56 312 PFAKE 17 55 40.0 +9.0
HDIL LR LR
comp=Z,46μm,21.0s
BRAL Brewton 121.58 300 PFAKE 17 55 40.0 +8.7
BRAL LR LR
comp=Z,3μm,21.0s
JFWS Jewell Farm 121.61 314 PFAKE 17 55 40.0 +8.9
JFWS LR LR
comp=Z,4μm,21.0s
TGUH Tegucigalpa,Un 122.40 280 PFAKE 17 55 40.0 +6.7
TGUH LR LR
comp=Z,7μm,20.0s
ULM Lac du Bonnet 122.55 324 PKP **PKPdf 17 55 31.2 -1.4**
ULM Lac du Bonnet 122.55 324 PKP **PKPdf 17 55 31.2 -1.4**
comp=Z,6.1nm,1.0s,baz=81,slow=3,8,SNR=5.4
SPMN St. Paul 122.62 318⇑P **PKPdf 17 55 33.4 +0.5**
baz=123
HNR Honiara 122.96 108 PFAKE 17 55 40.0 +5.5
HNR LR LR
comp=Z,4.0nm,20.0s
YKA Yellowknife Ar 123.00 343 PKP **PKPdf 17 55 31.6 -1.5**
YKA PP **PP 17 57 13.7 +1.9**
YKA Yellowknife Ar 123.00 343 PKP **PKPdf 17 55 31.6 -1.5**
comp=Z,4.5nm,0.9s,baz=35,slow=2.0,SNR=24
YKA PP **PP 17 57 13.6 +1.9**
comp=Z,1.1nm,1.0s,baz=28,slow=6.0,SNR=5.0
PAYG Puerto Ayora 123.37 262 PFAKE 17 55 40.0 +4.7
PAYG LR LR
comp=Z,2μm,19.0s
AGMN Agassiz Nation 123.38 322 PFAKE 17 55 40.0 +5.7
AGMN LR LR
comp=Z,2μm,20.0s
TEIG Tepich 123.47 288 PFAKE 17 55 40.0 +4.8
TEIG LR LR
comp=Z,2μm,20.0s
FFC Flin Flon 123.52 331 PFAKE 17 55 40.0 +5.7
FFC LR LR
comp=Z,2μm,20.0s
SCIA State Center 124.01 314 PFAKE 17 55 50.0 +14
SCIA LR LR
comp=Z,3μm,22.0s
A30A Hoffart Farm, 124.55 324⇑P **PKPdf 17 55 37.0 +0.5**
baz=124
B30A Myrvik Farm, E 124.80 323⇓P **PKPdf 17 55 37.8 +0.8**
baz=125
A29A Manning Farm, 125.10 324⇑P **PKPdf 17 55 38.4 +0.8**
baz=125
C30A Mose, Pekin 125.22 322⇑P **PKPdf 17 55 38.9 +1.0**
baz=125
COLA College 125.35 1 PFAKE 17 55 50.0 +12
COLA LR LR
comp=Z,2μm,21.0s
B29A Wagenman Farm, 125.39 323⇑P **PKPdf 17 55 39.0 +0.9**
baz=125
ILAR Eielson Array 125.47 0 PKP **PKPdf 17 55 37.5 -0.4**
ILAR PP **PP 17 57 28.2 +0.1**
ILAR Eielson Array 125.47 0 PKP **PKPdf 17 55 37.5 -0.4**
comp=Z,12nm,1.1s,baz=324,slow=3.1,SNR=43
ILAR PP **PP 17 57 28.2 +0.1**
comp=Z,1.9nm,1.1s,baz=349,slow=5.7,SNR=4.9
D30A Buchanan 125.66 322⇓P **PKPdf 17 55 39.3 +0.6**
baz=126
ECSD EROS Data Cent 125.70 317 PFAKE 17 55 50.0 +11
ECSD LR LR
comp=Z,4μm,20.0s
A28A Rude Farm, Bot 125.71 324⇑P **PKPdf 17 55 39.9 +1.1**
baz=126
B28A Dugan Ranch, T 125.99 324⇑P **PKPdf 17 55 40.3 +1.0**
baz=126
E30A Jud 126.03 321⇓P **PKPdf 17 55 40.3 +0.8**
baz=126
D29A Pettibone, Tap 126.19 322⇑P **PKPdf 17 55 40.6 +0.9**
baz=126
MIAR Mount Ida 126.33 306 PFAKE 17 55 50.0 +10
MIAR LR LR
comp=Z,2μm,19.0s
F30A Leola 126.40 320⇑P **PKPdf 17 55 41.2 +1.0**
baz=126
E29A Napoleon 126.45 322⇑P **PKPdf 17 55 40.9 +0.6**
baz=126
B27A Peters Farms, 126.53 324⇓P **PKPdf 17 55 41.5 +1.2**
baz=126
D28A Regan 126.72 323⇑P **PKPdf 17 55 41.7 +1.0**
baz=127
A26A Wade Farm, Ken 126.72 325⇑P **PKPdf 17 55 41.8 +1.1**
baz=127
G30A Faulkton 126.78 320⇓P **PKPdf 17 55 41.8 +0.9**
baz=127
F29A Eureka 126.90 321⇓P **PKPdf 17 55 41.8 +0.7**
baz=127
BRSD Miller 126.96 319⇑P **PKPdf 17 55 42.5 +1.2**
baz=127
E28A Huff 127.09 322⇓P **PKPdf 17 55 42.5 +1.0**
baz=127
B26A Jensen Ranch, 127.10 325⇓P **PKPdf 17 55 42.8 +1.3**
baz=127
G29A Hoven 127.25 320⇑P **PKPdf 17 55 42.8 +0.9**
baz=127
A25A Svangstu Ranch 127.30 326⇓P **PKPdf 17 55 43.0 +1.2**
baz=127
C26A Wahner Farm, P 127.31 324⇑P **PKPdf 17 55 42.8 +0.9**
baz=127
D27A Center 127.33 323⇓P **PKPdf 17 55 43.0 +1.1**
baz=127
KSU1 Kansas State U 127.37 312 PFAKE 17 55 50.0 +7.8
KSU1 LR LR
comp=Z,4μm,21.0s
I30A Oacoma 127.49 318⇑P **PKPdf 17 55 43.4 +1.1**
baz=128
F28A McLaughlin 127.50 321⇑P **PKPdf 17 55 43.2 +0.9**
baz=128
BGNE Belgrade 127.64 315⇓P **PKPdf 17 55 43.5 +0.8**
baz=128
B25A Knox Farm, Ray 127.69 325⇑P **PKPdf 17 55 43.7 +1.1**
baz=128
E27A Carson 127.69 322⇑P **PKPdf 17 55 43.3 +0.6**
baz=128
H29A Onida 127.69 320⇑P **PKPdf 17 55 43.9 +1.2**
baz=128
TUL1 Tulsa 127.73 308⇓P **PKPdf 17 55 44.2 +1.2**
baz=128
J30A Dallas 127.78 318⇓P **PKPdf 17 55 44.0 +1.1**
baz=128
A24A Westby 127.80 326⇑P **PKPdf 17 55 44.0 +1.2**
baz=128
L31A Butterfield Fa 127.82 316⇑P **PKPdf 17 55 44.0 +1.0**
baz=128
D26A Manning 127.91 323⇑P **PKPdf 17 55 44.6 +1.6**
baz=128
G28A Parade 127.93 320⇓P **PKPdf 17 55 44.5 +1.3**
baz=128
N32A Stuken Farm, 127.99 314⇑P **PKPdf 17 55 44.7 +1.3**
baz=128
I29A Vivian Onida 128.01 319⇑P **PKPdf 17 55 44.8 +1.4**
baz=128
C25A Freed Ranch, W 128.03 324⇑P **PKPdf 17 55 44.8 +1.5**
baz=128
P33A Williams Farm, 128.04 313⇓P **PKPdf 17 55 44.7 +1.2**
baz=128
K30A Basset 128.14 317⇓P **PKPdf 17 55 45.0 +1.4**
baz=128
DGMT Dagmar 128.16 326 PFAKE 17 55 50.0 +6.5
DGMT LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 128.16 326⇑P **PKPdf 17 55 45.1 +1.6**
baz=128
O32A Brockman Farm, 128.16 314⇑P **PKPdf 17 55 44.7 +1.0**
baz=128
H28A Mission Ridge 128.18 320⇑P **PKPdf 17 55 45.0 +1.4**
baz=128
E26A Jerlson Angus 128.21 323⇓P **PKPdf 17 55 44.9 +1.3**
baz=128
F27A Lemmon 128.23 322⇓P **PKPdf 17 55 44.9 +1.1**
baz=128
M31A Lambtecht Ranc 128.24 315⇓P **PKPdf 17 55 44.8 +0.9**
baz=128
A23A Redstone 128.26 326⇓P **PKPdf 17 55 45.1 +1.4**
baz=128
Q33A Connelly Farm, 128.30 312⇑P **PKPdf 17 55 45.3 +1.2**
baz=128
J29A Okreek 128.30 318⇑P **PKPdf 17 55 44.9 +1.0**
baz=128
D25A Fairfield 128.37 324⇓P **PKPdf 17 55 45.9 +2.0**
baz=128
N31A Bailey Ranch, 128.43 315⇑P **PKPdf 17 55 45.4 +1.1**
baz=128
K29A Lazy Trails An 128.57 317⇑P **PKPdf 17 55 45.9 +1.4**
baz=128
I28A Midland 128.58 319⇑P **PKPdf 17 55 45.8 +1.4**
baz=129
B23A Brockton 128.60 326⇑P **PKPdf 17 55 45.7 +1.3**
baz=129
P32A Huiting Farm, 128.63 313⇑P **PKPdf 17 55 45.9 +1.3**
baz=129
F26A Lodgepole 128.64 322⇑P **PKPdf 17 55 45.7 +1.2**
baz=129
R33A Olander Ranch, 128.65 311⇓P **PKPdf 17 55 46.4 +1.6**
baz=129
E25A Miller Ranch, 128.75 323⇑P **PKPdf 17 55 46.4 +1.6**
baz=129
M30A Dale-Ortello V 128.78 316⇓P **PKPdf 17 55 45.8 +0.9**
baz=129
C24A Savage 128.80 325⇑P **PKPdf 17 55 46.2 +1.5**
baz=129
A22A Carney Farms, 128.81 327⇑P **PKPdf 17 55 45.8 +1.1**
baz=129
Q32A Meitler Ranch, 128.83 312⇑P **PKPdf 17 55 46.3 +1.3**
baz=129
H27A Howes 128.87 320⇓P **PKPdf 17 55 46.0 +1.0**
baz=129
G26A Maurine 128.87 321⇓P **PKPdf 17 55 45.9 +0.9**
baz=129
J28A Allard Ranch, 128.89 319⇓P **PKPdf 17 55 46.4 +1.4**
baz=129
S33A Kaszmaul Farm, 128.90 310⇓P **PKPdf 17 55 46.8 +1.6**
baz=129
U34A Anderson Ranch 128.92 309⇑P **PKPdf 17 55 46.7 +1.4**
baz=129
O31A Woolen Ranch, 128.95 314⇓P **PKPdf 17 55 46.6 +1.4**
baz=129
D24A Glendive 128.97 324⇑P **PKPdf 17 55 46.9 +1.8**
baz=129
L29A Maesberg Ranch 128.98 317⇓P **PKPdf 17 55 46.6 +1.3**
baz=129
F25A Bowman 129.08 322⇓P **PKPdf 17 55 46.6 +1.2**
baz=129
C23A Lambert 129.08 325⇓P **PKPdf 17 55 46.6 +1.3**
baz=129
V34A Guthrie 129.09 308⇑P **PKPdf 17 55 47.0 +1.4**
baz=129
I27A Quinn 129.12 320⇑P **PKPdf 17 55 46.8 +1.3**
baz=129
R32A Long Quarter, 129.14 312⇓P **PKPdf 17 55 46.9 +1.2**
baz=129
P31A Stockton 129.23 313⇑P **PKPdf 17 55 47.2 +1.4**
baz=129
N30A Hueftle Ranch, 129.24 315⇑P **PKPdf 17 55 47.1 +1.3**
baz=129
B22A Reddig Ranch S 129.25 326⇑P **PKPdf 17 55 47.0 +1.5**
baz=129
E24A Baker 129.25 324⇓P **PKPdf 17 55 47.0 +1.4**
baz=129
T33A Patterson Ranc 129.25 310⇑P **PKPdf 17 55 47.5 +1.6**
baz=129
K28A Ten Mile Ranch 129.29 318⇓P **PKPdf 17 55 46.8 +0.9**
baz=129
H26A Fairpoint 129.31 321⇓P **PKPdf 17 55 47.1 +1.2**
baz=129
A21A Bergtoll Ranch 129.35 327⇑P **PKPdf 17 55 47.1 +1.3**
baz=129
G25A Newell 129.42 322⇓P **PKPdf 17 55 47.3 +1.3**
baz=129
Q31A Ellis 129.43 313⇓P **PKPdf 17 55 47.6 +1.4**
baz=129
D23A Lindsay 129.44 325⇓P **PKPdf 17 55 47.3 +1.3**
baz=129
O30A MW Ranch, Wils 129.46 314⇓P **PKPdf 17 55 47.6 +1.4**
baz=129
J27A Elkhorn Farm, 129.47 319⇑P **PKPdf 17 55 47.3 +1.1**
baz=129
W34A Bridge Creek, 129.47 308⇓P **PKPdf 17 55 48.2 +1.8**
baz=130
C22A Vida 129.50 326⇓P **PKPdf 17 55 47.4 +1.3**
baz=129
Z35A Perchaven, San 129.60 305⇓P **PKPdf 17 55 48.3 +1.6**
baz=130
I26A New Underwood 129.65 320⇓P **PKPdf 17 55 47.8 +1.3**
baz=130
V33A Lossen Ranch, 129.69 308⇓P **PKPdf 17 55 48.5 +1.7**
baz=130
X34A Smith Ranch, M 129.71 307⇑P **PKPdf 17 55 48.6 +1.8**
baz=130
F24A Ekalaka 129.71 323⇓P **PKPdf 17 55 48.0 +1.4**
baz=130
B21A Ellsworth Farm 129.73 327⇑P **PKPdf 17 55 48.3 +1.8**
baz=130
T32A Huddler Ranch, 129.73 310⇓P **PKPdf 17 55 48.4 +1.5**
baz=130
R31A Burdett 129.79 312⇑P **PKPdf 17 55 48.5 +1.6**
baz=130
H25A Fruitdale 129.82 321⇑P **PKPdf 17 55 48.1 +1.3**
baz=130
Y34A Reagan Ranch, 129.83 306⇓P **PKPdf 17 55 48.6 +1.5**
baz=130
P30A Selden 129.84 314⇓P **PKPdf 17 55 48.8 +1.8**
baz=130
K27A Flueckinger Fa 129.87 318⇓P **PKPdf 17 55 48.4 +1.4**
baz=130
E23A Ismay 129.87 324⇓P **PKPdf 17 55 48.5 +1.7**
baz=130
135A Vickery Place, 129.93 304⇑P **PKPdf 17 55 49.0 +1.7**
baz=130
A20A Cobblestone Ra 129.94 328⇑P **PKPdf 17 55 48.6 +1.7**
baz=130
G24A Alzada 129.96 322⇑P **PKPdf 17 55 48.2 +1.1**
baz=130
O29A 4D Ranch, Culb 130.00 315⇓P **PKPdf 17 55 48.8 +1.6**
baz=130
S31A Mullinville 130.00 311⇑P **PKPdf 17 55 49.1 +1.8**
baz=130
D22A Cohagen 130.00 325⇓P **PKPdf 17 55 48.7 +1.7**
baz=130,SNR=11
Q30A Quinter 130.04 313⇓P **PKPdf 17 55 49.1 +1.7**
baz=130
U32A Winter Ranch, 130.06 309⇓P **PKPdf 17 55 49.2 +1.8**
baz=130
WHTX Lake Whitney 130.11 303 *e*PKPdf **PKPdf 17 55 48.9 +1.3**
WHTX Lake Whitney 130.11 303⇓P **PKPdf 17 55 49.4 +1.8**
baz=130
Z34A Collier Ranch, 130.12 305⇑P **PKPdf 17 55 49.4 +1.8**
baz=130
C21A Desert Coulee 130.13 326⇑P **PKPdf 17 55 49.1 +1.9**
baz=130
J26A Sides Ranch, S 130.13 319⇑P **PKPdf 17 55 48.9 +1.5**
baz=130
I25A Rochford 130.20 320⇓P **PKPdf 17 55 49.2 +1.5**
baz=130
X33A Lawton 130.25 307⇓P **PKPdf 17 55 49.6 +1.8**
baz=130
B20A Solberg Farm, 130.26 327⇑P **PKPdf 17 55 49.2 +1.7**
baz=130,SNR=6.9
335A Moody 130.27 302⇓P **PKPdf 17 55 49.8 +1.8**
baz=130
E22A Miles City 130.27 324⇓P **PKPdf 17 55 49.3 +1.7**
baz=130
N28A Pribbeno Ranch 130.28 316⇓P **PKPdf 17 55 49.5 +1.7**
baz=130
LAO LASA Array 130.29 325 *e*PKPdf **PKPdf 17 55 48.3 +0.7**
LAO LR LR
comp=Z,4μm,19.0s
V32A Arapaho 130.31 309⇑P **PKPdf 17 55 50.0 +2.0**
baz=130
T31A Randall Ranch, 130.32 310⇑P **PKPdf 17 55 49.8 +1.8**
baz=130
A19A Klindworth Far 130.34 328⇑P **PKPdf 17 55 49.4 +1.7**
baz=130,SNR=6.4
H24A Dirks Ranch, A 130.34 322⇑P **PKPdf 17 55 48.8 +1.0**
baz=130
F23A Volborg 130.34 323⇑P **PKPdf 17 55 49.1 +1.3**
baz=130
WMOK Wichita Mounta 130.41 307 PFAKE 17 56 00.0 +12
WMOK LR LR
comp=Z,2μm,21.0s
134A White-Moore Ra 130.47 304⇓P **PKPdf 17 55 49.9 +1.5**
baz=130
K26A Motz Farm, Whi 130.48 319⇓P **PKPdf 17 55 49.4 +1.3**
baz=130
M27A Reverse DX Ran 130.50 317⇑P **PKPdf 17 55 49.5 +1.3**
baz=130
Y33A Hilltop Ranch, 130.51 306⇓P **PKPdf 17 55 50.1 +1.7**
baz=130
OGNE Ogallala 130.51 316 PFAKE 17 56 00.0 +12
OGNE LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 130.51 316⇓P **PKPdf 17 55 49.6 +1.4**
baz=130
D21A La Casta Ranch 130.51 325⇑P **PKPdf 17 55 50.0 +1.9**
baz=130,SNR=7.1
J25A Sunshine Ranch 130.56 320⇓P **PKPdf 17 55 49.7 +1.4**
baz=130
G23A Biddle 130.61 323⇓P **PKPdf 17 55 49.8 +1.5**
baz=131
Q29A Oakley 130.62 313⇓P **PKPdf 17 55 50.2 +1.7**
baz=131
W32A Sentinel 130.65 308⇑P **PKPdf 17 55 50.5 +1.9**
baz=131
O28A Krutsinger Ran 130.68 315⇑P **PKPdf 17 55 50.2 +1.6**
baz=131
C20A Veseth Ranch, 130.69 327⇓P **PKPdf 17 55 50.0 +1.7**
baz=131
U31A Nine Bar Ranch 130.71 310⇓P **PKPdf 17 55 50.6 +1.8**
baz=131
S30A Montezuma 130.72 311⇑P **PKPdf 17 55 50.3 +1.6**
baz=131
L26A Underwood Farm 130.73 318⇓P **PKPdf 17 55 50.2 +1.5**
baz=131
B19A Brinkman Farms 130.74 328⇑P **PKPdf 17 55 50.1 +1.7**
baz=131,SNR=11
F22A Rosebud 130.81 324⇑P **PKPdf 17 55 50.2 +1.6**
baz=131
Z33A Whitaker Ranch 130.83 305⇑P **PKPdf 17 55 50.8 +1.8**
baz=131
I24A Kuemmerle Ranc 130.84 321⇑P **PKPdf 17 55 50.0 +1.2**
baz=131
E21A Keefer Ranch, 130.86 325⇓P **PKPdf 17 55 50.5 +1.8**
baz=131,SNR=11
P28A Saint Francis 130.90 314⇓P **PKPdf 17 55 50.5 +1.5**
baz=131
V31A Spring Creek L 130.90 309⇓P **PKPdf 17 55 51.2 +2.1**
baz=131
X32A Elmer 130.91 307⇑P **PKPdf 17 55 50.9 +1.8**
baz=131
R29A Marienthal 130.91 313⇑P **PKPdf 17 55 50.8 +1.7**
baz=131
N27A Anderson Farm, 130.91 316⇓P **PKPdf 17 55 50.6 +1.5**
baz=131
334A Lometa 130.93 303⇓P **PKPdf 17 55 50.9 +1.6**
baz=131,SNR=5.6
K25A Mack Ranch, Ha 130.97 319⇑P **PKPdf 17 55 50.6 +1.4**
baz=131
T30A Plains 130.98 311⇑P **PKPdf 17 55 50.9 +1.7**
baz=131
M26A McRoberts Ranc 131.03 317⇑P **PKPdf 17 55 50.9 +1.6**
baz=131

434A	Burnet	131.08	302	⇑P		PKPdf	17 55 51.2	+1.6
	baz=131,SNR=8.9							
J24A	Dixon Ranch, L	131.13	320	⇑P		PKPdf	17 55 50.9	+1.5
	baz=131							
D20A	Manuel Ranch,	131.13	326	⇓P		PKPdf	17 55 51.3	+2.0
	baz=131,SNR=13							
133A	Hamilton Ranch	131.14	305	⇑P		PKPdf	17 55 51.8	+2.2
	baz=131							
G22A	Birney	131.14	323	⇑P		PKPdf	17 55 50.5	+1.2
	baz=131,SNR=5.4							
O27A	Beecher Island	131.14	315	⇓P		PKPdf	17 55 51.3	+1.8
	baz=131							
Y32A	R-V Farms, Ver	131.16	307	⇓P		PKPdf	17 55 51.5	+1.9
	baz=131							
Q28A	Sharon Springs	131.16	314	⇓P		PKPdf	17 55 51.3	+1.7
	baz=131							
W31A	Holland Ranch,	131.18	308	⇓P		PKPdf	17 55 51.7	+2.1
	baz=131							
S29A	Ulysses	131.21	312	⇓P		PKPdf	17 55 51.7	+2.0
	baz=131							
C19A	Slack Wire Ran	131.24	327	⇑P		PKPdf	17 55 51.3	+1.9
	baz=131,SNR=12							
L25A	Engebretsen Ra	131.25	318	⇓P		PKPdf	17 55 51.3	+1.6
	baz=131							
U30A	WK&E Inc. Balk	131.26	310	⇓P		PKPdf	17 55 51.9	+2.2
	baz=131							
N26A	Koester Ranch,	131.37	316	⇓P		PKPdf	17 55 51.5	+1.6
	baz=131							
X31A	McDonald Ranch	131.38	308	⇓P		PKPdf	17 55 52.1	+2.1
	baz=131							
Z32A	Haskell	131.39	306	⇓P		PKPdf	17 55 52.2	+2.1
	baz=131,SNR=12							
EGMT	Eagleton	131.43	328	ℯPKPdf		PKPdf	17 55 49.0	-0.8
EGMT				LR		LR		
	comp=Z,2µm,20.0s							
EGMT	Eagleton	131.43	328	⇑P		PKPdf	17 55 51.9	+2.2
	baz=131,SNR=14							
R28A	Tribune	131.43	313	⇑P		PKPdf	17 55 51.9	+1.8
	baz=131							
534A	Blanco	131.44	301	⇑P		PKPdf	17 55 51.9	+1.7
	baz=132,SNR=5.1							
E20A	Meyer Farm, Mu	131.47	325	⇑P		PKPdf	17 55 52.0	+2.1
	baz=131,SNR=11							
KVTX	Kingsville	131.48	298	PFAKE			17 56 00.0	+10
KVTX				LR		LR		
	comp=Z,2µm,19.0s							
P27A	Ficken Ranch,	131.48	315	⇓P		PKPdf	17 55 51.8	+1.6
	baz=132							
D19A	Cripps Ranch,	131.49	326	⇑P		PKPdf	17 55 52.0	+2.1
	baz=131							
T29A	Hugoton	131.51	311	⇓P		PKPdf	17 55 52.0	+1.8
	baz=132							
H22A	Clearmont	131.52	322	⇑P		PKPdf	17 55 51.7	+1.6
	baz=132,SNR=7.8							
333A	Richland Sprin	131.54	303	⇓P		PKPdf	17 55 52.0	+1.6
	baz=132,SNR=6.5							
V30A	Spur Ranch, Mi	131.55	309	⇑P		PKPdf	17 55 52.4	+2.0
	baz=132							
M25A	Palm-Egli Farm	131.65	318	⇓P		PKPdf	17 55 52.4	+1.9
	baz=132							
W30A	Crocket Farms	131.67	308	⇑P		PKPdf	17 55 52.4	+1.8
	baz=132							
G21A	Lodge Grass	131.68	323	⇓P		PKPdf	17 55 52.0	+1.7
	baz=132,SNR=5.0							
O26A	Horse Wrangler	131.69	316	⇓P		PKPdf	17 55 52.0	+1.4
	baz=132							
ABTX	Abilene, Hawle	131.73	305	⇑P		PKPdf	17 55 52.6	+1.8
	baz=132,SNR=5.2							
KSCO	Kaye Shedlock'	131.74	314	⇓P		PKPdf	17 55 52.5	+1.8
	baz=132							
433A	Art	131.78	302	⇑P		PKPdf	17 55 52.3	+1.4
	baz=132,SNR=11							
S28A	Manter	131.79	312	⇓P		PKPdf	17 55 52.8	+2.0
	baz=132							
Y31A	Rekieta Farm,	131.82	307	⇓P		PKPdf	17 55 52.8	+1.9
	baz=132							
E19A	Rath Farm, Rou	131.86	326	⇓P		PKPdf	17 55 52.6	+1.9
	baz=132,SNR=6.1							
F20A	Billings	131.89	325	⇓P		PKPdf	17 55 52.8	+2.0
	baz=132							
533A	Kerrville	131.90	301	⇓P		PKPdf	17 55 52.6	+1.5
	baz=132							
H21A	Big Horn, Sher	131.91	323	⇑P		PKPdf	17 55 52.6	+1.8
	baz=132							
Z31A	Sharp Cattle R	131.92	306	⇓P		PKPdf	17 55 53.0	+1.9
	baz=132,SNR=7.7							
232A	Coleman	131.94	304	⇑P		PKPdf	17 55 53.0	+1.8
	baz=132,SNR=9.3							
L24A	Wheatland	131.94	319	⇓P		PKPdf	17 55 52.6	+1.6
	baz=132							
I22A	9 Mile Ranch,	131.97	322	⇑P		PKPdf	17 55 52.4	+1.4
	baz=132							
P26A	Davis Ranch, A	132.01	315	⇑P		PKPdf	17 55 53.1	+1.8
	baz=132							
K23A	Bowen Ranch, D	132.03	320	⇓P		PKPdf	17 55 52.3	+1.1
	baz=132							
T28A	Walsh	132.13	311	⇓P		PKPdf	17 55 53.4	+1.9
	baz=132							
X30A	Coker Ranch, T	132.14	308	⇓P		PKPdf	17 55 52.9	+1.4
	baz=132							
M24A	Cheyene	132.15	318	⇓P		PKPdf	17 55 53.4	+1.9
	baz=132							
332A	Millersview	132.15	303	⇑P		PKPdf	17 55 53.2	+1.6
	baz=132,SNR=11							
R27A	Eads	132.16	313	⇓P		PKPdf	17 55 53.4	+1.9
	baz=132							
G20A	Bridger	132.27	324	⇑P		PKPdf	17 55 53.2	+1.7
	baz=132,SNR=9.8							
O25A	Wiggins	132.30	316	⇓P		PKPdf	17 55 53.4	+1.7
	baz=132							
131A	Roby	132.31	305	⇓P		PKPdf	17 55 53.7	+1.9
	baz=132,SNR=5.6							
F19A	Roth Farm, Mol	132.31	325	⇓P		PKPdf	17 55 53.3	+1.7
	baz=132,SNR=6.1							
432A	Menard	132.33	303	⇑P		PKPdf	17 55 53.5	+1.5
	baz=132,SNR=5.8							
Y30A	Stafford Cattl	132.34	307	⇓P		PKPdf	17 55 53.8	+1.9
	baz=132							
L23A	Garrett	132.40	319	⇓P		PKPdf	17 55 53.7	+1.7
	baz=132							
Q26A	Hugo	132.41	314	⇓P		PKPdf	17 55 53.9	+1.9
	baz=132							
JCT	Junction City	132.44	302	ℯPKIKP		PKPdf	17 55 51.0	-1.2
JCT				MLR		MLR		
	comp=Z,2µm,20.0s							
JCT	Junction City	132.44	302	ℯPKPdf		PKPdf	17 55 51.0	-1.2
JCT				LR		LR		
	comp=Z,2µm,20.0s							
JCT	Junction City	132.44	302	⇑P		PKPdf	17 55 53.9	+1.7
	baz=132							
231A	Bronte	132.47	304	⇓P		PKPdf	17 55 54.1	+1.9
	baz=132,SNR=7.3							
N24A	Carr	132.49	317	⇑P		PKPdf	17 55 54.0	+1.8
	baz=132							
I21A	Big Trails, Te	132.51	322	⇑P		PKPdf	17 55 53.5	+1.5
	baz=132							
W29A	Amraillo	132.51	309	⇑P		PKPdf	17 55 53.7	+1.5
	baz=132							
H20A	Greybull	132.56	323	⇑P		PKPdf	17 55 53.5	+1.4
	baz=132,SNR=8.8							
T27A	Campo	132.60	312	⇑P		PKPdf	17 55 54.0	+1.6
	baz=133,SNR=6.4							
WRAK	Wrangell Islan	132.60	350	PFAKE			17 56 00.0	+8.4
WRAK				LR		LR		
	comp=Z,1µm,19.0s							
P25A	Willow Gulch B	132.61	315	⇓P		PKPdf	17 55 54.1	+1.7
	baz=133,SNR=10							
532A	Rocksprings	132.62	302	⇓P		PKPdf	17 55 54.2	+1.6
	baz=133,SNR=10							
AMTX	Amarillo	132.62	308	⇓P		PKPdf	17 55 54.0	+1.5
	baz=133							
R26A	Arlington	132.62	313	⇑P		PKPdf	17 55 54.0	+1.6
	baz=133,SNR=5.8							
K22A	Casper	132.65	320	⇓P		PKPdf	17 55 53.7	+1.3
	baz=133							
632A	Uvalde	132.67	301	⇓P		PKPdf	17 55 54.3	+1.7
	baz=133							
Z30A	Sanderson Ranc	132.72	306	⇓P		PKPdf	17 55 54.4	+1.8
	baz=133,SNR=8.5							
V28A	Channing	132.72	310	⇓P		PKPdf	17 55 54.2	+1.5
	baz=133							
M23A	Laramie	132.74	318	⇑P		PKPdf	17 55 54.1	+1.4
	baz=133							
331A	San Angelo	132.74	303	⇑P		PKPdf	17 55 54.5	+1.8
	baz=133							
X29A	Tulia	132.78	308	⇑P		PKPdf	17 55 54.4	+1.6
	baz=133							
130A	Snyder	132.80	305	⇑P		PKPdf	17 55 54.4	+1.6
	baz=133							
J21A	Lysite	132.85	321	⇑P		PKPdf	17 55 53.9	+1.1
	baz=133							
W28A	Vega	132.89	309	⇓P		PKPdf	17 55 54.8	+1.9
	baz=133							
L22A	Ellis Ranch, M	132.91	319	⇓P		PKPdf	17 55 54.3	+1.3
	baz=133							
S26A	Kim	132.92	313	⇑P		PKPdf	17 55 54.8	+1.8
	baz=133,SNR=8.7							
U27A	Thompson Grove	132.92	311	⇑P		PKPdf	17 55 54.6	+1.6
	baz=133							
Q25A	Bedland, Calha	132.93	315	⇓P		PKPdf	17 55 54.5	+1.4
	baz=133,SNR=8.6							
RLMT	Red Lodge	132.93	325	PFAKE			17 56 00.0	+7.1
RLMT				LR		LR		
	comp=Z,3µm,20.0s							
I20A	Worland	132.94	323	⇓P		PKPdf	17 55 54.3	+1.5
	baz=133,SNR=9.3							
O24A	Longmont	132.95	316	⇓P		PKPdf	17 55 54.8	+1.8
	baz=133							
Y29A	Porterfield Fa	132.96	307	⇓P		PKPdf	17 55 54.8	+1.7
	baz=133,SNR=13							
732A	Laxson Ranch,	133.02	300	⇑P		PKPdf	17 55 55.1	+1.9
	baz=133							
H19A	Powell	133.03	324	⇓P		PKPdf	17 55 55.4	+2.4
	baz=133							
431A	Sonora	133.06	303	⇑P		PKPdf	17 55 55.3	+2.0
	baz=133							
K21A	Alcova	133.12	321	⇑P		PKPdf	17 55 55.0	+1.7
	baz=133,SNR=5.7							
P24A	Kohler Place,	133.12	316	⇓P		PKPdf	17 55 55.1	+1.7
	baz=133							
230A	Sterling City	133.13	304	⇑P		PKPdf	17 55 55.6	+2.1
	baz=133							
X28A	Dimmitt	133.14	308	⇓P		PKPdf	17 55 55.4	+2.0
	baz=133							
531A	Rocksprings	133.15	302	⇑P		PKPdf	17 55 55.1	+1.6
	baz=133							
N23A	Red Feather La	133.16	318	⇑P		PKPdf	17 55 55.1	+1.6
	baz=133,SNR=10							
Z29A	Hungry Hill Ra	133.18	306	⇑P		PKPdf	17 55 55.4	+1.8
	baz=133,SNR=5.4							
V27A	Dan Oppiter Fa	133.18	310	⇑P		PKPdf	17 55 55.1	+1.6
	baz=133,SNR=5.3							
T26A	Comanche Natio	133.19	312	⇓P		PKPdf	17 55 55.0	+1.4
	baz=133,SNR=7.9							
J20A	Shoshoni	133.24	322	⇓P		PKPdf	17 55 55.5	+2.0
	baz=133							
R25A	Fountain Ranch	133.28	314	⇑P		PKPdf	17 55 55.4	+1.7
	baz=133,SNR=6.9							
330A	Mertzon	133.32	304	⇑P		PKPdf	17 55 55.8	+2.0
	baz=133,SNR=14							
M22A	Cedar Creek Ra	133.34	319	⇑P		PKPdf	17 55 55.1	+1.3
	baz=133							
631A	Pecadido Creek	133.37	301	⇓P		PKPdf	17 55 55.8	+1.9
	baz=133							
Y28A	McKinney Farm,	133.39	307	⇑P		PKPdf	17 55 55.7	+1.8
	baz=133,SNR=6.6							
I19A	Meeteetse	133.40	323	⇓P		PKPdf	17 55 55.6	+1.8
	baz=133,SNR=7.5							
H18A	Shoshone NF, C	133.42	324	⇓P		PKPdf	17 55 55.6	+1.7
	baz=133,SNR=10.0							
ISCO	Idaho Springs	133.47	316	PFAKE			17 56 00.0	+5.8
ISCO				LR		LR		
	comp=Z,3µm,22.0s							
ISCO	Idaho Springs	133.47	316	⇑P		PKPdf	17 55 55.9	+1.7
	baz=133,SNR=6.7							
O23A	Lake Granby, G	133.48	317	⇓P		PKPdf	17 55 56.1	+1.9
	baz=133,SNR=7.2							
129A	Stewart Farms,	133.51	306	⇑P		PKPdf	17 55 55.7	+1.6
	baz=134							
Q24A	Divide	133.53	315	⇑P		PKPdf	17 55 55.8	+1.4
	baz=134							
N22A	Wattenberg Ran	133.54	318	⇓P		PKPdf	17 55 55.9	+1.7
	baz=134							
430A	Baggett Ranch,	133.55	303	⇓P		PKPdf	17 55 56.3	+2.0
	baz=134							
S25A	Robets Cordova	133.60	313	⇓P		PKPdf	17 55 56.3	+1.9
	baz=134,SNR=11							
W27A	Bowe Ranch, En	133.61	309	⇓P		PKPdf	17 55 56.3	+1.9
	baz=134							
U26A	Achley Ranch,	133.62	311	⇑P		PKPdf	17 55 56.1	+1.7
	baz=134							
229A	Bryant Ranch,	133.67	305	⇓P		PKPdf	17 55 56.5	+2.0
	baz=134							
Z28A	Tucker Farm, M	133.71	307	⇑P		PKPdf	17 55 56.2	+1.6
	baz=134							
MSTX	Muleshoe	133.78	308	⇑P		PKPdf	17 55 56.2	+1.5
	baz=134							
X27A	F and S Farms,	133.79	309	⇑P		PKPdf	17 55 56.4	+1.7
	baz=134,SNR=5.4							
T25A	Trinidad	133.80	312	⇓P		PKPdf	17 55 56.5	+1.7
	baz=134,SNR=5.7							
530A	J-C Ranch, Com	133.81	302	⇓P		PKPdf	17 55 56.6	+1.9
	baz=134							
P23A	Jefferson	133.82	316	⇓P		PKPdf	17 55 56.4	+1.5
	baz=134							
R24A	Sanders Place,	133.83	314	⇓P		PKPdf	17 55 56.4	+1.6
	baz=134							
J19A	Crowheart	133.88	322	⇑P		PKPdf	17 55 57.0	+2.3
	baz=134							
V26A	Tequesquite Ra	133.88	310	⇑P		PKPdf	17 55 56.5	+1.6
	baz=134							
O22A	Kremmling	133.92	317	⇑P		PKPdf	17 55 56.4	+1.4
	baz=134							
BOZ	Bozeman (W)	133.93	326	PFAKE			17 56 00.0	+5.3
BOZ				LR		LR		
	comp=Z,2µm,20.0s							
SWMT	Swartz Lake	133.93	330	ℯPKPdf		PKPdf	17 55 54.0	-0.5
CHMT	Chamberlain Mo	133.96	329	ℯPKPdf		PKPdf	17 55 54.4	-0.3
329A	Wagon Wheel Ra	133.96	304	⇑P		PKPdf	17 55 56.8	+1.8
	baz=134							
128A	Castleberry Fa	134.01	306	⇓P		PKPdf	17 55 57.1	+2.0
	baz=134,SNR=12							
U25A	Circle Dot Ran	134.10	312	⇓P		PKPdf	17 55 57.3	+2.0
	baz=134,SNR=7.7							
Y27A	Causey	134.12	308	⇑P		PKPdf	17 55 57.0	+1.7
	baz=134							
429A	Davenport Ranc	134.14	303	⇑P		PKPdf	17 55 57.2	+1.8
	baz=134							
W26A	Owens Ranch, T	134.14	310	⇑P		PKPdf	17 55 57.1	+1.8
	baz=134							
S24A	Houchin Ranch,	134.17	313	⇓P		PKPdf	17 55 57.6	+2.0
	baz=134							
YMR	Madison River	134.17	325	ℯPKPdf		PKPdf	17 55 54.6	-0.6
228A	UT Block 9, Go	134.26	305	⇑P		PKPdf	17 55 57.3	+1.7
	baz=134							
LRM	Limekiln Ridge	134.26	327	ℯPKPdf		PKPdf	17 55 54.2	-1.2
SDCO	Great Sand Dun	134.33	314	ℯPKPdf		PKPdf	17 55 55.1	-0.7
SDCO				LR		LR		
	comp=Z,3µm,21.0s							
P22A	Eagle	134.34	317	⇓P		PKPdf	17 55 57.4	+1.7
	baz=134,SNR=7.2							
Z27A	Tatum	134.35	307	⇓P		PKPdf	17 55 57.1	+1.3
	baz=134							
R23A	Moffat	134.36	314	⇓P		PKPdf	17 55 57.7	+1.8
	baz=134,SNR=10							
MSO	Missoula	134.36	329	⇑P		PKPdf	17 55 57.1	+1.7
	baz=134							
X26A	CR and CF Fran	134.38	309	⇑P		PKPdf	17 55 57.5	+1.7
	baz=134							
I17A	Pilgrim Ck.	134.40	324	⇓P		PKPdf	17 55 57.2	+1.5
	baz=134							
BW06	Boulder Array	134.46	322	PFAKE			17 56 10.0	+14
BW06				LR		LR		
	comp=Z,4µm,20.0s							
PDAR	Pinedale Array	134.46	322	PKP		PKPdf	17 55 53.6	-2.2
PDAR	Pinedale Array	134.46	322	PKP		PKPdf	17 55 53.6	-2.2
	comp=Z,3.8nm,0.9s,baz=94,slow=3.5,SNR=17							
V25A	Rancho No Teng	134.49	311	⇑P		PKPdf	17 55 57.7	+1.6
	baz=134							
T24B	San Luis	134.54	313	⇓P		PKPdf	17 55 58.0	+1.8
	baz=134							
529A	Stev Forest Ra	134.55	302	⇑P		PKPdf	17 55 58.2	+2.1
	baz=135							
W25A	X Bar L Ranch,	134.62	310	⇑P		PKPdf	17 55 58.0	+1.8
	baz=135,SNR=5.3							
Y26A	Elida	134.62	308	⇓P		PKPdf	17 55 57.9	+1.7
	baz=135							
328A	Wristen Ranch,	134.66	304	⇑P		PKPdf	17 55 58.3	+1.9
	baz=135							
127A	Arkansas Junct	134.69	306	⇓P		PKPdf	17 55 58.5	+2.1
	baz=135							
N20A	Spence Gulch,	134.71	319	⇓P		PKPdf	17 55 57.9	+1.5
	baz=135							
428A	Kincaid Ranch,	134.76	303	⇑P		PKPdf	17 55 58.8	+2.2
	baz=135							
227A	Bennet, Jal	134.85	305	⇓P		PKPdf	17 55 58.6	+1.9
	baz=135							
NEW	Newport	134.87	333	PFAKE			17 56 10.0	+14
NEW				LR		LR		
	comp=Z,1µm,20.0s							
NEW	Newport	134.87	333	⇓P		PKPdf	17 55 57.9	+1.7
	baz=135							
Z26A	Caprock	134.97	307	⇑P		PKPdf	17 55 58.4	+1.5
	baz=135							
528A	Cox Ranch, San	135.01	303	⇑P		PKPdf	17 55 58.8	+1.7
	baz=135							
V24A	Rampart Ranch,	135.02	311	⇑P		PKPdf	17 55 59.0	+1.8
	baz=135,SNR=5.6							
T23A	Casias Ranch,	135.02	313	⇑P		PKPdf	17 55 58.6	+1.5
	baz=135							
X25A	Clemmons Ranch	135.03	309	⇑P		PKPdf	17 55 58.4	+1.3
	baz=135							
O20A	White River Ci	135.06	318	⇑P		PKPdf	17 55 58.7	+1.6
	baz=135							
126A	Clayton Basin,	135.22	307	⇑P		PKPdf	17 55 59.2	+1.8
	baz=135							
327A	Balmorhea Ranc	135.22	305	⇓P		PKPdf	17 55 59.4	+2.0
	baz=135							
S22A	4UR Ranch, Cre	135.26	314	⇓P		PKPdf	17 55 59.3	+1.7
	baz=135							
Y25A	Mesa, Roswell	135.29	308	⇓P		PKPdf	17 55 59.1	+1.5
	baz=135							
628A	Black Gap, Mar	135.29	302	⇑P		PKPdf	17 55 59.3	+1.7
	baz=135							
427A	Hayter Ranch,	135.31	304	⇓P		PKPdf	17 55 59.6	+2.0
	baz=135							
W24A	Lazy 6 Ranch,	135.33	310	⇓P		PKPdf	17 55 59.5	+1.8
	baz=135							
AHID	Auburn Hatcher	135.39	323	PFAKE			17 56 10.0	+12
AHID				LR		LR		
	comp=Z,3µm,20.0s							
U23A	El Rito	135.44	312	⇓P		PKPdf	17 55 59.7	+1.8
	baz=135							
226B	Tecolote Peak,	135.53	306	⇑P		PKPdf	17 55 59.7	+1.7
	baz=136							
Z25A	Roswell	135.54	308	⇓P		PKPdf	17 55 59.9	+1.9
	baz=136							
326A	Caldwell Ranch	135.63	305	⇑P		PKPdf	17 56 00.1	+1.9
	baz=136							
V23A	Ortiz Mt. (NFS	135.68	312	⇑P		PKPdf	17 56 00.8	+2.4
	baz=136							
527A	Woodward Ranch	135.70	303	⇓P		PKPdf	17 56 00.7	+2.2
	baz=136							
627A	Terlingua Ranc	135.72	302	⇑P		PKPdf	17 56 00.3	+1.9
	baz=136							
Y24A	Capitan	135.86	309	⇑P		PKPdf	17 56 00.6	+1.9
	baz=136							
426A	McDonald Obser	135.88	304	⇓P		PKPdf	17 56 01.2	+2.3
	baz=136							
U22A	Llaves	135.90	313	⇑P		PKPdf	17 56 01.0	+2.2
	baz=136							
W23A	Werner Place,	135.90	311	⇓P		PKPdf	17 56 00.9	+2.1
	baz=136							
TXAR	Lajitas Array	135.98	302	PKP		PKPdf	17 55 59.0	+0.1
TXAR	Lajitas Array	135.98	302	PKhKP		PKPpre	17 55 48.1	
	comp=Z,0.6nm,0.8s,baz=111,slow=2.4,SNR=5.5							
TXAR				PKP		PKPdf	17 55 59.0	+0.1
	comp=Z,3.3nm,0.9s,baz=62,slow=3.0,SNR=18							
Z24A	Sheeppen Canyo	136.03	308	⇑P		PKPdf	17 56 01.2	+2.1
	baz=136							
225A	Deer Hill, Car	136.04	306	⇑P		PKPdf	17 56 01.5	+2.4
	baz=136							
526A	Mary Lane Ranc	136.12	303	⇑P		PKPdf	17 56 01.1	+1.9
	baz=136							
V22A	San Miguel Ran	136.14	312	⇑P		PKPdf	17 56 01.5	+2.3
	baz=136							
X23A	Hourglass Bar	136.17	310	⇑P		PKPdf	17 56 01.1	+1.9
	baz=136							
ANMO	Albuquerque	136.22	311	PKP		PKPdf	17 56 00.6	+1.3
ANMO				LR		LR		
	comp=Z,3µm,21.0s							
ANMO	Albuquerque	136.22	311	PKP		PKPdf	17 56 00.6	+1.3
	comp=Z,3.8nm,1.0s,baz=112,slow=2.9,SNR=7.9							
626A	Big Bend Ranch	136.31	302	⇑P		PKPdf	17 56 01.6	+2.0
	baz=136							
Y23A	Lovelace Mesa,	136.33	309	⇑P		PKPdf	17 56 01.6	+2.1
	baz=136							
124A	Stringfield Ra	136.33	307	⇓P		PKPdf	17 56 01.8	+2.1
	baz=136							
325A	Bean Ranch, Si	136.42	305	⇓P		PKPdf	17 56 01.4	+1.7
	baz=136							
224A	Cornudas Mount	136.61	306	⇑P		PKPdf	17 56 02.0	+1.9
	baz=137							
425A	Indio Mountain	136.62	304	⇑P		PKPdf	17 56 02.0	+1.9
	baz=137							
MNTX	Cornudas Mount	136.63	306	ℯPKPdf		PKPdf	17 55 59.5	-0.5
MNTX				LR		LR		
	comp=Z,2µm,20.0s							
MVCO	Mesa Verde	136.69	315	PFAKE			17 56 10.0	+10
MVCO				LR		LR		
	comp=Z,2µm,20.0s							
MVCO	Mesa Verde	136.69	315	⇑P		PKPdf	17 56 02.2	+2.0
	baz=137							
Z23A	Rita Site, Whi	136.73	308	⇓P		PKPdf	17 56 02.3	+2.1
	baz=137							
HLID	Hailey	136.79	326	PFAKE			17 56 10.0	+10
HLID				LR		LR		
	comp=Z,2µm,20.0s							
HLID	Hailey	136.79	326	⇑P		PKPdf	17 56 01.9	+1.8
	baz=137							
324A	Moseley Ranch,	136.80	306	⇑P		PKPdf	17 56 02.2	+1.8
	baz=137							
Y22D	IRIS PASSCAL I	136.93	310	⇓P		PKPdf	17 56 02.8	+2.2
	baz=137							
123A	Bell Site, Whi	136.99	307	⇓P		PKPdf	17 56 03.2	+2.5
	baz=137							
Y22A	Socorro	137.02	310	⇓P		PKPdf	17 56 03.1	+2

U15A	North Rim	139.71 316	⇑P		PKPdf	17 56 08.2	+2.4
	baz=140						
I05D	Terrebonne, OR	139.74 332	⇓P		PKPdf	17 56 07.9	+2.6
	baz=140						
CCUT	Cedar City	139.82 318	*e*PKPdf		PKPdf	17 56 06.2	+0.3
319A	Douglas	139.84 307	⇓P		PKPdf	17 56 08.7	+2.7
	baz=140						
G03D	McMinnville, O	139.91 335	⇓P		PKPdf	17 56 08.5	+3.0
	baz=140						
X16A	Lo Mia Camp, P	140.13 313	⇑P		PKPdf	17 56 09.4	+2.9
	baz=140						
J05D	Fort Rock, OR	140.50 331	⇑P		PKPdf	17 56 09.5	+2.6
	baz=140						
TUC	Tucson	140.61 309	*e*PKIKP		PKPdf	17 56 06.8	-0.5
TUC			MLR		MLR		
	comp=Z,2μm,20.0s						
TUC	Tucson	140.61 309	*e*PKPdf		PKPdf	17 56 06.8	-0.5
TUC			LR		LR		
	comp=Z,2μm,20.0s						
I04A	Tendick Farm,	140.66 333	⇑P		PKPdf	17 56 08.7	+1.7
	baz=141						
R11A	Troy Canyon, C	140.77 321	⇓P		PKPdf	17 56 10.0	+2.4
	baz=141						
J04D	Umpqua Nationa	140.94 332	⇓P		PKPdf	17 56 10.2	+2.5
	baz=141						
I03D	Drain, OR	141.15 333	⇓P		PKPdf	17 56 09.8	+2.0
	baz=141						
K04D	Chiloquin, OR	141.25 331	⇓P		PKPdf	17 56 10.4	+2.2
	baz=141						
Y14A	Wickenburg	141.49 313	⇑P		PKPdf	17 56 10.8	+2.0
	baz=142						
W13A	Hualapai Mount	141.51 315	⇑P		PKPdf	17 56 12.0	+3.0
	baz=142						
SHPR	Sheep Range	141.59 318	*e*PKPdf		PKPdf	17 56 09.3	+0.3
PTCN	Pitcairn Islan	141.63 204	PFAKE			17 56 20.0	+11
PTCN			LR		LR		
	comp=Z,1μm,19.0s						
Z14A	Wintersburg	141.73 312	⇓P		PKPdf	17 56 11.9	+2.8
	baz=142						
M04C	Macdoel	141.93 330	⇓P		PKPdf	17 56 11.8	+2.4
	baz=142						
TPH	Tonopah	141.95 322	*e*PKIKP		PKPdf	17 56 08.0	-1.7
TPH	Tonopah	141.95 322	*e*PKPdf		PKPdf	17 56 08.0	-1.7
TPNV	Topopah Spring	142.04 319	⇓P		PKPdf	17 56 12.7	+2.8
	baz=142						
PDMCI	Parker Dam,Lak	142.11 314	⇑P		PKPdf	17 56 12.6	+2.8
	baz=142						
PAHR	Pah Rah Range	142.14 325	*e*PKPdf		PKPdf	17 56 07.5	-2.4
214A	Organ Pipe Nat	142.30 310	⇑P		PKPdf	17 56 08.7	-1.6
	baz=142						
NVAR	Mina Array Bea	142.37 323	PKP		PKPdf	17 56 08.0	-2.5
NVAR	Mina Array Bea	142.37 323	PKP		PKPdf	17 56 08.0	-2.5
	comp=Z,6.5nm,0.8s,baz=60,slow=3.6,SNR=18						
BEKR	Beckworth	142.56 327	*e*PKPdf		PKPdf	17 56 09.1	-1.6
113A	Mohawk Valley,	142.62 312	⇓P		PKPdf	17 56 09.2	-1.5
	baz=143						
Y12C	Blythe	142.67 314	⇑P		PKPdf	17 56 10.1	-0.8
	baz=143						
TUQ	Turquoise Moun	142.71 317	⇓P		PKPdf	17 56 09.6	-1.4
	baz=143						
M02C	Callahan	142.72 331	⇑P		PKPdf	17 56 09.6	-1.2
	baz=143						
IRM	Iron Mountain	142.90 315	⇑P		PKPdf	17 56 10.1	-1.2
	baz=143						
N02D	Trinity Center	142.96 330	⇓P		PKPdf	17 56 10.0	-1.2
	baz=143						
WAKR	Walker	142.99 324	*e*PKPdf		PKPdf	17 56 09.8	-1.7
GLA	Glamis	143.25 313	*e*PKIKP		PKPdf	17 56 10.7	-1.2
GLA	Glamis	143.25 313	*e*PKPdf		PKPdf	17 56 10.7	-1.2
GLA	Glamis	143.25 313	⇑P		PKPdf	17 56 10.9	-1.0
	baz=143						
HEC	Hector,Ludlow	143.33 317	⇓P		PKPdf	17 56 11.4	-0.7
	baz=143						
MPMC	Manual Prospec	143.37 319	⇓P		PKPdf	17 56 11.2	-1.1
	baz=143						
GSC	Goldstone	143.38 318	*e*PKIKP		PKPdf	17 56 11.6	-0.6
GSC	Goldstone	143.38 318	*e*PKPdf		PKPdf	17 56 11.6	-0.6
GSC	Goldstone	143.38 318	⇑P		PKPdf	17 56 11.2	-1.0
	baz=143						
BC3	Big Chuckawall	143.38 314	⇓P		PKPdf	17 56 11.4	-0.9
	baz=143						
CWC	Cottonwood Cre	143.51 320	⇑P		PKPdf	17 56 11.5	-1.0
	baz=144						
BELC	Belle Mtn. Jos	143.57 315	⇑P		PKPdf	17 56 12.1	-0.5
	baz=144						
RRX	Edison Barstow	143.75 317	⇓P		PKPdf	17 56 12.3	-0.4
	baz=144						
CMB	Columbia Colle	143.85 324	*e*PKIKP		PKPdf	17 56 11.9	-1.0
CMB	Columbia Colle	143.85 324	*e*PKPdf		PKPdf	17 56 11.9	-1.0
LRMC	Laurel Mountai	143.85 319	⇓P		PKPdf	17 56 12.5	-0.6
	baz=144						
SWSC	Sam W. Stewart	144.00 314	⇑P		PKPdf	17 56 13.1	-0.1
	baz=144						
BBRC	Big Bear Solar	144.06 316	⇓P		PKPdf	17 56 14.0	+0.4
	baz=144						
PFO	Pinyon Flat Ob	144.10 315	*e*PKPdf		PKPdf	17 56 13.3	-0.2
PFO			LR		LR		
	comp=Z,2μm,20.0s						
PFO	Pinyon Flat Ob	144.10 315	⇓P		PKPdf	17 56 13.7	+0.1
	baz=144						
KIPM	Iron Peak	144.23 329	*e*PKPdf		PKPbc	17 56 12.6	+0.8
ISA	Isabella	144.25 320	*e*PKIKP		PKPdf	17 56 13.2	-0.5
ISA	Isabella	144.25 320	*e*PKPdf		PKPdf	17 56 13.2	-0.5
ISA	Isabella	144.25 320	⇓P		PKPdf	17 56 13.9	+0.2
	baz=144						
RCTC	Rector, Farmer	144.32 321	⇑P		PKPdf	17 56 13.6	-0.1
	baz=144						
DVTC	Desert V Tower	144.37 313	⇓P		PKPdf	17 56 14.8	+0.9
	baz=144						
KCPM	Cahto Peak	144.38 329	*e*PKPdf		PKPdf	17 56 13.9	+0.1
EDW2	Edwards Air Fo	144.41 318	⇑P		PKPdf	17 56 14.7	+0.8
	baz=144						
MONP	Monument Peak	144.47 314	⇑P		PKPdf	17 56 15.1	+0.7
	baz=144						
BFSC	Mount Baldy Ra	144.57 317	⇑P		PKPdf	17 56 14.9	+0.6
	baz=144						
MURC	Murrieta	144.62 316	⇓P		PKPdf	17 56 15.1	+0.8
	baz=145						
HOPS	Hopland	144.64 328	*e*PKPdf		PKPdf	17 56 13.7	-0.5
BAR	Barrett	144.76 314	*e*PKPdf		PKPdf	17 56 14.4	-0.2
ARVC	Arvin	144.81 319	⇑P		PKPdf	17 56 15.9	+1.4
	baz=145						
MWC	Mount Wilson	144.85 317	*e*PKIKP		PKPdf	17 56 14.6	-0.3
MWC	Mount Wilson	144.85 317	*e*PKPdf		PKPdf	17 56 14.6	-0.3
PASC	Pasadena Art C	144.96 317	*e*PKPdf		PKPab	17 56 13.8	-0.2
DECC	Green Verdugo	145.01 318	⇑P		PKPdf	17 56 15.5	+0.5
	baz=145						
AFI	Afiamalu	145.12 133	*e*PKPdf		PKPbc	17 56 14.9	-0.3
RKT	Rikitea	145.16 198	*e*LR		LR	18 43 53.5	
	comp=Z,1μm,29.2s						
FMP	Fort Macarthur	145.31 317	⇓P		PKPdf	17 56 17.4	+2.0
	baz=145						
SAO	San Andreas Ge	145.34 324	*e*PKIKP		PKPbc	17 56 15.0	-0.2
SAO	San Andreas Ge	145.34 324	*e*PKPdf		PKPbc	17 56 14.9	-0.2
SMMC	Simmler	145.43 321	⇓P		PKPab	17 56 18.0	+2.2
	baz=145						
CIS	Catalina Islan	145.56 316	⇑P		PKPab	17 56 18.4	+2.1
	baz=146						
BLG	Laguna Peak	145.58 318	⇓P		PKPab	17 56 17.8	+1.5
	baz=146						
PKM	Peak Mountain	145.58 320	⇑P		PKPab	17 56 18.7	+2.1
	baz=146						
SBC	Santa Barbara	145.80 319	⇑P		PKPab	17 56 19.3	+2.1
	baz=146						
SCI	San Clemente I	145.90 316	⇓P		PKPab	17 56 19.4	+1.9
	baz=146						
BSC	Santa Cruz Isl	146.03 318	⇑P		PKPab	17 56 19.6	+1.6
	baz=146						
TBI	Tubuai	146.54 175	*e*PP		PP	17 59 38.7	-1.8
	comp=Z,142nm,24.5s						
TBI	Tubuai	146.54 175	*e*LR		LR	18 44 29.0	
	comp=Z,1μm,23.5s						
PPT2	Papeete2	152.22 173	*e*PP		PP	18 00 12.2	-1.4
	comp=Z,230nm,24.5s						
PPT2	Papeete2	152.22 173	*e*LR		LR	18 47 16.2	
	comp=Z,1μm,24.0s						

*ISCJB **06** 17:40:10.9±0.6, 9.°9S±0.°1×34.°1E±0.°1, h10km, mb4.6/11, Error ellipse: s-maj=18.9km s-min=12.1km az=36.5*
*IDC **06** 17:40:11.5±1.2, 9.°83S×34.°25E, h0km, mb4.6/9, mb1 4.7/9, mb1mx4.5/27, mbtmp4.6/9, Error ellipse: s-maj=48.5km s-min=28.0km az=84.0*
*NEIC **06** 17:40:12.6±0.5, 9.°89S×34.°14E, h10km, mb4.5/1, Error ellipse: s-maj=17.2km s-min=12.5km az=115.0*

*SZGRF **06** 17:40:39.6, 8.°19S×29.°05E, h33km, mb5.3, Lake Tanganyika region*
ISC 06 17:40:12.8±0.6, 9.°87S±0.°07×34.°1E±0.°1, h10km, n29, σ1§20/29, mb4.7/11, Tanzania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MZM	Mzuzu	1.55	184	*i* S		Pn		17 40 40.6	+0.1
DODT	Dodoma, Tanzan	4.00	24	*i* P		Sn		17 42 02.5	+1.3
DODT				*i* S		Sg		17 42 20.0	-1.2
MBAR	Mbarara	9.81	340	*e*P		Pn		17 42 33.5	-0.7
LBTB	Lobatse	17.11	207	*e*Pn		Pn		17 44 10.4	-1.9
TSUM	Tsumeb	18.50	238	*e*P		Pn		17 44 29.5	0.0
MSEY	Mahe Island	21.79	78	*e*P		P		17 45 04.0	-1.2
	25nm,1.1s								
BRTR	Keskin Array B	49.35	359	P		P		17 49 03.0	+0.5
BRTR	Keskin Array B	49.35	359	P		P		17 49 03.0	+0.5
	8.5nm,0.8s,baz=180,slow=9.1,SNR=4.1								
AKASG	Malin Array Be	60.47	356	P		P		17 50 24.5	+1.8
AKASG	Malin Array Be	60.47	356	P		P		17 50 24.5	+1.8
	6.3nm,0.9s,baz=183,slow=6.2,SNR=4.2								
GRF	Grafenberg Arr	62.62	343	*e*P		P		17 50 42.9	+5.7
	comp=Z,50nm,1.7s								
CMAR	Chiang Mai Arr	69.85	66	P		P		17 51 25.8	+1.5
CMAR	Chiang Mai Arr	69.85	66	P		P		17 51 25.8	+1.5
	comp=Z,4.8nm,1.0s,baz=258,slow=7.1,SNR=4.3								
MKAR	Makanchi Array	70.86	33	P		P		17 51 28.7	-1.3
MKAR	Makanchi Array	70.86	33	P		P		17 51 28.7	-1.3
	comp=Z,9.1nm,0.8s,baz=231,slow=5.0,SNR=4.3								
ZALV	Zalesovo Beam	76.61	28	P		P		17 52 02.5	-0.9
ZALV	Zalesovo Beam	76.61	28	P		P		17 52 02.5	-0.9
	comp=Z,3.0nm,0.8s,baz=241,slow=6.0,SNR=3.0								
QSPA	South Pole Qui	80.22	180	P		P		17 52 25.2	+1.7
QSPA	South Pole Qui	80.22	180	P		P		17 52 25.2	+1.7
	comp=Z,10nm,1.2s,baz=230,slow=5.7,SNR=3.3								
SONM	Songino Array	85.62	40	P		P		17 52 51.2	-0.6
SONM	Songino Array	85.62	40	P		P		17 52 51.2	-0.6
	comp=Z,1.2nm,0.8s,baz=239,slow=5.3,SNR=2.9								
ASAR	Alice Springs	94.89	115	P		P		17 53 35.9	-0.1
ASAR	Alice Springs	94.89	115	P		P		17 53 35.9	-0.1
	comp=Z,3.0nm,0.9s,baz=262,slow=4.4,SNR=10								
WRA	Warramunga Arr	96.11	111	P		P		17 53 40.8	-0.7
WRA	Warramunga Arr	96.11	111	P		P		17 53 40.8	-0.7
	comp=Z,2.1nm,0.9s,baz=256,slow=3.6,SNR=5.3								
YKA	Yellowknife Ar	122.82	343	PKP		PKPdf		17 59 07.2	-1.5
YKA	Yellowknife Ar	122.82	343	PKP		PKPdf		17 59 07.2	-1.5
	comp=Z,0.4nm,0.8s,baz=55,slow=2.2,SNR=2.8								
TXAR	Lajitas Array	136.09	302	PKP		PKPdf		17 59 35.6	+0.5
TXAR	Lajitas Array	136.09	302	PKP		PKPdf		17 59 35.6	+0.5
	comp=Z,1.0nm,0.8s,baz=46,slow=2.6,SNR=2.9								

*IDC **06** 17:40:50.5±1.6, 12.°64N×88.°23W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/24, mbtmp3.9/8, ML3.1/2, Error ellipse: s-maj=47.6km s-min=25.4km az=47.0*
*CASC **06** 17:40:52.2±1.7, 12.°20N×88.°60W, h15km±8km, MD4.3, ML3.4*
*ISCJB **06** 17:40:53.5±0.8, 12.°22N±0.°08×88.°58W±0.°07, h58km±8km, mb3.8/7, Error ellipse: s-maj=16.6km s-min=4.4km az=40.6*
ISC 06 17:40:55.1±1.4, 12.°30N±0.°08×88.°53W±0.°07, h45km±14km, n32, σ1§62/38, mb3.8/7, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VSM	San Miguel	1.15	13	*e*P		Pn		17 41 15.2	+0.1
CNCH	Conchagua	1.19	35	*e*P		Pn		17 41 15.3	-0.1
SNVI	San Vicente	1.34	347	*e*P		Pn		17 41 16.9	-0.7
LFRS	El Faro	1.42	339	*e*P		Pn		17 41 17.4	-1.2
CAHU	Cacacuatique	1.50	12	*e*P		Pn		17 41 20.5	+0.7
LBRS	Las Brisas	1.52	341	*e*P		Pn		17 41 19.3	-0.6
SNET	Serv Nac Est T	1.54	334	AML		AML		17 41 47.0	
	comp=Z,490nm,0.6s								
LFU	La Fuente	1.55	339	*e*P		Pn		17 41 19.7	-0.7
BOQS	Boqueron	1.60	333	*e*P		Pn		17 41 20.3	-0.9
BOQS				*e*S		Sn		17 41 44.0	+3.1
SBLS	San Blas	1.87	325	*e*P		Pn		17 41 23.9	-0.9
SNJE	San Jose	1.88	326	*e*P		Pn		17 41 24.1	-0.9
COPN	Copaltepe	1.90	93	*e*P		Pn		17 41 24.0	-1.1
COPN				*e*S		Sn		17 41 49.0	+1.2
RTR	El Retiro	1.93	326	*e*P		Pn		17 41 25.1	-0.5
RBDL	Robledal	2.13	328	*e*P		Pn		17 41 28.3	0.0
RBDL				*e*S		Sn		17 41 56.5	+2.8
TGUH	Tegucigalpa,Un	2.14	35	*e*P		Pn		17 41 29.1	+0.8
HUEN		2.31	89	*e*P		Pn		17 41 30.5	-0.1
APG	El Apazote	3.28	325	Pn		Pn		17 41 43.8	-0.5
	comp=Z,0.5nm,0.3s,baz=86,slow=15,SNR=6.5								
APG					Sn		Sn	17 42 19.8	-2.4
	comp=Z,2.6nm,0.3s,baz=93,slow=19,SNR=8.2								
JTS	JuntasAbangare	4.04	119	Pn		Pn		17 41 54.9	+0.4
	comp=Z,4.2nm,0.3s,baz=308,slow=18,SNR=16								
JTS					Sn		Sn	17 42 39.4	-1.2
	comp=Z,2.7nm,0.3s,baz=299,slow=19,SNR=3.1								
CGA2	Cerro Gallo 2	4.59	119	*e*P		Pn		17 42 03.0	+0.8
QCR	Quepos	5.15	123	*e*P		Pn		17 42 09.8	+0.1
URSC	Urasca	5.27	117	*e*P		Pn		17 42 12.6	+1.1
URSC				*e*S		Sn		17 43 11.6	+0.5
BUS	Buena Vista	5.42	120	⇓P		Pn		17 42 14.9	+1.0
BUS				*e*S		Sn		17 43 12.4	-2.9
TXAR	Lajitas Array	22.04	323	P		P		17 45 47.2	+1.2
	comp=Z,2.0nm,0.7s,baz=146,slow=11,SNR=30								
TKL	Tuckaleechee C	23.65	10	P		P		17 46 01.3	-1.2
	comp=Z,1.2nm,0.4s,baz=195,slow=14,SNR=5.3								
PDAR	Pinedale Array	35.42	333	P		P		17 47 48.4	+1.3
	comp=Z,0.5nm,1.0s,baz=116,slow=13,SNR=3.6								
ULM	Lac du Bonnet	38.32	352	P		P		17 48 10.0	-1.3
	comp=Z,4.5nm,0.7s,baz=177,slow=7.3,SNR=6.1								
SCHQ	Schefferville	45.73	17	P		P		17 49 09.7	-2.1
	comp=Z,4.9nm,0.9s,baz=220,slow=12,SNR=4.8								
YKA	Yellowknife Ar	53.49	315	P		P		17 50 09.6	-1.0
	comp=Z,1.1nm,0.9s,baz=142,slow=7.6,SNR=7.6								
ILAR	Eielson Array	65.73	336	P		P		17 51 34.4	-0.6
	comp=Z,0.3nm,0.9s,baz=74,slow=5.5,SNR=4.3								
WRA	Warramunga Arr	138.21	254	PKP		PKPdf		18 00 20.5	+4.3
	comp=Z,0.4nm,0.9s,baz=86,slow=2.2,SNR=5.6								
ASAR	Alice Springs	138.23	248	PKP		PKPdf		18 00 19.8	+3.6
	comp=Z,0.2nm,0.8s,baz=108,slow=3.0,SNR=2.8								
CMAR	Chiang Mai Arr	148.56	346	PKPbc		PKPbc		18 00 37.5	-0.5
	comp=Z,1.0nm,0.8s,baz=350,slow=3.4,SNR=8.6								

*IDC **06** 17:43:37.6±0.8, 12.°74N×87.°95W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/26, mbtmp4.0/11, ML3.2/2, MS3.8/7, Ms1 3.8/7, ms1mx3.6/32, Error ellipse: s-maj=31.4km s-min=14.9km az=62.0*
*CASC **06** 17:43:37.3±2.9, 12.°09N×88.°69W, h5km±10km, MD4.4, ML3.6*
*NEIC **06** 17:43:40.2±4.3, 12.°77N×87.°96W, h15km±27km, mb4.8/2, Error ellipse: s-maj=17.2km s-min=9.3km az=64.0*
ISC 06 17:43:41.6±1.9, 12.°22N±0.°06×88.°58W±0.°06, h32km±13km, n287, σ1§22/291, mb4.1/11, MS3.6/5, 122C-103D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VSM	San Miguel	1.24	14	*e*P		Pn		17 44 02.5	-0.5
CNCH	Conchagua	1.28	34	*e*P		Pn		17 44 03.0	-0.3
CNCH				*e*S		Sb		17 44 24.8	+3.4
SNVI	San Vicente	1.41	350	*e*P		Pn		17 44 04.0	-1.2
SNVI				*e*S		Sb		17 44 27.2	+2.0
LFRS	El Faro	1.48	341	*e*P		Pn		17 44 04.5	-1.6
LBRS	Las Brisas	1.58	343	*e*P		Pn		17 44 06.4	-1.1
CAHU	Cacacuatique	1.58	13	*e*P		Pn		17 44 07.7	0.0
SNET	Serv Nac Est T	1.59	336	*e*P		Pn		17 44 06.2	-1.5
SNET				AML		AML		17 44 37.2	
	comp=Z,787nm,0.2s								
LFU	La Fuente	1.61	341	*e*P		Pn		17 44 07.0	-0.9
BOQS	Boqueron	1.66	336	*e*P		Pn		17 44 07.8	-0.9
BOQS				*e*S		Sb		17 44 32.7	+0.4
SBLS	San Blas	1.91	328	*e*P		Pn		17 44 11.2	-0.9
SBLS				*e*S		Sb		17 44 37.8	-1.7
SNJE	San Jose	1.92	329	*e*P		Pn		17 44 11.0	-1.3
SNJE				*e*S		Sb		17 44 39.3	-0.7
COPN	Copaltepe	1.94	91	*e*P		Pn		17 44 11.3	-1.1
RTR	El Retiro	1.97	328	*e*P		Pn		17 44 12.2	-0.7
RBDL	Robledal	2.17	330	*e*P		Pn		17 44 15.1	-0.6
TGUH	Tegucigalpa,Un	2.23	35	*e*P		Pn		17 44 17.0	+0.7
HUEN		2.35	87	*e*P		Pn		17 44 17.9	-0.1
MRL	Marmol	3.03	339	*e*P		Pn		17 44 27.4	-0.2
APG	El Apazote	3.32	327	Pn		Pn		17 44 31.5	-0.1
APG				Sn		Sn		17 45 10.8	+0.7
APG	El Apazote	3.32	327	Pn		Pn		17 44 31.5	-0.1
	comp=Z,0.8nm,0.3s,baz=124,slow=16,SNR=6.2								
APG					Sn		Sn	17 45 10.8	+0.7
	comp=Z,3.3nm,0.3s,baz=60,slow=15,SNR=4.6								
APG					LR		LR	17 46 10.4	
	comp=Z,956nm,19.4s,baz=232,slow=46								
JTS	JuntasAbangare	4.04	118	*e*Pn		Pn		17 44 39.0	-2.2
JTS				*e*Sn		Sn		17 45 21.6	-6.0
JTS	JuntasAbangare	4.04	118	Pn		Pn		17 44 39.7	-1.6
	comp=Z,5.9nm,0.3s,baz=311,slow=12,SNR=8.0								
JTS					Sn		Sn	17 45 25.6	-1.9
	comp=Z,4.2nm,0.3s,baz=324,slow=22,SNR=4.0								
JCR	Jicaral	4.14	124	*e*P		Pn		17 44 43.1	+0.4
JCR				*e*S		Sn		17 45 26.4	-3.6
CGA2	Cerro Gallo 2	4.59	118	*e*P		Pn		17 44 50.0	+1.0
CGA2				*e*S		Sn		17 45 38.5	-2.8
QCR	Quepos	5.15	122	*e*P		Pn		17 44 57.2	+0.7
QCR				*e*S		Sn		17 45 51.5	-3.3
URSC	Urasca	5.27	116	*e*P		Pn		17 45 00.4	+2.0
URSC				*e*S		Sn		17 45 59.6	+1.4
BUS	Buena Vista	5.42	119	*e*P		Pn		17 45 01.9	+1.2
BUS				*e*S		Sn		17 45 59.6	-2.6
TEIG	Tepich	7.97	2	LR		LR		17 48 57.2	
	comp=Z,1μm,18.4s,baz=85,slow=43								
732A	Laxson Ranch,	19.57	329	⇓P		P		17 48 06.6	-0.3
	baz=20,SNR=11								
534A	Blanco	19.96	334	⇑P		P		17 48 10.1	-1.2
	baz=20,SNR=14								
632A	Uvalde	20.12	330	⇓P		P		17 48 12.2	-0.7
	baz=20								
533A	Kerrville	20.25	333	⇑P		P		17 48 13.1	-1.2
	baz=20,SNR=33								
631A	Perdido Creek	20.43	329	⇓P		P		17 48 15.8	-0.5
	baz=20,SNR=7.4								
434A	Burnet	20.57	336	⇓P		P		17 48 16.4	-1.4
	baz=20,SNR=16								
335A	Moody	20.66	338	⇑P		P		17 48 18.0	-0.7
	baz=20,SNR=6.8								
532A	Rocksprings	20.69	331	⇑P		P		17 48 18.7	-0.5
	baz=21,SNR=25								
433A	Art	20.86	334	⇑P		P		17 48 19.4	-1.5
	baz=21,SNR=17								
JCT	Junction City	20.94	332	*e*P		P		17 48 19.0	-2.9
	comp=Z,36nm,0.9s								
JCT	Junction City	20.94	332	⇓P		P		17 48 21.0	-0.9
	baz=21								
334A	Lometa	21.01	336	⇓P		P		17 48 21.1	-1.4
	baz=21,SNR=10								
531A	Rocksprings	21.03	330	⇑P		P		17 48 22.3	-0.6
	baz=21								
432A	Menard	21.27	333	⇓P		P		17 48 24.7	-0.7
	baz=21,SNR=20								
333A	Richland Sprin	21.30	335	⇓P		P		17 48 24.9	-0.8
	baz=21,SNR=16								
WHTX	Lake Whitney	21.31	339	⇑P		P		17 48 24.8	-1.0
	baz=21								
530A	J-C Ranch, Com	21.41	328	⇓P		P		17 48 27.4	+0.5
	baz=21								
431A	Sonora	21.49	331	⇑P		P		17 48 27.1	-0.7
	baz=21,SNR=24								
332A	Millersview	21.68	333	⇑P		P		17 48 28.8	-1.0
	baz=22,SNR=12								
ATAH	Atahualpa	21.73	152	P		P		17 48 32.4	+1.5
ATAH	Atahualpa	21.73	152	P		P		17 48 32.4	+1.5
	comp=Z,6.6nm,0.8s,baz=305,slow=9.5,SNR=3.5								
ATAH					LR		LR	17 56 01.8	
	comp=Z,236nm,18.8s,baz=174,slow=34								
628A	Black Gap, Mar	21.73	324	⇑P		P		17 48 31.3	+0.9
	baz=22,SNR=11								
135A	Vickery Place,	21.81	340	⇑P		P		17 48 30.5	-0.7
	baz=22								
529A	Stev Forest Ra	21.86	327	⇑P		P		17 48 31.5	-0.3
	baz=22								
430A	Baggett Ranch,	21.88	330	⇑P		P		17 48 31.5	-0.5
	baz=22,SNR=12								
331A	San Angelo	21.92	332	⇑P		P		17 48 31.6	-0.8
	baz=22,SNR=17								
627A	Terlingua Ranc	22.00	323	⇑P		P		17 48 34.4	+1.1
	baz=22,SNR=18								
134A	White-Moore Ra	22.06	338	⇑P		P		17 48 32.6	-1.2
	baz=22								
232A	Coleman	22.07	334	⇓P		P		17 48 32.6	-1.4
	baz=22,SNR=9.0								
TXAR	Lajitas Array	22.07	323	P		P		17 48 34.7

W34A	Bridge Creek, baz=24,SNR=9.1	24.39	342	⇑P	P	17 48 56.9	-0.2
226B	Tecolote Peak, baz=24	24.42	327	⇑P	P	17 48 58.5	+1.0
127A	Arkansas Junct baz=24	24.46	329	⇑P	P	17 48 57.7	-0.2
TUL1	Tulsa baz=24	24.48	346	⇑P	P	17 48 56.6	-1.2
Z28A	Tucker Farm, M baz=24	24.48	331	⇓P	P	17 48 56.9	-1.2
W33A	Caddo, Fort Co baz=24	24.53	340	⇑P	P	17 48 57.6	-0.8
X31A	McDonald Ranch baz=24	24.60	337	⇓P	P	17 48 57.9	-1.2
Y29A	Porterfield Fa baz=24	24.64	333	⇓P	P	17 48 58.6	-0.8
324A	Moseley Ranch, baz=25	24.68	323	⇓P	P	17 48 59.7	-0.2
W32A	Sentinel baz=25,SNR=8.3	24.77	339	⇓P	P	17 48 59.8	-0.8
126A	Clayton Basin, baz=25	24.78	328	⇓P	P	17 49 00.5	-0.3
X30A	Coker Ranch, T baz=25,SNR=12	24.80	335	⇓P	P	17 49 00.6	-0.2
225A	Deer Hill, Car baz=25	24.80	326	⇑P	P	17 49 00.4	-0.6
V34A	Guthrie baz=25	24.86	343	⇓P	P	17 49 00.5	-0.8
Z27A	Tatum baz=25,SNR=7.7	24.91	330	⇑P	P	17 49 00.8	-1.1
Y28A	McKinney Farm, baz=25	24.93	332	⇑P	P	17 49 01.3	-0.8
W31A	Holland Ranch, baz=25	25.08	338	⇓P	P	17 49 02.7	-0.7
V33A	Lossen Ranch, baz=25	25.09	341	⇑P	P	17 49 02.4	-1.0
125A	Gardner Draw, baz=25	25.13	327	⇓P	P	17 49 04.4	+0.5
X29A	Tulia baz=25,SNR=9.4	25.14	334	⇑P	P	17 49 04.0	0.0
224A	Cornudas Mount baz=25	25.17	324	⇓P	P	17 49 05.6	+1.3
MSTX	Muleshoe	25.23	331	*eP*	P	17 49 03.1	-1.7
MSTX	Muleshoe baz=25,SNR=13	25.23	331	⇑P	P	17 49 04.2	-0.6
V32A	Arapaho baz=25,SNR=5.8	25.24	340	⇓P	P	17 49 04.8	0.0
Z26A	Caprock baz=25	25.25	329	⇑P	P	17 49 04.6	-0.5
W30A	Crocket Farms baz=25	25.32	337	⇑P	P	17 49 04.4	-1.2
Y27A	Causey baz=25,SNR=9.9	25.34	331	⇑P	P	17 49 05.7	-0.1
X28A	Dimmitt baz=25	25.42	333	⇓P	P	17 49 05.9	-0.7
U34A	Anderson Ranch baz=25	25.43	343	⇓P	P	17 49 05.1	-1.3
AMTX	Amarillo baz=25	25.51	334	⇓P	P	17 49 07.0	-0.3
V31A	Spring Creek L baz=25,SNR=5.3	25.57	338	⇓P	P	17 49 07.6	-0.2
124A	Stringfield Ra baz=26	25.60	325	⇑P	P	17 49 09.5	+1.2
Z25A	Roswell baz=26,SNR=8.6	25.64	327	⇑P	P	17 49 10.1	+1.5
Y26A	Elida baz=26	25.70	330	⇓P	P	17 49 08.9	-0.2
W29A	Amraillo baz=26	25.70	335	⇓P	P	17 49 08.4	-0.7
U32A	Winter Ranch, baz=26	25.83	340	⇓P	P	17 49 09.2	-0.9
Z24A	Sheeppen Canyo baz=26	26.03	327	⇑P	P	17 49 12.9	+0.7
U31A	Nine Bar Ranch baz=26	26.11	339	⇓P	P	17 49 11.7	-0.9
Y25A	Mesa, Roswell baz=26,SNR=7.0	26.13	328	⇑P	P	17 49 14.1	+1.0
X26A	CR and CF Fran baz=26	26.20	331	⇓P	P	17 49 13.3	-0.3
T33A	Patterson Ranc baz=26	26.24	342	⇓P	P	17 49 12.5	-1.3
W27A	Bowe Ranch, En baz=26	26.27	332	⇓P	P	17 49 13.4	-0.8
V28A	Channing baz=26	26.48	335	⇓P	P	17 49 15.5	-0.6
Y24A	Capitan baz=26	26.52	327	⇓P	P	17 49 17.1	+0.5
T32A	Huddler Ranch, baz=26	26.54	341	⇑P	P	17 49 16.1	-0.5
U30A	WK&E Inc. Balk baz=26	26.54	338	⇑P	P	17 49 16.2	-0.4
X25A	Clemmons Ranch baz=26	26.59	329	⇑P	P	17 49 17.8	+0.6
T31A	Randall Ranch, baz=26	26.70	340	⇓P	P	17 49 17.5	-0.5
V27A	Dan Oppiter Fa baz=27	26.75	334	⇑P	P	17 49 18.5	-0.1
121A	Cookes Peak, D baz=27	26.82	322	⇑P	P	17 49 22.1	+2.7
Y23A	Lovelace Mesa, baz=27	26.86	326	⇓P	P	17 49 20.3	+0.6
Z22A	Elephant Butte baz=27	26.86	324	⇑P	P	17 49 20.4	+0.7
W25A	X Bar L Ranch, baz=27,SNR=6.1	27.05	330	⇓P	P	17 49 22.0	+0.7
S31A	Mullinville baz=27	27.12	341	⇓P	P	17 49 21.5	-0.3
V26A	Tequesquite Ra baz=27,SNR=12	27.20	332	⇑P	P	17 49 23.1	+0.4
R33A	Olander Ranch, baz=27	27.30	344	⇑P	P	17 49 23.2	-0.3
U27A	Thompson Grove baz=27	27.30	334	⇑P	P	17 49 23.1	-0.5
T29A	Hugoton baz=27	27.33	337	⇑P	P	17 49 22.6	-1.1
120A	U Bar Ranch, L baz=27	27.35	321	⇑P	P	17 49 26.8	+2.7
S30A	Montezuma baz=27	27.46	339	⇑P	P	17 49 24.5	-0.4
W24A	Lazy 6 Ranch, baz=27	27.51	329	⇑P	P	17 49 25.9	+0.4
T28A	Walsh baz=28	27.61	336	⇓P	P	17 49 26.2	-0.1
R32A	Long Quarter, baz=27	27.62	343	⇓P	P	17 49 26.5	+0.3
V25A	Rancho No Teng baz=28,SNR=11	27.62	331	⇑P	P	17 49 26.9	+0.3
S29A	Ulysses baz=28	27.68	338	⇑P	P	17 49 26.8	0.0
U26A	Atchley Ranch, baz=28	27.68	333	⇑P	P	17 49 26.4	-0.6
Z20A	Nine Sixteen R baz=28	27.71	322	⇓P	P	17 49 29.7	+2.4
R31A	Burdett baz=28	27.74	341	⇑P	P	17 49 26.5	-0.8
T27A	Campo baz=28	27.81	335	⇑P	P	17 49 27.3	-0.7
S28A	Manter baz=28	27.94	337	⇑P	P	17 49 28.6	-0.7
R30A	Dighton baz=28	27.98	340	⇑P	P	17 49 29.7	+0.2
U25A	Circle Dot Ran baz=28,SNR=5.4	27.98	332	⇓P	P	17 49 30.4	+0.7
Q31A	Ellis baz=28	28.36	342	⇑P	P	17 49 33.1	+0.2
R28A	Tribune baz=28,SNR=5.5	28.57	338	⇑P	P	17 49 35.0	+0.2
Q30A	Quinter baz=28	28.59	341	⇓P	P	17 49 34.9	0.0
S26A	Kim baz=28	28.60	335	⇑P	P	17 49 34.7	-0.4
T25A	Trinidad baz=28	28.60	333	⇑P	P	17 49 34.7	-0.5
Q29A	Oakley baz=29	28.76	340	⇓P	P	17 49 36.3	-0.1
U23A	El Rito baz=29,SNR=6.2	28.78	329	⇑P	P	17 49 38.4	+1.5
V22A	San Miguel Ran baz=29	28.82	328	⇓P	P	17 49 38.2	+1.0
R27A	Eads baz=29	28.89	336	⇑P	P	17 49 37.4	-0.3
P30A	Selden baz=29	29.11	341	⇑P	P	17 49 39.9	+0.3
R26A	Arlington baz=29	29.17	336	⇓P	P	17 49 40.6	+0.5
S24A	Houchin Ranch, baz=29	29.37	332	⇓P	P	17 49 42.7	+0.6
R25A	Fountain Ranch baz=29	29.38	334	⇓P	P	17 49 42.5	+0.4
KSCO	Kaye Shedlock' baz=29	29.46	337	⇓P	P	17 49 42.6	-0.2
Q26A	Hugo baz=30	29.73	336	⇑P	P	17 49 45.1	-0.1
R24A	Sanders Place, baz=30	29.81	333	⇑P	P	17 49 46.8	+0.8
Q25A	Bedland, Calha baz=30	30.02	335	⇑P	P	17 49 48.4	+0.6
R23A	Moffat baz=30,SNR=9.2	30.10	332	⇑P	P	17 49 49.7	+1.1
P26A	Davis Ranch, A baz=30	30.21	337	⇓P	P	17 49 49.2	-0.2
S22A	4UR Ranch, Cre baz=30	30.21	330	⇑P	P	17 49 49.8	+0.1
X16A	Lo Mia Camp, P baz=30	30.34	321	⇓P	P	17 49 52.4	+1.7
O27A	Beecher Island baz=30	30.44	339	⇓P	P	17 49 51.7	+0.3
P25A	Willow Gulch B baz=30	30.49	336	⇓P	P	17 49 52.3	+0.3
MVCO	Mesa Verde baz=31	30.64	328	⇑P	P	17 49 53.7	+0.4
O26A	Horse Wrangler baz=31	30.79	338	⇑P	P	17 49 54.7	+0.2
OGNE	Ogallala baz=31	30.96	340	⇑P	P	17 49 56.2	+0.2
O23A	Lake Granby, G baz=32	31.80	334	⇑P	P	17 50 02.5	-1.1
K30A	Basset baz=32	31.82	344	⇓P	P	17 50 03.5	0.0
BC3	Big Chuckawall baz=33	32.50	315	⇓P	P	17 50 11.7	+2.1
J29A	Okreek baz=32	32.70	344	⇓P	P	17 50 11.1	0.0
MONP	Monument Peak baz=33	32.76	313	⇑P	P	17 50 15.9	+3.9
O20A	White River Ci baz=33	32.77	332	⇓P	P	17 50 12.5	+0.5
I30A	Oacoma baz=33	32.94	346	⇓P	P	17 50 12.6	-0.6
BELC	Belle Mtn. Jos baz=33	33.07	315	⇓P	P	17 50 18.5	+3.9
SPMN	St. Paul	33.09	355	*eP*	P	17 50 11.7	-2.7
I29A	Vivian Onida baz=33	33.26	344	⇓P	P	17 50 15.5	-0.5
L23A	Garrett baz=33	33.32	336	⇓P	P	17 50 16.7	-0.1
N20A	Spence Gulch, baz=33,SNR=7.4	33.34	332	⇓P	P	17 50 18.5	+1.5
J26A	Sides Ranch, S baz=33	33.43	341	⇓P	P	17 50 17.4	-0.2
I28A	Midland baz=33	33.48	343	⇓P	P	17 50 17.9	0.0
J25A	Sunshine Ranch baz=34	33.74	340	⇑P	P	17 50 21.0	+0.7
I27A	Quinn baz=34	33.79	342	⇑P	P	17 50 20.9	+0.2
G30A	Faulkton baz=34	34.02	347	⇓P	P	17 50 21.7	-0.9
H28A	Mission Ridge baz=34	34.06	344	⇑P	P	17 50 22.1	-0.9
H27A	Howes baz=34	34.31	343	⇓P	P	17 50 24.7	-0.5
I24A	Kuemmerle Ranc baz=34	34.43	339	⇑P	P	17 50 25.3	-1.0
TPNV	Topopah Spring baz=35	34.97	320	⇑P	P	17 50 32.4	+1.2
G26A	Maurine baz=35	35.07	343	⇑P	P	17 50 31.2	-0.6
I22A	9 Mile Ranch, baz=35	35.13	337	⇑P	P	17 50 32.3	-0.1
H24A	Dix Ranch, A baz=35	35.19	340	⇓P	P	17 50 32.4	-0.4
MPMC	Manual Prospec baz=35	35.25	317	⇑P	P	17 50 34.8	+1.2
I21A	Big Trails, Te baz=35	35.38	336	⇓P	P	17 50 34.6	+0.1
F27A	Lemmon baz=35	35.44	344	⇓P	P	17 50 33.9	-0.9
PDAR	Pinedale Array	35.47	333	P	P	17 50 34.6	-0.8
PDAR				PcP	PcP	17 53 05.7	+1.1
PDAR	Pinedale Array comp=Z,1.2nm,1.1s,baz=145,slow=5.4,SNR=5.5	35.47	333	P	P	17 50 34.6	-0.8
PDAR	comp=Z,0.3nm,0.5s,baz=128,slow=3.9,SNR=3.5			PcP	PcP	17 53 05.7	+1.1
J19A	Crowheart baz=36	35.65	334	⇑P	P	17 50 37.0	+0.1
D30A	Buchanan baz=36	35.82	348	⇓P	P	17 50 36.8	-1.3
I20A	Worland baz=36,SNR=5.1	35.82	336	⇑P	P	17 50 40.4	+2.0
E27A	Carson baz=36	35.83	345	⇓P	P	17 50 37.7	-0.5
H20A	Greybull baz=36	36.22	336	⇓P	P	17 50 42.1	+0.5
I19A	Meeteetse baz=36	36.25	335	⇑P	P	17 50 42.7	+0.7
D28A	Regan baz=36	36.30	346	⇓P	P	17 50 41.6	-0.6
F23A	Volborg baz=36	36.33	340	⇓P	P	17 50 42.1	-0.4
C30A	Mose, Pekin baz=36	36.34	349	⇑P	P	17 50 41.3	-1.2
E24A	Baker baz=36	36.73	342	⇓P	P	17 50 45.4	-0.5
I17A	Pilgrim Ck. baz=37	36.83	333	⇑P	P	17 50 46.0	-1.1
G20A	Bridger baz=37	36.91	337	⇑P	P	17 50 47.0	-0.7
E23A	Ismay baz=37	36.98	341	⇑P	P	17 50 47.7	-0.4
H18A	Shoshone NF, C baz=37	37.05	335	⇓P	P	17 50 48.1	-0.8
NVAR	Mina Array Bea	37.16	320	P	P	17 50 51.1	+1.2
NVAR	Mina Array Bea comp=Z,1.0nm,0.8s,baz=129,slow=7.2,SNR=3.3	37.16	320	P	P	17 50 51.1	+1.2
C26A	Wahner Farm, P baz=37	37.26	345	⇓P	P	17 50 51.7	+1.3
F20A	Billings baz=37	37.38	337	⇑P	P	17 50 51.3	-0.2
C24A	Savage baz=37	37.63	342	⇓P	P	17 50 53.1	-0.4
A29A	Manning Farm, baz=37	37.65	348	⇓P	P	17 50 52.8	-0.9
F19A	Roth Farm, Mol baz=38	37.73	337	⇑P	P	17 50 53.5	-1.0
D22A	Cohagen baz=38	37.84	340	⇓P	P	17 50 54.3	-1.0
E20A	Meyer Farm, Mu baz=38	37.97	338	⇓P	P	17 50 56.4	-0.1
C23A	Lambert baz=38	38.10	342	⇑P	P	17 50 58.0	+0.4
E19A	Rath Farm, Rou baz=38	38.17	337	⇑P	P	17 50 57.3	-0.9
A26A	Wade Farm, Ken baz=38	38.24	346	⇓P	P	17 50 58.8	+0.2
C22A	Vida baz=38	38.27	341	⇓P	P	17 50 58.5	-0.5
HLID	Hailey baz=38	38.37	329	⇑P	P	17 50 59.2	-0.8
ULM	Lac du Bonnet	38.39	352	P	P	17 50 56.8	-3.0
ULM	Lac du Bonnet comp=Z,7.7nm,0.8s,baz=167,slow=9.5,SNR=10.0	38.39	352	P	P	17 50 56.8	-3.0
ULM	comp=Z,69nm,19.5s,baz=172,slow=42			LR	LR	18 10 05.1	
DGMT	Dagmar baz=38	38.41	343	⇑P	P	17 51 00.3	+0.2
D20A	Manuel Ranch, baz=38	38.47	338	⇑P	P	17 51 00.4	-0.3
B23A	Brockton baz=38	38.64	342	⇑P	P	17 51 02.6	+0.5
A24A	Westby baz=38	38.77	344	⇓P	P	17 51 03.9	+0.7
D19A	Cripps Ranch, baz=39	38.80	338	⇑P	P	17 51 03.1	-0.4
C19A	Slack Wire Ran baz=39	39.34	338	⇑P	P	17 51 07.5	-0.5
A22A	Carney Farms, baz=39	39.39	342	⇓P	P	17 51 07.9	-0.4
B20A	Solberg Farm, baz=39	39.58	340	⇓P	P	17 51 10.4	+0.5
A21A	Bergtoll Ranch baz=40	39.70	341	⇓P	P	17 51 10.5	-0.4
EGMT	Eagleton baz=40	39.84	338	⇑P	P	17 51 12.1	-0.1
B19A	Brinkman Farms baz=40	39.91	339	⇑P	P	17 51 12.9	+0.2
A20A	Cobblestone Ra baz=40	39.93	340	⇑P	P	17 51 12.8	0.0
A19A	Klindworth Far baz=40	40.24	339	⇑P	P	17 51 15.1	-0.4
RPN	Rapa Nui	43.99	207	P	P	17 51 52.9	+6.8
RPN	Rapa Nui comp=Z,1.2nm,0.7s,baz=94,slow=13,SNR=6.3	43.99	207	P	P	17 51 52.9	+6.8
SCHQ	Schefferville	45.82	17	P	P	17 51 56.2	-4.2
SCHQ	Schefferville comp=Z,6.9nm,1.0s,baz=231,slow=6.4,SNR=3.6	45.82	17	P	P	17 51 56.2	-4.2
SCHQ	comp=Z,358nm,18.3s,baz=215,slow=38			LR	LR	18 12 01.6	
YKA	Yellowknife Ar	53.55	345	P	P	17 52 57.3	-1.8
YKA	Yellowknife Ar comp=Z,1.3nm,0.7s,baz=139,slow=7.5,SNR=18	53.55	345	P	P	17 52 57.3	-1.8
ILAR	Eielson Array	65.79	336	P	P	17 54 23.2	-0.1
ILAR	Eielson Array comp=Z,1.8nm,1.1s,baz=128,slow=4.6,SNR=8.5	65.79	336	P	P	17 54 23.2	-0.1
SONM	Songino Array	118.75	349	PKP	PKPdf	18 02 26.6	-0.3
SONM	Songino Array comp=Z,0.4nm,0.7s,baz=49,slow=4.4,SNR=2.3	118.75	349	PKP	PKPdf	18 02 26.6	-0.3
MKAR	Makanchi Array	120.69	7	PKP	PKPdf	18 02 29.4	-1.1
MKAR	Makanchi Array comp=Z,0.8nm,0.9s,baz=298,slow=3.0,SNR=4.3	120.69	7	PKP	PKPdf	18 02 29.4	-1.1
WRA	Warramunga Arr	138.15	254	PKP	PKPdf	18 03 07.9	+3.6
WRA	Warramunga Arr comp=Z,0.8nm,0.9s,baz=88,slow=2.4,SNR=4.9	138.15	254	PKP	PKPdf	18 03 07.9	+3.6
ASAR	Alice Springs	138.16	248	PKP	PKPdf	18 03 08.9	+4.7
ASAR	Alice Springs comp=Z,0.7nm,1.0s,baz=71,slow=2.0,SNR=5.2	138.16	248	PKP	PKPdf	18 03 08.9	+4.7
CMAR	Chiang Mai Arr	148.63	346	PKPbc	PKPdf	18 03 24.0	+1.3
CMAR	Chiang Mai Arr comp=Z,2.4nm,0.8s,baz=338,slow=3.5,SNR=17	148.63	346	PKPbc	PKPdf	18 03 24.0	+1.3

*ISCJB **06** 17:43:50.5±0.5, 9.°90S±0.°06×33.°87E±0.°08, h10km, mb4.3/11, Error ellipse: s-maj=12.5km s-min=8.4km az=21.9*

*IDC **06** 17:43:50.9±0.8, 9.°94S×33.°92E, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.3/26, mbtmp4.4/11, ML3.2/1, Error ellipse: s-maj=24.4km s-min=18.6km az=113.0*

*NEIC **06** 17:43:52.3±0.3, 9.°93S×33.°91E, h10km, mb4.6/1, Error ellipse: s-maj=9.6km s-min=6.6km az=111.0*

ISC 06 17:43:52.2±0.5, 9.°91S±0.°06×33.°81E±0.°07, h10km, n38, σ1§86/45, mb4.4/11, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DODT	Dodoma, Tanzan	4.17	28	*i*	P		Sn	17 45 44.3	-0.5
DODT				*i*	S		Sb	17 45 58.6	+2.4
LSZ	Lusaka	7.65	225		Pn		Pn	17 45 45.9	+2.0
LSZ					Sn		Sn	17 47 06.8	-4.0
LSZ					Lg		Lg	17 47 50.3	
LSZ	Lusaka 36nm,0.3s,baz=86,slow=17,SNR=5.2	7.65	225		Pn		Pn	17 45 45.9	+2.0
LSZ	25nm,0.3s,baz=19,slow=18,SNR=3.6				Sn		Sn	17 47 06.8	-4.0
LSZ	57nm,0.3s,baz=324,slow=19,SNR=4.3				Lg		Lg	17 47 50.3	
KMBO	Kilima Mbogo	9.37	22		Pn		Pn	17 46 07.2	-0.5
KMBO					Sn		Sn	17 47 47.6	-5.7
KMBO					Lg		Lg	17 48 41.9	
KMBO	Kilima Mbogo 6.9nm,0.3s,baz=242,slow=16,SNR=3.5	9.37	22		Pn		Pn	17 46 07.2	-0.5
KMBO	16nm,0.3s,baz=149,slow=19,SNR=5.2				Sn		Sn	17 47 47.6	-5.7
KMBO	14nm,0.3s,baz=253,slow=19,SNR=3.7				Lg		Lg	17 48 41.9	
MBAR	Mbarara	9.74	342		Pn		Pn	17 46 11.9	-0.7
MBAR					Sn		Sn	17 47 59.6	-2.7
MBAR					Lg		Lg	17 48 55.1	
MBAR	Mbarara baz=189,slow=19,SNR=1.4	9.74	342		Pn		Pn	17 46 11.9	-0.7
MBAR	19nm,0.3s,baz=37,slow=20,SNR=1.8				Sn		Sn	17 47 59.6	-2.7
MBAR	67nm,0.3s,baz=225,slow=23,SNR=5.0				Lg		Lg	17 48 55.1	
ABPO	Ambohimpanom 23nm,0.5s	15.83	126	*e*	Pn		Pn	17 47 33.5	-2.0
LBTB	Lobatse	16.93	206		Pn		Pn	17 47 49.2	-0.2
LBTB	Lobatse 9.0nm,0.3s,baz=51,slow=9.2,SNR=2.3	16.93	206		Pn		Pn	17 47 49.2	-0.2
TSUM	Tsumeb	18.20	238		Pn		P	17 48 05.9	+0.3
TSUM					Sn		Sn	17 51 20.4	-8.4
TSUM	Tsumeb 4.5nm,0.3s,baz=67,slow=10,SNR=2.7	18.20	238		Pn		P	17 48 05.9	+0.3
TSUM	0.9nm,0.3s,baz=287,slow=19,SNR=2.6				Sn		Sn	17 51 20.4	-8.4
BOSA	Boshof	20.27	202		P		P	17 48 28.1	0.0
BOSA	Boshof 244nm,0.9s,baz=270,slow=20,SNR=1.7	20.27	202		P		P	17 48 28.1	0.0
TORD	Torodi Ar. Bea	39.26	305		P		P	17 51 22.5	+1.1
TORD	Torodi Ar. Bea 11nm,0.9s,baz=135,slow=8.1,SNR=2.8	39.26	305		P		P	17 51 22.5	+1.1
BRTR	Keskin Array B	49.38	360		P		P	17 52 43.9	+1.7
BRTR	Keskin Array B 6.1nm,1.0s,baz=172,slow=9.7,SNR=3.9	49.38	360		P		P	17 52 43.9	+1.7
ESDC	Sonseca Array	60.51	327		P		P	17 54 03.6	+1.0
ESDC	Sonseca Array 2.2nm,0.8s,baz=144,slow=7.0,SNR=4.2	60.51	327		P		P	17 54 03.6	+1.0
GERES	GERESS Array B	61.13	345		P		P	17 54 07.3	+0.5
GERES	GERESS Array B 2.0nm,0.8s,baz=159,slow=5.3,SNR=3.6	61.13	345		P		P	17 54 07.3	+0.5
BVAR	Borovoye Array	70.02	23		P		P	17 55 03.8	-0.2
BVAR	Borovoye Array 1.3nm,0.6s,baz=237,slow=5.1,SNR=4.1	70.02	23		P		P	17 55 03.8	-0.2
CMAR	Chiang Mai Arr	70.16	66		P		P	17 55 05.8	+0.2
CMAR	Chiang Mai Arr 2.6nm,0.9s,baz=252,slow=7.0,SNR=5.1	70.16	66		P		P	17 55 05.8	+0.2
MKAR	Makanchi Array	71.07	33		P		P	17 55 10.6	0.0
MKAR	Makanchi Array 5.3nm,0.8s,baz=232,slow=6.0,SNR=5.5	71.07	33		P		P	17 55 10.6	0.0
ZALV	Zalesovo Beam	76.79	28		P		P	17 55 43.7	-0.2
ZALV	Zalesovo Beam 1.3nm,0.6s,baz=254,slow=5.4,SNR=2.8	76.79	28		P		P	17 55 43.7	-0.2
SONM	Songino Array	85.85	40		P		P	17 56 33.6	+1.3
SONM	Songino Array 1.5nm,0.8s,baz=262,slow=3.9,SNR=4.6	85.85	40		P		P	17 56 33.6	+1.3
ASAR	Alice Springs	95.17	115		P		P	17 57 16.4	-0.3
ASAR	Alice Springs 1.5nm,0.6s,baz=264,slow=4.5,SNR=15	95.17	115		P		P	17 57 16.4	-0.3
WRA	Warramunga Arr	96.40	111		P		P	17 57 21.8	-0.5
WRA	Warramunga Arr 1.0nm,0.8s,baz=264,slow=2.8,SNR=5.7	96.40	111		P		P	17 57 21.8	-0.5
ILAR	Eielson Array	125.22	0		PKP		PKPdf	18 02 52.6	-0.1
ILAR	Eielson Array 1.3nm,1.0s,baz=296,slow=2.7,SNR=4.7	125.22	0		PKP		PKPdf	18 02 52.6	-0.1

*IDC **06** 17:54:47.9±2.3, 12.°31N×125.°58E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=92.6km s-min=23.0km az=55.0*

*ISCJB **06** 17:54:50.1±1.0, 12.°45N±0.°06×125.°8E±0.°1, h36km, mb3.3/4, Error ellipse: s-maj=14.2km s-min=8.8km az=10.2*

ISC 06 17:54:51.8±1.4, 12.°48N±0.°07×125.°8E±0.°1, h36km, n13, σ1§50/12, mb3.2/4, 3D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	Palo	1.54	212	⇓*eP*			Pn	17 55 13.4	-3.4
PLP				*eS*			Sn	17 55 33.3	-2.4
PVCP	Virac	1.97	304	⇓*eP*			Pn	17 55 21.7	-1.0
PVCP				*i*	S		Sn	17 55 53.5	+7.4
SCPH	Surigao	2.70	187	*eP*			Pn	17 55 31.4	-1.4
LLP	Lapu-Lapu	2.82	220	*eP*			Pn	17 55 33.7	-0.6
LLP				*eS*			Sn	17 56 06.3	-0.7
RCP	Roxas	3.15	253	⇓*eP*			Pn	17 55 38.3	-0.6
TBP	Tagbilaran	3.37	215	*eP*			Pn	17 55 42.8	+0.8
TBP				*eS*			Sn	17 56 23.6	+2.8
CMAR	Chiang Mai Arr 0.8nm,0.8s,baz=97,slow=7.4,SNR=10	26.56	286	P			P	18 00 26.1	-0.5
WRA	Warramunga Arr 0.2nm,0.9s,baz=346,slow=9.6,SNR=2.8	33.29	165	P			P	18 01 26.0	-0.2
ASAR	Alice Springs 0.1nm,0.4s,baz=345,slow=6.7,SNR=7.5	36.78	168	P			P	18 01 57.0	+0.7
H11N1	WAKE ISLAND Hy baz=269,slow=75,SNR=6.7	40.03	74	T			T	18 45 33.2	
H11N2	WAKE ISLAND Hy baz=269,slow=75,SNR=6.1	40.04	74	T			T	18 45 33.3	
H11N3	WAKE ISLAND Hy baz=269,slow=75,SNR=5.7	40.05	74	T			T	18 45 34.5	
MKAR	Makanchi Array 0.7nm,0.8s,baz=120,slow=8.0,SNR=4.6	50.02	322	P			P	18 03 43.9	+1.1

*ISCJB **06** 17:55:12.0±0.3,9˚93S×0˚03×33˚96E±0˚06,h10ᵏᵐ, mb4.5/24,Error ellipse: s-maj=8.8km s-min=4.8km az=11.1*

*IDC **06** 17:55:12.6±0.6,10˚05S×33˚99E,h0ᵏᵐ,mb4.4/18, mb1 4.6/23,mb1mx4.5/32,mbtmp4.5/23,ML2.8/1,Error ellipse: s-maj=18.3km s-min=14.0km az=116.0*

*NEIC **06** 17:55:13.8±0.3, 10˚01S×33˚98E,h10ᵏᵐ,mb4.8/9,Error ellipse: s-maj=9.2km s-min=7.2km az=108.0*

ISC 06 17:55:13.6±0.4,**10˚00S**±0˚04×**34˚03E**±0˚06,**h10**ᵏᵐ,**n73,** σ1§**68**/81,**mb4.6**/24**, Malawi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.42**	**180**	*i* P			**Pg**	**17 55 40.4**	**-0.5**
MZM				*i* S			**Sg**	**17 55 58.8**	**-0.6**
DODT	**Dodoma, Tanzan**	**4.16**	**24**	*i* P			**Pn**	**17 56 17.5**	**+0.2**
DODT				*i* S			**Sn**	**17 57 04.2**	**-1.8**
MAUS	**Longido**	**7.69**	**20**	*i* P			**Pn**	**17 57 06.5**	**+0.6**
LSZ	**Lusaka**	**7.74**	**227**	Pn			**Pn**	**17 57 06.9**	**+0.3**
LSZ				Sn			Sn	17 58 27.6	-6.9
LSZ				Lg			Lg	17 59 08.5	
LSZ	**Lusaka**	**7.74**	**227**	Pn			**Pn**	**17 57 06.9**	**+0.3**
	41nm,0.3s,baz=53,slow=12,SNR=28								
LSZ				Sn			Sn	17 58 27.6	-6.9
	8.1nm,0.3s,baz=319,slow=20,SNR=3.3								
LSZ				Lg			Lg	17 59 08.5	
	14nm,0.3s,baz=308,slow=15,SNR=6.5								
KMBO	**Kilima Mbogo**	**9.38**	**20**	Pn			**Pn**	**17 57 28.1**	**-1.1**
KMBO				Sn			**Sn**	**17 59 10.9**	**-4.1**
KMBO				Lg			Lg	18 00 01.5	
KMBO	**Kilima Mbogo**	**9.38**	**20**	Pn			**Pn**	**17 57 28.1**	**-1.1**
	8.9nm,0.3s,baz=198,slow=16,SNR=24								
KMBO				Sn			**Sn**	**17 59 10.9**	**-4.1**
	3.6nm,0.3s,baz=116,slow=24,SNR=12								
KMBO				Lg			Lg	18 00 01.5	
	3.8nm,0.3s,baz=279,slow=23,SNR=6.8								
MBAR	**Mbarara**	**9.90**	**340**	Pn			**Pn**	**17 57 34.2**	**-2.0**
MBAR				Sn			**Sn**	**17 59 22.7**	**-4.8**
MBAR				Lg			Lg	18 00 15.2	
MBAR	**Mbarara**	**9.90**	**340**	Pn			**Pn**	**17 57 34.2**	**-2.0**
	17nm,0.3s,baz=147,slow=24,SNR=14								
MBAR				Sn			**Sn**	**17 59 22.7**	**-4.8**
	5.8nm,0.3s,baz=18,slow=20,SNR=2.3								
MBAR				Lg			Lg	18 00 15.2	
	15nm,0.3s,baz=351,slow=23,SNR=5.4								
OPO	**Ambohidratompo**	**15.33**	**125**	Pn			**Pn**	**17 58 51.1**	**+0.8**
OPO				Sn			**Sn**	**18 01 36.1**	**-4.3**
OPO	**Ambohidratompo**	**15.33**	**125**	Pn			**Pn**	**17 58 51.1**	**+0.8**
	1.5nm,0.3s,baz=291,slow=13,SNR=8.2								
OPO				Sn			**Sn**	**18 01 36.1**	**-4.3**
	0.4nm,0.3s,baz=24,slow=20,SNR=2.3								
ABPO	**Ambohimpanom**	**15.60**	**127**	*e*Pn			**Pn**	**17 58 54.2**	**+0.3**
	101nm,0.8s								
LBTB	**Lobatse**	**16.95**	**207**	Pn			**Pn**	**17 59 08.8**	**-2.3**
LBTB	**Lobatse**	**16.95**	**207**	Pn			**Pn**	**17 59 08.8**	**-2.3**
	5.3nm,0.3s,baz=49,slow=11,SNR=26								
TSUM	**Tsumeb**	**18.34**	**238**	P			**Pn**	**17 59 26.7**	**-1.7**
TSUM	**Tsumeb**	**18.34**	**238**	P			**Pn**	**17 59 26.7**	**-1.7**
	1.6nm,0.3s,baz=43,slow=9.3,SNR=11								
BOSA	**Boshof**	**20.26**	**203**	P			**P**	**17 59 48.1**	**-1.4**
BOSA	**Boshof**	**20.26**	**203**	P			**P**	**17 59 48.1**	**-1.4**
	12nm,0.7s,baz=43,slow=13,SNR=6.7								
SUR	**Sutherland**	**25.40**	**207**	P			**P**	**18 00 41.2**	**-0.4**
SUR	**Sutherland**	**25.40**	**207**	P			**P**	**18 00 41.2**	**-0.4**
	30nm,1.0s,baz=149,slow=12,SNR=2.8								
TORD	**Torodi Ar. Bea**	**39.49**	**305**	P			**P**	**18 02 45.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**39.49**	**305**	P			**P**	**18 02 45.6**	**+1.0**
	2.4nm,0.9s,baz=115,slow=6.9,SNR=3.6								
DBIC	**Dimbokro**	**42.12**	**292**	P			**P**	**18 03 06.0**	**-0.4**
DBIC	**Dimbokro**	**42.12**	**292**	P			**P**	**18 03 06.0**	**-0.4**
	9.8nm,1.0s,baz=93,slow=9.4,SNR=3.3								
BR131	**Keskin Array S**	**49.48**	**360**	*e*P			**P**	**18 04 04.1**	**-0.2**
	2.9nm,0.9s								
BRTR	**Keskin Array B**	**49.48**	**360**	P			**P**	**18 04 05.7**	**+1.4**
BRTR	**Keskin Array B**	**49.48**	**360**	P			**P**	**18 04 05.7**	**+1.4**
	3.1nm,0.8s,baz=174,slow=7.9,SNR=14								
KEST	**Kesra**	**51.11**	**334**	P			**P**	**18 04 18.3**	**+1.6**
KEST	**Kesra**	**51.11**	**334**	P			**P**	**18 04 18.3**	**+1.6**
	1.3nm,1.0s,baz=36,slow=23,SNR=3.7								
BUR08	**Bucovina Ar. S**	**57.92**	**353**	*e*P			**P**	**18 05 05.0**	**-1.0**
AKASG	**Malin Array Be**	**60.59**	**356**	P			**P**	**18 05 23.4**	**-1.0**
AKASG	**Malin Array Be**	**60.59**	**356**	P			**P**	**18 05 23.4**	**-1.0**
	2.5nm,0.8s,baz=183,slow=6.2,SNR=15								
ESDC	**Sonseca Array**	**60.70**	**327**	P			**P**	**18 05 26.7**	**+1.3**
ESDC	**Sonseca Array**	**60.70**	**327**	P			**P**	**18 05 26.7**	**+1.3**
	1.1nm,0.9s,baz=135,slow=7.1,SNR=7.8								
GERES	**GERESS Array B**	**61.27**	**345**	P			**P**	**18 05 29.3**	**+0.2**
GERES	**GERESS Array B**	**61.27**	**345**	P			**P**	**18 05 29.3**	**+0.2**
	2.5nm,0.9s,baz=163,slow=5.2,SNR=14								
KKAR	**Karatay Array**	**62.45**	**29**	*e*P			**P**	**18 05 36.5**	**-0.5**
	12nm,1.1s								
LSA	**Lhasa**	**67.66**	**52**	*e*P			**P**	**18 06 10.7**	**-1.1**
	11nm,1.4s								
ARU	**Arti**	**69.25**	**14**	*e*P			**P**	**18 06 20.1**	**-0.5**
	12nm,0.9s								
CM31	**Chiang Mai Arr**	**70.00**	**66**	*e*P			**P**	**18 06 26.7**	**+0.7**
	5.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**70.00**	**66**	P			**P**	**18 06 27.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**70.00**	**66**	P			**P**	**18 06 27.6**	**+1.6**
	4.8nm,0.8s,baz=258,slow=7.3,SNR=43								
CHTO	**Chiang Mai**	**70.11**	**66**	*e*P			**P**	**18 06 27.2**	**+0.5**
	6.6nm,0.8s								
MKAR	**Makanchi Array**	**71.03**	**33**	P			**P**	**18 06 32.7**	**+0.9**
MKAR	**Makanchi Array**	**71.03**	**33**	P			**P**	**18 06 32.7**	**+0.9**
	6.9nm,0.8s,baz=229,slow=5.7,SNR=30								
MK31	**Makanchi Array**	**71.03**	**33**	*e*P			**P**	**18 06 31.1**	**-0.7**
FINES	**FINESS Array B**	**71.49**	**356**	P			**P**	**18 06 36.0**	**+1.9**
FINES	**FINESS Array B**	**71.49**	**356**	P			**P**	**18 06 36.0**	**+1.9**
	4.7nm,0.9s,baz=181,slow=9.5,SNR=4.5								
KURK	**Kurchatov**	**71.78**	**28**	*e*P			**P**	**18 06 35.5**	**-0.7**
	4.4nm,0.9s								
NB2	**NORSAR Subarra**	**73.07**	**349**	P			**P**	**18 06 43.8**	**+0.1**
	comp=Z,8.5nm,1.1s,baz=158,slow=5.6								
NOA	**NORSAR Array B**	**73.07**	**349**	P			**P**	**18 06 44.0**	**+0.2**
NOA	**NORSAR Array B**	**73.07**	**349**	P			**P**	**18 06 44.0**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=159,slow=5.5,SNR=4.4								
ZALV	**Zalesovo Beam**	**76.77**	**28**	P			**P**	**18 07 05.1**	**-0.1**
ZALV	**Zalesovo Beam**	**76.77**	**28**	P			**P**	**18 07 05.1**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=250,slow=4.9,SNR=11								
BDFB	**Brasilia**	**79.77**	**256**	P			**P**	**18 07 24.6**	**+1.8**
BDFB	**Brasilia**	**79.77**	**256**	P			**P**	**18 07 24.6**	**+1.8**
	comp=Z,3.0nm,0.9s,baz=77,slow=14,SNR=3.8								
SONM	**Songino Array**	**85.78**	**40**	P			**P**	**18 07 55.4**	**+2.0**
SONM	**Songino Array**	**85.78**	**40**	P			**P**	**18 07 55.4**	**+2.0**
	comp=Z,3.1nm,0.8s,baz=247,slow=3.7,SNR=21								
ULN	**Ulaanbaatar**	**86.21**	**40**	*e*P			**P**	**18 07 55.7**	**+0.2**
	comp=Z,3.8nm,0.8s								
ASAR	**Alice Springs**	**94.94**	**115**	P			**P**	**18 08 37.5**	**+0.5**
ASAR	**Alice Springs**	**94.94**	**115**	P			**P**	**18 08 37.5**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=259,slow=4.3,SNR=24								
WRA	**Warramunga Arr**	**96.16**	**111**	P			**P**	**18 08 43.4**	**+0.9**
WRA	**Warramunga Arr**	**96.16**	**111**	P			**P**	**18 08 43.4**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=256,slow=2.8,SNR=13								
YKA	**Yellowknife Ar**	**122.91**	**343**	PKP			**PKPdf**	**18 14 10.2**	**+0.4**
YKA	**Yellowknife Ar**	**122.91**	**343**	PKP			**PKPdf**	**18 14 10.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=29,slow=2.4,SNR=6.0								
ILAR	**Eielson Array**	**125.31**	**0**	PKP			**PKPdf**	**18 14 14.4**	**+0.1**
ILAR	**Eielson Array**	**125.31**	**0**	PKP			**PKPdf**	**18 14 14.4**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=281,slow=3.2,SNR=11								
PDAR	**Pinedale Array**	**134.47**	**322**	PKP			**PKPdf**	**18 14 33.5**	**+0.8**
PDAR	**Pinedale Array**	**134.47**	**322**	PKP			**PKPdf**	**18 14 33.5**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=113,slow=3.4,SNR=4.6								
TXAR	**Lajitas Array**	**136.07**	**302**	PKP			**PKPdf**	**18 14 37.6**	**+1.7**
TXAR	**Lajitas Array**	**136.07**	**302**	PKP			**PKPdf**	**18 14 37.6**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=0.0,slow=0.4,SNR=5.2								
NVAR	**Mina Array Bea**	**142.37**	**323**	PKP			**PKPdf**	**18 14 49.5**	**+2.2**
NVAR	**Mina Array Bea**	**142.37**	**323**	PKP			**PKPdf**	**18 14 49.5**	**+2.2**
	comp=Z,1.9nm,0.7s,baz=48,slow=1.1,SNR=8.5								

*SZGRF **06** 17:57:59.8, 12˚97S×33˚79E, h33ᵏᵐ, mb5.2, Malawi*

*BJI **06** 17:58:11.2, 10˚17S×33˚27E, h10ᵏᵐ, mB5.3/19, mb4.9/32, Ms5.3/20, Ms7 5.0/19*

*ISCJB **06** 17:58:13.8±0.2, 10˚14S±0˚03×33˚89E±0˚04, h10ᵏᵐ, mb5.0/105, MS5.1/8, Error ellipse: s-maj=5.2km s-min=3.7km az=19.2*

*MOS **06** 17:58:13.7±0.9, 10˚11S×33˚94E, h10ᵏᵐ, mb5.3/39, Error ellipse: s-maj=9.5km s-min=5.1km az=93.3*

*IDC **06** 17:58:14.4±0.5, 10˚06S×33˚89E, h0ᵏᵐ, mb4.7/22, mb1 4.9/28, mb1mx4.8/34, mbtmp4.8/28, ML3.2/1, Error ellipse: s-maj=15.2km s-min=13.4km az=117.0*

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*NEIC **06** 17:58:15.5±0.2, 10˚17S×33˚97E, h10ᵏᵐ, mb5.3/53, Error ellipse: s-maj=5.4km s-min=3.7km az=107.0*

ISC 06 17:58:16.5±0.4, **10˚10S**±0˚04×**33˚88E**±0˚05,**h14**ᵏᵐ±1km, **h14**ᵏᵐ:**pP-P,n449,** σ1§**32**/**487**,**mb5.1**/104,**MS5.1**/8, **19C-12D, Malawi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.34**	**174**	*i* P			**Pg**	**17 58 42.1**	**-0.1**
MZM				*i* S			**Sg**	**17 59 01.0**	**+1.4**
DODT	**Dodoma, Tanzan**	**4.30**	**26**	*i* P			**Pb**	**17 59 29.8**	**-2.2**
DODT				*i* S			**Sb**	**18 00 24.9**	**+1.1**
LSZ	**Lusaka**	**7.58**	**227**	*e*P			**Pn**	**18 00 09.1**	**+2.4**
LSZ	**Lusaka**	**7.58**	**227**	Pn			**Pn**	**18 00 07.3**	**+0.7**
LSZ				Sn			**Sn**	**18 01 31.0**	**-1.4**
LSZ				Lg			Lg	18 02 10.4	
LSZ	**Lusaka**	**7.58**	**227**	Pn			**Pn**	**18 00 07.3**	**+0.7**
	82nm,0.3s,baz=62,slow=13,SNR=18								
LSZ				Sn			**Sn**	**18 01 31.0**	**-1.4**
	133nm,0.3s,baz=121,slow=19,SNR=5.9								
LSZ				Lg			Lg	18 02 10.4	
	160nm,0.3s,baz=319,slow=10,SNR=8.8								
KMBO	**Kilima Mbogo**	**9.52**	**21**	Pn			**Pn**	**18 00 31.4**	**-2.0**
KMBO				Lg			Lg	18 03 04.0	
KMBO	**Kilima Mbogo**	**9.52**	**21**	Pn			**Pn**	**18 00 31.4**	**-2.0**
	18nm,0.3s,baz=39,slow=23,SNR=7.3								
KMBO				Lg			Lg	18 03 04.0	
	9.7nm,0.3s,baz=281,slow=19,SNR=5.6								
MBAR	**Mbarara**	**9.94**	**341**	Pn			**Pn**	**18 00 36.8**	**-2.3**
MBAR				Lg			Lg	18 03 17.2	
MBAR	**Mbarara**	**9.94**	**341**	Pn			**Pn**	**18 00 36.8**	**-2.3**
	44nm,0.3s,baz=241,slow=22,SNR=4.6								
MBAR				Lg			Lg	18 03 17.2	
	111nm,0.3s,baz=102,slow=24,SNR=6.3								
MSNA	**Messina**	**12.73**	**196**	*e*P			**Pn**	**18 01 17.8**	**+0.5**
MSNA					AMB	AMB	AMB	18 02 02.2	
	comp=Z,296nm,2.3s								
MSNA	**Messina**	**12.73**	**196**	P			**Pn**	**18 01 17.8**	**+0.5**
	comp=Z,296nm,2.3s								
OPO	**Ambohidratompo**	**15.39**	**125**	Pn			**Pn**	**18 01 53.6**	**+0.1**
OPO	**Ambohidratompo**	**15.39**	**125**	Pn			**Pn**	**18 01 53.6**	**+0.1**
	comp=Z,5.7nm,0.3s,baz=278,slow=11,SNR=14								
ABPO	**Ambohimpanom**	**15.66**	**126**	*e*P			**Pn**	**18 01 54.7**	**-2.3**
ABPO					pmax	pmax			
	comp=Z,62nm,0.8s								
ABPO	**Ambohimpanom**	**15.66**	**126**	*e*P			**Pn**	**18 01 54.7**	**-2.3**
	comp=Z,62nm,0.8s								
RUDU	**RUNDU**	**15.78**	**239**	*e*P			**Pn**	**18 01 57.9**	**-0.7**
RUDU					AMB	AMB		18 02 05.8	
	comp=Z,184nm,1.4s								
RUDU	**RUNDU**	**15.78**	**239**	P			**Pn**	**18 01 57.9**	**-0.7**
	comp=Z,184nm,1.4s								
SLR	**Silverton**	**16.44**	**198**	*e*P			**Pn**	**18 02 05.9**	**-1.1**
SLR					AMB	AMB		18 02 13.2	
	comp=Z,156nm,3.9s								
SLR	**Silverton**	**16.44**	**198**	P			**Pn**	**18 02 05.9**	**-1.1**
SLR					pmax	pmax			
	comp=Z,156nm,3.9s								
SLR	**Silverton**	**16.44**	**198**	P			**Pn**	**18 02 05.9**	**-1.1**
	comp=Z,156nm,3.9s								
LBTB	**Lobatse**	**16.80**	**207**	*e*P			**Pn**	**18 02 09.6**	**-2.0**
LBTB					AMB	AMB		18 02 12.6	
	comp=Z,118nm,1.8s								
LBTB	**Lobatse**	**16.80**	**207**	*e*Pn			**Pn**	**18 02 08.0**	**-3.5**
	comp=Z,113nm,0.9s								
LBTB					Lg	Lg		18 06 56.9	
LBTB	**Lobatse**	**16.80**	**207**	Pn			**Pn**	**18 02 11.2**	**-0.3**
	comp=Z,14nm,0.3s,baz=28,slow=13,SNR=19								
LBTB					Lg	Lg		18 06 56.9	
	comp=Z,11nm,0.3s,baz=311,slow=17,SNR=6.7								
OBSV	**Observatory**	**16.92**	**198**	*e*P			**Pn**	**18 02 09.3**	**-3.9**
OBSV					AMB	AMB		18 02 32.8	
	comp=Z,86nm,2.4s								
KSR	**Koster**	**17.01**	**202**	*e*P			**Pn**	**18 02 13.8**	**-0.5**
KSR					AMB	AMB		18 02 19.4	
	comp=Z,60nm,1.1s								
KSR	**Koster**	**17.01**	**202**	P			**Pn**	**18 02 13.8**	**-0.5**
	comp=Z,60nm,1.1s								
ERPM	**east rand prop**	**17.02**	**198**	*e*P			**Pn**	**18 02 10.0**	**-4.4**
ERPM					AMB	AMB		18 02 23.9	
	comp=Z,107nm,4.3s								
KLOF	**Kloof**	**17.22**	**199**	*e*P			**Pn**	**18 02 14.2**	**-2.7**
KLOF					AMB	AMB		18 02 27.1	
	comp=Z,59nm,3.1s								
KLOF	**Kloof**	**17.22**	**199**	P			**Pn**	**18 02 14.2**	**-2.7**
	comp=Z,59nm,3.1s								
PRYS	**Parys**	**17.84**	**199**	*e*P			**P**	**18 02 25.1**	**-0.1**
PRYS					AMB	AMB		18 02 28.5	
	comp=Z,55nm,4.9s								
PRYS	**Parys**	**17.84**	**199**	P			**P**	**18 02 25.1**	**-0.1**
	comp=Z,55nm,4.9s								
TSUM	**Tsumeb**	**18.17**	**238**	*e*P			**Pn**	**18 02 27.8**	**-0.9**
TSUM	**Tsumeb**	**18.17**	**238**	*e*Pn			**Pn**	**18 02 26.9**	**-1.8**
	comp=Z,67nm,1.1s								
TSUM					Lg	Lg		18 07 42.1	
TSUM	**Tsumeb**	**18.17**	**238**	P			**Pn**	**18 02 28.2**	**-0.5**
	comp=Z,4.5nm,0.3s,baz=42,slow=10,SNR=15								
TSUM					Lg	Lg		18 07 42.1	
	comp=Z,2.3nm,0.3s,baz=122,slow=21,SNR=3.8								
SWZ	**Schweizer**	**18.82**	**204**	*e*P			**P**	**18 02 33.5**	**-2.4**
SWZ					AMB	AMB		18 03 07.9	
	comp=Z,102nm,3.8s								
SWZ	**Schweizer**	**18.82**	**204**	P			**P**	**18 02 33.5**	**-2.4**
	comp=Z,102nm,3.8s								
SEK	**Senekal**	**19.06**	**197**	*e*P			**P**	**18 02 38.3**	**-0.4**
SEK					AMB	AMB		18 02 44.0	
	comp=Z,110nm,3.9s								
SEK	**Senekal**	**19.06**	**197**	P			**P**	**18 02 38.3**	**-0.4**
	comp=Z,110nm,3.9s								
BOSA	**Boshof**	**20.12**	**203**	*e*P			**P**	**18 02 50.2**	**-0.1**
BOSA					AMB	AMB		18 03 04.8	
	comp=Z,72nm,2.0s								
BOSA	**Boshof**	**20.12**	**203**	*e*P			**P**	**18 02 48.7**	**-1.5**
	comp=Z,47nm,1.0s								
BOSA					Lg	Lg		18 08 35.5	
BOSA	**Boshof**	**20.12**	**203**	P			**P**	**18 02 49.4**	**-0.9**
	comp=Z,22nm,0.4s,baz=25,slow=12,SNR=20								
BOSA					Lg	Lg		18 08 35.5	
	comp=Z,116nm,0.8s,baz=292,slow=15,SNR=3.3								
WIN	**Windhoek**	**20.30**	**230**	*e*P			**P**	**18 02 50.6**	**-1.7**
WIN					AMB	AMB		18 02 57.8	
	comp=Z,73nm,1.3s								
WIN	**Windhoek**	**20.30**	**230**	P			**P**	**18 02 50.6**	**-1.7**
WIN					pmax	pmax			
	comp=Z,73nm,1.3s								
WIN	**Windhoek**	**20.30**	**230**	P			**P**	**18 02 50.6**	**-1.7**
	comp=Z,73nm,1.3s								
KSD	**Kokstad**	**20.77**	**191**	*e*P			Pn	18 03 05.4	+5.7
KSD					AMB	AMB		18 03 19.2	
	comp=Z,60nm,5.8s								
HVD	**Gariep Dam**	**21.85**	**200**	*e*P			**P**	**18 03 04.5**	**-4.4**
HVD					AMB	AMB		18 03 05.7	
	comp=Z,113nm,3.9s								
KOMG	**Komaggas**	**24.88**	**216**	*e*P			**P**	**18 03 39.0**	**+0.2**
KOMG					AMB	AMB		18 03 44.6	
	comp=Z,57nm,1.5s								
KOMG	**Komaggas**	**24.88**	**216**	P			**P**	**18 03 39.0**	**+0.2**
	comp=Z,57nm,1.5s								
SUR	**Sutherland**	**25.25**	**207**	P			**P**	**18 03 42.7**	**+0.2**
SUR	**Sutherland**	**25.25**	**207**	P			**P**	**18 03 42.7**	**+0.2**
	comp=Z,14nm,1.0s,baz=31,slow=11,SNR=5.8								
TORD	**Torodi Ar. Bea**	**39.43**	**305**	P			**P**	**18 05 46.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**39.43**	**305**	P			**P**	**18 05 46.0**	**-0.4**
	comp=Z,4.8nm,0.8s,baz=114,slow=7.4,SNR=17								
KIC	**Kosan Boka**	**41.80**	**291**	*e*P			**P**	**18 06 06.1**	**0.0**
	comp=Z,78nm,0.9s								
LIC	**Lamto**	**42.01**	**291**	*e*P			**P**	**18 06 07.1**	**-0.7**
	comp=Z,26nm,0.6s,baz=120								
LIC				*e*R					
	comp=Z,2μm,22.5s								
LIC	**Lamto**	**42.01**	**291**	*e*P			**P**	**18 06 07.1**	**-0.7**
	comp=Z,46nm,0.6s								
LIC	**Lamto**	**42.01**	**291**	*e*P			**P**	**18 06 07.1**	**-0.7**
	comp=Z,26nm,0.6s								
DBIC	**Dimbokro**	**42.02**	**292**	P			**P**	**18 06 07.5**	**-0.3**
DBIC	**Dimbokro**	**42.02**	**292**	P			**P**	**18 06 07.5**	**-0.3**
	comp=Z,13nm,0.6s,baz=95,slow=8.8,SNR=29								
TIC	**Toumodi**	**42.16**	**292**	*e*P			**P**	**18 06 08.5**	**-0.6**
	comp=Z,127nm,0.8s								
MALT	**Malatya**	**48.34**	**5**	*i*P			**P**	**18 07 00.3**	**+2.5**
BR131	**Keskin Array S**	**49.57**	**360**	*e*P			**P**	**18 07 06.6**	**-0.6**
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**	**49.57**	**360**	P			**P**	**18 07 07.3**	**+0.1**
BRTR	**Keskin Array B**	**49.57**	**360**	P			**P**	**18 07 07.3**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=177,slow=9.1,SNR=12								
KEST	**Kesra**	**51.13**	**334**	P			**P**	**18 07 20.0**	**+0.9**
	comp=Z,3.1nm,1.0s,baz=244,slow=3.4,SNR=4.4								
HYB	**Hyderabad**	**51.92**	**59**	*i* P			**P**	**18 07 26.0**	**+0.8**
KDZ	**Kurdzhali**	**52.08**	**352**	⇑*i*P			**P**	**18 07 26.7**	**+0.8**
ZEI	**Tsey**	**53.42**	**9**	*e*P			**P**	**18 07 35.8**	**-0.3**
ZEI					pmax	pmax			
	comp=Z,10.0nm,1.2s								
CFR	**Carcaliu**	**55.26**	**355**	⇓*i*P			**P**	**18 07 50.1**	**+0.9**
MLR	**Muntele Rosu**	**55.79**	**353**	⇓*i*P			**P**	**18 07 53.9**	**+0.7**
VOIR		**55.84**	**352**	⇑*i*P			**P**	**18 07 53.9**	**+0.4**
PLOR	**Plostina**	**56.07**	**354**	⇓*i*P			**P**	**18 07 56.1**	**+1.0**
GZR	**Gura Zlata**	**56.13**	**351**	⇓*i*P			**P**	**18 07 56.5**	**+0.9**
BZS	**Buzias**	**56.54**	**350**	⇑*i*P			**P**	**18 08 00.3**	**+1.9**
PGF	**Pioggiola**	**57.13**	**338**	*e*P			**P**	**18 08 03.6**	**+0.9**
	comp=Z,29nm,0.9s								
PGF	**Pioggiola**	**57.13**	**338**	*e*P			**P**	**18 08 03.6**	**+0.9**
PGF					pmax	pmax			
	comp=Z,29nm,0.9s								
PGF	**Pioggiola**	**57.13**	**338**	*e*P			**P**	**18 08 03.6**	**+0.9**
	comp=Z,29nm,0.9s								
SIRR	**Siria**	**57.17**	**350**	⇑*i*P			**P**	**18 08 04.8**	**+2.0**
CJR	**Cluj-Napoca**	**57.30**	**352**	⇑*i*P			**P**	**18 08 05.6**	**+1.8**
DRGR		**57.50**	**351**	⇑*i*P			**P**	**18 08 06.4**	**+1.1**
PKSM	**Moragy**	**57.70**	**348**	⇑*i*P			**P**	**18 08 07.6**	**+1.1**
BURAR	**Bucovina Array**	**57.97**	**353**	⇑*i*P			**P**	**18 08 10.7**	**+2.1**
BUR08	**Bucovina Ar. S**	**58.00**	**353**	*e*P			**P**	**18 08 08.1**	**-0.7**
BMR	**Baia Mare**	**58.25**	**352**	⇑*i*P			**P**	**18 08 11.9**	**+1.5**
JAVS	**Javornik**	**58.51**	**344**	*i* P			**P**	**18 08 13.5**	**+1.1**
LMR	**La Mourre**	**58.74**	**337**	*e*P			**P**	**18 08 14.7**	**+0.8**
	comp=Z,150nm,1.9s								
LMR	**La Mourre**	**58.74**	**337**	*e*P			**P**	**18 08 14.7**	**+0.8**
LMR					pmax	pmax			
	comp=Z,150nm,1.9s								
LMR	**La Mourre**	**58.74**	**337**	*e*P			**P**	**18 08 14.7**	**+0.8**
	comp=Z,150nm,1.9s								
TRPA	**Tarpa**	**58.84**	**351**	⇓*i*P			**P**	**18 08 15.8**	**+1.4**
SBF	**Sospel**	**58.84**	**338**	*e*P			**P**	**18 08 15.6**	**+0.9**
SBF	**Sospel**	**58.84**	**338**	*e*P			**P**	**18 08 15.6**	**+0.9**
SBF	**Sospel**	**58.84**	**338**	*e*P			**P**	**18 08 15.6**	**+0.9**
FRF	**La Foret Royal**	**58.88**	**337**	*e*P			**P**	**18 08 15.7**	**

ETSF	Etsaut	61.40	332	eP		P	18 08 33.8	+1.5	
ETSF	Etsaut	61.40	332	eP		P	18 08 33.8	+1.5	
ETSF	Etsaut	61.40	332	eP		P	18 08 33.8	+1.5	
DANN	Dangsing	61.51	50	eP		P	18 08 32.7	-0.9	
	comp=Z,28nm,0.9s								
DANN	Dangsing	61.51	50	eP		P	18 08 32.7	-0.9	
	comp=Z,28nm,0.9s								
KHC	Kasperske Hory	61.62	345	c iP		P	18 08 33.7	+0.1	
KHC					pmax	pmax			
	comp=Z,47nm,1.0s								
KHC	Kasperske Hory	61.62	345	eP		P	18 08 33.3	-0.3	
KHC	Kasperske Hory	61.62	345	eP		P	18 08 33.3	-0.3	
	comp=Z,14nm,1.0s								
CABF	La Chapelle	61.68	339	eP		P	18 08 35.2	+1.1	
	comp=Z,140nm,1.8s								
CABF	La Chapelle	61.68	339	eP		P	18 08 35.2	+1.1	
CABF					pmax	pmax			
	comp=Z,140nm,1.8s								
CABF	La Chapelle	61.68	339	eP		P	18 08 35.2	+1.1	
	comp=Z,140nm,1.8s								
KRLC	Kraliky	61.76	348	eP		P	18 08 34.9	+0.4	
KRLC				e			18 08 43.4		
KRLC	Kraliky	61.76	348	eP		P	18 08 34.9	+0.4	
KRLC				ex		x	18 08 43.4		
SJPF	Ste Jean	61.88	331	eP		P	18 08 36.8	+1.3	
SJPF	Ste Jean	61.88	331	eP		P	18 08 36.8	+1.3	
SJPF	Ste Jean	61.88	331	eP		P	18 08 36.8	+1.3	
GKN	Gorkha	62.00	51	eP		P	18 08 35.5	-1.2	
	comp=Z,41nm,1.1s								
GKN	Gorkha	62.00	51	eP		P	18 08 35.5	-1.2	
	comp=Z,41nm,1.1s								
DPC	Dobruska-Polom	62.11	347	eP		P	18 08 36.5	-0.4	
DPC				e			18 08 42.7		
DPC	Dobruska-Polom	62.11	347	eP		P	18 08 36.5	-0.4	
DPC				epP		pP	18 08 42.7	+1.2	
DMN	Daman	62.16	51	eP		P	18 08 36.8	-1.2	
	comp=Z,28nm,1.3s								
DMN	Daman	62.16	51	eP		P	18 08 36.8	-1.2	
	comp=Z,28nm,1.3s								
PRU	Pruhonice	62.18	346	eP		P	18 08 36.9	-0.4	
PRU	Pruhonice	62.18	346	eP		P	18 08 36.9	-0.4	
UPC	Upice	62.33	347	eP		P	18 08 38.3	0.0	
UPC	Upice	62.33	347	eP		P	18 08 38.3	0.0	
PKIN	Phulchoki	62.37	52	eP		P	18 08 37.9	-1.5	
	comp=Z,29nm,1.5s								
PKI	Pulchoki	62.38	52	eP		P	18 08 38.1	-1.4	
	comp=Z,74nm,2.0s								
PKI	Pulchoki	62.38	52	eP		P	18 08 38.1	-1.4	
PKI					pmax	pmax			
	comp=Z,74nm,2.0s								
PKI	Pulchoki	62.38	52	eP		P	18 08 38.1	-1.4	
	comp=Z,74nm,2.0s								
KKN	Kakani	62.38	51	eP		P	18 08 38.1	-1.3	
KKN	Kakani	62.38	51	eP		P	18 08 38.1	-1.3	
KKN	Kakani	62.38	51	eP		P	18 08 38.1	-1.3	
LFF	La Frestale	62.42	334	eP		P	18 08 40.6	+1.6	
LFF	La Frestale	62.42	334	eP		P	18 08 40.6	+1.6	
LFF	La Frestale	62.42	334	eP		P	18 08 40.6	+1.6	
HINF	Hinteralfeld	62.45	340	eP		P	18 08 40.0	+0.8	
	comp=Z,34nm,1.3s								
HINF	Hinteralfeld	62.45	340	eP		P	18 08 40.0	+0.8	
HINF					pmax	pmax			
	comp=Z,34nm,1.3s								
HINF	Hinteralfeld	62.45	340	eP		P	18 08 40.0	+0.8	
	comp=Z,34nm,1.3s								
SMF	Signal de Mont	62.55	337	eP		P	18 08 40.4	+0.6	
	comp=Z,28nm,1.0s								
SMF	Signal de Mont	62.55	337	eP		P	18 08 40.4	+0.6	
SMF					pmax	pmax			
	comp=Z,28nm,1.0s								
SMF	Signal de Mont	62.55	337	eP		P	18 08 40.4	+0.6	
	comp=Z,28nm,1.0s								
KKAR	Karatay Array	62.60	29	eP		P	18 08 39.7	-0.6	
KKAR					pmax	pmax			
	comp=Z,6.0nm,0.7s								
KKAR	Karatay Array	62.60	29	eP		P	18 08 39.7	-0.6	
	comp=Z,6.3nm,0.7s								
PVCC	Panska Ves	62.67	346	eP		P	18 08 41.5	+0.9	
PVCC	Panska Ves	62.67	346	eP		P	18 08 41.5	+0.9	
GRF	Grafenberg Arr	62.76	344	eP		P	18 08 41.7	+0.5	
	comp=Z,20nm,1.4s								
HAU	Haudompre	62.78	340	eP		P	18 08 42.3	+0.9	
	comp=Z,69nm,1.4s								
HAU	Haudompre	62.78	340	eP		P	18 08 42.3	+0.9	
HAU					pmax	pmax			
	comp=Z,69nm,1.4s								
HAU	Haudompre	62.78	340	eP		P	18 08 42.3	+0.9	
	comp=Z,69nm,1.4s								
CDF	Champ du Feu	62.82	340	eP		P	18 08 42.3	+0.5	
	comp=Z,43nm,1.3s								
CDF	Champ du Feu	62.82	340	eP		P	18 08 42.3	+0.5	
CDF					pmax	pmax			
	comp=Z,43nm,1.3s								
CDF	Champ du Feu	62.82	340	eP		P	18 08 42.3	+0.5	
	comp=Z,43nm,1.3s								
AVF	Avril sur Loir	62.85	337	eP		P	18 08 42.7	+0.8	
	comp=Z,29nm,1.0s								
AVF	Avril sur Loir	62.85	337	eP		P	18 08 42.7	+0.8	
AVF					pmax	pmax			
	comp=Z,29nm,1.0s								
AVF	Avril sur Loir	62.85	337	eP		P	18 08 42.7	+0.8	
	comp=Z,29nm,1.0s								
TCF	Toulx Ste Croi	62.89	336	eP		P	18 08 43.5	+1.3	
	comp=Z,108nm,1.4s								
TCF	Toulx Ste Croi	62.89	336	eP		P	18 08 43.5	+1.3	
TCF					pmax	pmax			
	comp=Z,108nm,1.4s								
TCF	Toulx Ste Croi	62.89	336	eP		P	18 08 43.5	+1.3	
	comp=Z,108nm,1.4s								
GUN	Gumba	62.90	52	eP		P	18 08 42.6	-0.4	
	comp=Z,46nm,1.0s								
GUN	Gumba	62.90	52	eP		P	18 08 42.6	-0.4	
	comp=Z,46nm,1.0s								
NKC	Novy Kostel	62.92	345	eP		P	18 08 42.4	+0.1	
NKC	Novy Kostel	62.92	345	eP		P	18 08 42.4	+0.1	
KSH	Kashi	62.94	36	P		P	18 08 41.1	-1.7	
KSH				pP		pP	18 08 47.1	-0.3	
KSH				sP		sP	18 08 49.2	+0.1	
KSH				PcP		PcP	18 09 21.0	+0.2	
KSH				PP		PP	18 11 02.1	+0.6	
KSH				S		S	18 17 05.4	-7.2	
KSH				sS		sS	18 17 17.4	-2.8	
KSH				ScS		SKSac	18 18 30.4	-5.0	
KSH					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KSH					pmax	pmax			
	comp=Z,160nm,5.9s								
KSH					LR	LR			
	comp=Z,340nm,8.2s								
KSH					LR	LR			
	comp=Z,260nm,8.1s								
KSH					LR	LR			
	comp=Z,500nm,15.4s								
RAMN	Ramite	63.00	53	eP		P	18 08 43.4	-0.2	
RAMN	Ramite	63.00	53	eP		P	18 08 43.4	-0.2	
SSF	Saint Saulge	63.02	337	eP		P	18 08 43.3	+0.3	
	comp=Z,71nm,1.6s								
SSF	Saint Saulge	63.02	337	eP		P	18 08 43.3	+0.3	
SSF					pmax	pmax			
	comp=Z,71nm,1.6s								
SSF	Saint Saulge	63.02	337	eP		P	18 08 43.3	+0.3	
	comp=Z,71nm,1.6s								
JIRN	Jiri	63.02	52	eP		P	18 08 43.5	-0.4	
	comp=Z,12nm,0.7s								
JIRN	Jiri	63.02	52	eP		P	18 08 43.5	-0.4	
	comp=Z,12nm,0.7s								
LOR	Lormes	63.06	338	eP		P	18 08 43.8	+0.6	
	comp=Z,126nm,1.9s								
LOR	Lormes	63.06	338	eP		P	18 08 43.8	+0.6	
	comp=Z,126nm,1.9s								
BRG	Berggiesshubel	63.14	346	eP		P	18 08 43.6	-0.1	
	comp=Z,11nm,1.4s								
BRG	Berggiesshubel	63.14	346	eP		P	18 08 43.6	-0.1	
BRG					pmax	pmax			
	comp=Z,11nm,1.4s								
ABKAR	Akbulak array	63.38	19	eP		P	18 08 45.0	-0.3	
SFTF	Sexfontaines	63.41	339	eP		P	18 08 46.7	+1.1	
	comp=Z,104nm,1.6s								
SFTF	Sexfontaines	63.41	339	eP		P	18 08 46.7	+1.1	
	comp=Z,104nm,1.6s								
PAGF	Fort de Pagny	63.47	339	eP		P	18 08 47.1	+1.2	
PAGF	Fort de Pagny	63.47	339	eP		P	18 08 47.1	+1.2	
ODAN	Odare	63.58	53	eP		P	18 08 46.9	-0.5	
ODAN	Odare	63.58	53	eP		P	18 08 46.9	-0.5	
MEZF	Maizieres J'vi	63.66	339	eP		P	18 08 48.4	+1.2	
MEZF	Maizieres J'vi	63.66	339	eP		P	18 08 48.4	+1.2	
CLL	Collm	63.77	346	eP		P	18 08 47.0	-0.8	
CLL	Collm	63.77	346	eP		P	18 08 47.0	-0.8	
TAPN	Taplejung	64.06	53	eP		P	18 08 50.6	-0.1	
	comp=Z,54nm,1.4s								
TAPN	Taplejung	64.06	53	eP		P	18 08 50.6	-0.1	
	comp=Z,54nm,1.4s								
MFF	Saint Martin d	64.12	335	eP		P	18 08 51.1	+0.9	
MFF	Saint Martin d	64.12	335	eP		P	18 08 51.1	+0.9	
MFF	Saint Martin d	64.12	335	eP		P	18 08 51.1	+0.9	
SUW	Suwalki	64.50	353	eP		P	18 08 52.8	+0.3	
SUW					pmax	pmax			
	comp=Z,38nm,1.2s								
SUW	Suwalki	64.50	353	eP		P	18 08 52.8	+0.3	
	comp=Z,38nm,1.2s								
OBN	Obninsk	65.00	2	⇓ iP		P	18 08 55.7	-0.1	
OBN					pmax	pmax			
	comp=Z,11nm,0.7s								
TKM2	Tokmak 2	65.05	33	eP		P	18 08 55.6	-1.1	
TKM2					pmax	pmax			
	comp=Z,25nm,1.5s								
TKM2	Tokmak 2	65.05	33	eP		P	18 08 55.6	-1.1	
	comp=Z,25nm,1.5s								
GIVF	Givet	65.10	340	eP		P	18 08 57.3	+0.7	
GIVF	Givet	65.10	340	eP		P	18 08 57.3	+0.7	
GIVF	Givet	65.10	340	eP		P	18 08 57.3	+0.7	
DOU	Dourbes	65.17	340	P		P	18 08 57.8	+0.8	
BCLA	Clavier	65.21	340	P		P	18 08 58.7	+1.4	
SNAA	Sanae	65.48	192	eP		P	18 09 01.5	+2.6	
SNAA	Sanae	65.48	192	eP		P	18 08 58.4	-0.6	
	comp=Z,83nm,2.6s								
VNA1	Neumayer--Stat	65.95	194	eP		P	18 09 03.2	+1.4	
FLN	La Foliniere	65.97	336	eP		P	18 09 03.3	+1.1	
FLN	La Foliniere	65.97	336	eP		P	18 09 03.3	+1.1	
FLN	La Foliniere	65.97	336	eP		P	18 09 03.3	+1.1	
PSI	Prapat	66.01	82	P		P	18 09 04.8	+1.4	
PSI	Prapat	66.01	82	P		P	18 09 04.8	+1.4	
	comp=Z,4.8nm,0.6s,baz=257,slow=1.4,SNR=4.9								
SGMF	Saint Gilles	66.43	334	eP		P	18 09 06.5	+1.3	
SGMF	Saint Gilles	66.43	334	eP		P	18 09 06.5	+1.3	
SGMF	Saint Gilles	66.43	334	eP		P	18 09 06.5	+1.3	
SHL	Shillong	66.64	57	eP		P	18 09 09.0	+1.8	
LSA	Lhasa	67.83	52	eP		P	18 09 14.2	-0.8	
LSA					pmax	pmax			
	comp=Z,16nm,1.1s								
LSA	Lhasa	67.83	52	eP		P	18 09 14.2	-0.8	
	comp=Z,16nm,1.1s								
MHMT	Maesarieng	69.16	66	P		P	18 09 25.7	+2.7	
	comp=Z,9.3nm,0.9s,comp=Z,243nm								
ARU	Arti	69.37	14	P		P	18 09 23.4	-0.1	
	comp=Z,128nm,0.8s,SNR=8.5								
ARU	Arti	69.37	14	d iP		P	18 09 23.1	-0.4	
ARU					S	S	18 18 32.3	+2.4	
ARU					pmax	pmax			
	comp=Z,24nm,1.1s								
ARU	Arti	69.37	14	eP		P	18 09 23.1	-0.4	
	comp=Z,19nm,0.9s								
BRVK	Borovoye	70.15	22	ceP		P	18 09 28.9	+0.5	
BRVK					pmax	pmax			
	comp=Z,23nm,2.5s								
CM31	Chiang Mai Arr	70.16	66	eP		P	18 09 27.7	-1.5	
	comp=Z,8.1nm,0.8s								
CMAR	Chiang Mai Arr	70.16	66	P		P	18 09 29.6	+0.4	
CMAR	Chiang Mai Arr	70.16	66	P		P	18 09 29.6	+0.4	
	comp=Z,9.0nm,0.8s,baz=257,slow=7.3,SNR=45								
SVE	Sverdlovsk	70.25	15	eP		P	18 09 29.3	+0.4	
SVE					pmax	pmax			
	comp=Z,16nm,1.3s								
CHTO	Chiang Mai	70.28	66	eP		P	18 09 29.1	-0.8	
CHTO					pmax	pmax			
	comp=Z,3.0nm,0.8s								
CHTO	Chiang Mai	70.28	66	eP		P	18 09 29.1	-0.8	
	comp=Z,3.4nm,0.8s								
CHTO	Chiang Mai	70.28	66	P		P	18 09 30.6	+0.7	
	comp=Z,80nm,0.9s								
CMMT	Chiang Mai	70.28	66	P		P	18 09 30.5	+0.5	
	comp=Z,18nm,1.0s,comp=Z,781nm								
CMAI	Chiengmai2	70.72	65	P		P	18 09 33.8	+1.0	
	comp=Z,69nm,0.7s								
LAMP	Lampang	70.81	66	P		P	18 09 35.5	+2.4	
	comp=Z,8.3nm,0.8s								
KLMR	Klimovskoe	70.86	3	eP		P	18 09 31.3	-1.3	
KLMR					pmax	pmax			
	comp=Z,30nm,1.1s								
MK31	Makanchi Array	71.18	33	eP		P	18 09 33.0	-1.9	
MK31	Makanchi Array	71.18	33	eP		P	18 09 33.0	-1.9	
MKAR	Makanchi Array	71.18	33	P		P	18 09 34.7	-0.2	
MKAR	Makanchi Array	71.18	33	P		P	18 09 34.7	-0.2	
MKAR	Makanchi Array	71.18	33	P		P	18 09 34.7	-0.2	
	comp=Z,10nm,0.8s,baz=228,slow=6.2,SNR=32								
FINES	FINESS Array B	71.58	356	P		P	18 09 37.1	+0.2	
FINES	FINESS Array B	71.58	356	P		P	18 09 37.1	+0.2	
	comp=Z,7.9nm,1.1s,baz=132,slow=2.8,SNR=6.8								
SOKR	Solikamsk	71.86	12	⇓ iP		P	18 09 40.1	+1.5	
SOKR					pmax	pmax			
	comp=Z,20nm,0.9s								
KURK	Kurchatov	71.93	28	eP		P	18 09 38.3	-0.9	
KURK					pmax	pmax			
	comp=Z,15nm,1.1s								
KURK	Kurchatov	71.93	28	eP		P	18 09 38.3	-0.9	
	comp=Z,15nm,1.1s								
KURK	Kurchatov	71.93	28	P		P	18 09 39.7	+0.5	
	comp=Z,117nm,0.7s,SNR=7.1								
CRAI	Chiangrai	72.00	65	P		P	18 09 41.6	+1.2	
	comp=Z,254nm,0.8s								
WMQ	Urumqi	72.50	38	P		P	18 09 43.0	0.0	
WMQ				sP		sP	18 09 50.0	+0.7	
WMQ				PcP		PcP	18 10 01.0	+0.4	
WMQ				PP		PP	18 12 27.0	+2.6	
WMQ				S		S	18 19 06.0	-0.9	
WMQ				ScS		SKSac	18 19 46.0	-1.6	
WMQ				SS		SS	18 23 47.0	+0.9	
WMQ					pmax	pmax			
	comp=Z,14nm,1.0s								
WMQ					pmax	pmax			
	comp=Z,75nm,6.0s								
WMQ					LR	LR			
	comp=Z,1μm,18.0s								
WMQ					LR	LR			
	comp=Z,1μm,18.0s								
WMQ					LR	LR			
	comp=Z,1μm,18.0s								
NB2	NORSAR Subarra	73.14	349	P		P	18 09 46.7	+0.4	
	comp=Z,9.3nm,0.9s,baz=158,slow=5.6								
NOA	NORSAR Array B	73.14	349	P		P	18 09 46.2	0.0	
NOA	NORSAR Array B	73.14	349	P		P	18 09 46.2	0.0	
	comp=Z,6.6nm,0.9s,baz=158,slow=5.5,SNR=8.2								
KMI	Kunming	75.61	61	P		P	18 10 02.1	+0.3	
KMI				pP		pP	18 10 05.6	-0.8	
KMI				sP		sP	18 10 07.0	-1.1	
KMI					pmax	pmax			
	comp=Z,9.0nm,1.1s								
NVS	Novosibirsk	76.76	27	⇓ iP		P	18 10 06.4	-0.9	
NVS					pmax	pmax			
	comp=N,25nm,2.0s								
NVS					pmax	pmax			
	comp=E,21nm,2.0s								
NVS					pmax	pmax			
	comp=Z,77nm,2.0s								
ZAA0	Zalesovo Array	76.92	28	eP		P	18 10 07.0	-1.2	
ZALV	Zalesovo Beam	76.92	28	i P		P	18 10 07.9	-0.3	
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.7s								
ZALV	Zalesovo Beam	76.92	28	P		P	18 10 07.3	-0.9	
ZALV	Zalesovo Beam	76.92	28	P		P	18 10 07.3	-0.9	
	comp=Z,4.2nm,0.7s,baz=236,slow=5.1,SNR=16								
CD2	Chengdu	78.33	55	eP		P	18 10 16.2	-0.5	
CD2					PP	PP	18 13 15.7	+1.6	
CD2					S	S	18 20 11.2	-0.9	
CD2					SS	SS	18 25 17.0	+1.8	
CD2					pmax	pmax			
	comp=Z,10.0nm,1.2s								
CD2					pmax	pmax			
	comp=Z,120nm,4.8s								
CD2					LR	LR			
	comp=Z,430nm,19.0s								
CD2					LR	LR			
	comp=Z,570nm,16.8s								
GTA	Gaotai	78.40	46	eP		P	18 10 17.8	+0.8	
GTA				pP		pP	18 10 22.2	+0.5	
GTA				sP		sP	18 10 25.4	+2.0	
GTA					pmax	pmax			
	comp=Z,10.0nm,1.1s								
GYA	Guiyang	79.39	61	P		P	18 10 22.8	+0.1	
GYA				PcP		PcP	18 10 30.7	-0.1	
GYA					PP	PP	18 13 24.3	+1.3	
GYA					S	S	18 20 22.9	-0.8	
GYA					SKS	SKSac	18 20 33.0	-6.2	
GYA					SS	SS	18 25 33.7	+2.4	
GYA					pmax	pmax			
	comp=Z,20nm,1.0s								
GYA					pmax	pmax			
	comp=Z,120nm,5.2s								
GYA					LR	LR			
	comp=Z,520nm,19.2s								
GYA					LR	LR			
	comp=Z,480nm,20.1s								
GYA					LR	LR			
	comp=Z,540nm,19.6s								
BDFB	Brasilia	79.61	256	P		P	18 10 25.2	+1.1	
BDFB	Brasilia	79.61	256	P		P	18 10 25.2	+1.1	
	comp=Z,6.7nm,0.8s,baz=93,slow=7.3,SNR=11								
ARCES	ARCESS Array B	79.65	357	P		P	18 10 21.7	-1.4	
ARCES	ARCESS Array B	79.65	357	P		P	18 10 21.7	-1.4	
	comp=Z,6.1nm,0.9s,baz=169,slow=7.0,SNR=12								
LZH	Lanzhou	80.14	51	eP		P	18 10 27.4	+0.7	
LZH				pP		pP	18 10 30.6	-0.8	
LZH				sP		sP	18 10 32.3	-0.8	
LZH				ePP		PP	18 13 32.0	+2.8	
LZH				eS		S	18 20 31.5	+0.1	
LZH				sS		sS	18 20 39.5	+0.3	
LZH				eSS		SS	18 25 44.6	+2.2	
LZH					pmax	pmax			
	comp=Z,25nm,1.4s								
LZH					pmax	pmax			
	comp=Z,210nm,8.9s								
LZH					LR	LR			
	comp=Z,360nm,17.1s								
LZH					LR	LR			
	comp=Z,370nm,16.0s								
LZH					LR	LR			
	comp=Z,400nm,18.5s								
XAN	Xi'an	83.45	54	P		P	18 10 44.0	0.0	
XAN				pP		pP	18 10 49.5	+0.8	
XAN					pmax	pmax			
	comp=Z,2.0nm,1.2s								
ZAK	Zakamensk	84.95	37	eP		P	18 10 50.9	-0.4	
ZAK					pmax	pmax			
	comp=Z,6.0nm,2.1s								
KAPI	Kappang	85.08	94	P		P	18 10 53.3	+0.6	
KAPI	Kappang	85.08	94	P		P	18 10 53.3	+0.6	
	comp=Z,7.6nm,0.4s,baz=147,slow=19,SNR=3.5								
SONM	Songino Array	85.95	40	P		P	18 10 56.9	+0.5	
SONM	Songino Array	85.95	40	P		P	18 10 56.9	+0.5	
	comp=Z,4.1nm,0.7s,baz=237,slow=5.5,SNR=24								
ULN	Ulaanbaatar	86.38	40	eP		P	18 10 57.0	-1.5	
	comp=Z,7.1nm,0.9s								
DRV	Dumont d'Urvil	87.09	157	L		L	18 11 00.0		
DRV				R			18 16 00.0		
HHC	Hu-ho-hao-te	87.37	48	eP		P	18 11 02.0	-1.5	
HHC				sP		sP	18 11 08.9	-1.0	
HHC				PP		PP	18 14 29.3	+1.2	
HHC				SKS		SKSac	18 21 26.5	-4.6	
HHC				S		SKKSac	18 21 41.1	+0.8	
HHC				SS		SS	18 27 29.5	+0.5	
HHC					pmax	pmax			
	comp=Z,33nm,1.2s								
HHC					pmax	pmax			
	comp=Z,350nm,7.5s								
HHC					LR	LR			
	comp=Z,860nm,17.2s								
HHC					LR	LR			
	comp=Z,580nm,17.6s								
HHC					LR	LR			
	comp=Z,830nm,17.6s								
NJ2	Nanjing	91.07	58	eP		P	18 11 20.8	-0.2	
NJ2					pmax	pmax			
	comp=Z,60nm,1.0s								
ASAR	Alice Springs	95.03	115	P		P	18 11 39.6	+0.1	
ASAR	Alice Springs	95.03	115	P		P	18 11 39.6	+0.1	
	comp=Z,4.0nm,0.7s,baz=263,slow=4.0,SNR=26								
AS31	Alice Springs	95.03	115	eP		P	18 11 38.9	-0.7	
WRA	Warramunga Arr	96.26	111	P		P	18 11 45.0	-0.2	
WRA	Warramunga Arr	96.26	111	P		P	18 11 45.0	-0.2	
	comp=Z,1.6nm,0.6s,baz=260,slow=2.7,SNR=16								
WRAB	Tennant Creek	96.27	111	eP		P	18 11 44.4	-0.9	
WRAB					pmax	pmax			
	comp=Z,5.0nm,0.9s								
WRAB	Tennant Creek	96.27	111	eP		P	18 11 44.4	-0.9	
	comp=Z,5.1nm,0.9s								
CN2	Changchun	98.02	47	eP		Pdif	18 11 52.6	0.0	
CN2				esP		sP	18 11 59.6	+0.6	
CN2				eS		S	18 23 16.0	-3.2	
CN2					pmax	pmax			
	comp=Z,10.0nm,1.2s								
CN2					pmax	pmax			
	comp=Z,200nm,5.0s								
CN2					LR	LR			
	comp=Z,800nm,17.0s								
CN2					LR	LR			
	comp=Z,700nm,17.0s								
CN2					LR	LR			
	comp=Z,1μm,18.0s								
KSAR	Wonju Array Be	99.21	54	P		Pdif	18 11 57.5	-0.6	
KSRS	Korea Array	99.25	54	P		Pdif	18 11 57.5	-0.7	
	comp=Z,1.1nm,0.7s,baz=274,slow=4.9,SNR=4.3								
MDJ	Mudanjiang	101.06	46	P		Pdif	18 12 04.7	-1.4	
MDJ				S		Sdif	18 23 43.4	-1.2	
MDJ				SS		SS	18 30 43.8	-0.1	
MDJ					pmax	pmax			
	comp=Z,7.0nm,1.7s								
MDJ					LR	LR			
	comp=Z,600nm,22.0s								
MDJ					LR	LR			
	comp=Z,830nm,23.3s								
MDJ					LR	LR			
	comp=Z,670nm,22.8s								
YKA	Yellowknife Ar	122.96	343	PKP		PKPdf	18 17 12.2	+0.2	
YKA	Yellowknife Ar	122.96	343	PKP		PKPdf	18 17 12.2	+0.2	
	comp=Z,0.8nm,0.6s,baz=34,slow=2.0,SNR=14								
B30A	Myrvik Farm, E	124.78	323	P		PKPdf	18 17 16.4	+0.4	
	baz=125								
A29A	Manning Farm,	125.09	324	P		PKPdf	18 17 16.8	+0.3	
	baz=125								
C30A	Mose, Pekin	125.21	322	P		PKPdf	18 17 17.6	+0.8	
	baz=125								
B29A

B19A	Brinkman Farms	130.72 328	P		PKPdf	18 17 28.3 +1.0
	baz=131					
E21A	Keefer Ranch,	130.84 325	P		PKPdf	18 17 29.8 +2.1
	baz=131					
434A	Burnet	131.10 302	P		PKPdf	18 17 29.6 +1.0
	baz=131					
D20A	Manuel Ranch,	131.11 326	P		PKPdf	18 17 29.0 +0.8
	baz=131					
C19A	Slack Wire Ran	131.22 327	P		PKPdf	18 17 29.8 +1.4
	baz=131					
X31A	McDonald Ranch	131.39 308	P		PKPdf	18 17 30.8 +1.7
	baz=132					
Z32A	Haskell	131.41 306	P		PKPdf	18 17 31.2 +2.1
	baz=132					
EGMT	Eagleton	131.41 328	P		PKPdf	18 17 30.4 +1.7
	baz=132					
R28A	Tribune	131.43 313	P		PKPdf	18 17 30.7 +1.6
	baz=132					
E20A	Meyer Farm, Mu	131.45 325	P		PKPdf	18 17 30.0 +1.1
	baz=132					
333A	Richland Sprin	131.56 303	P		PKPdf	18 17 31.1 +1.6
	baz=132					
433A	Art	131.80 302	P		PKPdf	18 17 31.4 +1.5
	baz=132					
E19A	Rath Farm, Rou	131.84 326	P		PKPdf	18 17 31.5 +1.9
	baz=132					
Z31A	Sharp Cattle R	131.93 306	P		PKPdf	18 17 31.2 +1.1
	baz=132					
I22A	9 Mile Ranch,	131.96 322	P		PKPdf	18 17 30.8 +0.8
	baz=132					
P26A	Davis Ranch, A	132.01 315	P		PKPdf	18 17 32.4 +2.2
	baz=132					
M24A	Cheyenne	132.14 318	P		PKPdf	18 17 32.4 +1.9
	baz=132					
332A	Millersview	132.17 303	P		PKPdf	18 17 32.2 +1.6
	baz=132					
G20A	Bridger	132.25 324	P		PKPdf	18 17 31.8 +1.3
	baz=132					
231A	Bronte	132.48 304	P		PKPdf	18 17 32.4 +1.2
	baz=133					
I21A	Big Trails, Te	132.49 322	P		PKPdf	18 17 32.2 +1.2
	baz=133					
P25A	Willow Gulch B	132.60 315	P		PKPdf	18 17 32.7 +1.3
	baz=133					
532A	Rocksprings	132.64 302	P		PKPdf	18 17 33.8 +2.2
	baz=133					
632A	Uvalde	132.69 301	P		PKPdf	18 17 33.6 +2.0
	baz=133					
S26A	Kim	132.92 313	P		PKPdf	18 17 33.9 +1.9
	baz=133					
Q25A	Bedland, Calha	132.92 315	P		PKPdf	18 17 33.5 +1.4
	baz=133					
Y29A	Porterfield Fa	132.97 307	P		PKPdf	18 17 34.0 +1.8
	baz=133					
431A	Sonora	133.07 303	P		PKPdf	18 17 33.5 +1.1
	baz=133					
N23A	Red Feather La	133.16 318	P		PKPdf	18 17 33.2 +0.7
	baz=133					
Z29A	Hungry Hill Ra	133.19 306	P		PKPdf	18 17 34.0 +1.4
	baz=133					
M22A	Cedar Creek Ra	133.33 319	P		PKPdf	18 17 33.4 +0.6
	baz=133					
330A	Mertzon	133.34 304	P		PKPdf	18 17 33.7 +0.9
	baz=133					
I19A	Meeteetse	133.39 323	P		PKPdf	18 17 33.6 +0.8
	baz=133					
Y28A	McKinney Farm,	133.40 308	P		PKPdf	18 17 33.6 +0.6
	baz=134					
129A	Stewart Farms,	133.52 306	P		PKPdf	18 17 34.7 +1.5
	baz=134					
430A	Baggett Ranch,	133.56 303	P		PKPdf	18 17 34.0 +0.7
	baz=134					
S25A	Robets Cordova	133.60 313	P		PKPdf	18 17 34.6 +1.2
	baz=134					
128A	Castleberry Fa	134.02 306	P		PKPdf	18 17 35.5 +1.4
	baz=134					
P22A	Eagle	134.34 317	P		PKPdf	18 17 35.9 +1.2
	baz=134					
PDAR	Pinedale Array	134.45 322	PKP		PKPdf	18 17 35.0 +0.1
PDAR	Pinedale Array	134.45 322	PKP		PKPdf	18 17 35.0 +0.1
	comp=Z,1.0nm,0.8s,baz=87,slow=2.9,SNR=7.8					
529A	Stev Forest Ra	134.57 303	P		PKPdf	18 17 36.8 +1.6
	baz=135					
527A	Woodward Ranch	135.71 303	P		PKPdf	18 17 37.9 +0.4
	baz=136					
627A	Terlingua Ranc	135.73 302	P		PKPdf	18 17 37.8 +0.3
	baz=136					
TXAR	Lajitas Array	136.00 302	PKP		PKPdf	18 17 37.9 -0.1
TXAR	Lajitas Array	136.00 302	PKP		PKPdf	18 17 37.9 -0.1
	comp=Z,1.5nm,1.0s,baz=156,slow=1.2,SNR=8.4					
526A	Mary Lane Ranc	136.13 303	P		PKPdf	18 17 39.1 +0.8
	baz=136					
Y23A	Lovelace Mesa,	136.33 309	P		PKPdf	18 17 39.8 +1.2
	baz=136					
325A	Bean Ranch, Si	136.43 305	P		PKPdf	18 17 39.7 +0.9
	baz=136					
MNTX	Cornudas Mount	136.64 306	*e*PKPdf		PKPdf	18 17 38.2 -0.8
Y22A	Socorro	137.03 310	P		PKPdf	18 17 41.2 +1.3
	baz=137					
DUG	Dugway	137.93 321	P		PKPdf	18 17 43.0 +1.8
	baz=138					
121A	Cookes Peak, D	138.22 308	P		PKPdf	18 17 43.5 +1.4
	baz=138					
Z20A	Nine Sixteen R	138.60 309	P		PKPdf	18 17 44.6 +1.8
	baz=139					
X18A	Snowflake	138.99 312	P		PKPdf	18 17 45.9 +2.5
	baz=139					
220A	Playas Peak, P	139.05 308	P		PKPdf	18 17 45.0 +1.4
	baz=139					
U15A	North Rim	139.71 316	P		PKPdf	18 17 47.1 +2.2
	baz=140					
319A	Douglas	139.85 307	P		PKPdf	18 17 47.1 +2.1
	baz=140					
X16A	Lo Mia Camp, P	140.13 313	P		PKPdf	18 17 47.6 +2.0
	baz=140					
Y14A	Wickenburg	141.49 313	P		PKPdf	18 17 49.9 +2.0
	baz=142					
W13A	Hualapai Mount	141.51 315	P		PKPdf	18 17 49.8 +1.7
	baz=142					
PDMCI	Parker Dam,Lak	142.11 314	P		PKPdf	18 17 51.5 +2.7
	baz=142					
NVAR	Mina Array Bea	142.36 323	PKP		PKPdf	18 17 46.8 -2.7
NVAR	Mina Array Bea	142.36 323	PKP		PKPdf	18 17 46.8 -2.7
	comp=Z,4.5nm,0.8s,baz=59,slow=3.5,SNR=8.0					
FURC	Furnace Creek,	142.71 319	P		PKPdf	18 17 52.8 +3.0
	baz=143					
MPMC	Manual Prospec	143.36 319	P		PKPdf	18 17 53.5 +2.2
	baz=143					
BC3	Big Chuckawall	143.38 315	P		PKPdf	18 17 52.6 +1.4
	baz=143					
CMB	Columbia Colle	143.84 324	*e*PKIKP		PKPbc	18 17 50.7 +1.2
CMB	Columbia Colle	143.84 324	*e*PKPdf		PKPdf	18 17 50.7 -1.1
ISA	Isabella	144.24 320	P		PKPdf	18 17 52.8 +0.1
	baz=144					
EDW2	Edwards Air Fo	144.40 318	P		PKPdf	18 17 56.1 +3.1
	baz=144					
BFSC	Mount Baldy Ra	144.56 317	P		PKPdf	18 17 53.8 +0.4
	baz=145					
MURC	Murrieta	144.62 316	P		PKPdf	18 17 54.2 +0.9
	baz=145					
PASC	Pasadena Art C	144.96 317	*e*PKPbc		PKPbc	18 17 53.4 +0.3
SMMC	Simmler	145.42 321	P		PKPab	18 17 56.8 +2.0
	baz=146					
PKM	Peak Mountain	145.57 320	P		PKPab	18 17 58.0 +2.4
	baz=146					
BLG	Laguna Peak	145.57 318	P		PKPab	18 17 57.4 +2.1
	baz=146					

SZGRF ***06*** *17:59:52.3, 11′.89S×33′.23E, h33km, mb5.3, Malawi*
BJI ***06*** *17:59:57.2, 10′.33S×33′.58E, h10km, mB5.4/16, mb4.9/29, Ms5.3/13, Ms7 4.9/13*
ISCJB ***06*** *17:59:59.4±0.2, 10′.00S±0′.02×33′.82E±0′.04, h10km, mb5.0/105, MS5.0/6, Error ellipse: s-maj=5.1km s-min=3.5km az=179.3*
MOS ***06*** *17:59:59.9±1.0, 9′.90S×33′.86E, h10km, mb5.3/46, Error ellipse: s-maj=9.5km s-min=4.8km az=94.0*
IDC ***06*** *18:00:00.2±0.4, 10′.03S×33′.91E, h0km, mb4.7/27, mb1 4.8/30, mb1mx4.8/32, mbtmp4.7/30, ML3.7/2, MS4.9/5, Ms1 4.9/5, ms1mx4.3/36, Error ellipse: s-maj=14.7km s-min=12.4km az=100.0*
NEIC ***06*** *18:00:01.1±0.2, 10′.02S×33′.87E, h10km, mb5.3/38, Error ellipse: s-maj=6.3km s-min=4.1km az=99.0*
GCMT ***06*** *18:00:05.8±0.2, 10′.03S×33′.90E, h12km, MW5.2, Moment Tensor Solution. s49,c73; s89,c150; Moment tensor:*

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Scale 10^{16}Nm; M_{rr}-8.34±.18; $M_{\theta\theta}$1.92±.16; $M_{\phi\phi}$6.42±.16; $M_{r\theta}$1.88±.55; $M_{r\phi}$-2.64±.13; $M_{\theta\phi}$0.11±.52; Best double couple: Mw8.20000×10^16 NP1:ϕ=325.00000°, δ=48.00000°, λ=-104.00000°. NP2:ϕ=165.00000°, δ=43.00000°, λ=-75.00000°. Principal axes: T 7.6700, Plg3.0000°, Azm65.0000°; N 1.0300, Plg11.0000°, Azm334.0000°; P -8.7000, Plg79.0000°, Azm168.0000°; Data Used: II IU CU IC G CN.

DJA ***06*** *18:00:06.8±3.8, 10°S±9°×3°4E±°, h34km±29km, M5.6/8, mb5.6/8*

ISC 06 18:00:02.0±0.4, 10°.03S±0′.04×33°.87E±0′.05, h14km±2km, h14km:pP-P,n472,σ1°35/503, mb5.1/103, MS4.9/6, 5C-8D, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZM	**Mzuzu**	**1.41**	**174**	*i* P	**Pb**	**18 00 27.6**	**-0.4**
MZM				*i* S	**Sn**	**18 00 45.2**	**-0.3**
DODT	**Dodoma, Tanzan**	**4.24**	**26**	*i* S	**Sb**	**18 02 10.4**	**+2.9**
LSZ	**Lusaka**	**7.62**	**226**	*e*P	Pn	18 01 48.9	-3.8
LSZ	**Lusaka**	**7.62**	**226**	Pn	**Pn**	**18 01 53.6**	**+0.9**
LSZ				Sn	**Sn**	**18 03 16.8**	**-2.2**
LSZ				Lg	Lg	18 03 58.3	
LSZ	**Lusaka**	**7.62**	**226**	Pn	**Pn**	**18 01 53.6**	**+0.9**
	154nm,0.3s,baz=79,slow=11,SNR=4.1						
LSZ				Sn	**Sn**	**18 03 16.8**	**-2.2**
	140nm,0.3s,baz=114,slow=20,SNR=3.9						
LSZ				Lg	Lg	18 03 58.3	
	133nm,0.3s,baz=298,slow=21,SNR=7.7						
LSZ				LR	LR	18 04 50.0	
	comp=Z,11μm,20.1s,baz=319,slow=38						
MAUS	**Longido**	**7.76**	**21**	*i* S	**Pb**	**18 02 14.2**	**-2.3**
MAUS	**Longido**	**7.76**	**21**	*i* S	**Sg**	**18 04 08.8**	**-2.5**
KMBO	**Kilima Mbogo**	**9.46**	**21**	Pn	Pn	18 02 14.2	-3.9
KMBO	**Kilima Mbogo**	**9.46**	**21**	Pn	Pn	18 02 14.2	-3.9
	14nm,0.3s,baz=125,slow=22,SNR=5.6						
KMBO				Lg	Lg	18 04 51.9	
	13nm,0.3s,baz=292,slow=15,SNR=6.4						
KMBO				LR	LR	18 06 05.0	
	comp=Z,5μm,18.1s,baz=194,slow=39						
MBAR	**Mbarara**	**9.87**	**341**	Pn	**Pn**	**18 02 22.5**	**-1.2**
MBAR				Lg	Lg	18 05 04.9	
MBAR	**Mbarara**	**9.87**	**341**	Pn	**Pn**	**18 02 22.5**	**-1.2**
	60nm,0.3s,baz=143,slow=15,SNR=3.3						
MBAR				Lg	Lg	18 05 04.9	
	186nm,0.3s,baz=81,slow=19,SNR=6.2						
MSNA	**Messina**	**12.79**	**196**	*e*P	**Pn**	**18 03 01.5**	**-2.1**
MSNA				AMB	AMB	18 03 06.9	
	comp=Z,336nm,0.9s						
MSNA	**Messina**	**12.79**	**196**	P	**Pn**	**18 03 01.5**	**-2.1**
	comp=Z,336nm,0.9s						
OPO	**Ambohidratompo**	**15.44**	**125**	Pn	**Pn**	**18 03 39.1**	**-0.6**
OPO				Sn	**Sn**	**18 06 32.2**	**+1.5**
OPO	**Ambohidratompo**	**15.44**	**125**	Pn	**Pn**	**18 03 39.1**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=310,slow=16,SNR=2.6						
OPO				Sn	**Sn**	**18 06 32.2**	**+1.5**
	comp=Z,3.2nm,0.3s,baz=58,slow=4.5,SNR=3.7						
ABPO	**Ambohimpanom**	**15.71**	**126**	*e*P	**Pn**	**18 03 43.1**	**-0.1**
ABPO	**Ambohimpanom**	**15.71**	**126**	*e*Pn	**Pn**	**18 03 43.1**	**-0.1**
SLR	**Silverton**	**16.50**	**198**	*e*P	**Pn**	**18 03 49.2**	**-4.1**
SLR				AMB	AMB	18 04 07.5	
	comp=Z,432nm,1.4s						
SLR	**Silverton**	**16.50**	**198**	P	**Pn**	**18 03 49.2**	**-4.1**
SLR	**Silverton**	**16.50**	**198**	P	**Pn**	**18 03 49.2**	**-4.1**
LBTB	**Lobatse**	**16.86**	**207**	*e*P	**Pn**	**18 03 53.1**	**-4.6**
LBTB				AMB	AMB	18 04 01.2	
	comp=Z,178nm,1.4s						
LBTB	**Lobatse**	**16.86**	**207**	Pn	**Pn**	**18 03 57.8**	**0.0**
	comp=Z,178nm,1.4s						
LBTB				Lg	Lg	18 08 45.5	
LBTB	**Lobatse**	**16.86**	**207**	Pn	**Pn**	**18 03 57.8**	**0.0**
	comp=Z,6.1nm,0.3s,baz=49,slow=13,SNR=4.2						
LBTB				Lg	Lg	18 08 45.5	
	comp=Z,16nm,0.3s,baz=328,slow=18,SNR=3.8						
LBTB				LR	LR	18 09 30.5	
	comp=Z,2μm,19.1s,baz=44,slow=34						
OBSV	**Observatory**	**16.98**	**198**	*e*P	**Pn**	**18 03 56.0**	**-3.5**
OBSV				AMB	AMB	18 04 11.2	
	comp=Z,229nm,1.4s						
KSR	**Koster**	**17.07**	**202**	*e*P	**Pn**	**18 04 00.3**	**-0.2**
KSR				AMB	AMB	18 04 28.3	
	comp=Z,109nm,1.4s						
KSR	**Koster**	**17.07**	**202**	P	**Pn**	**18 04 00.3**	**-0.2**
	comp=Z,109nm,1.4s						
ERPM	**east rand prop**	**17.08**	**197**	*e*P	Pn	18 03 52.1	-8.6
ERPM				AMB	AMB	18 04 08.6	
	comp=Z,325nm,1.6s						
KLOF	**Kloof**	**17.29**	**199**	*e*P	**Pn**	**18 04 01.1**	**-2.1**
KLOF				AMB	AMB	18 04 22.0	
	comp=Z,176nm,1.0s						
KLOF	**Kloof**	**17.29**	**199**	P	**Pn**	**18 04 01.1**	**-2.1**
	comp=Z,176nm,1.0s						
PRYS	**Parys**	**17.90**	**199**	*e*P	**Pn**	**18 04 08.9**	**-1.9**
PRYS				AMB	AMB	18 04 35.5	
	comp=Z,89nm,1.0s						
PRYS	**Parys**	**17.90**	**199**	P	**Pn**	**18 04 08.9**	**-1.9**
	comp=Z,89nm,1.0s						
TSUM	**Tsumeb**	**18.20**	**238**	*e*P	**Pn**	**18 04 13.7**	**-0.7**
TSUM	**Tsumeb**	**18.20**	**238**	P	**Pn**	**18 04 13.8**	**-0.6**
TSUM				Lg	Lg	18 09 36.1	
TSUM	**Tsumeb**	**18.20**	**238**	P	**Pn**	**18 04 13.8**	**-0.6**
	comp=Z,6.1nm,0.3s,baz=28,slow=11,SNR=8.2						
TSUM				Lg	Lg	18 09 36.1	
	comp=Z,3.9nm,0.3s,baz=117,slow=20,SNR=3.1						
TSUM				LR	LR	18 11 25.3	
	comp=Z,8μm,18.2s,baz=46,slow=38						
SWZ	**Schweizer**	**18.87**	**204**	*e*P	**P**	**18 04 18.2**	**-3.9**
SWZ				AMB	AMB	18 04 21.8	
	comp=Z,106nm,1.9s						
SWZ	**Schweizer**	**18.87**	**204**	P	**P**	**18 04 18.2**	**-3.9**
SEK	**Senekal**	**19.13**	**197**	*e*P	**P**	**18 04 24.3**	**-0.6**
SEK				AMB	AMB	18 04 30.7	
	comp=Z,196nm,1.0s						
SEK	**Senekal**	**19.13**	**197**	P	**P**	**18 04 24.3**	**-0.6**
	comp=Z,196nm,1.0s						
BOSA	**Boshof**	**20.18**	**202**	*e*P	**P**	**18 04 35.6**	**-0.8**
BOSA				AMB	AMB	18 04 57.3	
	comp=Z,91nm,1.9s						
BOSA	**Boshof**	**20.18**	**202**	P	**P**	**18 04 35.2**	**-1.2**
BOSA				Lg	Lg	18 10 31.1	
BOSA	**Boshof**	**20.18**	**202**	P	**P**	**18 04 35.2**	**-1.2**
	comp=Z,35nm,0.5s,baz=21,slow=12,SNR=5.7						
BOSA				Lg	Lg	18 10 31.1	
	comp=Z,419nm,1.0s,baz=103,slow=19,SNR=3.1						
BOSA				LR	LR	18 12 09.4	
	comp=Z,4μm,18.1s,baz=31,slow=36						
WIN	**Windhoek**	**20.33**	**230**	*e*P	**P**	**18 04 35.8**	**-2.4**
WIN				AMB	AMB	18 04 41.1	
	comp=Z,91nm,1.0s						
WIN	**Windhoek**	**20.33**	**230**	P	**P**	**18 04 35.8**	**-2.4**
WIN				pmax	pmax		
	comp=Z,91nm,1.0s						
WIN	**Windhoek**	**20.33**	**230**	P	**P**	**18 04 35.8**	**-2.4**
	comp=Z,91nm,1.0s						
HVD	**Gariep Dam**	**21.91**	**200**	*e*P	**P**	**18 04 51.6**	**-3.5**
HVD				AMB	AMB	18 04 58.1	
	comp=Z,122nm,1.4s						
HVD	**Gariep Dam**	**21.91**	**200**	P	**P**	**18 04 51.6**	**-3.5**
HVD	**Gariep Dam**	**21.91**	**200**	P	**P**	**18 04 51.6**	**-3.5**
KOMG	**Komaggas**	**24.93**	**216**	*e*P	**P**	**18 05 24.5**	**-0.3**
KOMG				AMB	AMB	18 05 33.6	
	comp=Z,67nm,2.0s						
KOMG	**Komaggas**	**24.93**	**216**	P	**P**	**18 05 24.5**	**-0.3**
	comp=Z,67nm,2.0s						
SUR	**Sutherland**	**25.31**	**207**	P	**P**	**18 05 29.0**	**+0.5**
SUR	**Sutherland**	**25.31**	**207**	P	**P**	**18 05 29.0**	**+0.5**
	comp=Z,31nm,0.8s,baz=55,slow=5.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**39.38**	**305**	P	**P**	**18 07 32.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**39.38**	**305**	P	**P**	**18 07 32.1**	**+0.6**
	comp=Z,4.4nm,0.6s,baz=113,slow=7.7,SNR=9.0						
LIC	**Lamto**	**41.97**	**291**	*e*P	**P**	**18 07 50.6**	**-2.4**
	comp=Z,22nm,0.5s,baz=104						
LIC	**Lamto**	**41.97**	**291**	*e*P	**P**	**18 07 50.6**	**-2.4**
	comp=Z,22nm,0.5s						
DBIC	**Dimbokro**	**41.99**	**292**	P	**P**	**18 07 53.1**	**0.0**
DBIC	**Dimbokro**	**41.99**	**292**	P	**P**	**18 07 53.1**	**0.0**
	comp=Z,13nm,0.5s,baz=105,slow=9.5,SNR=13						
ISP	**Isparta**	**47.70**	**356**	*e*P	**P**	**18 08 39.9**	**+1.6**
ISP				pmax	pmax		
	comp=Z,47nm,2.5s						
BRTR	**Keskin Array B**	**49.49**	**360**	P	**P**	**18 08 53.0**	**+0.9**
BRTR	**Keskin Array B**	**49.49**	**360**	P	**P**	**18 08 53.0**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=177,slow=9.4,SNR=7.7						
BR131	**Keskin Array S**	**49.50**	**360**	*e*P	**P**	**18 08 51.7**	**-0.5**
	comp=Z,6.5nm,1.0s						
KEST	**Kesra**	**51.06**	**334**	P	**P**	**18 09 05.4**	**+1.4**
KEST	**Kesra**	**51.06**	**334**	P	**P**	**18 09 05.4**	**+1.4**
	comp=Z,2.4nm,1.1s,baz=62,slow=15,SNR=2.9						
ZEI	**Tsey**	**53.35**	**9**	*e*P	**P**	**18 09 22.1**	**+1.0**
ZEI				pmax	pmax		
	comp=Z,19nm,1.4s						
KBZ	**Khabaz**	**54.12**	**8**	P	**P**	**18 09 28.1**	**+1.6**
KBZ	**Khabaz**	**54.12**	**8**	P	**P**	**18 09 28.1**	**+1.6**
KBZ	**Khabaz**	**54.12**	**8**	P	**P**	**18 09 28.1**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=167,slow=8.3,SNR=4.7						
KIV	**Kislovodsk**	**54.32**	**8**	*e*P	**P**	**18 09 28.0**	**0.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GOF	**Gofitskoye**	**55.45**	**8**	*e*P	**P**	**18 09 37.5**	**+1.4**
PGF	**Pioggiola**	**57.06**	**338**	*e*P	**P**	**18 09 47.1**	**-0.6**
PGF	**Pioggiola**	**57.06**	**338**	*e*P	**P**	**18 09 47.1**	**-0.6**
PGF	**Pioggiola**	**57.06**	**338**	*e*P	**P**	**18 09 47.1**	**-0.6**
BOJS	**Bojanci**	**57.76**	**345**	*i* P	**P**	**18 09 55.0**	**+2.5**
BUR08	**Bucovina Ar. S**	**57.93**	**353**	*e*P	**P**	**18 09 54.7**	**+0.9**
JAVS	**Javornik**	**58.44**	**344**	*i* P	**P**	**18 09 58.6**	**+1.2**
SBF	**Sospel**	**58.77**	**338**	*e*P	**P**	**18 09 59.2**	**-0.5**
	comp=Z,44nm,1.1s						
SBF	**Sospel**	**58.77**	**338**	*e*P	**P**	**18 09 59.2**	**-0.5**
SBF				pmax	pmax		
	comp=Z,44nm,1.1s						
SBF	**Sospel**	**58.77**	**338**	*e*P	**P**	**18 09 59.2**	**-0.5**
	comp=Z,44nm,1.1s						
PERS	**Pernice**	**58.85**	**345**	*i* P	**P**	**18 10 01.6**	**+1.5**
SOKA	**Soboth**	**58.91**	**345**	⇑*i* P	**P**	**18 10 02.1**	**+1.5**
	comp=Z,15nm,1.1s						
SYO	**Syowa Base**	**59.04**	**178**	⇓*i* P	**P**	**18 10 01.4**	**+0.3**
KECS	**Kecovo**	**59.44**	**350**	*e*P	**P**	**18 10 05.0**	**+0.8**
KECS				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KECS	**Kecovo**	**59.44**	**350**	*e*P	**P**	**18 10 05.0**	**+0.8**
SMRF	**Simiane la Rot**	**59.57**	**337**	*e*P	**P**	**18 10 05.2**	**0.0**
	comp=Z,137nm,1.8s						
SMRF	**Simiane la Rot**	**59.57**	**337**	*e*P	**P**	**18 10 05.2**	**0.0**
	comp=Z,137nm,1.8s						
KOLS	**Kolonicke sedl**	**59.59**	**351**	*e*P	**P**	**18 10 06.5**	**+1.3**
KOLS				pmax	pmax		
	comp=Z,22nm,1.7s						
KOLS	**Kolonicke sedl**	**59.59**	**351**	*e*P	**P**	**18 10 06.5**	**+1.3**
CRVS	**Cervenica-Dubn**	**59.68**	**351**	*e*P	**P**	**18 10 06.9**	**+1.0**
CRVS				pmax	pmax		
	comp=Z,38nm,1.6s						
CRVS	**Cervenica-Dubn**	**59.68**	**351**	*e*P	**P**	**18 10 06.9**	**+1.0**
MBDF	**Montbardon**	**59.75**	**338**	*e*P	**P**	**18 10 06.5**	**-0.1**
	comp=Z,47nm,1.3s						
MBDF	**Montbardon**	**59.75**	**338**	*e*P	**P**	**18 10 06.5**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,47nm,1.3s						
MBDF	**Montbardon**	**59.75**	**338**	*e*P	**P**	**18 10 06.5**	**-0.1**
	comp=Z,47nm,1.3s						
CONA	**Conrad Observa**	**59.87**	**346**	⇓*i* P	**P**	**18 10 07.8**	**+0.6**
	comp=Z,16nm,1.0s						
MOA	**Molln**	**60.19**	**345**	*i* P	**P**	**18 10 10.1**	**+0.7**
	comp=Z,19nm,1.1s,SNR=8.4						
STHS	**Stebnicka Huta**	**60.22**	**351**	*e*P	**P**	**18 10 10.3**	**+0.7**
STHS				pmax	pmax		
	comp=Z,11nm,1.7s						
STHS	**Stebnicka Huta**	**60.22**	**351**	*e*P	**P**	**18 10 10.2**	**+0.7**
ORIF	**Oris-en-Rattie**	**60.25**	**337**	*e*P	**P**	**18 10 09.4**	**-0.5**
	comp=Z,64nm,1.4s						
ORIF	**Oris-en-Rattie**	**60.25**	**337**	*e*P	**P**	**18 10 09.4**	**-0.5**
ORIF				pmax	pmax		
	comp=Z,64nm,1.4s						
ORIF	**Oris-en-Rattie**	**60.25**	**337**	*e*P	**P**	**18 10 09.4**	**-0.5**
	comp=Z,64nm,1.4s						
LASF	**Ste Croix**	**60.34**	**335**	*e*P	**P**	**18 10 10.3**	**-0.2**
LASF	**Ste Croix**	**60.34**	**335**	*e*P	**P**	**18 10 10.3**	**-0.2**
WTTA	**Wattenberg**	**60.38**	**343**	*i* P	**P**	**18 10 12.3**	**+1.5**
	comp=Z,21nm,1.2s,SNR=5.8						
LPG	**La Plagne**	**60.42**	**338**	*e*P	**P**	**18 10 10.3**	**-1.0**
LPG	**La Plagne**	**60.42**	**338**	*e*P	**P**	**18 10 10.3**	**-1.0**
LPG	**La Plagne**	**60.42**	**338**	*e*P	**P**	**18 10 10.3**	**-1.0**
FETA	**Feichten**	**60.43**	**342**	*i* P	**P**	**18 10 12.7**	**+1.5**
	comp=Z,14nm,1.1s,SNR=5.1						
MTLF	**Montolieu**	**60.44**	**334**	*e*P	**P**	**18 10 11.3**	**+0.2**
MTLF	**Montolieu**	**60.44**	**334**	*e*P	**P**	**18 10 11.3**	**+0.2**
MTLF	**Montolieu**	**60.44**	**334**	*e*P	**P**	**18 10 11.3**	**+0.2**
LPL	**La Plagne**	**60.44**	**338**	*e*P	**P**	**18 10 09.7**	**-1.7**
	comp=Z,41nm,1.4s						
LPL	**La Plagne**	**60.44**	**338**	*e*P	**P**	**18 10 09.7**	**-1.7**
LPL				pmax	pmax		
	comp=Z,41nm,1.4s						
LPL	**La Plagne**	**60.44**	**338**	*e*P	**P**	**18 10 09.7**	**-1.7**
	comp=Z,41nm,1.4s						
AK02	**Malin Array Si**	**60.56**	**357**	*e*P	**P**	**18 10 09.8**	**-2.0**
AK01	**Malin Array Si**	**60.60**	**357**	*e*P	**P**	**18 10 11.1**	**-0.9**
KIEV	**Kiev**	**60.60**	**357**	*e*P	**P**	**18 10 11.3**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,28nm,1.5s						
KIEV	**Kiev**	**60.60**	**357**	*e*P	**P**	**18 10 11.3**	**-0.7**
	comp=Z,28nm,1.5s						
MOTA	**Moosalm**	**60.61**	**342**	⇓*i* P	**P**	**18 10 12.8**	**+0.4**
	comp=Z,6.7nm,0.8s,SNR=5.8						
AKASG	**Malin Array Be**	**60.61**	**357**	*ce*P	**P**	**18 10 12.0**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	**Malin Array Be**	**60.61**	**357**	P	**P**	**18 10 12.8**	**+0.

DANN	**Dangsing**	**61.47**	**50**	*eP*		**P**	**18 10 18.2**	**-0.6**
KHC	**Kasperske Hory**	**61.55**	**345**	*de*P		**P**	**18 10 18.6**	**0.0**
KHC					pmax	pmax		
	comp=Z,102nm,1.2s							
KHC	**Kasperske Hory**	**61.55**	**345**	*e*P		**P**	**18 10 18.7**	**+0.1**
KHC				*ex*		x	18 10 27.1	
KHC	**Kasperske Hory**	**61.55**	**345**	*e*P		**P**	**18 10 18.3**	**-0.4**
	comp=Z,20nm,1.2s							
CABF	**La Chapelle**	**61.61**	**339**	*e*P		**P**	**18 10 19.0**	**-0.2**
	comp=Z,211nm,1.9s							
CABF	**La Chapelle**	**61.61**	**339**	*e*P		**P**	**18 10 19.0**	**-0.2**
CABF					pmax	pmax		
	comp=Z,211nm,1.9s							
CABF	**La Chapelle**	**61.61**	**339**	*e*P		**P**	**18 10 19.0**	**-0.2**
	comp=Z,211nm,1.9s							
KRLC	**Kraliky**	**61.69**	**348**	*e*P		**P**	**18 10 19.8**	**+0.3**
KRLC				*e*			18 10 24.6	
KRLC	**Kraliky**	**61.69**	**348**	*e*P		**P**	**18 10 19.8**	**+0.3**
KRLC				*ep*P		**pP**	**18 10 24.6**	**+0.5**
KRLC				*ex*		x	18 10 28.3	
GKN	**Gorkha**	**61.96**	**51**	*e*P		**P**	**18 10 21.1**	**-0.9**
	comp=Z,35nm,1.1s							
GKN	**Gorkha**	**61.96**	**51**	*e*P		**P**	**18 10 21.1**	**-0.9**
DPC	**Dobruska-Polom**	**62.04**	**347**	*e*P		**P**	**18 10 22.0**	**+0.1**
DPC				*e*			18 10 29.7	
DPC	**Dobruska-Polom**	**62.04**	**347**	*e*P		**P**	**18 10 22.0**	**+0.1**
DPC				*ex*		x	18 10 29.7	
PRU	**Pruhonice**	**62.11**	**346**	*e*P		**P**	**18 10 21.6**	**-0.7**
PRU				*e*			18 10 28.1	
PRU	**Pruhonice**	**62.11**	**346**	*e*P		**P**	**18 10 21.6**	**-0.7**
PRU				*ep*P		**pP**	**18 10 28.1**	**+1.2**
DMN	**Daman**	**62.13**	**52**	*e*P		**P**	**18 10 22.6**	**-0.6**
	comp=Z,35nm,1.3s							
DMN	**Daman**	**62.13**	**52**	*e*P		**P**	**18 10 22.6**	**-0.6**
PRA	**Prague**	**62.21**	**346**	P		**P**	**18 10 22.0**	**-1.0**
NVL	**N'lazarevskaya**	**62.24**	**188**	*e*P		**P**	**18 10 23.1**	**+0.2**
NVL					pmax	pmax		
	comp=Z,35nm,1.2s							
UPC	**Upice**	**62.26**	**347**	*e*P		**P**	**18 10 24.6**	**+1.3**
UPC	**Upice**	**62.26**	**347**	*e*P		**P**	**18 10 24.6**	**+1.3**
RJF	**Les Rejaudoux**	**62.31**	**335**	*e*P		**P**	**18 10 23.3**	**-0.5**
	comp=Z,43nm,1.3s							
RJF	**Les Rejaudoux**	**62.31**	**335**	*e*P		**P**	**18 10 23.3**	**-0.5**
RJF					pmax	pmax		
	comp=Z,43nm,1.3s							
RJF	**Les Rejaudoux**	**62.31**	**335**	*e*P		**P**	**18 10 23.3**	**-0.5**
	comp=Z,43nm,1.3s							
PKIN	**Phulchoki**	**62.34**	**52**	*e*P		**P**	**18 10 23.7**	**-0.9**
PKI	**Pulchoki**	**62.34**	**52**	*e*P		**P**	**18 10 23.4**	**-1.4**
PKI	**Pulchoki**	**62.34**	**52**	*e*P		**P**	**18 10 23.7**	**-1.1**
PKI	**Pulchoki**	**62.34**	**52**	*e*P		**P**	**18 10 23.7**	**-1.1**
KKN	**Kakani**	**62.35**	**51**	*e*P		**P**	**18 10 24.3**	**-0.4**
KKN	**Kakani**	**62.35**	**51**	*e*P		**P**	**18 10 24.3**	**-0.4**
KKN	**Kakani**	**62.35**	**51**	*e*P		**P**	**18 10 24.3**	**-0.4**
HINF	**Hinteralfeld**	**62.38**	**340**	*e*P		**P**	**18 10 23.3**	**-0.9**
	comp=Z,79nm,1.8s							
HINF	**Hinteralfeld**	**62.38**	**340**	*e*P		**P**	**18 10 23.3**	**-0.9**
HINF					pmax	pmax		
	comp=Z,79nm,1.8s							
HINF	**Hinteralfeld**	**62.38**	**340**	*e*P		**P**	**18 10 23.3**	**-0.9**
	comp=Z,79nm,1.8s							
SMF	**Signal de Mont**	**62.48**	**337**	*e*P		**P**	**18 10 24.1**	**-0.8**
SMF	**Signal de Mont**	**62.48**	**337**	*e*P		**P**	**18 10 24.1**	**-0.8**
SMF	**Signal de Mont**	**62.48**	**337**	*e*P		**P**	**18 10 24.1**	**-0.8**
KKAR	**Karatay Array**	**62.54**	**30**	*e*P		**P**	**18 10 23.8**	**-1.6**
KKAR					pmax	pmax		
	comp=Z,44nm,1.3s							
KKAR	**Karatay Array**	**62.54**	**30**	*e*P		**P**	**18 10 23.8**	**-1.6**
	comp=Z,44nm,1.3s							
GRF	**Grafenberg Arr**	**62.69**	**344**	*e*P		**P**	**18 10 26.4**	**+0.2**
	comp=Z,31nm,1.4s							
HAU	**Haudompre**	**62.72**	**340**	*e*P		**P**	**18 10 25.8**	**-0.7**
	comp=Z,94nm,1.7s							
HAU	**Haudompre**	**62.72**	**340**	*e*P		**P**	**18 10 25.8**	**-0.7**
HAU					pmax	pmax		
	comp=Z,94nm,1.7s							
HAU	**Haudompre**	**62.72**	**340**	*e*P		**P**	**18 10 25.8**	**-0.7**
	comp=Z,94nm,1.7s							
CDF	**Champ du Feu**	**62.75**	**340**	*e*P		**P**	**18 10 26.7**	**-0.1**
	comp=Z,46nm,1.3s							
CDF	**Champ du Feu**	**62.75**	**340**	*e*P		**P**	**18 10 26.7**	**-0.1**
CDF					pmax	pmax		
	comp=Z,46nm,1.3s							
CDF	**Champ du Feu**	**62.75**	**340**	*e*P		**P**	**18 10 26.7**	**-0.1**
	comp=Z,46nm,1.3s							
AVF	**Avril sur Loir**	**62.78**	**337**	*e*P		**P**	**18 10 26.0**	**-0.9**
	comp=Z,30nm,1.1s							
AVF	**Avril sur Loir**	**62.78**	**337**	*e*P		**P**	**18 10 26.0**	**-0.9**
AVF					pmax	pmax		
	comp=Z,30nm,1.1s							
AVF	**Avril sur Loir**	**62.78**	**337**	*e*P		**P**	**18 10 26.0**	**-0.9**
	comp=Z,30nm,1.1s							
TCF	**Toulx Ste Croi**	**62.82**	**336**	*e*P		**P**	**18 10 27.3**	**+0.1**
	comp=Z,151nm,1.9s							
TCF	**Toulx Ste Croi**	**62.82**	**336**	*e*P		**P**	**18 10 27.3**	**+0.1**
TCF					pmax	pmax		
	comp=Z,151nm,1.9s							
TCF	**Toulx Ste Croi**	**62.82**	**336**	*e*P		**P**	**18 10 27.3**	**+0.1**
	comp=Z,151nm,1.9s							
NKC	**Novy Kostel**	**62.85**	**345**	*e*P		**P**	**18 10 27.8**	**+0.5**
NKC	**Novy Kostel**	**62.85**	**345**	*e*P		**P**	**18 10 27.8**	**+0.5**
GUN	**Gumba**	**62.87**	**52**	*e*P		**P**	**18 10 27.8**	**-0.5**
	comp=Z,90nm,1.3s							
GUN	**Gumba**	**62.87**	**52**	*e*P		**P**	**18 10 27.8**	**-0.5**
KSH	**Kashi**	**62.89**	**36**	P		**P**	**18 10 25.3**	**-2.6**
KSH				pP		**pP**	**18 10 30.3**	**-2.2**
KSH				sP		**sP**	**18 10 33.1**	**-1.2**
KSH				PcP		**PcP**	**18 11 05.1**	**-1.0**
KSH				PP		**PP**	**18 12 45.1**	**-1.4**
KSH				S		S	18 18 49.1	-8.4
KSH				ScS		**SKSac**	**18 20 14.1**	**-6.5**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,310nm,6.4s							
KSH				LR	LR			
	comp=Z,280nm,6.9s							
KSH				LR	LR			
	comp=Z,170nm,6.8s							
KSH				LR	LR			
	comp=Z,390nm,14.2s							
SSF	**Saint Saulge**	**62.95**	**337**	*e*P		**P**	**18 10 27.0**	**-1.0**
	comp=Z,52nm,1.5s							
SSF	**Saint Saulge**	**62.95**	**337**	*e*P		**P**	**18 10 27.0**	**-1.0**
SSF					pmax	pmax		
	comp=Z,52nm,1.5s							
SSF	**Saint Saulge**	**62.95**	**337**	*e*P		**P**	**18 10 27.0**	**-1.0**
	comp=Z,52nm,1.5s							
RAMN	**Ramite**	**62.97**	**53**	*e*P		**P**	**18 10 28.2**	**-0.7**
RAMN	**Ramite**	**62.97**	**53**	*e*P		**P**	**18 10 28.2**	**-0.7**
LOR	**Lormes**	**62.99**	**338**	*e*P		**P**	**18 10 27.2**	**-1.1**
	comp=Z,26nm,1.1s							
LOR	**Lormes**	**62.99**	**338**	*e*P		**P**	**18 10 27.2**	**-1.1**
	comp=Z,26nm,1.1s							
JIRN	**Jiri**	**62.99**	**52**	*e*P		**P**	**18 10 28.0**	**-1.1**
	comp=Z,9.3nm,0.6s							
JIRN	**Jiri**	**62.99**	**52**	*e*P		**P**	**18 10 28.0**	**-1.1**
BRG	**Berggiesshubel**	**63.07**	**346**	*e*P		**P**	**18 10 29.0**	**+0.3**
	comp=Z,14nm,1.3s							
BRG	**Berggiesshubel**	**63.07**	**346**	*e*P		**P**	**18 10 29.0**	**+0.3**
BRG					pmax	pmax		
	comp=Z,14nm,1.3s							
ABKAR	**Akbulak array**	**63.32**	**19**	*e*P		**P**	**18 10 30.1**	**-0.3**
	comp=Z,9.0nm,1.3s							
SFTF	**Sexfontaines**	**63.34**	**339**	*e*P		**P**	**18 10 30.2**	**-0.4**
	comp=Z,120nm,1.5s							
SFTF	**Sexfontaines**	**63.34**	**339**	*e*P		**P**	**18 10 30.2**	**-0.4**
	comp=Z,120nm,1.5s							
PAGF	**Fort de Pagny**	**63.40**	**339**	*e*P		**P**	**18 10 30.7**	**-0.3**
	comp=Z,53nm,1.8s							
PAGF	**Fort de Pagny**	**63.40**	**339**	*e*P		**P**	**18 10 30.7**	**-0.3**
	comp=Z,53nm,1.8s							
ODAN	**Odare**	**63.55**	**53**	*e*P		**P**	**18 10 32.4**	**-0.3**
	comp=Z,66nm,1.4s							
ODAN	**Odare**	**63.55**	**53**	*e*P		**P**	**18 10 32.4**	**-0.3**
MEZF	**Maizieres J'vi**	**63.59**	**339**	*e*P		**P**	**18 10 32.1**	**-0.1**
	comp=Z,125nm,1.6s							
MEZF	**Maizieres J'vi**	**63.59**	**339**	*e*P		**P**	**18 10 32.1**	**-0.1**
	comp=Z,125nm,1.6s							
CLL	**Collm**	**63.70**	**346**	*e*P		**P**	**18 10 33.0**	**+0.1**
CLL					pmax	pmax		
	comp=Z,32nm,1.9s							
CLL	**Collm**	**63.70**	**346**	*e*P		**P**	**18 10 33.0**	**+0.1**
	comp=Z,32nm,1.9s							
TAPN	**Taplejung**	**64.03**	**53**	*e*P		**P**	**18 10 35.9**	**0.0**
TAPN	**Taplejung**	**64.03**	**53**	*e*P		**P**	**18 10 35.9**	**0.0**
AAK	**Ala-Archa**	**64.22**	**32**	*ce*P		**P**	**18 10 38.1**	**+1.4**
AAK					pmax	pmax		
	comp=Z,30nm,1.7s							
OBN	**Obninsk**	**64.93**	**2**	‖ *i*P		**P**	**18 10 41.9**	**+1.1**
OBN					pmax	pmax		
	comp=Z,39nm,1.4s							
TKM2	**Tokmak 2**	**65.00**	**33**	*e*P		**P**	**18 10 40.2**	**-1.7**
TKM2					pmax	pmax		
	comp=Z,9.0nm,0.9s							
TKM2	**Tokmak 2**	**65.00**	**33**	*e*P		**P**	**18 10 40.1**	**-1.7**
	comp=Z,9.4nm,0.9s							
GIVF	**Givet**	**65.03**	**340**	*e*P		**P**	**18 10 40.9**	**-0.7**
GIVF	**Givet**	**65.03**	**340**	*e*P		**P**	**18 10 40.9**	**-0.7**
GIVF	**Givet**	**65.03**	**340**	*e*P		**P**	**18 10 40.9**	**-0.7**
MEM	**Membach**	**65.07**	**341**	P		**P**	**18 10 42.4**	**+0.5**
BCLA	**Clavier**	**65.14**	**340**	P		**P**	**18 10 43.8**	**+1.5**
SNAA	**Sanae**	**65.55**	**192**	*e*P		**P**	**18 10 46.8**	**+2.0**
MOS	**Moscow**	**65.59**	**2**	*e*P		**P**	**18 10 44.3**	**-0.8**
MOS				*e*			18 13 12.8	
MOS					pmax	pmax		
	comp=Z,50nm,1.2s							
LDF	**La Druitiere**	**65.62**	**336**	*e*P		**P**	**18 10 44.6**	**-0.9**
LDF	**La Druitiere**	**65.62**	**336**	*e*P		**P**	**18 10 44.6**	**-0.9**
LDF	**La Druitiere**	**65.62**	**336**	*e*P		**P**	**18 10 44.6**	**-0.9**
FLN	**La Foliniere**	**65.90**	**336**	*e*P		**P**	**18 10 45.2**	**-2.1**
	comp=Z,101nm,1.5s							
FLN	**La Foliniere**	**65.90**	**336**	*e*P		**P**	**18 10 45.2**	**-2.1**
FLN					pmax	pmax		
	comp=Z,101nm,1.5s							
FLN	**La Foliniere**	**65.90**	**336**	*e*P		**P**	**18 10 45.2**	**-2.1**
	comp=Z,101nm,1.5s							
VNA2	**Neumayer--Watz**	**66.00**	**194**	*e*P		**P**	**18 10 50.4**	**+2.7**
PSI	**Prapat**	**66.01**	**82**	P		**P**	**18 10 49.6**	**+0.7**
PSI	**Prapat**	**66.01**	**82**	P		**P**	**18 10 49.6**	**+0.7**
	comp=Z,1.3nm,0.2s,baz=269,slow=16,SNR=4.6							
VNA1	**Neumayer--Stat**	**66.01**	**194**	*e*P		**P**	**18 10 50.6**	**+2.9**
SGMF	**Saint Gilles**	**66.36**	**334**	*e*P		**P**	**18 10 50.7**	**+0.5**
SGMF	**Saint Gilles**	**66.36**	**334**	*e*P		**P**	**18 10 50.7**	**+0.5**
SGMF	**Saint Gilles**	**66.36**	**334**	*e*P		**P**	**18 10 50.7**	**+0.5**
LSA	**Lhasa**	**67.79**	**52**	*e*P		**P**	**18 10 58.6**	**-1.7**
LSA					pmax	pmax		
	comp=Z,17nm,1.2s							
LSA	**Lhasa**	**67.79**	**52**	*e*P		**P**	**18 10 58.6**	**-1.7**
	comp=Z,17nm,1.2s							
IMP	**Imphal**	**68.00**	**58**	*e*P		P	18 10 53.0	-8.2
IPM	**Ipoh**	**68.42**	**81**	P		**P**	**18 11 06.5**	**+2.5**
	comp=Z,22nm,1.9s							
ARU	**Arti**	**69.31**	**14**	P		**P**	**18 11 08.7**	**+0.1**
	comp=Z,115nm,1.4s,SNR=6.4							
ARU	**Arti**	**69.31**	**14**	*d i*P		**P**	**18 11 08.7**	**+0.1**
ARU					S	**S**	**18 20 15.5**	**+0.9**
ARU					pmax	pmax		
	comp=Z,43nm,1.7s							
ARU	**Arti**	**69.31**	**14**	*e*P		**P**	**18 11 07.5**	**-1.1**
	comp=Z,33nm,1.2s							
BRVK	**Borovoye**	**70.09**	**22**	‖ *e*P		**P**	**18 11 14.0**	**+0.5**
BRVK					pmax	pmax		
	comp=Z,6.0nm,1.2s							
CM31	**Chiang Mai Arr**	**70.15**	**66**	*e*P		**P**	**18 11 13.8**	**-0.8**
	comp=Z,4.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**70.15**	**66**	P		**P**	**18 11 15.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**70.15**	**66**	P		**P**	**18 11 15.1**	**+0.4**
	comp=Z,6.3nm,0.8s,baz=254,slow=7.5,SNR=19							
SVE	**Sverdlovsk**	**70.19**	**15**	*e*P		**P**	**18 11 14.6**	**+0.6**
SVE					pmax	pmax		
	comp=Z,30nm,1.6s							
CHTO	**Chiang Mai**	**70.26**	**66**	*e*P		**P**	**18 11 14.7**	**-0.6**
CHTO					pmax	pmax		
	comp=Z,10.0nm,0.8s							
CHTO	**Chiang Mai**	**70.26**	**66**	P		**P**	**18 11 16.2**	**+0.9**
	comp=Z,124nm,0.8s							
CHTO	**Chiang Mai**	**70.26**	**66**	*e*P		**P**	**18 11 14.7**	**-0.6**
	comp=Z,9.9nm,0.8s							
KLMR	**Klimovskoe**	**70.79**	**3**	*e*P		**P**	**18 11 16.8**	**-0.8**
KLMR					pmax	pmax		
	comp=Z,62nm,1.5s							
MK31	**Makanchi Array**	**71.13**	**33**	*e*P		**P**	**18 11 19.4**	**-0.7**
MK31	**Makanchi Array**	**71.13**	**33**	*e*P		**P**	**18 11 19.4**	**-0.7**
MKAR	**Makanchi Array**	**71.13**	**33**	P		**P**	**18 11 20.0**	**-0.1**
MKAR	**Makanchi Array**	**71.13**	**33**	P		**P**	**18 11 20.0**	**-0.1**
MKAR	**Makanchi Array**	**71.13**	**33**	P		**P**	**18 11 20.0**	**-0.1**
	comp=Z,9.8nm,0.7s,baz=228,slow=5.8,SNR=16							
FINES	**FINESS Array B**	**71.50**	**356**	P		**P**	**18 11 22.3**	**+0.3**
FINES	**FINESS Array B**	**71.50**	**356**	P		**P**	**18 11 22.3**	**+0.3**
	comp=Z,7.7nm,1.0s,baz=147,slow=3.9,SNR=6.5							
SOKR	**Solikamsk**	**71.79**	**12**	*e*P		**P**	**18 11 24.3**	**+0.6**
SOKR					pmax	pmax		
	comp=Z,30nm,1.1s							
KURK	**Kurchatov**	**71.87**	**28**	*e*P		**P**	**18 11 23.8**	**-0.6**
KURK					pmax	pmax		
	comp=Z,8.0nm,0.8s							
KURK	**Kurchatov**	**71.87**	**28**	*e*P		**P**	**18 11 23.8**	**-0.6**
	comp=Z,7.8nm,0.8s							
KURK	**Kurchatov**	**71.87**	**28**	P		**P**	**18 11 24.8**	**+0.4**
	comp=Z,129nm,0.7s,SNR=5.7							
WMQ	**Urumqi**	**72.45**	**38**	P		**P**	**18 11 29.0**	**+0.8**
WMQ					sP	**sP**	**18 11 36.0**	**+1.5**
WMQ					PcP	**PcP**	**18 11 47.0**	**+1.1**
WMQ					PP	**PP**	**18 14 12.0**	**+2.5**
WMQ					S	**S**	**18 20 51.0**	**-0.9**
WMQ					ScS	**SKSac**	**18 21 31.0**	**-1.7**
WMQ					SS	**SS**	**18 25 32.0**	**+1.1**
WMQ					pmax	pmax		
	comp=Z,15nm,1.1s							
WMQ					pmax	pmax		
	comp=Z,86nm,6.0s							
WMQ					LR	LR		
	comp=Z,760nm,18.0s							
WMQ					LR	LR		
	comp=Z,570nm,16.0s							
WMQ					LR	LR		
	comp=Z,680nm,18.0s							
NB2	**NORSAR Subarra**	**73.06**	**349**	P		**P**	**18 11 31.8**	**+0.4**
	comp=Z,12nm,1.0s,baz=150,slow=5.3							
NOA	**NORSAR Array B**	**73.06**	**349**	P		**P**	**18 11 31.8**	**+0.4**
NOA	**NORSAR Array B**	**73.06**	**349**	P		**P**	**18 11 31.8**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=158,slow=5.4,SNR=9.0							
TMCR	**Tamitsa**	**74.04**	**2**	*e*P		**P**	**18 11 38.8**	**+1.9**
TMCR				*e*			18 11 50.8	
TMCR				*e*			18 14 22.1	
TMCR					pmax	pmax		
	comp=Z,24nm,1.2s							
KMI	**Kunming**	**75.59**	**61**	P		**P**	**18 11 47.9**	**+0.8**
KMI					pP	**pP**	**18 11 50.3**	**-1.5**
KMI					sP	**sP**	**18 11 51.6**	**-1.9**
KMI					pmax	pmax		
	comp=Z,17nm,1.3s							
NVS	**Novosibirsk**	**76.70**	**27**	‖ *i*P		**P**	**18 11 52.3**	**-0.2**
NVS					pmax	pmax		
	comp=N,29nm,1.7s							
NVS					pmax	pmax		
	comp=Z,63nm,1.7s							
NVS					pmax	pmax		
	comp=E,18nm,1.8s							
ZAA0	**Zalesovo Array**	**76.86**	**28**	*e*P		**P**	**18 11 51.8**	**-1.6**
ZALV	**Zalesovo Beam**	**76.86**	**28**	*i* P		**P**	**18 11 52.7**	**-0.7**
ZALV					pmax	pmax		
	comp=Z,5.0nm,0.6s							
ZALV	**Zalesovo Beam**	**76.86**	**28**	P		**P**	**18 11 53.0**	**-0.4**
ZALV	**Zalesovo Beam**	**76.86**	**28**	P		**P**	**18 11 53.0**	**-0.4**
	comp=Z,4.7nm,0.6s,baz=245,slow=5.7,SNR=16							
SPB	**Sao Paulo**	**78.14**	**248**	*e*P		**P**	**18 12 02.5**	**+1.2**
	comp=Z,75nm,1.4s							
CD2	**Chengdu**	**78.31**	**56**	*e*P		**P**	**18 12 02.2**	**+0.1**
CD2					PP	**PP**	**18 15 01.1**	**+1.8**
CD2					S	**S**	**18 21 56.0**	**-1.3**
CD2					SS	**SS**	**18 27 00.8**	**+0.6**
CD2					pmax	pmax		
	comp=Z,20nm,1.2s							
CD2					pmax	pmax		
	comp=Z,100nm,6.2s							
GTA	**Gaotai**	**78.36**	**46**	*e*P		**P**	**18 12 03.0**	**+0.7**
GTA					pP	**pP**	**18 12 07.4**	**+0.4**
GTA					sP	**sP**	**18 12 10.7**	**+2.0**
GTA					S	**S**	**18 21 55.5**	**-2.3**
GTA					pmax	pmax		
	comp=Z,12nm,1.8s							
GTA					pmax	pmax		
	comp=Z,300nm,4.8s							
GTA					LR	LR		
	comp=Z,340nm,12.6s							
GTA					LR	LR		
	comp=Z,350nm,12.6s							
GTA					LR	LR		
	comp=Z,380nm,19.0s							
ARCES	**ARCESS Array B**	**79.58**	**357**	P		**P**	**18 12 08.7**	**+0.5**
ARCES	**ARCESS Array B**	**79.58**	**357**	P		**P**	**18 12 08.7**	**+0.5**
	comp=Z,3.9nm,0.6s,baz=152,slow=5.5,SNR=11							
BDFB	**Brasilia**	**79.61**	**256**	P		**P**	**18 12 10.6**	**+1.0**
BDFB	**Brasilia**	**79.61**	**256**	P		**P**	**18 12 10.6**	**+1.0**
	comp=Z,6.7nm,0.7s,baz=54,slow=6.2,SNR=11							
LZH	**Lanzhou**	**80.11**	**51**	*e*P		**P**	**18 12 13.0**	**+1.0**
LZH					pP	**pP**	**18 12 16.2**	**-0.5**
LZH					sP	**sP**	**18 12 17.8**	**-0.6**
LZH				*e*PP		**PP**	**18 15 17.2**	**+2.8**
LZH					pmax	pmax		
	comp=Z,25nm,1.3s							
LZH					pmax	pmax		
	comp=Z,210nm,9.0s							
XAN	**Xi'an**	**83.42**	**54**	P		**P**	**18 12 29.5**	**+0.2**
XAN					pP	**pP**	**18 12 37.2**	**+3.1**
XAN					pmax	pmax		
	comp=Z,3.0nm,1.0s							
KAPI	**Kappang**	**85.10**	**94**	P		**P**	**18 12 38.9**	**+0.7**
KAPI	**Kappang**	**85.10**	**94**	P		**P**	**18 12 38.6**	**+0.4**
KAPI	**Kappang**	**85.10**	**94**	P		**P**	**18 12 38.6**	**+0.4**
	comp=Z,13nm,0.7s,baz=215,slow=2.8,SNR=7.1							
SONM	**Songino Array**	**85.90**	**40**	P		**P**	**18 12 42.9**	**+1.2**
SONM	**Songino Array**	**85.90**	**40**	P		**P**	**18 12 42.9**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=241,slow=5.3,SNR=18							
ULN	**Ulaanbaatar**	**86.33**	**40**	P		**P**	**18 12 45.6**	**+1.8**
ULN	**Ulaanbaatar**	**86.33**	**40**	*e*P		**P**	**18 12 44.1**	**+0.2**
	comp=Z,7.2nm,0.9s							
CPUP	**Villa Florida**	**86.69**	**244**	P		**P**	**18 12 47.5**	**+1.6**
CPUP	**Villa Florida**	**86.69**	**244**	P		**P**	**18 12 47.5**	**+1.6**
	comp=Z,9.5nm,1.1s,baz=72,slow=6.9,SNR=4.0							
HHC	**Hu-ho-hao-te**	**87.33**	**48**	*e*P		**P**	**18 12 47.0**	**-1.8**
HHC					sP	**sP**	**18 12 53.9**	**-1.3**
HHC					PP	**PP**	**18 16 13.4**	**+0.1**
HHC					SKS	**SKSac**	**18 23 11.6**	**-4.7**
HHC					S	**SKKSac**	**18 23 25.3**	**-0.2**
HHC					SS	**SS**	**18 29 12.9**	**-1.0**
HHC					pmax	pmax		
	comp=Z,34nm,1.3s							
HHC					pmax	pmax		
	comp=Z,470nm,7.3s							
HHC					LR	LR		
	comp=Z,830nm,17.4s							
HHC					LR	LR		
	comp=Z,590nm,17.8s							
HHC					LR	LR		
	comp=Z,720nm,17.5s							
VNDA	**Vanda**	**87.88**	**170**	P		**P**	**18 12 51.2**	**+0.6**
VNDA	**Vanda**	**87.88**	**170**	P		**P**	**18 12 51.2**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=239,slow=3.7,SNR=6.8							
NJ2	**Nanjing**	**91.04**	**58**	*e*P		**P**	**18 13 06.9**	**+0.6**
NJ2					pmax	pmax		
	comp=Z,20nm,0.8s							
ASAR	**Alice Springs**	**95.07**	**115**	P		**P**	**18 13 25.1**	**-0.1**
ASAR	**Alice Springs**	**95.07**	**115**	P		**P**	**18 13 25.1**	**-0.1**
	comp=Z,6.4nm,0.6s,baz=262,slow=4.5,SNR=38							
SAML	**Samuel**	**95.32**	**260**	*e*P		**P**	**18 13 26.8**	**+0.3**
	comp=Z,8.0nm,1.5s							
WRA	**Warramunga Arr**	**96.30**	**111**	P		**P**	**18 13 30.4**	**-0.5**
WRA	**Warramunga Arr**	**96.30**	**111**	P		**P**	**18 13 30.4**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=260,slow=2.7,SNR=26							
WRAB	**Tennant Creek**	**96.31**	**111**	‖ *e*P		**P**	**18 13 31.2**	**+0.3**
WRAB					pmax	pmax		
	comp=Z,36nm,1.5s							
CN2	**Changchun**	**97.98**	**47**	*e*P		**P**	**18 13 36.8**	**-1.1**
CN2				*es*P		**sP**	**18 13 43.8**	**-0.5**
CN2				*eS*		**S**	**18 24 59.5**	**-4.8**
CN2					pmax	pmax		
	comp=Z,10.0nm,1.1s							
CN2					pmax	pmax		
	comp=Z,200nm,6.0s							
CN2					LR	LR		
	comp=Z,700nm,17.0s							
CN2					LR	LR		
	comp=Z,800nm,17.0s							
CN2					LR	LR		
	comp=Z,1μm,19.0s							
LPAZ	**La Paz**	**98.54**	**252**	P		Pdif	18 13 43.1	+1.3
LPAZ	**La Paz**	**98.54**	**252**	P		Pdif	18 13 43.1	+1.3
	comp=Z,1.3nm,0.9s,baz=203,slow=4.5,SNR=3.2							
KSAR	**Wonju Array Be**	**99.18**	**54**	P		**Pdif**	**18 13 43.7**	**+0.3**
KSRS	**Korea Array**	**99.21**	**54**	P		**Pdif**	**18 13 43.7**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=270,slow=7.4,SNR=4.6							
MDJ	**Mudanj

baz=131
Z33A Whitaker Ranch 130.79 306 P PKPdf 18 19 14.9 +1.5
baz=131
D20A Manuel Ranch, 131.04 326 P PKPdf 18 19 15.0 +1.4
baz=131
434A Burnet 131.05 302 P PKPdf 18 19 14.8 +0.8
baz=131
J24A Dixon Ranch, L 131.06 320 P PKPdf 18 19 14.5 +0.7
baz=131
C19A Slack Wire Ran 131.15 327 P PKPdf 18 19 15.0 +1.3
baz=131
X31A McDonald Ranch 131.34 308 P PKPdf 18 19 15.8 +1.4
baz=131
EGMT Eagleton 131.34 328 P PKPdf 18 19 15.9 +1.8
baz=131
Z32A Haskell 131.35 306 P PKPdf 18 19 15.8 +1.3
baz=131
R28A Tribune 131.37 313 P PKPdf 18 19 16.8 +2.3
baz=131
E20A Meyer Farm, Mu 131.39 325 P PKPdf 18 19 15.8 +1.6
baz=131
534A Blanco 131.41 301 P PKPdf 18 19 16.1 +1.4
baz=131
433A Art 131.75 302 P PKPdf 18 19 15.7 +0.4
baz=132
E19A Rath Farm, Rou 131.78 326 P PKPdf 18 19 16.4 +1.4
baz=132
533A Kerrville 131.87 301 P PKPdf 18 19 17.3 +1.7
baz=132
Z31A Sharp Cattle R 131.88 306 P PKPdf 18 19 16.7 +1.2
baz=132
I22A 9 Mile Ranch, 131.90 322 P PKPdf 18 19 16.0 +0.7
baz=132
232A Coleman 131.90 304 P PKPdf 18 19 17.0 +1.4
baz=132
P26A Davis Ranch, A 131.95 315 P PKPdf 18 19 16.9 +1.3
baz=132
K23A Bowen Ranch, D 131.96 320 P PKPdf 18 19 16.7 +1.1
baz=132
M24A Cheyenne 132.08 318 P PKPdf 18 19 17.8 +1.9
baz=132
332A Millersview 132.12 303 P PKPdf 18 19 17.3 +1.3
baz=132
G20A Bridger 132.19 324 P PKPdf 18 19 17.4 +1.6
baz=132
F19A Roth Farm, Mol 132.23 325 P PKPdf 18 19 17.5 +1.6
baz=132
131A Roby 132.27 305 P PKPdf 18 19 18.1 +1.8
baz=132
432A Menard 132.30 303 P PKPdf 18 19 17.7 +1.3
baz=132
JCT Junction City 132.41 302 P PKPdf 18 19 17.1 +0.5
baz=132
I21A Big Trails, Te 132.43 322 P PKPdf 18 19 17.5 +1.0
baz=132
231A Bronte 132.43 304 P PKPdf 18 19 17.9 +1.3
baz=132
H20A Greybull 132.48 323 P PKPdf 18 19 17.4 +1.0
baz=132
P25A Willow Gulch B 132.54 315 P PKPdf 18 19 18.2 +1.5
baz=132
R26A Arlington 132.56 314 P PKPdf 18 19 18.3 +1.5
baz=132
532A Rocksprings 132.59 302 P PKPdf 18 19 18.1 +1.1
baz=133
632A Uvalde 132.65 301 P PKPdf 18 19 18.4 +1.3
baz=133
Z30A Sanderson Ranc 132.67 306 P PKPdf 18 19 18.0 +0.9
baz=133
331A San Angelo 132.70 304 P PKPdf 18 19 17.9 +0.8
baz=133
I20A Worland 132.86 323 P PKPdf 18 19 18.5 +1.3
baz=133
Q25A Bedland, Calha 132.87 315 P PKPdf 18 19 19.1 +1.6
baz=133
S26A Kim 132.87 313 P PKPdf 18 19 18.7 +1.4
baz=133
Y29A Porterfield Fa 132.91 307 P PKPdf 18 19 18.9 +1.3
baz=133
431A Sonora 133.03 303 P PKPdf 18 19 19.2 +1.4
baz=133
K21A Alcova 133.04 321 P PKPdf 18 19 18.8 +1.2
baz=133
N23A Red Feather La 133.09 318 P PKPdf 18 19 19.3 +1.4
baz=133
531A Rocksprings 133.11 302 P PKPdf 18 19 19.4 +1.4
baz=133
T26A Comanche Natio 133.14 312 P PKPdf 18 19 19.4 +1.4
baz=133
Z29A Hungry Hill Ra 133.14 307 P PKPdf 18 19 19.0 +1.0
baz=133
M22A Cedar Creek Ra 133.27 319 P PKPdf 18 19 19.7 +1.5
baz=133
330A Mertzon 133.29 304 P PKPdf 18 19 19.9 +1.6
baz=133
I19A Meeteetse 133.32 323 P PKPdf 18 19 19.3 +1.2
baz=133
H18A Shoshone NF, C 133.34 324 P PKPdf 18 19 20.1 +1.9
baz=133
ISCO Idaho Springs 133.40 316 P PKPdf 18 19 20.4 +1.8
baz=133
430A Baggett Ranch, 133.52 303 P PKPdf 18 19 19.9 +1.2
baz=134
S25A Robets Cordova 133.54 313 P PKPdf 18 19 19.9 +1.2
baz=134
MSTX Muleshoe 133.74 308 P PKPdf 18 19 20.2 +1.1
baz=134
P23A Jefferson 133.76 316 P PKPdf 18 19 21.0 +1.8
baz=134
530A J-C Ranch, Com 133.78 302 P PKPdf 18 19 21.1 +1.9
baz=134
J19A Crowheart 133.80 322 P PKPdf 18 19 21.2 +2.2
baz=134
O22A Kremmling 133.85 317 P PKPdf 18 19 19.9 +0.5
baz=134
128A Castleberry Fa 133.97 306 P PKPdf 18 19 21.3 +1.7
baz=134
U25A Circle Dot Ran 134.05 312 P PKPdf 18 19 22.2 +2.4
baz=134
Y27A Causey 134.07 308 P PKPdf 18 19 21.7 +1.9
baz=134
429A Davenport Ranc 134.10 303 P PKPdf 18 19 20.8 +0.9
baz=134
S24A Houchin Ranch, 134.11 314 P PKPdf 18 19 21.9 +2.0
baz=134
P22A Eagle 134.28 317 P PKPdf 18 19 20.6 +0.5
baz=134
R23A Moffat 134.30 315 P PKPdf 18 19 22.7 +2.4
baz=134
Z27A Tatum 134.31 307 P PKPdf 18 19 21.6 +1.4
baz=134
PDAR Pinedale Array 134.39 322 PKP PKPdf 18 19 21.9 +1.7
PDAR Pinedale Array 134.39 322 PKP PKPdf 18 19 21.9 +1.7
comp=Z,1.5nm,0.7s,baz=116,slow=3.4,SNR=9.8
V25A Rancho No Teng 134.43 311 P PKPdf 18 19 22.0 +1.5
baz=134
529A Stev Forest Ra 134.52 303 P PKPdf 18 19 21.7 +1.1
baz=134
W25A X Bar L Ranch, 134.56 310 P PKPdf 18 19 21.9 +1.2
baz=134
Y26A Elida 134.57 308 P PKPdf 18 19 22.0 +1.3
baz=134
N20A Spence Gulch, 134.64 319 P PKPdf 18 19 21.9 +1.1
baz=135
527A Woodward Ranch 135.66 303 P PKPdf 18 19 24.3 +1.4
baz=136
627A Terlingua Ranc 135.68 302 P PKPdf 18 19 24.3 +1.5
baz=136
Y24A Capitan 135.81 309 P PKPdf 18 19 24.7 +1.6
baz=136
426A McDonald Obser 135.84 304 P PKPdf 18 19 24.5 +1.2
baz=136
TXAR Lajitas Array 135.95 302 PKP PKPdf 18 19 24.2 +0.9
TXAR Lajitas Array 135.95 302 PKhKP PKPpre 18 19 13.7
comp=Z,0.5nm,0.7s,baz=98,slow=3.9,SNR=4.2
TXAR PKP PKPdf 18 19 24.2 +0.9
comp=Z,0.7nm,0.8s,baz=132,slow=1.9,SNR=5.4
526A Mary Lane Ranc 136.08 303 P PKPdf 18 19 25.5 +1.9
baz=136
Y23A Lovelace Mesa, 136.28 309 P PKPdf 18 19 25.0 +1.0
baz=136
124A Stringfield Ra 136.29 307 P PKPdf 18 19 25.6 +1.6
baz=136
325A Bean Ranch, Si 136.38 305 P PKPdf 18 19 25.8 +1.6
baz=136
425A Indio Mountain 136.59 305 P PKPdf 18 19 25.7 +1.1
baz=137
MNTX Cornudas Mount 136.59 306 *e*PKPdf PKPdf 18 19 25.0 +0.6

121A Cookes Peak, D 138.17 308 P PKPdf 18 19 28.3 +0.8
baz=138
Z20A Nine Sixteen R 138.55 309 P PKPdf 18 19 28.8 +0.6
baz=138
X18A Snowflake 138.93 312 P PKPdf 18 19 29.1 +0.3
baz=139
220A Playas Peak, P 138.99 308 P PKPdf 18 19 30.4 +1.4
baz=139
320A Kipp Ranch, An 139.22 307 P PKPdf 18 19 30.7 +1.3
baz=139
WUAZ Wupatki 139.48 314 P PKPdf 18 19 31.2 +1.4
baz=139
U15A North Rim 139.65 316 P PKPdf 18 19 31.8 +1.6
baz=140
TPH Tonopah 141.88 322 *e*PKIKP PKPdf 18 19 33.7 -0.4
TPH Tonopah 141.88 322 *e*PKPdf PKPdf 18 19 33.7 -0.4
NVAR Mina Array Bea 142.29 323 PKP PKPdf 18 19 32.6 -2.3
NVAR Mina Array Bea 142.29 323 PKP PKPdf 18 19 32.6 -2.3
comp=Z,3.3nm,0.6s,baz=51,slow=3.7,SNR=8.0
FURC Furnace Creek, 142.65 319 P PKPdf 18 19 37.9 +2.7
baz=143
IRM Iron Mountain 142.83 315 P PKPdf 18 19 37.9 +2.2
baz=143
GMRC Granite Mounta 142.84 316 P PKPdf 18 19 37.7 +1.9
baz=143
N02D Trinity Center 142.87 330 P PKPdf 18 19 37.4 +1.8
baz=143
WAKR Walker 142.91 324 *e*PKPdf PKPdf 18 19 34.4 -1.5
CMB Columbia Colle 143.77 325 *e*PKIKP PKPdf 18 19 36.5 -0.7
CMB Columbia Colle 143.77 325 *e*PKPdf PKPdf 18 19 36.5 -0.7
ISA Isabella 144.17 320 *e*PKIKP PKPdf 18 19 38.0 -0.1
ISA Isabella 144.17 320 *e*PKPdf PKPdf 18 19 38.0 -0.1
PASC Pasadena Art C 144.89 317 *e*PKPdf PKPdf 18 19 39.1 -0.2
AFI Afiamalu 145.17 133 *e*PKPdfr PKPdf 18 19 39.5 -0.8

NEIC 06 18:21:49.0,59.95N×152.98W,h116km,MG2.7(AEIC),
After AEIC.,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.04**	**277**	P	Pn	18 22 04.3	-0.7
ILIM	**Iliamna**	**0.13**	**5**	P	Pn	18 22 04.4	-0.7
ILW	**Iliamna West**	**0.13**	**324**	P	Pn	18 22 04.6	-0.6
ILW				S	Sn	18 22 17.3	0.0
OPT	**Oil Point**	**0.33**	**203**	P	Pn	18 22 05.1	-0.5
REF	**Redoubt East F**	**0.56**	**14**	P	Pn	18 22 06.4	-0.7
NCT	**North Crescent**	**0.61**	**2**	P	Pn	18 22 06.7	-0.7
DFR	**Drift River**	**0.66**	**13**	P	Pn	18 22 06.9	-0.8
CNPM	**China Poot**	**0.98**	**115**	P	Pn	18 22 09.8	-0.7
CNPM				S	Sn	18 22 26.4	-0.4
BRLK	**Bradley Lake**	**1.07**	**99**	P	Pn	18 22 10.9	-0.6
CKL	**Chakachamna La**	**1.29**	**14**	P	Pn	18 22 13.2	-0.7
SPRG	**Spurr Blockage**	**1.35**	**13**	P	Pn	18 22 14.0	-0.5
BGL	**Barrier Glacie**	**1.35**	**12**	P	Pn	18 22 14.0	-0.5
CGLM	**Capps Glacier**	**1.44**	**19**	P	Pn	18 22 14.9	-0.7
SLKM	**Skilak Lake**	**1.48**	**67**	P	Pn	18 22 15.5	-0.5
STLK	**Strandline Lak**	**1.65**	**19**	P	Pn	18 22 17.3	-0.8
KARR	**Katmai Rainbow**	**1.71**	**212**	P	Pn	18 22 18.1	-0.6
SEW	**Seward**	**1.78**	**84**	P	Pn	18 22 18.7	-0.8
SEW				S	Sn	18 22 40.8	-1.9
KAWH	**Katmai**	**1.83**	**212**	P	Pn	18 22 19.4	-0.8
FIB	**Fire Island**	**1.84**	**47**	P	Pn	18 22 20.3	+0.1
FIB				S	Sn	18 22 45.3	+1.2
SUA	**Susitna One**	**1.87**	**35**	P	Pn	18 22 20.1	-0.7
SUA				S	Sn	18 22 44.6	-0.5
RC01	**Rabbit Creek A**	**1.97**	**53**	P	Pn	18 22 20.7	-1.1
RC01				S	Sn	18 22 45.4	-1.6
KAKN	**Katmai Knife C**	**1.98**	**214**	P	Pn	18 22 21.1	-1.0
SKT	**Skwentna**	**2.15**	**19**	P	Pn	18 22 23.1	-1.1
KDAK	**Kodiak Island**	**2.19**	**174**	P	Pn	18 22 22.7	-1.9
KDAK				S	Sn	18 22 50.4	-1.4
CAHL	**Cahill**	**2.25**	**213**	P	Pn	18 22 24.1	-1.4
PWL	**Port Wells**	**2.48**	**66**	P	Pn	18 22 26.4	-2.0
OHAK	**Old Harbor**	**2.74**	**183**	P	Pn	18 22 29.7	-2.0
PPLA	**Purkeypile**	**2.98**	**7**	P	Pn	18 22 34.6	-0.4
GLI	**Glacier Island**	**3.06**	**70**	P	Pn	18 22 35.2	-0.8
HIN	**Hinchinbrook I**	**3.27**	**79**	P	Pn	18 22 38.0	-0.7
TT01	**Tatalina**	**3.31**	**335**	P	Pn	18 22 37.6	-1.6
SCM	**Sheep Creek Mo**	**3.34**	**53**	P	Pn	18 22 37.9	-1.9
TRF	**Thorofare Moun**	**3.74**	**19**	P	Pn	18 22 43.5	-1.6
KTH	**Kantishna Hill**	**3.74**	**14**	P	Pn	18 22 44.6	-0.5
RND	**Reindeer**	**3.98**	**28**	P	Pn	18 22 47.0	-1.3
MCK	**McKinley**	**4.25**	**25**	P	Pn	18 22 50.6	-1.1
BMRM	**Bremner River**	**4.27**	**73**	P	Pn	18 22 51.1	-1.0
HARP	**HAARP**	**4.52**	**54**	P	Pn	18 22 54.4	-1.0
BWN	**Browne**	**4.55**	**20**	P	Pn	18 22 54.8	-0.9
PAX	**Paxson**	**4.71**	**47**	P	Pn	18 22 56.5	-1.4
VRDI	**Verde Repeater**	**4.87**	**71**	P	Pn	18 22 59.4	-0.9
WRH	**Wood River Hil**	**5.08**	**25**	P	Pn	18 23 01.1	-1.8
MCARA	**McCarthy VSAT**	**5.10**	**69**	P	Pn	18 23 02.6	-0.6
MLY	**Manley**	**5.20**	**11**	P	Pn	18 23 03.9	-0.7
CCB	**Clear Creek Bu**	**5.29**	**25**	P	Pn	18 23 03.8	-2.0
PTPK	**Patty Peak**	**5.33**	**72**	P	Pn	18 23 06.2	-0.4
KIAG	**Kiagna River**	**5.35**	**75**	P	Pn	18 23 06.0	-0.8
BALM	**Baldy**	**5.37**	**74**	P	Pn	18 23 05.7	-1.3
MDM	**Murphy Dome**	**5.49**	**22**	P	Pn	18 23 06.6	-1.8
IL1	**Eielson Array**	**5.61**	**28**	P	Pn	18 23 07.8	-2.2
SCRK	**Sand Creek**	**5.85**	**43**	P	Pn	18 23 11.2	-2.3
YSS	**Yuzh-Sakhalins**	**38.81**	**280**	PFAKE		18 29 10.0	+7.9
YSS				LR	LR		
	comp=Z,585nm,22.0s						

SZGRF ***06*** *18:29:01.9, 12.36S×34.27E,h33km,mb5.4,Malawi*
BUL ***06*** *18:29:06.6±15.0, 10.12S×32.96E,h0km±274km*
BJI ***06*** *18:29:11.2, 10.09S×33.34E,h10km,mB5.5/22,mb5.0/35, Ms5.3/22,Ms7 4.9/21*
ISCJB ***06*** *18:29:13.3±0.1, 10.13S±0.02×33.84E±0.03,h10km, mb5.1/142,MS4.7/32,Error ellipse: s-maj=4.4km s-min=3.2km az=13.3*
MOS ***06*** *18:29:13.6±0.9, 10.04S×33.89E,h10km,mb5.4/60,Error ellipse: s-maj=8.1km s-min=4.2km az=88.8*
NEIC ***06*** *18:29:15.0±0.1, 10.13S×33.92E,h10km,mb5.2/63,Error ellipse: s-maj=5.2km s-min=3.3km az=99.0*
IDC ***06*** *18:29:14.3±0.4, 10.00S×33.91E,h0km,mb4.8/35, mb1 4.8/38,mb1mx4.8/41,mbtmp4.8/38,ML5.1/4,MS4.6/30, Ms1 4.6/30,ms1mx4.5/41,Error ellipse: s-maj=13.5km s-min=10.6km az=91.0*
GCMT ***06*** *18:29:17.9-0.2, 10.15S×33.97E,h14km,MW5.1,Moment Tensor Solution. s48,c65; s84,c128; Moment tensor: Scale 10^16Nm; Mrr-6.55±.27; Mθθ 1.76±.17; Mϕϕ4.79±.19; Mrθ-0.97±.37; Mθϕ-2.53±.12; Mϕr-0.65±.34; Best double couple: Mo6.50000×10^16 NP1:ϕ340.00000°,δ46.00000°, λ-77.00000°. NP2:ϕ141.00000°,δ45.00000°, λ-103.00000°. Principal axes: T 6.2200, Plg0.0000°, Azm61.0000°; N 0.5200, Plg9.0000°, Azm151.0000°; P -6.7400, Plg81.0000°, Azm328.0000°; Data Used: II IU IC G CN CU.*
DJA ***06*** *18:29:27.0±0.3, 10.5±4.4×3.4E±.1,h125km,M5.1/19, mB5.6/4,mb5.1/19,Mw(mB)5.1/4*

ISC 06 18:29:15.2±0.2,10.11S±0.03×33.86E±0.04,h10km,n558,
σ1s20/588,mb5.2/141,MS4.7/32,29C-11D,Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZM	**Mzuzu**	**1.32**	**173**	*i* P	**Pg**	**18 29 42.0**	**+1.3**
MZM				*i* S	**Sg**	**18 30 01.3**	**+3.4**
DODT	**Dodoma, Tanzan**	**4.32**	**26**	*i* S	**Sb**	**18 31 20.7**	**-3.0**
LSZ	**Lusaka**	**7.55**	**227**	*e*P	**Pn**	**18 31 07.8**	**+2.2**
LSZ	**Lusaka**	**7.55**	**227**	Pn	**Pn**	**18 31 06.7**	**+1.2**
	84nm,0.6s						
LSZ				Sn	**Sn**	**18 32 29.4**	**-1.9**
LSZ				Lg	Lg	18 33 12.2	
LSZ	**Lusaka**	**7.55**	**227**	Pn	**Pn**	**18 31 06.7**	**+1.2**
	36nm,0.3s,baz=47,slow=11,SNR=51						
LSZ				Sn	**Sn**	**18 32 29.4**	**-1.9**
	136nm,0.3s,baz=313,slow=20,SNR=9.8						
LSZ				Lg	Lg	18 33 12.2	
	102nm,0.3s,baz=108,slow=20,SNR=9.8						
LSZ				LR	LR	18 34 14.8	
	comp=Z,6μm,20.5s,baz=330,slow=39						
MAUS	**Longido**	**7.85**	**21**	*i* P	**Pn**	**18 31 08.5**	**-1.2**
MAUS				*i* S	Sb	18 33 12.8	+7.5
KMBO	**Kilima Mbogo**	**9.54**	**21**	Pn	**Pn**	**18 31 30.7**	**-2.3**
	SNR=100						
KMBO	**Kilima Mbogo**	**9.54**	**21**	*e*Pn	**Pn**	**18 31 30.4**	**-2.6**
KMBO				Sn	Sn	18 33 11.1	-9.4
KMBO				Lg	Lg	18 34 05.2	

KMBO Kilima Mbogo 9.54 21 Pn Pn 18 31 30.4 -2.6
11nm,0.3s,baz=199,slow=16,SNR=62
KMBO Sn Sn 18 33 11.1 -9.4
6.0nm,0.3s,baz=117,slow=22,SNR=13
KMBO Lg Lg 18 34 05.2
10nm,0.3s,baz=270,slow=20,SNR=11
KMBO LR LR 18 35 09.2
comp=Z,5μm,19.9s,baz=83,slow=38
MBAR Mbarara 9.95 342 Pn Pn 18 31 34.1 -4.4
MBAR Mbarara 9.95 342 Pn Pn 18 31 34.2 -4.3
428nm,0.5s,SNR=24
MBAR Mbarara 9.95 342 Pn Pn 18 31 34.1 -4.4
19nm,0.3s,baz=160,slow=16,SNR=42
MBAR Sn Sn 18 33 23.5 -6.8
11nm,0.3s,baz=90,slow=20,SNR=2.6
MBAR Lg Lg 18 34 18.0
48nm,0.3s,baz=107,slow=19,SNR=7.4
MBAR LR LR 18 34 35.3
comp=Z,894nm,21.5s,baz=162,slow=33
MSNA Messina 12.71 196 *e*P **Pn 18 32 15.7 -0.5**
MSNA AMB AMB 18 32 20.6
comp=Z,347nm,0.9s
MSNA Messina 12.71 196 P **Pn 18 32 15.7 -0.5**
comp=Z,347nm,0.9s
OPO Ambohidratompo 15.40 125 Pn **Pn 18 32 53.1 +0.2**
OPO Sn **Sn 18 35 39.0 -4.8**
OPO Ambohidratompo 15.40 125 Pn **Pn 18 32 53.1 +0.2**
comp=Z,1.8nm,0.3s,baz=289,slow=12,SNR=20
OPO Sn **Sn 18 35 39.0 -4.8**
comp=Z,3.4nm,0.3s,baz=30,slow=21,SNR=5.8
OPO LR LR 18 38 19.6
comp=Z,675nm,21.8s,baz=303,slow=35
ABPO Ambohimpanom 15.66 126 *e*P **Pn 18 32 55.7 -0.7**
ABPO *e* 18 35 48.0
ABPO pmax pmax
comp=Z,108nm,0.7s
ABPO Ambohimpanom 15.66 126 *e*Pn **Pn 18 32 55.7 -0.7**
comp=Z,108nm,0.7s
ABPO eSn **Sn 18 35 48.0 -2.3**
ABPO Ambohimpanom 15.66 126 Pn **Pn 18 32 56.8 +0.4**
comp=Z,775nm,0.8s,SNR=10
RUDU RUNDU 15.75 239 *e*P **Pn 18 32 54.0 -3.4**
RUDU AMB AMB 18 33 06.5
comp=Z,172nm,1.1s
RUDU RUNDU 15.75 239 P **Pn 18 32 54.0 -3.4**
comp=Z,172nm,1.1s
SLR Silverton 16.42 198 *e*P **Pn 18 33 05.7 -0.2**
SLR AMB AMB 18 33 13.3
comp=Z,115nm,1.9s
SLR Silverton 16.42 198 P **Pn 18 33 05.7 -0.2**
SLR pmax pmax
comp=Z,115nm,1.9s
SLR Silverton 16.42 198 P **Pn 18 33 05.7 -0.2**
comp=Z,115nm,1.9s
LBTB Lobatse 16.77 207 *e*P **Pn 18 33 08.2 -2.3**
LBTB AMB AMB 18 33 16.0
comp=Z,263nm,0.8s
LBTB Lobatse 16.77 207 Pn **Pn 18 33 11.8 +1.2**
comp=Z,199nm,0.7s
LBTB Sn **Sn 18 36 11.6 -5.5**
LBTB Lg Lg 18 37 59.1
LBTB Lobatse 16.77 207 Pn **Pn 18 33 11.8 +1.2**
comp=Z,9.7nm,0.3s,baz=30,slow=12,SNR=26
LBTB Sn **Sn 18 36 11.6 -5.5**
comp=Z,14nm,0.3s,baz=306,slow=19,SNR=6.8
LBTB Lg Lg 18 37 59.1
comp=Z,15nm,0.3s,baz=321,slow=20,SNR=4.1
LBTB LR LR 18 39 51.7
comp=Z,2μm,18.3s,baz=46,slow=38
OBSV Observatory 16.90 198 *e*P **Pn 18 33 10.5 -1.7**
OBSV AMB AMB 18 33 18.5
comp=Z,68nm,1.0s
KSR Koster 16.99 202 *e*P **Pn 18 33 12.1 -1.2**
KSR AMB AMB 18 33 19.6
comp=Z,49nm,1.5s
KSR Koster 16.99 202 P **Pn 18 33 12.1 -1.2**
comp=Z,49nm,1.5s
ERPM east rand prop 17.00 197 *e*P **Pn 18 33 12.6 -0.8**
ERPM AMB AMB 18 33 33.8
comp=Z,79nm,2.4s
ERPM east rand prop 17.00 197 P **Pn 18 33 12.6 -0.8**
comp=Z,79nm,2.4s
KLOF Kloof 17.20 199 *e*P **Pn 18 33 13.7 -2.2**
KLOF AMB AMB 18 33 22.0
comp=Z,117nm,0.9s
KLOF Kloof 17.20 199 P **Pn 18 33 13.7 -2.2**
comp=Z,117nm,0.9s
PRYS Parys 17.82 199 *e*P **Pn 18 33 21.6 -1.9**
PRYS AMB AMB 18 33 29.2
comp=Z,69nm,1.2s
PRYS Parys 17.82 199 P **Pn 18 33 21.6 -1.9**
comp=Z,69nm,1.2s
TSUM Tsumeb 18.14 238 *e*P **Pn 18 33 25.6 -2.1**
TSUM Tsumeb 18.14 238 P **Pn 18 33 27.0 -0.6**
comp=Z,34nm,1.2s
TSUM S Sn 18 36 39.4 -11
TSUM Lg Lg 18 38 40.1
TSUM Tsumeb 18.14 238 P **Pn 18 33 27.0 -0.6**
comp=Z,1.4nm,0.3s,baz=68,slow=10,SNR=27
TSUM S Sn 18 36 39.4 -11
comp=Z,1.3nm,0.3s,baz=296,slow=22,SNR=9.0
TSUM Lg Lg 18 38 40.1
comp=Z,1.9nm,0.3s,baz=128,slow=19,SNR=3.5
TSUM LR LR 18 40 39.7
comp=Z,5μm,18.2s,baz=340,slow=38
SWZ Schweizer 18.79 204 *e*P P 18 33 30.4 -4.6
SWZ AMB AMB 18 33 45.2
comp=Z,102nm,1.1s
SWZ Schweizer 18.79 204 P P 18 33 30.4 -4.6
comp=Z,102nm,1.1s
SEK Senekal 19.04 197 *e*P **P 18 33 38.0 +0.2**
SEK AMB AMB 18 33 45.0
comp=Z,187nm,0.9s
SEK Senekal 19.04 197 P **P 18 33 38.0 +0.2**
comp=Z,187nm,0.9s
AAE Adis Abeba 19.63 15 *i* P **Pn 18 33 46.6 +0.7**
BOSA Boshof 20.10 203 *e*P **P 18 33 48.3 -1.0**
BOSA AMB AMB 18 33 54.6
comp=Z,71nm,1.6s
BOSA Boshof 20.10 203 P **P 18 33 49.5 +0.1**
comp=Z,43nm,1.2s
BOSA S S 18 37 26.2 -9.1
BOSA Lg Lg 18 39 36.8
BOSA Boshof 20.10 203 P **P 18 33 49.5 +0.1**
comp=Z,53nm,0.7s,baz=22,slow=11,SNR=66
BOSA S S 18 37 26.2 -9.1
comp=Z,50nm,0.7s,baz=305,slow=18,SNR=5.2
BOSA Lg Lg 18 39 36.8
comp=Z,300nm,1.1s,baz=288,slow=20,SNR=3.5
BOSA LR LR 18 41 23.6
comp=Z,2μm,18.6s,baz=28,slow=36
WIN Windhoek 20.27 230 *e*P **P 18 33 50.6 -0.7**
WIN AMB AMB 18 33 58.0
comp=Z,103nm,1.3s
WIN Windhoek 20.27 230 P **P 18 33 50.7 -0.7**
WIN pmax pmax
comp=Z,103nm,1.3s
WIN Windhoek 20.27 230 P **P 18 33 50.6 -0.7**
comp=Z,103nm,1.3s
KSD Kokstad 20.75 191 *e*P Pn 18 34 01.3 +2.5
KSD AMB AMB 18 34 07.7
comp=Z,31nm,1.4s
KSD Kokstad 20.75 191 P Pn 18 34 01.3 +2.5
comp=Z,107nm,1.4s
HVD Gariep Dam 21.83 200 *e*P **P 18 34 08.4 +0.4**
HVD AMB AMB 18 34 12.2
comp=Z,151nm,1.3s
HVD Gariep Dam 21.83 200 P **P 18 34 08.4 +0.4**
HVD pmax pmax
comp=Z,151nm,1.3s
HVD Gariep Dam 21.83 200 P **P 18 34 08.4 +0.4**
comp=Z,151nm,1.3s
SOE Somerset East 23.76 198 *e*P **P 18 34 28.0 0.0**
SOE AMB AMB 18 35 08.7
comp=Z,76nm,4.1s
SOE Somerset East 23.76 198 P **P 18 34 28.0 0.0**
comp=Z,76nm,4.1s
GRM Grahamstown 24.06 195 *e*P **P 18 34 30.3 -0.6**
GRM AMB AMB 18 34 33.6
comp=Z,117nm,3.2s
GRM Grahamstown 24.06 195 P **P 18 34 30.3 -0.6**
GRM pmax pmax
comp=Z,117nm,3.2s
GRM Grahamstown 24.06 195 P **P 18 34 30.3 -0.6**
comp=Z,117nm,3.2s
KOMG Komaggas 24.85 216 *e*P **P 18 34 37.1 -0.9**

KOMG AMB AMB 18 34 44.8
comp=Z,86nm,1.1s
KOMG Komaggas 24.85 216 P **P** **18 34 37.1 -0.9**
comp=Z,86nm,1.1s
SUR Sutherland 25.23 207 *eP* **P** **18 34 41.4 -0.2**
comp=Z,36nm,0.9s
SUR Sutherland 25.23 207 P **P** **18 34 42.8 +1.2**
comp=Z,243nm,0.8s,SNR=10
SUR Sutherland 25.23 207 P **P** **18 34 42.5 +0.9**
comp=Z,26nm,0.8s,baz=31,slow=6.6,SNR=17
SUR LR LR 18 45 15.8
comp=Z,616nm,21.6s,baz=32,slow=38
RAYN Ar Rayn 35.31 19 P **P** **18 36 12.2 +1.4**
comp=Z,50nm,1.1s,SNR=6.2
SHEL Horse Pasture 38.98 257 *eP* **P** **18 36 40.6 -1.5**
SHEL pmax pmax
comp=Z,70nm,1.0s
SHEL Horse Pasture 38.98 257 *eP* **P** **18 36 40.6 -1.5**
comp=Z,70nm,1.0s
TOA0 Torodi Ar. Sit 39.42 305 *eP* **P** **18 36 44.5 -1.2**
TORD Torodi Ar. Bea 39.42 305 P **P** **18 36 45.4 -0.3**
TORD Torodi Ar. Bea 39.42 305 P **P** **18 36 45.4 -0.3**
comp=Z,9.1nm,1.1s,baz=121,slow=6.8,SNR=33
TORD LR LR 18 53 16.7
comp=Z,686nm,18.8s,baz=120,slow=37
BSY Bisya 39.86 35 P **P** **18 36 50.4 +1.1**
SNR=11
HOQ Hoqain 40.59 34 P **P** **18 36 56.0 +0.7**
SNR=5.9
WBK Wadi Bani Khal 40.78 37 P **P** **18 36 58.8 +1.9**
SNR=6.7
KIC Kosan Boka 41.79 291 *eP* **P** **18 37 04.7 -0.7**
comp=Z,67nm,1.0s
LIC Lamto 42.00 291 *eP* **P** **18 37 06.9 -0.2**
comp=Z,51nm,1.0s,baz=110
LIC *eR*
comp=Z,2µm,22.2s
LIC Lamto 42.00 291 *eP* **P** **18 37 05.9 -1.2**
comp=Z,67nm,1.0s
LIC Lamto 42.00 291 *eP* **P** **18 37 06.9 -0.2**
comp=Z,51nm,1.0s
DBIC Dimbokro 42.01 292 *eP* **P** **18 37 06.5 -0.7**
comp=Z,37nm,1.3s
DBIC Dimbokro 42.01 292 P **P** **18 37 07.0 -0.2**
comp=Z,13nm,0.9s,baz=94,slow=8.8,SNR=14
DBIC LR LR 18 53 29.6
comp=Z,1µm,19.0s,baz=98,slow=35
TIC Toumodi 42.15 292 *eP* **P** **18 37 07.5 -0.9**
comp=Z,108nm,1.0s
MMAI Mount Meron Ar 42.91 2 LR LR 18 54 03.0
comp=Z,386nm,20.2s,baz=170,slow=35
IKOM Komasi 45.91 16 *eP* **P** **18 37 39.4 +1.0**
IZEF Zefreh 46.25 22 *eP* **P** **18 37 41.5 +0.3**
IKLH Kolahrood 46.37 21 *eP* **P** **18 37 42.7 +0.6**
IBAF Bafgh 46.39 26 *eP* **P** **18 37 42.4 +0.2**
ISP Isparta 47.78 356 *eP* **P** **18 37 52.9 0.0**
ISP pmax pmax
comp=Z,30nm,1.7s
IMHD Mahdasht 48.24 18 *eP* **P** **18 37 57.5 +1.1**
MALT Malatya 48.36 5⇑*iP* **P** **18 38 00.0 +2.6**
IDMV Damavand 48.58 20 *eP* **P** **18 38 00.5 +1.2**
ITEG Tejag 48.91 28 *eP* **P** **18 38 02.3 +0.5**
IDAH Dahanechah 49.31 29 *eP* **P** **18 38 05.6 +0.6**
BR131 Keskin Array S 49.58 360 *eP* **P** **18 38 06.0 -0.8**
comp=Z,4.2nm,0.9s
BRTR Keskin Array B 49.58 360 P **P** **18 38 07.0 +0.2**
BRTR Keskin Array B 49.58 360 P **P** **18 38 07.0 +0.2**
comp=Z,5.4nm,1.0s,baz=177,slow=11,SNR=18
IHRS Heris 49.73 14 *eP* **P** **18 38 08.7 +0.7**
GNI Garni 51.01 11 P **P** **18 38 19.7 +2.1**
GNI Garni 51.01 11 P **P** **18 38 19.7 +2.1**
comp=Z,1.2nm,0.3s,baz=112,slow=14,SNR=4.0
GNI LR LR 18 59 08.7
comp=Z,276nm,18.1s,baz=318,slow=35
KEST Kesra 51.13 334 *eP* **P** **18 38 17.9 -0.7**
KEST Kesra 51.13 334 P **P** **18 38 19.2 +0.7**
comp=Z,3.3nm,0.9s,baz=244,slow=4.0,SNR=8.8
HYB Hyderabad 51.94 59 *iP* **P** **18 38 23.0 -1.8**
IAKL Akhelmad 52.03 25 *eP* **P** **18 38 26.0 +0.5**
KDZ Kurdzhali 52.09 352⇑*iP* **P** **18 38 25.9 +0.5**
VAY Valandovo 52.22 349 *eP* **P** **18 38 26.9 +0.5**
IMYA Miami 52.40 27 *eP* **P** **18 38 28.3 +0.2**
ZEI Tsey 53.44 9 *eP* **P** **18 38 35.4 -0.2**
ZEI pmax pmax
comp=Z,27nm,1.4s
KBZ Khabaz 54.21 8 P **P** **18 38 41.6 +0.6**
KBZ Khabaz 54.21 8 P **P** **18 38 41.5 +0.6**
KBZ Khabaz 54.21 8 P **P** **18 38 41.5 +0.6**
comp=Z,7.9nm,1.2s,baz=210,slow=8.9,SNR=5.0
KIV Kislovodsk 54.40 8 *eP* **P** **18 38 42.5 -0.1**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,289nm,16.0s
KIV Kislovodsk 54.40 8 *eP* **P** **18 38 41.5 -1.0**
comp=Z,15nm,1.2s
CFR Carcaliu 55.27 355⇓*iP* **P** **18 38 49.3 +0.6**
ISR Istrita 55.37 354⇑*iP* **P** **18 38 51.0 +1.5**
KBL Kabul 55.53 35 *eP* **P** **18 38 50.3 -0.8**
KBL pmax pmax
comp=Z,20nm,1.4s
KBL Kabul 55.53 35 *eP* **P** **18 38 50.3 -0.8**
comp=Z,20nm,1.4s
GOF Gofitskoye 55.53 8 *eP* **P** **18 38 51.1 +0.5**
GOF pmax pmax
comp=Z,54nm,1.4s
MLR Muntele Rosu 55.80 353 P **P** **18 38 53.2 +0.5**
MLR Muntele Rosu 55.80 353 P **P** **18 38 53.2 +0.5**
comp=Z,0.4nm,0.7s,baz=280,slow=9.6,SNR=4.8
VOIR 55.86 353⇑*iP* **P** **18 38 53.3 +0.3**
PLOR Plostina 56.08 354⇑*iP* **P** **18 38 55.3 +0.7**
VRI Vrincioaia 56.09 354⇑*iP* **P** **18 38 56.0 +1.4**
GZR Gura Zlata 56.14 351⇑*iP* **P** **18 38 55.6 +0.5**
MDT Midelt 56.29 321 P **P** **18 38 57.3 +0.9**
MDT Midelt 56.29 321 P **P** **18 38 57.3 +0.9**
comp=Z,9.4nm,1.1s,baz=125,slow=10.0,SNR=11
MDT LR LR 19 02 38.9
comp=Z,392nm,18.6s,baz=138,slow=36
BZS Buzias 56.56 350⇑*iP* **P** **18 38 58.7 +0.8**
PGF Pioggiola 57.13 338 *eP* **P** **18 39 01.5 -0.7**
PGF Pioggiola 57.13 338 *eP* **P** **18 39 01.5 -0.7**
PGF Pioggiola 57.13 338 *eP* **P** **18 39 01.5 -0.7**
SIRR Siria 57.18 350⇑*iP* **P** **18 39 03.3 +1.0**
CJR Cluj-Napoca 57.31 352⇑*iP* **P** **18 39 04.9 +1.6**
DRGR 57.52 351⇑*iP* **P** **18 39 06.1 +1.3**
PKSM Moragy 57.71 348⇑*iP* **P** **18 39 06.9 +0.9**
PKSM Moragy 57.71 348 *eP* **P** **18 39 06.0 0.0**
BOJS Bojanci 57.84 345 *iP* **P** **18 39 07.5 +0.5**
BURAR Bucovina Array 57.98 353⇑*iP* **P** **18 39 10.1 +2.0**
BUR08 Bucovina Ar. S 58.01 353 *eP* **P** **18 39 07.7 -0.6**
PKS9 Tamasi 58.14 347 *eP* **P** **18 39 10.8 +1.7**
BMR Baia Mare 58.26 352⇑*iP* **P** **18 39 11.3 +1.4**
JAVS Javornik 58.52 344 *iP* **P** **18 39 12.6 +0.8**
LMR La Mourre 58.74 337 *eP* **P** **18 39 13.2 -0.1**
comp=Z,37nm,1.4s
LMR La Mourre 58.74 337 *eP* **P** **18 39 13.2 -0.1**
LMR pmax pmax
comp=Z,37nm,1.4s
LMR La Mourre 58.74 337 *eP* **P** **18 39 13.2 -0.1**
comp=Z,37nm,1.4s
SBF Sospel 58.84 338 *eP* **P** **18 39 14.5 +0.4**
SBF Sospel 58.84 338 *eP* **P** **18 39 14.5 +0.4**
SBF Sospel 58.84 338 *eP* **P** **18 39 14.5 +0.4**
TRPA Tarpa 58.85 351⇓*iP* **P** **18 39 14.4 +0.5**
PKSG 58.88 348 *eP* **P** **18 39 15.1 +0.9**
PERS Pernice 58.93 345 *iP* **P** **18 39 15.5 +0.9**
SYO Syowa Base 58.95 178⇑*eP* **P** **18 39 14.6 +0.2**
SYO Syowa Base 58.95 178⇓*esP* sP 18 39 17.7 -1.2
OBKA Obir 58.96 345⇑*iP* **P** **18 39 16.0 +1.1**
comp=Z,20nm,1.4s
SOKA Soboth 58.99 345⇓*iP* **P** **18 39 16.2 +1.1**
comp=Z,22nm,1.4s,SNR=10
PSZ Piszkesteto 59.09 349 *eP* **P** **18 39 15.6 -0.2**
PSZ pmax pmax
comp=Z,41nm,1.3s
PSZ Piszkesteto 59.09 349⇑*iP* **P** **18 39 16.4 +0.6**
PSZ Piszkesteto 59.09 349 *eP* **P** **18 39 15.6 -0.2**
comp=Z,41nm,1.3s
PSZ Piszkesteto 59.09 349 *eP* **P** **18 39 16.2 +0.4**
UZH Uzhgorod 59.37 351 *eP* **P** **18 39 17.4 -0.2**
ARSA Arzberg 59.40 346⇑*iP* **P** **18 39 18.0 +0.1**
comp=Z,15nm,1.4s,SNR=5.7
KECS Kecovo 59.53 350 *eP* **P** **18 39 19.4 +0.7**
KECS pmax pmax
comp=Z,8.0nm,1.5s
KECS Kecovo 59.53 350 *eP* **P** **18 39 19.3 +0.6**
KOLS Kolonicke sedl 59.67 351 *eP* **P** **18 39 20.4 +0.7**
KOLS pmax pmax
comp=Z,30nm,1.7s
KOLS Kolonicke sedl 59.67 351 *eP* **P** **18 39 20.4 +0.7**
CRVS Cervenica-Dubn 59.77 351 *eP* **P** **18 39 21.2 +0.8**
CRVS pmax pmax
comp=Z,30nm,1.5s
CRVS Cervenica-Dubn 59.77 351 *eP* **P** **18 39 21.2 +0.8**
MBDF Montbardon 59.83 338 *eP* **P** **18 39 22.1 +1.0**
comp=Z,42nm,1.2s
MBDF Montbardon 59.83 338 *eP* **P** **18 39 22.1 +1.0**
MBDF pmax pmax
comp=Z,42nm,1.2s
MBDF Montbardon 59.83 338 *eP* **P** **18 39 22.1 +1.0**
comp=Z,42nm,1.2s
CONA Conrad Observa 59.95 346⇑*iP* **P** **18 39 22.6 +0.8**
comp=Z,26nm,1.4s,SNR=6.4
BNI Bardonecchia 60.14 338 *eP* **P** **18 39 23.0 -0.2**
BNI pmax pmax
comp=Z,21nm,1.1s
BNI Bardonecchia 60.14 338 *eP* **P** **18 39 23.0 -0.2**
comp=Z,21nm,1.1s
MOA Molln 60.27 345⇑*iP* **P** **18 39 24.6 +0.8**
comp=Z,29nm,1.3s,SNR=12
KWP Kalwaria Pacla 60.29 352⇑*iP* **P** **18 39 24.4 +0.5**
FUORN Ofenpass-Fuorn 60.29 341 *eP* **P** **18 39 23.6 -0.7**
comp=Z,34nm,1.6s
STHS Stebnicka Huta 60.30 351 *eP* **P** **18 39 24.7 +0.7**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 60.30 351 *eP* **P** **18 39 24.7 +0.7**
ORIF Oris-en-Rattie 60.33 337 *eP* **P** **18 39 25.1 +0.7**
comp=Z,93nm,1.8s
ORIF *eR*
comp=Z,466nm,22.0s
ORIF Oris-en-Rattie 60.33 337 *eP* **P** **18 39 25.1 +0.7**
ORIF pmax pmax
comp=Z,93nm,1.8s
ORIF Oris-en-Rattie 60.33 337 *eP* **P** **18 39 25.1 +0.7**
comp=Z,93nm,1.8s
LASF Ste Croix 60.42 336 *eP* **P** **18 39 26.0 +1.1**
comp=Z,147nm,1.8s
LASF Ste Croix 60.42 336 *eP* **P** **18 39 26.0 +1.1**
comp=Z,147nm,1.8s
TUE Stuetta 60.45 341 *eP* **P** **18 39 24.1 -1.2**
comp=Z,24nm,1.3s
WTTA Wattenberg 60.46 343⇑*iP* **P** **18 39 26.0 +0.7**
comp=Z,27nm,1.5s,SNR=5.5
LPG La Plagne 60.50 338 *eP* **P** **18 39 25.8 0.0**
comp=Z,104nm,1.9s
LPG La Plagne 60.50 338 *eP* **P** **18 39 25.8 0.0**
LPG pmax pmax
comp=Z,104nm,1.9s
LPG La Plagne 60.50 338 *eP* **P** **18 39 25.8 0.0**
comp=Z,104nm,1.9s
MTLF Montolieu 60.51 334 *eP* **P** **18 39 26.3 +0.8**
comp=Z,122nm,1.8s
MTLF Montolieu 60.51 334 *eP* **P** **18 39 26.3 +0.8**
MTLF pmax pmax
comp=Z,122nm,1.8s
MTLF Montolieu 60.51 334 *eP* **P** **18 39 26.3 +0.8**
comp=Z,122nm,1.8s
LPL La Plagne 60.52 338 *eP* **P** **18 39 26.0 +0.1**
comp=Z,58nm,1.5s
LPL La Plagne 60.52 338 *eP* **P** **18 39 26.0 +0.1**
LPL pmax pmax
comp=Z,58nm,1.5s
LPL La Plagne 60.52 338 *eP* **P** **18 39 26.0 +0.1**
comp=Z,58nm,1.5s
DAVOX Davos/Dischmat 60.56 341 P **P** **18 39 26.4 +0.4**
DAVOX Davos/Dischmat 60.56 341 P **P** **18 39 26.4 +0.4**
comp=Z,4.3nm,0.7s,baz=142,slow=9.8,SNR=10.0
MAW Mawson 60.59 168 P **P** **18 39 28.0 +2.3**
MAW Mawson 60.59 168 P **P** **18 39 28.0 +2.3**
comp=Z,4.8nm,0.7s,baz=18,slow=13,SNR=3.6
MOTA Moosalm 60.69 342⇑*iP* **P** **18 39 27.4 +0.5**
comp=Z,19nm,1.3s,SNR=5.6
KIEV Kiev 60.69 357 *eP* **P** **18 39 26.2 -0.4**
KIEV pmax pmax
comp=Z,22nm,1.2s
KIEV Kiev 60.69 357 *eP* **P** **18 39 26.2 -0.4**
comp=Z,22nm,1.2s
AKASG Malin Array Be 60.69 357*ceP* **P** **18 39 26.2 -0.4**
AKASG pmax pmax
comp=Z,19nm,1.1s
AKASG Malin Array Be 60.69 357 P **P** **18 39 26.2 -0.4**
AKASG Malin Array Be 60.69 357 P **P** **18 39 26.2 -0.4**
comp=Z,18nm,1.1s,baz=185,slow=6.4,SNR=46
ESDC Sonseca Array 60.70 327 P **P** **18 39 27.6 +0.6**
ESDC Sonseca Array 60.70 327 P **P** **18 39 27.6 +0.6**
comp=Z,3.2nm,0.7s,baz=140,slow=6.4,SNR=16
ESDC LR LR 19 04 29.7
comp=Z,176nm,21.1s,baz=185,slow=35
VIVF Saint-Julien-l 60.74 337 *eP* **P** **18 39 28.2 +1.1**
comp=Z,70nm,1.5s
VIVF Saint-Julien-l 60.74 337 *eP* **P** **18 39 28.2 +1.1**
VIVF pmax pmax
comp=Z,70nm,1.5s
VIVF Saint-Julien-l 60.74 337 *eP* **P** **18 39 28.2 +1.1**
comp=Z,70nm,1.5s
RETA Reutte 60.92 342⇓*iP* **P** **18 39 28.6 +0.3**
comp=Z,22nm,1.3s
DAVA Damuels 61.01 342⇑*iP* **P** **18 39 29.5 +0.4**
comp=Z,32nm,1.1s,SNR=6.3
VRAC Vranov 61.08 347⇑*iP* **P** **18 39 29.5 +0.2**
VRAC Vranov 61.08 347 P **P** **18 39 28.8 -0.5**
VRAC Vranov 61.08 347 P **P** **18 39 28.8 -0.5**
comp=Z,3.4nm,0.4s,baz=171,slow=6.5,SNR=8.0
EPF Esparros 61.10 332 *eP* **P** **18 39 30.7 +1.1**
comp=Z,26nm,1.1s
EPF Esparros 61.10 332 *eP* **P** **18 39 30.7 +1.1**
EPF pmax pmax
comp=Z,26nm,1.1s
EPF Esparros 61.10 332 *eP* **P** **18 39 30.7 +1.1**
comp=Z,26nm,1.1s
KOLN Koldanda 61.12 51 *eP* **P** **18 39 29.4 -0.8**
comp=Z,88nm,1.3s
KOLN Koldanda 61.12 51 *eP* **P** **18 39 29.4 -0.8**
OKC Ostrava-Krasne 61.26 348 *eP* **P** **18 39 30.6 +0.1**
OKC Ostrava-Krasne 61.26 348 *eP* **P** **18 39 30.6 +0.1**
TREC Trest 61.32 346 *eP* **P** **18 39 30.6 -0.4**
TREC Trest 61.32 346 *eP* **P** **18 39 30.6 -0.4**
MORC Moravsky Berou 61.33 348 *eP* **P** **18 39 30.3 -0.7**
MORC pmax pmax
comp=Z,28nm,1.4s
MORC Moravsky Berou 61.33 348⇑*iP* **P** **18 39 31.6 +0.6**
MORC Moravsky Berou 61.33 348 *eP* **P** **18 39 30.3 -0.7**
comp=Z,26nm,1.4s
GERES GERESS Array B 61.34 345 P **P** **18 39 30.6 -0.5**
GERES GERESS Array B 61.34 345 P **P** **18 39 30.6 -0.5**
comp=Z,13nm,1.1s,baz=129,slow=3.9,SNR=39
GERES LR LR 19 06 51.4
comp=Z,252nm,18.6s,baz=354,slow=37
ETSF Etsaut 61.41 332 *eP* **P** **18 39 33.1 +1.3**
comp=Z,16nm,0.9s
ETSF Etsaut 61.41 332 *eP* **P** **18 39 33.1 +1.3**
ETSF pmax pmax
comp=Z,16nm,0.9s
ETSF Etsaut 61.41 332 *eP* **P** **18 39 33.1 +1.3**
comp=Z,16nm,0.9s
DANN Dangsing 61.53 50 *eP* **P** **18 39 32.1 -1.1**
comp=Z,77nm,1.1s
DANN Dangsing 61.53 50 *eP* **P** **18 39 32.1 -1.1**
KHC Kasperske Hory 61.63 345*diP* **P** **18 39 32.4 -0.7**
KHC pmax pmax
comp=Z,109nm,1.2s
KHC Kasperske Hory 61.63 345 *eP* **P** **18 39 32.9 -0.2**
KHC Kasperske Hory 61.63 345 *eP* **P** **18 39 32.8 -0.3**
CABF La Chapelle 61.69 339 *eP* **P** **18 39 34.2 +0.6**
comp=Z,123nm,1.6s
CABF La Chapelle 61.69 339 *eP* **P** **18 39 34.2 +0.6**
CABF pmax pmax
comp=Z,123nm,1.6s
CABF La Chapelle 61.69 339 *eP* **P** **18 39 34.2 +0.6**
comp=Z,123nm,1.6s
KRLC Kraliky 61.77 348 *eP* **P** **18 39 34.1 +0.1**
KRLC Kraliky 61.77 348 *eP* **P** **18 39 34.1 +0.1**
CAF Calviac 61.85 335 *eP* **P** **18 39 35.7 +1.0**
CAF Calviac 61.85 335 *eP* **P** **18 39 35.7 +1.0**
CAF Calviac 61.85 335 *eP* **P** **18 39 35.7 +1.0**
SJPF Ste Jean 61.88 331 *eP* **P** **18 39 36.1 +1.2**
SJPF Ste Jean 61.88 331 *eP* **P** **18 39 36.1 +1.2**
SJPF Ste Jean 61.88 331 *eP* **P** **18 39 36.1 +1.2**
GKN Gorkha 62.02 51 *eP* **P** **18 39 35.4 -0.9**
comp=Z,80nm,1.2s
GKN Gorkha 62.02 51 *eP* **P** **18 39 35.4 -0.9**
DPC Dobruska-Polom 62.12 347 *eP* **P** **18 39 36.4 0.0**
DPC Dobruska-Polom 62.12 347 *eP* **P** **18 39 36.4 0.0**
DPC Dobruska-Polom 62.12 347 *eP* **P** **18 39 35.6 -0.8**
NVL N'lazarevskaya 62.16 188 *eP* **P** **18 39 37.9 +1.6**
NVL pmax pmax
comp=Z,7.0nm,0.7s
DMN Daman 62.19 51 *eP* **P** **18 39 36.9 -0.7**
comp=Z,37nm,1.2s
DMN Daman 62.19 51 *eP* **P** **18 39 36.9 -0.7**
PRU Pruhonice 62.19 346 *eP* **P** **18 39 37.0 +0.2**
PRU Pruhonice 62.19 346 *eP* **P** **18 39 37.0 +0.2**
UPC Upice 62.34 347 *eP* **P** **18 39 37.6 -0.2**
UPC Upice 62.34 347 *eP* **P** **18 39 37.6 -0.2**
RJF Les Rejaudoux 62.39 335 *eP* **P** **18 39 39.2 +1.0**
RJF Les Rejaudoux 62.39 335 *eP* **P** **18 39 39.2 +1.0**
RJF Les Rejaudoux 62.39 335 *eP* **P** **18 39 39.2 +1.0**
PKIN Phulchoki 62.40 52 *eP* **P** **18 39 38.0 -1.0**
comp=Z,61nm,1.7s
PKI Pulchoki 62.40 52 *eP* **P** **18 39 38.2 -0.9**
comp=Z,40nm,1.4s
PKI Pulchoki 62.40 52 *eP* **P** **18 39 38.2 -0.9**
PKI Pulchoki 62.40 52 *eP* **P** **18 39 38.2 -0.9**
KKN Kakani 62.41 51 *eP* **P** **18 39 38.4 -0.6**
comp=Z,59nm,1.4s
KKN Kakani 62.41 51 *eP* **P** **18 39 38.4 -0.6**
KKN Kakani 62.41 51 *eP* **P** **18 39 38.4 -0.6**
LFF La Frestale 62.43 334 *eP* **P** **18 39 39.5 +1.1**
LFF La Frestale 62.43 334 *eP* **P** **18 39 39.5 +1.1**
LFF La Frestale 62.43 334 *eP* **P** **18 39 39.5 +1.1**
HINF Hinteralfeld 62.46 340 *eP* **P** **18 39 39.0 +0.3**
HINF Hinteralfeld 62.46 340 *eP* **P** **18 39 39.0 +0.3**
HINF Hinteralfeld 62.46 340 *eP* **P** **18 39 39.0 +0.3**
STU Stuttgart 62.54 342 *eP* **P** **18 39 39.5 +0.3**
STU pmax pmax
comp=Z,38nm,1.3s
STU Stuttgart 62.54 342 *eP* **P** **18 39 39.5 +0.3**
comp=Z,38nm,1.3s
SMF Signal de Mont 62.55 337 *eP* **P** **18 39 39.6 +0.3**
comp=Z,46nm,1.2s
SMF Signal de Mont 62.55 337 *eP* **P** **18 39 39.6 +0.3**
SMF pmax pmax
comp=Z,46nm,1.2s
SMF Signal de Mont 62.55 337 *eP* **P** **18 39 39.6 +0.3**
comp=Z,46nm,1.2s
KSP Ksiaz 62.60 348 *eP* **P** **18 39 39.4 -0.1**
KKAR Karatay Array 62.62 29 *eP* **P** **18 39 39.1 -0.8**
KKAR pmax pmax
comp=Z,45nm,1.1s
KKAR Karatay Array 62.62 29 *eP* **P** **18 39 39.1 -0.8**
comp=Z,45nm,1.1s
GRF Grafenberg Arr 62.77 344 *eP* **P** **18 39 40.8 +0.1**
comp=Z,33nm,1.4s
GRFO Grafenberg 62.77 344 *eP* **P** **18 39 40.2 -0.5**
GRFO pmax pmax
comp=Z,32nm,1.3s
GRFO Grafenberg 62.77 344 *eP* **P** **18 39 40.2 -0.5**
comp=Z,32nm,1.3s
HAU Haudompre 62.79 340 *eP* **P** **18 39 41.4 +0.5**
comp=Z,47nm,1.3s
HAU Haudompre 62.79 340 *eP* **P** **18 39 41.4 +0.5**
HAU pmax pmax
comp=Z,47nm,1.3s
HAU Haudompre 62.79 340 *eP* **P** **18 39 41.4 +0.5**
comp=Z,47nm,1.3s
CDF Champ du Feu 62.83 340 *eP* **P** **18 39 41.3 +0.1**
comp=Z,68nm,1.3s
CDF Champ du Feu 62.83 340 *eP* **P** **18 39 41.3 +0.1**
CDF pmax pmax
comp=Z,69nm,1.3s
CDF Champ du Feu 62.83 340 *eP* **P** **18 39 41.3 +0.1**
comp=Z,68nm,1.3s
AVF Avril sur Loir 62.86 337 *eP* **P** **18 39 41.8 +0.5**
comp=Z,66nm,1.4s
AVF Avril sur Loir 62.86 337 *eP* **P** **18 39 41.8 +0.5**
AVF pmax pmax
comp=Z,66nm,1.4s
AVF Avril sur Loir 62.86 337 *eP* **P** **18 39 41.8 +0.5**
comp=Z,66nm,1.4s
BGF Bois d'Agland 62.87 336 *eP* **P** **18 39 42.1 +0.7**
BGF Bois d'Agland 62.87 336 *eP* **P** **18 39 42.1 +0.7**
BGF Bois d'Agland 62.87 336 *eP* **P** **18 39 42.1 +0.7**
TCF Toulx Ste Croi 62.90 336 *eP* **P** **18 39 42.9 +1.3**
comp=Z,226nm,1.8s
TCF Toulx Ste Croi 62.90 336 *eP* **P** **18 39 42.9 +1.3**
TCF pmax pmax
comp=Z,226nm,1.8s
TCF Toulx Ste Croi 62.90 336 *eP* **P** **18 39 42.9 +1.3**
comp=Z,226nm,1.8s
GUN Gumba 62.93 52 *eP* **P** **18 39 42.2 -0.4**
comp=Z,98nm,1.2s
GUN Gumba 62.93 52 *eP* **P** **18 39 42.2 -0.4**
NKC Novy Kostel 62.94 345 *eP* **P** **18 39 42.3 +0.5**
NKC Novy Kostel 62.94 345 *eP* **P** **18 39 42.3 +0.5**
KSH Kashi 62.97 36 P P 18 39 39.1 -3.3
KSH pP pP 18 39 44.1 -1.5
KSH sP sP 18 39 46.1 -0.7
KSH PcP **PcP** **18 40 17.0 -3.4**
KSH PP **PP** **18 42 00.0 -1.1**
KSH S S 18 48 03.2 -10
KSH sS sS 18 48 16.1 -2.0
KSH ScS **SKSac** **18 49 30.2 -5.4**
KSH pmax pmax
comp=Z,1.0nm,0.2s
KSH pmax pmax
comp=Z,270nm,7.9s
KSH LR LR
comp=Z,260nm,7.1s
KSH LR LR
comp=Z,190nm,5.9s
KSH LR LR
comp=Z,340nm,6.6s
SSF Saint Saulge 63.03 337 *eP* **P** **18 39 42.7 +0.3**
comp=Z,21nm,1.2s
SSF Saint Saulge 63.03 337 *eP* **P** **18 39 42.7 +0.3**
SSF pmax pmax
comp=Z,21nm,1.2s
SSF Saint Saulge 63.03 337 *eP* **P** **18 39 42.7 +0.3**
comp=Z,21nm,1.2s
RAMN Ramite 63.03 53 *eP* **P** **18 39 42.6 -0.6**
comp=Z,70nm,1.6s
RAMN Ramite 63.03 53 *eP* **P** **18 39 42.6 -0.6**
JIRN Jiri 63.05 52 *eP* **P** **18 39 42.9 -0.6**
comp=Z,30nm,1.2s
JIRN Jiri 63.05 52 *eP* **P** **18 39 42.9 -0.6**
LOR Lormes 63.06 338 *eP* **P** **18 39 42.9 +0.2**
LOR Lormes 63.06 338 *eP* **P** **18 39 42.9 +0.2**
BRG Berggiesshubel 63.15 346 *eP* **P** **18 39 43.4 +0.2**
comp=Z,16nm,1.4s
BRG Berggiesshubel 63.15 346 *eP* **P** **18 39 43.4 +0.2**
BRG pmax pmax
comp=Z,16nm,1.4s
AB31 Akbulak array 63.41 19 *iP* **P** **18 39 44.0 -0.9**
ABKAR Akbulak array 63.41 19 *eP* **P** **18 39 43.8 -1.1**
SFTF Sexfontaines 63.42 339 *eP* **P** **18 39 45.8 +0.8**
comp=Z,67nm,1.3s
SFTF Sexfontaines 63.42 339 *eP* **P** **18 39 45.8 +0.8**
comp=Z,67nm,1.3s
PAGF Fort de Pagny 63.48 340 *eP* **P** **18 39 46.1 +0.7**
PAGF Fort de Pagny 63.48 340 *eP* **P** **18 39 46.1 +0.7**
AML Almayashu 63.52 32 *iP* **P** **18 39 46.9 +0.6**
AML Almayashu 63.52 32 P **P** **18 39 46.9 +0.6**
SNR=10
ODAN Odare 63.61 53 *eP* **P** **18 39 46.8 -0.2**
comp=Z,47nm,1.2s
ODAN Odare 63.61 53 *eP* **P** **18 39 46.8 -0.2**
MEZF Maizieres J'vi 63.67 339 *eP* **P** **18 39 47.7 +1.1**
comp=Z,258nm,1.8s
MEZF Maizieres J'vi 63.67 339 *eP* **P** **18 39 47.7 +1.1**
comp=Z,258nm,1.8s
CLL Collm 63.78 346 *iP* **P** **18 39 47.1 -0.2**
CLL pmax pmax
comp=Z,28nm,1.7s
CLL Collm 63.78 346 *iP* **P** **18 39 47.1 -0.2**
comp=Z,28nm,1.7s
CLL *e* 18 40 06.0
CLL *ePcP* **PcP** **18 40 24.0 +0.8**
AKTO Aktyubinsk 63.87 17 P **P** **18 39 47.4 -0.5**
AKTO pmax pmax
comp=Z,28nm,1.4s
AKTO Aktyubinsk 63.87 17 LR LR 19 11 39.4
comp=Z,424nm,18.4s,baz=201,slow=40
EKS2 Erkin-Say 63.94 32 *eP* **P** **18 39 48.3 -0.5**
EKS2 pmax pmax
comp=Z,19nm,1.3s

EKS2	**Erkin-Say**	63.94	32	P		**P**		**18 39 48.8**	**0.0**
	SNR=9.7									
EKS2	**Erkin-Say**	63.94	32	*e*P		**P**		**18 39 48.3**	**-0.5**
	comp=Z,19nm,1.3s									
UCH	**Uchtor**	64.02	33	*i* P		**P**		**18 39 50.2**	**+0.6**
UCH	**Uchtor**	64.02	33	P		**P**		**18 39 50.3**	**+0.6**
	SNR=10									
TAPN	**Taplejung**	64.09	53	*e*P		**P**		**18 39 49.9**	**-0.3**
	comp=Z,73nm,1.4s									
TAPN	**Taplejung**	64.09	53	*e*P		**P**		**18 39 49.9**	**-0.3**
AAK	**Ala-Archa**	64.29	32	P		**P**		**18 39 51.6**	**+0.5**
	SNR=6.1									
AAK	**Ala-Archa**	64.29	32	*d i*P		**P**		**18 39 51.2**	**+0.1**
AAK					pmax	pmax				
	comp=Z,46nm,1.7s									
AAK	**Ala-Archa**	64.29	32	P		**P**		**18 39 51.9**	**+0.8**
	SNR=6.8									
AAK	**Ala-Archa**	64.29	32	*e*P		**P**		**18 39 50.9**	**-0.2**
AAK	**Ala-Archa**	64.29	32	P		**P**		**18 39 51.2**	**+0.1**
	comp=Z,46nm,1.5s,SNR=5.0									
AAK	**Ala-Archa**	64.29	32	P		**P**		**18 39 50.6**	**-0.6**
	comp=Z,5.4nm,1.1s,baz=233,slow=5.1,SNR=12									
KZA	**Kyzart**	64.31	33	*i* P		**P**		**18 39 52.2**	**+0.7**
KZA	**Kyzart**	64.31	33	P		**P**		**18 39 52.3**	**+0.7**
	SNR=6.4									
SUW	**Suwalki**	64.52	353	*e*P		**P**		**18 39 50.4**	**-1.7**
SUW					pmax	pmax				
	comp=Z,64nm,1.1s									
SUW	**Suwalki**	64.52	353	*e*P		**P**		**18 39 50.4**	**-1.7**
	comp=Z,64nm,1.1s									
KBK	**Karagaybulak**	64.55	32	P		**P**		**18 39 53.8**	**+1.0**
	SNR=18									
CHMS	**Chumysh**	64.69	32	*i* P		**P**		**18 39 53.8**	**+0.3**
CHMS	**Chumysh**	64.69	32	P		**P**		**18 39 53.8**	**+0.3**
	SNR=7.5									
USP	**Ospenovka**	64.74	32	*i* P		**P**		**18 39 54.1**	**+0.2**
USP	**Ospenovka**	64.74	32	P		**P**		**18 39 54.2**	**+0.2**
	SNR=11									
OBN	**Obninsk**	65.02	2	⇃*i*P		**P**		**18 39 55.1**	**-0.2**
OBN				*e*				18 40 27.9		
OBN					pmax	pmax				
	comp=Z,31nm,1.2s									
OBN	**Obninsk**	65.02	2	*e*P		**P**		**18 39 56.0**	**+0.7**
TKM2	**Tokmak 2**	65.08	33	*e*P		**P**		**18 39 55.5**	**-0.8**
TKM2					pmax	pmax				
	comp=Z,34nm,1.3s									
TKM2	**Tokmak 2**	65.08	33	P		**P**		**18 39 56.4**	**+0.1**
	SNR=19									
TKM2	**Tokmak 2**	65.08	33	*e*P		**P**		**18 39 55.5**	**-0.8**
	comp=Z,34nm,1.3s									
GIVF	**Givet**	65.11	340	*e*P		**P**		**18 39 56.4**	**+0.4**
	comp=Z,76nm,1.4s									
GIVF	**Givet**	65.11	340	*e*P		**P**		**18 39 56.4**	**+0.4**
GIVF					pmax	pmax				
	comp=Z,76nm,1.4s									
GIVF	**Givet**	65.11	340	*e*P		**P**		**18 39 56.4**	**+0.4**
	comp=Z,76nm,1.4s									
SNAA	**Sanae**	65.47	192	*e*P		**P**		**18 40 01.1**	**+2.9**
SNAA	**Sanae**	65.47	192	*e*P		**P**		**18 39 58.5**	**+0.3**
	comp=Z,16nm,1.1s									
SNAA	**Sanae**	65.47	192	P		**P**		**18 40 00.5**	**+2.3**
	comp=Z,3.8nm,1.0s,baz=53,slow=6.0,SNR=9.8									
MOS	**Moscow**	65.68	2	*e*P		**P**		**18 39 59.7**	**+0.1**
MOS					pmax	pmax				
	comp=Z,40nm,1.3s									
VNA2	**Neumayer--Watz**	65.91	194	*e*P		**P**		**18 40 04.2**	**+3.2**
VNA1	**Neumayer--Stat**	65.93	194	*e*P		P		18 40 05.0	+3.9
PSI	**Prapat**	66.03	82	P		**P**		**18 40 02.4**	**-0.5**
	comp=Z,15nm,1.4s									
PSI	**Prapat**	66.03	82	P		**P**		**18 40 03.3**	**+0.4**
PSI	**Prapat**	66.03	82	P		**P**		**18 40 03.3**	**+0.4**
	comp=Z,6.8nm,0.8s,baz=225,slow=9.5,SNR=5.9									
SGMF	**Saint Gilles**	66.44	334	*e*P		**P**		**18 40 05.5**	**+0.9**
	comp=Z,573nm,1.9s									
SGMF	**Saint Gilles**	66.44	334	*e*P		**P**		**18 40 05.5**	**+0.9**
SGMF					pmax	pmax				
	comp=Z,573nm,1.9s									
SGMF	**Saint Gilles**	66.44	334	*e*P		**P**		**18 40 05.5**	**+0.9**
	comp=Z,573nm,1.9s									
LSA	**Lhasa**	67.85	52	*e*P		**P**		**18 40 13.1**	**-1.6**
LSA					pmax	pmax				
	comp=Z,32nm,1.3s									
LSA	**Lhasa**	67.85	52	*e*P		**P**		**18 40 13.1**	**-1.6**
	comp=Z,32nm,1.3s									
IPM	**Ipoh**	68.44	81	P		**P**		**18 40 16.5**	**-1.6**
	comp=Z,25nm,1.2s									
IPM	**Ipoh**	68.44	81	*e*P		**P**		**18 40 16.7**	**-1.4**
MHMT	**Maesarieng**	69.19	66	P		**P**		**18 40 23.8**	**+1.2**
	comp=Z,7.2nm,1.2s									
ARU	**Arti**	69.39	14	P		**P**		**18 40 23.0**	**0.0**
	comp=Z,195nm,1.0s,SNR=14									
ARU	**Arti**	69.39	14	*d i*P		**P**		**18 40 22.8**	**-0.3**
ARU								18 42 58.9		
ARU					PPP	PPP		18 44 33.9		
ARU					S	**S**		**18 49 32.6**	**+2.6**
ARU					SS	**SS**		**18 53 55.8**	**-1.7**
ARU					pmax	pmax				
	comp=Z,43nm,1.2s									
ARU	**Arti**	69.39	14	*e*P		**P**		**18 40 23.1**	**0.0**
BRVK	**Borovoye**	70.17	22	P		**P**		**18 40 28.0**	**0.0**
	SNR=6.2									
BRVK	**Borovoye**	70.17	22	*ce*P		**P**		**18 40 26.7**	**-1.3**
BRVK					pmax	pmax				
	comp=Z,16nm,1.2s									
BRVK	**Borovoye**	70.17	22	*e*P		**P**		**18 40 26.9**	**-1.1**
BRVK	**Borovoye**	70.17	22	P		**P**		**18 40 27.6**	**-0.4**
	comp=Z,61nm,1.3s,SNR=7.4									
BVA0	**Borovoye Array**	70.19	22	*i* P		**P**		**18 40 26.8**	**-1.3**
BVA0					pmax	pmax				
	comp=Z,18nm,1.4s									
CM31	**Chiang Mai Arr**	70.19	66	*e*P		**P**		**18 40 27.6**	**-1.2**
	comp=Z,21nm,1.1s									
CMAR	**Chiang Mai Arr**	70.19	66	P		**P**		**18 40 29.2**	**+0.4**
CMAR	**Chiang Mai Arr**	70.19	66	P		**P**		**18 40 29.2**	**+0.4**
	comp=Z,12nm,1.0s,baz=259,slow=7.5,SNR=89									
CMAR					LR	LR		19 07 27.6		
	comp=Z,254nm,19.1s,baz=182,slow=33									
SVE	**Sverdlovsk**	70.27	15	⇃*i*P		**P**		**18 40 28.8**	**+0.3**
SVE					pmax	pmax				
	comp=Z,34nm,1.3s									
CHTO	**Chiang Mai**	70.30	66	P		**P**		**18 40 30.2**	**+0.7**
	SNR=8.7									
CHTO	**Chiang Mai**	70.30	66	*e*P		**P**		**18 40 27.3**	**-2.2**
CHTO					pmax	pmax				
	comp=Z,5.0nm,1.0s									
CHTO	**Chiang Mai**	70.30	66	P		**P**		**18 40 29.8**	**+0.3**
	comp=Z,103nm,1.1s									
CHTO	**Chiang Mai**	70.30	66	*e*P		**P**		**18 40 27.3**	**-2.2**
	comp=Z,4.9nm,1.0s									
CHTO	**Chiang Mai**	70.30	66	P		**P**		**18 40 29.8**	**+0.3**
	comp=Z,103nm,1.1s									
CMMT	**Chiang Mai**	70.31	66	P		**P**		**18 40 29.7**	**+0.2**
	comp=Z,26nm,0.9s									
CMAI	**Chiengmai2**	70.75	65	P		**P**		**18 40 32.9**	**+0.5**
	comp=Z,152nm,1.4s									
LAMP	**Lampang**	70.83	66	P		**P**		**18 40 33.7**	**+1.0**
	comp=Z,9.9nm,1.0s									
KLMR	**Klimovskoe**	70.88	3	*e*P		**P**		**18 40 29.7**	**-2.4**
KLMR					pmax	pmax				
	comp=Z,83nm,1.4s									
MK31	**Makanchi Array**	71.20	33	*i* P		**P**		**18 40 33.8**	**-0.7**
MK31					pmax	pmax				
	comp=Z,34nm,1.0s									
MK31	**Makanchi Array**	71.20	33	*e*P		**P**		**18 40 32.4**	**-2.1**
MKAR	**Makanchi Array**	71.20	33	P		**P**		**18 40 34.7**	**+0.2**
MKAR	**Makanchi Array**	71.20	33	P		**P**		**18 40 34.7**	**+0.2**
MKAR	**Makanchi Array**	71.20	33	P		**P**		**18 40 34.7**	**+0.2**
	comp=Z,20nm,0.9s,baz=230,slow=5.4,SNR=76									
MKAR					LR	LR		19 14 06.3		
	comp=Z,359nm,19.4s,baz=248,slow=38									
PBKT	**Sadao Pong**	71.46	69	P		**P**		**18 40 37.1**	**+0.5**
	comp=Z,26nm,1.1s									
FINES	**FINESS Array B**	71.59	356	P		**P**		**18 40 35.9**	**-0.5**
FINES	**FINESS Array B**	71.59	356	P		**P**		**18 40 35.9**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=160,slow=6.1,SNR=6.5									
CHBT	**CHBT**	71.68	73	P		**P**		**18 40 39.3**	**+1.4**
	comp=Z,18nm,1.4s									
HFS	**Hagfors**	71.84	350	P		**P**		**18 40 38.5**	**+0.5**
HFS	**Hagfors**	71.84	350	P		**P**		**18 40 38.5**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=116,slow=6.8,SNR=7.5									
SOKR	**Solikamsk**	71.88	12	*d i*P		**P**		**18 40 38.3**	**+0.2**
SOKR					pmax	pmax				
	comp=Z,60nm,1.4s									
KURK	**Kurchatov**	71.95	28	P		**P**		**18 40 39.5**	**+0.6**
	SNR=11									
KURK	**Kurchatov**	71.95	28	P		**P**		**18 40 38.2**	**-0.6**
KURK					pmax	pmax				
	comp=Z,26nm,1.3s									
KURK	**Kurchatov**	71.95	28	*e*P		**P**		**18 40 38.6**	**-0.1**
KURK	**Kurchatov**	71.95	28	P		**P**		**18 40 39.4**	**+0.6**
	comp=Z,199nm,1.1s,SNR=19									
CRAI	**Chiangrai**	72.03	65	P		**P**		**18 40 40.7**	**+0.8**
	comp=Z,131nm,1.2s									
EKA	**Eskdalemuir Ar**	72.18	339	P		**P**		**18 40 40.3**	**+0.2**
EKA	**Eskdalemuir Ar**	72.18	339	P		**P**		**18 40 40.3**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=154,slow=8.0,SNR=3.2									
WMQ	**Urumqi**	72.53	38	P		**P**		**18 40 43.0**	**+0.5**
WMQ				sP		**sP**		**18 40 50.0**	**+3.0**
WMQ				PcP		**PcP**		**18 41 01.0**	**+0.8**
WMQ				PP		**PP**		**18 43 27.0**	**+3.0**
WMQ				S		**S**		**18 50 06.0**	**-1.1**
WMQ				ScS		**SKSac**		**18 50 46.0**	**-1.7**
WMQ				SS		**SS**		**18 54 47.0**	**+0.7**
WMQ					pmax	pmax				
	comp=Z,14nm,1.0s									
WMQ					pmax	pmax				
	comp=Z,75nm,6.0s									
WMQ					LR	LR				
	comp=Z,1μm,18.0s									
WMQ					LR	LR				
	comp=Z,1μm,18.0s									
WMQ					LR	LR				
	comp=Z,1μm,18.0s									
NB2	**NORSAR Subarra**	73.15	349	P		**P**		**18 40 46.0**	**+0.2**
	comp=Z,27nm,1.2s,baz=158,slow=5.3									
NB2	**NORSAR Subarra**	73.15	349	P		**P**		**18 40 46.0**	**+0.2**
	baz=158,slow=5.3									
NOA	**NORSAR Array B**	73.15	349	P		**P**		**18 40 46.4**	**+0.6**
NOA	**NORSAR Array B**	73.15	349	P		**P**		**18 40 46.4**	**+0.6**
	comp=Z,13nm,1.0s,baz=158,slow=5.3,SNR=9.3									
NOA					LR	LR		19 14 33.7		
	comp=Z,86nm,19.3s,baz=265,slow=37									
TMCR	**Tamitsa**	74.13	2	*e*P		**P**		**18 40 51.4**	**0.0**
TMCR				*e*				18 43 38.0		
TMCR					pmax	pmax				
	comp=Z,42nm,1.3s									
CASY	**Casey**	75.44	156	*e*P		**P**		**18 40 59.6**	**+0.5**
	comp=Z,21nm,1.3s									
KMI	**Kunming**	75.64	61	P		**P**		**18 41 01.8**	**+0.5**
KMI				pP		**pP**		**18 41 04.8**	**+0.2**
KMI				sP		**sP**		**18 41 06.5**	**+0.7**
KMI				S		**S**		**18 50 39.1**	**-4.1**
KMI					pmax	pmax				
	comp=Z,23nm,1.3s									
KMI					pmax	pmax				
	comp=Z,210nm,3.7s									
KMI					LR	LR				
	comp=Z,250nm,21.0s									
KMI					LR	LR				
	comp=Z,150nm,23.0s									
KMI					LR	LR				
	comp=Z,300nm,33.0s									
NVS	**Novosibirsk**	76.79	27	⇃*i*P		**P**		**18 41 06.2**	**-0.7**
NVS					pmax	pmax				
	comp=Z,45nm,1.2s									
NVS					pmax	pmax				
	comp=N,23nm,1.4s									
NVS					pmax	pmax				
	comp=E,12nm,1.6s									
KSM	**Kuching**	76.92	86	P		**P**		**18 41 10.9**	**+2.3**
	comp=E,24nm,1.8s									
ZAA0	**Zalesovo Array**	76.94	28	*e*P		**P**		**18 41 06.4**	**-1.4**
ZALV	**Zalesovo Beam**	76.94	28	P		**P**		**18 41 07.4**	**-0.4**
ZALV	**Zalesovo Beam**	76.94	28	P		**P**		**18 41 07.4**	**-0.4**
ZALV	**Zalesovo Beam**	76.94	28	P		**P**		**18 41 07.4**	**-0.4**
	comp=E,4.9nm,0.8s,baz=246,slow=6.2,SNR=25									
ZALV					LR	LR		19 18 06.8		
	comp=E,412nm,18.4s,baz=249,slow=38									
CD2	**Chengdu**	78.36	55	*e*P		**P**		**18 41 15.4**	**-0.9**
CD2				pP		**pP**		**18 41 20.3**	**+0.7**
CD2				sP		**sP**		**18 41 22.6**	**+1.8**
CD2				PP		**PP**		**18 44 15.0**	**+1.3**
CD2				S		**S**		**18 51 10.2**	**-2.1**
CD2				SS		**SS**		**18 56 16.5**	**+1.1**
CD2					pmax	pmax				
	comp=E,20nm,1.4s									
CD2					pmax	pmax				
	comp=E,370nm,11.4s									
CD2					LR	LR				
	comp=E,300nm,19.0s									
CD2					LR	LR				
	comp=E,200nm,16.6s									
GTA	**Gaotai**	78.43	46	*e*P		**P**		**18 41 17.4**	**+0.8**
GTA				pP		**pP**		**18 41 21.4**	**+1.5**
GTA				sP		**sP**		**18 41 25.0**	**+3.9**
GTA					pmax	pmax				
	comp=E,15nm,1.1s									
SBUM	**Sibu**	78.98	86	P		**P**		**18 41 21.7**	**+1.7**
	comp=E,28nm,0.8s									
NWAO	**Narrogin (SRO)**	79.05	122	LR		LR		19 11 25.0		
	comp=E,355nm,19.1s,baz=51,slow=32									
GYA	**Guiyang**	79.42	61	P		**P**		**18 41 21.7**	**-0.6**
GYA				PcP		**PcP**		**18 41 30.0**	**-0.4**
GYA				PP		**PP**		**18 44 23.2**	**+0.6**
GYA				S		**S**		**18 51 23.1**	**-0.8**
GYA				SKS		**SKSac**		**18 51 33.7**	**-5.6**
GYA				SS		**SS**		**18 56 33.0**	**+1.5**
GYA					pmax	pmax				
	comp=E,20nm,1.0s									
GYA					pmax	pmax				
	comp=E,130nm,5.2s									
GYA					LR	LR				
	comp=E,580nm,18.8s									
GYA					LR	LR				
	comp=E,520nm,19.5s									
GYA					LR	LR				
	comp=E,550nm,20.2s									
BDFB	**Brasilia**	79.58	256	*e*P		**P**		**18 41 22.5**	**-1.0**
BDFB	**Brasilia**	79.58	256	P		**P**		**18 41 25.4**	**+1.9**
	comp=E,6.9nm,0.8s,baz=69,slow=4.7,SNR=7.9									
BDFB					LR	LR		19 10 08.6		
	comp=E,432nm,21.2s,baz=162,slow=31									
ARCES	**ARCESS Array B**	79.67	357	P		**P**		**18 41 23.2**	**+0.7**
ARCES	**ARCESS Array B**	79.67	357	P		**P**		**18 41 23.2**	**+0.7**
	comp=E,8.4nm,0.9s,baz=142,slow=6.1,SNR=8.9									
QSPA	**South Pole Qui**	79.98	180	LR		LR		19 12 05.9		
	comp=E,312nm,20.8s,baz=92,slow=32									
LZH	**Lanzhou**	80.17	51	*e*P		**P**		**18 41 26.4**	**+0.2**
LZH				pP		**pP**		**18 41 29.7**	**+0.1**
LZH				sP		**sP**		**18 41 31.2**	**+0.4**
LZH				PP		**PP**		**18 44 30.5**	**+1.7**
LZH				*e*S		**S**		**18 51 30.5**	**-1.1**
LZH				sS		**sS**		**18 51 38.6**	**+1.6**
LZH				*e*SS		**SS**		**18 56 43.5**	**+0.9**
LZH					pmax	pmax				
	comp=E,45nm,1.5s									
LZH					pmax	pmax				
	comp=E,280nm,9.0s									
LZH					LR	LR				
	comp=E,500nm,17.2s									
LZH					LR	LR				
	comp=E,480nm,16.7s									
LZH					LR	LR				
	comp=E,560nm,18.8s									
MBWA	**Marble Bar**	82.60	110	*e*P		**P**		**18 41 38.2**	**-1.1**
ENH	**Enshi**	82.88	58	*e*P		**P**		**18 41 39.0**	**-1.5**
	comp=E,9.1nm,1.0s									
XAN	**Xi'an**	83.48	54	P		**P**		**18 41 43.9**	**+0.3**
XAN				pP		PcP		18 41 54.7	+6.8
XAN					pmax	pmax				
	comp=E,4.0nm,1.1s									
ZAK	**Zakamensk**	84.97	37	*e*P		**P**		**18 41 48.5**	**-2.4**
ZAK					pmax	pmax				
	comp=Z,8.0nm,1.4s									
KAPI	**Kappang**	85.10	94	P		**P**		**18 41 53.5**	**+1.3**
	comp=Z,80nm,1.1s									
KAPI	**Kappang**	85.10	94	P		**P**		**18 41 51.9**	**-0.3**
KAPI	**Kappang**	85.10	94	P		**P**		**18 41 51.9**	**-0.3**
	comp=Z,28nm,1.1s,baz=253,slow=8.4,SNR=6.2									
SONM	**Songino Array**	85.97	40	P		**P**		**18 41 56.4**	**+0.4**
SONM	**Songino Array**	85.97	40	P		**P**		**18 41 56.4**	**+0.4**
	comp=Z,8.0nm,0.9s,baz=243,slow=4.9,SNR=43									
SONM					LR	LR		19 22 58.7		
	comp=Z,355nm,18.4s,baz=322,slow=38									
ULN	**Ulaanbaatar**	86.40	40	P		**P**		**18 41 59.2**	**+1.1**
	comp=Z,32nm,0.8s									
ULN	**Ulaanbaatar**	86.40	40	*e*P		**P**		**18 41 57.2**	**-0.9**
	comp=Z,11nm,1.0s									
CPUP	**Villa Florida**	86.64	244	P		**P**		**18 42 01.4**	**+1.8**
CPUP	**Villa Florida**	86.64	244	P		**P**		**18 42 01.4**	**+1.8**
	comp=Z,6.3nm,1.0s,baz=65,slow=2.5,SNR=4.3									
CPUP					LR	LR		19 18 14.0		
	comp=Z,482nm,18.5s,baz=1.1,slow=34									
WHN	**Wuhan**	87.01	58	P		**P**		**18 42 02.0**	**+0.7**
HHC	**Hu-ho-hao-te**	87.39	48	*e*P		**P**		**18 42 01.5**	**-1.6**
HHC				sP		**sP**		**18 42 08.8**	**+1.2**
HHC				PP		**PP**		**18 45 28.8**	**+1.1**
HHC				SKS		**SKSac**		**18 52 26.0**	**-5.1**
HHC				S		**SKKSac**		**18 52 40.9**	**+0.5**
HHC				SS		**SS**		**18 58 29.1**	**-0.1**
HHC					pmax	pmax				
	comp=Z,29nm,1.3s									
HHC					pmax	pmax				
	comp=Z,510nm,7.1s									
HHC					LR	LR				
	comp=Z,570nm,17.8s									
HHC					LR	LR				
	comp=Z,820nm,17.1s									
HHC					LR	LR				
	comp=Z,760nm,17.9s									
VNDA	**Vanda**	87.80	170	P		**P**		**18 42 05.2**	**+0.9**
VNDA	**Vanda**	87.80	170	P		**P**		**18 42 05.2**	**+0.9**
	comp=Z,2.5nm,0.9s,baz=237,slow=6.8,SNR=5.9									
VNDA					LR	LR		19 22 00.7		
	comp=Z,438nm,18.1s,baz=215,slow=36									
TRQA	**Tornquist**	88.40	232	*e*P		**P**		**18 42 06.7**	**-1.3**
	comp=Z,15nm,1.1s									
FITZ	**Fitzroy Crossi**	88.58	108	*e*P		**P**		**18 42 08.0**	**-1.0**
	comp=Z,17nm,1.0s									
FITZ	**Fitzroy Crossi**	88.58	108	P		**P**		**18 42 09.9**	**+0.8**
	comp=Z,13nm,0.9s,baz=238,slow=5.5,SNR=14									
FITZ					LR	LR		19 16 46.8		
	comp=Z,575nm,19.3s,baz=204,slow=32									
NJ2	**Nanjing**	91.10	58	*e*P		**P**		**18 42 19.2**	**-1.3**
NJ2					pmax	pmax				
	comp=Z,20nm,1.0s									
SIV	**San Ignacio**	91.93	253	P		**P**		**18 42 26.3**	**+1.5**
SIV	**San Ignacio**	91.93	253	P		**P**		**18 42 26.3**	**+1.5**
	comp=Z,3.3nm,1.0s,baz=106,slow=13,SNR=5.5									
PLCA	**Paso Flores**	94.18	228	LR		LR		19 19 33.4		
	comp=Z,577nm,18.9s,baz=92,slow=32									
ASAR	**Alice Springs**	95.04	115	P		**P**		**18 42 39.3**	**+0.3**
ASAR	**Alice Springs**	95.04	115	P		**P**		**18 42 39.3**	**+0.3**
	comp=Z,9.6nm,1.0s,baz=260,slow=4.0,SNR=65									
ASAR					LR	LR		19 21 04.6		
	comp=Z,655nm,18.4s,baz=341,slow=33									
AS31	**Alice Springs**	95.04	115	*e*P		**P**		**18 42 38.5**	**-0.5**
WRA	**Warramunga Arr**	96.28	111	P		**P**		**18 42 45.0**	**+0.3**
WRA	**Warramunga Arr**	96.28	111	P		**P**		**18 42 45.0**	**+0.3**
	comp=Z,6.4nm,1.1s,baz=255,slow=2.8,SNR=33									
WRAB	**Tennant Creek**	96.29	111	*e*P		**P**		**18 42 43.9**	**-0.8**
WRAB					pmax	pmax				
	comp=Z,14nm,1.3s									
WRAB	**Tennant Creek**	96.29	111	*e*P		**P**		**18 42 43.9**	**-0.8**
	comp=Z,14nm,1.3s									
CN2	**Changchun**	98.05	47	*e*P		**P**		**18 42 51.8**	**-0.3**
CN2				*es*P		**sP**		**18 42 58.8**	**+2.1**
CN2				*e*S		**S**		**18 54 15.2**	**-4.1**
CN2					pmax	pmax				
	comp=Z,10.0nm,1.2s									
CN2					pmax	pmax				
	comp=Z,200nm,6.0s									
CN2					LR	LR				
	comp=Z,500nm,18.0s									
CN2					LR	LR				
	comp=Z,400nm,18.0s									
CN2					LR	LR				
	comp=Z,1μm,19.0s									
LPAZ	**La Paz**	98.50	252	LR		LR		19 22 42.5		
	comp=Z,512nm,20.7s,baz=11,slow=32									
KSAR	**Wonju Array Be**	99.24	54	P		**Pdif**		**18 42 57.0**	**-0.5**
KSRS	**Korea Array**	99.27	54	P		**Pdif**		**18 42 57.0**	**-0.7**
	comp=Z,3.4nm,1.0s,baz=247,slow=5.2,SNR=6.3									
MDJ	**Mudanjiang**	101.09	46	P		**Pdif**		**18 43 04.4**	**-1.2**
MDJ					pmax	pmax				
	comp=Z,4.0nm,1.5s									
MDJ					pmax	pmax				
	comp=Z,170nm,2.6s									
INK	**Inuvik**	121.28	355	PKP		**PKPdf**		**18 48 08.2**	**+0.1**
INK	**Inuvik**	121.28	355	PKP		**PKPdf**		**18 48 08.2**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=63,slow=3.1,SNR=9.4									
ULM	**Lac du Bonnet**	122.54	324	PKP		**PKPdf**		**18 48 10.4**	**-0.7**
ULM	**Lac du Bonnet**	122.54	324	PKP		**PKPdf**		**18 48 10.4**	**-0.7**
	comp=Z,6.0nm,1.0s,baz=63,slow=8.0,SNR=3.7									
YKA	**Yellowknife Ar**	122.97	343	PKP		**PKPdf**		**18 48 11.8**	**+0.3**
YKA	**Yellowknife Ar**	122.97	343	PKP		**PKPdf**		**18 48 11.8**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=36,slow=2.0,SNR=16									
FFC	**Flin Flon**	123.50	331	*i* PKIKP		**PKPdf**		**18 48 15.4**	**+2.6**
A30A	**Hoffart Farm,** baz=124

LAO	LASA Array	130.27	325	*e*PKPdf	PKPdf	18 48 25.0	-1.1
A19A	Klindworth Far baz=130	130.32	328	P	PKPdf	18 48 27.2	+1.1
D21A	La Casta Ranch baz=130	130.49	325	P	PKPdf	18 48 28.1	+1.6
B19A	Brinkman Farms baz=131	130.72	328	P	PKPdf	18 48 28.3	+1.4
E21A	Keefer Ranch, baz=131	130.84	325	P	PKPdf	18 48 29.1	+2.0
N27A	Anderson Farm, baz=131	130.91	316	P	PKPdf	18 48 29.2	+1.7
D20A	Manuel Ranch, baz=131	131.11	326	P	PKPdf	18 48 29.9	+2.3
C19A	Slack Wire Ran baz=131	131.22	327	P	PKPdf	18 48 29.5	+1.6
Z32A	Haskell baz=131	131.40	306	P	PKPdf	18 48 30.1	+1.6
EGMT	Eagleton baz=131	131.41	328	P	PKPdf	18 48 29.4	+1.2
E20A	Meyer Farm, Mu baz=131	131.46	325	P	PKPdf	18 48 29.8	+1.5
ABTX	Abilene, Hawle baz=132	131.73	305	P	PKPdf	18 48 30.6	+1.3
P26A	Davis Ranch, A baz=132	132.01	315	P	PKPdf	18 48 31.0	+1.3
PDAR	Pinedale Array	134.45	322	PKP	PKPdf	18 48 34.9	+0.5
PDAR	Pinedale Array comp=Z,2.2nm,0.8s,baz=52,slow=1.5,SNR=8.7	134.45	322	PKP	PKPdf	18 48 34.9	+0.5
TXAR	Lajitas Array	135.99	302	PKP	PKPdf	18 48 38.0	+0.6
TXAR	Lajitas Array comp=Z,1.5nm,0.8s,baz=318,slow=1.7,SNR=3.7	135.99	302	PKP	PKPdf	18 48 38.0	+0.6
MNTX	Cornudas Mount	136.64	306	*e*PKPdf	PKPdf	18 48 37.6	-0.8
MFID	Camas Ranch	137.64	327	*e*PKPdf	PKPdf	18 48 38.9	-1.2
DUG	Dugway	137.93	321	*e*PKIKP	PKPdf	18 48 39.9	-0.8
DUG	Dugway	137.93	321	*e*PKPdf	PKPdf	18 48 39.9	-0.8
ARUT	Antelope Range	139.72	319	*e*PKIKP	PKPdf	18 48 43.2	-0.9
ARUT	Antelope Range	139.72	319	*e*PKPdf	PKPdf	18 48 43.2	-0.9
NVAR	Mina Array Bea	142.36	323	PKPpre	PKPpre	18 48 45.2	
NVAR				PKP	PKPdf	18 48 49.6	+0.7
NVAR	Mina Array Bea comp=Z,3.3nm,0.8s,baz=19,slow=3.8,SNR=11	142.36	323	PKhKP	PKPpre	18 48 45.2	
NVAR				PKP	PKPdf	18 48 49.6	+0.7
WAKR	Walker comp=Z,6.2nm,0.8s,baz=67,slow=3.5,SNR=11	142.97	324	*e*PKPdf	PKPdf	18 48 48.9	-1.1
CMB	Columbia Colle	143.84	324	*e*PKIKP	PKPbc	18 48 49.9	+1.0
CMB	Columbia Colle	143.84	324	*e*PKPdf	PKPbc	18 48 49.9	+1.0
KIPM	Iron Peak	144.21	330	*e*PKPdf	PKPdf	18 48 51.6	-0.4
KCPM	Cahto Peak	144.36	329	*e*PKPdf	PKPab	18 48 50.7	+0.4
AFI	Afiamalu	145.12	133	PKPbc	PKPdf	18 48 55.5	+1.3
AFI	Afiamalu comp=Z,94nm,1.2s,baz=38,slow=22,SNR=4.4	145.12	133	PKPbc	PKPdf	18 48 55.5	+1.3

*IDC **06** 18:30:15.3±0.7, 12°.57N×88°.10W, h0km, mb4.6/15, mb1 4.8/16, mb1mx4.4/29, mbtmp4.6/16, ML3.3/1, MS3.7/2, Ms1 3.7/2, ms1mx3.6/35, Error ellipse: s-maj=28.9km s-min=13.1km az=52.0*

*CASC **06** 18:30:16.2±2.5, 12°.20N×88°.62W, h0km±9km, MD4.4, ML4.3*

*ISCJB **06** 18:30:19.4±0.3, 12°.45N±0°.05×88°.33W±0°.04, h35km, mb4.7/59, Error ellipse: s-maj=8.3km s-min=3.3km az=39.3*

*NEIC **06** 18:30:22.4±1.3, 12°.39N×88°.27W, h53km±11km, mb4.8/52, Error ellipse: s-maj=13.6km s-min=7.9km az=49.0*

ISC 06 18:30:19.9±0.5, **12°.30N**±0°.06×**88°.45W**±0°.06, **h35**km, **n10**, σ1**s15**/513, **mb4.7**/61, **175C-182D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VSM	San Miguel	1.13	9	*e*P		Pn	18 30 40.7	+1.1
CNCH	Conchagua	1.14	32	*e*P		Pn	18 30 40.5	+1.0
SNVI	San Vicente	1.36	344	*e*P		Pn	18 30 42.8	+0.2
LFRS	El Faro	1.44	336	*e*P		Pn	18 30 42.9	-0.7
CAHU	Cacacuatique	1.48	9	*e*P		Pn	18 30 45.4	+1.1
CAHU				*e*S		Sn	18 31 10.8	+8.3
LBRS	Las Brisas	1.54	338	*e*P		Pn	18 30 45.0	0.0
SNET	Serv Nac Est T comp=Z,5μm,0.4s	1.57	331	AML		AML	18 31 10.1	
LFU	La Fuente	1.58	336	*e*P		Pn	18 30 45.4	-0.1
BOQS	Boqueron	1.64	330	*e*P		Pn	18 30 46.0	-0.5
BOQS				*e*S		Sn	18 31 10.6	+4.1
CNGN	Cerro Negro	1.72	83	*e*P		Pn	18 30 48.4	+0.9
COPN	Copaltepe	1.82	94	*e*P		Pn	18 30 49.6	+0.9
SBLS	San Blas	1.91	323	*e*P		Pn	18 30 49.7	-0.5
SNJE	San Jose	1.92	324	*e*P		Pn	18 30 49.7	-0.6
SNJE				*e*S		Sn	18 31 17.1	+3.7
RTR	El Retiro	1.97	324	*e*P		Pn	18 30 50.7	-0.3
TGUH	Tegucigalpa,Un	2.09	33	*e*P		Pn	18 30 54.9	+2.4
TGUH	Tegucigalpa,Un	2.09	33	↑*i*Pn		Pn	18 30 54.5	+2.1
RBDL	Robledal	2.17	326	*e*P		Pn	18 30 53.6	0.0
IXG	Ixpaco	2.70	314	*e*P		Pn	18 30 60.0	-1.0
NBG	Las Nubes	2.93	321	*e*P		Pn	18 31 06.5	+2.3
MRL	Marmol	3.00	336	*e*P		Pn	18 31 06.2	+1.0
APG	El Apazote	3.32	324	Pn		Pn	18 31 08.2	-1.5
APG	El Apazote comp=Z,3.4nm,0.3s,baz=170,slow=8.2,SNR=16	3.32	324	Pn		Pn	18 31 08.2	-1.5
APG				Sn		Sn	18 31 49.0	+0.9
APG	comp=Z,12nm,0.3s,baz=106,slow=18,SNR=6.3			Lg		Lg	18 32 02.2	
APG	comp=Z,11nm,0.3s,baz=240,slow=22,SNR=5.8			LR		LR	18 32 04.4	
VCR	Vista de Mar	3.51	128	*e*P		Pn	18 31 12.3	+0.2
VCR	comp=Z,418nm,21.1s,baz=141,slow=33			*e*S		Sn	18 32 26.3	+34
JAT	Jato	3.69	303	*e*P		Pn	18 31 15.4	+0.8
JTS	JuntasAbangare	3.97	120	Pn		Pn	18 31 20.0	+1.6
JTS				Sn		Sn	18 32 02.7	-1.0
JTS				Lg		Lg	18 32 22.3	
JTS	JuntasAbangare comp=Z,6.3nm,0.3s,baz=313,slow=14,SNR=24	3.97	120	Pn		Pn	18 31 20.0	+1.6
JTS				Sn		Sn	18 32 02.7	-1.0
JTS	comp=Z,7.2nm,0.3s,baz=277,slow=20,SNR=3.9			Lg		Lg	18 32 22.3	
JCR	Jicaral comp=Z,3.5nm,0.3s,baz=150,slow=20,SNR=2.0	4.08	126	*e*P		Pn	18 31 20.7	+0.7
CGA2	Cerro Gallo 2	4.52	120	*e*P		Pn	18 31 27.2	+1.1
QCR	Quepos	5.09	124	*e*P		Pn	18 31 35.3	+1.6
URSC	Urasca	5.20	118	*e*P		Pn	18 31 38.6	+3.2
BUS	Buena Vista	5.36	120	*e*P		Pn	18 31 40.6	+2.8
TEIG	Tepich	7.88	1	*e*Pn		Pn	18 32 14.8	+2.7
TEIG	Tepich comp=Z,0.8nm,0.3s,baz=93,slow=19,SNR=3.7	7.88	1	Pn		Pn	18 32 12.3	+0.2
TEIG				LR		LR	18 35 34.6	
DWPF	Disney comp=Z,0.2nm,0.7s	17.04	22	*e*Pn		Pn	18 34 13.6	-1.9
HKT	Hockley comp=Z,49nm,1.5s	18.85	340	*e*P		P	18 34 37.5	+0.6
GRTK	Grand Turk comp=Z,317nm,1.6s	18.91	59	*e*Pn		P	18 34 28.9	-8.9
732A	Laxson Ranch, baz=20,SNR=26	19.56	328	↑P		P	18 34 46.1	+1.3
TIGA	Tifton	19.57	12	*e*P		Pn	18 34 46.8	+0.4
TIGA	Tifton baz=20	19.57	12	↑P		Pn	18 34 47.4	+1.1
VBMS	Vicksburg comp=Z,108nm,0.8s	19.91	355	*e*P		Pn	18 34 50.9	+0.5
534A	Blanco baz=20,SNR=48	19.94	334	↓P		P	18 34 48.7	-0.3
632A	Uvalde baz=20	20.11	330	↑P		P	18 34 50.6	-0.1
533A	Kerrville baz=20,SNR=78	20.23	333	↑P		P	18 34 51.8	-0.3
631A	Perdido Creek baz=20	20.42	328	↓P		P	18 34 54.6	+0.4
434A	Burnet baz=21,SNR=47	20.54	335	↓P		P	18 34 55.4	-0.1
335A	Moody baz=21,SNR=5.8	20.63	338	↓P		P	18 34 55.8	-0.5
532A	Rocksprings baz=21,SNR=76	20.68	331	↓P		P	18 34 56.8	-0.2
LRAL	Lakeview Retre comp=Z,30nm,1.0s	20.68	3	*e*P		Pn	18 34 58.1	-1.3
433A	Art baz=21,SNR=52	20.84	333	↓P		P	18 34 58.4	-0.2
JCT	Junction City comp=Z,85nm,0.8s	20.92	332	*e*P		P	18 34 59.0	-0.6
JCT	Junction City baz=21,SNR=33	20.92	332	↓P		P	18 34 59.1	-0.5
334A	Lometa baz=21,SNR=34	20.98	336	↑P		P	18 34 59.5	-0.8
531A	Rocksprings baz=21,SNR=23	21.02	330	↑P		P	18 35 00.9	+0.2
432A	Menard baz=21,SNR=56	21.25	332	↑P		P	18 35 03.6	+0.4
WHTX	Lake Whitney	21.28	338	*e*P		P	18 35 03.3	-0.1
WHTX	Lake Whitney baz=21,SNR=7.2	21.28	338	↑P		P	18 35 03.2	-0.1
333A	Richland Sprin baz=21,SNR=46	21.28	334	↓P		P	18 35 02.7	-0.7
530A	J-C Ranch, Com baz=22,SNR=34	21.41	328	↑P		P	18 35 05.5	+0.7
431A	Sonora baz=22,SNR=46	21.47	330	↓P		P	18 35 06.1	+0.5
332A	Millersview baz=22,SNR=28	21.66	333	↑P		P	18 35 07.4	-0.1
628A	Black Gap, Mar baz=22,SNR=39	21.74	324	↑P		P	18 35 09.9	+1.5
135A	Vickery Place, baz=22,SNR=5.8	21.77	339	↑P		P	18 35 08.8	+0.1
529A	Stev Forest Ra baz=22	21.85	326	↑P		P	18 35 09.5	-0.2
430A	Baggett Ranch, baz=22,SNR=28	21.87	329	↓P		P	18 35 10.4	+0.6
331A	San Angelo baz=22,SNR=59	21.91	332	↑P		P	18 35 10.2	0.0
627A	Terlingua Ranc baz=22,SNR=56	22.00	323	↑P		P	18 35 12.1	+0.7
134A	White-Moore Ra baz=22,SNR=14	22.03	338	↑P		P	18 35 11.5	0.0
232A	Coleman baz=22,SNR=20	22.05	334	↑P		P	18 35 11.1	-0.7
429A	Davenport Ranc baz=22,SNR=38	22.07	328	↓P		P	18 35 12.5	+0.5
TXAR	Lajitas Array	22.08	322	P		P	18 35 12.7	+0.5
TXAR	Lajitas Array comp=Z,16nm,0.7s,baz=145,slow=9.8,SNR=124	22.08	322	P		P	18 35 12.7	+0.5
528A	Cox Ranch, San baz=22,SNR=8.9	22.19	325	↑P		P	18 35 13.5	+0.2
330A	Mertzon baz=22,SNR=45	22.34	330	↓P		P	18 35 14.4	-0.5
133A	Hamilton Ranch baz=22,SNR=20	22.38	336	↓P		P	18 35 14.3	-0.9
231A	Bronte baz=22,SNR=24	22.39	333	↑P		P	18 35 14.1	-1.3
Z35A	Perchaven, San baz=22,SNR=9.3	22.43	340	↑P		P	18 35 14.9	-0.8
626A	Big Bend Ranch baz=23,SNR=20	22.52	322	↓P		P	18 35 17.2	+0.3
428A	Kincaid Ranch, baz=23	22.57	327	↑P		P	18 35 17.7	+0.3
MIAR	Mount Ida comp=Z,56nm,0.9s	22.63	349	*e*P		P	18 35 18.4	+0.6
527A	Woodward Ranch baz=23,SNR=11	22.65	324	↑P		P	18 35 18.4	+0.1
ABTX	Abilene, Hawle	22.68	335	*e*P		P	18 35 16.9	-1.6
ABTX	Abilene, Hawle baz=23,SNR=20	22.68	335	↑P		P	18 35 17.4	-1.2
Z34A	Collier Ranch, baz=23	22.69	339	↓P		P	18 35 17.5	-1.0
230A	Sterling City baz=23,SNR=12	22.71	331	↓P		P	18 35 18.3	-0.6
329A	Wagon Wheel Ra baz=23,SNR=7.9	22.81	329	↓P		P	18 35 19.5	-0.3
JSC	Jenkinsville	22.84	15	*e*P		P	18 35 19.9	-0.1
526A	Mary Lane Ranc baz=23,SNR=12	22.86	323	↓P		P	18 35 20.1	-0.5
Z33A	Whitaker Ranch baz=23,SNR=19	22.92	337	↑P		P	18 35 19.9	-1.1
SWET	Sewanee comp=Z,84nm,1.8s	22.93	5	*e*P		P	18 35 20.8	-0.3
131A	Roby baz=23,SNR=12	23.05	334	↑P		P	18 35 21.8	-0.5
427A	Hayter Ranch, baz=23	23.06	325	↓P		P	18 35 22.0	-0.5
229A	Bryant Ranch, baz=23,SNR=8.7	23.11	330	↓P		P	18 35 22.4	-0.5
328A	Wristen Ranch, baz=23,SNR=71	23.15	327	↑P		P	18 35 22.9	-0.5
Y34A	Reagan Ranch, baz=23,SNR=7.8	23.17	340	↓P		P	18 35 22.8	-0.6
Z32A	Haskell baz=23,SNR=32	23.21	336	↑P		P	18 35 23.0	-0.9
130A	Snyder baz=23,SNR=19	23.23	332	↓P		P	18 35 23.3	-0.9
426A	McDonald Obser baz=23,SNR=11	23.28	324	↑P		P	18 35 24.9	+0.1
CPCT	Cooper Cave	23.32	8	*e*P		P	18 35 26.0	+1.1
Z31A	Sharp Cattle R baz=24,SNR=41	23.50	335	↓P		P	18 35 25.7	-0.9
Y33A	Hilltop Ranch, baz=24	23.52	338	↓P		P	18 35 26.4	-0.4
228A	UT Block 9, Go baz=24,SNR=17	23.62	329	↓P		P	18 35 26.9	-1.1
TKL	Tuckaleechee C	23.64	10	*e*P		P	18 35 28.1	+0.2
TKL	Tuckaleechee C comp=Z,37nm,0.9s,baz=177,slow=10,SNR=26	23.64	10	P		P	18 35 26.1	-1.9
KMSC	Kings Mountain	23.64	15	*e*P		P	18 35 28.2	+0.2
KMSC	Kings Mountain baz=24	23.64	15	↓P		P	18 35 26.1	-1.9
129A	Stewart Farms, baz=24	23.68	331	↑P		P	18 35 27.6	-0.9
WVT	Waverly comp=Z,27nm,1.4s	23.73	1	*e*P		P	18 35 28.6	-0.2
326A	Caldwell Ranch baz=24	23.73	325	↓P		P	18 35 28.8	-0.3
X34A	Smith Ranch, M baz=24,SNR=28	23.78	341	↑P		P	18 35 29.1	-0.2
Y32A	R-V Farms, Ver baz=24	23.81	337	↑P		P	18 35 29.4	-0.3
Z30A	Sanderson Ranc baz=24,SNR=30	23.89	333	↓P		P	18 35 29.5	-1.0
227A	Bennet, Jal baz=24,SNR=13	23.90	328	↓P		P	18 35 30.3	-0.4
425A	Indio Mountain baz=24,SNR=8.2	23.92	323	↑P		P	18 35 30.5	-0.4
X33A	Lawton baz=24,SNR=17	23.95	339	↑P		P	18 35 30.4	-0.6
128A	Castleberry Fa baz=24,SNR=20	23.98	330	↑P		P	18 35 30.5	-0.8
Y31A	Rekieta Farm, baz=24,SNR=38	24.10	335	↑P		P	18 35 31.9	-0.5
X32A	Elmer baz=24,SNR=15	24.13	338	↑P		P	18 35 32.4	-0.2
Z29A	Hungry Hill Ra baz=24,SNR=23	24.13	332	↑P		P	18 35 31.5	-1.2
PARMO	Parma	24.29	357	*e*P		P	18 35 34.3	+0.3
Y30A	Stafford Cattl baz=24,SNR=26	24.29	334	↑P		P	18 35 33.7	-0.5
325A	Bean Ranch, Si baz=24,SNR=12	24.34	324	↓P		P	18 35 33.9	-0.9
W34A	Bridge Creek, baz=24,SNR=29	24.34	341	↑P		P	18 35 34.2	-0.4
226B	Tecolote Peak, baz=24,SNR=16	24.42	326	↑P		P	18 35 35.2	-0.2
TUL1	Tulsa	24.42	345	*e*P		P	18 35 34.8	-0.5
TUL1	Tulsa baz=24,SNR=12	24.42	345	↓P		P	18 35 34.5	-0.8
127A	Arkansas Junct baz=24,SNR=14	24.46	328	↓P		P	18 35 35.5	-0.3
Z28A	Tucker Farm, M baz=25,SNR=19	24.47	331	↓P		P	18 35 34.9	-1.0
W33A	Caddo, Fort Co baz=25	24.50	340	↑P		P	18 35 35.9	-0.1
X31A	McDonald Ranch baz=25,SNR=14	24.57	337	↓P		P	18 35 36.4	-0.4
Y29A	Porterfield Fa baz=25,SNR=30	24.62	333	↓P		P	18 35 36.6	-0.6
GDL2	Guadalupe Moun	24.62	326	*e*P		P	18 35 37.5	+0.3
324A	Moseley Ranch, baz=25,SNR=17	24.69	323	↑P		P	18 35 37.4	-0.5
W32A	Sentinel baz=25,SNR=27	24.74	338	↓P		P	18 35 38.1	-0.1
X30A	Coker Ranch, T baz=25,SNR=29	24.77	335	↓P		P	18 35 38.7	+0.2
126A	Clayton Basin, baz=25,SNR=10	24.78	327	↓P		P	18 35 38.9	+0.3
225A	Deer Hill, Car baz=25	24.80	325	↑P		P	18 35 38.6	-0.4
MNTX	Cornudas Mount comp=Z,6.4nm,0.8s	24.82	324	*e*P		P	18 35 38.1	-0.8
V34A	Guthrie baz=25,SNR=19	24.82	342	↓P		P	18 35 38.1	-0.8
Z27A	Tatum baz=25,SNR=29	24.89	330	↑P		P	18 35 38.6	-1.2
Y28A	McKinney Farm, baz=25,SNR=30	24.92	332	↓P		P	18 35 39.5	-0.5
V33A	Lossen Ranch, baz=25,SNR=9.3	25.05	341	↓P		P	18 35 40.3	-0.6
W31A	Holland Ranch, baz=25,SNR=6.3	25.05	337	↓P		P	18 35 40.3	-0.7
X29A	Tulia baz=25,SNR=23	25.12	334	↓P		P	18 35 41.8	0.0
125A	Gardner Draw, baz=25,SNR=16	25.13	326	↑P		P	18 35 41.6	-0.3
224A	Cornudas Mount baz=25,SNR=6.1	25.17	324	↑P		P	18 35 41.9	-0.4
V32A	Arapaho baz=25,SNR=11	25.21	339	↓P		P	18 35 42.3	-0.1
MSTX	Muleshoe	25.21	331	*e*P		P	18 35 42.1	-0.6
MSTX	Muleshoe baz=25,SNR=33	25.21	331	↑P		P	18 35 42.5	-0.2
Z26A	Caprock baz=25,SNR=5.2	25.25	328	↓P		P	18 35 42.9	0.0
W30A	Crocket Farms baz=25	25.29	336	↑P		P	18 35 43.1	-0.2
Y27A	Causey baz=25,SNR=35	25.33	330	↓P		P	18 35 43.6	-0.1
U34A	Anderson Ranch baz=25,SNR=9.9	25.39	343	↓P		P	18 35 43.3	-0.7
X28A	Dimmitt baz=26,SNR=17	25.41	333	↓P		P	18 35 44.4	+0.1
AMTX	Amarillo comp=Z,109nm,1.2s	25.49	334	*e*P		P	18 35 45.0	-0.1
AMTX	Amarillo baz=26	25.49	334	↓P		P	18 35 45.7	+0.6
V31A	Spring Creek L baz=26,SNR=12	25.54	338	↑P		P	18 35 45.3	-0.1
124A	Stringfield Ra baz=26,SNR=6.7	25.60	325	↓P		P	18 35 45.7	-0.6
Z25A	Roswell baz=26,SNR=19	25.64	327	↑P		P	18 35 46.6	+0.1
W29A	Amraillo baz=26,SNR=9.9	25.68	334	↓P		P	18 35 46.6	-0.2
Y26A	Elida baz=26,SNR=20	25.69	329	↑P		P	18 35 47.4	+0.5
U32A	Winter Ranch, baz=26,SNR=12	25.79	340	↑P		P	18 35 48.0	+0.3
WCI	Wyandotte Cave comp=Z,28nm,0.9s	25.89	4	*e*P		P	18 35 47.5	-1.2
X27A	F and S Farms, baz=26,SNR=8.5	25.92	332	↓P		P	18 35 49.2	+0.1
Z24A	Sheeppen Canyo baz=26,SNR=14	26.02	326	↓P		P	18 35 50.5	+0.4
W28A	Vega baz=26	26.03	334	↓P		P	18 35 50.4	+0.4
U31A	Nine Bar Ranch baz=26	26.07	339	↑P		P	18 35 49.7	-0.6
Y25A	Mesa, Roswell baz=26,SNR=40	26.12	328	↑P		P	18 35 51.4	+0.5
X26A	CR and CF Fran baz=26,SNR=24	26.18	330	↑P		P	18 35 51.0	-0.5
T33A	Patterson Ranc baz=26,SNR=9.3	26.20	342	↑P		P	18 35 50.7	-0.7
W27A	Bowe Ranch, En baz=26,SNR=34	26.25	332	↑P		P	18 35 52.4	+0.4
V29A	Stinnett baz=26	26.27	335	↑P		P	18 35 52.5	+0.4
Z23A	Rita Site, Whi baz=26	26.45	325	↑P		P	18 35 56.1	+2.2
V28A	Channing baz=26	26.46	334	↓P		P	18 35 54.0	+0.1
221A	Mesquite Ranch baz=27	26.47	321	↓P		P	18 35 56.0	+1.9
122A	Conniff Cattle baz=27	26.48	323	↓P		P	18 35 53.8	-0.4
320A	Kipp Ranch, An baz=27	26.49	319	↑P		P	18 35 55.0	+0.7
T32A	Huddler Ranch, baz=27,SNR=7.3	26.50	341	↑P		P	18 35 54.2	+0.1
U30A	WK&E Inc. Balk baz=27	26.51	338	↓P		P	18 35 55.5	+1.2
Y24A	Capitan baz=27,SNR=17	26.52	327	↓P		P	18 35 55.7	+1.2
X25A	Clemmons Ranch baz=27	26.59	329	↑P		P	18 35 56.5	+1.5
W26A	Owens Ranch, T baz=27	26.60	331	↑P		P	18 35 54.5	-0.7
T31A	Randall Ranch, baz=27,SNR=7.2	26.67	340	↑P		P	18 35 55.1	-0.5
U29A	Oasis Ranch, S baz=27	26.67	337	↓P		P	18 35 55.1	-0.7
121A	Cookes Peak, D comp=Z,12nm,0.9s	26.84	322	*e*P		P	18 35 58.5	+1.1
121A	Cookes Peak, D baz=27,SNR=5.9	26.84	322	↓P		P	18 35 57.0	-0.4
Y23A	Lovelace Mesa, baz=27,SNR=16	26.85	326	↑P		P	18 35 57.2	-0.4
Z22A	Elephant Butte baz=27	26.86	324	↓P		P	18 35 57.0	-0.6
220A	Playas Peak, P baz=27	26.86	320	↑P		P	18 35 57.2	-0.4
T30A	Plains baz=27,SNR=8.9	26.93	338	↓P		P	18 35 58.9	+0.9
S32A	Newby Ranch, P baz=27,SNR=6.0	26.98	341	↓P		P	18 35 58.4	0.0
U28A	Mallet baz=27	26.99	335	↑P		P	18 35 58.6	-0.1
319A	Douglas baz=27	27.00	318	↑P		P	18 35 59.5	+0.6
W25A	X Bar L Ranch, baz=27,SNR=19	27.04	330	↑P		P	18 35 59.7	+0.5
S31A	Mullinville baz=27	27.08	340	↑P		P	18 36 00.2	+0.9
V26A	Tequesquite Ra baz=27,SNR=49	27.19	332	↓P		P	18 36 01.7	+1.3
R33A	Olander Ranch, baz=27	27.26	343	↑P		P	18 36 01.1	+0.1
U27A	Thompson Grove baz=27,SNR=24	27.28	334	↓P		P	18 36 01.8	+0.4
T29A	Hugoton baz=27,SNR=9.5	27.30	337	↑P		P	18 36 01.4	0.0
Z21A	St. Cloud Mine baz=27	27.31	323	↓P		P	18 36 03.9	+2.1
BNM	Barren Site comp=Z,15nm,1.1s	27.33	326	*e*P		P	18 36 03.4	+1.5
Y22A	Socorro baz=28,SNR=13	27.36	325	↑P		P	18 36 03.6	+1.5
120A	U Bar Ranch, L baz=28	27.36	321	↑P		P	18 36 03.8	+1.7
X23A	Hourglass Bar baz=28	27.42	327	↓P		P	18 36 04.5	+1.9
S30A	Montezuma baz=28,SNR=11	27.43	339	↓P		P	18 36 01.9	-0.7
Y22D	IRIS PASSCAL I baz=28	27.44	325	↑P		P	18 36 05.5	+2.8
LPM	Los Pinos Moun	27.45	326	*e*P		P	18 36 05.7	+2.7
W24A	Lazy 6 Ranch, baz=28,SNR=6.2	27.50	329	↑P		P	18 36 05.0	+1.6
LENM	Lemitar	27.54	325	*e*P		P	18 36 06.9	+3.2
R32A	Long Quarter, baz=28,SNR=5.8	27.57	342	↓P		P	18 36 04.0	+0.2
T28A	Walsh baz=28	27.59	336	↑P		P	18 36 04.0	0.0
V25A	Rancho No Teng baz=28,SNR=36	27.61	331	↓P		P	18 36 04.8	+0.5
S29A	Ulysses baz=28	27.64	338	↓P		P	18 36 04.8	+0.3
KSU1	Kansas State U comp=Z,28nm,0.8s	27.66	346	*e*P		P	18 36 02.7	-1.8
U26A	Atchley Ranch, baz=28,SNR=30	27.66	333	↑P		P	18 36 06.0	+1.2
R31A	Burdett baz=28,SNR=11	27.70	341	↓P		P	18 36 05.1	+0.2
Z20A	Nine Sixteen R baz=28	27.73	322	↓P		P	18 36 05.4	0.0
T27A	Campo baz=28,SNR=11	27.78	335	↑P		P	18 36 06.0	+0.2
V24A	Rampart Ranch, baz=28,SNR=11	27.84	330	↑P		P	18 36 07.2	+0.8
ANMO	Albuquerque comp=Z,39nm,2.3s	27.84	327	*e*P		P	18 36 08.2	+1.8
ANMO	Albuquerque comp=Z,3.0nm,0.6s,baz=133,slow=10,SNR=12	27.84	327	P		P	18 36 08.2	+1.8
W23A	Werner Place, baz=28,SNR=9.0	27.84	328	↑P		P	18 36 07.1	+0.7
Q33A	Connelly Farm, baz=28	27.86	344	↓P		P	18 36 06.1	-0.2
S28A	Manter baz=28,SNR=11	27.91	337	↓P		P	18 36 07.4	+0.5
R30A	Dighton baz=28,SNR=7.8	27.94	340	↓P		P	18 36 07.7	+0.6
U25A	Circle Dot Ran baz=28,SNR=16	27.97	332	↓P		P	18 36 08.0	+0.5
SFIN

ACSO **Alum Creek Sta** 28.23 9 *eP* P 18 36 09.8 +0.2
comp=Z,254nm,2.5s
T26A **Comanche Natio** 28.25 334 ⇑P P 18 36 10.9 +0.9
baz=28
Q31A **Ellis** 28.32 342 ⇑P P 18 36 11.0 +0.6
baz=28
R29A **Marienthal** 28.37 339 ⇑P P 18 36 11.8 +0.9
baz=28
S27A **Las Animas** 28.39 335 ⇓P P 18 36 12.0 +0.8
baz=28
R28A **Tribune** 28.54 338 ⇓P P 18 36 12.8 +0.4
baz=29,SNR=16
Q30A **Quinter** 28.55 341 ⇓P P 18 36 13.3 +0.8
baz=29,SNR=7.4
S26A **Kim** 28.57 335 ⇓P P 18 36 13.7 +0.8
baz=29,SNR=13
T25A **Trinidad** 28.58 333 ⇑P P 18 36 14.9 +1.9
baz=29,SNR=18
TUC **Tucson** 28.58 318 *eP* P 18 36 12.8 -0.2
comp=Z,10.0nm,1.1s
P32A **Huiting Farm,** 28.66 344 ⇓P P 18 36 14.1 +0.7
baz=29
Q29A **Oakley** 28.73 339 ⇑P P 18 36 14.6 +0.5
baz=29
U23A **El Rito** 28.77 329 ⇓P P 18 36 16.2 +1.5
baz=29,SNR=17
P31A **Stockton** 28.79 342 ⇓P P 18 36 14.7 +0.1
baz=29
V22A **San Miguel Ran** 28.82 328 ⇑P P 18 36 15.6 +0.5
baz=29
R27A **Eads** 28.87 336 ⇓P P 18 36 15.7 +0.3
baz=29
T24B **San Luis** 28.96 331 ⇓P P 18 36 16.9 +0.4
baz=29
S25A **Robets Cordova** 29.02 333 ⇑P P 18 36 18.4 +1.5
baz=29,SNR=12
P30A **Selden** 29.07 341 ⇓P P 18 36 17.8 +0.6
baz=29,SNR=5.5
R26A **Arlington** 29.14 335 ⇑P P 18 36 18.2 +0.4
baz=29
U22A **Llaves** 29.14 328 ⇑P P 18 36 18.9 +0.8
baz=29
O32A **Brockman Farm,** 29.17 344 ⇑P P 18 36 18.4 +0.4
baz=29
Q28A **Sharon Springs** 29.18 338 ⇓P P 18 36 18.6 +0.4
baz=29
T23A **Casias Ranch,** 29.25 330 ⇓P P 18 36 20.2 +1.1
baz=29
P29A **Atwood** 29.35 340 ⇑P P 18 36 20.4 +0.7
baz=29
S24A **Houchin Ranch,** 29.35 332 ⇑P P 18 36 21.3 +1.3
baz=29
O31A **Woolen Ranch,** 29.35 343 ⇓P P 18 36 19.8 +0.2
baz=29
R25A **Fountain Ranch** 29.36 334 ⇓P P 18 36 19.4 -0.4
baz=29
KSCO **Kaye Shedlock'** 29.43 337 *eP* P 18 36 21.3 +0.9
KSCO **Kaye Shedlock'** 29.43 337 ⇓P P 18 36 20.8 +0.4
baz=30,SNR=8.3
X18A **Snowflake** 29.52 322 ⇑P P 18 36 22.1 +0.8
baz=30
SDCO **Great Sand Dun** 29.57 332 *eP* P 18 36 23.6 +1.8
comp=Z,11nm,0.9s
O30A **MW Ranch, Wils** 29.60 342 ⇑P P 18 36 22.2 +0.4
baz=30
P28A **Saint Francis** 29.61 339 ⇑P P 18 36 22.7 +0.8
baz=30
N32A **Stulken Farm,** 29.64 345 ⇓P P 18 36 22.5 +0.3
baz=30
Q26A **Hugo** 29.70 336 ⇓P P 18 36 24.3 +1.5
baz=30
R24A **Sanders Place,** 29.79 333 ⇓P P 18 36 24.7 +1.0
baz=30
P27A **Ficken Ranch,** 29.89 338 ⇓P P 18 36 26.0 +1.5
baz=30
Q25A **Bedland, Calha** 29.99 335 ⇓P P 18 36 26.4 +0.9
baz=30,SNR=12
R23A **Moffat** 30.08 332 ⇑P P 18 36 28.5 +2.1
baz=30,SNR=19
O28A **Krutsinger Ran** 30.11 339 ⇓P P 18 36 28.0 +1.6
baz=30
P26A **Davis Ranch, A** 30.18 337 ⇓P P 18 36 28.1 +1.0
baz=30
S22A **4UR Ranch, Cre** 30.20 330 ⇓P P 18 36 29.4 +2.0
baz=30,SNR=8.6
BGNE **Belgrade** 30.21 345 *eP* P 18 36 27.6 +0.4
comp=Z,40nm,0.6s
BGNE **Belgrade** 30.21 345 ⇓P P 18 36 27.2 -0.1
baz=30
X16A **Lo Mia Camp, P** 30.36 320 ⇑P P 18 36 30.4 +1.6
baz=30
M31A **Lambtecht Ranc** 30.37 344 ⇑P P 18 36 29.5 +1.0
baz=30
O27A **Beecher Island** 30.41 338 ⇓P P 18 36 29.5 +0.5
baz=30
Q24A **Divide** 30.41 334 ⇑P P 18 36 29.9 +0.5
baz=30
P25A **Willow Gulch B** 30.47 336 ⇑P P 18 36 30.6 +0.9
baz=30
MVCO **Mesa Verde** 30.63 328 *eP* P 18 36 33.4 +2.2
comp=Z,9.5nm,0.8s
MVCO **Mesa Verde** 30.63 328 ⇑P P 18 36 32.9 +1.7
baz=31
O26A **Horse Wrangler** 30.76 337 ⇓P P 18 36 33.8 +1.6
baz=31
M29A **Burnside Ranch** 30.95 342 ⇓P P 18 36 34.5 +0.8
baz=31
O25A **Wiggins** 30.96 336 ⇓P P 18 36 34.3 +0.4
baz=31
N27A **Anderson Farm,** 30.98 339 ⇓P P 18 36 35.2 +1.1
baz=31
WUAZ **Wupatki** 31.05 322 ⇑P P 18 36 36.4 +1.6
baz=31
Y14A **Wickenburg** 31.05 318 ⇑P P 18 36 37.0 +2.2
baz=31
P23A **Jefferson** 31.05 333 ⇑P P 18 36 37.2 +2.1
baz=31,SNR=16
L31A **Butterfield Fa** 31.11 345 ⇑P P 18 36 35.9 +0.7
baz=31
M28A **Bar X Bar Ranc** 31.11 341 ⇓P P 18 36 35.5 +0.3
baz=31
L30A **Spencer Herefo** 31.13 344 ⇓P P 18 36 36.8 +1.4
baz=31
N26A **Koester Ranch,** 31.24 338 ⇓P P 18 36 37.5 +1.1
baz=31
ISCO **Idaho Springs** 31.31 334 *eP* P 18 36 38.6 +1.4
comp=Z,13nm,0.9s
ISCO **Idaho Springs** 31.31 334 ⇓P P 18 36 38.9 +1.7
baz=31,SNR=11
O24A **Longmont** 31.35 335 ⇓P P 18 36 38.5 +1.0
baz=31
P22A **Eagle** 31.64 332 ⇑P P 18 36 41.6 +1.5
baz=32
PV04 **Paradox Valley** 31.73 329 *eP* P 18 36 42.7 +1.9
GLA **Glamis** 31.76 315 *eP* P 18 36 42.6 +1.6
comp=Z,7.9nm,0.8s
GLA **Glamis** 31.76 315 ⇓P P 18 36 42.4 +1.4
baz=32
K30A **Basset** 31.78 344 ⇓P P 18 36 42.2 +1.3
baz=32,SNR=8.7
O23A **Lake Granby, G** 31.78 334 ⇑P P 18 36 43.6 +2.3
baz=32,SNR=5.9
N24A **Carr** 31.87 336 ⇓P P 18 36 43.6 +1.6
baz=32
O22A **Kremmling** 32.01 333 ⇑P P 18 36 45.2 +1.8
baz=32,SNR=7.5
ECSD **EROS Data Cent** 32.10 349 *eP* P 18 36 42.5 -1.3
U15A **North Rim** 32.21 322 ⇑P P 18 36 45.5 +0.3
baz=32
K28A **Ten Mile Ranch** 32.31 342 ⇑P P 18 36 46.5 +0.8
baz=32
J30A **Dallas** 32.35 345 ⇓P P 18 36 46.3 +0.3
baz=32,SNR=6.1
N23A **Red Feather La** 32.36 335 ⇓P P 18 36 48.2 +1.8
baz=32,SNR=5.3
M24A **Cheyenne** 32.40 337 ⇓P P 18 36 48.0 +1.3
baz=32
N22A **Wattenberg Ran** 32.50 334 ⇓P P 18 36 49.4 +1.8
baz=33,SNR=13
BC3 **Big Chuckawall** 32.53 315 ⇑P P 18 36 49.2 +1.4
baz=33
J29A **Okreek** 32.65 344 ⇓P P 18 36 49.1 +0.5
baz=33,SNR=9.8
O20A **White River Ci** 32.76 331 *eP* P 18 36 51.2 +1.4
O20A **White River Ci** 32.76 331 ⇑P P 18 36 52.3 +2.5
baz=33,SNR=19
MONP **Monument Peak** 32.79 313 ⇓P P 18 36 52.1 +1.9
baz=33
SAML **Samuel** 32.81 129 *eP* P 18 36 49.0 -1.3
comp=Z,6.1nm,1.0s
I30A **Oacoma** 32.89 345 ⇑P P 18 36 50.5 -0.2
baz=33,SNR=11
J28A **Allard Ranch,** 32.92 343 ⇓P P 18 36 51.2 +0.1
baz=33,SNR=8.6
J27A **Elkhorn Farm,** 32.99 342 ⇓P P 18 36 52.5 +0.8
baz=33
SPMN **St. Paul** 33.02 354 *eP* P 18 36 50.8 -1.0
SPMN **St. Paul** 33.02 354 ⇑P P 18 36 50.6 -1.2
baz=33,SNR=22
M22A **Cedar Creek Ra** 33.06 335 ⇓P P 18 36 53.6 +1.2
baz=33
BELC **Belle Mtn. Jos** 33.10 315 ⇑P P 18 36 54.0 +1.2
baz=33
SRU **San Rafael** 33.11 328 *eP* P 18 36 55.0 +2.1
comp=Z,27nm,1.7s
I29A **Vivian Onida** 33.21 344 ⇑P P 18 36 53.6 0.0
baz=33,SNR=6.2
BRSD **Miller** 33.27 346 *eP* P 18 36 53.3 -0.8
BRSD **Miller** 33.27 346 ⇓P P 18 36 54.0 -0.1
baz=33
L23A **Garrett** 33.29 336 ⇓P P 18 36 55.5 +1.1
baz=33
N20A **Spence Gulch,** 33.32 332 ⇑P P 18 36 55.4 +0.6
baz=33,SNR=11
J26A **Sides Ranch, S** 33.39 340 ⇓P P 18 36 56.2 +1.1
baz=34,SNR=9.2
I28A **Midland** 33.43 343 ⇑P P 18 36 55.7 +0.2
baz=34
L22A **Ellis Ranch, M** 33.51 335 ⇓P P 18 36 57.5 +1.1
baz=34
CCUT **Cedar City** 33.59 323 *eP* P 18 37 01.6 +4.4
comp=Z,17nm,1.7s
J25A **Sunshine Ranch** 33.70 340 ⇑P P 18 36 58.7 +0.8
baz=34
MURC **Murrieta** 33.72 314 ⇓P P 18 37 00.6 +2.5
baz=34
I27A **Quinn** 33.75 342 ⇓P P 18 36 59.5 +1.2
baz=34
H29A **Onida** 33.75 345 ⇓P P 18 36 58.2 0.0
baz=34
HEC **Hector,Ludlow** 33.79 316 ⇓P P 18 37 00.9 +2.1
baz=34
K23A **Bowen Ranch, D** 33.80 337 ⇓P P 18 37 01.1 +2.3
baz=34
J24A **Dixon Ranch, L** 33.95 339 ⇓P P 18 37 01.1 +1.1
baz=34
I26A **New Underwood** 33.96 341 ⇓P P 18 37 02.3 +2.2
baz=34
G30A **Faulkton** 33.97 346 ⇓P P 18 36 59.4 -0.7
baz=34,SNR=7.2
H28A **Mission Ridge** 34.01 344 ⇑P P 18 37 00.6 +0.1
baz=34
K22A **Casper** 34.07 336 *eP* P 18 37 03.0 +1.8
K22A **Casper** 34.07 336 ⇑P P 18 37 02.7 +1.5
baz=34
I25A **Rochford** 34.23 340 ⇑P P 18 37 04.4 +1.8
baz=34
H27A **Howes** 34.27 343 ⇓P P 18 37 03.6 +0.9
baz=34,SNR=8.7
K21A **Alcova** 34.35 335 ⇑P P 18 37 06.2 +2.5
baz=34
G28A **Parade** 34.35 344 ⇓P P 18 37 04.0 +0.6
baz=34
MPU **Maple Canyon** 34.35 328 *eP* P 18 37 06.7 +2.9
comp=Z,12nm,0.9s
I24A **Kuemmerle Ranc** 34.40 339 ⇑P P 18 37 05.5 +1.6
baz=34
RSSD **Black Hills** 34.42 340 *eP* P 18 37 05.1 +0.8
comp=Z,2.4nm,0.9s
DAU **Daniels Canyon** 34.45 328 *eP* P 18 37 07.2 +2.5
H26A **Fairpoint** 34.47 342 ⇑P P 18 37 06.8 +2.3
baz=34
JLU **Jordanelle** 34.69 328 *eP* P 18 37 09.3 +2.6
comp=Z,65nm,2.5s
TPNV **Topopah Spring** 34.99 319 ⇓P P 18 37 11.6 +2.4
baz=35
J21A **Lysite** 35.02 336 ⇓P P 18 37 11.1 +1.7
baz=35,SNR=8.9
G26A **Maurine** 35.03 343 ⇓P P 18 37 10.1 +0.8
baz=35
FURC **Furnace Creek,** 35.09 318 ⇑P P 18 37 12.1 +2.3
baz=35
I22A **9 Mile Ranch,** 35.10 337 ⇓P P 18 37 11.1 +1.1
baz=35,SNR=9.6
DUG **Dugway** 35.11 327 *eP* P 18 37 13.0 +2.8
comp=Z,7.6nm,1.1s
DUG **Dugway** 35.11 327 ⇑P P 18 37 12.2 +2.0
baz=35
H24A **Dirks Ranch, A** 35.15 340 ⇑P P 18 37 10.6 +0.1
baz=35,SNR=16
G25A **Newell** 35.18 342 ⇓P P 18 37 12.0 +1.3
baz=35
MPMC **Manual Prospec** 35.27 317 ⇑P P 18 37 13.0 +1.3
baz=35
H23A **Clabaugh Cattl** 35.28 339 ⇓P P 18 37 13.2 +1.7
baz=35
J20A **Shoshoni** 35.29 335 ⇓P P 18 37 12.7 +1.1
baz=35
I21A **Big Trails, Te** 35.35 336 ⇓P P 18 37 12.8 +0.6
baz=35
F27A **Lemmon** 35.39 344 ⇑P P 18 37 12.0 -0.4
baz=36,SNR=9.1
E29A **Napoleon** 35.44 347 ⇑P P 18 37 12.4 -0.4
baz=36,SNR=5.4
R11A **Troy Canyon, C** 35.45 322 ⇑P P 18 37 12.8 -0.3
baz=36
BW06 **Boulder Array** 35.45 333 *eP* P 18 37 13.9 +0.7
comp=Z,5.3nm,0.9s
PDAR **Pinedale Array** 35.45 333 P P 18 37 14.4 +1.2
PDAR PcP PcP 18 39 43.6 +1.2
PDAR **Pinedale Array** 35.45 333 P P 18 37 14.4 +1.2
comp=Z,3.8nm,0.9s,baz=125,slow=9.2,SNR=14
PDAR PcP PcP 18 39 43.6 +1.2
comp=Z,1.4nm,0.8s,baz=152,slow=4.2,SNR=5.5
F26A **Lodgepole** 35.55 343 ⇓P P 18 37 14.6 +0.7
baz=36,SNR=5.0
G24A **Alzada** 35.62 341 ⇓P P 18 37 14.3 -0.2
baz=36
EYMN **Ely** 35.62 356 *eP* P 18 37 12.6 -1.7
comp=Z,15nm,0.8s
J19A **Crowheart** 35.62 334 ⇑P P 18 37 16.2 +1.6
baz=36
H22A **Clearmont** 35.65 338 ⇓P P 18 37 15.8 +1.0
baz=36,SNR=5.3
ARVC **Arvin** 35.67 315 ⇑P P 18 37 16.1 +1.2
baz=36
E28A **Huff** 35.70 345 ⇑P P 18 37 16.8 +1.8
baz=36
BGU **Big Grassy Mou** 35.75 327 *eP* P 18 37 17.4 +1.8
comp=Z,5.9nm,1.3s
D30A **Buchanan** 35.76 348 ⇓P P 18 37 15.3 -0.2
baz=36,SNR=9.2
E27A **Carson** 35.78 344 ⇑P P 18 37 16.0 +0.2
baz=36
I20A **Worland** 35.80 335 ⇓P P 18 37 17.4 +1.4
baz=36,SNR=9.1
G23A **Biddle** 35.84 339 ⇓P P 18 37 17.0 +0.7
baz=36
F25A **Bowman** 35.85 342 ⇑P P 18 37 17.0 +0.6
baz=36,SNR=9.9
D29A **Pettibone, Tap** 35.90 347 ⇑P P 18 37 16.3 -0.4
baz=36
H21A **Big Horn, Sher** 35.94 337 ⇓P P 18 37 17.6 +0.3
baz=36
E26A **Carlson Angus** 36.06 343 ⇑P P 18 37 18.6 +0.5
baz=36
F24A **Ekalaka** 36.09 341 ⇓P P 18 37 19.0 +0.5
baz=36,SNR=8.8
G22A **Birney** 36.17 338 ⇓P P 18 37 19.3 +0.2
baz=36
H20A **Greybull** 36.19 336 ⇑P P 18 37 19.8 +0.4
baz=36,SNR=9.9
I19A **Meeteetse** 36.23 335 ⇑P P 18 37 21.1 +1.3
baz=36,SNR=6.0
HVU **Hansel Valley** 36.23 329 *eP* P 18 37 21.0 +1.1
comp=Z,5.2nm,0.8s
D28A **Regan** 36.24 346 ⇓P P 18 37 20.1 +0.4
baz=36,SNR=8.6
C30A **Mose, Pekin** 36.28 349 ⇑P P 18 37 19.6 -0.4
baz=36,SNR=8.3
F23A **Volborg** 36.30 340 ⇑P P 18 37 20.2 0.0
baz=36
E25A **Miller Ranch,** 36.36 343 ⇑P P 18 37 21.1 +0.4
baz=36
D27A **Center** 36.40 345 ⇓P P 18 37 23.5 +2.5
baz=36
AGMN **Agassiz Nation** 36.41 352 *eP* P 18 37 19.8 -1.3
comp=Z,33nm,0.8s
REDW **Red Top Meadow** 36.50 332 *eP* P 18 37 22.5 +0.3
comp=Z,18nm,0.8s
G21A **Lodge Grass** 36.51 338 ⇑P P 18 37 22.2 +0.2
baz=37
D26A **Manning** 36.57 344 ⇓P P 18 37 22.7 +0.3
baz=37
LOHW **Long Hollow** 36.59 333 *eP* P 18 37 22.9 0.0
comp=Z,8.2nm,1.0s
F22A **Rosebud** 36.64 339 ⇓P P 18 37 23.4 +0.3
baz=37
TPAW **Teton Pass** 36.65 332 *eP* P 18 37 26.3 +2.8
comp=Z,12nm,0.8s
E24A **Baker** 36.68 342 ⇑P P 18 37 23.9 +0.4
baz=37,SNR=12
C28A **Hausauer Farms** 36.69 346 ⇑P P 18 37 24.0 +0.5
baz=37
MTUM **Tungsten Hills** 36.72 318 *eP* P 18 37 22.0 -2.1
H19A **Powell** 36.74 335 ⇑P P 18 37 24.6 +0.5
baz=37
MOOW **Moose Ponds** 36.76 333 *eP* P 18 37 26.5 +2.2
comp=Z,4.9nm,0.9s
FXWY **Fox Creek** 36.80 332 *eP* P 18 37 27.3 +2.6
comp=Z,87nm,3.0s
I17A **Pilgrim Ck.** 36.81 333 ⇓P P 18 37 26.8 +1.9
baz=37
ELK **Elko** 36.82 325 *eP* P 18 37 28.8 +3.9
comp=Z,14nm,1.8s
G20A **Bridger** 36.89 337 ⇑P P 18 37 26.3 +1.0
baz=37,SNR=7.2
D25A **Fairfield** 36.92 343 ⇓P P 18 37 26.0 +0.5
baz=37
E23A **Ismay** 36.95 341 ⇑P P 18 37 25.3 -0.4
baz=37,SNR=8.8
B30A **Myrvik Farm, E** 36.97 349 ⇑P P 18 37 25.0 -0.8
baz=37,SNR=5.5
FLWY **Flagg Ranch** 37.00 333 *eP* P 18 37 28.8 +2.5
comp=Z,6.8nm,0.8s
E22A **Miles City** 37.11 340 ⇓P P 18 37 28.0 +0.9
baz=37
NVAR **Mina Array Bea** 37.18 320 P P 18 37 29.6 +1.7
NVAR PcP PcP 18 39 48.6 +1.0
NVAR **Mina Array Bea** 37.18 320 P P 18 37 29.6 +1.7
comp=Z,4.7nm,0.9s,baz=138,slow=7.5,SNR=11
NVAR PcP PcP 18 39 48.6 +1.0
comp=Z,2.2nm,0.8s,baz=119,slow=4.1,SNR=5.4
B29A **Wagenman Farm,** 37.18 348 ⇓P P 18 37 27.7 +0.1
baz=37,SNR=5.6
D24A **Glendive** 37.19 342 ⇑P P 18 37 28.2 +0.5
baz=37
C26A **Wahner Farm, P** 37.21 345 ⇓P P 18 37 27.8 -0.1
baz=37
RLMT **Red Lodge** 37.23 335 *eP* P 18 37 27.9 -0.4
comp=Z,12nm,0.8s
F20A **Billings** 37.35 337 ⇑P P 18 37 29.7 +0.5
baz=37
B28A **Dugan Ranch, T** 37.38 347 ⇑P P 18 37 29.1 -0.1
baz=37,SNR=8.0
A30A **Hoffart Farm,** 37.43 349 ⇑P P 18 37 29.0 -0.7
baz=38,SNR=8.9
D23A **Lindsay** 37.51 341 ⇑P P 18 37 31.7 +1.2
baz=38
YMR **Madison River** 37.58 333 *eP* P 18 37 34.7 +3.4
comp=Z,13nm,0.8s
E21A **Keefer Ranch,** 37.58 339 ⇑P P 18 37 31.2 +0.1
baz=38,SNR=8.8
C24A **Savage** 37.59 342 ⇑P P 18 37 31.4 +0.3
baz=38,SNR=7.0
A29A **Manning Farm,** 37.59 348 ⇓P P 18 37 31.1 0.0
baz=38,SNR=11
F19A **Roth Farm, Mol** 37.70 336 ⇓P P 18 37 33.2 +1.1
baz=38,SNR=9.1
B26A **Jensen Ranch,** 37.76 345 ⇑P P 18 37 32.8 +0.3
baz=38
A28A **Rude Farm, Bot** 37.79 347 ⇑P P 18 37 32.6 -0.2
baz=38
D22A **Cohagen** 37.80 340 ⇓P P 18 37 34.2 +1.2
baz=38
B25A **Knox Farm, Ray** 37.90 344 ⇓P P 18 37 34.7 +1.0
baz=38
E20A **Meyer Farm, Mu** 37.93 338 ⇑P P 18 37 34.7 +0.6
baz=38,SNR=16
GCMT **Greycliff** 37.93 336 *eP* P 18 37 34.4 +0.2
comp=Z,4.1nm,0.5s
D21A **La Casta Ranch** 38.01 339 ⇑P P 18 37 35.9 +1.2
baz=38
C23A **Lambert** 38.06 342 ⇑P P 18 37 36.0 +0.8
baz=38
E19A **Rath Farm, Rou** 38.14 337 ⇓P P 18 37 36.5 +0.6
baz=38
A26A **Wade Farm, Ken** 38.19 345 ⇓P P 18 37 36.5 +0.3
baz=38,SNR=7.8
C22A **Vida** 38.23 341 ⇓P P 18 37 37.1 +0.5
baz=38,SNR=7.1
ULM **Lac du Bonnet** 38.33 352 P P 18 37 35.7 -1.6
comp=Z,25nm,0.8s,baz=170,slow=8.7,SNR=32
HLID **Hailey** 38.36 329 ⇑P P 18 37 38.8 +0.9
baz=38
DGMT **Dagmar** 38.37 343 *eP* P 18 37 38.2 +0.5
comp=Z,54nm,0.6s
DGMT **Dagmar** 38.37 343 ⇑P P 18 37 38.6 +1.0
baz=38
D20A **Manuel Ranch,** 38.43 338 ⇓P P 18 37 39.2 +1.0
baz=38,SNR=15
MCMT **McKenzie Canyo** 38.55 332 *eP* P 18 37 40.2 +0.7
comp=Z,7.7nm,0.9s
B23A **Brockton** 38.59 342 ⇓P P 18 37 40.4 +0.8
baz=39,SNR=5.2
BOZ **Bozeman (W)** 38.64 334 *eP* P 18 37 42.3 +2.2
comp=Z,132nm,2.6s
C21A **Desert Coulee** 38.70 340 ⇓P P 18 37 41.8 +1.3
baz=39
A24A **Westby** 38.73 344 ⇑P P 18 37 42.0 +1.3
baz=39,SNR=8.5
B22A **Reddig Ranch S** 38.76 341 ⇑P P 18 37 42.1 +1.1
baz=39,SNR=6.3
D19A **Cripps Ranch,** 38.77 338 ⇑P P 18 37 42.6 +1.5
baz=39
C20A **Veseth Ranch,** 38.91 339 ⇓P P 18 37 43.5 +1.2
baz=39
A23A **Redstone** 39.01 343 ⇓P P 18 37 42.9 -0.1
baz=39
SIV **San Ignacio** 39.04 135 P P 18 37 44.7 +1.0
SIV **San Ignacio** 39.04 135 P P 18 37 44.7 +1.0
comp=Z,7.0nm,0.9s,baz=321,slow=10.0,SNR=16
LRM **Limekiln Ridge** 39.13 333 *eP* P 18 37 45.4 +1.0
C19A **Slack Wire Ran** 39.31 338 ⇑P P 18 37 46.7 +1.0
baz=39,SNR=14
A22A **Carney Farms,** 39.34 342 ⇑P P 18 37 47.0 +1.1
baz=39
B20A **Solberg Farm,** 39.54 339 ⇓P P 18 37 48.4 +0.9
baz=40
HRY **Holter Researc** 39.56 335 *eP* P 18 37 50.6 +2.8
A21A **Bergtoll Ranch** 39.66 341 ⇑P P 18 37 49.7 +1.3
baz=40
EGMT **Eagleton** 39.81 338 *eP* P 18 37 50.0 +0.2
comp=Z,28nm,0.9s
EGMT **Eagleton** 39.81 338 ⇓P P 18 37 50.6 +0.8
baz=40,SNR=6.9
B19A **Brinkman Farms** 39.88 339 ⇓P P 18 37 51.8 +1.4
baz=40,SNR=10
A20A **Cobblestone Ra** 39.89 340 ⇓P P 18 37 51.2 +0.7
baz=40,SNR=5.5
A19A **Klindworth Far** 40.21 339 ⇓P P 18 37 54.1 +1.0
baz=40
MSO **Missoula** 40.57 333 *eP* P 18 37 56.1 0.0
comp=Z,20nm,1.4s
MSO **Missoula** 40.57 333 ⇑P P 18 37 56.5 +0.3
baz=41,SNR=5.2
F10A **Beach Ranch, E** 41.48 330 *eP* P 18 38 05.8 +2.1
comp=Z,153nm,3.0s
FFC **Flin Flon** 43.64 349 *eP* P 18 38 20.6 -0.3
comp=Z,109nm,2.8s
EDM **Edmonton** 45.40 339 *eP* P 18 38 34.4 -0.6
SCHQ **Schefferville** 45.70 17 P P 18 38 35.3 -2.1
SCHQ **Schefferville** 45.70 17 P P 18 38 35.3 -2.1
comp=Z,27nm,1.0s,baz=202,slow=4.6,SNR=12
BDFB **Brasilia** 48.70 124 P P 18 39 01.3 -0.1
BDFB **Brasilia** 48.70 124 P P 18 39 01.3 -0.1
comp=Z,2.7nm,0.7s,baz=299,slow=8.8,SNR=3.8
FRB **Frobisher Bay** 53.25 11 P P 18 39 33.2 -1.5
FRB **Frobisher Bay** 53.25 11 P P 18 39 33.2 -1.5
comp=Z,12nm,0.7s,baz=220,slow=8.4,SNR=12
YKA **Yellowknife Ar** 53.50 345 P P 18 39 35.6 -1.0
YKA PcP PcP 18 40 43.0 -0.2
YKA **Yellowknife Ar** 53.50 345 P P 18 39 35.6 -1.0
comp=Z,11nm,1.0s,baz=140,slow=7.5,SNR=53

YKA				PcP	PcP	18 40 42.9	-0.2	
	comp=Z,0.6nm,0.7s,baz=158,slow=3.7,SNR=2.6							
RES	Resolute Bay	62.47	358	P	P	18 40 37.2	-2.0	
RES	Resolute Bay	62.47	358	P	P	18 40 37.2	-2.0	
	comp=Z,3.8nm,0.7s,baz=190,slow=8.2,SNR=8.9							
INK	Inuvik	63.05	343	*e*P	P	18 40 42.2	-1.1	
	comp=Z,14nm,1.2s							
INK	Inuvik	63.05	343	P	P	18 40 42.3	-1.0	
	comp=Z,6.7nm,0.9s,baz=133,slow=7.5,SNR=16							
ILAR	Eielson Array	65.76	336	P	P	18 41 00.2	-0.9	
ILAR				PP	PP	18 43 27.0	+1.1	
ILAR	Eielson Array	65.76	336	P	P	18 41 00.2	-0.9	
	comp=Z,2.7nm,1.0s,baz=127,slow=4.0,SNR=16							
ILAR				PP	PP	18 43 27.0	+1.1	
	comp=Z,0.6nm,0.9s,baz=104,slow=8.0,SNR=4.3							
SUMG	Summit	66.97	15	*i* P	P	18 41 07.8	-1.4	
	comp=Z,4.9nm,1.0s							
ARCES	ARCESS Array B	86.64	19	P	P	18 42 57.9	-1.7	
ARCES	ARCESS Array B	86.64	19	P	P	18 42 57.9	-1.7	
	comp=Z,3.3nm,1.0s,baz=297,slow=4.0,SNR=3.1							
SONM	Songino Array	118.69	349	PKP	PKPdf	18 49 05.6	+0.9	
SONM	Songino Array	118.69	349	PKP	PKPdf	18 49 05.6	+0.9	
	comp=Z,0.8nm,0.9s,baz=338,slow=1.2,SNR=3.8							
KSRS	Korea Array	119.87	327	PKP	PKPdf	18 49 07.9	+0.9	
	comp=Z,1.1nm,0.8s,baz=26,slow=2.1,SNR=3.2							
KSAR	Wonju Array Be	119.90	327	PKP	PKPdf	18 49 07.9	+0.8	
MKAR	Makanchi Array	120.59	7	PKP	PKPdf	18 49 08.1	-0.1	
MKAR	Makanchi Array	120.59	7	PKP	PKPdf	18 49 08.1	-0.1	
	comp=Z,0.5nm,0.6s,baz=330,slow=2.9,SNR=8.0							
WRA	Warramunga Arr	138.29	254	PKP	PKPdf	18 49 44.0	+1.5	
WRA	Warramunga Arr	138.29	254	PKP	PKPdf	18 49 44.0	+1.5	
	comp=Z,0.9nm,1.0s,baz=89,slow=2.7,SNR=5.0							
ASAR	Alice Springs	138.31	248	PKP	PKPdf	18 49 42.6	+0.2	
ASAR	Alice Springs	138.31	248	PKP	PKPdf	18 49 42.6	+0.2	
	comp=Z,0.5nm,0.8s,baz=107,slow=3.3,SNR=5.4							
FITZ	Fitzroy Crossi	146.64	256	PKPbc	PKPdf	18 49 59.5	+2.3	
FITZ	Fitzroy Crossi	146.64	256	PKPbc	PKPdf	18 49 59.5	+2.3	
	comp=Z,2.4nm,0.8s,baz=102,slow=7.7,SNR=2.8							
CHTO	Chiang Mai	148.23	347	*e*PKPab	PKPdf	18 50 01.4	+1.5	
CM31	Chiang Mai Arr	148.58	346	*e*PKPab	PKPdf	18 50 02.5	+1.9	
CMAR	Chiang Mai Arr	148.58	346	PKPbc	PKPdf	18 50 02.4	+1.9	
CMAR	Chiang Mai Arr	148.58	346	PKPbc	PKPdf	18 50 02.4	+1.9	
	comp=Z,7.1nm,0.9s,baz=336,slow=3.4,SNR=37							

IDC 06 18:37:06.2±6.8, **14.18S**×**167.24E**, **h168**km±68km, **mb3.6**/5, **mb1 3.8**/6, **mb1mx3.5**/21, **mbtmp3.6**/6, **Error ellipse: s-maj=58.3km s-min=26.0km az=159.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.89**	**185**	P		Pn	18 38 59.2	+1.0
	1.1nm,0.3s,baz=32,slow=20,SNR=13							
DZM				S		Sn	18 40 25.4	-1.2
	0.3nm,0.3s,baz=150,slow=20,SNR=3.0							
STKA	**Stephens Creek**	**29.33**	**229**	P		P	18 42 53.6	+0.3
	3.3nm,0.5s,baz=42,slow=7.9,SNR=27							
WRA	**Warramunga Arr**	**31.93**	**255**	P		P	18 43 16.1	-0.2
	0.7nm,0.4s,baz=86,slow=9.5,SNR=28							
ASAR	**Alice Springs**	**32.84**	**248**	P		P	18 43 23.4	-0.9
	1.8nm,0.5s,baz=76,slow=9.2,SNR=79							
FITZ	**Fitzroy Crossi**	**40.09**	**259**	P		P	18 44 26.4	+0.8
	1.5nm,0.6s,baz=78,slow=9.3,SNR=6.2							
ILAR	**Eielson Array**	**86.01**	**18**	P		P	18 49 27.3	0.0
	0.6nm,0.8s,baz=239,slow=4.3,SNR=6.1							
ARCES	**ARCESS Array B**	**119.71**	**345**	PKP		PKPdf	18 55 35.2	-0.5
	3.6nm,1.0s,baz=46,slow=2.6,SNR=4.9							

*IDC **06** 18:44:06.4±0.6, 37°.45N×20°.47E, h0km, mb3.9/17, mb1 4.0/26, mb1mx3.9/40, mbtmp3.9/26, ML3.9/8, Error ellipse: s-maj=13.8km s-min=12.8km az=151.0*

*NEIC **06** 18:44:06.8±2.5, 37°.43N×20°.44E, h4km±16km, mb4.8/1, Error ellipse: s-maj=7.6km s-min=5.8km az=192.0*

*THE **06** 18:44:08.4, 37°.38N×20°.27E, h0km±1km, ML3.9/7, Error ellipse: s-maj=2.1km s-min=0.9km az=230.0*

*MOS **06** 18:44:08.3±1.3, 37°.53N×20°.36E, h20km, mb4.5/3, Error ellipse: s-maj=13.1km s-min=6.2km az=91.9*

*CSEM **06** 18:44:08.1±0.2, 37°.38N×20°.24E, h8km, MD3.9, Error ellipse: s-maj=4.3km s-min=2.9km az=21.0*

*ATH **06** 18:44:08.8, 37°.42N×20°.37E, h19km±2km, MD3.9/40, ML3.8*

*PRU **06** 18:44:11.0, 37°.54N×20°.32E, h0km, M4.8*

ISC 06 18:44:06.7±1.3, **37°.37N**±0°.03×**20°.24E**±0°.03, **h6**km±8km, **n332**, σ=**1.31**/386, **mb4.1**/18, **11C-7D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.64**	**101**	P		Pb	18 44 20.1	-0.1
SFD				S		Sb	18 44 29.6	+0.2
SFD	**Strofades**	**0.64**	**101**	*e*PN		Pb	18 44 20.1	-0.1
SFD				*e*SN		Sg	18 44 28.0	+0.8
SFD	**Strofades**	**0.64**	**101**	P		Pb	18 44 20.1	-0.1
SFD				*e*Sn		Sg	18 44 28.0	+0.8
SFD				S		Sb	18 44 29.5	+0.2
VLS	**Valsamata**	**0.85**	**19**	P		Pb	18 44 23.9	0.0
VLS				S		Sb	18 44 36.3	+0.7
VLS	**Valsamata**	**0.85**	**19**	*e*PN		Pb	18 44 23.5	-0.4
VLS				*e*SN		Sb	18 44 35.6	0.0
VLS	**Valsamata**	**0.85**	**19**	P		Pb	18 44 23.9	0.0
VLS				*e*Sn		Sb	18 44 35.6	0.0
VLS				S		Sb	18 44 36.3	+0.7
KFL	**Anninata**	**0.85**	**31**	P		Pb	18 44 23.7	-0.3
KFL				S		Sb	18 44 36.7	+0.9
KFL	**Anninata**	**0.85**	**31**	P		Pb	18 44 23.7	-0.3
KFL				S		Sb	18 44 35.9	+0.1
AMT	**Artemida-Makis**	**1.18**	**82**	P		Pb	18 44 29.6	0.0
AMT				S		Sn	18 44 46.5	+0.2
AMT	**Artemida-Makis**	**1.18**	**82**	*e*PN		Pn	18 44 30.0	+0.1
AMT				*e*SN		Sg	18 44 44.5	-0.3
AMT	**Artemida-Makis**	**1.18**	**82**	P		Pb	18 44 29.6	0.0
AMT	**Artemida-Makis**	**1.18**	**82**	*e*Pn		Pn	18 44 30.0	+0.1
AMT				*e*Sn		Sg	18 44 44.5	-0.3
AMT				S		Sn	18 44 46.5	+0.2
RLS	**Riolos of Patr**	**1.19**	**55**	P		Pg	18 44 29.6	0.0
RLS				S		Sn	18 44 47.0	+0.5
RLS	**Riolos of Patr**	**1.19**	**55**	*e*PN		Pb	18 44 29.7	0.0
RLS				*e*SN		Sg	18 44 43.5	-1.5
RLS	**Riolos of Patr**	**1.19**	**55**	P		Pg	18 44 29.6	0.0
RLS				*e*Sn		Sg	18 44 43.5	-1.5
RLS				S		Sn	18 44 46.8	+0.3
PYL	**PYLOS**	**1.30**	**111**	P		Pn	18 44 31.2	-0.1
PYL	**PYLOS**	**1.30**	**111**	*e*PN		Sg	18 44 31.3	-0.1
PYL				*e*SN		Sg	18 44 47.9	-0.5
PYL	**PYLOS**	**1.30**	**111**	*e*Pn		Pn	18 44 31.3	-0.1
PYL				*e*Sn		Sg	18 44 47.9	-0.5
PYL				S		Sb	18 44 48.5	+0.1
DRO	**Drossia**	**1.30**	**63**	P		Pb	18 44 31.9	+0.2
DRO				S		Sn	18 44 51.9	+2.5
DRO	**Drossia**	**1.30**	**63**	*e*PN		Pb	18 44 32.1	+0.4
DRO				*e*SN		Sg	18 44 46.9	-1.8
DRO	**Drossia**	**1.30**	**63**	*e*Pn		Pb	18 44 32.1	+0.4
DRO				*e*Sn		Sg	18 44 46.9	-1.8
DRO				S		Sn	18 44 51.7	+2.3
ITM	**Ithomi**	**1.36**	**98**	P		Pb	18 44 32.8	+0.1
ITM				S		Sn	18 44 52.1	+1.3
ITM	**Ithomi**	**1.36**	**98**	*e*PN		Pb	18 44 32.7	+0.1
ITM				*e*SN		Sg	18 44 49.3	-1.2
ITM	**Ithomi**	**1.36**	**98**	P		Pb	18 44 32.8	+0.1
ITM				*e*Sn		Sg	18 44 49.3	-1.2
ITM				S		Sn	18 44 52.1	+1.3
PDO	**Prodromos**	**1.43**	**31**	P		Pg	18 44 35.0	+0.8
PDO				S		Sg	18 44 55.0	+2.2
PDO	**Prodromos**	**1.43**	**31**	*e*PN		Pg	18 44 34.0	-0.2
PDO	**Prodromos**	**1.43**	**31**	P		Pg	18 44 34.0	-0.2
PDO				S		Sg	18 44 55.0	+2.2
LKD2	**Lefkada island**	**1.45**	**13**	P		Pg	18 44 34.8	+0.2
LKD2				S		Sg	18 44 55.0	+1.6
LKD2	**Lefkada island**	**1.45**	**13**	P		Pg	18 44 34.8	+0.2
LKD2				S		Sg	18 44 55.0	+1.6
PVO	**Paravola**	**1.61**	**39**	P		Pg	18 44 37.8	+0.3
PSA1	**Psathopyrgos**	**1.61**	**53**	*e*PN		Pg	18 44 37.7	0.0
LAKA	**Lakka**	**1.63**	**57**	P		Pg	18 44 38.0	0.0
LAKA	**Lakka**	**1.63**	**57**	*e*PN		Pb	18 44 37.3	+0.1
LAKA	**Lakka**	**1.63**	**57**	*e*Pn		Pb	18 44 37.3	+0.1
LAKA	**Lakka**	**1.63**	**57**	P		Pg	18 44 38.0	0.0
KLV	**Kalavryta, Ach**	**1.66**	**66**	P		Pg	18 44 38.0	+0.2
KLV				S		Sg	18 45 00.4	+0.3
KLV	**Kalavryta, Ach**	**1.66**	**66**	*e*PN		Pb	18 44 37.8	0.0
KLV	**Kalavryta, Ach**	**1.66**	**66**	P		Pb	18 44 37.7	0.0
KLV				S		Sg	18 45 00.4	+0.3
VLX	**Vlachokerasia**	**1.71**	**89**	P		Pn	18 44 37.9	+0.7
VLX				S		Sg	18 45 02.5	+0.9
VLX	**Vlachokerasia**	**1.71**	**89**	*e*PN		Pb	18 44 38.3	-0.3
VLX	**Vlachokerasia**	**1.71**	**89**	P		Pb	18 44 38.1	-0.5
VLX				S		Sg	18 45 02.5	+0.9
GUR	**Goura**	**1.76**	**71**	P		Pb	18 44 39.2	-0.4
GUR				S		Sb	18 45 02.5	+0.5
GUR	**Goura**	**1.76**	**71**	*e*PN		Pb	18 44 39.2	-0.4
GUR	**Goura**	**1.76**	**71**	P		Pb	18 44 39.2	-0.4
GUR				S		Sb	18 45 02.5	+0.5
KALE	**Kalithea**	**1.82**	**55**	P		Pb	18 44 40.6	+0.1
KALE				S		Sb	18 45 04.4	+0.9
KALE	**Kalithea**	**1.82**	**55**	*e*PN		Pb	18 44 40.8	+0.3
KALE	**Kalithea**	**1.82**	**55**	P		Pb	18 44 40.6	+0.1
KALE				S		Sb	18 45 04.4	+0.9
EVR	**Evrytania**	**1.98**	**38**	P		Pb	18 44 43.0	-0.2
EVR				S		Sb	18 45 09.1	+0.9
EVR	**Evrytania**	**1.98**	**38**	*e*PN		Pb	18 44 43.5	+0.3
EVR	**Evrytania**	**1.98**	**38**	P		Pb	18 44 43.0	-0.2
EVR	**Evrytania**	**1.98**	**38**	*e*Pn		Pb	18 44 43.5	+0.3
EVR				S		Sb	18 45 09.1	+0.9
DSF	**Desfina**	**2.09**	**60**	P		Pb	18 44 44.0	-1.0
DSF				S		Sb	18 45 11.1	-0.2
DSF	**Desfina**	**2.09**	**60**	*e*PN		Pb	18 44 44.1	-1.0
DSF	**Desfina**	**2.09**	**60**	P		Pb	18 44 44.0	-1.0
DSF				S		Sb	18 45 11.1	-0.2
IGT	**Igoumenitsa**	**2.16**	**2**	P		Pn	18 44 44.5	+1.2
IGT				S		Sb	18 45 13.4	+0.2
IGT	**Igoumenitsa**	**2.16**	**2**	*e*PB		Pb	18 44 44.8	-1.4
IGT	**Igoumenitsa**	**2.16**	**2**	P		Pn	18 44 44.5	+1.2
IGT	**Igoumenitsa**	**2.16**	**2**	*e*Pb		Pb	18 44 44.8	-1.4
IGT				S		Sb	18 45 13.4	+0.2
MAKR	**Makrakomi, Fth**	**2.22**	**42**	*e*PN		Pb	18 44 46.7	-0.5
MAKR	**Makrakomi, Fth**	**2.22**	**42**	*e*Pn		Pb	18 44 46.7	-0.5
VLI	**Veliai**	**2.26**	**106**	P		Pb	18 44 46.5	-1.4
VLI	**Veliai**	**2.26**	**106**	*e*PN		Pb	18 44 47.1	-0.8
VLI	**Veliai**	**2.26**	**106**	P		Pb	18 44 46.5	-1.4
VLI	**Veliai**	**2.26**	**106**	*e*Pn		Pb	18 44 47.1	-0.8
LTK	**Loutraki**	**2.26**	**73**	P		Pn	18 44 45.6	+0.9
LTK	**Loutraki**	**2.26**	**73**	*e*PB		Pn	18 44 45.7	+1.0
LTK	**Loutraki**	**2.26**	**73**	P		Pn	18 44 45.6	+0.9
JAN	**Janina**	**2.33**	**12**	*e*PB		Pb	18 44 48.1	-1.1
JAN	**Janina**	**2.33**	**12**	*e*Pb		Pb	18 44 48.1	-1.1
AGG	**Agios Georgios**	**2.33**	**44**	P		Pb	18 44 47.7	-1.5
AGG	**Agios Georgios**	**2.33**	**44**	*e*PN		Pn	18 44 47.0	+1.3
AGG	**Agios Georgios**	**2.33**	**44**	*e*Pn		Pn	18 44 47.0	+1.3
AGG	**Agios Georgios**	**2.33**	**44**	P		Pb	18 44 47.7	-1.5
KEK	**Kerkira**	**2.36**	**352**	P		Pb	18 44 47.8	-1.9
KEK	**Kerkira**	**2.36**	**352**	*e*PN		Pn	18 44 46.8	+0.7
KEK	**Kerkira**	**2.36**	**352**	*e*Pn		Pn	18 44 46.8	+0.7
KEK	**Kerkira**	**2.36**	**352**	P		Pb	18 44 47.8	-1.9
AXAR	**Agios Charalam**	**2.37**	**53**	P		Pn	18 44 48.0	+1.9
AXAR	**Agios Charalam**	**2.37**	**53**	P		Pn	18 44 47.4	+1.3
DID	**Didima**	**2.39**	**86**	P		Pn	18 44 47.2	+0.7
DID	**Didima**	**2.39**	**86**	*e*PN		Pn	18 44 47.9	+1.4
DID	**Didima**	**2.39**	**86**	P		Pn	18 44 47.2	+0.7
DID	**Didima**	**2.39**	**86**	*e*Pn		Pn	18 44 47.9	+1.4
KYTH	**Kithira**	**2.50**	**115**	P		Pn	18 44 49.8	+1.8
KYTH	**Kithira**	**2.50**	**115**	*e*PB		Pn	18 44 50.0	+2.0
KYTH	**Kithira**	**2.50**	**115**	*e*Pb		Pn	18 44 50.0	+2.0
SRN	**Sarande**	**2.51**	**356**	P		Pn	18 44 49.6	+1.5
SRN	**Sarande**	**2.51**	**356**	P		Pn	18 44 49.6	+1.5
LKR	**Lokris**	**2.53**	**59**	*e*PB		Pn	18 44 49.8	+1.5
LKR	**Lokris**	**2.53**	**59**	*e*Pb		Pn	18 44 49.8	+1.5
MEV	**Metsovon**	**2.53**	**18**	P		Pb	18 44 50.7	-2.0
MEV	**Metsovon**	**2.53**	**18**	P		Pb	18 44 50.7	-2.0
VIL2	**Platees**	**2.54**	**70**	*e*PN		Pn	18 44 49.3	+0.7
VILL	**Vilia**	**2.56**	**71**	*e*Pn		Pn	18 44 49.3	+0.4
THL	**Klokotos Trika**	**2.59**	**32**	P		Pn	18 44 51.5	-2.2
THL	**Klokotos Trika**	**2.59**	**32**	*e*PB		Pn	18 44 51.2	+1.9
THL	**Klokotos Trika**	**2.59**	**32**	*e*Pb		Pn	18 44 51.2	+1.9
THL	**Klokotos Trika**	**2.59**	**32**	P		Pb	18 44 51.5	-2.2
NAIG	**Nisos Aigina**	**2.61**	**81**	*e*PN		Pn	18 44 50.4	+0.9
NAIG	**Nisos Aigina**	**2.61**	**81**	*e*Pn		Pn	18 44 50.4	+0.9
SMIA	**Simia**	**2.79**	**56**	*e*PN		Pn	18 44 52.9	+1.0
SMIA	**Simia**	**2.79**	**56**	*e*Pn		Pn	18 44 52.9	+1.0
ATH	**Athens Observa**	**2.83**	**77**	*e*PB		Pb	18 44 55.3	-2.3
ATH	**Athens Observa**	**2.83**	**77**	*e*Pb		Pb	18 44 55.3	-2.3
FYTO	**Fytoko, Volos**	**2.94**	**45**	P		Pn	18 44 55.1	+1.1
FYTO	**Fytoko, Volos**	**2.94**	**45**	P		Pn	18 44 55.1	+1.1
PTL	**Penteli**	**2.96**	**76**	*e*PB		Pn	18 44 56.3	+2.0
PTL	**Penteli**	**2.96**	**76**	*e*Pb		Pn	18 44 56.3	+2.0
MRKA	**Markates**	**2.96**	**62**	*e*PN		Pn	18 44 55.6	+1.3
MRKA	**Markates**	**2.96**	**62**	*e*Pn		Pn	18 44 55.6	+1.3
NEO	**Neokhori**	**3.04**	**50**	*e*PN		Pn	18 44 56.1	+0.7
NEO	**Neokhori**	**3.04**	**50**	*e*Pn		Pn	18 44 56.1	+0.7
XOR	**Xorichti**	**3.06**	**49**	*e*PN		Pn	18 44 56.7	+1.0
XOR	**Xorichti**	**3.06**	**49**	*e*Pn		Pn	18 44 56.7	+1.0
NEST	**Nestorio**	**3.10**	**12**	*e*PB		Pn	18 44 59.3	+3.0
NEST	**Nestorio**	**3.10**	**12**	*e*Pb		Pn	18 44 59.3	+3.0
SKIA	**Skiathos**	**3.11**	**54**	*e*PN		Pn	18 44 57.2	+0.8
SKIA	**Skiathos**	**3.11**	**54**	*e*Pn		Pn	18 44 57.2	+0.8
KZN	**Kozani**	**3.16**	**22**	*e*PN		Pn	18 44 59.9	+2.7
KZN	**Kozani**	**3.16**	**22**	*e*Pn		Pn	18 44 59.9	+2.7
LIT	**Litokhoron**	**3.24**	**32**	*e*PN		Pn	18 44 59.5	+1.3
LIT	**Litokhoron**	**3.24**	**32**	*e*Pn		Pn	18 44 59.5	+1.3
TIP	**Timpagrande**	**3.28**	**304**	*e*Pn		Pn	18 44 59.6	+0.9
TIP				*e*Sn		Sn	18 45 39.1	+1.1
TIP	**Timpagrande**	**3.28**	**304**	*e*Pn		Pn	18 44 59.6	+0.9
TIP				*e*Sn		Sn	18 45 39.1	+1.1
AOS	**Alonnisos**	**3.38**	**57**	*e*PN		Pn	18 45 01.6	+1.5
AOS	**Alonnisos**	**3.38**	**57**	*e*Pn		Pn	18 45 01.6	+1.5
FNA	**Florina**	**3.52**	**14**	*e*PN		Pn	18 45 03.8	+1.9
FNA	**Florina**	**3.52**	**14**	*e*Pn		Pn	18 45 03.9	+1.9
CEL	**Celeste**	**3.55**	**286**	*e*Pn		Pn	18 45 02.9	+0.5
CEL				*e*Sn		Sn	18 45 42.9	-1.9
CEL	**Celeste**	**3.55**	**286**	*e*PN		Pn	18 45 02.9	+0.5
CEL				*e*Sn		Sn	18 45 42.9	-1.9
BIA	**Bitola**	**3.74**	**13**	*e*PN		Pn	18 45 06.8	+1.7
BIA	**Bitola**	**3.74**	**13**	*e*Pn		Pn	18 45 06.7	+1.7
VAM	**Vamos**	**3.75**	**120**	*e*PN		Pn	18 45 06.1	+0.9
VAM	**Vamos**	**3.75**	**120**	*e*Pn		Pn	18 45 06.1	+0.9
THE	**Thessaloniki**	**3.89**	**32**	*e*PN		Pn	18 45 07.9	+0.9
THE	**Thessaloniki**	**3.89**	**32**	*e*Pn		Pn	18 45 07.9	+0.9
TAR1	**Taranto**	**3.90**	**325**	*e*Pn		Pn	18 45 09.3	+2.1
TAR1				*e*Sn		Sn	18 45 53.6	+0.4
PLG	**Polygyros**	**3.91**	**39**	*e*PN		Pn	18 45 08.1	+0.8
PLG	**Polygyros**	**3.91**	**39**	*e*Pn		Pn	18 45 08.1	+0.8
HORT	**Hortiatis**	**3.92**	**34**	*e*PN		Pn	18 45 08.1	+0.6
HORT	**Hortiatis**	**3.92**	**34**	*e*Pn		Pn	18 45 08.1	+0.6
PE1	**Pezze di Greco**	**4.07**	**328**	*e*Pn		Pn	18 45 10.8	+1.3
OUR	**Ouranopolis**	**4.16**	**44**	*e*PN		Pn	18 45 11.4	+0.7
OUR	**Ouranopolis**	**4.16**	**44**	*e*Pn		Pn	18 45 11.4	+0.7
SOH	**Sokhos**	**4.21**	**34**	*e*PN		Pn	18 45 13.3	+1.8
SOH	**Sokhos**	**4.21**	**34**	*e*Pn		Pn	18 45 13.3	+1.8
IDI	**Anoyia**	**4.30**	**118**	*e*PN		Pn	18 45 13.9	+1.2
IDI	**Anoyia**	**4.30**	**118**	Pn		Pn	18 45 12.9	+0.2
IDI				Sn		Sn	18 46 02.3	-0.9
IDI	**Anoyia**	**4.30**	**118**	*e*Pn		Pn	18 45 13.9	+1.2
IDI				Sn		Sn	18 46 02.3	-0.9
IDI	**Anoyia**	**4.30**	**118**	Pn		Pn	18 45 12.9	+0.2
	3.7nm,0.3s,baz=303,slow=14,SNR=15							
IDI				Sn		Sn	18 46 02.3	-0.9
	14nm,0.3s,baz=325,slow=23,SNR=11							
KNT	**Kendrikon**	**4.31**	**28**	*e*PN		Pn	18 45 13.7	+0.8
KNT	**Kendrikon**	**4.31**	**28**	*e*Pn		Pn	18 45 13.7	+0.8
CUC	**Castrocucco**	**4.33**	**308**	*e*Pn		Pn	18 45 14.2	+1.0
CUC				*e*Sn		Sn	18 46 05.6	+1.4
CUC	**Castrocucco**	**4.33**	**308**	*e*Pn		Pn	18 45 14.2	+1.0
CUC				*e*Sn		Sn	18 46 05.6	+1.4
VAY	**Valandovo**	**4.34**	**24**	*e*Pn		Pn	18 45 13.1	-0.1
VAY	**Valandovo**	**4.34**	**24**	*e*Pn		Pn	18 45 13.5	+0.3
SIVA	**Sivas**	**4.38**	**121**	*e*PN		Pn	18 45 17.1	+3.2
SIVA	**Sivas**	**4.38**	**121**	*e*Pn		Pn	18 45 17.1	+3.2
BAI	**Bari**	**4.55**	**326**	*e*Pn		Pn	18 45 17.9	+1.8
BAI				*e*Sn		Sn	18 46 08.3	-1.0
SRS	**Serrai**	**4.56**	**34**	*e*PN		Pn	18 45 17.2	+1.0
SRS	**Serrai**	**4.56**	**34**	*e*Pn		Pn	18 45 17.2	+1.0
LIA	**Limnos Island**	**4.62**	**55**	*e*PN		Pn	18 45 20.4	+3.3
LIA	**Limnos Island**	**4.62**	**55**	*e*Pn		Pn	18 45 20.4	+3.3
SKO	**Skopje**	**4.69**	**11**	*e*Pn		Pn	18 45 18.8	+0.7
SKO	**Skopje**	**4.69**	**11**	*e*PN		Pn	18 45 19.2	+1.2
LAST	**Lasithi**	**4.78**	**116**	*e*PN		Pn	18 45 20.4	+1.0
LAST	**Lasithi**	**4.78**	**116**	*e*Pn		Pn	18 45 20.4	+1.0
CDT	**Castel del Mon**	**4.81**	**322**	*e*Pn		Pn	18 45 21.1	+1.3
NPS	**Neapolis**	**4.83**	**114**	*e*PN		Pn	18 45 21.3	+1.3
NPS	**Neapolis**	**4.83**	**114**	*e*Pn		Pn	18 45 21.3	+1.3
NVR	**Nevrokopi**	**4.86**	**34**	*e*PN		Pn	18 45 21.7	+1.2
NVR	**Nevrokopi**	**4.86**	**34**	*e*Pn		Pn	18 45 21.7	+1.2
KAVA	**Kavala**	**4.91**	**41**	*e*PN		Pn	18 45 22.0	+0.9
KAVA	**Kavala**	**4.91**	**41**	*e*Pn		Pn	18 45 22.0	+0.9
KKB	**Krupnik**	**5.00**	**25**	P		Pn	18 45 23.2	+0.9
KKB	**Krupnik**	**5.00**	**25**	P		Pn	18 45 23.2	+0.9
MMB	**Musomiste**	**5.00**	**32**	P		Pn	18 45 23.0	+0.6
MMB	**Musomiste**	**5.00**	**32**	⇑*i* P		Pn	18 45 23.5	+1.1
MMB	**Musomiste**	**5.00**	**32**	⇑*i* P		Pn	18 45 23.5	+1.1
SMG	**Samos**	**5.26**	**84**	*e*PN		Pn	18 45 26.8	+0.9
SMG	**Samos**	**5.26**	**84**	*e*Pn		Pn	18 45 26.8	+0.9
RZN	**Rozhen**	**5.53**	**37**	P		Pn	18 45 30.7	+1.0
RDO	**Rodhopi**	**5.58**	**46**	*e*PN		Pn	18 45 30.6	+0.4
RDO	**Rodhopi**	**5.58**	**46**	*e*Pn		Pn	18 45 30.6	+0.4
VTS	**Vitosha**	**5.69**	**23**	⇓*i* P		Pn	18 45 33.3	+1.4
STON	**Ston**	**5.82**	**341**	*i* Pn		Pn	18 45 33.2	-0.4
STON				Sn		Sn	18 46 36.8	-3.9
STON	**Ston**	**5.82**	**341**	*i* Pn		Pn	18 45 33.2	-0.4
KDZ	**Kurdzhali**	**5.85**	**42**	⇑*i* P		Pn	18 45 34.0	-0.1
UDBI	**Udbina**	**7.91**	**336**	*e*Pn		Pn	18 46 03.6	+1.3
UDBI				Sn		Sn	18 47 29.9	-2.2
UDBI	**Udbina**	**7.91**	**336**	*e*PN		Pn	18 46 03.5	+1.3
GZR	**Gura Zlata**	**8.24**	**13**	⇓*i* P		Pn	18 46 07.2	+0.4
NVLJ	**Novalja**	**8.25**	**332**	*e*PN		Pn	18 46 07.5	+0.6
NVLJ				Sn		Sn	18 47 35.1	-5.2
NVLJ	**Novalja**	**8.25**	**332**	*e*Pn		Pn	18 46 07.4	+0.6
BZS	**Buzias**	**8.30**

FINES	**FINESS Array B**	24.37	7	P		P	18 49 24.4	-1.0
	comp=Z,2.6nm,0.6s,baz=174,slow=12,SNR=13							
TORD	**Torodi Ar. Bea**	29.27	219	P		P	18 50 11.2	+1.4
TORD	**Torodi Ar. Bea**	29.27	219	P		P	18 50 11.2	+1.4
TORD	**Torodi Ar. Bea**	29.27	219	P		P	18 50 11.2	+1.4
	comp=Z,2.8nm,0.6s,baz=29,slow=6.8,SNR=34							
AKTK	**Aktyubinsk**	29.85	52	P		P	18 50 13.2	-1.5
AKTO	**Aktyubinsk**	29.85	52	P		P	18 50 13.2	-1.5
AKTO	**Aktyubinsk**	29.85	52	P		P	18 50 13.2	-1.5
AKTO	**Aktyubinsk**	29.85	52	P		P	18 50 13.2	-1.5
AKTO	**Aktyubinsk**	29.85	52	P		P	18 50 13.2	-1.5
	comp=Z,0.4nm,0.3s,baz=44,slow=18,SNR=2.9							
ARCES	**ARCESS Array B**	32.35	3	P		P	18 50 34.8	-1.7
ARCES	**ARCESS Array B**	32.35	3	P		P	18 50 34.8	-1.7
	comp=Z,2.4nm,0.8s,baz=186,slow=9.8,SNR=8.9							
DBIC	**Dimbokro**	38.15	223	P		P	18 51 28.4	+1.4
DBIC	**Dimbokro**	38.15	223	P		P	18 51 28.4	+1.4
DBIC	**Dimbokro**	38.15	223	P		P	18 51 28.4	+1.4
	comp=Z,5.0nm,0.8s,baz=16,slow=11,SNR=6.1							
LIC	**Lamto**	38.61	223	*e*P		P	18 51 30.5	-0.4
	comp=Z,17nm,0.8s							
LIC	**Lamto**	38.61	223	*e*P		P	18 51 30.5	-0.4
	comp=Z,17nm,0.8s							
LIC	**Lamto**	38.61	223	*e*P		P	18 51 30.5	-0.4
	comp=Z,17nm,0.8s							
AAK	**Ala-Archa**	41.30	65↑	*e*P		P	18 52 03.1	+10
AAK				pmax		pmax		
	comp=Z,18nm,2.5s							
MKAR	**Makanchi Array**	45.92	58	P		P	18 52 28.6	-1.6
MKAR	**Makanchi Array**	45.92	58	P		P	18 52 28.6	-1.6
MKAR	**Makanchi Array**	45.92	58	P		P	18 52 28.6	-1.6
MKAR	**Makanchi Array**	45.92	58	P		P	18 52 28.6	-1.6
	comp=Z,0.4nm,0.5s,baz=272,slow=7.3,SNR=13							
ZALV	**Zalesovo Beam**	46.40	47	P		P	18 52 32.5	-1.3
ZALV	**Zalesovo Beam**	46.40	47	P		P	18 52 32.5	-1.3
ZALV	**Zalesovo Beam**	46.40	47	P		P	18 52 32.5	-1.3
ZALV	**Zalesovo Beam**	46.40	47	P		P	18 52 32.5	-1.3
	comp=Z,1.5nm,0.5s,baz=282,slow=10,SNR=6.9							
SFJD	**Kangerlussuaq**	48.82	330	P		P	18 52 54.8	+2.5
SFJD	**Kangerlussuaq**	48.82	330	P		P	18 52 54.8	+2.5
SFJD	**Kangerlussuaq**	48.82	330	P		P	18 52 54.8	+2.5
	comp=Z,4.4nm,0.6s,baz=119,slow=13,SNR=3.8							
DANN	**Dangsing**	53.23	80	*e*P		P	18 53 26.1	-0.4
	comp=Z,29nm,0.9s							
KOLN	**Koldanda**	53.37	81	*e*P		P	18 53 27.4	-0.1
GKN	**Gorkha**	54.08	80	*e*P		P	18 53 32.7	+0.1
	comp=Z,12nm,0.7s							
DMN	**Daman**	54.63	80	*e*P		P	18 53 36.2	-0.5
	comp=Z,14nm,0.8s							
KKN	**Kakani**	54.68	80	*e*P		P	18 53 36.6	-0.5
PKIN	**Phulchoki**	54.87	80	*e*P		P	18 53 38.5	0.0
GUN	**Gumba**	55.10	79	*e*P		P	18 53 40.3	+0.1
	comp=Z,28nm,1.1s							
RAMN	**Ramite**	56.11	80	*e*P		P	18 53 46.1	-1.3
	comp=Z,35nm,1.2s							
ODAN	**Odare**	56.77	80	*e*P		P	18 53 51.7	-0.4
TAPN	**Taplejung**	56.79	79	*e*P		P	18 53 53.0	+0.7
	comp=Z,23nm,1.2s							
SCHQ	**Schefferville**	58.90	318	P		P	18 54 07.0	+0.6
SCHQ	**Schefferville**	58.90	318	P		P	18 54 06.9	+0.6
SCHQ	**Schefferville**	58.90	318	P		P	18 54 07.0	+0.6
	comp=Z,9.4nm,1.2s,baz=66,slow=18,SNR=2.9							
SONM	**Songino Array**	61.14	50	P		P	18 54 20.9	-1.1
SONM	**Songino Array**	61.14	50	P		P	18 54 20.9	-1.1
SONM	**Songino Array**	61.14	50	P		P	18 54 20.9	-1.1
	comp=Z,0.6nm,0.9s,baz=292,slow=7.2,SNR=4.1							
CMAR	**Chiang Mai Arr**	70.23	82	P		P	18 55 21.0	0.0
CMAR	**Chiang Mai Arr**	70.23	82	P		P	18 55 21.0	0.0
CMAR	**Chiang Mai Arr**	70.23	82	P		P	18 55 21.0	0.0
	comp=Z,0.2nm,0.4s,baz=297,slow=6.0,SNR=3.9							
YKA	**Yellowknife Ar**	74.07	340	P		P	18 55 44.4	+1.2
YKA	**Yellowknife Ar**	74.07	340	P		P	18 55 44.4	+1.2
YKA	**Yellowknife Ar**	74.07	340	P		P	18 55 44.4	+1.2
	comp=Z,0.3nm,0.6s,baz=50,slow=6.7,SNR=3.7							
ILAR	**Eielson Array**	77.69	354	P		P	18 56 05.2	+1.3
ILAR	**Eielson Array**	77.69	354	P		P	18 56 05.2	+1.3
ILAR	**Eielson Array**	77.69	354	P		P	18 56 05.2	+1.3
	comp=Z,0.4nm,1.0s,baz=12,slow=4.8,SNR=3.2							
WRA	**Warramunga Arr**	120.73	93	PKP		PKPdf	19 03 00.4	+0.3
WRA	**Warramunga Arr**	120.73	93	PKP		PKPdf	19 03 00.4	+0.3
	comp=Z,0.4nm,0.9s,baz=299,slow=3.8,SNR=2.9							
ASAR	**Alice Springs**	122.31	96	PKP		PKPdf	19 03 02.9	-0.2
ASAR	**Alice Springs**	122.31	96	PKP		PKPdf	19 03 02.9	-0.2
	comp=Z,0.7nm,1.0s,baz=318,slow=1.2,SNR=3.8							

*CSEM **06** 18:59:03.3±0.7,37.34N×20.30E,h2km,MD3.5,Error ellipse: s-maj=13.3km s-min=6.9km az=60.0*
*ATH **06** 18:59:03.4,37.33N×20.26E,h16km±1km,MD3.5/25*
*THE **06** 18:59:04.6,37.41N×20.34E,h0km±3km,ML2.7/2,Error ellipse: s-maj=3.6km s-min=1.4km az=243.0*
ISC 06 18:59:03.4±1.9,**37.34N**±0.05×**20.27E**±0.07,**h14**km±10km, **n72**,σ1§**03**/97,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.60**	**98**	*e*PB	**Pg**	**18 59 14.9**	**-0.3**
SFD				*e*SN	**Sb**	**18 59 24.1**	**+0.1**
SFD	**Strofades**	**0.60**	**98**	*e*Pb	**Pg**	**18 59 14.9**	**-0.3**
SFD				*e*Sn	**Sb**	**18 59 24.1**	**+0.1**
KFL	**Anninata**	**0.87**	**28**	P	**Pb**	**18 59 18.8**	**-1.5**
KFL				S	**Sb**	**18 59 30.5**	**-1.3**
KFL	**Anninata**	**0.87**	**28**	P	**Pb**	**18 59 18.8**	**-1.5**
KFL				S	**Sb**	**18 59 30.5**	**-1.3**
VLS	**Valsamata**	**0.87**	**17**	P	**Pb**	**18 59 18.6**	**-1.8**
VLS				S	**Sb**	**18 59 31.3**	**-0.6**
VLS	**Valsamata**	**0.87**	**17**	*e*PN	**Pg**	**18 59 20.5**	**+0.1**
VLS				*e*SN	**Sn**	**18 59 32.8**	**-1.0**
VLS	**Valsamata**	**0.87**	**17**	P	**Pg**	**18 59 18.6**	**-1.8**
VLS	**Valsamata**	**0.87**	**17**	*e*Pn	**Pg**	**18 59 20.5**	**+0.1**
VLS				S	**Sb**	**18 59 31.3**	**-0.6**
VLS				*e*Sn	**Sn**	**18 59 32.8**	**-1.0**
AMT	**Artemida-Makis**	**1.16**	**80**	P	**Pg**	**18 59 25.5**	**-0.3**
AMT				S	**Sg**	**18 59 40.9**	**0.0**
AMT	**Artemida-Makis**	**1.16**	**80**	*e*PN	**Pg**	**18 59 26.1**	**+0.3**
AMT				*e*SN	**Sg**	**18 59 41.8**	**+0.9**
AMT	**Artemida-Makis**	**1.16**	**80**	P	**Pg**	**18 59 25.5**	**-0.3**
AMT	**Artemida-Makis**	**1.16**	**80**	*e*Pn	**Pg**	**18 59 26.1**	**+0.3**
AMT				S	**Sg**	**18 59 40.9**	**0.0**
AMT				*e*Sn	**Sg**	**18 59 41.8**	**+0.9**
RLS	**Riolos of Patr**	**1.19**	**53**	P	**Pg**	**18 59 26.2**	**-0.2**
RLS				S	**Sg**	**18 59 41.8**	**-0.1**
RLS	**Riolos of Patr**	**1.19**	**53**	*e*PN	**Pg**	**18 59 26.2**	**-0.2**
RLS				*e*SN	**Sg**	**18 59 42.5**	**+0.6**
RLS	**Riolos of Patr**	**1.19**	**53**	P	**Pg**	**18 59 26.2**	**-0.2**
RLS				S	**Sg**	**18 59 41.8**	**-0.1**
RLS				*e*Sn	**Sg**	**18 59 42.5**	**+0.6**
PYL	**PYLOS**	**1.26**	**110**	*e*PN	**Pb**	**18 59 26.6**	**-0.3**
PYL	**PYLOS**	**1.26**	**110**	*e*Pn	**Pb**	**18 59 26.6**	**-0.3**
DRO	**Drossia**	**1.29**	**61**	P	**Pg**	**18 59 27.9**	**-0.5**
DRO	**Drossia**	**1.29**	**61**	*e*PN	**Pg**	**18 59 28.1**	**-0.3**
DRO				*e*SN	**Sg**	**18 59 45.4**	**+0.1**
DRO	**Drossia**	**1.29**	**61**	*e*Pn	**Pg**	**18 59 28.1**	**-0.3**
DRO				*e*Sn	**Sg**	**18 59 45.4**	**+0.1**
ITM	**Ithomi**	**1.33**	**96**	P	**Pb**	**18 59 27.9**	**-0.2**
ITM	**Ithomi**	**1.33**	**96**	*e*PN	**Pb**	**18 59 28.0**	**-0.2**
ITM				*e*SN	**Sg**	**18 59 46.9**	**+0.6**
ITM	**Ithomi**	**1.33**	**96**	*e*Pn	**Pb**	**18 59 28.0**	**-0.2**
ITM				*e*Sn	**Sg**	**18 59 46.9**	**+0.6**
PDO	**Prodromos**	**1.45**	**30**	P	**Pb**	**18 59 30.1**	**-0.1**
PDO	**Prodromos**	**1.45**	**30**	*e*PN	**Pb**	**18 59 30.4**	**+0.2**
PDO	**Prodromos**	**1.45**	**30**	P	**Pb**	**18 59 30.1**	**-0.1**
PDO	**Prodromos**	**1.45**	**30**	*e*Pn	**Pb**	**18 59 30.4**	**+0.2**
LKD2	**Lefkada island**	**1.48**	**12**	P	**Pb**	**18 59 31.0**	**+0.3**
LKD2	**Lefkada island**	**1.48**	**12**	*e*PN	**Pg**	**18 59 32.0**	**+0.1**
LKD2	**Lefkada island**	**1.48**	**12**	P	**Pb**	**18 59 31.0**	**+0.3**
LKD2	**Lefkada island**	**1.48**	**12**	*e*Pn	**Pg**	**18 59 32.0**	**+0.1**
LAKA	**Lakka**	**1.62**	**56**	*e*PN	**Pb**	**18 59 33.6**	**+0.4**
LAKA	**Lakka**	**1.62**	**56**	*e*Pn	**Pb**	**18 59 33.6**	**+0.4**
KLV	**Kalavryta, Ach**	**1.65**	**64**	P	**Pb**	**18 59 32.7**	**-0.9**
KLV				S	**Sg**	**18 59 55.5**	**-1.0**
KLV	**Kalavryta, Ach**	**1.65**	**64**	*e*PN	**Pb**	**18 59 33.1**	**-0.5**
KLV	**Kalavryta, Ach**	**1.65**	**64**	P	**Pb**	**18 59 32.7**	**-0.9**
KLV	**Kalavryta, Ach**	**1.65**	**64**	*e*Pn	**Pb**	**18 59 33.1**	**-0.5**
KLV				S	**Sg**	**18 59 55.5**	**-1.0**
VLX	**Vlachokerasia**	**1.68**	**88**	*e*PN	**Pb**	**18 59 34.4**	**+0.2**
VLX	**Vlachokerasia**	**1.68**	**88**	*e*Pn	**Pb**	**18 59 34.4**	**+0.2**
GUR	**Goura**	**1.75**	**69**	P	**Pb**	**18 59 34.9**	**-0.4**
GUR				S	**Sb**	**18 59 57.5**	**+0.3**
GUR	**Goura**	**1.75**	**69**	*e*PN	**Pb**	**18 59 35.2**	**-0.1**
GUR	**Goura**	**1.75**	**69**	P	**Pb**	**18 59 34.9**	**-0.4**
GUR	**Goura**	**1.75**	**69**	*e*Pn	**Pb**	**18 59 35.2**	**-0.1**
GUR				S	**Sb**	**18 59 57.5**	**+0.3**
KALE	**Kalithea**	**1.81**	**54**	*e*PN	**Pb**	**18 59 36.8**	**+0.4**
KALE	**Kalithea**	**1.81**	**54**	*e*Pn	**Pb**	**18 59 36.8**	**+0.4**
EVR	**Evrytania**	**1.99**	**37**	*e*Pn	**Pb**	**18 59 39.0**	**-0.4**
EVR				*e*SN	**Sb**	**19 00 04.2**	**+0.2**
EVR	**Evrytania**	**1.99**	**37**	*e*Pn	**Pb**	**18 59 39.0**	**-0.4**
DSF	**Desfina**	**2.08**	**58**	*e*PN	**Pb**	**18 59 39.7**	**-1.3**
DSF	**Desfina**	**2.08**	**58**	*e*Pn	**Pb**	**18 59 39.7**	**-1.3**
VLI	**Veliai**	**2.22**	**105**	*e*PN	**Pb**	**18 59 42.5**	**-0.8**
VLI	**Veliai**	**2.22**	**105**	*e*Pn	**Pb**	**18 59 42.5**	**-0.8**
MAKR	**Makrakomi, Fth**	**2.22**	**41**	*e*PN	**Pb**	**18 59 42.8**	**-0.6**
MAKR	**Makrakomi, Fth**	**2.22**	**41**	*e*Pn	**Pb**	**18 59 42.8**	**-0.6**
LTK	**Loutraki**	**2.24**	**71**	*e*PN	**Pb**	**18 59 42.4**	**-1.3**
LTK	**Loutraki**	**2.24**	**71**	*e*Pn	**Pb**	**18 59 42.4**	**-1.3**
AGG	**Agios Georgios**	**2.33**	**43**	*e*PB	**Pn**	**18 59 43.0**	**+1.6**
AGG	**Agios Georgios**	**2.33**	**43**	*e*Pb	**Pn**	**18 59 43.0**	**+1.6**
DID	**Didima**	**2.37**	**85**	*e*PB	**Pb**	**18 59 43.7**	**-2.1**
DID	**Didima**	**2.37**	**85**	*e*Pb	**Pb**	**18 59 43.7**	**-2.1**
KYTH	**Kithira**	**2.46**	**115**	P	**Pb**	**18 59 45.1**	**-2.3**
KYTH	**Kithira**	**2.46**	**115**	*e*PN	**Pb**	**18 59 45.2**	**-2.2**
KYTH	**Kithira**	**2.46**	**115**	*e*Pb	**Pb**	**18 59 45.2**	**-2.2**
LKR	**Lokris**	**2.52**	**58**	*e*PB	**Pb**	**18 59 46.8**	**-1.6**
LKR	**Lokris**	**2.52**	**58**	*e*Pb	**Pb**	**18 59 46.8**	**-1.6**
VIL2	**Platees**	**2.53**	**69**	*e*PN	**Pb**	**18 59 46.0**	**-2.6**
VILL	**Villia**	**2.55**	**70**	*e*Pn	**Pn**	**18 59 46.0**	**+1.7**
THL	**Klokotos Trika**	**2.61**	**31**	*e*PN	**Pn**	**18 59 46.7**	**+1.6**
THL	**Klokotos Trika**	**2.61**	**31**	*e*Pn	**Pn**	**18 59 46.7**	**+1.6**
SMIA	**Simia**	**2.78**	**56**	*e*PN	**Pn**	**18 59 49.6**	**+2.1**
SMIA	**Simia**	**2.78**	**56**	*e*Pn	**Pn**	**18 59 49.6**	**+2.1**
NEO	**Neokhori**	**3.04**	**49**	*e*PN	**Pn**	**18 59 52.8**	**+1.7**
NEO	**Neokhori**	**3.04**	**49**	*e*Pn	**Pn**	**18 59 52.8**	**+1.7**

*ISCJB **06** 19:02:53.9±1.4,23.8S±0.4×177.3W±0.2,h223km,mb3.5/8, Error ellipse: s-maj=63.1km s-min=18.3km az=160.9*
*IDC **06** 19:02:55.7±7.4,23.60S×177.34W,h224km±64km,mb3.4/8, mb1 3.6/9,mb1mx3.5/20,mbtmp3.4/9,Error ellipse: s-maj=37.9km s-min=28.1km az=150.0*
ISC 06 19:02:55.5±1.0,**23.6S**±0.3×**177.3W**±0.2,**h223**km,**n12**, σ0§**62**/14,**mb3.4/8,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.06**	**273**	P	**P**	**19 06 18.2**	**+0.5**
	0.6nm,0.3s,baz=85,slow=16,SNR=7.6						
CTA	**Charters Tower**	**33.94**	**269**	P	**P**	**19 09 18.3**	**+0.4**
	4.3nm,0.4s,baz=91,slow=10,SNR=12						
STKA	**Stephens Creek**	**37.11**	**248**	P	**P**	**19 09 44.9**	**+0.1**
	0.7nm,0.6s,baz=94,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**44.51**	**260**	P	**P**	**19 10 44.6**	**-0.6**
	0.7nm,0.4s,baz=93,slow=7.7,SNR=18						
ASAR				pP	pP	19 11 22.1	-11
	2.1nm,1.1s,baz=90,slow=7.9,SNR=4.6						
ASAR				PcP	**PcP**	**19 12 24.6**	**+0.1**
	0.3nm,0.6s,baz=119,slow=3.6,SNR=5.1						
WRA	**Warramunga Arr**	**44.88**	**265**	P	**P**	**19 10 46.9**	**-1.3**
	0.6nm,0.4s,baz=89,slow=6.0,SNR=27						
FITZ	**Fitzroy Crossi**	**53.31**	**264**	P	**P**	**19 11 52.5**	**+0.5**
	1.1nm,0.6s,baz=105,slow=5.9,SNR=4.2						
TXAR	**Lajitas Array**	**88.20**	**57**	P	**P**	**19 15 21.9**	**+0.2**
	0.3nm,0.8s,baz=230,slow=4.2,SNR=3.3						
ILAR	**Eielson Array**	**91.20**	**13**	P	**P**	**19 15 34.0**	**-0.6**
	0.5nm,1.1s,baz=185,slow=5.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**91.75**	**289**	P	**P**	**19 15 39.0**	**+0.7**
	0.4nm,0.8s,baz=130,slow=2.9,SNR=4.5						
AKASG	**Malin Array Be**	**146.03**	**329**	PKPbc	**PKPdf**	**19 22 08.0**	**+0.4**
	1.1nm,0.4s,baz=44,slow=4.0,SNR=13						
BRTR	**Keskin Array B**	**149.35**	**309**	PKPbc	**PKPbc**	**19 22 17.7**	**-0.5**
	0.3nm,0.6s,baz=240,slow=1.2,SNR=3.8						
BRTR				PKPab	**PKPab**	**19 22 23.8**	**+0.1**
	0.5nm,0.7s,baz=56,slow=3.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**169.54**	**175**	PKPab	**PKPab**	**19 23 51.2**	**0.0**
	0.3nm,0.8s,baz=163,slow=1.5,SNR=2.6						

*ISCJB **06** 19:05:59.7±0.5,43.23N±0.05×145.94E±0.05,h96km±3km, mb3.6/13,Error ellipse: s-maj=8.4km s-min=5.5km az=147.1*
*SKHL **06** 19:06:00.7±0.2,43.25N×145.90E,h91km±3km,mb4.6/1, msh5.6/2*
*MOS **06** 19:06:00.7±1.3,43.28N×145.83E,h106km,mb4.1/6,Error ellipse: s-maj=17.7km s-min=12.3km az=94.6*
*JMA **06** 19:06:00.7±0.1,43.22N×145.92E,h87km±1km,M3.9*
JMA Felt I J1.
*IDC **06** 19:06:03.3±2.2,43.25N×145.72E,h113km±18km, mb3.3/13,mb1 3.5/14,mb1mx3.4/25,mbtmp3.4/14,Error ellipse: s-maj=18.8km s-min=17.6km az=114.0*
ISC 06 19:06:00.4±0.8,**43.23N**±0.06×**145.92E**±0.05,**h86**km±6km, **n56**,σ1§**17**/66,**mb3.5**/13,**1C-1D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.19**	**317**	P	**Pn**	**19 06 13.4**	**+0.6**
NEM2				*e*S	**Sn**	**19 06 22.7**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**0.81**	**357**	*d*PN	**Pn**	**19 06 17.7**	**+0.1**
YUK				*i* S	**Sn**	**19 06 30.3**	**-0.2**
YUK				pmax	pmax		
	comp=N,80nm,0.1s						
YUK				pmax	pmax		
	comp=E,40nm,0.1s						
YUK				pmax	pmax		
	comp=Z,746nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,313nm,0.3s						
JRA	**Rausu**	**0.92**	**321**	P	**Pn**	**19 06 19.4**	**+0.6**
JRA				*e*S	**Sn**	**19 06 33.5**	**+0.9**
JAK	**Akkeshi**	**0.93**	**256**	P	**Pn**	**19 06 19.3**	**+0.4**
JAK				*e*S	**Sn**	**19 06 33.4**	**+0.6**
JNK	**Nakash**	**0.95**	**293**	P	**Pn**	**19 06 19.3**	**+0.2**
JNK				*e*S	**Sn**	**19 06 33.1**	**-0.1**
JOB	**Onbets**	**1.56**	**259**	P	**Pn**	**19 06 27.3**	**+0.6**
JOB				*e*S	**Sn**	**19 06 47.6**	**+1.0**
JAR	**Ashorobuto**	**1.57**	**273**	P	**Pn**	**19 06 27.6**	**+0.8**
JAR				*e*S	**Sn**	**19 06 47.5**	**+0.6**
JTKR	**Abashiri--Toko**	**1.64**	**298**	P	**Pn**	**19 06 28.5**	**+0.8**
JTKR				*e*S	**Sn**	**19 06 49.1**	**+0.7**
JCH	**Churui**	**1.98**	**253**	P	**Pn**	**19 06 32.3**	**+0.2**
JCH				*e*S	**Sn**	**19 06 56.1**	**-0.2**
JMP	**Maruseppu**	**2.02**	**294**	P	**Pn**	**19 06 33.4**	**+0.8**
JMP				*e*S	**Sn**	**19 06 58.2**	**+0.9**
HRK	**Horoka**	**2.05**	**278**	*e*P	**Pn**	**19 06 34.3**	**+1.2**
HRK				*e*S	**Sn**	**19 06 59.4**	**+1.3**
ERM	**Erimo**	**2.37**	**240**	*ce*P	**Pn**	**19 06 39.6**	**+2.3**
ERM	**Erimo**	**2.37**	**240**	*e*P	**Pn**	**19 06 39.6**	**+2.3**
KUR	**Kuril'sk**	**2.45**	**34**	PN	**Pn**	**19 06 40.0**	**+1.7**
KUR				*e*S	**Sn**	**19 07 08.0**	**+0.6**
KUR				smax	smax		
	comp=N,210nm,0.2s						
KUR				smax	smax		
	comp=E,320nm,0.4s						
KUR	**Kuril'sk**	**2.45**	**34**	*e*P	**Pn**	**19 06 39.2**	**+0.9**
KUR				AMB	AMB	19 06 40.0	
	comp=E,120nm,0.6s						
KUR				*e*S	**Sn**	**19 07 08.0**	**+0.6**
KUR				A	A	19 07 09.5	
	comp=E,210nm,0.2s						
KUR				A	A	19 07 09.5	
	comp=E,320nm,0.5s						
JKA	**Kamikawa-asahi**	**2.57**	**291**	*e*P	**Pn**	**19 06 41.6**	**+1.7**
ASAJ	**Asahikawa**	**2.57**	**291**	P	**Pn**	**19 06 41.5**	**+1.6**
	comp=E,18nm,0.3s,baz=109,slow=11,SNR=168						
ASAJ				S	**Sn**	**19 07 11.9**	**+1.5**
	comp=E,8.1nm,0.3s,baz=297,slow=27,SNR=7.5						
YSS	**Yuzh-Sakhalins**	**4.35**	**330**	*e*PN	**Pn**	**19 07 06.0**	**+2.0**
YSS				*e*S	**Sn**	**19 07 54.0**	**+0.6**
YSS				smax	smax		
	comp=N,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.35**	**330**	*e*P	**Pn**	**19 07 06.0**	**+2.0**
YSS				*e*S	**Sn**	**19 07 54.0**	**+0.6**
YSS				A	A	19 07 55.0	
	comp=N,30nm,0.9s						
TYV	**Tymovskoe**	**7.96**	**345**	*e*P	**Pn**	**19 07 54.5**	**+1.4**
EKMR	**Ekimchan**	**13.09**	**323**	*e*P	**Pn**	**19 09 05.5**	**+2.7**
KROS	**Kirovskiy**	**16.71**	**319**	*e*P	**Pn**	**19 09 45.5**	**-3.4**
SONM	**Songino Array**	**27.85**	**293**	P	**P**	**19 11 41.9**	**+0.1**
	comp=N,2.9nm,0.7s,baz=81,slow=8.6,SNR=21						
H11N2	**WAKE ISLAND Hy**	**29.32**	**136**	T	T	19 42 53.6	
	baz=331,slow=76,SNR=117						
H11N1	**WAKE ISLAND Hy**	**29.33**	**136**	T	T	19 42 55.0	
	baz=331,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**29.33**	**136**	T	T	19 42 58.1	
	baz=331,slow=76,SNR=69						
H11S1	**WAKE ISLAND Hy**	**30.25**	**138**	T	T	19 44 04.4	
	baz=333,slow=77,SNR=224						
H11S3	**WAKE ISLAND Hy**	**30.26**	**138**	T	T	19 44 09.2	
	baz=333,slow=77,SNR=182						
H11S2	**WAKE ISLAND Hy**	**30.27**	**138**	T	T	19 44 05.7	
	baz=333,slow=77,SNR=143						
ZALV	**Zalesovo Beam**	**40.60**	**307**	P	**P**	**19 13 29.8**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.60**	**307**	P	**P**	**19 13 29.8**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=81,slow=9.2,SNR=3.6						
ILAR	**Eielson Array**	**42.44**	**36**	*e*P	**P**	**19 13 47.2**	**+1.0**
ILAR	**Eielson Array**	**42.44**	**36**	P	**P**	**19 13 47.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=274,slow=8.7,SNR=7.9						
MKAR	**Makanchi Array**	**44.03**	**298**	P	**P**	**19 13 58.8**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.03**	**298**	*e*P	**P**	**19 13 58.8**	**-0.5**
MKAR	**Makanchi Array**	**44.03**	**298**	P	**P**	**19 13 58.8**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=80,slow=9.4,SNR=16						
YKA	**Yellowknife Ar**	**56.73**	**33**	*e*P	**P**	**19 15 36.3**	**+1.7**
YKA	**Yellowknife Ar**	**56.73**	**33**	P	**P**	**19 15 36.3**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=306,slow=7.1,SNR=2.6						
ARCES	**ARCESS Array B**	**59.42**	**339**	*e*P	**P**	**19 15 52.1**	**-1.3**
ARCES	**ARCESS Array B**	**59.42**	**339**	P	**P**	**19 15 52.1**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=41,slow=7.2,SNR=3.6						
JOF	**Joensuu**	**62.13**	**332**	*e*P	**P**	**19 16 11.2**	**-0.6**
JOF	**Joensuu**	**62.13**	**332**	*e*P	**P**	**19 16 11.2**	**-0.6**
JOF	**Joensuu**	**62.13**	**332**	*e*P	**P**	**19 16 11.2**	**-0.6**
WRA	**Warramunga Arr**	**63.75**	**192**	*e*P	**P**	**19 16 23.2**	**+0.2**
WRA	**Warramunga Arr**	**63.75**	**192**	P	**P**	**19 16 23.2**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=14,slow=6.9,SNR=3.0						
FINES	**FINESS Array B**	**64.93**	**333**	P	**P**	**19 16 29.4**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=46,slow=7.4,SNR=31						
ASAR	**Alice Springs**	**67.47**	**192**	*e*P	**P**	**19 16 46.4**	**-0.5**
ASAR	**Alice Springs**	**67.47**	**192**	P	**P**	**19 16 46.4**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=8.3,slow=6.7,SNR=4.8						
NB2	**NORSAR Subarra**	**69.76**	**338**	P	**P**	**19 16 59.9**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=32,slow=6.9						
NOA	**NORSAR Array B**	**69.76**	**338**	*e*P	**P**	**19 17 00.0**	**-0.9**
NOA	**NORSAR Array B**	**69.76**	**338**	P	**P**	**19 17 00.0**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=34,slow=6.4,SNR=5.7						
PDAR	**Pinedale

σ1$06/13, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.62**	**333**	P	**Pn**	**19 36 59.5**	**0.0**
BSO1				*e*S	**Sn**	**19 37 31.7**	**+1.9**
BSO2	**Boso 2**	**2.79**	**330**	*e*S	**Sn**	**19 37 35.3**	**+0.8**
BSO3	**Boso 3**	**2.94**	**327**	*e*S	**Sn**	**19 37 38.2**	**0.0**
JHO	**Hitachi**	**4.54**	**341**	P	**Pn**	**19 37 26.4**	**0.0**
JHO				*e*S	**Sn**	**19 38 17.3**	**-0.5**
JAG	**Ashikaga**	**4.77**	**330**	*e*S	**Sn**	**19 38 22.3**	**-1.3**
JFK	**Kawauchi**	**5.18**	**346**	*e*S	**Sn**	**19 38 32.9**	**-0.8**
JFT	**Otama**	**5.45**	**342**	P	**Pn**	**19 37 39.9**	**+1.0**
JFT				*e*S	**Sn**	**19 38 38.7**	**-1.7**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=163,slow=11,SNR=3.0	**5.46**	**321**	Pn	**Pn**	**19 37 38.5**	**-0.6**
KSRS	**Korea Array** 0.1nm,0.3s,baz=108,slow=9.5,SNR=3.3	**12.96**	**297**	Pn	Pn	19 39 11.5	-10
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=95,slow=9.6,SNR=4.5	**47.45**	**306**	P	**P**	**19 44 50.3**	**+0.6**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=4.8,slow=7.7,SNR=10	**52.56**	**190**	P	**P**	**19 45 28.2**	**-0.4**

MOS ***06*** *19:36:39.9±1.0, 10.07S×33.93E, h10km, mb5.2/30, Error ellipse: s-maj=12.1km s-min=6.6km az=85.1*
ISCJB ***06*** *19:36:40.3±0.2, 9.99S±0.03×33.90E±0.04, h10km, mb4.8/68, MS4.3/10, Error ellipse: s-maj=6.1km s-min=4.9km az=19.7*
SZGRF ***06*** *19:36:40.4, 10.43S×34.18E, h33km, mb4.8, Malawi*
IDC ***06*** *19:36:40.4±0.5, 10.09S×33.91E, h0km, mb4.5/20, mb1 4.7/24, mb1mx4.6/31, mbtmp4.6/24, ML2.5/1, MS4.2/14, Ms1 4.2/14, ms1mx3.9/42, Error ellipse: s-maj=17.1km s-min=14.0km az=113.0*
NEIC ***06*** *19:36:41.6±0.3, 10.11S×33.95E, h10km, mb5.1/25, Error ellipse: s-maj=7.8km s-min=6.7km az=113.0*
BJI ***06*** *19:36:43.9, 9.45S×34.20E, h10km, mB5.3/4, mb4.6/12, Ms5.1/2, Ms7 4.8/2*
DJA ***06*** *19:37:18.2±0.5, 11°S±5°×3°2E±°, h179km, M5.0/7, mB5.9/2, mb5.0/7, Mw(mB)5.5/2*

ISC 06 19:36:41.8±0.3, 10.09S±0.04×33.91E±0.06, h10km, n258, σ1$32/260, **mb4.8/68, MS4.3/10, 11C-4D, Malawi**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.34**	**175**	*i*P	**Pg**	**19 37 07.8**	**+0.3**
MZM				*i*S	**Sg**	**19 37 27.2**	**+2.2**
DODT	**Dodoma, Tanzan**	**4.28**	**25**	*i*P	**Pn**	**19 37 45.7**	**-1.5**
DODT				*i*S	**Sb**	**19 38 50.9**	**+1.8**
LSZ	**Lusaka** 113nm,0.4s	**7.60**	**227**	*e*Pn	**Pn**	**19 38 32.9**	**+0.2**
LSZ				*e*Sn	**Sn**	**19 39 59.6**	**+0.6**
LSZ				Lg	Lg	19 40 34.4	
LSZ	**Lusaka** 46nm,0.3s,baz=52,slow=12,SNR=192	**7.60**	**227**	Pn	**Pn**	**19 38 33.4**	**+0.7**
LSZ				Sn	**Sn**	**19 39 56.0**	**-3.0**
	30nm,0.3s,baz=335,slow=15,SNR=4.3						
LSZ				Lg	Lg	19 40 34.4	
	28nm,0.3s,baz=301,slow=19,SNR=6.6						
LSZ				LR	LR	19 41 39.4	
	comp=Z,2μm,18.4s,baz=341,slow=39						
KMBO	**Kilima Mbogo** 52nm,0.6s	**9.51**	**21**	*e*Pn	**Pn**	**19 38 56.1**	**-2.9**
KMBO				Lg	Lg	19 41 32.4	
KMBO	**Kilima Mbogo** 10nm,0.3s,baz=195,slow=15,SNR=120	**9.51**	**21**	Pn	**Pn**	**19 38 56.7**	**-2.3**
KMBO				Sn	**Sn**	**19 40 40.2**	**-6.0**
	3.6nm,0.3s,baz=122,slow=20,SNR=12						
KMBO				Lg	Lg	19 41 32.4	
	6.5nm,0.3s,baz=286,slow=20,SNR=8.8						
KMBO				LR	LR	19 42 35.6	
	comp=Z,2μm,18.1s,baz=98,slow=37						
MBAR	**Mbarara**	**9.94**	**341**	Pn	Pn	19 39 01.4	-3.5
MBAR				Sn	Sn	19 40 49.9	-6.8
MBAR				Lg	Lg	19 41 43.5	
MBAR	**Mbarara** 27nm,0.3s,baz=161,slow=23,SNR=55	**9.94**	**341**	Pn	Pn	19 39 01.4	-3.5
MBAR				Sn	Sn	19 40 49.9	-6.8
	19nm,0.3s,baz=129,slow=24,SNR=4.8						
MBAR				Lg	Lg	19 41 43.5	
	54nm,0.3s,baz=104,slow=22,SNR=7.9						
OPO	**Ambohidratompo**	**15.38**	**125**	Pn	**Pn**	**19 40 19.1**	**-0.1**
OPO				Sn	**Sn**	**19 43 05.1**	**-4.6**
OPO	**Ambohidratompo** 2.9nm,0.3s,baz=290,slow=14,SNR=14	**15.38**	**125**	Pn	**Pn**	**19 40 19.1**	**-0.1**
OPO				Sn	**Sn**	**19 43 05.1**	**-4.6**
	1.0nm,0.3s,baz=220,slow=18,SNR=2.9						
OPO				LR	LR	19 46 17.8	
	comp=Z,272nm,20.9s,baz=308,slow=38						
LBTB	**Lobatse** 10nm,0.2s	**16.82**	**207**	Pn	**Pn**	**19 40 33.4**	**-4.1**
LBTB				Sn	Sn	19 43 35.8	-8.8
LBTB				Lg	Lg	19 45 21.7	
LBTB	**Lobatse** 1.0nm,0.3s,baz=31,slow=13,SNR=29	**16.82**	**207**	Pn	**Pn**	**19 40 33.4**	**-4.1**
LBTB				Sn	Sn	19 43 35.8	-8.8
	2.4nm,0.3s,baz=319,slow=20,SNR=4.9						
LBTB				Lg	Lg	19 45 21.7	
	2.4nm,0.3s,baz=313,slow=22,SNR=6.2						
TSUM	**Tsumeb**	**18.19**	**238**	*e*Pn	**Pn**	**19 40 53.2**	**-1.5**
TSUM				*e*Sn	**Sn**	**19 44 15.4**	**-2.6**
TSUM				Lg	Lg	19 46 07.0	
TSUM	**Tsumeb** 0.8nm,0.3s,baz=52,slow=9.8,SNR=72	**18.19**	**238**	P	**Pn**	**19 40 52.9**	**-1.8**
TSUM				S	Sn	19 44 07.9	-10
	1.2nm,0.3s,baz=129,slow=22,SNR=3.4						
TSUM				Lg	Lg	19 46 07.0	
	0.7nm,0.3s,baz=310,slow=19,SNR=3.6						
TSUM				LR	LR	19 48 05.4	
	comp=Z,2μm,18.1s,baz=324,slow=38						
BOSA	**Boshof**	**20.14**	**203**	*e*P	**P**	**19 41 15.3**	**-1.0**
BOSA				*e*S	Sn	19 45 05.0	-0.1
BOSA				Lg	Lg	19 47 07.8	
BOSA	**Boshof** 20nm,0.6s,baz=32,slow=11,SNR=37	**20.14**	**203**	P	**P**	**19 41 14.8**	**-1.4**
BOSA				S	S	19 44 53.5	-9.1
	9.6nm,0.8s,baz=167,slow=17,SNR=2.7						
BOSA				Lg	Lg	19 47 07.8	
	90nm,0.9s,baz=288,slow=20,SNR=5.7						
BOSA				LR	LR	19 48 50.2	
	comp=Z,709nm,19.4s,baz=28,slow=36						
SUR	**Sutherland**	**25.27**	**207**	P	**P**	**19 42 08.4**	**-0.1**
SUR				Lg	Lg	19 49 47.6	
SUR	**Sutherland** 19nm,0.9s,baz=6.8,slow=16,SNR=6.7	**25.27**	**207**	P	**P**	**19 42 08.5**	**-0.1**
SUR				Lg	Lg	19 49 47.6	
	58nm,1.0s,baz=136,slow=18,SNR=4.4						
TOA0	**Torodi Ar. Sit**	**39.44**	**305**	*e*P	**P**	**19 44 10.6**	**-1.8**
TORD	**Torodi Ar. Bea**	**39.44**	**305**	P	**P**	**19 44 11.8**	**-0.6**
TORD	**Torodi Ar. Bea** 3.6nm,0.9s,baz=112,slow=7.7,SNR=20	**39.44**	**305**	P	**P**	**19 44 11.8**	**-0.6**
TORD				LR	LR	20 00 52.5	
	comp=Z,326nm,19.9s,baz=145,slow=37						
KIC	**Kosan Boka** 40nm,0.9s	**41.82**	**291**	*e*P	**P**	**19 44 31.5**	**-0.7**
LIC	**Lamto** 18nm,0.7s,baz=114	**42.03**	**291**	*e*P	**P**	**19 44 33.2**	**-0.7**
LIC				*e*R			
	532nm,21.8s						
LIC	**Lamto** 30nm,0.7s	**42.03**	**291**	*e*P	**P**	**19 44 33.4**	**-0.5**
LIC	**Lamto** 18nm,0.7s	**42.03**	**291**	*e*P	**P**	**19 44 33.2**	**-0.7**
DBIC	**Dimbokro** 5.4nm,0.9s	**42.04**	**292**	P	**P**	**19 44 33.7**	**-0.3**
DBIC	**Dimbokro** 7.1nm,0.6s,baz=93,slow=10,SNR=11	**42.04**	**292**	P	**P**	**19 44 33.7**	**-0.3**
DBIC				LR	LR	20 00 45.6	
	comp=Z,252nm,21.2s,baz=103,slow=34						
TIC	**Toumodi** 62nm,0.8s	**42.18**	**292**	*e*P	**P**	**19 44 35.0**	**-0.1**
BRTR	**Keskin Array B**	**49.56**	**360**	P	**P**	**19 45 34.0**	**+0.9**
BRTR	**Keskin Array B** 2.0nm,0.9s,baz=169,slow=7.4,SNR=8.3	**49.56**	**360**	P	**P**	**19 45 34.0**	**+0.9**
KEST	**Kesra**	**51.13**	**334**	P	**P**	**19 45 46.0**	**+0.9**
KEST	**Kesra** 2.0nm,1.0s,baz=137,slow=6.9,SNR=5.2	**51.13**	**334**	P	**P**	**19 45 46.0**	**+0.9**
ZEI	**Tsey**	**53.41**	**9**	*e*P	**P**	**19 46 02.2**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GZR	**Gura Zlata**	**56.13**	**351**	S	S	19 54 03.4	-7.2
BZS	**Buzias**	**56.54**	**350**	S	**S**	**19 54 12.6**	**-3.3**
PGF	**Pioggiola**	**57.13**	**338**	*e*P	**P**	**19 46 29.4**	**+0.7**
PGF	**Pioggiola**	**57.13**	**338**	*e*P	**P**	**19 46 29.4**	**+0.7**
PGF	**Pioggiola**	**57.13**	**338**	*e*P	**P**	**19 46 29.4**	**+0.7**
BUR08	**Bucovina Ar. S**	**57.99**	**353**	*e*P	**P**	**19 46 34.2**	**-0.5**
SOKA	**Soboth** comp=Z,8.2nm,1.3s	**58.98**	**345**	*i*P	**P**	**19 46 42.9**	**+1.3**
MBDF	**Montbardon** comp=Z,31nm,1.2s	**59.83**	**338**	*e*P	**P**	**19 46 49.1**	**+1.5**
MBDF	**Montbardon**	**59.83**	**338**	*e*P	**P**	**19 46 49.1**	**+1.5**
MBDF				pmax	pmax		
	comp=Z,31nm,1.2s						
MBDF	**Montbardon** comp=Z,31nm,1.2s	**59.83**	**338**	*e*P	**P**	**19 46 49.1**	**+1.5**
CONA	**Conrad Observa** comp=Z,8.7nm,1.2s	**59.94**	**346**	*i*P	**P**	**19 46 48.6**	**+0.4**
LPG	**La Plagne** comp=Z,19nm,1.2s	**60.49**	**338**	*e*P	**P**	**19 46 52.7**	**+0.4**
LPG	**La Plagne**	**60.49**	**338**	*e*P	**P**	**19 46 52.7**	**+0.4**
LPG				pmax	pmax		
	comp=Z,19nm,1.2s						
LPG	**La Plagne** comp=Z,19nm,1.2s	**60.49**	**338**	*e*P	**P**	**19 46 52.7**	**+0.4**
FETA	**Feichten** comp=Z,9.4nm,1.1s,SNR=4.4	**60.50**	**342**	*i*P	**P**	**19 46 53.5**	**+1.3**
LPL	**La Plagne** comp=Z,26nm,1.2s	**60.52**	**338**	*e*P	**P**	**19 46 52.7**	**+0.3**
LPL	**La Plagne**	**60.52**	**338**	*e*P	**P**	**19 46 52.7**	**+0.3**
LPL				pmax	pmax		
	comp=Z,26nm,1.2s						
LPL	**La Plagne** comp=Z,26nm,1.2s	**60.52**	**338**	*e*P	**P**	**19 46 52.7**	**+0.3**
KIEV	**Kiev**	**60.67**	**357**	*ce*P	**P**	**19 46 53.2**	**+0.2**
AKASG	**Malin Array Be**	**60.67**	**357**	*ce*P	**P**	**19 46 53.2**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**60.67**	**357**	P	**P**	**19 46 53.0**	**-0.1**
AKASG	**Malin Array Be** comp=Z,2.9nm,0.8s,baz=177,slow=6.2,SNR=19	**60.67**	**357**	P	**P**	**19 46 53.0**	**-0.1**
MOTA	**Moosalm** comp=Z,6.9nm,0.9s	**60.68**	**342**	*i*P	**P**	**19 46 53.8**	**+0.5**
ESDC	**Sonseca Array**	**60.71**	**327**	P	**P**	**19 46 54.4**	**+0.9**
ESDC	**Sonseca Array** comp=Z,2.3nm,0.9s,baz=134,slow=6.5,SNR=9.2	**60.71**	**327**	P	**P**	**19 46 54.4**	**+0.9**
RETA	**Reutte** comp=Z,10nm,1.2s,SNR=5.2	**60.91**	**342**	*i* P	**P**	**19 46 55.2**	**+0.4**
KOLN	**Koldanda** comp=Z,26nm,1.0s	**61.07**	**51**	*e*P	**P**	**19 46 55.7**	**-0.8**
KOLN	**Koldanda**	**61.07**	**51**	*e*P	**P**	**19 46 55.7**	**-0.8**
OKC	**Ostrava-Krasne**	**61.25**	**348**	*e*P	**P**	**19 46 57.2**	**+0.2**
OKC	**Ostrava-Krasne**	**61.25**	**348**	*e*P	**P**	**19 46 57.2**	**+0.2**
TREC	**Trest**	**61.31**	**346**	*e*P	**P**	**19 46 58.3**	**+0.9**
TREC	**Trest**	**61.31**	**346**	*e*P	**P**	**19 46 58.3**	**+0.9**
MORC	**Moravsky Berou**	**61.31**	**348**	*e*P	**P**	**19 46 56.3**	**-1.2**
MORC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MORC	**Moravsky Berou** comp=Z,9.3nm,1.2s	**61.31**	**348**	*e*P	**P**	**19 46 56.3**	**-1.2**
GERES	**GERESS Array B**	**61.33**	**345**	P	**P**	**19 46 57.5**	**-0.2**
GERES	**GERESS Array B** comp=Z,5.3nm,1.0s,baz=152,slow=6.0,SNR=21	**61.33**	**345**	P	**P**	**19 46 57.5**	**-0.2**
DANN	**Dangsing** comp=Z,31nm,0.8s	**61.48**	**50**	*e*P	**P**	**19 46 58.5**	**-0.9**
DANN	**Dangsing**	**61.48**	**50**	*e*P	**P**	**19 46 58.5**	**-0.9**
KHC	**Kasperske Hory**	**61.62**	**345**	*ce*P	**P**	**19 46 59.7**	**+0.1**
KHC				pmax	pmax		
	comp=Z,48nm,1.2s						
KHC	**Kasperske Hory**	**61.62**	**345**	*e*P	**P**	**19 46 59.4**	**-0.2**
KHC	**Kasperske Hory** comp=Z,11nm,1.1s	**61.62**	**345**	*e*P	**P**	**19 46 58.6**	**-0.9**
CABF	**La Chapelle** comp=Z,97nm,1.7s	**61.68**	**339**	*e*P	**P**	**19 47 01.0**	**+0.9**
CABF	**La Chapelle**	**61.68**	**339**	*e*P	**P**	**19 47 01.0**	**+0.9**
CABF				pmax	pmax		
	comp=Z,97nm,1.7s						
CABF	**La Chapelle** comp=Z,97nm,1.7s	**61.68**	**339**	*e*P	**P**	**19 47 01.0**	**+0.9**
KRLC	**Kraliky**	**61.75**	**348**	*e*P	**P**	**19 47 00.7**	**+0.3**
KRLC	**Kraliky**	**61.75**	**348**	*e*P	**P**	**19 47 00.7**	**+0.3**
GKN	**Gorkha** comp=Z,37nm,1.0s	**61.98**	**51**	*e*P	**P**	**19 47 01.9**	**-0.6**
GKN	**Gorkha**	**61.98**	**51**	*e*P	**P**	**19 47 01.9**	**-0.6**
DPC	**Dobruska-Polom**	**62.11**	**347**	*e*P	**P**	**19 47 02.2**	**-0.6**
DPC	**Dobruska-Polom**	**62.11**	**347**	*e*P	**P**	**19 47 02.2**	**-0.6**
DMN	**Daman** comp=Z,18nm,1.0s	**62.14**	**51**	*e*P	**P**	**19 47 03.1**	**-0.7**
DMN	**Daman**	**62.14**	**51**	*e*P	**P**	**19 47 03.1**	**-0.7**
PRU	**Pruhonice**	**62.18**	**346**	*e*P	**P**	**19 47 00.5**	**-2.7**
PRU	**Pruhonice**	**62.18**	**346**	*e*P	**P**	**19 47 00.5**	**-2.7**
PKIN	**Phulchoki** comp=Z,5.8nm,0.8s	**62.35**	**52**	*e*P	**P**	**19 47 04.0**	**-1.2**
PKI	**Pulchoki** comp=Z,8.8nm,0.7s	**62.35**	**52**	*e*P	**P**	**19 47 04.3**	**-1.0**
PKI	**Pulchoki**	**62.35**	**52**	*e*P	**P**	**19 47 04.3**	**-1.0**
PKI	**Pulchoki**	**62.35**	**52**	*e*P	**P**	**19 47 04.3**	**-1.0**
KKN	**Kakani** comp=Z,7.8nm,0.9s	**62.36**	**51**	*e*P	**P**	**19 47 04.4**	**-0.8**
KKN	**Kakani**	**62.36**	**51**	*e*P	**P**	**19 47 04.4**	**-0.8**
KKN	**Kakani**	**62.36**	**51**	*e*P	**P**	**19 47 04.4**	**-0.8**
SMF	**Signal de Mont** comp=Z,46nm,1.4s	**62.55**	**337**	*e*P	**P**	**19 47 06.6**	**+0.8**
SMF	**Signal de Mont**	**62.55**	**337**	*e*P	**P**	**19 47 06.6**	**+0.8**
SMF				pmax	pmax		
	comp=Z,46nm,1.4s						
SMF	**Signal de Mont** comp=Z,46nm,1.4s	**62.55**	**337**	*e*P	**P**	**19 47 06.6**	**+0.8**
KKAR	**Karatay Array** comp=Z,8.0nm,0.8s	**62.58**	**29**	*e*P	**P**	**19 47 05.3**	**-0.8**
KKAR				pmax	pmax		
KKAR	**Karatay Array** comp=Z,8.0nm,0.8s	**62.58**	**29**	*e*P	**P**	**19 47 05.3**	**-0.8**
GRF	**Grafenberg Arr** comp=Z,11nm,1.3s	**62.76**	**344**	*e*P	**P**	**19 47 07.1**	**-0.1**
HAU	**Haudompre** comp=Z,28nm,1.2s	**62.79**	**340**	*e*P	**P**	**19 47 08.3**	**+0.9**
HAU	**Haudompre**	**62.79**	**340**	*e*P	**P**	**19 47 08.3**	**+0.9**
HAU				pmax	pmax		
	comp=Z,28nm,1.2s						
HAU	**Haudompre** comp=Z,28nm,1.2s	**62.79**	**340**	*e*P	**P**	**19 47 08.3**	**+0.9**
CDF	**Champ du Feu**	**62.83**	**340**	*e*P	**P**	**19 47 08.4**	**+0.7**
CDF	**Champ du Feu**	**62.83**	**340**	*e*P	**P**	**19 47 08.4**	**+0.7**
CDF	**Champ du Feu**	**62.83**	**340**	*e*P	**P**	**19 47 08.4**	**+0.7**
AVF	**Avril sur Loir** comp=Z,64nm,1.5s	**62.86**	**337**	*e*P	**P**	**19 47 08.8**	**+1.0**
AVF	**Avril sur Loir**	**62.86**	**337**	*e*P	**P**	**19 47 08.8**	**+1.0**
AVF				pmax	pmax		
	comp=Z,64nm,1.5s						
AVF	**Avril sur Loir** comp=Z,64nm,1.5s	**62.86**	**337**	*e*P	**P**	**19 47 08.8**	**+1.0**
GUN	**Gumba** comp=Z,45nm,1.0s	**62.88**	**52**	*e*P	**P**	**19 47 08.4**	**-0.4**
GUN	**Gumba**	**62.88**	**52**	*e*P	**P**	**19 47 08.4**	**-0.4**
TCF	**Toulx Ste Croi** comp=Z,49nm,1.3s	**62.90**	**336**	*e*P	**P**	**19 47 09.7**	**+1.5**
TCF	**Toulx Ste Croi**	**62.90**	**336**	*e*P	**P**	**19 47 09.7**	**+1.5**
TCF				pmax	pmax		
	comp=Z,49nm,1.3s						
TCF	**Toulx Ste Croi** comp=Z,49nm,1.3s	**62.90**	**336**	*e*P	**P**	**19 47 09.7**	**+1.5**
RAMN	**Ramite** comp=Z,9.5nm,0.9s	**62.98**	**53**	*e*P	**P**	**19 47 08.7**	**-0.7**
RAMN	**Ramite**	**62.98**	**53**	*e*P	**P**	**19 47 08.7**	**-0.7**
JIRN	**Jiri** comp=Z,15nm,0.9s	**63.00**	**52**	*e*P	**P**	**19 47 08.9**	**-0.8**
JIRN	**Jiri**	**63.00**	**52**	*e*P	**P**	**19 47 08.9**	**-0.8**
SSF	**Saint Saulge** comp=Z,19nm,1.2s	**63.02**	**337**	*e*P	**P**	**19 47 09.7**	**+0.8**
SSF	**Saint Saulge**	**63.02**	**337**	*e*P	**P**	**19 47 09.7**	**+0.8**
SSF				pmax	pmax		
	comp=Z,19nm,1.2s						
SSF	**Saint Saulge** comp=Z,19nm,1.2s	**63.02**	**337**	*e*P	**P**	**19 47 09.7**	**+0.8**
LOR	**Lormes** comp=Z,54nm,1.5s	**63.06**	**338**	*e*P	**P**	**19 47 10.0**	**+0.8**
LOR	**Lormes** comp=Z,54nm,1.5s	**63.06**	**338**	*e*P	**P**	**19 47 10.0**	**+0.8**
BRG	**Berggiesshubel** comp=Z,4.6nm,1.2s	**63.14**	**346**	*e*P	P	19 47 00.8	-8.9
SFTF	**Sexfontaines** comp=Z,42nm,1.3s	**63.41**	**339**	*e*P	**P**	**19 47 12.9**	**+1.4**
SFTF	**Sexfontaines** comp=Z,42nm,1.3s	**63.41**	**339**	*e*P	**P**	**19 47 12.9**	**+1.4**
ODAN	**Odare**	**63.56**	**53**	*e*P	**P**	**19 47 13.1**	**-0.1**
ODAN	**Odare**	**63.56**	**53**	*e*P	**P**	**19 47 13.1**	**-0.1**
MEZF	**Maizieres J'vi**	**63.66**	**339**	*e*P	**P**	**19 47 14.7**	**+1.6**
MEZF	**Maizieres J'vi**	**63.66**	**339**	*e*P	**P**	**19 47 14.7**	**+1.6**
CLL	**Collm**	**63.77**	**346**	*e*P	**P**	**19 47 13.0**	**-0.8**
CLL	**Collm**	**63.77**	**346**	*e*P	**P**	**19 47 13.0**	**-0.8**
EKS2	**Erkin-Say**	**63.90**	**32**	*e*P	**P**	**19 47 14.2**	**-0.8**
EKS2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
EKS2	**Erkin-Say** comp=Z,4.0nm,1.0s	**63.90**	**32**	*e*P	**P**	**19 47 14.2**	**-0.8**
TAPN	**Taplejung** comp=Z,17nm,0.9s	**64.04**	**53**	*e*P	**P**	**19 47 15.5**	**-1.0**
TAPN	**Taplejung**	**64.04**	**53**	*e*P	**P**	**19 47 15.5**	**-1.0**
AAK	**Ala-Archa**	**64.25**	**32**	*c i*P	**P**	**19 47 17.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,23nm,2.5s						
MICGM	**Minsk**	**64.54**	**356**	*i*P	P	19 47 13.0	-5.8
OBN	**Obninsk**	**64.99**	**2**	*e*P	**P**	**19 47 21.9**	**+0.2**
OBN				pmax	pmax		
	comp=Z,20nm,1.6s						
TKM2	**Tokmak 2**	**65.03**	**33**	*e*P	**P**	**19 47 20.9**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TKM2	**Tokmak 2** comp=Z,4.9nm,0.9s	**65.03**	**33**	*e*P	**P**	**19 47 20.9**	**-1.6**
GIVF	**Givet**	**65.10**	**340**	*e*P	**P**	**19 47 23.4**	**+0.9**
GIVF	**Givet**	**65.10**	**340**	*e*P	**P**	**19 47 23.4**	**+0.9**
GIVF	**Givet**	**65.10**	**340**	*e*P	**P**	**19 47 23.4**	**+0.9**
SNAA	**Sanae**	**65.50**	**192**	*e*P	**P**	**19 47 27.1**	**+2.2**
VNA2	**Neumayer--Watz**	**65.95**	**194**	*e*P	**P**	**19 47 29.1**	**+1.3**
VNA1	**Neumayer--Stat**	**65.96**	**194**	*e*P	**P**	**19 47 30.7**	**+2.9**
LSA	**Lhasa**	**67.80**	**52**	*e*P	**P**	**19 47 40.3**	**-0.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LSA	**Lhasa** comp=Z,8.3nm,0.9s	**67.80**	**52**	*e*P	**P**	**19 47 40.3**	**-0.6**
MHMT	**Maesarieng** comp=Z,4.2nm,0.9s	**69.14**	**66**	P	P	19 47 52.8	+3.9
ARU	**Arti**	**69.36**	**14**	*c i*P	**P**	**19 47 49.2**	**-0.2**
ARU						19 50 18.9	
ARU				S	**S**	**19 56 58.1**	**+2.0**
ARU				pmax	pmax		
	comp=Z,19nm,1.0s						
BRVK	**Borovoye**	**70.14**	**22**	*de*P	**P**	**19 47 54.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CM31	**Chiang Mai Arr** comp=Z,5.7nm,0.7s	**70.14**	**66**	*e*P	**P**	**19 47 54.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**70.14**	**66**	P	**P**	**19 47 55.8**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,7.3nm,0.8s,baz=258,slow=7.3,SNR=48	**70.14**	**66**	P	**P**	**19 47 55.8**	**+0.7**
CMAR				LR	LR	20 15 53.9	
	comp=Z,97nm,20.9s,baz=55,slow=34						
SVE	**Sverdlovsk**	**70.24**	**15**	*e*P	**P**	**19 47 55.0**	**+0.2**
SVE				pmax	pmax		
	comp=Z,18nm,1.3s						
CHTO	**Chiang Mai**	**70.25**	**66**	*e*P	**P**	**19 47 55.3**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai** comp=Z,74nm,0.9s	**70.25**	**66**	P	**P**	**19 47 56.2**	**+0.5**
CHTO	**Chiang Mai** comp=Z,12nm,0.8s	**70.25**	**66**	*e*P	**P**	**19 47 55.3**	**-0.4**
CHTO	**Chiang Mai** comp=Z,74nm,0.9s	**70.25**	**66**	P	**P**	**19 47 56.2**	**+0.5**
CMMT	**Chiang Mai** comp=Z,16nm,0.9s	**70.26**	**66**	P	**P**	**19 47 56.2**	**+0.4**
LAMP	**Lampang** comp=Z,7.3nm,0.8s	**70.78**	**66**	P	**P**	**19 48 01.3**	**+2.3**
KLMR	**Klimovskoe**	**70.85**	**3**	*e*P	**P**	**19 47 57.4**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,22nm,1.1s						
MK31	**Makanchi Array**	**71.16**	**33**	*e*P	**P**	**19 47 59.5**	**-1.2**
MK31	**Makanchi Array**	**71.16**	**33**	*e*P	**P**	**19 47 59.5**	**-1.2**
MKAR	**Makanchi Array**	**71.16**	**33**	P	**P**	**19 48 00.9**	**+0.1**
MKAR	**Makanchi Array**	**71.16**	**33**	P	**P**	**19 48 00.9**	**+0.1**
MKAR	**Makanchi Array** comp=Z,11nm,0.8s,baz=232,slow=6.1,SNR=41	**71.16**	**33**	P	**P**	**19 48 00.9**	**+0.1**
PBKT	**Sadao Pong** comp=Z,11nm,0.9s,comp=Z,1μm	**71.42**	**69**	P	**P**	**19 48 03.7**	**+0.9**
FINES	**FINESS Array B**	**71.57**	**356**	P	**P**	**19 48 02.6**	**-0.2**
FINES	**FINESS Array B** comp=Z,4.9nm,1.1s,baz=178,slow=18,SNR=4.0	**71.57**	**356**	P	**P**	**19 48 02.6**	**-0.2**
SOKR	**Solikamsk**	**71.84**	**12**	*e*P	**P**	**19 48 05.2**	**+0.8**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KURK	**Kurchatov**	**71.91**	**28**	*e*P	**P**	**19 48 04.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov** comp=Z,6.4nm,0.8s	**71.91**	**28**	*e*P	**P**	**19 48 04.6**	**-0.5**
CRAI	**Chiangrai**	**71.98**	**65**	P	**P**	**19 48 07.3**	**+1.1**
NB2	**NORSAR Subarra** comp=Z,11nm,1.1s,baz=148,slow=5.6	**73.13**	**349**	P	**P**	**19 48 12.9**	**+0.7**
NOA	**NORSAR Array B**	**73.13**	**349**	P	**P**	**19 48 12.7**	**+0.4**
NOA	**NORSAR Array B** comp=Z,5.4nm,1.0s,baz=156,slow=5.4,SNR=6.3	**73.13**	**349**	P	**P**	**19 48 12.7**	**+0.4**
TMCR	**Tamitsa**	**74.10**	**2**	*e*	**P**	**19 48 17.3**	**-0.5**
TMCR				*e*		19 50 59.8	
TMCR				pmax	pmax		
	comp=Z,30nm,1.2s					

A29A	**Manning Farm,** baz=125	**125.09**	**324**	P		**PKPdf**	**19 55 42.4**	**-0.2**
C30A	**Mose, Pekin** baz=125	**125.22**	**322**	P		**PKPdf**	**19 55 42.9**	**+0.1**
B29A	**Wagenman Farm,** baz=125	**125.38**	**324**	P		**PKPdf**	**19 55 43.1**	**0.0**
ILAR	**Eielson Array**	**125.40**	**0**	PKP		**PKPdf**	**19 55 42.5**	**-0.2**
ILAR	**Eielson Array** comp=Z,2.2nm,0.9s,baz=326,slow=2.7,SNR=18	**125.40**	**0**	PKP		**PKPdf**	**19 55 42.5**	**-0.2**
D30A	**Buchanan** baz=126	**125.66**	**322**	P		**PKPdf**	**19 55 43.4**	**-0.3**
A28A	**Rude Farm, Bot** baz=126	**125.70**	**324**	P		**PKPdf**	**19 55 43.6**	**-0.1**
I28A	**Midland** baz=129	**128.58**	**319**	P		**PKPdf**	**19 55 50.5**	**+1.0**
A22A	**Carney Farms,** baz=129	**128.79**	**327**	P		**PKPdf**	**19 55 50.8**	**+1.1**
G26A	**Maurine** baz=129	**128.87**	**321**	P		**PKPdf**	**19 55 50.4**	**+0.4**
I25A	**Rochford** baz=130	**130.20**	**320**	P		**PKPdf**	**19 55 54.2**	**+1.5**
A19A	**Klindworth Far** baz=130	**130.32**	**328**	P		**PKPdf**	**19 55 53.7**	**+1.0**
H24A	**Dirks Ranch, A** baz=130	**130.34**	**322**	P		**PKPdf**	**19 55 53.4**	**+0.6**
D21A	**La Casta Ranch** baz=130	**130.50**	**325**	P		**PKPdf**	**19 55 54.9**	**+1.8**
E21A	**Keefer Ranch,** baz=131	**130.85**	**325**	P		**PKPdf**	**19 55 55.3**	**+1.7**
D20A	**Manuel Ranch,** baz=131	**131.12**	**326**	P		**PKPdf**	**19 55 56.1**	**+1.9**
C19A	**Slack Wire Ran** baz=131	**131.22**	**327**	P		**PKPdf**	**19 55 56.2**	**+1.8**
Z32A	**Haskell** baz=131	**131.42**	**306**	P		**PKPdf**	**19 55 57.0**	**+1.9**
E20A	**Meyer Farm, Mu** baz=131	**131.46**	**325**	P		**PKPdf**	**19 55 56.7**	**+1.9**
P26A	**Davis Ranch, A** baz=132	**132.02**	**315**	P		**PKPdf**	**19 55 58.3**	**+2.1**
M24A	**Cheyenne** baz=132	**132.15**	**318**	P		**PKPdf**	**19 55 58.8**	**+2.3**
P25A	**Willow Gulch B** baz=133	**132.61**	**315**	P		**PKPdf**	**19 55 59.7**	**+2.3**
Y29A	**Porterfield Fa** baz=133	**132.98**	**307**	P		**PKPdf**	**19 56 00.3**	**+2.1**
530A	**J-C Ranch, Com** baz=134	**133.84**	**302**	P		**PKPdf**	**19 56 01.1**	**+1.3**
128A	**Castleberry Fa** baz=134	**134.03**	**306**	P		**PKPdf**	**19 56 01.7**	**+1.5**
PDAR	**Pinedale Array**	**134.46**	**322**	PKP		**PKPdf**	**19 56 01.3**	**+0.4**
PDAR	**Pinedale Array** comp=Z,0.7nm,0.8s,baz=102,slow=4.6,SNR=6.2	**134.46**	**322**	PKP		**PKPdf**	**19 56 01.3**	**+0.4**
529A	**Stev Forest Ra** baz=135	**134.58**	**303**	P		**PKPdf**	**19 56 02.3**	**+1.0**
527A	**Woodward Ranch** baz=136	**135.73**	**303**	P		**PKPdf**	**19 56 04.5**	**+1.0**
627A	**Terlingua Ranc** baz=136	**135.75**	**302**	P		**PKPdf**	**19 56 04.3**	**+0.8**
Y24A	**Capitan** baz=136	**135.88**	**309**	P		**PKPdf**	**19 56 05.9**	**+2.1**
426A	**McDonald Obser** baz=136	**135.91**	**304**	P		**PKPdf**	**19 56 05.4**	**+1.5**
TXAR	**Lajitas Array**	**136.01**	**302**	PKP		**PKPdf**	**19 56 04.2**	**+0.2**
TXAR	**Lajitas Array** comp=Z,0.9nm,1.0s,baz=191,slow=1.9,SNR=5.5	**136.01**	**302**	PKP		**PKPdf**	**19 56 04.2**	**+0.2**
526A	**Mary Lane Ranc** baz=136	**136.15**	**303**	P		**PKPdf**	**19 56 05.5**	**+1.2**
Y23A	**Lovelace Mesa,** baz=136	**136.35**	**309**	P		**PKPdf**	**19 56 05.5**	**+0.9**
325A	**Bean Ranch, Si** baz=136	**136.44**	**305**	P		**PKPdf**	**19 56 05.9**	**+1.1**
224A	**Cornudas Mount** baz=137	**136.63**	**306**	P		**PKPdf**	**19 56 06.9**	**+1.8**
Y22A	**Socorro** baz=137	**137.04**	**310**	P		**PKPdf**	**19 56 06.9**	**+1.1**
Z22A	**Elephant Butte** baz=137	**137.31**	**309**	P		**PKPdf**	**19 56 07.5**	**+1.1**
DUG	**Dugway** baz=138	**137.94**	**321**	P		**PKPdf**	**19 56 09.0**	**+1.7**
121A	**Cookes Peak, D** baz=138	**138.23**	**308**	P		**PKPdf**	**19 56 09.8**	**+1.7**
X18A	**Snowflake** baz=139	**139.00**	**312**	P		**PKPdf**	**19 56 10.9**	**+1.4**
NVAR	**Mina Array Bea**	**142.37**	**323**	PKP		**PKPdf**	**19 56 12.7**	**-2.7**
NVAR	**Mina Array Bea** comp=Z,3.5nm,0.8s,baz=57,slow=6.8,SNR=6.8	**142.37**	**323**	PKP		**PKPdf**	**19 56 12.7**	**-2.7**
CMB	**Columbia Colle**	**143.84**	**325**	*e*PKIKP		**PKPdf**	**19 56 17.4**	**-0.5**
CMB	**Columbia Colle**	**143.84**	**325**	*e*PKPdf		**PKPdf**	**19 56 17.4**	**-0.5**

CSEM ***06*** *19:43:57.6, 37.31N×20.01E, h6km, MD3.3, After ATH*
ATH 06 19:43:57.7, 37.31N×20.01E, h6km±1km**, MD3.3**/16**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.81**	**94**	*e*Pb	Pg	19 44 13.0	-0.2
SFD				*e*SB	Sb	19 44 24.5	-0.7
SFD	**Strofades**	**0.81**	**94**	*e*Pb	Pg	19 44 13.0	-0.2
SFD				*e*Sb	Sb	19 44 24.5	-0.7
VLS	**Valsamata**	**0.98**	**28**	*e*PN	Pb	19 44 17.1	0.0
VLS				*e*SB	Sb	19 44 30.2	-0.2
VLS	**Valsamata**	**0.98**	**28**	*e*Pn	Pb	19 44 17.1	0.0
VLS				*e*Sb	Sb	19 44 30.2	-0.2
AMT	**Artemida-Makis**	**1.37**	**80**	*e*PB	Pn	19 44 23.4	0.0
AMT				*e*SB	Sb	19 44 41.7	+0.1
AMT	**Artemida-Makis**	**1.37**	**80**	*e*Pb	Pn	19 44 23.4	0.0
AMT				*e*Sb	Sb	19 44 41.7	+0.1
RLS	**Riolos of Patr**	**1.38**	**57**	*e*PB	Pn	19 44 23.5	+0.1
RLS				*e*SB	Sb	19 44 41.5	-0.2
RLS	**Riolos of Patr**	**1.38**	**57**	*e*Pb	Pn	19 44 23.5	+0.1
RLS				*e*Sb	Sb	19 44 41.5	-0.2
PYL	**PYLOS**	**1.45**	**106**	*e*PG	Pn	19 44 24.0	-0.4
PYL				*e*SB	Sg	19 44 45.0	+0.8
PYL	**PYLOS**	**1.45**	**106**	*e*Pg	Pn	19 44 24.0	-0.4
PYL				*e*Sb	Sg	19 44 45.0	+0.8
DRO	**Drossia**	**1.50**	**64**	*e*PG	Pn	19 44 25.5	+0.4
DRO				*e*SB	Sg	19 44 46.4	+0.5
DRO	**Drossia**	**1.50**	**64**	*e*Pg	Pn	19 44 25.5	+0.4
DRO				*e*Sb	Sg	19 44 46.4	+0.5
ITM	**Ithomi**	**1.54**	**94**	*e*PG	Pn	19 44 26.0	+0.3
ITM				*e*SB	Sg	19 44 47.8	+0.7
ITM	**Ithomi**	**1.54**	**94**	*e*Pg	Pn	19 44 26.0	+0.3
ITM				*e*Sb	Sg	19 44 47.8	+0.7
LKD2	**Lefkada island**	**1.56**	**19**	*e*PG	Pb	19 44 26.6	-0.5
LKD2	**Lefkada island**	**1.56**	**19**	*e*Pg	Pb	19 44 26.6	-0.5
PDO	**Prodromos**	**1.59**	**35**	*e*PB	Pg	19 44 28.0	-0.1
PDO				*e*SB	Sg	19 44 49.5	+0.8
PDO	**Prodromos**	**1.59**	**35**	*e*Pb	Pg	19 44 28.0	-0.1
PDO				*e*Sb	Sg	19 44 49.5	+0.8
LAKA	**Lakka**	**1.81**	**59**	*e*PG	Pb	19 44 30.9	-0.5
LAKA	**Lakka**	**1.81**	**59**	*e*Pg	Pb	19 44 30.9	-0.5
KLV	**Kalavryta, Ach**	**1.85**	**66**	*e*PN	Pb	19 44 31.7	-0.3
KLV				*e*SG	Sg	19 44 56.8	-0.5
KLV	**Kalavryta, Ach**	**1.85**	**66**	*e*Pn	Pb	19 44 31.7	-0.3
KLV				*e*Sn	Sg	19 44 56.8	-0.5
VLX	**Vlachokerasia**	**1.89**	**87**	*e*PG	Pb	19 44 33.0	+0.2
VLX				*e*SN	Sg	19 44 58.3	-0.4
VLX	**Vlachokerasia**	**1.89**	**87**	*e*Pg	Pb	19 44 33.0	+0.2
VLX				*e*Sn	Sg	19 44 58.3	-0.4
GUR	**Goura**	**1.96**	**71**	*e*PG	Pb	19 44 33.8	-0.1
GUR	**Goura**	**1.96**	**71**	*e*Pg	Pb	19 44 33.8	-0.1
KALE	**Kalithea**	**2.00**	**57**	*e*PN	Pb	19 44 34.1	-0.5
KALE	**Kalithea**	**2.00**	**57**	*e*Pn	Pb	19 44 34.1	-0.5
EVR	**Evrytania**	**2.14**	**41**	*e*PN	Pb	19 44 36.0	-1.1
EVR	**Evrytania**	**2.14**	**41**	*e*Pn	Pb	19 44 36.0	-1.1
MAKR	**Makrakomi, Fth**	**2.38**	**44**	*e*PN	Pb	19 44 39.9	-1.2
MAKR	**Makrakomi, Fth**	**2.38**	**44**	*e*Pn	Pb	19 44 39.9	-1.2
AGG	**Agios Georgios**	**2.50**	**46**	*e*PN	Pn	19 44 41.0	+2.0
AGG	**Agios Georgios**	**2.50**	**46**	*e*Pn	Pn	19 44 41.0	+2.0
THL	**Klokotos Trika**	**2.75**	**34**	*e*PB	Pn	19 44 43.8	+1.5
THL	**Klokotos Trika**	**2.75**	**34**	*e*Pb	Pn	19 44 43.8	+1.5

MEX 06 20:03:18.9±0.7, 17.31N×94.55W, h160km±11km**, MD3.6, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**0.73**	**9**	*e*P	Pn	20 03 41.4	-1.2
TUIG				*e*S	Sn	20 03 58.5	-2.5
PCIG		**2.04**	**141**	*e*P	Pn	20 03 56.2	+1.0
PCIG				*e*S	Sn	20 04 22.9	-0.2
VHO	**Vista Hermosa**	**2.10**	**264**	*e*P	Pn	20 03 55.1	-1.0
VHO				*e*S	Sn	20 04 23.0	-1.8
HUIG	**Huatulco**	**2.14**	**225**	*e*P	Pn	20 03 54.2	-2.1
HUIG				*e*S	Sn	20 04 23.4	-1.8
TPIG	**Tehuac#an**	**2.90**	**293**	*e*P	Pn	20 04 04.4	-1.2
TPIG				*i* S	Sn	20 04 39.0	-2.8
UTMO	**Huajuapan**	**3.15**	**280**	*e*P	Pn	20 04 07.9	-0.9
UTMO				*i* S	Sn	20 04 45.5	-2.1

IDC ***06*** *20:15:40.0±0.6, 45.40N×27.02E, h0km, mb3.9/12, mb1 4.0/23, mb1mx3.9/37, mbtmp3.9/23, ML3.6/10, MS3.5/6, Ms1 3.5/6, ms1mx3.1/59, Error ellipse: s-maj=9.8km s-min=6.9km az=6.0*
PRU ***06*** *20:15:42.5, 45.30N×27.19E, h17km, M4.3*
SOF ***06*** *20:15:42.5, 45.31N×26.94E, h2km, MD3.9*
BEO ***06*** *20:15:42.5±1.0, 45.36N×26.99E, h4km×9km, ML3.8/1*
MOS ***06*** *20:15:42.3±1.3, 45.49N×27.09E, h28km, mb4.6/7, Error ellipse: s-maj=5.1km s-min=4.1km az=113.0*
BUC ***06*** *20:15:44.0±0.3, 45.40N×26.99E, h26km±3km, MD4.3/2, Error ellipse: s-maj=3.9km s-min=3.1km az=69.0*
NEIC ***06*** *20:15:44.0, 45.42N×27.03E, h20km, mb4.5/5, ML4.0(BUC), ML4.3(ISK), After BUC.*
CSEM ***06*** *20:15:44.6±0.1, 45.42N×27.02E, h30km, mb4.5/8, Error ellipse: s-maj=2.1km s-min=1.7km az=47.0*
ISC 06 20:15:43.9±0.6, 45.44N±0.02×27.03E±0.02, h28km±4km**, n620, σ1%21/682, mb4.1/19, 72C-69D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRER		**0.07**	**211**	⇑*i*P	**Pb**	**20 15 48.5**	**-0.2**
GRER				*e*S	**Sb**	**20 15 52.4**	**+0.4**
GRER		**0.07**	**211**	⇑*i*P	**Pb**	**20 15 48.5**	**-0.2**
GRER				*i* S	**Sb**	**20 15 52.4**	**+0.4**
GRER		**0.07**	**211**	⇑*i*P	**Pb**	**20 15 48.5**	**-0.2**
GRER				*i* S	**Sb**	**20 15 52.4**	**+0.4**
PETR	**Petresti**	**0.32**	**27**	⇓*i*P	**Pn**	**20 15 53.5**	**+0.9**
PETR	**Petresti**	**0.32**	**27**	⇓*i*P	**Pn**	**20 15 53.5**	**+0.9**
PETR	**Petresti**	**0.32**	**27**	⇓*i*P	**Pn**	**20 15 53.5**	**+0.9**
ODBI	**Odobesti**	**0.32**	**4**	⇑*i*P	**Pn**	**20 15 53.7**	**+1.0**
ODBI	**Odobesti**	**0.32**	**4**	⇑*i*P	**Pn**	**20 15 53.7**	**+1.0**
ODBI				*i* S	**Sn**	**20 15 58.6**	**+0.1**
ODBI	**Odobesti**	**0.32**	**4**	⇑*i*P	**Pn**	**20 15 53.7**	**+1.0**
ODBI				*i* S	**Sn**	**20 15 58.6**	**+0.1**
ISR	**Istrita**	**0.47**	**227**	P	**Pb**	**20 15 53.5**	**-0.2**
ISR	**Istrita**	**0.47**	**227**	⇑*i*P	**Pb**	**20 15 53.5**	**-0.2**
ISR	**Istrita**	**0.47**	**227**	⇑*i*P	**Pb**	**20 15 53.5**	**-0.2**
ISR	**Istrita**	**0.47**	**227**	P	**Pb**	**20 15 53.5**	**-0.2**
ISR	**Istrita**	**0.47**	**227**	⇑*i*P	**Pb**	**20 15 53.5**	**-0.2**
VRI	**Vrincioaia**	**0.47**	**334**	P	**Pb**	**20 15 54.1**	**+0.3**
VRI				S	**Sn**	**20 16 02.5**	**+0.2**
VRI	**Vrincioaia**	**0.47**	**334**	⇓*i*P	**Pb**	**20 15 54.0**	**+0.3**
VRI	**Vrincioaia**	**0.47**	**334**	⇓*i*P	**Pb**	**20 15 54.0**	**+0.3**
VRI				*i* S	**Sn**	**20 16 02.5**	**+0.2**
VRI	**Vrincioaia**	**0.47**	**334**	P	**Pb**	**20 15 54.0**	**+0.3**
VRI				S	**Sn**	**20 16 02.5**	**+0.2**
VRI	**Vrincioaia**	**0.47**	**334**	P	**Pb**	**20 15 54.1**	**+0.3**
VRI				*i* S	**Sn**	**20 16 02.5**	**+0.2**
PLOR	**Plostina**	**0.49**	**327**	⇓*i*P	**Pb**	**20 15 54.1**	**+0.1**
PLOR	**Plostina**	**0.49**	**327**	⇓*i*P	**Pb**	**20 15 54.1**	**+0.1**
PLOR				*i* S	**Sn**	**20 16 02.3**	**-0.4**
PLOR	**Plostina**	**0.49**	**327**	⇓*i*P	**Pb**	**20 15 54.1**	**+0.1**
PLOR				*i* S	**Sn**	**20 16 02.3**	**-0.4**
PGOR	**Pogoanele**	**0.54**	**183**	⇓*i*P	**Pb**	**20 15 54.2**	**-0.5**
PGOR	**Pogoanele**	**0.54**	**183**	⇓*i*P	**Pb**	**20 15 54.2**	**-0.5**
PGOR				*i* S	**Sb**	**20 16 02.5**	**+0.4**
PGOR	**Pogoanele**	**0.54**	**183**	⇓*i*P	**Pb**	**20 15 54.2**	**-0.5**
PGOR				*i* S	**Sb**	**20 16 02.5**	**+0.4**
GHRR		**0.67**	**23**	⇑*i*P	**Pn**	**20 15 58.7**	**+1.1**
GHRR		**0.67**	**23**	⇑*i*P	**Pn**	**20 15 58.7**	**+1.1**
GHRR		**0.67**	**23**	⇑*i*P	**Pn**	**20 15 58.7**	**+1.1**
MLR	**Muntele Rosu**	**0.76**	**274**	⇓*i*P	**Pb**	**20 15 58.2**	**-0.4**
MLR	**Muntele Rosu**	**0.76**	**274**	⇓*i*P	**Pb**	**20 15 58.2**	**-0.4**
MLR				*i* S	**Sn**	**20 16 10.2**	**+0.6**
MLR	**Muntele Rosu**	**0.76**	**274**	Pg	**Pb**	**20 15 57.9**	**-0.7**
MLR				Lg	Lg	20 16 12.3	
MLR	**Muntele Rosu**	**0.76**	**274**	Pg	**Pb**	**20 15 57.9**	**-0.7**
MLR	**Muntele Rosu**	**0.76**	**274**	⇓*i*P	**Pb**	**20 15 58.2**	**-0.4**
MLR				*i* S	**Sn**	**20 16 10.2**	**+0.6**
MLR				Lg	Lg	20 16 12.3	
MLR	**Muntele Rosu** 20nm,0.3s,baz=91,slow=5.4,SNR=702	**0.76**	**274**	Pg	**Pb**	**20 15 57.9**	**-0.7**
MLR	90nm,0.3s,baz=191,slow=18,SNR=19			Lg	Lg	20 16 12.3	
SECR		**0.79**	**239**	⇑*i*P	**Pb**	**20 15 58.9**	**-0.1**
SECR		**0.79**	**239**	⇑*i*P	**Pb**	**20 15 58.9**	**-0.1**
SECR		**0.79**	**239**	⇑*i*P	**Pb**	**20 15 58.9**	**-0.1**
CFR	**Carcaliu**	**0.83**	**108**	⇓*i*P	**Pb**	**20 15 59.6**	**0.0**
CFR	**Carcaliu**	**0.83**	**108**	⇓*i*P	**Pb**	**20 15 59.6**	**0.0**
CFR				*i* S	**Sn**	**20 16 11.7**	**+0.8**
CFR	**Carcaliu**	**0.83**	**108**	⇓*i*P	**Pb**	**20 15 59.6**	**0.0**
CFR				*i* S	**Sn**	**20 16 11.7**	**+0.8**
AMRR	**Amara**	**0.86**	**165**	⇓*i*P	**Pb**	**20 15 59.8**	**-0.4**
AMRR	**Amara**	**0.86**	**165**	⇓*i*P	**Pb**	**20 15 59.8**	**-0.4**
AMRR				*i* S	**Sn**	**20 16 12.6**	**+0.9**
AMRR	**Amara**	**0.86**	**165**	⇓*i*P	**Pb**	**20 15 59.8**	**-0.4**
AMRR				*i* S	**Sn**	**20 16 12.6**	**+0.9**
SULR		**0.94**	**216**	⇓*i*P	**Pn**	**20 16 01.0**	**-0.2**
SULR		**0.94**	**216**	⇓*i*P	**Pn**	**20 16 01.0**	**-0.2**
SULR		**0.94**	**216**	⇓*i*P	**Pn**	**20 16 01.0**	**-0.2**
HARR	**Harsova**	**0.99**	**139**	⇑*i*P	**Pn**	**20 16 01.8**	**-0.1**
HARR	**Harsova**	**0.99**	**139**	⇑*i*P	**Pn**	**20 16 01.8**	**-0.1**
HARR	**Harsova**	**0.99**	**139**	⇑*i*P	**Pn**	**20 16 01.8**	**-0.1**
TESR	**Tescani**	**1.10**	**346**	⇑*i*P	**Pb**	**20 16 05.1**	**+0.8**
TESR	**Tescani**	**1.10**	**346**	⇑*i*P	**Pb**	**20 16 05.1**	**+0.8**
TESR				*i* S	**Sb**	**20 16 20.9**	**+2.6**
TESR	**Tescani**	**1.10**	**346**	⇑*i*P	**Pb**	**20 16 05.1**	**+0.8**
TESR				*i* S	**Sb**	**20 16 20.9**	**+2.6**
TLB	**Topalu**	**1.12**	**140**	⇓*i*P	**Pn**	**20 16 04.0**	**+0.3**
TLB	**Topalu**	**1.12**	**140**	⇓*i*P	**Pn**	**20 16 04.0**	**+0.3**
TLB				*i* S	**Sb**	**20 16 20.2**	**+1.5**
TLB	**Topalu**	**1.12**	**140**	⇓*i*P	**Pn**	**20 16 04.0**	**+0.3**
TLB				*i* S	**Sb**	**20 16 20.2**	**+1.5**
BVCR	**Bucharest-Old**	**1.21**	**213**	⇑*i*P	**Pb**	**20 16 05.7**	**-0.3**
BVCR	**Bucharest-Old**	**1.21**	**213**	⇑*i*P	**Pb**	**20 16 05.7**	**-0.3**
BVCR	**Bucharest-Old**	**1.21**	**213**	⇑*i*P	**Pb**	**20 16 05.7**	**-0.3**
DOPR	**Dopca**	**1.26**	**295**	⇓*i*P	**Pn**	**20 16 06.4**	**+0.7**
DOPR	**Dopca**	**1.26**	**295**	⇓*i*P	**Pn**	**20 16 06.4**	**+0.7**
DOPR	**Dopca**	**1.26**	**295**	⇓*i*P	**Pn**	**20 16 06.4**	**+0.7**
CIOR	**Ciorogarla**	**1.28**	**220**	⇑*i*P	**Pn**	**20 16 06.5**	**+0.6**
CIOR	**Ciorogarla**	**1.28**	**220**	⇑*i*P	**Pn**	**20 16 06.5**	**+0.6**
CIOR	**Ciorogarla**	**1.28**	**220**	⇑*i*P	**Pn**	**20 16 06.5**	**+0.6**
TLCR		**1.29**	**101**	⇑*i*P	**Pb**	**20 16 07.8**	**+0.4**
TLCR		**1.29**	**101**	⇑*i*P	**Pb**	**20 16 07.8**	**+0.4**
TLCR				*i* S	**Sb**	**20 16 24.8**	**+1.3**
TLCR		**1.29**	**101**	⇑*i*P	**Pb**	**20 16 07.8**	**+0.4**
TLCR				*i* S	**Sb**	**20 16 24.8**	**+1.3**
BUC1	**Bucharest**	**1.30**	**213**	⇑*i*P	**Pn**	**20 16 06.9**	**+0.7**
BUC1	**Bucharest**	**1.30**	**213**	⇑*i*P	**Pn**	**20 16 06.9**	**+0.7**
BUC1				*i* S	**Sb**	**20 16 24.5**	**+0.5**
BUC1	**Bucharest**	**1.30**	**213**	⇑*i*P	**Pn**	**20 16 06.9**	**+0.7**
BUC1				*i* S	**Sb**	**20 16 24.5**	**+0.5**
CVD	**Cernavoda**	**1.33**	**147**	⇑*i*P	**Pn**	**20 16 07.2**	**+0.6**
CVD	**Cernavoda**	**1.33**	**147**	⇑*i*P	**Pn**	**20 16 07.2**	**+0.6**
CVD				*i* S	**Sb**	**20 16 25.7**	**+0.8**
CVD	**Cernavoda**	**1.33**	**147**	⇑*i*P	**Pn**	**20 16 07.2**	**+0.6**
CVD				*i* S	**Sb**	**20 16 25.7**	**+0.8**
LEOM	**Leova**	**1.34**	**39**	⇑*i*P	**Pb**	**20 16 08.6**	**+0.4**
LEOM	**Leova**	**1.34**	**39**	⇑*i*P	**Pb**	**20 16 08.6**	**+0.4**
LEOM	**Leova**	**1.34**	**39**	⇑*i*P	**Pb**	**20 16 08.6**	**+0.4**
TIRR	**Tirgusor**	**1.39**	**134**	*e*PN	**Pn**	**20 16 06.8**	**-0.6**
TIRR				*e*SN	**Sn**	**20 16 25.7**	**+0.9**
TIRR	**Tirgusor**	**1.39**	**134**	*e*P	**Pn**	**20 16 08.2**	**+0.8**
TIRR				*e*		20 16 24.8	
TIRR	**Tirgusor**	**1.39**	**134**	⇓*i*P	**Pn**	**20 16 08.2**	**+0.8**
TIRR	**Tirgusor**	**1.39**	**134**	⇓*i*P	**Pn**	**20 16 08.2**	**+0.8**
TIRR				*i* S	**Sb**	**20 16 26.9**	**+0.4**
TIRR	**Tirgusor**	**1.39**	**134**	*e*Pn	**Pn**	**20 16 08.2**	**+0.8**
TIRR				*e*Sn	**Sn**	**20 16 24.8**	**0.0**
TIRR	**Tirgusor**	**1.39**	**134**	*e*Pn	**Pn**	**20 16 08.1**	**+0.7**
TIRR				*e*S	**Sn**	**20 16 24.8**	**0.0**
VOIR		**1.39**	**271**	⇓*i*P	**Pb**	**20 16 08.6**	**-0.6**
VOIR		**1.39**	**271**	⇓*i*P	**Pb**	**20 16 08.6**	**-0.6**
VOIR		**1.39**	**271**	⇓*i*P	**Pb**	**20 16 08.6**	**-0.6**
MTUR	**Matau**	**1.40**	**262**	⇑*i*P	**Pb**	**20 16 09.0**	**-0.4**
MTUR	**Matau**	**1.40**	**262**	⇑*i*P	**Pb**	**20 16 09.0**	**-0.4**
MTUR	**Matau**	**1.40**	**262**	⇑*i*P	**Pb**	**20 16 09.0**	**-0.4**
GOLR		**1.58**	**248**	⇓*i*P	**Pb**	**20 16 12.2**	**-0.2**
GOLR		**1.58**	**248**	⇓*i*P	**Pb**	**20 16 12.2**	**-0.2**
GOLR		**1.58**	**248**	⇓*i*P	**Pb**	**20 16 12.2**	**-0.2**
ARR	**Arges**	**1.69**	**268**	⇓*i*P	**Pb**	**20 16 13.4**	**-0.9**
ARR	**Arges**	**1.69**	**268**	⇓*i*P	**Pb**	**20 16 13.4**	**-0.9**
ARR	**Arges**	**1.69**	**268**	⇓*i*P	**Pb**	**20 16 13.4**	**-0.9**
HUMR	**Humele**	**1.72**	**239**	⇓*i*P	**Pn**	**20 16 12.3**	**+0.4**
HUMR	**Humele**	**1.72**	**239**	⇓*i*P	**Pn**	**20 16 12.3**	**+0.4**
HUMR	**Humele**	**1.72**	**239**	⇓*i*P	**Pn**	**20 16 12.3**	**+0.4**
EFOR	**EFORIE**	**1.78**	**139**	⇓*i*P	**Pn**	**20 16 13.8**	**+1.1**
EFOR	**EFORIE**	**1.78**	**139**	⇓*i*P	**Pn**	**20 16 13.8**	**+1.1**
EFOR				*i* S	**Sb**	**20 16 36.4**	**-1.2**
EFOR	**EFORIE**	**1.78**	**139**	⇓*i*P	**Pn**	**20 16 13.8**	**+1.1**
EFOR				*i* S	**Sb**	**20 16 36.4**	**-1.2**
IAS	**Iasi**	**1.79**	**12**	⇑*i*P	**Pb**	**20 16 14.5**	**-1.5**
IAS	**Iasi**	**1.79**	**12**	⇑*i*P	**Pb**	**20 16 14.5**	**-1.5**
IAS				*i* S	**Sb**	**20 16 37.3**	**-0.7**
IAS	**Iasi**	**1.79**	**12**	⇑*i*P	**Pb**	**20 16 14.5**	**-1.5**
IAS				*i* S	**Sb**	**20 16 37.3**	**-0.7**
PSN	**Preselentsi**	**1.94**	**154**	P	**Pn**	**20 16 16.1**	**+1.0**
PSN				Pg	**Pb**	**20 16 19.4**	**+0.8**
PSN	**Preselentsi**	**1.94**	**154**	⇓*i*P	**Pn**	**20 16 16.0**	**+1.0**
PSN	**Preselentsi**	**1.94**	**154**	⇓*i*P	**Pn**	**20 16 16.0**	**+1.0**
PSN	**Preselentsi**	**1.94**	**154**	⇓*i*P	**Pn**	**20 16 16.0**	**+1.0**
MDB	**Medias**	**1.98**	**292**	⇓*i*P	**Pn**	**20 16 16.9**	**+1.4**
MDB	**Medias**	**1.98**	**292**	⇓*i*P	**Pn**	**20 16 16.9**	**+1.4**
MDB	**Medias**	**1.98**	**292**	⇓*i*P	**Pn**	**20 16 16.9**	**+1.4**
KIS	**Kishinev**	**1.99**	**38**	*e*P	Pn	20 16 12.0	-3.7
KIS				*e*S	**Sn**	**20 16 34.0**	**-5.7**
KIS	5μm,0.7s			LRM	MLR	20 17 18.0	
KIS	1μm,13.0s						
KIS	**Kishinev**	**1.99**	**38**	*e*P	Pn	20 16 12.0	-3.7
KIS				*e*S	**Sn**	**20 16 34.0**	**-5.7**
KIS	**Kishinev**	**1.99**	**38**	⇑*i*P	**Pb**	**20 16 18.4**	**-1.0**
KIS	**Kishinev**	**1.99**	**38**	⇑*i*P	**Pb**	**20 16 18.4**	**-1.0**
KIS	**Kishinev**	**1.99**	**38**	⇑*i*P	**Pb**	**20 16 18.4**	**-1.0**
PRAR	**RASCA**	**2.00**	**344**	⇑*i*P	**Pn**	**20 16 17.1**	**+1.3**
PRAR	**RASCA**	**2.00**	**344**	⇑*i*P	**Pn**	**20 16 17.1**	**+1.3**
PRAR	**RASCA**	**2.00**	**344**	⇑*i*P	**Pn**	**20 16 17.1**	**+1.3**
ZIMR		**2.14**	**214**	⇑*i*P	**Pn**	**20 16 19.2**	**+1.5**
ZIMR		**2.14**	**214**	⇑*i*P	**Pn**	**20 16 19.2**	**+1.5**
PRD	**Provadia**	**2.26**	**173**	P	**Pn**	**20 16 20.5**	**+1.2**
PRD	**Provadia**	**2.26**	**173**	P	**Pn**	**20 16 20.5**	**+1.2**
SZH	**Strazhica**	**2.31**	**200**	P	**Pb**	**20 16 25.3**	**+0.5**
SZH	**Strazhica**	**2.31**	**200**	P	**Pb**	**20 16 25.3**	**+0.5**
BURAR	**Bucovina

ERIK Erikli-Kesan 4.78 185 *e*PN **Pn 20 16 54.1 +0.1**
ERIK Erikli-Kesan 4.78 185 *e*Pn **Pn 20 16 54.1 +0.1**
SEV Sevastopol' 4.80 98 *e*P **Pn 20 16 54.9 +0.7**
SEV *e*S **Sn 20 17 49.1 +0.3**
SEV Sevastopol' 4.80 98 *e*P **Pn 20 16 54.9 +0.7**
SEV *e*S **Sn 20 17 49.1 +0.3**
KAVA Kavala 4.81 203 P **Pn 20 16 54.8 +0.4**
KAVA Kavala 4.81 203 *e*PN **Pn 20 16 54.9 +0.5**
KAVA Kavala 4.81 203 P **Pn 20 16 54.8 +0.4**
KAVA Kavala 4.81 203 P **Pn 20 16 54.8 +0.4**
LVV L'vov 4.83 336 *e*P Pn 20 16 50.8 -3.8
LVV *e*S **Sn 20 17 48.4 -1.1**
MRMT Marmara Adasi 4.85 175 *e*PN **Pn 20 16 55.1 0.0**
MRMT Marmara Adasi 4.85 175 *e*Pn **Pn 20 16 55.1 0.0**
TRUS Trudelj 4.86 258 *e*Pn **Pn 20 16 53.9 -1.3**
TRUS Trudelj 4.86 258 *e*Pn **Pn 20 16 53.9 -1.3**
SRS Serrai 5.00 211 P **Pn 20 16 57.2 +0.2**
SRS Serrai 5.00 211 P **Pn 20 16 57.2 +0.2**
SRS Serrai 5.00 211 *e*PN **Pn 20 16 57.7 +0.7**
SRS Serrai 5.00 211 P **Pn 20 16 57.2 +0.2**
SRS Serrai 5.00 211 P **Pn 20 16 57.2 +0.2**
HRT Hereke 5.01 156 *e*PN **Pn 20 16 57.4 +0.2**
HRT Hereke 5.01 156 *e*Pn **Pn 20 16 57.4 +0.2**
SIM Simferopol' 5.04 93 *e*P **Pn 20 16 59.3 +1.8**
SIM *e*S **Sn 20 17 55.9 +1.2**
SIM Simferopol' 5.04 93 *e*P **Pn 20 16 59.3 +1.8**
SIM *e*S **Sn 20 17 55.9 +1.2**
KRBG Karabiga-Canak 5.05 178 *e*PN **Pn 20 16 57.8 +0.1**
KRBG Karabiga-Canak 5.05 178 *e*Pn **Pn 20 16 57.8 +0.1**
ARMT Armutlu 5.06 164 *e*PN **Pn 20 16 58.0 +0.2**
ARMT Armutlu 5.06 164 *e*Pn **Pn 20 16 58.0 +0.2**
GELI Tayfur-Gelibol 5.06 185 *e*PN **Pn 20 16 57.7 -0.1**
GELI Tayfur-Gelibol 5.06 185 *e*Pn **Pn 20 16 57.7 -0.1**
LPK Lapseki 5.07 182 *e*PN **Pn 20 16 58.4 +0.4**
LPK Lapseki 5.07 182 *e*Pn **Pn 20 16 58.4 +0.4**
FGSL Fruska Gora 5.10 269 *e*Pn **Pn 20 16 59.9 +1.5**
FRGS Fruska Gora 5.10 269 *e*Pn **Pn 20 16 59.9 +1.5**
KWP Kalwaria Pacla 5.11 327 *e*P **Pn 20 17 01.1 +2.5**
KWP Kalwaria Pacla 5.11 327 *e*Pn **Pn 20 17 01.0 +2.5**
KWP Kalwaria Pacla 5.11 327 *e*Pn **Pn 20 17 00.8 +2.2**
131nm,1.3s
KWP Kalwaria Pacla 5.11 327 *e*Pn **Pn 20 17 00.8 +2.2**
131nm,1.3s
KWP Kalwaria Pacla 5.11 327 *e*P **Pn 20 17 01.1 +2.5**
BNT Bandirma 5.12 172 *e*PN **Pn 20 16 58.9 +0.1**
BNT Bandirma 5.12 172 *e*Pn **Pn 20 16 58.9 +0.1**
EDC Edincik 5.13 173 *e*PN **Pn 20 16 58.8 0.0**
EDC Edincik 5.13 173 *e*Pn **Pn 20 16 58.8 0.0**
CRVS Cervenica-Dubn 5.14 314 *e*P **Pn 20 17 00.1 +1.2**
CRVS pmax pmax
comp=N,119nm,2.2s
CRVS Cervenica-Dubn 5.14 314 *e*PN **Pn 20 17 00.1 +1.2**
CRVS *e* 20 17 47.2
CRVS Cervenica-Dubn 5.14 314 *e*P **Pn 20 17 00.1 +1.2**
comp=N,119nm,2.2s
YAL Yalta 5.15 98 *e*P **Pn 20 17 01.4 +2.4**
YAL *e*S **Sn 20 18 00.3 +2.8**
YAL Yalta 5.15 98 *e*P **Pn 20 17 01.4 +2.4**
YAL *e*S **Sn 20 18 00.3 +2.8**
PKSN Nyarlorinc 5.18 289 *e* **Pn 20 17 02.3 +2.8**
DIVS Divibare 5.19 257 P **Pn 20 16 58.3 -1.4**
DIVS Divibare 5.19 257 *e*Pn **Pn 20 16 58.2 -1.4**
DIVS Divibare 5.19 257 P **Pn 20 16 58.3 -1.4**
KNT Kendrikon 5.23 217 P **Pn 20 17 00.6 +0.4**
KNT Kendrikon 5.23 217 P **Pn 20 17 00.6 +0.4**
KNT Kendrikon 5.23 217 *e*PN **Pn 20 17 00.7 +0.5**
KNT Kendrikon 5.23 217 P **Pn 20 17 00.6 +0.4**
KNT Kendrikon 5.23 217 P **Pn 20 17 00.6 +0.4**
KDZE Karadeniz Ereo 5.23 141 *e*PN **Pn 20 17 01.1 +0.8**
KDZE Karadeniz Ereo 5.23 141 *e*Pn **Pn 20 17 01.1 +0.8**
VAY Valandovo 5.24 220 P **Pn 20 16 59.6 -0.8**
VAY Valandovo 5.24 220 P **Pn 20 16 59.6 -0.8**
VAY Valandovo 5.24 220 P **Pn 20 16 59.6 -0.8**
VAY Valandovo 5.24 220 *e*Pn **Pn 20 16 59.5 -0.8**
VAY *e*Sn **Sb** 20 18 23.8 +6.5
VAY Valandovo 5.24 220 P **Pn 20 16 59.6 -0.8**
VAY Valandovo 5.24 220 *e*Pn **Pn 20 17 00.0 -0.4**
GEMT Gemlik 5.25 162 *e*PN **Pn 20 17 00.8 +0.3**
GEMT Gemlik 5.25 162 *e*Pn **Pn 20 17 00.8 +0.3**
MDNY Mudanya-Bursa 5.25 164 *e*PN **Pn 20 17 00.6 +0.1**
MDNY Mudanya-Bursa 5.25 164 *e*Pn **Pn 20 17 00.6 +0.1**
IVAS Ivanjica 5.26 252 *e*Pn **Pn 20 16 59.6 -1.0**
IVAS Ivanjica 5.26 252 *e*Pn **Pn 20 16 59.6 -1.0**
KCTX Karacabey (Bur 5.26 169 *e*PN **Pn 20 17 00.7 0.0**
KCTX Karacabey (Bur 5.26 169 *e*Pn **Pn 20 17 00.7 0.0**
ALU Alushta 5.28 96 *e*P **Pn 20 17 02.6 +1.7**
ALU *e*S **Sn 20 18 02.5 +1.7**
ALU Alushta 5.28 96 *e*P **Pn 20 17 02.6 +1.7**
ALU *e*S **Sn 20 18 02.5 +1.7**
SOH Sokhos 5.34 211 P **Pn 20 17 01.9 +0.1**
SOH Sokhos 5.34 211 P **Pn 20 17 01.9 +0.1**
SOH Sokhos 5.34 211 *e*PN **Pn 20 17 02.0 +0.1**
SOH Sokhos 5.34 211 P **Pn 20 17 01.9 +0.1**
SOH Sokhos 5.34 211 P **Pn 20 17 01.9 +0.1**
ADVT Abdulvahap 5.39 157 *e*PN **Pn 20 17 01.9 -0.4**
ADVT Abdulvahap 5.39 157 *e*Pn **Pn 20 17 01.9 -0.4**
KECS Kecovo 5.41 307 *e*P **Pn 20 17 02.8 +0.1**
KECS pmax pmax
comp=N,14nm,1.2s
KECS Kecovo 5.41 307 *e*PN **Pn 20 17 02.8 +0.1**
KECS Kecovo 5.41 307 *e*P **Pn 20 17 02.8 +0.1**
comp=N,14nm,1.2s
GONE Gonen-Balikesi 5.41 175 *e*PN **Pn 20 17 02.6 -0.1**
GONE Gonen-Balikesi 5.41 175 *e*Pn **Pn 20 17 02.6 -0.1**
KIEV Kiev 5.46 15 *e*P **Pn 20 17 02.7 -0.5**
KIEV *e* 20 18 04.2
KIEV pmax pmax
comp=Z,34nm,0.6s
KIEV Kiev 5.46 15 *e*Pn **Pn 20 17 02.7 -0.5**
comp=Z,34nm,0.6s
KIEV *e*Sn **Sn 20 18 04.2 -0.8**
KIEV Kiev 5.46 15 *e*P **Pn 20 17 02.7 -0.5**
comp=Z,34nm,0.6s
AKASG Malin Array Be 5.46 15 P **Pn 20 17 03.3 -0.1**
AKASG 20 18 04.2
AKASG Malin Array Be 5.46 15 Pn **Pn 20 17 03.3 -0.1**
AKASG Sn **Sn 20 18 04.2 -1.0**
AKASG Lg Lg 20 18 33.8
AKASG Malin Array Be 5.46 15 P **Pn 20 17 03.3 -0.1**
AKASG Malin Array Be 5.46 15 Pn **Pn 20 17 03.3 -0.1**
comp=Z,8.0nm,0.3s,baz=200,slow=13,SNR=39
AKASG Sn **Sn 20 18 04.2 -1.0**
comp=Z,16nm,0.3s,baz=197,slow=20,SNR=7.4
AKASG Lg Lg 20 18 33.8
comp=Z,28nm,0.3s,baz=193,slow=30,SNR=7.2
PSZ Piszkesteto 5.50 299 *e*P **Pn 20 17 03.6 -0.3**
PSZ pmax pmax
comp=Z,43nm,0.7s
PSZ Piszkesteto 5.50 299 *e*Pn **Pn 20 17 03.6 -0.3**
comp=Z,43nm,0.7s
PSZ Piszkesteto 5.50 299 *e*P **Pn 20 17 03.6 -0.3**
comp=Z,43nm,0.7s
PSZ Piszkesteto 5.50 299 *e* **Pn 20 17 04.0 +0.1**
SJES Sjenica 5.51 249 *e*Pn **Pn 20 17 04.2 +0.1**
OUR Ouranopolis 5.57 205 *e*PN **Pn 20 17 05.3 +0.4**
OUR Ouranopolis 5.57 205 *e*PN **Pn 20 17 04.5 -0.4**
STHS Stebnicka Huta 5.59 317 *e*P **Pn 20 17 06.5 +1.4**
STHS *e* 20 18 03.6
STHS Stebnicka Huta 5.59 317 *e*PN **Pn 20 17 06.5 +1.4**
STHS *e*SN **Sn 20 18 03.6 -4.7**
STHS Stebnicka Huta 5.59 317 *e*P **Pn 20 17 06.5 +1.4**
GULT Gulveren 5.62 152 *e*PN **Pn 20 17 06.4 +0.7**
HORT Hortiatis 5.63 212 *e*PN **Pn 20 17 05.9 +0.1**
THE Thessaloniki 5.65 213 *e*PN **Pn 20 17 06.4 +0.4**
BBLS Lazići 5.66 257 *e*Pn **Pn 20 17 06.1 -0.1**
BBLS Lazići 5.66 257 *e*Pn **Pn 20 17 06.1 -0.1**
SUDU Sudak 5.67 93 ǁ*i*P **Pn 20 17 06.9 +0.8**
SUDU *e*S **Sn 20 18 11.4 +1.2**
SUDU Sudak 5.67 93 *i*P **Pn 20 17 06.9 +0.8**
SUDU *e*S **Sn 20 18 11.4 +1.2**
GPA Golpazari 5.69 154 *e*PN **Pn 20 17 07.3 +0.8**
LIA Limnos Island 5.71 194 *e*PN **Pn 20 17 06.4 -0.3**
PLG Polygyros 5.71 209 *e*PN **Pn 20 17 06.9 +0.1**
BALY Balya 5.71 175 *i*P **Pn 20 17 07.3 +0.4**
BALY Balya 5.71 175 *i*P **Pn 20 17 07.3 +0.4**
BALB Balikesir 5.83 174 *e*PN **Pn 20 17 09.0 +0.5**
MDUB Mudurnu 5.83 147 *e*PN **Pn 20 17 09.5 +0.9**
PKSM Moragy 5.91 280 *e*Pn **Pn 20 17 10.0 +0.5**
PKSM Moragy 5.91 280 *e*Pn **Pn 20 17 10.0 +0.5**
PKSM Moragy 5.91 280ǁ *e* **Pn 20 17 10.1 +0.5**
FEO Feodosiya 5.92 91 *e*P Pn 20 17 06.0 -3.7
FEO *e*S **Sn 20 18 13.2 -3.3**
DURS Dursunbey 5.93 169 *i*P **Pn 20 17 09.6 -0.3**
DURS Dursunbey 5.93 169 *i*P **Pn 20 17 09.6 -0.3**
PAIG Paliouri 6.04 205 *e*PN **Pn 20 17 10.7 -0.6**
NIE Niedzica 6.05 314 *e*P **Pn 20 17 14.5 +3.1**
NIE *e* 20 18 23.9
NIE Niedzica 6.05 314 *e*Pn **Pn 20 17 14.5 +3.1**
NIE *e*Sn **Sn 20 18 23.9 +4.2**
NIE Niedzica 6.05 314 *e*P **Pn 20 17 14.5 +3.1**
BZK Bozkurt 6.14 122 *e*PN **Pn 20 17 14.7 +2.1**
FNA Florina 6.23 224 *e*PN **Pn 20 17 14.4 +0.5**
TVSB Tavsanli 6.25 162 *e*PN **Pn 20 17 15.2 +0.8**
PKSG 6.28 291 *e*pPn Pb 20 17 24.1 -8.3
SIGR SIGRI 6.29 188 *e*PN **Pn 20 17 14.7 0.0**
PDG Podgorica 6.37 245 *e*PN **Pn 20 17 15.7 +1.7**
PDG Podgorica 6.37 245 *e*Pn **Pn 20 17 15.5 -0.3**
PDG Podgorica 6.37 245 *e*Pn **Pn 20 17 15.5 -0.3**
KZN Kozani 6.42 219 *e*PN **Pn 20 17 17.5 +0.9**
PKST T"'s 6.48 289 *e*Pn **Pn 20 17 18.8 +1.4**
DEMI Demirci 6.52 168 *i*P **Pn 20 17 18.1 +0.2**
DEMI Demirci 6.52 168 *i*P **Pn 20 17 18.1 +0.2**
ESKT Eskisehir 6.56 153 *e*PN **Pn 20 17 19.1 +0.6**
ILGA Ilgaz 6.56 130 *i*P **Pn 20 17 19.6 +0.9**
ILGA Ilgaz 6.56 130 *i*P **Pn 20 17 19.6 +0.9**
AKHS Akhisar 6.58 175 *i*P **Pn 20 17 19.2 +0.4**
AKHS Akhisar 6.58 175 *i*P **Pn 20 17 19.2 +0.4**
GDZ Gediz 6.60 163 *i*P **Pn 20 17 20.1 +0.9**
GDZ Gediz 6.60 163 *i*P **Pn 20 17 20.1 +0.9**
NEST Nestorio 6.67 223 *e*PN **Pn 20 17 20.8 +0.8**
XOR Xorichti 6.70 206 *e*PN **Pn 20 17 20.3 -0.1**
NEO Neokhori 6.75 206 *e*PN **Pn 20 17 21.1 +0.1**
SKIA Skiathos 6.80 204 *e*PN **Pn 20 17 21.6 -0.2**
OJC Ojcow 6.82 317 *e*P **Pn 20 17 23.3 +1.3**
OJC *e* 20 18 38.1
OJC Ojcow 6.82 317 *e*Pn **Pn 20 17 23.3 +1.3**
OJC *e*Sn **Sn 20 18 38.1 -0.5**
OJC Ojcow 6.82 317 *e*P **Pn 20 17 23.3 +1.3**
OJC *e*S **Sn 20 18 38.1 -0.5**
ELDT Eldivan 6.82 134 *i*P **Pn 20 17 22.8 +0.6**
ELDT Eldivan 6.82 134 *i*P **Pn 20 17 22.8 +0.6**
CANT Cankiri 6.83 133 *e*PN **Pn 20 17 23.1 +0.9**
SVRH Sivrihisar-ESK 6.85 149 *e*PN **Pn 20 17 23.7 +1.2**
THL Klokotos Trika 6.94 214 *e*PN **Pn 20 17 26.6 +2.9**
LOD Lodumlu 6.97 141 *e*PN **Pn 20 17 25.7 +1.4**
ANTO Ankara 7.00 141 *e*PN **Pn 20 17 26.2 +1.6**
KULA Kula-Manisa 7.03 169 *e*PN **Pn 20 17 25.6 +0.6**
MANT Manisa 7.04 170 *i*P **Pn 20 17 25.2 -0.1**
MANT Manisa 7.04 170 *i*P **Pn 20 17 25.2 -0.1**
CHOS Chios island 7.09 186 *e*PN **Pn 20 17 26.9 +1.1**
CHOS Chios island 7.09 186 *e*PN **Pn 20 17 26.9 +1.1**
SMIA Simia 7.14 205 *e*PN **Pn 20 17 28.8 +2.3**
KHL Karahalli 7.35 164 *e*PN **Pn 20 17 30.1 +0.7**
SHUT Suhut-Afyon 7.37 158 *e*PN **Pn 20 17 29.9 +0.2**
MAKR Makrakomi, Fth 7.38 211 *e*PN **Pn 20 17 31.8 +2.1**
ANN Anapa 7.39 91 *e*P **Pn 20 17 28.3 -1.5**
ANN *e*S **Sn 20 18 53.0 +0.3**
ANN pmax pmax
comp=Z,33nm,1.2s
ANN MLR MLR
comp=Z,281nm,14.0s
ANN Anapa 7.39 91 *e*P **Pn 20 17 28.3 -1.5**
comp=Z,33nm,1.2s
ANN *e*S **Sn 20 18 53.0 +0.3**
comp=Z,281nm,14.0s
BBAL Bala 7.42 140 *i*P **Pn 20 17 31.7 +1.4**
BBAL Bala 7.42 140 *i*P **Pn 20 17 31.7 +1.4**
OKC Ostrava-Krasne 7.43 309 *e*P **Pn 20 17 32.3 +1.9**
OKC *e* 20 18 54.3
OKC Ostrava-Krasne 7.43 309 *e*PN **Pn 20 17 32.3 +1.9**
OKC *ex* x 20 17 41.9
OKC *e*SN **Sn 20 18 54.3 +0.5**
OKC Ostrava-Krasne 7.43 309 Pn **Pn 20 17 32.3 +1.9**
OKC Sn **Sn 20 18 54.3 +0.5**
CTKT Corum 7.45 128 *i*P **Pn 20 17 31.2 +0.4**
CTKT Corum 7.45 128 *i*P **Pn 20 17 31.2 +0.4**
AFSR Af'ar-Bala (A 7.47 141 *e*PN **Pn 20 17 31.9 +0.8**
KIZT Kizilcal 7.48 151 *e*PN **Pn 20 17 31.6 +0.4**
BR131 Keskin Array S 7.51 137 *e*Pn **Pn 20 17 31.7 +0.1**
comp=Z,8.4nm,0.5s
BR131 Keskin Array S 7.51 137 *e*Pn **Pn 20 17 31.7 +0.1**
comp=Z,8.4nm,0.5s
BRTR Keskin Array B 7.51 137 Pn **Pn 20 17 31.4 -0.3**
BRTR Sn **Sn 20 18 55.5 -0.5**
BRTR Keskin Array B 7.51 137 P **Pn 20 17 31.4 -0.3**
BRTR S **Sn 20 18 55.5 -0.5**
BRTR Keskin Array B 7.51 137 Pn **Pn 20 17 31.4 -0.3**
comp=Z,0.9nm,0.3s,baz=324,slow=13,SNR=30
BRTR Sn **Sn 20 18 55.5 -0.5**
baz=334,slow=24,SNR=1.9
BRTR LR LR 20 21 23.4
comp=Z,185nm,19.3s,baz=304,slow=46
AYDB Zeytinkoy-Aydi 7.52 175 *e*PN **Pn 20 17 31.5 -0.2**
EVR Evrytania 7.58 213 *e*PN **Pn 20 17 34.0 +1.4**
CORM Corum 7.67 131 *e*PN **Pn 20 17 34.5 +0.7**
MORC Moravsky Berou 7.74 307 *e*P **Pn 20 17 34.5 -0.1**
MORC pmax pmax
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 7.74 307 *e*Pn **Pn 20 17 34.5 -0.1**
comp=Z,3.2nm,0.6s
MORC Moravsky Berou 7.74 307 *e*P **Pn 20 17 34.5 -0.1**
comp=Z,3.0nm,0.6s
AYDN Tasoluk 7.80 175 *i*P **Pn 20 17 36.0 +0.4**
AYDN Tasoluk 7.80 175 *i*P **Pn 20 17 36.0 +0.4**
CDAG Cicekdag 7.95 134 *i*P **Pn 20 17 37.8 +0.2**
CDAG Cicekdag 7.95 134 *i*P **Pn 20 17 37.8 +0.2**
ISP Isparta 8.05 160 *e*PN **Pn 20 17 39.2 +0.2**
VRAC Vranov 8.07 302 Pn **Pn 20 17 38.5 -0.6**
VRAC Sn **Sn 20 19 09.8 +0.5**
VRAC Vranov 8.07 302 P **Pn 20 17 38.5 -0.6**
VRAC S **Sn 20 19 09.8 +0.5**
VRAC Vranov 8.07 302 Pn **Pn 20 17 38.5 -0.6**
comp=Z,0.3nm,0.3s,baz=125,slow=12,SNR=9.2
VRAC Sn **Sn 20 19 09.8 +0.5**
comp=Z,0.3nm,0.3s,baz=83,slow=16,SNR=2.6
PDO Prodromos 8.10 214 *e*PN Pn 20 17 43.2 +3.6
CRES Cresnjev 8.12 277 *i*Pn **Pn 20 17 41.3 +1.5**
LADK Ladik-KONYA 8.26 149 *e*PN **Pn 20 17 42.5 +0.6**
BOJS Bojanci 8.28 275 *i*Pn Pn 20 17 48.7 +6.7
PERS Pernice 8.37 282 *i*Pn **Pn 20 17 45.5 +2.1**
GOLH Golhisar 8.42 166 *i*P **Pn 20 17 45.6 +1.6**
GOLH Golhisar 8.42 166 *i*P **Pn 20 17 45.6 +1.6**
SUTC Sutluce-Ispart 8.50 158 *e*PN **Pn 20 17 45.6 +0.4**
ERBA Erbaa 8.56 120 *i*P **Pn 20 17 45.4 -0.6**
ERBA Erbaa 8.56 120 *i*P **Pn 20 17 45.4 -0.6**
DPC Dobruska-Polom 8.71 308 *e*P **Pn 20 17 49.3 +1.4**
DPC *e* 20 19 24.5
DPC Dobruska-Polom 8.71 308 *e*PN **Pn 20 17 49.3 +1.4**
DPC *ex* x 20 17 55.4
DPC *e*SN **Sn 20 19 24.5 -0.6**
DPC Dobruska-Polom 8.71 308 Pn **Pn 20 17 49.3 +1.4**
DPC Sn **Sn 20 19 24.5 -0.6**
AVNT Avonos 8.84 136 *i*P **Pn 20 17 50.9 +1.0**
AVNT Avonos 8.84 136 *i*P **Pn 20 17 50.9 +1.0**
SUW Suwalki 8.93 345 *e*P **Pn 20 17 50.2 -0.7**
SUW Suwalki 8.93 345 *e*P **Pn 20 17 50.1 -0.8**
SUW *e*Sn Sn 20 20 38.4 +68
SUW Suwalki 8.93 345 *e*Pn **Pn 20 17 49.9 -1.0**
comp=Z,26nm,0.7s
SUW Suwalki 8.93 345 *e*Pn **Pn 20 17 49.9 -1.0**
comp=Z,26nm,0.7s
SUW Suwalki 8.93 345 *e*P **Pn 20 17 50.2 -0.7**
ELL Elmali 8.95 165 *e*P **Pn 20 17 51.6 +0.2**
KSP Ksiaz 8.98 311 *e*P **Pn 20 17 53.6 +2.0**
KSP Ksiaz 8.98 311 *e*P **Pn 20 17 53.2 +1.6**
KSP Ksiaz 8.98 311 *e*P **Pn 20 17 53.6 +2.0**
MNK Minsk 9.08 3 *e*P Pn 20 17 46.0 -7.0
MNK *e*S Sn 20 19 27.0 -7.2
MICGM Minsk 9.09 3 *e*P Pn 20 17 46.0 -7.0
JAVS Javornik 9.09 277 *i*Pn Pn 20 18 04.9 +12
SOC Sochi 9.26 97 *e*P Pn 20 17 51.0 -4.4
SOC *e* 20 19 34.2
SOC pmax pmax
comp=Z,9.0nm,0.6s
NACGM Naroch 9.47 359 *e*P **Pn 20 17 56.0 -2.3**
PRU Pruhonice 9.56 303 *e*P **Pn 20 18 00.5 +0.9**
PRU Pruhonice 9.56 303 *e*PN **Pn 20 18 00.5 +0.9**
PRU *ex* x 20 18 09.6
PRU Pruhonice 9.56 303 Pn **Pn 20 18 00.5 +0.9**
GERES GERESS Array B 9.70 295 Pn **Pn 20 18 02.9 +1.4**
GERES GERESS Array B 9.70 295 P **Pn 20 18 02.9 +1.4**
GERES GERESS Array B 9.70 295 Pn **Pn 20 18 02.9 +1.4**
comp=Z,0.1nm,0.3s,baz=110,slow=14,SNR=7.7
KHC Kasperske Hory 9.85 297 *e*P **Pn 20 18 04.5 +0.9**
KHC Kasperske Hory 9.85 297 *e*PN **Pn 20 18 04.5 +0.9**
KHC *ex* x 20 18 19.0
KHC Kasperske Hory 9.85 297 *e*Pn **Pn 20 18 04.3 +0.7**
KHC Kasperske Hory 9.85 297 Pn **Pn 20 18 04.5 +0.9**
VORD Divnogorie 9.88 52 *e*P **Pn 20 18 03.9 +0.1**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,60nm,1.1s
VORD Divnogorie 9.88 52 *e*P **Pn 20 18 03.9 +0.1**
comp=E,10.0nm,0.5s
VSR Storozhevoye 9.93 50 *e*P **Pn 20 18 05.6 +1.0**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR pmax pmax
comp=N,50nm,1.2s
VSR pmax pmax
comp=E,40nm,1.1s
VSR Storozhevoye 9.93 50 *e*P **Pn 20 18 05.6 +1.0**
comp=E,50nm,1.2s
IDI Anoyia 10.27 190 LR LR 20 22 20.8
comp=E,120nm,20.8s,baz=76,slow=39
MACK Trabzon 10.33 111 *i*P **Pn 20 18 09.3 -0.9**
MACK Trabzon 10.33 111 *i*P **Pn 20 18 09.3 -0.9**
KELT Kelkit 10.42 116 *i*P **Pn 20 18 12.4 +0.8**
KELT Kelkit 10.42 116 *i*P **Pn 20 18 12.4 +0.8**
NKC Novy Kostel 10.90 301 *e*P **Pn 20 18 19.0 +1.0**
NKC Novy Kostel 10.90 301 *e*PN **Pn 20 18 19.0 +1.0**
NKC Novy Kostel 10.90 301 Pn **Pn 20 18 19.0 +1.0**
VRHR Novokhopersk 11.25 55 *e*P **Pn 20 18 22.4 -0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR Novokhopersk 11.25 55 *e*P **Pn 20 18 22.4 -0.2**
comp=E,9.0nm,0.6s
KIV Kislovodsk 11.25 92 *e*P **Pn 20 18 21.1 -1.7**
KIV *e*S **Sn 20 20 24.8 -2.8**
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,39nm,8.0s
KIV Kislovodsk 11.25 92 *e*Pn **Pn 20 18 21.6 -1.2**
comp=Z,19nm,0.9s
KIV Kislovodsk 11.25 92 *e*Pn **Pn 20 18 21.6 -1.2**
comp=Z,19nm,0.9s
GOF Gofitskoye 11.30 86 *e*P **Pn 20 18 23.6 +0.2**
GOF pmax pmax
comp=Z,38nm,1.3s
GOF Gofitskoye 11.30 86 *e*P **Pn 20 18 23.6 +0.2**
comp=Z,38nm,1.3s
OBN Obninsk 11.43 29ǁ *i*P **Pn 20 18 22.6 -2.5**
OBN *i*S Sn 20 20 23.1 -8.7
OBN pmax pmax
comp=Z,22nm,1.4s
OBN MLR MLR
comp=Z,300nm,15.0s
OBN Obninsk 11.43 29 *e*Pn **Pn 20 18 23.0 -2.1**
comp=Z,22nm,0.6s
KBZ Khabaz 11.45 93 P **Pn 20 18 26.4 +1.0**
KBZ Khabaz 11.45 93 Pn **Pn 20 18 26.4 +1.0**
KBZ Khabaz 11.45 93 P **Pn 20 18 26.4 +1.0**
KBZ Khabaz 11.45 93 Pn **Pn 20 18 26.4 +1.0**
comp=Z,0.6nm,0.3s,baz=10,slow=12,SNR=11
DBAD Bademkaya 11.57 107 *i*P **Pn 20 18 25.0 -2.3**
ARTV Artvin 11.66 106 *i*P **Pn 20 18 26.7 -1.8**
DDEM Demirkent 11.67 108 *i*P **Pn 20 18 27.7 -0.9**
DDEM Demirkent 11.67 108 *i*P **Pn 20 18 27.7 -0.9**
DAGI Agillar 11.70 107 *i*P **Pn 20 18 26.8 -2.1**
DAVOX Davos/Dischmat 11.98 283 Pn **Pn 20 18 34.0 +1.1**
DAVOX Davos/Dischmat 11.98 283 P **Pn 20 18 34.0 +1.1**
DAVOX Davos/Dischmat 11.98 283 Pn **Pn 20 18 34.0 +1.1**
comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=2.2
DAVOX LR LR 20 22 37.0
comp=Z,177nm,19.4s,baz=201,slow=35
MOS Moscow 12.29 29 *e*P **P 20 18 46.1 -2.8**
ZEI Tsey 12.42 96 *e*P **Pn 20 18 38.9 +0.1**
ZEI pmax pmax
comp=Z,12nm,0.8s
ZEI Tsey 12.42 96 *e*P **Pn 20 18 38.9 +0.1**
comp=Z,12nm,0.8s
VSU Vasula 13.04 359ǁ *e*P **Pn 20 18 45.5 -1.6**
MMAI Mount Meron Ar 13.99 150 Pn **Pn 20 19 00.1 -0.2**
MMAI Mount Meron Ar 13.99 150 Pn **Pn 20 19 00.1 -0.2**
MMAI Mount Meron Ar 13.99 150 Pn **Pn 20 19 00.1 -0.2**
comp=Z,0.2nm,0.3s,baz=322,slow=9.1,SNR=2.1
GNI Garni 14.03 106 Pn **Pn 20 19 02.4 +1.5**
GNI Garni 14.03 106 Pn **Pn 20 19 02.4 +1.5**
GNI Garni 14.03 106 Pn **Pn 20 19 02.4 +1.5**
comp=Z,0.1nm,0.3s,baz=21,slow=17,SNR=2.0
LPG La Plagne 14.23 277 *e*P **P 20 19 10.9 +0.1**
comp=Z,24nm,1.1s
LPG La Plagne 14.23 277 *e*P **P 20 19 10.9 +0.1**
LPG pmax pmax
comp=Z,24nm,1.1s
LPG La Plagne 14.23 277 *e*P **P 20 19 10.9 +0.1**
comp=Z,24nm,1.1s
LPG La Plagne 14.23 277 *e*P **P 20 19 10.9 +0.1**
comp=Z,24nm,1.1s
LPL La Plagne 14.24 278 *e*P **P 20 19 10.3 -0.5**
comp=Z,8.5nm,0.8s
LPL La Plagne 14.24 278 *e*P **P 20 19 10.3 -0.5**
LPL pmax pmax
comp=Z,9.0nm,0.8s
LPL La Plagne 14.24 278 *e*P **P 20 19 10.3 -0.5**
comp=Z,8.5nm,0.8s
LPL La Plagne 14.24 278 *e*P **P 20 19 10.3 -0.5**
comp=Z,8.5nm,0.8s
MBDF Montbardon 14.33 274 *e*P **P 20 19 12.3 +0.6**
comp=Z,11nm,0.8s
MBDF Montbardon 14.33 274 *e*P **P 20 19 12.3 +0.6**
MBDF pmax pmax
comp=Z,11nm,0.8s
MBDF Montbardon 14.33 274 *e*P **P 20 19 12.3 +0.6**
comp=Z,11nm,0.8s
MBDF Montbardon 14.33 274 *e*P **P 20 19 12.3 +0.6**
comp=Z,11nm,0.8s
FRF La Foret Royal 14.66 270 *e*P **Pn 20 19 12.1 +2.8**
comp=Z,70nm,1.5s
FRF La Foret Royal 14.66 270 *e*P **Pn 20 19 12.1 +2.8**
FRF pmax pmax
comp=Z,70nm,1.5s
FRF La Foret Royal 14.66 270 *e*P **Pn 20 19 12.1 +2.8**
comp=Z,70nm,1.5s
ORIF Oris-en-Rattie 14.92 276 *e*P **P 20 19 20.1 +1.9**
comp=Z,88nm,1.9s
ORIF Oris-en-Rattie 14.92 276 *e*P **P 20 19 20.1 +1.9**
ORIF pmax pmax
comp=Z,88nm,1.9s
ORIF Oris-en-Rattie 14.92 276 *e*P **P 20 19 20.1 +1.9**
comp=Z,88nm,1.9s
ORIF Oris-en-Rattie 14.92 276 *e*P **P 20 19 20.1 +1.9**
comp=Z,88nm,1.9s
VIVF Saint-Julien-I 15.78 276 *e*P **P 20 19 31.0 +3.3**
VIVF Saint-Julien-I 15.78 276 *e*P **P 20 19 31.0 +3.3**
VIVF Saint-Julien-I 15.78 276 *e*P **P 20 19 31.0 +3.3**
VIVF Saint-Julien-I 15.78 276 *e*P **P 20 19 31.0 +3.3**
FINES FINESS Array B 16.04 358 Pn Pn 20 19 20.8 -6.4
FINES FINESS Array B 16.04 358 Pn Pn 20 19 20.8 -6.4
comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=10
FINES LR LR 20 26 04.7
comp=Z,191nm,18.7s,baz=30,slow=39
HFS Hagfors 16.73 336 Pn **Pn 20 19 32.2 -3.7**
HFS Hagfors 16.73 336 Pn **Pn 20 19 32.2 -3.7**
comp=Z,0.4nm,0.3s,baz=139,slow=14,SNR=12
KLMR Klimovskoe 17.11 21 *e*P Pn 20 19 34.4 -6.3
KLMR pmax pmax
comp=Z,52nm,1.1s
NB2 NORSAR Subarra 18.18 335 P **Pn 20 19 51.5 -2.5**
comp=Z,16nm,1.2s,baz=141,slow=12
NOA NORSAR Array B 18.18 335 Pn **Pn 20 19 50.7 -3.3**
NOA NORSAR Array B 18.18 335 Pn **Pn 20 19 50.7 -3.3**
comp=Z,0.5nm,0.3s,baz=142,slow=11,SNR=9.2
LDF La Druitiere 18.74 289 *e*P **Pn 20 20 02.4 +1.5**
comp=Z,66nm,1.2s
LDF La Druitiere 18.74 289 *e*P **Pn 20 20 02.4 +1.5**
LDF pmax pmax
comp=Z,66nm,1.2s
LDF La Druitiere 18.74 289 *e*P **Pn 20 20 02.4 +1.5**
comp=Z,66nm,1.2s

LDF	La Druitiere	18.74	289	*eP*		Pn	20 20 02.4	+1.5
	comp=Z,66nm,1.2s							
FLN	La Foliniere	18.98	290	*eP*		Pn	20 20 06.6	+2.9
FLN	La Foliniere	18.98	290	*eP*		Pn	20 20 06.6	+2.9
FLN	La Foliniere	18.98	290	*eP*		Pn	20 20 06.6	+2.9
GRR	Gorron	19.23	289	*eP*		Pn	20 20 08.2	+1.4
	comp=Z,164nm,1.5s							
GRR	Gorron	19.23	289	*eP*		Pn	20 20 08.2	+1.4
GRR				pmax	pmax			
	comp=Z,164nm,1.5s							
GRR	Gorron	19.23	289	*eP*		Pn	20 20 08.2	+1.4
	comp=Z,164nm,1.5s							
GRR	Gorron	19.23	289	*eP*		Pn	20 20 08.2	+1.4
	comp=Z,164nm,1.5s							
TMCR	Tamitsa	19.75	14	*eP*		P	20 20 09.0	-2.2
TMCR				*e*			20 23 52.9	
TMCR				pmax	pmax			
	comp=Z,39nm,1.3s							
TMCR	Tamitsa	19.75	14	*eS*		Sn	20 23 52.9	-0.7
ETSF	Etsaut	19.91	273	*eP*		Pn	20 20 16.8	+1.7
	comp=Z,22nm,1.1s							
ETSF	Etsaut	19.91	273	*eP*		Pn	20 20 16.8	+1.7
ETSF				pmax	pmax			
	comp=Z,22nm,1.1s							
ETSF	Etsaut	19.91	273	*eP*		Pn	20 20 16.8	+1.7
	comp=Z,22nm,1.1s							
AKTK	Aktyubinsk	21.26	65	P		P	20 20 28.8	+1.1
AKTO	Aktyubinsk	21.26	65	P		P	20 20 28.8	+1.1
AKTO	Aktyubinsk	21.26	65	P		P	20 20 28.8	+1.1
AKTO	Aktyubinsk	21.26	65	P		P	20 20 28.8	+1.1
AKTO	Aktyubinsk	21.26	65	P		P	20 20 28.8	+1.1
	comp=Z,7.4nm,0.7s,baz=270,slow=9.5,SNR=25							
EKA	Eskdalemuir Ar	21.48	308	P		P	20 20 29.5	-0.5
EKA	Eskdalemuir Ar	21.48	308	P		P	20 20 29.5	-0.5
EKA	Eskdalemuir Ar	21.48	308	P		P	20 20 29.5	-0.5
	comp=Z,4.0nm,1.1s,baz=103,slow=11,SNR=2.7							
ARU	Arti	22.50	49	*c iP*		P	20 20 40.7	-0.3
ARU							20 21 05.2	
ARU				S		S	20 24 49.6	+3.6
ARU				SS		SnSn	20 25 18.6	+3.2
ARU				pmax	pmax			
	comp=Z,38nm,0.7s							
ARU	Arti	22.50	49	*eP*		P	20 20 40.2	-0.7
	comp=Z,32nm,0.7s							
ARU	Arti	22.50	49	*i P*		P	20 20 40.7	-0.3
	comp=Z,38nm,0.7s							
ARU				S		S	20 24 49.6	+3.6
ABKAR	Akbulak array	22.52	68	*eP*		P	20 20 40.9	-0.3
	comp=Z,6.8nm,0.7s							
ABKAR	Akbulak array	22.52	68	*eP*		P	20 20 40.9	-0.3
	comp=Z,6.8nm,0.7s							
SOKR	Solikamsk	22.73	41	*d iP*		P	20 20 44.2	+0.9
SOKR				pmax	pmax			
	comp=Z,60nm,1.1s							
SOKR	Solikamsk	22.73	41	*i P*		P	20 20 44.2	+0.9
	comp=Z,60nm,1.1s							
ESDC	Sonseca Array	23.45	267	P		P	20 20 49.1	-1.9
ESDC	Sonseca Array	23.45	267	P		P	20 20 49.1	-1.9
	comp=Z,0.6nm,0.6s,baz=73,slow=9.3,SNR=5.5							
SVE	Sverdlovsk	23.71	49	⇓*eP*		P	20 20 54.4	+1.2
SVE				*e*			20 21 34.0	
SVE				pmax	pmax			
	comp=Z,22nm,1.2s							
SVE	Sverdlovsk	23.71	49	*eP*		P	20 20 54.4	+1.2
	comp=Z,22nm,1.2s							
ARCES	ARCESS Array B	24.17	359	P		P	20 20 56.6	-0.8
ARCES	ARCESS Array B	24.17	359	P		P	20 20 56.6	-0.8
ARCES	ARCESS Array B	24.17	359	P		P	20 20 56.6	-0.8
	comp=Z,2.5nm,0.7s,baz=197,slow=3.8,SNR=17							
ARCES				LR		LR	20 30 44.4	
	comp=Z,223nm,18.1s,baz=24,slow=37							
MDT	Midelt	27.41	254	P		P	20 21 25.8	-1.3
MDT	Midelt	27.41	254	P		P	20 21 25.8	-1.3
MDT	Midelt	27.41	254	P		P	20 21 25.8	-1.3
	comp=Z,1.3nm,0.8s,baz=73,slow=10,SNR=2.8							
AAK	Ala-Archa	33.85	77	⇑*eP*		P	20 22 24.9	+0.9
AAK				pmax	pmax			
	comp=Z,7.0nm,1.7s							
AAK	Ala-Archa	33.85	77	*eP*		P	20 22 24.9	+0.9
	comp=Z,7.0nm,1.7s							
NVS	Novosibirsk	36.31	54	*eP*		P	20 22 54.3	+10
ZALV	Zalesovo Beam	37.38	55	P		P	20 22 53.9	0.0
ZALV	Zalesovo Beam	37.38	55	P		P	20 22 53.9	0.0
ZALV	Zalesovo Beam	37.38	55	P		P	20 22 53.9	0.0
ZALV	Zalesovo Beam	37.38	55	P		P	20 22 53.9	0.0
	comp=Z,1.0nm,0.5s,baz=287,slow=9.7,SNR=5.2							
MKAR	Makanchi Array	37.66	68	P		P	20 22 57.9	+1.5
MKAR	Makanchi Array	37.66	68	P		P	20 22 57.9	+1.5
MKAR	Makanchi Array	37.66	68	P		P	20 22 57.9	+1.5
MKAR	Makanchi Array	37.66	68	P		P	20 22 57.9	+1.5
	comp=Z,0.6nm,0.8s,baz=286,slow=8.7,SNR=4.3							
TOA0	Torodi Ar. Sit	38.70	222	*eP*		P	20 23 04.4	-1.0
TOA0	Torodi Ar. Sit	38.70	222	*eP*		P	20 23 04.4	-1.0
TORD	Torodi Ar. Bea	38.70	222	P		P	20 23 04.7	-0.7
TORD	Torodi Ar. Bea	38.70	222	P		P	20 23 04.7	-0.7
TORD	Torodi Ar. Bea	38.70	222	P		P	20 23 04.7	-0.7
	comp=Z,5.5nm,0.8s,baz=31,slow=8.5,SNR=15							
DBIC	Dimbokro	47.49	225	*eP*		P	20 24 14.1	-2.3
	comp=Z,2.2nm,0.5s							
DBIC	Dimbokro	47.49	225	P		P	20 24 14.8	-1.6
	comp=Z,2.0nm,0.5s							
DBIC	Dimbokro	47.49	225	P		P	20 24 14.8	-1.6
	comp=Z,1.9nm,0.5s,baz=354,slow=7.9,SNR=6.2							
TIXI	Tiksi	51.11	23	⇑*eP*		P	20 24 44.4	+1.0
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TIXI	Tiksi	51.11	23	*eP*		P	20 24 44.4	+1.0
	comp=Z,2.0nm,0.8s							
SONM	Songino Array	52.24	57	P		P	20 24 54.4	+1.9
SONM	Songino Array	52.24	57	P		P	20 24 54.4	+1.9
SONM	Songino Array	52.24	57	P		P	20 24 54.4	+1.9
	comp=Z,2.2nm,0.9s,baz=295,slow=7.8,SNR=17							
ULN	Ulaanbaatar	52.62	57	*eP*		P	20 24 57.0	+1.8
	comp=Z,4.0nm,1.9s							
CMAR	Chiang Mai Arr	64.47	89	P		P	20 26 18.8	+0.8
CMAR	Chiang Mai Arr	64.47	89	P		P	20 26 18.8	+0.8
	comp=Z,0.6nm,0.7s,baz=306,slow=6.9,SNR=6.8							
YKA	Yellowknife Ar	68.12	342	P		P	20 26 40.1	-0.6
YKA	Yellowknife Ar	68.12	342	P		P	20 26 40.1	-0.6
	comp=Z,0.5nm,0.6s,baz=22,slow=5.5,SNR=5.0							
KSRS	Korea Array	71.09	56	LR		LR	21 01 15.9	
	comp=Z,50nm,19.2s,baz=60,slow=38							
WRA	Warramunga Arr	115.97	93	PKP		PKPdf	20 34 23.6	-0.6
WRA	Warramunga Arr	115.97	93	PKP		PKPdf	20 34 23.6	-0.6
	comp=Z,0.3nm,0.9s,baz=329,slow=1.9,SNR=3.4							

IDC 06 20:20:42.0±2.3, 3°32N×126°74E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/23, mbtmp3.1/3, Error ellipse: s-maj=192.2km s-min=27.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.29	162	P	P	20 26 00.8	-0.5
	0.3nm,0.6s,baz=342,slow=10,SNR=6.3						
ASAR	Alice Springs	27.71	166	P	P	20 26 32.9	+0.7
	0.1nm,0.5s,baz=342,slow=8.9,SNR=3.7						
MKAR	Makanchi Array	57.90	325	P	P	20 30 35.6	-0.3
	0.2nm,0.5s,baz=129,slow=6.7,SNR=4.6						

*SOF **06** 20:21:12.7, 45°52N×27°36E, h0km, MD3.0*
*BUC **06** 20:21:13.5±0.4, 45°39N×27°03E, h21km±4km, MD3.6/2, Error ellipse: s-maj=4.3km s-min=3.8km az=62.0*
*ISCJB **06** 20:21:14.8±0.3, 45°40N±0°02×27°05E±0°03, h24km±3km, Error ellipse: s-maj=3.1km s-min=2.8km az=142.5*
*CSEM **06** 20:21:14.4±0.1, 45°40N×27°04E, h20km, MD3.6, Error ellipse: s-maj=2.8km s-min=2.5km az=55.0*

ISC 06 20:21:14.1±0.9, 45°42N±0°02×27°05E±0°02, h22km±7km, n106, σ0§65/150, 54C-36D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRER		0.07	235	⇑*iP*	Pb	20 21 17.7	-0.4
GRER		0.07	235	⇑*iP*	Pb	20 21 17.7	-0.4
GRER		0.07	235	⇑*iP*	Pb	20 21 17.7	-0.4
PETR	Petresti	0.33	22	⇑*iP*	Pn	20 21 22.7	-0.8
PETR	Petresti	0.33	22	⇑*iP*	Pn	20 21 22.7	-0.8
PETR				*i* S	Sn	20 21 28.9	-0.7
PETR	Petresti	0.33	22	⇑*iP*	Pn	20 21 22.7	-0.8
PETR				*i* S	Sn	20 21 28.9	-0.7
ODBI	Odobesti	0.34	0	⇑*iP*	Pn	20 21 23.3	-0.5
ODBI	Odobesti	0.34	0	⇑*iP*	Pn	20 21 23.3	-0.5
ODBI				*i* S	Sn	20 21 29.1	-0.9
ODBI	Odobesti	0.34	0	⇑*iP*	Pn	20 21 23.3	-0.5
ODBI				*i* S	Sn	20 21 29.1	-0.9
ISR	Istrita	0.47	230	⇑*iP*	Pb	20 21 23.2	-0.5
ISR	Istrita	0.47	230	⇑*iP*	Pb	20 21 23.2	-0.5
ISR	Istrita	0.47	230	⇑*iP*	Pb	20 21 23.2	-0.5
VRI	Vrincioaia	0.50	333	⇓*iP*	Pb	20 21 24.2	-0.1
VRI	Vrincioaia	0.50	333	⇓*iP*	Pb	20 21 24.2	-0.1
VRI				*i* S	Sn	20 21 32.8	-1.2
VRI	Vrincioaia	0.50	333	⇓*iP*	Pb	20 21 24.2	-0.1
VRI				*i* S	Sn	20 21 32.8	-1.2
PGOR	Pogoanele	0.51	185	⇓*iP*	Pb	20 21 23.6	-0.8
PGOR	Pogoanele	0.51	185	⇓*iP*	Pb	20 21 23.6	-0.8
PGOR				*i* S	Sb	20 21 30.5	-0.9
PGOR	Pogoanele	0.51	185	⇓*iP*	Pb	20 21 23.6	-0.8
PGOR				*i* S	Sb	20 21 30.5	-0.9
PLOR	Plostina	0.52	327	⇓*iP*	Pb	20 21 24.7	+0.2
PLOR	Plostina	0.52	327	⇓*iP*	Pb	20 21 24.7	+0.2
PLOR				*i* S	Sn	20 21 32.8	-1.5
PLOR	Plostina	0.52	327	⇓*iP*	Pb	20 21 24.7	+0.2
PLOR				*i* S	Sn	20 21 32.8	-1.5
GHRR		0.69	21	⇑*iP*	Pn	20 21 28.4	-0.1
GHRR		0.69	21	⇑*iP*	Pn	20 21 28.4	-0.1
GHRR		0.69	21	⇑*iP*	Pn	20 21 28.4	-0.1
MLR	Muntele Rosu	0.78	276	⇑*iP*	Pb	20 21 28.6	-0.5
MLR	Muntele Rosu	0.78	276	⇑*iP*	Pb	20 21 28.6	-0.5
MLR				*i* S	Sn	20 21 40.5	-0.5
MLR	Muntele Rosu	0.78	276	⇑*iP*	Pb	20 21 28.6	-0.5
MLR				*i* S	Sn	20 21 40.5	-0.5
SECR		0.80	242	⇑*iP*	Pn	20 21 29.5	-0.5
SECR		0.80	242	⇑*iP*	Pn	20 21 29.5	-0.5
SECR				*i* S	Sn	20 21 40.5	-0.6
SECR		0.80	242	⇑*iP*	Pn	20 21 40.5	-0.6
SECR				*i* S	Sn	20 21 40.5	-0.6
CFR	Carcaliu	0.80	107	⇓*iP*	Pb	20 21 28.7	-0.6
CFR	Carcaliu	0.80	107	⇓*iP*	Pb	20 21 28.7	-0.6
CFR				*i* S	Sn	20 21 41.1	-0.1
CFR	Carcaliu	0.80	107	⇓*iP*	Pb	20 21 28.7	-0.6
CFR				*i* S	Sn	20 21 41.1	-0.1
AMRR	Amara	0.83	166	⇑*iP*	Pb	20 21 29.3	-0.5
AMRR	Amara	0.83	166	⇑*iP*	Pb	20 21 29.3	-0.5
AMRR				*i* S	Sn	20 21 42.2	+0.2
AMRR	Amara	0.83	166	⇑*iP*	Pb	20 21 29.3	-0.5
AMRR				*i* S	Sn	20 21 42.2	+0.2
PLAR	PLOIESTI	0.88	236	⇑*iP*	Pn	20 21 30.9	-0.2
PLAR	PLOIESTI	0.88	236	⇑*iP*	Pn	20 21 30.9	-0.2
PLAR				*i* S	Sn	20 21 44.0	+0.7
PLAR	PLOIESTI	0.88	236	⇑*iP*	Pn	20 21 30.9	-0.2
PLAR				*i* S	Sn	20 21 44.0	+0.7
SULR		0.93	218	⇑*iP*	Pb	20 21 30.8	-0.7
SULR		0.93	218	⇑*iP*	Pb	20 21 30.8	-0.7
SULR				*i* S	Sn	20 21 44.6	+0.2
SULR		0.93	218	⇑*iP*	Pb	20 21 30.8	-0.7
SULR				*i* S	Sn	20 21 44.6	+0.2
HARR	Harsova	0.96	139	⇓*iP*	Pb	20 21 31.2	-0.8
HARR	Harsova	0.96	139	⇓*iP*	Pb	20 21 31.2	-0.8
HARR	Harsova	0.96	139	⇓*iP*	Pb	20 21 31.2	-0.8
TLB	Topalu	1.09	140	⇑*iP*	Pn	20 21 33.5	-0.5
TLB	Topalu	1.09	140	⇑*iP*	Pn	20 21 33.5	-0.5
TLB				*i* S	Sn	20 21 49.4	+1.1
TLB	Topalu	1.09	140	⇑*iP*	Pn	20 21 33.5	-0.5
TLB				*i* S	Sn	20 21 49.4	+1.1
TESR	Tescani	1.13	346	⇓*iP*	Pb	20 21 34.3	-0.6
TESR	Tescani	1.13	346	⇓*iP*	Pb	20 21 34.3	-0.6
TESR				*i* S	Sn	20 21 50.4	+1.0
TESR	Tescani	1.13	346	⇓*iP*	Pb	20 21 34.3	-0.6
TESR				*i* S	Sn	20 21 50.4	+1.0
BTMR	Bucharest-Geot	1.19	215	*i* S	Sn	20 21 51.7	+0.9
BTMR	Bucharest-Geot	1.19	215	*i* S	Sn	20 21 51.7	+0.9
BTMR	Bucharest-Geot	1.19	215	*i* S	Sn	20 21 51.7	+0.9
TLCR		1.27	100	⇑*iP*	Pb	20 21 37.2	0.0
TLCR		1.27	100	⇑*iP*	Pb	20 21 37.2	0.0
TLCR				*i* S	Sb	20 21 53.5	+0.5
TLCR		1.27	100	⇑*iP*	Pb	20 21 37.2	0.0
TLCR				*i* S	Sb	20 21 53.5	+0.5
CIOR	Ciorogarla	1.28	221	⇑*iP*	Pn	20 21 36.2	-0.4
CIOR	Ciorogarla	1.28	221	⇑*iP*	Pn	20 21 36.2	-0.4
CIOR				*i* S	Sb	20 21 53.6	+0.2
CIOR	Ciorogarla	1.28	221	⇑*iP*	Pn	20 21 36.2	-0.4
CIOR				*i* S	Sb	20 21 53.6	+0.2
DOPR	Dopca	1.29	296	⇑*iP*	Pn	20 21 36.2	-0.6
DOPR	Dopca	1.29	296	⇑*iP*	Pn	20 21 36.2	-0.6
DOPR				*i* S	Sb	20 21 55.0	+1.2
DOPR	Dopca	1.29	296	⇑*iP*	Pn	20 21 36.2	-0.6
DOPR				*i* S	Sb	20 21 55.0	+1.2
BUC1	Bucharest	1.29	215	⇓*iP*	Pb	20 21 37.9	+0.2
BUC1	Bucharest	1.29	215	⇓*iP*	Pb	20 21 37.9	+0.2
BUC1				*i* S	Sb	20 21 54.3	+0.4
BUC1	Bucharest	1.29	215	⇓*iP*	Pb	20 21 37.9	+0.2
BUC1				*i* S	Sb	20 21 54.3	+0.4
CVD	Cernavoda	1.31	147	⇓*iP*	Pn	20 21 36.9	0.0
CVD	Cernavoda	1.31	147	⇓*iP*	Pn	20 21 36.9	0.0
CVD				*i* S	Sb	20 21 54.4	+0.2
CVD	Cernavoda	1.31	147	⇓*iP*	Pn	20 21 36.9	0.0
CVD				*i* S	Sb	20 21 54.4	+0.2
LEOM	Leova	1.34	38	⇑*iP*	Pb	20 21 38.9	+0.4
LEOM	Leova	1.34	38	⇑*iP*	Pb	20 21 38.9	+0.4
LEOM				*i* S	Sb	20 21 56.8	+1.5
LEOM	Leova	1.34	38	⇑*iP*	Pb	20 21 38.9	+0.4
LEOM				*i* S	Sb	20 21 56.8	+1.5
TIRR	Tirgusor	1.36	134	⇓*iP*	Pn	20 21 37.8	+0.1
TIRR	Tirgusor	1.36	134	⇓*iP*	Pn	20 21 37.8	+0.1
TIRR				*i* S	Sb	20 21 55.0	+0.2
TIRR	Tirgusor	1.36	134	⇓*iP*	Pn	20 21 37.8	+0.1
TIRR				*i* S	Sb	20 21 56.0	+0.2
VOIR		1.41	271	⇓*iP*	Pn	20 21 38.5	0.0
VOIR		1.41	271	⇓*iP*	Pn	20 21 38.5	0.0
VOIR				*i* S	Sb	20 21 58.2	+0.9
VOIR		1.41	271	⇓*iP*	Pn	20 21 38.5	0.0
VOIR				*i* S	Sb	20 21 58.2	+0.9
MTUR	Matau	1.42	263	⇑*iP*	Pn	20 21 38.6	0.0
MTUR	Matau	1.42	263	⇑*iP*	Pn	20 21 38.6	0.0
MTUR	Matau	1.42	263	⇑*iP*	Pn	20 21 38.6	0.0
ARR	Arges	1.71	269	⇓*iP*	Pn	20 21 43.2	+0.7
ARR	Arges	1.71	269	⇓*iP*	Pn	20 21 43.2	+0.7
ARR				*i* S	Sn	20 22 04.3	+0.6
ARR	Arges	1.71	269	⇓*iP*	Pn	20 21 43.2	+0.7
ARR				*i* S	Sn	20 22 04.3	+0.6
HUMR	Humele	1.72	240	S	Sb	20 22 05.8	-0.3
HUMR	Humele	1.72	240	*i* S	Sb	20 22 05.8	-0.3
HUMR	Humele	1.72	240	*i* S	Sb	20 22 05.8	-0.3
EFOR	EFORIE	1.75	139	⇑*iP*	Pb	20 21 44.6	-0.8
EFOR	EFORIE	1.75	139	⇑*iP*	Pb	20 21 44.6	-0.8
EFOR				*i* S	Sn	20 22 05.5	+0.9
EFOR	EFORIE	1.75	139	⇑*iP*	Pb	20 21 44.6	-0.8
EFOR				*i* S	Sn	20 22 05.5	+0.9
PSN	Preselentsi	1.92	155	P	Pb	20 21 47.9	-0.4
PSN	Preselentsi	1.92	155	P	Pb	20 21 47.9	-0.4
KIS	Kishinev	2.00	37	*e*	Pb	20 21 57.0	+7.3
PRD	Provadia	2.23	173	P	Pb	20 21 53.5	-0.2
PRD	Provadia	2.23	173	P	Pb	20 21 53.5	-0.2
SZH	Strazhica	2.30	201	P	Pb	20 21 54.2	-0.6
SZH	Strazhica	2.30	201	P	Pb	20 21 54.2	-0.6
PVL	Pavlikeni	2.52	210	P	Pb	20 22 00.9	+2.3
GZR	Gura Zlata	3.01	271	⇑*iP*	Pn	20 22 00.9	+0.4
GZR	Gura Zlata	3.01	271	⇑*iP*	Pn	20 22 00.9	+0.4
GZR	Gura Zlata	3.01	271	⇑*iP*	Pn	20 22 00.9	+0.4
DRGR		3.32	296	⇓*iP*	Pn	20 22 04.6	-0.1
DRGR		3.32	296	⇓*iP*	Pn	20 22 04.6	-0.1
DRGR				*i* S	Sn	20 22 42.1	-1.4
DRGR		3.32	296	⇓*iP*	Pn	20 22 04.6	-0.1
VTS	Vitosha	3.96	226	P	Pb	20 22 19.0	-4.2
CLL	Collm	11.04	307	Lm	MLR	20 24 00.0	
	comp=N,200nm,20.3s						
CLL				Lm	MLR	20 24 00.0	
	comp=E,300nm,19.2s						

BUC 06 20:26:44.9±1.0, 45°34N×27°09E, h11km, MD2.0/1, 10C-2D, Error ellipse: s-maj=16.5km s-min=4.7km az=36.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	Plostina	0.60	329	⇑*iP*	Pb	20 26 57.5	+0.1
PLOR	Plostina	0.60	329	⇑*iP*	Pb	20 26 57.5	+0.1
PLOR				*i* S	Sb	20 27 05.5	-0.5
CFR	Carcaliu	0.76	102	⇑*iP*	Pb	20 27 00.4	+0.3
CFR	Carcaliu	0.76	102	⇑*iP*	Pb	20 27 00.4	+0.3
CFR				*i* S	Sn	20 27 13.2	+0.3
MLR	Muntele Rosu	0.82	281	⇑*iP*	Pb	20 27 01.6	+0.2
MLR	Muntele Rosu	0.82	281	⇑*iP*	Pb	20 27 01.6	+0.2
MLR				*i* S	Sn	20 27 14.9	0.0
HARR	Harsova	0.88	137	⇓*iP*	Pg	20 27 02.0	+0.1
HARR	Harsova	0.88	137	⇓*iP*	Pg	20 27 02.0	+0.1
TLB	Topalu	1.01	138	⇑*iP*	Pn	20 27 04.9	-0.1
TLB	Topalu	1.01	138	⇑*iP*	Pn	20 27 04.9	-0.1
TLB				*i* S	Sn	20 27 21.2	+2.0
TIRR	Tirgusor	1.29	133	⇑*iP*	Pb	20 27 09.3	+0.2
TIRR	Tirgusor	1.29	133	⇑*iP*	Pb	20 27 09.3	+0.2
TIRR				*i* S	Sg	20 27 28.3	+1.9

*BEO **06** 20:32:01.9±4.5, 37°31N×20°16E, h0km, ML4.2/6*
*IDC **06** 20:32:02.8±0.6, 37°47N×20°37E, h0km, mb4.0/20, mb1 4.1/32, mb1mx4.0/44, mbtmp4.0/32, ML4.0/10, MS3.5/1, Ms1 3.5/1, ms1mx2.5/45, Error ellipse: s-maj=11.8km s-min=10.9km az=106.0*
*ATH **06** 20:32:03.7, 37°34N×20°25E, h22km±1km, MD4.0/61, ML4.0*
*CSEM **06** 20:32:03.8±0.1, 37°34N×20°23E, h10km, mb4.4/8, Error ellipse: s-maj=3.4km s-min=2.3km az=32.0*
*PDG **06** 20:32:03.6±0.5, 37°38N×20°21E, h11km±1km, ML3.9/11, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0*
*ISCJB **06** 20:32:03.9±0.5, 37°39N±0°02×20°20E±0°02, h24km±3km, mb4.1/27, MS3.4/2, Error ellipse: s-maj=3.2km s-min=2.1km az=35.5*
*MOS **06** 20:32:04.9±1.1, 37°53N×20°37E, h23km, mb4.4/11, Error ellipse: s-maj=7.4km s-min=4.5km az=93.8*
*NEIC **06** 20:32:04.7±1.9, 37°42N×20°40E, h15km±13km, mb4.6/8, Error ellipse: s-maj=5.2km s-min=4.0km az=191.0*
*THE **06** 20:32:04.4, 37°39N×20°26E, h2km±1km, ML4.0/5, Error ellipse: s-maj=1.5km s-min=0.9km az=50.0*
*HLW **06** 20:32:06.7, 37°58N×20°93E, h33km±50km, Md0.0, Ml4.1*
*PRU **06** 20:32:08.3, 37°60N×20°27E, h0km, M4.2*

ISC 06 20:32:04.6±1.1, 37°40N±0°03×20°27E±0°03, h15km±7km, n591, σ1§22/652, mb4.3/27, 54C-37D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFD	Strofades	0.61	104	P	Pg	20 32 16.7	+0.1
SFD				S	Sg	20 32 24.8	+0.1
SFD	Strofades	0.61	104	*e*PN	Pg	20 32 16.5	-0.1
SFD				*e*SN	Sg	20 32 25.2	+0.5
SFD	Strofades	0.61	104	P	Pg	20 32 16.7	+0.1
SFD				S	Sb	20 32 27.4	+2.0
VLS	Valsamata	0.82	18	P	Pg	20 32 19.8	-0.7
VLS				S	Sb	20 32 31.5	+0.1
VLS	Valsamata	0.82	18	*e*PB	Pg	20 32 20.0	-0.5
VLS				*e*SN	Sn	20 32 32.7	-0.8
VLS	Valsamata	0.82	18	*e*Pb	Pg	20 32 20.0	-0.5
VLS				S	Sb	20 32 31.5	+0.1
VLS				*e*Sn	Sn	20 32 32.7	-0.8
KFL	Anninata	0.82	30	P	Pg	20 32 19.9	-0.6
KFL				S	Sb	20 32 31.9	+0.5
KFL	Anninata	0.82	30	P	Pg	20 32 19.9	-0.6
KFL				S	Sn	20 32 33.1	-0.4
AMT	Artemida-Makis	1.15	83	P	Pb	20 32 26.1	-0.1
AMT				S	Sn	20 32 43.7	+2.0
AMT	Artemida-Makis	1.15	83	P	Pb	20 32 26.1	-0.1
AMT				S	Sn	20 32 43.7	+2.0
RLS	Riolos of Patr	1.15	55	P	Pb	20 32 25.9	-0.3
RLS				S	Sn	20 32 43.4	+1.7
RLS	Riolos of Patr	1.15	55	*e*PN	Pb	20 32 25.9	-0.3
RLS				*e*SN	Sn	20 32 43.6	+1.9
RLS	Riolos of Patr	1.15	55	P	Pb	20 32 25.9	-0.3
RLS				*e*Sn	Sn	20 32 43.6	+1.9
DRO	Drossia	1.27	64	P	Pb	20 32 28.3	+0.1
DRO				S	Sg	20 32 46.2	+0.6
DRO	Drossia	1.27	64	*e*PN	Pg	20 32 28.9	-0.1
DRO	Drossia

DID Didima 2.36 86 P Pn 20 32 43.3 +0.4
DID Didima 2.36 86 ePb Pn 20 32 44.6 +1.7
DID S Sb 20 33 14.3 -1.6
SRN Sarande 2.49 355 P Pn 20 32 45.1 +0.6
SRN Sarande 2.49 355 P Pn 20 32 45.1 +0.6
LKR Lokris 2.49 59 ePN Pn 20 32 45.6 +1.0
LKR Lokris 2.49 59 ePn Pn 20 32 45.6 +1.0
VIL2 Platees 2.51 70 ePN Pn 20 32 45.4 +0.5
VILL Villia 2.53 71 P Pn 20 32 45.7 +0.5
VILL Villia 2.53 71 ePn Pn 20 32 45.4 +0.2
VILL Villia 2.53 71 P Pn 20 32 45.7 +0.5
THL Klokotos Trika 2.56 32 ePB Pb 20 32 47.8 -2.4
THL Klokotos Trika 2.56 32 ePb Pb 20 32 47.8 -2.4
SMIA Simia 2.75 57 P Pn 20 32 49.4 +1.2
SMIA Simia 2.75 57 ePN Pn 20 32 49.3 +1.1
SMIA Simia 2.75 57 ePn Pn 20 32 49.3 +1.1
ATH Athens Observa 2.79 77 ePN Pn 20 32 49.7 +1.0
ATH Athens Observa 2.79 77 ePn Pn 20 32 49.7 +1.0
ANKY Antikythira Is 2.88 121 ePN Pn 20 32 51.1 +1.2
ANKY Antikythira Is 2.88 121 ePn Pn 20 32 51.1 +1.2
PTL Penteli 2.92 76 ePN Pn 20 32 51.0 +0.4
PTL Penteli 2.92 76 ePn Pn 20 32 51.0 +0.4
ERET Eretria 2.98 68 P Pn 20 32 52.4 +1.0
ERET Eretria 2.98 68 P Pn 20 32 52.4 +1.0
NEO Neokhori 3.00 50 ePN Pn 20 32 52.4 +0.7
NEO Neokhori 3.00 50 ePn Pn 20 32 52.4 +0.7
XOR Xorichti 3.02 49 ePN Pn 20 32 53.1 +1.2
XOR Xorichti 3.02 49 ePn Pn 20 32 53.1 +1.2
SKIA Skiathos 3.07 54 ePN Pn 20 32 53.4 +0.8
SKIA Skiathos 3.07 54 ePn Pn 20 32 53.4 +0.8
NEST Nestorio 3.07 11 ePN Pn 20 32 54.9 +2.2
NEST Nestorio 3.07 11 ePn Pn 20 32 54.9 +2.2
KZN Kozani 3.13 21 ePN Pn 20 32 55.9 +2.4
KZN Kozani 3.13 21 ePn Pn 20 32 55.9 +2.4
LIT Litokhoron 3.21 32 ePN Pn 20 32 55.6 +1.1
LIT Litokhoron 3.21 32 ePn Pn 20 32 55.6 +1.1
TIP Timpagrande 3.29 304 ePn Pn 20 32 56.1 +0.5
TIP eSn Sn 20 33 35.1 +0.6
TIP Timpagrande 3.29 304 ePN Pn 20 32 56.1 +0.5
TIP eSn Sn 20 33 35.1 +0.6
AOS Alonnisos 3.34 57 ePN Pn 20 32 57.6 +1.3
AOS Alonnisos 3.34 57 ePn Pn 20 32 57.6 +1.3
FNA Florina 3.49 14 ePN Pn 20 33 00.0 +1.6
FNA Florina 3.49 14 ePn Pn 20 33 00.0 +1.6
CEL Celeste 3.57 285 ePn Pn 20 33 00.3 +0.8
CEL eSn Sn 20 33 42.2 +0.7
CEL Celeste 3.57 285 ePn Pn 20 33 00.3 +0.8
CEL eSn Sn 20 33 42.2 +0.7
PAIG Paliouri 3.67 46 ePN Pn 20 33 02.3 +1.5
PAIG Paliouri 3.67 46 ePn Pn 20 33 02.3 +1.5
BIA Bitola 3.71 12 *i* Pn Pn 20 33 03.0 +1.7
BIA Bitola 3.71 12 *i* Pn Pn 20 33 03.0 +1.7
VAM Vamos 3.74 121 ePN Pn 20 33 02.0 +0.2
VAM Vamos 3.74 121 ePn Pn 20 33 02.0 +0.2
THE Thessaloniki 3.85 32 ePN Pn 20 33 04.3 +1.0
THE Thessaloniki 3.85 32 ePn Pn 20 33 04.3 +1.0
PLG Polygyros 3.87 39 ePN Pn 20 33 04.3 +0.7
PLG Polygyros 3.87 39 ePn Pn 20 33 04.3 +0.7
HORT Hortiatis 3.88 34 ePN Pn 20 33 04.6 +0.8
HORT Hortiatis 3.88 34 ePn Pn 20 33 04.6 +0.8
TAR1 Taranto 3.90 324 ePn Pn 20 33 05.8 +1.9
TAR1 eSn Sn 20 33 50.2 +0.8
PE1 Pezze di Greco 4.06 328 ePn Pn 20 33 07.3 +1.1
PE1 eSn Sn 20 33 54.4 +1.0
OUR Ouranopolis 4.12 44 ePN Pn 20 33 08.7 +1.7
OUR Ouranopolis 4.12 44 ePn Pn 20 33 08.7 +1.7
SOH Sokhos 4.17 34 ePN Pn 20 33 08.9 +1.1
SOH Sokhos 4.17 34 ePn Pn 20 33 08.9 +1.1
APE Apeiranthos 4.21 93 ePN Pn 20 33 08.8 +0.5
APE Apeiranthos 4.21 93 ePn Pn 20 33 08.8 +0.5
KNT Kendrikon 4.28 28 ePN Pn 20 33 10.2 +1.1
KNT Kendrikon 4.28 28 ePn Pn 20 33 10.2 +1.1
IDI Anoyia 4.28 118 ePN Pn 20 33 09.7 +0.4
IDI eSN Sn 20 33 58.1 -0.9
IDI Anoyia 4.28 118 Pn Pn 20 33 09.2 -0.2
IDI Sn Sn 20 33 57.9 -1.1
IDI Anoyia 4.28 118 Pn Pn 20 33 09.1 -0.2
IDI eSn Sn 20 33 58.1 -0.9
IDI Anoyia 4.28 118 Pn Pn 20 33 09.2 -0.2
6.4nm,0.3s,baz=273,slow=12,SNR=19
IDI Sn Sn 20 33 57.9 -1.1
12nm,0.3s,baz=302,slow=22,SNR=10
VAY Valandovo 4.30 24 *i* Pn Pn 20 33 10.5 +1.0
VAY Valandovo 4.30 24 *i* Pn Pn 20 33 10.9 +1.4
CUC Castrocucco 4.34 308 ePn Pn 20 33 11.0 +0.9
CUC eSn Sn 20 34 01.6 +1.1
CUC Castrocucco 4.34 308 ePn Pn 20 33 11.0 +0.9
CUC eSn Sn 20 34 01.6 +1.1
SIVA Sivas 4.37 122 ePN Pn 20 33 11.0 +0.6
SIVA Sivas 4.37 122 ePn Pn 20 33 11.0 +0.6
SRS Serrai 4.52 34 ePN Pn 20 33 13.7 +1.2
SRS Serrai 4.52 34 ePn Pn 20 33 13.7 +1.2
BAI Bari 4.54 326 ePn Pn 20 33 13.9 +1.1
BAI eSn Sn 20 34 03.1 -2.2
LIA Limnos Island 4.58 56 ePN Pn 20 33 15.9 +2.6
LIA Limnos Island 4.58 56 ePn Pn 20 33 15.9 +2.6
ULC Ulcinj 4.63 350 ⇑*i* Pn Pn 20 33 14.3 +0.3
ULC eSn Sn 20 34 09.4 +1.9
ULC Ulcinj 4.63 350 ⇑*i* Pn Pn 20 33 14.3 +0.3
ULC eSn Sn 20 34 09.4 +1.9
SKO Skopje 4.66 11 ePN Pn 20 33 13.6 -0.8
SKO Skopje 4.66 11 ePn Pn 20 33 12.9 -1.5
SKO Skopje 4.66 11 ePn Pn 20 33 13.6 -0.8
CHOS Chios island 4.68 76 ePN Pn 20 33 17.2 +2.4
CHOS Chios island 4.68 76 ePn Pn 20 33 17.2 +2.4
LAST Lasithi 4.76 116 ePN Pn 20 33 16.5 +0.6
LAST eSN Sn 20 34 09.9 -1.0
LAST Lasithi 4.76 116 ePn Pn 20 33 16.5 +0.6
LAST eSn Sn 20 34 09.9 -1.0
NPS Neapolis 4.81 115 ePN Pn 20 33 17.6 +1.1
NPS Neapolis 4.81 115 ePn Pn 20 33 17.6 +1.1
CDT Castel del Mon 4.81 321 ePn Pn 20 33 17.3 +0.8
NVR Nevrokopi 4.83 34 ePN Pn 20 33 18.0 +1.2
NVR Nevrokopi 4.83 34 ePn Pn 20 33 18.0 +1.2
WDD Wield Dalam 4.87 253 ePn Pn 20 33 18.7 +1.4
WDD Wield Dalam 4.87 253 ePN Pn 20 33 18.7 +1.4
KAVA Kavala 4.88 41 ePN Pn 20 33 18.8 +1.4
KAVA Kavala 4.88 41 ePn Pn 20 33 18.8 +1.4
KKB Krupnik 4.96 25 *i* P Pn 20 33 19.8 +1.2
KKB Krupnik 4.96 25 *i* P Pn 20 33 19.8 +1.2
MMB Musomiste 4.97 31 P Pn 20 33 19.5 +0.8
MMB Musomiste 4.97 31 ⇓*i* P Pn 20 33 19.5 +0.8
MMB Musomiste 4.97 31 P Pn 20 33 19.5 +0.8
BUM Brajici-Budva 5.01 348 ⇑*i* Pn Pn 20 33 19.5 +0.2
BUM eSn Sn 20 34 17.6 +0.6
BUM Brajici-Budva 5.01 348 ⇑*i* Pn Pn 20 33 19.5 +0.2
BUM eSn Sn 20 34 17.6 +0.6
PDG Podgorica 5.09 351 ePn Pn 20 33 20.1 -0.2
PDG Podgorica 5.09 351 ⇑*i* Pn Pn 20 33 20.9 +0.6
PDG eSn Sn 20 34 20.2 +1.5
TTG Podgorica 5.09 351 ⇑*i* Pn Pn 20 33 20.9 +0.6
TTG eSn Sn 20 34 20.2 +1.5
SMTH Samothraki Isl 5.12 52 ePN Pn 20 33 23.2 +2.4
SMTH Samothraki Isl 5.12 52 ePn Pn 20 33 23.2 +2.4
PVY Plav 5.20 357 ⇓*i* Pn Pn 20 33 22.8 +0.9
PVY eSn Sn 20 34 23.0 +1.4
PVY Plav 5.20 357 ⇓*i* Pn Pn 20 33 22.8 +0.9
PVY eSn Sn 20 34 23.0 +1.4
HCY Herceg Novi 5.22 345 ⇓*i* Pn Pn 20 33 22.3 +0.1
HCY eSn Sn 20 34 22.5 +0.3
HCY Herceg Novi 5.22 345 ⇓*i* Pn Pn 20 33 22.3 +0.1
HCY eSn Sn 20 34 22.5 +0.3
SMG Samos 5.23 85 ePN Pn 20 33 22.9 +0.7
SMG Samos 5.23 85 ePn Pn 20 33 22.9 +0.7
MS1 Monte Sant'Ang 5.45 323 ePn Pn 20 33 24.2 -1.1
MS1 eSn Sn 20 34 26.3 -1.5
NKME Niksic 5.46 350 ⇓*i* Pn Pn 20 33 26.2 +0.8
NKME eSn Sn 20 34 29.2 +1.2
NKME Niksic 5.46 350 ⇓*i* Pn Pn 20 33 26.2 +0.8
NKME eSn Sn 20 34 29.2 +1.2
BEY Berane 5.47 357 ⇑*i* Pn Pn 20 33 26.7 +1.2
BEY eSn Sn 20 34 29.7 +1.2
IVA Berane 5.47 357 ⇑*i* Pn Pn 20 33 26.9 +1.2
IVA eSn Sn 20 34 29.7 +1.2
RZN Rozhen 5.49 37 P Pn 20 33 27.4 +1.4
RZN Rozhen 5.49 37 P Pn 20 33 27.4 +1.4
NKY Niksic 5.50 350 ⇓*i* Pn Pn 20 33 26.6 +0.6
NKY eSn Sn 20 34 30.3 +1.3
NKY Niksic 5.50 350 ⇓*i* Pn Pn 20 33 26.6 +0.6
NKY eSn Sn 20 34 30.3 +1.3
BRY Bratogost 5.66 347 ⇓*i* Pn Pn 20 33 28.3 +0.1
BRY eSn Sn 20 34 33.6 +0.6
BRY Bratogost 5.66 347 ⇓*i* Pn Pn 20 33 28.3 +0.1
BRY eSn Sn 20 34 33.6 +0.6
VTS Vitosha 5.66 23 *i* P Sn 20 33 29.9 +1.7
VTS Vitosha 5.66 23 ⇓*i* Pn Pn 20 33 29.7 +1.5
VTS Vitosha 5.66 23 ⇑*i* P Pn 20 33 30.1 +1.9
VTS Vitosha 5.66 23 ⇓*i* Pn Pn 20 33 29.7 +1.5
ALN Alexandroupoli 5.69 50 ePN Pn 20 33 29.8 +1.3
ALN Alexandroupoli 5.69 50 ePn Pn 20 33 29.8 +1.3
PLD Plovdiv 5.81 35 ePn Pn 20 33 29.3 -0.9
PLD Plovdiv 5.81 35 ePn Pn 20 33 29.3 -0.9
STON Ston 5.81 341 ePn Pn 20 33 29.4 -0.8
STON Sn Sn 20 34 32.7 -3.9
STON Ston 5.81 341 ⇑*i* Pn Pn 20 33 29.7 -0.5
STON Ston 5.81 341 ⇑*i* Pn Pn 20 33 29.7 -0.5
KDZ Kurdzhali 5.82 42 P Pn 20 33 30.1 -0.2
KDZ Kurdzhali 5.82 42 ⇑*i* P Pn 20 33 31.0 +0.7
KDZ Kurdzhali 5.82 42 P Pn 20 33 30.1 -0.2
SELS Selova 5.85 6 ⇑*i* Pn Pn 20 33 30.3 -0.5
SJES Sjenica 5.86 358 ⇑*i* Pn Pn 20 33 30.4 -0.6
SJES Sjenica 5.86 358 ⇑*i* Pn Pn 20 33 30.4 -0.6
UPM Unac-Piva 5.89 350 ⇓*i* Pn Pn 20 33 32.4 +0.9
UPM eSn Sn 20 34 39.7 +0.8
UPM Unac-Piva 5.89 350 ⇓*i* Pn Pn 20 33 32.4 +0.9
UPM eSn Sn 20 34 39.7 +0.8
PLE Pljevlja 5.96 354 ⇑*i* Pn Pn 20 33 33.3 +0.9
PLE eSn Sn 20 34 41.1 +0.6
PLE Pljevlja 5.96 354 ⇑*i* Pn Pn 20 33 33.3 +0.9
PLE eSn Sn 20 34 41.1 +0.6
ZAPS Zavoj 6.14 16 ⇓*i* Pn Pn 20 33 36.1 +1.3
IVAS Ivanjica 6.17 359 ePn Pn 20 33 34.3 -0.9
IVAS Ivanjica 6.17 359 ePn Pn 20 33 34.3 -0.9
GRUS Gruza 6.49 3 ⇓*i* Pn Pn 20 33 39.2 -0.4
GRUS Gruza 6.49 3 ⇓*i* Pn Pn 20 33 39.2 -0.4
BBLS Lazići 6.50 354 ⇓*i* Pn Pn 20 33 40.4 +0.7
BBLS Lazići 6.50 354 ⇓*i* Pn Pn 20 33 40.4 +0.7
MPEP Malo Peshtene 6.51 23 P Pn 20 33 41.2 +1.3
BOLS Boljevac 6.55 11 ePn Pn 20 33 39.2 -1.2
BOLS Boljevac 6.55 11 ePn Pn 20 33 39.2 -1.2
DIVS Divibare 6.70 358 ⇓*i* Pn Pn 20 33 41.6 -0.9
DIVS Divibare 6.70 358 ⇓*i* Pn Pn 20 33 41.6 -0.9
TRUS Trudelj 6.82 1 ePn Pn 20 33 43.1 -1.0
TRUS Trudelj 6.82 1 ePn Pn 20 33 43.1 -1.0
JMB Yambol 7.01 42 ⇑*i* P Pn 20 33 49.7 +3.0
JMB Yambol 7.01 42 ⇑*i* P Pn 20 33 49.7 +3.0
TEKS Tekeris 7.17 356 ePn Pn 20 33 46.9 -2.0
FGSL Fruska Gora 7.76 358 ePn Pn 20 33 55.6 -1.4
FRGS Fruska Gora 7.76 356 ePn Pn 20 33 55.6 -1.4
UDBI Udbina 7.89 336 ePn Pn 20 33 59.4 +0.5
UDBI Sn Sn 20 35 25.6 -2.4
UDBI Udbina 7.89 336 ePn Pn 20 33 59.4 +0.5
HUMR Humele 7.96 25 ⇑*i* P Pn 20 34 01.3 +1.6
HUMR Humele 7.96 25 ⇑*i* P Pn 20 34 01.3 +1.6
GZR Gura Zlata 8.21 12 ⇑*i* P Pn 20 34 03.5 +0.3
GZR Gura Zlata 8.21 12 ⇑*i* P Pn 20 34 03.5 +0.3
NVLJ Novalja 8.24 332 *i* Pn Pn 20 34 03.6 +0.1
NVLJ Sn Sn 20 35 31.9 -4.4
NVLJ Novalja 8.24 332 *i* Pn Pn 20 34 03.6 +0.1
BZS Buzias 8.27 7 ePn Pn 20 34 03.2 -0.8
BZS Buzias 8.27 7 ⇑*i* P Pn 20 34 03.7 -0.3
BZS Buzias 8.27 7 ePn Pn 20 34 03.2 -0.8
BZS Buzias 8.27 7 ⇑*i* P Pn 20 34 03.7 -0.3
HMAT Matruh 8.45 136 AMP 20 35 00.0
comp=E,50µm,0.4s,logAT=5.1,baz=140
LOT Lotru 8.46 17 ⇑*i* P Pn 20 34 07.2 +0.5
LOT Lotru 8.46 17 ⇑*i* P Pn 20 34 07.2 +0.5
ARR Arges 8.61 21 ⇑*i* P Pn 20 34 09.5 +0.8
ARR Arges 8.61 21 ⇑*i* P Pn 20 34 09.5 +0.8
MTUR Matau 8.61 23 ⇑*i* P Pn 20 34 10.3 +1.6
MTUR Matau 8.61 23 ⇑*i* P Pn 20 34 10.3 +1.6
VOIR 8.79 23 ⇑*i* P Pn 20 34 12.6 +1.4
VOIR 8.79 23 ⇑*i* P Pn 20 34 12.6 +1.4
PKSM Moragy 8.89 353 ePn Pn 20 34 11.8 -0.7
PKSM Moragy 8.89 353 ⇑*i* P Pn 20 34 11.6 -0.9
PKSM Moragy 8.89 353 ePn Pn 20 34 11.8 -0.7
PKSM Moragy 8.89 353 ⇓*i* ePn Pn 20 34 11.8 -0.7
SIRR Siria 8.92 6 ⇑*i* P Pn 20 34 12.6 -0.3
SIRR Siria 8.92 6 ⇑*i* P Pn 20 34 12.6 -0.3
BOJS Bojanci 8.93 337 ePn Pn 20 34 13.2 +0.2
BOJS eSn Sn 20 35 50.1 -3.3
BOJS Bojanci 8.93 337 Pn Pn 20 34 13.2 +0.2
KEST Kesra 8.95 263 Pn Pn 20 34 15.0 +1.7
KEST Sn Sn 20 35 51.4 -2.5
KEST Kesra 8.95 263 Sn Sn 20 35 51.4 -2.5
KEST Kesra 8.95 263 Pn Pn 20 34 15.0 +1.7
comp=E,0.1nm,0.3s,baz=8.1,slow=3.0,SNR=6.2
KEST Sn Sn 20 35 51.4 -2.5
comp=E,0.1nm,0.3s,baz=29,slow=19,SNR=3.8
ISR Istrita 9.04 29 ⇓*i* P Pn 20 34 15.6 +1.0
ISR Istrita 9.04 29 ⇓*i* P Pn 20 34 15.6 +1.0
GBRS Gornja Briga 9.10 335 ePn Pn 20 34 15.9 +0.5
PKS2 Kecel 9.12 355 ⇓*i* ePn Pn 20 34 17.2 +1.6
MLR Muntele Rosu 9.14 26 ⇑*i* P Pn 20 34 18.5 +2.5
MLR Muntele Rosu 9.14 26 Pn Pn 20 34 17.2 +1.2
MLR Sn Sn 20 35 57.4 -1.2
MLR Muntele Rosu 9.14 26 P Pn 20 34 17.2 +1.2
MLR Muntele Rosu 9.14 26 Pn Pn 20 34 17.2 +1.2
comp=E,0.4nm,0.3s,baz=205,slow=7.7,SNR=26
MLR Sn Sn 20 35 57.4 -1.2
baz=223,slow=19,SNR=3.2
GCIS Gornji Cirnik 9.15 339 ePn Pn 20 34 15.8 -0.2
GCIS Gornji Cirnik 9.15 339 ePn Pn 20 34 15.8 -0.2
CRES Cresnjev 9.16 338 ePn Pn 20 34 15.9 -0.2
CRES Cresnjev 9.16 338 ePn Pn 20 34 15.9 -0.2
PKS6 Bocsa 9.21 357 ⇓*i* ePn Pn 20 34 16.2 -0.6
SWA2 9.21 150 P Pn 20 34 15.0 -2.0
baz=154
SWA2 S Sn 20 35 50.0 -10
baz=154
SWA2 9.21 150 P Pn 20 34 15.0 -2.0
PKS9 Tamasi 9.30 351 ⇑*i* ePn Pn 20 34 18.4 +0.3
DRGR 9.56 10 ⇑*i* P Pn 20 34 23.2 +1.5
DRGR 9.56 10 ⇑*i* P Pn 20 34 23.2 +1.5
PLOR Plostina 9.70 27 ⇓*i* P Pn 20 34 26.3 +2.7
PLOR Plostina 9.70 27 ⇓*i* P Pn 20 34 26.3 +2.7
VRI Vrincioaia 9.74 28 ⇓*i* P Pn 20 34 26.9 +2.8
VRI Vrincioaia 9.74 28 ⇓*i* P Pn 20 34 26.9 +2.8
VOY Vojsko 9.85 333 ePn Pn 20 34 25.6 -0.1
VOY *e* 20 34 34.7
VOY *e* 20 34 43.8
VOY Vojsko 9.85 333 ePn Pn 20 34 25.6 -0.1
OBKA Obir 10.05 337 ⇓*i* Pn Pn 20 34 28.6 +0.2
OBKA Obir 10.05 337 Pn Pn 20 34 28.6 +0.2
SOKA Soboth 10.05 339 ⇑*i* Pn Pn 20 34 27.8 -0.7
SNR=9.3
SOKA ⇑*i* Sn Sn 20 36 23.6 +2.5
SOKA Soboth 10.05 339 Pn Pn 20 34 27.8 -0.7
SNR=9.3
SOKA Sn Sn 20 36 23.6 +2.5
PGF Pioggiola 10.06 304 ePn Pn 20 34 30.2 +1.6
comp=E,61nm,1.2s
PGF Pioggiola 10.06 304 eP Pn 20 34 30.2 +1.6
PGF pmax pmax
comp=Z,61nm,1.2s
PGF Pioggiola 10.06 304 eP Pn 20 34 30.2 +1.6
comp=Z,61nm,1.2s
PGF Pioggiola 10.06 304 eP Pn 20 34 30.2 +1.6
comp=Z,61nm,1.2s
PKSG 10.08 353 ⇑*i* ePn Pn 20 34 29.6 +0.8
TESR Tescani 10.27 25 ⇑*i* P Pn 20 34 32.9 +1.6
TESR Tescani 10.27 25 ⇑*i* P Pn 20 34 32.9 +1.6
ARSA Arzberg 10.45 342 ⇑*i* Pn Pn 20 34 34.2 +0.3
ARSA Arzberg 10.45 342 Pn Pn 20 34 34.2 +0.3
PSZ Piszkesteto 10.52 359 eP Pn 20 34 34.6 -0.2
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 10.52 359 ⇑*i* P Pn 20 34 35.6 +0.8
PSZ Piszkesteto 10.52 359 ePn Pn 20 34 34.6 -0.2
comp=Z,5.8nm,0.8s
PSZ Piszkesteto 10.52 359 eP Pn 20 34 34.6 -0.2
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 10.52 359 ⇓*i* ePn Pn 20 34 35.9 +1.1
BRTR Keskin Array B 10.72 73 Pn Pn 20 34 38.2 +0.5
BRTR Keskin Array B 10.72 73 P Pn 20 34 38.2 +0.5
BRTR Keskin Array B 10.72 73 Pn Pn 20 34 38.2 +0.5
comp=Z,0.0nm,0.3s,baz=257,slow=12,SNR=2.3
BURAR Bucovina Array 10.84 18 ⇓*i* P Pn 20 34 41.0 +1.7
BURAR Bucovina Array 10.84 18 ⇓*i* P Pn 20 34 41.0 +1.7
TRPA Tarpa 10.85 8 ⇑*i* P Pn 20 34 39.6 +0.3
TRPA Tarpa 10.85 8 ⇑*i* P Pn 20 34 39.6 +0.3
KBA Koelnbreinsper 10.95 334 ⇑*i* Pn Pn 20 34 41.1 +0.3
KBA Koelnbreinsper 10.95 334 Pn Pn 20 34 41.1 +0.3
MOA Molln 11.34 339 ⇓*i* Pn Pn 20 34 45.8 -0.2
SNR=7.4
MOA Molln 11.34 339 Pn Pn 20 34 45.8 -0.2
SNR=7.4
AWBH 11.60 139 P Pn 20 34 46.8 -2.8
baz=141
AWBH 11.60 139 P Pn 20 34 46.8 -2.8
SBF Sospel 11.69 308 eP Pn 20 34 52.4 +1.5
comp=Z,56nm,1.1s
SBF Sospel 11.69 308 eP Pn 20 34 52.4 +1.5
SBF pmax pmax
comp=Z,56nm,1.1s
SBF Sospel 11.69 308 eP Pn 20 34 52.4 +1.5
comp=Z,56nm,1.1s
SBF Sospel 11.69 308 eP Pn 20 34 52.4 +1.5
comp=Z,56nm,1.1s
WATA Walderalm 11.82 330 ⇓*i* Pn Pn 20 34 53.5 +0.7
SNR=8.2
WATA Walderalm 11.82 330 Pn Pn 20 34 53.5 +0.7
SNR=8.2
AYT Al 'Ayyat 11.88 127 P Pn 20 34 49.9 -3.6
baz=129
NIE Niedzica 12.02 0 eP Pn 20 34 56.5 +1.2
NIE Niedzica 12.02 0 eP Pn 20 34 56.5 +1.2
NIE Niedzica 12.02 0 eP Pn 20 34 56.5 +1.2
DAVOX Davos/Dischmat 12.13 324 Pn Pn 20 34 57.8 +0.7
DAVOX Sn Sn 20 37 08.1 -4.0
DAVOX Davos/Dischmat 12.13 324 P Pn 20 34 57.8 +0.7
DAVOX Davos/Dischmat 12.13 324 Pn Pn 20 34 57.8 +0.7
comp=Z,0.3nm,0.3s,baz=157,slow=16,SNR=7.3
DAVOX Sn Sn 20 37 08.1 -4.0
comp=Z,0.2nm,0.3s,baz=330,slow=20,SNR=2.9
HFRF Wahat Farafira 12.27 144 P Pn 20 34 55.7 -3.1
baz=147
HFRF Wahat Farafira 12.27 144 P Pn 20 34 55.7 -3.1
GLL Jalalah 12.32 126 P Pn 20 34 55.0 -4.5
baz=128
GERES GERESS Array B 12.40 339 Pn Pn 20 35 00.5 -0.1
GERES Sn Sn 20 37 11.8 -6.7
GERES GERESS Array B 12.40 339 P Pn 20 35 00.5 -0.1
GERES GERESS Array B 12.40 339 Pn Pn 20 35 00.5 -0.1
comp=Z,0.4nm,0.3s,baz=157,slow=14,SNR=15
GERES Sn Sn 20 37 11.8 -6.7
comp=Z,0.2nm,0.3s,baz=153,slow=24,SNR=4.0
MBDF Montbardon 12.54 310 eP Pn 20 35 04.5 +2.0
comp=Z,19nm,1.0s
MBDF Montbardon 12.54 310 eP Pn 20 35 04.5 +2.0
MBDF pmax pmax
comp=Z,19nm,1.0s
MBDF Montbardon 12.54 310 eP Pn 20 35 04.5 +2.0
comp=Z,19nm,1.0s
MBDF Montbardon 12.54 310 eP Pn 20 35 04.5 +2.0
comp=Z,19nm,1.0s
AMAG Maghara 12.66 118 P Pn 20 34 58.6 -5.7
baz=120
KHC Kasperske Hory 12.69 340 eP Pn 20 35 04.4 -0.1
KHC Kasperske Hory 12.69 340 eP Pn 20 35 04.4 -0.1
KHC ex x 20 35 19.1
KHC Kasperske Hory 12.69 340 ePn Pn 20 35 04.8 +0.3
comp=Z,5.4nm,1.2s
KHC Kasperske Hory 12.69 340 ePn Pn 20 35 04.8 +0.3
comp=Z,5.4nm,1.2s
RSH 12.85 116 P Pn 20 35 01.1 -5.6
baz=118
SUZ 12.89 122 P Pn 20 35 02.0 -5.3
baz=124
LPG La Plagne 12.96 313 eP P 20 35 14.8 -4.3
LPG La Plagne 12.96 313 eP P 20 35 14.8 -4.3
LPG La Plagne 12.96 313 eP P 20 35 14.8 -4.3
MMAI Mount Meron Ar 13.12 105 Pn Pn 20 35 08.1 -2.4
MMAI Sn Sn 20 37 29.4 -6.8
MMAI Mount Meron Ar 13.12 105 Pn Pn 20 35 08.1 -2.4
comp=Z,2.2nm,0.3s,baz=296,slow=12,SNR=10.0
MMAI Sn Sn 20 37 29.4 -6.8
comp=Z,1.8nm,0.3s,baz=38,slow=19,SNR=6.1
ORIF Oris-en-Rattie 13.18 309 eP P 20 35 16.9 -4.4
ORIF Oris-en-Rattie 13.18 309 eP P 20 35 16.9 -4.4
ORIF Oris-en-Rattie 13.18 309 eP P 20 35 16.9 -4.4
PRU Pruhonice 13.24 344 eP Pn 20 35 12.1 +0.1
PRU Pruhonice 13.24 344 eP Pn 20 35 12.1 +0.1
PRU Pruhonice 13.24 344 Pn Pn 20 35 12.1 +0.1
DPC Dobruska-Polom 13.26 349 eP Pn 20 35 12.7 +0.5
DPC Dobruska-Polom 13.26 349 eP Pn 20 35 12.7 +0.5
DPC ex x 20 35 24.4
DPC Dobruska-Polom 13.26 349 Pn Pn 20 35 12.7 +0.5
UPC Upice 13.46 348 eP P 20 35 27.0 +2.8
UPC Upice 13.46 348 eP P 20 35 27.0 +2.8
HNKL Nakhl 13.62 119 P Pn 20 35 12.5 -4.8
baz=121
CABF La Chapelle 13.98 316 eP Pn 20 35 22.9 +0.7
CABF La Chapelle 13.98 316 eP Pn 20 35 22.9 +0.7
CABF La Chapelle 13.98 316 eP Pn 20 35 22.9 +0.7
NKC Novy Kostel 14.01 339 eP Pn 20 35 22.7 +0.3
NKC Novy Kostel 14.01 339 eP Pn 20 35 22.7 +0.3
NKC Novy Kostel 14.01 339 Pn Pn 20 35 22.7 +0.3
BRG Berggiesshubel 14.21 343 e(P) Pn 20 35 26.6 +1.4
comp=Z,18nm,1.8s
BRG Berggiesshubel 14.21 343 eP Pn 20 35 26.6 +1.4
BRG pmax pmax
comp=Z,18nm,1.8s
EIL Elat 14.46 118 Pn Pn 20 35 26.3 -2.4
EIL Sn Sn 20 37 56.4 -12
EIL Elat 14.46 118 Pn Pn 20 35 26.3 -2.4
EIL Elat 14.46 118 Pn Pn 20 35 26.3 -2.4
comp=Z,1.0nm,0.3s,baz=305,slow=6.1,SNR=14
EIL Sn Sn 20 37 56.4 -12
comp=Z,0.9nm,0.3s,baz=349,slow=16,SNR=4.3
CDF Champ du Feu 14.53 323 eP Pn 20 35 29.5 -0.2
CDF Champ du Feu 14.53 323 eP Pn 20 35 29.5 -0.2
CDF Champ du Feu 14.53 323 eP Pn 20 35 29.5 -0.2
ASF Jabal al Asfar 14.62 106 Pn Pn 20 35 30.4 -0.6
ASF Sn Sn 20 38 12.2 -0.6
ASF Jabal al Asfar 14.62 106 Pn Pn 20 35 30.4 -0.6
comp=Z,0.2nm,0.3s,baz=207,slow=4.5,SNR=2.8
ASF Sn Sn 20 38 12.2 -0.6
comp=Z,0.2nm,0.3s,baz=300,slow=20,SNR=2.6
HAU Haudompre 14.71 320 eP Pn 20 35 33.1 +1.0
HAU Haudompre 14.71 320 eP Pn 20 35 33.1 +1.0
HAU Haudompre 14.71 320 eP Pn 20 35 33.1 +1.0
KIEV Kiev 14.75 23 ⇓*i* eP Pn 20 35 31.8 -0.7
AKASG Malin Array Be 14.76 23 *i* P Pn 20 35 31.3 -1.4
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 14.76 23 Pn Pn 20 35 30.0 -2.7
AKASG Malin Array Be 14.76 23 Pn Pn 20 35 30.0 -2.7
comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=9.6
CLL Collm 14.84 342 eP Pn 20 35 34.0 +0.3
CLL Collm 14.84 342 eP Pn 20 35 34.0 +0.3
CLL *i* sP 20 35 40.8
CLL *i* sPP 20 35 48.5
HHRG Al Ghardaqah 15.13 128 P Pn 20 35 34.4 -3.4
baz=130
SMF Signal de Mont 15.29 312 eP P 20 35 44.5 -0.1
SMF Signal de Mont 15.29 312 eP P 20 35 44.5 -0.1
MEZF Maizieres J'vi 15.69 320 eP P 20 35 51.5 +2.4
comp=Z,74nm,1.2s
MEZF Maizieres J'vi 15.69 320 eP P 20 35 51.5 +2.4
comp=Z,74nm,1.2s
MEZF Maizieres J'vi 15.69 320 eP P 20 35 51.5 +2.4
comp=Z,74nm,1.2s
SSF Saint Saulge 15.70 313 eP P 20 35 48.5 -0.7
SSF Saint Saulge 15.70 313 eP P 20 35 48.5 -0.7
RJF Les Rejaudoux 16.12 305 eP P 20 35 55.5 +1.6
comp=Z,64nm,1.4s
RJF Les Rejaudoux 16.12 305 eP P 20 35 55.5 +1.6
RJF pmax pmax
comp=Z,65nm,1.4s
RJF Les Rejaudoux 16.12 305 eP P 20 35 55.5 +1.6
comp=Z,64nm,1.4s
RJF Les Rejaudoux 16.12 305 eP P 20 35 55.5 +1.6
comp=Z,64nm,1.4s
EPF Esparros 16.22 296 eP P 20 35 53.8 -1.2
EPF Esparros 16.22 296 eP P 20 35 53.8 -1.2
EPF Esparros 16.22 296 eP P 20 35 53.8 -1.2
EPF Esparros 16.22 296 eP P 20 35 53.8 -1.2
SUW Suwalki 16.74 6 eP Pn 20 35 57.1 -1.3
SUW pmax pmax
comp=Z,58nm,1.0s
SUW Suwalki 16.74 6 ePn Pn 20 35 57.1 -1.3
comp=Z,58nm,1.0s
SUW Suwalki 16.74 6 ePn Pn 20 35 57.1 -1.3

	comp=Z,58nm,1.0s								
ETSF	**Etsaut**	**16.83**	**296**	*e*P		**P**	**20 36 03.2**	**+1.4**
	comp=Z,33nm,1.1s								
ETSF	**Etsaut**	**16.83**	**296**	*e*P		**P**	**20 36 03.2**	**+1.4**
ETSF				pmax	pmax				
	comp=Z,33nm,1.1s								
ETSF	**Etsaut**	**16.83**	**296**	*e*P		**P**	**20 36 03.2**	**+1.4**
	comp=Z,33nm,1.1s								
ETSF	**Etsaut**	**16.83**	**296**	*e*P		**P**	**20 36 03.2**	**+1.4**
	comp=Z,33nm,1.1s								
KIV	**Kislovodsk**	**18.19**	**62**	*e*P		**P**	**20 36 18.4**	**+1.6**
KIV				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KIV	**Kislovodsk**	**18.19**	**62**	*e*P		**P**	**20 36 18.4**	**+1.6**
	comp=Z,5.0nm,1.1s								
KBZ	**Khabaz**	**18.29**	**63**	P		**P**	**20 36 18.1**	**+0.3**
KBZ	**Khabaz**	**18.29**	**63**	P		**P**	**20 36 18.1**	**+0.3**
KBZ	**Khabaz**	**18.29**	**63**	P		**P**	**20 36 18.1**	**+0.3**
KBZ	**Khabaz**	**18.29**	**63**	P		**P**	**20 36 18.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=227,slow=17,SNR=2.2								
LDF	**La Druitiere**	**18.59**	**313**	*e*P		**Pn**	**20 36 25.4**	**+4.1**
ZEI	**Tsey**	**18.84**	**66**	*e*P		**Pn**	**20 36 25.0**	**+0.4**
ZEI				pmax	pmax				
	comp=Z,4.0nm,0.5s								
ZEI	**Tsey**	**18.84**	**66**	*e*P		**Pn**	**20 36 25.0**	**+0.4**
	comp=Z,4.0nm,0.5s								
FLN	**La Foliniere**	**18.88**	**314**	*e*P		Pn	20 36 31.1	+6.3
ESDC	**Sonseca Array**	**19.08**	**284**	P		**Pn**	**20 36 27.7**	**+0.2**
ESDC	**Sonseca Array**	**19.08**	**284**	P		**Pn**	**20 36 27.7**	**+0.2**
ESDC	**Sonseca Array**	**19.08**	**284**	P		**Pn**	**20 36 27.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=85,slow=12,SNR=8.7								
VORD	**Divnogorie**	**19.16**	**39**	*e*P		Pn	20 36 39.9	+12
VORD				pmax	pmax				
	comp=N,20nm,0.9s								
VORD				pmax	pmax				
	comp=Z,6.0nm,0.9s								
VORD				pmax	pmax				
	comp=E,20nm,0.7s								
VSR	**Storozhevoye**	**19.25**	**38**	*e*P		Pn	20 36 40.2	+11
VSR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
VSR				pmax	pmax				
	comp=N,10.0nm,0.7s								
VSR				pmax	pmax				
	comp=E,30nm,1.1s								
GNI	**Garni**	**19.26**	**74**	*e*P		**P**	**20 36 27.2**	**-1.5**
	comp=E,22nm,1.2s								
GNI	**Garni**	**19.26**	**74**	*i* P		**Pn**	**20 36 30.1**	**+0.4**
	comp=E,14nm,1.7s								
GNI	**Garni**	**19.26**	**74**	P		**P**	**20 36 29.0**	**+0.3**
	comp=E,0.2nm,0.3s,baz=193,slow=5.1,SNR=4.3								
TAM	**Tamanrasset**	**19.32**	**225**	*e*P		**P**	**20 36 29.4**	**0.0**
TAM				pmax	pmax				
	comp=Z,5.0nm,1.2s								
TAM	**Tamanrasset**	**19.32**	**225**	*e*P		**P**	**20 36 29.4**	**0.0**
	comp=Z,5.3nm,1.2s								
TAM	**Tamanrasset**	**19.32**	**225**	*e*P		**P**	**20 36 29.4**	**0.0**
	comp=Z,5.3nm,1.2s								
VRHR	**Novokhopersk**	**20.43**	**41**	*e*P		Pn	20 36 43.6	+0.3
VRHR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
VRHR				pmax	pmax				
	comp=N,30nm,1.2s								
VRHR				pmax	pmax				
	comp=E,20nm,0.8s								
VRHR	**Novokhopersk**	**20.43**	**41**	*e*P		Pn	20 36 43.6	+0.3
	comp=E,30nm,1.2s								
MDT	**Midelt**	**20.84**	**265**	P		Pn	20 36 47.8	-0.7
MDT	**Midelt**	**20.84**	**265**	P		Pn	20 36 47.8	-0.7
	comp=E,2.0nm,0.9s,baz=76,slow=14,SNR=6.2								
OBN	**Obninsk**	**20.91**	**27**	*e*P		**P**	**20 36 45.4**	**-0.8**
OBN				*e*			20 37 04.1		
OBN				pmax	pmax				
	comp=Z,31nm,1.6s								
OBN				MLR	MLR				
	comp=Z,100nm,12.0s								
OBN	**Obninsk**	**20.91**	**27**	*e*P		**P**	**20 36 45.4**	**-0.8**
	comp=Z,31nm,1.6s								
VSU	**Vasula**	**21.50**	**9**	*c i*P		**P**	**20 36 52.5**	**-0.1**
VSU	**Vasula**	**21.50**	**9**	*i* P		**P**	**20 36 52.5**	**-0.1**
MOS	**Moscow**	**21.77**	**27**	*e*P		**P**	**20 36 58.5**	**+3.0**
MOS				*e*			20 37 18.4		
MOS	**Moscow**	**21.77**	**27**	*e*P		**P**	**20 36 58.5**	**+3.0**
HFS	**Hagfors**	**23.14**	**352**	P		**P**	**20 37 09.8**	**-0.3**
HFS	**Hagfors**	**23.14**	**352**	P		**P**	**20 37 09.8**	**-0.3**
HFS	**Hagfors**	**23.14**	**352**	P		**P**	**20 37 09.8**	**-0.3**
	comp=Z,4.8nm,0.5s,baz=163,slow=11,SNR=33								
EKA	**Eskdalemuir Ar**	**23.96**	**326**	P		**P**	**20 37 18.6**	**+0.5**
EKA	**Eskdalemuir Ar**	**23.96**	**326**	P		**P**	**20 37 18.6**	**+0.5**
EKA	**Eskdalemuir Ar**	**23.96**	**326**	P		**P**	**20 37 18.6**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=127,slow=10,SNR=13								
FINES	**FINESS Array B**	**24.34**	**7**	P		**P**	**20 37 20.9**	**-0.7**
FINES	**FINESS Array B**	**24.34**	**7**	P		**P**	**20 37 20.9**	**-0.7**
FINES	**FINESS Array B**	**24.34**	**7**	P		**P**	**20 37 20.9**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=174,slow=11,SNR=18								
NB2	**NORSAR Subarra**	**24.34**	**349**	P		**P**	**20 37 21.5**	**-0.2**
	comp=Z,6.2nm,0.8s,baz=162,slow=9.3								
NB2	**NORSAR Subarra**	**24.34**	**349**	P		**P**	**20 37 21.5**	**-0.2**
	comp=Z,6.2nm,0.8s,SNR=9.1								
NOA	**NORSAR Array B**	**24.34**	**349**	P		**P**	**20 37 21.9**	**+0.2**
NOA	**NORSAR Array B**	**24.34**	**349**	P		**P**	**20 37 21.9**	**+0.2**
NOA	**NORSAR Array B**	**24.34**	**349**	P		**P**	**20 37 21.9**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=162,slow=9.8,SNR=6.5								
KAF	**Kangasniemi**	**25.02**	**7**	*e*P		**P**	**20 37 28.1**	**+0.4**
KAF				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KAF	**Kangasniemi**	**25.02**	**7**	*e*p		**P**	**20 37 28.1**	**+0.4**
	comp=Z,10.0nm,0.8s								
KAF	**Kangasniemi**	**25.02**	**7**	*e*P		**P**	**20 37 28.1**	**+0.4**
	comp=Z,10.0nm,0.8s								
JOF	**Joensuu**	**26.43**	**11**	*e*P		**P**	**20 37 41.1**	**+0.6**
JOF	**Joensuu**	**26.43**	**11**	*e*p		**P**	**20 37 41.1**	**+0.6**
JOF	**Joensuu**	**26.43**	**11**	*e*P		**P**	**20 37 41.1**	**+0.6**
KLMR	**Klimovskoe**	**26.44**	**21**	*e*P		**P**	**20 37 39.5**	**-1.0**
KLMR				pmax	pmax				
	comp=Z,19nm,1.6s								
KLMR	**Klimovskoe**	**26.44**	**21**	*e*P		**P**	**20 37 39.5**	**-1.0**
	comp=Z,19nm,1.6s								
TOA0	**Torodi Ar. Sit**	**29.30**	**219**	*e*P		**P**	**20 38 07.1**	**+0.5**
TOA0	**Torodi Ar. Sit**	**29.30**	**219**	*e*P		**P**	**20 38 07.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**29.30**	**219**	P		**P**	**20 38 07.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**29.30**	**219**	P		**P**	**20 38 07.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**29.30**	**219**	P		**P**	**20 38 07.2**	**+0.6**
	comp=Z,3.2nm,0.5s,baz=31,slow=9.2,SNR=65								
ARCES	**ARCESS Array B**	**32.32**	**3**	P		**P**	**20 38 32.1**	**-0.6**
ARCES	**ARCESS Array B**	**32.32**	**3**	P		**P**	**20 38 32.1**	**-0.6**
ARCES	**ARCESS Array B**	**32.32**	**3**	P		**P**	**20 38 32.1**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=198,slow=5.4,SNR=13								
ARCES				LR		LR	20 52 52.9		
	comp=Z,81nm,19.3s,baz=341,slow=39								
KEV	**Kevo**	**32.62**	**4**	*e*P		**P**	**20 38 35.3**	**0.0**
KEV				pmax	pmax				
	comp=Z,592nm,3.2s								
KEV	**Kevo**	**32.62**	**4**	*e*p		**P**	**20 38 35.3**	**0.0**
	comp=Z,592nm,3.2s								
KEV	**Kevo**	**32.62**	**4**	*e*P		**P**	**20 38 35.3**	**0.0**
	comp=Z,592nm,3.2s								
SVE	**Sverdlovsk**	**32.99**	**41**	*e*P		**P**	**20 38 37.0**	**-1.7**
SVE	**Sverdlovsk**	**32.99**	**41**	*e*P		**P**	**20 38 37.0**	**-1.7**
BRVK	**Borovoye**	**37.71**	**49**	*e*P		**P**	**20 39 19.1**	**-0.3**
BRVK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
BRVK	**Borovoye**	**37.71**	**49**	*e*P		**P**	**20 39 19.1**	**-0.3**
	comp=Z,2.0nm,1.0s								
BVAR	**Borovoye Array**	**37.77**	**49**	P		**P**	**20 39 19.0**	**-0.9**
BVAR	**Borovoye Array**	**37.77**	**49**	P		**P**	**20 39 19.0**	**-0.9**
BVAR	**Borovoye Array**	**37.77**	**49**	P		**P**	**20 39 19.0**	**-0.9**
BVAR	**Borovoye Array**	**37.77**	**49**	P		**P**	**20 39 19.0**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=279,slow=2.9,SNR=3.7								
DBIC	**Dimbokro**	**38.19**	**223**	P		**P**	**20 39 24.5**	**+0.8**
DBIC	**Dimbokro**	**38.19**	**223**	P		**P**	**20 39 24.5**	**+0.8**
DBIC	**Dimbokro**	**38.19**	**223**	P		**P**	**20 39 24.5**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=26,slow=11,SNR=6.1								
TIC	**Toumodi**	**38.30**	**223**	*e*P		**P**	**20 39 25.2**	**+0.5**
	comp=Z,14nm,1.0s								
KIC	**Kosan Boka**	**38.38**	**223**	*e*P		**P**	**20 39 26.1**	**+0.7**
	comp=Z,60nm,1.4s								
LIC	**Lamto**	**38.65**	**223**	*e*P		**P**	**20 39 26.7**	**-0.9**
	comp=Z,16nm,0.8s								
LIC	**Lamto**	**38.65**	**223**	*e*P		**P**	**20 39 28.1**	**+0.5**
	comp=Z,25nm,0.8s								
LIC	**Lamto**	**38.65**	**223**	*e*P		**P**	**20 39 26.7**	**-0.9**
	comp=Z,16nm,0.8s								
LIC	**Lamto**	**38.65**	**223**	*e*P		**P**	**20 39 26.7**	**-0.9**
	comp=Z,16nm,0.8s								
SPITS	**Spitsbergen Ar**	**40.92**	**359**	P		**P**	**20 39 46.9**	**+1.0**
SPITS	**Spitsbergen Ar**	**40.92**	**359**	P		**P**	**20 39 46.9**	**+1.0**
	comp=Z,14nm,1.0s,baz=149,slow=12,SNR=5.1								
KMBO	**Kilima Mbogo**	**41.43**	**154**	P		**P**	**20 39 52.8**	**+1.7**
KMBO	**Kilima Mbogo**	**41.43**	**154**	P		**P**	**20 39 52.8**	**+1.7**
	comp=Z,2.1nm,1.0s,baz=336,slow=7.5,SNR=6.4								
NVS	**Novosibirsk**	**45.35**	**46**	*e*P		P	20 40 26.0	+4.1
MKAR	**Makanchi Array**	**45.88**	**58**	P		**P**	**20 40 24.6**	**-1.7**
MKAR	**Makanchi Array**	**45.88**	**58**	P		**P**	**20 40 24.6**	**-1.7**
MKAR	**Makanchi Array**	**45.88**	**58**	P		**P**	**20 40 24.6**	**-1.7**
MKAR	**Makanchi Array**	**45.88**	**58**	P		**P**	**20 40 24.6**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=294,slow=6.0,SNR=14								
ZAA0	**Zalesovo Array**	**46.36**	**48**	*e*P		**P**	**20 40 28.6**	**-1.4**
ZAA0	**Zalesovo Array**	**46.36**	**48**	*e*P		**P**	**20 40 28.5**	**-1.4**
ZALV	**Zalesovo Beam**	**46.36**	**48**	*i* P		**P**	**20 40 28.7**	**-1.2**
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.4s								
ZALV	**Zalesovo Beam**	**46.36**	**48**	P		**P**	**20 40 28.8**	**-1.2**
ZALV	**Zalesovo Beam**	**46.36**	**48**	P		**P**	**20 40 28.8**	**-1.2**
ZALV	**Zalesovo Beam**	**46.36**	**48**	P		**P**	**20 40 28.8**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=274,slow=8.6,SNR=10								
LSZ	**Lusaka**	**52.92**	**170**	P		**P**	**20 41 22.0**	**+1.6**
LSZ	**Lusaka**	**52.92**	**170**	P		**P**	**20 41 22.0**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=14,slow=8.2,SNR=9.6								
DANN	**Dangsing**	**53.20**	**80**	*e*P		**P**	**20 41 22.4**	**-0.3**
	comp=Z,45nm,0.9s								
DANN	**Dangsing**	**53.20**	**80**	*e*P		**P**	**20 41 22.4**	**-0.3**
DANN	**Dangsing**	**53.20**	**80**	*e*P		**P**	**20 41 22.4**	**-0.3**
KOLN	**Koldanda**	**53.34**	**81**	*e*P		**P**	**20 41 23.5**	**-0.1**
	comp=Z,45nm,1.5s								
KOLN	**Koldanda**	**53.34**	**81**	*e*P		**P**	**20 41 23.5**	**-0.1**
KOLN	**Koldanda**	**53.34**	**81**	*e*P		**P**	**20 41 23.5**	**-0.1**
GKN	**Gorkha**	**54.05**	**80**	*e*P		**P**	**20 41 27.8**	**-1.0**
	comp=Z,30nm,1.2s								
GKN	**Gorkha**	**54.05**	**80**	*e*P		**P**	**20 41 27.8**	**-1.0**
GKN	**Gorkha**	**54.05**	**80**	*e*P		**P**	**20 41 27.8**	**-1.0**
DMN	**Daman**	**54.60**	**80**	*e*P		**P**	**20 41 32.1**	**-0.8**
	comp=Z,35nm,1.1s								
DMN	**Daman**	**54.60**	**80**	*e*P		**P**	**20 41 32.1**	**-0.8**
DMN	**Daman**	**54.60**	**80**	*e*P		**P**	**20 41 32.1**	**-0.8**
KKN	**Kakani**	**54.65**	**80**	*e*P		**P**	**20 41 32.4**	**-0.8**
	comp=Z,7.2nm,0.7s								
KKN	**Kakani**	**54.65**	**80**	*e*P		**P**	**20 41 32.4**	**-0.8**
KKN	**Kakani**	**54.65**	**80**	*e*P		**P**	**20 41 32.4**	**-0.8**
KKN	**Kakani**	**54.65**	**80**	*e*P		**P**	**20 41 32.4**	**-0.8**
PKIN	**Phulchoki**	**54.84**	**80**	*e*P		**P**	**20 41 33.3**	**-1.4**
	comp=Z,40nm,1.5s								
PKI	**Pulchoki**	**54.85**	**80**	*e*P		**P**	**20 41 34.4**	**-0.4**
	comp=Z,24nm,1.2s								
PKI	**Pulchoki**	**54.85**	**80**	*e*P		**P**	**20 41 34.4**	**-0.4**
PKI	**Pulchoki**	**54.85**	**80**	*e*P		**P**	**20 41 34.4**	**-0.4**
PKI	**Pulchoki**	**54.85**	**80**	*e*P		**P**	**20 41 34.4**	**-0.4**
GUN	**Gumba**	**55.06**	**79**	*e*P		**P**	**20 41 35.2**	**-1.2**
	comp=Z,25nm,1.0s								
GUN	**Gumba**	**55.06**	**79**	*e*P		**P**	**20 41 35.2**	**-1.2**
GUN	**Gumba**	**55.06**	**79**	*e*P		**P**	**20 41 35.2**	**-1.2**
JIRN	**Jiri**	**55.42**	**80**	*e*P		**P**	**20 41 38.0**	**-1.0**
JIRN	**Jiri**	**55.42**	**80**	*e*P		**P**	**20 41 38.0**	**-1.0**
JIRN	**Jiri**	**55.42**	**80**	*e*P		**P**	**20 41 38.0**	**-1.0**
RAMN	**Ramite**	**56.08**	**80**	*e*P		**P**	**20 41 42.5**	**-1.1**
	comp=Z,32nm,1.1s								
RAMN	**Ramite**	**56.08**	**80**	*e*P		**P**	**20 41 42.5**	**-1.1**
RAMN	**Ramite**	**56.08**	**80**	*e*P		**P**	**20 41 42.5**	**-1.1**
ODAN	**Odare**	**56.74**	**80**	*e*P		**P**	**20 41 45.5**	**-2.8**
ODAN	**Odare**	**56.74**	**80**	*e*P		**P**	**20 41 45.5**	**-2.8**
TAPN	**Taplejung**	**56.76**	**79**	*e*P		**P**	**20 41 45.9**	**-2.6**
	comp=Z,29nm,1.1s								
TAPN	**Taplejung**	**56.76**	**79**	*e*P		**P**	**20 41 45.9**	**-2.6**
TAPN	**Taplejung**	**56.76**	**79**	*e*P		**P**	**20 41 45.9**	**-2.6**
LSA	**Lhasa**	**58.33**	**75**	*e*P		**P**	**20 41 59.4**	**-0.3**
LSA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
LSA	**Lhasa**	**58.33**	**75**	*e*P		**P**	**20 41 59.4**	**-0.3**
	comp=Z,5.3nm,0.8s								
LSA	**Lhasa**	**58.33**	**75**	*e*P		**P**	**20 41 59.4**	**-0.3**
	comp=Z,5.3nm,0.8s								
SCHQ	**Schefferville**	**58.90**	**318**	P		**P**	**20 42 03.4**	**+0.7**
SCHQ	**Schefferville**	**58.90**	**318**	P		**P**	**20 42 03.4**	**+0.7**
SCHQ	**Schefferville**	**58.90**	**318**	P		**P**	**20 42 03.4**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=82,slow=18,SNR=5.4								
SONM	**Songino Array**	**61.11**	**50**	P		**P**	**20 42 17.5**	**-0.7**
SONM	**Songino Array**	**61.11**	**50**	P		**P**	**20 42 17.5**	**-0.7**
SONM	**Songino Array**	**61.11**	**50**	P		**P**	**20 42 17.5**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=276,slow=7.4,SNR=4.8								
HIA	**Hailar**	**68.22**	**44**	*e*P		**P**	**20 43 05.0**	**+0.6**
	comp=Z,3.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**70.19**	**82**	P		**P**	**20 43 17.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**70.19**	**82**	P		**P**	**20 43 17.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**70.19**	**82**	P		**P**	**20 43 17.6**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=311,slow=5.3,SNR=4.6								
YKA	**Yellowknife Ar**	**74.05**	**340**	P		**P**	**20 43 39.7**	**+0.2**
YKA	**Yellowknife Ar**	**74.05**	**340**	P		**P**	**20 43 39.7**	**+0.2**
YKA	**Yellowknife Ar**	**74.05**	**340**	P		**P**	**20 43 39.7**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=42,slow=5.8,SNR=5.5								
ILAR	**Eielson Array**	**77.67**	**354**	P		**P**	**20 44 00.8**	**+0.7**
ILAR	**Eielson Array**	**77.67**	**354**	P		**P**	**20 44 00.8**	**+0.7**
ILAR	**Eielson Array**	**77.67**	**354**	P		**P**	**20 44 00.8**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=356,slow=4.3,SNR=6.8								
KSAR	**Wonju Array Be**	**79.96**	**50**	P		**P**	**20 44 13.2**	**0.0**
KSAR	**Wonju Array Be**	**79.96**	**50**	P		**P**	**20 44 13.2**	**0.0**
KSRS	**Korea Array**	**79.98**	**50**	P		**P**	**20 44 13.2**	**-0.1**
	comp=Z,2.0nm,0.9s								
KSRS	**Korea Array**	**79.98**	**50**	P		**P**	**20 44 13.2**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=327,slow=5.7,SNR=4.2								

*DJA **06** 20:36:22.3±4.0,2°N±39°×12°7E±1°9,h10km,M4.4/3, mb4.7/2,mB4.6/2,MLv4.2/3,Mw(mB)3.8/2*
*IDC **06** 20:36:23.7±0.9, 1°.25N×126°.11E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.8/22,mbtmp3.8/8,ML3.4/1,Error ellipse: s-maj=54.4km s-min=15.2km az=71.0*
*ISCJB **06** 20:36:28.4±0.8, 1°.40N±0°.09×126°.62E±0°.07,h47km, mb3.9/7,Error ellipse: s-maj=13.5km s-min=9.9km az=14.0*

ISC 06 20:36:29.9±0.8, 1°.4N±0°.1×126°.64E±0°.08, h47km, n15, σ1°37/14, mb3.9/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.94**	**129**	P		**Pn**	**20 36 46.6**	**-0.1**
KMSI	**Cibinong**	**2.77**	**253**	P		**Pn**	**20 37 10.2**	**-1.6**
GTOI	**Gorontalo**	**3.70**	**259**	P		**Pn**	**20 37 23.8**	**-0.8**
LUWI	**Luwuk**	**4.55**	**238**	P		**Pn**	**20 37 37.8**	**+1.5**
MRSI	**Marisa**	**4.78**	**259**	P		**Pn**	**20 37 40.0**	**+0.6**
	36nm,0.6s,408nm							
APSI	**Ampana**	**5.48**	**246**	P		**Pn**	**20 37 50.7**	**+1.7**
FITZ	**Fitzroy Crossi**	**19.38**	**183**	P		**P**	**20 40 50.2**	**-1.7**
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=2.6							
WRA	**Warramunga Arr**	**22.49**	**161**	P		**P**	**20 41 25.7**	**+0.2**
	5.1nm,0.6s,baz=339,slow=11,SNR=68							
ASAR	**Alice Springs**	**25.87**	**165**	P		**P**	**20 41 58.0**	**+0.6**
	2.0nm,0.6s,baz=343,slow=7.3,SNR=24							
CMAR	**Chiang Mai Arr**	**32.04**	**304**	P		P	20 42 49.3	-3.0
	0.4nm,0.4s,baz=112,slow=6.1,SNR=4.1							
KSRS	**Korea Array**	**35.92**	**2**	P		**P**	**20 43 26.5**	**+0.8**
	0.6nm,0.6s,baz=190,slow=10,SNR=3.0							
STKA	**Stephens Creek**	**35.98**	**158**	P		**P**	**20 43 26.3**	**-0.1**
	2.0nm,0.8s,baz=318,slow=7.2,SNR=5.0							
SONM	**Songino Array**	**49.49**	**342**	P		**P**	**20 45 17.5**	**+1.7**
	0.5nm,0.8s,baz=153,slow=7.2,SNR=2.9							
MKAR	**Makanchi Array**	**59.44**	**326**	P		**P**	**20 46 25.6**	**-2.3**
	1.1nm,0.7s,baz=121,slow=8.3,SNR=14							
TORD	**Torodi Ar. Bea**	**123.53**	**287**	PKP		**PKPdf**	**20 55 23.4**	**+0.2**
	0.5nm,0.8s,baz=12,slow=1.9,SNR=3.2							

*ISCJB **06** 20:44:07.0±0.4, 6°.94S±0°.08×155°.29E±0°.06,h50km, mb4.0/11,Error ellipse: s-maj=12.5km s-min=7.7km az=22.2*
*IDC **06** 20:44:08.4±0.8, 6°.93S×155°.29E,h51km±7km,mb3.8/11, mb1 3.9/13,mb1mx3.8/21,mbtmp3.8/13,MS3.1/1, Ms1 3.1/1,ms1mx2.6/26,Error ellipse: s-maj=16.4km s-min=13.1km az=15.0*

ISC 06 20:44:08.0±0.6, 6°.9S±0°.1×155°.43E±0°.08, h50km, n35, σ0s96/36, mb3.9/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.12**	**119**	P		**Pn**	**20 45 24.2**	**+2.1**
	7.9nm,0.3s,baz=360,slow=19,SNR=2.4							
HNR				LR		LR	20 47 25.4	
	comp=Z,204nm,19.1s,baz=191,slow=38							
PMG	**Port Moresby**	**8.55**	**253**	P		**Pn**	**20 46 08.9**	**-0.4**
	2.4nm,0.3s,baz=71,slow=10,SNR=9.3							
PMG				S		**Sn**	**20 47 48.0**	**+3.6**
	0.6nm,0.3s,baz=296,slow=16,SNR=4.6							
WRA	**Warramunga Arr**	**24.21**	**236**	P		**P**	**20 49 19.9**	**-0.3**
	1.5nm,0.6s,baz=58,slow=9.3,SNR=16							
WRA				pP		**pP**	**20 49 33.5**	**+0.4**
	1.7nm,0.6s,baz=59,slow=9.5,SNR=4.9							
WRA				PcP		**PcP**	**20 52 59.7**	**-0.2**
	0.3nm,0.4s,baz=61,slow=2.6,SNR=5.4							
ASAR	**Alice Springs**	**26.54**	**229**	P		**P**	**20 49 40.3**	**-1.0**
	0.4nm,0.4s,baz=58,slow=9.5,SNR=8.9							
ASAR				pP		**pP**	**20 49 53.6**	**-0.6**
	0.8nm,0.3s,baz=57,slow=9.5,SNR=9.0							
H11S3	**WAKE ISLAND Hy**	**27.59**	**24**	T		T	21 17 58.8	
	baz=204,slow=77,SNR=14							
H11S2	**WAKE ISLAND Hy**	**27.59**	**24**	T		T	21 18 19.3	
	baz=204,slow=77,SNR=44							
H11S1	**WAKE ISLAND Hy**	**27.61**	**24**	T		T	21 17 59.8	
	baz=204,slow=77,SNR=38							
STKA	**Stephens Creek**	**27.98**	**206**	P		**P**	**20 49 53.2**	**-0.9**
	4.3nm,1.2s,baz=40,slow=14,SNR=3.6							
STKA				pP		**pP**	**20 50 05.8**	**-1.2**
	1.6nm,0.7s,baz=64,slow=7.2,SNR=2.8							
H11N1	**WAKE ISLAND Hy**	**28.77**	**23**	T		T	21 20 05.5	
	baz=194							
H11N3	**WAKE ISLAND Hy**	**28.79**	**23**	T		T	21 20 05.8	
	baz=194							
H11N2	**WAKE ISLAND Hy**	**28.79**	**23**	T		T	21 20 05.2	
	baz=194							
FITZ	**Fitzroy Crossi**	**31.08**	**246**	P		**P**	**20 50 20.8**	**-0.9**
	2.2nm,0.7s,baz=60,slow=2.8,SNR=6.1							
PETK	**Petropavlovsk-**	**59.83**	**2**	P		**P**	**20 54 09.4**	**+1.3**
	2.3nm,0.8s,baz=161,slow=9.2,SNR=3.8							
CMAR	**Chiang Mai Arr**	**61.15**	**295**	P		**P**	**20 54 18.6**	**+0.8**
	3.7nm,0.7s,baz=119,slow=5.1,SNR=41							
CMAR				pP		**pP**	**20 54 30.9**	**-0.8**
	1.2nm,0.6s,baz=127,slow=5.7,SNR=4.9							
SONM	**Songino Array**	**69.51**	**327**	P		**P**	**20 55 11.9**	**+0.3**
	0.9nm,0.8s,baz=146,slow=5.3,SNR=6.9							
TAPN	**Taplejung**	**73.74**	**301**	*e*P		**P**	**20 55 38.1**	**+0.5**
ODAN	**Odare**	**73.87**	**300**	*e*P		**P**	**20 55 38.5**	**+0.2**
	14nm,0.5s							
RAMN	**Ramite**	**74.57**	**300**	*e*P		**P**	**20 55 42.5**	**+0.1**
	3.5nm,0.4s							
JIRN	**Jiri**	**75.12**	**301**	*e*P		**P**	**20 55 45.9**	**+0.2**
	6

SMIA	**Simia**	**2.83**	**56**	*e*Pb	**Pn**	**20 50 53.0**	**+2.0**
NEST	**Nestorio**	**3.16**	**12**	*e*PB	**Pn**	**20 50 57.7**	**+2.1**
NEST	**Nestorio**	**3.16**	**12**	*e*Pb	**Pn**	**20 50 57.7**	**+2.1**
LIT	**Litokhoron**	**3.30**	**32**	*e*PN	**Pn**	**20 50 58.0**	**+0.5**
LIT	**Litokhoron**	**3.30**	**32**	*e*Pn	**Pn**	**20 50 58.0**	**+0.5**
FNA	**Florina**	**3.58**	**14**	*e*PN	**Pn**	**20 51 02.3**	**+1.0**
FNA	**Florina**	**3.58**	**14**	*e*Pn	**Pn**	**20 51 02.3**	**+1.0**
HORT	**Hortiatis**	**3.97**	**34**	*e*PN	**Pn**	**20 51 07.2**	**+0.4**
HORT	**Hortiatis**	**3.97**	**34**	*e*Pn	**Pn**	**20 51 07.2**	**+0.4**
SOH	**Sokhos**	**4.26**	**34**	*e*PN	**Pn**	**20 51 11.7**	**+0.9**
SOH	**Sokhos**	**4.26**	**34**	*e*Pn	**Pn**	**20 51 11.7**	**+0.9**
KNT	**Kendrikon**	**4.37**	**28**	*e*PN	**Pn**	**20 51 13.1**	**+1.0**
KNT	**Kendrikon**	**4.37**	**28**	*e*Pn	**Pn**	**20 51 13.1**	**+1.0**
SRS	**Serrai**	**4.61**	**34**	*e*PN	**Pn**	**20 51 16.5**	**+1.0**
SRS	**Serrai**	**4.61**	**34**	*e*Pn	**Pn**	**20 51 16.5**	**+1.0**

MAN 06 20:56:30.8±7.8N×126°7.9E, h17km, mb4.4, ML3.3, MS3.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.73**	**216**	*e*P	Pn	20 56 45.0	-0.5
BIPH				eS	Sb	20 56 53.7	-0.2
BUTP	**Butuan**	**1.17**	**279**	*e*P	Pn	20 56 51.0	-0.6
SCPH	**Surigao**	**1.63**	**308**	*e*P	Pn	20 56 57.5	-0.4
MATI	**Mati**	**1.89**	**196**	*e*P	Pn	20 57 02.1	+0.5
BUKP	**Musuan**	**1.93**	**243**	*e*P	Pn	20 57 01.7	-0.4
BUKP				eS	Sb	20 57 27.5	-1.2
CGP	**Cagayan de Oro**	**2.10**	**261**	*e*P	Pn	20 57 04.4	0.0
MSLP	**Maasin**	**2.33**	**305**	*e*P	Pn	20 57 08.7	+1.0

*IDC **06** 20:57:29.4±3.2, 12.°93N×88.°63W, h39km±29km, mb3.8/4, mb1 4.0/6, mb1mx3.6/25, mbtmp3.8/6, ML3.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/39, Error ellipse: s-maj=54.4km s-min=22.5km az=47.0*

ISC 06 20:57:31.8±1.3, 12.°9N±0.°2×88.°5W±0.°2, h67km, n9, σ1§19/9, mb4.0/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.83**	**317**	Pn	Pn	20 58 10.4	-4.6
	1.2nm,0.3s,baz=148,slow=12,SNR=10						
APG				Sn	**Sn**	**20 58 47.5**	**-0.6**
	1.4nm,0.3s,baz=31,slow=22,SNR=5.4						
JTS	**JuntasAbangare**	**4.33**	**127**	Pn	**Pn**	**20 58 34.9**	**-0.3**
	2.2nm,0.3s,baz=309,slow=21,SNR=9.9						
JTS				Sn	**Sn**	**20 59 23.7**	**-0.7**
	1.4nm,0.3s,baz=173,slow=22,SNR=4.1						
JTS				LR	LR	21 00 48.4	
	comp=Z,126nm,20.8s,baz=18,slow=45						
TXAR	**Lajitas Array**	**21.58**	**322**	P	**P**	**21 02 15.4**	**-0.7**
	3.5nm,0.7s,baz=145,slow=11,SNR=39						
TKL	**Tuckaleechee C**	**23.02**	**10**	P	**P**	**21 02 32.8**	**+1.5**
	5.3nm,0.7s,baz=172,slow=12,SNR=5.7						
TKL				LR	LR	21 13 20.8	
	comp=Z,44nm,19.9s,baz=117,slow=41						
SADO	**Sadowa**	**32.72**	**12**	LR	LR	21 18 33.8	
	comp=Z,122nm,18.6s,baz=184,slow=39						
ULM	**Lac du Bonnet**	**37.71**	**352**	P	**P**	**21 04 40.3**	**-0.5**
	2.8nm,0.8s,baz=178,slow=6.8,SNR=3.5						
YKA	**Yellowknife Ar**	**52.90**	**345**	P	**P**	**21 06 40.1**	**-0.6**
	0.8nm,0.9s,baz=143,slow=7.9,SNR=6.2						
WRA	**Warramunga Arr**	**138.44**	**255**	PKP	**PKPdf**	**21 16 52.6**	**+2.0**
	0.4nm,0.9s,baz=91,slow=2.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**147.97**	**347**	PKPbc	**PKPbc**	**21 17 10.7**	**+0.2**
	1.0nm,0.8s,baz=342,slow=3.0,SNR=10						

*CSEM **06** 20:58:12.5, 37.°42N×20.°15E, h32km, MD3.5, After ATH*

ATH 06 20:58:12.4, 37.°41N×20.°19E, h27km±4km, MD3.5/12, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.83**	**22**	*e*PN	Pn	20 58 28.4	0.0
VLS				eSN	Sn	20 58 41.1	+1.4
VLS	**Valsamata**	**0.83**	**22**	*e*Pn	Pn	20 58 28.4	0.0
VLS				eSn	Sn	20 58 41.1	+1.4
RLS	**Riolos of Patr**	**1.20**	**57**	*e*PB	Pb	20 58 34.4	-0.1
RLS				eSN	Sb	20 58 52.2	+2.6
RLS	**Riolos of Patr**	**1.20**	**57**	*e*Pb	Pb	20 58 34.4	-0.1
RLS				eSn	Sb	20 58 52.2	+2.6
AMT	**Artemida-Makis**	**1.22**	**84**	*e*PN	Pb	20 58 35.8	+1.0
AMT	**Artemida-Makis**	**1.22**	**84**	*e*Pn	Pb	20 58 35.8	+1.0
DRO	**Drossia**	**1.32**	**65**	*e*PN	Pb	20 58 37.3	+0.7
DRO	**Drossia**	**1.32**	**65**	*e*Pn	Pb	20 58 37.3	+0.7
ITM	**Ithomi**	**1.40**	**99**	*e*PN	Pb	20 58 38.2	+0.2
ITM				eSN	Sb	20 58 56.3	+0.8
ITM	**Ithomi**	**1.40**	**99**	*e*Pn	Pb	20 58 38.2	+0.2
ITM				eSn	Sb	20 58 56.3	+0.8
PDO	**Prodromos**	**1.42**	**33**	*e*PN	Pb	20 58 39.3	+1.0
PDO	**Prodromos**	**1.42**	**33**	*e*Pn	Pb	20 58 39.3	+1.0
KLV	**Kalavryta, Ach**	**1.68**	**67**	*e*PN	Pn	20 58 41.4	+1.3
KLV	**Kalavryta, Ach**	**1.68**	**67**	*e*Pn	Pn	20 58 41.4	+1.3
VLX	**Vlachokerasia**	**1.74**	**91**	*e*PN	Pb	20 58 43.4	-0.5
VLX	**Vlachokerasia**	**1.74**	**91**	*e*Pb	Pb	20 58 43.4	-0.5
GUR	**Goura**	**1.79**	**72**	*e*PN	Pb	20 58 43.4	-1.2
GUR	**Goura**	**1.79**	**72**	*e*Pn	Pb	20 58 43.4	-1.2
EVR	**Evrytania**	**1.97**	**40**	*e*PN	Pn	20 58 45.5	+1.3
EVR	**Evrytania**	**1.97**	**40**	*e*Pn	Pn	20 58 45.5	+1.3
MAKR	**Makrakomi, Fth**	**2.21**	**43**	*e*PN	Pn	20 58 48.6	+1.2
MAKR	**Makrakomi, Fth**	**2.21**	**43**	*e*Pn	Pn	20 58 48.6	+1.2
THL	**Klokotos Trika**	**2.58**	**33**	*e*PN	Pn	20 58 54.9	+2.5
THL	**Klokotos Trika**	**2.58**	**33**	*e*Pn	Pn	20 58 54.9	+2.5

*ISCJB **06** 21:19:54.5±1.5, 17.°2S±0.°6×179.°1W±0.°4, h539km, mb3.7/5, Error ellipse: s-maj=90.3km s-min=21.0km az=148.6*

*IDC **06** 21:19:54.9±6.7, 17.°37S×178.°95W, h535km±71km, mb3.2/5, mb1 3.5/5, mb1mx3.1/19, mbtmp3.2/5, Error ellipse: s-maj=74.6km s-min=29.1km az=146.0*

ISC 06 21:19:55.2±1.5, 17.°3S±0.°6×179.°0W±0.°4, h539km, n7, σ0§55/9, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.42**	**240**	P	**P**	**21 26 30.7**	**-0.2**
	1.7nm,0.5s,baz=96,slow=11,SNR=9.2						
WRA	**Warramunga Arr**	**44.17**	**259**	P	**P**	**21 27 16.7**	**+0.1**
	0.8nm,0.5s,baz=96,slow=8.1,SNR=41						
WRA				PcP	**PcP**	**21 28 49.4**	**-0.4**
	0.2nm,0.6s,baz=93,slow=3.4,SNR=2.4						
ASAR	**Alice Springs**	**44.40**	**254**	P	**P**	**21 27 18.8**	**+0.5**
	12nm,0.5s,baz=89,slow=8.2,SNR=200						
ASAR				PcP	**PcP**	**21 28 49.7**	**-0.8**
	0.2nm,0.3s,baz=77,slow=4.1,SNR=2.8						
ILAR	**Eielson Array**	**85.42**	**13**	P	**P**	**21 31 35.0**	**-0.3**
	0.3nm,0.5s,baz=223,slow=7.4,SNR=11						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**21 31 40.0**	**+0.1**
	0.6nm,0.7s,baz=220,slow=4.9,SNR=8.0						
BRTR	**Keskin Array B**	**143.93**	**315**	PKP	**PKPdf**	**21 38 30.6**	**+0.8**
	0.7nm,0.8s,baz=132,slow=3.7,SNR=3.8						
GERES	**GERESS Array B**	**146.86**	**345**	PKPbc	**PKPbc**	**21 38 37.4**	**+0.2**
	0.9nm,0.6s,baz=17,slow=4.1,SNR=9.3						

*IDC **06** 21:22:19.5±4.3, 16.°11S×173.°49W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, ML1.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/37, Error ellipse: s-maj=200.9km s-min=23.3km az=138.0*

*ISCJB **06** 21:22:22.1±3.3, 15.°9S±0.°8×173.°5W±0.°8, h33km, mb3.9/4, MS3.1/1, Error ellipse: s-maj=163.4km s-min=9.8km az=137.8*

ISC 06 21:22:22.6±3.8, 16.°0S±0.°9×173.°4W±0.°8, h26km, n7, σ1§40/7, mb3.9/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.60**	**37**	Pn	**Pn**	**21 23 03.2**	**+0.1**
	6.4nm,0.3s,baz=207,slow=2.3,SNR=8.3						
AFI				Sn	**Sn**	**21 23 32.4**	**-1.6**
	26nm,0.3s,baz=66,slow=20,SNR=9.7						
HNR	**Honiara**	**26.81**	**281**	LR	LR	21 35 50.8	
	comp=Z,54nm,21.4s,baz=74,slow=30						
STKA	**Stephens Creek**	**43.75**	**241**	P	**P**	**21 30 25.1**	**-0.9**
	2.3nm,0.8s,baz=63,slow=6.8,SNR=4.0						
WRA	**Warramunga Arr**	**49.73**	**257**	P	**P**	**21 31 12.6**	**-0.5**
	0.6nm,0.7s,baz=92,slow=6.7,SNR=14						
ASAR	**Alice Springs**	**49.94**	**252**	P	**P**	**21 31 14.2**	**-0.5**
	2.9nm,0.8s,baz=88,slow=8.1,SNR=33						
ILAR	**Eielson Array**	**83.04**	**11**	P	**P**	**21 34 47.1**	**+1.8**
	0.3nm,0.6s,baz=219,slow=6.0,SNR=6.6						
BRTR	**Keskin Array B**	**146.65**	**320**	PKPbc	**PKPab**	**21 42 04.3**	**+0.8**
	1.1nm,0.7s,baz=49,slow=2.2,SNR=6.8						

IDC 06 21:26:11.6±3.0, 28.°43S×177.°23W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/17, mbtmp3.4/2, Error ellipse: s-maj=74.6km s-min=32.8km az=111.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.01**	**216**	Pn	Pn	21 26 33.1	0.0
	546nm,0.3s,baz=91,slow=22,SNR=48						
RAO				Sn	Sg	21 26 45.1	+0.8
	2µm,0.3s,baz=37,slow=20,SNR=28						
ASAR	**Alice Springs**	**43.92**	**265**	P	P	21 34 20.1	-0.3
	0.2nm,0.4s,baz=105,slow=6.5,SNR=4.9						
WRA	**Warramunga Arr**	**44.73**	**270**	P	P	21 34 26.8	-0.1
	0.4nm,0.7s,baz=108,slow=8.1,SNR=9.2						
AKASG	**Malin Array Be**	**150.10**	**325**	PKPbc	PKPbc	21 46 03.6	-0.3
	0.2nm,0.3s,baz=56,slow=3.2,SNR=6.1						

*IDC **06** 21:29:02.1±1.4, 37.°50N×20.°19E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/27, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=34.6km s-min=24.2km az=113.0*

*ISCJB **06** 21:29:03.3±1.0, 37.°42N±0.°04×20.°03E±0.°04, h23km±6km, mb3.7/6, Error ellipse: s-maj=7.3km s-min=4.2km az=32.9*

*ATH **06** 21:29:04.8, 37.°40N×20.°34E, h17km±1km, MD3.6/32, ML3.3*

*THE **06** 21:29:05.3, 37.°44N×20.°30E, h0km±2km, ML3.3/2, Error ellipse: s-maj=3.3km s-min=1.6km az=246.0*

*CSEM **06** 21:29:05.1±0.4, 37.°39N×20.°16E, h20km, ML3.3, Error ellipse: s-maj=10.4km s-min=4.5km az=35.0*

ISC 06 21:29:03.9±3.0, 37.°40N±0.°05×20.°17E±0.°04, h15km±20km, n120, σ1§20/141, mb3.8/6, 1C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.85**	**23**	P	**Pb**	**21 29 19.5**	**-0.8**
VLS				S	**Sb**	**21 29 31.1**	**-0.4**
VLS	**Valsamata**	**0.85**	**23**	*e*PN	**Pb**	**21 29 19.3**	**-1.0**
VLS	**Valsamata**	**0.85**	**23**	P	**Pb**	**21 29 19.5**	**-0.8**
VLS				S	**Sb**	**21 29 31.1**	**-0.4**
KFL	**Anninata**	**0.86**	**34**	P	**Pb**	**21 29 19.4**	**-1.2**
KFL				S	**Sb**	**21 29 31.4**	**-0.6**
RLS	**Riolos of Patr**	**1.22**	**57**	P	**Pn**	**21 29 25.5**	**-0.9**
RLS				S	**Sb**	**21 29 43.2**	**+0.9**
RLS	**Riolos of Patr**	**1.22**	**57**	*e*PN	**Pn**	**21 29 26.5**	**+0.1**
RLS				*e*SN	**Sb**	**21 29 40.7**	**-1.6**
RLS	**Riolos of Patr**	**1.22**	**57**	P	**Pn**	**21 29 25.5**	**-0.9**
RLS	**Riolos of Patr**	**1.22**	**57**	*e*Pn	**Pn**	**21 29 26.5**	**+0.1**
RLS				*e*Sn	**Sb**	**21 29 40.7**	**-1.6**
RLS				S	**Sb**	**21 29 43.2**	**+0.9**
AMT	**Artemida-Makis**	**1.23**	**83**	P	**Pn**	**21 29 25.9**	**-0.7**
AMT	**Artemida-Makis**	**1.23**	**83**	*e*PN	**Pn**	**21 29 26.3**	**-0.3**
AMT				*e*SN	**Sb**	**21 29 40.8**	**-1.8**
AMT	**Artemida-Makis**	**1.23**	**83**	P	**Pn**	**21 29 25.9**	**-0.7**
AMT	**Artemida-Makis**	**1.23**	**83**	*e*Pn	**Pn**	**21 29 26.3**	**-0.3**
AMT				*e*Sn	**Sb**	**21 29 40.8**	**-1.8**
DRO	**Drossia**	**1.34**	**65**	P	**Pn**	**21 29 28.6**	**+0.5**
DRO	**Drossia**	**1.34**	**65**	*e*PN	**Pn**	**21 29 27.9**	**-0.2**
DRO	**Drossia**	**1.34**	**65**	*e*Pn	**Pn**	**21 29 27.9**	**-0.2**
DRO	**Drossia**	**1.34**	**65**	P	**Pn**	**21 29 28.6**	**+0.5**
ITM	**Ithomi**	**1.42**	**98**	P	**Pn**	**21 29 28.4**	**-0.8**
ITM	**Ithomi**	**1.42**	**98**	*e*PB	**Pn**	**21 29 28.2**	**-1.0**
ITM				*e*SN	**Sn**	**21 29 46.1**	**-1.5**
ITM	**Ithomi**	**1.42**	**98**	P	**Pn**	**21 29 28.4**	**-0.8**
ITM				*e*Sn	**Sn**	**21 29 46.1**	**-1.5**
LKD2	**Lefkada island**	**1.44**	**15**	P	**Pn**	**21 29 30.5**	**+1.0**
LKD2	**Lefkada island**	**1.44**	**15**	P	**Pn**	**21 29 30.5**	**+1.0**
PDO	**Prodromos**	**1.44**	**33**	P	**Pn**	**21 29 30.8**	**+1.3**
PDO	**Prodromos**	**1.44**	**33**	*e*PN	**Pn**	**21 29 30.8**	**+1.3**
PDO	**Prodromos**	**1.44**	**33**	P	**Pn**	**21 29 30.8**	**+1.3**
PSA1	**Psathopyrgos**	**1.64**	**55**	*e*PN	**Pn**	**21 29 33.8**	**+1.6**
LAKA	**Lakka**	**1.66**	**59**	P	**Pn**	**21 29 34.1**	**+1.6**
LAKA	**Lakka**	**1.66**	**59**	*e*PN	**Pn**	**21 29 33.8**	**+1.3**
LAKA	**Lakka**	**1.66**	**59**	*e*Pn	**Pn**	**21 29 33.8**	**+1.3**
LAKA	**Lakka**	**1.66**	**59**	P	**Pn**	**21 29 34.1**	**+1.6**
KLV	**Kalavryta, Ach**	**1.70**	**67**	P	**Pn**	**21 29 33.6**	**+0.5**
KLV				S	**Sb**	**21 29 56.5**	**+0.4**
KLV	**Kalavryta, Ach**	**1.70**	**67**	*e*PN	**Pn**	**21 29 33.5**	**+0.5**
KLV	**Kalavryta, Ach**	**1.70**	**67**	P	**Pn**	**21 29 33.6**	**+0.5**
KLV				S	**Sb**	**21 29 56.5**	**+0.4**
VLX	**Vlachokerasia**	**1.76**	**90**	P	**Pn**	**21 29 32.8**	**-1.1**
VLX	**Vlachokerasia**	**1.76**	**90**	P	**Pn**	**21 29 32.8**	**-1.1**
GUR	**Goura**	**1.81**	**72**	P	**Pn**	**21 29 35.2**	**+0.6**
GUR				S	**Sn**	**21 29 58.2**	**+0.9**
GUR	**Goura**	**1.81**	**72**	*e*PN	**Pn**	**21 29 35.0**	**+0.4**
GUR	**Goura**	**1.81**	**72**	P	**Pn**	**21 29 35.2**	**+0.6**
GUR				S	**Sn**	**21 29 58.2**	**+0.9**
KALE	**Kalithea**	**1.85**	**57**	P	**Pn**	**21 29 36.6**	**+1.5**
KALE	**Kalithea**	**1.85**	**57**	*e*PN	**Pn**	**21 29 36.6**	**+1.5**
KALE	**Kalithea**	**1.85**	**57**	P	**Pn**	**21 29 36.6**	**+1.5**
EVR	**Evrytania**	**1.99**	**40**	P	**Pn**	**21 29 39.2**	**+2.1**
EVR	**Evrytania**	**1.99**	**40**	*e*PN	**Pb**	**21 29 39.5**	**-0.4**
EVR	**Evrytania**	**1.99**	**40**	P	**Pn**	**21 29 39.2**	**+2.1**
EVR	**Evrytania**	**1.99**	**40**	*e*Pn	**Pb**	**21 29 39.5**	**-0.4**
DSF	**Desfina**	**2.12**	**61**	P	**Pn**	**21 29 40.2**	**+1.3**
DSF	**Desfina**	**2.12**	**61**	*e*PN	**Pn**	**21 29 41.0**	**+2.1**
DSF	**Desfina**	**2.12**	**61**	P	**Pn**	**21 29 40.2**	**+1.3**
DSF	**Desfina**	**2.12**	**61**	*e*Pn	**Pn**	**21 29 41.0**	**+2.1**
IGT	**Igoumenitsa**	**2.14**	**3**	P	**Pb**	**21 29 41.6**	**-0.7**
IGT	**Igoumenitsa**	**2.14**	**3**	P	**Pb**	**21 29 41.6**	**-0.7**
MAKR	**Makrakomi, Fth**	**2.23**	**43**	*e*PN	**Pn**	**21 29 42.7**	**+2.3**
MAKR	**Makrakomi, Fth**	**2.23**	**43**	*e*Pn	**Pn**	**21 29 42.7**	**+2.3**
LTK	**Loutraki**	**2.31**	**73**	*e*PN	**Pn**	**21 29 43.1**	**+1.7**
LTK	**Loutraki**	**2.31**	**73**	*e*Pn	**Pn**	**21 29 43.1**	**+1.7**
JAN	**Janina**	**2.32**	**13**	*e*PN	**Pn**	**21 29 43.9**	**+2.4**
JAN	**Janina**	**2.32**	**13**	*e*Pn	**Pn**	**21 29 43.9**	**+2.4**
KEK	**Kerkira**	**2.33**	**353**	*e*PB	**Pb**	**21 29 44.5**	**-1.1**
KEK	**Kerkira**	**2.33**	**353**	*e*Pb	**Pb**	**21 29 44.5**	**-1.1**
AGG	**Agios Georgios**	**2.35**	**46**	*e*PB	**Pn**	**21 29 43.3**	**+1.3**
AGG	**Agios Georgios**	**2.35**	**46**	*e*Pn	**Pn**	**21 29 43.3**	**+1.3**
AXAR	**Agios Charalam**	**2.39**	**54**	P	**Pn**	**21 29 44.0**	**+1.4**
AXAR	**Agios Charalam**	**2.39**	**54**	P	**Pn**	**21 29 44.0**	**+1.4**
DID	**Didima**	**2.44**	**87**	*e*PB	**Pn**	**21 29 44.0**	**+0.7**
DID	**Didima**	**2.44**	**87**	*e*Pb	**Pn**	**21 29 44.0**	**+0.7**
KYTH	**Kithira**	**2.56**	**115**	*e*PN	**Pn**	**21 29 45.3**	**+0.5**
KYTH	**Kithira**	**2.56**	**115**	*e*Pn	**Pn**	**21 29 45.3**	**+0.5**
LKR	**Lokris**	**2.56**	**60**	*e*PN	**Pn**	**21 29 45.2**	**+0.3**
LKR	**Lokris**	**2.56**	**60**	*e*Pn	**Pn**	**21 29 45.2**	**+0.3**
VIL2	**Platees**	**2.59**	**71**	*e*PN	**Pn**	**21 29 46.5**	**+1.3**
THL	**Klokotos Trika**	**2.60**	**33**	P	**Pn**	**21 29 47.2**	**+1.8**
THL	**Klokotos Trika**	**2.60**	**33**	*e*PN	**Pn**	**21 29 47.0**	**+1.6**
THL				*e*SN	**Sn**	**21 30 18.1**	**+1.3**
THL	**Klokotos Trika**	**2.60**	**33**	*e*Pn	**Pn**	**21 29 47.0**	**+1.6**
VILL	**Villia**	**2.61**	**72**	*e*Pn	**Pn**	**21 29 46.5**	**+1.0**
NAIG	**Nisos Aigina**	**2.66**	**81**	*e*PN	**Pn**	**21 29 47.4**	**+1.2**
NAIG	**Nisos Aigina**	**2.66**	**81**	*e*Pn	**Pn**	**21 29 47.4**	**+1.2**
SMIA	**Simia**	**2.82**	**57**	*e*PN	**Pn**	**21 29 49.2**	**+0.8**
SMIA	**Simia**	**2.82**	**57**	*e*Pn	**Pn**	**21 29 49.2**	**+0.8**
ATH	**Athens Observa**	**2.87**	**77**	*e*PB	**Pn**	**21 29 50.8**	**+1.7**
ATH	**Athens Observa**	**2.87**	**77**	*e*Pb	**Pn**	**21 29 50.8**	**+1.7**
ANKY	**Antikythira Is**	**2.95**	**120**	*e*PN	**Pn**	**21 29 51.4**	**+1.3**
ANKY	**Antikythira Is**	**2.95**	**120**	*e*Pn	**Pn**	**21 29 51.4**	**+1.3**
PTL	**Penteli**	**3.00**	**76**	*e*PN	**Pn**	**21 29 51.8**	**+0.9**
PTL	**Penteli**	**3.00**	**76**	*e*Pn	**Pn**	**21 29 51.8**	**+0.9**
NEO	**Neokhori**	**3.07**	**51**	*e*PN	**Pn**	**21 29 52.4**	**+0.6**
NEO	**Neokhori**	**3.07**	**51**	*e*Pn	**Pn**	**21 29 52.4**	**+0.6**
SKIA	**Skiathos**	**3.14**	**55**	*e*PN	**Pn**	**21 29 54.4**	**+1.6**
SKIA	**Skiathos**	**3.14**	**55**	*e*Pn	**Pn**	**21 29 54.4**	**+1.6**
AOS	**Alonnisos**	**3.42**	**58**	*e*PN	**Pn**	**21 29 57.5**	**+0.9**
AOS	**Alonnisos**	**3.42**	**58**	*e*Pn	**Pn**	**21 29 57.5**	**+0.9**
BIA	**Bitola**	**3.73**	**14**	*e*Pg	**Pn**	**21 30 01.7**	**+0.8**
BIA	**Bitola**	**3.73**	**14**	*e*Pg	**Pn**	**21 30 01.7**	**+0.8**
VAV	**Valandovo**	**4.34**	**25**	*e*Pg	**Pn**	**21 30 09.2**	**0.0**
LAST	**Lasithi**	**4.84**	**116**	*e*PN	**Pn**	**21 30 18.4**	**+2.2**
LAST	**Lasithi**	**4.84**	**116**	*e*Pn	**Pn**	**21 30 18.4**	**+2.2**
STON	**Ston**	**5.79**	**342**	*e*Pn	**Pn**	**21 30 29.4**	**+0.3**
STON				Sn	**Sn**	**21 31 33.1**	**-2.0**
STON	**Ston**	**5.79**	**342**	*e*Pn	**Pn**	**21 30 29.4**	**+0.3**
IVAS	**Ivanjica**	**6.17**	**360**	*i* Pn	**Pn**	**21 30 35.6**	**+1.1**
BBLS	**Lazići**	**6.49**	**355**	*i* Pn	**Pn**	**21 30 40.3**	**+1.4**
GRUS	**Gruza**	**6.50**	**4**	*i* Pn	**Pn**	**21 30 38.9**	**0.0**
DIVS	**Divibare**	**6.70**	**359**	*i* Pn	**Pn**	**21 30 41.5**	**-0.2**
FGSL	**Fruska Gora**	**7.76**	**358**	*i* Pn	**Pn**	**21 30 55.1**	**-1.1**
UDBI	**Udbina**	**7.86**	**336**	*e*Pn	**Pn**	**21 30 58.9**	**+1.1**
UDBI				Sn	**Sn**	**21 32 25.1**	**-1.3**
UDBI	**Udbina**	**7.86**	**336**	*e*Pn	**Pn**	**21 30 58.8**	**+1.1**
UDBI				Sn	**Sn**	**21 32 25.1**	**-1.3**
NVLJ	**Novalja**	**8.20**	**332**	*e*Pn	**Pn**	**21 31 03.0**	**+0.7**
NVLJ				Sn	**Sn**	**21 32 33.1**	**-1.5**
NVLJ	**Novalja**	**8.20**	**332**	*e*Pn	**Pn**	**21 31 02.9**	**+0.7**
NVLJ				Sn	**Sn**	**21 32 33.1**	**-1.5**
BOJS	**Bojanci**	**8.90**	**337**	*e*Pn	**Pn**	**21 31 12.8**	**+1.0**
BOJS	**Bojanci**	**8.90**	**337**	*e*Pn	**Pn**	**21 31 12.8**	**+1.0**
GBRS	**Gornja Briga**	**9.06**	**335**	*e*Pn	**Pn**	**21 31 16.2**	**+2.0**
SOKA	**Soboth**	**10.03**	**339**	*i*Pn	**Pn**	**21 31 27.1**	**-0.3**
	SNR=5.1						
SOKA	**Soboth**	**10.03**	**339**	Pn	**Pn**	**21 31 27.1**	**-0.3**
	SNR=5.1						
MOA	**Molln**	**11.31**	**339**	*i*Pn	**Pn**	**21 31 45.3**	**+0.4**
	SNR=4.1						
MOA	**Molln**	**11.31**	**339**	Pn	**Pn**	**21 31 45.3**	**+0.4**
	SNR=4.1						
GERES	**GERESS Array B**	**12.37**	**340**	Pn	**Pn**	**21 31 59.7**	**+0.3**
	0.1nm,0.3s,baz=151,slow=12,SNR=3.3						
NB2	**NORSAR Subarra**	**24.33**	**349**	P	**P**	**21 34 20.9**	**+0.1**
	comp=Z,7.5nm,1.2s,baz=162,slow=9.3						
NB2	**NORSAR Subarra**	**24.33**	**349**	P	**P**	**21 34 20.9**	**+0.1**
	comp=Z,7.5nm,1.2s,SNR=3.2						
FINES	**FINESS Array B**	**24.35**	**7**	P	**P**	**21 34 20.1**	**-0.8**
	comp=Z,3.4nm,1.0s,baz=186,slow=11,SNR=5.1						
TORD	**Torodi Ar. Bea**	**29.25**	**219**	P	**P**	**21 35 06.7**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=27,slow=9.6,SNR=6.7						
ARCES	**ARCESS Array B**	**32.33**	**4**	P	**P**	**21 35 31.7**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=189,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**45.95**	**58**	P	**P**	**21 37 27.4**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=272,slow=7.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**46.42**	**48**	P	**P**	**21 37 28.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=270,slow=7.2,SNR=2.7						

*IDC **06** 21:49:41.6±10.0, 29.°11N×81.°07E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.3/28, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=203.7km s-min=72.0km az=136.0*

ISC 06 21:49:47.8±3.9, 29.°2N±0.°5×80.°6E±0.°2, h35km, n6, σ1§28/7, mb3.9/4, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.49**	**311**	*e*P	**Pn**	**21 49 57.0**	**-1.5**
PTH				eS	**Sn**	**21 50 06.

MSNA					*e*S	**Sn**	21 54 05.1	**+0.8**
MSNA					AML	AML	21 54 30.4	
	comp=Z,67nm,0.6s							
MSNA	**Messina**	**4.65**	**31**	*e*P		**Pn**	**21 53 11.9**	**+1.6**
MSNA					*e*S	**Sn**	**21 54 05.1**	**+0.8**
MATP	**Matopo**	**6.00**	**9**	Pn		**Pn**	**21 53 30.5**	**+1.5**
MATP					Sn	**Sn**	**21 54 37.0**	**-0.8**
MATP					Lg	Lg	21 55 05.2	
MATP	**Matopo**	**6.00**	**9**	Pn		**Pn**	**21 53 30.5**	**+1.5**
	comp=Z,4.9nm,0.3s,baz=188,slow=13,SNR=129							
MATP					Sn	**Sn**	**21 54 37.0**	**-0.8**
	comp=Z,4.3nm,0.3s,baz=105,slow=20,SNR=12							
MATP					Lg	Lg	21 55 05.2	
	comp=Z,13nm,0.3s,baz=101,slow=22,SNR=11							
SOE	**Somerset East**	**6.52**	**194**	*e*P		**Pn**	**21 53 37.5**	**+1.5**
SOE					*e*S	**Sn**	**21 54 47.9**	**-2.6**
SOE					AML	AML	21 55 20.8	
	comp=Z,26nm,0.5s							
SOE	**Somerset East**	**6.52**	**194**	*e*P		**Pn**	**21 53 37.5**	**+1.5**
SOE					*e*S	**Sn**	**21 54 47.9**	**-2.6**
GRM	**Grahamstown**	**6.96**	**187**	*e*P		**Pn**	**21 53 43.0**	**+0.9**
GRM					*e*S	**Sn**	**21 54 55.4**	**-5.8**
GRM					AML	AML	21 55 38.3	
	comp=Z,22nm,0.6s							
GRM	**Grahamstown**	**6.96**	**187**	*e*P		**Pn**	**21 53 43.0**	**+0.9**
GRM					*e*S	**Sn**	**21 54 55.4**	**-5.8**
BUFB	**Buffelsbos**	**8.09**	**196**	*e*P		**Pn**	**21 53 58.2**	**+0.7**
BUFB					*e*S	**Sn**	**21 55 24.7**	**-4.3**
BUFB					AML	AML	21 55 25.5	
	comp=Z,8.8nm,0.4s							
BUFB	**Buffelsbos**	**8.09**	**196**	*e*P		**Pn**	**21 53 58.2**	**+0.7**
BUFB					*e*S	**Sn**	**21 55 24.7**	**-4.3**
SUR	**Sutherland**	**8.33**	**223**	*e*Pn		**Pn**	**21 54 02.1**	**+1.2**
	comp=Z,24nm,0.6s							
SUR					*e*Sn	**Sn**	**21 55 31.3**	**-3.7**
SUR					Lg	Lg	21 56 19.7	
SUR	**Sutherland**	**8.33**	**223**	Pn		**Pn**	**21 54 01.9**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=54,slow=14,SNR=40							
SUR					Sn	**Sn**	**21 55 31.8**	**-3.2**
	comp=Z,2.9nm,0.3s,baz=20,slow=16,SNR=5.7							
SUR					Lg	Lg	21 56 19.7	
	comp=Z,7.2nm,0.3s,baz=323,slow=20,SNR=4.9							
KOMG	**Komaggas**	**9.44**	**247**	*e*P		**Pn**	**21 54 17.1**	**+1.1**
KOMG					*e*S	**Sn**	**21 55 57.1**	**-5.1**
KOMG					AML	AML	21 57 07.1	
	comp=Z,30nm,0.5s							
KOMG	**Komaggas**	**9.44**	**247**	*e*P		**Pn**	**21 54 17.1**	**+1.1**
KOMG					*e*S	**Sn**	**21 55 57.1**	**-5.1**
WIN	**Windhoek**	**10.16**	**290**	*e*P		Pn	21 54 29.7	+3.5
WIN					*e*S	**Sn**	**21 56 18.4**	**-1.9**
WIN					AML	AML	21 57 46.9	
	comp=Z,4.6nm,0.6s							
WIN	**Windhoek**	**10.16**	**290**	*e*P		Pn	21 54 29.7	+3.5
WIN					*e*S	**Sn**	**21 56 18.4**	**-1.9**
RUDU	**RUNDU**	**11.06**	**318**	*e*P		**Pn**	**21 54 38.3**	**0.0**
RUDU					*e*S	**Sn**	**21 56 37.8**	**-4.4**
RUDU					AML	AML	21 58 02.5	
	comp=Z,11nm,0.4s							
RUDU	**RUNDU**	**11.06**	**318**	*e*P		**Pn**	**21 54 38.3**	**0.0**
RUDU					*e*S	**Sn**	**21 56 37.8**	**-4.4**
LSZ	**Lusaka**	**11.07**	**4**	*e*Pn		**Pn**	**21 54 38.3**	**-0.2**
	comp=Z,5.6nm,0.8s							
LSZ					*e*Sn	**Sn**	**21 56 38.5**	**-3.9**
LSZ					Lg	Lg	21 57 43.3	
LSZ	**Lusaka**	**11.07**	**4**	Pn		**Pn**	**21 54 38.7**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=180,slow=13,SNR=14							
LSZ					Sn	**Sn**	**21 56 37.2**	**-5.1**
	comp=Z,1.9nm,0.3s,baz=126,slow=19,SNR=9.5							
LSZ					Lg	Lg	21 57 43.3	
	comp=Z,0.9nm,0.3s,baz=78,slow=21,SNR=3.7							
TSUM	**Tsumeb**	**11.57**	**306**	*e*P		**Pn**	**21 54 46.5**	**+1.1**
TSUM					*e*S	**Sn**	**21 56 52.4**	**-2.2**
TSUM	**Tsumeb**	**11.57**	**306**	*e*Pn		**Pn**	**21 54 46.7**	**+1.3**
	comp=Z,4.8nm,0.5s							
TSUM					Sn	**Sn**	**21 56 49.7**	**-5.0**
TSUM					*e*Sn	Sn	21 56 55.3	+0.5
TSUM					Lg	Lg	21 58 01.3	
TSUM	**Tsumeb**	**11.57**	**306**	Pn		**Pn**	**21 54 46.3**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=125,slow=11,SNR=30							
TSUM					Sn	**Sn**	**21 56 49.7**	**-5.0**
	comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=3.7							
TSUM					Lg	Lg	21 58 01.3	
	comp=Z,1.1nm,0.3s,baz=58,slow=21,SNR=4.8							
DBIC	**Dimbokro**	**45.40**	**312**	P		**P**	**22 00 20.2**	**+1.3**
DBIC	**Dimbokro**	**45.40**	**312**	P		**P**	**22 00 20.2**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=146,slow=7.3,SNR=3.8							
TORD	**Torodi Ar. Bea**	**46.60**	**324**	P		**P**	**22 00 29.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**46.60**	**324**	P		**P**	**22 00 29.6**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=123,slow=5.8,SNR=20							
ESDC	**Sonseca Array**	**71.95**	**335**	P		**P**	**22 03 25.7**	**+2.2**
ESDC	**Sonseca Array**	**71.95**	**335**	P		**P**	**22 03 25.7**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=154,slow=5.6,SNR=10							
AKASG	**Malin Array Be**	**76.75**	**1**	P		**P**	**22 03 52.3**	**+1.2**
AKASG	**Malin Array Be**	**76.75**	**1**	P		**P**	**22 03 52.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=188,slow=5.8,SNR=4.0							
FINES	**FINESS Array B**	**87.51**	**359**	P		**P**	**22 04 49.5**	**+2.2**
FINES	**FINESS Array B**	**87.51**	**359**	P		**P**	**22 04 49.5**	**+2.2**
	comp=Z,2.7nm,1.0s,baz=220,slow=5.0,SNR=4.5							
MKAR	**Makanchi Array**	**88.06**	**34**	P		**P**	**22 04 51.5**	**+1.2**
MKAR	**Makanchi Array**	**88.06**	**34**	P		**P**	**22 04 51.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=229,slow=4.8,SNR=7.1							

*IDC **06** 21:52:14.3±1.8, 52°.76N×171°.23E, h0km, mb3.2/5, mb1 3.5/6, mb1mx3.4/28, mbtmp3.2/6, ML3.3/1, Error ellipse: s-maj=66.2km s-min=13.4km az=3.0*
*ISCJB **06** 21:52:15.4±1.7, 52°.7N±0°.4×171°.17E±0°.08, h27km, mb3.1/5, Error ellipse: s-maj=59.9km s-min=6.8km az=178.5*
ISC 06 21:52:17.6±1.7,**52°.8N**±0°.5×**171°.33E**±0°.07,**h27**km,**n13,** σ1§**23**/8,**mb3.1**/5,**Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.11**	**87**	Pn	**Pn**	**21 52 36.6**	**-0.8**
	81nm,0.3s,baz=304,slow=1.7,SNR=152						
FX1				Sn	**Sn**	**21 52 51.2**	**-0.7**
	220nm,0.3s,baz=156,slow=20,SNR=44						
PETK	**Petropavlovsk-**	**8.23**	**277**	Pn	**Pn**	**21 54 15.2**	**0.0**
	0.4nm,0.3s,baz=94,slow=18,SNR=5.2						
PETK				Sn	**Sn**	**21 55 45.8**	**-1.5**
	0.2nm,0.3s,baz=72,slow=24,SNR=2.2						
ILAR	**Eielson Array**	**24.20**	**44**	P	**P**	**21 57 31.6**	**+0.1**
	0.7nm,1.0s,baz=257,slow=7.2,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**33.22**	**188**	T	T	22 34 10.2	
	baz=6.9,slow=76,SNR=63						
H11N3	**WAKE ISLAND Hy**	**33.23**	**188**	T	T	22 34 11.2	
	baz=6.9,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**33.24**	**188**	T	T	22 34 11.6	
	baz=6.9,slow=76,SNR=52						
H11S1	**WAKE ISLAND Hy**	**34.45**	**188**	T	T	22 35 48.1	
	baz=6.2,slow=78,SNR=71						
H11S3	**WAKE ISLAND Hy**	**34.46**	**188**	T	T	22 35 45.4	
	baz=6.2,slow=78,SNR=63						
H11S2	**WAKE ISLAND Hy**	**34.46**	**188**	T	T	22 35 47.4	
	baz=6.2,slow=78,SNR=67						
YKA	**Yellowknife Ar**	**38.61**	**46**	P	P	21 59 41.3	+3.4
	0.1nm,0.4s,baz=289,slow=9.5,SNR=2.4						
SONM	**Songino Array**	**40.48**	**290**	P	**P**	**21 59 55.4**	**+1.5**
	0.2nm,0.5s,baz=54,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**54.23**	**302**	P	**P**	**22 01 39.8**	**-0.8**
	0.1nm,0.7s,baz=36,slow=7.2,SNR=2.9						
TXAR	**Lajitas Array**	**64.31**	**75**	P	**P**	**22 02 51.8**	**+1.2**
	0.3nm,0.4s,baz=302,slow=6.0,SNR=9.3						

*ATH **06** 22:02:03.7, 40°.45N×19°.74E, h6km±1km, MD3.5/36*
*TIR **06** 22:02:04.3±1.3, 40°.37N×19°.96E, h0km±10km, ML3.3*
*CSEM **06** 22:02:06.7±0.2, 40°.36N×19°.91E, h2km, ML3.3, Error ellipse: s-maj=5.0km s-min=3.1km az=71.0*
*THE **06** 22:02:06.1, 40°.40N×19°.94E, h0km±1km, ML2.8/5, Error ellipse: s-maj=1.8km s-min=0.6km az=282.0*
*BEO **06** 22:02:06.9±2.2, 40°.35N×19°.72E, h5km±1km, ML2.7/8*
ISC 06 22:02:06.4±1.1,**40°.36N**±0°.02×**19°.93E**±0°.02,**h5**km±9km, **n130,** σ1§**24**/173,**2D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.48**	**173**	*e*PG	**Pg**	**22 02 15.3**	**-0.3**
SRN				*e*SG	**Sb**	**22 02 24.1**	**-0.6**
SRN	**Sarande**	**0.48**	**173**	P	**Pg**	**22 02 15.6**	**-0.1**
SRN				S	**Sb**	**22 02 24.1**	**-0.6**
SRN	**Sarande**	**0.48**	**173**	P	**Pg**	**22 02 15.6**	**-0.1**
SRN				S	**Sb**	**22 02 24.1**	**-0.6**
KEK	**Kerkira**	**0.65**	**189**	P	**Pg**	**22 02 19.0**	**+0.1**
KEK				S	**Sb**	**22 02 29.9**	**+0.3**
KEK	**Kerkira**	**0.65**	**189**	*e*PB	**Pg**	**22 02 18.2**	**-0.7**
KEK	**Kerkira**	**0.65**	**189**	*e*Pb	**Pg**	**22 02 18.2**	**-0.7**
KEK	**Kerkira**	**0.65**	**189**	P	**Pg**	**22 02 19.0**	**+0.1**
KEK				S	**Sb**	**22 02 29.9**	**+0.3**
KBN	**Korca**	**0.71**	**68**	*e*PG	**Pg**	**22 02 19.6**	**-0.4**
KBN				*e*SG	**Sb**	**22 02 31.0**	**-0.4**
KBN	**Korca**	**0.71**	**68**	P	**Pg**	**22 02 18.9**	**-1.1**
KBN				S	**Sg**	**22 02 29.8**	**+0.6**
NEST	**Nestorio**	**0.86**	**86**	P	**Pg**	**22 02 21.7**	**-1.2**
NEST				S	**Sg**	**22 02 34.6**	**+0.5**
NEST	**Nestorio**	**0.86**	**86**	*e*PB	**Pg**	**22 02 22.6**	**-0.3**
NEST	**Nestorio**	**0.86**	**86**	*e*Pb	**Pg**	**22 02 22.6**	**-0.3**
IGT	**Igoumenitsa**	**0.88**	**159**	P	**Pg**	**22 02 22.8**	**-0.5**
IGT				S	**Sb**	**22 02 36.2**	**0.0**
IGT	**Igoumenitsa**	**0.88**	**159**	*e*PB	**Pg**	**22 02 23.0**	**-0.3**
IGT				*e*SB	**Sn**	**22 02 37.5**	**-1.1**
IGT	**Igoumenitsa**	**0.88**	**159**	P	**Pg**	**22 02 22.8**	**-0.5**
IGT				S	**Sb**	**22 02 36.2**	**0.0**
IGT				*e*Sb	**Sn**	**22 02 37.5**	**-1.1**
JAN	**Janina**	**1.00**	**134**	P	**Pg**	**22 02 24.8**	**-0.7**
JAN				S	**Sb**	**22 02 40.1**	**+0.5**
JAN	**Janina**	**1.00**	**134**	*e*PB	**Pg**	**22 02 24.6**	**-0.9**
JAN				*e*SB	**Sn**	**22 02 41.2**	**-0.3**
JAN	**Janina**	**1.00**	**134**	P	**Pg**	**22 02 24.8**	**-0.7**
JAN				S	**Sb**	**22 02 40.1**	**+0.5**
JAN				*e*Sb	**Sn**	**22 02 41.2**	**-0.3**
MEV	**Metsovon**	**1.15**	**119**	P	**Pb**	**22 02 27.6**	**-1.3**
MEV	**Metsovon**	**1.15**	**119**	P	**Pb**	**22 02 27.6**	**-1.3**
FNA	**Florina**	**1.18**	**68**	P	**Pb**	**22 02 27.9**	**-1.5**
FNA				S	**Sb**	**22 02 44.7**	**-0.3**
FNA	**Florina**	**1.18**	**68**	*e*PG	**Pb**	**22 02 27.8**	**-1.6**
FNA				*e*SB	**Sn**	**22 02 45.6**	**-0.6**
FNA	**Florina**	**1.18**	**68**	P	**Pb**	**22 02 27.9**	**-1.5**
FNA				S	**Sb**	**22 02 44.7**	**-0.3**
FNA				*e*Sb	**Sn**	**22 02 45.6**	**-0.6**
BIA	**Bitola**	**1.25**	**58**	P	**Pn**	**22 02 28.9**	**-1.7**
BIA				S	**Sb**	**22 02 46.7**	**-0.3**
BIA	**Bitola**	**1.25**	**58**	*e*Pn	**Pn**	**22 02 29.1**	**-1.5**
BIA				*e*Sn	**Sn**	**22 02 49.2**	**+1.4**
BIA	**Bitola**	**1.25**	**58**	P	**Pn**	**22 02 28.9**	**-1.7**
BIA				S	**Sb**	**22 02 46.7**	**-0.3**
BIA				*e*Sn	**Sn**	**22 02 49.2**	**+1.4**
PHP	**Peshkopia**	**1.38**	**16**	*e*PN	**Pg**	**22 02 34.1**	**+1.2**
PHP				*e*SN	**Sg**	**22 02 55.1**	**+4.3**
PHP	**Peshkopia**	**1.38**	**16**	P	**Pn**	**22 02 31.6**	**-0.8**
PHP				S	**Sg**	**22 02 50.6**	**-0.2**
PHP	**Peshkopia**	**1.38**	**16**	P	**Pn**	**22 02 31.6**	**-0.8**
PHP	**Peshkopia**	**1.38**	**16**	*e*Pn	**Pg**	**22 02 34.1**	**+1.2**
	SNR=40						
PHP				S	**Sg**	**22 02 50.6**	**-0.2**
KZN	**Kozani**	**1.41**	**91**	P	**Pb**	**22 02 32.8**	**-0.4**
KZN	**Kozani**	**1.41**	**91**	*e*PB	**Pg**	**22 02 33.4**	**-0.1**
KZN	**Kozani**	**1.41**	**91**	P	**Pb**	**22 02 32.8**	**-0.4**
KZN	**Kozani**	**1.41**	**91**	*e*Pb	**Pg**	**22 02 33.4**	**-0.1**
PUK	**Puka**	**1.68**	**359**	*e*PN	**Pg**	**22 02 38.1**	**-0.6**
PUK				*e*SN	**Sg**	**22 03 02.5**	**+2.0**
PUK	**Puka**	**1.68**	**359**	*e*Pn	**Pg**	**22 02 38.1**	**-0.6**
	SNR=40						
THL	**Klokotos Trika**	**1.79**	**116**	P	**Pn**	**22 02 37.9**	**0.0**
THL				S	**Sb**	**22 03 02.7**	**+0.3**
THL	**Klokotos Trika**	**1.79**	**116**	*e*PN	**Pb**	**22 02 38.9**	**-0.7**
THL				*e*SN	**Sg**	**22 03 05.9**	**+2.0**
THL	**Klokotos Trika**	**1.79**	**116**	P	**Pn**	**22 02 37.9**	**0.0**
THL	**Klokotos Trika**	**1.79**	**116**	*e*Pn	**Pb**	**22 02 38.9**	**-0.7**
THL				S	**Sb**	**22 03 02.7**	**+0.3**
THL				*e*Sn	**Sg**	**22 03 05.9**	**+2.0**
SKO	**Skopje**	**1.98**	**35**	*e*Pn	**Pb**	**22 02 42.1**	**-0.7**
SKO	**Skopje**	**1.98**	**35**	*e*Pn	**Pb**	**22 02 42.1**	**-0.7**
LIT	**Litokhoron**	**1.98**	**97**	*e*PN	**Pb**	**22 02 42.2**	**-0.7**
LIT				*e*SN	**Sg**	**22 03 09.3**	**-0.7**
LIT	**Litokhoron**	**1.98**	**97**	*e*Pn	**Pb**	**22 02 42.2**	**-0.7**
LIT				*e*Sn	**Sg**	**22 03 09.3**	**-0.7**
BCI	**Bajram Curri**	**2.01**	**3**	*e*PN	**Pb**	**22 02 43.0**	**-0.4**
BCI				*e*SN	**Sg**	**22 03 12.5**	**+1.5**
BCI	**Bajram Curri**	**2.01**	**3**	*e*Pn	**Pb**	**22 02 43.0**	**-0.4**
	SNR=40						
PDO	**Prodromos**	**2.01**	**151**	*e*PN	**Pb**	**22 02 41.9**	**-1.5**
PDO	**Prodromos**	**2.01**	**151**	*e*Pn	**Pb**	**22 02 41.9**	**-1.5**
EVR	**Evrytania**	**2.05**	**134**	*e*PN	**Pb**	**22 02 43.8**	**-0.3**
EVR	**Evrytania**	**2.05**	**134**	*e*Pn	**Pb**	**22 02 43.8**	**-0.3**
PDG	**Podgorica**	**2.13**	**347**	*e*Pn	**Pb**	**22 02 43.1**	**-2.4**
PDG	**Podgorica**	**2.13**	**347**	*e*Pn	**Pb**	**22 02 43.1**	**-2.4**
MAKR	**Makrakomi, Fth**	**2.17**	**128**	*e*PN	**Pb**	**22 02 45.7**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.17**	**128**	*e*Pn	**Pb**	**22 02 45.7**	**-0.4**
VAY	**Valandovo**	**2.22**	**64**	*i*Pn	**Pb**	**22 02 46.4**	**-0.7**
VAY	**Valandovo**	**2.22**	**64**	*e*Pn	**Pb**	**22 02 46.7**	**-0.4**
VAY	**Valandovo**	**2.22**	**64**	*i*Pn	**Pb**	**22 02 46.4**	**-0.7**
VLS	**Valsamata**	**2.24**	**166**	*e*PN	**Pn**	**22 02 44.7**	**+0.6**
VLS	**Valsamata**	**2.24**	**166**	*e*Pn	**Pn**	**22 02 44.7**	**+0.6**
AGG	**Agios Georgios**	**2.29**	**125**	*e*PN	**Pb**	**22 02 46.9**	**-1.2**
AGG	**Agios Georgios**	**2.29**	**125**	*e*Pn	**Pb**	**22 02 46.9**	**-1.2**
THE	**Thessaloniki**	**2.33**	**82**	*e*PN	**Pb**	**22 02 46.9**	**-2.0**
THE	**Thessaloniki**	**2.33**	**82**	*e*Pn	**Pb**	**22 02 46.9**	**-2.0**
KNT	**Kendrikon**	**2.40**	**69**	*e*PB	**Pn**	**22 02 46.5**	**+0.2**
KNT				*e*SN	**Sb**	**22 03 18.9**	**-0.9**
KNT	**Kendrikon**	**2.40**	**69**	*e*Pb	**Pn**	**22 02 46.5**	**+0.2**
KNT				*e*Sn	**Sb**	**22 03 18.9**	**-0.9**
HORT	**Hortiatis**	**2.43**	**83**	*e*PB	**Pn**	**22 02 47.5**	**+0.6**
HORT	**Hortiatis**	**2.43**	**83**	*e*Pb	**Pn**	**22 02 47.5**	**+0.6**
RLS	**Riolos of Patr**	**2.59**	**152**	*e*PB	**Pn**	**22 02 50.0**	**+1.1**
RLS	**Riolos of Patr**	**2.59**	**152**	*e*Pb	**Pn**	**22 02 50.0**	**+1.1**
KALE	**Kalithea**	**2.61**	**138**	*e*PN	**Pn**	**22 02 50.9**	**+1.7**
KALE	**Kalithea**	**2.61**	**138**	*e*Pn	**Pn**	**22 02 50.9**	**+1.7**
LAKA	**Lakka**	**2.65**	**142**	*e*PB	**Pn**	**22 02 51.2**	**+1.4**
LAKA	**Lakka**	**2.65**	**142**	*e*Pb	**Pn**	**22 02 51.2**	**+1.4**
SOH	**Sokhos**	**2.65**	**79**	*e*PN	**Pn**	**22 02 51.4**	**+1.6**
SOH	**Sokhos**	**2.65**	**79**	*e*Pn	**Pn**	**22 02 51.4**	**+1.6**
PLG	**Polygyros**	**2.69**	**89**	*e*PB	**Pn**	**22 02 52.0**	**+1.7**
PLG				*e*SN	**Sb**	**22 03 26.3**	**-2.0**
PLG	**Polygyros**	**2.69**	**89**	*e*Pb	**Pn**	**22 02 52.0**	**+1.7**
PLG				*e*Sn	**Sb**	**22 03 26.3**	**-2.0**
NEO	**Neokhori**	**2.75**	**111**	*e*PN	**Pb**	**22 02 53.9**	**-2.1**
NEO	**Neokhori**	**2.75**	**111**	*e*Pn	**Pb**	**22 02 53.9**	**-2.1**
DRO	**Drossia**	**2.77**	**149**	*e*PB	**Pn**	**22 02 52.2**	**+0.7**
DRO	**Drossia**	**2.77**	**149**	*e*Pb	**Pn**	**22 02 52.2**	**+0.7**
DSF	**Desfina**	**2.80**	**133**	*e*PB	**Pn**	**22 02 52.8**	**+0.9**
DSF	**Desfina**	**2.80**	**133**	*e*Pb	**Pn**	**22 02 52.8**	**+0.9**
KLV	**Kalavryta, Ach**	**2.89**	**143**	*e*PN	**Pn**	**22 02 54.6**	**+1.5**
KLV	**Kalavryta, Ach**	**2.89**	**143**	*e*Pn	**Pn**	**22 02 54.6**	**+1.5**
SRS	**Serrai**	**2.89**	**74**	*e*PB	**Pb**	**22 02 55.7**	**-2.7**
SRS	**Serrai**	**2.89**	**74**	*e*Pb	**Pb**	**22 02 55.7**	**-2.7**
SJES	**Sjenica**	**2.90**	**1**	*e*Pn	**Pn**	**22 02 53.8**	**+0.5**
SJES	**Sjenica**	**2.90**	**1**	*e*Pn	**Pn**	**22 02 53.8**	**+0.5**
PAIG	**Paliouri**	**2.91**	**97**	*e*PB	**Pb**	**22 02 55.9**	**-2.8**
PAIG	**Paliouri**	**2.91**	**97**	*e*Pb	**Pb**	**22 02 55.9**	**-2.8**
LKR	**Lokris**	**2.93**	**125**	*e*PB	**Pn**	**22 02 55.7**	**+2.2**
LKR	**Lokris**	**2.93**	**125**	*e*Pb	**Pn**	**22 02 55.7**	**+2.2**
SMIA	**Simia**	**2.93**	**119**	*e*PB	**Pb**	**22 02 57.2**	**-2.0**
SMIA	**Simia**	**2.93**	**119**	*e*Pb	**Pb**	**22 02 57.2**	**-2.0**
SELS	**Selova**	**3.00**	**17**	*e*Pn	**Pn**	**22 02 54.7**	**+1.8**
STON	**Ston**	**3.02**	**327**	*i*Pn	**Pn**	**22 02 54.2**	**-0.6**
STON				Sn	**Sn**	**22 03 31.3**	**0.0**
STON	**Ston**	**3.02**	**327**	*i*Pn	**Pn**	**22 02 54.2**	**-0.6**
STON	**Ston**	**3.02**	**327**	*i*Pn	**Pn**	**22 02 54.2**	**-0.6**
STON				Sn	**Sn**	**22 03 31.2**	**0.0**
GUR	**Goura**	**3.06**	**141**	*e*PN	**Pn**	**22 02 56.6**	**+1.1**
GUR	**Goura**	**3.06**	**141**	*e*Pn	**Pn**	**22 02 56.6**	**+1.1**
AMT	**Artemida-Makis**	**3.15**	**153**	*e*PN	**Pn**	**22 02 58.1**	**+1.5**
AMT	**Artemida-Makis**	**3.15**	**153**	*e*Pn	**Pn**	**22 02 58.1**	**+1.5**
NVR	**Nevrokopi**	**3.15**	**70**	*e*PB	**Pn**	**22 02 58.2**	**+1.6**
NVR				*e*SN	**Sn**	**22 03 37.1**	**+2.6**
NVR	**Nevrokopi**	**3.15**	**70**	*e*Pb	**Pn**	**22 02 58.2**	**+1.6**
NVR				*e*Sn	**Sn**	**22 03 37.1**	**+2.6**
IVAS	**Ivanjica**	**3.22**	**3**	*e*Pn	**Pn**	**22 02 57.9**	**+0.2**
IVAS	**Ivanjica**	**3.22**	**3**	*e*Pn	**Pn**	**22 02 57.9**	**+0.2**
LTK	**Loutraki**	**3.32**	**134**	*e*PB	Pn	22 03 01.9	+2.9
LTK	**Loutraki**	**3.32**	**134**	*e*Pb	Pn	22 03 01.9	+2.9
VTS	**Vitosha**	**3.33**	**47**	*e*Pn	Pn	22 03 01.8	+2.6
VTS	**Vitosha**	**3.33**	**47**	*e*Pn	Pn	22 03 01.8	+2.6
BBLS	**Lazići**	**3.53**	**354**	*e*Pn	**Pn**	**22 03 02.5**	**+0.6**
BBLS	**Lazići**	**3.53**	**354**	*e*Pn	**Pn**	**22 03 02.5**	**+0.6**
ITM	**Ithomi**	**3.54**	**153**	*e*PN	**Pn**	**22 03 03.1**	**+1.1**
ITM	**Ithomi**	**3.54**	**153**	*e*Pn	**Pn**	**22 03 03.1**	**+1.1**
VLX	**Vlachokerasia**	**3.54**	**147**	*e*PN	**Pn**	**22 03 03.2**	**+1.0**
VLX	**Vlachokerasia**	**3.54**	**147**	*e*Pn	**Pn**	**22 03 03.2**	**+1.0**
ZAPS	**Zavoj**	**3.55**	**34**	*e*Pn	**Pn**	**22 03 03.9**	**+1.8**
DIVS	**Divibare**	**3.74**	**1**	*e*Pn	**Pn**	**22 03 06.1**	**+1.3**
DIVS	**Divibare**	**3.74**	**1**	*e*Pn	**Pn**	**22 03 06.1**	**+1.3**
DID	**Didima**	**3.84**	**137**	*e*PN	**Pn**	**22 03 07.4**	**+1.2**
DID	**Didima**	**3.84**	**137**	*e*Pn	**Pn**	**22 03 07.4**	**+1.2**
UDBI	**Udbina**	**5.18**	**325**	*i*Pn	**Pn**	**22 03 26.1**	**+1.4**
UDBI				Sn	**Sn**	**22 04 25.8**	**+1.1**
UDBI	**Udbina**	**5.18**	**325**	*i*Pn	**Pn**	**22 03 26.0**	**+1.4**
UDBI				Sn	**Sn**	**22 04 25.8**	**+1.1**
NVLJ	**Novalja**	**5.62**	**320**	*i*Pn	**Pn**	**22 03 31.1**	**+0.4**
NVLJ				Sn	**Sn**	**22 04 33.8**	**-1.8**
NVLJ	**Novalja**	**5.62**	**320**	*i*Pn	**Pn**	**22 03 31.0**	**+0.4**
NVLJ				Sn	**Sn**	**22 04 33.7**	**-1.8**
BOJS	**Bojanci**	**6.18**	**328**	*e*Pn	**Pn**	**22 03 38.5**	**+0.2**
BOJS	**Bojanci**	**6.18**	**328**	Pn	**Pn**	**22 03 38.5**	**+0.2**
CRES	**Cresnjev**	**6.37**	**331**	*e*Pn	**Pn**	**22 03 40.8**	**-0.1**
CRES	**Cresnjev**	**6.37**	**331**	*e*Pn	**Pn**	**22 03 40.8**	**-0.1**

*IDC **06** 22:12:50.8±1.1, 4°.49S×136°.98E, h0km, mb4.0/4, mb1 4.2/8, mb1mx4.0/20, mbtmp4.1/8, ML3.9/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/30, Error ellipse: s-maj=33.6km s-min=23.7km az=77.0*
*ISCJB **06** 22:12:53.9±0.5, 4°.56S±0°.05×137°.04E±0°.07, h33km, mb3.9/6, Error ellipse: s-maj=9.4km s-min=6.6km az=1.9*
*NEIC **06** 22:12:55.6±0.5, 4°.58S×136°.99E, h35km, mb4.0/4, Error ellipse: s-maj=12.1km s-min=7.5km az=70.0*
*AUST **06** 22:12:55.0±0.0, 4°.41S×137°.03E, h70km, Error ellipse: s-maj=1.2km s-min=1.0km az=316.0*
ISC 06 22:12:55.7±0.6,**4.70S**±0°.06×**137°.01E**±0°.06,**h35**km,**n32,** σ1§**77**/40,**mb4.0**/6,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.28**	**60**	P	**Pn**	**22 13 59.2**	**+0.7**
	baz=4.1,SNR=4.0						
FAKI	**Fak Fak**	**5.07**	**290**	P	**Pn**	**22 14 09.8**	**+0.4**
	baz=5.0,SNR=15	

KRER Koryakskii 0.83 314 *e*P **Pn 22 31 59.6 0.0**
KOK Koryaka 0.88 310 *e*P **Pn 22 32 00.2 +0.2**
KOK *e*S **Sn 22 32 12.5 +0.6**
KRX Arik 0.92 314 *e*P **Pn 22 32 00.4 -0.2**
MTVR Mutnovka 0.99 256 *e*P **Pn 22 32 02.0 +0.4**
GRL Gorelyy 1.04 261 *e*P **Pn 22 32 02.9 +0.7**
GRL *e*S **Sn 22 32 17.1 +1.2**
ASAK Asacha 1.19 254 *e*P **Pn 22 32 05.1 +1.0**
ASAK *e*S **Sn 22 32 21.1 +1.8**
PEA0B Petropavlovsk- 1.30 288 *e*Pn **Pn 22 32 05.9 +0.3**
PEA0B *e*Sn **Sn 22 32 21.1 -0.9**
PETK Petropavlovsk- 1.30 288 PN **Pn 22 32 06.0 +0.4**
PETK S **Sn 22 32 22.8 +0.9**
PETK Petropavlovsk- 1.30 288 P **Pn 22 32 06.0 +0.4**
PETK S **Sn 22 32 22.8 +0.9**
PETK Petropavlovsk- 1.30 288 P **Pn 22 32 06.0 +0.4**
comp=N,2µm,0.3s,baz=88,slow=19
PETK S **Sn 22 32 22.8 +0.9**
comp=N,718nm,0.3s,baz=98,slow=21,SNR=14
GNL Ganaly 1.46 312 *e*P **Pn 22 32 08.4 +0.6**
GNL *e*S **Sn 22 32 26.4 +0.6**
APC Apacha 1.59 278 *e*P **Pn 22 32 10.8 +1.3**
APC *e*S **Sn 22 32 29.4 +0.5**
MIPR Malaya Ipel'ka 1.89 257 *e*P **Pn 22 32 15.3 +1.7**
MKZ Mys Kozlova 2.17 32 PN **Pn 22 32 15.9 -1.5**
MKZ S **Sn 22 32 39.7 -3.4**
MKZ Mys Kozlova 2.17 32 *e*P **Pn 22 32 15.9 -1.5**
MKZ *e*S **Sn 22 32 39.7 -3.4**
PAU Pauzhetka 2.22 236 PN **Pn 22 32 19.9 +1.8**
PAU S **Sn 22 32 46.9 +2.7**
PAU Pauzhetka 2.22 236 *e*P **Pn 22 32 19.9 +1.8**
PAU *e*S **Sn 22 32 46.9 +2.7**
KZV Kizimen 2.41 7 *e*P **Pn 22 32 20.9 +0.1**
KZV *e*S **Sn 22 32 49.5 +0.4**
TUMR Tumrok 2.56 5 *e*P **Pn 22 32 23.6 +0.7**
TUMR *e*S **Sn 22 32 54.1 +1.1**
KMNR Kamenistaya 3.04 5 *e*P **Pn 22 32 30.5 +1.1**
KMNR *e*S **Sn 22 33 06.4 +1.8**
SKR Severo-Kuril's 3.06 229 ⇑*i*PN **Pn 22 32 31.4 +1.8**
SKR *i*S **Sn 22 33 07.4 +2.5**
SKR pmax pmax
comp=Z,113nm,0.6s
SKR Severo-Kuril's 3.06 229 *e*P **Pn 22 32 31.0 +1.4**
SKR *e*S **Sn 22 33 06.1 +1.2**
BZMR Bezymyannaya 3.24 7 *e*P **Pn 22 32 33.2 +1.0**
KIRR Kirishev 3.24 6 *e*P **Pn 22 32 34.4 +2.1**
KIRR *e*S **Sn 22 33 12.7 +3.0**
KPT Kopyto 3.25 5 *e*P **Pn 22 32 33.5 +1.2**
KPT *e*S **Sn 22 33 11.2 +1.5**
ESO Esso 3.26 349 PN **Pn 22 32 33.1 +0.8**
ESO Esso 3.26 349 *e*P **Pn 22 32 33.1 +0.8**
BZGR Bezymyannyi-Gr 3.26 9 *e*P **Pn 22 32 33.9 +1.5**
BZGR *e*S **Sn 22 33 12.2 +2.2**
BZWR Bezymyannyi-We 3.27 7 *e*P **Pn 22 32 33.8 +1.2**
BZWR *e*S **Sn 22 33 12.6 +2.4**
KOZ Kozyrevsk 3.33 1 *e*P **Pn 22 32 35.4 +2.1**
KOZR Kozyr 3.34 1 PN **Pn 22 32 35.4 +1.9**
ZLN Zelenaya 3.35 10 *e*P **Pn 22 32 35.8 +2.2**
ZLN *e*S **Sn 22 33 14.4 +2.3**
LGNR Loginova 3.40 9 *e*P Pn 22 32 37.3 +2.8
LGNR *e*S **Sn 22 33 16.0 +2.3**
CIRR Tsirk 3.44 9 *e*P **Pn 22 32 36.8 +1.9**
KRSR Krestovskiy 3.52 7 *e*P **Pn 22 32 36.8 +0.8**
KRSR *e*S **Sn 22 33 16.4 0.0**
SRDR Sredinnyy 3.59 360 *e*P **Pn 22 32 37.8 +0.9**
KLY Klyuchi 3.62 8 *e*S **Sn 22 33 21.8 +3.0**
KBTR Krutoberegovo 3.91 26 PN **Pn 22 32 42.6 +1.3**
KBTR S **Sn 22 33 25.1 -0.8**
KBTR Krutoberegovo 3.91 26 *e*P **Pn 22 32 42.6 +1.3**
KBTR *e*S **Sn 22 33 25.1 -0.8**
KBG Krutoberegovo 3.92 25 PN Pn 22 32 44.1 +2.7
KBG S **Sn 22 33 28.3 +2.2**
KBG Krutoberegovo 3.92 25 *e*P Pn 22 32 44.1 +2.7
KBG *e*S **Sn 22 33 28.3 +2.2**
BDR Baidarnaya 3.93 12 *e*P **Pn 22 32 43.8 +2.2**
BDR *e*S **Sn 22 33 28.7 +2.2**
SMKR Semkarok 3.98 14 *e*P **Pn 22 32 44.0 +1.7**
SMKR *e*S **Sn 22 33 28.5 +0.8**
SRKR Sorokina 4.01 11 *e*P **Pn 22 32 44.7 +2.0**
SRKR *e*S **Sn 22 33 30.9 +2.5**
BKI Bering 4.42 54 PN **Pn 22 32 47.6 -0.7**
BKI Bering 4.42 54 *e*P **Pn 22 32 47.6 -0.7**
BKI *e*S Sn 22 33 32.4 -6.0
FX1 Attu Island--F 8.13 84 *e*Pn **Pn 22 33 39.0 0.0**
FX1 *e*Sn **Sn 22 35 03.6 -5.8**
FX1 Attu Island--F 8.13 84 P **Pn 22 33 39.3 +0.3**
comp=Z,27nm,0.3s,baz=302,slow=6.7,SNR=89
FX1 S Sn 22 35 02.8 -6.6
comp=Z,24nm,0.3s,baz=348,slow=15,SNR=8.1
ASAJ Asahikawa 14.26 240 *e*Pn **Pn 22 35 04.3 +1.7**
ASAJ Asahikawa 14.26 240 P **Pn 22 35 03.9 +1.3**
comp=Z,3.7nm,0.3s,baz=57,slow=10,SNR=28
ASAJ LR LR 22 40 23.5
comp=Z,111nm,19.3s,baz=348,slow=36
ERM Erimo 15.50 233 *c e*P **Pn 22 35 16.4 -2.3**
ERM pmax pmax
comp=Z,38nm,1.7s
ERM Erimo 15.50 233 *e*Pn **Pn 22 35 16.5 -2.3**
comp=Z,178nm,1.4s
KLR Kul'dur 17.93 270 *e*P **Pn 22 35 46.8 -2.3**
YAK Yakutsk 18.52 312 *e*P **P 22 35 55.7 +0.2**
YAK pmax pmax
comp=Z,48nm,0.8s
YAK Yakutsk 18.52 312 *e*Pn **P 22 35 54.0 -1.6**
comp=Z,44nm,0.7s
USRK Ussuriysk Arra 20.19 256 P **P 22 36 12.8 -1.1**
comp=Z,11nm,0.8s,baz=50,slow=12,SNR=18
USRK LR LR 22 44 58.7
comp=Z,94nm,19.0s,baz=174,slow=39
TNA Tin City 20.66 39 *e*Pn **P 22 36 20.0 +1.2**
comp=Z,9.9nm,0.8s
MDJ Mudanjiang 21.39 260 P **P 22 36 28.0 +1.3**
MDJ pP **pP 22 36 38.0 -0.7**
MDJ sP **sP 22 36 43.4 -1.8**
MDJ S **S 22 40 23.8 +2.7**
MDJ sS **sS 22 40 40.6 +0.2**
MDJ ScP **ScP 22 44 04.0 +3.2**
MDJ PcS **PcS 22 44 08.4 +1.8**
MDJ pmax pmax
comp=Z,9.0nm,2.2s
MDJ pmax pmax
comp=Z,250nm,5.0s
MAJO Matsushiro 22.16 232 *i*P **P 22 36 35.2 0.0**
MAJO Matsushiro 22.16 232 *e*P **P 22 36 36.5 +1.4**
MAT Matsushiro 22.16 232 P **P 22 36 35.7 +0.5**
MJAR Matsushiro Arr 22.16 232 P **P 22 36 35.6 +0.5**
MJAR Matsushiro Arr 22.16 232 P **P 22 36 35.6 +0.5**
comp=Z,6.6nm,0.6s,baz=16,slow=12,SNR=23
MJAR LR LR 22 45 13.2
comp=Z,12nm,20.5s,baz=80,slow=36
TIXI Tiksi 23.32 336 *i*P **P 22 36 45.3 -1.5**
TIXI Tiksi 23.32 336 *e*P **P 22 36 44.3 -2.5**
comp=Z,7.9nm,0.6s
CN2 Changchun 24.32 262 *e*P **P 22 36 56.2 -0.1**
CN2 *e*sP **sP 22 37 15.0 -0.7**
CN2 *e*S **S 22 41 08.5 -3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,500nm,14.0s
HIA Hailar 25.19 278 *e*P **P 22 37 02.0 -2.1**
comp=Z,13nm,0.6s
IM04 Indian Mountai 26.39 42 *e*P **P 22 37 14.5 -0.3**
IM04 *e*PcP **PcP 22 40 39.2 +0.3**
RSO Redoubt South 26.73 54 *e*P **P 22 37 17.0 -1.2**
KSRS Korea Array 26.89 248 P **P 22 37 19.6 0.0**
comp=Z,2.5nm,0.5s,baz=42,slow=9.4,SNR=7.6
KSRS LR LR 22 47 01.8
comp=Z,43nm,19.3s,baz=40,slow=34
KSAR Wonju Array Be 26.92 248 P **P 22 37 19.6 -0.3**
TRF Thorofare Moun 27.75 48 *e*P **P 22 37 27.0 -0.2**
comp=Z,168nm,2.7s
COLD Coldfoot 27.96 40 *e*P **P 22 37 28.7 -0.2**
comp=Z,56nm,2.7s
JNU Nakatsue 28.53 238 *e*P **P 22 37 35.8 +1.5**
comp=Z,115nm,2.8s
JNU Nakatsue 28.53 238 P **P 22 37 36.5 +2.2**
comp=Z,9.6nm,0.7s,baz=166,slow=21,SNR=6.3
JNU LR LR 22 48 38.0
comp=Z,80nm,18.2s,baz=46,slow=36
ILAR Eielson Array 29.21 45 P **P 22 37 39.1 -0.9**
ILAR Eielson Array 29.21 45 P **P 22 37 39.1 -0.9**
comp=Z,1.1nm,0.4s,baz=262,slow=5.1,SNR=31
ULN Ulaanbaatar 33.38 283 *e*P **P 22 38 15.7 -1.3**
comp=Z,3.3nm,1.0s
H11N2 WAKE ISLAND Hy 33.40 168 T T 23 14 02.2
baz=354,slow=76,SNR=2294
H11N3 WAKE ISLAND Hy 33.42 168 T T 23 14 03.3
baz=354,slow=76,SNR=730
H11N1 WAKE ISLAND Hy 33.42 168 T T 23 14 03.5
baz=354,slow=76,SNR=1185
SONM Songino Array 33.79 284 P **P 22 38 18.6 -1.9**
SONM PcP **PcP 22 40 58.7 +0.1**
SONM Songino Array 33.79 284 P **P 22 38 18.6 -1.9**
comp=Z,1.0nm,0.3s,baz=61,slow=7.9,SNR=24
SONM PcP **PcP 22 40 58.7 +0.1**
comp=Z,1.3nm,0.8s,baz=56,slow=1.2,SNR=6.9
SONM LR LR 22 52 33.8
comp=Z,92nm,19.0s,baz=178,slow=37
HYT Haines Junctio 34.05 51 *e*P **P 22 38 24.7 +2.0**
INK Inuvik 34.28 37 *e*P **P 22 38 24.8 +0.5**
comp=Z,11nm,0.4s
HHC Hu-ho-hao-te 34.44 269 *e*P **P 22 38 26.5 +0.3**
HHC PP **PnPn 22 39 42.3 +0.1**
HHC PcP **PcP 22 41 02.3 +1.8**
HHC S **S 22 43 50.2 -0.4**
HHC ScP **ScP 22 44 42.4 +1.4**
HHC PcS **PcS 22 44 47.3 +0.3**
HHC SS **SnSn 22 46 01.5 -3.2**
HHC ScS **ScS 22 48 43.2 -0.6**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,360nm,5.1s
HHC LR LR
comp=Z,380nm,12.7s
HHC LR LR
comp=Z,450nm,13.4s
HHC LR LR
comp=Z,200nm,12.3s
H11S1 WAKE ISLAND Hy 34.59 168 T T 23 15 42.0
baz=354,slow=77,SNR=204
H11S3 WAKE ISLAND Hy 34.60 168 T T 23 15 37.2
baz=354,slow=77,SNR=390
H11S2 WAKE ISLAND Hy 34.60 168 T T 23 15 40.7
baz=354,slow=77,SNR=91
JOW Kunigami 34.94 235 *e*P **P 22 38 31.7 +1.2**
comp=Z,9.3nm,0.8s
NJ2 Nanjing 35.95 251 *e*P **P 22 38 39.7 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
DLBC Dease Lake 38.42 53 P **P 22 38 60.0 0.0**
DLBC Dease Lake 38.42 53 P **P 22 38 60.0 0.0**
comp=Z,2.2nm,0.8s,baz=281,slow=14,SNR=3.7
LZH Lanzhou 42.13 270 *e*P **P 22 39 30.8 -0.2**
LZH pP **pP 22 39 43.9 -0.8**
LZH sP **sP 22 39 49.0 -1.8**
LZH PP **PP 22 41 12.0 +2.9**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,83nm,8.7s
LZH LR LR
comp=Z,360nm,15.0s
LZH LR LR
comp=Z,350nm,14.7s
LZH LR LR
comp=Z,420nm,18.5s
ZALV Zalesovo Beam 42.80 303 P **P 22 39 32.8 -3.1**
ZALV 22 41 25.8
ZALV Zalesovo Beam 42.80 303 P **P 22 39 32.8 -3.1**
ZALV PcP **PcP 22 41 25.8 -0.4**
ZALV Zalesovo Beam 42.80 303 P **P 22 39 32.8 -3.1**
comp=Z,1.1nm,0.4s,baz=47,slow=6.5,SNR=8.9
ZALV PcP **PcP 22 41 25.8 -0.4**
comp=Z,0.8nm,0.4s,baz=88,slow=2.7,SNR=4.2
ZALV LR LR 22 58 52.5
comp=Z,41nm,19.3s,baz=249,slow=38
NVS Novosibirsk 43.15 305 ⇓*i*P **P 22 39 36.0 -2.8**
NVS *e* 22 41 58.8
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS pmax pmax
comp=Z,8.0nm,0.9s
YKA Yellowknife Ar 43.56 42 P **P 22 39 42.2 +0.3**
YKA Yellowknife Ar 43.56 42 P **P 22 39 42.2 +0.3**
comp=Z,2.3nm,0.6s,baz=300,slow=7.5,SNR=17
CD2 Chengdu 45.73 264 *e*P **P 22 40 00.3 +0.6**
CD2 sP **sP 22 40 20.0 +0.4**
CD2 PP **PP 22 41 48.7 +1.3**
CD2 S **S 22 46 39.6 +0.4**
CD2 sS **sS 22 47 01.8 -0.7**
CD2 SS **ScS 22 49 55.5 +4.6**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,40nm,4.8s
CD2 LR LR
comp=Z,160nm,13.2s
CD2 LR LR
comp=Z,160nm,10.8s
WMQ Urumqi 46.90 289 P **P 22 40 11.0 +2.3**
WMQ sP **sP 22 40 29.0 +0.3**
WMQ PP **PP 22 42 01.0 +1.7**
WMQ ScP **ScP 22 45 33.0 +3.3**
WMQ S **S 22 46 57.0 +1.3**
WMQ ScS **ScS 22 49 59.0 +0.8**
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ pmax pmax
comp=Z,52nm,4.0s
WMQ LR LR
comp=Z,59nm,16.0s
WMQ LR LR
comp=Z,65nm,16.0s
WMQ LR LR
comp=Z,49nm,16.0s
GYA Guiyang 47.22 258 *e*P **P 22 40 12.6 +1.1**
GYA pP **pP 22 40 27.2 +1.8**
GYA sP **sP 22 40 31.5 0.0**
GYA PcP **PcP 22 41 44.0 +1.8**
GYA PP **PP 22 42 03.7 +0.9**
GYA ScS **ScS 22 50 00.4 -0.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=Z,480nm,18.6s
GYA LR LR
comp=Z,410nm,19.3s
GYA LR LR
comp=Z,450nm,20.0s
KURK Kurchatov 47.75 302 *e*P **P 22 40 12.3 -2.9**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 47.75 302 *e*P **P 22 40 12.3 -2.9**
comp=Z,4.9nm,0.7s
MK31 Makanchi Array 48.13 296 *e*P **P 22 40 15.8 -2.4**
MK31 Makanchi Array 48.13 296 *e*P **P 22 40 15.8 -2.4**
MKAR Makanchi Array 48.13 296 P **P 22 40 15.8 -2.4**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR MLR MLR
comp=Z,42nm,18.5s
MKAR Makanchi Array 48.13 296 *e*P **P 22 40 15.9 -2.2**
MKAR Makanchi Array 48.13 296 P **P 22 40 15.8 -2.4**
comp=Z,4.9nm,0.4s,baz=56,slow=6.7,SNR=160
MKAR LR LR 23 01 29.0
comp=Z,42nm,18.5s,baz=243,slow=37
BRVK Borovoye 50.48 309 *e*P **P 22 40 35.3 -0.7**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 50.48 309 *e*P **P 22 40 35.3 -0.7**
comp=Z,2.8nm,0.6s
KMI Kunming 50.56 260 P **P 22 40 40.2 +3.0**
KMI pP **pP 22 40 52.9 +1.6**
KMI sP **sP 22 40 58.2 +0.9**
KMI S **S 22 47 50.1 +2.2**
KMI sS **sS 22 48 13.1 +1.7**
KMI SS **SS 22 51 19.8 -2.4**
KMI pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 53.52 317 P **P 22 40 55.5 -3.0**
ARU pmax pmax
comp=Z,6.0nm,0.3s
ARU Arti 53.52 317 P **P 22 40 55.5 -3.0**
comp=Z,5.7nm,0.3s
ARCES ARCESS Array B 53.56 342 P P 22 40 55.5 -3.2
ARCES PcP **PcP 22 42 03.9 -0.8**
ARCES ARCESS Array B 53.56 342 P P 22 40 55.5 -3.2
comp=Z,6.0nm,1.1s,baz=40,slow=7.6,SNR=14
ARCES PcP **PcP 22 42 03.9 -0.8**
comp=Z,3.3nm,1.0s,baz=30,slow=5.6,SNR=4.6
TKM2 Tokmak 2 54.26 296 *e*P **P 22 41 02.3 -2.1**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 54.26 296 *e*P **P 22 41 02.3 -2.1**
comp=Z,2.5nm,0.6s
SUMG Summit 54.34 7 *i*P **P 22 41 04.3 -0.5**
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG Summit 54.34 7 *i*P **P 22 41 04.3 -0.5**
comp=Z,17nm,0.9s
SUMG Summit 54.34 7 *e*P **P 22 41 03.5 -1.3**
comp=Z,33nm,1.2s
AAK Ala-Archa 55.05 296 *e*P **P 22 41 07.9 -2.2**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 55.05 296 *e*P **P 22 41 07.9 -2.2**
comp=Z,7.7nm,0.9s
EKS2 Erkin-Say 55.43 297 *e*P **P 22 41 11.0 -1.8**
EKS2 pmax pmax
comp=Z,4.0nm,0.6s
EKS2 Erkin-Say 55.43 297 *e*P **P 22 41 11.0 -1.8**
comp=Z,4.5nm,0.6s
NVAR Mina Array Bea 56.06 70 P **P 22 41 19.2 +1.8**
NVAR Mina Array Bea 56.06 70 P **P 22 41 19.2 +1.8**
comp=Z,1.4nm,0.7s,baz=304,slow=6.6,SNR=5.2
ELK Elko 56.19 66 P **P 22 41 20.4 +2.0**
ELK Elko 56.19 66 P **P 22 41 20.4 +2.0**
comp=Z,0.9nm,0.6s,baz=228,slow=24,SNR=4.0
KKAR Karatay Array 56.88 299 *e*P **P 22 41 20.4 -2.6**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 56.88 299 *e*P **P 22 41 20.4 -2.6**
comp=Z,2.9nm,0.8s
JOF Joensuu 57.81 335 *e*P **P 22 41 28.7 -0.4**
JOF Joensuu 57.81 335 *e*p **P 22 41 28.7 -0.4**
ABKAR Akbulak array 57.87 310 *e*P **P 22 41 26.8 -3.1**
PDAR Pinedale Array 57.88 60 P **P 22 41 31.4 +1.2**
PDAR Pinedale Array 57.88 60 P **P 22 41 31.4 +1.2**
comp=Z,2.3nm,0.7s,baz=318,slow=2.7,SNR=15
CMAR Chiang Mai Arr 57.91 258 P **P 22 41 31.8 +1.3**
CMAR Chiang Mai Arr 57.91 258 P **P 22 41 31.8 +1.3**
comp=Z,1.2nm,0.4s,baz=23,slow=7.2,SNR=8.1
TAPN Taplejung 58.03 274 *e*P **P 22 41 30.0 -1.6**
comp=Z,9.7nm,0.3s
ODAN Odare 58.58 274 *e*P **P 22 41 33.8 -1.6**
comp=Z,5.4nm,0.4s
JIRN Jiri 58.72 275 *e*P **P 22 41 34.9 -1.6**
comp=Z,5.1nm,0.3s
GUN Gumba 58.73 276 *e*P **P 22 41 34.5 -2.0**
comp=Z,12nm,0.3s
RAMN Ramite 58.99 275 *e*P **P 22 41 36.5 -1.8**
comp=Z,31nm,0.4s
KKN Kakani 59.18 276 *e*P **P 22 41 37.9 -1.6**
comp=Z,14nm,0.5s
KKN Kakani 59.18 276 *e*P **P 22 41 37.9 -1.6**
KKN Kakani 59.18 276 *e*P **P 22 41 37.9 -1.6**
ULM Lac du Bonnet 59.22 46 P **P 22 41 39.2 +0.1**
ULM Lac du Bonnet 59.22 46 P **P 22 41 39.2 +0.1**
comp=Z,1.7nm,0.4s,baz=312,slow=7.4,SNR=6.5
PKI Pulchoki 59.26 276 *e*P **P 22 41 38.2 -2.0**
comp=Z,10nm,0.4s
PKIN Phulchoki 59.26 276 *e*P **P 22 41 38.1 -2.0**
comp=Z,7.2nm,0.4s
GKN Gorkha 59.41 277 *e*P **P 22 41 39.2 -1.8**
comp=Z,7.6nm,0.3s
DMN Daman 59.42 276 *e*P **P 22 41 39.6 -1.6**
comp=Z,12nm,0.5s
DMN Daman 59.42 276 *e*P **P 22 41 39.6 -1.6**
DANN Dangsing 59.69 278 *e*P **P 22 41 41.6 -1.5**
comp=Z,16nm,0.6s
DANN Dangsing 59.69 278 *e*P **P 22 41 41.6 -1.5**
KAF Kangasniemi 59.73 337 *e*P **P 22 41 40.7 -1.8**
KAF Kangasniemi 59.73 337 *e*p **P 22 41 40.7 -1.8**
RSSD Black Hills 59.77 56 *e*P **P 22 41 43.0 -0.4**
RSSD pmax pmax
comp=Z,8.0nm,0.6s
RSSD Black Hills 59.77 56 *e*P **P 22 41 43.0 -0.4**
comp=Z,7.7nm,0.6s
KOLN Koldana 60.21 278 *e*P **P 22 41 44.8 -1.8**
comp=Z,5.9nm,0.3s
PYUN Piuthan 60.34 278 *e*P **P 22 41 45.5 -1.9**
PYUN Piuthan 60.34 278 *e*P **P 22 41 45.5 -1.9**
FINES FINESS Array B 60.37 336 P **P 22 41 45.2 -1.6**
FINES FINESS Array B 60.37 336 P **P 22 41 45.2 -1.6**
comp=Z,2.0nm,0.5s,baz=33,slow=7.5,SNR=29
NB2 NORSAR Subarra 63.83 344 P **P 22 42 08.6 -1.6**
comp=Z,1.0nm,0.3s,baz=25,slow=6.9
NOA NORSAR Array B 63.83 344 P **P 22 42 08.5 -1.6**
NOA NORSAR Array B 63.83 344 P **P 22 42 08.5 -1.6**
comp=Z,1.3nm,0.4s,baz=15,slow=5.4,SNR=19
ANMO Albuquerque 65.18 65 P **P 22 42 20.8 +1.2**
ANMO Albuquerque 65.18 65 P **P 22 42 20.8 +1.2**
comp=Z,0.8nm,0.5s,baz=344,slow=19,SNR=3.4
SCHQ Schefferville 66.06 27 P **P 22 42 23.9 -0.8**
SCHQ Schefferville 66.06 27 P **P 22 42 23.9 -0.8**
comp=Z,3.9nm,0.9s,baz=270,slow=15,SNR=4.2
AKASG Malin Array Be 68.82 329 *c e*P **P 22 42 42.5 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 68.82 329 P **P 22 42 39.7 -2.4**
AKASG Malin Array Be 68.82 329 P **P 22 42 39.7 -2.4**
comp=Z,1.4nm,0.5s,baz=28,slow=6.2,SNR=6.1
KBZ Khabaz 69.66 316 P **P 22 42 46.0 -1.4**
KBZ Khabaz 69.66 316 P **P 22 42 46.0 -1.4**
KBZ Khabaz 69.66 316 P **P 22 42 46.0 -1.4**
comp=Z,1.1nm,0.6s,baz=69,slow=5.9,SNR=4.5
TXAR Lajitas Array 70.97 67 P **P 22 42 56.8 +1.0**
TXAR Lajitas Array 70.97 67 P **P 22 42 56.8 +1.0**
comp=Z,2.7nm,0.6s,baz=297,slow=5.2,SNR=49
GNI Garni 71.77 313 LR LR 23 18 11.2
comp=Z,30nm,18.6s,baz=173,slow=39
CLL Collm 72.62 339 *i*P **P 22 43 04.3 -0.9**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 72.62 339 *i*P **P 22 43 04.3 -0.9**
comp=Z,10.0nm,1.0s
DPC Dobruska-Polom 72.74 336 *e*P **P 22 43 06.0 0.0**
DPC Dobruska-Polom 72.74 336 *e*P **P 22 43 06.0 0.0**
BUR08 Bucovina Ar. S 72.76 330 *e*P **P 22 43 05.0 -1.3**
BURAR Bucovina Array 72.78 330 ⇑P **P 22 43 04.9 -1.5**
BURAR Bucovina Array 72.78 330 ⇑*i*P **P 22 43 04.9 -1.5**
KRLC Kraliky 72.88 336 *e*P **P 22 43 06.6 -0.3**
KRLC Kraliky 72.88 336 *e*P **P 22 43 06.6 -0.3**
MORC Moravsky Berou 72.97 335 ⇑P **P 22 43 06.9 -0.5**
MORC Moravsky Berou 72.97 335 ⇑*i*P **P 22 43 06.9 -0.5**
PVCC Panska Ves 72.99 338 *e*P P 22 43 03.9 -3.5
TRPA Tarpa 73.12 332 ⇑*i*P **P 22 43 08.4 +0.2**
PRU Pruhonice 73.50 337 *e*P **P 22 43 10.2 -0.3**
PRU Pruhonice 73.50 337 *e*P **P 22 43 10.2 -0.3**
VRAC Vranov 73.64 336 P **P 22 43 10.9 -0.4**
VRAC Vranov 73.64 336 P **P 22 43 10.9 -0.4**
comp=Z,3.4nm,0.7s,baz=34,slow=7.3,SNR=4.7
NKC Novy Kostel 73.75 339 *e*P **P 22 43 11.7 -0.2**
NKC Novy Kostel 73.75 339 *e*P **P 22 43 11.7 -0.2**
TREC Trest 73.92 337 *e*P **P 22 43 12.7 -0.3**
TREC Trest 73.92 337 *e*P **P 22 43 12.7 -0.3**
MLR Muntele Rosu 74.45 328 ⇑*i*P **P 22 43 15.7 -0.5**
MLR Muntele Rosu 74.45 328 P **P 22 43 16.3 +0.1**
MLR Muntele Rosu 74.45 328 P **P 22 43 16.3 +0.1**
comp=Z,0.3nm,0.3s,baz=330,slow=11
GRF Grafenberg Arr 74.52 339 *e*P **P 22 43 16.2 -0.3**
comp=Z,8.0nm,1.1s
KHC Kasperske Hory 74.53 338 *c e*P **P 22 43 16.8 +0.3**
KHC pmax pmax
comp=Z,59nm,1.7s
KHC Kasperske Hory 74.53 338 *e*P **P 22 43 16.5 0.0**
KHC Kasperske Hory 74.53 338 *e*P **P 22 43 16.5 0.0**
comp=Z,5.8nm,0.8s
MEM Membach 74.67 343 P **P 22 43 16.8 -0.5**
comp=Z,12nm,1.1s

GEC2	GERESS Array S	74.77 338	*e*P		P		22 43 17.7	-0.3	
GEC2	GERESS Array S	74.77 338	*e*P		P		22 43 17.7	-0.3	
GERES	GERESS Array B	74.77 338	P		P		22 43 17.5	-0.5	
GERES	GERESS Array B	74.77 338	P		P		22 43 17.5	-0.5	
	comp=Z,2.2nm,0.4s,baz=33,slow=5.6,SNR=43								
ARR	Arges	74.97 329⇑	*i*P		P		22 43 19.5	+0.3	
BCLA	Clavier	74.98 343	P		P		22 43 18.0	-1.0	
	comp=Z,35nm,3.9s								
SIRR	Siria	75.06 331⇓	*i*P		P		22 43 19.6	0.0	
GZR	Gura Zlata	75.52 330⇑	P		P		22 43 21.6	-0.7	
GZR	Gura Zlata	75.52 330⇑	*i*P		P		22 43 21.6	-0.7	
WRAB	Tennant Creek	75.66 205	*e*P		P		22 43 22.9	-0.3	
WRAB			pmax	pmax					
	comp=Z,1.0nm,0.6s								
WRAB	Tennant Creek	75.66 205	*e*P		P		22 43 22.9	-0.3	
	comp=Z,1.1nm,0.6s								
BZS	Buzias	75.66 331	⇑P		P		22 43 21.7	-1.4	
BZS	Buzias	75.66 331⇑	*i*P		P		22 43 21.7	-1.4	
WRA	Warramunga Arr	75.67 205	P		P		22 43 22.4	-0.9	
WRA	Warramunga Arr	75.67 205	P		P		22 43 22.4	-0.9	
	comp=Z,1.6nm,0.5s,baz=18,slow=6.0,SNR=8.0								
PKSM	Moragy	75.96 333	⇓P		P		22 43 23.6	-1.1	
PKSM	Moragy	75.96 333	⇓*i*P		P		22 43 23.6	-1.1	
SOKA	Soboth	76.47 336	*i* P		P		22 43 27.6	-0.1	
	comp=Z,5.8nm,0.4s,SNR=7.6								
KBA	Koelnbreinsper	76.51 337	*i* P		P		22 43 28.5	+0.5	
	comp=Z,24nm,0.7s,SNR=11								
CDF	Champ du Feu	76.54 342	*e*P		P		22 43 27.7	-0.4	
	comp=Z,16nm,0.8s								
CDF	Champ du Feu	76.54 342	*e*P		P		22 43 27.7	-0.4	
CDF			pmax	pmax					
	comp=Z,17nm,0.8s								
CDF	Champ du Feu	76.54 342	*e*P		P		22 43 27.7	-0.4	
	comp=Z,16nm,0.8s								
PAGF	Fort de Pagny	76.70 343	*e*P		P		22 43 28.9	0.0	
	comp=Z,7.9nm,1.0s								
PAGF	Fort de Pagny	76.70 343	*e*P		P		22 43 28.9	0.0	
	comp=Z,7.9nm,1.0s								
BRTR	Keskin Array B	76.77 320	P		P		22 43 27.5	-2.1	
BRTR	Keskin Array B	76.77 320	P		P		22 43 27.5	-2.1	
	comp=Z,1.0nm,0.8s,baz=22,slow=2.5,SNR=5.8								
BRTR			LR		LR		23 18 25.1		
	comp=Z,27nm,19.6s,baz=176,slow=37								
MOTA	Moosalm	76.77 339⇑	*i*P		P		22 43 29.1	-0.4	
	comp=Z,4.2nm,0.6s,SNR=5.6								
MEZF	Maizieres J'vi	76.87 343	*e*P		P		22 43 29.8	0.0	
MEZF	Maizieres J'vi	76.87 343	*e*P		P		22 43 29.8	0.0	
ABTA	Abfaltersbach	77.01 338⇑	*i*P		P		22 43 30.3	-0.5	
	comp=Z,9.2nm,0.7s,SNR=5.0								
HAU	Haudompre	77.11 342	*e*P		P		22 43 30.8	-0.5	
	comp=Z,12nm,0.7s								
HAU	Haudompre	77.11 342	*e*P		P		22 43 30.8	-0.5	
HAU			pmax	pmax					
	comp=Z,12nm,0.7s								
HAU	Haudompre	77.11 342	*e*P		P		22 43 30.8	-0.5	
	comp=Z,12nm,0.7s								
FETA	Feichten	77.16 339⇑	*i*P		P		22 43 31.6	-0.1	
	comp=Z,8.6nm,1.0s								
SFTF	Sexfontaines	77.16 343	*e*P		P		22 43 31.1	-0.4	
	comp=Z,11nm,0.5s								
SFTF	Sexfontaines	77.16 343	*e*P		P		22 43 31.1	-0.4	
	comp=Z,11nm,0.5s								
HINF	Hinteralfeld	77.20 342	*e*P		P		22 43 30.9	-0.9	
HINF	Hinteralfeld	77.20 342	*e*P		P		22 43 30.9	-0.9	
HINF	Hinteralfeld	77.20 342	*e*P		P		22 43 30.9	-0.9	
FLN	La Foliniere	77.49 347	*e*P		P		22 43 32.5	-0.8	
FLN	La Foliniere	77.49 347	*e*P		P		22 43 32.5	-0.8	
FLN	La Foliniere	77.49 347	*e*P		P		22 43 32.5	-0.8	
DAVOX	Davos/Dischmat	77.57 339	P		P		22 43 34.1	+0.1	
DAVOX	Davos/Dischmat	77.57 339	P		P		22 43 34.1	+0.1	
	comp=Z,6.2nm,0.6s,baz=178,slow=1.1,SNR=8.3								
LDF	La Druitiere	77.61 346	*e*P		P		22 43 33.1	-0.9	
LDF	La Druitiere	77.61 346	*e*P		P		22 43 33.1	-0.9	
LDF	La Druitiere	77.61 346	*e*P		P		22 43 33.1	-0.9	
GRR	Gorron	77.91 347	*e*P		P		22 43 35.1	-0.6	
	comp=Z,19nm,0.7s								
GRR	Gorron	77.91 347	*e*P		P		22 43 35.1	-0.6	
GRR			pmax	pmax					
	comp=Z,19nm,0.7s								
GRR	Gorron	77.91 347	*e*P		P		22 43 35.1	-0.6	
	comp=Z,19nm,0.7s								
VTS	Vitosha	77.92 329	⇓P		P		22 43 34.7	-1.3	
VTS	Vitosha	77.92 329	⇓*i*P		P		22 43 34.7	-1.3	
TUE	Stuetta	77.98 340	*e*P		P		22 43 36.4	+0.1	
	comp=Z,13nm,0.7s								
SGMF	Saint Gilles	78.27 348	*e*P		P		22 43 37.1	-0.5	
	comp=Z,26nm,0.7s								
SGMF	Saint Gilles	78.27 348	*e*P		P		22 43 37.1	-0.5	
SGMF			pmax	pmax					
	comp=Z,26nm,0.7s								
SGMF	Saint Gilles	78.27 348	*e*P		P		22 43 37.1	-0.5	
	comp=Z,26nm,0.7s								
LOR	Lormes	78.27 344	*e*P		P		22 43 37.2	-0.5	
	comp=Z,11nm,0.8s								
LOR	Lormes	78.27 344	*e*P		P		22 43 37.2	-0.5	
	comp=Z,11nm,0.8s								
ROSF	Rostrenen	78.28 349	*e*P		P		22 43 37.3	-0.4	
ROSF	Rostrenen	78.28 349	*e*P		P		22 43 37.3	-0.4	
ROSF	Rostrenen	78.28 349	*e*P		P		22 43 37.3	-0.4	
UDBI	Udbina	78.29 335	P		P		22 43 36.8	-1.1	
NVLJ	Novalja	78.49 335	P		P		22 43 37.3	-1.6	
CABF	La Chapelle	78.50 342	*e*P		P		22 43 39.0	-0.1	
	comp=Z,43nm,1.2s								
CABF	La Chapelle	78.50 342	*e*P		P		22 43 39.0	-0.1	
CABF			pmax	pmax					
	comp=Z,43nm,1.2s								
CABF	La Chapelle	78.50 342	*e*P		P		22 43 39.0	-0.1	
	comp=Z,43nm,1.2s								
SSF	Saint Saulge	78.53 344	*e*P		P		22 43 38.6	-0.5	
	comp=Z,14nm,0.9s								
SSF	Saint Saulge	78.53 344	*e*P		P		22 43 38.6	-0.5	
SSF			pmax	pmax					
	comp=Z,14nm,0.9s								
SSF	Saint Saulge	78.53 344	*e*P		P		22 43 38.6	-0.5	
	comp=Z,14nm,0.9s								
QUIF	Quistinic	78.67 348	*e*P		P		22 43 40.1	+0.2	
QUIF	Quistinic	78.67 348	*e*P		P		22 43 40.1	+0.2	
QUIF	Quistinic	78.67 348	*e*P		P		22 43 40.1	+0.2	
AVF	Avril sur Loir	78.82 344	*e*P		P		22 43 40.3	-0.4	
	comp=Z,16nm,0.9s								
AVF	Avril sur Loir	78.82 344	*e*P		P		22 43 40.3	-0.4	
AVF			pmax	pmax					
	comp=Z,16nm,0.9s								
AVF	Avril sur Loir	78.82 344	*e*P		P		22 43 40.3	-0.4	
	comp=Z,16nm,0.9s								
SMF	Signal de Mont	78.88 343	*e*P		P		22 43 40.8	-0.2	
	comp=Z,8.5nm,0.8s								
SMF	Signal de Mont	78.88 343	*e*P		P		22 43 40.8	-0.2	
SMF			pmax	pmax					
	comp=Z,9.0nm,0.8s								
SMF	Signal de Mont	78.88 343	*e*P		P		22 43 40.8	-0.2	
	comp=Z,8.5nm,0.8s								
STON	Ston	79.30 333	P		P		22 43 41.2	-2.2	
ASAR	Alice Springs	79.35 204	P		P		22 43 44.8	+1.0	
ASAR	Alice Springs	79.35 204	P		P		22 43 44.8	+1.0	
	comp=Z,1.0nm,0.4s,baz=17,slow=5.4,SNR=13								
LPL	La Plagne	79.43 341	*e*P		P		22 43 44.8	+0.5	
	comp=Z,26nm,0.9s								
LPL	La Plagne	79.43 341	*e*P		P		22 43 44.8	+0.5	
LPL			pmax	pmax					
	comp=Z,26nm,0.9s								
LPL	La Plagne	79.43 341	*e*P		P		22 43 44.8	+0.5	
	comp=Z,26nm,0.9s								
LPG	La Plagne	79.44 341	*e*P		P		22 43 45.0	+0.5	
	comp=Z,29nm,0.9s								
LPG	La Plagne	79.44 341	*e*P		P		22 43 45.0	+0.5	
LPG			pmax	pmax					
	comp=Z,29nm,0.9s								
LPG	La Plagne	79.44 341	*e*P		P		22 43 45.0	+0.5	
	comp=Z,29nm,0.9s								
TCF	Toulx Ste Croi	79.50 344	*e*P		P		22 43 44.2	-0.3	
	comp=Z,6.4nm,0.6s								
TCF	Toulx Ste Croi	79.50 344	*e*P		P		22 43 44.2	-0.3	
TCF			pmax	pmax					
	comp=Z,6.0nm,0.6s								
TCF	Toulx Ste Croi	79.50 344	*e*P		P		22 43 44.2	-0.3	
	comp=Z,6.4nm,0.6s								
MFF	Saint Martin d	79.56 346	*e*P		P		22 43 44.5	-0.2	
MFF	Saint Martin d	79.56 346	*e*P		P		22 43 44.5	-0.2	
MFF	Saint Martin d	79.56 346	*e*P		P		22 43 44.5	-0.2	
ORIF	Oris-en-Rattie	80.17 341	*e*P		P		22 43 48.7	+0.5	
	comp=Z,25nm,1.0s								
ORIF	Oris-en-Rattie	80.17 341	*e*P		P		22 43 48.7	+0.5	
ORIF			pmax	pmax					
	comp=Z,25nm,1.0s								
ORIF	Oris-en-Rattie	80.17 341	*e*P		P		22 43 48.7	+0.5	
	comp=Z,25nm,1.0s								
MBDF	Montbardon	80.18 341	*e*P		P		22 43 48.3	0.0	
	comp=Z,14nm,0.9s								
MBDF	Montbardon	80.18 341	*e*P		P		22 43 48.3	0.0	
MBDF			pmax	pmax					
	comp=Z,14nm,0.9s								
MBDF	Montbardon	80.18 341	*e*P		P		22 43 48.3	0.0	
	comp=Z,14nm,0.9s								
VIVF	Saint-Julien-l	80.46 342	*e*P		P		22 43 50.0	+0.3	
	comp=Z,18nm,0.9s								
VIVF	Saint-Julien-l	80.46 342	*e*P		P		22 43 50.0	+0.3	
VIVF			pmax	pmax					
	comp=Z,18nm,0.9s								
VIVF	Saint-Julien-l	80.46 342	*e*P		P		22 43 50.0	+0.3	
	comp=Z,18nm,0.9s								
CAF	Calviac	80.85 344	*e*P		P		22 43 52.2	+0.4	
	comp=Z,5.2nm,0.5s								
CAF	Calviac	80.85 344	*e*P		P		22 43 52.2	+0.4	
CAF			pmax	pmax					
	comp=Z,5.0nm,0.5s								
CAF	Calviac	80.85 344	*e*P		P		22 43 52.2	+0.4	
	comp=Z,5.2nm,0.5s								
LFF	La Frestale	81.05 345	*e*P		P		22 43 52.9	+0.1	
LFF	La Frestale	81.05 345	*e*P		P		22 43 52.9	+0.1	
LFF	La Frestale	81.05 345	*e*P		P		22 43 52.9	+0.1	
FRF	La Foret Royal	81.32 341	*e*P		P		22 43 53.8	-0.5	
FRF	La Foret Royal	81.32 341	*e*P		P		22 43 53.8	-0.5	
FRF	La Foret Royal	81.32 341	*e*P		P		22 43 53.8	-0.5	
LASF	Ste Croix	81.36 343	*e*P		P		22 43 54.3	-0.2	
	comp=Z,27nm,1.2s								
LASF	Ste Croix	81.36 343	*e*P		P		22 43 54.3	-0.2	
	comp=Z,27nm,1.2s								
LMR	La Mourre	81.57 341	*e*P		P		22 43 55.3	-0.2	
LMR	La Mourre	81.57 341	*e*P		P		22 43 55.3	-0.2	
LMR	La Mourre	81.57 341	*e*P		P		22 43 55.3	-0.2	
MTLF	Montolieu	82.36 344	*e*P		P		22 44 00.2	+0.5	
MTLF	Montolieu	82.36 344	*e*P		P		22 44 00.2	+0.5	
MTLF	Montolieu	82.36 344	*e*P		P		22 44 00.2	+0.5	
EPF	Esparros	82.97 345	*e*P		P		22 44 03.6	+0.6	
	comp=Z,5.4nm,0.6s								
EPF	Esparros	82.97 345	*e*P		P		22 44 03.6	+0.6	
EPF			pmax	pmax					
	comp=Z,5.0nm,0.6s								
EPF	Esparros	82.97 345	*e*P		P		22 44 03.6	+0.6	
	comp=Z,5.4nm,0.6s								
ETSF	Etsaut	83.24 346	*e*P		P		22 44 05.1	+0.7	
	comp=Z,8.4nm,0.5s								
ETSF	Etsaut	83.24 346	*e*P		P		22 44 05.1	+0.7	
ETSF			pmax	pmax					
	comp=Z,8.0nm,0.5s								
ETSF	Etsaut	83.24 346	*e*P		P		22 44 05.1	+0.7	
	comp=Z,8.4nm,0.5s								
STKA	Stephens Creek	85.74 195	*e*P		P		22 44 17.1	+0.4	
	comp=Z,0.7nm,0.9s								
STKA	Stephens Creek	85.74 195	P		P		22 44 17.2	+0.5	
	comp=Z,2.7nm,0.8s,baz=336,slow=3.9,SNR=5.0								
ESDC	Sonseca Array	86.89 347	P		P		22 44 22.1	-0.6	
ESDC	Sonseca Array	86.89 347	P		P		22 44 22.1	-0.6	
	comp=Z,1.1nm,0.5s,baz=0.0,slow=4.9,SNR=20								
KEST	Kesra	88.20 336	P		P		22 44 28.1	-1.0	
KEST	Kesra	88.20 336	P		P		22 44 28.1	-1.0	
	comp=Z,0.8nm,0.7s,baz=333,slow=6.3,SNR=9.8								
TORD	Torodi Ar. Bea	111.72 337	PKiKP		PKiKP		22 50 12.0	-0.7	
TORD	Torodi Ar. Bea	111.72 337	PKiKP		PKiKP		22 50 12.0	-0.7	
	comp=Z,0.1nm,0.3s,baz=8.8,slow=2.1,SNR=4.4								
DBIC	Dimbokro	119.39 342	PKP		PKPdf		22 50 26.9	-0.6	
DBIC	Dimbokro	119.39 342	PKP		PKPdf		22 50 26.9	-0.6	
	comp=Z,1.8nm,0.6s,baz=75,slow=6.3,SNR=3.7								
SYO	Syowa Base	148.28 216	P		PKPbc		22 51 20.7	-1.7	

IDC 06 22:39:51.4±4.1, 30.70S×178.13W, h0km, mb4.4/3, mb1 4.6/3, mb1mx4.1/17, mbtmp4.4/3, Error ellipse: s-maj=186.3km s-min=38.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
STKA	Stephens Creek	34.30	257	P	P	22	46	40.0	+0.4
	1.5nm,0.6s,baz=120,slow=8.1,SNR=5.2								
ASAR	Alice Springs	42.98	267	P	P	22	47	52.1	-0.5
	3.3nm,0.5s,baz=106,slow=7.3,SNR=49								
WRA	Warramunga Arr	44.00	273	P	P	22	48	00.7	-0.1
	3.6nm,0.4s,baz=113,slow=7.7,SNR=18								
FINES	FINESS Array B	145.38	340	PKPbc	PKPbc	22	59	29.6	-0.8
	1.5nm,0.7s,baz=65,slow=3.7,SNR=5.3								
NOA	NORSAR Array B	149.03	351	PKPbc	PKPbc	22	59	40.3	-0.6
	0.5nm,0.6s,baz=13,slow=1.9,SNR=2.9								

*CSEM **06** 22:56:52.4±0.3, 37.28N×20.14E, h2km, MD3.6, Error ellipse: s-maj=6.3km s-min=3.2km az=44.0*
*IDC **06** 22:56:52.2±1.1, 37.43N×20.46E, h0km, mb3.8/8, mb1 3.8/13, mb1mx3.6/33, mbtmp3.7/13, ML3.5/5, Error ellipse: s-maj=22.4km s-min=16.9km az=60.0*
*THE **06** 22:56:54.5, 37.38N×20.24E, h0km±4km, ML3.7/2, Error ellipse: s-maj=4.6km s-min=1.1km az=246.0*
*BEO **06** 22:56:54.7±1.9, 37.49N×19.99E, h0km, ML3.5/9*
*ATH **06** 22:56:55.3, 37.39N×20.31E, h21km±1km, MD3.6/43, ML3.4*
*HLW **06** 22:57:04.3, 37.14N×21.35E, h33km±38km, Md0.0, Ml3.9*

ISC 06 22:56:52.1±1.4, 37.31N±0.03×20.17E±0.04, h5km±9km, n217, σ1§27/245, mb3.8/8, 21C-8D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SFD	Strofades	0.68	95	*e*PN	Pb	22	57	06.9	+0.4
SFD				*e*SN	Sb	22	57	15.9	-0.3
SFD	Strofades	0.68	95	P	Pg	22	57	05.3	+0.1
SFD	Strofades	0.68	95	*e*Pn	Pb	22	57	06.9	+0.4
SFD				*e*Sn	Sb	22	57	15.9	-0.3
VLS	Valsamata	0.93	21	P	Pg	22	57	10.2	+0.3
VLS				S	Sg	22	57	22.5	+0.5
VLS	Valsamata	0.93	21	*e*PN	Pb	22	57	10.8	+0.1
VLS				*e*SN	Sg	22	57	22.9	+0.9
VLS	Valsamata	0.93	21	P	Pg	22	57	10.0	+0.1
VLS	Valsamata	0.93	21	*e*Pn	Pb	22	57	10.8	+0.1
VLS				S	Sg	22	57	22.5	+0.5
KFL	Anninata	0.94	32	P	Pg	22	57	10.1	0.0
KFL				S	Sg	22	57	22.7	+0.4
KFL	Anninata	0.94	32	P	Pg	22	57	10.1	0.0
KFL				S	Sg	22	57	22.7	+0.4
AMT	Artemida-Makis	1.25	79	P	Pb	22	57	16.1	-0.1
AMT				S	Sn	22	57	34.5	+1.0
AMT	Artemida-Makis	1.25	79	*e*PN	Pn	22	57	16.7	+0.4
AMT				*e*SN	Sb	22	57	32.5	-0.1
AMT	Artemida-Makis	1.25	79	P	Pb	22	57	16.1	-0.1
AMT	Artemida-Makis	1.25	79	*e*Pn	Pn	22	57	16.7	+0.4
AMT				*e*Sn	Sb	22	57	32.5	-0.1
AMT				S	Sn	22	57	34.5	+1.0
RLS	Riolos of Patr	1.27	54	P	Pg	22	57	16.1	-0.4
RLS				S	Sn	22	57	34.8	+0.7
RLS	Riolos of Patr	1.27	54	*e*PN	Pn	22	57	17.7	+1.1
RLS				*e*SN	Sg	22	57	32.1	-0.9
RLS	Riolos of Patr	1.27	54	P	Pg	22	57	16.1	-0.4
RLS	Riolos of Patr	1.27	54	*e*Pn	Pn	22	57	17.7	+1.1
RLS				*e*Sn	Sg	22	57	32.1	-0.9
RLS				S	Sn	22	57	34.8	+0.7
PYL	PYLOS	1.33	108	P	Pg	22	57	18.1	+0.5
PYL				S	Sn	22	57	36.9	+1.5
PYL	PYLOS	1.33	108	*e*PN	Pg	22	57	18.2	+0.6
PYL				*e*SN	Sn	22	57	35.8	+0.4
PYL	PYLOS	1.33	108	P	Pg	22	57	17.6	0.0
PYL	PYLOS	1.33	108	*e*Pn	Pg	22	57	18.2	+0.6
PYL				S	Sb	22	57	34.2	-0.6
PYL				*e*Sn	Sn	22	57	35.8	+0.4
DRO	Drossia	1.38	62	P	Pb	22	57	18.4	-0.1
DRO	Drossia	1.38	62	*e*PN	Pg	22	57	19.0	+0.4
DRO	Drossia	1.38	62	P	Pg	22	57	18.6	0.0
DRO	Drossia	1.38	62	*e*Pn	Pg	22	57	19.0	+0.4
DRO				S	Sn	22	57	38.5	+1.7
ITM	Ithomi	1.41	95	P	Pg	22	57	19.2	+0.1
ITM	Ithomi	1.41	95	*e*PN	Pg	22	57	19.3	+0.1
ITM				*e*SN	Sn	22	57	38.5	+1.0
ITM	Ithomi	1.41	95	P	Pg	22	57	19.2	+0.1
ITM				S	Sb	22	57	35.3	-2.0
ITM				*e*Sn	Sn	22	57	38.5	+1.0
PDO	Prodromos	1.52	32	P	Pb	22	57	21.0	+0.3
PDO	Prodromos	1.52	32	*e*PN	Pg	22	57	21.9	+0.7
PDO	Prodromos	1.52	32	P	Pb	22	57	21.1	+0.3
PDO	Prodromos	1.52	32	*e*Pn	Pg	22	57	21.9	+0.7
PDO				S	Sg	22	57	43.0	+2.1
LKD2	Lefkada island	1.52	15	P	Pb	22	57	21.4	+0.5
LKD2	Lefkada island	1.52	15	*e*PN	Pg	22	57	22.0	+0.6
LKD2	Lefkada island	1.52	15	P	Pb	22	57	21.4	+0.5
LKD2	Lefkada island	1.52	15	*e*Pn	Pg	22	57	22.0	+0.6
LKD2				S	Sg	22	57	42.0	+0.8
PVO	Paravola	1.69	39	P	Pg	22	57	24.3	-0.2
PVO				S	Sg	22	57	46.2	-0.2
PSA1	Psathopyrgos	1.70	53	*e*PN	Pg	22	57	24.5	-0.1
PSA1				*e*SN	Sn	22	57	44.3	-0.2
LAKA	Lakka	1.71	57	P	Pb	22	57	24.3	+0.2
LAKA	Lakka	1.71	57	*e*PN	Pg	22	57	24.6	-0.3
LAKA	Lakka	1.71	57	P	Pb	22	57	24.3	+0.2
LAKA	Lakka	1.71	57	*e*Pn	Pg	22	57	24.6	-0.3
KLV	Kalavryta, Ach	1.74	64	P	Pb	22	57	24.4	-0.1
KLV	Kalavryta, Ach	1.74	64	*e*PN	Pb	22	57	24.5	-0.1
KLV	Kalavryta, Ach	1.74	64	P	Pb	22	57	24.4	-0.1
VLX	Vlachokerasia	1.77	87	P	Pb	22	57	24.5	-0.6
VLX	Vlachokerasia	1.77	87	*e*PB	Pb	22	57	24.5	-0.6
VLX				*e*SN	Sb	22	57	47.9	+0.3
VLX	Vlachokerasia	1.77	87	P	Pb	22	57	24.5	-0.6
VLX				*e*Sn	Sb	22	57	47.9	+0.3
GUR	Goura	1.84	69	P	Pb	22	57	25.7	-0.6
GUR	Goura	1.84	69	*e*PN	Pb	22	57	25.8	-0.6
GUR	Goura	1.84	69	P	Pb	22	57	25.7	-0.6
GUR				S	Sg	22	57	50.8	-0.4
KALE	Kalithea	1.90	55	P	Pb	22	57	27.6	+0.3
KALE	Kalithea	1.90	55	*e*PN	Pb	22	57	27.4	+0.1
KALE	Kalithea	1.90	55	*e*Pn	Pb	22	57	27.4	+0.1
EVR	Evrytania	2.06	38	P	Pb	22	57	30.2	+0.1
EVR	Evrytania	2.06	38	*e*PN	Pb	22	57	29.8	-0.3
EVR	Evrytania	2.06	38	*e*Pn	Pb	22	57	29.8	-0.3
EVR				S	Sb	22	57	56.2	+0.1
DSF	Desfina	2.17	59	P	Pn	22	57	30.4	+1.4
DSF	Desfina	2.17	59	*e*PN	Pb	22	57	30.7	-1.2
DSF	Desfina	2.17	59	P	Pn	22	57	30.4	+1.4
DSF	Desfina	2.17	59	*e*Pn	Pb	22	57	30.7	-1.2
IGT	Igoumenitsa	2.22	3	*e*PN	Pb	22	57	32.0	-0.8
IGT	Igoumenitsa	2.22	3	*e*Pn	Pb	22	57	32.0	-0.8
VLI	Veliai	2.30	104	*e*PN	Pb	22	57	33.2	-0.8
VLI				*e*SN	Sn	22	58	00.2	+0.9
VLI	Veliai	2.30	104	*e*Pn	Pb	22	57	33.2	-0.8
VLI				*e*Sn	Sn	22	58	00.2	+0.9
MAKR	Makrakomi, Fth	2.30	42	*e*PN	Pb	22	57	33.2	-0.9
MAKR	Makrakomi, Fth	2.30	42	*e*Pn	Pb	22	57	33.2	-0.9
LTK	Loutraki	2.33	71	P	Pn	22	57	32.2	+1.0
LTK	Loutraki	2.33	71	*e*PB	Pn	22	57	32.2	+1.0
LTK	Loutraki	2.33	71	P	Pn	22	57	32.2	+1.0
JAN	Janina	2.40	13	*e*PB	Pb	22	57	34.8	-1.1
JAN	Janina	2.40	13	*e*Pb	Pb	22	57	34.8	-1.1
AGG	Agios Georgios	2.41	44	P	Pb	22	57	34.5	-1.6
AGG	Agios Georgios	2.41	44	*e*PB	Pb	22	57	34.5	-1.6
AGG	Agios Georgios	2.41	44	P	Pb	22	57	34.5	-1.6
KEK	Kerkira	2.42	353	*e*PN	Pb	22	57	35.0	-1.1
KEK	Kerkira	2.42	353	*e*Pn	Pb	22	57	35.0	-1.1
AXAR	Agios Charalam	2.45	53	P	Pn	22	57	34.3	+1.5
AXAR	Agios Charalam	2.45	53	P	Pn	22	57	34.3	+1.5
DID	Didima	2.45	85	*e*PB	Pb	22	57	35.1	-1.6
DID	Didima	2.45	85	P	Pn	22	57	33.5	+0.6
DID	Didima	2.45	85	*e*Pb	Pb	22	57

HMAT	**Matruh**	**8.45**	**135**	AMP			23 00 00.0	
	comp=E,40µm,1.4s,logA/T=4.4,baz=140							
HMAT	**Matruh**	**8.45**	**135**	P		**Pn**	**22 58 53.5**	**-1.7**
ARR	**Arges**	**8.72**	**21**⇑	*i*P		**Pn**	**22 58 59.8**	**+0.8**
ARR	**Arges**	**8.72**	**21**⇑	*i*P		**Pn**	**22 58 59.8**	**+0.8**
VOIR		**8.91**	**23**⇑	*i*P		**Pn**	**22 59 03.2**	**+1.7**
VOIR		**8.91**	**23**⇑	*i*P		**Pn**	**22 59 03.2**	**+1.7**
PKSM	**Moragy**	**8.97**	**353**⇑	*i*P		**Pn**	**22 59 03.0**	**+0.8**
PKSM	**Moragy**	**8.97**	**353**⇑	*i*P		**Pn**	**22 59 03.0**	**+0.8**
BOJS	**Bojanci**	**8.98**	**337**	*e*Pn		**Pn**	**22 59 03.9**	**+1.5**
BOJS	**Bojanci**	**8.98**	**337**	Pn		Sn	**22 59 03.9**	**+1.5**
SIRR	**Siria**	**9.02**	**7**⇓	*i*P		**Pn**	**22 59 04.2**	**+1.2**
SIRR	**Siria**	**9.02**	**7**⇓	*i*P		**Pn**	**22 59 04.2**	**+1.2**
GBRS	**Gornja Briga**	**9.14**	**336**	*e*Pn		**Pn**	**22 59 07.1**	**+2.4**
SWA2		**9.18**	**150**	P		**Pn**	**22 59 05.2**	**-0.1**
	baz=155							
SWA2				S		Sn	23 00 35.0	-14
	baz=155							
SWA2		**9.18**	**150**	P		**Pn**	**22 59 05.2**	**-0.1**
CRES	**Cresnjev**	**9.21**	**339**	*e*Pn		**Pn**	**22 59 06.3**	**+0.7**
CRES	**Cresnjev**	**9.21**	**339**	*e*Pn		**Pn**	**22 59 06.3**	**+0.7**
MLR	**Muntele Rosu**	**9.25**	**26**⇓	*i*P		**Pn**	**22 59 08.7**	**+2.4**
MLR	**Muntele Rosu**	**9.25**	**26**⇓	*i*P		**Pn**	**22 59 08.7**	**+2.4**
MLR	**Muntele Rosu**	**9.25**	**26**	Pn		**Pn**	**22 59 08.4**	**+2.1**
	comp=E,0.1nm,0.3s,baz=223,slow=5.6,SNR=20							
PLOR	**Plostina**	**9.81**	**28**⇑	*i*P		**Pn**	**22 59 15.9**	**+2.0**
PLOR	**Plostina**	**9.81**	**28**⇑	*i*P		**Pn**	**22 59 15.9**	**+2.0**
VRI	**Vrincioaia**	**9.86**	**28**⇓	*i*P		**Pn**	**22 59 17.3**	**+2.8**
VRI	**Vrincioaia**	**9.86**	**28**⇓	*i*P		**Pn**	**22 59 17.3**	**+2.8**
HSAF	**As Saff**	**12.21**	**126**	P		Pn	22 59 43.2	-3.6
	baz=128							
HFRF	**Wahat Farafira**	**12.25**	**143**	P		**Pn**	**22 59 45.6**	**-1.7**
	baz=147							
GERES	**GERESS Array B**	**12.45**	**340**	Pn		**Pn**	**22 59 51.1**	**+1.0**
	comp=E,0.1nm,0.3s,baz=151,slow=12,SNR=3.6							
AMAG	**Maghara**	**12.70**	**118**	P		Pn	22 59 49.8	-3.6
	baz=120							
RSH		**12.89**	**115**	P		Pn	22 59 52.0	-3.9
	baz=117							
SUZ		**12.92**	**122**	P		Pn	22 59 52.8	-3.6
	baz=124							
MMAI	**Mount Meron Ar**	**13.18**	**104**	Pn		Pn	22 59 56.1	-3.9
	comp=E,0.3nm,0.3s,baz=304,slow=11,SNR=3.0							
MMAI				Sn		Sn	23 02 14.8	-12
	comp=E,1.0nm,0.3s,baz=295,slow=28,SNR=4.5							
HNKL	**Nakhl**	**13.65**	**119**	P		Pn	23 00 02.6	-3.9
	baz=120							
EIL	**Elat**	**14.49**	**117**	Pn		**Pn**	**23 00 15.1**	**-2.8**
	comp=E,0.5nm,0.3s,baz=270,slow=8.1,SNR=5.9							
EIL				Sn		Sn	23 02 46.0	-13
	comp=E,0.6nm,0.3s,baz=325,slow=14,SNR=6.8							
AKASG	**Malin Array Be**	**14.87**	**23**	Pn		**Pn**	**23 00 21.1**	**-1.8**
	comp=E,0.3nm,0.3s,baz=207,slow=9.2,SNR=3.4							
HFS	**Hagfors**	**23.21**	**352**	P		**P**	**23 01 58.2**	**-1.6**
	comp=E,4.6nm,0.9s,baz=72,slow=12,SNR=7.5							
EKA	**Eskdalemuir Ar**	**23.98**	**326**	P		**P**	**23 02 08.7**	**+1.4**
	comp=E,1.6nm,0.8s,baz=127,slow=9.5,SNR=4.8							
NOA	**NORSAR Array B**	**24.41**	**349**	P		**P**	**23 02 12.4**	**+1.0**
	comp=E,2.1nm,1.1s,baz=163,slow=11,SNR=2.9							
FINES	**FINESS Array B**	**24.44**	**7**	P		**P**	**23 02 10.8**	**-0.8**
	comp=E,1.2nm,0.5s,baz=188,slow=7.7,SNR=5.7							
TORD	**Torodi Ar. Bea**	**29.18**	**219**	P		**P**	**23 02 57.6**	**+3.0**
	comp=E,0.7nm,0.5s,baz=31,slow=9.0,SNR=11							
ARCES	**ARCESS Array B**	**32.41**	**4**	P		**P**	**23 03 22.1**	**-0.5**
	comp=E,2.1nm,0.8s,baz=187,slow=9.5,SNR=5.6							
MKAR	**Makanchi Array**	**46.00**	**58**	P		**P**	**23 05 15.4**	**-0.9**
	comp=E,0.2nm,0.5s,baz=271,slow=7.4,SNR=5.1							
ZALV	**Zalesovo Beam**	**46.48**	**47**	P		**P**	**23 05 18.4**	**-1.5**
	comp=E,0.7nm,0.5s,baz=268,slow=8.2,SNR=3.7							

IDC 06 22:58:30.4±0.8, 5.97N×77.55W, h121km±6km, mb3.2/3, mb1 3.5/3, mb1mx3.2/21, mbtmp3.2/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/14, Error ellipse: s-maj=31.4km s-min=29.5km az=41.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.39**	**109**	P	Pn	22 59 17.0	-5.3
	1.9nm,0.3s,baz=261,slow=19,SNR=4.7						
ROSC				S	Sn	22 59 54.0	-8.3
	4.5nm,0.3s,baz=108,slow=18,SNR=8.7						
JTS	**JuntasAbangare**	**8.49**	**301**	LR	LR	23 04 28.2	
	comp=Z,66nm,18.2s,baz=99,slow=42						
BDFB	**Brasilia**	**36.29**	**127**	LR	LR	23 22 17.5	
	comp=Z,71nm,19.0s,baz=24,slow=39						
YKA	**Yellowknife Ar**	**62.61**	**342**	P	P	23 08 41.0	-0.4
	0.6nm,0.8s,baz=126,slow=6.5,SNR=4.9						
YKA				pP	pP	23 09 12.8	+1.9
	0.6nm,0.7s,baz=129,slow=7.2,SNR=4.3						
ILAR	**Eielson Array**	**75.89**	**336**	P	P	23 10 03.0	-0.4
	0.6nm,1.0s,baz=125,slow=5.6,SNR=4.4						
ILAR				pP	pP	23 10 34.7	+0.9
	0.1nm,0.5s,baz=109,slow=5.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**78.22**	**78**	P	P	23 10 17.6	+0.3
	0.7nm,1.1s,baz=286,slow=5.5,SNR=3.1						
TORD				pP	pP	23 10 48.4	+0.4
	0.2nm,0.6s,baz=287,slow=6.1,SNR=2.0						
ASAR	**Alice Springs**	**145.00**	**237**	PKPbc	PKPbc	23 17 52.5	-1.3
	0.8nm,0.7s,baz=123,slow=3.6,SNR=7.9						
ASAR				pPKPbc	pPKPbc	23 18 24.1	-2.1
	0.8nm,0.7s,baz=123,slow=4.0,SNR=2.8						
WRA	**Warramunga Arr**	**146.05**	**243**	PKPbc	PKPdf	23 17 56.5	+0.4
	1.1nm,0.7s,baz=100,slow=2.4,SNR=8.4						
WRA				pPKPbc	pPKPbc	23 18 28.2	-1.3
	0.6nm,0.3s,baz=100,slow=3.0,SNR=2.9						

*ATH **06** 23:07:58.1, 37.30N×20.07E, h9km±2km, MD3.5/13*
*CSEM **06** 23:07:58.9±0.5, 37.34N×20.07E, h2km, ML2.5, Error ellipse: s-maj=8.7km s-min=5.7km az=64.0*
*THE **06** 23:07:59.5, 37.35N×20.10E, h0km±1km, ML2.5/3, Error ellipse: s-maj=2.2km s-min=1.0km az=254.0*

ISC 06 23:07:57.9±2.1, 37.32N±0.06×20.00E±0.06, h2km±11km, n60, σ0=80/89, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.97**	**29**	P	**Pg**	**23 08 16.6**	**0.0**
VLS				S	**Sg**	**23 08 29.7**	**+0.5**
VLS	**Valsamata**	**0.97**	**29**	*e*PG	**Pg**	**23 08 16.3**	**-0.3**
VLS	**Valsamata**	**0.97**	**29**	*e*Pb	**Pg**	**23 08 16.3**	**-0.3**
VLS	**Valsamata**	**0.97**	**29**	P	**Pg**	**23 08 16.6**	**0.0**
VLS				S	**Sg**	**23 08 29.7**	**+0.5**
KFL	**Anninata**	**1.00**	**38**	P	**Pg**	**23 08 16.9**	**-0.3**
KFL				S	**Sg**	**23 08 30.3**	**+0.1**
KFL	**Anninata**	**1.00**	**38**	P	**Pg**	**23 08 16.9**	**-0.3**
KFL				S	**Sg**	**23 08 30.3**	**+0.1**
RLS	**Riolos of Patr**	**1.38**	**57**	P	**Pn**	**23 08 23.8**	**-0.4**
RLS				S	**Sb**	**23 08 42.6**	**+0.2**
RLS	**Riolos of Patr**	**1.38**	**57**	*e*PG	**Pn**	**23 08 22.9**	**-1.3**
RLS				*e*SN	**Sg**	**23 08 42.1**	**-0.1**
RLS	**Riolos of Patr**	**1.38**	**57**	*e*Pg	**Pn**	**23 08 22.9**	**-1.3**
RLS	**Riolos of Patr**	**1.38**	**57**	P	**Pn**	**23 08 23.8**	**-0.4**
RLS				*e*Sn	**Sg**	**23 08 42.1**	**-0.1**
AMT	**Artemida-Makis**	**1.38**	**81**	P	**Pn**	**23 08 23.7**	**-0.5**
AMT				S	**Sn**	**23 08 43.2**	**+0.2**
AMT	**Artemida-Makis**	**1.38**	**81**	*e*PB	**Pn**	**23 08 23.5**	**-0.7**
AMT	**Artemida-Makis**	**1.38**	**81**	P	**Pn**	**23 08 23.7**	**-0.5**
AMT				S	**Sn**	**23 08 43.2**	**+0.2**
PYL	**PYLOS**	**1.46**	**107**	P	**Pn**	**23 08 24.3**	**-1.0**
PYL				S	**Sn**	**23 08 45.4**	**+0.4**
PYL	**PYLOS**	**1.46**	**107**	*e*PB	**Pn**	**23 08 24.2**	**-1.0**
PYL	**PYLOS**	**1.46**	**107**	P	**Pn**	**23 08 24.3**	**-1.0**
DRO	**Drossia**	**1.50**	**65**	P	**Pn**	**23 08 25.7**	**-0.2**
DRO				S	**Sg**	**23 08 46.5**	**+0.4**
DRO	**Drossia**	**1.50**	**65**	P	**Pg**	**23 08 25.7**	**-0.2**
DRO				S	**Sg**	**23 08 46.5**	**+0.4**
ITM	**Ithomi**	**1.55**	**95**	P	**Pn**	**23 08 25.7**	**-0.8**
ITM	**Ithomi**	**1.55**	**95**	*e*PG	**Pn**	**23 08 25.6**	**-0.9**
ITM	**Ithomi**	**1.55**	**95**	P	**Pn**	**23 08 25.7**	**-0.8**
LKD2	**Lefkada island**	**1.55**	**19**	P	**Pg**	**23 08 27.7**	**0.0**
LKD2				S	**Sg**	**23 08 48.4**	**+0.6**
LKD2	**Lefkada island**	**1.55**	**19**	P	**Pg**	**23 08 27.7**	**0.0**
LKD2				S	**Sg**	**23 08 48.4**	**+0.6**
PDO	**Prodromos**	**1.58**	**36**	P	**Pb**	**23 08 27.6**	**-0.3**
PDO				S	**Sg**	**23 08 48.7**	**0.0**
PDO	**Prodromos**	**1.58**	**36**	P	**Pb**	**23 08 27.6**	**-0.3**
PDO				S	**Sg**	**23 08 48.7**	**0.0**
LAKA	**Lakka**	**1.82**	**59**	*e*PG	**Pb**	**23 08 31.3**	**-0.6**
LAKA	**Lakka**	**1.82**	**59**	*e*Pg	**Pb**	**23 08 31.3**	**-0.6**
KLV	**Kalavryta, Ach**	**1.85**	**67**	P	**Pn**	**23 08 30.7**	**0.0**
KLV				S	**Sn**	**23 08 54.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.85**	**67**	*e*PN	**Pn**	**23 08 30.8**	**0.0**
KLV				S	**Sn**	**23 08 54.9**	**+0.1**
VLX	**Vlachokerasia**	**1.90**	**88**	P	**Pn**	**23 08 31.3**	**-0.1**
VLX				S	**Sn**	**23 08 55.8**	**-0.2**
VLX	**Vlachokerasia**	**1.90**	**88**	P	**Pn**	**23 08 31.3**	**-0.1**
VLX				S	**Sn**	**23 08 55.8**	**-0.2**
GUR	**Goura**	**1.96**	**71**	P	**Pn**	**23 08 31.9**	**-0.3**
GUR				S	**Sn**	**23 08 57.3**	**-0.2**
GUR	**Goura**	**1.96**	**71**	*e*PN	**Pn**	**23 08 32.0**	**-0.3**
GUR	**Goura**	**1.96**	**71**	*e*Pn	**Pn**	**23 08 32.0**	**-0.3**
GUR				S	**Sn**	**23 08 57.3**	**-0.2**
KALE	**Kalithea**	**2.00**	**57**	P	**Pn**	**23 08 32.8**	**0.0**
KALE				S	**Sn**	**23 08 58.9**	**+0.4**
KALE	**Kalithea**	**2.00**	**57**	*e*PN	**Pn**	**23 08 33.4**	**+0.6**
KALE	**Kalithea**	**2.00**	**57**	P	**Pn**	**23 08 32.8**	**0.0**
KALE	**Kalithea**	**2.00**	**57**	*e*Pn	**Pn**	**23 08 33.4**	**+0.6**
KALE				S	**Sn**	**23 08 58.9**	**+0.4**
EVR	**Evrytania**	**2.14**	**41**	*e*PN	**Pb**	**23 08 36.6**	**-0.8**
EVR	**Evrytania**	**2.14**	**41**	*e*Pg	**Pb**	**23 08 36.6**	**-0.8**
DSF	**Desfina**	**2.28**	**61**	P	**Pn**	**23 08 36.7**	**+0.1**
DSF	**Desfina**	**2.28**	**61**	P	**Pn**	**23 08 36.7**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.38**	**44**	*e*PN	**Pn**	**23 08 39.7**	**+1.7**
MAKR	**Makrakomi, Fth**	**2.38**	**44**	*e*Pn	**Pn**	**23 08 39.7**	**+1.7**
VLI	**Veliai**	**2.43**	**104**	*e*PN	**Pn**	**23 08 40.0**	**+1.4**
VLI				*e*SB	**Sn**	**23 09 09.4**	**+0.5**
VLI	**Veliai**	**2.43**	**104**	*e*Pn	**Pn**	**23 08 40.0**	**+1.4**
VLI				*e*Sn	**Sn**	**23 09 09.4**	**+0.5**
AGG	**Agios Georgios**	**2.50**	**47**	P	**Pn**	**23 08 40.1**	**+0.4**
AGG	**Agios Georgios**	**2.50**	**47**	*e*PN	**Pn**	**23 08 40.6**	**+0.9**
AGG	**Agios Georgios**	**2.50**	**47**	P	**Pn**	**23 08 40.1**	**+0.4**
AGG	**Agios Georgios**	**2.50**	**47**	*e*Pn	**Pn**	**23 08 40.6**	**+0.9**
DID	**Didima**	**2.58**	**85**	P	**Pn**	**23 08 40.6**	**-0.2**
DID				S	**Sn**	**23 09 13.9**	**+1.1**
DID	**Didima**	**2.58**	**85**	P	**Pn**	**23 08 40.6**	**-0.2**
DID				S	**Sn**	**23 09 13.9**	**+1.1**
KYTH	**Kithira**	**2.65**	**112**	P	**Pn**	**23 08 42.9**	**+1.2**
KYTH	**Kithira**	**2.65**	**112**	*e*PN	**Pn**	**23 08 42.8**	**+1.1**
KYTH	**Kithira**	**2.65**	**112**	*e*Pn	**Pn**	**23 08 42.8**	**+1.1**
THL	**Klokotos Trika**	**2.74**	**35**	*e*PB	**Pn**	**23 08 44.2**	**+1.3**
THL	**Klokotos Trika**	**2.74**	**35**	*e*Pn	**Pn**	**23 08 44.2**	**+1.3**
STON	**Ston**	**5.81**	**343**	*e*Pn	**Pn**	**23 09 26.4**	**+1.3**
STON				Sn	**Sn**	**23 10 28.6**	**-3.7**
STON	**Ston**	**5.81**	**343**	*e*Pn	**Pn**	**23 09 26.4**	**+1.3**

*ISCJB **06** 23:11:20.2±0.3, 32.41N±0.02×115.03W±0.03, h13km, Error ellipse: s-maj=3.8km s-min=3.2km az=144.6*
*ECX **06** 23:11:22.2±0.6, 32.40N×115.08W, h8km, MD3.8, ML3.9*
*MEX **06** 23:11:22.6±0.6, 32.38N×115.25W, h18km±8km, MD3.9*
*NEIC **06** 23:11:22.2, 32.40N×115.08W, h8km, mb3.9/1, ML3.6(PAS), ML3.9(ECX), After ECX.*
NEIC Felt at Winterhaven, California.

ISC 06 23:11:20.3±0.8, 32.35N±0.03×115.10W±0.03, h13km, n38, σ1=37/44, 7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.10**	**304**	*i* P	**Pb**	**23 11 24.8**	**+1.6**
MBIG				*i* S	**Sb**	**23 11 27.1**	**+1.7**
CPBX	**Cerro Prieto**	**0.18**	**291**	*e*P	**Pb**	**23 11 26.1**	**+0.5**
CPBX				*e*S	**Sb**	**23 11 28.9**	**-0.2**
CPBX				*e*		23 11 36.0	
	comp=N,53µm,0.5s						
SLX	**San Luis R›o**	**0.35**	**73**	*e*P	**Pb**	**23 11 28.1**	**-0.3**
EMX	**El Mayor**	**0.38**	**198**⇓	*e*P	**Pb**	**23 11 30.2**	**+1.2**
EMX				*e*S	**Sb**	**23 11 36.2**	**+1.5**
EMX				⇓*e*		23 11 37.8	
	comp=N,7µm,0.4s						
COA	**Coachella**	**0.51**	**358**⇓	*e*P	**Pg**	**23 11 30.6**	**+0.2**
YMD	**Yuma Desert**	**0.51**	**67**	*e*P	**Pg**	**23 11 30.9**	**+0.5**
SGL	**Mount Signal**	**0.60**	**299**⇓	*e*P	**Pg**	**23 11 32.5**	**+0.4**
GLA	**Glamis**	**0.73**	**18**	*e*Pn	**Pg**	**23 11 33.9**	**-0.8**
GLA				*e*Sn	**Sg**	**23 11 42.8**	**-1.5**
YUH	**Yuha Desert**	**0.76**	**293**⇓	*e*P	**Pg**	**23 11 34.9**	**-0.1**
RDX	**Rancho Dawling**	**0.83**	**240**	*e*P	**Pn**	**23 11 37.7**	**-0.2**
RDX				*e*S	**Sn**	**23 11 49.3**	**-0.8**
RDX				*e*		23 11 52.3	
	comp=N,4µm,0.6s						
RMX	**La Rumorosa**	**0.86**	**287**	*e*P	**Pg**	**23 11 37.0**	**0.0**
ECBX	**El Chinero**	**0.88**	**177**⇓	*e*P	**Pb**	**23 11 38.0**	**+0.6**
ECBX				*e*S	**Sn**	**23 11 50.4**	**-0.6**
ECBX				⇓*e*		23 11 60.0	
	comp=N,2µm,0.5s						
ZAX	**El Zacaton**	**1.30**	**230**	*e*P	**Pb**	**23 11 45.2**	**+0.5**
SPIG	**San Pedro Mart**	**1.34**	**194**	*i* P	**Pn**	**23 11 44.1**	**-0.9**
SPIG				*i* S	**Sb**	**23 11 59.0**	**-3.7**
BAR	**Barrett**	**1.37**	**284**	*e*Pn	**Pn**	**23 11 44.5**	**-0.7**
BAR				*e*Sn	**Sn**	**23 12 01.8**	**-1.4**
ECNX	**Esteban Cantu**	**1.45**	**242**	*e*P	**Pb**	**23 11 47.6**	**+0.4**
PBX	**Punta Banda**	**1.51**	**247**	*e*P	**Pb**	**23 11 48.4**	**+0.2**
PFO	**Pinyon Flat Ob**	**1.69**	**318**	*e*Pn	**Pn**	**23 11 47.7**	**-2.0**
214A	**Organ Pipe Nat**	**1.98**	**101**	*e*Pn	**Pn**	**23 11 52.4**	**-1.2**
LDFC	**Landfair**	**2.72**	**360**	*e*Pn	**Pb**	**23 12 08.1**	**-0.8**
LDFC				*e*Sn	**Sn**	**23 12 39.3**	**+2.7**
MWC	**Mount Wilson**	**3.10**	**308**	*e*Pn	**Pb**	**23 12 15.9**	**+0.4**
PASC	**Pasadena Art C**	**3.16**	**306**	*e*Pn	**Pb**	**23 12 16.4**	**+0.1**
GSC	**Goldstone**	**3.27**	**335**	*e*Pn	Pb	23 12 15.3	-2.9
TUC	**Tucson**	**3.65**	**90**	*e*Pn	**Pn**	**23 12 18.8**	**+2.2**
SHPR	**Sheep Range**	**4.14**	**359**	*e*Pn	**Pn**	**23 12 20.4**	**+0.6**
ISA	**Isabella**	**4.33**	**321**	*e*Pn	**Pn**	**23 12 28.7**	**+2.8**
WUAZ	**Wupatki**	**4.42**	**43**	*e*Pn	**Pn**	**23 12 24.8**	**-2.5**
HSIG		**4.88**	**132**	*i* P	**Pn**	**23 12 34.8**	**+1.4**
HSIG				*i* S	**Sn**	**23 13 30.9**	**+1.0**
CCUT	**Cedar City**	**5.38**	**15**	*e*Pn	**Pn**	**23 12 39.7**	**-0.8**
	comp=N,18nm,0.9s						
ARUT	**Antelope Range**	**5.59**	**14**	*e*Pn	**Pn**	**23 12 44.1**	**+0.8**
	comp=N,321nm,0.7s						
TPH	**Tonopah**	**5.97**	**344**	*e*Pn	Pb	23 13 00.1	-4.3
	comp=N,16nm,0.8s						
R11A	**Troy Canyon, C**	**6.00**	**356**	*e*Pn	Pn	23 12 52.5	+3.6
121A	**Cookes Peak, D**	**6.19**	**86**	*e*Pn	**Pn**	**23 12 51.4**	**-0.1**
MVU	**Marysvale**	**6.57**	**20**	*e*Pn	**Pn**	**23 12 54.9**	**-2.0**
	comp=N,9.5nm,0.7s						
MVCO	**Mesa Verde**	**7.28**	**46**	*e*Pn	**Pn**	**23 13 06.6**	**0.0**
	comp=N,9.0nm,0.6s						
BNM	**Barren Site**	**7.32**	**74**	*e*Pn	**Pn**	**23 13 08.7**	**+1.6**
	comp=N,1.7nm,0.4s						
SRU	**San Rafael**	**7.70**	**28**	*e*Pn	**Pn**	**23 13 13.9**	**+1.6**
	comp=N,9.4nm,0.7s						
NEW	**Newport**	**15.97**	**355**	*e*Pn	Pn	23 14 59.1	-5.6
	comp=N,7.2nm,0.7s						

*ATH **06** 23:15:09.1, 37.27N×20.14E, h8km±2km, MD3.5/14*
*CSEM **06** 23:15:10.4±0.4, 37.32N×20.17E, h2km, ML2.6, Error ellipse: s-maj=7.4km s-min=4.4km az=54.0*
*THE **06** 23:15:12.1, 37.37N×20.25E, h3km±1km, ML2.6/4, Error ellipse: s-maj=1.9km s-min=1.2km az=294.0*

ISC 06 23:15:07.9±1.7, 37.25N±0.04×20.07E±0.06, h6km±10km, n64, σ0=81/92, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**1.01**	**24**	P	**Pg**	**23 15 27.2**	**-0.2**
VLS				S	**Sg**	**23 15 40.4**	**-0.1**
VLS	**Valsamata**	**1.01**	**24**	*e*PG	**Pg**	**23 15 27.2**	**-0.2**
VLS	**Valsamata**	**1.01**	**24**	P	**Pg**	**23 15 27.2**	**-0.2**
VLS				S	**Sg**	**23 15 40.4**	**-0.1**
KFL	**Anninata**	**1.03**	**33**	P	**Pg**	**23 15 27.5**	**-0.2**
KFL	**Anninata**	**1.03**	**33**	P	**Pg**	**23 15 27.5**	**-0.2**
AMT	**Artemida-Makis**	**1.33**	**77**	P	**Pg**	**23 15 33.8**	**+0.3**
AMT				S	**Sn**	**23 15 51.5**	**+0.4**
AMT	**Artemida-Makis**	**1.33**	**77**	*e*PG	**Pn**	**23 15 33.0**	**-0.1**
AMT	**Artemida-Makis**	**1.33**	**77**	*e*Pg	**Pn**	**23 15 33.0**	**-0.1**
AMT	**Artemida-Makis**	**1.33**	**77**	P	**Pg**	**23 15 33.8**	**+0.3**
AMT				S	**Sn**	**23 15 51.5**	**+0.4**
RLS	**Riolos of Patr**	**1.37**	**53**	P	**Pn**	**23 15 33.4**	**-0.1**
RLS				S	**Sn**	**23 15 52.1**	**+0.1**
RLS	**Riolos of Patr**	**1.37**	**53**	*e*PN	**Pn**	**23 15 33.3**	**-0.2**
RLS				*e*SB	**Sn**	**23 15 52.8**	**+0.8**
RLS	**Riolos of Patr**	**1.37**	**53**	P	**Pn**	**23 15 33.4**	**-0.1**
RLS				S	**Sn**	**23 15 52.1**	**+0.1**
PYL	**PYLOS**	**1.38**	**104**	P	**Pg**	**23 15 35.0**	**+0.6**
PYL	**PYLOS**	**1.38**	**104**	*e*PB	**Pg**	**23 15 34.7**	**+0.3**
PYL				*e*SB	**Sn**	**23 15 51.9**	**-0.3**
PYL	**PYLOS**	**1.38**	**104**	*e*Pb	**Pg**	**23 15 34.7**	**+0.3**
PYL	**PYLOS**	**1.38**	**104**	P	**Pg**	**23 15 35.0**	**+0.6**
PYL				*e*Sb	**Sn**	**23 15 51.9**	**-0.3**
DRO	**Drossia**	**1.48**	**61**	P	**Pg**	**23 15 36.1**	**-0.2**
DRO				S	**Sb**	**23 15 54.2**	**-0.6**
DRO	**Drossia**	**1.48**	**61**	P	**Pg**	**23 15 36.1**	**-0.2**
DRO				S	**Sb**	**23 15 54.2**	**-0.6**
ITM	**Ithomi**	**1.48**	**92**	P	**Pg**	**23 15 36.5**	**+0.1**
ITM				S	**Sg**	**23 15 55.6**	**+0.1**
ITM	**Ithomi**	**1.48**	**92**	*e*PB	**Pg**	**23 15 36.4**	**+0.1**
ITM	**Ithomi**	**1.48**	**92**	P	**Pg**	**23 15 36.5**	**+0.1**
ITM				S	**Sg**	**23 15 55.6**	**+0.1**
LKD2	**Lefkada island**	**1.60**	**17**	P	**Pb**	**23 15 38.5**	**+0.5**
LKD2	**Lefkada island**	**1.60**	**17**	*e*PB	**Pg**	**23 15 39.1**	**+0.4**
LKD2	**Lefkada island**	**1.60**	**17**	P	**Pb**	**23 15 38.5**	**+0.5**
LKD2	**Lefkada island**	**1.60**	**17**	*e*Pb	**Pg**	**23 15 39.1**	**+0.4**
PDO	**Prodromos**	**1.61**	**33**	P	**Pg**	**23 15 39.0**	**+0.2**
PDO	**Prodromos**	**1.61**	**33**	P	**Pg**	**23 15 39.0**	**+0.2**
LAKA	**Lakka**	**1.81**	**56**	P	**Pb**	**23 15 41.6**	**+0.2**
LAKA	**Lakka**	**1.81**	**56**	*e*PN	**Pb**	**23 15 41.9**	**+0.5**
LAKA	**Lakka**	**1.81**	**56**	P	**Pb**	**23 15 41.6**	**+0.2**
LAKA	**Lakka**	**1.81**	**56**	*e*Pn	**Pb**	**23 15 41.9**	**+0.5**
KLV	**Kalavryta, Ach**	**1.83**	**64**	P	**Pb**	**23 15 41.5**	**-0.3**
KLV				S	**Sn**	**23 16 03.4**	**0.0**
KLV	**Kalavryta, Ach**	**1.83**	**64**	*e*PB	**Pb**	**23 15 41.3**	**-0.5**
KLV	**Kalavryta, Ach**	**1.83**	**64**	P	**Pb**	**23 15 41.5**	**-0.3**
KLV				S	**Sn**	**23 16 03.4**	**0.0**
VLX	**Vlachokerasia**	**1.84**	**86**	P	**Pb**	**23 15 42.0**	**-0.1**
VLX				S	**Sb**	**23 16 04.8**	**-0.6**
VLX	**Vlachokerasia**	**1.84**	**86**	*e*PN	**Pb**	**23 15 42.0**	**-0.1**
VLX	**Vlachokerasia**	**1.84**	**86**	P	**Pb**	**23 15 42.0**	**-0.1**
VLX				S	**Sb**	**23 16 04.8**	**-0.6**
GUR	**Goura**	**1.93**	**68**	P	**Pb**	**23 15 42.7**	**-0.8**
GUR				S	**Sb**	**23 16 07.1**	**-0.8**
GUR	**Goura**	**1.93**	**68**	*e*PN	**Pb**	**23 15 42.7**	**-0.8**
GUR	**Goura**	**1.93**	**68**	P	**Pb**	**23 15 42.7**	**-0.8**
GUR				S	**Sb**	**23 16 07.1**	**-0.8**
KALE	**Kalithea**	**1.99**	**54**	P	**Pb**	**23 15 43.9**	**-0.7**
KALE				S	**Sb**	**23 16 08.2**	**-1.5**
KALE	**Kalithea**	**1.99**	**54**	*e*PN	**Pb**	**23 15 44.5**	**-0.1**
KALE	**Kalithea**	**1.99**	**54**	P	**Pb**	**23 15 43.9**	**-0.7**
KALE	**Kalithea**	**1.99**	**54**	*e*Pn	**Pb**	**23 15 44.5**	**-0.1**
KALE				S	**Sb**	**23 16 08.2**	**-1.5**
EVR	**Evrytania**	**2.15**	**39**	*e*PN	**Pb**	**23 15 47.5**	**+0.1**
EVR	**Evrytania**	**2.15**	**39**	*e*Pn	**Pb**	**23 15

ellipse: s-maj=281.2km s-min=27.4km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.63**	**53**	Pn	Pn	00 10 22.4	-0.1
	12nm,0.3s,baz=209,slow=13,SNR=16						
AFI				Sn	Sn	00 10 46.6	-8.6
	72nm,0.3s,baz=127,slow=23,SNR=16						
WRA	**Warramunga Arr**	**49.32**	**257**	P	P	00 18 30.1	0.0
	0.5nm,0.8s,baz=93,slow=7.2,SNR=3.0						
ASAR	**Alice Springs**	**49.59**	**252**	P	P	00 18 31.9	-0.2
	6.0nm,0.4s,baz=87,slow=7.9,SNR=20						
BRTR	**Keskin Array B**	**145.93**	**320**	PKPbc	PKPdf	00 29 19.9	-0.2
	0.3nm,0.8s,baz=64,slow=3.4,SNR=3.7						

DJA 07 00:32:26.1±2.1, 0°S±8°, 112°3E±1°3, h139km±23km, M3.7/3, MLv3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.73**	**345**	P	Pn	00 32 49.5	+1.9
LUWI	**Luwuk**	**1.06**	**204**	P	Pn	00 32 50.9	+0.5
LUWI				S	Sn	00 33 09.9	+1.1
MRSI	**Marisa**	**1.37**	**293**	P	Pn	00 32 53.9	+0.4
MRSI				S	Sn	00 33 15.9	+1.6

GUC 07 00:38:37.4±0.6, 31°89S×68°61W, h150km, MD3.8, ML3.9, 4C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**2.15**	**234**	↑*i*P	Pn	00 39 14.6	+0.2
PEL				*i*S	Sn	00 39 43.1	+0.3
PEL				AML	AML	00 39 44.4	
	comp=E,553nm,0.4s						
CMCH	**Combarbala**	**2.16**	**289**	↓*i*P	Pn	00 39 15.2	+0.6
CMCH				*i*S	Sn	00 39 43.7	+0.5
CMCH				AML	AML	00 39 47.3	
	comp=E,4μm,0.6s						
CLCH	**Cerro Calan**	**2.21**	**227**	↑*i*P	Pn	00 39 15.8	+0.6
CLCH				*i*S	Sn	00 39 44.8	+0.6
CLCH				AML	AML	00 39 47.6	
	comp=E,349nm,0.6s						
ROCH	**El Roble**	**2.30**	**241**	*e*P	Pn	00 39 16.2	-0.2
ROCH				AML	AML	00 39 49.4	
	comp=E,542nm,0.4s						
TLL	**Tololo Astrono**	**2.55**	**312**	↑*i*P	Pn	00 39 20.7	+1.1
TLL				*i*S	Sn	00 39 52.8	+0.9
TLL				AML	AML	00 39 55.6	
	comp=N,158nm,0.5s						
CHCH	**Chadas Angostu**	**2.66**	**220**	*e*P	Pn	00 39 21.1	+0.6
CACH	**El Canelo**	**2.78**	**216**	↑*i*P	Pn	00 39 22.8	+0.7
LCO	**Las Campanas**	**3.39**	**327**	*e*P	Pn	00 39 30.9	+0.8
LCO				*i*S	Sn	00 40 11.5	+0.5
LCO				AML	AML	00 40 13.6	
	comp=N,181nm,0.3s						

*ISCJB **07** 01:08:46.2±0.9, 24°.64N±0°.03×122°.56E±0°.02, h11km±7km, Error ellipse: s-maj=5.3km s-min=2.4km az=8.7*
*JMA **07** 01:08:46.7±0.1, 24°.62N×122°.54E, h28km±2km, M3.0*
*TAP **07** 01:08:46.7, 24°.63N×122°.44E, h6km, ML3.7, D*
ISC 07 01:08:46.2±1.0, 24°61N±0°.04×122°53E±0°.02, h17km±8km, n37, σ0°79/69, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.46**	**108**	P	**Pg**	**01 08 55.9**	**+0.5**
YOJ				S	**Sb**	**01 09 03.1**	**+0.7**
EGS		**0.60**	**293**	P	**Pg**	**01 08 58.0**	**0.0**
	baz=295						
EGS				S	**Sg**	**01 09 06.1**	**+0.1**
	baz=295						
TWC	**Suao**	**0.62**	**270**	↑*i*P	**Pg**	**01 08 58.0**	**-0.5**
	baz=268						
TWC				*e*S	**Sb**	**01 09 07.1**	**-0.1**
	baz=268						
TWB1	**Santiao Chiao**	**0.64**	**309**	P	**Pg**	**01 08 58.9**	**+0.1**
	baz=312						
TWB1				S	**Sg**	**01 09 06.6**	**-0.7**
	baz=312						
ILA	**Ilan**	**0.73**	**283**	*e*S	**Sn**	**01 09 12.1**	**-0.6**
	baz=282						
ENA	**Nanau**	**0.74**	**256**	P	**Pb**	**01 09 00.5**	**-0.3**
	baz=252						
ENA				*e*S	**Sb**	**01 09 09.8**	**-0.8**
	baz=252						
TWE	**Neicheng**	**0.80**	**278**	P	**Pb**	**01 09 01.4**	**-0.3**
	baz=277						
TWE				*e*S	**Sg**	**01 09 12.3**	**0.0**
	baz=277						
ENTT	**Nioudou**	**0.88**	**272**	P	**Pb**	**01 09 03.1**	**0.0**
	baz=270						
ENTT				S	**Sg**	**01 09 15.1**	**+0.1**
	baz=270						
TWA	**Mucha**	**0.94**	**293**	*e*P	**Pn**	**01 09 05.2**	**+0.5**
	baz=294						
TWA				S	**Sg**	**01 09 17.0**	**+0.1**
	baz=294						
TWD	**Chiawan**	**1.00**	**239**	P	**Pn**	**01 09 05.7**	**+0.1**
	baz=234						
TWD				S	**Sn**	**01 09 19.6**	**+0.2**
	baz=234						
HWA	**Hwalien**	**1.05**	**234**	*e*P	**Pg**	**01 09 07.1**	**+0.5**
	baz=229						
NNS	**Nan Shan**	**1.07**	**261**	P	**Pn**	**01 09 06.8**	**+0.2**
	baz=259						
NNS				*e*S	**Sn**	**01 09 20.6**	**-0.6**
	baz=259						
NSK	**Sanguang**	**1.07**	**274**	*e*P	**Pb**	**01 09 06.5**	**+0.1**
	baz=272						
NSK				*e*S	**Sb**	**01 09 19.9**	**-0.3**
	baz=272						
TWY	**Chenhua**	**1.08**	**308**	P	**Pb**	**01 09 06.4**	**0.0**
	baz=310						
TWY				*e*S	**Sn**	**01 09 20.7**	**-0.5**
	baz=310						
IRIF	**Iriomote-Funau**	**1.12**	**104**	P	**Pn**	**01 09 06.5**	**-0.7**
IRIF				S	**Sb**	**01 09 20.9**	**-0.7**
TWS1	**Kuangyinshan**	**1.13**	**296**	*e*P	**Pg**	**01 09 08.6**	**+0.5**
	baz=297						
TWS1				*e*S	**Sn**	**01 09 22.1**	**-0.3**
	baz=297						
WHF	**Hehuan Shan**	**1.25**	**249**	P	**Pb**	**01 09 10.0**	**+0.4**
	baz=245						
WHF				*e*S	**Sn**	**01 09 25.8**	**-0.1**
	baz=245						
HATJ	**Hateruma jima**	**1.28**	**115**	P	**Pn**	**01 09 09.2**	**-0.2**
HATJ				*e*S	**Sn**	**01 09 26.0**	**-0.2**
TWT	**Tachien**	**1.29**	**254**	*e*S	**Sg**	**01 09 27.7**	**-0.3**
	baz=252						
JKRS	**Kuro-shima**	**1.39**	**105**	P	**Pn**	**01 09 10.6**	**-0.3**
JKRS				*e*S	**Sn**	**01 09 28.4**	**-0.6**
NSTT	**Nanjuang**	**1.40**	**271**	*e*P	**Pg**	**01 09 12.8**	**-0.3**
	baz=270						
NSTT				*e*S	**Sg**	**01 09 31.4**	**+0.1**
	baz=270						
JIJ	**Ishigaki jima**	**1.49**	**99**	P	**Pn**	**01 09 11.9**	**-0.3**
JIJ				*e*S	**Sn**	**01 09 31.4**	**+0.2**
EHY	**Hungye**	**1.56**	**226**	*e*P	**Pn**	**01 09 13.8**	**+0.5**
	baz=222						
EHY				*e*S	**Sb**	**01 09 35.0**	**+0.8**
	baz=222						
TWQ1	**Liyutan**	**1.63**	**261**	*e*P	**Pb**	**01 09 16.4**	**+0.6**
	baz=259						
SMLT	**Sun Moon Lake**	**1.66**	**245**	*e*P	**Pb**	**01 09 16.0**	**-0.4**
	baz=242						
SMLT				*e*S	**Sb**	**01 09 37.6**	**+0.5**
	baz=242						
TYC	**Yuchr**	**1.68**	**246**	*e*P	**Pb**	**01 09 17.3**	**+0.5**
	baz=243						
TYC				*e*S	**Sg**	**01 09 39.4**	**-1.1**
	baz=243						
TWF1	**Yuli**	**1.69**	**222**	*e*P	**Pn**	**01 09 15.4**	**+0.4**
	baz=219						
TWF1				*e*S	**Sb**	**01 09 38.2**	**+0.4**
	baz=219						
YUS	**Yu-Shan**	**1.83**	**233**	*e*P	**Pn**	**01 09 18.3**	**+1.0**
	baz=230						
YUS				*e*S	**Sb**	**01 09 41.4**	**-0.9**
	baz=230						
ALS	**Alishan**	**1.92**	**236**	P	**Pb**	**01 09 20.5**	**-0.5**
	baz=233						
ALS				*e*S	**Sb**	**01 09 44.1**	**-0.7**
	baz=233						
CHN5	**Tsauling**	**1.97**	**240**	*e*P	**Pb**	**01 09 21.6**	**-0.1**
	baz=237						
CHN5				S	**Sb**	**01 09 47.3**	**+1.1**
	baz=237						
JTJ	**Tarama**	**1.97**	**89**	P	**Pn**	**01 09 19.6**	**+0.7**
JTJ				*e*S	**Sn**	**01 09 44.4**	**+1.1**
ELDTW	**Lidau**	**1.98**	**225**	*e*P	**Pn**	**01 09 20.1**	**+0.9**
	baz=222						
ELDTW				*e*S	**Sb**	**01 09 45.8**	**-0.6**
	baz=222						
WTP	**Ta-pu**	**2.22**	**233**	*e*P	**Pn**	**01 09 24.1**	**+1.8**
	baz=230						
WTP				*e*S	**Sb**	**01 09 52.0**	**-1.2**
	baz=230						
TWK	**Hsinying**	**2.30**	**235**	*e*P	**Pn**	**01 09 25.3**	**+1.8**
	baz=232						
TWK				*e*S	**Sb**	**01 09 53.5**	**-2.0**
	baz=232						
CHN1	**Nanshi**	**2.32**	**233**	*e*P	**Pn**	**01 09 25.7**	**+2.0**
	baz=230						
CHN1				*e*S	**Sb**	**01 09 54.5**	**-1.5**
	baz=230						
SGST	**Jiashian**	**2.34**	**230**	*e*P	**Pn**	**01 09 26.0**	**+1.9**
	baz=227						
SGST				*e*S	**Sb**	**01 09 55.8**	**-1.0**
	baz=227						
SSD	**Sandimen**	**2.54**	**224**	*e*P	**Pb**	**01 09 30.8**	**-0.7**
	baz=221						

*CSEM **07** 01:28:27.5±0.4, 37°.33N×20°.21E, h2km, MD3.5, Error ellipse: s-maj=7.4km s-min=4.1km az=50.0*
*ATH **07** 01:28:27.4, 37°.35N×20°.25E, h10km±2km, MD3.5/18*
*THE **07** 01:28:28.3, 37°.35N×20°.25E, h0km±1km, ML3.2/4, Error ellipse: s-maj=1.5km s-min=0.6km az=234.0*
ISC 07 01:28:24.5±1.6, 37°27N±0°.04×20°08E±0°.05, h1km±10km, n76, σ0°89/107, 1C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.99**	**24**	P	**Pb**	**01 28 44.1**	**-0.3**
VLS				S	**Sb**	**01 28 57.6**	**-0.4**
VLS	**Valsamata**	**0.99**	**24**	*e*PG	**Pg**	**01 28 43.7**	**+0.2**
VLS				*e*SB	**Sg**	**01 28 55.7**	**-0.6**
VLS	**Valsamata**	**0.99**	**24**	*e*Pg	**Pg**	**01 28 43.7**	**+0.2**
VLS	**Valsamata**	**0.99**	**24**	P	**Pb**	**01 28 44.1**	**-0.3**
VLS				*e*Sb	**Sg**	**01 28 55.7**	**-0.6**
VLS				S	**Sb**	**01 28 57.6**	**-0.4**
KFL	**Anninata**	**1.01**	**34**	P	**Pg**	**01 28 44.2**	**+0.4**
KFL				S	**Sb**	**01 28 57.4**	**-1.1**
KFL	**Anninata**	**1.01**	**34**	P	**Pg**	**01 28 44.2**	**+0.4**
KFL				S	**Sb**	**01 28 57.4**	**-1.1**
AMT	**Artemida-Makis**	**1.32**	**78**	P	**Pn**	**01 28 50.5**	**+0.4**
AMT				S	**Sn**	**01 29 07.7**	**-0.7**
AMT	**Artemida-Makis**	**1.32**	**78**	*e*PB	**Pb**	**01 28 49.9**	**-0.2**
AMT	**Artemida-Makis**	**1.32**	**78**	*e*Pb	**Pb**	**01 28 49.9**	**-0.2**
AMT	**Artemida-Makis**	**1.32**	**78**	P	**Pn**	**01 28 50.5**	**+0.4**
AMT				S	**Sn**	**01 29 07.7**	**-0.7**
RLS	**Riolos of Patr**	**1.35**	**54**	P	**Pn**	**01 28 50.7**	**+0.1**
RLS				S	**Sn**	**01 29 08.5**	**-0.6**
RLS	**Riolos of Patr**	**1.35**	**54**	*e*PN	**Pg**	**01 28 49.7**	**-0.7**
RLS				*e*SB	**Sg**	**01 29 06.7**	**-1.2**
RLS	**Riolos of Patr**	**1.35**	**54**	*e*Pg	**Pg**	**01 28 49.7**	**-0.7**
RLS	**Riolos of Patr**	**1.35**	**54**	P	**Pb**	**01 28 50.7**	**+0.1**
RLS				*e*Sb	**Sg**	**01 29 06.7**	**-1.2**
RLS				S	**Sn**	**01 29 08.4**	**-0.6**
PYL	**PYLOS**	**1.38**	**105**	P	**Pb**	**01 28 51.8**	**+0.7**
PYL				S	**Sn**	**01 29 10.8**	**+1.0**
PYL	**PYLOS**	**1.38**	**105**	*e*PG	**Pb**	**01 28 51.1**	**0.0**
PYL				*e*SB	**Sg**	**01 29 08.6**	**-0.3**
PYL	**PYLOS**	**1.38**	**105**	*e*Pg	**Pb**	**01 28 51.1**	**0.0**
PYL	**PYLOS**	**1.38**	**105**	P	**Pb**	**01 28 51.4**	**+0.3**
PYL				*e*Sb	**Sg**	**01 29 08.6**	**-0.3**
PYL				S	**Sn**	**01 29 09.3**	**-0.5**
DRO	**Drossia**	**1.46**	**62**	P	**Pb**	**01 28 52.9**	**+0.4**
DRO				S	**Sn**	**01 29 11.9**	**+0.1**
DRO	**Drossia**	**1.46**	**62**	P	**Pb**	**01 28 52.9**	**+0.4**
DRO				S	**Sn**	**01 29 11.9**	**+0.1**
ITM	**Ithomi**	**1.48**	**93**	P	**Pg**	**01 28 53.2**	**+0.4**
ITM				S	**Sn**	**01 29 12.6**	**+0.4**
ITM	**Ithomi**	**1.48**	**93**	*e*PB	**Pg**	**01 28 53.0**	**+0.2**
ITM				*e*SB	**Sg**	**01 29 11.5**	**-0.5**
ITM	**Ithomi**	**1.48**	**93**	P	**Pg**	**01 28 53.1**	**+0.2**
ITM				S	**Sg**	**01 29 11.3**	**-0.7**
LKD2	**Lefkada island**	**1.58**	**17**	P	**Pg**	**01 28 55.2**	**+0.4**
LKD2				S	**Sg**	**01 29 16.3**	**+1.0**
LKD2	**Lefkada island**	**1.58**	**17**	*e*PB	**Pg**	**01 28 55.9**	**+1.1**
LKD2	**Lefkada island**	**1.58**	**17**	P	**Pg**	**01 28 55.2**	**+0.4**
LKD2	**Lefkada island**	**1.58**	**17**	*e*Pb	**Pg**	**01 28 55.9**	**+1.1**
LKD2				S	**Sg**	**01 29 16.3**	**+1.0**
PDO	**Prodromos**	**1.59**	**33**	P	**Pg**	**01 28 55.2**	**+0.3**
PDO				S	**Sg**	**01 29 15.6**	**+0.2**
PDO	**Prodromos**	**1.59**	**33**	P	**Pg**	**01 28 55.2**	**+0.3**
PDO				S	**Sg**	**01 29 15.6**	**+0.2**
PVO	**Paravola**	**1.76**	**40**	P	**Pb**	**01 28 58.0**	**-0.3**
PVO				S	**Sb**	**01 29 19.6**	**-0.6**
PVO	**Paravola**	**1.76**	**40**	P	**Pb**	**01 28 57.7**	**+0.1**
PVO				S	**Sg**	**01 29 20.7**	**-0.4**
LAKA	**Lakka**	**1.79**	**57**	P	**Pb**	**01 28 58.3**	**+0.2**
LAKA	**Lakka**	**1.79**	**57**	*e*PB	**Pg**	**01 28 58.5**	**-0.3**
LAKA	**Lakka**	**1.79**	**57**	P	**Pb**	**01 28 58.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.82**	**64**	P	**Pb**	**01 28 58.0**	**-0.5**
KLV	**Kalavryta, Ach**	**1.82**	**64**	*e*PB	**Pb**	**01 28 58.2**	**-0.3**
KLV	**Kalavryta, Ach**	**1.82**	**64**	P	**Pb**	**01 28 58.2**	**-0.3**
GUR	**Goura**	**1.92**	**69**	P	**Pn**	**01 28 59.1**	**+0.8**
GUR				S	**Sn**	**01 29 23.4**	**+0.3**
GUR	**Goura**	**1.92**	**69**	*e*PN	**Pb**	**01 28 59.7**	**-0.6**
GUR	**Goura**	**1.92**	**69**	*e*Pn	**Pb**	**01 28 59.7**	**-0.6**
GUR				S	**Sn**	**01 29 23.4**	**+0.3**
KALE	**Kalithea**	**1.98**	**55**	P	**Pb**	**01 29 01.5**	**+0.2**
KALE	**Kalithea**	**1.98**	**55**	*e*PG	**Pb**	**01 29 01.4**	**+0.2**
KALE	**Kalithea**	**1.98**	**55**	P	**Pb**	**01 29 01.5**	**+0.2**
EVR	**Evrytania**	**2.13**	**39**	P	**Pb**	**01 29 04.1**	**+0.1**
EVR	**Evrytania**	**2.13**	**39**	*e*PG	**Pb**	**01 29 04.0**	**+0.1**
EVR	**Evrytania**	**2.13**	**39**	P	**Pb**	**01 29 04.1**	**+0.1**
DSF	**Desfina**	**2.25**	**59**	P	**Pn**	**01 29 04.0**	**+1.2**
DSF				S	**Sn**	**01 29 31.8**	**+0.6**
DSF	**Desfina**	**2.25**	**59**	*e*PN	**Pb**	**01 29 04.4**	**-1.5**
DSF	**Desfina**	**2.25**	**59**	P	**Pn**	**01 29 04.0**	**+1.2**
DSF	**Desfina**	**2.25**	**59**	*e*Pn	**Pb**	**01 29 04.4**	**-1.5**
DSF				S	**Sn**	**01 29 31.8**	**+0.6**
IGT	**Igoumenitsa**	**2.27**	**5**	P	**Pb**	**01 29 05.4**	**-0.7**
IGT	**Igoumenitsa**	**2.27**	**5**	*e*PN	**Pb**	**01 29 06.0**	**-0.1**
IGT	**Igoumenitsa**	**2.27**	**5**	P	**Pb**	**01 29 05.4**	**-0.7**
IGT	**Igoumenitsa**	**2.27**	**5**	*e*Pn	**Pb**	**01 29 06.0**	**-0.1**
VLI	**Veliai**	**2.35**	**103**	*e*PN	**Pb**	**01 29 06.9**	**-0.8**
VLI	**Veliai**	**2.35**	**103**	*e*Pn	**Pb**	**01 29 06.9**	**-0.8**
MAKR	**Makrakomi, Fth**	**2.38**	**42**	P	**Pb**	**01 29 07.2**	**-0.8**
MAKR	**Makrakomi, Fth**	**2.38**	**42**	*e*PN	**Pb**	**01 29 07.1**	**-0.9**
MAKR	**Makrakomi, Fth**	**2.38**	**42**	*e*Pn	**Pb**	**01 29 07.1**	**-0.9**
AGG	**Agios Georgios**	**2.49**	**45**	P	**Pn**	**01 29 07.6**	**+1.4**
AGG	**Agios Georgios**	**2.49**	**45**	*e*PN	**Pn**	**01 29 08.0**	**+1.8**
AGG	**Agios Georgios**	**2.49**	**45**	P	**Pn**	**01 29 07.6**	**+1.4**
AGG	**Agios Georgios**	**2.49**	**45**	*e*Pn	**Pn**	**01 29 08.0**	**+1.8**
DID	**Didima**	**2.53**	**84**	*e*PN	**Pn**	**01 29 08.5**	**+1.9**
DID	**Didima**	**2.53**	**84**	*e*Pn	**Pn**	**01 29 08.5**	**+1.9**
KYTH	**Kithira**	**2.57**	**112**	*e*PN	**Pb**	**01 29 10.2**	**-1.2**
KYTH	**Kithira**	**2.57**	**112**	*e*Pn	**Pb**	**01 29 10.2**	**-1.2**
THL	**Klokotos Trika**	**2.75**	**33**	P	**Pn**	**01 29 11.5**	**+1.9**
THL	**Klokotos Trika**	**2.75**	**33**	*e*PB	**Pn**	**01 29 11.5**	**+1.9**
THL	**Klokotos Trika**	**2.75**	**33**	P	**Pn**	**01 29 11.5**	**+1.9**
STON	**Ston**	**5.88**	**343**	*i* Pn	**Pn**	**01 29 53.9**	**+1.2**
STON				Sn	**Sn**	**01 30 57.0**	**-3.7**
SJES	**Sjenica**	**5.98**	**359**	*e*Pn	**Pn**	**01 29 54.7**	**+0.5**
DIVS	**Divibare**	**6.82**	**359**	*e*Pn	**Pn**	**01 30 06.2**	**+0.5**
UDBI	**Udbina**	**7.95**	**337**	*e*Pn	**Pn**	01 30 25.6	+4.4
UDBI				Sn	**Sn**	**01 31 51.0**	**-0.6**
UDBI	**Udbina**	**7.95**	**337**	*e*Pn	Pn	01 30 25.5	+4.4
SOKA	**Soboth**	**10.12**	**340**	↑*i*Pn	**Pn**	**01 30 51.8**	**+0.9**

*NIED **07** 01:38:00, 30°.20N×142°.40E, h11km, Mw4.3 Best double couple: M0=3.39000×10^15 NP1:φ=139.00000°, δ70.00000°, λ70.00000°. NP2:φ=5.00000°, δ28.00000°, λ133.00000°.*
*IDC **07** 01:38:11.5±0.7, 30°.64N×141°.78E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.9/26, mbtmp3.8/14, ML4.0/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/41, Error ellipse: s-maj=24.1km s-min=16.7km az=86.0*
*ISCJB **07** 01:38:13.5±0.5, 30°.61N±0°.05×141°.8E±0°.1, h23km,*

mb3.8/12, MS3.4/2, Error ellipse: s-maj=17.2km s-min=6.2km az=164.4
ISC 07 01:38:15.2±0.6, 30°61N±0°.07×141°8E±0°2, h23km, n20, σ0°86/18, mb3.9/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.52**	**175**	Pn	**Pn**	**01 39 09.9**	**+1.5**
	11nm,0.3s,baz=278,slow=22,SNR=3.0						
JCJ				Sn	**Sn**	**01 39 48.8**	**-0.5**
	24nm,0.3s,baz=288,slow=20,SNR=3.8						
MJAR	**Matsushiro Arr**	**6.64**	**334**	Pn	**Pn**	**01 39 51.2**	**-0.2**
	3.5nm,0.3s,baz=158,slow=11,SNR=12						
MAT	**Matsushiro**	**6.64**	**334**	P	**Pn**	**01 39 51.3**	**-0.1**
MAT				S	**Sn**	**01 41 08.3**	**+1.9**
JNU	**Nakatsue**	**9.64**	**288**	LR	LR	01 44 07.0	
	comp=Z,208nm,19.6s,baz=137,slow=37						
KSRS	**Korea Array**	**13.39**	**304**	Pn	Pn	01 41 27.2	+3.5
	0.2nm,0.3s,baz=125,slow=13,SNR=2.9						
KSRS				LR	LR	01 46 41.8	
	comp=Z,76nm,18.3s,baz=157,slow=38						
USRK	**Ussuriysk Arra**	**15.64**	**333**	LR	LR	01 47 22.2	
	comp=Z,60nm,21.9s,baz=54,slow=35						
SONM	**Songino Array**	**32.04**	**313**	P	**P**	**01 44 40.4**	**+0.3**
	0.6nm,0.5s,baz=125,slow=8.7,SNR=5.7						
SONM				LR	LR	01 58 28.9	
	comp=Z,70nm,18.2s,baz=358,slow=38						
CMAR	**Chiang Mai Arr**	**40.61**	**263**	LR	LR	02 03 29.7	
	comp=Z,57nm,18.1s,baz=147,slow=37						
MKAR	**Makanchi Array**	**48.05**	**307**	P	**P**	**01 46 52.7**	**0.0**
	0.7nm,0.5s,baz=87,slow=9.5,SNR=18						
WRA	**Warramunga Arr**	**50.77**	**189**	P	**P**	**01 47 13.8**	**+0.1**
	2.1nm,0.6s,baz=6.9,slow=7.8,SNR=23						
ASAR	**Alice Springs**	**54.50**	**189**	P	**P**	**01 47 41.1**	**-0.1**
	0.6nm,0.4s,baz=0.1,slow=5.3,SNR=11						
ILAR	**Eielson Array**	**54.81**	**30**	P	**P**	**01 47 42.6**	**-0.3**
	0.5nm,0.7s,baz=259,slow=6.8,SNR=7.8						
INK	**Inuvik**	**59.99**	**25**	P	**P**	**01 48 19.6**	**+0.2**
	1.4nm,0.9s,baz=256,slow=7.1,SNR=3.4						
FINES	**FINESS Array B**	**74.67**	**333**	P	**P**	**01 49 52.5**	**0.0**
	2.4nm,0.8s,baz=54,slow=6.4,SNR=13						
NVAR	**Mina Array Bea**	**78.61**	**52**	P	**P**	**01 50 16.3**	**+0.8**
	0.3nm,0.5s,baz=316,slow=6.2,SNR=4.0						
AKASG	**Malin Array Be**	**79.61**	**323**	P	**P**	**01 50 19.3**	**-1.1**
	0.2nm,0.3s,baz=55,slow=5.5,SNR=3.2						
PDAR	**Pinedale Array**	**81.95**	**45**	P	**P**	**01 50 33.5**	**0.0**
	0.2nm,0.7s,baz=228,slow=4.7,SNR=2.4						
BRTR	**Keskin Array B**	**83.39**	**312**	P	**P**	**01 50 40.0**	**-0.9**
	1.0nm,0.9s,baz=123,slow=3.4,SNR=5.3						
TXAR	**Lajitas Array**	**93.75**	**53**	P	**P**	**01 51 30.7**	**0.0**
	0.2nm,0.7s,baz=296,slow=2.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**122.01**	**313**	PKP	**PKPdf**	**01 57 07.1**	**-1.4**
	0.2nm,0.5s,baz=18,slow=2.6,SNR=2.5						

*CSEM **07** 01:40:23.6, 37°.37N×24°.41W, h10km, ML2.3, After PDA*
PDA 07 01:40:23.6±1.3, 37°37N×24°41W, h10km, MD3.6, ML2.3, Error ellipse: s-maj=11.6km s-min=4.4km az=86.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.64**	**235**	*e*P	Pg	01 40 33.9	-2.1
PSMN				*e*S	Sg	01 40 41.6	-2.7
PSMN				A	A	01 40 42.2	
	34nm,0.3s						
PSMN	**Pico do Norte,**	**0.64**	**235**	*e*P	Pg	01 40 33.9	-2.1
PSMN				*e*S	Sg	01 40 41.6	-2.7
PSMA	**Santa Maria**	**0.68**	**237**	*e*P	Pg	01 40 34.5	-2.3
PSMA				*e*S	Sg	01 40 42.7	-3.1
PSMA				A	A	01 40 43.3	
	25nm,0.2s						
BART	**Pico Bartolome**	**0.73**	**304**	*e*P	Pg	01 40 34.7	-3.1
BART				*e*S	Sg	01 40 43.5	-3.9
BART				A	A	01 40 45.1	
	100nm,0.3s						
BART	**Pico Bartolome**	**0.73**	**304**	*e*P	Pg	01 40 34.7	-3.1
BART				*e*S	Sg	01 40 43.5	-3.9
GRON	**Grota Negra**	**0.98**	**295**	*e*P	Pg	01 40 37.2	-5.3
GRON				*e*S	Sg	01 40 47.4	-7.9
GRON				A	A	01 40 48.8	
	22nm,0.1s						
PDA	**Ponta Delgada**	**1.06**	**291**	*e*P	Pg	01 40 40.1	-4.0
PDA				*e*S	Sg	01 40 52.4	-5.5
PDA				A	A	01 40 53.2	
	59nm,0.2s						
PDA	**Ponta Delgada**	**1.06**	**291**	*e*P	Pg	01 40 40.1	-4.0
PDA				*e*S	Sg	01 40 52.4	-5.5
PSET	**Sete Cidades**	**1.14**	**294**	*e*P	Pb	01 40 41.5	-3.9
PSET				*e*S	Sb	01 40 54.0	-6.3
PSET				A	A	01 40 57.6	
	72nm,0.4s						
PSET	**Sete Cidades**	**1.14**	**294**	*e*P	Pb	01 40 41.5	-3.9
PSET				*e*S	Sb	01 40 54.0	-6.3

*IDC **07** 01:52:11.9±1.8, 6°.45S×129°.64E, h0km, mb3.8/2, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=144.3km s-min=29.5km az=70.0*
*ISCJB **07** 01:52:27.3±0.9, 7°.40S±0°.07×128°.3E±0°.1, h151km, mb3.4/2, Error ellipse: s-maj=16.2km s-min=10.3km az=7.8*
*AUST **07** 01:52:29.1, 7°.49S×128°.54E, h100km*
**ISC 07 01:52:29.7±1.0, 7°45S±0°09×128°4E±0°

APG LR LR 02 03 31.1
comp=Z,2µm,18.7s,baz=138,slow=27
APG S Sn **02 03 42.1 +5.3**
31nm,0.3s,baz=202,slow=19,SNR=6.3
RBDL Robledal 2.78 87 *eP* **Pn 02 03 17.1 +0.1**
RTR El Retiro 2.82 91 *eP* **Pn 02 03 17.9 +0.3**
SBLS San Blas 2.84 92 *eP* **Pn 02 03 18.4 +0.4**
SNJE San Jose 2.86 92 *eP* **Pn 02 03 18.3 +0.2**
MRL Marmol 2.97 68 *eP* **Pn 02 03 21.9 +2.1**
BOQS Boqueron 3.18 94 *eP* **Pn 02 03 22.9 +0.3**
BOQS *eS* **Sn 02 04 01.4 +1.9**
SNET Serv Nac Est T 3.23 95 *eP* **Pn 02 03 23.7 +0.4**
SNET *eS* **Sn 02 04 01.6 +1.0**
SNET AML AML 02 04 08.9
comp=Z,542nm,0.6s
LFU La Fuente 3.34 93 *eP* **Pn 02 03 24.8 +0.1**
LFU *eS* **Sn 02 04 06.5 +3.3**
LFRS El Faro 3.40 95 *eP* **Pn 02 03 26.3 +0.7**
LFRS *eS* **Sn 02 04 08.2 +3.4**
HUIG Huatulco 3.88 298 *i* P Pn 02 03 27.6 -4.4
HUIG *i* S Sn 02 04 06.8 -10
VSM San Miguel 4.19 97 *eP* **Pn 02 03 37.5 +1.0**
TUIG Tuzandepetl 4.42 336 *eP* Pn 02 03 35.7 -3.8
TUIG *i* S Sn 02 04 19.4 -10
CNCH Conchagua 4.63 98 *eP* **Pn 02 03 42.2 -0.3**
VHO Vista Hermosa 5.08 308 *eP* Pn 02 03 44.6 -4.0
VHO *i* S Sn 02 04 36.8 -9.4
TGUH Tegucigalpa,Un 5.12 88 *eP* **Pn 02 03 48.2 -0.8**
TGUH *eS* Sn 02 04 54.4 +7.4
COPN Copaltepe 6.07 106 *eP* **Pn 02 04 01.4 -0.7**
UTMO Huajuapan 6.35 308 *eP* Pn 02 04 02.5 -3.7
UTMO *i* S Sn 02 05 08.1 -9.5
TEIG Tepich 7.44 33 *eP* **Pn 02 04 21.3 +0.4**
TEIG *eS* **Sn 02 05 42.6 -1.5**
TEIG Tepich 7.44 33 P **Pn 02 04 21.9 +0.9**
comp=Z,3.2nm,0.3s,baz=198,slow=5.8,SNR=16
TEIG LR LR 02 07 41.5
comp=Z,6µm,18.5s,baz=240,slow=42
JTS JuntasAbangare 8.28 115 *eP* **Pn 02 04 32.3 -0.2**
JTS JuntasAbangare 8.28 115 P **Pn 02 04 32.4 0.0**
comp=Z,0.6nm,0.3s,baz=8,8,slow=12,SNR=5.2
SOR Soroa 12.60 45 *e* **P 02 05 41.4 -0.9**
MGV Manicaragua 14.43 54 *e* Pn 02 05 51.1 -5.4
MTDJ Mount Denham 15.03 72 *eP* P 02 06 18.6 +9.1
HKT Hockley 16.19 350 *eP* **Pn 02 06 20.2 +0.8**
comp=Z,288nm,2.1s
732A Laxson Ranch, 16.22 336 ⇑P **P 02 06 23.0 +0.5**
baz=16,SNR=23
632A Uvalde 16.85 338 ⇓P **P 02 06 30.4 +0.9**
baz=17
534A Blanco 16.89 342 ⇑P **P 02 06 30.4 +0.4**
baz=17,SNR=6.2
631A Perdido Creek 17.07 335 ⇓P **P 02 06 32.1 +0.2**
baz=17,SNR=14
533A Kerrville 17.11 341 ⇑P **P 02 06 33.2 +0.8**
baz=17,SNR=6.0
HLGC Holguin 17.16 64 *e* P 02 06 37.7 +4.7
RCC Rio Carpintero 17.19 67 *e* **P 02 06 37.0 +3.7**
532A Rocksprings 17.46 338 ⇑P **P 02 06 37.6 +1.3**
baz=18,SNR=13
434A Burnet 17.57 343 ⇓P **P 02 06 38.9 +1.4**
baz=18
GTBY Guantanamo Bay 17.70 68 Pn **Pn 02 06 37.7 -0.6**
comp=Z,114nm,1.5s
BRAL Brewton 17.70 16 *eP* **Pn 02 06 37.2 -1.1**
comp=Z,30nm,0.4s
531A Rocksprings 17.73 337 ⇑P **P 02 06 40.4 +1.1**
baz=18,SNR=6.4
JCT Junction City 17.74 339 *eP* **Pn 02 06 40.2 +0.8**
comp=Z,83nm,1.5s
JCT Junction City 17.74 339 ⇓P **P 02 06 40.6 +1.2**
baz=18
433A Art 17.76 341 ⇓P **P 02 06 39.8 +0.3**
baz=18
335A Moody 17.80 346 ⇑P **P 02 06 40.8 +0.7**
baz=18
530A J-C Ranch, Com 18.03 335 ⇓P **P 02 06 43.8 +1.2**
baz=18,SNR=6.1
334A Lometa 18.05 344 ⇓P **P 02 06 43.3 +0.5**
baz=18
432A Menard 18.10 340 ⇓P **P 02 06 43.6 +0.3**
baz=18
628A Black Gap, Mar 18.17 330 ⇓P **Pn 02 06 45.8 +1.7**
baz=18,SNR=11
431A Sonora 18.21 337 ⇓P **Pn 02 06 45.7 +1.0**
baz=18,SNR=7.0
333A Richland Sprin 18.26 342 ⇓P **Pn 02 06 45.5 +0.3**
baz=18,SNR=6.7
627A Terlingua Ranc 18.39 329 ⇑P **Pn 02 06 48.2 +1.3**
baz=18,SNR=21
529A Stev Forest Ra 18.39 333 ⇓P **Pn 02 06 47.5 +0.7**
baz=18,SNR=8.0
TXAR Lajitas Array 18.43 328 P **Pn 02 06 48.8 +1.4**
TXAR Lajitas Array 18.43 328 P **Pn 02 06 48.8 +1.4**
comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=26
TXAR LR LR 02 14 55.3
comp=Z,478nm,19.9s,baz=0.0,slow=40
WHTX Lake Whitney 18.49 347 *eP* **Pn 02 06 49.5 +1.4**
WHTX Lake Whitney 18.49 347 ⇓P **Pn 02 06 48.4 +0.4**
baz=19
332A Millersview 18.55 340 ⇓P **Pn 02 06 48.7 0.0**
baz=19,SNR=9.3
430A Baggett Ranch, 18.55 336 ⇑P **Pn 02 06 49.5 +0.7**
baz=19,SNR=12
MASC Masc 18.56 68 *e* P 02 06 40.3 -8.1
429A Davenport Ranc 18.68 334 ⇓P **Pn 02 06 50.9 +0.6**
baz=19,SNR=10
528A Cox Ranch, San 18.68 331 ⇓P **Pn 02 06 51.4 +0.9**
baz=19,SNR=9.0
331A San Angelo 18.71 339 ⇑P **Pn 02 06 51.3 +0.6**
baz=19,SNR=20
626A Big Bend Ranch 18.85 327 ⇑P **Pn 02 06 53.0 +0.5**
baz=19,SNR=17
232A Coleman 18.98 341 ⇓P **Pn 02 06 53.9 -0.2**
baz=19,SNR=7.4
135A Vickery Place, 19.03 347 ⇑P **Pn 02 06 54.5 0.0**
baz=19
527A Woodward Ranch 19.06 329 ⇑P **Pn 02 06 55.5 +0.4**
baz=19,SNR=12
330A Mertzon 19.08 337 ⇓P **Pn 02 06 55.1 0.0**
baz=19,SNR=7.1
428A Kincaid Ranch, 19.11 332 ⇓P **Pn 02 06 55.6 0.0**
baz=19,SNR=7.1
134A White-Moore Ra 19.20 346 ⇓P **P 02 06 55.4 +0.1**
baz=19
TIGA Tifton 19.23 24 *eP* **Pn 02 06 56.8 -0.1**
TIGA Tifton 19.23 24 ⇑P **P 02 06 55.9 +0.2**
baz=19
526A Mary Lane Ranc 19.23 328 ⇓P **Pn 02 06 57.2 0.0**
baz=19,SNR=18
231A Bronte 19.25 340 ⇑P **P 02 06 56.5 +0.6**
baz=19,SNR=13
133A Hamilton Ranch 19.44 344 ⇓P **Pn 02 06 59.0 -0.5**
baz=20,SNR=7.8
329A Wagon Wheel Ra 19.47 335 ⇑P **Pn 02 06 59.7 -0.1**
baz=20,SNR=8.5
230A Sterling City 19.48 338 ⇑P **P 02 06 59.2 +0.7**
baz=20,SNR=15
OTAV Otavalo 19.52 133 *eP* **Pn 02 07 00.3 -0.6**
comp=Z,28nm,1.4s
427A Hayter Ranch, 19.55 331 ⇓P **Pn 02 07 00.5 -0.3**
baz=20
LPIG La Paz 19.56 304 LR LR 02 15 07.8
comp=Z,698nm,20.2s,baz=110,slow=38
LRAL Lakeview Retre 19.64 14 *eP* **P 02 07 00.9 +0.8**
comp=Z,215nm,1.9s
ABTX Abilene, Hawle 19.67 342 ⇑P **P 02 07 01.2 +0.7**
baz=20,SNR=11
426A McDonald Obser 19.70 329 ⇑P **Pn 02 07 02.5 -0.3**
baz=20,SNR=14
328A Wristen Ranch, 19.73 333 ⇓P **Pn 02 07 02.6 -0.3**
baz=20,SNR=20
Z35A Perchaven, San 19.74 348 ⇓P **P 02 07 02.2 +0.9**
baz=20,SNR=6.4
229A Bryant Ranch, 19.82 336 ⇑P **Pn 02 07 03.8 -0.2**
baz=20,SNR=7.6
Z34A Collier Ranch, 19.92 347 ⇑P **P 02 07 04.2 +1.0**
baz=20
131A Roby 19.95 340 ⇑P **P 02 07 04.1 +0.5**
baz=20,SNR=9.4
327A Balmorhea Ranc 20.02 332 ⇑P **P 02 07 05.3 +0.9**
baz=20
Z33A Whitaker Ranch 20.05 345 ⇑P **P 02 07 05.1 +0.5**
baz=20,SNR=15
130A Snyder 20.07 339 ⇓P **P 02 07 05.4 +0.5**
baz=20
ROSC El Rosal 20.11 115 *eP* Pn 02 07 08.7 +0.7
ROSC El Rosal 20.11 115 P **P 02 07 06.6 +0.8**
comp=Z,0.3nm,0.3s,baz=97,slow=5,5,SNR=23
326A Caldwell Ranch 20.21 331 ⇑P **P 02 07 07.4 +1.0**
baz=20
Z32A Haskell 20.26 343 ⇑P **P 02 07 07.2 +0.3**
baz=20,SNR=20
228A UT Block 9, Go 20.27 335 ⇓P **P 02 07 07.6 +0.5**
baz=20,SNR=11
425A Indio Mountain 20.28 328 ⇓P **P 02 07 08.3 +1.1**
baz=20,SNR=9.6
129A Stewart Farms, 20.43 337 ⇑P **P 02 07 09.3 +0.4**
baz=21,SNR=22
Y34A Reagan Ranch, 20.45 348 ⇑P **P 02 07 09.3 +0.3**
baz=21
Z31A Sharp Cattle R 20.46 342 ⇑P **P 02 07 09.3 +0.1**
baz=21,SNR=23
227A Bennet, Jal 20.48 333 ⇓P **P 02 07 10.0 +0.6**
baz=21,SNR=13
MIAR Mount Ida 20.51 358 *eP* **P 02 07 09.6 0.0**
comp=Z,134nm,1.4s
OXF Oxford 20.65 7 *eP* **P 02 07 11.1 +0.1**
comp=Z,111nm,1.3s
128A Castleberry Fa 20.66 336 ⇑P **P 02 07 11.8 +0.5**
baz=21,SNR=39
Y33A Hilltop Ranch, 20.70 346 ⇑P **P 02 07 11.6 -0.1**
baz=21,SNR=12
325A Bean Ranch, Si 20.74 329 ⇓P **P 02 07 12.4 +0.1**
baz=21,SNR=16
Z30A Sanderson Ranc 20.75 339 ⇑P **P 02 07 11.9 -0.5**
baz=21,SNR=28
Y32A R-V Farms, Ver 20.90 344 ⇑P **P 02 07 13.6 -0.3**
baz=21,SNR=17
226B Tecolote Peak, 20.93 331 ⇑P **P 02 07 15.6 +1.4**
baz=21
Z29A Hungry Hill Ra 20.93 338 ⇑P **P 02 07 14.0 -0.3**
baz=21,SNR=29
324A Moseley Ranch, 21.06 328 ⇓P **P 02 07 16.0 +0.3**
baz=21,SNR=22
127A Arkansas Junct 21.07 334 ⇑P **P 02 07 15.9 +0.1**
baz=21,SNR=6.2
X34A Smith Ranch, M 21.09 348 ⇓P **P 02 07 16.1 +0.3**
baz=21
Y31A Rekieta Farm, 21.10 342 ⇓P **P 02 07 16.5 +0.5**
baz=21,SNR=32
X33A Lawton 21.18 346 ⇓P **P 02 07 16.6 -0.2**
baz=21,SNR=20
MNTX Cornudas Mount 21.21 328 *eP* **P 02 07 17.2 0.0**
comp=Z,57nm,1.4s
Z28A Tucker Farm, M 21.21 337 ⇑P **P 02 07 17.6 +0.3**
baz=21,SNR=19
Y30A Stafford Cattl 21.22 340 ⇓P **P 02 07 17.2 -0.1**
baz=21
X32A Elmer 21.26 344 ⇑P **P 02 07 17.5 -0.1**
baz=21,SNR=15
225A Deer Hill, Car 21.27 330 ⇑P **P 02 07 18.2 +0.2**
baz=21,SNR=11
126A Clayton Basin, 21.34 333 ⇓P **P 02 07 18.6 -0.1**
baz=22,SNR=17
WMOK Wichita Mounta 21.43 346 *eP* **P 02 07 20.1 +0.6**
comp=Z,81nm,1.8s
Y29A Porterfield Fa 21.46 339 ⇓P **P 02 07 20.0 0.0**
baz=22,SNR=20
HBAR Hasburg 21.56 4 *eP* **P 02 07 22.1 +1.3**
Z27A Tatum 21.57 335 ⇑P **P 02 07 21.1 0.0**
baz=22,SNR=22
224A Cornudas Mount 21.58 329 ⇑P **P 02 07 21.5 +0.2**
baz=22,SNR=21
125A Gardner Draw, 21.64 331 ⇑P **P 02 07 22.3 +0.4**
baz=22,SNR=26
X31A McDonald Ranch 21.64 343 ⇓P **P 02 07 21.8 0.0**
baz=22,SNR=19
W34A Bridge Creek, 21.69 348 ⇑P **P 02 07 21.6 -0.7**
baz=22,SNR=18
Y28A McKinney Farm, 21.71 338 ⇑P **P 02 07 22.6 -0.1**
baz=22,SNR=37
X30A Coker Ranch, T 21.73 341 ⇓P **P 02 07 23.0 +0.2**
baz=22,SNR=25
W33A Caddo, Fort Co 21.76 347 ⇑P **P 02 07 22.8 -0.2**
baz=22,SNR=9.6
Z26A Caprock 21.85 334 ⇓P **P 02 07 24.2 0.0**
baz=22,SNR=20
W32A Sentinel 21.91 345 ⇑P **P 02 07 24.5 -0.2**
baz=22,SNR=10.0
MSTX Muleshoe 21.97 337 *eP* **P 02 07 25.7 +0.4**
MSTX Muleshoe 21.97 337 ⇑P **P 02 07 25.5 +0.1**
baz=22,SNR=10.0
SWET Sewanee 21.98 15 *eP* **P 02 07 25.0 -0.4**
comp=Z,160nm,1.7s
223A Chaparral, Ant 21.99 327 ⇑P **P 02 07 25.8 +0.1**
baz=22
X29A Tulia 22.00 339 ⇓P **P 02 07 25.7 -0.1**
baz=22,SNR=14
TUL1 Tulsa 22.04 353 ⇑P **P 02 07 25.5 -0.5**
baz=22
Y27A Causey 22.04 336 ⇑P **P 02 07 25.5 -0.7**
baz=22,SNR=12
124A Stringfield Ra 22.05 330 ⇑P **P 02 07 27.2 +0.7**
baz=22,SNR=20
SDV Santo Domingo 22.06 101 *eP* **P 02 07 25.3 -1.4**
comp=Z,3nm,1.2s
W31A Holland Ranch, 22.15 344 ⇓P **P 02 07 26.7 -0.7**
baz=22,SNR=13
Z25A Roswell 22.18 332 ⇑P **P 02 07 28.0 +0.3**
baz=22,SNR=12
V34A Guthrie 22.23 349 ⇑P **P 02 07 27.8 -0.3**
baz=22,SNR=8.0
X28A Dimmitt 22.24 339 ⇑P **P 02 07 28.1 -0.2**
baz=22,SNR=9.1
W30A Crocket Farms 22.33 342 ⇑P **P 02 07 29.1 -0.1**
baz=22
Y26A Elida 22.34 335 ⇓P **P 02 07 29.7 +0.2**
baz=22,SNR=21
V33A Lossen Ranch, 22.36 348 ⇓P **P 02 07 29.5 0.0**
baz=22,SNR=11
AMTX Amarillo 22.40 340 *eP* **P 02 07 29.4 -0.6**
comp=Z,77nm,0.9s
AMTX Amarillo 22.40 340 ⇑P **P 02 07 29.3 -0.7**
baz=22
123A Bell Site, Whi 22.40 328 ⇑P **P 02 07 30.5 +0.4**
baz=23
222A Williams Famil 22.43 326 ⇑P **P 02 07 31.0 +0.6**
baz=23
V32A Arapaho 22.43 346 ⇓P **P 02 07 30.4 +0.1**
baz=22,SNR=8.9
WVT Waverly 22.47 10 *eP* **P 02 07 29.6 -1.0**
comp=Z,56nm,1.5s
Z24A Sheeppen Canyo 22.53 331 ⇓P **P 02 07 31.9 +0.4**
baz=23,SNR=15
CPCT Cooper Cave 22.58 17 *eP* **P 02 07 31.8 0.0**
W29A Amarillo 22.60 340 ⇑P **P 02 07 32.0 -0.2**
baz=23,SNR=26
JSC Jenkinsville 22.66 25 *eP* **P 02 07 33.9 +1.2**
320A Kipp Ranch, An 22.67 322 ⇑P **P 02 07 34.1 +1.1**
baz=23,SNR=9.7
V31A Spring Creek L 22.68 344 ⇓P **P 02 07 33.2 +0.3**
baz=23,SNR=16
X27A F and S Farms, 22.69 337 ⇓P **P 02 07 33.1 0.0**
baz=23,SNR=18
Y25A Mesa, Roswell 22.72 333 ⇑P **P 02 07 34.0 +0.6**
baz=23,SNR=21
221A Mesquite Ranch 22.73 325 ⇓P **P 02 07 35.1 +1.4**
baz=23
U34A Anderson Ranch 22.82 350 ⇑P **P 02 07 33.8 -0.5**
baz=23,SNR=7.5
122A Conniff Cattle 22.84 327 ⇑P **P 02 07 35.4 +0.7**
baz=23
X26A CR and CF Fran 22.88 336 ⇓P **P 02 07 35.2 0.0**
baz=23,SNR=11
Z23A Rita Site, Whi 22.89 329 ⇑P **P 02 07 35.0 -0.2**
baz=23
V30A Spur Ranch, Mi 22.90 343 ⇓P **P 02 07 36.1 +0.8**
baz=23
W28A Vega 22.91 339 ⇑P **P 02 07 35.2 -0.3**
baz=23
TKL Tuckaleechee C 22.99 19 *eP* **P 02 07 36.2 +0.1**
TKL Tuckaleechee C 22.99 19 P **P 02 07 35.5 -0.7**
comp=Z,45nm,1.1s,baz=204,slow=8.0,SNR=14
TKL LR LR 02 17 49.3
comp=Z,1µm,19.9s,baz=214,slow=40
W27A Bowe Ranch, En 23.05 338 ⇓P **P 02 07 36.5 -0.3**
baz=23,SNR=33
U32A Winter Ranch, 23.05 347 ⇑P **P 02 07 36.8 0.0**
baz=23,SNR=9.0
Y24A Capitan 23.05 332 ⇑P **P 02 07 37.4 +0.4**
baz=23,SNR=9.9
220A Playas Peak, P 23.08 323 ⇑P **P 02 07 38.4 +1.2**
baz=23,SNR=8.1
121A Cookes Peak, D 23.13 326 *eP* **P 02 07 39.6 +1.8**
121A Cookes Peak, D 23.13 326 ⇑P **P 02 07 38.5 +0.8**
baz=23,SNR=15
319A Douglas 23.15 321 ⇑P **P 02 07 39.0 +1.0**
baz=23,SNR=8.7
X25A Clemmons Ranch 23.22 334 ⇓P **P 02 07 38.9 +0.3**
baz=23
U31A Nine Bar Ranch 23.25 345 ⇑P **P 02 07 39.1 +0.3**
baz=23
V29A Stinnett 23.25 341 ⇑P **P 02 07 38.9 0.0**
baz=23
Z22A Elephant Butte 23.25 328 ⇓P **P 02 07 40.2 +1.2**
baz=23,SNR=6.9
W26A Owens Ranch, T 23.34 336 ⇓P **P 02 07 40.5 +0.7**
baz=24
Y23A Lovelace Mesa, 23.35 331 ⇑P **P 02 07 41.2 +1.3**
baz=24,SNR=11
V28A Channing 23.37 340 ⇓P **P 02 07 40.1 +0.1**
baz=24,SNR=13
KMSC Kings Mountain 23.38 24 *eP* **P 02 07 40.5 +0.5**
comp=Z,40nm,1.0s
KMSC Kings Mountain 23.38 24 ⇑P **P 02 07 39.6 -0.4**
baz=23,SNR=11
T33A Patterson Ranc 23.57 349 ⇑P **P 02 07 41.9 +0.1**
baz=24
V27A Dan Oppiter Fa 23.58 339 ⇑P **P 02 07 42.2 +0.1**
baz=24
U30A WK&E Inc. Balk 23.61 344 ⇑P **P 02 07 42.8 +0.5**
baz=24,SNR=17
120A U Bar Ranch, L 23.61 324 ⇑P **P 02 07 43.9 +1.5**
baz=24,SNR=16
Z21A St. Cloud Mine 23.66 327 ⇑P **P 02 07 44.1 +1.1**
baz=24
U29A Oasis Ranch, S 23.71 342 ⇑P **P 02 07 43.4 +0.1**
baz=24,SNR=7.8
W25A X Bar L Ranch, 23.73 335 ⇑P **P 02 07 43.5 +0.1**
baz=24,SNR=18
Y22A Socorro 23.80 329 ⇑P **P 02 07 45.0 +0.9**
baz=24,SNR=5.7
BNM Barren Site 23.80 330 *eP* **P 02 07 45.9 +1.6**
comp=Z,162nm,2.0s
T32A Huddler Ranch, 23.80 347 ⇑P **P 02 07 44.1 +0.1**
baz=24,SNR=8.8
TZTN Tazewell 23.88 18 *eP* **P 02 07 44.6 -0.1**
comp=Z,92nm,1.4s
Y22D IRIS PASSCAL I 23.88 329 ⇑P **P 02 07 46.3 +1.4**
baz=24
T31A Randall Ranch, 23.90 346 ⇓P **P 02 07 44.4 -0.5**
baz=24,SNR=6.3
LPM Los Pinos Moun 23.93 330 *eP* **P 02 07 47.1 +1.7**
U28A Mallet 23.94 340 ⇑P **P 02 07 45.1 -0.3**
baz=24,SNR=9.5
X23A Hourglass Bar 23.94 331 ⇑P **P 02 07 46.4 +0.9**
baz=24
V26A Tequesquite Ra 23.97 337 ⇓P **P 02 07 46.2 +0.5**
baz=24,SNR=10.0
LENM Lemitar 23.98 329 *eP* **P 02 07 48.2 +2.3**
Z20A Nine Sixteen R 24.01 325 ⇑P **P 02 07 47.4 +1.3**
baz=24,SNR=21
S33A Kaszmaul Farm, 24.02 349 ⇑P **P 02 07 45.7 -0.4**
baz=24
T30A Plains 24.07 344 ⇓P **P 02 07 46.8 +0.3**
baz=24,SNR=9.4
W24A Lazy 6 Ranch, 24.12 334 ⇑P **P 02 07 47.8 +0.6**
baz=24,SNR=8.4
U27A Thompson Grove 24.18 339 ⇑P **P 02 07 48.0 +0.3**
baz=24,SNR=50
LAZ Ladron 24.25 330 *eP* **P 02 07 50.9 +2.5**
comp=Z,45nm,1.6s
S32A Newby Ranch, P 24.31 348 ⇓P **P 02 07 48.2 -0.5**
baz=24,SNR=9.2
V25A Rancho No Teng 24.33 336 ⇑P **P 02 07 49.5 +0.4**
baz=24,SNR=32
S31A Mullinville 24.35 347 ⇓P **P 02 07 49.2 +0.2**
baz=24,SNR=6.3
ANMO Albuquerque 24.37 331 *eP* **P 02 07 50.6 +1.2**
ANMO Albuquerque 24.37 331 P **P 02 07 50.1 +0.7**
comp=Z,2.7nm,0.8s,baz=138,slow=9.2,SNR=6.3
T29A Hugoton 24.38 343 ⇓P **P 02 07 49.3 0.0**
baz=24,SNR=8.7
W23A Werner Place, 24.41 332 ⇓P **P 02 07 50.9 +1.1**
baz=25
U26A Atchley Ranch, 24.48 338 ⇑P **P 02 07 51.5 +1.0**
baz=25,SNR=60
V24A Rampart Ranch, 24.50 334 ⇑P **P 02 07 51.7 +1.0**
baz=25
T28A Walsh 24.59 341 ⇓P **P 02 07 51.9 +0.6**
baz=25,SNR=6.6
S30A Montezuma 24.61 345 ⇓P **P 02 07 52.1 +0.7**
baz=25,SNR=28
R33A Olander Ranch, 24.72 350 ⇑P **P 02 07 52.6 +0.3**
baz=25,SNR=5.3
TUC Tucson 24.72 321 *eP* **P 02 07 53.5 +1.0**
comp=Z,22nm,1.2s
T27A Campo 24.73 340 ⇑P **P 02 07 52.9 +0.3**
baz=25,SNR=20
U25A Circle Dot Ran 24.73 337 ⇑P **P 02 07 54.6 +1.8**
baz=25,SNR=18
S29A Ulysses 24.76 344 ⇓P **P 02 07 53.8 +1.0**
baz=25,SNR=26
WCI Wyandotte Cave 24.79 12 *eP* **P 02 07 51.6 -1.5**
comp=Z,28nm,0.8s
V23A Ortiz Mt. (NFS 24.91 333 ⇑P **P 02 07 57.0 +2.6**
baz=25,SNR=9.1
S28A Manter 24.95 342 ⇓P **P 02 07 54.6 0.0**
baz=25,SNR=8.3
R32A Long Quarter, 24.96 348 ⇑P **P 02 07 55.3 +0.7**
baz=25,SNR=21
R31A Burdett 25.00 347 ⇑P **P 02 07 55.4 +0.4**
baz=25,SNR=34
U24A Moreno Valley 25.09 335 ⇓P **P 02 07 58.2 +2.1**
baz=25,SNR=8.1
T26A Comanche Natio 25.12 339 ⇑P **P 02 07 57.9 +1.7**
baz=25,SNR=12
R30A Dighton 25.17 346 ⇑P **P 02 07 57.2 +0.7**
baz=25,SNR=64
ATAH Atahualpa 25.24 145 P **P 02 07 58.7 +1.0**
ATAH Atahualpa 25.24 145 P **P 02 07 58.7 +1.0**
comp=Z,7.1nm,0.9s,baz=241,slow=23,SNR=9.0
ATAH LR LR 02 15 27.0
comp=Z,536nm,19.4s,baz=332,slow=31
KSU1 Kansas State U 25.29 353 *eP* **P 02 07 57.7 +0.2**
comp=Z,30nm,0.8s
S27A Las Animas 25.35 341 ⇑P **P 02 07 59.6 +1.3**
baz=26
Q33A Connelly Farm, 25.36 350 ⇓P **P 02 07 58.5 +0.3**
baz=26
V22A San Miguel Ran 25.37 332 ⇓P **P 02 08 00.2 +1.6**
baz=26
T25A Trinidad 25.39 337 ⇓P **P 02 08 01.2 +2.5**
baz=26,SNR=23
U23A El Rito 25.40 334 ⇑P **P 02 08 01.3 +2.5**
baz=26,SNR=13
Q32A Meitler Ranch, 25.48 349 ⇓P **P 02 07 59.7 +0.4**
baz=26,SNR=11
S26A Kim 25.48 340 ⇑P **P 02 08 01.1 +1.6**
baz=26,SNR=9.0
R29A Marienthal 25.52 344 ⇑P **P 02 08 00.6 +0.8**
baz=26,SNR=8.5
R28A Tribune 25.63 343 ⇓P **P 02 08 01.2 +0.5**
baz=26,SNR=16
Q31A Ellis 25.66 348 ⇑P **P 02 08 01.1 +0.2**
baz=26,SNR=7.3
SJG San Juan 25.69 77 LR LR 02 19 07.4
comp=Z,2µm,19.3s,baz=270,slow=39
T24B San Luis 25.69 336 ⇑P **P 02 08 03.6 +2.0**
baz=26,SNR=8.1
U22A Llaves 25.73 333 ⇓P **P 02 08 04.1 +2.2**
baz=26
P33A Williams Farm, 25.77 351 ⇑P **P 02 08 03.7 +1.8**
baz=26
214A Organ Pipe Nat 25.78 317 *eP* **P 02 08 03.4 +1.3**
214A Organ Pipe Nat 25.78 317 ⇑P **P 02 08 03.7 +1.6**
baz=26
Q30A Quinter 25.82 346 ⇑P **P 02 08 03.1 +0.7**
baz=26,SNR=35
X18A Snowflake 25.82 325 ⇓P **P 02 08 04.7 +2.1**
baz=26
S25A Robets Cordova 25.86 338 ⇓P **P 02 08 04.4 +1.4**
baz=26,SNR=23
R27A Eads 25.87 341 ⇑P **P 02 08 03.8 +0.9**
baz=26,SNR=5.4
Q29A Oakley 25.92 345 ⇓P **P 02 08 04.4 +1.1**
baz=26,SNR=24
T23A Casias Ranch, 25.94 335 ⇑P **P 02 08 05.4 +1.7**
baz=26,SNR=6.6
R26A Arlington 26.09 340 ⇓P **P 02 08 06.3 +1.4**
baz=26,SNR=8.4

P32A **Huiting Farm,** 26.10 349 ⇓P P 02 08 05.1 +0.2
baz=26
S24A **Houchin Ranch,** 26.13 337 ⇓P P 02 08 07.0 +1.5
baz=26,SNR=13
W18A **Petrified Fore** 26.14 327 ⇑P P 02 08 07.3 +1.7
baz=26
P31A **Stockton** 26.15 348 ⇓P P 02 08 06.4 +0.9
baz=26,SNR=13
R25A **Fountain Ranch** 26.24 339 ⇓P P 02 08 07.9 +1.6
baz=26,SNR=9.6
Q28A **Sharon Springs** 26.30 344 ⇑P P 02 08 07.9 +1.1
baz=26
SDCO **Great Sand Dun** 26.33 336 eP P 02 08 09.3 +1.9
comp=Z,80nm,1.6s
P30A **Selden** 26.36 347 ⇑P P 02 08 08.3 +1.0
baz=26,SNR=22
KSCO **Kaye Shedlock'** 26.48 342 eP P 02 08 09.8 +1.3
comp=Z,95nm,1.7s
KSCO **Kaye Shedlock'** 26.48 342 ⇓P P 02 08 10.0 +1.4
baz=27,SNR=5.8
S23A **Nye Farm, Mont** 26.50 336 ⇑P P 02 08 10.8 +2.0
baz=27,SNR=5.3
P29A **Atwood** 26.58 345 ⇓P P 02 08 10.5 +1.2
baz=27
X16A **Lo Mia Camp, P** 26.58 323 ⇑P P 02 08 11.1 +1.6
baz=27
R24A **Sanders Place,** 26.61 338 ⇑P P 02 08 11.2 +1.4
baz=27
O32A **Brockman Farm,** 26.67 350 ⇑P P 02 08 11.1 +1.0
baz=27
Q26A **Hugo** 26.68 341 ⇓P P 02 08 11.8 +1.5
baz=27,SNR=8.3
SFIN **Scholer Farm** 26.74 9 ⇑P P 02 08 09.9 -0.7
baz=27
O31A **Woolen Ranch,** 26.75 348 ⇑P P 02 08 11.5 +0.7
baz=27
P28A **Saint Francis** 26.76 344 ⇓P P 02 08 12.3 +1.3
baz=27,SNR=18
Z14A **Wintersburg** 26.77 320 ⇓P P 02 08 12.5 +1.5
baz=27
R23A **Moffat** 26.85 336 ⇓P P 02 08 13.7 +1.7
baz=27
S22A **4UR Ranch, Cre** 26.87 334 ⇑P P 02 08 14.2 +2.0
baz=27,SNR=7.9
Q25A **Bedland, Calha** 26.91 340 ⇑P P 02 08 14.0 +1.5
baz=27,SNR=7.2
113A **Mohawk Valley,** 26.91 318 ⇓P P 02 08 13.6 +1.3
baz=27
O30A **MW Ranch, Wils** 26.93 347 ⇑P P 02 08 13.2 +0.8
baz=27
P27A **Ficken Ranch,** 26.97 343 ⇑P P 02 08 13.2 +0.3
baz=27,SNR=8.1
O29A **4D Ranch, Culb** 27.04 346 ⇑P P 02 08 13.9 +0.4
baz=27
MVCO **Mesa Verde** 27.17 331 eP P 02 08 16.3 +1.5
comp=Z,94nm,1.4s
MVCO **Mesa Verde** 27.17 331 ⇓P P 02 08 16.8 +2.0
baz=27,SNR=8.1
Y14A **Wickenburg** 27.19 321 ⇑P P 02 08 15.9 +1.1
baz=27
P26A **Davis Ranch, A** 27.21 342 ⇓P P 02 08 16.1 +1.0
baz=27
Q24A **Divide** 27.27 338 ⇓P P 02 08 17.0 +1.2
baz=27
O28A **Krutsinger Ran** 27.29 344 ⇑P P 02 08 16.6 +0.9
baz=27
N31A **Bailey Ranch,** 27.33 349 ⇑P P 02 08 17.3 +1.3
baz=27
P25A **Willow Gulch B** 27.43 340 ⇓P P 02 08 17.8 +0.8
baz=28
O27A **Beecher Island** 27.54 343 ⇓P P 02 08 19.1 +1.2
baz=28,SNR=8.8
P23A **Jefferson** 27.89 338 ⇓P P 02 08 23.6 +2.3
baz=28,SNR=8.6
PV01 **Paradox Valley** 27.95 332 eP P 02 08 24.4 +2.5
comp=Z,5μm,1.5s
OGNE **Ogallala** 28.12 345 ⇑P P 02 08 24.7 +1.6
baz=28
N27A **Anderson Farm,** 28.12 344 ⇑P P 02 08 24.7 +1.5
baz=28,SNR=6.7
PDMCI **Parker Dam,Lak** 28.13 320 ⇓P P 02 08 25.0 +1.8
baz=28
SMCO **Snowmass** 28.15 336 eP P 02 08 25.6 +1.8
comp=Z,41nm,1.5s
ISCO **Idaho Springs** 28.18 338 eP P 02 08 25.9 +1.9
comp=Z,47nm,1.9s
ISCO **Idaho Springs** 28.18 338 ⇓P P 02 08 25.1 +1.2
baz=28,SNR=8.7
PV04 **Paradox Valley** 28.32 332 eP P 02 08 27.3 +2.3
P22A **Eagle** 28.43 337 ⇑P P 02 08 27.3 +1.3
baz=29
W13A **Hualapai Mount** 28.50 321 ⇓P P 02 08 28.2 +1.5
baz=29
U15A **North Rim** 28.51 325 ⇑P P 02 08 28.0 +1.1
baz=29
BC3 **Big Chuckawall** 28.57 317 ⇓P P 02 08 29.1 +1.9
baz=29
IRM **Iron Mountain** 28.69 318 ⇓P P 02 08 29.9 +1.7
baz=29
L29A **Maesberg Ranch** 28.82 348 ⇑P P 02 08 30.6 +1.2
baz=29
O22A **Kremmling** 28.84 337 ⇓P P 02 08 31.1 +1.3
baz=29
PFO **Pinyon Flat Ob** 29.21 316 LR LR 02 20 11.0
comp=Z,16nm,28.6s,baz=154,slow=36
K30A **Basset** 29.25 349 ⇓P P 02 08 33.5 +0.4
baz=29
N22A **Wattenberg Ran** 29.36 338 ⇑P P 02 08 35.9 +1.5
baz=30
GMRC **Granite Mounta** 29.40 319 ⇑P P 02 08 36.7 +2.0
baz=30
M24A **Cheyenne** 29.41 341 ⇓P P 02 08 36.1 +1.4
baz=30
K29A **Lazy Trails An** 29.46 348 ⇓P P 02 08 37.4 +2.4
baz=30
O20A **White River Ci** 29.48 335 eP P 02 08 37.2 +1.9
comp=Z,100nm,1.7s
O20A **White River Ci** 29.48 335 ⇑P P 02 08 37.5 +2.2
baz=30
K28A **Ten Mile Ranch** 29.64 347 ⇑P P 02 08 37.6 +1.1
baz=30
SRU **San Rafael** 29.64 331 eP P 02 08 38.3 +1.5
comp=Z,84nm,2.1s
MURC **Murrieta** 29.71 315 ⇓P P 02 08 39.8 +2.5
baz=30
L25A **Engebretsen Ra** 29.77 343 ⇑P P 02 08 40.0 +2.1
baz=30
ECSD **EROS Data Cent** 29.87 354 eP P 02 08 38.2 -0.3
comp=Z,131nm,2.5s
CCUT **Cedar City** 29.91 326 eP P 02 08 41.6 +2.4
comp=Z,100nm,2.6s
M22A **Cedar Creek Ra** 29.94 339 ⇑P P 02 08 41.5 +2.0
baz=30
K26A **Motz Farm, Whi** 30.07 344 ⇓P P 02 08 41.2 +0.9
baz=30
N20A **Spence Gulch,** 30.08 336 ⇑P P 02 08 42.6 +2.0
baz=30,SNR=6.6
J29A **Okreek** 30.09 349 ⇑P P 02 08 41.3 +0.9
baz=30
ARUT **Antelope Range** 30.12 326 eP P 02 08 42.3 +1.3
comp=Z,2μm,1.9s
SHPR **Sheep Range** 30.21 322 eP P 02 08 44.1 +2.2
L23A **Garrett** 30.27 340 ⇑P P 02 08 44.1 +1.8
baz=30,SNR=6.8
J28A **Allard Ranch,** 30.29 347 ⇓P P 02 08 43.1 +0.8
baz=30
J27A **Elkhorn Farm,** 30.29 346 ⇓P P 02 08 43.8 +1.5
baz=30
GSC **Goldstone** 30.46 318 eP P 02 08 47.1 +3.1
comp=Z,0.4nm,0.6s
J26A **Sides Ranch, S** 30.61 345 ⇓P P 02 08 46.5 +1.4
baz=31,SNR=5.1
I29A **Vivian Onida** 30.68 349 ⇑P P 02 08 46.1 +0.5
baz=31
I28A **Midland** 30.82 348 ⇑P P 02 08 47.8 +0.9
baz=31
K23A **Bowen Ranch, D** 30.82 341 ⇑P P 02 08 48.5 +1.4
baz=31
J25A **Sunshine Ranch** 30.87 344 ⇓P P 02 08 48.7 +1.2
baz=31
MPU **Maple Canyon** 30.88 331 eP P 02 08 49.1 +1.3
comp=Z,188nm,2.8s
EDW2 **Edwards Air Fo** 30.98 317 ⇑P P 02 08 49.2 +0.6
baz=31
K22A **Casper** 31.02 340 eP P 02 08 51.2 +2.3
comp=Z,19nm,1.3s
K22A **Casper** 31.02 340 ⇓P P 02 08 50.4 +1.5
baz=31

NLU **North Lily Min** 31.05 330 eP P 02 08 52.1 +2.9
comp=Z,112nm,2.5s
I27A **Quinn** 31.08 347 ⇑P P 02 08 49.1 -0.1
baz=31
SPMN **St. Paul** 31.15 360 ⇓P P 02 08 49.3 -0.5
baz=31
TPNV **Topopah Spring** 31.16 322 ⇓P P 02 08 51.7 +1.4
baz=31
FURC **Furnace Creek,** 31.23 320 ⇑P P 02 08 51.5 +0.9
baz=31
H29A **Onida** 31.24 349 ⇓P P 02 08 50.4 -0.3
baz=31
K21A **Alcova** 31.26 339 ⇓P P 02 08 51.6 +0.6
baz=31
JLU **Jordanelle** 31.26 332 eP P 02 08 53.0 +1.8
comp=Z,36nm,1.8s
MPMC **Manual Prospec** 31.37 319 ⇓P P 02 08 52.8 +0.7
baz=32
I25A **Rochford** 31.44 344 ⇑P P 02 08 53.5 +0.9
baz=32
H28A **Mission Ridge** 31.44 348 ⇓P P 02 08 53.0 +0.6
baz=32
G30A **Faulkton** 31.56 351 ⇑P P 02 08 53.7 +0.3
baz=32
DUG **Dugway** 31.59 330 eP P 02 08 56.8 +2.8
comp=Z,38nm,1.8s
DUG **Dugway** 31.59 330 ⇑P P 02 08 55.3 +1.4
baz=32
RSSD **Black Hills** 31.61 344 eP P 02 08 54.9 +0.7
comp=Z,13nm,2.1s
H27A **Howes** 31.62 347 ⇑P P 02 08 55.5 +1.5
baz=32
ARVC **Arvin** 31.69 316 ⇓P P 02 08 55.8 +1.1
baz=32
R11A **Troy Canyon, C** 31.72 324 eP P 02 08 57.0 +1.9
comp=Z,141nm,2.9s
R11A **Troy Canyon, C** 31.72 324 ⇓P P 02 08 56.1 +1.0
baz=32
G29A **Hoven** 31.74 350 ⇑P P 02 08 56.4 +1.3
baz=32
H26A **Fairpoint** 31.76 346 ⇓P P 02 08 55.9 +0.6
baz=32
ISA **Isabella** 31.77 317 eP P 02 08 58.1 +2.7
comp=Z,50nm,2.1s
ISA **Isabella** 31.77 317 ⇓P P 02 08 56.8 +1.4
baz=32
GRAC **Grapevine Rang** 31.88 320 ⇑P P 02 08 58.4 +2.0
baz=32
J21A **Lysite** 31.95 339 ⇓P P 02 08 59.7 +2.6
baz=32,SNR=18
H25A **Fruitdale** 31.97 345 ⇓P P 02 08 59.1 +2.0
baz=32,SNR=5.7
I22A **9 Mile Ranch,** 32.12 341 ⇑P P 02 08 59.8 +1.3
baz=32,SNR=6.2
BW06 **Boulder Array** 32.23 336 eP P 02 09 00.9 +1.3
comp=Z,111nm,3.0s
PDAR **Pinedale Array** 32.23 336 P P 02 09 00.7 +1.1
PDAR PcP PcP 02 11 47.0 -0.6
PDAR **Pinedale Array** 32.23 336 P P 02 09 00.7 +1.1
comp=Z,1.9nm,0.9s,baz=147,slow=8.5,SNR=11
PDAR PcP PcP 02 11 47.0 -0.6
comp=Z,0.4nm,0.9s,baz=140,slow=4.4,SNR=2.1
BGU **Big Grassy Mou** 32.26 330 eP P 02 09 02.5 +2.7
comp=Z,6.2nm,1.3s
I21A **Big Trails, Te** 32.31 340 ⇑P P 02 09 01.3 +1.1
baz=32
H24A **Dirks Ranch, A** 32.33 344 ⇑P P 02 09 01.3 +1.0
baz=32,SNR=8.1
F29A **Eureka** 32.35 350 ⇑P P 02 09 00.8 +0.4
baz=32
G26A **Maurine** 32.37 347 ⇑P P 02 09 02.1 +1.6
baz=32
J19A **Crowheart** 32.46 337 ⇑P P 02 09 02.6 +1.1
baz=33
TPH **Tonopah** 32.48 322 eP P 02 09 04.1 +2.2
comp=Z,67nm,2.1s
TPH epP pP 02 09 11.0 -2.1
F28A **McLaughlin** 32.53 349 ⇑P P 02 09 03.3 +1.3
baz=33
RCTC **Rector, Farmer** 32.65 318 ⇓P P 02 09 05.3 +2.2
baz=33
H22A **Clearmont** 32.71 342 ⇓P P 02 09 04.5 +0.9
baz=33,SNR=6.1
I20A **Worland** 32.72 339 ⇓P P 02 09 05.4 +1.7
baz=33,SNR=12
F27A **Lemmon** 32.79 348 ⇑P P 02 09 04.3 +0.1
baz=33
HVU **Hansel Valley** 32.80 331 eP P 02 09 06.6 +2.0
comp=Z,382nm,2.7s
G24A **Alzada** 32.84 344 ⇑P P 02 09 05.0 +0.3
baz=33
AHID **Auburn Hatcher** 32.85 334 eP P 02 09 06.8 +1.8
comp=Z,77nm,1.6s
F26A **Lodgepole** 32.91 347 ⇓P P 02 09 06.2 +0.9
baz=33,SNR=7.7
H21A **Big Horn, Sher** 32.96 341 ⇓P P 02 09 06.7 +0.8
baz=33
G23A **Biddle** 32.98 343 ⇓P P 02 09 06.5 +0.5
baz=33
E29A **Napoleon** 33.04 351 ⇓P P 02 09 06.8 +0.4
baz=33
I19A **Meeteetse** 33.10 338 ⇑P P 02 09 08.6 +1.4
baz=33,SNR=14
H20A **Greybull** 33.15 340 ⇓P P 02 09 08.9 +1.4
baz=33,SNR=9.7
F25A **Bowman** 33.16 346 ⇓P P 02 09 08.4 +1.0
baz=33
E28A **Huff** 33.22 350 ⇑P P 02 09 08.6 +0.7
baz=33
ELK **Elko** 33.23 328 eP P 02 09 10.9 +2.5
comp=Z,12nm,1.3s
E27A **Carson** 33.23 349 ⇑P P 02 09 08.7 +0.6
baz=33
REDW **Red Top Meadow** 33.24 335 eP P 02 09 10.0 +1.5
comp=Z,120nm,1.4s
G22A **Birney** 33.26 342 ⇑P P 02 09 09.0 +0.6
baz=33
NV11 **Mina Array Sit** 33.27 322 eP P 02 09 10.9 +2.2
F24A **Ekalaka** 33.33 345 ⇑P P 02 09 09.5 +0.6
baz=33
LOHW **Long Hollow** 33.35 336 eP P 02 09 10.5 +1.1
comp=Z,70nm,1.4s
NVAR **Mina Array Bea** 33.36 322 P P 02 09 10.7 +1.1
NVAR PcP PcP 02 11 51.6 +0.9
NVAR **Mina Array Bea** 33.36 322 P P 02 09 10.7 +1.1
comp=Z,4.0nm,0.8s,baz=134,slow=8.2,SNR=19
NVAR PcP PcP 02 11 51.6 +0.9
comp=Z,0.6nm,0.7s,baz=137,slow=3.2,SNR=2.8
NVAR LR LR 02 23 48.3
comp=Z,16nm,28.6s,baz=230,slow=38
TPAW **Teton Pass** 33.39 335 eP P 02 09 11.9 +2.1
comp=Z,89nm,1.4s
D30A **Buchanan** 33.44 352 ⇑P P 02 09 09.8 -0.1
baz=34
E26A **Carlson Angus** 33.45 348 ⇑P P 02 09 10.8 +0.7
baz=34,SNR=9.7
F23A **Volborg** 33.46 344 ⇓P P 02 09 11.3 +1.1
baz=34
MOOW **Moose Ponds** 33.52 336 eP P 02 09 12.8 +1.9
comp=Z,25nm,1.4s
MOOW epP pP 02 09 20.2 -1.9
G21A **Lodge Grass** 33.54 341 ⇑P P 02 09 12.3 +1.4
baz=34
FXWY **Fox Creek** 33.55 335 eP P 02 09 13.1 +2.0
comp=Z,50nm,1.6s
H19A **Powell** 33.65 339 ⇓P P 02 09 13.7 +1.9
baz=34,SNR=13
E25A **Miller Ranch,** 33.69 346 ⇓P P 02 09 13.0 +0.9
baz=34
IMW **Indian Meadow** 33.73 336 eP P 02 09 14.5 +1.8
comp=Z,47nm,1.6s
F22A **Rosebud** 33.76 343 ⇑P P 02 09 13.6 +0.9
baz=34
D28A **Regan** 33.79 350 ⇓P P 02 09 13.9 +0.9
baz=34
G20A **Bridger** 33.87 340 ⇑P P 02 09 14.9 +1.1
baz=34,SNR=5.2
H18A **Shoshone NF, C** 33.90 338 ⇓P P 02 09 15.9 +1.8
baz=34,SNR=20
E24A **Baker** 33.96 345 ⇑P P 02 09 15.2 +0.7
baz=34,SNR=6.8
D26A **Manning** 33.98 348 ⇓P P 02 09 15.3 +0.7
baz=34
C30A **Mose, Pekin** 33.99 353 ⇑P P 02 09 14.4 -0.2
baz=34,SNR=6.1
BMN **Battle Mountai** 34.07 325 eP P 02 09 17.3 +1.7
comp=Z,1.6nm,0.6s
YFT **Old Faithful** 34.15 336 eP P 02 09 18.9 +2.6
comp=Z,43nm,1.4s
E23A **Ismay** 34.15 344 ⇓P P 02 09 16.5 +0.4
baz=34
C28A **Hausauer Farms** 34.27 351 ⇑P P 02 09 17.6 +0.5
baz=34
E22A **Miles City** 34.27 343 ⇑P P 02 09 18.0 +0.9
baz=34
D25A **Fairfield** 34.28 347 ⇓P P 02 09 18.1 +0.8
baz=34,SNR=5.4
YNR **Norris Junctio** 34.31 337 eP P 02 09 20.2 +2.5
comp=Z,33nm,1.4s
F20A **Billings** 34.36 341 ⇑P P 02 09 18.7 +0.7
baz=34
YMR **Madison River** 34.38 336 eP P 02 09 20.7 +2.3
comp=Z,43nm,1.3s
D24A **Glendive** 34.48 346 ⇓P P 02 09 19.5 +0.5
baz=35,SNR=5.6
F19A **Roth Farm, Mol** 34.67 340 ⇑P P 02 09 21.5 +0.9
baz=35
E21A **Keefer Ranch,** 34.69 342 ⇓P P 02 09 21.6 +0.9
baz=35
QLMT **Earthquake Lak** 34.70 336 eP P 02 09 23.9 +2.9
B30A **Myrvik Farm, E** 34.71 353 ⇑P P 02 09 20.7 -0.1
baz=35
D23A **Lindsay** 34.75 345 ⇓P P 02 09 22.3 +1.0
baz=35,SNR=7.0
C25A **Freed Ranch, W** 34.80 347 ⇓P P 02 09 22.4 +0.7
baz=35
B29A **Wagenman Farm,** 34.85 352 ⇑P P 02 09 22.6 +0.5
baz=35
GCMT **Greycliff** 34.86 339 eP P 02 09 23.7 +1.3
comp=Z,8.5nm,1.3s
C24A **Savage** 34.90 346 ⇑P P 02 09 23.8 +1.2
baz=35,SNR=8.8
HLID **Hailey** 34.95 332 eP P 02 09 24.8 +1.6
comp=Z,167nm,2.6s
HLID **Hailey** 34.95 332 ⇓P P 02 09 24.6 +1.4
baz=35,SNR=7.2
E20A **Meyer Farm, Mu** 34.98 341 ⇑P P 02 09 24.0 +0.8
baz=35,SNR=6.2
B28A **Dugan Ranch, T** 34.98 351 ⇓P P 02 09 24.0 +0.8
baz=35,SNR=6.4
D22A **Cohagen** 34.99 344 ⇑P P 02 09 24.1 +0.8
baz=35,SNR=8.5
D21A **La Casta Ranch** 35.14 343 ⇑P P 02 09 25.5 +0.9
baz=35
E19A **Rath Farm, Rou** 35.15 340 ⇓P P 02 09 25.7 +0.9
baz=35,SNR=8.5
A30A **Hoffart Farm,** 35.19 353 ⇓P P 02 09 24.4 -0.6
baz=35,SNR=6.1
MCMT **McKenzie Canyo** 35.27 335 eP P 02 09 28.1 +2.0
comp=Z,31nm,1.4s
A29A **Manning Farm,** 35.29 352 ⇑P P 02 09 25.7 -0.1
baz=35
B25A **Knox Farm, Ray** 35.31 348 ⇑P P 02 09 26.8 +0.7
baz=35
C23A **Lambert** 35.33 345 ⇓P P 02 09 26.8 +0.5
baz=35
A28A **Rude Farm, Bot** 35.42 351 ⇓P P 02 09 27.2 +0.2
baz=36
PTGA **Pitinga** 35.42 112 eP P 02 09 28.8 +1.4
comp=Z,30nm,1.1s
BOZ **Bozeman (W)** 35.46 337 eP P 02 09 29.1 +1.6
comp=Z,58nm,1.9s
C22A **Vida** 35.46 344 ⇑P P 02 09 28.1 +0.7
baz=36
MFID **Camas Ranch** 35.50 330 eP P 02 09 32.5 +4.6
comp=Z,31nm,1.6s
D20A **Manuel Ranch,** 35.50 342 ⇑P P 02 09 28.7 +0.9
baz=36,SNR=9.4
DLMT **Dillon** 35.60 335 eP P 02 09 31.3 +2.5
comp=Z,293nm,2.8s
A26A **Wade Farm, Ken** 35.70 349 ⇑P P 02 09 29.6 +0.2
baz=36,SNR=6.5
DGMT **Dagmar** 35.73 347 eP P 02 09 30.6 +1.0
comp=Z,26nm,1.0s
DGMT **Dagmar** 35.73 347 ⇑P P 02 09 30.5 +0.8
baz=36
D19A **Cripps Ranch,** 35.80 341 ⇓P P 02 09 31.4 +1.0
baz=36,SNR=7.5
C21A **Desert Coulee** 35.86 343 ⇑P P 02 09 32.0 +1.2
baz=36
B23A **Brockton** 35.90 346 ⇓P P 02 09 32.4 +1.2
baz=36
LRM **Limekiln Ridge** 35.92 336 eP P 02 09 33.8 +2.2
A25A **Svangstu Ranch** 35.94 348 ⇑P P 02 09 32.3 +0.8
baz=36
B22A **Reddig Ranch S** 36.00 345 ⇓P P 02 09 33.5 +1.5
baz=36
C20A **Veseth Ranch,** 36.02 342 ⇑P P 02 09 33.2 +1.0
baz=36,SNR=5.7
A24A **Westby** 36.11 347 ⇑P P 02 09 33.7 +0.8
baz=36
WVOR **Wild Horse Val** 36.22 327 eP P 02 09 35.3 +1.2
comp=Z,135nm,2.5s
ULM **Lac du Bonnet** 36.28 356 P P 02 09 32.9 -1.4
ULM **Lac du Bonnet** 36.28 356 P P 02 09 32.9 -1.4
comp=Z,12nm,1.2s,baz=165,slow=10,SNR=4.0
A23A **Redstone** 36.34 346 ⇓P P 02 09 36.2 +1.3
baz=36
C19A **Slack Wire Ran** 36.36 341 ⇓P P 02 09 36.8 +1.7
baz=36
HRY **Holter Researc** 36.43 338 eP P 02 09 37.3 +1.5
A22A **Carney Farms,** 36.62 345 ⇑P P 02 09 38.6 +1.3
baz=37
B20A **Solberg Farm,** 36.68 343 ⇑P P 02 09 39.0 +1.2
baz=37
MOD **Modoc** 36.78 325 eP P 02 09 40.7 +1.9
comp=Z,81nm,2.5s
J08A **Circle Bar Ran** 36.78 328 eP P 02 09 40.2 +1.4
comp=Z,39nm,1.3s
EGMT **Eagleton** 36.84 341 eP P 02 09 40.8 +1.6
comp=Z,38nm,1.3s
EGMT **Eagleton** 36.84 341 ⇑P P 02 09 40.5 +1.4
baz=37
B19A **Brinkman Farms** 36.97 342 ⇑P P 02 09 41.5 +1.2
baz=37
SAML **Samuel** 36.98 126 eP P 02 09 38.9 -1.8
comp=Z,4.2nm,1.1s
A20A **Cobblestone Ra** 37.05 343 ⇑P P 02 09 41.8 +0.8
baz=37
CHMT **Chamberlain Mo** 37.14 336 eP P 02 09 43.0 +1.1
BMO **Blue Mountains** 37.28 331 eP P 02 09 44.5 +1.4
comp=Z,60nm,2.1s
MSO **Missoula** 37.34 336 eP P 02 09 45.1 +1.6
comp=Z,28nm,1.3s
MSO **Missoula** 37.34 336 ⇑P P 02 09 44.9 +1.4
baz=38
M04C **Macdoel** 37.58 323 ⇓P P 02 09 47.8 +2.1
baz=38
F10A **Beach Ranch, E** 38.08 332 eP P 02 09 50.8 +1.0
comp=Z,395nm,3.0s
LPAZ **La Paz** 38.55 140 eP P 02 09 53.3 -1.3
LPAZ **La Paz** 38.55 140 P P 02 09 52.9 -1.7
comp=Z,4.1nm,1.0s,baz=345,slow=8.5,SNR=9.8
LPAZ LR LR 02 25 15.8
comp=Z,16nm,28.6s,baz=324,slow=35
WALA **Waterton Lakes** 39.16 338 eP P 02 10 00.4 +1.6
C09A **Chrisman Ranch** 39.93 333 eP P 02 10 06.7 +1.6
comp=Z,92nm,2.0s
EDM **Edmonton** 42.49 342 eP P 02 10 26.6 +0.5
SIV **San Ignacio** 43.06 133 P P 02 10 29.4 -1.8
SIV **San Ignacio** 43.06 133 P P 02 10 29.4 -1.8
comp=Z,9.5nm,0.9s,baz=319,slow=8.7,SNR=18
SCHQ **Schefferville** 45.44 21 P P 02 10 47.5 -2.1
SCHQ **Schefferville** 45.44 21 P P 02 10 47.5 -2.1
comp=Z,9.9nm,0.9s,baz=243,slow=4.5,SNR=5.5
YKA **Yellowknife Ar** 50.93 347 P P 02 11 32.4 +0.4
YKA **Yellowknife Ar** 50.93 347 P P 02 11 32.3 +0.4
comp=Z,16nm,0.9s,baz=147,slow=7.8,SNR=66
CFAA **Coronel Fontan** 50.97 153 LR LR 02 28 38.4
comp=Z,15nm,28.6s,baz=11,slow=31
YKW3 **Yellowknife Ar** 51.00 347 eP P 02 11 33.4 +1.0
comp=Z,0.7nm,1.0s
CPUP **Villa Florida** 52.70 139 eP P 02 11 43.1 -2.6
CPUP **Villa Florida** 52.70 139 P P 02 11 42.7 -2.9
comp=Z,4.7nm,0.9s,baz=305,slow=9.3,SNR=4.9
CPUP LR LR 02 36 10.1
comp=Z,174nm,18.3s,baz=316,slow=38
BDFB **Brasilia** 52.95 122 eP P 02 11 48.0 +0.2
BDFB **Brasilia** 52.95 122 P P 02 11 46.5 -1.3
comp=Z,4.0nm,0.8s,baz=270,slow=10,SNR=6.4
BDFB LR LR 02 36 27.9
comp=Z,16nm,28.6s,baz=275,slow=38
RKT **Rikitea** 55.52 229 eS S 02 19 50.8 +1.8
comp=Z,162nm,33.5s
RKT eLR LR 02 28 27.3
comp=Z,468nm,27.2s

HYT	**Haines Junctio**	**56.92**	**336**	*e*P	P	02 12 19.9	+4.0
PLCA	**Paso Flores**	**58.12**	**160**	P	**P**	**02 12 23.4**	**-1.1**
PLCA	**Paso Flores**	**58.12**	**160**	P	**P**	**02 12 23.4**	**-1.1**
	comp=Z,2.9nm,0.9s,baz=324,slow=7.5,SNR=3.6						
PLCA				LR	LR	02 32 13.3	
	comp=Z,16nm,28.6s,baz=282,slow=31						
ILAR	**Eielson Array**	**62.66**	**337**	P	**P**	**02 12 56.0**	**+0.9**
ILAR	**Eielson Array**	**62.66**	**337**	P	**P**	**02 12 56.0**	**+0.9**
	comp=Z,5.1nm,0.9s,baz=127,slow=4.7,SNR=26						
COLA	**College**	**63.07**	**337**	*e*P	**P**	**02 12 58.4**	**+0.6**
	comp=Z,27nm,2.5s						
PPT	**Papeete**	**64.40**	**243**	LR	LR	02 34 43.0	
	comp=Z,187nm,19.8s,baz=64,slow=30						
PPT2	**Papeete2**	**64.41**	**243**	*e*S	**S**	**02 21 48.9**	**+5.2**
	comp=Z,100nm,24.8s						
PPT2	**Papeete2**	**64.41**	**243**	*e*LR	LR	02 31 53.6	
	comp=Z,345nm,26.5s						
TBI	**Tubuai**	**66.89**	**237**	*e*LR	LR	02 33 29.4	
	comp=Z,286nm,27.0s						
USHA	**Ushuaia**	**71.52**	**166**	LR	LR	02 41 11.3	
	comp=Z,16nm,28.6s,baz=317,slow=32						
ESDC	**Sonseca Array**	**80.15**	**52**	P	**P**	**02 14 39.4**	**-1.8**
ESDC	**Sonseca Array**	**80.15**	**52**	P	**P**	**02 14 39.3**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=295,slow=5.4,SNR=4.4						
MDT	**Midelt**	**80.86**	**58**	LR	LR	02 48 19.0	
	comp=Z,16nm,28.6s,baz=304,slow=34						
PMSA	**Palmer Station**	**81.44**	**168**	LR	LR	02 42 54.9	
	comp=Z,130nm,19.1s,baz=358,slow=30						
ETSF	**Etsaut**	**82.07**	**48**	*e*P	P	02 14 42.0	-9.3
	comp=Z,30nm,1.3s						
ETSF	**Etsaut**	**82.07**	**48**	*e*P	P	02 14 42.0	-9.3
	comp=Z,30nm,1.3s						
AFI	**Afiamalu**	**83.17**	**254**	LR	LR	02 45 36.3	
	comp=Z,16nm,28.6s,baz=126,slow=31						
NOA	**NORSAR Array B**	**84.42**	**28**	P	**P**	**02 15 04.2**	**+1.2**
NOA	**NORSAR Array B**	**84.42**	**28**	P	**P**	**02 15 04.2**	**+1.2**
	comp=Z,2.2nm,1.0s,baz=291,slow=4.7,SNR=3.0						
NOA				LR	LR	02 54 58.8	
	comp=Z,74nm,18.4s,baz=285,slow=37						
LIC	**Lamto**	**86.12**	**85**	*e*P	P	02 15 03.0	-9.4
	comp=Z,61nm,1.4s						
LIC	**Lamto**	**86.12**	**85**	*e*P	P	02 15 03.0	-9.4
	comp=Z,61nm,1.4s						
DBIC	**Dimbokro**	**86.19**	**84**	LR	LR	02 50 03.2	
	comp=Z,16nm,28.6s,baz=256,slow=33						
ARCES	**ARCESS Array B**	**86.33**	**18**	LR	LR	02 54 29.2	
	comp=Z,178nm,18.0s,baz=267,slow=36						
DAVA	**Damuels**	**88.08**	**42**	↑*i*PcP	**P**	**02 15 21.8**	**+0.3**
	comp=Z,14nm,1.3s						
GERES	**GERESS Array B**	**89.96**	**39**	P	**P**	**02 15 30.3**	**+0.1**
GERES	**GERESS Array B**	**89.96**	**39**	P	**P**	**02 15 30.3**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=270,slow=3.9,SNR=5.3						
GERES				LR	LR	02 54 15.7	
	comp=Z,208nm,20.3s,baz=280,slow=34						
FINES	**FINESS Array B**	**90.75**	**25**	LR	LR	02 57 03.8	
	comp=Z,166nm,18.9s,baz=290,slow=36						
TORD	**Torodi Ar. Bea**	**90.90**	**76**	P	**P**	**02 15 33.7**	**-1.4**
TORD	**Torodi Ar. Bea**	**90.90**	**76**	P	**P**	**02 15 33.7**	**-1.4**
	comp=Z,1.0nm,1.0s,baz=311,slow=6.7,SNR=4.3						
TORD				LR	LR	02 52 10.6	
	comp=Z,93nm,21.8s,baz=335,slow=33						
AKASG	**Malin Array Be**	**98.04**	**33**	P	**P**	**02 16 04.4**	**-2.7**
AKASG	**Malin Array Be**	**98.04**	**33**	P	**P**	**02 16 04.4**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=174,slow=9.6,SNR=5.3						
AKASG				LR	LR	03 01 13.5	
	comp=Z,154nm,19.8s,baz=320,slow=36						
MDJ	**Mudanjiang**	**110.25**	**329**	Pdif	**Pdif**	**02 17 03.2**	**+1.6**
MDJ				PP	**PP**	**02 21 38.6**	**+2.0**
MDJ				PKS	**PKSdf**	**02 24 41.4**	**+2.2**
MDJ				SKS	**SKSdf**	**02 28 15.7**	**+4.0**
MDJ				AMB	AMB		
	comp=Z,200nm,4.8s						
MDJ				LR	LR		
	comp=Z,25nm,16.1s						
MDJ				LR	LR		
	comp=Z,51nm,21.5s						
MDJ				LR	LR		
	comp=Z,50nm,16.1s						
CN2	**Changchun**	**112.86**	**331**	*e*PKP	**PKiKP**	**02 21 06.3**	**-1.3**
SONM	**Songino Array**	**116.19**	**346**	PKP	**PKPdf**	**02 21 14.2**	**+0.1**
SONM	**Songino Array**	**116.19**	**346**	PKP	**PKPdf**	**02 21 14.2**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=16,slow=7.7,SNR=3.6						
DRV	**Dumont d'Urvil**	**117.08**	**201**	SS	SS	02 38 18.0	-12
MKAR	**Makanchi Array**	**119.34**	**4**	PKP	**PKPdf**	**02 21 21.4**	**+1.3**
MKAR	**Makanchi Array**	**119.34**	**4**	PKP	**PKPdf**	**02 21 21.4**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=63,slow=0.3,SNR=3.1						
HHC	**Hu-ho-hao-te**	**121.06**	**339**	*e*PKP	**PKPdf**	**02 21 21.9**	**-1.8**
HHC				PP	**PP**	**02 22 54.6**	**+2.3**
HHC				PKS	**PKSdf**	**02 24 59.3**	**-1.1**
HHC				SKS	**SKSdf**	**02 28 30.9**	**-1.9**
HHC				SKKS	**SKKSac**	**02 29 44.7**	**-5.3**
HHC				SS	**SS**	**02 39 20.3**	**-1.0**
HHC				AMB	AMB		
	comp=Z,130nm,8.0s						
HHC				LR	LR		
	comp=Z,580nm,20.0s						
HHC				LR	LR		
	comp=Z,570nm,20.1s						
HHC				LR	LR		
	comp=Z,410nm,19.7s						
WMQ	**Urumqi**	**122.49**	**360**	PKP	**PKPdf**	**02 21 27.0**	**+0.7**
WMQ				PP	PP	02 23 08.0	+6.3
WMQ				PKS	**PKSdf**	**02 25 02.0**	**-1.0**
WMQ				SKS	**SKSdf**	**02 28 34.0**	**-1.3**
WMQ				SKKS	**SKKSac**	**02 29 55.0**	**-4.1**
WMQ				SS	**SS**	**02 39 43.0**	**+4.0**
WMQ				AMB	AMB		
	comp=Z,24nm,10.0s						
WMQ				LR	LR		
	comp=Z,160nm,26.0s						
WMQ				LR	LR		
	comp=Z,120nm,26.0s						
WMQ				LR	LR		
	comp=Z,170nm,25.0s						
LZH	**Lanzhou**	**127.86**	**343**	*e*PKP	**PKPdf**	**02 21 37.0**	**+0.1**
LZH				sPKP		02 21 51.0	
LZH				PP	**PP**	**02 23 42.0**	**+4.1**
LZH				SKKS		02 30 29.1	
LZH				*e*SS	**SS**	**02 40 46.0**	**-1.0**
LZH				AMB	AMB		
	comp=Z,140nm,8.0s						
LZH				LR	LR		
	comp=Z,170nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,18.0s						
LZH				LR	LR		
	comp=Z,240nm,20.0s						
XAN	**Xi'an**	**128.06**	**337**	PKP	**PKPdf**	**02 21 34.2**	**-3.0**
CD2	**Chengdu**	**132.70**	**341**	*e*PKP	**PKPdf**	**02 21 46.8**	**+0.7**
CD2				sPKP		02 22 01.0	
CD2				PP	**PP**	**02 24 14.0**	**+4.8**
CD2				SKKS		02 31 01.6	
CD2				SS	**SS**	**02 41 48.7**	**+2.3**
CD2				AMB	AMB		
	comp=Z,280nm,7.1s						
CD2				LR	LR		
	comp=Z,280nm,14.8s						
CD2				LR	LR		
	comp=Z,180nm,15.6s						
WRA	**Warramunga Arr**	**134.87**	**256**	PKPpre	PKPpre	02 21 48.5	
WRA	**Warramunga Arr**	**134.87**	**256**	PKhKP	PKPpre	02 21 48.5	
	comp=Z,0.2nm,0.3s,baz=18,slow=4.8,SNR=3.0						
GYA	**Guiyang**	**135.68**	**335**	*e*Pdif	**Pdif**	**02 18 53.6**	**-1.6**
GYA				PKP	**PKPdf**	**02 21 51.0**	**-0.9**
GYA				sPKP		02 22 06.4	
GYA				PP	**PP**	**02 24 33.2**	**+4.8**
GYA				PKS	**PKSdf**	**02 25 27.0**	**-1.5**
GYA				SKKS		02 31 20.9	
GYA				SS	**SS**	**02 42 24.6**	**+1.8**
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=Z,130nm,21.6s						
GYA				LR	LR		
	comp=Z,120nm,22.3s						
GYA				LR	LR		
	comp=Z,140nm,20.8s						
KMI	**Kunming**	**138.38**	**339**	PKP	**PKPdf**	**02 21 57.2**	**+0.2**
KMI				PP	PP	02 24 51.5	+6.2
KMI				AMB	AMB		
	comp=Z,84nm,8.6s						
KMI				LR	LR		
	comp=Z,200nm,20.9s						
KMI				LR	LR		
	comp=Z,180nm,17.4s						
KMI				LR	LR		
	comp=Z,180nm,23.5s						
CHTO	**Chiang Mai**	**145.51**	**341**	*e*PKPbc	**PKPab**	**02 22 09.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**145.84**	**340**	PKPbc	**PKPab**	**02 22 11.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**145.84**	**340**	PKPbc	**PKPab**	**02 22 11.4**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=350,slow=4.2,SNR=27						
KAD	**Karad**	**146.27**	**23**	*i* P	**PKPab**	**02 22 12.8**	**0.0**
HYB	**Hyderabad**	**147.60**	**16**	*i* P	**PKPbc**	**02 22 15.0**	**-0.8**

NNC 07 02:23:00.8±6.2, 40.93N×63.35E, h28km±35km, mb3.7, mpv3.1,7C-4D, Error ellipse: s-maj=50.3km s-min=19.7km az=36.0, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.76**	**65**		⇑Pn	Pn		02 24 22.7	-1.8
	0.7nm,0.3s,baz=237,slow=16,SNR=5.4								
KK31					⇑Pg	Pb		02 24 45.4	+4.8
	1.2nm,0.3s								
KK31					⇑Lg	Lg		02 26 06.2	
	9.0nm,0.5s,baz=241,slow=29,SNR=4.8								
AB31	**Akbulak array**	**8.67**	**345**		⇓Pn	Pn		02 25 04.0	-0.2
	0.2nm,0.3s,baz=163,slow=13,SNR=5.4								
AB31					⇑Sn	Sn		02 26 42.1	+1.1
	0.7nm,0.4s,baz=154,slow=25,SNR=4.4								
AB31					⇑Lg	Lg		02 27 33.4	
	4.3nm,0.7s								
AKTO	**Aktyubinsk**	**10.21**	**340**		⇑Pn	Pn		02 25 26.0	+0.6
	4.9nm,1.2s								
AKTO					⇓Sn	Sn		02 27 17.8	-1.1
	0.9nm,0.5s								
AKTO					⇓Lg	Lg		02 28 23.6	
	8.4nm,1.0s								
BVA0	**Borovoye Array**	**13.01**	**19**		⇓Pn	Pn		02 26 06.1	+2.3
	3.4nm,0.8s,baz=151,slow=56,SNR=4.1								
MK31	**Makanchi Array**	**14.85**	**60**		⇑Pn	P		02 26 31.8	-2.5
	0.7nm,0.5s,baz=246,slow=12,SNR=13								

*AUST **07** 02:33:44.1,20.93S×177.16W, h300km*
*IDC **07** 02:34:24.6±2.5, 23.63S×179.91W, h503km±23km, mb3.6/7, mb1 3.8/8, mb1mx3.4/20, mbtmp4.5/8, Error ellipse: s-maj=26.2km s-min=23.1km az=9.0*
*ISCJB **07** 02:34:25.9±1.1, 23.78S±0.2×179.9W±0.2, h532km, mb4.2/7, Error ellipse: s-maj=19.8km s-min=18.3km az=143.1*

ISC 07 02:34:26.9±1.1, 23.78S±0.2×179.9W±0.2, h532km, n24, σ1s11/26, mb4.4/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.67**	**189**	P		P		**02 37 32.4**	**-0.6**
	1.3nm,0.3s,baz=329,slow=6.3,SNR=5.3								
RPZ	**Rata Peaks**	**21.24**	**198**	P		P		**02 38 35.5**	**+0.6**
	5.5nm,0.5s,baz=27,slow=6.1,SNR=5.8								
ARMA	**Armidale**	**26.16**	**249**	P		P		**02 39 20.6**	**+1.6**
	baz=30,SNR=5.7								
EIDS	**Eidsvold**	**26.42**	**261**	P		P		**02 39 21.8**	**+0.6**
	baz=30,SNR=10								
RMQ	**Roma**	**28.47**	**258**	P		P		**02 39 41.0**	**+1.7**
	baz=32,SNR=5.1								
CMSA	**Cobar Meteorol**	**31.35**	**248**	P		P		**02 40 04.5**	**+0.5**
	baz=35,SNR=10								
QLP	**Quilpie**	**32.52**	**257**	P		P		**02 40 14.1**	**+0.1**
	baz=36,SNR=4.4								
TOO	**Toolangi**	**32.60**	**237**	P		P		**02 40 15.2**	**+0.7**
	baz=36,SNR=6.9								
PMG	**Port Moresby**	**34.54**	**289**	P		P		**02 40 30.7**	**-0.5**
	5.7nm,0.5s,baz=128,slow=9.0,SNR=3.1								
STKA	**Stephens Creek**	**34.86**	**248**	P		P		**02 40 34.0**	**+0.4**
	3.3nm,0.5s,baz=91,slow=9.2,SNR=11								
STKA	**Stephens Creek**	**34.86**	**248**	P		P		**02 40 34.1**	**+0.5**
	baz=38,SNR=8.5								
HTT	**Hallett**	**37.21**	**246**	P		P		**02 40 53.3**	**+0.1**
	baz=41,SNR=10								
BBOO	**Buckleboo**	**39.58**	**247**	P		P		**02 41 11.8**	**-0.5**
	baz=43,SNR=14								
ASAR	**Alice Springs**	**42.15**	**260**	P		P		**02 41 32.5**	**-0.5**
	9.0nm,0.8s,baz=96,slow=7.8,SNR=78								
ASAR						ScP		**02 46 17.8**	**+2.7**
	1.2nm,0.8s,baz=104,slow=4.0,SNR=7.9								
WRA	**Warramunga Arr**	**42.51**	**266**	P		P		**02 41 34.6**	**-1.2**
	11nm,0.5s,baz=102,slow=8.3,SNR=72								
WRA						ScP		**02 46 19.4**	**+2.9**
	0.3nm,0.5s,baz=100,slow=3.5,SNR=3.5								
FORT	**Forrest**	**46.44**	**249**	P		P		**02 42 05.3**	**-0.7**
	baz=50,SNR=18								
KNRA	**Kununurra**	**48.78**	**270**	P		P		**02 42 23.5**	**-0.2**
	baz=51,SNR=3.8								
FITZ	**Fitzroy Crossi**	**50.93**	**265**	P		P		**02 42 39.4**	**0.0**
	baz=54,SNR=11								
MEEK	**Meekatharra**	**55.24**	**253**	P		P		**02 43 09.2**	**-0.9**
	baz=58,SNR=5.5								
MORW	**Morawa**	**57.01**	**250**	P		P		**02 43 21.8**	**-0.4**
	baz=60,SNR=3.8								
CMAR	**Chiang Mai Arr**	**89.57**	**290**	P		P		**02 46 28.4**	**+0.2**
	0.6nm,0.3s,baz=114,slow=4.0,SNR=3.6								
TXAR	**Lajitas Array**	**90.28**	**58**	P		P		**02 46 31.4**	**+0.1**
	0.4nm,0.7s,baz=213,slow=6.7,SNR=7.2								
AKASG	**Malin Array Be**	**144.92**	**327**	PKP		**PKPdf**		**02 53 02.0**	**-1.2**
	0.4nm,0.4s,baz=45,slow=4.4,SNR=5.4								
BRTR	**Keskin Array B**	**147.58**	**307**	PKPbc		**PKPbc**		**02 53 11.8**	**+0.1**
	0.8nm,0.6s,baz=83,slow=4.5,SNR=5.4								

*BJI **07** 03:01:29.6, 18.72S×64.75E, h10km, mB4.9/8, mb4.8/16, Ms4.7/4, Ms7 4.3/4*
*IDC **07** 03:01:38.4±0.5, 17.66S×65.79E, h0km, mb4.2/28, mb1 4.3/29, mb1mx4.3/37, mbtmp4.2/29, ML4.2/1, MS3.9/17, Ms1 3.9/17, ms1mx3.7/39, Error ellipse: s-maj=15.1km s-min=12.2km az=152.0*
*ISCJB **07** 03:01:39.2±0.3, 17.72S±0.06×65.77E±0.05, h17km, mb4.4/42, MS3.7/20, Error ellipse: s-maj=9.3km s-min=6.8km az=153.8*
*NEIC **07** 03:01:40.0±0.3, 17.66S×65.78E, h10km, mb4.5/7, Error ellipse: s-maj=8.4km s-min=6.0km az=165.0*

ISC 07 03:01:41.3±0.4, 17.79S±0.09×65.70E±0.08, h17km, n130, σ1s25/126, mb4.4/42, MS3.8/20, 3C-9D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**8.15**	**251**	*e*Pn		Pn		03 03 35.1	-3.8
MRIV				*e*S		Sn		03 05 02.4	-8.4
RER	**Riviere de l'E**	**9.97**	**249**	*e*Pn		Pn		03 04 00.6	-3.4
	32nm,0.7s								
RER				*e*S		Sn		03 05 45.0	-11
H08S1	**Diego Carcia H**	**12.05**	**34**	T		T		03 16 37.5	
	baz=216,SNR=972								
H08S2	**Diego Garcia H**	**12.06**	**34**	T		T		03 16 38.5	
	baz=216,SNR=693								
H08S3	**Diego Garcia H**	**12.07**	**34**	T		T		03 16 38.5	
	baz=216,SNR=1041								
H08N3	**Diego Garcia H**	**12.49**	**25**	T		T		03 17 16.7	
	baz=204,slow=76,SNR=2398								
H08N1	**Diego Garcia H**	**12.50**	**25**	T		T		03 17 19.8	
	baz=204,slow=76,SNR=1874								
H08N2	**Diego Garcia H**	**12.51**	**25**	T		T		03 17 21.2	
	baz=204,slow=76,SNR=2458								
ABPO	**Ambohimpanom**	**17.58**	**263**	*e*Pn		P		**03 05 46.3**	**-0.5**
	8.9nm,1.0s								
OPO	**Ambohidratompo**	**17.61**	**265**	P		P		**03 05 47.0**	**-0.2**
OPO				S		Sn		03 08 49.6	-13
OPO	**Ambohidratompo**	**17.61**	**265**	P		P		**03 05 47.0**	**-0.2**
	0.7nm,0.3s,baz=90,slow=13,SNR=3.9								
OPO				S		Sn		03 08 49.6	-13
	0.2nm,0.3s,baz=86,slow=19,SNR=1.8								
OPO				LR		LR		03 10 44.3	
	comp=Z,635nm,21.9s,baz=92,slow=31								
LSZ	**Lusaka**	**36.01**	**268**	*e*P		P		**03 08 43.0**	**+1.0**
	3.9nm,1.1s								
LSZ	**Lusaka**	**36.01**	**268**	P		P		**03 08 43.0**	**+1.0**
	2.5nm,0.9s,baz=75,slow=12,SNR=5.6								
LBTB	**Lobatse**	**37.92**	**252**	*e*P		P		**03 08 58.4**	**+0.3**
	14nm,0.8s								
LBTB	**Lobatse**	**37.92**	**252**	P		P		**03 08 59.0**	**+0.9**
	12nm,0.7s,baz=109,slow=8.4,SNR=19								
BOSA	**Boshof**	**38.54**	**246**	P		P		**03 09 04.5**	**+1.1**
BOSA	**Boshof**	**38.54**	**246**	P		P		**03 09 04.5**	**+1.1**
	3.0nm,0.9s,baz=90,slow=9.6,SNR=3.0								
BOSA				LR		LR		03 22 00.6	
	comp=Z,112nm,21.4s,baz=84,slow=32								
PSI	**Prapat**	**38.61**	**61**	P		P		**03 09 03.4**	**-0.6**
PSI	**Prapat**	**38.61**	**61**	P		P		**03 09 03.4**	**-0.6**
	2.8nm,0.6s,baz=184,slow=21,SNR=4.0								
SUR	**Sutherland**	**42.86**	**241**	P		P		**03 09 41.4**	**+2.3**
	12nm,1.1s,baz=162,slow=20,SNR=2.8								
TSUM	**Tsumeb**	**45.54**	**260**	P		P		**03 10 00.5**	**-0.1**
TSUM	**Tsumeb**	**45.54**	**260**	P		P		**03 10 00.5**	**-0.1**
	1.6nm,1.0s,baz=349,slow=5.2,SNR=2.5								
H01W3	**Cape Leeuwin H**	**46.16**	**121**	T		T		03 59 43.5	
	baz=278,slow=75,SNR=88								
H01W2	**Cape Leeuwin H**	**46.17**	**122**	T		T		03 59 42.4	
	baz=278,slow=75,SNR=63								
H01W1	**Cape Leeuwin H**	**46.18**	**122**	T		T		03 59 44.6	
	baz=278,slow=75,SNR=62								
KOLN	**Koldanda**	**48.49**	**21**	*e*P		P		**03 10 23.0**	**-0.5**
	17nm,0.9s								
KOLN	**Koldanda**	**48.49**	**21**	*e*P		P		**03 10 23.0**	**-0.5**
PYUN	**Piuthan**	**48.59**	**20**	*e*P		P		**03 10 23.7**	**-0.6**
PYUN	**Piuthan**	**48.59**	**20**	*e*P		P		**03 10 23.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**48.63**	**44**	P		P		**03 10 24.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**48.63**	**44**	P		P		**03 10 24.6**	**+0.1**
	2.1nm,0.3s,baz=235,slow=8.5,SNR=14								
CMAR				LR		LR		03 27 35.3	
	comp=Z,138nm,21.9s,baz=260,slow=32								
RAMN	**Ramite**	**48.88**	**25**	*e*P		P		**03 10 26.5**	**0.0**
	30nm,0.7s								
RAMN	**Ramite**	**48.88**	**25**	*e*P		P		**03 10 26.5**	**0.0**
DMN	**Daman**	**48.89**	**23**	*e*P		P		**03 10 26.6**	**0.0**
DMN	**Daman**	**48.89**	**23**	*e*P		P		**03 10 26.6**	**0.0**
PKI	**Pulchoki**	**48.97**	**23**	*e*P		P		**03 10 26.7**	**-0.6**
PKI	**Pulchoki**	**48.97**	**23**	*e*P		P		**03 10 26.7**	**-0.6**
GKN	**Gorkha**	**49.07**	**22**	*e*P		P		**03 10 27.4**	**-0.5**
GKN	**Gorkha**	**49.07**	**22**	*e*P		P		**03 10 27.4**	**-0.5**
DANN	**Dangsing**	**49.08**	**21**	*e*P		P		**03 10 27.3**	**-0.8**
	14nm,0.7s								
DANN	**Dangsing**	**49.08**	**21**	*e*P		P		**03 10 27.3**	**-0.8**
KKN	**Kakani**	**49.12**	**23**	*e*P		P		**03 10 27.8**	**-0.5**
	16nm,0.7s								
KKN	**Kakani**	**49.12**	**23**	*e*P		P		**03 10 27.8**	**-0.5**
JIRN	**Jiri**	**49.35**	**24**	*e*P		P		**03 10 30.0**	**-0.3**
	13nm,0.7s								
JIRN	**Jiri**	**49.35**	**24**	*e*P		P		**03 10 30.0**	**-0.3**
GUN	**Gumba**	**49.45**	**24**	*e*P		P		**03 10 30.6**	**-0.5**
GUN	**Gumba**	**49.45**	**24**	*e*P		P		**03 10 30.6**	**-0.5**
MAW	**Mawson**	**49.83**	**181**	LR		LR		03 27 11.5	
	comp=Z,92nm,19.8s,baz=134,slow=31								
SYO	**Syowa Base**	**53.74**	**191**	*e*P		P		**03 11 02.0**	**-0.1**
KAPI	**Kappang**	**54.29**	**83**	LR		LR		03 30 58.0	
	comp=Z,122nm,21.1s,baz=259,slow=32								
EIL	**Elat**	**55.73**	**327**	LR		LR		03 31 01.5	
	comp=Z,50nm,21.6s,baz=130,slow=32								
KMI	**Kunming**	**55.86**	**41**	P		P		03 11 21.8	+3.4
KMI				pP		pP		03 11 24.6	+0.7
KMI				sP		sP		03 11 26.0	+0.1
KMI				pmax		pmax			
	comp=Z,11nm,0.5s								
QIZ	**Qiongzhong**	**56.74**	**52**	P		P		**03 11 24.6**	**+0.1**
QIZ				S		S		**03 19 18.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**56.79**	**100**	*e*P		P		**03 11 24.9**	**-0.1**
MMAI	**Mount Meron Ar**	**58.23**	**330**	LR		LR		03 32 43.2	
	comp=Z,15nm,28.6s,baz=250,slow=32								
GYA	**Guiyang**	**59.31**	**43**	*e*P		P		**03 11 44.8**	**+2.2**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
AAK	**Ala-Archa**	**60.66**	**7**	P		P		**03 11 50.8**	**-0.8**
AAK	**Ala-Archa**	**60.66**	**7**	P		P		**03 11 50.8**	**-0.8**
	1.0nm,0.6s,baz=188,slow=15,SNR=3.0								
AAK				LR		LR		03 35 26.8	
	comp=Z,16nm,28.6s,baz=203,slow=34								
GNI	**Garni**	**60.86**	**342**	*e*P		P		**03 11 54.2**	**+1.2**
	16nm,1.0s								
GNI	**Garni**	**60.86**	**342**	P		P		**03 11 52.7**	**-0.3**
	16nm,1.2s,baz=214,slow=1.8,SNR=5.5								
ASAR	**Alice Springs**	**63.54**	**108**	P		P		**03 12 10.7**	**-0.6**
ASAR	**Alice Springs**	**63.54**	**108**	P		P		**03 12 10.7**	**-0.6**
	3.6nm,0.9s,baz=268,slow=5.7,SNR=28								
ASAR				LR		LR		03 36 13.7	
	comp=Z,16nm,28.6s,baz=270,slow=33								
AS31	**Alice Springs**	**63.54**	**108**	*e*P		P		**03 12 10.6**	**-0.7**
ENH	**Enshi**	**63.72**	**42**	*e*P		P		**03 12 11.1**	**-1.1**
WMQ	**Urumqi**	**64.53**	**17**	P		P		**03 12 19.0**	**+1.7**
WMQ				sP		**sP**		**03 12 26.0**	**+1.1**
WMQ				PP		**PP**		**03 14 43.0**	**+3.4**
WMQ				ScP				03 16 54.0	
WMQ				S		**S**		**03 20 57.0**	**+1.1**
WMQ				ScS		**SKSac**		**03 22 09.0**	**-1.9**
WMQ				pmax		pmax			
	comp=Z,10.0nm,1.0s								
WMQ				pmax		pmax			
	comp=Z,64nm,5.0s								
WMQ				LR		LR			
	comp=N,120nm,18.0s								
WMQ				LR		LR			
	comp=E,120nm,18.0s								
WMQ				LR		LR			
	comp=Z,120nm,18.0s								
WRA	**Warramunga Arr**	**64.56**	**104**	P		P		**03 12 17.9**	**-0.2**
WRA	**Warramunga Arr**	**64.56**	**104**	P		P		**03 12 17.9**	**-0.2**
	6.2nm,0.9s,baz=263,slow=5.9,SNR=43								
WRA				LR		LR

CFR	**Carcaliu**	**71.37**	**333**	⇓*iP*	**P**	03 12 59.9	-0.3	
HHC	**Hu-ho-hao-te**	**72.21**	**35**	*e*P	**P**	03 13 06.0	+0.5	
HHC				pP	**pP**	03 13 11.8	+0.7	
HHC				sP	**sP**	03 13 14.1	+1.0	
HHC				PP	**PP**	03 15 50.3	+3.9	
HHC				S	**S**	03 22 29.6	+2.0	
HHC				SKS	**SKSac**	03 23 06.8	-2.5	
HHC				pmax	pmax			
	comp=Z,24nm,1.2s							
HHC				pmax	pmax			
	comp=Z,250nm,7.4s							
HHC				LR	LR			
	comp=Z,340nm,17.3s							
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	03 13 05.8	0.0	
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	03 13 05.8	0.0	
	1.6nm,0.3s,baz=11,slow=0.1,SNR=7.3							
VRI	**Vrincioaia**	**72.52**	**333**	⇑*iP*	**P**	03 13 07.3	+0.2	
PLOR	**Plostina**	**72.54**	**333**	⇓*iP*	**P**	03 13 07.6	+0.3	
MLR	**Muntele Rosu**	**72.58**	**332**	⇓*iP*	**P**	03 13 05.7	-1.9	
VOIR		**72.94**	**331**	⇓*iP*	**P**	03 13 11.3	+1.6	
ARR	**Arges**	**73.08**	**331**	⇓*iP*	**P**	03 13 09.8	-0.7	
ZALV	**Zalesovo Beam**	**73.31**	**12**	P	**P**	03 13 09.9	-1.7	
ZALV	**Zalesovo Beam**	**73.31**	**12**	P	**P**	03 13 09.9	-1.7	
	2.5nm,0.8s,baz=212,slow=5.3,SNR=7.9							
ZALV				LR	LR	03 44 02.0		
	comp=Z,79nm,18.4s,baz=250,slow=35							
DBIC	**Dimbokro**	**73.74**	**283**	P	**P**	03 13 14.7	-0.3	
DBIC	**Dimbokro**	**73.74**	**283**	P	**P**	03 13 14.7	-0.3	
	3.0nm,0.7s,baz=120,slow=12,SNR=3.8							
DBIC				LR	LR	03 44 14.5		
	comp=Z,101nm,19.1s,baz=104,slow=35							
GZR	**Gura Zlata**	**73.97**	**330**	⇓*iP*	P	03 13 12.5	-3.3	
VNDA	**Vanda**	**74.09**	**167**	LR	LR	03 41 51.4		
	comp=Z,120nm,19.1s,baz=340,slow=32							
BZS	**Buzias**	**74.69**	**330**	⇑*iP*	**P**	03 13 21.3	+1.4	
SONM	**Songino Array**	**74.79**	**27**	P	**P**	03 13 19.6	-1.0	
SONM	**Songino Array**	**74.79**	**27**	P	**P**	03 13 19.6	-1.0	
	2.6nm,0.8s,baz=212,slow=5.7,SNR=20							
SIRR	**Siria**	**75.14**	**330**	⇓*iP*	**P**	03 13 22.5	0.0	
AK02	**Malin Array Si**	**75.33**	**337**	*e*P	**P**	03 13 22.5	-0.9	
KEST	**Kesra**	**75.35**	**316**	LR	LR	03 48 48.2		
	comp=Z,35nm,18.1s,baz=290,slow=38							
AK01	**Malin Array Si**	**75.35**	**337**	*e*P	**P**	03 13 21.8	-1.7	
AKASG	**Malin Array Be**	**75.35**	**337**	P	**P**	03 13 22.2	-1.4	
AKASG	**Malin Array Be**	**75.35**	**337**	P	**P**	03 13 22.2	-1.4	
	2.8nm,0.7s,baz=141,slow=5.1,SNR=21							
KIEV	**Kiev**	**75.35**	**337**	*e*P	**P**	03 13 22.5	-1.1	
	6.5nm,1.1s							
CONA	**Conrad Observa**	**79.13**	**328**	⇓*iP*	**P**	03 13 45.7	+0.8	
	7.6nm,1.2s							
KSAR	**Wonju Array Be**	**80.21**	**46**	P	**P**	03 13 50.0	-0.9	
KSRS	**Korea Array**	**80.24**	**46**	P	**P**	03 13 50.0	-1.1	
	4.0nm,0.9s,baz=245,slow=5.3,SNR=8.3							
KSRS				LR	LR	03 49 02.7		
	comp=Z,36nm,18.2s,baz=294,slow=36							
FETA	**Feichten**	**81.22**	**325**	⇑*iP*	**P**	03 13 53.2	-3.1	
	6.8nm,1.1s							
USRK	**Ussuriysk Arra**	**86.29**	**41**	P	P	03 14 18.8	-3.4	
	1.5nm,0.6s,baz=212,slow=4.9,SNR=6.5							
ESDC	**Sonseca Array**	**86.42**	**314**	P	**P**	03 14 22.9	-0.1	
ESDC	**Sonseca Array**	**86.42**	**314**	P	**P**	03 14 22.9	-0.1	
	0.3nm,0.5s,baz=113,slow=3.1,SNR=4.9							
MJAR	**Matsushiro Arr**	**87.10**	**50**	P	**P**	03 14 25.1	-1.3	
MJAR	**Matsushiro Arr**	**87.10**	**50**	P	**P**	03 14 25.1	-1.3	
	5.5nm,0.8s,baz=229,slow=5.0,SNR=10							
NVAR	**Mina Array Bea**	**159.14**	**9**	PKPab	**PKPab**	03 22 15.6	-0.2	
NVAR	**Mina Array Bea**	**159.14**	**9**	PKPab	**PKPab**	03 22 15.6	-0.2	
	1.0nm,0.8s,baz=338,slow=3.5,SNR=4.5							
TXAR	**Lajitas Array**	**164.94**	**322**	PKPab	**PKPab**	03 22 43.1	+1.7	
TXAR	**Lajitas Array**	**164.94**	**322**	PKPab	**PKPab**	03 22 43.1	+1.7	
	0.5nm,0.9s,baz=64,slow=5.7,SNR=4.6							

WEL 07 03:07:32.0±0.0, 39.30S×174.73E, h27km±1km, ML3.5/37, 7C-10D, Error ellipse: s-maj=0.9km s-min=0.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.18**	**7**	⇑P*	Pb	03 07 37.7	+0.1
VRZ				S*	Sb	03 07 42.4	+1.0
VRZ				AML	AML	03 07 43.1	
RAEZ	**Rainy Point**	**0.26**	**273**	P*	Pb	03 07 38.7	0.0
MHEZ	**Mangahewa**	**0.39**	**305**	⇑P*	Pb	03 07 40.7	+0.2
MHEZ				S*	Sb	03 07 47.0	+0.8
DREZ	**Durham Road**	**0.42**	**285**	⇑P*	Pb	03 07 41.0	-0.1
PKVZ	**Pokaka**	**0.48**	**89**	P*	Pb	03 07 41.4	-0.7
PKVZ				AML	AML	03 07 49.8	
PKVZ				AML	AML	03 07 49.8	
DFE	**Dawson Falls**	**0.49**	**267**	P*	Pb	03 07 41.9	-0.3
NEZ	**North Egmont**	**0.49**	**273**	⇓P*	Pb	03 07 42.0	-0.3
WAZ	**Wanganui**	**0.50**	**156**	P*	Pb	03 07 41.3	-0.9
WAZ				AML	AML	03 07 49.3	
WAZ				AML	AML	03 07 49.7	
KHEZ	**Kahui Hut**	**0.55**	**271**	⇓P*	Pb	03 07 43.1	-0.2
MTVZ	**Mangateitei**	**0.58**	**99**	P*	Pb	03 07 43.0	-0.7
MTVZ				AML	AML	03 07 53.3	
MTVZ				AML	AML	03 07 55.3	
PKE	**Pukeiti**	**0.58**	**280**	P*	Pb	03 07 43.4	-0.4
PKE				AML	AML	03 07 54.1	
PKE				AML	AML	03 07 54.3	
TWVZ	**Taurewa**	**0.60**	**68**	P*	Pb	03 07 43.3	-0.7
TWVZ				AML	AML	03 07 52.9	
TWVZ				AML	AML	03 07 53.6	
TRVZ	**Turoa**	**0.64**	**90**	P*	Pb	03 07 43.9	-1.0
TRVZ				AML	AML	03 07 53.7	
TRVZ				AML	AML	03 07 54.3	
COVZ	**Chateau Observ**	**0.64**	**81**	P*	Pb	03 07 44.3	-0.5
FWVZ	**Far West T-bar**	**0.64**	**86**	P*	Pb	03 07 44.1	-0.9
FWVZ				AML	AML	03 07 54.1	
FWVZ				AML	AML	03 07 55.7	
WPVZ	**Whakapapa**	**0.64**	**82**	P*	Pb	03 07 44.3	-0.5
WPVZ				AML	AML	03 07 54.7	
WPVZ				AML	AML	03 07 56.3	
DRZ	**Dome Shelter**	**0.65**	**88**	P*	Pb	03 07 44.8	-0.4
DRZ				AML	AML	03 07 55.3	
DRZ				AML	AML	03 07 57.5	
WHVZ	**Whangaehu Hut**	**0.67**	**89**	P*	Pb	03 07 44.7	-0.7
WHVZ				S*	Sb	03 07 53.8	-0.8
NMEZ	**Namu Road**	**0.67**	**260**	P*	Pb	03 07 44.5	-0.6
NWEZ	**Newall Road**	**0.67**	**272**	⇓P*	Pb	03 07 44.8	-0.3
WNVZ	**Wahianoa**	**0.68**	**93**	P*	Pb	03 07 44.8	-0.7
WNVZ				AML	AML	03 07 56.2	
WNVZ				AML	AML	03 07 56.9	
NGZ	**Ngauruhoe**	**0.69**	**80**	P*	Pb	03 07 45.1	-0.5
NGZ				AML	AML	03 07 56.1	
NGZ				AML	AML	03 07 58.0	
WTVZ	**West Tongariro**	**0.69**	**75**	⇓P*	Pb	03 07 45.2	-0.5
WTVZ				AML	AML	03 07 56.1	
WTVZ				AML	AML	03 07 56.9	
TUVZ	**Tukino**	**0.72**	**88**	P*	Pb	03 07 45.8	-0.3
TUVZ				AML	AML	03 07 56.4	
TUVZ				AML	AML	03 07 56.6	
KRVZ	**Karewarewa**	**0.74**	**74**	⇑P*	Pb	03 07 45.8	-0.6
KRVZ				AML	AML	03 07 56.6	
KRVZ				AML	AML	03 07 57.2	
OTVZ	**Oturere**	**0.74**	**80**	⇓P*	Pb	03 07 46.0	-0.5
OTVZ				AML	AML	03 07 57.2	
OTVZ				AML	AML	03 07 57.4	
HIZ	**Hauiti**	**0.79**	**7**	⇑PN	Pb	03 07 46.8	-0.4
HIZ				AML	AML	03 07 58.7	
HIZ				AML	AML	03 07 58.7	
MOVZ	**Moawhango**	**0.80**	**98**	PN	Pb	03 07 46.6	-0.9
MOVZ				AML	AML	03 07 57.2	
MOVZ				AML	AML	03 07 57.3	
KATZ	**Kakaramea**	**0.82**	**67**	⇓PN	Pb	03 07 47.2	-0.6
KATZ				AML	AML	03 07 59.9	
KATZ				AML	AML	03 08 00.4	
RATZ	**Rangitukua**	**0.92**	**62**	⇓PN	Pn	03 07 48.8	-0.4
RATZ				AML	AML	03 08 03.4	
RATZ				AML	AML	03 08 06.2	
WATZ	**Wairara**	**0.98**	**53**	⇓PN	Pn	03 07 49.7	-0.3
WATZ				AML	AML	03 08 03.5	
WATZ				AML	AML	03 08 03.6	
BHHZ	**Black Hill Sta**	**1.05**	**101**	PN	Pn	03 07 50.2	-0.9
TLZ	**Tolley Road**	**1.16**	**33**	⇓PN	Pn	03 07 51.9	-0.5
TSZ	**Takapari Road**	**1.22**	**129**	⇑PN	Pn	03 07 52.7	-0.6
TSZ				AML	AML	03 08 09.8	
TSZ				AML	AML	03 08 14.6	
PNHZ	**Pukenui**	**1.29**	**119**	*e*PN	Pn	03 07 53.7	-0.6
POWZ	**Post Office Ro**	**1.35**	**144**	PN	Pn	03 07 55.3	+0.2
BKZ	**Black Stump Fm**	**1.38**	**85**	PN	Pn	03 07 55.2	-0.3
BKZ				AML	AML	03 08 20.0	
BKZ				AML	AML	03 08 20.9	
DVHZ	**Dannevirke**	**1.49**	**132**	PN	Pn	03 07 58.0	+1.0
MRZ	**Mangatainoka R**	**1.51**	**155**	PN	Pn	03 07 57.2	0.0
MRZ				AML	AML	03 08 18.6	
MRZ				AML	AML	03 08 19.7	
OGWZ	**Otaki Gorge**	**1.55**	**168**	PN	Pn	03 07 57.5	-0.3
KIW	**Kapiti Island**	**1.57**	**175**	⇑PN	Pn	03 07 57.5	-0.5
KIW				AML	AML	03 08 20.1	
KIW				AML	AML	03 08 20.6	
PRWZ	**Pori Road**	**1.58**	**143**	PN	Pn	03 07 59.2	+1.0
DUWZ	**D'Urville Isla**	**1.62**	**202**	PN	Pn	03 07 58.3	-0.6
DUWZ				AML	AML	03 08 22.2	
DUWZ				AML	AML	03 08 22.2	
TOZ	**Tahuroa Road**	**1.68**	**21**	PN	Pn	03 07 59.4	-0.2
HOWZ	**Holdsworth Sta**	**1.71**	**160**	⇓PN	Pn	03 08 00.4	+0.4
TIWZ	**Tintock**	**1.72**	**149**	PN	Pn	03 08 01.1	+0.9
TIWZ				AML	AML	03 08 25.3	
TIWZ				AML	AML	03 08 30.9	
KAHZ	**Kahuranaki**	**1.73**	**107**	PN	Pb	03 08 03.8	+0.6
BFZ	**Birch Farm**	**1.81**	**140**	PN	Pn	03 08 01.6	+0.3
CAW	**Cannon Point**	**1.82**	**172**	PN	Pn	03 08 01.6	0.0
CAW				AML	AML	03 08 28.8	
CAW				AML	AML	03 08 29.1	
TCW	**Tory Channel**	**1.94**	**190**	PN	Pn	03 08 02.4	-0.8
TCW				AML	AML	03 08 31.7	
TCW				AML	AML	03 08 31.7	
MTW	**Mount Morrison**	**1.95**	**163**	PN	Pn	03 08 04.2	+1.0
MTW				AML	AML	03 08 30.6	
MTW				AML	AML	03 08 32.8	
CPWZ	**Castlepoint**	**1.96**	**145**	PN	Pb	03 08 07.9	+0.8
SNZO	**South Karori**	**2.01**	**181**	PN	Pn	03 08 04.4	+0.4
SNZO				AML	AML	03 08 32.4	
SNZO				AML	AML	03 08 32.4	
TMWZ	**Te Maipa**	**2.01**	**154**	PN	Pn	03 08 05.8	+1.6
BHW	**Baring Head**	**2.11**	**177**	PN	Pn	03 08 05.8	+0.4
BHW				AML	AML	03 08 35.4	
BHW				AML	AML	03 08 39.1	
URZ	**Urewera**	**2.13**	**62**	*e*PN	Pn	03 08 07.3	+1.6
PAWZ	**Paruwai Farm**	**2.15**	**166**	PN	Pn	03 08 07.2	+1.2
PAWZ				AML	AML	03 08 47.8	
PAWZ				AML	AML	03 08 48.7	
MSWZ	**Moikau Station**	**2.15**	**169**	PN	Pn	03 08 06.5	+0.5
MSWZ				AML	AML	03 08 38.4	
NNZ	**Nelson**	**2.18**	**208**	PN	Pn	03 08 06.3	-0.1
NNZ				AML	AML	03 08 38.2	
NNZ				AML	AML	03 08 40.5	
TUWZ	**Tuamarina**	**2.21**	**196**	PN	Pn	03 08 06.8	0.0
MKAZ	**Moumakai**	**2.21**	**9**	PN	Pn	03 08 06.2	-0.7
MKAZ				AML	AML	03 08 45.2	
MKAZ				AML	AML	03 08 45.2	
QRZ	**Quartz Range**	**2.27**	**227**	*e*PN	Pn	03 08 06.6	-1.1
PLWZ	**Palliser**	**2.30**	**170**	PN	Pn	03 08 09.0	+0.8
BSWZ	**Blackbirch Sta**	**2.50**	**195**	PN	Pn	03 08 12.3	+1.5
THZ	**Tophouse**	**2.83**	**209**	PN	Pn	03 08 15.5	+0.1
THZ				AML	AML	03 09 05.3	
THZ				AML	AML	03 09 09.7	
KHZ	**Kahutara**	**3.24**	**196**	PN	Pn	03 08 21.0	0.0
DSZ	**Denniston Nort**	**3.31**	**221**	PN	Pn	03 08 22.0	0.0
MQZ	**McQueen's Vall**	**4.67**	**199**	*e*PN	Pn	03 08 38.1	-2.5
JCZ	**Jackson Bay**	**6.54**	**221**	PN	Pn	03 09 05.5	-0.9

*IDC **07** 03:08:16.1±1.0, 21.82N×120.77E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/27, mbtmp3.9/10, Error ellipse: s-maj=52.0km s-min=16.4km az=62.0*
*TAP **07** 03:08:20.5, 21.81N×120.53E, h43km, ML4.0, C*
*JMA **07** 03:08:20.3±0.2, 21.74N×120.68E, h37km, M3.9*
*ISCJB **07** 03:08:21.0±0.5, 21.81N±0.03×120.64E±0.04, h50km±3km, mb3.8/9, Error ellipse: s-maj=5.9km s-min=5.4km az=40.0*

ISC 07 03:08:21.4±1.6, 21.79N±0.08×120.53E±0.06, h34km±4km, n56, σ0.95/77, mb3.8/9, 1C-12D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun** baz=56	**0.29**	**42**	⇓*iP*	**Pn**	**03 08 29.2**	**+0.1**
TWK1	**Hengchun** baz=65	**0.30**	**59**	⇓*iP*	**Pn**	**03 08 29.2**	**-0.1**
TWK1				*i* S	**Sn**	**03 08 35.6**	**+1.7**
TSEB	**Hengchuen, Pin** baz=70	**0.36**	**72**	⇓*iP*	**Pn**	**03 08 29.7**	**-0.7**
TSEB				*i* S	**Sn**	**03 08 36.4**	**+0.4**
TWP	**Hsiaoliuchiu** baz=334	**0.58**	**344**	*e*P	**Pn**	**03 08 33.0**	**-0.1**
TWP				*e*S	**Sn**	**03 08 43.3**	**+1.8**
SCZT	**Fangliau** baz=10.0	**0.59**	**8**	⇓*iP*	**Pn**	**03 08 32.9**	**-0.4**
SCZT				S	**Sn**	**03 08 41.4**	**-0.3**
TAW	**Tawu** baz=33	**0.66**	**31**	⇓*iP*	**Pn**	**03 08 34.0**	**-0.3**
TAW				*i* S	**Sn**	**03 08 43.3**	**-0.3**
EAST	**Anshuo** baz=33	**0.66**	**26**	⇓*e*P	**Pn**	**03 08 36.0**	**+1.6**
ECL	**Taimali** baz=27	**0.90**	**26**	*e*P	**Pn**	**03 08 37.0**	**-0.6**
SGLT	**Jiouru** baz=359	**0.93**	**358**	*e*P	**Pn**	**03 08 37.9**	**-0.3**
SSD	**Sandimen** baz=7.0	**0.96**	**6**	⇓*iP*	**Pn**	**03 08 37.9**	**-0.6**
SSD				S	**Sn**	**03 08 49.5**	**-1.5**
TWG	**Pinlang** baz=37	**1.14**	**26**	*e*P	**Pn**	**03 08 40.5**	**-0.6**
TWG				*e*S	**Sn**	**03 08 54.7**	**-0.9**
CHN1	**Nanshi**	**1.39**	**360**	⇓P	**Pn**	**03 08 43.9**	**-0.6**
CHN1				*e*S	**Sn**	**03 09 00.9**	**-0.9**
WTP	**Ta-pu** baz=4.0	**1.45**	**3**	*e*P	**Pn**	**03 08 44.7**	**-0.7**
WTP				*e*S	**Sn**	**03 09 01.8**	**-1.5**
ELDTW	**Lidau** baz=6.0	**1.47**	**18**	*e*P	**Pn**	**03 08 45.6**	**0.0**
TWK	**Hsinying** baz=359	**1.47**	**359**	*e*P	**Pn**	**03 08 45.1**	**-0.6**
CHKT	**Chengkung** baz=31	**1.52**	**31**	P	**Pn**	**03 08 45.5**	**-0.7**
CHKT				*e*S	**Sn**	**03 09 05.5**	**+0.7**
CHY	**Chiayi** baz=357	**1.70**	**357**	*e*P	**Pn**	**03 08 48.2**	**-0.6**
TWF1	**Yuli** baz=13	**1.71**	**24**	P	**Pn**	**03 08 48.7**	**-0.2**
TWF1				*e*S	**Sn**	**03 09 08.9**	**-0.7**
ALS	**Alishan** baz=357	**1.73**	**8**	⇓P	**Pn**	**03 08 49.0**	**-0.4**
YUS	**Yu-Shan** baz=2.0	**1.74**	**13**	⇓P	**Pn**	**03 08 49.5**	**-0.2**
CHN5	**Tsauling** baz=353	**1.81**	**4**	⇓P	**Pn**	**03 08 49.5**	**-0.7**
CHN5				*e*S	**Sn**	**03 09 10.7**	**-1.3**
EHY	**Hungye** baz=35	**1.86**	**23**	*e*P	**Pn**	**03 08 50.6**	**-0.3**
EHY				*e*S	**Sn**	**03 09 12.2**	**-1.0**
PNG	**Penghu** baz=333	**1.99**	**333**	*e*P	**Pn**	**03 08 51.1**	**-1.5**
SMLT	**Sun Moon Lake** baz=358	**2.11**	**9**	⇓*e*P	**Pn**	**03 08 54.3**	**-0.2**
SMLT				*e*S	**Sn**	**03 09 18.6**	**-1.1**
TYC	**Yuchr** baz=357	**2.13**	**8**	*e*P	**Pn**	**03 08 54.1**	**-0.5**
TYC				*e*S	**Sn**	**03 09 18.8**	**-1.1**
ESL	**Shilin** baz=35	**2.18**	**22**	*e*P	**Pn**	**03 08 56.5**	**+1.2**
TCU	**Taichung** baz=4.0	**2.35**	**3**	*e*P	**Pn**	**03 08 57.0**	**-0.7**
WHF	**Hehuan Shan** baz=30	**2.44**	**16**	⇑*e*P	**Pn**	**03 08 59.6**	**+0.3**
TWD	**Chiawan** baz=24	**2.48**	**23**	*e*P	**Pn**	**03 09 00.2**	**+0.7**
TWD				*e*S	**Sn**	**03 09 28.8**	**+0.1**
TWT	**Tachien**	**2.52**	**14**	*e*P	**Pn**	**03 08 59.7**	**-0.6**
TWQ1	**Liyutan** baz=357	**2.56**	**5**	*e*P	**Pn**	**03 09 00.3**	**-0.2**
NNS	**Nan Shan** baz=5.0	**2.75**	**16**	*e*P	**Pn**	**03 09 02.7**	**-0.6**
ENA	**Nanau** baz=23	**2.85**	**23**	*e*P	**Pn**	**03 09 03.5**	**-1.1**
NSTT	**Nanjuang** baz=358	**2.86**	**9**	*e*P	**Pn**	**03 09 03.4**	**-1.3**
NSK	**Sanguang** baz=15	**2.97**	**15**	*e*P	**Pn**	**03 09 07.1**	**+0.8**
NSK				*e*S	**Sn**	**03 09 42.6**	**+1.7**
ENTT	**Nioudou** baz=32	**3.00**	**18**	*e*P	**Pn**	**03 09 06.1**	**-0.5**
TWC	**Suao** baz=24	**3.06**	**23**	*e*P	**Pn**	**03 09 07.7**	**+0.3**
TWE	**Neicheng** baz=33	**3.10**	**19**	*e*P	**Pn**	**03 09 07.1**	**-0.9**
KNM	**Kinmen** baz=322	**3.25**	**324**	*e*P	**Pn**	**03 09 09.0**	**-1.0**
YOJ	**Yonaguni jima**	**3.51**	**40**	P	**Pn**	**03 09 13.2**	**-0.4**
YOJ				*e*S	**Sn**	**03 09 53.5**	**-0.4**
YOJ	**Yonaguni jima** baz=41	**3.51**	**40**	*e*P	**Pn**	**03 09 13.0**	**-0.6**
HATJ	**Hateruma jima**	**3.77**	**53**	*e*S	**Sn**	**03 09 58.3**	**-2.1**
IRIF	**Iriomote-Funau**	**3.89**	**49**	P	**Pn**	**03 09 19.0**	**+0.2**
IRIF				*e*S	**Sn**	**03 10 01.8**	**-1.5**
JKRS	**Kuro-shima**	**4.03**	**52**	P	**Pn**	**03 09 21.1**	**+0.4**
JKRS				*e*S	**Sn**	**03 10 04.8**	**-1.9**
JIJ	**Ishigaki jima**	**4.20**	**52**	P	**Pn**	**03 09 22.8**	**-0.3**
JIJ				*e*S	**Sn**	**03 10 08.0**	**-3.0**
JTJ	**Tarama**	**4.77**	**53**	P	**Pn**	**03 09 30.8**	**-0.2**
JTJ				S	**Sn**	**03 10 23.9**	**-1.3**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=61,slow=9.6,SNR=2.8	**20.54**	**265**	P	Pn	03 12 58.6	-0.9
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=108,slow=10,SNR=6.1	**39.67**	**318**	P	**P**	**03 15 51.1**	**+0.8**
ZALV	**Zalesovo Beam** 2.0nm,0.6s,baz=117,slow=7.5,SNR=8.3	**41.95**	**329**	P	**P**	**03 16 09.2**	**+0.4**
KURBB	**Kurchatov Arra** 1.1nm,0.8s,baz=125,slow=7.4,SNR=7.7	**43.58**	**322**	P	**P**	**03 16 22.9**	**+0.7**
WRA	**Warramunga Arr** 2.0nm,0.7s,baz=343,slow=8.9,SNR=15	**43.62**	**161**	P	**P**	**03 16 21.6**	**-1.1**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=336,slow=6.3,SNR=6.6	**47.02**	**163**	P	**P**	**03 16 49.0**	**-0.7**
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=106,slow=8.4,SNR=5.6	**49.16**	**322**	P	**P**	**03 17 06.5**	**+0.5**
STKA	**Stephens Creek** 2.2nm,1.0s,baz=192,slow=17,SNR=3.0	**57.05**	**159**	P	**P**	**03 18 04.3**	**+0.1**
NOA	**NORSAR Array B** 1.0nm,0.8s,baz=60,slow=6.9,SNR=2.4	**80.05**	**332**	P	**P**	**03 20 27.5**	**0.0**
GERES	**GERESS Array B** 0.4nm,0.6s,baz=46,slow=7.6,SNR=4.1	**84.30**	**321**	P	**P**	**03 20 50.6**	**+0.6**

*NEIC **07** 03:12:15.6, 19.37N×66.31W, h87km, MD3.7(RSPR), After RSPR.*

RSPR 07 03:12:15.6, 19.37N×66.31W, h87km±13km, MD3.7/16, 19C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.10**	**203**	⇑*e*P	Pn	03 12 34.5	-1.9
AOPR	**Arecibo Observ**	**1.10**	**203**	⇑*e*P	Pn	03 12 34.5	-1.9
AOPR				*e*S	Sn	03 12 51.1	-0.9
CBYP	**Canovanas**	**1.17**	**159**	⇑*e*P	Pn	03 12 35.7	-1.6
CBYP	**Canovanas**	**1.17**	**159**	*e*S	Sn	03 12 52.3	-1.2
CBYP	**Canovanas**	**1.17**	**159**	*e*Pn	Pn	03 12 35.8	-1.5
CBYP				*e*S	Sn	03 12 50.4	-3.2
AGPR	**Aguadilla, PR**	**1.18**	**221**	*e*Pn	Pn	03 12 35.5	-1.7
AGPR				*e*S	Sn	03 12 52.3	-1.1
LRS	**Lares**	**1.19**	**206**	⇓*e*P	Pn	03 12 35.9	-1.6
LRS				*e*S	Sn	03 12 53.8	0.0
LRS	**Lares**	**1.19**	**206**	*e*Pn	Pn	03 12 35.6	-1.8
LRS				*e*S	Sn	03 12 51.5	-2.3
SJG	**San Juan**	**1.26**	**173**	⇓*e*P	Pn	03 12 37.1	-1.1
SJG	**San Juan**	**1.26**	**173**	*e*S	Sn	03 12 54.8	-0.5
SJG	**San Juan**	**1.26**	**173**	⇓*e*P	Pn	03 12 37.1	-1.2
SJG				*e*S	Sn	03 12 55.9	+0.6
SJG	**San Juan**	**1.26**	**173**	*e*Pn	Pn	03 12 36.9	-1.4
SJG				*e*S	Sn	03 12 55.6	+0.3
HUMP	**Col San Antoni**	**1.29**	**160**	⇑*e*P	Pn	03 12 37.4	-1.3
HUMP				*e*S	Sn	03 12 55.9	-0.2
HUMP	**Col San Antoni**	**1.29**	**160**	⇑*e*P	Pn	03 12 37.4	-1.3
HUMP				*e*S	Sn	03 12 55.9	-0.2
CELP	**Cerrillos**	**1.31**	**191**	⇓*e*P	Pn	03 12 38.0	-1.0
CELP				*e*S	Sn	03 12 58.5	+2.0
CELP	**Cerrillos**	**1.31**	**191**	*e*Pn	Pn	03 12 37.7	-1.2
CELP				*e*S	Sn	03 12 58.5	+2.0
OBIP	**Obispado Ponce**	**1.35**	**192**	⇓*e*P	Pn	03 12 38.5	-0.9
OBIP	**Obispado Ponce**	**1.35**	**192**	⇓*e*P	Pn	03 12 38.5	-0.9
OBIP				*e*S	Sn	03 12 56.9	-0.4
CPD	**Cerro la Pandu**	**1.37**	**164**	⇑*e*P	Pn	03 12 38.6	-1.1
CPD	**Cerro la Pandu**	**1.37**	**164**	⇑*e*P	Pn	03 12 38.6	-1.1
CPD				*e*S	Sn	03 12 58.5	+0.6
LSP	**Las Mesas**	**1.40**	**212**	⇑*e*P	Pn	03 12 39.1	-1.0
LSP	**Las Mesas**	**1.40**	**212**	*e*Pn	Pn	03 12 38.9	-1.2
LSP				*e*S	Sn	03 12 58.3	-0.1
MTP	**Monte Pirata**	**1.45**	**150**	⇓*e*P	Pn	03 12 39.8	-0.9
MTP	**Monte Pirata**	**1.45**	**150**	*e*Pn	Pn	03 12 39.7	-1.0
MTP				*e*S	Sn	03 12 58.0	-1.6
IDE	**Isla Desecheo**	**1.47**	**229**	⇑*e*P	Pn	03 12 40.2	-0.8
IDE	**Isla Desecheo**	**1.47**	**229**	⇑*e

PB07 AML AML 03 31 08.8
comp=N,388nm,0.2s
ARCH Arica 1.96 323 *i* S Sn 03 31 09.8 +1.1
MACH Maria Elena 2.22 197 *eP* Pn 03 30 48.4 +1.0
MACH *eS* Sn 03 31 14.8 -0.5
LVC Limon Verde 2.54 177 *eP* Pn 03 30 52.5 +0.9
LVC *eS* Sn 03 31 23.9 +1.3
PB06 Plate Boundary 2.67 190 *eP* Pn 03 30 53.9 +0.8
PB06 *eS* Sn 03 31 24.8 -0.8
CEN1 Los Morros 3.48 198 *eP* Pn 03 31 06.7 +3.1

SZGRF **07** *03:35:18.9, 13˚.88S×33˚.95E, h33km, mb5.0, Malawi*
BJI **07** *03:35:33.6, 10˚.73S×33˚.09E, h10km, mB5.1/11, mb4.8/19, Ms5.1/2, Ms7 4.7/5*
ISCJB **07** *03:35:38.4±0.2, 10˚.14S±0˚.03×33˚.87E±0˚.04, h10km, mb4.7/52, MS3.8/22, Error ellipse: s-maj=5.9km s-min=4.4km az=14.4*
MOS **07** *03:35:38.5±0.8, 10˚.11S×33˚.84E, h10km, mb5.0/23, Error ellipse: s-maj=12.2km s-min=6.7km az=91.7*
IDC **07** *03:35:39.1±0.6, 10˚.06S×33˚.94E, h0km, mb4.3/18, mb1 4.5/23, mb1mx4.4/33, mbtmp4.4/23, ML2.4/1, MS3.8/24, Ms1 3.8/24, ms1mx3.7/33, Error ellipse: s-maj=17.8km s-min=14.0km az=112.0*
NEIC **07** *03:35:40.4±0.2, 10˚.13S×33˚.91E, h10km, mb5.0/19, Error ellipse: s-maj=6.7km s-min=5.3km az=97.0*
DJA **07** *03:35:45.4±0.6, 10˚S±8˚×3˚±3E±˚, h105km±16km, M4.8/6, mB5.4/3, mb4.8/6, Mw(mB)4.8/3*
ISC 07 03:35:41.1±0.4, 10.16S±0.04×33.84E±0.05, h16km±2km, h15km:pP-P, n202, σ1≈29/220, mb4.8/52, MS3.8/22, 4C-3D, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.27**	**172**	*i* P		**Pg**	**03 36 06.8**	**+1.0**
MZM				*i* S		**Sg**	**03 36 24.1**	**+1.8**
DODT	**Dodoma, Tanzan**	**4.38**	**26**	*i* P		**Pn**	**03 36 44.6**	**-2.6**
DODT				*i* S		**Sb**	**03 37 50.6**	**+0.1**
LSZ	**Lusaka**	**7.50**	**227**	*eP*		**Pn**	**03 37 31.7**	**+1.6**
LSZ	**Lusaka**	**7.50**	**227**	*ePn*		**Pn**	**03 37 31.7**	**+1.6**
	86nm,0.6s							
LSZ				*eS*	n	**Sn**	**03 38 55.2**	**+0.3**
LSZ				Lg		Lg	03 39 38.4	
LSZ				*eS*	g	**Sg**	**03 39 39.7**	**-2.3**
LSZ	**Lusaka**	**7.50**	**227**	Pn		**Pn**	**03 37 31.8**	**+1.7**
	19nm,0.3s,baz=52,slow=9.8,SNR=130							
LSZ				Sn		**Sn**	**03 38 51.4**	**-3.6**
	17nm,0.3s,baz=49,slow=9.0,SNR=4.1							
LSZ				Lg		Lg	03 39 38.4	
	64nm,0.3s,baz=304,slow=23,SNR=8.3							
LSZ				LR		LR	03 40 29.7	
	comp=Z,1μm,21.4s,baz=134,slow=38							
MAUS	**Longido**	**7.90**	**21**	*i* P		**Pn**	**03 37 34.1**	**-1.6**
MAUS				*i* S		Sb	03 39 39.1	+7.1
KMBO	**Kilima Mbogo**	**9.60**	**21**	*ePn*		Pn	03 37 55.3	-3.6
KMBO				*eS*		Sn	03 39 36.5	-10
KMBO				Lg		Lg	03 40 30.2	
KMBO	**Kilima Mbogo**	**9.60**	**21**	Pn		Pn	03 37 55.4	-3.6
	2.9nm,0.3s,baz=190,slow=15,SNR=34							
KMBO				Sn		Sn	03 39 37.3	-9.4
	3.3nm,0.3s,baz=115,slow=21,SNR=14							
KMBO				Lg		Lg	03 40 30.2	
	2.9nm,0.3s,baz=284,slow=19,SNR=15							
MBAR	**Mbarara**	**9.99**	**342**	Pn		Pn	03 38 00.2	-4.2
MBAR				Sn		Sn	03 39 48.1	-8.2
MBAR				Lg		Lg	03 40 42.9	
MBAR	**Mbarara**	**9.99**	**342**	Pn		Pn	03 38 00.2	-4.2
	7.1nm,0.3s,baz=160,slow=13,SNR=20							
MBAR				Sn		Sn	03 39 48.1	-8.2
	14nm,0.3s,baz=157,slow=23,SNR=4.6							
MBAR				Lg		Lg	03 40 42.9	
	34nm,0.3s,baz=89,slow=24,SNR=5.9							
MBAR				LR		LR	03 41 40.7	
	comp=Z,15nm,28.6s,baz=172,slow=36							
MSNA	**Messina**	**12.65**	**196**	*eP*		**Pn**	**03 38 41.9**	**+1.2**
MSNA					AMB	AMB	03 38 57.1	
	comp=Z,45nm,0.7s							
OPO	**Ambohidratompo**	**15.39**	**124**	Pn		**Pn**	**03 39 17.6**	**-0.4**
OPO				Sn		S	03 42 15.5	-8.9
OPO	**Ambohidratompo**	**15.39**	**124**	Pn		**Pn**	**03 39 17.6**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=292,slow=14,SNR=5.3							
OPO				Sn		S	03 42 15.5	-8.9
	comp=Z,0.9nm,0.3s,baz=216,slow=18,SNR=5.0							
OPO				LR		LR	03 44 43.4	
	comp=Z,16nm,28.6s,baz=306,slow=35							
ABPO	**Ambohimpanom**	**15.65**	**126**	*eP*		**Pn**	**03 39 21.0**	**-0.5**
ABPO				*eS*		**Sn**	**03 42 13.9**	**-0.9**
ABPO				pmax		pmax		
	comp=Z,35nm,1.0s							
ABPO	**Ambohimpanom**	**15.65**	**126**	*ePn*		**Pn**	**03 39 21.0**	**-0.5**
	comp=Z,34nm,1.0s							
ABPO				*eS*		**Sn**	**03 42 13.9**	**-0.9**
RUDU	**RUNDU**	**15.71**	**239**	*eP*		**Pn**	**03 39 20.7**	**-1.4**
RUDU					AMB	AMB	03 39 42.8	
	comp=Z,40nm,1.0s							
SLR	**Silverton**	**16.36**	**198**	*eP*		**Pn**	**03 39 29.9**	**-0.5**
SLR					AMB	AMB	03 39 38.4	
	comp=Z,25nm,1.8s							
LBTB	**Lobatse**	**16.72**	**207**	*eP*		**Pn**	**03 39 35.3**	**+0.3**
LBTB					AMB	AMB	03 39 56.6	
	comp=Z,34nm,1.8s							
LBTB	**Lobatse**	**16.72**	**207**	*ePn*		**Pn**	**03 39 34.5**	**-0.5**
	comp=Z,3.9nm,0.6s							
LBTB				*eS*		Sn	03 42 30.6	-10
LBTB				Lg		Lg	03 44 25.4	
LBTB	**Lobatse**	**16.72**	**207**	Pn		**Pn**	**03 39 36.0**	**+1.0**
	comp=Z,4.5nm,0.3s,baz=32,slow=12,SNR=27							
LBTB				Sn		**Sn**	**03 42 35.8**	**-4.8**
	comp=Z,2.0nm,0.3s,baz=19,slow=4.9,SNR=5.9							
LBTB				Lg		Lg	03 44 25.4	
	comp=Z,4.0nm,0.3s,baz=313,slow=20,SNR=6.4							
LBTB				LR		LR	03 45 53.7	
	comp=Z,342nm,21.1s,baz=44,slow=36							
ERPM	**east rand prop**	**16.94**	**197**	*eP*		**Pn**	**03 39 35.6**	**-2.3**
ERPM					AMB	AMB	03 39 49.3	
	comp=Z,26nm,4.0s							
PRYS	**Parys**	**17.76**	**199**	*eP*		**P**	**03 39 51.0**	**+2.2**
PRYS					AMB	AMB	03 40 04.4	
	comp=Z,17nm,4.0s							
TSUM	**Tsumeb**	**18.10**	**238**	*eP*		**Pn**	**03 39 50.6**	**-1.7**
TSUM	**Tsumeb**	**18.10**	**238**	*ePn*		**Pn**	**03 39 51.8**	**-0.5**
	comp=Z,39nm,1.1s							
TSUM				*eS*		Sn	03 43 03.7	-11
TSUM	**Tsumeb**	**18.10**	**238**	P		**Pn**	**03 39 52.9**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=36,slow=10,SNR=19							
TSUM				S		Sn	03 43 06.5	-7.7
	comp=Z,1.5nm,0.3s,baz=116,slow=23,SNR=7.5							
TSUM				LR		LR	03 47 13.8	
	comp=Z,16nm,28.6s,baz=24,slow=38							
SWZ	**Schweizer**	**18.74**	**204**	*eP*		**P**	**03 39 57.2**	**-2.4**
SWZ					AMB	AMB	03 40 38.1	
	comp=Z,45nm,3.8s							
SEK	**Senekal**	**18.99**	**197**	*eP*		**P**	**03 40 02.2**	**-0.1**
SEK					AMB	AMB	03 40 09.6	
	comp=Z,36nm,4.0s							
BOSA	**Boshof**	**20.05**	**203**	*eP*		**P**	**03 40 14.1**	**+0.3**
BOSA					AMB	AMB	03 40 49.0	
	comp=Z,33nm,3.5s							
BOSA	**Boshof**	**20.05**	**203**	*eP*		**P**	**03 40 14.2**	**+0.3**
	comp=Z,19nm,0.8s							
BOSA				*eS*		S	03 43 47.7	-11
BOSA				Lg		Lg	03 46 10.9	
BOSA	**Boshof**	**20.05**	**203**	P		**P**	**03 40 14.3**	**+0.5**
	comp=Z,9.5nm,0.7s,baz=39,slow=10,SNR=7.1							
BOSA				S		S	03 43 49.8	-9.1
	comp=Z,11nm,0.6s,baz=109,slow=22,SNR=4.2							
BOSA				Lg		Lg	03 46 10.9	
	comp=Z,110nm,0.8s,baz=298,slow=22,SNR=6.4							
BOSA				LR		LR	03 47 28.0	
	comp=Z,243nm,20.5s,baz=28,slow=35							
WIN	**Windhoek**	**20.22**	**230**	*eP*		**P**	**03 40 17.2**	**+1.3**
WIN					AMB	AMB	03 40 23.0	
	comp=Z,27nm,1.0s							
KSD	**Kokstad**	**20.69**	**191**	*eP*		P	03 40 10.2	-11
KSD					AMB	AMB	03 40 14.0	
	comp=Z,22nm,3.8s							
HVD	**Gariep Dam**	**21.77**	**200**	*eP*		**P**	**03 40 34.4**	**+1.9**
HVD					AMB	AMB	03 41 07.7	
	comp=Z,50nm,3.6s							
KOMG	**Komaggas**	**24.80**	**216**	*eP*		**P**	**03 41 06.0**	**+3.3**
KOMG					AMB	AMB	03 41 35.9	
	comp=Z,27nm,2.5s							
SUR	**Sutherland**	**25.17**	**207**	*eP*		**P**	**03 41 07.1**	**+0.8**
SUR					Lg	Lg	03 48 51.5	
SUR	**Sutherland**	**25.17**	**207**	P		**P**	**03 41 08.6**	**+2.4**
	comp=Z,6.0nm,0.8s,baz=9.7,slow=14,SNR=3.9							
SUR					Lg	Lg	03 48 51.5	
	comp=Z,78nm,1.0s,baz=122,slow=16,SNR=6.6							
SUR					LR	LR	03 50 44.5	
	comp=Z,16nm,28.6s,baz=30,slow=36							
TOA0	**Torodi Ar. Sit**	**39.43**	**305**	*eP*		**P**	**03 43 11.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**39.43**	**305**	P		**P**	**03 43 11.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**39.43**	**305**	P		**P**	**03 43 11.4**	**+0.5**
	comp=Z,5.4nm,1.1s,baz=113,slow=7.1,SNR=19							
TORD					LR	LR	04 00 43.8	
	comp=Z,84nm,18.4s,baz=320,slow=38							
KIC	**Kosan Boka**	**41.79**	**292**	*eP*		**P**	**03 43 30.7**	**+0.3**
	comp=Z,26nm,0.8s							
LIC	**Lamto**	**42.00**	**291**	*eP*		**P**	**03 43 32.3**	**+0.2**
	comp=Z,25nm,1.1s,baz=119							
LIC				*eR*				
	comp=Z,328nm,21.8s							
LIC	**Lamto**	**42.00**	**291**	*eP*		**P**	**03 43 32.3**	**+0.2**
	comp=Z,31nm,1.1s							
LIC	**Lamto**	**42.00**	**291**	*eP*		**P**	**03 43 32.3**	**+0.2**
	comp=Z,25nm,1.1s							
DBIC	**Dimbokro**	**42.01**	**292**	*eP*		**P**	**03 43 32.5**	**+0.3**
	comp=Z,6.4nm,0.7s							
DBIC	**Dimbokro**	**42.01**	**292**	P		**P**	**03 43 32.6**	**+0.3**
	comp=Z,7.0nm,0.8s,baz=104,slow=9.0,SNR=8.2							
DBIC					LR	LR	03 59 56.0	
	comp=Z,138nm,20.5s,baz=106,slow=35							
TIC	**Toumodi**	**42.15**	**292**	*eP*		**P**	**03 43 33.6**	**+0.2**
	comp=Z,64nm,0.9s							
BRTR	**Keskin Array B**	**49.63**	**360**	P		**P**	**03 44 32.7**	**+0.5**
BRTR	**Keskin Array B**	**49.63**	**360**	P		**P**	**03 44 32.7**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=171,slow=8.4,SNR=7.3							
BRTR					LR	LR	04 05 29.9	
	comp=Z,15nm,28.6s,baz=186,slow=36							
KEST	**Kesra**	**51.17**	**334**	P		**P**	**03 44 43.4**	**-0.5**
KEST	**Kesra**	**51.17**	**334**	P		**P**	**03 44 43.4**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=50,slow=7.3,SNR=4.0							
ZEI	**Tsey**	**53.49**	**9**	*eP*		**P**	**03 45 01.9**	**+0.8**
ZEI					pmax	pmax		
	comp=Z,9.0nm,1.5s							
KBZ	**Khabaz**	**54.26**	**8**	LR		LR	04 09 06.0	
	comp=Z,78nm,19.5s,baz=148,slow=37							
PGF	**Pioggiola**	**57.17**	**338**	*eP*		**P**	**03 45 27.8**	**+0.3**
	comp=Z,27nm,1.0s							
PGF	**Pioggiola**	**57.17**	**338**	*eP*		**P**	**03 45 27.8**	**+0.3**
PGF					pmax	pmax		
	comp=Z,27nm,1.0s							
PGF	**Pioggiola**	**57.17**	**338**	*eP*		**P**	**03 45 27.8**	**+0.3**
	comp=Z,27nm,1.0s							
BUR08	**Bucovina Ar. S**	**58.06**	**353**	*eP*		**P**	**03 45 35.0**	**+1.3**
PSZ	**Piszkesteto**	**59.14**	**349**	*eP*		**P**	**03 45 42.0**	**+0.9**
PSZ					pmax	pmax		
	comp=Z,12nm,1.1s							
PSZ	**Piszkesteto**	**59.14**	**349**	*eP*		**P**	**03 45 42.0**	**+0.9**
	comp=Z,12nm,1.1s							
MBDF	**Montbardon**	**59.87**	**338**	*eP*		**P**	**03 45 48.1**	**+1.7**
	comp=Z,35nm,1.2s							
MBDF	**Montbardon**	**59.87**	**338**	*eP*		**P**	**03 45 48.1**	**+1.7**
MBDF					pmax	pmax		
	comp=Z,35nm,1.2s							
MBDF	**Montbardon**	**59.87**	**338**	*eP*		**P**	**03 45 48.1**	**+1.7**
	comp=Z,35nm,1.2s							
CSNA	**Conrad Observa**	**60.00**	**346**	*i*P		**P**	**03 45 47.2**	**+0.1**
	comp=Z,7.5nm,1.2s							
LASF	**Ste Croix**	**60.46**	**336**	*eP*		**P**	**03 45 51.6**	**+1.4**
LASF	**Ste Croix**	**60.46**	**336**	*eP*		**P**	**03 45 51.6**	**+1.4**
LPG	**La Plagne**	**60.54**	**338**	*eP*		**P**	**03 45 50.6**	**-0.5**
	comp=Z,20nm,1.2s							
LPG	**La Plagne**	**60.54**	**338**	*eP*		**P**	**03 45 50.6**	**-0.5**
LPG					pmax	pmax		
	comp=Z,20nm,1.2s							
LPG	**La Plagne**	**60.54**	**338**	*eP*		**P**	**03 45 50.6**	**-0.5**
	comp=Z,20nm,1.2s							
FETA	**Feichten**	**60.55**	**342**	*i*P		**P**	**03 45 51.1**	**+0.1**
	comp=Z,5.8nm,1.0s							
MOTA	**Moosalm**	**60.73**	**342**	*i*P		**P**	**03 45 52.7**	**+0.5**
	comp=Z,9.8nm,1.2s							
ESDC	**Sonseca Array**	**60.73**	**327**	P		**P**	**03 45 53.3**	**+1.1**
ESDC	**Sonseca Array**	**60.73**	**327**	P		**P**	**03 45 53.3**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=142,slow=7.1,SNR=8.2							
KIEV	**Kiev**	**60.74**	**357**	*eP*		**P**	**03 45 51.4**	**-0.5**
KIEV					pmax	pmax		
	comp=Z,17nm,1.5s							
KIEV	**Kiev**	**60.74**	**357**	*eP*		**P**	**03 45 51.4**	**-0.5**
	comp=Z,17nm,1.5s							
AKASG	**Malin Array Be**	**60.74**	**357**	*i* P		**P**	**03 45 52.2**	**+0.2**
AKASG					pmax	pmax		
	comp=Z,6.0nm,1.0s							
AKASG	**Malin Array Be**	**60.74**	**357**	P		**P**	**03 45 51.2**	**-0.8**
AKASG	**Malin Array Be**	**60.74**	**357**	P		**P**	**03 45 51.2**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=183,slow=6.2,SNR=16							
VIVF	**Saint-Julien-l**	**60.78**	**337**	*eP*		**P**	**03 45 53.4**	**+1.0**
	comp=Z,21nm,1.1s							
VIVF	**Saint-Julien-l**	**60.78**	**337**	*eP*		**P**	**03 45 53.4**	**+1.0**
VIVF					pmax	pmax		
	comp=Z,21nm,1.1s							
VIVF	**Saint-Julien-l**	**60.78**	**337**	*eP*		**P**	**03 45 53.4**	**+1.0**
	comp=Z,21nm,1.1s							
OKC	**Ostrava-Krasne**	**61.31**	**348**	*eP*		**P**	**03 45 56.2**	**+0.3**
OKC	**Ostrava-Krasne**	**61.31**	**348**	*eP*		**P**	**03 45 56.2**	**+0.3**
TREC	**Trest**	**61.36**	**346**	*eP*		**P**	**03 45 56.2**	**-0.1**
TREC	**Trest**	**61.36**	**346**	*eP*		**P**	**03 45 56.2**	**-0.1**
GEC2	**GERESS Array S**	**61.38**	**345**	*eP*		**P**	**03 45 56.8**	**+0.3**
GEC2	**GERESS Array S**	**61.38**	**345**	*eP*		**P**	**03 45 56.8**	**+0.3**
GERES	**GERESS Array B**	**61.38**	**345**	P		**P**	**03 45 56.0**	**-0.5**
GERES	**GERESS Array B**	**61.38**	**345**	P		**P**	**03 45 56.0**	**-0.5**
	comp=Z,4.1nm,1.0s,baz=150,slow=6.2,SNR=22							
GERES					LR	LR	04 13 29.6	
	comp=Z,37nm,20.2s,baz=336,slow=37							
KHC	**Kasperske Hory**	**61.68**	**345**	*eP*		**P**	**03 45 58.4**	**0.0**
KHC					pmax	pmax		
	comp=Z,9.0nm,1.1s							
KHC	**Kasperske Hory**	**61.68**	**345**	*eP*		**P**	**03 45 58.6**	**+0.2**
KHC				*ep*	P	**pP**	**03 46 03.4**	**0.0**
KHC	**Kasperske Hory**	**61.68**	**345**	*eP*		**P**	**03 45 58.4**	**0.0**
	comp=Z,9.4nm,1.1s							
CABF	**La Chapelle**	**61.73**	**339**	*eP*		**P**	**03 45 59.0**	**+0.1**
CABF	**La Chapelle**	**61.73**	**339**	*eP*		**P**	**03 45 59.0**	**+0.1**
CABF	**La Chapelle**	**61.73**	**339**	*eP*		**P**	**03 45 59.0**	**+0.1**
DPC	**Dobruska-Polom**	**62.17**	**347**	*eP*		**P**	**03 46 01.2**	**-0.5**
DPC	**Dobruska-Polom**	**62.17**	**347**	*eP*		**P**	**03 46 01.2**	**-0.5**
HINF	**Hinteralfeld**	**62.50**	**340**	*eP*		**P**	**03 46 03.9**	**-0.1**
HINF	**Hinteralfeld**	**62.50**	**340**	*eP*		**P**	**03 46 03.9**	**-0.1**
HINF	**Hinteralfeld**	**62.50**	**340**	*eP*		**P**	**03 46 03.9**	**-0.1**
SMF	**Signal de Mont**	**62.59**	**337**	*eP*		**P**	**03 46 04.5**	**-0.1**
	comp=Z,96nm,1.8s							
SMF	**Signal de Mont**	**62.59**	**337**	*eP*		**P**	**03 46 04.5**	**-0.1**
SMF					pmax	pmax		
	comp=Z,96nm,1.8s							
SMF	**Signal de Mont**	**62.59**	**337**	*eP*		**P**	**03 46 04.5**	**-0.1**
	comp=Z,96nm,1.8s							
KKAR	**Karatay Array**	**62.68**	**29**	*eP*		**P**	**03 46 05.5**	**+0.2**
KKAR					pmax	pmax		
	comp=Z,11nm,1.1s							
KKAR	**Karatay Array**	**62.68**	**29**	*eP*		**P**	**03 46 05.5**	**+0.2**
	comp=Z,11nm,1.1s							
PVCC	**Panska Ves**	**62.73**	**346**	*eP*		**P**	**03 46 03.9**	**-1.5**
PVCC	**Panska Ves**	**62.73**	**346**	*eP*		**P**	**03 46 03.9**	**-1.5**
GRF	**Grafenberg Arr**	**62.81**	**344**	*eP*		**P**	**03 46 06.7**	**+0.7**
	comp=Z,13nm,1.4s							
HAU	**Haudompre**	**62.83**	**340**	*eP*		**P**	**03 46 06.4**	**+0.2**
HAU	**Haudompre**	**62.83**	**340**	*eP*		**P**	**03 46 06.4**	**+0.2**
HAU	**Haudompre**	**62.83**	**340**	*eP*		**P**	**03 46 06.4**	**+0.2**
CDF	**Champ du Feu**	**62.87**	**340**	*eP*		**P**	**03 46 06.1**	**-0.4**
CDF	**Champ du Feu**	**62.87**	**340**	*eP*		**P**	**03 46 06.1**	**-0.4**
CDF	**Champ du Feu**	**62.87**	**340**	*eP*		**P**	**03 46 06.1**	**-0.4**
AVF	**Avril sur Loir**	**62.90**	**337**	*eP*		**P**	**03 46 06.7**	**+0.1**
	comp=Z,23nm,1.1s							
AVF	**Avril sur Loir**	**62.90**	**337**	*eP*		**P**	**03 46 06.7**	**+0.1**
AVF					pmax	pmax		
	comp=Z,23nm,1.1s							
AVF	**Avril sur Loir**	**62.90**	**337**	*eP*		**P**	**03 46 06.7**	**+0.1**
	comp=Z,23nm,1.1s							
TCF	**Toulx Ste Croi**	**62.94**	**336**	*eP*		**P**	**03 46 07.6**	**+0.7**
TCF	**Toulx Ste Croi**	**62.94**	**336**	*eP*		**P**	**03 46 07.6**	**+0.7**
TCF	**Toulx Ste Croi**	**62.94**	**336**	*eP*		**P**	**03 46 07.6**	**+0.7**
NKC	**Novy Kostel**	**62.98**	**345**	*eP*		**P**	**03 46 08.0**	**+0.9**
NKC	**Novy Kostel**	**62.98**	**345**	*eP*		**P**	**03 46 08.0**	**+0.9**
KSH	**Kashi**	**63.02**	**36**	P		**P**	**03 46 06.1**	**-1.7**
KSH				*pP*		**pP**	**03 46 10.7**	**-2.1**
KSH				*sP*		**sP**	**03 46 13.3**	**-1.4**
KSH				*PcP*		**PcP**	**03 46 45.2**	**-0.4**
KSH				PP		**PP**	**03 48 25.9**	**-0.7**
KSH				S		S	03 54 31.1	-6.8
KSH				ScS		**SKSac**	**03 55 54.1**	**-6.2**
KSH				pmax		pmax		
	comp=Z,4.0nm,0.4s							
KSH				pmax		pmax		
	comp=Z,170nm,5.7s							
KSH				LR		LR		
	comp=Z,210nm,7.6s							
SSF	**Saint Saulge**	**63.06**	**337**	*eP*		**P**	**03 46 07.2**	**-0.5**
	comp=Z,23nm,1.4s							
SSF	**Saint Saulge**	**63.06**	**337**	*eP*		**P**	**03 46 07.2**	**-0.5**
SSF				pmax		pmax		
	comp=Z,23nm,1.4s							
SSF	**Saint Saulge**	**63.06**	**337**	*eP*		**P**	**03 46 07.2**	**-0.5**
	comp=Z,23nm,1.4s							
LOR	**Lormes**	**63.10**	**338**	*eP*		**P**	**03 46 07.9**	**-0.1**
LOR	**Lormes**	**63.10**	**338**	*eP*		**P**	**03 46 07.9**	**-0.1**
ABKAR	**Akbulak array**	**63.46**	**19**	*eP*		**P**	**03 46 09.9**	**-0.3**
SFTF	**Sexfontaines**	**63.46**	**339**	*eP*		**P**	**03 46 10.7**	**+0.4**
SFTF	**Sexfontaines**	**63.46**	**339**	*eP*		**P**	**03 46 10.7**	**+0.4**
MEZF	**Maizieres J'vi**	**63.71**	**339**	*eP*		**P**	**03 46 12.6**	**+0.7**
MEZF	**Maizieres J'vi**	**63.71**	**339**	*eP*		**P**	**03 46 12.6**	**+0.7**
OBN	**Obninsk**	**65.07**	**2**	*i*P		**P**	**03 46 20.5**	**-0.2**
OBN					pmax	pmax		
	comp=Z,28nm,1.7s							
TKM2	**Tokmak 2**	**65.13**	**33**	*eP*		**P**	**03 46 21.8**	**+0.1**
TKM2					pmax	pmax		
	comp=Z,14nm,1.5s							
TKM2	**Tokmak 2**	**65.13**	**33**	*eP*		**P**	**03 46 21.8**	**+0.1**
	comp=Z,14nm,1.5s							
FLN	**La Foliniere**	**66.01**	**336**	*eP*		**P**	**03 46 28.2**	**+1.3**
FLN	**La Foliniere**	**66.01**	**336**	*eP*		**P**	**03 46 28.2**	**+1.3**
FLN	**La Foliniere**	**66.01**	**336**	*eP*		**P**	**03 46 28.2**	**+1.3**
ARU	**Arti**	**69.45**	**14**	*c i*P		**P**	**03 46 48.7**	**+0.3**
ARU							03 49 19.1	
ARU				S		**S**	**03 55 58.3**	**+3.2**
ARU				SS		**SS**	**04 00 28.1**	**+5.2**
ARU				pmax		pmax		
	comp=Z,24nm,1.7s							
ARU	**Arti**	**69.45**	**14**	*eP*		**P**	**03 46 48.4**	**0.0**
	comp=Z,13nm,1.0s							
BRVK	**Borovoye**	**70.23**	**22**	*eP*		**P**	**03 46 52.6**	**-0.7**
BRVK					pmax	pmax		
	comp=Z,3.0nm,1.3s							
CMAR	**Chiang Mai Arr**	**70.23**	**66**	P		**P**	**03 46 54.1**	**0.0**
CMAR	**Chiang Mai Arr**	**70.23**	**66**	P		**P**	**03 46 54.1**	**0.0**
	comp=Z,1.3nm,0.3s,baz=263,slow=9.7,SNR=9.5							
CMAR					LR	LR	04 15 21.4	
	comp=Z,16nm,28.6s,baz=226,slow=34							
KLMR	**Klimovskoe**	**70.93**	**3**	*eP*		**P**	**03 46 56.3**	**-1.1**
KLMR					pmax	pmax		
	comp=Z,31nm,1.5s							
MK31	**Makanchi Array**	**71.26**	**33**	*eP*		**P**	**03 46 58.9**	**-0.9**
MK31	**Makanchi Array**	**71.26**	**33**	*eP*		**P**	**03 46 58.9**	**-0.9**
MKAR	**Makanchi Array**	**71.26**	**33**	*ce*P		**P**	**03 47 00.0**	**+0.2**
MKAR					pmax	pmax		
	comp=Z,5.0nm,0.9s							
MKAR	**Makanchi Array**	**71.26**	**33**	P		**P**	**03 46 59.6**	**-0.2**
MKAR	**Makanchi Array**	**71.26**	**33**	P		**P**	**03 46 59.6**	**-0.2**
	comp=Z,5.1nm,0.9s,baz=226,slow=6.5,SNR=8.5							
MKAR					LR	LR	04 20 33.2	
	comp=Z,63nm,19.6s,baz=266,slow=38							
FINES	**FINESS Array B**	**71.64**	**356**	LR		LR	04 21 44.1	
	comp=Z,16nm,28.6s,baz=39,slow=39							
KURK	**Kurchatov**	**72.00**	**28**	*eP*		**P**	**03 47 04.3**	**+0.1**
KURK					pmax	pmax		
	comp=Z,6.0nm,1.1s							
KURK	**Kurchatov**	**72.00**	**28**	*eP*		**P**	**03 47 04.3**	**+0.1**
	comp=Z,6.1nm,1.1s							
WMQ	**Urumqi**	**72.58**	**38**	P		**P**	**03 47 09.9**	**+2.0**
WMQ					pmax	pmax		
	comp=Z,10.0nm,1.0s							
NB2	**NORSAR Subarra**	**73.19**	**349**	P		**P**	**03 47 10.9**	**-0.2**
	comp=Z,5.1nm,1.0s,baz=159,slow=5.6							
NOA	**NORSAR Array B**	**73.19**	**349**	P		**P**	**03 47 11

PLCA	**Paso Flores**	**94.13**	**228**	LR	LR	04 26 35.8		
	comp=Z,60nm,20.9s,baz=98,slow=32							
ASAR	**Alice Springs**	**95.03**	**115**	P	**P**	**03 49 03.8**	**-0.3**	
ASAR	**Alice Springs**	**95.03**	**115**	P	**P**	**03 49 03.8**	**-0.3**	
	comp=Z,1.6nm,0.9s,baz=259,slow=4.9,SNR=12							
ASAR				LR	LR	04 27 39.6		
	comp=Z,106nm,18.7s,baz=296,slow=33							
WRA	**Warramunga Arr**	**96.28**	**111**	P	**P**	**03 49 09.2**	**-0.5**	
WRA	**Warramunga Arr**	**96.28**	**111**	P	**P**	**03 49 09.2**	**-0.5**	
	comp=Z,1.6nm,1.0s,baz=252,slow=3.2,SNR=7.6							
CN2	**Changchun**	**98.10**	**47**	*e*P	**P**	**03 49 15.3**	**-2.0**	
LPAZ	**La Paz**	**98.47**	**252**	LR	LR	04 30 35.1		
	comp=Z,70nm,20.1s,baz=93,slow=33							
KSRS	**Korea Array**	**99.32**	**54**	LR	LR	04 35 48.1		
	comp=Z,15nm,28.6s,baz=105,slow=36							
B30A	**Myrvik Farm, E**	**124.81**	**323**	P	**PKPdf**	**03 54 40.1**	**-0.4**	
	baz=125							
A29A	**Manning Farm,**	**125.12**	**324**	P	**PKPdf**	**03 54 42.0**	**+1.0**	
	baz=125							
C30A	**Mose, Pekin**	**125.24**	**322**	P	**PKPdf**	**03 54 42.5**	**+1.2**	
	baz=125							
B29A	**Wagenman Farm,**	**125.41**	**323**	P	**PKPdf**	**03 54 42.6**	**+0.9**	
	baz=125							
ILAR	**Eielson Array**	**125.47**	**0**	PKP	**PKPdf**	**03 54 41.4**	**+0.1**	
ILAR	**Eielson Array**	**125.47**	**0**	PKP	**PKPdf**	**03 54 41.4**	**+0.1**	
	comp=Z,1.0nm,0.8s,baz=328,slow=3.2,SNR=9.3							
A24A	**Westby**	**127.82**	**326**	P	**PKPdf**	**03 54 47.6**	**+1.3**	
	baz=128							
G28A	**Parade**	**127.94**	**320**	P	**PKPdf**	**03 54 47.9**	**+1.2**	
	baz=128							
I28A	**Midland**	**128.60**	**319**	P	**PKPdf**	**03 54 49.0**	**+1.1**	
	baz=129							
G26A	**Maurine**	**128.88**	**321**	P	**PKPdf**	**03 54 49.3**	**+0.8**	
	baz=129							
D24A	**Glendive**	**128.98**	**324**	P	**PKPdf**	**03 54 49.6**	**+1.0**	
	baz=129							
I27A	**Quinn**	**129.13**	**320**	P	**PKPdf**	**03 54 49.7**	**+0.8**	
	baz=129							
H26A	**Fairpoint**	**129.32**	**321**	P	**PKPdf**	**03 54 50.6**	**+1.3**	
	baz=129							
I25A	**Rochford**	**130.22**	**320**	P	**PKPdf**	**03 54 51.9**	**+0.7**	
	baz=130							
D21A	**La Casta Ranch**	**130.52**	**325**	P	**PKPdf**	**03 54 53.2**	**+1.7**	
	baz=130							
PDAR	**Pinedale Array**	**134.48**	**322**	PKP	**PKPdf**	**03 54 59.7**	**+0.3**	
PDAR	**Pinedale Array**	**134.48**	**322**	PKP	**PKPdf**	**03 54 59.7**	**+0.3**	
	comp=Z,0.4nm,0.8s,baz=308,slow=4.4,SNR=3.4							
TXAR	**Lajitas Array**	**136.00**	**302**	PKP	**PKPdf**	**03 55 02.1**	**-0.3**	
TXAR	**Lajitas Array**	**136.00**	**302**	PKP	**PKPdf**	**03 55 02.1**	**-0.3**	
	comp=Z,0.4nm,0.9s,baz=29,slow=2.9,SNR=3.9							
NVAR	**Mina Array Bea**	**142.39**	**323**	PKP	**PKPdf**	**03 55 11.9**	**-2.1**	
NVAR	**Mina Array Bea**	**142.39**	**323**	PKP	**PKPdf**	**03 55 11.9**	**-2.1**	
	comp=Z,1.6nm,0.8s,baz=48,slow=3.5,SNR=8.8							

IDC 07 03:55:57.2±393.0, 31.45N×131.74E, h0km, Error ellipse: s-maj=142.1km s-min=81.8km az=27.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**8.13**	**59**	*i*		04 40 00.0	
	baz=244,slow=322,SNR=3.6						
I30JP				*i* x	x	04 49 30.0	
	baz=248,slow=306,SNR=0.8						
I45RU	**USSURIYSK INFR**	**12.73**	**1**	*i*		05 10 30.0	
	baz=184,slow=336,SNR=1.3						
I34MN	**SONGINO INFRAS**	**25.28**	**318**	*i*		06 33 10.0	
	baz=116,slow=333						

*IDC **07** 04:41:38.9±1.9, 17.96S×167.21E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/19, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=46.4km s-min=27.2km az=109.0*
*ISCJB **07** 04:41:40.3±1.5, 17.93S±0.08×167.1E±0.2, h20km, mb3.8/5, Error ellipse: s-maj=32.7km s-min=11.8km az=179.0*

ISC 07 04:41:41.8±1.6, 17.94S±0.10×167.2E±0.3, h20km, n7, σ1§34/9, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.18**	**190**	Pn	**Pn**	**04 42 43.9**	**-0.7**
	3.3nm,0.3s,baz=350,slow=18,SNR=18						
DZM				Sn	**Sn**	**04 43 33.9**	**+1.0**
	3.5nm,0.3s,baz=123,slow=24,SNR=3.3						
DZM	**Mont Dzumac**	**4.18**	**190**	*e*P	**Pn**	**04 42 44.3**	**-0.2**
DZM				*e*S	**Sn**	**04 43 32.6**	**-0.2**
STKA	**Stephens Creek**	**26.99**	**234**	P	**P**	**04 47 23.4**	**+1.0**
	1.3nm,0.5s,baz=58,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**31.15**	**261**	P	**P**	**04 47 58.0**	**-1.6**
	0.3nm,0.9s,baz=92,slow=9.7,SNR=6.3						
ASAR	**Alice Springs**	**31.62**	**254**	P	**P**	**04 48 02.5**	**-1.2**
	0.9nm,0.7s,baz=80,slow=8.5,SNR=10						
CMAR	**Chiang Mai Arr**	**76.23**	**295**	P	**P**	**04 53 31.4**	**+1.9**
	1.4nm,0.3s,baz=130,slow=3.6,SNR=4.1						
ILAR	**Eielson Array**	**89.58**	**18**	P	**P**	**04 54 36.9**	**-0.6**
	0.4nm,0.8s,baz=231,slow=4.4,SNR=4.6						

IDC 07 04:50:45.5±402.0, 31.34N×131.29E, h0km, Error ellipse: s-maj=156.6km s-min=59.3km az=8.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**8.53**	**60**	*i*		05 35 10.0	
	baz=244,slow=324,SNR=2.7						
I45RU	**USSURIYSK INFR**	**12.85**	**2**	*i*		06 06 30.0	
	baz=184,slow=335,SNR=1.5						
I34MN	**SONGINO INFRAS**	**25.10**	**318**	*i*		07 32 00.0	
	baz=116,slow=334						

IDC 07 05:03:34.9±1.4, 0.83S×127.43E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=130.4km s-min=21.4km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.16**	**161**	P	P	05 08 11.1	0.0
	0.4nm,0.4s,baz=341,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**23.55**	**165**	P	P	05 08 47.3	0.0
	0.9nm,0.7s,baz=339,slow=10.0,SNR=11						
SONM	**Songino Array**	**51.82**	**342**	P	P	05 12 45.5	+0.6
	0.1nm,0.3s,baz=134,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**61.70**	**326**	P	P	05 13 54.4	-0.7
	0.7nm,0.4s,baz=120,slow=8.0,SNR=11						

WEL 07 05:20:57.8±0.5, 46.09S×165.82E, h33km, ML3.7/11, Error ellipse: s-maj=5.4km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.60**	**98**	PN	Pn	05 21 09.1	-0.9
PYZ				*e*SN	Sn	05 21 18.4	0.0
PYZ				SN	Sn	05 21 18.5	-0.1
DCZ	**Deep Cove**	**1.11**	**57**	PN	Pn	05 21 16.7	-0.4
DCZ				*e*SN	Sn	05 21 30.1	-1.1
DCZ				AML	AML	05 21 33.2	
DCZ				AML	AML	05 21 34.0	
DCZ				AML	AML	05 21 34.1	
WHZ	**Wether Hill Ro**	**1.50**	**83**	PN	Pn	05 21 23.1	+0.8
WHZ				AML	AML	05 21 46.6	
WHZ				AML	AML	05 21 48.1	
APZ	**The Paps**	**1.67**	**117**	PN	Pn	05 21 24.9	+0.1
APZ				AML	AML	05 21 57.4	
APZ				AML	AML	05 22 04.5	
MLZ	**Mavora Lakes**	**1.81**	**67**	PN	Pn	05 21 27.9	+1.2
MLZ				AML	AML	05 21 55.4	
MLZ				AML	AML	05 21 58.7	
SYZ	**Scrubby Hill**	**2.34**	**102**	*e*PN	Pn	05 21 35.1	+1.1
SYZ				AML	AML	05 22 06.6	
SYZ				AML	AML	05 22 15.9	
WKZ	**Wanaka**	**2.58**	**62**	PN	Pb	05 21 40.4	-3.0
WKZ				AML	AML	05 22 20.7	
WKZ				AML	AML	05 22 26.1	
EAZ	**Earnscleugh**	**2.59**	**72**	PN	Pn	05 21 39.8	+2.4
EAZ				AML	AML	05 22 16.1	
EAZ				AML	AML	05 22 29.5	
TUZ	**Tuapeka**	**2.66**	**89**	PN	Pn	05 21 40.0	+1.7
TUZ				AML	AML	05 22 14.3	
TUZ				AML	AML	05 22 23.2	
JCZ	**Jackson Bay**	**2.90**	**47**	*e*PN	Pn	05 21 43.1	+1.4
JCZ				AML	AML	05 22 30.4	
LBZ	**Lake Benmore**	**3.52**	**63**	*e*PN	Pn	05 21 51.3	+1.2
ODZ	**Otahua Downs**	**3.54**	**75**	PN	Pn	05 21 50.6	+0.1
FOZ	**Fox Glacier**	**3.73**	**49**	*e*PN	Pn	05 21 55.5	+2.5
WVZ	**Waitaha Valley**	**4.62**	**51**	PN	Pn	05 22 06.7	+1.4

*CSEM **07** 05:52:12.9±0.8, 38.37N×24.04E, h30km, MD2.5, Error ellipse: s-maj=21.5km s-min=10.8km az=102.0*
ATH 07 05:52:11.8, 38.39N×24.17E, h29km±3km, MD2.5/5, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.42**	**215**	*e*PB	Pb	05 52 21.0	+0.1
PTL	**Penteli**	**0.42**	**215**	*e*Pb	Pb	05 52 21.0	+0.1
MRKA	**Markates**	**0.56**	**305**	*e*PN	Pn	05 52 23.6	-0.2
MRKA	**Markates**	**0.56**	**305**	*e*Pn	Pn	05 52 23.6	-0.2
VILL	**Villia**	**0.71**	**252**	*e*Pn	Pb	05 52 25.4	-0.4
VILL				*e*Sn	Sn	05 52 36.8	+0.8
VIL2	**Platees**	**0.73**	**256**	*e*PN	Pb	05 52 25.4	-0.7
VIL2				*e*SN	Sn	05 52 36.8	+0.3
AOS	**Alonnisos**	**0.81**	**344**	*e*PN	Pn	05 52 27.3	0.0
AOS				*e*SN	Sn	05 52 39.6	+1.2
AOS	**Alonnisos**	**0.81**	**344**	*e*Pn	Pn	05 52 27.3	0.0
AOS				*e*Sn	Sn	05 52 39.6	+1.2
NAIG	**Nisos Aigina**	**0.83**	**221**	*e*PN	Pb	05 52 28.5	+0.8
NAIG	**Nisos Aigina**	**0.83**	**221**	*e*Pn	Pb	05 52 28.5	+0.8
SKIA	**Skiathos**	**0.95**	**325**	*e*PN	Pb	05 52 31.2	+1.5
SKIA	**Skiathos**	**0.95**	**325**	*e*Pn	Pb	05 52 31.2	+1.5

*CSEM **07** 05:52:34.0±0.1, 38.42N×21.99E, h10km, MD2.5, Error ellipse: s-maj=2.9km s-min=2.3km az=99.0*
*ATH **07** 05:52:34.0, 38.40N×22.01E, h17km±1km, MD2.5/12*
THE 07 05:52:34.1, 38.41N×21.98E, h13km±1km, ML1.9/6, Error ellipse: s-maj=1.4km s-min=0.3km az=114.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.13**	**99**	P	Pg	05 52 37.3	-0.3
KALE				S	Sg	05 52 40.0	0.0
KALE	**Kalithea**	**0.13**	**99**	*e*PB	Pg	05 52 37.3	-0.3
KALE				*e*SB	Sg	05 52 40.1	+0.1
KALE	**Kalithea**	**0.13**	**99**	P	Pg	05 52 37.3	-0.3
KALE	**Kalithea**	**0.13**	**99**	*e*Pb	Pg	05 52 37.3	-0.3
KALE				S	Sg	05 52 40.0	0.0
LAKA	**Lakka**	**0.17**	**179**	P	Pg	05 52 38.0	-0.1
LAKA	**Lakka**	**0.17**	**179**	*e*PB	Pg	05 52 38.0	-0.1
LAKA	**Lakka**	**0.17**	**179**	P	Pg	05 52 38.0	-0.1
LAKA	**Lakka**	**0.17**	**179**	*e*Pb	Pg	05 52 38.0	-0.1
KLV	**Kalavryta, Ach**	**0.39**	**159**	P	Pg	05 52 41.7	-0.4
KLV				S	Sg	05 52 47.8	+0.4
KLV	**Kalavryta, Ach**	**0.39**	**159**	*e*PB	Pg	05 52 41.8	-0.3
KLV				*e*SB	Sg	05 52 47.0	-0.4
KLV	**Kalavryta, Ach**	**0.39**	**159**	*e*Pb	Pg	05 52 41.8	-0.3
KLV				*e*Sb	Sg	05 52 47.0	-0.4
DSF	**Desfina**	**0.43**	**90**	P	Pg	05 52 42.2	-0.6
DSF				S	Sg	05 52 49.2	+0.5
DSF	**Desfina**	**0.43**	**90**	*e*PB	Pg	05 52 42.2	-0.6
DSF				*e*SB	Sg	05 52 47.8	-0.9
DSF	**Desfina**	**0.43**	**90**	S	Sg	05 52 49.2	+0.5
DSF	**Desfina**	**0.43**	**90**	P	Pg	05 52 42.2	-0.6
DSF				*e*Sb	Sg	05 52 47.8	-0.9
DESF	**Desfina**	**0.44**	**90**	*e*PB	Pg	05 52 42.2	-0.7
DESF				*e*SB	Sg	05 52 48.8	0.0
DESF	**Desfina**	**0.44**	**90**	*e*Pb	Pg	05 52 42.2	-0.7
DESF				*e*Sb	Sg	05 52 48.8	0.0
DRO	**Drossia**	**0.50**	**205**	P	Pg	05 52 43.8	-0.3
DRO				S	Sg	05 52 51.4	+0.6
DRO	**Drossia**	**0.50**	**205**	*e*PN	Pg	05 52 43.8	-0.3
DRO				*e*SN	Sb	05 52 52.3	+0.1
DRO	**Drossia**	**0.50**	**205**	P	Pg	05 52 43.8	-0.3
DRO	**Drossia**	**0.50**	**205**	*e*Pn	Pg	05 52 43.8	-0.3
DRO				S	Sg	05 52 51.4	+0.6
DRO				*e*Sn	Sb	05 52 52.3	+0.1
EVR	**Evrytania**	**0.52**	**346**	P	Pg	05 52 44.0	-0.5
EVR				S	Sg	05 52 51.8	+0.2
EVR	**Evrytania**	**0.52**	**346**	*e*PN	Pg	05 52 44.0	-0.5
EVR				*e*SN	Sb	05 52 52.3	-0.6
EVR	**Evrytania**	**0.52**	**346**	P	Pg	05 52 44.0	-0.5
EVR	**Evrytania**	**0.52**	**346**	*e*Pn	Pg	05 52 44.0	-0.5
EVR				S	Sg	05 52 51.8	+0.2
EVR				*e*Sn	Sb	05 52 52.3	-0.6
RLS	**Riolos of Patr**	**0.53**	**229**	P	Pg	05 52 44.5	-0.1
RLS	**Riolos of Patr**	**0.53**	**229**	*e*PN	Pg	05 52 44.2	-0.4
RLS	**Riolos of Patr**	**0.53**	**229**	P	Pg	05 52 44.5	-0.1
RLS	**Riolos of Patr**	**0.53**	**229**	*e*Pn	Pg	05 52 44.2	-0.4
GUR	**Goura**	**0.56**	**148**	*e*PN	Pg	05 52 44.9	-0.3
GUR				*e*SN	Sg	05 52 52.8	+0.1
GUR	**Goura**	**0.56**	**148**	*e*Pn	Pg	05 52 44.9	-0.3
GUR				*e*Sn	Sg	05 52 52.8	+0.1
MAKR	**Makrakomi, Fth**	**0.61**	**12**	P	Pg	05 52 46.0	-0.2
MAKR				S	Sb	05 52 54.9	-0.5
MAKR	**Makrakomi, Fth**	**0.61**	**12**	*e*PN	Pg	05 52 46.2	0.0
MAKR				*e*SN	Sb	05 52 55.1	-0.3
MAKR	**Makrakomi, Fth**	**0.61**	**12**	P	Pg	05 52 46.0	-0.2
MAKR				S	Sb	05 52 54.9	-0.5
AXAR	**Agios Charalam**	**0.64**	**56**	P	Pg	05 52 46.1	-0.6
AXAR				S	Sb	05 52 56.0	-0.2
AXAR	**Agios Charalam**	**0.64**	**56**	P	Pg	05 52 46.1	-0.6
AXAR				S	Sb	05 52 56.0	-0.2
PDO	**Prodromos**	**0.65**	**287**	P	Pg	05 52 46.5	-0.3
PDO	**Prodromos**	**0.65**	**287**	*e*PN	Pb	05 52 47.2	-0.1
PDO				*e*SN	Sb	05 52 57.3	+1.0
PDO	**Prodromos**	**0.65**	**287**	P	Pg	05 52 46.5	-0.3
PDO	**Prodromos**	**0.65**	**287**	*e*Pn	Pb	05 52 47.2	-0.1
PDO				*e*Sn	Sb	05 52 57.3	+1.0
AGG	**Agios Georgios**	**0.67**	**24**	*e*PB	Pg	05 52 46.3	-0.9
AGG				*e*SN	Sb	05 52 57.0	0.0
AGG	**Agios Georgios**	**0.67**	**24**	*e*Pb	Pg	05 52 46.3	-0.9
AGG				*e*Sn	Sb	05 52 57.0	0.0
VLS	**Valsamata**	**1.11**	**258**	*e*PB	Pb	05 52 55.0	-0.3
VLS	**Valsamata**	**1.11**	**258**	*e*Pb	Pb	05 52 55.0	-0.3
THL	**Klokotos Trika**	**1.15**	**2**	*e*PN	Pg	05 52 56.5	+0.2
THL				*e*SN	Sn	05 53 12.3	+0.7
THL	**Klokotos Trika**	**1.15**	**2**	*e*Pn	Pg	05 52 56.5	+0.2
THL				*e*Sn	Sn	05 53 12.3	+0.7
PYL	**PYLOS**	**1.52**	**187**	*e*PN	Pb	05 53 02.7	+0.4
PYL	**PYLOS**	**1.52**	**187**	*e*Pn	Pb	05 53 02.7	+0.4

*ISCJB **07** 06:01:29.1±0.3, 10.05S±0.04×33.83E±0.06, h10km, mb3.8/13, MS3.7/4, Error ellipse: s-maj=9.5km s-min=5.0km az=21.7*
*IDC **07** 06:01:29.8±0.6, 10.03S×33.85E, h0km, mb3.9/13, mb1 4.2/18, mb1mx4.0/33, mbtmp4.1/18, ML2.5/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/36, Error ellipse: s-maj=20.8km s-min=13.2km az=126.0*
*NEIC **07** 06:01:30.9±0.4, 10.05S×33.85E, h10km, mb4.3/4, Error ellipse: s-maj=10.2km s-min=6.4km az=108.0*
*PRE **07** 06:01:31.1±3.7, 10.33S×34.07E, h10km, mb3.8*
ISC 07 06:01:30.1±0.4, 10.22S±0.04×33.93E±0.06, h10km, n67, σ1§91/69, mb4.0/13, MS3.8/4, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.21**	**176**	*i* P	Pg	06 01 59.0	+5.6
MZM				*i* S	Sn	06 02 17.0	+7.4
DODT	**Dodoma, Tanzan**	**4.39**	**24**	*i* P	**Pn**	**06 02 35.8**	**-1.2**
DODT				*i* S	**Sb**	**06 03 40.6**	**+1.0**
LSZ	**Lusaka**	**7.52**	**227**	*e*P	Pn	06 03 24.6	+4.6
LSZ				*e*S	**Sn**	**06 04 42.9**	**-2.7**
LSZ	**Lusaka**	**7.52**	**227**	*e*Pn	**Pn**	**06 03 22.7**	**+2.7**
LSZ				*e*Sn	**Sn**	**06 04 48.3**	**+2.8**
LSZ				Lg	Lg	06 05 32.1	
LSZ	**Lusaka**	**7.52**	**227**	Pn	Pn	06 03 23.5	+3.5
	12nm,0.3s,baz=50,slow=12,SNR=100						
LSZ					**Sn**	**06 04 45.5**	**-0.1**
	11nm,0.3s,baz=55,slow=6.3,SNR=3.6						
LSZ				Lg	Lg	06 05 32.1	
	32nm,0.3s,baz=127,slow=23,SNR=11						
LSZ				LR	LR	06 06 29.3	
	comp=Z,209nm,18.8s,baz=176,slow=39						
MAUS	**Longido**	**7.92**	**21**	*i* P	**Pn**	**06 03 24.8**	**-0.9**
MAUS				*i* S	Sb	06 05 31.4	+9.1
KMBO	**Kilima Mbogo**	**9.62**	**20**	*e*Pn	**Pn**	**06 03 46.8**	**-2.1**
	22nm,0.4s						
KMBO				*e*Sn	Sn	06 05 25.3	-12
KMBO				Lg	Lg	06 06 22.5	
KMBO	**Kilima Mbogo**	**9.62**	**20**	Pn	**Pn**	**06 03 46.9**	**-2.1**
	7.3nm,0.3s,baz=200,slow=16,SNR=28						
KMBO				Sn	Sn	06 05 29.4	-8.0
	5.1nm,0.3s,baz=284,slow=23,SNR=11						
KMBO				Lg	Lg	06 06 22.5	
	6.7nm,0.3s,baz=272,slow=21,SNR=7.0						
MBAR	**Mbarara**	**10.07**	**341**	Pn	Pn	06 03 50.3	-4.7
MBAR				Sn	**Sn**	**06 05 44.4**	**-3.8**
MBAR				Lg	Lg	06 06 34.4	
MBAR	**Mbarara**	**10.07**	**341**	Pn	Pn	06 03 50.3	-4.7
	8.2nm,0.3s,baz=164,slow=16,SNR=20						
MBAR				Sn	**Sn**	**06 05 44.4**	**-3.8**
	14nm,0.3s,baz=66,slow=21,SNR=4.6						
MBAR				Lg	Lg	06 06 34.4	
	24nm,0.3s,baz=74,slow=19,SNR=10						
MSNA	**Messina**	**12.62**	**197**	*e*P	**Pn**	**06 04 32.8**	**+2.9**
MSNA				*e*S	**Sn**	**06 06 47.2**	**-3.5**
MSNA	**Messina**	**12.62**	**197**	*e*P	**Pn**	**06 04 32.8**	**+2.9**
	20nm,3.5s						
MSNA				*e*S	**Sn**	**06 06 47.2**	**-3.5**
OPO	**Ambohidratompo**	**15.29**	**124**	Pn	**P**	**06 05 10.2**	**-1.0**
OPO				Sn	**Sn**	**06 07 53.9**	**-2.0**
OPO	**Ambohidratompo**	**15.29**	**124**	Pn	**P**	**06 05 10.2**	**-1.0**
	1.4nm,0.3s,baz=290,slow=14,SNR=7.9						
OPO				Sn	**Sn**	**06 07 53.9**	**-2.0**
	0.5nm,0.3s,baz=217,slow=20,SNR=4.4						
ABPO	**Ambohimpanom**	**15.55**	**126**	*e*Pn	**Pn**	**06 05 10.1**	**+0.3**
	25nm,0.8s						
ABPO				*e*Sn	**Sn**	**06 07 59.8**	**-2.6**
SLR	**Silverton**	**16.33**	**198**	*e*P	**P**	**06 05 22.1**	**-0.6**
SLR	**Silverton**	**16.33**	**198**	*e*P	**P**	**06 05 22.1**	**-0.6**
	29nm,2.9s						
LBTB	**Lobatse**	**16.71**	**207**	*e*P	**Pn**	**06 05 26.1**	**+1.6**
LBTB	**Lobatse**	**16.71**	**207**	*e*Pn	**Pn**	**06 05 22.5**	**-2.0**
	27nm,0.8s						
LBTB				Sn	**Sn**	**06 08 26.4**	**-3.9**
LBTB				Lg	Lg	06 10 18.8	
LBTB	**Lobatse**	**16.71**	**207**	Pn	**P**	**06 05 26.7**	**-0.2**
	3.3nm,0.3s,baz=36,slow=12,SNR=28						
LBTB				Sn	**Sn**	**06 08 26.4**	**-3.9**
	1.0nm,0.3s,baz=328,slow=6.7,SNR=4.5						
LBTB				Lg	Lg	06 10 18.8	
	1.4nm,0.3s,baz=309,slow=23,SNR=5.5						
LBTB				LR	LR	06 10 59.5	
	comp=Z,98nm,18.2s,baz=48,slow=34						
OBSV	**Observatory**	**16.82**	**198**	*e*P	**P**	**06 05 30.3**	**+2.1**
ERPM	**east rand prop**	**16.91**	**198**	*e*P	**Pn**	**06 05 27.4**	**+0.2**
PRYS	**Parys**	**17.74**	**200**	*e*P	**P**	**06 05 39.5**	**+1.3**
	14nm,5.5s						
TSUM	**Tsumeb**	**18.14**	**239**	*e*P	**P**	**06 05 42.9**	**+0.1**
TSUM				Sn	Sn	06 08 56.0	-9.1
TSUM				Lg	Lg	06 11 07.0	
TSUM	**Tsumeb**	**18.14**	**239**	P	**P**	**06 05 43.3**	**+0.5**
	0.9nm,0.3s,baz=42,slow=12,SNR=15						
TSUM				Sn	Sn	06 08 56.0	-9.1
	0.2nm,0.3s,baz=315,slow=18,SNR=6.0						
TSUM				Lg	Lg	06 11 07.0	
	0.3nm,0.3s,baz=135,slow=23,SNR=3.3						
TSUM				LR	LR	06 12 54.9	
	comp=Z,117nm,18.7s,baz=158,slow=38						
SEK	**Senekal**	**18.96**	**197**	*e*P	**Pn**	**06 05 53.9**	**+1.5**
SEK				AMB	AMB	06 06 04.3	
	comp=Z,32nm,3.1s						
SEK	**Senekal**	**18.96**	**197**	*e*P	**Pn**	**06 05 53.9**	**+1.5**
	comp=Z,32nm,3.1s						
BOSA	**Boshof**	**20.03**	**203**	*e*P	**P**	**06 06 02.6**	**-0.8**
BOSA				AMB	AMB	06 06 12.0	
	comp=Z,30nm,4.0s						
BOSA	**Boshof**	**20.03**	**203**	*e*P	Pn	06 06 05.5	+0.3
	comp=Z,9.1nm,0.9s						
BOSA				*e*S	**S**	**06 09 45.8**	**-2.9**
BOSA				Lg	Lg	06 12 05.6	
BOSA	**Boshof**	**20.03**	**203**	P	Pn	06 06 05.3	+0.1
	comp=Z,4.1nm,0.4s,baz=25,slow=9.4,SNR=14						
BOSA				S	**S**	**06 09 44.8**	**-3.9**
	comp=Z,4.1nm,0.8s,baz=129,slow=9.9,SNR=3.3						
BOSA				Lg	Lg	06 12 05.6	
	comp=Z,15nm,0.7s,baz=129,slow=18,SNR=5.0						
BOSA				LR	LR	06 13 39.8	
	comp=Z,128nm,18.1s,baz=172,slow=36						
WIN	**Windhoek**	**20.25**	**231**	*e*P	Pn	06 06 08.2	+0.2
WIN				AMB	AMB	06 06 12.9	
	comp=Z,6.6nm,3.1s						
WIN	**Windhoek**	**20.25**	**231**	*e*P	Pn	06 06 08.2	+0.2
	comp=Z,6.6nm,3.1s						
HVD	**Gariep Dam**	**21.75**	**200**	*e*P	P	06 06 29.8	+7.7
	comp=Z,35nm,4.7s						
SUR	**Sutherland**	**25.16**	**207**	P	**P**	**06 06 58.8**	**+2.9**
SUR				Lg	Lg	06 14 42.9	
SUR	**Sutherland**	**25.16**	**207**	P	**P**	**06 06 58.8**	**+2.9**
	comp=Z,2.1nm,0.7s,baz=306,slow=19,SNR=1.8						
SUR				Lg	Lg	06 14 42.9	
	comp=Z,16nm,1.0s,baz=130,slow=19,SNR=3.8						
TORD	**Torodi Ar. Bea**	**39.53**	**305**	P	**P**	**06 09 00.9**	**-0.6**
TORD

	baz=191								
HWA	**Hwalien**	**0.28**	**22**	*e*P		**Pb**	**06 05 35.2**	**+0.1**
	baz=40								
TWD	**Chiawan**	**0.38**	**15**⇑	*e*P		**Pb**	**06 05 36.3**	**-0.3**
	baz=27								
TWD				S		**Sb**	**06 05 41.9**	**-0.3**
	baz=27								
TWF1	**Yuli**	**0.40**	**206**	⇓P		**Pb**	**06 05 36.8**	**-0.1**
	baz=194								
TWF1				*e*S		**Sb**	**06 05 42.8**	**+0.1**
	baz=194								
WHF	**Hehuan Shan**	**0.48**	**335**⇑	*i*P		**Pb**	**06 05 37.4**	**-1.0**
	baz=342								
WHF				*e*S		**Sb**	**06 05 43.3**	**-2.0**
	baz=342								
YUS	**Yu-Shan**	**0.54**	**246**⇓	*i*P		**Pb**	**06 05 39.1**	**-0.4**
	baz=240								
YUS				*i*S		**Sb**	**06 05 46.0**	**-1.1**
	baz=240								
SMLT	**Sun Moon Lake**	**0.57**	**288**⇑	*i*P		**Pb**	**06 05 38.6**	**-1.1**
	baz=291								
SMLT				*i*S		**Sb**	**06 05 45.2**	**-2.3**
	baz=291								
TYC	**Yuchr**	**0.61**	**288**⇑	*i*P		**Pb**	**06 05 39.2**	**-1.1**
	baz=295								
TYC				*i*S		**Sb**	**06 05 46.1**	**-2.5**
	baz=295								
TWT	**Tachien**	**0.61**	**332**⇑	*i*P		**Pb**	**06 05 40.0**	**-0.5**
	baz=336								
TWT				*i*S		**Sb**	**06 05 46.9**	**-1.9**
	baz=336								
CHKT	**Chengkung**	**0.62**	**191**	*e*P		**Pb**	**06 05 40.3**	**-0.2**
	baz=172								
CHKT				*e*S		**Sn**	**06 05 50.4**	**-0.3**
	baz=172								
ALS	**Alishan**	**0.66**	**252**⇓	*i*P		**Pb**	**06 05 41.0**	**-0.3**
	baz=248								
ALS				*e*S		**Sb**	**06 05 48.6**	**-1.6**
	baz=248								
ELDTW	**Lidau**	**0.68**	**220**	*e*P		**Pb**	**06 05 40.8**	**-0.8**
	baz=206								
ELDTW				*e*S		**Sb**	**06 05 50.0**	**-0.6**
	baz=206								
NNS	**Nan Shan**	**0.73**	**352**⇓	*i*P		**Pb**	**06 05 42.0**	**-0.5**
	baz=8.0								
NNS				*e*S		**Sb**	**06 05 51.3**	**-0.9**
	baz=8.0								
ENA	**Nanau**	**0.75**	**18**	*e*P		**Pb**	**06 05 41.7**	**-1.0**
	baz=24								
ENA				*e*S		**Sn**	**06 05 53.5**	**-0.4**
	baz=24								
CHN5	**Tsauling**	**0.75**	**261**	P		**Pb**	**06 05 42.8**	**0.0**
	baz=252								
CHN5				S		**Sb**	**06 05 52.4**	**-0.4**
	baz=252								
WNT	**Mingjian**	**0.76**	**283**	*i*P		**Pb**	**06 05 43.0**	**+0.1**
	baz=283								
WNT				*e*S		**Sb**	**06 05 53.1**	**+0.4**
	baz=283								
WGK	**Gukeng**	**0.85**	**268**	*e*P		**Pb**	**06 05 44.0**	**-0.4**
	baz=267								
WGK				S		**Sn**	**06 05 56.2**	**-0.2**
	baz=267								
TCU	**Taichung**	**0.86**	**300**	*e*P		**Pn**	**06 05 44.6**	**-0.3**
	baz=302								
TCU				*e*S		**Sb**	**06 05 56.2**	**+0.4**
	baz=302								
TWQ1	**Liyutan**	**0.91**	**314**	P		**Pb**	**06 05 45.8**	**+0.3**
	baz=316								
TWQ1				*e*S		**Sb**	**06 05 57.2**	**0.0**
	baz=316								
ENTT	**Nioudou**	**0.93**	**4**	*e*P		**Pn**	**06 05 45.0**	**-0.8**
	baz=17								
ENTT				*e*S		**Sb**	**06 05 58.0**	**+0.3**
	baz=17								
WTP	**Ta-pu**	**0.93**	**240**	*e*P		**Pb**	**06 05 46.0**	**+0.2**
	baz=237								
WTP				*e*S		**Sb**	**06 05 57.7**	**0.0**
	baz=237								
TWC	**Suao**	**0.95**	**20**	*e*P		**Pn**	**06 05 45.7**	**-0.4**
	baz=27								
NSY	**Sanyi**	**0.97**	**317**	P		**Pb**	**06 05 47.1**	**+0.7**
	baz=319								
NSY				*e*S		**Sn**	**06 05 59.6**	**+0.3**
	baz=319								
NSK	**Sanguang**	**0.97**	**353**	*i*P		**Pb**	**06 05 46.5**	**+0.1**
	baz=356								
NSK				*i*S		**Sb**	**06 05 58.3**	**-0.6**
	baz=356								
TWG	**Pinlang**	**0.97**	**203**	*e*P		**Pb**	**06 05 46.1**	**-0.3**
	baz=185								
CHY	**Chiayi**	**1.00**	**258**	*e*P		**Pb**	**06 05 46.7**	**-0.2**
	baz=256								
CHY				*e*S		**Sb**	**06 06 00.3**	**+0.6**
	baz=256								
NSTT	**Nanjuang**	**1.02**	**334**⇑	*i*P		**Pb**	**06 05 47.5**	**+0.2**
	baz=344								
NSTT				*i*S		**Sn**	**06 05 59.8**	**-0.8**
	baz=344								
TWE	**Neicheng**	**1.02**	**9**	*e*P		**Pn**	**06 05 46.8**	**-0.3**
	baz=26								
TWE				*e*S		**Sb**	**06 06 01.6**	**+1.4**
	baz=26								
TWK	**Hsinying**	**1.02**	**244**	*e*P		**Pb**	**06 05 47.3**	**0.0**
	baz=241								
TWK				*e*S		**Sb**	**06 06 00.7**	**+0.3**
	baz=241								
CHN1	**Nanshi**	**1.03**	**239**	P		**Pb**	**06 05 47.9**	**+0.5**
	baz=237								
CHN1				*e*S		**Sb**	**06 06 02.4**	**+1.9**
	baz=237								
SGST	**Jiashian**	**1.04**	**233**	*e*P		**Pb**	**06 05 48.1**	**+0.4**
	baz=238								
SGST				*e*S		**Sb**	**06 06 02.8**	**+1.9**
	baz=238								
WTCT	**Ta-ch'eng**	**1.12**	**278**	*e*P		**Pb**	**06 05 48.9**	**0.0**
	baz=277								
EGS		**1.20**	**20**	*e*P		**Pb**	**06 05 50.3**	**0.0**
	baz=27								
SSD	**Sandimen**	**1.24**	**220**	*e*P		**Pb**	**06 05 51.1**	**0.0**
	baz=211								
TWA	**Mucha**	**1.27**	**4**	*e*P		**Pb**	**06 05 52.5**	**+1.0**
	baz=20								
TWA				*e*S		**Sb**	**06 06 08.7**	**+1.3**
	baz=20								
NCU	**National Centr**	**1.28**	**348**	*e*P		**Pb**	**06 05 51.8**	**+0.1**
	baz=350								
NCU				*e*S		**Sb**	**06 06 09.9**	**+2.1**
	baz=350								
TAP1	**Taipei**	**1.32**	**1**	*e*P		**Pb**	**06 05 52.9**	**+0.4**
	baz=16								
TAP1				*e*S		**Sb**	**06 06 10.5**	**+1.5**
	baz=16								
TWB1	**Santiao Chiao**	**1.37**	**19**	*e*P		**Pb**	**06 05 54.0**	**+0.8**
	baz=26								
TWS1	**Kuangyinshan**	**1.38**	**357**	*e*P		**Pb**	**06 05 54.2**	**+0.7**
	baz=19								
TWS1				*e*S		**Sb**	**06 06 12.7**	**+1.9**
	baz=19								
SCZT	**Fangliau**	**1.56**	**211**	*e*P		**Pb**	**06 05 55.6**	**-0.8**
	baz=202								
TWY	**Chenhua**	**1.56**	**4**	*e*P		**Pb**	**06 05 56.5**	**0.0**
	baz=28								
YOJ	**Yonaguni jima**	**1.58**	**61**	P		**Pb**	**06 05 55.8**	**-1.0**
YOJ				*e*S		**Sb**	**06 06 15.7**	**-0.7**
YOJ	**Yonaguni jima**	**1.58**	**61**	*e*P		**Pb**	**06 05 55.7**	**-1.1**
	baz=62								
YOJ				*e*S		**Sb**	**06 06 15.7**	**-0.7**
	baz=62								
PNG	**Penghu**	**1.78**	**266**	*e*P		**Pn**	**06 05 58.0**	**+0.6**
	baz=263								
IRIF	**Iriomote-Funau**	**2.14**	**73**	P		**Pn**	**06 06 03.5**	**+1.0**
IRIF				*e*S		**Sb**	**06 06 30.8**	**-1.7**
HATJ	**Hateruma jima**	**2.15**	**80**	*e*S		**Sn**	**06 06 30.1**	**+1.7**
JKRS	**Kuro-shima**	**2.36**	**77**	P		**Pb**	**06 06 07.6**	**-2.6**
JKRS				*e*S		**Sb**	**06 06 36.3**	**-2.7**
JIJ	**Ishigaki jima**	**2.51**	**75**	P		**Pn**	**06 06 08.5**	**+0.9**
JIJ				S		**Sn**	**06 06 38.4**	**+1.0**
JTJ	**Tarama**	**3.08**	**72**	P		**Pn**	**06 06 17.2**	**+1.8**

WEL 07 06:14:43.2±0.9, 46°06S×165°88E, h33km, ML3.5/10, 1C, Error ellipse: s-maj=10.9km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.56**	**101**	PN	Pb	06 14 53.8	-1.0
PYZ				SN	Sn	06 15 03.6	+0.5
DCZ	**Deep Cove**	**1.06**	**57**	PN	Pn	06 15 01.4	-0.4
DCZ				*e*SN	Sb	06 15 16.3	-0.4
DCZ				AML	AML	06 15 24.8	
DCZ				AML	AML	06 15 30.2	
DCZ				AML	AML	06 15 30.3	
WHZ	**Wether Hill Ro**	**1.45**	**84**	PN	Pn	06 15 07.8	+0.7
WHZ				AML	AML	06 15 33.0	
WHZ				AML	AML	06 15 33.8	
APZ	**The Paps**	**1.65**	**119**	⇑PN	Pn	06 15 09.7	-0.1
APZ				AML	AML	06 15 39.1	
MLZ	**Mavora Lakes**	**1.76**	**67**	PN	Pb	06 15 13.2	-1.7
MLZ				AML	AML	06 15 40.0	
MLZ				AML	AML	06 15 47.1	
SYZ	**Scrubby Hill**	**2.31**	**103**	*e*PN	Pn	06 15 20.1	+1.3
SYZ				AML	AML	06 15 50.3	
WKZ	**Wanaka**	**2.53**	**62**	PN	Pb	06 15 25.6	-2.4
WKZ				AML	AML	06 16 05.8	
WKZ				AML	AML	06 16 09.5	
EAZ	**Earnscleugh**	**2.54**	**72**	PN	Pn	06 15 24.5	+2.4
EAZ				AML	AML	06 16 12.1	
EAZ				AML	AML	06 16 14.3	
JCZ	**Jackson Bay**	**2.85**	**47**	PN	Pn	06 15 28.5	+2.0
JCZ				AML	AML	06 16 19.9	
JCZ				AML	AML	06 16 22.7	
ODZ	**Otahua Downs**	**3.50**	**75**	*e*PN	Pn	06 15 35.8	+0.5

*ISCJB **07** 06:28:39.1±2.8, 6°58N±0°06×123°65E±0°05, h10km±18km, mb3.6/4, Error ellipse: s-maj=10.8km s-min=7.2km az=148.8*
*MAN **07** 06:28:39, 6°64N×123°69E, h0km, mb4.8, ML3.7, MS3.7*
*IDC **07** 06:28:42.5±33.0, 6°09N×123°47E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/25, mbtmp3.8/4, Error ellipse: s-maj=571.8km s-min=126.3km az=152.0*
ISC 07 06:28:39.6±1.6, 6°72N±0°06×123°57E±0°04, h6km±11km, n9, σ1§58/14, mb3.8/4, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.83**	**53**⇑	*i*P	**Pg**	**06 28 55.2**	**-0.4**
CTBH				*i*S	**Sg**	**06 29 05.8**	**-0.6**
GSPH	**General Santos**	**1.50**	**115**⇓	*i*P	**Pg**	**06 29 09.4**	**+0.9**
GSPH				*i*S	**Sn**	**06 29 29.9**	**+2.7**
ZMPH	**Zamboanga City**	**1.52**	**279**⇓	*i*P	**Pg**	**06 29 09.2**	**+0.4**
ZMPH				*i*S	**Sn**	**06 29 29.0**	**+1.7**
DMPH	**Davao City--Mi**	**1.95**	**79**⇑	*e*P	**Pn**	**06 29 14.8**	**+1.5**
DMPH				*e*S	**Sn**	**06 29 37.5**	**-0.6**
CGP	**Cagayan de Oro**	**2.05**	**33**	*e*P	**Pn**	**06 29 15.2**	**+0.6**
CGP				*i*S	**Sn**	**06 29 42.6**	**+2.2**
FITZ	**Fitzroy Crossi**	**24.75**	**175**	P	**P**	**06 34 01.3**	**-0.8**
	2.1nm,0.9s,baz=5.9,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**28.54**	**158**	P	**P**	**06 34 34.5**	**-1.8**
	1.1nm,0.7s,baz=336,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**31.84**	**162**	P	**P**	**06 35 04.3**	**-1.2**
	0.2nm,0.4s,baz=325,slow=7.9,SNR=4.0						
STKA	**Stephens Creek**	**42.06**	**157**	P	**P**	**06 36 31.5**	**-0.8**
	2.3nm,0.6s,baz=348,slow=10,SNR=8.8						

*IDC **07** 06:33:43.9±0.9, 3°90N×126°73E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/24, mbtmp3.8/8, MS3.3/1, Ms1 3.5/1, ms1mx2.6/37, Error ellipse: s-maj=65.5km s-min=16.3km az=76.0*
*ISCJB **07** 06:33:48.4±0.7, 3°87N±0°07×126°73E±0°06, h45km, mb3.7/8, MS3.2/1, Error ellipse: s-maj=11.2km s-min=8.2km az=150.4*
*DJA **07** 06:33:55.9±1.4, 4°N±8°×12°6E±°, h30km, M4.6/4, mb4.8/2, mB5.1/2, MLv4.5/4, Mw(mB)4.4/2*
ISC 07 06:33:50.2±0.8, 3°91N±0°09×126°69E±0°10, h45km, n13, σ1§16/14, mb3.7/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.18**	**259**	P	**Pn**	**06 34 09.8**	**-0.5**
SGSI				S	**Sn**	**06 34 24.6**	**-0.6**
GTOI	**Gorontalo**	**4.91**	**229**	P	**Pn**	**06 35 03.7**	**+2.2**
GTOI				S	**Sn**	**06 35 56.0**	**-1.1**
MRSI	**Marisa**	**5.84**	**234**	P	**Pn**	**06 35 16.3**	**+1.9**
	42nm,0.7s,2μm0.2nm						
LUWI	**Luwuk**	**6.29**	**219**	P	**Pn**	**06 35 20.8**	**+0.3**
LUWI				S	Px	06 35 36.5	
FITZ	**Fitzroy Crossi**	**21.90**	**183**	P	**P**	**06 38 38.9**	**-0.8**
	1.8nm,0.6s,baz=22,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**24.87**	**163**	P	**P**	**06 39 07.7**	**-1.2**
	1.7nm,0.6s,baz=341,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**06 39 39.9**	**+0.1**
	0.2nm,0.4s,baz=349,slow=7.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**30.74**	**300**	LR	LR	06 53 23.8	
	comp=Z,55nm,18.8s,baz=158,slow=38						
KSRS	**Korea Array**	**33.40**	**2**	P	**P**	**06 40 25.7**	**+1.2**
	0.5nm,0.3s,baz=172,slow=10.0,SNR=3.0						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**06 41 06.5**	**-0.3**
	1.2nm,0.6s,baz=343,slow=6.1,SNR=10						
SONM	**Songino Array**	**47.11**	**341**	P	**P**	**06 42 18.1**	**+0.1**
	0.4nm,0.5s,baz=150,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**06 43 34.0**	**-0.1**
	0.4nm,0.4s,baz=121,slow=7.4,SNR=11						
ILAR	**Eielson Array**	**84.96**	**25**	P	**P**	**06 46 19.5**	**-0.9**
	0.7nm,1.1s,baz=254,slow=5.3,SNR=3.2						

*ISCJB **07** 06:36:57.7±2.6, 6°56N±0°06×123°68E±0°05, h10km±16km, mb3.8/9, Error ellipse: s-maj=9.9km s-min=6.7km az=152.4*
*IDC **07** 06:36:57.5±0.8, 6°57N×123°63E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/25, mbtmp3.9/9, MS3.5/1, Ms1 3.5/1, ms1mx2.8/35, Error ellipse: s-maj=61.3km s-min=15.8km az=70.0*
*MAN **07** 06:36:59, 6°66N×123°67E, h15km, mb5.0, ML4.0, MS4.1*
ISC 07 06:37:00.0±1.5, 6°73N±0°05×123°67E±0°05, h16km±10km, n16, σ1§35/21, mb3.8/9, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.75**	**49**⇑	*i*P	**Pg**	**06 37 13.9**	**-0.8**
CTBH				*i*S	**Sg**	**06 37 24.2**	**-0.5**
GSPH	**General Santos**	**1.42**	**117**⇓	*i*P	**Pg**	**06 37 28.0**	**+0.6**
GSPH				*i*S	**Sg**	**06 37 48.6**	**+2.7**
KCP	**Kidapawan**	**1.44**	**79**⇓	*e*P	**Pn**	**06 37 24.6**	**-1.0**
KCP				*i*S	**Pn**	**06 37 24.6**	**-1.0**
ZMPH	**Zamboanga City**	**1.61**	**278**⇓	*i*P	**Pn**	**06 37 28.1**	**+0.2**
ZMPH				*i*S	**Sb**	**06 37 49.0**	**-0.6**
DMPH	**Davao City--Mi**	**1.86**	**79**⇑	*e*P	**Pb**	**06 37 32.9**	**-0.8**
DMPH				*e*S	**Sn**	**06 37 55.5**	**+1.0**
CGP	**Cagayan de Oro**	**1.99**	**31**	*e*P	**Pn**	**06 37 33.8**	**+0.7**
CGP				*e*S	**Sb**	**06 38 01.2**	**+0.5**
KAPI	**Kappang**	**12.30**	**199**	LR	LR	06 44 38.4	
	comp=Z,246nm,20.9s,baz=36,slow=38						
FITZ	**Fitzroy Crossi**	**24.75**	**176**	P	**P**	**06 42 18.4**	**-2.7**
	1.8nm,0.7s,baz=223,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**28.51**	**159**	P	**P**	**06 42 53.4**	**-1.7**
	2.2nm,0.8s,baz=336,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**31.82**	**162**	P	**P**	**06 43 23.1**	**-1.2**
	0.7nm,0.8s,baz=328,slow=7.1,SNR=6.0						
STKA	**Stephens Creek**	**42.03**	**157**	P	**P**	**06 44 51.0**	**0.0**
	6.4nm,0.8s,baz=334,slow=6.9,SNR=12						
SONM	**Songino Array**	**43.53**	**343**	P	**P**	**06 45 05.2**	**+2.0**
	1.1nm,0.9s,baz=168,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**53.38**	**326**	P	**P**	**06 46 20.3**	**+1.3**
	0.7nm,0.7s,baz=113,slow=9.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**56.56**	**334**	P	**P**	**06 46 42.2**	**+0.4**
	0.8nm,0.6s,baz=127,slow=5.1,SNR=3.8						
ILAR	**Eielson Array**	**83.73**	**26**	P	**P**	**06 49 28.1**	**-0.1**
	0.4nm,0.9s,baz=256,slow=3.8,SNR=2.8						
BRTR	**Keskin Array B**	**85.78**	**309**	P	**P**	**06 49 39.0**	**-0.2**
	0.4nm,0.6s,baz=84,slow=4.5,SNR=2.6						

MEX 07 06:42:33.9±0.6, 17°04N×94°76W, h39km±7km, MD3.6, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.13**	**293**	*i*P	Pn	06 42 39.3	-3.1
HUIG	**Huatulco**	**1.81**	**226**	*e*P	Pn	06 43 01.1	-1.5
HUIG				*i*S	Sn	06 43 22.2	-2.1
VHO	**Vista Hermosa**	**1.89**	**271**	*e*P	Pn	06 43 01.6	-2.3
VHO				*i*S	Sn	06 43 25.0	-1.8
PCIG		**1.98**	**132**	*i*P	Pn	06 43 03.6	-1.4
PCIG				*i*S	Sn	06 43 25.9	-2.7
UTMO	**Huajuapan**	**3.01**	**286**	*i*P	Pn	06 43 18.1	-1.3
UTMO				*i*S	Sn	06 43 52.9	-1.6
PNIG	**Pinotepa**	**3.29**	**259**	*i*P	Pn	06 43 19.8	-3.2
PNIG				*i*S	Sn	06 43 58.3	-2.7

*ISCJB **07** 06:47:25.2±0.5, 10°94N±0°03×62°21W±0°03, h109km±6km, Error ellipse: s-maj=6.5km s-min=3.4km az=40.5*
*FUNV **07** 06:47:28.3, 10°95N×62°23W, h102km, MW3.8*
*TRN **07** 06:47:29.1, 10°96N×61°98W, h99km, MD3.9*
ISC 07 06:47:23.9±1.3, 10°89N±0°04×62°18W±0°04, h126km±9km, n37, σ2§05/58, 6C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.25**	**189**⇑	*e*P	**Pn**	**06 47 42.8**	**+1.4**
GUIV				*e*S	**Sn**	**06 47 53.3**	**-1.3**
TCE	**Chacachacare**	**0.46**	**115**	*e*P	**Pn**	**06 47 43.7**	**+1.4**
TCE				*e*S	**Sn**	**06 47 54.3**	**-1.9**
TRN	**Trinidad (W)**	**0.80**	**107**⇑	*i*P	**Pn**	**06 47 46.5**	**+1.8**
TRN				*e*S	**Sn**	**06 47 58.6**	**-1.7**
TPP	**Pointe-a-Pierr**	**0.92**	**128**⇑	*i*P	**Pn**	**06 47 48.7**	**+3.0**
TPP				*e*S	**Sn**	**06 48 00.5**	**-1.7**
CRUV	**Carupano**	**1.06**	**258**⇓	*i*P	**Pn**	**06 47 48.9**	**+2.0**
CRUV				*e*S	**Sn**	**06 48 03.8**	**-0.7**
TBH	**Brigand Hill**	**1.17**	**110**⇑	*i*P	**Pn**	**06 47 50.5**	**+2.4**
TBH				*e*S	**Sn**	**06 48 04.4**	**-2.1**
GRW	**Mount Saint Ca**	**1.36**	**22**	*e*P	**Pn**	**06 47 52.7**	**+2.5**
TPR	**Prospect**	**1.41**	**78**	*e*P	**Pn**	**06 47 52.0**	**+1.3**
TPR				*e*S	**Sn**	**06 48 08.8**	**-2.3**
GRHS	**Sauteurs**	**1.43**	**22**	*e*P	**Pn**	**06 47 52.8**	**+2.0**
GRHS				*e*S	**Sn**	**06 48 10.6**	**-0.9**
BOT	**Bacolet**	**1.46**	**79**⇑	*i*P	**Pn**	**06 47 52.4**	**+1.1**
BOT				*e*S	**Sn**	**06 48 08.8**	**-3.3**
GRSS	**Sisters**	**1.51**	**22**	*e*P	**Pn**	**06 47 53.9**	**+2.2**
GRSS				*e*S	**Sn**	**06 48 13.0**	**0.0**
TOSP	**Speyside**	**1.67**	**76**	*e*P	**Pn**	**06 47 54.4**	**+0.8**
TOSP				*e*S	**Sn**	**06 48 14.8**	**-1.4**
FCV	**Fort Charlotte**	**2.43**	**22**	*e*S	**Sn**	**06 48 32.0**	**-1.2**
PCRV	**Puerto La Cruz**	**2.52**	**254**⇓	*e*P	**Pn**	**06 48 07.0**	**+2.9**
PCRV				*e*S	**Sn**	**06 48 33.6**	**-1.5**
SVB	**Belmont**	**2.54**	**21**	*e*P	**Pn**	**06 48 07.3**	**+2.9**
SVB				*e*S	**Sn**	**06 48 35.3**	**-0.2**
SVV	**Soufriere Volc**	**2.59**	**21**	*e*P	**Pn**	**06 48 08.1**	**+3.0**
SVV				*e*S	**Sn**	**06 48 37.1**	**+0.3**
BHS	**Barnard House**	**2.60**	**23**	*e*P	**Pn**	**06 48 08.1**	**+2.9**
BHS				*e*S	**Sn**	**06 48 36.6**	**-0.5**
SSV	**Crater Summit**	**2.61**	**22**	*e*P	**Pn**	**06 48 07.5**	**+2.2**
SSV				*e*S	**Sn**	**06 48 36.3**	**-1.0**
MCLT	**Moule a Chique**	**3.05**	**23**	*e*S	**Sn**	**06 48 46.4**	**-1.1**
SLB	**Belfond**	**3.12**	**21**	*e*P	**Pn**	**06 48 14.3**	**+2.2**
SLB				*e*S	**Sn**	**06 48 48.0**	**-1.3**
PRGV	**PARIAGUAN**	**3.22**	**229**	*e*P	**Pn**	**06 48 16.2**	**+3.0**
PRGV				*e*S	**Sn**	**06 48 52.3**	**+0.8**
CUPV	**Cœpira**	**3.64**	**257**⇓	*e*P	**Pn**	**06 48 21.7**	**+2.8**
CUPV				*e*S	**Sn**	**06 49 00.1**	**-1.4**
TRMF	**Trois Ilets**	**3.79**	**17**	*e*P	**Pn**	**06 48 21.4**	**+0.7**
ZAM	**Aeronautique**	**3.83**	**17**	*e*P	**Pn**	**06 48 22.6**	**+1.4**
LPMF	**Morne Lapointe**	**3.85**	**18**	*e*P	**Pn**	**06 48 22.7**	**+1.2**
MVM	**Montagne Vaucl**	**3.85**	**19**	*e*P	**Pn**	**06 48 22.9**	**+1.3**
FDF	**Fort de France**	**3.95**	**15**	*e*P	**Pn**	**06 48 23.5**	**+0.6**
MERV	**Las Mercedes**	**4.37**	**248**⇓	*e*P	**Pn**	**06 48 30.9**	**+2.5**
FUNV	**FUNVISIS**	**4.57**	**265**	*e*P	**Pn**	**06 48 33.1**	**+1.8**
FUNV				*e*S	**Sn**	**06 49 20.7**	**-2.9**
LUEV	**Luepa**	**5.07**	**172**	*e*P	**Pn**	**06 48 40.8**	**+2.8**
TURV	**Turiamo**	**5.58**	**266**	*e*P	**Pn**	**06 48 46.0**	**+1.3**
BAUV	**El Baul**	**6.09**	**252**	*e*P	**Pn**	**06 48 52.9**	**+1.3**
BAUV				*e*S	**Sn**	**06 49 55.8**	**-4.2**
MAPV	**Macapo**	**6.26**	**261**⇑	*e*P	**Pn**	**06 48 56.0**	**+2.0**
MAPV				*e*S	**Sn**	**06 50 00.1**	**-4.3**
SKI	**Saint Kitts**	**6.43**	**355**	*e*P	Pn	06 49 00.9	+4.8
TEPV	**Terepaima**	**6.96**	**263**	*e*P	**Pn**	**06 49 04.8**	**+1.5**
SANV	**Sanarito**	**7.37**	**260**	*e*P	**Pn**	**06 49 10.3**	**+1.4**
SANV				*e*S	Sn	06 50 25.9	-5.4
SOCV	**Socops**	**8.94**	**254**	*e*P	**Pn**	**06 49 30.3**	**+0.2**

IDC 07 06:57:48.3±2.4, 15°57S×173°62W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/21, mbtmp3.5/3, Error ellipse: s-maj=109.9km s-min=27.5km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.43**	**48**	Pn	Pn	06 58 27.6	-1.8
	6.8nm,0.3s,baz=229,slow=22,SNR=9.3						
AFI				Sn	Sn	06 58 54.2	-5.7
	16nm,0.3s,baz=44,slow=21,SNR=8.4						
WRA	**Warramunga Arr**	**49.60**	**257**	P	P	07 06 41.3	-0.5
	0.2nm,0.4s,baz=90,slow=6.7,SNR=7.1						
ASAR	**Alice Springs**	**49.85**	**252**	P	P	07 06 42.5	-1.2
	0.6nm,0.5s,baz=86,slow=8.0,SNR=11						
BRTR	**Keskin Array B**	**146.15**	**321**	PKPbc	PKPab	07 17 32.5	+0.9
	0.4nm,0.6s,baz=48,slow=5.7,SNR=3.1						

IDC 07 07:00:31.0±7.6, 15°91S×173°67W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/21, mbtmp3.5/4, ML1.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/17, Error ellipse: s-maj=366.9km s-min=26.2km az=143.0, Tonga Islands

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

RLS				*e*SN	**Sn**	07 01 53.5	+3.3
RLS	**Riolos of Patr**	1.22	53	P	**Pb**	07 01 33.5	0.0
RLS	**Riolos of Patr**	1.22	53	*e*Pb	**Pn**	07 01 34.6	+1.1
RLS				S	**Sn**	07 01 51.4	+1.2
RLS				*e*Sn	**Sn**	07 01 53.5	+3.3
PYL	**PYLOS**	1.27	109	P	**Pg**	07 01 34.8	+0.2
PYL				S	**Sn**	07 01 53.4	+1.8
PYL	**PYLOS**	1.27	109	*e*PB	**Pg**	07 01 34.7	+0.2
PYL	**PYLOS**	1.27	109	P	**Pg**	07 01 34.8	+0.2
PYL				S	**Sb**	07 01 51.8	+0.8
DRO	**Drossia**	1.32	61	P	**Pg**	07 01 35.4	-0.2
DRO				S	**Sn**	07 01 54.1	+1.2
DRO	**Drossia**	1.32	61	P	**Pb**	07 01 35.6	+0.3
DRO				S	**Sn**	07 01 54.1	+1.2
ITM	**Ithomi**	1.35	96	P	**Pg**	07 01 36.2	+0.1
ITM				S	**Sn**	07 01 55.7	+2.2
ITM	**Ithomi**	1.35	96	*e*PB	**Pg**	07 01 36.2	+0.1
ITM				*e*SN	**Sn**	07 01 55.8	+2.2
ITM	**Ithomi**	1.35	96	P	**Pg**	07 01 36.2	+0.1
ITM				*e*Sn	**Sn**	07 01 55.8	+2.2
PDO	**Prodromos**	1.47	30	P	**Pb**	07 01 38.6	+0.7
PDO				S	**Sn**	07 01 58.8	+2.2
PDO	**Prodromos**	1.47	30	P	**Pb**	07 01 38.6	+0.7
PDO				S	**Sn**	07 01 58.8	+2.2
LKD2	**Lefkada island**	1.50	13	P	**Pg**	07 01 39.0	+0.1
LKD2				S	**Sn**	07 01 59.3	+2.0
LKD2	**Lefkada island**	1.50	13	P	**Pg**	07 01 39.0	+0.1
LKD2				S	**Sn**	07 01 59.3	+2.0
PSA1	**Psathopyrgos**	1.64	52	*e*PN	**Pg**	07 01 42.0	+0.4
PSA1				*e*SN	**Sg**	07 02 03.3	+0.4
PVO	**Paravola**	1.64	38	P	**Pg**	07 01 41.5	-0.2
PVO				S	**Sg**	07 02 04.0	+1.1
LAKA	**Lakka**	1.65	56	P	**Pb**	07 01 41.2	+0.3
LAKA	**Lakka**	1.65	56	*e*PN	**Pg**	07 01 42.0	+0.1
LAKA	**Lakka**	1.65	56	P	**Pb**	07 01 41.2	+0.3
LAKA	**Lakka**	1.65	56	*e*Pn	**Pg**	07 01 42.0	+0.1
KLV	**Kalavryta, Ach**	1.68	64	P	**Pn**	07 01 41.1	+1.2
KLV				S	**Sg**	07 02 03.1	-1.0
KLV	**Kalavryta, Ach**	1.68	64	*e*PN	**Pb**	07 01 41.3	-0.1
KLV	**Kalavryta, Ach**	1.68	64	P	**Pb**	07 01 41.2	-0.1
KLV				S	**Sg**	07 02 03.1	-1.0
VLX	**Vlachokerasia**	1.70	88	P	**Pn**	07 01 41.4	+1.0
VLX	**Vlachokerasia**	1.70	88	*e*PN	**Pg**	07 01 43.5	+0.6
VLX	**Vlachokerasia**	1.70	88	P	**Pn**	07 01 41.4	+1.0
VLX	**Vlachokerasia**	1.70	88	*e*Pn	**Pg**	07 01 43.5	+0.6
GUR	**Goura**	1.78	69	P	**Pn**	07 01 42.5	+1.1
GUR				S	**Sb**	07 02 05.8	+0.2
GUR	**Goura**	1.78	69	*e*PB	**Pb**	07 01 43.1	0.0
GUR	**Goura**	1.78	69	P	**Pb**	07 01 43.0	0.0
GUR				S	**Sb**	07 02 05.8	+0.2
KALE	**Kalithea**	1.84	54	P	**Pb**	07 01 44.2	0.0
KALE				S	**Sb**	07 02 07.5	+0.1
KALE	**Kalithea**	1.84	54	*e*PB	**Pb**	07 01 44.5	+0.3
KALE	**Kalithea**	1.84	54	P	**Pb**	07 01 44.2	0.0
KALE	**Kalithea**	1.84	54	*e*Pb	**Pb**	07 01 44.5	+0.3
KALE				S	**Sb**	07 02 07.5	+0.1
EVR	**Evrytania**	2.01	37	P	**Pb**	07 01 46.7	-0.4
EVR				S	**Sb**	07 02 12.1	-0.3
EVR	**Evrytania**	2.01	37	*e*PB	**Pb**	07 01 47.4	+0.3
EVR	**Evrytania**	2.01	37	P	**Pb**	07 01 46.7	-0.4
EVR	**Evrytania**	2.01	37	*e*Pb	**Pb**	07 01 47.4	+0.3
EVR				S	**Sb**	07 02 12.1	-0.3
DSF	**Desfina**	2.11	58	P	**Pn**	07 01 47.4	+1.5
DSF				S	**Sb**	07 02 14.4	-0.7
DSF	**Desfina**	2.11	58	*e*PB	**Pb**	07 01 48.6	-0.1
DSF	**Desfina**	2.11	58	P	**Pn**	07 01 47.4	+1.5
DSF	**Desfina**	2.11	58	*e*Pb	**Pb**	07 01 48.6	-0.1
DSF				S	**Sb**	07 02 14.4	-0.7
DESF	**Desfina**	2.11	58	*e*PB	**Pb**	07 01 48.6	-0.2
DESF	**Desfina**	2.11	58	*e*Pb	**Pb**	07 01 48.6	-0.2
IGT	**Igoumenitsa**	2.21	2	P	**Pb**	07 01 50.8	+0.4
IGT	**Igoumenitsa**	2.21	2	*e*PB	**Pn**	07 01 49.4	+2.2
IGT	**Igoumenitsa**	2.21	2	*e*Pb	**Pn**	07 01 49.4	+2.2
IGT	**Igoumenitsa**	2.21	2	P	**Pb**	07 01 50.8	+0.4
VLI	**Veliai**	2.24	105	P	**Pn**	07 01 49.6	+2.0
VLI	**Veliai**	2.24	105	*e*PB	**Pb**	07 01 50.3	-0.6
VLI				*e*SN	**Sn**	07 02 17.7	+2.2
VLI	**Veliai**	2.24	105	P	**Pn**	07 01 49.6	+2.0
VLI	**Veliai**	2.24	105	*e*Pb	**Pb**	07 01 50.3	-0.6
VLI				*e*Sn	**Sn**	07 02 17.7	+2.2
MAKR	**Makrakomi, Fth**	2.25	41	P	**Pn**	07 01 49.8	+2.0
MAKR	**Makrakomi, Fth**	2.25	41	*e*PN	**Pb**	07 01 50.4	-0.7
MAKR	**Makrakomi, Fth**	2.25	41	P	**Pn**	07 01 49.8	+2.0
MAKR	**Makrakomi, Fth**	2.25	41	*e*Pb	**Pb**	07 01 50.4	-0.7
LTK	**Loutraki**	2.27	71	*e*PB	**Pb**	07 01 51.3	-0.2
LTK				*e*SN	**Sb**	07 02 18.9	-0.9
LTK	**Loutraki**	2.27	71	*e*Pb	**Pb**	07 01 51.3	-0.2
LTK				*e*Sn	**Sb**	07 02 18.9	-0.9
AGG	**Agios Georgios**	2.36	44	P	**Pn**	07 01 50.6	+1.2
AGG	**Agios Georgios**	2.36	44	*e*PN	**Pn**	07 01 51.3	+1.9
AGG	**Agios Georgios**	2.36	44	P	**Pn**	07 01 50.6	+1.2
AGG	**Agios Georgios**	2.36	44	*e*Pn	**Pn**	07 01 51.3	+1.9
JAN	**Janina**	2.38	11	*e*PB	**Pb**	07 01 52.4	-0.9
JAN	**Janina**	2.38	11	*e*Pb	**Pb**	07 01 52.4	-0.9
AXAR	**Agios Charalam**	2.39	52	P	**Pn**	07 01 51.2	+1.5
AXAR	**Agios Charalam**	2.39	52	P	**Pn**	07 01 51.2	+1.5
DID	**Didima**	2.39	85	P	**Pn**	07 01 51.2	+1.5
DID	**Didima**	2.39	85	*e*PN	**Pn**	07 01 51.5	+1.8
DID	**Didima**	2.39	85	P	**Pn**	07 01 51.2	+1.5
DID	**Didima**	2.39	85	*e*Pn	**Pn**	07 01 51.5	+1.8
KEK	**Kerkira**	2.41	352	P	**Pn**	07 01 51.6	+1.6
KEK	**Kerkira**	2.41	352	*e*PB	**Pb**	07 01 53.0	-0.8
KEK	**Kerkira**	2.41	352	P	**Pn**	07 01 51.6	+1.6
KEK	**Kerkira**	2.41	352	*e*Pb	**Pb**	07 01 53.0	-0.8
KYTH	**Kithira**	2.47	114	P	**Pn**	07 01 52.9	+2.0
KYTH	**Kithira**	2.47	114	*e*PB	**Pn**	07 01 53.7	+2.8
KYTH	**Kithira**	2.47	114	P	**Pn**	07 01 52.9	+2.0
KYTH	**Kithira**	2.47	114	*e*Pb	**Pn**	07 01 53.7	+2.8
LKR	**Lokris**	2.55	58	P	**Pn**	07 01 53.5	+1.6
LKR	**Lokris**	2.55	58	*e*PN	**Pn**	07 01 54.0	+2.1
LKR				*e*SN	**Sn**	07 02 25.2	+2.1
LKR	**Lokris**	2.55	58	P	**Pn**	07 01 53.5	+1.6
LKR	**Lokris**	2.55	58	*e*Pn	**Pn**	07 01 54.0	+2.1
LKR				*e*Sn	**Sn**	07 02 25.2	+2.1
VIL2	**Platees**	2.56	69	*e*PN	**Pn**	07 01 54.4	+2.4
VILL	**Villia**	2.57	70	P	**Pn**	07 01 53.5	+1.2
VILL	**Villia**	2.57	70	P	**Pn**	07 01 53.5	+1.2
VILL	**Villia**	2.57	70	*e*Pn	**Pn**	07 01 54.4	+2.1
THL	**Klokotos Trika**	2.63	31	P	**Pn**	07 01 54.9	+1.9
THL	**Klokotos Trika**	2.63	31	*e*PN	**Pn**	07 01 55.1	+2.1
THL	**Klokotos Trika**	2.63	31	P	**Pn**	07 01 54.9	+1.9
SMIA	**Simia**	2.81	56	*e*PN	**Pn**	07 01 56.5	+1.0
SMIA				*e*SN	**Sb**	07 02 32.9	-2.3
SMIA	**Simia**	2.81	56	*e*Pn	**Pn**	07 01 56.5	+1.0
SMIA				*e*Sn	**Sb**	07 02 32.9	-2.3
ATH	**Athens Observa**	2.83	76	*e*PB	**Pb**	07 01 59.8	-1.2
ATH	**Athens Observa**	2.83	76	*e*Pb	**Pb**	07 01 59.8	-1.2
ANKY	**Antikythira Is**	2.86	120	*e*PN	**Pn**	07 01 58.4	+2.3
ANKY	**Antikythira Is**	2.86	120	*e*Pn	**Pn**	07 01 58.4	+2.3
PTL	**Penteli**	2.96	75	*e*PB	**Pb**	07 02 03.8	+0.5
PTL	**Penteli**	2.96	75	*e*Pb	**Pb**	07 02 03.8	+0.5
MRKA	**Markates**	2.98	61	P	**Pn**	07 01 59.3	+1.5
MRKA	**Markates**	2.98	61	*e*PN	**Pn**	07 01 59.5	+1.7
MRKA	**Markates**	2.98	61	P	**Pn**	07 01 59.3	+1.5
ERET	**Eretria**	3.03	67	P	**Pn**	07 01 59.9	+1.3
ERET	**Eretria**	3.03	67	P	**Pn**	07 01 59.9	+1.3
NEO	**Neokhori**	3.07	49	P	**Pn**	07 02 00.3	+1.2
NEO	**Neokhori**	3.07	49	*e*PN	**Pn**	07 01 59.2	+2.1
NEO	**Neokhori**	3.07	49	P	**Pn**	07 02 00.3	+1.2
NEO	**Neokhori**	3.07	49	*e*Pn	**Pn**	07 02 01.2	+2.1
XOR	**Xorichti**	3.09	48	P	**Pn**	07 02 01.1	+1.8
XOR	**Xorichti**	3.09	48	*e*PN	**Pb**	07 02 02.9	-2.5
XOR	**Xorichti**	3.09	48	P	**Pn**	07 02 01.1	+1.8
XOR	**Xorichti**	3.09	48	*e*Pn	**Pb**	07 02 02.9	-2.5
SKIA	**Skiathos**	3.13	53	*e*PN	**Pn**	07 02 01.6	+1.7
SKIA	**Skiathos**	3.13	53	*e*Pn	**Pn**	07 02 01.6	+1.7
NEST	**Nestorio**	3.15	11	*e*PN	**Pn**	07 02 02.9	+2.7
NEST	**Nestorio**	3.15	11	*e*Pn	**Pn**	07 02 02.9	+2.7
KZN	**Kozani**	3.21	21	P	**Pn**	07 02 03.1	+2.1
KZN	**Kozani**	3.21	21	*e*PN	**Pn**	07 02 03.9	+2.9
KZN				*e*SN	**Sn**	07 02 41.2	+1.7
KZN	**Kozani**	3.21	21	P	**Pn**	07 02 03.1	+2.1
KZN	**Kozani**	3.21	21	*e*Pn	**Pn**	07 02 03.9	+2.9
KZN				*e*Sn	**Sn**	07 02 41.2	+1.7
LIT	**Litokhoron**	3.28	32	P	**Pn**	07 02 03.5	+1.5
LIT	**Litokhoron**	3.28	32	*e*PN	**Pn**	07 02 03.3	+1.3
LIT	**Litokhoron**	3.28	32	*e*Pn	**Pn**	07 02 03.3	+1.3
FNA	**Florina**	3.56	14	P	**Pn**	07 02 07.7	+1.8
FNA	**Florina**	3.56	14	*e*PN	**Pn**	07 02 07.5	+1.6
FNA	**Florina**	3.56	14	*e*Pn	**Pn**	07 02 07.5	+1.6
PAIG	**Paliouri**	3.74	45	*e*PN	**Pn**	07 02 09.3	+1.0
PAIG	**Paliouri**	3.74	45	*e*Pn	**Pn**	07 02 09.3	+1.0
BIA	**Bitola**	3.78	13	*e*Pn	**Pn**	07 02 08.6	-0.4
BIA	**Bitola**	3.78	13	*e*PN	**Pn**	07 02 08.5	-0.4
PLG	**Polygyros**	3.94	38	*e*PN	**Pn**	07 02 11.8	+0.8
PLG	**Polygyros**	3.94	38	*e*Pn	**Pn**	07 02 11.8	+0.8
HORT	**Hortiatis**	3.96	33	*e*PN	**Pn**	07 02 12.2	+0.9
HORT	**Hortiatis**	3.96	33	*e*Pn	**Pn**	07 02 12.2	+0.9
GVD	**Gavdhos**	3.98	127	*e*PN	**Pn**	07 02 13.6	+2.0
GVD	**Gavdhos**	3.98	127	*e*Pn	**Pn**	07 02 13.6	+2.0
GRG	**Griva**	4.00	24	P	**Pn**	07 02 13.4	+1.6
GRG	**Griva**	4.00	24	*e*PN	**Pn**	07 02 12.6	+0.8
GRG	**Griva**	4.00	24	*e*Pn	**Pn**	07 02 12.6	+0.8
GRG	**Griva**	4.00	24	P	**Pn**	07 02 13.4	+1.6
OUR	**Ouranopolis**	4.19	43	*e*PN	**Pn**	07 02 15.8	+1.4
OUR	**Ouranopolis**	4.19	43	*e*Pn	**Pn**	07 02 15.8	+1.4
SOH	**Sokhos**	4.25	34	P	**Pn**	07 02 17.5	+2.2
SOH	**Sokhos**	4.25	34	*e*PN	**Pn**	07 02 17.0	+1.7
SOH	**Sokhos**	4.25	34	*e*Pn	**Pn**	07 02 17.0	+1.7
SOH	**Sokhos**	4.25	34	P	**Pn**	07 02 17.5	+2.2
IDI	**Anoyia**	4.27	117	Pn	**Pn**	07 02 17.1	+1.5
	1.4nm,0.3s,baz=230,slow=15,SNR=8.2						
IDI					**Sn**	07 03 04.2	-1.5
	3.5nm,0.3s,baz=299,slow=23,SNR=10						
KNT	**Kendrikon**	4.35	27	P	**Pn**	07 02 18.4	+1.7
KNT	**Kendrikon**	4.35	27	*e*PN	**Pn**	07 02 18.2	+1.5
KNT	**Kendrikon**	4.35	27	*e*Pn	**Pn**	07 02 18.2	+1.5
VAY	**Valandovo**	4.38	24	*e*Pn	**Pn**	07 02 12.9	-4.1
SRS	**Serrai**	4.59	33	*e*PN	**Pn**	07 02 22.7	+2.7
SRS	**Serrai**	4.59	33	*e*Pn	**Pn**	07 02 22.7	+2.7
LAST	**Lasithi**	4.75	115	*e*PN	**Pn**	07 02 24.0	+1.8
LAST				*e*SN	**Sn**	07 03 18.6	+1.0
LAST	**Lasithi**	4.75	115	*e*Pn	**Pn**	07 02 24.0	+1.8
LAST				*e*Sn	**Sn**	07 03 18.6	+1.0
NVR	**Nevrokopi**	4.90	34	*e*PN	**Pn**	07 02 25.2	+0.9
NVR	**Nevrokopi**	4.90	34	*e*Pn	**Pn**	07 02 25.2	+0.9
KKB	**Krupnik**	5.04	25	*i* P	**Pn**	07 02 26.9	+0.8
KKB	**Krupnik**	5.04	25	*i* P	**Pn**	07 02 26.9	+0.8
MMB	**Musomiste**	5.04	31	*i* P	**Pn**	07 02 26.6	+0.4
MMB	**Musomiste**	5.04	31	⇑*i*P	**Pn**	07 02 26.9	+0.7
MMB	**Musomiste**	5.04	31	*i* P	**Pn**	07 02 26.6	+0.4
RZN	**Rozhen**	5.56	37	*i* P	**Pn**	07 02 34.5	+1.0
RZN	**Rozhen**	5.56	37	*i* P	**Pn**	07 02 34.5	+1.0
RDO	**Rodhopi**	5.61	45	*e*PN	**Pn**	07 02 34.9	+1.0
RDO	**Rodhopi**	5.61	45	*e*Pn	**Pn**	07 02 34.9	+1.0
VTS	**Vitosha**	5.73	22	*i* P	**Pn**	07 02 36.9	+1.1
VTS	**Vitosha**	5.73	22	⇑*i*P	**Pn**	07 02 37.2	+1.4
VTS	**Vitosha**	5.73	22	*i* P	**Pn**	07 02 36.9	+1.1
STON	**Ston**	5.87	341	*e*Pn	**Pn**	07 02 38.0	+0.4
STON				Sn	Sn	07 03 40.3	-4.7
STON	**Ston**	5.87	341	*e*Pn	**Pn**	07 02 37.9	+0.4
KDZ	**Kurdzhali**	5.89	41	*i* P	**Pn**	07 02 38.9	+1.1
KDZ	**Kurdzhali**	5.89	41	⇓*i*P	**Pn**	07 02 37.3	-0.5
KDZ	**Kurdzhali**	5.89	41	⇓*i*P	**Pn**	07 02 37.3	-0.5
SJES	**Sjenica**	5.93	358	*e*Pn	**Pn**	07 02 37.8	-0.7
IVAS	**Ivanjica**	6.25	359	*i* Pn	**Pn**	07 02 43.5	+0.8
BBLS	**Lazići**	6.56	355	*e*Pn	**Pn**	07 02 48.5	+1.4
GRUS	**Gruza**	6.57	3	*e*Pn	**Pn**	07 02 46.7	-0.4
MPEP	**Malo Peshtene**	6.59	23	*i* P	**Pn**	07 02 48.5	+1.1
DIVS	**Divibare**	6.77	358	*e*Pn	**Pn**	07 02 49.4	-0.5
GZR	**Gura Zlata**	8.28	12	⇓*i*P	**Pn**	07 03 12.7	+2.0
GZR	**Gura Zlata**	8.28	12	⇓*i*P	**Pn**	07 03 12.7	+2.0
VOIR		8.87	22	⇓*i*P	**Pn**	07 03 20.3	+1.5
VOIR		8.87	22	⇓*i*P	**Pn**	07 03 20.3	+1.5
MLR	**Muntele Rosu**	9.21	26	⇑*i*P	**Pn**	07 03 26.3	+2.8
MLR	**Muntele Rosu**	9.21	26	⇑*i*P	**Pn**	07 03 26.3	+2.8
MLR	**Muntele Rosu**	9.21	26	Pn	**Pn**	07 03 23.2	-0.3
	0.1nm,0.3s,baz=174,slow=12,SNR=6.0						
PLOR	**Plostina**	9.77	27	⇑*i*P	**Pn**	07 03 33.7	+2.6
PLOR	**Plostina**	9.77	27	⇑*i*P	**Pn**	07 03 33.7	+2.6
VRI	**Vrincioaia**	9.82	28	⇓*i*P	**Pn**	07 03 34.3	+2.6
VRI	**Vrincioaia**	9.82	28	⇓*i*P	**Pn**	07 03 34.3	+2.6
GERES	**GERESS Array B**	12.46	340	Pn	**Pn**	07 04 06.2	-1.7
	0.1nm,0.3s,baz=155,slow=12,SNR=2.6						
AKASG	**Malin Array Be**	14.84	23	Pn	**Pn**	07 04 38.3	-1.9
	0.4nm,0.3s,baz=216,slow=12,SNR=3.8						
ESDC	**Sonseca Array**	19.08	285	P	**P**	07 05 34.5	+1.3
	0.0nm,0.3s,baz=82,slow=12,SNR=3.3						
HFS	**Hagfors**	23.21	352	P	**P**	07 06 17.0	-0.4
	3.1nm,0.8s,baz=182,slow=11,SNR=4.1						
EKA	**Eskdalemuir Ar**	24.00	326	P	**P**	07 06 24.1	-1.2
	0.3nm,0.4s,baz=121,slow=9.6,SNR=3.1						
NB2	**NORSAR Subarra**	24.41	349	P	**P**	07 06 28.9	-0.1
	comp=Z,4.3nm,0.9s,baz=162,slow=9.3						
NB2	**NORSAR Subarra**	24.41	349	P	**P**	07 06 28.9	-0.1
	comp=Z,4.3nm,0.9s,SNR=4.5						
NOA	**NORSAR Array B**	24.41	349	P	**P**	07 06 28.7	-0.3
	comp=Z,1.3nm,0.8s,baz=157,slow=10,SNR=3.2						
FINES	**FINESS Array B**	24.42	7	P	**P**	07 06 27.2	-1.8
	comp=Z,2.5nm,0.8s,baz=167,slow=13,SNR=4.2						
TORD	**Torodi Ar. Bea**	29.23	219	P	**P**	07 07 14.4	+1.8
	comp=Z,0.5nm,0.7s,baz=35,slow=9.3,SNR=3.4						
ARCES	**ARCESS Array B**	32.40	3	P	**P**	07 07 38.9	-1.2
	comp=Z,3.9nm,1.1s,baz=196,slow=8.4,SNR=3.4						
KURBB	**Kurchatov Arra**	42.92	53	P	P	07 09 07.0	-2.3
	comp=Z,0.3nm,0.5s,baz=278,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	45.94	58	P	**P**	07 09 32.3	-1.2
	comp=Z,0.4nm,0.7s,baz=270,slow=7.8,SNR=3.7						
ZALV	**Zalesovo Beam**	46.43	47	P	**P**	07 09 35.5	-1.7
	comp=Z,0.4nm,0.3s,baz=265,slow=10.0,SNR=2.3						
SONM	**Songino Array**	61.17	50	P	**P**	07 11 25.0	-0.4
	comp=Z,0.3nm,0.5s,baz=292,slow=7.6,SNR=2.6						
ASAR	**Alice Springs**	122.30	97	PKP	**PKPdf**	07 20 03.9	-2.3
	comp=Z,0.8nm,1.1s,baz=272,slow=3.1,SNR=2.7						

NIED ***07*** *07:27:00,22.2°N×125.9°E,h5km,Mw3.8 Best double couple: M0 6.35000×10^14 NP1:φ=199.00000°, δ57.00000°, λ120.00000°. NP2:φ=332.00000°, δ44.00000°, λ52.00000°.*
IDC ***07*** *07:27:33.5±0.8,21.78°N×126.24°E,h0km,mb4.0/14, mb1 4.1/14,mb1mx4.1/25,mbtmp4.0/14,MS3.5/1, Ms1 3.5/1,ms1mx2.5/29,Error ellipse: s-maj=34.2km s-min=16.1km az=70.0*
ISCJB ***07*** *07:27:38.9±0.7,22.16°N±0.05×126.24°E±0.05,h36km, mb3.9/18,MS3.6/1,Error ellipse: s-maj=7.4km s-min=6.0km az=12.8*
JMA ***07*** *07:27:38.6±0.6,22.16°N×125.86°E,h0km,M4.6*
NEIC ***07*** *07:27:38.9±0.6,21.74°N×126.01°E,h35km,mb4.0/3,Error ellipse: s-maj=25.3km s-min=12.7km az=60.0*

ISC 07 07:27:39.3±0.7,21.96N±0.07×126.19E±0.06,h36km,n47, σ1§49/55,**mb4.0**/18,**Philippine Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	2.88	346	P	**Pn**	07 28 23.0	+0.4
JOGS				S	**Sn**	07 28 57.3	+1.3
JTJ	**Tarama**	3.00	333	P	**Pn**	07 28 24.0	-0.2
JTJ				S	**Sn**	07 28 57.2	-1.7
JKRS	**Kuro-shima**	3.03	319	P	**Pn**	07 28 24.6	0.0
JKRS				S	**Sn**	07 28 57.9	-1.7
HATJ	**Hateruma jima**	3.03	314	P	**Pn**	07 28 24.0	-0.6
HATJ				S	**Sn**	07 28 56.6	-3.1
JIJ	**Ishigaki jima**	3.04	322	P	**Pn**	07 28 24.4	-0.5
JIJ				S	**Sn**	07 28 56.9	-3.1
IRIF	**Iriomote-Funau**	3.27	317	P	**Pn**	07 28 28.0	+0.1
IRIF				S	**Sn**	07 29 03.7	-1.9
YOJ	**Yonaguni jima**	3.84	311	P	**Pn**	07 28 35.6	-0.2
YOJ				S	**Sn**	07 29 15.8	-3.9
JKE	**Kume jima 2**	4.38	7	P	**Pn**	07 28 42.4	-0.9
JKE				S	**Sn**	07 29 30.2	-2.9
YULB	**Yu-li**	4.73	288	*e*Pn	Pn	07 28 44.2	-3.9
YULB				*e*Sn	Sn	07 29 32.1	-10
JOW	**Kunigami**	5.21	21	P	**Pn**	07 28 54.3	-0.4
JOW				S	**Sn**	07 29 50.4	-3.2
JIH	**Iheya**	5.31	17	P	**Pn**	07 28 55.7	-0.3
JMZ	**Minamidaito 2**	6.00	49	P	Pn	07 29 02.9	-2.6
JMZ				S	Sn	07 30 07.4	-5.6
JTK	**Tokunoshima**	6.32	23	P	**Pn**	07 29 09.1	-0.8
JTK				*e*S	Sn	07 30 16.0	-4.9
JAM	**Amami Oshima**	7.13	25	P	**Pn**	07 29 20.5	-0.5
JAM				S	Sn	07 30 34.9	-5.9
USRK	**Ussuriysk Arra**	22.70	11	P	**P**	07 32 39.5	+1.9
	3.6nm,0.9s,baz=197,slow=12,SNR=5.8						
SONM	**Songino Array**	30.32	333	P	**P**	07 33 48.2	+0.9
SONM	**Songino Array**	30.32	333	P	**P**	07 33 48.2	+0.9
	0.9nm,0.7s,baz=152,slow=8.7,SNR=6.5						
WRAB	**Tennant Creek**	42.39	169	*e*P	**P**	07 35 29.6	-0.7
	4.2nm,1.1s						
WRA	**Warramunga Arr**	42.40	169	P	**P**	07 35 28.2	-2.2
WRA	**Warramunga Arr**	42.40	169	P	**P**	07 35 28.2	-2.2
	1.0nm,0.5s,baz=348,slow=9.1,SNR=9.7						
MKAR	**Makanchi Array**	43.13	316	P	**P**	07 35 37.7	+1.5
MKAR	**Makanchi Array**	43.13	316	P	**P**	07 35 37.7	+1.5
	2.3nm,0.7s,baz=102,slow=9.9,SNR=20						
ZALV	**Zalesovo Beam**	44.63	326	P	**P**	07 35 49.0	+1.0
ZALV	**Zalesovo Beam**	44.63	326	P	**P**	07 35 49.0	+1.0
	1.6nm,0.8s,baz=111,slow=6.5,SNR=6.9						
ASAR	**Alice Springs**	45.97	170	P	**P**	07 35 57.2	-1.8
ASAR				PcP	**PcP**	07 37 36.0	+0.5
ASAR	**Alice Springs**	45.97	170	P	**P**	07 35 57.2	-1.8
	0.9nm,0.5s,baz=352,slow=12,SNR=13						
ASAR				PcP	**PcP**	07 37 36.0	+0.5
	0.6nm,0.9s,baz=346,slow=1.9,SNR=4.1						
**KUR

ARS				max				
	comp=E,390nm,0.8s							
CIT	**Chita**	**3.76**	**105**	*e*Sn	**Sn**	**07 40 23.1**	**+0.7**	
CIT				*e*Sg	**Sg**	**07 40 37.2**	**-3.6**	
CIT				Smax				
	comp=E,196nm,0.3s							
ZAK	**Zakamensk**	**3.90**	**226**	*e*Pn	**Pn**	**07 39 39.7**	**-0.3**	
ZAK				*e*Pg	**Pb**	**07 39 51.2**	**+2.4**	
ZAK				*e*Sg	**Sg**	**07 40 40.8**	**-4.3**	
KPC	**Khapcheranga**	**4.54**	**138**	*e*Pn	**Pn**	**07 39 48.8**	**-0.1**	
KPC				*e*Pg	**Pb**	**07 40 01.7**	**+1.9**	
KPC				*e*Sg	**Sb**	**07 40 58.1**	**+3.4**	
KPC				Pmax				
	comp=E,9.0nm,0.4s							
KPC				Smax				
	comp=E,72nm,1.1s							
ORL	**Orlik**	**4.81**	**266**	*e*Pn	Pn	07 39 56.6	+4.1	
ORL				*e*		07 40 03.6		
ORL				*e*Sn	**Sn**	**07 40 49.1**	**+0.8**	
ORL				*e*		07 41 05.0		
ORL				*e*Sg	**Sg**	**07 41 10.9**	**-3.3**	
ORL				Smax				
	comp=E,40nm,1.0s							
ULN	**Ulaanbaatar**	**5.32**	**185**	*e*Pn	**Pn**	**07 40 01.1**	**+1.5**	
ULN				*e*Pg	**Pb**	**07 40 15.6**	**+2.5**	
ULN				*e*Sg	Sb	07 41 23.1	+6.1	
BOD	**Bodaibo**	**5.89**	**35**	*e*Sg	**Sg**	**07 41 47.1**	**-1.8**	
BOD				Smax				
	comp=E,20nm,0.8s							
CRS	**Chara**	**7.15**	**54**	*e*Sg	**Sg**	**07 42 25.1**	**-4.1**	
CRS				Smax				
	comp=E,34nm,1.5s							
TUP	**Tupik**	**7.38**	**75**	*e*PN	**Pn**	**07 40 28.4**	**+0.6**	
TUP				*e*		07 40 52.6		
TUP				*e*		07 42 29.4		
TUP				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TUP				smax	smax			
	comp=N,59nm,0.7s							
TUP	**Tupik**	**7.38**	**75**	*e*Sg	Sg	07 42 30.2	-6.6	
TUP				Smax				
	comp=N,59nm,0.9s							

*ISCJB **07** 07:53:27.5±0.5, 21˚.66N±0˚.06×144˚.4E±0˚.1, h114km, mb4.0/22, Error ellipse: s-maj=16.5km s-min=8.4km az=169.2*

*IDC **07** 07:53:32.0±0.9, 21˚.73N×144˚.35E, h140km±7km, mb3.7/20, mb1 3.9/22, mb1mx3.8/29, mbtmp4.1/22, Error ellipse: s-maj=17.0km s-min=10.1km az=86.0*

ISC 07 07:53:28.9±0.6, 21˚.63N±0˚.09×144˚.6E±0˚.1, h114km, n29, σ1s 82/35, mb3.9/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.87**	**338**	P	**Pn**	**07 54 55.4**	**+1.9**
	15nm,0.3s,baz=272,slow=18,SNR=4.8						
JCJ				S	**Sn**	**07 55 57.4**	**-2.1**
	38nm,0.3s,baz=285,slow=23,SNR=8.1						
MJAR	**Matsushiro Arr**	**15.86**	**341**	P	**Pn**	**07 57 05.7**	**-0.1**
	0.3nm,0.3s,baz=161,slow=11,SNR=4.1						
JNU	**Nakatsue**	**16.70**	**316**	P	**P**	**07 57 18.9**	**+2.4**
	0.3nm,0.3s,baz=279,slow=4.8,SNR=4.5						
KSRS	**Korea Array**	**21.37**	**321**	P	**P**	**07 58 08.0**	**+0.8**
	4.6nm,0.7s,baz=144,slow=8.5,SNR=23						
SONM	**Songino Array**	**40.23**	**320**	P	**P**	**08 00 53.1**	**-1.4**
	0.7nm,0.6s,baz=132,slow=8.3,SNR=4.7						
SONM				pP	**pP**	**08 01 25.1**	**+4.8**
	0.6nm,0.5s,baz=118,slow=7.6,SNR=3.0						
SONM				PcP	**PcP**	**08 02 56.3**	**0.0**
	0.4nm,0.5s,baz=130,slow=3.0,SNR=3.2						
WRA	**Warramunga Arr**	**42.52**	**194**	P	**P**	**08 01 13.8**	**+0.6**
	4.2nm,0.3s,baz=16,slow=8.9,SNR=76						
CMAR	**Chiang Mai Arr**	**42.90**	**274**	P	**P**	**08 01 16.0**	**-0.5**
	0.9nm,0.4s,baz=75,slow=6.8,SNR=3.2						
FITZ	**Fitzroy Crossi**	**43.64**	**207**	P	**P**	**08 01 22.7**	**+0.5**
	baz=30,slow=10						
ASAR	**Alice Springs**	**46.22**	**194**	P	**P**	**08 01 43.0**	**+0.3**
	1.3nm,0.6s,baz=14,slow=12,SNR=29						
STKA	**Stephens Creek**	**53.28**	**183**	P	**P**	**08 02 36.2**	**+0.2**
	5.4nm,0.7s,baz=341,slow=7.3,SNR=17						
ZALV	**Zalesovo Beam**	**55.08**	**321**	P	**P**	**08 02 47.2**	**-1.7**
	0.9nm,0.3s,baz=125,slow=7.2,SNR=2.8						
ZALV				pP	**pP**	**08 03 19.6**	**+3.5**
	1.2nm,0.6s,baz=106,slow=6.5,SNR=3.7						
ZALV				PcP	**PcP**	**08 03 47.6**	**-1.3**
	1.0nm,0.5s,baz=129,slow=5.1,SNR=4.3						
MKAR	**Makanchi Array**	**55.71**	**313**	P	**P**	**08 02 52.3**	**-1.3**
	1.1nm,0.7s,baz=94,slow=7.6,SNR=9.1						
MKAR				pP	**pP**	**08 03 25.3**	**+4.4**
	0.7nm,0.6s,baz=91,slow=8.6,SNR=4.1						
MKAR				PcP	**PcP**	**08 03 50.8**	**-0.8**
	0.9nm,0.5s,baz=68,slow=5.5,SNR=9.2						
ILAR	**Eielson Array**	**61.49**	**27**	P	**P**	**08 03 33.5**	**+0.2**
	0.7nm,0.9s,baz=266,slow=5.4,SNR=6.8						
ILAR				pP	pP	08 04 06.9	+5.8
	0.5nm,0.7s,baz=259,slow=5.6,SNR=3.3						
INK	**Inuvik**	**67.10**	**24**	P	**P**	**08 04 10.3**	**+0.5**
	0.6nm,0.5s,baz=226,slow=17,SNR=4.4						
YKA	**Yellowknife Ar**	**75.89**	**28**	P	**P**	**08 05 02.5**	**-0.1**
	0.6nm,0.7s,baz=291,slow=5.9,SNR=3.5						
ARCES	**ARCESS Array B**	**79.40**	**342**	P	**P**	**08 05 21.2**	**-0.8**
	1.3nm,0.5s,baz=75,slow=7.9,SNR=16						
JOF	**Joensuu**	**80.94**	**335**	*e*p	**P**	**08 05 29.1**	**-1.3**
	1.4nm,0.3s						
NVAR	**Mina Array Bea**	**82.15**	**52**	P	**P**	**08 05 39.0**	**+1.4**
	1.2nm,0.6s,baz=288,slow=5.8,SNR=10						
KAF	**Kangasniemi**	**83.33**	**335**	*e*p	**P**	**08 05 41.2**	**-1.7**
	0.9nm,0.3s						
KBZ	**Khabaz**	**83.36**	**314**	P	**P**	**08 05 42.8**	**-0.6**
	2.6nm,0.8s,baz=84,slow=4.1,SNR=4.5						
FINES	**FINESS Array B**	**83.80**	**335**	P	**P**	**08 05 43.8**	**-1.5**
	6.0nm,0.4s,baz=72,slow=5.1,SNR=63						
PDAR	**Pinedale Array**	**86.50**	**45**	P	**P**	**08 06 00.6**	**+1.1**
	0.4nm,0.8s,baz=328,slow=3.2,SNR=3.4						
AKASG	**Malin Array Be**	**88.32**	**325**	P	**P**	**08 06 05.2**	**-2.5**
	0.2nm,0.3s,baz=61,slow=4.7,SNR=3.7						
NOA	**NORSAR Array B**	**89.48**	**339**	P	**P**	**08 06 10.4**	**-2.6**
	1.1nm,0.6s,baz=45,slow=4.5,SNR=2.9						
BRTR	**Keskin Array B**	**91.34**	**314**	P	**P**	**08 06 20.6**	**-1.7**
	0.6nm,0.8s,baz=62,slow=5.5,SNR=2.3						
TXAR	**Lajitas Array**	**97.02**	**55**	P	Pdif	08 06 49.8	+1.3
	0.2nm,0.8s,baz=276,slow=3.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**129.80**	**310**	PKP	**PKPdf**	**08 12 24.8**	**-0.9**
	0.5nm,0.5s,baz=43,slow=1.0,SNR=8.7						
PLCA	**Paso Flores**	**144.72**	**131**	PKP	**PKPdf**	**08 12 52.4**	**-0.1**
	3.5nm,0.7s,baz=237,slow=3.0,SNR=7.4						
LPAZ	**La Paz**	**148.63**	**86**	PKPbc	**PKPbc**	**08 13 04.5**	**+0.3**
	1.7nm,0.5s,baz=304,slow=1.9,SNR=6.1						

DJA 07 07:58:14.7±0.6, 7˚S±4˚×107˚E±˚, h20km, M3.8/5, MLv3.8/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.31**	**24**	P	Pn	07 58 36.5	-1.4
KASI				S	Sn	07 58 52.2	-2.6
LWLI	**Liwa**	**1.70**	**3**	P	Pn	07 58 43.2	-0.3
LWLI				S	Sb	07 59 06.2	-0.5
BLSI	**Bandar Lampung**	**1.86**	**43**	S	Sb	07 59 10.6	-0.4
KLSI		**2.17**	**21**	P	Pn	07 58 49.9	+0.2
MDSI	**Maura Dua**	**2.24**	**6**	P	Pn	07 58 50.6	-0.1
MNAI	**Manna**	**2.56**	**337**	P	Pn	07 58 55.3	+0.2

*MAN **07** 08:01:58, 6˚.55N×123˚.65E, h1km, mb5.3, ML4.2, MS4.5*
MAN Intensity II - Koronadal.
*IDC **07** 08:01:59.0±0.5, 6˚.71N×123˚.90E, h0km, mb4.4/23, mb1 4.6/23, mb1mx4.5/28, mbtmp4.4/23, MS3.9/11, Ms1 3.9/11, ms1mx3.5/46, Error ellipse: s-maj=19.9km s-min=11.1km az=71.0*
*ISCJB **07** 08:02:02.4±0.7, 6˚.64N±0˚.02×123˚.79E±0˚.03, h27km±5km, mb4.6/67, MS4.0/22, Error ellipse: s-maj=4.9km s-min=3.6km az=3.3*
*MOS **07** 08:02:02.5±0.9, 6˚.74N×123˚.94E, h33km, mb4.7/31, Error ellipse: s-maj=15.5km s-min=7.0km az=114.5*
*BJI **07** 08:02:05.8, 6˚.74N×123˚.86E, h50km, mB5.2/24, mb4.7/34, Ms4.5/20, Ms7 4.2/20*
*NEIC **07** 08:02:07.0±0.8, 6˚.67N×123˚.87E, h59km±7km, mb4.7/15, Error ellipse: s-maj=6.3km s-min=5.2km az=59.0*
NEIC Felt [II PIVS] at Koronadal.
*DJA **07** 08:02:08.2±1.2, 7˚N±3˚×12˚4E±˚, h33km±10km, M5.1/34,*

mB5.5/11, mb4.9/34, MLv5.4/8, Mw(mB)5.0/11
*BKK **07** 08:02:08.7±0.7, 7˚N±6˚×12˚4E±˚, h47km±10km, M5.2/10, mB5.5/1, mb4.7/10, MLv5.5/2, Mw(mB)5.0/1*

ISC 07 08:02:04.0±0.8, 6˚.66N±0˚.03×123˚.77E±0˚.03, h29km±5km, n179, σ1s 90/197, mb4.7/67, MS4.0/22, 8C-8D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.73**	**41**	*i*P	**Pb**	**08 02 15.4**	**-2.8**
CTBH				*i* S	**Sb**	**08 02 25.9**	**-2.1**
PAGZ	**Pagadian**	**1.24**	**342**	*e*P	**Pn**	**08 02 23.7**	**-1.8**
PAGZ				*e*S	**Sn**	**08 02 40.7**	**-0.5**
GSPH	**General Santos**	**1.31**	**116**	*i*P	**Pb**	**08 02 29.6**	**+1.5**
GSPH				*i* S	Sb	08 02 50.1	+5.6
KCP	**Kidapawan**	**1.36**	**75**	*e*P	**Pn**	**08 02 26.2**	**-0.9**
KCP				*i* S	**Pn**	**08 02 26.2**	**-0.9**
IPIL	**Ipil**	**1.63**	**313**	*e*P	**Pn**	**08 02 29.6**	**-1.2**
ZMPH	**Zamboanga City**	**1.72**	**280**	*i*P	**Pn**	**08 02 29.9**	**-2.1**
ZMPH				*i* S	**Sn**	**08 02 50.0**	**-3.0**
BUKP	**Musuan**	**1.76**	**47**	*e*P	**Pn**	**08 02 33.4**	**+0.7**
DMPH	**Davao City--Mi**	**1.78**	**76**	*e*P	**Pb**	**08 02 34.6**	**-1.4**
DMPH				*e*S	**Sb**	**08 02 58.7**	**+0.7**
DAV	**Davao City (W)**	**1.84**	**77**	P	**Pb**	**08 02 35.5**	**-1.6**
DAV	**Davao City (W)**	**1.84**	**77**	*e*Pn	**Pb**	**08 02 35.7**	**-1.4**
DAV				*e*Sn	**Sn**	**08 02 53.4**	**-2.8**
CGP	**Cagayan de Oro**	**2.00**	**27**	*e*P	**Pn**	**08 02 35.8**	**-0.2**
CGP				*e*S	**Sb**	**08 03 04.4**	**0.0**
MATI	**Mati**	**2.49**	**83**	*e*P	**Pn**	**08 02 43.1**	**+0.5**
SNPH	**Sibulan**	**2.71**	**349**	*i*P	**Pn**	**08 02 43.3**	**-2.6**
SNPH				*e*S	**Sn**	**08 03 17.0**	**-0.8**
BIPH	**Bislig**	**2.98**	**59**	*i*P	**Pn**	**08 02 51.8**	**+2.3**
BIPH				*e*S	**Sb**	**08 03 34.0**	**+1.4**
SGSI	**Sangihe**	**3.44**	**149**	P	**Pb**	**08 03 01.3**	**-3.0**
SCPH	**Surigao**	**3.54**	**29**	*i*P	**Pb**	**08 03 03.3**	**-2.7**
MSLP	**Maasin**	**3.62**	**17**	*e*P	**Pn**	**08 02 58.3**	**+0.2**
LLP	**Lapu-Lapu**	**3.64**	**3**	*e*P	**Pn**	**08 02 59.8**	**+1.3**
LLP				*e*S	**Sn**	**08 03 45.3**	**+4.8**
GUIM	**Jordan**	**4.11**	**344**	*e*P	Pn	08 03 08.3	+3.4
RCP	**Roxas**	**4.97**	**348**	*i*P	Pb	08 03 23.7	-6.7
GTOI	**Gorontalo**	**6.03**	**187**	P	**Pn**	**08 03 29.1**	**-2.3**
	173nm,0.9s,5μm1.9nm						
GTOI				S	Sn	08 04 32.8	-6.8
	173nm,0.9s,5μm1.9nm						
KMSI	**Cibinong**	**6.05**	**178**	P	Pn	08 03 36.3	+4.6
	376nm,0.6s,9μm3.4nm						
TSM	**Tawau**	**6.32**	**248**	P	**Pn**	**08 03 34.9**	**-0.5**
MRSI	**Marisa**	**6.41**	**197**	P	**Pn**	**08 03 35.2**	**-1.4**
	98nm,0.8s,5μm1.5nm						
MRSI				S	**Sn**	**08 04 43.9**	**-4.9**
	98nm,0.8s,5μm1.5nm						
SDKM	**Sandakan**	**6.61**	**262**	P	**Pn**	**08 03 39.7**	**+0.2**
TNTI	**Ternate**	**6.87**	**148**	P	**Pn**	**08 03 44.1**	**+1.2**
	271nm,1.0s,0.9nm						
TNTI	**Ternate**	**6.87**	**148**	*e*Pn	**Pn**	**08 03 43.6**	**+0.8**
LUWI	**Luwuk**	**7.72**	**187**	P	Pn	08 03 57.0	+2.4
	271nm,0.7s,4μm2.3nm						
LUWI				S	**Sn**	**08 05 21.6**	**+0.5**
	271nm,0.7s,4μm2.3nm						
APSI	**Ampana**	**7.81**	**196**	P	Pn	08 03 57.9	+2.0
	76nm,0.8s,2μm1.1nm						
APSI				S	**Sn**	**08 05 27.2**	**+3.7**
	76nm,0.8s,2μm1.1nm						
NLAI	**Namlea**	**10.38**	**161**	P	**Pn**	**08 04 32.2**	**+1.1**
	77nm,0.7s						
BNSI	**Bone**	**11.58**	**198**	P	Pn	08 04 49.6	+2.1
	21nm,1.2s						
SBUM	**Sibu**	**12.24**	**251**	P	Pn	08 04 59.6	+3.0
SBUM	**Sibu**	**12.24**	**251**	P	Pn	08 04 58.7	+2.0
	22nm,1.3s						
SBUM	**Sibu**	**12.24**	**251**	*e*Pn	Pn	08 04 59.5	+2.8
KSM	**Kuching**	**14.38**	**250**	P	P	08 05 36.3	+3.9
KSM	**Kuching**	**14.38**	**250**	P	P	08 05 37.3	+4.8
KSM	**Kuching**	**14.38**	**250**	*e*Pn	P	08 05 28.8	-3.6
	36nm,1.3s						
TLE	**Tual**	**15.15**	**144**	P	**P**	**08 05 44.0**	**+3.0**
MTNI	**Mataram**	**16.98**	**207**	P	**P**	**08 06 02.5**	**+1.2**
	37nm,0.9s						
QIZ	**Qiongzhong**	**18.29**	**314**	P	**P**	**08 06 17.6**	**+1.7**
QIZ				S	**Sn**	**08 09 40.1**	**+0.6**
QIZ				pmax	pmax		
	comp=Z,31nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,110nm,4.2s						
QIZ				LR	LR		
	comp=N,480nm,12.2s						
QIZ				LR	LR		
	comp=Z,550nm,14.2s						
GENI	**Genyem**	**18.78**	**119**	P	**Pn**	**08 06 23.5**	**+1.7**
	938nm,0.9s,8μm						
BJII	**Banjamegara**	**19.75**	**225**	P	Pn	08 06 38.4	+4.9
	56nm,1.4s,2μm						
TGJI	**Tegal**	**19.85**	**228**	P	Pn	08 06 38.7	+4.0
	35nm,1.0s						
KPJI	**Karang Pucung**	**20.30**	**227**	P	Pn	08 06 45.1	+5.1
	39nm,0.8s						
MYKOM	**Kota Tinggi**	**20.44**	**257**	P	Pn	08 06 44.6	+3.0
	27nm,1.2s						
MYKOM	**Kota Tinggi**	**20.44**	**257**	*e*P	Pn	08 06 41.4	-0.2
	45nm,1.3s						
KLSI		**22.10**	**240**	P	P	08 07 02.0	+4.8
	20nm,1.7s						
MDSI	**Maura Dua**	**22.47**	**241**	P	P	08 07 04.7	+3.4
	19nm,1.1s,415nm						
IPM	**Ipoh**	**22.74**	**266**	P	**P**	**08 07 05.3**	**+1.2**
	22nm,1.3s						
IPM	**Ipoh**	**22.74**	**266**	*e*P	**P**	**08 07 04.5**	**+0.3**
	35nm,1.3s						
PPI	**Padang Panjang**	**24.37**	**254**	P	**P**	**08 07 23.2**	**+3.2**
	34nm,0.7s,810nm						
PBKT	**Sadao Pong**	**24.38**	**296**	P	**P**	**08 07 21.7**	**+1.7**
	14nm,1.7s						
FITZ	**Fitzroy Crossi**	**24.68**	**176**	P	**P**	**08 07 22.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.68**	**176**	P	**P**	**08 07 22.5**	**-0.1**
	9.5nm,0.6s,baz=15,slow=7.2,SNR=24						
PSI	**Prapat**	**25.05**	**262**	P	**P**	**08 07 29.5**	**+3.2**
	15nm,1.2s						
PSI	**Prapat**	**25.05**	**262**	P	**P**	**08 07 26.1**	**-0.2**
PSI	**Prapat**	**25.05**	**262**	P	**P**	**08 07 26.1**	**-0.2**
	13nm,1.1s,baz=84,slow=5.3,SNR=5.7						
WHN	**Wuhan**	**25.35**	**341**	P	P	08 07 36.3	+7.6
WHN				S	S	08 12 01.6	+8.3
WHN				LR	LR		
	comp=Z,780nm,12.1s						
NANT	**Nan**	**25.49**	**300**	P	**P**	**08 07 33.1**	**+3.0**
	comp=Z,18nm,1.0s						
GYA	**Guiyang**	**25.56**	**322**	*e*P	**P**	**08 07 31.7**	**+0.9**
GYA				pP	pP	08 07 43.2	+4.1
GYA				sP	sP	08 07 52.0	+9.4
GYA				PP	PnPn	08 08 14.5	+7.3
GYA				PcP	**PcP**	**08 11 01.9**	**+0.1**
GYA				S	**S**	**08 11 54.4**	**-2.6**
GYA				sS	sS	08 12 16.0	+5.2
GYA				SS	**SnSn**	**08 13 01.2**	**+10**
GYA				ScP	**ScP**	**08 14 37.7**	**-1.7**
GYA				PcS	**PcS**	**08 14 42.8**	**+0.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.7s						
GYA				LR	LR		
	comp=Z,480nm,14.6s						
GYA				LR	LR		
	comp=Z,440nm,15.3s						
GYA				LR	LR		
	comp=Z,470nm,13.8s						
NJ2	**Nanjing**	**25.67**	**350**	*e*P	**P**	**08 07 31.3**	**-0.3**
NJ2				S	**S**	**08 11 58.5**	**+0.1**
NJ2				sS	sS	08 12 18.5	+6.3
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
NJ2				LR	LR		
	comp=Z,430nm,11.6s						
NJ2				LR	LR		
	comp=Z,440nm,18.0s						
NJ2				LR	LR		
	comp=Z,260nm,16.4s						
KCSI	**Kotacane, Aceh**	**26.08**	**264**	P	**P**	**08 07 37.9**	**+2.4**
	comp=Z,14nm,1.4s						
GSI	**Gunungsitoli**	**26.66**	**260**	P	**P**	**08 07 43.5**	**+2.8**
	comp=Z,28nm,1.1s						
GSI	**Gunungsitoli**	**26.66**	**260**	*e*P	**P**	**08 07 41.2**	**+0.5**
JCJ	**Chichijima**	**26.82**	**39**	LR	LR	08 16 54.7	
	comp=Z,127nm,19.3s,baz=322,slow=34						
CMAR	**Chiang Mai Arr**	**26.87**	**298**	P	**P**	**08 07 43.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**26.87**	**298**	P	**P**	**08 07 43.8**	**+1.1**
CMAR				LR	LR	08 18 25.0	
	comp=Z,219nm,18.4s,baz=295,slow=37						
CMMT	**Chiang Mai**	**27.01**	**299**	P	P	08 07 49.0	+5.2
	comp=Z,6.8nm,1.4s						
CHTO	**Chiang Mai**	**27.01**	**299**	P	**P**	**08 07 46.8**	**+2.9**
	comp=Z,29nm,1.6s						
CHTO	**Chiang Mai**	**27.01**	**299**	P	P	08 07 49.2	+5.3
	comp=Z,67nm,1.2s						
KMI	**Kunming**	**27.23**	**315**	P	**P**	**08 07 48.9**	**+2.8**
KMI				pP	pP	08 08 00.8	+6.4
KMI				sP	sP	08 08 06.4	+8.5
KMI				S	**S**	**08 12 24.6**	**+0.9**
KMI				sS	sS	08 12 45.5	+7.9
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				LR	LR		
	comp=Z,200nm,17.0s						
KMI				LR	LR		
	comp=Z,230nm,17.0s						
KMI				LR	LR		
	comp=Z,320nm,14.3s						
MBWA	**Marble Bar**	**27.93**	**188**	*e*P	**P**	**08 07 52.2**	**+0.2**
	comp=Z,20nm,0.9s						
PMG	**Port Moresby**	**28.25**	**124**	P	P	08 08 02.2	+7.2
	comp=Z,19nm,0.9s						
PMG	**Port Moresby**	**28.25**	**124**	*e*P	**P**	**08 07 53.6**	**-1.4**
	comp=Z,20nm,1.0s						
PMG	**Port Moresby**	**28.25**	**124**	P	**P**	**08 07 53.8**	**-1.2**
	comp=Z,4.2nm,0.5s,baz=257,slow=18,SNR=2.2						
WRAB	**Tennant Creek**	**28.41**	**159**	*e*P	**P**	**08 07 55.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**28.41**	**159**	*e*P	**P**	**08 07 55.5**	**-0.8**
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**28.41**	**159**	P	**P**	**08 07 55.1**	**-1.2**
WRA	**Warramunga Arr**	**28.41**	**159**	P	**P**	**08 07 55.1**	**-1.2**
	comp=Z,12nm,0.8s,baz=337,slow=9.9,SNR=23						
XAN	**Xi'an**	**30.51**	**335**	P	P	08 08 20.0	+5.1
XAN				pP	pP	08 08 31.3	+8.0
XAN				S	**S**	**08 13 18.8**	**+4.1**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
XAN				LR	LR		
	comp=Z,170nm,14.3s						
XAN				LR	LR		
	comp=Z,92nm,13.3s						
CD2	**Chengdu**	**30.55**	**325**	*e*P	P	08 08 18.0	+2.7
CD2				pP	pP	08 08 30.4	+6.7
CD2				sP	sP	08 08 36.4	+9.1
CD2				PP	**PP**	**08 09 19.8**	**-4.8**
CD2				S	**S**	**08 13 15.8**	**+0.3**
CD2				sS	sS	08 13 37.4	+8.0
CD2				SS	**ScP**	**08 15 00.1**	**+5.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=Z,460nm,15.6s						
CD2				LR	LR		
	comp=Z,310nm,15.4s						
CD2				LR	LR		
	comp=Z,310nm,16.6s						
KSAR	**Wonju Array Be**	**30.87**	**6**	P	**P**	**08 08 16.7**	**-1.2**
KSRS	**Korea Array**	**30.88**	**6**	P	**P**	**08 08 16.7**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=183,slow=11,SNR=5.6						
KSRS				LR	LR	08 20 57.6	
	comp=Z,138nm,18.3s,baz=9.9,slow=37						
AS31	**Alice Springs**	**31.73**	**162**	*e*P	**P**	**08 08 25.5**	**-0.2**
ASAR	**Alice Springs**	**31.73**	**162**	P	**P**	**08 08 25.2**	**-0.4**
ASAR				PcP	**PcP**	**08 11 15.2**	**-1.9**
ASAR	**Alice Springs**	**31.73**	**162**	P	**P**	**08 08 25.2**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=333,slow=7.0,SNR=48						
ASAR				PcP	**PcP**	**08 11 15.2**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=349,slow=3.0,SNR=5.7						
MJAR	**Matsushiro Arr**	**32.54**	**22**	P	**P**	**08 08 30.7**	**-2.0**
MJAR	**Matsushiro Arr**	**32.54**	**22**	P	**P**	**08 08 30.7**	**-2.0**
	comp=Z,3.0nm,0.9s,baz=196,slow=10,SNR=5.2						
BJI	**Beijing**	**33.92**	**350**	P	**P**	**08 08 47.2**	**+2.5**
BJI				S	**S**	**08 14 09.6**	**+2.0**
BJI				ScS	**ScS**	**08 19 06.5**	**-1.0**
BJI				pmax	pmax		
	comp=Z,16nm,0.5s						
BJI				pmax	pmax		
	comp=Z,200nm,5.5s						
BJI				LR	LR		
	comp=Z,430nm,5.5s						
BJI				LR	LR		
	comp=Z,290nm,5.3s						
LZH	**Lanzhou**	**34.51**	**331**	*e*P	P	08 08 54.1	+4.1
LZH				pP	pP	08 09 07.6	+9.1
LZH				sP	sP	08 09 13.5	+12
LZH				PP	**PP**	**08 10 12.3**	**+3.8**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,65nm,5.2s						
LZH				LR	LR		
	comp=Z,390nm,13.0s						
LZH				LR	LR		
	comp=Z,400nm,13.2s						
LZH				LR	LR		
	comp=Z,450nm,17.3s						
HHC	**Hu-ho-hao-te**	**35.75**	**344**	*e*P	**P**	**08 09 02.7**	**+2.1**
HHC				pP	pP	08 09 15.9	+6.9
HHC				sP	sP	08 09 21.3	+8.8
HHC				PP	**PP**	**08 10 26.1**	**+4.0**
HHC				S	**S**	**08 14 38.0**	**+2.0**
HHC				sS	ScP	08 14 58.4	-14
HHC				ScS	**ScS**	**08 19 15.6**	**-2.0**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,330nm,5.2s					

CAN					pmax	pmax			
	comp=Z,67nm,1.2s								
CAN	**Canberra**	**48.05**	**152**	*eP*	**P**	**08 10 42.6**	**+1.6**		
	comp=Z,67nm,1.2s								
WMQ	**Urumqi**	**48.65**	**325**	P	**P**	**08 10 48.0**	**+2.4**		
WMQ				sP	sP	08 11 06.0	+8.2		
WMQ				PP	**PP**	**08 12 42.0**	**+3.2**		
WMQ				ScP	**ScP**	**08 16 03.0**	**-0.9**		
WMQ				S	**S**	**08 17 47.0**	**+0.9**		
WMQ				ScS	**ScS**	**08 20 33.0**	**-3.4**		
WMQ				SS	**SS**	**08 21 13.0**	**-3.6**		
WMQ				pmax	pmax				
	comp=Z,10.0nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,55nm,4.0s								
WMQ				LR	LR				
	comp=Z,130nm,16.0s								
WMQ				LR	LR				
	comp=Z,100nm,16.0s								
WMQ				LR	LR				
	comp=Z,110nm,16.0s								
HVS	**Khovu-Aksy**	**50.87**	**336**	⇓*iP*	**P**	**08 11 03.8**	**+1.4**		
HVS				pmax	pmax				
	comp=Z,61nm,1.1s								
MK31	**Makanchi Array**	**53.48**	**326**	*eP*	**P**	**08 11 21.7**	**-0.2**		
MK31	**Makanchi Array**	**53.48**	**326**	*eP*	**P**	**08 11 21.7**	**-0.2**		
MKAR	**Makanchi Array**	**53.48**	**326**	P	**P**	**08 11 22.5**	**+0.7**		
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MKAR				MLR	MLR				
	comp=Z,82nm,20.0s								
MKAR	**Makanchi Array**	**53.48**	**326**	P	**P**	**08 11 22.5**	**+0.7**		
MKAR	**Makanchi Array**	**53.48**	**326**	P	**P**	**08 11 22.5**	**+0.7**		
	comp=Z,2.4nm,0.7s,baz=126,slow=8.1,SNR=20								
MKAR				LR	LR	08 35 47.6			
	comp=Z,82nm,20.0s,baz=240,slow=38								
KSH	**Kashi**	**53.90**	**315**	P	P	08 11 28.1	+3.0		
KSH				pP	pP	08 11 42.2	+8.3		
KSH				sP	sP	08 11 47.0	+10		
KSH				PcP	**PcP**	**08 12 33.0**	**+2.5**		
KSH				PP	PP	08 13 33.1	+6.5		
KSH				S	**S**	**08 18 58.4**	**-0.5**		
KSH				sS	sS	08 19 23.2	+10		
KSH				ScS	**ScS**	**08 21 11.1**	**-1.8**		
KSH				SS	**SS**	**08 22 43.0**	**+2.7**		
KSH				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KSH				pmax	pmax				
	comp=Z,210nm,5.4s								
KSH				LR	LR				
	comp=Z,110nm,5.0s								
KSH				LR	LR				
	comp=Z,230nm,6.5s								
KSH				LR	LR				
	comp=Z,200nm,6.4s								
PETK	**Petropavlovsk-**	**53.93**	**25**	P	**P**	**08 11 24.0**	**-0.9**		
PETK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
PETK	**Petropavlovsk-**	**53.93**	**25**	P	**P**	**08 11 24.0**	**-0.9**		
PETK	**Petropavlovsk-**	**53.93**	**25**	P	**P**	**08 11 24.0**	**-0.9**		
	comp=Z,5.1nm,0.9s,baz=201,slow=7.9,SNR=4.3								
PETK				LR	LR	08 32 44.4			
	comp=Z,72nm,18.5s,baz=2.1,slow=34								
YAK	**Yakutsk**	**55.43**	**3**	*eP*	**P**	**08 11 34.3**	**-1.3**		
YAK				pmax	pmax				
	comp=Z,21nm,1.0s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.5s								
AAK	**Ala-Archa**	**56.22**	**318**	⇓*iP*	**P**	**08 11 43.1**	**+1.2**		
AAK				pmax	pmax				
	comp=Z,5.0nm,1.5s								
AAK	**Ala-Archa**	**56.22**	**318**	LR	LR	08 37 15.6			
	comp=Z,94nm,19.8s,baz=105,slow=38								
ZAA0	**Zalesovo Array**	**56.66**	**334**	*eP*	**P**	**08 11 44.2**	**-0.4**		
ZALV	**Zalesovo Beam**	**56.66**	**334**	P	**P**	**08 11 44.3**	**-0.3**		
ZALV				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ZALV	**Zalesovo Beam**	**56.66**	**334**	P	**P**	**08 11 44.3**	**-0.3**		
ZALV	**Zalesovo Beam**	**56.66**	**334**	P	**P**	**08 11 44.3**	**-0.3**		
	comp=Z,3.2nm,0.8s,baz=116,slow=6.8,SNR=13								
KURK	**Kurchatov**	**57.70**	**328**	*eP*	**P**	**08 11 52.2**	**+0.2**		
KURK				pmax	pmax				
	comp=Z,14nm,1.3s								
KURK	**Kurchatov**	**57.70**	**328**	*eP*	**P**	**08 11 52.2**	**+0.2**		
	comp=Z,14nm,1.3s								
NVS	**Novosibirsk**	**57.95**	**334**	⇑*iP*	**P**	**08 11 52.9**	**-0.8**		
NVS				pmax	pmax				
	comp=N,9.0nm,1.0s								
NVS				pmax	pmax				
	comp=E,6.0nm,1.0s								
NVS				pmax	pmax				
	comp=Z,11nm,1.0s								
KKAR	**Karatay Array**	**59.09**	**317**	*eP*	**P**	**08 12 02.9**	**+1.0**		
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KKAR	**Karatay Array**	**59.09**	**317**	*eP*	**P**	**08 12 02.9**	**+1.0**		
	comp=Z,1.5nm,0.6s								
BVAR	**Borovoye Array**	**63.27**	**327**	LR	LR	08 41 26.5			
	comp=Z,91nm,19.2s,baz=191,slow=37								
BRVK	**Borovoye**	**63.34**	**327**	*ceP*	**P**	**08 12 31.0**	**+0.5**		
BRVK				pmax	pmax				
	comp=Z,22nm,1.0s								
BRVK	**Borovoye**	**63.34**	**327**	*eP*	**P**	**08 12 30.6**	**+0.1**		
	comp=Z,40nm,1.3s								
TIXI	**Tiksi**	**64.99**	**2**	*ceP*	**P**	**08 12 39.3**	**-1.7**		
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.6s								
TIXI	**Tiksi**	**64.99**	**2**	*eP*	**P**	**08 12 39.6**	**-1.3**		
	comp=Z,5.0nm,0.8s								
ABKAR	**Akbulak array**	**68.03**	**321**	*eP*	**P**	**08 13 00.9**	**+0.1**		
	comp=Z,9.6nm,1.1s								
SVE	**Sverdlovsk**	**69.94**	**329**	*eP*	**P**	**08 13 12.5**	**0.0**		
SVE				pmax	pmax				
	comp=Z,20nm,1.1s								
ARU	**Arti**	**70.90**	**328**	*diP*	**P**	**08 13 17.3**	**-1.1**		
ARU						08 15 54.4			
ARU				S	**S**	**08 22 32.4**	**+0.5**		
ARU				SS	**SS**	**08 27 06.1**	**+1.3**		
ARU				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ARU	**Arti**	**70.90**	**328**	*eP*	**P**	**08 13 18.1**	**-0.3**		
	comp=Z,13nm,1.1s								
ZEI	**Tsey**	**78.07**	**312**	*eP*	**P**	**08 14 00.3**	**-0.4**		
ZEI				pmax	pmax				
	comp=Z,11nm,1.1s								
KBZ	**Khabaz**	**78.83**	**313**	P	**P**	**08 14 05.1**	**+0.6**		
KBZ				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KBZ	**Khabaz**	**78.83**	**313**	P	**P**	**08 14 05.1**	**+0.6**		
KBZ	**Khabaz**	**78.83**	**313**	P	**P**	**08 14 05.1**	**+0.6**		
	comp=Z,5.5nm,1.0s,baz=146,slow=5.1,SNR=5.6								
KIV	**Kislovodsk**	**78.99**	**313**	*eP*	**P**	**08 14 05.9**	**+0.3**		
KIV				pmax	pmax				
	comp=Z,13nm,1.0s								
KIV				MLR	MLR				
	comp=Z,74nm,18.0s								
VRHR	**Novokhopersk**	**79.92**	**321**	*eP*	**P**	**08 14 08.7**	**-1.6**		
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VRHR				pmax	pmax				
	comp=N,10.0nm,0.7s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.6s								
VORD	**Divnogorie**	**81.39**	**320**	*eP*	**P**	**08 14 17.2**	**-1.0**		
VORD				pmax	pmax				
	comp=Z,10.0nm,1.3s								
VORD				pmax	pmax				
	comp=N,10.0nm,0.5s								
VORD				pmax	pmax				
	comp=E,10.0nm,0.7s								
KLMR	**Klimovskoe**	**81.42**	**330**	*eP*	**P**	**08 14 16.3**	**-1.8**		
KLMR				pmax	pmax				
	comp=Z,30nm,1.3s								
VSR	**Storozhevoye**	**81.47**	**321**	*eP*	**P**	**08 14 17.5**	**-1.1**		
VSR				pmax	pmax				
	comp=Z,8.0nm,0.5s								
VSR				pmax	pmax				
	comp=N,10.0nm,1.2s								
VSR				pmax	pmax				
	comp=E,20nm,1.7s								
OBN	**Obninsk**	**82.98**	**325**	⇓*eP*	**P**	**08 14 25.7**	**-0.7**		
OBN				*e**PP	**pP**	**08 14 36.3**	**+0.7**		
OBN				pmax	pmax				
	comp=Z,7.0nm,0.8s								
ILAR	**Eielson Array**	**83.74**	**26**	P	**P**	**08 14 28.6**	**-1.6**		
ILAR	**Eielson Array**	**83.74**	**26**	P	**P**	**08 14 28.6**	**-1.6**		
	comp=Z,0.6nm,0.7s,baz=243,slow=4.6,SNR=14								
BRTR	**Keskin Array B**	**85.89**	**309**	P	**P**	**08 14 40.8**	**-1.0**		
BRTR	**Keskin Array B**	**85.89**	**309**	P	**P**	**08 14 40.8**	**-1.0**		
	comp=Z,2.3nm,1.0s,baz=46,slow=3.6,SNR=8.9								
KMBO	**Kilima Mbogo**	**86.67**	**268**	*eP*	**P**	**08 14 46.9**	**+0.7**		
	comp=Z,7.9nm,1.3s								
KMBO	**Kilima Mbogo**	**86.67**	**268**	P	**P**	**08 14 47.1**	**+0.9**		
	comp=Z,1.4nm,0.5s,baz=47,slow=22,SNR=6.8								
ARCES	**ARCESS Array B**	**86.69**	**340**	P	**P**	**08 14 44.8**	**-0.1**		
ARCES	**ARCESS Array B**	**86.69**	**340**	P	**P**	**08 14 44.8**	**-0.1**		
	comp=Z,6.2nm,1.1s,baz=57,slow=4.5,SNR=3.8								
VNDA	**Vanda**	**86.70**	**172**	P	**P**	**08 14 43.3**	**-1.3**		
VNDA	**Vanda**	**86.70**	**172**	P	**P**	**08 14 43.3**	**-1.3**		
	comp=Z,3.4nm,0.7s,baz=333,slow=5.7,SNR=5.8								
AKASG	**Malin Array Be**	**87.77**	**321**	P	**P**	**08 14 49.0**	**-1.4**		
AKASG	**Malin Array Be**	**87.77**	**321**	P	**P**	**08 14 49.0**	**-1.4**		
AKASG	**Malin Array Be**	**87.77**	**321**	P	**P**	**08 14 49.0**	**-1.4**		
	comp=Z,0.2nm,0.3s,baz=72,slow=4.4,SNR=5.0								
FINES	**FINESS Array B**	**87.87**	**332**	P	**P**	**08 14 48.7**	**-2.0**		
FINES	**FINESS Array B**	**87.87**	**332**	P	**P**	**08 14 48.7**	**-2.0**		
	comp=Z,3.6nm,0.8s,baz=104,slow=5.9,SNR=5.5								
INK	**Inuvik**	**88.53**	**21**	P	**P**	**08 14 51.1**	**-2.5**		
INK	**Inuvik**	**88.53**	**21**	P	**P**	**08 14 51.1**	**-2.5**		
	comp=Z,1.8nm,1.0s,baz=248,slow=9.7,SNR=3.7								
IDI	**Anoyia**	**93.39**	**306**	LR	LR	09 02 56.8			
	comp=Z,52nm,18.3s,baz=112,slow=39								
HFS	**Hagfors**	**94.06**	**332**	LR	LR	08 58 45.8			
	comp=Z,130nm,18.2s,baz=249,slow=36								
VRAC	**Vranov**	**96.02**	**321**	LR		09 01 34.6			
	comp=Z,117nm,18.2s,baz=238,slow=37								
NVAR	**Mina Array Bea**	**107.10**	**47**	Pdif	**Pdif**	**08 16 17.6**	**-1.2**		
NVAR	**Mina Array Bea**	**107.10**	**47**	Pdiff	**Pdif**	**08 16 17.6**	**-1.2**		
	comp=Z,0.7nm,0.8s,baz=281,slow=7.3,SNR=4.7								
TORD	**Torodi Ar. Bea**	**119.19**	**289**	PKP	**PKPdf**	**08 20 50.0**	**-1.4**		
TORD	**Torodi Ar. Bea**	**119.19**	**289**	PKP	**PKPdf**	**08 20 50.0**	**-1.4**		
	comp=Z,0.6nm,0.8s,baz=53,slow=2.5,SNR=4.0								
TXAR	**Lajitas Array**	**122.04**	**49**	PKP	**PKPdf**	**08 20 55.2**	**-1.6**		
TXAR	**Lajitas Array**	**122.04**	**49**	PKP	**PKPdf**	**08 20 55.2**	**-1.6**		
	comp=Z,0.9nm,0.9s,baz=217,slow=1.3,SNR=6.7								
PLCA	**Paso Flores**	**143.74**	**161**	PKP	**PKPdf**	**08 21 35.8**	**-1.2**		
PLCA	**Paso Flores**	**143.74**	**161**	PKP	**PKPdf**	**08 21 35.8**	**-1.2**		
	comp=Z,2.6nm,0.9s,baz=206,slow=8.5,SNR=3.5								
CPUP	**Villa Florida**	**160.41**	**177**	PKPab	**PKPab**	**08 22 42.6**	**+0.2**		
CPUP	**Villa Florida**	**160.41**	**177**	PKPab	**PKPab**	**08 22 42.6**	**+0.2**		
	comp=Z,0.9nm,0.6s,baz=184,slow=7.0,SNR=3.4								
LPAZ	**La Paz**	**164.93**	**130**	PKP	**PKPdf**	**08 22 06.0**	**-1.2**		
LPAZ				PKPab	**PKPab**	**08 23 02.9**	**-0.6**		
LPAZ	**La Paz**	**164.93**	**130**	PKP	**PKPdf**	**08 22 06.0**	**-1.2**		
	comp=Z,2.4nm,1.0s,baz=28,slow=6.2,SNR=6.9								
LPAZ				PKPab	**PKPab**	**08 23 02.9**	**-0.6**		
	comp=Z,3.5nm,0.8s,baz=225,slow=3.4,SNR=11								

WEL 07 08:12:17.4±0.1, 43.30S×170.98E, h5km, ML3.2/7, 3C-5D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.29**	**322**	Op		Pg	08 12 22.8	-0.2
WVZ				SG		Sg	08 12 27.2	+0.4
WVZ				AML		AML	08 12 27.2	
RPZ	**Rata Peaks**	**0.42**	**172**	⇓PG		Pg	08 12 25.8	+0.3
RPZ				SG		Sg	08 12 31.7	+0.7
RPZ				AML		AML	08 12 31.9	
OXZ	**Oxford**	**0.78**	**92**	⇓P*		Pg	08 12 32.7	+0.3
FOZ	**Fox Glacier**	**0.97**	**254**	⇓P*		Pg	08 12 34.1	-2.0
FOZ				S*		Sg	08 12 46.7	-2.0
FOZ				AML		AML	08 12 49.6	
FOZ				AML		AML	08 12 50.4	
FOZ				AML		AML	08 12 50.4	
LTZ	**Lake Taylor**	**1.08**	**62**	⇑P*		Pg	08 12 38.4	+0.2
LTZ				S*		Sg	08 12 52.6	+0.2
LTZ				AML		AML	08 12 56.2	
LBZ	**Lake Benmore**	**1.23**	**208**	⇑P*		Pg	08 12 40.0	-1.0
LBZ				AML		AML	08 13 00.2	
LBZ				AML		AML	08 13 00.3	
CRLZ	**Canterbury Las**	**1.23**	**103**	⇓P*		Pg	08 12 40.4	-0.6
MQZ	**McQueen's Vall**	**1.29**	**109**	⇓P*		Pn	08 12 40.8	-1.2
DSZ	**Denniston Nort**	**1.67**	**22**	PN		Pb	08 12 48.3	-0.4
ODZ	**Otahua Downs**	**1.76**	**188**	PN		Pn	08 12 48.1	-0.5
ODZ	**Otahua Downs**	**1.76**	**188**	*eP*		Pn	08 12 48.5	-0.1
	41nm,0.4s							
JCZ	**Jackson Bay**	**1.78**	**244**	PN		Pn	08 12 48.8	-0.2
JCZ				AML		AML	08 13 17.5	
JCZ				AML		AML	08 13 18.3	
WKZ	**Wanaka**	**2.08**	**222**	⇑PN		Pn	08 12 52.3	-0.7
THZ	**Tophouse**	**2.10**	**43**	PN		Pn	08 12 53.9	+0.6
EAZ	**Earnscleugh**	**2.27**	**211**	PN		Pn	08 12 54.3	-1.3
MSZ	**Milford Sound**	**2.59**	**237**	PN		Pn	08 12 59.5	-0.4
MSZ				AML		AML	08 13 42.5	
QRZ	**Quartz Range**	**2.73**	**26**	PN		Pn	08 13 02.0	0.0
NNZ	**Nelson**	**2.74**	**41**	PN		Pn	08 13 03.0	+1.0
TUZ	**Tuapeka**	**2.82**	**199**	*e*PN		Pn	08 13 02.1	-1.1
SYZ	**Scrubby Hill**	**3.49**	**201**	PN		Pn	08 13 10.8	-1.4
APZ	**The Paps**	**4.12**	**210**	PN		Pn	08 13 18.9	-2.1

CASC 07 08:41:57.6±1.3, 14.38N×92.15W, h70km±16km, MD4.0, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.50**	**97**	⇓*eP*		Pn	08 42 10.4	0.0
PCG	**Pacaya**	**1.50**	**89**	*eP*		Pn	08 42 23.6	+0.7
PCG				*eS*		Sn	08 42 42.8	+0.9
RBDL	**Robledal**	**2.41**	**96**	*eP*		Pn	08 42 35.0	+0.1
MRL	**Marmol**	**2.48**	**74**	*eP*		Pn	08 42 36.3	+0.4
RTR	**El Retiro**	**2.48**	**101**	*eP*		Pn	08 42 36.3	+0.4
SBLS	**San Blas**	**2.51**	**102**	*eP*		Pn	08 42 36.5	0.0
SBLS				*eS*		Sn	08 43 07.5	+1.2
SNJE	**San Jose**	**2.52**	**101**	*eP*		Pn	08 42 37.1	+0.5
SNJE				*eS*		Sn	08 43 09.3	+2.8
BOQS	**Boqueron**	**2.86**	**103**	*eP*		Pn	08 42 41.4	+0.2
BOQS				*eS*		Sn	08 43 15.8	+1.0
LFU	**La Fuente**	**3.01**	**102**	*eP*		Pn	08 42 42.9	-0.3
LFRS	**El Faro**	**3.09**	**104**	*eP*		Pn	08 42 45.2	+1.0

NIED ***07*** *08:58:00, 21.00N×121.30E, h11km, Mw4.2 Best double couple: M0=1.89000×10^15 NP1:ϕ=299.00000°, δ=63.00000°, λ=-68.00000°. NP2:ϕ=77.00000°, δ=34.00000°, λ=-127.00000°.*

IDC ***07*** *08:58:22.0±0.7, 20.92N×121.25E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.0/29, mbtmp4.0/16, ML3.5/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/36, Error ellipse: s-maj=24.4km s-min=14.5km az=67.0*

JMA ***07*** *08:58:24.7±0.4, 20.99N×121.27E, h0km, M3.9*

NEIC ***07*** *08:58:27.3±0.3, 20.98N×121.25E, h35km, mb4.1/4, Error ellipse: s-maj=10.7km s-min=5.0km az=82.0*

ISC 07 08:58:22.6±3.1, 20.93N±0.06×120.98E±0.08, h2km±18km, n61, σ0899/61, mb4.1/18, MS3.7/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**1.89**	**3**	*e*Pn		**Pn**	**08 58 56.8**	**+0.9**
TWG				*e*Sn		**Sn**	**08 59 20.7**	**+0.5**
TPUB	**Ta-pu**	**2.38**	**352**	*e*Pn		**Pn**	**08 59 03.1**	**+0.3**
TPUB				*e*Sn		**Sn**	**08 59 32.8**	**+0.2**
YULB	**Yu-li**	**2.47**	**7**	*e*Pn		**Pn**	**08 59 03.8**	**-0.1**
YULB				*e*Sg		**Sg**	**08 59 41.5**	**-0.5**
SSLB	**Suanglung**	**2.85**	**360**	*e*Pn		**Pn**	**08 59 10.1**	**+1.0**
SSLB				*e*Sn		**Sn**	**08 59 44.0**	**0.0**
NACB	**Ninganchiao**	**3.28**	**10**	*e*Pn		**Pn**	**08 59 14.2**	**-0.9**
NACB				*e*Sn		**Sn**	**08 59 54.8**	**+0.2**
YHNB	**Yeheng**	**3.74**	**6**	*e*Pn		**Pn**	**08 59 19.4**	**-2.1**
YHNB				*e*Sn		**Sn**	**09 00 04.0**	**-2.1**
YOJ	**Yonaguni jima**	**3.99**	**28**	S		**Sn**	**09 00 12.3**	**+0.3**
IRIF	**Iriomote-Funau**	**4.24**	**36**	P		**Pn**	**08 59 29.8**	**+1.6**
JKRS	**Kuro-shima**	**4.32**	**40**	P		**Pn**	**08 59 30.3**	**+0.9**
JKRS				S		**Sn**	**09 00 21.0**	**+0.7**
JIJ	**Ishigaki jima**	**4.50**	**40**	P		**Pn**	**08 59 32.5**	**+0.7**
JTJ	**Tarama**	**5.04**	**42**	P		**Pn**	**08 59 40.5**	**+1.2**
JNU	**Nakatsue**	**15.00**	**34**	LR		LR	09 07 38.9	
	comp=Z,89nm,20.9s,baz=71,slow=38							
KSAR	**Wonju Array Be**	**17.52**	**19**	P		**Pn**	**09 02 28.4**	**+0.5**
KSRS	**Korea Array**	**17.54**	**19**	P		**Pn**	**09 02 28.5**	**+0.2**
	0.1nm,0.3s,baz=196,slow=11,SNR=10							
KSRS				LR		LR	09 10 27.6	
	comp=Z,65nm,18.4s,baz=197,slow=42							
CMAR	**Chiang Mai Arr**	**20.89**	**267**	P		Pn	09 03 09.3	+0.5
CMAR	**Chiang Mai Arr**	**20.89**	**267**	P		Pn	09 03 09.3	+0.5
	1.2nm,0.3s,baz=76,slow=9.5,SNR=5.6							
MJAR	**Matsushiro Arr**	**21.63**	**40**	P		**P**	**09 03 13.4**	**-0.8**
MJAR	**Matsushiro Arr**	**21.63**	**40**	P		**P**	**09 03 13.4**	**-0.8**
	1.4nm,0.6s,baz=232,slow=8.1,SNR=5.5							
KAPI	**Kappang**	**25.81**	**183**	*eP*		**P**	**09 03 56.3**	**+1.0**
KAPI	**Kappang**	**25.81**	**183**	LR		LR	09 13 43.5	
	comp=Z,103nm,20.8s,baz=199,slow=36							
PSI	**Prapat**	**28.04**	**233**	LR		LR	09 15 18.5	
	comp=Z,30nm,18.5s,baz=38,slow=36							
SONM	**Songino Array**	**29.31**	**340**	P		**P**	**09 04 26.7**	**0.0**
SONM	**Songino Array**	**29.31**	**340**	P		**P**	**09 04 26.7**	**0.0**
	1.3nm,0.8s,baz=154,slow=8.9,SNR=6.9							
SONM				LR		LR	09 18 00.2	
	comp=Z,182nm,19.1s,baz=73,slow=40							
FITZ	**Fitzroy Crossi**	**39.06**	**173**	*eP*		**P**	**09 05 50.8**	**-0.3**
	3.4nm,1.1s							
MK31	**Makanchi Array**	**40.59**	**319**	*eP*		**P**	**09 06 05.1**	**+1.4**
MKAR	**Makanchi Array**	**40.59**	**319**	P		**P**	**09 06 05.0**	**+1.3**
MKAR				P		PcP	**09 08 05.8**	**-0.1**
MKAR	**Makanchi Array**	**40.59**	**319**	P		**P**	**09 06 05.0**	**+1.3**
	2.3nm,0.6s,baz=113,slow=9.6,SNR=28							
MKAR				P		PcP	**09 08 05.8**	**-0.1**
	0.6nm,0.8s,baz=94,slow=5.8,SNR=3.8							
WRAB	**Tennant Creek**	**42.67**	**161**	*eP*		**P**	**09 06 19.2**	**-1.7**
	2.7nm,0.6s							
WRA	**Warramunga Arr**	**42.67**	**161**	P		**P**	**09 06 19.4**	**-1.5**
WRA	**Warramunga Arr**	**42.67**	**161**	P		**P**	**09 06 19.4**	**-1.5**
	3.1nm,0.7s,baz=343,slow=8.8,SNR=24							
ZALV	**Zalesovo Beam**	**42.90**	**329**	P		**P**	**09 06 22.6**	**+0.1**
ZALV				P		PcP	**09 08 12.3**	**-0.9**
ZALV	**Zalesovo Beam**	**42.90**	**329**	P		**P**	**09 06 22.6**	**+0.1**
	2.4nm,0.7s,baz=116,slow=6.9,SNR=9.0							
ZALV				P		PcP	**09 08 12.3**	**-0.9**
	0.5nm,0.4s,baz=72,slow=1.8,SNR=3.1							
H11N1	**WAKE ISLAND Hy**	**42.96**	**83**	T		T	09 52 17.8	
	baz=285,slow=76,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**42.96**	**83**	T		T	09 52 17.6	
	baz=285,slow=76,SNR=3.7							
H11N3	**WAKE ISLAND Hy**	**42.98**	**83**	T		T	09 52 19.1	
	baz=285,slow=76,SNR=3.5							
H11S3	**WAKE ISLAND Hy**	**42.99**	**85**	T		T	09 52 17.2	
	baz=283,slow=73,SNR=9.8							
H11S1	**WAKE ISLAND Hy**	**43.00**	**85**	T		T	09 52 18.3	
	baz=283,slow=73,SNR=7.9							
H11S2	**WAKE ISLAND Hy**	**43.01**	**85**	T		T	09 52 18.5	
	baz=283,slow=73,SNR=7.0							
AAK	**Ala-Archa**	**44.39**	**310**	P		**P**	**09 06 36.6**	**+1.8**
AAK	**Ala-Archa**	**44.39**	**310**	P		**P**	**09 06 36.6**	**+1.8**
	0.4nm,0.4s,baz=188,slow=19,SNR=4.1							
AAK				LR		LR	09 28 37.5	
	comp=Z,93nm,18.6s,baz=79,slow=41							
KURK	**Kurchatov**	**44.50**	**322**	*eP*		**P**	**09 06 36.4**	**+1.0**
KURBB	**Kurchatov Arra**	**44.51**	**322**	P		**P**	**09 06 36.6**	**+1.1**
	3.9nm,0.9s,baz=122,slow=7.5,SNR=32							
AS31	**Alice Springs**	**46.08**	**163**	*eP*		**P**	**09 06 47.6**	**-0.6**
ASAR	**Alice Springs**	**46.08**	**163**	P		**P**	**09 06 47.5**	**-0.8**
ASAR	**Alice Springs**	**46.08**	**163**	P		**P**	**09 06 47.5**	**-0.8**
	1.5nm,0.7s,baz=344,slow=6.9,SNR=23							
CTAO	**Charters Tower**	**47.68**	**147**	*eP*		**P**	**09 07 00.9**	**+0.2**
	26nm,1.4s							
BVAR	**Borovoye Array**	**50.10**	**323**	P		**P**	**09 07 20.5**	**+1.5**
BVAR				P		PcP	**09 08 38.4**	**-0.2**
BVAR	**Borovoye Array**	**50.10**	**323**	P		**P**	**09 07 20.5**	**+1.5**
	0.5nm,0.6s,baz=95,slow=10,SNR=3.4							
BVAR				P		PcP	**09 08 38.4**	**-0.2**
	1.3nm,0.7s,baz=116,slow=4.8,SNR=7.8							
ABKAR	**Akbulak array**	**55.61**	**316**	*eP*		**P**	**09 08 00.5**	**+0.7**
	0.2nm,0.3s							
STKA	**Stephens Creek**	**56.10**	**159**	*eP*		**P**	**09 08 03.2**	**-0.2**
STKA	**Stephens Creek**	**56.10**	**159**	P		**P**	**09 08 02.9**	**-0.5**
	1.4nm,0.3s,baz=331,slow=12,SNR=3.8							
AKTO	**Aktyubinsk**	**56.99**	**317**	LR		LR	09 34 09.7	
	comp=Z,92nm,18.2s,baz=202,slow=38							
ILAR

DRO S **Sn** **09 25 06.9 0.0**
ITM Ithomi 1.39 97 P **Pn** **09 24 50.1 +0.4**
ITM S **Sn** **09 25 08.8 +0.6**
ITM Ithomi 1.39 97 P **Pn** **09 24 50.1 +0.4**
ITM S **Sn** **09 25 08.4 +0.2**
PDO Prodromos 1.45 32 P **Pg** **09 24 52.2 +0.1**
PDO S **Sn** **09 25 12.0 +2.2**
PDO Prodromos 1.45 32 P **Pg** **09 24 52.2 +0.1**
PDO S **Sn** **09 25 12.0 +2.2**
PVO Paravola 1.63 40 P **Pg** **09 24 55.6 +0.2**
PVO Paravola 1.63 40 P **Pg** **09 24 55.6 +0.2**
LAKA Lakka 1.66 58 P **Pg** **09 24 55.6 -0.3**
LAKA Lakka 1.66 58 P **Pg** **09 24 55.6 -0.3**
KLV Kalavryta, Ach 1.69 66 P **Pb** **09 24 55.1 -0.3**
KLV S **Sb** **09 25 16.6 -0.2**
KLV Kalavryta, Ach 1.69 66 P **Pb** **09 24 55.1 -0.3**
KLV S **Sb** **09 25 16.6 -0.2**
VLX Vlachokerasia 1.73 89 P **Pn** **09 24 55.3 +0.7**
VLX Vlachokerasia 1.73 89 P **Pn** **09 24 55.3 +0.7**
GUR Goura 1.79 71 P **Pn** **09 24 56.3 +0.9**
GUR S **Sb** **09 25 19.0 -0.8**
GUR Goura 1.79 71 P **Pn** **09 24 56.3 +0.9**
GUR S **Sb** **09 25 19.0 -0.8**
KALE Kalithea 1.84 56 P **Pb** **09 24 58.0 -0.1**
KALE Kalithea 1.84 56 P **Pb** **09 24 58.0 -0.1**
EVR Evrytania 2.00 39 P **Pb** **09 25 01.1 +0.3**
EVR Evrytania 2.00 39 P **Pb** **09 25 01.1 +0.3**
MAKR Makrakomi, Fth 2.24 42 P **Pb** **09 25 04.0 -0.8**
MAKR Makrakomi, Fth 2.24 42 P **Pb** **09 25 04.0 -0.8**
KYTH Kithira 2.52 115 P **Pn** **09 25 07.2 +1.9**
KYTH Kithira 2.52 115 P **Pn** **09 25 07.2 +1.9**
FNA Florina 3.53 15 P **Pn** **09 25 21.5 +2.2**
FNA Florina 3.53 15 P **Pn** **09 25 21.5 +2.2**
BIA Bitola 3.75 13 *e*Pn **Pn** **09 25 24.1 +1.8**
BIA Bitola 3.75 13 *e*Pn **Pn** **09 25 24.0 +1.8**
VAY Valandovo 4.36 24 *i* Pn **Pn** **09 25 31.6 +1.1**
VAY *e*Sn **Sn** **09 26 18.6 -2.7**
VAY *e*Lg Lg 09 26 21.1
comp=N,15nm,0.6s
VAY *e*Lg Lg 09 26 22.3
comp=E,25nm,0.8s
VAY Valandovo 4.36 24 *i* Pn **Pn** **09 25 32.0 +1.5**
VAY *e*Lg Lg 09 26 22.7
comp=E,25nm,0.8s
SKO Skopje 4.70 11 *e*Pn **Pn** **09 25 37.5 +2.3**
SKO Skopje 4.70 11 *e*Pn **Pn** **09 25 38.0 +2.8**
KKB Krupnik 5.01 25 *i* P **Pn** **09 25 40.2 +0.6**
KKB Krupnik 5.01 25 *i* P **Pn** **09 25 40.2 +0.6**
MMB Musomiste 5.02 32 *i* P **Pn** **09 25 40.0 +0.3**
MMB Musomiste 5.02 32 *i* P **Pn** **09 25 40.0 +0.3**
RZN Rozhen 5.55 38 *i* P **Pn** **09 25 46.4 -0.7**
RZN Rozhen 5.55 38 *i* P **Pn** **09 25 46.4 -0.7**
VTS Vitosha 5.71 23 *i* P **Pn** **09 25 50.3 +1.1**
VTS Vitosha 5.71 23 *i* P **Pn** **09 25 50.3 +1.1**
STON Ston 5.82 342 *e*Pn **Pn** **09 25 49.4 -1.3**
STON Sn **Sn** **09 26 54.3 -3.2**
NOA NORSAR Array B 24.36 349 P **P** **09 29 39.1 -3.2**
comp=E,0.3nm,0.5s,baz=162,slow=9.8,SNR=2.3
FINES FINESS Array B 24.38 7 P P 09 29 33.9 -8.5
comp=E,1.0nm,0.8s,baz=170,slow=9.3,SNR=2.2
TORD Torodi Ar. Bea 29.24 219 P **P** **09 30 28.4 +1.8**
comp=E,0.6nm,0.5s,baz=29,slow=9.4,SNR=10
SCHQ Schefferville 58.88 318 LR LR 10 00 11.9
comp=E,153nm,21.0s,baz=161,slow=36

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*CSEM **07** 09:24:34.2, 40.07N×26.98E, h7km, MD2.5, After DDA*
DDA 07 09:24:34.1, 40.07N×26.98E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.59**	**123**	*i* P	Pg	09 24 45.5	0.0
BALY				*i* S	Sg	09 24 54.1	+0.9
BALY	**Balya**	**0.59**	**123**	*i* P	Pg	09 24 45.5	-0.1
BALY				*i* S	Sg	09 24 54.1	+0.8
AYVA	**Ayvalik**	**0.79**	**197**	*i* P	Pb	09 24 50.7	+0.5
AYVA				*i* S	Sg	09 24 60.0	+0.4
AYVA	**Ayvalik**	**0.79**	**197**	*i* P	Pb	09 24 50.7	+0.5
AYVA				*i* S	Sg	09 25 00.0	+0.4
DURS	**Dursunbey**	**1.24**	**112**	*i* P	Pg	09 24 58.4	+0.3
DURS				*i* S	Sg	09 25 13.4	-0.9
DURS	**Dursunbey**	**1.24**	**112**	*i* P	Pg	09 24 58.4	+0.3
DURS				*i* S	Sg	09 25 13.4	-0.8
ULDT	**Uludag**	**1.65**	**87**	*i* P	Pb	09 25 04.8	-0.4
ULDT				*i* S	Sn	09 25 23.5	-2.0
ULDT	**Uludag**	**1.65**	**87**	*i* P	Pb	09 25 04.8	-0.4
ULDT				*i* S	Sn	09 25 23.5	-2.0

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*SZGRF **07** 09:31:34.2, 11.97S×34.03E, h33km, mb5.2, Malawi*
*BJI **07** 09:31:41.8, 9.51S×33.01E, h10km, mB5.1/21, mb4.9/30, Ms5.2/15, Ms7 4.8/14*
*ISCJB **07** 09:31:43.1±0.2, 10.05S±0.03×33.78E±0.04, h10km, mb4.8/81, MS4.3/25, Error ellipse: s-maj=5.9km s-min=3.7km az=19.1*
*MOS **07** 09:31:43.0±0.9, 10.03S×33.84E, h10km, mb5.1/27, Error ellipse: s-maj=10.4km s-min=5.6km az=87.6*
*IDC **07** 09:31:43.3±0.5, 10.06S×33.84E, h0km, mb4.6/24, mb1 4.8/28, mb1mx4.7/35, mbtmp4.7/28, ML3.5/2, MS4.1/24, Ms1 4.1/24, ms1mx4.0/41, Error ellipse: s-maj=17.0km s-min=13.1km az=122.0*
*NEIC **07** 09:31:44.8±0.2, 10.11S×33.84E, h10km, mb5.0/31, Error ellipse: s-maj=6.8km s-min=3.9km az=104.0*
NEIC Felt at Karonga.
*DJA **07** 09:31:45.0±2.3, 10°S±6°×3°3E±°, h22km±23km, M5.2/8, mB5.7/2, mb5.2/8, Mw(mB)5.2/2*
*GCMT **07** 09:31:48.0±0.3, 9.66S×33.90E, h20km±1km, MW5.0, Moment Tensor Solution. s21,c23; s73,c91; Moment tensor: Scale 10¹⁶Nm; Mrr-3.11±.25; Mθθ-0.15±.13; Mφφ3.26±.17; Mrθ0.93±.28; Mrφ0.34±.10; Mθφ-1.57±.28; Best double couple: M₀3.70000×10¹⁶ NP1:φ₁349.00000°, δ60.00000°, λ-108.00000°. NP2:φ₂202.00000°, δ35.00000°, λ-62.00000°. Principal axes: T 3.6300, Plg13.0000°, Azm92.0000°; N 0.1200, Plg15.0000°, Azm358.0000°; P -3.7500, Plg70.0000°, Azm220.0000°; Data Used: lI lU CU IC CN G.*
ISC 07 09:31:45.8±0.4, 10.13S±0.04×33.81E±0.05, h16km±2km, h15km:pP-P, n278, σ1s50/312, mb5.0/80, MS4.4/25, 9C-11D, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.32**	**171**	*i* P	**Pg**	**09 32 13.9**	**+2.6**
MZM				*i* S	**Sg**	**09 32 33.1**	**+4.7**
DODT	**Dodoma, Tanzan**	**4.36**	**26**	*i* P	**Pn**	**09 32 48.9**	**-2.7**
DODT				*i* S	**Sb**	**09 33 52.9**	**-1.7**
LSZ	**Lusaka**	**7.50**	**226**	‖ *i* P	**Pn**	**09 33 36.9**	**+2.1**
LSZ				*e*S	**Sn**	**09 34 57.0**	**-2.7**
LSZ	**Lusaka**	**7.50**	**226**	Pn	**Pn**	**09 33 36.9**	**+2.1**
LSZ				Sn	**Sn**	**09 35 02.0**	**+2.3**
LSZ				Lg	Lg	09 35 39.2	
LSZ	**Lusaka**	**7.50**	**226**	Pn	**Pn**	**09 33 36.9**	**+2.1**
	68nm,0.3s,baz=51,slow=12,SNR=259						
LSZ				Sn	**Sn**	**09 35 02.0**	**+2.3**
	44nm,0.3s,baz=97,slow=18,SNR=3.5						
LSZ				Lg	Lg	09 35 39.2	
	71nm,0.3s,baz=80,slow=17,SNR=4.0						
LSZ				LR	LR	09 35 59.5	
	comp=Z,603nm,20.9s,baz=29,slow=34						
MAUS	**Longido**	**7.88**	**22**	*i* P	**Pn**	**09 33 37.2**	**-2.9**
MAUS				*i* S	**Sb**	**09 35 40.9**	**+4.8**
KMBO	**Kilima Mbogo**	**9.57**	**21**	*e*Pn	Pn	09 33 58.8	-4.6
KMBO				Sn	Sn	09 35 41.2	-10
KMBO				*e*Sn	Sn	09 35 41.3	-10
KMBO				Lg	Lg	09 36 34.9	
KMBO	**Kilima Mbogo**	**9.57**	**21**	Pn	Pn	09 33 59.3	-4.1
	15nm,0.3s,baz=201,slow=15,SNR=86						
KMBO				Sn	Sn	09 35 41.2	-10
	6.2nm,0.3s,baz=107,slow=23,SNR=8.0						
KMBO				Lg	Lg	09 36 34.9	
	7.2nm,0.3s,baz=284,slow=21,SNR=6.4						
KMBO				LR	LR	09 38 01.8	
	comp=Z,271nm,21.9s,baz=109,slow=40						
MBAR	**Mbarara**	**9.94**	**342**	Pn	Pn	09 34 02.7	-5.7
MBAR				Sn	Sn	09 35 51.1	-8.7
MBAR				Lg	Lg	09 36 47.2	
MBAR	**Mbarara**	**9.94**	**342**	Pn	Pn	09 34 02.8	-5.6
	879nm,0.7s,SNR=38						
MBAR	**Mbarara**	**9.94**	**342**	Pn	Pn	09 34 02.7	-5.7
	26nm,0.3s,baz=159,slow=17,SNR=53						
MBAR				Sn	Sn	09 35 51.1	-8.7
	20nm,0.3s,baz=246,slow=12,SNR=4.2						
MBAR				Lg	Lg	09 36 47.2	
	94nm,0.3s,baz=90,slow=20,SNR=15						
MSNA	**Messina**	**12.68**	**196**	*e*P	**Pn**	**09 34 47.0**	**+1.3**
MSNA				*e*S	**Sn**	**09 37 01.6**	**-5.2**
MSNA	**Messina**	**12.68**	**196**	P	**Pn**	**09 34 47.0**	**+1.3**
MSNA				S	**Sn**	**09 37 01.6**	**-5.2**
OPO	**Ambohidratompo**	**15.44**	**124**	Pn	**Pn**	**09 35 22.8**	**-0.6**
OPO				Sn	**Sn**	**09 38 08.6**	**-5.7**
OPO	**Ambohidratompo**	**15.44**	**124**	Pn	**Pn**	**09 35 22.8**	**-0.6**
	1.6nm,0.3s,baz=294,slow=12,SNR=29						
OPO				Sn	**Sn**	**09 38 08.6**	**-5.7**
	0.9nm,0.3s,baz=286,slow=20,SNR=4.0						
RUDU	**RUNDU**	**15.70**	**239**	*e*P	**Pn**	**09 35 26.0**	**-0.6**
RUDU				AMB	AMB	09 35 37.6	
	comp=Z,136nm,1.2s						
RUDU	**RUNDU**	**15.70**	**239**	P	**Pn**	**09 35 26.0**	**-0.6**
	comp=Z,136nm,1.2s						
ABPO	**Ambohimpanom**	**15.70**	**126**	*e*P	**Pn**	**09 35 26.5**	**-0.3**
ABPO				pmax	pmax		
	comp=Z,123nm,1.0s						
ABPO	**Ambohimpanom**	**15.70**	**126**	*e*Pn	**Pn**	**09 35 26.5**	**-0.3**
	comp=Z,123nm,1.0s						
ABPO	**Ambohimpanom**	**15.70**	**126**	Pn	**Pn**	**09 35 26.4**	**-0.3**
	comp=Z,528nm,1.0s,SNR=10						
SLR	**Silverton**	**16.39**	**198**	*e*P	**Pn**	**09 35 34.6**	**-0.9**
SLR				AMB	AMB	09 35 38.7	
	comp=Z,68nm,1.6s						
SLR	**Silverton**	**16.39**	**198**	P	**Pn**	**09 35 34.6**	**-0.9**
SLR				pmax	pmax		
	comp=Z,68nm,1.6s						
SLR	**Silverton**	**16.39**	**198**	P	**Pn**	**09 35 34.6**	**-0.9**
	comp=Z,68nm,1.6s						
LBTB	**Lobatse**	**16.74**	**207**	*e*P	**Pn**	**09 35 36.9**	**-3.0**
LBTB				AMB	AMB	09 35 45.5	
	comp=Z,133nm,2.6s						
LBTB	**Lobatse**	**16.74**	**207**	*e*Pn	**Pn**	**09 35 37.2**	**-2.7**
	comp=Z,126nm,0.6s						
LBTB				Sn	**Sn**	**09 38 41.9**	**-3.8**
LBTB				Lg	Lg	09 40 28.6	
LBTB	**Lobatse**	**16.74**	**207**	Pn	**Pn**	**09 35 38.2**	**-1.7**
	comp=Z,16nm,0.3s,baz=38,slow=13,SNR=33						
LBTB				Sn	**Sn**	**09 38 41.9**	**-3.8**
	comp=Z,4.5nm,0.3s,baz=350,slow=12,SNR=3.5						
LBTB				Lg	Lg	09 40 28.6	
	comp=Z,4.3nm,0.3s,baz=309,slow=19,SNR=3.7						
LBTB				LR	LR	09 42 07.1	
	comp=Z,896nm,18.3s,baz=42,slow=37						
OBSV	**Observatory**	**16.87**	**198**	*e*P	**P**	**09 35 42.9**	**-0.8**
KSR	**Koster**	**16.96**	**202**	*e*P	**Pn**	**09 35 38.9**	**-3.8**
KSR				AMB	AMB	09 35 50.3	
	comp=Z,48nm,1.4s						
KSR	**Koster**	**16.96**	**202**	P	**Pn**	**09 35 38.9**	**-3.8**
	comp=Z,48nm,1.4s						
ERPM	**east rand prop**	**16.97**	**197**	*e*P	**Pn**	**09 35 41.4**	**-1.5**
ERPM	**east rand prop**	**16.97**	**197**	P	**Pn**	**09 35 41.4**	**-1.5**
KLOF	**Kloof**	**17.17**	**199**	*e*P	**P**	**09 35 46.9**	**-0.1**
KLOF	**Kloof**	**17.17**	**199**	P	**Pn**	**09 35 46.9**	**-0.1**
PRYS	**Parys**	**17.79**	**199**	*e*P	**Pn**	**09 35 52.1**	**-1.0**
PRYS				AMB	AMB	09 35 59.5	
	comp=Z,52nm,1.3s						
PRYS	**Parys**	**17.79**	**199**	P	**Pn**	**09 35 52.1**	**-1.0**
	comp=Z,52nm,1.3s						
TSUM	**Tsumeb**	**18.09**	**238**	*e*P	**Pn**	**09 35 56.0**	**-0.8**
TSUM	**Tsumeb**	**18.09**	**238**	*e*P	**Pn**	**09 35 55.7**	**-1.1**
TSUM				S	Sn	09 39 05.2	-13
TSUM				Lg	Lg	09 41 11.5	
TSUM	**Tsumeb**	**18.09**	**238**	P	**Pn**	**09 35 55.9**	**-1.0**
	comp=Z,4.1nm,0.3s,baz=45,slow=11,SNR=68						
TSUM				S	Sn	09 39 05.2	-13
	comp=Z,1.5nm,0.3s,baz=332,slow=14,SNR=4.3						
TSUM				Lg	Lg	09 41 11.5	
	comp=Z,1.5nm,0.3s,baz=64,slow=11,SNR=3.3						
TSUM				LR	LR	09 43 10.4	
	comp=Z,1μm,18.5s,baz=54,slow=38						
SWZ	**Schweizer**	**18.76**	**204**	*e*P	**P**	**09 36 02.0**	**-2.5**
SWZ				AMB	AMB	09 36 08.9	
	comp=Z,101nm,1.4s						
SWZ	**Schweizer**	**18.76**	**204**	P	**P**	**09 36 02.0**	**-2.5**
	comp=Z,101nm,1.4s						
SEK	**Senekal**	**19.01**	**197**	*e*P	**Pn**	**09 36 08.0**	**-0.1**
SEK				AMB	AMB	09 36 23.8	
	comp=Z,83nm,1.1s						
SEK	**Senekal**	**19.01**	**197**	P	**Pn**	**09 36 08.0**	**-0.1**
	comp=Z,83nm,1.1s						
BOSA	**Boshof**	**20.07**	**202**	*e*P	**P**	**09 36 19.5**	**+0.7**
BOSA				AMB	AMB	09 36 24.8	
	comp=Z,54nm,1.8s						
BOSA	**Boshof**	**20.07**	**202**	P	**P**	**09 36 18.5**	**-0.3**
BOSA				*e*Pn	Pn	09 36 18.8	-1.8
BOSA				S	S	09 39 56.4	-7.6
BOSA				Lg	Lg	09 42 14.1	
BOSA	**Boshof**	**20.07**	**202**	P	**P**	**09 36 18.5**	**-0.3**
	comp=Z,24nm,0.5s,baz=28,slow=11,SNR=44						
BOSA				S	S	09 39 56.4	-7.6
	comp=Z,18nm,0.8s,baz=99,slow=17,SNR=3.1						
BOSA				Lg	Lg	09 42 14.1	
	comp=Z,173nm,1.0s,baz=302,slow=22,SNR=4.8						
BOSA				LR	LR	09 44 44.6	
	comp=Z,465nm,18.4s,baz=206,slow=39						
WIN	**Windhoek**	**20.22**	**230**	*e*P	Pn	09 36 22.5	-0.1
WIN				AMB	AMB	09 36 27.7	
	comp=Z,76nm,0.9s						
WIN	**Windhoek**	**20.22**	**230**	P	Pn	09 36 22.5	-0.1
WIN				pmax	pmax		
	comp=Z,76nm,0.9s						
WIN	**Windhoek**	**20.22**	**230**	P	Pn	09 36 22.5	-0.1
	comp=Z,76nm,0.9s						
KSD	**Kokstad**	**20.72**	**191**	*e*P	Pn	09 36 29.9	+1.6
KSD				AMB	AMB	09 36 54.5	
	comp=Z,25nm,1.8s						
KSD	**Kokstad**	**20.72**	**191**	P	Pn	09 36 29.9	+1.6
	comp=Z,86nm,1.9s						
HVD	**Gariep Dam**	**21.80**	**200**	*e*P	**P**	**09 36 38.4**	**+0.9**
HVD				AMB	AMB	09 36 45.6	
	comp=Z,89nm,1.3s						
HVD	**Gariep Dam**	**21.80**	**200**	P	**P**	**09 36 38.4**	**+0.9**
HVD				pmax	pmax		
	comp=Z,89nm,1.3s						
HVD	**Gariep Dam**	**21.80**	**200**	P	**P**	**09 36 38.4**	**+0.9**
	comp=Z,89nm,1.3s						
SOE	**Somerset East**	**23.73**	**197**	*e*P	**P**	**09 36 59.5**	**+2.0**
SOE				AMB	AMB	09 37 31.2	
	comp=Z,59nm,1.3s						
SOE	**Somerset East**	**23.73**	**197**	P	**P**	**09 36 59.5**	**+2.0**
	comp=Z,59nm,1.3s						
GRM	**Grahamstown**	**24.04**	**195**	*e*P	**P**	**09 36 58.1**	**-2.2**
GRM				AMB	AMB	09 37 03.5	
	comp=Z,95nm,3.7s						
GRM	**Grahamstown**	**24.04**	**195**	P	**P**	**09 36 58.1**	**-2.2**
GRM				pmax	pmax		
	comp=Z,95nm,3.7s						
GRM	**Grahamstown**	**24.04**	**195**	P	**P**	**09 36 58.1**	**-2.2**
	comp=Z,95nm,3.7s						
KOMG	**Komaggas**	**24.81**	**216**	*e*P	**P**	**09 37 07.8**	**+0.4**
KOMG				AMB	AMB	09 37 12.4	
	comp=Z,57nm,4.1s						
KOMG	**Komaggas**	**24.81**	**216**	P	**P**	**09 37 07.8**	**+0.4**
	comp=Z,57nm,4.1s						
SUR	**Sutherland**	**25.19**	**207**	P	**P**	**09 37 12.0**	**+0.9**
SUR				S	S	09 42 02.4	+26
SUR				Lg	Lg	09 44 46.9	
SUR	**Sutherland**	**25.19**	**207**	P	**P**	**09 37 15.6**	**+4.5**
	comp=Z,140nm,0.8s,SNR=6.2						
SUR	**Sutherland**	**25.19**	**207**	P	**P**	**09 37 12.0**	**+0.9**
	comp=Z,13nm,0.8s,baz=52,slow=9.8,SNR=12						
SUR				S	S	09 42 02.4	+26
	comp=Z,10nm,0.8s,baz=90,slow=20,SNR=2.1						
SUR				Lg	Lg	09 44 46.9	
	comp=Z,49nm,0.9s,baz=319,slow=11,SNR=3.7						
SUR				LR	LR	09 47 45.0	
	comp=Z,370nm,18.5s,baz=217,slow=38						
RAYN	**Ar Rayn**	**35.34**	**19**	*e*P	**P**	**09 38 41.5**	**+0.6**
	comp=Z,8.3nm,1.1s						
TOA0	**Torodi Ar. Sit**	**39.38**	**305**	*e*P	**P**	**09 39 14.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**39.38**	**305**	P	**P**	**09 39 14.5**	**-0.6**
TORD				Lg	Lg	09 52 34.4	
TORD	**Torodi Ar. Bea**	**39.38**	**305**	P	**P**	**09 39 14.5**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=112,slow=8.1,SNR=27						
TORD				Lg	Lg	09 52 34.4	
	comp=Z,1.1nm,1.1s,baz=144,slow=18,SNR=5.2						
TORD				LR	LR	09 55 53.1	
	comp=Z,569nm,18.6s,baz=110,slow=37						
KIC	**Kosan Boka**	**41.74**	**292**	*e*P	**P**	**09 39 34.4**	**-0.3**
	comp=Z,22nm,0.9s						
LIC	**Lamto**	**41.95**	**291**	*e*P	**P**	**09 39 36.1**	**-0.3**
	comp=Z,28nm,1.0s,baz=102						
LIC				*e*R			
	comp=Z,592nm,22.8s						
LIC	**Lamto**	**41.95**	**291**	*e*P	**P**	**09 39 35.9**	**-0.5**
	comp=Z,37nm,1.0s						
LIC	**Lamto**	**41.95**	**291**	*e*P	**P**	**09 39 36.1**	**-0.3**
	comp=Z,28nm,1.0s						
DBIC	**Dimbokro**	**41.97**	**292**	*e*P	**P**	**09 39 35.9**	**-0.6**
	comp=Z,10nm,1.0s						
DBIC	**Dimbokro**	**41.97**	**292**	P	**P**	**09 39 35.6**	**-0.9**
	comp=Z,9.0nm,1.0s,baz=101,slow=7.9,SNR=6.8						
DBIC				LR	LR	09 56 08.4	
	comp=Z,211nm,21.0s,baz=91,slow=35						
TIC	**Toumodi**	**42.10**	**292**	*e*P	**P**	**09 39 37.3**	**-0.4**
	comp=Z,45nm,0.8s						
TAM	**Tamanrasset**	**42.87**	**320**	*e*P	**P**	**09 39 44.6**	**+0.7**
TAM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TAM	**Tamanrasset**	**42.87**	**320**	*e*P	**P**	**09 39 44.6**	**+0.7**
	comp=Z,2.6nm,0.7s						
BR131	**Keskin Array S**	**49.59**	**360**	*e*P	**P**	**09 40 36.3**	**-0.3**
	comp=Z,7.7nm,0.9s						
BRTR	**Keskin Array B**	**49.59**	**360**	P	**P**	**09 40 36.5**	**0.0**
BRTR	**Keskin Array B**	**49.59**	**360**	P	**P**	**09 40 36.5**	**0.0**
	comp=Z,8.2nm,0.9s,baz=178,slow=10,SNR=35						
KEST	**Kesra**	**51.12**	**334**	*e*P	**P**	**09 40 48.5**	**+0.3**
KEST	**Kesra**	**51.12**	**334**	P	**P**	**09 40 48.3**	**+0.2**
	comp=Z,5.2nm,1.1s,baz=292,slow=7.4,SNR=6.2						
KEST				LR	LR	10 04 07.0	
	comp=Z,70nm,19.6s,baz=188,slow=38						
KIV	**Kislovodsk**	**54.42**	**8**	*e*P	**P**	**09 41 10.7**	**-1.7**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARR	**Arges**	**55.85**	**352**	⇑ *i* P	**P**	**09 41 21.8**	**-0.9**
GZR	**Gura Zlata**	**56.15**	**351**	⇓ *i* P	**P**	**09 41 24.2**	**-0.6**
BURAR	**Bucovina Array**	**57.99**	**353**	⇑ *i* P	**P**	**09 41 38.5**	**+0.7**
BUR08	**Bucovina Ar. S**	**58.02**	**353**	*e*P	**P**	**09 41 38.2**	**+0.2**
KNDS	**Knezji Dol**	**58.09**	**344**	*e*P	**P**	**09 41 39.0**	**+0.4**
JAVS	**Javornik**	**58.52**	**344**	*e*P	**P**	**09 41 41.8**	**+0.3**
SYO	**Syowa Base**	**58.94**	**178**	⇑ *e*P	**P**	**09 41 45.5**	**+1.4**
SYO	**Syowa Base**	**58.94**	**178**	‖ *e*pP	pP	09 41 48.5	-0.6
SOKA	**Soboth**	**58.99**	**345**	⇓ *i* P	**P**	**09 41 44.9**	**+0.1**
	comp=Z,9.7nm,1.3s						
PSZ	**Piszkesteto**	**59.09**	**349**	*e*P	**P**	**09 41 45.1**	**-0.4**
PSZ	**Piszkesteto**	**59.09**	**349**	⇑ *i* P	**P**	**09 41 45.5**	**0.0**
PSZ	**Piszkesteto**	**59.09**	**349**	*e*P	**P**	**09 41 45.1**	**-0.4**
UZH	**Uzhgorod**	**59.38**	**351**	⇓ *e*P	**P**	**09 41 47.0**	**-0.3**
UZH				*i*		09 41 52.6	
ARSA	**Arzberg**	**59.40**	**346**	⇑ *i* P	**P**	**09 41 47.8**	**+0.2**
	comp=Z,8.9nm,1.2s						
MBDF	**Montbardon**	**59.82**	**338**	*e*P	**P**	**09 41 51.2**	**+0.5**
	comp=Z,37nm,1.3s						
MBDF	**Montbardon**	**59.82**	**338**	*e*P	**P**	**09 41 51.2**	**+0.5**
MBDF				pmax	pmax		
	comp=Z,37nm,1.3s						
MBDF	**Montbardon**	**59.82**	**338**	*e*P	**P**	**09 41 51.2**	**+0.5**
	comp=Z,37nm,1.3s						
CONA	**Conrad Observa**	**59.95**	**346**	⇓ *i* P	**P**	**09 41 51.6**	**+0.1**
	comp=Z,16nm,1.3s						
MOA	**Molln**	**60.27**	**345**	⇑ *i* P	**P**	**09 41 53.6**	**0.0**
	comp=Z,14nm,1.1s						
ORIF	**Oris-en-Rattie**	**60.32**	**337**	*e*P	**P**	**09 41 54.6**	**+0.6**
ORIF				*e*R			
	comp=Z,210nm,21.2s						
ORIF	**Oris-en-Rattie**	**60.32**	**337**	*e*P	**P**	**09 41 54.6**	**+0.6**
ORIF	**Oris-en-Rattie**	**60.32**	**337**	*e*P	**P**	**09 41 54.6**	**+0.6**
TUE	**Stuetta**	**60.45**	**341**	*e*P	**P**	**09 41 55.0**	**-0.1**
LPG	**La Plagne**	**60.49**	**338**	*e*P	**P**	**09 41 55.1**	**-0.3**
	comp=Z,30nm,1.2s						
LPG	**La Plagne**	**60.49**	**338**	*e*P	**P**	**09 41 55.1**	**-0.3**
LPG				pmax	pmax		
	comp=Z,30nm,1.2s						
LPG	**La Plagne**	**60.49**	**338**	*e*P	**P**	**09 41 55.1**	**-0.3**
	comp=Z,30nm,1.2s						
MTLF	**Montolieu**	**60.50**	**334**	*e*P	**P**	**09 41 55.5**	**+0.3**
MTLF	**Montolieu**	**60.50**	**334**	*e*P	**P**	**09 41 55.5**	**+0.3**
MTLF	**Montolieu**	**60.50**	**334**	*e*P	**P**	**09 41 55.5**	**+0.3**
LPL	**La Plagne**	**60.51**	**338**	*e*P	**P**	**09 41 54.9**	**-0.6**
LPL	**La Plagne**	**60.51**	**338**	*e*P	**P**	**09 41 54.9**	**-0.6**
LPL	**La Plagne**	**60.51**	**338**	*e*P	**P**	**09 41 54.9**	**-0.6**
DAVOX	**Davos/Dischmat**	**60.55**	**341**	LR	LR	10 06 37.6	
	comp=Z,131nm,20.4s,baz=8.7,slow=35						
MOTA	**Moosalm**	**60.68**	**342**	⇑ *i* P	**P**	**09 41 56.3**	**-0.2**
	comp=Z,8.8nm,0.9s						
ESDC	**Sonseca Array**	**60.68**	**327**	P	**P**	**09 41 56.9**	**+0.3**
ESDC	**Sonseca Array**	**60.68**	**327**	P	**P**	**09 41 56.9**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=141,slow=6.8,SNR=16						
KIEV	**Kiev**	**60.70**	**357**	*e*P	**P**	**09 41 54.9**	**-1.4**
AKASG	**Malin Array Be**	**60.70**	**357**	*i* P	**P**	**09 41 55.9**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,19nm,1.1s						
AKASG	**Malin Array Be**	**60.70**	**357**	P	**P**	**09 41 55.8**	**-0.6**
AKASG	**Malin Array Be**	**60.70**	**357**	P	**P**	**09 41 55.8**	**-0.6**
	comp=Z,10.0nm,0.9s,baz=183,slow=6.3,SNR=36						
VIVF	**Saint-Julien-l**	**60.73**	**337**	*e*P	**P**	**09 41 57.6**	**+0.8**
	comp=Z,37nm,1.3

CDF	**Champ du Feu**	**62.83**	**340**	*e*P		**P**	**09 42 10.5**	**-0.4**
CDF	**Champ du Feu**	**62.83**	**340**	*e*P		**P**	**09 42 10.5**	**-0.4**
TCF	**Toulx Ste Croi**	**62.89**	**336**	*e*P		**P**	**09 42 12.0**	**+0.7**
	comp=Z,131nm,1.5s							
TCF	**Toulx Ste Croi**	**62.89**	**336**	*e*P		**P**	**09 42 12.0**	**+0.7**
TCF					pmax	pmax		
	comp=Z,131nm,1.5s							
TCF	**Toulx Ste Croi**	**62.89**	**336**	*e*P		**P**	**09 42 12.0**	**+0.7**
	comp=Z,131nm,1.5s							
NKC	**Novy Kostel**	**62.93**	**345**	*e*P		**P**	**09 42 12.5**	**+1.0**
NKC	**Novy Kostel**	**62.93**	**345**	*e*P		**P**	**09 42 12.5**	**+1.0**
KSH	**Kashi**	**63.01**	**36**	P		P	09 42 06.8	-5.6
KSH					pP	pP	09 42 19.1	+1.7
KSH					PP	**PP**	**09 44 27.1**	**-4.1**
KSH					S	S	09 50 29.2	-13
KSH					ScS	SKSac	09 51 52.2	-13
KSH					SS	SS	09 54 39.0	-9.4
KSH					pmax	pmax		
	comp=Z,2.0nm,0.2s							
KSH					pmax	pmax		
	comp=Z,97nm,5.4s							
KSH					LR	LR		
	comp=Z,120nm,6.6s							
KSH					LR	LR		
	comp=Z,160nm,6.4s							
KSH					LR	LR		
	comp=Z,190nm,5.3s							
BRG	**Berggiesshubel**	**63.15**	**346**	*e*P		**P**	**09 42 12.3**	**-0.5**
	comp=Z,4.6nm,1.0s							
BRG	**Berggiesshubel**	**63.15**	**346**	*e*P		**P**	**09 42 12.4**	**-0.5**
BRG					pmax	pmax		
	comp=Z,5.0nm,1.0s							
ABKAR	**Akbulak array**	**63.44**	**19**	*e*P		**P**	**09 42 13.1**	**-1.7**
	comp=Z,3.1nm,0.9s							
CLL	**Collm**	**63.78**	**346**	*e*P		**P**	**09 42 17.0**	**0.0**
CLL	**Collm**	**63.78**	**346**	*e*P		**P**	**09 42 17.0**	**0.0**
CLL					*e*PcP	**PcP**	**09 42 54.0**	**+1.1**
AKTO	**Aktyubinsk**	**63.90**	**17**	P		**P**	**09 42 17.2**	**-0.6**
AKTO	**Aktyubinsk**	**63.90**	**17**	P		**P**	**09 42 17.2**	**-0.6**
AKTO	**Aktyubinsk**	**63.90**	**17**	P		**P**	**09 42 17.2**	**-0.6**
	comp=Z,5.0nm,0.9s,baz=186,slow=5.4,SNR=7.9							
AKTO					LR	LR	10 14 01.7	
	comp=Z,66nm,19.5s,baz=12,slow=40							
AAK	**Ala-Archa**	**64.33**	**32**	*e*P		**P**	**09 42 19.9**	**-1.2**
AAK					pmax	pmax		
	comp=Z,10.0nm,1.3s							
AAK	**Ala-Archa**	**64.33**	**32**	P		**P**	**09 42 20.4**	**-0.7**
AAK	**Ala-Archa**	**64.33**	**32**	P		**P**	**09 42 20.4**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=204,slow=10.0,SNR=4.7							
OBN	**Obninsk**	**65.03**	**2**	⇓*i*P		**P**	**09 42 24.9**	**-0.2**
OBN							09 42 58.0	
OBN					pmax	pmax		
	comp=Z,38nm,1.8s							
GIVF	**Givet**	**65.10**	**340**	*e*P		**P**	**09 42 25.6**	**-0.1**
GIVF	**Givet**	**65.10**	**340**	*e*P		**P**	**09 42 25.6**	**-0.1**
GIVF	**Givet**	**65.10**	**340**	*e*P		**P**	**09 42 25.6**	**-0.1**
TKM2	**Tokmak 2**	**65.12**	**33**	*e*P		**P**	**09 42 25.3**	**-1.0**
TKM2					pmax	pmax		
	comp=Z,12nm,1.1s							
TKM2	**Tokmak 2**	**65.12**	**33**	*e*P		**P**	**09 42 25.3**	**-1.0**
	comp=Z,12nm,1.1s							
KCSI	**Kotacane, Aceh**	**65.12**	**81**	P		**P**	**09 42 29.1**	**+2.5**
BCLA	**Clavier**	**65.21**	**340**	P		**P**	**09 42 27.1**	**+0.7**
	comp=Z,12nm,1.7s							
SNAA	**Sanae**	**65.44**	**192**	*e*P		**P**	**09 42 28.4**	**+0.6**
	comp=Z,29nm,1.7s							
LDF	**La Druitiere**	**65.68**	**336**	*e*P		**P**	**09 42 29.0**	**-0.5**
LDF	**La Druitiere**	**65.68**	**336**	*e*P		**P**	**09 42 29.0**	**-0.5**
LDF	**La Druitiere**	**65.68**	**336**	*e*P		**P**	**09 42 29.0**	**-0.5**
ARU	**Arti**	**69.42**	**14**	*d*⇓*i*P		**P**	**09 42 52.1**	**-0.9**
ARU							09 45 29.8	
ARU					S	**S**	**09 52 01.7**	**+2.3**
ARU					SS	**SS**	**09 56 25.4**	**-1.7**
ARU					pmax	pmax		
	comp=Z,38nm,1.7s							
ARU	**Arti**	**69.42**	**14**	*e*P		**P**	**09 42 52.4**	**-0.6**
	comp=Z,19nm,1.0s							
BRVK	**Borovoye**	**70.21**	**22**	*i*P		**P**	**09 42 56.1**	**-1.8**
BRVK					pmax	pmax		
	comp=Z,6.0nm,1.3s							
BVAR	**Borovoye Array**	**70.22**	**22**	P		**P**	**09 42 57.2**	**-0.8**
BVAR	**Borovoye Array**	**70.22**	**22**	P		**P**	**09 42 57.2**	**-0.8**
BVAR	**Borovoye Array**	**70.22**	**22**	P		**P**	**09 42 57.2**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=208,slow=5.0,SNR=14							
BVAR					LR	LR	10 16 33.9	
	comp=Z,139nm,18.5s,baz=221,slow=38							
CMAR	**Chiang Mai Arr**	**70.25**	**66**	P		**P**	**09 42 58.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**70.25**	**66**	P		**P**	**09 42 58.7**	**-0.2**
	comp=Z,5.8nm,0.6s,baz=260,slow=7.4,SNR=25							
CMAR					LR	LR	10 09 57.6	
	comp=Z,74nm,20.7s,baz=80,slow=33							
SVE	**Sverdlovsk**	**70.30**	**15**	*e*P		**P**	**09 42 58.0**	**-0.4**
SVE					pmax	pmax		
	comp=Z,23nm,1.5s							
CHTO	**Chiang Mai**	**70.36**	**66**	*e*P		**P**	**09 42 59.3**	**-0.2**
CHTO					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CHTO	**Chiang Mai**	**70.36**	**66**	*e*P		**P**	**09 42 59.3**	**-0.2**
	comp=Z,9.7nm,0.9s							
CHTO	**Chiang Mai**	**70.36**	**66**	P		**P**	**09 42 59.7**	**+0.2**
	comp=Z,70nm,1.0s							
CMMT	**Chiang Mai**	**70.36**	**66**	P		**P**	**09 42 59.6**	**0.0**
	comp=Z,15nm,0.9s							
CMAI	**Chiengmai2**	**70.80**	**65**	P		**P**	**09 43 03.5**	**+1.1**
	comp=Z,14nm,0.7s							
LAMP	**Lampang**	**70.89**	**66**	P		**P**	**09 43 03.5**	**+0.7**
	comp=Z,5.9nm,1.1s							
KLMR	**Klimovskoe**	**70.89**	**3**	*e*P		**P**	**09 42 59.5**	**-2.4**
KLMR					pmax	pmax		
	comp=Z,52nm,1.5s							
MKAR	**Makanchi Array**	**71.25**	**33**	P		**P**	**09 43 03.7**	**-0.7**
MKAR	**Makanchi Array**	**71.25**	**33**	P		**P**	**09 43 03.6**	**-0.7**
MKAR	**Makanchi Array**	**71.25**	**33**	P		**P**	**09 43 03.6**	**-0.7**
	comp=Z,13nm,0.8s,baz=228,slow=6.1,SNR=74							
MKAR					LR	LR	10 18 25.1	
	comp=Z,62nm,18.5s,baz=148,slow=39							
MK31	**Makanchi Array**	**71.25**	**33**	*i*P		**P**	**09 43 03.3**	**-1.1**
MK31					pmax	pmax		
	comp=Z,18nm,0.8s							
MK31	**Makanchi Array**	**71.25**	**33**	*e*P		**P**	**09 43 03.9**	**-0.5**
PBKT	**Sadao Pong**	**71.52**	**69**	P		**P**	**09 43 07.0**	**+0.4**
	comp=Z,14nm,1.0s							
FINES	**FINESS Array B**	**71.60**	**356**	P		**P**	**09 43 06.2**	**+0.1**
FINES	**FINESS Array B**	**71.60**	**356**	P		**P**	**09 43 06.2**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=147,slow=13,SNR=4.3							
KURBB	**Kurchatov Arra**	**71.88**	**28**	P		**P**	**09 43 07.5**	**-0.6**
	comp=Z,13nm,0.9s,baz=230,slow=6.8,SNR=49							
KURK	**Kurchatov**	**71.99**	**28**	*e*P		**P**	**09 43 08.2**	**-0.5**
KURK	**Kurchatov**	**71.99**	**28**	*e*P		**P**	**09 43 08.2**	**-0.5**
KURK	**Kurchatov**	**71.99**	**28**	P		**P**	**09 43 08.8**	**+0.1**
	comp=Z,129nm,1.0s,SNR=8.5							
CRAI	**Chiangrai**	**72.08**	**65**	P		**P**	**09 43 10.4**	**+0.4**
	comp=Z,22nm,1.3s							
KONO	**Kongsberg**	**72.21**	**347**	P		**P**	**09 43 10.1**	**+0.2**
KONO	**Kongsberg**	**72.21**	**347**	P		**P**	**09 43 10.1**	**+0.2**
WMQ	**Urumqi**	**72.57**	**38**	P		**P**	**09 43 14.0**	**+1.5**
WMQ					sP	**sP**	**09 43 21.0**	**+1.5**
WMQ					PcP	**PcP**	**09 43 32.0**	**+2.0**
WMQ					PP	**PP**	**09 45 58.0**	**+3.8**
WMQ					S	**S**	**09 52 37.0**	**+0.3**
WMQ					ScS	**SKSac**	**09 53 17.0**	**-0.1**
WMQ					SS	**SS**	**09 57 18.0**	**+1.8**
WMQ					pmax	pmax		
	comp=Z,14nm,1.0s							
WMQ					pmax	pmax		
	comp=Z,46nm,6.0s							
WMQ					LR	LR		
	comp=Z,1μm,18.0s							
WMQ					LR	LR		
	comp=Z,1μm,18.0s							
WMQ					LR	LR		
	comp=Z,1μm,18.0s							
NB2	**NORSAR Subarra**	**73.15**	**349**	P		**P**	**09 43 15.3**	**-0.2**
	comp=Z,16nm,1.2s,baz=158,slow=5.3							
NOA	**NORSAR Array B**	**73.15**	**349**	P		**P**	**09 43 15.4**	**-0.1**
NOA	**NORSAR Array B**	**73.15**	**349**	P		**P**	**09 43 15.4**	**-0.1**
	comp=Z,6.3nm,1.0s,baz=158,slow=5.4,SNR=5.9							
TMCR	**Tamitsa**	**74.14**	**2**	*e*P		**P**	**09 43 21.8**	**+0.6**
TMCR				*e*			09 46 07.2	
TMCR					pmax	pmax		
	comp=Z,19nm,0.7s							
UBPT	**Khong Chiam**	**75.33**	**71**	P		**P**	**09 43 31.8**	**+2.7**
KMI	**Kunming**	**75.69**	**61**	P		**P**	**09 43 33.6**	**+2.3**
KMI					pP	**pP**	**09 43 36.8**	**+0.3**
KMI					sP	**sP**	**09 43 38.8**	**+0.4**
KMI					pmax	pmax		
	comp=Z,14nm,1.1s							
KMI					pmax	pmax		
	comp=Z,100nm,4.1s							
NVS	**Novosibirsk**	**76.82**	**27**	⇓*i*P		**P**	**09 43 36.0**	**-0.8**
NVS					pmax	pmax		
	comp=Z,38nm,1.0s							
NVS					pmax	pmax		
	comp=N,11nm,1.2s							
ZAA0	**Zalesovo Array**	**76.98**	**28**	*e*P		**P**	**09 43 36.2**	**-1.5**
ZALV	**Zalesovo Beam**	**76.98**	**28**	P		**P**	**09 43 36.0**	**-1.7**
ZALV							09 46 29.7	
ZALV	**Zalesovo Beam**	**76.98**	**28**	P		**P**	**09 43 36.0**	**-1.7**
ZALV					PP	**PP**	**09 46 29.7**	**-1.5**
ZALV	**Zalesovo Beam**	**76.98**	**28**	P		**P**	**09 43 36.0**	**-1.7**
	comp=N,4.2nm,0.8s,baz=250,slow=5.8,SNR=19							
ZALV					PP	**PP**	**09 46 29.7**	**-1.5**
	comp=N,1.2nm,0.7s,baz=256,slow=5.5,SNR=4.6							
ZALV					LR	LR	10 16 44.7	
	comp=N,68nm,21.3s,baz=67,slow=35							
CD2	**Chengdu**	**78.41**	**56**	*e*P		**P**	**09 43 46.5**	**+0.2**
CD2					sP	**sP**	**09 43 53.4**	**0.0**
CD2					PP	**PP**	**09 46 45.8**	**+1.9**
CD2					S	**S**	**09 53 41.7**	**-0.2**
CD2					sS	**sS**	**09 53 49.1**	**-1.4**
CD2					SS	**SS**	**09 58 47.8**	**+2.4**
CD2					pmax	pmax		
	comp=N,10.0nm,1.2s							
CD2					pmax	pmax		
	comp=N,30nm,6.2s							
CD2					LR	LR		
	comp=N,120nm,15.2s							
CD2					LR	LR		
	comp=N,110nm,14.8s							
GTA	**Gaotai**	**78.48**	**46**	*e*P		**P**	**09 43 47.3**	**+0.7**
GTA					pP	**pP**	**09 43 51.3**	**-0.5**
GTA					sP	**sP**	**09 43 53.9**	**+0.3**
GTA					pmax	pmax		
	comp=N,8.0nm,1.2s							
GYA	**Guiyang**	**79.47**	**61**	*e*P		**P**	**09 43 52.0**	**-0.3**
GYA					PcP	**PcP**	**09 44 01.2**	**+0.9**
GYA					PP	**PP**	**09 46 55.0**	**+2.2**
GYA					S	**S**	**09 53 52.8**	**-0.7**
GYA					SKS	**SKSac**	**09 54 03.6**	**-5.2**
GYA					SS	**SS**	**09 59 02.1**	**+0.6**
GYA					pmax	pmax		
	comp=N,20nm,1.0s							
GYA					pmax	pmax		
	comp=N,120nm,5.2s							
GYA					LR	LR		
	comp=N,560nm,22.6s							
GYA					LR	LR		
	comp=N,510nm,23.3s							
GYA					LR	LR		
	comp=N,580nm,22.8s							
BDFB	**Brasilia**	**79.53**	**256**	P		**P**	**09 43 52.5**	**-0.3**
BDFB	**Brasilia**	**79.53**	**256**	P		**P**	**09 43 52.5**	**-0.3**
	comp=N,6.0nm,0.9s,baz=111,slow=6.3,SNR=6.7							
BDFB					LR	LR	10 12 09.4	
	comp=N,167nm,21.6s,baz=306,slow=30							
ARCES	**ARCESS Array B**	**79.68**	**357**	P		**P**	**09 43 52.0**	**-0.4**
ARCES	**ARCESS Array B**	**79.68**	**357**	P		**P**	**09 43 52.0**	**-0.4**
	comp=N,7.3nm,0.9s,baz=139,slow=5.9,SNR=8.4							
HVS	**Khovu-Aksy**	**79.89**	**34**	*d*⇓*i*P		**P**	**09 43 53.0**	**-1.0**
HVS					pmax	pmax		
	comp=Z,195nm,1.3s							
LZH	**Lanzhou**	**80.22**	**51**	*e*P		**P**	**09 43 57.1**	**+0.9**
LZH					pP	**pP**	**09 44 00.5**	**-0.9**
LZH					sP	**sP**	**09 44 01.8**	**-1.5**
LZH					*e*PP	**PP**	**09 47 02.3**	**+3.4**
LZH					*e*S	**S**	**09 54 00.7**	**-0.5**
LZH					sS	**sS**	**09 54 09.3**	**-0.5**
LZH					*e*SS	**SS**	**09 59 16.2**	**+3.7**
LZH					pmax	pmax		
	comp=Z,51nm,1.6s							
LZH					pmax	pmax		
	comp=Z,130nm,7.5s							
LZH					LR	LR		
	comp=Z,670nm,16.5s							
LZH					LR	LR		
	comp=Z,580nm,15.8s							
LZH					LR	LR		
	comp=Z,910nm,19.6s							
XAN	**Xi'an**	**83.53**	**54**	P		**P**	**09 44 13.3**	**-0.2**
XAN					pP	**pP**	**09 44 19.0**	**+0.3**
XAN					pmax	pmax		
	comp=Z,2.0nm,1.1s							
ZAK	**Zakamensk**	**85.02**	**37**	*e*P		**P**	**09 44 21.0**	**+0.2**
ZAK					pmax	pmax		
	comp=Z,4.0nm,2.0s							
SONM	**Songino Array**	**86.02**	**40**	P		**P**	**09 44 26.8**	**+0.9**
SONM	**Songino Array**	**86.02**	**40**	P		**P**	**09 44 26.8**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=246,slow=4.4,SNR=25							
ULN	**Ulaanbaatar**	**86.45**	**40**	*e*P		**P**	**09 44 28.3**	**+0.2**
	comp=Z,6.7nm,1.0s							
CPUP	**Villa Florida**	**86.59**	**244**	LR		LR	10 20 26.0	
	comp=Z,140nm,18.2s,baz=90,slow=34							
WHN	**Wuhan**	**87.06**	**58**	*e*P		**P**	**09 44 32.9**	**+1.7**
HHC	**Hu-ho-hao-te**	**87.44**	**48**	*e*P		**P**	**09 44 31.8**	**-1.2**
HHC					pP	**pP**	**09 44 37.7**	**-0.5**
HHC					sP	**sP**	**09 44 39.9**	**-0.2**
HHC					PP	**PP**	**09 48 00.6**	**+2.8**
HHC					SKS	**SKSac**	**09 54 57.9**	**-2.6**
HHC					S	**S**	**09 55 12.3**	**-1.3**
HHC					sS	**ScS**	**09 55 20.3**	**-0.3**
HHC					SS	**SS**	**10 01 01.4**	**+2.3**
HHC					pmax	pmax		
	comp=Z,34nm,1.2s							
HHC					pmax	pmax		
	comp=Z,230nm,7.3s							
HHC					LR	LR		
	comp=Z,540nm,17.3s							
HHC					LR	LR		
	comp=Z,570nm,17.2s							
HHC					LR	LR		
	comp=Z,230nm,17.1s							
PLCA	**Paso Flores**	**94.13**	**228**	LR		LR	10 22 26.9	
	comp=Z,139nm,19.5s,baz=96,slow=32							
ASAR	**Alice Springs**	**95.08**	**115**	P		**P**	**09 45 09.3**	**+0.4**
ASAR	**Alice Springs**	**95.08**	**115**	P		**P**	**09 45 09.3**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=260,slow=4.6,SNR=77							
ASAR					LR	LR	10 23 15.1	
	comp=Z,327nm,19.6s,baz=325,slow=32							
WRA	**Warramunga Arr**	**96.32**	**111**	P		**P**	**09 45 15.0**	**+0.4**
WRA	**Warramunga Arr**	**96.32**	**111**	P		**P**	**09 45 15.0**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=256,slow=2.7,SNR=26							
WRA					LR	LR	10 23 14.1	
	comp=Z,129nm,20.2s,baz=190,slow=32							
WRAB	**Tennant Creek**	**96.33**	**111**	*e*P		**P**	**09 45 13.6**	**-1.0**
WRAB					pmax	pmax		
	comp=Z,19nm,1.2s							
SFJD	**Kangerlussuaq**	**97.07**	**337**	LR		LR	10 27 56.7	
	comp=Z,161nm,18.8s,baz=105,slow=35							
CN2	**Changchun**	**98.10**	**47**	*e*P		**P**	**09 45 20.3**	**-1.7**
LPAZ	**La Paz**	**98.45**	**252**	LR		LR	10 25 24.0	
	comp=Z,166nm,22.0s,baz=100,slow=33							
KSAR	**Wonju Array Be**	**99.29**	**54**	P		**Pdif**	**09 45 26.3**	**-1.2**
KSRS	**Korea Array**	**99.32**	**54**	P		**Pdif**	**09 45 26.3**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=269,slow=6.1,SNR=5.1							
STKA	**Stephens Creek**	**99.45**	**125**	LR		LR	10 24 17.0	
	comp=Z,184nm,20.1s,baz=206,slow=32							
MDJ	**Mudanjiang**	**101.14**	**46**	P		**Pdif**	**09 45 34.6**	**-0.9**
MDJ					pmax	pmax		
	comp=Z,4.0nm,1.1s							
MDJ					pmax	pmax		
	comp=Z,150nm,4.7s							
YKA	**Yellowknife Ar**	**122.96**	**343**	PKP		**PKPdf**	**09 50 41.7**	**+0.5**
YKA	**Yellowknife Ar**	**122.96**	**343**	PKP		**PKPdf**	**09 50 41.7**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=51,slow=2.5,SNR=3.1							
ILAR	**Eielson Array**	**125.43**	**0**	PKP		**PKPdf**	**09 50 45.8**	**-0.1**
ILAR	**Eielson Array**	**125.43**	**0**	PKP		**PKPdf**	**09 50 45.8**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=332,slow=3.0,SNR=18							
PDAR	**Pinedale Array**	**134.43**	**322**	PKP		**PKPdf**	**09 51 04.8**	**+0.9**
PDAR	**Pinedale Array**	**134.43**	**322**	PKP		**PKPdf**	**09 51 04.8**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=110,slow=2.8,SNR=8.7							
TXAR	**Lajitas Array**	**135.95**	**302**	PKP		**PKPdf**	**09 51 08.8**	**+1.8**
TXAR	**Lajitas Array**	**135.95**	**302**	PKhKP		PKPpre	09 50 56.4	
	comp=Z,0.3nm,0.8s,baz=116,slow=4.1,SNR=3.8							
TXAR					PKP	**PKPdf**	**09 51 08.8**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=127,slow=1.7,SNR=15							
NVAR	**Mina Array Bea**	**142.34**	**323**	PKPpre		PKPpre	09 51 15.4	
NVAR	**Mina Array Bea**	**142.34**	**323**	PKhKP		PKPpre	09 51 15.4	
	comp=Z,2.0nm,0.7s,baz=52,slow=3.9,SNR=16							
ISA	**Isabella**	**144.21**	**320**	*e*PKIKP		**PKPdf**	**09 51 21.3**	**-0.4**
ISA	**Isabella**	**144.21**	**320**	*e*PKPdf		**PKPdf**	**09 51 21.3**	**-0.4**

BUC 07 09:48:06.0±0.1, 45°29N×25°38E, h3km±7km, MD2.1/4, 2C-6D, Error ellipse: s-maj=0.8km s-min=0.3km az=349.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.23**	**255**	⇓*i*P		Pg	09 48 10.9	+0.2
MTUR	**Matau**	**0.23**	**255**	⇓*i*P		Pg	09 48 10.9	+0.2
VOIR		**0.28**	**303**	⇓*i*P		Pg	09 48 11.8	+0.2
VOIR		**0.28**	**303**	S		Sg	09 48 15.9	+0.6
VOIR		**0.28**	**303**	⇓*i*P		Pg	09 48 11.8	+0.2
VOIR				*i* S		Sg	09 48 15.9	+0.6
MLR	**Muntele Rosu**	**0.45**	**62**	⇓*i*P		Pg	09 48 15.2	+0.4
MLR	**Muntele Rosu**	**0.45**	**62**	S		Sg	09 48 21.8	+1.0
MLR	**Muntele Rosu**	**0.45**	**62**	⇓*i*P		Pg	09 48 15.2	+0.4
MLR				*i* S		Sg	09 48 21.8	+1.0
ARR	**Arges**	**0.53**	**279**	⇑*i*P		Pg	09 48 16.9	+0.5
ARR	**Arges**	**0.53**	**279**	⇑*i*P		Pg	09 48 16.9	+0.5
ARR				*i* S		Sg	09 48 24.4	+1.0

BUC 07 09:48:55.2±0.8, 44°83N×28°53E, h4km±12km, MD1.9/4, 6C-4D, Error ellipse: s-maj=11.0km s-min=4.5km az=122.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TIRR	**Tirgusor**	**0.39**	**193**	⇓*i*P		Pg	09 49 02.2	-0.4
TIRR	**Tirgusor**	**0.39**	**193**	S		Sg	09 49 08.4	+0.8
TIRR	**Tirgusor**	**0.39**	**193**	⇓*i*P		Pg	09 49 02.2	-0.4
TIRR				*i* S		Sg	09 49 08.4	+0.8
TLCR		**0.41**	**30**	⇓*i*P		Pg	09 49 03.5	+0.5
TLCR		**0.41**	**30**	S		Sg	09 49 09.5	+1.2
TLCR		**0.41**	**30**	⇓*i*P		Pg	09 49 03.5	+0.5
TLCR				*i* S		Sg	09 49 09.5	+1.2
TLB	**Topalu**	**0.43**	**235**	⇑*i*P		Pg	09 49 04.0	+0.6
TLB	**Topalu**	**0.43**	**235**	S		Sg	09 49 10.5	+1.5
TLB	**Topalu**	**0.43**	**235**	⇑*i*P		Pg	09 49 04.0	+0.6
TLB				*i* S		Sg	09 49 10.5	+1.5
CFR	**Carcaliu**	**0.44**	**321**	⇑*i*P		Pg	09 49 03.9	+0.1
CFR	**Carcaliu**	**0.44**	**321**	S		Sb	09 49 12.4	-0.2
CFR	**Carcaliu**	**0.44**	**321**	⇑*i*P		Pg	09 49 03.9	+0.1
CFR				*i* S		Sb	09 49 12.4	-0.2
PSN	**Preselentsi**	**1.18**	**192**	⇑*i*P		Pn	09 49 19.1	+0.7
PSN	**Preselentsi**	**1.18**	**192**	⇑*i*P		Pn	09 49 19.1	+0.7

IDC 07 09:49:21.4±1.6, 4°58S×145°43E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=50.1km s-min=26.1km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**160**	Pn		Pn	09 50 39.3	+0.2
	4.5nm,0.3s,baz=342,slow=6.4,SNR=14							
PMG				Sn		Sn	09 51 29.7	-9.0
	8.7nm,0.3s,baz=34,slow=18,SNR=9.2							
WRA	**Warramunga Arr**	**18.71**	**214**	P		P	09 53 40.7	-0.9
	0.2nm,0.3s,baz=36,slow=12,SNR=9.3							
ASAR	**Alice Springs**	**22.00**	**209**	P		P	09 54 17.1	-0.2
	0.5nm,0.5s,baz=38,slow=8.3,SNR=13							
FITZ	**Fitzroy Crossi**	**23.57**	**234**	P		P	09 54 34.3	+0.5
	1.5nm,0.5s,baz=49,slow=8.2,SNR=7.0							
ILAR	**Eielson Array**	**84.80**	**23**	P		P	10 01 57.4	0.0
	0.5nm,1.1s,baz=244,slow=5.1,SNR=3.2							

*ISCJB **07** 10:03:18.3±0.6, 59°.31N±0°.02×27°.16E±0°.07, h0km, Error ellipse: s-maj=5.1km s-min=3.5km az=13.1*
*HEL **07** 10:03:20.0±0.2, 59°.28N×27°.16E, h0km, ML1.9, ML2.0(UPP), Explosion*
*NAO **07** 10:03:20.1±1.0, 59°.31N×26°.75E, ML2.4*
*HEL **07** 10:03:20.8, 59°.35N×27°.06E, h0km, ML1.9, Explosion*
*CSEM **07** 10:03:20.0±0.4, 59°.32N×27°.13E, h1km, ML2.4, Error ellipse: s-maj=8.8km s-min=5.3km az=111.0, Mining explosion.*
*BER **07** 10:03:20.9±3.0, 59°.33N×26°.94E, h0km, ML2.4(NAO), Suspected explosion*
*IDC **07** 10:03:21.3±1.1, 59°.44N×27°.18E, h0km, mb1 3.2/5, mb1mx3.1/29, mbtmp3.2/5, ML3.1/4, Error ellipse: s-maj=13.2km s-min=10.6km az=75.0*
*UPP **07** 10:03:21.0, 59°.14N×26°.80E, h0km, ML2.0, Suspected Mining explosion.*

ISC 07 10:03:18.9±0.8, 59°30N±0°.02×27°.07E±0°.04, h0km, n56, σ1s46°77, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.85**	**192**	Pg		**Pg**	**10 03 36.0**	**+0.8**
VSU				Lg		Lg	10 03 48.8	
VSU	**Vasula**	**0.85**	**192**	Pg		**Pg**	**10 03 36.0**	**+0.8**
VSU				Lg		Lg	10 03 48.8	
VSU	**Vasula**	**0.85**	**192**	*e*P		**Pg**	**10 03 36.0**	**+0.8**
	SNR=

comp=Z,3.8nm,0.4s
KAF **Kangasniemi** **2.85 353** Pn **Pn** 10 04 07.2 **+1.7**
KAF Sg **Sn** 10 04 41.9 **+1.4**
SLIT **Slitere, Latvi** **3.02 238** *e*P **Pb** 10 04 12.8 **-0.5**
SNR=50
RAF **Rauma** **3.17 305** *e*P **Pn** 10 04 12.7 **+2.9**
RAF *e*SB **Sb** 10 04 56.6 **+1.6**
RAF MSG 10 04 56.6
comp=Z,4.6nm,0.4s
RAF **Rauma** **3.17 305** Pn **Pn** 10 04 12.7 **+2.9**
RAF **Rauma** **3.17 305** *e*P Pn 10 04 13.1 +3.3
SNR=50
RAF *e*S **Sn** **10 04 51.8 +3.5**
comp=Z,7.0nm,0.7s,SNR=50
SUF **Sumiainen** **3.46 353** *e*P **Pn** **10 04 16.0 +2.1**
SUF **Sumiainen** **3.46 353** Pn **Pn** **10 04 16.0 +2.1**
JOF **Joensuu** **4.18 28** *e*P **Pn** **10 04 25.3 +1.6**
JOF *e*SG **Sb** **10 05 28.3 +4.3**
JOF **Joensuu** **4.18 28** Pn **Pn** **10 04 25.3 +1.6**
UMAU **Umeaa** **5.52 329** *e*P **Pn** **10 04 44.5 +2.3**
UMAU *e*S **Sn** **10 05 47.5 +1.3**
UMAU **Umeaa** **5.52 329** P **Pn** **10 04 44.5 +2.3**
UMAU S **Sn** **10 05 47.5 +1.3**
BURU **Burvik** **5.94 336** *e*P **Pn** **10 04 49.1 +1.1**
BURU **Burvik** **5.94 336** P **Pn** **10 04 49.1 +1.1**
BREU **Bredtraesk** **6.13 322** *e*P **Pn** **10 04 51.5 +0.9**
BREU **Bredtraesk** **6.13 322** P **Pn** **10 04 51.5 +0.9**
SVAU **Svanoeiden** **6.30 329** *e*P **Pn** **10 04 54.1 +1.3**
SVAU **Svanoeiden** **6.30 329** P **Pn** **10 04 54.2 +1.3**
SJUU **Sjulsmark** **6.73 340** *e*P **Pn** **10 04 59.9 +1.2**
SJUU **Sjulsmark** **6.73 340** P **Pn** **10 04 59.9 +1.2**
HFS **Hagfors** **6.82 283** Lg Lg 10 06 45.9
baz=94,slow=37
HFS **Hagfors** **6.82 283** Lg Lg 10 06 45.9
baz=94,slow=37
HFS **Hagfors** **6.82 283** Pn **Pn** **10 04 59.5 -0.5**
comp=Z,0.1nm,0.3s,baz=92,slow=19,SNR=3.3
HFS Sn **Sn** **10 06 16.3 -1.9**
comp=Z,0.4nm,0.3s,baz=87,slow=26,SNR=4.4
HFS Lg Lg 10 06 50.8
comp=Z,0.6nm,0.3s,baz=94,slow=37,SNR=4.9
LILU **Lilltraesk** **6.88 334** *e*P **Pn** **10 05 01.7 +0.8**
LILU **Lilltraesk** **6.88 334** P **Pn** **10 05 01.7 +0.8**
HARU **Harads** **7.43 341** *e*P **Pn** **10 05 10.5 +2.1**
HARU **Harads** **7.43 341** P **Pn** **10 05 10.5 +2.1**
ERTU **Ertsjaerv** **7.61 345** *e*P **Pn** **10 05 11.7 +0.8**
ERTU **Ertsjaerv** **7.61 345** P **Pn** **10 05 11.7 +0.8**
NB2 **NORSAR Subarra** **8.09 289** Pn **Pn** **10 05 17.2 -0.4**
NB2 Lg Lg 10 07 30.7
NB2 **NORSAR Subarra** **8.09 289** Pn **Pn** **10 05 17.2 -0.4**
NB2 Lg Lg 10 07 30.7
NB2 **NORSAR Subarra** **8.09 289** Pn **Pn** **10 05 17.2 -0.4**
NB2 Lg Lg 10 07 30.7
NOA **NORSAR Array B** **8.09 289** Pn **Pn** **10 05 16.8 -0.7**
comp=Z,0.2nm,0.3s,baz=96,slow=10,SNR=4.1
NOA Sn **Sn** **10 06 45.4 -4.3**
comp=Z,0.2nm,0.3s,baz=69,slow=16,SNR=2.8
NOA Lg Lg 10 07 30.2
comp=Z,0.4nm,0.3s,baz=109,slow=20,SNR=3.6
AKASG **Malin Array Be** **8.70 171** Pn **Pn** **10 05 25.2 -0.6**
comp=Z,0.6nm,0.3s,baz=355,slow=13,SNR=3.6
AKASG Pg Pg 10 05 55.7 -10
comp=Z,0.4nm,0.3s,baz=346,slow=17,SNR=4.3
ARA0 **ARCESS Array S** **10.30 357** Pn **Pn** **10 05 46.8 -0.9**
baz=175,slow=14
ARA0 Sn Sn 10 07 35.4 -8.3
baz=173,slow=22
ARA0 **ARCESS Array S** **10.30 357** Pn **Pn** **10 05 46.8 -0.9**
baz=175,slow=14
ARA0 Sn Sn 10 07 35.4 -8.3
baz=173,slow=22
ARA0 **ARCESS Array S** **10.30 357** Pn **Pn** **10 05 46.8 -0.9**
SNR=8.8
ARCES **ARCESS Array B** **10.30 357** Pn **Pn** **10 05 45.8 -1.9**
comp=Z,0.2nm,0.3s,baz=174,slow=12,SNR=6.7
ARCES Lg Lg 10 08 34.2
comp=Z,0.3nm,0.3s,baz=174,slow=25,SNR=5.4

WEL 07 10:10:54.7±0.5, 37.66S×179.17W, h33km, ML3.6/5, 1C-1D, Error ellipse: s-maj=4.3km s-min=3.9km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.01**	**272**	⇓PN	Pn	10 11 25.6	-0.7
MXZ				SN	Sn	10 11 48.9	-1.4
MXZ				AML	AML	10 11 56.5	
PUZ	**Puketiti**	**2.08**	**258**	PN	Pn	10 11 26.8	-0.5
PUZ				*e*SN	Sn	10 11 50.3	-1.8
CNGZ	**Carnagh Statio**	**2.23**	**248**	*e*PN	Pn	10 11 29.3	0.0
RIGZ	**Rimuhau**	**2.63**	**246**	*e*PN	Pn	10 11 34.2	-0.7
MHGZ	**Mahia Peninsul**	**2.74**	**236**	PN	Pn	10 11 35.3	-1.0
KNZ	**Kokohu**	**2.83**	**240**	PN	Pn	10 11 36.6	-0.9
URZ	**Urewera**	**3.00**	**257**	*e*SN	Sn	10 12 13.1	-1.6
URZ				AML	AML	10 12 17.0	
TARZ	**Mount Tarawera**	**3.47**	**259**	PN	Pn	10 11 46.1	-0.4
MCHZ	**McNeill Hill**	**3.70**	**240**	PN	Pn	10 11 49.2	-0.4
BKZ	**Black Stump Fm**	**3.73**	**245**	⇑PN	Pn	10 11 49.7	-0.2
TSZ	**Takapari Road**	**4.49**	**236**	*e*PN	Pn	10 11 58.4	-2.1
BFZ	**Birch Farm**	**4.67**	**228**	PN	Pn	10 12 00.2	-2.7
BFZ				*e*SN	Sn	10 12 51.8	-4.1
MRZ	**Mangatainoka R**	**5.06**	**232**	PN	Pn	10 12 05.9	-2.4
MRZ				SN	Sn	10 13 00.5	-5.1
CTZ	**Chatham Island**	**6.37**	**163**	PN	Pn	10 12 28.3	+2.1
CTZ				*e*SN	Sn	10 13 33.3	-4.4

IDC 07 10:14:34.6±26.0, 23.46S×179.95E, h380km±276km, mb3.1/4, mb1 3.4/4, mb1mx3.1/18, mbtmp3.8/4, Error ellipse: s-maj=104.8km s-min=34.7km az=122.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**23.67**	**303**	P	P	10 19 13.8	-0.1
	45nm,0.4s,baz=146,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**34.84**	**248**	P	P	10 20 51.1	-0.5
	2.4nm,1.1s,baz=84,slow=8.5,SNR=4.4						
ASAR	**Alice Springs**	**42.06**	**260**	P	P	10 21 51.0	-0.1
	0.3nm,0.3s,baz=93,slow=6.7,SNR=15						
WRA	**Warramunga Arr**	**42.39**	**266**	P	P	10 21 53.7	0.0
	1.3nm,0.4s,baz=103,slow=8.2,SNR=40						
TXAR	**Lajitas Array**	**90.24**	**58**	P	P	10 26 53.4	-0.1
	0.3nm,0.7s,baz=226,slow=6.7,SNR=5.7						

NIED ***07*** *10:18:00, 21.10N×121.30E, h8km, Mw4.5 Best double couple: M0 6.10000×10^15 NP1:φ=265.00000°, δ=66.00000°, λ=-86.00000°. NP2:φ=77.00000°, δ=25.00000°, λ=-98.00000°.*
JMA ***07*** *10:18:27.4±0.4, 21.14N×121.34E, h0km, M4.5*
ISCJB ***07*** *10:18:27.1±0.3, 20.93N±0.03×121.18E±0.05, h36km, mb4.2/30, MS3.9/11, Error ellipse: s-maj=7.2km s-min=3.5km az=13.2*
NEIC ***07*** *10:18:28.4±0.3, 20.91N×121.17E, h35km, mb4.4/6, Error ellipse: s-maj=8.4km s-min=5.0km az=86.0*
IDC ***07*** *10:18:29.9±3.4, 20.93N×121.19E, h50km±33km, mb3.8/19, mb1 4.0/21, mb1mx3.9/30, mbtmp3.9/21, ML3.5/2, MS3.9/12, Ms1 4.0/12, ms1mx3.7/32, Error ellipse: s-maj=19.1km s-min=11.5km az=75.0*
DJA ***07*** *10:18:38.3±4.2, 20°N±46°×12°1E±1°8, h30km, M4.8/9, mB5.6/3, mb4.8/9, Mw(mB)5.1/3*
MAN ***07*** *10:19:10, 17.89N×121.10E, h11km, mb4.8, ML3.7, MS3.7*
ISC 07 10:18:28.7±0.4, 20.94N±0.04×121.14E±0.07, h36km, n90, σ1=23/87, mb4.3/30, MS4.0/11, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**1.87**	**358**	*e*Pn	**Pn**	**10 18 57.3**	**-0.8**
TPUB	**Ta-pu**	**2.39**	**349**	*e*Pn	**Pn**	**10 19 04.2**	**-1.2**
YULB	**Yu-li**	**2.44**	**3**	*e*Pn	**Pn**	**10 19 06.4**	**+0.3**
PIP	**Pasuquin**	**2.65**	**191**	⇓*i*P	**Pn**	**10 19 07.8**	**-1.1**
PIP				*e*S	**Sn**	**10 19 37.5**	**-2.3**
SSLB	**Suanglung**	**2.84**	**357**	*e*Pn	**Pn**	**10 19 12.1**	**+0.6**
APYP	**Conner**	**3.07**	**178**	*e*P	**Pn**	**10 19 14.3**	**-0.2**
APYP				*e*S	Sn	10 19 21.6	-28
NACB	**Ninganchiao**	**3.24**	**7**	*e*Pn	**Pn**	**10 19 16.7**	**-0.3**
ABRA	**Dolores**	**3.30**	**187**	*e*P	**Pn**	**10 19 19.2**	**+1.3**
YHNB	**Yeheng**	**3.72**	**3**	*e*Pn	**Pn**	**10 19 24.7**	**+1.1**
YOJ	**Yonaguni jima**	**3.91**	**26**	P	**Pn**	**10 19 27.3**	**+1.2**
HATJ	**Hateruma jima**	**3.96**	**38**	P	**Pn**	**10 19 27.6**	**+0.7**
HATJ				S	**Sn**	**10 20 11.8**	**-0.3**
CAUP	**Cauayan**	**4.03**	**171**	*e*P	Pn	10 19 33.3	+5.5
IRIF	**Iriomote-Funau**	**4.14**	**35**	P	**Pn**	**10 19 29.6**	**+0.3**
JKRS	**Kuro-shima**	**4.22**	**38**	P	**Pn**	**10 19 30.1**	**-0.3**
JIJ	**Ishigaki jima**	**4.39**	**39**	P	**Pn**	**10 19 32.6**	**-0.2**
JIJ				S	**Sn**	**10 20 19.9**	**-2.9**
JTJ	**Tarama**	**4.94**	**41**	P	**Pn**	**10 19 41.6**	**+1.3**
JTJ				S	**Sn**	**10 20 35.0**	**-1.2**
BALP	**Baler**	**5.19**	**175**	*e*P	**Pn**	**10 19 46.4**	**+2.6**
JNU	**Nakatsue**	**14.90**	**34**	P	**Pn**	**10 21 58.9**	**+2.1**
JNU	**Nakatsue**	**14.90**	**34**	P	**Pn**	**10 21 58.9**	**+2.1**
	0.1nm,0.3s,baz=196,slow=19,SNR=2.2						
JNU				LR	LR	10 27 50.3	
	comp=Z,326nm,18.7s,baz=310,slow=38						
KSAR	**Wonju Array Be**	**17.46**	**18**	P	**Pn**	**10 22 29.7**	**+0.4**
KSRS	**Korea Array**	**17.48**	**18**	P	**Pn**	**10 22 29.7**	**+0.2**
	0.3nm,0.3s,baz=198,slow=11,SNR=16						
BJT	**Baijiatuan**	**19.48**	**348**	*e*P	**P**	**10 22 52.3**	**-0.1**
JCJ	**Chichijima**	**20.17**	**68**	LR	LR	10 29 13.0	
	comp=Z,160nm,21.2s,baz=297,slow=32						
GTOI	**Gorontalo**	**20.27**	**175**	P	**P**	**10 23 01.8**	**+0.6**
	53nm,1.1s						
SBUM	**Sibu**	**20.33**	**206**	P	Pn	10 23 03.1	-1.0
	13nm,1.2s						
MRSI	**Marisa**	**20.36**	**178**	P	Pn	10 23 03.4	-0.9
	31nm,1.7s,1μm						
CMAR	**Chiang Mai Arr**	**21.04**	**267**	P	**P**	**10 23 09.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**21.04**	**267**	P	**P**	**10 23 09.9**	**+0.4**
	1.5nm,0.8s,baz=74,slow=9.8,SNR=7.7						
MJAR	**Matsushiro Arr**	**21.53**	**40**	P	**P**	**10 23 13.7**	**-0.9**
MJAR	**Matsushiro Arr**	**21.53**	**40**	P	**P**	**10 23 13.7**	**-0.9**
	3.5nm,0.8s,baz=234,slow=9.5,SNR=6.3						
LUWI	**Luwuk**	**21.91**	**176**	P	**P**	**10 23 19.7**	**+0.9**
	144nm,1.2s,3μm						
MMSI	**Mamuju**	**23.59**	**186**	P	**P**	**10 23 39.0**	**+2.7**
	32nm,0.5s						
NLAI	**Namlea**	**24.73**	**166**	P	**P**	**10 23 48.3**	**+1.5**
	103nm,0.9s,3μm						
SPSI	**Sidrap Palu**	**24.79**	**183**	P	**P**	**10 23 50.9**	**+3.6**
	18nm,1.4s						
USRK	**Ussuriysk Arra**	**24.89**	**19**	P	**P**	**10 23 48.5**	**+0.5**
	1.4nm,0.8s,baz=186,slow=11,SNR=3.3						
BNSI	**Bone**	**25.20**	**182**	P	**P**	**10 23 52.5**	**+1.4**
	18nm,1.5s						
KAPI	**Kappang**	**25.83**	**183**	P	**P**	**10 24 00.8**	**+4.0**
KAPI	**Kappang**	**25.83**	**183**	P	**P**	**10 23 57.0**	**+0.2**
KAPI	**Kappang**	**25.83**	**183**	P	**P**	**10 23 57.0**	**+0.2**
	33nm,1.0s,baz=7.9,slow=10,SNR=7.6						
KAPI				LR	LR	10 35 07.5	
	comp=Z,208nm,20.0s,baz=4.7,slow=39						
PSI	**Prapat**	**28.16**	**233**	LR	LR	10 33 55.7	
	comp=Z,103nm,21.0s,baz=351,slow=33						
ULN	**Ulaanbaatar**	**29.17**	**340**	*e*P	**P**	**10 24 27.6**	**+1.0**
	5.1nm,0.9s						
ASAJ	**Asahikawa**	**29.18**	**33**	LR	LR	10 36 29.1	
	comp=Z,132nm,18.6s,baz=251,slow=37						
SONM	**Songino Array**	**29.35**	**340**	P	**P**	**10 24 28.1**	**-0.1**
SONM				PcP	**PcP**	**10 27 31.5**	**-2.4**
SONM	**Songino Array**	**29.35**	**340**	P	**P**	**10 24 28.1**	**-0.1**
	2.6nm,0.9s,baz=156,slow=9.6,SNR=12						
SONM				PcP	**PcP**	**10 27 31.5**	**-2.4**
	0.5nm,0.7s,baz=164,slow=1.0,SNR=4.5						
SONM				LR	LR	10 37 51.9	
	comp=Z,486nm,18.7s,baz=6.0,slow=40						
MK31	**Makanchi Array**	**40.68**	**319**	*e*P	**P**	**10 26 06.2**	**+0.7**
MKAR	**Makanchi Array**	**40.68**	**319**	P	**P**	**10 26 06.3**	**+0.8**
MKAR	**Makanchi Array**	**40.68**	**319**	P	**P**	**10 26 06.3**	**+0.8**
	3.9nm,0.9s,baz=113,slow=10,SNR=28						
MKAR				LR	LR	10 44 55.1	
	comp=Z,255nm,18.1s,baz=111,slow=39						
WRAB	**Tennant Creek**	**42.63**	**161**	*e*P	**P**	**10 26 20.5**	**-1.3**
	16nm,1.2s						
WRA	**Warramunga Arr**	**42.64**	**162**	P	**P**	**10 26 20.5**	**-1.3**
WRA				PcP	**PcP**	**10 28 13.9**	**+0.4**
WRA	**Warramunga Arr**	**42.64**	**162**	P	**P**	**10 26 20.5**	**-1.3**
	6.2nm,0.7s,baz=344,slow=9.0,SNR=42						
WRA				PcP	**PcP**	**10 28 13.9**	**+0.4**
	1.3nm,0.8s,baz=341,slow=3.6,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**42.81**	**83**	T	T	11 12 17.6	
	baz=270,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**42.81**	**83**	T	T	11 12 18.4	
	baz=270,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**42.83**	**83**	T	T	11 12 18.9	
	baz=270,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**42.84**	**85**	T	T	11 12 19.8	
	baz=283,slow=73,SNR=12						
H11S1	**WAKE ISLAND Hy**	**42.85**	**85**	T	T	11 12 20.0	
	baz=283,slow=73,SNR=11						
H11S2	**WAKE ISLAND Hy**	**42.86**	**85**	T	T	11 12 21.7	
	baz=283,slow=73,SNR=10						
ZAAO	**Zalesovo Array**	**42.96**	**329**	*e*P	**P**	**10 26 24.1**	**+0.1**
ZALV	**Zalesovo Beam**	**42.96**	**329**	P	**P**	**10 26 24.4**	**+0.4**
ZALV	**Zalesovo Beam**	**42.96**	**329**	P	**P**	**10 26 24.4**	**+0.4**
	5.3nm,0.9s,baz=114,slow=7.3,SNR=17						
ZALV				LR	LR	10 46 13.9	
	comp=Z,168nm,18.2s,baz=65,slow=39						
TKM2	**Tokmak 2**	**43.78**	**311**	*e*P	**P**	**10 26 32.3**	**+1.2**
	6.5nm,1.0s						
AAK	**Ala-Archa**	**44.49**	**310**	P	**P**	**10 26 36.4**	**-0.4**
AAK	**Ala-Archa**	**44.49**	**310**	P	**P**	**10 26 36.4**	**-0.4**
	1.5nm,0.8s,baz=153,slow=3.9,SNR=5.3						
KURK	**Kurchatov**	**44.58**	**322**	*e*P	**P**	**10 26 36.9**	**-0.2**
	10nm,1.5s						
AS31	**Alice Springs**	**46.05**	**164**	*e*P	**P**	**10 26 48.6**	**-0.5**
ASAR	**Alice Springs**	**46.05**	**164**	P	**P**	**10 26 48.9**	**-0.2**
ASAR				PcP	**PcP**	**10 28 25.3**	**+0.2**
ASAR	**Alice Springs**	**46.05**	**164**	P	**P**	**10 26 48.9**	**-0.2**
	4.3nm,1.0s,baz=345,slow=7.0,SNR=24						
ASAR				PcP	**PcP**	**10 28 25.3**	**+0.2**
	0.7nm,0.8s,baz=343,slow=2.9,SNR=3.3						
KKAR	**Karatay Array**	**47.45**	**310**	*e*P	**P**	**10 27 00.8**	**+0.9**
	4.1nm,0.9s						
BVAR	**Borovoye Array**	**50.17**	**322**	P	**P**	**10 27 21.6**	**+1.0**
BVAR				PcP	**PcP**	**10 28 37.7**	**-1.5**
BVAR	**Borovoye Array**	**50.17**	**322**	P	**P**	**10 27 21.6**	**+1.0**
	0.3nm,0.4s,baz=119,slow=8.4,SNR=4.0						
BVAR				PcP	**PcP**	**10 28 37.7**	**-1.9**
	1.3nm,0.7s,baz=82,slow=3.1,SNR=5.1						
ABKAR	**Akbulak array**	**55.70**	**316**	*e*P	**P**	**10 28 02.2**	**+0.8**
	0.3nm,0.3s						
STKA	**Stephens Creek**	**56.06**	**159**	P	**P**	**10 28 03.4**	**-0.8**
STKA	**Stephens Creek**	**56.06**	**159**	P	**P**	**10 28 03.4**	**-0.8**
	6.1nm,1.0s,baz=325,slow=8.0,SNR=6.8						
IM04	**Indian Mountai**	**69.05**	**26**	*e*P	**P**	**10 29 30.9**	**+0.2**
TRF	**Thorofare Moun**	**70.86**	**28**	*e*P	P	10 29 31.4	-10
ILAR	**Eielson Array**	**72.11**	**27**	P	**P**	**10 29 47.6**	**-1.5**
ILAR	**Eielson Array**	**72.11**	**27**	P	**P**	**10 29 47.6**	**-1.5**
	0.5nm,0.6s,baz=294,slow=7.4,SNR=8.9						
ARCES	**ARCESS Array B**	**72.52**	**338**	LR	LR	11 07 11.8	
	comp=Z,112nm,18.5s,baz=209,slow=40						
FINES	**FINESS Array B**	**74.22**	**330**	P	**P**	**10 30 01.4**	**-0.1**
FINES	**FINESS Array B**	**74.22**	**330**	P	**P**	**10 30 01.4**	**-0.1**
	1.7nm,0.7s,baz=132,slow=2.1,SNR=2.6						
FINES				LR	LR	11 07 00.0	
	comp=Z,110nm,18.8s,baz=322,slow=39						
BRTR	**Keskin Array B**	**75.07**	**307**	P	**P**	**10 30 06.5**	**-0.7**
BRTR	**Keskin Array B**	**75.07**	**307**	P	**P**	**10 30 06.5**	**-0.7**
	0.9nm,0.9s,baz=83,slow=5.1,SNR=3.8						
NOA	**NORSAR Array B**	**81.06**	**332**	P	**P**	**10 30 40.0**	**+0.2**
NOA	**NORSAR Array B**	**81.06**	**332**	P	**P**	**10 30 40.0**	**+0.2**
	0.7nm,0.8s,baz=34,slow=6.4,SNR=2.6						
NOA				LR	LR	11 10 53.9	
	comp=Z,232nm,18.8s,baz=60,slow=39						
DLBC	**Dease Lake**	**81.75**	**30**	P	**P**	**10 30 44.6**	**+1.0**
DLBC	**Dease Lake**	**81.75**	**30**	P	**P**	**10 30 44.6**	**+1.0**
	2.7nm,0.9s,baz=316,slow=8.6,SNR=5.3						
GERES	**GERESS Array B**	**85.31**	**321**	P	**P**	**10 31 02.6**	**+0.6**
GERES	**GERESS Array B**	**85.31**	**321**	P	**P**	**10 31 02.6**	**+0.6**
	0.2nm,0.3s,baz=74,slow=33,SNR=3.6						
YKA	**Yellowknife Ar**	**85.96**	**23**	P	**P**	**10 31 05.0**	**+0.1**
YKA	**Yellowknife Ar**	**85.96**	**23**	P	**P**	**10 31 05.0**	**+0.1**
	3.4nm,0.8s,baz=309,slow=4.9,SNR=9.0						
MAW	**Mawson**	**98.04**	**199**	LR	LR	11 13 22.7	
	comp=Z,57nm,20.4s,baz=154,slow=34						

WEL 07 10:22:31.4±0.1, 40.21S×174.94E, h12km, ML3.5/42, 10C-12D, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, MM 4., Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.45**	**4**	⇑P*	Pb	10 22 40.9	-0.5
WAZ				S*	Sb	10 22 48.1	+0.1
WAZ				AML	AML	10 22 51.5	
OGWZ	**Otaki Gorge**	**0.63**	**164**	P*	Pg	10 22 43.5	-0.3
OGWZ				S*	Sg	10 22 52.3	+0.1
KIW	**Kapiti Island**	**0.66**	**182**	⇓P*	Pg	10 22 43.3	-0.9
KIW				S*	Sg	10 22 51.6	-1.3
KIW				AML	AML	10 22 54.5	
POWZ	**Post Office Ro**	**0.66**	**107**	P*	Pg	10 22 44.4	+0.2
MRZ	**Mangatainoka R**	**0.67**	**133**	⇑P*	Pg	10 22 44.4	0.0
MRZ				S*	Sb	10 22 53.8	-0.4
MRZ				AML	AML	10 22 53.9	
TSZ	**Takapari Road**	**0.79**	**80**	⇑P*	Pg	10 22 46.6	-0.3
TSZ				AML	AML	10 22 59.0	
TSZ				AML	AML	10 23 00.1	
HOWZ	**Holdsworth Sta**	**0.82**	**148**	⇑P*	Pg	10 22 47.1	-0.2
PRWZ	**Pori Road**	**0.86**	**114**	⇑P*	Pb	10 22 48.5	+0.2
CAW	**Cannon Point**	**0.91**	**174**	P*	Pg	10 22 48.0	-1.0
CAW				AML	AML	10 23 00.9	
CAW				AML	AML	10 23 01.2	
MTVZ	**Mangateitei**	**0.91**	**26**	P*	Pg	10 22 48.0	-1.2
MTVZ				AML	AML	10 23 03.4	
MTVZ				AML	AML	10 23 05.2	
TIWZ	**Tintock**	**0.92**	**129**	⇑P*	Pg	10 22 49.2	0.0
TIWZ				AML	AML	10 23 02.6	
TIWZ				AML	AML	10 23 03.0	
DVHZ	**Dannevirke**	**0.94**	**96**	P*	Pb	10 22 49.7	0.0
PKVZ	**Pokaka**	**0.97**	**19**	P*	Pg	10 22 48.9	-1.3
PKVZ				AML	AML	10 23 06.9	
PKVZ				AML	AML	10 23 07.9	
DUWZ	**D'Urville Isla**	**0.98**	**232**	P*	Pg	10 22 48.4	-2.0
DUWZ				AML	AML	10 23 04.9	
DUWZ				AML	AML	10 23 05.2	
PNHZ	**Pukenui**	**1.01**	**74**	⇓P*	Pb	10 22 50.1	-0.7
MOVZ	**Moawhango**	**1.01**	**38**	P*	Pb	10 22 49.2	-1.8
MOVZ				AML	AML	10 23 04.7	
MOVZ				AML	AML	10 23 04.7	
WNVZ	**Wahianoa**	**1.01**	**30**	P*	Pb	10 22 49.6	-1.5
WNVZ				AML	AML	10 22 51.1	
WNVZ				AML	AML	10 23 10.9	
TRVZ	**Turoa**	**1.02**	**27**	⇓P*	Pb	10 22 49.7	-1.6
TRVZ				AML	AML	10 23 05.1	
TRVZ				AML	AML	10 23 05.5	
MTW	**Mount Morrison**	**1.04**	**156**	P*	Pb	10 22 50.8	-0.6
MTW				S*	Sb	10 23 05.0	0.0
MTW				AML	AML	10 23 06.0	
DRZ	**Dome Shelter**	**1.04**	**27**	P*	Pb	10 22 50.2	-1.7
DRZ				AML	AML	10 23 06.9	
DRZ				AML	AML	10 23 09.1	
FWVZ	**Far West T-bar**	**1.06**	**26**	P*	Pb	10 22 50.3	-1.7
FWVZ				AML	AML	10 23 06.9	
FWVZ				AML	AML	10 23 07.4	
TUVZ	**Tukino**	**1.08**	**31**	P*	Pb	10 22 50.6	-1.4
TUVZ				AML	AML	10 23 09.4	
TUVZ				AML	AML	10 23 09.6	
WEL	**Wellington**	**1.09**	**187**	P*	Pb	10 22 50.6	-1.5
VRZ	**Vera Road**	**1.09**	**352**	⇓P*	Pb	10 22 51.3	-0.9
VRZ				AML	AML	10 23 07.8	
VRZ				AML	AML	10 23 08.1	
DFE	**Dawson Falls**	**1.09**	**323**	P*	Pb	10 22 51.9	-0.5
BFZ	**Birch Farm**	**1.10**	**116**	⇓P*	Pb	10 22 51.8	-0.6
WPVZ	**Whakapapa**	**1.10**	**25**	P*	Pb	10 22 51.0	-1.6
WPVZ				AML	AML	10 23 09.5	
WPVZ				AML	AML	10 23 09.9	
COVZ	**Chateau Observ**	**1.11**	**25**	⇓P*	Pb	10 22 51.0	-1.6
SNZO	**South Karori**	**1.12**	**189**	P*	Pb	10 22 51.0	-1.6
SNZO				AML	AML	10 23 08.3	
SNZO				AML	AML	10 23 11.0	
BHHZ	**Black Hill Sta**	**1.12**	**51**	P*	Pb	10 22 51.2	-1.7
TCW	**Tory Channel**	**1.13**	**207**	⇓P*	Pb	10 22 50.6	-2.2
TCW				AML	AML	10 23 06.4	
TCW				AML	AML	10 23 06.7	
NEZ	**North Egmont**	**1.14**	**325**	P*	Pb	10 22 52.5	-0.7
NMEZ	**Namu Road**	**1.14**	**314**	P*	Pb	10 22 52.5	-0.5
NGZ	**Ngauruhoe**	**1.15**	**26**	P*	Pb	10 22 51.6	-1.7
NGZ				AML	AML	10 23 09.7	
NGZ				AML	AML	10 23 12.7	
TMWZ	**Te Maipa**	**1.15**	**142**	P*	Pb	10 22 52.6	-0.7
WPHZ	**Waipukurau**	**1.16**	**83**	⇑P*	Pg	10 22 53.8	+0.1
KHEZ	**Kahui Hut**	**1.16**	**322**	P*	Pb	10 22 53.0	-0.5
OTVZ	**Oturere**	**1.18**	**28**	⇓P*	Pn	10 22 52.4	-1.5
OTVZ				AML	AML	10 23 09.8	
OTVZ				AML	AML	10 23 11.8	
CPWZ	**Castlepoint**	**1.19**	**127**	P*	Pn	10 22 53.3	-0.5
TWVZ	**Taurewa**	**1.20**	**19**	P*	Pn	10 22 52.0	-2.1
TWVZ				AML	AML	10 23 10.7	
TWVZ				AML	AML	10 23 12.9	
ANWZ	**Angora Road**	**1.20**	**103**	P*	Pn	10 22 53.5	-0.5
WTVZ	**West Tongariro**	**1.20**	**25**	⇓P*	Pn	10 22 52.3	-1.8

IDC 07 10:36:53.0±1.9, 1°45'N×126°61'E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=167.3km s-min=24.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**161**	P	P	10 41 55.3	+0.2
	0.8nm,0.4s,baz=339,slow=10,SNR=18						
ASAR	**Alice Springs**	**25.95**	**165**	P	P	10 42 27.2	-0.1
	0.2nm,0.5s,baz=349,slow=7.5,SNR=5.6						
STKA	**Stephens Creek**	**36.06**	**158**	P	P	10 43 56.0	-0.4
	1.1nm,0.7s,baz=339,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**59.36**	**326**	P	P	10 46 57.2	+0.1
	0.1nm,0.3s,baz=116,slow=8.2,SNR=5.2						

*ISCJB **07** 11:25:23.5±0.5, 18°.97N±0°.08×145°.5E±0°.1, h214km, mb3.9/17, Error ellipse: s-maj=19.0km s-min=9.8km az=167.0*

*IDC **07** 11:25:28.0±0.8, 18°.98N×145°.49E, h243km±8km, mb3.6/16, mb1 3.7/17, mb1mx3.5/32, mbtmp4.2/17, Error ellipse: s-maj=17.3km s-min=8.8km az=79.0*

ISC 07 11:25:25.4±0.6, 18°.93N±0°.09×145°.6E±0°.1, h214km, n19, σ1°83/22, mb4.0/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.70**	**341**	P	**P**	**11 29 27.9**	**-0.1**
	0.4nm,0.3s,baz=167,slow=9.6,SNR=4.0						
KSRS	**Korea Array**	**24.07**	**324**	P	**P**	**11 30 21.4**	**+0.2**
	0.7nm,0.5s,baz=147,slow=9.4,SNR=3.5						
KSRS				pP	**pP**	**11 31 03.7**	**+2.4**
	0.9nm,0.8s,baz=148,slow=8.7,SNR=2.2						
KAPI	**Kappang**	**34.84**	**229**	P	**P**	**11 31 56.8**	**+0.4**
	5.1nm,0.3s,baz=199,slow=13,SNR=4.4						
CTA	**Charters Tower**	**38.78**	**179**	P	**P**	**11 32 28.9**	**-0.7**
	7.9nm,1.1s,baz=6.2,slow=8.9,SNR=4.2						
WRA	**Warramunga Arr**	**40.18**	**197**	P	**P**	**11 32 41.5**	**+0.4**
	8.7nm,0.7s,baz=6.4,slow=9.0,SNR=163						
FITZ	**Fitzroy Crossi**	**41.70**	**209**	P	**P**	**11 32 53.5**	**+0.1**
	4.7nm,0.3s,baz=40,slow=10,SNR=65						
SONM	**Songino Array**	**42.90**	**321**	P	**P**	**11 33 02.3**	**-0.7**
	0.6nm,0.5s,baz=136,slow=8.8,SNR=4.9						
ASAR	**Alice Springs**	**43.85**	**196**	P	**P**	**11 33 10.8**	**0.0**
	3.1nm,0.6s,baz=16,slow=7.5,SNR=66						
DZM	**Mont Dzumac**	**45.57**	**152**	P	**P**	**11 33 25.0**	**+0.6**
	6.6nm,0.5s,baz=180,slow=6.1,SNR=10						
STKA	**Stephens Creek**	**50.66**	**184**	P	**P**	**11 34 02.3**	**-0.8**
	1.2nm,0.4s,baz=13,slow=8.7,SNR=12						
MKAR	**Makanchi Array**	**58.23**	**314**	P	**P**	**11 34 56.5**	**-1.0**
	0.4nm,0.6s,baz=95,slow=5.3,SNR=4.9						
MKAR				pP	**PcP**	**11 35 51.3**	**+5.0**
	0.3nm,0.5s,baz=90,slow=9.3,SNR=3.5						
KURBB	**Kurchatov Array**	**61.08**	**318**	P	**P**	**11 35 15.4**	**-1.3**
	0.5nm,0.6s,baz=96,slow=7.4,SNR=6.2						
KURBB				pP	**pP**	**11 36 08.9**	**+3.4**
	1.0nm,0.8s,baz=99,slow=7.3,SNR=4.4						
ILAR	**Eielson Array**	**63.48**	**26**	P	**P**	**11 35 31.8**	**-0.6**
	0.5nm,0.6s,baz=254,slow=5.4,SNR=9.2						
URZ	**Urewera**	**64.13**	**153**	P	**P**	**11 35 36.4**	**-0.6**
	12nm,1.0s,baz=315,slow=4.3,SNR=3.4						
BVAR	**Borovoye Array**	**66.23**	**320**	P	**P**	**11 35 49.1**	**-1.2**
	0.9nm,0.5s,baz=104,slow=6.9,SNR=7.3						
BVAR				pP	pP	11 36 45.5	+5.5
	1.0nm,0.7s,baz=84,slow=5.9,SNR=3.8						
RAR	**Rarotonga**	**66.73**	**124**	P	**P**	**11 35 55.4**	**+1.4**
	10nm,0.3s,baz=270,slow=2.4,SNR=6.3						
NVAR	**Mina Array Bea**	**85.08**	**52**	P	**P**	**11 37 28.3**	**+0.6**
	0.4nm,0.6s,baz=284,slow=3.6,SNR=4.5						
FINES	**FINESS Array B**	**86.63**	**335**	P	**P**	**11 37 41.6**	**-2.9**
	1.1nm,0.5s,baz=62,slow=3.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**132.23**	**309**	PKP	**PKPdf**	**11 44 12.9**	**-1.9**
	0.1nm,0.4s,baz=48,slow=1.3,SNR=3.4						

*AUST **07** 11:31:23.9±27.0, 15°.60S×178°.26W, h197km, Error ellipse: s-maj=6.0km s-min=2.1km az=270.0*

*ISCJB **07** 11:31:30.1±0.5, 15°.1S±0°.2×177°.46W±0°.07, h372km, mb3.8/7, Error ellipse: s-maj=23.3km s-min=7.5km az=166.3*

*IDC **07** 11:31:30.8±1.8, 15°.12S×177°.40W, h368km±30km, mb3.5/6, mb1 3.7/8, mb1mx3.4/22, mbtmp4.3/8, Error ellipse: s-maj=76.4km s-min=15.3km az=152.0*

ISC 07 11:31:31.1±0.7, 15°.1S±0°.2×177°.38W±0°.09, h372km, n23, σ0°74/23, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.56**	**78**	P	**Pn**	**11 32 57.3**	**-0.7**
	90nm,0.3s,baz=275,slow=19,SNR=168						
AFI				S	**S**	**11 34 09.0**	**+0.7**
	baz=104,slow=19,SNR=1.6						
NIUE	**Niue**	**8.14**	**120**	P	**Pn**	**11 33 26.5**	**-0.7**
	baz=8.7,SNR=5.0						
DZM	**Mont Dzumac**	**16.81**	**243**	P	**P**	**11 35 05.1**	**+0.6**
	0.4nm,0.3s,baz=114,slow=20,SNR=3.5						
CTA	**Charters Tower**	**34.97**	**257**	P	**P**	**11 37 49.5**	**-0.4**
	9.3nm,0.5s,baz=95,slow=10,SNR=10						
CNB	**Canberra Magne**	**35.94**	**230**	P	**P**	**11 37 59.0**	**+1.1**
	baz=35,SNR=6.7						
CMSA	**Cobar Meteorol**	**37.42**	**238**	P	**P**	**11 38 09.4**	**-0.9**
	baz=36,SNR=18						
QLP	**Quilpie**	**37.50**	**246**	P	**P**	**11 38 10.5**	**-0.5**
	baz=36,SNR=14						
TOO	**Toolangi**	**39.71**	**229**	P	**P**	**11 38 30.0**	**+0.9**
	baz=39,SNR=4.2						
STKA	**Stephens Creek**	**40.88**	**239**	P	**P**	**11 38 38.0**	**-0.5**
	3.5nm,0.6s,baz=87,slow=11,SNR=8.9						
STKA	**Stephens Creek**	**40.88**	**239**	P	**P**	**11 38 38.2**	**-0.3**
	baz=40,SNR=10						
HTT	**Hallett**	**43.44**	**237**	P	**P**	**11 38 58.8**	**-0.3**
	baz=42,SNR=6.4						
WRA	**Warramunga Arr**	**46.17**	**257**	P	**P**	**11 39 19.5**	**-1.0**
	1.7nm,0.3s,baz=95,slow=6.5,SNR=72						
ASAR	**Alice Springs**	**46.55**	**252**	P	**P**	**11 39 23.1**	**-0.3**
	29nm,0.4s,baz=85,slow=8.5,SNR=921						
KDU	**Kakadu**	**48.66**	**266**	P	**P**	**11 39 39.6**	**+0.2**
	baz=48,SNR=3.9						
MTN	**Manton Dam**	**49.92**	**266**	P	**P**	**11 39 49.0**	**0.0**
	baz=49,SNR=4.8						
FAKI	**Fak Fak**	**51.07**	**279**	P	P	11 40 07.2	+10
	baz=50,SNR=7.7						
KNRA	**Kununurra**	**51.81**	**262**	P	**P**	**11 40 03.3**	**+0.5**
	baz=51,SNR=3.3						
FORT	**Forrest**	**52.12**	**243**	P	**P**	**11 40 04.3**	**-0.6**
	baz=51,SNR=10						
FITZ	**Fitzroy Crossi**	**54.51**	**258**	P	**P**	**11 40 22.9**	**+0.7**
	3.3nm,0.7s,baz=119,slow=6.1						
FITZ	**Fitzroy Crossi**	**54.51**	**258**	P	**P**	**11 40 23.8**	**+1.6**
	baz=54,SNR=4.9						
MEEK	**Meekatharra**	**60.37**	**248**	P	**P**	**11 41 02.3**	**-0.3**
	baz=59,SNR=4.1						
ILAR	**Eielson Array**	**82.97**	**13**	P	**P**	**11 43 14.5**	**-0.4**
	0.5nm,0.9s,baz=210,slow=5.5,SNR=4.7						
TXAR	**Lajitas Array**	**83.67**	**57**	P	**P**	**11 43 20.2**	**+0.8**
	0.4nm,0.8s,baz=224,slow=6.3,SNR=4.6						

*DDA **07** 11:37:30.8, 38°.35N×37°.88E, h7km, MD2.8*

ISC 07 11:37:29.1±4.5, 38°.3N±0°.3×37°.8E±0°.1, h14km±13km, n4, σ0°17/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.10**	**67**	*i* P	**Pg**	**11 37 32.6**	**+0.1**
AKCD				*i* S	**Sg**	**11 37 34.6**	**-0.1**
DARE	**Darende-Malaty**	**0.40**	**322**	*e*Pg	**Pg**	**11 37 37.3**	**0.0**
MALT	**Malatya**	**0.49**	**83**	*e*Pg	**Pg**	**11 37 38.9**	**0.0**
PTK	**Pertek**	**1.40**	**62**	*e*Pg	**Pg**	**11 37 56.1**	**+0.1**

*NNC **07** 11:38:02.1±3.0, 37°.77N×71°.81E, h150km±56km, mb2.7, mpv3.5, Error ellipse: s-maj=41.5km s-min=15.5km az=37.0*

ISC 07 11:37:59.2±4.0, 37°.6N±0°.3×71°.7E±0°.2, h113km, n10, σ0°54/11, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.82**	**18**	P	**Pn**	**11 39 10.2**	**+0.3**
	SNR=46						
UCH	**Uchtor**	**5.14**	**24**	P	**Pn**	**11 39 14.4**	**+0.1**
	SNR=6.6						
EKS2	**Erkin-Say**	**5.34**	**17**	P	**Pn**	**11 39 17.6**	**+0.9**
	SNR=6.7						
AAK	**Ala-Archa**	**5.50**	**22**	P	**Pn**	**11 39 19.6**	**+0.6**
	SNR=9.9						
KK31	**Karatay Array**	**5.62**	**351**	P	**Pn**	**11 39 21.1**	**+0.7**
	4.4nm,0.5s,baz=175,slow=18,SNR=39						
KK31				⇑S	**Sn**	**11 40 23.2**	**-0.3**
	2.3nm,0.3s,baz=170,slow=22,SNR=6.8						
CHMS	**Chumysh**	**5.91**	**22**	P	**Pn**	**11 39 24.6**	**+0.2**
	SNR=5.7						
USP	**Ospenovka**	**6.09**	**20**	P	**Pn**	**11 39 26.6**	**-0.2**
	SNR=6.0						
TKM2	**Tokmak 2**	**6.13**	**28**	P	**Pn**	**11 39 27.6**	**+0.2**
	SNR=8.7						
TKM2	**Tokmak 2**	**6.13**	**28**	⇑P	**Pn**	**11 39 27.6**	**+0.2**
	2.4nm,0.6s						
AB31	**Akbulak array**	**14.46**	**328**	P	**Pn**	**11 41 17.9**	**-0.5**
	0.3nm,0.4s,baz=133,slow=15,SNR=8.8						

MEX 07 11:52:05.8±0.3, 16°.14N×95°.80W, h42km±43km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.48**	**219**	*e*P	Pn	11 52 14.8	-1.6
HUIG				*e*S	Sn	11 52 22.0	-1.8
VHO	**Vista Hermosa**	**1.29**	**316**	*e*P	Pn	11 52 26.0	-1.6
VHO				*i* S	Sn	11 52 41.5	-2.4
UTMO	**Huajuapan**	**2.55**	**311**	*e*P	Pn	11 52 43.9	-1.1
UTMO				*i* S	Sn	11 53 12.7	-2.3

*IDC **07** 12:04:03.5±1.6, 34°.18N×138°.57E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/27, mbtmp3.4/3, ML3.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/28, Error ellipse: s-maj=98.8km s-min=22.1km az=87.0*

*ISCJB **07** 12:04:05.1±0.7, 34°.68N±0°.06×140°.17E±0°.05, h62km±7km, mb3.5/2, Error ellipse: s-maj=9.8km s-min=6.4km az=25.6*

*JMA **07** 12:04:06.0±0.2, 34°.75N×140°.18E, h56km±2km, M2.5*

ISC 07 12:04:06.3±1.1, 34°.69N±0°.06×140°.16E±0°.05, h54km±11km, n13, σ0°51/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.31**	**69**	P	**Pn**	**12 04 15.8**	**+0.2**
JIM2	**Oshima 3**	**0.60**	**273**	P	**Pn**	**12 04 19.0**	**0.0**
JIM2				S	**Sn**	**12 04 28.2**	**0.0**
JYO	**Yokosk**	**0.67**	**323**	P	**Pn**	**12 04 20.1**	**+0.3**
JYO				S	**Sn**	**12 04 30.3**	**+0.7**
BSO1	**Boso 1**	**0.68**	**93**	P	**Pn**	**12 04 19.4**	**0.0**
BSO1				S	**Sn**	**12 04 29.3**	**+0.3**
JCN	**Nagara**	**0.72**	**3**	P	**Pn**	**12 04 20.2**	**-0.4**
JCN				S	**Sn**	**12 04 30.6**	**-0.3**
TOK	**Tokyo**	**1.04**	**342**	*e*S	**Sn**	**12 04 37.8**	**-0.5**
JOD2	**Odawara 2**	**1.05**	**303**	P	**Pn**	**12 04 24.2**	**-0.6**
JOD2				S	**Sn**	**12 04 37.3**	**-1.1**
JIZS	**Izushimoda**	**1.05**	**272**	P	**Pn**	**12 04 25.1**	**+0.3**
JIZS				S	**Sn**	**12 04 38.5**	**-0.1**
MJAR	**Matsushiro Arr**	**2.43**	**320**	Pn	**Pn**	**12 04 44.1**	**+0.4**
	5.9nm,0.3s,baz=172,slow=14,SNR=32						
MJAR				Sn	**Sn**	**12 05 12.5**	**+0.3**
	2.0nm,0.3s,baz=192,slow=22,SNR=6.6						
MAT	**Matsushiro**	**2.44**	**320**	P	**Pn**	**12 04 44.4**	**+0.7**
MAT				S	**Sn**	**12 05 13.0**	**+0.7**
ZALV	**Zalesovo Beam**	**42.77**	**314**	LR	LR	12 31 08.6	
	comp=Z,38nm,18.7s,baz=69,slow=38						
WRA	**Warramunga Arr**	**54.61**	**187**	P	**P**	**12 13 29.2**	**-0.2**
	0.2nm,0.4s,baz=2.9,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**58.34**	**187**	P	**P**	**12 13 55.8**	**-0.1**
	0.3nm,0.8s,baz=2.8,slow=7.5,SNR=4.0						

*ISCJB **07** 12:12:29.4±0.5, 14°.86S±0°.05×167°.41E±0°.08, h129km, mb4.3/19, Error ellipse: s-maj=10.9km s-min=6.1km az=165.9*

*IDC **07** 12:12:29.7±3.3, 14°.84S×167°.44E, h117km±28km, mb4.1/17, mb1 4.2/18, mb1mx4.1/25, mbtmp4.5/18, MS3.2/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=21.6km s-min=12.5km az=66.0*

*NEIC **07** 12:12:32.5±1.5, 14°.90S×167°.38E, h144km±12km, mb4.4/5, Error ellipse: s-maj=13.1km s-min=7.8km az=64.0*

*AUST **07** 12:12:38.5, 14°.98S×167°.43E, h200km*

ISC 07 12:12:30.9±0.6, 14°.88S±0°.06×167°.45E±0°.09, h129km, n67, σ0°94/69, mb4.2/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.22**	**187**	P	**Pn**	**12 14 14.0**	**+0.1**
DZM				S	**Sn**	**12 15 33.1**	**-1.4**
DZM	**Mont Dzumac**	**7.22**	**187**	P	**Pn**	**12 14 14.0**	**+0.1**
	13nm,0.3s,baz=49,slow=18,SNR=50						
DZM				S	**Sn**	**12 15 33.1**	**-1.4**
	13nm,0.3s,baz=315,slow=20,SNR=5.0						
HNR	**Honiara**	**9.11**	**306**	P	**Pn**	**12 14 41.4**	**+2.1**
HNR				S	**Sn**	**12 16 19.0**	**-1.3**
HNR	**Honiara**	**9.11**	**306**	P	**Pn**	**12 14 41.4**	**+2.1**
	78nm,0.3s,baz=171,slow=4.0,SNR=17						
HNR				S	**Sn**	**12 16 19.0**	**-1.3**
	32nm,0.3s,baz=219,slow=14,SNR=4.8						
HNR				LR	LR	12 16 56.8	
	comp=Z,73nm,19.3s,baz=125,slow=29						
EIDS	**Eidsvold**	**18.55**	**233**	*e*Pn	**Pn**	**12 16 39.1**	**-0.4**
	8.1nm,0.6s						
EIDS	**Eidsvold**	**18.55**	**233**	P	**Pn**	**12 16 39.6**	**+0.1**
	baz=18,SNR=8.1						
PMG	**Port Moresby**	**20.56**	**283**	P	**P**	**12 16 59.6**	**+0.1**
PMG	**Port Moresby**	**20.56**	**283**	P	**P**	**12 16 59.6**	**+0.1**
	5.2nm,0.7s,baz=270,slow=4.0,SNR=3.3						
CTA	**Charters Tower**	**20.86**	**253**	P	**P**	**12 17 03.5**	**+0.8**
CTA	**Charters Tower**	**20.86**	**253**	P	**P**	**12 17 03.5**	**+0.8**
	8.7nm,0.8s,baz=77,slow=13,SNR=8.7						
CTAO	**Charters Tower**	**20.86**	**253**	*e*P	**P**	**12 17 02.7**	**0.0**
RMQ	**Roma**	**20.92**	**234**	P	**P**	**12 17 04.8**	**+1.5**
	baz=21,SNR=6.4						
OUZ	**Omahuta**	**21.00**	**166**	*e*P	**P**	**12 17 04.8**	**+0.8**
	55nm,0.9s						
QLP	**Quilpie**	**24.59**	**238**	P	**P**	**12 17 39.8**	**+0.8**
	baz=24,SNR=4.1						
URZ	**Urewera**	**24.81**	**162**	P	**P**	**12 17 41.8**	**+0.9**
URZ	**Urewera**	**24.81**	**162**	P	**P**	**12 17 41.8**	**+0.9**
	26nm,0.7s,baz=356,slow=13,SNR=13						
CMSA	**Cobar Meteorol**	**25.89**	**226**	P	**P**	**12 17 51.3**	**+0.5**
	baz=26,SNR=9.0						
CNB	**Canberra Magne**	**26.04**	**215**	P	**P**	**12 17 53.1**	**+1.0**
	baz=26,SNR=5.5						
RPZ	**Rata Peaks**	**28.91**	**175**	P	**P**	**12 18 18.2**	**+0.6**
RPZ	**Rata Peaks**	**28.91**	**175**	P	**P**	**12 18 18.2**	**+0.6**
	11nm,0.8s,baz=141,slow=3.1,SNR=5.2						
STKA	**Stephens Creek**	**29.03**	**230**	*e*P	**P**	**12 18 19.2**	**+0.4**
	0.8nm,0.7s						
STKA	**Stephens Creek**	**29.03**	**230**	P	**P**	**12 18 19.4**	**+0.6**
	4.8nm,0.4s,baz=43,slow=8.4,SNR=25						
STKA				LR	LR	12 29 28.1	
	comp=Z,94nm,20.7s,baz=28,slow=35						
STKA	**Stephens Creek**	**29.03**	**230**	P	**P**	**12 18 19.9**	**+1.1**
	baz=29,SNR=22						
HTT	**Hallett**	**31.75**	**229**	P	**P**	**12 18 44.0**	**+1.1**
	baz=32,SNR=4.3						
WRAB	**Tennant Creek**	**31.94**	**256**	*e*P	**P**	**12 18 43.0**	**-1.7**
WRA	**Warramunga Arr**	**31.95**	**256**	P	**P**	**12 18 43.1**	**-1.6**
WRA				PcP	**PcP**	**12 21 31.9**	**-0.2**
WRA	**Warramunga Arr**	**31.95**	**256**	P	**P**	**12 18 43.1**	**-1.6**
	1.3nm,0.6s,baz=85,slow=9.2,SNR=42						
WRA				PcP	**PcP**	**12 21 31.9**	**-0.2**
	0.7nm,0.8s,baz=80,slow=3.8,SNR=5.0						
AS31	**Alice Springs**	**32.78**	**249**	*e*P	**P**	**12 18 50.7**	**-1.3**
ASAR	**Alice Springs**	**32.78**	**249**	P	**P**	**12 18 50.8**	**-1.2**
ASAR				PcP	**PcP**	**12 21 33.7**	**-0.7**
ASAR	**Alice Springs**	**32.78**	**249**	P	**P**	**12 18 50.8**	**-1.2**
	2.5nm,0.4s,baz=78,slow=9.1,SNR=85						
ASAR				PcP	**PcP**	**12 21 33.7**	**-0.7**
	0.8nm,0.7s,baz=71,slow=2.7,SNR=4.6						
BBOO	**Buckleboo**	**33.62**	**232**	P	**P**	**12 18 60.0**	**+0.8**
	baz=34,SNR=6.5						
KNRA	**Kununurra**	**37.29**	**264**	P	**P**	**12 19 29.8**	**-0.9**
	baz=37,SNR=4.9						
FITZ	**Fitzroy Crossi**	**40.16**	**259**	P	**P**	**12 19 54.4**	**-0.2**
	baz=40,SNR=9.2						
WSI	**Waingapu**	**46.29**	**271**	P	P	12 21 00.9	+17
	baz=46,SNR=6.8						
MEEK	**Meekatharra**	**46.88**	**247**	P	**P**	**12 20 48.4**	**-0.1**
	baz=47,SNR=4.7						
CBIJ	**Chichi jima**	**48.40**	**329**	P	**P**	**12 20 58.1**	**-1.9**
JCJ	**Chichijima**	**48.40**	**329**	P	**P**	**12 20 58.1**	**-1.9**
	62nm,0.6s,baz=264,slow=21,SNR=3.1						
MJAR	**Matsushiro Arr**	**58.12**	**332**	P	**P**	**12 22 10.9**	**-0.1**
MJAR	**Matsushiro Arr**	**58.12**	**332**	P	**P**	**12 22 10.9**	**-0.1**
	1.0nm,0.5s,baz=125,slow=6.1,SNR=3.9						
VNDA	**Vanda**	**62.72**	**181**	P	**P**	**12 22 41.8**	**+0.2**
VNDA	**Vanda**	**62.72**	**181**	P	**P**	**12 22 41.8**	**+0.2**
	1.6nm,0.6s,baz=0.8,slow=8.3,SNR=7.2						
KSRS	**Korea Array**	**63.96**	**326**	P	**P**	**12 22 50.0**	**-0.3**
	1.0nm,0.7s,baz=132,slow=7.9,SNR=4.8						
KSAR	**Wonju Array Be**	**63.97**	**326**	P	**P**	**12 22 50.0**	**-0.4**
USRK	**Ussuriysk Arra**	**67.09**	**333**	P	**P**	**12 23 10.8**	**+0.4**
	2.1nm,0.7s,baz=142,slow=7.3,SNR=4.5						
QSPA	**South Pole Qui**	**75.15**	**180**	*e*P	**P**	**12 23 59.2**	**+0.3**
QSPA	**South Pole Qui**	**75.15**	**180**	P	**P**	**12 23 59.1**	**+0.3**
	5.1nm,0.7s,baz=248,slow=0.9,SNR=12						
CMAR	**Chiang Mai Arr**	**75.17**	**294**	P	**P**	**12 24 01.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**75.17**	**294**	P	**P**	**12 24 01.2**	**+1.6**
	1.9nm,0.7s,baz=127,slow=4.4,SNR=12						
ULN	**Ulaanbaatar**	**82.36**	**324**	*e*P	**P**	**12 24 39.0**	**+0.5**
	5.1nm,0.8s						
SONM	**Songino Array**	**82.72**	**324**	P	**P**	**12 24 40.9**	**+0.6**
SONM	**Songino Array**	**82.72**	**324**	P	**P**	**12 24 40.9**	**+0.6**
	2.8nm,0.8s,baz=132,slow=5.2,SNR=21						
LSA	**Lhasa**	**85.78**	**302**	*e*P	**P**	**12 24 56.8**	**+0.1**
	4.0nm,0.5s						
ILAR	**Eielson Array**	**86.61**	**18**	P	**P**	**12 24 58.5**	**-0.9**
ILAR	**Eielson Array**	**86.61**	**18**	P	**P**	**12 24 58.5**	**-0.9**
	2.5nm,0.9s,baz=238,slow=4.7,SNR=24						
MK31	**Makanchi Array**	**97.43**	**316**	*e*P	**P**	**12 25 50.0**	**+0.1**
MKAR	**Makanchi Array**	**97.43**	**316**	P	Pdif	12 25 50.6	+0.7
MKAR	**Makanchi Array**	**97.43**	**316**	P	Pdif	12 25 50.6	+0.7
	2.0nm,0.7s,baz=91,slow=6.4,SNR=16						
ZALV	**Zalesovo Beam**	**97.61**	**324**	P	**P**	**12 25 50.2**	**-0.3**
ZALV	**Zalesovo Beam**	**97.61**	**324**	P	**P**	**12 25 50.2**	**-0.3**
	1.7nm,0.7s,baz=113,slow=5.0,SNR=5.9						
ARCES	**ARCESS Array B**	**120.44**	**345**	PKP	**PKPdf**	**12 31 06.0**	**-0.5**
ARCES	**ARCESS Array B**	**120.44**	**345**	PKP	**PKPdf**	**12 31 06.0**	**-0.5**
	2.0nm,0.6s,baz=40,slow=1.5,SNR=7.9						
DAVOX	**Davos/Dischmat**	**143.09**	**334**	PKP	PKPbc	12 31 48.1	+1.0
DAVOX	**Davos/Dischmat**	**143.09**	**334**	PKP	PKPbc	12 31 48.1	+1.0
	3.6nm,0.5s,baz=99,slow=3.2,SNR=8.5						
TUE	**Stuetta**	**143.56**	**334**	*e*PKPdf	PKPbc	12 31 49.5	+1.1
TIP	**Timpagrande**	**144.67**	**319**	*e*PKPdf	**PKPdf**	**12 31 52.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**166.06**	**265**	PKP	**PKPdf**	**12 32 21.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**166.06**	**265**	PKP	**PKPdf**	**12 32 21.0**	**-0.5**
	0.6nm,0.7s,baz=97,slow=1.4,SNR=4.0						

*ISCJB **07** 12:29:42.6±0.3, 34°.26N±0°.03×26°.80E±0°.04, h62km±8km, mb3.7/5, Error ellipse: s-maj=6.9km s-min=3.7km az=140.4*

*CSEM **07** 12:29:44.1±0.1, 34°.29N×26°.79E, h80km, ML3.3, Error ellipse: s-maj=6.8km s-min=2.7km az=45.0*

*ATH **07** 12:29:46.2, 34°.54N×26°.57E, h75km±3km*

*THE **07** 12:29:48.0, 34°.51N×26°.65E, h83km±5km, ML3.3/2, Error ellipse: s-maj=5.4km s-min=2.3km az=305.0*

*HLW **07** 12:29:48.1, 34°.14N×27°.03E, h31km±52km, Md0.0, Ml3.2*

*IDC **07** 12:29:52.0±2.6, 34°.64N×26°.16E, h100km±21km, mb3.5/5, mb1 3.5/7, mb1mx3.3/27, mbtmp3.4/7, Error ellipse: s-maj=38.8km s-min=22.2km az=123.0*

ISC 07 12:29:44.0±0.6, 34°.31N±0°.03×26°.73E±0°.03, h55km±9km, n98, σ1°27/103, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.91**	**332**	P	**Pn**	**12 30 01.9**	**+1.2**
ZKR	**Zakros**	**0.91**	**332**	*e*P	**Pn**	**12 30 01.6**	**+0.9**
ZKR				*e*S	**Sn**	**12 30 12.2**	**-0.8**
ZKR	**Zakros**	**0.91**	**332**	P	**Pn**	**12 30 01.9**	**+1.2**
KARP	**Karpathos**	**1.28**	**16**	*e*P	**Pn**	**12 30 07.3**	**+1.6**
KARP				*e*S	**Sn**	**12 30 22.8**	**+0.8**
KARP	**Karpathos**	**1.28**	**16**	*e*P	**Pn**	**12 30 07.3**	**+1.6**
KARP				*e*S	**Sn**	**12 30 22.8**	**+0.8**
NPS	**Neapolis**	**1.32**	**316**	P	Pn	12 30 08.2	+2.0
NPS				S	**Sn**	**12 30 22.2**	**-0.7**
NPS	**Neapolis**	**1.32**	**316**	*e*P	**Pn**	**12 30 08.0**	**+1.8**
NPS	**Neapolis**	**1.32**	**316**	*e*P	**Pn**	**12 30 08.0**	**+1.8**
NPS				S	**Sn**	**12 30 22.2**	**-0.7**
LAST	**Lasithi**	**1.34**	**310**	P	**Pn**	**12 30 08.3**	**+1.8**
LAST				S	**Sn**	**12 30 24.2**	**+0.9**
LAST	**Lasithi**	**1.34**	**310**	*e*P	**Pn**	**12 30 08.1**	**+1.6**
LAST				*e*S	**Sn**	**12 30 21.5**	**-1.8**
LAST	**Lasithi**	**1.34**	**310**	*e*P	**Pn**	**12 30 08.1**	**

	baz=134							
KOT				S	Sn	12 32 13.0	-8.2	
	baz=134							
KOT	**Kottamia**	**6.15**	**134**	P	**Pn**	**12 31 10.3**	**-2.0**	
HSAF	**As Saff**	**6.22**	**137**	P	**Pn**	**12 31 12.2**	**-1.0**	
	baz=138							
HSAF	**As Saff**	**6.22**	**137**	P	**Pn**	**12 31 12.2**	**-1.0**	
AWBH		**6.25**	**162**	P	**Pn**	**12 31 13.9**	**+0.2**	
	baz=164							
AWBH		**6.25**	**162**	P	**Pn**	**12 31 13.9**	**+0.2**	
HHAG	**Hagoal**	**6.29**	**132**	P	**Pn**	**12 31 14.1**	**-0.2**	
	baz=132							
HHAG				AMP		12 32 00.0		
	comp=N,40μm,0.2s,logA/T=5.3,baz=132							
HHAG	**Hagoal**	**6.29**	**132**	P	**Pn**	**12 31 14.1**	**-0.2**	
GLL	**Jalalah**	**6.33**	**137**	P	**Pn**	**12 31 13.2**	**-1.6**	
	baz=137							
GLL	**Jalalah**	**6.33**	**137**	P	**Pn**	**12 31 13.2**	**-1.6**	
RSH		**6.78**	**118**	P	**Pn**	**12 31 19.3**	**-1.5**	
	baz=117							
RSH		**6.78**	**118**	P	**Pn**	**12 31 19.3**	**-1.5**	
SUZ		**6.83**	**129**	P	**Pn**	**12 31 21.0**	**-0.6**	
	baz=129							
SUZ		**6.83**	**129**	P	**Pn**	**12 31 21.0**	**-0.6**	
HFRF	**Wahat Farafira**	**7.26**	**169**	P	**Pn**	**12 31 26.7**	**-0.8**	
	baz=170							
HFRF	**Wahat Farafira**	**7.26**	**169**	P	**Pn**	**12 31 26.7**	**-0.8**	
HNKL	**Nakhl**	**7.54**	**123**	P	**Pn**	**12 31 30.2**	**-1.2**	
	baz=123							
HNKL	**Nakhl**	**7.54**	**123**	P	**Pn**	**12 31 30.2**	**-1.2**	
TR2		**8.40**	**133**	P	**Pn**	**12 31 41.6**	**-1.5**	
	baz=133							
TR2		**8.40**	**133**	P	**Pn**	**12 31 41.6**	**-1.5**	
HHRG	**Al Ghardaqah**	**9.19**	**138**	P	**Pn**	**12 31 53.8**	**-0.1**	
	baz=139							
HHRG	**Al Ghardaqah**	**9.19**	**138**	P	**Pn**	**12 31 53.8**	**-0.1**	
AKASG	**Malin Array Be**	**16.48**	**6**	P	**P**	**12 33 33.9**	**+0.6**	
	comp=N,1.3nm,0.3s,baz=191,slow=11,SNR=12							
GERES	**GERESS Array B**	**17.45**	**330**	P	**Pn**	**12 33 43.2**	**-0.4**	
	comp=N,0.1nm,0.3s,baz=159,slow=12,SNR=3.1							
FINES	**FINESS Array B**	**27.16**	**359**	P	**P**	**12 35 22.5**	**+0.7**	
	comp=N,2.1nm,0.8s,baz=168,slow=11,SNR=6.1							
HFS	**Hagfors**	**27.21**	**346**	P	**P**	**12 35 22.1**	**-0.2**	
	comp=N,2.3nm,0.8s,baz=144,slow=8.2,SNR=5.2							
TORD	**Torodi Ar. Bea**	**30.97**	**233**	P	**P**	**12 35 58.4**	**+2.2**	
	comp=N,0.4nm,0.4s,baz=34,slow=8.0,SNR=6.6							
ARCES	**ARCESS Array B**	**35.29**	**359**	P	**P**	**12 36 33.9**	**+0.7**	
	comp=N,1.6nm,0.8s,baz=185,slow=9.1,SNR=5.4							
MKAR	**Makanchi Array**	**43.17**	**56**	P	P	12 37 44.3	+5.0	
	comp=N,0.3nm,0.6s,baz=259,slow=6.6,SNR=2.4							

JMA ***07*** *12:32:54.4±0.3, 33°.90N×142°.00E, h46km, M3.6*
ISCJB ***07*** *12:32:55.4±1.4, 33°.89N±0°.06×141°.9E±0°.1, h48km±13km, mb3.5/3, Error ellipse: s-maj=15.2km s-min=9.8km az=165.6*
IDC ***07*** *12:32:58.9±3.2, 33°.04N×139°.76E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=133.0km s-min=21.9km az=73.0*

ISC 07 12:32:57.8±2.7, 33°.91N±0°.07×141°.8E±0°.2, h50km±23km, n13, σ1§34/19, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**1.01**	**318**	P		**Pn**	**Pn**	**12 33 14.1**	**-1.0**
BSO1				S		**Sn**	**Sn**	**12 33 29.5**	**+1.4**
BSO2	**Boso 2**	**1.21**	**314**	S		**Sn**	**Sn**	**12 33 33.0**	**-0.2**
BSO3	**Boso 3**	**1.40**	**310**	P		**Pn**	**Pn**	**12 33 20.2**	**-0.4**
BSO3				S		**Sn**	**Sn**	**12 33 39.5**	**+1.8**
BSO4	**Boso 4**	**1.62**	**312**	P		**Pn**	**Pn**	**12 33 23.5**	**-0.4**
BSO4				S		**Sn**	**Sn**	**12 33 44.7**	**+1.1**
JHJ2	**Mitsune**	**1.84**	**245**	P		**Pn**	**Pn**	**12 33 27.0**	**+0.1**
JHJ2				S		**Sn**	**Sn**	**12 33 49.6**	**+0.6**
JHCJ	**Hachijojimakas**	**1.87**	**244**	P		**Pn**	**Pn**	**12 33 27.1**	**-0.3**
JIM2	**Oshima 3**	**2.13**	**293**	P		**Pn**	**Pn**	**12 33 29.8**	**-1.0**
JIM2				S		**Sn**	**Sn**	**12 33 55.7**	**-0.4**
JIZS	**Izushimoda**	**2.56**	**289**	P		**Pn**	**Pn**	**12 33 34.0**	**-2.7**
JIZS				S		**Sn**	**Sn**	**12 34 07.2**	**+0.6**
JOD2	**Odawara 2**	**2.62**	**302**	P		**Pn**	**Pn**	**12 33 35.7**	**-1.9**
JOD2				S		**Sn**	**Sn**	**12 34 09.2**	**+1.0**
MJAR	**Matsushiro Arr**	**3.95**	**313**	Pn		Pn	Pn	12 33 57.3	+1.5
	1.1nm,0.3s,baz=147,slow=14,SNR=13								
MJAR				Sn		**Sn**	**Sn**	**12 34 43.1**	**+2.2**
	1.3nm,0.3s,baz=172,slow=9.0,SNR=5.7								
MKAR	**Makanchi Array**	**46.11**	**305**	P		**P**	**P**	**12 41 17.4**	**+0.5**
	0.3nm,0.5s,baz=86,slow=9.8,SNR=2.9								
WRA	**Warramunga Arr**	**54.02**	**189**	P		**P**	**P**	**12 42 16.9**	**-0.2**
	0.4nm,0.4s,baz=5.3,slow=7.6,SNR=11								
ASAR	**Alice Springs**	**57.75**	**189**	P		P	P	12 42 44.1	+0.4
	0.3nm,0.8s,baz=3.4,slow=7.2,SNR=5.6								

IDC ***07*** *12:49:25.0±1.0, 30°.70N×139°.63E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/26, mbtmp3.6/7, ML3.4/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/36, Error ellipse: s-maj=35.0km s-min=21.4km az=90.0*
ISCJB ***07*** *12:49:27.8±0.8, 30°.7N±0°.1×139°.40E±0°.10, h33km, mb3.6/5, MS2.5/1, Error ellipse: s-maj=16.1km s-min=10.8km az=28.1*

ISC 07 12:49:30.0±1.1, 30°.7N±0°.1×139°.5E±0°.1, h35km, n18, σ0§65/8, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MJAR	**Matsushiro Arr**	**5.91**	**350**	Pn		**Pn**	**Pn**	**12 50 55.4**	**+0.3**
	1.1nm,0.3s,baz=163,slow=12,SNR=13								
JNU	**Nakatsue**	**7.70**	**290**	Pn		**Pn**	**Pn**	**12 51 19.7**	**0.0**
	0.5nm,0.3s,baz=63,slow=6.8,SNR=4.7								
JNU				Sn		**Sn**	**Sn**	**12 52 45.3**	**-0.4**
	0.2nm,0.3s,baz=188,slow=17,SNR=3.4								
JNU				LR		LR	LR	12 54 12.8	
	comp=Z,86nm,18.7s,baz=74,slow=37								
KSRS	**Korea Array**	**11.71**	**308**	LR		LR	LR	12 56 43.6	
	comp=Z,15nm,28.6s,baz=118,slow=37								
H11N2	**WAKE ISLAND Hy**	**27.03**	**107**	T		T	T	13 23 17.9	
	baz=303,slow=76,SNR=408								
H11N1	**WAKE ISLAND Hy**	**27.03**	**107**	T		T	T	13 23 17.7	
	baz=303,slow=76,SNR=464								
H11N3	**WAKE ISLAND Hy**	**27.05**	**107**	T		T	T	13 23 18.6	
	baz=303,slow=76,SNR=334								
H11S3	**WAKE ISLAND Hy**	**27.48**	**110**	T		T	T	13 23 50.3	
	baz=306,slow=74,SNR=356								
H11S1	**WAKE ISLAND Hy**	**27.48**	**110**	T		T	T	13 23 49.9	
	baz=306,slow=74,SNR=457								
H11S2	**WAKE ISLAND Hy**	**27.50**	**110**	T		T	T	13 23 52.7	
	baz=306,slow=74,SNR=417								
SONM	**Songino Array**	**30.50**	**314**	LR		LR	LR	13 07 36.5	
	comp=Z,15nm,28.6s,baz=16,slow=36								
MKAR	**Makanchi Array**	**46.39**	**307**	P		**P**	**P**	**12 57 53.4**	**+0.5**
	0.3nm,0.7s,baz=94,slow=9.1,SNR=2.8								
WRA	**Warramunga Arr**	**50.60**	**186**	P		**P**	**P**	**12 58 25.6**	**+0.1**
	0.9nm,0.6s,baz=4.8,slow=7.6,SNR=11								
ASAR	**Alice Springs**	**54.33**	**186**	P		**P**	**P**	**12 58 53.6**	**+0.5**
	0.3nm,0.5s,baz=360,slow=6.2,SNR=11								
ILAR	**Eielson Array**	**55.72**	**30**	P		**P**	**P**	**12 59 02.9**	**+0.2**
	0.4nm,0.9s,baz=251,slow=7.5,SNR=3.5								
TXAR	**Lajitas Array**	**95.27**	**51**	P		**P**	**P**	**13 02 49.6**	**-1.1**
	0.4nm,0.8s,baz=306,slow=3.1,SNR=3.3								
H03N2	**Juan Fernandez**	**147.45**	**105**	T		T	T	15 53 51.3	
	baz=277,slow=74,SNR=257								
H03N3	**Juan Fernandez**	**147.46**	**105**	T		T	T	15 53 52.0	
	baz=277,slow=74,SNR=226								
H03N1	**Juan Fernandez**	**147.47**	**105**	T		T	T	15 53 52.6	
	baz=277,slow=74,SNR=257								

GUC 07 13:21:09.7±0.7, 22°.11S×68°.72W, h121km±5km, ML3.8, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PB09	**Plate Boundary**	**0.57**	**302**	⇑*i* P		Pn	Pn	13 21 29.1	+0.7
PB09				*i* S		Sn	Sn	13 21 43.2	+0.6
PB09				AML		AML	AML	13 21 44.0	
	comp=N,10μm,0.3s								
PB04	**Plate Boundary**	**0.73**	**257**	⇑*i* P		Pn	Pn	13 21 36.4	+7.0
PB04				*i* S		Sn	Sn	13 21 56.6	+12
PB04				AML		AML	AML	13 21 58.8	
	comp=E,1μm,0.8s								
PB01	**Plate Boundary**	**1.27**	**326**	⇓*i* P		Pn	Pn	13 21 35.6	+0.8
PB01				*i* S		Sn	Sn	13 21 54.7	+0.9
PB01				AML		AML	AML	13 21 56.4	
	comp=E,979nm,0.4s								
CEN1	**Los Morros**	**1.87**	**227**	⇓*i* P		Pn	Pn	13 21 44.9	+3.1
CEN1				AML		AML	AML	13 22 20.6	
	comp=E,214nm,0.6s								
HMBC	**Humberstone**	**2.12**	**329**	⇑*i* P		Pn	Pn	13 21 45.6	+0.7
HMBC				*i* S		Sn	Sn	13 22 13.1	+1.3
HMBC				AML		AML	AML	13 22 15.0	
	comp=N,554nm,0.6s								
PB10	**Plate Boundary**	**2.20**	**230**	*e*P		Pn	Pn	13 21 46.6	+0.9
PB10				AML		AML	AML	13 22 25.1	
	comp=N,803nm,0.3s								
MNMC	**Minimini**	**3.07**	**344**	*e*P		Pn	Pn	13 21 58.3	+1.0
MNMC				AML		AML	AML	13 22 46.6	
	comp=E,393nm,0.3s								

KRSC 07 13:22:40.0±7.2, 49°.33N×156°.81E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SKR	**Severo-Kuril's**	**1.43**	**342**	P		P	Pn	13 23 06.4	-0.1
SKR				S		S	Sb	13 23 25.5	0.0
PAU	**Pauzhetka**	**2.14**	**0**	P		P	Pb	13 23 17.9	-1.3
PAU				S		S	Sb	13 23 46.0	0.0
MIPR	**Malaya Ipel'ka**	**2.95**	**359**	P		P	Pn	13 23 29.5	+2.0
MIPR				S		S	Sn	13 24 05.9	+2.6
ASAK	**Asacha**	**3.13**	**12**	P		P	Pn	13 23 31.1	+1.0
ASAK				S		S	Sn	13 24 09.0	+1.0
MTVR	**Mutnovka**	**3.27**	**15**	P		P	Pn	13 23 34.8	+2.7
MTVR				S		S	Sn	13 24 14.3	+2.7
RUS	**Russkaya**	**3.29**	**18**	P		P	Pn	13 23 34.1	+2.0
RUS				S		S	Sn	13 24 13.7	+2.1
APC	**Apacha**	**3.61**	**3**	P		P	Pn	13 23 39.7	+3.2
UGLR	**Uglovaya**	**4.08**	**17**	P		P	Pn	13 23 46.3	+3.1
AVH	**Avacha**	**4.12**	**16**	P		P	Pn	13 23 46.5	+2.8
AVH				S		S	Sn	13 24 35.0	+2.7
KOK	**Koryaka**	**4.13**	**15**	P		P	Pn	13 23 47.7	+3.9
SMAR	**Somma**	**4.13**	**17**	P		P	Pn	13 23 47.2	+3.2
KRER	**Koryakskii**	**4.16**	**16**	P		P	Pn	13 23 47.6	+3.2
SDLR	**Sedlovina**	**4.16**	**17**	P		P	Pn	13 23 46.7	+2.4
SDLR				S		S	Sn	13 24 34.4	+1.0
NLC	**Nalytchevo**	**4.16**	**22**	S		S	Sn	13 24 33.7	+0.6
KRX	**Arik**	**4.20**	**15**	P		P	Pn	13 23 47.7	+2.9
SPN	**Mys Shipunski**	**4.28**	**27**	S		S	Sn	13 24 38.9	+2.9
GNL	**Ganaly**	**4.43**	**9**	P		P	Pn	13 23 50.0	+2.0
MKZ	**Mys Kozlova**	**6.05**	**28**	P		P	Pn	13 24 11.9	+1.9
MKZ				S		S	Sn	13 25 19.6	0.0

IDC ***07*** *13:30:01.2±4.5, 42°.03S×148°.11E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.7/14, mbtmp3.6/3, Error ellipse: s-maj=341.8km s-min=39.6km az=65.0*
AUST ***07*** *13:30:02.9±0.4, 42°.07S×147°.67E, h10km, Error ellipse: s-maj=1.4km s-min=0.5km az=301.0*
ISCJB ***07*** *13:30:03.1±1.6, 42°.1S±0°.1×147°.6E±0°.2, h10km, mb3.5/2, Error ellipse: s-maj=27.4km s-min=10.6km az=26.8*

ISC 07 13:30:03.0±1.9, 42°.2S±0°.2×147°.7E±0°.2, h10km, n11, σ0§70/11, 2C-5D, Tasmania region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MOO	**Moorlands**	**0.44**	**242**	⇓P		**Pb**	**Pb**	**13 30 13.1**	**+0.2**
	baz=0.5,SNR=95								
TOO	**Toolangi**	**4.96**	**339**	⇑P		**Pn**	**Pn**	**13 31 17.7**	**+0.1**
	baz=4.8,SNR=59								
MILA	**Mila**	**5.29**	**13**	⇓P		**Pn**	**Pn**	**13 31 21.7**	**-0.4**
	baz=5.1,SNR=34								
CAN	**Canberra**	**6.98**	**9**	⇓P		**Pn**	**Pn**	**13 31 46.2**	**+0.9**
	baz=6.8								
CNB	**Canberra Magne**	**7.03**	**11**	⇓P		**Pn**	**Pn**	**13 31 46.7**	**+0.7**
	baz=6.9,SNR=8.9								
ARPS	**Mount Arapiles**	**7.10**	**318**	⇓P		**Pn**	**Pn**	**13 31 47.5**	**+0.6**
	baz=7.0,SNR=38								
STKA	**Stephens Creek**	**11.43**	**333**	Pn		**Pn**	**Pn**	**13 32 45.4**	**-1.0**
	0.2nm,0.3s,baz=159,slow=14,SNR=6.3								
STKA				Lg		Lg		13 36 03.1	
	0.2nm,0.3s,baz=54,slow=19,SNR=2.1								
STKA	**Stephens Creek**	**11.43**	**333**	⇑P		**Pn**	**Pn**	**13 32 47.2**	**+0.9**
	baz=11,SNR=4.6								
ASAR	**Alice Springs**	**21.79**	**324**	P		**P**	**P**	**13 34 54.9**	**-0.3**
	1.0nm,0.7s,baz=150,slow=9.6,SNR=15								
WRA	**Warramunga Arr**	**24.94**	**329**	P		**P**	**P**	**13 35 26.0**	**-0.4**
	1.0nm,0.5s,baz=155,slow=9.9,SNR=36								
GERES	**GERESS Array B**	**147.53**	**298**	PKPbc		**PKPbc**	**PKPbc**	**13 49 46.5**	**-0.4**
	0.6nm,0.5s,baz=90,slow=2.0,SNR=4.7								

MEX 07 13:44:38.6±0.7, 17°.73N×101°.69W, h19km±20km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ZIIG	**Zihuatanejo**	**0.24**	**120**	*i* P		Pb	Pb	13 44 43.1	-1.1
ZIIG				*i* S		Sb	Sb	13 44 47.5	-0.4
ARIG	**Puente Sto Nin**	**1.39**	**67**	*e*P		Pn	Pn	13 44 59.4	-3.6
ARIG				*i* S		Sn	Sn	13 45 16.4	-4.4
CAIG	**El Cayaco**	**1.52**	**116**	*e*P		Pn	Pn	13 45 01.0	-3.7
CAIG				*e*S		Sn	Sn	13 45 20.2	-3.7
MMIG	**Aquila**	**1.67**	**290**	*e*P		Pn	Pn	13 45 04.2	-2.6
MMIG				*i* S		Sn	Sn	13 45 23.8	-3.9
ACX	**Acapulco**	**1.95**	**116**	*e*P		Pn	Pn	13 45 06.6	-4.1
ACX				*e*S		Sn	Sn	13 45 29.5	-5.1
PLIG	**Platanillo**	**2.18**	**72**	*e*P		Pn	Pn	13 45 11.7	-2.3
PLIG				*e*S		Sn	Sn	13 45 37.1	-3.4
YAIG	**Yautepec**	**2.73**	**65**	*e*P		Pn	Pn	13 45 18.8	-2.9
YAIG				*i* S		Sn	Sn	13 45 51.0	-3.3
TLIG	**Tlapa**	**2.98**	**93**	*e*P		Pn	Pn	13 45 22.3	-2.7
TLIG				*i* S		Sn	Sn	13 45 57.6	-2.8

DJA 07 13:56:53.9±1.2, 3°.S±3°.×122°.3E±°, h113km±14km, M3.6/9, MLv3.6/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KKSI	**Kolaka, Sulawe**	**1.69**	**242**	P		Pn	Pn	13 57 25.6	+2.5
BBSI	**Bau Bau**	**2.18**	**195**	P		Pn	Pn	13 57 29.8	+0.5
BBSI				S		Sn	Sn	13 57 56.6	+0.1
LUWI	**Luwuk**	**2.34**	**351**	P		Pn	Pn	13 57 31.1	-0.3
LUWI				S		Sn	Sn	13 58 01.0	+0.8
APSI	**Ampana**	**2.86**	**329**	P		Pn	Pn	13 57 36.9	-1.3
BNSI	**Bone**	**3.19**	**251**	P		Pn	Pn	13 57 43.1	+0.5
SPSI	**Sidrap Palu**	**3.42**	**260**	P		Pn	Pn	13 57 45.3	-0.2
BKSI	**Bulukumba**	**3.58**	**237**	P		Pn	Pn	13 57 46.1	-1.6
GTOI	**Gorontalo**	**3.98**	**358**	P		Pn	Pn	13 57 56.2	+3.1
MRSI	**Marisa**	**4.00**	**343**	P		Pn	Pn	13 57 52.3	-1.1

DDA ***07*** *14:04:26.6, 35°.40N×26°.61E, h26km, MD3.5*
IDC ***07*** *14:04:28.6±0.9, 35°.85N×26°.91E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/28, mbtmp3.6/10, ML3.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/51, Error ellipse: s-maj=25.7km s-min=14.3km az=164.0*
ATH ***07*** *14:04:30.0, 35°.77N×26°.95E, h21km±1km, MD3.5/14*
ISCJB ***07*** *14:04:31.5±0.4, 35°.74N±0°.03×26°.99E±0°.02, h25km±4km, mb3.7/6, Error ellipse: s-maj=4.4km s-min=2.4km az=160.2*
CSEM ***07*** *14:04:31.5±0.1, 35°.78N×26°.95E, h10km, MD3.5, Error ellipse: s-maj=3.4km s-min=2.0km az=168.0*
ISK ***07*** *14:04:32.4, 35°.75N×27°.04E, h34km, ML3.7*
THE ***07*** *14:04:33.6, 35°.73N×27°.00E, h25km±5km, ML3.5/3, Error ellipse: s-maj=5.1km s-min=1.1km az=97.0*

ISC 07 14:04:31.2±0.9, 35°.74N±0°.02×26°.96E±0°.02, h17km±7km, n142, σ1§09/197, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KARP	**Karpathos**	**0.25**	**140**	*e*PB		**Pg**	**Pg**	**14 04 36.8**	**0.0**
KARP				*e*SB		**Sb**	**Sb**	**14 04 41.0**	**-0.5**
KARP	**Karpathos**	**0.25**	**140**	*e*Pb		**Pg**	**Pg**	**14 04 36.8**	**0.0**
KARP				*e*Sb		**Sb**	**Sb**	**14 04 41.0**	**-0.5**
ZKR	**Zakros**	**0.87**	**224**	P		**Pg**	**Pg**	**14 04 48.5**	**+0.4**
ZKR				S		**Sn**	**Sn**	**14 05 01.2**	**+0.2**
ZKR	**Zakros**	**0.87**	**224**	*e*PN		**Pb**	**Pb**	**14 04 46.0**	**-1.9**
ZKR				*e*SN		**Sb**	**Sb**	**14 04 59.5**	**+0.3**
ZKR	**Zakros**	**0.87**	**224**	P		**Pg**	**Pg**	**14 04 48.5**	**+0.4**
ZKR				*e*Sn		**Sb**	**Sb**	**14 04 59.5**	**+0.3**
ZKR				S		**Sn**	**Sn**	**14 05 01.2**	**+0.2**
ARG	**Arkhangelos**	**1.06**	**63**	P		**Pb**	**Pb**	**14 04 50.7**	**-0.3**
ARG				S		**Sn**	**Sn**	**14 05 05.5**	**-0.1**
ARG	**Arkhangelos**	**1.06**	**63**	*e*PN		**Pb**	**Pb**	**14 04 50.7**	**-0.3**
ARG				*e*SN		**Sb**	**Sb**	**14 05 04.4**	**-0.2**
ARG	**Arkhangelos**	**1.06**	**63**	P		**Pb**	**Pb**	**14 04 50.7**	**-0.3**
ARG				*e*Sn		**Sb**	**Sb**	**14 05 04.4**	**-0.2**
ARG				S		**Sn**	**Sn**	**14 05 05.5**	**-0.1**
DAT	**Datca**	**1.10**	**27**	*e*PG		**Pn**	**Pn**	**14 04 50.8**	**-1.2**
DAT				*e*SG		**Sb**	**Sb**	**14 05 05.7**	**-0.4**
DAT	**Datca**	**1.10**	**27**	*e*Pg		**Pn**	**Pn**	**14 04 50.8**	**-1.2**
DAT				*e*Sg		**Sb**	**Sb**	**14 05 05.7**	**-0.4**
NPS	**Neapolis**	**1.20**	**247**	P		**Pb**	**Pb**	**14 04 53.6**	**+0.1**
NPS				S		**Sn**	**Sn**	**14 05 09.4**	**+0.3**
NPS	**Neapolis**	**1.20**	**247**	*e*PN		**Pb**	**Pb**	**14 04 53.6**	**+0.1**
NPS				*e*SN		**Sn**	**Sn**	**14 05 09.2**	**+0.1**
NPS	**Neapolis**	**1.20**	**247**	P		**Pb**	**Pb**	**14 04 53.6**	**+0.1**
NPS				S		**Sn**	**Sn**	**14 05 09.4**	**+0.3**
LAST	**Lasithi**	**1.34**	**245**	P		**Pb**	**Pb**	**14 04 56.0**	**+0.1**
LAST				S		**Sn**	**Sn**	**14 05 12.9**	**+0.1**
LAST	**Lasithi**	**1.34**	**245**	*e*PN		**Pb**	**Pb**	**14 04 55.8**	**-0.1**
LAST				*e*SN		**Sg**	**Sg**	**14 05 13.9**	**-0.6**
LAST	**Lasithi**	**1.34**	**245**	P		**Pb**	**Pb**	**14 04 56.0**	**+0.1**
LAST				S		**Sb**	**Sb**	**14 05 12.9**	**+0.1**
LAST				*e*Sn		**Sg**	**Sg**	**14 05 13.9**	**-0.6**
BODT	**Bodrum**	**1.35**	**12**	*e*PN		**Pn**	**Pn**	**14 04 55.1**	**-0.1**
BODT				*e*SN		**Sn**	**Sn**	**14 05 12.4**	**-0.4**
BODT	**Bodrum**	**1.35**	**12**	*e*Pn		**Pn**	**Pn**	**14 04 55.1**	**-0.1**
BODT				*e*Sn		**Sn**	**Sn**	**14 05 12.4**	**-0.4**
THR1	**Thera Island**	**1.37**	**298**	P		**Pb**	**Pb**	**14 04 56.3**	**-0.1**
THR1	**Thera Island**	**1.37**	**298**	P		**Pb**	**Pb**	**14 04 56.3**	**-0.1**
THR1	**Thera Island**	**1.37**	**298**	*e*Pn		**Pb**	**Pb**	**14 04 56.6**	**+0.2**
SANT	**Santorini**	**1.37**	**298**	*e*PN		**Pb**	**Pb**	**14 04 57.0**	**+0.7**
SANT	**Santorini**	**1.37**	**298**	P		**Pb**	**Pb**	**14 04 56.2**	**-0.2**
SANT				S		**Sb**	**Sb**	**14 05 14.5**	**+0.9**
SANT	**Santorini**	**1.37**	**298**	*e*PN		**Pb**	**Pb**	**14 04 56.1**	**-0.3**
SANT				*e*SN		**Sb**	**Sb**	**14 05 14.2**	**+0.6**
SANT	**Santorini**	**1.37**	**298**	P		**Pb**	**Pb**	**14 04 56.2**	**-0.2**
SANT				*e*Sn		**Sb**	**Sb**	**14 05 14.2**	**+0.6**
BDRM	**Kayabasi**	**1.38**	**16**	*i* P		**Pb**	**Pb**	**14 04 56.3**	**-0.2**
BDRM				*i* S		**Sg**	**Sg**	**14 05 16.2**	**+0.5**
BDRM	**Kayabasi**	**1.38**	**16**	*i* P		**Pb**	**Pb**	**14 04 56.3**	**-0.2**
BDRM				*i* S		**Sg**	**Sg**	**14 05 16.2**	**+0.5**
THR2	**Thira island,**	**1.42**	**300**	P		**Pn**	**Pn**	**14 04 56.6**	**+0.4**
THR2	**Thira island,**	**1.42**	**300**	P		**Pn**	**Pn**	**14 04 56.6**	**+0.4**
DALY	**Dalyan (Mu¨la**	**1.74**	**51**	*e*PN		**Pn**	**Pn**	**14 05 00.6**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.74**	**51**	*e*Pn		**Pn**	**Pn**	**14 05 00.5**	**-0.1**
TURN	**Turunc**	**1.74**	**49**	*i* P		**Pn**	**Pn**	**14 04 57.7**	**-2.9**
TURN				*i* S		Sn	Sn	14 05 15.8	-6.7
TURN	**Turunc**	**1.74**	**49**	*i* P		**Pn**	**Pn**	**14 04 57.7**	**-2.9**
IDI	**Anoyia**	**1.75**	**256**	*e*PN		**Pb**	**Pb**	**14 05 01.9**	**-0.9**
IDI	**Anoyia**	**1.75**	**256**	P		**Pb**	**Pb**	**14 05 02.0**	**-0.9**
IDI				S		**Sn**	**Sn**	**14 05 23.4**	**+0.7**
IDI	**Anoyia**	**1.75**	**256**	*e*PB		**Pn**	**Pn**	**14 05 00.0**	**-0.8**
IDI				*e*SN		**Sn**	**Sn**	**14 05 23.2**	**+0.5**
IDI	**Anoyia**	**1.75**	**256**	*e*PN		**Pn**	**Pn**	**14 05 00.0**	**-0.8**
IDI	**Anoyia**	**1.75**	**256**	*e*Pn		**Pb**	**Pb**	**14 05 01.9**	**-0.9**
IDI				S		**Sn**	**Sn**	**14 05 23.4**	**+0.7**
IDI	**Anoyia**	**1.75**	**256**	P

CSS	**Prodhromos**	**5.26**	**97**	*e*Pn	**Pn**	**14 05 51.4**	**+2.3**
LFK	**Lefkose**	**5.38**	**93**	*e*PN	**Pn**	**14 05 52.3**	**+1.5**
LFK	**Lefkose**	**5.38**	**93**	*e*Pn	**Pn**	**14 05 52.3**	**+1.5**
IKL	**Isikli**	**5.47**	**83**	*e*PN	**Pn**	**14 05 53.5**	**+1.5**
IKL	**Isikli**	**5.47**	**83**	*e*Pn	**Pn**	**14 05 53.5**	**+1.5**
SULT	**Sultanhani-AKS**	**5.79**	**63**	*e*PN	**Pn**	**14 05 57.8**	**+1.4**
SULT	**Sultanhani-AKS**	**5.79**	**63**	*e*Pn	**Pn**	**14 05 57.8**	**+1.4**
MERS	**Mersin**	**6.21**	**77**	*e*PN	**Pn**	**14 06 03.8**	**+1.7**
MERS	**Mersin**	**6.21**	**77**	*e*Pn	**Pn**	**14 06 03.8**	**+1.7**
GULE	**Gulek**	**6.48**	**74**	*i* P	**Pn**	**14 06 08.6**	**+2.7**
GULE				*i* S	**Sn**	**14 07 20.9**	**+1.3**
GULE	**Gulek**	**6.48**	**74**	*i* P	**Pn**	**14 06 08.6**	**+2.7**
GULE				*i* S	**Sn**	**14 07 20.9**	**+1.3**
BRTR	**Keskin Array B**	**6.62**	**51**	Pn	**Pn**	**14 06 08.7**	**+0.9**
	0.2nm,0.3s,baz=228,slow=13,SNR=7.2						
BRTR				Sn	**Sn**	**14 07 24.5**	**+1.5**
	0.2nm,0.3s,baz=218,slow=25,SNR=2.9						
MMAI	**Mount Meron Ar**	**7.49**	**109**	Pn	**Pn**	**14 06 19.1**	**-0.6**
	2.1nm,0.3s,baz=303,slow=12,SNR=4.2						
MMAI				Sn	**Sn**	**14 07 41.9**	**-2.4**
	2.6nm,0.3s,baz=301,slow=26,SNR=4.5						
EIL	**Elat**	**9.05**	**130**	Pn	**Pn**	**14 06 40.4**	**-0.7**
	0.6nm,0.3s,baz=315,slow=5.7,SNR=6.3						
EIL				Sn	Sn	14 08 13.0	-10
	0.4nm,0.3s,baz=319,slow=20,SNR=3.0						
VRAC	**Vranov**	**15.54**	**334**	LR	LR	14 14 50.6	
	comp=Z,71nm,18.1s,baz=70,slow=40						
GERES	**GERESS Array B**	**16.33**	**327**	Pn	**Pn**	**14 08 17.4**	**-2.3**
	0.1nm,0.3s,baz=137,slow=12,SNR=2.0						
ESDC	**Sonseca Array**	**24.71**	**288**	P	**P**	**14 09 51.1**	**-0.5**
	1.0nm,0.6s,baz=82,slow=10,SNR=9.6						
TORD	**Torodi Ar. Bea**	**32.00**	**232**	P	**P**	**14 10 57.1**	**+0.4**
	0.2nm,0.3s,baz=33,slow=8.3,SNR=5.5						
MKAR	**Makanchi Array**	**42.23**	**57**	P	**P**	**14 12 23.0**	**-0.3**
	0.4nm,0.4s,baz=278,slow=8.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**43.54**	**47**	P	**P**	**14 12 33.1**	**-0.7**
	0.5nm,0.3s,baz=269,slow=9.5,SNR=4.9						
SONM	**Songino Array**	**57.98**	**51**	P	**P**	**14 14 23.5**	**+0.7**
	0.4nm,0.6s,baz=290,slow=8.3,SNR=4.7						
SCHQ	**Schefferville**	**63.69**	**320**	P	**P**	**14 15 00.3**	**-1.2**
	3.5nm,0.8s,baz=82,slow=4.2,SNR=4.4						

IDC ***07*** *14:09:04.9±0.6,48°.38S×87°.21W,h0km,mb4.5/11, mb1 4.6/13,mb1mx4.4/20,mbtmp4.4/13,ML3.5/2,MS4.3/26, Ms1 4.3/26,ms1mx4.2/34,Error ellipse: s-maj=25.3km s-min=15.8km az=97.0*

ISCJB ***07*** *14:09:06.1±0.3,48°.41S±0°.06×86°.93W±0°.10,h10km, mb4.5/19,MS4.3/25,Error ellipse: s-maj=9.7km s-min=7.4km az=148.4*

NEIC ***07*** *14:09:06.3±0.3,48°.37S×87°.26W,h10km,mb4.8/10,Error ellipse: s-maj=11.0km s-min=8.4km az=111.0*

GCMT ***07*** *14:09:08.7±0.2,48°.71S×87°.31W,h12km,MW5.0, Moment Tensor Solution. s49,c61; s85,c121; Moment tensor: Scale 10^{16}Nm; M_{rr}3.89±.10; $M_{\theta\theta}$0.26±.10; $M_{\phi\phi}$-4.15±.09; $M_{r\theta}$1.60±.34; $M_{\theta\phi}$0.26±.08; $M_{\phi r}$1.05±.29; Best double couple: $M_0$4.50000×10^{16} NP1:ϕ_s17.00000°, δ55.00000°,λ115.00000°. NP2:ϕ_s158.00000°,δ42.00000°, λ59.00000°. Principal axes: T 4.6300, Plg68.0000°, Azm341.0000°; N -0.3400, Plg20.0000°, Azm182.0000°; P -4.2900, Plg7.0000°, Azm89.0000°; Data Used: II IU IC G CU CN.*

ISC 07 14:09:07.0±0.3,48°.33S±0°.07×87°.04W±0°.08,h10km,n249, σ1°.13/245,mb4.7/18,MS4.4/25,69C-56D,Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**13.25**	**126**	Pn	**Pn**	**14 12 16.6**	**+1.7**
USHA	**Ushuaia**	**13.25**	**126**	Pn	**Pn**	**14 12 16.6**	**+1.7**
	0.6nm,0.3s,baz=279,slow=13,SNR=3.1						
USHA				LR	LR	14 16 19.2	
	comp=Z,3μm,21.1s,baz=278,slow=33						
PLCA	**Paso Flores**	**13.98**	**63**	P	**Pn**	**14 12 26.3**	**+1.1**
PLCA	**Paso Flores**	**13.98**	**63**	Pn	**Pn**	**14 12 26.0**	**+0.8**
	0.0nm,0.3s,baz=241,slow=17,SNR=2.9						
PLCA				LR	LR	14 16 44.4	
	comp=Z,2μm,21.6s,baz=269,slow=33						
PMSA	**Palmer Station**	**20.58**	**152**	LR	LR	14 19 42.3	
	comp=Z,236nm,18.9s,baz=323,slow=31						
TRQA	**Tornquist**	**20.87**	**70**	*e*P	Pn	14 13 51.9	+0.3
	54nm,1.4s						
CFAA	**Coronel Fontan**	**21.97**	**47**	P	**P**	**14 14 01.5**	**+0.6**
CFAA	**Coronel Fontan**	**21.97**	**47**	P	**P**	**14 14 01.5**	**+0.6**
	0.6nm,0.7s,baz=216,slow=11,SNR=14						
CFAA				LR	LR	14 20 51.4	
	comp=Z,139nm,21.1s,baz=224,slow=32						
LVC	**Limon Verde**	**29.46**	**36**	P	**P**	**14 15 10.5**	**-0.7**
	11nm,0.8s						
CPUP	**Villa Florida**	**31.93**	**57**	P	**P**	**14 15 31.1**	**-1.6**
CPUP	**Villa Florida**	**31.93**	**57**	P	**P**	**14 15 31.8**	**-1.0**
	2.2nm,0.7s,baz=209,slow=13,SNR=3.0						
CPUP				LR	LR	14 27 59.1	
	comp=Z,817nm,18.6s,baz=202,slow=35						
LPAZ	**La Paz**	**35.53**	**32**	P	**P**	**14 16 05.2**	**+0.4**
LPAZ	**La Paz**	**35.53**	**32**	P	**P**	**14 16 05.2**	**+0.4**
	2.1nm,0.5s,baz=206,slow=9.6,SNR=8.6						
SIV	**San Ignacio**	**38.66**	**42**	LR	LR	14 31 25.3	
	comp=Z,322nm,21.4s,slow=35						
ATAH	**Atahualpa**	**41.71**	**13**	P	**P**	**14 16 57.8**	**+1.4**
ATAH	**Atahualpa**	**41.71**	**13**	P	**P**	**14 16 57.8**	**+1.4**
	13nm,0.9s,baz=300,slow=5.0,SNR=7.4						
QSPA	**South Pole Qui**	**41.90**	**180**	*e*P	**P**	**14 16 56.5**	**-0.8**
	21nm,1.1s						
QSPA				*e*PcP	**PcP**	**14 18 52.7**	**+0.1**
QSPA	**South Pole Qui**	**41.90**	**180**	P	**P**	**14 16 57.2**	**-0.1**
	11nm,1.0s,baz=140,slow=4.8,SNR=12						
VNA2	**Neumayer--Watz**	**42.03**	**151**	*e*P	**P**	**14 16 59.2**	**+1.2**
SNAA	**Sanae**	**43.29**	**153**	*e*P	**P**	**14 17 08.5**	**+0.1**
SNAA	**Sanae**	**43.29**	**153**	*e*P	**P**	**14 17 08.5**	**+0.1**
	35nm,1.3s						
SNAA	**Sanae**	**43.29**	**153**	P	**P**	**14 17 08.8**	**+0.4**
	8.9nm,1.1s,baz=241,slow=7.6,SNR=14						
SAML	**Samuel**	**44.11**	**35**	*e*P	**P**	**14 17 15.5**	**+0.1**
	7.7nm,1.3s						
RKT	**Rikitea**	**45.38**	**286**	*e*LR	LR	14 30 06.4	
	731nm,30.5s,baz=142						
BDFB	**Brasilia**	**45.66**	**58**	LR	LR	14 37 10.5	
	comp=Z,593nm,19.1s,baz=339,slow=37						
VNDA	**Vanda**	**47.57**	**196**	LR	LR	14 34 21.4	
	comp=Z,289nm,19.7s,baz=123,slow=32						
OTAV	**Otavalo**	**48.95**	**11**	*e*P	**P**	**14 17 55.1**	**+1.2**
	9.2nm,0.8s						
ROSC	**El Rosal**	**54.13**	**16**	LR	LR	14 37 58.6	
	comp=Z,152nm,19.9s,baz=356,slow=32						
TBI	**Tubuai**	**54.73**	**274**	*e*S	**S**	**14 26 16.4**	**-0.5**
	194nm,29.0s						
TBI				*e*LR	LR	14 34 24.1	
	1μm,27.5s,baz=140						
SYO	**Syowa Base**	**56.54**	**160**	*e*P	**P**	**14 18 48.2**	**-0.7**
PPT2	**Papeete2**	**58.85**	**279**	*e*S	**S**	**14 27 12.4**	**+0.7**
	262nm,25.0s						
PPT2				*e*LR	LR	14 36 27.1	
	1μm,24.0s,baz=136						
PPT	**Papeete**	**58.87**	**279**	LR	LR	14 37 17.3	
	comp=Z,789nm,18.7s,baz=176,slow=29						
MAW	**Mawson**	**62.18**	**167**	P	**P**	**14 19 27.7**	**-0.2**
MAW	**Mawson**	**62.18**	**167**	P	**P**	**14 19 27.7**	**-0.2**
	5.8nm,0.8s,baz=187,slow=7.4,SNR=5.4						
MAW				LR	LR	14 47 10.8	
	comp=Z,111nm,19.7s,baz=146,slow=37						
CASY	**Casey**	**64.92**	**188**	P	**P**	**14 19 45.8**	**-0.2**
	12nm,1.1s						
RPZ	**Rata Peaks**	**65.60**	**231**	LR	LR	14 42 31.9	
	comp=Z,222nm,18.1s,baz=18,slow=31						
URZ	**Urewera**	**66.06**	**239**	LR	LR	14 41 49.3	
	comp=Z,289nm,20.0s,baz=132,slow=30						
RAO	**Raoul Island**	**69.32**	**249**	LR	LR	14 42 33.9	
	comp=Z,289nm,20.3s,baz=118,slow=29						
LPIG	**La Paz**	**75.06**	**338**	LR	LR	14 46 16.5	
	comp=Z,67nm,21.6s,baz=339,slow=30						
732A	**Laxson Ranch,**	**77.58**	**348**	⇓P	**P**	**14 21 03.3**	**+0.4**
	baz=78,SNR=6.2						
631A	**Perdido Creek**	**78.34**	**348**	⇑P	**P**	**14 21 07.6**	**+0.5**
	baz=79						
534A	**Blanco**	**78.68**	**350**	P	**P**	**14 21 09.9**	**+0.9**
	baz=79						
TXAR	**Lajitas Array**	**78.74**	**345**	P	**P**	**14 21 10.2**	**+0.7**
TXAR	**Lajitas Array**	**78.74**	**345**	P	**P**	**14 21 10.2**	**+0.7**
	4.9nm,1.0s,baz=159,slow=7.7,SNR=26						
TXAR				LR	LR	14 48 49.7	
	comp=Z,94nm,20.3s,baz=0.0,slow=30						
628A	**Black Gap, Mar**	**78.76**	**346**	⇑P	**P**	**14 21 10.6**	**+1.1**
	baz=79						
533A	**Kerrville**	**78.79**	**349**	⇓P	**P**	**14 21 10.2**	**+0.6**
	baz=79						
627A	**Terlingua Ranc**	**78.81**	**346**	⇑P	**P**	**14 21 10.1**	**+0.3**
	baz=79						
532A	**Rocksprings**	**78.95**	**349**	⇑P	**P**	**14 21 11.6**	**+1.0**
	baz=79						
626A	**Big Bend Ranch**	**79.03**	**345**	⇑P	**P**	**14 21 11.8**	**+0.8**
	baz=79						
530A	**J-C Ranch, Com**	**79.17**	**347**	⇓P	**P**	**14 21 12.3**	**+0.6**
	baz=80,SNR=7.2						
529A	**Stev Forest Ra**	**79.28**	**347**	⇓P	**P**	**14 21 13.0**	**+0.6**
	baz=80						
JCT	**Junction City**	**79.28**	**349**	⇓P	**P**	**14 21 13.2**	**+0.8**
	baz=80						
528A	**Cox Ranch, San**	**79.40**	**346**	⇓P	**P**	**14 21 13.6**	**+0.6**
	baz=80						
434A	**Burnet**	**79.43**	**350**	P	**P**	**14 21 13.8**	**+0.8**
	baz=80						
433A	**Art**	**79.47**	**349**	⇑P	**P**	**14 21 12.9**	**-0.4**
	baz=80						
526A	**Mary Lane Ranc**	**79.52**	**345**	⇓P	**P**	**14 21 14.6**	**+0.8**
	baz=80						
431A	**Sonora**	**79.59**	**348**	⇑P	**P**	**14 21 14.0**	**0.0**
	baz=80,SNR=5.8						
432A	**Menard**	**79.67**	**349**	P	**P**	**14 21 14.9**	**+0.5**
	baz=80						
429A	**Davenport Ranc**	**79.72**	**347**	⇑P	**P**	**14 21 15.2**	**+0.4**
	baz=80,SNR=6.6						
430A	**Baggett Ranch,**	**79.78**	**348**	⇑P	**P**	**14 21 15.4**	**+0.3**
	baz=80,SNR=5.5						
335A	**Moody**	**79.80**	**351**	P	**P**	**14 21 15.9**	**+0.8**
	baz=80						
334A	**Lometa**	**79.94**	**350**	P	**P**	**14 21 16.0**	**+0.2**
	baz=80						
428A	**Kincaid Ranch,**	**79.94**	**346**	⇑P	**P**	**14 21 16.8**	**+0.8**
	baz=80						
333A	**Richland Sprin**	**80.02**	**350**	⇑P	**P**	**14 21 16.5**	**+0.2**
	baz=80						
332A	**Millersview**	**80.17**	**349**	P	**P**	**14 21 17.6**	**+0.5**
	baz=80						
427A	**Hayter Ranch,**	**80.18**	**346**	⇑P	**P**	**14 21 17.8**	**+0.6**
	baz=80						
331A	**San Angelo**	**80.18**	**348**	⇓P	**P**	**14 21 17.7**	**+0.5**
	baz=80						
330A	**Mertzon**	**80.38**	**348**	⇓P	**P**	**14 21 19.0**	**+0.7**
	baz=81						
425A	**Indio Mountain**	**80.39**	**344**	⇑P	**P**	**14 21 18.5**	**+0.1**
	baz=81						
328A	**Wristen Ranch,**	**80.60**	**346**	⇑P	**P**	**14 21 20.1**	**+0.6**
	baz=81						
232A	**Coleman**	**80.65**	**349**	⇑P	**P**	**14 21 20.4**	**+0.7**
	baz=81						
326A	**Caldwell Ranch**	**80.73**	**345**	⇑P	**P**	**14 21 20.5**	**+0.3**
	baz=81						
231A	**Bronte**	**80.79**	**349**	P	**P**	**14 21 20.6**	**+0.2**
	baz=81						
230A	**Sterling City**	**80.85**	**348**	⇑P	**P**	**14 21 21.3**	**+0.6**
	baz=81						
325A	**Bean Ranch, Si**	**80.95**	**345**	⇓P	**P**	**14 21 21.7**	**+0.2**
	baz=81						
229A	**Bryant Ranch,**	**81.03**	**347**	⇓P	**P**	**14 21 22.4**	**+0.7**
	baz=81						
228A	**UT Block 9, Go**	**81.29**	**347**	⇓P	**P**	**14 21 23.6**	**+0.5**
	baz=82						
227A	**Bennet, Jal**	**81.30**	**346**	⇑P	**P**	**14 21 24.4**	**+1.2**
	baz=82						
ABTX	**Abilene, Hawle**	**81.38**	**349**	⇓P	**P**	**14 21 24.2**	**+0.6**
	baz=82						
226B	**Tecolote Peak,**	**81.50**	**345**	⇑P	**P**	**14 21 25.0**	**+0.7**
	baz=82						
131A	**Roby**	**81.52**	**349**	⇑P	**P**	**14 21 24.9**	**+0.6**
	baz=82						
320A	**Kipp Ranch, An**	**81.61**	**342**	⇑P	**P**	**14 21 25.6**	**+0.7**
	baz=82						
225A	**Deer Hill, Car**	**81.65**	**345**	⇑P	**P**	**14 21 26.0**	**+0.8**
	baz=82						
129A	**Stewart Farms,**	**81.69**	**347**	⇑P	**P**	**14 21 26.1**	**+0.9**
	baz=82						
224A	**Cornudas Mount**	**81.74**	**344**	⇓P	**P**	**14 21 25.9**	**+0.3**
	baz=82						
128A	**Castleberry Fa**	**81.77**	**347**	⇑P	**P**	**14 21 25.9**	**+0.2**
	baz=82,SNR=10						
319A	**Douglas**	**81.81**	**341**	⇓P	**P**	**14 21 27.4**	**+1.4**
	baz=82						
Z33A	**Whitaker Ranch**	**81.93**	**350**	⇑P	**P**	**14 21 27.2**	**+0.8**
	baz=82						
127A	**Arkansas Junct**	**81.96**	**346**	⇑P	**P**	**14 21 27.9**	**+1.2**
	baz=82						
126A	**Clayton Basin,**	**82.04**	**346**	P	**P**	**14 21 27.4**	**+0.3**
	baz=82						
222A	**Williams Famil**	**82.07**	**343**	⇓P	**P**	**14 21 28.8**	**+1.5**
	baz=82						
Z31A	**Sharp Cattle R**	**82.13**	**349**	⇑P	**P**	**14 21 29.1**	**+1.6**
	baz=82						
125A	**Gardner Draw,**	**82.16**	**345**	⇓P	**P**	**14 21 28.3**	**+0.5**
	baz=82						
220A	**Playas Peak, P**	**82.16**	**342**	⇑P	**P**	**14 21 29.2**	**+1.3**
	baz=82						
Z30A	**Sanderson Ranc**	**82.23**	**348**	⇑P	**P**	**14 21 28.7**	**+0.7**
	baz=83						
Z29A	**Hungry Hill Ra**	**82.28**	**348**	⇓P	**P**	**14 21 28.7**	**+0.4**
	baz=83						
124A	**Stringfield Ra**	**82.34**	**344**	⇑P	**P**	**14 21 29.7**	**+0.9**
	baz=83						
BOSA	**Boshof**	**82.40**	**125**	P	**P**	**14 21 29.3**	**-0.2**
BOSA	**Boshof**	**82.40**	**125**	P	**P**	**14 21 29.3**	**-0.2**
	3.6nm,0.8s,baz=208,slow=3.8,SNR=3.7						
BOSA				LR	LR	14 54 07.0	
	comp=Z,196nm,18.1s,baz=205,slow=33						
Z28A	**Tucker Farm, M**	**82.41**	**347**	⇑P	**P**	**14 21 29.9**	**+0.9**
	baz=83						
Z27A	**Tatum**	**82.56**	**346**	⇑P	**P**	**14 21 30.8**	**+1.0**
	baz=83						
121A	**Cookes Peak, D**	**82.62**	**342**	⇓P	**P**	**14 21 31.1**	**+0.9**
	baz=83						
Z25A	**Roswell**	**82.77**	**345**	⇓P	**P**	**14 21 31.6**	**+0.7**
	baz=83						
120A	**U Bar Ranch, L**	**82.81**	**342**	⇑P	**P**	**14 21 32.8**	**+1.6**
	baz=83						
Y28A	**McKinney Farm,**	**83.00**	**347**	⇓P	**P**	**14 21 32.9**	**+0.9**
	baz=83						
X32A	**Elmer**	**83.11**	**350**	⇓P	**P**	**14 21 33.6**	**+1.0**
	baz=84						
Z22A	**Elephant Butte**	**83.16**	**343**	⇓P	**P**	**14 21 34.4**	**+1.4**
	baz=84						
SWET	**Sewanee**	**83.18**	**1**	*e*P	**P**	**14 21 32.5**	**-0.4**
	20nm,0.9s						
Y26A	**Elida**	**83.25**	**346**	⇑P	**P**	**14 21 34.4**	**+0.9**
	baz=84						
X30A	**Coker Ranch, T**	**83.33**	**349**	⇓P	**P**	**14 21 34.2**	**+0.4**
	baz=84						
Z20A	**Nine Sixteen R**	**83.34**	**342**	⇑P	**P**	**14 21 35.5**	**+1.5**
	baz=84						
Z21A	**St. Cloud Mine**	**83.35**	**343**	⇑P	**P**	**14 21 35.6**	**+1.6**
	baz=84						
X31A	**McDonald Ranch**	**83.40**	**349**	⇓P	**P**	**14 21 35.1**	**+1.0**
	baz=84						
X29A	**Tulia**	**83.44**	**348**	⇑P	**P**	**14 21 35.4**	**+1.0**
	baz=84						
Y24A	**Capitan**	**83.53**	**345**	⇓P	**P**	**14 21 36.0**	**+1.1**
	baz=84						
Y23A	**Lovelace Mesa,**	**83.64**	**344**	⇓P	**P**	**14 21 36.7**	**+1.2**
	baz=84						
TKL	**Tuckaleechee C**	**83.67**	**3**	LR	LR	14 56 42.3	
	comp=Z,88nm,19.2s,baz=342,slow=34						
Y22A	**Socorro**	**83.82**	**343**	⇑P	**P**	**14 21 37.7**	**+1.3**
	baz=84						
X26A	**CR and CF Fran**	**83.86**	**346**	⇑P	**P**	**14 21 37.4**	**+0.8**
	baz=84,SNR=6.6						
AMTX	**Amarillo**	**83.87**	**348**	⇑P	**P**	**14 21 37.8**	**+1.3**
	baz=84						
X25A	**Clemmons Ranch**	**83.98**	**345**	⇓P	**P**	**14 21 38.0**	**+0.8**
	baz=84						
WVT	**Waverly**	**84.09**	**359**	*e*P	**P**	**14 21 36.8**	**-0.7**
	6.4nm,0.8s						
W29A	**Amarillo**	**84.10**	**348**	⇓P	**P**	**14 21 38.9**	**+1.1**
	baz=84						
DZM	**Mont Dzumac**	**84.13**	**243**	LR	LR	14 51 52.3	
	comp=Z,202nm,18.4s,baz=166,slow=31						
X23A	**Hourglass Bar**	**84.30**	**344**	⇑P	**P**	**14 21 40.0**	**+1.1**
	baz=85						
LAZ	**Ladron**	**84.30**	**343**	*e*P	**P**	**14 21 39.9**	**+1.0**
	8.0nm,1.5s						
V34A	**Guthrie**	**84.31**	**351**	⇑P	**P**	**14 21 39.1**	**+0.5**
	baz=85						
W26A	**Owens Ranch, T**	**84.39**	**346**	⇓P	**P**	**14 21 39.9**	**+0.7**
	baz=85,SNR=5.4						
W25A	**X Bar L Ranch,**	**84.62**	**346**	⇓P	**P**	**14 21 41.9**	**+1.5**
	baz=85						
W24A	**Lazy 6 Ranch,**	**84.78**	**345**	⇓P	**P**	**14 21 42.4**	**+1.2**
	baz=85						
X18A	**Snowflake**	**85.00**	**341**	⇑P	**P**	**14 21 43.5**	**+1.1**
	baz=85						
V26A	**Tequesquite Ra**	**85.08**	**346**	⇓P	**P**	**14 21 43.7**	**+1.0**
	baz=85						
X16A	**Lo Mia Camp, P**	**85.22**	**340**	⇓P	**P**	**14 21 45.1**	**+1.6**
	baz=86						
V25A	**Rancho No Teng**	**85.25**	**346**	⇓P	**P**	**14 21 44.5**	**+0.8**
	baz=86						
W18A	**Petrified Fore**	**85.52**	**342**	⇑P	**P**	**14 21 46.5**	**+1.5**
	baz=86						
U27A	**Thompson Grove**	**85.55**	**347**	⇑P	**P**	**14 21 46.2**	**+1.2**
	baz=86						
U26A	**Atchley Ranch,**	**85.66**	**347**	P	**P**	**14 21 48.4**	**+2.7**
	baz=86						
V22A	**San Miguel Ran**	**85.73**	**344**	⇑P	**P**	**14 21 47.5**	**+1.5**
	baz=86						
U25A	**Circle Dot Ran**	**85.77**	**346**	⇑P	**P**	**14 21 47.4**	**+1.2**
	baz=86						
IRM	**Iron Mountain**	**85.89**	**337**	⇑P	**P**	**14 21 47.3**	**+0.7**
	baz=86						
MURC	**Murrieta**	**85.91**	**335**	⇑P	**P**	**14 21 47.9**	**+1.1**
	baz=86						
BELC	**Belle Mtn. Jos**	**85.96**	**336**	⇓P	**P**	**14 21 48.1**	**+1.0**
	baz=86						
CIS	**Catalina Islan**	**86.08**	**334**	⇓P	**P**	**14 21 48.5**	**+1.0**
	baz=86						
T28A	**Walsh**	**86.13**	**348**	⇑P	**P**	**14 21 49.0**	**+1.1**
	baz=86						
T27A	**Campo**	**86.16**	**347**	P	**P**	**14 21 49.7**	**+1.7**
	baz=86						
T25A	**Trinidad**	**86.49**	**346**	⇓P	**P**	**14 21 51.3**	**+1.6**
	baz=87						
S28A	**Manter**	**86.56**	**348**	⇓P	**P**	**14 21 51.3**	**+1.4**
	baz=87						
BFSC	**Mount Baldy Ra**	**86.64**	**335**	⇓P	**P**	**14 21 51.5**	**+1.0**
	baz=87						
S26A	**Kim**	**86.82**	**347**	⇓P	**P**	**14 21 52.4**	**+1.1**
	baz=87						
R32A	**Long Quarter,**	**87.00**	**351**	⇓P	**P**	**14 21 53.1**	**+1.1**
	baz=87						
S25A	**Robets Cordova**	**87.01**	**346**	⇓P	**P**	**14 21 53.8**	**+1.6**
	baz=87						
S24A	**Houchin Ranch,**	**87.11**	**346**	⇑P	**P**	**14 21 54.6**	**+1.7**
	baz=88						
R29A	**Marienthal**	**87.28**	**349**	⇑P	**P**	**14 21 54.8**	**+1.4**
	baz=88						
MVCO	**Mesa Verde**	**87.29**	**343**	⇓P	**P**	**14 21 55.1**	**+1.4**
	baz=88						
R28A	**Tribune**	**87.29**	**348**	⇑P	**P**	**14 21 54.1**	**+0.6**
	baz=88						
R27A	**Eads**	**87.37**	**348**	⇑P	**P**	**14 21 55.0**	**+1.1**
	baz=88						
R25A	**Fountain Ranch**	**87.46**	**346**	P	**P**	**14 21 56.0**	**+1.6**
	baz=88						
Q33A	**Connelly Farm,**	**87.48**	**352**	⇑P	**P**	**14 21 55.3**	**+1.0**
	baz=88						
R26A	**Arlington**	**87.48**	**347**	⇑P	**P**	**14 21 54.9**	**+0.4**
	baz=88						
S22A	**4UR Ranch, Cre**	**87.50**	**344**	⇑P	**P**	**14 21 55.8**	**+1.1**
	baz=88						
Q32A	**Meitler Ranch,**	**87.55**	**351**	⇓P	**P**	**14 21 55.9**	**+1.3**
	baz=88						
R24A	**Sanders Place,**	**87.67**	**346**	⇑P	**P**	**14 21 56.7**	**+1.3**
	baz=88,SNR=6.4						
Q30A	**Quinter**	**87.72**	**350**	P	**P**	**14 21 56.7**	**+1.2**
	baz=88						
R23A	**Moffat**	**87.75**	**345**	⇑P	**P**	**14 21 57.4**	**+1.4**
	baz=88						
Q26A	**Hugo**	**88.10**	**347**	⇑P	**P**	**14 21 58.8**	**+1.4**
	baz=88						
P31A	**Stockton**	**88.16**	**350**	⇓P	**P**	**14 21 58.8**	**+1.2**
	baz=88						
Q25A	**Bedland, Calha**	**88.20**	**347**	⇑P	**P**	**14 21 59.4**	**+1.4**
	baz=89						
P30A	**Selden**	**88.28**	**350**	⇓P	**P**	**14 21 59.6**	**+1.4**
	baz=89						
Q24A	**Divide**	**88.40**	**346**	⇑P	**P**	**14 21 59.9**	**+0.9**
	baz=89,SNR=12						
P29A	**Atwood**	**88.42**	**349**	⇑P	**P**	**14 22 00.5**	**+1.6**
	baz=89						
P28A	**Saint Francis**	**88.50**	**349**	⇓P	**P**	**14 22 00.7**	**+1.5**
	baz=89						
P26A	**Davis Ranch, A**	**88.70**	**347**	P	**P**	**14 22 01.6**	**+1.4**
	baz=89						
O32A	**Brockman Farm,**	**88.78**	**351**	⇓P	**P**	**14 22 01.3**	**+0.9**
	baz=89						
P25A	**Willow Gulch B**	**88.78**	**347**	P	**P**	**14 22 02.3**	**+1.7**
	baz=89						
P23A	**Jefferson**	**88.91**	**346**	⇓P	**P**	**14 22 03.4**	**+1.9**
	baz=89						
STKA	**Stephens Creek**	**89.07**	**220**	LR	LR	14 53 58.5	
	comp=Z,244nm,18.6s,baz=70,slow=30						
ISCO	**Idaho Springs**	**89.29**	**346**	⇓P	**P**	**14 22 04.6**	**+1.4**
	baz=90						
O26A	**Horse Wrang

GERES	**GERESS Array B**	**129.89**	**58**	PKP		**PKPdf**	**14 28 15.1**	**-0.8**
	0.4nm,0.5s,baz=228,slow=1.2,SNR=4.6							
BRTR	**Keskin Array B**	**137.45**	**79**	PKP		**PKPdf**	**14 28 28.5**	**-2.0**
BRTR	**Keskin Array B**	**137.45**	**79**	PKP		**PKPdf**	**14 28 28.5**	**-2.0**
	1.1nm,0.8s,baz=175,slow=4.0,SNR=4.7							
AKASG	**Malin Array Be**	**139.69**	**62**	PKP		**PKPdf**	**14 28 34.0**	**0.0**
AKASG	**Malin Array Be**	**139.69**	**62**	PKP		**PKPdf**	**14 28 34.0**	**0.0**
	0.2nm,0.3s,baz=246,slow=3.1,SNR=4.5							
PETK	**Petropavlovsk-**	**139.99**	**302**	PKP		**PKPdf**	**14 28 34.4**	**-0.1**
PETK	**Petropavlovsk-**	**139.99**	**302**	PKP		**PKPdf**	**14 28 34.4**	**-0.1**
	5.4nm,0.9s,baz=194,slow=5.3,SNR=4.1							
GNI	**Garni**	**145.00**	**85**	*e*PKPdf		**PKPdf**	**14 28 44.1**	**0.0**
MJAR	**Matsushiro Arr**	**145.07**	**267**	PKP		**PKPbc**	**14 28 42.8**	**-0.8**
MJAR	**Matsushiro Arr**	**145.07**	**267**	PKP		**PKPbc**	**14 28 42.8**	**-0.8**
	3.6nm,0.8s,baz=104,slow=3.9,SNR=9.6							
HYB	**Hyderabad**	**146.99**	**154**	*i* PKP		**PKPdf**	**14 28 48.5**	**+0.5**
CM31	**Chiang Mai Arr**	**149.80**	**191**	*e*PKPbc		**PKPbc**	**14 28 57.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**149.80**	**191**	PKPbc		**PKPbc**	**14 28 55.2**	**-2.0**
CMAR	**Chiang Mai Arr**	**149.80**	**191**	PKPbc		**PKPbc**	**14 28 55.2**	**-2.0**
	16nm,1.2s,baz=210,slow=2.8,SNR=18							
CHTO	**Chiang Mai**	**150.16**	**191**	PKPdf		**PKPdf**	**14 28 51.8**	**-1.3**
CHTO				*e*PKPbc		**PKPbc**	**14 28 57.4**	**-0.8**
CHTO				*e*PKPab		**PKPab**	**14 29 03.5**	**-0.5**
TIXI	**Tiksi**	**151.36**	**337**	*e*PKPbc		**PKPbc**	**14 28 58.4**	**-0.9**
KSRS	**Korea Array**	**152.40**	**260**	PKPbc		**PKPbc**	**14 29 02.1**	**-0.6**
	2.4nm,1.0s,baz=106,slow=2.7,SNR=8.2							
KSAR	**Wonju Array Be**	**152.42**	**260**	PKPbc		**PKPbc**	**14 29 02.1**	**-0.7**
KMI	**Kunming**	**155.58**	**202**	PKP		**PKPdf**	**14 28 59.3**	**-1.8**
KMI				sPKP			14 29 05.6	
KMI				LR		LR		
	comp=Z,63nm,27.3s							
GYA	**Guiyang**	**155.67**	**211**	*e*PKP		**PKPdf**	**14 29 01.0**	**-0.1**
GYA				PKPab		**PKPab**	**14 29 30.4**	**+3.2**
GYA				PKS		**PKSdf**	**14 32 33.5**	**-1.8**
GYA				PP		**PP**	**14 33 06.8**	**+3.2**
GYA				AMB		AMB		
	comp=Z,80nm,7.9s							
CN2	**Changchun**	**157.11**	**271**	*e*PKP		**PKPdf**	**14 29 03.1**	**+0.9**
ABKAR	**Akbulak array**	**158.32**	**75**	*e*PKPdf		**PKPdf**	**14 29 03.4**	**-0.1**
ABKAR				*e*PKPab		**PKPab**	**14 29 37.6**	**-0.4**
CD2	**Chengdu**	**160.75**	**209**	*e*PKP		**PKPdf**	**14 29 05.5**	**-1.5**
HHC	**Hu-ho-hao-te**	**164.80**	**247**	*e*PKP		**PKPdf**	**14 29 10.6**	**-0.1**
HHC				PP		**PP**	**14 33 55.9**	**+2.4**
HHC				SKS		**SKSdf**	**14 36 14.3**	**-0.6**
HHC				SKKS		**SKKSac**	**14 40 42.9**	**+2.0**
HHC				SS		**SS**	**14 54 27.4**	**+0.1**
HHC				AMB		AMB		
	comp=Z,260nm,9.6s							
HHC				LR		LR		
	comp=Z,250nm,21.4s							
BRVK	**Borovoye**	**164.90**	**63**	*e*PKPdf		**PKPdf**	**14 29 10.6**	**+0.4**
KSH	**Kashi**	**164.94**	**120**	PKP		**PKPdf**	**14 29 11.6**	**+0.7**
KSH				PKS		**PKSdf**	**14 32 44.1**	**+0.3**
KSH				PP		**PP**	**14 33 53.4**	**-0.8**
KSH				SKS		**SKSdf**	**14 36 15.0**	**-0.1**
KSH				SKKS		**SKKSac**	**14 40 43.1**	**+1.5**
KSH				SS		**SS**	**14 54 28.1**	**-0.5**
KSH				AMB		AMB		
	comp=Z,180nm,5.3s							
EKS2	**Erkin-Say**	**165.41**	**106**	*e*PKPdf		**PKPdf**	**14 29 10.6**	**-0.7**
GTA	**Gaotai**	**169.80**	**211**	*e*PKP		**PKPdf**	**14 29 14.0**	**-0.4**
GTA				PKPab		**PKPab**	**14 30 29.3**	**+0.5**
KURBB	**Kurchatov Arra**	**170.33**	**71**	PKP		**PKPdf**	**14 29 12.6**	**-1.6**
	0.9nm,0.7s,baz=277,slow=0.7,SNR=5.4							
KURK	**Kurchatov**	**170.37**	**70**	PKP		**PKPdf**	**14 29 12.6**	**-1.6**
ZAA0	**Zalesovo Array**	**172.40**	**39**	*e*PKPdf		**PKPdf**	**14 29 12.4**	**-2.7**
ZAA0				*e*PKPab		**PKPab**	**14 30 38.6**	**-1.1**
ZALV	**Zalesovo Beam**	**172.40**	**39**	PKP		**PKPdf**	**14 29 12.6**	**-2.4**
ZALV	**Zalesovo Beam**	**172.40**	**39**	PKP		**PKPdf**	**14 29 12.6**	**-2.4**
	4.8nm,1.1s,baz=298,slow=3.1,SNR=14							
MKAR	**Makanchi Array**	**172.62**	**98**	PKP		**PKPdf**	**14 29 13.8**	**-1.7**
MKAR	**Makanchi Array**	**172.62**	**98**	PKP		**PKPdf**	**14 29 13.8**	**-1.7**
	2.8nm,1.2s,baz=240,slow=1.2,SNR=8.5							
WMQ	**Urumqi**	**174.19**	**139**	PKP		**PKPdf**	**14 29 17.3**	**+1.1**

*GUC **07** 14:10:35.2±0.8,21°.54S×68°.78W,h126km±5km,MD4.0, ML4.0*
*IDC **07** 14:10:36.4±2.3,21°.68S×68°.15W,h105km±20km,mb3.8/4, mb1 3.7/7,mb1mx3.5/19,mbtmp4.1/7,Error ellipse: s-maj=43.7km s-min=17.8km az=108.0*

ISC 07 14:10:36.6±0.9,21°.58S±0°.05×68°.8W±0°.1,h125km±10km, n19,σ1°43/23,mb4.0/4,6C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**Plate Boundary**	**0.44**	**241**	↑*i*	P	**Pn**	**14 10 54.6**	**-0.3**
PB09				*i*	S	**Sn**	**14 11 08.7**	**-0.2**
PB09					AML	AML	14 11 09.3	
	comp=N,15μm,0.7s							
PB04	**Plate Boundary**	**0.92**	**222**	↑*i*	P	Pn	14 11 04.1	+5.9
PB04				*i*	S	Sn	14 11 25.8	+11
PB04					AML	AML	14 11 32.4	
	comp=N,919nm,0.3s							
PB07	**Plate Boundary**	**0.99**	**261**	↑*i*	P	**Pn**	**14 10 59.6**	**+0.4**
PB07				*i*	S	**Sn**	**14 11 17.3**	**+1.1**
PB07					AML	AML	14 11 18.6	
	comp=N,5μm,0.6s							
HMBC	**Humberstone**	**1.63**	**322**	↓*i*	P	**Pn**	**14 11 05.5**	**-0.5**
HMBC				*i*	S	**Sn**	**14 11 28.1**	**-0.3**
HMBC					AML	AML	14 11 29.4	
	comp=N,4μm,0.4s							
CEN1	**Los Morros**	**2.20**	**215**	*e*	P	**Pn**	**14 11 15.8**	**+2.8**
CEN1					AML	AML	14 11 53.6	
	comp=N,327nm,0.7s							
PSGC	**Pisagua**	**2.32**	**328**	↑*i*	P	**Pn**	**14 11 13.1**	**-1.3**
PSGC				*i*	S	**Sn**	**14 11 42.7**	**-0.6**
PSGC					AML	AML	14 11 48.0	
	comp=E,588nm,0.5s							
PB10	**Plate Boundary**	**2.50**	**219**	↑*i*	P	**Pn**	**14 11 16.7**	**+0.1**
PB10				*e*S		**Sn**	**14 11 45.3**	**-2.0**
PB10					AML	AML	14 12 01.9	
	comp=E,650nm,0.3s							
MNMC	**Minimini**	**2.54**	**343**	↑*i*	P	**Pn**	**14 11 16.9**	**-0.6**
MNMC				*i*	S	**Sn**	**14 11 48.5**	**-0.2**
MNMC					AML	AML	14 11 55.4	
	comp=N,939nm,0.3s							
LPAZ	**La Paz**	**5.31**	**7**	P		**Pn**	**14 11 55.3**	**+1.0**
	comp=N,2.0nm,0.3s,baz=182,slow=5.7,SNR=8.3							
LPAZ				S		Sn	14 12 44.5	-10
	comp=N,0.5nm,0.3s,baz=260,slow=18,SNR=4.4							
SIV	**San Ignacio**	**9.21**	**54**	P		Pn	14 12 40.3	-6.2
	comp=N,1.4nm,0.3s,baz=245,slow=15,SNR=30							
CFAA	**Coronel Fontan**	**10.00**	**177**	P		**Pn**	**14 12 54.0**	**-3.0**
	comp=N,0.1nm,0.3s,baz=340,slow=12,SNR=3.1							
CFAA				S		Sn	14 14 36.7	-11
	comp=N,0.0nm,0.3s,baz=217,slow=15,SNR=3.6							
PLCA	**Paso Flores**	**19.15**	**184**	P		**Pn**	**14 14 51.9**	**-0.5**
	comp=N,0.1nm,0.3s,baz=351,slow=14,SNR=4.2							
SNAA	**Sanae**	**62.18**	**161**	P		**P**	**14 20 45.2**	**+0.8**
	comp=N,0.9nm,0.8s,baz=327,slow=20,SNR=4.5							
QSPA	**South Pole Qui**	**68.61**	**180**	P		**P**	**14 21 27.6**	**+1.7**
	comp=N,1.2nm,0.2s,baz=237,slow=0.9,SNR=3.6							
DBIC	**Dimbokro**	**68.69**	**73**	P		**P**	**14 21 25.6**	**-1.5**
	comp=N,3.2nm,0.9s,baz=220,slow=7.9,SNR=3.2							
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P		**P**	**14 22 16.3**	**-1.6**
	comp=N,0.5nm,0.3s,baz=251,slow=5.1,SNR=8.3							
ASAR	**Alice Springs**	**129.88**	**207**	PKP		**PKPdf**	**14 29 33.2**	**+1.1**
	comp=N,0.2nm,0.5s,baz=154,slow=1.7,SNR=5.6							
WRA	**Warramunga Arr**	**132.92**	**210**	PKP		**PKPdf**	**14 29 39.6**	**+1.6**
	comp=N,0.2nm,0.5s,baz=147,slow=1.6,SNR=5.3							
MKAR	**Makanchi Array**	**145.65**	**36**	PKPbc		**PKPab**	**14 30 02.0**	**+0.8**
	comp=N,0.7nm,0.6s,baz=321,slow=2.0,SNR=7.0							

IDC 07 14:20:18.1±2.0,0°.75N×126°.62E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/21,mbtmp3.7/3,Error ellipse: s-maj=169.5km s-min=24.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.91**	**160**	P		P	14 25 13.0	-0.1
	1.8nm,0.5s,baz=339,slow=11,SNR=36							
ASAR	**Alice Springs**	**25.28**	**164**	P		P	14 25 46.4	0.0
	0.7nm,0.3s,baz=345,slow=11,SNR=35							
MKAR	**Makanchi Array**	**59.95**	**326**	P		P	14 30 26.2	-0.1
	0.2nm,0.3s,baz=128,slow=7.5,SNR=7.9							

*BJI **07** 14:30:49.0,5°.97S×102°.61E,h10km,mb4.7/8*
*IDC **07** 14:30:54.4±1.0,5°.28S×102°.50E,h0km,mb4.1/15, mb1 4.2/15,mb1mx4.1/26,mbtmp4.1/15,MS3.6/6, Ms1 3.7/6,ms1mx3.2/39,Error ellipse: s-maj=36.7km s-min=14.7km az=51.0*
*AUST **07** 14:30:57.0±3.3,5°.41S×102°.43E,h19km,Error ellipse: s-maj=1.3km s-min=1.0km az=275.0*
*DJA **07** 14:31:00.8±1.0,5°.5S×14°×10°.3E±°,h23km±16km,M4.5/6, mb4.8/3,mB5.2/1,MLv4.3/6,Mw(mB)4.6/1*

ISC 07 14:30:59.5±0.7,5°.33S±0°.07×102°.64E±0°.07,h34km,n51, σ1°18/44,mb4.1/16,MS4.0/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNAI	**Manna**	**1.01**	**18**	P		**Pb**	**14 31 18.9**	**+0.2**
MNAI				S		**Sb**	**14 31 33.9**	**+2.1**
MNAI	**Manna**	**1.01**	**18**	P		**Pb**	**14 31 18.5**	**-0.2**
	baz=1.2,SNR=184							
LWLI	**Liwa**	**1.45**	**78**	P		**Pb**	**14 31 25.7**	**-0.3**
LHSI	**Lahat**	**1.73**	**31**	P		**Pb**	**14 31 29.5**	**-1.3**
MDSI	**Maura Dua**	**1.75**	**61**	P		**Pb**	**14 31 29.7**	**-1.3**
MDSI				S		**Sb**	**14 31 52.4**	**-0.2**
KASI	**Kota Agung**	**1.86**	**96**	P		**Pb**	**14 31 31.5**	**-1.4**
KASI				S		**Sb**	**14 31 54.8**	**-1.0**
KLSI		**2.18**	**73**	P		**Pb**	**14 31 36.2**	**-2.1**
CISI	**Cisompet, Garu**	**5.60**	**114**	P		**Pn**	**14 32 22.2**	**+1.7**
	93nm,0.6s,2μm							
CISI	**Cisompet, Garu**	**5.60**	**114**	P		**Pn**	**14 32 22.2**	**+1.7**
	baz=5.8,SNR=9.3							
XMIS	**Christmas Isla**	**5.92**	**150**	P		Pn	14 32 20.4	-4.6
	baz=6.0,SNR=10							
UGM	**Wanagama**	**8.24**	**109**	P		**Pn**	**14 32 58.9**	**+2.1**
	119nm,1.6s							
PSI	**Prapat**	**8.89**	**335**	LR		LR	14 37 00.6	
	comp=Z,126nm,18.5s,baz=64,slow=42							
PCJI	**Pacitan**	**8.94**	**109**	P		**Pn**	**14 33 08.7**	**+2.3**
KAPI	**Kappang**	**17.05**	**90**	LR		LR	14 42 27.5	
	comp=Z,126nm,20.5s,baz=268,slow=40							
CMAR	**Chiang Mai Arr**	**23.92**	**351**	P		**P**	**14 36 09.3**	**-1.2**
	2.2nm,0.5s,baz=182,slow=9.0,SNR=23							
CMAR					LR	LR	14 46 39.2	
	comp=Z,46nm,18.5s,baz=348,slow=40							
KNRA	**Kununurra**	**27.63**	**114**	P		**P**	**14 36 44.6**	**+0.3**
	baz=28,SNR=5.4							
MTN	**Manton Dam**	**29.09**	**107**	P		P	14 37 00.7	+3.5
	baz=29,SNR=6.3							
H08S2	**Diego Garcia H**	**30.04**	**264**	T		T	15 08 07.3	
	baz=87,slow=75,SNR=19							
H08S3	**Diego Garcia H**	**30.05**	**264**	T		T	15 08 07.6	
	baz=87,slow=75,SNR=20							
H08S1	**Diego Carcia H**	**30.06**	**264**	T		T	15 08 11.6	
	baz=87,slow=75,SNR=18							
WRA	**Warramunga Arr**	**34.08**	**118**	P		**P**	**14 37 41.6**	**+0.5**
	1.0nm,0.6s,baz=302,slow=9.1,SNR=20							
ASAR	**Alice Springs**	**35.19**	**124**	P		**P**	**14 37 51.9**	**+1.1**
	1.5nm,0.7s,baz=298,slow=7.9,SNR=33							
ODAN	**Odare**	**35.24**	**336**	*e*P		**P**	**14 37 51.5**	**+0.2**
	16nm,0.6s							
TAPN	**Taplejung**	**35.55**	**337**	*e*P		**P**	**14 37 54.7**	**+0.7**
	31nm,0.8s							
RAMN	**Ramite**	**35.65**	**335**	*e*P		**P**	**14 37 55.7**	**+0.9**
	8.0nm,0.6s							
JIRN	**Jiri**	**36.44**	**335**	*e*P		**P**	**14 38 02.4**	**+0.6**
GUN	**Gumba**	**36.80**	**335**	*e*P		**P**	**14 38 05.2**	**+0.5**
	11nm,0.4s							
DMN	**Daman**	**36.87**	**334**	*e*P		**P**	**14 38 06.0**	**+0.7**
KKN	**Kakani**	**36.95**	**334**	*e*P		**P**	**14 38 06.0**	**+0.1**
GKN	**Gorkha**	**37.42**	**333**	*e*P		**P**	**14 38 10.1**	**+0.3**
KOLN	**Koldanda**	**37.69**	**332**	*e*P		**P**	**14 38 12.7**	**+0.5**
	8.6nm,0.7s							
DANN	**Dangsing**	**38.11**	**332**	*e*P		**P**	**14 38 16.1**	**+0.3**
	7.8nm,0.4s							
STKA	**Stephens Creek**	**44.99**	**131**	P		**P**	**14 39 13.2**	**+1.3**
	2.7nm,0.5s,baz=307,slow=6.8,SNR=17							
STKA	**Stephens Creek**	**44.99**	**131**	P		**P**	**14 39 13.6**	**+1.8**
	baz=45,SNR=12							
KSRS	**Korea Array**	**48.65**	**27**	P		**P**	**14 39 40.2**	**-0.1**
	1.6nm,0.5s,baz=229,slow=7.3,SNR=14							
SONM	**Songino Array**	**53.04**	**3**	P		**P**	**14 40 14.3**	**+0.9**
	6.8nm,0.9s,baz=184,slow=9.1,SNR=35							
AAK	**Ala-Archa**	**54.15**	**335**	P		**P**	**14 40 22.0**	**+0.3**
	0.7nm,0.4s,baz=108,slow=3.2,SNR=4.1							
MKAR	**Makanchi Array**	**54.94**	**343**	P		**P**	**14 40 26.7**	**-0.5**
	2.7nm,0.4s,baz=150,slow=8.5,SNR=95							
USRK	**Ussuriysk Arra**	**55.93**	**25**	P		**P**	**14 40 33.8**	**-0.5**
	1.8nm,0.5s,baz=212,slow=5.5,SNR=8.3							
PATS	**Potnpei**	**56.86**	**78**	P		P	14 40 52.3	+11
	baz=57,SNR=4.0							
KURBB	**Kurchatov Arra**	**59.48**	**342**	P		**P**	**14 40 58.5**	**-0.7**
	1.1nm,0.7s,baz=160,slow=6.8,SNR=9.1							
ZALV	**Zalesovo Beam**	**60.93**	**348**	P		**P**	**14 41 08.4**	**-0.6**
	5.6nm,0.6s,baz=163,slow=5.6,SNR=28							
ZALV					LR	LR	15 10 54.7	
	comp=Z,66nm,18.4s,baz=70,slow=39							
BVAR	**Borovoye Array**	**64.21**	**339**	P		**P**	**14 41 27.9**	**-3.0**
	2.9nm,0.6s,baz=142,slow=9.3,SNR=22							
AKTO	**Aktyubinsk**	**67.53**	**331**	P		**P**	**14 41 50.9**	**-1.5**
	0.6nm,0.4s,baz=180,slow=8.1,SNR=2.9							
PETK	**Petropavlovsk-**	**74.32**	**31**	P		**P**	**14 42 32.7**	**-0.8**
	1.8nm,0.8s,baz=236,slow=6.8,SNR=2.3							
BRTR	**Keskin Array B**	**77.50**	**312**	P		**P**	**14 42 51.3**	**-0.9**
	1.0nm,0.7s,baz=128,slow=8.0,SNR=4.9							
AKASG	**Malin Array Be**	**83.71**	**322**	P		**P**	**14 43 24.2**	**-0.8**
	0.5nm,0.5s,baz=93,slow=4.6,SNR=2.8							
FINES	**FINESS Array B**	**89.27**	**332**	LR		LR	15 30 56.4	
	comp=Z,114nm,18.1s,baz=5.2,slow=41							
ARCES	**ARCESS Array B**	**90.48**	**340**	LR		LR	15 26 23.7	
	comp=Z,87nm,20.6s,baz=235,slow=37							
TXAR	**Lajitas Array**	**145.53**	**43**	PKPbc		**PKPab**	**14 50 36.0**	**+0.6**
	3.9nm,0.6s,baz=280,slow=1.6,SNR=60							
TKL	**Tuckaleechee C**	**149.25**	**10**	PKPbc		**PKPbc**	**14 50 44.9**	**-0.3**
	2.2nm,0.9s,baz=194,slow=12,SNR=4.0							

*ISCJB **07** 14:33:56.6±0.5,50°.79N±0°.08×101°.77W±0°.06,h0km, mb2.7/1,Error ellipse: s-maj=11.8km s-min=5.3km az=8.1*
*PGC **07** 14:34:01.2±0.0,50°.68N×101°.74W,h1km,ML3.7/2,37km northeast of Esterhazy, Sk Manitoba Province, Canada Induced.*
*IDC **07** 14:34:01.4±1.0,50°.63N×101°.73W,h0km,mb2.8/1, mb1 3.7/4,mb1mx3.4/30,mbtmp3.3/4,ML3.9/2,Error ellipse: s-maj=14.2km s-min=9.4km az=4.0*

ISC 07 14:33:58.4±0.8,50°.78N±0°.10×101°.82W±0°.05,h0km,n20, σ2°11/26,12D,Manitoba

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ULM	**Lac du Bonnet**	**3.83**	**96**	↓P		**Pn**	**14 35 00.2**	**+1.7**
ULM				↑Sg		**Sg**	**14 35 58.6**	**-2.7**
ULM	**Lac du Bonnet**	**3.83**	**96**	Pn		**Pn**	**14 34 59.7**	**+1.2**
	1.3nm,0.3s,baz=278,slow=15,SNR=15							
ULM				Pg		**Pb**	**14 35 08.6**	**+1.9**
	7.1nm,0.3s,baz=278,slow=17,SNR=36							
ULM				Lg		Lg	14 35 57.0	
	12nm,0.3s,baz=188,slow=22,SNR=9.6							
EPLO	**Experimental L**	**5.31**	**99**	↓P		**Pn**	**14 35 19.8**	**+0.9**
MEDA	**Medicine Hat**	**5.77**	**266**	↓P		**Pn**	**14 35 27.0**	**+1.9**
SOLO	**Sioux Lookout**	**6.27**	**93**	↓P		**Pn**	**14 35 32.4**	**+0.3**
SOLO				↓S		**Sn**	**14 36 40.4**	**-3.9**
ATKO	**Atikokan Iron**	**6.89**	**103**	↑P		**Pn**	**14 35 41.7**	**+1.1**
PKLO	**Pickle Lake**	**7.25**	**80**	↓P		**Pn**	**14 35 45.8**	**+0.3**
EDM	**Edmonton**	**7.53**	**293**	↓P		**Pn**	**14 35 52.0**	**+2.6**
EDM				↓S		**Sn**	**14 37 13.7**	**-1.7**
WALA	**Waterton Lakes**	**8.00**	**262**	↑P		**Pn**	**14 35 56.3**	**+0.4**
WALA				↑S		**Sn**	**14 37 23.8**	**-3.2**
TBO	**Thunder Bay**	**8.32**	**100**	↑P		**Pn**	**14 36 00.1**	**0.0**
NANO	**Nakina Ontario**	**9.46**	**87**	↓P		**Pn**	**14 36 14.8**	**-1.0**
PDAR	**Pinedale Array**	**9.61**	**216**	Pn		**Pn**	**14 36 18.6**	**+0.5**
	0.2nm,0.3s,baz=37,slow=14,SNR=6.6							
PDAR				Pg			14 36 52.4	
	0.5nm,0.3s,baz=39,slow=18,SNR=7.9							
PDAR				Lg		Lg	14 38 51.4	
	0.4nm,0.3s,baz=48,slow=32,SNR=4.0							
PNPO	**Pukaskwa Natio**	**10.30**	**96**	↓S		Sn	14 38 15.9	-7.5
SLEB	**Sale Mountain**	**10.30**	**278**	↑P		**Pn**	**14 36 28.6**	**+1.1**
SLEB				↓S		**Sn**	**14 38 19.8**	**-3.9**
MNB	**Mounoet Dainar**	**10.43**	**284**	↑P		**Pn**	**14 36 31.1**	**+1.8**
MNB				↑S		**Sn**	**14 38 22.7**	**-4.2**
DOWB	**Downie Slide**	**10.52**	**281**	↑P		**Pn**	**14 36 31.4**	**+1.0**
BLBC	**Blue River**	**10.96**	**283**	↓P		**Pn**	**14 36 38.1**	**+1.5**
YKA	**Yellowknife Ar**	**13.65**	**334**	Pn		**Pn**	**14 37 13.7**	**+0.8**
	0.5nm,0.3s,baz=138,slow=13,SNR=14							
YKA				Sn		Sn	14 39 38.9	-6.3
	0.4nm,0.3s,baz=140,slow=22,SNR=7.4							
YKA				Lg		Lg	14 41 07.9	
	baz=142,slow=29,SNR=3.6							
YKW3	**Yellowknife Ar**	**13.71**	**334**	↑Pn		**Pn**	**14 37 14.7**	**+0.9**
TXAR	**Lajitas Array**	**21.46**	**184**	P		**P**	**14 38 49.9**	**+1.6**
	0.2nm,0.5s,baz=19,slow=8.8,SNR=4.2							

*IDC **07** 14:37:44.2±1.1,31°.07N×103°.81E,h0km,mb3.7/5, mb1 3.9/7,mb1mx3.6/27,mbtmp3.7/7,ML3.6/2,Error ellipse: s-maj=35.8km s-min=19.7km az=65.0*
*ISCJB **07** 14:37:45.3±0.6,31°.11N±0°.06×104°.05E±0°.07,h14km, mb3.8/4,Error ellipse: s-maj=10.8km s-min=5.6km az=38.2*
*BJI **07** 14:37:45.7,31°.30N×103°.58E,h17km,ML3.6/15,Ms3.3/4, Ms7 3.0/3*

ISC 07 14:37:47.2±0.8,31°.08N±0°.05×103°.83E±0°.07,h14km,n10, σ1°96/16,mb3.8/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CD2	**Chengdu**	**0.18**	**201**	Pg		**Pb**	**14 37 52.6**	**+0.3**
CD2				Sg		**Sb**	**14 37 58.7**	**+3.0**
CD2				smax		smax		
	comp=N,9μm,0.7s							
CD2				smax		smax		
	comp=E,6μm,0.9s							
LZH	**Lanzhou**	**4.99**	**0**	*e*Pg		**Pb**	**14 39 15.0**	**+0.5**
LZH				Sn		**Sn**	**14 39 59.0**	**-0.5**
LZH				Sg		**Sb**	**14 40 16.8**	**+2.4**
LZH				smax		smax		
	comp=N,64nm,1.1s							
LZH				smax		smax		
	comp=E,79nm,1.0s							
LZH				LR		LR		
	comp=N,410nm,7.9s							
LZH				LR		LR		
	comp=E,410nm,8.0s							
LZH				LR		LR		
	comp=Z,420nm,9.2s							
XAN	**Xi'an**	**5.21**	**54**	Pn		**Pn**	**14 39 04.8**	**0.0**
XAN				Pg		**Pb**	**14 39 18.4**	**+0.3**
XAN				Sn		**Sn**	**14 40 01.7**	**-3.0**
XAN				Sg		**Sb**	**14 40 25.0**	**+4.4**
XAN				smax		smax		
	comp=N,86nm,0.9s							
XAN				smax		smax		
	comp=E,48nm,0.8s							
XAN				LR		LR		
	comp=N,130nm,5.5s							
XAN				LR		LR		
	comp=E,46nm,6.0s							
XAN				LR		LR		
	comp=Z,80nm,9.7s							
CMAR	**Chiang Mai Arr**	**13.32**	**201**	Pn		**Pn**	**14 40 56.5**	**+0.5**
	0.1nm,0.3s,baz=11,slow=12,SNR=3.6							
SONM	**Songino Array**	**16.85**	**6**	Pn		**Pn**	**14 41 42.8**	**+0.1**
	0.1nm,0.3s,baz=186,slow=12,SNR=5.1							
KSRS	**Korea Array**	**20.87**	**66**	P		**P**	**14 42 27.9**	**-0.9**
	1.9nm,0.7s,baz=258,slow=9.6,SNR=8.0							
MKAR	**Makanchi Array**	**22.85**	**319**	P		**P**	**14 42 48.0**	**-2.0**
	2.4nm,0.9s,baz=119,slow=11,SNR=8.2							
ZALV	**Zalesovo Beam**	**26.64**	**335**	P		**P**	**14 43 24.8**	**-0.4**
	1.4nm,0.9s,baz=134,slow=8.4,SNR=3.7							
WRA	**Warramunga Arr**	**58.58**	**146**	P		**P**	**14 47 42.8**	**-0.9**
	1.3nm,0.5s,baz=338,slow=7.7,SNR=47							
ASAR	**Alice Springs**	**61.59**	**149**	P		**P**	**14 48 03.4**	**-0.9**
	0.4nm,0.5s,baz=336,slow=7.0,SNR=15							

*SZGRF **07** 14:40:09.5,19°.59S×178°.35W,h33km,Fiji Islands region*
*BJI **07** 14:41:13.1,18°.40S×177°.70W,h566km,mB5.1/12, mb4.6/24*
*ISCJB **07** 14:41:13.4±0.3,18°.20S±0°.07×178°.07W±0°.06,h550km, mb4.6/60,Error ellipse: s-maj=10.

WRAB Tennant Creek 45.03 260 eP P 14 48 39.8 -1.4
WRA Warramunga Arr 45.04 260 P P 14 48 40.6 -0.6
WRA PcP PcP 14 50 09.9 -0.3
WRA Warramunga Arr 45.04 260 P P 14 48 40.6 -0.6
comp=Z,28nm,0.7s,baz=97,slow=7.0,SNR=436
WRA PcP PcP 14 50 09.9 -0.3
comp=Z,2.8nm,0.5s,baz=91,slow=3.5,SNR=6.2
AS31 Alice Springs 45.15 255 eP P 14 48 41.9 -0.2
ASAR Alice Springs 45.15 255 P P 14 48 42.0 -0.1
ASAR PcP PcP 14 50 10.2 -0.3
ASAR Alice Springs 45.15 255 P P 14 48 42.0 -0.1
comp=Z,78nm,0.7s,baz=88,slow=8.7,SNR=803
ASAR PcP PcP 14 50 10.2 -0.3
comp=Z,5.5nm,0.5s,baz=103,slow=3.9,SNR=12
KDU Kakadu 48.05 269 P P 14 49 03.4 -0.6
baz=48,SNR=34
MTN Manton Dam 49.29 269 P P 14 49 12.2 -1.0
baz=49,SNR=23
TLE Tual 49.77 278 P P 14 49 17.1 +0.3
baz=50,SNR=3.4
FORT Forrest 50.26 245 P P 14 49 19.7 -0.4
baz=50,SNR=10
KNRA Kununurra 50.94 264 P P 14 49 24.7 -0.5
baz=51,SNR=23
FAKI Fak Fak 51.16 281 P P 14 49 26.6 -0.3
baz=51,SNR=4.5
KMBL Kambalda 55.56 244 P P 14 49 57.4 -0.4
baz=56,SNR=5.6
MBWA Marble Bar 58.45 256 eP P 14 50 17.4 -0.3
comp=Z,16nm,0.7s
MEEK Meekatharra 58.74 250 P P 14 50 18.8 -0.8
baz=59,SNR=8.4
MMRI Maumere 58.81 271 P P 14 50 19.1 -1.1
comp=Z,49nm,0.8s
KLBR Kellerberrin 59.07 244 P P 14 50 21.2 -0.5
baz=59,SNR=24
BLDU Ballidu 60.03 245 P P 14 50 27.7 -0.4
baz=60,SNR=13
KMSI Cibinong 60.13 282 P P 14 50 28.7 -0.3
comp=Z,108nm,0.8s
LBFI Labuhan Bajo, 61.08 270 P P 14 50 34.1 -1.2
comp=Z,110nm,0.6s,comp=Z,1μm
APSI Ampana 61.78 279 P P 14 50 40.5 +0.7
comp=Z,61nm,1.0s
BKSI Bulukumba 61.78 274 P P 14 50 39.8 -0.1
comp=Z,11nm,1.2s
MRSI Marisa 61.99 281 P P 14 50 38.8 -2.4
comp=Z,20nm,0.8s
BUKP Musuan 62.04 290 eP P 14 50 40.9 -0.6
BNSI Bone 62.08 275 P P 14 50 41.3 -0.5
comp=Z,23nm,1.1s
KAPI Kappang 62.23 274 P P 14 50 42.4 -0.4
KAPI Kappang 62.23 274 P P 14 50 42.4 -0.4
comp=Z,9.5nm,0.5s,baz=94,slow=20,SNR=4.3
SPSI Sidrap Palu 62.54 275 P P 14 50 43.5 -1.3
comp=Z,17nm,0.8s
GIRL Giralia 63.24 253 P P 14 50 50.0 +0.9
baz=63,SNR=4.8
MTNI Mataram 64.57 269 P P 14 50 56.6 -1.1
comp=Z,23nm,1.0s
CASY Casey 65.92 205 eP P 14 51 05.9 +0.7
GMJI Gumukmas 67.26 269 P P 14 51 13.5 -0.9
comp=Z,39nm,0.6s
BLJI Banyuglugur 67.26 269 P P 14 51 13.5 -1.0
comp=Z,67nm,0.6s
MJAR Matsushiro Arr 68.59 323 P P 14 51 21.4 -0.7
MJAR Matsushiro Arr 68.59 323 P P 14 51 21.4 -0.7
comp=Z,4.0nm,0.5s,baz=157,slow=6.1,SNR=18
MAJO Matsushiro 68.59 323 eP P 14 51 21.3 -0.8
MAJO pmax pmax
comp=Z,37nm,0.8s
MAT Matsushiro 68.59 323 P P 14 51 21.3 -0.8
PWJI Pagerwojo 68.89 268 P P 14 51 23.1 -1.2
comp=Z,50nm,0.9s
UGM Wanagama 70.13 268 P P 14 51 31.5 -0.3
baz=70,SNR=5.0
JNU Nakatsue 70.83 316 P P 14 51 34.6 -0.9
JNU Nakatsue 70.83 316 P P 14 51 34.6 -0.9
comp=Z,6.8nm,0.8s,baz=91,slow=7.3,SNR=4.2
SBUM Sibu 71.78 279 P P 14 51 42.0 +0.6
comp=Z,16nm,0.9s
ASAJ Asahikawa 71.94 331 P P 14 51 41.7 +0.1
ASAJ Asahikawa 71.94 331 P P 14 51 41.7 +0.1
comp=Z,28nm,1.1s,baz=128,slow=34,SNR=3.8
LEM Lembang 73.20 268 P P 14 51 47.2 -2.7
comp=Z,74nm,0.9s
KSM Kuching 73.24 277 P P 14 51 50.2 +0.3
comp=Z,48nm,0.9s
KSM Kuching 73.24 277 P P 14 51 50.6 +0.7
baz=73,SNR=15
PETK Petropavlovsk- 74.27 345 P P 14 51 54.4 -0.4
PETK pmax pmax
comp=Z,5.0nm,0.6s
PETK Petropavlovsk- 74.27 345 P P 14 51 54.4 -0.4
PETK Petropavlovsk- 74.27 345 P P 14 51 54.4 -0.4
comp=Z,4.7nm,0.6s,baz=130,slow=8.0,SNR=7.2
KSRS Korea Array 75.39 318 P P 14 52 02.0 +0.6
comp=Z,1.6nm,0.6s,baz=126,slow=6.3,SNR=8.9
KSAR Wonju Array Be 75.41 318 P P 14 52 02.0 +0.5
KASI Kota Agung 76.55 269 P P 14 52 07.2 -1.2
comp=Z,40nm,0.9s
MDSI Maura Dua 77.17 270 P P 14 52 10.3 -1.4
comp=Z,17nm,0.8s
USRK Ussuriysk Arra 77.29 326 P P 14 52 11.9 +0.2
comp=Z,1.6nm,0.6s,baz=143,slow=5.0,SNR=4.9
YBH Yreka Blue Hor 78.58 39 P P 14 52 20.2 +1.4
YBH Yreka Blue Hor 78.58 39 P P 14 52 20.2 +1.4
comp=Z,1.7nm,0.7s,baz=233,slow=5.1,SNR=7.2
HABR Khabarovsk 78.67 330 eP P 14 52 22.8 +3.8
HABR e 14 55 25.4
HABR ePPP PPP 14 57 19.2
HABR eS S 15 01 25.5 -5.3
HABR e 15 01 42.8
HABR eSS SS 15 06 48.0 -3.7
HABR eSSS SSS 15 10 20.3
HABR pmax pmax
comp=Z,17nm,1.2s
HABR MLR MLR
comp=Z,146nm,19.0s
NVAR Mina Array Bea 79.42 44 P P 14 52 24.5 +1.0
NVAR Mina Array Bea 79.42 44 P P 14 52 24.5 +1.0
comp=Z,1.7nm,0.7s,baz=227,slow=8.5,SNR=15
WHN Wuhan 81.29 306⇑ iP P 14 52 33.7 +0.6
IPM Ipoh 82.98 277 P P 14 52 42.3 +0.2
comp=Z,31nm,0.9s
IPM Ipoh 82.98 277 eP P 14 52 42.1 0.0
comp=Z,24nm,0.9s
PSI Prapat 84.42 275 P P 14 52 46.7 -2.7
comp=Z,22nm,0.9s
PSI Prapat 84.42 275 P P 14 52 48.3 -1.1
PSI Prapat 84.42 275 P P 14 52 48.3 -1.1
comp=Z,13nm,0.7s,baz=101,slow=3.8,SNR=12
PSI Prapat 84.42 275 P P 14 52 48.6 -0.9
baz=84,SNR=4.3
MCK McKinley 84.89 12 eP P 14 52 48.8 -1.6
MCK McKinley 84.89 12 eP P 14 52 48.8 -1.6
ENH Enshi 84.95 304 eP P 14 52 51.6 +0.1
comp=Z,9.0nm,0.6s
GSI Gunungsitoli 85.23 273 P P 14 52 53.0 -0.2
comp=Z,32nm,0.8s
GYA Guiyang 85.71 300 eP P 14 52 55.0 -0.3
GYA pP pP 14 54 57.8 +1.8
GYA sP sP 14 55 53.2 +0.9
GYA PP PP 14 56 27.4 +2.3
GYA SKS SKSac 15 02 25.0 -3.3
GYA S S 15 02 41.9 -0.2
GYA sS sS 15 06 18.5 +1.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
TXAR Lajitas Array 85.83 57 P P 14 52 57.9 +2.1
TXAR Lajitas Array 85.83 57 P P 14 52 57.9 +2.1
comp=Z,1.2nm,0.8s,baz=225,slow=7.2,SNR=8.6
COLA College 86.13 12 eP P 14 52 54.4 -1.8
COLA pmax pmax
comp=Z,19nm,1.4s
ILAR Eielson Array 86.24 13 P P 14 52 55.7 -1.1
ILAR Eielson Array 86.24 13 P P 14 52 55.7 -1.1
comp=Z,1.2nm,0.4s,baz=220,slow=5.1,SNR=57
XAN Xi'an 86.95 307 P P 14 53 01.5 +0.6
XAN pmax pmax
comp=Z,5.0nm,1.2s
PDAR Pinedale Array 87.35 43 P P 14 53 03.5 +0.6
PDAR Pinedale Array 87.35 43 P P 14 53 03.5 +0.6
comp=Z,0.6nm,0.7s,baz=264,slow=4.3,SNR=4.5
HHC Hu-ho-hao-te 87.96 314 eP P 14 53 03.5 -2.1
HHC pP pP 14 55 07.5 +0.4
HHC sP sP 14 56 00.8 -2.3
HHC PP PP 14 56 47.7 +5.0
HHC SKS SKSac 15 02 44.8 +3.6
HHC S S 15 02 59.8 -2.8
HHC sS sS 15 06 36.6 -2.5
HHC SS SS 15 09 15.1 +7.2
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,190nm,7.0s
KMI Kunming 88.50 297 P P 14 53 10.2 +1.6
KMI pmax pmax
comp=Z,12nm,0.5s
CMAR Chiang Mai Arr 89.52 290 P P 14 53 14.1 +0.9
CMAR Chiang Mai Arr 89.52 290 P P 14 53 14.1 +0.9
comp=Z,5.2nm,0.9s,baz=110,slow=2.8,SNR=39
CHTO Chiang Mai 89.64 290 eP P 14 53 12.5 -1.2
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 89.64 290 P P 14 53 13.0 -0.7
CHTO Chiang Mai 89.64 290 eP P 14 53 12.5 -1.2
comp=Z,8.4nm,1.0s
CD2 Chengdu 89.75 303 eP P 14 53 13.3 -0.8
CD2 PP PP 14 56 59.8 +3.0
CD2 S S 15 03 16.8 -2.4
CD2 SS SS 15 09 36.6 +2.9
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,50nm,8.2s
SNAA Sanae 90.11 178 eP P 14 53 15.0 0.0
SNAA Sanae 90.11 178 P P 14 53 14.7 -0.3
SNAA Sanae 90.11 178 P P 14 53 14.7 -0.3
comp=Z,0.7nm,0.6s,baz=196,slow=6.3,SNR=6.7
YAK Yakutsk 90.20 338 eP P 14 53 14.5 -0.8
YAK pmax pmax
comp=Z,4.0nm,1.1s
VNA2 Neumayer--Watz 90.68 177 eP P 14 53 19.1 +1.5
LZH Lanzhou 91.58 307 ⇑P P 14 53 24.4 +1.9
LZH pP pP 14 55 28.5 +3.8
LZH sP sP 14 56 24.3 +3.8
LZH SKS SKSac 15 03 02.5 +0.3
LZH eS S 15 03 35.0 -0.5
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,170nm,8.6s
INK Inuvik 92.21 15 P P 14 53 23.6 -0.8
INK Inuvik 92.21 15 P P 14 53 23.6 -0.8
comp=Z,1.7nm,0.7s,baz=233,slow=3.1,SNR=7.8
SONM Songino Array 94.24 319 P P 14 53 34.2 -0.2
SONM Songino Array 94.24 319 P P 14 53 34.2 -0.2
comp=Z,0.2nm,0.4s,baz=111,slow=3.2,SNR=4.0
ZAK Zakamensk 97.08 321 eP P 14 53 43.4 -3.7
ZAK pmax pmax
comp=Z,2.0nm,1.4s
WMQ Urumqi 105.62 311 Pdif Pdif 14 54 25.0 -0.2
WMQ PP PP 14 58 59.0 +2.8
WMQ S Sdif 15 05 33.0 -0.6
WMQ SS SS 15 13 17.0 +3.7
WMQ AMB AMB
comp=Z,54nm,10.0s
MK31 Makanchi Array 109.83 314 ePKiKP PKiKP 14 58 41.2 -1.4
MKAR Makanchi Array 109.83 314 PKiKP PKiKP 14 58 41.3 -1.3
MKAR Makanchi Array 109.83 314 PKiKP PKiKP 14 58 41.3 -1.3
comp=Z,0.8nm,0.5s,baz=102,slow=1.4,SNR=26
AAK Ala-Archa 115.07 309 PKIKP PKPdf 14 58 51.7 -1.2
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 115.07 309 PKP PKPdf 14 58 51.7 -1.2
AAK Ala-Archa 115.07 309 PKP PKPdf 14 58 51.7 -1.2
comp=Z,0.7nm,0.5s,baz=168,slow=7.0,SNR=3.8
BVAR Borovoye Array 117.53 321 PKIKP PKPdf 14 58 55.8 -1.2
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 117.53 321 PKP PKPdf 14 58 55.8 -1.2
BVAR Borovoye Array 117.53 321 PKP PKPdf 14 58 55.8 -1.2
comp=Z,1.2nm,0.5s,baz=95,slow=2.3,SNR=7.1
BRVK Borovoye 117.59 321 i PKIKP PKPdf 14 58 54.8 -2.4
KKAR Karatay Array 118.01 310 ePKIKP PKPdf 14 58 57.2 -1.1
KKAR Karatay Array 118.01 310 ePKPdf PKPdf 14 58 57.2 -1.1
ARU Arti 123.53 326 i PKIKP PKPdf 14 59 07.7 -0.8
ARU 15 00 58.2
ARU 15 05 12.5
AKTO Aktyubinsk 125.56 319 PKIKP PKPdf 14 59 11.5 -1.1
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 125.56 319 PKP PKPdf 14 59 11.4 -1.1
AKTO Aktyubinsk 125.56 319 PKP PKPdf 14 59 11.4 -1.1
comp=Z,1.7nm,0.8s,baz=90,slow=2.0,SNR=5.3
ARCES ARCESS Array B 126.87 350 PKP PKPdf 14 59 13.9 -0.7
ARCES ARCESS Array B 126.87 350 PKP PKPdf 14 59 13.9 -0.7
comp=Z,2.3nm,0.6s,baz=48,slow=1.3,SNR=18
FINES FINESS Array B 133.78 344 PKPpre PKPpre 14 59 22.2
FINES FINESS Array B 133.78 344 PKhKP PKPpre 14 59 22.2
comp=Z,1.6nm,0.6s,baz=48,slow=2.8,SNR=5.4
MOS Moscow 134.09 333 ePKIKP PKPdf 14 59 26.0 -2.5
MOS e 15 02 12.8
NOA NORSAR Array B 136.91 354 PKP PKPdf 14 59 34.6 +0.9
NOA NORSAR Array B 136.91 354 PKP PKPdf 14 59 34.6 +0.9
comp=Z,0.8nm,0.7s,baz=14,slow=3.8,SNR=2.6
AKASG Malin Array Be 141.21 332 PKHKP PKPpre 14 59 35.7
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 141.21 332 PKPpre PKPpre 14 59 35.7
AKASG Malin Array Be 141.21 332 PKhKP PKPpre 14 59 35.7
comp=Z,1.3nm,0.3s,baz=44,slow=4.1,SNR=24
LVV L'vov 144.05 336 ePKIKP PKPbc 14 59 45.5 -0.8
LEOM Leova 144.67 328 i,i P PKPbc 14 59 48.1 -0.2
KWP Kalwaria Pacla 144.71 337 ePKIKP PKPbc 14 59 48.3 0.0
KWP Kalwaria Pacla 144.71 337 ePKP PKPbc 14 59 48.3 0.0
KWP Kalwaria Pacla 144.71 337 i,i P PKPbc 14 59 48.5 +0.2
OJC Ojcow 145.23 340 ePKIKP PKPbc 14 59 49.4 -0.5
OJC Ojcow 145.23 340 ePKP PKPbc 14 59 49.4 -0.5
TLCR 145.25 326 i,i P PKPdf 14 59 49.5 +0.5
BUR08 Bucovina Ar. S 145.25 332 ePKPbc PKPab 14 59 50.8 -0.6
BURAR Bucovina Array 145.27 332 i P PKPbc 14 59 50.6 +0.4
TESR Tescani 145.42 330 i,i P PKPbc 14 59 50.3 -0.3
KOLS Kolonicke sedl 145.44 336 ePKIKP PKPbc 14 59 50.6 0.0
KOLS Kolonicke sedl 145.44 336 ePKP PKPbc 14 59 50.6 0.0
BRT31 Keskin Array S 145.47 315 ePKPbc PKPdf 14 59 50.2 +0.5
BRTR Keskin Array B 145.47 315 PKPbc PKPdf 14 59 50.6 -0.5
BRTR Keskin Array B 145.47 315 PKPbc PKPbc 14 59 50.6 -0.5
comp=Z,7.0nm,0.8s,baz=84,slow=2.8,SNR=35
CFR Carcaliu 145.61 327 i P PKPbc 14 59 51.2 +0.1
UZH Uzhgorod 145.68 336 i,i PKP2 PKPbc 14 59 51.4 +0.2
KSP Ksiaz 145.71 344 i,i ePKP2 PKPbc 14 59 51.5 +0.3
KSP Ksiaz 145.71 344 ePKP PKPbc 14 59 51.5 +0.3
NIE Niedzica 145.75 339 ePKP2 PKPbc 14 59 51.9 +0.5
NIE Niedzica 145.75 339 ePKP PKPbc 14 59 51.9 +0.5
CRVS Cervenica-Dubn 145.77 337 ePKIKP PKPbc 14 59 51.3 -0.2
CRVS Cervenica-Dubn 145.77 337 ePKP PKPbc 14 59 51.3 -0.2
VRI Vrincioaia 145.85 329 i,i P PKPdf 14 59 49.3 -0.7
ASF Jabal al Asfar 145.85 300 PKPbc PKPbc 14 59 52.1 -0.3
ASF Jabal al Asfar 145.85 300 PKPbc PKPbc 14 59 52.1 -0.3
comp=Z,5.1nm,0.6s,baz=86,slow=2.2,SNR=8.3
TIRR Tirgusor 145.94 325 i,i P PKPdf 14 59 50.0 -0.2
TRPA Tarpa 145.99 335 i,i P PKPdf 14 59 51.1 +1.0
CLL Collm 146.04 348 i,i PKIKP PKPbc 14 59 52.0 -0.1
CLL pmax pmax
comp=Z,27nm,0.8s
CLL Collm 146.04 348 ePKPbc PKPbc 14 59 52.1 0.0
CLL Collm 146.04 348 i,i PKPbc PKPbc 14 59 52.0 -0.1
comp=Z,27nm,0.8s
CLL e(pPKPdf) 14 02 06.0
CLL Collm 146.04 348 e(PKP) PKPab 15 00 04.0 +10
TLB Topalu 146.06 326 i,i P PKPbc 14 59 51.8 -0.6
OKC Ostrava-Krasne 146.09 341 ePKP PKPbc 14 59 52.4 +0.1
UPC Upice 146.09 344 ePKP2 PKPbc 14 59 52.5 +0.2
UPC Upice 146.09 344 ePKP PKPbc 14 59 52.5 +0.2
UPC ex x 14 59 54.8
DPC Dobruska-Polom 146.15 344 ePKP2 PKPbc 14 59 52.9 +0.4
DPC Dobruska-Polom 146.15 344 ePKP PKPbc 14 59 52.9 +0.4
DPC ex x 14 59 55.4
BRG Berggiesshubel 146.25 346 i PKP PKPbc 14 59 52.8 +0.1
comp=Z,13nm,0.7s
BRG Berggiesshubel 146.25 346 i PKP2 PKPbc 14 59 52.8 +0.1
BRG pmax pmax
comp=Z,13nm,0.7s
BRG Berggiesshubel 146.25 346 ePKPbc PKPbc 14 59 52.7 0.0
MANR Mangalia 146.27 324 i,i P PKPbc 14 59 53.8 +0.8
KRLC Kraliky 146.27 343 ePKP2 PKPbc 14 59 53.0 +0.1
KRLC Kraliky 146.27 343 ePKP PKPbc 14 59 53.0 +0.1
MORC Moravsky Berou 146.32 342 ⇑ iP PKPbc 14 59 52.4 -0.6
NEUB Neuenburg 146.37 349 ePKPbc PKPbc 14 59 53.1 +0.1
DOPR Dopca 146.42 330 i,i P PKPbc 14 59 53.0 -0.4
PVCC Panska Ves 146.43 346 ePKP2 PKPbc 14 59 53.7 +0.5
PVCC Panska Ves 146.43 346 ePKP PKPbc 14 59 53.7 +0.5
PVCC ex x 14 59 56.7
ISR Istrita 146.47 328 i,i P PKPbc 14 59 53.9 +0.3
MLR Muntele Rosu 146.50 329 i,i P PKPdf 14 59 51.5 +0.2
MLR Muntele Rosu 146.50 329 PKPbc PKPbc 14 59 52.9 -0.9
MLR Muntele Rosu 146.50 329 PKPbc PKPbc 14 59 52.9 -0.9
comp=Z,1.3nm,0.6s,baz=331,slow=6.8,SNR=9.7
MMAI Mount Meron Ar 146.82 303 PKPbc PKPbc 14 59 55.2 +0.2
MMAI Mount Meron Ar 146.82 303 PKPbc PKPbc 14 59 55.2 +0.2
comp=Z,11nm,0.6s,baz=60,slow=5.7,SNR=15
PRA Prague 146.88 345 PKP PKPbc 14 59 55.0 +0.5
PRU Pruhonice 146.93 345 ePKP2 PKPbc 14 59 54.7 +0.1
PRU Pruhonice 146.93 345 ePKP PKPbc 14 59 54.7 +0.1
PRU ex x 14 59 58.1
VOIR 146.97 330 ⇑ iP PKPbc 14 59 54.7 -0.3
PLN Plauen 146.99 348 ePKPbc PKPbc 14 59 54.8 0.0
TANN Tannenbergstha 146.99 348 ePKPbc PKPbc 14 59 55.0 +0.2
WERD Werda 146.99 348 ePKPbc PKPbc 14 59 55.0 +0.2
VRAC Vranov 147.01 343 i,i P PKPdf 14 59 48.2 -3.7
VRAC Vranov 147.01 343 PKPbc PKPbc 14 59 54.5 -0.4
VRAC Vranov 147.01 343 PKPbc PKPbc 14 59 54.5 -0.4
comp=Z,3.8nm,0.5s,baz=0.0,slow=3.0,SNR=4.5
WERN Wernitzgruen 147.13 348 ePKPab PKPab 14 59 58.4 -0.2
PSZ Piszkesteto 147.17 338 i,i P PKPbc 14 59 55.0 -0.4
NKC Novy Kostel 147.17 348 ePKP2 PKPbc 14 59 55.5 +0.2
NKC Novy Kostel 147.17 348 ePKPbc PKPbc 14 59 55.6 +0.3
NKC Novy Kostel 147.17 348 ePKP PKPbc 14 59 55.5 +0.2
NKC ex x 14 59 59.8
ROHR Rohrbach 147.19 348 ePKPbc PKPbc 14 59 55.5 +0.2
ARR Arges 147.22 330 i,i P PKPbc 14 59 56.1 +0.5
TREC Trest 147.33 344 ePKP2 PKPbc 14 59 55.7 0.0
TREC Trest 147.33 344 ePKP PKPbc 14 59 55.7 0.0
ROTZ Rotzenmuhle 147.66 348 ePKPbc PKPbc 14 59 56.8 +0.3
GRF Grafenberg Arr 147.92 349 ePKPbc PKPbc 14 59 57.4 +0.2
GRF ePKPab PKPab 15 00 01.6 -0.2
GRA2 Grafenberg Arr 147.93 349 ePKPbc PKPbc 14 59 57.4 +0.2
GRA2 ePKPab PKPab 15 00 01.6 -0.3
KHC Kasperske Hory 147.96 346 ePKP2 PKPbc 14 59 57.5 +0.1
KHC Kasperske Hory 147.96 346 ePKP PKPbc 14 59 57.5 +0.1
KHC ex x 15 00 02.1
GZR Gura Zlata 148.05 332 ⇑ iP PKPbc 14 59 57.0 -0.8
EIL Elat 148.09 297 PKPbc PKPbc 14 59 57.9 -0.4
EIL Elat 148.09 297 PKPbc PKPbc 14 59 57.9 -0.4
comp=Z,7.0nm,0.8s,baz=112,slow=5.4,SNR=6.2
GRB3 Grafenberg Arr 148.14 348 ePKPbc PKPbc 14 59 57.8 0.0
GEC2 GERESS Array S 148.20 345 ePKPbc PKPbc 14 59 57.9 -0.1
GERES GERESS Array B 148.20 345 PKPbc PKPbc 14 59 57.8 -0.2
GERES GERESS Array B 148.20 345 PKPbc PKPbc 14 59 57.8 -0.2
comp=Z,4.5nm,0.6s,baz=17,slow=2.7,SNR=31
GRB2 Grafenberg Arr 148.24 348 ePKPbc PKPbc 14 59 57.9 -0.1
BZS Buzias 148.38 333 ⇑ iP PKPbc 14 59 57.2 -1.3
GRB5 Grafenberg Arr 148.39 348 ePKPbc PKPbc 14 59 58.4 0.0
GRC4 Grafenberg Arr 148.44 348 ePKPbc PKPbc 14 59 58.6 +0.1
CONA Conrad Observa 148.47 342 ⇑ iPKiKP PKPbc 14 59 59.2 +0.4
comp=Z,19nm,1.4s
KDZ Kurdzhali 149.45 324 i,i P PKPbc 15 00 00.9 -0.3
BFO Black Forest 149.71 352 i PKHKP PKPbc 14 59 59.8 -1.8
BFO Black Forest 149.71 352 ePKPbc PKPbc 14 59 59.4 -2.3
VTS Vitosha 149.96 328 i,i P PKPbc 15 00 02.1 -0.5
WTTA Wattenberg 150.16 347 i,i PKiKP PKPbc 15 00 02.6 -0.4
comp=Z,13nm,0.6s
MYKA Terra Mystica 150.27 344 i,i PKPbc PKPbc 15 00 01.9 -1.2
comp=Z,6.8nm,0.6s
LJU Ljubljana 150.56 342 i PKPbc PKPbc 15 00 03.4 -0.3
FETA Feichten 150.58 348 ⇑ iPKiKP PKPbc 15 00 03.9 +0.1
comp=Z,12nm,0.9s
CRNS Crni Vrh 150.61 343 i PKPbc PKPbc 15 00 03.1 -0.7
BOJS Bojanci 150.84 341 i PKPbc PKPbc 15 00 04.2 0.0
TORD Torodi Ar. Bea 174.78 175 PKP PKPdf 15 00 20.1 -1.4
TORD Torodi Ar. Bea 174.78 175 PKP PKPdf 15 00 20.1 -1.4
comp=Z,1.9nm,1.2s,baz=44,slow=0.2,SNR=5.7

*IDC **07** 14:49:39.9±0.8, 11.°11N×125.°53E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/25, mbtmp3.8/9, MS3.9/1, Ms1 3.9/1, ms1mx2.8/38, Error ellipse: s-maj=73.1km s-min=16.5km az=71.0*
*ISCJB **07** 14:49:46.9±0.8, 11.°17N±0.°05×125.°61E±0.°07, h65km±6km, mb3.7/9, Error ellipse: s-maj=12.2km s-min=7.8km az=158.8*
*MAN **07** 14:49:48, 11.°20N×125.°55E, h32km, mb4.8, ML3.7, MS3.7*
ISC 07 14:49:47.4±1.1, 11.°19N±0.°05×125.°61E±0.°08, h54km±10km, n36, σ0.°88/36, mb4.0/9, 1C-3D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BESP	Borongan	0.45	338	eP		Pn 14 49 59.2	+0.8
PLP	Palo	0.62	268	i,i P		Pn 14 49 59.8	-0.6
PLP				i S		Sn 14 50 08.7	-1.1
OCLP	Ormoc	0.99	262	eP		Pn 14 50 05.8	+0.7
OCLP				eS		Sn 14 50 17.6	-0.7
MSLP	Maasin	1.28	215	eP		Pn 14 50 10.4	+1.4
SCPH	Surigao	1.40	185	i,i eP		Pn 14 50 10.8	+0.2
SCPH				eS		Sn 14 50 28.9	+0.9
LLP	Lapu-Lapu	1.83	242	eP		Pn 14 50 16.6	+0.1
LLP				eS		Sn 14 50 39.8	+1.1
PVCP	Virac	2.79	329	eP		Pn 14 50 30.8	+1.2
PVCP	Virac	2.79	329	i eP		Pn 14 50 33.2	+3.6
PVCP				eS		Sn 14 51 15.2	+13
RCP	Roxas	2.84	278	i,i eP		Pn 14 50 31.7	+1.4
GUIM	Jordan	3.02	260	eP		Pn 14 50 33.4	+0.7
OTRP	Odiongan	3.71	289	eP		Pn 14 50 43.2	+1.0
PAGZ	Pagadian	3.98	214	eP		Pn 14 50 47.9	+1.9
WRA	Warramunga Arr	32.10	164	P		P 14 56 08.1	-1.6
	0.3nm,0.8s,baz=344,slow=8.9,SNR=3.3						
ASAR	Alice Springs	35.58	167	P		P 14 56 39.1	-0.7
	0.6nm,0.5s,baz=352,slow=7.0,SNR=15						
ASAR				PcP		PcP 14 59 07.3	-0.6
	0.2nm,0.5s,baz=342,slow=2.8,SNR=4.5						
TAPN	Taplejung	39.03	300	eP		P 14 57 09.5	0.0
ODAN	Odare	39.17	299	eP		P 14 57 10.5	-0.1
RAMN	Ramite	39.87	299	eP		P 14 57 16.6	+0.2
	3.9nm,0.4s						
SONM	Songino Array	39.94	340	P		P 14 57 17.7	+1.2
	0.5nm,0.5s,baz=160,slow=8.6,SNR=4.2						
JIRN	Jiri	40.42	300	eP		P 14 57 21.1	0.0
	16nm,0.3s						
H11N1	WAKE ISLAND Hy	40.59	73	T		T 15 40 48.2	
	baz=268,slow=75,SNR=16						
H11N2	WAKE ISLAND Hy	40.60	73	T		T 15 40 51.2	
	baz=268,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	40.61	73	T		T 15 40 49.5	
	baz=268,slow=75,SNR=11						
GUN	Gumba	40.75	300	eP		P 14 57 23.6	-0.2
PKI	Pulchoki	41.06	299	eP		P 14 57 25.4	-0.9
PKIN	Phulchoki	41.07	299	eP		P 14 57 25.7	-0.7
DMN	Daman	41.33	299	eP		P 14 57 27.7	-0.8
GKN	Gorkha	41.83	300	eP		P 14 57 31.8	-0.7
	3.6nm,0.3s						
KOLN	Koldanda	42.66	299	eP		P 14 57 38.8	-0.5
DANN	Dangsing	42.67	300	eP		P 14 57 38.7	-0.7
	14nm,0.5s						
STKA	Stephens Creek	45.47	161	P		P 14 58 01.1	-0.3
	1.0nm,0.5s,baz=336,slow=10.0,SNR=5.2						
PETK	Petropavlovsk-	49.08	25	LR		LR 15 18 17.5	
	comp=Z,127nm,19.4s,baz=124,slow=35						
ZALV	Zalesovo Beam	53.52	331	P		P 14 59 02.4	0.0
	0.7nm,0.4s,baz=123,slow=7.8,SNR=4.1						
KURBB	Kurchatov Arra	54.96	325	P		P 14 59 12.9	0.0
	0.5nm,0.3s,baz=121,slow=8.1,SNR=6.6						
ILAR	Eielson Array	78.90	26	P		P 15 01 45.5	+0.7
	0.5nm,0.9s,baz=261,slow=5.4,SNR=4.1						
ARCES	ARCESS Array B	83.12	340	P		P 15 02 06.7	-0.4
	3.3nm,0.9s,baz=82,slow=6.6,SNR=4.0						
FINES	FINESS Array B	84.78	332	P		P 15 02 15.1	-0.7
	0.7nm,0.5s,baz=48,slow=2.1,SNR=3.5						

*BJI **07** 15:06:22.5, 37.°76N×19.°41E, h10km, mB4.9/5, mb4.8/14, Ms4.9/1, Ms7 4.5/3*
*IDC **07** 15:06:26.0±0.6, 37.°47N×20.°34E, h0km, mb4.0/16, mb1 4.0/24, mb1mx4.0/37, mbtmp3.9/24, ML3.9/8, MS3.3/1, Ms1 3.3/1, ms1mx2.6/45, Error ellipse: s-maj=14.2km s-min=12.9km az=115.0*
*ATH **07** 15:06:26.7, 37.°30N×20.°16E, h31km±2km, MD3.8/49, ML3.9*
*ISCJB **07** 15:06:26.2±0.4, 37.°33N±0.°02×20.°14E±0.°02, h19km±3km,*

mb4.2/33,MS3.9/4, Error ellipse: s-maj=3.0km s-min=2.0km az=40.8
*NEIC **07** 15:06:27.5±0.3, 37.36N×20.24E, h10km, mb4.7/5, ML4.0(THE), Error ellipse: s-maj=5.0km s-min=3.8km az=191.0*
*PDG **07** 15:06:27.4±0.6, 37.39N×20.26E, h11km±1km, ML4.0/10, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*
*BEO **07** 15:06:27.7±0.8, 37.49N×19.96E, h0km, ML3.8/8*
*CSEM **07** 15:06:27.3±0.1, 37.31N×20.23E, h14km, mb4.3/7, Error ellipse: s-maj=3.2km s-min=2.4km az=43.0*
*MOS **07** 15:06:27.2±0.9, 37.42N×20.11E, h20km, mb4.2/13, Error ellipse: s-maj=8.5km s-min=4.0km az=83.2*
*THE **07** 15:06:27.7, 37.36N×20.22E, h7km±1km, ML4.2/3, Error ellipse: s-maj=2.2km s-min=1.1km az=45.0*
*PRU **07** 15:06:28.8, 37.46N×20.42E, h0km, M4.3*
*HLW **07** 15:06:35.2, 37.18N×21.14E, h24km±46km, Md0.0, Ml4.2*
*SKO **07** 15:06:43.5, 38.58N×20.66E, h0km*

ISC 07 15:06:27.3±0.6, 37.35N±0.02×20.18E±0.02, h12km±3km, n556, σ1$37/653, mb4.2/32, MS3.9/4, 25C-18D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.67**	**98**	P	**Pg**	**15 06 40.0**	**-0.4**
SFD				S	**Sb**	**15 06 50.0**	**-0.3**
SFD	**Strofades**	**0.67**	**98**	*e*Pn	**Pg**	**15 06 39.9**	**-0.4**
SFD				*e*Sn	**Sb**	**15 06 51.1**	**+0.8**
SFD	**Strofades**	**0.67**	**98**	P	**Pg**	**15 06 40.0**	**-0.4**
SFD				S	**Sb**	**15 06 50.0**	**-0.3**
SFD				*e*Sn	**Sb**	**15 06 51.1**	**+0.8**
VLS	**Valsamata**	**0.89**	**21**	P	**Pg**	**15 06 43.0**	**-1.5**
VLS				S	**Sb**	**15 06 56.5**	**0.0**
VLS	**Valsamata**	**0.89**	**21**	P	**Pg**	**15 06 43.0**	**-1.5**
VLS				S	**Sb**	**15 06 56.5**	**0.0**
VLS	**Valsamata**	**0.89**	**21**	*e*PN	**Pg**	**15 06 42.9**	**-1.5**
VLS	**Valsamata**	**0.89**	**21**	P	**Pg**	**15 06 43.0**	**-1.5**
VLS				S	**Sb**	**15 06 56.5**	**0.0**
VLS	**Valsamata**	**0.89**	**21**	P	**Pg**	**15 06 43.0**	**-1.5**
VLS				S	**Sb**	**15 06 56.5**	**0.0**
KFL	**Anninata**	**0.90**	**32**	P	**Pg**	**15 06 43.3**	**-1.4**
KFL				S	**Sg**	**15 06 56.1**	**-0.3**
KFL	**Anninata**	**0.90**	**32**	P	**Pg**	**15 06 43.3**	**-1.4**
KFL				S	**Sg**	**15 06 56.1**	**-0.3**
AMT	**Artemida-Makis**	**1.23**	**81**	P	**Pn**	**15 06 49.3**	**-1.1**
AMT	**Artemida-Makis**	**1.23**	**81**	*e*PN	**Pn**	**15 06 49.4**	**-1.0**
AMT	**Artemida-Makis**	**1.23**	**81**	*e*Pn	**Pn**	**15 06 49.4**	**-1.0**
AMT				S	**Sg**	**15 07 06.9**	**0.0**
RLS	**Riolos of Patr**	**1.24**	**55**	P	**Pn**	**15 06 49.2**	**-1.3**
RLS	**Riolos of Patr**	**1.24**	**55**	*e*PB	**Pn**	**15 06 49.3**	**-1.3**
RLS				*e*SN	**Sg**	**15 07 07.6**	**+0.3**
RLS	**Riolos of Patr**	**1.24**	**55**	P	**Pn**	**15 06 49.2**	**-1.3**
RLS	**Riolos of Patr**	**1.24**	**55**	P	**Pn**	**15 06 49.2**	**-1.3**
RLS				S	**Sg**	**15 07 07.6**	**+0.3**
PYL	**PYLOS**	**1.33**	**110**	P	**Pn**	**15 06 50.5**	**-1.2**
PYL				S	**Sb**	**15 07 08.8**	**-0.3**
PYL	**PYLOS**	**1.33**	**110**	*e*PN	**Pn**	**15 06 50.7**	**-1.0**
PYL				*e*SN	**Sb**	**15 07 08.3**	**-0.8**
PYL	**PYLOS**	**1.33**	**110**	P	**Pn**	**15 06 50.5**	**-1.2**
PYL	**PYLOS**	**1.33**	**110**	P	**Pn**	**15 06 50.7**	**-1.0**
PYL				S	**Sb**	**15 07 08.1**	**-1.0**
DRO	**Drossia**	**1.35**	**63**	P	**Pn**	**15 06 52.1**	**0.0**
DRO	**Drossia**	**1.35**	**63**	*e*PN	**Pn**	**15 06 52.1**	**0.0**
DRO	**Drossia**	**1.35**	**63**	P	**Pn**	**15 06 52.1**	**0.0**
DRO				S	**Sg**	**15 07 11.7**	**+0.8**
ITM	**Ithomi**	**1.40**	**96**	P	**Pn**	**15 06 52.1**	**-0.7**
ITM				S	**Sb**	**15 07 11.3**	**-0.1**
ITM	**Ithomi**	**1.40**	**96**	*e*PN	**Pn**	**15 06 52.2**	**-0.6**
ITM				*e*SN	**Sb**	**15 07 11.2**	**-0.1**
ITM	**Ithomi**	**1.40**	**96**	P	**Pn**	**15 06 52.1**	**-0.7**
ITM				S	**Sb**	**15 07 11.3**	**-0.1**
ITM	**Ithomi**	**1.40**	**96**	*e*Pn	**Pn**	**15 06 52.2**	**-0.6**
ITM				*e*Sn	**Sb**	**15 07 11.2**	**-0.1**
PDO	**Prodromos**	**1.48**	**32**	P	**Pn**	**15 06 53.8**	**0.0**
PDO	**Prodromos**	**1.48**	**32**	*e*PB	**Pn**	**15 06 53.4**	**-0.4**
PDO				*e*SN	**Sg**	**15 07 14.1**	**-0.8**
PDO	**Prodromos**	**1.48**	**32**	*e*Pb	**Pn**	**15 06 53.4**	**-0.4**
PDO	**Prodromos**	**1.48**	**32**	P	**Pn**	**15 06 53.8**	**0.0**
PDO				*e*Sn	**Sg**	**15 07 14.1**	**-0.8**
PDO				S	**Sb**	**15 07 15.5**	**+2.0**
LKD2	**Lefkada island**	**1.48**	**14**	P	**Pn**	**15 06 54.1**	**+0.2**
LKD2	**Lefkada island**	**1.48**	**14**	P	**Pn**	**15 06 54.1**	**+0.2**
LKD2	**Lefkada island**	**1.48**	**14**	P	**Pb**	**15 06 54.6**	**-0.3**
LKD2				S	**Sg**	**15 07 15.5**	**+0.3**
PVO	**Paravola**	**1.65**	**40**	P	**Pb**	**15 06 57.2**	**-0.5**
PSA1	**Psathopyrgos**	**1.66**	**54**	*e*PN	**Pb**	**15 06 57.2**	**-0.7**
LAKA	**Lakka**	**1.68**	**57**	P	**Pb**	**15 06 57.8**	**-0.4**
LAKA	**Lakka**	**1.68**	**57**	*e*PN	**Pb**	**15 06 57.8**	**-0.4**
LAKA	**Lakka**	**1.68**	**57**	P	**Pb**	**15 06 57.8**	**-0.4**
LAKA	**Lakka**	**1.68**	**57**	P	**Pb**	**15 06 57.8**	**-0.4**
KLV	**Kalavryta, Ach**	**1.71**	**65**	P	**Pn**	**15 06 57.1**	**+0.1**
KLV	**Kalavryta, Ach**	**1.71**	**65**	*e*PN	**Pn**	**15 06 57.5**	**+0.5**
KLV	**Kalavryta, Ach**	**1.71**	**65**	P	**Pn**	**15 06 57.1**	**+0.1**
KLV	**Kalavryta, Ach**	**1.71**	**65**	P	**Pn**	**15 06 57.1**	**+0.1**
KLV	**Kalavryta, Ach**	**1.71**	**65**	*e*Pb	**Pn**	**15 06 57.5**	**+0.5**
VLX	**Vlachokerasia**	**1.75**	**89**	P	**Pn**	**15 06 57.4**	**-0.2**
VLX	**Vlachokerasia**	**1.75**	**89**	*e*PB	**Pn**	**15 06 57.4**	**-0.2**
VLX				*e*SN	**Sn**	**15 07 20.3**	**+0.4**
VLX	**Vlachokerasia**	**1.75**	**89**	P	**Pn**	**15 06 57.4**	**-0.2**
VLX	**Vlachokerasia**	**1.75**	**89**	P	**Pn**	**15 06 57.4**	**-0.2**
VLX				*e*Sn	**Sn**	**15 07 20.3**	**+0.4**
GUR	**Goura**	**1.81**	**70**	P	**Pn**	**15 06 58.8**	**+0.3**
GUR				S	**Sb**	**15 07 22.8**	**-0.4**
GUR	**Goura**	**1.81**	**70**	*e*PB	**Pn**	**15 06 58.9**	**+0.4**
GUR				*e*SN	**Sn**	**15 07 22.1**	**+0.6**
GUR	**Goura**	**1.81**	**70**	P	**Pn**	**15 06 58.8**	**+0.3**
GUR				S	**Sb**	**15 07 22.8**	**-0.4**
GUR	**Goura**	**1.81**	**70**	*e*Pb	**Pn**	**15 06 58.9**	**+0.4**
GUR				*e*Sn	**Sn**	**15 07 22.1**	**+0.6**
KALE	**Kalithea**	**1.86**	**56**	P	**Pn**	**15 07 00.1**	**+0.9**
KALE	**Kalithea**	**1.86**	**56**	*e*PB	**Pn**	**15 06 59.8**	**+0.6**
KALE	**Kalithea**	**1.86**	**56**	P	**Pn**	**15 07 00.1**	**+0.9**
KALE	**Kalithea**	**1.86**	**56**	*e*Pb	**Pn**	**15 06 59.8**	**+0.6**
KALE	**Kalithea**	**1.86**	**56**	P	**Pn**	**15 07 00.1**	**+0.9**
KALE				S	**Sb**	**15 07 24.0**	**-0.7**
EVR	**Evrytania**	**2.02**	**39**	P	**Pb**	**15 07 03.2**	**-0.9**
EVR	**Evrytania**	**2.02**	**39**	*e*PB	**Pb**	**15 07 03.2**	**-0.9**
EVR	**Evrytania**	**2.02**	**39**	P	**Pb**	**15 07 03.2**	**-0.9**
EVR	**Evrytania**	**2.02**	**39**	*e*Pb	**Pb**	**15 07 03.2**	**-0.9**
DSF	**Desfina**	**2.14**	**60**	P	**Pn**	**15 07 03.7**	**+0.8**
DSF	**Desfina**	**2.14**	**60**	*e*PB	**Pn**	**15 07 03.7**	**+0.8**
DSF				*e*SN	**Sn**	**15 07 30.1**	**+0.7**
DSF	**Desfina**	**2.14**	**60**	P	**Pn**	**15 07 03.7**	**+0.8**
DSF	**Desfina**	**2.14**	**60**	P	**Pn**	**15 07 03.7**	**+0.8**
DSF				*e*Sn	**Sn**	**15 07 30.1**	**+0.7**
DESF	**Desfina**	**2.14**	**60**	*e*PB	**Pn**	**15 07 03.6**	**+0.6**
DESF				*e*SN	**Sn**	**15 07 29.8**	**+0.3**
DESF	**Desfina**	**2.14**	**60**	*e*Pb	**Pn**	**15 07 03.6**	**+0.6**
DESF				*e*Sn	**Sn**	**15 07 29.8**	**+0.3**
IGT	**Igoumenitsa**	**2.18**	**3**	P	**Pn**	**15 07 04.1**	**+0.5**
IGT				S	**Sb**	**15 07 32.0**	**-1.8**
IGT	**Igoumenitsa**	**2.18**	**3**	P	**Pn**	**15 07 04.8**	**+1.3**
IGT				S	**Sb**	**15 07 32.0**	**-1.8**
IGT	**Igoumenitsa**	**2.18**	**3**	*e*PN	**Pn**	**15 07 04.0**	**+0.5**
IGT	**Igoumenitsa**	**2.18**	**3**	P	**Pn**	**15 07 04.8**	**+1.3**
IGT				S	**Sb**	**15 07 32.0**	**-1.8**
IGT	**Igoumenitsa**	**2.18**	**3**	*e*Pn	**Pn**	**15 07 04.0**	**+0.5**
IGT				S	**Sb**	**15 07 32.0**	**-1.8**
MAKR	**Makrakomi, Fth**	**2.26**	**42**	P	**Pb**	**15 07 06.5**	**-1.7**
MAKR	**Makrakomi, Fth**	**2.26**	**42**	*e*PB	**Pb**	**15 07 06.3**	**-1.9**
MAKR	**Makrakomi, Fth**	**2.26**	**42**	P	**Pb**	**15 07 06.5**	**-1.7**
MAKR	**Makrakomi, Fth**	**2.26**	**42**	*e*Pb	**Pb**	**15 07 06.3**	**-1.9**
VLI	**Veliai**	**2.29**	**105**	P	**Pn**	**15 07 05.6**	**+0.6**
VLI	**Veliai**	**2.29**	**105**	*e*PB	**Pn**	**15 07 05.7**	**+0.7**
VLI				*e*SN	**Sn**	**15 07 32.2**	**-0.9**
VLI	**Veliai**	**2.29**	**105**	P	**Pn**	**15 07 05.6**	**+0.6**
VLI	**Veliai**	**2.29**	**105**	*e*Pb	**Pn**	**15 07 05.7**	**+0.7**
VLI				*e*Sn	**Sn**	**15 07 32.2**	**-0.9**
LTK	**Loutraki**	**2.31**	**72**	P	**Pn**	**15 07 05.2**	**0.0**
LTK	**Loutraki**	**2.31**	**72**	*e*PN	**Pn**	**15 07 04.8**	**-0.4**
LTK	**Loutraki**	**2.31**	**72**	P	**Pn**	**15 07 05.2**	**0.0**
LTK	**Loutraki**	**2.31**	**72**	*e*Pn	**Pn**	**15 07 04.8**	**-0.4**
LTK	**Loutraki**	**2.31**	**72**	P	**Pn**	**15 07 05.2**	**0.0**
JAN	**Janina**	**2.36**	**13**	P	**Pn**	**15 07 06.8**	**+0.8**
JAN	**Janina**	**2.36**	**13**	*e*PN	**Pn**	**15 07 06.5**	**+0.5**
JAN	**Janina**	**2.36**	**13**	*e*Pn	**Pn**	**15 07 06.5**	**+0.5**
JAN	**Janina**	**2.36**	**13**	P	**Pn**	**15 07 06.8**	**+0.8**
AGG	**Agios Georgios**	**2.38**	**45**	P	**Pn**	**15 07 07.3**	**+1.1**
AGG	**Agios Georgios**	**2.38**	**45**	P	**Pn**	**15 07 07.3**	**+1.1**
AGG	**Agios Georgios**	**2.38**	**45**	*e*PB	**Pn**	**15 07 07.3**	**+1.1**
AGG	**Agios Georgios**	**2.38**	**45**	P	**Pn**	**15 07 07.3**	**+1.1**
KEK	**Kerkira**	**2.38**	**353**	P	**Pn**	**15 07 06.7**	**+0.5**
KEK	**Kerkira**	**2.38**	**353**	*e*PN	**Pn**	**15 07 06.4**	**+0.2**
KEK	**Kerkira**	**2.38**	**353**	P	**Pn**	**15 07 06.7**	**+0.5**
KEK	**Kerkira**	**2.38**	**353**	*e*Pn	**Pn**	**15 07 06.4**	**+0.2**
KEK	**Kerkira**	**2.38**	**353**	P	**Pn**	**15 07 06.7**	**+0.5**
DID	**Didima**	**2.44**	**85**	P	**Pn**	**15 07 06.4**	**-0.6**
DID				S	**Sn**	**15 07 36.4**	**-0.4**
DID	**Didima**	**2.44**	**85**	*e*PN	**Pn**	**15 07 06.2**	**-0.8**
DID				*e*SN	**Sn**	**15 07 35.4**	**-1.4**
DID	**Didima**	**2.44**	**85**	P	**Pn**	**15 07 06.4**	**-0.6**
DID				S	**Sn**	**15 07 36.4**	**-0.4**
DID	**Didima**	**2.44**	**85**	P	**Pn**	**15 07 06.4**	**-0.6**
DID				*e*Sn	**Sn**	**15 07 35.4**	**-1.4**
DID				S	**Sn**	**15 07 36.4**	**-0.4**
KYTH	**Kithira**	**2.53**	**114**	P	**Pn**	**15 07 09.1**	**+0.9**
KYTH	**Kithira**	**2.53**	**114**	*e*PB	**Pn**	**15 07 09.2**	**+1.0**
KYTH	**Kithira**	**2.53**	**114**	P	**Pn**	**15 07 09.1**	**+0.9**
KYTH	**Kithira**	**2.53**	**114**	*e*Pb	**Pn**	**15 07 09.2**	**+1.0**
MEV	**Metsovon**	**2.57**	**18**	P	**Pn**	**15 07 10.8**	**+1.9**
MEV	**Metsovon**	**2.57**	**18**	P	**Pn**	**15 07 10.8**	**+1.9**
MEV	**Metsovon**	**2.57**	**18**	P	**Pn**	**15 07 10.8**	**+1.9**
LKR	**Lokris**	**2.58**	**59**	P	**Pn**	**15 07 09.3**	**+0.4**
LKR	**Lokris**	**2.58**	**59**	*e*PN	**Pn**	**15 07 09.2**	**+0.4**
LKR				*e*SN	**Sn**	**15 07 40.6**	**+0.4**
LKR	**Lokris**	**2.58**	**59**	P	**Pn**	**15 07 09.3**	**+0.4**
LKR	**Lokris**	**2.58**	**59**	*e*Pn	**Pn**	**15 07 09.2**	**+0.4**
LKR				*e*Sn	**Sn**	**15 07 40.6**	**+0.4**
VIL2	**Platees**	**2.59**	**70**	*e*PN	**Pn**	**15 07 08.7**	**-0.4**
VILL	**Villia**	**2.61**	**71**	*e*Pn	**Pn**	**15 07 08.7**	**-0.7**
THL	**Klokotos Trika**	**2.64**	**32**	*e*PN	**Pn**	**15 07 11.1**	**+1.4**
THL				*e*SN	**Sn**	**15 07 41.0**	**-0.7**
THL	**Klokotos Trika**	**2.64**	**32**	*e*Pn	**Pn**	**15 07 11.1**	**+1.4**
THL				*e*Sn	**Sn**	**15 07 41.0**	**-0.7**
NAIG	**Nisos Aigina**	**2.66**	**80**	*e*PN	**Pn**	**15 07 09.3**	**-0.7**
NAIG	**Nisos Aigina**	**2.66**	**80**	*e*Pn	**Pn**	**15 07 09.3**	**-0.7**
SMIA	**Simia**	**2.83**	**56**	*e*PN	**Pn**	**15 07 12.7**	**+0.2**
SMIA	**Simia**	**2.83**	**56**	*e*Pn	**Pn**	**15 07 12.7**	**+0.2**
ATH	**Athens Observa**	**2.87**	**76**	*e*PN	**Pn**	**15 07 14.0**	**+1.1**
ATH	**Athens Observa**	**2.87**	**76**	*e*Pn	**Pn**	**15 07 14.0**	**+1.1**
ANKY	**Antikythira Is**	**2.91**	**120**	P	**Pn**	**15 07 14.2**	**+0.7**
ANKY	**Antikythira Is**	**2.91**	**120**	*e*PN	**Pn**	**15 07 13.6**	**+0.1**
ANKY				*e*SN	**Sn**	**15 07 46.0**	**-2.4**
ANKY	**Antikythira Is**	**2.91**	**120**	P	**Pn**	**15 07 14.2**	**+0.7**
ANKY	**Antikythira Is**	**2.91**	**120**	*e*Pn	**Pn**	**15 07 13.6**	**+0.1**
ANKY	**Antikythira Is**	**2.91**	**120**	P	**Pn**	**15 07 14.2**	**+0.7**
ANKY				*e*Sn	**Sn**	**15 07 46.0**	**-2.4**
PTL	**Penteli**	**3.00**	**75**	*e*PN	**Pn**	**15 07 14.3**	**-0.5**
PTL	**Penteli**	**3.00**	**75**	*e*Pn	**Pn**	**15 07 14.3**	**-0.5**
MRKA	**Markates**	**3.01**	**62**	*e*PN	**Pn**	**15 07 11.9**	**-3.0**
MRKA	**Markates**	**3.01**	**62**	*e*Pn	**Pn**	**15 07 11.9**	**-3.0**
ERET	**Eretria**	**3.07**	**68**	P	**Pn**	**15 07 15.5**	**-0.2**
ERET	**Eretria**	**3.07**	**68**	P	**Pn**	**15 07 15.5**	**-0.2**
NEO	**Neokhori**	**3.09**	**50**	*e*PN	**Pn**	**15 07 15.7**	**-0.3**
NEO				*e*SN	**Sn**	**15 07 51.6**	**-1.2**
NEO	**Neokhori**	**3.09**	**50**	*e*Pn	**Pn**	**15 07 15.7**	**-0.3**
NEO				*e*Sn	**Sn**	**15 07 51.6**	**-1.2**
XOR	**Xorichti**	**3.11**	**49**	P	**Pn**	**15 07 16.2**	**0.0**
XOR	**Xorichti**	**3.11**	**49**	*e*PN	**Pn**	**15 07 16.1**	**-0.1**
XOR				*e*SN	**Sn**	**15 07 52.9**	**-0.4**
XOR	**Xorichti**	**3.11**	**49**	P	**Pn**	**15 07 16.2**	**0.0**
XOR	**Xorichti**	**3.11**	**49**	P	**Pn**	**15 07 16.2**	**0.0**
XOR				*e*Sn	**Sn**	**15 07 52.9**	**-0.4**
NEST	**Nestorio**	**3.13**	**12**	P	**Pn**	**15 07 18.9**	**+2.2**
NEST	**Nestorio**	**3.13**	**12**	*e*PB	**Pn**	**15 07 19.1**	**+2.4**
NEST	**Nestorio**	**3.13**	**12**	*e*Pb	**Pn**	**15 07 19.1**	**+2.4**
SKIA	**Skiathos**	**3.16**	**54**	*e*PN	**Pn**	**15 07 16.5**	**-0.4**
SKIA				*e*SN	**Sn**	**15 07 53.7**	**-0.8**
SKIA	**Skiathos**	**3.16**	**54**	*e*Pn	**Pn**	**15 07 16.5**	**-0.4**
SKIA				*e*Sn	**Sn**	**15 07 53.7**	**-0.8**
KZN	**Kozani**	**3.20**	**22**	P	**Pn**	**15 07 18.8**	**+1.2**
KZN				S	**Sn**	**15 07 56.9**	**+1.1**
KZN	**Kozani**	**3.20**	**22**	P	**Pn**	**15 07 18.8**	**+1.2**
KZN				S	**Sn**	**15 07 56.9**	**+1.1**
KZN	**Kozani**	**3.20**	**22**	*e*PN	**Pn**	**15 07 19.2**	**+1.6**
KZN	**Kozani**	**3.20**	**22**	P	**Pn**	**15 07 18.8**	**+1.2**
KZN				S	**Sn**	**15 07 56.9**	**+1.1**
KZN	**Kozani**	**3.20**	**22**	P	**Pn**	**15 07 18.8**	**+1.2**
KZN	**Kozani**	**3.20**	**22**	*e*Pn	**Pn**	**15 07 19.2**	**+1.6**
KZN				S	**Sn**	**15 07 56.9**	**+1.1**
TIP	**Timpagrande**	**3.26**	**305**	P	**Pn**	**15 07 19.0**	**+0.7**
TIP				S	**Sn**	**15 07 58.0**	**+0.9**
TIP	**Timpagrande**	**3.26**	**305**	*e*Pn	**Pn**	**15 07 18.4**	**+0.1**
TIP				*e*Sn	**Sn**	**15 07 54.2**	**-2.9**
TIP	**Timpagrande**	**3.26**	**305**	*e*PN	**Pn**	**15 07 18.4**	**+0.1**
TIP	**Timpagrande**	**3.26**	**305**	*e*Pn	**Pn**	**15 07 19.0**	**+0.7**
TIP				*e*Sn	**Sn**	**15 07 54.2**	**-2.9**
TIP				S	**Sn**	**15 07 58.0**	**+0.9**
LIT	**Litokhoron**	**3.29**	**33**	P	**Pn**	**15 07 19.4**	**+0.7**
LIT	**Litokhoron**	**3.29**	**33**	P	**Pn**	**15 07 19.4**	**+0.7**
LIT	**Litokhoron**	**3.29**	**33**	*e*PN	**Pn**	**15 07 19.4**	**+0.7**
LIT				*e*SN	**Sn**	**15 07 57.4**	**-0.3**
LIT	**Litokhoron**	**3.29**	**33**	P	**Pn**	**15 07 19.4**	**+0.7**
LIT	**Litokhoron**	**3.29**	**33**	P	**Pn**	**15 07 19.4**	**+0.7**
LIT				*e*Sn	**Sn**	**15 07 57.4**	**-0.3**
AOS	**Alonnisos**	**3.43**	**57**	*e*PN	**Pn**	**15 07 19.8**	**-0.8**
AOS	**Alonnisos**	**3.43**	**57**	*e*Pn	**Pn**	**15 07 19.8**	**-0.8**
CEL	**Celeste**	**3.52**	**286**	*e*Pn	**Pn**	**15 07 23.1**	**+1.2**
CEL	**Celeste**	**3.52**	**286**	*e*Pn	**Pn**	**15 07 23.1**	**+1.2**
FNA	**Florina**	**3.55**	**15**	P	**Pn**	**15 07 23.5**	**+1.1**
FNA	**Florina**	**3.55**	**15**	P	**Pn**	**15 07 23.5**	**+1.1**
FNA	**Florina**	**3.55**	**15**	*e*PN	**Pn**	**15 07 23.5**	**+1.1**
FNA	**Florina**	**3.55**	**15**	P	**Pn**	**15 07 23.5**	**+1.1**
FNA	**Florina**	**3.55**	**15**	P	**Pn**	**15 07 23.5**	**+1.1**
PAIG	**Paliouri**	**3.76**	**46**	*e*PN	**Pn**	**15 07 24.8**	**-0.3**
PAIG				*e*SN	**Sn**	**15 08 08.0**	**-1.3**
PAIG	**Paliouri**	**3.76**	**46**	*e*Pn	**Pn**	**15 07 24.8**	**-0.3**
PAIG				*e*Sn	**Sn**	**15 08 08.0**	**-1.3**
BIA	**Bitola**	**3.77**	**13**	*e*Pn	**Pn**	**15 07 26.7**	**+1.3**
BIA	**Bitola**	**3.77**	**13**	*e*Pn	**Pn**	**15 07 26.7**	**+1.3**
VAM	**Vamos**	**3.78**	**120**	*e*PN	**Pn**	**15 07 25.3**	**-0.1**
VAM	**Vamos**	**3.78**	**120**	*e*Pn	**Pn**	**15 07 25.3**	**-0.1**
TAR1	**Taranto**	**3.90**	**325**	*e*Pn	**Pn**	**15 07 29.1**	**+2.1**
TAR1				*e*Sn	**Sn**	**15 08 12.8**	**+0.1**
THE	**Thessaloniki**	**3.93**	**33**	*e*PN	**Pn**	**15 07 27.6**	**+0.1**
THE	**Thessaloniki**	**3.93**	**33**	*e*Pn	**Pn**	**15 07 27.6**	**+0.1**
PLG	**Polygyros**	**3.95**	**39**	P	**Pn**	**15 07 27.3**	**-0.5**
PLG	**Polygyros**	**3.95**	**39**	P	**Pn**	**15 07 27.3**	**-0.5**
PLG	**Polygyros**	**3.95**	**39**	*e*PN	**Pn**	**15 07 27.3**	**-0.5**
PLG	**Polygyros**	**3.95**	**39**	P	**Pn**	**15 07 27.3**	**-0.5**
PLG	**Polygyros**	**3.95**	**39**	P	**Pn**	**15 07 27.3**	**-0.5**
HORT	**Hortiatis**	**3.96**	**34**	P	**Pn**	**15 07 27.8**	**-0.2**
HORT	**Hortiatis**	**3.96**	**34**	*e*PN	**Pn**	**15 07 27.8**	**-0.2**
HORT	**Hortiatis**	**3.96**	**34**	P	**Pn**	**15 07 27.8**	**-0.2**
HORT	**Hortiatis**	**3.96**	**34**	P	**Pn**	**15 07 27.8**	**-0.2**
GRG	**Griva**	**3.99**	**25**	P	**Pn**	**15 07 28.8**	**+0.4**
GRG	**Griva**	**3.99**	**25**	P	**Pn**	**15 07 28.8**	**+0.4**
GRG	**Griva**	**3.99**	**25**	*e*PN	**Pn**	**15 07 28.8**	**+0.4**
GRG				*e*SN	**Sn**	**15 08 14.0**	**-1.2**
GRG	**Griva**	**3.99**	**25**	P	**Pn**	**15 07 28.8**	**+0.4**
GRG	**Griva**	**3.99**	**25**	P	**Pn**	**15 07 28.8**	**+0.4**
GRG				*e*Sn	**Sn**	**15 08 14.0**	**-1.2**
GVD	**Gavdhos**	**4.03**	**127**	*e*Pn	**Pn**	**15 07 29.1**	**+0.1**
GVD	**Gavdhos**	**4.03**	**127**	*e*Pn	**Pn**	**15 07 29.0**	**+0.1**
PE1	**Pezze di Greco**	**4.07**	**329**	*e*Pn	**Pn**	**15 07 30.0**	**+0.7**
OUR	**Ouranopolis**	**4.21**	**44**	*e*PN	**Pn**	**15 07 31.1**	**-0.2**
OUR	**Ouranopolis**	**4.21**	**44**	*e*Pn	**Pn**	**15 07 31.1**	**-0.2**
SOH	**Sokhos**	**4.25**	**34**	P	**Pn**	**15 07 32.8**	**+0.8**
SOH	**Sokhos**	**4.25**	**34**	P	**Pn**	**15 07 32.8**	**+0.8**
SOH	**Sokhos**	**4.25**	**34**	*e*PN	**Pn**	**15 07 32.8**	**+0.8**
SOH				*e*SN	**Sn**	**15 08 20.2**	**-1.5**
SOH	**Sokhos**	**4.25**	**34**	P	**Pn**	**15 07 32.8**	**+0.8**
SOH	**Sokhos**	**4.25**	**34**	P	**Pn**	**15 07 32.8**	**+0.8**
SOH				*e*Sn	**Sn**	**15 08 20.2**	**-1.5**
APE	**Apeiranthos**	**4.28**	**92**	*e*PN	**Pn**	**15 07 30.1**	**-2.2**
APE	**Apeiranthos**	**4.28**	**92**	*e*Pn	**Pn**	**15 07 30.1**	**-2.2**
CUC	**Castrocucco**	**4.32**	**309**	*e*Pn	**Pn**	**15 07 35.5**	**+2.6**
CUC	**Castrocucco**	**4.32**	**309**	*e*Pn	**Pn**	**15 07 35.5**	**+2.6**
IDI	**Anoyia**	**4.32**	**117**	*e*PN	**Pn**	**15 07 30.7**	**-2.3**
IDI	**Anoyia**	**4.32**	**117**	*e*Pn	**Pn**	**15 07 33.0**	**0.0**
IDI				S	**Sn**	**15 08 18.7**	**-4.6**
IDI	**Anoyia**	**4.32**	**117**	*e*Pn	**Pn**	**15 07 33.0**	**0.0**
IDI				S	**Sn**	**15 08 18.7**	**-4.6**
IDI	**Anoyia**	**4.32**	**117**	P	**Pn**	**15 07 32.7**	**-0.2**
IDI	8.7nm,0.3s,baz=248,slow=10,SNR=31			S	**Sn**	**15 08 18.7**	**-4.6**
	8.9nm,0.3s,baz=147,slow=23,SNR=5.1						
SANT	**Santorini**	**4.34**	**101**	*e*PN	**Pn**	**15 07 31.8**	**-1.4**
SANT	**Santorini**	**4.34**	**101**	*e*Pn	**Pn**	**15 07 32.8**	**-0.4**
SANT	**Santorini**	**4.34**	**101**	*e*Pn	**Pn**	**15 07 32.8**	**-0.4**
KNT	**Kendrikon**	**4.35**	**28**	P	**Pn**	**15 07 33.7**	**+0.4**
KNT	**Kendrikon**	**4.35**	**28**	P	**Pn**	**15 07 33.7**	**+0.4**
KNT	**Kendrikon**	**4.35**	**28**	*e*PN	**Pn**	**15 07 33.7**	**+0.4**
KNT	**Kendrikon**	**4.35**	**28**	P	**Pn**	**15 07 33.7**	**+0.4**
KNT	**Kendrikon**	**4.35**	**28**	P	**Pn**	**15 07 33.7**	**+0.4**
VAY	**Valandovo**	**4.38**	**24**	*i* Pn	**Pn**	**15 07 33.6**	**-0.1**
VAY	**Valandovo**	**4.38**	**24**	*i* Pn	**Pn**	**15 07 34.0**	**+0.4**
BAI	**Bari**	**4.55**	**327**	*e*Pn	**Pn**	**15 07 37.5**	**+1.6**
BAI				*e*Sn	**Sn**	**15 08 29.0**	**+0.3**
SRS	**Serrai**	**4.60**	**34**	*e*PN	**Pn**	**15 07 36.7**	**0.0**
SRS	**Serrai**	**4.60**	**34**	*e*Pn	**Pn**	**15 07 36.7**	**0.0**
ULC	**Ulcinj**	**4.67**	**351**	⇓*i*Pn	**Pn**	**15 07 37.6**	**0.0**
ULC				*e*Sn	**Sn**	**15 08 33.3**	**+1.6**
ULC	**Ulcinj**	**4.67**	**351**	⇓*i*Pn	**Pn**	**15 07 37.6**	**0.0**
ULC				*e*S

PGF pmax pmax
comp=Z,32nm,1.1s
PGF Pioggiola 10.03 305 *e*P **Pn 15 08 52.4 +1.1**
comp=Z,32nm,1.1s
PGF Pioggiola 10.03 305 *e*P **Pn 15 08 52.4 +1.1**
comp=Z,32nm,1.1s
SOKA Soboth 10.08 339 ⇑*i*Pn **Pn 15 08 50.8 -1.1**
HBRG Burj al 'Arab 10.48 127 P Pn 15 08 52.3 -5.2
baz=129
PSZ Piszkesteto 10.56 359 ⇑*i*P **Pn 15 08 59.0 +0.4**
BRTR Keskin Array B 10.80 73 Pn Pn 15 09 09.9 +7.9
BRTR Keskin Array B 10.80 73 Pn Pn 15 09 09.9 +7.9
comp=Z,0.1nm,0.3s,baz=264,slow=14,SNR=3.2
KECS Kecovo 11.13 1 *e*P **Pn 15 09 07.1 +0.8**
KECS Kecovo 11.13 1 *e*PN **Pn 15 09 07.1 +0.8**
KECS Kecovo 11.13 1 *e*P **Pn 15 09 07.1 +0.8**
SMOL Smolenice 11.34 351 *e*P **Pn 15 09 11.0 +1.9**
SMOL Smolenice 11.34 351 *e*PN **Pn 15 09 11.0 +1.9**
SMOL Smolenice 11.34 351 *e*P **Pn 15 09 11.0 +1.9**
MOA Molln 11.36 339 ⇑*i*Pn **Pn 15 09 08.3 -1.1**
CRVS Cervenica-Dubn 11.59 4 *e*P Pn 15 09 16.6 +4.1
CRVS Cervenica-Dubn 11.59 4 *e* Pn 15 09 16.6 +4.1
SBF Sospel 11.66 308 *e*P **Pn 15 09 13.8 +0.2**
SBF Sospel 11.66 308 *e*P **Pn 15 09 13.8 +0.2**
SBF Sospel 11.66 308 *e*P **Pn 15 09 13.8 +0.2**
SBF Sospel 11.66 308 *e*P **Pn 15 09 13.8 +0.2**
KOLS Kolonicke sedl 11.68 7 *e*P **Pn 15 09 15.3 +1.5**
KOLS Kolonicke sedl 11.68 7 *e*PN **Pn 15 09 15.3 +1.5**
KOLS Kolonicke sedl 11.68 7 *e*P **Pn 15 09 15.3 +1.5**
DAVOX Davos/Dischmat 12.13 324 Pn **Pn 15 09 21.6 +1.5**
DAVOX Sn **Sn 15 11 31.0 -4.4**
DAVOX Davos/Dischmat 12.13 324 P **Pn 15 09 21.6 +1.5**
DAVOX Davos/Dischmat 12.13 324 Pn **Pn 15 09 21.6 +1.5**
comp=Z,0.4nm,0.3s,baz=160,slow=16,SNR=9.3
DAVOX Sn **Sn 15 11 31.0 -4.4**
comp=Z,0.3nm,0.3s,baz=320,slow=19,SNR=3.1
HSAF As Saff 12.22 126 P Pn 15 09 17.6 -3.6
baz=126
HFRF Wahat Farafira 12.27 144 P Pn 15 09 18.3 -3.6
baz=146
GERES GERESS Array B 12.42 340 Pn **Pn 15 09 22.6 -1.4**
GERES GERESS Array B 12.42 340 P **Pn 15 09 22.6 -1.4**
GERES GERESS Array B 12.42 340 Pn **Pn 15 09 22.6 -1.4**
comp=Z,0.3nm,0.3s,baz=163,slow=14,SNR=8.1
MBDF Montbardon 12.51 310 *e*P **Pn 15 09 25.8 +0.5**
comp=Z,25nm,1.0s
MBDF Montbardon 12.51 310 *e*P **Pn 15 09 25.8 +0.5**
MBDF pmax pmax
comp=Z,25nm,1.0s
MBDF Montbardon 12.51 310 *e*P **Pn 15 09 25.8 +0.5**
comp=Z,25nm,1.0s
MBDF Montbardon 12.51 310 *e*P **Pn 15 09 25.8 +0.5**
comp=Z,25nm,1.0s
KHC Kasperske Hory 12.71 340 *e*P **Pn 15 09 28.7 +0.7**
KHC Kasperske Hory 12.71 340 *e*P **Pn 15 09 28.7 +0.7**
KHC *ex* x 15 09 38.3
KHC Kasperske Hory 12.71 340 Pn **Pn 15 09 28.7 +0.7**
LPG La Plagne 12.94 313 *e*P Pn 15 09 36.1 +4.8
comp=Z,8.3nm,0.7s
LPG La Plagne 12.94 313 *e*P Pn 15 09 36.1 +4.8
LPG pmax pmax
comp=Z,8.0nm,0.7s
LPG La Plagne 12.94 313 *e*P Pn 15 09 36.1 +4.8
comp=Z,8.3nm,0.7s
KRLC Kraliky 12.96 350 *e*P **Pn 15 09 30.8 -0.4**
KRLC Kraliky 12.96 350 *e*P **Pn 15 09 30.8 -0.4**
KRLC *ex* x 15 09 43.4
KRLC Kraliky 12.96 350 Pn **Pn 15 09 30.8 -0.4**
ORIF Oris-en-Rattie 13.16 310 *e*P Pn 15 09 38.5 +4.4
comp=Z,26nm,1.1s
ORIF Oris-en-Rattie 13.16 310 *e*P Pn 15 09 38.5 +4.4
ORIF pmax pmax
comp=Z,26nm,1.1s
ORIF Oris-en-Rattie 13.16 310 *e*P Pn 15 09 38.5 +4.4
comp=Z,26nm,1.1s
MMAI Mount Meron Ar 13.18 105 Pn Pn 15 09 27.8 -6.6
MMAI Sn Sn 15 11 47.2 -14
MMAI Mount Meron Ar 13.18 105 Pn Pn 15 09 27.8 -6.6
comp=Z,1.4nm,0.3s,baz=313,slow=14,SNR=5.3
MMAI Sn Sn 15 11 47.2 -14
comp=Z,1.6nm,0.3s,baz=313,slow=26,SNR=1.9
PRU Pruhonice 13.27 344 *e*P **Pn 15 09 35.6 +0.1**
PRU Pruhonice 13.27 344 *e*P **Pn 15 09 35.6 +0.1**
PRU Pruhonice 13.27 344 Pn **Pn 15 09 35.6 +0.1**
DPC Dobruska-Polom 13.29 349 *e*P **P 15 09 47.4 +1.8**
DPC Dobruska-Polom 13.29 349 *e*P **P 15 09 47.4 +1.8**
HNKL Nakhl 13.66 119 P Pn 15 09 35.7 -5.2
baz=120
KSP Ksiaz 13.77 350 *e*P **P 15 09 53.5 +2.6**
CABF La Chapelle 13.97 316 *e*P **P 15 09 51.0 -2.2**
CABF La Chapelle 13.97 316 *e*P **P 15 09 51.0 -2.2**
CABF La Chapelle 13.97 316 *e*P **P 15 09 51.0 -2.2**
CABF La Chapelle 13.97 316 *e*P **P 15 09 51.0 -2.2**
NKC Novy Kostel 14.03 339 *e*P **Pn 15 09 46.2 +0.4**
NKC Novy Kostel 14.03 339 *e*P **Pn 15 09 46.2 +0.4**
NKC *ex* x 15 09 55.9
NKC Novy Kostel 14.03 339 Pn **Pn 15 09 46.2 +0.4**
EIL Elat 14.49 118 Pn Pn 15 09 47.1 -5.2
EIL Sn Sn 15 12 16.6 -16
EIL Elat 14.49 118 Pn Pn 15 09 47.1 -5.2
comp=Z,1.4nm,0.3s,baz=292,slow=7.3,SNR=20
EIL Sn Sn 15 12 16.6 -16
comp=Z,0.7nm,0.3s,baz=127,slow=24,SNR=2.4
CDF Champ du Feu 14.53 324 *e*P **Pn 15 09 51.7 -1.1**
CDF Champ du Feu 14.53 324 *e*P **Pn 15 09 51.7 -1.1**
CDF Champ du Feu 14.53 324 *e*P **Pn 15 09 51.7 -1.1**
ASF Jabal al Asfar 14.67 106 Pn **Pn 15 09 52.3 -2.5**
ASF Jabal al Asfar 14.67 106 Pn **Pn 15 09 52.3 -2.5**
comp=Z,0.4nm,0.3s,baz=280,slow=6.0,SNR=2.8
AK01 Malin Array Si 14.82 23 *e*Pn **Pn 15 09 54.5 -2.1**
KIEV Kiev 14.82 23 *e*P **Pn 15 09 55.9 -0.7**
AKASG Malin Array Be 14.83 23 P Pn 15 09 52.8 -3.9
AKASG Malin Array Be 14.83 23 Pn Pn 15 09 52.8 -3.9
AKASG Malin Array Be 14.83 23 Pn Pn 15 09 52.8 -3.9
comp=Z,0.5nm,0.3s,baz=215,slow=12,SNR=3.3
CLL Collm 14.86 342 *e*P **Pn 15 09 57.0 -0.2**
CLL Collm 14.86 342 *e*P **Pn 15 09 57.0 -0.2**
CLL *e*PP **PnPn 15 10 05.0 -0.1**
CLL *e* 15 10 12.0
CLL Lm MLR 15 22 00.0
comp=N,100nm,19.1s
CLL Lm MLR 15 22 00.0
comp=E,100nm,20.8s
CLL Lm MLR 15 22 00.0
comp=Z,200nm,20.7s
ANN Anapa 14.97 55 *e*P **Pn 15 10 00.6 +1.9**
ANN *e*S **Sn 15 12 44.8 +0.4**
ANN pmax pmax
comp=Z,34nm,1.2s
HHRG Al Ghardaqah 15.15 128 P **Pn 15 09 58.4 -2.9**
baz=130
SMF Signal de Mont 15.27 313 *e*P **Pn 15 10 02.4 -0.3**
comp=Z,91nm,1.6s
SMF Signal de Mont 15.27 313 *e*P **Pn 15 10 02.4 -0.3**
SMF pmax pmax
comp=Z,91nm,1.6s
SMF Signal de Mont 15.27 313 *e*P **Pn 15 10 02.4 -0.3**
comp=Z,91nm,1.6s
SSF Saint Saulge 15.68 313 *e*P **P 15 10 12.0 -0.1**
SSF Saint Saulge 15.68 313 *e*P **P 15 10 12.0 -0.1**
SSF Saint Saulge 15.68 313 *e*P **P 15 10 12.0 -0.1**
SSF Saint Saulge 15.68 313 *e*P **P 15 10 12.0 -0.1**
ETSF Etsaut 16.79 296 *e*P **P 15 10 24.8 +0.3**
comp=Z,36nm,1.0s
ETSF Etsaut 16.79 296 *e*P **P 15 10 24.8 +0.3**
ETSF pmax pmax
comp=Z,36nm,1.0s
ETSF Etsaut 16.79 296 *e*P **P 15 10 24.8 +0.3**
comp=Z,36nm,1.0s
ETSF Etsaut 16.79 296 *e*P **P 15 10 24.8 +0.3**
comp=Z,36nm,1.0s
SUW Suwalki 16.79 6 *e*P **Pn 15 10 21.5 -0.7**
SUW pmax pmax
comp=Z,49nm,0.9s
SUW Suwalki 16.79 6 *e*P **Pn 15 10 20.4 -1.8**
SUW Suwalki 16.79 6 *e*P **Pn 15 10 21.5 -0.7**
comp=Z,49nm,0.9s
KIV Kislovodsk 18.28 62 *e*P **P 15 10 45.1 +4.1**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,47nm,13.0s
KBZ Khabaz 18.38 63 P **P 15 10 46.5 +4.6**
KBZ Khabaz 18.38 63 P **P 15 10 46.5 +4.6**
comp=Z,0.1nm,0.3s,baz=245,slow=17,SNR=2.8
ZEI Tsey 18.92 66 *e*P **Pn 15 10 49.2 +0.4**
ZEI pmax pmax
comp=Z,5.0nm,0.5s
ZEI Tsey 18.92 66 *e*P **Pn 15 10 49.2 +0.4**
comp=Z,5.0nm,0.5s
ESDC Sonseca Array 19.03 284 P **Pn 15 10 51.5 +1.5**
ESDC Sonseca Array 19.03 284 P **Pn 15 10 51.5 +1.5**
ESDC Sonseca Array 19.03 284 P **Pn 15 10 51.5 +1.5**
comp=Z,0.3nm,0.3s,baz=81,slow=11,SNR=9.5
VORD Divnogorie 19.24 39 *e*P **Pn 15 10 52.9 +0.6**
VORD pmax pmax
comp=Z,3.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,20nm,0.9s
VORD Divnogorie 19.24 39 *e*P **Pn 15 10 52.9 +0.6**
comp=E,20nm,0.7s
VSR Storozhevoye 19.33 38 *e*P **Pn 15 10 57.8 +4.4**
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,20nm,1.1s
VRHR Novokhopersk 20.51 41 *e*P Pn 15 11 07.1 -0.3
VRHR pmax pmax
comp=Z,7.0nm,1.0s
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,40nm,1.4s
VRHR Novokhopersk 20.51 41 *e*P Pn 15 11 07.1 -0.3
comp=E,8.0nm,0.5s
MDT Midelt 20.77 265 P Pn 15 11 11.1 +0.4
MDT Midelt 20.77 265 P Pn 15 11 11.1 +0.4
comp=E,3.3nm,0.9s,baz=82,slow=10,SNR=6.3
OBN Obninsk 20.98 27⇓*e*P **P 15 11 10.9 +0.7**
OBN *e* 15 11 17.7
OBN *e* 15 11 31.9
OBN PPP PPP 15 11 38.0
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,100nm,12.0s
OBN Obninsk 20.98 27 *e*P **P 15 11 10.9 +0.7**
comp=Z,11nm,1.0s
VSU Vasula 21.56 9⇑*i*P **P 15 11 16.0 -0.4**
VSU pmax pmax
comp=Z,95nm,0.9s
VSU Vasula 21.56 9 *i*P **P 15 11 16.0 -0.4**
comp=Z,95nm,0.9s
MOS Moscow 21.85 27 *e*P **P 15 11 19.6 +0.1**
HFS Hagfors 23.18 352 P **P 15 11 32.5 -1.1**
HFS Hagfors 23.18 352 P **P 15 11 32.5 -1.1**
comp=Z,5.6nm,0.6s,baz=163,slow=11,SNR=18
EKA Eskdalemuir Ar 23.96 326 P **P 15 11 41.6 +0.3**
EKA Eskdalemuir Ar 23.96 326 P **P 15 11 41.6 +0.3**
comp=Z,1.8nm,0.5s,baz=130,slow=10,SNR=8.1
NB2 NORSAR Subarra 24.38 349 P **P 15 11 44.7 -0.5**
comp=Z,7.9nm,0.9s,baz=162,slow=9.3
NB2 NORSAR Subarra 24.38 349 P **P 15 11 44.7 -0.5**
comp=Z,7.9nm,0.9s,SNR=9.0
NOA NORSAR Array B 24.38 349 P **P 15 11 44.9 -0.4**
NOA NORSAR Array B 24.38 349 P **P 15 11 44.9 -0.4**
comp=Z,3.9nm,0.7s,baz=162,slow=9.8,SNR=7.3
FINES FINESS Array B 24.40 7 P **P 15 11 44.1 -1.2**
FINES FINESS Array B 24.40 7 P **P 15 11 44.1 -1.2**
comp=Z,2.7nm,0.6s,baz=181,slow=11,SNR=19
KAF Kangasniemi 25.08 7 *e*P **P 15 11 51.3 -0.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 25.08 7 *ep* **P 15 11 51.3 -0.2**
comp=Z,1.2nm,0.4s
JOF Joensuu 26.49 11 *e*P **P 15 12 03.1 -1.1**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 26.49 11 *ep* **P 15 12 03.1 -1.1**
comp=Z,0.8nm,0.4s
KLMR Klimovskoe 26.51 21 *e*P **P 15 12 03.1 -1.3**
KLMR pmax pmax
comp=Z,18nm,1.8s
TOA0 Torodi Ar. Sit 29.22 219 *e*Pn **P 15 12 29.9 +0.8**
TORD Torodi Ar. Bea 29.22 219 P **P 15 12 30.2 +1.1**
TORD Torodi Ar. Bea 29.22 219 P **P 15 12 30.2 +1.1**
comp=Z,2.0nm,0.6s,baz=30,slow=9.2,SNR=18
ARU Arti 31.86 41*c i*P P 15 12 55.5 +3.5
ARU 15 13 57.1
ARU S **S 15 18 07.2 +5.0**
ARU SS **SnSn 15 19 56.2 +6.3**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 32.37 3 P **P 15 12 55.5 -0.8**
ARCES ARCESS Array B 32.37 3 P **P 15 12 55.6 -0.8**
ARCES ARCESS Array B 32.37 3 P **P 15 12 55.5 -0.8**
comp=Z,2.4nm,0.8s,baz=187,slow=8.6,SNR=12
KEV Kevo 32.67 4 *e*P **P 15 12 58.8 -0.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 32.67 4 *ep* **P 15 12 58.8 -0.2**
comp=Z,0.9nm,0.4s
KEV Kevo 32.67 4 *e*P **P 15 12 58.8 -0.2**
comp=Z,1.0nm,0.4s
SVE Sverdlovsk 33.07 41 *e*P **P 15 12 59.6 -3.0**
SVE pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 37.80 49 *e*P P 15 13 47.8 +4.5
BRVK pmax pmax
comp=Z,2.0nm,1.1s
DBIC Dimbokro 38.10 223 P **P 15 13 47.1 +0.9**
DBIC Dimbokro 38.10 223 P **P 15 13 47.2 +0.9**
DBIC Dimbokro 38.10 223 P **P 15 13 47.1 +0.9**
comp=Z,3.0nm,0.8s,baz=358,slow=11,SNR=3.8
DBIC LR LR 15 33 13.8
comp=Z,41nm,18.4s,baz=178,slow=42
LIC Lamto 38.57 223 *e*P **P 15 13 48.4 -1.8**
comp=Z,18nm,1.0s
LIC Lamto 38.57 223 *e*P **P 15 13 48.4 -1.8**
comp=Z,18nm,1.0s
LIC Lamto 38.57 223 *e*P **P 15 13 48.4 -1.8**
comp=Z,18nm,1.0s
AAK Ala-Archa 41.34 65 *e*P P 15 14 18.8 +5.6
AAK pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 41.42 154 *e*P **P 15 14 16.7 +2.6**
KMBO Kilima Mbogo 41.42 154 P **P 15 14 15.8 +1.7**
comp=Z,0.5nm,0.3s,baz=4.6,slow=8.9,SNR=4.3
MK31 Makanchi Array 45.97 58 *e*P **P 15 14 50.1 -0.1**
MK31 Makanchi Array 45.97 58 *e*P **P 15 14 50.1 -0.1**
MK31 Makanchi Array 45.97 58 *e*P **P 15 14 50.1 -0.1**
MKAR Makanchi Array 45.97 58 P **P 15 14 48.4 -1.8**
MKAR Makanchi Array 45.97 58 P **P 15 14 48.4 -1.8**
MKAR Makanchi Array 45.97 58 P **P 15 14 48.4 -1.8**
MKAR Makanchi Array 45.97 58 P **P 15 14 48.4 -1.8**
comp=Z,0.4nm,0.4s,baz=269,slow=11,SNR=3.8
ZAA0 Zalesovo Array 46.45 47 *e*P **P 15 14 51.8 -2.0**
ZAA0 Zalesovo Array 46.45 47 *e*P **P 15 14 51.8 -2.0**
ZALV Zalesovo Beam 46.45 47 P **P 15 14 52.0 -1.8**
ZALV Zalesovo Beam 46.45 47 P **P 15 14 52.0 -1.8**
ZALV Zalesovo Beam 46.45 47 P **P 15 14 52.0 -1.8**
ZALV Zalesovo Beam 46.45 47 P **P 15 14 52.0 -1.8**
comp=Z,1.2nm,0.4s,baz=289,slow=9.2,SNR=8.3
WMQ Urumqi 50.40 60 P **P 15 15 25.7 +1.1**
WMQ pmax pmax
comp=Z,11nm,1.0s
PYUN Piuthan 52.79 81 *e*P **P 15 15 42.8 0.0**
PYUN Piuthan 52.79 81 *e*P **P 15 15 42.8 0.0**
PYUN Piuthan 52.79 81 *e*P **P 15 15 42.8 0.0**
DANN Dangsing 53.28 80 *e*P **P 15 15 45.7 -0.8**
comp=Z,48nm,0.9s
DANN Dangsing 53.28 80 *e*P **P 15 15 45.7 -0.8**
DANN Dangsing 53.28 80 *e*P **P 15 15 45.7 -0.8**
KOLN Koldanda 53.42 81 *e*P **P 15 15 45.1 -2.3**
comp=Z,13nm,0.8s
KOLN Koldanda 53.42 81 *e*P **P 15 15 45.1 -2.3**
KOLN Koldanda 53.42 81 *e*P **P 15 15 45.1 -2.3**
GKN Gorkha 54.12 80 *e*P **P 15 15 52.3 -0.3**
GKN Gorkha 54.12 80 *e*P **P 15 15 52.3 -0.3**
GKN Gorkha 54.12 80 *e*P **P 15 15 52.3 -0.3**
DMN Daman 54.67 80 *e*P **P 15 15 53.7 -3.0**
comp=Z,29nm,0.9s
DMN Daman 54.67 80 *e*P **P 15 15 53.7 -3.0**
DMN Daman 54.67 80 *e*P **P 15 15 53.7 -3.0**
KKN Kakani 54.73 80 *e*P **P 15 15 54.8 -2.2**
KKN Kakani 54.73 80 *e*P **P 15 15 54.8 -2.2**
KKN Kakani 54.73 80 *e*P **P 15 15 54.8 -2.2**
KKN Kakani 54.73 80 *e*P **P 15 15 54.8 -2.2**
PKIN Phulchoki 54.92 80 *e*P **P 15 15 58.4 -0.1**
PKI Pulchoki 54.93 80 *e*P **P 15 15 56.8 -1.8**
PKI Pulchoki 54.93 80 *e*P **P 15 15 58.4 -0.2**
PKI Pulchoki 54.93 80 *e*P **P 15 15 58.4 -0.2**
PKI Pulchoki 54.93 80 *e*P **P 15 15 58.4 -0.2**
GUN Gumba 55.14 79 *e*P **P 15 15 59.4 -0.8**
comp=Z,20nm,0.8s
GUN Gumba 55.14 79 *e*P **P 15 15 59.4 -0.8**
GUN Gumba 55.14 79 *e*P **P 15 15 59.4 -0.8**
JIRN Jiri 55.50 80 *e*P **P 15 16 00.9 -1.9**
JIRN Jiri 55.50 80 *e*P **P 15 16 00.9 -1.9**
JIRN Jiri 55.50 80 *e*P **P 15 16 00.9 -1.9**
RAMN Ramite 56.16 80 *e*P **P 15 16 05.2 -2.2**
comp=Z,29nm,0.9s
RAMN Ramite 56.16 80 *e*P **P 15 16 05.2 -2.2**
RAMN Ramite 56.16 80 *e*P **P 15 16 05.2 -2.2**
TAPN Taplejung 56.84 79 *e*P **P 15 16 12.5 +0.2**
TAPN Taplejung 56.84 79 *e*P **P 15 16 12.5 +0.2**
TAPN Taplejung 56.84 79 *e*P **P 15 16 12.5 +0.2**
LSA Lhasa 58.41 75 P **P 15 16 26.0 +2.5**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 58.41 75 P **P 15 16 26.0 +2.5**
comp=Z,5.5nm,0.8s
SCHQ Schefferville 58.89 318 P **P 15 16 26.6 +0.7**
SCHQ Schefferville 58.89 318 P **P 15 16 26.6 +0.7**
SCHQ Schefferville 58.89 318 P **P 15 16 26.6 +0.7**
comp=Z,6.1nm,0.9s,baz=51,slow=6.5,SNR=3.9
SONM Songino Array 61.19 50 P **P 15 16 41.2 -0.8**
SONM Songino Array 61.19 50 P **P 15 16 41.2 -0.8**
SONM Songino Array 61.19 50 P **P 15 16 41.2 -0.8**
comp=Z,0.8nm,0.9s,baz=264,slow=7.1,SNR=4.8
LZH Lanzhou 64.82 63 *e*P **P 15 17 06.8 +0.5**
LZH pP **pP 15 17 09.9 -0.2**
LZH sP **sP 15 17 11.0 -0.5**
LZH PP **PP 15 19 31.0 +2.4**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,69nm,5.0s
LZH LR LR
comp=Z,250nm,15.2s
LZH LR LR
comp=Z,250nm,15.6s
LZH LR LR
comp=Z,300nm,18.7s
CD2 Chengdu 67.33 68 *e*P **P 15 17 22.0 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,30nm,5.2s
HHC Hu-ho-hao-te 67.73 55 *e*P **P 15 17 22.0 -2.8**
HHC pP **pP 15 17 28.7 +0.1**
HHC sP **sP 15 17 31.0 +1.0**
HHC PP **PP 15 19 54.4 +0.6**
HHC S S 15 26 15.1 -7.3
HHC ScS **SKiKP 15 27 17.9 -4.1**
HHC SS **SS 15 30 39.4 -3.5**
HHC pmax pmax
comp=Z,25nm,1.2s
HHC pmax pmax
comp=Z,360nm,6.5s
HHC LR LR
comp=Z,230nm,17.0s
KMI Kunming 69.59 74 P **P 15 17 37.3 +0.4**
KMI pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 70.27 82 P **P 15 17 41.2 +0.4**
CMAR Chiang Mai Arr 70.27 82 P **P 15 17 41.2 +0.4**
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 70.27 82 P **P 15 17 41.2 +0.4**
comp=Z,0.6nm,0.8s,baz=302,slow=7.4,SNR=5.3
GYA Guiyang 71.85 70 *e*P **P 15 17 51.0 +0.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 74.65 46 *e*P **P 15 18 05.7 -0.8**
ILAR Eielson Array 77.71 354 P **P 15 18 23.9 +0.3**
ILAR Eielson Array 77.71 354 P **P 15 18 23.9 +0.3**
ILAR Eielson Array 77.71 354 P **P 15 18 23.9 +0.3**
comp=Z,0.4nm,0.9s,baz=344,slow=4.1,SNR=5.7
KSAR Wonju Array Be 80.05 50 P **P 15 18 37.1 +0.2**
KSAR Wonju Array Be 80.05 50 P **P 15 18 37.1 +0.2**
KSRS Korea Array 80.06 50 P **P 15 18 37.1 +0.1**
comp=Z,1.0nm,0.9s
KSRS Korea Array 80.06 50 P **P 15 18 37.1 +0.1**
comp=Z,1.0nm,0.8s,baz=264,slow=2.4,SNR=3.7
ASAR Alice Springs 122.35 96 PKP **PKPdf 15 25 22.8 0.0**
ASAR Alice Springs 122.35 96 PKP **PKPdf 15 25 22.7 0.0**
comp=Z,0.1nm,0.7s,baz=312,slow=1.6,SNR=2.9

IDC 07 15:28:23.3±1.5,**29.61S**×**178.29W**,**h221**km±14km,
mb2.7/2,**mb1 3.0**/3,**mb1mx2.9**/18,**mbtmp2.8**/3,**Error ellipse: s-maj=54.6km s-min=25.0km az=108.0,**
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.48**	**42**	P	P	Pn	15 28 53.9	+1.1
	196nm,0.3s,baz=59,slow=23,SNR=11							
RAO				S		S	15 29 15.8	0.0
	80nm,0.3s,baz=230,slow=22,SNR=2.0							
URZ	**Urewera**	**9.44**	**203**	P	P	Pn	15 30 34.1	-0.7
	0.3nm,0.3s,baz=297,slow=19,SNR=1.1							
URZ				S		S	15 32 20.7	-0.2
	1.2nm,0.3s,baz=261,slow=23,SNR=13							
ASAR	**Alice Springs**	**42.91**	**266**	P	P	P	15 36 00.6	+0.2
	0.2nm,0.5s,baz=100,slow=6.6,SNR=12							
WRA	**Warramunga Arr**	**43.82**	**271**	P	P	P	15 36 07.3	-0.4
	0.1nm,0.3s,baz=110,slow=7.8,SNR=9.0							
FINES	**FINESS Array B**	**144.32**	**340**	PKP	PKPab		15 47 30.6	-0.2
	2.1nm,0.8s,baz=212,slow=9.9,SNR=2.3							

*AUST **07** 15:50:19.9±6.8,3.°90S×120.°75E,h312km±2km, Error ellipse: s-maj=4.1km s-min=1.7km az=259.0*
*ISCJB **07** 15:51:16.8±0.9,6.°8S±0.°1×125.°1E±0.°2,h543km, mb3.6/3, Error ellipse: s-maj=27.8km s-min=13.2km az=150.0*
*IDC **07** 15:51:19.4±2.5,6.°64S×125.°66E,h562km±32km, mb3.1/3, mb1 3.2/5, mb1mx2.8/21, mbtmp3.1/5, Error ellipse: s-maj=241.4km s-min=17.2km az=62.0*

ISC 07 15:51:17.8±1.2,**6.9S**±0.°2×**125.1E**±0.°2,**h543**km,**n14,**
σ1ᵖ**12**/**15**,**mb3.6**/3,**1C**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**8.44**	**135**	P	P	P	15 53 20.5	+0.8
	baz=14,SNR=53							
KDU	**Kakadu**	**9.32**	**129**	P	P	P	15 53 29.2	+0.5
	baz=14,SNR=6.6							
KNRA	**Kununurra**	**9.49**	**158**	P	P	P	15 53 30.6	+0.3
	baz=14,SNR=15							
WRA	**Warramunga Arr**	**15.82**	**146**	P	P	P	15 54 34.5	-1.4
	1.2nm,0.3s,baz=323,slow=11,SNR=98							
ASAR	**Alice Springs**	**18.75**	**154**	P	P	P	15 55 02.5	-0.4
	1.2nm,0.3s,baz=338,slow=9.9,SNR=126							
ASAR				ScP		**ScP**	16 01 44.5	-2.9
	0.0nm,0.3s,baz=349,slow=2.0,SNR=5.2							
COEN	**Coen**	**19.15**	**113**	⇑P	P	P	15 55 07.1	+0.5
	baz=24,SNR=11							
QLP	**Quilpie**	**26.80**	**139**	P	P	P	15 56 15.5	+0.8
	baz=32,SNR=3.7							
RABL	**Rabaul**	**27.10**	**86**	P	P	P	15 56 16.5	-1.2
	baz=31,SNR=3.3							
STKA	**Stephens Creek**	**29.29**	**150**	P	P	P	15 56 36.4	-0.1
	2.2nm,0.5s,baz=325,slow=9.7,SNR=13							
STKA	**Stephens Creek**	**29.29**	**150**	P	P	P	15 56 36.5	-0.1
	baz=34,SNR=10							
HTT	**Hallett**	**29.41**	**156**	P	P	P	15 56 37.6	+0.1
	baz=34,SNR=5.8							
CMSA	**Cobar Meteorol**	**31.22**	**145**	P	P	P	15 56 53.6	+0.5
	baz=36,SNR=8.3							
MKAR	**Makanchi Array**	**65.50**	**329**	P	P	P	16 01 08.6	+1.0
	0.5nm,0.4s,baz=126,slow=7.0,SNR=12							
ZALV	**Zalesovo Beam**	**69.36**	**336**	P	P	P	16 01 31.1	+0.1
	0.8nm,0.4s,baz=134,slow=6.2,SNR=4.7							

*IDC **07** 16:05:30.6±1.7,0.°79N×97.°11E,h0km,mb3.8/6,mb1 3.8/8, mb1mx3.6/27,mbtmp3.8/8,ML3.5/2, Error ellipse:*

s-maj=51.9km s-min=19.7km az=59.0
ISC 07 16:05:36.3±1.5, 1°1'1N±0°1'×97°6E±0°2, h27km, n14, σ0§23/8, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.20**	**38**	Pn	**Pb**	**16 06 15.5**	**0.0**
	2.1nm,0.3s,baz=310,slow=8.6,SNR=5.0						
CMAR	**Chiang Mai Arr**	**17.34**	**4**	P	**Pn**	**16 09 36.4**	**-0.2**
	0.1nm,0.3s,baz=196,slow=11,SNR=16						
H08S2	**Diego Garcia H**	**26.46**	**251**	T	T	16 38 07.4	
	baz=71,slow=75,SNR=520						
H08S3	**Diego Garcia H**	**26.46**	**251**	T	T	16 38 08.8	
	baz=71,slow=75,SNR=540						
H08S1	**Diego Garcia H**	**26.47**	**251**	T	T	16 38 09.9	
	baz=71,slow=75,SNR=620						
H01W3	**Cape Leeuwin H**	**38.98**	**158**	T	T	16 54 13.1	
	baz=334,slow=76,SNR=9.6						
H01W2	**Cape Leeuwin H**	**38.99**	**158**	T	T	16 54 14.7	
	baz=334,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**39.00**	**158**	T	T	16 54 16.0	
	baz=334,slow=76,SNR=9.4						
WRA	**Warramunga Arr**	**41.66**	**122**	P	**P**	**16 13 22.7**	**-0.1**
	0.4nm,0.5s,baz=301,slow=9.0,SNR=8.5						
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**16 13 33.9**	**0.0**
	0.3nm,0.6s,baz=297,slow=7.4,SNR=8.0						
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**16 14 07.3**	**+0.4**
	0.4nm,0.5s,baz=193,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**47.46**	**346**	P	**P**	**16 14 08.7**	**0.0**
	1.0nm,0.5s,baz=166,slow=9.1,SNR=13						
KURBB	**Kurchatov Arra**	**51.96**	**345**	P	**P**	**16 14 42.8**	**-0.1**
	0.6nm,0.4s,baz=164,slow=7.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**53.75**	**351**	P	**P**	**16 14 55.8**	**-0.2**
	1.9nm,0.4s,baz=179,slow=5.9,SNR=12						

*IDC **07** 16:07:10.2±1.9, 39°.39'N×54°.09'E, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.5/31, mbtmp3.7/9, ML3.6/4, Error ellipse: s-maj=26.9km s-min=13.7km az=1.0*
*CSEM **07** 16:07:11.5±0.2, 39°.48'N×54°.43'E, h10km, ML3.5, Error ellipse: s-maj=5.2km s-min=4.4km az=12.0*
*TEH **07** 16:07:12.7, 39°.42'N×54°.42'E, h8km, ML3.5*
*ISCJB **07** 16:07:12.2±0.3, 39°.49'N±0°.03'×54°.40'E±0°.03', h31km, mb3.5/5, Error ellipse: s-maj=4.6km s-min=3.7km az=24.3*
*AZER **07** 16:07:16.4±0.0, 39°.07'N×53°.21'E, h294km±3km, Error ellipse: s-maj=11.3km s-min=2.7km az=266.0*
*NNC **07** 16:07:20.9±2.0, 40°.04'N×55°.27'E, h5km±24km, mb3.4, Error ellipse: s-maj=25.9km s-min=7.4km az=50.0*
ISC 07 16:07:13.5±0.6, 39°.50N±0°.05'×54°.50E±0°.04', h31km, n69, σ1§55/73, mb3.7/5, 5C-13D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**3.04**	**190**	*e*Pn	**Pn**	**16 07 58.4**	**-1.2**
IGLO				*e*		16 08 02.6	
	comp=Z,652nm,0.0s						
IGLO				*e*Sn	**Sn**	**16 08 34.3**	**-0.7**
IKIA	**Kiasar**	**3.35**	**191**	*e*		16 08 07.2	
	comp=Z,480nm,0.1s						
IKIA				*e*Pn	**Pn**	**16 08 03.7**	**-0.2**
IALA	**Alasht**	**3.66**	**202**	*e*		16 08 09.1	
	comp=Z,3μm,0.1s						
IALA				*e*Pn	**Pn**	**16 08 07.6**	**-0.7**
IPRN	**Peran**	**3.67**	**208**	*e*		16 08 52.9	
	comp=Z,1μm,0.2s						
IPRN				*e*Pn	**Pn**	**16 08 06.5**	**-1.8**
ISFR	**Sfrayin**	**3.68**	**130**	*e*Pn	**Pn**	**16 08 09.8**	**+1.4**
ISFR				*e*		16 09 46.8	
	comp=Z,468nm,0.2s						
ISFR	**Sfrayin**	**3.68**	**130**	*e*Pn	**Pn**	**16 08 09.8**	**+1.4**
ISHM	**Shahmirzad**	**3.81**	**195**	*e*Pn	**Pn**	**16 08 10.2**	**0.0**
ISHM				*e*		16 08 13.5	
	comp=Z,2μm,0.2s						
ISHM	**Shahmirzad**	**3.81**	**195**	*e*Pn	**Pn**	**16 08 10.2**	**0.0**
IEMG	**Emamgholi**	**3.86**	**121**	*e*Pn	**Pn**	**16 08 11.7**	**+0.7**
IEMG				*e*		16 09 56.9	
	comp=Z,989nm,0.2s						
IEMG	**Emamgholi**	**3.86**	**121**	*e*Pn	**Pn**	**16 08 11.7**	**+0.7**
IANJ	**Anjilo**	**4.05**	**187**	*e*Pn	**Pn**	**16 08 13.6**	**+0.1**
IANJ				*e*		16 08 17.2	
	comp=Z,305nm,0.1s						
IANJ	**Anjilo**	**4.05**	**187**	*e*Pn	**Pn**	**16 08 13.6**	**+0.1**
IKRD	**Kardeh**	**4.17**	**129**	*e*Pn	**Pb**	**16 08 24.8**	**-1.5**
IKRD				*e*		16 10 24.4	
	comp=Z,442nm,0.4s						
ALIB	**Äli-Bayra**	**4.26**	**278**	⇓S	**Sn**	**16 09 04.3**	**-0.6**
ALIB	**Äli-Bayra**	**4.26**	**278**	S	**Sn**	**16 09 04.3**	**-0.6**
ILAS	**Lasjerd**	**4.29**	**197**	*e*Pn	**Pn**	**16 08 17.0**	**+0.2**
ILAS	**Lasjerd**	**4.29**	**197**	*e*Pn	**Pn**	**16 08 17.0**	**+0.2**
IDMV	**Damavand**	**4.38**	**207**	*e*Pn	**Pn**	**16 08 18.1**	**0.0**
IDMV				*e*		16 08 24.0	
	comp=Z,383nm,0.1s						
IDMV	**Damavand**	**4.38**	**207**	*e*Pn	**Pn**	**16 08 18.1**	**0.0**
IAKL	**Akhelmad**	**4.43**	**129**	*e*Pn	**Pn**	**16 08 20.0**	**+1.2**
IAKL				*e*		16 09 15.6	
	comp=Z,228nm,0.1s						
IAKL	**Akhelmad**	**4.43**	**129**	*e*Pn	**Pn**	**16 08 20.0**	**+1.2**
ATGJ	**Altiaghaj**	**4.47**	**289**	⇓P	**Pn**	**16 08 19.2**	**-0.1**
ATGJ	**Altiaghaj**	**4.47**	**289**	P	**Pn**	**16 08 19.2**	**-0.1**
SIZA	**Siyzn**	**4.57**	**292**	⇓P	Pn	16 08 25.4	+5.0
IPAY	**Payeh**	**4.67**	**129**	*e*Pn	**Pn**	**16 08 24.0**	**+1.9**
IPAY				*e*		16 09 22.4	
	comp=Z,206nm,0.2s						
IPAY	**Payeh**	**4.67**	**129**	*e*Pn	**Pn**	**16 08 24.0**	**+1.9**
PQL	**Pirkuli**	**4.71**	**288**	⇓S	**Sn**	**16 09 17.6**	**+1.5**
PQL	**Pirkuli**	**4.71**	**288**	S	**Sn**	**16 09 17.6**	**+1.5**
GLBA	**Clilabad**	**4.74**	**269**	⇑P	**Pn**	**16 08 21.0**	**-1.8**
GLBA	**Clilabad**	**4.74**	**269**	P	**Pn**	**16 08 21.0**	**-1.8**
LRK	**Lerik**	**4.87**	**262**	⇑P	**Pn**	**16 08 25.7**	**+1.0**
LRK	**Lerik**	**4.87**	**262**	P	**Pn**	**16 08 25.7**	**+1.0**
QUBA	**Quba, Azerbaij**	**4.95**	**294**	⇓P	Pn	16 08 29.3	+3.6
QUBA	**Quba, Azerbaij**	**4.95**	**294**	P	Pn	16 08 29.3	+3.6
IML	**Ismayilli**	**5.01**	**287**	⇓S	**Sn**	**16 09 23.0**	**-0.5**
IML	**Ismayilli**	**5.01**	**287**	S	**Sn**	**16 09 23.0**	**-0.5**
IMOG	**Moghan**	**5.11**	**130**	*e*Pn	**Pn**	**16 08 28.9**	**+0.7**
IMOG				*e*		16 10 34.4	
	comp=Z,142nm,0.3s						
IMOG	**Moghan**	**5.11**	**130**	*e*Pn	**Pn**	**16 08 28.9**	**+0.7**
ISFB	**Sefidab**	**5.45**	**200**	*e*Pn	**Pn**	**16 08 32.3**	**-0.3**
ISFB				*e*		16 08 35.9	
	comp=Z,175nm,0.2s						
ISFB	**Sefidab**	**5.45**	**200**	*e*Pn	**Pn**	**16 08 32.3**	**-0.3**
ISRB	**Sarab**	**5.61**	**255**	*e*Pn	**Pn**	**16 08 35.0**	**+0.1**
ISRB	**Sarab**	**5.61**	**255**	*e*Pn	**Pn**	**16 08 35.0**	**+0.1**
BRDA	**Brd**	**5.69**	**280**	⇑S	**Sn**	**16 09 35.6**	**-4.3**
SEKA	**Sheki**	**5.84**	**289**	⇓P	**Pn**	**16 08 38.4**	**+0.5**
SEKA				⇑S	**Sn**	**16 09 42.6**	**-1.2**
SEKA	**Sheki**	**5.84**	**289**	P	**Pn**	**16 08 38.4**	**+0.5**
SEKA				S	**Sn**	**16 09 42.6**	**-1.2**
IHRS	**Heris**	**5.94**	**261**	*e*Pn	**Pn**	**16 08 39.0**	**-0.5**
IHRS				*e*		16 08 54.2	
	comp=Z,504nm,0.1s						
IHRS	**Heris**	**5.94**	**261**	*e*Pn	**Pn**	**16 08 39.0**	**-0.5**
ZKTA	**Zakatala**	**6.37**	**292**	⇓S	**Sn**	**16 09 58.3**	**+1.4**
GANJ	**Ganja**	**6.38**	**283**	⇓P	**Pn**	**16 08 43.9**	**-1.4**
GANJ	**Ganja**	**6.38**	**283**	P	**Pn**	**16 08 43.9**	**-1.4**
KBZ	**Khabaz**	**9.66**	**300**	Pn	**Pn**	**16 09 28.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=164,slow=21,SNR=1.3						
KBZ				Sn	Sn	16 11 10.1	-7.6
	comp=Z,0.2nm,0.3s,baz=139,slow=15,SNR=1.8						
AB31	**Akbulak array**	**10.50**	**20**	Pn	**Pn**	**16 09 43.0**	**+1.2**
	comp=Z,0.5nm,0.2s,baz=201,SNR=68						
AB31	**Akbulak array**	**10.50**	**20**	Pn	**Pn**	**16 09 43.0**	**+1.2**
	comp=Z,0.5nm,0.2s,baz=201,slow=13,SNR=68						
AB31				⇑Sn	**Sn**	**16 11 33.3**	**-5.0**
	comp=Z,0.6nm,0.2s,baz=182,slow=25,SNR=14						
AKTO	**Aktyubinsk**	**11.21**	**12**	Pn	**Pn**	**16 09 52.5**	**+1.0**
	comp=Z,2.4nm,0.6s						
AKTO	**Aktyubinsk**	**11.21**	**12**	Pn	**Pn**	**16 09 52.7**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=177,slow=9.5,SNR=18						
AKTO				Sn	**Sn**	**16 11 53.3**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=70,slow=20,SNR=4.3						
AKTO	**Aktyubinsk**	**11.21**	**12**	⇓Pn	**Pn**	**16 09 52.5**	**+1.0**
	comp=Z,2.4nm,0.6s						
AKTO				⇓Sn	**Sn**	**16 11 53.0**	**-2.8**
	comp=Z,4.3nm,0.8s						
KK31	**Karatay Array**	**12.57**	**68**	Pn	**Pn**	**16 10 09.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=257,SNR=5.3						
KK31	**Karatay Array**	**12.57**	**68**	⇓Pn	**Pn**	**16 10 09.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=257,slow=16,SNR=5.3						
KK31				⇓Sn	**Sn**	**16 12 23.9**	**-5.0**
	comp=Z,0.8nm,0.5s,baz=260,slow=24,SNR=4.8						
AAK	**Ala-Archa**	**15.40**	**72**	Pn	**Pn**	**16 10 49.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=218,slow=8.6,SNR=1.8						
BVA0	**Borovoye Array**	**17.37**	**34**	P	**P**	**16 11 14.4**	**-0.1**
	comp=Z,0.1nm,0.5s,SNR=8.8						
BVA0	**Borovoye Array**	**17.37**	**34**	P	**P**	**16 11 14.4**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=248,slow=38,SNR=8.8						
BVAR	**Borovoye Array**	**17.37**	**34**	Pn	**P**	**16 11 15.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=233,slow=14,SNR=7.4						
BVAR				Sn	Sn	16 14 18.2	-7.4
	comp=Z,0.3nm,0.3s,baz=186,slow=32,SNR=3.3						
AKASG	**Malin Array Be**	**20.96**	**311**	P	**P**	**16 11 53.4**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=104,slow=8.9,SNR=14						
MK31	**Makanchi Array**	**21.47**	**61**	P	**P**	**16 12 01.8**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=252,SNR=4.4						
MK31	**Makanchi Array**	**21.47**	**61**	P	**P**	**16 12 01.8**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=252,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**21.47**	**61**	P	**P**	**16 12 01.8**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=248,slow=11,SNR=3.9						
ZALV	**Zalesovo Beam**	**25.07**	**45**	P	**P**	**16 12 36.9**	**+2.0**
	comp=Z,0.9nm,0.4s,baz=267,slow=9.3,SNR=5.4						
HFS	**Hagfors**	**32.70**	**323**	P	**P**	**16 13 43.7**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=113,slow=9.6,SNR=5.6						
ARCES	**ARCESS Array B**	**33.80**	**342**	P	**P**	**16 13 54.2**	**+2.0**
	comp=Z,1.7nm,0.9s,baz=134,slow=8.7,SNR=4.9						

*BJI **07** 16:10:49.9, 53°.50N×154°.31E, h506km, mB4.9/14, mb4.5/31*
*KRSC **07** 16:10:50.7±3.9, 53°.11N×154°.81E, h534km±44km, ML4.7*
*MOS **07** 16:10:50.8±0.9, 53°.46N×153°.90E, h489km, mb4.0/29, Error ellipse: s-maj=10.4km s-min=7.3km az=79.1*
*ISCJB **07** 16:10:51.3±0.2, 53°.41N±0°.04'×153°.95E±0°.06, h497km±3km, mb4.0/56, Error ellipse: s-maj=8.0km s-min=4.1km az=140.6*
*IDC **07** 16:10:52.0±0.6, 53°.48N×153°.86E, h488km±8km, mb3.4/32, mb1 3.6/36, mb1mx3.5/41, mbtmp3.5/36, Error ellipse: s-maj=10.2km s-min=7.2km az=144.0*
*NEIC **07** 16:10:52.1±0.5, 53°.30N×153°.96E, h494km±10km, mb4.6/14, Error ellipse: s-maj=19.1km s-min=5.6km az=147.0*
ISC 07 16:10:52.0±0.4, 53°.35N±0°.05'×154°.08E±0°.04', h498km±3km, h496km:pP-P, n174, σ1§50/231, mb4.1/56, 2C-2D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.90**	**102**	*e*P	**P**	**16 11 56.7**	**+0.3**
APC				*i* S	**S**	**16 12 48.8**	**0.0**
MIPR	**Malaya Ipel'ka**	**1.95**	**122**	*e*P	**P**	**16 11 57.0**	**+0.3**
MIPR				*i* S	**S**	**16 12 50.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**2.19**	**95**	*e*P	**P**	**16 11 58.2**	**+0.4**
PETK	**Petropavlovsk-**	**2.19**	**95**	PN	**P**	**16 11 58.0**	**+0.1**
PETK				S	**S**	**16 12 51.1**	**-0.4**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.19**	**95**	P	**P**	**16 11 58.0**	**+0.1**
	comp=Z,9.1nm,0.3s,baz=24,slow=2.3,SNR=330						
PETK				S	**S**	**16 12 51.1**	**-0.4**
	baz=69,slow=9.1,SNR=1.2						
GNL	**Ganaly**	**2.33**	**80**	*e*P	**P**	**16 11 59.3**	**+0.6**
GNL				*i* S	**S**	**16 12 54.2**	**+1.1**
ASAK	**Asacha**	**2.51**	**111**	*e*P	**P**	**16 12 00.0**	**+0.2**
ASAK				*i* S	**S**	**16 12 54.5**	**-0.4**
PAU	**Pauzhetka**	**2.52**	**137**	PN	**P**	**16 11 59.8**	**0.0**
PAU	**Pauzhetka**	**2.52**	**137**	*e*P	**P**	**16 11 59.8**	**0.0**
MTVR	**Mutnovka**	**2.63**	**108**	*e*P	**P**	**16 12 00.8**	**+0.2**
KOK	**Koryaka**	**2.73**	**89**	P	**P**	**16 12 01.7**	**+0.6**
KRX	**Arik**	**2.74**	**88**	P	**P**	**16 12 01.6**	**+0.4**
PET	**Petropavlovsk**	**2.77**	**95**	*e*PN	**P**	**16 12 00.9**	**-0.3**
PET				*e*S	**S**	**16 12 55.3**	**-2.3**
PET				pmax	pmax		
	comp=Z,131nm,0.9s						
PET				smax	smax		
	comp=N,108nm,1.2s						
PET				smax	smax		
	comp=E,95nm,0.7s						
PET	**Petropavlovsk**	**2.77**	**95**	*e*P	**P**	**16 12 01.3**	**+0.1**
PET				*i* S	**S**	**16 12 55.0**	**-2.6**
AVH	**Avacha**	**2.79**	**90**	P	**P**	**16 12 02.4**	**+0.9**
KRER	**Koryakskii**	**2.80**	**89**	P	**P**	**16 12 02.0**	**+0.3**
SMAR	**Somma**	**2.83**	**90**	*e*P	**P**	**16 12 02.2**	**+0.3**
RUS	**Russkaya**	**2.84**	**107**	PN	**P**	**16 12 01.0**	**-0.7**
RUS				S	**S**	**16 12 54.2**	**-4.2**
RUS	**Russkaya**	**2.84**	**107**	*e*P	**P**	**16 12 01.0**	**-0.7**
RUS				*i* S	**S**	**16 12 54.2**	**-4.2**
UGLR	**Uglovaya**	**2.85**	**91**	P	**P**	**16 12 02.3**	**+0.4**
SDLR	**Sedlovina**	**2.88**	**90**	P	**P**	**16 12 02.2**	**+0.1**
SKR	**Severo-Kuril's**	**2.95**	**154**	*e*P	**P**	**16 12 02.1**	**-0.4**
NLC	**Nalytchevo**	**3.17**	**91**	PN	**P**	**16 12 03.1**	**-0.7**
NLC	**Nalytchevo**	**3.17**	**91**	*e*P	**P**	**16 12 03.1**	**-0.7**
SPN	**Mys Shipunski**	**3.58**	**92**	PN	**P**	**16 12 05.9**	**-1.0**
SPN				S	**S**	**16 13 02.3**	**-5.7**
SPN	**Mys Shipunski**	**3.58**	**92**	*e*P	**P**	**16 12 05.9**	**-1.0**
SPN				*i* S	**S**	**16 13 02.3**	**-5.7**
ESO	**Esso**	**3.72**	**44**	PN	**P**	**16 12 08.8**	**+0.9**
ESO				S	**S**	**16 13 10.7**	**+0.7**
ESO	**Esso**	**3.72**	**44**	*e*P	**P**	**16 12 08.8**	**+0.9**
ESO				*i* S	**S**	**16 13 10.7**	**+0.7**
TUMR	**Tumrok**	**4.04**	**59**	*e*P	**P**	**16 12 10.8**	**+0.2**
KZV	**Kizimen**	**4.05**	**62**	*e*P	**P**	**16 12 10.7**	**0.0**
KOZ	**Kozyrevsk**	**4.32**	**49**	*e*P	**P**	**16 12 13.3**	**+0.6**
KMNR	**Kamenistaya**	**4.32**	**54**	P	**P**	**16 12 13.7**	**+0.9**
KOZR	**Kozyr**	**4.33**	**49**	PN	**P**	**16 12 13.3**	**+0.4**
SRDR	**Sredinnyy**	**4.41**	**45**	*e*P	**P**	**16 12 14.1**	**+0.5**
KPT	**Kopyto**	**4.42**	**51**	*e*P	**P**	**16 12 13.5**	**-0.2**
KIRR	**Kirishev**	**4.47**	**52**	*e*P	**P**	**16 12 14.1**	**-0.1**
BZMR	**Bezymyannaya**	**4.53**	**53**	*e*P	**P**	**16 12 14.6**	**-0.1**
BZWR	**Bezymyannyi-We**	**4.55**	**52**	*e*P	**P**	**16 12 14.9**	**0.0**
MKZ	**Mys Kozlova**	**4.68**	**72**	PN	**P**	**16 12 13.6**	**-2.3**
MKZ				S	**S**	**16 13 20.1**	**-4.3**
MKZ	**Mys Kozlova**	**4.68**	**72**	P	**P**	**16 12 13.6**	**-2.2**
MKZ				*i* S	**S**	**16 13 20.1**	**-4.3**
KRSR	**Krestovskiy**	**4.72**	**50**	*e*P	**P**	**16 12 15.8**	**-0.5**
KRSR				*i* S	**S**	**16 13 24.8**	**-0.6**
ZLN	**Zelenaya**	**4.73**	**53**	*e*P	**P**	**16 12 15.8**	**-0.6**
BDR	**Baidarnaya**	**5.22**	**49**	*e*P	**P**	**16 12 21.1**	**+0.3**
BDR				*i* S	**S**	**16 13 32.4**	**-1.1**
SRKR	**Sorokina**	**5.25**	**48**	*e*P	**P**	**16 12 21.0**	**0.0**
SRKR				*i* S	**S**	**16 13 30.1**	**-3.9**
SMKR	**Semkarok**	**5.35**	**50**	*e*P	**P**	**16 12 21.6**	**-0.3**
KBG	**Krutoberegovo**	**5.77**	**56**	PN	**P**	**16 12 23.7**	**-2.1**
KBG				S	**S**	**16 13 37.7**	**-5.0**
KBG	**Krutoberegovo**	**5.77**	**56**	*e*P	**P**	**16 12 23.7**	**-2.1**
KBG				*i* S	**S**	**16 13 37.7**	**-5.0**
KBTR	**Krutoberegovo**	**5.81**	**57**	PN	**P**	**16 12 23.8**	**-2.4**
KBTR				S	**S**	**16 13 36.4**	**-7.0**
KBTR	**Krutoberegovo**	**5.81**	**57**	P	**P**	**16 12 23.8**	**-2.4**
KBTR				*i* S	**S**	**16 13 36.4**	**-7.0**
PALN	**Palana**	**6.62**	**27**	*e*P	**P**	**16 12 35.4**	**+1.4**
BKI	**Bering**	**7.21**	**70**	PN	**P**	**16 12 41.2**	**+1.2**
BKI				S	**S**	**16 14 06.6**	**-2.0**
BKI	**Bering**	**7.21**	**70**	*e*P	**P**	**16 12 41.2**	**+1.2**
BKI				*i* S	**S**	**16 14 06.6**	**-2.0**
OSSR	**Ossora**	**7.73**	**37**	*e*P	**P**	**16 12 47.0**	**+1.7**
SEY	**Seymchan**	**9.65**	**355**	*i* PN	**P**	**16 13 04.9**	**-0.4**
YSS	**Yuzh-Sakhalins**	**9.68**	**233**	⇓*i*PN	**P**	**16 13 07.0**	**+1.1**
YSS				pmax	pmax		
	comp=E,50nm,0.7s						
YSS				pmax	pmax		
	comp=Z,70nm,0.7s						
TILK	**Tilichiki**	**9.69**	**38**	*e*P	**P**	**16 13 07.0**	**+1.3**
FX1	**Attu Island--F**	**11.48**	**85**	P	**P**	**16 13 26.5**	**+1.7**
	comp=Z,9.5nm,0.3s,baz=184,slow=9.7,SNR=20						
ASAJ	**Asahikawa**	**11.94**	**224**	*e*P	**P**	**16 13 29.4**	**-0.5**
ASAJ	**Asahikawa**	**11.94**	**224**	P	**P**	**16 13 29.8**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=262,slow=6.7,SNR=11						
HABR	**Khabarovsk**	**12.95**	**256**	*e*PN	**P**	**16 13 39.2**	**-1.3**
HABR				*e*S	**S**	**16 15 57.9**	**-1.6**
HABR				pmax	pmax		
	comp=Z,70nm,2.0s						
ERM	**Erimo**	**13.50**	**217**	*e*P	**P**	**16 13 44.4**	**-2.0**
ERM				pmax	pmax		
	comp=Z,132nm,0.9s						
ERM	**Erimo**	**13.50**	**217**	*e*P	**P**	**16 13 44.4**	**-2.0**
	comp=Z,132nm,0.9s						
YAK	**Yakutsk**	**15.59**	**314**	*ce*P	**P**	**16 14 06.2**	**-1.8**
YAK				*e*S	**S**	**16 16 46.5**	**-3.2**
YAK				pmax	pmax		
	comp=E,30nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
YAK				pmax	pmax		
	comp=Z,80nm,0.6s						
YAK				smax	smax		
	comp=N,196nm,1.6s						
YAK				smax	smax		
	comp=E,134nm,2.0s						
USRK	**Ussuriysk Arra**	**17.14**	**247**	P	**P**	**16 14 22.4**	**-1.9**
	comp=E,0.6nm,0.3s,baz=50,slow=9.8,SNR=12						
MDJ	**Mudanjiang**	**18.22**	**251**	P	**P**	**16 14 33.4**	**-1.0**
MDJ				pmax	pmax		
	comp=E,23nm,1.1s						
MDJ				pmax	pmax		
	comp=E,380nm,4.7s						
MAJO	**Matsushiro**	**20.14**	**220**	*e*P	**P**	**16 14 51.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,64nm,0.6s						
MAJO	**Matsushiro**	**20.14**	**220**	*e*P	**P**	**16 14 51.3**	**-0.7**
	comp=Z,64nm,0.6s						
MAT	**Matsushiro**	**20.14**	**220**	P	**P**	**16 14 51.1**	**-0.9**
MJAR	**Matsushiro Arr**	**20.14**	**220**	P	**P**	**16 14 52.3**	**+0.3**
	comp=Z,36nm,0.7s,baz=15,slow=10,SNR=70						
CN2	**Changchun**	**21.09**	**255**	*e*P	**P**	**16 14 59.2**	**-1.3**
TIXI	**Tiksi**	**21.41**	**338**	*e*P	**P**	**16 15 02.2**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TNA	**Tin City**	**22.43**	**42**	*e*P	**P**	**16 15 13.5**	**+1.3**
	comp=Z,17nm,0.8s						
KSRS	**Korea Array**	**24.09**	**239**	P	**P**	**16 15 28.4**	**+0.9**
	comp=Z,7.5nm,0.8s,baz=41,slow=8.7,SNR=31						
JNU	**Nakatsue**	**26.15**	**229**	P	**P**	**16 15 46.0**	**+0.2**
	comp=Z,10.0nm,1.1s,baz=28,slow=20,SNR=6.7						
IM04	**Indian Mountai**	**28.25**	**43**	*e*P	**P**	**16 16 04.6**	**+0.8**
COLD	**Coldfoot**	**29.69**	**40**	*e*P	**P**	**16 16 17.3**	**+1.0**
	comp=Z,19nm,0.7s						
TRF	**Thorofare Moun**	**29.88**	**48**	*e*P	**P**	**16 16 19.5**	**+1.4**
	comp=Z,15nm,0.7s						
SONM	**Songino Array**	**30.30**	**279**	P	**P**	**16 16 22.9**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=68,slow=8.2,SNR=8.9						
SONM				PcP	**PcP**	**16 19 06.8**	**0.0**
	comp=Z,0.7nm,1.1s,baz=84,slow=6.1,SNR=3.7						
MCK	**McKinley**	**30.44**	**47**	*e*P	**P**	**16 16 24.1**	**+1.2**
MCK				pmax	pmax		
	comp=Z,17nm,0.9s						
MCK	**McKinley**	**30.44**	**47**	*e*P	**P**	**16 16 24.1**	**+1.2**
	comp=Z,17nm,0.9s						
COLA	**College**	**30.78**	**45**	*e*P	**P**	**16 16 26.8**	**+1.1**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
COLA	**College**	**30.78**	**45**	*e*P	**P**	**16 16 26.8**	**+1.1**
	comp=Z,9.6nm,0.6s						
SEW	**Seward**	**30.84**	**55**	*e*P	**P**	**16 16 26.3**	**0.0**
HHC	**Hu-ho-hao-te**	**31.05**	**264**	*e*P	**P**	**16 16 26.5**	**-2.0**
HHC				pP	**pP**	**16 17 55.2**	**+1.5**
HHC				PP	**pwP**	**16 17 57.3**	**+3.6**
HHC				sP	**sP**	**16 18 53.5**	**+2.2**
HHC				S	**S**	**16 21 01.7**	**+3.7**
HHC				SS	SS	16 23 36.6	-28
HHC				ScS	**ScS**	**16 26 00.5**	**-2.1**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,400nm,4.5s						
ILAR	**Eielson Array**	**31.20**	**45**	P	**P**	**16 16 29.9**	**+0.6**
	comp=Z,8.2nm,0.7s,baz=279,slow=10,SNR=97						
ILAR				PP	**pP**	**16 17 57.5**	**+2.9**
	comp=Z,1.2nm,0.7s,baz=253,slow=9.1,SNR=3.1						
PAX	**Paxson**	**32.11**	**48**	*e*P	**P**	**16 16 38.2**	**+1.0**
PAX				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PAX	**Paxson**	**32.11**	**48**	*e*P	**P**	**16 16 38.2**	**+1.0**
	comp=Z,4.2nm,0.7s

	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**50.69**	**314**	P	**P**	**16 19 02.7**	**-1.8**
ARU						16 21 03.0	
ARU				S	**S**	**16 25 40.0**	**-1.7**
ARU				SS	**SS**	**16 29 25.8**	**+2.2**
AAK	**Ala-Archa**	**51.68**	**292**	P	**P**	**16 19 12.4**	**+0.2**
AAK				*PP	**pP**	**16 20 50.3**	**+2.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**51.68**	**292**	*e*P	**P**	**16 19 12.2**	**+0.1**
	comp=Z,1.5nm,0.3s						
AAK	**Ala-Archa**	**51.68**	**292**	P	**P**	**16 19 12.4**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=100,slow=5.2,SNR=12						
AAK				pP	**pP**	**16 20 50.3**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=18,slow=3.2,SNR=3.0						
ARCES	**ARCESS Array B**	**51.85**	**340**	P	**P**	**16 19 11.8**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=41,slow=8.2,SNR=8.5						
KK31	**Karatay Array**	**53.55**	**295**	*i* P	**P**	**16 19 23.7**	**-1.7**
CHTO	**Chiang Mai**	**54.47**	**253**	*e*P	**P**	**16 19 32.5**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,14nm,1.3s						
CHTO	**Chiang Mai**	**54.47**	**253**	*e*P	**P**	**16 19 32.5**	**+0.3**
	comp=Z,14nm,1.3s						
TAPN	**Taplejung**	**54.59**	**269**	*e*P	**P**	**16 19 33.2**	**-0.1**
TAPN	**Taplejung**	**54.59**	**269**	*e*P	**P**	**16 19 33.2**	**-0.1**
CM31	**Chiang Mai Arr**	**54.75**	**252**	*e*P	**P**	**16 19 34.8**	**+0.6**
	comp=Z,2.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**54.75**	**252**	P	**P**	**16 19 34.7**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=24,slow=6.8,SNR=36						
ABKAR	**Akbulak array**	**54.81**	**307**	*e*P	**P**	**16 19 33.8**	**-0.3**
	comp=Z,3.1nm,0.6s						
AKTO	**Aktyubinsk**	**54.91**	**309**	P	**P**	**16 19 34.3**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKTO	**Aktyubinsk**	**54.91**	**309**	P	**P**	**16 19 34.3**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=69,slow=9.4,SNR=16						
ODAN	**Odare**	**55.14**	**269**	*e*P	**P**	**16 19 37.7**	**+0.6**
ODAN	**Odare**	**55.14**	**269**	*e*P	**P**	**16 19 37.7**	**+0.6**
JIRN	**Jiri**	**55.27**	**271**	*e*P	**P**	**16 19 37.8**	**-0.3**
	comp=Z,3.1nm,0.3s						
GUN	**Gumba**	**55.27**	**271**	*e*P	**P**	**16 19 37.7**	**-0.4**
GUN	**Gumba**	**55.27**	**271**	*e*P	**P**	**16 19 37.7**	**-0.4**
FFC	**Flin Flon**	**55.38**	**43**	*i* P	**P**	**16 19 39.7**	**+1.7**
RAMN	**Ramite**	**55.55**	**270**	*e*P	**P**	**16 19 39.8**	**-0.1**
	comp=Z,13nm,0.4s						
KKN	**Kakani**	**55.72**	**272**	*e*P	**P**	**16 19 41.2**	**+0.1**
	comp=Z,5.9nm,0.2s						
PKI	**Pulchoki**	**55.80**	**271**	*e*P	**P**	**16 19 41.6**	**-0.2**
PKI	**Pulchoki**	**55.80**	**271**	*e*P	**P**	**16 19 42.2**	**+0.4**
PKI	**Pulchoki**	**55.80**	**271**	*e*P	**P**	**16 19 42.2**	**+0.4**
PKIN	**Phulchoki**	**55.81**	**271**	*e*P	**P**	**16 19 42.2**	**+0.5**
GKN	**Gorkha**	**55.95**	**272**	*e*P	**P**	**16 19 42.5**	**-0.1**
	comp=Z,5.0nm,0.3s						
DMN	**Daman**	**55.96**	**271**	*e*P	**P**	**16 19 42.7**	**-0.1**
DMN	**Daman**	**55.96**	**271**	*e*P	**P**	**16 19 42.7**	**-0.1**
DANN	**Dangsing**	**56.22**	**273**	*e*P	**P**	**16 19 44.7**	**+0.1**
DANN	**Dangsing**	**56.22**	**273**	*e*P	**P**	**16 19 44.7**	**+0.1**
KOLN	**Koldanda**	**56.74**	**273**	*e*P	**P**	**16 19 48.0**	**-0.1**
	comp=Z,6.0nm,0.3s						
PYUN	**Piuthan**	**56.86**	**274**	*e*P	**P**	**16 19 48.8**	**-0.2**
	comp=Z,18nm,0.5s						
PYUN	**Piuthan**	**56.86**	**274**	*e*P	**P**	**16 19 48.8**	**-0.2**
FINES	**FINESS Array B**	**58.36**	**334**	P	**P**	**16 19 57.5**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=45,slow=8.4,SNR=7.5						
NVAR	**Mina Array Bea**	**59.00**	**66**	P	**P**	**16 20 05.8**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=300,slow=7.2,SNR=3.5						
MOS	**Moscow**	**59.40**	**324**	*e*P	P	16 19 57.4	-8.0
PDAR	**Pinedale Array**	**60.49**	**57**	P	**P**	**16 20 14.8**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=327,slow=2.1,SNR=9.8						
NB2	**NORSAR Subarra**	**62.19**	**341**	P	**P**	**16 20 22.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=23,slow=6.5						
NOA	**NORSAR Array B**	**62.19**	**341**	P	**P**	**16 20 23.2**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=24,slow=7.5,SNR=7.6						
HFS	**Hagfors**	**62.50**	**339**	P	**P**	**16 20 24.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=57,slow=5.5,SNR=8.9						
AKASG	**Malin Array Be**	**66.43**	**325**	P	**P**	**16 20 49.8**	**-1.1**
AKASG				*PP	**pP**	**16 22 32.5**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**66.43**	**325**	P	**P**	**16 20 49.8**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=30,slow=6.3,SNR=7.0						
AKASG				pP	**pP**	**16 22 32.5**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=35,slow=7.3,SNR=2.6						
KBZ	**Khabaz**	**66.78**	**313**	P	**P**	**16 20 51.3**	**-1.9**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	**Khabaz**	**66.78**	**313**	P	**P**	**16 20 51.3**	**-1.9**
	comp=Z,3.8nm,0.9s,baz=63,slow=4.0,SNR=4.5						
SCHQ	**Schefferville**	**67.00**	**24**	P	**P**	**16 20 53.9**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=203,slow=5.7,SNR=10.0						
HYB	**Hyderabad**	**67.60**	**269**	*i* P	P	**16 20 58.0**	**-0.7**
EKA	**Eskdalemuir Ar**	**70.06**	**346**	P	**P**	**16 21 12.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=20,slow=5.1,SNR=8.4						
MLR	**Muntele Rosu**	**72.03**	**324**	P	**P**	**16 21 25.3**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=39,slow=24,SNR=3.9						
GERES	**GERESS Array B**	**72.79**	**334**	P	**P**	**16 21 28.7**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=22,slow=7.4,SNR=4.7						
TXAR	**Lajitas Array**	**73.80**	**63**	P	**P**	**16 21 37.1**	**+1.8**
	comp=Z,0.9nm,0.5s,baz=311,slow=5.5,SNR=6.1						
BRTR	**Keskin Array B**	**74.02**	**316**	P	**P**	**16 21 36.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=65,slow=2.1,SNR=4.0						
BRTR				PP	**PP**	**16 24 33.3**	**+3.7**
	comp=Z,0.7nm,0.9s,baz=67,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**74.96**	**199**	P	**P**	**16 21 42.3**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=15,slow=5.9,SNR=19						
ASAR	**Alice Springs**	**78.67**	**199**	P	**P**	**16 22 03.0**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=12,slow=5.0,SNR=61						
MMAI	**Mount Meron Ar**	**78.91**	**311**	P	**P**	**16 22 03.3**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=44,slow=8.5,SNR=4.8						
BOSA	**Boshof**	**135.38**	**283**	PKhKP	PKPpre	16 29 10.5	
	comp=Z,5.9nm,1.1s,baz=104,slow=15,SNR=4.7						
PLCA	**Paso Flores**	**147.61**	**85**	PKPbc	**PKPbc**	**16 29 40.2**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=301,slow=6.6,SNR=5.6						

IDC 07 16:50:10.8±2.2,35.36S×179.73W,h0km,mb4.0/2, mb1 4.4/3,mb1mx3.9/17,mbtmp4.2/3,ML4.4/1,Error ellipse: s-maj=60.8km s-min=33.4km az=131.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.85**	**220**	Pn	Pn	16 51 11.2	0.0
	27nm,0.3s,baz=46,slow=5.2,SNR=61						
URZ				Sn	Sn	16 51 56.5	-0.6
	11nm,0.3s,baz=115,slow=22,SNR=1.5						
ASAR	**Alice Springs**	**41.66**	**273**	P	P	16 58 01.1	0.0
	0.9nm,0.5s,baz=114,slow=7.5,SNR=21						
WRA	**Warramunga Arr**	**43.10**	**278**	P	P	16 58 12.8	-0.1
	2.0nm,0.6s,baz=119,slow=7.6,SNR=51						
H03N3	**Juan Fernandez**	**79.16**	**123**	T	T	18 29 06.2	
	baz=234,slow=75,SNR=4.9						
H03N2	**Juan Fernandez**	**79.16**	**123**	T	T	18 29 10.4	
	baz=234,slow=75,SNR=4.8						
H03N1	**Juan Fernandez**	**79.18**	**123**	T	T	18 29 09.4	
	baz=234,slow=75,SNR=4.9						
KURBB	**Kurchatov Arra**	**123.37**	**312**	PKP	PKPdf	17 09 08.4	-0.8
	0.2nm,0.7s,baz=109,slow=1.9,SNR=3.4						
FINES	**FINESS Array B**	**149.19**	**336**	PKPbc	PKPbc	17 10 00.3	0.0
	1.7nm,0.7s,baz=48,slow=2.1,SNR=5.4						

IDC 07 16:54:27.5±14.0,30.73N×83.27E,h103km±104km, mb2.9/3,mb1 3.1/5,mb1mx2.8/30,mbtmp3.3/5,ML2.9/1, Error ellipse: s-maj=236.3km s-min=25.3km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.06**	**358**	P	P	16 58 08.0	-0.6
	0.1nm,0.3s,baz=175,slow=12,SNR=4.7						
CMAR	**Chiang Mai Arr**	**18.75**	**127**	P	P	16 58 38.2	-0.2
	baz=309,slow=12,SNR=4.1						
KURBB	**Kurchatov Arra**	**20.18**	**351**	P	P	16 58 53.2	-0.5
	0.6nm,0.8s,baz=173,slow=9.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**23.23**	**2**	P	P	16 59 25.5	+0.1
	0.3nm,0.4s,baz=187,slow=9.9,SNR=4.0						
WRA	**Warramunga Arr**	**70.33**	**129**	P	P	17 05 30.3	+0.1
	0.7nm,0.9s,baz=325,slow=6.0,SNR=5.5						

NIED ***07*** *16:57:00,24.60N×121.70E,h8km,Mw3.5 Best double couple: M₀2.22000×10¹⁴ NP1:φ=227.00000°,δ54.00000°, λ-75.00000°. NP2:φ=23.00000°,δ39.00000°, λ-109.00000°.*

TAP ***07*** *16:57:06.9,24.63N×121.73E,h9km,ML3.6,B*

JMA ***07*** *16:57:07.2±0.1,24.61N×121.68E,h10km,M3.6*

ISC 07 16:57:07.1±0.8,24.63N±0.02×121.78E±0.02,h12km±5km, n60,σ0°75/89,3C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.07**	**106**	⇓*i*P	Pg	16 57 10.0	+0.4
	baz=101						
TWE	**Neicheng**	**0.13**	**313**	⇓*i*P	Pg	16 57 09.8	-0.6
	baz=333						
ILA	**Ilan**	**0.14**	**350**	⇓*i*P	Pg	16 57 10.6	+0.1
	baz=10.0						
ILA				*i* S	Sg	16 57 13.1	+0.2
	baz=10.0						
ENTT	**Nioudou**	**0.19**	**273**	⇓*i*P	Pg	16 57 10.6	-0.7
	baz=272						
ENA	**Nanau**	**0.20**	**189**	⇓*i*P	Pg	16 57 11.6	+0.1
	baz=176						
ENA				S	Sg	16 57 14.9	+0.4
	baz=176						
EGS		**0.26**	**34**	⇓*e*P	Pb	16 57 13.1	-0.6
	baz=42						
EGS				*e*S	Sb	16 57 17.1	-1.1
	baz=42						
EHP	**Heping Village**	**0.32**	**186**	*e*P	Pg	16 57 13.8	+0.2
	baz=177						
EHP				S	Sg	16 57 18.6	+0.7
	baz=177						
NSK	**Sanguang**	**0.38**	**277**	⇓*i*P	Pg	16 57 14.1	-0.7
	baz=278						
NSK				*e*S	Sg	16 57 18.2	-1.7
	baz=278						
NNS	**Nan Shan**	**0.41**	**243**	P	Pg	16 57 14.4	-0.9
	baz=231						
TWB1	**Saoiao Chiao**	**0.42**	**27**	⇓*i*P	Pg	16 57 15.7	+0.2
	baz=32						
TWB1				S	Sg	16 57 21.6	+0.4
	baz=32						
TAP1	**Taipei**	**0.47**	**331**	⇓*i*P	Pb	16 57 16.7	-0.6
	baz=334						
TAP1				*i* S	Sg	16 57 22.5	-0.1
	baz=334						
TAP	**Taipei**	**0.48**	**329**	⇓*i*P	Pg	16 57 16.7	+0.3
	baz=334						
TAP				*i* S	Sg	16 57 22.9	+0.1
	baz=334						
TWD	**Chiawan**	**0.57**	**197**	⇓*i*P	Pg	16 57 17.9	-0.3
	baz=193						
TWD				S	Sg	16 57 25.2	-0.6
	baz=193						
TWS1	**Kuangyinshan**	**0.57**	**325**	⇓*i*P	Pb	16 57 19.1	0.0
	baz=330						
TWS1				S	Sg	16 57 26.2	+0.3
	baz=330						
NCU	**National Centr**	**0.63**	**303**	*e*P	Pb	16 57 20.1	-0.1
	baz=305						
TWT	**Tachien**	**0.66**	**236**	⇑P	Pg	16 57 19.4	-0.6
	baz=227						
TWT				*e*S	Sg	16 57 28.6	-0.2
	baz=227						
TWY	**Chenhua**	**0.66**	**346**	⇓*i*P	Pb	16 57 20.4	-0.3
	baz=350						
HWA	**Hwalien**	**0.67**	**193**	⇑*i*P	Pb	16 57 20.4	-0.3
	baz=190						
HWA				S	Sg	16 57 29.0	+0.2
	baz=190						
WHF	**Hehuan Shan**	**0.67**	**224**	⇓*i*P	Pg	16 57 19.4	-0.8
	baz=221						
NSTT	**Nanjuang**	**0.70**	**270**	⇓*i*P	Pg	16 57 20.6	-0.2
	baz=263						
NSTT				S	Sg	16 57 29.3	-0.7
	baz=263						
HSN	**Hsinchu**	**0.75**	**283**	P	Pb	16 57 22.2	0.0
	baz=287						
HSN				*e*S	Sb	16 57 32.6	+0.2
	baz=287						
ESL	**Shilin**	**0.87**	**201**	⇓*i*P	Pg	16 57 23.1	-0.8
	baz=190						
ESL				*e*S	Sg	16 57 34.6	-0.7
	baz=190						
NSY	**Sanyi**	**0.95**	**257**	*e*P	Pn	16 57 25.7	-0.5
	baz=257						
NSY				*e*S	Sn	16 57 38.6	-1.2
	baz=257						
TWQ1	**Liyutan**	**0.95**	**253**	⇓*i*P	Pg	16 57 25.6	0.0
	baz=252						
PCYT	**Pengchaiyu**	**1.03**	**15**	*e*P	Pg	16 57 26.9	0.0
	baz=17						
SMLT	**Sun Moon Lake**	**1.09**	**227**	⇑P	Pb	16 57 27.4	-0.6
	baz=232						
TYC	**Yuchr**	**1.11**	**229**	*e*P	Pb	16 57 27.3	-0.9
	baz=227						
TCU	**Taichung**	**1.11**	**245**	*e*P	Pg	16 57 29.1	+0.7
	baz=244						
TCU				*e*S	Sn	16 57 45.4	+1.6
	baz=244						
YOJ	**Yonaguni jima**	**1.14**	**98**	P	Pn	16 57 28.7	-0.2
YOJ				S	Sn	16 57 44.4	0.0
YOJ	**Yonaguni jima**	**1.14**	**98**	⇓*i*P	Pg	16 57 29.0	0.0
	baz=97						
YOJ				*i* S	Sn	16 57 44.6	+0.2
	baz=97						
EHY	**Hungye**	**1.19**	**200**	*e*P	Pn	16 57 29.0	-0.6
	baz=199						
WNT	**Mingjian**	**1.25**	**233**	*e*P	Pg	16 57 31.6	+0.6
	baz=251						
WNT				*e*S	Sg	16 57 49.5	+2.3
	baz=251						
TWF1	**Yuli**	**1.34**	**199**	*e*P	Pn	16 57 31.3	-0.5
	baz=198						
TWF1				*e*S	Sn	16 57 49.1	-0.4
	baz=198						
YUS	**Yu-Shan**	**1.36**	**214**	*e*P	Pb	16 57 32.7	-0.1
	baz=212						
ALS	**Alishan**	**1.42**	**219**	⇓*e*P	Pg	16 57 34.3	-0.2
	baz=200						
CHN5	**Tsauling**	**1.44**	**225**	*e*P	Pg	16 57 34.5	-0.2
	baz=223						
CHN5				*e*S	Sg	16 57 54.5	+1.2
	baz=223						
WGK	**Gukeng**	**1.45**	**230**	*e*P	Pg	16 57 35.2	+0.2
	baz=228						
WGK				*e*S	Sg	16 57 55.8	+1.9
	baz=228						
WTCT	**Ta-ch'eng**	**1.56**	**241**	*e*P	Pb	16 57 35.6	-0.4
	baz=256						
CHKT	**Chengkung**	**1.57**	**194**	*e*P	Pb	16 57 35.2	-0.9
	baz=194						
ELDTW	**Lidau**	**1.59**	**206**	*e*P	Pb	16 57 36.2	-0.4
	baz=188						
CHN2	**Minshiung**	**1.61**	**228**	*e*P	Pg	16 57 38.0	-0.1
	baz=226						
CHN2				*e*S	Sg	16 58 00.8	+1.8
	baz=226						
CHN4	**Tsaushan**	**1.67**	**221**	*e*P	Pg	16 57 38.8	-0.3
	baz=218						
CHY	**Chiayi**	**1.67**	**228**	*e*P	Pg	16 57 39.7	+0.5
	baz=225						
WSF	**Szhu**	**1.73**	**235**	*e*P	Pb	16 57 38.2	-0.6
	baz=232						
WTP	**Ta-pu**	**1.74**	**218**	*e*P	Pb	16 57 39.5	+0.5
	baz=227						
TWK	**Hsinying**	**1.80**	**221**	*e*P	Pg	16 57 40.8	-0.8
	baz=219						
TWK				*e*S	Sg	16 58 06.0	+1.1
	baz=219						
IRIF	**Iriomote-Funau**	**1.81**	**99**	P	Pn	16 57 38.0	-0.1
IRIF				S	Sn	16 58 01.2	+0.3
CHN1	**Nanshi**	**1.83**	**219**	*e*P	Pb	16 57 40.7	0.0
	baz=216						
CHN1				*e*S	Sg	16 58 06.7	+0.5
	baz=216						
SGST	**Jiashian**	**1.89**	**216**	*e*P	Pb	16 57 41.8	+0.3
	baz=224						
TWG	**Pinlang**	**1.91**	**200**	*e*P	Pb	16 57 42.0	+0.1
	baz=187						
HATJ	**Hateruma jima**	**1.94**	**107**	P	Pb	16 57 41.9	-0.5
CHN3	**Shinhua**	**2.01**	**220**	*e*P	Pb	16 57 43.4	-0.3
	baz=218						
JKRS	**Kuro-shima**	**2.07**	**100**	P	Pn	16 57 42.3	+0.6
JKRS				S	Sn	16 58 07.7	+0.2
SSD	**Sandimen**	**2.15**	**209**	*e*P	Pb	16 57 45.5	-0.5
	baz=193						
ECL	**Taimali**	**2.16**	**201**	*e*P	Pn	16 57 44.0	+1.1
	baz=188						
JIJ	**Ishigaki jima**	**2.17**	**97**	P	Pn	16 57 43.3	+0.2
JIJ				S	Sn	16 58 08.8	-1.2
EAST	**Anshuo**	**2.39**	**201**	*e*P	Pb	16 57 48.9	-1.3
	baz=191						
SCZT	**Fangliau**	**2.48**	**205**	*e*P	Pb	16 57 50.4	-1.3
	baz=190						
JTJ	**Tarama**	**2.66**	**89**	P	Pn	16 57 50.9	+1.0
KNM	**Kinmen**	**3.05**	**267**	*e*P	Pn	16 57 57.1	+1.9
	baz=266						

BJI ***07*** *17:20:44.4,18.80S×177.80W,h592km,mB5.2/6,mb4.5/9*

NEIC ***07*** *17:20:46.7±0.9,18.71S×177.80W,h601km±11km,mb4.7/8, Error ellipse: s-maj=13.8km s-min=8.3km az=146.0*

AUST ***07*** *17:20:47.2±0.0,18.66S×177.65W,h612km,Error ellipse: s-maj=2.6km s-min=1.8km az=288.0*

IDC ***07*** *17:20:47.5±1.3,18.75S×177.83W,h611km±16km, mb3.8/17,mb1 4.0/19,mb1mx3.8/27,mbtmp3.8/19,Error ellipse: s-maj=15.7km s-min=8.7km az=152.0*

ISC 07 17:20:43.8±0.4,18.93S±0.07×177.73W±0.06,h570km, n260,σ1°28/283,mb4.3/25,84C-81D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.38**	**92**	P	P	17 22 41.4	+5.2
	baz=7.3,SNR=4.6						
AFI	**Afiamalu**	**7.58**	**50**	*e*P	**P**	**17 22 40.8**	**+2.6**
	45nm,0.6s						
AFI				S	**S**	**17 24 11.9**	**-0.1**
AFI	**Afiamalu**	**7.58**	**50**	P	**P**	**17 22 41.3**	**+3.0**
	7.2nm,0.3s,baz=5.4,slow=3.7,SNR=9.4						
AFI				S	**S**	**17 24 11.9**	**-0.1**
	0.7nm,0.3s,baz=248,slow=23,SNR=1.2						
OUZ	**Omahuta**	**17.96**	**204**	*e*P	P	17 24 25.0	+4.9
	30nm,0.9s						
URZ	**Urewera**	**19.78**	**192**	*e*P	**P**	**17 24 38.4**	**+1.7**
URZ				S	**S**	**17 27 39.3**	**-6.1**
URZ	**Urewera**	**19.78**	**192**	P	**P**	**17 24 38.4**	**+1.7**
	2.2nm,0.3s,baz=324,slow=4.2,SNR=12						
URZ				S	**S**	**17 27 39.3**	**-6.1**
	0.4nm,0.3s,baz=110,slow=10.0,SNR=2.7						
EIDS	**Eidsvold**	**29.54**	**252**	P	**P**	**17 26 04.9**	**+1.6**
	baz=30,SNR=5.2						
ARMA	**Armidale**	**30.01**	**242**	P	**P**	**17 26 10.1**	**+2.8**
	baz=30,SNR=14						
RMQ	**Roma**	**31.75**	**250**	P	**P**	**17 26 24.9**	**+2.7**
	baz=32,SNR=12						
CNB	**Canberra Magne**	**33.33**	**234**	P	**P**	**17 26 38.2**	**+2.7**
	baz=34,SNR=22						
CTA	**Charters Tower**	**33.93**	**262**	P	**P**	**17 26 41.8**	**+1.1**
CTA				PcP	**PcP**	**17 29 02.4**	**0.0**
CTA	**Charters Tower**	**33.93**	**262**	P	**P**	**17 26 41.8**	**+1.1**
	14nm,0.3s,baz=86,slow=9.8,SNR=41						
CTA				PcP	**PcP**	**17 29 02.4**	**0.0**
	3.5nm,1.0s,baz=34,slow=7.1,SNR=3.0						
CTAO	**Charters Tower**	**33.93**	**262**	*e*P	**P**	**17 26 41.8**	**+1.1**
	49nm,0.9s						
CMSA	**Cobar Meteorol**	**35.23**	**242**	P	**P**	**17 26 53.3**	**+2.0**
	baz=35,SNR=46						
PMG	**Port Moresby**	**35.27**	**281**	*e*P	**P**	**17 26 53.6**	**+1.7**
	83nm,0.9s						
PMG	**Port Moresby**	**35.27**	**281**	P	**P**	**17 26 53.3**	**+1.5**
	70nm,0.9s,baz=76,slow=5.2,SNR=30						
PMG	**Port Moresby**	**35.27**	**281**	P	**P**	**17 26 53.7**	**+1.8**
	baz=35,SNR=17						
PMG				P	**P**	**17 26 53.7**	**+1.8**
	baz=35,SNR=17						
PMG				P	**P**	**17 26 53.7**	**+1.8**
	baz=35,SNR=17						
QLP	**Quilpie**	**35.79**	**251**	P	**P**	**17 26 57.5**	**+1.5**
	baz=36,SNR=39						
TOO	**Toolangi**	**37.04**	**232**	P	**P**	**17 27 08.6**	**+2.5**
	baz=37,SNR=25						
COEN	**Coen**	**37.77**	**272**	*e*P	**P**	**17 27 13.5**	**+1.1**
	496nm,0.9s						
COEN	**Coen**	**37.77**	**272**	P	**P**	**17 27 13.9**	**+1.5**
	baz=38,SNR=39						
STKA	**Stephens Creek**	**38.72**	**242**	*e*P	**P**	**17 27 22.0**	**+2.1**
	8.7nm,0.9s						
STKA	**Stephens Creek**	**38.72**	**242**	P	**P**	**17 27 22.2**	**+2.4**
	31nm,0.8s,baz=85,slow=8.5,SNR=76						
STKA	**Stephens Creek**	**38.72**	**242**	P	**P**	**17 27 22.0**	**+2.1**
	baz=39,SNR=43						
ARPS	**Mount Arapiles**	**39.58**	**235**	P	**P**	**17 27 28.8**	**+2.1**
	baz=40,SNR=7.4						
HTT	**Hallett**	**41.20**	**241**	P	**P**	**17 27 41.7**	**+2.0**
	baz=41,SNR=15						
BBOO	**Buckleboo**	**43.49**	**242**	P	**P**	**17 27 59.0**	**+1.4**
	baz=44,SNR=33						
JAY	**Jayapura**	**43.81**	**287**	P	**P**	**17 28 01.5**	**+1.1**
	baz=44,SNR=6.7						
WRAB	**Tennant Creek**	**45.08**	**260**	*e*P	**P**	**17 28 10.0**	**-0.1**
	62nm,0.9s						
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**17 28 10.0**	**-0.1**
WRA				PcP	**PcP**	**17 29 38.3**	**-0.2**
WRA				S	**S**	**17 34 04.5**	**-4.0**
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**17 28 10.0**	**-0.1**
	17nm,0.3s,baz=98,slow=7.3,SNR=1254						
WRA				PcP	**PcP**	**17 29 38.3**	**-0.2**
	1.0nm,0.3s,baz=97,slow=3.5,SNR=3.9						
WRA				S	**S**	**17 34 04.5**	**-4.0**
	1.4nm,0.9s,baz=97,slow=13,SNR=4.9						
AS31	**Alice Springs**	**45.14**	**255**	*e*P	**P**	**17 28 10.8**	**+0.2**
ASAR	**Alice Springs**	**45.15**	**255**	P	**P**	**17 28 11.2**	**+0.7**
ASAR				PcP	**PcP**	**17 29 38.5**	**-0.2**
ASAR				S	**S**	**17 34 07.0**	**-2.2**
ASAR	**Alice Springs**	**45.15**	**255**	P	**P**	**17 28 11.2**	**+0.7**
	30nm,0.5s,baz=88,slow=8.0,SNR=

	baz=79							
GLA	Glamis	79.22	50	⇑P	P	17 31 51.6	+1.0	
	baz=79							
M04C	Macdoel	79.46	39	⇓P	P	17 31 52.0	+0.2	
	baz=80							
IRM	Iron Mountain	79.56	48	⇓P	P	17 31 53.2	+0.8	
	baz=80							
NVAR	Mina Array Bea	79.71	43	P	P	17 31 53.4	+0.1	
NVAR	Mina Array Bea	79.71	43	P	P	17 31 53.4	+0.1	
	5.5nm,1.0s,baz=232,slow=8.7,SNR=16							
Y12C	Blythe	79.79	49	⇑P	P	17 31 54.4	+0.9	
	baz=80							
113A	Mohawk Valley,	79.84	50	⇑P	P	17 31 54.8	+1.0	
	baz=80							
PDMCI	Parker Dam,Lak	80.35	49	⇑P	P	17 31 57.4	+1.0	
	baz=80							
J05D	Fort Rock, OR	80.72	38	⇑P	P	17 31 58.6	+0.2	
	baz=81							
Z14A	Wintersburg	80.73	50	⇓P	P	17 31 59.4	+0.9	
	baz=81							
W13A	Hualapai Mount	80.93	48	⇑P	P	17 32 00.2	+0.4	
	baz=81							
Y14A	Wickenburg	80.98	50	⇓P	P	17 32 00.6	+0.8	
	baz=81							
I05D	Terrebonne, OR	81.29	37	⇓P	P	17 32 01.9	+0.7	
	baz=81							
R11A	Troy Canyon, C	81.46	45	⇑P	P	17 32 02.4	+0.1	
	baz=82							
WHN	Wuhan	81.73	306	P	P	17 32 01.1	-2.5	
G05D	Wamic, OR	81.85	36	⇑P	P	17 32 03.8	-0.2	
	baz=82							
X16A	Lo Mia Camp, P	82.34	50	⇓P	P	17 32 07.8	+0.9	
	baz=82							
319A	Douglas	82.51	53	⇓P	P	17 32 08.9	+1.2	
	baz=83							
U15A	North Rim	82.72	48	⇑P	P	17 32 09.5	+0.6	
	baz=83							
WUAZ	Wupatki	82.92	49	⇓P	P	17 32 10.3	+0.6	
	baz=83							
320A	Kipp Ranch, An	83.07	54	⇓P	P	17 32 11.7	+1.2	
	baz=83							
220A	Playas Peak, P	83.32	53	⇓P	P	17 32 13.1	+1.3	
	baz=83							
120A	U Bar Ranch, L	83.53	53	⇓P	P	17 32 13.9	+1.1	
	baz=84							
121A	Cookes Peak, D	84.17	53	⇓P	P	17 32 16.9	+0.9	
	baz=84							
Z21A	St. Cloud Mine	84.60	52	⇓P	P	17 32 19.4	+1.2	
	baz=85							
PSI	Prapat	84.61	275	P	P	17 32 17.9	-0.6	
PSI	Prapat	84.61	275	P	P	17 32 17.9	-0.6	
	2.9nm,0.5s,baz=131,slow=21,SNR=4.2							
PSI	Prapat	84.61	275	P	P	17 32 18.2	-0.3	
	baz=85,SNR=3.9							
HLID	Hailey	84.98	41	⇓P	P	17 32 19.8	+0.1	
	baz=85							
Z22A	Elephant Butte	85.11	53	⇑P	P	17 32 20.7	+0.2	
	baz=85							
ENH	Enshi	85.38	304	*e*P	P	17 32 21.9	+0.1	
Y22A	Socorro	85.41	52	⇑P	P	17 32 22.7	+0.7	
	baz=86							
324A	Moseley Ranch,	85.45	55	⇑P	P	17 32 22.6	+0.4	
	baz=86,SNR=5.2							
425A	Indio Mountain	85.56	56	⇑P	P	17 32 23.6	+0.9	
	baz=86							
224A	Cornudas Mount	85.69	54	⇑P	P	17 32 24.0	+0.6	
	baz=86							
626A	Big Bend Ranch	85.72	57	⇓P	P	17 32 24.6	+1.1	
	baz=86,SNR=6.9							
325A	Bean Ranch, Si	85.82	55	⇓P	P	17 32 24.3	+0.3	
	baz=86,SNR=6.7							
NEW	Newport	85.96	36	⇓P	P	17 32 23.3	-0.8	
	baz=86							
526A	Mary Lane Ranc	85.96	57	⇓P	P	17 32 25.7	+1.0	
	baz=86							
TXAR	Lajitas Array	86.00	57	P	P	17 32 25.6	+0.7	
TXAR	Lajitas Array	86.00	57	P	P	17 32 25.6	+0.7	
	4.0nm,0.9s,baz=232,slow=6.2,SNR=24							
124A	Stringfield Ra	86.01	54	⇑P	P	17 32 25.7	+0.7	
	baz=86							
GYA	Guiyang	86.10	300	*e*P	P	17 32 25.0	-0.4	
GYA				pP	pP	17 34 33.8	+5.3	
GYA				sP	sP	17 35 31.4	+5.5	
GYA				PP	**PP**	**17 35 59.0**	**+2.2**	
GYA				S	**S**	**17 42 10.9**	**-2.2**	
GYA				sS	**sS**	**17 45 55.2**	**+2.7**	
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ANMO	Albuquerque	86.23	51	*e*P	P	17 32 25.9	0.0	
	4.5nm,1.1s							
ANMO	Albuquerque	86.23	51	P	P	17 32 26.1	+0.1	
	2.1nm,0.7s,baz=220,slow=5.2,SNR=4.0							
225A	Deer Hill, Car	86.24	54	⇑P	P	17 32 27.0	+0.9	
	baz=86							
426A	McDonald Obser	86.26	56	⇑P	P	17 32 27.0	+0.8	
	baz=86,SNR=7.9							
X23A	Hourglass Bar	86.27	52	⇓P	P	17 32 26.6	+0.5	
	baz=86							
627A	Terlingua Ranc	86.27	57	⇓P	P	17 32 27.1	+1.0	
	baz=86,SNR=7.7							
V22A	San Miguel Ran	86.32	50	⇑P	P	17 32 27.2	+0.9	
	baz=86							
527A	Woodward Ranch	86.37	57	⇓P	P	17 32 27.0	+0.3	
	baz=86,SNR=7.0							
Y24A	Capitan	86.55	53	⇑P	P	17 32 27.7	+0.3	
	baz=87							
326A	Caldwell Ranch	86.57	55	⇑P	P	17 32 28.3	+0.9	
	baz=87							
125A	Gardner Draw,	86.60	54	⇑P	P	17 32 28.2	+0.6	
	baz=87							
628A	Black Gap, Mar	86.68	57	⇓P	P	17 32 29.1	+1.2	
	baz=87							
ILAR	Eielson Array	86.73	13	P	P	17 32 25.2	-2.1	
ILAR	Eielson Array	86.73	13	P	P	17 32 25.2	-2.1	
	1.1nm,0.4s,baz=219,slow=5.1,SNR=34							
226B	Tecolote Peak,	86.74	55	⇑P	P	17 32 29.1	+0.8	
	baz=87							
Z25A	Roswell	86.81	53	⇑P	P	17 32 29.1	+0.4	
	baz=87							
427A	Hayter Ranch,	86.83	56	⇑P	P	17 32 29.3	+0.6	
	baz=87,SNR=9.6							
528A	Cox Ranch, San	87.03	57	⇑P	P	17 32 30.5	+0.8	
	baz=87							
Y25A	Mesa, Roswell	87.10	53	⇑P	P	17 32 30.0	0.0	
	baz=87							
W24A	Lazy 6 Ranch,	87.12	51	⇓P	P	17 32 30.3	+0.2	
	baz=87							
S22A	4UR Ranch, Cre	87.19	49	⇑P	P	17 32 30.7	+0.2	
	baz=87							
Z26A	Caprock	87.37	54	⇑P	P	17 32 31.6	+0.4	
	baz=87							
529A	Stev Forest Ra	87.47	57	⇓P	P	17 32 32.2	+0.5	
	baz=88							
QLMT	Earthquake Lak	87.47	41	*e*P	P	17 32 32.7	+1.2	
	0.2nm,0.4s							
328A	Wristen Ranch,	87.50	56	⇑P	P	17 32 32.6	+0.8	
	baz=88							
I17A	Pilgrim Ck.	87.55	42	⇓P	P	17 32 32.3	+0.3	
	baz=88							
PDAR	Pinedale Array	87.65	43	P	P	17 32 31.9	-0.6	
PDAR	Pinedale Array	87.65	43	P	P	17 32 31.9	-0.6	
	3.5nm,1.0s,baz=222,slow=4.0,SNR=13							
Y26A	Elida	87.76	53	⇓P	P	17 32 32.8	-0.2	
	baz=88,SNR=5.1							
W25A	X Bar L Ranch,	87.82	52	⇑P	P	17 32 33.5	+0.2	
	baz=88							
429A	Davenport Ranc	87.92	57	⇑P	P	17 32 33.9	+0.1	
	baz=88,SNR=9.0							
V25A	Rancho No Teng	87.97	51	⇑P	P	17 32 34.4	+0.3	
	baz=88							
228A	UT Block 9, Go	87.97	55	⇑P	P	17 32 34.7	+0.7	
	baz=88							
Z27A	Tatum	87.97	54	⇓P	P	17 32 34.4	+0.3	
	baz=88							
R23A	Moffat	88.10	49	⇓P	P	17 32 34.8	0.0	
	baz=88							
530A	J-C Ranch, Com	88.18	57	⇑P	P	17 32 35.2	+0.3	
	baz=88							
J19A	Crowheart	88.21	43	⇓P	P	17 32 34.5	-0.5	
	baz=88,SNR=6.1							
Y27A	Causey	88.25	53	⇓P	P	17 32 35.5	+0.2	
	baz=88							
128A	Castleberry Fa	88.25	55	⇑P	P	17 32 36.0	+0.7	
	baz=88							
SYO	Syowa Base	88.31	193	⇑*e*P	P	17 32 33.3	-1.5	
U25A	Circle Dot Ran	88.36	51	⇓P	P	17 32 36.4	+0.5	
	baz=88							
HHC	Hu-ho-hao-te	88.44	314	*e*P	P	17 32 35.9	-0.1	
HHC				pP	pP	17 34 46.0	+6.0	
HHC				sP	sP	17 35 44.9	+7.7	
HHC				PP	**PP**	**17 36 17.4**	**+2.4**	
HHC				SKS	**SKSac**	**17 42 07.3**	**-3.8**	
HHC				S	**S**	**17 42 30.0**	**-4.3**	
HHC				sS	**sS**	**17 46 20.2**	**+4.9**	
HHC				SS	**SS**	**17 48 43.1**	**+0.5**	
HHC				pmax	pmax			
	comp=Z,17nm,0.6s							
HHC				pmax	pmax			
	comp=Z,220nm,7.4s							
O22A	Kremmling	88.46	47	⇑P	P	17 32 36.3	-0.1	
	baz=88							
631A	Perdido Creek	88.50	58	⇓P	P	17 32 37.3	+0.8	
	baz=89							
MSTX	Muleshoe	88.58	53	⇑P	P	17 32 37.1	+0.3	
	baz=89							
I19A	Meeteetse	88.61	42	⇑P	P	17 32 37.1	+0.2	
	baz=89							
129A	Stewart Farms,	88.74	55	⇓P	P	17 32 38.2	+0.7	
	baz=89							
W27A	Bowe Ranch, En	88.80	52	⇓P	P	17 32 37.9	0.0	
	baz=89							
N22A	Wattenberg Ran	88.81	46	⇑P	P	17 32 37.2	-0.8	
	baz=89							
531A	Rocksprings	88.82	58	⇓P	P	17 32 38.7	+0.7	
	baz=89							
KMI	Kunming	88.87	297	P	P	17 32 39.5	+1.0	
KMI				pmax	pmax			
	comp=Z,11nm,0.9s							
S25A	Robets Cordova	88.87	49	⇓P	P	17 32 38.5	+0.3	
	baz=89							
J20A	Shoshoni	88.88	43	⇓P	P	17 32 38.1	+0.1	
	baz=89,SNR=8.2							
O23A	Lake Granby, G	88.92	47	⇓P	P	17 32 38.6	+0.1	
	baz=89							
431A	Sonora	88.97	57	⇓P	P	17 32 39.6	+1.0	
	baz=89							
M22A	Cedar Creek Ra	88.98	45	⇓P	P	17 32 38.9	+0.2	
	baz=89							
K21A	Alcova	89.09	44	⇑P	P	17 32 39.1	-0.1	
	baz=89							
Z29A	Hungry Hill Ra	89.11	54	⇓P	P	17 32 39.8	+0.5	
	baz=89							
I20A	Worland	89.12	43	⇓P	P	17 32 39.1	0.0	
	baz=89							
632A	Uvalde	89.18	58	⇓P	P	17 32 40.1	+0.5	
	baz=89							
N23A	Red Feather La	89.20	46	⇑P	P	17 32 40.0	+0.2	
	baz=89							
X28A	Dimmitt	89.23	53	⇓P	P	17 32 40.1	+0.3	
	baz=89							
J21A	Lysite	89.29	43	⇑P	P	17 32 40.0	0.0	
	baz=89							
532A	Rocksprings	89.32	58	⇑P	P	17 32 41.0	+0.7	
	baz=89							
L22A	Ellis Ranch, M	89.37	45	⇑P	P	17 32 40.8	+0.3	
	baz=89							
Y29A	Porterfield Fa	89.37	54	⇓P	P	17 32 40.7	+0.2	
	baz=89							
F19A	Roth Farm, Mol	89.50	41	⇓P	P	17 32 40.5	-0.3	
	baz=90							
U27A	Thompson Grove	89.53	51	⇓P	P	17 32 41.7	+0.5	
	baz=90							
S26A	Kim	89.55	50	⇓P	P	17 32 42.0	+0.8	
	baz=90							
I21A	Big Trails, Te	89.60	43	⇑P	P	17 32 41.1	-0.3	
	baz=90							
231A	Bronte	89.68	56	⇑P	P	17 32 42.2	+0.3	
	baz=90							
432A	Menard	89.69	57	⇓P	P	17 32 42.4	+0.5	
	baz=90							
AMTX	Amarillo	89.77	53	⇑P	P	17 32 42.4	+0.1	
	baz=90							
CMAR	Chiang Mai Arr	89.83	289	P	P	17 32 43.6	+0.8	
CMAR	Chiang Mai Arr	89.83	289	P	P	17 32 43.6	+0.8	
	2.4nm,1.0s,baz=121,slow=2.8,SNR=19							
P25A	Willow Gulch B	89.83	48	⇑P	P	17 32 43.1	+0.5	
	baz=90							
R26A	Arlington	89.84	49	⇑P	P	17 32 42.6	0.0	
	baz=90							
T27A	Campo	89.86	51	⇓P	P	17 32 42.6	-0.2	
	baz=90							
E19A	Rath Farm, Rou	89.88	40	⇑P	P	17 32 43.0	+0.5	
	baz=90							
L23A	Garrett	89.89	45	⇑P	P	17 32 42.8	0.0	
	baz=90							
N24A	Carr	89.89	46	⇓P	P	17 32 43.0	+0.1	
	baz=90							
131A	Roby	89.90	55	⇓P	P	17 32 43.5	+0.6	
	baz=90							
332A	Millersview	89.92	57	⇑P	P	17 32 43.3	+0.3	
	baz=90							
J22A	Midwest	89.95	44	⇑P	P	17 32 43.0	0.0	
	baz=90							
I22A	9 Mile Ranch,	90.16	43	⇑P	P	17 32 43.8	-0.2	
	baz=90							
CD2	Chengdu	90.16	303	*e*P	P	17 32 44.6	+0.4	
232A	Coleman	90.19	56	⇑P	P	17 32 44.4	+0.1	
	baz=90							
433A	Art	90.20	58	⇑P	P	17 32 44.2	-0.1	
	baz=90							
K23A	Bowen Ranch, D	90.22	44	⇓P	P	17 32 44.6	+0.2	
	baz=90							
C19A	Slack Wire Ran	90.32	39	⇑P	P	17 32 44.5	0.0	
	baz=90							
Z31A	Sharp Cattle R	90.34	55	⇓P	P	17 32 45.1	+0.2	
	baz=90							
534A	Blanco	90.43	58	⇑P	P	17 32 45.9	+0.5	
	baz=90							
ABTX	Abilene, Hawle	90.47	56	⇑P	P	17 32 45.7	+0.2	
	baz=90							
H22A	Clearmont	90.55	43	⇑P	P	17 32 45.8	+0.1	
	baz=91							
D20A	Manuel Ranch,	90.57	40	⇓P	P	17 32 46.0	+0.3	
	baz=91							
B19A	Brinkman Farms	90.72	38	⇑P	P	17 32 46.4	+0.1	
	baz=91							
Z32A	Haskell	90.85	55	⇓P	P	17 32 47.8	+0.6	
	baz=91							
V30A	Spur Ranch, Mi	90.86	52	⇑P	P	17 32 47.5	+0.2	
	baz=91							
434A	Burnet	90.88	58	⇑P	P	17 32 47.3	-0.1	
	baz=91							
C20A	Veseth Ranch,	90.94	39	⇑P	P	17 32 47.4	0.0	
	baz=91							
E21A	Keefer Ranch,	90.97	41	⇓P	P	17 32 47.8	+0.2	
	baz=91							
133A	Hamilton Ranch	91.03	56	⇓P	P	17 32 48.5	+0.4	
	baz=91							
R28A	Tribune	91.04	50	⇑P	P	17 32 48.1	0.0	
	baz=91							
L25A	Engebretsen Ra	91.08	46	⇓P	P	17 32 48.8	+0.6	
	baz=91							
334A	Lometa	91.10	57	⇓P	P	17 32 48.8	+0.3	
	baz=91							
J24A	Dixon Ranch, L	91.11	44	⇑P	P	17 32 48.1	-0.2	
	baz=91							
Y32A	R-V Farms, Ver	91.14	54	⇓P	P	17 32 48.4	-0.2	
	baz=91							
D21A	La Casta Ranch	91.25	40	⇑P	P	17 32 49.6	+0.8	
	baz=91							
Q28A	Sharon Springs	91.31	49	⇓P	P	17 32 49.2	-0.2	
	baz=91							
A20A	Cobblestone Ra	91.52	38	⇓P	P	17 32 49.8	-0.2	
	baz=92							
C21A	Desert Coulee	91.53	39	⇑P	P	17 32 49.5	-0.6	
	baz=92							
S30A	Montezuma	91.75	51	⇓P	P	17 32 51.8	+0.5	
	baz=92							
H24A	Dirks Ranch, A	91.78	43	⇑P	P	17 32 50.7	-0.7	
	baz=92							
D22A	Cohagen	91.79	40	⇓P	P	17 32 51.1	-0.2	
	baz=92							
B21A	Ellsworth Farm	91.85	39	⇑P	P	17 32 51.8	+0.3	
	baz=92							
I25A	Rochford	92.01	44	⇓P	P	17 32 52.3	-0.3	
	baz=92							
LZH	Lanzhou	92.02	307	⇓P	P	17 32 47.0	-5.8	
LZH				pP	pP	17 34 56.1	-1.2	
LZH				sP	sP	17 35 55.4	+1.2	
LZH				PP	**PP**	**17 36 41.2**	**-1.9**	
LZH				pmax	pmax			
	comp=Z,17nm,1.2s							
LZH				pmax	pmax			
	comp=Z,83nm,9.2s							
A21A	Bergtoll Ranch	92.16	38	⇓P	P	17 32 52.5	-0.4	
	baz=92							
B22A	Reddig Ranch S	92.40	39	⇑P	P	17 32 53.7	-0.4	
	baz=92							
Q30A	Quinter	92.43	50	⇓P	P	17 32 54.6	+0.1	
	baz=92							
P30A	Selden	92.63	49	⇓P	P	17 32 55.5	+0.2	
	baz=93							
J27A	Elkhorn Farm,	92.84	45	⇑P	P	17 32 56.7	+0.4	
	baz=93							
F25A	Bowman	92.97	42	⇑P	P	17 32 57.7	+1.0	
	baz=93							
R32A	Long Quarter,	93.32	51	⇓P	P	17 32 59.0	+0.5	
	baz=93							
DGMT	Dagmar	93.56	40	⇑P	P	17 32 59.3	0.0	
	baz=94							
Q32A	Meitler Ranch,	93.64	50	⇑P	P	17 33 00.2	+0.3	
	baz=94							
A24A	Westby	93.87	39	⇑P	P	17 33 00.5	-0.2	
	baz=94							
F27A	Lemmon	93.87	43	⇑P	P	17 32 60.0	-0.9	
	baz=94							
Q33A	Connelly Farm,	94.17	50	⇓P	P	17 33 02.7	+0.4	
	baz=94							
MKAR	Makanchi Array	110.31	314	PKiKP	**PKiKP**	**17 38 09.2**	**-2.3**	
MKAR	Makanchi Array	110.31	314	PKiKP	**PKiKP**	**17 38 09.2**	**-2.3**	
	comp=Z,0.3nm,0.5s,baz=133,slow=0.3,SNR=4.8							
ARCES	ARCESS Array B	127.43	350	PKP	**PKPdf**	**17 38 42.6**	**-1.1**	
ARCES	ARCESS Array B	127.43	350	PKP	**PKPdf**	**17 38 42.6**	**-1.1**	
	comp=Z,1.6nm,0.8s,baz=20,slow=3.0,SNR=7.7							
FINES	FINESS Array B	134.34	344	SKPbc	**SKPbc**	**17 41 30.4**	**-3.3**	
	comp=Z,1.8nm,0.7s,baz=41,slow=2.6,SNR=3.6							
AKASG	Malin Array Be	141.76	332	PKPpre	PKPpre	17 39 03.2		
AKASG	Malin Array Be	141.76	332	PKhKP	PKPpre	17 39 03.2		
	comp=Z,0.5nm,0.4s,baz=40,slow=4.0,SNR=6.6							
BRTR	Keskin Array B	145.96	314	PKPbc	**PKPdf**	**17 39 19.3**	**+0.6**	
BRTR	Keskin Array B	145.96	314	PKPbc	**PKPdf**	**17 39 19.3**	**+0.6**	
	comp=Z,1.6nm,0.7s,baz=140,slow=4.1,SNR=8.4							
CLL	Collm	146.59	348	*i* PKPbc	**PKPdf**	**17 39 20.5**	**+1.4**	
	comp=Z,4.0nm,0.7s							
CLL				*e*PKPab	**PKPbc**	**17 39 23.0**	**+1.2**	
	comp=Z,7.0nm,1.0s							
OKC	Ostrava-Krasne	146.64	341	⇑*e*PKP	**PKPdf**	**17 39 19.4**	**+0.1**	
UPC	Upice	146.65	344	*e*PKPAB	**PKPab**	**17 39 25.2**	**+0.4**	
DPC	Dobruska-Polom	146.71	344	*e*PKPAB	**PKPab**	**17 39 24.5**	**-0.6**	
DPC				*ex*	x	17 39 32.3		
KRLC	Kraliky	146.83	343	*e*PKPAB	**PKPab**	**17 39 24.9**	**-0.7**	
KRLC				*ex*	x	17 39 32.3		
NKC	Novy Kostel	147.73	348	⇑*e*PKP	**PKPbc**	**17 39 23.5**	**-1.3**	
KHC	Kasperske Hory	148.52	346	⇑*e*PKP	**PKPbc**	**17 39 25.8**	**-1.1**	
KHC				*e*PKPAB	**PKPab**	**17 39 32.1**	**-0.4**	
GERES	GERESS Array B	148.76	345	PKPbc	**PKPbc**	**17 39 26.3**	**-1.3**	
GERES	GERESS Array B	148.76	345	PKPbc	**PKPbc**	**17 39 26.3**	**-1.3**	
	comp=Z,1.5nm,0.8s,baz=46,slow=3.9,SNR=11							
WTTA	Wattenberg	150.72	347	⇓*i* PKPbc	**PKPbc**	**17 39 30.9**	**-1.4**	
	comp=Z,7.1nm,0.6s							
ABTA	Abfaltersbach	151.01	345	⇓*i* PKPbc	**PKPbc**	**17 39 30.8**	**-2.0**	
	comp=Z,5.9nm,0.6s							
CRNS	Crni Vrh	151.17	343	*i* PKPbc	**PKPbc**	**17 39 31.4**	**-1.8**	
VOJS	Vojsko	151.32	343	*i* PKPbc	**PKPbc**	**17 39 31.6**	**-2.0**	
BOJS	Bojanci	151.39	341	*i* PKPdf	**PKPbc**	**17 39 32.5**	**-1.1**	
TORD	Torodi Ar. Bea	174.22	174	PKPab	**PKPab**	**17 41 25.8**	**+0.7**	
	comp=Z,0.7nm,0.8s,baz=189,slow=4.0,SNR=4.2							
TORD				PP	**PP**	**17 45 14.2**	**-2.2**	
	comp=Z,1.2nm,0.4s,baz=198,slow=6.3,SNR=27							

IDC 07 17:21:44.4±25.0, 18°25S×172°65W, h0km, mb4.5/5, mb1 4.6/5, mb1mx4.0/23, mbtmp4.5/5, Error ellipse: s-maj=468.7km s-min=104.3km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.79	260	P		P	P	17 29 10.8	-0.4
	5.1nm,0.6s,baz=87,slow=11,SNR=7.3								
PMG	Port Moresby	39.92	277	P		P	P	17 29 22.2	+1.5
	9.6nm,0.8s,baz=80,slow=6.1,SNR=4.0								
STKA	Stephens Creek	43.30	243	P		P	P	17 29 50.0	+1.8
	3.7nm,0.8s,baz=83,slow=8.1,SNR=3.0								
WRA	Warramunga Arr	49.95	259	P		P	P	17 30 39.0	-1.5
	3.7nm,0.6s,baz=97,slow=7.3,SNR=13								
ASAR	Alice Springs	49.97	254	P		P	P	17 30 40.0	-0.7
	5.4nm,0.7s,baz=86,slow=8.2,SNR=17								

IDC 07 17:25:24.3±1.9, 17°98S×167°29E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=52.8km s-min=27.6km az=109.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.14	191	Pn		Pn	Pn	17 26 30.0	+1.0
	2.4nm,0.3s,baz=42,slow=20,SNR=7.3								
DZM				Sn		Sn	Sn	17 27 16.6	-1.8
	0.6nm,0.3s,baz=309,slow=23,SNR=1.2								
STKA	Stephens Creek	27.01	234	P		P	P	17 31 09.0	+0.8
	3.4nm,0.8s,baz=71,slow=12,SNR=4.8								
ASAR	Alice Springs	31.67	254	P		P	P	17 31 48.2	-1.5
	0.7nm,0.8s,baz=77,slow=9.6,SNR=2.8								
CMAR	Chiang Mai Arr	76.31	295	P		P	P	17 37 16.6	+1.0
	0.8nm,0.8s,baz=124,slow=4.4,SNR=6.9								
ILAR	Eielson Array	89.60	18	P		P	P	17 38 22.8	-0.7
	0.5nm,0.7s,baz=235,slow=5.0,SNR=5.0								

*IDC **07** 17:26:25.6±1.6, 4°88N×127°02E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.8/6, MS3.5/4, Ms1 3.5/4, ms1mx3.0/41, Error ellipse: s-maj=217.9km s-min=18.3km az=68.0*

*ISCJB **07** 17:26:33.0±1.2, 4°8N±0°5×12°7E±°, h76km, mb3.7/6, Error ellipse: s-maj=180.1km s-min=14.8km az=159.0*

ISC 07 17:26:34.9±1.3, 4°9N±0°5×12°7E±°, h76km, n9, σ1§42/6, mb3.8/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.67	164	P		P	P	17 31 56.5	-1.4
	2.2nm,0.8s,baz=344,slow=10.0,SNR=4.9								
ASAR	Alice Springs	29.13	167	P		P	P	17 32 29.9	+1.1
	0.6nm,0.7s,ba

baz=289,slow=75,SNR=4.9
H11N2 WAKE ISLAND Hy 21.83 92 T T 18 00 09.1
baz=289
H11N3 WAKE ISLAND Hy 21.85 92 T T 17 59 54.9
baz=289,slow=75,SNR=6.3
H11S3 WAKE ISLAND Hy 21.90 96 T T 17 59 59.3
baz=286,slow=73,SNR=22
H11S1 WAKE ISLAND Hy 21.91 96 T T 18 00 00.3
baz=286,slow=73,SNR=7.0
H11S2 WAKE ISLAND Hy 21.92 96 T T 18 00 01.3
baz=286,slow=73,SNR=3.8
USRK Ussuriysk Arra 23.91 339 P **P** **17 37 40.0 +0.4**
3.8nm,0.8s,baz=129,slow=11,SNR=7.7
HABR Khabarovsk 27.05 347 *e*P **P** **17 38 06.9 -1.0**
HABR *e**PP **pP** **17 38 36.7 +2.9**
HABR *e* 17 38 53.1
HABR *e* 17 41 22.8
HABR *e*S **S** **17 42 36.6 -0.2**
HABR *e* 17 43 29.8
HABR *e* 17 48 41.6
HABR pmax pmax
comp=Z,38nm,2.2s
HABR MLR MLR
comp=Z,62nm,16.0s
PMG Port Moresby 31.65 173 P **P** **17 38 48.4 -0.5**
comp=Z,4.8nm,0.5s,baz=297,slow=6.8,SNR=5.1
SONM Songino Array 39.20 320 P **P** **17 39 54.1 +0.7**
comp=Z,0.7nm,0.5s,baz=133,slow=7.2,SNR=10
YAK Yakutsk 40.90 350 *e*P **P** **17 40 06.6 -0.4**
YAK pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 41.08 6 *e*P **P** **17 40 09.3 +0.8**
CMAR Chiang Mai Arr 41.99 273 P **P** **17 40 17.6 +1.0**
comp=Z,0.9nm,0.6s,baz=64,slow=7.3,SNR=11
CTA Charters Tower 42.16 176 P **P** **17 40 18.2 +0.4**
comp=Z,11nm,0.6s,baz=0.4,slow=10,SNR=22
WRA Warramunga Arr 42.92 193 P **P** **17 40 23.6 -0.4**
comp=Z,2.4nm,0.3s,baz=13,slow=9.1,SNR=137
WRA PcP **PcP** **17 42 12.8 +0.2**
comp=Z,1.1nm,0.7s,baz=11,slow=3.9,SNR=5.3
WRA ScP **ScP** **17 45 51.7 -1.0**
comp=Z,2.2nm,1.1s,baz=12,slow=4.1,SNR=6.3
FITZ Fitzroy Crossi 43.82 205 P **P** **17 40 31.1 0.0**
comp=Z,3.5nm,0.7s,baz=28,slow=15,SNR=27
ASAR Alice Springs 46.62 192 P **P** **17 40 53.0 -0.3**
comp=Z,1.4nm,0.5s,baz=9.8,slow=10,SNR=47
ASAR pP **pP** **17 41 19.6 -1.4**
comp=Z,0.6nm,0.6s,baz=9.5,slow=8.0,SNR=2.2
DZM Mont Dzumac 49.34 152 P **P** **17 41 14.2 -0.1**
comp=Z,3.6nm,0.6s,baz=89,slow=8.7,SNR=3.7
TIXI Tiksi 50.14 354 *e*P **P** **17 41 18.7 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TAPN Taplejung 50.70 288 *e*P **P** **17 41 25.8 +0.9**
ODAN Odare 51.05 287 *e*P **P** **17 41 27.9 +0.4**
comp=Z,4.3nm,0.4s
RAMN Ramite 51.73 287 *e*P **P** **17 41 32.6 0.0**
JIRN Jiri 52.00 288 *e*P **P** **17 41 35.3 +0.6**
comp=Z,11nm,0.6s
GUN Gumba 52.24 289 *e*P **P** **17 41 37.3 +0.9**
GKN Gorkha 53.31 289 *e*P **P** **17 41 44.6 +0.5**
comp=Z,3.4nm,0.3s
KIP Kipapa 53.84 79 *e*P P 17 41 43.1 -4.7
KIP pmax pmax
comp=Z,86nm,1.6s
STKA Stephens Creek 53.86 182 P **P** **17 41 46.9 -0.8**
comp=Z,7.8nm,0.6s,baz=341,slow=7.8,SNR=26
DANN Dangsing 54.03 290 *e*P **P** **17 41 50.5 +1.0**
comp=Z,22nm,0.5s
ZALV Zalesovo Beam 54.05 321 *i* P **P** **17 41 49.2 +0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 54.05 321 P **P** **17 41 48.7 -0.1**
comp=Z,0.9nm,0.4s,baz=110,slow=8.8,SNR=7.0
ZALV pP **pP** **17 42 15.7 -1.5**
comp=Z,0.6nm,0.6s,baz=114,slow=8.6,SNR=2.1
KOLN Koldanda 54.26 289 *e*P **P** **17 41 51.5 +0.4**
MKAR Makanchi Array 54.65 312*ce*P **P** **17 41 54.2 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 54.65 312 P **P** **17 41 54.2 +0.8**
comp=Z,1.1nm,0.5s,baz=86,slow=8.7,SNR=9.1
MKAR pP **pP** **17 42 21.1 -0.8**
comp=Z,1.9nm,0.7s,baz=90,slow=9.6,SNR=5.7
KURK Kurchatov 57.37 317 *e*P **P** **17 42 12.2 -0.4**
KURK pmax pmax
comp=Z,1.0nm,1.4s
NWAO Narrogin (SRO) 60.40 206 P **P** **17 42 34.2 +0.5**
comp=Z,5.1nm,0.5s,baz=30,slow=7.7,SNR=9.0
ILAR Eielson Array 61.34 27 P **P** **17 42 38.6 -1.0**
comp=Z,2.3nm,0.7s,baz=259,slow=5.5,SNR=32
BRVK Borovoye 62.60 319*c i*P **P** **17 42 48.8 +0.5**
BRVK pmax pmax
comp=Z,11nm,2.5s
INK Inuvik 66.88 24 P **P** **17 43 15.9 +0.2**
comp=Z,3.1nm,0.8s,baz=272,slow=5.8,SNR=9.3
DLBC Dease Lake 69.41 34 P **P** **17 43 33.3 +1.4**
comp=Z,2.7nm,0.6s,baz=252,slow=13,SNR=3.8
YKA Yellowknife Ar 75.75 28 P **P** **17 44 09.1 -0.1**
comp=Z,1.2nm,0.5s,baz=293,slow=5.8,SNR=11
YBH Yreka Blue Hor 78.12 50 P **P** **17 44 24.2 +1.2**
comp=Z,1.6nm,0.7s,baz=247,slow=1.9,SNR=5.4
ARCES ARCESS Array B 78.53 342 P **P** **17 44 24.6 -0.1**
comp=Z,1.8nm,0.8s,baz=66,slow=7.5,SNR=6.5
JOF Joensuu 80.00 335 *e*P **P** **17 44 31.9 -0.8**
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF Joensuu 80.00 335 *ep* **P** **17 44 31.9 -0.8**
comp=Z,1.5nm,0.3s
KBZ Khabaz 82.30 314 P **P** **17 44 46.2 +1.0**
comp=Z,3.7nm,0.8s,baz=36,slow=4.7,SNR=5.1
NVAR Mina Array Bea 82.45 52 P **P** **17 44 47.2 +0.7**
comp=Z,2.7nm,0.6s,baz=283,slow=5.6,SNR=21
FINES FINESS Array B 82.87 335 P **P** **17 44 46.9 -0.9**
comp=Z,1.0nm,0.3s,baz=66,slow=4.7,SNR=16
FINES pP **pP** **17 45 18.6 +0.2**
comp=Z,1.3nm,0.6s,baz=72,slow=4.7,SNR=1.2
ELK Elko 83.72 49 P **P** **17 44 53.5 +0.4**
comp=Z,1.1nm,0.7s,baz=349,slow=2.3,SNR=5.2
AKASG Malin Array Be 87.31 325 P **P** **17 45 08.8 -1.4**
AKASG *e*Z,0.3nm,0.4s,baz=48,slow=5.3,SNR=7.8
AKASG pP **pP** **17 45 42.2 +1.1**
comp=Z,0.3nm,0.5s,baz=51,slow=5.6,SNR=1.8
TORD Torodi Ar. Bea 128.73 310 PKP **PKPdf** **17 51 29.6 -1.5**
comp=Z,0.3nm,0.5s,baz=354,slow=1.7,SNR=2.2
TORD pPKP **pPKPdf** **17 52 02.7 -0.6**
comp=Z,0.3nm,0.5s,baz=48,slow=2.6,SNR=2.1
PLCA Paso Flores 145.78 131 PKPbc **PKPbc** **17 52 02.5 +0.2**
comp=Z,3.3nm,0.7s,baz=233,slow=2.1,SNR=11

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*NEIC **07** 17:44:25.2±0.3,35.˚56N×97.˚25W,h5km,MN3.5,Error ellipse: s-maj=5.3km s-min=4.2km az=155.0*
NEIC Felt [III] at Choctaw, Jones and Oklahoma City; [II] at Edmond and Spencer. Also felt at Harrah, Luther and Meeker.
*IDC **07** 17:44:29.9±2.3,35.˚79N×97.˚70W,h0km,mb3.2/1, mb1 3.6/3,mb1mx3.3/29,mbtmp3.1/3,ML3.9/2,Error ellipse: s-maj=29.6km s-min=15.9km az=94.0*

ISC 07 17:44:24.4±1.1,35.˚57N±0.˚02×97.˚22W±0.˚02,h2km±9km, n167,σ1§01/192,74C-65D,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.24**	**228**	P		**Pg**	**17 44 29.0**	**0.0**
OKCSW				S		**Sg**	**17 44 33.0**	**+0.9**
V34A	**Guthrie**	**0.36**	**318**	P		**Pg**	**17 44 32.3**	**+0.9**
	baz=0.4,SNR=195							
V34A				⇑S		**Sg**	**17 44 37.0**	**+0.9**
	baz=0.4							
W34A	**Bridge Creek,**	**0.56**	**234**	⇑P		**Pg**	**17 44 35.6**	**+0.5**
	baz=0.5,SNR=43							
W34A				⇓S		**Sg**	**17 44 43.1**	**+0.8**
	baz=0.5							
V33A	**Lossen Ranch,**	**0.90**	**287**	P		**Pg**	**17 44 41.7**	**0.0**
	baz=0.9,SNR=96							
V33A				⇓S		**Sg**	**17 44 53.7**	**+0.3**
	baz=0.9							
U34A	**Anderson Ranch**	**0.91**	**344**	P		**Pg**	**17 44 42.6**	**+0.8**
	baz=0.9,SNR=182							
U34A				⇑S		**Sg**	**17 44 54.8**	**+1.3**
	baz=0.9							
X34A	**Smith Ranch, M**	**1.08**	**208**	P		**Pb**	**17 44 45.9**	**0.0**
	baz=1.1,SNR=490							
X34A				⇑S		**Sb**	**17 45 00.9**	**+0.3**
	baz=1.1							
W33A	**Caddo, Fort Co**	**1.10**	**248**	⇑P		**Pg**	**17 44 45.6**	**+0.1**
	baz=1.1,SNR=128							
W33A				⇑S		**Sb**	**17 45 00.5**	**-0.5**
	baz=1.1							
TUL1	**Tulsa**	**1.21**	**73**	*e*Pn		**Pg**	**17 44 48.0**	**+0.2**
TUL1				S		**Sn**	**17 45 06.0**	**+0.5**
TUL1	**Tulsa**	**1.21**	**73**	⇑P		**Pg**	**17 44 48.2**	**+0.5**
	baz=1.2							
TUL1				⇑S		**Sn**	**17 45 05.6**	**+0.2**
	baz=1.2							
X33A	**Lawton**	**1.46**	**226**	P		**Pn**	**17 44 51.3**	**-0.6**
	baz=1.4,SNR=76							
X33A				⇑S		**Sn**	**17 45 11.1**	**-0.5**
	baz=1.4							
V32A	**Arapaho**	**1.49**	**276**	P		**Pn**	**17 44 52.1**	**-0.2**
	baz=1.5,SNR=49							
V32A				⇑S		**Sg**	**17 45 12.9**	**+0.6**
	baz=1.5							
WMOK	**Wichita Mounta**	**1.52**	**238**	*e*Pn		**Pn**	**17 44 52.0**	**-0.7**
U32A	**Winter Ranch,**	**1.65**	**300**	P		**Pn**	**17 44 54.7**	**+0.1**
	baz=1.6,SNR=114							
U32A				⇑S		**Sb**	**17 45 16.9**	**-0.1**
	baz=1.6							
Y34A	**Reagan Ranch,**	**1.66**	**195**	⇑P		**Pn**	**17 44 54.8**	**+0.2**
	baz=1.7,SNR=16							
Y34A				⇑S		**Sg**	**17 45 17.8**	**-0.1**
	baz=1.7							
W32A	**Sentinel**	**1.71**	**256**	⇑P		**Pn**	**17 44 55.5**	**+0.2**
	baz=1.7,SNR=172							
W32A				⇑S		**Sb**	**17 45 18.5**	**0.0**
	baz=1.7							
T33A	**Patterson Ranc**	**1.72**	**332**	⇓P		**Pn**	**17 44 56.2**	**+0.7**
	baz=1.7,SNR=83							
T33A				⇓S		**Sb**	**17 45 19.6**	**+0.7**
	baz=1.7							
RLO	**Rose Lookout**	**1.89**	**71**	P		**Pn**	**17 44 59.0**	**+1.3**
RLO				S		**Sb**	**17 45 25.0**	**+1.4**
Y33A	**Hilltop Ranch,**	**1.94**	**217**	⇓P		**Pn**	**17 44 59.2**	**+0.8**
	baz=1.9,SNR=117							
Y33A				⇓S		**Sb**	**17 45 24.8**	**-0.3**
	baz=1.9							
X32A	**Elmer**	**2.04**	**237**	⇓P		**Pb**	**17 45 01.0**	**-1.2**
	baz=2.0,SNR=79							
T32A	**Huddler Ranch,**	**2.12**	**320**	⇓P		**Pn**	**17 45 02.2**	**+1.3**
	baz=2.1,SNR=6.6							
S33A	**Kaszmaul Farm,**	**2.12**	**343**	⇓P		**Pn**	**17 45 01.7**	**+0.8**
	baz=2.1,SNR=24							
V31A	**Spring Creek L**	**2.14**	**276**	⇑P		**Pb**	**17 45 02.7**	**-1.2**
	baz=2.1,SNR=75							
V31A				⇑Sb		**Sg**	**17 45 32.9**	**-0.4**
	baz=2.1							
Z35A	**Perchaven, San**	**2.23**	**181**	⇑P		**Pn**	**17 45 03.7**	**+1.3**
	baz=2.2,SNR=68							
W31A	**Holland Ranch,**	**2.25**	**261**	⇑P		**Pn**	**17 45 03.5**	**+0.7**
	baz=2.2,SNR=62							
Z34A	**Collier Ranch,**	**2.26**	**195**	⇓P		**Pn**	**17 45 04.3**	**+1.4**
	baz=2.3,SNR=65							
U31A	**Nine Bar Ranch**	**2.28**	**291**	⇑P		**Pn**	**17 45 04.1**	**+1.0**
	baz=2.3,SNR=55							
U31A				⇓S		**Sn**	**17 45 32.6**	**+0.8**
	baz=2.3							
Y32A	**R-V Farms, Ver**	**2.40**	**230**	⇓P		**Pn**	**17 45 06.3**	**+1.5**
	baz=2.4,SNR=95							
X31A	**McDonald Ranch**	**2.44**	**248**	P		**Pn**	**17 45 06.8**	**+1.4**
	baz=2.4,SNR=102							
T31A	**Randall Ranch,**	**2.50**	**308**	⇓P		**Pn**	**17 45 07.0**	**+0.8**
	baz=2.5,SNR=14							
S32A	**Newby Ranch, P**	**2.54**	**328**	⇓P		**Pn**	**17 45 07.7**	**+1.0**
	baz=2.5,SNR=13							
Z33A	**Whitaker Ranch**	**2.61**	**210**	⇑P		**Pn**	**17 45 09.5**	**+1.9**
	baz=2.6,SNR=62							
W30A	**Crocket Farms**	**2.77**	**263**	⇓P		**Pn**	**17 45 10.4**	**+0.6**
	baz=2.7							
R33A	**Olander Ranch,**	**2.80**	**348**	⇓S		**Sn**	**17 45 46.4**	**+1.6**
	baz=2.8							
V30A	**Spur Ranch, Mi**	**2.83**	**275**	⇓P		**Pn**	**17 45 11.8**	**+1.1**
	baz=2.8,SNR=26							
U30A	**WK&E Inc. Balk**	**2.94**	**290**	⇑P		**Pn**	**17 45 13.3**	**+1.1**
	baz=2.9,SNR=19							
U30A				⇑S		**Sn**	**17 45 49.1**	**+0.9**
	baz=2.9							
T30A	**Plains**	**3.05**	**300**	⇑P		**Pn**	**17 45 14.5**	**+0.7**
	baz=3.0,SNR=11							
R32A	**Long Quarter,**	**3.09**	**338**	⇑P		**Pn**	**17 45 15.6**	**+1.4**
	baz=3.1							
MIAR	**Mount Ida**	**3.16**	**108**	*e*Pn		**Pn**	**17 45 15.2**	**0.0**
X30A	**Coker Ranch, T**	**3.20**	**251**	⇓P		**Pn**	**17 45 16.7**	**+0.9**
	baz=3.2,SNR=21							
133A	**Hamilton Ranch**	**3.27**	**206**	⇓S		**Sn**	**17 45 56.9**	**+0.7**
	baz=3.3							
R31A	**Burdett**	**3.29**	**327**	⇓P		**Pn**	**17 45 18.2**	**+1.2**
	baz=3.3							
Z31A	**Sharp Cattle R**	**3.29**	**228**	⇓P		**Pn**	**17 45 18.4**	**+1.3**
	baz=3.3,SNR=6.1							
Z31A				⇑S		**Sn**	**17 45 58.7**	**+1.9**
	baz=3.3							
S30A	**Montezuma**	**3.33**	**309**	⇓P		**Pn**	**17 45 18.7**	**+1.1**
	baz=3.3,SNR=39							
S30A				⇓S		**Sn**	**17 45 58.9**	**+1.1**
	baz=3.3							
U29A	**Oasis Ranch, S**	**3.40**	**286**	⇑P		**Pn**	**17 45 19.2**	**+0.7**
	baz=3.4,SNR=12							
U29A				⇓S		**Sn**	**17 46 00.5**	**+1.1**
	baz=3.4							
V29A	**Stinnett**	**3.51**	**276**	⇓P		**Pn**	**17 45 20.7**	**+0.6**
	baz=3.5,SNR=12							
ABTX	**Abilene, Hawle**	**3.56**	**215**	*e*Pn		**Pn**	**17 45 21.0**	**+0.4**
ABTX				*e*Pg		**Pb**	**17 45 28.8**	**+0.8**
ABTX	**Abilene, Hawle**	**3.56**	**215**	⇑S		**Sn**	**17 46 04.1**	**+0.8**
	baz=3.5							
KSU1	**Kansas State U**	**3.56**	**8**	*e*Pn		**Pn**	**17 45 21.8**	**+1.0**
KSU1				*e*Pg		**Pb**	**17 45 30.2**	**+2.0**
KSU1				*e*Sg		**Sg**	**17 46 19.5**	**+0.6**
WHTX	**Lake Whitney**	**3.57**	**183**	*e*Pn		**Pn**	**17 45 21.6**	**+0.7**
WHTX	**Lake Whitney**	**3.57**	**183**	⇑P		**Pn**	**17 45 21.5**	**+0.7**
	baz=3.6,SNR=7.7							
WHTX				⇑Sb		**Sb**	**17 46 15.0**	**+2.9**
	baz=3.6							
Q32A	**Meitler Ranch,**	**3.58**	**343**	⇑P		**Pn**	**17 45 21.6**	**+0.6**
	baz=3.6,SNR=11							
W29A	**Amraillo**	**3.64**	**264**	⇑P		**Pn**	**17 45 22.3**	**+0.4**
	baz=3.6,SNR=14							
T29A	**Hugoton**	**3.65**	**297**	P		**Pn**	**17 45 22.6**	**+0.6**
	baz=3.6,SNR=46							
T29A				⇑S		**Sn**	**17 46 05.5**	**-0.2**
	baz=3.6							
AMTX	**Amarillo**	**3.71**	**261**	*e*Pn		**Pn**	**17 45 24.0**	**+1.1**
AMTX	**Amarillo**	**3.71**	**261**	⇑P		**Pn**	**17 45 23.8**	**+0.9**
	baz=3.7							
AMTX				⇓Sb		**Sb**	**17 46 19.3**	**+3.0**
	baz=3.7							
S29A	**Ulysses**	**3.74**	**304**	⇑P		**Pn**	**17 45 24.0**	**+0.7**
	baz=3.7,SNR=19							
S29A				⇓S		**Sn**	**17 46 08.8**	**+0.8**
	baz=3.7							
X29A	**Tulia**	**3.84**	**254**	⇓P		**Pn**	**17 45 25.4**	**+0.7**
	baz=3.8,SNR=13							
Q31A	**Ellis**	**3.84**	**334**	⇓P		**Pn**	**17 45 25.6**	**+0.9**
	baz=3.8,SNR=7.6							
131A	**Roby**	**3.90**	**223**	⇑S		**Sn**	**17 46 11.6**	**-0.3**
	baz=3.9							
Z30A	**Sanderson Ranc**	**3.95**	**236**	⇑P		**Pn**	**17 45 27.1**	**+1.0**
	baz=3.9,SNR=12							
Z30A				⇓Sb		**Sb**	**17 46 26.7**	**+3.7**
	baz=3.9							
Y29A	**Porterfield Fa**	**4.04**	**246**	⇑P		**Pn**	**17 45 28.4**	**+1.0**
	baz=4.0,SNR=31							
V28A	**Channing**	**4.08**	**274**	⇑P		**Pn**	**17 45 28.2**	**+0.4**
	baz=4.0,SNR=9.1							
W28A	**Vega**	**4.08**	**267**	⇓P		**Pn**	**17 45 28.4**	**+0.4**
	baz=4.0,SNR=8.9							
U28A	**Mallet**	**4.14**	**283**	⇑P		**Pn**	**17 45 29.0**	**+0.3**
	baz=4.1,SNR=18							
Q30A	**Quinter**	**4.16**	**326**	P		**Pn**	**17 45 29.9**	**+0.9**
	baz=4.2,SNR=19							
232A	**Coleman**	**4.19**	**210**	⇑P		**Pn**	**17 45 30.3**	**+1.0**
	baz=4.2,SNR=16							
P32A	**Huiting Farm,**	**4.19**	**345**	⇑P		**Pn**	**17 45 29.7**	**+0.3**
	baz=4.2							
X28A	**Dimmitt**	**4.21**	**257**	⇑P		**Pn**	**17 45 30.4**	**+0.6**
	baz=4.2							
R29A	**Marienthal**	**4.24**	**313**	⇑P		**Pn**	**17 45 30.8**	**+0.7**
	baz=4.2							
T28A	**Walsh**	**4.24**	**293**	⇑P		**Pn**	**17 45 30.5**	**+0.3**
	baz=4.2,SNR=11							
S28A	**Manter**	**4.27**	**300**	⇑P		**Pn**	**17 45 31.1**	**+0.5**
	baz=4.2,SNR=11							
335A	**Moody**	**4.28**	**182**	⇑P		**Pn**	**17 45 31.4**	**+0.8**
	baz=4.3							
130A	**Snyder**	**4.29**	**227**	⇓P		**Pn**	**17 45 31.1**	**+0.3**
	baz=4.3,SNR=6.1							
130A				⇓S		**Sn**	**17 46 20.0**	**-1.4**
	baz=4.3							
P31A	**Stockton**	**4.30**	**337**	⇓P		**Pn**	**17 45 31.3**	**+0.3**
	baz=4.3,SNR=7.7							
334A	**Lometa**	**4.31**	**192**	⇑P		**Pn**	**17 45 31.3**	**+0.3**
	baz=4.3,SNR=21							
Z29A	**Hungry Hill Ra**	**4.36**	**239**	⇓P		**Pn**	**17 45 32.7**	**+0.9**
	baz=4.3							
231A	**Bronte**	**4.44**	**216**	⇓P		**Pn**	**17 45 32.8**	**-0.1**
	baz=4.4							
Y28A	**McKinney Farm,**	**4.46**	**250**	⇓P		**Pn**	**17 45 33.6**	**+0.5**
	baz=4.4,SNR=23							
Q29A	**Oakley**	**4.47**	**319**	⇓P		**Pn**	**17 45 34.0**	**+0.7**
	baz=4.5							
333A	**Richland Sprin**	**4.48**	**200**	⇑P		**Pn**	**17 45 33.8**	**+0.4**
	baz=4.5,SNR=8.6							
R28A	**Tribune**	**4.60**	**308**	⇓P		**Pn**	**17 45 35.4**	**+0.3**
	baz=4.6,SNR=16							
U27A	**Thompson Grove**	**4.62**	**282**	⇑P		**Pn**	**17 45 35.6**	**+0.2**
	baz=4.6,SNR=18							
P30A	**Selden**	**4.64**	**330**	⇓P		**Pn**	**17 45 36.7**	**+1.1**
	baz=4.6							
332A	**Millersview**	**4.67**	**207**	⇓P		**Pn**	**17 45 36.6**	**+0.5**
	baz=4.7,SNR=19							
T27A	**Campo**	**4.68**	**290**	P		**Pn**	**17 45 36.6**	**+0.4**
	baz=4.7,SNR=132							
434A	**Burnet**	**4.82**	**191**	⇓P		**Pn**	**17 45 38.4**	**+0.4**
	baz=4.8,SNR=11							
Z28A	**Tucker Farm, M**	**4.83**	**243**	⇓P		**Pn**	**17 45 39.1**	**+0.8**
	baz=4.8,SNR=5.7							
MSTX	**Muleshoe**	**4.84**	**252**	*e*Pn		**Pn**	**17 45 37.3**	**-1.1**
MSTX	**Muleshoe**	**4.84**	**252**	⇑P		**Pn**	**17 45 38.0**	**-0.4**
	baz=4.8							
X27A	**F and S Farms,**	**4.90**	**261**	⇑P		**Pn**	**17 45 39.2**	**0.0**
	baz=4.9,SNR=9.1							
433A	**Art**	**5.05**	**199**	P		**Pn**	**17 45 41.7**	**+0.5**
	baz=5.0,SNR=12							
432A	**Menard**	**5.15**	**205**	⇑P		**Pn**	**17 45 42.7**	**+0.1**
	baz=5.1,SNR=12							
Y27A	**Causey**	**5.17**	**253**	⇑P		**Pn**	**17 45 42.8**	**-0.1**
	baz=5.1,SNR=26							
R27A	**Eads**	**5.22**	**303**	P		**Pn**	**17 45 43.5**	**-0.1**
	baz=5.2,SNR=30							
128A	**Castleberry Fa**	**5.26**	**238**	⇑P		**Pn**	**17 45 44.5**	**+0.4**
	baz=5.2,SNR=20							
U26A	**Atchley Ranch,**	**5.35**	**281**	⇓P		**Pn**	**17 45 45.6**	**+0.1**
	baz=5.3,SNR=14							
W26A	**Owens Ranch, T**	**5.37**	**267**	⇓P		**Pn**	**17 45 45.8**	**+0.1**
	baz=5.3,SNR=29							
P28A	**Saint Francis**	**5.38**	**319**	⇑P		**Pn**	**17 45 46.2**	**+0.4**
	baz=5.4,SNR=8.1							
T26A	**Comanche Natio**	**5.38**	**289**	⇓P		**Pn**	**17 45 45.8**	**-0.2**
	baz=5.4,SNR=21							
S26A	**Kim**	**5.43**	**294**	⇓P		**Pn**	**17 45 46.3**	**-0.2**
	baz=5.4,SNR=27							
Z27A	**Tatum**	**5.43**	**247**	⇓P		**Pn**	**17 45 46.6**	**0.0**
	baz=5.4,SNR=16							
X26A	**CR and CF Fran**	**5.50**	**261**	⇑P		**Pn**	**17 45 47.4**	**0.0**
	baz=5.5,SNR=14							
KSCO	**Kaye Shedlock'**	**5.51**	**310**	*e*Pn		**Pn**	**17 45 47.7**	**0.0**
KSCO	**Kaye Shedlock'**	**5.51**	**310**	⇑P		**Pn**	**17 45 47.9**	**+0.2**
	baz=5.5,SNR=11							
JCT	**Junction City**	**5.51**	**204**	*e*P		**Pn**	**17 45 47.8**	**+0.1**
JCT	**Junction City**	**5.51**	**204**	⇑P		**Pn**	**17 45 47.7**	**+0.1**
	baz=5.5,SNR=6.6							
431A	**Sonora**	**5.64**	**211**	⇑P		**Pn**	**17 45 49.5**	**+0.2**
	baz=5.6,SNR=18							
Y26A	**Elida**	**5.68**	**255**	⇓P		**Pn**	**17 45 49.7**	**-0.2**
	baz=5.6,SNR=20							
N30A	**Hueftle Ranch,**	**5.69**	**337**	⇓P		**Pn**	**17 45 50.3**	**+0.2**
	baz=5.7,SNR=8.4							
P27A	**Ficken Ranch,**	**5.83**	**315**	⇑P		**Pn**	**17 45 52.6**	**+0.7**
	baz=5.8,SNR=5.4							
127A	**Arkansas Junct**	**5.85**	**242**	⇑P		**Pn**	**17 45 52.7**	**+0.4**
	baz=5.8,SNR=7.3							
532A	**Rocksprings**	**5.87**	**203**	⇓P		**Pn**	**17 45 52.8**	**+0.3**
	baz=5.9,SNR=11							
GNAR	**Gosnell**	**5.87**	**84**	*e*Sg		**Sg**	**17 47 31.3**	**-1.7**
BGNE	**Belgrade**	**5.88**	**353**	Pn		**Pn**	17 45 48.2	-4.4
BGNE				*e*Sn		**Sn**	**17 46 58.3**	**-2.2**
U25A	**Circle Dot Ran**	**5.88**	**280**	P		**Pn**	**17 45 52.8**	**0.0**
	baz=5.9,SNR=32							
N29A	**Votaw Ranch, W**	**5.89**	**334**	⇓P		**Pn**	**17 45 53.4**	**+0.6**
	baz=5.9,SNR=13							
W25A	**X Bar L Ranch,**	**5.92**	**269**	⇓P		**Pn**	**17 45 53.4**	**+0.1**
	baz=5.9,SNR=13							
T25A	**Trinidad**	**6.01**	**287**	⇑P		**Pn**	**17 45 54.4**	**-0.1**
	baz=6.0,SNR=19							
V25A	**Rancho No Teng**	**6.02**	**275**	⇑P		**Pn**	**17 45 54.5**	**-0.2**
	baz=6.0,SNR=26							
531A	**Rocksprings**	**6.07**	**208**	⇓P		**Pn**	**17 45 55.3**	**+0.1**
	baz=6.1,SNR=22							
PARMO	**Parma**	**6.15**	**78**	*e*Sg		**Sg**	**17 47 39.7**	**-2.2**
S25A	**Robets Cordova**	**6.17**	**292**	P		**Pn**	**17 45 56.5**	**-0.1**
	baz=6.1,SNR=32							
O27A	**Beecher Island**	**6.21**	**320**	⇓P		**Pn**	**17 45 58.5**	**+1.3**
	baz=6.2,SNR=6.3							
R25A	**Fountain Ranch**	**6.22**	**297**	⇑P		**Pn**	**17 45 57.5**	**+0.2**
	baz=6.2,SNR=29							
P26A	**Davis Ranch, A**	**6.29**	**311**	⇑P		**Pn**	**17 45 59.2**	**+0.8**
	baz=6.3,SNR=26							
Y25A	**Mesa, Roswell**	**6.36**	**257**	⇑P		**Pn**	**17 45 59.9**	**+0.5**
	baz=6.3,SNR=14							
530A	**J-C Ranch, Com**	**6.42**	**214**	⇓P		**Pn**	**17 46 01.0**	**+1.0**
	baz=6.4,SNR=20							
OXF	**

TXAR					Lg		Lg	17 48 41.8	
	4.2nm,0.3s,baz=41,slow=27,SNR=10								
PHWY	**Pilot Hill**		**8.63**	**314**	*e*Pn		**Pn**	**17 46 30.6**	**0.0**
N23A	**Red Feather La**		**8.68**	**310**	⇑P		**Pn**	**17 46 31.9**	**+0.7**
	baz=8.7,SNR=6.0								
TKL	**Tuckaleechee C**		**10.95**	**86**	*e*Pn		Pn	17 46 55.4	-6.8
TKL					Lg		Lg	17 50 13.4	
TKL	**Tuckaleechee C**		**10.95**	**86**	Lg		Lg	17 50 13.4	
	1.1nm,0.3s,baz=159,slow=23,SNR=9.5								
PDAR	**Pinedale Array**		**11.96**	**311**	Pn		**Pn**	**17 47 15.3**	**-0.9**
PDAR					Lg		Lg	17 50 31.9	
PDAR	**Pinedale Array**		**11.96**	**311**	Pn		**Pn**	**17 47 15.3**	**-0.9**
	0.1nm,0.3s,baz=125,slow=16,SNR=4.7								
PDAR					Lg		Lg	17 50 31.9	
	0.2nm,0.3s,baz=126,slow=26,SNR=3.9								
ACSO	**Alum Creek Sta**		**12.17**	**63**	*e*Pn		Pn	17 47 12.1	-6.8
ACSO					*e*Lg		Lg	17 50 45.8	
NLU	**North Lily Min**		**12.54**	**295**	*e*Pn		**Pn**	**17 47 22.6**	**-1.4**
HRY	**Holter Researc**		**15.63**	**320**	*e*Pn		Pn	17 47 58.3	-7.5
WCN	**Washoe City**		**18.27**	**288**	*e*Pn		**Pn**	**17 48 35.3**	**-4.0**
ILAR	**Eielson Array**		**41.47**	**330**	P		P	17 52 15.9	+3.5
ILAR	**Eielson Array**		**41.47**	**330**	P		P	17 52 15.9	+3.5
	0.2nm,0.5s,baz=117,slow=7.8,SNR=3.2								

*BJI **07** 18:05:49.9, 41.51N×75.48E, h16km, ML3.5/8*
*KNET **07** 18:05:52.4±0.6, 41.42N×75.81E, h4km±3km, ml3.5, Error ellipse: s-maj=3.9km s-min=3.0km az=150.0*
*NNC **07** 18:05:55.0±1.6, 41.44N×75.59E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=10.6km s-min=10.0km az=89.0*

ISC 07 18:05:53.3±1.4, 41.43N±0.05×75.82E±0.05, h8km±12km, n21, σ1s42/22, 16C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
KZA	**Kyzart**	**0.77**	**327**	⇓P			**Pg**	**18 06 07.7**	**-0.5**
	199nm,0.2s,SNR=275								
KZA				⇑S			**Sb**	**18 06 20.4**	**+0.3**
	1μm,0.2s								
ULHL	**Ulahol**	**0.87**	**21**	⇓P			**Pg**	**18 06 09.3**	**-0.8**
	293nm,0.2s,SNR=1000								
ULHL				⇓S			**Sb**	**18 06 23.1**	**+0.3**
	896nm,0.2s								
UCH	**Uchtor**	**1.26**	**310**	⇑P			**Pg**	**18 06 16.0**	**-1.4**
	49nm,0.3s,SNR=122								
UCH				⇓S			**Sn**	**18 06 35.2**	**+0.2**
	708nm,0.4s								
KBK	**Karagaybulak**	**1.38**	**332**	⇓P			**Pg**	**18 06 19.1**	**-0.8**
	190nm,0.2s,SNR=538								
KBK				⇓S			**Sn**	**18 06 39.9**	**+2.2**
	666nm,0.2s								
TKM2	**Tokmak 2**	**1.50**	**354**	⇓P			**Pb**	**18 06 20.9**	**-0.6**
	129nm,0.2s,SNR=169								
TKM2				⇓S			**Sg**	**18 06 43.3**	**+1.9**
	581nm,0.3s								
TKM2	**Tokmak 2**	**1.50**	**354**	⇑P			**Pb**	**18 06 20.9**	**-0.6**
	64nm,0.3s								
TKM2				⇑S			**Sg**	**18 06 43.0**	**+1.6**
	428nm,0.5s								
AAK	**Ala-Archa**	**1.55**	**321**	⇓P			**Pb**	**18 06 21.8**	**-0.7**
	160nm,0.3s,SNR=250								
AML	**Almayashu**	**1.73**	**294**	⇑P			**Pg**	**18 06 25.8**	**-0.8**
	73nm,0.3s,SNR=105								
CHMS	**Chumysh**	**1.75**	**333**	⇑P			**Pg**	**18 06 25.5**	**-1.4**
	70nm,0.2s,SNR=196								
KSH	**Kashi**	**1.92**	**176**	Pg			Pg	18 06 32.7	+2.6
KSH				Sg			**Sg**	**18 06 56.4**	**+1.5**
KSH				smax			smax		
	comp=N,640nm,0.6s								
KSH				smax			smax		
	comp=E,850nm,0.8s								
EKS2	**Erkin-Say**	**1.95**	**310**	⇑P			**Pg**	**18 06 29.5**	**-1.3**
	162nm,0.7s,SNR=50								
KNDC	**Almaty**	**1.98**	**25**	⇑Pn			**Pg**	**18 06 30.3**	**-0.8**
KNDC				⇑Sn			**Sg**	**18 06 58.4**	**+1.6**
USP	**Ospenovka**	**2.08**	**332**	⇓P			**Pg**	**18 06 31.3**	**-1.8**
	292nm,0.2s,SNR=731								
KK31	**Karatay Array**	**4.28**	**295**	⇓Pg			**Pb**	**18 07 10.5**	**+1.7**
	8.3nm,0.6s,baz=119,slow=16,SNR=42								
KK31				⇑Lg			Lg	18 08 07.3	
	18nm,0.5s,baz=110,slow=24,SNR=9.7								
MK31	**Makanchi Array**	**7.10**	**39**	⇓Pn			Pn	18 07 41.3	+3.8
	1.4nm,0.5s,baz=224,slow=16,SNR=15								
MK31				⇑Lg			Lg	18 09 43.7	
	7.3nm,0.6s,baz=229,slow=30,SNR=4.7								
KURBB	**Kurchatov Arra**	**9.38**	**11**	⇑Pn			Pn	18 08 12.8	+4.1
	2.9nm,0.8s								
KURBB				⇓Lg			Lg	18 10 53.0	
	40nm,0.7s								
KURK	**Kurchatov**	**9.48**	**11**	⇑Pn			Pn	18 08 13.2	+3.1
	1.9nm,1.0s								
KURK				⇑Lg			Lg	18 10 57.4	
	26nm,1.2s								
BVA0	**Borovoye Array**	**12.16**	**344**	⇑Lg			Lg	18 12 20.8	
	15nm,1.1s,baz=165,slow=23,SNR=6.1								
BRVK	**Borovoye**	**12.22**	**344**	⇓Lg			Lg	18 12 22.2	
	30nm,1.2s								
AB31	**Akbulak array**	**13.61**	**310**	⇑P			Pn	18 09 09.0	+2.4
	0.8nm,0.5s								
AKTO	**Aktyubinsk**	**15.28**	**312**	⇓P			**P**	**18 09 32.0**	**-2.1**
	4.1nm,0.8s								

*IDC **07** 18:09:36.5±0.6, 10.09S×33.72E, h0km, mb4.2/18, mb1 4.4/21, mb1mx4.4/31, mbtmp4.3/21, ML3.5/2, Error ellipse: s-maj=18.9km s-min=15.5km az=105.0*
*ISCJB **07** 18:09:37.1±0.2, 10.14S±0.03×33.82E±0.05, h10km, mb4.4/36, MS4.3/2, Error ellipse: s-maj=6.6km s-min=4.1km az=17.8*
*MOS **07** 18:09:37.6±1.3, 10.10S×33.83E, h10km, mb4.5/30, Error ellipse: s-maj=13.0km s-min=6.7km az=80.2*
*NEIC **07** 18:09:38.7±0.3, 10.08S×33.76E, h10km, mb4.6/19, Error ellipse: s-maj=9.2km s-min=5.3km az=108.0*

ISC 07 18:09:38.7±0.4, 10.08S±0.04×33.80E±0.06, h10km, n133, σ1s73/130, mb4.5/36, 2D, Malawi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MZM	**Mzuzu**	**1.37**	**171**	*i* P			**Pg**	**18 10 07.1**	**+2.1**
MZM				*i* S			**Sg**	**18 10 26.4**	**+3.6**
DODT	**Dodoma, Tanzan**	**4.32**	**27**	*i* P			**Pn**	**18 10 42.1**	**-2.5**
DODT				*i* S			**Sb**	**18 11 43.7**	**-3.3**
LSZ	**Lusaka**	**7.53**	**226**	*e*P			**Pn**	**18 11 30.2**	**+1.4**
LSZ				*e*S			Sn	18 12 47.1	-7.2
LSZ				*e*S			Sn	18 12 47.2	-7.1
LSZ							Sn	**18 12 54.9**	**+0.6**
LSZ							Lg	18 13 32.0	
LSZ	**Lusaka**	**7.53**	**226**	Pn			**Pn**	**18 11 30.4**	**+1.6**
	54nm,0.3s,baz=53,slow=12,SNR=296								
LSZ							Sn	**18 12 54.9**	**+0.6**
	31nm,0.3s,baz=122,slow=21,SNR=7.7								
LSZ							Lg	18 13 32.0	
	29nm,0.3s,baz=313,slow=21,SNR=6.3								
MAUS	**Longido**	**7.84**	**22**	*i* P			**Pn**	**18 11 30.4**	**-2.6**
MAUS				*i* Sg			Sn	18 12 55.2	-6.7
MAUS				*i* S			**Sb**	**18 13 31.7**	**+3.3**
KMBO	**Kilima Mbogo**	**9.53**	**21**	Pn			Pn	18 11 52.1	-4.2
KMBO							Sn	18 13 33.9	-10
KMBO							Lg	18 14 24.3	
KMBO	**Kilima Mbogo**	**9.53**	**21**	Pn			Pn	18 11 52.1	-4.2
	5.9nm,0.3s,baz=201,slow=16,SNR=67								
KMBO							Sn	18 13 33.9	-10
	5.5nm,0.3s,baz=60,slow=23,SNR=5.4								
KMBO							Lg	18 14 24.3	
	2.7nm,0.3s,baz=223,slow=22,SNR=3.0								
MBAR	**Mbarara**	**9.89**	**342**	Pn			Pn	18 11 56.0	-5.2
MBAR							Sn	18 13 46.1	-6.4
MBAR							Lg	18 14 35.6	
MBAR	**Mbarara**	**9.89**	**342**	Pn			Pn	18 11 56.0	-5.2
	12nm,0.3s,baz=153,slow=20,SNR=72								
MBAR							Sn	18 13 46.1	-6.4
	17nm,0.3s,baz=27,slow=22,SNR=5.0								
MBAR							Lg	18 14 35.6	
	27nm,0.3s,baz=72,slow=23,SNR=7.4								
MSNA	**Messina**	**12.73**	**196**	*e*P			**Pn**	**18 12 40.1**	**+0.2**
MSNA				*e*S			**Sn**	**18 14 56.0**	**-5.8**
OPO	**Ambohidratompo**	**15.47**	**125**	Pn			**Pn**	**18 13 17.8**	**+0.5**
OPO							Sn	**18 16 06.7**	**-2.3**
OPO							Lg	18 17 13.1	
OPO	**Ambohidratompo**	**15.47**	**125**	Pn			**Pn**	**18 13 17.8**	**+0.5**
	1.4nm,0.3s,baz=294,slow=12,SNR=16								
OPO							Sn	**18 16 06.7**	**-2.3**
	0.8nm,0.3s,baz=232,slow=11,SNR=3.3								
OPO							Lg	18 17 13.1	
	0.8nm,0.3s,baz=28,slow=16,SNR=3.0								
RUDU	**RUNDU**		**15.72**	**239**	*e*P		**Pn**	**18 13 20.2**	**-0.3**
	77nm,1.2s								
ABPO	**Ambohimpanom**		**15.74**	**126**	*e*P		**Pn**	**18 13 21.6**	**+0.8**
ABPO					pmax		pmax		
	comp=Z,63nm,1.0s								
ABPO	**Ambohimpanom**		**15.74**	**126**	*e*P		**Pn**	**18 13 21.6**	**+0.8**
	comp=Z,63nm,1.0s								
SLR	**Silverton**		**16.43**	**198**	*e*P		**Pn**	**18 13 29.7**	**0.0**
SLR					pmax		pmax		
	comp=Z,105nm,1.2s								
SLR	**Silverton**		**16.43**	**198**	*e*P		**Pn**	**18 13 29.7**	**0.0**
	comp=Z,105nm,1.2s								
LBTB	**Lobatse**		**16.78**	**207**	Pn		**Pn**	**18 13 30.5**	**-3.6**
LBTB					Sn		**Sn**	**18 16 37.7**	**-3.0**
LBTB					Lg		Lg	18 18 21.9	
LBTB	**Lobatse**		**16.78**	**207**	Pn		**Pn**	**18 13 30.5**	**-3.6**
	comp=Z,6.1nm,0.3s,baz=41,slow=13,SNR=26								
LBTB					Sn		**Sn**	**18 16 37.7**	**-3.0**
	comp=Z,1.6nm,0.3s,baz=128,slow=19,SNR=5.0								
LBTB					Lg		Lg	18 18 21.9	
	comp=Z,1.8nm,0.3s,baz=329,slow=20,SNR=7.5								
KSR	**Koster**		**17.00**	**202**	*e*P		**Pn**	**18 13 36.5**	**-0.4**
	comp=Z,45nm,1.3s								
ERPM	**east rand prop**		**17.02**	**197**	*e*P		**Pn**	**18 13 35.9**	**-1.2**
	comp=Z,50nm,1.7s								
KLOF	**Kloof**		**17.21**	**199**	*e*P		**Pn**	**18 13 39.3**	**-0.3**
	comp=Z,63nm,0.7s								
PRYS	**Parys**		**17.83**	**199**	*e*P		**Pn**	**18 13 44.3**	**-2.9**
	comp=Z,35nm,1.7s								
TSUM	**Tsumeb**		**18.11**	**238**	*e*P		**Pn**	**18 13 49.5**	**-1.2**
TSUM					S		Sn	18 17 03.9	-9.2
TSUM					Lg		Lg	18 19 06.7	
TSUM	**Tsumeb**		**18.11**	**238**	P		**Pn**	**18 13 49.4**	**-1.3**
	comp=Z,3.3nm,0.3s,baz=50,slow=11,SNR=38								
TSUM					S		Sn	18 17 03.9	-9.2
	comp=Z,0.8nm,0.3s,baz=125,slow=22,SNR=5.2								
TSUM					Lg		Lg	18 19 06.7	
	comp=Z,0.3nm,0.3s,baz=276,slow=12,SNR=2.8								
SWZ	**Schweizer**		**18.80**	**204**	*e*P		**P**	**18 13 55.1**	**-3.5**
	comp=Z,84nm,2.0s								
SEK	**Senekal**		**19.06**	**197**	*e*P		**Pn**	**18 14 02.1**	**-0.1**
	comp=Z,112nm,1.0s								
BOSA	**Boshof**		**20.11**	**202**	*e*P		**P**	**18 14 11.8**	**-1.2**
BOSA					S		Sn	18 18 07.8	+6.5
BOSA	**Boshof**		**20.11**	**202**	P		**P**	**18 14 11.4**	**-1.6**
	comp=Z,34nm,0.8s,baz=21,slow=11,SNR=42								
BOSA					S		Sn	18 18 07.8	+6.5
	comp=Z,21nm,0.9s,baz=141,slow=21,SNR=4.1								
WIN	**Windhoek**		**20.25**	**230**	*e*P		Pn	18 14 16.0	-0.6
WIN					pmax		pmax		
	comp=Z,37nm,1.0s								
WIN	**Windhoek**		**20.25**	**230**	*e*P		Pn	18 14 16.0	-0.6
	comp=Z,37nm,1.0s								
KSD	**Kokstad**		**20.77**	**191**	*e*P		Pn	18 14 26.8	+4.3
	comp=Z,96nm,1.9s								
HVD	**Gariep Dam**		**21.84**	**200**	*e*P		**P**	**18 14 31.2**	**-0.5**
HVD					pmax		pmax		
	comp=Z,80nm,1.3s								
HVD	**Gariep Dam**		**21.84**	**200**	*e*P		**P**	**18 14 31.2**	**-0.5**
	comp=Z,80nm,1.3s								
GRM	**Grahamstown**		**24.08**	**195**	*e*P		**P**	**18 14 56.7**	**+2.2**
GRM	**Grahamstown**		**24.08**	**195**	*e*P		**P**	**18 14 56.7**	**+2.2**
KOMG	**Komaggas**		**24.84**	**216**	*e*P		**P**	**18 15 01.1**	**-0.3**
	comp=Z,48nm,3.4s								
SUR	**Sutherland**		**25.23**	**206**	P		**P**	**18 15 04.1**	**-1.1**
SUR					S		S	18 19 40.5	+10
SUR	**Sutherland**		**25.23**	**206**	P		**P**	**18 15 04.1**	**-1.1**
	comp=Z,7.5nm,0.7s,baz=39,slow=12,SNR=9.4								
SUR					S		S	18 19 40.5	+10
	comp=Z,14nm,1.1s,baz=345,slow=20,SNR=2.6								
SHEL	**Horse Pasture**		**38.92**	**257**	*i* P		P	18 17 12.5	+7.4
TOA0	**Torodi Ar. Sit**		**39.35**	**305**	*e*P		**P**	**18 17 09.4**	**+0.8**
TORD	**Torodi Ar. Bea**		**39.35**	**305**	P		**P**	**18 17 06.0**	**-2.6**
TORD	**Torodi Ar. Bea**		**39.35**	**305**	P		**P**	**18 17 06.0**	**-2.6**
	comp=Z,2.8nm,0.9s,baz=111,slow=8.0,SNR=5.6								
KIC	**Kosan Boka**		**41.72**	**291**	*e*P		**P**	**18 17 29.4**	**+1.1**
	comp=Z,21nm,0.9s								
LIC	**Lamto**		**41.93**	**291**	*e*P		**P**	**18 17 30.7**	**+0.7**
	comp=Z,24nm,0.9s								
DBIC	**Dimbokro**		**41.94**	**292**	P		**P**	**18 17 29.8**	**-0.3**
DBIC	**Dimbokro**		**41.94**	**292**	P		**P**	**18 17 29.8**	**-0.3**
	comp=Z,6.8nm,0.9s,baz=94,slow=9.1,SNR=8.5								
TIC	**Toumodi**		**42.08**	**292**	*e*P		**P**	**18 17 32.6**	**+1.3**
	comp=Z,42nm,0.9s								
BR131	**Keskin Array S**		**49.55**	**360**	*e*P		**P**	**18 18 31.6**	**+1.6**
	comp=Z,3.5nm,0.8s								
BRTR	**Keskin Array B**		**49.55**	**360**	P		**P**	**18 18 30.0**	**0.0**
BRTR	**Keskin Array B**		**49.55**	**360**	P		**P**	**18 18 30.0**	**0.0**
	comp=Z,5.0nm,1.0s,baz=178,slow=9.4,SNR=18								
KEST	**Kesra**		**51.07**	**334**	*e*P		**P**	**18 18 41.1**	**-0.5**
KEST	**Kesra**		**51.07**	**334**	P		**P**	**18 18 41.7**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=156,slow=4.0,SNR=6.5								
KIV	**Kislovodsk**		**54.38**	**8**	*e*P		**P**	**18 19 06.5**	**+0.7**
KIV					pmax		pmax		
	comp=Z,8.0nm,1.1s								
KIV					MLR		MLR		
	comp=Z,210nm,16.0s								
BUR08	**Bucovina Ar. S**		**57.97**	**353**	*e*P		**P**	**18 19 30.7**	**-0.8**
UZH	**Uzhgorod**		**59.33**	**351**	⇓*i*P		**P**	**18 19 43.7**	**+2.9**
UZH					*i*			18 19 46.9	
UZH					*i*			18 19 50.1	
KECS	**Kecovo**		**59.48**	**350**	*e*P		**P**	**18 19 44.3**	**+2.5**
KECS					pmax		pmax		
	comp=Z,1.0nm,0.9s								
KECS	**Kecovo**		**59.48**	**350**	*e*P		**P**	**18 19 44.3**	**+2.5**
KOLS	**Kolonicke sedl**		**59.62**	**351**	*e*P		**P**	**18 19 45.5**	**+2.6**
KOLS					pmax		pmax		
	comp=Z,4.0nm,1.3s								
KOLS	**Kolonicke sedl**		**59.62**	**351**	*e*P		**P**	**18 19 45.5**	**+2.6**
CRVS	**Cervenica-Dubn**		**59.72**	**351**	*e*P		**P**	**18 19 46.5**	**+3.0**
CRVS					pmax		pmax		
	comp=Z,8.0nm,1.2s								
CRVS	**Cervenica-Dubn**		**59.72**	**351**	*e*P		**P**	**18 19 46.5**	**+3.0**
ESDC	**Sonseca Array**		**60.64**	**327**	P		**P**	**18 19 49.3**	**-0.8**
ESDC	**Sonseca Array**		**60.64**	**327**	P		**P**	**18 19 49.3**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=144,slow=8.4,SNR=3.1								
KIEV	**Kiev**		**60.65**	**357**	*e*P		**P**	**18 19 51.0**	**+1.2**
AKASG	**Malin Array Be**		**60.65**	**357**	*i* P		**P**	**18 19 51.5**	**+1.7**
AKASG					pmax		pmax		
	comp=Z,10.0nm,1.0s								
AKASG	**Malin Array Be**		**60.65**	**357**	P		**P**	**18 19 49.4**	**-0.4**
AKASG	**Malin Array Be**		**60.65**	**357**	P		**P**	**18 19 49.4**	**-0.4**
	comp=Z,10nm,1.0s,baz=180,slow=6.1,SNR=22								
OKC	**Ostrava-Krasne**		**61.21**	**349**	*e*P		**P**	**18 19 55.9**	**+2.2**
OKC	**Ostrava-Krasne**		**61.21**	**349**	*e*P		**P**	**18 19 55.9**	**+2.2**
VSR	**Storozhevoye**		**61.21**	**4**	*e*P		**P**	**18 19 54.8**	**+1.2**
VSR					pmax		pmax		
	comp=Z,6.0nm,0.8s								
MORC	**Moravsky Berou**		**61.28**	**348**	*e*P		**P**	**18 19 55.8**	**+1.6**
MORC					pmax		pmax		
	comp=Z,5.0nm,1.1s								
MORC	**Moravsky Berou**		**61.28**	**348**	*e*P		**P**	**18 19 55.8**	**+1.6**
	comp=Z,4.9nm,1.1s								
GERES	**GERESS Array B**		**61.28**	**345**	P		**P**	**18 19 53.0**	**-1.3**
GERES	**GERESS Array B**		**61.28**	**345**	P		**P**	**18 19 53.0**	**-1.3**
	comp=Z,3.9nm,1.0s,baz=161,slow=5.7,SNR=20								
KHC	**Kasperske Hory**		**61.58**	**345**	*e*P		**P**	**18 19 58.5**	**+2.2**
KHC					pmax		pmax		
	comp=Z,6.0nm,1.1s								
KHC	**Kasperske Hory**		**61.58**	**345**	*e*P		**P**	**18 19 58.4**	**+2.2**
KHC					*ex*		x	18 20 02.5	
KHC	**Kasperske Hory**		**61.58**	**345**	*e*P		**P**	**18 19 58.5**	**+2.2**
	comp=Z,5.8nm,1.1s								
KRLC	**Kraliky**		**61.72**	**348**	*e*P		**P**	**18 19 59.2**	**+2.0**
KRLC	**Kraliky**		**61.72**	**348**	*e*P		**P**	**18 19 59.2**	**+2.0**
DPC	**Dobruska-Polom**		**62.08**	**347**	*e*P		**P**	**18 20 02.2**	**+2.6**
DPC	**Dobruska-Polom**		**62.08**	**347**	*e*P		**P**	**18 20 02.2**	**+2.6**
PRU	**Pruhonice**		**62.14**	**346**	*e*P		P	18 20 04.3	+4.4
PRU	**Pruhonice**		**62.14**	**346**	*e*P		P	18 20 04.3	+4.4
KKAR	**Karatay Array**		**62.62**	**30**	*e*P		**P**	**18 20 03.7**	**+0.3**
KKAR					pmax		pmax		
	comp=Z,4.0nm,0.9s								
KKAR	**Karatay Array**		**62.62**	**30**	*e*P		**P**	**18 20 03.7**	**+0.3**
	comp=Z,3.6nm,0.9s								
NKC	**Novy Kostel**		**62.88**	**345**	*e*P		P	18 20 08.5	+3.6
NKC	**Novy Kostel**		**62.88**	**345**	*e*P		P	18 20 08.5	+3.6
CLL	**Collm**		**63.73**	**346**	*e*P		**P**	**18 20 12.0**	**+1.5**
CLL					MLR		MLR		
	comp=Z,200nm,18.2s								
CLL	**Collm**		**63.73**	**346**	*e*P		**P**	**18 20 12.0**	**+1.5**
CLL					Lm		MLR	18 49 00.0	
	comp=Z,200nm,18.2s								
AKTO	**Aktyubinsk**		**63.85**	**17**	P		**P**	**18 20 10.5**	**-0.8**
AKTO					pmax		pmax		
	comp=Z,2.0nm,0.8s								
AKTO	**Aktyubinsk**		**63.85**	**17**	P		**P**	**18 20 10.5**	**-0.8**
AKTO	**Aktyubinsk**		**63.85**	**17**	P		**P**	**18 20 10.5**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=222,slow=9.5,SNR=6.6								
AAK	**Ala-Archa**		**64.30**	**32**	*e*P		**P**	**18 20 15.3**	**+0.7**
AAK					pmax		pmax		
	comp=Z,4.0nm,1.4s								
OBN	**Obninsk**		**64.98**	**2**	P		**P**	**18 20 20.0**	**+1.4**
OBN								18 22 46.0	
OBN					pmax		pmax		
	comp=Z,7.0nm,1.3s								
TKM2	**Tokmak 2**		**65.08**	**33**	*e*P		**P**	**18 20 19.9**	**+0.1**
TKM2					pmax		pmax		
	comp=Z,2.0nm,0.8s								
TKM2	**Tokmak 2**		**65.08**	**33**	*e*P		**P**	**18 20 19.9**	**+0.1**
	comp=Z,2.1nm,0.8s								
SNAA	**Sanae**		**65.49**	**192**	*e*P		P	18 20 26.4	+4.6
SNAA	**Sanae**		**65.49**	**192**	*e*PcP		**PcP**	**18 20 57.3**	**+3.7**
ARU	**Arti**		**69.37**	**14**	*d* iP		**P**	**18 20 47.5**	**+1.0**
ARU								18 23 16.4	
ARU					S		**S**	**18 29 52.3**	**-0.9**
ARU					pmax		pmax		
	comp=Z,11nm,1.2s								
ARU	**Arti**		**69.37**	**14**	*e*P		**P**	**18 20 47.7**	**+1.2**
	comp=Z,5.5nm,0.9s								
BRVK	**Borovoye**		**70.16**	**22**	*e*P		**P**	**18 20 52.7**	**+1.3**
BRVK					pmax		pmax		
	comp=Z,2.0nm,1.2s								
CMAR	**Chiang Mai Arr**		**70.23**	**66**	P		**P**	**18 20 52.6**	**+0.1**
CMAR	**Chiang Mai Arr**		**70.23**	**66**	P		**P**	**18 20 52.6**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=261,slow=7.4,SNR=9.9								
KLMR	**Klimovskoe**		**70.84**	**3**	*e*P		**P**	**18 20 56.9**	**+1.5**
KLMR					pmax		pmax		
	comp=Z,24nm,1.5s								
MK31	**Makanchi Array**		**71.21**	**33**	*e*P		**P**	**18 20 57.2**	**-0.8**
MK31	**Makanchi Array**		**71.21**	**33**	*e*P		**P**	**18 20 57.2**	**-0.8**
MKAR	**Makanchi Array**		**71.21**	**33**	P		**P**	**18 20 57.5**	**-0.5**
MKAR					pmax		pmax		
	comp=Z,4.0nm,0.8s								
MKAR	**Makanchi Array**		**71.21**	**33**	P		**P**	**18 20 57.5**	**-0.5**
MKAR	**Makanchi Array**		**71.21**	**33**	P		**P**	**18 20 57.5**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=229,slow=6.0,SNR=31								
FINES	**FINESS Array B**		**71.55**	**356**	P		**P**	**18 20 58.6**	**-1.0**
FINES	**FINESS Array B**		**71.55**	**356**	P		**P**	**18 20 58.7**	**-1.0**
	comp=Z,5.3nm,1.1s,baz=222,slow=2.6,SNR=4.2								
KURK	**Kurchatov**		**71.95**	**28**	*e*P		**P**	**18 21 04.6**	**+2.3**
KURK					pmax		pmax		
	comp=Z,3.0nm,1.0s								
KURK	**Kurchatov**		**71.95**	**28**	*e*P		**P**	**18 21 04.6**	**+2.3**
	comp=Z,3.4nm,1.0s								
NOA	**NORSAR Array B**		**73.10**	**349**	P		**P**	**18 21 09.3**	**+0.3**
NOA	**NORSAR Array B**		**73.10**	**349**	P		**P**	**18 21 09.3**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=158,slow=5.5,SNR=2.8								
NVS	**Novosibirsk**		**76.78**	**27**	*i* P		**P**	**18 21 29.6**	**-0.7**
ZALV	**Zalesovo Beam**		**76.94**	**28**	*i* P		**P**	**18 21 32.9**	**+1.6**
ZALV					pmax		pmax		
	comp=Z,1.0nm,0.6s								
ZALV	**Zalesovo Beam**		**76.94**	**28**	P		**P**	**18 21 30.2**	**-1.0**
ZALV	**Zalesovo Beam**		**76.94**	**28**	P		**P**	**18 21 30.3**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=253,slow=5.9,SNR=7.2								
SONM	**Songino Array**		**85.98**	**40**	P		**P**	**

MSNA S Sn 18 21 48.8 -7.9
OPO Ambohidratompo 15.47 125 Pn **Pn 18 20 10.5 -0.9**
OPO Sn **Sn 18 23 00.3 -2.7**
OPO Ambohidratompo 15.47 125 Pn **Pn 18 20 10.5 -0.9**
2.1nm,0.3s,baz=293,slow=13,SNR=8.1
OPO Sn **Sn 18 23 00.3 -2.7**
0.6nm,0.3s,baz=281,slow=19,SNR=2.6
OPO LR LR 18 25 40.5
comp=Z,444nm,21.1s,baz=307,slow=36
ABPO Ambohimpanom 15.74 126 *eP* **Pn 18 20 14.4 -0.4**
59nm,1.3s
SLR Silverton 16.46 198 P **Pn 18 20 19.8 -4.3**
176nm,1.2s
LBTB Lobatse 16.82 207 Pn **Pn 18 20 27.9 -0.6**
LBTB Sn **Sn 18 23 33.3 -2.2**
LBTB Lobatse 16.82 207 Pn **Pn 18 20 27.9 -0.6**
4.3nm,0.3s,baz=31,slow=12,SNR=15
LBTB Sn **Sn 18 23 33.3 -2.2**
2.2nm,0.3s,baz=20,slow=8.0,SNR=2.5
LBTB LR LR 18 27 00.7
comp=Z,1µm,21.9s,baz=42,slow=38
TSUM Tsumeb 18.14 238 P **P 18 20 46.2 +0.7**
TSUM S Sn 18 23 59.2 -8.7
TSUM Tsumeb 18.14 238 P **P 18 20 46.2 +0.7**
6.1nm,0.3s,baz=42,slow=11,SNR=6.9
TSUM S Sn 18 23 59.2 -8.7
1.3nm,0.3s,baz=4.4,slow=7.7,SNR=3.4
TSUM LR LR 18 27 04.5
comp=Z,1µm,18.9s,baz=53,slow=35
BOSA Boshof 20.15 202 P **P 18 21 07.0 -0.3**
BOSA S **S 18 24 53.1 -0.6**
BOSA Boshof 20.15 202 P **P 18 21 07.0 -0.3**
56nm,0.9s,baz=97,slow=14,SNR=11
BOSA S **S 18 24 53.1 -0.6**
5.9nm,0.6s,baz=107,slow=20,SNR=1.8
BOSA LR LR 18 29 12.2
comp=Z,1µm,19.6s,baz=32,slow=38
SUR Sutherland 25.27 207 P **P 18 21 59.2 -0.3**
SUR Sutherland 25.27 207 P **P 18 21 59.2 -0.3**
28nm,1.0s,baz=183,slow=19,SNR=3.1
SUR LR LR 18 31 58.9
comp=Z,635nm,21.9s,baz=30,slow=37
TORD Torodi Ar. Bea 39.35 305 P **P 18 24 01.9 -0.7**
TORD Torodi Ar. Bea 39.35 305 P **P 18 24 01.9 -0.7**
1.9nm,0.9s,baz=113,slow=7.4,SNR=4.7
TORD LR LR 18 40 30.5
comp=Z,430nm,18.4s,baz=120,slow=36
KIC Kosan Boka 41.73 291 *eP* **P 18 24 23.4 +1.0**
60nm,1.3s
LIC Lamlo 41.94 291 *eP* **P 18 24 25.9 +1.8**
6.5nm,0.2s
DBIC Dimbokro 41.95 292 P **P 18 24 23.3 -0.9**
DBIC Dimbokro 41.95 292 P **P 18 24 23.3 -0.9**
6.6nm,1.0s,baz=81,slow=9.8,SNR=3.8
DBIC LR LR 18 41 56.0
comp=Z,16nm,28.6s,baz=95,slow=36
TIC Toumodi 42.09 292 *eP* **P 18 24 23.9 -1.5**
77nm,1.2s
TRD Trivandrum 46.73 68⇑ *eP* **P 18 25 03.6 +1.1**
BRTR Keskin Array B 49.52 360 P **P 18 25 24.8 +1.0**
BRTR Keskin Array B 49.52 360 P **P 18 25 24.8 +1.0**
3.8nm,1.0s,baz=175,slow=8.3,SNR=12
GNI Garni 50.96 11 LR LR 18 46 24.6
comp=Z,160nm,19.6s,baz=114,slow=35
KEST Kesra 51.06 334 P **P 18 25 36.0 +0.5**
KEST Kesra 51.06 334 P **P 18 25 36.0 +0.5**
0.9nm,0.9s,baz=117,slow=9.0,SNR=2.7
BBTS Babate 55.63 295 LR LR 18 49 43.1
comp=Z,711nm,19.6s,baz=109,slow=36
BUR08 Bucovina Ar. S 57.94 353 *eP* **P 18 26 28.0 +2.6**
AKASG Malin Array Be 60.62 357 P **P 18 26 43.7 0.0**
AKASG Malin Array Be 60.62 357 P **P 18 26 43.7 0.0**
3.4nm,0.8s,baz=183,slow=6.2,SNR=24
ESDC Sonseca Array 60.62 327 P **P 18 26 44.2 +0.1**
ESDC Sonseca Array 60.62 327 P **P 18 26 44.2 +0.1**
1.6nm,0.9s,baz=134,slow=6.6,SNR=5.2
ESDC LR LR 18 55 49.0
comp=Z,16nm,28.6s,baz=140,slow=39
MAW Mawson 60.66 168 LR LR 18 49 19.1
comp=Z,168nm,20.2s,baz=346,slow=32
GERES GERESS Array B 61.26 345 P **P 18 26 48.7 +0.5**
GERES GERESS Array B 61.26 345 P **P 18 26 48.7 +0.5**
2.9nm,1.1s,baz=157,slow=7.2,SNR=12
KKAR Karatay Array 62.59 30 *eP* **P 18 26 56.8 -0.3**
7.9nm,1.0s
CLL Collm 63.71 346 *eP* **P 18 27 04.0 -0.4**
AKTO Aktyubinsk 63.82 17 LR LR 18 58 12.5
comp=Z,164nm,18.2s,slow=39
CMAR Chiang Mai Arr 70.20 66 P **P 18 27 46.2 -0.2**
CMAR Chiang Mai Arr 70.20 66 P **P 18 27 46.2 -0.2**
3.3nm,1.0s,baz=256,slow=5.9,SNR=21
CMAR LR LR 18 54 37.7
comp=Z,16nm,28.6s,baz=245,slow=33
CHTO Chiang Mai 70.31 66 *eP* **P 18 27 48.8 +1.6**
5.8nm,1.1s
CHTO Chiang Mai 70.31 66 P **P 18 27 49.4 +2.3**
30nm,1.1s
CMMT Chiang Mai 70.31 66 P **P 18 27 49.3 +2.2**
7.9nm,0.7s
MK31 Makanchi Array 71.17 33 *eP* **P 18 27 50.1 -1.7**
MKAR Makanchi Array 71.17 33 P **P 18 27 51.0 -0.8**
MKAR Makanchi Array 71.17 33 P **P 18 27 51.0 -0.8**
8.9nm,1.0s,baz=226,slow=5.9,SNR=27
MKAR LR LR 19 01 36.9
comp=Z,166nm,19.0s,baz=250,slow=38
PBKT Sadao Pong 71.48 69 P **P 18 27 56.9 +2.7**
15nm,1.4s
CHBT CHBT 71.70 73 P P 18 27 59.3 +3.7
KURK Kurchatov 71.91 28 *eP* **P 18 27 55.1 -1.0**
9.1nm,1.3s
CRAI Chiangrai 72.03 65 P **P 18 28 00.3 +2.8**
130nm,1.3s
NOA NORSAR Array B 73.08 349 P **P 18 28 01.7 -1.2**
NOA NORSAR Array B 73.08 349 P **P 18 28 01.7 -1.2**
1.2nm,0.8s,baz=156,slow=5.4,SNR=3.1
NOA LR LR 19 02 59.1
comp=Z,35nm,18.1s,baz=320,slow=38
ZAA0 Zalesovo Array 76.90 28 *eP* **P 18 28 24.5 -0.6**
ZALV Zalesovo Beam 76.90 28 P **P 18 28 24.1 -1.0**
ZALV PP **PP 18 31 20.3 +1.9**
ZALV Zalesovo Beam 76.90 28 P **P 18 28 24.1 -1.0**
0.7nm,0.3s,baz=251,slow=4.5,SNR=7.3
ZALV PP **PP 18 31 20.3 +1.9**
0.2nm,0.4s,baz=260,slow=8.9,SNR=3.8
NWAO Narrogin (SRO) 79.12 122 LR LR 18 57 19.7
comp=Z,120nm,21.1s,baz=284,slow=31
BDFB Brasilia 79.56 256 P **P 18 28 41.5 +0.6**
BDFB Brasilia 79.56 256 P **P 18 28 41.5 +0.6**
5.4nm,1.0s,baz=78,slow=3.6,SNR=3.6
BDFB LR LR 19 02 15.9
comp=Z,16nm,28.6s,baz=75,slow=34
ARCES ARCESS Array B 79.60 357 P **P 18 28 40.8 +1.1**
ARCES ARCESS Array B 79.60 357 P **P 18 28 40.8 +1.1**
2.5nm,1.0s,baz=184,slow=2.7,SNR=3.6
SONM Songino Array 85.95 40 P **P 18 29 14.1 +0.7**
SONM Songino Array 85.95 40 P **P 18 29 14.1 +0.7**
1.5nm,0.9s,baz=240,slow=5.0,SNR=10.0
SONM LR LR 19 11 07.5
comp=Z,16nm,28.6s,baz=186,slow=38
CPUP Villa Florida 86.63 244 LR LR 19 05 21.2
comp=Z,166nm,18.3s,baz=98,slow=34
FITZ Fitzroy Crossi 88.64 108 LR LR 19 03 35.7
comp=Z,227nm,20.8s,baz=262,slow=32
PLCA Paso Flores 94.19 228 LR LR 19 07 14.2
comp=Z,184nm,20.7s,baz=98,slow=32
ASAR Alice Springs 95.10 115 P **P 18 29 56.3 -0.6**
ASAR Alice Springs 95.10 115 P **P 18 29 56.3 -0.6**
0.9nm,0.6s,baz=258,slow=4.5,SNR=17
ASAR LR LR 19 07 35.6
comp=Z,271nm,20.3s,baz=276,slow=32
WRA Warramunga Arr 96.34 111 P **P 18 30 02.1 -0.4**
WRA Warramunga Arr 96.34 111 P **P 18 30 02.1 -0.4**
0.5nm,0.8s,baz=258,slow=2.8,SNR=5.3
LPAZ La Paz 98.49 252 LR LR 19 10 21.7
comp=Z,16nm,28.6s,baz=102,slow=33
STKA Stephens Creek 99.48 125 LR LR 19 09 07.7
comp=Z,88nm,21.2s,baz=211,slow=32
SSPA Standing Stone 112.93 310 *eP* **Pdif 18 31 14.9 -1.1**
NVAR Mina Array Bea 142.28 323 PKPpre PKPpre 18 36 01.9
NVAR PKP **PKiKP 18 36 07.9 -1.4**
NVAR Mina Array Bea 142.28 323 PKhKP PKPpre 18 36 01.9
0.4nm,0.6s,baz=64,slow=6.8,SNR=3.3
NVAR PKP **PKiKP 18 36 07.9 -1.4**
1.1nm,0.8s,baz=56,slow=3.1,SNR=5.7

*ISCJB **07** 18:23:40.9±0.6, 9.81S±0.04×33.74E±0.06, h10km, mb4.0/3, Error ellipse: s-maj=9.1km s-min=5.6km az=9.6*
*IDC **07** 18:23:41.9±1.0, 9.86S×33.71E, h0km, mb4.1/3, mb1 4.7/9, mb1mx4.1/33, mbtmp4.6/9, ML2.4/1, Error ellipse: s-maj=32.5km s-min=16.4km az=121.0*
ISC 07 18:23:42.4±0.7, 9.90S±0.05×33.83E±0.07, h10km, n11, σ2s25/19, mb4.2/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.54**	**173**	*i* P		**Pn**	**18 24 08.0**	**-1.9**
MZM				*i* S		**Sn**	**18 24 31.1**	**+1.0**
DODT	**Dodoma, Tanzan**	**4.14**	**27**	*i* P		**Pb**	**18 24 53.6**	**-2.0**
DODT				*i* S		**Sb**	**18 25 49.8**	**+4.0**
LSZ	**Lusaka**	**7.68**	**225**	Pn		**Pn**	**18 25 36.3**	**+1.8**
	16nm,0.3s,baz=58,slow=10.0,SNR=14							
LSZ					Sn	**Sn**	**18 27 00.6**	**-1.1**
	9.4nm,0.3s,baz=51,slow=14,SNR=3.7							
LSZ					Lg	Lg	18 27 39.6	
	29nm,0.3s,baz=315,slow=3.7,SNR=7.1							
KMBO	**Kilima Mbogo**	**9.35**	**22**	Pn		**Pn**	**18 25 57.8**	**+0.2**
	3.8nm,0.3s,baz=199,slow=18,SNR=5.7							
KMBO					Sn	**Sn**	**18 27 38.6**	**-4.5**
	1.9nm,0.3s,baz=270,slow=15,SNR=3.6							
KMBO					Lg	Lg	18 28 29.9	
	2.8nm,0.3s,baz=272,slow=19,SNR=6.0							
MBAR	**Mbarara**	**9.73**	**341**	Pn		**Pn**	**18 26 02.6**	**-0.2**
	11nm,0.3s,baz=162,slow=20,SNR=7.0							
MBAR					Sn	**Sn**	**18 27 51.2**	**-1.1**
	12nm,0.3s,baz=229,slow=19,SNR=2.7							
MBAR					Lg	Lg	18 28 42.8	
	48nm,0.3s,baz=76,slow=22,SNR=7.0							
OPO	**Ambohidratompo**	**15.55**	**125**	Pn		**Pn**	**18 27 23.0**	**+0.9**
	0.7nm,0.3s,baz=299,slow=13,SNR=3.6							
OPO					Sn	**Sn**	**18 30 12.4**	**-2.2**
	0.3nm,0.3s,baz=194,slow=19,SNR=2.8							
LBTB	**Lobatse**	**16.95**	**206**	Pn		**Pn**	**18 27 39.6**	**-0.4**
	2.5nm,0.3s,baz=37,slow=12,SNR=4.0							
LBTB					Sn	**Sn**	**18 30 50.7**	**+2.1**
	0.3nm,0.3s,baz=41,slow=18,SNR=2.0							
LBTB					Lg	Lg	18 32 28.4	
	0.3nm,0.3s,baz=30,slow=20,SNR=3.1							
TSUM	**Tsumeb**	**18.23**	**238**	P		**Pn**	**18 27 55.6**	**-0.3**
	0.8nm,0.3s,baz=50,slow=15,SNR=1.9							
TSUM					S	**Sn**	**18 31 16.0**	**-3.7**
	0.3nm,0.3s,baz=133,slow=15,SNR=2.6							
TSUM					Lg	Lg	18 33 17.3	
	0.2nm,0.3s,baz=347,slow=19,SNR=2.8							
SUR	**Sutherland**	**25.41**	**206**	P		**P**	**18 29 10.9**	**+0.4**
	14nm,0.8s,baz=55,slow=13,SNR=2.6							
CMAR	**Chiang Mai Arr**	**70.13**	**66**	P		**P**	**18 34 58.0**	**+2.3**
	0.5nm,0.8s,baz=254,slow=7.5,SNR=5.7							
MKAR	**Makanchi Array**	**71.04**	**33**	P		**P**	**18 35 01.9**	**+1.2**
	1.6nm,0.9s,baz=234,slow=7.3,SNR=9.3							

*ISCJB **07** 18:26:29.4±0.6, 25.31S±0.07×179.59E±0.09, h507km, mb4.0/12, Error ellipse: s-maj=12.3km s-min=8.5km az=148.8*
*IDC **07** 18:26:29.6±1.1, 25.23S×179.59E, h497km±12km, mb3.5/11, mb1 3.8/12, mb1mx3.6/18, mbtmp4.4/12, Error ellipse: s-maj=13.8km s-min=11.6km az=24.0*
ISC 07 18:26:30.5±0.6, 25.39S±0.09×179.64E±0.10, h507km, n24, σ1s36/29, mb3.9/12, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.42**	**151**	P		**P**	**18 27 52.7**	**+0.1**
	331nm,0.3s,baz=89,slow=11,SNR=34							
RAO					S	**S**	**18 28 59.7**	**-0.1**
	24nm,0.3s,baz=336,slow=20,SNR=1.8							
DZM	**Mont Dzumac**	**12.53**	**283**	P		**P**	**18 29 15.8**	**+1.0**
	1.2nm,0.3s,baz=81,slow=20,SNR=9.5							
URZ	**Urewera**	**13.01**	**189**	P		**P**	**18 29 17.9**	**-1.6**
	4.3nm,0.3s,baz=346,slow=3.6,SNR=18							
URZ					S	**S**	**18 31 38.2**	**-0.7**
	3.4nm,0.3s,baz=232,slow=23,SNR=9.3							
RPZ	**Rata Peaks**	**19.58**	**199**	P		**P**	**18 30 24.5**	**-0.3**
	1.6nm,0.3s,baz=3.4,slow=1.7,SNR=5.5							
HNR	**Honiara**	**24.54**	**307**	P		**P**	**18 31 07.9**	**-1.7**
	88nm,0.6s,baz=120,slow=2.3,SNR=11							
STKA	**Stephens Creek**	**33.89**	**250**	P		**P**	**18 32 31.4**	**+0.8**
	1.5nm,0.4s,baz=96,slow=10,SNR=18							
STKA					ScS	ScS	18 41 54.5	-0.3
	2.0nm,0.9s,baz=88,slow=9.1,SNR=3.1							
ASAR	**Alice Springs**	**41.49**	**262**	P		**P**	**18 33 33.0**	**0.0**
	6.0nm,0.6s,baz=91,slow=6.8,SNR=88							
ASAR					S	**S**	**18 39 11.2**	**-0.5**
	1.0nm,0.8s,baz=98,slow=13,SNR=7.5							
WRA	**Warramunga Arr**	**42.01**	**268**	P		**P**	**18 33 36.3**	**-0.8**
	6.5nm,0.5s,baz=99,slow=6.7,SNR=192							
WRA					ScP	**ScP**	**18 38 24.2**	**+1.5**
	1.8nm,1.0s,baz=96,slow=4.0,SNR=6.1							
WRA					S	**S**	**18 39 18.1**	**-1.1**
	1.1nm,0.9s,baz=100,slow=14,SNR=6.3							
VNDA	**Vanda**	**52.88**	**185**	P		**P**	**18 34 59.3**	**+1.3**
	2.0nm,0.7s,baz=350,slow=5.1,SNR=14							
MJAR	**Matsushiro Arr**	**72.94**	**326**	P		**P**	**18 37 06.0**	**-1.9**
	2.7nm,0.7s,baz=160,slow=5.4,SNR=7.3							
MAW	**Mawson**	**76.25**	**201**	P		**P**	**18 37 26.7**	**+0.6**
	4.6nm,0.6s,baz=136,slow=6.0,SNR=11							
KSRS	**Korea Array**	**79.18**	**321**	P		**P**	**18 37 42.5**	**+0.2**
	2.3nm,0.7s,baz=139,slow=6.0,SNR=12							
SYO	**Syowa Base**	**81.49**	**194**⇑	*eP*		**P**	**18 37 52.6**	**-1.4**
NVAR	**Mina Array Bea**	**86.04**	**44**	P		**P**	**18 38 17.3**	**0.0**
	0.8nm,0.7s,baz=228,slow=9.0,SNR=5.0							
PLCA	**Paso Flores**	**87.46**	**134**	P		**P**	**18 38 24.9**	**+0.9**
	1.3nm,0.6s,baz=312,slow=5.5,SNR=4.3							
CMAR	**Chiang Mai Arr**	**89.74**	**290**	P		**P**	**18 38 34.4**	**-0.4**
	0.7nm,0.9s,baz=126,slow=2.8,SNR=6.1							
CMAR					pP	**pP**	**18 40 32.4**	**+4.8**
	0.6nm,0.9s,baz=137,slow=3.8,SNR=4.8							
TXAR	**Lajitas Array**	**91.49**	**58**	P		**P**	**18 38 42.4**	**-0.3**
	1.3nm,0.8s,baz=205,slow=5.5,SNR=9.7							
ARCES	**ARCESS Array B**	**133.27**	**348**	PKP		**PKPdf**	**18 44 46.4**	**-1.3**
	1.1nm,0.8s,baz=80,slow=8.8,SNR=3.7							
NB2	**NORSAR Subarra1**	**43.49**	**351**	PKP		PKPab	18 45 03.7	-1.2
	comp=Z,1.1nm,0.5s,baz=13,slow=3.3							
NOA	**NORSAR Array B**	**143.49**	**351**	PKP		PKPab	18 45 03.8	-1.1
	comp=Z,0.7nm,0.6s,baz=16,slow=5.0,SNR=6.3							
AKASG	**Malin Array Be**	**146.03**	**326**	PKPbc		**PKPdf**	**18 45 11.7**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=45,slow=4.0,SNR=6.0							
BRTR	**Keskin Array B**	**148.19**	**305**	PKPab		**PKPab**	**18 45 23.6**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=90,slow=3.7,SNR=7.0							
DBIC	**Dimbokro**	**160.90**	**166**	PKPab		**PKPab**	**18 46 19.4**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=170,slow=6.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**167.67**	**189**	PKP		**PKPdf**	**18 45 38.1**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=274,slow=2.0,SNR=2.5							
TORD				PKPab		**PKPab**	**18 46 48.5**	**0.0**
	comp=Z,1.4nm,0.6s,baz=159,slow=3.2,SNR=10							

*ISCJB **07** 18:32:54.1±0.5, 9.85S±0.04×33.55E±0.06, h10km, mb3.7/3, Error ellipse: s-maj=9.2km s-min=5.1km az=14.4*
*IDC **07** 18:32:55.2±1.0, 9.93S×33.70E, h0km, mb4.1/3, mb1 4.5/8, mb1mx4.0/30, mbtmp4.5/8, ML4.6/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/36, Error ellipse: s-maj=25.2km s-min=13.7km az=115.0*
*NEIC **07** 18:32:57.3±0.8, 9.96S×33.65E, h10km, mb4.5/5, Error ellipse: s-maj=25.6km s-min=13.3km az=130.0*
ISC 07 18:32:55.7±0.6, 9.91S±0.04×33.67E±0.07, h10km, n25, σ2s44/36, mb3.8/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.55**	**167**	*i* P		**Pg**	**18 33 25.8**	**+0.3**
MZM				*i* S		**Sb**	**18 33 44.3**	**0.0**
DODT	**Dodoma, Tanzan**	**4.24**	**29**	*i* P		**Pn**	**18 34 00.1**	**-0.4**
DODT				*i* S		**Sb**	**18 35 02.4**	**+0.7**
LSZ	**Lusaka**	**7.55**	**225**	Pn		**Pn**	**18 34 47.9**	**+1.8**
LSZ					S	**Sn**	**18 36 12.2**	**+0.3**
LSZ					Sn	**Sn**	**18 36 14.6**	**+2.7**
LSZ					Lg	Lg	18 36 49.9	
LSZ	**Lusaka**	**7.55**	**225**	Pn		**Pn**	**18 34 47.9**	**+1.8**
	14nm,0.3s,baz=48,slow=14,SNR=57							
LSZ					Sn	**Sn**	**18 36 14.6**	**+2.7**
	7.7nm,0.3s,baz=326,slow=22,SNR=7.8							
LSZ					Lg	Lg	18 36 49.9	
	11nm,0.3s,baz=322,slow=21,SNR=6.4							
LSZ					LR	LR	18 37 09.6	
	comp=Z,15nm,28.6s,baz=315,slow=34							
KMBO	**Kilima Mbogo**	**9.43**	**22**	Pn		**Pn**	**18 35 11.3**	**-0.7**
KMBO					Sn	**Sn**	**18 36 53.8**	**-4.5**
KMBO					Lg	Lg	18 37 42.8	
KMBO	**Kilima Mbogo**	**9.43**	**22**	Pn		**Pn**	**18 35 11.3**	**-0.7**
	2.4nm,0.3s,baz=199,slow=16,SNR=14							
KMBO					Sn	**Sn**	**18 36 53.8**	**-4.5**
	1.3nm,0.3s,baz=151,slow=21,SNR=5.1							
KMBO					Lg	Lg	18 37 42.8	
	1.4nm,0.3s,baz=78,slow=22,SNR=6.2							
MBAR	**Mbarara**	**9.70**	**342**	Pn		**Pn**	**18 35 14.8**	**-0.8**
MBAR					S	**Sn**	**18 37 04.2**	**-0.5**
MBAR					Sn	Sn	18 37 06.9	+2.0
MBAR					Lg	Lg	18 37 56.5	
MBAR	**Mbarara**	**9.70**	**342**	Pn		**Pn**	**18 35 14.8**	**-0.8**
	7.3nm,0.3s,baz=150,slow=20,SNR=11							
MBAR					Sn	**Sn**	**18 37 06.9**	**+2.1**
	7.5nm,0.3s,baz=66,slow=22,SNR=4.3							
MBAR					Lg	Lg	18 37 56.5	
	14nm,0.3s,baz=114,slow=23,SNR=7.7							
MSNA	**Messina**	**12.85**	**195**	P		**Pn**	**18 35 56.9**	**-1.7**
MSNA					S	Sn	18 38 11.1	-11
RUDU	**RUNDU**	**15.69**	**238**	P		Pn	18 36 32.0	-5.2
	40nm,1.4s							
SLR	**Silverton**	**16.55**	**197**	P		Pn	18 36 43.0	-5.1
LBTB	**Lobatse**	**16.87**	**206**	P		**Pn**	**18 36 49.6**	**-2.6**
	35nm,0.9s							
LBTB					Sn	**Sn**	**18 39 59.0**	**-0.8**
LBTB					Lg	Lg	18 41 42.3	
LBTB	**Lobatse**	**16.87**	**206**	Pn		**Pn**	**18 36 52.8**	**+0.6**
	2.8nm,0.3s,baz=35,slow=14,SNR=19							
LBTB					Sn	**Sn**	**18 39 59.0**	**-0.8**
	0.4nm,0.3s,baz=313,slow=19,SNR=3.6							
LBTB					Lg	Lg	18 41 42.3	
	0.8nm,0.3s,baz=312,slow=23,SNR=3.6							
ERPM	**east rand prop**	**17.13**	**197**	P		**Pn**	**18 36 53.0**	**-2.6**
TSUM	**Tsumeb**	**18.09**	**237**	P		**Pn**	**18 37 07.3**	**-0.1**
TSUM					S	**Sn**	**18 40 22.8**	**-6.7**
TSUM					Lg	Lg	18 42 28.2	
TSUM	**Tsumeb**	**18.09**	**237**	P		**Pn**	**18 37 07.3**	**-0.1**
	1.5nm,0.3s,baz=48,slow=14,SNR=11							
TSUM					S	**Sn**	**18 40 22.8**	**-6.7**
	0.4nm,0.3s,baz=192,slow=17,SNR=4.0							
TSUM					Lg	Lg	18 42 28.2	
	0.5nm,0.3s,baz=324,slow=19,SNR=3.2							
TSUM					LR	LR	18 44 08.7	
	comp=Z,108nm,18.2s,baz=54,slow=37							
SEK	**Senekal**	**19.18**	**196**	P		**Pn**	**18 37 21.6**	**+1.0**
	37nm,2.3s							
BOSA	**Boshof**	**20.21**	**202**	P		**P**	**18 37 31.4**	**+0.4**
BOSA					S	Sn	18 41 20.8	-0.1
BOSA	**Boshof**	**20.21**	**202**	P		**P**	**18 37 31.4**	**+0.4**
	7.8nm,0.6s,baz=16,slow=8.8,SNR=8.6							
BOSA					S	Sn	18 41 20.8	-0.1
	3.0nm,0.8s,baz=346,slow=4.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**39.15**	**305**	P		**P**	**18 40 26.4**	**+2.5**
TORD	**Torodi Ar. Bea**	**39.15**	**305**	P		**P**	**18 40 26.4**	**+2.5**
	0.8nm,1.1s,baz=117,slow=9.6,SNR=2.6							
CMAR	**Chiang Mai Arr**	**70.29**	**66**	P		**P**	**18 44 11.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**70.29**	**66**	P		**P**	**18 44 11.3**	**+1.4**
	0.6nm,0.8s,baz=258,slow=7.7,SNR=7.9							
ASAR	**Alice Springs**	**95.30**	**115**	P		**P**	**18 46 21.6**	**+0.8**
ASAR	**Alice Springs**	**95.30**	**115**	P		**P**	**18 46 21.6**	**+0.8**
	0.5nm,0.6s,baz=262,slow=4.3,SNR=8.4							

*ISCJB **07** 18:40:01.2±0.5, 36.39N±0.03×71.74E±0.08, h142km, mb3.8/8, Error ellipse: s-maj=9.1km s-min=3.6km az=157.3*
*IDC **07** 18:40:03.9±4.5, 36.98N×71.70E, h157km±33km, mb3.5/8, mb1 3.6/14, mb1mx3.3/31, mbtmp4.0/14, Error ellipse: s-maj=39.8km s-min=18.0km az=174.0*
*NNC **07** 18:40:12.0±4.2, 37.65N×71.70E, h175km±44km, mb3.3, mpv4.3, Error ellipse: s-maj=38.0km s-min=20.3km az=13.0*
ISC 07 18:40:03.1±0.6, 37.05N±0.04×71.80E±0.07, h142km, n59, σ2s11/58, mb3.7/8, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.22**	**178**	P		**Pn**	**18 40 56.3**	**+3.2**
CEP					S	**Sn**	**18 41 35.0**	**+3.2**
CHCP	**Chirah Chowk**	**3.59**	**160**	P		Pn	18 41 01.3	+3.5
THW	**Thamme Wali**	**4.25**	**181**	P		**Pn**	**18 41 08.8**	**+2.4**
AML	**Almayashu**	**5.28**	**16**	P		**Pn**	**18 41 22.1**	**+1.8**
	SNR=98							
UCH	**Uchtor**	**5.58**	**21**	P		**Pn**	**18 41 26.0**	**+1.6**
	SNR=73							
KZA	**Kyzart**	**5.68**	**27**	P		**Pn**	**18 41 27.3**	**+1.5**
	SNR=11							
EKS2	**Erkin-Say**	**5.80**	**15**	P		Pn	18 41 29.6	+2.4
	SNR=32							
AAK	**Ala-Archa**	**5.95**	**20**	P		**Pn**	**18 41 31.3**	**+2.2**
	SNR=45							
AAK	**Ala-Archa**	**5.95**	**20**	P		**Pn**	**18 41 31.2**	**+2.2**
	8.2nm,0.3s,baz=160,slow=5.7,SNR=94							
AAK					S	**Sn**	**18 42 34.8**	**-1.5**
	3.3nm,0.3s,baz=327,slow=21,SNR=5.7							
KBK	**Karagaybulak**	**6.10**	**22**	P		Pn	18 41 33.4	+2.3
	SNR=9.9							
KK31	**Karatay Array**	**6.12**	**351**	⇑P		**Pn**	**18 41 32.7**	**+1.5**
	14nm,0.1s,baz=162,slow=11,SNR=226							
KK31				⇓S		**Sn**	**18 42 37.3**	**-3.0**
	39nm,0.6s,baz=177,slow=16,SNR=22							
ULHL	**Ulahol**	**6.22**	**32**	P		**Pn**	**18 41 34.3**	**+1.6**
	SNR=12							
CHMS	**Chumysh**	**6.36**	**20**	P		**Pn**	**18 41 36.5**	**+2.1**
	SNR=16							
USP	**Ospenovka**	**6.54**	**18**	P		Pn	18 41 39.5	+2.6
	SNR=8.2							
TKM2	**Tokmak 2**	**6.55**	**25**	P		Pn	18 41 39.5	+2.4
	SNR=15							
TKM2	**Tokmak 2**	**6.55**	**25**	⇑P		**Pn**	**18 41 38.9**	**+1.8**
	8.9nm,0.8s							
TKM2				⇓S		**Sn**	**18 42 49.2**	**-1.5**
	20nm,0.9s							
SDNR	**Sundarnagar**	**7.00**	**141**	*e*		**Pn**	**18 41 46.0**	**+2.9**
SDNR				*e*S		**Sn**	**18 42 56.0**	**-5.4**
SMLA	**Simla**	**7.40**	**141**	*i* P		**Pn**	**18 41 49.2**	**+0.9**
SMLA				*i* S		**Sn**	**18 43 07.0**	**-4.0**
NDI	**New Delhi**	**9.51**	**150**	*e*S		Sn	18 43 55.0	-6.9
KHET	**Khetri**

ABKAR	**Akbulak array**	**14.93**	**328**	*e*P		**Pn**	**18 43 24.8**	**-2.0**
	comp=N,3.2nm,0.6s								
GUN	**Gumba**	**14.96**	**123**	*e*P		**Pn**	**18 43 25.9**	**-1.8**
	comp=N,16nm,0.4s								
JIRN	**Jiri**	**15.33**	**124**	*e*P		**Pn**	**18 43 31.0**	**-1.3**
	comp=N,58nm,0.5s								
JIRN	**Jiri**	**15.33**	**124**	*e*P		**Pn**	**18 43 31.0**	**-1.3**
BVAR	**Borovoye Array**	**16.00**	**357**	P		**Pn**	**18 43 40.0**	**0.0**
	comp=N,0.5nm,0.3s,baz=159,slow=13,SNR=11								
BVAR				S		**Sn**	**18 46 31.9**	**-6.1**
	comp=N,0.1nm,0.3s,baz=173,slow=17,SNR=5.4								
BRVK	**Borovoye**	**16.04**	**357**	⇓P		**Pn**	**18 43 40.5**	**+0.1**
	comp=N,3.9nm,0.6s								
RAMN	**Ramite**	**16.08**	**125**	*e*P		**Pn**	**18 43 40.0**	**-1.4**
	comp=N,24nm,0.7s								
TAPN	**Taplejung**	**16.56**	**121**	*e*P		**Pn**	**18 43 46.2**	**-1.1**
	comp=N,16nm,0.4s								
AKTO	**Aktyubinsk**	**16.64**	**328**	P		**Pn**	**18 43 48.6**	**+0.9**
	comp=N,1.0nm,0.3s,baz=135,slow=8.6,SNR=13								
AKTO				S		S	18 46 45.1	-8.1	
	comp=N,0.2nm,0.3s,baz=14,slow=7.6,SNR=3.9								
AKTO	**Aktyubinsk**	**16.64**	**328**	⇓P		**Pn**	**18 43 48.8**	**+1.1**
	comp=N,9.2nm,1.2s								
ODAN	**Odare**	**16.66**	**123**	*e*P		**P**	**18 43 47.9**	**-0.5**
	comp=N,12nm,0.5s								
LSA	**Lhasa**	**17.73**	**109**	*e*P		**P**	**18 43 59.4**	**-1.1**
	comp=N,3.8nm,0.6s								
ZALV	**Zalesovo Beam**	**19.15**	**24**	P		**P**	**18 44 15.3**	**+0.2**
	comp=N,1.7nm,0.3s,baz=225,slow=10.0,SNR=69								
SONM	**Songino Array**	**27.49**	**56**	P		**P**	**18 45 36.9**	**+0.8**
	comp=N,1.3nm,0.9s,baz=265,slow=7.8,SNR=9.2								
FINES	**FINESS Array B**	**37.39**	**325**	P		**P**	**18 47 02.6**	**+0.9**
	comp=N,1.8nm,0.7s,baz=114,slow=9.2,SNR=4.4								
ARCES	**ARCESS Array B**	**40.88**	**337**	P		**P**	**18 47 29.1**	**-1.6**
	comp=N,1.5nm,0.6s,baz=117,slow=8.9,SNR=16								
GERES	**GERESS Array B**	**43.14**	**305**	pP		pP	18 48 19.2	-1.8	
	comp=N,0.4nm,0.6s,baz=107,slow=8.8,SNR=3.5								
NB2	**NORSAR Subarra**	**44.33**	**323**	P		**P**	**18 47 58.8**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.33**	**323**	P		**P**	**18 47 58.9**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=94,slow=7.4,SNR=5.2								
PETK	**Petropavlovsk-**	**59.13**	**44**	P		**P**	**18 49 48.9**	**+0.5**
	comp=Z,4.5nm,0.3s,baz=218,slow=4.8,SNR=68								
TORD	**Torodi Ar. Bea**	**66.37**	**269**	P		**P**	**18 50 35.2**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=61,slow=5.1,SNR=8.7								
ILAR	**Eielson Array**	**74.07**	**16**	P		**P**	**18 51 21.8**	**-1.2**
	comp=Z,0.8nm,1.0s,baz=324,slow=4.4,SNR=6.3								
YKA	**Yellowknife Ar**	**80.66**	**3**	P		**P**	**18 51 59.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=350,slow=5.4,SNR=7.5								
PDAR	**Pinedale Array**	**100.55**	**1**	P		**Pdif**	**18 53 33.7**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=350,slow=4.7,SNR=2.5								

*AUST **07** 18:39:42.1±2.6,22.°41S×173.°48W,h469km,Error ellipse: s-maj=2.4km s-min=1.8km az=331.0*
*ISCJB **07** 18:40:31.6±0.6,22.°1S±0.°1×179.°8W±0.°1,h592km, mb4.0/13,Error ellipse: s-maj=19.1km s-min=8.7km az=150.1*
*IDC **07** 18:40:32.2±1.6,22.°20S×179.°65W,h591km±17km, mb3.4/13,mb1 3.6/16,mb1mx3.5/25,mbtmp3.5/16,Error ellipse: s-maj=24.5km s-min=11.0km az=155.0*

ISC 07 18:40:32.2±0.7,**22.°2S**±0.°2×**179.°7W**±0.°1,**h592**km,**n37,** σ0§**72**/**39**,**mb3.9**/**13**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**11.13**	**44**	P		**P**	**18 43 03.5**	**+1.2**
	4.4nm,0.3s,baz=228,slow=16,SNR=2.2							
DZM	**Mont Dzumac**	**12.89**	**268**	P		**P**	**18 43 20.5**	**+0.4**
	2.5nm,0.3s,baz=81,slow=14,SNR=20							
URZ	**Urewera**	**16.25**	**189**	P		**P**	**18 43 52.5**	**+0.5**
	0.8nm,0.3s,baz=69,slow=8.6,SNR=4.3							
EIDS	**Eidsvold**	**26.95**	**257**	P		**P**	**18 45 28.2**	**+0.2**
	baz=32,SNR=5.3							
RMQ	**Roma**	**29.06**	**255**	P		**P**	**18 45 47.6**	**+1.2**
	baz=34,SNR=6.0							
CNB	**Canberra Magne**	**30.01**	**237**	P		**P**	**18 45 55.2**	**+0.7**
	baz=35,SNR=8.0							
CTA	**Charters Tower**	**31.83**	**267**	P		**P**	**18 46 10.4**	**+0.2**
	8.0nm,0.6s,baz=92,slow=13,SNR=10							
CMSA	**Cobar Meteorol**	**32.18**	**246**	P		**P**	**18 46 12.8**	**-0.1**
	baz=37,SNR=10.0							
QLP	**Quilpie**	**33.11**	**255**	P		**P**	**18 46 20.8**	**0.0**
	baz=38,SNR=7.5							
TOO	**Toolangi**	**33.66**	**235**	P		**P**	**18 46 25.6**	**+0.3**
	baz=38,SNR=7.1							
PMG	**Port Moresby**	**34.28**	**286**	P		**P**	**18 46 30.4**	**-0.4**
	15nm,0.9s,baz=85,slow=5.1,SNR=6.7							
STKA	**Stephens Creek**	**35.68**	**246**	P		**P**	**18 46 42.4**	**+0.2**
	5.6nm,0.5s,baz=87,slow=11,SNR=29							
STKA	**Stephens Creek**	**35.68**	**246**	P		**P**	**18 46 42.4**	**+0.2**
	baz=41,SNR=21							
HTT	**Hallett**	**38.09**	**244**	P		**P**	**18 47 01.8**	**-0.1**
	baz=43,SNR=3.9							
BBOO	**Buckleboo**	**40.43**	**245**	P		**P**	**18 47 20.1**	**-0.5**
	baz=46,SNR=9.0							
ASAR	**Alice Springs**	**42.66**	**259**	P		**P**	**18 47 37.9**	**-0.4**
	9.3nm,0.8s,baz=98,slow=7.8,SNR=82							
ASAR				S		**S**	**18 53 20.6**	**+0.7**
	0.7nm,0.9s,baz=102,slow=16,SNR=4.9							
WRA	**Warramunga Arr**	**42.87**	**264**	P		**P**	**18 47 38.9**	**-1.1**
	5.5nm,0.6s,baz=97,slow=7.8,SNR=100							
WRA				ScP		**ScP**	**18 52 13.9**	**+1.4**
	1.1nm,0.9s,baz=98,slow=4.3,SNR=5.8							
KDU	**Kakadu**	**46.48**	**273**	P		**P**	**18 48 07.0**	**-0.6**
	baz=52,SNR=12							
MTN	**Manton Dam**	**47.67**	**273**	P		**P**	**18 48 16.0**	**-0.6**
	baz=53,SNR=3.9							
KNRA	**Kununurra**	**49.04**	**268**	P		**P**	**18 48 26.4**	**-0.2**
	baz=55,SNR=8.8							
FITZ	**Fitzroy Crossi**	**51.30**	**264**	P		**P**	**18 48 43.3**	**+0.2**
	2.8nm,0.6s,baz=74,slow=8.5,SNR=12							
FITZ	**Fitzroy Crossi**	**51.30**	**264**	P		**P**	**18 48 43.3**	**+0.2**
	baz=57,SNR=8.1							
PETK	**Petropavlovsk-**	**77.53**	**346**	P		**P**	**18 51 27.9**	**+0.4**
	3.3nm,0.8s,baz=152,slow=7.4,SNR=3.6							
NVAR	**Mina Array Bea**	**83.31**	**44**	P		**P**	**18 51 58.5**	**+0.4**
	1.6nm,0.8s,baz=233,slow=7.6,SNR=8.1							
CMAR	**Chiang Mai Arr**	**89.24**	**290**	P		**P**	**18 52 27.7**	**+1.2**
	0.5nm,0.9s,baz=108,slow=4.4,SNR=4.1							
TXAR	**Lajitas Array**	**89.26**	**58**	P		**P**	**18 52 27.0**	**+0.5**
	1.2nm,0.9s,baz=229,slow=4.8,SNR=8.4							
ANMO	**Albuquerque**	**89.66**	**52**	P		**P**	**18 52 28.4**	**+0.1**
	1.1nm,0.6s,baz=297,slow=2.3,SNR=3.5							
ILAR	**Eielson Array**	**90.31**	**13**	P		**P**	**18 52 29.1**	**-1.3**
	0.4nm,0.7s,baz=206,slow=5.9,SNR=6.2							
PDAR	**Pinedale Array**	**91.25**	**44**	P		**P**	**18 52 35.0**	**-0.6**
	0.6nm,0.8s,baz=217,slow=3.7,SNR=4.9							
BVAR	**Borovoye Array**	**119.37**	**319**	PKP		**PKPdf**	**18 58 13.3**	**-1.6**
	0.7nm,0.4s,baz=135,slow=1.2,SNR=7.4							
ARCES	**ARCESS Array B**	**130.29**	**349**	PKP		**PKPdf**	**18 58 35.2**	**-0.1**
	3.0nm,0.9s,baz=48,slow=1.8,SNR=4.3							
FINES	**FINESS Array B**	**136.94**	**342**	PKP		**PKPdf**	**18 58 47.5**	**-0.4**
	2.1nm,0.9s,baz=90,slow=1.4,SNR=2.9							
AKASG	**Malin Array Be**	**143.71**	**329**	PKP		PKPbc	18 58 58.7	-0.9	
	1.6nm,0.4s,baz=43,slow=4.2,SNR=12								
BRTR	**Keskin Array B**	**146.78**	**309**	PKPbc		**PKPbc**	**18 59 08.5**	**-0.6**
	1.1nm,0.6s,baz=152,slow=4.9,SNR=6.0							
MMAI	**Mount Meron Ar**	**147.26**	**297**	PKPbc		**PKPbc**	**18 59 11.0**	**+0.6**
	1.6nm,0.4s,baz=75,slow=7.0,SNR=8.4							
GERES	**GERESS Array B**	**151.36**	**341**	PKPbc		**PKPbc**	**18 59 19.5**	**-0.3**
	2.3nm,1.0s,baz=2.9,slow=2.7,SNR=7.2							
TORD	**Torodi Ar. Bea**	**170.91**	**188**	PKP		**PKPdf**	**18 59 32.7**	**-1.4**
	0.4nm,0.8s,baz=26,slow=2.3,SNR=3.0							
TORD				PKPab		**PKPab**	**19 00 56.3**	**-0.6**
	0.7nm,0.9s,baz=182,slow=5.1,SNR=3.1							

*ISCJB **07** 18:41:16.4±0.6,31.°66N±0.°06×56.°02E±0.°04,h13km, Error ellipse: s-maj=8.2km s-min=4.4km az=168.1*
*THR **07** 18:41:16.7±1.2,31.°78N×56.°06E,h14km±13km,ML3.7*
*TEH **07** 18:41:16.8,31.°77N×56.°04E,h0km,ML3.6*
*CSEM **07** 18:41:16.3±0.2,31.°69N×56.°03E,h2km,ML3.6,Error ellipse: s-maj=5.4km s-min=3.4km az=174.0*

ISC 07 18:41:16.3±0.9,**31.°78N**±0.°04×**56.°05E**±0.°03,**h13**km,**n41,** σ1§**90**/**46**,**2D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBAF	**Bafgh**	**0.45**	**245**⇓	*e*Pg		**Pg**	**18 41 24.6**	**-0.7**
IBAF				*e*Sg		**Sg**	**18 41 30.4**	**-0.9**
IBAF				*e*			18 41 30.9	
	comp=Z,25μm,0.0s							
IBAF	**Bafgh**	**0.45**	**245**⇓	*e*Pg		**Pg**	**18 41 24.6**	**-0.7**
IBAF				*e*Sg		**Sg**	**18 41 30.4**	**-0.9**
IMEH	**Mehriz**	**1.28**	**253**	*e*Pg		**Pn**	**18 41 39.9**	**-0.3**
IMEH				*e*Sg		**Sb**	**18 41 57.0**	**0.0**
IMEH				*e*			18 42 00.3	
	comp=Z,10μm,0.1s							
IMEH	**Mehriz**	**1.28**	**253**	*e*Pg		**Pn**	**18 41 39.9**	**-0.3**
IMEH				*e*Sg		**Sb**	**18 41 57.0**	**0.0**
ICHK	**Chekchek**	**1.47**	**289**	*e*Pn		**Pb**	**18 41 43.7**	**+0.1**
ICHK				*e*			18 42 08.5	
	comp=Z,11μm,0.1s							
ICHK	**Chekchek**	**1.47**	**289**	*e*Pn		**Pb**	**18 41 43.7**	**+0.1**
KRBR	**Kerman**	**1.90**	**161**	*e*Pg		**Pb**	**18 41 51.3**	**+0.3**
KRBR				AML		AML	18 42 19.7	
	comp=N,1μm,0.5s							
KRBR				AML		AML	18 42 20.2	
	comp=E,1μm,0.3s							
KRBR	**Kerman**	**1.90**	**161**	*e*Pg		**Pb**	**18 41 51.3**	**+0.3**
ISAD	**Sadrabad**	**2.01**	**274**	*e*Pn		**Pb**	**18 41 52.5**	**-0.4**
ISAD				*e*Sg		**Sg**	**18 42 19.8**	**-1.3**
ISAD				*e*			18 42 22.8	
	comp=Z,12μm,0.1s							
ISAD	**Sadrabad**	**2.01**	**274**	*e*Pn		**Pb**	**18 41 52.5**	**-0.4**
ISAD				*e*Sg		**Sg**	**18 42 19.8**	**-1.3**
TABS	**Tabas**	**2.07**	**26**	*e*Pg		**Pb**	**18 41 53.9**	**0.0**
TABS				AML		AML	18 42 41.2	
	comp=E,238nm,0.9s							
TABS	**Tabas**	**2.07**	**26**	*e*Pg		**Pb**	**18 41 53.8**	**0.0**
ITEG	**Tejag**	**2.54**	**63**	*e*Pn		**Pb**	**18 41 59.4**	**-2.5**
ITEG				*e*			18 42 46.6	
	comp=Z,3μm,0.3s							
ITEG	**Tejag**	**2.54**	**63**	*e*Pn		**Pb**	**18 41 59.4**	**-2.5**
IKOO	**Kooshah**	**2.59**	**75**	*e*Pn		**Pn**	**18 42 00.0**	**+1.8**
IKOO				*e*			18 42 46.3	
	comp=Z,4μm,0.2s							
IKOO	**Kooshah**	**2.59**	**75**	*e*Pn		**Pn**	**18 42 00.0**	**+1.8**
NASN	**Na'in**	**2.92**	**291**	*e*Pn		**Pn**	**18 42 05.0**	**+2.2**
NASN				AML		AML	18 42 53.2	
	comp=N,112nm,0.6s							
NASN	**Na'in**	**2.92**	**291**	*e*Pn		**Pn**	**18 42 05.0**	**+2.2**
IZEF	**Zefreh**	**3.33**	**290**	*e*Pn		**Pn**	**18 42 10.9**	**+2.5**
IZEF				*e*			18 42 23.5	
	comp=Z,833nm,0.3s							
IZEF	**Zefreh**	**3.33**	**290**	*e*Pn		**Pn**	**18 42 10.9**	**+2.5**
IDAH	**Dahanechah**	**3.38**	**73**	*e*Pn		**Pn**	**18 42 10.7**	**+1.7**
IDAH				*e*			18 43 18.6	
	comp=Z,1μm,0.2s							
IDAH	**Dahanechah**	**3.38**	**73**	*e*Pn		**Pn**	**18 42 10.7**	**+1.7**
IGAR	**Gharneh**	**3.45**	**281**	*e*Pn		**Pn**	**18 42 12.9**	**+2.9**
IGAR				*e*			18 43 09.2	
	comp=Z,593nm,0.2s							
SHRT	**Shahrakht**	**4.03**	**61**	*e*Pn		**Pn**	**18 42 20.4**	**+2.6**
SHRT	**Shahrakht**	**4.03**	**61**	*e*Pn		**Pn**	**18 42 20.4**	**+2.6**
IKLH	**Kolahrood**	**4.07**	**293**	*e*Pn		**Pn**	**18 42 19.9**	**+1.4**
IKLH				*e*			18 43 33.3	
	comp=Z,619nm,0.2s							
IKLH	**Kolahrood**	**4.07**	**293**	*e*Pn		**Pn**	**18 42 19.9**	**+1.4**
IANJ	**Anjilo**	**4.08**	**335**	*e*Pn		**Pn**	**18 42 20.8**	**+2.2**
IANJ				*e*			18 42 42.2	
	comp=Z,475nm,0.2s							
IANJ	**Anjilo**	**4.08**	**335**	*e*Pn		**Pn**	**18 42 20.8**	**+2.2**
ISFB	**Sefidab**	**4.09**	**310**	*e*Pn		**Pn**	**18 42 20.5**	**+1.8**
ISFB				*e*Sg		**Sg**	**18 43 24.0**	**-3.8**
ISFB				*e*			18 43 35.5	
	comp=Z,688nm,0.3s							
ISFB	**Sefidab**	**4.09**	**310**	*e*Pn		**Pn**	**18 42 20.5**	**+1.8**
SHRO	**Shahrood**	**4.20**	**360**	*e*Pn		Pn	18 42 23.3	+3.2	
SHRO	**Shahrood**	**4.20**	**360**	*e*Pn		Pn	18 42 23.3	+3.2	
ILAS	**Lasjerd**	**4.42**	**325**	*e*Pn		**Pn**	**18 42 25.2**	**+1.9**
ILAS				*e*			18 43 56.6	
	comp=Z,562nm,0.3s							
ILAS	**Lasjerd**	**4.42**	**325**	*e*Pn		**Pn**	**18 42 25.2**	**+1.9**
ISHM	**Shahmirzad**	**4.62**	**331**	*e*Pn		**Pn**	**18 42 27.6**	**+1.5**
ISHM	**Shahmirzad**	**4.62**	**331**	*e*Pn		**Pn**	**18 42 27.6**	**+1.5**
IDMV	**Damavand**	**5.05**	**320**	*e*Pn		**Pn**	**18 42 34.7**	**+2.7**
IDMV				*e*			18 42 36.0	
	comp=Z,363nm,0.1s							
IDMV	**Damavand**	**5.05**	**320**	*e*Pn		**Pn**	**18 42 34.7**	**+2.7**
ASAO	**Ashtian**	**5.75**	**300**	*e*Pn		**Pn**	**18 42 44.7**	**+3.1**
ASAO	**Ashtian**	**5.75**	**300**	*e*Pn		**Pn**	**18 42 44.7**	**+3.1**

*ISCJB **07** 18:42:41.0±0.4,9.°90S±0.°03×33.°62E±0.°06,h10km, mb3.7/11,MS2.2/1,Error ellipse: s-maj=7.9km s-min=5.0km az=177.6*
*IDC **07** 18:42:41.4±0.7,10.°00S×33.°77E,h0km,mb3.8/12, mb1 4.1/15,mb1mx3.9/31,mbtmp4.0/15,ML3.4/3,MS3.1/5, Ms1 3.1/5,ms1mx2.9/39,Error ellipse: s-maj=23.4km s-min=15.7km az=125.0*

ISC 07 18:42:42.7±0.5,**10.°01S**±0.°04×**33.°67E**±0.°07,**h10**km,**n21,** σ2§**17**/**28**,**mb3.8**/**11**,**Malawi**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MZM	**Mzuzu**	**1.46**	**166**	*i* P		**Pg**	**18 43 11.0**	**+0.2**
MZM				*i* S		**Sg**	**18 43 30.1**	**+0.3**
DODT	**Dodoma, Tanzan**	**4.32**	**29**	*i* P		**Pn**	**18 43 46.2**	**-2.4**
DODT				*i* S		**Sb**	**18 44 48.8**	**-2.2**
LSZ	**Lusaka**	**7.49**	**225**	Pn		**Pn**	**18 44 34.1**	**+2.0**
	14nm,0.3s,baz=53,slow=11,SNR=118							
LSZ				Sn		**Sn**	**18 45 57.2**	**0.0**
	12nm,0.3s,baz=51,slow=14,SNR=4.2							
LSZ				Lg		Lg	18 46 38.4	
	18nm,0.3s,baz=324,slow=15,SNR=6.6							
LSZ				LR		LR	18 47 31.1	
	comp=Z,15nm,28.6s,baz=326,slow=38							
MAUS	**Longido**	**7.82**	**23**	*i* P		**Pn**	**18 44 34.4**	**-2.4**
MAUS				*i* S		**Sb**	**18 46 35.1**	**+3.2**
KMBO	**Kilima Mbogo**	**9.51**	**22**	Pn		Pn	18 44 55.8	-4.3	
	2.2nm,0.3s,baz=193,slow=14,SNR=18								
KMBO				Sn		Sn	18 46 38.9	-8.4	
	0.8nm,0.3s,baz=252,slow=20,SNR=4.1								
KMBO				Lg		Lg	18 47 28.9		
	1.0nm,0.3s,baz=270,slow=23,SNR=14								
KMBO				LR		LR	18 48 47.0		
	comp=Z,15nm,28.6s,baz=270,slow=39								
MBAR	**Mbarara**	**9.79**	**343**	Pn		**Pn**	**18 45 00.9**	**-2.8**
	3.7nm,0.3s,baz=187,slow=21,SNR=5.9								
MBAR				Sn		**Sn**	**18 46 52.9**	**-1.0**
	5.5nm,0.3s,baz=46,slow=23,SNR=5.3								
MBAR				Lg		Lg	18 47 40.0		
	10nm,0.3s,baz=101,slow=23,SNR=8.0								
OPO	**Ambohidratompo**	**15.62**	**125**	Pn		**Pn**	**18 46 21.2**	**-2.0**
	0.7nm,0.3s,baz=292,slow=13,SNR=4.2								
OPO				Sn		**Sn**	**18 49 18.2**	**+1.7**
	0.3nm,0.3s,baz=39,slow=17,SNR=3.1								
LBTB	**Lobatse**	**16.78**	**206**	Pn		**Pn**	**18 46 37.9**	**-0.2**
	1.5nm,0.3s,baz=38,slow=14,SNR=16								
LBTB				Sn		**S**	**18 49 53.0**	**-2.6**
	0.4nm,0.3s,baz=53,slow=10,SNR=3.1								
LBTB				Lg		Lg	18 51 26.9		
	1.6nm,0.3s,baz=314,slow=20,SNR=6.9								
LBTB				LR		LR	18 53 27.1		
	comp=Z,15nm,28.6s,baz=40,slow=38								
TSUM	**Tsumeb**	**18.04**	**238**	P		**P**	**18 46 55.2**	**+1.0**
	1.5nm,0.3s,baz=45,slow=11,SNR=17								
TSUM				S		Sn	18 50 05.8	-9.4	
	0.3nm,0.3s,baz=248,slow=7.4,SNR=4.2								
TSUM				Lg		Lg	18 52 08.5		
	0.4nm,0.3s,baz=325,slow=13,SNR=6.6								
TSUM				LR		LR	18 54 42.6		
	comp=Z,83nm,18.1s,baz=30,slow=40								
BOSA	**Boshof**	**20.13**	**202**	P		**P**	**18 47 17.3**	**+0.2**
	13nm,0.8s,baz=30,slow=12,SNR=8.2								
BOSA				S		**S**	**18 50 56.3**	**-7.0**
	1.6nm,0.6s,baz=140,slow=12,SNR=1.6								
BOSA				LR		LR	18 56 05.0		
	comp=Z,15nm,28.6s,baz=22,slow=40								
TORD	**Torodi Ar. Bea**	**39.20**	**305**	P		**P**	**18 50 11.9**	**+0.6**
	0.4nm,0.7s,baz=114,slow=8.5,SNR=3.4								
BRTR	**Keskin Array B**	**49.48**	**360**	P		**P**	**18 51 33.7**	**+0.3**
	0.8nm,0.8s,baz=161,slow=6.1,SNR=4.3								
AKASG	**Malin Array Be**	**60.58**	**357**	P		**P**	**18 52 54.8**	**+1.6**
	0.2nm,0.3s,baz=169,slow=5.4,SNR=3.8								
GERES	**GERESS Array B**	**61.18**	**345**	P		**P**	**18 52 58.0**	**+0.4**
	0.6nm,0.8s,baz=177,slow=5.2,SNR=4.3								
BVAR	**Borovoye Array**	**70.16**	**23**	P		**P**	**18 53 56.5**	**+1.1**
	0.4nm,0.6s,baz=237,slow=7.9,SNR=3.5								
CMAR	**Chiang Mai Arr**	**70.32**	**66**	P		**P**	**18 53 56.2**	**-0.9**
	1.2nm,0.8s,baz=262,slow=7.6,SNR=16								
MKAR	**Makanchi Array**	**71.22**	**33**	P		**P**	**18 54 00.3**	**-1.7**
	2.0nm,0.8s,baz=228,slow=5.9,SNR=13								
KURBB	**Kurchatov Arra**	**71.84**	**28**	P		**P**	**18 54 04.8**	**-0.8**
	1.5nm,0.8s,baz=267,slow=18,SNR=16								
ZALV	**Zalesovo Beam**	**76.94**	**28**	P		**P**	**18 54 36.1**	**+0.9**
	0.2nm,0.4s,baz=270,slow=5.8,SNR=2.7								
SONM	**Songino Array**	**86.02**	**40**	P		**P**	**18 55 25.4**	**+1.7**
	0.1nm,0.3s,baz=72,slow=4.0,SNR=3.5								
ASAR	**Alice Springs**	**95.26**	**115**	P		**P**	**18 56 09.0**	**+1.5**
	0.5nm,0.6s,baz=262,slow=4.3,SNR=11								

KRSC 07 18:49:09.2±9.4,**52.°72N**×**156.°97E**,**h311**km±80km,**ML3.8, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APC	**Apacha**	**0.23**	**29**	*e*P		Pn	18 49 48.0	-0.5
MIPR	**Malaya Ipel'ka**	**0.46**	**196**	*e*P		Pn	18 49 48.8	-0.3
ASAK	**Asacha**	**0.66**	**120**	*e*P		Pn	18 49 50.8	+1.2
MTVR	**Mutnovka**	**0.78**	**107**	*e*P		Pn	18 49 53.0	+2.9
RUS	**Russkaya**	**0.98**	**106**	*e*P		Pn	18 49 51.3	+0.7
RUS				*i* S		S	18 50 23.3	-0.4
PET	**Petropavlovsk**	**1.06**	**73**	*e*P		Pn	18 49 51.6	+0.6
GNL	**Ganaly**	**1.14**	**31**	*e*P		Pn	18 49 51.4	-0.1
KOK	**Koryaka**	**1.16**	**60**	*e*P		Pn	18 49 52.7	+1.1
KRX	**Arik**	**1.20**	**57**	*e*P		Pn	18 49 52.8	+1.0
AVH	**Avacha**	**1.20**	**62**	*e*P		Pn	18 49 52.9	+1.1
KRER	**Koryakskii**	**1.22**	**61**	*e*P		Pn	18 49 52.9	+0.9
UGLR	**Uglovaya**	**1.22**	**66**	*e*P		Pn	18 49 53.3	+1.4
SMAR	**Somma**	**1.23**	**63**	*e*P		Pn	18 49 53.3	+1.2
SDLR	**Sedlovina**	**1.28**	**63**	*e*P		Pn	18 49 53.4	+1.1
NLC	**Nalytchevo**	**1.51**	**72**	*e*P		Pn	18 49 54.4	+1.0
NLC				*i* S		S	18 50 29.1	+0.5
SPN	**Mys Shipunski**	**1.89**	**77**	*e*P		Pn	18 49 55.4	-0.6
SPN				*i* S		S	18 50 32.2	-1.2
TUMR	**Tumrok**	**3.18**	**35**	*e*P		Pn	18 50 09.2	+1.7
MKZ	**Mys Kozlova**	**3.38**	**55**	*e*P		Pn	18 50 10.2	+0.9
MKZ				*i* S		S	18 50 56.2	-1.3
KBTR	**Krutoberegovo**	**4.88**	**42**	*e*P		Pn	18 50 26.3	+0.7
KBTR				*i* S		S	18 51 24.3	-2.9

*ISCJB **07** 19:24:23.0±0.6,16.°4S±0.°2×176.°3W±0.°1,h379km, mb3.8/11,Error ellipse: s-maj=26.2km s-min=8.4km az=150.5*
*IDC **07** 19:24:23.1±1.2,16.°38S×176.°39W,h361km±13km, mb3.6/11,mb1 3.8/13,mb1mx3.6/23,mbtmp3.6/13,Error ellipse: s-maj=26.4km s-min=9.9km az=144.0*

ISC 07 19:24:24.1±0.7,**16.°4S**±0.°2×**176.°3W**±0.°1,**h379**km,**n18,** σ1§**21**/**20**,**mb3.7**/**11**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.00**	**60**	P		**Pn**	**19 25 43.5**	**-1.8**
	7.2nm,0.3s,baz=351,slow=2.5,SNR=14							
AFI				S		**S**	**19 26 49.4**	**-1.6**
	4.5nm,0.3s,baz=204,slow=20,SNR=2.1							
DZM	**Mont Dzumac**	**17.27**	**248**	P		**P**	**19 28 01.5**	**-0.5**
	0.4nm,0.3s,baz=70,slow=18,SNR=3.7							
URZ	**Urewera**	**22.51**	**194**	P		**P**	**19 28 52.3**	**-0.5**
	11n

QZH LR LR
comp=E,2µm,11.1s
QZH LR LR
comp=Z,2µm,17.2s
KSAR Wonju Array Be 10.15 352 Pn **Pn 19 50 34.2 -0.7**
KSRS Korea Array 10.16 353 Pn **Pn 19 50 34.2 -0.7**
0.3nm,0.3s,baz=169,slow=14,SNR=11
KSRS LR LR 19 54 48.6
comp=Z,872nm,18.9s,baz=171,slow=40
NJ2 Nanjing 10.41 299 *e*P **Pn 19 50 37.2 -1.2**
NJ2 pP 19 50 48.7
NJ2 S **Sn 19 52 34.5 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 LR LR
comp=N,2µm,15.6s
NJ2 LR LR
comp=E,4µm,14.4s
NJ2 LR LR
comp=Z,3µm,13.8s
JCJ Chichijima 11.25 88 LR LR 19 54 40.2
comp=Z,446nm,20.3s,baz=80,slow=34
MAJO Matsushiro 11.74 37 P Pn 19 51 05.7 +9.1
MAJO Matsushiro 11.74 37 P Pn 19 51 05.7 +9.1
MJAR Matsushiro Arr 11.74 37 Pn **Pn 19 50 58.8 +2.2**
MJAR Matsushiro Arr 11.74 37 Pn **Pn 19 50 58.8 +2.2**
0.4nm,0.3s,baz=215,slow=14,SNR=5.8
WHN Wuhan 13.68 287 P P 19 51 28.5 -3.3
WHN S **Sn 19 53 56.5 +1.9**
WHN LR LR
comp=N,4µm,16.8s
WHN LR LR
comp=E,2µm,10.7s
WHN LR LR
comp=Z,4µm,14.8s
SNY Shenyang 15.24 343 ⇓P P 19 51 55.7 +6.6
SNY S S 19 55 29.2 +40
SNY pmax pmax
comp=Z,20nm,1.2s
SNY LR LR
comp=N,2µm,12.0s
SNY LR LR
comp=E,750nm,9.0s
SNY LR LR
comp=Z,2µm,12.0s
CN2 Changchun 16.74 350 *e*P **P 19 52 06.5 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,1µm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,1µm,14.0s
BJT Baijiatuau 16.81 322 *e*P **Pn 19 52 03.5 -0.9**
comp=Z,25nm,0.4s
BJI Beijing 16.82 322 P **P 19 52 06.6 0.0**
BJI pmax pmax
comp=Z,14nm,0.7s
BJI pmax pmax
comp=Z,290nm,8.8s
BJI LR LR
comp=Z,2µm,12.7s
BJI LR LR
comp=Z,710nm,10.8s
BJI LR LR
comp=Z,460nm,17.8s
USRK Ussuriysk Arra 16.92 6 Pn **P 19 52 07.2 -0.5**
comp=Z,0.4nm,0.3s,baz=178,slow=9.9,SNR=10
USRK LR LR 19 58 59.6
comp=Z,182nm,20.1s,baz=138,slow=39
MDJ Mudanjiang 17.22 0 P **P 19 52 10.5 -0.5**
MDJ S **Sn 19 55 23.7 +3.1**
MDJ PcP **PcP 19 56 53.3 +0.8**
MDJ pmax pmax
comp=Z,8.0nm,1.6s
MDJ pmax pmax
comp=Z,120nm,4.1s
MDJ LR LR
comp=Z,440nm,7.9s
MDJ LR LR
comp=Z,240nm,10.3s
MDJ LR LR
comp=Z,470nm,6.3s
ENH Enshi 17.82 284 *e*P **P 19 52 18.1 +0.3**
comp=Z,9.6nm,0.5s
XAN Xi'an 18.93 296 P **Pn 19 52 31.2 +0.5**
XAN pP **pP 19 52 33.9 -1.5**
XAN S **Sn 19 56 01.6 -0.6**
XAN pmax pmax
comp=Z,14nm,0.7s
XAN pmax pmax
comp=Z,69nm,7.4s
XAN LR LR
comp=Z,700nm,15.2s
XAN LR LR
comp=Z,490nm,12.5s
XAN LR LR
comp=Z,630nm,13.7s
ASAJ Asahikawa 19.75 29 LR LR 20 00 36.4
comp=Z,864nm,20.8s,baz=243,slow=38
QIZ Qiongzhong 19.90 250 P **Pn 19 52 46.7 +4.3**
QIZ sP **sP 19 52 52.6 +4.0**
QIZ S **Sn 19 56 31.5 +5.7**
QIZ pmax pmax
comp=Z,11nm,1.4s
QIZ pmax pmax
comp=Z,230nm,5.3s
QIZ LR LR
comp=N,650nm,23.5s
QIZ LR LR
comp=Z,1µm,19.5s
HHC Hu-ho-hao-te 20.02 317 *e*P **P 19 52 42.4 +0.5**
HHC pP **pP 19 52 46.7 -0.7**
HHC sP **sP 19 52 49.8 -0.1**
HHC PP **PnPn 19 53 01.8 +3.7**
HHC S **S 19 56 20.9 -5.4**
HHC SS **SnSn 19 56 50.1 +7.1**
HHC pmax pmax
comp=Z,31nm,0.7s
HHC pmax pmax
comp=Z,500nm,4.7s
HHC LR LR
comp=Z,2µm,12.2s
HHC LR LR
comp=Z,2µm,12.3s
HHC LR LR
comp=Z,3µm,11.9s
GYA Guiyang 20.43 273 P **P 19 52 46.8 +0.3**
GYA PP **PnPn 19 53 05.4 +1.6**
GYA S **S 19 56 29.0 -5.6**
GYA ScP **ScP 20 00 35.5 +1.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.5s
GYA LR LR
comp=Z,590nm,14.8s
GYA LR LR
comp=Z,520nm,15.0s
GYA LR LR
comp=Z,560nm,14.6s
YUK Yuzh-Kuril'sk 21.20 34*d* iP P 19 52 45.7 -8.9
YUK MLR MLR
comp=N,1µm,20.0s
YUK MLR MLR
comp=Z,507nm,20.0s
HABR Khabarovsk 21.51 10 *e*P **P 19 52 55.7 -2.1**
HABR *e**SP **sP 19 53 08.9 +3.1**
HABR *e* 19 53 16.1
HABR S **S 19 56 52.3 -3.1**
HABR *e* 19 56 58.1
HABR *e* 19 57 06.5
HABR *e*SSS SSS 19 57 30.4
HABR *e* 20 04 16.5
HABR pmax pmax
comp=Z,90nm,2.3s
HABR MLR MLR
comp=Z,381nm,18.0s
YSS Yuzh-Sakhalins 22.15 25⇑ *i*P **P 19 53 06.2 +1.5**
YSS *e* 19 53 26.1
YSS pmax pmax
comp=Z,70nm,1.1s
YSS Yuzh-Sakhalins 22.15 25 *e*P **P 19 53 06.5 +1.8**
comp=Z,111nm,1.2s
CD2 Chengdu 22.79 285 *e*P **P 19 53 10.2 -1.6**
CD2 pP **pP 19 53 14.8 -2.4**
CD2 sP **sP 19 53 17.5 -2.2**
CD2 PP **PnPn 19 53 38.5 +2.5**
CD2 S **S 19 57 13.5 -6.5**
CD2 pmax pmax
comp=Z,70nm,1.1s
CD2 pmax pmax
comp=Z,200nm,8.2s
CD2 LR LR
comp=Z,1µm,10.8s
CD2 LR LR
comp=Z,1µm,10.6s
CD2 LR LR
comp=Z,2µm,11.6s
LZH Lanzhou 23.48 298 *e*P **P 19 53 18.6 -0.3**
LZH pP **pP 19 53 21.6 -2.9**
LZH sP **sP 19 53 23.3 -3.7**
LZH *e*S **S 19 57 27.0 -4.8**
LZH pmax pmax
comp=Z,36nm,1.2s
LZH pmax pmax
comp=Z,180nm,4.0s
LZH LR LR
comp=Z,2µm,12.0s
LZH LR LR
comp=Z,1µm,10.0s
LZH LR LR
comp=Z,2µm,12.5s
KMI Kunming 24.14 271 P **P 19 53 25.8 +0.5**
KMI pP **pP 19 53 31.7 +0.6**
KMI sP **sP 19 53 34.6 +1.1**
KMI S **S 19 57 43.8 +1.3**
KMI sS **sS 19 57 49.9 -2.1**
KMI pmax pmax
comp=Z,45nm,1.1s
KMI pmax pmax
comp=Z,92nm,3.1s
KMI LR LR
comp=Z,900nm,16.5s
KMI LR LR
comp=Z,470nm,17.8s
KMI LR LR
comp=Z,960nm,13.7s
UBPT Khong Chiam 25.39 247 P **P 19 53 40.1 +3.6**
comp=Z,30nm,1.0s
ULN Ulaanbaatar 26.97 325 *e*P **P 19 53 51.2 +0.6**
comp=Z,19nm,1.6s
SONM Songino Array 27.28 325 P **P 19 53 52.3 -1.2**
SONM PcP **PcP 19 57 13.8 +0.9**
SONM Songino Array 27.28 325 P **P 19 53 52.3 -1.2**
comp=Z,3.2nm,0.8s,baz=140,slow=10,SNR=21
SONM PcP **PcP 19 57 13.7 +0.9**
comp=Z,0.5nm,0.6s,baz=151,slow=3.8,SNR=3.8
SONM LR LR 20 06 00.8
comp=Z,302nm,18.7s,baz=162,slow=40
GTA Gaotai 27.46 304 P **P 19 53 53.6 -1.6**
GTA pP **pP 19 53 58.3 -2.7**
GTA sP **sP 19 54 00.7 -2.7**
GTA S **S 19 58 33.2 -1.7**
GTA SS **SnSn 19 59 51.2 +6.1**
GTA pmax pmax
comp=Z,23nm,1.3s
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=Z,770nm,15.2s
GTA LR LR
comp=Z,1µm,14.7s
GTA LR LR
comp=Z,1µm,14.7s
CRAI Chiangrai 27.58 261 P **P 19 53 57.4 +1.1**
comp=Z,153nm,1.5s
PBKT Sadao Pong 28.53 254 P **P 19 54 07.8 +3.1**
comp=Z,15nm,1.2s,comp=Z,1µm
CMAI Chiengmai2 28.85 262 P **P 19 54 08.8 +1.0**
comp=Z,67nm,0.9s,comp=Z,7µm
LAMP Lampang 28.86 259 P **P 19 54 08.9 +1.2**
comp=Z,7.0nm,0.8s
CMMT Chiang Mai 29.35 260 P **P 19 54 12.1 +0.1**
comp=Z,13nm,1.5s
CHTO Chiang Mai 29.35 260 *e*P **P 19 54 11.9 -0.1**
CHTO pmax pmax
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 29.35 260 *e*P **P 19 54 11.9 -0.1**
comp=Z,2.3nm,0.8s
CHTO Chiang Mai 29.35 260 P **P 19 54 12.2 +0.2**
comp=Z,58nm,1.5s,comp=Z,1µm
CM31 Chiang Mai Arr 29.49 259 *e*P **P 19 54 14.2 +0.9**
comp=Z,1.6nm,0.6s
CMAR Chiang Mai Arr 29.49 259 P **P 19 54 13.2 0.0**
CMAR PcP **PcP 19 57 19.7 +1.0**
CMAR Chiang Mai Arr 29.49 259 P **P 19 54 13.2 0.0**
comp=Z,1.8nm,0.7s,baz=56,slow=7.7,SNR=26
CMAR PcP **PcP 19 57 19.7 +1.0**
comp=Z,1.6nm,0.6s,baz=40,slow=1.4,SNR=21
CMAR LR LR 20 07 32.4
comp=Z,444nm,18.5s,baz=269,slow=40
MHMT Maesarieng 30.48 259 P **P 19 54 23.5 +1.4**
comp=Z,5.2nm,0.9s
UMPA Umpang Tak 30.50 255 P **P 19 54 23.3 +1.0**
comp=Z,39nm,0.6s,comp=Z,4µm
TLY Talaya 31.15 328 *e*P P 19 54 19.6 -8.0
TLY *e*S S 19 59 25.4 -7.0
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY MLR MLR
comp=Z,765nm,15.0s
PETK Petropavlovsk- 33.12 31 LR LR 20 11 10.1
comp=Z,229nm,18.3s,baz=226,slow=42
SHL Shillong 33.69 276 *e*P **P 19 54 51.0 +0.6**
LSA Lhasa 33.72 283 *e*P **P 19 54 50.4 -0.5**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 33.72 283 *e*P **P 19 54 50.4 -0.5**
comp=Z,9.4nm,0.6s
YAK Yakutsk 34.67 0 *e*P **P 19 54 56.4 -1.8**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,18nm,1.4s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK MLR MLR
comp=Z,87nm,6.0s
YAK Yakutsk 34.67 0 *e*P **P 19 54 56.1 -2.1**
comp=Z,26nm,0.8s
H11N2 WAKE ISLAND Hy 34.97 94 T T 20 32 29.0
baz=293,slow=75,SNR=20
H11N1 WAKE ISLAND Hy 34.97 94 T T 20 32 29.0
baz=293,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 34.99 94 T T 20 32 31.6
baz=293,slow=75,SNR=11
IPM Ipoh 35.46 235 *e*P **P 19 55 06.2 +0.7**
comp=Z,18nm,0.9s
TAPN Taplejung 37.03 280 *e*P **P 19 55 18.8 -0.5**
TAPN Taplejung 37.03 280 *e*P **P 19 55 18.8 -0.5**
WMQ Urumqi 37.35 307 P **P 19 55 20.0 -1.5**
WMQ sP **sP 19 55 27.0 -2.8**
WMQ PP **PP 19 56 47.0 +0.2**
WMQ PcP **PcP 19 57 39.0 -1.4**
WMQ S **S 20 01 06.0 -2.5**
WMQ ScP **ScP 20 01 26.0 -0.7**
WMQ ScS **ScS 20 05 32.0 -2.7**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,68nm,3.0s
WMQ LR LR
comp=Z,460nm,13.0s
WMQ LR LR
comp=Z,600nm,15.0s
WMQ LR LR
comp=Z,380nm,14.0s
ODAN Odare 37.40 279 *e*P **P 19 55 22.0 -0.3**
comp=Z,124nm,0.7s
ODAN Odare 37.40 279 *e*P **P 19 55 22.0 -0.3**
RAMN Ramite 38.08 280 *e*P **P 19 55 27.6 -0.5**
RAMN Ramite 38.08 280 *e*P **P 19 55 27.6 -0.5**
JIRN Jiri 38.31 281 *e*P **P 19 55 29.8 -0.4**
JIRN Jiri 38.31 281 *e*P **P 19 55 29.8 -0.4**
GUN Gumba 38.54 281 *e*P **P 19 55 31.4 -0.7**
comp=Z,30nm,0.5s
GUN Gumba 38.54 281 *e*P **P 19 55 31.4 -0.7**
PKI Pulchoki 39.01 281 *e*P **P 19 55 34.9 -1.1**
PKI Pulchoki 39.01 281 *e*P **P 19 55 35.4 -0.6**
PKI Pulchoki 39.01 281 *e*P **P 19 55 35.4 -0.6**
PKIN Phulchoki 39.02 281 *e*P **P 19 55 35.4 -0.6**
KKN Kakani 39.08 281 *e*P **P 19 55 36.2 -0.3**
KKN Kakani 39.08 281 *e*P **P 19 55 36.2 -0.3**
KKN Kakani 39.08 281 *e*P **P 19 55 36.2 -0.3**
DMN Daman 39.27 281 *e*P **P 19 55 37.3 -0.8**
comp=Z,88nm,0.9s
DMN Daman 39.27 281 *e*P **P 19 55 37.3 -0.8**
GKN Gorkha 39.61 282 *e*P **P 19 55 40.6 -0.2**
comp=Z,128nm,0.7s
GKN Gorkha 39.61 282 *e*P **P 19 55 40.6 -0.2**
DANN Dangsing 40.31 282 *e*P **P 19 55 47.0 +0.2**
comp=Z,132nm,0.7s
DANN Dangsing 40.31 282 *e*P **P 19 55 47.0 +0.2**
PMG Port Moresby 40.34 153 LR LR 20 10 52.4
comp=Z,235nm,18.2s,baz=302,slow=34
KOLN Koldanda 40.55 282 *e*P **P 19 55 48.6 -0.1**
comp=Z,82nm,0.9s
KOLN Koldanda 40.55 282 *e*P **P 19 55 48.6 -0.1**
PYUN Piuthan 41.02 282 *e*P **P 19 55 52.5 -0.1**
comp=Z,154nm,0.7s
PYUN Piuthan 41.02 282 *e*P **P 19 55 52.5 -0.1**
MK31 Makanchi Array 41.68 311 *e*P **P 19 55 55.7 -1.8**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 41.68 311 *e*P **P 19 55 56.2 -1.3**
MKAR Makanchi Array 41.68 311 P **P 19 55 56.2 -1.3**
MKAR 19 57 54.3
MKAR Makanchi Array 41.68 311 P **P 19 55 56.2 -1.3**
MKAR PcP **PcP 19 57 54.3 +0.3**
MKAR Makanchi Array 41.68 311 P **P 19 55 56.2 -1.3**
comp=Z,2.7nm,0.5s,baz=93,slow=9.9,SNR=53
MKAR PcP **PcP 19 57 54.3 +0.3**
comp=Z,2.1nm,0.6s,baz=83,slow=2.9,SNR=6.7
ZAA0 Zalesovo Array 42.08 322 *e*P **P 19 55 58.0 -2.7**
ZALV Zalesovo Beam 42.08 322 P **P 19 55 58.7 -1.9**
ZALV 19 57 54.7
ZALV Zalesovo Beam 42.08 322 P **P 19 55 58.7 -1.9**
ZALV PcP **PcP 19 57 54.6 -0.5**
ZALV Zalesovo Beam 42.08 322 P **P 19 55 58.7 -1.9**
comp=Z,2.4nm,0.5s,baz=102,slow=8.8,SNR=13
ZALV PcP **PcP 19 57 54.6 -0.5**
comp=Z,1.7nm,0.6s,baz=139,slow=2.7,SNR=4.4
ZALV LR LR 20 15 35.6
comp=Z,240nm,20.6s,baz=71,slow=39
TIXI Tiksi 44.33 360 *e*P **P 19 56 17.6 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 44.33 360 *e*P **P 19 56 17.5 -1.1**
KURK Kurchatov 44.83 316 P **P 19 56 21.1 -1.7**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 44.83 316 *e*P **P 19 56 20.9 -1.9**
comp=Z,2.7nm,0.6s
KSH Kashi 45.72 300 P **P 19 56 33.1 +2.8**
KSH pP **pP 19 56 37.1 +0.8**
KSH sP **sP 19 56 39.0 +0.4**
KSH PP **PP 19 58 20.2 +2.9**
KSH S **S 20 03 16.0 +3.3**
KSH ScS **ScS 20 06 25.2 -0.5**
KSH pmax pmax
comp=Z,1.0nm,0.4s
KSH pmax pmax
comp=Z,80nm,4.7s
KSH LR LR
comp=Z,200nm,6.8s
KSH LR LR
comp=Z,270nm,10.6s
KSH LR LR
comp=Z,410nm,12.2s
TKM2 Tokmak 2 46.00 304 *i* P **P 19 56 31.9 -0.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 46.81 304⇑ *i*P **P 19 56 38.5 -0.4**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 46.81 304 *e*P **P 19 56 38.4 -0.4**
comp=Z,2.8nm,0.6s
HNR Honiara 46.96 137 LR LR 20 13 36.8
comp=Z,123nm,19.5s,baz=172,slow=32
WRAB Tennant Creek 47.24 174*c e*P **P 19 56 42.9 +0.8**
WRAB pmax pmax
comp=Z,45nm,1.7s
WRAB Tennant Creek 47.24 174 *e*P **P 19 56 42.2 +0.1**
comp=Z,11nm,0.8s
WRA Warramunga Arr 47.25 174 P **P 19 56 42.5 +0.3**
WRA Warramunga Arr 47.25 174 P **P 19 56 42.5 +0.3**
comp=Z,8.7nm,0.7s,baz=354,slow=8.4,SNR=80
EKS2 Erkin-Say 47.34 304 *e*P **P 19 56 43.8 +0.9**
EKS2 pmax pmax
comp=Z,4.0nm,1.0s
EKS2 Erkin-Say 47.34 304 *e*P **P 19 56 43.8 +0.9**
comp=Z,3.6nm,1.0s
HYB Hyderabad 47.90 269 *i* P **P 19 56 46.5 -1.0**
MBWA Marble Bar 49.16 192 *e*P P 19 57 03.6 +6.7
KK31 Karatay Array 49.73 305 *i* P **P 19 57 01.0 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
CTAO Charters Tower 49.87 159 *e*P **P 19 57 03.6 +1.3**
CTAO pmax pmax
comp=Z,22nm,0.8s
CTAO Charters Tower 49.87 159 *e*P **P 19 57 03.6 +1.3**
comp=Z,22nm,0.8s
BVA0 Borovoye Array 50.23 318 P **P 19 57 03.9 -0.9**
BVA0 pmax pmax
comp=Z,8.0nm,1.1s
BVAR Borovoye Array 50.23 318 P **P 19 57 02.3 -2.5**
BVAR 19 58 22.4
BVAR Borovoye Array 50.23 318 P **P 19 57 02.3 -2.5**
BVAR PcP **PcP 19 58 22.4 -1.3**
BVAR Borovoye Array 50.23 318 P **P 19 57 02.3 -2.5**
comp=Z,3.6nm,0.6s,baz=83,slow=12,SNR=19
BVAR PcP **PcP 19 58 22.4 -1.3**
comp=Z,6.4nm,0.7s,baz=107,slow=3.5,SNR=10.0
BRVK Borovoye 50.30 318⇑ *i*P **P 19 57 04.1 -1.2**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK Borovoye 50.30 318 *e*P **P 19 57 04.5 -0.8**
comp=Z,25nm,1.5s
AS31 Alice Springs 50.90 175 *e*P **P 19 57 10.7 +0.5**
ASAR Alice Springs 50.90 175 P **P 19 57 10.8 +0.7**
ASAR Alice Springs 50.90 175 P **P 19 57 10.8 +0.7**
comp=Z,8.8nm,0.9s,baz=5.6,slow=9.3,SNR=74
SVE Sverdlovsk 56.10 322 *e*P **P 19 57 48.6 +0.7**
SVE pmax pmax
comp=Z,12nm,1.1s
SVE MLR MLR
comp=Z,1µm,15.0s
EIDS Eidsvold 56.38 157 *e*P **P 19 57 51.5 +1.2**
comp=Z,213nm,2.8s
AB31 Akbulak array 56.74 313 *i* P **P 19 57 51.6 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 56.74 313 *e*P **P 19 57 51.8 -0.9**
ARU Arti 57.24 321*c i*P **P 19 57 55.1 -1.0**
ARU 20 00 00.3
ARU S **S 20 05 49.0 -1.9**
ARU pmax pmax
comp=Z,13nm,1.7s
ARU MLR MLR
comp=Z,512nm,18.0s
ARU Arti 57.24 321 *e*P **P 19 57 54.9 -1.2**
comp=Z,10nm,1.1s
STKA Stephens Creek 60.02 168 *e*P **P 19 58 15.7 +0.1**
comp=Z,1.1nm,0.6s
STKA Stephens Creek 60.02 168 P **P 19 58 16.2 +0.6**
comp=Z,2.9nm,0.7s,baz=358,slow=8.4,SNR=5.9
STKA LR LR 20 24 16.2
comp=Z,93nm,20.3s,baz=26,slow=36
DZM Mont Dzumac 60.72 140 P **P 19 58 21.6 +0.8**
DZM Mont Dzumac 60.72 140 P **P 19 58 21.6 +0.8**
comp=Z,6.4nm,0.9s,baz=345,slow=18,SNR=5.0
DZM LR LR 20 20 54.1
comp=Z,157nm,19.2s,baz=8.4,slow=32
ILAR Eielson Array 62.89 29 P **P 19 58 34.9 +0.2**
ILAR Eielson Array 62.89 29 P **P 19 58 34.9 +0.2**
comp=Z,0.7nm,0.6s,baz=267,slow=4.2,SNR=12
DIV Divide 63.91 33 *e*P **P 19 58 42.2 +0.6**
comp=Z,7.8nm,0.7s
TMCR Tamitsa 66.38 331 *e*P **P 19 58 57.5 0.0**
TMCR pmax pmax
comp=Z,72nm,1.4s
KLMR Klimovskoe 66.52 328 *e*P **P 19 58 55.4 -3.0**
KLMR pmax pmax

APA Apatity 67.32 336 ⇑*i*P P 19 59 03.6 +0.2
APA *i* S **S** 20 07 58.0 +0.6
APA *i* 20 08 50.0
APA pmax pmax
comp=Z,36nm,1.2s
APA MLR MLR
comp=Z,600nm,15.0s
INK Inuvik 67.39 24 *e*P P 19 59 04.6 +0.8
comp=Z,5.5nm,0.5s
INK Inuvik 67.39 24 LR LR 20 27 15.7
comp=Z,191nm,21.1s,baz=334,slow=35
KEV Kevo 68.82 339 *e*P P 19 59 12.1 -0.7
KEV pmax pmax
comp=Z,12nm,0.5s
KEV Kevo 68.82 339 *ep* P 19 59 12.1 -0.7
comp=Z,12nm,0.5s
ZEI Tsey 68.96 308 *e*P P 19 59 13.2 -1.2
ZEI pmax pmax
comp=Z,14nm,0.6s
KBZ Khabaz 69.36 309 P P 19 59 17.0 +0.4
KBZ Khabaz 69.36 309 P P 19 59 17.0 +0.4
KBZ Khabaz 69.36 309 P P 19 59 17.0 +0.4
comp=Z,25nm,1.0s,baz=108,slow=6.2,SNR=22
KBZ LR LR 20 34 45.8
comp=Z,192nm,18.7s,baz=242,slow=40
ARCES ARCESS Array B 69.39 339 P P 19 59 16.1 -0.2
ARCES ARCESS Array B 69.39 339 P P 19 59 16.1 -0.2
comp=Z,4.8nm,0.6s,baz=63,slow=8.0,SNR=27
ARCES LR LR 20 35 57.4
comp=Z,192nm,18.6s,baz=234,slow=41
ARE0 ARCESS Array S 69.39 339 *e*P P 19 59 16.1 -0.3
VSR Storozhevoye 69.41 318 ⇓*i*P P 19 59 16.3 -0.5
VSR pmax pmax
comp=Z,7.0nm,0.4s
KIV Kislovodsk 69.43 310 P P 19 59 18.5 +1.3
comp=Z,198nm,1.2s,SNR=5.5
KIV Kislovodsk 69.43 310 *e*P P 19 59 17.9 +0.7
KIV pmax pmax
comp=Z,43nm,1.1s
KIV MLR MLR
comp=Z,198nm,18.0s
KIV Kislovodsk 69.43 310 *e*P P 19 59 18.2 +1.0
comp=Z,47nm,1.1s
JOF Joensuu 69.63 331 *e*P P 19 59 18.4 +0.5
JOF pmax pmax
comp=Z,8.0nm,0.5s
JOF Joensuu 69.63 331 *ep* P 19 59 18.4 +0.5
comp=Z,8.1nm,0.5s
OBN Obninsk 69.66 322 P P 19 59 18.0 -0.2
OBN *e* 19 59 29.0
OBN *e* 19 59 44.2
OBN *e* 20 09 17.3
OBN pmax pmax
comp=Z,26nm,2.0s
OBN MLR MLR
comp=Z,500nm,16.0s
KAF Kangasniemi 72.08 331 *e*P P 19 59 32.5 -0.3
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 72.08 331 *ep* P 19 59 32.5 -0.3
comp=Z,8.5nm,0.6s
FIA1 FINESS Array S 72.46 331 *e*P P 19 59 33.1 -2.0
FINES FINESS Array B 72.46 331 P P 19 59 34.8 -0.3
FINES FINESS Array B 72.46 331 P P 19 59 34.8 -0.3
comp=Z,8.3nm,0.6s,baz=69,slow=5.4,SNR=49
FINES LR LR 20 34 55.2
comp=Z,355nm,18.6s,baz=195,slow=39
ANN Anapa 72.68 312 *e*P P 19 59 35.3 -1.4
ANN pmax pmax
comp=Z,47nm,1.1s
RES Resolute Bay 74.22 11 P P 19 59 45.9 +0.6
RES Resolute Bay 74.22 11 P P 19 59 45.9 +0.6
comp=Z,5.6nm,1.0s,baz=325,slow=5.0,SNR=5.2
MALT Malatya 74.42 305 ⇓*i*P P 19 59 48.0 +0.7
RAYN Ar Rayn 74.57 289 P P 19 59 48.0 -0.3
comp=Z,107nm,1.2s,SNR=11
AKASG Malin Array Be 75.44 320 P P 19 59 52.3 -0.4
AKASG Malin Array Be 75.44 320 P P 19 59 52.3 -0.4
AKASG Malin Array Be 75.44 320 P P 19 59 52.3 -0.4
comp=Z,12nm,0.6s,baz=59,slow=6.3,SNR=44
AKASG LR LR 20 35 45.6
comp=Z,629nm,18.3s,baz=70,slow=38
AKBB Malin Array Si 75.44 320 *e*P P 19 59 51.0 -1.7
AKBB Malin Array Si 75.44 320 *e*P P 19 59 51.0 -1.7
AK01 Malin Array Si 75.45 320 *e*P P 19 59 52.4 -0.4
KIEV Kiev 75.45 320 *e*P P 19 59 52.3 -0.5
KIEV pmax pmax
comp=Z,8.0nm,0.5s
KIEV Kiev 75.45 320 *e*P P 19 59 52.3 -0.5
comp=Z,7.6nm,0.5s
AK02 Malin Array Si 75.47 320 *e*P P 19 59 52.5 -0.4
YKA Yellowknife Ar 77.01 25 P P 20 00 02.4 +0.9
YKA Yellowknife Ar 77.01 25 P P 20 00 02.3 +0.9
comp=Z,1.7nm,0.5s,baz=300,slow=5.8,SNR=16
SUW Suwalki 77.23 325 *e*P P 20 00 02.9 +0.1
SUW pmax pmax
comp=Z,52nm,1.1s
SUW Suwalki 77.23 325 *e*P P 20 00 03.3 +0.5
SUW Suwalki 77.23 325 *e*P P 20 00 02.9 +0.1
comp=Z,52nm,1.1s
BR131 Keskin Array S 77.27 308 *e*P P 20 00 03.3 -0.2
comp=Z,9.0nm,0.8s
BRTR Keskin Array B 77.27 308 P P 20 00 03.6 +0.1
BRTR Keskin Array B 77.27 308 P P 20 00 03.6 +0.1
comp=Z,9.4nm,0.7s,baz=106,slow=4.8,SNR=47
BRTR LR LR 20 39 37.6
comp=Z,87nm,18.0s,baz=194,slow=40
JMIC Jan Mayen 77.58 347 LR LR 20 36 55.9
comp=Z,116nm,18.2s,baz=76,slow=38
TLCR 78.11 315 ⇑*i*P P 20 00 08.0 +0.1
HFS Hagfors 78.37 333 P P 20 00 08.4 -0.7
HFS Hagfors 78.37 333 P P 20 00 08.4 -0.7
comp=Z,13nm,0.8s,baz=45,slow=4.4,SNR=32
HFS LR LR 20 38 38.7
comp=Z,309nm,20.3s,baz=54,slow=39
CFR Carcaliu 78.54 315 ⇑*i*P P 20 00 10.2 -0.1
NB2 NORSAR Subarra 78.82 334 P P 20 00 11.0 -0.6
comp=Z,17nm,0.8s,baz=52,slow=5.9
NB2 NORSAR Subarra 78.82 334 P P 20 00 11.0 -0.6
baz=52,slow=5.9
NOA NORSAR Array B 78.82 334 P P 20 00 11.1 -0.6
NOA NORSAR Array B 78.82 334 P P 20 00 11.1 -0.6
comp=Z,17nm,0.8s,baz=51,slow=5.5,SNR=29
NOA LR LR 20 38 15.2
comp=Z,88nm,20.4s,baz=290,slow=38
TESR Tescani 78.84 317 ⇑*i*P P 20 00 11.9 -0.1
TLB Topalu 78.87 314 ⇑*i*P P 20 00 12.7 +0.6
HARR Harsova 78.89 315 ⇓*i*P P 20 00 12.7 +0.5
VRI Vrincioaia 79.10 316 ⇓*i*P P 20 00 13.4 0.0
PLOR Plostina 79.16 316 ⇑*i*P P 20 00 15.0 +1.3
BUR08 Bucovina Ar. S 79.18 318 *e*P P 20 00 13.8 -0.1
BURAR Bucovina Array 79.18 318 ⇓*i*P P 20 00 14.4 +0.5
CSS Prodhromos 79.53 304 *e*P P 20 00 15.7 -0.3
comp=Z,2.9nm,0.6s
ISR Istrita 79.57 315 ⇓*i*P P 20 00 17.1 +1.1
KWP Kalwaria Pacla 79.64 321 *e*P P 20 00 17.3 +0.9
KWP Kalwaria Pacla 79.64 321 *e*P P 20 00 17.2 +0.9
KWP Kalwaria Pacla 79.64 321 ⇑*i*P P 20 00 16.8 +0.5
MLR Muntele Rosu 79.76 316 ⇑*i*P P 20 00 17.3 +0.1
DOPR Dopca 79.87 317 ⇑*i*P P 20 00 17.8 +0.2
SUMG Summit 79.99 356 *e*P P 20 00 18.6 +0.4
SUMG pmax pmax
comp=Z,23nm,0.8s
SUMG Summit 79.99 356 *e*P P 20 00 18.6 +0.4
comp=Z,23nm,0.8s
KOLS Kolonicke sedl 80.24 320 *e*P P 20 00 20.0 +0.4
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 80.24 320 *e*P P 20 00 20.0 +0.4
VOIR 80.34 316 ⇓*i*P P 20 00 19.0 -1.2
UZH Uzhgorod 80.39 320 *e*P P 20 00 18.5 -1.8
UZH *e* 20 00 27.5
TRPA Tarpa 80.50 319 ⇑*i*P P 20 00 20.2 -0.7
ARR Arges 80.63 316 ⇑*i*P P 20 00 22.5 +0.7
CRVS Cervenica-Dubn 80.72 321 *e*P P 20 00 23.2 +1.1
CRVS pmax pmax
comp=Z,72nm,2.9s
CRVS Cervenica-Dubn 80.72 321 *e*P P 20 00 23.2 +1.1
JMB Yambol 80.80 313 ⇓*i*P P 20 00 23.7 +1.1
HUMR Humele 80.83 315 ⇑*i*P P 20 00 22.5 -0.2
OJC Ojcow 80.95 322 *e*P P 20 00 23.7 +0.4
OJC Ojcow 80.95 322 *e*P P 20 00 23.7 +0.4
NIE Niedzica 81.09 321 *e*P P 20 00 25.2 +1.1
NIE Niedzica 81.09 321 *e*P P 20 00 25.2 +1.1

KECS Kecovo 81.49 321 *e*P P 20 00 27.1 +0.9
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 81.49 321 *e*P P 20 00 27.1 +0.9
GZR Gura Zlata 81.75 317 ⇑*i*P P 20 00 27.1 -0.6
KDZ Kurdzhali 81.96 313 ⇓*i*P P 20 00 29.8 +1.0
OKC Ostrava-Krasne 82.06 323 *e*P P 20 00 30.3 +1.2
OKC MLR MLR
comp=Z,500nm,18.2s
OKC Ostrava-Krasne 82.06 323 *e*P P 20 00 30.3 +1.2
OKC AMS AMS 20 40 10.0
comp=Z,500nm,18.2s
PSZ Piszkesteto 82.12 320 ⇑*i*P P 20 00 30.4 +0.7
BZS Buzias 82.33 318 ⇑*i*P P 20 00 30.5 -0.2
MORC Moravsky Berou 82.42 323 *e*P P 20 00 31.2 +0.1
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 82.42 323 ⇑*i*P P 20 00 31.6 +0.5
MORC Moravsky Berou 82.42 323 *e*P P 20 00 31.2 +0.1
comp=Z,6.9nm,0.9s
KSP Ksiaz 82.48 324 *e*P P 20 00 31.9 +0.5
KSP Ksiaz 82.48 324 *e*P P 20 00 32.3 +0.9
KRLC Kraliky 82.66 323 *e*P P 20 00 33.1 +0.7
KRLC Kraliky 82.66 323 *e*P P 20 00 33.1 +0.7
DPC Dobruska-Polom 82.74 324 *e*P P 20 00 33.7 +0.9
DPC *e* 20 00 41.2
DPC Dobruska-Polom 82.74 324 *e*P P 20 00 33.7 +0.9
DPC *ep*P **pP** 20 00 41.2 +2.0
DPC AMS AMS 20 41 00.0
UPC Upice 82.82 324 *e*P P 20 00 32.1 -1.0
UPC *e* 20 00 36.7
UPC Upice 82.82 324 *e*P P 20 00 32.1 -1.0
UPC *ep*P **PcP** 20 00 36.7 -1.3
VTS Vitosha 82.91 314 ⇑*i*P P 20 00 34.5 +0.5
VRAC Vranov 83.19 323 ⇓*i*P P 20 00 35.9 +0.8
VRAC Vranov 83.19 323 P P 20 00 36.0 +0.9
VRAC Vranov 83.19 323 P P 20 00 36.0 +0.9
comp=Z,14nm,0.8s,baz=64,slow=3.6,SNR=16
I04A Tendick Farm, 83.35 44 P P 20 00 37.8 +1.7
baz=83
PVCC Panska Ves 83.56 324 *e*P P 20 00 38.3 +1.4
PVCC *e* 20 00 47.0
PVCC Panska Ves 83.56 324 *e*P P 20 00 38.3 +1.4
PVCC *ex* x 20 00 47.0
BRG Berggiesshubel 83.68 325 *e*P P 20 00 38.3 +0.7
comp=Z,14nm,1.3s
BRG Berggiesshubel 83.68 325 *e*P P 20 00 38.3 +0.7
BRG pmax pmax
comp=Z,14nm,1.3s
I05D Terrebonne, OR 83.72 43 P P 20 00 39.3 +1.3
baz=84
PKSM Moragy 83.77 319 ⇑*i*P P 20 00 38.7 +0.6
TREC Trest 83.79 323 *e*P P 20 00 39.5 +1.3
TREC *e* 20 00 49.8
TREC Trest 83.79 323 *e*P P 20 00 39.5 +1.3
TREC *ex* x 20 00 49.8
J04D Umpqua Nationa 83.83 44 P P 20 00 40.6 +1.9
baz=84
PRU Pruhonice 83.89 324 *e*P P 20 00 39.2 +0.6
PRU *e* 20 00 49.9
PRU MLR MLR
comp=Z,400nm,17.0s
PRU Pruhonice 83.89 324 *e*P P 20 00 39.2 +0.6
PRU *ex* x 20 00 49.9
PRU AMS AMS 20 41 40.0
comp=Z,400nm,17.0s
CLL Collm 83.89 326 *i* P P 20 00 38.9 +0.3
CLL *e* 20 00 49.0
CLL *i* 20 00 50.9
CLL pmax pmax
comp=Z,25nm,1.3s
CLL Collm 83.89 326 *i* P P 20 00 38.9 +0.3
comp=Z,25nm,1.3s
CLL *ep*PcP 20 00 49.0
CLL *i* sPcP 20 00 50.9
VAY Valandovo 83.97 314 *i* P P 20 00 38.7 -0.6
NEW Newport 83.99 38 P P 20 00 40.6 +1.3
baz=84
J05D Fort Rock, OR 84.34 44 P P 20 00 43.0 +1.7
baz=84
SKO Skopje 84.35 315 *i* P P 20 00 40.6 -0.5
CONA Conrad Observa 84.38 322 *i* PcP P 20 00 42.6 +1.3
comp=Z,23nm,1.1s,SNR=6.7
NKC Novy Kostel 84.83 325 *e*P P 20 00 44.3 +0.9
NKC *e* 20 00 53.3
NKC Novy Kostel 84.83 325 *e*P P 20 00 44.3 +0.9
NKC *ex* x 20 00 53.3
KHC Kasperske Hory 84.90 324 *e*P P 20 00 44.1 +0.2
KHC pmax pmax
comp=Z,12nm,1.1s
KHC Kasperske Hory 84.90 324 *e*P P 20 00 45.0 +1.1
KHC AMS AMS 20 42 10.0
comp=Z,500nm,15.9s
KHC Kasperske Hory 84.90 324 *e*P P 20 00 44.1 +0.2
comp=Z,12nm,1.1s
BIA Bitola 84.93 314 *i* P P 20 00 43.0 -1.2
ARSA Arzberg 84.95 321 ⇑*i*PcP P 20 00 44.9 +0.7
comp=Z,10.0nm,1.2s
GERES GERESS Array B 85.01 323 P P 20 00 44.2 -0.2
GERES GERESS Array B 85.01 323 P P 20 00 44.3 -0.2
comp=Z,5.8nm,0.9s,baz=51,slow=4.3,SNR=23
GERES LR LR 20 41 58.7
comp=Z,241nm,18.1s,baz=57,slow=38
MOA Molln 85.30 322 ⇓*i*PcP **PcP** 20 00 47.5 -1.5
comp=Z,15nm,1.2s
SOKA Soboth 85.56 321 ⇑*i*PcP P 20 00 47.9 +0.7
comp=Z,21nm,1.6s,SNR=7.1
GRF Grafenberg Arr 85.78 325 *e*P P 20 00 49.7 +1.5
comp=Z,29nm,1.2s
GRF *ep*P **pP** 20 00 59.0 +4.4
GRF *e*L L 20 43 52.8
comp=Z,390nm,19.0s
GRFO Grafenberg 85.78 325 *e*P P 20 00 49.9 +1.7
GRFO pmax pmax
comp=Z,24nm,1.0s
GRFO Grafenberg 85.78 325 *e*P P 20 00 49.9 +1.7
comp=Z,24nm,1.0s
SFJD Kangerlussuaq 85.94 0 P P 20 00 48.5 -0.1
SFJD Kangerlussuaq 85.94 0 P P 20 00 48.5 -0.1
comp=Z,10.0nm,0.9s,baz=45,slow=8.6,SNR=3.3
SFJD LR LR 20 37 18.6
comp=Z,142nm,20.4s,baz=347,slow=34
BOJS Bojanci 86.12 320 *e*P P 20 00 50.4 +0.5
LJU Ljubljana 86.22 321 *e*P P 20 00 50.8 +0.4
KBA Koelnbreinsper 86.26 322 ⇑*i*PcP P 20 00 51.4 +0.6
comp=Z,8.5nm,0.7s
CEY Cerknica 86.45 321 *e*P P 20 00 52.0 +0.4
JAVS Javornik 86.57 321 *e*P P 20 00 52.4 +0.1
SLMT Seney Lake 86.57 37 *e*P P 20 00 52.1 -0.2
comp=Z,5.3nm,0.6s
ABTA Abfaltersbach 86.91 322 ⇑*i*P P 20 00 53.5 -0.4
comp=Z,21nm,1.3s,SNR=5.5
FFC Flin Flon 87.06 27 *e*P P 20 00 54.8 +0.5
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 87.06 27 *e*P P 20 00 54.8 +0.5
comp=Z,11nm,1.0s
WTTA Wattenberg 87.07 323 ⇑*i*PcP P 20 00 55.2 +0.4
comp=Z,14nm,1.0s
MOTA Moosalm 87.30 323 ⇑*i*PcP P 20 00 56.3 +0.4
comp=Z,4.7nm,0.6s,SNR=4.5
A19A Klindworth Far 87.97 34 P P 20 01 00.3 +1.3
baz=88
EGMT Eagleton 88.05 35 P P 20 01 00.7 +1.3
baz=88
FRB Frobisher Bay 88.08 8 P P 20 00 59.0 -0.1
FRB Frobisher Bay 88.08 8 P P 20 00 59.0 -0.1
comp=Z,3.2nm,0.6s,baz=18,slow=7.3,SNR=3.8
FRB LR LR 20 38 12.8
comp=Z,147nm,21.6s,baz=322,slow=34
B19A Brinkman Farms 88.18 35 P P 20 01 01.0 +1.1
baz=88
EKA Eskdalemuir Ar 88.25 335 P P 20 00 59.7 -0.4
EKA Eskdalemuir Ar 88.25 335 P P 20 00 59.7 -0.4
comp=Z,2.3nm,0.5s,baz=41,slow=4.7,SNR=14
HLID Hailey 88.27 41 P P 20 01 02.3 +1.7
baz=88
DAVOX Davos/Dischmat 88.31 323 P P 20 01 00.7 -0.1
DAVOX Davos/Dischmat 88.31 323 P P 20 01 00.7 -0.1
comp=Z,9.7nm,0.5s,baz=2,0,slow=1.2,SNR=18
CDF Champ du Feu 88.60 326 *e*P P 20 01 03.5 +1.5
comp=Z,22nm,1.0s
CDF Champ du Feu 88.60 326 *e*P P 20 01 03.5 +1.5
CDF pmax pmax
comp=Z,22nm,1.0s

CDF Champ du Feu 88.60 326 *e*P P 20 01 03.5 +1.5
comp=Z,22nm,1.0s
C19A Slack Wire Ran 88.60 35 P P 20 01 03.4 +1.5
baz=88
TUE Stuetta 88.79 323 *e*P P 20 01 02.3 -0.7
comp=Z,11nm,0.7s
A21A Bergtoll Ranch 88.83 33 P P 20 01 04.3 +1.3
baz=89
NVAR Mina Array Bea 88.88 47 P P 20 01 05.5 +1.9
NVAR Mina Array Bea 88.88 47 P P 20 01 05.5 +1.9
comp=Z,0.7nm,0.7s,baz=290,slow=5.3,SNR=3.8
D19A Cripps Ranch, 89.06 36 P P 20 01 05.5 +1.4
baz=89
C20A Veseth Ranch, 89.15 35 P P 20 01 05.8 +1.2
baz=89
HINF Hinteralfeld 89.20 325 *e*P P 20 01 06.5 +1.7
comp=Z,13nm,0.9s
HINF Hinteralfeld 89.20 325 *e*P P 20 01 06.5 +1.7
HINF pmax pmax
comp=Z,13nm,0.9s
HINF Hinteralfeld 89.20 325 *e*P P 20 01 06.5 +1.7
comp=Z,13nm,0.9s
PAGF Fort de Pagny 89.27 326 *e*P P 20 01 06.8 +1.8
PAGF Fort de Pagny 89.27 326 *e*P P 20 01 06.8 +1.8
A22A Carney Farms, 89.32 33 P P 20 01 06.2 +0.9
baz=89
HAU Haudompre 89.33 326 *e*P P 20 01 06.5 +1.2
HAU Haudompre 89.33 326 *e*P P 20 01 06.5 +1.2
HAU Haudompre 89.33 326 *e*P P 20 01 06.5 +1.2
D20A Manuel Ranch, 89.49 35 P P 20 01 07.7 +1.6
baz=89
E19A Rath Farm, Rou 89.57 36 P P 20 01 08.1 +1.5
baz=89
MEZF Maizieres J'vi 89.64 327 *e*P P 20 01 08.5 +1.8
MEZF Maizieres J'vi 89.64 327 *e*P P 20 01 08.5 +1.8
SFTF Sexfontaines 89.84 327 *e*P P 20 01 09.3 +1.6
comp=Z,50nm,1.1s
SFTF Sexfontaines 89.84 327 *e*P P 20 01 09.3 +1.6
comp=Z,50nm,1.1s
CEL Celeste 89.94 314 *e*P P 20 01 07.6 -0.8
comp=Z,12nm,0.9s
D21A La Casta Ranch 90.09 35 P P 20 01 10.4 +1.5
baz=90
PPT Papeete 90.15 110 LR LR 20 42 02.5
comp=Z,185nm,18.0s,baz=314,slow=36
A24A Westby 90.28 32 P P 20 01 10.9 +1.1
baz=90
R11A Troy Canyon, C 90.67 46 P P 20 01 13.4 +1.4
baz=90
LPL La Plagne 90.79 324 *e*P P 20 01 14.0 +1.5
comp=Z,26nm,1.2s
LPL La Plagne 90.79 324 *e*P P 20 01 14.0 +1.5
LPL pmax pmax
comp=Z,26nm,1.2s
LPL La Plagne 90.79 324 *e*P P 20 01 14.0 +1.5
comp=Z,26nm,1.2s
LPG La Plagne 90.80 324 *e*P P 20 01 14.1 +1.5
comp=Z,15nm,0.9s
LPG La Plagne 90.80 324 *e*P P 20 01 14.1 +1.5
LPG pmax pmax
comp=Z,15nm,0.9s
LPG La Plagne 90.80 324 *e*P P 20 01 14.1 +1.5
comp=Z,15nm,0.9s
MBDF Montbardon 91.30 323 *e*P P 20 01 16.3 +1.6
MBDF Montbardon 91.30 323 *e*P P 20 01 16.3 +1.6
MBDF Montbardon 91.30 323 *e*P P 20 01 16.3 +1.6
PDAR Pinedale Array 91.55 39 P P 20 01 16.8 +0.8
PDAR Pinedale Array 91.55 39 P P 20 01 16.8 +0.8
comp=Z,1.1nm,0.9s,baz=336,slow=0.3,SNR=8.7
LDF La Druitiere 92.01 329 *e*P P 20 01 19.3 +1.5
LDF La Druitiere 92.01 329 *e*P P 20 01 19.3 +1.5
LDF La Druitiere 92.01 329 *e*P P 20 01 19.3 +1.5
FLN La Foliniere 92.05 330 *e*P P 20 01 19.5 +1.6
FLN La Foliniere 92.05 330 *e*P P 20 01 19.5 +1.6
FLN La Foliniere 92.05 330 *e*P P 20 01 19.5 +1.6
KMBO Kilima Mbogo 92.55 270 P P 20 01 21.4 +0.2
KMBO Kilima Mbogo 92.55 270 P P 20 01 21.4 +0.2
comp=Z,0.4nm,0.4s,baz=49,slow=24,SNR=3.5
PFO Pinyon Flat Ob 92.87 50 LR LR 20 38 36.4
comp=Z,135nm,20.2s,baz=310,slow=33
ULM Lac du Bonnet 92.88 27 P P 20 01 22.2 +0.5
ULM Lac du Bonnet 92.88 27 P P 20 01 22.2 +0.5
comp=Z,1.8nm,0.7s,baz=321,slow=9.4,SNR=3.2
G25A Newell 93.18 34 P P 20 01 24.3 +1.0
baz=93
B30A Myrvik Farm, E 93.21 30 P P 20 01 24.5 +1.1
baz=93
ROSF Rostrenen 93.61 331 *e*P P 20 01 27.3 +2.2
ROSF Rostrenen 93.61 331 *e*P P 20 01 27.3 +2.2
ROSF Rostrenen 93.61 331 *e*P P 20 01 27.3 +2.2
G27A Dupree 93.79 34 P P 20 01 27.3 +1.2
baz=94
I25A Rochford 93.85 35 P P 20 01 27.6 +1.0
baz=94
KEST Kesra 95.64 315 P P 20 01 34.2 -0.6
KEST Kesra 95.64 315 P P 20 01 34.2 -0.6
comp=Z,1.5nm,0.9s,baz=357,slow=2.1,SNR=5.2
ESDC Sonseca Array 100.48 325 P Pdif 20 01 56.2 -0.3
ESDC Sonseca Array 100.48 325 P Pdif 20 01 56.2 -0.3
comp=Z,0.5nm,0.7s,baz=32,slow=4.3,SNR=5.4
TXAR Lajitas Array 104.02 46 PKiKP **PKiKP** 20 06 30.5 +0.7
comp=Z,0.3nm,0.8s,baz=276,slow=3.5,SNR=3.0
TORD Torodi Ar. Bea 115.36 302 PKP **PKPdf** 20 06 50.2 -1.1
TORD PP PP 20 07 48.2 -3.7
TORD Torodi Ar. Bea 115.36 302 PKP **PKPdf** 20 06 50.2 -1.1
comp=Z,0.4nm,0.5s,baz=16,slow=1.7,SNR=4.8
TORD PP PP 20 07 48.2 -3.7
comp=Z,0.8nm,0.9s,baz=38,slow=3.6,SNR=4.1

TAP 07 19:49:47.7, 24.54N×122.12E, h59km±2km, ML2.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=287	**0.26**	**287**	*i* P		Pn	19 49 57.1	-0.3
TWC				S		Sn	19 50 05.2	+0.8
EGS	baz=287	**0.35**	**331**	P		Pn	19 49 58.9	+0.7
ENA	**Nanau** baz=332	**0.36**	**253**	*e*P		Pn	19 49 59.0	+0.8
ENA	baz=252			*e*S		Sn	19 50 06.9	+1.0
TWE	**Neicheng** baz=252	**0.45**	**294**	P		Pn	19 49 59.2	0.0
TWE	baz=294			S		Sn	19 50 07.5	+0.1
TWB1	**Santiao Chiao** baz=294	**0.49**	**346**	*e*P		Pn	19 49 58.4	-1.1
ENTT	**Nioudou** baz=347	**0.51**	**282**	*i* P		Pn	19 50 00.6	+0.8
ENTT	baz=281			S		Sn	19 50 09.2	+0.7
TWD	**Chiawan** baz=281	**0.66**	**226**	*e*P		Pn	19 50 01.6	+0.2
TWD	baz=225			*e*S		Sn	19 50 10.9	-0.5
NNS	**Nan Shan** baz=225	**0.68**	**262**	*e*P		Pn	19 50 03.6	+1.7
NNS	baz=261			*e*S		Sn	19 50 13.3	+1.0
NSK	**Sanguang** baz=261	**0.70**	**282**	P		Pn	19 50 03.3	+1.2
NSK	baz=281			*e*S		Sn	19 50 13.4	+0.7
WHF	**Hehuan Shan** baz=243	**0.87**	**244**	*e*P		Pn	19 50 04.4	-0.2
WHF	baz=243			*e*S		Sn	19 50 15.3	-1.7
TWT	**Tachien** baz=251	**0.90**	**252**	*e*P		Pn	19 50 05.2	+0.4
TWT	baz=251			*e*S		Sn	19 50 16.8	-0.5

IDC 07 19:53:19.6±8.5, 12.37S×172.00W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/21, mbtmp3.7/3, Error ellipse: s-maj=378.1km s-min=36.0km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=90,slow=7.2,SNR=12	**51.92**	**254**	P		P	20 02 30.6	0.0
ASAR	**Alice Springs**	**52.39**	**250**	P		P	20 02 34.0	-0.2

	1.3nm,0.6s,baz=83,slow=7.6,SNR=25									
ILAR	**Eielson Array**	**79.23**	**11**	P	P			20 05 26.3	0.0	
	1.0nm,1.1s,baz=190,slow=4.6,SNR=4.2									

IDC 07 20:00:51.6±4.7, 19°46S×176°13W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=243.5km s-min=31.4km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.48**	**256**	P	P	20 09 22.2	+1.4
	2.1nm,0.5s,baz=89,slow=8.1,SNR=56						
WRA	**Warramunga Arr**	**46.50**	**261**	P	P	20 09 19.6	-1.5
	0.4nm,0.8s,baz=96,slow=7.2,SNR=12						
ILAR	**Eielson Array**	**86.92**	**12**	P	P	20 13 39.2	+1.2
	0.2nm,0.4s,baz=221,slow=5.3,SNR=3.5						
GERES	**GERESS Array B**	**149.63**	**347**	PKPbc	PKPbc	20 20 41.7	-1.6
	0.2nm,0.4s,baz=31,slow=2.5,SNR=4.0						
DAVOX	**Davos/Dischmat**	**152.31**	**351**	PKPbc	PKPbc	20 20 49.2	-0.5
	1.1nm,0.4s,baz=135,slow=19,SNR=3.7						

KRSC 07 20:37:31.7±4.8, 50°69N×158°42E, h43km±42km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.28**	**308**	P	Pn	20 37 54.2	+1.1
PAU				S	Sn	20 38 07.8	-1.2
SKR	**Severo-Kuril's**	**1.47**	**271**	P	Pn	20 37 56.2	+0.6
SKR				S	Sn	20 38 11.7	-1.8
ASAK	**Asacha**	**1.73**	**349**	P	Pn	20 38 01.1	+1.8
ASAK				S	Sn	20 38 20.2	0.0
RUS	**Russkaya**	**1.75**	**2**	P	Pn	20 38 01.3	+1.8
RUS				S	Sn	20 38 20.7	+0.2
MTVR	**Mutnovka**	**1.80**	**355**	P	Pn	20 38 02.4	+1.9
MTVR				S	Sn	20 38 22.6	+0.4
GRL	**Gorelyy**	**1.88**	**354**	P	Pn	20 38 03.3	+1.8
GRL				S	Sn	20 38 24.7	+0.7
MIPR	**Malaya Ipel'ka**	**1.90**	**327**	P	Pn	20 38 02.4	+0.8
MIPR				S	Sn	20 38 22.9	-1.4
PET	**Petropavlovsk**	**2.34**	**3**	P	Pn	20 38 09.9	+2.3
PET				S	Sn	20 38 35.7	+0.6
APC	**Apacha**	**2.37**	**341**	P	Pn	20 38 09.7	+1.7
UGLR	**Uglovaya**	**2.54**	**6**	P	Pn	20 38 13.2	+2.7
UGLR				S	Sn	20 38 40.4	+0.2
NLC	**Nalytchevo**	**2.55**	**13**	P	Pn	20 38 11.4	+0.9
NLC				S	Sn	20 38 37.9	-2.3
AVH	**Avacha**	**2.59**	**4**	P	Pn	20 38 14.2	+3.1
AVH				S	Sn	20 38 43.2	+1.8
SMAR	**Somma**	**2.59**	**5**	P	Pn	20 38 14.1	+2.8
SDLR	**Sedlovina**	**2.61**	**6**	P	Pn	20 38 13.5	+2.0
SDLR				S	Sn	20 38 41.7	-0.3
SPN	**Mys Shipunskii**	**2.61**	**22**	S	Sn	20 38 44.4	+2.7
KOK	**Koryaka**	**2.61**	**3**	P	Pn	20 38 14.6	+3.1
KOK				S	Sn	20 38 43.7	+1.7
KRER	**Koryakskii**	**2.63**	**4**	P	Pn	20 38 14.6	+2.8
KRER				S	Sn	20 38 43.5	+0.9
KRX	**Arik**	**2.68**	**3**	P	Pn	20 38 14.8	+2.3
KRX				S	Sn	20 38 44.0	+0.2
GNL	**Ganaly**	**3.02**	**355**	P	Pn	20 38 19.5	+2.3
GNL				S	Sn	20 38 52.6	+0.3
MKZ	**Mys Kozlova**	**4.37**	**26**	P	Pn	20 38 37.7	+2.3
MKZ				S	Sn	20 39 24.7	-0.2
TUMR	**Tumrok**	**4.72**	**12**	P	Pn	20 38 44.2	+3.8
KBTR	**Krutoberegovo**	**6.12**	**24**	P	Pn	20 39 02.1	+2.6

*IDC **07** 20:56:45.0±0.9, 59°50S×26°09W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, Error ellipse: s-maj=32.6km s-min=27.9km az=123.0*
ISC 07 20:56:49.2±1.2, 59°8S±0°1×24°6W±0°3, h10km, n11, σ1s23/8, mb4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.80**	**155**	*e*P	Pn	20 59 57.9	+7.0
VNA2	**Neumayer--Watz**	**13.20**	**155**	*e*P	P	21 00 02.6	-3.8
SNAA	**Sanae**	**14.76**	**153**	*e*P	**P**	**21 00 23.7**	**0.0**
SNAA	**Sanae**	**14.76**	**153**	*e*S	**Sn**	**21 03 01.0**	**0.0**
PLCA	**Paso Flores**	**34.11**	**283**	P	P	21 03 24.1	-10
	1.5nm,0.8s,baz=156,slow=5.7,SNR=4.7						
VNDA	**Vanda**	**42.87**	**182**	P	**P**	**21 04 47.5**	**+0.7**
	1.1nm,0.6s,baz=193,slow=5.5,SNR=9.1						
BOSA	**Boshof**	**45.77**	**70**	P	**P**	**21 05 11.7**	**+1.0**
	3.1nm,0.9s,baz=210,slow=9.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**75.73**	**26**	P	**P**	**21 08 34.0**	**-0.7**
	1.1nm,0.6s,baz=189,slow=6.2,SNR=13						
ASAR	**Alice Springs**	**94.99**	**160**	P	**P**	**21 10 10.7**	**-1.1**
	0.3nm,0.7s,baz=187,slow=4.6,SNR=4.0						
SONM	**Songino Array**	**149.44**	**91**	PKPbc	**PKPbc**	**21 16 36.2**	**-1.3**
	0.8nm,0.9s,baz=270,slow=0.7,SNR=4.1						
ILAR	**Eielson Array**	**153.54**	**306**	PKPbc	**PKPdf**	**21 16 40.2**	**+1.6**
	0.3nm,0.6s,baz=148,slow=2.4,SNR=4.7						

*ISK **07** 21:02:58.3, 36°97N×29°32E, h4km, MD3.3, ML3.5*
*ISCJB **07** 21:02:59.1±0.5, 36°97N±0°02×29°32E±0°02, h4km±4km, Error ellipse: s-maj=4.0km s-min=2.9km az=168.8*
*CSEM **07** 21:02:59.4±0.1, 36°97N×29°33E, h2km, MD3.3, Error ellipse: s-maj=4.0km s-min=2.8km az=177.0*
*DDA **07** 21:02:59.0, 36°96N×29°33E, h23km, MD3.3*
ISC 07 21:02:59.1±1.1, 36°97N±0°02×29°33E±0°02, h5km±10km, n93, σ1s12/120, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.32**	**34**	*i* P	**Pg**	**21 03 06.0**	**+0.5**
GOLH				*i* S	**Sb**	**21 03 12.5**	**-0.6**
ELL	**Elmali**	**0.51**	**116**	*e*PG	**Pg**	**21 03 09.2**	**+0.2**
ELL	**Elmali**	**0.51**	**116**	*e*Pg	**Pg**	**21 03 09.2**	**+0.2**
DALY	**Dalyan (Mu˘la**	**0.56**	**254**	*e*PG	**Pg**	**21 03 09.3**	**-0.7**
DALY				*e*SG	**Sg**	**21 03 18.4**	**+1.1**
DALY	**Dalyan (Mu˘la**	**0.56**	**254**	*e*Pg	**Pg**	**21 03 09.3**	**-0.7**
DALY				*e*Sg	**Sg**	**21 03 18.4**	**+1.1**
TURN	**Turunc**	**0.59**	**261**	*i* P	**Pn**	**21 03 15.2**	**+1.0**
TURN				*i* S	**Sn**	**21 03 28.4**	**+4.1**
TURN	**Turunc**	**0.59**	**261**	*i* P	**Pn**	**21 03 15.2**	**+1.0**
AKAS	**Kas**	**0.77**	**163**	*i* P	**Pg**	**21 03 13.7**	**-0.2**
AKAS				*i* S	**Sn**	**21 03 28.2**	**-0.7**
YER	**Yerkesik**	**0.85**	**281**	*e*PG	**Pg**	**21 03 15.3**	**-0.2**
YER				*e*SG	**Sb**	**21 03 27.6**	**-0.7**
YER	**Yerkesik**	**0.85**	**281**	*e*Pg	**Pg**	**21 03 15.4**	**-0.2**
YER				*e*Sg	**Sb**	**21 03 27.6**	**-0.7**
ANTB	**Antalya**	**1.06**	**93**	*e*PG	**Pg**	**21 03 19.5**	**0.0**
ANTB	**Antalya**	**1.06**	**93**	*e*Pg	**Pg**	**21 03 19.5**	**0.0**
BCK	**Bucak**	**1.12**	**64**	*e*PN	**Pb**	**21 03 20.3**	**-0.7**
BCK	**Bucak**	**1.12**	**64**	*e*Pn	**Pb**	**21 03 20.3**	**-0.7**
ARG	**Arkhangelos**	**1.23**	**233**	*e*Pb	**Pn**	**21 03 21.4**	**-1.6**
ISP	**Isparta**	**1.27**	**48**	*e*PN	**Pg**	**21 03 23.9**	**+0.3**
ISP	**Isparta**	**1.27**	**48**	*e*Pn	**Pg**	**21 03 23.9**	**+0.3**
AYDN	**Tasoluk**	**1.35**	**301**	*i* P	**Pg**	**21 03 25.4**	**+0.5**
AYDN				*i* S	**Sg**	**21 03 44.6**	**+2.2**
AYDN	**Tasoluk**	**1.35**	**301**	*i* P	**Pg**	**21 03 25.4**	**+0.5**
AYDN				*i* S	**Sg**	**21 03 44.6**	**+2.2**
KHL	**Karahalli**	**1.36**	**6**	*e*PN	**Pg**	**21 03 25.3**	**+0.1**
KHL	**Karahalli**	**1.36**	**6**	*e*Pn	**Pg**	**21 03 25.3**	**+0.1**
KHAL	**Karahalli**	**1.40**	**5**	*i* P	**Pg**	**21 03 26.1**	**+0.1**
KHAL				*i* S	**Sb**	**21 03 42.2**	**-1.9**
KHAL	**Karahalli**	**1.40**	**5**	*i* P	**Pg**	**21 03 26.1**	**+0.1**
KHAL				*i* S	**Sb**	**21 03 42.3**	**-1.9**
SUTC	**Sutluce-Ispart**	**1.42**	**69**	*e*PN	**Pn**	**21 03 24.9**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.42**	**69**	*e*Pn	**Pn**	**21 03 24.9**	**-0.9**
DAT	**Datca**	**1.43**	**261**	*e*PN	**Pn**	**21 03 25.7**	**-0.1**
DAT	**Datca**	**1.43**	**261**	*e*Pn	**Pn**	**21 03 25.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**311**	*e*PN	**Pb**	**21 03 26.9**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**311**	*e*Pn	**Pb**	**21 03 26.9**	**-0.7**
BDRM	**Kayabasi**	**1.51**	**274**	*i* P	**Pb**	**21 03 27.2**	**-0.5**
BDRM				*i* S	**Sg**	**21 03 47.4**	**-0.4**
BDRM	**Kayabasi**	**1.51**	**274**	*i* P	**Pb**	**21 03 27.2**	**-0.5**
BDRM				*i* S	**Sg**	**21 03 47.4**	**-0.4**
BODT	**Bodrum**	**1.62**	**274**	*e*PN	**Pb**	**21 03 28.5**	**-1.1**
BODT	**Bodrum**	**1.62**	**274**	*e*Pn	**Pb**	**21 03 28.5**	**-1.1**
KULA	**Kula-Manisa**	**1.63**	**341**	*e*PN	**Pb**	**21 03 28.6**	**-1.2**
KULA	**Kula-Manisa**	**1.63**	**341**	*e*Pn	**Pb**	**21 03 28.6**	**-1.2**
MANT	**Manisa**	**1.64**	**338**	*i* P	**Pb**	**21 03 29.1**	**-0.9**
MANT				*i* S	**Sg**	**21 03 51.1**	**-0.7**
MANT	**Manisa**	**1.64**	**338**	*i* P	**Pb**	**21 03 29.1**	**-0.9**
MANT				*i* S	**Sg**	**21 03 51.1**	**-0.7**
GCAM	**G?zelcaml?**	**1.82**	**294**	*i* P	**Pb**	**21 03 31.7**	**-1.3**
GCAM				*i* S	**Sn**	**21 03 53.6**	**-1.1**
GCAM	**G?zelcaml?**	**1.82**	**294**	*i* P	**Pb**	**21 03 31.7**	**-1.3**
GCAM				*i* S	**Sn**	**21 03 53.6**	**-1.1**
SHUT	**Suhut-Afyon**	**1.85**	**31**	*e*PN	**Pn**	**21 03 31.7**	**0.0**
SHUT	**Suhut-Afyon**	**1.85**	**31**	*e*Pn	**Pn**	**21 03 31.7**	**0.0**
GDZ	**Gediz**	**2.12**	**3**	*i* P	**Pn**	**21 03 35.7**	**+0.3**
GDZ				*i* S	**Sb**	**21 04 03.0**	**-1.8**
GDZ	**Gediz**	**2.12**	**3**	*i* P	**Pn**	**21 03 35.7**	**+0.3**
GDZ				*i* S	**Sb**	**21 04 03.0**	**-1.8**
SMG	**Samos**	**2.12**	**291**	*e*Pn	**Pn**	**21 03 35.8**	**+0.5**
SMG				*e*Sn	**Sb**	**21 04 02.6**	**-2.1**
DEMI	**Demirci**	**2.12**	**347**	*i* P	**Pn**	**21 03 35.7**	**+0.3**
DEMI				*i* S	**Sb**	**21 04 04.6**	**-0.3**
DEMI	**Demirci**	**2.12**	**347**	*i* P	**Pn**	**21 03 35.7**	**+0.3**
AKHS	**Akhisar**	**2.25**	**328**	*i* P	**Pn**	**21 03 36.1**	**-1.0**
AKHS				*i* S	Sn	21 03 58.0	-7.3
AKHS	**Akhisar**	**2.25**	**328**	*i* P	**Pn**	**21 03 36.1**	**-1.0**
AKS	**Akhisar**	**2.25**	**328**	*e*PN	**Pn**	**21 03 37.4**	**+0.3**
AKS	**Akhisar**	**2.25**	**328**	*e*Pn	**Pn**	**21 03 37.4**	**+0.3**
KARP	**Karpathos**	**2.26**	**232**	*e*Pn	**Pn**	**21 03 38.1**	**+0.9**
KARP				*e*Sn	**Sb**	**21 04 07.3**	**-1.4**
TVSB	**Tavsanli**	**2.48**	**2**	*e*PN	**Pn**	**21 03 40.7**	**+0.4**
TVSB	**Tavsanli**	**2.48**	**2**	*e*Pn	**Pn**	**21 03 40.7**	**+0.4**
GAZI	**Gazipasa**	**2.51**	**106**	*i* P	**Pb**	**21 03 42.8**	**-2.0**
GAZI				*i* S	**Sb**	**21 04 14.9**	**-1.0**
GAZI	**Gazipasa**	**2.51**	**106**	*i* P	**Pb**	**21 03 42.8**	**-2.0**
GAZI				*i* S	**Sb**	**21 04 14.9**	**-1.0**
KDHN	**Kadinhani**	**2.69**	**54**	*i* P	**Pn**	**21 03 44.8**	**+1.5**
KDHN				*i* S	**Sn**	**21 04 17.5**	**+1.1**
KDHN	**Kadinhani**	**2.69**	**54**	*i* P	**Pn**	**21 03 44.8**	**+1.5**
KDHN				*i* S	**Sn**	**21 04 17.5**	**+1.1**
LADK	**Ladik-KONYA**	**2.70**	**62**	*e*PN	**Pn**	**21 03 44.0**	**+0.6**
LADK	**Ladik-KONYA**	**2.70**	**62**	*e*Pn	**Pn**	**21 03 44.0**	**+0.6**
ERMK	**Ermenek**	**2.89**	**95**	*i* P	**Pb**	**21 03 50.9**	**-0.5**
ERMK				*i* S	**Sb**	**21 04 28.4**	**+1.3**
CHOS	**Chios island**	**2.96**	**300**	*e*PN	**Pn**	**21 03 48.3**	**+1.4**
CHOS	**Chios island**	**2.96**	**300**	*e*Pb	**Pn**	**21 03 47.4**	**+0.5**
CHOS	**Chios island**	**2.96**	**300**	*e*Pn	**Pn**	**21 03 48.3**	**+1.4**
APE	**Apeiranthos**	**3.04**	**273**	*e*Pn	**Pn**	**21 03 49.1**	**+1.1**
APE				*e*Sb	**Sn**	**21 04 26.8**	**+1.9**
PRK	**Paraskevi**	**3.31**	**314**	*e*Pn	**Pn**	**21 03 52.3**	**+0.6**
GONE	**Gonen-Balikesi**	**3.33**	**338**	*e*PN	**Pn**	**21 03 52.5**	**+0.6**
GONE	**Gonen-Balikesi**	**3.33**	**338**	*e*Pn	**Pn**	**21 03 52.5**	**+0.6**
NPS	**Neapolis**	**3.46**	**242**	*e*Pn	**Pn**	**21 03 54.7**	**+1.0**
NPS				*e*Sn	**Sn**	**21 04 34.7**	**-0.4**
SIGR	**SIGRI**	**3.54**	**310**	*e*Pn	**Pn**	**21 03 55.5**	**+0.7**
SULT	**Sultanhani-AKS**	**3.54**	**68**	*e*PN	**Pn**	**21 03 55.9**	**+1.0**
SULT	**Sultanhani-AKS**	**3.54**	**68**	*e*Pn	**Pn**	**21 03 55.9**	**+1.0**
GULT	**Gulveren**	**3.58**	**15**	*e*PN	**Pn**	**21 03 56.0**	**+0.6**
GULT	**Gulveren**	**3.58**	**15**	*e*Pn	**Pn**	**21 03 56.0**	**+0.6**
IKL	**Isikli**	**3.58**	**100**	*e*PN	**Pn**	**21 03 56.5**	**+1.2**
IKL	**Isikli**	**3.58**	**100**	*e*Pn	**Pn**	**21 03 56.5**	**+1.2**
ARMT	**Armutlu**	**3.61**	**354**	*e*PN	**Pn**	**21 03 56.7**	**+0.9**
ARMT	**Armutlu**	**3.61**	**354**	*e*Pn	**Pn**	**21 03 56.7**	**+0.9**
CSS	**Prodhromos**	**3.81**	**121**	*e*PN	**Pn**	**21 04 00.2**	**+1.6**
CSS	**Prodhromos**	**3.81**	**121**	*e*Pn	**Pn**	**21 04 00.2**	**+1.6**
AFSR	**Af˘ar-Bala (A**	**3.84**	**49**	*e*PN	**Pn**	**21 04 00.2**	**+1.1**
AFSR	**Af˘ar-Bala (A**	**3.84**	**49**	*e*Pn	**Pn**	**21 04 00.2**	**+1.1**
IDI	**Anoyia**	**3.97**	**246**	*e*PN	**Pn**	**21 04 02.5**	**+1.7**
IDI	**Anoyia**	**3.97**	**246**	*e*Pn	**Pn**	**21 04 02.5**	**+1.7**
GELI	**Tayfur-Gelibol**	**4.09**	**328**	*e*PN	**Pn**	**21 04 03.3**	**+1.0**
GELI	**Tayfur-Gelibol**	**4.09**	**328**	*e*Pn	**Pn**	**21 04 03.3**	**+1.0**
MERS	**Mersin**	**4.16**	**90**	*e*PN	**Pn**	**21 04 04.7**	**+1.3**
MERS	**Mersin**	**4.16**	**90**	*e*Pn	**Pn**	**21 04 04.7**	**+1.3**
LIA	**Limnos Island**	**4.38**	**313**	*e*Pn	**Pn**	**21 04 07.7**	**+1.4**
VAM	**Vamos**	**4.43**	**251**	*e*Pb	Pn	**21 04 11.7**	**+4.6**
SMH	**Samothraki Isl**	**4.59**	**321**	*e*Pn	**Pn**	**21 04 10.6**	**+1.4**
AOS	**Alonnisos**	**4.83**	**299**	*e*Pn	**Pn**	**21 04 13.7**	**+1.2**
KYTH	**Kithira**	**5.11**	**264**	*e*Pn	Pn	21 04 19.8	+3.4
NVR	**Nevrokopi**	**6.10**	**317**	*e*Pn	**Pn**	**21 04 31.5**	**+1.5**

IDC 07 21:31:52.4±1.9, 1°83N×126°73E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, Error ellipse: s-maj=183.7km s-min=21.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.89**	**161**	P	P	21 36 58.1	+0.2
	0.3nm,0.5s,baz=340,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**26.29**	**165**	P	P	21 37 29.8	0.0
	0.3nm,0.4s,baz=350,slow=8.1,SNR=6.4						
MKAR	**Makanchi Array**	**59.11**	**326**	P	P	21 41 55.2	+0.4
	0.2nm,0.4s,baz=115,slow=8.6,SNR=6.0						
KURBB	**Kurchatov Arra**	**63.33**	**328**	P	P	21 42 22.7	-0.5
	0.2nm,0.3s,baz=126,slow=5.1,SNR=4.9						

*ISN **07** 21:34:22.0±1.1, 32°79N×45°83E, h0km±999km, ML3.5*
*IDC **07** 21:34:23.7±1.3, 33°01N×46°09E, h0km, mb3.7/11, mb1 3.7/14, mb1mx3.6/29, mbtmp3.7/14, ML3.5/3, Error ellipse: s-maj=29.5km s-min=16.7km az=172.0*
*ISCJB **07** 21:34:25.7±0.6, 32°96N±0°05×46°02E±0°04, h28km±4km, mb3.8/14, Error ellipse: s-maj=7.7km s-min=5.6km az=12.0*
*CSEM **07** 21:34:25.8±0.2, 32°96N×46°02E, h10km, ML3.5, Error ellipse: s-maj=4.6km s-min=3.6km az=98.0*
*TEH **07** 21:34:28.7, 32°97N×46°09E, h28km, ML3.9*
ISC 07 21:34:26.1±1.0, 32°97N±0°03×46°07E±0°04, h17km±7km, n64, σ0s98/72, mb3.8/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.18**	**321**	*e*PG	**Pg**	**21 34 29.3**	**-1.3**
IBDR				*e*SG	**Sb**	**21 34 34.7**	**+0.5**
IGHG	**Ghaleghazi**	**1.42**	**17**	*e*Pn	**Pb**	**21 34 52.7**	**+0.4**
IGHG				*e*Sg	**Sg**	**21 35 13.7**	**+1.7**
IGHG				*e*		21 35 17.5	
	comp=Z,28µm,0.3s						
IGHG	**Ghaleghazi**	**1.42**	**17**	*e*Pn	**Pb**	**21 34 52.7**	**+0.4**
IGHG				*e*Sg	**Sg**	**21 35 13.7**	**+1.7**
BHD	**Baghdad**	**1.45**	**282**	*e*Pg	**Pn**	**21 34 52.0**	**+0.6**
BHD				*e*Sg	**Sn**	**21 35 11.0**	**+1.0**
BHD	**Baghdad**	**1.45**	**282**	*e*Pg	**Pn**	**21 34 52.0**	**+0.6**
	SNR=9.0						
BHD				*e*Sg	**Sn**	**21 35 11.0**	**+1.0**
	SNR=9.0						
IVIS	**Veis**	**1.68**	**23**	*e*Pn	**Pb**	**21 34 56.3**	**-0.4**
IVIS				*e*		21 35 23.4	
	comp=Z,18µm,0.3s						
IVIS	**Veis**	**1.68**	**23**	*e*Pn	**Pb**	**21 34 56.3**	**-0.4**
IKOM	**Komasi**	**1.70**	**45**	*e*Pn	**Pb**	**21 34 56.6**	**-0.4**
IKOM				*e*Sg	**Sg**	**21 35 22.2**	**+1.2**
IKOM				*e*		21 35 24.3	
	comp=Z,27µm,0.4s						
IKOM	**Komasi**	**1.70**	**45**	*e*Pn	**Pb**	**21 34 56.6**	**-0.4**
IKOM				*e*Sg	**Sg**	**21 35 22.2**	**+1.2**
NSR	**Nassriya**	**1.96**	**178**	*e*PG	**Pb**	**21 35 02.0**	**+0.8**
NSR				*e*SG	**Sg**	**21 35 29.5**	**+0.4**
NSR	**Nassriya**	**1.96**	**178**	*e*Pg	**Pb**	**21 35 02.0**	**+0.8**
	SNR=90						
NSR				*e*Sg	**Sg**	**21 35 29.5**	**+0.4**
	SNR=90						
ILIN	**Lien**	**2.08**	**21**	*e*Pn	**Pn**	**21 35 01.7**	**+1.2**
ILIN				*e*		21 35 20.8	
	comp=Z,4µm,0.3s						
ILIN	**Lien**	**2.08**	**21**	*e*Pn	**Pn**	**21 35 01.7**	**+1.2**
SNGE	**Sanandaj**	**2.37**	**26**	*e*Pn	**Pn**	**21 35 06.4**	**+2.0**
SHGR	**Shooshtar-Gavs**	**2.46**	**110**	*e*Pn	**Pn**	**21 35 07.2**	**+1.7**
KHMZ	**Khomeyn**	**3.35**	**76**	*e*Pn	**Pn**	**21 35 18.9**	**+1.1**
ASAO	**Ashtian**	**3.66**	**63**	*e*Pn	**Pn**	**21 35 23.4**	**+1.3**
UMR	**Umm Al-Rimmam**	**3.69**	**157**	*e*P	**Pn**	**21 35 23.4**	**+1.1**
UMR				AML	AML	21 36 12.7	
	comp=Z,73nm,0.4s						
UMR	**Umm Al-Rimmam**	**3.69**	**157**	*e*P	**Pn**	**21 35 23.4**	**+1.1**
IPIR	**Pirpir**	**4.07**	**93**	*e*Pn	**Pn**	**21 35 28.6**	**+0.7**
IPIR				*e*		21 36 18.5	
	comp=Z,2µm,0.3s						
IPIR	**Pirpir**	**4.07**	**93**	*e*Pn	**Pn**	**21 35 28.6**	**+0.7**
RDF	**Al-Radifah**	**4.23**	**162**	*e*P	**Pn**	**21 35 30.8**	**+1.1**
RDF				AML	AML	21 36 22.7	
	comp=Z,63nm,0.6s						
RDF	**Al-Radifah**	**4.23**	**162**	*e*P	**Pn**	**21 35 30.8**	**+1.1**
QRN	**Al-Qurain**	**4.50**	**159**	*e*P	**Pn**	**21 35 35.4**	**+1.9**
GHVR	**GHOM**	**4.61**	**70**	*e*Pn	**Pn**	**21 35 36.0**	**+0.9**
IKLH	**Kolahrood**	**4.64**	**84**	*e*Pn	**Pn**	**21 35 36.7**	**+1.1**
IKLH				*e*		21 36 36.0	
	comp=Z,491nm,0.3s						
IKLH	**Kolahrood**	**4.64**	**84**	*e*Pn	**Pn**	**21 35 36.7**	**+1.1**
IBST	**Bostanabad**	**4.77**	**8**	*e*Pn	**Pn**	**21 35 38.5**	**+1.1**
IBST				*e*		21 36 01.9	
	comp=Z,212nm,0.2s						
IBST	**Bostanabad**	**4.77**	**8**	*e*Pn	**Pn**	**21 35 38.5**	**+1.1**
IGAR	**Gharneh**	**5.07**	**95**	*e*Pn	**Pn**	**21 35 41.6**	**+0.1**
IGAR				*e*		21 36 41.1	
	comp=Z,537nm,0.2s						
IZEF	**Zefreh**	**5.27**	**89**	*e*Pn	**Pn**	**21 35 45.1**	**+0.8**
IZEF				*e*		21 36 57.6	
	comp=Z,493nm,0.1s						
IZEF	**Zefreh**	**5.27**	**89**	*e*Pn	**Pn**	**21 35 45.1**	**+0.8**
ISFB	**Sefidab**	**5.33**	**73**	*e*Pn	**Pn**	**21 35 45.3**	**+0.3**
ISFB				*e*		21 37 33.5	
	comp=Z,226nm,0.5s						
ISFB	**Sefidab**	**5.33**	**73**	*e*Pn	**Pn**	**21 35 45.3**	**+0.3**
IDMV	**Damavand**	**5.58**	**61**	*e*Pn	**Pn**	**21 35 48.9**	**+0.3**
IDMV				*e*		21 37 47.6	
	comp=Z,412nm,0.8s						
IDMV	**Damavand**	**5.58**	**61**	*e*Pn	**Pn**	**21 35 48.9**	**+0.3**
ASF	**Jabal al Asfar**	**7.78**	**267**	Pn	**Pn**	**21 36 19.1**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=63,slow=3.3,SNR=15						
ASF				Sn	**Sn**	**21 37 43.5**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=212,slow=21,SNR=5.6						
ASF				Lg	Lg	21 38 40.8	
	comp=Z,1.2nm,0.3s,baz=252,slow=18,SNR=3.2						
MMAI	**Mount Meron Ar**	**8.96**	**273**	Pn	**Pn**	**21 36 35.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=81,slow=18,SNR=3.6						
MMAI				Lg	Lg	21 39 17.7	
	comp=Z,1.1nm,0.3s,baz=96,slow=39,SNR=3.2						
EIL	**Elat**	**10.06**	**254**	Lg	Lg	21 39 54.1	
	comp=Z,0.3nm,0.3s,baz=72,slow=13,SNR=4.4						
AKTO	**Aktyubinsk**	**19.55**	**23**	P	**P**	**21 38 52.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=194,slow=10,SNR=3.4						
AKASG	**Malin Array Be**	**21.62**	**330**	P	**P**	**21 39 15.0**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=129,slow=12,SNR=8.1						
BVAR	**Borovoye Array**	**26.57**	**34**	P	**P**	**21 40 03.3**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=220,slow=8.9,SNR=8.3						
KURBB	**Kurchatov Arra**	**29.62**	**44**	P	**P**	**21 40 31.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=251,slow=9.1,SNR=6.7						
MKAR	**Makanchi Array**	**30.74**	**53**	P	**P**	**21 40 40.9**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=249,slow=7.3,SNR=16						
FINES	**FINESS Array B**	**31.29**	**342**	P	**P**	**21 40 44.2**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=142,slow=9.6,SNR=5.3						
MBDF	**Montbardon**	**32.48**	**303**	*e*P	P	21 40 51.9	-3.9
	comp=Z,19nm,1.1s						
LPG	**La Plagne**	**32.60**	**304**	*e*P	**P**	**21 40 58.0**	**+1.0**
	comp=Z,12nm,0.9s						
LPL	**La Plagne**	**32.62**	**304**	*e*P	**P**	**21 40 58.1**

WRA	**Warramunga Arr**	**38.13**	**160**	P		**P**	**21 47 03.6**	**-0.9**
	1.9nm,0.9s,baz=341,slow=9.4,SNR=18							
ASAR	**Alice Springs**	**41.51**	**163**	P		**P**	**21 47 32.9**	**+0.4**
ASAR	**Alice Springs**	**41.51**	**163**	P		**P**	**21 47 32.9**	**+0.4**
	1.4nm,0.7s,baz=342,slow=7.2,SNR=6.6							
H11S3	**WAKE ISLAND Hy**	**42.98**	**80**	T		T	22 33 43.0	
	baz=278							
H11S1	**WAKE ISLAND Hy**	**42.99**	**80**	T		T	22 33 56.9	
	baz=278							
H11S2	**WAKE ISLAND Hy**	**43.00**	**80**	T		T	22 33 51.0	
	baz=278							
H11N1	**WAKE ISLAND Hy**	**43.10**	**78**	T		T	22 33 19.5	
	baz=272,slow=75							
H11N2	**WAKE ISLAND Hy**	**43.10**	**78**	T		T	22 33 16.2	
	baz=272,slow=75							
H11N3	**WAKE ISLAND Hy**	**43.11**	**78**	T		T	22 33 20.9	
	baz=272							
MKAR	**Makanchi Array**	**44.51**	**322**	P		**P**	**21 47 56.4**	**-0.3**
MKAR	**Makanchi Array**	**44.51**	**322**	P		**P**	**21 47 56.4**	**-0.3**
	0.4nm,0.8s,baz=120,slow=9.0,SNR=3.3							
PETK	**Petropavlovsk-**	**46.33**	**29**	P		**P**	**21 48 10.2**	**-0.7**
PETK	**Petropavlovsk-**	**46.33**	**29**	P		**P**	**21 48 10.2**	**-0.7**
	4.4nm,0.8s,baz=263,slow=9.6,SNR=3.5							
ZALV	**Zalesovo Beam**	**47.19**	**331**	P		**P**	**21 48 17.4**	**-0.2**
ZALV	**Zalesovo Beam**	**47.19**	**331**	P		**P**	**21 48 17.4**	**-0.2**
	0.2nm,0.3s,baz=111,slow=8.1,SNR=3.5							
KURK	**Kurchatov**	**48.55**	**325**	P		**P**	**21 48 26.1**	**-2.2**
	2.1nm,1.0s							
KURBB	**Kurchatov Arra**	**48.56**	**325**	P		**P**	**21 48 27.9**	**-0.4**
	0.5nm,0.4s,baz=121,slow=8.3,SNR=4.9							
STKA	**Stephens Creek**	**51.60**	**158**	P		**P**	**21 48 52.9**	**+1.4**
STKA	**Stephens Creek**	**51.60**	**158**	P		**P**	**21 48 52.9**	**+1.4**
	1.5nm,0.6s,baz=308,slow=23,SNR=3.4							
ABKAR	**Akbulak array**	**59.38**	**318**	*e*P		**P**	**21 49 46.2**	**-1.2**
	1.1nm,0.6s							
AKTO	**Aktyubinsk**	**60.82**	**319**	P		**P**	**21 49 56.9**	**-0.3**
AKTO	**Aktyubinsk**	**60.82**	**319**	P		**P**	**21 49 56.9**	**-0.3**
	0.9nm,0.5s,baz=77,slow=11,SNR=2.8							
ARU	**Arti**	**61.72**	**326**	*e*P		**P**	**21 50 01.4**	**-1.7**
	2.1nm,0.5s							
ILAR	**Eielson Array**	**76.03**	**26**	P		**P**	**21 51 31.7**	**-0.3**
ILAR	**Eielson Array**	**76.03**	**26**	P		**P**	**21 51 31.7**	**-0.3**
	0.1nm,0.6s,baz=270,slow=5.0,SNR=2.9							
ARCES	**ARCESS Array B**	**76.98**	**339**	P		**P**	**21 51 36.2**	**-1.1**
ARCES	**ARCESS Array B**	**76.98**	**339**	P		**P**	**21 51 36.2**	**-1.1**
	2.5nm,1.0s,baz=57,slow=3.5,SNR=3.7							
BRTR	**Keskin Array B**	**78.24**	**308**	P		P	21 51 49.8	+4.6
BRTR	**Keskin Array B**	**78.24**	**308**	P		P	21 51 49.8	+4.6
	0.5nm,0.8s,baz=54,slow=7.3,SNR=2.5							
FINES	**FINESS Array B**	**78.45**	**331**	P		**P**	**21 51 44.8**	**-0.8**
FINES	**FINESS Array B**	**78.45**	**331**	P		**P**	**21 51 44.8**	**-0.8**
	3.2nm,1.0s,baz=62,slow=4.5,SNR=4.7							
AKASG	**Malin Array Be**	**79.06**	**320**	P		P	21 51 55.6	+6.5
AKASG	**Malin Array Be**	**79.06**	**320**	P		P	21 51 55.6	+6.5
	0.2nm,0.3s,baz=65,slow=4.5,SNR=3.6							
RAR	**Rarotonga**	**85.61**	**113**	LR		LR	22 23 16.3	
	comp=Z,330nm,20.3s,baz=216,slow=30							

*ISCJB **07** 21:48:33.9±0.4,23.˚54S±0.˚02×68.˚91W±0.˚04, h87km±2km, mb4.5/60, Error ellipse: s-maj=6.3km s-min=3.9km az=170.0*

*GUC **07** 21:48:35.1±0.8,23.˚45S×69.˚12W, h98km±8km, ML5.1*

*IDC **07** 21:48:35.9±0.4,23.˚42S×68.˚85W, h90km±2km, mb4.2/13, mb1 4.4/16, mb1mx4.3/19, mbtmp4.5/16, MS3.4/7, Ms1 3.4/7, ms1mx3.1/32, Error ellipse: s-maj=14.4km s-min=11.6km az=58.0*

*NEIC **07** 21:48:35.1,23.˚45S×69.˚12W, h98km, mb4.7/50, After GUC.*

NEIC Felt [III] at Calama and Mejillones; [II] at Antofagasta.

*BJI **07** 21:48:38.1,23.˚40S×69.˚10W, h97km, mB5.4/5*

ISC 07 21:48:35.5±0.3, 23.˚53S±0.˚03×69.˚04W±0.˚04, h93km±2km, h92km:pP-P, n395, σ1s33/505, mb4.6/60, 111C-123D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**0.92**	**7**	*e*Pn		**Pn**	**21 48 54.2**	**-0.7**
LVC				*e*Sn		**Sn**	**21 49 08.9**	**-0.4**
SPCH	**San Pedro de A**	**0.99**	**51**	*e*P		Pn	21 49 00.0	+4.4
SPCH				*e*S		**Sn**	**21 49 16.0**	**+5.2**
SPCH	**San Pedro de A**	**0.99**	**51**	*e*P		Pn	21 49 00.0	+4.4
SPCH				*e*S		**Sn**	**21 49 16.0**	**+5.2**
CEN1	**Los Morros**	**1.07**	**277**	↓*e*P		**Pn**	**21 48 57.0**	**+0.6**
CEN1				*e*S		**Sn**	**21 49 14.3**	**+2.3**
CEN1					AML	AML	21 49 15.7	
	comp=N,35μm,0.6s							
CEN1	**Los Morros**	**1.07**	**277**	↓*e*P		**Pn**	**21 48 57.0**	**+0.6**
CEN1				*e*S		**Sn**	**21 49 14.3**	**+2.3**
ANCH	**Antofagasta**	**1.27**	**263**	↑*i*P		**Pn**	**21 48 58.9**	**+0.4**
ANCH				*i* S		**Sn**	**21 49 16.5**	**+0.6**
ANCH					AML	AML	21 49 18.7	
	comp=E,32μm,0.7s							
ANCH	**Antofagasta**	**1.27**	**263**	↑*i*P		**Pn**	**21 48 58.9**	**+0.4**
ANCH				*i* S		**Sn**	**21 49 16.5**	**+0.6**
PB04	**Plate Boundary**	**1.33**	**342**	↓*e*P		**Pn**	**21 49 01.6**	**+2.3**
PB04				*e*S		**Sn**	**21 49 21.4**	**+4.2**
PB04					AML	AML	21 49 29.5	
	comp=N,26μm,0.6s							
PB04	**Plate Boundary**	**1.33**	**342**	↓*e*P		**Pn**	**21 49 01.6**	**+2.3**
PB04				*e*S		**Sn**	**21 49 21.4**	**+4.2**
PB10	**Plate Boundary**	**1.39**	**270**	↑*i*P		**Pn**	**21 48 59.7**	**-0.4**
PB10				*i* S		**Sn**	**21 49 17.7**	**-0.9**
PB10					AML	AML	21 49 23.4	
	comp=N,108μm,0.5s							
MACH	**Maria Elena**	**1.49**	**333**	↓*e*P		**Pn**	**21 49 00.9**	**-0.6**
MACH				*i* S		**Sn**	**21 49 20.3**	**-0.8**
MACH	**Maria Elena**	**1.49**	**333**	↓*e*P		**Pn**	**21 49 00.9**	**-0.6**
MACH				*i* S		**Sn**	**21 49 20.3**	**-0.8**
PB09	**Plate Boundary**	**1.74**	**354**	↓*e*P		**Pn**	**21 49 04.9**	**+0.2**
PB09				*e*S		**Sn**	**21 49 27.1**	**+0.4**
PB09	**Plate Boundary**	**1.74**	**354**	↓*e*P		**Pn**	**21 49 04.9**	**+0.2**
PB09				*e*S		**Sn**	**21 49 27.1**	**+0.4**
PB07	**Plate Boundary**	**1.96**	**336**	↑*e*P		**Pn**	**21 49 07.0**	**-0.6**
PB07				*e*S		**Sn**	**21 49 30.8**	**-1.1**
PB07					AML	AML	21 49 35.5	
	comp=N,15μm,0.5s							
PB07	**Plate Boundary**	**1.96**	**336**	↑*e*P		**Pn**	**21 49 07.0**	**-0.6**
PB07				*e*S		**Sn**	**21 49 30.8**	**-1.1**
PB01	**Plate Boundary**	**2.51**	**350**	↑*e*P		**Pn**	**21 49 14.1**	**-0.7**
PB01				*e*S		**Sn**	**21 49 44.2**	**-0.6**
PB01					AML	AML	21 49 48.4	
	comp=E,9μm,0.4s							
PB01	**Plate Boundary**	**2.51**	**350**	↑*e*P		**Pn**	**21 49 14.1**	**-0.7**
PB01				*e*S		**Sn**	**21 49 44.2**	**-0.6**
PATCX	**Punta Patache**	**2.89**	**339**	↑*e*P		**Pn**	**21 49 18.0**	**-1.8**
PATCX				*e*S		**Sn**	**21 49 51.8**	**-2.0**
PATCX					AML	AML	21 50 21.4	
	comp=N,6μm,0.4s							
HMBC	**Humberstone**	**3.33**	**346**	↑*e*P		**Pn**	**21 49 23.7**	**-2.0**
HMBC					AML	AML	21 50 28.0	
	comp=E,9μm,0.4s							
HMBC	**Humberstone**	**3.33**	**346**	P		**Pn**	**21 49 23.7**	**-2.0**
PSGC	**Pisagua**	**4.04**	**345**	↑*e*P		Pn	21 49 32.0	-3.3
PSGC	**Pisagua**	**4.04**	**345**	P		Pn	21 49 32.0	-3.3
MNMC	**Minimini**	**4.41**	**353**	*e*P		**Pn**	**21 49 38.5**	**-2.0**
MNMC	**Minimini**	**4.41**	**353**	P		**Pn**	**21 49 38.5**	**-2.0**
LCO	**Las Campanas**	**5.66**	**195**	*e*Pn		**Pn**	**21 49 54.8**	**-2.5**
LCO				*e*Sn		**Sn**	**21 51 02.1**	**+1.0**
LPAZ	**La Paz**	**7.26**	**7**	*e*Pn		**Pn**	**21 50 19.6**	**+0.1**
LPAZ	**La Paz**	**7.26**	**7**	P		**Pn**	**21 50 19.3**	**-0.3**
	comp=E,2.6nm,0.3s,baz=189,slow=6.9,SNR=75							
LPAZ					LR	LR	21 53 23.8	
	comp=E,229nm,21.8s,baz=93,slow=40							
CFAA	**Coronel Fontan**	**8.07**	**175**	P		**Pn**	**21 50 28.4**	**-1.7**
CFAA				S		**Sn**	**21 52 01.2**	**+1.5**
CFAA	**Coronel Fontan**	**8.07**	**175**	P		**Pn**	**21 50 28.4**	**-1.7**
	comp=E,2.0nm,0.3s,baz=349,slow=13,SNR=133							
CFAA				S		**Sn**	**21 52 01.2**	**+1.5**
	comp=E,0.8nm,0.3s,baz=230,slow=14,SNR=2.2							
SIV	**San Ignacio**	**10.61**	**46**	P		Pn	21 51 00.6	-4.1
SIV				S		Sn	21 52 49.2	-12
SIV	**San Ignacio**	**10.61**	**46**	P		Pn	21 51 00.6	-4.1
	comp=E,42nm,0.3s,baz=239,slow=13,SNR=465							
SIV				S		Sn	21 52 49.2	-12
	baz=294,slow=19,SNR=2.2							
CPUP	**Villa Florida**	**10.99**	**107**	*e*Pn		**Pn**	**21 51 08.4**	**-1.3**
	comp=E,1.5nm,0.7s							
CPUP	**Villa Florida**	**10.99**	**107**	P		**Pn**	**21 51 08.1**	**-1.6**
	comp=E,0.6nm,0.3s,baz=269,slow=12,SNR=16							
CPUP					LR	LR	21 56 17.2	
	comp=E,38nm,20.2s,baz=270,slow=42							
H03N1	**Juan Fernandez**	**13.14**	**219**	P		**Pn**	**21 51 35.8**	**-2.4**
H03N1					T	T	22 03 54.9	
	baz=40,slow=74,SNR=82							
H03N2	**Juan Fernandez**	**13.15**	**219**	P		**Pn**	**21 51 35.8**	**-2.5**
H03N2					T	T	22 04 21.3	
	baz=40,slow=74,SNR=67							
H03N3	**Juan Fernandez**	**13.15**	**219**	P		**Pn**	**21 51 35.8**	**-2.6**
H03N3					T	T	22 04 20.1	
	baz=40,slow=74,SNR=89							
SAML	**Samuel**	**15.55**	**22**	*e*Pn		Pn	21 52 04.5	-5.1
	comp=E,9.8nm,0.8s							
TRQA	**Tornquist**	**15.69**	**159**	*e*Pn		**Pn**	**21 52 11.7**	**+0.4**
	comp=E,90nm,0.8s							
PLCA	**Paso Flores**	**17.20**	**184**	*e*Pn		**Pn**	**21 52 30.2**	**+0.3**
	comp=E,66nm,1.4s							
PLCA	**Paso Flores**	**17.20**	**184**	P		**P**	**21 52 31.3**	**+1.1**
	comp=E,0.8nm,0.3s,baz=7.6,slow=14,SNR=35							
PLCA					LR	LR	21 59 07.9	
	comp=E,101nm,21.4s,baz=313,slow=36							
SPB	**Sao Paulo**	**19.81**	**95**	*e*P		**P**	**21 52 57.3**	**-1.4**
	comp=E,15nm,0.6s							
BDFB	**Brasilia**	**21.29**	**72**	*e*P		**P**	**21 53 12.1**	**-2.8**
BDFB	**Brasilia**	**21.29**	**72**	P		**P**	**21 53 12.0**	**-2.8**
	comp=E,17nm,0.7s,baz=249,slow=10.0,SNR=25							
BDFB					LR	LR	22 02 49.2	
	comp=E,123nm,18.6s,baz=237,slow=40							
PTGA	**Pitinga**	**24.32**	**23**	*e*P		**P**	**21 53 43.5**	**-1.1**
	comp=E,16nm,0.8s							
OTAV	**Otavalo**	**25.34**	**338**	*e*P		**P**	**21 53 57.0**	**+2.6**
	comp=E,10nm,0.9s							
USHA	**Ushuaia**	**31.26**	**179**	P		**P**	**21 54 46.9**	**+0.7**
USHA	**Ushuaia**	**31.26**	**179**	P		**P**	**21 54 46.9**	**+0.7**
	comp=E,12nm,0.8s,baz=350,slow=7.5,SNR=3.1							
VNA1	**Neumayer--Stat**	**58.42**	**160**	*e*P		**P**	**21 58 19.6**	**-1.5**
H06E1	**SOCORRO T-PHAS**	**58.65**	**312**	T		T	23 00 54.9	
	SNR=9.8							
VNA2	**Neumayer--Watz**	**58.78**	**160**	*e*P		**P**	**21 58 24.7**	**+1.1**
732A	**Laxson Ranch,**	**59.90**	**329**	↑P		**P**	**21 58 32.8**	**+1.1**
	baz=60							
SNAA	**Sanae**	**60.41**	**161**	*e*P		**P**	**21 58 35.3**	**+0.4**
SNAA	**Sanae**	**60.41**	**161**	*e*P		**P**	**21 58 34.7**	**-0.2**
	comp=E,30nm,0.9s							
SNAA					*e*pP	**pP**	**21 58 54.4**	**-3.6**
631A	**Perdido Creek**	**60.75**	**328**	↓P		**P**	**21 58 37.6**	**0.0**
	baz=61,SNR=8.0							
532A	**Rocksprings**	**61.03**	**329**	↑P		**P**	**21 58 40.2**	**+0.6**
	baz=61							
433A	**Art**	**61.19**	**331**	↓P		**P**	**21 58 40.6**	**0.0**
	baz=61,SNR=7.0							
JCT	**Junction City**	**61.28**	**330**	*e*P		**P**	**21 58 41.9**	**+0.7**
	comp=E,18nm,0.8s							
JCT					*e*pP	**pP**	**21 59 04.0**	**-0.4**
JCT					*e*sP	**sP**	**21 59 14.9**	**+0.2**
JCT	**Junction City**	**61.28**	**330**	↑P		**P**	**21 58 41.2**	**0.0**
	baz=61,SNR=6.1							
TZTN	**Tazewell**	**61.30**	**347**	*e*P		**P**	**21 58 42.5**	**+1.3**
	comp=E,36nm,1.2s							
531A	**Rocksprings**	**61.37**	**329**	↑P		**P**	**21 58 42.5**	**+0.7**
	baz=62,SNR=7.6							
432A	**Menard**	**61.61**	**330**	↑P		**P**	**21 58 43.5**	**+0.1**
	baz=62,SNR=5.9							
333A	**Richland Sprin**	**61.63**	**331**	↓P		**P**	**21 58 43.8**	**+0.3**
	baz=62,SNR=6.6							
530A	**J-C Ranch, Com**	**61.73**	**328**	↑P		**P**	**21 58 44.6**	**+0.3**
	baz=62,SNR=9.2							
431A	**Sonora**	**61.83**	**329**	↓P		**P**	**21 58 45.7**	**+0.8**
	baz=62							
WVT	**Waverly**	**61.94**	**343**	*e*P		**P**	**21 58 44.2**	**-1.3**
	comp=E,13nm,0.8s							
628A	**Black Gap, Mar**	**61.95**	**327**	↑P		**P**	**21 58 46.7**	**+0.9**
	baz=62,SNR=5.9							
332A	**Millersview**	**62.02**	**330**	↓P		**P**	**21 58 46.5**	**+0.4**
	baz=62,SNR=5.8							
529A	**Stev Forest Ra**	**62.14**	**328**	↓P		**P**	**21 58 48.0**	**+1.0**
	baz=62,SNR=10							
627A	**Terlingua Ranc**	**62.18**	**326**	↓P		**P**	**21 58 48.3**	**+0.9**
	baz=62							
430A	**Baggett Ranch,**	**62.21**	**329**	↓P		**P**	**21 58 48.0**	**+0.5**
	baz=62							
TXAR	**Lajitas Array**	**62.23**	**326**	P		**P**	**21 58 48.4**	**+0.7**
TXAR					pP	**pP**	**21 59 10.9**	**0.0**
TXAR	**Lajitas Array**	**62.23**	**326**	P		**P**	**21 58 48.4**	**+0.7**
	comp=E,0.7nm,0.6s,baz=147,slow=8.7,SNR=7.3							
TXAR					pP	**pP**	**21 59 10.9**	**0.0**
	comp=E,1.8nm,0.8s,baz=148,slow=7.0,SNR=9.2							
331A	**San Angelo**	**62.27**	**330**	↓P		**P**	**21 58 48.5**	**+0.7**
	baz=62							
429A	**Davenport Ranc**	**62.39**	**328**	↑P		**P**	**21 58 49.4**	**+0.6**
	baz=62,SNR=5.8							
232A	**Coleman**	**62.40**	**331**	↓P		**P**	**21 58 49.2**	**+0.5**
	baz=63,SNR=5.3							
528A	**Cox Ranch, San**	**62.45**	**327**	↓P		**P**	**21 58 50.0**	**+0.8**
	baz=63							
Z35A	**Perchaven, San**	**62.61**	**334**	↑P		**P**	**21 58 51.4**	**+1.3**
	baz=63							
626A	**Big Bend Ranch**	**62.65**	**326**	↓P		**P**	**21 58 51.6**	**+1.2**
	baz=63,SNR=13							
527A	**Woodward Ranch**	**62.85**	**326**	↓P		**P**	**21 58 52.6**	**+0.7**
	baz=63,SNR=5.1							
428A	**Kincaid Ranch,**	**62.86**	**328**	↑P		**P**	**21 58 53.6**	**+1.7**
	baz=63							
526A	**Mary Lane Ranc**	**63.03**	**326**	↑P		**P**	**21 58 54.3**	**+1.2**
	baz=63,SNR=8.6							
329A	**Wagon Wheel Ra**	**63.15**	**329**	↑P		**P**	**21 58 54.7**	**+1.0**
	baz=63							
Z33A	**Whitaker Ranch**	**63.21**	**332**	↓P		**P**	**21 58 54.8**	**+0.8**
	baz=63							
427A	**Hayter Ranch,**	**63.32**	**327**	↓P		**P**	**21 58 55.7**	**+0.8**
	baz=64							
Y34A	**Reagan Ranch,**	**63.37**	**333**	↑P		**P**	**21 58 56.0**	**+0.9**
	baz=64							
131A	**Roby**	**63.40**	**331**	↓P		**P**	**21 58 55.8**	**+0.5**
	baz=64,SNR=5.4							
328A	**Wristen Ranch,**	**63.46**	**328**	↑P		**P**	**21 58 56.5**	**+0.7**
	baz=64							
229A	**Bryant Ranch,**	**63.46**	**329**	↑P		**P**	**21 58 56.7**	**+0.9**
	baz=64							
426A	**McDonald Obser**	**63.49**	**326**	↑P		**P**	**21 58 57.1**	**+0.9**
	baz=64							
130A	**Snyder**	**63.60**	**330**	↑P		**P**	**21 58 57.3**	**+0.7**
	baz=64							
Z31A	**Sharp Cattle R**	**63.84**	**331**	↓P		**P**	**21 58 58.5**	**+0.4**
	baz=64,SNR=7.5							
BBTS	**Babate**	**63.84**	**59**	LR		LR	22 25 21.2	
	comp=E,53nm,18.8s,baz=178,slow=35							
326A	**Caldwell Ranch**	**63.99**	**327**	↑P		**P**	**21 58 59.7**	**+0.4**
	baz=64							
425A	**Indio Mountain**	**64.07**	**326**	↓P		**P**	**21 59 00.8**	**+0.9**
	baz=64,SNR=11							
Y32A	**R-V Farms, Ver**	**64.11**	**332**	↓P		**P**	**21 59 00.8**	**+0.9**
	baz=64							
Z30A	**Sanderson Ranc**	**64.25**	**330**	↑P		**P**	**21 59 01.0**	**+0.1**
	baz=64,SNR=6.3							
TUL1	**Tulsa**	**64.31**	**336**	↑P		**P**	**21 59 02.0**	**+0.9**
	baz=64							
128A	**Castleberry Fa**	**64.32**	**329**	↑P		**P**	**21 59 01.9**	**+0.5**
	baz=64							
Y31A	**Rekieta Farm,**	**64.43**	**331**	↑P		**P**	**21 59 02.9**	**+0.9**
	baz=65							
Z29A	**Hungry Hill Ra**	**64.49**	**330**	↓P		**P**	**21 59 02.9**	**+0.4**
	baz=65							
325A	**Bean Ranch, Si**	**64.53**	**326**	↑P		**P**	**21 59 03.7**	**+0.7**
	baz=65,SNR=16							
W33A	**Caddo, Fort Co**	**64.69**	**334**	↑P		**P**	**21 59 04.5**	**+0.8**
	baz=65							
226B	**Tecolote Peak,**	**64.69**	**327**	↓P		**P**	**21 59 04.2**	**+0.3**
	baz=65							
324A	**Moseley Ranch,**	**64.85**	**326**	↓P		**P**	**21 59 04.9**	**-0.1**
	baz=65,SNR=5.2							
X31A	**McDonald Ranch**	**64.88**	**332**	↑P		**P**	**21 59 05.2**	**+0.3**
	baz=65,SNR=5.5							
Y29A	**Porterfield Fa**	**64.98**	**330**	↑P		**P**	**21 59 06.2**	**+0.5**
	baz=65							
W32A	**Sentinel**	**64.99**	**333**	↑P		**P**	**21 59 06.5**	**+0.9**
	baz=65							
225A	**Deer Hill, Car**	**65.05**	**327**	↓P		**P**	**21 59 07.4**	**+1.1**
	baz=65							
126A	**Clayton Basin,**	**65.08**	**328**	↓P		**P**	**21 59 07.5**	**+1.1**
	baz=65							
X30A	**Coker Ranch, T**	**65.11**	**331**	↑P		**P**	**21 59 07.3**	**+0.8**
	baz=65							
Z27A	**Tatum**	**65.24**	**329**	↑P		**P**	**21 59 07.4**	**0.0**
	baz=65,SNR=5.3							
W31A	**Holland Ranch,**	**65.34**	**332**	↑P		**P**	**21 59 08.2**	**+0.3**
	baz=66							
224A	**Cornudas Mount**	**65.38**	**326**	↓P		**P**	**21 59 08.8**	**+0.5**
	baz=66							
125A	**Gardner Draw,**	**65.41**	**327**	↑P		**P**	**21 59 08.7**	**+0.2**
	baz=66,SNR=5.4							
U34A	**Anderson Ranch**	**65.44**	**335**	↓P		**P**	**21 59 09.2**	**+0.7**
	baz=66							
X29A	**Tulia**	**65.48**	**331**	↓P		**P**	**21 59 09.6**	**+0.6**
	baz=66							
MSTX	**Muleshoe**	**65.57**	**330**	*e*P		**P**	**21 59 10.1**	**+0.6**
Z26A	**Caprock**	**65.57**	**328**	↓P		**P**	**21 59 09.8**	**+0.2**
	baz=66,SNR=5.1							
Y27A	**Causey**	**65.69**	**329**	↓P		**P**	**21 59 10.9**	**+0.6**
	baz=66							
124A	**Stringfield Ra**	**65.84**	**327**	↓P		**P**	**21 59 12.7**	**+1.2**
	baz=66							
Z25A	**Roswell**	**65.94**	**328**	↑P		**P**	**21 59 11.9**	**0.0**
	baz=66,SNR=6.1							
Y26A	**Elida**	**66.03**	**329**	↓P		**P**	**21 59 14.1**	**+1.5**
	baz=66							
V30A	**Spur Ranch, Mi**	**66.14**	**332**	↑P		**P**	**21 59 14.6**	**+1.4**
	baz=66							
Z24A	**Sheeppen Canyo**	**66.30**	**327**	↓P		**P**	**21 59 14.8**	**+0.5**
	baz=66,SNR=9.5							
Y25A	**Mesa, Roswell**	**66.45**	**328**	↑P		**P**	**21 59 15.6**	**+0.4**
	baz=67							
X26A	**CR and CF Fran**	**66.54**	**329**	↑P		**P**	**21 59 16.3**	**+0.6**
	baz=67,SNR=7.1							
QSPA	**South Pole Qui**	**66.67**	**180**	*e*P		**P**	**21 59 17.5**	**+1.3**
	comp=E,23nm,0.6s							
QSPA					*e*pP	**pP**	**21 59 39.7**	**0.0**
QSPA	**South Pole Qui**	**66.67**	**180**	LR		LR	22 30 40.7	
	comp=E,47nm,20.6s,baz=330,slow=38							
Z23A	**Rita Site, Whi**	**66.68**	**327**	↓P		**P**	**21 59 18.6**	**+1.9**
	baz=67							
Y24A	**Capitan**	**66.81**	**328**	↓P		**P**	**21 59 19.4**	**+1.8**
	baz=67							
220A	**Playas Peak, P**	**66.82**	**324**	↑P		**P**	**21 59 19.0**	**+1.4**
	baz=67							
319A	**Douglas**	**66.83**	**323**	↑P		**P**	**21 59 19.3**	**+1.7**
	baz=67							
121A	**Cookes Peak, D**	**66.91**	**325**	*e*P		**P**	**21 59 18.4**	**+0.2**
121A					*e*pP	**pP**	**21 59 41.4**	**-0.4**
121A	**Cookes Peak, D**	**66.91**	**325**	↑P		**P**	**21 59 19.7**	**+1.5**
	baz=67							
X25A	**Clemmons Ranch**	**66.92**	**328**	↑P		**P**	**21 59 19.4**	**+1.1**
	baz=67							
W26A	**Owens Ranch, T**	**66.96**	**329**	↓P		**P**	**21 59 19.9**	**+1.4**
	baz=67							
U29A	**Oasis Ranch, S**	**66.98**	**332**	↓P		**P**	**21 59 20.0**	**+1.6**
	baz=67							
Z22A	**Elephant Butte**	**67.05**	**326**	↓P		**P**	**21 59 20.5**	**+1.5**
	baz=67,SNR=5.4							
W25A	**X Bar L Ranch,**	**67.39**	**329**	↓P		**P**	**21 59 21.9**	**+0.7**
	baz=68,SNR=7.5							
Z21A	**St. Cloud Mine**	**67.45**	**326**	↓P		**P**	**21 59 23.2**	**+1.5**
	baz=68							
V26A	**Tequesquite Ra**	**67.55**	**330**	↓P		**P**	**21 59 22.9**	**+0.7**
	baz=68,SNR=7.6							
Y22A	**Socorro**	**67.59**	**326**	↑P		**P**	**21 59 23.8**	**+1.3**
	baz=68							
X23A	**Hourglass Bar**	**67.71**	**327**	↓P		**P**	**21 59 24.7**	**+1.4**
	baz=68							
Z20A	**Nine Sixteen R**	**67.79**	**325**	↓P		**P**	**21 59 25.5**	**+1.8**
	baz=68							
W24A	**Lazy 6 Ranch,**	**67.83**	**328**	↓P		**P**	**21 59 25.7**	**+1.7**
	baz=68							
S29A	**Ulysses**	**67.90**	**333**	↓P		**P**	**21 59 25.2**	**+1.0**
	baz=68							
V25A	**Rancho No Teng**	**67.97**	**329**	↓P		**P**	**21 59 25.5**	**+0.6**
	baz=68,SNR=7.0							
U26A	**Atchley Ranch,**	**68.02**	**330**	↓P		**P**	**21 59 26.0**	**+0.8**
	baz=68,SNR=8.5							
LAZ	**Ladron**	**68.04**	**327**	*e*P		**P**	**21 59 27.0**	**+1.7**
	comp=E,2.0n

ISCO Idaho Springs 71.66 331 *e*P P 21 59 49.6 +2.1
comp=E,5.7nm,0.8s
ISCO Idaho Springs 71.66 331 ⇓P P 21 59 48.9 +1.4
baz=72,SNR=5.0
SMCO Snowmass 71.77 330 *e*P P 21 59 50.3 +2.0
comp=E,9.0nm,0.8s
SMCO *e*pP pP 22 00 13.3 +1.2
P22A Eagle 72.00 330 ⇑P P 21 59 50.9 +1.3
baz=72,SNR=5.5
O23A Lake Granby, G 72.13 331 ⇓P P 21 59 51.7 +1.4
baz=72,SNR=8.1
W13A Hualapai Mount 72.16 323 ⇑P P 21 59 52.4 +1.9
baz=72
U15A North Rim 72.28 325 ⇓P P 21 59 53.0 +1.8
baz=72,SNR=7.5
O22A Kremmling 72.37 331 ⇓P P 21 59 52.6 +0.9
baz=72,SNR=5.3
J29A Okreek 72.56 337 ⇑P P 21 59 53.4 +0.9
baz=73
I30A Oacoma 72.67 337 ⇓P P 21 59 53.9 +0.7
baz=73
M24A Cheyenne 72.68 333 ⇓P P 21 59 55.6 +2.2
baz=73
N23A Red Feather La 72.69 332 ⇑P P 21 59 55.7 +2.0
baz=73
N22A Wattenberg Ran 72.84 331 ⇑P P 21 59 56.3 +1.8
baz=73
J28A Allard Ranch, 72.91 336 ⇓P P 21 59 55.6 +1.1
baz=73,SNR=5.0
MURC Murrieta 73.00 319 ⇓P P 21 59 57.2 +1.9
baz=73
J27A Elkhorn Farm, 73.05 335 ⇓P P 21 59 57.4 +2.0
baz=73
M23A Laramie 73.07 332 ⇓P P 21 59 57.4 +1.6
baz=73
O20A White River Ci 73.12 330 ⇓P P 21 59 58.3 +2.2
baz=73
HEC Hector,Ludlow 73.36 321 ⇑P P 21 59 59.3 +1.9
baz=74
M22A Cedar Creek Ra 73.39 331 ⇑P P 21 59 59.5 +1.8
baz=74
SRU San Rafael 73.41 327 *e*P P 21 59 59.5 +1.6
comp=E,15nm,0.7s
SRU *e*pP pP 22 00 22.6 +0.9
J26A Sides Ranch, S 73.51 335 ⇑P P 22 00 00.0 +1.8
baz=74
L23A Garrett 73.59 332 ⇓P P 22 00 00.7 +1.8
baz=74
CIS Catalina Islan 73.59 319 ⇓P P 22 00 02.1 +3.2
baz=74
CCUT Cedar City 73.68 325 *e*P P 22 00 02.2 +2.7
comp=E,13nm,0.8s
CCUT *e*pP pP 22 00 25.5 +2.0
BFSC Mount Baldy Ra 73.72 320 ⇓P P 22 00 02.3 +2.6
baz=74
MVU Marysvale 73.80 326 *e*P P 22 00 02.4 +2.2
comp=E,8.9nm,0.8s
MVU *e*pP pP 22 00 25.5 +1.4
J25A Sunshine Ranch 73.86 334 ⇓P P 22 00 02.1 +1.8
baz=74
SHPR Sheep Range 73.89 323 *e*P P 22 00 03.2 +2.5
SHPR *e*pP pP 22 00 26.1 +1.5
RWWY Rawlins 73.90 331 *e*P P 22 00 02.5 +1.8
comp=E,8.5nm,0.8s
RWWY *e*pP pP 22 00 31.5 +6.9
K23A Bowen Ranch, D 74.08 333 ⇑P P 22 00 03.1 +1.4
baz=74
J24A Dixon Ranch, L 74.16 334 ⇓P P 22 00 04.0 +2.0
baz=74
G28A Parade 74.21 337 ⇑P P 22 00 03.6 +1.4
baz=74
EDW2 Edwards Air Fo 74.36 320 ⇑P P 22 00 05.1 +1.7
baz=74
I25A Rochford 74.37 335 ⇓P P 22 00 04.5 +1.2
baz=74,SNR=6.3
K22A Casper 74.38 332 ⇑P P 22 00 05.1 +1.8
baz=75
RSSD Black Hills 74.57 335 *e*P P 22 00 05.8 +1.3
comp=E,6.1nm,0.8s
RSSD *e*pP pP 22 00 28.9 +0.5
SYO Syowa Base 74.65 159 ⇑ *i*P P 22 00 03.8 -0.6
SYO Syowa Base 74.65 159 ⇑ *e*PcP PcP 22 00 15.0 -3.2
SYO Syowa Base 74.65 159 ⇓ *e*pP pP 22 00 27.0 -1.3
K21A Alcova 74.68 332 ⇓P P 22 00 06.4 +1.3
baz=75,SNR=6.1
TPNV Topopah Spring 74.82 322 ⇓P P 22 00 08.2 +2.2
baz=75
VNDA Vanda 74.84 190 *e*P P 22 00 07.8 +2.4
comp=E,7.7nm,1.1s
VNDA Vanda 74.84 190 P P 22 00 07.5 +2.1
comp=E,4.8nm,0.9s,baz=125,slow=5.9,SNR=14
MPMC Manual Prospec 74.89 321 ⇑P P 22 00 08.2 +1.7
baz=75
ISA Isabella 75.19 320 *e*P P 22 00 10.3 +2.2
comp=E,5.6nm,0.8s
ISA *e*pP pP 22 00 33.6 +1.5
ISA Isabella 75.19 320 ⇑P P 22 00 10.0 +2.0
baz=75
D30A Buchanan 75.26 340 ⇓P P 22 00 09.3 +1.2
baz=76
F27A Lemmon 75.29 337 ⇑P P 22 00 09.8 +1.4
baz=76
H24A Dirks Ranch, A 75.30 335 ⇓P P 22 00 09.1 +0.6
baz=76,SNR=5.4
J21A Lysite 75.34 332 ⇓P P 22 00 10.0 +1.1
baz=76
I22A 9 Mile Ranch, 75.37 333 ⇑P P 22 00 10.0 +1.0
baz=76
DUG Dugway 75.38 327 ⇓P P 22 00 11.0 +1.8
baz=76
R11A Troy Canyon, C 75.46 324 *e*P P 22 00 12.0 +2.3
comp=E,3.3nm,0.8s
R11A Troy Canyon, C 75.46 324 ⇑P P 22 00 11.1 +1.4
baz=76
J20A Shoshoni 75.62 332 ⇑P P 22 00 11.9 +1.4
baz=76
I21A Big Trails, Te 75.65 332 ⇓P P 22 00 11.4 +0.8
baz=76,SNR=6.5
PDAR Pinedale Array 75.81 330 P P 22 00 12.3 +0.7
PDAR pP pP 22 00 35.4 -0.2
PDAR Pinedale Array 75.81 330 P P 22 00 12.3 +0.7
comp=E,0.8nm,0.6s,baz=136,slow=6.4,SNR=6.0
PDAR pP pP 22 00 35.4 -0.2
comp=E,1.1nm,0.7s,baz=132,slow=5.8,SNR=4.6
F25A Bowman 75.87 336 ⇑P P 22 00 13.4 +1.7
baz=76
J19A Crowheart 75.97 331 ⇑P P 22 00 14.1 +1.6
baz=76
G23A Biddle 76.00 334 ⇓P P 22 00 13.7 +1.2
baz=76
I20A Worland 76.12 332 ⇓P P 22 00 14.4 +1.2
baz=76
TPH Tonopah 76.16 323 *e*P P 22 00 15.8 +2.0
comp=E,5.9nm,0.6s
TPH *e*pP pP 22 00 39.1 +1.3
F24A Ekalaka 76.17 335 ⇑P P 22 00 14.8 +1.3
baz=76
H21A Big Horn, Sher 76.20 333 ⇑P P 22 00 14.8 +1.1
baz=76
B30A Myrvik Farm, E 76.31 340 ⇓P P 22 00 15.1 +1.0
baz=76
G22A Birney 76.38 334 ⇑P P 22 00 15.9 +1.3
baz=77
F23A Volborg 76.44 335 ⇓P P 22 00 15.9 +0.9
baz=77
H20A Greybull 76.49 332 ⇓P P 22 00 16.6 +1.2
baz=77
AHID Auburn Hatcher 76.51 330 *e*P P 22 00 16.2 +0.6
comp=E,8.8nm,0.8s
AHID *e*pP pP 22 00 39.8 +0.2
HVU Hansel Valley 76.56 328 *e*P P 22 00 17.1 +1.3
comp=E,6.4nm,0.7s
I19A Meeteetse 76.56 332 ⇑P P 22 00 17.6 +1.7
baz=77
B29A Wagenman Farm, 76.64 340 ⇑P P 22 00 17.2 +1.2
baz=77
C27A Sayler Ranch, 76.69 338 ⇑P P 22 00 18.0 +1.7
baz=77
E24A Baker 76.72 336 ⇑P P 22 00 18.0 +1.5
baz=77
A30A Hoffart Farm, 76.73 341 ⇓P P 22 00 17.4 +1.0
baz=77
G21A Lodge Grass 76.76 333 ⇓P P 22 00 17.8 +1.0
baz=77,SNR=5.1
F22A Rosebud 76.83 334 ⇓P P 22 00 17.9 +0.8
baz=77
D25A Fairfield 76.85 337 ⇓P P 22 00 18.6 +1.4
baz=77

B28A Dugan Ranch, T 76.95 339 ⇑P P 22 00 19.2 +1.5
baz=77
A29A Manning Farm, 77.01 340 ⇑P P 22 00 18.6 +0.6
baz=77,SNR=6.5
TPAW Teton Pass 77.01 330 *e*P P 22 00 20.1 +1.6
comp=E,6.9nm,0.8s
NVAR Mina Array Bea 77.02 322 P P 22 00 19.6 +1.0
NVAR pP pP 22 00 43.7 +1.0
NVAR Mina Array Bea 77.02 322 P P 22 00 19.6 +1.0
comp=E,0.7nm,0.5s,baz=138,slow=4.2,SNR=6.8
NVAR pP pP 22 00 43.7 +1.0
comp=E,2.7nm,0.8s,baz=159,slow=6.7,SNR=7.6
ELK Elko 77.02 326 *e*P P 22 00 20.2 +1.6
comp=E,3.6nm,0.8s
I17A Pilgrim Ck. 77.17 331 ⇓P P 22 00 21.1 +1.8
baz=77
G20A Bridger 77.17 333 ⇓P P 22 00 20.0 +0.8
baz=77
ULM Lac du Bonnet 77.21 343 P P 22 00 18.9 -0.2
ULM pP pP 22 00 42.4 -0.8
ULM sP sP 22 00 52.4 -0.8
ULM Lac du Bonnet 77.21 343 P P 22 00 18.9 -0.2
comp=E,4.4nm,0.6s,baz=174,slow=2.8,SNR=9.3
ULM pP pP 22 00 42.4 -0.8
comp=E,4.5nm,0.5s,baz=167,slow=7.0,SNR=5.7
ULM sP sP 22 00 52.4 -0.8
comp=E,3.5nm,0.5s,baz=149,slow=5.6,SNR=4.7
IMW Indian Meadow 77.32 330 *e*P P 22 00 21.9 +1.7
comp=E,6.4nm,0.8s
IMW *e*pP pP 22 00 45.3 +0.9
H18A Shoshone NF, C 77.36 332 ⇓P P 22 00 21.2 +0.8
baz=78,SNR=8.5
E21A Keefer Ranch, 77.78 334 ⇓P P 22 00 23.8 +1.4
baz=78
A26A Wade Farm, Ken 77.90 338 ⇓P P 22 00 24.4 +1.4
baz=78
D22A Cohagen 77.92 335 ⇑P P 22 00 24.9 +1.7
baz=78
YMR Madison River 77.93 331 *e*P P 22 00 25.9 +2.4
comp=E,11nm,0.8s
YMR *e*pP pP 22 00 49.6 +2.0
F19A Roth Farm, Mol 77.99 333 ⇑P P 22 00 24.5 +0.9
baz=78,SNR=6.9
SCHQ Schefferville 78.07 1 P P 22 00 23.2 -0.6
SCHQ pP pP 22 00 47.0 -0.9
SCHQ Schefferville 78.07 1 P P 22 00 23.2 -0.6
comp=E,4.9nm,0.9s,baz=235,slow=14,SNR=3.3
SCHQ sP pP 22 00 47.0 -0.9
comp=E,8.9nm,0.8s,baz=61,slow=3.3,SNR=4.1
C23A Lambert 78.09 336 ⇓P P 22 00 25.0 +1.0
baz=78
TOA0 Torodi Ar. Sit 78.16 70 *e*P P 22 00 24.8 -0.3
TOA0 *e*pP pP 22 00 49.1 -0.1
TORD Torodi Ar. Bea 78.16 70 P P 22 00 24.9 -0.3
TORD pP pP 22 00 49.1 -0.2
TORD sP sP 22 00 58.6 -0.7
TORD Torodi Ar. Bea 78.16 70 P P 22 00 24.9 -0.3
comp=E,39nm,0.6s,baz=258,slow=5.3,SNR=689
TORD pP pP 22 00 49.1 -0.2
comp=E,21nm,0.7s,baz=250,slow=5.5,SNR=9.2
TORD sP sP 22 00 58.6 -0.7
comp=E,11nm,0.7s,baz=255,slow=5.7,SNR=5.3
E20A Meyer Farm, Mu 78.17 334 ⇑P P 22 00 25.8 +1.2
baz=78,SNR=5.1
D21A La Casta Ranch 78.17 335 ⇑P P 22 00 26.3 +1.7
baz=78
DGMT Dagmar 78.28 337 *e*P P 22 00 26.8 +1.6
comp=E,14nm,0.7s
DGMT Dagmar 78.28 337 ⇑P P 22 00 26.4 +1.3
baz=78
A25A Svangstu Ranch 78.30 338 ⇑P P 22 00 26.5 +1.3
baz=78
C22A Vida 78.30 336 ⇑P P 22 00 26.7 +1.5
baz=78
E19A Rath Farm, Rou 78.41 333 ⇑P P 22 00 26.8 +0.9
baz=79,SNR=6.3
PAHR Pah Rah Range 78.51 323 *e*P P 22 00 28.7 +2.0
comp=E,19nm,0.8s
PAHR *e*pP pP 22 00 52.4 +1.5
A24A Westby 78.60 337 ⇓P P 22 00 28.6 +1.7
baz=79
D20A Manuel Ranch, 78.65 334 ⇑P P 22 00 28.4 +1.1
baz=79
HLID Hailey 78.69 328 *e*P P 22 00 29.6 +1.8
comp=E,11nm,0.8s
HLID Hailey 78.69 328 ⇑P P 22 00 29.5 +1.8
baz=79,SNR=6.9
MCMT McKenzie Canyo 78.91 330 *e*P P 22 00 30.5 +1.5
comp=E,4.4nm,1.2s
MCMT *e*pP pP 22 00 53.8 +0.7
MFID Camas Ranch 79.28 327 *e*P P 22 00 32.6 +1.8
comp=E,14nm,1.5s
MFID *e*pP pP 22 00 56.1 +1.1
A22A Carney Farms, 79.35 336 ⇑P P 22 00 32.5 +1.6
baz=80
LRM Limekiln Ridge 79.49 331 *e*P P 22 00 33.7 +1.7
LRM *e*pP pP 22 00 57.1 +0.9
C19A Slack Wire Ran 79.53 334 ⇑P P 22 00 33.2 +1.1
baz=80
TSUM Tsumeb 79.58 106 *e*P P 22 00 33.8 +0.6
comp=E,14nm,0.9s
TSUM *e*pP pP 22 00 58.6 +1.3
A21A Bergtoll Ranch 79.72 336 ⇑P P 22 00 34.2 +1.2
baz=80
A20A Cobblestone Ra 80.01 335 ⇓P P 22 00 35.9 +1.3
baz=80
EGMT Eagleton 80.05 334 ⇓P P 22 00 35.6 +0.7
baz=80
B19A Brinkman Farms 80.07 334 ⇑P P 22 00 36.2 +1.3
baz=80
MOD Modoc 80.53 324 *e*P P 22 00 39.2 +1.6
comp=E,8.8nm,0.9s
MOD *e*pP pP 22 01 02.8 +0.9
J08A Circle Bar Ran 80.58 326 *e*P P 22 00 39.6 +1.8
comp=E,9.3nm,1.1s
BMO Blue Mountains 81.05 327 *e*P P 22 00 41.7 +1.4
comp=E,7.3nm,0.9s
BMO *e*pP pP 22 01 05.0 +0.4
N02D Trinity Center 81.23 322 ⇓P P 22 00 42.3 +1.0
baz=81
M04C Macdoel 81.29 323 ⇓P P 22 00 43.5 +1.9
baz=81
I07A Izee 81.62 326 *e*P P 22 00 44.8 +1.5
comp=E,6.7nm,0.8s
I07A *e*pP pP 22 01 08.7 +1.1
F10A Beach Ranch, E 81.83 328 *e*P P 22 00 45.7 +1.4
comp=E,6.0nm,0.7s
F10A *e*pP pP 22 01 09.3 +0.6
J05D Fort Rock, OR 81.97 324 ⇑P P 22 00 47.0 +1.7
baz=82
BSMT Bassoo Peak 82.07 331 *e*P P 22 00 47.2 +1.5
BSMT *e*pP pP 22 01 09.7 -0.4
J04D Umpqua Nationa 82.42 324 ⇑P P 22 00 49.3 +1.6
baz=82
MAW Mawson 82.43 163 *e*P P 22 00 47.5 +0.3
comp=E,3.9nm,0.6s
MAW *e*pP pP 22 01 11.3 -0.2
MAW *es*P sP 22 01 20.7 -0.7
MAW Mawson 82.43 163 P P 22 00 48.0 +0.9
comp=E,19nm,0.6s,baz=214,slow=5.2,SNR=41
MAW pP pP 22 01 11.6 +0.2
comp=E,4.7nm,0.6s,baz=207,slow=4.5,SNR=2.5
MAW sP sP 22 01 20.8 -0.7
comp=E,4.8nm,0.8s,baz=212,slow=4.8,SNR=4.4
L02D Cave Junction, 82.52 322 ⇓P P 22 00 49.8 +1.8
baz=83
WALA Waterton Lakes 82.60 332 *e*P P 22 00 49.5 +1.1
comp=E,0.4nm,1.2s
WALA *e*pP pP 22 01 13.2 +0.5
BOSA Boshof 82.61 118 *e*P P 22 00 49.4 +0.3
comp=E,15nm,0.9s
BOSA Boshof 82.61 118 P P 22 00 49.0 0.0
comp=E,10nm,0.8s,baz=238,slow=3.2,SNR=16
I04A Tendick Farm, 82.95 324 ⇑P P 22 00 51.4 +1.2
baz=83
G05D Wamic, OR 83.35 326 ⇓P P 22 00 53.8 +1.6
baz=84
C09A Chrisman Ranch 83.64 329 *e*P P 22 00 54.9 +1.3
comp=E,14nm,0.6s
C09A *e*pP pP 22 01 18.6 +0.6
LBTB Lobatse 84.28 115 *e*P P 22 00 58.3 +0.6
comp=E,11nm,0.8s
EDM Edmonton 85.55 335 *e*P P 22 01 03.2 +0.1
ESDC Sonseca Array 87.36 44 P P 22 01 12.0 -0.3
ESDC pP pP 22 01 35.9 -1.0
ESDC Sonseca Array 87.36 44 P P 22 01 12.0 -0.3
comp=E,0.7nm,0.7s,baz=268,slow=4.6,SNR=32
ESDC pP pP 22 01 35.9 -1.0
comp=E,0.8nm,0.7s,baz=227,slow=4.6,SNR=4.4
YKA Yellowknife Ar 93.06 341 P P 22 01 38.1 -0.1
YKA pP pP 22 02 02.6 -0.3
YKA sP sP 22 02 13.1 +0.3
YKA Yellowknife Ar 93.06 341 P P 22 01 38.1 -0.1
comp=E,4.0nm,0.8s,baz=136,slow=4.4,SNR=20
YKA pP pP 22 02 02.6 -0.3
comp=E,1.3nm,0.5s,baz=139,slow=4.3,SNR=5.9
YKA sP sP 22 02 13.1 +0.3
comp=E,1.6nm,0.7s,baz=135,slow=4.5,SNR=5.7
KBZ Khabaz 121.47 52 PKP PKPdf 22 07 18.5 +0.4
KBZ Khabaz 121.47 52 PKP PKPdf 22 07 18.5 +0.4
comp=E,3.0nm,0.9s,baz=28,slow=16,SNR=4.0
ASAR Alice Springs 128.06 207 PKP PKPdf 22 07 31.7 +0.2
ASAR pPKP pPKPdf 22 07 56.9 -0.4
ASAR Alice Springs 128.06 207 PKP PKPdf 22 07 31.7 +0.2
comp=E,4.3nm,0.7s,baz=141,slow=2.1,SNR=40
ASAR pPKP pPKPdf 22 07 56.9 -0.4
comp=E,0.8nm,0.6s,baz=130,slow=1.9,SNR=3.0
AS31 Alice Springs 128.06 207 *e*PKPdf PKPdf 22 07 31.3 -0.2
WRA Warramunga Arr 131.14 210 PKP PKPdf 22 07 37.8 +0.4
WRA pPKP pPKPdf 22 08 03.3 +0.1
WRA Warramunga Arr 131.14 210 PKP PKPdf 22 07 37.8 +0.4
comp=E,2.9nm,0.5s,baz=157,slow=1.7,SNR=7.5
WRA pPKP pPKPdf 22 08 03.3 +0.1
comp=E,0.8nm,0.5s,baz=180,slow=0.4,SNR=3.1
ABKAR Akbulak array 132.71 44 *e*PKPdf PKPdf 22 07 40.7 +1.3
ABKAR epPKPdf pPKPdf 22 08 05.4 +0.3
FITZ Fitzroy Crossi 136.21 200 PKP PKPdf 22 07 47.7 +0.8
FITZ Fitzroy Crossi 136.21 200 PKP PKPdf 22 07 47.7 +0.8
comp=E,5.0nm,0.9s,baz=228,slow=5.2,SNR=5.7
BVAR Borovoye Array 137.52 36 PKP PKPdf 22 07 49.0 +0.7
BVAR Borovoye Array 137.52 36 PKP PKPdf 22 07 49.0 +0.7
comp=E,1.8nm,0.7s,baz=307,slow=2.9,SNR=8.1
KKAR Karatay Array 141.43 50 *e*PKPdf PKPdf 22 08 01.8 +6.1
KURK Kurchatov 143.08 34 *e*PKPdf PKPbc 22 07 55.8 +0.4
KURK pPKP pPKPdf 22 08 21.3 -2.8
KURBB Kurchatov Arra 143.08 35 PKP PKPbc 22 07 56.0 +0.5
comp=E,1.7nm,0.8s,baz=302,slow=3.1,SNR=22
KURBB pPKP pPKPdf 22 08 21.3 -2.8
comp=E,2.4nm,0.8s,baz=302,slow=3.5,SNR=7.8
ZAA0 Zalesovo Array 143.83 26 *e*PKPdf PKPbc 22 07 57.8 +0.3
ZAA0 epPKPdf pPKPdf 22 08 22.9 -2.4
ZALV Zalesovo Beam 143.83 26 PKP PKPbc 22 07 58.0 +0.5
ZALV pPKP pPKPdf 22 08 23.6 -1.7
ZALV Zalesovo Beam 143.83 26 PKP PKPbc 22 07 58.0 +0.5
comp=E,6.7nm,0.7s,baz=311,slow=4.7,SNR=27
ZALV pPKP pPKPdf 22 08 23.6 -1.7
comp=E,6.1nm,0.5s,baz=302,slow=4.1,SNR=8.7
EKS2 Erkin-Say 143.85 49 *e*PKPdf PKPdf 22 07 59.5 -0.7
AML Almayashu 143.97 50 P PKPdf 22 08 00.3 -0.5
SNR=6.1
AAK Ala-Archa 144.35 49 P PKPdf 22 08 01.0 -0.1
SNR=11
AAK Ala-Archa 144.35 49 PKP PKPdf 22 08 00.8 -0.3
AAK pPKP pPKPdf 22 08 26.2 -0.7
AAK Ala-Archa 144.35 49 PKP PKPdf 22 08 00.8 -0.3
comp=E,7.1nm,0.6s,baz=232,slow=4.7,SNR=20
AAK pPKP pPKPdf 22 08 26.2 -0.7
comp=E,5.1nm,0.6s,baz=292,slow=2.5,SNR=5.2
CHMS Chumysh 144.40 48 P PKPdf 22 08 01.1 +0.1
SNR=6.8
UCH Uchtor 144.51 49 P PKPdf 22 08 02.5 +0.7
SNR=13
KBK Karagaybulak 144.66 49 P PKPdf 22 08 02.0 +0.4
SNR=36
TKM2 Tokmak 2 145.00 48 P PKPdf 22 08 02.6 +0.2
SNR=32
TKM2 Tokmak 2 145.00 48 *e*PKPdf PKPdf 22 08 02.5 +0.2
TKM2 *e*PKPdf PKPab 22 08 02.9 +1.0
TKM2 *ep*PKPdf pPKPdf 22 08 27.4 -0.6
KZA Kyzart 145.07 49 P PKPdf 22 08 04.1 +1.4
SNR=11
ULHL Ulahol 145.70 49 P PKPab 22 08 06.1 +1.6
SNR=5.8
KSH Kashi 146.44 53 PKPbc PKPbc 22 08 06.3 +0.1
KSH pPKP pPKPdf 22 08 30.2 -0.3
KSH sPKP 22 08 41.4
KSH PKS PKSdf 22 11 38.1 -2.1
KSH SKS SKSdf 22 15 01.1 -4.3
KSH SKKS SKKSac 22 18 10.3 -3.0
KSH SS SS 22 30 17.1 -3.4
KSH AMB AMB
comp=E,220nm,5.5s
KSH LR LR
comp=E,230nm,6.4s
KSH LR LR
comp=E,170nm,5.8s
KSH LR LR
comp=E,160nm,7.7s
MK31 Makanchi Array 147.33 38 *e*PKPdf PKPdf 22 08 06.5 +0.7
MK31 *ep*PKPdf pPKPdf 22 08 33.9 +2.3
MKAR Makanchi Array 147.33 38 PKPbc PKPdf 22 08 06.9 +1.0
MKAR pPKPbc pPKPbc 22 08 34.0 +0.1
MKAR Makanchi Array 147.33 38 PKPbc PKPdf 22 08 06.9 +1.0
comp=E,11nm,0.8s,baz=347,slow=1.1,SNR=41
MKAR pPKPbc pPKPbc 22 08 34.0 +0.1
comp=E,19nm,0.9s,baz=311,slow=2.6,SNR=14
JBP Jabalpur 151.58 84 ⇓ *i*P PKPbc 22 08 19.8 +0.2
JBP *i* x x 22 08 20.6
comp=Z,52nm,0.6s
JBP *e*S PKPab 22 08 28.4 -0.1
WMQ Urumqi 152.16 38 PKPbc PKPdf 22 08 13.1 -0.6
USRK Ussuriysk Arra 153.12 325 PKPbc PKPbc 22 08 23.0 +0.6
comp=Z,1.6nm,0.7s,baz=44,slow=2.8,SNR=6.8
USRK PKPab PKPab 22 08 35.0 +0.7
comp=Z,1.3nm,0.6s,baz=8.7,slow=4.3,SNR=6.4
USRK pPKPbc pPKPbc 22 08 47.2 -0.8
comp=Z,3.0nm,0.9s,baz=13,slow=1.4,SNR=5.5
USRK pPKPab pPKPab 22 08 58.9 -0.3
comp=Z,1.7nm,0.7s,baz=36,slow=4.6,SNR=3.2
MJAR Matsushiro Arr 153.19 305 PKPbc PKPbc 22 08 22.7 -0.1
MJAR PKPab PKPab 22 08 35.7 +0.8
MJAR pPKPbc pPKPbc 22 08 48.4 0.0
MJAR pPKPab pPKPab 22 08 59.1 -0.6
MJAR Matsushiro Arr 153.19 305 PKPbc PKPbc 22 08 22.7 -0.1
comp=Z,0.4nm,0.3s,baz=97,slow=3.0,SNR=4.3
MJAR PKPab PKPab 22 08 35.7 +0.8
comp=Z,2.7nm,0.9s,baz=82,slow=3.4,SNR=5.1
MJAR pPKPbc pPKPbc 22 08 48.4 0.0
comp=Z,3.8nm,0.9s,baz=65,slow=1.1,SNR=6.2
MJAR pPKPab pPKPab 22 08 59.1 -0.6
comp=Z,4.4nm,0.9s,baz=72,slow=3.2,SNR=5.9
SONM Songino Array 155.48 7 PKP PKPdf 22 08 19.2 +0.9
SONM Songino Array 155.48 7 PKP PKPdf 22 08 19.2 +0.9
comp=Z,1.4nm,0.8s,baz=318,slow=3.4,SNR=7.9
KSRS Korea Array 159.89 318 PKP PKPdf 22 08 25.1 +1.3
comp=Z,1.5nm,0.8s,baz=76,slow=2.1,SNR=6.8
KSRS pPKP pPKPdf 22 08 50.4 +0.7
comp=Z,1.3nm,0.8s,baz=270,slow=2.3,SNR=3.0
KSRS PKPab PKPab 22 09 04.8 +1.3
comp=Z,1.7nm,0.7s,baz=62,slow=4.8,SNR=5.3
KSRS pPKPab pPKPab 22 09 28.9 +0.6
comp=Z,1.9nm,0.7s,baz=51,slow=4.7,SNR=4.3
KSAR Wonju Array Be 159.92 318 PKP PKPdf 22 08 25.1 +1.2
KSAR pPKP pPKPdf 22 08 50.4 +0.6
KSAR PKPab PKPab 22 09 04.8 +1.1
KSAR pPKPab pPKPab 22 09 28.9 +0.4
GTA Gaotai 161.56 28 *e*PKP PKPdf 22 08 27.3 +1.4
GTA pPKP pPKPdf 22 08 53.5 +1.8
GTA sPKP 22 09 04.4
GTA PKPab PKPab 22 09 12.6 +1.7
KKM Kota Kinabalu 161.89 197 *e*PKPdf PKPdf 22 08 29.0 +2.1
HHC Hu-ho-hao-te 162.73 358 *e*PKP PKPdf 22 08 25.1 -1.9
HHC pPKP pPKPdf 22 08 52.9 +0.1
HHC sPKP 22 09 03.5
HHC PKS PKSdf 22 11 58.1 -2.0
HHC PP PP 22 13 01.4 +1.7
HHC SKS SKSdf 22 15 19.3 -4.2
HHC SKKS SKKSac 22 19 39.4 -0.8
HHC SS SS 22 33 14.1 -0.4
HHC AMB AMB
comp=Z,99nm,9.5s
HHC LR LR
comp=Z,230nm,21.4s
HHC LR LR
comp=Z,200nm,22.3s
HHC LR LR
comp=Z,240nm,21.7s
CMAR Chiang Mai Arr 167.69 112 PKP PKPdf 22 08 32.0 +0.4
CMAR PKPab PKPab 22 09 37.9 -0.6
CMAR Chiang Mai Arr 167.69 112 PKP PKPdf 22 08 32.0 +0.4
comp=Z,0.4nm,0.5s,baz=264,slow=2.7,SNR=5.2
CMAR PKPab PKPab 22 09 37.9 -0.6

comp=Z,0.8nm,0.6s,baz=252,slow=5.0,SNR=7.0
CD2 Chengdu 170.25 40 *e*PKP **PKPdf 22 08 32.4 -0.6**
GYA Guiyang 175.13 52 *e*PKP **PKPdf 22 08 34.0 -1.3**
GYA pPKP **pPKPdf 22 09 01.6 +0.4**
GYA sPKP 22 09 10.4
GYA PP **PP 22 14 04.0 +0.2**
GYA AMB AMB
comp=Z,90nm,8.2s

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*DJA **07** 22:06:12.6±1.4,0°N±4°×9°7E±°, h12km±9km, M5.0/19, mb5.3/19, mB5.4/18, MLv5.1/14, Mw(mB)4.8/18, Mwp6.1/1*
*AUST **07** 22:06:12.6±2.7,0.°11N×97.°09E, h6km±17km, Error ellipse: s-maj=8.6km s-min=4.2km az=53.0*
*BJI **07** 22:06:12.0,0.°13S×97.°03E, h21km, mB5.1/42, mb4.8/37, Ms4.8/47, Ms7 4.6/45*
*ISCJB **07** 22:06:14.6±0.1,0.°09N±0.°02×97.°14E±0.°02, h30km, mb5.0/159, MS4.2/43, Error ellipse: s-maj=2.9km s-min=2.7km az=31.8*
*GCMT **07** 22:06:15.6±0.3,0.°05N×96.°97E, h12km, MW4.9, Moment Tensor Solution. s27,c33; s75,c104; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.56±.08; $M_{\theta\theta}$1.08±.08; $M_{\phi\phi}$1.49±.08; $M_{r\theta}$1.06±.30; $M_{\theta\phi}$-1.48±.06; $M_{\phi r}$0.29±.27; Best double couple: M_o2.90000×10^{16} NP1:ϕ_s300.00000°, δ53.00000°, λ-115.00000°. NP2:ϕ_s157.00000°, δ43.00000°, λ-61.00000°. Principal axes: T 2.8200, Plg5.0000°, Azm47.0000°; N 0.1400, Plg20.0000°, Azm315.0000°; P -2.9600, Plg70.0000°, Azm152.0000°; Data Used: IU IC G II CU CN.*
*BKK **07** 22:06:15.0±0.2,0°N±3°×9°7E±°, h10km, M4.8/34, mB5.2/16, mb5.0/34, MLv5.1/8, Mw(mB)4.6/16*
*MOS **07** 22:06:15.6±1.0,0.°14N×97.°11E, h37km, mb5.3/62, Error ellipse: s-maj=7.9km s-min=4.4km az=115.0*
*IDC **07** 22:06:16.3±0.2,0.°08N×97.°08E, h30km±1km, mb4.7/50, mb1 4.7/52, mb1mx4.7/54, mbtmp4.7/52, ML4.2/2, MS4.0/28, Ms1 4.0/28, ms1mx4.0/40, Error ellipse: s-maj=8.0km s-min=6.5km az=69.0*
*NEIC **07** 22:06:16.0±0.4,0.°12N×97.°11E, h28km±3km, mb5.2/65, Error ellipse: s-maj=3.6km s-min=3.5km az=185.0*
*PRE **07** 22:06:22.6±2.1,0.°03N×96.°05E, h35km, mb4.8*
*SZGRF **07** 22:06:28.8, 3.°54N×96.°90E, h32km, mb5.1, Northern Sumatera, Indonesia*
ISC 07 22:06:16.5±0.2,0.°05N±0.°03×97.°08E±0.°03, h33km±1km, h33km:pP-P,n796,σ1°19/955,mb5.0/159,MS4.3/44, 115C-124D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
GSI	**Gunungsitoli**	**1.34**	**22**	P	**Pn**	**22 06 36.8**	**-2.1**
GSI	**Gunungsitoli**	**1.34**	**22**	*e*Pn	**Pn**	**22 06 36.9**	**-2.0**
GSI				*e*Sb	**Sn**	**22 06 54.6**	**-1.0**
GSI	**Gunungsitoli** baz=1.3	**1.34**	**22**	⇑P	**Pn**	**22 06 37.1**	**-1.9**
SNSI	**Sinabang, Aceh**	**2.46**	**342**	P	**Pn**	**22 06 51.6**	**-2.7**
SNSI				S	**Sn**	**22 07 20.9**	**-2.4**
TPTI		**3.19**	**2**	P	**Pn**	**22 07 01.7**	**-2.7**
TPTI				S	**Sn**	**22 07 40.5**	**-0.8**
PSI	**Prapat**	**3.30**	**34**	P	**Pn**	**22 07 03.3**	**-2.7**
PSI	**Prapat**	**3.30**	**34**	Pn	**Pn**	**22 07 03.4**	**-2.6**
PSI				Sn	**Sn**	**22 07 40.6**	**-3.5**
PSI	**Prapat** 5.5nm,0.3s,baz=190,slow=8.8,SNR=46	**3.30**	**34**	Pn	**Pn**	**22 07 03.4**	**-2.6**
PSI				Sn	**Sn**	**22 07 40.6**	**-3.5**
	12nm,0.3s,baz=215,slow=5.2,SNR=12						
PSI	**Prapat** baz=3.2,SNR=26	**3.30**	**34**	P	**Pn**	**22 07 03.2**	**-2.7**
PPI	**Padang Panjang**	**3.36**	**99**	P	**Pn**	**22 07 05.2**	**-1.5**
PPI	**Padang Panjang** baz=3.4,SNR=124	**3.36**	**99**	⇓P	**Pn**	**22 07 04.5**	**-2.2**
KCSI	**Kotacane, Aceh**	**3.52**	**11**	P	**Pn**	**22 07 06.7**	**-2.2**
BKNI	**Bangkinang**	**3.97**	**86**	P	**Pn**	**22 07 15.0**	**-0.1**
BKNI	**Bangkinang** baz=4.0,SNR=7.3	**3.97**	**86**	⇑P	**Pn**	**22 07 14.6**	**-0.5**
LHMI	**Lhok Sumawe** 162nm,0.6s,10µm2.5nm	**5.15**	**359**	P	**Pn**	**22 07 29.5**	**-1.8**
LHMI	**Lhok Sumawe** baz=5.1,SNR=4.1	**5.15**	**359**	⇓P	**Pn**	**22 07 30.2**	**-1.1**
RGRI	**Rengat** 325nm,0.7s,8.5nm	**5.27**	**94**	P	**Pn**	**22 07 32.6**	**-0.4**
FRIM	**Kepong**	**5.54**	**55**	P	**Pn**	**22 07 35.6**	**-1.1**
IPM	**Ipoh**	**5.91**	**42**	P	**Pn**	**22 07 41.5**	**-0.3**
IPM	**Ipoh** 222nm,0.8s,2µm0.6nm	**5.91**	**42**	P	**Pn**	**22 07 40.7**	**-1.1**
IPM	**Ipoh**	**5.91**	**42**	*e*Pn	**Pn**	**22 07 40.8**	**-1.1**
IPM				*e*Sn	**Sn**	**22 08 49.8**	**+1.4**
KULM	**Kulim**	**6.31**	**34**	P	**Pn**	**22 07 45.9**	**-1.4**
KULM	**Kulim** 225nm,1.0s,2µm0.7nm	**6.31**	**34**	P	**Pn**	**22 07 45.4**	**-1.9**
KULM	**Kulim**	**6.31**	**34**	*e*Pn	**Pn**	**22 07 44.7**	**-2.6**
KULM				Sn	**Sn**	**22 08 52.6**	**-5.7**
KGM	**Kluang**	**6.54**	**73**	P	**Pn**	**22 07 49.3**	**-1.1**
BTDF	**Bukit Timah Da** baz=6.8,SNR=6.6	**6.82**	**79**	⇑P	**Pn**	**22 07 52.5**	**-1.8**
BTDF				⇑P	**Pn**	**22 07 52.5**	**-1.8**
	baz=6.8,SNR=6.6						
MYKOM	**Kota Tinggi**	**6.99**	**76**	P	**Pn**	**22 07 55.7**	**-1.0**
MYKOM	**Kota Tinggi** 78nm,0.8s,2µm0.5nm	**6.99**	**76**	P	**Pn**	**22 07 55.6**	**-1.0**
MYKOM	**Kota Tinggi**	**6.99**	**76**	*e*Pn	**Pn**	**22 07 54.9**	**-1.8**
MYKOM				*e*Sn	**Sn**	**22 09 12.2**	**-2.8**
MNAI	**Manna** 547nm,1.1s,5µm2.5nm	**7.33**	**127**	P	**Pn**	**22 07 59.7**	**-1.6**
MNAI	**Manna**	**7.33**	**127**	*e*Pn	**Pn**	**22 07 59.2**	**-2.1**
MNAI				*e*Sn	Sn	22 09 16.4	-7.0
MNAI	**Manna** baz=7.4,SNR=15	**7.33**	**127**	⇑P	**Pn**	**22 07 59.2**	**-2.1**
LHSI	**Lahat** 333nm,0.7s,3µm1.1nm	**7.50**	**121**	P	**Pn**	**22 08 03.5**	**-0.2**
CMBY	**CAMPBELL BAY**	**7.59**	**336**	*e*P	**Pn**	**22 08 04.6**	**-0.4**
PKDT	**Phuket** 68nm,0.9s,1µm0.4nm	**7.89**	**9**	P	**Pn**	**22 08 09.2**	**+0.2**
KTGM	**Kuala Trenggan**	**8.00**	**49**	P	**Pn**	**22 08 09.9**	**-0.7**
MDSI	**Maura Dua** 161nm,0.7s,1µm	**8.40**	**123**	P	**Pn**	**22 08 14.4**	**-1.7**
LWLI	**Liwa** 286nm,0.7s,3µm	**8.60**	**126**	P	**Pn**	**22 08 17.6**	**-1.3**
KLSI		**8.98**	**122**	P	Pn	22 08 20.0	-3.9
KASI	**Kota Agung**	**9.25**	**127**	P	Pn	22 08 18.2	-9.4
PBA	**Port Blair**	**12.31**	**340**	*e*P	**Pn**	**22 09 08.5**	**-1.1**
KSM	**Kuching**	**13.30**	**84**	Pn	**Pn**	**22 09 22.9**	**-0.3**
PATY	**Pattaya** 6.7nm,0.9s,323nm	**13.33**	**16**	P	**Pn**	**22 09 23.0**	**-0.5**
CHBT	**CHBT** 96nm,1.2s	**13.65**	**22**	P	**Pn**	**22 09 26.4**	**-1.5**
SBUM	**Sibu**	**15.32**	**81**	P	**Pn**	**22 09 50.6**	**+0.1**
SBUM	**Sibu** 75nm,0.9s,958nm	**15.32**	**81**	P	**Pn**	**22 09 50.4**	**-0.1**
SBUM	**Sibu** 51nm,0.9s	**15.32**	**81**	*e*Pn	**Pn**	**22 09 49.8**	**-0.7**
BTM	**Bintulu**	**16.30**	**79**	P	**Pn**	**22 10 02.9**	**-0.3**
PBKT	**Sadao Pong** 65nm,1.1s,1µm	**16.86**	**13**	P	**Pn**	**22 10 10.6**	**+0.5**
UBPT	**Khong Chiam** 50nm,1.2s	**17.25**	**28**	P	**Pn**	**22 10 14.5**	**-0.6**
MHMT	**Maesarieng** 27nm,1.1s,561nm	**18.03**	**3**	P	**P**	**22 10 25.5**	**+0.6**
CM31	**Chiang Mai Arr** 27nm,0.9s	**18.38**	**6**	*e*P	**P**	**22 10 27.1**	**-1.7**
CMAR	**Chiang Mai Arr**	**18.38**	**6**	P	**P**	**22 10 27.4**	**-1.4**
CMAR				S	**Sn**	**22 13 54.9**	**+1.3**
CMAR				PcP	**PcP**	**22 15 00.4**	**+1.1**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=196,slow=12,SNR=33	**18.38**	**6**	P	**P**	**22 10 27.4**	**-1.4**
CMAR	baz=205,slow=21,SNR=2.7			S	**Sn**	**22 13 54.9**	**+1.3**
CMAR	0.1nm,0.3s,baz=227,slow=2.5,SNR=9.7			PcP	**PcP**	**22 15 00.4**	**+1.1**
CMAR	comp=Z,625nm,18.6s,baz=188,slow=39			LR	LR	22 18 11.4	
LAMP	**Lampang** 14nm,1.0s,112nm	**18.53**	**8**	P	**Pn**	**22 10 30.6**	**-0.1**
CHTO	**Chiang Mai**	**18.74**	**6**	*e*P	**P**	**22 10 31.8**	**-0.9**
CHTO				*e*S	**S**	**22 14 04.0**	**-0.3**
CHTO	comp=Z,9.0nm,1.2s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,134nm,1.0s,comp=Z,3µm	**18.74**	**6**	P	**P**	**22 10 30.8**	**-1.9**
CHTO	**Chiang Mai** comp=Z,9.1nm,1.2s	**18.74**	**6**	*e*P	**P**	**22 10 31.8**	**-0.9**
CHTO				*e*S	**S**	**22 14 04.0**	**-0.3**
CHTO	**Chiang Mai** comp=Z,198nm,1.0s,comp=Z,3µm	**18.74**	**6**	P	**P**	**22 10 31.9**	**-0.8**
CMMT	**Chiang Mai** comp=Z,30nm,1.0s,comp=Z,771nm	**18.74**	**6**	P	**P**	**22 10 31.8**	**-0.9**
CMAI	**Chiengmai2** comp=Z,29nm,1.2s	**19.85**	**5**	P	**P**	**22 10 45.3**	**+0.2**
KKM	**Kota Kinabalu**	**20.01**	**72**	P	**P**	**22 10 47.0**	**+0.2**
KKM	**Kota Kinabalu** comp=Z,194nm,0.9s,comp=Z,1µm	**20.01**	**72**	P	**P**	**22 10 46.4**	**-0.4**
KKM	**Kota Kinabalu** comp=Z,156nm,0.9s	**20.01**	**72**	*e*P	**P**	**22 10 45.8**	**-1.0**
KKM	**Kota Kinabalu** baz=20,SNR=23	**20.01**	**72**	⇓P	**P**	**22 10 45.7**	**-1.1**
CRAI	**Chiangrai** comp=Z,27nm,1.2s	**20.31**	**9**	P	**P**	**22 10 49.8**	**-0.1**
SGKI	**Sangatta, Kali** comp=Z,114nm,0.8s,comp=Z,2µm	**20.53**	**92**	P	**P**	**22 10 53.5**	**+1.1**
SDKM	**Sandakan**	**20.84**	**74**	P	**P**	**22 10 55.7**	**0.0**
KDM	**Kudat**	**20.85**	**71**	P	**P**	**22 10 56.6**	**+0.8**
MDRS	**Chennai**	**21.11**	**308**	*e*P	**P**	**22 11 00.3**	**+1.8**
TSM	**Tawau**	**21.20**	**78**	P	**P**	**22 11 00.5**	**+1.0**
TRD	**Trivandrum**	**21.73**	**293**	*e*P	**P**	**22 11 06.1**	**+0.8**
TRD				AMB	AMB	22 11 08.2	
TRD	comp=Z,70nm,1.1s			*ex*	x	22 15 18.6	
MMSI	**Mamuju** comp=Z,43nm,0.9s,comp=Z,354nm	**21.99**	**97**	P	**P**	**22 11 07.7**	**-0.4**
VIS	**Vishakhapatnam**	**22.17**	**323**	*e*P	**P**	**22 11 09.3**	**-0.6**
VIS				AMB	AMB	22 11 12.6	
	comp=Z,47nm,1.2s						
MJSI	**Majene** comp=Z,118nm,0.9s,comp=Z,1µm	**22.18**	**100**	P	**P**	**22 11 09.6**	**-0.5**
QIZ	**Qiongzhong**	**22.64**	**33**	P	**P**	**22 11 14.6**	**-0.4**
QIZ				pP	**pP**	**22 11 21.8**	**-1.9**
QIZ				S	**S**	**22 15 22.0**	**+1.0**
QIZ				sS	**sS**	**22 15 35.6**	**-0.4**
QIZ	comp=Z,31nm,1.2s			pmax	pmax		
QIZ	comp=Z,330nm,5.4s			pmax	pmax		
QIZ	comp=Z,840nm,12.0s			LR	LR		
QIZ	comp=Z,1µm,12.5s			LR	LR		
QIZ	**Qiongzhong** comp=Z,46nm,1.2s	**22.64**	**33**	*e*P	**P**	**22 11 14.5**	**-0.5**
KAPI	**Kappang**	**23.20**	**103**	*e*P	**P**	**22 11 20.3**	**-0.5**
KAPI	**Kappang** comp=Z,197nm,0.7s,SNR=5.8	**23.20**	**103**	P	**P**	**22 11 21.9**	**+1.1**
KAPI	**Kappang** comp=Z,25nm,0.9s,baz=297,slow=14,SNR=2.6	**23.20**	**103**	P	**P**	**22 11 20.3**	**-0.5**
BNSI	**Bone** comp=Z,142nm,1.2s,comp=Z,2µm	**23.43**	**101**	P	**P**	**22 11 22.5**	**-0.5**
BKSI	**Bulukumba** comp=Z,68nm,1.2s,comp=Z,973nmcomp=Z,36µm	**23.62**	**103**	P	**P**	**22 11 24.8**	**-0.1**
MRSI	**Marisa** comp=Z,87nm,0.8s,comp=Z,832nm	**24.87**	**89**	P	**P**	**22 11 36.0**	**-0.4**
HYB	**Hyderabad**	**25.11**	**314**	*i* P	**P**	**22 11 39.5**	**+0.9**
HYB	**Hyderabad**	**25.11**	**314**	*e*P	**P**	**22 11 39.8**	**+1.2**
KMI	**Kunming**	**25.52**	**12**	P	**P**	**22 11 44.0**	**+1.6**
KMI				pP	**pP**	**22 11 54.1**	**+2.3**
KMI				sP	**sP**	**22 11 57.3**	**+1.5**
KMI				PP	**PnPn**	**22 12 20.6**	**+1.7**
KMI				S	**S**	**22 16 07.5**	**-0.6**
KMI				sS	**sS**	**22 16 23.3**	**-0.4**
KMI	comp=Z,310nm,4.2s			pmax	pmax		
KMI	comp=Z,880nm,11.2s			LR	LR		
KMI	comp=Z,930nm,11.7s			LR	LR		
KMI	comp=Z,1µm,11.2s			LR	LR		
DGAR	**Diego Garcia**	**25.65**	**253**	*e*P	**P**	**22 11 42.7**	**-0.8**
H08S2	**Diego Garcia H** baz=72	**25.68**	**252**	T	T	22 38 43.5	
H08S3	**Diego Garcia H** baz=72,slow=75	**25.68**	**252**	T	T	22 38 58.1	
H08S1	**Diego Garcia H** baz=72,slow=75	**25.70**	**252**	T	T	22 38 44.7	
LUWI	**Luwuk**	**25.71**	**92**	P	**P**	**22 11 44.7**	**+0.6**
LUWI	**Luwuk** baz=26,SNR=4.5	**25.71**	**92**	⇓P	**P**	**22 11 43.9**	**-0.2**
SHL	**Shillong**	**25.86**	**349**	*e*P	**P**	**22 11 46.5**	**+1.0**
SHL				*ex*	x	22 16 22.0	
BOK	**Bokaro**	**25.98**	**336**	*e*P	**P**	**22 11 47.3**	**+0.8**
BOK				AMB	AMB	22 11 50.8	
	comp=Z,39nm,0.2s						
H08N1	**Diego Garcia H** baz=144,slow=75,SNR=11	**26.77**	**256**	T	T	22 41 14.6	
H08N2	**Diego Garcia H** baz=144,slow=75,SNR=13	**26.79**	**256**	T	T	22 41 18.7	
H08N3	**Diego Garcia H** baz=144,slow=75,SNR=13	**26.80**	**256**	T	T	22 41 14.3	
GOA	**Goa**	**27.62**	**305**	*e*P	**P**	**22 12 03.1**	**+1.9**
GYA	**Guiyang**	**27.83**	**19**	⇑P	**P**	**22 12 04.9**	**+1.7**
GYA				pP	**pP**	**22 12 14.8**	**+2.2**
GYA				sP	**sP**	**22 12 20.0**	**+3.4**
GYA				PP	**PnPn**	**22 12 53.4**	**+3.1**
GYA				PcP	**PcP**	**22 15 21.2**	**+2.3**
GYA				S	**S**	**22 16 45.0**	**+0.6**
GYA				sS	**sS**	**22 17 01.2**	**+1.2**
GYA				SS	**SnSn**	**22 18 05.9**	**+6.6**
GYA				ScP	**ScP**	**22 18 56.7**	**-0.8**
GYA				ScS	**ScS**	**22 22 47.5**	**-2.4**
GYA	comp=Z,20nm,1.0s			pmax	pmax		
GYA	comp=Z,130nm,5.0s			pmax	pmax		
GYA	comp=Z,890nm,13.5s			LR	LR		
GYA	comp=Z,720nm,14.0s			LR	LR		
GYA	comp=Z,960nm,13.6s			LR	LR		
ODAN	**Odare** comp=Z,43nm,0.9s	**28.24**	**341**	*e*P	**P**	**22 12 08.1**	**+1.2**
ODAN	**Odare**	**28.24**	**341**	*e*P	**P**	**22 12 08.1**	**+1.2**
RAMN	**Ramite** comp=Z,41nm,0.6s	**28.58**	**340**	*e*P	**P**	**22 12 11.8**	**+1.8**
RAMN	**Ramite**	**28.58**	**340**	*e*P	**P**	**22 12 11.8**	**+1.8**
TAPN	**Taplejung** comp=Z,59nm,0.8s	**28.60**	**342**	*e*P	**P**	**22 12 11.5**	**+1.3**
TAPN	**Taplejung**	**28.60**	**342**	*e*P	**P**	**22 12 11.5**	**+1.3**
POO	**Poona**	**29.29**	**310**	*e*P	**P**	**22 12 15.3**	**-0.8**
POO	comp=Z,20nm,0.5s			AMB	AMB	22 12 18.7	
JIRN	**Jiri** comp=Z,36nm,0.7s	**29.38**	**340**	*e*P	**P**	**22 12 18.0**	**+0.8**
JIRN	**Jiri**	**29.38**	**340**	*e*P	**P**	**22 12 18.0**	**+0.8**
PKI	**Pulchoki**	**29.57**	**339**	*e*P	**P**	**22 12 19.6**	**+0.7**
PKI	**Pulchoki**	**29.57**	**339**	*e*P	**P**	**22 12 20.1**	**+1.2**
PKI	**Pulchoki**	**29.57**	**339**	*e*P	**P**	**22 12 20.1**	**+1.2**
PKIN	**Phulchoki**	**29.58**	**339**	*e*P	**P**	**22 12 20.1**	**+1.2**
GUN	**Gumba** comp=Z,93nm,0.9s	**29.71**	**340**	*e*P	**P**	**22 12 20.8**	**+0.7**
GUN	**Gumba**	**29.71**	**340**	*e*P	**P**	**22 12 20.8**	**+0.7**
DMN	**Daman**	**29.71**	**338**	*e*P	**P**	**22 12 21.6**	**+1.5**
DMN	**Daman**	**29.71**	**338**	*e*P	**P**	**22 12 21.6**	**+1.5**
KKN	**Kakani** comp=Z,40nm,0.8s	**29.82**	**339**	*e*P	**P**	**22 12 21.5**	**+0.6**
KKN	**Kakani**	**29.82**	**339**	*e*P	**P**	**22 12 21.5**	**+0.6**
KKN	**Kakani**	**29.82**	**339**	*e*P	**P**	**22 12 21.5**	**+0.6**
BHPL	**Bhopal**	**29.94**	**322**	*e*P	**P**	**22 12 21.2**	**-0.7**
LSA	**Lhasa**	**30.02**	**350**	*e*P	**P**	**22 12 23.7**	**+0.7**
LSA	comp=Z,18nm,0.8s			pmax	pmax		
LSA	**Lhasa** comp=Z,18nm,0.8s	**30.02**	**350**	*e*P	**P**	**22 12 23.7**	**+0.7**
GKN	**Gorkha** comp=Z,53nm,0.8s	**30.25**	**338**	*e*P	**P**	**22 12 25.2**	**+0.6**
GKN	**Gorkha**	**30.25**	**338**	*e*P	**P**	**22 12 25.2**	**+0.6**
KOLN	**Koldanda**	**30.45**	**336**	*e*P	**P**	**22 12 27.3**	**+0.8**
KOLN	**Koldanda**	**30.45**	**336**	*e*P	**P**	**22 12 27.3**	**+0.8**
DANN	**Dangsing**	**30.90**	**337**	*e*P	**P**	**22 12 31.2**	**+0.7**
DANN	**Dangsing**	**30.90**	**337**	*e*P	**P**	**22 12 31.2**	**+0.7**
CD2	**Chengdu**	**31.34**	**11**	*e*P	**P**	**22 12 36.7**	**+2.6**
CD2				pP	**pP**	**22 12 46.6**	**+3.0**
CD2				sP	**sP**	**22 12 50.8**	**+3.2**
CD2				PP	**PnPn**	**22 13 40.9**	**+3.6**
CD2				PcP	**PcP**	**22 15 29.8**	**+2.1**
CD2				S	**S**	**22 17 40.7**	**+1.4**
CD2				sS	**sS**	**22 17 57.4**	**+2.5**
CD2				SS	**SnSn**	**22 19 29.3**	**+4.8**
CD2				ScS	**ScS**	**22 23 05.0**	**-1.2**
CD2	comp=Z,20nm,1.4s			pmax	pmax		
CD2	comp=Z,220nm,11.6s			pmax	pmax		
CD2	comp=Z,970nm,14.4s			LR	LR		
CD2	comp=Z,940nm,15.5s			LR	LR		
CD2	comp=Z,920nm,15.3s			LR	LR		
ENH	**Enshi** comp=Z,30nm,0.8s	**32.29**	**20**	*e*P	**P**	**22 12 42.2**	**-0.3**
QZH	**Quanzhou**	**32.34**	**38**	⇓*i*P	**P**	**22 12 43.7**	**+0.8**
QZH				S	**S**	**22 17 54.4**	**-0.5**
QZH	comp=Z,1µm,9.8s			LR	LR		
QZH	comp=Z,2µm,12.6s			LR	LR		
QZH	comp=Z,2µm,13.0s			LR	LR		
SSLB	**Suanglung** comp=Z,338nm,2.4s	**33.07**	**43**	*e*P	**P**	**22 12 50.1**	**+0.7**
FITZ	**Fitzroy Crossi** comp=Z,14nm,0.8s	**33.37**	**124**	*e*P	**P**	**22 12 51.9**	**-0.2**
FITZ	**Fitzroy Crossi** comp=Z,12nm,0.8s,baz=297,slow=3.9,SNR=12	**33.37**	**124**	P	**P**	**22 12 51.5**	**-0.6**
FITZ	comp=Z,134nm,18.3s,baz=316,slow=39			LR	LR	22 28 12.0	
FITZ	**Fitzroy Crossi** baz=33,SNR=13	**33.37**	**124**	⇑P	**P**	**22 12 51.3**	**-0.7**
WHN	**Wuhan**	**34.49**	**27**	⇓P	**P**	**22 13 02.3**	**+0.7**
WHN				S	**S**	**22 18 31.8**	**+3.7**
WHN	comp=Z,2µm,12.8s			LR	LR		
WHN	comp=Z,1µm,10.4s			LR	LR		
WHN	comp=Z,2µm,11.7s			LR	LR		
XAN	**Xi'an**	**35.59**	**17**	P	**P**	**22 13 12.5**	**+1.4**
XAN				pP	**pP**	**22 13 25.4**	**+4.7**
XAN				S	**S**	**22 18 45.9**	**+0.8**
XAN				PcS	**PcS**	**22 19 22.7**	**-4.2**
XAN				SS	**SnSn**	**22 21 04.8**	**-2.7**
XAN	comp=Z,8.0nm,0.9s			pmax	pmax		
XAN	comp=Z,51nm,8.5s			pmax	pmax		
XAN	comp=Z,450nm,9.8s			LR	LR		
XAN	comp=Z,200nm,12.8s			LR	LR		
SMLA	**Simla**	**36.22**	**330**	*e*P	**P**	**22 13 15.8**	**-0.7**
LZH	**Lanzhou**	**36.40**	**9**	*e*P	P	22 13 25.2	+7.0
LZH				pP	pP	22 13 34.0	+6.3
LZH				sP	sP	22 13 36.7	+5.0
LZH				PP	PP	22 14 49.3	+7.9
LZH				*e*S	S	22 19 05.6	+7.9
LZH				sS	sS	22 19 17.5	+4.0
LZH				SS	**SnSn**	**22 21 30.8**	**+3.5**
LZH	comp=Z,29nm,1.1s			pmax	pmax		
LZH	comp=Z,180nm,4.0s			pmax	pmax		
LZH	comp=N,390nm,11.2s			LR	LR		
LZH	comp=E,630nm,13.1s			LR	LR		
LZH	comp=Z,890nm,15.5s			LR	LR		
KLBR	**Kellerberrin** baz=37,SNR=4.6	**37.07**	**150**	⇑P	**P**	**22 13 24.7**	**+1.0**
DHRM	**DHARAMSHALA**	**37.56**	**330**	*e*P	**P**	**22 13 28.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.90**	**152**	P	**P**	**22 13 30.8**	**+0.1**
NWAO	**Narrogin (SRO)** comp=Z,14nm,0.8s,baz=314,slow=8.7,SNR=7.7	**37.90**	**152**	P	**P**	**22 13 30.8**	**+0.1**
NWAO	comp=Z,163nm,19.4s,baz=208,slow=34			LR	LR	22 28 06.6	
H01W3	**Cape Leeuwin H** baz=335,slow=76,SNR=27	**38.24**	**157**	T	T	22 53 59.9	
H01W2	**Cape Leeuwin H** baz=335,slow=76,SNR=31	**38.25**	**157**	T	T	22 54 07.7	
H01W1	**Cape Leeuwin H** baz=335,slow=76,SNR=25	**38.25**	**157**	T	T	22 54 11.0	
SSE	**Sheshan**	**38.42**	**34**	P	**P**	**22 13 34.8**	**-0.4**
SSE				S	**S**	**22 19 30.8**	**+2.6**
SSE	comp=Z,34nm,0.7s			pmax	pmax		
SSE	comp=Z,200nm,5.7s			pmax	pmax		
SSE	comp=Z,340nm,11.2s			LR	LR		
SSE	comp=Z,500nm,11.0s			LR	LR		
SSE	comp=Z,690nm,11.8s			LR	LR		
GTA	**Gaotai**	**39.25**	**3**	*e*P	**P**	**22 13 43.0**	**+0.8**
GTA				pP	**pP**	**22 13 52.8**	**+1.0**
GTA				sP	**sP**	**22 13 56.8**	**+1.1**
GTA				PcP	**PcP**	**22 15 51.5**	**+0.7**
GTA				S	**S**	**22 19 42.8**	**+2.0**
GTA				sS	**sS**	**22 19 58.5**	**+1.9**
GTA				SS	**SS**	**22 22 29.3**	**-5.7**
GTA	comp=Z,210nm,5.7s			pmax	pmax		
GTA	comp=Z,200nm,15.9s			LR	LR		
GTA	comp=Z,290nm,16.6s			LR	LR		
GTA	comp=Z,240nm,17.6s			LR	LR		
WB0	**Warramunga Arr** baz=42	**41.52**	**121**	⇓P	**P**	**22 14 00.3**	**-0.8**
WRA	**Warramunga Arr**	**41.54**	**121**	P	**P**	**22 14 00.8**	**-0.6**
WRA				pP	**pP**	**22 14 10.7**	**-0.3**
WRA				PcP	**PcP**	**22 15 57.7**	**-0.7**
WRA				S	**S**	**22 20 13.0**	**-2.3**
WRA	**Warramunga Arr** comp=Z,14nm,0.8s,baz=300,slow=9.0,SNR=46	**41.54**	**121**	P	**P**	**22 14 00.8**	**-0.6**
WRA	comp=Z,16nm,0.8s,baz=300,slow=9.0,SNR=11			pP	**pP**	**22 14 10.7**	**-0.3**
WRA	comp=Z,2.7nm,0.9s,baz=318,slow=2.9,SNR=5.0			PcP	**PcP**	**22 15 57.7**	**-0.7**
WRA	comp=Z,1.5nm,1.0s,baz=297,slow=14,SNR=3.5			S	**S**	**22 20 13.0**	**-2.3**
WRA	comp=Z,147nm,21.9s,baz=165,slow=35			LR	LR	22 30 29.8	
WRAB	**Tennant Creek**	**41.55**	**121**	*e*P	**P**	**22 14 01.2**	**-0.2**
WRAB	comp=Z,78nm,1.6s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,78nm,1.6s	**41.55**	**121**	*e*P	**P**	**22 14 01.2**	**-0.2**
WRAB	**Tennant Creek** comp=Z,140nm,0.9s,SNR=14	**41.55**	**121**	P	**P**	**22 14 01.5**	**+0.1**
MSEY	**Mahe Island** comp=Z,45nm,1.1s	**41.82**	**263**	*e*P	**P**	**22 14 04.8**	**+1.2**
HHC	**Hu-ho-hao-te**	**42.69**	**16**	*e*P	**P**	**22 14 12.3**	**+1.9**
HHC				pP	**pP**	**22 14 23.2**	**+3.1**
HHC				sP	**sP**	**22 14 27.1**	**+3.1**
HHC				PP	PP	22 15 55.5	+5.6
HHC				S	**S**	**22 20 33.6**	**+1.8**
HHC				sS	**sS**	**22 20 51.1**	**+3.3**
HHC				SS	**SS**	**22 23 40.1**	**-3.1**
HHC				ScS	**ScS**	**22 24 09.3**	**-0.2**
HHC	comp=Z,37nm,1.0s			pmax	pmax		
HHC	comp=Z,450nm,4.9s			pmax	pmax		
HHC	comp=Z,740nm,13.9s			LR	LR		
HHC	comp=Z,730nm,14.0s			LR	LR		
HHC	comp=Z,320nm,14.0s			LR	LR		
AS31	**Alice Springs**	**42.81**	**126**	*e*P	**P**	**22 14 11.4**	**-0.2**
ASAR	**Alice Springs**	**42.81**	**126**	P	**P**	**22 14 11.7**	**+0.1**
ASAR

comp=Z,25nm,0.8s
BJI Beijing 43.45 21 P **P** **22 14 17.4 +1.0**
BJI PcP **PcP** **22 16 04.5 +0.2**
BJI S **S** **22 20 45.4 +2.7**
BJI sS **sS** **22 20 57.8 -0.9**
BJI ScS **ScS** **22 24 12.9 -1.0**
BJI pmax pmax
comp=Z,19nm,0.6s
BJI pmax pmax
comp=Z,210nm,6.8s
BJI LR LR
comp=Z,480nm,9.2s
BJI LR LR
comp=Z,130nm,10.5s
MRIV Mauritius Mete 43.69 240 *e*P **P** **22 14 18.9 +0.2**
KSH Kashi 43.76 336 P **P** **22 14 18.1 -1.1**
KSH pP **pP** **22 14 28.2 -0.7**
KSH sP **sP** **22 14 32.1 -0.7**
KSH PP **PcP** **22 16 05.0 -0.6**
KSH S **S** **22 20 42.8 -4.9**
KSH sS **sS** **22 21 06.1 +2.4**
KSH SS **SS** **22 23 58.0 -6.3**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,160nm,4.4s
KSH LR LR
comp=Z,160nm,5.0s
KSH LR LR
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,200nm,5.6s
WMQ Urumqi 44.38 350 P **P** **22 14 25.0 +1.0**
WMQ pP **pP** **22 14 35.0 +1.3**
WMQ sP **sP** **22 14 39.0 +1.4**
WMQ PP **PP** **22 16 10.0 +2.1**
WMQ ScP **ScP** **22 19 57.0 -0.4**
WMQ S **S** **22 20 57.0 +0.6**
WMQ sS **sS** **22 21 13.0 +0.6**
WMQ SS SS 22 24 07.0 -9.1
WMQ pmax pmax
comp=Z,24nm,1.0s
WMQ pmax pmax
comp=Z,87nm,4.0s
WMQ LR LR
comp=Z,120nm,15.0s
WMQ LR LR
comp=Z,180nm,15.0s
WMQ LR LR
comp=Z,98nm,16.0s
JNU Nakatsue 45.75 41 *e*P **P** **22 14 35.6 +0.6**
comp=Z,52nm,1.9s
JNU Nakatsue 45.75 41 P **P** **22 14 35.0 +0.1**
comp=Z,15nm,0.9s,baz=132,slow=3.3,SNR=6.1
JNU LR LR 22 34 06.9
comp=Z,381nm,20.7s,baz=231,slow=36
TJN Taejon 45.78 35 *e*P **P** **22 14 35.5 +0.4**
UCH Uchtor 46.65 337 *i* P **P** **22 14 43.9 +1.5**
UCH Uchtor 46.65 337 P **P** **22 14 43.9 +1.5**
SNR=23
KSAR Wonju Array Be 46.83 34 P **P** **22 14 43.5 +0.2**
TKM2 Tokmak 2 46.83 338 *e*P **P** **22 14 44.2 +0.6**
TKM2 pmax pmax
comp=Z,17nm,0.9s
TKM2 Tokmak 2 46.83 338 P **P** **22 14 44.4 +0.8**
SNR=21
TKM2 Tokmak 2 46.83 338 *e*P **P** **22 14 44.2 +0.6**
comp=Z,17nm,0.9s
KBK Karagaybulak 46.85 338 P **P** **22 14 45.7 +2.0**
SNR=15
KSRS Korea Array 46.86 34 P **P** **22 14 43.6 0.0**
comp=Z,8.3nm,0.8s,baz=221,slow=9.3,SNR=21
KSRS LR LR 22 34 40.9
comp=Z,225nm,19.1s,baz=220,slow=36
AML Almayashu 46.90 336 *i* P **P** **22 14 45.3 +1.0**
AML Almayashu 46.90 336 P **P** **22 14 45.2 +1.0**
SNR=18
AAK Ala-Archa 47.00 337 *e*P **P** **22 14 45.3 +0.5**
AAK *e* 22 16 16.9
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 47.00 337 P **P** **22 14 46.3 +1.4**
SNR=5.4
AAK Ala-Archa 47.00 337 *e*P **P** **22 14 45.3 +0.5**
comp=Z,10nm,1.0s
AAK *e*PcP **PcP** **22 16 16.9 0.0**
AAK Ala-Archa 47.00 337 P **P** **22 14 46.9 +2.1**
comp=Z,36nm,0.9s,SNR=5.7
AAK Ala-Archa 47.00 337 P **P** **22 14 45.6 +0.7**
comp=Z,4.3nm,0.9s,baz=147,slow=6.5,SNR=10
AAK LR LR 22 37 14.2
comp=Z,172nm,19.7s,baz=5.3,slow=40
CHMS Chumysh 47.22 338 *i* P **P** **22 14 47.2 +0.9**
CHMS Chumysh 47.22 338 P **P** **22 14 47.3 +0.9**
SNR=5.3
EKS2 Erkin-Say 47.31 337 *e*P **P** **22 14 48.3 +1.1**
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 Erkin-Say 47.31 337 P **P** **22 14 48.1 +0.9**
SNR=19
EKS2 Erkin-Say 47.31 337 *e*P **P** **22 14 48.3 +1.1**
comp=Z,14nm,0.8s
USP Ospenovka 47.54 338 *i* P **P** **22 14 49.0 +0.2**
USP Ospenovka 47.54 338 P **P** **22 14 49.1 +0.2**
SNR=41
SNY Shenyang 47.98 27 ⇑P **P** **22 14 54.6 +2.4**
SNY S S 22 21 55.5 +7.6
SNY pmax pmax
comp=Z,13nm,1.0s
SNY LR LR
comp=Z,420nm,12.0s
SNY LR LR
comp=Z,470nm,10.8s
SNY LR LR
comp=Z,460nm,12.9s
SONM Songino Array 48.28 8 P **P** **22 14 55.0 +0.4**
SONM pP **pP** **22 15 02.8 -1.6**
SONM PcP **PcP** **22 16 21.4 +0.2**
SONM pPcP 22 16 30.3
SONM Songino Array 48.28 8 P **P** **22 14 55.0 +0.4**
comp=Z,6.2nm,0.8s,baz=190,slow=9.2,SNR=30
SONM pP **pP** **22 15 02.8 -1.6**
comp=Z,8.1nm,0.7s,baz=187,slow=8.8,SNR=15
SONM PcP **PcP** **22 16 21.4 +0.2**
comp=Z,3.3nm,0.8s,baz=196,slow=3.6,SNR=2.7
SONM pPcP 22 16 30.3
comp=Z,4.2nm,0.8s,baz=185,slow=5.1,SNR=3.6
SONM LR LR 22 37 32.4
comp=Z,294nm,19.8s,baz=194,slow=39
MK31 Makanchi Array 48.32 346 *i* P **P** **22 14 55.0 +0.1**
MK31 pmax pmax
comp=Z,18nm,0.6s
MK31 Makanchi Array 48.32 346 *e*P **P** **22 14 54.9 +0.1**
MKAR Makanchi Array 48.32 346 *e*P **P** **22 14 55.3 +0.4**
MKAR *PP **pP** **22 15 04.2 -0.5**
MKAR Makanchi Array 48.32 346 *e*P **P** **22 14 55.3 +0.4**
MKAR pP **pP** **22 15 04.2 -0.5**
MKAR Makanchi Array 48.32 346 P **P** **22 14 55.2 +0.4**
comp=Z,12nm,0.5s,baz=160,slow=8.4,SNR=138
MKAR pP **pP** **22 15 04.2 -0.5**
comp=Z,23nm,0.6s,baz=156,slow=7.9,SNR=24
MKAR LR LR 22 39 18.6
comp=Z,90nm,19.4s,baz=284,slow=41
MKAR Makanchi Array 48.32 346 ⇓P **P** **22 14 55.1 +0.3**
baz=48
ULN Ulaanbaatar 48.41 9 *e*P **P** **22 14 56.3 +0.6**
comp=Z,9.4nm,0.9s
KK31 Karatay Array 49.03 334 P **P** **22 15 00.2 -0.1**
KK31 pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 49.03 334 *e*P **P** **22 15 00.3 -0.1**
KKAR Karatay Array 49.03 334 *e*P **P** **22 15 00.2 -0.1**
CN2 Changchun 50.38 27 *e*P **P** **22 15 12.6 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,500nm,18.0s
ZAK Zakamensk 50.42 5 *e*P **P** **22 15 10.5 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.4s

PMG Port Moresby 50.73 102 P **P** **22 15 14.0 +0.3**
PMG Port Moresby 50.73 102 P **P** **22 15 14.0 +0.3**
comp=Z,3.8nm,0.4s,baz=312,slow=12,SNR=2.9
PMG LR LR 22 36 25.2
comp=Z,101nm,21.3s,baz=248,slow=36
JCJ Chichijima 50.98 54 LR LR 22 33 06.5
comp=Z,168nm,19.9s,baz=292,slow=32
HTT Hallett 51.50 135 ⇓P **P** **22 15 20.2 +0.9**
baz=52
MOY Mondy 51.54 3 *e*P pP 22 15 29.3 +0.2
TLY Talaya 51.74 5 *e*P **P** **22 15 18.6 -2.1**
TLY *e*SS **SS** **22 26 11.7 -5.5**
TLY pmax pmax
comp=Z,15nm,1.3s
TLY MLR MLR
comp=Z,263nm,14.0s
ABKT Ailbek 52.02 321 P **P** **22 15 22.7 -0.3**
comp=Z,82nm,1.0s,SNR=5.5
CTA Charters Tower 52.11 116 P **P** **22 15 24.4 +0.5**
CTA pP **pP** **22 15 33.5 -0.4**
CTA Charters Tower 52.11 116 P **P** **22 15 24.4 +0.5**
comp=Z,9.9nm,0.9s,baz=294,slow=7.7,SNR=7.6
CTA pP **pP** **22 15 33.5 -0.4**
comp=Z,12nm,0.9s,baz=300,slow=9.2,SNR=5.7
CTA Charters Tower 52.11 116 ⇑P **P** **22 15 24.2 +0.2**
baz=52
CTAO Charters Tower 52.11 116 P **P** **22 15 24.2 +0.2**
CTAO pmax pmax
comp=Z,52nm,1.5s
CTAO Charters Tower 52.11 116 P **P** **22 15 24.2 +0.2**
comp=Z,52nm,1.5s
OPO Ambohidratompo 52.35 246 P **P** **22 15 26.6 +0.6**
OPO Ambohidratompo 52.35 246 P **P** **22 15 26.6 +0.6**
comp=Z,16nm,0.9s,baz=75,slow=9.1,SNR=14
OPO LR LR 22 32 46.4
comp=Z,307nm,19.7s,baz=272,slow=30
QLP Quilpie 52.52 124 ⇑P **P** **22 15 27.8 +1.0**
baz=53,SNR=4.3
MJAR Matsushiro Arr 52.62 42 P **P** **22 15 26.9 -0.6**
MJAR Matsushiro Arr 52.62 42 P **P** **22 15 26.9 -0.6**
comp=Z,3.2nm,0.9s,baz=222,slow=6.2,SNR=7.4
MJAR LR LR 22 38 17.6
comp=Z,193nm,21.0s,baz=235,slow=36
STKA Stephens Creek 52.69 131 *e*P **P** **22 15 29.0 +0.9**
comp=Z,14nm,1.4s
STKA pP **pP** **22 15 36.5 -1.4**
STKA Stephens Creek 52.69 131 P **P** **22 15 29.1 +1.1**
comp=Z,23nm,0.9s,baz=310,slow=7.7,SNR=25
STKA pP **pP** **22 15 36.5 -1.4**
comp=Z,24nm,1.1s,baz=311,slow=8.4,SNR=8.5
STKA LR LR 22 38 25.7
comp=Z,105nm,20.1s,baz=25,slow=37
STKA Stephens Creek 52.69 131 ⇑P **P** **22 15 28.9 +0.9**
baz=53,SNR=12
HIA Hailar 52.76 18 *e*P **P** **22 15 27.8 -0.6**
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 52.80 345 P **P** **22 15 28.7 +0.1**
comp=Z,9.0nm,0.8s,baz=167,slow=7.2,SNR=110
KURBB pP **pP** **22 15 37.5 -0.9**
comp=Z,10nm,0.9s,baz=171,slow=6.5,SNR=18
KURBB PcP **PcP** **22 16 37.9 +0.3**
comp=Z,2.7nm,0.7s,baz=157,slow=3.8,SNR=4.6
KURBB pPcP 22 16 47.9
comp=Z,2.3nm,0.7s,baz=157,slow=3.5,SNR=4.1
KURK Kurchatov 52.87 345 *e*P **P** **22 15 29.0 0.0**
KURK *PP **pP** **22 15 37.5 -1.4**
KURK 22 16 37.9
KURK pmax pmax
comp=Z,18nm,1.1s
KURK Kurchatov 52.87 345 *e*P **P** **22 15 29.0 0.0**
comp=Z,18nm,1.1s
KURK pP **pP** **22 15 37.5 -1.4**
KURK PcP **PcP** **22 16 37.9 +0.1**
KURK pPcP 22 16 47.9
KURK Kurchatov 52.87 345 P **P** **22 15 29.8 +0.8**
comp=Z,167nm,1.0s,SNR=15
MDJ Mudanjiang 52.93 29 P **P** **22 15 30.2 +0.6**
MDJ pP **pP** **22 15 38.8 -0.7**
MDJ sP **sP** **22 15 42.4 -0.9**
MDJ PcP **PcP** **22 16 37.1 -1.2**
MDJ PP **PP** **22 17 30.0 +0.5**
MDJ ScP **ScP** **22 20 33.1 -0.4**
MDJ PcS **PcS** **22 20 36.3 -0.5**
MDJ S **S** **22 22 58.7 +2.0**
MDJ sS **sS** **22 23 13.6 +0.6**
MDJ pmax pmax
comp=Z,240nm,5.0s
MDJ LR LR
comp=Z,370nm,8.2s
MDJ LR LR
comp=Z,160nm,8.2s
MDJ LR LR
comp=Z,500nm,8.8s
USRK Ussurisyk Arra 53.81 31 P **P** **22 15 36.9 +0.8**
comp=Z,21nm,1.0s,baz=240,slow=4.8,SNR=26
USRK pP **pP** **22 15 46.0 0.0**
comp=Z,21nm,0.8s,baz=231,slow=6.1,SNR=14
USRK LR LR 22 39 59.1
comp=Z,278nm,19.9s,baz=208,slow=38
DAMY Dhamar 54.05 288 ⇓P **P** **22 15 40.3 +1.6**
baz=54
ZAA0 Zalesovo Array 54.67 351 *e*P **P** **22 15 41.8 -0.3**
ZAA0 *e* 22 15 52.0
ZALV Zalesovo Beam 54.67 351 P **P** **22 15 42.2 +0.1**
ZALV *PP **pP** **22 15 51.5 -0.6**
ZALV Zalesovo Beam 54.67 351 P **P** **22 15 42.2 +0.1**
ZALV pP **pP** **22 15 51.5 -0.6**
ZALV Zalesovo Beam 54.67 351 P **P** **22 15 42.2 +0.1**
comp=Z,38nm,0.5s,baz=176,slow=6.2,SNR=202
ZALV pP **pP** **22 15 51.5 -0.6**
comp=Z,56nm,0.6s,baz=179,slow=6.2,SNR=24
ZALV LR LR 22 41 33.9
comp=Z,74nm,21.4s,baz=252,slow=39
RAYN Ar Rayn 55.19 299 P **P** **22 15 46.2 -0.4**
comp=Z,140nm,0.8s,SNR=12
ARPS Mount Arapiles 55.27 137 ⇓P **P** **22 15 46.5 -0.4**
baz=55
CMSA Cobar Meteorol 55.66 129 ⇓P **P** **22 15 50.4 +0.6**
baz=56,SNR=16
BVAR Borovoye Array 57.29 341 P **P** **22 16 00.3 -0.7**
BVAR *PP **pP** **22 16 09.7 -1.2**
BVAR Borovoye Array 57.29 341 P **P** **22 16 00.3 -0.7**
BVAR pP **pP** **22 16 09.7 -1.2**
BVAR Borovoye Array 57.29 341 P **P** **22 16 00.3 -0.7**
comp=Z,7.3nm,0.8s,baz=146,slow=8.2,SNR=22
BVAR pP **pP** **22 16 09.7 -1.2**
comp=Z,5.9nm,0.7s,baz=148,slow=8.6,SNR=11
BRVK Borovoye 57.35 341 *e*P **P** **22 16 00.9 -0.5**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 57.35 341 *e*P **P** **22 16 00.9 -0.5**
comp=Z,12nm,1.0s
BRVK Borovoye 57.35 341 P **P** **22 16 00.1 -1.3**
comp=Z,66nm,0.9s,SNR=5.9
EIDS Eidsvold 57.90 120 *e*P **P** **22 16 06.1 +0.3**
comp=Z,50nm,1.6s
EIDS Eidsvold 57.90 120 ⇑P **P** **22 16 06.1 +0.3**
baz=58,SNR=4.2
TOO Toolangi 58.21 136 ⇑P **P** **22 16 08.9 +1.1**
baz=58
HABR Khabarovsk 58.32 29 *e*P **pP** **22 16 20.6 +2.4**
HABR *e* 22 16 57.2
HABR *e*S **S** **22 24 06.9 -1.5**
HABR *e* 22 24 19.1
HABR *e* 22 24 24.0
HABR *e* 22 25 53.2
HABR *e*SS **SS** **22 28 00.2 -0.7**
HABR pmax pmax
comp=Z,30nm,2.3s
HABR MLR MLR
comp=Z,197nm,18.0s
AB31 Akbulak array 58.47 332 *i* P **P** **22 16 08.3 -1.0**
AB31 pmax pmax
comp=Z,15nm,0.7s
ABKAR Akbulak array 58.47 332 *e*P **P** **22 16 08.4 -0.8**
ABKAR Akbulak array 58.47 332 ⇓P **P** **22 16 08.7 -0.5**
baz=59
YNG Young 58.87 131 ⇓P **P** **22 16 13.1 +0.7**
baz=59
ASAJ Asahikawa 59.65 37 LR LR 22 42 31.7
comp=Z,224nm,18.7s,baz=0.3,slow=36
KMBO Kilima Mbogo 59.83 269 *e*P **P** **22 16 20.4 +0.6**
comp=Z,11nm,1.0s
KMBO pP **pP** **22 16 29.7 0.0**
KMBO Kilima Mbogo 59.83 269 P **P** **22 16 20.2 +0.5**
comp=Z,7.0nm,0.9s,baz=59,slow=9.1,SNR=28

KMBO pP **pP** **22 16 29.7 0.0**
comp=Z,2.8nm,0.8s,baz=53,slow=6.3,SNR=5.2
KMBO LR LR 22 39 07.8
comp=Z,184nm,18.4s,baz=95,slow=33
KMBO Kilima Mbogo 59.83 269 ⇑P **P** **22 16 20.9 +1.2**
baz=60
ARMA Armidale 59.96 126 ⇓P **P** **22 16 22.1 +1.9**
baz=60
AKTO Aktyubinsk 60.18 332 P **P** **22 16 19.4 -1.7**
AKTO pmax pmax
comp=Z,12nm,0.9s
AKTO Aktyubinsk 60.18 332 P **P** **22 16 19.6 -1.5**
AKTO Aktyubinsk 60.18 332 P **P** **22 16 19.6 -1.5**
comp=Z,9.0nm,0.9s,baz=141,slow=5.8,SNR=24
YSS Yuzh-Sakhalins 61.36 34 *e*P **P** **22 16 29.6 +0.4**
YSS pmax pmax
comp=Z,40nm,1.2s
TBLG Delisi 62.75 318 P **P** **22 16 39.2 +0.5**
DUS Dusheti 62.94 319 P **P** **22 16 39.9 -0.1**
GUDG Gudauri 63.26 319 P **P** **22 16 43.0 +0.7**
AKH Akhalkalaki 63.44 317 P **P** **22 16 44.5 +1.0**
SVE Sverdlovsk 63.71 339 *de*P **P** **22 16 44.7 0.0**
SVE pmax pmax
comp=Z,27nm,0.9s
ZEI Tsey 63.78 319 *e*P **P** **22 16 45.3 -0.4**
ZEI pmax pmax
comp=Z,12nm,0.8s
ONI Oni 63.99 319 P **P** **22 16 47.7 +0.8**
ARU Arti 64.19 337 P **P** **22 16 47.0 -0.8**
comp=Z,95nm,0.9s,SNR=6.5
ARU Arti 64.19 337 *di* P **P** **22 16 46.6 -1.2**
ARU 22 17 21.1
ARU 22 19 08.3
ARU PPP PPP 22 20 40.5
ARU S **S** **22 25 22.3 -0.5**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU Arti 64.19 337 *e*P **P** **22 16 46.8 -1.0**
comp=Z,17nm,1.0s
KBZ Khabaz 64.86 320 P **P** **22 16 52.5 +0.1**
KBZ *PP **pP** **22 17 02.0 -0.5**
KBZ Khabaz 64.86 320 P **P** **22 16 52.5 +0.1**
KBZ pP **pP** **22 17 02.0 -0.5**
KBZ Khabaz 64.86 320 P **P** **22 16 52.5 +0.1**
comp=Z,12nm,0.8s,baz=117,slow=6.6,SNR=17
KBZ pP **pP** **22 17 02.0 -0.5**
comp=Z,7.9nm,0.8s,baz=117,slow=2.3,SNR=7.0
ASF Jabal al Asfar 65.03 306 P **P** **22 16 53.9 -0.1**
ASF pP **pP** **22 17 04.6 +0.5**
ASF Jabal al Asfar 65.03 306 P **P** **22 16 53.9 -0.1**
comp=Z,13nm,0.9s,baz=78,slow=4.5,SNR=15
ASF pP **pP** **22 17 04.6 +0.5**
comp=Z,6.4nm,0.8s,baz=44,slow=5.5,SNR=5.1
KIV Kislovodsk 65.10 320 P **P** **22 16 54.2 0.0**
comp=Z,145nm,1.1s,SNR=5.6
KIV Kislovodsk 65.10 320 *e*P **P** **22 16 54.6 +0.4**
KIV *eS **S** **22 25 34.9 +0.2**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 65.10 320 *e*P **P** **22 16 54.3 +0.2**
comp=Z,32nm,1.1s
MALT Malatya 65.81 313 ⇓*i*P **P** **22 17 00.0 +1.1**
EIL Elat 65.96 303 P **P** **22 17 00.3 +0.3**
EIL pP **pP** **22 17 09.8 -0.2**
EIL Elat 65.96 303 P **P** **22 17 00.3 +0.3**
comp=Z,22nm,0.8s,baz=55,slow=3.7,SNR=16
EIL pP **pP** **22 17 09.8 -0.2**
comp=Z,6.0nm,0.6s,baz=275,slow=0.8,SNR=3.6
EIL Elat 65.96 303 ⇓P **P** **22 16 59.6 -0.4**
baz=66,SNR=3.9
MBAR Mbarara 66.34 269 P **P** **22 17 03.3 +0.4**
MBAR pP **pP** **22 17 13.2 +0.2**
MBAR Mbarara 66.34 269 P **P** **22 17 03.3 +0.4**
comp=Z,7.2nm,0.8s,baz=78,slow=9.4,SNR=13
MBAR pP **pP** **22 17 13.2 +0.2**
comp=Z,1.5nm,0.3s,baz=161,slow=7.3,SNR=2.1
MMAI Mount Meron Ar 66.48 306 P **P** **22 17 04.1 +0.8**
MMAI pP **pP** **22 17 14.0 +0.7**
MMAI Mount Meron Ar 66.48 306 P **P** **22 17 04.1 +0.8**
comp=Z,15nm,0.9s,baz=92,slow=8.7,SNR=13
MMAI pP **pP** **22 17 14.0 +0.7**
comp=Z,5.5nm,0.6s,baz=94,slow=8.4,SNR=6.6
YAK Yakutsk 66.55 16 *e*P **P** **22 17 02.3 -0.7**
YAK *e* 22 17 11.1
YAK pmax pmax
comp=Z,31nm,1.4s
YAK pmax pmax
comp=N,9.0nm,1.8s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK Yakutsk 66.55 16 *e*P **P** **22 17 02.9 -0.1**
comp=E,62nm,1.1s
SOC Sochi 66.89 318 *e*P **P** **22 17 03.5 -2.1**
SOC *e* 22 19 31.6
SOC *e*PPP PPP 22 21 16.8
SOC *e*S **S** **22 25 52.5 -3.8**
SOC pmax pmax
comp=Z,54nm,0.9s
SOKR Solikamsk 67.12 339 *e*P P 22 16 59.6 -7.1
SOKR pmax pmax
comp=Z,10.0nm,0.8s
CSS Prodhromos 68.67 308 *e*P **P** **22 17 17.3 +0.3**
comp=Z,84nm,1.7s
VRHR Novokhopersk 69.01 326 *e*P **P** **22 17 17.2 -1.5**
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,1.2s
LSZ Lusaka 69.67 254 P **P** **22 17 23.2 -0.5**
LSZ pP **pP** **22 17 32.7 -1.2**
LSZ Lusaka 69.67 254 P **P** **22 17 23.2 -0.5**
comp=E,2.8nm,0.8s,baz=78,slow=14,SNR=9.4
LSZ pP **pP** **22 17 32.7 -1.2**
comp=E,1.3nm,0.7s,baz=72,slow=10,SNR=2.2
BRTR Keskin Array B 69.79 313 P **P** **22 17 22.2 -1.9**
BRTR pP **pP** **22 17 32.2 -2.0**
BRTR Keskin Array B 69.79 313 P **P** **22 17 22.2 -1.9**
comp=E,12nm,0.8s,baz=154,slow=5.8,SNR=58
BRTR pP **pP** **22 17 32.2 -2.0**
comp=E,7.1nm,0.5s,baz=107,slow=9.5,SNR=12
BRTR LR LR 22 51 18.6
comp=E,50nm,18.1s,baz=200,slow=39
VORD Divnogorie 70.26 325 *e*P **P** **22 17 24.7 -1.7**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,20nm,1.4s
VSR Storozhevoye 70.44 326 *e*P **P** **22 17 26.3 -1.2**
VSR pmax pmax
comp=Z,53nm,1.3s
KSD Kokstad 70.88 238 *e*P **P** **22 17 31.2 +0.3**
KSD AMB AMB 22 17 31.8
comp=Z,16nm,2.1s
KSD Kokstad 70.88 238 P **P** **22 17 31.2 +0.3**
comp=Z,53nm,2.1s
SLR Silverton 70.98 243 *e*P **P** **22 17 30.5 -1.1**
SLR AMB AMB 22 17 32.5
comp=Z,34nm,1.1s
SLR Silverton 70.98 243 P **P** **22 17 30.5 -1.1**
SLR pmax pmax
comp=Z,34nm,1.1s
SLR Silverton 70.98 243 P **P** **22 17 30.5 -1.1**
comp=Z,34nm,1.1s
ERPM east rand prop 71.12 242 *e*P **P** **22 17 32.9 +0.5**
ERPM AMB AMB 22 17 33.8
comp=Z,26nm,2.9s
ERPM east rand prop 71.12 242 P **P** **22 17 32.9 +0.5**
comp=Z,26nm,2.9s
SIM Simferopol' 71.13 318 P **P** **22 17 32.1 +0.2**
SIM 22 17 42.0
SIM pmax pmax
comp=Z,39nm,0.8s
MAW Mawson 71.57 193 P **P** **22 17 35.4 +1.4**
MAW Mawson 71.57 193 P **P** **22 17 35.4 +1.4**
comp=Z,9.6nm,0.8s,baz=141,slow=8.3,SNR=11
MAW LR LR 22 41 43.4
comp=Z,157nm,20.8s,baz=202,slow=30
MAW Mawson 71.57 193 ⇑P **P** **22 17 34.8 +0.7**
baz=72,SNR=6.0
KLOF Kloof 71.68 242 *e*P **P** **22 17 36.4 +0.5**
KLOF AMB AMB 22 17 37.4

comp=Z,21nm,1.0s
KLOF Kloof 71.68 242 P **P** **22 17 36.4 +0.5**
comp=Z,21nm,1.0s
PRYS Parys 72.00 242 *eP* **P** **22 17 37.6 -0.1**
PRYS AMB AMB 22 17 38.5
comp=Z,19nm,0.9s
PRYS Parys 72.00 242 P **P** **22 17 37.6 -0.1**
comp=Z,19nm,0.9s
SEK Senekal 72.00 240 *eP* **P** **22 17 37.8 +0.1**
SEK AMB AMB 22 17 39.3
comp=Z,24nm,1.0s
SEK Senekal 72.00 240 P **P** **22 17 37.8 +0.1**
comp=Z,24nm,1.0s
PETK Petropavlovsk- 72.75 33 LR LR 22 51 01.4
comp=Z,127nm,20.1s,baz=223,slow=37
MOS Moscow 73.25 329 *eP* P 22 17 52.7 +8.4
MOS pmax pmax
comp=Z,52nm,0.9s
LBTB Lobatse 73.27 244 *eP* **P** **22 17 45.5 +0.3**
LBTB AMB AMB 22 17 46.4
comp=Z,23nm,1.1s
LBTB Lobatse 73.27 244 *eP* **P** **22 17 45.3 0.0**
comp=Z,22nm,0.9s
LBTB Lobatse 73.27 244 P **P** **22 17 45.3 0.0**
comp=Z,17nm,0.8s,baz=126,slow=6.1,SNR=20
OBN Obninsk 73.53 329 *eP* **P** **22 17 45.5 -0.4**
OBN *e**PP **pP** **22 17 55.3 -0.9**
OBN pmax pmax
comp=Z,32nm,1.2s
OBN Obninsk 73.53 329 *eP* **P** **22 17 45.7 -0.3**
comp=Z,28nm,1.0s
SWZ Schweizer 73.82 242 *eP* **P** **22 17 47.8 -0.7**
SWZ AMB AMB 22 17 50.0
comp=Z,40nm,2.6s
SWZ Schweizer 73.82 242 P **P** **22 17 47.8 -0.7**
comp=Z,40nm,2.6s
BOSA Boshof 74.11 240 *eP* **P** **22 17 49.9 -0.2**
BOSA AMB AMB 22 18 04.3
comp=Z,40nm,2.5s
BOSA Boshof 74.11 240 *eP* **P** **22 17 50.5 +0.4**
comp=Z,16nm,0.9s
BOSA pP **pP** **22 17 59.8 -0.6**
BOSA Boshof 74.11 240 P **P** **22 17 49.9 -0.2**
comp=Z,13nm,0.8s,baz=81,slow=4.9,SNR=20
BOSA pP **pP** **22 17 59.8 -0.6**
comp=Z,6.2nm,0.6s,baz=140,slow=5.7,SNR=4.7
BOSA LR LR 22 44 41.7
comp=Z,168nm,19.6s,baz=155,slow=31
TIXI Tiksi 74.33 10 *c iP* **P** **22 17 49.8 -0.5**
TIXI pmax pmax
comp=Z,14nm,1.3s
TIXI Tiksi 74.33 10 *eP* **P** **22 17 49.6 -0.8**
comp=Z,19nm,1.1s
SOE Somerset East 74.53 236 *eP* **P** **22 17 53.1 +0.7**
SOE AMB AMB 22 17 54.7
comp=Z,60nm,4.2s
SOE Somerset East 74.53 236 P **P** **22 17 53.1 +0.7**
comp=Z,60nm,4.2s
KLMR Klimovskoe 74.73 335 *eP* **P** **22 17 51.1 -1.8**
KLMR pmax pmax
comp=Z,34nm,1.2s
TLCR 74.78 317 *iP* **P** **22 17 53.0 -0.5**
PSN Preselentsi 74.82 315 *iP* **P** **22 17 52.9 -0.9**
SEY Seymchan 74.86 23 P **P** **22 17 54.0 +0.4**
SEY *PP **pP** **22 18 03.2 -0.6**
SEY Seymchan 74.86 23 P **P** **22 17 54.0 +0.4**
SEY pP **pP** **22 18 03.2 -0.6**
SEY Seymchan 74.86 23 P **P** **22 17 54.0 +0.4**
comp=Z,3.7nm,0.8s,baz=22,slow=23,SNR=6.2
SEY pP **pP** **22 18 03.2 -0.6**
comp=Z,6.4nm,0.8s,baz=238,slow=23,SNR=7.1
TIRR Tirgusor 74.86 316 *iP* **P** **22 17 53.9 -0.1**
TLB Topalu 75.15 316 *iP* **P** **22 17 55.5 -0.1**
CFR Carcaliu 75.24 317 *iP* **P** **22 17 54.7 -1.4**
HARR Harsova 75.25 316 *iP* **P** **22 17 55.9 -0.3**
IDI Anoyia 75.48 306 *eP* **P** **22 17 57.8 0.0**
IDI pP **pP** **22 18 07.2 -0.9**
IDI Anoyia 75.48 306 P **P** **22 17 56.9 -0.9**
comp=Z,20nm,0.7s,baz=100,slow=5.6,SNR=16
IDI pP **pP** **22 18 07.2 -0.9**
comp=Z,16nm,0.6s,baz=81,slow=8.9,SNR=4.5
LEOM Leova 75.51 318 *iP* **P** **22 17 56.8 -0.9**
JMB Yambol 75.66 314 *iP* **P** **22 17 59.0 +0.4**
GHRR 75.96 318 *iP* **P** **22 17 56.8 +0.5**
AK02 Malin Array Si 76.09 323 *eP* **P** **22 17 59.0 -1.9**
AK02 *e* 22 18 09.5
AKASG Malin Array Be 76.09 323 P **P** **22 17 59.5 -1.4**
AKASG *PP **pP** **22 18 09.6 -1.6**
AKASG 22 20 49.9
AKASG Malin Array Be 76.09 323 P **P** **22 17 59.5 -1.4**
AKASG pP **pP** **22 18 09.6 -1.6**
AKASG PP **PP** **22 20 49.9 -2.1**
AKASG Malin Array Be 76.09 323 P **P** **22 17 59.5 -1.4**
comp=Z,17nm,0.7s,baz=90,slow=4.8,SNR=88
AKASG pP **pP** **22 18 09.6 -1.6**
comp=Z,18nm,0.6s,baz=90,slow=5.0,SNR=17
AKASG PP **PP** **22 20 49.9 -2.1**
comp=Z,0.2nm,0.3s,baz=101,slow=6.9,SNR=4.6
AKBB Malin Array Si 76.09 323 *eP* **P** **22 17 59.9 -1.0**
AKBB *e* 22 18 09.7
AKBB Malin Array Si 76.09 323 *eP* **P** **22 17 59.9 -1.0**
AKBB *e* 22 18 09.7
AK01 Malin Array Si 76.09 323 *eP* **P** **22 17 60.0 -0.9**
AK01 *e* 22 18 09.2
KIEV Kiev 76.10 323 *eP* **P** **22 18 00.0 -0.9**
KIEV pmax pmax
comp=Z,24nm,0.7s
KIEV Kiev 76.10 323 *eP* **P** **22 18 00.0 -0.9**
comp=Z,24nm,0.7s
ISR Istrita 76.32 317 *iP* **P** **22 18 02.4 0.0**
PLOR Plostina 76.42 317 *iP* **P** **22 18 03.8 +0.8**
TESR Tescani 76.59 318 *iP* **P** **22 18 03.1 -0.7**
MLR Muntele Rosu 76.82 317 *iP* **P** **22 18 04.5 -0.8**
MLR Muntele Rosu 76.82 317 P **P** **22 18 05.6 +0.3**
MLR pP **pP** **22 18 14.9 -0.7**
MLR Muntele Rosu 76.82 317 P **P** **22 18 05.6 +0.3**
comp=Z,6.6nm,1.0s,baz=143,slow=5.1
MLR pP **pP** **22 18 14.9 -0.7**
comp=Z,3.4nm,0.8s,baz=146,slow=7.1,SNR=6.7
TMCR Tamitsa 76.93 337 *eP* **P** **22 18 06.0 +0.7**
TMCR *e* 22 18 15.4
TMCR *e* 22 20 59.6
TMCR pmax pmax
comp=Z,30nm,1.0s
DOPR Dopca 77.31 317 *iP* **P** **22 18 08.5 +0.6**
MTUR Matau 77.36 316 *iP* **P** **22 18 07.9 -0.4**
VOIR 77.42 317 *iP* **P** **22 18 07.5 -1.1**
ARR Arges 77.69 317 *iP* **P** **22 18 09.3 -0.8**
BURAR Bucovina Array 77.80 319 *iP* **P** **22 18 11.0 +0.2**
BUR08 Bucovina Ar. S 77.82 319 *eP* **P** **22 18 10.8 0.0**
VTS Vitosha 78.13 314 *iP* **P** **22 18 11.9 -0.8**
SUR Sutherland 78.44 237 P **P** **22 18 15.9 +1.2**
SUR pP **pP** **22 18 25.1 +0.1**
SUR Sutherland 78.44 237 P **P** **22 18 15.9 +1.2**
comp=Z,17nm,0.9s,baz=126,slow=6.4,SNR=8.2
SUR pP **pP** **22 18 25.1 +0.1**
comp=Z,11nm,0.9s,baz=144,slow=8.2,SNR=2.7
RPZ Rata Peaks 78.49 135 P **P** **22 18 14.7 +0.2**
RPZ pP **pP** **22 18 24.6 -0.2**
RPZ Rata Peaks 78.49 135 P **P** **22 18 14.7 +0.2**
comp=Z,10nm,0.9s,baz=333,slow=6.7,SNR=4.1
RPZ pP **pP** **22 18 24.6 -0.2**
comp=Z,7.5nm,0.6s,baz=0.0,slow=5.1,SNR=2.4
CJR Cluj-Napoca 78.68 318 *iP* **P** **22 18 17.3 +1.7**
NACGM Naroch 78.73 326 *e* **P** **22 18 14.0 -1.6**
IDID Didziasalis 78.87 327 *eP* **P** **22 18 16.4 +0.1**
IDID AMB AMB 22 18 17.6
comp=Z,22nm,1.1s
IDID *ep*P **pP** **22 18 26.2 -0.5**
SYO Syowa Base 78.88 198 *eP* **P** **22 18 16.0 -0.1**
SYO Syowa Base 78.88 198 *ePcP* **PcP** **22 18 25.4 +0.7**
GZR Gura Zlata 78.97 316 *iP* **P** **22 18 18.3 +1.1**
LVV L'vov 79.07 321 *iP* **P** **22 18 17.3 -0.3**
JOF Joensuu 79.13 335 *eP* **P** **22 18 18.1 +0.5**
JOF pmax pmax
comp=Z,10.0nm,0.9s
JOF Joensuu 79.13 335 *ep* **P** **22 18 18.1 +0.5**
comp=Z,9.9nm,0.9s
IIGN Ignalina 79.16 327 *eP* **P** **22 18 17.5 -0.5**
IIGN AMB AMB 22 18 18.7
comp=Z,15nm,1.1s
IIGN *ep*P **PcP** **22 18 26.9 +0.7**
ISAL Salakas 79.28 327 *eP* **P** **22 18 18.7 +0.1**
ISAL AMB AMB 22 18 19.7

comp=Z,14nm,1.0s
DRGR 79.29 318 *iP* **P** **22 18 18.5 -0.5**
TRPA Tarpa 79.67 319 *iP* **P** **22 18 21.1 +0.2**
VSU Vasula 79.77 330 *eP* **P** **22 18 20.6 -0.6**
VSU pmax pmax
comp=Z,33nm,1.0s
BZS Buzias 79.82 316 *iP* **P** **22 18 21.6 -0.1**
KWP Kalwaria Pacla 79.87 320 *eP* **P** **22 18 22.0 0.0**
KWP pmax pmax
comp=Z,53nm,1.4s
KWP Kalwaria Pacla 79.87 320 *eP* **P** **22 18 22.6 +0.6**
KWP Kalwaria Pacla 79.87 320 *iP* **P** **22 18 22.6 +0.6**
KWP Kalwaria Pacla 79.87 320 *eP* **P** **22 18 21.9 0.0**
comp=Z,53nm,1.4s
SIRR Siria 79.91 317 *iP* **P** **22 18 22.2 0.0**
UZH Uzhgorod 79.94 319 *eP* **P** **22 18 22.1 -0.2**
UZH *i* 22 18 29.7
UZH *i* 22 18 32.1
KOLS Kolonicke sedl 80.01 320 *eP* **P** **22 18 23.8 +1.1**
KOLS pmax pmax
comp=Z,39nm,1.1s
KOLS Kolonicke sedl 80.01 320 *eP* **P** **22 18 23.8 +1.1**
TSUM Tsumeb 80.09 251 *eP* **P** **22 18 23.9 -0.1**
TSUM AMB AMB 22 18 35.1
comp=Z,504nm,3.3s
TSUM Tsumeb 80.09 251 *eP* **P** **22 18 25.3 +1.3**
comp=Z,9.9nm,1.0s
TSUM *ep*PP **PP** **22 21 25.1 -1.3**
TSUM Tsumeb 80.09 251 P **P** **22 18 25.3 +1.3**
comp=Z,7.3nm,0.9s,baz=89,slow=5.7,SNR=13
APA Apatity 80.15 340 *iP* **P** **22 18 24.2 +1.1**
APA *i* 22 18 31.4
APA *i* S **S** **22 28 26.0 +0.6**
APA *i* 22 28 34.0
CRVS Cervenica-Dubn 80.53 320 *eP* **P** **22 18 26.0 +0.5**
CRVS pmax pmax
comp=Z,9.0nm,1.2s
CRVS Cervenica-Dubn 80.53 320 *eP* **P** **22 18 26.0 +0.5**
SUW Suwalki 80.54 325 *eP* **P** **22 18 23.8 -1.6**
SUW pmax pmax
comp=Z,74nm,0.9s
SUW Suwalki 80.54 325 *eP* **P** **22 18 25.0 -0.4**
SUW Suwalki 80.54 325 *eP* **P** **22 18 23.8 -1.6**
comp=Z,74nm,0.9s
WIN Windhoek 80.76 247 *eP* **P** **22 18 28.0 +0.5**
WIN AMB AMB 22 18 32.9
comp=Z,6.0nm,4.4s
WIN Windhoek 80.76 247 P **P** **22 18 28.0 +0.5**
WIN pmax pmax
comp=Z,6.0nm,4.4s
WIN Windhoek 80.76 247 P **P** **22 18 28.0 +0.5**
comp=Z,6.0nm,4.4s
STHS Stebnicka Huta 80.77 320 *eP* **P** **22 18 27.8 +1.0**
STHS pmax pmax
comp=Z,15nm,0.9s
STHS Stebnicka Huta 80.77 320 *eP* **P** **22 18 27.8 +1.0**
FINES FINESS Array B 80.96 333 P **P** **22 18 27.3 -0.2**
FINES pP **pP** **22 18 37.0 -0.8**
FINES FINESS Array B 80.96 333 P **P** **22 18 27.3 -0.2**
comp=Z,9.7nm,0.6s,baz=96,slow=5.9,SNR=47
FINES pP **pP** **22 18 37.0 -0.8**
comp=Z,8.4nm,0.6s,baz=96,slow=6.1,SNR=9.4
KAF Kangasniemi 81.05 333 *eP* **P** **22 18 28.1 +0.1**
KAF pmax pmax
comp=Z,12nm,0.5s
KAF Kangasniemi 81.05 333 *ep* **P** **22 18 28.1 +0.1**
comp=Z,12nm,0.5s
KECS Kecovo 81.09 319 *eP* **P** **22 18 29.0 +0.5**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 81.09 319 *eP* **P** **22 18 29.0 +0.5**
PSZ Piszkesteto 81.38 318 *eP* **P** **22 18 30.5 +0.3**
PSZ pmax pmax
comp=Z,12nm,0.9s
PSZ Piszkesteto 81.38 318 *iP* **P** **22 18 30.4 +0.3**
PSZ Piszkesteto 81.38 318 *eP* **P** **22 18 30.5 +0.3**
comp=Z,12nm,0.9s
BKZ Black Stump Fm 81.82 129 *eP* **P** **22 18 33.1 +0.4**
comp=Z,28nm,0.9s
OJC Ojcow 81.83 321 *eP* **P** **22 18 32.2 -0.2**
OJC Ojcow 81.83 321 *eP* **P** **22 18 32.2 -0.2**
PKSM Moragy 81.96 317 *iP* **P** **22 18 32.1 -1.1**
URZ Urewera 82.20 129 pP pP 22 18 44.1 -0.8
URZ Urewera 82.20 129 pP pP 22 18 44.1 -0.8
comp=Z,15nm,1.1s,baz=40,slow=7.9,SNR=4.2
TIP Timpagrande 82.46 309 *eP* **P** **22 18 36.5 +0.5**
comp=Z,7.2nm,1.1s
OKC Ostrava-Krasne 82.82 320 *eP* **P** **22 18 37.9 +0.3**
OKC *e* 22 18 47.8
OKC Ostrava-Krasne 82.82 320 *eP* **P** **22 18 37.9 +0.3**
OKC *ep*P **pP** **22 18 47.8 -0.1**
CEL Celeste 83.04 308 *eP* **P** **22 18 40.5 +1.4**
comp=Z,20nm,0.8s
KEV Kevo 83.14 341 *eP* **P** **22 18 39.6 +0.8**
KEV pmax pmax
comp=Z,7.0nm,0.8s
KEV Kevo 83.14 341 *ep* **P** **22 18 39.6 +0.8**
comp=Z,7.1nm,0.8s
MORC Moravsky Berou 83.20 320 *eP* **P** **22 18 38.5 -1.1**
MORC *e* 22 18 49.0
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 83.20 320 *iP* **P** **22 18 40.2 +0.6**
MORC Moravsky Berou 83.20 320 *eP* **P** **22 18 38.5 -1.1**
comp=Z,12nm,1.1s
MORC *e* 22 18 49.0
ARCES ARCESS Array B 83.57 340 P **P** **22 18 41.6 +0.6**
ARCES pP **pP** **22 18 50.8 -0.7**
ARCES ARCESS Array B 83.57 340 P **P** **22 18 41.6 +0.6**
comp=Z,11nm,0.8s,baz=99,slow=5.0,SNR=20
ARCES pP **pP** **22 18 50.8 -0.7**
comp=Z,7.7nm,0.8s,baz=96,slow=5.0,SNR=6.1
ARCES LR LR 23 02 51.0
comp=Z,100nm,18.9s,baz=34,slow=41
KRLC Kraliky 83.73 320 *eP* **P** **22 18 43.2 +0.9**
KRLC *e* 22 18 52.8
KRLC Kraliky 83.73 320 *eP* **P** **22 18 43.2 +0.9**
KRLC *ep*P **pP** **22 18 52.8 +0.1**
DPC Dobruska-Polom 84.05 321 *eP* **P** **22 18 44.9 +0.9**
DPC *e* 22 18 54.1
DPC Dobruska-Polom 84.05 321 *eP* **P** **22 18 44.9 +0.9**
DPC *ep*P **pP** **22 18 54.1 -0.3**
DPC Dobruska-Polom 84.05 321 *eP* **P** **22 18 44.4 +0.4**
KSP Ksiaz 84.13 321 *eP* **P** **22 18 45.0 +0.7**
KSP *e**PP **pP** **22 18 54.0 -0.7**
KSP Ksiaz 84.13 321 *eP* **P** **22 18 44.5 +0.2**
ARSA Arzberg 84.22 317 *iP* **P** **22 18 45.7 +0.8**
comp=Z,11nm,0.9s,SNR=5.1
BOJS Bojanci 84.23 316 *i* P P **22 18 45.3 +0.4**
UPC Upice 84.27 321 *eP* **P** **22 18 45.1 +0.1**
UPC *e* 22 18 55.5
UPC Upice 84.27 321 *eP* **P** **22 18 45.1 +0.1**
UPC *ep*P **pP** **22 18 52.2 -3.2**
UPC *es*P **sP** **22 18 55.5 -3.7**
PERS Pernice 84.43 317 *i* P P **22 18 46.7 +0.7**
PERS *i* pP **pP** **22 18 55.8 -0.6**
TREC Trest 84.47 319 *eP* **P** **22 18 47.0 +0.9**
TREC *e* 22 18 57.5
TREC Trest 84.47 319 *eP* **P** **22 18 47.0 +0.9**
TREC *ep*P **pP** **22 18 57.5 +1.0**
SOKA Soboth 84.50 317 *iP* **P** **22 18 46.9 +0.6**
comp=Z,14nm,1.0s,SNR=8.0
VNDA Vanda 84.73 169 *eP* **P** **22 18 47.8 +0.9**
comp=Z,19nm,1.6s
VNDA pP **pP** **22 18 56.6 -0.6**
VNDA Vanda 84.73 169 P **P** **22 18 47.2 +0.4**
comp=Z,4.0nm,1.1s,baz=303,slow=5.9,SNR=7.3
VNDA pP **pP** **22 18 56.6 -0.6**
comp=Z,2.9nm,0.8s,baz=311,slow=6.3,SNR=5.4
VNDA LR LR 22 50 18.3
comp=Z,81nm,21.2s,baz=318,slow=31
LJU Ljubljana 84.78 316 *i* P **P** **22 18 48.4 +0.6**
LJU *ep*P **pP** **22 18 57.5 -0.6**
CRNS Crni Vrh 84.97 316 *eP* **P** **22 18 49.0 +0.3**
CRNS *ep*P **pP** **22 18 58.2 -0.9**
PRU Pruhonice 85.15 320 *eP* **P** **22 18 50.0 +0.5**
PRU *e* 22 18 59.6
PRU Pruhonice 85.15 320 *eP* **P** **22 18 50.0 +0.5**
PRU *ep*P **pP** **22 18 59.6 -0.3**
PVCC Panska Ves 85.19 321 *eP* **P** **22 18 49.9 +0.3**
PVCC *e* 22 18 59.8
PVCC Panska Ves 85.19 321 *eP* **P** **22 18 49.9 +0.3**
PVCC *ep*P **pP** **22 18 59.8 -0.2**

PRA Prague 85.23 320 P **P** **22 18 50.0 +0.2**
GEC2 GERESS Array S 85.59 319 *eP* **P** **22 18 52.4 +0.6**
GEC2 GERESS Array S 85.59 319 *eP* **P** **22 18 52.2 +0.4**
comp=Z,19nm,1.2s
GEC2 GERESS Array S 85.59 319 *eP* **P** **22 18 52.4 +0.6**
GERES GERESS Array B 85.59 319 P **P** **22 18 51.9 +0.1**
GERES pP **pP** **22 19 01.6 -0.6**
GERES GERESS Array B 85.59 319 P **P** **22 18 51.9 +0.1**
comp=Z,5.3nm,0.9s,baz=100,slow=5.5,SNR=35
GERES pP **pP** **22 19 01.6 -0.6**
comp=Z,3.5nm,0.8s,baz=101,slow=4.3,SNR=8.9
BRG Berggiesshubel 85.62 321 *eP* **P** **22 18 52.5 +0.7**
comp=Z,14nm,1.1s
BRG *e* 22 19 02.0
comp=Z,14nm,1.1s
BRG Berggiesshubel 85.62 321 *eP* **P** **22 18 52.5 +0.7**
BRG *e* 22 19 02.0
BRG pmax pmax
comp=Z,14nm,1.2s
BRG pmax pmax
comp=Z,14nm,1.1s
BRG Berggiesshubel 85.62 321 *eP* **P** **22 18 52.0 +0.2**
comp=Z,14nm,1.2s
BRG *ep*P **pP** **22 19 01.8 -0.4**
KHC Kasperske Hory 85.70 319 *eP* **P** **22 18 52.2 -0.1**
KHC pmax pmax
comp=Z,14nm,1.3s
KHC Kasperske Hory 85.70 319 *eP* **P** **22 18 52.5 +0.2**
KHC *ep*P **pP** **22 19 01.6 -1.1**
WET Wettzell 86.16 319 *eP* **P** **22 18 54.8 +0.3**
WET *ep*P **pP** **22 19 04.4 -0.5**
CLL Collm 86.25 321 *iP* **P** **22 18 54.9 0.0**
CLL *i* 22 19 04.0
CLL pmax pmax
comp=Z,14nm,1.2s
CLL Collm 86.25 321 *eP* **P** **22 18 54.7 -0.2**
comp=Z,14nm,1.2s
CLL Collm 86.25 321 *iP* **P** **22 18 54.9 0.0**
comp=Z,14nm,1.2s
CLL *i* pP **pP** **22 19 04.0 -1.3**
CLL *i* sP **sP** **22 19 08.3 -0.7**
CLL *ep*PP PP 22 22 28.0 +12
NKC Novy Kostel 86.52 320 *eP* **P** **22 18 56.6 +0.3**
NKC *e* 22 19 08.7
NKC Novy Kostel 86.52 320 *eP* **P** **22 18 56.7 +0.4**
NKC *ep*P **pP** **22 19 06.0 -0.7**
NKC Novy Kostel 86.52 320 *eP* **P** **22 18 56.6 +0.3**
NKC *ex* x 22 19 08.7
TANN Tannenbergstha 86.52 320 *eP* **P** **22 18 56.6 +0.3**
comp=Z,8.0nm,1.2s
GUNZ Gunzen 86.60 320 *eP* **P** **22 18 57.0 +0.3**
comp=Z,11nm,1.2s
ROHR Rohrbach 86.60 320 *eP* **P** **22 18 57.2 +0.5**
ROHR *ep*P **pP** **22 19 06.3 -0.8**
WERD Werda 86.62 320 *eP* **P** **22 18 57.0 +0.2**
ROTZ Rotzenmuhle 86.64 320 *eP* **P** **22 18 57.6 +0.7**
HFS Hagfors 86.65 330 P **P** **22 18 57.0 +0.3**
HFS pP **pP** **22 19 06.3 -0.7**
HFS Hagfors 86.65 330 P **P** **22 18 57.0 +0.3**
comp=Z,15nm,0.9s,baz=127,slow=3.9,SNR=17
HFS pP **pP** **22 19 06.3 -0.7**
comp=Z,9.7nm,0.8s,baz=103,slow=4.7,SNR=6.7
PLN Plauen 86.72 320 *eP* **P** **22 18 57.5 +0.3**
PLN *ep*P **pP** **22 19 07.0 -0.7**
NEUB Neuenburg 87.01 321 *eP* **P** **22 18 58.7 +0.1**
NEUB *ep*P **pP** **22 19 08.1 -0.9**
FUORN Ofenpass-Fuorn 87.77 316 *eP* **P** **22 19 03.5 +0.8**
comp=Z,63nm,2.1s
CLZ Clausthal 87.92 322 *eP* **P** **22 19 03.2 +0.2**
comp=Z,20nm,1.3s
NB2 NORSAR Subarra 87.94 331 P **P** **22 19 02.6 -0.4**
comp=Z,16nm,1.0s,baz=98,slow=4.8
NB2 NORSAR Subarra 87.94 331 P **P** **22 19 02.6 -0.4**
baz=98,slow=4.8
NOA NORSAR Array B 87.94 331 P **P** **22 19 03.0 0.0**
NOA pP **pP** **22 19 12.4 -1.0**
NOA NORSAR Array B 87.94 331 P **P** **22 19 03.0 0.0**
comp=Z,7.2nm,0.9s,baz=94,slow=4.8,SNR=13
NOA pP **pP** **22 19 12.4 -1.0**
comp=Z,4.6nm,0.9s,baz=94,slow=4.7,SNR=6.5
NOA LR LR 23 06 37.3
comp=Z,66nm,20.2s,baz=300,slow=41
DAVOX Davos/Dischmat 88.04 317 P **P** **22 19 04.0 +0.1**
DAVOX pP **pP** **22 19 13.9 -0.4**
DAVOX Davos/Dischmat 88.04 317 P **P** **22 19 04.0 +0.1**
comp=Z,8.1nm,0.7s,baz=113,slow=9.6,SNR=13
DAVOX pP **pP** **22 19 13.9 -0.4**
comp=Z,5.3nm,0.6s,baz=80,slow=12,SNR=6.2
SPITS Spitsbergen Ar 88.04 348 P **P** **22 19 03.0 -0.1**
SPITS pP **pP** **22 19 13.2 -0.3**
SPITS Spitsbergen Ar 88.04 348 P **P** **22 19 03.0 -0.1**
comp=Z,7.8nm,0.8s,baz=95,slow=12,SNR=5.3
SPITS pP **pP** **22 19 13.3 -0.3**
comp=Z,2.3nm,0.5s,baz=108,slow=7.9,SNR=2.3
BSEG Bad Segeberg 88.05 324 *eP* **P** **22 19 03.9 +0.4**
comp=Z,32nm,1.1s
BSEG *ep*P **pP** **22 19 13.4 -0.5**
UBBA Unterbreizbach 88.11 321 *ep*P pP 22 19 14.0 -0.2
KEST Kesra 88.13 306 *eP* **P** **22 19 06.1 +1.6**
KEST pP **pP** **22 19 14.9 0.0**
KEST Kesra 88.13 306 P **P** **22 19 05.1 +0.6**
comp=Z,4.4nm,0.9s,baz=314,slow=9.4,SNR=17
KEST pP **pP** **22 19 14.9 0.0**
comp=Z,2.2nm,0.7s,baz=45,slow=4.3,SNR=6.0
KEST LR LR 23 00 16.8
comp=Z,32nm,18.7s,baz=295,slow=37
PGF Pioggiola 88.55 312 *eP* **P** **22 19 06.2 -0.1**
comp=Z,60nm,1.3s
PGF Pioggiola 88.55 312 *eP* **P** **22 19 06.2 -0.1**
PGF pmax pmax
comp=Z,60nm,1.3s
PGF Pioggiola 88.55 312 *eP* **P** **22 19 06.2 -0.1**
comp=Z,20nm,1.3s
IBBN Ibbenburen 89.54 322 *ep*P pP 22 19 20.9 -0.1
SBF Sospel 89.71 314 *eP* **P** **22 19 11.5 -0.2**
SBF Sospel 89.71 314 *eP* **P** **22 19 11.5 -0.2**
SBF Sospel 89.71 314 *eP* **P** **22 19 11.5 -0.2**
CDF Champ du Feu 89.83 318 *eP* **P** **22 19 11.0 -1.2**
CDF Champ du Feu 89.83 318 *eP* **P** **22 19 11.0 -1.2**
CDF Champ du Feu 89.83 318 *eP* **P** **22 19 11.0 -1.2**
BUG Bochum--Univer 89.84 321 *eP* **P** **22 19 12.7 +0.7**
comp=Z,36nm,1.5s
QSPA South Pole Qui 90.00 180 *eP* **P** **22 19 13.5 +0.8**
comp=Z,19nm,1.3s
QSPA South Pole Qui 90.00 180 P **P** **22 19 13.3 +0.7**
comp=Z,6.6nm,0.9s,baz=318,slow=2.3,SNR=10
MBDF Montbardon 90.18 315 *eP* **P** **22 19 13.2 -0.8**
comp=Z,27nm,1.2s
MBDF Montbardon 90.18 315 *eP* **P** **22 19 13.2 -0.8**
MBDF pmax pmax
comp=Z,27nm,1.2s
MBDF Montbardon 90.18 315 *eP* **P** **22 19 13.2 -0.8**
comp=Z,27nm,1.2s
LPG La Plagne 90.19 315 *eP* **P** **22 19 14.1 -0.1**
comp=Z,22nm,0.9s
LPG La Plagne 90.19 315 *eP* **P** **22 19 14.1 -0.1**
LPG pmax pmax
comp=Z,22nm,0.9s
LPG La Plagne 90.19 315 *eP* **P** **22 19 14.1 -0.1**
comp=Z,22nm,0.9s
LPL La Plagne 90.21 315 *eP* **P** **22 19 14.2 0.0**
comp=Z,31nm,1.0s
LPL La Plagne 90.21 315 *eP* **P** **22 19 14.2 0.0**
LPL pmax pmax
comp=Z,31nm,1.0s
LPL La Plagne 90.21 315 *eP* **P** **22 19 14.2 0.0**
comp=Z,31nm,1.0s
FRF La Foret Royal 90.28 313 *eP* **P** **22 19 14.3 0.0**
comp=Z,33nm,1.1s
FRF La Foret Royal 90.28 313 *eP* **P** **22 19 14.3 0.0**
FRF pmax pmax
comp=Z,33nm,1.1s
FRF La Foret Royal 90.28 313 *eP* **P** **22 19 14.3 0.0**
comp=Z,33nm,1.1s
LMR La Mourre 90.38 313 *eP* **P** **22 19 14.8 +0.1**
LMR La Mourre 90.38 313 *eP* **P** **22 19 14.8 +0.1**
LMR La Mourre 90.38 313 *eP* **P** **22 19 14.8 +0.1**
HAU Haudompre 90.45 318 *eP* **P** **22 19 14.7 -0.3**
HAU Haudompre 90.45 318 *eP* **P** **22 19 14.7 -0.3**
HAU Haudompre 90.45 318 *eP* **P** **22 19 14.7 -0.3**
CABF La Chapelle 90.65 316 *eP* **P** **22 19 16.2 +0.2**
comp=Z,13nm,0.7s
CABF La Chapelle 90.65 316 *eP* **P** **22 19 16.2 +0.2**
CABF pmax pmax
comp=Z,13nm,0.7s

CABF	La Chapelle	90.65	316	eP		P		22	19	16.2	+0.2
	comp=Z,13nm,0.7s										
ORIF	Oris-en-Rattie	90.82	315	eP		P		22	19	17.1	+0.2
	comp=Z,33nm,1.2s										
ORIF	Oris-en-Rattie	90.82	315	eP		P		22	19	17.1	+0.2
ORIF					pmax	pmax					
	comp=Z,33nm,1.2s										
ORIF	Oris-en-Rattie	90.82	315	eP		P		22	19	17.1	+0.2
	comp=Z,33nm,1.2s										
PAGF	Fort de Pagny	90.86	318	eP		P		22	19	16.8	-0.1
	comp=Z,14nm,1.3s										
PAGF	Fort de Pagny	90.86	318	eP		P		22	19	16.8	-0.1
	comp=Z,14nm,1.3s										
SMRF	Simiane la Rot	91.05	314	eP		P		22	19	18.6	+0.7
SMRF	Simiane la Rot	91.05	314	eP		P		22	19	18.6	+0.7
AFI	Afiamalu	91.12	104	LR		LR		22	58	18.1	
	comp=Z,111nm,20.1s,baz=82,slow=34										
MEZF	Maizieres J'vi	91.31	318	eP		P		22	19	19.1	+0.2
MEZF	Maizieres J'vi	91.31	318	eP		P		22	19	19.1	+0.2
SFTF	Sexfontaines	91.33	318	eP		P		22	19	19.0	-0.1
	comp=Z,40nm,0.9s										
SFTF	Sexfontaines	91.33	318	eP		P		22	19	19.0	-0.1
	comp=Z,40nm,0.9s										
TAM	Tamanrasset	91.42	293	eP		P		22	19	20.9	+0.7
TAM				e				22	19	31.0	
TAM					pmax	pmax					
	comp=Z,5.0nm,1.0s										
TAM	Tamanrasset	91.42	293	eP		P		22	19	20.9	+0.7
	comp=Z,5.1nm,1.0s										
TAM				e				22	19	30.9	
VIVF	Saint-Julien-l	91.67	315	eP		P		22	19	20.8	0.0
VIVF	Saint-Julien-l	91.67	315	eP		P		22	19	20.8	0.0
VIVF	Saint-Julien-l	91.67	315	eP		P		22	19	20.8	0.0
LOR	Lormes	92.16	317	eP		P		22	19	23.0	+0.1
	comp=Z,61nm,1.3s										
LOR	Lormes	92.16	317	eP		P		22	19	23.0	+0.1
	comp=Z,61nm,1.3s										
SMF	Signal de Mont	92.19	316	eP		P		22	19	23.0	-0.1
	comp=Z,33nm,1.1s										
SMF	Signal de Mont	92.19	316	eP		P		22	19	23.0	-0.1
SMF					pmax	pmax					
	comp=Z,33nm,1.1s										
SMF	Signal de Mont	92.19	316	eP		P		22	19	23.0	-0.1
	comp=Z,33nm,1.1s										
AVF	Avril sur Loir	92.52	317	eP		P		22	19	24.5	-0.1
AVF	Avril sur Loir	92.52	317	eP		P		22	19	24.5	-0.1
AVF	Avril sur Loir	92.52	317	eP		P		22	19	24.5	-0.1
SNAA	Sanae	93.17	198	eP		P		22	19	27.9	+0.8
SNAA	Sanae	93.17	198	eP		P		22	19	28.6	+1.4
	comp=Z,5.2nm,0.9s										
SNAA	Sanae	93.17	198	P		P		22	19	28.0	+0.8
	comp=Z,1.9nm,0.9s,baz=352,slow=7.7,SNR=6.7										
VNA2	Neumayer--Watz	94.76	199	eP		P		22	19	34.5	+0.1
VNA2	Neumayer--Watz	94.76	199	epP		pP		22	19	41.0	-3.8
TOC2	Torodi Ar. Sit	95.21	283	⇑P		P		22	19	36.9	-0.7
	baz=95										
TORD	Torodi Ar. Bea	95.23	283	P		P		22	19	37.8	0.0
TORD				pP		pP		22	19	47.1	-1.1
TORD				PP		PP		22	23	21.5	-6.7
TORD	Torodi Ar. Bea	95.23	283	P		P		22	19	37.8	0.0
	comp=Z,1.2nm,0.8s,baz=95,slow=5.3,SNR=16										
TORD				pP		pP		22	19	47.1	-1.1
	comp=Z,0.8nm,0.8s,baz=94,slow=5.4,SNR=4.3										
TORD				PP		PP		22	23	21.5	-6.7
	comp=Z,0.8nm,0.8s,baz=105,slow=5.4,SNR=5.7										
TORD				LR		LR		22	59	32.5	
	comp=Z,72nm,19.0s,baz=290,slow=34										
EKA	Eskdalemuir Ar	95.79	326	pP		pP		22	19	49.3	-0.5
EKA	Eskdalemuir Ar	95.79	326	pP		pP		22	19	49.3	-0.5
	comp=Z,1.7nm,0.8s,baz=136,slow=6.4,SNR=2.2										
ILAR	Eielson Array	100.80	23	P		Pdif		22	20	00.9	-0.8
ILAR	Eielson Array	100.80	23	P		Pdif		22	20	00.9	-0.8
	comp=Z,0.2nm,0.6s,baz=299,slow=3.7,SNR=3.1										
I03D	Drain, OR	123.47	34	⇑P		PKPdf		22	25	11.3	+0.5
	baz=123										
NEW	Newport	123.50	27	⇓P		PKPdf		22	25	11.6	+0.8
	baz=123										
SCHQ	Schefferville	123.72	349	PKP		PKPdf		22	25	10.9	-0.1
SCHQ				pPKP		pPKPdf		22	25	20.2	-1.5
SCHQ	Schefferville	123.72	349	PKP		PKPdf		22	25	10.9	-0.1
	comp=Z,2.0nm,0.6s,baz=47,slow=19,SNR=3.8										
SCHQ				pPKP		pPKPdf		22	25	20.2	-1.5
	comp=Z,3.8nm,0.9s,baz=45,slow=20,SNR=1.4										
I04A	Tendick Farm,	123.94	34	⇓P		PKPdf		22	25	12.3	+0.5
	baz=124										
L02D	Cave Junction,	124.28	36	⇓P		PKPdf		22	25	13.1	+0.7
	baz=124										
HUMO	Hull Mountain	124.38	35	ePKPdf		PKPdf		22	25	13.7	+1.1
EFI	East Falkland	124.45	199	i PKIKP		PKPdf		22	25	12.4	+0.1
J04D	Umpqua Nationa	124.46	34	⇑P		PKPdf		22	25	13.5	+0.6
	baz=124										
BSMT	Bassoo Peak	124.85	26	ePKPdf		PKPdf		22	25	14.1	+0.5
J05D	Fort Rock, OR	124.92	34	⇑P		PKPdf		22	25	14.6	+0.9
	baz=125										
KHMM	Horse Mountain	124.99	37	ePKPdf		PKPdf		22	25	15.5	+1.6
F10A	Beach Ranch, E	125.13	29	ePKPdf		PKPdf		22	25	14.4	+0.4
M02C	Callahan	125.20	36	⇑P		PKPdf		22	25	14.7	+0.4
	baz=125										
K05A	Summer Lake	125.47	34	ePKPdf		PKPdf		22	25	16.0	+1.1
N02D	Trinity Center	125.54	37	⇓P		PKPdf		22	25	15.2	+0.3
	baz=125										
M04C	Macdoel	125.54	35	⇓P		PKPdf		22	25	15.0	0.0
	baz=125										
SLMT	Seeley Lake	125.87	25	ePKPdf		PKPdf		22	25	15.4	-0.1
MSO	Missoula	126.00	26	ePKPdf		PKPdf		22	25	15.6	-0.1
MSO	Missoula	126.00	26	⇓P		PKPdf		22	25	15.8	+0.1
	baz=126										
MOD	Modoc	126.34	34	ePKPdf		PKPdf		22	25	17.5	+0.9
J08A	Circle Bar Ran	126.36	32	ePKPdf		PKPdf		22	25	17.6	+1.2
A20A	Cobblestone Ra	126.70	20	⇑P		PKPdf		22	25	16.6	-0.3
	baz=126										
EGMT	Eagleton	126.75	22	ePKPdf		PKPdf		22	25	17.9	+0.8
EGMT	Eagleton	126.75	22	⇑P		PKPdf		22	25	17.0	-0.1
	baz=126										
A21A	Bergtoll Ranch	126.95	20	⇓P		PKPdf		22	25	17.3	0.0
	baz=127										
B20A	Solberg Farm,	127.04	21	⇓P		PKPdf		22	25	17.5	0.0
	baz=127										
C19A	Slack Wire Ran	127.26	22	⇓P		PKPdf		22	25	18.2	+0.2
	baz=127										
A22A	Carney Farms,	127.28	19	⇑P		PKPdf		22	25	18.4	+0.5
	baz=127										
C20A	Veseth Ranch,	127.66	21	⇓P		PKPdf		22	25	19.2	+0.4
	baz=127										
MFID	Camas Ranch	127.67	30	ePKPdf		PKPdf		22	25	20.3	+1.3
DLMT	Dillon	127.73	26	ePKPdf		PKPdf		22	25	20.2	+1.1
D19A	Cripps Ranch,	127.80	22	⇓P		PKPdf		22	25	19.6	+0.5
	baz=128										
BOZ	Bozeman (W)	127.92	25	ePKIKP		PKPdf		22	25	20.5	+1.1
BOZ	Bozeman (W)	127.92	25	ePKPdf		PKPdf		22	25	20.5	+1.1
A24A	Westby	127.94	18	⇓P		PKPdf		22	25	19.7	+0.5
	baz=128										
B23A	Brockton	128.04	19	⇓P		PKPdf		22	25	20.0	+0.6
	baz=128										
D20A	Manuel Ranch,	128.14	22	⇑P		PKPdf		22	25	20.1	+0.4
	baz=128										
HLID	Hailey	128.26	29	ePKPdf		PKPdf		22	25	21.5	+1.3
HLID	Hailey	128.26	29	⇑P		PKPdf		22	25	20.8	+0.6
	baz=128										
DGMT	Dagmar	128.28	18	⇓P		PKPdf		22	25	20.6	+0.7
	baz=128										
C22A	Vida	128.37	20	⇑P		PKPdf		22	25	21.1	+1.0
	baz=128										
C23A	Lambert	128.56	19	⇓P		PKPdf		22	25	21.2	+0.8
	baz=128										
D21A	La Casta Ranch	128.57	21	⇓P		PKPdf		22	25	21.4	+0.9
	baz=128										
E20A	Meyer Farm, Mu	128.63	22	⇓P		PKPdf		22	25	21.5	+0.8
	baz=128										
ULM	Lac du Bonnet	128.68	11	PKP		PKPdf		22	25	19.6	-0.9
ULM				pPKP		pPKPdf		22	25	29.7	-1.6
ULM	Lac du Bonnet	128.68	11	PKP		PKPdf		22	25	19.6	-0.9
	comp=Z,3.7nm,0.8s,baz=184,slow=0.6,SNR=4.8										
ULM				pPKP		pPKPdf		22	25	29.7	-1.6
	comp=Z,2.1nm,0.6s,baz=355,slow=6.1,SNR=2.9										
D22A	Cohagen	128.79	20	⇓P		PKPdf		22	25	22.5	+1.6
	baz=128										
F19A	Roth Farm, Mol	128.86	23	⇑P		PKPdf		22	25	22.2	+1.0
	baz=129										
A28A	Rude Farm, Bot	128.98	15	⇓P		PKPdf		22	25	21.7	+0.4
	baz=129										
YMR	Madison River	128.99	26	ePKPdf		PKPdf		22	25	24.1	+2.4
E21A	Keefer Ranch,	128.99	21	⇑P		PKPdf		22	25	21.9	+0.6
	baz=129										
A29A	Manning Farm,	129.23	14	⇓P		PKPdf		22	25	22.0	+0.3
	baz=129										
C25A	Freed Ranch, W	129.24	18	⇑P		PKPdf		22	25	23.3	+1.5
	baz=129										
H17A	Grant Village	129.37	25	⇑P		PKPdf		22	25	24.5	+2.1
	baz=129										
B29A	Wagenman Farm,	129.62	14	⇓P		PKPdf		22	25	24.0	+1.6
	baz=129										
G20A	Bridger	129.67	23	⇓P		PKPdf		22	25	24.2	+1.4
	baz=129										
NVAR	Mina Array Bea	129.78	36	PKP		PKPdf		22	25	24.5	+1.2
NVAR				pPKP		pPKPdf		22	25	33.5	-0.6
NVAR	Mina Array Bea	129.78	36	PKP		PKPdf		22	25	24.5	+1.2
	comp=Z,2.2nm,0.8s,baz=293,slow=1.8,SNR=10										
NVAR				pPKP		pPKPdf		22	25	33.4	-0.6
	comp=Z,1.4nm,0.7s,baz=312,slow=2.3,SNR=6.0										
H19A	Powell	129.82	24	⇓P		PKPdf		22	25	24.4	+1.3
	baz=130										
E24A	Baker	129.93	19	⇓P		PKPdf		22	25	24.3	+1.2
	baz=130										
I19A	Meeteetse	130.33	25	⇑P		PKPdf		22	25	26.0	+1.8
	baz=130										
G22A	Birney	130.40	22	⇓P		PKPdf		22	25	24.2	+0.1
	baz=130										
D28A	Regan	130.49	16	⇓P		PKPdf		22	25	24.4	+0.3
	baz=130										
J19A	Crowheart	130.94	25	⇓P		PKPdf		22	25	26.2	+0.9
	baz=131										
BW06	Boulder Array	131.12	26	ePKPdf		PKPdf		22	25	26.8	+1.1
PDAR	Pinedale Array	131.12	26	PKP		PKPdf		22	25	25.0	-0.7
PDAR	Pinedale Array	131.12	26	PKP		PKPdf		22	25	25.0	-0.7
	comp=Z,0.9nm,0.6s,baz=208,slow=1.7,SNR=7.0										
I21A	Big Trails, Te	131.21	23	⇓P		PKPdf		22	25	26.9	+1.1
	baz=131										
J20A	Shoshoni	131.27	24	⇓P		PKPdf		22	25	27.1	+1.2
	baz=131										
E29A	Napoleon	131.31	15	⇑P		PKPdf		22	25	28.1	+2.5
	baz=131										
R11A	Troy Canyon, C	131.41	34	ePKPdf		PKPdf		22	25	27.4	+1.1
R11A	Troy Canyon, C	131.41	34	⇑P		PKPdf		22	25	27.4	+1.1
	baz=131										
DUG	Dugway	131.57	31	⇑P		PKPdf		22	25	28.2	+1.7
	baz=131										
MPMC	Manual Prospec	131.81	38	⇓P		PKPdf		22	25	28.6	+1.4
	baz=132										
RSSD	Black Hills	132.16	20	ePKIKP		PKPdf		22	25	27.8	+0.2
RSSD	Black Hills	132.16	20	ePKPdf		PKPdf		22	25	27.8	+0.2
TMUT	Trail Mountain	133.06	30	ePKPdf		PKPdf		22	25	31.8	+2.2
MVU	Marysvale	133.14	32	ePKPdf		PKPdf		22	25	32.2	+2.6
BRSD	Miller	133.46	16	⇓P		PKPdf		22	25	30.1	+0.3
	baz=133										
J28A	Allard Ranch,	133.72	18	⇑P		PKPdf		22	25	31.3	+0.9
	baz=134										
GMRC	Granite Mounta	133.78	38	⇓P		PKPdf		22	25	32.4	+1.5
	baz=134										
N22A	Wattenberg Ran	134.06	25	⇓P		PKPdf		22	25	32.3	+0.9
	baz=134										
O22A	Kremmling	134.55	26	⇑P		PKPdf		22	25	33.0	+0.6
	baz=134										
U15A	North Rim	134.61	34	⇓P		PKPdf		22	25	33.5	+1.0
	baz=134										
ECSD	EROS Data Cent	134.72	14	ePKPdf		PKPdf		22	25	32.5	+0.3
O23A	Lake Granby, G	134.78	25	⇓P		PKPdf		22	25	33.5	+0.8
	baz=134										
WUAZ	Wupatki	135.79	34	⇓P		PKPdf		22	25	36.5	+1.8
	baz=136										
MVCO	Mesa Verde	136.02	30	ePKPdf		PKPdf		22	25	37.6	+2.5
MVCO	Mesa Verde	136.02	30	⇑P		PKPdf		22	25	36.0	+0.9
	baz=136										
P26A	Davis Ranch, A	136.38	23	⇑P		PKPdf		22	25	36.1	+0.5
	baz=136										
S22A	4UR Ranch, Cre	136.40	28	⇑P		PKPdf		22	25	36.3	+0.4
	baz=136										
X16A	Lo Mia Camp, P	136.54	35	⇓P		PKPdf		22	25	37.2	+1.1
	baz=136										
Q25A	Bedland, Calha	136.57	24	⇓P		PKPdf		22	25	37.0	+0.9
	baz=136										
W18A	Petrified Fore	136.98	33	ePKPdf		PKPdf		22	25	38.7	+1.8
W18A	Petrified Fore	136.98	33	⇓P		PKPdf		22	25	37.9	+1.0
	baz=137										
KSCO	Kaye Shedlock'	137.13	23	⇓P		PKPdf		22	25	38.0	+1.0
	baz=137										
R25A	Fountain Ranch	137.20	25	⇑P		PKPdf		22	25	38.4	+1.2
	baz=137										
X18A	Snowflake	137.30	34	⇑P		PKPdf		22	25	38.5	+1.0
	baz=137										
R26A	Arlington	137.42	24	⇓P		PKPdf		22	25	38.9	+1.4
	baz=137										
U22A	Llaves	137.49	29	⇓P		PKPdf		22	25	39.7	+1.8
	baz=137										
S25A	Robets Cordova	137.54	26	⇓P		PKPdf		22	25	38.9	+1.0
	baz=137										
R27A	Eads	137.69	23	⇓P		PKPdf		22	25	39.3	+1.3
	baz=138										
V22A	San Miguel Ran	137.83	29	⇑P		PKPdf		22	25	39.8	+1.3
	baz=138										
P31A	Stockton	137.84	19	⇑P		PKPdf		22	25	39.5	+1.4
	baz=138										
Q29A	Oakley	137.85	21	⇓P		PKPdf		22	25	40.4	+2.2
	baz=138										
S26A	Kim	137.99	25	⇑P		PKPdf		22	25	39.2	+0.6
	baz=138										
T25A	Trinidad	137.99	26	⇓P		PKPdf		22	25	39.1	+0.3
	baz=138										
R28A	Tribune	138.03	22	⇑P		PKPdf		22	25	39.1	+0.5
	baz=138										
T26A	Comanche Natio	138.31	25	⇑P		PKPdf		22	25	39.9	+0.6
	baz=138										
V23A	Ortiz Mt. (NFS	138.32	29	⇑P		PKPdf		22	25	40.7	+1.3
	baz=138										
U25A	Circle Dot Ran	138.61	27	⇓P		PKPdf		22	25	41.2	+1.3
	baz=138										
V24A	Rampart Ranch,	138.77	28	⇑P		PKPdf		22	25	41.2	+1.0
	baz=138										
Q33A	Connelly Farm,	138.80	18	⇑P		PKPdf		22	25	41.8	+1.9
	baz=139										
ANMO	Albuquerque	138.82	30	PKP		PKPdf		22	25	41.0	+0.7
ANMO	Albuquerque	138.82	30	PKP		PKPdf		22	25	40.9	+0.7
	comp=Z,1.9nm,0.9s,baz=174,slow=0.7,SNR=3.7										
R31A	Burdett	138.90	20	⇑P		PKPdf		22	25	42.0	+1.8
	baz=139										
V25A	Rancho No Teng	138.98	27	⇓P		PKPdf		22	25	41.7	+1.2
	baz=139										
Z20A	Nine Sixteen R	139.11	34	⇑P		PKPdf		22	25	41.9	+1.1
	baz=139										
W24A	Lazy 6 Ranch,	139.12	29	⇑P		PKPdf		22	25	41.8	+0.9
	baz=139										
X23A	Hourglass Bar	139.25	30	⇓P		PKPdf		22	25	42.4	+1.3
	baz=139										
Y22A	Socorro	139.35	31	⇑P		PKPdf		22	25	42.3	+1.1
	baz=139										
R33A	Olander Ranch,	139.39	18	⇓P		PKPdf		22	25	42.3	+1.3
	baz=139										
120A	U Bar Ranch, L	139.51	34	⇓P		PKPdf		22	25	42.6	+1.1
	baz=139										
W25A	X Bar L Ranch,	139.56	28	⇓P		PKPdf		22	25	42.6	+1.0
	baz=139										
SFIN	Scholer Farm	139.58	5	⇓P		PKPdf		22	25	43.4	+2.2
	baz=139										
Y23A	Lovelace Mesa,	139.83	30	⇑P		PKPdf		22	25	43.4	+1.3
	baz=140										
319A	Douglas	139.99	36	⇑P		PKPdf		22	25	43.0	+0.6
	baz=140										
220A	Playas Peak, P	140.04	35	⇓P		PKPdf		22	25	44.1	+1.5
	baz=140										
Y24A	Capitan	140.14	30	⇑P		PKPdf		22	25	44.2	+1.5
	baz=140										
W27A	Bowe Ranch, En	140.32	26	⇑P		PKPdf		22	25	44.1	+1.1
	baz=140										
X26A	CR and CF Fran	140.41	28	⇓P		PKPdf		22	25	44.0	+0.8
	baz=140										
Y25A	Mesa, Roswell	140.51	29	⇑P		PKPdf		22	25	44.5	+1.2
	baz=140										
Z24A	Sheppen Canyo	140.65	30	⇓P		PKPdf		22	25	45.5	+1.8
	baz=140										
Z25A	Roswell	141.02	30	⇓P		PKPdf		22	25	45.3	+1.1
	baz=141										
124A	Stringfield Ra	141.11	31	⇑P		PKPdf		22	25	45.7	+1.2
	baz=141										
X28A	Dimmitt	141.16	26	⇓P		PKPdf		22	25	46.0	+1.6
	baz=141										
U34A	Anderson Ranch	141.24	19	⇑P		PKPdf		22	25	45.9	+1.5
	baz=141										
Y27A	Causey	141.26	27	⇓P		PKPdf		22	25	46.1	+1.4
	baz=141										
Z26A	Caprock	141.38	29	⇓P		PKPdf		22	25	46.3	+1.5
	baz=141										
125A	Gardner Draw,	141.54	30	⇑P		PKPdf		22	25	46.2	+1.1
	baz=141										
224A	Cornudas Mount	141.56	32	⇑P		PKPdf		22	25	46.7	+1.4
	baz=141										
Z27A	Tatum	141.71	28	⇓P		PKPdf		22	25	46.5	+1.1
	baz=142										
V34A	Guthrie	141.80	19	⇑P		PKPdf		22	25	47.7	+2.3
	baz=142										
324A	Moseley Ranch,	142.08	32	⇑P		PKPdf		22	25	47.0	+0.7
	baz=142										
BDFB	Brasilia	142.22	244	PKP		PKPdf		22	25	47.0	+0.2
BDFB	Brasilia	142.22	244	PKP		PKPdf		22	25	47.0	+0.2
	comp=Z,5.5nm,1.0s,baz=21,slow=2.4,SNR=5.1										
226B	Tecolote Peak,	142.26	30	⇓P		PKPdf		22	25	46.9	+0.4
	baz=142										
325A	Bean Ranch, Si	142.41	32	⇓P		PKPdf		22	25	48.1	+1.3
	baz=142										
X32A	Elmer	142.44	22	⇑P		PKPdf		22	25	49.1	+2.5
	baz=142										
Z29A	Hungry Hill Ra	142.45	26	⇓P		PKPdf		22	25	44.5	-2.3
	baz=142										
425A	Indio Mountain	142.86	32	⇓P		PKPdf		22	25	44.0	-3.6
	baz=143										
326A	Caldwell Ranch	142.96	31	⇑P		PKPdf		22	25	45.1	-2.6
	baz=143										
Z31A	Sharp Cattle R	143.06	24	⇓P		PKPbc		22	25	44.4	-0.1
	baz=143										
Z32A	Haskell	143.34	24	⇓P		PKPbc		22	25	45.5	+0.2
	baz=143										
Y34A	Reagan Ranch,	143.42	21	⇑P		PKPbc		22	25	45.3	-0.2
	baz=143										
426A	McDonald Obser	143.45	31	⇓P		PKPbc		22	25	45.6	-0.3
	baz=143										
229A	Bryant Ranch,	143.49	28	⇑P		PKPbc		22	25	45.8	0.0
	baz=143										
328A	Wristen Ranch,	143.50	29	⇑P		PKPbc		22	25	45.9	+0.1
	baz=143,SNR=5.5										
131A	Roby	143.52	25	⇓P		PKPbc		22	25	45.8	0.0
	baz=143										
427A	Hayter Ranch,	143.63	30	⇑P		PKPbc		22	25	46.7	+0.4
	baz=143										
Z33A	Whitaker Ranch	143.64	23	⇑P		PKPbc		22	25	45.9	-0.2
	baz=143										
329A	Wagon Wheel Ra	143.81	28	⇑P		PKPbc		22	25	46.7	0.0
	baz=144										
230A	Sterling City	143.87	27	⇑P		PKPab		22	25	46.5	+0.2
	baz=144,SNR=10.0										
526A	Mary Lane Ranc	143.90	32	⇑P		PKPbc		22	25	47.4	+0.2
	baz=144										
CPUP	Villa Flor

0.8nm,0.8s,baz=244,slow=7.1,SNR=5.3
MKAR Makanchi Array 78.39 6 P P 22 23 03.1 -0.3
0.8nm,0.7s,baz=180,slow=6.6,SNR=6.4
BRTR Keskin Array B 80.16 330 P P 22 23 13.5 0.0
0.9nm,0.9s,baz=325,slow=36,SNR=3.7
KURBB Kurchatov Arra 81.96 3 P P 22 23 22.9 +0.5
0.7nm,0.7s,baz=198,slow=5.6,SNR=7.9
AKTO Aktyubinsk 82.86 350 P P 22 23 27.6 +0.3
1.0nm,0.5s,baz=165,slow=6.1,SNR=4.2
ZALV Zalesovo Beam 85.71 6 P P 22 23 41.5 -0.2
3.4nm,0.5s,baz=189,slow=5.0,SNR=21
YKA Yellowknife Ar 148.60 8 PKPbc PKPbc 22 30 48.5 -1.0
0.7nm,0.7s,baz=328,slow=4.2,SNR=3.9

*ISCJB **07** 22:16:33.2±0.3, 14°.19N±0°.04×93°.25E±0°.05, h32km, mb4.0/23, MS3.6/1, Error ellipse: s-maj=7.2km s-min=4.8km az=19.4*
*NEIC **07** 22:16:34.3±2.4, 14°.11N×93°.18E, h28km±17km, mb4.1/8, Error ellipse: s-maj=7.9km s-min=7.5km az=63.0*
*IDC **07** 22:16:34.7±0.6, 14°.14N×93°.22E, h28km±3km, mb3.8/19, mb1 3.9/20, mb1mx3.8/33, mbtmp3.8/20, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/39, Error ellipse: s-maj=18.8km s-min=11.1km az=56.0*
ISC 07 22:16:34.7±0.4, 14°.17N±0°.05×93°.22E±0°.06, h32km, n63, σ1s12/80, mb4.0/23, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**1.02**	**196**	*e*P	**Pb**	**22 16 53.8**	**-0.1**
DGPR				*e*S	**Sn**	**22 17 04.8**	**-1.2**
DGPR	comp=N,5μm,0.8s			AML	AML	22 17 13.7	
DGPR	comp=E,6μm,0.6s			AML	AML	22 17 14.1	
PBA	**Port Blair**	**2.54**	**191**	*e*P	**Pn**	**22 17 14.0**	**+0.3**
PBA				*e*S3		22 17 40.0	
CM31	**Chiang Mai Arr**	**6.96**	**51**	*e*Pn	**Pn**	**22 18 15.6**	**+1.0**
CM31	comp=E,5.5nm,0.4s			*e*Sn	**Sn**	**22 19 33.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**6.96**	**51**	Pn	**Pn**	**22 18 17.0**	**+2.5**
CMAR				Sn	Sn	22 19 42.0	+9.3
CMAR	**Chiang Mai Arr**	**6.96**	**51**	Pn	**Pn**	**22 18 17.0**	**+2.5**
CMAR	comp=E,0.6nm,0.3s,baz=237,slow=15,SNR=18			Sn	Sn	22 19 42.0	+9.3
CMBY	**CAMPBELL BAY**	**7.14**	**174**	*e*P	**Pn**	**22 18 15.5**	**-1.6**
CHTO	**Chiang Mai**	**7.18**	**49**	*e*Pn	**Pn**	**22 18 17.2**	**-0.3**
CHTO				*e*Sn	**Sn**	**22 19 33.8**	**-4.3**
VIS	**Vishakhapatnam**	**10.14**	**292**	*e*P	**Pn**	**22 18 59.4**	**+1.1**
VIS				*e*		22 20 40.0	
SHL	**Shillong**	**11.41**	**354**	*e*P	**Pn**	**22 19 14.4**	**-1.3**
SHL				*e*S	Sn	22 21 11.3	-11
PALK	**Pallekele**	**14.07**	**242**	*e*Pn	**Pn**	**22 19 50.2**	**-1.8**
HYB	**Hyderabad**	**14.48**	**285**	*i* P	**P**	**22 20 03.0**	**-0.9**
LSA	**Lhasa**	**15.58**	**353**	*e*Pn	**Pn**	**22 20 13.4**	**+0.9**
LSA	comp=E,4.6nm,0.6s			*e*Sn	**Sn**	**22 23 01.6**	**-2.8**
TRD	**Trivandrum**	**16.90**	**252**	*e*P	**P**	**22 20 29.9**	**-0.8**
ENH	**Enshi**	**21.95**	**40**	*e*P	**P**	**22 21 26.1**	**+0.3**
H08S3	**Diego Garcia H**	**29.87**	**225**	T	T	22 52 28.0	
H08S2	**Diego Garcia H**	**29.87**	**225**	T	T	22 52 24.7	
H08S1	**Diego Garcia H**	**29.89**	**225**	T	T	22 52 28.6	
AAK	**Ala-Archa**	**32.64**	**334**	P	**P**	**22 23 04.0**	**0.0**
MK31	**Makanchi Array**	**33.79**	**346**	*e*P	**P**	**22 23 13.9**	**+0.2**
MKAR	**Makanchi Array**	**33.79**	**346**	P	**P**	**22 23 15.2**	**+1.4**
MKAR				pP	**pP**	**22 23 23.3**	**+0.2**
MKAR	**Makanchi Array**	**33.79**	**346**	P	**P**	**22 23 15.2**	**+1.4**
MKAR	comp=E,0.7nm,0.7s,baz=158,slow=8.0,SNR=6.0			pP	**pP**	**22 23 23.3**	**+0.2**
	comp=E,2.7nm,0.8s,baz=161,slow=7.9,SNR=8.6						
SONM	**Songino Array**	**35.31**	**15**	P	**P**	**22 23 28.4**	**+1.4**
SONM	**Songino Array**	**35.31**	**15**	P	**P**	**22 23 28.4**	**+1.4**
KURBB	comp=E,1.2nm,1.0s,baz=196,slow=8.5,SNR=5.9 **Kurchatov Arra**	**38.27**	**345**	P	**P**	**22 23 52.9**	**+1.0**
KURK	comp=E,1.9nm,0.9s,baz=155,slow=8.5,SNR=12 **Kurchatov**	**38.33**	**345**	*e*P	**P**	**22 23 52.8**	**+0.4**
ZALV	comp=E,2.1nm,1.3s **Zalesovo Beam**	**40.24**	**352**	P	**P**	**22 24 09.5**	**+1.2**
ZALV	**Zalesovo Beam**	**40.24**	**352**	P	**P**	**22 24 09.5**	**+1.2**
BVAR	comp=E,1.0nm,0.6s,baz=191,slow=6.8,SNR=3.9 **Borovoye Array**	**42.79**	**340**	P	**P**	**22 24 30.3**	**+1.0**
BVAR				pP	**pP**	**22 24 37.5**	**-1.3**
BVAR	**Borovoye Array**	**42.79**	**340**	P	**P**	**22 24 30.3**	**+1.0**
BVAR	comp=E,0.3nm,0.4s,baz=152,slow=9.8,SNR=2.8			pP	**pP**	**22 24 37.5**	**-1.3**
ABKAR	comp=E,0.7nm,0.6s,baz=157,slow=8.0,SNR=3.7 **Akbulak array**	**44.35**	**329**	*e*P	**P**	**22 24 42.5**	**+0.6**
ABKAR	comp=E,3.1nm,0.7s			*e*		22 24 52.6	
FITZ	**Fitzroy Crossi**	**45.28**	**134**	*e*P	**P**	**22 24 49.3**	**-0.4**
FITZ	comp=E,2.5nm,0.7s **Fitzroy Crossi**	**45.28**	**134**	P	**P**	**22 24 49.0**	**-0.6**
	comp=E,1.8nm,0.6s,baz=346,slow=7.1,SNR=7.5						
AKTO	**Aktyubinsk**	**46.06**	**329**	P	**P**	**22 24 56.5**	**+0.9**
AKTO	**Aktyubinsk**	**46.06**	**329**	P	**P**	**22 24 56.4**	**+0.9**
NWAO	comp=E,1.1nm,0.6s,baz=137,slow=5.5,SNR=3.9 **Narrogin (SRO)**	**52.15**	**154**	pP	pP	22 25 49.8	-2.1
WRA	comp=E,10nm,1.0s,baz=268,slow=10,SNR=3.8 **Warramunga Arr**	**52.77**	**129**	P	**P**	**22 25 47.2**	**0.0**
WRA				pP	**pP**	**22 25 55.7**	**-1.2**
WRA				PcP	**PcP**	**22 26 57.0**	**+0.6**
WRA	**Warramunga Arr**	**52.77**	**129**	P	**P**	**22 25 47.2**	**0.0**
WRA	comp=E,1.0nm,0.7s,baz=310,slow=7.9,SNR=12			pP	**pP**	**22 25 55.7**	**-1.2**
WRA	comp=E,2.1nm,0.8s,baz=310,slow=8.1,SNR=10			PcP	**PcP**	**22 26 57.0**	**+0.6**
	comp=E,1.4nm,0.6s,baz=320,slow=3.1,SNR=18						
WRAB	**Tennant Creek**	**52.78**	**129**	*e*P	**P**	**22 25 47.0**	**-0.2**
ASAR	comp=E,3.3nm,0.8s **Alice Springs**	**54.74**	**133**	P	**P**	**22 26 01.9**	**+0.4**
ASAR				PcP	**PcP**	**22 27 04.5**	**+0.6**
ASAR	**Alice Springs**	**54.74**	**133**	P	**P**	**22 26 01.9**	**+0.4**
ASAR	comp=E,0.9nm,0.6s,baz=312,slow=6.8,SNR=17			PcP	**PcP**	**22 27 04.5**	**+0.6**
	comp=E,0.6nm,0.6s,baz=309,slow=3.7,SNR=4.7						
OPO	**Ambohidratompo**	**55.82**	**236**	LR	LR	22 45 45.6	
BRTR	comp=E,57nm,20.8s,baz=14,slow=31 **Keskin Array B**	**57.75**	**308**	P	**P**	**22 26 23.1**	**0.0**
BRTR				pP	**pP**	**22 26 32.2**	**-0.5**
BRTR	**Keskin Array B**	**57.75**	**308**	P	**P**	**22 26 23.1**	**0.0**
BRTR	comp=E,1.5nm,0.8s,baz=124,slow=8.2,SNR=9.3			pP	**pP**	**22 26 32.2**	**-0.5**
	comp=E,1.5nm,0.7s,baz=114,slow=8.1,SNR=7.9						
STKA	**Stephens Creek**	**65.15**	**136**	*e*P	**P**	**22 27 13.5**	**+0.6**
STKA	comp=E,1.0nm,1.0s **Stephens Creek**	**65.15**	**136**	P	**P**	**22 27 14.2**	**+1.4**
	comp=E,1.3nm,0.6s,baz=233,slow=4.6,SNR=3.8						
FINES	**FINESS Array B**	**66.78**	**331**	P	**P**	**22 27 22.4**	**-0.4**
FINES				pP	**pP**	**22 27 31.6**	**-1.2**
FINES	**FINESS Array B**	**66.78**	**331**	P	**P**	**22 27 22.4**	**-0.4**
FINES	comp=E,1.3nm,0.7s,baz=126,slow=9.7,SNR=5.6			pP	**pP**	**22 27 31.6**	**-1.2**
	comp=E,1.1nm,0.6s,baz=90,slow=7.6,SNR=5.9						
ARCES	**ARCESS Array B**	**69.08**	**340**	P	**P**	**22 27 36.2**	**-1.1**
ARCES				pP	**pP**	**22 27 47.8**	**+0.5**
ARCES	**ARCESS Array B**	**69.08**	**340**	P	**P**	**22 27 36.2**	**-1.1**
ARCES	comp=E,1.2nm,0.6s,baz=81,slow=7.5,SNR=4.7			pP	**pP**	**22 27 47.8**	**+0.5**
	comp=E,1.0nm,0.8s,baz=90,slow=6.1,SNR=5.3						
LSZ	**Lusaka**	**70.64**	**248**	P	**P**	**22 27 49.4**	**+1.6**
LSZ	**Lusaka**	**70.64**	**248**	P	**P**	**22 27 49.4**	**+1.6**
	comp=E,3.2nm,0.8s,baz=58,slow=9.1,SNR=7.2						
GERES	**GERESS Array B**	**72.59**	**317**	P	**P**	**22 27 59.6**	**+0.6**
GERES				pP	**pP**	**22 28 09.1**	**0.0**
GERES	**GERESS Array B**	**72.59**	**317**	P	**P**	**22 27 59.7**	**+0.6**
GERES	comp=E,1.0nm,0.8s,baz=103,slow=6.0,SNR=8.1			pP	**pP**	**22 28 09.1**	**0.0**
	comp=E,1.0nm,0.8s,baz=91,slow=5.3,SNR=7.1						
LBTB	**Lobatse**	**76.54**	**240**	P	**P**	**22 28 23.1**	**+0.7**
LBTB	**Lobatse**	**76.54**	**240**	P	**P**	**22 28 23.1**	**+0.7**
	comp=E,2.0nm,0.7s,baz=98,slow=17,SNR=4.1						
BOSA	**Boshof**	**78.22**	**236**	*e*P	**P**	**22 28 31.8**	**+0.1**
BOSA	comp=E,7.2nm,1.0s **Boshof**	**78.22**	**236**	P	**P**	**22 28 32.4**	**+0.6**
	comp=E,2.8nm,0.7s,baz=105,slow=11,SNR=6.1						
TORD	**Torodi Ar. Bea**	**88.29**	**283**	P	**P**	**22 29 24.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**88.29**	**283**	P	**P**	**22 29 24.4**	**+0.6**
	comp=E,1.9nm,0.9s,baz=79,slow=4.3,SNR=11						
ILAR	**Eielson Array**	**89.28**	**22**	P	**P**	**22 29 26.3**	**-1.2**
ILAR	**Eielson Array**	**89.28**	**22**	P	**P**	**22 29 26.3**	**-1.2**
	comp=E,0.6nm,0.9s,baz=261,slow=4.8,SNR=5.4						
PLCA	**Paso Flores**	**149.97**	**205**	PKPbc	**PKPbc**	**22 36 21.8**	**-0.5**
PLCA	**Paso Flores**	**149.97**	**205**	PKPbc	**PKPbc**	**22 36 21.8**	**-0.5**
	comp=E,1.5nm,0.8s,baz=226,slow=2.4,SNR=3.3						

*DDA **07** 22:17:08.1, 39°.37N×32°.84E, h3km, MD2.9*
*CSEM **07** 22:17:09.9±0.4, 39°.41N×32°.91E, h2km, MD2.7, Error ellipse: s-maj=10.1km s-min=5.9km az=28.0*
*ISCJB **07** 22:17:10.2±1.3, 39°.45N±0°.07×32°.89E±0°.06, h3km±9km, Error ellipse: s-maj=11.9km s-min=6.0km az=22.6*
*ISK **07** 22:17:10.0, 39°.47N×32°.94E, h6km, MD2.7*
ISC 07 22:17:10.4±1.2, 39°.44N±0°.05×32°.92E±0°.04, h5km±10km, n26, σ0s52/34, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFSR	**Afʼar-Bala (A**	**0.12**	**88**	*e*PG	**Pg**	**22 17 12.7**	**-0.2**
AFSR				*e*SG	**Sg**	**22 17 14.7**	**+0.1**
AFSR	**Afʼar-Bala (A**	**0.12**	**88**	*e*Pg	**Pg**	**22 17 12.7**	**-0.2**
AFSR				*e*Sg	**Sg**	**22 17 14.7**	**+0.1**
BBAL	**Bala**	**0.19**	**58**	*i* P	**Pg**	**22 17 14.1**	**-0.1**
BBAL				*i* S	**Sg**	**22 17 16.7**	**+0.1**
BBAL	**Bala**	**0.19**	**58**	*i* P	**Pg**	**22 17 14.1**	**-0.1**
BBAL				*i* S	**Sg**	**22 17 16.7**	**+0.1**
ANTO	**Ankara**	**0.44**	**347**	*e*PG	**Pg**	**22 17 18.6**	**-0.3**
ANTO	**Ankara**	**0.44**	**347**	*e*P	**Pb**	**22 17 21.0**	**+0.3**
ANTO	comp=Z,32nm,0.9s			pmax	pmax		
ANTO	**Ankara**	**0.44**	**347**	*i* P	**Pb**	**22 17 21.1**	**+0.4**
ANTO	**Ankara**	**0.44**	**347**	*e*P	**Pb**	**22 17 21.0**	**+0.3**
	comp=Z,32nm,0.9s						
ANTO	**Ankara**	**0.44**	**347**	*e*Pg	**Pg**	**22 17 18.6**	**-0.3**
ANTO	**Ankara**	**0.44**	**347**	*i* P	**Pb**	**22 17 21.1**	**+0.4**
LOD	**Lodumlu**	**0.46**	**345**	*e*PG	**Pg**	**22 17 19.2**	**-0.2**
LOD				*e*SG	**Sg**	**22 17 25.9**	**+0.5**
LOD	**Lodumlu**	**0.46**	**345**	*e*Pg	**Pg**	**22 17 19.2**	**-0.2**
LOD				*e*Sg	**Sg**	**22 17 25.9**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.08**	**271**	*e*PN	**Pb**	**22 17 31.5**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.08**	**271**	*e*Pn	**Pb**	**22 17 31.5**	**-0.2**
KDHN	**Kadinhani**	**1.11**	**214**	*i* P	Pg	22 17 27.2	-4.6
KDHN	**Kadinhani**	**1.11**	**214**	*i* P	Pg	22 17 27.2	-4.6
ELDT	**Eldivan**	**1.12**	**20**	*i* P	**Pg**	**22 17 31.3**	**-0.5**
ELDT	**Eldivan**	**1.12**	**20**	*i* P	**Pg**	**22 17 31.3**	**-0.5**
CDAG	**Cicekdag**	**1.14**	**80**	*i* P	**Pg**	**22 17 31.7**	**-0.6**
CDAG				*i* S	**Sb**	**22 17 47.9**	**+0.1**
CDAG	**Cicekdag**	**1.14**	**80**	*i* P	**Pg**	**22 17 31.7**	**-0.6**
CDAG				*i* S	**Sb**	**22 17 47.9**	**+0.1**
CORM	**Corum**	**1.51**	**60**	*e*PN	**Pn**	**22 17 37.8**	**-0.4**
CORM	**Corum**	**1.51**	**60**	*e*Pn	**Pn**	**22 17 37.8**	**-0.4**
AVNT	**Avonos**	**1.65**	**113**	*i* P	**Pb**	**22 17 41.1**	**-0.2**
AVNT				*i* S	**Sg**	**22 18 04.9**	**+1.6**
AVNT	**Avonos**	**1.65**	**113**	*i* P	**Pb**	**22 17 41.1**	**-0.2**
AVNT				*i* S	**Sg**	**22 18 04.9**	**+1.6**
YOZ	**Yozgat**	**1.87**	**83**	*e*PN	**Pn**	**22 17 43.1**	**-0.1**
YOZ	**Yozgat**	**1.87**	**83**	*e*Pn	**Pn**	**22 17 43.1**	**-0.1**

*CSEM **07** 22:18:10.8, 39°.76N×24°.08E, h19km, MD2.7, After ATH*
ATH 07 22:18:10.8, 39°.76N×24°.08E, h19km±6km, MD2.7/6, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.35**	**299**	*e*PB	Pg	22 18 18.3	0.0
PAIG				*e*SB	Sb	22 18 23.9	+0.2
PAIG	**Paliouri**	**0.35**	**299**	*e*Pb	Pg	22 18 18.3	0.0
PAIG				*e*Sb	Sb	22 18 23.9	+0.2
OUR	**Ouranopolis**	**0.58**	**353**	*e*PN	Pb	22 18 22.1	-0.1
OUR				*e*SN	Sg	22 18 30.5	+0.3
OUR	**Ouranopolis**	**0.58**	**353**	*e*Pn	Pb	22 18 22.1	-0.1
OUR				*e*Sn	Sg	22 18 30.5	+0.3
AOS	**Alonnisos**	**0.61**	**195**	*e*PB	Pb	22 18 22.5	-0.3
AOS				*e*SN	Sg	22 18 32.0	+0.9
AOS	**Alonnisos**	**0.61**	**195**	*e*Pb	Pb	22 18 22.5	-0.3
AOS				*e*Sn	Sg	22 18 32.0	+0.9
PLG	**Polygyros**	**0.78**	**322**	*e*PN	Pg	22 18 26.3	0.0
PLG				*e*SN	Sb	22 18 35.3	-0.9
PLG	**Polygyros**	**0.78**	**322**	*e*Pn	Pg	22 18 26.3	0.0
PLG				*e*Sn	Sb	22 18 35.3	-0.9
XOR	**Xorichti**	**0.79**	**240**	*e*PN	Pg	22 18 26.4	0.0
XOR				*e*SN	Sg	22 18 37.6	+0.6
XOR	**Xorichti**	**0.79**	**240**	*e*Pn	Pg	22 18 26.4	0.0
XOR				*e*Sn	Sg	22 18 37.6	+0.6
NEO	**Neokhori**	**0.80**	**236**	*e*PN	Pg	22 18 26.6	0.0
NEO				*e*SN	Sg	22 18 37.3	0.0
NEO	**Neokhori**	**0.80**	**236**	*e*Pn	Pg	22 18 26.6	0.0
NEO				*e*Sn	Sg	22 18 37.3	0.0

IDC 07 22:19:42.9±10.0, 2°.40N×94°.10E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=228.6km s-min=60.0km az=144.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.65**	**16**	Pn	Pn	22 23 37.1	-0.7
MKAR	0.1nm,0.3s,baz=200,slow=12,SNR=5.4 **Makanchi Array**	**45.40**	**349**	P	P	22 28 04.2	+0.9
SONM	0.7nm,0.8s,baz=161,slow=9.2,SNR=4.4 **Songino Array**	**46.49**	**11**	P	P	22 28 13.3	+1.2
ZALV	0.4nm,0.6s,baz=182,slow=8.1,SNR=3.2 **Zalesovo Beam**	**51.94**	**353**	P	P	22 28 51.8	-1.7
BRTR	1.4nm,0.5s,baz=176,slow=7.0,SNR=10.0 **Keskin Array B**	**66.02**	**313**	P	P	22 30 31.9	+0.1
	0.5nm,0.6s,baz=103,slow=4.6,SNR=3.1						

*IDC **07** 22:35:08.8±1.2, 4°.82N×126°.51E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/25, mbtmp3.7/7, Error ellipse: s-maj=92.9km s-min=16.5km az=71.0*
*ISCJB **07** 22:35:15.8±1.2, 4°.9N±0°.2×126°.7E±0°.6, h76km, mb3.6/7, Error ellipse: s-maj=97.2km s-min=14.8km az=161.8*
ISC 07 22:35:17.3±1.6, 4°.8N±0°.2×126°.8E±0°.7, h76km, n7, σ0s51/6, mb3.6/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.80**	**183**	P	**P**	**22 40 14.2**	**+0.2**
WRA	2.6nm,0.7s,baz=355,slow=12,SNR=2.5 **Warramunga Arr**	**25.69**	**163**	P	**P**	**22 40 40.6**	**0.0**
ASAR	1.3nm,0.7s,baz=342,slow=10,SNR=6.9 **Alice Springs**	**29.14**	**167**	P	**P**	**22 41 11.2**	**-0.2**
STKA	0.4nm,0.7s,baz=347,slow=6.5,SNR=4.3 **Stephens Creek**	**39.11**	**160**	P	P	22 42 40.7	+3.3
SONM	5.3nm,0.9s,baz=346,slow=8.4,SNR=5.2 **Songino Array**	**46.30**	**341**	P	**P**	**22 43 35.7**	**+0.1**
MKAR	0.4nm,0.7s,baz=152,slow=6.5,SNR=2.8 **Makanchi Array**	**56.72**	**325**	P	**P**	**22 44 52.6**	**-0.6**
KURBB	0.3nm,0.5s,baz=118,slow=7.8,SNR=7.1 **Kurchatov Arra**	**60.87**	**327**	P	**P**	**22 45 22.5**	**+0.5**
	0.4nm,0.5s,baz=127,slow=6.0,SNR=5.1						

DJA 07 22:37:35.1±1.0, 8°.3S±0°.3×107°.7E±°, h18km±14km, M3.6/6, MLv3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.91**	**37**	P	Pb	22 37 51.9	-0.6
CISI				S	Sb	22 38 03.1	-1.3
LEM	**Lembang**	**1.50**	**14**	P	Pn	22 38 01.0	-0.3
KPJI	**Karang Pucung**	**1.91**	**60**	P	Pn	22 38 06.8	0.0
TGJI	**Tegal**	**2.32**	**53**	P	Pn	22 38 12.6	+0.1
UGM	**Wanagama**	**3.25**	**84**	P	Pn	22 38 25.5	+0.2
PCJI	**Pacitan**	**3.88**	**89**	P	Pn	22 38 33.9	0.0

*BJI **07** 22:40:25.4, 0°.32S×96°.89E, h36km, mB5.0/16, mb4.6/23, Ms4.7/6, Ms7 4.3/10*
*DJA **07** 22:40:26.5±3.2, 0°.7N±5°.×9°.7E±°, h29km±39km, M4.3/6, mB4.9/3, mb4.7/6, MLv4.1/5, Mw(mB)4.2/3*
*NEIC **07** 22:40:28.4±0.7, 0°.14N×97°.12E, h31km±4km, mb4.6/18, Error ellipse: s-maj=8.9km s-min=6.9km az=198.0*
*AUST **07** 22:40:28.6±4.4, 0°.41N×97°.06E, h22km, Error ellipse: s-maj=2.2km s-min=1.2km az=255.0*
*IDC **07** 22:40:28.5±0.6, 0°.09N×96°.95E, h29km±3km, mb3.9/17, mb1 4.1/19, mb1mx4.0/28, mbtmp3.9/19, ML3.9/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/36, Error ellipse: s-maj=20.3km s-min=11.6km az=51.0*
*MOS **07** 22:40:28.4±0.9, 0°.21N×97°.11E, h41km, mb4.6/21, Error ellipse: s-maj=12.5km s-min=7.6km az=99.1*
*BKK **07** 22:40:38.6±1.6, 1°.1N±12°×97°.7E±1°.2, h10km, M4.4/12, mB5.1/5, mb4.4/12, MLv4.3/3, Mw(mB)4.5/5*
ISC 07 22:40:29.4±0.5, 0°.12N±0°.05×97°.10E±0°.06, h35km±1km, h35km:pP-P, n149, σ1s65/167, mb4.4/43, MS4.1/6, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**2.40**	**341**	P	**Pn**	**22 41 05.0**	**-1.3**
SNSI				S	Sn	**22 41 33.3**	**-1.2**
TPTI		**3.12**	**2**	P	**Pn**	**22 41 14.7**	**-1.5**
TPTI				S	**Sn**	**22 41 54.0**	**+1.7**
PSI	**Prapat**	**3.23**	**34**	P	**Pn**	**22 41 15.8**	**-2.0**
PSI	**Prapat**	**3.23**	**34**	Pn	**Pn**	**22 41 15.4**	**-2.4**
PSI	**Prapat**	**3.23**	**34**	Pn	**Pn**	**22 41 15.4**	**-2.4**
	1.5nm,0.3s,baz=196,slow=8.0,SNR=19						
PSI	**Prapat**	**3.23**	**34**	P	**Pn**	**22 41 15.4**	**-2.4**
	baz=2.9,SNR=11						
PPI	**Padang Panjang**	**3.35**	**100**	P	**Pn**	**22 41 17.4**	**-2.0**
PPI	**Padang Panjang**	**3.35**	**100**	P	**Pn**	**22 41 17.6**	**-1.8**
	baz=3.4,SNR=10						
KCSI	**Kotacane, Aceh**	**3.45**	**11**	P	**Pn**	**22 41 18.9**	**-1.8**
FRIM	**Kepong**	**5.49**	**56**	P	**Pn**	**22 41 48.0**	**-0.8**
IPM	**Ipoh**	**5.85**	**42**	P	**Pn**	**22 41 53.2**	**-0.5**
IPM	**Ipoh**	**5.85**	**42**	P	**Pn**	**22 41 53.0**	**-0.7**
	69nm,0.8s,447nm						
IPM	**Ipoh**	**5.85**	**42**	*e*Pn	**Pn**	**22 41 52.7**	**-1.0**
KULM	**Kulim**	**6.24**	**35**	P	**Pn**	**22 41 58.5**	**-0.6**
KULM	**Kulim**	**6.24**	**35**	P	**Pn**	**22 41 57.4**	**-1.8**
	71nm,0.9s,1μm						
KULM	**Kulim**	**6.24**	**35**	*e*Pn	**Pn**	**22 41 56.8**	**-2.4**
KULM					Sn	**22 43 04.7**	**-4.7**
KGM	**Kluang**	**6.50**	**73**	P	**Pn**	**22 42 01.5**	**-1.2**
MYKOM	**Kota Tinggi**	**6.96**	**76**	P	**Pn**	**22 42 08.0**	**-0.9**
MYKOM	**Kota Tinggi**	**6.96**	**76**	P	**Pn**	**22 42 07.3**	**-1.6**
	25nm,0.8s						
MYKOM	**Kota Tinggi**	**6.96**	**76**	*e*Pn	**Pn**	**22 42 07.1**	**-1.9**
MNAI	**Manna**	**7.35**	**127**	P	**Pn**	**22 42 12.0**	**-2.5**
	129nm,0.7s						
MNAI	**Manna**	**7.35**	**127**	*e*Pn	**Pn**	**22 42 12.0**	**-2.5**
MNAI	**Manna**	**7.35**	**127**	P	**Pn**	**22 42 15.0**	**+0.5**
	baz=7.6,SNR=4.9						
KTGM	**Kuala Trenggan**	**7.95**	**49**	P	**Pn**	**22 42 21.0**	**-1.6**
MDSI	**Maura Dua**	**8.43**	**123**	P	**Pn**	**22 42 26.4**	**-2.7**
	39nm,0.8s,999nm						
KLSI		**9.00**	**122**	P	**Pn**	**22 42 34.6**	**-2.4**
CISI	**Cisompet, Garu**	**13.13**	**126**	*e*Pn	Pn	22 43 37.2	+3.5
CISI	**Cisompet, Garu**	**13.13**	**126**	P	**P**	**22 43 42.9**	**-0.5**
	baz=13,SNR=3.6						
CHBT	**CHBT**	**13.58**	**22**	P	**Pn**	**22 43 41.2**	**+1.4**
	24nm,0.8s						
SBUM	**Sibu**	**15.30**	**81**	*e*Pn	**P**	**22 44 06.9**	**-0.5**
	36nm,1.4s						
PBKT	**Sadao Pong**	**16.79**	**13**	P	**P**	**22 44 23.8**	**-0.1**
	14nm,0.9s						
MHMT	**Maesarieng**	**17.96**	**3**	P	P	22 44 52.3	+15
CM31	**Chiang Mai Arr**	**18.31**	**6**	*e*P	**P**	**22 44 38.2**	**-2.6**
CMAR	**Chiang Mai Arr**	**18.31**	**6**	P	**P**	**22 44 39.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**18.31**	**6**	P	**P**	**22 44 39.7**	**-1.0**
	0.6nm,0.3s,baz=195,slow=12,SNR=25						
LAMP	**Lampang**	**18.46**	**8**	P	**Pn**	**22 44 44.4**	**+1.8**
	3.8nm,0.9s						
CMMT	**Chiang Mai**	**18.67**	**5**	P	**Pn**	**22 44 45.2**	**0.0**
	6.4nm,1.0s,528nm						
CHTO	**Chiang Mai**	**18.67**	**5**	*e*P	**P**	**22 44 43.2**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CHTO	**Chiang Mai**	**18.67**	**5**	*e*P	**P**	**22 44 43.2**	**-1.4**
	comp=Z,1.2nm,0.8s						
CHTO	**Chiang Mai**	**18.67**	**5**	P	**Pn**	**22 44 45.3**	**+0.1**
	comp=Z,29nm,1.0s						
CMAI	**Chiengmai2**	**19.78**	**5**	P	**Pn**	**22 44 59.3**	**+0.6**
	comp=Z,26nm,1.1s,comp=Z,4μm						
KKM	**Kota Kinabalu**	**19.97**	**73**	P	**P**	**22 44 58.6**	**-0.4**
KKM	**Kota Kinabalu**	**19.97**	**73**	P	**P**	**22 44 58.7**	**-0.4**
KKM	**Kota Kinabalu**	**19.97**	**73**	*e*P	**P**	**22 44 58.4**	**-0.7**
	comp=Z,42nm,0.8

baz=334,slow=76,SNR=12
H01W1 Cape Leeuwin H 38.31 157 T T 23 28 20.4
baz=334,slow=76,SNR=9.0
GTA Gaotai 39.18 3 *e*P P 22 47 57.8 +3.5
GTA pP pP 22 48 07.5 +3.1
GTA sP sP 22 48 11.6 +3.0
GTA pmax pmax
comp=Z,2.0nm,1.6s
JOW Kunigami 40.06 46 *e*P P 22 48 08.1 +6.5
comp=Z,44nm,1.5s
WRA Warramunga Arr 41.56 121 P **P** **22 48 12.9 -1.2**
WRA Warramunga Arr 41.56 121 P **P** **22 48 12.9 -1.2**
comp=Z,1.7nm,0.7s,baz=298,slow=9.2,SNR=13
WRAB Tennant Creek 41.57 121 *e*P **P** **22 48 13.0 -1.2**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 41.57 121 *e*P **P** **22 48 14.1 -0.2**
comp=Z,5.7nm,1.0s
HHC Hu-ho-hao-te 42.62 16 *e*P **P** **22 48 23.4 +0.9**
HHC pP **pP** **22 48 34.4 +1.6**
HHC sP **sP** **22 48 38.4 +1.5**
HHC PP **PP** **22 50 06.7 +4.9**
HHC S **S** **22 54 45.4 +2.1**
HHC sS **sS** **22 55 01.6 +1.4**
HHC SS **SS** **22 57 50.3 -4.1**
HHC ScS **ScS** **22 58 20.7 -0.8**
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,180nm,5.4s
HHC LR LR
comp=Z,170nm,14.2s
ASAR Alice Springs 42.84 126 P **P** **22 48 26.6 +2.0**
ASAR Alice Springs 42.84 126 P **P** **22 48 26.6 +2.0**
comp=Z,1.9nm,0.8s,baz=302,slow=7.9,SNR=18
KSH Kashi 43.71 336 P **P** **22 48 30.1 -1.3**
KSH pP **pP** **22 48 42.1 +0.4**
KSH sP **sP** **22 48 46.1 +0.3**
KSH PP **PP** **22 50 15.0 +1.4**
KSH S **S** **22 54 54.5 -4.9**
KSH sS **sS** **22 55 15.1 -1.2**
KSH SS SS 22 58 05.8 -10
KSH pmax pmax
comp=Z,190nm,5.3s
KSH LR LR
comp=Z,120nm,5.9s
WMQ Urumqi 44.31 350 P **P** **22 48 38.0 +1.9**
WMQ pmax pmax
comp=Z,12nm,1.0s
JNU Nakatsue 45.69 41 pP pP 22 48 55.9 -1.5
JNU Nakatsue 45.69 41 pP pP 22 48 55.9 -1.5
comp=Z,8.9nm,0.9s,baz=38,slow=23,SNR=4.6
KSAR Wonju Array Be 46.77 34 P **P** **22 48 55.6 +0.1**
TKM2 Tokmak 2 46.77 338 *e*P **P** **22 48 55.4 -0.4**
TKM2 pmax pmax
comp=Z,31nm,2.5s
TKM2 Tokmak 2 46.77 338 *e*P **P** **22 48 55.4 -0.4**
comp=Z,31nm,2.5s
KSRS Korea Array 46.80 34 P **P** **22 48 55.6 -0.1**
comp=Z,2.3nm,0.7s,baz=213,slow=9.7,SNR=4.4
KSRS LR LR 23 12 15.1
comp=Z,40nm,18.9s,baz=1.5,slow=41
AAK Ala-Archa 46.95 337 P **P** **22 48 57.8 +0.7**
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 46.95 337 P **P** **22 48 57.8 +0.7**
AAK Ala-Archa 46.95 337 P **P** **22 48 57.8 +0.7**
comp=Z,0.5nm,0.4s,baz=203,slow=12,SNR=3.6
EKS2 Erkin-Say 47.25 337 *e*P **P** **22 48 59.5 +0.1**
EKS2 pmax pmax
comp=Z,24nm,2.3s
EKS2 Erkin-Say 47.25 337 *e*P **P** **22 48 59.5 +0.1**
comp=Z,24nm,2.3s
SONM Songino Array 48.21 8 P **P** **22 49 07.5 +0.7**
SONM pP **pP** **22 49 15.9 -1.2**
SONM Songino Array 48.21 8 P **P** **22 49 07.5 +0.7**
comp=Z,1.2nm,0.8s,baz=197,slow=8.3,SNR=4.9
SONM pP **pP** **22 49 15.9 -1.2**
comp=Z,2.5nm,0.7s,baz=190,slow=8.5,SNR=11
MK31 Makanchi Array 48.26 346 *e*P **P** **22 49 07.0 0.0**
MK31 *e* 22 49 17.0
MK31 Makanchi Array 48.26 346 *e*P **P** **22 49 07.0 0.0**
MK31 *e* 22 49 17.0
MKAR Makanchi Array 48.26 346 P **P** **22 49 07.7 +0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 48.26 346 *e*P **P** **22 49 07.8 +0.7**
MKAR Makanchi Array 48.26 346 P **P** **22 49 07.7 +0.7**
comp=Z,2.5nm,0.6s,baz=160,slow=8.9,SNR=30
ULN Ulaanbaatar 48.34 9 *e*P **P** **22 49 07.4 -0.4**
comp=Z,7.6nm,1.3s
KKAR Karatay Array 48.98 334 *e*P **P** **22 49 13.4 +0.8**
KKAR Karatay Array 48.98 334 *e*P **P** **22 49 13.4 +0.8**
OPO Ambohidratompo 52.39 246 LR LR 23 06 48.6
comp=Z,183nm,19.8s,baz=358,slow=30
STKA Stephens Creek 52.72 131 *e*P **P** **22 49 42.9 +1.9**
comp=Z,6.5nm,1.8s
STKA pP **pP** **22 49 51.1 -0.3**
STKA Stephens Creek 52.72 131 P **P** **22 49 42.1 +1.1**
comp=Z,3.0nm,1.0s,baz=311,slow=9.3,SNR=2.1
STKA pP **pP** **22 49 51.1 -0.3**
comp=Z,3.0nm,0.7s,baz=300,slow=6.0,SNR=5.8
KURBB Kurchatov Arra 52.74 345 P **P** **22 49 41.2 +0.4**
comp=Z,1.5nm,0.7s,baz=165,slow=7.2,SNR=17
KURBB pP **pP** **22 49 50.5 -0.7**
comp=Z,2.4nm,0.8s,baz=169,slow=7.0,SNR=5.1
KURK Kurchatov 52.80 345 *e*P **P** **22 49 41.3 +0.1**
KURK *e* 22 49 50.9
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 52.80 345 *e*P **P** **22 49 41.3 +0.1**
comp=Z,3.9nm,1.0s
KURK *e* 22 49 50.9
USRK Ussuriysk Arra 53.75 31 P **P** **22 49 48.6 +0.4**
comp=Z,2.9nm,0.7s,baz=239,slow=5.6,SNR=13
ZAA0 Zalesovo Array 54.60 351 *e*P **P** **22 49 53.8 -0.5**
ZAA0 *e* 22 50 03.7
ZALV Zalesovo Beam 54.60 351 P **P** **22 49 54.7 +0.3**
ZALV *PP **pP** **22 50 03.5 -1.3**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV pmax pmax
comp=Z,8.0nm,0.5s
ZALV Zalesovo Beam 54.60 351 P **P** **22 49 54.6 +0.3**
ZALV pP **pP** **22 50 03.5 -1.3**
ZALV Zalesovo Beam 54.60 351 P **P** **22 49 54.6 +0.3**
comp=Z,5.2nm,0.5s,baz=177,slow=6.5,SNR=43
ZALV pP **pP** **22 50 03.5 -1.3**
comp=Z,8.4nm,0.5s,baz=185,slow=4.9,SNR=22
RAYN Ar Rayn 55.18 299 *e*P **P** **22 49 58.8 -0.3**
comp=Z,41nm,2.2s
BRVK Borovoye 57.29 341 *e*P **P** **22 50 13.1 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,1.5s
ABKAR Akbulak array 58.41 332 *e*P **P** **22 50 20.8 -0.7**
ABKAR *e* 22 50 30.0
KMBO Kilima Mbogo 59.85 269 P **P** **22 50 32.3 -0.2**
KMBO Kilima Mbogo 59.85 269 P **P** **22 50 32.3 -0.2**
comp=Z,0.6nm,0.5s,baz=48,slow=21,SNR=5.1
PATS Pohnpei 61.42 82 P P 22 50 59.1 +16
baz=61,SNR=4.1
SVE Sverdlovsk 63.65 339 *e*P **P** **22 50 56.2 -0.7**
SVE pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 64.13 337 *d*iP **P** **22 50 59.3 -0.8**
ARU 22 53 19.5
ARU S **S** **22 59 35.7 +1.1**
ARU SS **SS** **23 03 42.3 -2.0**
ARU pmax pmax
comp=Z,9.0nm,1.7s
KBZ Khabaz 64.82 319 P **P** **22 51 04.0 -0.8**
KBZ pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 64.82 319 P **P** **22 51 04.0 -0.8**
KBZ Khabaz 64.82 319 P **P** **22 51 04.0 -0.8**
comp=Z,1.4nm,0.7s,baz=123,slow=8.9,SNR=3.7
KIV Kislovodsk 65.06 320 *e*P **P** **22 51 05.8 -0.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,44nm,17.0s
YAK Yakutsk 66.48 16 *e*P **P** **22 51 14.5 -0.7**
YAK pmax pmax
comp=Z,6.0nm,0.7s
BR131 Keskin Array S 69.76 313 *e*P **P** **22 51 34.2 -2.3**
comp=Z,1.5nm,0.8s
BRTR Keskin Array B 69.76 313 P **P** **22 51 34.9 -1.6**
BRTR pP **pP** **22 51 44.7 -2.5**
BRTR Keskin Array B 69.76 313 P **P** **22 51 34.9 -1.6**
comp=Z,1.8nm,0.7s,baz=133,slow=6.5,SNR=11
BRTR pP **pP** **22 51 44.7 -2.5**
comp=Z,1.5nm,0.8s,baz=141,slow=7.3,SNR=6.3
AKASG Malin Array Be 76.05 323 P **P** **22 52 12.1 -1.2**
AKASG *PP **pP** **22 52 22.0 -2.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 76.05 323 P **P** **22 52 12.1 -1.2**
AKASG pP **pP** **22 52 21.9 -2.2**
AKASG Malin Array Be 76.05 323 P **P** **22 52 12.1 -1.2**
comp=Z,1.3nm,0.5s,baz=87,slow=5.2,SNR=14
AKASG pP **pP** **22 52 21.9 -2.2**
comp=Z,1.6nm,0.5s,baz=91,slow=5.0,SNR=8.3
KIEV Kiev 76.05 323 *e*P **P** **22 52 11.4 -1.9**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 76.05 323 *e*P **P** **22 52 11.4 -1.9**
comp=Z,5.8nm,1.0s
BUR08 Bucovina Ar. S 77.78 319 *e*P **P** **22 52 23.1 -0.3**
FINES FINESS Array B 80.90 333 P **P** **22 52 39.1 -0.8**
FINES pP **PcP** **22 52 48.5 +2.1**
FINES FINESS Array B 80.90 333 P **P** **22 52 39.1 -0.8**
comp=Z,3.4nm,0.9s,baz=98,slow=8.1,SNR=6.8
FINES pP **PcP** **22 52 48.5 +2.1**
comp=Z,2.0nm,0.7s,baz=92,slow=4.8,SNR=4.7
ARCES ARCESS Array B 83.51 340 pP pP 22 53 03.1 -1.3
ARCES ARCESS Array B 83.51 340 pP pP 22 53 03.1 -1.3
comp=Z,3.2nm,0.9s,baz=111,slow=4.9,SNR=5.3
GERES GERESS Array B 85.55 319 P **P** **22 53 03.4 -0.9**
GERES GERESS Array B 85.55 319 P **P** **22 53 03.4 -0.9**
comp=Z,0.5nm,0.7s,baz=88,slow=3.2,SNR=5.2
CPUP Villa Florida 144.13 221 PKP PKPbc 23 00 00.3 -0.2
CPUP pPKP **PKiKP** **23 00 09.6 +3.7**
CPUP Villa Florida 144.13 221 PKP PKPbc 23 00 00.3 -0.2
comp=Z,2.1nm,0.7s,baz=149,slow=5.8,SNR=4.7
CPUP pPKP **PKiKP** **23 00 09.6 +3.7**
comp=Z,0.3nm,0.3s,baz=31,slow=5.9,SNR=5.0
TXAR Lajitas Array 144.63 32 PKP PKPbc 23 00 02.2 +0.1
TXAR pPKP pPKPdf 23 00 12.0 -2.7
TXAR Lajitas Array 144.63 32 PKP PKPbc 23 00 02.2 +0.1
comp=Z,0.5nm,0.5s,baz=359,slow=1.5,SNR=6.3
TXAR pPKP pPKPdf 23 00 12.0 -2.7
comp=Z,0.8nm,0.7s,baz=298,slow=2.7,SNR=4.1
JCT Junction City 145.59 26 *e*PKIKP **PKPdf** **23 00 04.4 -0.5**
JCT Junction City 145.59 26 *e*PKP **PKPdf** **23 00 04.4 -0.5**

*ISCJB **07** 22:40:42.3±0.3, 16°.00N±0°.05×92°.55W±0°.04, h210km±3km, mb3.9/14, Error ellipse: s-maj=8.7km s-min=4.3km az=36.7*
*NEIC **07** 22:40:43.0, 16°.02N×92°.79W, h216km, mb4.5/10, MD4.4(MEX), After MEX.*
*IDC **07** 22:40:44.4±1.1, 16°.21N×92°.10W, h217km±10km, mb3.6/12, mb1 3.8/13, mb1mx3.5/28, mbtmp3.6/13, Error ellipse: s-maj=34.0km s-min=9.8km az=56.0*
*MEX **07** 22:40:45.4±0.8, 15°.82N×92°.84W, h215km±11km, MD4.4*
ISC 07 22:40:43.1±0.6, 15°.96N±0°.07×92°.65W±0°.05, h212km±6km, n254, σ1s19/266, mb3.9/14, 109C-98D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.60**	**245**	*e*P		**Pn**	**22 41 11.5**	**-0.4**
PCIG				*e*S		**S**	**22 41 33.2**	**-1.1**
PCIG		**0.60**	**245**	*e*P		**Pn**	**22 41 11.5**	**-0.4**
PCIG				*e*S		**S**	**22 41 33.2**	**-1.1**
THIG		**1.11**	**160**	*i*P		**Pn**	**22 41 15.4**	**+0.6**
THIG				*e*S		**S**	**22 41 40.0**	**+0.6**
THIG		**1.11**	**160**	*i*P		**Pn**	**22 41 15.4**	**+0.6**
THIG				*e*S		**S**	**22 41 40.0**	**+0.6**
APG	**El Apazote**	**2.31**	**114**	P		**Pn**	**22 41 23.6**	**-2.3**
	44nm,0.3s,baz=130,slow=20,SNR=202							
APG				S		**S**	**22 41 55.8**	**-3.1**
	14nm,0.3s,baz=169,slow=22,SNR=4.2							
HUIG	**Huatulco**	**3.33**	**267**	*i*P		**Pn**	**22 41 35.7**	**-1.6**
HUIG				*i*S		**S**	**22 42 15.9**	**-3.5**
HUIG	**Huatulco**	**3.33**	**267**	*i*P		**Pn**	**22 41 35.7**	**-1.6**
HUIG				*i*S		**S**	**22 42 15.9**	**-3.5**
VHO	**Vista Hermosa**	**4.07**	**286**	*e*P		**Pn**	**22 41 46.7**	**+0.3**
VHO				*i*S		**S**	**22 42 34.3**	**-1.5**
TPIG	**Tehuac#an**	**5.13**	**299**	*e*P		**Pn**	**22 41 59.7**	**+0.1**
TPIG				*i*S		**S**	**22 42 58.3**	**-1.4**
TPIG	**Tehuac#an**	**5.13**	**299**	*e*P		**Pn**	**22 41 59.7**	**+0.1**
TPIG				*i*S		**S**	**22 42 58.3**	**-1.4**
TGUH	**Tegucigalpa,Un**	**5.53**	**109**	*e*Pn		**Pn**	**22 42 04.5**	**0.0**
	93nm,0.9s							
TLIG	**Tlapa**	**5.89**	**287**	*i*P		**Pn**	**22 42 09.9**	**+0.7**
TLIG				*i*S		**S**	**22 43 14.5**	**-2.8**
TEIG	**Tepich**	**5.94**	**44**	*e*Pn		**Pn**	**22 42 07.9**	**-1.8**
TEIG	**Tepich**	**5.94**	**44**	P		**Pn**	**22 42 07.8**	**-2.0**
	34nm,0.3s,baz=246,slow=1.8,SNR=103							
ARIG	**Puente Sto Nin**	**7.71**	**289**	*e*P		**Pn**	**22 42 34.7**	**+2.0**
ARIG				*i*S		**S**	**22 43 56.5**	**-3.6**
JTS	**JuntasAbangare**	**9.38**	**126**	*e*Pn		**Pn**	**22 42 53.7**	**-0.5**
	13nm,0.5s							
JTS				*e*S		**S**	**22 44 37.4**	**-2.2**
JTS	**JuntasAbangare**	**9.38**	**126**	P		**Pn**	**22 42 55.1**	**+0.8**
	4.2nm,0.3s,baz=315,slow=18,SNR=12							
JTS				S		**S**	**22 44 37.2**	**-2.4**
	3.5nm,0.3s,baz=285,slow=20,SNR=6.2							
732A	**Laxson Ranch,**	**14.39**	**333**	⇑P		**P**	**22 43 59.9**	**+1.4**
	baz=14,SNR=5.6							
534A	**Blanco**	**14.99**	**340**	⇑P		**P**	**22 44 06.0**	**+0.8**
	baz=15							
533A	**Kerrville**	**15.22**	**338**	⇑P		**P**	**22 44 09.2**	**+1.5**
	baz=15,SNR=11							
631A	**Perdido Creek**	**15.25**	**333**	⇑P		**P**	**22 44 09.0**	**+1.0**
	baz=15,SNR=6.1							
532A	**Rocksprings**	**15.60**	**336**	⇓P		**Pn**	**22 44 13.5**	**+1.4**
	baz=16							
434A	**Burnet**	**15.66**	**342**	⇑P		**Pn**	**22 44 13.4**	**+0.6**
	baz=16							
433A	**Art**	**15.86**	**339**	⇓P		**Pn**	**22 44 16.5**	**+1.3**
	baz=16							
335A	**Moody**	**15.87**	**345**	⇓P		**Pn**	**22 44 16.3**	**+1.0**
	baz=16							
JCT	**Junction City**	**15.87**	**337**	⇑P		**Pn**	**22 44 16.7**	**+1.3**
	baz=16							
531A	**Rocksprings**	**15.89**	**334**	⇑P		**Pn**	**22 44 17.2**	**+1.6**
	baz=16							
DWPF	**Disney**	**15.93**	**39**	Pn		**Pn**	**22 44 18.8**	**+2.7**
334A	**Lometa**	**16.13**	**343**	⇓P		**Pn**	**22 44 19.2**	**+0.7**
	baz=16							
530A	**J-C Ranch, Com**	**16.22**	**332**	⇓P		**Pn**	**22 44 21.3**	**+1.8**
	baz=16							
432A	**Menard**	**16.22**	**337**	⇑P		**Pn**	**22 44 21.1**	**+1.5**
	baz=16,SNR=11							
333A	**Richland Sprin**	**16.35**	**340**	⇑P		**Pn**	**22 44 21.3**	**+0.2**
	baz=16							
431A	**Sonora**	**16.37**	**335**	⇑P		**Pn**	**22 44 22.3**	**+1.0**
	baz=16,SNR=6.3							
628A	**Black Gap, Mar**	**16.43**	**327**	⇑P		**Pn**	**22 44 24.2**	**+2.1**
	baz=16,SNR=6.7							
WHTX	**Lake Whitney**	**16.55**	**346**	⇓P		**Pn**	**22 44 23.4**	**0.0**
	baz=16							
529A	**Stev Forest Ra**	**16.61**	**330**	⇓P		**Pn**	**22 44 25.4**	**+1.1**
	baz=16							
332A	**Millersview**	**16.66**	**338**	⇑P		**Pn**	**22 44 25.9**	**+1.0**
	baz=17,SNR=8.7							
627A	**Terlingua Ranc**	**16.67**	**325**	⇓P		**Pn**	**22 44 27.1**	**+2.0**
	baz=17,SNR=19							
430A	**Baggett Ranch,**	**16.72**	**333**	⇑P		**Pn**	**22 44 26.4**	**+0.8**
	baz=17							
TXAR	**Lajitas Array**	**16.73**	**325**	P		**Pn**	**22 44 27.0**	**+1.3**
	0.5nm,0.3s,baz=150,slow=10,SNR=13							
331A	**San Angelo**	**16.85**	**336**	⇓P		**Pn**	**22 44 26.9**	**-0.1**
	baz=17,SNR=12							
429A	**Davenport Ranc**	**16.87**	**332**	⇑P		**Pn**	**22 44 28.2**	**+0.8**
	baz=17,SNR=7.7							
528A	**Cox Ranch, San**	**16.92**	**328**	⇑P		**Pn**	**22 44 29.1**	**+1.1**
	baz=17							
135A	**Vickery Place,**	**17.08**	**346**	⇑P		**Pn**	**22 44 29.2**	**-0.5**
	baz=17							
232A	**Coleman**	**17.09**	**339**	⇓P		**P**	**22 44 28.9**	**+0.7**
	baz=17,SNR=6.9							
626A	**Big Bend Ranch**	**17.16**	**324**	⇑P		**Pn**	**22 44 31.5**	**+0.6**
	baz=17							
330A	**Mertzon**	**17.23**	**335**	⇑P		**Pn**	**22 44 31.0**	**-0.6**
	baz=17							
134A	**White-Moore Ra**	**17.26**	**344**	⇑P		**P**	**22 44 30.6**	**+0.5**
	baz=17							
527A	**Woodward Ranch**	**17.34**	**326**	⇑P		**Pn**	**22 44 33.8**	**+0.9**
	baz=17,SNR=7.1							
231A	**Bronte**	**17.37**	**338**	⇓P		**P**	**22 44 32.1**	**+0.8**
	baz=17,SNR=6.0							
TIGA	**Tifton**	**17.49**	**27**	⇑P		**Pn**	**22 44 33.6**	**-0.9**
	baz=18							
133A	**Hamilton Ranch**	**17.52**	**342**	⇑P		**P**	**22 44 33.9**	**+0.9**
	baz=18,SNR=6.7							
526A	**Mary Lane Ranc**	**17.53**	**325**	⇑P		**Pn**	**22 44 35.4**	**+0.2**
	baz=17							
230A	**Sterling City**	**17.63**	**336**	⇓P		**P**	**22 44 35.1**	**+0.9**
	baz=18							
329A	**Wagon Wheel Ra**	**17.65**	**333**	⇓P		**Pn**	**22 44 35.6**	**-0.9**
	baz=18							
LRAL	**Lakeview Retre**	**17.75**	**16**	*e*Pn		**Pn**	**22 44 38.6**	**+1.0**
	21nm,0.8s							
ABTX	**Abilene, Hawle**	**17.76**	**340**	*e*P		**P**	**22 44 33.4**	**-2.2**
	22nm,0.6s							
ABTX	**Abilene, Hawle**	**17.76**	**340**	⇑P		**P**	**22 44 36.6**	**+1.0**
	baz=18,SNR=7.8							
427A	**Hayter Ranch,**	**17.79**	**328**	⇑P		**P**	**22 44 37.0**	**+1.0**
	baz=18							
Z35A	**Perchaven, San**	**17.79**	**347**	⇓P		**P**	**22 44 36.4**	**+0.5**
	baz=18							
328A	**Wristen Ranch,**	**17.93**	**331**	⇓P		**Pn**	**22 44 39.0**	**-0.8**
	baz=18,SNR=9.3							
426A	**McDonald Obser**	**17.97**	**327**	⇓P		**Pn**	**22 44 40.6**	**+0.2**
	baz=18,SNR=6.5							
Z34A	**Collier Ranch,**	**17.98**	**346**	⇑P		**P**	**22 44 37.7**	**-0.2**
	baz=18							
131A	**Roby**	**18.06**	**339**	⇓P		**P**	**22 44 39.8**	**+0.9**
	baz=18,SNR=22							
Z33A	**Whitaker Ranch**	**18.12**	**343**	⇑P		**Pn**	**22 44 40.6**	**-1.2**
	baz=18,SNR=8.7							
130A	**Snyder**	**18.20**	**337**	⇓P		**P**	**22 44 41.3**	**+0.9**
	baz=18,SNR=10							
Z32A	**Haskell**	**18.34**	**342**	⇓P		**P**	**22 44 42.5**	**+0.6**
	baz=18,SNR=21							
228A	**UT Block 9, Go**	**18.45**	**332**	⇑P		**P**	**22 44 44.4**	**+1.2**
	baz=18,SNR=11							
326A	**Caldwell Ranch**	**18.46**	**328**	⇓P		**Pn**	**22 44 45.3**	**-0.6**
	baz=18,SNR=21							
Y34A	**Reagan Ranch,**	**18.50**	**347**	⇑P		**P**	**22 44 43.5**	**-0.1**
	baz=18,SNR=6.9							
MIAR	**Mount Ida**	**18.53**	**358**	*e*P		**P**	**22 44 43.4**	**-0.4**
	15nm,1.0s							
Z31A	**Sharp Cattle R**	**18.57**	**340**	⇓P		**P**	**22 44 44.7**	**+0.4**
	baz=18,SNR=15							
425A	**Indio Mountain**	**18.58**	**325**	⇓P		**Pn**	**22 44 47.0**	**-0.5**
	baz=18,SNR=5.8							
129A	**Stewart Farms,**	**18.59**	**335**	⇑P		**P**	**22 44 45.5**	**+0.9**
	baz=18,SNR=10							
227A	**Bennet, Jal**	**18.69**	**331**	⇑P		**P**	**22 44 46.8**	**+1.1**
	baz=19							
Y33A	**Hilltop Ranch,**	**18.76**	**344**	⇑P		**P**	**22 44 46.8**	**+0.4**
	baz=19,SNR=7.9							
128A	**Castleberry Fa**	**18.84**	**333**	⇓P		**P**	**22 44 48.2**	**+0.9**
	baz=19,SNR=14							
Z30A	**Sanderson Ranc**	**18.88**	**338**	⇓P		**P**	**22 44 47.8**	**+0.1**
	baz=19,SNR=14							
Y32A	**R-V Farms, Ver**	**18.98**	**342**	⇑P		**P**	**22 44 49.1**	**+0.3**
	baz=19,SNR=7.1							
325A	**Bean Ranch, Si**	**19.02**	**326**	⇑P		**P**	**22 44 51.0**	**+1.6**
	baz=19,SNR=6.2							
Z29A	**Hungry Hill Ra**	**19.07**	**336**	⇑P		**P**	**22 44 50.0**	**+0.1**
	baz=19,SNR=23							
226B	**Tecolote Peak,**	**19.16**	**329**	⇑P		**Pn**	**22 44 52.7**	**-1.6**
	baz=19,SNR=15							
Y31A	**Rekieta Farm,**	**19.20**	**340**	⇑P		**P**	**22 44 51.6**	**+0.5**
	baz=19,SNR=16							
X33A	**Lawton**	**19.24**	**345**	⇑P		**P**	**22 44 52.0**	**+0.5**
	baz=19							
127A	**Arkansas Junct**	**19.27**	**332**	⇑P		**P**	**22 44 53.3**	**+1.3**
	baz=19							
X32A	**Elmer**	**19.33**	**343**	⇑P		**P**	**22 44 52.8**	**+0.3**
	baz=19							
Y30A	**Stafford Cattl**	**19.33**	**339**	⇓P		**P**	**22 44 53.1**	**+0.5**
	baz=19							
324A	**Moseley Ranch,**	**19.35**	**325**	⇑P		**P**	**22 44 54.0**	**+1.0**
	baz=19,SNR=8.4							
Z28A	**Tucker Farm, M**	**19.37**	**335**	⇓P		**P**	**22 44 53.8**	**+0.8**
	baz=19							
WMOK	**Wichita Mounta**	**19.49**	**345**	*e*P		**P**	**22 44 52.7**	**-1.6**
	24nm,1.4s							
225A	**Deer Hill, Car**	**19.52**	**328**	⇓P		**P**	**22 44 56.4**	**+1.6**
	baz=19,SNR=14							
126A	**Clayton Basin,**	**19.55**	**330**	⇓P		**P**	**22 44 56.0**	**+1.0**
	baz=20							
Y29A	**Porterfield Fa**	**19.59**	**337**	⇑P		**P**	**22 44 55.9**	**+0.5**
	baz=20							
X31A	**McDonald Ranch**	**19.73**	**342**	⇓P		**P**	**22 44 56.6**	**-0.2**
	baz=20,SNR=12							
W34A	**Bridge Creek,**	**19.74**	**347**	⇑P		**P**	**22 44 56.7**	**-0.1**
	baz=20,SNR=7.4							
Z27A	**Tatum**	**19.75**	**333**	⇑P		**P**	**22 44 57.2**	**+0.2**
	baz=20,SNR=14							
W33A	**Caddo, Fort Co**	**19.81**	**346**	⇑P		**P**	**22 44 58.0**	**+0.4**
	baz=20,SNR=7.2							
X30A	**Coker Ranch, T**	**19.84**	**340**	⇑P		**P**	**22 44 58.3**	**+0.3**
	baz=20							
Y28A	**McKinney Farm,**	**19.86**	**336**	⇓P		**P**	**22 44 58.6**	**+0.3**
	baz=20,SNR=17							
224A	**Cornudas Mount**	**19.86**	**326**	⇓P		**P**	**22 44 59.6**	**+1.3**
	baz=20,SNR=18							
125A	**Gardner Draw,**	**19.88**	**329**	⇑P		**P**	**22 44 59.9**	**+1.4**
	baz=20,SNR=8.3							
W32A	**Sentinel**	**19.98**	**344**	⇑P		**P**	**22 44 59.3**	**-0.2**
	baz=20							
Z26A	**Caprock**	**20.05**	**331**	⇓P		**P**	**22 45 01.2**	**+0.8**
	baz=20,SNR=8.0							
TUL1	**Tulsa**	**20.07**	**353**	⇓P		**P**	**22 45 01.0**	**+0.6**
	baz=20							
SWET	**Sewanee**	**20.10**	**16**	*e*P		Pn	**22 45 03.5**	**-2.1**
	10.0nm,0.7s							
MSTX	**Muleshoe**	**20.12**	**335**	⇑P		**P**	**22 45 01.2**	**+0.1**
	baz=20							
X29A	**Tulia**	**20.13**	**338**	⇓P		**P**	**22 45 00.9**	**-0.2**
	baz=20,SNR=5.8							
Y27A	**Causey**	**20.21**	**334**	⇑P		**P**	**22 45 02.2**	**+0.1**
	baz=20							
W31A	**Holland Ranch,**	**20.23**	**342**	⇓P		**P**	**22 45 02.2**	**0.0**
	baz=20							
V34A	**Guthrie**	**20.27**	**349**	⇓P		**P**	**22 45 01.6**	**-0.9**
	baz=20,SNR=6.4							
124A	**Stringfield Ra**	**20.31**	**327**	⇑P		**P**	**22 45 04.9**	**+1.6**
	baz=20,SNR=13							
Z25A	**Roswell**	**20.41**	**330**	⇑P		**P**	**22 45 04.8**	**+0.7**
	baz=20							
V33A	**Lossen Ranch,**	**20.41**	**347**	⇑P		**P**	**22 45 04.2**	**+0.2**
	baz=20,SNR=5.8							
V32A	**Arapaho**	**20.49**	**345**	⇓P		**P**	**22 45 04.2**	**-0.7**
	baz=20,SNR=5.5							
AMTX	**Amarillo**	**20.51**	**338**	*e*P		**P**	**22 45 05.2**	**0.0**
AMTX	**Amarillo**	**20.51**	**338**	⇓P		**P**	**22 45 05.3**	**0.0**
	baz=20							
Y26A	**Elida**	**20.53**	**333**	⇓P		**P**	**22 45 06.0**	**+0.5**
	baz=20							
WVT	**Waverly**	**20.54**	**11**	*e*P		Pn	**22 45 10.4**	**-0.6**
W29A	**Amraillo**	**20.72**	**339**	⇓P		**P**	**22 45 07.3**	**-0.1**
	baz=21,SNR=9.2							
V31A	**Spring Creek L**	**20.75**	**343**	⇑P		**P**	**22 45 08.6**	**+0.9**
	baz=21,SNR=5.9					

baz=21,SNR=8.2
220A Playas Peak, P 21.46 321 ⇓P P 22 45 17.3 +2.1
baz=21
121A Cookes Peak, D 21.47 323 *e*P P 22 45 13.6 -1.7
121A Cookes Peak, D 21.47 323 ⇑P P 22 45 17.0 +1.7
baz=21
V28A Channing 21.49 338 ⇓P P 22 45 15.3 -0.1
baz=21
W26A Owens Ranch, T 21.50 334 ⇑P P 22 45 15.2 -0.3
baz=21
Z22A Elephant Butte 21.54 326 ⇓P P 22 45 17.2 +1.2
baz=22
Y23A Lovelace Mesa, 21.59 328 ⇓P P 22 45 17.7 +1.1
baz=22,SNR=8.1
T33A Patterson Ranc 21.62 348 ⇓P P 22 45 15.2 -1.4
baz=22
KMSC Kings Mountain 21.63 26 ⇓P P 22 45 16.6 -0.1
baz=22
U30A WK&E Inc. Balk 21.69 342 ⇑P P 22 45 18.0 +0.6
baz=22,SNR=14
U29A Oasis Ranch, S 21.80 341 ⇓P P 22 45 18.9 +0.4
baz=22
T32A Huddler Ranch, 21.86 346 ⇑P P 22 45 18.1 -0.9
baz=22,SNR=7.5
W25A X Bar L Ranch, 21.90 333 ⇑P P 22 45 20.1 +0.6
baz=22,SNR=11
T31A Randall Ranch, 21.96 345 ⇓P P 22 45 19.2 -0.7
baz=22
U28A Mallet 22.05 339 ⇑P P 22 45 20.8 -0.1
baz=22
BNM Barren Site 22.06 328 *e*P P 22 45 21.2 +0.1
Y22A Socorro 22.07 327 ⇑P P 22 45 22.6 +1.4
baz=22
V26A Tequesquite Ra 22.12 335 ⇑P P 22 45 22.2 +0.6
baz=22,SNR=8.7
T30A Plains 22.14 343 ⇑P P 22 45 21.9 +0.3
baz=22
X23A Hourglass Bar 22.18 329 ⇓P P 22 45 23.7 +1.5
baz=22
U27A Thompson Grove 22.30 338 ⇓P P 22 45 23.5 +0.3
baz=22,SNR=12
W24A Lazy 6 Ranch, 22.32 332 ⇓P P 22 45 24.8 +1.2
baz=22,SNR=10
T29A Hugoton 22.46 342 ⇓P P 22 45 25.0 +0.3
baz=22,SNR=8.6
V25A Rancho No Teng 22.50 334 ⇑P P 22 45 26.2 +1.1
baz=22
ANMO Albuquerque 22.60 329 P P 22 45 27.5 +1.4
2.7nm,0.7s,baz=157,slow=12,SNR=5.5
SDV Santo Domingo 22.61 105 P P 22 45 30.0 +3.7
U26A Atchley Ranch, 22.62 336 ⇓P P 22 45 27.0 +0.7
baz=23,SNR=14
W23A Werner Place, 22.62 330 ⇑P P 22 45 27.6 +1.3
baz=23
S30A Montezuma 22.68 344 ⇓P P 22 45 26.9 +0.3
baz=23,SNR=5.9
V24A Rampart Ranch, 22.69 333 ⇑P P 22 45 28.0 +1.2
baz=23
R33A Olander Ranch, 22.75 349 ⇑P P 22 45 27.2 0.0
baz=23
T27A Campo 22.84 339 ⇓P P 22 45 28.3 +0.1
baz=23
S29A Ulysses 22.84 342 ⇑P P 22 45 28.9 +0.8
baz=23,SNR=19
U25A Circle Dot Ran 22.89 335 ⇓P P 22 45 29.9 +1.2
baz=23,SNR=8.0
R32A Long Quarter, 23.00 348 ⇓P P 22 45 29.9 +0.4
baz=23
S28A Manter 23.05 341 ⇓P P 22 45 30.2 +0.3
baz=23
R31A Burdett 23.05 346 ⇑P P 22 45 30.0 0.0
baz=23
V23A Ortiz Mt. (NFS 23.12 331 ⇓P P 22 45 33.2 +2.5
baz=23
R30A Dighton 23.23 345 ⇓P P 22 45 32.1 +0.5
baz=23,SNR=6.7
T26A Comanche Natio 23.25 337 ⇑P P 22 45 32.7 +0.8
baz=23
Q33A Connelly Farm, 23.40 350 ⇓P P 22 45 33.3 +0.3
baz=23
Q32A Meitler Ranch, 23.52 348 ⇑P P 22 45 34.4 +0.2
baz=24,SNR=10
T25A Trinidad 23.53 336 ⇑P P 22 45 35.9 +1.4
baz=24,SNR=6.2
R29A Marienthal 23.59 343 ⇑P P 22 45 35.1 +0.3
baz=24,SNR=12
V22A San Miguel Ran 23.60 330 ⇑P P 22 45 36.8 +1.7
baz=24
U23A El Rito 23.60 332 ⇓P P 22 45 36.9 +1.8
baz=24
S26A Kim 23.60 338 ⇓P P 22 45 35.8 +0.7
baz=24
Q31A Ellis 23.71 347 ⇓P P 22 45 36.2 +0.3
baz=24
R28A Tribune 23.71 342 ⇑P P 22 45 35.9 -0.1
baz=24,SNR=12
T24B San Luis 23.86 334 ⇑P P 22 45 38.7 +1.2
baz=24
Q30A Quinter 23.88 345 ⇑P P 22 45 38.9 +1.5
baz=24,SNR=18
U22A Llaves 23.95 331 ⇓P P 22 45 40.2 +1.9
baz=24
R27A Eads 23.97 340 ⇑P P 22 45 39.0 +0.7
baz=24
Q29A Oakley 23.99 344 ⇓P P 22 45 39.8 +1.4
baz=24,SNR=8.7
S25A Robets Cordova 24.00 337 ⇑P P 22 45 40.1 +1.4
baz=24
P31A Stockton 24.20 347 ⇓P P 22 45 41.7 +1.3
baz=24,SNR=6.4
R26A Arlington 24.20 339 ⇑P P 22 45 42.1 +1.6
baz=24
S24A Houchin Ranch, 24.29 335 ⇑P P 22 45 42.7 +1.2
baz=24
R25A Fountain Ranch 24.37 337 ⇑P P 22 45 42.8 +0.8
baz=24
Q28A Sharon Springs 24.38 342 ⇑P P 22 45 44.0 +1.9
baz=24,SNR=6.9
P30A Selden 24.42 346 ⇑P P 22 45 43.9 +1.5
baz=24,SNR=10
KSCO Kaye Shedlock' 24.58 341 *e*P P 22 45 43.4 -0.5
15nm,0.7s
KSCO Kaye Shedlock' 24.58 341 ⇓P P 22 45 45.2 +1.4
baz=25
P29A Atwood 24.64 345 ⇓P P 22 45 45.0 +0.6
baz=25
O32A Brockman Farm, 24.70 350 ⇑P P 22 45 45.9 +1.1
baz=25
SFIN Scholer Farm 24.81 10 ⇓P P 22 45 49.0 +3.3
baz=25
O30A MW Ranch, Wils 24.98 346 ⇑P P 22 45 48.6 +1.2
baz=25
S22A 4UR Ranch, Cre 25.06 333 ⇓P P 22 45 49.7 +1.3
baz=25
P26A Davis Ranch, A 25.31 340 ⇓P P 22 45 51.1 +0.6
baz=25
P23A Jefferson 26.03 336 ⇓P P 22 45 58.1 +0.9
baz=26
SPMN St. Paul 29.18 360 ⇓P P 22 46 24.8 +0.1
baz=29
I25A Rochford 29.51 344 ⇓P P 22 46 28.0 +0.1
baz=30
MPMC Manual Prospec 29.84 317 ⇑P P 22 46 33.0 +2.2
baz=30
J21A Lysite 30.07 338 ⇓P P 22 46 34.1 +1.3
baz=30
F29A Eureka 30.39 350 ⇑P P 22 46 35.8 +0.5
baz=30
PDAR Pinedale Array 30.39 335 P P 22 46 37.1 +1.4
0.6nm,0.7s,baz=136,slow=9.5,SNR=1.9
H24A Dirks Ranch, A 30.41 343 ⇑P P 22 46 36.1 +0.5
baz=30
G22A Birney 31.35 341 ⇓P P 22 46 42.6 -1.3
baz=31
ELK Elko 31.52 326 P P 22 46 47.5 +1.8
1.2nm,0.6s,baz=225,slow=2.2,SNR=6.0
E25A Miller Ranch, 31.75 346 ⇑P P 22 46 47.4 +0.1
baz=32
NVAR Mina Array Bea 31.77 320 P P 22 46 50.5 +2.7
3.0nm,0.6s,baz=132,slow=8.1,SNR=21
H19A Powell 31.78 338 ⇓P P 22 46 49.0 +1.3
baz=32
D28A Regan 31.83 350 ⇑P P 22 46 47.4 -0.6
baz=32
D27A Center 31.92 349 ⇓P P 22 46 48.5 -0.3
baz=32
C30A Mose, Pekin 32.02 353 ⇓P P 22 46 48.1 -1.5
baz=32
E24A Baker 32.02 345 ⇑P P 22 46 49.8 +0.1
baz=32
D26A Manning 32.03 347 ⇓P P 22 46 49.4 -0.4
baz=32
H18A Shoshone NF, C 32.04 337 ⇓P P 22 46 50.4 +0.3
baz=32
D25A Fairfield 32.34 346 ⇓P P 22 46 52.2 -0.3
baz=32
B30A Myrvik Farm, E 32.74 353 ⇓P P 22 46 54.5 -1.3
baz=33
F19A Roth Farm, Mol 32.78 339 ⇓P P 22 46 56.4 0.0
baz=33
B29A Wagenman Farm, 32.88 352 ⇓P P 22 46 56.6 -0.5
baz=33
B28A Dugan Ranch, T 33.02 351 ⇑P P 22 46 57.6 -0.6
baz=33
D22A Cohagen 33.07 343 ⇑P P 22 46 58.6 -0.2
baz=33
HLID Hailey 33.17 330 ⇓P P 22 47 00.8 +0.9
baz=33
A30A Hoffart Farm, 33.22 353 ⇑P P 22 46 59.0 -0.9
baz=33
E19A Rath Farm, Rou 33.26 339 ⇓P P 22 47 00.6 +0.1
baz=33
A29A Manning Farm, 33.31 352 ⇓P P 22 47 00.1 -0.7
baz=33
B25A Knox Farm, Ray 33.36 347 ⇑P P 22 47 00.3 -1.0
baz=33
C23A Lambert 33.40 345 ⇑P P 22 47 01.6 0.0
baz=33
C22A Vida 33.53 344 ⇑P P 22 47 03.2 +0.4
baz=34
D20A Manuel Ranch, 33.60 341 ⇑P P 22 47 03.5 +0.1
baz=34
A26A Wade Farm, Ken 33.74 349 ⇓P P 22 47 04.1 -0.4
baz=34
D19A Cripps Ranch, 33.90 340 ⇓P P 22 47 06.0 0.0
baz=34
B23A Brockton 33.96 345 ⇓P P 22 47 06.6 +0.1
baz=34
ULM Lac du Bonnet 34.30 356 P P 22 47 06.5 -2.8
2.8nm,0.8s,baz=197,slow=7.6,SNR=3.8
B20A Solberg Farm, 34.76 342 ⇑P P 22 47 14.2 +0.8
baz=35
EGMT Eagleton 34.94 340 ⇓P P 22 47 15.8 +0.9
baz=35
A20A Cobblestone Ra 35.13 342 ⇓P P 22 47 17.1 +0.6
baz=35
G05D Wamic, OR 37.84 326 ⇓P P 22 47 41.0 +1.6
baz=38
I03D Drain, OR 38.00 323 ⇑P P 22 47 42.2 +1.5
baz=38
SAML Samuel 38.26 128 *e*P P 22 47 40.7 -2.5
1.7nm,0.6s
LPAZ La Paz 40.15 142 *e*P P 22 48 00.1 +0.6
4.0nm,0.6s
LPAZ La Paz 40.15 142 P P 22 47 59.9 +0.4
3.9nm,0.5s,baz=335,slow=4.2,SNR=18
SIV San Ignacio 44.49 134 P P 22 48 33.0 -0.8
2.0nm,0.5s,baz=308,slow=7.9,SNR=11
LVC Limon Verde 44.83 148 P P 22 48 38.6 +1.9
YKA Yellowknife Ar 48.99 347 P P 22 49 07.2 -0.7
5.4nm,0.6s,baz=149,slow=7.3,SNR=51
BDFB Brasilia 54.11 123 P P 22 49 44.3 -2.4
1.2nm,0.4s,baz=309,slow=6.5,SNR=4.1
INK Inuvik 58.39 343 P P 22 50 15.8 -0.2
2.5nm,0.6s,baz=123,slow=7.7,SNR=10
PLCA Paso Flores 60.02 161 *e*P P 22 50 28.1 +0.4
ILAR Eielson Array 60.80 337 P P 22 50 32.7 +0.1
1.3nm,0.8s,baz=112,slow=5.5,SNR=14
WRA Warramunga Arr 135.23 258 PKP PKPdf 22 59 39.1 +0.8
0.3nm,0.7s,baz=86,slow=3.0,SNR=6.5

*ISCJB **07** 22:45:20.1±1.6, 6.0°S±0.5°×151.8°E±0.5°, h36km, mb3.7/4, Error ellipse: s-maj=104.6km s-min=14.2km az=137.8*
*IDC **07** 22:45:26.1±5.7, 5.73°S×151.33°E, h68km±47km, mb3.5/4, mb1 3.8/5, mb1mx3.4/19, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=96.9km s-min=31.3km az=131.0*
ISC 07 22:45:21.3±2.0, 6.1°S±0.7°×151.9°E±0.6, h36km, n6, σ1§19/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.76**	**235**	P		**Pn**		**22 46 45.5**	**+1.2**
	2.4nm,0.3s,baz=36,slow=7.5,SNR=6.9								
PMG				S		**Sn**		**22 47 49.6**	**+0.3**
	0.7nm,0.3s,baz=156,slow=20,SNR=3.0								
WRA	**Warramunga Arr**	**21.95**	**229**	P		**P**		**22 50 10.6**	**-1.5**
	1.1nm,0.7s,baz=54,slow=10,SNR=6.9								
ASAR	**Alice Springs**	**24.62**	**223**	P		**P**		**22 50 38.8**	**+0.3**
	1.8nm,0.7s,baz=51,slow=9.8,SNR=14								
FITZ	**Fitzroy Crossi**	**28.29**	**243**	P		**P**		**22 51 10.6**	**-1.1**
	1.9nm,0.7s,baz=80,slow=8.7,SNR=8.5								
ILAR	**Eielson Array**	**83.67**	**22**	P		**P**		**22 57 46.6**	**+0.7**
	0.8nm,1.1s,baz=247,slow=6.1,SNR=3.9								
TORD	**Torodi Ar. Bea**	**149.84**	**286**	PKPbc		**PKPbc**		**23 05 08.2**	**-0.5**
	0.4nm,0.8s,baz=86,slow=2.0,SNR=3.9								

*ISCJB **07** 22:45:40.8±1.4, 17.49°N±0.05°×123.0°E±0.1, h45km±15km, mb3.4/5, Error ellipse: s-maj=18.0km s-min=7.4km az=171.3*
*IDC **07** 22:45:42.9±1.2, 17.45°N×123.15°E, h50km±10km, mb3.2/6, mb1 3.4/6, mb1mx3.2/26, mbtmp3.5/6, ML4.7/1, Error ellipse: s-maj=28.1km s-min=11.3km az=97.0*
*MAN **07** 22:45:42, 17.48°N×122.77°E, h28km, mb4.3, ML3.1, MS2.9*
ISC 07 22:45:43.2±1.0, 17.51°N±0.05°×122.91°E±0.10, h49km±10km, n22, σ1§54/23, mb3.5/5, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.05**	**281**	⇓*i* P		**Pn**		**22 46 00.0**	**-1.6**
CVP				*i* S		**Sn**		**22 46 13.7**	**-1.6**
SGCP	**Mt. Cagua**	**1.10**	**312**	*e*P		**Pn**		**22 46 00.4**	**-1.9**
SGCP				*e*S		Sn		22 46 10.2	-6.1
CAUP	**Cauayan**	**1.18**	**242**	*e*P		**Pn**		**22 46 02.9**	**-0.5**
APYP	**Conner**	**1.62**	**283**	*e*P		**Pn**		**22 46 08.4**	**-1.0**
ABRA	**Dolores**	**2.10**	**274**	*e*P		**Pn**		**22 46 15.4**	**-0.5**
BALP	**Baler**	**2.17**	**216**	*e*P		**Pn**		**22 46 15.5**	**-1.4**
PCPH	**Palayan**	**2.60**	**222**	⇓*e*P		**Pn**		**22 46 22.4**	**-0.5**
PCPH				*i* S		**Sn**		**22 46 51.7**	**-1.5**
BOLP	**Bolinao**	**3.08**	**249**	*e*P		**Pn**		**22 46 30.2**	**+0.8**
GQP	**Guinayangan**	**3.61**	**187**	⇓*e*P		**Pn**		**22 46 35.8**	**-0.9**
GQP				*e*S		**Sn**		**22 47 15.5**	**-2.6**
TGY	**Tagaytay City**	**3.88**	**210**	P		**Pn**		**22 46 42.4**	**+1.9**
	56nm,0.3s,baz=72,slow=12,SNR=4.0								
TGY				S		**Sn**		**22 47 26.9**	**+2.0**
	31nm,0.3s,baz=123,slow=17,SNR=3.1								
KSRS	**Korea Array**	**20.35**	**12**	P		**P**		**22 50 15.7**	**+0.1**
	1.6nm,0.7s,baz=188,slow=10,SNR=4.8								
SONM	**Songino Array**	**33.14**	**339**	P		**P**		**22 52 17.0**	**+2.1**
	0.2nm,0.5s,baz=147,slow=8.6,SNR=2.8								
SONM				pP		**pP**		**22 52 29.0**	**+1.3**
	0.2nm,0.3s,baz=157,slow=7.8,SNR=1.7								
WRA	**Warramunga Arr**	**38.88**	**163**	P		**P**		**22 53 02.0**	**-2.2**
	0.8nm,0.8s,baz=343,slow=9.1,SNR=4.7								
H11S3	**WAKE ISLAND Hy**	**41.57**	**82**	T		T		23 38 29.0	
	baz=278,slow=73,SNR=58								
H11S1	**WAKE ISLAND Hy**	**41.58**	**82**	T		T		23 38 43.4	
	baz=278,slow=73,SNR=36								
H11S2	**WAKE ISLAND Hy**	**41.59**	**82**	T		T		23 38 31.6	
	baz=278,slow=73,SNR=34								
H11N1	**WAKE ISLAND Hy**	**41.66**	**80**	T		T		23 38 39.7	
	baz=277,slow=75,SNR=16								
H11N2	**WAKE ISLAND Hy**	**41.66**	**80**	T		T		23 38 40.0	
	baz=277,slow=75,SNR=13								
H11N3	**WAKE ISLAND Hy**	**41.67**	**80**	T		T		23 38 37.2	
	baz=277,slow=75,SNR=10								
ASAR	**Alice Springs**	**42.31**	**165**	P		**P**		**22 53 31.1**	**-1.3**
	0.6nm,0.6s,baz=358,slow=8.0,SNR=9.5								
MKAR	**Makanchi Array**	**44.36**	**320**	P		**P**		**22 53 49.1**	**+0.3**
	0.3nm,0.7s,baz=119,slow=7.7,SNR=3.8								
MKAR				pP		**pP**		**22 54 02.4**	**+0.5**
	0.5nm,0.8s,baz=111,slow=7.9,SNR=3.3								
KURBB	**Kurchatov Arra**	**48.32**	**323**	P		**P**		**22 54 20.2**	**+0.4**
	0.2nm,0.2s,baz=122,slow=7.1,SNR=4.2								
KURBB				pP		**pP**		**22 54 34.2**	**+1.2**
	0.3nm,0.6s,baz=118,slow=8.1,SNR=3.8								

IGQ 07 22:46:11.2, 2.71°S×78.10W, h13km±178km, Mb4.0, Ms3.8, 2C-7D, Error ellipse: s-maj=3.5km s-min=1.5km az=2.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.46**	**348**	⇓S			**Sb**	**22 46 28.9**	**+0.6**
MACE	**Macas**	**0.46**	**348**	⇓P			**Pb**	**22 46 21.1**	**-0.3**
RIOE	**Riobamba**	**1.09**	**331**	S			**Sg**	**22 46 47.2**	**+0.1**
RIOE	**Riobamba**	**1.09**	**331**	P			**Pb**	**22 46 31.6**	**-0.7**
PAT1	**Patacocha**	**1.24**	**344**	S			**Sb**	**22 46 51.3**	**-0.1**
PAT1	**Patacocha**	**1.24**	**344**	P			**Pn**	**22 46 34.2**	**-0.6**
BPAT	**Tungurahua Vol**	**1.24**	**344**	⇓S			**Sg**	**22 46 52.3**	**-0.1**
BPAT	**Tungurahua Vol**	**1.24**	**344**	⇓P			**Pn**	**22 46 34.3**	**-0.5**
ARRY	**Arrayan**	**1.25**	**343**	P			**Pn**	**22 46 33.9**	**-0.8**
ARRY	**Arrayan**	**1.25**	**343**	S			**Sb**	**22 46 51.1**	**-0.2**
BMAS	**Trigal station**	**1.25**	**342**	⇓P			**Pn**	**22 46 34.4**	**-0.5**
RETU	**Refugio**	**1.29**	**345**	P			**Pn**	**22 46 35.6**	**0.0**
BULB	**Ulba Tungurahu**	**1.30**	**346**	S			**Sn**	**22 46 53.5**	**+0.4**
BULB	**Ulba Tungurahu**	**1.30**	**346**	P			**Pn**	**22 46 35.2**	**-0.3**
BRUN	**Tungurahua Vol**	**1.32**	**346**	P			**Pn**	**22 46 35.8**	**+0.1**
BRUN	**Tungurahua Vol**	**1.32**	**346**	S			**Sg**	**22 46 54.4**	**0.0**
IGUA	**Igualata**	**1.32**	**336**	P			**Pb**	**22 46 36.9**	**+0.3**
RUN5	**Runtun**	**1.32**	**346**	P			**Pn**	**22 46 35.9**	**+0.1**
JUI6	**Juive**	**1.33**	**344**	P			**Pn**	**22 46 35.9**	**+0.1**
PISA	**Pisayambo**	**1.66**	**350**	P			**Pb**	**22 46 42.0**	**-0.3**
PISA	**Pisayambo**	**1.66**	**350**	S			**Sg**	**22 47 05.4**	**-0.5**
BMOR	**Cotopaxi Volca**	**2.00**	**350**	S			**Sg**	**22 47 15.9**	**-0.8**
BMOR	**Cotopaxi Volca**	**2.00**	**350**	P			**Pb**	**22 46 47.8**	**-0.3**
MOV1	**Cotopaxi Vol s**	**2.01**	**350**	P			**Pb**	**22 46 48.4**	**0.0**
BTAM	**Cotopaxi Volca**	**2.04**	**352**	S			**Sg**	**22 47 16.5**	**-1.6**
BTAM	**Cotopaxi Volca**	**2.04**	**352**	P			**Pb**	**22 46 48.3**	**-0.6**
COV1	**Cotopaxi Volc**	**2.05**	**353**	S			**Sg**	**22 47 18.5**	**+0.1**
COV1	**Cotopaxi Volc**	**2.05**	**353**	P			**Pg**	**22 46 50.5**	**-0.8**
BREF	**Cotopaxi Volca**	**2.05**	**350**	⇓S			**Sg**	**22 47 18.8**	**+0.1**
BREF	**Cotopaxi Volca**	**2.05**	**350**	⇓P			**Pb**	**22 46 49.1**	**0.0**
CAMI	**Rancho Maria**	**2.06**	**349**	P			**Pb**	**22 46 49.3**	**-0.3**
BVC2	**Cotopaxi Volca**	**2.06**	**351**	P			**Pb**	**22 46 48.9**	**-0.3**
BVC2	**Cotopaxi Volca**	**2.06**	**351**	S			**Sg**	**22 47 17.5**	**-1.3**
PAST	**Pastocalle**	**2.07**	**345**	P			**Pb**	**22 46 50.3**	**+1.1**
VC1	**Cotopaxi 1**	**2.07**	**352**	S			**Sg**	**22 47 19.7**	**+0.6**
VC1	**Cotopaxi 1**	**2.07**	**352**	P			**Pb**	**22 46 49.2**	**-0.2**
NAS2	**Nasa**	**2.08**	**350**	P			**Pb**	**22 46 49.9**	**+0.5**
ARNL	**Arenillas**	**2.13**	**247**	⇑S			**Sb**	**22 47 16.7**	**+0.7**
ARNL	**Arenillas**	**2.13**	**247**	⇑P			**Pb**	**22 46 48.5**	**-1.2**
PITA	**Cotopaxi Volc**	**2.16**	**351**	S			**Sg**	**22 47 20.7**	**-1.1**
PITA	**Cotopaxi Volc**	**2.16**	**351**	P			**Pb**	**22 46 50.4**	**-0.3**
JUA2	**San Juan 2**	**2.53**	**348**	P			**Pb**	**22 46 57.5**	**+0.4**
GGP	**Refugio Guagua**	**2.56**	**349**	S			**Sg**	**22 47 35.2**	**+0.2**
GGP	**Refugio Guagua**	**2.56**	**349**	P			**Pb**	**22 46 58.8**	**+1.0**
TERV	**Terraza Guagua**	**2.57**	**349**	P			**Pg**	**22 46 59.9**	**-1.2**
PINO	**Pino**	**2.58**	**349**	P			**Pb**	**22 46 58.8**	**+0.7**
CAYA	**Cayambe**	**2.76**	**2**	P			**Pb**	**22 47 00.4**	**-0.7**

MEX 07 22:57:06.6±0.4, 17.23°N×101.12W, h12km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.50**	**318**	*i* P			**Pg**	**22 57 15.3**	**-1.2**
ZIIG				*i* S			**Sg**	**22 57 22.3**	**-0.8**
CAIG	**El Cayaco**	**0.83**	**103**	*e*P			**Pg**	**22 57 20.2**	**-2.5**
CAIG				*e*S			**Sg**	**22 57 30.6**	**-3.1**
ACX	**Acapulco**	**1.26**	**106**	*i* P			**Pn**	**22 57 24.8**	**-5.2**
ACX				*i* S			**Sb**	**22 57 40.6**	**-5.8**
ARIG	**Puente Sto Nin**	**1.28**	**35**	*e*P			**Pn**	**22 57 26.4**	**-3.8**
ARIG				*i* S			**Sb**	**22 57 42.0**	**-5.0**
PLIG	**Platanillo**	**1.92**	**53**	*e*P			**Pn**	**22 57 36.5**	**-2.7**
PLIG				*e*S			**Sn**	**22 57 58.8**	**-4.7**
TLIG	**Tlapa**	**2.46**	**82**	*e*P			**Pn**	**22 57 44.4**	**-2.2**
TLIG				*e*S			**Sn**	**22 58 12.3**	**-4.4**

*ISCJB **07** 23:03:09.7±0.6, 12.44°N±0.08°×92.64°E±0.10, h26km, mb3.9/11, MS3.4/1, Error ellipse: s-maj=16.6km s-min=7.6km az=142.8*
*IDC **07** 23:03:15.1±0.8, 12.52°N×92.78°E, h51km±6km, mb3.7/11, mb1 3.8/12, mb1mx3.6/29, mbtmp3.7/12, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=22.4km s-min=12.3km az=65.0*
ISC 07 23:03:12.5±0.8, 12.54°N±0.09°×92.67°E±0.09, h26km, n30, σ1§63/30, mb3.9/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.44**	**45**	P			**Pn**	**23 05 14.9**	**+1.7**
	1.0nm,0.3s,baz=238,slow=15,SNR=13								
CMAR				S			**Sn**	**23 06 46.2**	**-1.5**
	0.8nm,0.3s,baz=240,slow=27,SNR=3.5								
VIS	**Vishakhapatnam**	**10.38**	**301**	*i* P			**Pn**	**23 05 39.7**	**-0.2**
VIS				*i* S			Sn	23 07 24.7	-11
VIS				*i* S			Sn	23 07 24.9	-11
VIS				*ex*			x	23 07 25.9	
	comp=E,62nm,0.2s								
VIS				*ex*			x	23 07 26.9	
	comp=N,71nm,0.2s								
ODAN	**Odare**	**15.09**	**342**	*e*P			**Pn**	**23 06 43.1**	**-1.2**
	comp=N,18nm,0.5s								
RAMN	**Ramite**	**15.43**	**339**	*e*P			**Pn**	**23 06 46.8**	**-2.0**
TAPN	**Taplejung**	**15.45**	**343**	*e*P			**Pn**	**23 06 46.6**	**-2.6**
JIRN	**Jiri**	**16.22**	**339**	*e*P			**Pn**	**23 06 57.5**	**-1.7**
PKI	**Pulchoki**	**16.43**	**337**	*e*P			**Pn**	**23 07 01.5**	**-0.3**
	comp=N,20nm,0.5s								
PKIN	**Phulchoki**	**16.44**	**337**	*e*P			**Pn**	**23 07 01.6**	**-0.2**
GUN	**Gumba**	**16.56**	**338**	*e*P			**Pn**	**23 07 03.3**	**-0.1**
DMN	**Daman**	**16.58**	**336**	*e*P			**Pn**	**23 07 03.0**	**-0.6**
	comp=N,23nm,0.6s								
KKN	**Kakani**	**16.68**	**337**	*e*P			**Pn**	**23 07 05.0**	**+0.2**
	comp=N,9.8nm,0.5s								
GKN	**Gorkha**	**17.12**	**335**	*e*P			**Pn**	**23 07 10.5**	**+0.2**
	comp=N,19nm,0.3s								
KOLN	**Koldanda**	**17.37**	**332**	*e*P			**Pn**	**23 07 13.8**	**+0.4**
DANN	**Dangsing**	**17.80**	**333**	*e*P			**Pn**	**23 07 20.1**	**+1.3**
	comp=N,20nm,0.4s								
PYUN	**Piuthan**	**17.93**	**331**	*e*P			**Pn**	**23 07 21.3**	**+0.9**
	comp=N,46nm,0.4s								
H08S3	**Diego Garcia H**	**28.35**	**226**	T			T	23 38 16.1	
	baz=44,slow=76,SNR=24								
H08S2	**Diego Garcia H**	**28.36**	**226**	T			T	23 38 24.4	
	baz=44,slow=76,SNR=44								
H08S1	**Diego Carcia H**	**28.37**	**226**	T			T	23 38 17.5	
	baz=44,slow=76,SNR=23								
MKAR	**Makanchi Array**	**35.25**	**348**	P			**P**	**23 10 05.0**	**0.0**
	comp=N,1.2nm,0.7s,baz=166,slow=8.1,SNR=12								
MKAR				pP			pP	23 10 18.6	+5.9
	comp=N,0.8nm,0.7s,baz=161,slow=8.9,SNR=6.7								
SONM	**Songino Array**	**37.02**	**15**	P			**P**	**23 10 20.4**	**+0.2**
	comp=N,0.8nm,0.6s,baz=202,slow=11,SNR=4.3								
KURBB	**Kurchatov Arra**	**39.70**	**346**	P			**P**	**23 10 42.8**	**+0.3**
	comp=N,1.0nm,0.6s,baz=167,slow=7.8,SNR=12								
KURBB				pP			pP	23 10 55.9	+5.5
	comp=N,1.2nm,0.9s,baz=158,slow=7.9,SNR=6.9								
KSRS	**Korea Array**	**40.08**	**46**	P			**P**	**23 10 45.2**	**-0.7**
	comp=N,0.6nm,0.4s,baz=242,slow=8.3,SNR=3.8								
ZALV	**Zalesovo Beam**	**41.78**	**353**	P			**P**	**23 10 59.0**	**-0.7**
	comp=N,0.8nm,0.5s,baz=184,slow=8.4,SNR=7.4								
ZALV				pP			**pP**	**23 11 11.6**	**+4.1**
	comp=N,0.4nm,0.4s,baz=179,slow=5.9,SNR=3.0								
ZALV				LR			LR	23 33 07.8	
	comp=N,44nm,18.4s,baz=159,slow=43								
FITZ	**Fitzroy Crossi**	**44.56**	**132**	P			**P**	**23 11 21.4**	**-1.2**
	comp=N,2.8nm,0.6s,baz=320,slow=9.1,SNR=20								
NWAO	**Narrogin (SRO)**	**50.93**	**153**	P			**P**	**23 12 10.7**	**-1.2**
	comp=N,1.7nm,0.3s,baz=326,slow=6.9,SNR=4.0								
WRA	**Warramunga Arr**	**52.19**	**128**	P			**P**	**23 12 20.1**	**-1.4**
	comp=N,1.5nm,0.6s,baz=307,slow=8.2,SNR=11								
ASAR	**Alice Springs**	**54.04**	**132**	P			**P**	**23 12 34.1**	**-1.0**
	comp=N,0.8nm,0.5s,baz

ϕ=254.00000°, δ46.00000°, λ-167.00000°. Principal axes: T Plg22.0000°, Azm212.0000°; N Plg45.0000°, Azm326.0000°; P Plg37.0000°, Azm104.0000°;
JMA Felt III J1.
IDC ***07*** *23:07:39.5±1.6, 33°.92N×134°.89E, h0^{km}, mb3.5/2, mb1 3.5/4, mb1mx3.3/28, mbtmp3.3/4, ML3.1/2 Error ellipse: s-maj=30.6km s-min=28.7km az=93.0*

ISC 07 23:07:39.2±0.9, 34°.21N±0°.05×135°.26E±0°.04, h11^{km}, n13, σ1^{s}02/11, 1C-2D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.27**	**88**	⇓P	**Pg**	**23 07 43.7**	**-1.1**
JWY				S	**Sg**	**23 07 48.2**	**-0.4**
JWM	**Minabe**	**0.37**	**168**	⇑P	**Pg**	**23 07 45.7**	**-0.8**
JWM				S	**Sg**	**23 07 50.7**	**-0.6**
JAJ2	**Tsuna**	**0.38**	**304**	⇓P	**Pg**	**23 07 45.3**	**-1.4**
JAJ2				S	**Sg**	**23 07 50.8**	**-0.9**
MJAR	**Matsushiro Arr**	**3.35**	**45**	Pn	**Pb**	**23 08 38.9**	**+0.3**
	1.5nn,0.3s,baz=232,slow=14,SNR=11						
MJAR				Sn	**Sg**	**23 09 26.3**	**-0.4**
	0.8nn,0.3s,baz=91,slow=35,SNR=4.5						
KSRS	**Korea Array**	**6.78**	**301**	Pn	**Pn**	**23 09 19.6**	**+1.0**
	0.3nn,0.3s,baz=120,slow=13,SNR=3.5						
SONM	**Songino Array**	**25.51**	**311**	P	**P**	**23 13 09.1**	**+1.5**
	0.5nn,0.8s,baz=132,slow=9.9,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**31.52**	**109**	T	T	23 46 29.7	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**31.52**	**109**	T	T	23 46 28.0	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**31.53**	**109**	T	T	23 46 30.3	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**32.05**	**111**	T	T	23 47 04.6	
	baz=307						
H11S1	**WAKE ISLAND Hy**	**32.05**	**111**	T	T	23 47 06.2	
	baz=307						
H11S2	**WAKE ISLAND Hy**	**32.07**	**111**	T	T	23 47 12.1	
	baz=307						
WRA	**Warramunga Arr**	**53.86**	**181**	P	**P**	**23 17 02.1**	**-0.2**
	0.9nn,0.9s,baz=1.9,slow=7.7,SNR=4.5						

IDC ***07*** *23:22:06.6±1.7, 1°.35N×124°.39E, h0^{km}, mb3.7/3, mb1 3.9/4, mb1mx3.6/24, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=120.6km s-min=22.9km az=66.0*
ISCJB ***07*** *23:22:31.7±0.9, 0°.7N±0°.1×124°.53E±0°.07, h207^{km}, mb3.5/3, Error ellipse: s-maj=19.3km s-min=8.6km az=167.4*
DJA ***07*** *23:22:33.5±1.0, 1°.1N±9°×12°.4E±°, h181^{km}±16^{km}, M3.7/5, MLv3.7/5*

ISC 07 23:22:31.9±1.6, 0°.8N±0°.2×124°.46E±0°.08, h207^{km}, n9, σ0^{s}78/10, mb3.2/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.53**	**245**	P	**Pn**	**23 23 00.0**	**+0.1**
GTOI	**Gorontalo**	**1.46**	**264**	P	**Pn**	**23 23 06.6**	**+0.8**
LUWI	**Luwuk**	**2.49**	**223**	P	**Pn**	**23 23 16.4**	**+0.3**
LUWI				S	**S**	**23 23 51.0**	**+0.8**
MRSI	**Marisa**	**2.54**	**263**	P	**Pn**	**23 23 16.5**	**-0.2**
TNTI	**Ternate**	**2.90**	**90**	P	**Pn**	**23 23 21.9**	**+1.1**
TNTI				S	**S**	**23 23 57.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**18.82**	**177**	P	**P**	**23 26 35.6**	**-0.6**
	0.1nn,0.3s,baz=0.0,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**22.77**	**155**	P	**P**	**23 27 16.1**	**-0.6**
	4.9nn,0.6s,baz=332,slow=11,SNR=31						
ASAR	**Alice Springs**	**25.99**	**160**	P	**P**	**23 27 45.5**	**-0.4**
	0.3nn,0.5s,baz=341,slow=7.6,SNR=6.8						
MKAR	**Makanchi Array**	**58.72**	**327**	P	P	23 32 02.7	-5.3
	0.2nn,0.4s,baz=118,slow=8.3,SNR=8.8						

CSEM ***07*** *23:28:49.5±0.3, 37°.32N×20°.19E, h2^{km}, MD3.5, Error ellipse: s-maj=7.0km s-min=3.5km az=48.0*
ATH ***07*** *23:28:50.9, 37°.38N×20°.35E, h18^{km}±1^{km}, MD3.5/27, ML2.8*
BEO ***07*** *23:28:51.5±1.4, 37°.53N×19°.85E, h0^{km}, ML3.1/4*
THE ***07*** *23:28:51.2, 37°.34N×20°.30E, h0^{km}±2^{km}, ML2.9/5, Error ellipse: s-maj=3.4km s-min=1.3km az=239.0*

ISC 07 23:28:48.4±1.6, 37°.32N±0°.04×20°.17E±0°.05, h1^{km}±10^{km}, n166, σ1^{s}20/199, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.92**	**21**	P	**Pg**	**23 29 06.1**	**+0.2**
VLS				S	**Sb**	**23 29 19.1**	**-0.6**
VLS	**Valsamata**	**0.92**	**21**	*e*PB	**Pg**	**23 29 06.1**	**+0.2**
VLS				*e*SN	**Sg**	**23 29 18.2**	**+0.4**
VLS	**Valsamata**	**0.92**	**21**	P	**Pg**	**23 29 06.1**	**+0.2**
VLS				S	**Sb**	**23 29 19.1**	**-0.6**
KFL	**Anninata**	**0.93**	**32**	P	**Pg**	**23 29 06.4**	**+0.3**
KFL				S	**Sb**	**23 29 19.3**	**-0.7**
KFL	**Anninata**	**0.93**	**32**	P	**Pg**	**23 29 06.4**	**+0.3**
KFL				S	**Sb**	**23 29 19.3**	**-0.7**
AMT	**Artemida-Makis**	**1.24**	**80**	P	**Pg**	**23 29 12.3**	**+0.1**
AMT				S	**Sn**	**23 29 30.3**	**0.0**
AMT	**Artemida-Makis**	**1.24**	**80**	*e*PN	**Pg**	**23 29 12.3**	**+0.1**
AMT				*e*SN	**Sg**	**23 29 26.5**	**-1.8**
AMT	**Artemida-Makis**	**1.24**	**80**	P	**Pg**	**23 29 12.3**	**+0.1**
AMT				*e*Sn	**Sg**	**23 29 26.5**	**-1.8**
AMT				S	**Sn**	**23 29 30.3**	**0.0**
RLS	**Riolos of Patr**	**1.26**	**54**	P	**Pg**	**23 29 12.2**	**-0.4**
RLS				S	**Sn**	**23 29 31.5**	**+0.8**
RLS	**Riolos of Patr**	**1.26**	**54**	*e*PN	**Pg**	**23 29 12.1**	**-0.5**
RLS	**Riolos of Patr**	**1.26**	**54**	P	**Pg**	**23 29 12.2**	**-0.4**
RLS				S	**Sn**	**23 29 31.5**	**+0.8**
PYL	**PYLOS**	**1.33**	**108**	P	**Pg**	**23 29 13.8**	**0.0**
PYL				S	**Sg**	**23 29 31.3**	**+0.3**
PYL	**PYLOS**	**1.33**	**108**	*e*PN	**Pg**	**23 29 13.5**	**-0.3**
PYL				*e*SN	**Sg**	**23 29 30.6**	**-0.4**
PYL	**PYLOS**	**1.33**	**108**	*e*Pn	**Pg**	**23 29 13.5**	**-0.3**
PYL	**PYLOS**	**1.33**	**108**	P	**Pg**	**23 29 13.8**	**0.0**
PYL				*e*Sn	**Sg**	**23 29 30.6**	**-0.4**
PYL				S	**Sg**	**23 29 31.3**	**+0.3**
DRO	**Drossia**	**1.37**	**62**	P	**Pg**	**23 29 15.0**	**+0.2**
DRO	**Drossia**	**1.37**	**62**	*e*PN	**Pg**	**23 29 14.9**	**+0.2**
DRO	**Drossia**	**1.37**	**62**	*e*Pn	**Pg**	**23 29 14.9**	**+0.2**
ITM	**Ithomi**	**1.41**	**95**	P	**Pg**	**23 29 15.4**	**0.0**
ITM				S	**Sb**	**23 29 34.3**	**+0.4**
ITM	**Ithomi**	**1.41**	**95**	*e*PN	**Pg**	**23 29 15.2**	**-0.2**
ITM				*e*SN	**Sg**	**23 29 32.1**	**-1.5**
ITM	**Ithomi**	**1.41**	**95**	P	**Pg**	**23 29 15.4**	**0.0**
ITM				*e*Sn	**Sg**	**23 29 32.1**	**-1.5**
ITM				S	**Sb**	**23 29 34.3**	**+0.4**
PDO	**Prodromos**	**1.50**	**32**	P	**Pn**	**23 29 17.5**	**+1.1**
PDO	**Prodromos**	**1.50**	**32**	*e*PN	**Pn**	**23 29 17.6**	**+1.1**
PDO	**Prodromos**	**1.50**	**32**	*e*Pn	**Pn**	**23 29 17.6**	**+1.1**
LKD2	**Lefkada island**	**1.51**	**15**	P	**Pn**	**23 29 17.5**	**+0.9**
LKD2				S	**Sn**	**23 29 39.2**	**+2.2**
LKD2	**Lefkada island**	**1.51**	**15**	P	**Pn**	**23 29 17.5**	**+0.9**
LKD2				S	**Sn**	**23 29 39.2**	**+2.2**
PVO	**Paravola**	**1.68**	**39**	P	**Pb**	**23 29 20.4**	**+0.3**
PVO				S	**Sg**	**23 29 42.9**	**+0.6**
PVO	**Paravola**	**1.68**	**39**	P	**Pb**	**23 29 20.4**	**+0.3**
PVO				S	**Sg**	**23 29 42.9**	**+0.6**
LAKA	**Lakka**	**1.70**	**57**	P	**Pb**	**23 29 21.0**	**+0.5**
LAKA	**Lakka**	**1.70**	**57**	*e*PN	**Pb**	**23 29 20.9**	**+0.5**
LAKA	**Lakka**	**1.70**	**57**	*e*Pn	**Pb**	**23 29 20.9**	**+0.5**
KLV	**Kalavryta, Ach**	**1.73**	**65**	P	**Pn**	**23 29 20.4**	**+0.8**
KLV	**Kalavryta, Ach**	**1.73**	**65**	*e*PN	**Pn**	**23 29 20.4**	**+0.8**
KLV	**Kalavryta, Ach**	**1.73**	**65**	P	**Pn**	**23 29 20.4**	**+0.8**
EFP	**Efpalio**	**1.76**	**51**	P	**Pb**	**23 29 21.8**	**+0.3**
EFP				S	**Sg**	**23 29 44.6**	**-0.4**
EFP	**Efpalio**	**1.76**	**51**	P	**Pb**	**23 29 21.8**	**+0.3**
EFP				S	**Sg**	**23 29 44.6**	**-0.4**
VLX	**Vlachokerasia**	**1.76**	**88**	P	**Pn**	**23 29 20.9**	**+0.8**
VLX				S	**Sb**	**23 29 44.2**	**0.0**
VLX	**Vlachokerasia**	**1.76**	**88**	*e*PN	**Pn**	**23 29 19.8**	**-0.3**
VLX	**Vlachokerasia**	**1.76**	**88**	*e*Pn	**Pn**	**23 29 19.8**	**-0.3**
VLX	**Vlachokerasia**	**1.76**	**88**	P	**Pn**	**23 29 20.9**	**+0.8**
VLX				S	**Sb**	**23 29 44.2**	**0.0**
GUR	**Goura**	**1.83**	**70**	P	**Pn**	**23 29 21.8**	**+0.7**
GUR				S	**Sb**	**23 29 46.0**	**-0.1**
GUR	**Goura**	**1.83**	**70**	*e*PN	**Pn**	**23 29 21.6**	**+0.5**
GUR	**Goura**	**1.83**	**70**	*e*Pn	**Pn**	**23 29 21.6**	**+0.5**
GUR				S	**Sb**	**23 29 46.0**	**-0.1**
KALE	**Kalithea**	**1.89**	**55**	P	**Pb**	**23 29 23.5**	**-0.2**
KALE	**Kalithea**	**1.89**	**55**	*e*PN	**Pn**	**23 29 23.2**	**+1.4**
KALE	**Kalithea**	**1.89**	**55**	*e*Pn	**Pn**	**23 29 23.2**	**+1.4**
KALE	**Kalithea**	**1.89**	**55**	P	**Pb**	**23 29 23.5**	**-0.2**
EVR	**Evrytania**	**2.05**	**39**	P	**Pb**	**23 29 26.2**	**-0.2**
EVR	**Evrytania**	**2.05**	**39**	*e*PN	**Pb**	**23 29 26.3**	**-0.2**
EVR	**Evrytania**	**2.05**	**39**	P	**Pb**	**23 29 26.2**	**-0.2**
DSF	**Desfina**	**2.16**	**59**	P	**Pn**	**23 29 26.9**	**+1.4**
DSF	**Desfina**	**2.16**	**59**	*e*PN	**Pn**	**23 29 26.5**	**+1.0**
DSF	**Desfina**	**2.16**	**59**	*e*Pn	**Pn**	**23 29 26.5**	**+1.0**
DSF	**Desfina**	**2.16**	**59**	P	**Pn**	**23 29 26.9**	**+1.4**
DESF	**Desfina**	**2.16**	**59**	*e*PN	**Pn**	**23 29 26.9**	**+1.3**
DESF	**Desfina**	**2.16**	**59**	*e*Pn	**Pn**	**23 29 26.9**	**+1.3**
IGT	**Igoumenitsa**	**2.21**	**3**	*e*PN	**Pn**	**23 29 28.4**	**+2.2**
IGT	**Igoumenitsa**	**2.21**	**3**	*e*Pn	**Pn**	**23 29 28.4**	**+2.2**
MAKR	**Makrakomi, Fth**	**2.29**	**42**	P	**Pn**	**23 29 29.6**	**+2.3**
MAKR	**Makrakomi, Fth**	**2.29**	**42**	*e*PN	**Pn**	**23 29 29.2**	**+1.9**
MAKR	**Makrakomi, Fth**	**2.29**	**42**	*e*Pn	**Pn**	**23 29 29.2**	**+1.9**
MAKR	**Makrakomi, Fth**	**2.29**	**42**	P	**Pn**	**23 29 29.6**	**+2.3**
VLI	**Veliai**	**2.29**	**104**	P	**Pn**	**23 29 29.3**	**+2.0**
VLI				S	**Sn**	**23 29 56.2**	**0.0**
VLI	**Veliai**	**2.29**	**104**	*e*PN	**Pn**	**23 29 28.9**	**+1.6**
VLI				*e*SN	**Sn**	**23 29 56.2**	**0.0**
VLI	**Veliai**	**2.29**	**104**	*e*Pn	**Pn**	**23 29 28.9**	**+1.6**
VLI	**Veliai**	**2.29**	**104**	P	**Pn**	**23 29 29.3**	**+2.0**
VLI				S	**Sn**	**23 29 56.2**	**0.0**
LTK	**Loutraki**	**2.33**	**72**	P	**Pn**	**23 29 28.3**	**+0.5**
LTK	**Loutraki**	**2.33**	**72**	*e*PB	**Pn**	**23 29 27.7**	**-0.1**
LTK	**Loutraki**	**2.33**	**72**	*e*Pb	**Pn**	**23 29 27.7**	**-0.1**
LTK	**Loutraki**	**2.33**	**72**	P	**Pn**	**23 29 28.3**	**+0.5**
JAN	**Janina**	**2.39**	**13**	*e*PB	**Pn**	**23 29 30.9**	**+2.2**
JAN	**Janina**	**2.39**	**13**	*e*Pb	**Pn**	**23 29 30.9**	**+2.2**
AGG	**Agios Georgios**	**2.40**	**44**	*e*PN	**Pn**	**23 29 30.3**	**+1.4**
AGG	**Agios Georgios**	**2.40**	**44**	*e*Pn	**Pn**	**23 29 30.3**	**+1.4**
KEK	**Kerkira**	**2.40**	**353**	*e*PB	**Pn**	**23 29 30.2**	**+1.3**
KEK	**Kerkira**	**2.40**	**353**	*e*Pn	**Pn**	**23 29 30.2**	**+1.3**
AXAR	**Agios Charalam**	**2.44**	**53**	P	**Pn**	**23 29 31.1**	**+1.8**
AXAR	**Agios Charalam**	**2.44**	**53**	P	**Pn**	**23 29 31.1**	**+1.8**
DID	**Didima**	**2.45**	**85**	P	**Pn**	**23 29 30.3**	**+0.8**
DID	**Didima**	**2.45**	**85**	*e*PB	**Pn**	**23 29 29.7**	**+0.2**
DID	**Didima**	**2.45**	**85**	*e*Pb	**Pn**	**23 29 29.7**	**+0.2**
DID	**Didima**	**2.45**	**85**	P	**Pn**	**23 29 30.3**	**+0.8**
KYTH	**Kithira**	**2.52**	**113**	P	**Pn**	**23 29 32.3**	**+1.8**
KYTH	**Kithira**	**2.52**	**113**	*e*PB	**Pn**	**23 29 32.3**	**+1.8**
KYTH	**Kithira**	**2.52**	**113**	P	**Pn**	**23 29 32.3**	**+1.8**
LKR	**Lokris**	**2.60**	**58**	P	**Pn**	**23 29 32.5**	**+1.0**
LKR	**Lokris**	**2.60**	**58**	*e*PN	**Pn**	**23 29 31.9**	**+0.4**
LKR				*e*SN	**Sn**	**23 30 02.3**	**-1.4**
LKR	**Lokris**	**2.60**	**58**	*e*Pn	**Pn**	**23 29 31.9**	**+0.4**
LKR	**Lokris**	**2.60**	**58**	P	**Pn**	**23 29 32.5**	**+1.0**
LKR				*e*Sn	**Sn**	**23 30 02.3**	**-1.4**
VIL2	**Platees**	**2.61**	**69**	*e*PN	**Pn**	**23 29 32.7**	**+1.0**
VILL	**Villia**	**2.63**	**70**	*e*Pn	**Pn**	**23 29 32.7**	**+0.7**
THL	**Klokotos Trika**	**2.67**	**32**	P	**Pn**	**23 29 34.1**	**+1.6**
THL	**Klokotos Trika**	**2.67**	**32**	*e*PB	**Pn**	**23 29 34.0**	**+1.6**
THL				*e*SN	**Sn**	**23 30 04.4**	**-1.0**
THL	**Klokotos Trika**	**2.67**	**32**	P	**Pn**	**23 29 34.1**	**+1.6**
THL				*e*Sn	**Sn**	**23 30 04.4**	**-1.0**
NAIG	**Nisos Aigina**	**2.67**	**80**	*e*PN	**Pn**	**23 29 33.4**	**+0.9**
NAIG	**Nisos Aigina**	**2.67**	**80**	*e*Pn	**Pn**	**23 29 33.4**	**+0.9**
SMIA	**Simia**	**2.86**	**56**	*e*PN	Pn	23 29 31.9	-3.2
ATH	**Athens Observa**	**2.89**	**76**	*e*PB	**Pn**	**23 29 37.8**	**+2.3**
ATH	**Athens Observa**	**2.89**	**76**	*e*Pb	**Pn**	**23 29 37.8**	**+2.3**
ANKY	**Antikythira Is**	**2.91**	**119**	*e*PN	**Pn**	**23 29 37.1**	**+1.3**
ANKY	**Antikythira Is**	**2.91**	**119**	*e*Pn	**Pn**	**23 29 37.1**	**+1.3**
PTL	**Penteli**	**3.02**	**75**	*e*PN	**Pn**	**23 29 38.3**	**+1.0**
PTL	**Penteli**	**3.02**	**75**	*e*Pn	**Pn**	**23 29 38.3**	**+1.0**
MRKA	**Markates**	**3.03**	**62**	P	**Pn**	**23 29 38.3**	**+0.8**
MRKA	**Markates**	**3.03**	**62**	*e*PN	**Pn**	**23 29 38.4**	**+0.9**
MRKA	**Markates**	**3.03**	**62**	P	**Pn**	**23 29 38.3**	**+0.8**
NEO	**Neokhori**	**3.11**	**50**	*e*PN	**Pn**	**23 29 38.9**	**+0.3**
NEO	**Neokhori**	**3.11**	**50**	*e*Pn	**Pn**	**23 29 38.9**	**+0.3**
XOR	**Xorichti**	**3.13**	**48**	P	**Pn**	**23 29 39.2**	**+0.3**
XOR	**Xorichti**	**3.13**	**48**	*e*PN	**Pn**	**23 29 39.2**	**+0.3**
XOR	**Xorichti**	**3.13**	**48**	P	**Pn**	**23 29 39.2**	**+0.3**
NEST	**Nestorio**	**3.16**	**12**	P	**Pn**	**23 29 42.1**	**+2.7**
NEST	**Nestorio**	**3.16**	**12**	*e*PB	**Pn**	**23 29 42.1**	**+2.7**
NEST	**Nestorio**	**3.16**	**12**	P	**Pn**	**23 29 42.1**	**+2.7**
KZN	**Kozani**	**3.23**	**22**	P	**Pn**	**23 29 42.9**	**+2.6**
KZN	**Kozani**	**3.23**	**22**	*e*PN	**Pn**	**23 29 42.4**	**+2.1**
KZN	**Kozani**	**3.23**	**22**	*e*Pn	**Pn**	**23 29 42.4**	**+2.1**
KZN	**Kozani**	**3.23**	**22**	P	**Pn**	**23 29 42.9**	**+2.6**
LIT	**Litokhoron**	**3.31**	**32**	*e*PN	**Pn**	**23 29 42.3**	**+0.9**
LIT	**Litokhoron**	**3.31**	**32**	*e*Pn	**Pn**	**23 29 42.3**	**+0.9**
AOS	**Alonnisos**	**3.45**	**57**	*e*PN	Pn	23 29 40.5	-2.8
FNA	**Florina**	**3.58**	**15**	*e*PN	**Pn**	**23 29 46.7**	**+1.6**
FNA	**Florina**	**3.58**	**15**	*e*Pn	**Pn**	**23 29 46.7**	**+1.6**
VAM	**Vamos**	**3.77**	**119**	*e*PN	**Pn**	**23 29 46.5**	**-1.2**
PAIG	**Paliouri**	**3.78**	**46**	*e*PN	**Pn**	**23 29 47.6**	**-0.2**
PAIG	**Paliouri**	**3.78**	**46**	*e*Pn	**Pn**	**23 29 47.6**	**-0.2**
BIA	**Bitola**	**3.80**	**13**	*e*PN	**Pn**	**23 29 49.2**	**+1.1**
BIA	**Bitola**	**3.80**	**13**	*e*Pn	**Pn**	**23 29 49.2**	**+1.1**
THE	**Thessaloniki**	**3.96**	**33**	*e*PN	**Pn**	**23 29 51.2**	**+1.0**
THE	**Thessaloniki**	**3.96**	**33**	*e*Pn	**Pn**	**23 29 51.2**	**+1.0**
HORT	**Hortiatis**	**3.99**	**34**	*e*PN	**Pn**	**23 29 51.2**	**+0.5**
HORT	**Hortiatis**	**3.99**	**34**	*e*Pn	**Pn**	**23 29 51.2**	**+0.5**
OUR	**Ouranopolis**	**4.23**	**44**	*e*PN	**Pn**	**23 29 54.4**	**+0.5**
OUR	**Ouranopolis**	**4.23**	**44**	*e*Pn	**Pn**	**23 29 54.4**	**+0.5**
SOH	**Sokhos**	**4.28**	**34**	P	**Pn**	**23 29 56.1**	**+1.4**
SOH	**Sokhos**	**4.28**	**34**	*e*PN	**Pn**	**23 29 55.7**	**+1.0**
SOH	**Sokhos**	**4.28**	**34**	*e*Pn	**Pn**	**23 29 55.7**	**+1.0**
SOH	**Sokhos**	**4.28**	**34**	P	**Pn**	**23 29 56.1**	**+1.4**
APE	**Apeiranthos**	**4.29**	**92**	*e*PN	**Pn**	**23 29 55.6**	**+0.8**
APE	**Apeiranthos**	**4.29**	**92**	*e*Pn	**Pn**	**23 29 55.6**	**+0.8**
KNT	**Kendrikon**	**4.38**	**28**	*e*PN	**Pn**	**23 29 56.7**	**+0.7**
KNT	**Kendrikon**	**4.38**	**28**	*e*Pn	**Pn**	**23 29 56.7**	**+0.7**
VAY	**Valandovo**	**4.40**	**24**	*e*PN	**Pn**	**23 29 56.6**	**+0.3**
VAY	**Valandovo**	**4.40**	**24**	*e*Pn	**Pn**	**23 29 57.1**	**+0.8**
SRS	**Serrai**	**4.63**	**34**	*e*PN	**Pn**	**23 29 59.9**	**+0.5**
SRS	**Serrai**	**4.63**	**34**	*e*Pn	**Pn**	**23 29 59.9**	**+0.5**
NVR	**Nevrokopi**	**4.94**	**34**	*e*PN	**Pn**	**23 30 04.4**	**+0.7**
NVR	**Nevrokopi**	**4.94**	**34**	*e*Pn	**Pn**	**23 30 04.4**	**+0.7**
TREB	**Trebinje**	**5.56**	**346**	*e*PN	**Pn**	**23 30 11.3**	**-1.0**
TREB	**Trebinje**	**5.56**	**346**	*e*Pn	**Pn**	**23 30 11.3**	**-1.0**
VTS	**Vitosha**	**5.76**	**23**	*e*PN	**Pn**	**23 30 16.3**	**+1.2**
VTS	**Vitosha**	**5.76**	**23**	*e*Pn	**Pn**	**23 30 16.3**	**+1.2**
STON	**Ston**	**5.86**	**342**	*i* Pn	Pn	23 30 14.6	-1.7
STON				Sn	**Sn**	**23 31 20.5**	**-3.5**
STON	**Ston**	**5.86**	**342**	*e*Pn	Pn	23 30 14.4	-1.9
STON				*e*Sn	Sn	23 31 18.7	-5.3
SJES	**Sjenica**	**5.93**	**359**	*e*PN	**Pn**	**23 30 17.2**	**-0.3**
SJES	**Sjenica**	**5.93**	**359**	*e*Pn	**Pn**	**23 30 17.2**	**-0.3**
ZAPS	**Zavoj**	**6.23**	**17**	*e*Pn	**Pn**	**23 30 22.7**	**+1.2**
BBLS	**Lazići**	**6.56**	**350**	*e*SN	Sn	23 30 29.1	-6.2
GRUS	**Gruza**	**6.57**	**3**	*e*PN	**Pn**	**23 30 25.9**	**-0.2**
GRUS	**Gruza**	**6.57**	**3**	*e*Pn	**Pn**	**23 30 25.9**	**-0.2**
DIVS	**Divibare**	**6.77**	**359**	*e*PN	**Pn**	**23 30 29.4**	**+0.5**
DIVS	**Divibare**	**6.77**	**359**	*e*Pn	**Pn**	**23 30 29.4**	**+0.5**
UDBI	**Udbina**	**7.93**	**337**	*i* Pn	**Pn**	**23 30 46.7**	**+1.9**
UDBI	**Udbina**	**7.93**	**337**	*i* Pn	**Pn**	**23 30 46.7**	**+1.9**
NVLJ	**Novalja**	**8.27**	**333**	*e*PN	**Pn**	**23 30 51.3**	**+1.9**
NVLJ				Sn	**Sn**	**23 32 19.1**	**-4.2**
NVLJ	**Novalja**	**8.27**	**333**	*e*Pn	**Pn**	**23 30 51.2**	**+1.9**

MEX 07 23:34:47.1±0.4, 16°.06N×98°.45W, h16^{km}±9^{km}, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.50**	**356**	*e*P	Pn	23 35 10.3	-3.3
TLIG				*i* S	Sn	23 35 27.7	-5.3
VHO	**Vista Hermosa**	**1.93**	**58**	*e*P	Pn	23 35 15.9	-3.7
VHO				*i* S	Sn	23 35 39.2	-4.6
CAIG	**El Cayaco**	**2.00**	**300**	*i* P	Pn	23 35 17.2	-3.1
CAIG				*i* S	Sn	23 35 40.3	-4.7
HUIG	**Huatulco**	**2.28**	**97**	*e*P	Pn	23 35 21.1	-3.0
HUIG				*i* S	Sn	23 35 47.7	-4.1
TPIG	**Tehuac#an**	**2.57**	**24**	*e*P	Pn	23 35 25.9	-2.4
TPIG				*e*S	Sn	23 35 55.6	-3.8

CSEM ***07*** *23:39:45.9±0.7, 37°.38N×20°.38E, h2^{km}, MD3.5, Error ellipse: s-maj=14.2km s-min=5.2km az=59.0*
THE ***07*** *23:39:46.2, 37°.36N×20°.35E, h0^{km}±5^{km}, ML2.6/3, Error ellipse: s-maj=5.5km s-min=1.7km az=228.0*
ATH ***07*** *23:39:46.7, 37°.42N×20°.46E, h20^{km}±2^{km}, MD3.5/19*

ISC 07 23:39:45.8±1.8, 37°.39N±0°.04×20°.38E±0°.07, h6^{km}±10^{km}, n88, σ1^{s}03/111, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KFL	**Anninata**	**0.79**	**24**	P	**Pg**	**23 40 00.8**	**-0.3**
KFL				S	**Sn**	**23 40 14.7**	**-1.0**
KFL	**Anninata**	**0.79**	**24**	P	**Pg**	**23 40 00.8**	**-0.3**
KFL				S	**Sn**	**23 40 14.7**	**-1.0**
VLS	**Valsamata**	**0.81**	**12**	P	**Pg**	**23 40 00.4**	**-0.9**
VLS				S	**Sb**	**23 40 13.3**	**-0.1**
VLS	**Valsamata**	**0.81**	**12**	*e*PB	**Pg**	**23 40 00.2**	**-1.1**
VLS				*e*SN	**Sg**	**23 40 12.6**	**+0.7**
VLS	**Valsamata**	**0.81**	**12**	P	**Pg**	**23 40 00.4**	**-0.9**
VLS				S	**Sb**	**23 40 13.3**	**-0.1**
AMT	**Artemida-Makis**	**1.07**	**82**	P	**Pn**	**23 40 06.9**	**-0.4**
AMT				S	**Sn**	**23 40 22.1**	**-0.4**
AMT	**Artemida-Makis**	**1.07**	**82**	*e*PN	**Pn**	**23 40 06.6**	**-0.7**
AMT				*e*SN	**Sg**	**23 40 18.7**	**-1.6**
AMT	**Artemida-Makis**	**1.07**	**82**	*e*Pn	**Pn**	**23 40 06.6**	**-0.7**
AMT	**Artemida-Makis**	**1.07**	**82**	P	**Pn**	**23 40 06.9**	**-0.4**
AMT				S	**Sn**	**23 40 22.1**	**-0.4**
RLS	**Riolos of Patr**	**1.09**	**52**	P	**Pg**	**23 40 06.9**	**+0.1**
RLS				S	**Sn**	**23 40 24.7**	**+1.6**
RLS	**Riolos of Patr**	**1.09**	**52**	*e*PN	**Pb**	**23 40 06.5**	**-0.6**
RLS				*e*SN	**Sg**	**23 40 20.0**	**-1.0**
RLS	**Riolos of Patr**	**1.09**	**52**	*e*Pn	**Pb**	**23 40 06.5**	**-0.6**
RLS	**Riolos of Patr**	**1.09**	**52**	P	**Pg**	**23 40 06.9**	**+0.1**
RLS				S	**Sn**	**23 40 24.7**	**+1.6**
PYL	**PYLOS**	**1.20**	**114**	P	**Pb**	**23 40 08.0**	**-0.8**
PYL				S	**Sn**	**23 40 26.1**	**+0.5**
PYL	**PYLOS**	**1.20**	**114**	*e*PN	**Pb**	**23 40 08.0**	**-0.8**
PYL				*e*SN	**Sn**	**23 40 25.2**	**-0.4**
PYL	**PYLOS**	**1.20**	**114**	P	**Pb**	**23 40 08.0**	**-0.8**
PYL				*e*Sn	**Sn**	**23 40 25.2**	**-0.4**
PYL				S	**Sn**	**23 40 26.1**	**+0.5**
DRO	**Drossia**	**1.20**	**62**	P	**Pg**	**23 40 09.4**	**+0.6**
DRO	**Drossia**	**1.20**	**62**	P	**Pg**	**23 40 09.4**	**+0.6**
ITM	**

MNAI S Sn 00 11 58.0 -0.9
MNAI Manna 0.60 354 *e*Pn **Pn 00 11 47.8 -1.1**
MNAI *e*Sn **Sn 00 11 56.4 -2.4**
MNAI Manna 0.60 354 ⇑P **Pn 00 11 48.0 -0.9**
baz=0.5,SNR=1000
LWLI Liwa 1.04 93 P **Pn 00 11 54.0 -0.2**
LWLI S **Sn 00 12 07.6 -0.7**
LHSI Lahat 1.24 24 P **Pn 00 11 56.6 -0.1**
LHSI S **Sn 00 12 13.8 +1.1**
MDSI Maura Dua 1.25 68 P **Pn 00 11 56.7 -0.1**
MDSI S **Sn 00 12 13.2 +0.2**
KASI Kota Agung 1.58 111 P **Pn 00 12 01.2 +0.1**
KASI S **Sn 00 12 19.7 -1.0**
KLSI 1.73 81 P **Pn 00 12 03.3 +0.1**
KLSI S **Sn 00 12 25.4 +1.0**
BLSI Bandar Lampung 2.26 100 P **Pn 00 12 11.4 +1.1**
PMBI Palembang 2.68 41 P **Pn 00 12 16.8 +0.8**
PMBI Palembang 2.68 41 *e*Pn **Pn 00 12 16.2 +0.2**
PMBI Palembang 2.68 41 ⇓P **Pn 00 12 16.4 +0.4**
baz=2.7,SNR=5.1
KRJI Kerinci 3.25 331 P **Pn 00 12 26.1 +2.2**
JMBI JAMBI 3.37 11 P **Pn 00 12 26.6 +1.1**
RGRI Rengat 4.63 352 P **Pn 00 12 44.3 +1.5**
LEM Lembang 4.94 112 P Pn 00 12 50.6 +3.5
LEM Lembang 4.94 112 ⇑P **Pn 00 12 50.1 +3.0**
baz=5.0,SNR=6.8
PPI Padang Panjang 5.18 330 P **Pn 00 12 50.7 +0.4**
168nm,0.9s,5μm1.6nm
PPI Padang Panjang 5.18 330 P **Pn 00 12 50.0 -0.3**
baz=5.1,SNR=8.5
CISI Cisompet, Garu 5.42 119 P **Pn 00 12 54.1 +0.5**
340nm,0.6s,10μm2.5nm
CISI S **Sn 00 13 49.9 -4.8**
340nm,0.6s,10μm2.5nm
CISI Cisompet, Garu 5.42 119 *e*Pn **Pn 00 12 53.3 -0.4**
CISI *e*Sn **Sn 00 13 49.6 -5.1**
CISI Cisompet, Garu 5.42 119 ⇓P **Pn 00 12 53.9 +0.3**
baz=5.5,SNR=3.8
BKNI Bangkinang 5.61 339 P **Pn 00 12 57.2 +1.0**
288nm,0.8s,3μm2.3nm
BKNI Bangkinang 5.61 339 ⇑P **Pn 00 12 57.3 +1.0**
baz=5.5,SNR=4.9
XMIS Christmas Isla 6.07 155 *e*Pn Pn 00 12 56.9 -5.6
XMIS *e*Sn Sn 00 13 59.2 -11
BTDF Bukit Timah Da 6.33 7 ⇑P **Pn 00 13 07.6 +1.6**
baz=6.3,SNR=12
BTDF ⇑P **Pn 00 13 07.6 +1.6**
baz=6.3,SNR=12
KPJI Karang Pucung 6.33 112 P **Pn 00 13 08.3 +2.2**
75nm,0.6s,0.4nm
TGJI Tegal 6.36 108 P Pn 00 13 10.5 +4.1
59nm,0.8s,0.3nm
MYKOM Kota Tinggi 6.76 7 P **Pn 00 13 13.7 +1.8**
MYKOM Kota Tinggi 6.76 7 P **Pn 00 13 12.9 +1.0**
151nm,0.8s,3μm0.5nm
MYKOM Kota Tinggi 6.76 7 *e*Pn **Pn 00 13 13.1 +1.2**
KGM Kluang 6.94 3 P **Pn 00 13 15.8 +1.4**
BJII Banjamegara 7.06 110 P Pn 00 13 19.3 +3.2
42nm,1.2s,0.2nm
SMRI Semarang 7.67 106 *e*Pn **Pn 00 13 22.2 -2.2**
UGM Wanagama 8.02 112 P **Pn 00 13 30.0 +0.9**
baz=8.1,SNR=35
FRIM Kepong 8.26 350 P **Pn 00 13 34.4 +1.9**
GSI Gunungsitoli 8.26 319 ⇑P **Pn 00 13 31.1 -1.4**
baz=8.2
PCJI Pacitan 8.72 112 P **Pn 00 13 39.3 +0.6**
64nm,0.8s,2μm
NGJI Ngawi 8.73 106 P Pn 00 13 42.1 +3.3
50nm,1.1s
PSI Prapat 8.73 332 P Pn 00 13 35.1 -3.9
PSI Prapat 8.73 332 P Pn 00 13 35.1 -3.9
2.3nm,0.3s,baz=194,slow=17,SNR=3.7
PSI LR LR 00 17 39.9
comp=Z,163nm,18.3s,baz=154,slow=43
SJI Sawahan 9.12 108 P **Pn 00 13 46.4 +2.1**
84nm,0.6s,13μm
PWJI Pagerwojo 9.24 110 P **Pn 00 13 47.4 +1.5**
80nm,0.8s,1μm
COCO West Island 9.43 220 *e*P Pn 00 13 44.3 -4.1
COCO West Island 9.43 220 P **Pn 00 13 47.4 -0.9**
377nm,1.2s
COCO West Island 9.43 220 *e*Pn Pn 00 13 44.3 -4.1
COCO *e*Sn Sn 00 15 21.6 -11
COCO West Island 9.43 220 Pn **Pn 00 13 47.1 -1.2**
3μm,1.2s,SNR=17
IPM Ipoh 9.59 348 P **Pn 00 13 52.8 +2.1**
IPM Ipoh 9.59 348 P **Pn 00 13 53.6 +3.0**
46nm,0.8s,493nm
IPM Ipoh 9.59 348 *e*Pn **Pn 00 13 51.7 +1.1**
KSM Kuching 9.69 49 P **Pn 00 13 53.5 +1.5**
KSM Kuching 9.69 49 P **Pn 00 13 53.9 +1.9**
24nm,0.8s
KSM Kuching 9.69 49 *e*Pn **Pn 00 13 52.2 +0.1**
KTGM Kuala Trenggan 10.22 1 P **Pn 00 14 01.9 +2.6**
KULM Kulim 10.46 347 P **Pn 00 14 01.7 -0.7**
KULM Kulim 10.46 347 P **Pn 00 14 04.6 +2.1**
26nm,1.1s
KULM Kulim 10.46 347 *e*Pn **Pn 00 14 01.8 -0.7**
GMJI Gumukmas 10.87 108 P **Pn 00 14 10.7 +2.6**
50nm,0.9s,1μm
BLJI Banyuglugur 10.87 105 P Pn 00 14 11.9 +3.8
73nm,0.4s
ABJI Asem Bagus 11.50 105 P Pn 00 14 20.5 +3.8
148nm,0.6s,2μm
SBUM Sibu 11.78 52 P Pn 00 14 24.5 +3.9
SBUM Sibu 11.78 52 P **Pn 00 14 23.1 +2.5**
24nm,1.1s
SBUM Sibu 11.78 52 *e*Pn **Pn 00 14 22.9 +2.3**
MTKI Muara Teweh, K 12.52 72 P Pn 00 14 33.8 +3.2
260nm,0.2s,24μm
KHKI Kahang-Kahang 12.96 106 P **Pn 00 14 34.8 -1.8**
57nm,0.7s,764nm
BKB Balikpapan 14.34 76 P P 00 15 05.3 +5.1
MJSI Majene 15.98 86 P **P 00 15 19.9 +1.4**
135nm,1.4s,1μm47μm
MMSI Mamuju 16.02 82 P **P 00 15 19.4 +0.5**
57nm,0.9s,367nm
KAPI Kappang 16.67 91 P **P 00 15 28.1 +2.0**
125nm,1.1s
KAPI Kappang 16.67 91 *e*Pn **P 00 15 25.6 -0.4**
81nm,0.7s
KAPI Kappang 16.67 91 P **Pn 00 15 22.9 -1.9**
0.2nm,0.3s,baz=267,slow=18,SNR=2.0
SPSI Sidrap Palu 16.73 87 P **P 00 15 26.6 -0.2**
54nm,0.9s
BKSI Bulukumba 17.04 92 P **Pn 00 15 29.5 +0.2**
66nm,1.0s,727nm
BNSI Bone 17.04 89 P **P 00 15 31.7 +1.5**
73nm,1.0s,860nm
LBFI Labuhan Bajo, 17.12 103 P **P 00 15 31.1 +0.1**
76nm,0.7s,1μm
KKM Kota Kinabalu 17.12 50 P **P 00 15 33.3 +2.1**
KKM Kota Kinabalu 17.12 50 *e*Pn **P 00 15 32.2 +1.0**
211nm,2.0s
TSM Tawau 17.46 58 P **P 00 15 37.3 +2.5**
CHBT CHBT 17.61 358 P **P 00 15 36.6 +0.2**
25nm,0.9s,3μm
SDKM Sandakan 17.65 54 P **P 00 15 40.2 +3.3**
PATY Pattaya 17.90 353 P **Pn 00 15 40.2 +0.4**
15nm,0.7s,1μm
KDM Kudat 18.15 50 P **P 00 15 41.2 -1.2**
APSI Ampana 19.04 78 P **Pn 00 15 55.8 +2.3**
149nm,0.8s,1μm
MMRI Maumere 19.43 102 P **Pn 00 15 58.2 0.0**
UBPT Khong Chiam 20.26 7 P **P 00 16 04.2 -1.2**
44nm,0.9s
GTOI Gorontalo 20.73 75 P **P 00 16 09.5 -1.1**
PBKT Sadao Pong 21.49 355 P **P 00 16 19.0 +0.4**
26nm,0.9s,1μm
MHMT Maesarieng 23.54 348 P **P 00 16 38.4 -1.3**
13nm,0.9s
LAMP Lampang 23.58 352 P **P 00 16 38.9 -1.2**
7.1nm,0.9s
CM31 Chiang Mai Arr 23.62 350 *e*P **P 00 16 39.3 -1.2**
15nm,0.4s
CMAR Chiang Mai Arr 23.62 350 P **P 00 16 39.1 -1.4**
CMAR PcP **PcP 00 20 25.1 +1.4**
CMAR Chiang Mai Arr 23.62 350 P **P 00 16 39.1 -1.4**
15nm,0.4s,baz=183,slow=8.6,SNR=70
CMAR PcP **PcP 00 20 25.1 +1.4**
2.1nm,0.6s,baz=200,slow=3.3,SNR=6.2
CMAR LR LR 00 25 44.1
comp=Z,123nm,21.5s,baz=166,slow=36
CMMT Chiang Mai 23.96 350 P **P 00 16 41.8 -1.8**
26nm,0.8s

CHTO Chiang Mai 23.97 350 *e*P **P 00 16 42.2 -1.4**
CHTO *e* 00 20 24.7
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 23.97 350 P **P 00 16 42.2 -1.4**
CHTO Chiang Mai 23.97 350 *e*P **P 00 16 42.2 -1.4**
comp=Z,5.1nm,0.8s
CHTO *e*PcP **PcP 00 20 24.7 +0.2**
CHTO Chiang Mai 23.97 350 P **P 00 16 41.9 -1.7**
comp=Z,120nm,0.8s
QIZ Qiongzhong 24.77 16 P **P 00 16 51.5 +0.6**
QIZ sP **sP 00 17 14.5 -0.3**
QIZ S **S 00 21 11.8 +3.1**
QIZ pmax pmax
comp=Z,17nm,1.0s
CMAI Chiengmai2 25.05 351 P **P 00 16 53.6 0.0**
comp=Z,25nm,1.1s
CRAI Chiangrai 25.17 354 P **P 00 16 53.1 -1.5**
comp=Z,109nm,1.3s,comp=Z,11μm
FITZ Fitzroy Crossi 25.68 122 P **P 00 16 60.0 +0.7**
FITZ PcP **PcP 00 20 29.2 +0.9**
FITZ Fitzroy Crossi 25.68 122 P **P 00 16 60.0 +0.7**
comp=Z,18nm,0.4s,baz=308,slow=8.0,SNR=161
FITZ PcP **PcP 00 20 29.2 +0.9**
comp=Z,2.6nm,0.4s,baz=305,slow=3.7,SNR=5.6
FITZ LR LR 00 28 40.0
comp=Z,16nm,28.6s,baz=312,slow=40
FITZ Fitzroy Crossi 25.68 122 ⇑P **P 00 16 59.8 +0.6**
baz=26
MEEK Meekatharra 26.20 147 ⇓P **P 00 17 05.2 +1.2**
baz=26
KNRA Kununurra 27.44 115 ⇑P **P 00 17 14.5 -0.6**
baz=28,SNR=18
MTN Manton Dam 28.84 108 ⇑P **P 00 17 26.1 -1.5**
baz=29,SNR=9.5
FAKI Fak Fak 29.23 87 P **P 00 17 30.3 -0.8**
baz=29,SNR=5.7
KMI Kunming 29.91 360 P **P 00 17 37.5 +0.3**
KMI pmax pmax
comp=Z,20nm,0.7s
KMI LR LR
comp=Z,220nm,11.4s
KMI LR LR
comp=Z,230nm,7.5s
H08S2 Diego Garcia H 30.45 263 T T 00 49 52.0
baz=86,slow=76,SNR=63
H08S3 Diego Garcia H 30.46 263 T T 00 49 52.6
baz=86,slow=76,SNR=61
H08S1 Diego Garcia H 30.47 263 T T 00 49 44.4
baz=86,slow=76,SNR=69
NWAO Narrogin (SRO) 30.82 156 LR LR 00 28 51.5
comp=Z,142nm,21.6s,baz=310,slow=33
GYA Guiyang 31.44 6 ⇑ *i*P **P 00 17 52.5 +2.0**
GYA pP **pP 00 18 08.9 +2.2**
GYA sP **sP 00 18 16.0 +1.5**
GYA PP **PP 00 19 01.4 -1.3**
GYA S **S 00 22 56.5 +2.7**
GYA sS **sS 00 23 23.0 +1.6**
GYA SS **SnSn 00 24 51.0 +6.7**
GYA ScS **ScS 00 28 16.7 -1.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.1s
GYA LR LR
comp=Z,590nm,17.4s
GYA LR LR
comp=Z,470nm,18.0s
H01W3 Cape Leeuwin H 31.50 162 T T 00 51 12.3
baz=340,slow=76,SNR=38
H01W2 Cape Leeuwin H 31.51 162 T T 00 51 13.2
baz=340,slow=76,SNR=59
H01W1 Cape Leeuwin H 31.52 162 T T 00 51 18.3
baz=340,slow=76,SNR=47
HYB Hyderabad 32.84 313 *i* P **P 00 18 03.0 +0.2**
YULB Yu-li 33.36 32 *e*P **P 00 18 07.2 -0.1**
comp=Z,121nm,1.9s
WB9 Warramunga Arr 33.90 119 ⇑P **P 00 18 12.3 +0.1**
baz=34
WRA Warramunga Arr 33.92 119 P **P 00 18 12.6 +0.3**
WRA PcP **PcP 00 20 50.3 +0.7**
WRA S **S 00 23 29.3 -3.2**
WRA Warramunga Arr 33.92 119 P **P 00 18 12.5 +0.3**
comp=Z,18nm,0.4s,baz=300,slow=9.1,SNR=100
WRA PcP **PcP 00 20 50.3 +0.7**
comp=Z,5.3nm,0.5s,baz=301,slow=2.1,SNR=8.5
WRA S **S 00 23 29.3 -3.2**
comp=Z,1.2nm,0.9s,baz=296,slow=16,SNR=3.7
WRA LR LR 00 34 33.5
comp=Z,16nm,28.6s,baz=50,slow=41
WRAB Tennant Creek 33.93 119 *c i*P **P 00 18 12.5 +0.2**
WRAB pmax pmax
comp=Z,33nm,0.6s
WRAB Tennant Creek 33.93 119 *e*P **P 00 18 12.3 0.0**
comp=Z,21nm,0.5s
WRAB Tennant Creek 33.93 119 P **P 00 18 12.0 -0.3**
comp=Z,266nm,0.4s,SNR=92
WC2 Warramunga Arr 33.94 119 ⇑P **P 00 18 12.7 +0.3**
baz=34
WR7 Warramunga Arr 34.05 119 ⇓P **P 00 18 13.6 +0.3**
baz=34
YHNB Yeheng 34.45 30 *e*P **P 00 18 19.5 +2.7**
comp=Z,528nm,2.9s
ODAN Odare 35.06 335 *e*P **P 00 18 21.7 -0.6**
comp=Z,37nm,0.5s
ODAN Odare 35.06 335 *e*P **P 00 18 21.7 -0.6**
ASAR Alice Springs 35.09 125 P **P 00 18 23.1 +0.7**
ASAR PcP **PcP 00 20 54.0 +1.1**
ASAR S **S 00 23 49.2 -1.3**
ASAR ScP **ScP 00 24 34.5 +1.6**
ASAR Alice Springs 35.09 125 P **P 00 18 23.1 +0.7**
comp=Z,14nm,0.3s,baz=301,slow=8.1,SNR=118
ASAR PcP **PcP 00 20 54.0 +1.1**
comp=Z,6.5nm,0.5s,baz=295,slow=2.2,SNR=13
ASAR S **S 00 23 49.2 -1.3**
comp=Z,1.8nm,0.9s,baz=304,slow=16,SNR=7.1
ASAR ScP **ScP 00 24 34.5 +1.6**
comp=Z,1.4nm,0.8s,baz=316,slow=3.9,SNR=5.3
AS16 Alice Springs 35.10 125 ⇑P **P 00 18 23.3 +0.8**
baz=35
AS09 Alice Springs 35.14 125 ⇓P **P 00 18 23.6 +0.8**
baz=35
TAPN Taplejung 35.37 336 *e*P **P 00 18 24.2 -0.7**
comp=Z,42nm,0.6s
TAPN Taplejung 35.37 336 *e*P **P 00 18 24.2 -0.7**
RAMN Ramite 35.48 334 *e*P **P 00 18 25.5 -0.4**
comp=Z,26nm,0.4s
ENH Enshi 35.58 10 *e*P **P 00 18 24.6 -1.8**
comp=Z,8.9nm,0.6s
CD2 Chengdu 35.68 1 P **P 00 18 26.2 -1.1**
CD2 pP **pP 00 18 40.2 -3.4**
CD2 PP **PP 00 19 51.4 +1.9**
CD2 PcP **PcP 00 20 54.5 0.0**
CD2 S **S 00 24 04.4 +5.2**
CD2 SS **SnSn 00 26 31.2 +4.3**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,140nm,6.8s
CD2 LR LR
comp=Z,290nm,17.8s
CD2 LR LR
comp=Z,210nm,19.0s
JIRN Jiri 36.27 334 *e*P **P 00 18 32.3 -0.5**
comp=Z,38nm,0.5s
JIRN Jiri 36.27 334 *e*P **P 00 18 32.3 -0.5**
LSA Lhasa 36.30 342 *e*P **P 00 18 32.2 -0.9**
LSA *e* 00 20 57.7
LSA pmax pmax
comp=Z,33nm,0.8s
LSA Lhasa 36.30 342 *e*P **P 00 18 32.2 -0.9**
comp=Z,33nm,0.8s
LSA *e*PcP **PcP 00 20 57.7 +0.8**
PKI Pulchoki 36.54 333 *e*P **P 00 18 33.9 -1.1**
comp=Z,26nm,0.6s
PKI Pulchoki 36.54 333 *e*P **P 00 18 34.4 -0.6**
PKI Pulchoki 36.54 333 *e*P **P 00 18 34.4 -0.6**
PKIN Phulchoki 36.55 333 *e*P **P 00 18 34.4 -0.7**
comp=Z,14nm,0.5s
GUN Gumba 36.63 334 *e*P **P 00 18 35.2 -0.6**
comp=Z,104nm,0.4s
DMN Daman 36.71 333 *e*P **P 00 18 35.7 -0.7**
DMN Daman 36.71 333 *e*P **P 00 18 35.7 -0.7**
KKN Kakani 36.79 333 *e*P **P 00 18 36.2 -0.8**
comp=Z,68nm,0.6s
KKN Kakani 36.79 333 *e*P **P 00 18 36.2 -0.8**

KKN Kakani 36.79 333 *e*P **P 00 18 36.2 -0.8**
WHN Wuhan 36.94 16 P P 00 18 29.5 -8.4
GKN Gorkha 37.26 333 *e*P **P 00 18 40.2 -0.7**
GKN Gorkha 37.26 333 *e*P **P 00 18 40.2 -0.7**
KOLN Koldanda 37.55 331 *e*P **P 00 18 43.1 -0.4**
comp=Z,157nm,0.7s
KOLN Koldanda 37.55 331 *e*P **P 00 18 43.1 -0.4**
DANN Dangsing 37.96 332 *e*P **P 00 18 46.5 -0.5**
comp=Z,180nm,0.6s
DANN Dangsing 37.96 332 *e*P **P 00 18 46.5 -0.5**
PYUN Piuthan 38.12 331 *e*P **P 00 18 47.7 -0.6**
comp=Z,257nm,0.8s
PYUN Piuthan 38.12 331 *e*P **P 00 18 47.7 -0.6**
XAN Xi'an 39.19 8 P **P 00 18 55.8 -1.1**
XAN pP **pP 00 19 10.4 -3.1**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,25nm,8.0s
NJ2 Nanjing 39.78 21 *e*P **P 00 19 03.4 +1.6**
NJ2 pP **pP 00 19 18.3 0.0**
NJ2 sP **sP 00 19 27.7 +1.6**
NJ2 S **S 00 25 05.0 +3.8**
NJ2 sS **sS 00 25 32.0 +2.7**
NJ2 pmax pmax
comp=Z,200nm,0.7s
NJ2 pmax pmax
comp=Z,110nm,5.1s
JOW Kunigami 39.96 36 P **P 00 19 02.1 -1.3**
JOW Kunigami 39.96 36 P **P 00 19 02.1 -1.3**
comp=Z,1.1nm,0.4s,baz=256,slow=4.2,SNR=5.4
COEN Coen 40.55 106 *e*P **P 00 19 07.7 -0.8**
comp=Z,79nm,1.0s
COEN Coen 40.55 106 ⇓P **P 00 19 07.3 -1.2**
baz=41,SNR=12
LZH Lanzhou 40.84 1 ⇑P **P 00 19 10.3 -0.4**
LZH pP **pP 00 19 25.8 -1.5**
LZH sP **sP 00 19 33.0 -2.0**
LZH PP **PnPn 00 20 49.5 -1.3**
LZH *e*S **S 00 25 18.6 +1.3**
LZH sS **sS 00 25 44.5 -1.0**
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,260nm,7.4s
LZH LR LR
comp=Z,240nm,12.6s
LZH LR LR
comp=Z,250nm,12.0s
BBOO Buckleboo 41.44 136 *e*P **P 00 19 16.1 +0.6**
comp=Z,1μm,1.7s
BBOO Buckleboo 41.44 136 ⇓P **P 00 19 16.7 +1.1**
baz=42,SNR=9.3
NDI New Delhi 41.66 325 *e*P **P 00 19 16.0 -1.4**
comp=Z,14nm,0.5s
NDI *e*S **S 00 25 26.0 -3.3**
HTT Hallett 43.78 135 P **P 00 19 36.5 +1.9**
baz=44,SNR=5.3
PMG Port Moresby 43.99 98 *e*P **P 00 19 35.1 -1.4**
comp=Z,30nm,0.8s
PMG Port Moresby 43.99 98 P **P 00 19 34.9 -1.6**
comp=Z,15nm,0.5s,baz=270,slow=3.0,SNR=5.3
PMG LR LR 00 40 40.8
comp=Z,16nm,28.6s,baz=298,slow=40
GTA Gaotai 44.25 356 *e*P **P 00 19 38.0 -0.3**
GTA pP **pP 00 19 53.6 -1.5**
GTA sP **sP 00 20 01.7 -1.0**
GTA PcP **PP 00 21 22.4 -0.3**
GTA pmax pmax
comp=Z,20nm,0.7s
CTA Charters Tower 44.64 114 P **P 00 19 42.5 +0.9**
CTA PcP **PcP 00 21 23.6 +0.1**
CTA Charters Tower 44.64 114 P **P 00 19 42.5 +0.9**
baz=274,slow=7.3
CTA PcP **PcP 00 21 23.6 +0.1**
comp=Z,3.2nm,0.4s,baz=277,slow=4.7,SNR=3.9
CTAO Charters Tower 44.64 114 *e*P **P 00 19 42.5 +0.9**
CTAO pmax pmax
comp=Z,49nm,0.8s
CTAO Charters Tower 44.64 114 *e*P **P 00 19 42.5 +0.9**
comp=Z,49nm,0.8s
QLP Quilpie 44.82 123 ⇓P **P 00 19 44.6 +1.6**
baz=45,SNR=5.7
STKA Stephens Creek 44.94 131 *e*P **P 00 19 45.3 +1.5**
comp=Z,6.3nm,1.0s
STKA PcP **PcP 00 21 25.2 +1.0**
STKA Stephens Creek 44.94 131 P **P 00 19 45.3 +1.5**
comp=Z,19nm,0.4s,baz=307,slow=7.7,SNR=62
STKA PcP **PcP 00 21 25.2 +1.0**
comp=Z,5.1nm,0.5s,baz=292,slow=5.4,SNR=2.7
STKA LR LR 00 40 58.6
comp=Z,55nm,19.2s,baz=14,slow=39
STKA Stephens Creek 44.94 131 P **P 00 19 45.5 +1.6**
baz=45,SNR=47
JNU Nakatsue 46.18 33 *e*P **P 00 19 53.2 -0.4**
comp=Z,8.8nm,0.8s
JNU Nakatsue 46.18 33 P **P 00 19 52.5 -1.1**
comp=Z,21nm,0.7s,baz=214,slow=3.6,SNR=7.3
HHC Hu-ho-hao-te 46.26 9 *e*P **P 00 19 54.2 0.0**
HHC pP **pP 00 20 12.6 +1.6**
HHC sP **sP 00 20 19.7 +1.0**
HHC PP **PP 00 21 46.9 +3.0**
HHC S **S 00 26 40.1 +3.9**
HHC sS **sS 00 27 06.7 +1.9**
HHC SS **SS 00 29 59.2 -3.3**
HHC pmax pmax
comp=Z,49nm,1.1s
HHC pmax pmax
comp=Z,250nm,6.1s
HHC LR LR
comp=Z,210nm,16.2s
HHC LR LR
comp=Z,290nm,16.8s
BJT Baijiatuau 46.37 14 *e*P **P 00 19 53.7 -1.1**
comp=Z,27nm,0.8s
BJT *e*PcP **PcP 00 21 29.6 +0.6**
BJI Beijing 46.39 14 P **P 00 19 54.6 -0.4**
BJI S S 00 26 44.9 +7.1
BJI pmax pmax
comp=Z,39nm,0.8s
BJI pmax pmax
comp=Z,110nm,5.7s
CMSA Cobar Meteorol 47.92 129 P **P 00 20 09.1 +2.0**
baz=48,SNR=14
KSAR Wonju Array Be 48.13 27 P **P 00 20 08.1 -0.5**
KSAR PcP **PcP 00 21 35.1 -0.1**
KSRS Korea Array 48.16 27 P **P 00 20 08.1 -0.7**
comp=Z,9.9nm,0.6s,baz=230,slow=7.2,SNR=38
KSRS PcP **PcP 00 21 35.1 -0.2**
comp=Z,4.1nm,0.8s,baz=218,slow=3.5,SNR=9.7
CBIJ Chichi jima 49.48 48 P **P 00 20 16.2 -3.0**
JCJ Chichijima 49.48 48 P **P 00 20 16.2 -3.0**
comp=Z,53nm,0.5s,baz=288,slow=19,SNR=5.1
EIDS Eidsvold 50.29 119 *e*P **P 00 20 25.1 -0.3**
comp=Z,4.0nm,0.4s
EIDS *e*PcP **PcP 00 21 43.8 +0.3**
EIDS Eidsvold 50.29 119 ⇑P **P 00 20 24.7 -0.7**
baz=50,SNR=5.3
WMQ Urumqi 50.49 346 P **P 00 20 26.0 -0.6**
WMQ pP **pP 00 20 42.0 -1.7**
WMQ sP **sP 00 20 49.0 -2.3**
WMQ PP **PP 00 22 23.0 0.0**
WMQ ScP **ScP 00 25 33.0 -1.2**
WMQ S **S 00 27 34.0 -1.7**
WMQ ScS **ScS 00 30 08.0 -3.5**
WMQ pmax pmax
comp=Z,44nm,1.0s
WMQ pmax pmax
comp=Z,120nm,5.0s
WMQ LR LR
comp=Z,72nm,17.0s
WMQ LR LR
comp=Z,52nm,16.0s
KBL Kabul 50.69 323 *e*P **P 00 20 27.5 -1.0**
KBL pmax pmax
comp=Z,8.0nm,0.7s
KBL Kabul 50.69 323 *e*P **P 00 20 27.5 -1.0**
comp=Z,7.7nm,0.7s
KSH Kashi 50.81 333 P **P 00 20 27.1 -2.1**
KSH pP pP 00 20 37.1 -9.2
KSH PP **PP 00 22 24.1 -1.9**
KSH S **S 00 27 35.2 -5.1**
KSH SS **SS 00 31 13.1 -2.8**
KSH pmax pmax
comp=Z,27nm,0.6s

KSH pmax pmax
comp=Z,190nm,4.9s
KSH LR LR
comp=Z,180nm,5.9s
KSH LR LR
comp=Z,120nm,5.3s
KSH LR LR
comp=Z,110nm,5.7s
YNG Young 51.13 131 ⇑P **P 00 20 33.3 +1.7**
baz=51,SNR=12
CN2 Changchun 52.59 20 *e*P **P 00 20 40.6 -1.6**
CN2 PcP **PcP 00 21 49.4 -2.2**
CN2 *e*PP **PP 00 22 42.1 +0.2**
CN2 *e*S **S 00 28 03.0 -1.4**
CN2 *e*SS **SS 00 31 41.3 -2.4**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,300nm,22.0s
SONM Songino Array 52.66 3 P **P 00 20 42.0 -0.8**
SONM PcP **PcP 00 21 51.7 -0.3**
SONM Songino Array 52.66 3 P **P 00 20 42.0 -0.8**
comp=Z,24nm,0.6s,baz=182,slow=7.8,SNR=106
SONM PcP **PcP 00 21 51.7 -0.3**
comp=Z,6.0nm,0.3s,baz=191,slow=4.3,SNR=22
SONM LR LR 00 45 54.3
comp=Z,114nm,18.4s,baz=343,slow=39
ULN Ulaanbaatar 52.73 3 *e*P **P 00 20 42.4 -0.9**
comp=Z,12nm,0.9s
ULN *e*PcP **PcP 00 21 51.2 -1.0**
MAJO Matsushiro 52.79 36 *e*P **P 00 20 41.6 -2.2**
MAJO pmax pmax
comp=Z,110nm,1.2s
MAJO Matsushiro 52.79 36 *e*P **P 00 20 41.3 -2.5**
comp=Z,8.5nm,0.6s
MAT Matsushiro 52.79 36 P **P 00 20 41.3 -2.5**
MJAR Matsushiro Arr 52.79 36 P **P 00 20 41.7 -2.2**
MJAR PcP **PcP 00 21 52.4 -0.1**
MJAR Matsushiro Arr 52.79 36 P **P 00 20 41.7 -2.2**
comp=Z,14nm,0.8s,baz=217,slow=7.6,SNR=23
MJAR PcP **PcP 00 21 52.4 -0.1**
comp=Z,2.4nm,0.8s,baz=205,slow=3.9,SNR=4.2
ULHL Ulahol 52.92 335 P **P 00 20 44.5 -0.4**
SNR=7.2
KZA Kyzart 53.21 334 *i* P **P 00 20 47.0 -0.3**
KZA Kyzart 53.21 334 P **P 00 20 47.1 -0.3**
SNR=11
UCH Uchtor 53.65 334 *i* P **P 00 20 50.1 -0.4**
UCH Uchtor 53.65 334 P **P 00 20 50.2 -0.4**
SNR=17
TKM2 Tokmak 2 53.75 335 *e*P **P 00 20 50.4 -0.6**
TKM2 pmax pmax
comp=Z,71nm,0.4s
TKM2 Tokmak 2 53.75 335 P **P 00 20 50.4 -0.6**
SNR=147
TKM2 Tokmak 2 53.75 335 *e*P **P 00 20 50.4 -0.6**
comp=Z,71nm,0.4s
KBK Karagaybulak 53.81 335 P **P 00 20 51.3 -0.1**
SNR=56
AML Almayashu 53.94 333 *i* P **P 00 20 52.2 -0.4**
AML Almayashu 53.94 333 P **P 00 20 52.1 -0.4**
SNR=24
AAK Ala-Archa 53.98 334 *e*P **P 00 20 52.1 -0.6**
AAK *e* 00 21 57.8
AAK pmax pmax
comp=Z,8.0nm,0.6s
AAK Ala-Archa 53.98 334 P **P 00 20 52.4 -0.3**
SNR=12
AAK Ala-Archa 53.98 334 *e*P **P 00 20 52.1 -0.6**
comp=Z,8.2nm,0.6s
AAK PcP **PcP 00 21 57.5 +0.3**
AAK *e*PcP **PcP 00 21 57.8 +0.7**
AAK Ala-Archa 53.98 334 P **P 00 20 52.0 -0.6**
comp=Z,94nm,0.4s,SNR=12
AAK Ala-Archa 53.98 334 P **P 00 20 52.2 -0.5**
comp=Z,6.3nm,0.4s,baz=115,slow=4.9,SNR=9.4
AAK PcP **PcP 00 21 57.5 +0.3**
comp=Z,9.2nm,0.4s,baz=149,slow=5.5,SNR=7.5
CHMS Chumysh 54.17 335 *i* P **P 00 20 52.8 -1.0**
CHMS Chumysh 54.17 335 P **P 00 20 52.8 -1.0**
SNR=8.8
EKS2 Erkin-Say 54.32 334 *e*P **P 00 20 55.0 -0.1**
EKS2 *e* 00 21 58.8
EKS2 pmax pmax
comp=Z,36nm,0.7s
EKS2 Erkin-Say 54.32 334 P **P 00 20 54.9 -0.1**
SNR=30
EKS2 Erkin-Say 54.32 334 *e*P **P 00 20 55.0 -0.1**
comp=Z,36nm,0.7s
EKS2 *e*PcP **PcP 00 21 58.8 +0.4**
USP Ospenovka 54.50 335 *i* P **P 00 20 55.2 -1.0**
USP Ospenovka 54.50 335 P **P 00 20 55.3 -1.0**
SNR=32
MK31 Makanchi Array 54.71 343 *e*P **P 00 20 56.4 -1.3**
MK31 pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 54.71 343 *e*P **P 00 20 56.7 -0.9**
MK31 *e*PcP **PcP 00 21 59.8 +0.1**
MKAR Makanchi Array 54.71 343 P **P 00 20 56.6 -1.1**
MKAR 00 21 59.8
MKAR Makanchi Array 54.71 343 P **P 00 20 56.6 -1.1**
MKAR PcP **PcP 00 21 59.8 +0.1**
MKAR Makanchi Array 54.71 343 P **P 00 20 56.6 -1.1**
comp=Z,24nm,0.8s,baz=145,slow=8.1,SNR=202
MKAR PcP **PcP 00 21 59.8 +0.1**
comp=Z,6.5nm,1.1s,baz=144,slow=5.4,SNR=1.8
MKAR LR LR 00 47 26.3
comp=Z,15nm,28.6s,baz=139,slow=39
MKAR Makanchi Array 54.71 343 ⇑P **P 00 20 56.8 -0.9**
baz=55
MDJ Mudanjiang 54.82 23 P **P 00 20 58.4 -0.1**
MDJ pP **pP 00 21 14.3 -1.5**
MDJ sP **sP 00 21 21.3 -2.0**
MDJ PcP **PcP 00 21 55.4 -4.7**
MDJ PP **PP 00 23 03.5 +1.5**
MDJ ScP **ScP 00 25 49.3 -3.6**
MDJ PcS **PcS 00 25 55.9 -3.8**
MDJ S **S 00 28 37.1 +2.6**
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,120nm,5.2s
MDJ Mudanjiang 54.82 23 *e*P **P 00 20 58.6 +0.1**
comp=Z,4.7nm,0.6s
ZAK Zakamensk 55.12 0 *e*P **P 00 20 59.9 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
USRK Ussuriysk Arra 55.45 25 P **P 00 21 01.8 -1.2**
comp=Z,28nm,0.6s,baz=218,slow=5.7,SNR=78
IKOO Kooshah 55.94 315 *e*P **P 00 21 07.2 +0.1**
HIA Hailar 55.94 13 *e*P **P 00 21 04.4 -2.1**
HIA *e*PcP **PcP 00 22 03.9 -0.5**
KK31 Karatay Array 56.16 332 *e*P **P 00 21 06.8 -1.4**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 56.16 332 *e*P **P 00 21 05.6 -2.6**
KKAR *e* 00 22 05.8
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 56.16 332 *e*P **P 00 21 05.6 -2.6**
comp=Z,4.2nm,0.5s
KKAR *e*PcP **PcP 00 22 05.8 +0.5**
TLY Talaya 56.43 0 *e*P **P 00 21 09.4 -0.5**
TLY pmax pmax
comp=Z,11nm,0.7s
TLY Talaya 56.43 0 *e*P **P 00 21 09.4 -0.5**
comp=Z,11nm,0.7s
IBAF Bafgh 57.98 312 *e*P **P 00 21 21.1 -0.4**
IPAY Payeh 58.21 319 *e*P **P 00 21 22.9 -0.1**
IMEH Mehriz 58.59 311 *e*P **P 00 21 25.0 -0.8**
IKRD Kardeh 58.71 319 *e*P P 00 21 22.0 -4.6
KURBB Kurchatov Arra 59.25 342 P **P 00 21 28.8 -0.9**
comp=Z,13nm,0.8s,baz=159,slow=6.5,SNR=15
KURBB PcP **PcP 00 22 17.3 0.0**
comp=Z,4.0nm,0.4s,baz=146,slow=4.0,SNR=7.9
KURK Kurchatov 59.30 342 *e*P **P 00 21 28.5 -1.5**
KURK *e* 00 22 17.3
KURK pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 59.30 342 *e*P **P 00 21 28.5 -1.5**
comp=Z,16nm,1.0s
KURK *e*PcP **PcP 00 22 17.3 -0.2**
KURK Kurchatov 59.30 342 P **P 00 21 29.4 -0.6**
comp=Z,183nm,0.8s,SNR=22
KLR Kul'dur 59.48 21 *e*P P 00 21 26.0 -5.3
KLR pmax pmax
comp=Z,70nm,1.8s
ABKT Ailbek 59.64 320 P **P 00 21 32.5 -0.2**
comp=Z,198nm,0.4s,SNR=14
HABR Khabarovsk 60.14 24 *e*P P 00 21 32.5 -3.3
HABR *e**PP pP 00 21 42.6 -11
HABR *e**SP sP 00 21 46.6 -14
HABR *e* 00 23 45.4
HABR *e*S **S 00 29 44.4 +0.3**
HABR *e* 00 29 57.0
HABR *e* 00 30 01.7
HABR *e* 00 31 20.3
HABR *e*SS **SS 00 33 43.3 +0.9**
HABR pmax pmax
comp=Z,31nm,1.9s
HABR MLR MLR
comp=Z,95nm,20.0s
ASAJ Asahikawa 60.43 32 P **P 00 21 37.2 -0.7**
ASAJ Asahikawa 60.43 32 P **P 00 21 37.2 -0.7**
comp=Z,16nm,0.4s,baz=225,slow=5.8,SNR=11
ASAJ LR LR 00 47 52.5
comp=Z,16nm,28.6s,baz=292,slow=36
ZAA0 Zalesovo Array 60.65 348 *e*P **P 00 21 37.6 -1.6**
ZALV Zalesovo Beam 60.65 348 *i* P **P 00 21 38.0 -1.2**
ZALV pmax pmax
comp=Z,25nm,0.3s
ZALV Zalesovo Beam 60.65 348 P **P 00 21 38.2 -1.0**
ZALV Zalesovo Beam 60.65 348 P **P 00 21 38.2 -1.0**
comp=Z,25nm,0.3s,baz=163,slow=5.4,SNR=160
ZALV LR LR 00 50 55.4
comp=Z,126nm,19.2s,baz=78,slow=39
IZEF Zefreh 61.01 312 *e*P **P 00 21 41.7 -0.7**
IANJ Anjilo 61.13 315 *e*P **P 00 21 42.9 -0.3**
IKIA Kiasar 61.67 316 *e*P **P 00 21 47.2 +0.4**
IGLO Ghaloghah 61.72 316 *e*P **P 00 21 49.2 +2.1**
ISHM Shahmirzad 61.74 315 *e*P **P 00 21 47.3 0.0**
ILAS Lasjerd 61.76 315 *e*P **P 00 21 47.3 -0.1**
IKLH Kolahrood 61.77 312 *e*P **P 00 21 48.1 +0.6**
ISFB Sefidab 61.77 313 *e*P **P 00 21 47.1 -0.2**
YSS Yuzh-Sakhalins 62.47 30 *e*P **P 00 21 51.0 -0.6**
YSS pmax pmax
comp=Z,30nm,0.9s
IDMV Damavand 62.52 314 *e*P **P 00 21 52.0 -0.5**
QRN Al-Qurain 62.65 306 *e*P **P 00 21 53.8 +0.6**
QRN AMb AMB 00 21 59.0
comp=Z,229nm,1.9s
RAYN Ar Rayn 62.80 299 P **P 00 21 55.9 +1.5**
comp=Z,44nm,0.7s,SNR=5.2
RDF Al-Radifah 63.02 306 *e*P **P 00 21 56.9 +1.3**
RDF AMb AMB 00 22 03.3
comp=Z,173nm,1.5s
UMR Umm Al-Rimmam 63.13 307 *e*P **P 00 21 57.0 +0.7**
UMR AMb AMB 00 21 57.9
comp=Z,175nm,0.6s
DZM Mont Dzumac 63.55 112 P **P 00 22 00.1 +0.7**
DZM Mont Dzumac 63.55 112 P **P 00 22 00.1 +0.7**
comp=Z,7.6nm,0.7s,baz=303,slow=16,SNR=4.0
RST Umm Al-Ruwaisa 63.68 306 *e*P **P 00 22 00.3 +0.3**
RST AMb AMB 00 22 01.8
comp=Z,893nm,1.0s
BVA0 Borovoye Array 64.00 339 *i* P **P 00 22 00.2 -1.4**
BVA0 pmax pmax
comp=Z,20nm,0.7s
BVAR Borovoye Array 64.00 339 P **P 00 22 00.2 -1.4**
BVAR Borovoye Array 64.00 339 P **P 00 22 00.2 -1.4**
BVAR Borovoye Array 64.00 339 P **P 00 22 00.2 -1.4**
comp=Z,22nm,0.5s,baz=143,slow=9.0,SNR=14
BRVK Borovoye 64.07 339 *e*P **P 00 22 00.8 -1.2**
BRVK pmax pmax
comp=Z,16nm,0.6s
BRVK Borovoye 64.07 339 *e*P **P 00 22 00.8 -1.2**
comp=Z,16nm,0.6s
BRVK Borovoye 64.07 339 P **P 00 22 00.8 -1.2**
comp=Z,245nm,0.5s,SNR=16
AB31 Akbulak array 65.67 331 *i* P **P 00 22 11.7 -0.9**
AB31 pmax pmax
comp=Z,21nm,0.5s
ABKAR Akbulak array 65.67 331 *e*P **P 00 22 11.7 -0.9**
comp=Z,19nm,0.6s
KMBO Kilima Mbogo 65.76 271 P **P 00 22 15.7 +1.5**
KMBO Kilima Mbogo 65.76 271 P **P 00 22 15.7 +1.5**
comp=Z,1.0nm,0.7s,baz=54,slow=9.2,SNR=5.7
ILIN Lien 65.91 312 *e*P **P 00 22 14.0 -0.7**
IGHG Ghaleghazi 65.95 311 *e*P **P 00 22 14.1 -0.9**
IBST Bostanabad 67.16 314 *e*P **P 00 22 21.9 -0.7**
AKTO Aktyubinsk 67.39 331 P **P 00 22 22.1 -1.4**
AKTO pmax pmax
comp=Z,10.0nm,1.0s
AKTO Aktyubinsk 67.39 331 P **P 00 22 22.6 -0.9**
AKTO Aktyubinsk 67.39 331 P **P 00 22 22.6 -0.9**
comp=Z,3.5nm,0.3s,baz=120,slow=8.8,SNR=6.1
MAW Mawson 68.21 195 LR LR 00 46 10.5
comp=Z,126nm,21.7s,baz=34,slow=30
IMRD Marand 68.44 315 *e*P **P 00 22 31.4 +0.8**
GNI Garni 69.73 316 P **P 00 22 38.5 0.0**
GNI Garni 69.73 316 P **P 00 22 38.5 0.0**
comp=Z,11nm,0.7s,baz=27,slow=2.3,SNR=2.1
YAK Yakutsk 69.88 13 *e*P **P 00 22 37.3 -1.4**
YAK *e* 00 22 52.6
YAK *e**PP **PcP 00 23 01.4 +0.6**
YAK *e* 00 25 13.0
YAK *e*S **S 00 31 40.3 -2.9**
YAK *e* 00 32 30.5
YAK *e*SS **SS 00 36 14.7 +1.3**
YAK pmax pmax
comp=Z,16nm,0.7s
YAK pmax pmax
comp=N,1.0nm,0.4s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,81nm,5.2s
YAK pmax pmax
comp=N,44nm,4.4s
YAK pmax pmax
comp=E,48nm,5.9s
YAK smax smax
comp=N,39nm,3.3s
YAK smax smax
comp=E,139nm,5.6s
TBLG Delisi 70.42 317 P **P 00 22 43.4 +0.8**
SVE Sverdlovsk 70.56 337⇓*e*P **P 00 22 42.4 -0.6**
SVE pmax pmax
comp=Z,27nm,0.9s
DUS Dusheti 70.60 318 P **P 00 22 44.8 +1.1**
EAK Akyaka 70.75 316 *i* P **P 00 22 46.2 +1.5**
RPZ Rata Peaks 70.77 135 P **P 00 22 46.1 +1.4**
RPZ Rata Peaks 70.77 135 P **P 00 22 46.1 +1.4**
comp=Z,8.2nm,0.8s,baz=350,slow=6.1,SNR=2.7
DIGO Kars 70.80 316 *i* P **P 00 22 45.4 +0.3**
GUDG Gudauri 70.92 318 P **P 00 22 46.7 +0.9**
ARU Arti 71.12 336 P **P 00 22 45.0 -1.4**
comp=Z,115nm,0.6s,SNR=8.1
ARU Arti 71.12 336*c* *i*P **P 00 22 45.5 -0.9**
ARU 00 25 20.6
ARU S **S 00 32 03.1 +5.3**
ARU SS **SS 00 36 28.5 -4.2**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU Arti 71.12 336 *e*P **P 00 22 45.5 -0.9**
comp=Z,19nm,0.9s
EATA Eleskirt 71.19 315 *i* P **P 00 22 48.7 +1.1**
EKAR Karacoban 71.25 314 *i* P **P 00 22 49.4 +1.5**
ZEI Tsey 71.44 318 *e*P **P 00 22 48.9 0.0**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
ONI Oni 71.65 318 P **P 00 22 51.3 +1.2**
DAGI Agillar 72.08 316 *i* P **P 00 22 53.0 +0.3**
DBAD Bademkaya 72.21 316 *i* P **P 00 22 54.0 +0.6**
DBOC Borcka 72.36 316 *i* P **P 00 22 54.5 +0.3**
KBZ Khabaz 72.50 319 P **P 00 22 55.2 +0.2**
KBZ Khabaz 72.50 319 P **P 00 22 55.2 +0.2**
KBZ Khabaz 72.50 319 P **P 00 22 55.2 +0.2**
comp=Z,16nm,0.8s,baz=124,slow=5.0,SNR=31
KIV Kislovodsk 72.74 319 P **P 00 22 56.3 -0.2**
comp=Z,82nm,0.5s,SNR=5.7
KIV Kislovodsk 72.74 319 *e*P **P 00 22 56.4 -0.1**
KIV pmax pmax
comp=Z,8.0nm,0.7s
KIV Kislovodsk 72.74 319 *e*P **P 00 22 56.7 +0.2**
comp=Z,7.2nm,0.6s
ASF Jabal al Asfar 72.75 306 P **P 00 22 57.7 +0.8**
ASF Jabal al Asfar 72.75 306 P **P 00 22 57.7 +0.8**
comp=Z,14nm,0.8s,baz=64,slow=5.0,SNR=12
ATAB Bozova 73.36 311 *i* P **P 00 23 01.7 +1.5**
MALT Malatya 73.55 312⇓*i* P **P 00 23 02.7 +1.3**
EIL Elat 73.64 303 P **P 00 23 02.9 +0.8**
EIL Elat 73.64 303 P **P 00 23 02.9 +0.8**
comp=Z,21nm,0.9s,baz=121,slow=4.3,SNR=8.0
PETK Petropavlovsk- 73.82 31 P **P 00 23 01.5 -1.1**
PETK Petropavlovsk- 73.82 31 P **P 00 23 01.5 -1.1**
PETK Petropavlovsk- 73.82 31 P **P 00 23 01.5 -1.1**
comp=Z,5.7nm,0.8s,baz=238,slow=8.3,SNR=3.2
PETK LR LR 00 55 25.4
comp=Z,16nm,28.6s,baz=110,slow=36
KEMA Kemaliye 73.83 313 *i* P **P 00 23 03.8 +0.7**
SOKR Solikamsk 73.94 338⇓*i* P **P 00 23 02.0 -1.1**
SOKR pmax pmax
comp=Z,20nm,1.0s
LSZ Lusaka 74.09 256 P **P 00 23 06.9 +1.8**
LSZ Lusaka 74.09 256 P **P 00 23 06.9 +1.8**
comp=Z,3.3nm,0.8s,baz=91,slow=3.5,SNR=6.9
MMAI Mount Meron Ar 74.20 306 P **P 00 23 06.2 +0.9**
MMAI Mount Meron Ar 74.20 306 P **P 00 23 06.2 +0.9**
comp=Z,12nm,0.6s,baz=93,slow=7.8,SNR=15
URZ Urewera 74.46 128 P **P 00 23 08.2 +1.5**
URZ Urewera 74.46 128 P **P 00 23 08.2 +1.5**
comp=Z,3.9nm,0.5s,baz=262,slow=7.1,SNR=3.4
AVNT Avonos 76.34 312 *i* P **P 00 23 17.6 0.0**
CSS Prodhromos 76.41 308 *e*P **P 00 23 18.6 +0.7**
comp=Z,6.1nm,0.9s
VRHR Novokhopersk 76.46 325 *e*P **P 00 23 17.2 -0.6**
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.7s
LBTB Lobatse 76.52 246 P **P 00 23 21.0 +2.1**
LBTB Lobatse 76.52 246 P **P 00 23 21.0 +2.1**
comp=E,2.1nm,0.4s,baz=111,slow=6.6,SNR=5.4
ANN Anapa 76.53 318 *e*P **P 00 23 17.7 -0.6**
ANN *e*S **S 00 33 04.5 +5.3**
ANN pmax pmax
comp=Z,19nm,0.9s
BOSA Boshof 76.90 242 P **P 00 23 22.9 +1.9**
BOSA Boshof 76.90 242 P **P 00 23 22.9 +1.9**
comp=Z,5.3nm,0.9s,baz=100,slow=6.4,SNR=7.0
BOSA LR LR 00 50 55.9
comp=Z,16nm,28.6s,baz=95,slow=31
CTKT Corum 76.96 313 *i* P **P 00 23 21.6 +0.5**
SEY Seymchan 77.27 21 P **P 00 23 21.3 -0.8**
SEY Seymchan 77.27 21 P **P 00 23 21.3 -0.8**
SEY Seymchan 77.27 21 P **P 00 23 21.3 -0.8**
comp=Z,5.9nm,0.6s,baz=238,slow=13,SNR=12
BR131 Keskin Array S 77.53 312 *e*P **P 00 23 23.8 -0.5**
comp=Z,10.0nm,0.7s
BRTR Keskin Array B 77.53 312 P **P 00 23 24.1 -0.1**
BRTR Keskin Array B 77.53 312 P **P 00 23 24.1 -0.1**
comp=Z,12nm,0.7s,baz=134,slow=7.1,SNR=74
BRTR LR LR 00 59 37.4
comp=Z,20nm,18.8s,baz=7.0,slow=37
VORD Divnogorie 77.74 325 *e*P **P 00 23 24.1 -0.9**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,20nm,0.5s
VSR Storozhevoye 77.92 325*c* *i*P **P 00 23 25.2 -0.7**
VSR pmax pmax
comp=Z,35nm,0.9s
TIXI Tiksi 78.32 8 *e*P **P 00 23 25.1 -2.6**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 78.32 8 *e*P **P 00 23 25.5 -2.3**
comp=Z,5.2nm,0.4s
VNDA Vanda 78.69 169 *e*P **P 00 23 29.0 -0.8**
comp=Z,7.7nm,1.2s
VNDA Vanda 78.69 169 P **P 00 23 31.7 +1.9**
comp=Z,1.6nm,0.7s,baz=301,slow=5.3,SNR=6.3
VNDA LR LR 00 53 59.0
comp=Z,49nm,20.2s,baz=332,slow=32
GOLH Golhisar 79.94 309 *i* P **P 00 23 37.3 -0.2**
MOS Moscow 80.58 329 *e*P **P 00 23 38.9 -1.4**
MOS pmax pmax
comp=Z,60nm,0.7s
SUR Sutherland 80.78 238 P **P 00 23 44.3 +2.0**
SUR Sutherland 80.78 238 P **P 00 23 44.3 +2.0**
comp=Z,2.4nm,0.5s,baz=115,slow=7.1,SNR=3.6
OBN Obninsk 80.89 328*c* *i*P **P 00 23 42.0 0.0**
OBN *e* 00 26 45.7
OBN pmax pmax
comp=Z,27nm,1.0s
OBN Obninsk 80.89 328 *e*P **P 00 23 41.4 -0.6**
comp=Z,28nm,0.8s
DEMI Demirci 81.02 311 *i* P **P 00 23 43.7 +0.5**
DURS Dursunbey 81.34 311 *i* P **P 00 23 45.4 +0.5**
AYDN Tasoluk 81.34 309 *i* P **P 00 23 46.4 +1.5**
KLMR Klimovskoe 81.80 334 *e*P **P 00 23 45.3 -1.4**
KLMR pmax pmax
comp=Z,60nm,1.4s
BALY Balya 82.01 311 *i* P **P 00 23 49.1 +0.7**
TIRR Tirgusor 82.56 316⇑*i*P **P 00 23 51.4 +0.3**
TLB Topalu 82.85 316⇑*i*P **P 00 23 50.3 -2.3**
CFR Carcaliu 82.93 317⇑*i*P **P 00 23 53.0 0.0**
LEOM Leova 83.18 318⇑*i*P **P 00 23 55.4 +1.2**
IDI Anoyia 83.21 306 P **P 00 23 55.8 +1.0**
IDI Anoyia 83.21 306 P **P 00 23 55.8 +1.0**
comp=Z,9.7nm,0.5s,baz=108,slow=6.4,SNR=8.8
JMB Yambol 83.39 314⇑*i*P **P 00 23 56.7 +1.3**
GHRR 83.64 317⇓*i*P **P 00 23 58.5 +1.9**
AK02 Malin Array Si 83.66 322 *e*P **P 00 23 56.2 -0.3**
AKASG Malin Array Be 83.66 322*ce*P **P 00 23 56.2 -0.4**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 83.66 322 P **P 00 23 56.4 -0.2**
AKASG Malin Array Be 83.66 322 P **P 00 23 56.4 -0.2**
comp=Z,5.3nm,0.5s,baz=88,slow=4.8,SNR=48
AKBB Malin Array Si 83.66 322 *e*P **P 00 23 55.5 -1.1**
AKBB Malin Array Si 83.66 322 *e*P **P 00 23 55.5 -1.1**
AK01 Malin Array Si 83.66 322 *e*P **P 00 23 55.5 -1.1**
KIEV Kiev 83.66 322 *e*P **P 00 23 55.9 -0.7**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 83.66 322 *e*P **P 00 23 55.9 -0.7**
comp=Z,10nm,0.8s
TMCR Tamitsa 83.84 336 *e*P **P 00 23 57.3 +0.1**
TMCR pmax pmax
comp=Z,41nm,1.1s
VRI Vrincioaia 84.06 317⇑*i*P **P 00 24 00.0 +1.2**
TSUM Tsumeb 84.08 251 P **P 00 24 01.6 +2.0**
TSUM Tsumeb 84.08 251 P **P 00 24 01.6 +2.0**
comp=Z,3.4nm,0.6s,baz=105,slow=6.2,SNR=7.8
PLOR Plostina 84.11 317⇑*i*P **P 00 24 00.2 +1.1**
SULR 84.11 316⇑*i*P **P 00 24 00.2 +1.2**
TESR Tescani 84.26 318⇑*i*P **P 00 24 00.2 +0.4**
MLR Muntele Rosu 84.51 316⇑*i*P **P 00 24 02.3 +1.1**
MLR Muntele Rosu 84.51 316 P **P 00 24 01.8 +0.6**
MLR Muntele Rosu 84.51 316 P **P 00 24 01.8 +0.6**
comp=Z,3.5nm,0.8s,baz=81,slow=4.3
HUMR Humele 84.97 315⇓*i*P **P 00 24 04.1 +0.7**
VOIR 85.11 316⇓*i*P **P 00 24 04.3 +0.1**
BURAR Bucovina Array 85.46 318⇓*i*P **P 00 24 07.8 +1.9**
BUR08 Bucovina Ar. S 85.48 318 *e*P **P 00 24 05.5 -0.5**
VTS Vitosha 85.86 313⇑*i*P **P 00 24 08.3 +0.2**
VAY Valandovo 86.10 312 *e*P **P 00 24 09.8 +0.8**
JOF Joensuu 86.17 334 *e*P **P 00 24 08.5 -0.4**
JOF Joensuu 86.17 334 *ep* **P 00 24 08.5 -0.4**
GZR Gura Zlata 86.67 316⇑*i*P **P 00 24 12.9 +1.0**
DEV Deva 86.67 316⇑*i*P **P 00 24 12.6 +0.8**
DRGR 86.97 317⇑*i*P **P 00 24 14.4 +1.1**
BIA Bitola 86.98 311 *e*P **P 00 24 12.9 -0.6**
SKO Skopje 87.04 312 *e*P **P 00 24 13.8 +0.1**
VSU Vasula 87.07 329*c* *i*P **P 00 24 13.6 +0.2**
VSU pmax pmax
comp=Z,68nm,0.8s
TRPA Tarpa 87.33 319⇑*i*P **P 00 24 15.3 +0.4**
KWP Kalwaria Pacla 87.49 320 *e*P **P 00 24 15.9 +0.2**
KWP pmax pmax
comp=Z,6.0nm,0.5s
KWP Kalwaria Pacla 87.49 320 *e*P **P 00 24 16.5 +0.8**

KWP Kalwaria Pacla 87.49 320 ⇑*i*P P 00 24 16.5 +0.8
KWP Kalwaria Pacla 87.49 320 *e*P P 00 24 15.9 +0.2
comp=Z,6.1nm,0.5s
BZS Buzias 87.52 316 ⇑*i*P P 00 24 16.6 +0.7
UZH Uzhgorod 87.58 319 ⇓*i*P P 00 24 17.5 +1.4
UZH *e* 00 24 26.5
UZH *e* 00 24 34.3
SIRR Siria 87.59 317 ⇓*i*P P 00 24 17.4 +1.1
KOLS Kolonicke sedl 87.65 319 *e*P P 00 24 17.7 +1.2
KOLS pmax pmax
comp=Z,28nm,0.9s
KOLS Kolonicke sedl 87.65 319 *e*P P 00 24 17.7 +1.2
SUW Suwalki 88.03 324 *e*P P 00 24 18.3 +0.1
SUW Suwalki 88.03 324 *e*P P 00 24 18.2 +0.1
FINES FINESS Array B 88.12 332 P P 00 24 18.4 +0.1
FINES FINESS Array B 88.12 332 P P 00 24 18.4 +0.1
comp=Z,13nm,0.4s,baz=115,slow=5.7,SNR=203
CRVS Cervenica-Dubn 88.17 319 *e*P P 00 24 20.1 +1.2
CRVS pmax pmax
comp=Z,3.0nm,0.9s
CRVS Cervenica-Dubn 88.17 319 *e*P P 00 24 20.1 +1.2
KAF Kangasniemi 88.18 333 *e*P P 00 24 17.5 -1.1
KAF pmax pmax
comp=Z,31nm,0.5s
KAF Kangasniemi 88.18 333 *e*p P 00 24 17.5 -1.1
comp=Z,31nm,0.5s
STHS Stebnicka Huta 88.39 320 *e*P P 00 24 21.5 +1.5
STHS pmax pmax
comp=Z,14nm,0.7s
STHS Stebnicka Huta 88.39 320 *e*P P 00 24 21.5 +1.5
KECS Kecovo 88.74 319 *e*P P 00 24 22.3 +0.7
KECS pmax pmax
comp=Z,6.0nm,0.8s
KECS Kecovo 88.74 319 *e*P P 00 24 22.3 +0.7
NIE Niedzica 89.00 320 *e*P P 00 24 23.8 +1.0
NIE Niedzica 89.00 320 *e*P P 00 24 23.8 +1.0
PSZ Piszkesteto 89.05 318 ⇑*e*P P 00 24 23.6 +0.4
OJC Ojcow 89.44 320 *e*P P 00 24 25.4 +0.5
OJC Ojcow 89.44 320 *e*P P 00 24 25.4 +0.5
KEV Kevo 89.81 340 *e*P P 00 24 23.9 -2.2
KEV pmax pmax
comp=Z,9.0nm,0.7s
KEV Kevo 89.81 340 *e*p P 00 24 23.9 -2.2
comp=Z,8.6nm,0.7s
PKST T"s 90.20 317 ⇑*e*P P 00 24 29.3 +0.8
ARCES ARCESS Array B 90.27 340 P P 00 24 28.2 -0.1
ARCES ARCESS Array B 90.27 340 P P 00 24 28.2 -0.1
comp=Z,11nm,0.8s,baz=104,slow=5.2,SNR=70
ARCES LR LR 01 13 26.8
comp=Z,35nm,19.5s,baz=34,slow=41
ARE0 ARCESS Array S 90.27 340 *e*P P 00 24 27.7 -0.6
OKC Ostrava-Krasne 90.45 320 *e*P P 00 24 31.0 +1.4
OKC Ostrava-Krasne 90.45 320 *e*P P 00 24 31.0 +1.4
OKC *ex* x 00 24 35.7
CEL Celeste 90.78 308 *e*P P 00 24 30.4 -1.1
comp=Z,24nm,1.1s
MORC Moravsky Berou 90.83 320 ⇑*i*P P 00 24 32.5 +1.1
KRLC Kraliky 91.35 320 *e*P P 00 24 35.0 +1.2
KRLC Kraliky 91.35 320 *e*P P 00 24 35.0 +1.2
DPC Dobruska-Polom 91.67 320 *e*P P 00 24 36.7 +1.4
DPC Dobruska-Polom 91.67 320 *e*P P 00 24 36.7 +1.4
KSP Ksiaz 91.74 321 *e*P P 00 24 36.8 +1.2
KSP Ksiaz 91.74 321 *e*P P 00 24 37.0 +1.4
UPC Upice 91.89 320 *e*P P 00 24 33.8 -2.4
UPC Upice 91.89 320 *e*P P 00 24 33.8 -2.4
BOJS Bojanci 91.94 315 *i*P P 00 24 37.3 +0.8
TREC Trest 92.11 319 *e*P P 00 24 38.5 +1.2
TREC Trest 92.11 319 *e*P P 00 24 38.5 +1.2
PERS Pernice 92.13 316 *i*P P 00 24 38.4 +0.9
SOKA Soboth 92.19 316 *i* PcP PcP 00 24 39.4 +0.8
comp=Z,9.6nm,1.0s,SNR=7.0
VISS Visnje 92.25 316 *i*P P 00 24 38.5 +0.5
PRU Pruhonice 92.78 320 *e*P P 00 24 41.4 +1.0
PRU Pruhonice 92.78 320 *e*P P 00 24 41.4 +1.0
PRU *ex* x 00 24 46.3
BRG Berggiesshubel 93.23 321 *e*P P 00 24 43.4 +1.0
comp=Z,6.8nm,0.8s
BRG Berggiesshubel 93.23 321 *e*P P 00 24 43.4 +1.0
BRG pmax pmax
comp=Z,7.0nm,0.8s
GERES GERESS Array B 93.25 319 P P 00 24 43.3 +0.6
GERES GERESS Array B 93.25 319 P P 00 24 43.3 +0.6
comp=Z,2.8nm,0.8s,baz=90,slow=4.2,SNR=24
KHC Kasperske Hory 93.35 319 *e*P P 00 24 43.8 +0.7
KHC Kasperske Hory 93.35 319 *e*P P 00 24 43.8 +0.7
KHC *ex* x 00 24 48.2
CLL Collm 93.84 321 *e*P P 00 24 46.0 +0.8
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL Collm 93.84 321 *e*P P 00 24 46.0 +0.8
comp=Z,10.0nm,1.4s
HFS Hagfors 93.93 330 P P 00 24 45.6 +0.2
HFS Hagfors 93.93 330 P P 00 24 45.6 +0.2
comp=Z,3.1nm,0.4s,baz=126,slow=5.7,SNR=12
SPITS Spitsbergen Ar 94.13 348 P P 00 24 44.9 -1.2
SPITS Spitsbergen Ar 94.13 348 P P 00 24 44.9 -1.2
comp=Z,1.8nm,0.4s,baz=96,slow=5.8,SNR=11
NB2 NORSAR Subarra 95.18 331 P P 00 24 50.6 -0.6
comp=Z,1.9nm,0.7s,baz=95,slow=5.1
NOA NORSAR Array B 95.18 331 P P 00 24 51.0 -0.3
NOA NORSAR Array B 95.18 331 P P 00 24 51.0 -0.3
comp=Z,2.8nm,0.7s,baz=93,slow=4.5,SNR=8.3
DAVOX Davos/Dischmat 95.73 316 P P 00 24 53.9 -0.4
DAVOX Davos/Dischmat 95.73 316 P P 00 24 53.9 -0.4
comp=Z,1.7nm,0.5s,baz=146,slow=3.6,SNR=5.3
KEST Kesra 95.85 305 P P 00 24 56.4 +1.5
KEST Kesra 95.85 305 P P 00 24 56.4 +1.5
comp=Z,0.8nm,0.8s,baz=194,slow=4.2,SNR=5.7
TORD Torodi Ar. Bea 102.12 282 P Pdif 00 25 24.6 +1.3
TORD PKKPbc PKKPbc 00 41 24.8 -1.7
TORD Torodi Ar. Bea 102.12 282 P Pdif 00 25 24.6 +1.3
comp=Z,0.3nm,0.7s,baz=94,slow=5.9,SNR=2.5
TORD PKKPbc PKKPbc 00 41 24.8 -1.7
comp=Z,0.2nm,0.4s,baz=262,slow=2.2,SNR=6.0
YKA Yellowknife Ar 116.27 18 PKP PKPdf 00 30 10.2 -0.6
YKA Yellowknife Ar 116.27 18 PKP PKPdf 00 30 10.2 -0.6
comp=Z,0.9nm,0.8s,baz=329,slow=1.9,SNR=6.4
F04D Rainier, OR 122.90 37 ⇓P PKPdf 00 30 24.4 +0.3
baz=123
I03D Drain, OR 123.91 39 ⇓P PKPdf 00 30 26.6 +0.5
baz=124
G05D Wamic, OR 124.36 37 ⇓P PKPdf 00 30 27.5 +0.6
baz=124
I04A Tendick Farm, 124.45 39 ⇓P PKPdf 00 30 28.1 +0.9
baz=124
L02D Cave Junction, 124.49 41 ⇓P PKPdf 00 30 28.2 +0.9
baz=124
I05D Terrebonne, OR 124.82 38 ⇑P PKPdf 00 30 28.5 +0.6
baz=125
J04D Umpqua Nationa 124.92 39 ⇑P PKPdf 00 30 29.1 +0.8
baz=125
NEW Newport 124.95 32 ⇓P PKPdf 00 30 29.0 +1.0
baz=125
M02C Callahan 125.35 41 ⇑P PKPdf 00 30 29.7 +0.7
baz=125
J05D Fort Rock, OR 125.44 39 ⇓P PKPdf 00 30 30.1 +0.8
baz=125
N02D Trinity Center 125.65 42 ⇓P PKPdf 00 30 30.2 +0.6
baz=125
M04C Macdoel 125.82 41 ⇑P PKPdf 00 30 30.4 +0.5
baz=126
BSMT Bassoo Peak 126.42 31 *e*PKPdf PKPdf 00 30 31.4 +0.4
SLMT Seeley Lake 127.48 31 *e*PKPdf PKPdf 00 30 33.5 +0.5
MSO Missoula 127.53 31 ⇓P PKPdf 00 30 33.9 +0.8
baz=127
EGMT Eagleton 128.76 28 ⇑P PKPdf 00 30 36.3 +1.0
baz=128
A20A Cobblestone Ra 128.95 26 ⇑P PKPdf 00 30 36.3 +0.7
baz=129
B20A Solberg Farm, 129.24 26 ⇑P PKPdf 00 30 36.7 +0.5
baz=129
A21A Bergtoll Ranch 129.30 25 ⇑P PKPdf 00 30 37.1 +0.8
baz=129
C19A Slack Wire Ran 129.30 28 ⇑P PKPdf 00 30 37.3 +0.9
baz=129
HLID Hailey 129.36 35 ⇑P PKPdf 00 30 37.6 +0.9
baz=129
MCMT McKenzie Canyo 129.42 33 *e*PKPdf PKPdf 00 30 37.4 +0.5
SCHQ Schefferville 129.61 352 PKP PKPdf 00 30 36.7 0.0
SCHQ Schefferville 129.61 352 PKP PKPdf 00 30 36.7 0.0
comp=Z,2.8nm,0.5s,baz=18,slow=3.2,SNR=9.7
A22A Carney Farms, 129.72 24 ⇑P PKPdf 00 30 37.9 +0.8
baz=129
NVAR Mina Array Bea 129.86 42 PKP PKPdf 00 30 39.1 +1.2
NVAR Mina Array Bea 129.86 42 PKP PKPdf 00 30 39.1 +1.2
comp=Z,1.5nm,0.6s,baz=299,slow=2.4,SNR=12
A23A Redstone 130.17 24 ⇓P PKPdf 00 30 39.3 +1.4
baz=130
E19A Rath Farm, Rou 130.35 29 ⇑P PKPdf 00 30 38.8 +0.4
baz=130
A24A Westby 130.54 23 ⇑P PKPdf 00 30 38.8 +0.1
baz=130
ELK Elko 130.57 38 PKP PKPdf 00 30 40.1 +0.9
ELK Elko 130.57 38 PKP PKPdf 00 30 40.1 +0.9
comp=Z,0.5nm,0.4s,baz=318,slow=1.8,SNR=3.9
C22A Vida 130.70 25 ⇓P PKPdf 00 30 40.2 +1.2
baz=130
F19A Roth Farm, Mol 130.71 29 ⇑P PKPdf 00 30 39.7 +0.6
baz=130
D21A La Casta Ranch 130.73 27 ⇑P PKPdf 00 30 39.7 +0.7
baz=130
DGMT Dagmar 130.83 24 ⇓P PKPdf 00 30 40.2 +1.0
baz=130
A25A Svangstu Ranch 130.88 23 ⇑P PKPdf 00 30 40.6 +1.4
baz=131
H17A Grant Village 130.91 32 ⇑P PKPdf 00 30 41.1 +1.3
baz=131
C23A Lambert 130.95 25 ⇑P PKPdf 00 30 40.2 +0.7
baz=131
D22A Cohagen 131.03 26 ⇓P PKPdf 00 30 40.5 +0.8
baz=131
H18A Shoshone NF, C 131.19 31 ⇑P PKPdf 00 30 41.1 +0.9
baz=131
A26A Wade Farm, Ken 131.31 22 ⇓P PKPdf 00 30 40.6 +0.5
baz=131
B25A Knox Farm, Ray 131.40 23 ⇓P PKPdf 00 30 41.9 +1.6
baz=131
HVU Hansel Valley 131.41 36 *e*PKIKP PKPdf 00 30 40.1 -0.6
HVU Hansel Valley 131.41 36 *e*PKPdf PKPdf 00 30 40.1 -0.6
G20A Bridger 131.52 29 ⇑P PKPdf 00 30 41.6 +0.9
baz=131
E22A Milo City 131.68 27 ⇑P PKPdf 00 30 41.7 +0.8
baz=131
R11A Troy Canyon, C 131.71 41 ⇓P PKPdf 00 30 42.4 +1.0
baz=131
EDW2 Edwards Air Fo 131.84 46 ⇓P PKPdf 00 30 42.7 +1.1
baz=132
TPNV Topopah Spring 132.02 43 ⇓P PKPdf 00 30 43.1 +1.1
baz=132
F22A Rosebud 132.04 27 ⇑P PKPdf 00 30 42.7 +1.1
baz=132
ULM Lac du Bonnet 132.15 16 PKP PKPdf 00 30 41.3 -0.2
ULM Lac du Bonnet 132.15 16 PKP PKPdf 00 30 41.3 -0.2
comp=Z,2.1nm,0.5s,baz=319,slow=4.2,SNR=6.0
H20A Greybull 132.16 30 ⇓P PKPdf 00 30 42.8 +0.9
baz=132
C26A Wahner Farm, P 132.18 23 ⇑P PKPdf 00 30 42.8 +1.1
baz=132
E24A Baker 132.30 25 ⇓P PKPdf 00 30 43.2 +1.1
baz=132
DUG Dugway 132.38 37 ⇑P PKPdf 00 30 44.0 +1.5
baz=132
G22A Birney 132.44 28 ⇑P PKPdf 00 30 43.6 +1.2
baz=132
GSC Goldstone 132.48 45 ⇑P PKPdf 00 30 44.0 +1.2
baz=132
I20A Worland 132.48 30 ⇓P PKPdf 00 30 43.8 +1.2
baz=132
J19A Crowheart 132.49 32 ⇑P PKPdf 00 30 43.7 +1.0
baz=132
H21A Big Horn, Sher 132.53 29 ⇑P PKPdf 00 30 43.6 +1.0
baz=132
PDAR Pinedale Array 132.56 33 PKP PKPdf 00 30 42.7 -0.2
PDAR SKPbc SKPbc 00 34 04.1 -0.2
PDAR Pinedale Array 132.56 33 PKP PKPdf 00 30 42.7 -0.2
comp=Z,0.9nm,0.4s,baz=142,slow=0.8,SNR=6.3
PDAR SKPbc SKPbc 00 34 04.1 -0.2
comp=Z,1.1nm,0.9s,baz=324,slow=1.2,SNR=3.8
A30A Hoffart Farm, 132.58 19 ⇑P PKPdf 00 30 43.2 +0.7
baz=132
D26A Manning 132.69 24 ⇑P PKPdf 00 30 43.4 +0.7
baz=132
E25A Miller Ranch, 132.73 25 ⇓P PKPdf 00 30 44.0 +1.1
baz=132
F24A Ekalaka 132.80 26 ⇑P PKPdf 00 30 44.1 +1.1
baz=132
G23A Biddle 132.87 27 ⇑P PKPdf 00 30 44.0 +0.8
baz=133
H22A Clearmont 132.88 29 ⇓P PKPdf 00 30 43.9 +0.6
baz=133
J20A Shoshoni 132.93 31 ⇑P PKPdf 00 30 44.5 +1.1
baz=133
B30A Myrvik Farm, E 133.00 19 ⇓P PKPdf 00 30 43.6 +0.3
baz=133
I21A Big Trails, Te 133.00 30 ⇑P PKPdf 00 30 44.4 +0.8
baz=133
F25A Bowman 133.16 25 ⇑P PKPdf 00 30 44.2 +0.5
baz=133
G24A Alzada 133.21 26 ⇑P PKPdf 00 30 44.8 +0.9
baz=133
J21A Lysite 133.26 31 ⇓P PKPdf 00 30 44.9 +0.7
baz=133
D28A Regan 133.28 22 ⇓P PKPdf 00 30 44.8 +0.9
baz=133
I22A 9 Mile Ranch, 133.34 29 ⇓P PKPdf 00 30 45.1 +0.9
baz=133
GMRC Granite Mounta 133.56 45 ⇑P PKPdf 00 30 46.2 +1.3
baz=133
F27A Lemmon 133.80 24 ⇑P PKPdf 00 30 45.7 +0.8
baz=134
K21A Alcova 133.87 31 ⇓P PKPdf 00 30 46.1 +0.8
baz=134
K22A Casper 134.23 31 ⇑P PKPdf 00 30 46.1 +0.1
baz=134
I24A Kuemmerle Ranc 134.25 28 ⇑P PKPdf 00 30 46.1 +0.2
baz=134
I25A Rochford 134.54 27 ⇑P PKPdf 00 30 47.2 +0.7
baz=134
L22A Ellis Ranch, M 134.72 31 ⇓P PKPdf 00 30 47.2 +0.3
baz=134
H27A Howes 134.78 25 ⇑P PKPdf 00 30 47.9 +1.1
baz=134
U15A North Rim 134.96 41 ⇑P PKPdf 00 30 48.7 +1.0
baz=135
L23A Garrett 135.04 30 ⇓P PKPdf 00 30 48.5 +1.0
baz=135
O20A White River Ci 135.08 34 ⇓P PKPdf 00 30 48.7 +1.0
baz=135
G30A Faulkton 135.55 22 ⇑P PKPdf 00 30 49.4 +1.3
baz=135
I28A Midland 135.68 25 ⇓P PKPdf 00 30 49.2 +0.8
baz=135
K26A Motz Farm, Whi 135.82 28 ⇑P PKPdf 00 30 49.9 +1.1
baz=136
J28A Allard Ranch, 136.11 26 ⇑P PKPdf 00 30 50.0 +0.7
baz=136
Z14A Wintersburg 136.22 45 ⇓P PKPdf 00 30 51.5 +1.8
baz=136
O23A Lake Granby, G 136.31 32 ⇓P PKPdf 00 30 51.9 +1.8
baz=136
I30A Oacoma 136.46 24 ⇑P PKPdf 00 30 51.2 +1.3
baz=136
X16A Lo Mia Camp, P 136.68 43 ⇓P PKPdf 00 30 51.4 +0.6
baz=136
P23A Jefferson 136.94 33 ⇓P PKPdf 00 30 53.1 +1.7
baz=137
W18A Petrified Fore 137.40 41 ⇓P PKPdf 00 30 53.4 +1.3
baz=137
K30A Basset 137.41 25 ⇑P PKPdf 00 30 53.1 +1.4
baz=137
S22A 4UR Ranch, Cre 137.51 36 ⇓P PKPdf 00 30 53.6 +1.2
baz=137
ECSD ENOS Data Cent 137.68 21 *e*PKPdf PKPdf 00 30 52.6 +0.5
P25A Willow Gulch B 137.74 32 ⇓P PKPdf 00 30 54.8 +2.2
baz=137
R23A Moffat 137.78 34 ⇑P PKPdf 00 30 54.7 +1.9
baz=138
P26A Davis Ranch, A 138.13 31 ⇓P PKPdf 00 30 54.8 +1.5
baz=138
Q25A Bedland, Calha 138.13 32 ⇑P PKPdf 00 30 54.9 +1.5
baz=138
N28A Pribbeno Ranch 138.15 28 ⇑P PKPdf 00 30 54.7 +1.5
baz=138
U23A El Rito 138.85 37 ⇓P PKPdf 00 30 58.9 +4.1
baz=139
T25A Trinidad 139.32 34 ⇑P PKPdf 00 30 56.1 +0.5
baz=139
R27A Eads 139.36 32 ⇓P PKPdf 00 30 57.3 +1.8
baz=139
Z20A Nine Sixteen R 139.36 42 ⇓P PKPdf 00 30 57.6 +1.9
baz=139
S26A Kim 139.49 33 ⇓P PKPdf 00 30 57.7 +1.9
baz=139
ANMO Albuquerque 139.60 39 PKP PKPdf 00 30 56.7 +0.5
ANMO Albuquerque 139.60 39 PKP PKPdf 00 30 56.7 +0.5
comp=Z,1.4nm,0.8s,baz=258,slow=4.9,SNR=5.1
120A U Bar Ranch, L 139.67 43 ⇓P PKPdf 00 30 58.0 +1.7
baz=139
T26A Comanche Natio 139.75 34 ⇓P PKPdf 00 30 57.5 +1.1
baz=140
Q29A Oakley 139.82 29 ⇓P PKPdf 00 30 57.9 +1.6
baz=140
R28A Tribune 139.83 31 ⇓P PKPdf 00 30 58.2 +1.8
baz=140
U25A Circle Dot Ran 139.84 35 ⇑P PKPdf 00 30 57.7 +1.1
baz=140
Y22A Socorro 139.93 40 ⇓P PKPdf 00 30 58.0 +1.2
baz=140
W24A Lazy 6 Ranch, 140.07 37 ⇑P PKPdf 00 30 57.9 +0.8
baz=140
V25A Rancho No Teng 140.11 36 ⇓P PKPdf 00 30 58.2 +1.1
baz=140
220A Playas Peak, P 140.12 44 ⇑P PKPdf 00 30 58.2 +1.1
baz=140
U26A Atchley Ranch, 140.22 35 ⇑P PKPdf 00 30 58.6 +1.4
baz=140
121A Cookes Peak, D 140.25 43 ⇓P PKPdf 00 30 58.2 +0.8
baz=140
T27A Campo 140.31 33 ⇑P PKPdf 00 30 58.5 +1.2
baz=140
P32A Huiting Farm, 140.35 26 ⇓P PKPdf 00 30 58.5 +1.3
baz=140
Z22A Elephant Butte 140.36 41 ⇑P PKPdf 00 30 59.0 +1.5
baz=140
X24A Lazy VL Ranch, 140.49 38 ⇑P PKPdf 00 30 59.1 +1.3
baz=140
Y23A Lovelace Mesa, 140.51 39 ⇓P PKPdf 00 31 00.0 +2.2
baz=140
T28A Walsh 140.59 32 ⇓P PKPdf 00 30 59.8 +2.0
baz=140
V26A Tequesquite Ra 140.62 35 ⇑P PKPdf 00 31 00.1 +2.2
baz=140
W25A X Bar L Ranch, 140.63 37 ⇑P PKPdf 00 31 00.5 +2.5
baz=140
Y24A Capitan 140.91 39 ⇑P PKPdf 00 31 00.9 +2.3
baz=141
222A Williams Famil 140.97 43 ⇓P PKPdf 00 31 01.9 +3.2
baz=141
X25A Clemmons Ranch 140.98 38 ⇑P PKPdf 00 31 01.2 +2.6
baz=141
R31A Burdett 141.00 29 ⇑P PKPdf 00 31 01.2 +2.8
baz=141
Z24A Sheeppen Canyo 141.34 40 ⇓P PKPdf 00 31 02.0 +2.6
baz=141
Y25A Mesa, Roswell 141.37 38 ⇓P PKPdf 00 31 02.0 +2.7
baz=141
X26A CR and CF Fran 141.48 37 ⇓P PKPdf 00 31 02.0 +2.5
baz=141
223A Chaparral, Ant 141.49 42 ⇓P PKPdf 00 31 01.9 +2.3
baz=141
W27A Bowe Ranch, En 141.56 35 ⇓P PKPdf 00 31 02.9 +3.3
baz=141
124A Stringfield Ra 141.69 40 ⇓P PKPdf 00 31 03.0 +2.9
baz=141
Y26A Elida 141.90 37 ⇓P PKPdf 00 31 02.9 +2.6
baz=142
224A Cornudas Mount 142.04 41 ⇓P PKPdf 00 31 03.9 +3.3
baz=142
T32A Huddler Ranch, 142.17 29 ⇓P PKPdf 00 30 55.6 -5.0
baz=142
125A Gardner Draw, 142.23 40 ⇑P PKPdf 00 30 56.8 -4.0
baz=142
MNTX Cornudas Mount 142.37 42 *e*PKPdf PKPdf 00 30 58.0 -3.0
T33A Patterson Ranc 142.57 28 ⇑P PKPdf 00 30 57.0 -4.2
baz=142,SNR=7.9
Z27A Tatum 142.69 38 ⇓P PKPdf 00 30 58.1 -3.5
baz=142
CFAA Coronel Fontan 142.69 192 PKPpre PKPpre 00 30 59.0
CFAA Coronel Fontan 142.69 192 PKhKP PKPpre 00 30 59.0
comp=Z,0.2nm,0.3s,baz=176,slow=4.3,SNR=6.0
U32A Winter Ranch, 142.76 30 ⇑P PKPdf 00 30 58.3 -3.3
baz=142
V31A Spring Creek L 142.81 32 ⇑P PKPdf 00 30 59.0 -2.8
baz=142
325A Bean Ranch, Si 142.85 42 ⇑P PKPdf 00 31 00.1 -2.0
baz=143
226B Tecolote Peak, 142.92 40 ⇓P PKPdf 00 31 00.1 -2.0
baz=143
425A Indio Mountain 143.21 42 ⇓P PKPbc 00 31 00.4 +0.7
baz=143
Y29A Porterfield Fa 143.22 35 ⇓P PKPbc 00 30 59.8 +0.2
baz=143
V32A Arapaho 143.26 31 ⇓P PKPbc 00 30 59.6 0.0
baz=143
U34A Anderson Ranch 143.43 28 ⇓P PKPab 00 30 59.4 +0.4
baz=143,SNR=6.2
CPUP Villa Florida 143.52 211 PKPpre PKPpre 00 31 01.7
CPUP Villa Florida 143.52 211 PKhKP PKPpre 00 31 01.7
comp=Z,0.7nm,0.4s,baz=127,slow=5.1,SNR=4.2
326A Caldwell Ranch 143.54 41 ⇓P PKPbc 00 31 00.8 +0.1
baz=143
V33A Lossen Ranch, 143.56 30 ⇑P PKPbc 00 31 00.1 -0.3
baz=143
SFIN Scholer Farm 143.59 13 ⇑P PKPbc 00 31 00.2 -0.1
baz=143
X31A McDonald Ranch 143.60 33 ⇑P PKPbc 00 31 00.6 0.0
baz=143,SNR=5.9
128A Castleberry Fa 143.61 38 ⇓P PKPbc 00 31 01.5 +0.7
baz=143
W32A Sentinel 143.62 32 ⇓P PKPbc 00 31 01.0 +0.3
baz=143
Z29A Hungry Hill Ra 143.63 36 ⇑P PKPbc 00 31 00.7 -0.2
baz=143,SNR=9.1
Y30A Stafford Cattl 143.65 35 ⇑P PKPbc 00 31 00.6 -0.3
baz=143,SNR=7.5
228A UT Block 9, Go 143.89 38 ⇓P PKPbc 00 31 02.0 +0.3
baz=144
426A McDonald Obser 143.92 42 ⇑P PKPbc 00 31 01.8 -0.1
baz=144,SNR=6.6
V34A Guthrie 143.92 29 ⇓P PKPab 00 31 00.9 0.0
baz=144,SNR=12
Y31A Rekieta Farm, 143.95 34 ⇑P PKPbc 00 31 01.4 -0.2
baz=144,SNR=7.3
Z30A Sanderson Ranc 143.95 36 ⇑P PKPbc 00 31 01.6 -0.2
baz=144,SNR=14
W33A Caddo, Fort Co 143.99 31 ⇑P PKPbc 00 31 01.5 -0.2
baz=144,SNR=7.3
X32A Elmer 144.13 32 ⇑P PKPab 00 31 01.9 +0.1
baz=144,SNR=10
WMOK Wichita Mounta 144.16 31 *e*PKIKP PKPab 00 31 00.6 -1.2
WMOK Wichita Mounta 144.16 31 *e*PKPdf PKPab 00 31 00.6 -1.2
427A Hayter Ranch, 144.22 41 ⇓P PKPdf 00 31 03.7 -0.7
baz=144,SNR=6.2
328A Wristen Ranch, 144.25 40 ⇓P PKPbc 00 31 03.1 +0.4
baz=144,SNR=33
526A Mary Lane Ranc 144.26 43 ⇑P PKPbc 00 31 03.3 +0.4
baz=144,SNR=6.6
W34A Bridge Creek, 144.28 30 ⇓P PKPbc 00 31 02.5 -0.1
baz=144,SNR=8.2
Y32A R-V Farms, Ver 144.37 33 ⇓P PKPab 00 31 02.4 -0.2
baz=144,SNR=8.0
X33A Lawton 144.45 31 ⇓P PKPab 00 31 02.3 -0.6
baz=144
229A Bryant Ranch, 144.47 38 ⇓P PKPbc 00 31 03.4 0.0
baz=144
ACSO Alum Creek Sta 144.47 8 *e*PKPdf PKPab 00 31 02.2 -0.6
Z31A Sharp Cattle R 144.49 35 ⇑P PKPbc 00 31 03.4 +0.1
baz=144,SNR=53
527A Woodward Ranch 144.53 42 ⇓P PKPdf 00 31 04.6 -0.4
baz=144,SNR=16
130A Snyder 144.54 36 ⇑P PKPbc 00 31 03.5 -0.1
baz=144,SNR=6.2
626A Big Bend Ranch 144.55 43 ⇓P PKPdf 00 31 04.6 -0.4
baz=144,SNR=18
TUL1 Tulsa 144.67 27 *e*PKPbc PKPab 00 31 02.8 -0.8
TUL1 Tulsa 144.67 27 ⇓P PKPab 00 31 03.5 -0.2
baz=144
329A Wagon Wheel Ra 144.70 39 ⇑P PKPbc 00 31 04.4 +0.3
baz=144,SNR=22
X34A Smith Ranch, M 144.75 31 ⇑P PKPab 00 31 03.9 -0.1
baz=144,SNR=10
BDFB Brasilia 144.76 234 PKPbc PKPdf 00 31 06.6 +0.9
BDFB Brasilia 144.76 234 PKPbc PKPdf 00 31 06.6 +0.9
comp=Z,10nm,0.4s,baz=122,slow=3.6,SNR=25
428A Kincaid Ranch, 144.76 40 ⇓P PKPdf 00 31 05.9 +0.5
baz=144,SNR=85
Y33A Hilltop Ranch, 144.80 32 ⇑P PKPab 00 31 03.3 -0.9
baz=144,SNR=5.1
131A Roby 144.82 36 ⇓P PKPbc 00 31 04.7 +0.2
baz=144,SNR=38
Z32A Haskell 144.87 34 ⇓P PKPab 00 31 04.4 -0.1

	baz=145,SNR=30								
OLIL	**Olney**	**144.90**	**15**	*e*PKPdf	**PKPab**	**00 31 03.5**	**-0.9**
230A	**Sterling City**	**144.95**	**37**	⇑P	PKPbc	00 31 05.1	+0.2
	baz=145,SNR=21						
TXAR	**Lajitas Array**	**145.00**	**43**	PKP	**PKPdf**	**00 31 05.6**	**-0.2**
TXAR	**Lajitas Array**	**145.00**	**43**	PKP	**PKPdf**	**00 31 05.6**	**-0.2**
	comp=Z,8.5nm,0.4s,baz=286,slow=1.1,SNR=302						
528A	**Cox Ranch, San**	**145.07**	**41**	⇓P	**PKPdf**	**00 31 06.1**	**+0.2**
	baz=145,SNR=55						
627A	**Terlingua Ranc**	**145.12**	**43**	⇑P	**PKPdf**	**00 31 06.2**	**+0.1**
	baz=145,SNR=31						
330A	**Mertzon**	**145.25**	**38**	⇓P	**PKPbc**	**00 31 05.7**	**-0.2**
	baz=145,SNR=21						
Z33A	**Whitaker Ranch**	**145.28**	**33**	⇓P	**PKPbc**	**00 31 05.7**	**-0.1**
	baz=145						
ABTX	**Abilene, Hawle**	**145.28**	**35**	*e*PKPdf	**PKPbc**	**00 31 05.3**	**-0.6**
ABTX	**Abilene, Hawle**	**145.28**	**35**	⇓P	**PKPbc**	**00 31 06.0**	**+0.1**
	baz=145,SNR=17						
Y34A	**Reagan Ranch,**	**145.29**	**31**	⇓P	**PKPbc**	**00 31 05.6**	**-0.2**
	baz=145,SNR=9.8						
429A	**Davenport Ranc**	**145.34**	**40**	⇓P	**PKPdf**	**00 31 06.3**	**0.0**
	baz=145,SNR=18						
MCWV	**Mont Chateau**	**145.37**	**4**	*e*PKPdf	**PKPbc**	**00 31 05.2**	**-0.7**
231A	**Bronte**	**145.39**	**36**	⇑P	**PKPbc**	**00 31 06.3**	**0.0**
	baz=145,SNR=14						
628A	**Black Gap, Mar**	**145.44**	**42**	⇓P	**PKPab**	**00 31 07.1**	**+0.3**
	baz=145,SNR=51						
529A	**Stev Forest Ra**	**145.46**	**41**	⇓P	**PKPab**	**00 31 06.9**	**0.0**
	baz=145,SNR=24						
SIUC	**Southern Illin**	**145.54**	**17**	*e*PKPdf	**PKPdf**	**00 31 05.4**	**-0.9**
430A	**Baggett Ranch,**	**145.64**	**39**	⇓P	**PKPbc**	**00 31 07.1**	**-0.1**
	baz=145,SNR=14						
Z34A	**Collier Ranch,**	**145.67**	**32**	⇑P	**PKPdf**	**00 31 06.5**	**-0.2**
	baz=145,SNR=7.2						
133A	**Hamilton Ranch**	**145.70**	**34**	⇑P	**PKPab**	**00 31 07.5**	**-0.1**
	baz=145,SNR=42						
SDMD	**Soldier's Deli**	**145.71**	**360**	*e*PKPdf	**PKPdf**	**00 31 06.6**	**0.0**
USIN	**University of**	**145.74**	**15**	*e*PKPdf	**PKPdf**	**00 31 06.4**	**-0.3**
331A	**San Angelo**	**145.77**	**37**	⇑P	**PKPdf**	**00 31 07.3**	**+0.3**
	baz=146,SNR=14						
232A	**Coleman**	**145.82**	**36**	⇑P	**PKPbc**	**00 31 07.9**	**+0.2**
	baz=146,SNR=46						
WCI	**Wyandotte Cave**	**145.82**	**13**	*e*PKIKP	**PKPdf**	**00 31 06.2**	**-0.6**
WCI	**Wyandotte Cave**	**145.82**	**13**	*e*PKPdf	**PKPdf**	**00 31 06.2**	**-0.6**
530A	**J-C Ranch, Com**	**146.01**	**40**	⇓P	**PKPab**	**00 31 08.8**	**-0.1**
	baz=146,SNR=71						
Z35A	**Perchaven, San**	**146.04**	**31**	⇑P	**PKPbc**	**00 31 08.5**	**+0.2**
	baz=146						
431A	**Sonora**	**146.10**	**38**	⇓P	**PKPbc**	**00 31 08.5**	**-0.1**
	baz=146,SNR=13						
332A	**Millersview**	**146.13**	**36**	⇓P	**PKPbc**	**00 31 08.8**	**+0.2**
	baz=146,SNR=90						
134A	**White-Moore Ra**	**146.19**	**33**	⇑P	**PKPab**	**00 31 09.3**	**-0.1**
	baz=146						
432A	**Menard**	**146.46**	**37**	⇓P	**PKPbc**	**00 31 09.4**	**-0.2**
	baz=146,SNR=10.0						
531A	**Rocksprings**	**146.50**	**39**	⇓P	**PKPbc**	**00 31 10.1**	**+0.4**
	baz=146						
135A	**Vickery Place,**	**146.56**	**32**	⇓P	**PKPbc**	**00 31 10.1**	**+0.3**
	baz=146						
333A	**Richland Sprin**	**146.62**	**36**	⇓P	**PKPbc**	**00 31 10.3**	**+0.3**
	baz=146						
JCT	**Junction City**	**146.74**	**38**	*e*PKP2	**PKPdf**	**00 31 09.4**	**+0.8**
JCT	**Junction City**	**146.74**	**38**	*e*PKPdf	**PKPdf**	**00 31 09.4**	**+0.8**
JCT	**Junction City**	**146.74**	**38**	⇑P	**PKPbc**	**00 31 10.5**	**+0.1**
	baz=146						
MIAR	**Mount Ida**	**146.79**	**25**	*e*PKP2	**PKPbc**	**00 31 09.8**	**-0.6**
MIAR	**Mount Ida**	**146.79**	**25**	*e*PKPdf	**PKPbc**	**00 31 09.8**	**-0.6**
532A	**Rocksprings**	**146.92**	**38**	⇑P	**PKPbc**	**00 31 10.9**	**0.0**
	baz=147						
433A	**Art**	**146.97**	**36**	⇑P	**PKPbc**	**00 31 10.8**	**-0.3**
	baz=147						
WHTX	**Lake Whitney**	**146.97**	**33**	⇓P	**PKPbc**	**00 31 11.0**	**+0.1**
	baz=147						
631A	**Perdido Creek**	**147.00**	**40**	⇑P	**PKPbc**	**00 31 11.1**	**-0.1**
	baz=147						
334A	**Lometa**	**147.04**	**35**	⇑P	**PKPbc**	**00 31 11.0**	**-0.2**
	baz=147						
UALR	**University of**	**147.10**	**24**	*e*PKPdf	**PKPdf**	**00 31 09.9**	**+0.9**
434A	**Burnet**	**147.41**	**35**	⇓P	**PKPbc**	**00 31 11.9**	**-0.4**
	baz=147						
WVT	**Waverly**	**147.42**	**16**	*e*PKIKP	**PKPdf**	**00 31 09.3**	**-0.3**
WVT	**Waverly**	**147.42**	**16**	*e*PKPdf	**PKPdf**	**00 31 09.3**	**-0.3**
632A	**Uvalde**	**147.43**	**39**	⇑P	**PKPbc**	**00 31 12.6**	**+0.3**
	baz=147						
533A	**Kerrville**	**147.49**	**37**	⇓P	**PKPbc**	**00 31 12.5**	**0.0**
	baz=147						
335A	**Moody**	**147.53**	**34**	⇑P	**PKPbc**	**00 31 12.7**	**+0.1**
	baz=147						
732A	**Laxson Ranch,**	**147.85**	**40**	⇑P	**PKPbc**	**00 31 13.7**	**+0.2**
	baz=148						
534A	**Blanco**	**147.86**	**37**	⇓P	**PKPbc**	**00 31 13.5**	**0.0**
	baz=148						
OXF	**Oxford**	**148.42**	**20**	*e*PKIKP	**PKPdf**	**00 31 10.7**	**-0.5**
OXF	**Oxford**	**148.42**	**20**	*e*PKPdf	**PKPdf**	**00 31 10.7**	**-0.5**
SWET	**Sewanee**	**148.78**	**14**	*e*PKPbc	**PKPbc**	**00 31 14.7**	**-1.1**
TKL	**Tuckaleechee C**	**148.82**	**11**	*e*PKPbc	**PKPbc**	**00 31 15.1**	**-0.7**
TKL	**Tuckaleechee C**	**148.82**	**11**	PKPbc	**PKPbc**	**00 31 15.3**	**-0.5**
	comp=Z,13nm,0.5s,baz=130,slow=3.5,SNR=20						
CPCT	**Cooper Cave**	**148.88**	**12**	*e*PKPbc	**PKPbc**	**00 31 15.3**	**-0.6**
CPCT				*e*PKPab	**PKPab**	**00 31 19.2**	**-0.7**
KMSC	**Kings Mountain**	**149.70**	**7**	*e*PKPdf	**PKPdf**	**00 31 13.3**	**0.0**
KMSC				*e*PKPbc	**PKPbc**	**00 31 17.1**	**-0.9**
KMSC				*e*PKPab	**PKPab**	**00 31 22.3**	**-1.0**
KMSC	**Kings Mountain**	**149.70**	**7**	⇑P	**PKPbc**	**00 31 17.3**	**-0.7**
	baz=149						
LRAL	**Lakeview Retre**	**150.55**	**17**	*e*PKPdf	**PKPdf**	**00 31 15.8**	**+1.1**
LVC	**Limon Verde**	**151.48**	**196**	*e*PKPbc	**PKPbc**	**00 31 22.8**	**-0.1**
TIGA	**Tifton**	**152.94**	**12**	⇑P	**PKPbc**	**00 31 25.5**	**-0.2**
	baz=153						
SIV	**San Ignacio**	**153.89**	**217**	PKPbc	**PKPbc**	**00 31 29.7**	**+1.6**
SIV	**San Ignacio**	**153.89**	**217**	PKPbc	**PKPbc**	**00 31 29.7**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=117,slow=2.3,SNR=4.0						
LPAZ	**La Paz**	**157.14**	**202**	PKP	**PKPdf**	**00 31 25.9**	**+0.7**
LPAZ	**La Paz**	**157.14**	**202**	PKP	**PKPdf**	**00 31 25.9**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=271,slow=1.2,SNR=4.8						

GUC 08 00:19:47.9±0.5, 32°.92S×71°.37W, h46km±1km, MD3.7, ML2.8, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.26**	**245**	⇑*i*P	Pn	00 19 56.3	+0.1
IHA				*i* S	Sn	00 20 02.5	+0.5
ROCH	**El Roble**	**0.30**	**100**	⇑*i*P	Pn	00 19 57.5	+0.5
ROCH				*i* S	Sn	00 20 04.7	+1.3
ROCH				AML	AML	00 20 05.0	
	comp=E,2μm,0.1s						
LCCH	**Las Cruces**	**0.58**	**197**	⇑*i*P	Pn	00 20 00.0	+0.1
LCCH				*i* S	Sn	00 20 09.3	+0.7
PEL	**Peldehue**	**0.62**	**112**	⇑*i*P	Pn	00 20 01.1	+0.6
PEL				*i* S	Sn	00 20 10.8	+1.3
PEL				AML	AML	00 20 11.4	
	comp=E,3μm,0.3s						
JACH	**Jahuel**	**0.69**	**70**	⇓*i*P	Pn	00 20 01.7	+0.2
JACH				*i* S	Sn	00 20 12.2	+0.8
SAN	**Santiago**	**0.80**	**132**	*i* S	Sn	00 20 14.8	+1.1
SAN				AML	AML	00 20 16.2	
	comp=N,439nm,0.2s						
STL	**Santa Lucia**	**0.80**	**131**	*e*P	Pn	00 20 03.5	+0.6
STL				*i* S	Sn	00 20 15.2	+1.4
CLCH	**Cerro Calan**	**0.84**	**125**	⇑*i*P	Pn	00 20 04.2	+0.6
CLCH				*i* S	Sn	00 20 16.3	+1.3
CLCH				AML	AML	00 20 17.6	
	comp=N,376nm,0.3s						
ANTU	**Antumapu**	**0.90**	**137**	*e*P	Pn	00 20 04.9	+0.7
ANTU				*i* S	Sn	00 20 17.8	+1.7
ANTU				AML	AML	00 20 18.4	
	comp=N,503nm,0.3s						
PCH	**Pirque**	**1.00**	**135**	⇑*i*P	Pn	00 20 06.5	+0.7
PCH				*i* S	Sn	00 20 20.3	+1.5
SJCH	**San Jose de Ma**	**1.11**	**131**	⇑*i*P	Pn	00 20 07.0	-0.3
SJCH				*i* S	Sn	00 20 22.0	+0.4
SJCH				AML	AML	00 20 23.3	
	comp=N,309nm,0.2s						
CHCH	**Chadas Angostu**	**1.18**	**150**	*e*P	Pn	00 20 08.5	+0.4
CHCH				*i* S	Sn	00 20 24.2	+1.2
CACH	**El Canelo**	**1.36**	**152**	*e*P	Pn	00 20 12.1	+1.5
CACH				*i* S	Sn	00 20 30.2	+2.6

MEX 08 00:40:45.8±0.4, 16°.36N×98°.45W, h11km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**83**	*i* P	Pg	00 40 51.6	-0.6
PNIG				*i* S	Sg	00 40 56.4	-0.1
TLIG	**Tlapa**	**1.21**	**355**	*e*P	Pn	00 41 05.0	-3.7
TLIG				*i* S	Sb	00 41 19.7	-4.9
VHO	**Vista Hermosa**	**1.79**	**66**	*e*P	Pn	00 41 13.8	-3.1
VHO				*e*S	Sn	00 41 35.4	-4.5
HUIG	**Huatulco**	**2.33**	**104**	*e*P	Pn	00 41 21.1	-2.9
HUIG				*e*S	Sn	00 41 47.6	-5.0

*IDC **08** 00:41:06.0±0.6, 5°.30N×126°.15E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/25, mbtmp4.2/15, MS3.5/7, Ms1 3.5/7, ms1mx3.2/29, Error ellipse: s-maj=33.7km s-min=13.0km az=73.0*

*NEIC **08** 00:41:11.5±1.2, 5°.22N×126°.06E, h40km±11km, mb4.3/8, Error ellipse: s-maj=18.3km s-min=5.8km az=71.0*

*ISCJB **08** 00:41:14.0±0.6, 5°.33N±0°.03×126°.23E±0°.08, h81km±5km, mb4.1/21, Error ellipse: s-maj=13.3km s-min=5.1km az=178.1*

*MAN **08** 00:41:14, 5°.34N×126°.16E, h41km, mb4.9, ML3.8, MS3.8*

*DJA **08** 00:41:15.7±1.9, 5°.N±4°×12°6E±°, h36km±17km, M4.8/6, mb4.9/6, mB5.0/3, MLv4.7/6, Mw(mB)4.4/3*

ISC 08 00:41:14.5±1.1, 5°.31N±0°.04×126°.18E±0°.09, h65km±10km, n69, σ1s21/61, mb4.3/21, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.45**	**302**	⇓*i*P	**Pn**	**00 41 37.9**	**-0.9**
GSPH				*i* S	**Sn**	**00 41 57.4**	**+0.4**
MATI	**Mati**	**1.62**	**3**	*e*P	**Pn**	**00 41 40.5**	**-0.5**
MATI				*e*S	**Sn**	**00 42 01.8**	**+0.8**
SGSI	**Sangihe**	**1.74**	**202**	P	**Pn**	**00 41 42.8**	**+0.1**
SGSI				S	**Sn**	**00 42 06.2**	**+2.3**
DAV	**Davao City (W)**	**1.85**	**341**	P	**Pn**	**00 41 46.0**	**+2.0**
DAV	**Davao City (W)**	**1.85**	**341**	*e*Pn	Pn	00 41 41.9	-2.2
DAV				*e*Sn	**Sn**	**00 42 02.5**	**-3.9**
DMPH	**Davao City--Mi**	**1.88**	**339**	⇓*e*P	**Pn**	**00 41 45.8**	**+1.3**
DMPH				*e*S	**Sn**	**00 42 07.1**	**-0.2**
KCP	**Kidapawan**	**2.00**	**327**	⇓*e*P	**Pn**	**00 41 46.9**	**+0.6**
KCP				*i* S	Sn	00 42 17.8	+7.4
BUKP	**Musuan**	**2.78**	**336**	*e*P	**Pn**	**00 41 58.1**	**+1.3**
CGP	**Cagayan de Oro**	**3.45**	**335**	*e*P	**Pn**	**00 42 06.6**	**+0.6**
BUTP	**Butuan**	**3.67**	**351**	*e*P	**Pn**	**00 42 11.8**	**+2.8**
SCPH	**Surigao**	**4.49**	**351**	⇓*e*P	**Pn**	**00 42 21.6**	**+1.5**
TNTI	**Ternate**	**4.66**	**165**	P	**Pn**	**00 42 22.2**	**-0.3**
GTOI	**Gorontalo**	**5.62**	**214**	P	Pn	00 42 39.9	+4.3
	78nm,0.7s,958nm0.3nm						
MRSI	**Marisa**	**6.41**	**222**	P	**Pn**	**00 42 48.7**	**+2.4**
	108nm,0.6s,1μm0.4nm						
LUWI	**Luwuk**	**7.17**	**208**	P	Pn	00 43 00.6	+3.8
	129nm,0.9s,1μm0.4nm						
SBUM	**Sibu**	**14.22**	**259**	P	P	00 44 42.9	+4.7
FITZ	**Fitzroy Crossi**	**23.27**	**181**	*e*P	**P**	**00 46 14.1**	**-2.5**
	5.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.27**	**181**	P	**P**	**00 46 15.5**	**-1.2**
	5.7nm,1.0s,baz=8.7,slow=10,SNR=3.9						
PMG	**Port Moresby**	**25.51**	**125**	LR	LR	00 56 31.8	
	comp=Z,83nm,18.0s,baz=304,slow=36						
WRAB	**Tennant Creek**	**26.34**	**162**	*e*P	**P**	**00 46 43.8**	**-0.8**
	12nm,0.8s						
WRA	**Warramunga Arr**	**26.35**	**163**	P	**P**	**00 46 43.4**	**-1.3**
WRA	**Warramunga Arr**	**26.35**	**163**	P	**P**	**00 46 43.4**	**-1.3**
	11nm,0.9s,baz=342,slow=10.0,SNR=20						
JNU	**Nakatsue**	**28.01**	**8**	LR	LR	00 56 03.1	
	comp=Z,67nm,19.8s,baz=62,slow=32						
CMAR	**Chiang Mai Arr**	**29.62**	**298**	P	**P**	**00 47 12.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**29.62**	**298**	P	**P**	**00 47 12.1**	**-1.8**
	0.7nm,0.3s,baz=125,slow=7.8,SNR=3.0						
CMAR				LR	LR	00 57 47.7	
	comp=Z,66nm,21.6s,baz=151,slow=34						
ASAR	**Alice Springs**	**29.77**	**166**	P	**P**	**00 47 14.3**	**-0.9**
ASAR	**Alice Springs**	**29.77**	**166**	P	**P**	**00 47 14.3**	**-0.9**
	1.0nm,0.9s,baz=348,slow=6.9,SNR=5.8						
KSAR	**Wonju Array Be**	**32.02**	**3**	P	**P**	**00 47 34.4**	**-0.4**
KSRS	**Korea Array**	**32.03**	**3**	P	**P**	**00 47 34.4**	**-0.5**
	1.9nm,0.9s,baz=196,slow=9.1,SNR=5.1						
KSRS				LR	LR	01 02 16.3	
	comp=Z,44nm,18.0s,baz=315,slow=40						
HNR	**Honiara**	**36.70**	**113**	LR	LR	01 00 29.9	
	comp=Z,100nm,19.1s,baz=305,slow=32						
USRK	**Ussuriysk Arra**	**39.06**	**7**	P	**P**	**00 48 34.4**	**-0.7**
	3.0nm,0.7s,baz=187,slow=8.1,SNR=4.9						
STKA	**Stephens Creek**	**39.79**	**159**	*e*P	**P**	**00 48 40.7**	**-0.6**
	1.7nm,0.8s						
STKA	**Stephens Creek**	**39.79**	**159**	P	**P**	**00 48 41.5**	**+0.1**
	4.5nm,0.6s,baz=333,slow=8.2,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**41.62**	**68**	T	T	01 32 56.4	
	baz=256,slow=64,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**41.64**	**68**	T	T	01 32 58.4	
	baz=256,slow=64,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**41.64**	**68**	T	T	01 32 56.3	
	baz=256,slow=64,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**42.10**	**66**	T	T	01 33 30.9	
	baz=258,slow=75,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**42.11**	**66**	T	T	01 33 32.4	
	baz=258,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**42.12**	**66**	T	T	01 33 33.3	
	baz=258,slow=75,SNR=6.1						
ULN	**Ulaanbaatar**	**45.45**	**342**	P	P	00 49 32.2	+5.0
	9.4nm,1.4s						
ULN	**Ulaanbaatar**	**45.45**	**342**	*e*P	**P**	**00 49 27.4**	**+0.2**
	3.3nm,0.8s						
SONM	**Songino Array**	**45.63**	**341**	P	**P**	**00 49 29.6**	**+1.0**
SONM				PcP	**PcP**	**00 51 07.5**	**+1.6**
SONM	**Songino Array**	**45.63**	**341**	P	**P**	**00 49 29.7**	**+1.0**
	1.6nm,0.8s,baz=154,slow=7.3,SNR=6.2						
SONM				PcP	**PcP**	**00 51 07.5**	**+1.6**
	0.5nm,0.6s,baz=135,slow=2.6,SNR=4.0						
MK31	**Makanchi Array**	**55.95**	**325**	*e*P	**P**	**00 50 46.4**	**+0.2**
MKAR	**Makanchi Array**	**55.95**	**325**	P	**P**	**00 50 46.5**	**+0.4**
MKAR	**Makanchi Array**	**55.95**	**325**	P	**P**	**00 50 46.5**	**+0.4**
	2.0nm,0.6s,baz=118,slow=7.7,SNR=33						
MKAR				LR	LR	01 16 18.7	
	comp=Z,60nm,20.4s,baz=9.3,slow=38						
AAK	**Ala-Archa**	**58.83**	**317**	*e*P	**P**	**00 51 05.5**	**-1.1**
	1.9nm,0.8s						
ZAA0	**Zalesovo Array**	**58.94**	**333**	*e*P	**P**	**00 51 06.1**	**-0.8**
ZALV	**Zalesovo Beam**	**58.94**	**333**	P	**P**	**00 51 05.9**	**-1.1**
ZALV	**Zalesovo Beam**	**58.94**	**333**	P	**P**	**00 51 05.9**	**-1.1**
	2.3nm,0.6s,baz=123,slow=7.3,SNR=12						
KURBB	**Kurchatov Arra**	**60.12**	**327**	P	**P**	**00 51 15.6**	**+0.5**
	2.8nm,0.3s,baz=116,slow=6.5,SNR=4.1						
KURK	**Kurchatov**	**60.12**	**327**	*e*P	**P**	**00 51 15.2**	**+0.1**
	3.2nm,0.6s						
BRVK	**Borovoye**	**65.78**	**327**	*e*P	**P**	**00 51 52.3**	**-0.3**
	6.9nm,0.9s						
ABKAR	**Akbulak array**	**70.59**	**321**	P	**P**	**00 52 22.6**	**-0.3**
	1.4nm,0.7s						
ILAR	**Eielson Array**	**83.92**	**25**	P	**P**	**00 53 36.8**	**-0.4**
ILAR	**Eielson Array**	**83.92**	**25**	P	**P**	**00 53 36.8**	**-0.4**
	0.6nm,0.8s,baz=244,slow=5.0,SNR=6.9						
VNDA	**Vanda**	**85.06**	**173**	LR	LR	01 31 34.7	
	comp=Z,43nm,18.1s,baz=216,slow=36						
BRTR	**Keskin Array B**	**88.60**	**310**	P	**P**	**00 54 01.4**	**+0.6**
BRTR	**Keskin Array B**	**88.60**	**310**	P	**P**	**00 54 01.4**	**+0.6**
	0.7nm,0.9s,baz=36,slow=7.5,SNR=2.6						
ARCES	**ARCESS Array B**	**88.78**	**340**	P	**P**	**00 54 01.1**	**+0.2**
ARCES	**ARCESS Array B**	**88.78**	**340**	P	**P**	**00 54 01.1**	**+0.2**
	2.5nm,0.7s,baz=81,slow=5.4,SNR=12						
FINES	**FINESS Array B**	**90.19**	**332**	P	**P**	**00 54 08.3**	**+0.7**
FINES	**FINESS Array B**	**90.19**	**332**	P	**P**	**00 54 08.3**	**+0.7**
	0.8nm,0.5s,baz=73,slow=4.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**121.90**	**289**	PKP	**PKPdf**	**01 00 02.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**121.90**	**289**	PKP	**PKPdf**	**01 00 02.9**	**+0.5**
	0.8nm,0.7s,baz=64,slow=1.1,SNR=5.3						
JTS	**JuntasAbangare**	**145.33**	**63**	PKPbc	**PKPab**	**01 00 46.5**	**+0.3**
JTS	**JuntasAbangare**	**145.33**	**63**	PKPbc	**PKPab**	**01 00 46.5**	**+0.3**
	10nm,0.8s,baz=326,slow=3.7,SNR=6.1						
CFAA	**Coronel Fontan**	**150.56**	**154**	PKPbc	**PKPbc**	**01 01 00.3**	**+0.6**
CFAA	**Coronel Fontan**	**150.56**	**154**	PKPbc	**PKPbc**	**01 01 00.3**	**+0.6**
	0.4nm,0.8s,baz=246,slow=4.2,SNR=6.3						

*JMA **08** 00:45:05.3±0.1, 36°.39N×141°.39E, h45km±3km, M3.4*

*IDC **08** 00:45:07.5±3.1, 36°.32N×141°.45E, h50km±24km, mb3.6/10, mb1 3.7/13, mb1mx3.5/30, mbtmp3.8/13, ML3.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/32, Error ellipse: s-maj=26.7km s-min=17.9km az=154.0*

ISC 08 00:45:02.9±1.8, 36°.41N±0°.03×141°.52E±0°.07, h14km±10km, n31, σ1s06/36, mb3.9/10, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.79**	**285**	⇓P	**Pg**	**00 45 18.8**	**+0.5**
JHO				S	**Sg**	**00 45 27.2**	**-1.6**
CHOJ	**Chosi**	**0.88**	**218**	P	**Pb**	**00 45 20.3**	**+0.3**
CHOJ				S	**Sb**	**00 45 31.1**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.91**	**320**	S	**Sb**	**00 45 32.3**	**0.0**
JFK	**Kawauchi**	**1.09**	**332**	⇓P	**Pb**	**00 45 23.4**	**-0.2**
JFK				S	**Sb**	**00 45 37.5**	**-0.1**
JFT	**Otama**	**1.46**	**320**	⇓P	**Pb**	**00 45 29.7**	**-0.1**
JFT				S	**Sn**	**00 45 47.4**	**-0.3**
JMM	**Marumori**	**1.57**	**338**	⇓P	**Pn**	**00 45 30.4**	**+0.1**
JMM				S	**Sn**	**00 45 50.1**	**-0.3**
JAG	**Ashikaga**	**1.67**	**271**	P	**Pn**	**00 45 31.3**	**-0.4**
JAG				S	**Sn**	**00 45 51.3**	**-1.5**
JFY	**Yanaizu**	**1.77**	**305**	P	**Pn**	**00 45 33.8**	**+0.8**
BSO3	**Boso 3**	**1.80**	**208**	P	**Pb**	**00 45 35.8**	**+0.4**
BSO3				S	**Sn**	**00 45 55.8**	**+0.1**
BSO1	**Boso 1**	**1.80**	**194**	P	**Pn**	**00 45 34.0**	**+1.0**
BSO1				S	**Sb**	**00 45 57.0**	**-0.5**
JKT	**Katashina**	**1.86**	**282**	P	**Pn**	**00 45 35.1**	**+0.7**
JKT				S	**Sn**	**00 45 56.5**	**-1.3**
MJAR	**Matsushiro Arr**	**2.67**	**274**	P	**Pn**	**00 45 45.8**	**+0.3**
	8.2nm,0.3s,baz=112,slow=9.4,SNR=45						
MJAR				S	**Sn**	**00 46 18.3**	**+0.6**
	8.5nm,0.3s,baz=93,slow=15,SNR=9.2						
MJAR				LR	LR	00 47 05.1	
	comp=Z,14nm,28.6s,baz=130,slow=45						
MAT	**Matsushiro**	**2.67**	**274**	P	**Pn**	**00 45 46.2**	**+0.7**
MAT				S	**Sn**	**00 46 18.8**	**+1.1**
ASAJ	**Asahikawa**	**7.75**	**6**	P	**Pn**	**00 46 58.3**	**+3.2**
	1.5nm,0.3s,baz=176,slow=14,SNR=5.3						
ASAJ				S	**Sn**	**00 48 19.4**	**-3.2**
	0.7nm,0.3s,baz=133,slow=19,SNR=2.0						
USRK	**Ussuriysk Arra**	**10.65**	**320**	P	Pn	00 47 39.1	+4.1
	0.1nm,0.3s,baz=121,slow=14,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**27.76**	**120**	T	T	01 20 05.7	
	baz=315,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**27.77**	**120**	T	T	01 20 08.8	
	baz=315,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**27.77**	**120**	T	T	01 20 08.5	
	baz=315,slow=76,SNR=15						
SONM	**Songino Array**	**28.21**	**305**	P	**P**	**00 50 54.9**	**-0.3**
	0.8nm,0.5s,baz=109,slow=8.8,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**28.45**	**122**	T	T	01 20 53.3	
	baz=317,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**28.45**	**122**	T	T	01 21 01.0	
	baz=317,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.47**	**122**	T	T	01 21 03.8	
	baz=317,slow=75,SNR=14						
ZALV	**Zalesovo Beam**	**42.40**	**313**	P	**P**	**00 52 56.8**	**+0.1**
	1.4nm,0.6s,baz=95,slow=6.3,SNR=4.9						
MKAR	**Makanchi Array**	**44.53**	**303**	P	**P**	**00 53 13.7**	**-0.2**
	0.7nm,0.7s,baz=88,slow=9.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**46.46**	**308**	P	**P**	**00 53 28.9**	**-0.3**
	1.0nm,0.3s,baz=84,slow=8.5,SNR=7.4						
ILAR	**Eielson Array**	**49.98**	**32**	P	**P**	**00 53 56.9**	**+0.8**
	1.6nm,1.0s,baz=265,slow=6.

ANKY				eSN	Sb	01 12 13.7	+0.7		
ANKY	**Antikythira Is**	**0.97**	**165**	*e*Pn	Pb	01 12 00.0	-0.1		
ANKY	**Antikythira Is**	**0.97**	**165**	P	Pn	01 12 00.5	-0.3		
ANKY				eSn	Sb	01 12 13.7	+0.7		
PYL	**PYLOS**	**1.00**	**275**	P	Pg	01 11 59.3	-1.1		
PYL				S	Sb	01 12 14.3	+0.5		
PYL	**PYLOS**	**1.00**	**275**	*e*PN	Pg	01 11 59.2	-1.2		
PYL	**PYLOS**	**1.00**	**275**	P	Pg	01 11 59.3	-1.1		
PYL				S	Sb	01 12 14.3	+0.5		
NAIG	**Nisos Aigina**	**1.03**	**23**	*e*PN	Pb	01 12 01.2	+0.1		
NAIG	**Nisos Aigina**	**1.03**	**23**	*e*Pn	Pb	01 12 01.2	+0.1		
LTK	**Loutraki**	**1.21**	**359**	P	Pn	01 12 03.2	-1.0		
LTK				S	Sn	01 12 20.8	+0.1		
LTK	**Loutraki**	**1.21**	**359**	*e*PN	Pg	01 12 04.4	-0.1		
LTK				eSN	Sb	01 12 20.6	-0.1		
LTK	**Loutraki**	**1.21**	**359**	P	Pn	01 12 03.2	-1.0		
LTK	**Loutraki**	**1.21**	**359**	*e*Pn	Pg	01 12 04.4	-0.1		
LTK				eSn	Sn	01 12 20.6	-0.1		
GUR	**Goura**	**1.24**	**336**	P	Pn	01 12 03.3	-1.3		
GUR	**Goura**	**1.24**	**336**	*e*PN	Pn	01 12 03.4	-1.2		
GUR				eSN	Sb	01 12 20.3	-0.5		
GUR	**Goura**	**1.24**	**336**	*e*Pn	Pn	01 12 03.4	-1.2		
GUR				eSn	Sb	01 12 20.3	-0.5		
AMT	**Artemida-Makis**	**1.25**	**306**	P	Pn	01 12 03.9	-0.8		
AMT	**Artemida-Makis**	**1.25**	**306**	*e*PN	Pn	01 12 04.2	-0.5		
AMT				eSN	Sn	01 12 21.6	0.0		
AMT	**Artemida-Makis**	**1.25**	**306**	P	Pn	01 12 03.9	-0.8		
AMT	**Artemida-Makis**	**1.25**	**306**	*e*Pn	Pn	01 12 04.2	-0.5		
AMT				eSn	Sn	01 12 21.6	0.0		
VILL	**Villia**	**1.38**	**11**	P	Pn	01 12 05.6	-0.9		
VILL				S	Sg	01 12 25.3	-0.4		
VILL	**Villia**	**1.38**	**11**	*e*PN	Pn	01 12 05.6	-0.9		
VILL	**Villia**	**1.38**	**11**	*e*Pn	Pg	01 12 07.6	-0.1		
VILL				S	Sg	01 12 25.3	-0.4		
KLV	**Kalavryta, Ach**	**1.40**	**332**	P	Pn	01 12 06.0	-0.8		
KLV				S	Sn	01 12 25.1	-0.3		
KLV	**Kalavryta, Ach**	**1.40**	**332**	*e*PB	Pn	01 12 06.3	-0.5		
KLV				eSN	Sg	01 12 27.0	+0.6		
KLV	**Kalavryta, Ach**	**1.40**	**332**	P	Pn	01 12 06.0	-0.8		
KLV	**Kalavryta, Ach**	**1.40**	**332**	*e*Pn	Pn	01 12 06.3	-0.5		
KLV				S	Sn	01 12 25.1	-0.3		
VIL2	**Platees**	**1.42**	**9**	*e*PN	Pb	01 12 07.6	-0.1		
PTL	**Penteli**	**1.42**	**29**	P	Pn	01 12 06.9	-0.2		
PTL	**Penteli**	**1.42**	**29**	*e*PN	Pn	01 12 07.0	-0.1		
PTL				eSN	Sb	01 12 26.0	-0.1		
PTL	**Penteli**	**1.42**	**29**	*e*Pn	Pn	01 12 07.0	-0.1		
PTL				eSn	Sb	01 12 26.0	-0.1		
DRO	**Drossia**	**1.53**	**319**	*e*PN	Pb	01 12 09.3	-0.3		
DRO	**Drossia**	**1.53**	**319**	*e*Pn	Pb	01 12 09.3	-0.3		
LAKA	**Lakka**	**1.64**	**331**	*e*PN	Pn	01 12 10.3	+0.3		
LAKA	**Lakka**	**1.64**	**331**	*e*Pn	Pn	01 12 10.3	+0.3		
DESF	**Desfina**	**1.64**	**348**	*e*PN	Pn	01 12 10.4	+0.3		
DESF	**Desfina**	**1.64**	**348**	*e*Pn	Pn	01 12 10.4	+0.3		
DSF	**Desfina**	**1.64**	**347**	*e*PN	Pb	01 12 11.6	+0.1		
DSF				eSN	Sb	01 12 32.6	+0.2		
DSF	**Desfina**	**1.64**	**347**	*e*Pn	Pb	01 12 11.6	+0.1		
DSF				eSn	Sb	01 12 32.6	+0.2		
VAM	**Vamos**	**1.71**	**144**	P	Pn	01 12 11.2	+0.2		
VAM	**Vamos**	**1.71**	**144**	*e*PN	Pn	01 12 11.8	+0.8		
VAM				eSN	Sg	01 12 35.6	-0.6		
VAM	**Vamos**	**1.71**	**144**	P	Pn	01 12 11.2	+0.2		
VAM	**Vamos**	**1.71**	**144**	*e*Pn	Pn	01 12 11.8	+0.8		
KALE	**Kalithea**	**1.72**	**337**	*e*PN	Pb	01 12 13.1	+0.3		
RLS	**Riolos of Patr**	**1.74**	**316**	*e*PN	Pb	01 12 12.7	-0.4		
RLS	**Riolos of Patr**	**1.74**	**316**	*e*Pn	Pb	01 12 12.7	-0.4		
ERET	**Eretria**	**1.76**	**22**	P	Pn	01 12 11.3	-0.4		
ERET				S	Sn	01 12 34.2	-0.1		
ERET	**Eretria**	**1.76**	**22**	P	Pn	01 12 11.3	-0.4		
ERET				S	Sn	01 12 34.2	-0.1		
LKR	**Lokris**	**1.84**	**0**	P	Pn	01 12 12.1	-0.7		
LKR	**Lokris**	**1.84**	**0**	P	Pn	01 12 12.1	-0.7		
APE	**Apeiranthos**	**2.06**	**82**	P	Pn	01 12 15.9	+0.1		
APE	**Apeiranthos**	**2.06**	**82**	P	Pn	01 12 15.9	+0.1		
IDI	**Anoyia**	**2.17**	**134**	P	Pn	01 12 17.3	0.0		
IDI	**Anoyia**	**2.17**	**134**	*e*PB	Pn	01 12 18.1	+0.8		
IDI	**Anoyia**	**2.17**	**134**	P	Pn	01 12 17.3	0.0		
IDI	**Anoyia**	**2.17**	**134**	*e*Pb	Pn	01 12 18.1	+0.8		
AGG	**Agios Georgios**	**2.27**	**347**	*e*PN	Pn	01 12 20.3	+1.6		
AGG	**Agios Georgios**	**2.27**	**347**	*e*Pn	Pn	01 12 20.3	+1.6		
PDO	**Prodromos**	**2.29**	**322**	*e*PN	Pb	01 12 21.4	-1.1		
EVR	**Evrytania**	**2.30**	**337**	*e*PB	Pn	01 12 19.6	+0.4		
EVR	**Evrytania**	**2.30**	**337**	*e*Pb	Pn	01 12 19.6	+0.4		
MAKR	**Makrakomi, Fth**	**2.30**	**343**	*e*PN	Pn	01 12 20.7	+1.5		
MAKR	**Makrakomi, Fth**	**2.30**	**343**	*e*Pn	Pn	01 12 20.7	+1.5		
NPS	**Neapolis**	**2.63**	**125**	P	Pn	01 12 23.7	0.0		
NPS	**Neapolis**	**2.63**	**125**	P	Pn	01 12 23.7	0.0		

*NNC **08** 01:28:13.6±4.1, 41°.51N×73°.13E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=50.9km s-min=18.9km az=175.0*
ISC 08 01:28:07.6±2.4**, 41°.0N**±0°.2×**73°.29E**±0°.06**, h7km**, **n17**, σ1**§15**/15**, 8C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=186	**1.16**	**15**	P		**Pb**	**01 28 30.2**	**-0.1**
UCH	**Uchtor** SNR=148	**1.53**	**37**	P		**Pn**	**01 28 35.7**	**-0.1**
EKS2	**Erkin-Say** SNR=48	**1.69**	**12**	P		**Pg**	**01 28 39.6**	**-0.5**
KZA	**Kyzart** SNR=27	**1.82**	**53**	P		**Pn**	**01 28 41.0**	**+1.2**
AAK	**Ala-Archa** SNR=83	**1.86**	**29**	P		**Pb**	**01 28 42.4**	**+0.4**
KBK	**Karagaybulak** SNR=68	**2.06**	**36**	P		**Pb**	**01 28 45.6**	**+0.1**
CHMS	**Chumysh** SNR=30	**2.27**	**28**	P		**Pb**	**01 28 48.2**	**-0.7**
USP	**Ospenovka** SNR=17	**2.43**	**21**	P		**Pb**	**01 28 52.4**	**+0.7**
ULHL	**Ulahol** SNR=12	**2.54**	**60**	P		**Pb**	**01 28 53.0**	**-0.5**
TKM2	**Tokmak 2** SNR=20	**2.57**	**41**	P		**Pn**	**01 28 52.0**	**+2.1**
TKM2	**Tokmak 2** 14nm,0.4s	**2.57**	**41**	⇑Pn		**Pn**	**01 28 51.7**	**+1.8**
TKM2	36nm,0.6s			⇑Lg		Lg	01 29 26.6	
KK31	**Karatay Array** 3.9nm,0.3s,baz=127,slow=13,SNR=252	**2.94**	**316**	⇓Pn		**Pn**	**01 28 56.3**	**+1.5**
KK31	5.5nm,0.3s,baz=139,slow=16,SNR=3.9			⇓Pg		**Pb**	**01 29 00.6**	**+0.2**
KK31	7.3nm,0.3s,baz=126,slow=28,SNR=7.6			⇑Lg		Lg	01 29 36.6	
KNDC	**Almaty** 26nm,0.6s	**3.52**	**50**	⇓Pg		**Pb**	**01 29 10.2**	**0.0**
KNDC	63nm,0.7s			⇑Lg		Lg	01 29 58.0	
MK31	**Makanchi Array** 2.8nm,1.2s,baz=169,slow=36,SNR=4.8	**8.70**	**45**	⇓Pn		Pn	01 30 23.6	+10
MK31				⇑Lg		Lg	01 32 40.5	
KURBB	**Kurchatov Arra** 13nm,0.7s	**10.29**	**19**	⇑Lg		Lg	01 33 31.3	
KURK	**Kurchatov** 4.2nm,0.7s	**10.39**	**19**	⇑Lg		Lg	01 33 30.7	
AB31	**Akbulak array** 1.0nm,0.7s	**12.51**	**316**	⇑Pn		**Pn**	**01 31 04.3**	**-1.6**

IDC 08 01:39:39.9±2.2**, 6.71S**×**128.98E**, **h0km**, **mb3.2**/1, mb1 3.2**/3**, mb1mx3.1**/19**, mbtmp3.0**/3**, ML2.9**/2**, Error ellipse: s-maj=143.2km s-min=32.1km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=342,slow=13,SNR=3.8	**14.14**	**159**	Pn		Pn	01 43 01.4	-0.3
WRA	0.1nm,0.3s,baz=329,slow=22,SNR=4.1			Sn		Sn	01 45 27.5	-12
ASAR	**Alice Springs** 0.0nm,0.3s,baz=334,slow=10,SNR=3.1	**17.51**	**165**	P		Pn	01 43 45.6	-0.1
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=116,slow=7.5,SNR=4.9	**67.43**	**327**	P		P	01 50 37.5	+0.1

*IDC **08** 02:12:50.8±0.8, 37°.46N×20°.37E, h0km, mb3.6/11, mb1 3.7/18, mb1mx3.6/37, mbtmp3.6/18, ML3.7/5, Error ellipse: s-maj=16.5km s-min=14.2km az=116.0*
*ATH **08** 02:12:51.3, 37°.33N×20°.20E, h18km, ML3.5*
*ISCJB **08** 02:12:51.1±0.5, 37°.32N±0°.02×20°.09E±0°.02, h17km±4km, mb3.5/11, Error ellipse: s-maj=3.5km s-min=2.4km az=40.9*
*CSEM **08** 02:12:52.5±0.2, 37°.33N×20°.18E, h10km, ML3.6, Error ellipse: s-maj=4.3km s-min=2.3km az=50.0*
*THE **08** 02:12:54.1, 37°.47N×20°.34E, h0km±2km, ML3.6/6, Error ellipse: s-maj=2.3km s-min=0.8km az=240.0*
*BEO **08** 02:12:57.4±6.0, 37°.81N×19°.94E, h0km, ML3.4/5*
ISC 08 02:12:52.0±1.2**, 37°.36N**±0°.03×**20°.20E**±0°.03**, h9km**±8km**, n295**, σ1**§22**/419**, mb3.7**/11**, 13C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.66**	**99**	P		**Pg**	**02 13 05.0**	**+0.2**
SFD				S		**Sb**	**02 13 14.3**	**-0.7**
SFD	**Strofades**	**0.66**	**99**	*e*PN		**Pg**	**02 13 04.5**	**-0.3**
SFD				eSN		**Sg**	**02 13 13.9**	**+0.5**
SFD	**Strofades**	**0.66**	**99**	*e*Pn		**Pg**	**02 13 05.0**	**+0.2**
SFD				eSn		**Sg**	**02 13 13.9**	**+0.5**
SFD				S		**Sb**	**02 13 14.9**	**-0.1**
VLS	**Valsamata**	**0.87**	**21**	P		**Pg**	**02 13 08.4**	**-0.4**
VLS				S		**Sg**	**02 13 18.5**	**-1.6**
VLS	**Valsamata**	**0.87**	**21**	*e*PN		**Pg**	**02 13 08.6**	**-0.2**
VLS				eSN		**Sb**	**02 13 21.6**	**+0.5**
VLS	**Valsamata**	**0.87**	**21**	P		**Pg**	**02 13 08.4**	**-0.4**
VLS				S		**Sb**	**02 13 21.2**	**+0.1**
KFL	**Anninata**	**0.88**	**32**	P		**Pg**	**02 13 08.5**	**-0.4**
KFL				S		**Sg**	**02 13 18.4**	**-2.0**
KFL	**Anninata**	**0.88**	**32**	P		**Pg**	**02 13 08.5**	**-0.4**
KFL				S		**Sb**	**02 13 22.2**	**+0.9**
AMT	**Artemida-Makis**	**1.21**	**81**	P		**Pn**	**02 13 14.4**	**-0.7**
AMT				S		**Sb**	**02 13 29.9**	**-1.1**
AMT	**Artemida-Makis**	**1.21**	**81**	*e*PN		**Pn**	**02 13 14.5**	**-0.7**
AMT				eSN		**Sb**	**02 13 30.5**	**-0.5**
AMT	**Artemida-Makis**	**1.21**	**81**	*e*Pn		**Pn**	**02 13 14.5**	**-0.7**
AMT				S		**Sb**	**02 13 29.9**	**-1.1**
AMT				eSn		**Sb**	**02 13 30.5**	**-0.5**
RLS	**Riolos of Patr**	**1.22**	**55**	P		**Pn**	**02 13 14.2**	**-1.1**
RLS	**Riolos of Patr**	**1.22**	**55**	*e*PN		**Pn**	**02 13 14.4**	**-0.9**
RLS				eSN		**Sb**	**02 13 31.3**	**+0.1**
RLS	**Riolos of Patr**	**1.22**	**55**	*e*Pn		**Pn**	**02 13 14.4**	**-0.9**
RLS				eSn		**Sb**	**02 13 31.3**	**+0.1**
RLS				S		**Sn**	**02 13 33.9**	**+2.0**
PYL	**PYLOS**	**1.32**	**110**	P		**Pn**	**02 13 16.0**	**-0.6**
PYL	**PYLOS**	**1.32**	**110**	*e*PN		**Pn**	**02 13 15.9**	**-0.6**
PYL				eSN		**Sb**	**02 13 33.7**	**-0.2**
PYL	**PYLOS**	**1.32**	**110**	P		**Pn**	**02 13 16.0**	**-0.6**
PYL				S		**Sb**	**02 13 33.2**	**-0.7**
DRO	**Drossia**	**1.34**	**63**	P		**Pn**	**02 13 17.0**	**+0.1**
DRO				S		**Sb**	**02 13 32.2**	**-1.3**
DRO	**Drossia**	**1.34**	**63**	*e*PN		**Pn**	**02 13 16.9**	**+0.1**
DRO				eSN		**Sg**	**02 13 35.7**	**+0.7**
DRO	**Drossia**	**1.34**	**63**	P		**Pn**	**02 13 17.0**	**+0.1**
DRO				eSn		**Sg**	**02 13 35.7**	**+0.7**
DRO				S		**Sg**	**02 13 36.9**	**+1.9**
ITM	**Ithomi**	**1.39**	**97**	P		**Pn**	**02 13 17.5**	**-0.1**
ITM	**Ithomi**	**1.39**	**97**	*e*PN		**Pn**	**02 13 17.3**	**-0.3**
ITM				eSN		**Sn**	**02 13 36.4**	**+0.3**
ITM	**Ithomi**	**1.39**	**97**	P		**Pn**	**02 13 17.5**	**-0.1**
ITM				S		**Sb**	**02 13 35.4**	**-0.6**
ITM				eSn		**Sn**	**02 13 36.4**	**+0.3**
PDO	**Prodromos**	**1.46**	**32**	P		**Pb**	**02 13 19.3**	**0.0**
PDO	**Prodromos**	**1.46**	**32**	*e*PN		**Pb**	**02 13 19.3**	**0.0**
PDO				eSN		**Sg**	**02 13 40.0**	**+1.1**
PDO	**Prodromos**	**1.46**	**32**	P		**Pb**	**02 13 19.4**	**+0.1**
PDO				S		**Sg**	**02 13 39.5**	**+0.6**
PDO				eSn		**Sg**	**02 13 40.3**	**+1.1**
LKD2	**Lefkada island**	**1.47**	**14**	P		**Pb**	**02 13 19.2**	**-0.3**
LKD2	**Lefkada island**	**1.47**	**14**	P		**Pb**	**02 13 19.2**	**-0.3**
LKD2				S		**Sg**	**02 13 41.5**	**+2.2**
PVO	**Paravola**	**1.63**	**40**	P		**Pb**	**02 13 22.0**	**-0.3**
PVO	**Paravola**	**1.63**	**40**	P		**Pb**	**02 13 22.0**	**-0.3**
PSA1	**Psathopyrgos**	**1.65**	**54**	*e*PN		**Pb**	**02 13 22.2**	**-0.3**
PSA1				eSN		**Sb**	**02 13 44.1**	**+0.8**
LAKA	**Lakka**	**1.66**	**58**	P		**Pb**	**02 13 22.3**	**-0.5**
LAKA	**Lakka**	**1.66**	**58**	*e*PN		**Pn**	**02 13 21.8**	**+0.5**
LAKA	**Lakka**	**1.66**	**58**	*e*Pn		**Pn**	**02 13 21.8**	**+0.5**
LAKA	**Lakka**	**1.66**	**58**	P		**Pb**	**02 13 22.3**	**-0.5**
KLV	**Kalavryta, Ach**	**1.69**	**66**	P		**Pn**	**02 13 22.6**	**+0.8**
KLV	**Kalavryta, Ach**	**1.69**	**66**	*e*PN		**Pn**	**02 13 22.6**	**+0.8**
KLV				eSN		**Sb**	**02 13 44.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.69**	**66**	P		**Pn**	**02 13 22.6**	**+0.8**
KLV				eSn		**Sb**	**02 13 44.8**	**+0.1**
EFP	**Efpalio**	**1.72**	**51**	P		**Pn**	**02 13 22.9**	**+0.8**
EFP				S		**Sn**	**02 13 42.6**	**+0.4**
EFP	**Efpalio**	**1.72**	**51**	P		**Pn**	**02 13 22.9**	**+0.8**
EFP				S		**Sn**	**02 13 44.6**	**+0.4**
VLX	**Vlachokerasia**	**1.74**	**89**	P		**Pb**	**02 13 23.3**	**-0.8**
VLX				S		**Sb**	**02 13 46.5**	**+0.4**
VLX	**Vlachokerasia**	**1.74**	**89**	*e*PN		**Pn**	**02 13 22.9**	**+0.5**
VLX				eSN		**Sb**	**02 13 46.2**	**+0.1**
VLX	**Vlachokerasia**	**1.74**	**89**	*e*Pn		**Pn**	**02 13 22.9**	**+0.5**
VLX	**Vlachokerasia**	**1.74**	**89**	P		**Pb**	**02 13 23.3**	**-0.8**
VLX				eSn		**Sb**	**02 13 46.2**	**+0.1**
GUR	**Goura**	**1.79**	**71**	P		**Pn**	**02 13 24.0**	**+0.7**
GUR	**Goura**	**1.79**	**71**	*e*PN		**Pn**	**02 13 23.8**	**+0.5**
GUR				eSN		**Sb**	**02 13 47.7**	**-0.1**
GUR	**Goura**	**1.79**	**71**	P		**Pn**	**02 13 24.0**	**+0.7**
GUR				eSn		**Sb**	**02 13 47.7**	**-0.1**
GUR				S		**Sg**	**02 13 51.0**	**+1.3**
KALE	**Kalithea**	**1.85**	**56**	*e*PN		**Pn**	**02 13 24.6**	**+0.7**
KALE				eSN		**Sb**	**02 13 49.0**	**-0.2**
KALE	**Kalithea**	**1.85**	**56**	*e*Pn		**Pn**	**02 13 24.6**	**+0.7**
KALE				eSn		**Sb**	**02 13 49.0**	**-0.2**
EVR	**Evrytania**	**2.00**	**39**	P		**Pb**	**02 13 28.4**	**-0.3**
EVR	**Evrytania**	**2.00**	**39**	*e*PN		**Pn**	**02 13 27.5**	**+1.4**
EVR				eSN		**Sn**	**02 13 52.7**	**+1.3**
EVR	**Evrytania**	**2.00**	**39**	*e*Pn		**Pn**	**02 13 27.5**	**+1.4**
EVR	**Evrytania**	**2.00**	**39**	P		**Pb**	**02 13 28.4**	**-0.3**
EVR				eSn		**Sn**	**02 13 52.7**	**+1.3**
DSF	**Desfina**	**2.12**	**60**	P		**Pn**	**02 13 28.8**	**+1.1**
DSF				S		**Sn**	**02 13 55.3**	**+1.2**
DSF	**Desfina**	**2.12**	**60**	*e*PN		**Pn**	**02 13 29.0**	**+1.3**
DSF				eSN		**Sn**	**02 13 55.7**	**+1.6**
DSF	**Desfina**	**2.12**	**60**	P		**Pn**	**02 13 28.8**	**+1.1**
DSF				S		**Sn**	**02 13 55.3**	**+1.2**
DESF	**Desfina**	**2.12**	**60**	*e*PN		**Pn**	**02 13 28.7**	**+1.0**
DESF				eSN		**Sn**	**02 13 55.6**	**+1.3**
DESF	**Desfina**	**2.12**	**60**	*e*Pn		**Pn**	**02 13 28.7**	**+1.0**
DESF				eSn		**Sn**	**02 13 55.6**	**+1.3**
IGT	**Igoumenitsa**	**2.17**	**3**	P		**Pn**	**02 13 29.6**	**+1.3**
IGT	**Igoumenitsa**	**2.17**	**3**	*e*PN		**Pn**	**02 13 29.7**	**+1.4**
IGT				eSN		**Sn**	**02 13 56.6**	**+1.3**
IGT	**Igoumenitsa**	**2.17**	**3**	P		**Pn**	**02 13 29.6**	**+1.3**
IGT				eSn		**Sn**	**02 13 56.6**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.24**	**42**	P		**Pb**	**02 13 31.2**	**-1.5**
MAKR	**Makrakomi, Fth**	**2.24**	**42**	*e*PN		**Pn**	**02 13 30.3**	**+0.9**
MAKR				eSN		**Sn**	**02 13 58.9**	**+1.7**
MAKR	**Makrakomi, Fth**	**2.24**	**42**	*e*Pn		**Pn**	**02 13 30.3**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.24**	**42**	P		**Pb**	**02 13 31.2**	**-1.5**
MAKR				eSn		**Sn**	**02 13 58.9**	**+1.7**
VLI	**Veliai**	**2.28**	**106**	P		**Pn**	**02 13 31.2**	**+1.3**
VLI	**Veliai**	**2.28**	**106**	*e*PN		**Pn**	**02 13 30.9**	**+1.0**
VLI				eSN		**Sn**	**02 13 58.7**	**+0.6**
VLI	**Veliai**	**2.28**	**106**	*e*Pn		**Pn**	**02 13 30.9**	**+1.0**
VLI	**Veliai**	**2.28**	**106**	P		**Pn**	**02 13 31.2**	**+1.3**
VLI				eSn		**Sn**	**02 13 58.7**	**+0.6**
LTK	**Loutraki**	**2.29**	**72**	P		**Pn**	**02 13 30.4**	**+0.4**
LTK	**Loutraki**	**2.29**	**72**	*e*PB		**Pn**	**02 13 30.2**	**+0.2**
LTK				eSN		**Sn**	**02 13 59.4**	**+1.0**
LTK	**Loutraki**	**2.29**	**72**	P		**Pn**	**02 13 30.4**	**+0.4**
LTK				eSn		**Sn**	**02 13 59.4**	**+1.0**
JAN	**Janina**	**2.35**	**12**	P		**Pn**	**02 13 31.9**	**+1.1**
JAN	**Janina**	**2.35**	**12**	*e*PB		**Pn**	**02 13 31.9**	**+1.1**
JAN	**Janina**	**2.35**	**12**	P		**Pn**	**02 13 31.9**	**+1.1**
AGG	**Agios Georgios**	**2.36**	**45**	P		**Pn**	**02 13 32.6**	**+1.7**
AGG	**Agios Georgios**	**2.36**	**45**	*e*PB		**Pn**	**02 13 31.7**	**+0.8**
AGG				eSN		**Sn**	**02 14 01.6**	**+1.5**
AGG	**Agios Georgios**	**2.36**	**45**	*e*Pn		**Pn**	**02 13 31.7**	**+0.8**
AGG	**Agios Georgios**	**2.36**	**45**	P		**Pn**	**02 13 32.6**	**+1.7**
AGG				eSn		**Sn**	**02 14 01.6**	**+1.5**
KEK	**Kerkira**	**2.37**	**353**	P		**Pn**	**02 13 32.3**	**+1.3**
KEK	**Kerkira**	**2.37**	**353**	*e*PN		**Pn**	**02 13 32.0**	**+1.0**
KEK				eSN		**Sb**	**02 14 02.7**	**-1.5**
KEK	**Kerkira**	**2.37**	**353**	*e*Pn		**Pn**	**02 13 32.0**	**+1.0**
KEK	**Kerkira**	**2.37**	**353**	P		**Pn**	**02 13 32.3**	**+1.3**
KEK				eSn		**Sb**	**02 14 02.7**	**-1.5**
AXAR	**Agios Charalam**	**2.40**	**53**	P		**Pn**	**02 13 32.7**	**+1.3**
AXAR	**Agios Charalam**	**2.40**	**53**	P		**Pn**	**02 13 32.7**	**+1.3**

DID	**Didima**	**2.42**	**86**	P		**Pn**	**02 13 32.1**	**+0.3**	
DID	**Didima**	**2.42**	**86**	*e*PN		**Pn**	**02 13 31.8**	**0.0**	
DID				eSN		**Sn**	**02 14 03.1**	**+1.5**	
DID	**Didima**	**2.42**	**86**	*e*Pn		**Pn**	**02 13 31.8**	**0.0**	
DID	**Didima**	**2.42**	**86**	P		**Pn**	**02 13 32.1**	**+0.3**	
DID				eSn		**Sn**	**02 14 03.1**	**+1.5**	
SRN	**Sarande**	**2.52**	**357**	*i* PN		**Pn**	**02 13 34.5**	**+1.4**	
SRN				*i* SN		**Sn**	**02 14 06.0**	**+2.2**	
SRN	**Sarande**	**2.52**	**357**	P		**Pn**	**02 13 33.3**	**+0.2**	
SRN	**Sarande**	**2.52**	**357**	P		**Pn**	**02 13 33.3**	**+0.2**	
SRN	**Sarande**	**2.52**	**357**	*i* Pn		**Pn**	**02 13 34.5**	**+1.4**	
SRN				*i* Sn		**Sn**	**02 14 06.1**	**+2.2**	
KYTH	**Kithira**	**2.52**	**115**	P		**Pn**	**02 13 34.6**	**+1.5**	
KYTH	**Kithira**	**2.52**	**115**	*e*PB		**Pn**	**02 13 33.9**	**+0.8**	
KYTH	**Kithira**	**2.52**	**115**	*e*Pb		**Pn**	**02 13 33.9**	**+0.8**	
KYTH	**Kithira**	**2.52**	**115**	P		**Pn**	**02 13 34.6**	**+1.5**	
MEV	**Metsovon**	**2.55**	**18**	P		**Pn**	**02 13 35.9**	**+2.2**	
MEV	**Metsovon**	**2.55**	**18**	P		**Pn**	**02 13 35.9**	**+2.2**	
LKR	**Lokris**	**2.56**	**59**	P		**Pn**	**02 13 34.4**	**+0.8**	
LKR				S		**Sn**	**02 14 05.4**	**+0.5**	
LKR	**Lokris**	**2.56**	**59**	*e*PN		**Pn**	**02 13 34.5**	**+0.8**	
LKR				eSN		**Sn**	**02 14 05.6**	**+0.7**	
LKR	**Lokris**	**2.56**	**59**	*e*Pn		**Pn**	**02 13 34.5**	**+0.8**	
LKR				eSn		**Sn**	**02 14 05.6**	**+0.7**	
VIL2	**Platees**	**2.58**	**70**	*e*PN		**Pn**	**02 13 35.1**	**+1.2**	
VIL2				eSN		**Sn**	**02 14 07.0**	**+1.6**	
VILL	**Villia**	**2.59**	**71**	*e*Pn		**Pn**	**02 13 35.1**	**+0.9**	
VILL				eSn		**Sn**	**02 14 07.0**	**+1.1**	
THL	**Klokotos Trika**	**2.62**	**32**	P		**Pn**	**02 13 36.3**	**+1.8**	
THL	**Klokotos Trika**	**2.62**	**32**	*e*PB		**Pn**	**02 13 36.3**	**+1.8**	
THL				eSN		**Sn**	**02 14 07.2**	**+0.8**	
THL	**Klokotos Trika**	**2.62**	**32**	P		**Pn**	**02 13 36.3**	**+1.8**	
THL				eSn		**Sn**	**02 14 07.2**	**+0.8**	
NAIG	**Nisos Aigina**	**2.64**	**80**	*e*PN		**Pn**	**02 13 35.8**	**+1.0**	
NAIG	**Nisos Aigina**	**2.64**	**80**	*e*Pn		**Pn**	**02 13 35.8**	**+1.0**	
SMIA	**Simia**	**2.82**	**57**	P		**Pn**	**02 13 37.8**	**+0.6**	
SMIA	**Simia**	**2.82**	**57**	*e*PN		**Pn**	**02 13 38.6**	**+1.4**	
SMIA				eSN		**Sn**	**02 14 12.1**	**+0.8**	
SMIA	**Simia**	**2.82**	**57**	P		**Pn**	**02 13 37.8**	**+0.6**	
SMIA	**Simia**	**2.82**	**57**	*e*Pn		**Pn**	**02 13 38.6**	**+1.4**	
SMIA				eSn		**Sn**	**02 14 12.1**	**+0.8**	
ATH	**Athens Observa**	**2.86**	**77**	*e*PB		**Pn**	**02 13 39.2**	**+1.5**	
ATH				eSN		**Sn**	**02 14 12.9**	**+0.7**

PHP	**Peshkopia**	**4.32**	**2**	P	**Pn**	**02 13 58.3**	**+0.4**
PHP	**Peshkopia**	**4.32**	**2**	P	**Pn**	**02 13 58.3**	**+0.4**
PHP	**Peshkopia**	**4.32**	**2**	*i* Pn	**Pn**	**02 13 58.7**	**+0.8**
PHP				*i* Sn	**Sn**	**02 14 46.5**	**-2.0**
SANT	**Santorini**	**4.33**	**102**	*e*PN	**Pn**	**02 13 58.9**	**+0.8**
SANT	**Santorini**	**4.33**	**102**	*e*Pn	**Pn**	**02 13 58.9**	**+0.8**
KNT	**Kendrikon**	**4.33**	**28**	P	**Pn**	**02 13 58.9**	**+0.8**
KNT	**Kendrikon**	**4.33**	**28**	*e*PN	**Pn**	**02 13 58.9**	**+0.8**
KNT	**Kendrikon**	**4.33**	**28**	P	**Pn**	**02 13 58.9**	**+0.8**
VAY	**Valandovo**	**4.36**	**24**	P	**Pn**	**02 13 58.4**	**0.0**
VAY	**Valandovo**	**4.36**	**24**	*i* Pn	**Pn**	**02 13 58.9**	**+0.5**
VAY	**Valandovo**	**4.36**	**24**	P	**Pn**	**02 13 58.4**	**0.0**
VAY	**Valandovo**	**4.36**	**24**	*i* Pn	**Pn**	**02 13 59.3**	**+0.9**
SIVA	**Sivas**	**4.40**	**121**	*e*PN	**Pn**	**02 14 00.5**	**+1.5**
SIVA				*e*SN	**Sn**	**02 14 50.0**	**-0.4**
SIVA	**Sivas**	**4.40**	**121**	*e*Pn	**Pn**	**02 14 00.5**	**+1.5**
SIVA				*e*Sn	**Sn**	**02 14 50.0**	**-0.4**
SRS	**Serrai**	**4.58**	**34**	P	**Pn**	**02 14 02.1**	**+0.6**
SRS	**Serrai**	**4.58**	**34**	*e*PN	**Pn**	**02 14 02.2**	**+0.7**
SRS				*e*SN	**Sn**	**02 14 54.8**	**0.0**
SRS	**Serrai**	**4.58**	**34**	*e*Pn	**Pn**	**02 14 02.2**	**+0.7**
SRS				*e*Sn	**Sn**	**02 14 54.8**	**0.0**
LIA	**Limnos Island**	**4.65**	**55**	*e*PN	**Pn**	**02 14 04.2**	**+1.8**
LIA	**Limnos Island**	**4.65**	**55**	*e*Pn	**Pn**	**02 14 04.2**	**+1.8**
SKO	**Skopje**	**4.70**	**11**	*i* Pn	**Pn**	**02 14 03.9**	**+0.8**
SKO	**Skopje**	**4.70**	**11**	*i* Pn	**Pn**	**02 14 01.4**	**-1.7**
CHOS	**Chios island**	**4.75**	**76**	*e*PN	**Pn**	**02 14 04.9**	**+1.1**
CHOS	**Chios island**	**4.75**	**76**	*e*Pn	**Pn**	**02 14 04.9**	**+1.1**
LAST	**Lasithi**	**4.80**	**116**	*e*PN	**Pn**	**02 14 05.5**	**+1.0**
LAST	**Lasithi**	**4.80**	**116**	*e*Pn	**Pn**	**02 14 05.5**	**+1.0**
NVR	**Nevrokopi**	**4.89**	**34**	P	**Pn**	**02 14 06.3**	**+0.6**
NVR	**Nevrokopi**	**4.89**	**34**	*e*PN	**Pn**	**02 14 06.6**	**+0.9**
NVR				*e*SN	**Sn**	**02 15 03.3**	**+0.8**
NVR	**Nevrokopi**	**4.89**	**34**	P	**Pn**	**02 14 06.3**	**+0.6**
NVR	**Nevrokopi**	**4.89**	**34**	*e*Pn	**Pn**	**02 14 06.6**	**+0.9**
NVR				*e*Sn	**Sn**	**02 15 03.3**	**+0.8**
KAVA	**Kavala**	**4.94**	**41**	*e*PN	**Pn**	**02 14 06.8**	**+0.4**
KAVA				*e*SN	**Sn**	**02 15 04.6**	**+1.0**
KAVA	**Kavala**	**4.94**	**41**	*e*Pn	**Pn**	**02 14 06.8**	**+0.4**
KAVA				*e*Sn	**Sn**	**02 15 04.6**	**+1.0**
SMTH	**Samothraki Isl**	**5.19**	**52**	*e*PN	**Pn**	**02 14 12.1**	**+2.3**
SMTH	**Samothraki Isl**	**5.19**	**52**	*e*Pn	**Pn**	**02 14 12.1**	**+2.3**
ZKR	**Zakros**	**5.36**	**113**	*e*PN	**Pn**	**02 14 13.9**	**+1.8**
ZKR				*e*SN	**Sn**	**02 15 13.4**	**-0.5**
ZKR	**Zakros**	**5.36**	**113**	*e*Pn	**Pn**	**02 14 13.9**	**+1.8**
ZKR				*e*Sn	**Sn**	**02 15 13.4**	**-0.5**
TREB	**Trebinje**	**5.53**	**346**	*e*PN	**Pn**	**02 14 13.5**	**-1.0**
TREB	**Trebinje**	**5.53**	**346**	*e*Pn	**Pn**	**02 14 13.5**	**-1.0**
VTS	**Vitosha**	**5.71**	**23**	P	**Pn**	**02 14 18.4**	**+1.3**
VTS	**Vitosha**	**5.71**	**23**	*e*Pn	**Pn**	**02 14 18.4**	**+1.3**
VTS	**Vitosha**	**5.71**	**23**	⇑*i*P	**Pn**	**02 14 18.9**	**+1.8**
VTS	**Vitosha**	**5.71**	**23**	P	**Pn**	**02 14 18.4**	**+1.3**
ALN	**Alexandroupoli**	**5.75**	**50**	*e*PN	**Pn**	**02 14 19.7**	**+2.2**
ALN	**Alexandroupoli**	**5.75**	**50**	*e*Pn	**Pn**	**02 14 19.7**	**+2.2**
STON	**Ston**	**5.83**	**342**	*e*Pn	**Pn**	**02 14 18.4**	**-0.2**
STON				Sn	**Sn**	**02 15 22.2**	**-3.2**
STON	**Ston**	**5.83**	**342**	*e*Pn	**Pn**	**02 14 18.3**	**-0.2**
SELS	**Selova**	**5.89**	**7**	*e*Pn	**Pn**	**02 14 19.2**	**-0.3**
SJES	**Sjenica**	**5.89**	**358**	*i* Pn	**Pn**	**02 14 19.2**	**-0.4**
SJES	**Sjenica**	**5.89**	**358**	*i* Pn	**Pn**	**02 14 19.2**	**-0.4**
ZAPS	**Zavoj**	**6.19**	**17**	*i* Pn	**Pn**	**02 14 24.8**	**+1.2**
IVAS	**Ivanjica**	**6.21**	**360**	*e*Pn	**Pn**	**02 14 24.5**	**+0.7**
IVAS	**Ivanjica**	**6.21**	**360**	*e*Pn	**Pn**	**02 14 24.5**	**+0.7**
BOVS	**Bovan**	**6.37**	**10**	*e*Pn	**Pn**	**02 14 25.7**	**-0.3**
BBLS	**Lazići**	**6.53**	**355**	*e*Pn	**Pn**	**02 14 26.7**	**-1.5**
BBLS	**Lazići**	**6.53**	**355**	*e*Pn	**Pn**	**02 14 26.7**	**-1.5**
GRUS	**Gruza**	**6.53**	**3**	*e*Pn	**Pn**	**02 14 28.4**	**+0.2**
GRUS	**Gruza**	**6.53**	**3**	*e*Pn	**Pn**	**02 14 28.4**	**+0.2**
DIVS	**Divibare**	**6.73**	**359**	*e*Pn	**Pn**	**02 14 30.9**	**-0.2**
DIVS	**Divibare**	**6.73**	**359**	*e*Pn	**Pn**	**02 14 30.9**	**-0.2**
FGSL	**Fruska Gora**	**7.79**	**358**	*e*Pn	**Pn**	**02 14 44.7**	**-0.9**
FRGS	**Fruska Gora**	**7.79**	**358**	*e*Pn	**Pn**	**02 14 44.7**	**-0.9**
UDBI	**Udbina**	**7.91**	**336**	*e*Pn	**Pn**	**02 14 49.4**	**+2.3**
UDBI				Sn	**Sn**	**02 16 15.3**	**-1.4**
UDBI	**Udbina**	**7.91**	**336**	*e*Pn	**Pn**	**02 14 49.4**	**+2.3**
UDBI				Sn	**Sn**	**02 16 15.3**	**-1.4**
NVLJ	**Novalja**	**8.24**	**332**	*e*Pn	**Pn**	**02 14 53.2**	**+1.5**
NVLJ				Sn	**Sn**	**02 16 20.8**	**-4.1**
NVLJ	**Novalja**	**8.24**	**332**	*e*Pn	**Pn**	**02 14 53.1**	**+1.5**
GZR	**Gura Zlata**	**8.25**	**13**	⇑*i*P	**Pn**	**02 14 52.0**	**+0.1**
GZR	**Gura Zlata**	**8.25**	**13**	⇑*i*P	**Pn**	**02 14 52.0**	**+0.1**
VOIR		**8.85**	**23**	⇑*i*P	**Pn**	**02 15 01.7**	**+1.6**
VOIR		**8.85**	**23**	⇑*i*P	**Pn**	**02 15 01.7**	**+1.6**
KEST	**Kesra**	**8.88**	**263**	Pn	**Pn**	**02 15 02.8**	**+2.2**
	0.0nm,0.3s,baz=61,slow=13,SNR=3.4						
PKSM	**Moragy**	**8.92**	**353**	⇑*i*P	**Pn**	**02 15 01.4**	**+0.4**
PKSM	**Moragy**	**8.92**	**353**	⇑*i*P	**Pn**	**02 15 01.4**	**+0.4**
BOJS	**Bojanci**	**8.94**	**337**	*i* Pn	**Pn**	**02 15 02.1**	**+0.8**
BOJS				*i* Sn	**Sn**	**02 16 38.7**	**-3.3**
CRES	**Cresnjev**	**9.17**	**339**	*i* Pn	**Pn**	**02 15 04.7**	**+0.2**
CRES				*i* Sn	**Sn**	**02 16 42.2**	**-5.6**
MLR	**Muntele Rosu**	**9.19**	**26**	⇑*i*P	**Pn**	**02 15 07.6**	**+2.7**
MLR	**Muntele Rosu**	**9.19**	**26**	⇑*i*P	**Pn**	**02 15 07.6**	**+2.7**
MLR	**Muntele Rosu**	**9.19**	**26**	Pn	**Pn**	**02 15 05.4**	**+0.5**
	baz=233,slow=5.1						
VISS	**Visnje**	**9.34**	**336**	*i* Pn	**Pn**	**02 15 08.5**	**+1.8**
VISS				*i* Sn	**Sn**	**02 16 47.6**	**-4.3**
PLOR	**Plostina**	**9.76**	**28**	⇑*i*P	**Pn**	**02 15 15.6**	**+3.1**
PLOR	**Plostina**	**9.76**	**28**	⇑*i*P	**Pn**	**02 15 15.6**	**+3.1**
VRI	**Vrincioaia**	**9.80**	**28**	⇑*i*P	**Pn**	**02 15 16.3**	**+3.2**
VRI	**Vrincioaia**	**9.80**	**28**	⇑*i*P	Pn	**02 15 16.3**	**+3.2**
PERS	**Pernice**	**10.01**	**339**	*i* Pn	**Pn**	**02 15 15.7**	**-0.2**
PERS				*i* Sn	Sn	02 17 00.8	-7.6
GERES	**GERESS Array B**	**12.41**	**340**	Pn	**Pn**	**02 15 48.6**	**-0.2**
	0.1nm,0.3s,baz=157,slow=14,SNR=5.4						
MMAI	**Mount Meron Ar**	**13.17**	**105**	Pn	**Pn**	**02 15 57.3**	**-2.0**
	0.6nm,0.3s,baz=291,slow=12,SNR=6.0						
MMAI				Sn	Sn	02 18 13.4	-13
	0.7nm,0.3s,baz=297,slow=26,SNR=3.9						
EIL	**Elat**	**14.49**	**118**	Pn	**Pn**	**02 16 16.0**	**-1.3**
	0.6nm,0.3s,baz=135,slow=14,SNR=6.8						
AKASG	**Malin Array Be**	**14.81**	**23**	Pn	**Pn**	**02 16 18.8**	**-2.7**
	0.5nm,0.3s,baz=215,slow=12,SNR=2.7						
HFS	**Hagfors**	**23.17**	**352**	P	**P**	**02 17 56.9**	**-1.6**
	2.6nm,0.8s,baz=162,slow=12,SNR=11						
EKA	**Eskdalemuir Ar**	**23.95**	**326**	P	**P**	**02 18 06.8**	**+0.5**
	0.4nm,0.4s,baz=128,slow=11,SNR=5.5						
NB2	**NORSAR Subarra**	**24.37**	**349**	P	**P**	**02 18 10.3**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=162,slow=9.3						
NB2	**NORSAR Subarra**	**24.37**	**349**	P	**P**	**02 18 10.3**	**+0.1**
	comp=Z,1.0nm,0.6s,SNR=4.4						
NOA	**NORSAR Array B**	**24.37**	**349**	P	**P**	**02 18 10.2**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=162,slow=9.9,SNR=3.9						
FINES	**FINESS Array B**	**24.39**	**7**	P	**P**	**02 18 09.1**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=188,slow=8.6,SNR=9.3						
TORD	**Torodi Ar. Bea**	**29.24**	**219**	P	**P**	**02 18 56.0**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=31,slow=9.2,SNR=12						
ARCES	**ARCESS Array B**	**32.36**	**3**	P	**P**	**02 19 20.7**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=157,slow=9.4,SNR=7.0						
BVAR	**Borovoye Array**	**37.84**	**49**	P	**P**	**02 20 08.6**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=285,slow=5.5,SNR=2.5						
DBIC	**Dimbokro**	**38.12**	**223**	P	**P**	**02 20 13.0**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=23,slow=7.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**42.92**	**53**	P	**P**	**02 20 48.8**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=280,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**45.95**	**58**	P	**P**	**02 21 13.3**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=272,slow=7.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**46.43**	**47**	P	**P**	**02 21 17.1**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=281,slow=8.1,SNR=4.8						

*IDC **08** 02:14:57.4±1.2,24.2°×176.5°×50W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/19,mbtmp3.8/4,MS3.5/3,Ms1 3.5/3, ms1mx3.1/28,Error ellipse: s-maj=54.9km s-min=29.0km az=156.0*

ISC 08 02:15:03.6±1.3,24.3S±0.4°×176.6W±0.3°,h43km,n12, σ0.5s4/6,mb3.8/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.79**	**82**	LR	LR	02 22 38.5	
	comp=Z,152nm,18.1s,baz=271,slow=29						
HNR	**Honiara**	**26.84**	**299**	LR	LR	02 27 54.0	
	comp=Z,56nm,21.8s,baz=347,slow=29						
ASAR	**Alice Springs**	**45.07**	**260**	P	**P**	**02 23 16.2**	**+0.5**
	1.8nm,0.8s,baz=105,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**45.51**	**265**	P	**P**	**02 23 18.9**	**-0.3**
	0.9nm,0.5s,baz=104,slow=8.2,SNR=17						
TGY	**Tagaytay City**	**71.96**	**295**	LR	LR	02 52 15.5	
	comp=Z,68nm,20.4s,baz=301,slow=31						
H03N2	**Juan Fernandez**	**82.93**	**123**	T	T	03 58 23.6	
	baz=247,slow=74,SNR=19						
H03N3	**Juan Fernandez**	**82.93**	**123**	T	T	03 58 23.7	
	baz=247,slow=74,SNR=14						
H03N1	**Juan Fernandez**	**82.94**	**123**	T	T	03 58 23.7	
	baz=247,slow=74,SNR=21						
PDAR	**Pinedale Array**	**90.81**	**43**	P	**P**	**02 28 03.1**	**+0.5**
	0.3nm,0.9s,baz=199,slow=7.3,SNR=2.8						
ILAR	**Eielson Array**	**91.71**	**12**	P	**P**	**02 28 05.6**	**-0.3**
	0.3nm,0.9s,baz=226,slow=6.2,SNR=3.0						
AKASG	**Malin Array Be**	**146.95**	**330**	PKPbc	**PKPbc**	**02 34 41.1**	**-0.2**
	0.8nm,0.4s,baz=44,slow=4.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**168.79**	**171**	PKPab	**PKPab**	**02 36 16.6**	**-0.3**
	0.8nm,1.0s,baz=151,slow=3.0,SNR=3.2						

IGQ 08 02:15:42.4,0.99N×79.14W,h4km±82km,Mb4.2,Ms4.0, 13D,Error ellipse: s-maj=2.0km s-min=1.3km az=2.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LITE	**Lita**	**0.79**	**103**	S	Sg	02 16 08.5	+0.3
LITE	**Lita**	**0.79**	**103**	P	Pg	02 15 57.7	-0.1
OTAV	**Otavalo**	**1.01**	**137**	S	Sg	02 16 16.4	+0.4
OTAV	**Otavalo**	**1.01**	**137**	P	Pg	02 16 02.3	-0.1
PINO	**Pino**	**1.25**	**155**	⇓P	Pn	02 16 07.5	+0.1
TERV	**Terraza Guagua**	**1.27**	**155**	⇓P	Pn	02 16 07.8	+0.2
GGP	**Refugio Guagua**	**1.27**	**155**	⇓P	Pb	02 16 07.8	+0.1
JUA2	**San Juan 2**	**1.31**	**156**	⇓P	Pb	02 16 08.2	+0.1
ANGU	**Angureal**	**1.46**	**130**	S	Sn	02 16 30.5	0.0
ANGU	**Angureal**	**1.46**	**130**	P	Pn	02 16 10.5	+0.2
CAYR	**Refugio Cayamb**	**1.48**	**131**	⇓P	Pn	02 16 10.8	+0.1
JAMA	**Jama**	**1.64**	**221**	P	Pn	02 16 11.7	-0.3
JAMA	**Jama**	**1.64**	**221**	S	Sb	02 16 34.7	+0.4
PITA	**Cotopaxi Volc**	**1.69**	**155**	S	Sb	02 16 37.2	+0.6
PITA	**Cotopaxi Volc**	**1.69**	**155**	P	Pb	02 16 14.9	+0.3
PAST	**Pastocalle**	**1.74**	**164**	P	Pb	02 16 15.6	+0.1
PAST	**Pastocalle**	**1.74**	**164**	S	Sg	02 16 39.3	-0.1
NAS2	**Nasa**	**1.75**	**158**	P	Pb	02 16 16.0	+0.3
CAMI	**Rancho Maria**	**1.77**	**159**	P	Pb	02 16 16.4	+0.4
BNAS	**Cotopaxi Volca**	**1.77**	**158**	⇓P	Pb	02 16 16.5	+0.4
VC1	**Cotopaxi 1**	**1.78**	**156**	P	Pb	02 16 16.5	+0.3
BREF	**Cotopaxi Volca**	**1.79**	**157**	⇓S	Sg	02 16 40.8	-0.4
BREF	**Cotopaxi Volca**	**1.79**	**157**	⇓P	Pb	02 16 16.6	+0.2
BVC2	**Cotopaxi Volca**	**1.79**	**156**	⇓P	Pb	02 16 16.5	+0.1
BTAM	**Cotopaxi Volca**	**1.81**	**156**	⇓P	Pb	02 16 16.8	0.0
COV1	**Cotopaxi Volc**	**1.82**	**154**	S	Sg	02 16 41.6	-0.7
COV1	**Cotopaxi Volc**	**1.82**	**154**	P	Pb	02 16 16.9	-0.2
MOV1	**Cotopaxi Vol s**	**1.83**	**158**	P	Pb	02 16 17.1	-0.1
BMOR	**Cotopaxi Volca**	**1.84**	**158**	⇓S	Sg	02 16 42.1	-0.5
BMOR	**Cotopaxi Volca**	**1.84**	**158**	⇓P	Pb	02 16 17.0	-0.2
LAV4	**Lava4-Reventad**	**1.85**	**125**	P	Pn	02 16 16.1	+0.9
PECV	**Mancha de Ca P**	**1.98**	**208**	P	Pb	02 16 19.6	+0.7
PISA	**Pisayambo**	**2.17**	**160**	⇓P	Pb	02 16 23.0	+0.2
JUI6	**Juive**	**2.49**	**164**	P	Pb	02 16 28.6	+0.6
RUN5	**Runtun**	**2.49**	**163**	P	Pg	02 16 30.1	-0.4
BRUN	**Tungurahua Vol**	**2.50**	**163**	P	Pb	02 16 27.2	-1.1
IGUA	**Igualata**	**2.51**	**169**	P	Pb	02 16 27.6	-1.2
BULB	**Ulba Tungurahu**	**2.52**	**163**	P	Pb	02 16 26.8	-1.8
BMAS	**Trigal station**	**2.56**	**165**	P	Pb	02 16 28.3	-1.1
ARRY	**Arrayan**	**2.57**	**165**	P	Pb	02 16 28.3	-1.2
BPAT	**Tungurahua Vol**	**2.57**	**164**	S	Sb	02 17 03.0	+0.9
BPAT	**Tungurahua Vol**	**2.57**	**164**	P	Pb	02 16 28.8	-0.9
PAT1	**Patacocha**	**2.57**	**164**	S	Sb	02 17 03.8	+1.6
PAT1	**Patacocha**	**2.57**	**164**	P	Pb	02 16 29.0	-0.8
RIOE	**Riobamba**	**2.77**	**170**	P	Pb	02 16 31.4	-1.5
MACE	**Macas**	**3.35**	**164**	P	Pn	02 16 38.4	+2.6

*IDC **08** 02:18:56.9±2.5,0.°19S×96.°72E,h0km,mb3.6/5,mb1 3.7/5, mb1mx3.5/24,mbtmp3.6/5,Error ellipse: s-maj=126.0km s-min=23.8km az=51.0*

*ISCJB **08** 02:19:00.3±2.0,0.°0N±0.°5×96.°9E±0.°6,h32km,mb3.6/5, Error ellipse: s-maj=104.7km s-min=19.0km az=141.2*

ISC 08 02:19:02.0±2.1,0.°1S±0.°5×96.°9E±0.°6,h32km,n9,σ0.s39/6, mb3.7/5,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**25.47**	**252**	T	T	02 51 47.6	
	baz=72,slow=75,SNR=7.2						
H08S3	**Diego Garcia H**	**25.47**	**252**	T	T	02 51 51.4	
	baz=72,slow=75,SNR=7.9						
H08S1	**Diego Garcia H**	**25.48**	**252**	T	T	02 51 45.5	
	baz=72,slow=75,SNR=8.5						
WRA	**Warramunga Arr**	**41.65**	**121**	P	**P**	**02 26 47.4**	**-0.4**
	0.5nm,0.7s,baz=304,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**42.90**	**126**	P	**P**	**02 26 58.4**	**+0.4**
	0.3nm,0.7s,baz=301,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**48.39**	**347**	P	**P**	**02 27 41.0**	**+0.1**
	0.5nm,0.6s,baz=163,slow=8.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**54.75**	**351**	P	**P**	**02 28 28.5**	**+0.2**
	1.6nm,0.4s,baz=162,slow=6.5,SNR=8.4						
AKASG	**Malin Array Be**	**76.07**	**323**	P	**P**	**02 30 46.2**	**-0.2**
	0.4nm,0.4s,baz=90,slow=4.7,SNR=2.9						
TXAR	**Lajitas Array**	**144.89**	**32**	PKPbc	**PKPdf**	**02 38 36.8**	**0.0**
	0.6nm,0.9s,baz=343,slow=0.9,SNR=5.2						

*ISCJB **08** 02:24:41.8±1.2,5.°7S±0.°3×151.°4E±0.°3,h57km,mb4.0/5, Error ellipse: s-maj=53.8km s-min=13.7km az=135.1*

*IDC **08** 02:24:44.7±5.5,5.°65S×151.°24E,h64km±44km,mb3.8/5, mb1 4.1/6,mb1mx3.6/19,mbtmp3.9/6,ML2.9/1,Error ellipse: s-maj=59.4km s-min=29.4km az=123.0*

ISC 08 02:24:43.4±1.3,5.7S±0.°3×151.4E±0.°3,h57km,n7,σ0.s72/9, mb4.0/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.59**	**229**	P	**Pn**	**02 26 04.5**	**+0.4**
	2.6nm,0.3s,baz=42,slow=9.8,SNR=10.0						
PMG				S	**Sn**	**02 27 07.3**	**+0.2**
	1.6nm,0.3s,baz=112,slow=16,SNR=2.8						
WRA	**Warramunga Arr**	**21.82**	**228**	P	**P**	**02 29 29.8**	**-1.3**
	3.5nm,0.8s,baz=53,slow=10,SNR=21						
WRA				PcP	**PcP**	**02 33 29.1**	**-0.5**
	0.4nm,0.9s,baz=35,slow=1.7,SNR=3.5						
ASAR	**Alice Springs**	**24.55**	**222**	P	**P**	**02 29 57.4**	**-0.7**
	5.1nm,0.9s,baz=50,slow=9.1,SNR=35						
STKA	**Stephens Creek**	**27.60**	**198**	P	**P**	**02 30 26.0**	**+0.5**
	4.1nm,0.9s,baz=32,slow=9.5,SNR=4.1						
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P	**P**	**02 30 29.1**	**-0.3**
	5.5nm,1.0s,baz=66,slow=9.2,SNR=9.7						
ILAR	**Eielson Array**	**83.52**	**22**	P	**P**	**02 37 05.0**	**+0.1**
	0.7nm,0.8s,baz=75,slow=5.1,SNR=9.5						
TORD	**Torodi Ar. Bea**	**149.27**	**286**	PKPbc	**PKPbc**	**02 44 27.4**	**+0.5**
	2.0nm,0.9s,baz=81,slow=2.1,SNR=8.1						

*DJA **08** 02:26:17.9±1.4,0.°N±7.°×9.°9E±.°,h13km±13km,M3.6/7, MLv3.6/7*

*IDC **08** 02:26:18.9±1.2,0.°10S×96.°95E,h0km,mb3.6/7,mb1 3.7/8, mb1mx3.5/25,mbtmp3.6/8,ML2.9/1,Error ellipse: s-maj=47.1km s-min=22.6km az=48.0*

ISC 08 02:26:20.9±1.3,0.°1S±0.°1×97.9E±0.°1,h30km,n17, σ2.s08/13,mb3.7/7,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.42**	**349**	P	**Pn**	**02 26 44.6**	**0.0**
GSI				S	**Sb**	**02 27 08.6**	**+4.2**
SNSI	**Sinabang, Aceh**	**2.92**	**329**	P	**Pb**	**02 27 09.9**	**-2.3**
PSI	**Prapat**	**3.07**	**20**	P	Pn	02 26 59.1	-8.4
PSI	**Prapat**	**3.07**	**20**	Pn	**Pb**	**02 27 13.0**	**-2.0**
	1.0nm,0.3s,baz=208,slow=14,SNR=4.1						
TPTI		**3.40**	**349**	P	**Pn**	**02 27 12.1**	**+0.2**
KCSI	**Kotacane, Aceh**	**3.59**	**359**	P	**Pn**	**02 27 13.5**	**-1.1**
KCSI				S	**Sn**	**02 27 54.3**	**-1.8**
H08S2	**Diego Garcia H**	**26.37**	**253**	T	T	02 59 04.4	
	baz=72,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**26.37**	**253**	T	T	02 59 01.0	
	baz=72,slow=75,SNR=14						
H08S1	**Diego Garcia H**	**26.39**	**253**	T	T	02 59 20.3	
	baz=72,slow=75,SNR=18						
WRA	**Warramunga Arr**	**40.81**	**121**	P	P	02 34 09.0	+9.0
	0.6nm,0.8s,baz=299,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**42.10**	**126**	P	P	02 34 18.9	+8.2
	0.2nm,0.3s,baz=285,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**48.65**	**346**	P	**P**	**02 35 03.2**	**+1.1**
	0.2nm,0.4s,baz=162,slow=6.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**54.93**	**351**	P	**P**	**02 35 50.5**	**+1.6**
	1.1nm,0.5s,baz=162,slow=6.8,SNR=5.6						
BRTR	**Keskin Array B**	**70.46**	**313**	P	**P**	**02 37 31.6**	**-1.3**
	0.4nm,0.6s,baz=108,slow=9.5,SNR=2.5						
AKASG	**Malin Array Be**	**76.67**	**323**	P	**P**	**02 38 08.2**	**-0.8**
	0.4nm,0.4s,baz=89,slow=4.9,SNR=2.9						
FINES	**FINESS Array B**	**81.44**	**333**	P	**P**	**02 38 35.7**	**+0.9**
	2.0nm,1.0s,baz=18,slow=0.4,SNR=2.8						
TXAR	**Lajitas Array**	**144.40**	**33**	PKP	**PKPdf**	**02 45 57.3**	**+2.2**
	0.2nm,0.6s,baz=343,slow=1.9,SNR=5.1						

*ISCJB **08** 02:29:13.1±0.5,23.°94S±0.°03×67.°63W±0.°05,h125km±5km, mb4.5/31,Error ellipse: s-maj=7.9km s-min=4.6km az=178.6*

*IDC **08** 02:29:14.1±1.9,23.°85S×67.°61W,h116km±16km,mb4.0/11, mb1 4.1/15,mb1mx4.1/18,mbtmp4.3/15,MS3.2/2, Ms1 3.2/2,ms1mx2.7/25,Error ellipse: s-maj=17.7km s-min=12.3km az=78.0*

*NEIC **08** 02:29:14.3±0.7,23.°86S×67.°61W,h118km±7km,mb4.6/17, Error ellipse: s-maj=10.3km s-min=6.6km az=84.0*

*GUC **08** 02:29:16.0±0.5,23.°81S×67.°94W,h149km±4km,ML5.2*

ISC 08 02:29:13.8±0.7,23.97S±0.°04×67.62W±0.°05,h115km±7km, n97,σ1.s46/103,mb4.5/31,3C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.19**	**333**	*e*P	Pn	02 29 41.2	+3.5
SPCH				*e*S	**Sn**	**02 30 00.1**	**+4.5**
LVC	**Limon Verde**	**1.80**	**318**	*e*Pn	**Pn**	**02 29 47.0**	**+2.2**
LVC				*e*Sn	**Sn**	**02 30 10.3**	**+1.9**
PB04	**Plate Boundary**	**2.42**	**314**	⇑*e*P	Pn	02 29 58.5	+6.2
PB04				*e*S	Sn	02 30 30.5	+8.7
PB04				AML	AML	02 30 35.2	
	comp=N,5μm,0.6s						
CEN1	**Los Morros**	**2.44**	**283**	*e*P	**Pn**	**02 29 54.6**	**+1.9**
CEN1				*e*S	**Sn**	**02 30 23.9**	**+1.3**
ANCH	**Antofagasta**	**2.58**	**276**	*e*P	**Pn**	**02 29 55.5**	**

HLID	**Hailey**	**79.76**	**327**	*e*P		**P**	**02 41 10.9**	**+1.8**
	comp=E,4.8nm,0.9s								
BOSA	**Boshof**	**81.25**	**117**	P		**P**	**02 41 18.3**	**+0.7**
BOSA	**Boshof**	**81.25**	**117**	P		**P**	**02 41 18.3**	**+0.7**
	comp=E,3.7nm,0.9s,baz=196,slow=5.4,SNR=6.9								
MAW	**Mawson**	**81.63**	**163**	P		**P**	**02 41 20.0**	**+1.4**
MAW	**Mawson**	**81.63**	**163**	P		**P**	**02 41 20.0**	**+1.4**
	comp=E,9.1nm,0.8s,baz=243,slow=6.8,SNR=18								
TAM	**Tamanrasset**	**84.88**	**62**	*e*P		**P**	**02 41 37.1**	**+0.8**
	comp=E,1.8nm,0.8s								
ESDC	**Sonseca Array**	**86.76**	**44**	P		**P**	**02 41 45.8**	**+0.7**
ESDC	**Sonseca Array**	**86.76**	**44**	P		**P**	**02 41 45.8**	**+0.7**
	comp=E,3.0nm,0.9s,baz=240,slow=4.8,SNR=10								
YKA	**Yellowknife Ar**	**93.90**	**340**	P		**P**	**02 42 17.9**	**+0.1**
YKA	**Yellowknife Ar**	**93.90**	**340**	P		**P**	**02 42 17.9**	**+0.1**
	comp=E,0.4nm,0.4s,baz=134,slow=4.5,SNR=14								
ASAR	**Alice Springs**	**128.25**	**205**	PKP		**PKPdf**	**02 48 07.3**	**0.0**
ASAR	**Alice Springs**	**128.25**	**205**	PKP		**PKPdf**	**02 48 07.3**	**0.0**
	comp=E,2.0nm,0.6s,baz=132,slow=1.9,SNR=23								
WRA	**Warramunga Arr**	**131.39**	**208**	PKP		**PKPdf**	**02 48 13.4**	**+0.1**
WRA	**Warramunga Arr**	**131.39**	**208**	PKP		**PKPdf**	**02 48 13.4**	**+0.1**
	comp=E,1.5nm,0.5s,baz=160,slow=1.6,SNR=28								
FITZ	**Fitzroy Crossi**	**136.23**	**198**	PKP		**PKPdf**	**02 48 23.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**136.23**	**198**	PKP		**PKPdf**	**02 48 23.0**	**+0.6**
	comp=E,2.0nm,0.7s,baz=45,slow=1.4,SNR=3.7								
ZALV	**Zalesovo Beam**	**143.63**	**27**	PKP		PKPbc	02 48 32.6	+0.2
ZALV	**Zalesovo Beam**	**143.63**	**27**	PKP		PKPbc	02 48 32.6	+0.2
	comp=E,1.8nm,0.7s,baz=306,slow=3.4,SNR=9.1								
MK31	**Makanchi Array**	**146.86**	**39**	*e*PKPbc		**PKPbc**	**02 48 42.0**	**-0.5**
MKAR	**Makanchi Array**	**146.86**	**39**	PKPbc		**PKPdf**	**02 48 41.3**	**+0.8**
MKAR	**Makanchi Array**	**146.86**	**39**	PKPbc		**PKPdf**	**02 48 41.3**	**+0.8**
	comp=E,1.8nm,0.7s,baz=320,slow=2.6,SNR=14								

*ISCJB **08** 02:34:13.6±1.9, 1°.0S±0°.3×67°.9E±0°.3, h10km, mb3.7/6, Error ellipse: s-maj=55.1km s-min=27.7km az=42.2*
*IDC **08** 02:34:14.2±1.7, 0°.94S×67°.98E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.6/5, Error ellipse: s-maj=60.9km s-min=28.7km az=43.0*
ISC 08 02:34:15.6±1.9, 1°.1S±0°.3×67°.9E±0°.3, h10km, n10, σ1s 50/7, mb3.7/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**6.08**	**149**	T	T	02 42 08.6	
	baz=328,slow=75,SNR=302						
H08N3	**Diego Garcia H**	**6.10**	**150**	T	T	02 42 09.5	
	baz=328,slow=75,SNR=299						
H08N1	**Diego Carcia H**	**6.11**	**149**	T	T	02 42 10.2	
	baz=328,slow=75,SNR=334						
MKAR	**Makanchi Array**	**49.30**	**13**	P	**P**	**02 43 03.9**	**-0.8**
	0.2nm,0.7s,baz=173,slow=6.8,SNR=3.3						
BRTR	**Keskin Array B**	**51.27**	**326**	P	**P**	**02 43 19.9**	**0.0**
	0.9nm,0.8s,baz=140,slow=9.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**56.59**	**12**	P	**P**	**02 44 01.1**	**+2.7**
	0.7nm,0.6s,baz=201,slow=7.7,SNR=4.4						
SONM	**Songino Array**	**59.09**	**29**	P	**P**	**02 44 15.5**	**-0.8**
	1.0nm,0.7s,baz=217,slow=6.2,SNR=3.5						
AKASG	**Malin Array Be**	**61.16**	**333**	P	**P**	**02 44 30.1**	**-0.2**
	0.3nm,0.4s,baz=135,slow=5.6,SNR=3.5						
WRA	**Warramunga Arr**	**67.53**	**111**	P	**P**	**02 45 12.8**	**+0.1**
	0.4nm,0.8s,baz=285,slow=6.0,SNR=4.0						
TXAR	**Lajitas Array**	**150.75**	**345**	PKPbc	**PKPbc**	**02 54 08.6**	**-0.4**
	0.7nm,0.8s,baz=90,slow=1.3,SNR=8.4						

*CSEM **08** 03:05:35.3, 38°.41N×22°.03E, h16km, MD2.4, After ATH*
ATH 08 03:05:35.4, 38°.41N×22°.03E, h16km±2km, MD2.4/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.09**	**102**	*e*PB	Pg	03 05 38.6	-0.2
KALE				*e*SB	Sg	03 05 41.0	0.0
KALE	**Kalithea**	**0.09**	**102**	*e*Pb	Pg	03 05 38.6	-0.2
KALE				*e*Sb	Sg	03 05 41.0	0.0
LAKA	**Lakka**	**0.17**	**193**	*e*PB	Pg	03 05 39.3	-0.5
LAKA	**Lakka**	**0.17**	**193**	*e*Pb	Pg	03 05 39.3	-0.5
KLV	**Kalavryta, Ach**	**0.38**	**165**	*e*PB	Pg	03 05 43.1	-0.2
KLV	**Kalavryta, Ach**	**0.38**	**165**	*e*Pb	Pg	03 05 43.1	-0.2
DSF	**Desfina**	**0.39**	**90**	*e*PB	Pb	03 05 44.0	-0.1
DSF	**Desfina**	**0.39**	**90**	*e*Pb	Pb	03 05 44.0	-0.1
DRO	**Drossia**	**0.52**	**209**	*e*PN	Pg	03 05 45.4	-0.4
DRO	**Drossia**	**0.52**	**209**	*e*Pn	Pg	03 05 45.4	-0.4
GUR	**Goura**	**0.53**	**152**	*e*PN	Pg	03 05 45.9	-0.3
GUR	**Goura**	**0.53**	**152**	*e*Pn	Pg	03 05 45.9	-0.3
EVR	**Evrytania**	**0.54**	**341**	*e*PN	Pg	03 05 45.3	-0.9
EVR				*e*SN	Sb	03 05 53.9	-0.3
EVR	**Evrytania**	**0.54**	**341**	*e*Pn	Pg	03 05 45.3	-0.9
EVR				*e*Sn	Sb	03 05 53.9	-0.3
RLS	**Riolos of Patr**	**0.57**	**232**	*e*PN	Pg	03 05 46.2	-0.4
RLS				*e*SN	Sb	03 05 55.1	+0.3
RLS	**Riolos of Patr**	**0.57**	**232**	*e*Pn	Pg	03 05 46.2	-0.4
RLS				*e*Sn	Sb	03 05 55.1	+0.3
PDO	**Prodromos**	**0.69**	**286**	*e*PB	Pg	03 05 48.3	-0.7
PDO				*e*SN	Sb	03 05 58.9	+0.5
PDO	**Prodromos**	**0.69**	**286**	*e*Pb	Pg	03 05 48.3	-0.7
PDO				*e*Sn	Sb	03 05 58.9	+0.5

*BGS **08** 03:08:47.9±2.2, 12°.41S×32°.16E, h10km, mb5.4, MS5.9*
*IDC **08** 03:08:55.9±0.4, 9°.78S×33°.95E, h0km, mb5.3/29, mb1 5.4/31, mb1mx5.3/32, mbtmp5.2/31, ML5.1/2, MS5.7/29, Ms1 5.7/29, ms1mx5.6/33, Error ellipse: s-maj=10.8km s-min=8.9km az=76.0*
*ISCJB **08** 03:08:55.5±0.1, 10°.01S±0°.02×33°.82E±0°.02, h10km, mb5.7/277, MS5.7/235, Error ellipse: s-maj=3.2km s-min=2.8km az=176.1*
*DJA **08** 03:08:56.8±0.3, 10°S±4°×3°4E±°, h10km, M5.8/27, mB6.2/23, mb5.6/27, Mw(mB)5.8/23, Mwp6.0/3*
*MOS **08** 03:08:56.5±1.1, 9°.73S×33°.96E, h10km, mb6.0/111, MS5.5/72, Error ellipse: s-maj=7.4km s-min=3.1km az=95.7*
*BJI **08** 03:08:57.7, 9°.32S×33°.82E, h10km, mB5.9/49, mb5.5/48, Ms5.9/65, MS7 5.7/59*
*NEIC **08** 03:08:57.2±0.1, 9°.95S×33°.88E, h8km, mb5.9/133, ME5.5, MS5.9/160, MW5.9, MW5.9, MW5.9, Error ellipse: s-maj=4.6km s-min=3.1km az=84.0, Moment Tensor Solution. s78 Moment tensor: Scale 10^{17}Nm; M_{rr}-6.17; $M_{\theta\theta}$1.36; $M_{\phi\phi}$4.81; $M_{r\theta}$4.33; $M_{\theta\phi}$-2.78; $M_{\phi r}$-1.24; Best double couple: $M_0$7.70000×10^{17} NP1:ϕ_s309.00000°, δ62.00000°, λ-112.00000°. NP2:ϕ_s169.00000°, δ35.00000°, λ-55.00000°. Principal axes: T 7.2000, Plg14.0000°, Azm54.0000°; N 0.9400, Plg19.0000°, Azm319.0000°; P -8.1400, Plg65.0000°, Azm179.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s135.00000°, δ25.00000°, λ-90.00000°. NP2: ϕ_s315.00000°, δ65.00000°, λ-90.00000°. Principal axes: T Plg20.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg70.0000°, Azm225.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC One person killed, 15 people injured and about 3,000 buildings damaged or destroyed in the Karonga area. Also felt at Chitipa and Mzuzu. Felt [IV] at Njombe, Tanzania. Also felt at Mbeya.
*NEIC **08** 03:08:57.0±0.0, 9°.95S×33°.84E, h15km Best double couple: NP1:ϕ_s344.00000°, δ64.00000°, λ-88.00000°. NP2:ϕ_s162.00000°, δ25.00000°, λ-90.00000°. Principal axes: T 8.7800, Plg19.0000°, Azm73.0000°; N -0.6900, Plg0.0000°, Azm163.0000°; P -8.0900, Plg70.0000°, Azm255.0000°;*
*GCMT **08** 03:09:01.4±0.1, 9°.89S×33°.89E, h12km, MW5.9 Best double couple: NP1:ϕ_s337.00000°, δ55.00000°, λ-99.00000°. NP2:ϕ_s172.00000°, δ36.00000°, λ-77.00000°. Principal axes: T 1.0500, Plg10.0000°, Azm73.0000°; N -0.0900, Plg7.0000°, Azm342.0000°; P -0.9700, Plg78.0000°, Azm215.0000°; Data Used: II IU CU IC G CN. Mantle waves from 101 sta. Surface waves: sta=130, comp=281, per= 50.*
*NEIC **08** 03:09:08.5±0.0, 10°.32S×33°.74E, h10km, Moment Tensor Solution. s150 Moment tensor: Scale 10^{17}Nm; M_{rr}-8.04; $M_{\theta\theta}$0.16; $M_{\phi\phi}$7.88; $M_{r\theta}$-2.31; $M_{\theta\phi}$-2.67; $M_{\phi r}$3.25; Best double couple: $M_0$9.30000×10^{17} NP1:ϕ_s155.00000°, δ58.00000°, λ-98.00000°. NP2:ϕ_s351.00000°, δ33.00000°, λ-75.00000°. Principal axes: T 9.5400, Plg12.0000°, Azm251.0000°; N -0.5000, Plg7.0000°, Azm159.0000°; P -9.0300, Plg75.0000°, Azm37.0000°;*
*SZGRF **08** 03:09:13.3, 7°.71S×34°.99E, h33km, mb5.9, MS5.3, Tanzania*
ISC 08 03:08:57.7±0.3, 9°.98S±0°.03×33°.82E±0°.03, h10km±1km, h10km:pP-P, n1866, σ1s 39/1951, mb5.8/277, MS5.8/237, 287C-268D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**1.45**	**172**	*i*P	**Pb**	**03 09 24.6**	**-0.2**
MZM				*i*S	**Sg**	**03 09 44.6**	**+0.1**
DODT	**Dodoma, Tanzan**	**4.23**	**27**	*i*P	**Pn**	**03 09 59.7**	**-2.6**
DODT				*i*S	**Sb**	**03 11 05.0**	**+1.6**
LSZ	**Lusaka**	**7.61**	**226**	*e*Pn	**Pn**	**03 10 48.8**	**+0.1**
	278nm,0.6s						
LSZ				*e*Sn	**Sn**	**03 12 14.3**	**-0.8**
LSZ				Lg	Lg	03 12 56.5	
LSZ				*e*Sg	**Sg**	**03 12 58.7**	**-3.3**
LSZ	**Lusaka**	**7.61**	**226**	Pn	**Pn**	**03 10 48.0**	**-0.8**
	84nm,0.3s,baz=51,slow=11,SNR=263						
LSZ				Sn	**Sn**	**03 12 15.5**	**+0.4**
	557nm,0.3s,baz=138,slow=23,SNR=11						
LSZ				Lg	Lg	03 12 56.5	
	818nm,0.3s,baz=127,slow=20,SNR=14						
LSZ				LR	LR	03 13 57.9	
	comp=Z,128μm,19.5s,baz=17,slow=38						
MAUS	**Longido**	**7.74**	**22**	*i*P	**Pn**	**03 10 48.1**	**-2.5**
MAUS				*i*S	Sb	03 12 51.7	+7.1
KMBO	**Kilima Mbogo**	**9.44**	**21**	P	Pn	03 11 10.0	-4.0
	SNR=1262						
KMBO	**Kilima Mbogo**	**9.44**	**21**	*e*Pn	Pn	03 11 10.1	-3.9
KMBO				*e*S	Sn	03 12 54.0	-6.4
KMBO				Lg	Lg	03 13 44.6	
KMBO	**Kilima Mbogo**	**9.44**	**21**	Pn	Pn	03 11 09.7	-4.3
	16nm,0.3s,baz=198,slow=15,SNR=108						
KMBO				Sn	Sn	03 12 49.0	-12
	18nm,0.3s,baz=193,slow=19,SNR=2.3						
KMBO				Lg	Lg	03 13 44.6	
	36nm,0.3s,baz=253,slow=19,SNR=7.7						
KMBO				LR	LR	03 15 00.4	
	comp=Z,39μm,19.5s,baz=188,slow=40						
MBAR	**Mbarara**	**9.81**	**342**	*e*P	Pn	03 11 14.1	-4.9
MBAR	**Mbarara**	**9.81**	**342**	*e*P	Pn	03 11 14.1	-4.9
MBAR				Sn	**Sn**	**03 13 05.6**	**-3.8**
MBAR				Lg	Lg	03 13 51.3	
MBAR	**Mbarara**	**9.81**	**342**	Pn	Pn	03 11 13.9	-5.1
	3μm,1.6s						
MBAR	**Mbarara**	**9.81**	**342**	Pn	Pn	03 11 13.2	-5.8
	24nm,0.3s,baz=159,slow=14,SNR=90						
MBAR				Sn	**Sn**	**03 13 05.6**	**-3.8**
	175nm,0.3s,baz=18,slow=20,SNR=4.8						
MBAR				Lg	Lg	03 13 51.3	
	431nm,0.3s,baz=229,slow=20,SNR=6.9						
MSNA	**Messina**	**12.82**	**196**	*i*P	**Pn**	**03 11 58.0**	**-2.2**
MSNA	**Messina**	**12.82**	**196**	*i*P	**Pn**	**03 11 58.0**	**-2.2**
OPO	**Ambohidratompo**	**15.51**	**125**	Pn	**Pn**	**03 12 34.7**	**-2.0**
OPO				Sn	**Sn**	**03 15 23.1**	**-5.7**
OPO	**Ambohidratompo**	**15.51**	**125**	Pn	**Pn**	**03 12 34.7**	**-2.0**
	9.3nm,0.3s,baz=291,slow=12,SNR=61						
OPO				Sn	**Sn**	**03 15 23.1**	**-5.7**
	6.4nm,0.3s,baz=209,slow=19,SNR=5.7						
OPO				LR	LR	03 18 38.6	
	comp=Z,23μm,18.8s,baz=305,slow=38						
ABPO	**Ambohimpanom**	**15.78**	**126**	Pn	**Pn**	**03 12 38.7**	**-1.5**
	2μm,1.3s,SNR=17						
ABPO	**Ambohimpanom**	**15.78**	**126**	*e*P	**Pn**	**03 12 37.8**	**-2.4**
ABPO				*e*S	**Sn**	**03 15 41.9**	**+6.6**
ABPO				pmax	pmax		
	comp=Z,149nm,0.7s						
ABPO	**Ambohimpanom**	**15.78**	**126**	*e*Pn	**Pn**	**03 12 37.8**	**-2.4**
	comp=Z,149nm,0.7s						
ABPO				*e*S	**Sn**	**03 15 41.9**	**+6.6**
SLR	**Silverton**	**16.52**	**198**	*i*P	**Pn**	**03 12 45.3**	**-4.5**
SLR	**Silverton**	**16.52**	**198**	*i*P	**Pn**	**03 12 45.3**	**-4.5**
SLR	**Silverton**	**16.52**	**198**	*i*P	**Pn**	**03 12 45.3**	**-4.5**
LBTB	**Lobatse**	**16.87**	**207**	*i*P	Pn	03 12 48.4	-5.7
LBTB	**Lobatse**	**16.87**	**207**	*e*Pn	Pn	03 12 48.6	-5.5
	comp=Z,678nm,0.6s						
LBTB				*e*S	Sn	03 15 52.9	-8.8
LBTB				Lg	Lg	03 17 39.7	
LBTB	**Lobatse**	**16.87**	**207**	P	Pn	03 12 47.8	-6.3
	comp=Z,3.1nm,0.3s,baz=35,slow=13,SNR=67						
LBTB				S	Sn	03 15 50.8	-11
	comp=Z,20nm,0.3s,baz=336,slow=20,SNR=3.7						
LBTB				Lg	Lg	03 17 39.7	
	comp=Z,38nm,0.3s,baz=309,slow=18,SNR=3.8						
LBTB				LR	LR	03 18 30.5	
	comp=Z,15μm,21.3s,baz=43,slow=34						
OBSV	**Observatory**	**17.01**	**198**	*e*P	**Pn**	**03 12 52.4**	**-3.6**
ERPM	**east rand prop**	**17.11**	**197**	*e*P	Pn	03 12 51.8	-5.4
ERPM	**east rand prop**	**17.11**	**197**	*e*P	Pn	03 12 51.8	-5.4
KLOF	**Kloof**	**17.31**	**199**	*e*P	**Pn**	**03 12 58.2**	**-1.5**
KLOF	**Kloof**	**17.31**	**199**	*e*P	**Pn**	**03 12 58.2**	**-1.5**
PRYS	**Parys**	**17.92**	**199**	*e*P	**Pn**	**03 13 02.6**	**-4.7**
PRYS	**Parys**	**17.92**	**199**	*e*P	**Pn**	**03 13 02.6**	**-4.7**
TSUM	**Tsumeb**	**18.18**	**238**	*i*P	**Pn**	**03 13 07.8**	**-2.6**
TSUM	**Tsumeb**	**18.18**	**238**	*e*Pn	**Pn**	**03 13 07.8**	**-2.6**
	comp=Z,2μm,1.6s						
TSUM				*e*Sn	Sn	03 16 21.7	-12
TSUM				Lg	Lg	03 18 24.9	
TSUM	**Tsumeb**	**18.18**	**238**	P	**Pn**	**03 13 08.6**	**-1.8**
	comp=Z,5.7nm,0.3s,baz=52,slow=10,SNR=83						
TSUM				S	Sn	03 16 18.8	-15
	comp=Z,5.6nm,0.3s,baz=49,slow=20,SNR=4.9						
TSUM				Lg	Lg	03 18 24.9	
	comp=Z,7.8nm,0.3s,baz=349,slow=16,SNR=3.3						
SWZ	**Schweizer**	**18.89**	**204**	*e*P	P	03 13 13.4	-5.1
SWZ	**Schweizer**	**18.89**	**204**	*e*P	P	03 13 13.4	-5.1
SEK	**Senekal**	**19.15**	**197**	*i*P	**P**	**03 13 18.4**	**-3.0**
SEK	**Senekal**	**19.15**	**197**	*i*P	**P**	**03 13 18.4**	**-3.0**
FURI	**Furi**	**19.37**	**15**	*i*P	**Pn**	**03 13 28.9**	**+3.8**
FURI				*e*S	S	03 17 21.1	+17
AAE	**Adis Abeba**	**19.52**	**15**	*i*P	**Pn**	**03 13 27.9**	**+1.0**
AAE				*i*S	S	03 17 26.2	+20
BOSA	**Boshof**	**20.20**	**202**	*e*P	**P**	**03 13 29.8**	**-3.0**
BOSA				AMB	AMB	03 13 38.2	
	comp=Z,716nm,1.7s						
BOSA	**Boshof**	**20.20**	**202**	*e*P	**P**	**03 13 29.9**	**-3.0**
	comp=Z,574nm,1.0s						
BOSA				S	S	03 17 03.6	-16
BOSA				*e*S	Sn	03 17 05.7	-17
BOSA				Lg	Lg	03 19 16.6	
BOSA	**Boshof**	**20.20**	**202**	P	**P**	**03 13 29.9**	**-3.0**
	comp=Z,206nm,0.8s,baz=28,slow=13,SNR=79						
BOSA				S	S	03 17 03.6	-16
	comp=Z,78nm,0.8s,baz=45,slow=16,SNR=2.3						
BOSA				Lg	Lg	03 19 16.6	
	comp=Z,563nm,0.9s,baz=114,slow=20,SNR=2.4						
BOSA				LR	LR	03 22 19.3	
	comp=Z,2μm,18.3s,baz=30,slow=39						
WIN	**Windhoek**	**20.32**	**230**	*i*P	**P**	**03 13 34.0**	**-0.2**
WIN				AMB	AMB	03 13 42.9	
	comp=Z,403nm,1.2s						
WIN	**Windhoek**	**20.32**	**230**	*i*P	**P**	**03 13 34.0**	**-0.2**
WIN				pmax	pmax		
	comp=Z,403nm,1.2s						
WIN	**Windhoek**	**20.32**	**230**	*i*P	**P**	**03 13 34.0**	**-0.2**
	comp=Z,403nm,1.2s						
KSD	**Kokstad**	**20.86**	**191**	*e*P	**P**	**03 13 40.5**	**+0.5**
KSD				AMB	AMB	03 13 49.3	
	comp=Z,210nm,1.4s						
KSD	**Kokstad**	**20.86**	**191**	*e*P	**P**	**03 13 40.5**	**+0.5**
	comp=Z,724nm,1.4s						
MSKU	**Masuku**	**21.72**	**291**	P	**P**	**03 13 48.5**	**-0.8**
MSKU				LR	LR		
	comp=Z,2.0nm,21.0s						
MSKU	**Masuku**	**21.72**	**291**	P	**P**	**03 13 48.5**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=115,slow=15,SNR=4.6						
HVD	**Gariep Dam**	**21.93**	**200**	*e*P	**P**	**03 13 49.7**	**-1.9**
HVD				AMB	AMB	03 13 54.9	
	comp=Z,935nm,1.3s						
HVD	**Gariep Dam**	**21.93**	**200**	*e*P	**P**	**03 13 49.7**	**-1.9**
HVD				pmax	pmax		
	comp=Z,935nm,1.3s						
HVD	**Gariep Dam**	**21.93**	**200**	*e*P	**P**	**03 13 49.7**	**-1.9**
	comp=Z,935nm,1.3s						
MSEY	**Mahe Island**	**22.11**	**78**	P	**P**	**03 13 54.5**	**+1.0**
	comp=Z,583nm,2.3s,SNR=16						
MSEY	**Mahe Island**	**22.11**	**78**	P	**P**	**03 13 54.3**	**+0.8**
	SNR=17						
MSEY	**Mahe Island**	**22.11**	**78**	*e*P	**P**	**03 13 51.6**	**-1.9**
	comp=Z,2μm,2.8s						
MSEY				*e*S	**S**	**03 17 55.7**	**-1.8**
MSEY				LR	LR		
	comp=Z,21μm,22.0s						
RER	**Riviere de l'E**	**23.83**	**120**	*e*P	**P**	**03 14 12.5**	**+1.3**
	comp=Z,154nm,1.0s						
RER				LR	LR		
	comp=Z,13μm,20.0s						
SOE	**Somerset East**	**23.87**	**197**	*e*P	**P**	**03 14 10.2**	**-1.3**
SOE				AMB	AMB	03 14 13.4	
	comp=Z,427nm,1.9s						
SOE	**Somerset East**	**23.87**	**197**	*e*P	**P**	**03 14 10.2**	**-1.3**
	comp=Z,427nm,1.9s						
GRM	**Grahamstown**	**24.18**	**195**	⇓*i*P	**P**	**03 14 14.3**	**0.0**
GRM				AMB	AMB	03 14 20.7	
	comp=Z,481nm,2.0s						
GRM	**Grahamstown**	**24.18**	**195**	⇓*i*P	**P**	**03 14 14.3**	**0.0**
GRM				pmax	pmax		
	comp=Z,481nm,2.0s						
GRM	**Grahamstown**	**24.18**	**195**	⇓*i*P	**P**	**03 14 14.3**	**0.0**
	comp=Z,481nm,2.0s						
KOMG	**Komaggas**	**24.93**	**215**	*e*P	**P**	**03 14 21.6**	**+0.5**
KOMG				AMB	AMB	03 14 31.3	
	comp=Z,538nm,1.2s						
KOMG	**Komaggas**	**24.93**	**215**	*e*P	**P**	**03 14 21.6**	**+0.5**
	comp=Z,538nm,1.2s						
MRIV	**Mauritius Mete**	**25.02**	**117**	*e*P	**P**	**03 14 25.3**	**+3.3**
CVNA	**Calvinia**	**25.06**	**209**	*e*P	**P**	**03 14 21.7**	**-0.7**
CVNA				AMB	AMB	03 14 30.4	
	comp=Z,632nm,2.2s						
CVNA	**Calvinia**	**25.06**	**209**	*e*P	**P**	**03 14 21.7**	**-0.7**
	comp=Z,632nm,2.2s						
SUR	**Sutherland**	**25.32**	**206**	*e*P	**P**	**03 14 25.3**	**+0.4**
SUR				AMB	AMB	03 14 27.9	
	comp=Z,283nm,5.3s						
SUR	**Sutherland**	**25.32**	**206**	P	**P**	**03 14 25.7**	**+0.8**
	SNR=15						
SUR	**Sutherland**	**25.32**	**206**	*e*P	**P**	**03 14 24.5**	**-0.4**
	comp=Z,261nm,1.0s						
SUR				S	**S**	**03 18 51.9**	**+0.7**
SUR				Lg	Lg	03 21 57.7	
SUR	**Sutherland**	**25.32**	**206**	P	**P**	**03 14 25.5**	**+0.6**
	comp=Z,1μm,1.0s,SNR=16						
SUR	**Sutherland**	**25.32**	**206**	P	**P**	**03 14 24.8**	**-0.1**
	comp=Z,81nm,0.9s,baz=19,slow=8.3,SNR=26						
SUR				S	**S**	**03 18 51.9**	**+0.7**
	comp=Z,62nm,0.9s,baz=307,slow=20,SNR=1.5						
SUR				Lg	Lg	03 21 57.7	
	comp=Z,635nm,1.0s,baz=143,slow=22,SNR=5.5						
SUR				LR	LR	03 24 39.7	
	comp=Z,17μm,18.7s,baz=32,slow=37						
LBOS		**26.27**	**26**	*e*P	**P**	**03 14 37.0**	**+3.3**
ELIM	**Elim**	**27.68**	**206**	*e*P	**P**	**03 14 45.1**	**-0.8**
ELIM				AMB	AMB	03 14 46.8	
	comp=Z,234nm,1.4s						
ELIM	**Elim**	**27.68**	**206**	*e*P	**P**	**03 14 45.1**	**-0.8**
	comp=Z,234nm,1.4s						
ABTO	**Aybut**	**33.29**	**35**	P	**P**	**03 15 37.9**	**+2.2**
	SNR=16						
RBK	**Rabkut**	**33.94**	**37**	P	**P**	**03 15 44.0**	**+2.7**
	SNR=10						
RAYN	**Ar Rayn**	**35.21**	**19**	P	**P**	**03 15 53.4**	**+1.1**
	comp=Z,232nm,1.2s,SNR=10.0						
KUK	**Kukurantumi**	**37.66**	**294**	*i*P	**P**	**03 16 11.5**	**-1.8**
DGAR	**Diego Garcia**	**38.26**	**89**	*e*P	**P**	**03 16 19.3**	**+0.9**
DGAR				pmax	pmax		
	comp=Z,149nm,1.1s						
DGAR				MLR	MLR		
	comp=Z,1μm,20.0s						
DGAR	**Diego Garcia**	**38.26**	**89**	*e*P	**P**	**03 16 19.2**	**+0.9**
	comp=Z,149nm,1.1s						
DGAR				LR	LR		
	comp=Z,1μm,20.0s						
SHEL	**Horse Pasture**	**38.96**	**257**	*e*P	**P**	**03 16 25.4**	**+1.0**
SHEL				pmax	pmax		
	comp=Z,227nm,1.0s						
SHEL				MLR	MLR		
	comp=Z,13μm,21.0s						
SHEL	**Horse Pasture**	**38.96**	**257**	*e*P	**P**	**03 16 25.4**	**+1.0**
	comp=Z,227nm,1.0s						
SHEL				LR	LR		
	comp=Z,13μm,21.0s						
TOA0	**Torodi Ar. Sit**	**39.31**	**305**	*e*P	**P**	**03 16 26.4**	**-0.8**
TOA0				*e*PP	**PP**	**03 17 57.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**39.31**	**305**	P	**P**	**03 16 26.4**	**-0.7**
TORD				S	**S**	**03 22 30.4**	**+2.0**
TORD	**Torodi Ar. Bea**	**39.31**	**305**	P	**P**	**03 16 26.5**	**-0.7**
	comp=Z,25nm,1.0s,baz=121,slow=6.5,SNR=112						
TORD				S	**S**	**03 22 30.4**	**+2.0**
	comp=Z,13nm,1.0s,baz=130,slow=10.0,SNR=2.8						
TORD				LR	LR	03 33 30.8	
	comp=Z,20μm,18.6s,baz=125,slow=38						
BSY	**Bisya**	**39.78**	**35**	P	**P**	**03 16 30.9**	**-0.2**
	SNR=28						
ARQ	**Araqi**	**39.88**	**34**	P	**P**	**03 16 33.6**	**+1.8**
	SNR=7.9						
JMDO	**Jabal Madar**	**40.01**	**36**	P	P	03 16 36.9	+4.0
	SNR=9.1						
**K

SIVA	Sivas	45.56	350	*e*P		P	03 17 18.2	+0.5
LAST	Lasithi	45.59	350	*e*P		P	03 17 17.0	-1.1
IGAR	Gharneh	45.60	22	*e*P		P	03 17 19.5	+1.1
ARNB	Al Arnab	45.64	2	*i* P		P	03 17 20.6	+2.1
ARNB				*i* P		pP	03 17 20.8	-1.0
NPS	Neapolis	45.66	351	*e*P		P	03 17 20.1	+1.5
IGHG	Ghaleghazi	45.70	15	*e*P		P	03 17 19.4	+0.2
IMEH	Mehriz	45.71	25	*e*P		P	03 17 19.1	-0.2
KARP	Karpathos	45.72	352	*e*P		P	03 17 19.5	+0.5
IDI	Anoyia	45.81	350	*e*P		P	03 17 20.4	+0.6
IDI	Anoyia	45.81	350	P		P	03 17 20.5	+0.6
IDI	Anoyia	45.81	350	*e*P		P	03 17 19.9	+0.1
IDI	Anoyia	45.81	350	*e*P		P	03 17 20.2	+0.4
	comp=Z,120nm,1.1s							
YAYL	Yayladag	45.82	3	*i* P		P	03 17 19.9	0.0
BTCH	Batrach	45.84	3	*i* P		P	03 17 22.2	+2.2
IVIS	Veis	45.96	15	*e*P		P	03 17 21.6	+0.5
MNKR	ALMNKUR	45.97	6	*i* P		P	03 17 23.4	+2.4
GAZI	Gazipasa	45.99	358	*i* P		P	03 17 17.7	-3.4
MZRK	Al-Mazaregh	46.02	8	*i* P		P	03 17 26.7	+5.3
VAM	Vamos	46.05	349	P		P	03 17 22.4	+0.8
VAM	Vamos	46.05	349	P		P	03 17 22.4	+0.8
VAM	Vamos	46.05	349	*e*P		P	03 17 21.8	+0.2
VAM	Vamos	46.05	349	P		P	03 17 22.4	+0.8
SLMH	Al Salmeh	46.11	5	*i* P		P	03 17 24.2	+2.1
AKAS	Kas	46.14	355	*i* P		P	03 17 19.9	-2.6
IZEF	Zefreh	46.15	22	*e*P		P	03 17 21.3	-1.5
TAHT	Tahtakopru-Hat	46.16	3	*e*P		P	03 17 23.9	+1.4
KIZK	Mersin	46.22	0	*i* P		P	03 17 23.1	+0.2
ARG	Arkhangelos	46.26	354	P		P	03 17 24.3	+1.0
ARG	Arkhangelos	46.26	354	P		P	03 17 24.3	+1.0
ARG	Arkhangelos	46.26	354	*e*P		P	03 17 22.8	-0.5
ARG	Arkhangelos	46.26	354	P		P	03 17 24.3	+1.0
IKLH	Kolahrood	46.27	21	*e*P		P	03 17 23.1	-0.6
ILIN	Lien	46.36	15	*e*P		P	03 17 23.8	-0.6
ICHK	Chekchek	46.37	24	*e*P		P	03 17 22.9	-1.6
MERS	Mersin	46.61	1	*e*P		P	03 17 27.0	+1.0
KUZU	Kuzuini	46.61	4	*i* P		P	03 17 25.2	-0.9
ELL	Elmali	46.63	356	*e*P		P	03 17 27.3	+1.0
ANKY	Antikythira Is	46.67	348	P		P	03 17 27.4	+0.9
ANKY	Antikythira Is	46.67	348	*e*P		P	03 17 27.8	+1.3
ANKY	Antikythira Is	46.67	348	P		P	03 17 27.4	+0.9
TRD	Trivandrum	46.71	68	*e*P		P	03 17 25.8	-1.4
ANTB	Antalya	46.73	357	*e*P		P	03 17 28.6	+1.7
SANT	Santorini	46.77	351	*e*P		P	03 17 27.1	-0.3
	comp=Z,303nm,1.5s							
SANT				*e*PcP		PcP	03 19 00.8	+0.2
SANT				LR		LR		
	comp=Z,4µm,19.0s							
CEYT	Ceyhan	46.78	2	*e*P		P	03 17 28.6	+1.3
DALY	Dalyan (Mu¨la	46.80	354	*e*P		P	03 17 28.4	+1.0
TURN	Turunc	46.86	354	*i* P		P	03 17 25.8	-2.2
GULE	Gulek	47.02	1	*i* P		P	03 17 26.3	-3.2
KYTH	Kithira	47.12	348	*e*P		P	03 17 31.3	+1.2
GOLH	Golhisar	47.14	355	*i* P		P	03 17 32.7	+2.4
YER	Yerkesik	47.16	354	*e*P		P	03 17 31.6	+1.3
BDRM	Kayabasi	47.18	353	*i* P		P	03 17 29.5	-1.0
GZT	Gaziantep	47.22	4	*i* P		P	03 17 32.7	+1.7
KOZT	Kozan	47.25	2	*e*P		P	03 17 31.8	+0.8
SUTC	Sutluce-Ispart	47.28	357	*e*P		P	03 17 29.4	-2.0
BCK	Bucak	47.29	357	*e*P		P	03 17 32.7	+1.3
ATAB	Bozova	47.39	5	*i* P		P	03 17 31.6	-0.5
URFA	Urfa	47.41	5	*e*P		P	03 17 34.8	+2.5
ISFB	Sefidab	47.43	21	*e*P		P	03 17 32.7	+0.1
APE	Apeiranthos	47.45	351	P		P	03 17 32.8	+0.2
APE	Apeiranthos	47.45	351	P		P	03 17 32.8	+0.2
APE	Apeiranthos	47.45	351	*e*P		P	03 17 33.4	+0.8
APE	Apeiranthos	47.45	351	P		P	03 17 32.8	+0.2
ASCN	Ascension	47.60	268	PFAKE			03 17 50.0	+16
ASCN				LR		LR		
	comp=Z,6µm,20.0s							
ISP	Isparta	47.65	356	*e*P		P	03 17 34.2	0.0
ISP	Isparta	47.65	356	P		P	03 17 34.9	+0.6
ISP	Isparta	47.65	356	*e*P		P	03 17 34.5	+0.2
ISP				pmax		pmax		
	comp=Z,399nm,1.9s							
ISP				MLR		MLR		
	comp=Z,3µm,19.0s							
ISP	Isparta	47.65	356	*e*P		P	03 17 34.5	+0.2
	comp=Z,399nm,1.9s							
ISP				LR		LR		
	comp=Z,3µm,19.0s							
AYDN	Tasoluk	47.72	354	*i* P		P	03 17 33.5	-1.2
GCAM	G?zelcaml?	47.83	353	*i* P		P	03 17 35.9	+0.4
SMG	Samos	47.89	353	P		P	03 17 36.0	0.0
SMG	Samos	47.89	353	*e*P		P	03 17 35.7	-0.3
SMG	Samos	47.89	353	P		P	03 17 36.0	0.0
SIRN	S¨-rnak	47.91	9	*i* P		P	03 17 37.1	+0.8
SULT	Sultanhani-AKS	47.93	360	*e*P		P	03 17 37.0	+0.6
LADK	Ladik-KONYA	47.95	358	*e*P		P	03 17 37.7	+1.1
PYL	PYLOS	47.99	347	P		P	03 17 36.3	-0.5
PYL	PYLOS	47.99	347	P		P	03 17 36.3	-0.5
AYDB	Zeytinkoy-Aydi	48.00	354	*e*P		P	03 17 37.9	+0.9
DIYA	Diyarbakir	48.02	7	*i* P		P	03 17 39.1	+2.0
AKCD	Akcadag	48.18	4	*i* P		P	03 17 36.9	-1.4
HAKT	HAKKARI	48.19	11	*i* P		P	03 17 39.1	+0.5
ITM	Ithomi	48.22	347	P		P	03 17 38.7	+0.1
ITM	Ithomi	48.22	347	*e*P		P	03 17 39.2	+0.6
ITM	Ithomi	48.22	347	P		P	03 17 38.7	+0.1
MALT	Malatya	48.24	5	*e*P		P	03 17 40.1	+1.3
MALT	Malatya	48.24	5	⇑P		P	03 17 39.7	+0.9
MALT	Malatya	48.24	5	⇑*i*P		P	03 17 39.7	+0.9
DID	Didima	48.27	349	*e*P		P	03 17 37.3	-1.7
KHAL	Karahalli	48.27	355	*i* P		P	03 17 38.0	-1.0
KDHN	Kadinhani	48.28	358	*i* P		P	03 17 38.0	-1.1
VLX	Vlachokerasia	48.31	348	P		P	03 17 39.5	+0.1
VLX	Vlachokerasia	48.31	348	*e*P		P	03 17 38.7	-0.7
VLX	Vlachokerasia	48.31	348	P		P	03 17 39.5	+0.1
SHUT	Suhut-Afyon	48.38	357	*e*P		P	03 17 39.0	-0.9
DARE	Darende-Malaty	48.42	4	*e*P		P	03 17 42.6	+2.4
NAIG	Nisos Aigina	48.47	349	*e*P		P	03 17 35.0	-5.4
PINB	Pinarbasi	48.47	3	*i* P		P	03 17 42.0	+1.3
ELZG	Elazig	48.47	5	*i* P		P	03 17 42.3	+1.6
IDMV	Damavand	48.47	20	*e*P		P	03 17 40.0	-0.9
MANT	Manisa	48.47	354	*i* P		P	03 17 42.3	+1.6
KULA	Kula-Manisa	48.48	355	*e*P		P	03 17 41.8	+1.2
AVNT	Avonos	48.52	1	*i* P		P	03 17 40.1	-0.9
BOLV	Bolvadin	48.52	357	*i* P		P	03 17 40.1	-0.9
POO	Poona	48.60	54	*e*P		P	03 17 41.0	-0.9
POO				⇓*i*PS		pP	03 17 44.0	-1.2
	comp=Z,444nm,2.0s							
POO				AMB		AMB	03 17 45.5	
	comp=Z,73nm,1.1s							
AMT	Artemida-Makis	48.61	347	P		P	03 17 41.5	-0.1
AMT	Artemida-Makis	48.61	347	*e*P		P	03 17 42.3	+0.7
ILAS	Lasjerd	48.61	21	*e*P		P	03 17 42.1	+0.2
ATHU	Athens Univers	48.61	349	P		P	03 17 41.1	-0.5
ATHU	Athens Univers	48.61	349	P		P	03 17 41.1	-0.5
ATH	Athens Observa	48.63	349	P		P	03 17 41.7	0.0
ATH	Athens Observa	48.63	349	P		P	03 17 41.7	0.0
ATH	Athens Observa	48.63	349	P		P	03 17 41.7	0.0
CHOS	Chios island	48.66	352	P		P	03 17 42.5	+0.5
CHOS	Chios island	48.66	352	*e*P		P	03 17 42.9	+0.9
CHOS	Chios island	48.66	352	P		P	03 17 42.5	+0.5
PTL	Penteli	48.68	350	P		P	03 17 42.1	0.0
PTL	Penteli	48.68	350	*e*P		P	03 17 42.5	+0.4
PTL	Penteli	48.68	350	P		P	03 17 42.1	0.0
GEVA	Gevas	48.81	10	*i* P		P	03 17 45.5	+2.2
ITEG	Tejag	48.82	28	*e*P		P	03 17 42.2	-1.3
LTK	Loutraki	48.82	349	P		P	03 17 42.5	-0.7
LTK	Loutraki	48.82	349	*e*P		P	03 17 41.5	-1.7
LTK	Loutraki	48.82	349	P		P	03 17 42.5	-0.7
GUR	Goura	48.86	348	P		P	03 17 43.2	-0.4
GUR	Goura	48.86	348	*e*P		P	03 17 41.3	-2.3
GUR	Goura	48.86	348	P		P	03 17 43.2	-0.4
VILL	Villia	48.89	349	P		P	03 17 43.4	-0.4
AKHS	Akhisar	48.93	354	*i* P		P	03 17 42.3	-1.7
VIL2	Platees	48.95	349	*e*P		P	03 17 43.9	-0.2
GDZ	Gediz	48.98	356	*i* P		P	03 17 45.5	+0.9
IBST	Bostanabad	48.99	14	*e*P		P	03 17 45.7	+1.0
DEMI	Demirci	49.00	355	*i* P		P	03 17 44.4	-0.2
KLV	Kalavryta, Ach	49.01	348	P		P	03 17 43.0	-1.7
KLV	Kalavryta, Ach	49.01	348	*e*P		P	03 17 44.7	0.0
KLV	Kalavryta, Ach	49.01	348	P		P	03 17 43.0	-1.7
DRO	Drossia	49.01	347	P		P	03 17 45.1	+0.4
DRO	Drossia	49.01	347	*e*P		P	03 17 43.7	-1.0
IANJ	Anjilo	49.03	22	*e*P		P	03 17 44.5	-0.6
TVAN	Van	49.08	10	*i* P		P	03 17 45.6	+0.1
WDD	Wield Dalam	49.10	339	PFAKE			03 18 00.0	+15
WDD				LR		LR		
	comp=Z,16µm,20.0s							
ISHM	Shahmirzad	49.11	21	*e*P		P	03 17 46.2	+0.4
BNGL	BINGOL	49.16	8	*i* P		P	03 17 47.6	+1.6
RLS	Riolos of Patr	49.17	347	P		P	03 17 46.6	+0.8
RLS	Riolos of Patr	49.17	347	*e*P		P	03 17 47.0	+1.2
RLS	Riolos of Patr	49.17	347	P		P	03 17 46.6	+0.8
AFSR	Af˙ar-Bala (A	49.18	359	*e*P		P	03 17 47.0	+0.9
KEMA	Kemaliye	49.19	5	*i* P		P	03 17 45.5	-0.6
IALA	Alasht	49.19	20	*e*P		P	03 17 48.3	+1.9
IDAH	Dahanechah	49.22	29	*e*P		P	03 17 46.7	+0.1
SVRH	Sivrihisar-ESK	49.22	358	*e*P		P	03 17 47.3	+0.9
LAKA	Lakka	49.23	348	P		P	03 17 46.3	0.0
LAKA	Lakka	49.23	348	*e*P		P	03 17 46.8	+0.5
LAKA	Lakka	49.23	348	P		P	03 17 46.3	0.0
BBAL	Bala	49.28	359	*i* P		P	03 17 45.5	-1.3
DESF	Desfina	49.28	348	*e*P		P	03 17 45.1	-1.7
DSF	Desfina	49.28	348	P		P	03 17 45.9	-0.9
DSF	Desfina	49.28	348	P		P	03 17 45.9	-0.9
SEYT	Eskypehyr	49.33	357	*i* P		P	03 17 46.6	-0.5
KALE	Kalithea	49.34	348	P		P	03 17 47.2	0.0
KALE	Kalithea	49.34	348	*e*P		P	03 17 46.5	-0.7
KALE	Kalithea	49.34	348	P		P	03 17 47.2	0.0
TVSB	Tavsanli	49.34	356	*e*P		P	03 17 48.7	+1.4
CDAG	Cicekdag	49.35	1	*i* P		P	03 17 48.7	+1.3
MRKA	Markates	49.37	349	P		P	03 17 47.2	-0.1
MRKA	Markates	49.37	349	*e*P		P	03 17 47.3	-0.1
ILIC	ilic-Erzincan	49.38	5	*e*P		P	03 17 50.3	+2.8
LKR	Lokris	49.42	349	P		P	03 17 47.2	-0.5
LKR	Lokris	49.42	349	*e*P		P	03 17 46.9	-0.8
LKR	Lokris	49.42	349	P		P	03 17 47.2	-0.5
EFP	Efpalio	49.43	348	P		P	03 17 48.4	+0.6
BR131	Keskin Array S	49.45	360	*e*P		P	03 17 47.2	-0.9
	comp=Z,28nm,0.9s							
BRTR	Keskin Array B	49.45	360	P		P	03 17 46.5	-1.7
BRTR				PcP		PcP	03 19 09.1	-1.2
BRTR				S		S	03 24 54.4	-1.2
BRTR	Keskin Array B	49.45	360	P		P	03 17 46.5	-1.7
	comp=Z,26nm,0.8s,baz=176,slow=6.9,SNR=84							
BRTR				PcP		PcP	03 19 09.1	-1.2
	comp=Z,5.3nm,1.0s,baz=163,slow=4.7,SNR=3.5							
BRTR				S		S	03 24 54.4	-1.2
	comp=Z,1.4nm,0.9s,baz=188,slow=11,SNR=2.0							
PRK	Paraskevi	49.48	352	P		P	03 17 49.0	+0.9
PRK	Paraskevi	49.48	352	P		P	03 17 49.0	+0.9
PRK	Paraskevi	49.48	352	*e*P		P	03 17 49.2	+1.1
PRK	Paraskevi	49.48	352	P		P	03 17 49.0	+0.9
VLS	Valsamata	49.48	346	P		P	03 17 48.2	0.0
VLS	Valsamata	49.48	346	P		P	03 17 48.2	0.0
VLS	Valsamata	49.48	346	*e*P		P	03 17 49.0	+0.8
VLS	Valsamata	49.48	346	P		P	03 17 48.2	0.0
AYVA	Ayvalik	49.48	353	*i* P		P	03 17 47.7	-0.5
SIGR	SIGRI	49.50	352	P		P	03 17 48.7	+0.4
SIGR	SIGRI	49.50	352	*e*P		P	03 17 49.3	+1.0
SIGR	SIGRI	49.50	352	P		P	03 17 48.7	+0.4
TRIS	Tristan da Cun	49.51	229	*e*P		P	03 17 47.8	-0.8
	comp=Z,243nm,0.3s							
TRIS				LR		LR		
	comp=Z,18µm,22.0s							
PAF	Port-aux-Franc	49.55	149	PFAKE			03 18 00.0	+11
PAF				LR		LR		
	comp=Z,4µm,19.0s							
DURS	Dursunbey	49.58	355	*i* P		P	03 17 48.7	-0.4
EKAR	Karacoban	49.58	8	*i* P		P	03 17 51.9	+2.6
AXAR	Agios Charalam	49.60	349	P		P	03 17 48.8	-0.3
AXAR	Agios Charalam	49.60	349	P		P	03 17 48.8	-0.3
ANTO	Ankara	49.61	359	*e*P		P	03 17 45.2	-4.0
ANTO	Ankara	49.61	359	P		P	03 17 51.0	+1.7
	SNR=12							
ANTO	Ankara	49.61	359	*e*P		P	03 17 50.0	+0.8
ANTO				pmax		pmax		
	comp=Z,50nm,1.2s							
ANTO				MLR		MLR		
	comp=Z,4µm,20.0s							
ANTO	Ankara	49.61	359	⇓*i* P		P	03 17 50.5	+1.3
ANTO	Ankara	49.61	359	*e*P		P	03 17 50.0	+0.8
	comp=Z,50nm,1.2s							
ANTO				LR		LR		
	comp=Z,4µm,20.0s							
IKIA	Kiasar	49.61	21	*e*P		P	03 17 49.3	-0.2
LOD	Lodumlu	49.63	359	*e*P		P	03 17 49.5	+0.2
BALB	Balikesir	49.68	354	*e*P		P	03 17 50.9	+1.3
SCER	sogukcermik	49.69	3	*i* P		P	03 17 50.4	+0.5
IMRD	Marand	49.70	12	*e*P		P	03 17 52.3	+2.2
BORA	Eskisehir	49.71	357	*i* P		P	03 17 49.8	-0.3
SVSK	Karacayir	49.73	3	*e*P		P	03 17 52.1	+2.0
EUZM	Uzumlu	49.74	6	*i* P		P	03 17 50.8	+0.5
PALK	Pallekele	49.74	72	*e*P		P	03 17 51.6	+0.9
	comp=Z,135nm,1.1s							
PDO	Prodromos	49.75	347	P		P	03 17 50.4	+0.2
PDO	Prodromos	49.75	347	*e*P		P	03 17 51.0	+0.8
AOS	Alonnisos	49.77	350	P		P	03 17 50.2	-0.2
AOS	Alonnisos	49.77	350	*e*P		P	03 17 49.7	-0.7
AOS	Alonnisos	49.77	350	P		P	03 17 50.2	-0.2
BALY	Balya	49.80	352	*i* P		P	03 17 51.8	+0.1
SKIA	Skiathos	49.84	349	P		P	03 17 50.8	-0.1
SKIA	Skiathos	49.84	349	*e*P		P	03 17 50.1	-0.8
TUTA	Tutak	49.84	9	*i* P		P	03 17 50.8	-0.4
CORM	Corum	49.91	1	*e*P		P	03 17 52.4	+0.8
AGG	Agios Georgios	49.91	348	P		P	03 17 51.3	-0.2
AGG	Agios Georgios	49.91	348	P		P	03 17 51.3	-0.2
AGG	Agios Georgios	49.91	348	*e*P		P	03 17 49.6	-1.9
AGG	Agios Georgios	49.91	348	P		P	03 17 51.3	-0.2
EVR	Evrytania	49.92	348	P		P	03 17 52.0	+0.3
EVR	Evrytania	49.92	348	*e*P		P	03 17 52.5	+0.8
EVR	Evrytania	49.92	348	P		P	03 17 52.0	+0.3
IGLO	Ghaloghah	49.93	21	*e*P		P	03 17 53.0	+1.1
MAKR	Makrakomi, Fth	49.94	348	P		P	03 17 51.8	0.0
MAKR	Makrakomi, Fth	49.94	348	*e*P		P	03 17 51.3	-0.5
MAKR	Makrakomi, Fth	49.94	348	P		P	03 17 51.8	0.0
NEO	Neokhori	50.02	349	P		P	03 17 51.9	-0.4
NEO	Neokhori	50.02	349	*e*P		P	03 17 52.3	0.0
NEO	Neokhori	50.02	349	P		P	03 17 51.9	-0.4
ULDT	Uludag	50.06	355	*i* P		P	03 17 52.7	-0.1
CAVI	Cavuskoy	50.07	356	*e*P		P	03 17 52.8	+0.1
XOR	Xorichti	50.08	349	P		P	03 17 52.0	-0.8
XOR	Xorichti	50.08	349	*e*P		P	03 17 52.5	-0.3
XOR	Xorichti	50.08	349	P		P	03 17 52.0	-0.8
GONE	Gonen-Balikesi	50.10	354	*e*P		P	03 17 53.5	+0.6
SUSE	Susehri	50.10	4	*i* P		P	03 17 50.8	-2.3
TOKA	Tokat	50.11	3	*i* P		P	03 17 51.9	-1.2
DYDN	Diyadin	50.12	10	*i* P		P	03 17 57.2	+3.9
KELT	Kelkit	50.13	5	*i* P		P	03 17 44.4	-9.0
ELDT	Eldivan	50.22	360	*i* P		P	03 17 51.9	-2.1
RSDY	Resadiye-TOKAT	50.23	3	*e*P		P	03 17 54.8	+0.9
EATA	Eleskirt	50.24	9	*i* P		P	03 17 56.2	+1.8
KCTX	Karacabey (Bur	50.25	355	*e*P		P	03 17 53.6	-0.5
GULT	Gulveren	50.25	357	*e*P		P	03 17 55.3	+1.1
MDUB	Mudurnu	50.26	357	*e*P		P	03 17 54.5	+0.3
LIA	Limnos Island	50.27	351	P		P	03 17 54.4	+0.3
LIA	Limnos Island	50.27	351	*e*P		P	03 17 52.9	-1.2
LIA	Limnos Island	50.27	351	P		P	03 17 54.4	+0.3
ADVT	Abdulvahap	50.30	356	*e*P		P	03 17 55.7	+1.3
MDNY	Mudanya-Bursa	50.30	355	*e*P		P	03 17 53.6	-0.8
CANT	Cankiri	50.33	360	*e*P		P	03 17 55.9	+1.2
HOMI	Horasan	50.34	8	*i* P		P	03 17 57.2	+2.2
CTKT	Corum	50.36	1	*i* P		P	03 17 55.1	0.0
EDC	Edincik	50.38	354	*e*P		P	03 17 56.0	+1.0
ERBA	Erbaa	50.48	3	*i* P		P	03 17 56.2	+0.3
KRBG	Karabiga-Canak	50.48	354	*e*P		P	03 17 56.6	+0.8
THL	Klokotos Trika	50.50	348	P		P	03 17 55.8	-0.1
THL	Klokotos Trika	50.50	348	*e*P		P	03 17 54.8	-1.1
PAIG	Paliouri	50.54	350	P		P	03 17 56.1	-0.1
PAIG	Paliouri	50.54	350	P		P	03 17 56.1	-0.1
PAIG	Paliouri	50.54	350	*e*P		P	03 17 56.4	+0.2
PAIG	Paliouri	50.54	350	P		P	03 17 56.1	-0.1
SMTH	Samothraki Isl	50.78	352	P		P	03 17 58.0	-0.1
SMTH	Samothraki Isl	50.78	352	*e*P		P	03 17 55.5	+0.4
SMTH	Samothraki Isl	50.78	352	P		P	03 17 58.0	-0.1
SART	Tekirdag	50.79	353	*i* P		P	03 17 58.2	0.0
GRSN	GIRESUNGRSN	50.82	4	*i* P		P	03 17 58.3	-0.1
CEL	Celeste	50.83	342	*e*P		P	03 17 58.4	-0.1
	comp=Z,54nm,1.2s							
CEL				*e*PcP		PcP	03 19 17.1	+1.9
CEL				LR		LR		
	comp=Z,3µm,19.0s							
HAVZ	Havza	50.83	2	*i* P		P	03 17 58.3	-0.2
IGT	Igoumenitsa	50.83	347	P		P	03 17 58.6	+0.2
IGT	Igoumenitsa	50.83	347	P		P	03 17 58.6	+0.2
IGT	Igoumenitsa	50.83	347	*e*P		P	03 17 58.7	+0.3
IGT	Igoumenitsa	50.83	347	P		P	03 17 58.6	+0.2
JAN	Janina	50.83	347	P		P	03 17 59.6	+1.1
JAN	Janina	50.83	347	*e*P		P	03 17 59.1	+0.6
JAN	Janina	50.83	347	P		P	03 17 59.6	+1.1
OUR	Ouranopolis	50.88	350	*e*P		P	03 17 56.1	-2.7
GNI	Garni	50.90	11	P		P	03 18 02.1	+3.0
	SNR=8.4							
GNI	Garni	50.90	11	*e*P		P	03 17 58.7	-0.4
	comp=Z,244nm,1.7s							
GNI				LR		LR		
	comp=Z,5µm,19.0s							
DIGO	Kars	50.92	9	*i* P		P	03 18 00.4	+1.0
LIT	Litokhoron	50.92	349	P		P	03 17 58.7	-0.5
LIT	Litokhoron	50.92	349	P		P	03 17 58.7	-0.5
LIT	Litokhoron	50.92	349	*e*P		P	03 17 59.0	-0.2
LIT	Litokhoron	50.92	349	P		P	03 17 58.7	-0.5
ENEZ	Enez	50.96	353	*e*P		P	03 18 00.1	+0.8
MACK	Trabzon	50.97	6	*i* P		P	03 17 55.1	-4.4
ISK	Istanbul-Kandi	50.98	355	*e*P		P	03 18 00.2	+0.7
KEST	Kesra	51.00	334	*e*P		P	03 17 59.2	-0.7
KEST				S		S	03 25 22.6	+5.4
KEST	Kesra	51.00	334	P		P	03 17 59.0	-0.9
	comp=Z,18nm,1.1s,baz=119,slow=7.1,SNR=38							
KEST				S		S	03 25 22.6	+5.4
	comp=Z,1.7nm,1.0s,baz=163,slow=20,SNR=2.8							
KEST				LR		LR	03 41 29.9	
	comp=Z,2µm,19.8s,baz=285,slow=38							
PLG	Polygyros	51.01	350	P		P	03 17 59.4	-0.4
PLG	Polygyros	51.01	350	P		P	03 17 59.4	-0.4
PLG	Polygyros	51.01	350	*e*P		P	03 17 59.7	-0.1
PLG	Polygyros	51.01	350	P		P	03 17 59.4	-0.4
TKR	Tekirdag	51.05	354	*e*P		P	03 18 00.8	+0.8
ELBA	Catalca	51.12	355	*i* P		P	03 17 59.4	-1.2
BGKT	Bogazkoy	51.12	355	*e*P		P	03 18 01.3	+0.8
KEK	Kerkira	51.13	346	P		P	03 18 00.7	0.0
KEK	Kerkira	51.13	346	P		P	03 18 00.7	0.0
ALN	Alexandroupoli	51.13	352	P		P	03 18 00.6	0.0
ALN	Alexandroupoli	51.13	352	P		P	03 18 00.6	0.0
ALN	Alexandroupoli	51.13	352	*e*P		P	03 17 59.1	-1.5
ALN	Alexandroupoli	51.13	352	P		P	03 18 00.6	0.0
DDEM	Demirkent	51.15	8	*i* P		P	03 18 02.6	+1.6
CRLT	Corlu	51.16	354	*e*P		P	03 18 01.9	+1.0
EAK	Akyaka	51.22	10	*i* P		P	03 18 02.6	+1.0
SRN	Sarande	51.24	346	P		P	03 18 01.7	+0.2
SRN	Sarande	51.24	346	P		P	03 18 01.7	+0.2
DBAD	Bademkaya	51.26	8	*i* P		P	03 18 01.5	-0.3
KZN	Kozani	51.26	348	P		P	03 18 01.7	-0.1
KZN	Kozani	51.26	348	P		P	03 18 01.7	-0.1
KZN	Kozani	51.26	348	*e*P		P	03 17 53.7	-8.1
KZN	Kozani	51.26	348	P		P	03 18 01.7	-0.1
HORT	Hortiatis	51.29	350	P		P	03

	comp=Z,4µm,12.0s								
AKET	**Djebel Ketaf**	**53.78**	**330**		P		**P**	**03 18 22.1**	**+1.5**
BUM	**Brajici-Budva**	**53.80**	**346**	⇓	*i*P		**P**	**03 18 20.9**	**+0.4**
PDG	**Podgorica**	**53.84**	**347**		P		**P**	**03 18 21.6**	**+0.9**
PVY	**Plav**	**53.84**	**347**	⇓	*i*P		**P**	**03 18 21.2**	**+0.3**
TTG	**Podgorica**	**53.84**	**347**	⇓	*i*P		**P**	**03 18 21.4**	**+0.7**
TTG	**Podgorica**	**53.84**	**347**		P		**P**	**03 18 21.6**	**+0.9**
TTG	**Podgorica**	**53.84**	**347**		P		**P**	**03 18 21.6**	**+0.9**
BHPL	**Bhopal**	**53.95**	**52**	*e*	P		**P**	**03 18 19.2**	**-2.7**
BHPL						AMB	AMB	03 18 23.9	
	comp=Z,77nm,5.1s								
HCY	**Herceg Novi**	**54.03**	**346**	⇓	*i*P		**P**	**03 18 22.8**	**+0.7**
ADJB	**Djebel Djouab**	**54.09**	**330**		P		**P**	**03 18 24.3**	**+1.5**
KBZ	**Khabaz**	**54.09**	**8**		P		**P**	**03 18 20.7**	**-1.8**
KBZ					S		**S**	**03 26 02.6**	**+3.7**
KBZ					pmax	pmax			
	comp=Z,18nm,1.2s								
KBZ					smax	smax			
	comp=N,3.0nm,1.2s								
KBZ					MLR	MLR			
	comp=Z,6µm,18.4s								
KBZ	**Khabaz**	**54.09**	**8**		P		**P**	**03 18 20.7**	**-1.8**
KBZ					S		**S**	**03 26 02.6**	**+3.7**
KBZ	**Khabaz**	**54.09**	**8**		P		**P**	**03 18 20.7**	**-1.8**
	comp=Z,18nm,1.2s,baz=195,slow=6.1,SNR=7.6								
KBZ					S		**S**	**03 26 02.6**	**+3.7**
	comp=Z,2.8nm,1.1s,baz=264,slow=10,SNR=2.7								
KBZ					LR	LR		03 41 53.8	
	comp=Z,6µm,18.4s,baz=37,slow=37								
MSAB	**Monastry St. A**	**54.09**	**355**	⇑	*i*P		**P**	**03 18 22.6**	**+0.1**
IVA	**Berane**	**54.12**	**347**		*e*P		**P**	**03 18 23.2**	**+0.3**
NGP	**Nagpur**	**54.14**	**55**		*e*P		P	03 18 18.6	-4.8
MAK	**Makhachkala**	**54.15**	**12**		*e*P		**P**	**03 18 23.8**	**+0.8**
MAK					*e*			03 20 27.3	
MAK					*e*PPP		PPP	03 21 36.3	
MAK					*e*S		**S**	**03 26 01.2**	**+1.4**
MAK					*e*			03 28 10.2	
MAK					*e*SS		**SS**	**03 29 40.7**	**-1.2**
MAK					pmax	pmax			
	comp=Z,178nm,0.8s								
MAK					MLR	MLR			
	comp=Z,6µm,14.0s								
VSL	**Villasalto**	**54.21**	**337**		PFAKE			03 18 40.0	+16
VSL					LR	LR			
	comp=Z,2µm,20.0s								
NKME	**Niksic**	**54.23**	**347**		*e*P		**P**	**03 18 24.0**	**+0.4**
NKY	**Niksic**	**54.26**	**347**	⇑	*i*P		**P**	**03 18 25.1**	**+1.2**
KIV	**Kislovodsk**	**54.28**	**8**		P		**P**	**03 18 25.6**	**+1.5**
	comp=Z,193nm,1.3s,SNR=12								
KIV	**Kislovodsk**	**54.28**	**8**		*e*P		**P**	**03 18 24.7**	**+0.7**
KIV					*e*			03 19 29.2	
KIV					*e*			03 20 27.6	
KIV					*e*S		**S**	**03 26 02.4**	**+0.6**
KIV					pmax	pmax			
	comp=Z,37nm,1.1s								
KIV					pmax	pmax			
	comp=Z,280nm,3.7s								
KIV					MLR	MLR			
	comp=Z,5µm,16.0s								
KIV	**Kislovodsk**	**54.28**	**8**		*e*P		**P**	**03 18 24.8**	**+0.7**
	comp=Z,53nm,1.3s								
KIV					LR	LR			
	comp=Z,4µm,21.0s								
TIRR	**Tirgusor**	**54.41**	**355**		*e*P		**P**	**03 18 25.6**	**+0.8**
TIRR					pmax	pmax			
	comp=Z,81nm,1.5s								
TIRR	**Tirgusor**	**54.41**	**355**	⇑	*i*P		**P**	**03 18 27.0**	**+2.2**
TIRR	**Tirgusor**	**54.41**	**355**		*e*P		**P**	**03 18 25.6**	**+0.8**
	comp=Z,81nm,1.5s								
BRY	**Bratogost**	**54.45**	**346**	⇓	*i*P		**P**	**03 18 25.4**	**0.0**
ANN	**Anapa**	**54.62**	**3**		*e*P		**P**	**03 18 26.5**	**+0.1**
ANN					*e**PP		**pP**	**03 18 30.8**	**+1.1**
ANN					*e*			03 20 24.4	
ANN					*e*S		**S**	**03 26 10.6**	**+4.5**
ANN					*e*			03 28 12.6	
ANN					pmax	pmax			
	comp=Z,44nm,1.2s								
ANN					MLR	MLR			
	comp=E,2µm,20.0s								
ANN					MLR	MLR			
	comp=Z,4µm,20.0s								
STON	**Ston**	**54.62**	**346**		P		**P**	**03 18 26.5**	**+0.1**
UPM	**Unac-Piva**	**54.65**	**347**		*e*P		**P**	**03 18 27.3**	**+0.4**
PLE	**Pljevlja**	**54.66**	**347**	⇓	*i*P		**P**	**03 18 27.7**	**+0.8**
SIM	**Simferopol'**	**54.67**	**0**		*c i*P		**P**	**03 18 28.1**	**+1.3**
SIM					*e*S		**S**	**03 26 11.0**	**+4.2**
SIM					pmax	pmax			
	comp=Z,53nm,1.1s								
SIM					MLR	MLR			
	comp=Z,2µm,16.0s								
ABA	**Alger-Bouzarea**	**54.79**	**330**		P		**P**	**03 18 29.0**	**+1.2**
SULR		**54.83**	**353**	⇑	*i*P		**P**	**03 18 28.3**	**+0.4**
HUMR	**Humele**	**54.84**	**352**	⇑	*i*P		**P**	**03 18 27.5**	**-0.5**
CFR	**Carcaliu**	**55.14**	**355**	⇑	P		**P**	**03 18 31.0**	**+0.9**
CFR	**Carcaliu**	**55.14**	**355**	⇑	*i*P		**P**	**03 18 31.0**	**+0.9**
ISR	**Istrita**	**55.24**	**354**	⇓	P		**P**	**03 18 32.9**	**+2.0**
ISR	**Istrita**	**55.24**	**354**	⇓	*i*P		**P**	**03 18 32.9**	**+2.0**
DIVS	**Divibare**	**55.27**	**348**		P		**P**	**03 18 32.2**	**+1.0**
KBL	**Kabul**	**55.45**	**35**		*e*P		**P**	**03 18 32.6**	**-0.3**
KBL					pmax	pmax			
	comp=Z,85nm,1.5s								
KBL	**Kabul**	**55.45**	**35**		*e*P		**P**	**03 18 32.6**	**-0.3**
	comp=Z,86nm,1.5s								
MLR	**Muntele Rosu**	**55.67**	**353**	⇑	*i*P		**P**	**03 18 34.1**	**0.0**
ARR	**Arges**	**55.71**	**352**	⇑	*i*P		**P**	**03 18 33.7**	**-0.6**
VOIR		**55.73**	**353**	⇑	P		**P**	**03 18 32.9**	**-1.6**
VOIR		**55.73**	**353**	⇑	*i*P		**P**	**03 18 32.9**	**-1.6**
PETR	**Petresti**	**55.77**	**354**	⇑	*i*P		**P**	**03 18 35.3**	**+0.7**
PLOR	**Plostina**	**55.95**	**354**	⇑	P		**P**	**03 18 34.8**	**-1.2**
PLOR	**Plostina**	**55.95**	**354**	⇑	*i*P		**P**	**03 18 34.8**	**-1.2**
VRI	**Vrincioaia**	**55.96**	**354**	⇑	P		**P**	**03 18 37.3**	**+1.3**
VRI	**Vrincioaia**	**55.96**	**354**	⇑	*i*P		**P**	**03 18 37.3**	**+1.3**
GZR	**Gura Zlata**	**56.01**	**351**	⇑	P		**P**	**03 18 35.3**	**-1.2**
GZR	**Gura Zlata**	**56.01**	**351**	⇑	*i*P		**P**	**03 18 35.3**	**-1.2**
GHRR		**56.08**	**355**	⇑	*i*P		**P**	**03 18 38.5**	**+1.6**
VIS	**Vishakhapatnam**	**56.11**	**61**		*e*P		**P**	**03 18 35.8**	**-1.9**
LEOM	**Leova**	**56.42**	**355**	⇑	P		**P**	**03 18 40.1**	**+0.8**
LEOM	**Leova**	**56.42**	**355**	⇑	*i*P		**P**	**03 18 40.1**	**+0.8**
BZS	**Buzias**	**56.42**	**350**	⇑	*i*P		**P**	**03 18 39.3**	**0.0**
TESR	**Tescani**	**56.60**	**354**	⇑	*i*P		P	03 18 36.0	-4.6
UDBI	**Udbina**	**56.67**	**345**		P		**P**	**03 18 41.5**	**+0.3**
NDI	**New Delhi**	**56.86**	**46**		*e*P		**P**	**03 18 41.0**	**-1.8**
NDI					*ex*		x	03 26 34.0	
NDI					*e*SS		**SS**	**03 30 24.0**	**-1.2**
KIS	**Kishinev**	**56.90**	**356**		*e*P		**P**	**03 18 42.5**	**-0.2**
	comp=Z,700nm,3.0s								
KIS	**Kishinev**	**56.90**	**356**		*e*PP		PP	03 20 51.0	+1.6
KIS	**Kishinev**	**56.90**	**356**		*e*PPP		PPP	03 22 14.0	
KIS					*e*S		**S**	**03 26 33.0**	**-3.4**
KIS	**Kishinev**	**56.90**	**356**		*e*PS			03 26 44.0	
KIS					*e*SS		SS	03 30 54.0	+29
KIS					*e*SSS		SSS	03 32 54.0	
KIS					*e*LQ		LQ	03 36 10.0	
KIS					*e*LR		LR	03 38 28.0	
	comp=Z,2µm,18.0s								
KIS	**Kishinev**	**56.90**	**356**		*e*P		**P**	**03 18 42.5**	**-0.2**
KIS					*e*			03 20 51.0	
KIS					*e*S		**S**	**03 26 33.0**	**-3.4**
KIS					*e*PS		**PnS**	**03 26 44.0**	**-3.0**
KIS					pmax	pmax			
	comp=Z,700nm,3.0s								
KIS					pmax	pmax			
	comp=Z,1µm,7.5s								
KIS					pmax	pmax			
	comp=Z,1µm,8.0s								
KIS					MLR	MLR			
	comp=Z,2µm,17.0s								
KIS					MLR	MLR			
	comp=N,2µm,14.0s								
KIS					MLR	MLR			
	comp=E,1µm,18.0s								
KIS					MLR	MLR			
	comp=Z,2µm,18.0s								
NVLJ	**Novalja**	**56.94**	**344**		P		**P**	**03 18 42.7**	**-0.2**
PGF	**Pioggiola**	**57.00**	**338**		*e*P		**P**	**03 18 42.6**	**-1.0**
	comp=Z,120nm,1.4s								
PGF	**Pioggiola**	**57.00**	**338**		*e*P		**P**	**03 18 42.6**	**-1.0**
PGF					pmax	pmax			
	comp=Z,120nm,1.4s								
PGF	**Pioggiola**	**57.00**	**338**		*e*P		**P**	**03 18 42.6**	**-1.0**
	comp=Z,120nm,1.4s								
SIRR	**Siria**	**57.05**	**350**	⇑	*i*P		P	03 18 39.9	-3.9
DRGR		**57.38**	**351**	⇑	P		**P**	**03 18 45.8**	**-0.4**
DRGR		**57.38**	**351**	⇑	*i*P		**P**	**03 18 45.8**	**-0.4**
SISC	**Sisak**	**57.39**	**345**		P		**P**	**03 18 46.1**	**-0.1**
PKSM	**Moragy**	**57.57**	**348**	⇑	P		**P**	**03 18 46.6**	**-0.9**
PKSM	**Moragy**	**57.57**	**348**	⇑	*i*P		**P**	**03 18 46.5**	**-0.9**
PKSM	**Moragy**	**57.57**	**348**	⇓	*e*P		**P**	**03 18 48.1**	**+0.7**
BOJS	**Bojanci**	**57.71**	**345**		*i*P		**P**	**03 18 48.4**	**0.0**
BOJS					*e*S		**S**	**03 26 50.2**	**+3.1**
BOJS	**Bojanci**	**57.71**	**345**		*i*P		**P**	**03 18 48.4**	**0.0**
BOJS					*e*S		**S**	**03 26 50.2**	**+3.1**
PKS2	**Kecel**	**57.72**	**348**	⇓	*e*P		**P**	**03 18 47.4**	**-1.1**
PKS6	**Bocsa**	**57.75**	**348**	⇓	*e*P		**P**	**03 18 48.6**	**-0.1**
BURAR	**Bucovina Array**	**57.85**	**353**	⇑	P		**P**	**03 18 49.8**	**+0.3**
BURAR	**Bucovina Array**	**57.85**	**353**	⇑	*i*P		**P**	**03 18 49.8**	**+0.3**
BUR08	**Bucovina Ar. S**	**57.88**	**353**		*e*P		**P**	**03 18 49.5**	**-0.3**
VLC	**Villacollemand**	**57.93**	**340**		PFAKE			03 19 00.0	+10
VLC					LR	LR			
	comp=Z,3µm,21.0s								
PKSN	**Nyarlorinc**	**57.98**	**349**	⇑	*e*P		**P**	**03 18 52.0**	**+1.7**
PKS9	**Tamasi**	**58.01**	**347**	⇑	*e*P		**P**	**03 18 51.8**	**+1.3**
VISS	**Visnje**	**58.09**	**344**		*i*P		**P**	**03 18 51.0**	**-0.2**
VISS	**Visnje**	**58.09**	**344**		*i*P		**P**	**03 18 51.0**	**-0.2**
SMLA	**Simla**	**58.28**	**44**		*e*P		**P**	**03 18 50.8**	**-2.0**
RTC	**Rabat Centre**	**58.34**	**320**		PFAKE			03 19 10.0	+17
RTC					LR	LR			
	comp=Z,10µm,19.0s								
JAVS	**Javornik**	**58.38**	**344**		*i*P		**P**	**03 18 53.8**	**+0.5**
JAVS					*e*S		S	03 27 06.2	+10
JAVS	**Javornik**	**58.38**	**344**		*i*P		**P**	**03 18 53.8**	**+0.5**
JAVS					*e*S		S	03 27 06.2	+10
DHRM	**DHARAMSHALA**	**58.39**	**42**		*e*P		**P**	**03 18 52.8**	**-1.0**
DDI	**Dehra Dun**	**58.42**	**45**		*e*P		**P**	**03 18 53.1**	**-0.7**
DDI					AMB		AMB	03 18 55.1	
	comp=Z,91nm,5.9s								
VOY	**Vojsko**	**58.56**	**344**		*e*P		**P**	**03 18 52.8**	**-1.7**
VOY					*e*			03 18 55.3	
VOY					*e*			03 19 45.0	
VOY	**Vojsko**	**58.56**	**344**		*e*P		**P**	**03 18 52.8**	**-1.7**
LMR	**La Mourre**	**58.61**	**337**		*e*P		**P**	**03 18 54.1**	**-0.7**
	comp=Z,245nm,1.8s								
LMR	**La Mourre**	**58.61**	**337**		*e*P		**P**	**03 18 54.1**	**-0.7**
LMR					pmax	pmax			
	comp=Z,245nm,1.8s								
LMR	**La Mourre**	**58.61**	**337**		*e*P		**P**	**03 18 54.1**	**-0.7**
	comp=Z,245nm,1.8s								
REVF	**Revere**	**58.63**	**338**		*e*P		**P**	**03 18 55.8**	**+0.8**
PKST	**T˜˜s**	**58.70**	**347**	⇓	*e*P		**P**	**03 18 56.2**	**+0.8**
BUD	**Budapest**	**58.71**	**348**	⇓	*e*P		**P**	**03 18 56.1**	**+0.7**
SBF	**Sospel**	**58.71**	**338**		*e*P		**P**	**03 18 54.8**	**-0.8**
	comp=Z,212nm,1.2s								
SBF	**Sospel**	**58.71**	**338**		*e*P		**P**	**03 18 54.8**	**-0.8**
SBF					pmax	pmax			
	comp=Z,212nm,1.2s								
SBF	**Sospel**	**58.71**	**338**		*e*P		**P**	**03 18 54.8**	**-0.8**
	comp=Z,212nm,1.2s								
TRPA	**Tarpa**	**58.72**	**351**	⇑	*i*P		**P**	**03 18 55.7**	**+0.3**
TRPA	**Tarpa**	**58.72**	**351**	⇓	*e*P		**P**	**03 18 56.2**	**+0.8**
CSKK	**Cs˙‡kako**	**58.75**	**348**	⇑	*e*P		**P**	**03 18 56.7**	**+1.0**
PKSG		**58.75**	**348**	⇑	*e*P		**P**	**03 18 56.6**	**+0.9**
FRF	**La Foret Royal**	**58.75**	**337**		*e*P		**P**	**03 18 55.1**	**-0.7**
	comp=Z,381nm,1.9s								
FRF	**La Foret Royal**	**58.75**	**337**		*e*P		**P**	**03 18 55.1**	**-0.7**
FRF					pmax	pmax			
	comp=Z,381nm,1.9s								
FRF	**La Foret Royal**	**58.75**	**337**		*e*P		**P**	**03 18 55.1**	**-0.7**
	comp=Z,381nm,1.9s								
LUCF	**Luceram**	**58.77**	**338**		*e*P		**P**	**03 18 56.5**	**+0.5**
PERS	**Pernice**	**58.79**	**345**		*i*P		**P**	**03 18 56.9**	**+0.8**
PERS					*e*S		S	03 27 07.8	+6.4
PERS	**Pernice**	**58.79**	**345**		*i*P		**P**	**03 18 56.9**	**+0.8**
PERS					*e*S		S	03 27 07.8	+6.4
CALN	**Calern**	**58.82**	**337**		*e*P		**P**	**03 18 57.5**	**+1.1**
OBKA	**Obir**	**58.82**	**345**	⇑	*e*P		**P**	**03 18 56.8**	**+0.5**
	comp=Z,101nm,1.6s,SNR=18								
AUTN	**L'Aution**	**58.83**	**338**		*e*P		**P**	**03 18 57.3**	**+0.7**
MVIF	**Mont Vial**	**58.84**	**338**		*e*P		**P**	**03 18 57.5**	**+0.9**
SOKA	**Soboth**	**58.85**	**345**	⇑	*i*P		**P**	**03 18 56.2**	**-0.3**
	comp=Z,118nm,1.5s,SNR=43								
TOUF	**Mont Tournerai**	**58.91**	**338**		*e*P		**P**	**03 18 57.9**	**+0.8**
PSZ	**Piszkesteto**	**58.96**	**349**		*e*P		**P**	**03 18 56.0**	**-1.2**
PSZ					pmax	pmax			
	comp=Z,206nm,1.3s								
PSZ					MLR	MLR			
	comp=Z,2µm,21.0s								
PSZ	**Piszkesteto**	**58.96**	**349**	⇑	*i*P		**P**	**03 18 56.1**	**-1.2**
PSZ	**Piszkesteto**	**58.96**	**349**		*e*P		**P**	**03 18 56.0**	**-1.2**
	comp=Z,206nm,1.3s								
PSZ					LR	LR			
	comp=Z,2µm,21.0s								
PSZ	**Piszkesteto**	**58.96**	**349**	⇓	*e*P		**P**	**03 18 57.6**	**+0.4**
SYO	**Syowa Base**	**59.08**	**178**	⇓	*e*P		**P**	**03 18 56.7**	**-1.0**
SYO	**Syowa Base**	**59.08**	**178**	⇑	*i*pP		**P**	**03 18 58.0**	**+0.3**
MYKA	**Terra Mystica**	**59.18**	**344**	⇑	*i*P		**P**	**03 18 59.3**	**+0.5**
	comp=Z,67nm,1.4s,SNR=19								
UZH	**Uzhgorod**	**59.24**	**351**	⇑	*i*P		**P**	**03 18 59.5**	**+0.4**
UZH					*e*			03 19 43.9	
UZH					*e*			03 21 11.1	
UZH					*e*PPP		PPP	03 22 30.7	
UZH					*e*S		**S**	**03 27 06.0**	**-0.9**
UZH					*e*PS		**PnS**	**03 27 19.7**	**+0.6**
UZH					*e*SS		**SS**	**03 31 00.0**	**-1.8**
UZH					MLR	MLR			
	comp=N,2µm,15.0s								
UZH					MLR	MLR			
	comp=E,2µm,15.0s								
UZH					MLR	MLR			
	comp=Z,1µm,15.0s								
ARSA	**Arzberg**	**59.27**	**346**	⇑	*i*P		**P**	**03 18 58.8**	**-0.5**
	comp=Z,82nm,1.4s,SNR=35								
KECS	**Kecovo**	**59.39**	**350**		*e*P		**P**	**03 19 00.3**	**+0.2**
KECS					pmax	pmax			
	comp=Z,46nm,1.6s								
KECS	**Kecovo**	**59.39**	**350**		*e*P		**P**	**03 19 00.3**	**+0.2**
SOP	**Sopron**	**59.43**	**347**	⇓	*e*P		**P**	**03 19 00.8**	**+0.4**
SMRF	**Simiane la Rot**	**59.51**	**337**		*e*P		**P**	**03 19 01.2**	**+0.1**
	comp=Z,105nm,1.4s								
SMRF	**Simiane la Rot**	**59.51**	**337**		*e*P		**P**	**03 19 01.2**	**+0.1**
	comp=Z,105nm,1.4s								
KOLS	**Kolonicke sedl**	**59.54**	**351**		*e*P		**P**	**03 19 01.7**	**+0.5**
KOLS					pmax	pmax			
	comp=Z,118nm,1.7s								
KOLS	**Kolonicke sedl**	**59.54**	**351**		*e*P		**P**	**03 19 01.7**	**+0.5**
FILF	**Fillols**	**59.60**	**334**		*e*P		**P**	**03 19 03.0**	**+1.2**
ABTA	**Abfaltersbach**	**59.60**	**343**	⇑	*i*P		**P**	**03 19 02.9**	**+1.2**
	comp=Z,55nm,1.4s,SNR=15								
CRVS	**Cervenica-Dubn**	**59.63**	**351**		*e*P		**P**	**03 19 02.3**	**+0.5**
CRVS					pmax	pmax			
	comp=Z,198nm,1.6s								
CRVS	**Cervenica-Dubn**	**59.63**	**351**		*e*P		**P**	**03 19 02.3**	**+0.5**
KBA	**Koelnbreinsper**	**59.67**	**344**	⇓	*i*P		**P**	**03 19 02.8**	**+0.5**
	comp=Z,82nm,1.8s,SNR=16								
MBDF	**Montbardon**	**59.70**	**338**		*e*P		**P**	**03 19 02.5**	**0.0**
	comp=Z,199nm,1.5s								
MBDF	**Montbardon**	**59.70**	**338**		*e*P		**P**	**03 19 02.5**	**0.0**
MBDF					pmax	pmax			
	comp=Z,199nm,1.5s								
MBDF	**Montbardon**	**59.70**	**338**		*e*P		**P**	**03 19 02.5**	**0.0**
	comp=Z,199nm,1.5s								
VALF	**Valcebollere**	**59.71**	**333**		*e*P		**P**	**03 19 04.1**	**+1.4**
CONA	**Conrad Observa**	**59.82**	**346**	⇓	*i*P		**P**	**03 19 02.8**	**-0.4**
	comp=Z,131nm,1.4s,SNR=42								
CARF	**Carcanieres**	**59.92**	**333**		*e*P		**P**	**03 19 05.2**	**+1.1**
BNI	**Bardonecchia**	**60.01**	**338**		*e*P		**P**	**03 19 05.2**	**+0.5**
BNI					pmax	pmax			
	comp=Z,158nm,1.6s								
BNI					MLR	MLR			
	comp=Z,3µm,21.0s								
BNI	**Bardonecchia**	**60.01**	**338**		*e*P		**P**	**03 19 05.2**	**+0.5**
	comp=Z,158nm,1.6s								
BNI					LR	LR			
	comp=Z,3µm,21.0s								
MOA	**Molln**	**60.14**	**345**	⇑	*i*P		**P**	**03 19 05.7**	**+0.4**
	comp=Z,160nm,1.5s,SNR=45								
KWP	**Kalwaria Pacla**	**60.16**	**352**		*e*P		**P**	**03 19 06.1**	**+0.7**
KWP					*e*S		**S**	**03 27 22.6**	**+3.8**
KWP					MLR	MLR			
	comp=Z,3µm,17.6s								
KWP	**Kalwaria Pacla**	**60.16**	**352**		*e*P		**P**	**03 19 06.0**	**+0.7**
KWP					*e*S		**S**	**03 27 22.6**	**+3.8**
KWP					LMZ		LR	03 50 12.5	
KWP	**Kalwaria Pacla**	**60.16**	**352**	⇑	*i*P		**P**	**03 19 04.5**	**-0.9**
KWP	**Kalwaria Pacla**	**60.16**	**352**		*e*P		**P**	**03 19 04.5**	**-0.9**
	comp=Z,361nm,1.5s								
KWP					LR	LR			
	comp=Z,3µm,21.0s								
FUORN	**Ofenpass-Fuorn**	**60.16**	**341**		*e*P		**P**	**03 19 07.1**	**+1.3**
	comp=Z,215nm,1.9s								
LVV	**L'vov**	**60.16**	**353**		*e*P		**P**	**03 19 05.0**	**-0.4**
LVV					*e*S		**S**	**03 27 23.0**	**+4.2**
STHS	**Stebnicka Huta**	**60.17**	**351**		*e*P		**P**	**03 19 06.1**	**+0.6**
ORIF	**Oris-en-Rattie**	**60.19**	**337**		*e*P		**P**	**03 19 05.5**	**-0.3**
	comp=Z,224nm,1.8s								
ORIF					*e*R				
	comp=Z,7µm,18.5s								
ORIF	**Oris-en-Rattie**	**60.19**	**337**		*e*P		**P**	**03 19 05.5**	**-0.3**
ORIF					pmax	pmax			
	comp=Z,224nm,1.8s								
ORIF	**Oris-en-Rattie**	**60.19**	**337**		*e*P		**P**	**03 19 05.5**	**-0.3**
	comp=Z,224nm,1.8s								
LASF	**Ste Croix**	**60.28**	**336**		*e*P		**P**	**03 19 06.4**	**0.0**
	comp=Z,464nm,1.7s								
LASF	**Ste Croix**	**60.28**	**336**		*e*P		**P**	**03 19 06.4**	**0.0**
	comp=Z,464nm,1.7s								
TUE	**Stuetta**	**60.32**	**341**		*e*P		**P**	**03 19 07.3**	**+0.5**
	comp=Z,164nm,1.4s								
TUE					LR	LR			
	comp=Z,3µm,20.0s								
WTTA	**Wattenberg**	**60.32**	**343**	⇓	*i*P		**P**	**03 19 07.2**	**+0.4**
	comp=Z,117nm,1.4s,SNR=27								
NIE	**Niedzica**	**60.33**	**350**	⇓	*i*P		**P**	**03 19 06.6**	**0.0**
NIE					*e**PP		**pP**	**03 19 09.7**	**-0.3**
NIE	**Niedzica**	**60.33**	**350**		*i*P		**P**	**03 19 06.6**	**0.0**
NIE					*e*pP		**pP**	**03 19 09.7**	**-0.3**
NIE					L		L	03 53 22.0	
	comp=Z,2µm,18.7s								
LPG	**La Plagne**	**60.36**	**338**		*e*P		**P**	**03 19 06.1**	**-1.1**
	comp=Z,92nm,1.1s								
LPG	**La Plagne**	**60.36**	**338**		*e*P		**P**	**03 19 06.1**	**-1.1**
LPG					pmax	pmax			
	comp=Z,92nm,1.1s								
LPG	**La Plagne**	**60.36**	**338**		*e*P		**P**	**03 19 06.1**	**-1.1**
	comp=Z,92nm,1.1s								
FETA	**Feichten**	**60.37**	**342**	⇓	*i*P		**P**	**03 19 07.5**	**+0.4**
	comp=Z,88nm,1.3s,SNR=22								
MTLF	**Montolieu**	**60.38**	**334**		*e*P		**P**	**03 19 06.6**	**-0.4**
	comp=Z,221nm,1.8s								
MTLF	**Montolieu**	**60.38**	**334**		*e*P		**P**	**03 19 06.6**	**-0.4**
MTLF					pmax	pmax			
	comp=Z,221nm,1.8s								
MTLF	**Montolieu**	**60.38**	**334**		*e*P		**P**	**03 19 06.6**	**-0.4**
	comp=Z,221nm,1.8s								
LPL	**La Plagne**	**60.39**	**338**		*e*P		**P**	**03 19 06.2**	**-1.1**
	comp=Z,241nm,1.5s								
LPL	**La Plagne**	**60.39**	**338**		*e*P		**P**	**03 19 06.2**	**-1.1**
LPL					pmax	pmax			
	comp=Z,241nm,1.5s								
LPL	**La Plagne**	**60.39**	**338**		*e*P		**P**	**03 19 06.2**	**-1.1**
	comp=Z,241nm,1.5s								
WATA	**Walderalm**	**60.40**	**343**	⇓	*i*P		**P**	**03 19 07.6**	**+0.3**
	comp=Z,87nm,1.4s,SNR=15								
RJOB	**Jochberg**	**60.42**	**344**		*e*P		**P**	**03 19 07.0**	**-0.3**
	comp=Z,57nm,1.5s								
MOTA	**Moosalm**	**60.55**	**342**	⇓	*i*P		**P**	**03 19 06.9**	**-1.4**
	comp=Z,48nm,1.0s,SNR=16								
KIEV	**Kiev**	**60.56**	**357**		*e*P		**P**	**03 19 06.5**	**-1.5**
KIEV					pmax	pmax			
	comp=Z,200nm,1.4s								
KIEV					MLR	MLR			
	comp=Z,2µm,21.0s								
KIEV	**Kiev**	**60.56**	**357**		*e*P		**P**	**03

TREC	**Trest**	**61.19**	**346**	*e*P		**P**	**03 19 12.3**	**-0.1**
TREC				*e*S		**S**	**03 27 32.2**	**+0.2**
TREC				MLR		MLR		
	comp=Z,3µm,14.2s							
TREC	**Trest**	**61.19**	**346**	*e*P		**P**	**03 19 12.3**	**-0.1**
TREC				*e*S		**S**	**03 27 32.2**	**+0.2**
TREC				AMS		AMS	03 54 30.0	
	comp=Z,3µm,14.2s							
OJC	**Ojcow**	**61.19**	**350**	⇓ *i*P		**P**	**03 19 12.2**	**-0.2**
OJC				*e**PP		**pP**	**03 19 15.2**	**-0.6**
OJC				*e*S		**S**	**03 27 34.6**	**+2.7**
OJC				MLR		MLR		
	comp=Z,3µm,19.1s							
OJC	**Ojcow**	**61.19**	**350**	*i* P		**P**	**03 19 12.2**	**-0.2**
OJC				*e*pP		**pP**	**03 19 15.2**	**-0.6**
OJC				*e*S		**S**	**03 27 34.6**	**+2.7**
OJC				L		L	03 48 36.0	
	comp=Z,3µm,19.1s							
MORC	**Moravsky Berou**	**61.19**	**348**	⇑ *i*P		**P**	**03 19 11.3**	**-1.2**
MORC	**Moravsky Berou**	**61.19**	**348**	*e*P		**P**	**03 19 10.5**	**-2.0**
	comp=Z,252nm,1.6s							
GEC2	**GERESS Array S**	**61.20**	**345**	*e*P		**P**	**03 19 11.3**	**-1.3**
GEC2	**GERESS Array S**	**61.20**	**345**	*e*P		**P**	**03 19 12.8**	**+0.2**
	comp=Z,385nm,1.8s							
GEC2	**GERESS Array S**	**61.20**	**345**	*e*P		**P**	**03 19 11.3**	**-1.3**
GERES	**GERESS Array B**	**61.20**	**345**	P		**P**	**03 19 11.3**	**-1.3**
GERES				S		**S**	**03 27 34.1**	**+1.7**
GERES	**GERESS Array B**	**61.20**	**345**	P		**P**	**03 19 11.3**	**-1.3**
	comp=Z,25nm,1.0s,baz=152,slow=6.0,SNR=108							
GERES				S		**S**	**03 27 34.1**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=181,slow=11,SNR=2.3							
GERES				LR		LR	03 48 50.7	
	comp=Z,2µm,18.1s,baz=23,slow=39							
VRHR	**Novokhopersk**	**61.20**	**6**	*e*P		**P**	**03 19 13.2**	**+0.8**
VRHR				pmax		pmax		
	comp=Z,180nm,1.3s							
VRHR				pmax		pmax		
	comp=N,170nm,1.1s							
VRHR				pmax		pmax		
	comp=E,50nm,1.4s							
VRHR				MLR		MLR		
	comp=Z,1µm,12.0s							
VRHR				MLR		MLR		
	comp=N,570nm,11.0s							
VRHR				MLR		MLR		
	comp=E,2µm,15.0s							
PBAR	**Barrancos**	**61.24**	**324**	*e*P		**P**	**03 19 13.3**	**+0.3**
	comp=E,50nm,1.5s							
PBAR	**Barrancos**	**61.24**	**324**	*e*LQ		LQ	03 43 17.4	
PBAR				*e*LR		LR	03 47 39.3	
	comp=E,4µm,16.5s							
FUR	**Furstenfeldbru**	**61.24**	**343**	*e*P		**P**	**03 19 13.1**	**+0.3**
	comp=Z,587nm,2.0s							
ETSF	**Etsaut**	**61.27**	**332**	*e*P		**P**	**03 19 13.2**	**0.0**
	comp=Z,288nm,1.7s							
ETSF	**Etsaut**	**61.27**	**332**	*e*P		**P**	**03 19 13.2**	**0.0**
ETSF				pmax		pmax		
	comp=Z,288nm,1.7s							
ETSF	**Etsaut**	**61.27**	**332**	*e*P		**P**	**03 19 13.2**	**0.0**
	comp=Z,288nm,1.7s							
RAC	**Raciborz**	**61.35**	**349**	*e*P		**P**	**03 19 13.9**	**+0.4**
RAC				MLR		MLR		
	comp=Z,3µm,17.8s							
PCVE	**Castro Verde**	**61.46**	**323**	*e*S		S	03 27 46.9	+11
LBL	**Lubilhac**	**61.48**	**336**	*e*P		**P**	**03 19 15.6**	**+1.0**
DANN	**Dangsing**	**61.48**	**50**	*e*P		**P**	**03 19 12.9**	**-2.3**
	comp=Z,491nm,1.6s							
DANN	**Dangsing**	**61.48**	**50**	*e*P		**P**	**03 19 12.9**	**-2.3**
ATE	**Arette**	**61.49**	**332**	*e*P		**P**	**03 19 15.8**	**+1.2**
KHC	**Kasperske Hory**	**61.50**	**345**	*e*P		**P**	**03 19 12.6**	**-2.0**
KHC				*e*			03 19 14.5	
KHC				*e*			03 19 20.1	
KHC				*e*			03 21 27.4	
KHC				*e*S		**S**	**03 27 37.8**	**+1.8**
KHC				MLR		MLR		
	comp=Z,3µm,16.1s							
KHC	**Kasperske Hory**	**61.50**	**345**	*e*P		**P**	**03 19 12.6**	**-2.0**
KHC				*e*pP		**pP**	**03 19 14.5**	**-3.4**
KHC				*e*sP		**sP**	**03 19 20.1**	**+0.9**
KHC				*e*PP		**PP**	**03 21 27.4**	**-2.8**
KHC				*e*x		x	03 23 13.2	
KHC				*e*S		**S**	**03 27 37.8**	**+1.8**
KHC				AMS		AMS	03 49 40.0	
	comp=Z,3µm,16.1s							
KHC	**Kasperske Hory**	**61.50**	**345**	*e*P		**P**	**03 19 12.7**	**-1.8**
	comp=Z,97nm,1.2s							
CABF	**La Chapelle**	**61.55**	**339**	*e*P		**P**	**03 19 14.5**	**-0.6**
	comp=Z,449nm,1.6s							
CABF	**La Chapelle**	**61.55**	**339**	*e*P		**P**	**03 19 14.5**	**-0.6**
CABF				pmax		pmax		
	comp=Z,449nm,1.6s							
CABF	**La Chapelle**	**61.55**	**339**	*e*P		**P**	**03 19 14.5**	**-0.6**
	comp=Z,449nm,1.6s							
PFVI	**Vila Bisbo**	**61.61**	**322**	*e*P		**P**	**03 19 17.6**	**+2.1**
	comp=Z,166nm,1.7s							
MORF	**Marmelete**	**61.61**	**322**	*e*P		**P**	**03 19 17.2**	**+1.6**
	comp=Z,108nm,1.7s							
PBEJ	**Beja**	**61.62**	**323**	*e*P		**P**	**03 19 16.4**	**+0.8**
	comp=Z,41nm,1.5s							
KRLC	**Kraliky**	**61.63**	**348**	*e*P		**P**	**03 19 13.2**	**-2.3**
KRLC				*e*			03 19 15.6	
KRLC	**Kraliky**	**61.63**	**348**	*e*P		**P**	**03 19 13.2**	**-2.3**
KRLC				*e*pP		**pP**	**03 19 15.6**	**-3.2**
VOR	**Voronezh**	**61.64**	**4**	⇑ *i*P		**P**	**03 19 15.0**	**-0.4**
VOR				pmax		pmax		
	comp=Z,500nm,2.0s							
WET	**Wettzell**	**61.69**	**345**	*e*P		**P**	**03 19 15.6**	**-0.3**
	comp=Z,151nm,1.8s							
MESJ	**Messejana**	**61.71**	**323**	*e*P		**P**	**03 19 16.1**	**0.0**
MESJ				*e*PP		**PP**	**03 21 32.3**	**+0.1**
MESJ				*e*S		**S**	**03 27 39.8**	**+0.8**
MESJ				AMS		AMS	03 50 03.9	
	comp=Z,5µm,15.7s							
CAF	**Calviac**	**61.72**	**335**	*e*P		**P**	**03 19 16.1**	**-0.1**
	comp=Z,300nm,1.8s							
CAF	**Calviac**	**61.72**	**335**	*e*P		**P**	**03 19 16.1**	**-0.1**
CAF				pmax		pmax		
	comp=Z,300nm,1.8s							
CAF	**Calviac**	**61.72**	**335**	*e*P		**P**	**03 19 16.1**	**-0.1**
	comp=Z,300nm,1.8s							
SJPF	**Ste Jean**	**61.75**	**331**	*e*P		**P**	**03 19 16.5**	**+0.1**
	comp=Z,297nm,1.7s							
SJPF	**Ste Jean**	**61.75**	**331**	*e*P		**P**	**03 19 16.5**	**+0.1**
SJPF				pmax		pmax		
	comp=Z,297nm,1.7s							
SJPF	**Ste Jean**	**61.75**	**331**	*e*P		**P**	**03 19 16.5**	**+0.1**
	comp=Z,297nm,1.7s							
COCO	**West Island**	**61.76**	**99**	*e*P		**P**	**03 19 17.9**	**+0.9**
COCO				pmax		pmax		
	comp=Z,183nm,1.1s							
COCO				MLR		MLR		
	comp=Z,2µm,20.0s							
COCO	**West Island**	**61.76**	**99**	*e*P		**P**	**03 19 17.9**	**+0.9**
	comp=Z,183nm,1.1s							
COCO				LR		LR		
	comp=Z,2µm,20.0s							
PTEO	**Sao Teotonio**	**61.81**	**322**	*e*P		**P**	**03 19 19.0**	**+2.1**
	comp=Z,66nm,1.7s							
FRNF	**Fournols**	**61.89**	**336**	*e*P		**P**	**03 19 18.6**	**+1.3**
LOMF	**Lomont**	**61.93**	**340**	*e*P		**P**	**03 19 17.4**	**-0.2**
GKN	**Gorkha**	**61.98**	**51**	*e*P		**P**	**03 19 16.1**	**-2.3**
	comp=Z,246nm,1.2s							
GKN	**Gorkha**	**61.98**	**51**	*e*P		**P**	**03 19 16.1**	**-2.3**
DPC	**Dobruska-Polom**	**61.99**	**347**	*e*P		**P**	**03 19 17.7**	**-0.2**
DPC				*e*S		**S**	**03 27 46.7**	**+4.5**
DPC	**Dobruska-Polom**	**61.99**	**347**	*e*P		**P**	**03 19 17.7**	**-0.2**
DPC				*e*S		**S**	**03 27 46.7**	**+4.5**
DPC				AMS		AMS	03 51 20.0	
DPC	**Dobruska-Polom**	**61.99**	**347**	*e*P		**P**	**03 19 17.3**	**-0.6**
FELD	**Feldberg im Sc**	**61.99**	**341**	*e*P		**P**	**03 19 18.4**	**+0.3**
PYM	**Petit Puy Mans**	**62.00**	**336**	*e*P		**P**	**03 19 18.4**	**+0.3**
PESTR	**Estremoz**	**62.02**	**324**	*e*P		**P**	**03 19 19.5**	**+1.2**
	comp=Z,166nm,1.5s							
PESTR				*e*S		S	03 27 51.3	+8.3
EVO	**Evora**	**62.04**	**324**	*e*P		**P**	**03 19 18.6**	**+0.2**
	comp=Z,76nm,1.4s							
EVO				*e*R				
	comp=Z,7µm,17.8s							
PRU	**Pruhonice**	**62.05**	**346**	*e*P		**P**	**03 19 17.9**	**-0.3**
PRU				*e*S		S	03 27 53.8	+11
PRU				MLR		MLR		
	comp=Z,3µm,19.4s							
PRU	**Pruhonice**	**62.05**	**346**	*e*P		**P**	**03 19 17.9**	**-0.3**
PRU				*e*x		x	03 27 53.8	
PRU				AMS		AMS	03 51 30.0	
	comp=Z,3µm,19.4s							
PNCL	**Nicolau / Gran**	**62.07**	**323**	*e*P		**P**	**03 19 20.8**	**+2.2**
	comp=Z,79nm,1.4s							
EVOP	**Sao Brissos**	**62.11**	**324**	*e*P		**P**	**03 19 18.6**	**-0.2**
EVOP				pmax		pmax		
	comp=Z,76nm,1.4s							
EVOP	**Sao Brissos**	**62.11**	**324**	*e*P		**P**	**03 19 18.6**	**-0.2**
	comp=Z,76nm,1.4s							
DMN	**Daman**	**62.14**	**52**	*e*P		**P**	**03 19 17.4**	**-2.2**
	comp=Z,158nm,1.3s							
DMN	**Daman**	**62.14**	**52**	*e*P		**P**	**03 19 17.4**	**-2.2**
PRA	**Prague**	**62.16**	**346**	P		**P**	**03 19 18.0**	**-0.9**
CMBY	**CAMPBELL BAY**	**62.20**	**77**	*e*P		**P**	**03 19 17.8**	**-2.1**
CMBY				AMB		AMB	03 19 25.2	
	comp=Z,171nm,0.0s							
AGO	**Saint Agoulin**	**62.20**	**336**	*e*P		**P**	**03 19 19.7**	**+0.3**
UPC	**Upice**	**62.21**	**347**	*e*P		**P**	**03 19 18.6**	**-0.7**
UPC				*e*			03 19 24.4	
UPC	**Upice**	**62.21**	**347**	*e*P		**P**	**03 19 18.6**	**-0.7**
UPC				*e*pP		**pP**	**03 19 24.4**	**+1.8**
VERF	**Verneugheol**	**62.22**	**336**	*e*P		**P**	**03 19 19.1**	**-0.4**
RJF	**Les Rejaudoux**	**62.25**	**335**	*e*P		**P**	**03 19 19.6**	**-0.1**
	comp=Z,304nm,1.9s							
RJF				*e*R				
	comp=Z,4µm,19.0s							
RJF	**Les Rejaudoux**	**62.25**	**335**	*e*P		**P**	**03 19 19.6**	**-0.1**
RJF				pmax		pmax		
	comp=Z,304nm,1.9s							
RJF	**Les Rejaudoux**	**62.25**	**335**	*e*P		**P**	**03 19 19.6**	**-0.1**
	comp=Z,304nm,1.9s							
MOF	**Molkenrain**	**62.26**	**340**	*e*P		**P**	**03 19 19.8**	**0.0**
NVL	**N'lazarevskaya**	**62.28**	**188**	*e*P		**P**	**03 19 19.4**	**-0.1**
NVL				*i* S		**S**	**03 27 47.0**	**+1.8**
NVL				pmax		pmax		
	comp=Z,77nm,0.9s							
NVL				MLR		MLR		
	comp=Z,2µm,15.0s							
BFO	**Black Forest**	**62.28**	**341**	*e*P		**P**	**03 19 20.2**	**+0.3**
BFO				pmax		pmax		
	comp=Z,288nm,1.9s							
BFO				MLR		MLR		
	comp=Z,2µm,19.0s							
BFO	**Black Forest**	**62.28**	**341**	*e*P		**P**	**03 19 20.6**	**+0.7**
	comp=Z,209nm,1.7s							
BFO	**Black Forest**	**62.28**	**341**	*e*P		**P**	**03 19 20.2**	**+0.3**
	comp=Z,288nm,1.9s							
BFO				LR		LR		
	comp=Z,2µm,19.0s							
BFO	**Black Forest**	**62.28**	**341**	P		**P**	**03 19 20.0**	**+0.1**
	comp=Z,253nm,1.9s,SNR=12							
PMRV	**Marv??o**	**62.29**	**325**	*e*P		**P**	**03 19 21.0**	**+0.9**
	comp=Z,91nm,1.6s							
PMRV				*e*S		S	03 27 58.8	+12
PMRV	**Marv??o**	**62.29**	**325**	*e*LR		LR	03 42 55.4	
	comp=Z,4µm,16.0s							
LFF	**La Frestale**	**62.29**	**334**	*e*P		**P**	**03 19 19.9**	**0.0**
	comp=Z,440nm,1.8s							
LFF	**La Frestale**	**62.29**	**334**	*e*P		**P**	**03 19 19.9**	**0.0**
LFF				pmax		pmax		
	comp=Z,440nm,1.8s							
LFF	**La Frestale**	**62.29**	**334**	*e*P		**P**	**03 19 19.9**	**0.0**
	comp=Z,440nm,1.8s							
HINF	**Hinteralfeld**	**62.32**	**340**	*e*P		**P**	**03 19 19.4**	**-0.8**
	comp=Z,238nm,1.6s							
HINF	**Hinteralfeld**	**62.32**	**340**	*e*P		**P**	**03 19 19.4**	**-0.8**
HINF				pmax		pmax		
	comp=Z,238nm,1.6s							
HINF	**Hinteralfeld**	**62.32**	**340**	*e*P		**P**	**03 19 19.4**	**-0.8**
	comp=Z,238nm,1.6s							
PKIN	**Phulchoki**	**62.35**	**52**	*e*P		**P**	**03 19 18.8**	**-2.2**
PKI	**Pulchoki**	**62.36**	**52**	*e*P		**P**	**03 19 18.7**	**-2.4**
	comp=Z,252nm,1.6s							
PKI	**Pulchoki**	**62.36**	**52**	*e*P		**P**	**03 19 18.8**	**-2.4**
PKI	**Pulchoki**	**62.36**	**52**	*e*P		**P**	**03 19 18.8**	**-2.4**
KKN	**Kakani**	**62.36**	**51**	*e*P		**P**	**03 19 19.1**	**-2.0**
	comp=Z,337nm,1.6s							
KKN	**Kakani**	**62.36**	**51**	*e*P		**P**	**03 19 19.1**	**-2.0**
KKN	**Kakani**	**62.36**	**51**	*e*P		**P**	**03 19 19.1**	**-2.0**
PBA	**Port Blair**	**62.38**	**71**	*e*P		**P**	**03 19 21.2**	**+0.1**
STU	**Stuttgart**	**62.40**	**342**	*e*P		**P**	**03 19 22.0**	**+1.4**
STU				pmax		pmax		
	comp=Z,120nm,1.1s							
STU	**Stuttgart**	**62.40**	**342**	*e*P		**P**	**03 19 21.5**	**+0.9**
	comp=Z,177nm,1.3s							
STU	**Stuttgart**	**62.40**	**342**	*e*P		**P**	**03 19 22.0**	**+1.4**
	comp=Z,120nm,1.1s							
SMF	**Signal de Mont**	**62.42**	**337**	*e*P		**P**	**03 19 20.0**	**-0.8**
	comp=Z,210nm,1.4s							
SMF	**Signal de Mont**	**62.42**	**337**	*e*P		**P**	**03 19 20.0**	**-0.8**
SMF				pmax		pmax		
	comp=Z,210nm,1.4s							
SMF	**Signal de Mont**	**62.42**	**337**	*e*P		**P**	**03 19 20.0**	**-0.8**
	comp=Z,210nm,1.4s							
ROTZ	**Rotenmuhle**	**62.44**	**344**	*e*P		**P**	**03 19 21.1**	**+0.3**
	comp=Z,270nm,1.8s							
KSP	**Ksiaz**	**62.46**	**348**	⇓ *e*P		**P**	**03 19 20.8**	**-0.2**
KSP				*e*			03 20 01.7	
KSP				*e*S		**S**	**03 27 52.0**	**+4.0**
KSP				MLR		MLR		
	comp=Z,4µm,19.8s							
KSP	**Ksiaz**	**62.46**	**348**	*e*P		**P**	**03 19 20.9**	**-0.1**
KSP				*e*S		**S**	**03 27 52.1**	**+4.0**
KSP				LMZ		LR	03 49 51.7	
PMTG	**Montargil**	**62.53**	**324**	*e*P		**P**	**03 19 23.3**	**+1.7**
	comp=Z,22nm,2.5s							
PMTG				*e*S		S	03 27 59.3	+10
KK31	**Karatay Array**	**62.53**	**30**	*i* P		**P**	**03 19 19.9**	**-1.7**
KK31				pmax		pmax		
	comp=Z,127nm,1.2s							
KKAR	**Karatay Array**	**62.53**	**30**	*e*P		**P**	**03 19 20.3**	**-1.3**
KKAR	**Karatay Array**	**62.53**	**30**	*e*P		**P**	**03 19 20.3**	**-1.3**
PVCC	**Panska Ves**	**62.55**	**346**	*e*P		**P**	**03 19 20.8**	**-0.8**
PVCC				MLR		MLR		
	comp=Z,3µm,17.1s							
PVCC	**Panska Ves**	**62.55**	**346**	*e*P		**P**	**03 19 20.8**	**-0.8**
PVCC				AMS		AMS	03 52 10.0	
	comp=Z,3µm,17.1s							
ECH	**Echery**	**62.57**	**340**	*e*P		**P**	**03 19 22.0**	**+0.2**
ECH	**Echery**	**62.57**	**340**	*e*P		**P**	**03 19 22.0**	**+0.2**
ECH				pmax		pmax		
	comp=Z,105nm,1.5s							
ECH				MLR		MLR		
	comp=Z,2µm,19.0s							
ECH	**Echery**	**62.57**	**340**	*e*P		**P**	**03 19 22.0**	**+0.2**
	comp=Z,105nm,1.5s							
ECH				LR		LR		
	comp=Z,2µm,19.0s							
BEL	**Belsk**	**62.59**	**351**	*e*P		**P**	**03 19 21.2**	**-0.6**
BEL				MLR		MLR		
	comp=Z,2µm,21.5s							
BEL	**Belsk**	**62.59**	**351**	*e*P		**P**	**03 19 21.2**	**-0.6**
BEL				LMZ		LR	03 49 37.9	
PCBR	**Castelo Branco**	**62.62**	**325**	*e*P		**P**	**03 19 23.1**	**+0.9**
	comp=Z,58nm,1.6s							
GRFO	**Grafenberg**	**62.64**	**344**	*e*P		**P**	**03 19 21.2**	**-1.0**
GRFO				pmax		pmax		
	comp=Z,160nm,1.3s							
GRFO	**Grafenberg**	**62.64**	**344**	*e*P		**P**	**03 19 21.2**	**-1.0**
	comp=Z,160nm,1.3s							
GRF	**Grafenberg Arr**	**62.64**	**344**	*e*P		**P**	**03 19 22.5**	**+0.3**
	comp=Z,391nm,1.8s							
GRF				*e*PP		**PP**	**03 21 38.7**	**-1.5**
GRF				*e*L		L	03 48 12.7	
	comp=Z,2µm,18.7s							
HAU	**Haudompre**	**62.66**	**340**	*e*P		**P**	**03 19 21.7**	**-0.7**
	comp=Z,349nm,1.6s							
HAU				*e*R				
	comp=Z,2µm,17.8s							
HAU	**Haudompre**	**62.66**	**340**	*e*P		**P**	**03 19 21.7**	**-0.7**
HAU				pmax		pmax		
	comp=Z,349nm,1.6s							
HAU	**Haudompre**	**62.66**	**340**	*e*P		**P**	**03 19 21.7**	**-0.7**
	comp=Z,349nm,1.6s							
WLS	**Welschbruch**	**62.67**	**340**	*e*P		**P**	**03 19 22.6**	**+0.1**
CDF	**Champ du Feu**	**62.70**	**340**	*e*P		**P**	**03 19 21.8**	**-0.9**
	comp=Z,314nm,1.5s							
CDF	**Champ du Feu**	**62.70**	**340**	*e*P		**P**	**03 19 21.8**	**-0.9**
CDF				pmax		pmax		
	comp=Z,314nm,1.5s							
CDF	**Champ du Feu**	**62.70**	**340**	*e*P		**P**	**03 19 21.8**	**-0.9**
	comp=Z,314nm,1.5s							
AVF	**Avril sur Loir**	**62.73**	**337**	*e*P		**P**	**03 19 22.2**	**-0.6**
	comp=Z,255nm,1.4s							
AVF	**Avril sur Loir**	**62.73**	**337**	*e*P		**P**	**03 19 22.2**	**-0.6**
AVF				pmax		pmax		
	comp=Z,255nm,1.4s							
AVF	**Avril sur Loir**	**62.73**	**337**	*e*P		**P**	**03 19 22.2**	**-0.6**
	comp=Z,255nm,1.4s							
BGF	**Bois d'Agland**	**62.73**	**336**	*e*P		**P**	**03 19 22.6**	**-0.3**
	comp=Z,118nm,1.4s							
BGF	**Bois d'Agland**	**62.73**	**336**	*e*P		**P**	**03 19 22.6**	**-0.3**
BGF				pmax		pmax		
	comp=Z,118nm,1.4s							
BGF	**Bois d'Agland**	**62.73**	**336**	*e*P		**P**	**03 19 22.6**	**-0.3**
	comp=Z,118nm,1.4s							
TCF	**Toulx Ste Croi**	**62.76**	**336**	*e*P		**P**	**03 19 23.2**	**+0.1**
	comp=Z,383nm,1.5s							
TCF	**Toulx Ste Croi**	**62.76**	**336**	*e*P		**P**	**03 19 23.2**	**+0.1**
TCF				pmax		pmax		
	comp=Z,383nm,1.5s							
TCF	**Toulx Ste Croi**	**62.76**	**336**	*e*P		**P**	**03 19 23.2**	**+0.1**
	comp=Z,383nm,1.5s							
NKC	**Novy Kostel**	**62.80**	**345**	*e*P		**P**	**03 19 23.8**	**+0.5**
NKC				*e*			03 19 31.8	
NKC				MLR		MLR		
	comp=Z,3µm,15.3s							
NKC	**Novy Kostel**	**62.80**	**345**	*e*P		**P**	**03 19 23.8**	**+0.5**
NKC				*ex*		x	03 19 31.8	
NKC				AMS		AMS	03 51 30.0	
	comp=Z,3µm,15.3s							
LIS	**Lisbon**	**62.83**	**323**	*e*P		**P**	**03 19 23.7**	**0.0**
LIS				AMS		AMS	03 48 12.1	
	comp=E,5µm,18.0s							
GUN	**Gumba**	**62.88**	**52**	*e*P		**P**	**03 19 22.6**	**-2.1**
	comp=E,604nm,1.6s							
GUN	**Gumba**	**62.88**	**52**	*e*P		**P**	**03 19 22.6**	**-2.1**
KSH	**Kashi**	**62.89**	**36**	P		**P**	**03 19 21.1**	**-3.1**
KSH				pP		**pP**	**03 19 26.1**	**-1.5**
KSH				sP		**sP**	**03 19 28.1**	**-0.8**
KSH				PP		**PP**	**03 21 41.1**	**-1.7**
KSH				S		S	03 27 43.6	-11
KSH				sS		**sS**	**03 27 55.2**	**-4.5**
KSH				ScS		SKSac	03 29 09.2	-8.1
KSH				pmax		pmax		
	comp=E,450nm,4.1s							
KSH				LR		LR		
	comp=E,3µm,14.4s							
KSH				LR		LR		
	comp=E,1µm,13.0s							
KSH				LR		LR		
	comp=E,6µm,22.4s							
SSF	**Saint Saulge**	**62.89**	**337**	*e*P		**P**	**03 19 23.0**	**-0.9**
	comp=E,84nm,1.4s							
SSF	**Saint Saulge**	**62.89**	**337**	*e*P		**P**	**03 19 23.0**	**-0.9**
SSF				pmax		pmax		
	comp=Z,84nm,1.4s							
SSF	**Saint Saulge**	**62.89**	**337**	*e*P		**P**	**03 19 23.0**	**-0.9**
	comp=Z,84nm,1.4s							
LOR	**Lormes**	**62.93**	**338**	*e*P		**P**	**03 19 23.5**	**-0.7**
	comp=Z,186nm,1.5s,baz=162							
LOR				*e*R				
	comp=Z,6µm,17.5s							
LOR	**Lormes**	**62.93**	**338**	*e*P		**P**	**03 19 23.5**	**-0.7**
	comp=Z,186nm,1.5s							
TANN	**Tannenbergstha**	**62.96**	**345**	*e*P		**P**	**03 19 24.7**	**+0.3**
	comp=Z,240nm,1.9s							
THEF	**They Montfort**	**62.97**	**339**	*e*P		**P**	**03 19 25.4**	**+0.9**
RAMN	**Ramite**	**62.99**	**53**	*e*P		**P**	**03 19 23.4**	**-1.9**
	comp=Z,410nm,2.0s							
RAMN	**Ramite**	**62.99**	**53**	*e*P		**P**	**03 19 23.4**	**-1.9**
PTOM	**Tomar**	**63.00**	**324**	*e*P		**P**	**03 19 26.0**	**+1.2**
	comp=Z,56nm,1.6s							
JIRN	**Jiri**	**63.00**	**52**	*e*P		**P**	**03 19 22.9**	**-2.6**
	comp=Z,75nm,1.1s							
JIRN	**Jiri**	**63.00**	**52**	*e*P		**P**	**03 19 22.9**	**-2.6**
BRG	**Berggiesshubel**	**63.02**	**346**	*i* P		**P**	**03 19 24.3**	**-0.4**
	comp=Z,107nm,1.6s							
BRG				*e*			03 19 51.0	
	comp=Z,26nm,1.5s							
BRG				PP		PP	03 21 36.6	-6.9
	comp=Z,10nm,1.3s							
BRG				S		**S**	**03 27 59.0**	**+4.0**
BRG				SS		**SS**	**03 32 08.0**	**+7.0**
BRG				*e*PKPPKP		P'P'df	03 48 16.0	-6.0
BRG								
	comp=N,3µm,15.4s							
BRG								
	comp=E,2µm,14.6s							
BRG								
	comp=Z,4µm,15.0s							
BRG	**Berggiesshubel**	**63.02**	**346**	*i* P		**P**	**03 19 24.3**	**-0.4**
BRG				S		**S**	**03 27 59.0**	**+4.0**
BRG				pmax		pmax		
	comp=Z,107nm,1.6s							
BRG				pmax		pmax		
	comp=Z,26nm,1.5s							
BRG				pmax		pmax		
	comp=Z,10.0nm,1.3s							
BRG				MLR		MLR		
	comp=N,3µm,15.4s							
BRG				MLR		MLR		
	comp=E,2µm,14.6s							
BRG				MLR		MLR		
	comp=Z,4µm,15.0s							
BRG	**Berggiesshubel**	**63.02**	**346**	*e*P		**P**	**03 19 24.3**	**-0.4**
	comp=Z,115nm,1.7s							
LANF	**Langenberg**	**63.02**	**341**	*e*P		**P**	**03 19 25.5**	**+0.7**
DGPR	**DIGLIPUR**	**63.03**	**70**	*e*P		**P**	**03 19 25.1**	**-0.3**
DGPR				AMB		AMB	03 19 31.0	
	comp=Z,147nm,0.3s							
MTE	**Manteigas**	**63.04**	**326**	*e*P		**P**	**03 19 26.1**	**+1.0**
	comp=Z,97nm,1.7s							
MTE				*e*S		S	03 28 07.6	+12
MTE	**Manteigas**	**63.04**	**326**	*e*LR		LR	03 43 16.6	
	comp=Z,6µm,16.0s							
MTE	**Manteigas**	**63.04**	**326**	PFAKE			03

PVRL **Vila Real** 63.73 326 *e*P P 03 19 30.7 +1.0
comp=Z,74nm,1.6s
AKTO **Aktyubinsk** 63.76 17 S S 03 28 04.9 +0.7
comp=Z,0.9nm,0.8s,baz=12,slow=20,SNR=2.0
POLO **Lamas de Olo** 63.84 326 *e*P P 03 19 31.7 +1.2
comp=Z,32nm,1.5s
POLO *e*S S 03 28 16.4 +11
POLO Lamas de Olo 63.84 326 *e*LQ LQ 03 43 15.6
EKS2 Erkin-Say 63.85 32 *e*P P 03 19 28.9 -1.7
EKS2 pmax pmax
comp=Z,45nm,1.1s
EKS2 MLR MLR
comp=Z,6µm,20.0s
EKS2 Erkin-Say 63.85 32 P P 03 19 30.8 +0.2
SNR=19
EKS2 Erkin-Say 63.85 32 *e*P P 03 19 28.9 -1.7
comp=Z,45nm,1.1s
EKS2 LR LR
comp=Z,6µm,20.0s
UCH Uchtor 63.94 33 *i* P P 03 19 29.7 -1.8
UCH Uchtor 63.94 33 P P 03 19 29.8 -1.8
SNR=31
MFF Saint Martin d 63.99 335 *e*P P 03 19 30.7 -0.5
comp=Z,110nm,1.4s
MFF Saint Martin d 63.99 335 *e*P P 03 19 30.7 -0.5
MFF pmax pmax
comp=Z,110nm,1.4s
MFF Saint Martin d 63.99 335 *e*P P 03 19 30.7 -0.5
comp=Z,110nm,1.4s
UBBA Unterbreizbach 63.99 343 *e*P P 03 19 31.8 +0.8
comp=Z,173nm,1.6s
TAPN Taplejung 64.05 53 *e*P P 03 19 30.5 -1.9
comp=Z,530nm,1.7s
TAPN Taplejung 64.05 53 *e*P P 03 19 30.5 -1.9
PTO Porto 64.13 326 *e*P P 03 19 34.0 +1.8
comp=Z,88nm,1.5s
WLF Walferdange 64.15 340 P P 03 19 32.4 +0.2
comp=Z,68nm,1.9s
WLF Walferdange 64.15 340 *e*P P 03 19 31.4 -0.8
WLF pmax pmax
comp=Z,270nm,1.9s
WLF MLR MLR
comp=Z,2µm,21.0s
WLF Walferdange 64.15 340 *e*P P 03 19 33.0 +0.8
comp=Z,241nm,1.9s
WLF Walferdange 64.15 340 *e*P P 03 19 31.4 -0.8
comp=Z,270nm,1.9s
WLF LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa 64.21 32 P P 03 19 34.2 +1.3
SNR=27
AAK Ala-Archa 64.21 32 *e*P P 03 19 31.2 -1.7
AAK pmax pmax
comp=Z,91nm,1.6s
AAK MLR MLR
comp=Z,6µm,20.0s
AAK Ala-Archa 64.21 32 P P 03 19 33.5 +0.6
SNR=14
AAK Ala-Archa 64.21 32 *e*P P 03 19 31.2 -1.7
comp=Z,91nm,1.6s
AAK LR LR
comp=Z,6µm,20.0s
AAK Ala-Archa 64.21 32 P P 03 19 33.7 +0.8
comp=Z,150nm,1.3s,SNR=16
AAK Ala-Archa 64.21 32 P P 03 19 31.1 -1.9
comp=Z,8.1nm,0.8s,baz=222,slow=5.7,SNR=34
KZA Kyzart 64.22 33 *i* P P 03 19 34.4 +1.0
KZA Kyzart 64.22 33 P P 03 19 34.4 +1.0
SNR=33
SUW Suwalki 64.38 353 *e*P P 03 19 33.6 0.0
SUW *e*S S 03 28 15.7 +3.9
SUW MLR MLR
comp=Z,3µm,18.4s
SUW Suwalki 64.38 353 *e*P P 03 19 33.6 0.0
SUW *e*S S 03 28 15.6 +3.8
SUW LMZ LR 03 52 30.9
SUW Suwalki 64.38 353 *e*P P 03 19 32.5 -1.1
comp=Z,328nm,1.3s
FRU Bishkek 64.41 32⇓ *i*P P 03 19 33.0 -1.1
FRU pmax pmax
comp=Z,200nm,2.0s
MICGM **Minsk** 64.43 356 *e*P P 03 19 32.0 -1.9
MNK Minsk 64.44 356⇑ *e*P P 03 19 32.0 -1.9
MNK *e*S S 03 28 10.0 -2.5
MNK pmax pmax
comp=E,150nm,1.5s
MNK pmax pmax
comp=Z,360nm,1.5s
KBK Karagaybulak 64.46 33 P P 03 19 33.2 -1.5
SNR=43
PGAV Gavieira, Arco 64.50 326 *e*P P 03 19 36.2 +1.4
comp=Z,106nm,1.7s
PGAV *e*S S 03 28 26.0 +12
PGAV Gavieira, Arco 64.50 326 *e*LR LR 03 45 16.9
comp=Z,5µm,16.0s
RUE Ruedersdorf 64.55 347 *e*P P 03 19 35.1 +0.4
comp=Z,120nm,1.3s
GKP Gorka Klasztor 64.57 349 *e*P P 03 19 35.7 +0.9
GKP *e*S S 03 28 19.6 +5.4
GKP MLR MLR
comp=Z,3µm,19.4s
GKP Gorka Klasztor 64.57 349 *e*P P 03 19 35.6 +0.8
GKP *e*S S 03 28 19.6 +5.4
GKP LMZ LR 03 50 52.3
CHMS Chumysh 64.60 32 *i* P P 03 19 35.4 +0.1
CHMS Chumysh 64.60 32 P P 03 19 35.4 +0.1
SNR=11
PMOZ Porto Moniz, M 64.60 314 *e*S S 03 28 35.3 +20
PMOZ Porto Moniz, M 64.60 314 *e*LR LR 03 44 40.6
comp=Z,9µm,18.0s
USP Ospenovka 64.66 32 *i* P P 03 19 36.1 +0.4
USP Ospenovka 64.66 32 P P 03 19 36.2 +0.4
SNR=30
CLZ Clausthal 64.81 344 *e*P P 03 19 37.2 +0.7
comp=Z,148nm,1.6s
ULHL Ulahol 64.88 34 *i* P P 03 19 37.9 +0.5
ULHL Ulahol 64.88 34 P P 03 19 38.0 +0.5
SNR=13
OBN Obninsk 64.89 2 P P 03 19 37.4 +0.5
comp=Z,521nm,1.3s,SNR=7.7
OBN Obninsk 64.89 2 *e*P P 03 19 35.1 -1.8
OBN *e* 03 20 10.6
OBN *e* 03 21 58.1
OBN pmax pmax
comp=Z,211nm,1.7s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 64.89 2 *e*P P 03 19 36.3 -0.6
comp=Z,243nm,1.5s
OBN LR LR
comp=Z,3µm,20.0s
NACGM **Naroch** 64.91 356 *e*P P 03 19 34.0 -3.0
GIVF Givet 64.97 340 *e*P P 03 19 36.8 -0.7
comp=Z,249nm,1.5s
GIVF Givet 64.97 340 *e*P P 03 19 36.8 -0.7
GIVF pmax pmax
comp=Z,249nm,1.5s
GIVF Givet 64.97 340 *e*P P 03 19 36.8 -0.7
comp=Z,249nm,1.5s
TKM2 Tokmak 2 64.99 33 *e*P P 03 19 36.2 -1.9
TKM2 pmax pmax
comp=Z,201nm,1.7s
TKM2 MLR MLR
comp=Z,6µm,20.0s
TKM2 Tokmak 2 64.99 33 P P 03 19 36.2 -1.9
SNR=81
TKM2 Tokmak 2 64.99 33 *e*P P 03 19 36.2 -1.9
comp=Z,202nm,1.7s
TKM2 LR LR
comp=Z,6µm,20.0s
MEM Membach 65.02 341 P P 03 19 37.6 -0.2
comp=Z,41nm,2.2s
MEM Membach 65.02 341 *e*P P 03 19 39.6 +1.8
MEM pmax pmax
comp=Z,101nm,1.4s
MEM Membach 65.02 341 *e*P P 03 19 39.6 +1.8
comp=Z,101nm,1.4s
DOU Dourbes 65.05 340 P P 03 19 38.6 +0.6
BCLA Clavier 65.08 340 P P 03 19 38.4 +0.1
comp=Z,120nm,1.9s
HGN Heimansgroeve 65.17 341 *e*P P 03 19 39.7 +0.9
comp=Z,194nm,1.6s
HGN *e*PP PP 03 22 01.2 -1.2
HGN *e*PPP PPP 03 23 41.4
HGN *e*S S 03 28 21.9 +0.2
HGN *e*SS SS 03 32 27.1 -7.5

BEBN **Eben Emael** 65.28 341 P P 03 19 40.6 +1.1
comp=Z,17nm,1.8s
IDID **Didziasalis** 65.32 356 *e*P P 03 19 39.7 0.0
IDID AMB AMB 03 19 41.7
comp=Z,43nm,1.3s
BUG Bochum--Univer 65.34 342 *e*P P 03 19 40.9 +1.0
comp=Z,288nm,1.6s
IIGN Ignalina 65.40 355 *e*P P 03 19 39.8 -0.4
IIGN AMB AMB 03 19 41.8
comp=Z,44nm,1.4s
NRDL Niedersach Rie 65.47 344 *e*P P 03 19 41.7 +1.1
comp=Z,287nm,1.7s
SNF Seneffe 65.50 340 P P 03 19 42.0 +1.1
MOS Moscow 65.55 2 *e*P P 03 19 39.4 -1.8
MOS *e* 03 20 09.9
MOS *e* 03 22 05.7
MOS *e*S S 03 28 26.4 +0.2
MOS pmax pmax
comp=Z,233nm,1.5s
MOS pmax pmax
comp=Z,800nm,3.0s
MOS pmax pmax
comp=N,700nm,3.5s
LDF La Druitiere 65.56 336 *e*P P 03 19 40.4 -1.0
comp=N,214nm,1.6s
LDF La Druitiere 65.56 336 *e*P P 03 19 40.4 -1.0
LDF pmax pmax
comp=Z,215nm,1.6s
LDF La Druitiere 65.56 336 *e*P P 03 19 40.4 -1.0
comp=Z,214nm,1.6s
SNAA Sanae 65.58 192 *e*P P 03 19 43.1 +1.8
SNAA Sanae 65.58 192 *e*P P 03 19 43.4 +2.0
SNAA Sanae 65.58 192 *e*P P 03 19 42.6 +1.3
comp=Z,141nm,1.4s
ISAL Salakas 65.63 355 *e*P P 03 19 41.4 -0.3
ISAL AMB AMB 03 19 43.7
comp=Z,35nm,1.6s
GRR Gorron 65.70 335 *e*P P 03 19 41.3 -1.0
comp=Z,429nm,1.9s
GRR Gorron 65.70 335 *e*P P 03 19 41.3 -1.0
GRR pmax pmax
comp=Z,429nm,1.9s
GRR Gorron 65.70 335 *e*P P 03 19 41.3 -1.0
comp=Z,429nm,1.9s
UCC Uccle 65.72 340 P P 03 19 43.6 +1.2
FLN La Foliniere 65.84 336 *e*P P 03 19 42.0 -1.2
comp=Z,244nm,1.7s
FLN *e*R
comp=Z,5µm,21.0s
FLN La Foliniere 65.84 336 *e*P P 03 19 42.0 -1.2
FLN pmax pmax
comp=Z,244nm,1.7s
FLN La Foliniere 65.84 336 *e*P P 03 19 42.0 -1.2
comp=Z,244nm,1.7s
WTSB Winterswijk 65.94 342 *e*P P 03 19 45.1 +1.3
comp=Z,390nm,1.7s
AAA Alma-Ata 65.95 33 *e*P P 03 19 40.6 -3.5
AAA *e*S S 03 28 17.8 -14
AAA pmax pmax
comp=Z,1µm,6.9s
IBBN Ibbenburen 65.96 343 *e*P P 03 19 45.1 +1.2
comp=Z,238nm,1.7s
VNA2 Neumayer--Watz 66.03 194 *e*P P 03 19 46.2 +2.1
VNA2 Neumayer--Watz 66.03 194 *e*pP pP 03 19 48.7 +1.2
VNA1 Neumayer--Stat 66.04 194 *e*P P 03 19 47.2 +3.0
VNA1 Neumayer--Stat 66.04 194 *e*pP pP 03 19 50.3 +2.7
PSI Prapat 66.06 82 P P 03 19 46.3 +0.8
comp=Z,58nm,0.8s,comp=Z,1µm
PSI Prapat 66.06 82 P P 03 19 44.9 -0.6
PSI S S 03 28 34.4 +0.2
PSI Prapat 66.06 82 P P 03 19 44.9 -0.6
baz=247,slow=8.2
PSI S S 03 28 34.4 +0.2
comp=Z,1.8nm,0.4s,baz=318,slow=15,SNR=1.9
PSI LR LR 03 46 36.4
comp=Z,9µm,18.3s,baz=266,slow=34
MENF Mencas 66.29 339 *e*P P 03 19 47.1 +1.1
SGMF Saint Gilles 66.30 334 *e*P P 03 19 46.4 +0.2
comp=Z,168nm,1.4s
SGMF Saint Gilles 66.30 334 *e*P P 03 19 46.4 +0.2
SGMF pmax pmax
comp=Z,168nm,1.4s
SGMF Saint Gilles 66.30 334 *e*P P 03 19 46.4 +0.2
comp=Z,168nm,1.4s
QUIF Quistinic 66.31 334 *e*P P 03 19 45.4 -0.8
comp=Z,592nm,1.9s
QUIF Quistinic 66.31 334 *e*P P 03 19 45.4 -0.8
QUIF pmax pmax
comp=Z,592nm,1.9s
QUIF Quistinic 66.31 334 *e*P P 03 19 45.4 -0.8
comp=Z,592nm,1.9s
SHL Shillong 66.63 57 *e*P P 03 19 47.8 -1.2
SHL AMB AMB 03 19 53.0
comp=Z,93nm,1.2s
SHL *e*S S 03 28 42.0 +1.2
ROSF Rostrenen 66.67 334 *e*P P 03 19 47.5 -1.0
comp=Z,240nm,1.6s
ROSF Rostrenen 66.67 334 *e*P P 03 19 47.5 -1.0
ROSF pmax pmax
comp=Z,240nm,1.6s
ROSF Rostrenen 66.67 334 *e*P P 03 19 47.5 -1.0
comp=Z,240nm,1.6s
BSEG Bad Segeberg 66.72 345 *e*P P 03 19 49.0 +0.3
comp=Z,292nm,1.5s
BSD Bornholm Skovb 66.77 348⇓ *i*P P 03 19 48.3 -0.7
BSD pmax pmax
comp=Z,24nm,0.9s
BSD Bornholm Skovb 66.77 348⇓ *i*P P 03 19 48.3 -0.7
comp=Z,24nm,0.9s
SURT Suratani 67.36 76 P P 03 19 56.8 +3.2
comp=Z,28nm,1.4s,comp=Z,553nm
LSA Lhasa 67.81 52 P P 03 19 56.6 -0.1
LSA S S 03 28 53.0 -2.5
LSA pmax pmax
comp=Z,340nm,3.0s
LSA LR LR
comp=Z,2µm,31.0s
LSA LR LR
comp=Z,6µm,31.0s
LSA LR LR
comp=Z,10µm,31.0s
LSA Lhasa 67.81 52 *e*P P 03 19 57.7 +0.9
LSA pmax pmax
comp=Z,150nm,1.5s
LSA MLR MLR
comp=Z,7µm,19.0s
LSA Lhasa 67.81 52 *e*P P 03 19 57.7 +0.9
comp=Z,150nm,1.5s
LSA LR LR
comp=Z,7µm,19.0s
COP Copenhagen 67.82 347⇓ *i*P P 03 19 56.3 +0.7
COP Copenhagen 67.82 347⇓ *i*P P 03 19 56.3 +0.7
WOL Wolverton 68.16 337 *e*P P 03 19 58.6 +0.8
WOL AMS AMS 03 54 53.5
comp=Z,5µm,16.3s
KULM Kulim 68.27 80 P P 03 19 59.4 0.0
KULM Kulim 68.27 80 P P 03 20 00.5 +1.1
comp=Z,40nm,1.6s,comp=Z,1µm
KULM Kulim 68.27 80 *e*P P 03 19 58.6 -0.9
comp=Z,111nm,1.6s
KULM LR LR
comp=Z,12µm,20.0s
VSU Vasula 68.45 356 *e*P P 03 19 59.3 -0.2
VSU pmax pmax
comp=Z,154nm,1.2s
IPM Ipoh 68.46 81 P P 03 20 00.1 -0.5
IPM Ipoh 68.46 81 P P 03 20 00.9 +0.3
comp=Z,118nm,0.8s,comp=Z,2µm
IPM Ipoh 68.46 81 *e*P P 03 19 59.5 -1.2
comp=Z,27nm,0.7s
DYA Yadsworthy 68.55 335 AMS AMS 03 53 14.0
comp=Z,8µm,14.7s
FRIM Kepong 68.79 83 P P 03 20 04.1 +1.5
RCBR Riachuelo 69.08 268 *e*P P 03 20 05.5 +1.0
comp=Z,35nm,1.5s
RCBR LR LR
comp=Z,7µm,19.0s
MHMT Maesarieng 69.18 66 P P 03 20 05.7 +0.8
comp=Z,28nm,0.8s
MONM Monmouth 69.18 337 *e*P P 03 20 04.5 +0.3
ARU Arti 69.28 14 P P 03 20 03.6 -1.2
comp=Z,505nm,1.0s,SNR=16
ARU Arti 69.28 14*c* *i*P P 03 20 03.3 -1.5
ARU 03 20 26.7
ARU 03 22 33.5
ARU PPP PPP 03 24 16.0

ARU S S 03 29 08.6 -2.4
ARU SS SS 03 33 28.8 -9.3
ARU pmax pmax
comp=Z,198nm,1.7s
ARU MLR MLR
comp=Z,4µm,20.0s
ARU Arti 69.28 14 *e*P P 03 20 03.2 -1.6
comp=Z,128nm,1.2s
ARU LR LR
comp=Z,5µm,21.0s
MUD Monsted U'grnd 69.28 346 *i* P P 03 20 05.5 +0.8
MUD pmax pmax
comp=Z,44nm,1.1s
MUD Monsted U'grnd 69.28 346 *i* P P 03 20 05.5 +0.8
comp=Z,44nm,1.0s
MCH1 Michaelchurch 69.38 337 *e*P P 03 20 05.7 +0.2
MCH1 AMB AMB 03 20 06.5
comp=Z,115nm,1.4s
MCH1 AMS AMS 03 52 49.5
comp=Z,5µm,17.2s
STNC Stoke 69.93 338 AMS AMS 03 53 30.2
comp=Z,4µm,15.0s
BRVK Borovoye 70.07 22 P P 03 20 10.0 +0.3
SNR=22
BRVK Borovoye 70.07 22 *e*P P 03 20 09.4 -0.3
BRVK pmax pmax
comp=Z,148nm,1.8s
BRVK MLR MLR
comp=Z,10µm,21.0s
BRVK Borovoye 70.07 22 *e*P P 03 20 09.4 -0.3
comp=Z,148nm,1.8s
BRVK LR LR
comp=Z,10µm,21.0s
BRVK Borovoye 70.07 22 P P 03 20 09.0 -0.7
comp=Z,158nm,0.8s,SNR=15
BVA0 Borovoye Array 70.08 23 P P 03 20 09.1 -0.7
BVAR Borovoye Array 70.08 23 P P 03 20 08.0 -1.8
BVAR S S 03 29 21.4 +0.8
BVAR pmax pmax
comp=Z,15nm,0.6s
BVAR Borovoye Array 70.08 23 P P 03 20 08.0 -1.8
BVAR S S 03 29 21.4 +0.8
BVAR Borovoye Array 70.08 23 P P 03 20 08.0 -1.8
comp=Z,15nm,0.6s,baz=216,slow=6.2,SNR=59
BVAR S S 03 29 21.4 +0.8
comp=Z,0.3nm,0.5s,baz=198,slow=4.2,SNR=2.2
FOEL Foel Wylfa 70.15 337 *e*P P 03 20 10.4 +0.1
FOEL AMS AMS 03 53 25.1
comp=Z,5µm,16.9s
SVE Sverdlovsk 70.16 15⇑ *e*P P 03 20 09.0 -1.2
SVE *e* 03 22 45.4
SVE *e*PPP PPP 03 24 28.5
SVE *e*S S 03 29 23.2 +1.9
SVE *e* 03 30 08.7
SVE pmax pmax
comp=Z,122nm,1.6s
CMAR Chiang Mai Arr 70.18 66 P P 03 20 09.6 -1.5
CMAR S S 03 29 25.3 +2.3
CMAR ⇑*e* 03 48 11.1
CMAR Chiang Mai Arr 70.18 66 P P 03 20 09.6 -1.5
comp=Z,26nm,1.0s,baz=257,slow=6.9,SNR=38
CMAR S S 03 29 25.3 +2.3
comp=Z,1.0nm,0.3s,baz=262,slow=6.3,SNR=2.1
CMAR LR LR 03 48 10.7
comp=Z,5µm,20.2s,baz=263,slow=34
CMAR PKP2bc 03 48 11.1
comp=Z,1.4nm,0.3s,baz=15,slow=3.7,SNR=4.8
KGM Kluang 70.20 84 P P 03 20 12.9 +1.5
CHTO Chiang Mai 70.29 66 P P 03 20 11.0 -0.8
SNR=32
CHTO Chiang Mai 70.29 66 *e*P P 03 20 10.1 -1.7
CHTO pmax pmax
comp=Z,15nm,0.9s
CHTO MLR MLR
comp=Z,5µm,21.0s
CHTO Chiang Mai 70.29 66 P P 03 20 10.5 -1.3
comp=Z,325nm,1.1s,comp=Z,6µm
CHTO Chiang Mai 70.29 66 *e*P P 03 20 10.1 -1.7
comp=Z,15nm,0.9s
CHTO LR LR
comp=Z,5µm,21.0s
CHTO Chiang Mai 70.29 66 P P 03 20 10.5 -1.3
comp=Z,325nm,1.1s,comp=Z,6µm
CMMT Chiang Mai 70.29 66 P P 03 20 10.4 -1.4
comp=Z,71nm,1.0s,comp=Z,1µm
PATY Pattaya 70.35 72 P P 03 20 13.5 +1.3
comp=Z,15nm,0.9s
MYKOM **Kota Tinggi** 70.68 85 P P 03 20 15.1 +0.8
MYKOM **Kota Tinggi** 70.68 85 P P 03 20 16.6 +2.3
comp=Z,54nm,2.0s,comp=Z,1µm
MYKOM **Kota Tinggi** 70.68 85 *e*P P 03 20 15.1 +0.8
comp=Z,297nm,1.9s
YLL Llanberis 70.72 337 *e*P P 03 20 14.6 +1.0
CMAI Chiengmai2 70.73 65 P P 03 20 14.0 -0.7
comp=Z,36nm,2.1s
KLMR Klimovskoe 70.75 3*d* *i*P P 03 20 13.6 -0.1
KLMR pmax pmax
comp=Z,389nm,1.3s
KLMR pmax pmax
comp=Z,466nm,1.6s
LAMP Lampang 70.82 66 P P 03 20 15.4 +0.4
comp=Z,97nm,0.9s,comp=Z,249nm
WLF1 Llynfaes 70.92 337 AMS AMS 03 52 01.0
comp=Z,4µm,18.2s
WME Myndd Eilian 70.97 337 *e*P P 03 20 15.3 +0.2
MK31 Makanchi Array 71.12 33 *i* P P 03 20 14.1 -2.2
MK31 pmax pmax
comp=Z,138nm,1.1s
MK31 Makanchi Array 71.12 33 *e*P P 03 20 14.6 -1.7
MKAR Makanchi Array 71.12 33 P P 03 20 14.6 -1.7
MKAR S S 03 29 33.8 +0.7
MKAR pmax pmax
comp=Z,37nm,0.8s
MKAR smax smax
comp=N,2.0nm,1.2s
MKAR MLR MLR
comp=Z,5µm,19.0s
MKAR Makanchi Array 71.12 33 P P 03 20 14.6 -1.7
MKAR S S 03 29 33.8 +0.7
MKAR Makanchi Array 71.12 33 P P 03 20 14.6 -1.7
comp=Z,37nm,0.8s,baz=228,slow=6.2,SNR=70
MKAR S S 03 29 33.8 +0.7
comp=Z,1.6nm,1.2s,baz=292,slow=7.6,SNR=2.4
MKAR LR LR 03 54 10.8
comp=Z,5µm,19.0s,baz=244,slow=38
KESW Keswick, Cumbr 71.44 338 *e*P P 03 20 18.2 +0.2
KESW AMB AMB 03 20 26.4
comp=Z,137nm,3.6s
KESW AMS AMS 03 56 13.5
comp=Z,5µm,8.7s
PBKT Sadao Pong 71.46 69 P P 03 20 17.8 -1.1
comp=Z,71nm,1.0s,comp=Z,2µm
FINES FINESS Array B 71.46 356 P P 03 20 16.9 -1.1
FINES S S 03 29 39.9 +3.6
FINES FINESS Array B 71.46 356 P P 03 20 16.9 -1.1
comp=Z,23nm,1.0s,baz=145,slow=7.0,SNR=24
FINES S S 03 29 39.9 +3.6
comp=Z,2.1nm,0.9s,baz=188,slow=9.4,SNR=2.8
FIA1 FINESS Array S 71.46 356 *e*P P 03 20 17.1 -0.9
KURBB **Kurchatov Arra** 71.75 28 P P 03 20 18.6 -1.4
comp=Z,46nm,0.9s,baz=231,slow=6.5,SNR=131
SOKR Solikamsk 71.76 12*d* *i*P P 03 20 20.4 +0.6
SOKR S S 03 29 41.8 +2.1
SOKR SS SS 03 34 10.4 -5.6
SOKR pmax pmax
comp=Z,170nm,1.3s
SOKR MLR MLR
comp=Z,3µm,16.0s
KURK Kurchatov 71.86 28 P P 03 20 19.3 -1.3
SNR=50
KURK Kurchatov 71.86 28 *e*P P 03 20 19.0 -1.6
KURK pmax pmax
comp=Z,88nm,1.2s
KURK MLR MLR
comp=Z,3µm,22.0s
KURK Kurchatov 71.86 28 *e*P P 03 20 19.0 -1.6
comp=Z,88nm,1.2s
KURK LR LR
comp=Z,3µm,22.0s
KURK Kurchatov 71.86 28 P P 03 20 19.3 -1.3
comp=Z,552nm,1.6s,SNR=16
CRAI Chiangrai 72.01 65 P P 03 20 21.9 -0.3
comp=Z,49nm,1.1s
ESK Eskdalemuir 72.05 339 *e*P P 03 20 22.7 +1.0
ESK AMS AMS 03 55 42.2
comp=Z,4µm,14.8s

ESK Eskdalemuir 72.05 339 *e*P **P 03 20 23.2 +1.5**
ESK pmax pmax
comp=Z,349nm,2.1s
ESK MLR MLR
comp=Z,4μm,20.0s
ESK Eskdalemuir 72.05 339 *e*P **P 03 20 23.2 +1.5**
comp=Z,349nm,2.1s
ESK LR LR
comp=Z,4μm,20.0s
KONO Kongsberg 72.07 347 *e*S **S 03 29 44.9 +1.5**
KONO IAMs 03 54 30.9
comp=Z,2μm,18.8s
KONO Kongsberg 72.07 347 *e*P **P 03 20 21.0 -0.7**
KONO pmax pmax
comp=Z,38nm,1.6s
KONO MLR MLR
comp=Z,2μm,22.0s
KONO Kongsberg 72.07 347 *e*P **P 03 20 21.0 -0.7**
comp=Z,38nm,1.6s
KONO LR LR
comp=Z,2μm,22.0s
KAF Kangasniemi 72.11 356 *e*P **P 03 20 20.1 -1.8**
KAF pmax pmax
comp=Z,20nm,0.8s
KAF Kangasniemi 72.11 356 *e*p **P 03 20 20.1 -1.8**
comp=Z,20nm,0.8s
GAL1 Galloway 72.25 338 *e*P **P 03 20 23.0 +0.1**
GAL1 AMB AMB 03 20 35.6
comp=Z,127nm,3.3s
GAL1 AMS AMS 03 54 49.9
comp=Z,5μm,17.6s
WMQ Urumqi 72.45 38 P **P 03 20 25.0 +0.5**
WMQ sP **sP 03 20 32.0 +2.9**
WMQ PcP **PcP 03 20 43.0 +0.8**
WMQ PP **PP 03 23 08.0 +2.2**
WMQ S **S 03 29 48.0 -0.6**
WMQ ScS **SKSac 03 30 28.0 -1.5**
WMQ pmax pmax
comp=Z,87nm,1.0s
WMQ pmax pmax
comp=Z,1μm,6.0s
WMQ LR LR
comp=Z,6μm,18.0s
WMQ LR LR
comp=Z,3μm,17.0s
WMQ LR LR
comp=Z,3μm,17.0s
JOF Joensuu 72.70 359 *e*P **P 03 20 23.9 -1.5**
JOF pmax pmax
comp=Z,8.0nm,0.9s
JOF Joensuu 72.70 359 *e*p **P 03 20 23.9 -1.5**
comp=Z,8.3nm,0.9s
NAO01 NORSAR Array S 72.90 348 *e*P **P 03 20 26.4 -0.2**
comp=Z,156nm,1.4s
CMLA Cha da Macela 72.96 315 PFAKE 03 20 40.0 +12
CMLA LR LR
comp=Z,5μm,19.0s
NB2 NORSAR Subarra 73.01 349 P **P 03 20 26.3 -1.1**
comp=Z,207nm,1.4s,baz=158,slow=5.6
NB2 NORSAR Subarra 73.01 349 P **P 03 20 26.3 -1.1**
baz=158,slow=5.6
NOA NORSAR Array B 73.01 349 P **P 03 20 26.1 -1.2**
NOA S **S 03 29 55.8 +1.6**
NOA NORSAR Array B 73.01 349 P **P 03 20 26.1 -1.2**
comp=Z,36nm,1.0s,baz=158,slow=5.4,SNR=32
NOA S **S 03 29 55.8 +1.6**
comp=Z,0.8nm,0.8s,baz=345,slow=12,SNR=2.6
NOA LR LR 03 58 58.1
comp=Z,1μm,18.1s,baz=175,slow=41
CISI Cisompet, Garu 73.04 95 *e*P **P 03 20 30.1 +1.5**
comp=Z,159nm,1.2s
TMCR Tamitsa 74.00 2 *e*P **P 03 20 32.9 -0.1**
TMCR *e* 03 23 19.3
TMCR pmax pmax
comp=Z,202nm,1.5s
UBPT Khong Chiam 75.28 71 P **P 03 20 41.5 0.0**
comp=Z,53nm,1.4s,comp=Z,1μm
CASY Casey 75.58 156 *e*P **P 03 20 44.2 +1.9**
comp=Z,19nm,1.0s
CASY LR LR
comp=Z,2μm,20.0s
KMI Kunming 75.61 61 P **P 03 20 44.6 +1.0**
KMI pP **PcP 03 20 53.0 -3.4**
KMI PP **PP 03 23 33.0 -0.3**
KMI S **S 03 30 27.0 +1.8**
KMI SKS **SKSac 03 30 49.5 -4.8**
KMI pmax pmax
comp=Z,65nm,1.7s
KMI pmax pmax
comp=Z,770nm,3.1s
KMI LR LR
comp=Z,2μm,21.4s
KMI LR LR
comp=Z,3μm,23.8s
KMI LR LR
comp=Z,4μm,34.1s
ZAA0 Zalesovo Array 76.85 28 *e*P **P 03 20 47.3 -2.4**
ZAA0 *e*PP **PP 03 23 41.1 -1.6**
ZALV Zalesovo Beam 76.85 28 P **P 03 20 47.3 -2.4**
ZALV 03 23 41.2
ZALV S **S 03 30 35.8 -1.4**
ZALV pmax pmax
comp=Z,14nm,0.6s
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZALV MLR MLR
comp=Z,5μm,19.8s
ZALV Zalesovo Beam 76.85 28 P **P 03 20 47.3 -2.4**
ZALV PP **PP 03 23 41.2 -1.5**
ZALV S **S 03 30 35.8 -1.4**
ZALV Zalesovo Beam 76.85 28 P **P 03 20 47.3 -2.4**
comp=Z,14nm,0.6s,baz=248,slow=4.4,SNR=57
ZALV PP **PP 03 23 41.2 -1.5**
comp=Z,8.3nm,0.8s,baz=248,slow=7.6,SNR=5.8
ZALV S **S 03 30 35.8 -1.4**
comp=Z,0.2nm,0.4s,baz=270,slow=5.3,SNR=2.0
ZALV LR LR 03 57 48.9
comp=Z,5μm,19.8s,baz=233,slow=38
KSM Kuching 76.96 86 P **P 03 20 52.6 +1.4**
KSM Kuching 76.96 86 P **P 03 20 51.6 +0.4**
comp=Z,67nm,1.6s,comp=Z,1μm
KSM Kuching 76.96 86 *e*P **P 03 20 50.6 -0.6**
comp=Z,52nm,1.0s
KSM LR LR
comp=Z,9μm,20.0s
APA Apatity 77.35 360 ⇓ *i*P **P 03 20 53.2 +1.0**
APA *i* S **S 03 30 40.0 -2.1**
APA *i* PS **PnS 03 31 16.0 -5.7**
APA pmax pmax
comp=Z,108nm,1.2s
APA MLR MLR
comp=Z,2μm,14.0s
LVZ Lovozero 77.68 0 PFAKE 03 21 10.0 +16
LVZ LR LR
comp=Z,3μm,19.0s
SPB Sao Paulo 78.11 248 *e*P **P 03 20 59.6 +2.2**
comp=Z,249nm,1.4s
SPB LR LR
comp=Z,6μm,20.0s
CD2 Chengdu 78.32 56 ⇑ *i*P **P 03 20 59.1 +0.6**
CD2 pP **pP 03 21 03.8 +1.9**
CD2 sP **sP 03 21 06.1 +2.9**
CD2 PcP **PcP 03 21 08.9 +1.1**
CD2 PP **PP 03 23 58.3 +2.6**
CD2 S **S 03 30 53.8 -0.4**
CD2 ScS **SKKSac 03 31 16.5 +1.9**
CD2 pmax pmax
comp=Z,50nm,1.6s
CD2 pmax pmax
comp=Z,670nm,10.6s
CD2 LR LR
comp=Z,4μm,25.0s
CD2 LR LR
comp=Z,3μm,20.2s
CD2 LR LR
comp=Z,2μm,22.6s
GTA Gaotai 78.37 46 P **P 03 20 57.9 -0.8**
GTA pP **pP 03 21 02.6 +0.5**
GTA sP **sP 03 21 05.0 +1.6**
GTA S **S 03 30 52.5 -2.1**
GTA sS **sS 03 30 59.8 -0.5**
GTA SKS **SKSac 03 31 07.4 -6.4**
GTA pmax pmax
comp=Z,41nm,1.6s
GTA pmax pmax
comp=Z,760nm,6.9s
GTA LR LR
comp=Z,3μm,18.0s
GTA LR LR
comp=Z,2μm,20.9s
GTA LR LR
comp=Z,3μm,19.5s
SBUM Sibu 79.01 86 P **P 03 21 04.2 +1.6**
SBUM Sibu 79.01 86 P **P 03 21 03.5 +0.9**
comp=Z,37nm,1.2s,comp=Z,1μm
SBUM Sibu 79.01 86 *e*P **P 03 21 01.5 -1.1**
comp=Z,32nm,1.0s
NWAO Narrogin (SRO) 79.15 122 P **P 03 21 03.0 -0.1**
NWAO LR LR
comp=Z,1.0nm,22.0s
NWAO Narrogin (SRO) 79.15 122 P **P 03 21 03.0 -0.1**
comp=Z,66nm,1.1s,baz=264,slow=6.2,SNR=12
GYA Guiyang 79.39 61 ⇓ *i*P **P 03 21 05.0 +0.5**
GYA PcP **PcP 03 21 14.2 +1.5**
GYA PP **PP 03 24 06.8 +2.0**
GYA S **S 03 31 03.2 -2.7**
GYA SKS **SKSac 03 31 16.0 -5.5**
GYA SS **SS 03 36 13.8 +0.3**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,3μm,9.2s
GYA LR LR
comp=Z,5μm,19.6s
GYA LR LR
comp=Z,4μm,20.0s
GYA LR LR
comp=Z,4μm,19.4s
ARCES ARCESS Array B 79.54 357 P **P 03 21 02.6 -1.6**
ARCES ARCESS Array B 79.54 357 P **P 03 21 02.6 -1.6**
comp=Z,52nm,1.1s,baz=186,slow=3.6,SNR=6.5
ARE0 ARCESS Array S 79.54 357 *e*P **P 03 21 04.5 +0.3**
ARE0 *e*S **S 03 31 09.1 +3.5**
ARE0 *e*SS **SS 03 36 19.9 +6.2**
ARE0 IAMs 04 02 38.4
comp=Z,3μm,18.3s
ARE0 ARCESS Array S 79.54 357 *e*P **P 03 21 03.6 -0.7**
BDFB Brasilia 79.57 256 *e*P **P 03 21 06.9 +1.2**
BDFB Brasilia 79.57 256 P **P 03 21 06.7 +0.9**
comp=Z,42nm,1.0s,baz=78,slow=5.9,SNR=39
BDFB LR LR 03 53 58.5
comp=Z,7μm,18.3s,baz=78,slow=34
KEV Kevo 79.69 358 *e*P **P 03 21 04.8 -0.2**
KEV Kevo 79.69 358 *e*p **P 03 21 03.5 -1.5**
comp=Z,11nm,0.9s
KEV Kevo 79.69 358 *e*P **P 03 21 04.8 -0.2**
comp=Z,189nm,1.5s
KEV LR LR
comp=Z,3μm,19.0s
HVS Khovu-Aksy 79.77 34 *c i*P **P 03 21 05.8 -0.2**
HVS pmax pmax
comp=Z,1μm,1.4s
TRO Tromso 80.10 355 *e*S **S 03 31 13.6 +2.2**
QSPA South Pole Qui 80.11 180 PFAKE 03 21 20.0 +12
QSPA LR LR
comp=Z,3μm,19.0s
LZH Lanzhou 80.12 51 ⇓ P **P 03 21 09.3 +0.9**
LZH pP **pP 03 21 12.5 +0.7**
LZH sP **sP 03 21 14.0 +0.9**
LZH PP **PP 03 24 13.5 +2.7**
LZH S **S 03 31 12.5 -0.9**
LZH sS **sS 03 31 20.6 +1.5**
LZH pmax pmax
comp=Z,330nm,1.6s
LZH pmax pmax
comp=Z,1μm,7.4s
LZH LR LR
comp=Z,3μm,17.9s
LZH LR LR
comp=Z,3μm,18.0s
LZH LR LR
comp=Z,4μm,20.0s
QIZ Qiongzhong 80.26 69 P **P 03 21 08.8 -0.4**
QIZ pP **pP 03 21 11.7 -1.0**
QIZ sP **sP 03 21 15.8 +1.9**
QIZ PP **PP 03 24 10.1 -1.9**
QIZ S **S 03 31 13.7 -1.4**
QIZ sS **sS 03 31 18.7 -2.1**
QIZ pmax pmax
comp=Z,28nm,1.4s
QIZ pmax pmax
comp=Z,700nm,6.0s
QIZ LR LR
comp=Z,2μm,24.3s
QIZ LR LR
comp=Z,1μm,21.3s
QIZ LR LR
comp=Z,4μm,20.7s
QIZ Qiongzhong 80.26 69 PFAKE 03 21 20.0 +11
QIZ LR LR
comp=Z,4μm,20.0s
MBWA Marble Bar 82.68 110 *e*P **P 03 21 21.4 -0.7**
comp=Z,63nm,1.2s
MBWA LR LR
comp=Z,3μm,19.0s
ENH Enshi 82.84 58 *e*P **P 03 21 23.3 +0.6**
comp=Z,35nm,1.1s
ENH LR LR
comp=Z,50nm,19.0s
EFI East Falkland 83.42 219 PFAKE 03 21 40.0 +15
EFI LR LR
comp=Z,15μm,22.0s
XAN Xi'an 83.44 54 P **P 03 21 25.7 0.0**
XAN pP **PcP 03 21 30.7 +0.6**
XAN PP **PP 03 24 39.4 +1.4**
XAN S **S 03 31 44.8 -2.7**
XAN SS **SS 03 37 11.1 -2.3**
XAN pmax pmax
comp=Z,170nm,8.0s
XAN LR LR
comp=Z,2μm,23.5s
XAN LR LR
comp=Z,830nm,25.5s
KKM Kota Kinabalu 83.59 83 PFAKE 03 21 40.0 +13
KKM LR LR
comp=Z,6μm,22.0s
MOY Mondy 84.07 35 *e*P **P 03 21 29.1 +0.4**
MOY pmax pmax
comp=Z,172nm,3.1s
PMSA Palmer Station 84.39 205 PFAKE 03 21 40.0 +10
PMSA LR LR
comp=Z,5μm,20.0s
SDKM Sandakan 84.47 83 P **P 03 21 31.3 -0.2**
BJO Bjornoya 84.82 356 *e*S **S 03 31 59.7 +0.1**
TSM Tawau 84.90 85 P **P 03 21 34.8 +1.2**
ZAK Zakamensk 84.90 37 *e*P **P 03 21 33.4 +0.5**
ZAK pmax pmax
comp=Z,25nm,1.4s
KAPI Kappang 85.15 94 P **P 03 21 35.2 +0.4**
SNR=18
KAPI Kappang 85.15 94 PFAKE 03 21 50.0 +15
KAPI LR LR
comp=Z,5μm,21.0s
KAPI Kappang 85.15 94 P **P 03 21 34.8 0.0**
comp=Z,201nm,1.3s,SNR=20
TLY Talaya 85.60 36 *i* P **P 03 21 35.6 -0.7**
TLY *e* 03 24 57.6
TLY *e*S S 03 32 00.9 -7.4
TLY *e*SS **SS 03 37 42.3 -2.2**
TLY pmax pmax
comp=Z,47nm,2.0s
TLY Talaya 85.60 36 PFAKE 03 21 50.0 +14
TLY LR LR
comp=Z,5μm,19.0s
LPA La Plata 85.79 235 *de*P P 03 21 41.0 +3.4
LPA PP **PP 03 24 58.0 +1.1**
LPA sS S 03 32 18.0 +7.1
LPA PS **PnS 03 33 06.0 -1.5**
SONM Songino Array 85.90 40 P **P 03 21 37.1 -0.9**
SONM S **S 03 32 15.3 +3.6**
SONM Songino Array 85.90 40 P **P 03 21 37.1 -0.9**
comp=Z,16nm,0.9s,baz=261,slow=4.5,SNR=40
SONM S **S 03 32 15.3 +3.6**
comp=Z,0.2nm,0.3s,baz=248,slow=7.6,SNR=1.9
SONM LR LR 04 03 42.8
comp=Z,3μm,20.0s,baz=271,slow=38
BTO Baotou 86.15 48 *e*P **P 03 21 39.5 +0.2**
IRK Irkutsk 86.17 36 *e*P **P 03 21 36.0 -3.1**
IRK pmax pmax
comp=Z,138nm,2.0s
ULN Ulaanbaatar 86.33 40 P **P 03 21 41.4 +1.3**
SNR=24
ULN Ulaanbaatar 86.33 40 P **P 03 21 40.1 -0.1**
comp=Z,4.9nm,1.2s,comp=Z,1μm
ULN Ulaanbaatar 86.33 40 *e*P **P 03 21 39.5 -0.6**
comp=Z,87nm,1.5s
ULN LR LR
comp=Z,3μm,20.0s
HOPEN Hopen 86.50 358 *e*P **P 03 21 39.8 -0.3**
HOPEN *e*S **S 03 32 17.1 +1.0**
HOPEN IAMs 04 09 07.1
comp=Z,2μm,16.3s
CPUP Villa Florida 86.66 244 *e*P **P 03 21 42.4 +0.3**
comp=Z,10nm,1.4s
CPUP Villa Florida 86.66 244 P **P 03 21 43.4 +1.3**
comp=Z,19nm,1.0s,baz=72,slow=4.8,SNR=17
CPUP LR LR 03 57 47.8
comp=Z,8μm,18.2s,baz=101,slow=34
WHN Wuhan 86.98 58 ⇑ P **P 03 21 44.7 +1.2**
WHN SKS **SKSac 03 32 09.2 -1.9**
WHN S **S 03 32 22.6 +0.1**
WHN pmax pmax
comp=Z,240nm,1.4s
WHN LR LR
comp=Z,4μm,19.9s
WHN LR LR
comp=Z,2μm,12.9s
WHN LR LR
comp=Z,6μm,23.5s
TIY Taiyuan 87.17 51 *e*P **P 03 21 42.6 -1.8**
TIY PP **PP 03 25 09.4 +1.1**
TIY S **S 03 32 22.5 -1.8**
TIY SS **SS 03 38 07.4 -1.0**
TIY pmax pmax
comp=Z,1μm,9.2s
TIY LR LR
comp=Z,2μm,22.4s
TIY LR LR
comp=Z,880nm,15.8s
TIY LR LR
comp=Z,3μm,34.4s
DRV Dumont d'Urvil 87.22 157 PP PP 03 25 04.0 -3.4
DRV S SKSac 03 31 56.0 -15
DRV SS SS 03 37 58.0 -8.7
DRV L L 03 45 00.0
DRV R 03 50 00.0
HHC Hu-ho-hao-te 87.34 48 *e*P **P 03 21 45.4 +0.2**
HHC pP **pP 03 21 49.7 +1.0**
HHC sP **sP 03 21 51.9 +2.0**
HHC PP **PP 03 25 11.9 +2.2**
HHC SKS **SKSac 03 32 09.5 -3.7**
HHC S **SKKSac 03 32 24.0 +1.7**
HHC sS **sS 03 32 31.3 -0.3**
HHC pmax pmax
comp=Z,58nm,1.3s
HHC pmax pmax
comp=Z,2μm,7.5s
HHC LR LR
comp=Z,5μm,17.9s
HHC LR LR
comp=Z,2μm,17.5s
HHC LR LR
comp=Z,4μm,17.4s
VNDA Vanda 87.93 170 *e*P **P 03 21 47.5 +0.3**
VNDA Vanda 87.93 170 P **P 03 21 48.2 +1.0**
comp=Z,5.6nm,0.9s,baz=242,slow=4.2,SNR=14
VNDA LR LR 04 01 11.7
comp=Z,3μm,18.6s,baz=222,slow=36
TRQA Tornquist 88.44 232 *e*P **P 03 21 52.0 +1.5**
comp=Z,180nm,1.4s
TRQA LR LR
comp=Z,6μm,20.0s
SBA Scott Base 88.50 171 *e*P **P 03 21 51.1 +1.2**
SBA MLR MLR
comp=Z,3μm,21.0s
SBA Scott Base 88.50 171 *e*P **P 03 21 51.1 +1.2**
SBA LR LR
comp=Z,3μm,21.0s
SPA0 Spitsbergen Ar 88.55 356 *e*P **P 03 21 49.4 -0.7**
SPA0 *e*PP **PP 03 25 16.3 -2.1**
SPA0 *e*SKS **SKSac 03 32 19.1 +0.3**
SPA0 IAMs 04 07 49.2
comp=Z,2μm,15.8s
FORT Forrest 88.57 121 *e*P **P 03 21 52.8 +1.6**
comp=Z,46nm,0.8s
FITZ Fitzroy Crossi 88.66 108 *e*P **P 03 21 50.8 -1.0**
comp=Z,42nm,1.0s
FITZ Fitzroy Crossi 88.66 108 P **P 03 21 50.9 -0.9**
comp=Z,34nm,0.9s,baz=255,slow=3.9,SNR=33
QZH Quanzhou 89.47 65 ⇑ *i*P **P 03 21 53.6 -1.9**
QZH PP **PP 03 25 25.8 -1.2**
QZH SKS **SKSac 03 32 23.3 -3.0**
QZH S **SKKSac 03 32 40.7 +2.1**
QZH LR LR
comp=Z,3μm,16.6s
QZH LR LR
comp=Z,4μm,18.8s
QZH LR LR
comp=Z,5μm,19.0s
KBS Kingsbay 89.56 356 *e*SKS **SKSac 03 32 24.9 +0.3**
KBS IAMs 04 08 21.9
comp=Z,2μm,20.7s
KBS Kingsbay 89.56 356 PFAKE 03 22 10.0 +15
KBS LR LR
comp=Z,2μm,19.0s
BJT Baijiatuau 90.55 50 PFAKE 03 22 10.0 +10
BJT LR LR
comp=Z,3μm,21.0s
BJI Beijing 90.56 50 P **P 03 22 00.6 +0.4**
BJI PP **PP 03 25 34.5 -0.8**
BJI SKS **SKSac 03 32 31.3 -0.7**
BJI S **ScS 03 33 00.4 +0.9**
BJI pmax pmax
comp=Z,13nm,1.3s
BJI pmax pmax
comp=Z,430nm,8.3s
BJI LR LR
comp=Z,1μm,21.0s
BJI LR LR
comp=Z,2μm,22.4s
BJI LR LR
comp=Z,2μm,34.3s
NJ2 Nanjing 91.06 58 *e*P **P 03 22 02.4 -0.3**
NJ2 pP **pP 03 22 06.1 -0.1**
NJ2 sP **sP 03 22 07.2 -0.3**
NJ2 PP **PP 03 25 38.8 -0.7**
NJ2 S **ScS 03 33 02.5 -1.5**
NJ2 sS **sS 03 33 10.0 +3.3**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 pmax pmax
comp=Z,330nm,5.9s
NJ2 LR LR
comp=Z,2μm,23.2s
NJ2 LR LR
comp=Z,3μm,25.5s
NJ2 LR LR
comp=Z,2μm,24.6s
YHNB Yeheng 91.91 65 PFAKE 03 22 20.0 +13
YHNB LR LR
comp=Z,4μm,20.0s
TATO Taipei 92.06 65 PFAKE 03 22 20.0 +12
TATO LR LR
comp=Z,2μm,20.0s
PVCP Virac 92.63 77 ⇓ *i*P **P 03 22 11.5 +1.2**
PVCP *i* S **pP 03 22 14.4 +0.6**
SSE Sheshan 92.85 59 P **P 03 22 10.7 -0.3**
SSE PP **PP 03 25 51.0 -2.6**
SSE SKS **SKSac 03 32 44.0 -1.3**
SSE S **ScS 03 33 18.1 -0.8**
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,260nm,5.5s
SSE LR LR
comp=Z,560nm,35.6s
SSE LR LR
comp=Z,2μm,34.9s
SSE LR LR
comp=Z,2μm,38.5s
DAV Davao City (W) 92.93 83 PFAKE 03 22 20.0 +8.2
DAV LR LR
comp=Z,5μm,22.0s
PTGA Pitinga 93.60 269 *e*P **P 03 22 15.3 +0.3**
PTGA LR LR
comp=Z,6μm,21.0s

PLCA Paso Flores 94.23 228 P P 03 22 18.9 +1.5
PLCA Paso Flores 94.23 228 P P 03 22 18.9 +1.5
comp=Z,11nm,1.2s,baz=101,slow=6.0,SNR=5.9
PLCA LR LR 03 59 29.8
comp=Z,9μm,21.8s,baz=108,slow=32
SUMG Summit 94.24 343 eP P 03 22 16.2 -0.8
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 94.24 343 i P P 03 22 16.2 -0.8
comp=Z,7.0nm,1.0s
HIA Hailar 94.83 41 eP P 03 22 20.3 +0.5
comp=Z,69nm,1.3s
HIA LR LR
comp=Z,4μm,19.0s
ASAR Alice Springs 95.13 115 P P 03 22 20.2 -1.6
ASAR PKKPbc **PKKPbc 03 39 15.7 -0.6**
ASAR Alice Springs 95.13 115 P P 03 22 20.2 -1.6
comp=Z,14nm,0.6s,baz=262,slow=4.1,SNR=53
ASAR PKKPbc **PKKPbc 03 39 15.7 -0.6**
comp=Z,1.2nm,1.1s,baz=92,slow=2.9,SNR=4.7
ASAR LR LR 04 00 29.7
comp=Z,13μm,19.9s,baz=269,slow=32
AS31 Alice Springs 95.13 115 eP P 03 22 20.3 -1.5
SAML Samuel 95.28 260 eP P 03 22 23.5 +0.8
comp=Z,64nm,1.6s
SAML LR LR
comp=Z,5μm,20.0s
BBGH Gun Hill 95.48 282 PFAKE 03 22 30.0 +6.5
BBGH LR LR
comp=Z,7μm,21.0s
WRA Warramunga Arr 96.36 111 P P 03 22 25.7 -1.8
WRA PP **PP 03 26 20.0 -1.1**
WRA PKKPbc **PKKPbc 03 39 12.0 -0.9**
WRA Warramunga Arr 96.36 111 P P 03 22 25.7 -1.8
comp=Z,13nm,1.1s,baz=257,slow=2.8,SNR=45
WRA PP **PP 03 26 20.0 -1.1**
comp=Z,0.8nm,0.9s,baz=270,slow=7.4,SNR=7.2
WRA PKKPbc **PKKPbc 03 39 12.0 -0.9**
comp=Z,1.1nm,1.0s,baz=79,slow=3.5,SNR=6.0
WRA LR LR 04 00 38.8
comp=Z,5μm,21.2s,baz=265,slow=32
WRAB Tennant Creek 96.37 111 PFAKE 03 22 40.0 +12
WRAB LR LR
comp=Z,5μm,21.0s
WRAB Tennant Creek 96.37 111 P P 03 22 27.5 0.0
comp=Z,105nm,1.0s,SNR=11
SFJD Kangerlussuaq 96.94 337 PFAKE 03 22 40.0 +11
SFJD LR LR
comp=Z,3μm,21.0s
FDF Fort de France 97.24 284 PFAKE 03 22 40.0 +8.4
FDF LR LR
comp=Z,2μm,19.0s
GRGR Grenville 97.34 281 PFAKE 03 22 40.0 +7.9
GRGR LR LR
comp=Z,2μm,22.0s
LCO Las Campanas 97.66 239 PFAKE 03 22 40.0 +6.4
LCO LR LR
comp=Z,10μm,22.0s
LVC Limon Verde 97.74 245 eP P 03 22 33.5 -0.5
comp=Z,13nm,1.0s
LVC LR LR
comp=Z,4μm,19.0s
CN2 Changchun 97.99 47 eP P 03 22 33.5 -0.7
CN2 ePP **PP 03 26 35.4 +2.2**
CN2 SKS **SKSac 03 33 09.6 -2.6**
CN2 eS **S 03 33 56.3 -4.8**
CN2 eSS **SS 03 40 42.0 -1.2**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,1μm,22.0s
CN2 LR LR
comp=Z,400nm,22.0s
CN2 LR LR
comp=Z,400nm,23.0s
INCN Inchon 98.21 53 PFAKE 03 22 50.0 +15
INCN LR LR
comp=Z,2μm,19.0s
ANWB Willy Bob 98.26 287 PFAKE 03 22 50.0 +14
ANWB LR LR
comp=Z,1μm,21.0s
LPAZ La Paz 98.50 252 eP P 03 22 37.0 -0.9
comp=Z,18nm,1.4s
LPAZ La Paz 98.50 252 P Pdif 03 22 38.3 +0.3
comp=Z,4.4nm,1.1s,baz=100,slow=5.4,SNR=8.2
LPAZ LR LR 04 05 44.2
comp=Z,9μm,19.6s,baz=105,slow=34
KSAR Wonju Array Be 99.20 54 P Pdif 03 22 38.1 -1.7
KSRS Korea Array 99.23 54 P Pdif 03 22 38.1 -1.8
comp=Z,7.4nm,1.1s,baz=268,slow=4.0,SNR=16
KSRS LR LR 04 10 36.0
comp=Z,1μm,19.4s,baz=289,slow=37
STKA Stephens Creek 99.52 125 LR LR 04 03 09.4
comp=Z,4μm,20.8s,baz=249,slow=33
TAU Tasmania Unive 99.89 137 PFAKE 03 22 50.0 +7.2
TAU LR LR
comp=Z,2μm,20.0s
TIXI Tiksi 101.00 19 PFAKE 03 23 00.0 +13
TIXI LR LR
comp=Z,4μm,21.0s
MDJ Mudanjiang 101.03 46 P Pdif 03 22 47.3 -0.5
MDJ PP **PP 03 26 54.6 -1.7**
MDJ SKS **SKSac 03 33 28.8 +1.6**
MDJ S **Sdif 03 34 23.8 -2.8**
MDJ SS **SS 03 41 24.4 -1.2**
MDJ pmax pmax
comp=Z,12nm,1.3s
MDJ pmax pmax
comp=Z,150nm,5.8s
MDJ LR LR
comp=Z,1μm,33.8s
MDJ LR LR
comp=Z,2μm,29.1s
MDJ LR LR
comp=Z,2μm,30.3s
MDJ Mudanjiang 101.03 46 ePdif **Pdif 03 22 47.8 0.0**
comp=Z,18nm,1.0s
MDJ LR LR
comp=Z,2μm,22.0s
YAK Yakutsk 101.50 29 PFAKE 03 23 00.0 +11
YAK LR LR
comp=Z,6μm,20.0s
BBSR BB Station 102.43 301 PFAKE 03 23 10.0 +16
BBSR LR LR
comp=Z,5μm,20.0s
CAN Canberra 104.10 130 PFAKE 03 23 10.0 +8.2
CAN LR LR
comp=Z,2μm,19.0s
SDV Santo Domingo 105.63 276 PFAKE 03 27 30.0
SDV LR LR
comp=Z,834nm,20.0s
PKME Peaks-Kenny Pk 106.25 314 PFAKE 03 27 30.0
PKME LR LR
comp=Z,5μm,21.0s
CTAO Charters Tower 107.13 115 PFAKE 03 27 40.0
CTAO LR LR
comp=Z,4μm,19.0s
SDDR Presa de Saban 107.38 287 PFAKE 03 27 40.0
SDDR LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 107.41 55 PFAKE 03 27 40.0
MAJO LR LR
comp=Z,2μm,20.0s
GRTK Grand Turk 107.42 289 PFAKE 03 27 40.0
GRTK LR LR
comp=Z,3μm,21.0s
NNA Nana 107.73 254 PFAKE 03 27 40.0
NNA LR LR
comp=Z,4μm,19.0s
LBNH Lisbon 108.17 313 PFAKE 03 27 40.0
LBNH LR LR
comp=Z,4μm,20.0s
NCB Newcomb 109.84 313 PFAKE 03 27 40.0
NCB LR LR
comp=Z,6μm,20.0s
LONY Lake Ozonia 110.04 314 PFAKE 03 27 40.0
LONY LR LR
comp=Z,4μm,20.0s
YSS Yuzh-Sakhalins 110.15 44 PFAKE 03 27 40.0
YSS LR LR
comp=Z,989nm,21.0s
PMG Port Moresby 110.92 104 PFAKE 03 27 40.0
PMG LR LR
comp=Z,3μm,20.0s

ERM Erimo 110.97 49 PFAKE 03 27 40.0
ERM LR LR
comp=Z,2μm,19.0s
GTBY Guantanamo Bay 111.04 288 PFAKE 03 27 40.0
GTBY LR LR
comp=Z,2μm,19.0s
BINY Binghamton 111.30 311 PFAKE 03 27 40.0
BINY LR LR
comp=Z,11μm,20.0s
OTAV Otavalo 111.96 266 ePKPdf 03 27 34.2
OTAV LR LR
comp=Z,6μm,19.0s
GUMO Guam 112.60 79 PFAKE 03 27 50.0
GUMO LR LR
comp=Z,2μm,22.0s
CBN Corbin 112.74 307 PFAKE 03 27 50.0
CBN LR LR
comp=Z,9μm,22.0s
MTDJ Mount Denham 113.23 286 PFAKE 03 27 50.0
MTDJ LR LR
comp=Z,2μm,21.0s
CNNC Cliffs of the 113.40 304 PFAKE 03 27 50.0
CNNC LR LR
comp=Z,5μm,20.0s
ERPA Erie 114.26 312 PFAKE 03 27 50.0 +12
ERPA LR LR
comp=Z,8μm,21.0s
MCWV Mont Chateau 114.50 309 PFAKE 03 27 50.0 +12
MCWV LR LR
comp=Z,8μm,21.0s
BCIP Isla Barro Col 114.68 276 PFAKE 03 27 50.0 +11
BCIP LR LR
comp=Z,2μm,19.0s
BLA Blacksburg 115.25 306 PFAKE 03 27 50.0 +10
BLA LR LR
comp=Z,5μm,20.0s
ACSO Alum Creek Sta 116.80 310 PFAKE 03 27 50.0 +7.3
ACSO LR LR
comp=Z,6μm,20.0s
AAM Ann Arbor 116.91 312 PFAKE 03 27 50.0 +7.1
AAM LR LR
comp=Z,8μm,22.0s
SNZO South Karori 117.55 148 PFAKE 03 28 00.0 +16
SNZO LR LR
comp=Z,1μm,20.0s
PET Petropavlovsk 118.50 34 PFAKE 03 28 00.0 +14
PET LR LR
comp=Z,3μm,20.0s
JTS JuntasAbangare 119.81 276 PFAKE 03 28 00.0 +11
JTS LR LR
comp=Z,3μm,21.0s
SFIN Scholer Farm 119.85 311 ⇓P **PKPdf 03 27 48.1 -0.4**
baz=120
EYMN Ely 120.69 320 ePKPdf **PKPdf 03 27 49.7 -0.3**
EYMN LR LR
comp=Z,5μm,19.0s
INK Inuvik 121.14 355 ePKPdf **PKPdf 03 27 50.6 +0.4**
JFWS Jewell Farm 121.48 314 PFAKE 03 28 00.0 +8.3
JFWS LR LR
comp=Z,8μm,22.0s
BRAL Brewton 121.49 300 PFAKE 03 28 00.0 +8.0
BRAL LR LR
comp=Z,5μm,22.0s
TGUH Tegucigalpa,Un 122.36 280 ePKPdf **PKPdf 03 27 54.5 +0.4**
TGUH LR LR
comp=Z,3μm,20.0s
ULM Lac du Bonnet 122.41 324 PKP **PKPdf 03 27 53.1 -0.1**
ULM Lac du Bonnet 122.41 324 PKP **PKPdf 03 27 53.1 -0.1**
comp=Z,12nm,0.9s,baz=85,slow=3.1,SNR=10
SPMN St. Paul 122.49 318 ePKPdf **PKPdf 03 27 53.6 +0.1**
SPMN St. Paul 122.49 318 ⇑P **PKPdf 03 27 53.6 +0.1**
baz=122
TNA Tin City 122.50 11 ePKPdf **PKPdf 03 27 52.8 -0.1**
YKA Yellowknife Ar 122.83 343 PKP **PKPdf 03 27 53.1 -0.5**
YKA PP **PP 03 29 33.0 +1.6**
YKA PKKPbc **PKKPab 03 37 47.0 +1.0**
YKA Yellowknife Ar 122.83 343 PKP **PKPdf 03 27 53.1 -0.5**
comp=Z,7.9nm,0.9s,baz=35,slow=2.1,SNR=33
YKA PP **PP 03 29 33.0 +1.6**
comp=Z,2.1nm,1.1s,baz=24,slow=6.8,SNR=5.9
YKA PKKPbc **PKKPab 03 37 46.9 +1.0**
comp=Z,0.9nm,0.9s,baz=219,slow=3.3,SNR=3.7
AGMN Agassiz Nation 123.24 322 PFAKE 03 28 10.0 +15
AGMN LR LR
comp=Z,5μm,21.0s
FFC Flin Flon 123.36 331 *i* PKIKP **PKPdf 03 27 55.7 +0.8**
FFC Flin Flon 123.36 331 PFAKE 03 28 10.0 +15
FFC LR LR
comp=Z,4μm,20.0s
PAYG Puerto Ayora 123.39 263 PFAKE 03 28 10.0 +14
PAYG LR LR
comp=Z,4μm,19.0s
TEIG Tepich 123.42 288 PFAKE 03 28 10.0 +14
TEIG LR LR
comp=Z,3μm,20.0s
DZM Mont Dzumac 123.67 125 *e*PP PP 03 29 36.3 -2.1
comp=Z,238nm,24.2s
DZM Mont Dzumac 123.67 125 *e*LR LR 04 06 17.3
comp=Z,6μm,21.1s
IM04 Indian Mountai 123.84 4 ePKPdf **PKPdf 03 27 55.6 0.0**
SCIA State Center 123.88 314 PFAKE 03 28 10.0 +14
SCIA LR LR
comp=Z,6μm,22.0s
A30A Hoffart Farm, 124.41 324 ⇓P **PKPdf 03 27 57.2 +0.1**
baz=124
B30A Myrvik Farm, E 124.65 323 ⇑P **PKPdf 03 27 57.5 -0.1**
baz=125,SNR=11
A29A Manning Farm, 124.96 324 ⇑P **PKPdf 03 27 58.0 -0.1**
baz=125,SNR=20
C30A Mose, Pekin 125.08 322 ⇑P **PKPdf 03 27 58.8 +0.3**
baz=125,SNR=12
COLA College 125.18 1 *e*PKIKP **PKPdf 03 27 57.4 -0.7**
COLA *e* 03 29 47.5
COLA MLR MLR
comp=Z,2μm,20.0s
COLA College 125.18 1 *e*PKPdf **PKPdf 03 27 57.4 -0.7**
COLA *e*PP **PP 03 29 47.5 +0.6**
COLA LR LR
comp=Z,2μm,20.0s
B29A Wagenman Farm, 125.25 324 ⇑P **PKPdf 03 27 59.1 +0.4**
baz=125,SNR=16
ILAR Eielson Array 125.29 0 PKP **PKPdf 03 27 57.1 -1.2**
ILAR PP **PP 03 29 47.6 -0.1**
ILAR PKKPab **PKKPab 03 37 36.1 +0.7**
ILAR Eielson Array 125.29 0 PKP **PKPdf 03 27 57.1 -1.2**
comp=Z,16nm,1.1s,baz=330,slow=2.5,SNR=63
ILAR PP **PP 03 29 47.6 -0.1**
comp=Z,11nm,1.4s,baz=358,slow=6.9,SNR=6.2
ILAR PKKPab **PKKPab 03 37 36.1 +0.7**
comp=Z,1.2nm,1.0s,baz=194,slow=5.9,SNR=4.8
D30A Buchanan 125.52 322 ⇓P **PKPdf 03 27 59.6 +0.3**
baz=126,SNR=18
A28A Rude Farm, Bot 125.56 324 ⇓P **PKPdf 03 27 59.7 +0.3**
baz=126
ECSD EROS Data Cent 125.57 317 ePKPdf **PKPdf 03 27 58.1 -1.4**
ECSD LR LR
comp=Z,7μm,20.0s
DAWY Dawson 125.79 356 ePKPdf **PKPdf 03 27 58.9 -0.4**
B28A Dugan Ranch, T 125.84 324 ⇓P **PKPdf 03 28 00.2 +0.3**
baz=126
E30A Jud 125.89 321 ⇑P **PKPdf 03 28 00.3 +0.3**
baz=126
D29A Pettibone, Tap 126.05 322 ⇑P **PKPdf 03 28 00.6 +0.3**
baz=126,SNR=7.2
C28A Hausauer Farms 126.22 323 ⇓P **PKPdf 03 28 01.3 +0.7**
baz=126
MIAR Mount Ida 126.23 306 PFAKE 03 28 10.0 +9.0
MIAR LR LR
comp=Z,4μm,20.0s
F30A Leola 126.26 321 ⇑P **PKPdf 03 28 01.0 +0.2**
baz=126,SNR=6.7
E29A Napoleon 126.31 322 ⇓P **PKPdf 03 28 01.1 +0.3**
baz=126
B27A Peters Farms, 126.39 324 ⇓P **PKPdf 03 28 01.6 +0.7**
baz=126
DOT Dot Lake 126.40 359 ePKPdf **PKPdf 03 28 00.2 -0.3**
DOT *e*PP **PP 03 29 51.5 -3.6**
TRF Thorofare Moun 126.54 2 ePKPdf **PKPdf 03 28 01.0 0.0**
A26A Wade Farm, Ken 126.58 325 ⇓P **PKPdf 03 28 02.1 +0.8**
baz=126
D28A Regan 126.58 323 ⇓P **PKPdf 03 28 01.9 +0.5**
baz=126,SNR=8.6
G30A Faulkton 126.65 320 ⇓P **PKPdf 03 28 01.6 +0.1**
baz=127,SNR=8.5
F29A Eureka 126.76 321 ⇑P **PKPdf 03 28 01.8 +0.1**
baz=127

BRSD Miller 126.83 319 *e*PKPdf **PKPdf 03 28 02.7 +0.8**
BRSD Miller 126.83 319 ⇑P **PKPdf 03 28 02.5 +0.6**
baz=127,SNR=5.0
C27A Sayler Ranch, 126.87 324 ⇑P **PKPdf 03 28 02.7 +0.8**
baz=127
E28A Huff 126.95 322 ⇑P **PKPdf 03 28 02.1 0.0**
baz=127,SNR=7.1
B26A Jensen Ranch, 126.96 325 ⇓P **PKPdf 03 28 02.8 +0.8**
baz=127
PPLA Purkeypile 127.00 3 *e*PKPdf **PKPdf 03 28 02.6 +0.7**
G29A Hoven 127.11 320 ⇓P **PKPdf 03 28 02.6 +0.2**
baz=127
A25A Svangstu Ranch 127.16 326 ⇑P **PKPdf 03 28 03.2 +0.8**
baz=127
C26A Wahner Farm, P 127.16 324 ⇑P **PKPdf 03 28 03.1 +0.6**
baz=127
D27A Center 127.19 323 ⇓P **PKPdf 03 28 03.4 +0.9**
baz=127
KSU1 Kansas State U 127.25 312 *e*PKPdf **PKPdf 03 28 03.5 +0.6**
KSU1 LR LR
comp=Z,8μm,20.0s
I30A Oacoma 127.36 319 ⇓P **PKPdf 03 28 03.4 +0.4**
baz=127,SNR=6.4
F28A McLaughlin 127.36 321 ⇓P **PKPdf 03 28 03.3 +0.5**
baz=127,SNR=10
BGNE Belgrade 127.52 315 *e*PKPdf **PKPdf 03 28 03.1 -0.2**
BGNE Belgrade 127.52 315 ⇓P **PKPdf 03 28 03.5 +0.2**
baz=128
B25A Knox Farm, Ray 127.54 325 ⇑P **PKPdf 03 28 04.3 +1.1**
baz=128,SNR=7.8
E27A Carson 127.55 322 ⇑P **PKPdf 03 28 03.7 +0.4**
baz=128,SNR=6.8
H29A Onida 127.55 320 ⇑P **PKPdf 03 28 03.6 +0.3**
baz=128
TUL1 Tulsa 127.62 308 *e*PKPdf **PKPdf 03 28 04.3 +0.7**
TUL1 Tulsa 127.62 308 ⇓P **PKPdf 03 28 04.2 +0.5**
baz=128
J30A Dallas 127.65 318 ⇓P **PKPdf 03 28 03.9 +0.4**
baz=128,SNR=12
A24A Westby 127.66 326 ⇑P **PKPdf 03 28 04.1 +0.8**
baz=128,SNR=8.2
L31A Butterfield Fa 127.69 316 ⇓P **PKPdf 03 28 03.9 +0.2**
baz=128,SNR=11
D26A Manning 127.77 323 ⇑P **PKPdf 03 28 04.5 +0.8**
baz=128
G28A Parade 127.79 320 ⇑P **PKPdf 03 28 04.0 +0.3**
baz=128,SNR=9.1
N32A Stulken Farm, 127.86 314 ⇓P **PKPdf 03 28 04.3 +0.3**
baz=128
I29A Vivian Onida 127.88 319 ⇑P **PKPdf 03 28 04.6 +0.7**
baz=128,SNR=9.8
C25A Freed Ranch, W 127.89 324 ⇑P **PKPdf 03 28 04.9 +1.1**
baz=128
P33A Williams Farm, 127.92 313 ⇓P **PKPdf 03 28 04.8 +0.7**
baz=128
K30A Basset 128.01 317 ⇓P **PKPdf 03 28 04.6 +0.3**
baz=128,SNR=18
DGMT Dagmar 128.01 326 *e*PKPdf **PKPdf 03 28 05.2 +1.1**
DGMT LR LR
comp=Z,4μm,21.0s
DGMT Dagmar 128.01 326 ⇓P **PKPdf 03 28 05.2 +1.1**
baz=128,SNR=13
O32A Brockman Farm, 128.04 314 ⇑P **PKPdf 03 28 04.7 +0.3**
baz=128
H28A Mission Ridge 128.04 320 ⇓P **PKPdf 03 28 04.8 +0.5**
baz=128,SNR=7.9
E26A Carlson Angus 128.06 323 ⇑P **PKPdf 03 28 04.8 +0.6**
baz=128
F27A Lemmon 128.09 322 ⇑P **PKPdf 03 28 04.5 +0.2**
baz=128
M31A Lambtecht Ranc 128.12 315 ⇑P **PKPdf 03 28 04.9 +0.4**
baz=128
A23A Redstone 128.12 326 ⇓P **PKPdf 03 28 04.6 +0.4**
baz=128
J29A Okreek 128.17 318 ⇑P **PKPdf 03 28 05.0 +0.5**
baz=128,SNR=16
Q33A Connelly Farm, 128.18 312 ⇑P **PKPdf 03 28 05.1 +0.4**
baz=128
D25A Fairfield 128.22 324 ⇑P **PKPdf 03 28 05.8 +1.3**
baz=128,SNR=6.5
G27A Dupree 128.28 321 ⇑P **PKPdf 03 28 05.0 +0.3**
baz=128
N31A Bailey Ranch, 128.30 315 ⇑P **PKPdf 03 28 05.3 +0.4**
baz=128
L30A Spencer Herefo 128.38 316 ⇑P **PKPdf 03 28 05.0 +0.1**
baz=128,SNR=5.5
K29A Lazy Trails An 128.44 318 ⇑P **PKPdf 03 28 05.7 +0.6**
baz=128,SNR=18
PMR Palmer 128.44 2 *e*PKIKP **PKPdf 03 28 05.2 +0.8**
PMR Palmer 128.44 2 *e*PKPdf **PKPdf 03 28 05.2 +0.8**
I28A Midland 128.45 319 ⇓P **PKPdf 03 28 05.5 +0.5**
baz=128,SNR=27
B23A Brockton 128.46 326 ⇓P **PKPdf 03 28 05.6 +0.7**
baz=128,SNR=8.7
F26A Lodgepole 128.50 322 ⇑P **PKPdf 03 28 05.7 +0.6**
baz=128
P32A Huiting Farm, 128.51 313 ⇑P **PKPdf 03 28 05.8 +0.5**
baz=128,SNR=20
R33A Olander Ranch, 128.53 311 ⇓P **PKPdf 03 28 06.2 +0.9**
baz=128
E25A Miller Ranch, 128.61 323 ⇓P **PKPdf 03 28 06.1 +0.8**
baz=129
RPN Rapa Nui 128.64 223 PFAKE 03 28 20.0 +14
RPN LR LR
comp=Z,3μm,21.0s
M30A Dale-Ortello V 128.65 316 ⇓P **PKPdf 03 28 05.7 +0.2**
baz=129
C24A Savage 128.66 325 ⇓P **PKPdf 03 28 06.1 +0.8**
baz=129,SNR=6.6
A22A Carney Farms, 128.66 327 ⇓P **PKPdf 03 28 06.3 +1.0**
baz=129,SNR=19
Q32A Meitler Ranch, 128.71 312 ⇓P **PKPdf 03 28 06.2 +0.5**
baz=129,SNR=7.6
H27A Howes 128.73 320 ⇑P **PKPdf 03 28 06.1 +0.5**
baz=129
G26A Maurine 128.73 321 ⇓P **PKPdf 03 28 05.9 +0.4**
baz=129
J28A Allard Ranch, 128.75 319 ⇓P **PKPdf 03 28 06.4 +0.7**
baz=129,SNR=12
S33A Kaszmaul Farm, 128.78 311 ⇓P **PKPdf 03 28 06.7 +0.9**
baz=129
U34A Anderson Ranch 128.81 309 ⇓P **PKPdf 03 28 07.0 +1.1**
baz=129
D24A Glendive 128.82 324 ⇑P **PKPdf 03 28 07.0 +1.3**
baz=129,SNR=9.7
O31A Woolen Ranch, 128.82 314 ⇓P **PKPdf 03 28 06.1 +0.3**
baz=129,SNR=7.0
L29A Maesberg Ranch 128.85 317 ⇓P **PKPdf 03 28 06.0 +0.2**
baz=129,SNR=6.2
HYT Haines Junctio 128.85 355 *e*PKPdf **PKPdf 03 28 05.6 +0.2**
RC01 Rabbit Creek A 128.92 2 *e*PKPdf **PKPdf 03 28 05.5 +0.2**
RC01 *e*PP **PP 03 30 10.1 -1.6**
C23A Lambert 128.93 325 ⇑P **PKPdf 03 28 06.9 +1.1**
baz=129,SNR=8.5
F25A Bowman 128.94 322 ⇓P **PKPdf 03 28 06.8 +0.9**
baz=129
DIV Divide 128.95 360 *e*PKPdf **PKPdf 03 28 06.2 +0.7**
DIV *e*PP **PP 03 30 12.4 +0.5**
I27A Quinn 128.98 320 ⇑P **PKPdf 03 28 06.8 +0.7**
baz=129,SNR=23
V34A Guthrie 128.98 308 ⇑P **PKPdf 03 28 07.5 +1.2**
baz=129
R32A Long Quarter, 129.02 312 ⇓P **PKPdf 03 28 06.8 +0.5**
baz=129,SNR=7.3
B22A Reddig Ranch S 129.10 326 ⇓P **PKPdf 03 28 07.5 +1.3**
baz=129,SNR=7.5
P31A Stockton 129.10 313 ⇓P **PKPdf 03 28 06.9 +0.5**
baz=129,SNR=7.3
E24A Baker 129.11 324 ⇓P **PKPdf 03 28 07.0 +0.8**
baz=129
N30A Hueftle Ranch, 129.11 315 ⇓P **PKPdf 03 28 06.9 +0.5**
baz=129
T33A Patterson Ranc 129.14 310 ⇑P **PKPdf 03 28 07.5 +1.0**
baz=129,SNR=7.4
K28A Ten Mile Ranch 129.16 318 ⇓P **PKPdf 03 28 07.1 +0.6**
baz=129,SNR=12
H26A Fairpoint 129.17 321 ⇓P **PKPdf 03 28 07.1 +0.7**
baz=129
A21A Bergtoll Ranch 129.20 327 ⇓P **PKPdf 03 28 07.0 +0.7**
baz=129,SNR=13
M29A Burnside Ranch 129.25 316 ⇑P **PKPdf 03 28 07.4 +0.7**
baz=129
G25A Newell 129.28 322 ⇑P **PKPdf 03 28 07.1 +0.5**
baz=129
D23A Lindsay 129.30 325 ⇓P **PKPdf 03 28 07.6 +1.0**
baz=129,SNR=6.8
Q31A Ellis 129.31 313 ⇑P **PKPdf 03 28 07.4 +0.6**
baz=129,SNR=5.1

O30A	MW Ranch, Wils	129.33	314	⇑	P	PKPdf	03 28 07.3 +0.5
	baz=129						
J27A	Elkhorn Farm,	129.33	319	⇑	P	PKPdf	03 28 07.7 +0.9
	baz=129,SNR=6.1						
C22A	Vida	129.36	326	⇑	P	PKPdf	03 28 07.7 +1.1
	baz=129,SNR=25						
W34A	Bridge Creek,	129.36	308	⇓	P	PKPdf	03 28 07.9 +0.9
	baz=125						
EDM	Edmonton	129.44	335	*e*	PKIKP	PKPdf	03 28 06.9 +0.2
EDM	Edmonton	129.44	335	*e*	PKPdf	PKPdf	03 28 06.9 +0.2
S32A	Newby Ranch, P	129.44	311	⇓	P	PKPdf	03 28 07.7 +0.6
	baz=129						
N29A	Votaw Ranch, W	129.47	315	⇓	P	PKPdf	03 28 07.5 +0.4
	baz=130						
Z35A	Perchaven, San	129.50	305	⇓	P	PKPdf	03 28 08.1 +0.8
	baz=130,SNR=5.5						
I26A	New Underwood	129.51	320	⇓	P	PKPdf	03 28 07.8 +0.7
	baz=130						
F24A	Ekalaka	129.57	323	⇓	P	PKPdf	03 28 07.7 +0.6
	baz=130,SNR=12						
L28A	Connealy Angus	129.57	317	⇑	P	PKPdf	03 28 07.8 +0.5
	baz=130						
V33A	Lossen Ranch,	129.58	309	⇓	P	PKPdf	03 28 08.3 +0.9
	baz=130,SNR=6.2						
B21A	Ellsworth Farm	129.58	327	⇑	P	PKPdf	03 28 08.0 +1.0
	baz=130						
X34A	Smith Ranch, M	129.60	307	⇓	P	PKPdf	03 28 08.6 +1.2
	baz=130,SNR=14						
T32A	Huddler Ranch,	129.62	310	⇑	P	PKPdf	03 28 08.8 +1.3
	baz=130,SNR=6.2						
R31A	Burdett	129.67	312	⇓	P	PKPdf	03 28 08.4 +0.8
	baz=130,SNR=7.0						
H25A	Fruitdale	129.68	321	⇑	P	PKPdf	03 28 08.0 +0.6
	baz=130,SNR=20						
P30A	Selden	129.71	314	⇓	P	PKPdf	03 28 08.4 +0.8
	baz=130,SNR=13						
E23A	Ismay	129.72	324	⇓	P	PKPdf	03 28 08.4 +1.0
	baz=130,SNR=5.7						
Y34A	Reagan Ranch,	129.72	306	⇑	P	PKPdf	03 28 08.8 +1.0
	baz=130						
K27A	Flueckinger Fa	129.73	318	⇑	P	PKPdf	03 28 07.8 +0.2
	baz=130,SNR=5.9						
M28A	Bar X Bar Ranc	129.74	316	⇑	P	PKPdf	03 28 07.8 +0.2
	baz=130						
A20A	Cobblestone Ra	129.79	328	⇑	P	PKPdf	03 28 08.1 +0.7
	baz=130,SNR=15						
G24A	Alzada	129.82	322	⇓	P	PKPdf	03 28 07.9 +0.2
	baz=130,SNR=7.4						
135A	Vickery Place,	129.83	304	⇑	P	PKPdf	03 28 08.6 +0.6
	baz=130						
D22A	Cohagen	129.86	325	⇑	P	PKPdf	03 28 09.0 +1.4
	baz=130,SNR=31						
O29A	4D Ranch, Culb	129.87	315	⇑	P	PKPdf	03 28 08.5 +0.6
	baz=130						
S31A	Mullinville	129.88	311	⇓	P	PKPdf	03 28 08.8 +0.8
	baz=130						
Q30A	Quinter	129.91	313	⇑	P	PKPdf	03 28 09.1 +1.1
	baz=130,SNR=6.8						
W33A	Caddo, Fort Co	129.93	308	⇓	P	PKPdf	03 28 09.5 +1.4
	baz=130,SNR=9.4						
U32A	Winter Ranch,	129.94	309	⇓	P	PKPdf	03 28 09.3 +1.2
	baz=130,SNR=6.0						
J26A	Sides Ranch, S	129.99	319	⇑	P	PKPdf	03 28 08.7 +0.6
	baz=130						
WHTX	Lake Whitney	130.01	304	*e*	PKPdf	PKPdf	03 28 09.3 +1.0
WHTX	Lake Whitney	130.01	304	⇓	P	PKPdf	03 28 08.8 +0.5
	baz=130,SNR=5.7						
Z34A	Collier Ranch,	130.02	305	⇓	P	PKPdf	03 28 09.1 +0.8
	baz=130,SNR=5.8						
I25A	Rochford	130.06	320	⇓	P	PKPdf	03 28 08.7 +0.4
	baz=130,SNR=31						
B20A	Solberg Farm,	130.11	327	⇓	P	PKPdf	03 28 09.2 +1.2
	baz=130						
E22A	Miles City	130.13	324	⇑	P	PKPdf	03 28 08.7 +0.5
	baz=130,SNR=8.5						
X33A	Lawton	130.14	307	⇑	P	PKPdf	03 28 09.2 +0.7
	baz=130,SNR=6.1						
LAO	LASA Array	130.14	325	*e*	PKPdf	PKPdf	03 28 08.8 +0.6
LAO					LR	LR	
	comp=Z,8μm,19.0s						
N28A	Pribbeno Ranch	130.15	316	⇑	P	PKPdf	03 28 09.5 +1.1
	baz=130,SNR=7.8						
335A	Moody	130.17	303	⇓	P	PKPdf	03 28 09.1 +0.5
	baz=130						
P29A	Atwood	130.18	314	⇑	P	PKPdf	03 28 09.2 +0.7
	baz=130						
A19A	Klindworth Far	130.19	328	⇑	P	PKPdf	03 28 08.9 +0.7
	baz=130,SNR=9.6						
V32A	Arapaho	130.19	309	⇑	P	PKPdf	03 28 09.7 +1.2
	baz=130,SNR=11						
F23A	Volborg	130.20	323	⇓	P	PKPdf	03 28 08.3 0.0
	baz=130,SNR=11						
RSSD	Black Hills	130.20	321	*e*	PKIKP	PKPdf	03 28 09.3 +0.7
RSSD	Black Hills	130.20	321	*e*	PKPdf	PKPdf	03 28 09.3 +0.7
H24A	Dirks Ranch, A	130.20	322	⇓	P	PKPdf	03 28 08.6 +0.1
	baz=130,SNR=32						
T31A	Randall Ranch,	130.21	311	⇓	P	PKPdf	03 28 09.8 +1.2
	baz=130,SNR=8.2						
R30A	Dighton	130.22	312	⇓	P	PKPdf	03 28 09.0 +0.4
	baz=130,SNR=5.7						
WMOK	Wichita Mounta	130.30	307	*e*	PKIKP	PKPdf	03 28 09.7 +0.9
WMOK				*e*			03 30 17.4
WMOK					MLR	MLR	
	comp=Z,4μm,20.0s						
WMOK	Wichita Mounta	130.30	307	*e*	PKPdf	PKPdf	03 28 09.7 +0.9
WMOK				*e*	PP	PP	03 30 17.4 -4.8
WMOK					LR	LR	
	comp=Z,4μm,20.0s						
K26A	Motz Farm, Whi	130.35	319	⇑	P	PKPdf	03 28 09.0 +0.2
	baz=130						
D21A	La Casta Ranch	130.36	325	⇑	P	PKPdf	03 28 09.2 +0.6
	baz=130,SNR=37						
M27A	Reverse DX Ran	130.36	317	⇓	P	PKPdf	03 28 09.4 +0.6
	baz=130						
134A	White-Moore Ra	130.37	304	⇑	P	PKPdf	03 28 09.7 +0.7
	baz=130,SNR=5.1						
Y33A	Hilltop Ranch,	130.40	306	⇓	P	PKPdf	03 28 09.5 +0.5
	baz=130						
J25A	Sunshine Ranch	130.42	320	⇑	P	PKPdf	03 28 09.7 +0.8
	baz=130,SNR=20						
RAO	Raoul Island	130.42	143		PFAKE		03 28 20.0 +11
RAO					LR	LR	
	comp=Z,3μm,19.0s						
G23A	Biddle	130.47	323	⇑	P	PKPdf	03 28 09.4 +0.5
	baz=130,SNR=13						
Q29A	Oakley	130.49	313	⇓	P	PKPdf	03 28 10.0 +0.9
	baz=130,SNR=7.5						
C20A	Veseth Ranch,	130.54	327	⇑	P	PKPdf	03 28 09.7 +0.8
	baz=130,SNR=14						
W32A	Sentinel	130.54	308	⇓	P	PKPdf	03 28 10.2 +0.9
	baz=130,SNR=5.9						
O28A	Krutsinger Ran	130.55	315	⇑	P	PKPdf	03 28 09.8 +0.5
	baz=130						
B19A	Brinkman Farms	130.59	328	⇓	P	PKPdf	03 28 09.8 +0.8
	baz=130,SNR=16						
U31A	Nine Bar Ranch	130.59	310	⇓	P	PKPdf	03 28 10.6 +1.3
	baz=131						
L26A	Underwood Farm	130.59	318	⇓	P	PKPdf	03 28 10.1 +0.8
	baz=131						
S30A	Montezuma	130.60	312	⇑	P	PKPdf	03 28 10.1 +0.8
	baz=131,SNR=9.8						
F22A	Rosebud	130.67	324	⇓	P	PKPdf	03 28 09.7 +0.5
	baz=131,SNR=12						
I24A	Kuemmerle Ranc	130.70	321	⇑	P	PKPdf	03 28 09.9 +0.5
	baz=131,SNR=5.2						
E21A	Keefer Ranch,	130.71	325	⇓	P	PKPdf	03 28 10.1 +0.9
	baz=131,SNR=16						
Z33A	Whitaker Ranch	130.72	306	⇓	P	PKPdf	03 28 10.4 +0.7
	baz=131,SNR=8.3						
P28A	Saint Francis	130.77	314	⇑	P	PKPdf	03 28 10.5 +0.9
	baz=131,SNR=6.9						
N27A	Anderson Farm,	130.78	316	⇑	P	PKPdf	03 28 10.6 +0.9
	baz=131						
V31A	Spring Creek L	130.79	309	⇑	P	PKPdf	03 28 11.2 +1.5
	baz=131,SNR=13						
R29A	Marienthal	130.79	313	⇓	P	PKPdf	03 28 10.6 +0.9
	baz=131,SNR=7.8						
X32A	Elmer	130.79	307	⇓	P	PKPdf	03 28 10.9 +1.1
	baz=131,SNR=11						
H23A	Clabaugh Cattl	130.82	322	⇓	P	PKPdf	03 28 10.2 +0.6
	baz=131						
334A	Lometa	130.83	303	⇑	P	PKPdf	03 28 10.5 +0.6
	baz=131,SNR=9.6						
K25A	Mack Ranch, Ha	130.84	319	⇑	P	PKPdf	03 28 10.0 +0.3
	baz=131						
T30A	Plains	130.86	311	⇑	P	PKPdf	03 28 10.6 +0.8
	baz=131						
M26A	McRoberts Ranc	130.90	317	⇓	P	PKPdf	03 28 11.0 +1.1
	baz=131						
D20A	Manuel Ranch,	130.98	326	⇑	P	PKPdf	03 28 10.8 +1.0
	baz=131,SNR=27						
434A	Burnet	130.98	302	⇓	P	PKPdf	03 28 10.4 +0.2
	baz=131,SNR=14						
J24A	Dixon Ranch, L	130.99	320	⇓	P	PKPdf	03 28 10.8 +0.8
	baz=131,SNR=13						
G22A	Birney	131.00	323	⇑	P	PKPdf	03 28 10.7 +0.8
	baz=131,SNR=15						
O27A	Beecher Island	131.01	315	⇑	P	PKPdf	03 28 11.0 +0.9
	baz=131						
Q28A	Sharon Springs	131.03	314	⇑	P	PKPdf	03 28 11.2 +1.0
	baz=131,SNR=13						
133A	Hamilton Ranch	131.04	305	⇑	P	PKPdf	03 28 11.1 +0.8
	baz=131,SNR=15						
Y32A	R-V Farms, Ver	131.05	307	⇓	P	PKPdf	03 28 10.9 +0.6
	baz=131,SNR=13						
W31A	Holland Ranch,	131.06	308	⇑	P	PKPdf	03 28 11.1 +0.9
	baz=131						
S29A	Ulysses	131.09	312	⇓	P	PKPdf	03 28 11.0 +0.7
	baz=131,SNR=5.7						
C19A	Slack Wire Ran	131.09	327	⇓	P	PKPdf	03 28 11.2 +1.2
	baz=131,SNR=24						
L25A	Engebretsen Ra	131.12	318	⇓	P	PKPdf	03 28 11.1 +0.8
	baz=131,SNR=6.4						
U30A	WK&E Inc. Balk	131.14	310	⇑	P	PKPdf	03 28 11.9 +1.5
	baz=131,SNR=7.7						
F21A	Absaloka Mine,	131.15	324	⇓	P	PKPdf	03 28 11.2 +1.0
	baz=131						
I23A	Meade Ranch, G	131.17	321	⇓	P	PKPdf	03 28 10.5 +0.2
	baz=131						
N26A	Koester Ranch,	131.24	317	⇑	P	PKPdf	03 28 11.3 +0.8
	baz=131						
X31A	McDonald Ranch	131.27	308	⇓	P	PKPdf	03 28 11.5 +0.9
	baz=131,SNR=21						
EGMT	Eagleton	131.28	328	*e*	PKPdf	PKPdf	03 28 11.3 +1.0
EGMT					LR	LR	
	comp=Z,3μm,20.0s						
EGMT	Eagleton	131.28	328	⇑	P	PKPdf	03 28 11.2 +0.8
	baz=131						
Z32A	Haskell	131.29	306	⇓	P	PKPdf	03 28 11.8 +1.1
	baz=131,SNR=24						
R28A	Tribune	131.31	313	⇑	P	PKPdf	03 28 11.7 +1.0
	baz=131,SNR=18						
E20A	Meyer Farm, Mu	131.33	325	⇓	P	PKPdf	03 28 11.9 +1.4
	baz=131,SNR=21						
D19A	Cripps Ranch,	131.34	327	⇓	P	PKPdf	03 28 11.6 +1.1
	baz=131,SNR=17						
534A	Blanco	131.35	301	⇓	P	PKPdf	03 28 11.6 +0.6
	baz=131,SNR=12						
P27A	Ficken Ranch,	131.35	315	⇓	P	PKPdf	03 28 11.6 +0.8
	baz=131						
H22A	Clearmont	131.38	322	⇑	P	PKPdf	03 28 11.3 +0.6
	baz=131,SNR=16						
T29A	Hugoton	131.39	311	⇑	P	PKPdf	03 28 11.9 +1.0
	baz=131						
KVTX	Kingsville	131.39	298		PFAKE		03 28 20.0 +9.0
KVTX					LR	LR	
	comp=Z,4μm,22.0s						
K24A	Anderson Ranch	131.39	320	⇑	P	PKPdf	03 28 11.1 +0.2
	baz=131						
V30A	Spur Ranch, Mi	131.44	309	⇓	P	PKPdf	03 28 12.1 +1.1
	baz=131,SNR=10						
333A	Richland Sprin	131.44	303	⇑	P	PKPdf	03 28 11.6 +0.5
	baz=132,SNR=14						
J23A	Dilts Ranch, B	131.51	321	⇓	P	PKPdf	03 28 11.3 +0.3
	baz=132						
M25A	Palm-Egli Farm	131.52	318	⇑	P	PKPdf	03 28 11.8 +0.7
	baz=132						
G21A	Lodge Grass	131.53	324	⇓	P	PKPdf	03 28 11.7 +0.7
	baz=132,SNR=7.7						
W30A	Crocket Farms	131.55	309	⇑	P	PKPdf	03 28 12.3 +1.1
	baz=132						
O26A	Horse Wrangler	131.56	316	⇓	P	PKPdf	03 28 11.9 +0.7
	baz=132,SNR=5.6						
KSCO	Kaye Shedlock'	131.62	314	*e*	PKPdf	PKPdf	03 28 12.9 +1.6
KSCO	Kaye Shedlock'	131.62	314	⇑	P	PKPdf	03 28 12.4 +1.1
	baz=132						
ABTX	Abilene, Hawle	131.62	305	*e*	PKPdf	PKPdf	03 28 11.7 +0.3
ABTX	Abilene, Hawle	131.62	305	⇓	P	PKPdf	03 28 12.6 +1.2
	baz=132,SNR=17						
U29A	Oasis Ranch, S	131.63	310	⇑	P	PKPdf	03 28 12.2 +0.8
	baz=132						
S28A	Manter	131.67	312	⇓	P	PKPdf	03 28 12.5 +1.1
	baz=132						
433A	Art	131.68	302	⇑	P	PKPdf	03 28 12.1 +0.5
	baz=132,SNR=16						
Y31A	Rekieta Farm,	131.71	307	⇓	P	PKPdf	03 28 12.6 +1.1
	baz=132,SNR=5.1						
E19A	Rath Farm, Rou	131.72	326	⇑	P	PKPdf	03 28 12.6 +1.4
	baz=132,SNR=17						
F20A	Billings	131.75	325	⇓	P	PKPdf	03 28 12.3 +1.0
	baz=132,SNR=11						
H21A	Big Horn, Sher	131.77	323	⇑	P	PKPdf	03 28 11.9 +0.4
	baz=132,SNR=8.2						
L24A	Wheatland	131.80	319	⇑	P	PKPdf	03 28 12.0 +0.4
	baz=132						
533A	Kerrville	131.81	302	⇓	P	PKPdf	03 28 12.2 +0.4
	baz=132,SNR=11						
Z31A	Sharp Cattle R	131.82	306	⇑	P	PKPdf	03 28 12.8 +1.1
	baz=132,SNR=17						
I22A	9 Mile Ranch,	131.83	322	⇓	P	PKPdf	03 28 12.1 +0.5
	baz=132,SNR=19						
N25A	Grover	131.83	317	⇓	P	PKPdf	03 28 12.6 +0.9
	baz=132						
232A	Coleman	131.84	304	⇑	P	PKPdf	03 28 12.5 +0.6
	baz=132,SNR=20						
P26A	Davis Ranch, A	131.89	315	⇓	P	PKPdf	03 28 12.6 +0.8
	baz=132,SNR=19						
K23A	Bowen Ranch, D	131.89	320	⇑	P	PKPdf	03 28 12.5 +0.7
	baz=132,SNR=17						
T28A	Walsh	132.01	312	⇑	P	PKPdf	03 28 12.6 +0.5
	baz=132,SNR=13						
M24A	Cheyenne	132.01	318	⇑	P	PKPdf	03 28 13.1 +1.0
	baz=132,SNR=13						
X30A	Coker Ranch, T	132.03	308	⇑	P	PKPdf	03 28 12.8 +0.7
	baz=132,SNR=6.6						
V29A	Stinnett	132.03	310	⇓	P	PKPdf	03 28 12.8 +0.7
	baz=132						
R27A	Eads	132.04	313	⇑	P	PKPdf	03 28 13.1 +0.9
	baz=132,SNR=12						
332A	Millersview	132.05	303	⇑	P	PKPdf	03 28 12.8 +0.5
	baz=132,SNR=22						
KDAK	Kodiak Island	132.05	5		PFAKE		03 28 20.0 +8.7
KDAK					LR	LR	
	comp=Z,2μm,21.0s						
G20A	Bridger	132.12	324	⇑	P	PKPdf	03 28 12.5 +0.4
	baz=132,SNR=19						
F19A	Roth Farm, Mol	132.17	325	⇓	P	PKPdf	03 28 13.2 +1.1
	baz=132,SNR=19						
O25A	Wiggins	132.18	316	⇓	P	PKPdf	03 28 13.3 +0.9
	baz=132						
131A	Roby	132.21	305	⇓	P	PKPdf	03 28 13.5 +1.0
	baz=132,SNR=12						
432A	Menard	132.23	303	⇑	P	PKPdf	03 28 12.9 +0.2
	baz=132,SNR=12						
Y30A	Stafford Cattl	132.24	307	⇑	P	PKPdf	03 28 13.6 +1.0
	baz=132,SNR=13						
L23A	Garrett	132.26	319	⇓	P	PKPdf	03 28 12.6 0.0
	baz=132,SNR=11						
Q26A	Hugo	132.28	314	⇑	P	PKPdf	03 28 13.5 +0.9
	baz=132,SNR=16						
JCT	Junction City	132.35	302	*e*	PKIKP	PKPdf	03 28 13.3 +0.5
JCT					MLR	MLR	
	comp=Z,5μm,19.0s						
JCT	Junction City	132.35	302	*e*	PKPdf	PKPdf	03 28 13.3 +0.5
JCT					LR	LR	
	comp=Z,5μm,19.0s						
JCT	Junction City	132.35	302	⇑	P	PKPdf	03 28 13.3 +0.5
	baz=132,SNR=13						
N24A	Carr	132.36	317	⇑	P	PKPdf	03 28 14.0 +1.3
	baz=132,SNR=9.0						
S27A	Las Animas	132.36	313	⇑	P	PKPdf	03 28 13.5 +0.7
	baz=132						
I21A	Big Trails, Te	132.37	322	⇑	P	PKPdf	03 28 12.7 +0.1
	baz=132,SNR=13						
231A	Bronte	132.37	304	⇑	P	PKPdf	03 28 13.5 +0.6
	baz=132,SNR=16						
U28A	Mallet	132.37	311	⇑	P	PKPdf	03 28 13.2 +0.4
	baz=132						
W29A	Amraillo	132.40	309	⇑	P	PKPdf	03 28 13.4 +0.5
	baz=132,SNR=7.8						
H20A	Greybull	132.41	323	⇑	P	PKPdf	03 28 13.0 +0.3
	baz=132,SNR=8.8						
WRAK	Wrangell Islan	132.43	350		PFAKE		03 28 20.0 +7.9
WRAK					LR	LR	
	comp=Z,3μm,19.0s						
P25A	Willow Gulch B	132.48	315	⇓	P	PKPdf	03 28 14.4 +1.4
	baz=132,SNR=18						
T27A	Campo	132.48	312	⇓	P	PKPdf	03 28 13.6 +0.6
	baz=132,SNR=15						
R26A	Arlington	132.50	314	⇓	P	PKPdf	03 28 14.0 +1.0
	baz=132,SNR=14						
AMTX	Amarillo	132.51	309	⇑	P	PKPdf	03 28 13.6 +0.5
	baz=132						
K22A	Casper	132.51	320	*e*	PKPdf	PKPdf	03 28 13.4 +0.5
K22A	Casper	132.51	320	⇑	P	PKPdf	03 28 13.0 +0.1
	baz=132,SNR=8.2						
532A	Rocksprings	132.52	302	⇑	P	PKPdf	03 28 13.6 +0.4
	baz=132,SNR=20						
632A	Uvalde	132.58	301	⇓	P	PKPdf	03 28 14.3 +1.0
	baz=133						
M23A	Laramie	132.60	319	⇓	P	PKPdf	03 28 13.8 +0.6
	baz=133,SNR=12						
Z30A	Sanderson Ranc	132.61	306	⇓	P	PKPdf	03 28 14.0 +0.8
	baz=133,SNR=20						
GCMT	Greycliff	132.61	326	*e*	PKPdf	PKPdf	03 28 14.8 +1.7
V28A	Channing	132.61	310	⇑	P	PKPdf	03 28 13.9 +0.6
	baz=133						
331A	San Angelo	132.64	304	⇑	P	PKPdf	03 28 14.2 +0.9
	baz=133,SNR=7.3						
X29A	Tulia	132.67	308	⇓	P	PKPdf	03 28 14.0 +0.6
	baz=133,SNR=9.6						
130A	Snyder	132.69	305	⇓	P	PKPdf	03 28 14.2 +0.8
	baz=133,SNR=11						
J21A	Lysite	132.72	322	⇓	P	PKPdf	03 28 14.1 +0.8
	baz=133,SNR=16						
W28A	Vega	132.78	309	⇑	P	PKPdf	03 28 14.3 +0.7
	baz=133,SNR=6.4						
L22A	Ellis Ranch, M	132.78	320	⇓	P	PKPdf	03 28 14.4 +0.9
	baz=133,SNR=11						
RLMT	Red Lodge	132.78	325		PFAKE		03 28 20.0 +6.5
RLMT					LR	LR	
	comp=Z,6μm,19.0s						
I20A	Worland	132.79	323	⇓	P	PKPdf	03 28 14.2 +0.8
	baz=133,SNR=12						
S26A	Kim	132.80	313	⇑	P	PKPdf	03 28 14.7 +1.1
	baz=133,SNR=18						
Q25A	Bedland, Calha	132.80	315	⇑	P	PKPdf	03 28 14.7 +1.0
	baz=133,SNR=16						
U27A	Thompson Grove	132.81	311	⇓	P	PKPdf	03 28 14.5 +0.8
	baz=133						
O24A	Longmont	132.82	317	⇑	P	PKPdf	03 28 14.6 +1.0
	baz=133,SNR=7.1						
Y29A	Porterfield Fa	132.85	307	⇓	P	PKPdf	03 28 14.5 +0.7
	baz=133,SNR=28						
H19A	Powell	132.89	324	⇑	P	PKPdf	03 28 14.8 +1.3
	baz=133,SNR=10						
732A	Laxson Ranch,	132.93	300	⇓	P	PKPdf	03 28 14.8 +0.9
	baz=133,SNR=8.0						
431A	Sonora	132.96	303	⇓	P	PKPdf	03 28 14.7 +0.7
	baz=133,SNR=26						
K21A	Alcova	132.98	321	⇑	P	PKPdf	03 28 14.4 +0.5
	baz=133,SNR=20						
P24A	Kohler Place,	132.99	316	⇑	P	PKPdf	03 28 15.2 +1.2
	baz=133						
230A	Sterling City	133.03	305	⇓	P	PKPdf	03 28 14.8 +0.7
	baz=133,SNR=16						
N23A	Red Feather La	133.03	318	⇑	P	PKPdf	03 28 15.0 +0.9
	baz=133,SNR=16						
X28A	Dimmitt	133.03	308	⇓	P	PKPdf	03 28 14.8 +0.7
	baz=133,SNR=8.8						
531A	Rocksprings	133.05	302	⇑	P	PKPdf	03 28 14.9 +0.7
	baz=133,SNR=9.8						
V27A	Dan Oppiter Fa	133.07	310	⇓	P	PKPdf	03 28 15.1 +1.0
	baz=133,SNR=12						
T26A	Comanche Natio	133.07	312	⇑	P	PKPdf	03 28 15.4 +1.1
	baz=133,SNR=11						
Z29A	Hungry Hill Ra	133.07	307	⇓	P	PKPdf	03 28 15.0 +0.8
	baz=133,SNR=12						
J20A	Shoshoni	133.10	322	⇓	P	PKPdf	03 28 14.7 +0.7
	baz=133,SNR=12						
R25A	Fountain Ranch	133.16	314	⇓	P	PKPdf	03 28 15.1 +0.9
	baz=133,SNR=19						
M22A	Cedar Creek Ra	133.20	319	⇓	P	PKPdf	03 28 14.9 +0.5
	baz=133,SNR=9.8						
330A	Mertzon	133.22	304	⇓	P	PKPdf	03 28 15.3 +0.8
	baz=133,SNR=29						
I19A	Meeteetse	133.26	323	⇑	P	PKPdf	03 28 15.0 +0.7
	baz=133,SNR=11						
631A	Perdido Creek	133.27	301	⇓	P	PKPdf	03 28 15.3 +0.7
	baz=133,SNR=12						
Y28A	McKinney Farm,	133.28	308	⇑	P	PKPdf	03 28 15.0 +0.5
	baz=133,SNR=13						
ISCO	Idaho Springs	133.34	316	*e*	PKIKP	PKPdf	03 28 16.0 +1.2
ISCO					MLR	MLR	
	comp=Z,5μm,20.0s						
ISCO	Idaho Springs	133.34	316	*e*	PKPdf	PKPdf	03 28 15.9 +1.2
ISCO					LR	LR	
	comp=Z,5μm,20.0s						
ISCO	Idaho Springs	133.34	316	⇓	P	PKPdf	03 28 16.0 +1.2
	baz=133,SNR=14						
O23A	Lake Granby, G	133.35	317	⇑	P	PKPdf	03 28 16.0 +1.2
	baz=133,SNR=17						
129A	Stewart Farms,	133.41	306	⇓	P	PKPdf	03 28 15.8 +1.0
	baz=133,SNR=9.9						
Q24A	Divide	133.41	315	⇓	P	PKPdf	03 28 15.7 +0.8
	baz=133,SNR=15						
N22A	Wattenberg Ran	133.41	318	⇑	P	PKPdf	03 28 15.8 +1.0
	baz=133						
430A	Baggett Ranch,	133.45	303	⇑	P	PKPdf	03 28 16.0 +1.1

R23A	Moffat	134.23	315	⇑P		PKPdf	03 28 17.1	+0.6	
	baz=134,SNR=15								
Z27A	Tatum	134.25	307	⇓P		PKPdf	03 28 16.9	+0.5	
	baz=134,SNR=7.4								
I17A	Pilgrim Ck.	134.25	324	⇑P		PKPdf	03 28 17.5	+1.2	
	baz=134,SNR=8.5								
X26A	CR and CF Fran	134.26	309	⇓P		PKPdf	03 28 16.8	+0.4	
	baz=134								
PDAR	Pinedale Array	134.32	322	PKPpre	PKPpre	03 28 10.2			
PDAR				PKP	PKPdf	03 28 16.8	+0.3		
PDAR	Pinedale Array	134.32	322	PKhKP	PKPpre	03 28 10.2			
	comp=Z,0.6nm,0.8s,baz=104,slow=4.7,SNR=4.2								
PDAR				PKP	PKPdf	03 28 16.8	+0.3		
	comp=Z,7.0nm,1.0s,baz=106,slow=3.2,SNR=24								
BW06	Boulder Array	134.32	322	PFAKE		03 28 30.0	+14		
BW06				LR	LR				
	comp=Z,9μm,19.0s								
V25A	Rancho No Teng	134.37	311	⇓P		PKPdf	03 28 17.7	+1.0	
	baz=134,SNR=6.4								
T24B	San Luis	134.41	313	⇑P		PKPdf	03 28 17.9	+1.0	
	baz=134								
529A	Stev Forest Ra	134.45	303	⇑P		PKPdf	03 28 17.7	+0.9	
	baz=134,SNR=13								
W25A	X Bar L Ranch,	134.50	310	⇓P		PKPdf	03 28 18.0	+1.1	
	baz=134,SNR=10								
Y26A	Elida	134.50	308	⇑P		PKPdf	03 28 17.9	+1.0	
	baz=134,SNR=8.6								
328A	Wristen Ranch,	134.56	304	⇓P		PKPdf	03 28 17.8	+0.8	
	baz=135,SNR=13								
S23A	Nye Farm, Mont	134.57	314	⇑P		PKPdf	03 28 18.3	+1.2	
	baz=135								
127A	Arkansas Junct	134.58	306	⇓P		PKPdf	03 28 17.7	+0.6	
	baz=135								
U24A	Moreno Valley	134.62	312	⇓P		PKPdf	03 28 18.2	+1.0	
	baz=135								
428A	Kincaid Ranch,	134.66	304	⇑P		PKPdf	03 28 18.5	+1.2	
	baz=135,SNR=8.0								
NEW	Newport	134.71	333	*e*PKPdf		PKPdf	03 28 17.7	+1.0	
NEW				LR	LR				
	comp=Z,3μm,22.0s								
NEW	Newport	134.71	333	⇓P		PKPdf	03 28 17.4	+0.7	
	baz=135								
227A	Bennet, Jal	134.75	306	⇑P		PKPdf	03 28 18.4	+1.0	
	baz=135								
Z26A	Caprock	134.86	307	⇓P		PKPdf	03 28 18.2	+0.6	
	baz=135,SNR=7.6								
T23A	Casias Ranch,	134.90	313	⇑P		PKPdf	03 28 18.9	+1.1	
	baz=135								
V24A	Rampart Ranch,	134.90	311	⇑P		PKPdf	03 28 18.9	+1.1	
	baz=135								
528A	Cox Ranch, San	134.91	303	⇓P		PKPdf	03 28 18.7	+0.9	
	baz=135,SNR=7.8								
X25A	Clemmons Ranch	134.92	309	⇑P		PKPdf	03 28 18.2	+0.5	
	baz=135								
O20A	White River Ci	134.93	318	⇑P		PKPdf	03 28 18.1	+0.5	
	baz=135,SNR=9.9								
MCMT	McKenzie Canyo	134.96	326	*e*PKPdf		PKPdf	03 28 19.2	+1.6	
126A	Clayton Basin,	135.11	307	⇑P		PKPdf	03 28 18.8	+0.8	
	baz=135								
327A	Balmorhea Ranc	135.12	305	⇑P		PKPdf	03 28 19.2	+1.1	
	baz=135								
S22A	4UR Ranch, Cre	135.14	315	⇑P		PKPdf	03 28 19.3	+1.1	
	baz=135								
Y25A	Mesa, Roswell	135.17	309	⇑P		PKPdf	03 28 18.8	+0.6	
	baz=135,SNR=8.1								
628A	Black Gap, Mar	135.19	302	⇑P		PKPdf	03 28 19.5	+1.3	
	baz=135,SNR=6.3								
MSVF	Nonsavu	135.20	128	PFAKE		03 28 30.0	+11		
MSVF				LR	LR				
	comp=Z,3μm,20.0s								
427A	Hayter Ranch,	135.21	304	⇓P		PKPdf	03 28 19.2	+1.0	
	baz=135,SNR=7.4								
W24A	Lazy 6 Ranch,	135.21	311	⇑P		PKPdf	03 28 19.2	+0.9	
	baz=135,SNR=10								
AHID	Auburn Hatcher	135.25	323	PFAKE		03 28 30.0	+12		
AHID				LR	LR				
	comp=Z,7μm,20.0s								
U23A	El Rito	135.32	312	⇓P		PKPdf	03 28 19.7	+1.2	
	baz=135,SNR=7.7								
226B	Tecolote Peak,	135.42	306	⇓P		PKPdf	03 28 19.1	+0.5	
	baz=135								
Z25A	Roswell	135.43	308	⇑P		PKPdf	03 28 19.4	+0.7	
	baz=135,SNR=6.5								
326A	Caldwell Ranch	135.53	305	⇑P		PKPdf	03 28 19.8	+1.0	
	baz=136,SNR=7.9								
V23A	Ortiz Mt. (NFS	135.56	312	⇓P		PKPdf	03 28 20.9	+1.9	
	baz=136,SNR=7.1								
527A	Woodward Ranch	135.60	303	⇑P		PKPdf	03 28 20.3	+1.3	
	baz=136,SNR=12								
125A	Gardner Draw,	135.61	307	⇓P		PKPdf	03 28 19.4	+0.3	
	baz=136								
627A	Terlingua Ranc	135.62	302	⇑P		PKPdf	03 28 20.3	+1.2	
	baz=136,SNR=10								
Y24A	Capitan	135.74	309	⇓P		PKPdf	03 28 20.5	+1.1	
	baz=136,SNR=7.4								
426A	McDonald Obser	135.78	304	⇓P		PKPdf	03 28 20.8	+1.3	
	baz=136								
U22A	Llaves	135.78	313	⇓P		PKPdf	03 28 20.6	+1.3	
	baz=136								
W23A	Werner Place,	135.79	311	⇑P		PKPdf	03 28 20.4	+1.0	
	baz=136								
TXAR	Lajitas Array	135.89	302	PKPpre	PKPpre	03 28 07.7			
TXAR				PKP	PKPdf	03 28 19.9	+0.4		
TXAR	Lajitas Array	135.89	302	PKhKP	PKPpre	03 28 07.7			
	comp=Z,0.8nm,0.9s,baz=94,slow=3.8,SNR=5.0								
TXAR				PKP	PKPdf	03 28 19.9	+0.4		
	comp=Z,6.0nm,0.9s,baz=119,slow=1.1,SNR=27								
Z24A	Sheeppen Canyo	135.92	308	⇑P		PKPdf	03 28 20.7	+1.0	
	baz=136,SNR=12								
225A	Deer Hill, Car	135.94	306	⇑P		PKPdf	03 28 20.2	+0.5	
	baz=136								
526A	Mary Lane Ranc	136.02	303	⇑P		PKPdf	03 28 20.9	+1.0	
	baz=136,SNR=13								
V22A	San Miguel Ran	136.02	312	⇑P		PKPdf	03 28 21.3	+1.5	
	baz=136,SNR=7.4								
X23A	Hourglass Bar	136.05	310	⇓P		PKPdf	03 28 21.5	+1.6	
	baz=136								
ANMO	Albuquerque	136.10	311	PFAKE		03 28 30.0	+10		
ANMO				LR	LR				
	comp=Z,6μm,19.0s								
PV01	Paradox Valley	136.16	316	*e*PKPdf		PKPdf	03 28 21.7	+1.6	
626A	Big Bend Ranch	136.21	303	⇓P		PKPdf	03 28 21.0	+0.8	
	baz=136								
Y23A	Lovelace Mesa,	136.22	309	⇑P		PKPdf	03 28 21.6	+1.4	
	baz=136,SNR=13								
124A	Stringfield Ra	136.22	307	⇑P		PKPdf	03 28 21.2	+0.9	
	baz=136,SNR=7.5								
325A	Bean Ranch, Si	136.31	305	⇓P		PKPdf	03 28 20.9	+0.5	
	baz=136,SNR=9.1								
224A	Cornudas Mount	136.50	307	⇓P		PKPdf	03 28 21.6	+0.9	
	baz=136								
425A	Indio Mountain	136.52	305	⇑P		PKPdf	03 28 21.5	+0.8	
	baz=136								
MNTX	Cornudas Mount	136.53	306	*e*PKPdf		PKPdf	03 28 21.0	+0.4	
MNTX				LR	LR				
	comp=Z,3μm,19.0s								
MVCO	Mesa Verde	136.56	315	*e*PKPdf		PKPdf	03 28 21.2	+0.4	
MVCO				LR	LR				
	comp=Z,5μm,19.0s								
MVCO	Mesa Verde	136.56	315	⇑P		PKPdf	03 28 21.2	+0.4	
	baz=136								
BNM	Barren Site	136.56	310	*e*PKPdf		PKPdf	03 28 21.2	+0.3	
Z23A	Rita Site, Whi	136.61	308	⇑P		PKPdf	03 28 22.1	+1.2	
	baz=137								
HLID	Hailey	136.64	326	PFAKE		03 28 30.0	+9.3		
HLID				LR	LR				
	comp=Z,4μm,20.0s								
HLID	Hailey	136.64	326	⇓P		PKPdf	03 28 22.1	+1.5	
	baz=137								
324A	Moseley Ranch,	136.70	306	⇓P		PKPdf	03 28 22.0	+0.9	
	baz=137								
DAU	Daniels Canyon	136.71	320	*e*PKIKP		PKPdf	03 28 21.2	+0.1	
DAU	Daniels Canyon	136.71	320	*e*PKPdf		PKPdf	03 28 21.2	+0.1	
JLU	Jordanelle	136.72	321	*e*PKPdf		PKPdf	03 28 21.9	+0.8	
Y22D	IRIS PASSCAL I	136.81	310	⇑P		PKPdf	03 28 22.4	+1.2	
	baz=137								
LAZ	Ladron	136.84	310	*e*PKPdf		PKPdf	03 28 23.0	+1.7	
123A	Bell Site, Whi	136.88	308	⇑P		PKPdf	03 28 22.7	+1.3	
	baz=137								
Y22A	Socorro	136.91	310	⇑P		PKPdf	03 28 22.2	+0.8	
	baz=137,SNR=6.9								
SRU	San Rafael	136.96	318	*e*PKIKP		PKPdf	03 28 21.4	0.0	
SRU	San Rafael	136.96	318	*e*PKPdf		PKPdf	03 28 21.4	0.0	
Z22A	Elephant Butte	137.18	309	⇓P		PKPdf	03 28 23.1	+1.1	
	baz=137								
HAWA	Hanford	137.20	333	PFAKE		03 28 30.0	+8.6		
HAWA				LR	LR				
	comp=Z,3μm,20.0s								
223A	Chaparral, Ant	137.24	307	⇓P		PKPdf	03 28 23.5	+1.4	
	baz=137								
BMO	Blue Mountains	137.28	330	PFAKE		03 28 30.0	+8.3		
BMO				LR	LR				
	comp=Z,4μm,20.0s								
TMUT	Trail Mountain	137.31	319	*e*PKPdf		PKPdf	03 28 23.5	+1.3	
122A	Conniff Cattle	137.43	308	⇑P		PKPdf	03 28 23.9	+1.5	
	baz=137								
NLU	North Lily Min	137.49	320	*e*PKPpre	PKPpre	03 28 17.5			
NLU				*e*PKPdf	PKiKP	03 28 23.7	-0.6		
BGU	Big Grassy Mou	137.50	322	*e*PKPdf		PKPdf	03 28 21.1	-1.2	
MFID	Camas Ranch	137.51	327	*e*PKPdf		PKPdf	03 28 23.6	+1.4	
Z21A	St. Cloud Mine	137.70	309	⇑P		PKPdf	03 28 24.4	+1.4	
	baz=138								
222A	Williams Famil	137.74	307	⇓P		PKPdf	03 28 24.7	+1.8	
	baz=138								
DUG	Dugway	137.81	321	*e*PKIKP		PKPdf	03 28 24.4	+1.5	
DUG				MLR	MLR				
	comp=Z,4μm,21.0s								
DUG	Dugway	137.81	321	*e*PKPdf		PKPdf	03 28 24.4	+1.5	
DUG				LR	LR				
	comp=Z,4μm,21.0s								
DUG	Dugway	137.81	321	⇓P		PKPdf	03 28 24.7	+1.8	
	baz=138								
LON	Longmire	137.91	335	*e*PKIKP		PKPdf	03 28 22.3	-0.5	
LON	Longmire	137.91	335	*e*PKPdf		PKPdf	03 28 22.2	-0.5	
121A	Cookes Peak, D	138.10	308	*e*PKPdf		PKPdf	03 28 25.4	+1.7	
121A	Cookes Peak, D	138.10	308	⇑P		PKPdf	03 28 25.5	+1.8	
	baz=138								
NLWA	Neilton Lookou	138.21	337	PFAKE		03 28 30.0	+6.8		
NLWA				LR	LR				
	comp=Z,6μm,19.0s								
W18A	Petrified Fore	138.44	313	⇓P		PKPdf	03 28 25.9	+1.6	
	baz=138								
TARA	Tarawa	138.46	99	PFAKE		03 28 40.0	+15		
TARA				LR	LR				
	comp=Z,3μm,21.0s								
Z20A	Nine Sixteen R	138.48	309	⇓P		PKPdf	03 28 25.8	+1.5	
	baz=138								
120A	U Bar Ranch, L	138.75	309	⇑P		PKPdf	03 28 26.1	+1.2	
	baz=139								
X18A	Snowflake	138.87	312	⇑P		PKPdf	03 28 26.5	+1.5	
	baz=139								
G05D	Wamic, OR	138.88	333	⇓P		PKPdf	03 28 26.0	+1.5	
	baz=139								
220A	Playas Peak, P	138.93	308	⇑P		PKPdf	03 28 26.9	+1.7	
	baz=139								
320A	Kipp Ranch, An	139.15	307	⇑P		PKPdf	03 28 26.9	+1.3	
	baz=139								
WUAZ	Wupatki	139.41	314	*e*PKPdf		PKPdf	03 28 28.1	+2.1	
WUAZ				LR	LR				
	comp=Z,4μm,21.0s								
WUAZ	Wupatki	139.41	314	⇓P		PKPdf	03 28 27.7	+1.7	
	baz=139								
U15A	North Rim	139.58	316	⇑P		PKPdf	03 28 27.9	+1.5	
	baz=140								
I05D	Terrebonne, OR	139.59	332	⇓P		PKPdf	03 28 27.8	+1.9	
	baz=140								
ARUT	Antelope Range	139.60	319	*e*PKIKP		PKPdf	03 28 26.2	-0.1	
ARUT	Antelope Range	139.60	319	*e*PKPdf		PKPdf	03 28 26.2	-0.1	
WVOR	Wild Horse Val	139.67	328	PFAKE		03 28 40.0	+14		
WVOR				LR	LR				
	comp=Z,6μm,20.0s								
CCUT	Cedar City	139.68	318	*e*PKPpre	PKPpre	03 28 20.7			
CCUT				*e*PKPdf	PKPdf	03 28 26.7	+0.2		
319A	Douglas	139.73	307	⇓P		PKPdf	03 28 28.1	+1.5	
	baz=140								
G03D	McMinnville, O	139.75	335	⇑P		PKPdf	03 28 28.0	+1.9	
	baz=140								
X16A	Lo Mia Camp, P	140.00	313	⇑P		PKPdf	03 28 28.4	+1.3	
	baz=140								
J05D	Fort Rock, OR	140.34	331	⇓P		PKPdf	03 28 28.6	+1.1	
	baz=140								
TUC	Tucson	140.50	310	*e*PKIKP		PKPdf	03 28 27.5	-0.5	
TUC				MLR	MLR				
	comp=Z,4μm,19.0s								
TUC	Tucson	140.50	310	*e*PKPdf		PKPdf	03 28 27.5	-0.5	
TUC				LR	LR				
	comp=Z,4μm,19.0s								
I04A	Tendick Farm,	140.50	333	⇑P		PKPdf	03 28 28.5	+0.9	
	baz=140								
R11A	Troy Canyon, C	140.63	321	⇑P		PKPdf	03 28 29.8	+1.6	
	baz=141								
J04D	Umpqua Nationa	140.79	332	⇓P		PKPdf	03 28 29.1	+0.8	
	baz=141								
I03D	Drain, OR	140.99	333	⇑P		PKPdf	03 28 30.5	+2.1	
	baz=141								
K04D	Chiloquin, OR	141.09	331	⇑P		PKPdf	03 28 29.7	+0.9	
	baz=141								
Y14A	Wickenburg	141.37	313	⇓P		PKPdf	03 28 30.9	+1.4	
	baz=141								
W13A	Hualapai Mount	141.38	315	⇓P		PKPdf	03 28 31.0	+1.4	
	baz=141								
SHPR	Sheep Range	141.46	318	*e*PKPdf		PKPdf	03 28 32.1	+2.4	
Z14A	Wintersburg	141.61	312	⇓P		PKPdf	03 28 31.4	+1.6	
	baz=142								
HUMO	Hull Mountain	141.67	332	*e*PKPpre	PKPpre	03 28 27.5			
HUMO				*e*PKPdf	PKiKP	03 28 31.5	-1.0		
M04C	Macdoel	141.77	330	⇓P		PKPdf	03 28 31.5	+1.5	
	baz=142								
PTCN	Pitcairn Islan	141.79	204	PFAKE		03 28 40.0	+10		
PTCN				LR	LR				
	comp=Z,3μm,22.0s								
TPH	Tonopah	141.81	322	*e*PKPpre	PKPpre	03 28 27.5			
TPH				*e*PKPdf	PKiKP	03 28 33.0	-0.2		
TPNV	Topopah Spring	141.90	320	⇑P		PKPdf	03 28 32.0	+1.6	
	baz=142								
PAHR	Pah Rah Range	141.99	326	*e*PKPpre	PKPpre	03 28 27.9			
PAHR				PKPdf	PKiKP	03 28 32.1	-1.4		
NEE2	Needles Airpor	142.07	315	⇑P		PKPdf	03 28 32.3	+1.7	
	baz=142								
NV11	Mina Array Sit	142.14	323	*e*PKPpre	PKPpre	03 28 27.6			
NV11				*e*PKPdf	PKiKP	03 28 33.2	-0.6		
214A	Organ Pipe Nat	142.19	310	⇓P		PKPdf	03 28 32.6	+1.6	
	baz=142								
NVAR	Mina Array Bea	142.23	323	PKPpre	PKPpre	03 28 27.9			
NVAR	Mina Array Bea	142.23	323	PKhKP	PKPpre	03 28 27.9			
	comp=Z,16nm,0.9s,baz=64,slow=4.1,SNR=18								
L02D	Cave Junction,	142.32	332	⇑P		PKPdf	03 28 33.1	+2.2	
	baz=142								
BEKR	Beckworth	142.41	327	*e*PKPdf		PKPdf	03 28 27.7	-3.6	
113A	Mohawk Valley,	142.50	312	⇑P		PKPdf	03 28 33.2	+1.8	
	baz=142								
Y12C	Blythe	142.55	314	⇑P		PKPdf	03 28 33.7	+2.2	
	baz=142								
SHOC	Shoshone	142.55	318	⇓P		PKPdf	03 28 33.7	+2.2	
	baz=142								
M02C	Callahan	142.56	331	⇓P		PKPdf	03 28 32.8	+1.4	
	baz=142								
GRAC	Grapevine Rang	142.58	321	⇑P		PKPdf	03 28 34.0	+2.4	
	baz=142								
FURC	Furnace Creek,	142.58	319	⇑P		PKPdf	03 28 34.7	+3.3	
	baz=142								
IRM	Iron Mountain	142.77	315	⇓P		PKPdf	03 28 34.8	+2.9	
	baz=143								
GMRC	Granite Mounta	142.78	316	⇑P		PKPdf	03 28 34.6	+2.5	
	baz=143								
WAKR	Walker	142.84	324	*e*PKPdf		PKPdf	03 28 30.6	-1.6	
HEC	Hector,Ludlow	143.20	317	⇓P		PKPdf	03 28 35.1	+2.4	
	baz=143								
GSC	Goldstone	143.25	318	*e*PKIKP		PKPdf	03 28 32.1	-0.7	
GSC				*e*		03 28 34.9			
GSC	Goldstone	143.25	318	*e*PKPpre	PKPdf	03 28 32.0	-0.7		
GSC				*e*PKPdf	PKiKP	03 28 34.9	-1.2		
GSC	Goldstone	143.25	318	⇑P		PKPdf	03 28 35.9	+3.1	
	baz=143								
KHMM	Horse Mountain	143.38	331	*e*PKPdf		PKPdf	03 28 31.9	-1.0	
LRMC	Laurel Mountai	143.72	319	⇓P		PKPdf	03 28 37.2	+3.5	
	baz=144								
PFO	Pinyon Flat Ob	143.98	315	PFAKE		03 28 50.0	+16		
PFO				LR	LR				
	comp=Z,6μm,21.0s								
PFO	Pinyon Flat Ob	143.98	315	⇓P		PKPdf	03 28 36.7	+2.5	
	baz=144								
KIPM	Iron Peak	144.08	330	*e*PKPdf		PKPdf	03 28 33.8	-0.3	
ISA	Isabella	144.11	320	*e*PKIKP		PKPdf	03 28 34.3	0.0	
ISA	Isabella	144.11	320	*e*PKPdf		PKPdf	03 28 34.3	0.0	
ISA	Isabella	144.11	320	⇑P		PKPdf	03 28 37.2	+3.0	
	baz=144								
KCPM	Cahto Peak	144.22	330	*e*PKPdf		PKPdf	03 28 34.5	+0.1	
BFSC	Mount Baldy Ra	144.44	317	⇓P		PKPdf	03 28 37.8	+2.9	
	baz=144								
HOPS	Hopland	144.49	328	*e*PKPdf		PKPdf	03 28 35.3	+0.6	
MURC	Murrieta	144.50	316	⇓P		PKPdf	03 28 38.4	+3.5	
	baz=144								
MWC	Mount Wilson	144.71	317	*e*PKIKP		PKPdf	03 28 36.1	+0.6	
MWC	Mount Wilson	144.71	317	*e*PKPdf		PKPdf	03 28 36.1	+0.6	
PASC	Pasadena Art C	144.83	317	*e*PKPdf		PKPdf	03 28 36.4	+0.9	
DECC	Green Verdugo	144.88	318	⇓P		PKPdf	03 28 36.1	+0.5	
	baz=145								
OSI	Osito Adit	144.92	319	⇓P		PKPdf	03 28 37.0	+1.3	
	baz=145								
MCCM	Marconi Confer	145.01	327	*e*PKPdf		PKPdf	03 28 36.4	+0.8	
FMP	Fort Macarthur	145.17	317	⇑P		PKPdf	03 28 37.8	+1.8	
	baz=145								
SAO	San Andreas Ge	145.19	324	*e*PKIKP		PKPdf	03 28 37.1	+1.1	
SAO	San Andreas Ge	145.19	324	*e*PKPdf		PKPdf	03 28 37.1	+1.1	
AFI	Afiamalu	145.24	133	*e*PKPdf		PKPbc	03 28 36.1	-0.3	
AFI	Afiamalu	145.24	133	PKPbc		PKPbc	03 28 36.0	-0.3	
	comp=Z,204nm,1.1s,baz=222,slow=5.9,SNR=14								
SMMC	Simmler	145.29	321	⇑P		PKPdf	03 28 38.2	+1.9	
	baz=145								
RKT	Rikitea	145.32	198	*e*SS		SS	03 50 47.3	+2.3	
	comp=Z,369nm,26.2s								
RKT	Rikitea	145.32	198	*e*LR		LR	04 16 21.8		
	comp=Z,2μm,28.2s								
CIS	Catalina Islan	145.43	317	⇑P		PKPab	03 28 38.4	+1.8	
	baz=145								
PKM	Peak Mountain	145.45	320	⇓P		PKPab	03 28 38.8	+1.9	
	baz=145								
BLG	Laguna Peak	145.45	318	⇓P		PKPab	03 28 38.2	+1.5	
	baz=145								
SBC	Santa Barbara	145.67	319	⇑P		PKPab	03 28 39.4	+1.9	
	baz=146								
SCI	San Clemente I	145.77	316	⇓P		PKPab	03 28 39.5	+1.6	
	baz=146								
BSC	Santa Cruz Isl	145.89	319	⇓P		PKPab	03 28 39.7	+1.3	
	baz=146								
RAR	Rarotonga	146.25	157	*e*PKPbc		PKPab	03 28 40.6	+0.7	
RAR				LR	LR				
	comp=Z,2μm,20.0s								
RAR	Rarotonga	146.25	157	PKPbc		PKPab	03 28 39.7	-0.2	
	comp=Z,40nm,1.0s,baz=270,slow=5.2,SNR=5.3								
TBI	Tubuai	146.72	175	*e*PP	PP	03 32 03.2	+0.9		
	comp=Z,236nm,24.5s								
TBI	Tubuai	146.72	175	*e*SS	SS	03 51 04.8	+4.3		
	comp=Z,498nm,29.8s								
TBI	Tubuai	146.72	175	*e*LR	LR	04 16 59.9			
	comp=Z,2μm,22.5s								
PPT2	Papeete2	152.40	173	*e*PP	PP	03 32 38.2	+2.8		
	comp=Z,384nm,24.5s								
PPT2	Papeete2	152.40	173	*e*LR	LR	04 19 36.4			
	comp=Z,3μm,25.0s								
TIAR	Tiarei	152.46	173	*e*PKPbc	PKPbc	03 28 56.9	+1.8		
	comp=Z,22nm,1.1s								
VAH	Vaihoa	154.90	177	*e*PKPbc	PKPdf	03 28 54.2	+2.4		
	comp=Z,45nm,1.3s								
PMOR	Pomariorio Ree	155.12	176	*e*PKPbc	PKPdf	03 28 54.5	+2.4		
	comp=Z,39nm,1.3s								
XMAS	Kiritimati	166.31	124	PFAKE		03 29 10.0	+5.7		
XMAS				LR	LR				
	comp=Z,5μm,22.0s								
POHA	Pohakuloa	166.74	42	PFAKE		03 29 20.0	+15		
POHA				LR	LR				
	comp=Z,4μm,19.0s								

*NEIC **08** 03:14:21.2,46.00S×166.88E,h81km,ML4.1(WEL),After WEL*

WEL 08 03:14:20.9±0.2,46.01S×166.84E,h82km±1km,ML4.1/15,
2C-5D,Error ellipse: s-maj=1.7km s-min=1.0km az=90.0,
Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
PYZ	Puysegur Point	0.19	215	⇓P	Pn	Pn	03 14 32.9	0.0	
PYZ					SN	Sn	03 14 41.8	0.0	
PYZ	Puysegur Point	0.19	215		Pn	Pn	03 14 33.0	0.0	
PYZ					Sn	Sn	03 14 41.8	0.0	
DCZ	Deep Cove	0.58	23		PN	Pn	03 14 35.4	-0.1	
DCZ					SN	Sn	03 14 46.9	+0.6	
DCZ					AML	AML	03 14 47.5		
DCZ					AML	AML	03 14 47.5		
DCZ					AML	AML	03 14 47.8		
DCZ	Deep Cove	0.58	23		Pn	Pn	03 14 35.4	-0.1	
WHZ	Wether Hill Ro	0.78	82	⇓P	Pn	Pn	03 14 37.3	-0.3	
WHZ					SN	Sn	03 14 49.6	-0.4	
WHZ					AML	AML	03 14 50.0

KLV	**Kalavryta, Ach**	**0.38**	**163**	*e*Pb	Pg	03 15 49.1	-0.4
KLV				*e*Sb	Sg	03 15 54.4	-0.3
DSF	**Desfina**	**0.41**	**90**	*e*PB	Pg	03 15 49.6	-0.3
DSF				*e*SB	Sg	03 15 56.0	+0.5
DSF	**Desfina**	**0.41**	**90**	*e*Pb	Pg	03 15 49.6	-0.3
DSF				*e*Sb	Sg	03 15 56.0	+0.5
DESF	**Desfina**	**0.41**	**89**	*e*PB	Pg	03 15 49.6	-0.4
DESF				*e*SB	Sg	03 15 56.1	+0.5
DESF	**Desfina**	**0.41**	**89**	*e*Pb	Pg	03 15 49.6	-0.4
DESF				*e*Sb	Sg	03 15 56.1	+0.5
DRO	**Drossia**	**0.51**	**207**	*e*PB	Pg	03 15 51.2	-0.7
DRO				*e*SB	Sb	03 15 59.5	-0.5
DRO	**Drossia**	**0.51**	**207**	*e*Pb	Pg	03 15 51.2	-0.7
DRO				*e*Sb	Sb	03 15 59.5	-0.5
EVR	**Evrytania**	**0.53**	**343**	*e*PB	Pg	03 15 51.4	-0.9
EVR				*e*SB	Sg	03 15 59.3	-0.2
EVR	**Evrytania**	**0.53**	**343**	*e*Pb	Pg	03 15 51.4	-0.9
EVR				*e*Sb	Sg	03 15 59.3	-0.2
GUR	**Goura**	**0.54**	**151**	*e*PB	Pg	03 15 52.0	-0.5
GUR				*e*SB	Sg	03 16 00.0	+0.2
GUR	**Goura**	**0.54**	**151**	*e*Pb	Pg	03 15 52.0	-0.5
GUR				*e*Sb	Sg	03 16 00.0	+0.2
RLS	**Riolos of Patr**	**0.55**	**231**	*e*PB	Pg	03 15 52.0	-0.6
RLS				*e*SB	Sg	03 16 00.2	+0.3
RLS	**Riolos of Patr**	**0.55**	**231**	*e*Pb	Pg	03 15 52.0	-0.6
RLS				*e*Sb	Sg	03 16 00.2	+0.3
MAKR	**Makrakomi, Fth**	**0.61**	**9**	*e*PB	Pg	03 15 53.5	-0.2
MAKR				*e*SB	Sg	03 16 02.0	+0.1
MAKR	**Makrakomi, Fth**	**0.61**	**9**	*e*Pb	Pg	03 15 53.5	-0.2
MAKR				*e*Sb	Sg	03 16 02.0	+0.1
AGG	**Agios Georgios**	**0.66**	**22**	*e*PB	Pg	03 15 53.8	-0.9
AGG	**Agios Georgios**	**0.66**	**22**	*e*Pb	Pg	03 15 53.8	-0.9
PDO	**Prodromos**	**0.68**	**286**	*e*PB	Pg	03 15 54.7	-0.2
PDO				*e*SB	Sb	03 16 05.1	+0.5
PDO	**Prodromos**	**0.68**	**286**	*e*Pb	Pg	03 15 54.7	-0.2
PDO				*e*Sb	Sb	03 16 05.1	+0.5
LKR	**Lokris**	**0.81**	**72**	*e*PG	Pg	03 15 56.8	-0.7
LKR	**Lokris**	**0.81**	**72**	*e*Pg	Pg	03 15 56.8	-0.7
AMT	**Artemida-Makis**	**0.91**	**195**	*e*PG	Pg	03 15 58.6	-0.7
AMT	**Artemida-Makis**	**0.91**	**195**	*e*Pg	Pg	03 15 58.6	-0.7
VLS	**Valsamata**	**1.14**	**259**	*e*PB	Pg	03 16 04.2	+0.5
VLS	**Valsamata**	**1.14**	**259**	*e*Pb	Pg	03 16 04.2	+0.5
THL	**Klokotos Trika**	**1.15**	**0**	*e*PB	Pg	03 16 04.2	+0.3
THL				*e*SB	Sn	03 16 19.9	+0.7
THL	**Klokotos Trika**	**1.15**	**0**	*e*Pb	Pg	03 16 04.2	+0.3
THL				*e*Sb	Sn	03 16 19.9	+0.7
DID	**Didima**	**1.32**	**133**	*e*PB	Pg	03 16 07.3	+0.1
DID	**Didima**	**1.32**	**133**	*e*Pb	Pg	03 16 07.3	+0.1

*CNRM **08** 03:26:11.4, 34°.62N×5°.26W, h30km, MD3.1*
*MDD **08** 03:26:11.1±0.5, 34°.43N×5°.57W, h0km, mbLg2.1/6, Error ellipse: s-maj=9.4km s-min=3.7km az=68.0, PRXIMO*
*INMG **08** 03:26:12.9±1.6, 34°.36N×5°.71W, h14km±9km, MD2.5, ML2.1, Error ellipse: s-maj=6.9km s-min=6.3km az=75.0*
*CSEM **08** 03:26:12.0±0.2, 34°.43N×5°.54W, h20km, ML2.7/11, Error ellipse: s-maj=8.0km s-min=3.1km az=70.0*
*IGIL **08** 03:26:13.1, 34°.48N×5°.70W, h0km, ML2.3*

ISC 08 03:26:10.4±1.4, 34°.43N±0°.02×5°.59W±0°.04, h11km±10km, n64, σ1¶40/105, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGT	**Taghat**	**0.57**	**129**	P	**Pg**	**03 26 21.0**	**-0.5**
TGT				S	**Sg**	**03 26 29.0**	**0.0**
TGT	**Taghat**	**0.57**	**129**	P	**Pg**	**03 26 21.0**	**-0.5**
TGT				S	**Sg**	**03 26 29.0**	**0.0**
MIF	**Mishlifen**	**1.06**	**164**	P	**Pb**	**03 26 31.0**	**0.0**
MIF				S	**Sb**	**03 26 45.0**	**+0.1**
MIF	**Mishlifen**	**1.06**	**164**	P	**Pb**	**03 26 31.0**	**0.0**
MIF				S	**Sb**	**03 26 45.0**	**+0.1**
CZD	**Col de Zad**	**1.47**	**162**	P	**Pn**	**03 26 38.0**	**+0.9**
CZD				S	**Sn**	**03 26 56.0**	**-0.4**
CZD	**Col de Zad**	**1.47**	**162**	P	**Pn**	**03 26 38.0**	**+0.9**
CZD				S	**Sn**	**03 26 56.0**	**-0.4**
KIB	**El Ksiba**	**1.89**	**192**	P	**Pn**	**03 26 44.0**	**+1.3**
KIB				S	**Sn**	**03 27 08.0**	**+1.4**
KIB	**El Ksiba**	**1.89**	**192**	P	**Pn**	**03 26 44.0**	**+1.3**
KIB				S	**Sn**	**03 27 08.0**	**+1.4**
EMIJ	**Mijas**	**2.23**	**17**	P	**Pn**	**03 26 49.0**	**+1.6**
	0.1nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**03 27 16.6**	**+1.6**
	1.0nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**2.23**	**17**	P	**Pn**	**03 26 49.0**	**+1.6**
	0.1nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**03 27 16.6**	**+1.6**
	1.0nm,0.2s,SNR=4.0						
ESPR	**Espera**	**2.44**	**355**	S	**Sn**	**03 27 21.1**	**+0.9**
	1.0nm,0.3s,SNR=4.0						
ESPR	**Espera**	**2.44**	**355**	S	**Sn**	**03 27 21.1**	**+0.9**
	1.0nm,0.3s,SNR=4.0						
ZFT	**Errachidia**	**2.60**	**156**	P	**Pn**	**03 26 52.0**	**-0.7**
ZFT				S	**Sn**	**03 27 23.0**	**-1.4**
ZFT	**Errachidia**	**2.60**	**156**	P	**Pn**	**03 26 52.0**	**-0.7**
ZFT				S	**Sn**	**03 27 23.0**	**-1.4**
PBDV	**Barranco-do-Ve**	**3.39**	**327**	*e*S	**Sn**	**03 27 43.9**	**+0.3**
PBDV	**Barranco-do-Ve**	**3.39**	**327**	*e*Pn	**Pn**	**03 27 43.8**	**+0.4**
PBDV				*e*Sn	**Sn**	**03 27 42.9**	**-0.7**
PBDV				A	A	03 27 45.2	
	1.9nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.39**	**327**	*e*Pn	**Pn**	**03 27 03.8**	**+0.4**
PBDV				*e*Sn	**Sn**	**03 27 42.9**	**-0.7**
	1.9nm,0.2s						
PVAQ	**Vaqueiros**	**3.44**	**330**	*e*Pn	**Pn**	**03 27 04.3**	**+0.4**
PVAQ				*e*Sn	**Sn**	**03 27 44.1**	**-0.5**
PVAQ				A	A	03 27 46.5	
	5.0nm,0.3s						
PVAQ	**Vaqueiros**	**3.44**	**330**	*e*Pn	**Pn**	**03 27 04.3**	**+0.4**
PVAQ				*e*Sn	**Sn**	**03 27 44.1**	**-0.5**
	5.0nm,0.3s						
PVAQ	**Vaqueiros**	**3.44**	**330**	*e*S	**Sn**	**03 27 45.2**	**+0.6**
EMIN	**Mina Concepcio**	**3.44**	**346**	P	**Pn**	**03 27 04.4**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**03 27 44.3**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.44**	**346**	P	**Pn**	**03 27 04.4**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**03 27 44.3**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.46**	**334**	P	**Pn**	**03 27 04.8**	**+0.6**
	0.2nm,0.1s,SNR=11						
EGRO				S	**Sn**	**03 27 44.7**	**-0.5**
	6.4nm,0.2s,SNR=6.0						
EGRO	**El Granado**	**3.46**	**334**	P	**Pn**	**03 27 04.8**	**+0.6**
	0.2nm,0.1s,SNR=11						
EGRO				S	**Sn**	**03 27 44.7**	**-0.5**
	6.4nm,0.2s,SNR=6.0						
ECAB	**El Cabril**	**3.64**	**2**	P	**Pn**	**03 27 08.2**	**+1.4**
	0.1nm,0.1s,SNR=6.1						
ECAB				S	**Sn**	**03 27 48.9**	**-0.8**
	0.8nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.64**	**2**	P	**Pn**	**03 27 08.2**	**+1.4**
	0.1nm,0.1s,SNR=6.1						
ECAB				S	**Sn**	**03 27 48.9**	**-0.8**
	0.8nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**3.76**	**329**	*e*Pn	**Pn**	**03 27 10.7**	**+2.3**
PCVE				*e*Sn	**Sn**	**03 27 52.2**	**-0.5**
PCVE				A	A	03 27 55.6	
	2.3nm,0.2s						
PCVE	**Castro Verde**	**3.76**	**329**	*e*Pn	**Pn**	**03 27 10.7**	**+2.3**
PCVE				*e*Sn	**Sn**	**03 27 52.2**	**-0.5**
	2.3nm,0.2s						
PFVI	**Vila Bisbo**	**3.77**	**317**	P	**Pn**	**03 27 09.5**	**+1.0**
	1.3nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**03 27 49.6**	**-3.3**
	3.5nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.77**	**317**	*e*Sn	**Sn**	**03 27 52.5**	**-0.4**
PFVI				A	A	03 28 11.5	
	7.1nm,0.7s						
PFVI	**Vila Bisbo**	**3.77**	**317**	P	**Pn**	**03 27 09.5**	**+1.0**
	1.3nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**03 27 52.5**	**-0.4**
	7.1nm,0.7s						
PFVI	**Vila Bisbo**	**3.77**	**317**	*e*S	**Sn**	**03 27 49.4**	**-3.5**
MORF	**Marmelete**	**3.80**	**320**	S	**Sn**	**03 27 51.4**	**-2.3**
	SNR=7.9						
MORF	**Marmelete**	**3.80**	**320**	*e*Pn	**Pn**	**03 27 11.7**	**+2.7**
MORF				*e*Sn	**Sn**	**03 27 54.0**	**+0.3**
MORF				A	A	03 27 57.8	
	3.8nm,0.2s						
MORF	**Marmelete**	**3.80**	**320**	*e*Pn	**Pn**	**03 27 11.7**	**+2.7**
MORF				*e*Sn	**Sn**	**03 27 54.0**	**+0.3**
	3.8nm,0.2s						
MORF	**Marmelete**	**3.80**	**320**	*e*S	**Sn**	**03 27 51.2**	**-2.5**
EADA	**Adamuz**	**3.82**	**12**	P	**Pn**	**03 27 10.7**	**+1.5**
	0.2nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**03 27 53.5**	**-0.6**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.82**	**12**	P	**Pn**	**03 27 10.7**	**+1.5**
	0.2nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**03 27 53.5**	**-0.6**
	0.6nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**3.92**	**343**	*e*Pn	**Pn**	**03 27 11.8**	**+1.2**
PBAR				*e*Sn	**Sn**	**03 27 55.7**	**-0.8**
PBAR				A	A	03 28 07.4	
	1.5nm,0.3s						
PBAR	**Barrancos**	**3.92**	**343**	*e*Pn	**Pn**	**03 27 11.8**	**+1.2**
PBAR				*e*Sn	**Sn**	**03 27 55.7**	**-0.8**
	1.5nm,0.3s						
EQES	**Quesada**	**3.93**	**30**	S	**Sn**	**03 27 58.4**	**+1.3**
	0.5nm,0.3s,SNR=10						
EQES	**Quesada**	**3.93**	**30**	S	**Sn**	**03 27 58.4**	**+1.3**
	0.5nm,0.3s,SNR=10						
MESJ	**Messejana**	**4.02**	**329**	*e*P	**Pn**	**03 27 12.5**	**+0.5**
MESJ				*e*S	**Sn**	**03 27 56.5**	**-2.5**
MESJ				AML	AML	03 28 02.1	
	comp=N,6.5nm,0.5s						
MESJ	**Messejana**	**4.02**	**329**	P	**Pn**	**03 27 12.4**	**+0.5**
	SNR=7.9						
MESJ				S	**Sn**	**03 27 56.8**	**-2.2**
	SNR=7.9						
MESJ	**Messejana**	**4.02**	**329**	P	**Pn**	**03 27 12.4**	**+0.5**
	SNR=7.9						
MESJ				S	**Sn**	**03 27 56.8**	**-2.2**
	SNR=7.9						
PTEO	**Sao Teotonio**	**4.02**	**322**	*e*Sn	**Sn**	**03 27 58.1**	**-0.9**
PTEO				A	A	03 28 04.2	
	comp=N,6.1nm,0.9s						
PTEO	**Sao Teotonio**	**4.02**	**322**	*e*Sn	**Sn**	**03 27 58.1**	**-0.9**
	comp=N,6.1nm,0.9s						
PBEJ	**Beja**	**4.04**	**333**	*e*Sn	**Sn**	**03 27 59.4**	**0.0**
PBEJ				A	A	03 28 00.2	
	comp=N,1.5nm,0.5s						
PBEJ	**Beja**	**4.04**	**333**	*e*Sn	**Sn**	**03 27 59.4**	**0.0**
	comp=N,1.5nm,0.5s						
PNCL	**Nicolau / Gran**	**4.38**	**328**	*e*Sn	**Sn**	**03 28 07.2**	**-0.6**
PNCL				A	A	03 28 17.5	
	comp=N,2.2nm,0.9s						
PNCL	**Nicolau / Gran**	**4.38**	**328**	*e*Sn	**Sn**	**03 28 07.2**	**-0.6**
	comp=N,2.2nm,0.9s						
EBAD	**Badajoz**	**4.47**	**346**	P	**Pn**	**03 27 19.9**	**+1.8**
	comp=N,0.6nm,0.1s,SNR=9.0						
EBAD				S	**Sn**	**03 28 08.3**	**-1.8**
	comp=N,0.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**346**	P	**Pn**	**03 27 19.9**	**+1.8**
	comp=N,0.6nm,0.1s,SNR=9.0						
EBAD				S	**Sn**	**03 28 08.3**	**-1.8**
	comp=N,0.4nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**4.71**	**341**	*e*Pn	**Pn**	**03 27 23.3**	**+1.8**
PESTR				*e*Sn	**Sn**	**03 28 15.8**	**-0.4**
PESTR				A	A	03 28 24.3	
	comp=N,1.2nm,0.9s						
PESTR	**Estremoz**	**4.71**	**341**	*e*Pn	**Pn**	**03 27 23.3**	**+1.8**
PESTR				*e*Sn	**Sn**	**03 28 15.8**	**-0.4**
	comp=N,1.2nm,0.9s						
PMTG	**Montargil**	**5.09**	**336**	*e*Sn	**Sn**	**03 28 25.3**	**-0.2**
PMTG				A	A	03 28 26.6	
	comp=N,1.8nm,1.1s						
PMTG	**Montargil**	**5.09**	**336**	*e*Sn	**Sn**	**03 28 25.3**	**-0.2**
	comp=N,1.8nm,1.1s						
PMRV	**Marv??o**	**5.20**	**344**	*e*Sn	**Sn**	**03 28 27.3**	**-0.7**
PMRV	**Marv??o**	**5.20**	**344**	*e*Sn	**Sn**	**03 28 27.3**	**-0.7**
ESDC	**Sonseca Array**	**5.39**	**13**	S	**Sn**	**03 28 30.1**	**-2.9**
	comp=N,0.3nm,0.3s,baz=198,slow=22,SNR=6.2						
ESDC	**Sonseca Array**	**5.39**	**13**	S	**Sn**	**03 28 30.1**	**-2.9**
	comp=N,0.3nm,0.3s,SNR=6.2						
EPLA	**Plasencia**	**5.64**	**356**	P	**Pn**	**03 27 34.7**	**+0.5**
	comp=N,1.7nm,0.2s,SNR=8.3						
EPLA				S	**Sn**	**03 28 36.8**	**-2.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.64**	**356**	P	**Pn**	**03 27 34.7**	**+0.5**
	comp=N,1.7nm,0.2s,SNR=8.3						
EPLA				S	**Sn**	**03 28 36.8**	**-2.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.31**	**10**	S	**Sn**	**03 28 51.4**	**-4.2**
	comp=N,0.2nm,0.2s,SNR=7.9						

*ISCJB **08** 03:31:16.4±0.4, 9°.87S±0°.04×33°.69E±0°.05, h10km, mb3.9/12, Error ellipse: s-maj=7.5km s-min=5.6km az=6.1*
*IDC **08** 03:31:16.9±0.7, 9°.95S×33°.85E, h0km, mb3.9/13, mb1 4.2/19, mb1mx4.1/33, mbtmp4.1/19, ML3.5/4, Error ellipse: s-maj=21.2km s-min=14.9km az=110.0*
*NEIC **08** 03:31:18.2±0.3, 9°.95S×33°.87E, h10km, mb4.4/1, Error ellipse: s-maj=8.6km s-min=6.5km az=104.0*

ISC 08 03:31:18.3±0.5, 9°.95S±0°.05×33°.68E±0°.06, h10km, n40, σ1¶77/51, mb4.0/12, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MZM	**Mzuzu**	**1.52**	**167**	*i* P	**Pg**	**03 31 49.3**	**+1.9**
MZM				*i* S	**Sb**	**03 32 06.1**	**+0.3**
LSZ	**Lusaka**	**7.54**	**225**	*e*Pn	**Pn**	**03 33 10.8**	**+2.3**
	53nm,0.4s						
LSZ				*e*S	**Sn**	**03 34 33.4**	**-0.7**
LSZ				Lg	Lg	03 35 10.7	
LSZ	**Lusaka**	**7.54**	**225**	Pn	**Pn**	**03 33 10.4**	**+1.9**
	26nm,0.3s,baz=48,slow=11,SNR=28						
LSZ				Sn	**Sn**	**03 34 36.1**	**+2.0**
	16nm,0.3s,baz=320,slow=19,SNR=6.2						
LSZ				Lg	Lg	03 35 10.7	
	24nm,0.3s,baz=74,slow=15,SNR=4.7						
KMBO	**Kilima Mbogo**	**9.45**	**22**	*e*Pn	**Pn**	**03 33 33.7**	**-1.1**
KMBO				*e*S	Sn	03 35 03.5	-18
KMBO				Lg	Lg	03 36 04.7	
KMBO	**Kilima Mbogo**	**9.45**	**22**	Pn	**Pn**	**03 33 32.5**	**-2.3**
	2.6nm,0.3s,baz=211,slow=18,SNR=12						
KMBO				Sn	Sn	03 35 01.3	-20
	0.6nm,0.3s,baz=252,slow=20,SNR=3.4						
KMBO				Lg	Lg	03 36 04.7	
	1.4nm,0.3s,baz=253,slow=19,SNR=5.1						
MBAR	**Mbarara**	**9.73**	**342**	Pn	**Pn**	**03 33 37.5**	**-1.1**
MBAR				Sn	Sn	03 35 11.6	-17
MBAR				Lg	Lg	03 36 12.8	
MBAR	**Mbarara**	**9.73**	**342**	Pn	**Pn**	**03 33 37.5**	**-1.1**
	3.5nm,0.3s,baz=168,slow=19,SNR=8.5						
MBAR				Sn	Sn	03 35 11.6	-17
	0.7nm,0.3s,baz=90,slow=20,SNR=3.1						
MBAR				Lg	Lg	03 36 12.8	
	12nm,0.3s,baz=188,slow=22,SNR=5.0						
OPO	**Ambohidratompo**	**15.64**	**125**	Pn	**Pn**	**03 34 55.8**	**-3.3**
OPO				Sn	**Sn**	**03 37 54.4**	**+1.7**
OPO	**Ambohidratompo**	**15.64**	**125**	Pn	**Pn**	**03 34 55.8**	**-3.3**
	0.3nm,0.3s,baz=275,slow=15,SNR=2.5						
OPO				Sn	**Sn**	**03 37 54.4**	**+1.7**
	0.4nm,0.3s,baz=257,slow=19,SNR=2.6						
ABPO	**Ambohimpanom**	**15.91**	**126**	*e*Pn	**Pn**	**03 35 00.1**	**-2.5**
LBTB	**Lobatse**	**16.84**	**206**	*e*Pn	**Pn**	**03 35 15.1**	**+0.7**
	18nm,0.6s						
LBTB				Sn	**S**	**03 38 31.4**	**-1.1**
LBTB				Lg	Lg	03 40 01.5	
LBTB	**Lobatse**	**16.84**	**206**	Pn	**Pn**	**03 35 14.1**	**-0.4**
	3.8nm,0.3s,baz=34,slow=12,SNR=17						
LBTB				Sn	**S**	**03 38 31.4**	**-1.1**
	1.1nm,0.3s,baz=290,slow=11,SNR=3.6						
LBTB				Lg	Lg	03 40 01.5	
	0.6nm,0.3s,baz=123,slow=18,SNR=2.6						
TSUM	**Tsumeb**	**18.08**	**238**	P	**P**	**03 35 31.7**	**+1.4**
TSUM				S	**Sn**	**03 38 46.7**	**-5.2**
TSUM				Lg	Lg	03 40 44.9	
TSUM	**Tsumeb**	**18.08**	**238**	P	**P**	**03 35 31.7**	**+1.4**
	1.7nm,0.3s,baz=46,slow=11,SNR=7.4						
TSUM				S	**Sn**	**03 38 46.7**	**-5.2**
	0.6nm,0.3s,baz=109,slow=22,SNR=3.9						
TSUM				Lg	Lg	03 40 44.9	
	0.8nm,0.3s,baz=100,slow=18,SNR=2.1						
BOSA	**Boshof**	**20.19**	**202**	P	**P**	**03 35 53.2**	**-0.1**
BOSA				S	**S**	**03 39 37.4**	**-2.7**
BOSA				Lg	Lg	03 41 46.9	
BOSA	**Boshof**	**20.19**	**202**	P	**P**	**03 35 53.2**	**-0.1**
	7.6nm,0.9s,baz=29,slow=12,SNR=8.3						
BOSA				S	**S**	**03 39 37.4**	**-2.7**
	2.2nm,0.7s,baz=105,slow=20,SNR=1.7						
BOSA				Lg	Lg	03 41 46.9	
	27nm,1.0s,baz=299,slow=21,SNR=4.4						
SUR	**Sutherland**	**25.30**	**206**	P	**P**	**03 36 46.1**	**+0.7**
SUR				Lg	Lg	03 44 25.5	
	8.1nm,1.1s,baz=105,slow=4.3,SNR=2.3						
SUR				Lg	Lg	03 44 25.5	
	21nm,1.1s,baz=303,slow=18,SNR=2.9						
TORD	**Torodi Ar. Bea**	**39.18**	**305**	P	**P**	**03 38 47.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**39.18**	**305**	P	**P**	**03 38 47.9**	**+1.1**
	0.8nm,0.8s,baz=106,slow=9.9,SNR=7.0						
BRTR	**Keskin Array B**	**49.41**	**360**	P	**P**	**03 40 08.9**	**+0.3**
BRTR	**Keskin Array B**	**49.41**	**360**	P	**P**	**03 40 08.9**	**+0.3**
	1.1nm,0.7s,baz=170,slow=8.6,SNR=7.5						
ESDC	**Sonseca Array**	**60.47**	**327**	P	**P**	**03 41 29.5**	**+1.0**
ESDC	**Sonseca Array**	**60.47**	**327**	P	**P**	**03 41 29.5**	**+1.0**
	1.2nm,1.0s,baz=131,slow=6.1,SNR=4.2						
AKASG	**Malin Array Be**	**60.52**	**357**	P	**P**	**03 41 28.9**	**+0.4**
AKASG	**Malin Array Be**	**60.52**	**357**	P	**P**	**03 41 28.9**	**+0.4**
	0.1nm,0.3s,baz=184,slow=6.2,SNR=5.9						
GERES	**GERESS Array B**	**61.13**	**345**	P	**P**	**03 41 33.1**	**+0.2**
GERES	**GERESS Array B**	**61.13**	**345**	P	**P**	**03 41 33.1**	**+0.2**
	0.4nm,0.7s,baz=160,slow=6.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**70.29**	**66**	P	**P**	**03 42 31.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**70.29**	**66**	P	**P**	**03 42 31.9**	**-0.6**
	0.9nm,0.3s,baz=246,slow=6.8,SNR=2.8						
MKAR	**Makanchi Array**	**71.16**	**33**	P	**P**	**03 42 36.9**	**-0.4**
MKAR	**Makanchi Array**	**71.16**	**33**	P	**P**	**03 42 36.9**	**-0.4**
	1.9nm,0.8s,baz=220,slow=4.6,SNR=7.6						
ZALV	**Zalesovo Beam**	**76.88**	**28**	P	**P**	**03 43 09.6**	**-0.9**
ZALV	**Zalesovo Beam**	**76.88**	**28**	P	**P**	**03 43 09.6**	**-0.9**
	0.4nm,0.5s,baz=267,slow=5.8,SNR=3.3						
SONM	**Songino Array**	**85.96**	**40**	P	**P**	**03 44 00.5**	**+1.5**
SONM	**Songino Array**	**85.96**	**40**	P	**P**	**03 44 00.5**	**+1.5**
	0.9nm,0.8s,baz=224,slow=4.0,SNR=2.5						
ASAR	**Alice Springs**	**95.27**	**115**	P	**P**	**03 44 42.5**	**-0.6**
ASAR	**Alice Springs**	**95.27**	**115**	P	**P**	**03 44 42.5**	**-0.6**
	0.7nm,0.6s,baz=264,slow=4.1,SNR=9.8						
WRA	**Warramunga Arr**	**96.50**	**111**	P	**P**	**03 44 48.2**	**-0.7**
WRA	**Warramunga Arr**	**96.50**	**111**	P	**P**	**03 44 48.2**	**-0.7**
	0.4nm,0.8s,baz=270,slow=6.0,SNR=4.6						

*ISCJB **08** 03:40:11.2±1.1, 10°.25S±0°.1×161°.6E±0°.1, h85km, mb3.3/4, Error ellipse: s-maj=21.4km s-min=11.5km az=38.9*
*IDC **08** 03:40:13.8±2.6, 10°.25S×161°.40E, h101km±20km, mb3.2/4, mb1 3.5/5, mb1mx3.4/20, mbtmp3.4/5, Error ellipse: s-maj=28.9km s-min=23.9km az=80.0*

ISC 08 03:40:12.4±1.2, 10°.2S±0°.1×161°.6E±0°.1, h85km, n10, σ1¶40/8, mb3.4/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.73**	**294**	P	**Pn**	**03 40 41.3**	**+0.4**
	36nm,0.3s,baz=159,slow=5.1,SNR=6.3						
HNR				S	**Sn**	**03 41 03.4**	**+0.7**
	105nm,0.3s,baz=176,slow=7.9,SNR=6.6						
DZM	**Mont Dzumac**	**12.75**	**159**	P	**Pn**	**03 43 11.3**	**+0.7**
	0.3nm,0.3s,baz=324,slow=18,SNR=4.0						
CTA	**Charters Tower**	**17.76**	**234**	P	**Pn**	**03 44 15.7**	**+1.5**
	0.7nm,0.3s,baz=49,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**27.99**	**246**	P	**P**	**03 45 53.7**	**-1.7**
	0.7nm,0.7s,baz=76,slow=9.4,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**28.91**	**10**	T	T	04 16 18.9	
	baz=185						
H11S3	**WAKE ISLAND Hy**	**28.91**	**10**	T	T	04 16 20.2	
	baz=185						
H11S1	**WAKE ISLAND Hy**	**28.92**	**10**	T	T	04 16 19.0	
	baz=185						
ASAR	**Alice Springs**	**29.60**	**239**	P	**P**	**03 46 07.8**	**-1.9**
	0.2nm,0.8s,baz=60,slow=9.7,SNR=2.9						
ILAR	**Eielson Array**	**84.02**	**20**	P	**P**	**03 52 33.3**	**+0.2**
	0.5nm,1.0s,baz=240,slow=5.0,SNR=7.7						
MKAR	**Makanchi Array**	**90.06**	**318**	P	**P**	**03 53 02.6**	**-0.2**
	0.4nm,0.7s,baz=82,slow=5.8,SNR=3.0						

**IDC 08 03:44:25.7±2.3, 27°.42S×177°.25W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/17, mbtmp3.8/2, Error ellipse: s-maj=55.

DID					eSn	Sb	04 04 58.5	+0.9
DRO	Drossia	2.27	356		P	Pb	04 04 33.2	-1.4
DRO	Drossia	2.27	356		ePN	Pb	04 04 33.9	-0.7
DRO	Drossia	2.27	356		P	Pb	04 04 33.2	-1.4
DRO	Drossia	2.27	356		ePn	Pb	04 04 33.9	-0.7
GUR	Goura	2.27	8		P	Pn	04 04 32.3	+1.3
GUR	Goura	2.27	8		ePN	Pb	04 04 34.5	-0.2
GUR	Goura	2.27	8		P	Pn	04 04 32.3	+1.3
GUR	Goura	2.27	8		ePn	Pb	04 04 34.5	-0.2
KLV	Kalavryta, Ach	2.36	4		P	Pb	04 04 34.5	-1.7
KLV	Kalavryta, Ach	2.36	4		ePN	Pb	04 04 35.9	-0.3
KLV	Kalavryta, Ach	2.36	4		P	Pb	04 04 34.5	-1.7
KLV	Kalavryta, Ach	2.36	4		ePn	Pb	04 04 35.9	-0.3
RLS	Riolos of Patr	2.40	351		P	Pb	04 04 34.4	+1.8
RLS	Riolos of Patr	2.40	351		ePN	Pb	04 04 36.1	-0.7
RLS	Riolos of Patr	2.40	351		P	Pb	04 04 34.4	+1.8
RLS	Riolos of Patr	2.40	351		ePn	Pb	04 04 36.1	-0.7
NAIG	Nisos Aigina	2.42	31		ePN	Pb	04 04 35.6	-1.5
NAIG	Nisos Aigina	2.42	31		ePn	Pb	04 04 35.6	-1.5
SIVA	Sivas	2.44	105		P	Pb	04 04 35.6	-2.0
SIVA	Sivas	2.44	105		ePB	Pb	04 04 35.7	-1.9
SIVA	Sivas	2.44	105		P	Pb	04 04 35.6	-2.0
IDI	Anoyia	2.45	98		P	Pn	04 04 34.2	+0.8
IDI	Anoyia	2.45	98		ePB	Pb	04 04 35.8	-1.9
IDI	Anoyia	2.45	98		P	Pn	04 04 34.2	+0.8
IDI	Anoyia	2.45	98		ePb	Pb	04 04 35.8	-1.9
IDI	Anoyia	2.45	98		P	Pn	04 04 34.8	+1.4
	2.1nm,0.3s,baz=313,slow=19,SNR=40							
LTK	Loutraki	2.48	19		P	Pb	04 04 35.9	-2.3
LTK	Loutraki	2.48	19		ePN	Pb	04 04 37.1	-1.1
LTK	Loutraki	2.48	19		P	Pb	04 04 35.9	-2.3
LTK	Loutraki	2.48	19		ePn	Pb	04 04 37.1	-1.1
LAKA	Lakka	2.55	1		P	Pb	04 04 37.4	-2.0
LAKA	Lakka	2.55	1		ePN	Pb	04 04 38.4	-1.0
LAKA	Lakka	2.55	1		P	Pb	04 04 37.4	-2.0
LAKA	Lakka	2.55	1		ePn	Pb	04 04 38.4	-1.0
KFL	Anninata	2.59	340		P	Pb	04 04 38.0	-2.1
KFL	Anninata	2.59	340		P	Pb	04 04 38.0	-2.1
ATH	Athens Observa	2.69	32		ePB	Pb	04 04 40.5	-1.4
ATH	Athens Observa	2.69	32		ePb	Pb	04 04 40.5	-1.4
KALE	Kalithea	2.71	3		P	Pn	04 04 39.0	+2.0
KALE	Kalithea	2.71	3		ePB	Pb	04 04 40.5	-1.6
KALE	Kalithea	2.71	3		P	Pn	04 04 39.0	+2.0
KALE	Kalithea	2.71	3		ePb	Pb	04 04 40.5	-1.6
VILL	Villia	2.71	24		P	Pn	04 04 37.4	+0.4
VILL	Villia	2.71	24		P	Pn	04 04 37.4	+0.4
VILL	Villia	2.71	24		ePn	Pb	04 04 39.6	-2.6
VLS	Valsamata	2.71	337		P	Pn	04 04 39.5	+2.5
VLS	Valsamata	2.71	337		ePB	Pb	04 04 39.8	-2.3
VLS	Valsamata	2.71	337		P	Pn	04 04 39.5	+2.5
VLS	Valsamata	2.71	337		ePb	Pb	04 04 39.8	-2.3
VIL2	Platees	2.74	23		ePN	Pn	04 04 39.6	+2.2
DSF	Desfina	2.76	10		P	Pn	04 04 39.1	+1.4
DSF	Desfina	2.76	10		ePN	Pb	04 04 41.0	-2.1
DSF	Desfina	2.76	10		P	Pn	04 04 39.1	+1.4
DSF	Desfina	2.76	10		ePn	Pb	04 04 41.0	-2.1
DESF	Desfina	2.76	10		ePB	Pb	04 04 41.4	-1.7
DESF	Desfina	2.76	10		ePb	Pb	04 04 41.4	-1.7
PTL	Penteli	2.82	33		ePN	Pn	04 04 40.5	+2.0
PTL	Penteli	2.82	33		ePn	Pn	04 04 40.5	+2.0
LAST	Lasithi	2.94	99		ePN	Pb	04 04 43.4	-2.8
LAST	Lasithi	2.94	99		ePn	Pb	04 04 43.4	-2.8
PDO	Prodromos	2.97	349		P	Pb	04 04 43.8	-2.7
PDO	Prodromos	2.97	349		ePB	Pb	04 04 44.8	-1.7
PDO	Prodromos	2.97	349		P	Pb	04 04 43.8	-2.7
PDO	Prodromos	2.97	349		ePb	Pb	04 04 44.8	-1.7
NPS	Neapolis	3.03	97		ePN	Pn	04 04 44.1	+2.7
NPS	Neapolis	3.03	97		ePn	Pn	04 04 44.1	+2.7
LKR	Lokris	3.08	16		ePN	Pb	04 04 45.2	-3.2
LKR	Lokris	3.08	16		ePn	Pb	04 04 45.2	-3.2
ERET	Eretria	3.13	28		P	Pn	04 04 43.3	+0.5
ERET	Eretria	3.13	28		P	Pn	04 04 43.3	+0.5
APE	Apeiranthos	3.21	64		ePN	Pn	04 04 46.7	+2.7
APE	Apeiranthos	3.21	64		ePn	Pn	04 04 46.7	+2.7
EVR	Evrytania	3.23	358		P	Pn	04 04 46.7	+2.5
EVR	Evrytania	3.23	358		ePN	Pb	04 04 48.1	-2.9
EVR	Evrytania	3.23	358		P	Pn	04 04 46.7	+2.5
EVR	Evrytania	3.23	358		ePn	Pb	04 04 48.1	-2.9
MAKR	Makrakomi, Fth	3.33	3		P	Pn	04 04 48.5	+3.0
MAKR	Makrakomi, Fth	3.33	3		ePN	Pb	04 04 49.2	-3.5
MAKR	Makrakomi, Fth	3.33	3		P	Pn	04 04 48.5	+3.0
MAKR	Makrakomi, Fth	3.33	3		ePn	Pb	04 04 49.2	-3.5
AGG	Agios Georgios	3.34	5		P	Pn	04 04 47.7	+2.0
AGG	Agios Georgios	3.34	5		ePN	Pn	04 04 48.7	+3.0
AGG	Agios Georgios	3.34	5		P	Pn	04 04 47.7	+2.0
AGG	Agios Georgios	3.34	5		ePn	Pn	04 04 48.7	+3.0
SMIA	Simia	3.34	17		ePN	Pn	04 04 48.6	+2.9
SMIA	Simia	3.34	17		ePn	Pn	04 04 48.6	+2.9
ZKR	Zakros	3.55	98		ePN	Pn	04 04 51.9	+3.4
ZKR	Zakros	3.55	98		ePn	Pn	04 04 51.9	+3.4
SKIA	Skiathos	3.68	19		ePN	Pn	04 04 52.9	+2.6
SKIA	Skiathos	3.68	19		ePn	Pn	04 04 52.9	+2.6
NEO	Neokhori	3.76	15		ePN	Pn	04 04 53.7	+2.3
NEO	Neokhori	3.76	15		ePn	Pn	04 04 53.7	+2.3
AOS	Alonnisos	3.81	23		ePN	Pn	04 04 54.1	+2.1
AOS	Alonnisos	3.81	23		ePn	Pn	04 04 54.1	+2.1
XOR	Xorichti	3.81	15		ePN	Pn	04 04 54.3	+2.2
XOR	Xorichti	3.81	15		ePn	Pn	04 04 54.3	+2.2
KEK	Kerkira	4.36	338		ePN	Pn	04 05 04.0	+4.3
KEK	Kerkira	4.36	338		ePn	Pn	04 05 04.0	+4.3
BIA	Bitola	5.35	355		i Pn	Pn	04 05 13.4	+0.2
BIA	Bitola	5.35	355		i Pn	Pn	04 05 13.4	+0.2
VAY	Valandovo	5.65	5		ePN	Pn	04 05 19.7	+2.3
VAY	Valandovo	5.65	5		ePn	Pn	04 05 20.1	+2.8
SKO	Skopje	6.29	357		ePN	Pn	04 05 27.5	+1.3
SKO	Skopje	6.29	357		ePn	Pn	04 05 27.9	+1.8
STON	Ston	7.89	337		ePN	Pn	04 05 45.9	-2.2
STON						Sn	04 07 08.2	-8.8
BRTR	Keskin Array B	10.11	63		P	Pn	04 06 21.7	+3.0
	0.1nm,0.3s,baz=251,slow=14,SNR=2.7							
NVLJ	Novalja	10.38	331		ePn	Pn	04 06 20.8	-1.4
NVLJ						Sn	04 08 09.2	-9.0
MMAI	Mount Meron Ar	11.45	100		P	Pn	04 06 38.0	+1.1
	0.1nm,0.3s,baz=280,slow=10,SNR=3.4							
MMAI					S	Sn	04 08 34.1	-11
	0.9nm,0.3s,baz=308,slow=24,SNR=3.3							
GERES	GERESS Array B	14.48	338		P	Pn	04 07 21.4	+3.1
	0.0nm,0.3s,baz=168,slow=11,SNR=2.7							
ESDC	Sonseca Array	20.85	289		P	Pn	04 08 39.5	+1.7
	0.5nm,0.6s,baz=90,slow=11,SNR=5.1							
HFS	Hagfors	25.04	350		P	P	04 09 17.1	-0.1
	4.1nm,1.0s,baz=156,slow=11,SNR=7.6							
FINES	FINESS Array B	25.91	5		P	P	04 09 25.3	+0.2
	0.7nm,0.4s,baz=174,slow=12,SNR=4.8							
TORD	Torodi Ar. Bea	28.92	224		P	P	04 09 57.6	+5.1
	0.8nm,0.7s,baz=35,slow=10,SNR=8.3							
ARCES	ARCESS Array B	33.96	2		P	P	04 10 37.1	+0.7
	0.7nm,0.6s,baz=184,slow=8.8,SNR=7.4							
MKAR	Makanchi Array	45.68	57		P	P	04 12 12.8	-1.4
	1.7nm,0.5s,baz=268,slow=7.5,SNR=37							

*CSEM **08** 04:26:31.4±99.0, 46°.39N×15°.07E, h0km, Suspected Mining induced. After LJU*

LJU 08 04:26:31.4, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDS	Vrh nad Dolski	0.39	222	ePg	Pg	04 26 38.8	-0.1

MEX 08 04:44:20.7±0.5, 15°.61N×97°.33W, h12km±9km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	1.10	316	eP	Pb	04 44 38.4	-3.3
PNIG				i S	Sb	04 44 51.6	-4.4
HUIG	Huatulco	1.19	82	eP	Pn	04 44 39.1	-4.1
HUIG				eS	Sb	04 44 54.4	-4.1
VHO	Vista Hermosa	1.56	21	eP	Pn	04 44 45.1	-3.6
VHO				i S	Sn	04 45 03.9	-5.1

*IDC **08** 04:55:07.7±0.4, 59°.69S×26°.42W, h0km, mb4.6/14, mb1 4.6/15, mb1mx4.6/19, mbtmp4.6/15, ML4.7/1, MS4.2/14, Ms1 4.1/14, ms1mx4.1/24, Error ellipse: s-maj=21.2km s-min=14.3km az=65.0*

*ISCJB **08** 04:55:13.9±0.4, 59°.87S±0°.08×26°.4W±0°.2, h61km, mb4.5/21, Error ellipse: s-maj=14.0km s-min=8.3km az=142.5*

*NEIC **08** 04:55:14.5±2.1, 59°.74S×26°.33W, h47km±19km, mb4.8/10, Error ellipse: s-maj=12.4km s-min=8.4km az=221.0*

ISC 08 04:55:16.0±0.4, 59.76S±0.09×26.37W±0.09, h61km, n89, σ1s08/78, mb4.6/19, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.23	153	ePn	Pn	04 58 16.7	-3.9
VNA2	Neumayer--Watz	13.63	153	ePn	Pn	04 58 21.3	-4.7
VNA2	Neumayer--Watz	13.63	153	eSn	Sn	05 00 41.3	-14
SNAA	Sanae	15.21	151	ePn	Pn	04 58 41.9	-4.9
SNAA	Sanae	15.21	151	eSn	Sn	05 01 18.5	-16
SNAA	Sanae	15.21	151	ePn	Pn	04 58 43.7	-3.1
	21nm,0.4s						
SNAA				Sn	Sn	05 01 17.0	-17
SNAA	Sanae	15.21	151	Pn	Pn	04 58 42.6	-4.2
	3.3nm,0.3s,baz=315,slow=15,SNR=148						
SNAA				Sn	Sn	05 01 17.0	-17
	0.3nm,0.3s,baz=337,slow=15,SNR=3.5						
SNAA				LR	LR	05 03 36.1	
	comp=Z,264nm,18.5s,baz=21,slow=33						
PMSA	Palmer Station	18.03	238	LR	LR	05 05 44.1	
	comp=Z,955nm,18.3s,baz=89,slow=35						
USHA	Ushuaia	22.95	264	P	P	05 00 16.3	+1.6
USHA	Ushuaia	22.95	264	P	P	05 00 16.3	+1.6
	19nm,0.7s,baz=83,slow=7.6,SNR=6.5						
USHA				LR	LR	05 06 58.2	
	comp=Z,890nm,21.9s,baz=92,slow=31						
QSPA	South Pole Qui	30.48	180	P	P	05 01 23.7	+0.9
QSPA	South Pole Qui	30.48	180	P	P	05 01 23.7	+0.9
	10nm,1.0s,baz=204,slow=4.1,SNR=21						
TRQA	Tornquist	31.32	298	eP	P	05 01 31.1	+0.9
	18nm,0.8s						
PLCA	Paso Flores	33.23	285	eP	P	05 01 46.9	-0.1
	7.8nm,1.0s						
PLCA	Paso Flores	33.23	285	P	P	05 01 46.4	-0.6
	5.1nm,0.8s,baz=140,slow=10.0,SNR=10						
PLCA				LR	LR	05 14 08.2	
	comp=Z,305nm,19.3s,baz=186,slow=34						
MAW	Mawson	36.95	140	P	P	05 02 18.6	+0.1
MAW	Mawson	36.95	140	P	P	05 02 18.6	+0.1
	10nm,1.1s,baz=280,slow=5.0,SNR=7.5						
MAW				LR	LR	05 15 40.3	
	comp=Z,294nm,20.3s,baz=243,slow=33						
CPUP	Villa Florida	39.64	314	eP	P	05 02 41.1	-0.4
	0.7nm,0.8s						
CPUP	Villa Florida	39.64	314	P	P	05 02 41.5	-0.1
	1.8nm,0.4s,baz=144,slow=8.2,SNR=8.1						
VNDA	Vanda	42.88	183	P	P	05 03 09.2	+1.6
VNDA				PcP	PcP	05 04 58.6	+1.4
VNDA	Vanda	42.88	183	P	P	05 03 09.2	+1.6
	6.4nm,1.0s,baz=190,slow=9.9,SNR=13						
VNDA				PcP	PcP	05 04 58.6	+1.4
	2.4nm,0.9s,baz=186,slow=7.2,SNR=3.2						
VNDA				LR	LR	05 20 52.2	
	comp=Z,16nm,28.6s,baz=138,slow=36						
BOSA	Boshof	46.59	72	P	P	05 03 38.0	+0.3
BOSA				PcP	PcP	05 05 11.7	+0.8
BOSA	Boshof	46.59	72	P	P	05 03 38.0	+0.3
	4.5nm,1.0s,baz=148,slow=17,SNR=3.6						
BOSA				PcP	PcP	05 05 11.7	+0.8
	6.2nm,1.0s,baz=259,slow=1.2,SNR=3.0						
BOSA				LR	LR	05 18 09.6	
	comp=Z,362nm,21.4s,baz=212,slow=30						
BDFB	Brasilia	46.81	331	P	P	05 03 38.3	-1.2
BDFB	Brasilia	46.81	331	P	P	05 03 38.3	-1.2
	3.6nm,0.7s,baz=134,slow=9.5,SNR=8.3						
BDFB				LR	LR	05 21 21.3	
	comp=Z,193nm,19.8s,baz=220,slow=34						
LVC	Limon Verde	47.60	302	eP	P	05 03 46.0	+0.2
	13nm,0.8s						
TSUM	Tsumeb	51.22	57	eP	P	05 04 14.2	+1.0
H10S2	ASCENSION HYDR	51.46	15	T	T	05 59 56.4	
	baz=187,slow=75,SNR=20						
H10S3	ASCENSION HYDR	51.46	15	T	T	05 59 52.4	
	baz=187,slow=75,SNR=6.2						
H10S1	ASCENSION HYDR	51.47	15	T	T	05 59 54.5	
	baz=187,slow=75,SNR=4.2						
H10N1	ASCENSION HYDR	52.57	15	T	T	06 01 20.4	
	baz=181,slow=72,SNR=5.3						
H10N3	ASCENSION HYDR	52.59	15	T	T	06 01 18.9	
	baz=181,slow=72,SNR=20						
H10N2	ASCENSION HYDR	52.59	15	T	T	06 01 24.4	
	baz=181,slow=72,SNR=5.0						
LPAZ	La Paz	52.91	307	eP	P	05 04 26.2	-0.2
	8.0nm,0.8s						
LPAZ	La Paz	52.91	307	P	P	05 04 26.2	-0.2
	3.5nm,0.4s,baz=130,slow=6.1,SNR=23						
SAML	Samuel	57.75	316	eP	P	05 04 59.4	-1.1
	4.0nm,0.7s						
LSZ	Lusaka	59.39	66	eP	P	05 05 12.2	+0.1
	5.5nm,0.8s						
DBIC	Dimbokro	68.39	23	P	P	05 06 11.8	+0.9
DBIC	Dimbokro	68.39	23	P	P	05 06 11.8	+0.9
	2.1nm,0.6s,baz=168,slow=6.0,SNR=6.1						
DBIC				LR	LR	05 29 09.5	
	comp=Z,182nm,21.0s,baz=237,slow=30						
OTAV	Otavalo	72.09	304	eP	P	05 06 33.3	-0.9
	9.8nm,1.1s						
ROSC	El Rosal	74.62	310	LR	LR	05 40 29.1	
	comp=Z,121nm,21.9s,baz=24,slow=36						
TOA0	Torodi Ar. Sit	76.10	28	eP	P	05 06 57.5	+0.6
TORD	Torodi Ar. Bea	76.10	28	P	P	05 06 57.8	+1.0
TORD	Torodi Ar. Bea	76.10	28	P	P	05 06 57.8	+1.0
	6.7nm,0.7s,baz=196,slow=6.5,SNR=63						
TORD				LR	LR	05 35 44.5	
	comp=Z,186nm,18.8s,baz=270,slow=32						
SDV	Santo Domingo	76.95	315	eP	P	05 07 01.3	-0.6
	1.6nm,0.9s						
URZ	Urewera	80.43	199	LR	LR	05 40 12.9	
	comp=Z,127nm,18.6s,baz=183,slow=34						
STKA	Stephens Creek	88.17	170	P	P	05 08 00.6	+0.7
STKA	Stephens Creek	88.17	170	P	P	05 08 00.6	+0.7
	4.2nm,0.9s,baz=130,slow=5.0,SNR=3.9						
PPT	Papeete	90.33	233	LR	LR	05 41 14.4	
	comp=Z,133nm,20.2s,baz=188,slow=31						
ASAR	Alice Springs	95.32	162	P	P	05 08 33.0	-0.2
ASAR	Alice Springs	95.32	162	P	P	05 08 33.0	-0.2
	3.5nm,1.0s,baz=190,slow=4.1,SNR=18						
DZM	Mont Dzumac	97.80	192	P	Pdif	05 08 45.3	+0.8
DZM	Mont Dzumac	97.80	192	P	Pdif	05 08 45.3	+0.8
	3.3nm,0.6s,baz=318,slow=15,SNR=2.0						
DZM				LR	LR	05 48 38.8	
	comp=Z,121nm,19.8s,baz=203,slow=33						
WRA	Warramunga Arr	99.04	162	P	Pdif	05 08 49.1	-1.0
WRA	Warramunga Arr	99.04	162	P	Pdif	05 08 49.1	-1.0
	0.6nm,0.9s,baz=196,slow=3.4,SNR=4.2						
SCHQ	Schefferville	118.72	335	PKP	PKPdf	05 13 54.2	-1.5
SCHQ	Schefferville	118.72	335	PKP	PKPdf	05 13 54.2	-1.5
	5.1nm,0.9s,baz=69,slow=8.6,SNR=3.3						
AKASG	Malin Array Be	118.92	37	PKP	PKPdf	05 13 54.7	-1.5
AKASG	Malin Array Be	118.92	37	PKP	PKPdf	05 13 54.7	-1.5
	0.2nm,0.4s,baz=231,slow=1.2,SNR=3.8						
PDAR	Pinedale Array	122.63	300	PKP	PKPdf	05 14 02.4	-1.5
PDAR	Pinedale Array	122.63	300	PKP	PKPdf	05 14 02.4	-1.5
	0.3nm,0.6s,baz=123,slow=4.4,SNR=3.1						
CMAR	Chiang Mai Arr	123.31	112	PKP	PKPdf	05 14 06.3	+0.7
CMAR	Chiang Mai Arr	123.31	112	PKP	PKPdf	05 14 06.3	+0.7
	1.5nm,0.5s,baz=230,slow=3.8,SNR=9.9						
FINES	FINESS Array B	127.45	29	PKP	PKPdf	05 14 12.3	+0.2
FINES	FINESS Array B	127.45	29	PKP	PKPdf	05 14 12.3	+0.2
	1.7nm,0.8s,baz=174,slow=4.2,SNR=4.0						
ABKAR	Akbulak array	129.06	57	ePKPdf	PKPdf	05 14 15.9	+0.2
AKTO	Aktyubinsk	129.15	55	PKP	PKPdf	05 14 15.6	-0.2
AKTO	Aktyubinsk	129.15	55	PKP	PKPdf	05 14 15.6	-0.2
	4.0nm,0.9s,baz=178,slow=4.1,SNR=11						
AAK	Ala-Archa	130.72	73	PKP	PKPdf	05 14 18.5	-0.7
AAK	Ala-Archa	130.72	73	PKP	PKPdf	05 14 18.5	-0.7
	3.1nm,0.9s,baz=156,slow=4.0,SNR=6.7						
ARCES	ARCESS Array B	134.22	23	PKP	PKPdf	05 14 24.9	+0.1
ARCES	ARCESS Array B	134.22	23	PKP	PKPdf	05 14 24.9	+0.1
	2.1nm,0.8s,baz=213,slow=2.9,SNR=11						
BVAR	Borovoye Array	136.32	60	PKP	PKPdf	05 14 31.2	+2.0
BVAR				SKPbc	SKPab	05 18 02.3	+0.6
BVAR	Borovoye Array	136.32	60	PKP	PKPdf	05 14 31.2	+2.0
	2.7nm,0.9s,baz=241,slow=3.0,SNR=9.1						
BVAR				SKPbc	SKPab	05 18 02.3	+0.6
	0.6nm,0.7s,baz=238,slow=2.7,SNR=4.4						
MKAR	Makanchi Array	137.55	75	PKPpre	PKPpre	05 14 21.9	
MKAR				PKP	PKPdf	05 14 31.1	-0.7
MKAR	Makanchi Array	137.55	75	PKhKP	PKPpre	05 14 21.9	
	1.4nm,1.0s,baz=193,slow=8.2,SNR=3.8						
MKAR				PKP	PKPdf	05 14 31.1	-0.7
	1.3nm,0.9s,baz=255,slow=5.5,SNR=3.5						
KURBB	Kurchatov Arra	138.39	68	PKhKP	PKPpre	05 14 27.4	
	0.2nm,0.3s,baz=229,slow=3.5,SNR=3.3						
KURBB				PKP	PKPdf	05 14 32.6	-0.5
	0.8nm,0.7s,baz=226,slow=2.6,SNR=5.3						
KURK	Kurchatov	138.50	68	PKPpre	PKPpre	05 14 27.4	
KURK				PKP	PKPdf	05 14 32.6	-0.7
YKA	Yellowknife Ar	139.16	315	PKPpre	PKPpre	05 14 29.8	
YKA				PKP	PKPdf	05 14 34.5	+0.3
YKA				SKPbc	SKiKP	05 18 06.9	+0.1
YKA	Yellowknife Ar	139.16	315	PKhKP	PKPpre	05 14 29.8	
	0.3nm,0.5s,baz=128,slow=3.3,SNR=3.8						
YKA				PKP	PKPdf	05 14 34.4	+0.3
	1.9nm,0.8s,baz=124,slow=2.2,SNR=12						
YKA				SKPbc	SKiKP	05 18 06.9	+0.1
	0.7nm,0.7s,baz=125,slow=2.7,SNR=6.5						
ZALV	Zalesovo Beam	143.49	68	PKPpre	PKPpre	05 14 38.8	
ZALV	Zalesovo Beam	143.49	68	PKhKP	PKPpre	05 14 38.7	
	1.5nm,0.4s,baz=246,slow=3.2,SNR=11						
SONM	Songino Array	150.32	92	PKPbc	PKPbc	05 14 59.7	+0.4
SONM	Songino Array	150.32	92	PKPbc	PKPbc	05 14 59.7	+0.4
	9.7nm,0.9s,baz=226,slow=2.0,SNR=28						
KSAR	Wonju Array Be	152.25	132	PKPbc	PKPbc	05 15 03.4	-0.5
KSRS	Korea Array	152.28	132	PKPbc	PKPbc	05 15 03.4	-0.5
	3.2nm,1.0s,baz=200,slow=3.0,SNR=8.0						
RC01	Rabbit Creek A	152.75	298	ePKPbc	PKPbc	05 15 04.7	+0.4
ILAR	Eielson Array	152.79	306	PKPbc	PKPbc	05 15 03.7	-0.5
ILAR	Eielson Array	152.79	306	PKPbc	PKPbc	05 15 03.7	-0.5
	1.0nm,0.4s,baz=148,slow=2.2,SNR=22						

*ISCJB **08** 04:58:39.8±0.7, 13°.7N±0°.1×92°.6E±0°.1, h29km, mb3.7/12, Error ellipse: s-maj=20.3km s-min=13.0km az=44.6*

*IDC **08** 04:58:43.1±0.9, 13°.87N×92°.86E, h37km±6km, mb3.5/12, mb1 3.6/12, mb1mx3.5/28, mbtmp3.7/12, Error ellipse: s-maj=49.8km s-min=14.3km az=54.0*

ISC 08 04:58:42.2±0.8, 13°.7N±0°.1×92°.5E±0°.1, h29km, n16, σ1s20/18, mb3.7/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.79	51	Pn	Pn	05 00 34.7	+1.0
	0.3nm,0.3s,baz=240,slow=16,SNR=4.1						
H08S3	Diego Garcia H	29.05	224	T	T	05 35 43.9	
	baz=46						
H08S2	Diego Garcia H	29.05	224	T	T	05 35 51.7	
	baz=46						
H08S1	Diego Garcia H	29.07	224	T	T	05 35 49.1	
	baz=46						
MKAR	Makanchi Array	34.13	347	P	P	05 05 22.9	-1.8
	0.3nm,0.5s,baz=166,slow=8.1,SNR=5.0						
MKAR				pP	pP	05 05 34.8	+1.6
	0.3nm,0.5s,baz=175,slow=7.6,SNR=1.5						
ZALV	Zalesovo Beam	40.65	353	P	P	05 06 17.9	-1.8
	0.4nm,0.3s,baz=163,slow=5.6,SNR=3.2						
ZALV				pP	pP	05 06 28.7	+0.3
	0.4nm,0.3s,baz=170,slow=8.8,SNR=1.9						
BVAR	Borovoye Array	43.04	341	P	P	05 06 38.0	-1.3
	0.5nm,0.4s,baz=166,slow=8.6,SNR=3.0						
FITZ	Fitzroy Crossi	45.41	133	P	P	05 06 57.8	-0.8
	1.4nm,0.9s,baz=312,slow=14,SNR=2.2						
KBZ	Khabaz	51.83	315	P	P	05 07 47.7	-0.1
	1.4nm,0.8s,baz=135,slow=4.3,SNR=2.0						
WRA	Warramunga Arr	52.98	128	P	P	05 07 56.0	-0.6
	0.3nm,0.8s,baz=306,slow=10.0,SNR=4.3						
WRA				pP	pP	05 08 05.3	-0.2
	0.1nm,0.5s,baz=307,slow=10,SNR=1.4						
ASAR	Alice Springs	54.88	132	P	P	05 08 09.9	-0.6
	0.2nm,0.3s,baz=321,slow=7.1,SNR=3.2						
ASAR				pP	pP	05 08 20.

MEX 08 05:14:34.4±0.6, 15°51.51N×97°20.20W, h11km±8km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.08**	**76**	*i* P	Pb	05 14 51.9	-3.4
HUIG				*i* S	Sb	05 15 05.0	-4.4
PNIG	**Pinotepa**	**1.25**	**315**	*e*P	Pn	05 14 53.6	-4.3
PNIG				*i* S	Sb	05 15 09.9	-4.4
VHO	**Vista Hermosa**	**1.62**	**16**	*e*P	Pn	05 14 59.8	-3.4
VHO				*i* S	Sn	05 15 19.1	-5.2
PCIG		**3.84**	**87**	*e*P	Pn	05 15 31.1	-2.4
PCIG				*i* S	Sn	05 16 15.4	-3.3

MEX 08 05:21:41.7±0.7, 16°38N×99°09W, h4km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.88**	**304**	*e*P	Pg	05 21 58.0	-0.6
ACX				*i* S	Sg	05 22 10.1	0.0
PNIG	**Pinotepa**	**0.93**	**89**	*i* P	Pg	05 21 57.9	-1.6
PNIG				*i* S	Sg	05 22 09.7	-1.9
TLIG	**Tlapa**	**1.28**	**23**	*e*P	Pg	05 22 02.3	-4.1
TLIG				*i* S	Sg	05 22 18.2	-5.0
CAIG	**El Cayaco**	**1.31**	**301**	*e*P	Pn	05 22 02.4	-4.4
CAIG				*e*S	Sg	05 22 19.4	-4.3
MEIG	**Mezcala**	**1.62**	**342**	*e*P	Pn	05 22 07.3	-3.8
MEIG				*i* S	Sn	05 22 27.9	-4.7
PLIG	**Platanillo**	**2.04**	**349**	*e*P	Pn	05 22 13.7	-3.3
PLIG				*e*S	Sn	05 22 38.9	-4.1
VHO	**Vista Hermosa**	**2.36**	**73**	*e*P	Pn	05 22 18.9	-2.7
VHO				*e*S	Sn	05 22 46.4	-4.8
YAIG	**Yautepec**	**2.47**	**1**	*e*P	Pn	05 22 20.2	-2.8
YAIG				*e*S	Sn	05 22 49.6	-4.2
ZIIG	**Zihuatanejo**	**2.58**	**299**	*e*P	Pn	05 22 21.2	-3.0
ZIIG				*i* S	Sn	05 22 51.2	-4.9
MAVM	**Malinalco, Edo**	**2.59**	**352**	*e*P	Pn	05 22 22.5	-2.3
MAVM				*i* S	Sn	05 22 52.6	-4.3
TPIG	**Tehuac#an**	**2.62**	**39**	*e*P	Pn	05 22 22.1	-2.9
TPIG				*i* S	Sn	05 22 53.5	-3.9
PPM	**Popocatepetl**	**2.71**	**9**	*e*P	Pn	05 22 22.9	-3.8
PPM				*i* S	Sn	05 22 55.5	-4.9
MZVM		**2.80**	**357**	*e*P	Pn	05 22 25.0	-2.3
MZVM				*e*S	Sn	05 22 57.1	-4.3
IIO	**Organos**	**3.21**	**6**	*e*P	Pn	05 22 30.5	-3.0
IIO				*e*S	Sn	05 23 08.1	-4.5

IDC 08 05:24:10.7±1.9, 2°76N×127°84E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/22, mbtmp3.7/4, Error ellipse: s-maj=142.4km s-min=23.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.44**	**164**	P	P	05 29 21.5	-0.4
	1.3nm,0.8s,baz=344,slow=10,SNR=14						
ASAR	**Alice Springs**	**26.92**	**168**	P	P	05 29 53.8	0.0
	0.2nm,0.6s,baz=350,slow=8.5,SNR=2.9						
STKA	**Stephens Creek**	**36.84**	**160**	P	P	05 31 20.7	-0.1
	2.4nm,0.6s,baz=341,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**58.98**	**325**	P	P	05 34 12.4	+0.2
	0.9nm,0.9s,baz=108,slow=8.4,SNR=4.0						

GUC 08 05:31:48.0±0.4, 23°43S×69°64W, h42km±3km, MD3.5, ML2.2, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.52**	**274**	*i* iP	Pn	05 32 00.8	+1.6
CEN1				*i* S	Sn	05 32 10.9	+3.7
CEN1				AML	AML	05 32 11.3	
	comp=E,76nm,0.5s						
ANCH	**Antofagasta**	**0.75**	**250**	↑ *i* P	Pn	05 32 02.1	-0.1
ANCH				*i* S	Sn	05 32 12.7	+0.3
PB10	**Plate Boundary**	**0.84**	**264**	↓ *i* P	Pn	05 32 02.9	-0.6
PB10				*i* S	Sn	05 32 14.8	+0.1
PB10				AML	AML	05 32 18.8	
	comp=N,197nm,0.3s						
PB04	**Plate Boundary**	**1.17**	**7**	↑ *i* P	Pn	05 32 09.4	+1.5
PB04				*i* S	Sn	05 32 25.5	+3.0
PB04				AML	AML	05 32 30.9	
	comp=N,100nm,0.2s						
PB07	**Plate Boundary**	**1.71**	**352**	*e*P	Pn	05 32 16.9	+1.4
PB07				*e*S	Sn	05 32 38.8	+2.4
PB07				AML	AML	05 32 47.6	
	comp=E,29nm,0.3s						
PB01	**Plate Boundary**	**2.38**	**3**	↑ *i* P	Pn	05 32 26.3	+1.6
PB01				*i* S	Sn	05 32 55.5	+2.8
PB01				AML	AML	05 33 05.6	
	comp=E,26nm,0.2s						

IDC 08 05:34:07.5±1.2, 28°.60N×142°.61E, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.8/30, mbtmp3.9/11, ML3.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/36, Error ellipse: s-maj=39.6km s-min=18.8km az=80.0
ISCJB 08 05:34:09.0±1.1, 28°.6N±0°.1×142°.6E±0°.3, h25km, mb4.0/9, MS3.1/1, Error ellipse: s-maj=36.4km s-min=14.6km az=169.3

ISC 08 05:34:11.4±1.3, 28°.6N±0°.1×142°.5E±0°.3, h25km, n15, σ0s82/11, mb4.0/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.69**	**336**	Pn	**Pn**	**05 36 14.3**	**-1.2**
	1.1nm,0.3s,baz=156,slow=8.6,SNR=5.1						
USRK	**Ussuriysk Arra**	**17.68**	**334**	Pn	**P**	**05 38 17.1**	**+0.6**
	0.2nm,0.3s,baz=142,slow=14,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**23.89**	**106**	T	T	06 04 40.5	
	baz=298						
H11N1	**WAKE ISLAND Hy**	**23.89**	**106**	T	T	06 04 30.6	
	baz=298						
H11N3	**WAKE ISLAND Hy**	**23.91**	**106**	T	T	06 04 37.8	
	baz=298						
TGY	**Tagaytay City**	**24.71**	**239**	LR	LR	05 47 57.4	
	comp=Z,63nm,21.7s,baz=122,slow=34						
SONM	**Songino Array**	**33.84**	**314**	P	**P**	**05 40 52.0**	**+0.2**
	1.2nm,1.0s,baz=101,slow=7.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**48.54**	**318**	P	**P**	**05 42 53.4**	**+1.1**
	0.3nm,0.3s,baz=115,slow=6.8,SNR=3.3						
WRA	**Warramunga Arr**	**48.94**	**190**	P	**P**	**05 42 56.1**	**+0.4**
	1.1nm,0.5s,baz=13,slow=8.7,SNR=16						
FITZ	**Fitzroy Crossi**	**49.25**	**201**	P	**P**	**05 42 56.9**	**-1.2**
	1.2nm,0.8s,baz=34,slow=15,SNR=2.2						
MKAR	**Makanchi Array**	**49.75**	**309**	P	**P**	**05 43 02.3**	**+0.6**
	1.0nm,0.8s,baz=103,slow=10.0,SNR=5.0						
KURBB	**Kurchatov Arra**	**52.20**	**314**	P	**P**	**05 43 20.0**	**0.0**
	2.5nm,0.9s,baz=90,slow=7.5,SNR=20						
BVAR	**Borovoye Array**	**57.13**	**317**	P	**P**	**05 43 56.4**	**+0.6**
	1.2nm,0.6s,baz=96,slow=7.9,SNR=8.1						
INK	**Inuvik**	**61.50**	**25**	P	**P**	**05 44 25.6**	**-0.1**
	0.6nm,0.5s,baz=267,slow=2.6,SNR=7.8						
AKTO	**Aktyubinsk**	**65.15**	**315**	P	**P**	**05 44 50.3**	**+0.1**
	1.5nm,0.8s,baz=68,slow=11,SNR=4.1						

ISCJB 08 05:55:41.8±1.3, 17°.8S±0°.3×178°.2W±0°.2, h590km, mb3.5/9, Error ellipse: s-maj=49.9km s-min=18.6km az=154.4
IDC 08 05:55:45.0±5.5, 17°.81S×178°.14W, h618km±62km, mb3.0/9, mb1 3.4/9, mb1mx3.2/19, mbtmp4.0/9, Error ellipse: s-maj=44.4km s-min=21.2km az=141.0

ISC 08 05:55:42.4±1.3, 17°.9S±0°.3×178°.1W±0°.2, h590km, n11, σ0s71/13, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.95**	**259**	P	**P**	**06 03 06.7**	**+0.4**
	0.2nm,0.3s,baz=93,slow=8.3,SNR=16						
WRA				PcP	**PcP**	06 04 34.5	-0.3
	0.3nm,0.4s,baz=91,slow=3.8,SNR=7.3						
ASAR	**Alice Springs**	**45.11**	**254**	P	**P**	**06 03 07.9**	**+0.3**
	0.6nm,0.4s,baz=90,slow=8.1,SNR=15						
ASAR				PcP	**PcP**	06 04 35.0	-0.3
	0.8nm,0.5s,baz=99,slow=3.8,SNR=6.4						
MJAR	**Matsushiro Arr**	**68.05**	**323**	P	**P**	**06 05 43.8**	**-0.3**
	1.9nm,0.5s,baz=158,slow=6.2,SNR=4.6						
PETK	**Petropavlovsk-**	**73.70**	**345**	P	**P**	**06 06 17.4**	**+0.6**
	3.4nm,0.7s,baz=131,slow=9.0,SNR=6.5						
NVAR	**Mina Array Bea**	**79.16**	**44**	P	**P**	**06 06 48.8**	**+1.5**
	1.0nm,0.8s,baz=202,slow=4.5,SNR=3.2						
TXAR	**Lajitas Array**	**85.70**	**58**	P	**P**	**06 07 19.9**	**-0.3**
	0.4nm,0.6s,baz=213,slow=6.7,SNR=6.3						
ILAR	**Eielson Array**	**85.76**	**13**	P	**P**	**06 07 19.4**	**-0.2**
	0.9nm,0.4s,baz=220,slow=4.8,SNR=24						
PDAR	**Pinedale Array**	**87.09**	**43**	P	**P**	**06 07 27.1**	**+0.4**
	0.6nm,0.7s,baz=222,slow=3.7,SNR=5.9						
YKA	**Yellowknife Ar**	**94.15**	**25**	P	**P**	**06 07 57.8**	**-0.7**
	0.3nm,0.4s,baz=230,slow=4.6,SNR=4.0						
BRTR	**Keskin Array B**	**144.96**	**315**	PKP	**PKPdf**	**06 14 13.8**	**+0.2**
	1.0nm,0.4s,baz=136,slow=4.9,SNR=7.3						
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc	**PKPbc**	**06 14 20.3**	**-1.1**
	1.6nm,0.6s,baz=26,slow=3.0,SNR=14						

DDA 08 06:06:18.0, 38°.59N×26°.75E, h7km, MD3.3
ATH 08 06:06:17.2, 38°.59N×26°.70E, h28km±1km, MD3.3/12
ISK 08 06:06:17.2, 38°.62N×26°.68E, h13km, MD3.5, ML3.5
CSEM 08 06:06:17.9±0.1, 38°.60N×26°.67E, h12km, MD3.3, Error ellipse: s-maj=1.8km s-min=1.6km az=80.0
THE 08 06:06:18.0, 38°.60N×26°.66E, h10km±1km, ML3.2/6, Error ellipse: s-maj=1.5km s-min=0.6km az=257.0
ISCJB 08 06:06:18.1±0.3, 38°.59N±0°.02×26°.65E±0°.02, h22km±3km, Error ellipse: s-maj=3.1km s-min=2.6km az=168.0

ISC 08 06:06:18.2±0.9, 38°.60N±0°.02×26°.67E±0°.02, h16km±7km, n141, σ0s62/184, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.24**	**194**	*i* P	**Pg**	**06 06 23.5**	**-0.1**
URLA				*i* S	**Sg**	**06 06 28.1**	**+0.8**
URLA	**Izmir**	**0.24**	**194**	*i* P	**Pg**	**06 06 23.5**	**-0.1**
URLA				*i* S	**Sg**	**06 06 28.1**	**+0.8**
CHOS	**Chios island**	**0.53**	**247**	*e*PG	**Pb**	**06 06 28.9**	**-0.3**
CHOS				*e*SG	**Sb**	**06 06 36.3**	**-0.3**
CHOS	**Chios island**	**0.53**	**247**	P	**Pb**	**06 06 28.8**	**-0.3**
CHOS				S	**Sb**	**06 06 36.1**	**-0.5**
CHOS	**Chios island**	**0.53**	**247**	*e*PN	**Pb**	**06 06 28.9**	**-0.3**
CHOS				*e*SN	**Sb**	**06 06 36.7**	**+0.1**
CHOS	**Chios island**	**0.53**	**247**	*e*Pg	**Pb**	**06 06 28.9**	**-0.3**
CHOS				S	**Sb**	**06 06 36.1**	**-0.5**
AYVA	**Ayvalik**	**0.71**	**1**	*i* P	**Pg**	**06 06 31.1**	**-0.9**
AYVA				*i* S	**Sb**	**06 06 42.3**	**+0.6**
AYVA	**Ayvalik**	**0.71**	**1**	*i* P	**Pg**	**06 06 31.1**	**-0.9**
AYVA				*i* S	**Sb**	**06 06 42.3**	**+0.6**
PRK	**Paraskevi**	**0.72**	**334**	P	**Pg**	**06 06 31.8**	**-0.4**
PRK				S	**Sb**	**06 06 41.8**	**-0.2**
PRK	**Paraskevi**	**0.72**	**334**	*e*PN	**Pg**	**06 06 31.9**	**-0.3**
PRK				*e*SN	**Sb**	**06 06 42.5**	**+0.5**
PRK	**Paraskevi**	**0.72**	**334**	P	**Pg**	**06 06 31.8**	**-0.4**
PRK				S	**Sb**	**06 06 41.8**	**-0.2**
PRK				*e*Sn	**Sb**	**06 06 42.5**	**+0.5**
SIGR	**SIGRI**	**0.88**	**314**	P	**Pg**	**06 06 35.0**	**-0.3**
SIGR				S	**Sb**	**06 06 46.8**	**+0.1**
SIGR	**SIGRI**	**0.88**	**314**	*e*PN	**Pg**	**06 06 35.0**	**-0.3**
SIGR				*e*SN	**Sb**	**06 06 47.0**	**+0.3**
SIGR	**SIGRI**	**0.88**	**314**	P	**Pg**	**06 06 35.0**	**-0.3**
SIGR				P	**Sb**	**06 06 46.8**	**+0.1**
SMG	**Samos**	**0.90**	**172**	P	**Pg**	**06 06 34.7**	**-0.8**
SMG				S	**Sb**	**06 06 47.7**	**+0.6**
SMG	**Samos**	**0.90**	**172**	*e*PN	**Pg**	**06 06 34.8**	**-0.8**
SMG				*e*SN	**Sb**	**06 06 47.7**	**+0.6**
SMG	**Samos**	**0.90**	**172**	P	**Pg**	**06 06 34.7**	**-0.8**
SMG				S	**Sb**	**06 06 47.7**	**+0.6**
AKS	**Akhisar**	**0.93**	**72**	*e*PG	**Pg**	**06 06 35.5**	**-0.8**
AKS				*e*SG	**Sb**	**06 06 48.5**	**+0.3**
AKS	**Akhisar**	**0.93**	**72**	*e*Pg	**Pg**	**06 06 35.5**	**-0.8**
AKS				*e*Sg	**Sb**	**06 06 48.5**	**+0.3**
AKHS	**Akhisar**	**0.94**	**72**	*i* P	**Pg**	**06 06 35.6**	**-0.7**
AKHS				*i* S	**Sb**	**06 06 48.5**	**+0.3**
AKHS	**Akhisar**	**0.94**	**72**	*i* P	**Pg**	**06 06 35.6**	**-0.7**
AKHS				*i* S	**Sb**	**06 06 48.5**	**+0.3**
GCAM	**G?zelcaml?**	**1.00**	**154**	*i* P	**Pg**	**06 06 36.7**	**-0.8**
GCAM				*i* S	**Sg**	**06 06 49.6**	**-1.0**
GCAM	**G?zelcaml?**	**1.00**	**154**	*i* P	**Pg**	**06 06 36.7**	**-0.8**
GCAM				*i* S	**Sg**	**06 06 49.6**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**124**	*e*PN	**Pb**	**06 06 39.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**124**	*e*Pn	**Pb**	**06 06 39.6**	**-0.3**
AYDN	**Tasoluk**	**1.33**	**134**	*i* P	**Pn**	**06 06 41.9**	**-0.3**
AYDN				*i* S	**Sb**	**06 06 59.6**	**-0.1**
AYDN	**Tasoluk**	**1.33**	**134**	*i* P	**Pn**	**06 06 41.9**	**-0.3**
AYDN				*i* S	**Sb**	**06 06 59.6**	**-0.1**
BALB	**Balikesir**	**1.40**	**42**	*e*PN	**Pn**	**06 06 42.7**	**-0.4**
BALB				*e*SN	**Sn**	**06 07 01.5**	**+0.2**
BALB	**Balikesir**	**1.40**	**42**	*e*Pn	**Pn**	**06 06 42.7**	**-0.4**
BALB				*e*Sn	**Sn**	**06 07 01.5**	**+0.2**
KULA	**Kula-Manisa**	**1.56**	**92**	*e*PN	**Pn**	**06 06 45.1**	**-0.2**
KULA				*e*SN	**Sn**	**06 07 05.6**	**+0.3**
KULA	**Kula-Manisa**	**1.56**	**92**	*e*Pn	**Pn**	**06 06 45.2**	**-0.2**
KULA				*e*Sn	**Sn**	**06 07 05.6**	**+0.3**
BODT	**Bodrum**	**1.61**	**162**	*e*PN	**Pn**	**06 06 45.7**	**-0.3**
BODT	**Bodrum**	**1.61**	**162**	*e*Pn	**Pn**	**06 06 45.7**	**-0.3**
GONE	**Gonen-Balikesi**	**1.65**	**28**	*e*PN	**Pn**	**06 06 46.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.65**	**28**	*e*Pn	**Pn**	**06 06 46.1**	**-0.3**
LIA	**Limnos Island**	**1.74**	**319**	P	**Pn**	**06 06 47.2**	**-0.5**
LIA				S	**Sn**	**06 07 09.5**	**-0.1**
LIA	**Limnos Island**	**1.74**	**319**	*e*PN	**Pn**	**06 06 47.3**	**+0.1**
LIA				*e*SN	**Sn**	**06 07 11.0**	**+1.4**
LIA	**Limnos Island**	**1.74**	**319**	P	**Pn**	**06 06 47.2**	**-0.5**
LIA	**Limnos Island**	**1.74**	**319**	*e*Pn	**Pn**	**06 06 47.8**	**+0.1**
LIA				S	**Sn**	**06 07 09.5**	**-0.1**
LIA				*e*Sn	**Sn**	**06 07 11.0**	**+1.4**
LPK	**Lapseki**	**1.77**	**2**	*e*PN	**Pn**	**06 06 48.1**	**-0.1**
LPK	**Lapseki**	**1.77**	**2**	*e*Pn	**Pn**	**06 06 48.1**	**-0.1**
APE	**Apeiranthos**	**1.77**	**211**	P	**Pn**	**06 06 47.1**	**-1.2**
APE				S	**Sn**	**06 07 10.7**	**+0.1**
APE	**Apeiranthos**	**1.77**	**211**	*e*PB	**Pn**	**06 06 47.7**	**-0.6**
APE				*e*SN	**Sn**	**06 07 11.5**	**+0.9**
APE	**Apeiranthos**	**1.77**	**211**	P	**Pn**	**06 06 47.1**	**-1.2**
APE	**Apeiranthos**	**1.77**	**211**	*e*Pb	**Pn**	**06 06 47.7**	**-0.6**
APE				S	**Sn**	**06 07 10.7**	**+0.1**
APE				*e*Sn	**Sn**	**06 07 11.5**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.80**	**355**	*e*PN	**Pn**	**06 06 48.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.80**	**355**	*e*Pn	**Pn**	**06 06 48.5**	**-0.1**
KRBG	**Karabiga-Canak**	**1.86**	**15**	*e*PN	**Pn**	**06 06 49.0**	**-0.4**
KRBG	**Karabiga-Canak**	**1.86**	**15**	*e*Pn	**Pn**	**06 06 49.0**	**-0.4**
YER	**Yerkesik**	**1.94**	**138**	*e*PN	**Pn**	**06 06 50.9**	**+0.3**
YER	**Yerkesik**	**1.94**	**138**	*e*Pn	**Pn**	**06 06 50.9**	**+0.3**
EDC	**Edincik**	**1.97**	**27**	*e*PN	**Pn**	**06 06 50.4**	**-0.6**
EDC	**Edincik**	**1.97**	**27**	*e*Pn	**Pn**	**06 06 50.4**	**-0.6**
DAT	**Datca**	**2.00**	**159**	*e*PN	**Pn**	**06 06 51.8**	**+0.4**
DAT	**Datca**	**2.00**	**159**	*e*Pn	**Pn**	**06 06 51.8**	**+0.4**
BNT	**Bandirma**	**2.00**	**28**	*e*PN	**Pn**	**06 06 50.6**	**-0.8**
BNT	**Bandirma**	**2.00**	**28**	*e*Pn	**Pn**	**06 06 50.6**	**-0.8**
SMTH	**Samothraki Isl**	**2.07**	**335**	P	**Pn**	**06 06 52.1**	**-0.2**
SMTH	**Samothraki Isl**	**2.07**	**335**	*e*PN	**Pn**	**06 06 52.1**	**-0.2**
SMTH				*e*SN	**Sn**	**06 07 17.7**	**-0.1**
SMTH	**Samothraki Isl**	**2.07**	**335**	P	**Pn**	**06 06 52.1**	**-0.2**
SMTH				*e*Sn	**Sn**	**06 07 17.7**	**-0.1**
ERIK	**Erikli-Kesan**	**2.07**	**357**	*e*PN	**Pn**	**06 06 51.8**	**-0.5**
ERIK	**Erikli-Kesan**	**2.07**	**357**	*e*Pn	**Pn**	**06 06 51.8**	**-0.5**
KCTX	**Karacabey (Bur**	**2.12**	**38**	*e*PN	**Pn**	**06 06 52.3**	**-0.7**
KCTX	**Karacabey (Bur**	**2.12**	**38**	*e*Pn	**Pn**	**06 06 52.3**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.12**	**10**	*e*PN	**Pn**	**06 06 53.8**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.12**	**10**	*e*Pn	**Pn**	**06 06 53.8**	**+0.7**
MRMT	**Marmara Adasi**	**2.12**	**19**	*e*PN	**Pn**	**06 06 52.9**	**-0.3**
MRMT	**Marmara Adasi**	**2.12**	**19**	*e*Pn	**Pn**	**06 06 52.9**	**-0.3**
ENEZ	**Enez**	**2.17**	**350**	*e*PN	**Pn**	**06 06 53.8**	**+0.1**
ENEZ	**Enez**	**2.17**	**350**	*e*Pn	**Pn**	**06 06 53.8**	**+0.1**
AOS	**Alonnisos**	**2.25**	**286**	*e*PN	**Pn**	**06 06 55.6**	**+0.8**
AOS	**Alonnisos**	**2.25**	**286**	P	**Pn**	**06 06 54.8**	**0.0**
AOS	**Alonnisos**	**2.25**	**286**	P	**Pn**	**06 06 54.8**	**0.0**
AOS	**Alonnisos**	**2.25**	**286**	*e*Pn	**Pn**	**06 06 55.6**	**+0.8**
KHL	**Karahalli**	**2.25**	**96**	*e*PN	**Pn**	**06 06 55.5**	**+0.6**
KHL	**Karahalli**	**2.25**	**96**	*e*Pn	**Pn**	**06 06 55.5**	**+0.6**
TVSB	**Tavsanli**	**2.33**	**68**	*e*PN	**Pn**	**06 06 56.0**	**0.0**
TVSB	**Tavsanli**	**2.33**	**68**	*e*Pn	**Pn**	**06 06 56.0**	**0.0**
ALN	**Alexandroupoli**	**2.35**	**348**	*e*PN	**Pn**	**06 06 56.2**	**+0.2**
ALN	**Alexandroupoli**	**2.35**	**348**	P	**Pn**	**06 06 55.5**	**-0.6**
ALN				S	**Sn**	**06 07 24.4**	**-0.2**
ALN	**Alexandroupoli**	**2.35**	**348**	*e*PN	**Pn**	**06 06 55.9**	**-0.2**
ALN				*e*SN	**Sn**	**06 07 24.9**	**+0.3**
ALN	**Alexandroupoli**	**2.35**	**348**	P	**Pn**	**06 06 55.5**	**-0.6**
ALN	**Alexandroupoli**	**2.35**	**348**	*e*Pn	**Pn**	**06 06 55.9**	**-0.2**
ALN				S	**Sn**	**06 07 24.4**	**-0.2**
DALY	**Dalyan (Mu˘la**	**2.37**	**138**	*e*PN	**Pn**	**06 06 57.2**	**+0.8**
DALY	**Dalyan (Mu˘la**	**2.37**	**138**	*e*Pn	**Pn**	**06 06 57.2**	**+0.8**
MRKA	**Markates**	**2.42**	**274**	*e*PN	**Pn**	**06 06 57.1**	**0.0**
MRKA	**Markates**	**2.42**	**274**	*e*Pn	**Pn**	**06 06 57.1**	**0.0**
SANT	**Santorini**	**2.42**	**204**	*e*PN	**Pn**	**06 06 57.7**	**+0.5**
SANT	**Santorini**	**2.42**	**204**	*e*PB	**Pn**	**06 06 58.2**	**+1.0**
SANT	**Santorini**	**2.42**	**204**	*e*Pn	**Pn**	**06 06 57.7**	**+0.5**
SANT	**Santorini**	**2.42**	**204**	*e*Pb	**Pn**	**06 06 58.2**	**+1.0**
THR1	**Thera Island**	**2.42**	**204**	*e*Pn	**Pn**	**06 06 58.4**	**+1.2**
SKIA	**Skiathos**	**2.57**	**284**	P	**Pn**	**06 06 58.6**	**-0.5**
SKIA	**Skiathos**	**2.57**	**284**	*e*PN	**Pn**	**06 06 59.3**	**+0.2**
SKIA	**Skiathos**	**2.57**	**284**	P	**Pn**	**06 06 58.6**	**-0.5**
SKIA	**Skiathos**	**2.57**	**284**	*e*Pn	**Pn**	**06 06 59.3**	**+0.2**
ARMT	**Armutlu**	**2.59**	**40**	*e*PN	**Pn**	**06 07 00.0**	**+0.5**
ARMT	**Armutlu**	**2.59**	**40**	*e*Pn	**Pn**	**06 07 00.0**	**+0.5**
ARG	**Arkhangelos**	**2.64**	**154**	*e*PN	**Pn**	**06 07 00.1**	**-0.1**
ARG	**Arkhangelos**	**2.64**	**154**	*e*Pn	**Pn**	**06 07 00.1**	**-0.1**
OUR	**Ouranopolis**	**2.71**	**311**	*e*PN	**Pn**	**06 07 02.5**	**+1.5**
OUR	**Ouranopolis**	**2.71**	**311**	*e*PN	**Pn**	**06 07 00.9**	**-0.2**
OUR	**Ouranopolis**	**2.71**	**311**	*e*Pn	**Pn**	**06 07 00.9**	**-0.2**
SLVT	**Silivri**	**2.88**	**24**	*e*PN	**Pn**	**06 07 04.0**	**+0.5**
SLVT	**Silivri**	**2.88**	**24**	*e*Pn	**Pn**	**06 07 04.0**	**+0.5**
KAVA	**Kavala**	**2.92**	**326**	P	**Pn**	**06 07 04.0**	**+0.1**
KAVA	**Kavala**	**2.92**	**326**	P	**Pn**	**06 07 04.0**	**+0.1**
DID	**Didima**	**2.92**	**249**	*e*PN	**Pn**	**06 07 04.9**	**+0.8**
DID	**Didima**	**2.92**	**249**	*e*Pn	**Pn**	**06 07 04.9**	**+0.8**
CAVI	**Cavuskoy**	**2.93**	**56**	*e*PN	**Pn**	**06 07 05.0**	**+0.8**
CAVI	**Cavuskoy**	**2.93**	**56**	*e*Pn	**Pn**	**06 07 05.0**	**+0.8**
ADVT	**Abdulvahap**	**3.00**	**51**	*e*PN	**Pn**	**06 07 05.9**	**+0.9**
ADVT	**Abdulvahap**	**3.00**	**51**	*e*Pn	**Pn**	**06 07 05.9**	**+0.9**
SHUT	**Suhut-Afyon**	**3.04**	**90**	*e*PN	**Pn**	**06 07 06.4**	**+0.7**
SHUT	**Suhut-Afyon**	**3.04**	**90**	*e*Pn	**Pn**	**06 07 06.4**	**+0.7**
BGKT	**Bogazkoy**	**3.04**	**31**	*e*PN	**Pn**	**06 07 06.4**	**+0.7**
BGKT	**Bogazkoy**	**3.04**	**31**	*e*Pn	**Pn**	**06 07 06.4**	**+0.7**
KARP	**Karpathos**	**3.07**	**173**	P	**Pn**	**06 07 06.0**	**-0.1**
KARP	**Karpathos**	**3.07**	**173**	P	**Pn**	**06 07 06.0**	**-0.1**
ISK	**Istanbul-Kandi**	**3.07**	**36**	*e*PN	**Pn**	**06 07 06.9**	**+0.8**
ISK	**Istanbul-Kandi**	**3.07**	**36**	*e*Pn	**Pn**	**06 07 06.9**	**+0.8**
CTYL	**Yal??k??y-??at**	**3.13**	**23**	*e*PN	**Pn**	**06 07 08.4**	**+1.5**
CTYL	**Yal??k??y-??at**	**3.13**	**23**	*e*Pn	**Pn**	**06 07 08.4**	**+1.5**
ELL	**Elmali**	**3.16**	**125**	*e*PN	**Pn**	**06 07 08.4**	**+0.9**
ELL	**Elmali**	**3.16**	**125**	*e*Pn	**Pn**	**06 07 08.4**	**+0.9**
HRT	**Hereke**	**3.20**	**45**	*e*PN	**Pn**	**06 07 08.8**	**+0.9**
HRT	**Hereke**	**3.20**	**45**	*e*Pn	**Pn**	**06 07 08.8**	**+0.9**
KLYT	**Kilyos**	**3.22**	**34**	*e*PN	**Pn**	**06 07 08.8**	**+0.8**
KLYT	**Kilyos**	**3.22**	**34**	*e*Pn	**Pn**	**06 07 08.8**	**+0.8**
EDRB	**Edirne**	**3.25**	**1**	*e*PN	**Pn**	**06 07 08.3**	**-0.2**
EDRB	**Edirne**	**3.25**	**1**	*e*Pn	**Pn**	**06 07 08.3**	**-0.2**
ESKT	**Eskisehir**	**3.38**	**73**	*e*PN	**Pn**	**06 07

MBAR				Sn	**Sn**	06 14 30.4	-3.0		
MBAR				Lg	Lg	06 15 17.1			
MBAR	**Mbarara**	**9.98**	**341**	Pn	Pn	06 12 36.9	-4.3		
5.4nm,0.3s,baz=158,slow=19,SNR=9.3									
MBAR				Sn	**Sn**	06 14 30.5	-3.0		
5.9nm,0.3s,baz=13,slow=22,SNR=3.6									
MBAR				Lg	Lg	06 15 17.1			
11nm,0.3s,baz=262,slow=22,SNR=6.8									
OPO	**Ambohidratompo**	**15.31**	**125**	Pn	**Pn**	**06 13 55.6**	**+1.6**		
OPO				Sn	**Sn**	**06 16 43.3**	**-0.6**		
OPO	**Ambohidratompo**	**15.31**	**125**	Pn	**Pn**	**06 13 55.6**	**+1.6**		
0.2nm,0.3s,baz=302,slow=14,SNR=2.6									
OPO				Sn	**Sn**	**06 16 43.3**	**-0.6**		
0.2nm,0.3s,baz=24,slow=20,SNR=2.7									
LBTB	**Lobatse**	**16.82**	**207**	*e*Pn	**Pn**	**06 14 14.4**	**+1.1**		
9.9nm,0.6s									
LBTB				Sn	**Sn**	**06 17 14.8**	**-5.6**		
LBTB				Lg	Lg	06 19 07.9			
LBTB	**Lobatse**	**16.82**	**207**	Pn	**Pn**	**06 14 14.4**	**+1.1**		
2.4nm,0.3s,baz=42,slow=12,SNR=18									
LBTB				Sn	**Sn**	**06 17 14.8**	**-5.6**		
0.7nm,0.3s,baz=306,slow=11,SNR=4.3									
LBTB				Lg	Lg	06 19 07.9			
1.7nm,0.3s,baz=128,slow=18,SNR=6.0									
TSUM	**Tsumeb**	**18.23**	**238**	P	**P**	**06 14 32.9**	**+1.8**		
TSUM				S	Sn	06 17 43.1	-12		
TSUM				Lg	Lg	06 19 48.8			
TSUM	**Tsumeb**	**18.23**	**238**	P	**P**	**06 14 32.9**	**+1.8**		
0.8nm,0.3s,baz=44,slow=11,SNR=16									
TSUM				S	Sn	06 17 43.1	-12		
0.6nm,0.3s,baz=165,slow=11,SNR=6.7									
TSUM				Lg	Lg	06 19 48.8			
0.3nm,0.3s,baz=207,slow=4.5,SNR=3.0									
BOSA	**Boshof**	**20.14**	**203**	P	Pn	06 14 53.6	-0.3		
BOSA				S	**S**	**06 18 32.1**	**-6.2**		
BOSA				Lg	Lg	06 20 43.4			
BOSA	**Boshof**	**20.14**	**203**	P	Pn	06 14 53.6	-0.3		
3.1nm,0.5s,baz=21,slow=13,SNR=9.9									
BOSA				S	**S**	**06 18 32.1**	**-6.2**		
2.8nm,0.7s,baz=68,slow=18,SNR=2.8									
BOSA				Lg	Lg	06 20 43.4			
14nm,0.7s,baz=111,slow=14,SNR=4.8									
SUR	**Sutherland**	**25.27**	**207**	P	**P**	**06 15 43.6**	**-0.6**		
SUR	**Sutherland**	**25.27**	**207**	P	**P**	**06 15 43.6**	**-0.6**		
5.3nm,1.0s,baz=16,slow=15,SNR=2.2									
TORD	**Torodi Ar. Bea**	**39.50**	**305**	P	**P**	**06 17 48.7**	**+0.1**		
TORD	**Torodi Ar. Bea**	**39.50**	**305**	P	**P**	**06 17 48.7**	**+0.1**		
0.6nm,0.8s,baz=117,slow=6.7,SNR=3.7									
DBIC	**Dimbokro**	**42.11**	**292**	P	**P**	**06 18 13.0**	**+2.8**		
DBIC	**Dimbokro**	**42.11**	**292**	P	**P**	**06 18 13.0**	**+2.8**		
2.7nm,0.9s,baz=111,slow=8.6,SNR=2.8									
BRTR	**Keskin Array B**	**49.58**	**360**	P	**P**	**06 19 07.4**	**-1.6**		
BRTR	**Keskin Array B**	**49.58**	**360**	P	**P**	**06 19 07.4**	**-1.6**		
0.6nm,0.6s,baz=178,slow=8.7,SNR=3.4									
AKASG	**Malin Array Be**	**60.70**	**357**	P	**P**	**06 20 29.4**	**+0.5**		
AKASG	**Malin Array Be**	**60.70**	**357**	P	**P**	**06 20 29.4**	**+0.5**		
0.1nm,0.2s,baz=167,slow=5.6,SNR=3.3									
BVAR	**Borovoye Array**	**70.15**	**22**	P	**P**	**06 21 30.6**	**+0.6**		
BVAR	**Borovoye Array**	**70.15**	**22**	P	**P**	**06 21 30.6**	**+0.6**		
0.3nm,0.5s,baz=235,slow=5.1,SNR=2.8									
MKAR	**Makanchi Array**	**71.15**	**33**	P	**P**	**06 21 37.4**	**+1.0**		
MKAR	**Makanchi Array**	**71.15**	**33**	P	**P**	**06 21 37.4**	**+1.0**		
1.3nm,0.8s,baz=234,slow=6.8,SNR=5.4									
KURBB	**Kurchatov Arra**	**71.80**	**28**	P	**P**	**06 21 42.0**	**+1.8**		
1.0nm,0.8s,baz=231,slow=6.5,SNR=12									
KURK	**Kurchatov**	**71.90**	**28**	P	**P**	**06 21 42.0**	**+1.2**		
SONM	**Songino Array**	**85.91**	**40**	P	**P**	**06 22 59.6**	**+1.7**		
SONM	**Songino Array**	**85.91**	**40**	P	**P**	**06 22 59.6**	**+1.7**		
0.7nm,0.6s,baz=249,slow=4.6,SNR=3.0									
ASAR	**Alice Springs**	**94.94**	**115**	P	**P**	**06 23 42.4**	**+1.6**		
ASAR	**Alice Springs**	**94.94**	**115**	P	**P**	**06 23 42.4**	**+1.6**		
0.5nm,0.6s,baz=258,slow=4.7,SNR=8.1									

*ATH **08** 06:22:39.2, 37°.20N×19°.87E, h5km±4km, MD3.3/23*
*CSEM **08** 06:22:43.5±0.6, 37°.34N×20°.07E, h2km, ML3.5, Error ellipse: s-maj=11.9km s-min=6.3km az=47.0*
*THE **08** 06:22:45.2, 37°.42N×20°.19E, h0km±2km, ML3.5/2, Error ellipse: s-maj=2.9km s-min=1.0km az=232.0*

ISC 08 06:22:40.0±2.1, 37°.25N±0°.05×19°.90E±0°.08, h4km±11km, n88, σ1°40/112, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SFD	**Strofades**	**0.89**	**89**	P		**Pb**	**06 22 57.6**	**-0.4**
SFD				S		**Sg**	**06 23 08.0**	**-0.6**
SFD	**Strofades**	**0.89**	**89**	*e*PN		**Pb**	**06 22 57.5**	**-0.4**
SFD				*e*SB		**Sg**	**06 23 09.1**	**+0.5**
SFD	**Strofades**	**0.89**	**89**	*e*Pn		**Pb**	**06 22 57.5**	**-0.4**
SFD				*e*Sb		**Sg**	**06 23 09.1**	**+0.5**
VLS	**Valsamata**	**1.08**	**30**	P		**Pg**	**06 23 00.4**	**-0.3**
VLS				S		**Sg**	**06 23 13.0**	**-1.7**
VLS	**Valsamata**	**1.08**	**30**	*e*PN		**Pg**	**06 23 00.4**	**-0.3**
VLS				*e*SB		**Sn**	**06 23 17.3**	**0.0**
VLS	**Valsamata**	**1.08**	**30**	*e*Pn		**Pg**	**06 23 00.4**	**-0.3**
VLS				S		**Sg**	**06 23 13.0**	**-1.7**
VLS				*e*Sb		**Sn**	**06 23 17.3**	**0.0**
KFL	**Anninata**	**1.11**	**39**	P		**Pg**	**06 23 00.6**	**-0.8**
KFL				S		**Sg**	**06 23 13.0**	**-2.8**
AMT	**Artemida-Makis**	**1.47**	**78**	*e*PB		**Pg**	**06 23 08.2**	**+0.1**
AMT				*e*SB		**Sg**	**06 23 29.4**	**+2.3**
AMT	**Artemida-Makis**	**1.47**	**78**	*e*Pb		**Pg**	**06 23 08.2**	**+0.1**
AMT				*e*Sb		**Sg**	**06 23 29.4**	**+2.3**
RLS	**Riolos of Patr**	**1.48**	**56**	P		**Pb**	**06 23 07.5**	**-0.6**
RLS				S		**Sn**	**06 23 25.5**	**-1.7**
RLS	**Riolos of Patr**	**1.48**	**56**	*e*PG		**Pb**	**06 23 07.8**	**-0.3**
RLS				*e*SB		**Sg**	**06 23 29.6**	**+1.9**
RLS	**Riolos of Patr**	**1.48**	**56**	P		**Pb**	**06 23 07.5**	**-0.6**
RLS	**Riolos of Patr**	**1.48**	**56**	*e*Pg		**Pb**	**06 23 07.8**	**-0.3**
RLS				S		**Sn**	**06 23 25.5**	**-1.7**
RLS				*e*Sb		**Sg**	**06 23 29.6**	**+1.9**
PYL	**PYLOS**	**1.51**	**103**	P		**Pb**	**06 23 07.7**	**-0.9**
PYL	**PYLOS**	**1.51**	**103**	*e*PG		**Pb**	**06 23 07.6**	**-1.0**
PYL				*e*SB		**Sg**	**06 23 29.4**	**+0.8**
PYL	**PYLOS**	**1.51**	**103**	*e*Pg		**Pb**	**06 23 07.6**	**-1.0**
PYL				*e*Sb		**Sg**	**06 23 29.4**	**+0.8**
DRO	**Drossia**	**1.60**	**63**	P		**Pb**	**06 23 10.2**	**+0.1**
DRO				S		**Sn**	**06 23 29.8**	**-0.4**
DRO	**Drossia**	**1.60**	**63**	*e*PB		**Pg**	**06 23 10.9**	**+0.2**
DRO				*e*SB		**Sg**	**06 23 33.3**	**+1.9**
DRO	**Drossia**	**1.60**	**63**	P		**Pb**	**06 23 10.2**	**+0.1**
DRO	**Drossia**	**1.60**	**63**	*e*Pb		**Pg**	**06 23 10.9**	**+0.2**
DRO				S		**Sn**	**06 23 29.8**	**-0.4**
DRO				*e*Sb		**Sg**	**06 23 33.3**	**+1.9**
ITM	**Ithomi**	**1.62**	**92**	P		**Pb**	**06 23 09.2**	**-1.2**
ITM	**Ithomi**	**1.62**	**92**	*e*PG		**Pb**	**06 23 09.3**	**-1.2**
ITM				*e*SB		**Sg**	**06 23 33.3**	**+1.3**
ITM	**Ithomi**	**1.62**	**92**	P		**Pg**	**06 23 09.2**	**-1.2**
ITM				*e*Sb		**Sg**	**06 23 33.3**	**+1.3**
PDO	**Prodromos**	**1.69**	**36**	P		**Pb**	**06 23 11.6**	**0.0**
PDO				S		**Sn**	**06 23 31.4**	**-0.9**
PDO	**Prodromos**	**1.69**	**36**	*e*PN		**Pb**	**06 23 11.9**	**+0.3**
PDO	**Prodromos**	**1.69**	**36**	P		**Pb**	**06 23 11.6**	**0.0**
PDO	**Prodromos**	**1.69**	**36**	*e*Pn		**Pb**	**06 23 11.9**	**+0.3**
PDO				S		**Sn**	**06 23 31.4**	**-0.9**
LAKA	**Lakka**	**1.92**	**58**	P		**Pb**	**06 23 14.7**	**-0.9**
LAKA	**Lakka**	**1.92**	**58**	*e*PG		**Pb**	**06 23 14.9**	**-0.7**
LAKA	**Lakka**	**1.92**	**58**	P		**Pb**	**06 23 14.7**	**-0.9**
KLV	**Kalavryta, Ach**	**1.95**	**65**	P		**Pb**	**06 23 14.9**	**-1.3**
KLV	**Kalavryta, Ach**	**1.95**	**65**	*e*PN		**Pb**	**06 23 15.9**	**-0.3**
KLV	**Kalavryta, Ach**	**1.95**	**65**	P		**Pb**	**06 23 14.9**	**-1.3**
KLV	**Kalavryta, Ach**	**1.95**	**65**	*e*Pg		**Pb**	**06 23 15.9**	**-0.3**
EFP	**Efpalio**	**1.98**	**53**	P		**Pb**	**06 23 15.9**	**-0.6**
EFP	**Efpalio**	**1.98**	**53**	P		**Pb**	**06 23 15.9**	**-0.6**
VLX	**Vlachokerasia**	**1.98**	**86**	*e*PN		**Pg**	**06 23 17.2**	**-0.7**
VLX	**Vlachokerasia**	**1.98**	**86**	*e*Pn		**Pg**	**06 23 17.2**	**-0.7**
GUR	**Goura**	**2.06**	**70**	P		**Pb**	**06 23 16.5**	**-1.5**
GUR	**Goura**	**2.06**	**70**	*e*PN		**Pb**	**06 23 17.8**	**-0.2**
GUR	**Goura**	**2.06**	**70**	P		**Pb**	**06 23 16.5**	**-1.5**
GUR	**Goura**	**2.06**	**70**	*e*Pn		**Pb**	**06 23 17.8**	**-0.2**
KALE	**Kalithea**	**2.11**	**56**	P		**Pn**	**06 23 17.1**	**+1.0**
KALE	**Kalithea**	**2.11**	**56**	*e*PN		**Pb**	**06 23 18.2**	**-0.6**
KALE	**Kalithea**	**2.11**	**56**	P		**Pn**	**06 23 17.1**	**+1.0**
KALE	**Kalithea**	**2.11**	**56**	*e*Pn		**Pb**	**06 23 18.2**	**-0.6**
EVR	**Evrytania**	**2.25**	**41**	P		**Pn**	**06 23 19.3**	**+1.2**
EVR	**Evrytania**	**2.25**	**41**	*e*PN		**Pb**	**06 23 20.4**	**-0.8**
EVR	**Evrytania**	**2.25**	**41**	P		**Pn**	**06 23 19.3**	**+1.2**
EVR	**Evrytania**	**2.25**	**41**	*e*Pn		**Pb**	**06 23 20.4**	**-0.8**
DSF	**Desfina**	**2.38**	**60**	*e*PN		**Pb**	**06 23 23.1**	**-0.4**
DSF	**Desfina**	**2.38**	**60**	*e*Pn		**Pb**	**06 23 23.1**	**-0.4**
DESF	**Desfina**	**2.38**	**60**	*e*PN		**Pb**	**06 23 22.1**	**-1.5**
DESF	**Desfina**	**2.38**	**60**	*e*Pn		**Pb**	**06 23 22.1**	**-1.5**
VLI	**Veliai**	**2.48**	**101**	*e*PN		**Pb**	**06 23 23.8**	**-1.4**
VLI	**Veliai**	**2.48**	**101**	*e*Pn		**Pb**	**06 23 23.8**	**-1.4**
MAKR	**Makrakomi, Fth**	**2.49**	**44**	P		**Pb**	**06 23 23.2**	**-2.1**
MAKR	**Makrakomi, Fth**	**2.49**	**44**	*e*PN		**Pb**	**06 23 24.0**	**-1.3**
MAKR	**Makrakomi, Fth**	**2.49**	**44**	P		**Pb**	**06 23 23.2**	**-2.1**
MAKR	**Makrakomi, Fth**	**2.49**	**44**	*e*Pn		**Pb**	**06 23 24.0**	**-1.3**
LTK	**Loutraki**	**2.55**	**71**	*e*PN		**Pb**	**06 23 25.1**	**-1.3**
LTK	**Loutraki**	**2.55**	**71**	*e*Pn		**Pb**	**06 23 25.1**	**-1.3**
AGG	**Agios Georgios**	**2.61**	**46**	P		**Pn**	**06 23 24.1**	**+1.1**
AGG	**Agios Georgios**	**2.61**	**46**	*e*PN		**Pb**	**06 23 26.3**	**-1.1**
AGG	**Agios Georgios**	**2.61**	**46**	P		**Pn**	**06 23 24.1**	**+1.1**
AGG	**Agios Georgios**	**2.61**	**46**	*e*Pn		**Pb**	**06 23 26.3**	**-1.1**
DID	**Didima**	**2.67**	**83**	*e*PN		**Pb**	**06 23 27.0**	**-1.4**
DID	**Didima**	**2.67**	**83**	*e*Pn		**Pb**	**06 23 27.0**	**-1.4**
KYTH	**Kithira**	**2.69**	**110**	*e*PN		**Pb**	**06 23 26.4**	**-2.4**
KYTH	**Kithira**	**2.69**	**110**	*e*Pn		**Pb**	**06 23 26.4**	**-2.4**
LKR	**Lokris**	**2.82**	**59**	*e*PN		**Pb**	**06 23 29.0**	**-1.9**
LKR	**Lokris**	**2.82**	**59**	*e*Pn		**Pb**	**06 23 29.0**	**-1.9**
THL	**Klokotos Trika**	**2.85**	**35**	P		**Pn**	**06 23 28.0**	**+1.8**
THL	**Klokotos Trika**	**2.85**	**35**	*e*PB		**Pn**	**06 23 28.0**	**+1.8**
THL	**Klokotos Trika**	**2.85**	**35**	P		**Pn**	**06 23 28.0**	**+1.8**
MRKA	**Markates**	**3.25**	**62**	*e*PN		**Pb**	**06 23 35.4**	**-3.0**
MRKA	**Markates**	**3.25**	**62**	*e*Pn		**Pb**	**06 23 35.4**	**-3.0**
NEO	**Neokhori**	**3.33**	**51**	*e*PB		**Pb**	**06 23 36.6**	**-3.0**
NEO	**Neokhori**	**3.33**	**51**	*e*Pb		**Pb**	**06 23 36.6**	**-3.0**
BIA	**Bitola**	**3.93**	**16**	*i* Pn		**Pn**	**06 23 43.4**	**+2.3**
BIA	**Bitola**	**3.93**	**16**	*i* Pn		**Pn**	**06 23 43.4**	**+2.3**
VAY	**Valandovo**	**4.57**	**26**	*i* Pn		**Pn**	**06 23 50.9**	**+1.1**
VAY	**Valandovo**	**4.57**	**26**	*i* Pn		**Pn**	**06 23 51.4**	**+1.6**
SKO	**Skopje**	**4.87**	**14**	*i* Pn		**Pn**	**06 23 55.7**	**+1.7**
SKO	**Skopje**	**4.87**	**14**	*i* Pn		**Pn**	**06 23 56.2**	**+2.2**
BBLS	**Lazići**	**6.62**	**357**	*e*Pn		**Pn**	**06 24 20.2**	**+2.0**
GRUS	**Gruza**	**6.67**	**5**	*e*Pn		**Pn**	**06 24 20.4**	**+1.7**
DIVS	**Divibare**	**6.85**	**1**	*e*Pn		**Pn**	**06 24 23.2**	**+2.0**

IDC 08 06:28:01.0±1.8, 7°.95S×117°.27E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/22, mbtmp3.7/5, Error ellipse: s-maj=89.7km s-min=14.6km az=49.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**20.39**	**128**	P		Pn	06 32 41.2	-0.4
1.4nm,0.6s,baz=298,slow=12,SNR=21								
WRA				S		S	06 36 28.8	-0.3
0.3nm,0.7s,baz=295,slow=24,SNR=4.9								
ASAR	**Alice Springs**	**22.33**	**136**	P		P	06 33 02.5	+1.9
1.3nm,0.6s,baz=312,slow=8.9,SNR=22								
STKA	**Stephens Creek**	**32.85**	**140**	P		P	06 34 36.9	+0.3
1.0nm,0.4s,baz=292,slow=5.4,SNR=3.7								
SONM	**Songino Array**	**56.36**	**351**	P		P	06 37 44.1	+0.1
0.5nm,0.5s,baz=166,slow=7.7,SNR=2.3								
MKAR	**Makanchi Array**	**62.75**	**334**	P		P	06 38 27.0	-1.1
0.1nm,0.4s,baz=156,slow=5.8,SNR=4.6								

IDC 08 06:38:16.9±9.5, 33°.03S×148°.96E, h0km, mb1 3.3/3, mb1mx3.3/15, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=155.9km s-min=50.4km az=172.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
STKA	**Stephens Creek**	**6.33**	**279**	Pn		Pn	06 39 51.9	+0.3
0.2nm,0.3s,baz=105,slow=12,SNR=4.5								
STKA				Sn		Sn	06 41 02.8	-1.8
0.7nm,0.3s,baz=204,slow=24,SNR=4.4								
STKA				Lg		Lg	06 41 39.2	
0.3nm,0.3s,baz=184,slow=18,SNR=2.2								
ASAR	**Alice Springs**	**16.19**	**301**	Pn		Pn	06 42 05.9	0.0
0.1nm,0.3s,baz=129,slow=12,SNR=6.7								
WRA	**Warramunga Arr**	**18.44**	**311**	Pn		Pn	06 42 34.0	-0.1
0.0nm,0.3s,baz=139,slow=12,SNR=3.5								

*ISCJB **08** 06:51:57.7±1.1, 37°.33N±0°.04×20°.17E±0°.06, h5km±7km, Error ellipse: s-maj=8.8km s-min=5.0km az=150.6*
*THE **08** 06:51:58.8, 37°.38N×20°.23E, h0km±3km, ML3.6/3, Error ellipse: s-maj=3.1km s-min=1.0km az=233.0*
*CSEM **08** 06:51:58.4±0.4, 37°.36N×20°.21E, h2km, ML3.6, Error ellipse: s-maj=7.0km s-min=3.5km az=65.0*
*ATH **08** 06:51:59.5, 37°.32N×20°.19E, h33km±2km, MD3.3/27*

ISC 08 06:51:57.7±1.9, 37°.35N±0°.04×20°.18E±0°.07, h0km±11km, n87, σ0°63/111, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SFD	**Strofades**	**0.68**	**98**	P		**Pg**	**06 52 10.8**	**+0.1**
SFD				S		**Sg**	**06 52 20.6**	**+1.1**
SFD	**Strofades**	**0.68**	**98**	*e*PN		**Pb**	**06 52 12.9**	**+0.5**
SFD				*e*SN		**Sb**	**06 52 23.1**	**+0.8**
SFD	**Strofades**	**0.68**	**98**	P		**Pg**	**06 52 10.3**	**-0.4**
SFD	**Strofades**	**0.68**	**98**	*e*Pn		**Pb**	**06 52 12.9**	**+0.5**
SFD				S		**Sg**	**06 52 20.6**	**+1.1**
SFD				*e*Sn		**Sb**	**06 52 23.1**	**+0.8**
VLS	**Valsamata**	**0.89**	**21**	P		**Pg**	**06 52 14.3**	**-0.6**
VLS				S		**Sg**	**06 52 27.2**	**+0.8**
VLS	**Valsamata**	**0.89**	**21**	*e*PB		**Pb**	**06 52 16.5**	**+0.4**
VLS				*e*SN		**Sn**	**06 52 30.5**	**-0.7**
VLS	**Valsamata**	**0.89**	**21**	P		**Pg**	**06 52 14.4**	**-0.5**
VLS	**Valsamata**	**0.89**	**21**	*e*Pb		**Pb**	**06 52 16.5**	**+0.4**
VLS				S		**Sb**	**06 52 27.8**	**-0.8**
VLS				*e*Sn		**Sn**	**06 52 30.5**	**-0.7**
KFL	**Anninata**	**0.90**	**32**	P		**Pg**	**06 52 14.6**	**-0.5**
KFL				S		**Sg**	**06 52 27.6**	**+0.8**
KFL	**Anninata**	**0.90**	**32**	P		**Pg**	**06 52 14.5**	**-0.5**
KFL				S		**Sg**	**06 52 27.0**	**+0.2**
AMT	**Artemida-Makis**	**1.23**	**81**	P		**Pg**	**06 52 20.9**	**-0.5**
AMT				S		**Sb**	**06 52 39.0**	**+0.6**
AMT	**Artemida-Makis**	**1.23**	**81**	*e*PN		**Pn**	**06 52 22.4**	**+0.1**
AMT	**Artemida-Makis**	**1.23**	**81**	P		**Pg**	**06 52 21.1**	**-0.3**
AMT	**Artemida-Makis**	**1.23**	**81**	*e*Pn		**Pn**	**06 52 22.4**	**+0.1**
AMT				S		**Sg**	**06 52 38.0**	**+0.6**
RLS	**Riolos of Patr**	**1.25**	**55**	P		**Pg**	**06 52 20.7**	**-0.9**
RLS				S		**Sb**	**06 52 38.5**	**-0.2**
RLS	**Riolos of Patr**	**1.25**	**55**	*e*PB		**Pb**	**06 52 22.0**	**-0.1**
RLS				*e*SN		**Sn**	**06 52 39.4**	**-0.5**
RLS	**Riolos of Patr**	**1.25**	**55**	P		**Pg**	**06 52 20.8**	**-0.9**
RLS	**Riolos of Patr**	**1.25**	**55**	*e*Pb		**Pb**	**06 52 22.0**	**-0.1**
RLS				S		**Sb**	**06 52 38.6**	**-0.2**
RLS				*e*Sn		**Sn**	**06 52 39.4**	**-0.5**
PYL	**PYLOS**	**1.33**	**109**	P		**Pg**	**06 52 22.0**	**-1.2**
PYL	**PYLOS**	**1.33**	**109**	*e*PB		**Pg**	**06 52 22.4**	**-0.8**
PYL				*e*SN		**Sg**	**06 52 40.9**	**+0.4**
PYL	**PYLOS**	**1.33**	**109**	P		**Pg**	**06 52 22.1**	**-1.2**
PYL	**PYLOS**	**1.33**	**109**	*e*Pb		**Pg**	**06 52 22.4**	**-0.8**
PYL				S		**Sg**	**06 52 40.0**	**-0.5**
DRO	**Drossia**	**1.36**	**63**	P		**Pg**	**06 52 23.4**	**-0.4**
DRO				S		**Sg**	**06 52 41.7**	**+0.3**
DRO	**Drossia**	**1.36**	**63**	*e*PB		**Pg**	**06 52 23.5**	**-0.4**
DRO	**Drossia**	**1.36**	**63**	P		**Pg**	**06 52 23.3**	**-0.5**
DRO				S		**Sb**	**06 52 42.5**	**+0.5**
ITM	**Ithomi**	**1.41**	**96**	P		**Pn**	**06 52 23.6**	**-1.1**
ITM	**Ithomi**	**1.41**	**96**	*e*PB		**Pn**	**06 52 23.8**	**-0.8**
ITM				*e*SB		**Sg**	**06 52 42.4**	**-0.5**
ITM	**Ithomi**	**1.41**	**96**	P		**Pn**	**06 52 23.5**	**-1.1**
ITM				S		**Sg**	**06 52 42.0**	**-0.9**
PDO	**Prodromos**	**1.48**	**32**	P		**Pn**	**06 52 24.7**	**-1.0**
PDO				S		**Sg**	**06 52 45.5**	**+0.1**
PDO	**Prodromos**	**1.48**	**32**	*e*PN		**Pg**	**06 52 26.3**	**+0.1**
PDO	**Prodromos**	**1.48**	**32**	P		**Pn**	**06 52 24.9**	**-0.8**
PDO	**Prodromos**	**1.48**	**32**	*e*Pn		**Pg**	**06 52 26.3**	**+0.1**
PDO				S		**Sg**	**06 52 45.5**	**+0.1**
PSA1	**Psathopyrgos**	**1.67**	**54**	*e*PB		**Pb**	**06 52 28.8**	**-0.5**
LAKA	**Lakka**	**1.68**	**57**	*e*PB		**Pb**	**06 52 29.4**	**-0.2**
LAKA	**Lakka**	**1.68**	**57**	*e*Pb		**Pb**	**06 52 29.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.71**	**65**	P		**Pn**	**06 52 28.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.71**	**65**	*e*PN		**Pn**	**06 52 28.9**	**0.0**
KLV	**Kalavryta, Ach**	**1.71**	**65**	P		**Pn**	**06 52 28.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.71**	**65**	*e*Pn		**Pn**	**06 52 28.9**	**0.0**
VLX	**Vlachokerasia**	**1.75**	**89**	P		**Pn**	**06 52 29.8**	**+0.3**
VLX	**Vlachokerasia**	**1.75**	**89**	*e*PN		**Pn**	**06 52 29.5**	**0.0**
VLX	**Vlachokerasia**	**1.75**	**89**	*e*Pn		**Pn**	**06 52 29.5**	**0.0**
VLX	**Vlachokerasia**	**1.75**	**89**	P		**Pn**	**06 52 29.8**	**+0.3**
GUR	**Goura**	**1.82**	**70**	P		**Pn**	**06 52 30.4**	**0.0**
GUR	**Goura**	**1.82**	**70**	*e*PN		**Pn**	**06 52 30.7**	**+0.3**
GUR	**Goura**	**1.82**	**70**	P		**Pn**	**06 52 30.4**	**0.0**
GUR	**Goura**	**1.82**	**70**	*e*Pb		**Pn**	**06 52 30.7**	**+0.3**
KALE	**Kalithea**	**1.87**	**56**	*e*PN		**Pn**	**06 52 31.5**	**+0.4**
KALE	**Kalithea**	**1.87**	**56**	*e*Pn		**Pn**	**06 52 31.5**	**+0.4**
EVR	**Evrytania**	**2.03**	**39**	*e*PB		**Pn**	**06 52 34.4**	**+1.1**
EVR	**Evrytania**	**2.03**	**39**	P		**Pn**	**06 52 33.7**	**+0.4**
EVR	**Evrytania**	**2.03**	**39**	*e*Pb		**Pn**	**06 52 34.4**	**+1.1**
DSF	**Desfina**	**2.14**	**60**	*e*PN		**Pn**	**06 52 34.9**	**+0.1**
DSF	**Desfina**	**2.14**	**60**	*e*Pn		**Pn**	**06 52 34.9**	**+0.1**
DESF	**Desfina**	**2.15**	**60**	*e*PN		**Pn**	**06 52 35.7**	**+0.8**
DESF	**Desfina**	**2.15**	**60**	*e*Pn		**Pn**	**06 52 35.7**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.27**	**42**	*e*PN		**Pn**	**06 52 36.5**	**0.0**
MAKR	**Makrakomi, Fth**	**2.27**	**42**	*e*Pn		**Pn**	**06 52 36.5**	**0.0**
VLI	**Veliai**	**2.30**	**105**	P		**Pn**	**06 52 37.5**	**+0.7**
VLI	**Veliai**	**2.30**	**105**	*e*PN		**Pn**	**06 52 37.7**	**+0.9**
VLI	**Veliai**	**2.30**	**105**	P		**Pn**	**06 52 37.5**	**+0.7**
LTK	**Loutraki**	**2.31**	**72**	*e*PN		**Pn**	**06 52 36.5**	**-0.6**
LTK	**Loutraki**	**2.31**	**72**	*e*Pn		**Pn**	**06 52 36.5**	**-0.6**
KEK	**Kerkira**	**2.38**	**353**	P		**Pn**	**06 52 38.3**	**+0.3**
KEK	**Kerkira**	**2.38**	**353**	P		**Pn**	**06 52 38.3**	**+0.3**
AGG	**Agios Georgios**	**2.38**	**45**	*e*PN		**Pn**	**06 52 38.9**	**+0.8**
AGG	**Agios Georgios**	**2.38**	**45**	*e*Pn		**Pn**	**06 52 38.9**	**+0.8**
DID	**Didima**	**2.44**	**85**	P		**Pn**	**06 52 39.3**	**+0.4**
DID	**Didima**	**2.44**	**85**	*e*PN		**Pn**	**06 52 39.5**	**+0.6**
DID	**Didima**	**2.44**	**85**	P		**Pn**	**06 52 39.3**	**+0.4**
KYTH	**Kithira**	**2.53**	**114**	P		**Pn**	**06 52 40.6**	**+0.5**
KYTH	**Kithira**	**2.53**	**114**	*e*PN		**Pn**	**06 52

BHK	**Bhakra**	**3.47**	**288**	*e*P	**Pn**	**07 06 14.0**	**+1.0**
BHK				*e*S	**Sn**	**07 06 54.8**	**+0.6**
DANN	**Dangsing**	**3.67**	**123**	*e*Pn	Pn	07 06 19.1	+3.1
DANN				*e*Sn	**Sn**	**07 07 00.4**	**+0.9**
DHRM	**DHARAMSHALA**	**3.87**	**299**	*e*P	**Pn**	**07 06 20.6**	**+1.9**
DHRM				*e*S	**Sn**	**07 07 04.3**	**0.0**
DHRM				AML	AML	07 07 08.9	
	comp=N,490nm,0.4s						
DHRM				AML	AML	07 07 09.5	
	comp=E,680nm,0.4s						
KOLN	**Koldanda**	**3.92**	**131**	*e*Pn	**Pn**	**07 06 22.4**	**+3.0**
KOLN				*e*Sn	**Sn**	**07 07 06.6**	**+1.0**
GKN	**Gorkha**	**4.50**	**121**	*e*Pn	Pn	07 06 30.5	+3.1
GKN				*e*Sn	**Sn**	**07 07 20.4**	**+0.5**
DMN	**Daman**	**5.07**	**122**	*e*Pn	**Pn**	**07 06 37.9**	**+2.7**
KKN	**Kakani**	**5.09**	**120**	*e*Pn	Pn	07 06 38.8	+3.2
KKN				*e*Sn	**Sn**	**07 07 33.6**	**-1.0**
PKIN	**Phulchoki**	**5.30**	**121**	*e*Pn	Pn	07 06 41.5	+3.1
PKIN				*e*Sn	**Sn**	**07 07 39.2**	**-0.4**
	comp=E,78nm,0.3s						
PKI	**Pulchoki**	**5.31**	**121**	*e*Pn	**Pn**	**07 06 41.3**	**+2.7**
GUN	**Gumba**	**5.49**	**116**	*e*Pn	Pn	07 06 44.1	+2.9
JIRN	**Jiri**	**5.86**	**116**	*e*Pn	**Pn**	**07 06 48.8**	**+2.6**
JIRN				*e*Sn	**Sn**	**07 07 52.3**	**-1.2**
RAMN	**Ramite**	**6.54**	**120**	*e*Pn	**Pn**	**07 06 57.9**	**+2.5**
RAMN				*e*Sn	**Sn**	**07 08 08.4**	**-1.7**
CHCP	**Chirah Chowk**	**6.78**	**300**	P	Pn	07 07 04.4	+5.9
ODAN	**Odare**	**7.18**	**118**	*e*Pn	**Pn**	**07 07 06.3**	**+2.1**
ODAN				*e*Sn	**Sn**	**07 08 23.8**	**-2.2**
TAPN	**Taplejung**	**7.19**	**113**	*e*Pn	**Pn**	**07 07 06.9**	**+2.4**
TAPN				*e*Sn	**Sn**	**07 08 24.1**	**-2.3**
	comp=E,50nm,0.4s						
JBP	**Jabalpur**	**7.22**	**182**	⇑*i*P	**Pn**	**07 07 05.4**	**+0.9**
JBP				*ex*	x	07 08 24.3	
BHPL	**Bhopal**	**7.59**	**200**	*e*P	**Pn**	**07 07 10.2**	**+0.6**
BHPL				*e*S	Sn	07 08 29.9	-5.8
THW	**Thamme Wali**	**7.66**	**290**	P	**Pn**	**07 07 11.9**	**+1.3**
CEP	**Cherat**	**7.87**	**298**	P	**Pn**	**07 07 14.0**	**+0.4**
BOK	**Bokaro**	**8.27**	**142**	*e*P	**Pn**	**07 07 19.6**	**+0.6**
BOK				*e*S	Sn	07 08 46.2	-6.3
NGP	**Nagpur**	**9.29**	**187**	*e*P	**Pn**	**07 07 32.5**	**-0.5**
NGP				*e*S	Sn	07 09 10.9	-6.8
TKM2	**Tokmak 2**	**13.03**	**345**	⇑Pn	Pn	07 08 20.1	-4.2
	comp=E,3.4nm,1.2s						
HYB	**Hyderabad**	**13.03**	**187**	*e*P	Pn	07 08 20.0	-4.3
HYB				*e*S	Sn	07 10 43.0	-6.5
KK31	**Karatay Array**	**14.87**	**331**	⇑Pn	Pn	07 08 44.2	-5.1
	comp=E,0.8nm,0.4s,baz=138,slow=13,SNR=17						
KK31				⇑Sn	Sn	07 11 16.1	-18
	comp=E,4.6nm,0.9s,baz=159,slow=25,SNR=3.7						
MK31	**Makanchi Array**	**16.43**	**5**	⇓P	**Pn**	**07 09 10.5**	**+0.9**
	comp=E,3.5nm,0.6s,baz=186,slow=12,SNR=8.6						
MKAR	**Makanchi Array**	**16.43**	**5**	Pn	**Pn**	**07 09 07.5**	**-2.0**
	comp=E,0.1nm,0.3s,baz=190,slow=13,SNR=5.7						
KUR15	**Kurchatov Array**	**20.23**	**357**	⇑P	**P**	**07 09 51.7**	**-2.3**
	comp=E,3.6nm,1.4s						
KURBB	**Kurchatov Arra**	**20.23**	**357**	P	**P**	**07 09 53.2**	**-0.8**
	comp=E,1.9nm,0.6s,baz=182,slow=11,SNR=24						
KURK	**Kurchatov**	**20.32**	**357**	⇑P	**P**	**07 09 53.2**	**-1.8**
	comp=E,3.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**20.71**	**121**	P	**P**	**07 09 58.1**	**-1.4**
	comp=E,1.3nm,0.3s,baz=313,slow=11,SNR=6.2						
BVA0	**Borovoye Array**	**23.72**	**345**	⇑P	**P**	**07 10 29.3**	**-1.7**
	comp=E,5.9nm,1.1s,baz=278,slow=29,SNR=5.2						
BVAR	**Borovoye Array**	**23.72**	**345**	P	**P**	**07 10 31.9**	**+0.9**
	comp=E,1.1nm,0.5s,baz=153,slow=13,SNR=7.1						
ZALV	**Zalesovo Beam**	**23.75**	**7**	P	**P**	**07 10 31.3**	**+0.1**
	comp=E,1.4nm,0.3s,baz=199,slow=9.2,SNR=9.1						
BRVK	**Borovoye**	**23.78**	**345**	⇑P	**P**	**07 10 31.0**	**-0.5**
	comp=E,9.4nm,1.4s						
AB31	**Akbulak array**	**24.32**	**326**	⇑P	**P**	**07 10 37.3**	**+0.7**
	comp=E,1.7nm,0.6s,baz=132,slow=9.2,SNR=26						
AKTO	**Aktyubinsk**	**26.04**	**326**	P	**P**	**07 10 53.2**	**+1.0**
	comp=E,2.7nm,0.7s,baz=131,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**26.04**	**326**	⇑P	**P**	**07 10 53.7**	**+1.5**
	comp=E,5.2nm,0.9s						
SONM	**Songino Array**	**26.51**	**42**	P	**P**	**07 10 57.0**	**+0.3**
	comp=E,0.3nm,0.6s,baz=230,slow=11,SNR=2.2						
BRTR	**Keskin Array B**	**38.92**	**297**	P	**P**	**07 12 45.5**	**+0.5**
	comp=E,0.5nm,0.8s,baz=102,slow=12,SNR=3.6						
KSRS	**Korea Array**	**39.81**	**67**	P	**P**	**07 12 52.0**	**-0.2**
	comp=E,1.8nm,0.7s,baz=274,slow=8.6,SNR=6.6						
AKASG	**Malin Array Be**	**42.77**	**313**	P	**P**	**07 13 16.7**	**+0.2**
	comp=E,0.5nm,0.6s,baz=106,slow=8.3,SNR=4.4						
FINES	**FINESS Array B**	**46.80**	**328**	P	**P**	**07 13 48.5**	**0.0**
	comp=E,0.8nm,0.6s,baz=111,slow=7.9,SNR=3.8						
ARCES	**ARCESS Array B**	**49.70**	**338**	P	**P**	**07 14 10.9**	**+0.1**
	comp=E,2.2nm,0.8s,baz=121,slow=6.4,SNR=8.2						
GERES	**GERESS Array B**	**52.77**	**310**	P	**P**	**07 14 35.5**	**+1.3**
	comp=E,0.3nm,0.5s,baz=79,slow=5.1,SNR=3.4						
NOA	**NORSAR Array B**	**53.83**	**326**	P	**P**	**07 14 41.1**	**-0.5**
	comp=E,0.9nm,0.8s,baz=93,slow=7.2,SNR=3.4						
ESDC	**Sonseca Array**	**67.22**	**304**	P	**P**	**07 16 13.9**	**+0.3**
	comp=E,0.2nm,0.5s,baz=61,slow=8.8,SNR=4.2						
WRA	**Warramunga Arr**	**72.17**	**127**	P	**P**	**07 16 44.1**	**-0.1**
	comp=E,2.2nm,0.8s,baz=322,slow=6.1,SNR=27						
TORD	**Torodi Ar. Bea**	**73.72**	**276**	P	**P**	**07 16 53.6**	**0.0**
	comp=E,0.3nm,0.5s,baz=39,slow=4.5,SNR=3.5						
ASAR	**Alice Springs**	**74.41**	**130**	P	**P**	**07 16 55.6**	**-1.8**
	comp=E,0.8nm,0.6s,baz=315,slow=5.7,SNR=9.9						
ILAR	**Eielson Array**	**78.26**	**19**	P	**P**	**07 17 19.4**	**+0.7**
	comp=E,0.4nm,0.7s,baz=326,slow=3.5,SNR=4.9						
YKA	**Yellowknife Ar**	**86.65**	**7**	P	**P**	**07 18 00.9**	**-1.5**
	comp=E,0.3nm,0.6s,baz=341,slow=5.2,SNR=3.9						
TXAR	**Lajitas Array**	**120.47**	**4**	PKP	**PKPdf**	**07 24 11.7**	**+0.5**
	comp=E,0.3nm,0.9s,baz=270,slow=0.9,SNR=2.9						
LPAZ	**La Paz**	**147.90**	**289**	PKPbc	**PKPbc**	**07 25 05.2**	**-0.6**
	comp=E,0.9nm,0.9s,baz=38,slow=12,SNR=3.4						

WEL 08 07:06:20.1±0.6, 41.73S×172.18E, h101km±7km, ML3.5/5, Error ellipse: s-maj=4.5km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.94**	**16**	PN	Pn	07 06 39.9	-0.1
QRZ				SN	Sn	07 06 53.9	-1.1
LTZ	**Lake Taylor**	**1.05**	**176**	PN	Pn	07 06 41.7	+0.3
LTZ				SN	Sn	07 06 56.9	-0.4
BSWZ	**Blackbirch Sta**	**1.27**	**90**	PN	Pn	07 06 43.6	-0.1
BSWZ				SN	Sn	07 07 01.6	0.0
OXZ	**Oxford**	**1.60**	**184**	PN	Pn	07 06 47.1	-0.5
OXZ				SN	Sn	07 07 06.3	-2.4
DUWZ	**D'Urville Isla**	**1.61**	**55**	PN	Pn	07 06 47.8	0.0
DUWZ				SN	Sn	07 07 08.7	-0.1
TCW	**Tory Channel**	**1.66**	**73**	PN	Pn	07 06 47.7	-0.7
MQZ	**McQueen's Vall**	**2.01**	**170**	PN	Pn	07 06 51.8	-1.0
MQZ				SN	Sn	07 07 14.2	-3.5
BHW	**Baring Head**	**2.04**	**82**	PN	Pn	07 06 51.4	-1.9
RPZ	**Rata Peaks**	**2.15**	**202**	PN	Pn	07 06 54.6	-0.1
KIW	**Kapiti Island**	**2.23**	**68**	PN	Pn	07 06 54.3	-1.5
CAW	**Cannon Point**	**2.26**	**75**	PN	Pn	07 06 54.0	-2.2
PLWZ	**Palliser**	**2.31**	**87**	PN	Pn	07 06 54.2	-2.6
MTW	**Mount Morrison**	**2.56**	**78**	PN	Pn	07 06 57.3	-2.8
ODZ	**Otahua Downs**	**3.50**	**198**	PN	Pn	07 07 11.4	-1.1

*ISCJB **08** 07:12:08.1±0.7, 52.85N±0.04×100.74E±0.05, h10km, Error ellipse: s-maj=5.6km s-min=3.6km az=150.4*
*BYKL **08** 07:12:11.9±0.4, 52.80N×100.56E, FELT I–II MSK at Orlik*
*MOS **08** 07:12:11.6±1.7, 52.80N×100.58E, h10km, mb4.3/1, Error ellipse: s-maj=35.7km s-min=28.1km az=147.7*

ISC 08 07:12:10.3±1.0, 52.86N±0.04×100.67E±0.03, h10km, n22, σ2s10/44, 1C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**0.61**	**239**	⇓*i*Pg	**Pg**	**07 12 21.3**	**-0.9**
ORL				*e*		07 12 28.4	
ORL				pmax	pmax		
	comp=Z,220nm,0.2s						
ORL				smax	smax		
	comp=N,2μm,0.3s						
ORL	**Orlik**	**0.61**	**239**	⇓*i*Pg	**Pg**	**07 12 21.4**	**-0.8**
ORL				*e*Sg	**Sg**	**07 12 28.4**	**-1.9**
ORL				Pmax			
	comp=N,198nm,0.1s						
ORL				Smax			
	comp=N,1μm,0.2s						
MOY	**Mondy**	**1.21**	**171**	⇑*i*Pg	**Pn**	**07 12 33.1**	**-0.2**
MOY				*e*Sg	**Sb**	**07 12 48.3**	**-0.6**
MOY				Pmax			
	comp=N,137nm,0.6s						
MOY				Smax			
	comp=N,245nm,0.3s						
ARS	**Arshan**	**1.42**	**130**	*e*PG	**Pg**	**07 12 37.8**	**+0.2**
ARS				*e*		07 12 56.6	
ARS				pmax	pmax		
	comp=Z,144nm,0.2s						
ARS				smax	smax		
	comp=N,697nm,0.3s						
ARS	**Arshan**	**1.42**	**130**	*e*Pg	**Pg**	**07 12 37.8**	**+0.2**
ARS				*e*Sg	**Sg**	**07 12 56.4**	**+0.4**
ARS				Pmax			
	comp=N,145nm,0.2s						
ARS				Smax			
	comp=N,697nm,0.3s						
TLY	**Talaya**	**2.17**	**122**	*e*PN	**Pg**	**07 12 51.2**	**-0.7**
TLY				*e*		07 13 19.0	
TLY				pmax	pmax		
	comp=Z,43nm,0.3s						
TLY				smax	smax		
	comp=N,209nm,0.5s						
TLY	**Talaya**	**2.17**	**122**	*e*Pg	**Pb**	**07 12 50.4**	**+0.8**
TLY				*e*Sg	**Sg**	**07 13 19.2**	**-0.8**
TLY				Pmax			
	comp=N,42nm,0.3s						
TLY				Smax			
	comp=N,179nm,0.2s						
IRK	**Irkutsk**	**2.28**	**104**	*e*Pg	**Pg**	**07 12 53.1**	**-0.8**
IRK				*e*Sn	**Sb**	**07 13 18.8**	**-0.9**
IRK				*e*Sg	**Sg**	**07 13 23.2**	**-0.3**
IRK				Pmax			
	comp=N,363nm,0.1s						
IRK				Smax			
	comp=N,495nm,0.4s						
LSTR	**Listvyanka**	**2.73**	**110**	*e*Pn	**Pn**	**07 12 56.4**	**+2.2**
LSTR				*e*Pg	**Pg**	**07 13 01.4**	**-1.2**
LSTR				*e*Sg	**Sg**	**07 13 36.1**	**-1.9**
LSTR				Pmax			
	comp=N,18nm,0.2s						
LSTR				Smax			
	comp=N,285nm,0.6s						
ZAK	**Zakamensk**	**2.96**	**146**	*e*Pg	**Pb**	**07 13 04.4**	**+1.2**
ZAK				*e*Sn	**Sn**	**07 13 34.4**	**+1.4**
ZAK				*e*Sg	**Sg**	**07 13 43.1**	**-2.2**
ZAK				Pmax			
	comp=N,15nm,0.3s						
ZAK				Smax			
	comp=N,50nm,0.5s						
TRG	**Tyrgan**	**3.44**	**89**	*e*Pn	**Pn**	**07 13 06.3**	**+2.3**
TRG				*e*		07 13 08.5	
TRG				*e*Pg	**Pg**	**07 13 15.1**	**-1.1**
TRG				*e*Sn	**Sn**	**07 13 47.8**	**+2.9**
TRG				*e*Sg	**Sg**	**07 14 01.3**	**+0.5**
TRG				Pmax			
	comp=N,14nm,0.2s						
TRG				Smax			
	comp=N,88nm,0.4s						
OGRR	**Ongureny**	**4.23**	**76**	*e*PN	**Pn**	**07 13 16.8**	**+2.0**
OGRR				*e*		07 13 28.1	
OGRR				*e*S	**Sn**	**07 14 05.3**	**+1.1**
OGRR				*e*		07 14 24.0	
OGRR				pmax	pmax		
	comp=Z,33nm,0.6s						
OGRR				smax	smax		
	comp=N,98nm,0.4s						
OGRR	**Ongureny**	**4.23**	**76**	*e*Pn	**Pn**	**07 13 16.8**	**+2.0**
OGRR				*e*Pg	**Pg**	**07 13 30.0**	**-1.3**
OGRR				*e*Sn	**Sn**	**07 14 05.6**	**+1.4**
OGRR				*e*Sg	**Sg**	**07 14 25.9**	**-0.1**
OGRR				Pmax			
	comp=N,33nm,0.3s						
OGRR				Smax			
	comp=N,98nm,0.5s						
SYVR	**Suvo**	**5.66**	**78**	*e*Pn	**Pn**	**07 13 37.1**	**+2.8**
SYVR				*e*Pg	**Pg**	**07 13 55.8**	**-2.7**
SYVR				*e*Sn	**Sn**	**07 14 39.0**	**-0.3**
SYVR				*e*Sg	**Sg**	**07 15 09.6**	**-2.1**
SYVR				Pmax			
	comp=N,7.0nm,0.4s						
SYVR				Smax			
	comp=N,29nm,0.8s						
NIZ	**Nizh Angarsk**	**5.96**	**57**	*e*PN	**Pn**	**07 13 41.2**	**+2.8**
NIZ				*e*		07 13 59.9	
NIZ				*e*S	**Sn**	**07 14 46.4**	**-0.3**
NIZ				*e*		07 15 19.5	
NIZ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NIZ				smax	smax		
	comp=N,100nm,1.1s						
NIZ	**Nizh Angarsk**	**5.96**	**57**	*e*Pn	**Pn**	**07 13 41.2**	**+2.8**
NIZ				*e*		07 13 47.3	
NIZ				*e*Pg	Pg	07 14 00.5	-3.7
NIZ				*e*Sn	**Sn**	**07 14 47.3**	**+0.6**
NIZ				*e*Sg	**Sg**	**07 15 18.3**	**-3.0**
NIZ				Pmax			
	comp=N,8.0nm,0.3s						
NIZ				Smax			
	comp=N,80nm,0.7s						
ULN	**Ulaanbaatar**	**6.45**	**138**	*e*Sg	**Sg**	**07 15 32.9**	**-4.3**
YLYR	**Ulyunkhan**	**6.53**	**68**	*e*PG	Pg	07 14 11.7	-3.4
YLYR				*e*		07 15 35.1	
YLYR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
YLYR				smax	smax		
	comp=N,32nm,1.3s						
YLYR	**Ulyunkhan**	**6.53**	**68**	*e*Pn	Pn	07 13 49.1	+2.8
YLYR				*e*Pg	Pg	07 14 11.6	-3.5
YLYR				*e*Sn	**Sn**	**07 15 02.3**	**+1.6**
YLYR				*e*Sg	**Sg**	**07 15 36.4**	**-3.2**
YLYR				Pmax			
	comp=N,5.0nm,0.5s						
YLYR				Smax			
	comp=N,32nm,1.2s						
KPC	**Khapcheranga**	**7.99**	**109**	*e*Sg	**Sg**	**07 16 20.8**	**-5.6**
KPC				Smax			
	comp=N,18nm,1.8s						
UKT	**Uakit**	**8.05**	**66**	*e*Pn	Pn	07 14 11.2	+4.0
UKT				*e*Sg	**Sg**	**07 16 23.9**	**-4.3**
UKT				Smax			
	comp=N,25nm,1.4s						
BOD	**Bodaibo**	**9.07**	**51**	*e*Sg	Sn	07 16 55.3	+52
BOD				Smax			
	comp=N,12nm,0.6s						

*IDC **08** 07:16:22.7±6.6, 36.36N×71.09E, h188km±60km, mb3.1/5, mb1 3.2/8, mb1mx3.0/30, mbtmp3.1/8, Error ellipse: s-maj=36.3km s-min=26.1km az=19.0*
*NNC **08** 07:16:33.1±3.6, 37.13N×71.03E, h230km±47km, mb2.6, mpv3.9, Error ellipse: s-maj=35.7km s-min=21.9km az=24.0*

ISC 08 07:16:25.2±1.6, 36.7N±0.1×70.8E±0.1, h188km, n18, σ1s99/19, mb3.1/4, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.91**	**21**	P	**Pn**	**07 17 53.6**	**+2.2**
	SNR=24						
UCH	**Uchtor**	**6.26**	**26**	P	**Pn**	**07 17 58.1**	**+2.0**
	SNR=14						
EKS2	**Erkin-Say**	**6.42**	**20**	P	**Pn**	**07 18 00.6**	**+2.8**
	SNR=6.6						
KK31	**Karatay Array**	**6.45**	**358**	P	**Pn**	**07 18 00.7**	**+2.6**
	2.3nm,0.3s,baz=184,slow=13,SNR=34						
KK31				⇑S	**Sn**	**07 19 10.7**	**-0.8**
	12nm,0.5s,baz=184,slow=16,SNR=20						
AAK	**Ala-Archa**	**6.62**	**24**	P	**Pn**	**07 18 02.5**	**+2.2**
	SNR=10.0						
KBK	**Karagaybulak**	**6.79**	**27**	P	**Pn**	**07 18 05.0**	**+2.3**
	SNR=5.3						
ULHL	**Ulahol**	**6.99**	**35**	P	**Pn**	**07 18 06.5**	**+1.2**
	SNR=9.5						
TKM2	**Tokmak 2**	**7.26**	**29**	P	**Pn**	**07 18 10.4**	**+1.5**
	SNR=15						
TKM2	**Tokmak 2**	**7.26**	**29**	⇑P	**Pn**	**07 18 10.1**	**+1.2**
	5.8nm,0.5s						
TKM2				⇑S	**Sn**	**07 19 29.3**	**-1.8**
	9.9nm,0.8s						
MKAR	**Makanchi Array**	**13.26**	**37**	P	**Pn**	**07 19 25.3**	**-0.9**
	0.5nm,0.3s,baz=223,slow=18,SNR=17						
AB31	**Akbulak array**	**14.88**	**331**	⇓P	**P**	**07 19 49.4**	**+2.1**
	0.2nm,0.3s,baz=142,slow=12,SNR=15						
AB31				⇑S	**Sn**	**07 22 29.2**	**-3.2**
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**15.03**	**19**	P	**Pn**	**07 19 46.7**	**-1.3**
	0.5nm,0.3s,baz=207,slow=11,SNR=5.2						
BVAR	**Borovoye Array**	**16.38**	**359**	P	**Pn**	**07 20 05.5**	**+1.1**
	0.4nm,0.3s,baz=171,slow=10,SNR=6.3						
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**07 20 40.8**	**-0.6**
	2.8nm,0.4s,baz=211,slow=11,SNR=13						
TORD	**Torodi Ar. Bea**	**65.57**	**268**	P	**P**	**07 26 47.8**	**-1.2**
	0.7nm,0.6s,baz=50,slow=5.9,SNR=6.6						
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**07 28 17.8**	**-1.2**
	0.2nm,0.4s,baz=346,slow=5.7,SNR=3.4						
WRA	**Warramunga Arr**	**82.19**	**122**	P	P	07 28 20.6	-4.7
	0.1nm,0.4s,baz=327,slow=4.9,SNR=5.4						
ASAR	**Alice Springs**	**84.46**	**125**	P	P	07 28 32.9	-3.9
	0.2nm,0.7s,baz=324,slow=4.6,SNR=4.1						

MEX 08 07:22:02.5±1.0, 15.08N×95.68W, h17km±30km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.80**	**329**	*e*P	Pb	07 22 14.9	-3.1
HUIG				*i* S	Sb	07 22 24.4	-4.2
VHO	**Vista Hermosa**	**2.23**	**333**	*i* P	Pn	07 22 36.5	-2.5
VHO				*e*S	Sn	07 23 02.8	-3.5
PCIG		**2.45**	**75**	*e*P	Pn	07 22 39.0	-2.8
PCIG				*i* S	Sn	07 23 07.3	-4.1
PNIG	**Pinotepa**	**2.69**	**299**	*e*P	Pn	07 22 42.8	-2.4
PNIG				*i* S	Sn	07 23 13.8	-3.7

*IDC **08** 07:40:50.8±3.3, 28.29S×177.61W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=139.0km s-min=46.9km az=158.0*

ISC 08 07:40:57.2±2.9, 28.4S±0.9×177.5W±0.4, h54km, n6, σ0s89/6, mb3.7/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.94**	**276**	P	**P**	**07 47 35.3**	**-0.2**
	0.9nm,0.4s,baz=106,slow=15,SNR=2.1						
STKA	**Stephens Creek**	**35.35**	**254**	P	**P**	**07 47 47.8**	**+0.2**
	1.6nm,0.9s,baz=90,slow=6.1,SNR=3.0						
ASAR	**Alice Springs**	**43.65**	**265**	P	**P**	**07 48 56.6**	**-0.2**
	0.4nm,0.5s,baz=104,slow=7.7,SNR=6.7						
WRA	**Warramunga Arr**	**44.46**	**270**	P	**P**	**07 49 03.5**	**+0.2**
	0.3nm,0.4s,baz=110,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**143.44**	**341**	PKP	**PKPdf**	**08 00 24.0**	**-1.0**
	1.1nm,0.5s,baz=72,slow=4.5,SNR=4.4						
AKASG	**Malin Array Be**	**149.96**	**325**	PKPbc	**PKPbc**	**08 00 42.3**	**+1.1**
	0.6nm,0.4s,baz=43,slow=3.0,SNR=4.0						

KRSC 08 08:15:27.3±3.8, 52.40N×159.62E, h23km±23km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.68**	**273**	P	Pn	08 15 41.5	0.0
RUS				*i* S	Sn	08 15 50.5	-0.8
SPN	**Mys Shipunski**	**0.74**	**19**	P	Pn	08 15 42.8	+0.4
SPN				*i* S	Sn	08 15 53.1	+0.2
NLC	**Nalytchevo**	**0.79**	**348**	P	Pb	08 15 42.5	+0.2
NLC				*i* S	Sb	08 15 52.9	+0.3
PET	**Petropavlovsk**	**0.86**	**317**	P	Pb	08 15 43.5	0.0
PET				*i* S	Sb	08 15 53.8	-0.8
MTVR	**Mutnovka**	**0.88**	**276**	P	Pn	08 15 44.5	0.0
MTVR				*i* S	Sb	08 15 55.9	+0.2
UGLR	**Uglovaya**	**0.94**	**330**	P	Pb	08 15 45.2	+0.1
UGLR				*i* S	Sn	08 15 57.8	-0.4
GRL	**Gorelyy**	**0.96**	**280**	P	Pn	08 15 46.0	+0.5
GRL				*i* S	Sn	08 15 58.8	+0.2
SDLR	**Sedlovina**	**0.99**	**333**	P	Pb	08 15 45.5	-0.4
SDLR				*i* S	Sb	08 15 57.8	-0.8
SMAR	**Somma**	**1.00**	**330**	P	Pn	08 15 46.6	-0.6
SMAR				*i* S	Sb	08 15 57.9	-1.2
AVH	**Avacha**	**1.02**	**329**	P	Pn	08 15 46.3	0.0
AVH				*i* S	Sb	08 15 59.4	0.0
KRER	**Koryakskii**	**1.05**	**330**	P	Pn	08 15 46.8	-0.1
KRER				*i* S	Sb	08 15 59.8	-0.7
ASAK	**Asacha**	**1.05**	**270**	P	Pb	08 15 47.4	+0.4
ASAK				*i* S	Sn	08 16 01.4	+0.6
KOK	**Koryaka**	**1.07**	**327**	P	Pb	08 15 47.3	-0.1
KOK				*i* S	Sn	08 16 01.3	-0.1
KRX	**Arik**	**1.13**	**329**	P	Pn	08 15 47.6	-0.3
KRX				*i* S	Sb	08 16 00.9	-1.8
APC	**Apacha**	**1.59**	**290**	P	Pn	08 15 54.9	+0.9
APC				*i* S	Sb	08 16 15.4	-0.2
GNL	**Ganaly**	**1.65**	**323**	P	Pn	08 15 55.5	+0.5
GNL				*i* S	Sn	08 16 15.5	0.0
MKZ	**Mys Kozlova**	**2.50**	**29**	P	Pn	08 16 06.5	0.0
MKZ				*i* S	Sn	08 16 35.2	-1.0
KZV	**Kizimen**	**2.75**	**8**	P	Pn	08 16 11.8	+1.7
KZV				*i* S	Sn	08 16 43.3	+0.5
TUMR	**Tumrok**	**2.91**	**6**	P	Pn	08 16 14.6	+2.3
TUMR				*i* S	Sn	08 16 48.1	+1.5
KMNR	**Kamenistaya**	**3.38**	**6**	P	Pn	08 16 22.3	+3.5
KMNR				*i* S	Sn	08 17 01.3	+3.0
ESO	**Esso**	**3.57**	**352**	P	Pn	08 16 23.4	+2.1
KBTR	**Krutoberegovo**	**4.25**	**25**	P	Pn	08 16 31.6	+1.0
KBTR				*i* S	Sn	08 17 19.1	-0.3

*CSEM **08** 08:38:44.8±0.9, 37.26N×20.07E, h2km, MD3.0, Error ellipse: s-maj=17.4km s-min=8.4km az=67.0*
*THE **

mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=942.2km s-min=156.7km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.09**	**241**	P	P	09 04 56.7	+0.7
	2.4nm,1.0s,baz=85,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**47.21**	**259**	P	P	09 05 45.0	-0.3
	0.9nm,0.4s,baz=98,slow=7.3,SNR=48						
ASAR	**Alice Springs**	**47.36**	**254**	P	P	09 05 45.8	-0.7
	1.4nm,0.7s,baz=88,slow=7.9,SNR=18						

*CSEM **08** 08:58:42.7, 37°.38N×20°.20E, h11km, ML3.5/1, After THE*
THE 08 08:58:42.7, 37°.38N×20°.20E, h11km±1km, ML3.5/1, Error ellipse: s-maj=2.1km s-min=0.4km az=62.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.67**	**101**	P	Pg	08 58 55.2	-0.4
SFD				S	Sb	08 59 05.1	-0.4
SFD	**Strofades**	**0.67**	**101**	P	Pg	08 58 55.2	-0.4
SFD				S	Sb	08 59 05.1	-0.4
VLS	**Valsamata**	**0.85**	**21**	P	Pg	08 58 58.8	-0.4
VLS				S	Sb	08 59 11.2	+0.2
VLS	**Valsamata**	**0.85**	**21**	P	Pg	08 58 58.8	-0.4
VLS				S	Sb	08 59 11.2	+0.2
KFL	**Anninata**	**0.86**	**33**	P	Pg	08 58 58.9	-0.5
KFL				S	Sb	08 59 11.6	+0.3
KFL	**Anninata**	**0.86**	**33**	P	Pg	08 58 58.9	-0.5
KFL				S	Sb	08 59 11.6	+0.3
PYL	**PYLOS**	**1.32**	**111**	P	Pn	08 59 06.3	-0.8
PYL	**PYLOS**	**1.32**	**111**	P	Pn	08 59 06.3	-0.8

*ISCJB **08** 09:20:26.2±1.0, 37°.30N±0°.04×20°.14E±0°.05, h9km±7km, Error ellipse: s-maj=8.4km s-min=4.7km az=143.9*
*CSEM **08** 09:20:27.1±0.4, 37°.34N×20°.22E, h2km, MD3.2, Error ellipse: s-maj=7.6km s-min=3.4km az=54.0*
*ATH **08** 09:20:27.9, 37°.31N×20°.28E, h19km±1km, MD3.2/28*
*THE **08** 09:20:27.8, 37°.37N×20°.24E, h3km±1km, ML3.3/5, Error ellipse: s-maj=1.7km s-min=0.9km az=50.0*
ISC 08 09:20:26.5±1.9, 37°.31N±0°.04×20°.18E±0°.07, h1km±10km, n118, σ0673/140, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.67**	**95**	P	Pg	**09 20 39.8**	**+0.5**
SFD				S	Sg	**09 20 49.2**	**+1.2**
SFD	**Strofades**	**0.67**	**95**	*e*PN	Pg	**09 20 39.9**	**+0.6**
SFD				*e*SN	Sg	**09 20 48.6**	**+0.6**
SFD	**Strofades**	**0.67**	**95**	P	Pg	**09 20 39.8**	**+0.5**
SFD				S	Sg	**09 20 49.2**	**+1.2**
VLS	**Valsamata**	**0.92**	**20**	P	Pg	**09 20 43.3**	**-0.9**
VLS				S	Sg	**09 20 56.0**	**-0.1**
VLS	**Valsamata**	**0.92**	**20**	*e*PN	Pg	**09 20 45.3**	**+1.1**
VLS				*e*SN	Sb	**09 20 58.1**	**0.0**
VLS	**Valsamata**	**0.92**	**20**	P	Pg	**09 20 43.3**	**-0.9**
VLS	**Valsamata**	**0.92**	**20**	*e*Pn	Pg	**09 20 45.3**	**+1.1**
VLS				S	Sg	**09 20 56.0**	**-0.1**
VLS				*e*Sn	Sb	**09 20 58.1**	**0.0**
KFL	**Anninata**	**0.93**	**31**	P	Pg	**09 20 43.4**	**-0.9**
KFL				S	Sg	**09 20 56.9**	**+0.5**
KFL	**Anninata**	**0.93**	**31**	P	Pg	**09 20 43.4**	**-0.9**
KFL				S	Sg	**09 20 56.9**	**+0.5**
AMT	**Artemida-Makis**	**1.23**	**79**	P	Pg	**09 20 49.9**	**-0.3**
AMT				S	Sn	**09 21 07.5**	**-0.7**
AMT	**Artemida-Makis**	**1.23**	**79**	*e*PN	Pg	**09 20 50.6**	**+0.4**
AMT	**Artemida-Makis**	**1.23**	**79**	P	Pg	**09 20 49.9**	**-0.3**
AMT	**Artemida-Makis**	**1.23**	**79**	*e*Pn	Pg	**09 20 50.6**	**+0.4**
RLS	**Riolos of Patr**	**1.26**	**53**	P	Pg	**09 20 50.6**	**-0.1**
RLS				S	Sg	**09 21 07.1**	**0.0**
RLS	**Riolos of Patr**	**1.26**	**53**	*e*PN	Pg	**09 20 50.6**	**-0.1**
RLS				*e*SN	Sb	**09 21 07.6**	**-0.2**
RLS	**Riolos of Patr**	**1.26**	**53**	P	Pg	**09 20 50.6**	**-0.1**
RLS				*e*Sn	Sb	**09 21 07.6**	**-0.2**
PYL	**PYLOS**	**1.31**	**108**	P	Pg	**09 20 50.8**	**-0.9**
PYL	**PYLOS**	**1.31**	**108**	*e*PN	Pg	**09 20 50.9**	**-0.8**
PYL				*e*SN	Sg	**09 21 07.8**	**-0.9**
PYL	**PYLOS**	**1.31**	**108**	P	Pg	**09 20 50.8**	**-0.9**
PYL				*e*Sn	Sg	**09 21 07.8**	**-0.9**
DRO	**Drossia**	**1.37**	**62**	P	Pn	**09 20 52.1**	**-0.7**
DRO				S	Sg	**09 21 10.4**	**-0.2**
DRO	**Drossia**	**1.37**	**62**	*e*PN	Pn	**09 20 52.8**	**0.0**
DRO	**Drossia**	**1.37**	**62**	P	Pn	**09 20 52.1**	**-0.7**
DRO	**Drossia**	**1.37**	**62**	*e*Pn	Pn	**09 20 52.8**	**0.0**
DRO				S	Sg	**09 21 10.4**	**-0.2**
ITM	**Ithomi**	**1.40**	**95**	P	Pn	**09 20 52.4**	**-0.8**
ITM	**Ithomi**	**1.40**	**95**	*e*PN	Pn	**09 20 52.3**	**-0.9**
ITM				*e*SN	Sg	**09 21 11.0**	**-0.4**
ITM	**Ithomi**	**1.40**	**95**	P	Pn	**09 20 52.4**	**-0.8**
ITM				*e*Sn	Sg	**09 21 11.0**	**-0.4**
PDO	**Prodromos**	**1.51**	**31**	*e*PN	Pn	**09 20 55.2**	**+0.5**
PDO	**Prodromos**	**1.51**	**31**	*e*Pn	Pn	**09 20 55.2**	**+0.5**
LKD2	**Lefkada island**	**1.52**	**14**	P	Pn	**09 20 53.9**	**-1.0**
LKD2	**Lefkada island**	**1.52**	**14**	P	Pn	**09 20 53.9**	**-1.0**
PSA1	**Psathopyrgos**	**1.69**	**53**	*e*PN	Pn	**09 20 57.4**	**+0.3**
LAKA	**Lakka**	**1.70**	**56**	P	Pn	**09 20 57.2**	**-0.1**
LAKA	**Lakka**	**1.70**	**56**	*e*PN	Pn	**09 20 58.0**	**+0.7**
LAKA	**Lakka**	**1.70**	**56**	P	Pn	**09 20 57.2**	**-0.1**
LAKA	**Lakka**	**1.70**	**56**	*e*Pn	Pn	**09 20 58.0**	**+0.7**
KLV	**Kalavryta, Ach**	**1.72**	**64**	P	Pn	**09 20 57.6**	**-0.1**
KLV	**Kalavryta, Ach**	**1.72**	**64**	*e*PN	Pn	**09 20 57.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.72**	**64**	*e*Pn	Pn	**09 20 57.7**	**0.0**
VLX	**Vlachokerasia**	**1.75**	**87**	P	Pn	**09 20 57.6**	**-0.5**
VLX				S	Sn	**09 21 20.9**	**-0.2**
VLX	**Vlachokerasia**	**1.75**	**87**	*e*PN	Pn	**09 20 58.5**	**+0.4**
VLX	**Vlachokerasia**	**1.75**	**87**	P	Pn	**09 20 57.6**	**-0.5**
VLX	**Vlachokerasia**	**1.75**	**87**	*e*Pn	Pn	**09 20 58.5**	**+0.4**
VLX				S	Sn	**09 21 20.9**	**-0.2**
EFP	**Efpalio**	**1.76**	**50**	P	Pn	**09 20 57.6**	**-0.5**
EFP	**Efpalio**	**1.76**	**50**	P	Pn	**09 20 57.6**	**-0.5**
GUR	**Goura**	**1.82**	**69**	P	Pn	**09 20 58.8**	**-0.3**
GUR				S	Sn	**09 21 22.6**	**-0.3**
GUR	**Goura**	**1.82**	**69**	*e*PN	Pn	**09 20 59.9**	**+0.8**
GUR	**Goura**	**1.82**	**69**	P	Pn	**09 20 58.8**	**-0.3**
GUR	**Goura**	**1.82**	**69**	*e*Pn	Pn	**09 20 59.9**	**+0.8**
GUR				S	Sn	**09 21 22.6**	**-0.3**
KALE	**Kalithea**	**1.89**	**55**	*e*PN	Pn	**09 21 00.4**	**+0.5**
KALE	**Kalithea**	**1.89**	**55**	*e*Pn	Pn	**09 21 00.4**	**+0.5**
EVR	**Evrytania**	**2.05**	**38**	*e*PN	Pn	**09 21 03.8**	**+1.6**
EVR	**Evrytania**	**2.05**	**38**	*e*Pn	Pn	**09 21 03.8**	**+1.6**
DSF	**Desfina**	**2.16**	**59**	*e*PN	Pn	**09 21 04.3**	**+0.7**
DSF	**Desfina**	**2.16**	**59**	*e*Pn	Pn	**09 21 04.3**	**+0.7**
DESF	**Desfina**	**2.16**	**59**	*e*PN	Pn	**09 21 04.1**	**+0.4**
DESF	**Desfina**	**2.16**	**59**	*e*Pn	Pn	**09 21 04.1**	**+0.4**
VLI	**Veliai**	**2.28**	**104**	P	Pn	**09 21 06.1**	**+0.8**
VLI				S	Sn	**09 21 34.6**	**+0.5**
VLI	**Veliai**	**2.28**	**104**	*e*PN	Pn	**09 21 06.6**	**+1.3**
VLI	**Veliai**	**2.28**	**104**	P	Pn	**09 21 06.1**	**+0.8**
VLI	**Veliai**	**2.28**	**104**	*e*Pn	Pn	**09 21 06.6**	**+1.3**
VLI				S	Sn	**09 21 34.6**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.29**	**42**	*e*PN	Pn	**09 21 06.8**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.29**	**42**	*e*Pn	Pn	**09 21 06.8**	**+1.4**
LTK	**Loutraki**	**2.32**	**71**	P	Pn	**09 21 05.2**	**-0.6**
LTK	**Loutraki**	**2.32**	**71**	*e*PB	Pn	**09 21 06.2**	**+0.4**
LTK	**Loutraki**	**2.32**	**71**	P	Pn	**09 21 05.2**	**-0.6**
LTK	**Loutraki**	**2.32**	**71**	*e*Pb	Pn	**09 21 06.2**	**+0.4**
AGG	**Agios Georgios**	**2.40**	**44**	P	Pn	**09 21 07.1**	**+0.1**
AGG	**Agios Georgios**	**2.40**	**44**	*e*PN	Pn	**09 21 07.5**	**+0.5**
AGG	**Agios Georgios**	**2.40**	**44**	P	Pn	**09 21 07.1**	**+0.1**
AGG	**Agios Georgios**	**2.40**	**44**	*e*Pn	Pn	**09 21 07.5**	**+0.5**
DID	**Didima**	**2.44**	**85**	P	Pn	**09 21 06.6**	**-0.9**
DID	**Didima**	**2.44**	**85**	*e*PN	Pn	**09 21 07.3**	**-0.2**
DID	**Didima**	**2.44**	**85**	P	Pn	**09 21 06.6**	**-0.9**
DID	**Didima**	**2.44**	**85**	*e*Pn	Pn	**09 21 07.3**	**-0.2**
KYTH	**Kithira**	**2.51**	**113**	P	Pn	**09 21 09.3**	**+0.8**
KYTH	**Kithira**	**2.51**	**113**	*e*PB	Pn	**09 21 09.7**	**+1.2**
KYTH	**Kithira**	**2.51**	**113**	P	Pn	**09 21 09.3**	**+0.8**
KYTH	**Kithira**	**2.51**	**113**	*e*Pb	Pn	**09 21 09.7**	**+1.2**
LKR	**Lokris**	**2.60**	**58**	*e*PN	Pn	**09 21 10.0**	**+0.4**
LKR	**Lokris**	**2.60**	**58**	*e*Pn	Pn	**09 21 10.0**	**+0.4**
VIL2	**Platees**	**2.60**	**69**	*e*PN	Pn	**09 21 10.6**	**+0.8**
VILL	**Villia**	**2.62**	**70**	P	Pn	**09 21 10.0**	**0.0**
VILL	**Villia**	**2.62**	**70**	P	Pn	**09 21 10.0**	**0.0**
VILL	**Villia**	**2.62**	**70**	*e*Pn	Pn	**09 21 10.6**	**+0.6**
THL	**Klokotos Trika**	**2.67**	**32**	P	Pn	**09 21 10.8**	**+0.2**
THL	**Klokotos Trika**	**2.67**	**32**	*e*PN	Pn	**09 21 11.4**	**+0.8**
THL	**Klokotos Trika**	**2.67**	**32**	P	Pn	**09 21 10.8**	**+0.2**
THL	**Klokotos Trika**	**2.67**	**32**	*e*Pn	Pn	**09 21 11.4**	**+0.8**
SMIA	**Simia**	**2.85**	**56**	*e*PN	Pn	**09 21 13.1**	**-0.1**
SMIA	**Simia**	**2.85**	**56**	*e*Pn	Pn	**09 21 13.1**	**-0.1**
ANKY	**Antikythira Is**	**2.90**	**119**	P	Pn	**09 21 13.6**	**-0.1**
ANKY	**Antikythira Is**	**2.90**	**119**	P	Pn	**09 21 13.6**	**-0.1**
MRKA	**Markates**	**3.03**	**62**	*e*PN	Pn	**09 21 17.0**	**+1.4**
MRKA	**Markates**	**3.03**	**62**	*e*Pn	Pn	**09 21 17.0**	**+1.4**
NEO	**Neokhori**	**3.11**	**49**	*e*PN	Pn	**09 21 17.4**	**+0.7**
NEO	**Neokhori**	**3.11**	**49**	*e*Pn	Pn	**09 21 17.4**	**+0.7**
SKIA	**Skiathos**	**3.18**	**53**	*e*PN	Pn	**09 21 18.9**	**+1.3**
SKIA	**Skiathos**	**3.18**	**53**	*e*Pn	Pn	**09 21 18.9**	**+1.3**
KZN	**Kozani**	**3.24**	**22**	P	Pn	**09 21 19.1**	**+0.6**
KZN	**Kozani**	**3.24**	**22**	P	Pn	**09 21 19.1**	**+0.6**
LIT	**Litokhoron**	**3.32**	**32**	P	Pn	**09 21 19.8**	**+0.2**
LIT	**Litokhoron**	**3.32**	**32**	P	Pn	**09 21 19.8**	**+0.2**
BIA	**Bitola**	**3.81**	**13**	*i* Pg	Pn	09 21 23.6	-2.7
BIA	**Bitola**	**3.81**	**13**	*i* Pg	Pn	09 21 23.5	-2.8
HORT	**Hortiatis**	**3.99**	**34**	P	Pn	**09 21 28.5**	**-0.4**
HORT	**Hortiatis**	**3.99**	**34**	P	Pn	**09 21 28.5**	**-0.4**
GRG	**Griva**	**4.03**	**25**	P	Pn	**09 21 28.8**	**-0.5**
GRG	**Griva**	**4.03**	**25**	P	Pn	**09 21 28.8**	**-0.5**
KNT	**Kendrikon**	**4.38**	**28**	P	Pn	**09 21 34.0**	**-0.2**
KNT	**Kendrikon**	**4.38**	**28**	P	Pn	**09 21 34.0**	**-0.2**
VAY	**Valandovo**	**4.41**	**24**	*i* Pg	Pn	09 21 31.5	-3.1
VAY	**Valandovo**	**4.41**	**24**	*i* Pg	Pn	**09 21 31.9**	**-2.6**
NVR	**Nevrokopi**	**4.94**	**34**	P	Pn	**09 21 42.0**	**+0.2**
NVR	**Nevrokopi**	**4.94**	**34**	P	Pn	**09 21 42.0**	**+0.2**
VTS	**Vitosha**	**5.76**	**23**	P	Pn	**09 21 53.5**	**+0.2**
VTS	**Vitosha**	**5.76**	**23**	P	Pn	**09 21 53.5**	**+0.2**
IVAS	**Ivanjica**	**6.26**	**360**	*e*Pn	Pn	**09 21 59.8**	**-0.2**
BBLS	**Lazići**	**6.57**	**355**	*e*Pn	Pn	**09 22 06.0**	**+1.7**

*NEIC **08** 09:41:48.2, 36°.06S×178°.16E, h186km, MG4.4(WEL), After WEL.*
WEL 08 09:41:48.0±0.6, 36°.05S×178°.21E, h187km±5km, ML4.4/13, 4C-6D, Error ellipse: s-maj=4.8km s-min=4.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.51**	**177**	⇓PN	Pn	09 42 20.7	+0.1
MXZ				SN	Sn	09 42 45.2	-0.9
MXZ				AML	AML	09 42 46.5	
MXZ				AML	AML	09 42 49.7	
MXZ	**Matakaoa Point**	**1.51**	**177**	Pn	Pn	09 42 20.7	0.0
MXZ				SN	Sn	09 42 45.2	-0.9
PUZ	**Puketiti**	**2.02**	**179**	⇓PN	Pn	09 42 26.0	+0.3
PUZ				SN	Sn	09 42 54.2	-1.0
PUZ				AML	AML	09 42 56.5	
PUZ	**Puketiti**	**2.02**	**179**	Pn	Pn	09 42 26.0	+0.3
KUZ	**Kuaotunu**	**2.12**	**250**	PN	Pn	09 42 26.2	-0.6
KUZ	**Kuaotunu**	**2.12**	**250**	Pn	Pn	09 42 26.2	-0.6
OPRZ	**Ohinepanea**	**2.23**	**216**	⇑PN	Pn	09 42 28.1	+0.1
OPRZ	**Ohinepanea**	**2.23**	**216**	Pn	Pn	09 42 28.1	+0.1
MARZ	**Manawahe**	**2.29**	**212**	PN	Pn	09 42 29.1	+0.4
MARZ	**Manawahe**	**2.29**	**212**	Pn	Pn	09 42 29.1	+0.4
MWZ	**Matawai**	**2.34**	**193**	⇓PN	Pn	09 42 29.4	0.0
MWZ				SN	Sn	09 43 01.5	-0.2
MWZ				AML	AML	09 43 15.1	
MWZ	**Matawai**	**2.34**	**193**	Pn	Pn	09 42 29.4	0.0
MWZ				Sn	Sn	09 43 01.5	-0.2
URZ	**Urewera**	**2.37**	**201**	PN	Pn	09 42 29.4	-0.2
URZ				SN	Sn	09 43 01.9	-0.2
URZ				AML	AML	09 43 02.8	
URZ	**Urewera**	**2.37**	**201**	*e*Pn	Pn	09 42 29.4	-0.1
URZ				*e*Sn	Sn	09 43 01.8	-0.4
CNGZ	**Carnagh Statio**	**2.43**	**180**	PN	Pn	09 42 31.0	+0.8
CNGZ	**Carnagh Statio**	**2.43**	**180**	Pn	Pn	09 42 31.0	+0.8
MKRZ	**Makatiti**	**2.51**	**213**	PN	Pn	09 42 32.9	+1.8
MKRZ	**Makatiti**	**2.51**	**213**	Pn	Pn	09 42 33.9	+2.8
TARZ	**Mount Tarawera**	**2.57**	**211**	PN	Pn	09 42 33.7	+1.7
TARZ	**Mount Tarawera**	**2.57**	**211**	Pn	Pn	09 42 33.7	+1.7
RRRZ	**Republican Roa**	**2.66**	**210**	PN	Pn	09 42 34.1	+1.2
RRRZ	**Republican Roa**	**2.66**	**210**	Pn	Pn	09 42 34.1	+1.2
RIGZ	**Rimuhau**	**2.67**	**187**	⇓PN	Pn	09 42 33.2	+0.1
SNGZ	**Shannon Statio**	**2.81**	**194**	PN	Pn	09 42 34.8	+0.1
PRRZ	**Plateau Road**	**2.84**	**210**	⇓PN	Pn	09 42 35.8	+0.8
PRRZ	**Plateau Road**	**2.84**	**210**	Pn	Pn	09 42 35.8	+0.8
PRGZ	**Paritu Road**	**2.88**	**185**	PN	Pn	09 42 35.3	-0.3
PRGZ	**Paritu Road**	**2.88**	**185**	Pn	Pn	09 42 35.3	-0.3
ALRZ	**Allen Road**	**2.92**	**210**	PN	Pn	09 42 36.7	+0.7
ALRZ	**Allen Road**	**2.92**	**210**	Pn	Pn	09 42 36.7	+0.7
KNZ	**Kokohu**	**3.00**	**188**	PN	Pn	09 42 36.4	-0.4
KNZ	**Kokohu**	**3.00**	**188**	Pn	Pn	09 42 36.4	-0.4
RAHZ	**Arahi**	**3.00**	**197**	PN	Pn	09 42 37.0	+0.1
RAHZ	**Arahi**	**3.00**	**197**	Pn	Pn	09 42 37.0	+0.1
MHGZ	**Mahia Peninsul**	**3.11**	**184**	⇓PN	Pn	09 42 38.2	0.0
MHGZ	**Mahia Peninsul**	**3.11**	**184**	Pn	Pn	09 42 38.2	0.0
WHHZ	**Waihua**	**3.12**	**194**	⇑PN	Pn	09 42 38.5	+0.1
NMHZ	**Naumai**	**3.24**	**200**	PN	Pn	09 42 40.1	+0.2
NMHZ	**Naumai**	**3.24**	**200**	Pn	Pn	09 42 40.1	+0.2
BKZ	**Black Stump Fm**	**3.40**	**203**	PN	Pn	09 42 41.4	-0.4
BKZ				AML	AML	09 43 24.8	
BKZ				AML	AML	09 43 39.9	
BKZ	**Black Stump Fm**	**3.40**	**203**	Pn	Pn	09 42 41.5	-0.4
RITZ	**Rihia Road**	**3.47**	**212**	PN	Pn	09 42 43.6	+0.9
RITZ	**Rihia Road**	**3.47**	**212**	Pn	Pn	09 42 43.6	+0.9
MCHZ	**McNeill Hill**	**3.59**	**199**	⇑PN	Pn	09 42 44.0	-0.2
MCHZ	**McNeill Hill**	**3.59**	**199**	Pn	Pn	09 42 44.0	-0.2
KRVZ	**Karewarewa**	**3.66**	**213**	PN	Pn	09 42 45.6	+0.4
KRVZ	**Karewarewa**	**3.66**	**213**	Pn	Pn	09 42 45.6	+0.4
WTVZ	**West Tongariro**	**3.70**	**213**	PN	Pn	09 42 45.9	+0.3
WTVZ	**West Tongariro**	**3.70**	**213**	Pn	Pn	09 42 46.0	+0.3
OTVZ	**Oturere**	**3.71**	**212**	PN	Pn	09 42 46.1	+0.3
OTVZ	**Oturere**	**3.71**	**212**	Pn	Pn	09 42 46.1	+0.3
CKHZ	**Cape Kidnapper**	**3.71**	**194**	⇑PN	Pn	09 42 44.8	-0.9
CKHZ	**Cape Kidnapper**	**3.71**	**194**	Pn	Pn	09 42 44.8	-0.9
TWVZ	**Taurewa**	**3.73**	**215**	PN	Pn	09 42 46.6	+0.5
TWVZ	**Taurewa**	**3.73**	**215**	Pn	Pn	09 42 46.6	+0.5
NGZ	**Ngauruhoe**	**3.74**	**213**	PN	Pn	09 42 46.8	+0.5
NGZ	**Ngauruhoe**	**3.74**	**213**	Pn	Pn	09 42 46.8	+0.5
COVZ	**Chateau Observ**	**3.79**	**213**	PN	Pn	09 42 47.2	+0.4
WPVZ	**Whakapapa**	**3.79**	**213**	PN	Pn	09 42 47.0	+0.2
WPVZ	**Whakapapa**	**3.79**	**213**	Pn	Pn	09 42 47.0	+0.2
TUVZ	**Tukino**	**3.80**	**211**	PN	Pn	09 42 46.8	-0.1
TUVZ	**Tukino**	**3.80**	**211**	Pn	Pn	09 42 46.8	-0.1
BHHZ	**Black Hill Sta**	**3.83**	**206**	PN	Pn	09 42 46.2	-1.0
BHHZ	**Black Hill Sta**	**3.83**	**206**	Pn	Pn	09 42 46.2	-1.0
FWVZ	**Far West T-bar**	**3.83**	**213**	PN	Pn	09 42 47.4	0.0
FWVZ	**Far West T-bar**	**3.83**	**213**	Pn	Pn	09 42 47.4	0.0
WHVZ	**Whangaehu Hut**	**3.84**	**212**	PN	Pn	09 42 47.4	-0.2
TRVZ	**Turoa**	**3.87**	**212**	PN	Pn	09 42 47.7	-0.3
WNVZ	**Wahianoa**	**3.87**	**212**	PN	Pn	09 42 47.6	-0.3
WNVZ	**Wahianoa**	**3.87**	**212**	Pn	Pn	09 42 47.6	-0.3
KAHZ	**Kahuranaki**	**3.88**	**195**	PN	Pn	09 42 47.0	-0.9
KAHZ	**Kahuranaki**	**3.88**	**195**	Pn	Pn	09 42 47.0	-0.8
PKVZ	**Pokaka**	**3.95**	**214**	PN	Pn	09 42 49.0	+0.2
PKVZ	**Pokaka**	**3.95**	**214**	Pn	Pn	09 42 49.0	+0.2
MTVZ	**Mangateitei**	**3.97**	**212**	PN	Pn	09 42 49.1	+0.1
MTVZ	**Mangateitei**	**3.97**	**212**	Pn	Pn	09 42 49.1	+0.1
PXZ	**Pawanui**	**4.11**	**195**	PN	Pn	09 42 49.0	-1.7
PXZ				AML	AML	09 43 38.5	
PXZ				AML	AML	09 43 39.2	
PXZ				AML	AML	09 43 39.2	
PXZ				AML	AML	09 43 39.2	
PXZ	**Pawanui**	**4.11**	**195**	Pn	Pn	09 42 49.0	-1.7
PNHZ	**Pukenui**	**4.17**	**202**	PN	Pn	09 42 49.7	-1.8
PNHZ	**Pukenui**	**4.17**	**202**	Pn	Pn	09 42 49.7	-1.8
WPHZ	**Waipukurau**	**4.24**	**199**	PN	Pn	09 42 51.0	-1.3
WPHZ	**Waipukurau**	**4.24**	**199**	Pn	Pn	09 42 51.0	-1.3
PRHZ	**Porangahau**	**4.39**	**196**	PN	Pn	09 42 52.7	-1.5
PRHZ	**Porangahau**	**4.39**	**196**	Pn	Pn	09 42 52.7	-1.5
WAZ	**Wanganui**	**4.49**	**214**	PN	Pn	09 42 55.3	-0.3
WAZ	**Wanganui**	**4.49**	**214**	Pn	Pn	09 42 55.3	-0.3
DVHZ	**Dannevirke**	**4.54**	**200**	PN	Pn	09 42 53.9	-2.3
DVHZ	**Dannevirke**	**4.54**	**200**	Pn	Pn	09 42 53.9	-2.3
ANWZ	**Angora Road**	**4.61**	**197**	PN	Pn	09 42 55.4	-1.6
POWZ	**Post Office Ro**	**4.74**	**203**	PN	Pn	09 42 57.4	-1.3
POWZ	**Post Office Ro**	**4.74**	**203**	Pn	Pn	09 42 57.4	-1.3
PRWZ	**Pori Road**	**4.83**	**201**	PN	Pn	09 42 58.0	-1.8
BFZ	**Birch Farm**	**4.87**	**198**	PN	Pn	09 42 58.3	-2.2
BFZ	**Birch Farm**	**4.87**	**198**	Pn	Pn	09 42 58.3	-2.2
TIWZ	**Tintock**	**5.06**	**200**	AML	AML	09 43 26.6	
TIWZ	**Tintock**	**5.06**	**200**	Pn	Pn	09 43 00.8	-2.0
HOWZ	**Holdsworth Sta**	**5.28**	**203**	PN	Pn	09 43 02.7	-3.0
HOWZ	**Holdsworth Sta**	**5.28**	**203**	Pn	Pn	09 43 02.7	-3.0
OGWZ	**Otaki Gorge**	**5.32**	**206**	PN	Pn	09 43 03.8	-2.5
OGWZ	**Otaki Gorge**	**5.32**	**206**	Pn	Pn	09 43 03.8	-2.5
TMWZ	**Te Maipa**	**5.37**	**199**	PN	Pn	09 43 04.2	-2.6
TMWZ	**Te Maipa**	**5.37**	**199**	Pn	Pn	09 43 04.2	-2.6
KIW	**Kapiti Island**	**5.46**	**207**	PN	Pn	09 43 05.5	-2.5
KIW				AML	AML	09 44 12.4	
KIW				AML	AML	09 44 13.4	
KIW	**Kapiti Island**	**5.46**	**207**	Pn	Pn	09 43 05.5	-2.5
MTW	**Mount Morrison**	**5.52**	**202**	PN	Pn	09 43 05.8	-3.0
MTW	**Mount Morrison**	**5.52**	**202**	Pn	Pn	09 43 05.8	-3.0
CAW	**Cannon Point**	**5.62**	**205**	PN	Pn	09 43 07.0	-3.0
CAW				AML	AML	09 44 14.4	
CAW				AML	AML	09 44 32.4	
CAW	**Cannon Point**	**5.62**	**205**	Pn	Pn	09 43 07.0	-3.0
TRWZ	**Traveller**	**5.69**	**199**	PN	Pn	09 43 08.3	-2.8
TRWZ	**Traveller**	**5.69**	**199**	Pn	Pn	09 43 08.3	-2.7
PAWZ	**Paruwai Farm**	**5.75**	**201**	PN	Pn	09 43 09.1	-2.7
PAWZ				AML	AML	09 44 15.8	
PAWZ				AML	AML	09 44 21.8	
PAWZ	**Paruwai Farm**	**5.75**	**201**	Pn	Pn	09 43 09.1	-2.7
DUWZ	**D'Urville Isla**	**5.82**	**214**	Pn	Pn	09 43 10.5	-2.1
MSWZ	**Moikau Station**	**5.83**	**202**	PN	Pn	09 43 09.8	-3.0
MSWZ				AML	AML	09 44 21.0	
MSWZ	**Moikau Station**	**5.83**	**202**	Pn	Pn	09 43 09.8	-3.0
WEL	**Wellington**	**5.88**	**206**	PN	Pn	09 43 10.7	-2.8
WEL	**Wellington**	**5.88**	**206**	Pn	Pn	09 43 10.7	-2.8
PLWZ	**Palliser**	**5.97**	**202**	Pn	Pn	09 43 11.6	-3.2
TCW	**Tory Channel**	**6.00**	**210**	AML	AML	09 44 23.5	
TCW				AML	AML	09 44 25.4	
TCW	**Tory Channel**	**6.00**	**210**	Pn	Pn	09 43 11.9	-3.1
TUWZ	**Tuamarina**	**6.32**	**211**	AML	AML	09 44 26.9	
TUWZ				AML	AML	09 44 29.1	
TUWZ	**Tuamarina**	**6.32**	**211**	Pn	Pn	09 43 16.3	-2.9
QRZ	**Quartz Range**	**6.53**	**221**	Pn	Pn	09 43 19.4	-2.6
BSWZ	**Blackbirch Sta**	**6.59**	**210**	Pn	Pn

HFS					Lg		Lg	09 46 45.4	
	comp=Z,1.4nm,0.3s,baz=93,slow=31,SNR=7.2								
NB2	**NORSAR Subarra**	**5.66**	**289**		Pn		**Pn**	**09 45 55.2**	**+0.5**
	baz=96,slow=12								
NB2	**NORSAR Subarra**	**5.66**	**289**		Pn		**Pn**	**09 45 55.2**	**+0.5**
	baz=96,slow=12								
NB2	**NORSAR Subarra**	**5.66**	**289**		Pn		**Pn**	**09 45 55.2**	**+0.5**
	SNR=50								
NOA	**NORSAR Array B**	**5.66**	**289**		Pn		**Pn**	**09 45 54.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=90,slow=12,SNR=15								
APA0	**Apatity Array**	**9.24**	**26**		Pn		**Pn**	**09 46 45.1**	**+1.4**
	baz=219,slow=11								
APA0	**Apatity Array**	**9.24**	**26**		Pn		**Pn**	**09 46 45.1**	**+1.4**
	baz=219,slow=11								
APA0	**Apatity Array**	**9.24**	**26**		Pn		**Pn**	**09 46 45.2**	**+1.4**
	SNR=50								
ARA0	**ARCESS Array S**	**9.97**	**7**		Pn		**Pn**	**09 46 53.0**	**-0.8**
	baz=185,slow=14								
ARA0	**ARCESS Array S**	**9.97**	**7**		P		**Pn**	**09 46 53.0**	**-0.8**
	baz=185,slow=14								
ARA0	**ARCESS Array S**	**9.97**	**7**		P		**Pn**	**09 46 53.0**	**-0.8**
	SNR=47								
ARCES	**ARCESS Array B**	**9.97**	**7**		Pn		**Pn**	**09 46 53.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=191,slow=14,SNR=17								
TORD	**Torodi Ar. Bea**	**48.91**	**207**		P		**P**	**09 53 17.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=10,slow=7.0,SNR=4.1								

*ISCJB **08** 09:44:55.0±0.7, 59°.81N±0°.07×22°.07E±0°.09, h0km, mb3.3/1, Error ellipse: s-maj=10.0km s-min=6.2km az=14.6*
*IDC **08** 09:44:56.0±1.3, 59°.52N×22°.53E, h0km, mb3.1/1, mb1 3.2/5, mb1mx3.1/29, mbtmp3.2/5, ML3.0/4, Error ellipse: s-maj=20.0km s-min=9.5km az=157.0*
*NAO **08** 09:44:57.8±1.5, 59°.80N×22°.19E, ML2.3*
*CSEM **08** 09:44:57.5±0.3, 59°.85N×22°.22E, h2km, ML2.3, Error ellipse: s-maj=9.0km s-min=6.3km az=12.0, Suspected Mining explosion.*
*BER **08** 09:44:59.5±3.1, 59°.83N×22°.07E, h0km, ML2.3(NAO), Suspected explosion*

ISC 08 09:44:57.7±1.2, 59°.88N±0°.08×22°.25E±0°.05, h0km, n26, σ0s88/32, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FIA0	**FINESS Array S**	**2.46**	**49**	Pn		**Pn**	**09 45 40.4**	**+1.5**
	baz=234,slow=16							
FIA0				Sn		**Sb**	**09 46 13.5**	**+0.1**
	baz=243,slow=28							
FIA0	**FINESS Array S**	**2.46**	**49**	Pn		**Pn**	**09 45 40.4**	**+1.5**
	baz=234,slow=16							
FIA0				Sn		**Sb**	**09 46 13.5**	**+0.1**
	baz=243,slow=28							
FIA0	**FINESS Array S**	**2.46**	**49**	Pn		**Pn**	**09 45 40.4**	**+1.5**
	baz=234,slow=14							
FINES	**FINESS Array B**	**2.46**	**49**	Pn		**Pn**	**09 45 40.4**	**+1.5**
	2.6nm,0.3s,baz=224,slow=13,SNR=27							
FINES				Sn		**Sb**	**09 46 13.0**	**-0.3**
	7.0nm,0.3s,baz=223,slow=26,SNR=14							
VSU	**Vasula**	**2.71**	**120**	Pn		**Pn**	**09 45 41.4**	**-1.0**
VSU				Sn		**Sn**	**09 46 15.7**	**-0.2**
VSU	**Vasula**	**2.71**	**120**	Pn		**Pn**	**09 45 41.4**	**-1.0**
VSU				Sn		**Sn**	**09 46 15.7**	**-0.2**
VSU	**Vasula**	**2.71**	**120**	Pn		**Pn**	**09 45 41.4**	**-1.0**
VSU				Sn		**Sn**	**09 46 15.7**	**-0.2**
HFS	**Hagfors**	**4.30**	**277**	Pn		**Pn**	**09 46 05.0**	**+0.7**
	baz=90,slow=16							
HFS				Lg		Lg	09 47 10.2	
	baz=87,slow=37							
HFS	**Hagfors**	**4.30**	**277**	Pn		**Pn**	**09 46 05.0**	**+0.7**
	baz=90,slow=16							
HFS				Lg		Lg	09 47 10.2	
	baz=87,slow=37							
HFS	**Hagfors**	**4.30**	**277**	Pn		**Pn**	**09 46 05.0**	**+0.7**
	baz=90,slow=14,SNR=3.1							
HFS	**Hagfors**	**4.30**	**277**	Pn		**Pn**	**09 46 04.7**	**+0.4**
	0.5nm,0.3s,baz=96,slow=13,SNR=12							
HFS				Lg		Lg	09 47 12.8	
	2.4nm,0.3s,baz=95,slow=33,SNR=8.4							
NB2	**NORSAR Subarra**	**5.58**	**287**	Pn		**Pn**	**09 46 20.8**	**-1.1**
	baz=98,slow=12							
NB2	**NORSAR Subarra**	**5.58**	**287**	Pn		**Pn**	**09 46 20.8**	**-1.1**
	baz=98,slow=12							
NB2	**NORSAR Subarra**	**5.58**	**287**	Pn		**Pn**	**09 46 20.8**	**-1.1**
	baz=98,slow=12,SNR=7.9							
NOA	**NORSAR Array B**	**5.58**	**287**	Pn		**Pn**	**09 46 21.1**	**-0.8**
	0.7nm,0.3s,baz=96,slow=14,SNR=11							
NOA				Sn		**Sn**	**09 47 25.7**	**-1.0**
	0.7nm,0.3s,baz=91,slow=19,SNR=4.1							
APA0	**Apatity Array**	**9.09**	**27**	Pn		**Pn**	**09 47 10.0**	**+0.1**
	baz=223,slow=11							
APA0	**Apatity Array**	**9.09**	**27**	Pn		**Pn**	**09 47 10.0**	**+0.1**
	baz=223,slow=11							
APA0	**Apatity Array**	**9.09**	**27**	Pn		**Pn**	**09 47 10.0**	**+0.1**
	baz=223,slow=11,SNR=6.4							
ARA0	**ARCESS Array S**	**9.80**	**7**	Pn		**Pn**	**09 47 18.6**	**-1.0**
	baz=188,slow=14							
ARA0	**ARCESS Array S**	**9.80**	**7**	Pn		**Pn**	**09 47 18.6**	**-1.0**
	baz=188,slow=14							
ARA0	**ARCESS Array S**	**9.80**	**7**	Pn		**Pn**	**09 47 18.6**	**-1.0**
	baz=188,slow=13,SNR=1.5							
ARCES	**ARCESS Array B**	**9.80**	**7**	Pn		**Pn**	**09 47 19.4**	**-0.2**
	0.4nm,0.3s,baz=184,slow=14,SNR=12							
SPA0	**Spitsbergen Ar**	**18.49**	**356**	P		**Pn**	**09 49 15.2**	**+0.3**
	baz=161,slow=14							
SPA0	**Spitsbergen Ar**	**18.49**	**356**	P		**Pn**	**09 49 15.2**	**+0.3**
	baz=161,slow=14							
SPA0	**Spitsbergen Ar**	**18.49**	**356**	P		**Pn**	**09 49 15.1**	**+0.3**
	baz=161,slow=13,SNR=4.2							
TORD	**Torodi Ar. Bea**	**49.06**	**207**	P		P	09 53 42.4	-4.0
	0.1nm,0.3s,baz=17,slow=8.0,SNR=3.0							

IDC 08 09:53:02.8±1.7, 6°.50S×131°.01E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=81.2km s-min=27.0km az=61.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.75**	**167**	Pn		Pn	09 56 20.4	+1.2
	0.9nm,0.3s,baz=348,slow=13,SNR=48							
WRA				Sn		Sn	09 58 42.4	-10
	1.2nm,0.3s,baz=331,slow=22,SNR=14							
ASAR	**Alice Springs**	**17.29**	**171**	P		Pn	09 57 06.3	+0.5
	0.5nm,0.3s,baz=351,slow=11,SNR=36							
ASAR				S		Sn	10 00 03.9	-15
	0.3nm,0.3s,baz=319,slow=17,SNR=5.4							
CTA	**Charters Tower**	**20.03**	**134**	P		P	09 57 36.6	-1.0
	1.2nm,0.4s,baz=309,slow=13,SNR=2.8							
JNU	**Nakatsue**	**39.41**	**360**	LR		LR	10 14 01.2	
	comp=Z,48nm,19.8s,baz=109,slow=32							
MKAR	**Makanchi Array**	**68.37**	**326**	P		P	10 04 06.4	+0.1
	0.2nm,0.4s,baz=114,slow=8.1,SNR=5.5							

*IDC **08** 10:02:34.7±1.6, 59°.51N×22°.46E, h0km, mb3.2/1, mb1 3.2/4, mb1mx3.0/28, mbtmp3.1/4, ML2.8/3, MS3.7/1, Ms1 3.7/1, ms1mx2.5/21, Error ellipse: s-maj=26.4km s-min=11.9km az=151.0*
*ISCJB **08** 10:02:34.7±0.4, 59°.74N±0°.03×22°.35E±0°.05, h0km, mb3.4/1, MS3.7/1, Error ellipse: s-maj=4.6km s-min=3.5km az=24.2*
*CSEM **08** 10:02:35.6±0.2, 59°.73N×22°.37E, h2km, ML2.3, Error ellipse: s-maj=5.2km s-min=3.9km az=9.0, Mining explosion.*
*HEL **08** 10:02:35.9±0.1, 59°.70N×22°.30E, h0km, ML2.3, ML2.2(UPP), Explosion*
*NAO **08** 10:02:36.1±1.4, 59°.67N×22°.28E, ML2.1*
*BER **08** 10:02:38.2±3.4, 59°.75N×22°.09E, h0km, ML2.1(NAO), Suspected explosion*
*UPP **08** 10:02:40.9, 59°.81N×21°.58E, h0km, ML2.2, Suspected Mining explosion.*

ISC 08 10:02:34.7±0.7, 59°.73N±0°.03×22°.26E±0°.03, h0km, n59, σ1s46/68, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRPE	**Suurupi**	**1.11**	**103**	*eP*		**Pg**	**10 02 55.2**	**-0.7**
SRPE	**Suurupi**	**1.11**	**103**	*eP*		**Pg**	**10 02 55.4**	**-0.5**
	SNR=90							
SRPE				*eS*		**Sg**	**10 03 09.2**	**-1.1**
	218nm,0.4s,SNR=90							
MEF	**Metsahovi**	**1.18**	**65**	*eP*		**Pg**	**10 02 56.9**	**-0.5**
MEF	**Metsahovi**	**1.18**	**65**	P		**Pg**	**10 02 56.8**	**-0.5**
MEF				*eS*		**Sg**	**10 03 11.4**	**-1.2**
	31nm,0.7s,SNR=90							
MTSE	**Matsula**	**1.29**	**141**	*eP*		Pg	10 02 58.2	-1.2
MTSE	**Matsula**	**1.29**	**141**	*eP*		**Pg**	**10 02 58.6**	**-0.8**
	SNR=70							
MTSE				*eS*		**Sg**	**10 03 14.4**	**-1.8**
	SNR=70							
RAF	**Rauma**	**1.32**	**349**	*eP*		**Pg**	**10 03 00.3**	**+0.3**
RAF	**Rauma**	**1.32**	**349**	*eP*		**Pg**	**10 03 00.6**	**+0.6**
	SNR=70							
RAF				*eS*		**Sn**	**10 03 18.3**	**-0.4**
	25nm,0.9s,SNR=70							
NRTU	**Norrtaelje**	**1.84**	**270**	*eP*		**Pn**	**10 03 08.6**	**+1.2**
NRTU	**Norrtaelje**	**1.84**	**270**	P		**Pn**	**10 03 08.6**	**+1.2**
GRAU	**Graesoe**	**1.96**	**290**	*eP*		**Pn**	**10 03 10.2**	**+1.0**
GRAU	**Graesoe**	**1.96**	**290**	P		**Pn**	**10 03 10.2**	**+1.0**
PVF	**Pernaja**	**1.98**	**64**	*eP*		**Pn**	**10 03 10.8**	**+1.4**
PVF	**Pernaja**	**1.98**	**64**	P		**Pn**	**10 03 10.8**	**+1.4**
SLIT	**Slitere, Latvi**	**2.11**	**180**	*eP*		**Pn**	**10 03 11.8**	**+0.6**
SLIT	**Slitere, Latvi**	**2.11**	**180**	P		**Pn**	**10 03 11.7**	**+0.6**
SLIT				*eS*		**Sn**	**10 03 40.3**	**+2.4**
	195nm,0.4s,SNR=50							
FORU	**Forsmark**	**2.15**	**290**	*eP*		**Pn**	**10 03 13.7**	**+2.0**
FORU	**Forsmark**	**2.15**	**290**	P		**Pn**	**10 03 13.7**	**+2.0**
FLYU	**Flymyra**	**2.24**	**282**	*eP*		**Pn**	**10 03 14.4**	**+1.4**
FLYU	**Flymyra**	**2.24**	**282**	P		**Pn**	**10 03 14.4**	**+1.4**
NYNU	**Nynaeshamn**	**2.30**	**253**	*eP*		**Pn**	**10 03 15.8**	**+2.0**
NYNU	**Nynaeshamn**	**2.30**	**253**	P		**Pn**	**10 03 15.8**	**+2.0**
FIA0	**FINESS Array S**	**2.55**	**46**	Pn		**Pn**	**10 03 19.4**	**+2.2**
	baz=233,slow=14							
FIA0				Sn		**Sb**	**10 03 52.9**	**-0.3**
	baz=219,slow=28							
FIA0	**FINESS Array S**	**2.55**	**46**	Pn		**Pn**	**10 03 19.4**	**+2.2**
	baz=233,slow=14							
FIA0				Sn		**Sb**	**10 03 52.9**	**-0.3**
	baz=219,slow=28							
FIA0	**FINESS Array S**	**2.55**	**46**	*eP*		**Pn**	**10 03 19.4**	**+2.2**
FIA0				MSG			10 03 55.1	
	comp=Z,15nm,0.1s							
FIA0	**FINESS Array S**	**2.55**	**46**	P		**Pn**	**10 03 19.3**	**+2.0**
FIA0				Sn		**Sb**	**10 03 52.9**	**-0.3**
	SNR=50							
FINES	**FINESS Array B**	**2.55**	**46**	Pn		**Pn**	**10 03 19.5**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=228,slow=14,SNR=68							
FINES				Sn		**Sb**	**10 03 52.3**	**-0.8**
	comp=Z,4.9nm,0.3s,baz=234,slow=23,SNR=25							
OSTU	**Oestervaala**	**2.62**	**283**	*eP*		**Pn**	**10 03 20.0**	**+1.7**
OSTU	**Oestervaala**	**2.62**	**283**	P		**Pn**	**10 03 20.0**	**+1.7**
VSU	**Vasula**	**2.63**	**117**	Pn		**Pn**	**10 03 19.9**	**+1.5**
VSU				Sn		**Sn**	**10 03 53.6**	**+2.6**
VSU	**Vasula**	**2.63**	**117**	Pn		**Pn**	**10 03 19.9**	**+1.5**
VSU				Sn		**Sn**	**10 03 53.6**	**+2.6**
VSU	**Vasula**	**2.63**	**117**	*eP*		**Pn**	**10 03 19.9**	**+1.5**
VSU	**Vasula**	**2.63**	**117**	P		**Pn**	**10 03 19.9**	**+1.5**
VSU				Sn		**Sn**	**10 03 53.6**	**+2.6**
	SNR=50							
KEF	**Keuruu**	**2.76**	**26**	*ePB*		**Pb**	**10 03 23.7**	**-1.1**
KEF				MSG			10 04 00.8	
	comp=Z,9.5nm,0.1s							
KEF	**Keuruu**	**2.76**	**26**	Pb		**Pb**	**10 03 23.7**	**-1.1**
ESKU	**Eskilstuna**	**3.03**	**263**	*eP*		**Pn**	**10 03 25.4**	**+1.6**
ESKU	**Eskilstuna**	**3.03**	**263**	P		**Pn**	**10 03 25.4**	**+1.6**
ARNU	**Arnoeviken**	**3.10**	**311**	*eP*		**Pn**	**10 03 26.6**	**+1.8**
ARNU	**Arnoeviken**	**3.10**	**311**	P		**Pn**	**10 03 26.6**	**+1.8**
FALU	**Falun**	**3.31**	**286**	*eP*		**Pn**	**10 03 29.2**	**+1.6**
FALU	**Falun**	**3.31**	**286**	P		**Pn**	**10 03 29.2**	**+1.6**
ROTU	**Roteberg**	**3.60**	**301**	*eP*		**Pn**	**10 03 33.0**	**+1.3**
ROTU	**Roteberg**	**3.60**	**301**	P		**Pn**	**10 03 33.0**	**+1.3**
HFS	**Hagfors**	**4.33**	**279**	Pn		**Pn**	**10 03 43.2**	**+1.5**
	baz=80,slow=14							
HFS				Lg		Lg	10 04 49.4	
	baz=88,slow=37							
HFS	**Hagfors**	**4.33**	**279**	Pn		**Pn**	**10 03 43.2**	**+1.5**
	baz=80,slow=14							
HFS				Lg		Lg	10 04 49.4	
	baz=88,slow=37							
HFS	**Hagfors**	**4.33**	**279**	Pn		**Pn**	**10 03 43.2**	**+1.5**
	SNR=50							
HFS				Lg		Lg	10 04 49.4	
	SNR=50							
NB2	**NORSAR Subarra**	**5.63**	**288**	Pn		**Pn**	**10 03 60.0**	**+0.3**
	baz=94,slow=12							
NB2	**NORSAR Subarra**	**5.63**	**288**	Pn		**Pn**	**10 03 60.0**	**+0.3**
	baz=94,slow=12							
NB2	**NORSAR Subarra**	**5.63**	**288**	Pn		**Pn**	**10 04 00.0**	**+0.3**
	SNR=50							
NOA	**NORSAR Array B**	**5.63**	**288**	Pn		**Pn**	**10 03 59.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=90,slow=12,SNR=15							
APA0	**Apatity Array**	**9.22**	**26**	Pn		**Pn**	**10 04 50.0**	**+1.4**
	baz=210,slow=11							
APA0	**Apatity Array**	**9.22**	**26**	Pn		**Pn**	**10 04 50.0**	**+1.4**
	baz=210,slow=11							
APA0	**Apatity Array**	**9.22**	**26**	Pn		**Pn**	**10 04 50.0**	**+1.4**
	SNR=50							
ARA0	**ARCESS Array S**	**9.94**	**7**	Pn		**Pn**	**10 04 58.3**	**-0.3**
	baz=185,slow=14							
ARA0	**ARCESS Array S**	**9.94**	**7**	Pn		**Pn**	**10 04 58.3**	**-0.3**
	baz=185,slow=14							
ARA0	**ARCESS Array S**	**9.94**	**7**	Pn		**Pn**	**10 04 58.3**	**-0.3**
	SNR=50							
ARCES	**ARCESS Array B**	**9.94**	**7**	Pn		**Pn**	**10 04 58.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=186,slow=13,SNR=13							
ARCES				Sn		Sn	10 06 43.0	-7.7
	comp=Z,0.1nm,0.3s,baz=191,slow=22,SNR=2.5							
SONM	**Songino Array**	**47.78**	**65**	LR		LR	10 32 12.0	
	comp=Z,68nm,18.2s,baz=20,slow=37							
TORD	**Torodi Ar. Bea**	**48.93**	**207**	P		P	10 11 21.1	-1.3
	comp=Z,0.3nm,0.8s,baz=8.7,slow=7.7,SNR=2.3							

IDC 08 10:02:49.5±1.4, 59°.53N×22°.47E, h0km, mb3.0/1, mb1 3.2/4, mb1mx3.0/28, mbtmp3.1/4, ML3.1/3, Error ellipse: s-maj=23.6km s-min=12.6km az=144.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FINES	**FINESS Array B**	**2.62**	**41**	Pn		Pn	10 03 33.8	+0.7
	2.3nm,0.3s,baz=226,slow=13,SNR=8.1							
FINES				Sn		Sn	10 04 06.8	+1.3
	4.5nm,0.3s,baz=223,slow=26,SNR=12							
NOA	**NORSAR Array B**	**5.80**	**290**	Pn		Pn	10 04 14.1	-2.7
	0.5nm,0.3s,baz=93,slow=16,SNR=5.8							
ARCES	**ARCESS Array B**	**10.13**	**6**	Pn		Pn	10 05 13.4	-2.6
	0.4nm,0.3s,baz=188,slow=13,SNR=10							
TORD	**Torodi Ar. Bea**	**48.80**	**207**	P		P	10 11 36.3	+0.1
	0.2nm,0.7s,baz=5.0,slow=7.1,SNR=2.7							

NNC 08 10:12:40.0±4.6, 53°.99N×86°.10E, h0km, mb3.8, mpv3.5, 10C-3D, Error ellipse: s-maj=36.1km s-min=22.1km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURK	**Kurchatov**	**5.63**	**237**	⇑Pn		Pn	10 14 06.0	+1.0
	2.5nm,0.8s							
KURK				⇑Sn		Sn	10 15 15.2	+4.9
	0.8nm,0.7s							
KURK				⇑Lg		Lg	10 15 41.3	
	2.9nm,0.8s							
KURBB	**Kurchatov Arra**	**5.74**	**237**	⇑Pn		Pn	10 14 08.0	+1.6
	3.6nm,0.3s,baz=52,slow=14							
KURBB				⇓Sn		Sn	10 15 16.1	+3.3
	3.2nm,0.5s							
KURBB				⇑Lg		Lg	10 15 43.5	
	9.0nm,0.7s,baz=46,slow=30							
MK31	**Makanchi Array**	**7.60**	**200**	⇑Pn		Pn	10 14 35.0	+2.9
	1.2nm,0.6s,baz=30,slow=14,SNR=27							
MK31				⇓Sn		Sn	10 16 03.3	+4.4
	1.8nm,0.8s							
MK31				⇑Lg		Lg	10 16 40.0	
	4.9nm,0.9s,baz=33,slow=30,SNR=5.1							
BVA0	**Borovoye Array**	**9.41**	**270**	⇑Pn		Pn	10 14 57.2	+0.3
	0.6nm,0.5s,baz=75,slow=12,SNR=4.6							
BVA0				⇓Sn		Sn	10 16 40.0	-3.3
	3.0nm,1.2s,baz=67,slow=25,SNR=4.5							
BRVK	**Borovoye**	**9.47**	**271**	⇑Pn		Pn	10 14 59.2	+1.7
	2.2nm,0.6s							
BRVK				⇑Sn		Sn	10 16 39.3	-5.3
	2.0nm,0.7s							

NNC 08 10:26:18.9±3.0, 53°.86N×86°.87E, h0km, mb3.6, mpv3.2,

7C-4D, Error ellipse: s-maj=23.0km s-min=16.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURK	**Kurchatov**	**5.96**	**241**	⇑Pn		Pn	10 27 50.6	+2.3
	0.9nm,0.7s							
KURK				⇓Sn		Sn	10 28 59.3	+2.1
	1.4nm,0.8s							
KURK				⇑Lg		Lg	10 29 30.0	
	5.5nm,0.8s							
KURBB	**Kurchatov Arra**	**6.06**	**241**	⇓Pn		Pn	10 27 51.7	+2.0
	2.3nm,0.6s							
KURBB				⇑Sn		Sn	10 28 59.9	+0.2
	7.9nm,0.7s							
KURBB				⇑Lg		Lg	10 29 32.0	
	20nm,0.8s							
MK31	**Makanchi Array**	**7.65**	**204**	⇑Pn		Pn	10 28 13.6	+2.0
	1.6nm,0.8s,baz=27,slow=14,SNR=12							
MK31				⇑Sn		Sn	10 29 45.2	+6.2
	4.0nm,1.1s,baz=36,slow=26,SNR=3.9							
MK31				⇓Lg		Lg	10 30 21.2	
	7.7nm,0.9s,baz=30,slow=29,SNR=4.3							
VOSK	**Vostochnaya**	**9.59**	**270**	⇓Pn		Pn	10 28 36.6	-1.5
	1.4nm,0.7s							
VOSK				⇑Sn		Sn	10 30 24.7	-1.7
	9.5nm,1.2s							

*UPP **08** 10:28:25.2, 59°.54N×28°.65E, h0km, ML2.1, Suspected Mining explosion.*
*ISCJB **08** 10:28:32.6±0.7, 60°.17N±0°.03×27°.5E±0°.1, h0km, Error ellipse: s-maj=7.7km s-min=4.1km az=20.2*
*NAO **08** 10:28:32.9±1.3, 60°.11N×27°.66E, ML2.5*
*BER **08** 10:28:34.8±3.2, 60°.16N×27°.48E, h0km, ML2.5(NAO), Suspected explosion*
*CSEM **08** 10:28:34.5±0.4, 60°.15N×27°.41E, h2km, ML2.7, Error ellipse: s-maj=10.1km s-min=5.7km az=113.0, Mining explosion.*
*HEL **08** 10:28:35.1±0.2, 60°.16N×27°.39E, h0km, ML2.7, ML2.1(UPP), Explosion*
*IDC **08** 10:28:36.9±1.0, 60°.22N×27°.26E, h0km, mb1 3.5/4, mb1mx3.2/28, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=10.3km s-min=7.3km az=85.0*

ISC 08 10:28:33.6±0.9, 60°.17N±0°.04×27°.37E±0°.04, h0km, n57, σ1s60/68, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VJF	**Virojoki**	**0.38**	**14**	*eP*		**Pg**	**10 28 41.9**	**+0.9**
VJF				*eS*		**Sg**	**10 28 47.4**	**+1.5**
VJF	**Virojoki**	**0.38**	**14**	P		**Pg**	**10 28 41.8**	**+0.9**
VJF				S		**Sg**	**10 28 47.3**	**+1.5**
PVF	**Pernaja**	**0.84**	**297**	*eP*		**Pg**	**10 28 50.2**	**+0.5**
PVF				*eSB*		**Sg**	**10 29 02.4**	**+1.9**
PVF	**Pernaja**	**0.84**	**297**	P		**Pg**	**10 28 50.2**	**+0.5**
PVF				Sb		**Sg**	**10 29 02.4**	**+1.9**
FIA0	**FINESS Array S**	**1.43**	**334**	Pg		**Pn**	**10 29 00.3**	**-0.5**
	baz=153,slow=18							
FIA0				Lg		Lg	10 29 20.4	
	baz=159,slow=37							
FIA0				Rg		Rg	10 29 28.4	
	baz=154,slow=56							
FIA0	**FINESS Array S**	**1.43**	**334**	Pg		**Pn**	**10 29 00.3**	**-0.5**
	baz=153,slow=18							
FIA0				Lg		Lg	10 29 20.4	
	baz=159,slow=37							
FIA0				Rg		Rg	10 29 28.4	
	baz=154,slow=56							
FIA0	**FINESS Array S**	**1.43**	**334**	*eP*		**Pn**	**10 29 00.2**	**-0.5**
FIA0	**FINESS Array S**	**1.43**	**334**	P		**Pn**	**10 29 00.2**	**-0.5**
FIA0				Lg		Lg	10 29 20.5	
	SNR=50							
FINES	**FINESS Array B**	**1.43**	**334**	Pg		**Pn**	**10 29 00.2**	**-0.5**
	8.5nm,0.3s,baz=156,slow=16,SNR=50							
FINES				Lg		Lg	10 29 20.4	
	22nm,0.3s,baz=154,slow=29,SNR=49							
FINES				Rg		Rg	10 29 28.9	
	39nm,0.5s,baz=157,slow=32,SNR=31							
MEF	**Metsahovi**	**1.49**	**273**	*eP*		**Pn**	**10 29 01.8**	**+0.2**
MEF	**Metsahovi**	**1.49**	**273**	P		**Pn**	**10 29 01.7**	**+0.2**
SRPE	**Suurupi**	**1.67**	**246**	*eP*		**Pn**	**10 29 05.0**	**+1.0**
SRPE				*eS*		**Sn**	**10 29 27.0**	**+0.9**
SRPE	**Suurupi**	**1.67**	**246**	P		**Pn**	**10 29 05.0**	**+1.0**
SRPE				S		**Sn**	**10 29 27.0**	**+0.9**
VSU	**Vasula**	**1.74**	**191**	*eP*		**Pb**	**10 29 05.9**	**-0.5**
VSU				*eS*		**Sn**	**10 29 28.0**	**0.0**
VSU	**Vasula**	**1.74**	**191**	P		**Pb**	**10 29 05.9**	**-0.5**
VSU				S		**Sn**	**10 29 28.0**	**0.0**
MTSE	**Matsula**	**2.33**	**233**	*eP*		**Pn**	**10 29 13.8**	**+0.7**
MTSE				*eSB*		**Sb**	**10 29 45.6**	**-0.1**
MTSE	**Matsula**	**2.33**	**233**	P		**Pn**	**10 29 13.8**	**+0.7**
SUF	**Sumiainen**	**2.62**	**348**	MSG			10 29 56.7	
	comp=Z,37nm,0.2s							
RAF	**Rauma**	**2.90**	**290**	*eSG*		**Sb**	**10 30 04.1**	**+2.2**
RAF				MSG			10 30 06.1	
	comp=Z,20nm,0.2s							
UMAU	**Umeaa**	**4.88**	**

baz=171,slow=16
ARA0 Sn Sn 10 32 30.9 -6.3
baz=173,slow=28
ARA0 Lg Lg 10 33 25.7
baz=173,slow=37
ARA0 ARCESS Array S 9.44 356 Pn **Pn 10 30 50.0 -0.7**
baz=171,slow=16
ARA0 Sn Sn 10 32 30.9 -6.3
baz=173,slow=28
ARA0 Lg Lg 10 33 25.7
baz=173,slow=37
ARA0 ARCESS Array S 9.44 356 Pn **Pn 10 30 50.0 -0.7**
SNR=50
ARCES ARCESS Array B 9.44 356 Pn **Pn 10 30 49.9 -0.8**
comp=Z,0.5nm,0.3s,baz=171,slow=15,SNR=57
ARCES Sn Sn 10 32 30.7 -6.6
comp=Z,0.3nm,0.3s,baz=173,slow=22,SNR=4.1
AKASG Malin Array Be 9.55 173 Pn **Pn 10 30 51.1 -1.0**
comp=Z,1.8nm,0.3s,baz=350,slow=13,SNR=11

IDC 08 10:40:53.3±1.9, 11°22'N×92°61'E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/27, mbtmp3.6/5, ML4.3/1, Error ellipse: s-maj=65.7km s-min=22.4km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.45**	**40**	Pn	Pn	10 43 10.8	-0.2
	0.9nm,0.3s,baz=235,slow=14,SNR=25						
MKAR	**Makanchi Array**	**36.52**	**348**	P	P	10 48 01.6	+1.0
	0.1nm,0.4s,baz=153,slow=8.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**43.07**	**353**	P	P	10 48 53.9	-1.0
	0.5nm,0.3s,baz=157,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**51.44**	**127**	P	P	10 50 00.4	-0.3
	0.4nm,0.6s,baz=306,slow=8.3,SNR=8.7						
ASAR	**Alice Springs**	**53.22**	**131**	P	P	10 50 14.0	+0.1
	0.3nm,0.4s,baz=309,slow=7.1,SNR=4.1						

IDC 08 11:12:33.2±5.3, 19°79'S×175°45'W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/20, mbtmp4.0/3, ML2.3/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/32, Error ellipse: s-maj=189.2km s-min=27.1km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.82**	**32**	Pn	Pn	11 14 15.5	+0.8
	3.2nm,0.3s,baz=202,slow=17,SNR=6.8						
AFI				Sn	Sn	11 15 33.7	+0.6
	1.4nm,0.3s,baz=225,slow=20,SNR=4.0						
URZ	**Urewera**	**19.51**	**198**	LR	LR	11 23 16.0	
	comp=Z,44nm,19.2s,baz=13,slow=33						
ASAR	**Alice Springs**	**47.02**	**256**	P	P	11 21 07.4	+0.7
	1.9nm,0.7s,baz=93,slow=8.3,SNR=21						
WRA	**Warramunga Arr**	**47.08**	**261**	P	P	11 21 06.5	-0.8
	0.9nm,0.8s,baz=98,slow=4.4,SNR=20						
SONM	**Songino Array**	**96.80**	**318**	LR	LR	12 03 57.0	
	comp=Z,70nm,19.3s,baz=331,slow=32						
AKASG	**Malin Array Be**	**143.50**	**333**	PKP	PKPbc	11 32 07.7	+0.7
	0.2nm,0.3s,baz=40,slow=4.4,SNR=10						

*LDG **08** 11:19:49.9±0.1, 44°20'N×10°50'E, h10km, Ml3.0/9, Error ellipse: s-maj=3.8km s-min=2.9km az=13.0*
*GEN **08** 11:19:49.2, 44°25'N×10°56'E, h18km, ML2.7*
*ROM **08** 11:19:50.2±0.1, 44°21'N×10°50'E, h10km±1km, Ml2.7/7, Error ellipse: s-maj=1.8km s-min=1.4km az=66.0*
*ISCJB **08** 11:19:50.3±0.3, 44°17'N±0.02×10°40'E±0.03, h18km±3km, Error ellipse: s-maj=3.5km s-min=3.2km az=22.4*
*CSEM **08** 11:19:50.2±0.1, 44°20'N×10°48'E, h10km, ML3.2/6, Error ellipse: s-maj=3.5km s-min=3.0km az=33.0*
*PRU **08** 11:19:53.5, 44°34'N×10°82'E, h0km*

ISC 08 11:19:49.9±0.9, 44°20'N±0.02×10°46'E±0.02, h19km±2km, n77, σ1§26/117, 6C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLC	**Villacollemand**	**0.07**	**236**	Pg	**Pg**	**11 19 53.4**	**-0.1**
VLC				Sg	**Sg**	**11 19 55.9**	**-0.1**
VLC	**Villacollemand**	**0.07**	**236**	Pg	**Pg**	**11 19 53.4**	**-0.1**
VLC				Sg	**Sg**	**11 19 55.9**	**-0.1**
BDI	**Bagni Di Lucca**	**0.17**	**144**	Pg	**Pg**	**11 19 54.1**	**-0.5**
BDI				Sg	**Sg**	**11 19 57.2**	**-0.5**
BDI	**Bagni Di Lucca**	**0.17**	**144**	Pg	**Pg**	**11 19 54.1**	**-0.5**
BDI				Sg	**Sg**	**11 19 57.2**	**-0.5**
GSCL	**Gusciola**	**0.18**	**30**	Pg	**Pg**	**11 19 53.9**	**-0.9**
GSCL	**Gusciola**	**0.18**	**30**	*e*Sg	**Pg**	**11 19 53.9**	**-0.9**
GSCL	**Gusciola**	**0.18**	**30**	Pg	**Pg**	**11 19 53.9**	**-0.9**
VALM	**Valbona**	**0.22**	**315**	P	**Pg**	**11 19 54.9**	**-0.4**
VALM				S	**Sg**	**11 19 58.8**	**-0.2**
ERBM	**Eremo**	**0.23**	**351**	Pg	**Pg**	**11 19 55.0**	**-0.5**
ERBM				Sg	**Sg**	**11 19 59.1**	**-0.1**
	1μm,0.9s						
ERBM	**Eremo**	**0.23**	**351**	Pg	**Pg**	**11 19 55.0**	**-0.5**
ERBM				Sg	**Sg**	**11 19 59.1**	**-0.1**
	1μm,0.9s						
MAIM	**Mastiano**	**0.28**	**176**	Pg	**Pg**	**11 19 56.5**	**+0.2**
MAIM				Sg	**Sg**	**11 20 01.1**	**+0.5**
	1μm,0.3s						
MAIM	**Mastiano**	**0.28**	**176**	P	**Pg**	**11 19 56.1**	**-0.2**
MAIM	**Mastiano**	**0.28**	**176**	Pg	**Pg**	**11 19 56.5**	**+0.2**
MAIM				Sg	**Sg**	**11 20 01.1**	**+0.5**
	1μm,0.3s						
BACM	**Baccana**	**0.29**	**287**	P	**Pg**	**11 19 56.4**	**0.0**
PII	**Pisa**	**0.48**	**174**	Pg	**Pg**	**11 19 59.9**	**+0.3**
PII				Sg	**Sg**	**11 20 06.7**	**+0.6**
PII	**Pisa**	**0.48**	**174**	Pg	**Pg**	**11 19 59.9**	**+0.3**
PII				Sg	**Sg**	**11 20 06.7**	**+0.6**
FNVD	**Fontana Vidola**	**0.48**	**93**	Pg	**Pg**	**11 19 59.2**	**-0.5**
FNVD				Sg	**Sb**	**11 20 06.2**	**-0.3**
	872nm,0.6s						
FNVD	**Fontana Vidola**	**0.48**	**93**	Pg	**Pg**	**11 19 59.2**	**-0.5**
FNVD				Sg	**Sb**	**11 20 06.2**	**-0.3**
	872nm,0.6s						
CODM	**Codolo**	**0.48**	**294**	P	**Pg**	**11 19 59.4**	**-0.3**
PRMA	**PARMA**	**0.58**	**349**	Pg	**Pb**	**11 20 02.4**	**+1.1**
	342nm,0.5s						
PRMA	**PARMA**	**0.58**	**349**	Pg	**Pb**	**11 20 02.4**	**+1.1**
	342nm,0.5s						
SEI	**Scarperia**	**0.66**	**102**	Pg	**Pg**	**11 20 02.6**	**-0.4**
	446nm,0.3s						
SEI	**Scarperia**	**0.66**	**102**	Pg	**Pg**	**11 20 02.6**	**-0.4**
	446nm,0.3s						
SEI				*e*Sg	**Sn**	**11 20 14.0**	**-0.2**
MSSA	**Maissana**	**0.69**	**280**	Pg	**Pg**	**11 20 04.1**	**+0.5**
MSSA	**Maissana**	**0.69**	**280**	Pg	**Pg**	**11 20 04.1**	**+0.5**
SC2M	**Scurtabo**	**0.70**	**288**	Pg	**Pg**	**11 20 04.3**	**+0.6**
SC2M				Sg	**Sg**	**11 20 14.0**	**+1.0**
	620nm,0.6s						
SC2M	**Scurtabo**	**0.70**	**288**	P	**Pg**	**11 20 03.6**	**-0.1**
SC2M	**Scurtabo**	**0.70**	**288**	Pg	**Pg**	**11 20 04.3**	**+0.6**
SC2M				S	**Sg**	**11 20 13.2**	**+0.2**
SC2M				Sg	**Sg**	**11 20 14.0**	**+1.0**
	620nm,0.6s						
VMG	**Vicchio**	**0.81**	**106**	Pg	**Pb**	**11 20 06.1**	**+0.6**
	85nm,0.5s						
VMG	**Vicchio**	**0.81**	**106**	Pg	**Pb**	**11 20 06.1**	**+0.6**
	85nm,0.5s						
CSNT	**Castellina Chi**	**0.94**	**140**	Pg	**Pg**	**11 20 08.3**	**+0.1**
CSNT				Sg	**Sg**	**11 20 20.6**	**-0.1**
	278nm,0.8s						
CSNT	**Castellina Chi**	**0.94**	**140**	Pg	**Pg**	**11 20 08.3**	**+0.1**
CSNT				Sg	**Sg**	**11 20 20.6**	**-0.1**
	278nm,0.8s						
ASQU	**Asqua**	**1.04**	**112**	Pg	**Pg**	**11 20 09.6**	**-0.5**
ASQU	**Asqua**	**1.04**	**112**	Pg	**Pg**	**11 20 09.6**	**-0.5**
SFI	**Santa Sofia**	**1.04**	**106**	Pg	**Pb**	**11 20 10.1**	**+0.8**
	150nm,0.9s						
SFI	**Santa Sofia**	**1.04**	**106**	Pg	**Pb**	**11 20 10.1**	**+0.8**
	150nm,0.9s						
TEOL	**Teolo**	**1.45**	**36↑**	*e*Pg	**Pg**	**11 20 17.4**	**-0.5**
TEOL				*e*Sg	**Sg**	**11 20 35.9**	**-0.9**
TEOL	**Teolo**	**1.45**	**36↑**	*e*Pg	**Pg**	**11 20 17.4**	**-0.5**
TEOL				*e*Sg	**Sg**	**11 20 37.6**	**+0.8**
TEOL	**Teolo**	**1.45**	**36**	*e*Pg	**Pg**	**11 20 17.4**	**-0.5**
TEOL				*e*Sg	**Sg**	**11 20 35.9**	**-0.9**
MARN	**Marana (Italy)**	**1.54**	**20↑**	*e*Pg	**Pb**	**11 20 18.6**	**+0.8**
MARN				*e*Sg	**Sb**	**11 20 38.3**	**+1.3**
MARN	**Marana (Italy)**	**1.54**	**20**	*e*Pg	**Pb**	**11 20 18.6**	**+0.8**
MARN				*e*Sg	**Sb**	**11 20 38.2**	**+1.3**
DDS	**Dosso del Somm**	**1.76**	**17↑**	*e*Pg	**Pb**	**11 20 22.5**	**+0.8**
DDS				*e*Sg	**Sb**	**11 20 44.8**	**+1.2**
DDS	**Dosso del Somm**	**1.76**	**17**	*e*Pg	**Pb**	**11 20 22.5**	**+0.8**
DDS				*e*Sg	**Sb**	**11 20 44.7**	**+1.2**
PGF	**Pioggiola**	**1.96**	**213**	*e*Pn	**Pn**	**11 20 22.5**	**+0.2**
PGF				*e*Sn	**Sn**	**11 20 46.3**	**-0.1**
	22nm,0.4s						
PGF	**Pioggiola**	**1.96**	**213**	*e*Pn	**Pn**	**11 20 22.5**	**+0.2**
PGF				*e*Sn	**Sn**	**11 20 46.3**	**-0.1**
	11nm,0.4s						
SBF	**Sospel**	**2.21**	**262**	*e*Pn	**Pn**	**11 20 25.9**	**+0.3**
SBF				*e*Sn	**Sn**	**11 20 51.5**	**-0.9**
	77nm,0.6s						
SBF	**Sospel**	**2.21**	**262**	*e*Pn	**Pn**	**11 20 25.9**	**+0.3**
SBF				*e*Sn	**Sn**	**11 20 51.5**	**-0.9**
	39nm,0.6s						
MBDF	**Montbardon**	**2.69**	**283**	*e*Pn	**Pn**	**11 20 33.6**	**+1.2**
MBDF				*e*Sn	**Sn**	**11 21 03.5**	**-1.1**
	23nm,0.6s						
MBDF	**Montbardon**	**2.69**	**283**	*e*Pn	**Pn**	**11 20 33.6**	**+1.2**
MBDF				*e*Sn	**Sn**	**11 21 03.5**	**-1.1**
	11nm,0.6s						
FRF	**La Foret Royal**	**2.83**	**258**	*e*Pn	**Pn**	**11 20 33.8**	**-0.3**
FRF				*e*Sn	**Sn**	**11 21 06.4**	**-1.3**
	8.5nm,0.3s						
FRF	**La Foret Royal**	**2.83**	**258**	*e*Pn	**Pn**	**11 20 33.8**	**-0.3**
FRF				*e*Sn	**Sn**	**11 21 06.4**	**-1.3**
	4.2nm,0.3s						
LPG	**La Plagne**	**2.94**	**298**	*e*P	**Pn**	**11 20 38.3**	**+2.4**
LPG	**La Plagne**	**2.94**	**298**	*e*P	**Pn**	**11 20 38.3**	**+2.4**
LPL	**La Plagne**	**2.96**	**298**	*e*P	**Pn**	**11 20 38.8**	**+2.7**
LPL				*e*Sn	**Sn**	**11 21 09.6**	**-1.6**
	8.2nm,0.6s						
LPL	**La Plagne**	**2.96**	**298**	*e*P	**Pn**	**11 20 38.8**	**+2.7**
LPL				*e*Sn	**Sn**	**11 21 09.6**	**-1.6**
	4.1nm,0.6s						
LMR	**La Mourre**	**2.99**	**255**	*e*Pn	**Pn**	**11 20 36.3**	**0.0**
LMR				*e*Sn	**Sn**	**11 21 09.9**	**-1.7**
	6.9nm,0.3s						
LMR	**La Mourre**	**2.99**	**255**	*e*Pn	**Pn**	**11 20 36.3**	**0.0**
LMR				*e*Sn	**Sn**	**11 21 09.9**	**-1.7**
	3.5nm,0.3s						
VOY	**Vojsko**	**3.04**	**52**	*e*Pn	Pn	11 20 33.2	-3.9
VOY				*e*		11 20 41.8	
VOY				*e*Sn	**Sn**	**11 21 13.1**	**0.0**
VOY	**Vojsko**	**3.04**	**52**	*e*Pn	Pn	11 20 33.2	-3.9
VOY				*e*Sn	**Sn**	**11 21 13.1**	**0.0**
WTTA	**Wattenberg**	**3.18**	**15↑**	*i*Pn	Pn	11 20 42.7	+3.7
WTTA	**Wattenberg**	**3.18**	**15**	Pn	Pn	11 20 42.7	+3.7
MOTA	**Moosalm**	**3.18**	**8↑**	*i*Pn	Pn	11 20 42.7	+3.6
MOTA	**Moosalm**	**3.18**	**8**	Pn	Pn	11 20 42.7	+3.6
ORIF	**Oris-en-Rattie**	**3.35**	**284**	*e*P	Pn	11 20 44.9	+3.5
ORIF	**Oris-en-Rattie**	**3.35**	**284**	*e*P	Pn	11 20 44.9	+3.5
SMRF	**Simiane la Rot**	**3.53**	**268**	*e*P	**Pn**	**11 20 46.4**	**+2.7**
SMRF	**Simiane la Rot**	**3.53**	**268**	*e*P	**Pn**	**11 20 46.4**	**+2.7**
VIVF	**Saint-Julien-l**	**4.19**	**281**	*e*P	**Pn**	**11 20 54.8**	**+2.0**
VIVF	**Saint-Julien-l**	**4.19**	**281**	*e*P	**Pn**	**11 20 54.8**	**+2.0**
HINF	**Hinteralfeld**	**4.41**	**327**	*e*P	**Pn**	**11 20 57.8**	**+2.0**
HINF				*e*Sn	**Sn**	**11 21 44.1**	**-2.5**
	24nm,0.7s						
HINF	**Hinteralfeld**	**4.41**	**327**	*e*P	**Pn**	**11 20 57.8**	**+2.0**
HINF				*e*Sn	**Sn**	**11 21 44.1**	**-2.5**
	12nm,0.7s						
CDF	**Champ du Feu**	**4.76**	**334**	*e*Pn	**Pn**	**11 21 01.4**	**+0.7**
CDF				*e*Sn	**Sn**	**11 21 51.7**	**-3.6**
	3.6nm,0.4s						
CDF	**Champ du Feu**	**4.76**	**334**	*e*Pn	**Pn**	**11 21 01.4**	**+0.7**
CDF				*e*Sn	**Sn**	**11 21 51.7**	**-3.6**
	1.8nm,0.4s						
HAU	**Haudompre**	**4.76**	**325**	*e*P	**Pn**	**11 21 02.7**	**+2.0**
HAU				*e*Sn	**Sn**	**11 21 52.6**	**-2.8**
	30nm,0.5s						
HAU	**Haudompre**	**4.76**	**325**	*e*P	**Pn**	**11 21 02.7**	**+2.0**
HAU				*e*Sn	**Sn**	**11 21 52.6**	**-2.8**
	15nm,0.5s						
KHC	**Kasperske Hory**	**5.38**	**22**	*e*PN	**Pn**	**11 21 11.4**	**+2.2**
KHC				*e*SN	**Sn**	**11 22 09.3**	**-1.3**
KHC	**Kasperske Hory**	**5.38**	**22**	Pn	**Pn**	**11 21 11.4**	**+2.2**
KHC				Sn	**Sn**	**11 22 09.3**	**-1.3**

*MOS **08** 11:37:46.1±1.2, 5°73'N×125°71'E, h57km, mb5.1/47, Error ellipse: s-maj=11.5km s-min=5.8km az=112.7*
*BJI **08** 11:37:49.2, 5°23'N×126°09'E, h120km, mB5.0/27, mb4.7/38*
*MAN **08** 11:37:52, 5°52'N×125°86'E, h105km, mb5.5, ML4.5, MS4.8*
MAN Intensity I - General santos City.
*ISCJB **08** 11:37:53.8±0.3, 5°74'N±0.02×125°98'E±0.03, h127km±2km, mb4.8/107, Error ellipse: s-maj=4.8km s-min=2.8km az=171.1*
*AUST **08** 11:37:53.9±0.6, 5°60'N×125°88'E, h108km±7km, Error ellipse: s-maj=9.2km s-min=6.2km az=49.0*
*DJA **08** 11:37:54.4±0.4, 6°N±3°×12°6E±°, h77km±8km, M5.3/18, mB5.6/12, mb5.3/18, MLv5.7/8, Mw(mB)5.1/12*
*NEIC **08** 11:37:55.6±0.7, 5°72'N×125°91'E, h128km±7km, mb4.8/31, Error ellipse: s-maj=7.4km s-min=4.8km az=69.0*
NEIC Felt [I PIVS] at General Santos.
*IDC **08** 11:37:56.2±1.5, 5°68'N×125°77'E, h136km±12km, mb4.3/36, mb1 4.4/36, mb1mx4.4/40, mbtmp4.7/36, MS3.4/5, Ms1 3.5/5, ms1mx3.0/47, Error ellipse: s-maj=13.1km s-min=6.2km az=71.0*

ISC 08 11:37:54.3±0.4, 5°66'N±0.03×125°89'E±0.04, h120km±2km, n331, σ1§40/364, mb4.7/106, 19C-24D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.03**	**295↓**	*i*P	**Pn**	**11 38 14.5**	**-2.2**
GSPH				*i* S	**Sn**	**11 38 29.6**	**-4.1**
MATI	**Mati**	**1.33**	**16**	*e*P	**Pn**	**11 38 18.4**	**-1.4**
MATI				*e*S	**Sn**	**11 38 34.4**	**-4.8**
DAV	**Davao City (W)**	**1.44**	**348**	P	**Pn**	**11 38 20.1**	**-0.9**
DAV				S	**Sn**	**11 38 36.1**	**-5.3**
DAV	**Davao City (W)**	**1.44**	**348**	*e*Pn	**Pn**	**11 38 20.4**	**-0.6**
DAV				*e*Sn	**Sn**	**11 38 39.2**	**-2.2**
DMPH	**Davao City--Mi**	**1.47**	**345↓**	*i*P	**Pn**	**11 38 20.7**	**-0.7**
DMPH				*i* S	**Sn**	**11 38 40.6**	**-1.4**
KCP	**Kidapawan**	**1.56**	**330↑**	*e*P	**Pn**	**11 38 24.5**	**+2.0**
KCP				*i* S	**Sn**	**11 38 45.6**	**+1.7**
SGSI	**Sangihe**	**1.99**	**190**	P	Pn	11 38 28.8	+1.1
SGSI				S	Sn	11 38 55.8	+2.6
CTBH	**Cotabato--PC H**	**2.25**	**314↓**	*i*P	**Pn**	**11 38 30.2**	**-0.8**
CTBH				*i* S	**Sn**	**11 38 57.9**	**-1.1**
BUKP	**Musuan**	**2.35**	**340**	*e*P	**Pn**	**11 38 32.6**	**+0.3**
BIPH	**Bislig**	**2.56**	**11↑**	*e*P	**Pn**	**11 38 35.4**	**+0.5**
BIPH				*i* S	**Sn**	**11 39 08.3**	**+2.3**
CGP	**Cagayan de Oro**	**3.02**	**337**	*e*P	**Pn**	**11 38 40.9**	**-0.1**
CGP				*i* S	**Sn**	**11 39 18.9**	**+2.1**
BUTP	**Butuan**	**3.30**	**355**	*e*P	**Pn**	**11 38 45.4**	**+0.8**
SCPH	**Surigao**	**4.12**	**355**	*e*P	**Pn**	**11 38 55.0**	**-0.5**
MSLP	**Maasin**	**4.56**	**347**	*e*P	**Pn**	**11 39 01.2**	**-0.2**
TNTI	**Ternate**	**5.07**	**163**	P	Pn	11 39 08.0	-0.3
	647nm,0.6s,12μm3.2nm						
TNTI	**Ternate**	**5.07**	**163**	*e*Pn	Pn	11 39 08.1	-0.2
KMSI	**Cibinong**	**5.39**	**201**	P	Pn	11 39 14.8	+2.2
	914nm,0.8s,11μm4.3nm						
OCLP	**Ormoc**	**5.51**	**347**	*e*P	**Pn**	**11 39 14.7**	**+0.5**
GTOI	**Gorontalo**	**5.75**	**210**	P	Pn	11 39 18.7	+1.2
	2μm,0.6s,30μm9.9nm						
GUIM	**Jordan**	**5.92**	**327**	*e*P	**Pn**	**11 39 20.4**	**+0.7**
MRSI	**Marisa**	**6.48**	**218**	P	Pn	11 39 29.4	+2.1
	866nm,0.8s,8μm3.3nm						
MRSI				S	**Sn**	**11 40 40.1**	**+0.2**
	866nm,0.8s,8μm3.3nm						
TOLI	**Toli-Toli**	**6.79**	**229**	P	Pn	11 39 32.5	+1.0
	689nm,0.5s,17μm3.8nm						
LUWI	**Luwuk**	**7.34**	**205**	P	Pn	11 39 43.0	+4.0
	385nm,0.8s,5μm2.2nm						
MYLDM	**Lahad Datu**	**7.37**	**267**	P	Pn	11 39 42.6	+3.3
MYLDM	**Lahad Datu**	**7.37**	**267**	*e*Pn	Pn	11 39 42.1	+2.8
TSM	**Tawau**	**8.10**	**261**	P	Pn	11 39 53.4	+4.3
SDKM	**Sandakan**	**8.65**	**270**	P	Pn	11 39 60.0	+3.3
NLAI	**Namlea**	**8.92**	**172**	P	**Pn**	**11 39 58.9**	**-1.4**
	220nm,0.7s,9μm						
KKM	**Kota Kinabalu**	**9.63**	**273**	P	Pn	11 40 13.7	+3.7
	53nm,0.9s,638nm						
KKM	**Kota Kinabalu**	**9.63**	**273**	*e*Pn	Pn	11 40 12.4	+2.5
KKM				*e*Sn	**Sn**	**11 41 57.1**	**+0.7**
FAKI	**Fak Fak**	**10.63**	**143**	P	**Pn**	**11 40 23.2**	**-0.2**
	96nm,1.3s						
FAKI	**Fak Fak**	**10.63**	**143**	⇑P	**Pn**	**11 40 23.2**	**-0.2**
	baz=11						
MMSI	**Mamuju**	**10.83**	**220**	P	Pn	11 40 29.3	+3.2
	41nm,0.6s,442nm						
BKB	**Balikpapan**	**11.30**	**233**	P	P	11 40 35.7	-5.9
	122nm,0.8s						
SPSI	**Sidrap Palu**	**11.34**	**213**	P	P	11 40 35.9	-6.1
	36nm,0.7s						
BNSI	**Bone**	**11.54**	**210**	P	P	11 40 39.4	-4.7
	93nm,1.0s,827nm						
KAPI	**Kappang**	**12.24**	**210**	P	P	11 40 46.7	-5.4
	229nm,1.5s,2μm						
KAPI	**Kappang**	**12.24**	**210**	*e*Pn	P	11 40 46.9	-5.2
KAPI				*e*Sn	Sn	11 43 02.7	+3.1
BAKI	**Biak**	**12.27**	**123**	P	P	11 40 54.4	+2.0
TLE	**Tual**	**13.14**	**149**	P	**Pn**	**11 40 56.3**	**-0.2**
	48nm,1.2s						
SBUM	**Sibu**	**14.00**	**257**	P	**P**	**11 41 12.4**	**+0.8**
SBUM	**Sibu**	**14.00**	**257**	P	**P**	**11 41 12.3**	**+0.7**
	117nm,0.9s,958nm						
SBUM	**Sibu**	**14.00**	**257**	*e*Pn	**P**	**11 41 11.8**	**+0.2**
MMRI	**Maumere**	**14.66**	**194**	P	P	11 41 25.8	+6.9
LBFI	**Labuhan Bajo,**	**15.26**	**203**	P	P	11 41 31.4	+5.7
KSM	**Kuching**	**16.09**	**256**	P	P	11 41 39.0	+4.1
KSM	**Kuching**	**16.09**	**256**	P	P	11 41 37.8	+2.9
	44nm,1.2s						
KSM	**Kuching**	**16.09**	**256**	*e*Pn	P	11 41 38.5	+3.6
	34nm,0.9s						
GENI	**Genyem**	**16.45**	**120**	P	P	11 41 44.0	+5.2
GMJI	**Gumukmas**	**18.59**	**222**	P	**Pn**	**11 42 05.5**	**+1.5**
MTN	**Manton Dam**	**19.10**	**164**	⇓P	**Pn**	**11 42 09.2**	**-0.8**
	baz=19,SNR=64						
KDU	**Kakadu**	**19.36**	**160**	P	**Pn**	**11 42 11.8**	**-1.3**
	baz=19,SNR=53						
QIZ	**Qiongzhong**	**20.52**	**312**	P	Pn	11 42 24.8	-1.8
QIZ				sP	sP	11 43 00.2	-0.2
QIZ				S	**S**	**11 46 10.3**	**+3.9**
QIZ				pmax	pmax		
	comp=Z,12nm,1.0s						
JOW	**Kunigami**	**21.18**	**6**	*e*P	**P**	**11 42 31.7**	**+1.4**
	25nm,1.1s						
KNRA	**Kununurra**	**21.39**	**172**	⇑P	**P**	**11 42 33.5**	**+1.0**
	baz=22,SNR=136						
UBPT	**Khong Chiam**	**22.21**	**297**	P	**P**	**11 42 43.3**	**+2.0**
	26nm,1.1s						
MYKOM	**Kota Tinggi**	**22.32**	**261**	*e*P	**P**	**11 42 44.9**	**+2.6**
	24nm,0.7s						
BTDF	**Bukit Timah Da**	**22.48**	**260**	⇑P	**P**	**11 42 44.6**	**+0.7**
	baz=22,SNR=4.8						
BTDF				⇑P	**P**	**11 42 44.6**	**+0.7**
	baz=22,SNR=4.8						
KTGM	**Kuala Trenggan**	**22.65**	**270**	P	**P**	**11 42 48.2**	**+2.5**
KGM	**Kluang**	**22.80**	**262**	P	**P**	**11 42 49.5**	**+2.3**
FITZ	**Fitzroy Crossi**	**23.61**	**181**	*e*P	**P**	**11 42 55.4**	**+0.8**
	45nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.61**	**181**	P	**P**	**11 42 55.3**	**+0.8**
	40nm,0.5s,baz=360,slow=7.9						
FITZ	**Fitzroy Crossi**	**23.61**	**181**	⇓P	**P**	**11 42 55.2**	**+0.7**
	baz=24,SNR=148						
CHBT	**CHBT**	**24.28**	**289**	P	**P**	**11 43 02.1**	**+1.4**
	21nm,1.5s						
FRIM	**Kepong**	**24.30**	**265**	P	**P**	**11 43 02.7**	**+1.7**
IPM	**Ipoh**	**24.79**	**268**	P	**P**	**11 43 06.6**	**+1.2**
IPM	**Ipoh**	**24.79**	**268**	*e*P	**P**	**11 43 06.8**	**+1.5**
	25nm,0.8s						
KULM	**Kulim**	**25.12**	**270**	*e*P	**P**	**11 43 09.9**	**+1.5**
CHAI	**Chaiyaphum**	**25.56**	**295**	P	**P**	**11 43 14.6**	**+2.3**
	5.5nm,0.9s						
PMG	**Port Moresby**	**25.95**	**125**	*e*P	**P**	**11 43 16.3**	**+0.5**
PMG	**Port Moresby**	**25.95**	**125**	P	**P**	**11 43 15.4**	**-0.5**
	32nm,0.8s,baz=323,slow=5.0,SNR=14						
PMG	**Port Moresby**	**25.95**	**125**	⇓P	**P**	**11 43 16.4**	**+0.6**
	baz=26,SNR=6.4						
PMG				⇓P	**P**	**11 43 16.4**	**+0.6**
	baz=26,SNR=6.4						
PMG				⇓P	**P**	**11 43 16.4**	**+0.6**
	baz=26,SNR=6.4						
COEN	**Coen**	**25.96**	**139**	*e*P	**P**	**11 43 17.0**	**+1.0**
	341nm,1.1s						
COEN	**Coen**	**25.96**	**139**	⇓P	**P**	**11 43 16.4**	**+0.5**
	baz=26,SNR=62						
PPI	**Padang Panjang**	**26.16**	**257**	⇓P	**P**	**11 43 19.8**	**+1.9**
	baz=26,SNR=4.3						
PBKT	**Sadao Pong**	**26.71**	**296**	P	**P**	**11 43 25.6**	**+3.0**
	13nm,0.8s,866nm						
WRAB	**Tennant Creek**	**26.76**	**162**	*c i*P	**P**	**11 43 23.3**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s						
WRA	**Tennant Creek**	**26.76**	**162**	*e*P	**P**	**11 43 23.2**	**+0.2**
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**26.76**	**162**	P	**P**	**11 43 23.0**	**-0.1**
WRA				S	**S**	**11 47 48.1**	**-2.3**
W

ASAR S **S** **11 48 45.4 +1.4**
comp=Z,2.9nm,1.0s,baz=355,slow=22,SNR=8.3
ASAR ScP **ScP** **11 50 22.0 -1.3**
comp=Z,1.8nm,0.8s,baz=350,slow=3.4,SNR=7.7
GIRL Giralia 30.35 202 ⇑P P 11 43 57.1 +2.2
baz=30,SNR=4.0
KSAR Wonju Array Be 31.69 3 P **P** **11 44 08.0 +1.4**
KSAR PcP **PcP** **11 46 55.6 +0.1**
KSRS Korea Array 31.70 3 P **P** **11 44 08.0 +1.3**
comp=Z,7.1nm,0.8s,baz=190,slow=10,SNR=24
KSRS PcP **PcP** **11 46 55.6 0.0**
comp=Z,0.7nm,0.5s,baz=152,slow=1.3,SNR=4.3
XAN Xi'an 32.33 333 P **P** **11 44 11.1 -1.1**
XAN pP **pP** **11 44 37.8 -0.7**
XAN sP **sP** **11 44 51.1 -1.2**
XAN pmax pmax
comp=Z,3.0nm,0.6s
CTA Charters Tower 32.49 142 P **P** **11 44 15.1 +1.3**
CTA Charters Tower 32.49 142 P **P** **11 44 15.1 +1.3**
comp=Z,10.0nm,0.8s,baz=312,slow=10,SNR=5.0
CTAO Charters Tower 32.49 142 *e*P **P** **11 44 14.9 +1.2**
CTAO pmax pmax
comp=Z,12nm,0.8s
CTAO Charters Tower 32.49 142 *e*P **P** **11 44 14.9 +1.2**
comp=Z,12nm,0.8s
CD2 Chengdu 32.60 323 *e*P **P** **11 44 15.8 +1.1**
CD2 sP sP 11 44 56.3 +1.5
CD2 PP **PP** **11 45 29.3 -1.5**
CD2 S **S** **11 49 22.1 +0.3**
CD2 sS **sS** **11 50 08.3 +0.6**
CD2 SS **SnSn** **11 51 27.9 -2.2**
CD2 pmax pmax
comp=Z,10.0nm,1.1s
CD2 pmax pmax
comp=Z,40nm,5.2s
MAJO Matsushiro 32.75 19⇓ *e*P **P** **11 44 15.9 +0.1**
MAJO pmax pmax
comp=Z,104nm,1.5s
MAJO Matsushiro 32.75 19 *e*P **P** **11 44 15.7 -0.2**
comp=Z,9.2nm,1.0s
MAT Matsushiro 32.75 19 P **P** **11 44 15.2 -0.6**
MJAR Matsushiro Arr 32.75 19 P **P** **11 44 14.8 -1.0**
MJAR Matsushiro Arr 32.75 19 P **P** **11 44 14.8 -1.0**
comp=Z,5.4nm,0.9s,baz=195,slow=9.8,SNR=11
MJAR LR LR 11 57 18.5
comp=Z,15nm,28.6s,baz=220,slow=36
MEEK Meekatharra 32.87 192 P **P** **11 44 17.5 +0.6**
baz=33,SNR=20
BJI Beijing 35.33 347 P **P** **11 44 38.3 +0.3**
BJI pmax pmax
comp=Z,14nm,0.6s
MORW Morawa 35.80 195 P **P** **11 44 43.0 +0.8**
baz=36,SNR=6.4
SNY Shenyang 36.08 357 ⇓P **P** **11 44 45.5 +1.1**
SNY pmax pmax
comp=Z,34nm,0.8s
FORT Forrest 36.29 177 *e*P **P** **11 44 47.4 +1.1**
comp=Z,37nm,0.6s
FORT Forrest 36.29 177 ⇑P **P** **11 44 47.5 +1.2**
baz=36,SNR=42
LZH Lanzhou 36.43 329 *e*P **P** **11 44 49.1 +1.4**
LZH pP **pP** **11 45 14.5 +0.1**
LZH sP sP 11 45 30.0 +1.9
LZH PP **PnPn** **11 46 17.2 +3.0**
LZH *e*S **S** **11 50 21.0 +0.3**
LZH sS **sS** **11 51 08.5 +1.5**
LZH pmax pmax
comp=Z,41nm,1.2s
LZH pmax pmax
comp=Z,210nm,5.9s
QLP Quilpie 36.65 152 ⇓P **P** **11 44 50.3 +0.8**
baz=37,SNR=6.8
KMBL Kambalda 37.01 186 ⇑P **P** **11 44 53.5 +1.0**
baz=37,SNR=9.9
HNR Honiara 37.11 114 LR LR 12 01 27.5
comp=Z,16nm,28.6s,baz=305,slow=38
BLDU Ballidu 37.12 193 ⇑P **P** **11 44 54.0 +0.6**
baz=37,SNR=27
HHC Hu-ho-hao-te 37.32 342 *e*P **P** **11 44 55.8 +0.7**
HHC pP pP 11 45 24.4 +2.6
HHC sP sP 11 45 39.0 +3.4
HHC PP **PnPn** **11 46 28.1 +3.4**
HHC S **S** **11 50 34.6 +0.6**
HHC sS sS 11 51 23.5 +3.1
HHC SS **SS** **11 53 14.6 -7.8**
HHC ScS **ScS** **11 54 54.3 -2.2**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,140nm,4.9s
HHC LR LR
comp=Z,250nm,14.9s
HHC LR LR
comp=Z,380nm,14.9s
HHC LR LR
comp=Z,240nm,15.6s
KLBR Kellerberrin 37.84 191 ⇑P **P** **11 45 00.5 +1.0**
baz=38,SNR=42
CN2 Changchun 37.99 359 *e*P **P** **11 45 00.8 +0.2**
CN2 PcP **PcP** **11 47 14.7 +0.9**
CN2 *e*S **S** **11 50 44.5 +0.7**
CN2 *e*SS SS 11 53 27.6 -8.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
SHL Shillong 38.08 305 *e*P **P** **11 45 02.5 +0.7**
USRK Ussuriysk Arra 38.76 7 P **P** **11 45 07.3 +0.3**
comp=Z,3.4nm,0.6s,baz=196,slow=7.9,SNR=9.5
MDJ Mudanjiang 38.94 4 P **P** **11 45 09.5 +1.0**
MDJ pmax pmax
comp=Z,21nm,0.8s
MDJ pmax pmax
comp=Z,67nm,4.0s
MDJ Mudanjiang 38.94 4 *e*P **P** **11 45 09.2 +0.7**
comp=Z,14nm,1.0s
NWAO Narrogin (SRO) 39.24 192 P **P** **11 45 12.0 +0.8**
NWAO Narrogin (SRO) 39.24 192 P **P** **11 45 12.0 +0.8**
comp=Z,28nm,0.5s,baz=22,slow=8.0,SNR=44
EIDS Eidsvold 39.38 143 *e*P **P** **11 45 13.3 +0.8**
comp=Z,10nm,0.8s
EIDS Eidsvold 39.38 143 ⇑P **P** **11 45 13.2 +0.8**
baz=40,SNR=4.2
BBOO Buckleboo 39.46 166 *e*P P 11 45 14.5 +1.6
comp=Z,935nm,1.3s
BBOO Buckleboo 39.46 166 ⇓P P 11 45 14.3 +1.3
baz=40,SNR=138
STKA Stephens Creek 40.22 159 *e*P P 11 45 20.8 +1.5
STKA S **S** **11 51 17.6 +0.2**
STKA Stephens Creek 40.22 159 P **P** **11 45 20.5 +1.3**
comp=Z,40nm,0.7s,baz=334,slow=8.1,SNR=105
STKA S **S** **11 51 17.6 +0.2**
comp=Z,4.9nm,1.0s,baz=127,slow=19,SNR=6.2
STKA Stephens Creek 40.22 159 ⇓P P 11 45 20.7 +1.5
baz=40,SNR=80
LSA Lhasa 40.55 310 *e*P **P** **11 45 25.0 +2.3**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 40.55 310 *e*P **P** **11 45 24.9 +2.3**
comp=Z,5.4nm,0.6s
HTT Hallett 40.79 163 ⇓P P 11 45 25.9 +1.8
baz=41,SNR=14
RKGY Rocky Gully 40.92 191 P P 11 45 27.4 +2.4
baz=41,SNR=24
ASAJ Asahikawa 41.02 18 P **P** **11 45 26.6 +0.9**
ASAJ Asahikawa 41.02 18 P **P** **11 45 26.6 +0.9**
comp=Z,16nm,0.8s,baz=239,slow=17,SNR=11
GTA Gaotai 41.02 329 *e*P **P** **11 45 26.4 +0.4**
GTA pP **pP** **11 45 53.3 +0.2**
GTA sP **sP** **11 46 07.2 +0.5**
GTA PcP **PcP** **11 47 25.0 +1.2**
GTA S **S** **11 51 30.1 +0.5**
GTA sS **sS** **11 52 16.6 0.0**
GTA SS **SS** **11 54 33.2 -3.4**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,4.3s
GTA LR LR
comp=Z,120nm,16.4s
GTA LR LR
comp=Z,120nm,17.6s
GTA LR LR
comp=Z,120nm,17.1s
TAPN Taplejung 42.22 305 *e*P **P** **11 45 36.9 +0.8**
comp=Z,20nm,0.7s

TAPN Taplejung 42.22 305 *e*P **P** **11 45 36.9 +0.8**
H11N1 WAKE ISLAND Hy 42.24 67 T T 12 30 34.3
baz=254,slow=75,SNR=2.3
H11N2 WAKE ISLAND Hy 42.25 67 T T 12 30 35.1
baz=254,slow=75,SNR=2.4
H11N3 WAKE ISLAND Hy 42.26 67 T T 12 30 37.2
baz=254,SNR=3.5
ODAN Odare 42.28 304 *e*P **P** **11 45 37.2 +0.6**
comp=Z,38nm,0.6s
ODAN Odare 42.28 304 *e*P **P** **11 45 37.2 +0.6**
RAMN Ramite 42.97 304 *e*P **P** **11 45 42.6 +0.5**
comp=Z,33nm,0.6s
RAMN Ramite 42.97 304 *e*P **P** **11 45 42.6 +0.5**
HABR Khabarovsk 43.37 9 *e*P **P** **11 45 43.7 -1.0**
HABR *e* 11 47 29.0
HABR *e*PPP PPP 11 48 06.3
HABR *e*S **S** **11 52 01.1 -2.4**
HABR *e*SS **SS** **11 55 21.7 -0.4**
HABR pmax pmax
comp=Z,21nm,2.0s
HABR MLR MLR
comp=Z,100nm,20.0s
JIRN Jiri 43.58 305 *e*P **P** **11 45 47.9 +0.7**
comp=Z,41nm,0.6s
JIRN Jiri 43.58 305 *e*P **P** **11 45 47.9 +0.7**
YSS Yuzh-Sakhalins 43.64 17 *i*P **P** **11 45 47.5 +0.7**
YSS pmax pmax
comp=Z,35nm,1.6s
GUN Gumba 43.93 305 *e*P **P** **11 45 50.1 +0.1**
comp=Z,49nm,0.7s
GUN Gumba 43.93 305 *e*P **P** **11 45 50.1 +0.1**
PKI Pulchoki 44.19 304 *e*P **P** **11 45 52.3 +0.3**
comp=Z,14nm,0.7s
PKI Pulchoki 44.19 304 *e*P **P** **11 45 52.3 +0.3**
PKI Pulchoki 44.19 304 *e*P **P** **11 45 52.3 +0.3**
KKN Kakani 44.37 304 *e*P **P** **11 45 53.7 +0.4**
KKN Kakani 44.37 304 *e*P **P** **11 45 53.7 +0.4**
KKN Kakani 44.37 304 *e*P **P** **11 45 53.7 +0.4**
DMN Daman 44.45 304 *e*P **P** **11 45 54.3 +0.3**
DMN Daman 44.45 304 *e*P **P** **11 45 54.3 +0.3**
ARPS Mount Arapiles 44.77 162 ⇓P P 11 45 57.8 +1.8
baz=45,SNR=45
GKN Gorkha 44.98 304 *e*P **P** **11 45 58.4 +0.3**
comp=Z,9.9nm,0.4s
ULN Ulnbaatar 45.04 342 *e*P **P** **11 45 58.1 -0.1**
comp=Z,4.9nm,1.1s
YNG Young 45.07 153 ⇑P P 11 46 00.7 +2.2
baz=45,SNR=7.6
SONM Songino Array 45.22 342 P **P** **11 45 58.9 -0.6**
SONM PcP **PcP** **11 47 38.3 +0.6**
SONM Songino Array 45.22 342 P **P** **11 45 58.9 -0.6**
comp=Z,1.2nm,0.7s,baz=155,slow=8.4,SNR=8.3
SONM PcP **PcP** **11 47 38.3 +0.6**
comp=Z,6.6nm,0.7s,baz=159,slow=3.2,SNR=16
KOLN Koldanda 45.75 304 *e*P **P** **11 46 04.9 +0.7**
comp=Z,53nm,0.8s
KOLN Koldanda 45.75 304 *e*P **P** **11 46 04.9 +0.7**
DANN Dangsing 45.83 304 *e*P **P** **11 46 05.3 +0.4**
comp=Z,35nm,0.6s
DANN Dangsing 45.83 304 *e*P **P** **11 46 05.3 +0.4**
PYUN Piuthan 46.37 304 *e*P **P** **11 46 09.0 -0.1**
comp=Z,122nm,0.9s
PYUN Piuthan 46.37 304 *e*P **P** **11 46 09.0 -0.1**
TOO Toolangi 46.73 159 ⇓P P 11 46 14.2 +2.8
baz=47,SNR=11
HYB Hyderabad 47.70 288 *i*P **P** **11 46 19.0 -0.3**
DZM Mont Dzumac 48.34 126 P **P** **11 46 25.7 +1.5**
DZM Mont Dzumac 48.34 126 P **P** **11 46 25.7 +1.5**
comp=Z,23nm,0.5s,baz=90,slow=24,SNR=37
WMQ Urumqi 50.67 325 P **P** **11 46 42.6 +1.0**
WMQ pmax pmax
comp=Z,11nm,1.0s
CLNS Chul'man 51.05 359 *e*P **P** **11 46 44.9 +0.8**
CLNS pmax pmax
comp=Z,38nm,0.8s
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.9s
PETK Petropavlovsk- 53.99 23 P **P** **11 47 07.2 +1.3**
PETK pmax pmax
comp=Z,10.0nm,0.6s
PETK Petropavlovsk- 53.99 23 P **P** **11 47 07.2 +1.3**
PETK Petropavlovsk- 53.99 23 P **P** **11 47 07.2 +1.3**
comp=Z,10.0nm,0.6s,baz=193,slow=3.2,SNR=43
PET Petropavlovsk 54.30 24 *e*P **P** **11 47 09.2 +1.1**
PET pmax pmax
comp=Z,23nm,1.2s
MK31 Makanchi Array 55.51 325 *e*P **P** **11 47 16.2 -0.7**
MK31 pmax pmax
comp=Z,11nm,0.7s
MK31 Makanchi Array 55.51 325 *e*P **P** **11 47 16.6 -0.4**
MKAR Makanchi Array 55.51 325 P **P** **11 47 16.4 -0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR pmax pmax
comp=N,1.0nm,0.6s
MKAR Makanchi Array 55.51 325 P **P** **11 47 16.4 -0.6**
MKAR ScP **ScP** **11 52 00.7 -2.8**
MKAR Makanchi Array 55.51 325 P **P** **11 47 16.4 -0.6**
comp=N,8.8nm,0.6s,baz=118,slow=7.7,SNR=104
MKAR ScP **ScP** **11 52 00.7 -2.8**
comp=N,0.9nm,0.6s,baz=116,slow=4.7,SNR=4.9
KSH Kashi 56.10 315 P **P** **11 47 22.0 +0.6**
KSH pP pP 11 47 52.1 +2.1
KSH sP sP 11 48 06.1 +2.8
KSH PcP **PcP** **11 48 18.1 0.0**
KSH PP **PP** **11 49 30.1 +2.4**
KSH S S 11 54 55.6 -5.7
KSH sS sS 11 55 52.1 +1.6
KSH ScS **ScS** **11 56 57.1 -2.2**
KSH SS **SS** **11 58 51.1 +1.7**
KSH pmax pmax
comp=N,5.0nm,0.6s
KSH pmax pmax
comp=N,58nm,4.7s
KSH LR LR
comp=N,160nm,6.2s
KSH LR LR
comp=N,200nm,5.6s
KSH LR LR
comp=N,260nm,6.2s
YAK Yakutsk 56.32 2 *i*P **P** **11 47 22.3 -0.1**
YAK pmax pmax
comp=Z,71nm,0.8s
YAK Yakutsk 56.32 2 *e*P **P** **11 47 23.4 +1.0**
comp=Z,57nm,0.7s
KZA Kyzart 57.64 317 *i*P **P** **11 47 32.8 +0.2**
KZA Kyzart 57.64 317 P **P** **11 47 32.8 +0.2**
SNR=5.2
TKM2 Tokmak 2 57.76 318 *e*P **P** **11 47 32.8 -0.4**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 57.76 318 P **P** **11 47 32.9 -0.3**
SNR=8.3
TKM2 Tokmak 2 57.76 318 *e*P **P** **11 47 32.8 -0.4**
comp=Z,4.5nm,0.8s
UCH Uchtor 58.20 317 *i*P **P** **11 47 36.8 +0.3**
UCH Uchtor 58.20 317 P **P** **11 47 36.9 +0.3**
SNR=12
AAK Ala-Archa 58.38 317 P **P** **11 47 36.5 -0.9**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 58.38 317 *e*P **P** **11 47 37.6 +0.1**
AAK Ala-Archa 58.38 317 P **P** **11 47 36.5 -0.9**
comp=Z,1.8nm,0.6s,baz=151,slow=9.7,SNR=7.9
ZAA0 Zalesovo Array 58.50 333 *e*P **P** **11 47 36.3 -1.5**
ZALV Zalesovo Beam 58.50 333 P **P** **11 47 36.6 -1.3**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 58.50 333 P **P** **11 47 36.5 -1.3**
ZALV Zalesovo Beam 58.50 333 P **P** **11 47 36.5 -1.3**
comp=Z,3.5nm,0.6s,baz=133,slow=6.8,SNR=16
USP Ospenovka 58.63 318 *i*P **P** **11 47 38.7 -0.3**
USP Ospenovka 58.63 318 P **P** **11 47 38.8 -0.3**
SNR=8.9
EKS2 Erkin-Say 58.87 317 *e*P **P** **11 47 41.2 +0.4**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 58.87 317 P **P** **11 47 41.3 +0.4**
SNR=9.3
EKS2 Erkin-Say 58.87 317 *e*P **P** **11 47 41.2 +0.4**
comp=Z,6.5nm,0.8s
KURBB Kurchatov Arra 59.67 327 P **P** **11 47 45.1 -0.9**
comp=Z,8.1nm,0.6s,baz=124,slow=6.5,SNR=96

KURK Kurchatov 59.67 327 P **P** **11 47 45.2 -0.8**
KURK pmax pmax
comp=Z,8.0nm,0.6s
KURK Kurchatov 59.67 327 P **P** **11 47 45.1 -0.8**
KBL Kabul 59.70 307 *e*P **P** **11 47 46.6 -0.2**
KBL pmax pmax
comp=Z,13nm,0.7s
KBL Kabul 59.70 307 *e*P **P** **11 47 46.6 -0.2**
comp=Z,13nm,0.7s
NVS Novosibirsk 59.78 333 *i*P **P** **11 47 44.7 -2.0**
KK31 Karatay Array 61.26 317 *i*P **P** **11 47 56.4 -0.6**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 61.26 317 *e*P **P** **11 47 56.6 -0.4**
KKAR Karatay Array 61.26 317 *e*P **P** **11 47 56.6 -0.4**
RPZ Rata Peaks 63.81 145 P **P** **11 48 14.8 +0.9**
RPZ Rata Peaks 63.81 145 P **P** **11 48 14.8 +0.9**
comp=Z,5.5nm,0.6s,baz=245,slow=14,SNR=4.5
BKZ Black Stump Fm 64.57 138 *e*P **P** **11 48 19.1 +0.1**
comp=Z,120nm,2.1s
BVA0 Borovoye Array 65.26 327 P **P** **11 48 21.9 -1.2**
BVA0 pmax pmax
comp=Z,11nm,1.2s
BVAR Borovoye Array 65.26 327 P **P** **11 48 22.4 -0.7**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 65.26 327 P **P** **11 48 22.4 -0.7**
BVAR Borovoye Array 65.26 327 P **P** **11 48 22.4 -0.7**
comp=Z,2.8nm,0.5s,baz=129,slow=8.2,SNR=22
BRVK Borovoye 65.33 327 *e*P **P** **11 48 22.6 -1.0**
BRVK pmax pmax
comp=Z,14nm,1.1s
BRVK Borovoye 65.33 327 *e*P **P** **11 48 22.6 -1.0**
comp=Z,14nm,1.1s
TIXI Tiksi 65.94 1⇓ *i*P **P** **11 48 27.2 +0.1**
TIXI pmax pmax
comp=Z,24nm,0.9s
TIXI Tiksi 65.94 1 *e*P **P** **11 48 27.3 +0.1**
comp=Z,17nm,0.7s
IMYA Miami 67.21 307 *e*P **P** **11 48 35.5 -0.7**
IPAY Payeh 68.11 307 *e*P **P** **11 48 41.9 0.0**
IKRD Kardeh 68.54 307 *e*P P 11 48 39.7 -4.9
ISFR Sfrayin 68.99 307 *e*P **P** **11 48 46.8 -0.6**
AB31 Akbulak array 70.14 320 P **P** **11 48 52.7 -1.1**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 70.14 320 *e*P **P** **11 48 52.6 -1.2**
comp=Z,4.7nm,0.6s
AKTO Aktyubinsk 71.64 321 P **P** **11 49 02.1 -0.8**
AKTO pmax pmax
comp=Z,7.0nm,0.6s
AKTO Aktyubinsk 71.64 321 P **P** **11 49 02.1 -0.8**
AKTO Aktyubinsk 71.64 321 P **P** **11 49 02.1 -0.8**
comp=Z,6.8nm,0.6s,baz=97,slow=9.2,SNR=29
SVE Sverdlovsk 71.89 328 *e*P **P** **11 49 03.3 -1.0**
SVE pmax pmax
comp=Z,17nm,0.9s
CASY Casey 72.62 186 *e*P **P** **11 49 09.8 +1.4**
comp=Z,12nm,0.7s
ARU Arti 72.87 328 *c i*P **P** **11 49 08.4 -1.7**
ARU 11 51 49.3
ARU S **S** **11 58 24.1 -2.5**
ARU pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 72.87 328 *e*P **P** **11 49 08.7 -1.4**
comp=Z,11nm,0.8s
ZEI Tsey 80.30 312 *e*P **P** **11 49 52.1 -0.4**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
RSO Redoubt South 80.84 30 *e*P **P** **11 49 56.1 +1.1**
comp=Z,18nm,0.7s
BPAW Bear Paw Mtn. 81.94 26 *e*P **P** **11 50 02.1 +1.6**
comp=Z,24nm,1.2s
RC01 Rabbit Creek A 82.36 29 *e*P **P** **11 50 03.3 +0.6**
comp=Z,12nm,0.9s
COLD Coldfoot 82.46 23 *e*P **P** **11 50 05.2 +2.0**
comp=Z,4.3nm,0.5s
PMR Palmer 82.67 29 *e*P **P** **11 50 05.2 +1.0**
PMR pmax pmax
comp=Z,17nm,1.2s
PMR Palmer 82.67 29 *e*P **P** **11 50 05.2 +1.0**
comp=Z,17nm,1.2s
COLA College 83.33 25 *i*P **P** **11 50 08.5 +0.9**
COLA pmax pmax
comp=Z,38nm,1.4s
KLMR Klimovskoe 83.33 331 *e*P **P** **11 50 05.9 -1.8**
KLMR pmax pmax
comp=Z,41nm,1.4s
VORD Divnogorie 83.50 321 *e*P **P** **11 50 07.0 -1.8**
VORD pmax pmax
comp=N,6.0nm,0.7s
VORD pmax pmax
comp=E,8.0nm,0.7s
VORD pmax pmax
comp=Z,9.0nm,0.7s
VSR Storozhevoye 83.57 321 *e*P **P** **11 50 07.4 -1.8**
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.4s
ILAR Eielson Array 83.74 26 P **P** **11 50 09.6 -0.1**
ILAR Eielson Array 83.74 26 P **P** **11 50 09.6 -0.1**
comp=E,2.1nm,0.6s,baz=250,slow=5.2,SNR=56
TMCR Tamitsa 84.01 334 *e*P **P** **11 50 09.0 -2.1**
TMCR *e* 11 53 25.1
TMCR pmax pmax
comp=Z,16nm,0.5s
OBN Obninsk 85.01 325⇓ *i*P **P** **11 50 15.5 -0.8**
OBN pmax pmax
comp=Z,25nm,1.1s
MAW Mawson 85.26 200 P **P** **11 50 17.8 +0.6**
MAW Mawson 85.26 200 P **P** **11 50 17.8 +0.6**
comp=Z,4.0nm,0.7s,baz=58,slow=8.4,SNR=8.9
VNDA Vanda 85.43 173 *e*P **P** **11 50 18.9 +1.0**
VNDA Vanda 85.43 173 P **P** **11 50 18.4 +0.5**
comp=Z,1.9nm,0.6s,baz=314,slow=6.2,SNR=15
ASF Jabal al Asfar 86.17 302 P **P** **11 50 22.4 -0.3**
ASF Jabal al Asfar 86.17 302 P **P** **11 50 22.4 -0.3**
comp=Z,1.1nm,0.3s,baz=104,slow=2.9,SNR=4.2
JOF Joensuu 87.09 333 *e*P **P** **11 50 24.0 -2.4**
JOF pmax pmax
comp=Z,15nm,0.6s
JOF Joensuu 87.09 333 *e*p **P** **11 50 24.0 -2.4**
comp=Z,15nm,0.6s
BRTR Keskin Array B 88.15 310 P **P** **11 50 30.2 -1.9**
BRTR Keskin Array B 88.15 310 P **P** **11 50 30.2 -1.9**
comp=Z,1.5nm,0.8s,baz=129,slow=5.6,SNR=5.9
ARCES ARCESS Array B 88.36 340 P **P** **11 50 31.4 -1.0**
ARCES ARCESS Array B 88.36 340 P **P** **11 50 31.4 -1.0**
comp=Z,5.9nm,0.6s,baz=77,slow=7.2,SNR=37
SPITS Spitsbergen Ar 88.44 349 P **P** **11 50 31.8 -0.8**
SPITS Spitsbergen Ar 88.44 349 P **P** **11 50 31.8 -0.8**
comp=Z,3.8nm,0.5s,baz=84,slow=13,SNR=24
KAF Kangasniemi 89.51 332 *e*P P 11 50 34.9 -2.9
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF Kangasniemi 89.51 332 *e*p P 11 50 34.9 -2.9
comp=Z,7.1nm,0.6s
FIA1 FINESS Array S 89.75 332 *e*P **P** **11 50 37.8 -1.1**
FINES FINESS Array B 89.75 332 P **P** **11 50 37.8 -1.2**
FINES FINESS Array B 89.75 332 P **P** **11 50 37.8 -1.2**
comp=Z,7.6nm,0.6s,baz=50,slow=5.4,SNR=30
AKASG Malin Array Be 89.88 321 *c e*P **P** **11 50 37.7 -2.1**
AKASG Malin Array Be 89.88 321 P **P** **11 50 37.8 -2.1**
AKASG Malin Array Be 89.88 321 P **P** **11 50 37.8 -2.1**
comp=Z,0.3nm,0.3s,baz=74,slow=4.1,SNR=5.7
KIEV Kiev 89.89 321⇓ *e*P **P** **11 50 37.9 -1.9**
BURAR Bucovina Array 93.01 318⇓ *i*P **P** **11 50 53.7 -0.9**
SYO Syowa Base 93.91 201⇑ *i*P **P** **11 50 57.7 -0.3**
SYO Syowa Base 93.91 201⇑ *e*pP pP 11 51 30.2 +1.2
HFS Hagfors 95.93 332 P **P** **11 51 05.5 -2.0**
HFS Hagfors 95.93 332 P **P** **11 51 05.5 -2.0**
comp=Z,2.7nm,0.5s,baz=92,slow=4.7,SNR=12
NB2 NORSAR Subarra 96.70 334 P **P** **11 51 08.9 -2.2**
comp=Z,4.0nm,0.7s,baz=64,slow=4.6
NB2 NORSAR Subarra 96.70 334 P **P** **11 51 08.9 -2.2**
baz=64,slow=4.6
NOA NORSAR Array B 96.70 334 P **P** **11 51 08.8 -2.2**
NOA NORSAR Array B 96.70 334 P **P** **11 51 08.8 -2.2**
comp=Z,3.8nm,0.7s,baz=65,slow=4.6,SNR=15
NOA LR LR 12 41 42.1
comp=Z,30nm,20.6s,baz=355,slow=40
YKA Yellowknife Ar 98.10 24 P Pdif 11 51 17.6 +0.4

YKA					PKiKP	**PKiKP**		**11 55 50.4**	**+0.8**
YKA					PKKPbc	**PKKPbc**		**12 07 49.0**	**-3.1**
YKA	**Yellowknife Ar**	**98.10**	**24**		P	Pdif		11 51 17.6	+0.4
	comp=Z,1.3nm,0.7s,baz=301,slow=4.8,SNR=12								
YKA					PKiKP	**PKiKP**		**11 55 50.3**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=300,slow=1.5,SNR=4.5								
YKA					PKKPbc	**PKKPbc**		**12 07 49.0**	**-3.1**
	comp=Z,0.7nm,0.6s,baz=117,slow=2.8,SNR=10								
NVAR	**Mina Array Bea**	**106.24**	**47**		PKiKP	**PKiKP**		**11 56 06.1**	**+0.7**
NVAR	**Mina Array Bea**	**106.24**	**47**		PKiKP	**PKiKP**		**11 56 06.1**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=296,slow=4.8,SNR=5.7								
PDAR	**Pinedale Array**	**110.45**	**40**		PKiKP	**PKiKP**		**11 56 13.4**	**+0.3**
PDAR					PKKPbc	**PKKPbc**		**12 07 12.4**	**-2.4**
PDAR					PKKPab	**PKKPab**		**12 07 23.6**	**-1.9**
PDAR	**Pinedale Array**	**110.45**	**40**		PKiKP	**PKiKP**		**11 56 13.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=82,slow=1.7,SNR=3.8								
PDAR					PKKPbc	**PKKPbc**		**12 07 12.4**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=116,slow=3.4,SNR=4.0								
PDAR					PKKPab	**PKKPab**		**12 07 23.6**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=110,slow=6.6,SNR=5.4								
ULM	**Lac du Bonnet**	**113.67**	**28**		PKiKP	**PKiKP**		**11 56 18.0**	**-0.7**
ULM	**Lac du Bonnet**	**113.67**	**28**		PKiKP	**PKiKP**		**11 56 18.0**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=111,slow=5.6,SNR=5.8								
TXAR	**Lajitas Array**	**121.07**	**51**		PKP	**PKPdf**		**11 56 34.8**	**+1.1**
TXAR	**Lajitas Array**	**121.07**	**51**		PKP	**PKPdf**		**11 56 34.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=144,slow=1.4,SNR=22								
TORD	**Torodi Ar. Bea**	**121.51**	**289**		PKP	**PKPdf**		**11 56 34.7**	**-0.1**
TORD					PKKPbc	**PKKPab**		**12 06 36.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**121.51**	**289**		PKP	**PKPdf**		**11 56 34.7**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=52,slow=2.0,SNR=26								
TORD					PKKPbc	**PKKPab**		**12 06 36.2**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=287,slow=3.2,SNR=5.8								
JCT	**Junction City**	**123.42**	**48**	*e*PKiKP		**PKPdf**		**11 56 39.3**	**+1.1**
JCT	**Junction City**	**123.42**	**48**	*e*PKPdf		**PKPdf**		**11 56 39.3**	**+1.1**
DBIC	**Dimbokro**	**129.34**	**283**		PKP	**PKPdf**		**11 56 49.9**	**+0.1**
DBIC					SKPbc	SKPab		12 00 00.1	+0.2
DBIC	**Dimbokro**	**129.34**	**283**		PKP	**PKPdf**		**11 56 49.9**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=287,slow=4.0,SNR=5.6								
DBIC					SKPbc	SKPab		12 00 00.1	+0.2
	comp=Z,2.5nm,0.6s,baz=48,slow=3.2,SNR=7.2								
TKL	**Tuckaleechee C**	**130.35**	**32**	*e*PKPdf		**PKPdf**		**11 56 52.9**	**+1.7**
PLCA	**Paso Flores**	**142.09**	**160**	PKP		**PKPdf**		**11 57 10.5**	**-2.3**
PLCA	**Paso Flores**	**142.09**	**160**	PKP		**PKPdf**		**11 57 10.5**	**-2.3**
	comp=Z,1.4nm,0.7s,baz=258,slow=9.7,SNR=5.7								
JTS	**JuntasAbangare**	**145.44**	**63**	*e*PKPdf		**PKPab**		**11 57 21.3**	**+1.4**
TRQA	**Tornquist**	**146.96**	**169**	*e*PKPbc		**PKPab**		**11 57 23.9**	**-1.1**
CFAA	**Coronel Fontan**	**150.99**	**155**	PKPbc		**PKPbc**		**11 57 34.1**	**+0.3**
CFAA	**Coronel Fontan**	**150.99**	**155**	PKPbc		**PKPbc**		**11 57 34.1**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=219,slow=2.6,SNR=22								
LPAZ	**La Paz**	**162.67**	**129**	PKP		**PKPdf**		**11 57 45.4**	**+1.5**
LPAZ				PKPab		**PKPab**		**11 58 34.6**	**+1.7**
LPAZ	**La Paz**	**162.67**	**129**	PKP		**PKPdf**		**11 57 45.4**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=345,slow=1.1,SNR=4.5								
LPAZ				PKPab		**PKPab**		**11 58 34.6**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=220,slow=6.9,SNR=5.6								
SIV	**San Ignacio**	**167.67**	**147**	PKP		**PKPdf**		**11 57 48.3**	**+0.8**
SIV	**San Ignacio**	**167.67**	**147**	PKP		**PKPdf**		**11 57 48.3**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=246,slow=3.6,SNR=5.0								

CSEM ***08*** *11:48:49.8±0.6, 60.36°N×22.24°E, h2km, ML1.5, Error ellipse: s-maj=15.8km s-min=7.8km az=146.0, Mining explosion.*

UPP ***08*** *11:48:49.7, 60.19°N×22.20°E, h0km, ML1.5, Suspected Mining explosion.*

HEL 08 11:48:50.0±0.2, 60.30°N×22.20°E, h0km, ML1.1, ML1.5(UPP)**, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAF	**Rauma**	**0.75**	**344**	*e*P		Pg 11 49 03.1	-1.3
RAF				*e*S		Sg 11 49 13.4	-0.8
RAF	**Rauma**	**0.75**	**344**	Pg		Pg 11 49 03.1	-1.3
RAF				Sg		Sg 11 49 13.3	-0.9
AAL	**Aland**	**1.11**	**264**	*e*P		Pg 11 49 10.1	-1.1
AAL	**Aland**	**1.11**	**264**	P		Pg 11 49 10.1	-1.1
GRAU	**Graesoe**	**1.82**	**273**	*e*P		Pn 11 49 21.9	-0.7
GRAU				*e*S		Sg 11 49 48.1	-0.4
GRAU	**Graesoe**	**1.82**	**273**	P		Pn 11 49 21.9	-0.7
GRAU				S		Sg 11 49 48.1	-0.4
NRTU	**Norrtaelje**	**1.90**	**252**	*e*P		Pn 11 49 23.1	-0.5
NRTU	**Norrtaelje**	**1.90**	**252**	P		Pn 11 49 23.1	-0.5
FLYU	**Flymyra**	**2.16**	**267**	*e*P		Pn 11 49 27.6	+0.4
FLYU				*e*S		Sb 11 49 57.2	-0.1
FLYU	**Flymyra**	**2.16**	**267**	P		Pn 11 49 27.6	+0.4
FIA0	**FINESS Array S** baz=246	**2.21**	**57**	*e*P		Pn 11 49 27.7	-0.2
FIA0				*e*SG		Sb 11 49 58.1	-0.7
FIA0				MSG		11 49 58.1	
	comp=Z,0.7nm,0.1s						
FIA0	**FINESS Array S**	**2.21**	**57**	Pn		Pn 11 49 27.7	-0.2
FIA0				Sg		Sb 11 49 58.1	-0.7
KEF	**Keuruu**	**2.27**	**33**	*e*SG		Sb 11 50 00.1	-0.4
KEF				MSG		11 50 00.1	
	comp=Z,0.4nm,0.1s						
KEF	**Keuruu**	**2.27**	**33**	Sg		Sb 11 50 00.1	-0.4
OSTU	**Oestervaala**	**2.53**	**271**	*e*P		Pn 11 49 33.6	+1.3
OSTU	**Oestervaala**	**2.53**	**271**	P		Pn 11 49 33.6	+1.4

TIR ***08*** *11:49:09.0, 37.15°N×20.01°E, h9km, ML5.1*

IDC ***08*** *11:49:13.2±0.7, 37.46°N×20.42°E, h0km, mb3.9/16, mb1 4.0/24, mb1mx3.9/38, mbtmp3.9/24, ML4.0/7, Error ellipse: s-maj=15.0km s-min=13.2km az=21.0*

THE ***08*** *11:49:14.4, 37.35°N×20.21°E, h0km±1km, ML4.1/6, Error ellipse: s-maj=1.8km s-min=0.7km az=231.0*

ISCJB ***08*** *11:49:14.4±0.5, 37.35°N±0.02×20.14°E±0.02, h20km±4km, mb3.9/17, Error ellipse: s-maj=3.8km s-min=2.3km az=33.4*

NEIC ***08*** *11:49:15.3, 37.35°N×20.28°E, h19km, ML3.9(ATH), ML4.1(THE), After ATH.*

ATH ***08*** *11:49:15.2, 37.35°N×20.28°E, h19km±2km, MD3.6/34, ML4.0*

CSEM ***08*** *11:49:15.2±0.2, 37.35°N×20.23°E, h10km, MD3.6, Error ellipse: s-maj=4.2km s-min=2.5km az=29.0*

PDG ***08*** *11:49:15.9±0.6, 37.44°N×20.25°E, h11km±1km, ML3.9/11, Error ellipse: s-maj=1.2km s-min=1.4km az=0.0*

BEO ***08*** *11:49:16.8±2.0, 37.56°N×20.09°E, h0km, ML3.8/1*

PRU ***08*** *11:49:18.1, 37.53°N×20.21°E, h0km*

SKO ***08*** *11:49:45.0, 39.38°N×21.36°E, h0km*

ISC 08 11:49:15.7±1.1, 37.39°N±0.03×20.25°E±0.03, h16km±7km**, n515**, σ1§29/583**, mb4.0**/17**, 40C-30D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.63**	**103**	P	**Pg**	**11 49 27.3**	**-0.7**
SFD				S	**Sg**	**11 49 36.3**	**0.0**
SFD	**Strofades**	**0.63**	**103**	*e*PN	**Pg**	**11 49 27.6**	**-0.4**
SFD				*e*SN	**Sg**	**11 49 36.4**	**+0.1**
SFD	**Strofades**	**0.63**	**103**	P	**Pg**	**11 49 27.4**	**-0.6**
SFD				S	**Sg**	**11 49 36.3**	**0.0**
VLS	**Valsamata**	**0.83**	**19**	P	**Pg**	**11 49 30.8**	**-1.0**
VLS				S	**Sb**	**11 49 43.8**	**+1.1**
VLS	**Valsamata**	**0.83**	**19**	*e*PB	**Pg**	**11 49 31.5**	**-0.3**
VLS				*e*SN	**Sn**	**11 49 44.1**	**-0.6**
VLS	**Valsamata**	**0.83**	**19**	P	**Pg**	**11 49 30.8**	**-1.0**
VLS				S	**Sb**	**11 49 43.8**	**+1.1**
VLS	**Valsamata**	**0.83**	**19**	P	**Pg**	**11 49 30.8**	**-1.0**
VLS	**Valsamata**	**0.83**	**19**	*e*Pb	**Pg**	**11 49 31.5**	**-0.3**
VLS				S	**Sb**	**11 49 43.8**	**+1.1**
VLS				*e*Sn	**Sn**	**11 49 44.1**	**-0.6**
KFL	**Anninata**	**0.83**	**31**	P	**Pg**	**11 49 30.9**	**-1.0**
KFL				S	**Sn**	**11 49 44.8**	**0.0**
KFL	**Anninata**	**0.83**	**31**	P	**Pg**	**11 49 30.9**	**-1.0**
KFL				S	**Sn**	**11 49 44.8**	**0.0**
AMT	**Artemida-Makis**	**1.17**	**83**	P	**Pn**	**11 49 37.0**	**-0.4**
AMT				S	**Sg**	**11 49 54.7**	**+1.2**
AMT	**Artemida-Makis**	**1.17**	**83**	*e*PN	**Pg**	**11 49 38.0**	**-0.2**
AMT				*e*SN	**Sb**	**11 49 52.9**	**+0.4**
AMT	**Artemida-Makis**	**1.17**	**83**	P	**Pn**	**11 49 37.1**	**-0.4**
AMT	**Artemida-Makis**	**1.17**	**83**	*e*Pn	**Pg**	**11 49 38.0**	**-0.2**
AMT				*e*Sn	**Sb**	**11 49 52.9**	**+0.4**
AMT				S	**Sg**	**11 49 54.7**	**+1.2**
RLS	**Riolos of Patr**	**1.17**	**55**	P	**Pn**	**11 49 36.8**	**-0.6**
RLS				S	**Sg**	**11 49 55.2**	**+1.6**
RLS	**Riolos of Patr**	**1.17**	**55**	*e*PN	**Pn**	**11 49 37.3**	**-0.1**
RLS				*e*SN	**Sg**	**11 49 54.1**	**+0.5**
RLS	**Riolos of Patr**	**1.17**	**55**	P	**Pn**	**11 49 36.8**	**-0.6**
RLS				S	**Sg**	**11 49 55.2**	**+1.6**
RLS	**Riolos of Patr**	**1.17**	**55**	P	**Pn**	**11 49 36.8**	**-0.6**
RLS				*e*Sn	**Sg**	**11 49 54.1**	**+0.5**
DRO	**Drossia**	**1.28**	**64**	P	**Pn**	**11 49 39.0**	**-0.1**
DRO				S	**Sg**	**11 49 58.9**	**+1.7**
DRO	**Drossia**	**1.28**	**64**	*e*PN	**Pb**	**11 49 39.8**	**+0.2**
DRO				*e*SN	**Sg**	**11 49 57.2**	**0.0**
DRO	**Drossia**	**1.28**	**64**	P	**Pn**	**11 49 39.0**	**-0.1**
DRO	**Drossia**	**1.28**	**64**	*e*Pn	**Pb**	**11 49 39.8**	**+0.2**
DRO				*e*Sn	**Sg**	**11 49 57.2**	**0.0**
DRO				S	**Sg**	**11 49 58.9**	**+1.7**
PYL	**PYLOS**	**1.29**	**112**	P	**Pn**	**11 49 38.3**	**-0.8**
PYL	**PYLOS**	**1.29**	**112**	*e*PN	**Pn**	**11 49 38.3**	**-0.8**
PYL				*e*SN	**Sb**	**11 49 55.9**	**-0.1**
PYL	**PYLOS**	**1.29**	**112**	P	**Pn**	**11 49 38.3**	**-0.8**
PYL	**PYLOS**	**1.29**	**112**	P	**Pn**	**11 49 38.3**	**-0.8**
PYL				*e*Sn	**Sb**	**11 49 55.9**	**-0.1**
ITM	**Ithomi**	**1.35**	**99**	P	**Pn**	**11 49 39.6**	**-0.4**
ITM	**Ithomi**	**1.35**	**99**	*e*PN	**Pn**	**11 49 40.2**	**+0.2**
ITM				*e*SN	**Sb**	**11 49 58.6**	**+0.8**
ITM	**Ithomi**	**1.35**	**99**	P	**Pn**	**11 49 39.6**	**-0.4**
ITM	**Ithomi**	**1.35**	**99**	P	**Pn**	**11 49 39.7**	**-0.3**
ITM	**Ithomi**	**1.35**	**99**	*e*Pn	**Pn**	**11 49 40.2**	**+0.2**
ITM				S	**Sb**	**11 49 58.3**	**+0.5**
PDO	**Prodromos**	**1.41**	**31**	P	**Pb**	**11 49 41.6**	**-0.1**
PDO				S	**Sg**	**11 50 01.7**	**+0.4**
PDO	**Prodromos**	**1.41**	**31**	*e*PN	**Pg**	**11 49 43.2**	**+0.3**
PDO	**Prodromos**	**1.41**	**31**	P	**Pb**	**11 49 41.7**	**0.0**
PDO	**Prodromos**	**1.41**	**31**	*e*Pn	**Pg**	**11 49 43.2**	**+0.3**
PDO				S	**Sg**	**11 50 01.7**	**+0.4**
LKD2	**Lefkada island**	**1.43**	**13**	P	**Pn**	**11 49 41.5**	**+0.4**
LKD2				S	**Sg**	**11 50 02.5**	**+0.6**
LKD2	**Lefkada island**	**1.43**	**13**	P	**Pb**	**11 49 42.5**	**+0.5**
LKD2	**Lefkada island**	**1.43**	**13**	P	**Pb**	**11 49 42.5**	**+0.5**
LKD2				S	**Sg**	**11 50 02.5**	**+0.6**
PVO	**Paravola**	**1.58**	**39**	P	**Pg**	**11 49 45.5**	**-0.6**
PVO				S	**Sg**	**11 50 08.1**	**+1.4**
PSA1	**Psathopyrgos**	**1.59**	**54**	*e*PN	**Pb**	**11 49 45.3**	**+0.5**
LAKA	**Lakka**	**1.61**	**58**	P	**Pb**	**11 49 44.9**	**-0.2**
LAKA	**Lakka**	**1.61**	**58**	*e*PN	**Pg**	**11 49 45.9**	**-0.7**
LAKA	**Lakka**	**1.61**	**58**	P	**Pb**	**11 49 44.9**	**-0.2**
LAKA	**Lakka**	**1.61**	**58**	P	**Pb**	**11 49 44.9**	**-0.2**
LAKA	**Lakka**	**1.61**	**58**	*e*Pn	**Pg**	**11 49 45.9**	**-0.7**
KLV	**Kalavryta, Ach**	**1.64**	**66**	P	**Pn**	**11 49 44.7**	**+0.7**
KLV	**Kalavryta, Ach**	**1.64**	**66**	*e*PN	**Pb**	**11 49 45.3**	**-0.3**
KLV	**Kalavryta, Ach**	**1.64**	**66**	P	**Pn**	**11 49 44.7**	**+0.7**
KLV	**Kalavryta, Ach**	**1.64**	**66**	P	**Pn**	**11 49 44.7**	**+0.7**
KLV	**Kalavryta, Ach**	**1.64**	**66**	*e*Pn	**Pb**	**11 49 45.3**	**-0.3**
EFP	**Efpalio**	**1.67**	**51**	P	**Pb**	**11 49 45.5**	**-0.5**
EFP	**Efpalio**	**1.67**	**51**	P	**Pb**	**11 49 45.5**	**-0.5**
VLX	**Vlachokerasia**	**1.69**	**90**	P	**Pn**	**11 49 45.1**	**+0.3**
VLX				S	**Sb**	**11 50 09.2**	**+1.5**
VLX	**Vlachokerasia**	**1.69**	**90**	*e*PN	**Pb**	**11 49 45.9**	**-0.7**
VLX	**Vlachokerasia**	**1.69**	**90**	P	**Pn**	**11 49 45.1**	**+0.3**
VLX	**Vlachokerasia**	**1.69**	**90**	P	**Pn**	**11 49 45.1**	**+0.3**
VLX	**Vlachokerasia**	**1.69**	**90**	*e*Pn	**Pb**	**11 49 45.9**	**-0.7**
VLX				S	**Sb**	**11 50 09.2**	**+1.5**
GUR	**Goura**	**1.75**	**71**	P	**Pn**	**11 49 45.2**	**-0.2**
GUR	**Goura**	**1.75**	**71**	*e*PN	**Pb**	**11 49 47.1**	**-0.4**
GUR	**Goura**	**1.75**	**71**	P	**Pn**	**11 49 45.2**	**-0.2**
GUR	**Goura**	**1.75**	**71**	P	**Pn**	**11 49 45.3**	**-0.2**
GUR	**Goura**	**1.75**	**71**	*e*Pn	**Pb**	**11 49 47.1**	**-0.4**
KALE	**Kalithea**	**1.80**	**56**	P	**Pb**	**11 49 48.0**	**-0.3**
KALE	**Kalithea**	**1.80**	**56**	*e*PN	**Pb**	**11 49 48.4**	**+0.1**
KALE	**Kalithea**	**1.80**	**56**	P	**Pb**	**11 49 48.0**	**-0.3**
KALE	**Kalithea**	**1.80**	**56**	P	**Pb**	**11 49 48.0**	**-0.3**
KALE	**Kalithea**	**1.80**	**56**	*e*Pn	**Pb**	**11 49 48.4**	**+0.1**
KALE				S	**Sn**	**11 50 09.2**	**+0.2**
EVR	**Evrytania**	**1.96**	**38**	P	**Pb**	**11 49 50.8**	**-0.2**
EVR	**Evrytania**	**1.96**	**38**	*e*PN	**Pb**	**11 49 51.4**	**+0.4**
EVR	**Evrytania**	**1.96**	**38**	P	**Pb**	**11 49 50.8**	**-0.2**
EVR	**Evrytania**	**1.96**	**38**	P	**Pb**	**11 49 50.8**	**-0.2**
EVR	**Evrytania**	**1.96**	**38**	*e*Pn	**Pb**	**11 49 51.4**	**+0.4**
DSF	**Desfina**	**2.07**	**60**	P	**Pn**	**11 49 51.2**	**+1.3**
DSF				S	**Sb**	**11 50 17.7**	**-0.7**
DSF	**Desfina**	**2.07**	**60**	*e*PN	**Pb**	**11 49 51.8**	**-1.1**
DSF	**Desfina**	**2.07**	**60**	P	**Pn**	**11 49 51.2**	**+1.3**
DSF				S	**Sb**	**11 50 17.7**	**-0.7**
DSF	**Desfina**	**2.07**	**60**	P	**Pn**	**11 49 51.2**	**+1.3**
DSF	**Desfina**	**2.07**	**60**	*e*Pn	**Pb**	**11 49 51.8**	**-1.1**
DSF				S	**Sb**	**11 50 17.7**	**-0.7**
DESF	**Desfina**	**2.07**	**60**	*e*PN	**Pb**	**11 49 51.7**	**-1.3**
DESF	**Desfina**	**2.07**	**60**	*e*Pn	**Pb**	**11 49 51.7**	**-1.3**
IGT	**Igoumenitsa**	**2.14**	**2**	P	**Pn**	**11 49 51.7**	**+0.9**
IGT	**Igoumenitsa**	**2.14**	**2**	*e*PN	**Pb**	**11 49 53.7**	**-0.4**
IGT	**Igoumenitsa**	**2.14**	**2**	P	**Pn**	**11 49 51.7**	**+0.9**
IGT	**Igoumenitsa**	**2.14**	**2**	P	**Pn**	**11 49 51.7**	**+0.9**
IGT	**Igoumenitsa**	**2.14**	**2**	*e*Pn	**Pb**	**11 49 53.7**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.19**	**42**	P	**Pn**	**11 49 52.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.19**	**42**	*e*PN	**Pb**	**11 49 54.6**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.19**	**42**	P	**Pn**	**11 49 52.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.19**	**42**	*e*Pn	**Pb**	**11 49 54.6**	**-0.4**
LTK	**Loutraki**	**2.24**	**73**	P	**Pn**	**11 49 52.9**	**+0.7**
LTK	**Loutraki**	**2.24**	**73**	*e*PB	**Pn**	**11 49 52.8**	**+0.6**
LTK	**Loutraki**	**2.24**	**73**	P	**Pn**	**11 49 52.9**	**+0.7**
LTK	**Loutraki**	**2.24**	**73**	P	**Pn**	**11 49 52.9**	**+0.7**
VLI	**Veliai**	**2.25**	**107**	P	**Pn**	**11 49 53.5**	**+1.2**
VLI	**Veliai**	**2.25**	**107**	*e*PN	**Pn**	**11 49 53.8**	**+1.5**
VLI	**Veliai**	**2.25**	**107**	P	**Pn**	**11 49 53.5**	**+1.2**
VLI	**Veliai**	**2.25**	**107**	P	**Pn**	**11 49 53.5**	**+1.2**
VLI	**Veliai**	**2.25**	**107**	*e*Pn	**Pn**	**11 49 53.8**	**+1.5**
VLI				S	**Sn**	**11 50 20.4**	**+0.6**
AGG	**Agios Georgios**	**2.31**	**45**	P	**Pn**	**11 49 54.7**	**+1.5**
AGG	**Agios Georgios**	**2.31**	**45**	*e*PN	**Pb**	**11 49 55.2**	**-1.8**
AGG	**Agios Georgios**	**2.31**	**45**	P	**Pn**	**11 49 54.7**	**+1.5**
AGG	**Agios Georgios**	**2.31**	**45**	P	**Pn**	**11 49 54.7**	**+1.5**
AGG	**Agios Georgios**	**2.31**	**45**	*e*Pb	**Pb**	**11 49 55.2**	**-1.8**
JAN	**Janina**	**2.31**	**12**	P	**Pb**	**11 49 55.2**	**-1.8**
JAN	**Janina**	**2.31**	**12**	*e*PB	**Pb**	**11 49 55.3**	**-1.8**
JAN	**Janina**	**2.31**	**12**	P	**Pb**	**11 49 55.2**	**-1.8**
JAN	**Janina**	**2.31**	**12**	*e*Pb	**Pb**	**11 49 55.3**	**-1.8**
AXAR	**Agios Charalam**	**2.34**	**53**	P	**Pn**	**11 49 54.9**	**+1.3**
AXAR	**Agios Charalam**	**2.34**	**53**	P	**Pn**	**11 49 54.9**	**+1.3**
AXAR	**Agios Charalam**	**2.34**	**53**	P	**Pn**	**11 49 54.9**	**+1.3**
KEK	**Kerkira**	**2.34**	**351**	P	**Pn**	**11 49 53.8**	**+0.2**
KEK	**Kerkira**	**2.34**	**351**	*e*PB	**Pb**	**11 49 56.0**	**-1.6**
KEK	**Kerkira**	**2.34**	**351**	P	**Pn**	**11 49 53.8**	**+0.2**
KEK	**Kerkira**	**2.34**	**351**	P	**Pn**	**11 49 53.8**	**+0.2**
KEK	**Kerkira**	**2.34**	**351**	*e*Pb	**Pb**	**11 49 56.0**	**-1.6**
DID	**Didima**	**2.38**	**86**	P	**Pn**	**11 49 56.1**	**+2.0**
DID				S	**Sb**	**11 50 26.0**	**-1.3**
DID	**Didima**	**2.38**	**86**	*e*PB	**Pn**	**11 49 56.1**	**+2.0**
DID	**Didima**	**2.38**	**86**	P	**Pn**	**11 49 54.0**	**-0.1**
DID				S	**Sb**	**11 50 26.0**	**-1.3**
DID	**Didima**	**2.38**	**86**	P	**Pn**	**11 49 54.0**	**-0.1**
DID	**Didima**	**2.38**	**86**	*e*Pb	**Pn**	**11 49 56.1**	**+2.0**
DID				S	**Sb**	**11 50 26.0**	**-1.3**
SRN	**Sarande**	**2.49**	**356**	*i* PN	**Pb**	**11 49 58.8**	**-1.3**
SRN	**Sarande**	**2.49**	**356**	*i* Pn	**Pb**	**11 49 58.8**	**-1.3**
KYTH	**Kithira**	**2.49**	**116**	P	**Pn**	**11 49 56.8**	**+1.1**
KYTH	**Kithira**	**2.49**	**116**	*e*PB	**Pn**	**11 49 57.2**	**+1.5**
KYTH	**Kithira**	**2.49**	**116**	P	**Pn**	**11 49 56.8**	**+1.1**
KYTH	**Kithira**	**2.49**	**116**	P	**Pn**	**11 49 56.8**	**+1.1**
KYTH	**Kithira**	**2.49**	**116**	*e*Pb	**Pn**	**11 49 57.2**	**+1.5**
LKR	**Lokris**	**2.51**	**59**	P	**Pn**	**11 49 56.7**	**+0.9**
LKR	**Lokris**	**2.51**	**59**	*e*PN	**Pn**	**11 49 57.3**	**+1.5**
LKR	**Lokris**	**2.51**	**59**	P	**Pn**	**11 49 56.7**	**+0.9**
LKR	**Lokris**	**2.51**	**59**	P	**Pn**	**11 49 56.7**	**+0.9**
LKR	**Lokris**	**2.51**	**59**	*e*PN	**Pn**	**11 49 57.3**	**+1.5**
MEV	**Metsovon**	**2.51**	**17**	P	**Pn**	**11 49 58.3**	**+2.3**
MEV	**Metsovon**	**2.51**	**17**	P	**Pn**	**11 49 58.3**	**+2.3**
MEV	**Metsovon**	**2.51**	**17**	P	**Pn**	**11 49 58.3**	**+2.3**
VIL2	**Platees**	**2.52**	**70**	*e*PN	**Pn**	**11 49 57.0**	**+0.9**
VILL	**Villia**	**2.54**	**71**	P	**Pn**	**11 49 57.5**	**+1.1**
VILL	**Villia**	**2.54**	**71**	*e*Pn	**Pn**	**11 49 57.0**	**+0.6**
VILL	**Villia**	**2.54**	**71**	P	**Pn**	**11 49 57.5**	**+1.1**
THL	**Klokotos Trika**	**2.57**	**32**	P	**Pn**	**11 49 58.5**	**+1.8**
THL	**Klokotos Trika**	**2.57**	**32**	*e*PB	**Pb**	**11 49 59.3**	**-2.2**
THL	**Klokotos Trika**	**2.57**	**32**	P	**Pn**	**11 49 58.5**	**+1.8**
THL	**Klokotos Trika**	**2.57**	**32**	*e*Pb	**Pb**	**11 49 59.3**	**-2.2**
NAIG	**Nisos Aigina**	**2.60**	**81**	*e*PN	**Pn**	**11 49 58.2**	**+1.1**
NAIG	**Nisos Aigina**	**2.60**	**81**	*e*Pn	**Pn**	**11 49 58.2**	**+1.1**
SMIA	**Simia**	**2.76**	**57**	P	**Pn**	**11 49 59.6**	**+0.2**
SMIA	**Simia**	**2.76**	**57**	*e*PN	**Pn**	**11 50 00.2**	**+0.8**
SMIA	**Simia**	**2.76**	**57**	P	**Pn**	**11 49 59.6**	**+0.2**
SMIA	**Simia**	**2.76**	**57**	*e*Pn	**Pn**	**11 50 00.2**	**+0.8**
ATH	**Athens Observa**	**2.81**	**77**	*e*PB	**Pn**	**11 50 02.1**	**+2.1**
ATH	**Athens Observa**	**2.81**	**77**	*e*Pb	**Pn**	**11 50 02.1**	**+2.1**
ANKY	**Antikythira Is**	**2.89**	**121**	P	**Pn**	**11 50 01.8**	**+0.7**
ANKY	**Antikythira Is**	**2.89**	**121**	*e*PN	**Pn**	**11 50 01.9**	**+0.8**
ANKY	**Antikythira Is**	**2.89**	**121**	P	**Pn**	**11 50 01.8**	**+0.7**
ANKY	**Antikythira Is**	**2.89**	**121**	P	**Pn**	**11 50 01.8**	**+0.7**
FYTO	**Fytoko, Volos**	**2.92**	**46**	P	**Pn**	**11 50 02.7**	**+1.2**
FYTO	**Fytoko, Volos**	**2.92**	**46**	P	**Pn**	**11 50 02.7**	**+1.2**
FYTO	**Fytoko, Volos**	**2.92**	**46**	P	**Pn**	**11 50 02.7**	**+1.2**
PTL	**Penteli**	**2.94**	**76**	*e*PB	**Pn**	**11 50 04.2**	**+2.4**
PTL	**Penteli**	**2.94**	**76**	*e*Pb	**Pn**	**11 50 04.2**	**+2.4**
MRKA	**Markates**	**2.94**	**63**	*e*PN	**Pn**	**11 50 03.1**	**+1.3**
MRKA	**Markates**	**2.94**	**63**	*e*Pn	**Pn**	**11 50 03.1**	**+1.3**
ERET	**Eretria**	**3.00**	**68**	P	**Pn**	**11 50 03.4**	**+0.7**
ERET	**Eretria**	**3.00**	**68**	P	**Pn**	**11 50 03.4**	**+0.7**
NEO	**Neokhori**	**3.02**	**50**	P	**Pn**	**11 50 03.9**	**+1.0**
NEO	**Neokhori**	**3.02**	**50**	*e*PN	**Pn**	**11 50 04.4**	**+1.5**
NEO	**Neokhori**	**3.02**	**50**	P	**Pn**	**11 50 03.9**	**+1.0**
NEO	**Neokhori**	**3.02**	**50**	P	**Pn**	**11 50 03.9**	**+1.0**
NEO	**Neokhori**	**3.02**	**50**	*e*Pn	**Pn**	**11 50 04.4**	**+1.5**
XOR	**Xorichti**	**3.04**	**49**	P	**Pn**	**11 50 04.3**	**+1.1**
XOR	**Xorichti**	**3.04**	**49**	*e*PN	**Pn**	**11 50 04.3**	**+1.1**
XOR	**Xorichti**	**

MMB	**Musomiste**	**4.98**	**32**	⇓	*i*P	**Pn**	**11 50 30.8**	**+0.9**
MMB	**Musomiste**	**4.98**	**32**	⇓	*e*P	**Pn**	**11 50 30.8**	**+0.9**
BUM	**Brajici-Budva**	**5.01**	**348**		*e*Pn	**Pn**	**11 50 30.3**	**0.0**
BUM					*e*Sn	**Sn**	**11 51 28.9**	**+0.9**
BUM	**Brajici-Budva**	**5.01**	**348**		*e*Pn	**Pn**	**11 50 30.3**	**0.0**
BUM					*e*Sn	**Sn**	**11 51 28.9**	**+0.9**
PDG	**Podgorica**	**5.09**	**352**	⇑	*i*Pn	**Pn**	**11 50 32.1**	**+0.8**
PDG	**Podgorica**	**5.09**	**352**	⇑	*e*Pn	**Pn**	**11 50 32.1**	**+0.8**
PDG					*e*Sn	**Sn**	**11 51 31.9**	**+2.1**
TTG	**Podgorica**	**5.09**	**352**	⇓	*i*Pn	**Pn**	**11 50 32.8**	**+1.5**
TTG					*e*Sn	**Sn**	**11 51 31.9**	**+2.1**
PVY	**Plav**	**5.20**	**358**	⇑	*i*Pn	**Pn**	**11 50 35.2**	**+2.2**
PVY					*e*Sn	**Sn**	**11 51 34.4**	**+1.7**
PVY	**Plav**	**5.20**	**358**	⇑	*e*Pn	**Pn**	**11 50 35.2**	**+2.2**
PVY					*e*Sn	**Sn**	**11 51 34.4**	**+1.7**
HCY	**Herceg Novi**	**5.23**	**346**	⇑	*i*Pn	**Pn**	**11 50 34.4**	**+1.2**
HCY					*e*Sn	**Sn**	**11 51 35.3**	**+2.1**
HCY	**Herceg Novi**	**5.23**	**346**	⇑	*e*Pn	**Pn**	**11 50 34.4**	**+1.2**
HCY					*e*Sn	**Sn**	**11 51 35.3**	**+2.1**
ZKR	**Zakros**	**5.33**	**113**		*e*PN	**Pn**	**11 50 37.6**	**+3.0**
MS1	**Monte Sant'Ang**	**5.44**	**324**		*e*Sn	**Sn**	**11 51 41.5**	**+2.9**
NKME	**Niksic**	**5.46**	**350**	⇓	*i*Pn	**Pn**	**11 50 37.4**	**+0.9**
NKME					*e*Sn	**Sn**	**11 51 39.5**	**+0.5**
NKME	**Niksic**	**5.46**	**350**	⇓	*e*Pn	**Pn**	**11 50 37.4**	**+0.9**
NKME					*e*Sn	**Sn**	**11 51 39.5**	**+0.5**
BEY	**Berane**	**5.48**	**357**	⇓	*i*Pn	**Pn**	**11 50 38.0**	**+1.2**
BEY					*e*Sn	**Sn**	**11 51 40.9**	**+1.4**
IVA	**Berane**	**5.48**	**357**	⇓	*e*Pn	**Pn**	**11 50 38.0**	**+1.2**
IVA					*e*Sn	**Sn**	**11 51 40.9**	**+1.4**
NKY	**Niksic**	**5.50**	**350**	⇑	*i*Pn	**Pn**	**11 50 39.2**	**+2.1**
NKY					*e*Sn	**Sn**	**11 51 41.2**	**+1.2**
NKY	**Niksic**	**5.50**	**350**	⇑	*e*Pn	**Pn**	**11 50 39.2**	**+2.1**
NKY					*e*Sn	**Sn**	**11 51 41.2**	**+1.2**
TREB	**Trebinje**	**5.51**	**345**		*e*Pn	**Pn**	**11 50 36.5**	**-0.7**
TREB	**Trebinje**	**5.51**	**345**		*e*Pn	**Pn**	**11 50 36.5**	**-0.7**
BRY	**Bratogost**	**5.66**	**347**	⇑	*i*Pn	**Pn**	**11 50 40.2**	**+0.9**
BRY					*e*Sn	**Sn**	**11 51 44.9**	**+0.9**
BRY	**Bratogost**	**5.66**	**347**	⇑	*e*Pn	**Pn**	**11 50 40.2**	**+0.9**
BRY					*e*Sn	**Sn**	**11 51 44.9**	**+0.9**
VTS	**Vitosha**	**5.67**	**23**		P	**Pn**	**11 50 40.9**	**+1.5**
VTS	**Vitosha**	**5.67**	**23**	⇓	*i*Pn	**Pn**	**11 50 41.0**	**+1.5**
VTS	**Vitosha**	**5.67**	**23**	⇑	*i*P	**Pn**	**11 50 41.3**	**+1.9**
VTS	**Vitosha**	**5.67**	**23**		P	**Pn**	**11 50 40.9**	**+1.5**
VTS	**Vitosha**	**5.67**	**23**		P	**Pn**	**11 50 40.9**	**+1.5**
STON	**Ston**	**5.81**	**341**		*i* Pn	**Pn**	**11 50 40.6**	**-0.6**
STON					Sn	**Sn**	**11 51 45.3**	**-2.3**
STON	**Ston**	**5.81**	**341**	⇑	*i*Pn	**Pn**	**11 50 41.1**	**-0.1**
STON	**Ston**	**5.81**	**341**	⇑	*i*Pn	**Pn**	**11 50 41.1**	**-0.1**
KDZ	**Kurdzhali**	**5.83**	**42**	⇓	*i*P	**Pn**	**11 50 41.9**	**+0.3**
KDZ	**Kurdzhali**	**5.83**	**42**	⇓	*i*P	**Pn**	**11 50 41.9**	**+0.3**
SELS	**Selova**	**5.86**	**6**		*e*Pn	**Pn**	**11 50 41.0**	**-0.9**
SJES	**Sjenica**	**5.87**	**358**	⇑	*i*Pn	**Pn**	**11 50 41.6**	**-0.5**
SJES	**Sjenica**	**5.87**	**358**	⇑	*i*Pn	**Pn**	**11 50 41.6**	**-0.5**
UPM	**Unac-Piva**	**5.89**	**350**	⇑	*i*Pn	**Pn**	**11 50 43.9**	**+1.3**
UPM					*e*Sn	**Sn**	**11 51 50.3**	**+0.4**
UPM	**Unac-Piva**	**5.89**	**350**	⇑	*i*Pn	**Pn**	**11 50 43.9**	**+1.3**
UPM					*e*Sn	**Sn**	**11 51 50.3**	**+0.4**
PLE	**Pljevlja**	**5.97**	**354**	⇓	*i*Pn	**Pn**	**11 50 45.5**	**+2.0**
PLE					*e*Sn	**Sn**	**11 51 52.5**	**+0.9**
PLE	**Pljevlja**	**5.97**	**354**	⇓	*i*Pn	**Pn**	**11 50 45.5**	**+2.0**
PLE					*e*Sn	**Sn**	**11 51 52.5**	**+0.9**
ZAPS	**Zavoj**	**6.15**	**16**		*e*Pn	**Pn**	**11 50 47.6**	**+1.7**
IVAS	**Ivanjica**	**6.18**	**359**		*e*Pn	**Pn**	**11 50 47.1**	**+0.8**
IVAS	**Ivanjica**	**6.18**	**359**		*e*Pn	**Pn**	**11 50 47.1**	**+0.8**
BBLS	**Lazići**	**6.50**	**355**		*e*Pn	**Pn**	**11 50 51.7**	**+0.9**
BBLS	**Lazići**	**6.50**	**355**		*e*Pn	**Pn**	**11 50 51.7**	**+0.9**
GRUS	**Gruza**	**6.50**	**3**	⇑	*i*Pn	**Pn**	**11 50 50.8**	**+0.1**
GRUS	**Gruza**	**6.50**	**3**	⇑	*i*Pn	**Pn**	**11 50 50.8**	**+0.1**
BOLS	**Boljevac**	**6.56**	**11**		*e*Pn	**Pn**	**11 50 50.9**	**-0.6**
BOLS	**Boljevac**	**6.56**	**11**		*e*Pn	**Pn**	**11 50 50.9**	**-0.6**
DIVS	**Divibare**	**6.70**	**358**	⇑	*i*Pn	**Pn**	**11 50 53.0**	**-0.6**
DIVS	**Divibare**	**6.70**	**358**	⇑	*i*Pn	**Pn**	**11 50 53.0**	**-0.6**
TRUS	**Trudelj**	**6.83**	**1**		*e*Pn	**Pn**	**11 50 54.2**	**-1.0**
TRUS	**Trudelj**	**6.83**	**1**		*e*Pn	**Pn**	**11 50 54.2**	**-1.0**
JMB	**Yambol**	**7.02**	**42**	⇓	*i*P	**Pn**	**11 50 58.7**	**+0.8**
JMB	**Yambol**	**7.02**	**42**	⇓	*i*P	**Pn**	**11 50 58.7**	**+0.8**
FGSL	**Fruska Gora**	**7.76**	**358**	⇑	*i*Pn	**Pn**	**11 51 07.2**	**-0.9**
FRGS	**Fruska Gora**	**7.76**	**358**	⇑	*i*Pn	**Pn**	**11 51 07.2**	**-0.9**
HUMR	**Humele**	**7.97**	**25**	⇓	*i*P	**Pn**	**11 51 12.7**	**+1.8**
HUMR	**Humele**	**7.97**	**25**	⇓	*i*P	**Pn**	**11 51 12.7**	**+1.8**
GZR	**Gura Zlata**	**8.21**	**13**	⇑	*i*P	**Pn**	**11 51 14.6**	**+0.3**
GZR	**Gura Zlata**	**8.21**	**13**	⇑	*i*P	**Pn**	**11 51 14.6**	**+0.3**
NVLJ	**Novalja**	**8.24**	**332**		*e*Pn	**Pn**	**11 51 14.4**	**-0.1**
NVLJ					Sn	**Sn**	**11 52 42.7**	**-4.5**
NVLJ	**Novalja**	**8.24**	**332**		*e*Pn	**Pn**	**11 51 14.4**	**-0.1**
BZS	**Buzias**	**8.28**	**7**	⇓	*i*P	**Pn**	**11 51 16.1**	**+1.0**
BZS	**Buzias**	**8.28**	**7**	⇓	*i*P	**Pn**	**11 51 16.1**	**+1.0**
ARR	**Arges**	**8.62**	**21**	⇓	*i*P	**Pn**	**11 51 21.0**	**+1.1**
ARR	**Arges**	**8.62**	**21**	⇓	*i*P	**Pn**	**11 51 21.0**	**+1.1**
MTUR	**Matau**	**8.62**	**23**	⇑	*i*P	**Pn**	**11 51 21.0**	**+1.1**
MTUR	**Matau**	**8.62**	**23**	⇑	*i*P	**Pn**	**11 51 21.0**	**+1.1**
PSN	**Preselentsi**	**8.71**	**41**	⇓	*i*P	Pn	**11 51 26.4**	**+5.4**
VOIR		**8.81**	**23**	⇑	*i*Pn	**Pn**	**11 51 23.8**	**+1.4**
VOIR		**8.81**	**23**	⇑	*i*Pn	**Pn**	**11 51 23.8**	**+1.4**
MSAB	**Monastry St. A**	**8.82**	**38**	⇑	*i*Pn	**Pn**	**11 51 20.2**	**-2.3**
PKSM	**Moragy**	**8.89**	**353**	⇓	*i*P	**Pn**	**11 51 22.8**	**-0.7**
PKSM	**Moragy**	**8.89**	**353**	⇓	*i*P	**Pn**	**11 51 22.8**	**-0.7**
BOJS	**Bojanci**	**8.93**	**337**		*i* Pn	**Pn**	**11 51 24.6**	**+0.6**
BOJS					*i* Sn	**Sn**	**11 53 01.6**	**-2.7**
BOJS	**Bojanci**	**8.93**	**337**		Pn	**Pn**	**11 51 24.6**	**+0.6**
MLR	**Muntele Rosu**	**9.15**	**26**	⇓	*i*P	**Pn**	**11 51 29.3**	**+2.2**
MLR	**Muntele Rosu**	**9.15**	**26**		Pn	**Pn**	**11 51 30.3**	**+3.2**
MLR	**Muntele Rosu**	**9.15**	**26**	⇓	*i*P	**Pn**	**11 51 29.3**	**+2.2**
MLR	**Muntele Rosu**	**9.15**	**26**		Pn	**Pn**	**11 51 30.3**	**+3.2**
MLR	**Muntele Rosu**	**9.15**	**26**		Pn	**Pn**	**11 51 30.3**	**+3.2**
	0.3nm,0.3s,baz=163,slow=13,SNR=15							
TLB	**Topalu**	**9.29**	**37**	⇑	*i*P	**Pn**	**11 51 29.9**	**+1.0**
TLB	**Topalu**	**9.29**	**37**	⇑	*i*P	**Pn**	**11 51 29.9**	**+1.0**
VISS	**Visnje**	**9.33**	**336**		*i* Pn	**Pn**	**11 51 31.8**	**+2.3**
VISS					*i* Sn	**Sn**	**11 53 09.6**	**-4.5**
VISS	**Visnje**	**9.33**	**336**		*i* Pn	**Pn**	**11 51 31.8**	**+2.3**
JAVS	**Javornik**	**9.67**	**333**		*i* Pn	**Pn**	**11 51 35.4**	**+1.1**
JAVS					*i* Sn	**Sn**	**11 53 17.7**	**-4.9**
JAVS	**Javornik**	**9.67**	**333**		*i* Pn	**Pn**	**11 51 35.4**	**+1.1**
PLOR	**Plostina**	**9.71**	**28**	⇑	*i*P	**Pn**	**11 51 37.4**	**+2.6**
PLOR	**Plostina**	**9.71**	**28**	⇑	*i*P	**Pn**	**11 51 37.4**	**+2.6**
VRI	**Vrincioaia**	**9.75**	**28**	⇑	*i*P	**Pn**	**11 51 37.6**	**+2.3**
VRI	**Vrincioaia**	**9.75**	**28**	⇑	*i*P	**Pn**	**11 51 37.6**	**+2.3**
CFR	**Carcaliu**	**9.78**	**25**	⇓	*i*P	Pn	**11 51 44.2**	**+2.7**
PERS	**Pernice**	**9.99**	**339**		*i* Pn	**Pn**	**11 51 38.5**	**-0.2**
PERS					*i* Sn	**Sn**	**11 53 27.3**	**-3.2**
PERS	**Pernice**	**9.99**	**339**		*i* Pn	**Pn**	**11 51 38.5**	**-0.2**
PGF	**Pioggiola**	**10.05**	**304**		*e*P	**Pn**	**11 51 41.7**	**+2.2**
PGF	**Pioggiola**	**10.05**	**304**		*e*P	**Pn**	**11 51 41.7**	**+2.2**
PGF	**Pioggiola**	**10.05**	**304**		*e*P	**Pn**	**11 51 41.7**	**+2.2**
SOKA	**Soboth**	**10.05**	**339**	⇓	*i*Pn	**Pn**	**11 51 39.0**	**-0.5**
	SNR=11							
SOKA	**Soboth**	**10.05**	**339**		Pn	**Pn**	**11 51 39.0**	**-0.5**
	SNR=11							
PSZ	**Piszkesteto**	**10.52**	**359**	⇓	*i*P	**Pn**	**11 51 47.3**	**+1.4**
BRTR	**Keskin Array B**	**10.74**	**73**		Pn	**Pn**	**11 51 46.6**	**-2.4**
BRTR	**Keskin Array B**	**10.74**	**73**		Pn	**Pn**	**11 51 46.6**	**-2.4**
	baz=250,slow=12,SNR=1.8							
ABTA	**Abfaltersbach**	**10.97**	**331**	⇑	*i*Pn	**Pn**	**11 51 52.0**	**0.0**
ABTA	**Abfaltersbach**	**10.97**	**331**		Pn	**Pn**	**11 51 52.0**	**0.0**
MOA	**Molln**	**11.34**	**339**	⇑	*i*Pn	**Pn**	**11 51 57.3**	**+0.2**
	SNR=11							
SBF	**Sospel**	**11.68**	**308**		*e*P	**Pn**	**11 52 01.0**	**-0.8**
	227nm,1.5s							
SBF	**Sospel**	**11.68**	**308**		*e*P	**Pn**	**11 52 01.0**	**-0.8**
SBF					pmax	pmax		
	comp=Z,227nm,1.5s							
SBF	**Sospel**	**11.68**	**308**		*e*P	**Pn**	**11 52 01.0**	**-0.8**
	comp=Z,227nm,1.5s							
SBF	**Sospel**	**11.68**	**308**		*e*P	**Pn**	**11 52 01.0**	**-0.8**
	comp=Z,227nm,1.5s							
FRF	**La Foret Royal**	**12.05**	**305**		*e*P	**Pn**	**11 52 08.6**	**+1.9**
	comp=Z,19nm,0.7s							
FRF	**La Foret Royal**	**12.05**	**305**		*e*P	**Pn**	**11 52 08.6**	**+1.9**
FRF					pmax	pmax		
	comp=Z,19nm,0.7s							
FRF	**La Foret Royal**	**12.05**	**305**		*e*P	**Pn**	**11 52 08.6**	**+1.9**
	comp=Z,19nm,0.7s							
FRF	**La Foret Royal**	**12.05**	**305**		*e*P	**Pn**	**11 52 08.6**	**+1.9**
	comp=Z,19nm,0.7s							
DAVOX	**Davos/Dischmat**	**12.13**	**324**		Pn	**Pn**	**11 52 09.8**	**+1.8**
DAVOX					Sn	**Sn**	**11 54 22.8**	**-0.2**
DAVOX	**Davos/Dischmat**	**12.13**	**324**		Pn	**Pn**	**11 52 09.8**	**+1.8**
DAVOX					Sn	**Sn**	**11 54 22.8**	**-0.2**
DAVOX	**Davos/Dischmat**	**12.13**	**324**		Pn	**Pn**	**11 52 09.8**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=161,slow=17,SNR=6.6							
DAVOX					Sn	**Sn**	**11 54 22.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=323,slow=20,SNR=3.2							
GERES	**GERESS Array B**	**12.40**	**339**		Pn	**Pn**	**11 52 10.4**	**-1.2**
GERES	**GERESS Array B**	**12.40**	**339**		Pn	**Pn**	**11 52 10.4**	**-1.2**
GERES	**GERESS Array B**	**12.40**	**339**		Pn	**Pn**	**11 52 10.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=158,slow=14,SNR=5.8							
MBDF	**Montbardon**	**12.53**	**310**		*e*P	**Pn**	**11 52 14.6**	**+1.2**
	comp=Z,22nm,1.0s							
MBDF	**Montbardon**	**12.53**	**310**		*e*P	**Pn**	**11 52 14.6**	**+1.2**
	comp=Z,22nm,1.0s							
MBDF	**Montbardon**	**12.53**	**310**		*e*P	**Pn**	**11 52 14.6**	**+1.2**
	comp=Z,22nm,1.0s							
KHC	**Kasperske Hory**	**12.69**	**340**		*e*P	**Pn**	**11 52 15.9**	**+0.3**
KHC					*e*x	x	11 52 25.6	
KHC					*e*x	x	11 52 34.8	
KHC					*e*x	x	11 52 49.3	
KHC	**Kasperske Hory**	**12.69**	**340**		Pn	**Pn**	**11 52 15.9**	**+0.3**
LPG	**La Plagne**	**12.95**	**313**		*e*P	Pn	**11 52 23.2**	**+3.8**
	comp=Z,34nm,1.4s							
LPG	**La Plagne**	**12.95**	**313**		*e*P	Pn	11 52 23.2	+3.8
	comp=Z,34nm,1.4s							
MMAI	**Mount Meron Ar**	**13.13**	**105**		Pn	**Pn**	**11 52 20.9**	**-0.8**
MMAI	**Mount Meron Ar**	**13.13**	**105**		Pn	**Pn**	**11 52 20.9**	**-0.8**
MMAI	**Mount Meron Ar**	**13.13**	**105**		Pn	**Pn**	**11 52 20.9**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=283,slow=13,SNR=2.6							
ORIF	**Oris-en-Rattie**	**13.17**	**309**		*e*P	**Pn**	**11 52 22.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**13.17**	**309**		*e*P	**Pn**	**11 52 22.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**13.17**	**309**		*e*P	**Pn**	**11 52 22.5**	**+0.3**
DPC	**Dobruska-Polom**	**13.26**	**349**		*e*P	**Pn**	**11 52 23.3**	**+0.1**
DPC					*e*x	x	11 52 36.1	
DPC	**Dobruska-Polom**	**13.26**	**349**		Pn	**Pn**	**11 52 23.3**	**+0.1**
EIL	**Elat**	**14.47**	**118**		Pn	**Pn**	**11 52 38.3**	**-1.6**
EIL	**Elat**	**14.47**	**118**		Pn	**Pn**	**11 52 38.3**	**-1.6**
EIL	**Elat**	**14.47**	**118**		Pn	**Pn**	**11 52 38.3**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=324,slow=7.3,SNR=7.8							
CDF	**Champ du Feu**	**14.53**	**323**		*e*P	**Pn**	**11 52 40.6**	**-0.1**
	comp=Z,23nm,1.1s							
CDF	**Champ du Feu**	**14.53**	**323**		*e*P	**Pn**	**11 52 40.6**	**-0.1**
	comp=Z,23nm,1.1s							
AK02	**Malin Array Si**	**14.72**	**23**		*e*Pn	**Pn**	**11 52 42.6**	**-0.6**
AK02	**Malin Array Si**	**14.72**	**23**		*e*Pn	**Pn**	**11 52 42.6**	**-0.6**
AK01	**Malin Array Si**	**14.76**	**23**		*e*Pn	**Pn**	**11 52 43.2**	**-0.5**
AK01	**Malin Array Si**	**14.76**	**23**		*e*Pn	**Pn**	**11 52 43.2**	**-0.5**
KIEV	**Kiev**	**14.76**	**23**		*e*Pn	**Pn**	**11 52 43.5**	**-0.2**
	comp=Z,5.5nm,0.8s							
KIEV	**Kiev**	**14.76**	**23**		*e*Pn	**Pn**	**11 52 43.5**	**-0.2**
	comp=Z,5.5nm,0.8s							
AKASG	**Malin Array Be**	**14.77**	**23**		Pn	**Pn**	**11 52 42.6**	**-1.2**
AKASG	**Malin Array Be**	**14.77**	**23**		Pn	**Pn**	**11 52 42.6**	**-1.2**
AKASG	**Malin Array Be**	**14.77**	**23**		Pn	**Pn**	**11 52 42.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=212,slow=12,SNR=7.2							
CLL	**Collm**	**14.84**	**342**		*i* PP	**P**	**11 52 53.3**	**+2.8**
	comp=Z,18nm,1.5s							
CLL					*i* sPP		11 53 00.4	
SMF	**Signal de Mont**	**15.28**	**312**		*e*P	**Pn**	**11 52 47.7**	**-3.0**
SMF	**Signal de Mont**	**15.28**	**312**		*e*P	**Pn**	**11 52 47.7**	**-3.0**
SUW	**Suwalki**	**16.75**	**6**		*e*P	**Pn**	**11 53 09.6**	**+0.2**
	comp=Z,32nm,0.9s							
ESDC	**Sonseca Array**	**19.07**	**284**		P	**Pn**	**11 53 38.4**	**+0.1**
ESDC	**Sonseca Array**	**19.07**	**284**		P	**Pn**	**11 53 38.4**	**+0.1**
ESDC	**Sonseca Array**	**19.07**	**284**		P	**Pn**	**11 53 38.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=91,slow=12,SNR=5.4							
MDT	**Midelt**	**20.83**	**265**		P	Pn	**11 53 59.3**	**0.0**
MDT	**Midelt**	**20.83**	**265**		P	Pn	**11 53 59.3**	**0.0**
	comp=Z,1.8nm,0.9s,baz=47,slow=9.5,SNR=3.6							
HFS	**Hagfors**	**23.14**	**352**		P	**P**	**11 54 20.3**	**-0.7**
HFS	**Hagfors**	**23.14**	**352**		P	**P**	**11 54 20.3**	**-0.7**
HFS	**Hagfors**	**23.14**	**352**		P	**P**	**11 54 20.3**	**-0.7**
	comp=Z,7.5nm,0.8s,baz=163,slow=10,SNR=14							
EKA	**Eskdalemuir Ar**	**23.95**	**326**		P	**P**	**11 54 29.4**	**+0.4**
EKA	**Eskdalemuir Ar**	**23.95**	**326**		P	**P**	**11 54 29.4**	**+0.4**
EKA	**Eskdalemuir Ar**	**23.95**	**326**		P	**P**	**11 54 29.4**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=127,slow=9.9,SNR=7.1							
NB2	**NORSAR Subarra**	**24.35**	**349**		P	**P**	**11 54 32.9**	**+0.2**
	comp=Z,10nm,0.9s,baz=162,slow=10							
NB2	**NORSAR Subarra**	**24.35**	**349**		P	**P**	**11 54 32.9**	**+0.3**
	comp=Z,10nm,0.9s,SNR=7.7							
NOA	**NORSAR Array B**	**24.35**	**349**		P	**P**	**11 54 33.0**	**+0.3**
NOA	**NORSAR Array B**	**24.35**	**349**		P	**P**	**11 54 33.0**	**+0.3**
NOA	**NORSAR Array B**	**24.35**	**349**		P	**P**	**11 54 33.0**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=161,slow=9.7,SNR=7.6							
FINES	**FINESS Array B**	**24.35**	**7**		P	**P**	**11 54 31.9**	**-0.7**
FINES	**FINESS Array B**	**24.35**	**7**		P	**P**	**11 54 31.9**	**-0.7**
FINES	**FINESS Array B**	**24.35**	**7**		P	**P**	**11 54 31.9**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=190,slow=10,SNR=13							
FIA1	**FINESS Array S**	**24.35**	**7**		*e*P	**P**	**11 54 32.5**	**-0.1**
FIA1	**FINESS Array S**	**24.35**	**7**		*e*P	**P**	**11 54 32.5**	**-0.1**
KAF	**Kangasniemi**	**25.03**	**7**		*e*p	**P**	**11 54 37.0**	**-1.8**
	comp=Z,3.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**29.29**	**219**		P	**P**	**11 55 18.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**29.29**	**219**		P	**P**	**11 55 18.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**29.29**	**219**		P	**P**	**11 55 18.3**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=30,slow=9.2,SNR=8.2							
ARCES	**ARCESS Array B**	**32.33**	**3**		P	**P**	**11 55 43.5**	**-0.3**
ARCES	**ARCESS Array B**	**32.33**	**3**		P	**P**	**11 55 43.5**	**-0.3**
ARCES	**ARCESS Array B**	**32.33**	**3**		P	**P**	**11 55 43.5**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=178,slow=11,SNR=4.5							
DBIC	**Dimbokro**	**38.17**	**223**		P	**P**	**11 56 34.7**	**+0.1**
DBIC	**Dimbokro**	**38.17**	**223**		P	**P**	**11 56 34.7**	**+0.1**
DBIC	**Dimbokro**	**38.17**	**223**		P	**P**	**11 56 34.7**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=352,slow=4.4,SNR=3.4							
LIC	**Lamto**	**38.64**	**223**		*e*P	**P**	**11 56 41.1**	**+2.6**
	comp=Z,8.9nm,0.7s							
LIC	**Lamto**	**38.64**	**223**		*e*P	**P**	**11 56 41.1**	**+2.6**
	comp=Z,8.9nm,0.7s							
KURBB	**Kurchatov Array**	**42.87**	**53**		P	**P**	**11 57 10.8**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=283,slow=8.9,SNR=4.5							
KURK	**Kurchatov**	**42.92**	**53**		P	**P**	**11 57 10.8**	**-2.6**
MKAR	**Makanchi Array**	**45.90**	**58**		P	**P**	**11 57 35.4**	**-2.0**
MKAR	**Makanchi Array**	**45.90**	**58**		P	**P**	**11 57 35.4**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=277,slow=7.2,SNR=6.7							
ZALV	**Zalesovo Beam**	**46.38**	**48**		P	**P**	**11 57 38.5**	**-2.5**
ZALV	**Zalesovo Beam**	**46.38**	**48**		P	**P**	**11 57 38.5**	**-2.5**
	comp=Z,1.8nm,0.6s,baz=274,slow=8.8,SNR=8.6							
POO	**Poona**	**50.25**	**97**		*ex*	x	11 57 53.0	
SCHQ	**Schefferville**	**58.89**	**318**		P	**P**	**11 59 14.1**	**+0.4**
SCHQ	**Schefferville**	**58.89**	**318**		P	**P**	**11 59 14.1**	**+0.4**
SCHQ	**Schefferville**	**58.89**	**318**		P	**P**	**11 59 14.1**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=30,slow=8.1,SNR=3.4							
SONM	**Songino Array**	**61.12**	**50**		P	**P**	**11 59 28.5**	**-0.7**
SONM	**Songino Array**	**61.12**	**50**		P	**P**	**11 59 28.5**	**-0.7**
SONM	**Songino Array**	**61.12**	**50**		P	**P**	**11 59 28.5**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=283,slow=8.7,SNR=3.0							
CMAR	**Chiang Mai Arr**	**70.21**	**82**		P	**P**	**12 00 27.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**70.21**	**82**		P	**P**	**12 00 27.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**70.21**	**82**		P	**P**	**12 00 27.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=302,slow=9.2,SNR=3.1							
YKA	**Yellowknife Ar**	**74.05**	**340**		P	**P**	**12 00 49.9**	**-0.6**
YKA	**Yellowknife Ar**	**74.05**	**340**		P	**P**	**12 00 49.9**	**-0.6**
YKA	**Yellowknife Ar**	**74.05**	**340**		P	**P**	**12 00 49.9**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=44,slow=5.6,SNR=4.0							
KSAR	**Wonju Array Be**	**79.98**	**50**		P	**P**	**12 01 23.9**	**-0.3**
KSAR	**Wonju Array Be**	**79.98**	**50**		P	**P**	**12 01 24.0**	**-0.3**
KSRS	**Korea Array**	**79.99**	**50**		P	**P**	**12 01 23.9**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=311,slow=4.0,SNR=4.9							
WRA	**Warramunga Arr**	**120.72**	**93**		PKP	**PKPdf**	**12 08 07.3**	**0.0**
WRA	**Warramunga Arr**	**120.72**	**93**		PKIKP	**PKPdf**	**12 08 07.3**	**0.0**
WRA	**Warramunga Arr**	**120.72**	**93**		PKP	**PKPdf**	**12 08 07.3**	**0.0**
	comp=Z,0.3nm,0.9s,baz=316,slow=1.1,SNR=2.6							
ASAR	**Alice Springs**	**122.30**	**96**		PKP	**PKPdf**	**12 08 10.4**	**+0.1**
ASAR	**Alice Springs**	**122.30**	**96**		PKIKP	**PKPdf**	**12 08 10.4**	**+0.1**
ASAR	**Alice Springs**	**122.30**	**96**		PKP	**PKPdf**	**12 08 10.4**	**+0.1**
	comp=Z,0.4nm,1.0s,baz=304,slow=1.4,SNR=2.9							

CASC 08 11:57:05.7±1.1, 13°13N×89°82W, h17km±4km, MD3.7, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.73**	**15**	⇓	*i*P	Pb	11 57 20.0	-0.4
SBLS					*e*S	Sb	11 57 31.3	+1.0
SNJE	**San Jose**	**0.76**	**16**		*e*P	Pb	11 57 20.4	-0.5
SNJE					*e*S	Sb	11 57 31.0	-0.2
RTR	**El Retiro**	**0.78**	**12**		*e*P	Pb	11 57 20.8	-0.4
BOQS	**Boqueron**	**0.80**	**41**		*e*P	Pb	11 57 20.8	-0.7
BOQS					*e*

NEO	**Neokhori**	**3.23**	**49**	*e*PN	**Pn**	12 20 47.8	+2.7
NEO	**Neokhori**	**3.23**	**49**	*e*Pn	**Pn**	12 20 47.8	+2.7
XOR	**Xorichti**	**3.25**	**48**	*e*PN	Pn	12 20 48.7	+3.4
XOR	**Xorichti**	**3.25**	**48**	*e*Pn	Pn	12 20 48.7	+3.4
NEST	**Nestorio**	**3.27**	**13**	P	Pn	12 20 49.3	+3.6
NEST	**Nestorio**	**3.27**	**13**	P	Pn	12 20 49.3	+3.6
SKIA	**Skiathos**	**3.30**	**53**	*e*PN	**Pn**	12 20 49.0	+3.1
SKIA	**Skiathos**	**3.30**	**53**	*e*Pn	**Pn**	12 20 49.0	+3.1
AOS	**Alonnisos**	**3.57**	**56**	*e*PN	Pn	12 20 53.2	+3.5
AOS	**Alonnisos**	**3.57**	**56**	*e*Pn	Pn	12 20 53.2	+3.5
BIA	**Bitola**	**3.91**	**14**	*i* Pn	**Pn**	12 20 55.8	+1.4
BIA	**Bitola**	**3.91**	**14**	*i* Pn	**Pn**	12 20 55.8	+1.4
VAY	**Valandovo**	**4.53**	**25**	*i* Pn	**Pn**	12 21 04.3	+1.6
VAY	**Valandovo**	**4.53**	**25**	*i* Pn	**Pn**	12 21 01.8	-0.9

IDC ***08*** *12:32:06.5±1.0,27°.69N×66°.46E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/30, mbtmp3.6/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/42, Error ellipse: s-maj=30.3km s-min=23.5km az=50.0*

ISCJB ***08*** *12:32:09.9±1.0,27°.7N±0°.2×66°.4E±0°.2, h33km, mb3.6/8, Error ellipse: s-maj=25.4km s-min=21.2km az=146.6*

ISC 08 12:32:11.8±1.2, 27°.8N±0°.2×66°.5E±0°.2, h35km, n9, σ1§07/8, mb3.5/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**16.21**	**22**	LR	LR	12 43 23.1	
	comp=Z,78nm,18.2s,baz=146,slow=42						
MKAR	**Makanchi Array**	**22.71**	**29**	P	**P**	**12 37 09.0**	**-1.5**
	0.5nm,0.6s,baz=216,slow=12,SNR=5.1						
KURBB	**Kurchatov Arra**	**24.61**	**19**	P	**P**	**12 37 29.8**	**+1.1**
	0.4nm,0.5s,baz=213,slow=8.8,SNR=4.2						
FINES	**FINESS Array B**	**43.07**	**333**	P	**P**	**12 40 08.6**	**+0.5**
	1.3nm,0.7s,baz=148,slow=13,SNR=3.1						
HFS	**Hagfors**	**47.99**	**328**	P	**P**	**12 40 47.9**	**+0.9**
	2.6nm,0.9s,baz=122,slow=11,SNR=4.6						
ARCES	**ARCESS Array B**	**48.01**	**342**	P	**P**	**12 40 46.7**	**-0.4**
	1.3nm,0.8s,baz=148,slow=12,SNR=3.4						
TORD	**Torodi Ar. Bea**	**61.61**	**271**	P	**P**	**12 42 26.8**	**-0.8**
	0.4nm,0.7s,baz=63,slow=6.2,SNR=3.1						
WRA	**Warramunga AR**	**80.95**	**118**	P	**P**	**12 44 23.6**	**+0.5**
	0.2nm,0.6s,baz=289,slow=3.7,SNR=5.4						
ASAR	**Alice Springs**	**82.70**	**121**	P	**P**	**12 44 32.3**	**+0.1**
	0.2nm,0.5s,baz=306,slow=5.2,SNR=8.7						

ISCJB ***08*** *12:49:27.0±0.3, 7°.58S±0°.04×116°.18E±0°.03, h338km±3km, mb3.7/10, Error ellipse: s-maj=6.6km s-min=5.0km az=12.3*

IDC ***08*** *12:49:27.8±0.8, 7°.34S×116°.10E, h352km±8km, mb3.4/10, mb1 3.6/11, mb1mx3.4/24, mbtmp3.4/11, Error ellipse: s-maj=26.3km s-min=9.9km az=61.0*

DJA ***08*** *12:49:28.0±0.2, 8°.S±3°×11°.6E±°, h329km±3km, M4.1/17, mb4.4/15, mB4.7/7, MLv4.2/17, Mw(mB)3.9/7, Mwp5.8/1*

AUST ***08*** *12:49:32.0±0.0, 7°.44S×116°.05E, h421km, Error ellipse: s-maj=1.1km s-min=0.7km az=16.0*

ISC 08 12:49:27.2±0.5, 7°.52S±0°.06×116°.15E±0°.05, h340km±5km, n68, σ1§58/80, mb3.7/10, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHKI	**Kahang-Kahang**	**1.00**	**212**	P	**Pn**	**12 50 11.6**	**-0.3**
KHKI				S	**S**	**12 50 46.9**	**-0.8**
MTNI	**Mataram**	**1.11**	**179**	P	**Pn**	**12 50 11.2**	**-1.3**
MTNI				S	**S**	**12 50 46.1**	**-2.6**
IGBI	**Denpasar**	**1.63**	**217**	P	**Pn**	**12 50 14.7**	**-0.5**
IGBI				S	**S**	**12 50 49.8**	**-3.8**
BYJI	**Banyuwangi**	**1.90**	**249**	P	**Pn**	**12 50 16.6**	**-0.4**
BYJI				S	**S**	**12 50 57.8**	**+1.0**
ABJI	**Asem Bagus**	**1.92**	**262**	P	**Pn**	**12 50 17.3**	**+0.3**
GMJI	**Gumukmas**	**2.78**	**254**	P	**Pn**	**12 50 23.6**	**-0.3**
GMJI				S	**S**	**12 51 06.0**	**-3.4**
LBFI	**Labuhan Bajo,**	**3.83**	**105**	P	**Pn**	**12 50 35.9**	**+1.9**
LBFI				S	**S**	**12 51 27.2**	**-0.5**
PWJI	**Pagerwojo**	**4.33**	**263**	P	**Pn**	**12 50 38.9**	**-0.3**
BKSI	**Bulukumba**	**4.51**	**61**	P	**Pn**	**12 50 41.6**	**+0.5**
WSI	**Waingapu**	**4.63**	**118**	P	Pn	12 50 52.2	+10
WSI				S	**S**	**12 51 38.6**	**-4.4**
WSI	**Waingapu**	**4.63**	**118**	P	Pn	12 50 52.1	+10
	baz=4.8,SNR=4.0						
NGJI	**Ngawi**	**4.65**	**272**	P	**Pn**	**12 50 43.9**	**+1.3**
PCJI	**Pacitan**	**4.97**	**262**	P	**Pn**	**12 50 46.0**	**-0.1**
BNSI	**Bone**	**5.01**	**52**	P	**Pn**	**12 50 47.7**	**+1.1**
	59nm,0.8s,632nm0.2nm						
SPSI	**Sidrap Palu**	**5.04**	**46**	P	**Pn**	**12 50 46.9**	**-0.1**
	26nm,0.8s,687nm0.1nm						
MMSI	**Mamuju**	**5.53**	**30**	P	**Pn**	**12 50 53.4**	**+1.0**
	83nm,0.8s,843nm0.3nm						
UGM	**Wanagama**	**5.59**	**266**	P	**Pn**	**12 50 52.7**	**-0.4**
	129nm,0.6s,0.7nm						
UGM				S	**S**	**12 51 58.1**	**-4.4**
	129nm,0.6s,0.7nm						
UGM	**Wanagama**	**5.59**	**266**	P	**Pn**	**12 50 52.9**	**-0.2**
	baz=5.5,SNR=46						
SMRI	**Semarang**	**5.68**	**274**	P	**Pn**	**12 50 56.6**	**+2.5**
	baz=5.6,SNR=4.5						
BJII	**Banjamegara**	**6.38**	**271**	P	**Pn**	**12 51 03.3**	**+1.0**
	37nm,0.9s,1µm0.2nm						
KPJI	**Karang Pucung**	**7.16**	**271**	P	**Pn**	**12 51 12.4**	**+1.1**
	62nm,0.6s,1µm32µm0.3nm						
CISI	**Cisompet, Garu**	**8.26**	**269**	P	**Pn**	**12 51 25.1**	**+0.6**
	62nm,0.6s,3µm						
CISI				S	**S**	**12 52 57.9**	**-2.1**
	62nm,0.6s,3µm						
CISI	**Cisompet, Garu**	**8.26**	**269**	P	**Pn**	**12 51 23.8**	**-0.7**
	baz=8.2,SNR=9.3						
GTOI	**Gorontalo**	**10.60**	**41**	P	**P**	**12 51 53.9**	**0.0**
	108nm,0.6s,1µm						
SBUM	**Sibu**	**10.65**	**338**	P	**P**	**12 51 54.3**	**0.0**
SBUM	**Sibu**	**10.65**	**338**	P	**P**	**12 51 53.9**	**-0.4**
	33nm,0.7s						
KSM	**Kuching**	**10.66**	**327**	P	**P**	**12 51 56.2**	**+1.7**
KSM	**Kuching**	**10.66**	**327**	P	**Pn**	**12 51 53.8**	**+0.6**
	25nm,0.8s						
KSM	**Kuching**	**10.66**	**327**	P	**P**	**12 51 55.7**	**+1.2**
	baz=11,SNR=6.1						
XMI	**Christmas Isla**	**10.73**	**253**	P	**P**	**12 51 58.0**	**+2.7**
	baz=11,SNR=7.7						
XMIS	**Christmas Isla**	**10.78**	**253**	P	**P**	**12 51 56.5**	**+0.7**
	baz=11,SNR=22						
BTM	**Bintulu**	**11.07**	**344**	P	**P**	**12 52 01.3**	**+2.2**
MYLDM	**Lahad Datu**	**12.83**	**11**	P	**Pn**	**12 52 21.1**	**+2.1**
MYLDM	**Lahad Datu**	**12.83**	**11**	P	**Pn**	**12 52 21.7**	**+2.7**
	31nm,1.2s						
SDKM	**Sandakan**	**13.11**	**5**	P	**Pn**	**12 52 23.5**	**+1.0**
KKM	**Kota Kinabalu**	**13.47**	**0**	P	**Pn**	**12 52 27.0**	**+0.3**
KKM	**Kota Kinabalu**	**13.47**	**0**	P	**P**	**12 52 25.7**	**-0.1**
	baz=14,SNR=6.9						
MNAI	**Manna**	**13.49**	**283**	P	**Pn**	**12 52 29.4**	**+2.6**
	baz=13,SNR=5.0						
FITZ	**Fitzroy Crossi**	**14.01**	**140**	P	**Pn**	**12 52 33.4**	**+0.5**
	baz=333,slow=6.3						
FITZ	**Fitzroy Crossi**	**14.01**	**140**	P	**Pn**	**12 52 33.5**	**+0.5**
	baz=14,SNR=34						
KNRA	**Kununurra**	**14.78**	**124**	P	**Pn**	**12 52 41.1**	**-0.8**
	baz=15,SNR=22						
MTN	**Manton Dam**	**15.67**	**111**	P	**P**	**12 52 50.3**	**+0.6**
	baz=16,SNR=14						
FAKI	**Fak Fak**	**16.67**	**75**	P	**P**	**12 52 58.8**	**-1.8**
	baz=17,SNR=4.8						
KDU	**Kakadu**	**16.87**	**109**	P	**P**	**12 53 02.6**	**-0.1**
	baz=17,SNR=51						
MEEK	**Meekatharra**	**19.16**	**173**	P	**P**	**12 53 28.4**	**+1.3**
	baz=19,SNR=9.9						
MORW	**Morawa**	**21.44**	**180**	P	**P**	**12 53 50.4**	**+1.3**
	baz=22,SNR=4.2						
WRA	**Warramunga Arr**	**21.53**	**127**	P	**P**	**12 53 50.5**	**+0.4**
	12nm,0.8s,baz=301,slow=12,SNR=111						
ASAR	**Alice Springs**	**23.41**	**135**	P	**P**	**12 54 07.7**	**+0.5**
	3.3nm,0.3s,baz=307,slow=8.6,SNR=171						
ASAR				PcP	**PcP**	**12 57 42.1**	**-0.7**
	0.4nm,0.4s,baz=324,slow=1.8,SNR=4.6						
ASAR				ScP	**ScP**	**13 00 46.2**	**-2.0**
	1.3nm,0.6s,baz=314,slow=2.5,SNR=12						
KMBL	**Kambalda**	**24.33**	**168**	P	**P**	**12 54 16.0**	**+0.8**
	baz=24,SNR=4.9						
FORT	**Forrest**	**25.69**	**156**	P	**P**	**12 54 28.8**	**+1.4**
	baz=26,SNR=9.7						
COEN	**Coen**	**27.30**	**106**	P	**P**	**12 54 41.1**	**-0.8**
	baz=27,SNR=15						
BBOO	**Buckleboo**	**31.23**	**146**	P	**P**	**12 55 16.9**	**+0.6**
	baz=31,SNR=14						
QLP	**Quilpie**	**32.74**	**129**	P	**P**	**12 55 30.7**	**+1.3**
	baz=33,SNR=9.0						
HTT	**Hallett**	**33.31**	**144**	P	**P**	**12 55 35.5**	**+1.3**
	baz=34,SNR=13						
STKA	**Stephens Creek**	**33.90**	**139**	P	**P**	**12 55 40.4**	**+1.1**
	9.5nm,0.5s,baz=314,slow=8.2,SNR=58						
STKA	**Stephens Creek**	**33.90**	**139**	P	**P**	**12 55 40.4**	**+1.1**
	baz=34,SNR=45						
CMSA	**Cobar Meteorol**	**36.47**	**135**	P	**P**	**12 56 02.4**	**+1.4**
	baz=37,SNR=8.0						
ARPS	**Mount Arapiles**	**37.35**	**145**	P	**P**	**12 56 09.6**	**+1.3**
	baz=38,SNR=13						
YNG	**Young**	**39.91**	**136**	P	**P**	**12 56 31.2**	**+1.8**
	baz=40,SNR=7.5						
KSRS	**Korea Array**	**46.07**	**13**	P	**P**	**12 57 17.1**	**-1.1**
	1.3nm,0.7s,baz=187,slow=9.4,SNR=4.5						
SONM	**Songino Array**	**55.78**	**352**	P	**P**	**12 58 29.1**	**-0.8**
	0.4nm,0.4s,baz=175,slow=7.1,SNR=5.4						
SONM				pP	**pP**	**12 59 41.3**	**-0.8**
	0.5nm,0.7s,baz=177,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**61.88**	**334**	P	**P**	**12 59 09.1**	**-2.3**
	0.4nm,0.7s,baz=186,slow=38,SNR=3.3						
MKAR				pP	**pP**	**13 00 26.1**	**+0.8**
	0.9nm,0.8s,baz=138,slow=9.2,SNR=4.0						
AAK	**Ala-Archa**	**62.67**	**326**	P	**P**	**12 59 14.7**	**-2.2**
	0.4nm,0.4s,baz=195,slow=12,SNR=2.0						
AAK				pP	**pP**	**13 00 32.0**	**+1.0**
	0.9nm,0.7s,baz=182,slow=4.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**66.68**	**340**	P	**P**	**12 59 40.0**	**-2.1**
	0.3nm,0.3s,baz=137,slow=5.1,SNR=2.8						
MAW	**Mawson**	**69.68**	**199**	P	**P**	**13 00 00.5**	**+0.1**
	3.9nm,0.7s,baz=70,slow=9.2,SNR=6.2						
VNDA	**Vanda**	**73.89**	**171**	P	**P**	**13 00 26.1**	**+1.0**
	1.0nm,0.4s,baz=316,slow=8.2,SNR=18						
TORD	**Torodi Ar. Bea**	**115.41**	**281**	PKP	**PKPdf**	**13 07 27.1**	**-2.8**
	0.2nm,0.6s,baz=38,slow=3.9						
CPUP	**Villa Florida**	**145.76**	**190**	PKPbc	**PKPbc**	**13 08 27.6**	**+0.2**
	2.3nm,0.5s,baz=224,slow=0.5,SNR=7.9						

MAN 08 13:05:30, 11°.48N×124°.29E, h11km, mb4.2, ML3.0, MS2.7, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.53**	**144**	*e*P	Pb	13 05 41.0	-0.3
MSLP	**Maasin**	**1.45**	**157**	*e*P	Pn	13 05 56.1	0.0
GUIM	**Jordan**	**1.87**	**243**	*e*P	Pn	13 06 02.3	+0.3
GUIM				*e*S	Sn	13 06 21.4	-4.2

NNC 08 13:07:11.7±5.1, 37°.44N×70°.51E, h0km, mb3.6, mpv3.4, 5C-1D, Error ellipse: s-maj=45.6km s-min=38.9km az=78.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.66**	**0**	⇑Pn	Pn	13 08 40.8	+3.7
	1.5nm,0.3s,baz=180,slow=13,SNR=26						
KK31				⇑Sn	Sn	13 09 49.4	+6.5
	1.1nm,0.3s,baz=189,slow=22,SNR=10						
TKM2	**Tokmak 2**	**6.72**	**34**	⇑Pn	Pn	13 08 50.1	-1.8
	3.1nm,1.1s						
TKM2				⇓Sn	Sn	13 10 09.7	+0.3
	3.4nm,1.4s						
AB31	**Akbulak array**	**14.08**	**330**	⇑Pn	Pn	13 10 27.8	-4.5
	0.4nm,0.6s,baz=155,slow=11,SNR=5.9						
AB31				⇑Sn	Sn	13 13 07.6	-1.6
	0.4nm,0.6s						

IDC ***08*** *13:09:06.4±0.8, 9°.22N×126°.69E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.8/25, mbtmp3.7/10, MS3.7/1, Ms1 3.7/1, ms1mx2.7/39, Error ellipse: s-maj=44.8km s-min=15.2km az=71.0*

MAN ***08*** *13:09:08, 9°.06N×126°.95E, h20km, mb4.8, ML3.8, MS3.8*

ISCJB ***08*** *13:09:10.2±0.6, 9°.21N±0°.05×126°.86E±0°.05, h38km, mb3.6/10, MS3.7/1, Error ellipse: s-maj=8.1km s-min=6.6km az=149.0*

ISC 08 13:09:11.9±0.8, 9°.17N±0°.06×126°.81E±0°.09, h38km, n26, σ1§34/26, mb3.5/10, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.08**	**204**	⇓*e*P	**Pn**	**13 09 29.7**	**-0.8**
BIPH				*i* S	**Sn**	**13 09 42.4**	**-1.8**
BUTP	**Butuan**	**1.19**	**260**	*e*P	**Pn**	**13 09 29.9**	**-2.1**
SCPH	**Surigao**	**1.43**	**295**	⇑*e*P	**Pn**	**13 09 34.0**	**-1.4**
SCPH				*e*S	**Sn**	**13 09 52.1**	**-0.9**
MSLP	**Maasin**	**2.14**	**297**	*e*P	**Pn**	**13 09 46.0**	**+0.9**
MSLP				*e*S	Sn	13 09 53.7	-17
BUKP	**Musuan**	**2.15**	**233**	*e*P	**Pn**	**13 09 47.0**	**+1.6**
CGP	**Cagayan de Oro**	**2.21**	**251**	⇑*e*P	**Pn**	**13 09 45.5**	**-0.5**
CGP				*e*S	**Sn**	**13 10 14.1**	**+2.0**
PAGZ	**Pagadian**	**3.63**	**249**	*e*P	**Pn**	**13 10 07.3**	**+1.6**
GUIM	**Jordan**	**4.40**	**290**	*e*P	**Pn**	**13 10 16.9**	**+0.8**
OTRP	**Odiongan**	**5.67**	**304**	*e*P	**Pn**	**13 10 35.9**	**+2.2**
WSI	**Waingapu**	**19.81**	**199**	P	**Pn**	**13 13 41.6**	**+0.5**
	baz=8.5,SNR=9.4						
MTN	**Manton Dam**	**22.29**	**169**	P	P	13 14 11.2	+5.1
	baz=11,SNR=4.7						
KDU	**Kakadu**	**22.44**	**165**	P	P	13 14 15.3	+7.7
	baz=12,SNR=3.5						
KNRA	**Kununurra**	**24.77**	**175**	P	**P**	**13 14 32.2**	**+2.0**
	baz=13,SNR=4.8						
FITZ	**Fitzroy Crossi**	**27.13**	**182**	P	**P**	**13 14 52.5**	**+0.9**
	4.8nm,0.9s,baz=3.4,slow=17						
FITZ	**Fitzroy Crossi**	**27.13**	**182**	P	**P**	**13 14 52.6**	**+1.0**
	baz=15,SNR=5.2						
CMAR	**Chiang Mai Arr**	**28.55**	**292**	P	**P**	**13 15 03.9**	**-0.6**
	0.2nm,0.4s,baz=104,slow=7.6,SNR=4.1						
WRA	**Warramunga Arr**	**29.87**	**166**	P	**P**	**13 15 15.8**	**-0.2**
	0.6nm,0.7s,baz=347,slow=9.4,SNR=7.5						
ASAR	**Alice Springs**	**33.37**	**168**	P	**P**	**13 15 47.2**	**+0.5**
	0.2nm,0.4s,baz=352,slow=7.1,SNR=14						
HNR	**Honiara**	**37.82**	**118**	LR	LR	13 31 16.1	
	comp=Z,109nm,18.6s,baz=4.6,slow=35						
SONM	**Songino Array**	**42.22**	**340**	P	**P**	**13 17 00.2**	**-1.2**
	0.2nm,0.5s,baz=151,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**43.20**	**162**	P	**P**	**13 17 09.7**	**+0.4**
	1.7nm,0.9s,baz=346,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**53.21**	**323**	P	**P**	**13 18 26.1**	**-0.5**
	1.3nm,0.5s,baz=129,slow=8.0,SNR=18						
ZALV	**Zalesovo Beam**	**55.84**	**331**	P	**P**	**13 18 44.1**	**-1.3**
	0.3nm,0.5s,baz=106,slow=7.9,SNR=2.4						
ILAR	**Eielson Array**	**80.19**	**26**	P	**P**	**13 21 19.5**	**+1.4**
	0.3nm,0.8s,baz=255,slow=5.2,SNR=5.0						
ARCES	**ARCESS Array B**	**85.40**	**340**	P	**P**	**13 21 45.2**	**+0.1**
	1.7nm,0.8s,baz=79,slow=6.3,SNR=6.6						
TORD	**Torodi Ar. Bea**	**121.16**	**291**	PKP	**PKPdf**	**13 28 00.3**	**-1.4**
	0.3nm,0.8s,baz=41,slow=1.9,SNR=2.3						

IDC ***08*** *13:11:48.6±1.5, 6°.03S×150°.88E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/19, mbtmp3.9/6, ML2.2/1, Error ellipse: s-maj=63.1km s-min=22.8km az=126.0*

ISC 08 13:11:53.6±2.1, 6°.1S±0°.4×151°.1E±0°.3, h43km, n7, σ0§61/7, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.05**	**230**	Pn	**Pn**	**13 13 06.3**	**-0.6**
	0.6nm,0.3s,baz=56,slow=2.0,SNR=5.4						
PMG				Sn	**Sn**	**13 14 04.8**	**+0.7**
	0.6nm,0.3s,baz=20,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**21.27**	**228**	P	**P**	**13 16 35.9**	**-0.7**
	3.8nm,0.6s,baz=52,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.01**	**222**	P	**P**	**13 17 04.9**	**+0.3**
	1.2nm,0.4s,baz=54,slow=9.3,SNR=30						
STKA	**Stephens Creek**	**27.09**	**198**	P	**P**	**13 17 32.6**	**+0.1**
	2.1nm,0.7s,baz=14,slow=5.4,SNR=4.5						
FITZ	**Fitzroy Crossi**	**27.51**	**242**	P	**P**	**13 17 36.4**	**0.0**
	1.9nm,0.7s,baz=64,slow=7.1						
ILAR	**Eielson Array**	**84.04**	**22**	P	P	13 24 21.1	+1.7
	0.3nm,0.7s,baz=248,slow=5.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.04**	**285**	PKPbc	**PKPbc**	**13 31 38.5**	**+0.3**
	0.3nm,0.6s,baz=58,slow=3.3,SNR=2.4						

IDC 08 13:24:16.2±2.1, 9°.57S×119°.66E, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=202.8km s-min=24.6km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.54**	**128**	P	Pn	13 28 22.4	0.0
	0.1nm,0.3s,baz=301,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**19.55**	**138**	P	Pn	13 28 46.9	-0.1
	0.1nm,0.3s,baz=317,slow=11,SNR=9.9						
STKA	**Stephens Creek**	**30.11**	**141**	P	P	13 30 26.9	-0.8
	2.2nm,1.0s,baz=299,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**65.25**	**333**	P	P	13 34 59.8	0.0
	0.3nm,0.8s,baz=138,slow=8.8,SNR=2.5						

TIR ***08*** *13:30:41.2, 37°.05N×20°.14E, h32km*

ISCJB ***08*** *13:30:44.0±0.8, 37°.29N±0°.03×20°.05E±0°.03, h2km±6km, mb3.6/8, Error ellipse: s-maj=4.9km s-min=3.1km az=29.3*

IDC ***08*** *13:30:44.9±1.0, 37°.38N×20°.32E, h0km, mb3.6/9, mb1 3.7/15, mb1mx3.6/35, mbtmp3.6/15, ML3.9/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/36, Error ellipse: s-maj=18.2km s-min=16.7km az=63.0*

ATH ***08*** *13:30:46.4, 37°.34N×20°.20E, h17km±2km, MD3.7/33*

CSEM ***08*** *13:30:46.5±0.2, 37°.33N×20°.17E, h2km, ML3.9, Error ellipse: s-maj=5.4km s-min=2.8km az=41.0*

THE ***08*** *13:30:47.6, 37°.34N×20°.23E, h0km±1km, ML3.9/9, Error ellipse: s-maj=2.6km s-min=0.9km az=236.0*

BEO ***08*** *13:30:47.8±1.2, 37°.42N×20°.16E, h0km, ML3.7/7*

ISC 08 13:30:46.0±1.4, 37°.33N±0°.03×20°.17E±0°.03, h6km±9km, n243, σ1§25/282, mb3.7/8, 6C-13D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.68**	**97**	P	**Pg**	**13 30 59.7**	**+0.6**
SFD				S	**Sb**	**13 31 10.0**	**+0.2**
SFD	**Strofades**	**0.68**	**97**	*e*PN	**Pg**	**13 30 59.9**	**+0.8**
SFD	**Strofades**	**0.68**	**97**	P	**Pg**	**13 30 59.7**	**+0.6**
SFD				S	**Sb**	**13 31 10.0**	**+0.2**
VLS	**Valsamata**	**0.91**	**21**	P	**Pg**	**13 31 03.4**	**-0.1**
VLS				S	**Sb**	**13 31 18.0**	**+1.5**
VLS	**Valsamata**	**0.91**	**21**	*e*PB	**Pg**	**13 31 03.1**	**-0.4**
VLS				*e*SN	**Sg**	**13 31 15.8**	**+0.6**
VLS	**Valsamata**	**0.91**	**21**	*e*Pn	**Pg**	**13 31 03.1**	**-0.4**
VLS	**Valsamata**	**0.91**	**21**	P	**Pg**	**13 31 03.4**	**-0.1**
VLS				S	**Sb**	**13 31 18.0**	**+1.5**
KFL	**Anninata**	**0.92**	**32**	P	**Pg**	**13 31 03.5**	**-0.2**
KFL				S	**Sb**	**13 31 16.9**	**+0.1**
KFL	**Anninata**	**0.92**	**32**	P	**Pg**	**13 31 03.5**	**-0.2**
KFL				S	**Sb**	**13 31 16.9**	**+0.1**
AMT	**Artemida-Makis**	**1.24**	**80**	P	**Pn**	**13 31 10.9**	**+1.0**
AMT				S	**Sb**	**13 31 26.7**	**+0.7**
AMT	**Artemida-Makis**	**1.24**	**80**	*e*PN	**Pg**	**13 31 09.8**	**0.0**
AMT				*e*SN	**Sb**	**13 31 26.8**	**+0.7**
AMT	**Artemida-Makis**	**1.24**	**80**	*e*Pn	**Pg**	**13 31 09.8**	**0.0**
AMT	**Artemida-Makis**	**1.24**	**80**	P	**Pn**	**13 31 10.9**	**+1.0**
AMT				S	**Sb**	**13 31 26.7**	**+0.7**
RLS	**Riolos of Patr**	**1.26**	**54**	P	**Pg**	**13 31 09.3**	**-0.8**
RLS				S	**Sn**	**13 31 28.4**	**+1.1**
RLS	**Riolos of Patr**	**1.26**	**54**	*e*PN	**Pg**	**13 31 09.1**	**-1.0**
RLS	**Riolos of Patr**	**1.26**	**54**	P	**Pg**	**13 31 09.3**	**-0.8**
RLS				S	**Sn**	**13 31 28.4**	**+1.1**
PYL	**PYLOS**	**1.33**	**109**	P	**Pg**	**13 31 10.5**	**-1.0**
PYL				S	**Sn**	**13 31 31.3**	**+2.3**
PYL	**PYLOS**	**1.33**	**109**	*e*PN	**Pg**	**13 31 10.6**	**-1.0**
PYL	**PYLOS**	**1.33**	**109**	P	**Pg**	**13 31 10.5**	**-1.0**
PYL				S	**Sg**	**13 31 27.9**	**-0.8**
DRO	**Drossia**	**1.37**	**63**	P	**Pg**	**13 31 12.2**	**-0.1**
DRO				S	**Sn**	**13 31 31.4**	**+1.3**
DRO	**Drossia**	**1.37**	**63**	*e*PN	**Pg**	**13 31 12.1**	**-0.2**
DRO	**Drossia**	**1.37**	**63**	P	**Pg**	**13 31 12.2**	**-0.1**
DRO				S	**Sb**	**13 31 30.8**	**+1.0**
ITM	**Ithomi**	**1.41**	**96**	P	**Pn**	**13 31 12.2**	**0.0**
ITM				S	**Sn**	**13 31 33.0**	**+1.9**
ITM	**Ithomi**	**1.41**	**96**	*e*PN	**Pn**	**13 31 12.0**	**-0.2**
ITM	**Ithomi**	**1.41**	**96**	P	**Pn**	**13 31 12.2**	**0.0**
ITM				S	**Sg**	**13 31 30.6**	**-0.7**
PDO	**Prodromos**	**1.50**	**32**	P	**Pb**	**13 31 14.7**	**+0.5**
PDO	**Prodromos**	**1.50**	**32**	*e*PN	**Pb**	**13 31 14.6**	**+0.4**
PDO	**Prodromos**	**1.50**	**32**	*e*Pn	**Pb**	**13 31 14.6**	**

SRN	Sarande	2.55	357	*i* Pn	Pb	13 31 32.1	0.0
MEV	Metsovon	2.59	18	P	Pn	13 31 30.8	+2.2
MEV	Metsovon	2.59	18	P	Pn	13 31 30.8	+2.2
LKR	Lokris	2.59	59	P	Pn	13 31 29.3	+0.8
LKR	Lokris	2.59	59	*e*PB	Pn	13 31 29.9	+1.4
LKR	Lokris	2.59	59	P	Pn	13 31 29.3	+0.8
LKR	Lokris	2.59	59	*e*Pb	Pn	13 31 29.9	+1.4
VIL2	Platees	2.60	69	*e*Pn	Pn	13 31 30.0	+1.3
VILL	Villia	2.62	71	P	Pn	13 31 30.0	+1.0
VILL	Villia	2.62	71	P	Pn	13 31 30.0	+1.0
THL	Klokotos Trika	2.66	32	P	Pn	13 31 30.8	+1.4
THL	Klokotos Trika	2.66	32	*e*PN	Pn	13 31 30.7	+1.4
THL	Klokotos Trika	2.66	32	*e*Pn	Pn	13 31 30.7	+1.4
SMIA	Simia	2.85	56	*e*PN	Pn	13 31 33.2	+1.2
SMIA	Simia	2.85	56	*e*Pn	Pn	13 31 33.2	+1.2
ANKY	Antikythira Is	2.91	119	*e*PN	Pn	13 31 34.2	+1.4
ANKY	Antikythira Is	2.91	119	*e*Pn	Pn	13 31 34.2	+1.4
MRKA	Markates	3.02	62	*e*PN	Pn	13 31 35.5	+1.0
MRKA	Markates	3.02	62	*e*Pn	Pn	13 31 35.5	+1.0
ERET	Eretria	3.08	68	P	Pn	13 31 35.6	+0.3
ERET	Eretria	3.08	68	P	Pn	13 31 35.6	+0.3
NEO	Neokhori	3.10	50	*e*PN	Pn	13 31 36.5	+0.9
NEO	Neokhori	3.10	50	*e*Pn	Pn	13 31 36.5	+0.9
XOR	Xorichti	3.12	49	P	Pn	13 31 36.6	+0.8
XOR	Xorichti	3.12	49	*e*PN	Pn	13 31 35.8	0.0
XOR	Xorichti	3.12	49	*e*Pn	Pn	13 31 35.8	0.0
XOR	Xorichti	3.12	49	P	Pn	13 31 36.6	+0.8
NEST	Nestorio	3.15	12	P	Pn	13 31 38.6	+2.3
NEST	Nestorio	3.15	12	*e*PB	Pn	13 31 38.6	+2.3
NEST	Nestorio	3.15	12	P	Pn	13 31 38.6	+2.3
SKIA	Skiathos	3.17	54	*e*PN	Pn	13 31 36.2	-0.3
SKIA	Skiathos	3.17	54	*e*Pn	Pn	13 31 36.2	-0.3
KZN	Kozani	3.22	22	P	Pn	13 31 39.1	+1.8
KZN	Kozani	3.22	22	*e*PN	Pn	13 31 39.0	+1.8
KZN	Kozani	3.22	22	*e*Pn	Pn	13 31 39.0	+1.8
LIT	Litokhoron	3.31	33	*e*PN	Pn	13 31 38.6	+0.3
LIT	Litokhoron	3.31	33	*e*Pn	Pn	13 31 38.6	+0.3
KBN	Korca	3.32	8	*i* PN	Pn	13 31 39.9	+1.3
KBN	Korca	3.32	8	*i* Pn	Pn	13 31 39.9	+1.3
AOS	Alonnisos	3.45	57	*e*PN	Pn	13 31 40.4	+0.2
AOS	Alonnisos	3.45	57	*e*Pn	Pn	13 31 40.4	+0.2
FNA	Florina	3.57	15	*e*PN	Pn	13 31 43.2	+1.2
FNA	Florina	3.57	15	*e*Pn	Pn	13 31 43.2	+1.2
VAM	Vamos	3.77	119	*e*PN	Pn	13 31 45.5	+0.8
VAM	Vamos	3.77	119	*e*Pn	Pn	13 31 45.5	+0.8
BIA	Bitola	3.79	13	*i* Pn	Pn	13 31 46.3	+1.2
BIA	Bitola	3.79	13	*i* Pn	Pn	13 31 46.2	+1.2
THE	Thessaloniki	3.95	33	*e*PN	Pn	13 31 47.0	-0.1
THE	Thessaloniki	3.95	33	*e*Pn	Pn	13 31 47.0	-0.1
PLG	Polygyros	3.97	39	*e*PN	Pn	13 31 47.1	-0.3
PLG	Polygyros	3.97	39	*e*Pn	Pn	13 31 47.1	-0.3
HORT	Hortiatis	3.98	34	*e*PN	Pn	13 31 48.2	+0.6
HORT	Hortiatis	3.98	34	*e*Pn	Pn	13 31 48.2	+0.6
GRG	Griva	4.01	25	*e*PN	Pn	13 31 48.4	+0.3
GRG	Griva	4.01	25	*e*Pn	Pn	13 31 48.4	+0.3
PE1	Pezze di Greco	4.08	329	*e*Pn	Pn	13 31 50.3	+1.4
OUR	Ouranopolis	4.22	44	*e*PN	Pn	13 31 50.9	0.0
OUR	Ouranopolis	4.22	44	*e*Pn	Pn	13 31 50.9	0.0
SOH	Sokhos	4.27	34	*e*PN	Pn	13 31 52.5	+0.8
SOH	Sokhos	4.27	34	*e*Pn	Pn	13 31 52.5	+0.8
APE	Apeiranthos	4.28	92	*e*PN	Pn	13 31 52.1	+0.3
APE	Apeiranthos	4.28	92	*e*Pn	Pn	13 31 52.1	+0.3
IDI	Anoyia	4.32	117	*e*PN	Pn	13 31 55.2	+2.9
IDI	Anoyia	4.32	117	*e*Pn	Pn	13 31 55.2	+2.9
IDI	Anoyia	4.32	117	Pn	Pn	13 31 52.2	-0.1
	2.8nm,0.3s,baz=316,slow=12,SNR=13						
IDI				Sn	Sn	13 32 41.7	-1.3
	9.8nm,0.3s,baz=300,slow=23,SNR=16						
PHP	Peshkopia	4.35	3	*i* PN	Pn	13 31 54.8	+2.1
PHP	Peshkopia	4.35	3	*i* Pn	Pn	13 31 54.8	+2.1
KNT	Kendrikon	4.37	28	*e*PN	Pn	13 31 53.8	+0.9
KNT	Kendrikon	4.37	28	*e*Pn	Pn	13 31 53.8	+0.9
VAY	Valandovo	4.40	24	*e*Pn	Pn	13 31 52.3	-1.0
VAY	Valandovo	4.40	24	*e*Pn	Pn	13 31 52.7	-0.6
BAI	Bari	4.56	327	*e*Pn	Pn	13 31 57.1	+1.6
BAI				*e*Sn	Sn	13 32 50.3	+1.6
SRS	Serrai	4.62	34	*e*PN	Pn	13 31 56.2	-0.2
SRS	Serrai	4.62	34	*e*Pn	Pn	13 31 56.2	-0.2
PUK	Puka	4.71	357	*i* PN	Pn	13 31 58.4	+0.7
PUK	Puka	4.71	357	*i* Pn	Pn	13 31 58.4	+0.7
SKO	Skopje	4.74	12	*i* Pn	Pn	13 31 58.2	+0.2
SKO	Skopje	4.74	12	*e*PN	Pn	13 31 58.8	+0.8
SKO	Skopje	4.74	12	*e*Pn	Pn	13 31 59.3	+1.3
CDT	Castel del Mon	4.82	322	*e*Pn	Pn	13 32 00.9	+1.8
NVR	Nevrokopi	4.93	34	*e*PN	Pn	13 32 01.6	+1.0
NVR	Nevrokopi	4.93	34	*e*Pn	Pn	13 32 01.6	+1.0
KKB	Krupnik	5.06	25	*i* P	Pn	13 32 03.1	+0.7
KKB	Krupnik	5.06	25	*i* Pn	Pn	13 32 03.1	+0.7
MMB	Musomiste	5.06	32	*i* Pn	Pn	13 32 03.0	+0.5
MMB	Musomiste	5.06	32	*i*P Pn	Pn	13 32 02.7	+0.2
MMB	Musomiste	5.06	32	*i*P Pn	Pn	13 32 02.7	+0.2
PDG	Podgorica	5.14	352	*e*Pn	Pn	13 32 05.3	+1.8
PDG	Podgorica	5.14	352	*e*Pn	Pn	13 32 05.3	+1.8
ZKR	Zakros	5.36	113	*e*PN	Pn	13 32 08.5	+1.9
ZKR	Zakros	5.36	113	*e*Pn	Pn	13 32 08.5	+1.9
VTS	Vitosha	5.75	23	*i* P	Pn	13 32 13.0	+1.0
VTS	Vitosha	5.75	23	*i*P Pn	Pn	13 32 13.5	+1.5
VTS				eSn	Sn	13 33 16.7	-1.6
VTS	Vitosha	5.75	23	*i*P Pn	Pn	13 32 13.5	+1.5
VTS	Vitosha	5.75	23	*i* P	Pn	13 32 13.0	+1.0
VTS	Vitosha	5.75	23	*i*P Pn	Pn	13 32 13.5	+1.5
KDZ	Kurdzhali	5.92	42	*i*P Pn	Pn	13 32 13.9	-0.3
KDZ	Kurdzhali	5.92	42	*i*P Pn	Pn	13 32 13.9	-0.3
SJES	Sjenica	5.92	359	*e*Pn	Pn	13 32 14.7	+0.3
SELS	Selova	5.93	7	*e*Pn	Pn	13 32 13.4	-0.9
ZAPS	Zavoj	6.23	17	*e*Pn	Pn	13 32 19.5	+1.0
IVAS	Ivanjica	6.24	360	*e*PN	Pn	13 32 18.9	+0.3
IVAS	Ivanjica	6.24	360	*e*Pn	Pn	13 32 18.9	+0.3
BBLS	Lazići	6.55	355	*e*PN	Pn	13 32 24.5	+1.5
BBLS	Lazići	6.55	355	*e*Pn	Pn	13 32 24.5	+1.5
MPEP	Malo Peshtene	6.61	23	*i* P	Pn	13 32 23.7	+0.1
BOLS	Boljevac	6.63	11	*e*PN	Pn	13 32 23.2	-0.8
BOLS	Boljevac	6.63	11	*e*Pn	Pn	13 32 23.2	-0.8
DIVS	Divibare	6.76	359	*e*Pn	Pn	13 32 26.6	+0.8
DIVS				eSn	Sn	13 33 39.8	-3.4
DIVS	Divibare	6.76	359	*e*Pn	Pn	13 32 26.6	+0.8
TEKS	Tekeris	7.23	356	*e*Pn	Pn	13 32 32.0	-0.2
TEKS	Tekeris	7.23	356	*e*Pn	Pn	13 32 32.0	-0.2
NVLJ	Novalja	8.26	333	*e*Pn	Pn	13 32 47.4	+1.0
NVLJ				Sn	Sn	13 34 16.9	-3.1
NVLJ	Novalja	8.26	333	*e*Pn	Pn	13 32 47.3	+1.0
GZR	Gura Zlata	8.29	13	*i*P Pn	Pn	13 32 47.1	+0.3
GZR	Gura Zlata	8.29	13	*i*P Pn	Pn	13 32 47.1	+0.3
BZS	Buzias	8.35	7	*i*P Pn	Pn	13 32 33.5	-14
VOIR		8.89	23	*i*P Pn	Pn	13 32 55.9	+0.9
VOIR		8.89	23	*i*P Pn	Pn	13 32 55.9	+0.9
BOJS	Bojanci	8.96	337	*i* Pn	Pn	13 32 57.0	+1.1
BOJS				*i* Sn	Sn	13 34 34.5	-2.6
BOJS	Bojanci	8.96	337	Pn	Pn	13 32 57.0	+1.1
MLR	Muntele Rosu	9.23	26	*i*P Pn	Pn	13 32 02.5	+2.8
MLR	Muntele Rosu	9.23	26	*i*P Pn	Pn	13 32 02.5	+2.8
MLR	Muntele Rosu	9.23	26	Pn	Pn	13 32 60.0	+0.2
	0.2nm,0.3s,baz=197,slow=5.7,SNR=6.8						
VISS	Visnje	9.36	336	*i* Pn	Pn	13 33 03.0	+1.6
VISS				*i* Sn	Sn	13 34 42.0	-4.9
VISS	Visnje	9.36	336	*i* Pn	Pn	13 33 03.0	+1.6
PLOR	Plostina	9.79	28	*i*P Pn	Pn	13 33 09.9	+2.5
PLOR	Plostina	9.79	28	*i*P Pn	Pn	13 33 09.9	+2.5
VRI	Vrincioaia	9.84	28	*i*P Pn	Pn	13 33 10.3	+2.4
VRI	Vrincioaia	9.84	28	*i*P Pn	Pn	13 33 10.3	+2.4
GERES	GERESS Array B	12.44	340	Pn	Pn	13 33 43.9	+0.4
	0.2nm,0.3s,baz=127,slow=6.5,SNR=3.6						
GERES				LR	LR	13 38 08.9	
	comp=Z,73nm,18.1s,baz=302,slow=36						
MMAI	Mount Meron Ar	13.18	105	Pn	Pn	13 33 52.9	-0.9
	1.4nm,0.3s,baz=302,slow=14,SNR=2.8						
EIL	Elat	14.49	118	Pn	Pn	13 34 09.7	-2.0
	1.0nm,0.3s,baz=282,slow=9.3,SNR=3.5						
AKASG	Malin Array Be	14.85	23	Pn	Pn	13 34 14.7	-1.7
	0.6nm,0.3s,baz=213,slow=12,SNR=4.4						
MDT	Midelt	20.76	265	P	P	13 35 29.4	+1.7
	0.9nm,0.6s,baz=34,slow=7.3,SNR=3.5						
HFS	Hagfors	23.20	352	P	P	13 35 53.1	-0.2
	2.0nm,0.6s,baz=156,slow=7.8,SNR=7.3						
EKA	Eskdalemuir Ar	23.97	326	P	P	13 36 01.8	+0.9
	0.5nm,0.4s,baz=137,slow=13,SNR=2.8						
NB2	NORSAR Subarra	24.40	349	P	P	13 36 04.1	-0.8
	comp=Z,9.6nm,1.4s,baz=162,slow=9.3						
NB2	NORSAR Subarra	24.40	349	P	P	13 36 04.1	-0.8
	comp=Z,9.6nm,1.4s,SNR=4.5						
NOA	NORSAR Array B	24.40	349	P	P	13 36 04.2	-0.7
	comp=Z,1.2nm,0.8s,baz=181,slow=12,SNR=3.6						
FINES	FINESS Array B	24.42	7	P	P	13 36 03.1	-1.9
	comp=Z,0.8nm,0.5s,baz=224,slow=8.0,SNR=6.7						
TORD	Torodi Ar. Bea	29.20	219	P	P	13 36 48.8	+0.4
	comp=Z,0.5nm,0.5s,baz=29,slow=8.4,SNR=8.9						
ARCES	ARCESS Array B	32.39	3	P	P	13 37 15.1	-1.0
	comp=Z,1.6nm,0.9s,baz=186,slow=9.8,SNR=7.6						
MKAR	Makanchi Array	45.98	58	P	P	13 39 08.3	-1.6
	comp=Z,0.3nm,0.5s,baz=273,slow=6.9,SNR=8.6						
ZALV	Zalesovo Beam	46.46	47	P	P	13 39 12.0	-1.5
	comp=Z,0.7nm,0.4s,baz=273,slow=7.8,SNR=4.8						

IDC 08 13:31:37.8±2.9, 6.01S×154.41E, h437km±26km, mb3.0/6, mb1 3.1/7, mb1mx2.9/19, mbtmp3.0/7, Error ellipse: s-maj=50.2km s-min=13.0km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.94	244	P	P	13 33 32.8	+0.3
	1.2nm,0.3s,baz=120,slow=4.5,SNR=7.2						
WRA	Warramunga Arr	23.92	233	P	P	13 36 15.4	-0.1
	0.7nm,0.6s,baz=60,slow=11,SNR=12						
ASAR	Alice Springs	26.41	226	P	P	13 36 37.5	-0.1
	0.3nm,0.3s,baz=56,slow=9.1,SNR=8.0						
ASAR				PcP	PcP	13 39 50.9	+1.3
	0.2nm,0.6s,baz=64,slow=2.2,SNR=4.7						
ASAR				S	S	13 40 39.2	+0.1
	0.2nm,0.8s,baz=55,slow=14,SNR=5.3						
PETK	Petropavlovsk-	58.96	2	P	P	13 40 53.5	+0.1
	2.8nm,0.9s,baz=155,slow=8.3,SNR=9.3						
SONM	Songino Array	68.20	327	P	P	13 41 53.5	+0.1
	0.3nm,0.5s,baz=156,slow=6.3,SNR=3.1						
MKAR	Makanchi Array	82.29	319	P	P	13 43 12.4	0.0
	0.4nm,0.7s,baz=110,slow=7.1,SNR=3.3						
ILAR	Eielson Array	82.68	22	P	P	13 43 13.0	-0.9
	0.5nm,0.6s,baz=250,slow=4.9,SNR=11						
TORD	Torodi Ar. Bea	152.20	287	PKPbc	PKPbc	13 50 44.1	+0.2
	0.4nm,0.5s,baz=50,slow=2.0,SNR=7.7						

*CSEM **08** 13:37:58.9, 39.83N×19.80E, h32km, MD2.9, After ATH*
ATH 08 13:37:58.9, 39.83N×19.80E, h32km±3km, MD2.9/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	Kerkira	0.12	180	*e*PB	Pb	13 38 05.2	+0.6
KEK				*e*SB	Sb	13 38 08.8	+0.2
KEK	Kerkira	0.12	180	*e*Pb	Pb	13 38 05.2	+0.6
KEK				*e*Sb	Sb	13 38 08.8	+0.2
IGT	Igoumenitsa	0.51	126	*e*PN	Pn	13 38 10.3	+0.4
IGT				*e*SN	Sn	13 38 18.3	+0.7
IGT	Igoumenitsa	0.51	126	*e*Pn	Pn	13 38 10.3	+0.4
IGT				*e*Sn	Sn	13 38 18.3	+0.7
JAN	Janina	0.83	102	*e*PB	Pn	13 38 14.5	+0.1
JAN				*e*SN	Sb	13 38 26.6	+0.8
JAN	Janina	0.83	102	*e*Pb	Pn	13 38 14.5	+0.1
JAN				*e*Sn	Sb	13 38 26.6	+0.8
NEST	Nestorio	1.12	58	*e*PN	Pb	13 38 20.2	+0.3
NEST	Nestorio	1.12	58	*e*Pn	Pb	13 38 20.2	+0.3

IDC 08 13:42:29.1±2.0, 12.78N×92.75E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/27, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=53.5km s-min=25.5km az=71.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	8.21	46	Pn	Pn	13 44 30.6	+1.0
	0.2nm,0.3s,baz=234,slow=15,SNR=2.0						
H08S3	Diego Garcia H	28.58	226	T	T	14 17 43.9	
	baz=44,slow=75,SNR=22						
H08S2	Diego Garcia H	28.58	226	T	T	14 17 40.8	
	baz=44,slow=75,SNR=27						
H08S1	Diego Carcia H	28.60	226	T	T	14 17 48.5	
	baz=44,slow=75,SNR=26						
MKAR	Makanchi Array	35.03	347	P	P	13 49 23.2	-0.3
	0.5nm,0.8s,baz=175,slow=6.9,SNR=3.1						
MJAR	Matsushiro Arr	47.05	52	P	P	13 51 02.4	-0.2
	2.6nm,0.3s,baz=242,slow=7.3,SNR=16						
WRA	Warramunga Arr	52.28	128	P	P	13 51 42.7	0.0
	0.2nm,0.6s,baz=304,slow=10,SNR=3.5						
ASAR	Alice Springs	54.15	132	P	P	13 51 56.5	0.0
	0.2nm,0.3s,baz=309,slow=7.2,SNR=8.8						

IDC 08 13:48:52.0±0.8, 13.89N×145.24E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/25, mbtmp3.7/7, Error ellipse: s-maj=44.9km s-min=18.9km az=105.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N1	WAKE ISLAND Hy	21.51	71	T	T	14 16 58.1	
	baz=261,slow=75,SNR=4.0						
H11N2	WAKE ISLAND Hy	21.52	71	T	T	14 17 00.8	
H11N3	WAKE ISLAND Hy	21.53	71	T	T	14 17 01.0	
	baz=256,slow=75,SNR=3.9						
WRA	Warramunga Arr	35.29	198	P	P	13 55 48.3	-0.6
	1.4nm,0.9s,baz=21,slow=9.5,SNR=12						
ASAR	Alice Springs	38.94	197	P	P	13 56 20.2	+0.3
	0.4nm,0.7s,baz=19,slow=13,SNR=7.9						
STKA	Stephens Creek	45.64	184	P	P	13 57 14.0	-0.4
	2.6nm,1.0s,baz=2.1,slow=7.4,SNR=5.4						
MKAR	Makanchi Array	61.52	316	P	P	13 59 11.3	+0.4
	0.2nm,0.4s,baz=89,slow=8.2,SNR=3.9						
ILAR	Eielson Array	68.14	25	P	P	13 59 52.5	-1.2
	0.5nm,0.5s,baz=253,slow=6.2,SNR=15						
YKA	Yellowknife Ar	82.43	27	P	P	14 01 15.9	-0.1
	0.3nm,0.4s,baz=287,slow=5.0,SNR=4.3						
NVAR	Mina Array Bea	86.45	51	P	P	14 01 39.0	+1.7
	0.4nm,0.6s,baz=289,slow=5.6,SNR=3.1						

IDC 08 14:10:43.6±368.0, 66.10N×40.74E, h0km, Error ellipse: s-maj=136.1km s-min=76.8km az=132.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	AKTYUBINSK INF	18.06	142	*i*		15 53 40.0	
	baz=337,slow=329,SNR=0.8						
I46RU	ZALESOVO INFRA	24.55	98	*i*		16 34 40.0	
	baz=316,slow=339,SNR=1.0						
I18DK	QAANAAQ INFRAS	30.60	336	*i*		17 09 20.0	
	baz=36,slow=341,SNR=0.4						
I53US	FAIRBANKS INFR	49.17	5	*i*		19 02 10.0	
	baz=4.1,slow=329,SNR=0.4						

DJA 08 14:16:52.9±0.6, 4.3S×11.7×12.8E±°, h15km, M3.5/3, MLv3.5/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	Namlea	0.50	304	P	Pg	14 17 03.0	+0.1
NLAI				S	Sb	14 17 10.5	-0.1
BNDI	Bandanaira	2.58	113	P	Pn	14 17 35.5	+1.4
SWI	Sorong	4.58	55	P	Pn	14 18 01.9	+0.3
FAKI	Fak Fak	4.76	83	P	Pn	14 18 04.5	+0.3

IDC 08 14:41:22.9±9.4, 6.85N×77.55W, h0km, mb1 3.3/1, mb1mx3.1/22, mbtmp3.6/1, ML2.1/1, Error ellipse: s-maj=554.7km s-min=33.7km az=24.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	3.76	122	Pn	Pn	14 42 23.4	+0.6
	3.2nm,0.3s,baz=280,slow=19,SNR=4.6						
ROSC				Sn	Sn	14 43 07.9	-0.2
	1.2nm,0.3s,baz=102,slow=20,SNR=4.6						
ASAR	Alice Springs	145.49	238	PKPbc	PKPbc	15 01 03.0	-1.1
	0.4nm,0.4s,baz=111,slow=3.9,SNR=6.8						
WRA	Warramunga Arr	146.45	244	PKPbc	PKPdf	15 01 06.3	+0.6
	0.4nm,0.7s,baz=108,slow=2.9,SNR=6.3						

*ISK **08** 14:48:26.5, 36.56N×27.59E, h86km, MD3.2*
*ATH **08** 14:48:26.3, 36.58N×27.67E, h92km±2km*
*ISCJB **08** 14:48:27.0±0.5, 36.57N±0.03×27.60E±0.04, h89km±6km, Error ellipse: s-maj=6.3km s-min=3.9km az=43.9*
*CSEM **08** 14:48:27.8±0.1, 36.57N×27.63E, h84km±2km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.2km az=136.0*
*THE **08** 14:48:29.9, 36.59N×27.47E, h71km±7km, ML3.1/1, Error ellipse: s-maj=8.1km s-min=0.9km az=113.0*
*DDA **08** 14:48:32.1, 36.91N×27.88E, h59km, MD2.7*

ISC 08 14:48:27.5±1.3, 36.57N±0.03×27.62E±0.03, h88km±8km, n72, σ0.64/96, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.51	344	*i* P	Pn	14 48 42.6	+0.4
BDRM				*i* S	Sn	14 48 53.2	+0.1
BDRM	Kayabasi	0.51	344	*i* P	Pn	14 48 42.6	+0.4
BDRM				*i* S	Sn	14 48 53.2	+0.1
ARG	Arkhangelos	0.54	131	P	Pn	14 48 43.1	+0.7
ARG				S	Sn	14 48 53.9	+0.4
ARG	Arkhangelos	0.54	131	*e*P	Pn	14 48 42.8	+0.4
ARG				*e*S	Sn	14 48 53.5	0.0
ARG	Arkhangelos	0.54	131	*e*P	Pn	14 48 42.8	+0.4
ARG				S	Sn	14 48 53.9	+0.4
BODT	Bodrum	0.55	333	*e*PG	Pn	14 48 42.5	0.0
BODT				*e*SG	Sn	14 48 53.2	-0.4
BODT	Bodrum	0.55	333	*e*Pg	Pn	14 48 42.5	0.0
BODT				*e*Sg	Sn	14 48 53.2	-0.4
YER	Yerkesik	0.77	43	*e*PG	Pn	14 48 44.7	0.0
YER				*e*SG	Sn	14 48 56.6	-0.9
YER	Yerkesik	0.77	43	*e*Pg	Pn	14 48 44.7	0.0
YER				*e*Sg	Sn	14 48 56.6	-0.9
TURN	Turunc	0.85	69	*i* P	Pn	14 48 42.7	-2.7
DALY	Dalyan (Mu˘la	0.87	73	*e*PG	Pn	14 48 45.9	+0.3
DALY	Dalyan (Mu˘la	0.87	73	*e*Pg	Pn	14 48 45.9	+0.3
KARP	Karpathos	1.09	200	P	Pn	14 48 48.4	+0.2
KARP				S	Sn	14 49 03.5	-0.2
KARP	Karpathos	1.09	200	*e*P	Pn	14 48 48.2	0.0
KARP				*e*S	Sn	14 49 04.2	+0.5
KARP	Karpathos	1.09	200	*e*P	Pn	14 48 48.2	0.0
KARP				S	Sn	14 49 03.5	-0.2
AYDN	Tasoluk	1.11	11	*i* P	Pn	14 48 48.9	+0.5
AYDN				*i* S	Sn	14 49 03.8	-0.3
AYDN	Tasoluk	1.11	11	*i* P	Pn	14 48 48.9	+0.5
AYDN				*i* S	Sn	14 49 03.8	-0.3
GCAM	G?zelcaml?	1.17	345	*i* P	Pn	14 48 49.3	+0.2
GCAM	G?zelcaml?	1.17	345	*i* P	Pn	14 48 49.3	+0.2
SMG	Samos	1.29	331	P	Pn	14 48 50.6	0.0
SMG	Samos	1.29	331	*e*P	Pn	14 48 50.3	-0.3
SMG	Samos	1.29	331	P	Pn	14 48 50.6	0.0
AYDB	Zeytinkoy-Aydi	1.39	9	*e*PN	Pn	14 48 51.8	-0.1
AYDB	Zeytinkoy-Aydi	1.39	9	*e*Pn	Pn	14 48 51.8	-0.1
AKAS	Kas	1.64	101	*i* P	Pn	14 48 55.1	0.0
AKAS	Kas	1.64	101	*i* P	Pn	14 48 55.1	0.0
KSL	Kastellorizon	1.64	104	*e*P	Pn	14 48 54.4	-0.6
KSL	Kastellorizon	1.64	104	*e*P	Pn	14 48 54.4	-0.6
GOLH	Golhisar	1.69	66	*i* P	Pn	14 48 56.3	+0.5
GOLH				*i* S	Sn	14 49 17.6	+0.4
GOLH	Golhisar	1.69	66	*i* P	Pn	14 48 56.3	+0.5
GOLH				*i* S	Sn	14 49 17.6	+0.4
APE	Apeiranthos	1.75	287	*e*P	Pn	14 48 57.3	+0.9
APE	Apeiranthos	1.75	287	*e*P	Pn	14 48 57.3	+0.9
IZM	Izmir	1.84	351	*e*PN	Pn	14 48 57.5	-0.1
IZM	Izmir	1.84	351	*e*Pn	Pn	14 48 57.5	-0.1
ZKR	Zakros	1.85	218	*e*PN	Pn	14 48 57.2	-0.5
ZKR	Zakros	1.85	218	P	Pn	14 48 58.7	+1.0
ZKR				S	Sn	14 49 20.6	0.0
ZKR	Zakros	1.85	218	*e*P	Pn	14 48 58.5	+0.8
ZKR	Zakros	1.85	218	*e*Pn	Pn	14 48 57.2	-0.5
ZKR	Zakros	1.

	11nm,0.5s,baz=345,slow=1.5,SNR=17						
CNB	**Canberra Magne**	**33.60**	**232**	P	**P**	**15 06 44.4**	**+0.8**
	baz=34,SNR=5.1						
CMSA	**Cobar Meteorol**	**35.29**	**240**	P	**P**	**15 06 57.9**	**+0.1**
	baz=35,SNR=9.3						
QLP	**Quilpie**	**35.64**	**249**	P	**P**	**15 07 00.3**	**-0.4**
	baz=36,SNR=5.7						
TOO	**Toolangi**	**37.34**	**231**	P	**P**	**15 07 15.8**	**+1.2**
	baz=38,SNR=5.9						
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**15 07 26.4**	**+0.1**
	2.2nm,0.4s,baz=86,slow=9.8,SNR=19						
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**15 07 26.8**	**+0.5**
	baz=39,SNR=13						
HTT	**Hallett**	**41.29**	**239**	P	**P**	**15 07 46.8**	**+0.3**
	baz=41,SNR=9.0						
BBOO	**Buckleboo**	**43.55**	**241**	P	**P**	**15 08 04.2**	**+0.1**
	baz=44,SNR=15						
WRA	**Warramunga Arr**	**44.70**	**259**	P	**P**	**15 08 12.5**	**-0.7**
	1.2nm,0.5s,baz=90,slow=6.8,SNR=40						
WRA				ScP	**ScP**	**15 12 47.9**	**+3.6**
	0.3nm,0.7s,baz=88,slow=4.2,SNR=5.4						
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**15 08 14.2**	**-0.4**
	11nm,0.6s,baz=89,slow=8.1,SNR=256						
ASAR				ScP	**ScP**	**15 12 49.2**	**+4.2**
	0.4nm,0.4s,baz=92,slow=4.6,SNR=9.4						
KDU	**Kakadu**	**47.58**	**269**	P	**P**	**15 08 35.0**	**-0.1**
	baz=48,SNR=4.8						
KNRA	**Kununurra**	**50.53**	**264**	P	**P**	**15 08 56.9**	**-0.1**
	baz=51,SNR=3.7						
VNDA	**Vanda**	**60.70**	**185**	P	**P**	**15 10 07.7**	**+1.3**
	0.9nm,0.5s,baz=341,slow=6.4,SNR=12						
MJAR	**Matsushiro Arr**	**67.72**	**323**	P	**P**	**15 10 51.3**	**-0.2**
	4.1nm,0.6s,baz=155,slow=6.2,SNR=12						
MAT	**Matsushiro**	**67.72**	**323**	P	**P**	**15 10 51.3**	**-0.3**
PETK	**Petropavlovsk-**	**73.44**	**345**	P	**P**	**15 11 24.9**	**0.0**
	6.2nm,0.7s,baz=136,slow=9.0,SNR=26						
KSRS	**Korea Array**	**74.53**	**318**	P	**P**	**15 11 32.5**	**+1.2**
	1.3nm,0.6s,baz=127,slow=6.5,SNR=7.6						
USRK	**Ussuriysk Arra**	**76.42**	**326**	P	**P**	**15 11 43.0**	**+1.3**
	1.0nm,0.5s,baz=97,slow=5.8,SNR=5.4						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	**P**	**15 11 58.4**	**+1.1**
	4.0nm,0.7s,baz=231,slow=8.7,SNR=26						
MAW	**Mawson**	**84.11**	**200**	P	**P**	**15 12 21.5**	**+0.1**
	1.8nm,0.5s,baz=112,slow=7.3,SNR=4.3						
ILAR	**Eielson Array**	**85.64**	**13**	P	**P**	**15 12 27.9**	**-0.9**
	2.1nm,0.4s,baz=225,slow=5.2,SNR=89						
TXAR	**Lajitas Array**	**85.84**	**58**	P	**P**	**15 12 32.8**	**+2.0**
	2.7nm,0.8s,baz=215,slow=6.0,SNR=27						
PDAR	**Pinedale Array**	**87.16**	**43**	P	**P**	**15 12 37.5**	**+0.6**
	1.8nm,0.5s,baz=200,slow=3.3,SNR=21						
CMAR	**Chiang Mai Arr**	**88.82**	**290**	P	**P**	**15 12 45.6**	**+0.8**
	1.3nm,0.9s,baz=104,slow=3.1,SNR=8.7						
SONM	**Songino Array**	**93.37**	**319**	P	**P**	**15 13 05.6**	**+0.3**
	0.4nm,0.5s,baz=136,slow=5.8,SNR=5.8						
YKA	**Yellowknife Ar**	**94.09**	**25**	P	**P**	**15 13 08.0**	**0.0**
	1.6nm,0.8s,baz=247,slow=4.5,SNR=14						
MKAR	**Makanchi Array**	**108.97**	**314**	PKiKP	**PKiKP**	**15 18 15.1**	**-0.8**
	0.6nm,0.5s,baz=206,slow=0.6,SNR=7.7						
KURBB	**Kurchatov Arra**	**111.70**	**318**	PKiKP	**PKiKP**	**15 18 20.0**	**-0.8**
	0.9nm,0.3s,baz=82,slow=2.4,SNR=5.7						
BVAR	**Borovoye Array**	**116.66**	**321**	PKP	**PKPdf**	**15 18 30.0**	**-0.4**
	0.7nm,0.4s,baz=128,slow=2.0,SNR=6.9						
ARCES	**ARCESS Array B**	**126.03**	**351**	PKP	**PKPdf**	**15 18 46.8**	**-1.2**
	1.1nm,0.6s,baz=82,slow=2.9,SNR=7.5						
FINES	**FINESS Array B**	**132.95**	**344**	PKP	**PKPdf**	**15 19 00.4**	**-0.8**
	1.6nm,0.7s,baz=151,slow=5.9,SNR=4.7						
FINES				SKPbc	**SKPab**	**15 21 40.4**	**-0.1**
	2.4nm,0.9s,baz=85,slow=4.7,SNR=5.3						
AKASG	**Malin Array Be**	**140.34**	**332**	PKhKP	PKPpre	15 19 07.6	
	0.5nm,0.4s,baz=43,slow=3.9,SNR=7.6						
AKASG				PKP	**PKiKP**	**15 19 16.9**	**-1.0**
	0.5nm,0.3s,baz=38,slow=3.2,SNR=4.3						
KWP	**Kalwaria Pacla**	**143.85**	**337**	↓*i*P	**PKPdf**	**15 19 21.1**	**-0.3**
BURAR	**Bucovina Array**	**144.40**	**332**	↑*i*P	**PKPab**	**15 19 23.9**	**+1.0**
GHRR		**144.50**	**329**	↑*i*P	**PKPab**	**15 19 24.5**	**+1.3**
TESR	**Tescani**	**144.55**	**330**	↓*i*P	**PKPab**	**15 19 23.3**	**-0.1**
BRTR	**Keskin Array B**	**144.62**	**315**	PKP	PKPbc	15 19 23.8	+0.2
	3.9nm,0.8s,baz=136,slow=4.0,SNR=21						
CFR	**Carcaliu**	**144.74**	**327**	↓↓*i*P	**PKPab**	**15 19 25.3**	**+1.2**
VRI	**Vrincioaia**	**144.97**	**329**	↓*i*P	**PKPab**	**15 19 24.7**	**-0.4**
PLOR	**Plostina**	**145.02**	**329**	↓↓*i*P	**PKPab**	**15 19 25.7**	**+0.4**
TRPA	**Tarpa**	**145.13**	**335**	↑↑*i*P	**PKPab**	**15 19 25.2**	**-0.3**
TLB	**Topalu**	**145.18**	**326**	↓*i*P	**PKPab**	**15 19 25.4**	**-0.5**
CLL	**Collm**	**145.22**	**347**	*i* PKP	**PKPbc**	**15 19 24.7**	**0.0**
	comp=Z,11nm,0.6s						
UPC	**Upice**	**145.25**	**344**	*e*P	**PKPab**	**15 19 25.7**	**-0.3**
DPC	**Dobruska-Polom**	**145.31**	**343**	*e*P	**PKPab**	**15 19 26.0**	**-0.3**
BRG	**Berggiesshubel**	**145.43**	**346**	*i* PKP	**PKPbc**	**15 19 25.8**	**+0.5**
	comp=Z,7.5nm,0.8s						
MORC	**Moravsky Berou**	**145.48**	**342**	↓↓*i*P	**PKPab**	**15 19 26.6**	**-0.4**
DOPR	**Dopca**	**145.55**	**330**	↓↓*i*P	**PKPbc**	**15 19 25.6**	**-0.3**
PVCC	**Panska Ves**	**145.60**	**345**	*e*P	**PKPbc**	**15 19 26.6**	**+0.7**
MLR	**Muntele Rosu**	**145.62**	**329**	↓↓*i*P	**PKPbc**	**15 19 26.4**	**+0.1**
MLR	**Muntele Rosu**	**145.62**	**329**	PKPbc	**PKPbc**	**15 19 26.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=342,slow=14,SNR=4.1						
VOIR		**146.10**	**330**	↓↓*i*P	**PKPbc**	**15 19 28.4**	**+0.8**
PRU	**Pruhonice**	**146.10**	**345**	*e*P	**PKPbc**	**15 19 27.8**	**+0.5**
DRGR		**146.12**	**334**	↓↓*i*P	**PKPbc**	**15 19 28.6**	**+1.0**
PSZ	**Piszkesteto**	**146.31**	**338**	↓↓*i*P	**PKPbc**	**15 19 28.3**	**+0.3**
ARR	**Arges**	**146.35**	**330**	↓↓*i*P	**PKPab**	**15 19 30.0**	**-0.6**
NKC	**Novy Kostel**	**146.35**	**347**	*e*P	**PKPbc**	**15 19 27.3**	**-0.7**
KHC	**Kasperske Hory**	**147.14**	**345**	*e*P	**PKPbc**	**15 19 30.7**	**+0.5**
KHC				*ex*	x	15 19 34.2	
GZR	**Gura Zlata**	**147.18**	**332**	↑↑*i*P	**PKPbc**	**15 19 30.7**	**+0.2**
GERES	**GERESS Array B**	**147.37**	**345**	PKPbc	**PKPbc**	**15 19 31.4**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=22,slow=3.1,SNR=24						
CONA	**Conrad Observa**	**147.63**	**342**	↑↑*i*PKPbc	**PKPbc**	**15 19 32.5**	**+1.0**
	comp=Z,7.2nm,0.6s						
PKSM	**Moragy**	**148.21**	**337**	↓↓*i*P	**PKPbc**	**15 19 33.0**	**+0.1**
WTTA	**Wattenberg**	**149.34**	**347**	↑↑*i*PKPbc	**PKPbc**	**15 19 36.1**	**+0.1**
	comp=Z,11nm,0.6s						
MMB	**Musomiste**	**149.53**	**326**	↓↓*i*P	**PKPbc**	**15 19 36.5**	**+0.1**
ABTA	**Abfaltersbach**	**149.62**	**345**	↑↑*i*PKPbc	**PKPbc**	**15 19 36.3**	**-0.2**
	comp=Z,7.4nm,0.6s						
DAVOX	**Davos/Dischmat**	**150.16**	**349**	PKPbc	**PKPbc**	**15 19 38.6**	**+0.7**
	comp=Z,6.8nm,0.4s,baz=208,slow=0.6,SNR=14						
TORD	**Torodi Ar. Bea**	**175.52**	**181**	PKP	**PKPdf**	**15 19 56.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=324,slow=1.9,SNR=3.2						
TORD				PKPab	**PKPab**	**15 21 37.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=188,slow=4.8,SNR=2.7						

MAN 08 15:17:02,11˚36N×125˚41E,h22km,mb4.8,ML3.7,MS3.8, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.24**	**6**	*e*P	Pb	15 17 08.4	+0.3
OCLP	**Ormoc**	**0.85**	**249**	*e*P	Pn	15 17 18.4	-0.2
MSLP	**Maasin**	**1.34**	**204**	*e*P	Pn	15 17 25.5	+0.2
PVCP	**Virac**	**2.54**	**331**	*e*P	Pn	15 17 43.6	+1.7
GUIM	**Jordan**	**2.87**	**256**	*e*P	Pn	15 17 46.8	+0.3

IDC 08 15:19:08.5±4.4,24˚93S×176˚99W,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.8/20,mbtmp3.9/5,ML5.2/1,Error ellipse: s-maj=83.6km s-min=46.0km az=70.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.39**	**191**	Pn	Pn	15 20 15.9	-0.5
	122nm,0.3s,baz=82,slow=21,SNR=5.5						
RAO				Sn	Sn	15 20 52.9	-15
	175nm,0.3s,baz=73,slow=23,SNR=6.3						
CTA	**Charters Tower**	**34.22**	**271**	P	P	15 25 57.5	+1.3
	1.7nm,0.5s,baz=101,slow=8.6,SNR=5.1						
STKA	**Stephens Creek**	**36.91**	**250**	P	P	15 26 19.4	+0.3
	0.6nm,0.5s,baz=97,slow=8.1,SNR=3.4						
ASAR	**Alice Springs**	**44.58**	**261**	P	P	15 27 21.5	-1.1
	0.4nm,0.4s,baz=93,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**45.07**	**266**	P	P	15 27 26.0	-0.6
	1.1nm,0.5s,baz=104,slow=8.0,SNR=40						
FITZ	**Fitzroy Crossi**	**53.48**	**265**	P	P	15 28 31.1	+0.2
	1.4nm,0.9s,baz=76,slow=12,SNR=5.8						
NOA	**NORSAR Array B**	**143.47**	**353**	PKP	PKPdf	15 38 44.5	0.0
	0.9nm,0.6s,baz=2.1,slow=2.3,SNR=3.8						

*ATH **08** 15:19:17.6,37˚15N×19˚90E,h7km±2km,MD3.6/18*
*CSEM **08** 15:19:24.6±0.8,37˚36N×20˚39E,h2km,ML2.7, Error ellipse: s-maj=14.6km s-min=4.9km az=67.0*
*THE **08** 15:19:25.1,37˚38N×20˚40E,h2km±4km,ML2.7/1, Error ellipse: s-maj=5.9km s-min=1.3km az=66.0*
ISC 08 15:19:23.9±2.1,37˚36N±0˚06×20˚3E±0˚1,h15km,n60, σ0˚77/66,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.58**	**101**	P	**Pg**	**15 19 35.1**	**-0.3**
SFD	**Strofades**	**0.58**	**101**	*e*PB	**Pg**	**15 19 34.7**	**-0.7**
SFD				*e*SB	**Sn**	**15 19 47.2**	**+0.3**
SFD	**Strofades**	**0.58**	**101**	*e*Pb	**Pg**	**15 19 34.7**	**-0.7**
SFD	**Strofades**	**0.58**	**101**	P	**Pg**	**15 19 35.1**	**-0.3**
SFD				*e*Sb	**Sn**	**15 19 47.2**	**+0.3**
KFL	**Anninata**	**0.84**	**27**	P	**Pb**	**15 19 38.9**	**-1.3**
KFL				S	**Sg**	**15 19 51.1**	**-0.2**
KFL	**Anninata**	**0.84**	**27**	P	**Pb**	**15 19 38.9**	**-1.3**
KFL				S	**Sg**	**15 19 51.1**	**-0.2**
VLS	**Valsamata**	**0.85**	**16**	P	**Pb**	**15 19 40.2**	**-0.1**
VLS	**Valsamata**	**0.85**	**16**	*e*PB	**Pb**	**15 19 40.1**	**-0.2**
VLS	**Valsamata**	**0.85**	**16**	P	**Pb**	**15 19 40.2**	**-0.1**
AMT	**Artemida-Makis**	**1.14**	**81**	P	**Pn**	**15 19 45.5**	**+0.2**
AMT	**Artemida-Makis**	**1.14**	**81**	*e*PB	**Pg**	**15 19 46.0**	**+0.2**
AMT	**Artemida-Makis**	**1.14**	**81**	P	**Pn**	**15 19 45.5**	**+0.2**
AMT	**Artemida-Makis**	**1.14**	**81**	*e*Pb	**Pg**	**15 19 46.0**	**+0.2**
RLS	**Riolos of Patr**	**1.16**	**53**	P	**Pn**	**15 19 45.1**	**-0.5**
RLS	**Riolos of Patr**	**1.16**	**53**	*e*PG	**Pg**	**15 19 46.0**	**-0.3**
RLS	**Riolos of Patr**	**1.16**	**53**	P	**Pn**	**15 19 45.1**	**-0.5**
RLS	**Riolos of Patr**	**1.16**	**53**	*e*Pg	**Pg**	**15 19 46.0**	**-0.3**
PYL	**PYLOS**	**1.24**	**112**	P	**Pn**	**15 19 46.3**	**-0.5**
PYL				S	**Sg**	**15 20 03.6**	**-0.5**
PYL	**PYLOS**	**1.24**	**112**	*e*PB	**Pn**	**15 19 46.0**	**-0.8**
PYL	**PYLOS**	**1.24**	**112**	*e*Pb	**Pn**	**15 19 46.0**	**-0.8**
PYL	**PYLOS**	**1.24**	**112**	P	**Pn**	**15 19 46.3**	**-0.5**
PYL				S	**Sg**	**15 20 03.6**	**-0.5**
DRO	**Drossia**	**1.27**	**62**	P	**Pb**	**15 19 47.7**	**+0.2**
DRO	**Drossia**	**1.27**	**62**	*e*PG	**Pb**	**15 19 47.8**	**+0.2**
DRO	**Drossia**	**1.27**	**62**	P	**Pb**	**15 19 47.7**	**+0.2**
ITM	**Ithomi**	**1.31**	**97**	P	**Pn**	**15 19 47.6**	**-0.1**
ITM	**Ithomi**	**1.31**	**97**	*e*PG	**Pn**	**15 19 47.7**	**0.0**
ITM	**Ithomi**	**1.31**	**97**	*e*Pg	**Pn**	**15 19 47.7**	**0.0**
PDO	**Prodromos**	**1.42**	**29**	P	**Pb**	**15 19 50.6**	**+0.5**
PDO	**Prodromos**	**1.42**	**29**	*e*PG	**Pb**	**15 19 50.4**	**+0.3**
PDO	**Prodromos**	**1.42**	**29**	P	**Pb**	**15 19 50.6**	**+0.5**
LAKA	**Lakka**	**1.59**	**56**	*e*PN	**Pb**	**15 19 53.3**	**+0.2**
LAKA	**Lakka**	**1.59**	**56**	*e*Pn	**Pb**	**15 19 53.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.62**	**65**	*e*PN	**Pn**	**15 19 52.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.62**	**65**	*e*Pb	**Pn**	**15 19 52.4**	**+0.4**
EFP	**Efpalio**	**1.66**	**50**	*e*PG	**Pg**	**15 19 55.0**	**-0.8**
EFP	**Efpalio**	**1.66**	**50**	*e*Pg	**Pg**	**15 19 55.0**	**-0.8**
VLX	**Vlachokerasia**	**1.66**	**89**	*e*PN	**Pn**	**15 19 53.3**	**+0.7**
VLX	**Vlachokerasia**	**1.66**	**89**	*e*Pn	**Pn**	**15 19 53.3**	**+0.7**
GUR	**Goura**	**1.72**	**70**	*e*PN	**Pb**	**15 19 55.2**	**-0.1**
GUR	**Goura**	**1.72**	**70**	*e*Pn	**Pb**	**15 19 55.2**	**-0.1**
KALE	**Kalithea**	**1.78**	**54**	*e*PN	**Pb**	**15 19 56.9**	**+0.6**
KALE	**Kalithea**	**1.78**	**54**	*e*Pn	**Pb**	**15 19 56.9**	**+0.6**
EVR	**Evrytania**	**1.96**	**37**	*e*PN	**Pb**	**15 19 58.8**	**-0.5**
EVR	**Evrytania**	**1.96**	**37**	*e*Pn	**Pb**	**15 19 58.8**	**-0.5**
DSF	**Desfina**	**2.05**	**59**	*e*PN	**Pb**	**15 20 00.0**	**-0.9**
DSF	**Desfina**	**2.05**	**59**	*e*Pn	**Pb**	**15 20 00.0**	**-0.9**
DESF	**Desfina**	**2.06**	**59**	*e*PN	**Pb**	**15 20 00.3**	**-0.7**
DESF	**Desfina**	**2.06**	**59**	*e*Pn	**Pb**	**15 20 00.3**	**-0.7**
MAKR	**Makrakomi, Fth**	**2.19**	**41**	*e*PN	**Pb**	**15 20 02.2**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.19**	**41**	*e*Pn	**Pb**	**15 20 02.2**	**-1.1**
VLI	**Veliai**	**2.21**	**106**	*e*PN	**Pn**	**15 20 01.3**	**+1.3**
VLI	**Veliai**	**2.21**	**106**	*e*Pn	**Pn**	**15 20 01.3**	**+1.3**
DID	**Didima**	**2.34**	**86**	*e*PN	**Pn**	**15 20 03.4**	**+1.5**
DID	**Didima**	**2.34**	**86**	*e*Pn	**Pn**	**15 20 03.4**	**+1.5**
KYTH	**Kithira**	**2.45**	**115**	P	**Pn**	**15 20 04.8**	**+1.5**
KYTH	**Kithira**	**2.45**	**115**	P	**Pn**	**15 20 04.8**	**+1.5**
VIL2	**Platees**	**2.50**	**69**	*e*PB	**Pn**	**15 20 05.6**	**+1.5**
VILL	**Villia**	**2.52**	**71**	*e*Pb	**Pn**	**15 20 05.6**	**+1.2**
THL	**Klokotos Trika**	**2.58**	**31**	*e*PB	**Pn**	**15 20 06.6**	**+1.5**
THL	**Klokotos Trika**	**2.58**	**31**	*e*Pb	**Pn**	**15 20 06.6**	**+1.5**

JMA 08 15:22:38.3±0.1,36˚18N×137˚15E,h270km,M2.8,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.93**	**67**	P	Pn	15 23 15.6	+0.5
JWT	**Wachi**	**1.68**	**238**	P	Pn	15 23 19.9	0.0
JKY	**Yasaka**	**1.75**	**252**	P	Pn	15 23 20.1	-0.3

*IDC **08** 15:25:06.4±1.4,9˚09S×148˚46E,h0km,mb3.5/5, mb1 3.8/7,mb1mx3.6/18,mbtmp3.6/7,ML3.6/2,MS3.4/2, Ms1 3.3/2,ms1mx2.8/20,Error ellipse: s-maj=26.8km s-min=18.3km az=148.0*
ISC 08 15:25:12.2±1.7,9˚2S±0˚1×148˚3E±0˚2,h35km,n9,σ0˚86/9, mb3.7/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.15**	**258**	Pg	**Pn**	**15 25 32.0**	**+0.2**
	144nm,0.3s,baz=69,slow=6.2,SNR=352						
PMG				Lg	Lg	15 25 49.6	
	195nm,0.3s,baz=307,slow=20,SNR=28						
CTA	**Charters Tower**	**11.04**	**190**	Pn	**Pn**	**15 27 47.1**	**-0.6**
	0.4nm,0.3s,baz=25,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**17.23**	**230**	P	**Pn**	**15 29 10.2**	**-0.1**
	0.1nm,0.3s,baz=51,slow=13,SNR=6.4						
ASAR	**Alice Springs**	**19.94**	**222**	P	**P**	**15 29 41.4**	**+0.1**
	1.5nm,0.8s,baz=59,slow=10,SNR=21						
ASAR				LR	LR	15 37 50.6	
	comp=Z,84nm,18.4s,baz=192,slow=38						
STKA	**Stephens Creek**	**23.44**	**194**	P	**P**	**15 30 19.9**	**+1.6**
	1.2nm,0.8s,baz=49,slow=2.0,SNR=3.1						
STKA				LR	LR	15 40 07.6	
	comp=Z,94nm,18.7s,baz=26,slow=38						
FITZ	**Fitzroy Crossi**	**23.72**	**246**	P	**P**	**15 30 20.4**	**-0.9**
	1.7nm,0.5s,baz=54,slow=7.2,SNR=9.5						
CMAR	**Chiang Mai Arr**	**55.90**	**300**	P	**P**	**15 34 47.4**	**+0.4**
	0.7nm,1.0s,baz=101,slow=5.7,SNR=4.2						
SONM	**Songino Array**	**67.78**	**331**	P	**P**	**15 36 06.6**	**0.0**
	0.4nm,0.6s,baz=142,slow=4.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**147.01**	**280**	PKPbc	**PKPbc**	**15 44 51.4**	**-0.9**
	1.2nm,1.0s,baz=68,slow=2.6,SNR=5.1						

*ISCJB **08** 15:29:04.3±0.4,37˚36N±0˚06×135˚00E±0˚07, h397km±5km,mb3.2/7,Error ellipse: s-maj=10.9km s-min=7.0km az=147.8*
*JMA **08** 15:29:04.5±0.1,37˚34N×134˚97E,h397km±2km,M3.3*
*IDC **08** 15:29:05.0±0.7,37˚37N×134˚92E,h385km±8km,mb3.0/7, mb1 3.1/12,mb1mx3.0/31,mbtmp3.0/12,Error ellipse: s-maj=15.8km s-min=12.1km az=72.0*
ISC 08 15:29:05.0±0.7,37˚37N±0˚08×135˚00E±0˚07,h388km±8km, n31,σ0˚82/39,mb3.1/7,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKY	**Yasaka**	**1.74**	**177**	P	**Pn**	**15 29 58.6**	**+0.2**
JKY				*e*S	**S**	**15 30 40.9**	**-0.5**
JKSM	**Kasumi**	**1.80**	**189**	P	**Pn**	**15 29 58.6**	**-0.1**
JWT	**Wachi**	**2.11**	**171**	P	**Pn**	**15 30 01.2**	**+0.5**
JWT				*e*S	**S**	**15 30 45.0**	**-0.5**
JGM	**Miyama**	**2.17**	**140**	P	**Pn**	**15 30 01.3**	**+0.2**
JGM				*e*S	**S**	**15 30 46.6**	**+0.3**
JSD	**Sado**	**2.67**	**75**	P	**Pn**	**15 30 05.1**	**+0.5**
MAT	**Matsushiro**	**2.70**	**107**	P	**Pn**	**15 30 05.7**	**+0.8**
MAT				S	**S**	**15 30 54.2**	**+0.9**
MJAR	**Matsushiro Arr**	**2.70**	**107**	P	**Pn**	**15 30 05.5**	**+0.6**
	0.9nm,0.3s,baz=294,slow=9.9,SNR=12						
MJAR				S	**S**	**15 30 54.1**	**+0.8**
	0.2nm,0.3s,baz=293,slow=16,SNR=5.9						
JHS	**Saijyo**	**2.81**	**213**	P	**Pn**	**15 30 05.8**	**-0.1**
JWY	**Kouya**	**3.18**	**171**	P	**Pn**	**15 30 09.3**	**+0.3**
JHK	**Hiroka**	**3.21**	**91**	P	**Pn**	**15 30 09.6**	**+0.6**
JIE	**Ise**	**3.28**	**154**	P	**Pn**	**15 30 10.6**	**+0.8**
JWZ	**Kozaga**	**3.88**	**171**	P	**Pn**	**15 30 15.3**	**0.0**
JOD2	**Odawara 2**	**3.92**	**121**	P	**Pn**	**15 30 16.4**	**+0.8**
JFT	**Otama**	**4.25**	**86**	P	**Pn**	**15 30 19.6**	**+0.8**
JMM	**Marumori**	**4.63**	**82**	P	**Pn**	**15 30 23.1**	**+0.6**
JMM				*e*S	**S**	**15 31 23.6**	**-1.9**
JFK	**Kawauchi**	**4.68**	**88**	P	**Pn**	**15 30 23.0**	**-0.1**
JFK				*e*S	**S**	**15 31 23.7**	**-2.9**
JRG	**Rokugo**	**4.87**	**64**	P	**Pn**	**15 30 25.7**	**+0.7**
JRG				*e*S	**S**	**15 31 29.5**	**-0.4**
JMK	**Ichinoseki**	**5.15**	**70**	P	**Pn**	**15 30 28.1**	**+0.2**
JNU	**Nakatsue**	**5.42**	**220**	P	**Pn**	**15 30 31.0**	**+0.1**
	1.5nm,0.3s,baz=350,slow=18,SNR=18						
BSO1	**Boso 1**	**5.55**	**117**	*e*S	**S**	**15 31 41.4**	**-1.0**
KSRS	**Korea Array**	**5.63**	**273**	P	**Pn**	**15 30 33.5**	**+0.5**
	0.2nm,0.3s,baz=94,slow=12,SNR=5.8						

JOT	**Ohata**	**6.17**	**48**	P	**Pn**	**15 30 39.6**	**+0.8**
USRK	**Ussuriysk Arra**	**7.19**	**342**	P	**P**	**15 30 51.1**	**0.0**
	0.6nm,0.3s,baz=150,slow=9.4,SNR=10						
ASAJ	**Asahikawa**	**8.87**	**38**	P	**P**	**15 31 09.6**	**-0.5**
	5.7nm,0.3s,baz=235,slow=11,SNR=112						
ASAJ				S	S	15 32 45.1	-6.9
	0.9nm,0.3s,baz=242,slow=29,SNR=6.7						
SONM	**Songino Array**	**23.38**	**306**	P	**P**	**15 33 40.5**	**-0.4**
	0.3nm,0.4s,baz=112,slow=10.0,SNR=4.0						
MKAR	**Makanchi Array**	**39.57**	**301**	P	**P**	**15 35 59.4**	**-0.8**
	0.4nm,0.7s,baz=83,slow=11,SNR=7.4						
ILAR	**Eielson Array**	**51.95**	**32**	P	**P**	**15 37 36.6**	**+1.2**
	0.4nm,0.6s,baz=264,slow=5.7,SNR=8.7						
WRA	**Warramunga Arr**	**57.01**	**181**	P	**P**	**15 38 12.0**	**+0.2**
	1.1nm,0.4s,baz=358,slow=7.5,SNR=42						
ASAR	**Alice Springs**	**60.72**	**181**	P	**P**	**15 38 37.5**	**+0.4**
	0.3nm,0.3s,baz=1.0,slow=6.2,SNR=11						
FINES	**FINESS Array B**	**66.05**	**330**	P	**P**	**15 39 11.1**	**+0.1**
	4.0nm,1.0s,baz=90,slow=5.7,SNR=4.7						
NOA	**NORSAR Array B**	**71.80**	**335**	P	**P**	**15 39 46.0**	**-0.1**
	0.3nm,0.6s,baz=57,slow=7.4,SNR=3.2						

*VIE **08** 15:38:08.8±0.3,45˚72N×11˚00E,h8km±1km,mb2.1/5, ML2.8/9,Error ellipse: s-maj=1.9km s-min=1.0km az=5.0*
40 km SSW of Trento
*CSEM **08** 15:38:09.6±0.1,45˚75N×11˚02E,h10km,ML2.1, Error ellipse: s-maj=2.7km s-min=2.5km az=162.0*
*ROM **08** 15:38:09.5±0.2,45˚72N×11˚01E,h9km±2km,Ml2.1/9, Error ellipse: s-maj=3.1km s-min=2.2km az=169.0*
*ZUR **08** 15:38:10.0,45˚75N×11˚01E,h3km±5km,ML2.3/1*
ISC 08 15:38:09.8±0.8,45.74N±0˚02×11˚03E±0˚02,h8km±6km, n59,σ0˚52/93,17C-17D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROVR	**Rover˜¤ Verone**	**0.10**	**162**	↑*i*Pg	**Pg**	**15 38 12.3**	**0.0**
ROVR				Sg	**Sg**	**15 38 14.0**	**0.0**
	5µm,0.2s						
ROVR	**Rover˜¤ Verone**	**0.10**	**162**	↑*i*Pg	**Pg**	**15 38 12.3**	**0.0**
ROVR				Sg	**Sg**	**15 38 14.0**

mb1 4.4/25,mb1mx4.4/28,mbtmp4.3/25,MS3.7/10, Ms1 3.7/10,ms1mx3.5/35,Error ellipse: s-maj=24.3km s-min=9.7km az=79.0

ISCJB ***08*** *15:43:30.7±0.2,1°.26N±0°.03,126°.35E±0°.03,h39km, mb4.3/32,MS3.7/10,Error ellipse: s-maj=4.9km s-min=4.0km az=160.1*

DJA ***08*** *15:43:32.1±1.1,1°.4×12°.6E±°,h17km±15km,M4.7/10, mb4.9/9,mB5.1/7,MLv4.8/10,Mw(mB)4.4/7*

GCMT ***08*** *15:43:35.5±0.3,1°.28N×126°.12E,h33km±1km,MW5.0, Moment Tensor Solution. s32,c42; s52,c67; Moment tensor: Scale 10¹⁶Nm; Mrr2.91±.25; Mθθ0.68±.15; Mφφ-3.59±.18; Mrθ-0.58±.19; Mθφ-1.85±.15; Mφr-0.92±.22; Best double couple: M₀3.80000×10¹⁶ NP1:φs207.00000°, δ54.00000°,λ99.00000°. NP2:φs12.00000°,δ37.00000°, λ78.00000°. Principal axes: T 3.0090, Plg79.0000°, Azm152.0000°; N 1.3400, Plg7.0000°, Azm22.0000°; P -4.4400, Plg8.0000°, Azm291.0000°; Data Used: II IC G IU CN CU.*

NEIC ***08*** *15:43:35.1±1.5,1°.19N×126°.38E,h69km±14km,mb4.3/7 Error ellipse: s-maj=11.4km s-min=6.1km az=70.0*

ISC 08 15:43:32.3±0.4,**1°.25N**±0°.05×**126°.36E**±0°.06,**h39**km,**n94,** σ1**$43/98,mb4.3**/32,**MS3.7**/10,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**115**	P	**Pn**	**15 43 50.7**	**-0.7**
TNTI				S	**Sn**	**15 44 06.1**	**+0.5**
LBMI	**Labuha**	**2.20**	**149**	P	**Pn**	**15 44 05.6**	**-0.7**
KMSI	**Cibinong**	**2.47**	**254**	P	**Pn**	**15 44 09.3**	**-0.7**
KMSI				S	**Sn**	**15 44 37.8**	**-1.1**
SGSI	**Sangihe**	**2.56**	**341**	P	**Pn**	**15 44 12.6**	**+1.3**
GTOI	**Gorontalo**	**3.40**	**260**	P	**Pn**	**15 44 23.9**	**+1.1**
LUWI	**Luwuk**	**4.25**	**238**	P	**Pn**	**15 44 36.2**	**+1.7**
MRSI	**Marisa**	**4.48**	**260**	P	**Pn**	**15 44 38.0**	**+0.3**
NLAI	**Namlea**	**4.52**	**171**	P	**Pn**	**15 44 39.5**	**+1.3**
APSI	**Ampana** 573nm,0.9s,7μm2.1nm	**5.17**	**246**	P	**Pn**	**15 44 49.3**	**+2.1**
MATI	**Mati**	**5.66**	**359**	*e*P	Pn	15 44 58.1	+4.2
MATI				*e*S	Px	15 45 17.1	
CTBH	**Cotabato--PC H**	**6.29**	**341**	*e*P	**Pn**	**15 45 03.7**	**+1.1**
CTBH				*i* S	**Sn**	**15 46 13.9**	**+0.6**
BUKP	**Musuan**	**6.71**	**349**	*e*P	**Pn**	**15 45 10.2**	**+1.8**
KKSI	**Kolaka, Sulawe**	**7.15**	**221**	P	Pn	15 45 21.2	+6.8
PAGZ	**Pagadian**	**7.19**	**336**	*e*P	**Pn**	**15 45 15.3**	**+0.3**
FAKI	**Fak Fak** 50nm,0.9s,0.1nm	**7.20**	**125**	P	**Pn**	**15 45 17.5**	**+2.4**
SPSI	**Sidrap Palu** 64nm,0.6s,637nm	**8.38**	**232**	P	**Pn**	**15 45 33.2**	**+2.0**
BNSI	**Bone** 55nm,1.2s,598nm	**8.40**	**228**	P	**Pn**	**15 45 32.8**	**+1.3**
MMSI	**Mamuju** 27nm,0.6s,320nm	**8.41**	**242**	P	**Pn**	**15 45 33.3**	**+1.6**
MYLDM	**Lahad Datu** 104nm,0.9s,2μm	**8.76**	**297**	P	Pn	15 45 41.1	+4.6
BKSI	**Bulukumba** 31nm,0.5s,448nm	**9.02**	**224**	P	**Pn**	**15 45 41.5**	**+1.4**
KAPI	**Kappang** 152nm,1.4s,2μm	**9.07**	**227**	P	**Pn**	**15 45 43.4**	**+2.7**
KAPI	**Kappang** 26nm,0.9s	**9.07**	**227**	*e*P	**Pn**	**15 45 43.3**	**+2.5**
TLE	**Tual**	**9.35**	**137**	P	**Pn**	**15 45 43.4**	**-1.2**
KSM	**Kuching** 40nm,1.0s	**16.05**	**271**	P	**P**	**15 47 18.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.24**	**182**	P	**P**	**15 47 52.5**	**-1.0**
FITZ	**Fitzroy Crossi** baz=16,slow=15	**19.24**	**182**	P	**P**	**15 47 52.5**	**-1.0**
WRAB	**Tennant Creek** 38nm,0.9s	**22.46**	**160**	*e*P	**P**	**15 48 27.5**	**-0.8**
WRA	**Warramunga Arr**	**22.47**	**160**	P	**P**	**15 48 27.6**	**-0.7**
WRA				S	**S**	**15 52 30.2**	**-2.4**
WRA	**Warramunga Arr** 6.4nm,0.4s,baz=336,slow=11,SNR=96	**22.47**	**160**	P	**P**	**15 48 27.6**	**-0.7**
WRA				S	**S**	**15 52 30.2**	**-2.4**
COEN	**Coen** 3.3nm,1.1s,baz=339,slow=20,SNR=5.3	**22.49**	**133**	*e*P	**P**	**15 48 29.6**	**+0.9**
YULB	**Yu-li**	**22.55**	**348**	*e*P	**P**	**15 48 27.8**	**-1.4**
MBWA	**Marble Bar** 6.5nm,0.6s	**23.20**	**196**	*e*P	**P**	**15 48 34.2**	**-1.6**
AS31	**Alice Springs**	**25.83**	**164**	*e*P	**P**	**15 48 59.4**	**-0.8**
ASAR	**Alice Springs**	**25.83**	**164**	P	**P**	**15 48 59.5**	**-0.7**
ASAR				PcP	**PcP**	**15 52 29.6**	**+0.5**
ASAR				S	**S**	**15 53 33.8**	**+6.5**
ASAR	**Alice Springs** 3.6nm,0.5s,baz=343,slow=7.5,SNR=105	**25.83**	**164**	P	**P**	**15 48 59.5**	**-0.7**
ASAR	0.6nm,0.4s,baz=341,slow=2.1,SNR=6.1			PcP	**PcP**	**15 52 29.6**	**+0.5**
ASAR	1.3nm,0.9s,baz=350,slow=21,SNR=5.0			S	**S**	**15 53 33.8**	**+6.5**
JCJ	**Chichijima** comp=Z,126nm,18.3s,baz=308,slow=33	**29.85**	**29**	LR	LR	16 00 01.0	
CMAR	**Chiang Mai Arr**	**31.87**	**304**	P	**P**	**15 49 54.6**	**+0.6**
CMAR				PcP	**PcP**	**15 52 43.1**	**-1.2**
CMAR	**Chiang Mai Arr** 0.5nm,0.4s,baz=117,slow=7.2,SNR=4.5	**31.87**	**304**	P	**P**	**15 49 54.6**	**+0.6**
CMAR	1.1nm,0.8s,baz=148,slow=2.0,SNR=4.5			PcP	**PcP**	**15 52 43.1**	**-1.2**
NWAO	**Narrogin (SRO)**	**35.07**	**193**	P	**P**	**15 50 21.1**	**-0.6**
NWAO	**Narrogin (SRO)** 5.7nm,0.4s,baz=24,slow=8.6,SNR=22	**35.07**	**193**	P	**P**	**15 50 21.1**	**-0.6**
STKA	**Stephens Creek** 1.4nm,0.9s	**35.97**	**158**	*e*P	**P**	**15 50 29.5**	**0.0**
STKA	**Stephens Creek** 3.2nm,0.4s,baz=349,slow=6.2,SNR=31	**35.97**	**158**	P	**P**	**15 50 29.9**	**+0.4**
KSAR	**Wonju Array Be**	**36.04**	**2**	P	**P**	**15 50 31.4**	**+1.4**
KSRS	**Korea Array** 0.7nm,0.5s,baz=179,slow=9.2,SNR=5.4	**36.06**	**2**	P	**P**	**15 50 31.4**	**+1.3**
KSRS	comp=Z,50nm,18.4s,baz=14,slow=38			LR	LR	16 06 04.1	
MAT	**Matsushiro**	**36.79**	**16**	P	**P**	**15 50 36.3**	**-0.1**
MJAR	**Matsushiro Arr**	**36.79**	**16**	P	**P**	**15 50 36.6**	**+0.2**
MJAR	**Matsushiro Arr** 5.9nm,1.1s,baz=185,slow=9.7,SNR=12	**36.79**	**16**	P	**P**	**15 50 36.6**	**+0.2**
MJAR	comp=Z,79nm,18.9s,baz=210,slow=35			LR	LR	16 04 45.7	
USRK	**Ussuriysk Arra** 2.5nm,0.6s,baz=177,slow=7.4,SNR=9.0	**43.06**	**6**	P	**P**	**15 51 28.7**	**+0.4**
USRK	comp=Z,97nm,21.6s,baz=163,slow=34			LR	LR	16 07 38.4	
H11S3	**WAKE ISLAND Hy** baz=251,slow=75,SNR=5.2	**43.11**	**64**	T	T	16 38 38.1	
H11S2	**WAKE ISLAND Hy** baz=320,slow=75,SNR=4.3	**43.12**	**64**	T	T	16 38 37.2	
ASAJ	**Asahikawa**	**45.06**	**17**	P	**P**	**15 51 45.6**	**+1.3**
ASAJ	**Asahikawa** 5.8nm,0.7s,baz=229,slow=23,SNR=10	**45.06**	**17**	P	**P**	**15 51 45.6**	**+1.3**
ULN	**Ulaanbaatar** 1.3nm,0.5s	**49.36**	**343**	P	**P**	**15 52 18.2**	**+0.3**
SONM	**Songino Array**	**49.52**	**342**	P	**P**	**15 52 19.9**	**+0.7**
SONM	**Songino Array** 1.6nm,1.0s,baz=158,slow=6.8,SNR=4.9	**49.52**	**342**	P	**P**	**15 52 20.0**	**+0.7**
SONM	comp=Z,72nm,21.0s,baz=134,slow=37			LR	LR	16 13 41.0	
PETK	**Petropavlovsk-**	**57.85**	**22**	P	**P**	**15 53 20.1**	**+0.1**
PETK	**Petropavlovsk-** 4.5nm,0.8s,baz=295,slow=11,SNR=3.6	**57.85**	**22**	P	**P**	**15 53 20.1**	**+0.1**
MK31	**Makanchi Array** comp=Z,3.0nm,0.5s	**59.38**	**326**	*e*P	**P**	**15 53 29.7**	**-1.1**
MK31				pmax	pmax		
MK31	**Makanchi Array**	**59.38**	**326**	*e*P	**P**	**15 53 30.1**	**-0.7**
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**15 53 29.9**	**-0.9**
MKAR	**Makanchi Array** comp=Z,4.0nm,0.5s,baz=121,slow=7.5,SNR=42	**59.38**	**326**	P	**P**	**15 53 29.9**	**-0.9**
TKM2	**Tokmak 2** comp=Z,4.5nm,0.8s	**61.36**	**320**	*e*P	**P**	**15 53 43.0**	**-1.7**
ZALV	**Zalesovo Beam** comp=Z,53nm,18.4s,baz=80,slow=36	**62.62**	**334**	LR	LR	16 20 50.3	
KURBB	**Kurchatov Arra** comp=Z,3.8nm,0.5s,baz=124,slow=6.7,SNR=23	**63.62**	**328**	P	**P**	**15 53 57.7**	**-1.6**
KURK	**Kurchatov**	**63.63**	**328**	*e*P	**P**	**15 53 58.9**	**-0.4**
BVAR	**Borovoye Array**	**69.19**	**328**	P	**P**	**15 54 35.9**	**+1.0**
BVAR	**Borovoye Array** comp=Z,1.1nm,0.3s,baz=90,slow=5.0,SNR=14	**69.19**	**328**	P	**P**	**15 54 35.9**	**+1.0**
BVAR	comp=Z,63nm,20.3s,baz=66,slow=36			LR	LR	16 25 04.7	
ABKAR	**Akbulak array** comp=Z,1.4nm,0.5s	**73.83**	**321**	*e*P	**P**	**15 55 02.4**	**-0.5**
AKTO	**Aktyubinsk**	**75.37**	**322**	P	**P**	**15 55 12.0**	**+0.2**
AKTO	**Aktyubinsk** comp=Z,3.1nm,0.5s,baz=120,slow=8.5,SNR=10	**75.37**	**322**	P	**P**	**15 55 12.0**	**+0.2**
AKTO	comp=Z,80nm,19.9s,baz=306,slow=39			LR	LR	16 32 12.5	
VNDA	**Vanda**	**81.03**	**173**	P	**P**	**15 55 42.6**	**0.0**
VNDA	**Vanda**	**81.03**	**173**	P	**P**	**15 55 42.6**	**0.0**
VNDA	comp=Z,0.9nm,0.6s,baz=82,slow=12,SNR=6.6			LR	LR	16 31 56.8	
MAW	**Mawson**	**81.31**	**200**	P	**P**	**15 55 43.4**	**-0.8**
MAW	**Mawson** comp=Z,90nm,21.3s,baz=319,slow=36	**81.31**	**200**	P	**P**	**15 55 43.4**	**-0.8**
MAW	comp=Z,1.1nm,0.4s,baz=119,slow=7.3,SNR=6.6			LR	LR	16 25 46.2	
KBZ	**Khabaz**	**84.41**	**314**	P	**P**	**15 56 00.8**	**0.0**
KBZ	**Khabaz** comp=Z,1.5nm,0.7s,baz=166,slow=8.8,SNR=4.4	**84.41**	**314**	P	**P**	**15 56 00.8**	**0.0**
ILAR	**Eielson Array**	**87.49**	**25**	P	**P**	**15 56 15.0**	**-0.7**
ILAR	**Eielson Array** comp=Z,0.2nm,0.4s,baz=247,slow=4.5,SNR=5.5	**87.49**	**25**	P	**P**	**15 56 15.0**	**-0.7**
KMBO	**Kilima Mbogo**	**89.13**	**269**	P	**P**	**15 56 25.4**	**+0.6**
KMBO	**Kilima Mbogo** comp=Z,0.8nm,0.5s,baz=50,slow=21,SNR=3.8	**89.13**	**269**	P	**P**	**15 56 25.4**	**+0.6**
JOF	**Joensuu** comp=Z,2.4nm,0.8s	**91.20**	**333**	*e*p	**P**	**15 56 34.0**	**+0.9**
INK	**Inuvik**	**92.59**	**21**	P	**P**	**15 56 40.0**	**+0.6**
INK	**Inuvik** comp=Z,1.5nm,1.0s,baz=238,slow=4.5,SNR=4.1	**92.59**	**21**	P	**P**	**15 56 40.0**	**+0.6**
ARCES	**ARCESS Array B**	**92.63**	**340**	P	**P**	**15 56 39.2**	**-0.5**
ARCES	**ARCESS Array B** comp=Z,1.5nm,0.7s,baz=79,slow=6.1,SNR=8.1	**92.63**	**340**	P	**P**	**15 56 39.2**	**-0.5**
AKASG	**Malin Array Be**	**93.57**	**321**	P	**P**	**15 56 44.1**	**-0.2**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.4s,baz=68,slow=5.3,SNR=2.6	**93.57**	**321**	P	**P**	**15 56 44.1**	**-0.2**
KAF	**Kangasniemi** comp=Z,0.9nm,0.4s	**93.61**	**332**	*e*p	**P**	**15 56 43.1**	**-1.1**
FINES	**FINESS Array B**	**93.83**	**332**	P	**P**	**15 56 43.9**	**-1.3**
FINES	**FINESS Array B** comp=Z,1.4nm,0.8s,baz=62,slow=5.4,SNR=4.5	**93.83**	**332**	P	**P**	**15 56 43.9**	**-1.3**
SCHQ	**Schefferville**	**123.06**	**9**	PKP	**PKPdf**	**16 02 23.6**	**-1.0**
SCHQ	**Schefferville** comp=Z,5.8nm,0.9s,baz=290,slow=8.0,SNR=5.9	**123.06**	**9**	PKP	**PKPdf**	**16 02 23.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**123.30**	**287**	PKP	**PKPdf**	**16 02 25.8**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,1.9nm,0.8s,baz=62,slow=1.9,SNR=13	**123.30**	**287**	PKP	**PKPdf**	**16 02 25.8**	**-0.3**

PRU ***08*** *15:43:50.5,45°.46N×10°.09E,h17km*

LDG ***08*** *15:43:51.9±0.1,45°.50N×10°.06E,h10km,Ml3.4/28,Error ellipse: s-maj=2.9km s-min=2.4km az=118.0*

GEN ***08*** *15:43:51.4,45°.52N×9°.85E,h4km,ML2.8*

ZUR ***08*** *15:43:52.7,45°.49N×10°.07E,h36km±2km,ML3.0/5*

CSEM ***08*** *15:43:53.0±0.1,45°.50N×10°.02E,h40km,ML3.5/31,Error ellipse: s-maj=2.1km s-min=1.7km az=152.0*

ROM ***08*** *15:43:53.1±0.1,45°.51N×10°.10E,h35km±1km,Ml3.0/24, Error ellipse: s-maj=1.8km s-min=1.3km az=90.0*

SZGRF ***08*** *15:43:53.8,45°.71N×9°.98E,h10km,mb2.7,Northern Italy*

VIE ***08*** *15:43:53.4±0.7,45°.72N×10°.24E,h11km±3km,mb2.4/7, ML3.1/10,Error ellipse: s-maj=4.5km s-min=2.8km az=21.0 58 km SSE of Sondrio*

STR ***08*** *15:43:56.3±0.5,45°.58N×9°.49E,h38km,Ml3.2,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 08 15:43:50.1±0.4,**45°.49N**±0°.01×**10°.00E**±0°.01,**h31**km±3km, **n249,**σ1**$78/305,56C-28D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDI	**Monti di Nese**	**0.35**	**325**	⇓*i*Pg	Pn	15 44 02.3	+3.1
MDI	982nm,0.2s			Sg	**Sn**	**15 44 09.3**	**+4.0**
MDI	**Monti di Nese**	**0.35**	**325**	⇓*i*Pg	Pn	15 44 02.3	+3.1
MDI	982nm,0.2s			Sg	**Sn**	**15 44 09.3**	**+4.0**
MAGA	**Magasa**	**0.52**	**57**	⇑*i*Pg	**Pn**	**15 44 03.4**	**+1.8**
MAGA	3μm,0.6s			Sg	**Sn**	**15 44 11.2**	**+1.7**
MAGA	**Magasa**	**0.52**	**57**	⇑*i*Pg	**Pn**	**15 44 03.4**	**+1.8**
MAGA	3μm,0.6s			Sg	**Sn**	**15 44 11.2**	**+1.7**
BALD	**Monte Baldo**	**0.60**	**71**	⇑*i*Pg	**Pb**	**15 44 04.5**	**+2.0**
BALD				*i* Sg	**Sn**	**15 44 12.3**	**+0.7**
BALD	**Monte Baldo**	**0.60**	**71**	⇑*i*Pg	**Pb**	**15 44 04.4**	**+2.0**
BALD				*i* Sg	**Sn**	**15 44 12.3**	**+0.7**
MABI	**Malga Bissina**	**0.67**	**32**	⇑*i*Pg	**Pb**	**15 44 05.8**	**+2.3**
MABI	1μm,0.2s			Sg	**Sb**	**15 44 14.6**	**+1.9**
MABI	**Malga Bissina**	**0.67**	**32**	⇑*i*Pg	**Pb**	**15 44 05.8**	**+2.3**
MABI	1μm,0.2s			Sg	**Sb**	**15 44 14.6**	**+1.9**
PRMA	**PARMA** 164nm,0.5s	**0.76**	**163**	Pg	Pb	15 44 08.2	+3.4
PRMA	**PARMA** 164nm,0.5s	**0.76**	**163**	Pg	Pb	15 44 08.2	+3.4
ROVR	**Rover¯¤ Verone** 527nm,0.2s	**0.77**	**78**	⇑*i*Pg	**Pb**	**15 44 06.3**	**+1.2**
ROVR	**Rover¯¤ Verone** 527nm,0.2s	**0.77**	**78**	⇑*i*Pg	**Pb**	**15 44 06.3**	**+1.2**
SBPO	**S.Benedetto Po**	**0.78**	**124**	⇓*i*Pg	**Pb**	**15 44 07.4**	**+2.2**
SBPO	2μm,0.2s			Sg	**Sb**	**15 44 19.1**	**+3.6**
SBPO	**S.Benedetto Po**	**0.78**	**124**	⇓*i*Pg	**Pb**	**15 44 07.4**	**+2.2**
SBPO	2μm,0.2s			Sg	**Sb**	**15 44 19.1**	**+3.6**
MUGIO	**Muggio** 1μm,0.3s	**0.80**	**303**	⇓*i*P	**Pb**	**15 44 08.0**	**+2.4**
MUGIO	1μm,0.3s			*e*S	**Sb**	**15 44 19.0**	**+2.8**
MUGIO	**Muggio**	**0.80**	**303**	Pg	**Pb**	**15 44 08.0**	**+2.4**
MUGIO	**Muggio** 1μm,0.3s	**0.80**	**303**	⇓*i*P	**Pb**	**15 44 08.0**	**+2.4**
MUGIO	1μm,0.3s			*e*S	**Sb**	**15 44 19.0**	**+2.8**
BOB	**Bobbio (Coli)**	**0.82**	**209**	Pg	Pb	15 44 09.8	+3.8
BOB				Sg	**Sb**	**15 44 21.9**	**+5.1**
BOB	**Bobbio (Coli)**	**0.82**	**209**	Pg	Pb	15 44 09.8	+3.8
BOB				Sg	**Sb**	**15 44 21.9**	**+5.1**
NOVE	**Novellara**	**0.85**	**144**	⇓*i*Pg	Pb	15 44 09.0	+2.6
NOVE	1μm,0.3s			Sg	**Sb**	**15 44 21.8**	**+4.2**
NOVE	**Novellara**	**0.85**	**144**	⇓*i*Pg	Pb	15 44 09.0	+2.6
NOVE	1μm,0.3s			Sg	**Sb**	**15 44 21.8**	**+4.2**
MARN	**Marana (Italy)**	**0.86**	**80**	⇑*i*Pg	**Pb**	**15 44 07.4**	**+0.8**
MARN				*i* Sg	**Sb**	**15 44 17.7**	**-0.1**
MARN	**Marana (Italy)**	**0.86**	**80**	⇑*i*Pg	**Pb**	**15 44 07.4**	**+0.8**
MARN				*i* Sg	**Sb**	**15 44 17.7**	**-0.1**
BRMO	**Bormio** 113nm,0.6s	**1.02**	**14**	Pg	**Pb**	**15 44 11.4**	**+2.0**
BRMO				Sg	**Sb**	**15 44 24.0**	**+1.5**
BRMO	**Bormio** 113nm,0.6s	**1.02**	**14**	Pg	**Pb**	**15 44 11.4**	**+2.0**
BRMO				Sg	**Sb**	**15 44 24.0**	**+1.5**
VDL	**Val di Lei** 616nm,0.4s	**1.07**	**339**	*i* Pn	**Pb**	**15 44 12.1**	**+1.9**
VDL	**Val di Lei** 616nm,0.4s	**1.07**	**339**	*i* Pn	**Pb**	**15 44 12.1**	**+1.9**
TUE	**Stuetta** 153nm,0.2s	**1.08**	**335**	⇓*i*Pg	**Pb**	**15 44 12.8**	**+2.3**
TUE				Sg	**Sb**	**15 44 26.6**	**+2.2**
TUE	**Stuetta** 153nm,0.2s	**1.08**	**335**	⇓*i*Pg	**Pb**	**15 44 12.8**	**+2.3**
TUE				Sg	**Sb**	**15 44 26.6**	**+2.2**
CODM	**Codolo**	**1.10**	**186**	P	**Pb**	**15 44 12.6**	**+1.9**
CODM				S	**Sb**	**15 44 26.0**	**+1.3**
ERBM	**Eremo** 52μm,12.0s	**1.11**	**165**	Pg	Pb	15 44 13.4	+2.6
ERBM	**Eremo** 52μm,12.0s	**1.11**	**165**	Pg	Pb	15 44 13.4	+2.6
SC2M	**Scurtabo**	**1.13**	**197**	Pg	**Pb**	**15 44 13.7**	**+2.5**
SC2M				Sg	**Sb**	**15 44 28.3**	**+2.7**
SC2M	**Scurtabo**	**1.13**	**197**	P	**Pb**	**15 44 13.0**	**+1.8**
SC2M	**Scurtabo**	**1.13**	**197**	Pg	**Pb**	**15 44 13.7**	**+2.5**
SC2M				S	**Sb**	**15 44 26.5**	**+0.9**
SC2M				Sg	**Sb**	**15 44 28.3**	**+2.7**
FUORN	**Ofenpass-Fuorn** 451nm,0.5s	**1.15**	**9**	*e*P	**Pb**	**15 44 13.3**	**+1.8**
FUORN	**Ofenpass-Fuorn**	**1.15**	**9**	Pg	**Pb**	**15 44 13.8**	**+2.3**
FUORN				Sg	**Sb**	**15 44 28.4**	**+2.2**
FUORN	**Ofenpass-Fuorn** 451nm,0.5s	**1.15**	**9**	*e*P	**Pb**	**15 44 13.3**	**+1.8**
FUORN	**Ofenpass-Fuorn**	**1.15**	**9**	Pg	**Pb**	**15 44 13.8**	**+2.3**
FUORN				Sg	**Sb**	**15 44 28.4**	**+2.2**
VALM	**Valbona**	**1.15**	**171**	P	**Pb**	**15 44 13.3**	**+1.8**
VALM				S	**Sb**	**15 44 27.2**	**+1.1**
TEOL	**Teolo** 903nm,0.8s	**1.18**	**96**	Pg	**Pb**	**15 44 11.7**	**-0.2**
TEOL	**Teolo** 903nm,0.8s	**1.18**	**96**	Pg	**Pb**	**15 44 11.7**	**-0.2**
MOSI	**Grossmontoni** 439nm,0.5s	**1.19**	**18**	Pg	**Pb**	**15 44 14.2**	**+1.9**
MOSI				*e*Sg	**Sb**	**15 44 29.6**	**+2.2**
BACM	**Baccana**	**1.21**	**178**	P	**Pb**	**15 44 14.0**	**+1.5**
BACM				S	**Sb**	**15 44 28.4**	**+0.6**
DAVOX	**Davos/Dischmat** 429nm,0.4s	**1.29**	**356**	⇑*e*P	**Pb**	**15 44 15.8**	**+1.8**
DAVOX	**Davos/Dischmat** 429nm,0.4s	**1.29**	**356**	⇓*i*Pg	**Pb**	**15 44 16.2**	**+2.2**
DAVOX	**Davos/Dischmat** 429nm,0.4s	**1.29**	**356**	⇑*e*P	**Pb**	**15 44 15.8**	**+1.8**
DAVOX	**Davos/Dischmat** 429nm,0.4s	**1.29**	**356**	⇓*i*Pg	**Pb**	**15 44 16.2**	**+2.2**
APPI	**Appiano** 447nm,0.3s	**1.31**	**40**	Pg	**Pb**	**15 44 15.1**	**+1.0**
APPI				Sg	**Sb**	**15 44 31.0**	**+0.4**
APPI	**Appiano** 447nm,0.3s	**1.31**	**40**	Pg	**Pb**	**15 44 15.1**	**+1.0**
APPI				Sg	**Sb**	**15 44 31.0**	**+0.4**
CGRP	**Cima Grappa** 98nm,0.5s	**1.32**	**72**	⇑*e*Pg	**Pb**	**15 44 14.0**	**-0.4**
CGRP				*e*Sg	**Sb**	**15 44 29.3**	**-1.7**
CGRP	**Cima Grappa** 98nm,0.5s	**1.32**	**72**	⇑*i*Pg	**Pb**	**15 44 14.0**	**-0.4**
CGRP	**Cima Grappa**	**1.32**	**72**	⇑*e*Pg	**Pb**	**15 44 14.0**	**-0.4**
CGRP				*e*Sg	**Sb**	**15 44 29.3**	**-1.7**
ROTM	**Rocchetta Tana**	**1.33**	**242**	P	**Pb**	**15 44 15.8**	**+1.3**
ROTM				S	**Sb**	**15 44 31.3**	**+0.1**
FUSIO	**Fusio** 629nm,0.1s	**1.34**	**316**	*e*P	**Pb**	**15 44 15.8**	**+1.0**
FUSIO	**Fusio** 629nm,0.1s	**1.34**	**316**	Pg	**Pb**	**15 44 15.9**	**+1.1**
FUSIO	**Fusio** 629nm,0.1s	**1.34**	**316**	*e*P	**Pb**	**15 44 15.8**	**+1.0**
KOSI	**Kohlern** 211nm,0.8s	**1.37**	**44**	Pg	**Pb**	**15 44 15.5**	**+0.3**
KOSI				Sg	**Sb**	**15 44 32.2**	**-0.2**
KOSI	**Kohlern** 211nm,0.8s	**1.37**	**44**	⇑*e*Pg	**Pb**	**15 44 15.5**	**+0.3**
KOSI				Sg	**Sb**	**15 44 32.2**	**-0.2**
PCP	**Piancastagn**	**1.40**	**228**	P	**Pb**	**15 44 17.3**	**+1.6**
PCP				S	**Sb**	**15 44 33.3**	**0.0**
BDI	**Bagni Di Lucca** 63nm,0.4s	**1.49**	**163**	Pg	**Pb**	**15 44 18.1**	**+0.9**
BDI	**Bagni Di Lucca** 63nm,0.4s	**1.49**	**163**	Pg	**Pb**	**15 44 18.1**	**+0.9**
MTLO	**Montello**	**1.50**	**77**	⇑*e*Pg	**Pb**	**15 44 16.8**	**-0.6**
MTLO	**Montello**	**1.50**	**77**	⇑*e*Pg	**Pb**	**15 44 16.8**	**-0.6**
MONC	**Moncucco Torin** 109nm,0.3s	**1.52**	**255**	Pg	**Pb**	**15 44 20.0**	**+2.3**
MONC	**Moncucco Torin** 109nm,0.3s	**1.52**	**255**	Pg	**Pb**	**15 44 20.0**	**+2.3**
ABSI	**Aberstueckl** 127nm,0.4s	**1.54**	**36**	Pg	**Pb**	**15 44 18.3**	**+0.1**
ABSI	**Aberstueckl**	**1.54**	**36**	*e*Pg	**Pb**	**15 44 18.1**	**-0.1**
ABSI				*e*Sg	**Sb**	**15 44 36.8**	**-0.6**
SATI	**Passo dei Sala**	**1.55**	**285**	P	**Pb**	**15 44 17.6**	**-0.7**
SATI				S	**Sn**	**15 44 33.7**	**-1.3**
VARN	**Col Varnada, M**	**1.56**	**70**	⇓*e*Pg	**Pb**	**15 44 17.3**	**-1.0**
VARN	**Col Varnada, M**	**1.56**	**70**	⇓*e*Pg	**Pb**	**15 44 17.3**	**-1.0**
FAU	**Forcella Aurin**	**1.57**	**61**	⇑*i*Pg	**Pb**	**15 44 18.2**	**-0.3**
FAU	**Forcella Aurin**	**1.57**	**61**	⇑*i*Pg	**Pb**	**15 44 18.2**	**-0.3**
FETA	**Feichten**	**1.61**	**18**	⇓*i*Pg	**Pb**	**15 44 20.4**	**+1.0**
FETA	30nm,0.4s			⇓*i*Sg	**Sb**	**15 44 39.9**	**+0.5**
FETA	**Feichten**	**1.61**	**18**	Pg	**Pb**	**15 44 20.4**	**+1.0**
FETA	30nm,0.4s			Sg	**Sb**	**15 44 39.9**	**+0.5**
AGOR	**Agordo**	**1.63**	**60**	⇑*e*Pg	**Pb**	**15 44 19.3**	**-0.3**
AGOR	**Agordo**	**1.63**	**60**	Pg	**Pb**	**15 44 19.3**	**-0.3**
SEI	**Scarperia** 57nm,0.6s	**1.73**	**146**	Pg	**Pb**	**15 44 21.2**	**0.0**
SEI	**Scarperia** 57nm,0.6s	**1.73**	**146**	Pg	**Pb**	**15 44 21.2**	**0.0**
ROSI	**Rosskopf** 177nm,0.7s	**1.74**	**34**	Pg	**Pb**	**15 44 21.8**	**+0.3**
ROSI	**Rosskopf** 177nm,0.7s	**1.74**	**34**	Pg	**Pb**	**15 44 21.8**	**+0.3**
CAE	**Caneva**	**1.78**	**72**	⇑*e*Pg	**Pb**	**15 44 20.5**	**-1.6**
CAE				*e*Sg	**Sb**	**15 44 41.4**	**-2.7**
CAE	**Caneva**	**1.78**	**72**	⇑*e*Pg	**Pb**	**15 44 20.5**	**-1.6**
CAE				*e*Sg	**Sb**	**15 44 41.4**	**-2.7**
DAVA	**Damuels** SNR=34	**1.80**	**357**	⇓*e*Pg	**Pb**	**15 44 23.5**	**+1.0**
DAVA	37nm,0.2s			⇑*i*Sg	**Sb**	**15 44 46.2**	**+1.4**
DAVA	**Damuels**	**1.80**	**357**	*e*Pg	**Pb**	**15 44 23.9**	**+1.4**
DAVA	**Damuels** SNR=34	**1.80**	**357**	Pg	**Pb**	**15 44 23.5**	**+1.0**
DAVA	37nm,0.2s			Sg	**Sb**	**15 44 46.2**	**+1.4**
PII

LPL					*e*Sn	**Sn**	**15 44 55.0**	**+1.6**
	30nm,0.4s,SNR=1.0									
LPL	**La Plagne**	**2.30**	**272**		*e*Pn	**Pb**	**15 44 28.9**	**-2.2**
	SNR=1.0									
LPL					*e*Sn	**Sn**	**15 44 55.0**	**+1.6**
	15nm,0.4s,SNR=1.0									
SAOF	**Saorge**	**2.30**	**230**		P	**Pb**	**15 44 29.4**	**-1.6**
SAOF					S	**Sb**	**15 44 56.2**	**-2.8**
SAOF	**Saorge**	**2.30**	**230**		P	**Pb**	**15 44 29.4**	**-1.6**
SAOF					S	**Sb**	**15 44 56.2**	**-2.8**
BOO	**Bordano**	**2.32**	**68**	⇑	*i*Pg	Pb	15 44 27.8	-3.4
BOO	**Bordano**	**2.32**	**68**	⇑	*i*Pg	Pb	15 44 27.8	-3.4
GEPF	**Gemona**	**2.33**	**69**		Pg	Pb	15 44 28.2	-3.1
	26nm,0.5s									
GEPF	**Gemona**	**2.33**	**69**		Pg	Pb	15 44 28.2	-3.1
	26nm,0.5s									
ZOU	**Zoufplan**	**2.33**	**62**	⇑	*e*Pg	**Pb**	**15 44 28.9**	**-2.7**
AUTN	**L'Aution**	**2.37**	**232**		P	**Pb**	**15 44 30.5**	**-1.7**
AUTN					S	**Sb**	**15 44 58.1**	**-2.9**
AUTN	**L'Aution**	**2.37**	**232**		P	**Pb**	**15 44 30.5**	**-1.7**
AUTN					S	**Sb**	**15 44 58.1**	**-2.9**
BAD	**Bernadia**	**2.38**	**71**	⇑	*e*Pg	**Pn**	**15 44 28.7**	**+1.6**
BAD	**Bernadia**	**2.38**	**71**	⇑	*e*Pg	**Pn**	**15 44 28.7**	**+1.6**
MBDF	**Montbardon**	**2.41**	**253**		*e*Pn	**Pn**	**15 44 29.5**	**+1.9**
	SNR=1.0									
MBDF					*e*Sn	**Sn**	**15 44 57.5**	**+1.4**
	8.4nm,0.4s,SNR=1.0									
VINO	**Villanova**	**2.42**	**70**	⇑	*e*Pg	**Pn**	**15 44 29.1**	**+1.6**
VINO	**Villanova**	**2.42**	**70**	⇑	*e*Pg	**Pn**	**15 44 29.1**	**+1.6**
PLRO	**Paularo**	**2.43**	**63**	⇑	*e*Pg	Pb	15 44 30.1	-3.2
PLRO	**Paularo**	**2.43**	**63**	⇑	*e*Pg	Pb	15 44 30.1	-3.2
COLI	**Coloredo**	**2.45**	**74**	⇑	*e*Pg	**Pn**	**15 44 29.6**	**+1.8**
COLI	**Coloredo**	**2.45**	**74**	⇑	*e*Pg	**Pn**	**15 44 29.6**	**+1.8**
SBF	**Sospel**	**2.45**	**229**		*e*Pn	Pb	15 44 30.8	-2.7
	SNR=1.0									
SBF					*e*Sn	**Sn**	**15 44 58.0**	**+1.1**
	81nm,0.3s,SNR=1.0									
SBF	**Sospel**	**2.45**	**229**		*e*Pn	Pb	15 44 30.8	-2.7
	SNR=1.0									
SBF					*e*Sn	**Sn**	**15 44 58.0**	**+1.1**
	40nm,0.3s,SNR=1.0									
TOUF	**Mont Tournerai**	**2.46**	**234**		P	Pb	15 44 30.9	-2.8
TOUF	**Mont Tournerai**	**2.46**	**234**		P	Pb	15 44 30.9	-2.8
LUCF	**Luceram**	**2.48**	**231**		P	**Pb**	**15 44 32.1**	**-1.9**
LUCF					S	**Sb**	**15 45 00.6**	**-3.5**
LUCF	**Luceram**	**2.48**	**231**		P	**Pb**	**15 44 32.1**	**-1.9**
LUCF					S	**Sb**	**15 45 00.6**	**-3.5**
REVF	**Revere**	**2.57**	**228**		P	**Pb**	**15 44 33.3**	**-2.2**
REVF	**Revere**	**2.57**	**228**		P	**Pb**	**15 44 33.3**	**-2.2**
MVIF	**Mont Vial**	**2.58**	**233**		P	Pb	15 44 32.6	-3.2
MVIF	**Mont Vial**	**2.58**	**233**		P	Pb	15 44 32.6	-3.2
BBS	**Basel-Blauen**	**2.62**	**320**		P	Pb	15 44 33.4	-3.0
DRE	**Drenchia**	**2.63**	**74**	⇑	*e*Pg	**Pn**	**15 44 32.1**	**+1.6**
DRE	**Drenchia**	**2.63**	**74**	⇑	*e*Pg	**Pn**	**15 44 32.1**	**+1.6**
TRI	**Trieste**	**2.65**	**84**	⇑	*e*Pg	**Pn**	**15 44 31.9**	**+1.3**
TRI					*e*Sg	**Sn**	**15 45 00.5**	**-1.2**
TRI	**Trieste**	**2.65**	**84**	⇑	*e*Pg	**Pn**	**15 44 31.9**	**+1.3**
TRI					*e*Sg	**Sn**	**15 45 00.5**	**-1.2**
ACOM	**Acomizza, Ital**	**2.67**	**65**	⇑	*e*Pg	Pb	15 44 33.5	-3.7
ACOM	**Acomizza, Ital**	**2.67**	**65**	⇑	*e*Pg	Pb	15 44 33.5	-3.7
FELD	**Feldberg im Sc**	**2.76**	**331**		P	**Pn**	**15 44 34.5**	**+2.2**
FELD	**Feldberg im Sc**	**2.76**	**331**		P	**Pn**	**15 44 34.5**	**+2.2**
VOY	**Vojsko**	**2.78**	**77**		*e*Pn	**Pn**	**15 44 33.6**	**+1.1**
VOY					*e*Sn	**Sn**	**15 45 03.3**	**-1.7**
MYKA	**Terra Mystica**	**2.78**	**64**	⇓	*i*Pn	**Pn**	**15 44 34.5**	**+2.0**
MYKA				⇓	*i*Sn	**Sn**	**15 45 06.8**	**+1.8**
MYKA	**Terra Mystica**	**2.78**	**64**		Pn	**Pn**	**15 44 34.5**	**+2.0**
MYKA					Sn	**Sn**	**15 45 06.8**	**+1.8**
CALN	**Calern**	**2.82**	**233**		P	Pb	15 44 36.5	-3.4
CALN	**Calern**	**2.82**	**233**		P	Pb	15 44 36.5	-3.4
LOMF	**Lomont**	**2.88**	**311**		P	**Pn**	**15 44 35.0**	**+1.1**
LOMF	**Lomont**	**2.88**	**311**		P	**Pn**	**15 44 35.0**	**+1.1**
CABF	**La Chapelle**	**2.95**	**294**		*e*Pn	Pb	15 44 37.9	-4.1
	SNR=1.0									
CABF					*e*Sn	**Sn**	**15 45 10.6**	**+1.3**
	12nm,0.3s,SNR=1.0									
CABF	**La Chapelle**	**2.95**	**294**		*e*Pn	Pb	15 44 37.9	-4.1
	SNR=1.0									
CABF					*e*Sn	**Sn**	**15 45 10.6**	**+1.3**
	5.9nm,0.3s,SNR=1.0									
RJOB	**Jochberg**	**2.96**	**40**		*e*Pn	Pb	15 44 38.3	-3.9
RJOB					*e*Sn	**Sn**	**15 45 11.6**	**+2.1**
ORIF	**Oris-en-Rattie**	**2.97**	**260**		*e*Pn	Pb	15 44 38.4	-4.0
	SNR=1.0									
ORIF					*e*Sn	**Sn**	**15 45 12.2**	**+2.4**
	27nm,0.4s,SNR=1.0									
ORIF	**Oris-en-Rattie**	**2.97**	**260**		*e*Pn	Pb	15 44 38.4	-4.0
	SNR=1.0									
ORIF					*e*Sn	**Sn**	**15 45 12.2**	**+2.4**
	13nm,0.4s,SNR=1.0									
PGF	**Pioggiola**	**3.03**	**194**		*e*Pn	**Pn**	**15 44 37.9**	**+1.9**
	SNR=1.0									
PGF					*e*Sn	**Sn**	**15 45 11.0**	**-0.2**
	24nm,0.3s									
PGF	**Pioggiola**	**3.03**	**194**		*e*Pn	**Pn**	**15 44 37.9**	**+1.9**
	SNR=1.0									
PGF					*e*Sn	**Sn**	**15 45 11.0**	**-0.2**
	12nm,0.3s									
BFO	**Black Forest**	**3.07**	**339**		*e*Pn	**Pn**	**15 44 38.7**	**+2.3**
BFO					*e*Sn	**Sn**	**15 45 11.3**	**-0.7**
FRF	**La Foret Royal**	**3.08**	**232**		*e*Pn	Pn	15 44 39.3	+2.7
	SNR=1.0									
FRF					*e*Sn	**Sn**	**15 45 13.3**	**+1.0**
	10nm,0.2s,SNR=1.0									
FRF	**La Foret Royal**	**3.08**	**232**		*e*Pn	Pn	15 44 39.3	+2.7
	SNR=1.0									
FRF					*e*Sn	**Sn**	**15 45 13.3**	**+1.0**
	5.1nm,0.2s,SNR=1.0									
MOF	**Molkenrain**	**3.08**	**321**		P	Pn	15 44 39.5	+2.8
MOF	**Molkenrain**	**3.08**	**321**		P	Pn	15 44 39.5	+2.8
HINF	**Hinteralfeld**	**3.18**	**318**		*e*Pn	Pn	15 44 40.5	+2.5
	SNR=1.0									
HINF	**Hinteralfeld**	**3.18**	**318**		*e*Pg	Pb	15 44 51.1	+5.1
HINF					*e*Sn	**Sn**	**15 45 14.9**	**0.0**
	32nm,0.3s									
HINF	**Hinteralfeld**	**3.18**	**318**		*e*Pn	Pn	15 44 40.5	+2.5
	SNR=1.0									
HINF	**Hinteralfeld**	**3.18**	**318**		*e*Pg	Pb	15 44 51.1	+5.1
HINF					*e*Sn	**Sn**	**15 45 14.9**	**0.0**
	16nm,0.3s									
LMR	**La Mourre**	**3.30**	**231**		*e*Pn	Pn	15 44 42.2	+2.6
	SNR=1.0									
LMR					*e*Sn	**Sn**	**15 45 18.5**	**+0.7**
	12nm,0.2s,SNR=1.0									
LMR	**La Mourre**	**3.30**	**231**		*e*Pn	Pn	15 44 42.2	+2.6
	SNR=1.0									
LMR					*e*Sn	**Sn**	**15 45 18.5**	**+0.7**
	5.9nm,0.2s,SNR=1.0									
OBKA	**Obir**	**3.33**	**71**	⇑	*i*Pn	**Pn**	**15 44 42.2**	**+2.1**
OBKA				⇓	*i*Sn	**Sn**	**15 45 20.5**	**+1.9**
OBKA	**Obir**	**3.33**	**71**		Pn	**Pn**	**15 44 42.2**	**+2.1**
OBKA					Sn	**Sn**	**15 45 20.5**	**+1.9**
ECH	**Echery**	**3.35**	**325**		P	**Pn**	**15 44 42.6**	**+2.2**
ECH	**Echery**	**3.35**	**325**		P	**Pn**	**15 44 42.6**	**+2.2**
CDF	**Champ du Feu**	**3.47**	**328**		*e*Pn	Pn	15 44 44.4	+2.4
	SNR=1.0									
CDF					*e*Sn	**Sn**	**15 45 22.1**	**0.0**
	17nm,0.2s									
CDF	**Champ du Feu**	**3.47**	**328**		*e*Pn	Pn	15 44 44.4	+2.4
	SNR=1.0									
CDF					*e*Sn	**Sn**	**15 45 22.1**	**0.0**
	8.3nm,0.2s									
SMRF	**Simiane la Rot**	**3.50**	**246**		*e*Pn	Pn	15 44 45.6	+3.2
	SNR=1.0									
SMRF					*e*Sn	**Sn**	**15 45 24.5**	**+1.7**
	SNR=1.0									
SMRF					*e*Sg	Sb	15 45 43.2	+10
	5.2nm,0.6s,SNR=1.0									
HAU	**Haudompre**	**3.56**	**316**		*e*Pn	**Pn**	**15 44 45.5**	**+2.3**
	SNR=1.0									
HAU					*e*Sn	**Sn**	**15 45 24.2**	**+0.1**
	100nm,0.2s									
HAU	**Haudompre**	**3.56**	**316**		*e*Pn	**Pn**	**15 44 45.5**	**+2.3**
	SNR=1.0									
HAU					*e*Sn	**Sn**	**15 45 24.2**	**+0.1**
	50nm,0.2s									
NVLJ	**Novalja**	**3.57**	**103**		*e*Pn	**Pn**	**15 44 44.7**	**+1.4**
NVLJ					Sn	**Sn**	**15 45 22.1**	**-2.3**
LANF	**Langenberg**	**3.80**	**338**		P	**Pn**	**15 44 48.8**	**+2.3**
LANF	**Langenberg**	**3.80**	**338**		P	**Pn**	**15 44 48.8**	**+2.3**
VIVF	**Saint-Julien-l**	**3.82**	**262**		*e*Pn	Pn	15 44 49.8	+3.0
	SNR=1.0									
VIVF					*e*Sn	**Sn**	**15 45 32.6**	**+1.9**
	8.0nm,0.3s,SNR=1.0									
VIVF	**Saint-Julien-l**	**3.82**	**262**		*e*Pn	Pn	15 44 49.8	+3.0
	SNR=1.0									
VIVF					*e*Sn	**Sn**	**15 45 32.6**	**+1.9**
	4.0nm,0.3s,SNR=1.0									
THEF	**They Montfort**	**3.89**	**316**		P	**Pn**	**15 44 49.9**	**+2.2**
THEF	**They Montfort**	**3.89**	**316**		P	**Pn**	**15 44 49.9**	**+2.2**
WET	**Wettzell**	**4.15**	**27**		*e*Pn	**Pn**	**15 44 53.1**	**+1.8**
WET					*e*Sn	**Sn**	**15 45 36.4**	**-2.3**
GEC2	**GERESS Array S**	**4.20**	**36**		*e*Pn	**Pn**	**15 44 53.6**	**+1.5**
GEC2					*e*Sn	**Sn**	**15 45 38.4**	**-1.7**
TOD	**Tromm**	**4.20**	**349**		P	Pn	15 44 55.9	+3.9
PAGF	**Fort de Pagny**	**4.24**	**318**		*e*Pn	Pn	15 44 55.5	+3.0
	baz=130									
PAGF	**Fort de Pagny**	**4.24**	**318**		*e*Pn	Pn	15 44 55.5	+3.0
	baz=130									
GRF	**Grafenberg Arr**	**4.29**	**11**		*e*Pn	**Pn**	**15 44 53.8**	**+0.6**
GRF					*e*Sn	**Sn**	**15 45 40.1**	**-2.0**
SFTF	**Sexfontaines**	**4.36**	**310**		*e*Pn	Pn	15 44 56.6	+2.5
	baz=127									
SFTF					*e*Sn	**Sn**	**15 45 44.0**	**+0.2**
	24nm,0.3s									
SFTF	**Sexfontaines**	**4.36**	**310**		*e*Pn	Pn	15 44 56.6	+2.5
	baz=130									
SFTF					*e*Sn	**Sn**	**15 45 44.0**	**+0.2**
	12nm,0.3s									
KHC	**Kasperske Hory**	**4.38**	**32**		*e*PN	**Pn**	**15 44 56.6**	**+2.1**
KHC					*ex*	x	15 45 07.1	
KHC					*ex*	x	15 45 15.5	
KHC					*e*SN	**Sn**	**15 45 42.8**	**-1.6**
KHC	**Kasperske Hory**	**4.38**	**32**		Pn	**Pn**	**15 44 56.6**	**+2.1**
SMF	**Signal de Mont**	**4.44**	**287**		*e*Pn	Pn	15 44 58.2	+2.9
	SNR=1.0									
SMF					*e*Sn	**Sn**	**15 45 46.0**	**0.0**
	26nm,0.2s									
SMF	**Signal de Mont**	**4.44**	**287**		*e*Pn	Pn	15 44 58.2	+2.9
	SNR=1.0									
SMF					*e*Sn	**Sn**	**15 45 46.0**	**0.0**
	13nm,0.2s									
MEZF	**Maizieres J'vi**	**4.54**	**313**		*e*Sn	**Sn**	**15 45 48.7**	**+0.5**
	11nm,0.2s,SNR=1.0									
MEZF	**Maizieres J'vi**	**4.54**	**313**		*e*Sn	**Sn**	**15 45 48.7**	**+0.5**
	5.7nm,0.2s,SNR=1.0									
LASF	**Ste Croix**	**4.60**	**254**		*e*Pn	**Pn**	**15 44 59.5**	**+2.0**
	SNR=1.0									
LASF					*e*Sn	**Sn**	**15 45 50.0**	**+0.2**
	11nm,0.5s,SNR=1.0									
LASF	**Ste Croix**	**4.60**	**254**		*e*Pn	**Pn**	**15 44 59.5**	**+2.0**
	SNR=1.0									
LASF					*e*Sn	**Sn**	**15 45 50.0**	**+0.2**
	5.5nm,0.5s,SNR=1.0									
LOR	**Lormes**	**4.61**	**295**		*e*Pn	Pn	15 45 00.5	+2.9
	baz=115,SNR=1.0									
LOR					*e*Sn	**Sn**	**15 45 50.5**	**+0.4**
	50nm,0.3s									
LOR	**Lormes**	**4.61**	**295**		*e*Pn	Pn	15 45 00.5	+2.9
	SNR=1.0									
LOR					*e*Sn	**Sn**	**15 45 50.5**	**+0.4**
	25nm,0.3s									
RUP	**Ruppelstein**	**4.66**	**336**		P	Pn	15 45 00.9	+2.5
CSNA	**Conrad Observa**	**4.71**	**57**	⇑	*i*Pn	**Pn**	**15 45 01.2**	**+2.1**
CSNA				⇓	*i*Sn	**Sn**	**15 45 53.3**	**+0.7**
CSNA	**Conrad Observa**	**4.71**	**57**		Pn	**Pn**	**15 45 01.2**	**+2.1**
CSNA					Sn	**Sn**	**15 45 53.3**	**+0.7**
SSF	**Saint Saulge**	**4.77**	**292**		*e*Pn	Pn	15 45 02.4	+2.6
	SNR=1.0									
SSF					*e*Sn	**Sn**	**15 45 54.4**	**+0.3**
	5.9nm,0.3s									
SSF	**Saint Saulge**	**4.77**	**292**		*e*Pn	Pn	15 45 02.4	+2.6
	SNR=1.0									
SSF					*e*Sn	**Sn**	**15 45 54.4**	**+0.3**
	3.0nm,0.3s									
AVF	**Avril sur Loir**	**4.80**	**288**		*e*Pn	Pn	15 45 03.0	+2.8
	SNR=1.0									
AVF					*e*Sn	**Sn**	**15 45 54.4**	**-0.4**
	5.0nm,0.3s									
AVF	**Avril sur Loir**	**4.80**	**288**		*e*Pn	Pn	15 45 03.0	+2.8
	SNR=1.0									
AVF					*e*Sn	**Sn**	**15 45 54.4**	**-0.4**
	2.5nm,0.3s									
NKC	**Novy Kostel**	**5.02**	**18**		*e*PN	**Pn**	**15 45 05.1**	**+1.8**
NKC					*e*SN	**Sn**	**15 45 57.7**	**-2.6**
NKC	**Novy Kostel**	**5.02**	**18**		Pn	**Pn**	**15 45 05.1**	**+1.8**
BGF	**Bois d'Agland**	**5.10**	**285**		*e*Pn	Pn	15 45 07.4	+3.1
	SNR=1.0									
BGF					*e*Sn	**Sn**	**15 46 01.7**	**-0.4**
	25nm,0.4s,SNR=1.0									
BGF	**Bois d'Agland**	**5.10**	**285**		*e*Pn	Pn	15 45 07.4	+3.1
	SNR=1.0									
BGF					*e*Sn	**Sn**	**15 46 01.7**	**-0.4**
	13nm,0.4s,SNR=1.0									
HYF	**Humbligny**	**5.40**	**292**		*e*Sn	**Sn**	**15 46 09.2**	**-0.3**
HYF	**Humbligny**	**5.40**	**292**		*e*Sn	**Sn**	**15 46 09.2**	**-0.3**
PRU	**Pruhonice**	**5.44**	**33**		*e*SN	**Sn**	**15 46 07.4**	**-3.1**
TCF	**Toulx Ste Croi**	**5.50**	**281**		*e*Pn	Pn	15 45 12.8	+2.9
TCF					*e*Sn	**Sn**	**15 46 10.8**	**-1.2**
	7.6nm,0.3s,SNR=1.0									
TCF	**Toulx Ste Croi**	**5.50**	**281**		*e*Pn	Pn	15 45 12.8	+2.9
TCF					*e*Sn	**Sn**	**15 46 10.8**	**-1.2**
	3.8nm,0.3s,SNR=1.0									
CAF	**Calviac**	**5.64**	**267**		*e*Pn	Pn	15 45 14.9	+3.1
	SNR=1.0									
CAF					*e*Sn	**Sn**	**15 46 15.8**	**+0.3**
	5.4nm,0.6s,SNR=1.0									
CAF	**Calviac**	**5.64**	**267**		*e*Pn	Pn	15 45 14.9	+3.1
	SNR=1.0									
CAF					*e*Sn	**Sn**	**15 46 15.8**	**+0.3**
	2.7nm,0.6s,SNR=1.0									
MTLF	**Montolieu**	**5.98**	**252**		*e*Pn	**Pn**	**15 45 18.7**	**+2.3**
MTLF	**Montolieu**	**5.98**	**252**		*e*Pn	**Pn**	**15 45 18.7**	**+2.3**
RJF	**Les Rejaudoux**	**5.98**	**271**		*e*Pn	Pn	15 45 19.5	+3.1
RJF	**Les Rejaudoux**	**5.98**	**271**		*e*Pn	Pn	15 45 19.5	+3.1
UPC	**Upice**	**6.44**	**37**		*e*SN	**Sn**	**15 46 31.5**	**-3.6**
DPC	**Dobruska-Polom**	**6.46**	**39**		*e*SN	**Sn**	**15 46 31.8**	**-3.7**
MFF	**Saint Martin d**	**7.15**	**283**		*e*Sn	**Sn**	**15 46 53.4**	**+0.8**
	2.4nm,0.2s,SNR=1.0									
MFF	**Saint Martin d**	**7.15**	**283**		*e*Sn	**Sn**	**15 46 53.4**	**+0.8**
	1.2nm,0.2s,SNR=1.0									
GRR	**Gorron**	**7.98**	**295**		*e*Sn	**Sn**	**15 47 11.5**	**-1.5**
	7.3nm,0.3s,SNR=1.0									
GRR	**Gorron**	**7.98**	**295**		*e*Sn	**Sn**	**15 47 11.5**	**-1.5**
	3.7nm,0.3s,SNR=1.0									

BEO ***08*** *15:45:13.5*$_{0.9}$*,37.07*$_{N\,0.2}$*,20.02*$_{E\,0.9}$*, h0*$_{km\,5}$*km, ML4.1/9*
BJI ***08*** *15:45:15.8,37.30*$_{N\,0.2}$*,20.30E, h10*$_{km}$*, mb4.7/5*
ISCJB ***08*** *15:45:16.6*$_{\pm 0.5}$*,37.33*$_{N\pm 0.02}$*,20.02*$_{E\pm 0.03}$*, h16*$_{km\pm 4}$*km, mb4.1/27, MS3.4/1, Error ellipse: s-maj=4.0km s-min=2.6km az=137.0*
IDC ***08*** *15:45:16.8*$_{\pm 0.7}$*,37.45*$_{N\pm 0.2}$*,20.37E, h0*$_{km}$*, mb4.0/17, mb1 4.1/26,mb1mx4.0/40,mbtmp4.0/26, ML3.9/8, Error ellipse: s-maj=14.3km s-min=13.0km az=86.0*
PRU ***08*** *15:45:17.4,37.25*$_{N\pm 0.2}$*,20.50E, h0*$_{km}$
CSEM ***08*** *15:45:17.9*$_{\pm 0.2}$*,37.31*$_{N\pm 0.2}$*,20.11E, h10*$_{km}$*, mb4.2/18, Error ellipse: s-maj=5.0km s-min=3.0km az=46.0*
MOS ***08*** *15:45:18.8*$_{\pm 1.2}$*,37.51*$_{N\pm 0.2}$*,20.39E, h22*$_{km}$*, mb4.3/21, Error ellipse: s-maj=10.3km s-min=5.1km az=81.6*
ATH ***08*** *15:45:18.3,37.35*$_{N\pm 0.2}$*,20.18E, h15*$_{km\pm 1}$*km, MD3.7/35, ML4.2*
THE ***08*** *15:45:19.7,37.35*$_{N\pm 0.2}$*,20.29E, h1*$_{km\pm 2}$*km, ML4.3/7, Error ellipse: s-maj=2.7km s-min=1.0km az=236.0*
PDG ***08*** *15:45:23.9*$_{\pm 0.8}$*,37.90*$_{N\pm 0.2}$*,20.18E, h0*$_{km\pm 11}$*km, ML3.9/9, Error ellipse: s-maj=2.4km s-min=1.7km az=90.0*

ISC 08 15:45:17.9$_{\pm 1.2}$**,37.35**$_{N\,0.02}$**,20.18**$_{E\pm 0.03}$**,h13**$_{km\pm 7}$**km, n421,**$_{\sigma 1}$**§46/473, mb4.1**/26**, 25C-36D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.68**	**98**	P	**Pg**	**15 45 31.3**	**+0.2**
SFD				S	**Sb**	**15 45 40.4**	**-0.4**
SFD	**Strofades**	**0.68**	**98**	*e*PB	**Pg**	**15 45 31.2**	**+0.2**
SFD	**Strofades**	**0.68**	**98**	P	**Pg**	**15 45 30.9**	**-0.1**
SFD	**Strofades**	**0.68**	**98**	*e*Pb	**Pg**	**15 45 31.2**	**+0.2**
VLS	**Valsamata**	**0.89**	**21**	P	**Pg**	**15 45 34.7**	**-0.4**
VLS				S	**Sn**	**15 45 48.2**	**-0.8**
VLS	**Valsamata**	**0.89**	**21**	*e*PN	**Pn**	**15 45 36.1**	**-0.1**
VLS	**Valsamata**	**0.89**	**21**	P	**Pg**	**15 45 34.3**	**-0.8**
VLS	**Valsamata**	**0.89**	**21**	*e*Pn	**Pn**	**15 45 36.1**	**-0.1**
VLS				S	**Sb**	**15 45 47.5**	**+0.5**
KFL	**Anninata**	**0.90**	**32**	P	**Pb**	**15 45 35.0**	**-0.4**
KFL				S	**Sn**	**15 45 48.2**	**-1.0**
KFL	**Anninata**	**0.90**	**32**	P	**Pb**	**15 45 34.5**	**-0.9**
KFL				S	**Sb**	**15 45 48.1**	**+0.8**
AMT	**Artemida-Makis**	**1.23**	**81**	P	**Pb**	**15 45 41.0**	**-0.1**
AMT	**Artemida-Makis**	**1.23**	**81**	*e*PN	**Pg**	**15 45 41.7**	**+0.1**
AMT	**Artemida-Makis**	**1.23**	**81**	P	**Pn**	**15 45 40.8**	**-0.1**
AMT	**Artemida-Makis**	**1.23**	**81**	*e*Pn	**Pg**	**15 45 41.7**	**+0.1**
AMT				S	**Sg**	**15 45 58.0**	**+0.4**
RLS	**Riolos of Patr**	**1.24**	**55**	P	**Pn**	**15 45 40.8**	**-0.2**
RLS				S	**Sg**	**15 45 59.2**	**+1.2**
RLS	**Riolos of Patr**	**1.24**	**55**	*e*PN	**Pg**	**15 45 41.8**	**0.0**
RLS				*e*SN	**Sg**	**15 45 58.9**	**+0.9**
RLS	**Riolos of Patr**	**1.24**	**55**	P	**Pn**	**15 45 40.8**	**-0.2**
RLS	**Riolos of Patr**	**1.24**	**55**	*e*Pn	**Pg**	**15 45 41.8**	**0.0**
RLS				S	**Sg**	**15 45 57.9**	**-0.1**
RLS				*e*Sn	**Sg**	**15 45 58.9**	**+0.9**
PYL	**PYLOS**	**1.33**	**109**	P	**Pn**	**15 45 42.4**	**+0.2**
PYL				S	**Sg**	**15 46 00.6**	**-0.1**
PYL	**PYLOS**	**1.33**	**109**	*e*PN	**Pg**	**15 45 43.4**	**-0.1**
PYL				*e*SN	**Sg**	**15 46 01.4**	**+0.7**
PYL	**PYLOS**	**1.33**	**109**	P	**Pn**	**15 45 41.7**	**-0.5**
PYL	**PYLOS**	**1.33**	**109**	*e*Pn	**Pg**	**15 45 43.4**	**-0.1**
PYL				S	**Sb**	**15 45 59.1**	**-0.6**
PYL				*e*Sn	**Sg**	**15 46 01.4**	**+0.7**
DRO	**Drossia**	**1.36**	**63**	P	**Pg**	**15 45 43.8**	**-0.2**
DRO				S	**Sg**	**15 46 02.6**	**+1.0**
DRO	**Drossia**	**1.36**	**63**	*e*PN	**Pg**	**15 45 43.8**	**-0.2**
DRO	**Drossia**	**1.36**	**63**	P	**Pb**	**15 45 43.1**	**-0.1**
DRO	**Drossia**	**1.36**	**63**	*e*Pn	**Pg**	**15 45 43.8**	**-0.2**
DRO				S	**Sg**	**15 46 01.3**	**-0.3**
ITM	**Ithomi**	**1.41**	**96**	P	**Pb**	**15 45 44.0**	**0.0**
ITM				S	**Sg**	**15 46 02.7**	**-0.5**
ITM	**Ithomi**	**1.41**	**96**	*e*PN	**Pg**	**15 45 44.7**	**-0.2**
ITM				*e*SN	**Sg**	**15 46 03.9**	**+0.7**
ITM	**Ithomi**	**1.41**	**96**	P	**Pn**	**15 45 43.2**	**-0.1**
ITM	**Ithomi**	**1.41**	**96**	*e*Pn	**Pg**	**15 45 44.7**	**-0.2**
ITM				S	**Sg**	**15 46 02.7**	**-0.5**
ITM				*e*Sn	**Sg**	**15 46 03.9**	**+0.7**
PDO	**Prodromos**	**1.48**	**32**	P	**Pg**	**15 45 46.0**	**-0.4**
PDO	**Prodromos**	**1.48**	**32**	*e*PN	**Pg**	**15 45 45.9**	**-0.4**
PDO				*e*SN	**Sg**	**15 46 06.4**	**+0.9**
PDO	**Prodromos**	**1.48**	**32**	P	**Pg**	**15 45 45.9**	**-0.4**
PDO				S	**Sg**	**15 46 05.9**	**+0.4**
PDO				*e*Sn	**Sg**	**15 46 06.4**	**+0.9**
LKD2	**Lefkada island**	**1.48**	**15**	P	**Pg**	**15 45 46.9**	**+0.4**
LKD2				S	**Sg**	**15 46 07.2**	**+1.4**
LKD2	**Lefkada island**	**1.48**	**15**	*e*PN	**Pg**	**15 45 46.2**	**-0.3**

XOR	Xorichti	3.11	49	P	Pn	15 46 07.6	+0.9	DIVS		eSn	Sn	15 48 14.7	+1.3
XOR	Xorichti	3.11	49	ePN	Pn	15 46 09.6	+2.9	DIVS	Divibare	6.74 359	⇓iPn	Pn	15 46 56.3	-0.4
XOR	Xorichti	3.11	49	P	Pn	15 46 07.6	+0.9	DIVS		eSn	Sn	15 48 14.7	+1.3
XOR	Xorichti	3.11	49	ePn	Pn	15 46 09.6	+2.9	EDRB	Edirne	6.77 46	eP	Pn	15 46 57.7	+0.7
NEST	Nestorio	3.13	12	P	Pn	15 46 10.3	+3.2	EDRB	Edirne	6.77 46	eP	Pn	15 46 57.7	+0.7
NEST	Nestorio	3.13	12	ePN	Pn	15 46 10.3	+3.2	DALY	Dalyan (Mu˘la	6.80 92	eP	Pn	15 46 57.7	+0.4
NEST	Nestorio	3.13	12	P	Pn	15 46 10.3	+3.2	DALY	Dalyan (Mu˘la	6.80 92	eP	Pn	15 46 57.7	+0.4
SKIA	Skiathos	3.16	54	ePN	Pn	15 46 09.7	+2.3	TRUS	Trudelj	6.87 1	ePn	Pn	15 46 58.7	+0.4
SKIA	Skiathos	3.16	54	ePn	Pn	15 46 09.7	+2.3	TRUS	Trudelj	6.87 1	ePn	Pn	15 46 58.7	+0.4
KZN	Kozani	3.20	22	P	Pn	15 46 10.3	+2.2	JMB	Yambol	7.09 42	⇑iP	Pn	15 47 04.7	+3.3
KZN	Kozani	3.20	22	P	Pn	15 46 10.3	+2.2	JMB	Yambol	7.09 42	⇑iP	Pn	15 47 04.7	+3.3
LIT	Litokhoron	3.29	33	P	Pn	15 46 10.5	+1.3	TEKS	Tekeris	7.21 356	ePn	Pn	15 47 03.0	0.0
LIT	Litokhoron	3.29	33	ePN	Pn	15 46 11.2	+2.0	TEKS	Tekeris	7.21 356	ePn	Pn	15 47 03.0	0.0
LIT	Litokhoron	3.29	33	P	Pn	15 46 10.5	+1.3	ELL	Elmali	7.80 91	eP	Pn	15 47 11.3	0.0
LIT	Litokhoron	3.29	33	ePn	Pn	15 46 11.2	+2.0	ELL	Elmali	7.80 91	eP	Pn	15 47 11.3	0.0
AOS	Alonnisos	3.43	57	eP	Pn	15 46 11.1	0.0	FGSL	Fruska Gora	7.80 358	ePn	Pn	15 47 10.7	-0.5
AOS	Alonnisos	3.43	57	ePN	Pn	15 46 12.6	+1.4	FGSL		eSn	Sn	15 48 39.4	0.0
AOS	Alonnisos	3.43	57	eP	Pn	15 46 11.1	0.0	FRGS	Fruska Gora	7.80 358	ePn	Pn	15 47 10.7	-0.5
AOS	Alonnisos	3.43	57	ePn	Pn	15 46 12.6	+1.4	FRGS		eSn	Sn	15 48 39.4	0.0
FNA	Florina	3.55	15	P	Pn	15 46 14.9	+2.0	HUMR	Humele	8.04 25	⇓iP	Pn	15 47 16.0	+1.6
FNA	Florina	3.55	15	ePN	Pn	15 46 14.8	+1.9	HUMR	Humele	8.04 25	⇓iP	Pn	15 47 16.0	+1.6
FNA	Florina	3.55	15	ePn	Pn	15 46 14.8	+1.9	NVLJ	Novalja	8.25 333	ePn	Pn	15 47 18.8	+1.6
PAIG	Paliouri	3.76	46	ePN	Pn	15 46 17.6	+2.0	NVLJ		Sn	Sn	15 48 47.8	-2.4
PAIG	Paliouri	3.76	46	ePn	Pn	15 46 17.6	+2.0	NVLJ	Novalja	8.25 333	ePn	Pn	15 47 18.8	+1.6
VAM	Vamos	3.78	120	ePN	Pn	15 46 17.9	+2.0	NVLJ		Sn	Sn	15 48 47.8	-2.4
VAM	Vamos	3.78	120	ePn	Pn	15 46 17.9	+2.0	GZR	Gura Zlata	8.27 13	⇓iP	Pn	15 47 18.8	+1.2
TAR1	Taranto	3.89	325	ePn	Pb	15 46 22.3	-4.1	GZR	Gura Zlata	8.27 13	⇓iP	Pn	15 47 18.8	+1.2
THE	Thessaloniki	3.93	33	ePN	Pn	15 46 19.4	+1.4	ARR	Arges	8.68 21	⇑iP	Pn	15 47 24.2	+0.9
THE	Thessaloniki	3.93	33	ePn	Pn	15 46 19.4	+1.4	ARR	Arges	8.68 21	⇑iP	Pn	15 47 24.2	+0.9
HORT	Hortiatis	3.96	34	ePN	Pn	15 46 19.4	+0.9	VOIR		8.87 23	⇓iP	Pn	15 47 27.6	+1.8
HORT	Hortiatis	3.96	34	ePn	Pn	15 46 19.4	+0.9	VOIR		8.87 23	⇓iP	Pn	15 47 27.6	+1.8
GRG	Griva	3.99	25	ePN	Pn	15 46 20.0	+1.1	PKSM	Moragy	8.93 353	⇑iP	Pn	15 47 27.3	+0.7
GRG	Griva	3.99	25	ePn	Pn	15 46 20.0	+1.1	PKSM	Moragy	8.93 353	⇑iP	Pn	15 47 27.3	+0.7
PE1	Pezze di Greco	4.06	329	ePn	Pb	15 46 22.0	+2.2	BOJS	Bojanci	8.95 337	*i* Pn	Pn	15 47 28.8	+2.0
OUR	Ouranopolis	4.21	44	eP	Pn	15 46 22.1	+0.4	BOJS			*i* Sn	Sn	15 49 04.4	-3.0
OUR	Ouranopolis	4.21	44	ePN	Pn	15 46 22.8	+1.0	BOJS	Bojanci	8.95 337	*i* Pn	Pn	15 47 28.8	+2.0
OUR	Ouranopolis	4.21	44	eP	Pn	15 46 22.2	+0.4	BOJS			*i* Sn	Sn	15 49 04.4	-3.0
OUR	Ouranopolis	4.21	44	ePn	Pn	15 46 22.8	+1.0	LJFR	Jufra	9.00 205	*i* P	Pn	15 47 27.6	0.0
SOH	Sokhos	4.26	34	ePN	Pn	15 46 24.4	+1.9		SNR=34					
SOH	Sokhos	4.26	34	ePn	Pn	15 46 24.4	+1.9	ISR	Istrita	9.12 30	⇑iP	Pn	15 47 31.6	+2.3
APE	Apeiranthos	4.28	92	ePN	Pn	15 46 26.6	+3.7	ISR	Istrita	9.12 30	⇑iP	Pn	15 47 31.6	+2.3
APE	Apeiranthos	4.28	92	ePn	Pn	15 46 26.6	+3.7	MLR	Muntele Rosu	9.21 26	⇓iP	Pn	15 47 33.1	+2.5
IDI	Anoyia	4.33	117	eP	Pn	15 46 23.1	-0.3	MLR	Muntele Rosu	9.21 26	P	Pn	15 47 31.8	+1.2
IDI	Anoyia	4.33	117	ePN	Pn	15 46 27.6	+4.1	MLR	Muntele Rosu	9.21 26	Pn	Pn	15 47 31.8	+1.2
IDI	Anoyia	4.33	117	eP	Pn	15 46 23.2	-0.3		0.2nm,0.3s,baz=185,slow=5.3,SNR=18					
IDI	Anoyia	4.33	117	ePn	Pn	15 46 27.6	+4.1	VISS	Visnje	9.34 336	*i* Pn	Pn	15 47 34.1	+1.8
IDI	Anoyia	4.33	117	Pn	Pn	15 46 25.4	+1.9	VISS			*i* Sn	Sn	15 49 17.7	+0.5
	7.1nm,0.3s,baz=307,slow=11,SNR=8.7							VISS	Visnje	9.34 336	*i* Pn	Pn	15 47 34.1	+1.8
IDI			Sn		Sn	15 47 11.8	-2.1	VISS			*i* Sn	Sn	15 49 17.7	+0.5
	27nm,0.3s,baz=295,slow=22,SNR=19							TLB	Topalu	9.36 37	⇑iP	Pn	15 47 33.1	+0.7
SANT	Santorini	4.34	101	eP	Pn	15 46 24.0	+0.3	TLB	Topalu	9.36 37	⇑iP	Pn	15 47 33.1	+0.7
SANT	Santorini	4.34	101	ePN	Pn	15 46 25.9	+2.2	DOPR	Dopca	9.45 23	⇓iP	Pn	15 47 35.4	+1.7
SANT	Santorini	4.34	101	eP	Pn	15 46 24.0	+0.3	DOPR	Dopca	9.45 23	⇓iP	Pn	15 47 35.4	+1.7
SANT	Santorini	4.34	101	ePn	Pn	15 46 25.9	+2.2	JAVS	Javornik	9.68 334	*i* Pn	Pn	15 47 38.7	+1.7
THR1	Thera Island	4.35	101	eP	Pn	15 46 23.6	-0.1	JAVS			*i* Sn	Sn	15 49 22.7	-2.9
KNT	Kendrikon	4.35	28	ePN	Pn	15 46 24.9	+1.1	JAVS	Javornik	9.68 334	*i* Pn	Pn	15 47 38.7	+1.7
KNT	Kendrikon	4.35	28	ePn	Pn	15 46 24.9	+1.1	JAVS			*i* Sn	Sn	15 49 22.7	-2.9
VAY	Valandovo	4.38	24	⇓iPn	Pn	15 46 24.5	+0.4	PLOR	Plostina	9.78 28	⇓iP	Pn	15 47 41.2	+3.0
VAY	Valandovo	4.38	24	⇓iPn	Pn	15 46 24.5	+0.4	PLOR	Plostina	9.78 28	⇓iP	Pn	15 47 41.2	+3.0
SIVA	Sivas	4.41	120	eP	Pn	15 46 23.1	-1.5	VRI	Vrincioaia	9.82 28	⇓iP	Pn	15 47 40.7	+1.9
SIVA	Sivas	4.41	120	ePN	Pn	15 46 28.1	+3.5	VRI	Vrincioaia	9.82 28	⇓iP	Pn	15 47 40.7	+1.9
SIVA	Sivas	4.41	120	eP	Pn	15 46 23.1	-1.5	TESR	Tescani	10.34 26	⇓iP	Pn	15 47 48.2	+2.3
SIVA	Sivas	4.41	120	ePn	Pn	15 46 28.1	+3.5	TESR	Tescani	10.34 26	⇓iP	Pn	15 47 48.2	+2.3
SRS	Serrai	4.60	34	ePN	Pn	15 46 29.8	+2.6	BRTR	Keskin Array B	10.81 73	P	Pn	15 47 52.3	-0.2
SRS	Serrai	4.60	34	ePn	Pn	15 46 29.8	+2.6	BRTR	Keskin Array B	10.81 73	Pn	Pn	15 47 52.2	-0.2
ULC	Ulcinj	4.66	351	⇑iPn	Pn	15 46 28.7	+0.6		0.1nm,0.3s,baz=306,slow=8.7,SNR=2.2					
ULC				eSn	Sn	15 47 20.0	-2.1	IKL	Isikli	10.89 92	eP	Pn	15 47 52.5	-1.0
ULC	Ulcinj	4.66	351	⇑iPn	Pn	15 46 28.7	+0.6	CSS	Prodhromos	10.90 99	eP	Pn	15 47 53.2	-0.3
ULC				eSn	Sn	15 47 20.0	-2.1	CSS	Prodhromos	10.90 99	eP	Pn	15 47 53.3	-0.3
SKO	Skopje	4.72	12	⇓iPn	Pn	15 46 29.5	+0.7	BURAR	Bucovina Array	10.91 18	⇑iP	Pn	15 47 55.9	+2.1
SKO				eSn	Sn	15 47 25.8	+2.4	BURAR	Bucovina Array	10.91 18	⇑iP	Pn	15 47 55.9	+2.1
SKO	Skopje	4.72	12	⇓iPn	Pn	15 46 29.5	+0.7	TRPA	Tarpa	10.91 8	⇓iP	Pn	15 47 54.7	+1.0
SKO				eSn	Sn	15 47 25.8	+2.4	TRPA	Tarpa	10.91 8	⇓iP	Pn	15 47 54.7	+1.0
CHOS	Chios island	4.76	76	eP	Pn	15 46 30.8	+1.3	DAVOX	Davos/Dischmat	12.13 324	P	Pn	15 48 11.9	+1.3
CHOS	Chios island	4.76	76	ePN	Pn	15 46 33.0	+3.5		1.0nm,0.3s					
CHOS	Chios island	4.76	76	eP	Pn	15 46 30.8	+1.3	DAVOX	Davos/Dischmat	12.13 324	Pn	Pn	15 48 11.9	+1.3
CHOS	Chios island	4.76	76	ePn	Pn	15 46 33.0	+3.5		0.2nm,0.3s,baz=151,slow=19,SNR=2.6					
CDT	Castel del Mon	4.80	322	ePn	Pn	15 46 27.0	-3.0	DAVOX			Sn	Sn	15 50 29.2	+3.5
LAST	Lasithi	4.81	115	ePN	Pn	15 46 33.6	+3.5		0.6nm,0.3s,baz=9.8,slow=22,SNR=6.8					
LAST	Lasithi	4.81	115	ePn	Pn	15 46 33.6	+3.5	VRAC	Vranov	12.23 349	P	Pn	15 48 12.2	+0.4
SIGR	SIGRI	4.84	66	ePN	Pn	15 46 33.5	+3.1	VRAC	Vranov	12.23 349	Pn	Pn	15 48 12.2	+0.4
SIGR	SIGRI	4.84	66	ePn	Pn	15 46 33.5	+3.1		0.4nm,0.3s,baz=240,slow=20,SNR=3.0					
KAVA	Kavala	4.96	41	ePN	Pn	15 46 35.3	+3.2	GERES	GERESS Array B	12.42 340	P	Pn	15 48 14.8	+0.4
KAVA	Kavala	4.96	41	ePn	Pn	15 46 35.3	+3.2	GERES	GERESS Array B	12.42 340	Pn	Pn	15 48 14.8	+0.4
BUM	Brajici-Budva	5.04	349	⇑iPn	Pn	15 46 34.0	+0.7		baz=164,slow=15,SNR=3.8					
BUM				eSn	Sn	15 47 28.8	-2.7	KHC	Kasperske Hory	12.71 340	eP	Pn	15 48 19.4	+1.0
BUM	Brajici-Budva	5.04	349	⇑iPn	Pn	15 46 34.0	+0.7	KHC	Kasperske Hory	12.71 340	eP	Pn	15 48 19.4	+1.0
BUM				eSn	Sn	15 47 28.8	-2.7	KHC			*ex*	x	15 48 32.3	
MMB	Musomiste	5.05	32	⇑iP	Pn	15 46 34.4	+1.1	KHC			*ex*	x	15 48 52.6	
MMB	Musomiste	5.05	32	⇑iP	Pn	15 46 34.4	+1.1	KHC	Kasperske Hory	12.71 340	Pn	Pn	15 48 19.4	+1.0
PDG	Podgorica	5.12	352	ePn	Pn	15 46 35.2	+0.8	MMAI	Mount Meron Ar	13.18 105	Pn	Pn	15 48 22.5	-2.4
PDG				eSn	Sn	15 47 35.0	+1.6		1.1nm,0.3s,baz=276,slow=13,SNR=5.1					
PDG	Podgorica	5.12	352	ePn	Pn	15 46 35.2	+0.8	MMAI			Sn	Sn	15 50 37.7	-14
PDG				eSn	Sn	15 47 30.6	-2.8		3.8nm,0.3s,baz=287,slow=30,SNR=9.1					
TTG	Podgorica	5.12	352	⇓iPn	Pn	15 46 35.8	+1.4	PRU	Pruhonice	13.27 344	eP	Pn	15 48 27.5	+1.6
TTG				eSn	Sn	15 47 30.6	-2.8	PRU	Pruhonice	13.27 344	eP	Pn	15 48 27.5	+1.6
PVY	Plav	5.24	358	⇑iPn	Pn	15 46 37.2	+1.1	PRU	Pruhonice	13.27 344	Pn	Pn	15 48 27.5	+1.6
PVY				eSn	Sn	15 47 32.7	-3.8	BFO	Black Forest	13.98 325	*i* P	Pn	15 48 38.5	+2.8
PVY	Plav	5.24	358	⇑iPn	Pn	15 46 37.2	+1.1	NKC	Novy Kostel	14.03 339	eP	Pn	15 48 37.1	+0.8
PVY				eSn	Sn	15 47 32.7	-3.8	NKC	Novy Kostel	14.03 339	eP	Pn	15 48 37.1	+0.8
HCY	Herceg Novi	5.25	346	⇓iPn	Pn	15 46 36.9	+0.7	NKC			*ex*	x	15 48 47.4	
HCY				eSn	Sn	15 47 33.9	-2.7	NKC	Novy Kostel	14.03 339	Pn	Pn	15 48 37.1	+0.8
HCY	Herceg Novi	5.25	346	⇓iPn	Pn	15 46 36.9	+0.7	EIL	Elat	14.50 118	Pn	Pn	15 48 40.4	-2.5
HCY				eSn	Sn	15 47 33.9	-2.7		1.2nm,0.3s,baz=331,slow=7.2,SNR=10					
ZKR	Zakros	5.37	113	ePN	Pn	15 46 41.1	+3.4	EIL			Sn	Sn	15 51 07.2	-16
ZKR	Zakros	5.37	113	ePn	Pn	15 46 41.1	+3.4		2.0nm,0.3s,baz=284,slow=22,SNR=7.1					
NKME	Niksic	5.49	351	⇓iPn	Pn	15 46 40.8	+1.3	KIEV	Kiev	14.82 23	*i* P	Pn	15 48 46.9	-0.2
NKME				eSn	Sn	15 47 39.9	-2.6	AKASG	Malin Array Be	14.83 23	P	Pn	15 48 45.4	-1.8
NKME	Niksic	5.49	351	⇓iPn	Pn	15 46 40.8	+1.3	AKASG	Malin Array Be	14.83 23	Pn	Pn	15 48 45.4	-1.8
NKME				eSn	Sn	15 47 39.9	-2.6		0.1nm,0.3s,baz=212,slow=12,SNR=11					
BEY	Berane	5.52	358	⇑iPn	Pn	15 46 41.6	+1.7	CLL	Collm	14.86 342	eP	Pn	15 48 49.0	+1.4
IVA	Berane	5.52	358	⇑iPn	Pn	15 46 41.6	+1.7	MICGM	Minsk	17.95 15	*e*	Pn	15 49 24.0	-3.1
IVA				eSn	Sn	15 47 39.5	-3.8	KIV	Kislovodsk	18.28 62	eP	P	15 49 31.4	0.0
TREB	Trebinje	5.54	346	ePn	Pn	15 46 38.8	-1.3	KIV			pmax	pmax		
TREB	Trebinje	5.54	346	ePn	Pn	15 46 38.8	-1.3		comp=Z,6.0nm,0.9s					
BRY	Bratogost	5.69	348	⇓iPn	Pn	15 46 43.1	+0.9	KIV			MLR	MLR		
BRY				eSn	Sn	15 47 44.5	-2.9		comp=Z,23nm,13.0s					
BRY	Bratogost	5.69	348	⇓iPn	Pn	15 46 43.1	+0.9	KIV	Kislovodsk	18.28 62	eP	P	15 49 31.4	0.0
BRY				eSn	Sn	15 47 44.5	-2.9		comp=Z,23nm,13.0s					
VTS	Vitosha	5.73	23	eP	Pn	15 46 43.6	+0.8	KBZ	Khabaz	18.38 63	P	Pn	15 49 31.5	-0.9
VTS	Vitosha	5.73	23	⇓iPn	Pn	15 46 44.3	+1.5	KBZ	Khabaz	18.38 63	P	Pn	15 49 31.5	-0.9
VTS	Vitosha	5.73	23	⇓iP	Pn	15 46 44.6	+1.8	KBZ	Khabaz	18.38 63	P	Pn	15 49 31.5	-0.9
VTS	Vitosha	5.73	23	eP	Pn	15 46 43.6	+0.8		comp=Z,0.1nm,0.3s,baz=153,slow=2.3,SNR=2.0					
VTS	Vitosha	5.73	23	⇓iPn	Pn	15 46 44.3	+1.5	ZEI	Tsey	18.93 66	eP	Pn	15 49 39.2	-0.1
ALN	Alexandroupoli	5.77	50	eP	Pn	15 46 44.5	+1.2	ZEI			pmax	pmax		
ALN	Alexandroupoli	5.77	50	ePN	Pn	15 46 45.7	+2.4		comp=Z,10.0nm,0.9s					
ALN	Alexandroupoli	5.77	50	eP	Pn	15 46 44.5	+1.2	ZEI	Tsey	18.93 66	eP	Pn	15 49 39.2	-0.1
ALN	Alexandroupoli	5.77	50	ePn	Pn	15 46 45.7	+2.4		comp=Z,10.0nm,0.9s					
GELI	Tayfur-Gelibol	5.78	56	eP	Pn	15 46 44.3	+0.9	ESDC	Sonseca Array	19.02 284	P	Pn	15 49 41.0	+0.7
GELI	Tayfur-Gelibol	5.78	56	eP	Pn	15 46 44.3	+0.9		comp=Z,0.2nm,0.3s,baz=88,slow=11,SNR=6.3					
STON	Ston	5.83	342	*i* Pn	Pn	15 46 44.5	+0.4	VSR	Storozhevoye	19.34 38	eP	P	15 49 42.0	-0.8
STON				Sn	Sn	15 47 47.2	-3.6	VSR			pmax	pmax		
STON	Ston	5.83	342	*i* Pn	Pn	15 46 44.5	+0.4		comp=Z,20nm,1.3s					
KDZ	Kurdzhali	5.90	42	⇑iP	Pn	15 46 44.9	-0.2	VSR			pmax	pmax		
KDZ	Kurdzhali	5.90	42	⇑iP	Pn	15 46 44.9	-0.2		comp=N,10.0nm,1.0s					
SJES	Sjenica	5.91	359	ePn	Pn	15 46 44.7	-0.5	VSR			pmax	pmax		
SJES				eSn	Sn	15 47 55.0	+2.2		comp=E,5.0nm,0.5s					
UPM	Unac-Piva	5.93	351	ePn	Pn	15 46 46.4	+0.8	VSR	Storozhevoye	19.34 38	eP	P	15 49 42.0	-0.8
UPM				eSn	Sn	15 47 49.7	-3.8		comp=E,10.0nm,1.0s					
UPM	Unac-Piva	5.93	351	ePn	Pn	15 46 46.4	+0.8	VRHR	Novokhopersk	20.52 41	eP	P	15 49 56.2	+0.5
LPK	Lapseki	5.96	58	eP	Pn	15 46 46.6	+0.8	VRHR			pmax	pmax		
LPK	Lapseki	5.96	58	eP	Pn	15 46 46.6	+0.8		comp=N,20nm,1.0s					
LTBQ	Tobruq	6.12	149	*i* P	Pn	15 46 49.3	+1.3	VRHR			pmax	pmax		
	SNR=36								comp=E,20nm,1.0s					
ZAPS	Zavoj	6.21	17	⇓iPn	Pn	15 46 50.5	+1.2	VRHR			pmax	pmax		
IVAS	Ivanjica	6.22	360	ePn	Pn	15 46 49.4	-0.1		comp=Z,20nm,1.0s					
IVAS	Ivanjica	6.22	360	ePn	Pn	15 46 49.4	-0.1	VRHR	Novokhopersk	20.52 41	eP	P	15 49 56.2	+0.5
LJBD	Adjabya	6.42	180	*i* P	Pn	15 46 52.5	+0.3	OBN	Obninsk	20.98 27	*i* P	Pn	15 50 02.9	-0.4
	SNR=34							OBN			*e*		15 50 17.9	
GONE	Gonen-Balikesi	6.46	63	eP	Pn	15 46 53.8	+1.1	OBN			*e*		15 54 09.9	
GONE	Gonen-Balikesi	6.46	63	eP	Pn	15 46 53.8	+1.1	OBN			pmax	pmax		
BBLS	Lazići	6.54	355	ePn	Pn	15 46 54.7	+0.9		comp=Z,27nm,1.1s					
BBLS	Lazići	6.54	355	ePn	Pn	15 46 54.7	+0.9	OBN			MLR	MLR		
GRUS	Gruza	6.54	3	⇓iPn	Pn	15 46 53.5	-0.4		comp=Z,100nm,13.0s					
GRUS				eSn	Sn	15 48 09.5	+1.1	OBN	Obninsk	20.98 27	*i* P	Pn	15 50 02.9	-0.4
GRUS	Gruza	6.54	3	⇓iPn	Pn	15 46 53.5	-0.4		comp=Z,27nm,1.1s					
GRUS				eSn	Sn	15 48 09.5	+1.1	VSU	Vasula	21.56	9*c* *i*P	P	15 50 07.6	+0.8
BOLS	Boljevac	6.61	11	eP	Pn	15 46 54.0	-0.8	VSU			pmax	pmax		
BOLS	Boljevac	6.61	11	ePn	Pn	15 46 54.0	-0.8		comp=Z,222nm,1.4s					
DIVS	Divibare	6.74	359	⇓iPn	Pn	15 46 56.3	-0.4	VSU	Vasula	21.56	9 *i* P	P	15 50 07.6	+0.8
									comp=Z,222nm,1.4s					
								MOS	Moscow	21.85 27	eP	P	15 50 10.2	+0.2
								MOS			*e*		15 50 33.4	
								MOS			*e*		15 54 13.1	
								MOS			pmax	pmax		
									comp=Z,28nm,0.8s					
								MOS	Moscow	21.85 27	eP	P	15 50 10.2	+0.2
									comp=Z,28nm,0.8s					
								HFS	Hagfors	23.18 352	P	P	15 50 23.8	-0.2
									comp=Z,5.0nm,0.7s					
								HFS	Hagfors	23.18 352	P	P	15 50 23.8	-0.2
									comp=Z,5.1nm,0.7s,baz=165,slow=12,SNR=9.4					
								EKA	Eskdalemuir Ar	23.95 326	P	P	15 50 32.0	+0.3
									comp=Z,3.0nm,0.7s					
								EKA	Eskdalemuir Ar	23.95 326	P	P	15 50 32.0	+0.3
									comp=Z,3.2nm,0.7s,baz=121,slow=9.2,SNR=5.6					
								NB2	NORSAR Subarra	24.38 349	P	P	15 50 36.3	+0.6
									comp=Z,15nm,1.2s,baz=162,slow=9.3					
								NB2	NORSAR Subarra	24.38 349	P	P	15 50 36.3	+0.6
									comp=Z,15nm,1.2s,SNR=8.3					
								NOA	NORSAR Array B	24.38 349	P	P	15 50 36.2	+0.6
									comp=Z,8.0nm,1.0s					
								NOA	NORSAR Array B	24.38 349	P	P	15 50 36.2	+0.6
									comp=Z,7.8nm,1.0s,baz=161,slow=9.9,SNR=7.1					
								FINES	FINESS Array B	24.40 7	P	P	15 50 35.8	0.0
									comp=Z,5.0nm,0.8s					
								FINES	FINESS Array B	24.40 7	P	P	15 50 35.8	0.0
									comp=Z,5.0nm,0.8s,baz=142,slow=9.6,SNR=9.7					
								KAF	Kangasniemi	25.08 7	eP	P	15 50 41.8	-0.1
								KAF			pmax	pmax		
									comp=Z,4.0nm,0.6s					
								KAF	Kangasniemi	25.08 7	*e*p	P	15 50 41.8	-0.1
									comp=Z,3.5nm,0.6s					
								KAF	Kangasniemi	25.08 7	eP	P	15 50 41.8	-0.1
									comp=Z,4.0nm,0.6s					
								JOF	Joensuu	26.49 11	eP	P	15 50 52.9	-1.8
								JOF			pmax	pmax		
									comp=Z,1.0nm,0.7s					
								JOF	Joensuu	26.49 11	*e*p	P	15 50 52.9	-1.8
									comp=Z,1.1nm,0.7s					
								JOF	Joensuu	26.49 11	eP	P	15 50 52.9	-1.8
									comp=Z,1.0nm,0.7s					
								KLMR	Klimovskoe	26.51 21	eP	P	15 50 54.0	-0.8
								KLMR			pmax	pmax		
									comp=Z,18nm,1.3s					
								KLMR	Klimovskoe	26.51 21	eP	P	15 50 54.0	-0.8
									comp=Z,18nm,1.3s					
								TORD	Torodi Ar. Bea	29.22 219	P	P	15 51 21.7	+2.2
									comp=Z,3.4nm,0.9s,baz=33,slow=9.1,SNR=18					
								AKTK	Aktyubinsk	29.90 52	P	P	15 51 23.9	-1.4
									comp=Z,1.0nm,0.7s					
								AKTO	Aktyubinsk	29.90 52	P	P	15 51 23.9	-1.4
								AKTO			pmax	pmax		
									comp=Z,1.0nm,0.7s					
								AKTO	Aktyubinsk	29.90 52	P	P	15 51 23.9	-1.4
									comp=Z,0.9nm,0.7s,baz=254,slow=12,SNR=3.1					
								ARCES	ARCESS Array B	32.37 3	P	P	15 51 45.6	-1.2
									comp=Z,6.0nm,0.6s					
								ARCES	ARCESS Array B	32.37 3	P	P	15 51 45.6	-1.2
									comp=Z,5.8nm,0.6s,baz=193,slow=7.4,SNR=16					
								BVAR	Borovoye Array	37.86 49	P	P	15 52 32.6	-1.7
								BVAR			pmax	pmax		
									comp=Z,1.0nm,0.7s					
								BVAR	Borovoye Array	37.86 49	P	P	15 52 32.6	-1.7
									comp=Z,1.0nm,0.7s					
								BVAR	Borovoye Array	37.86 49	P	P	15 52 32.6	-1.7
									comp=Z,0.7nm,0.7s,baz=251,slow=7.7,SNR=3.7					
								DBIC	Dimbolo	38.10 223	P	P	15 52 38.9	+2.2

ellipse: s-maj=89.5km s-min=18.1km az=58.0

ISC 08 16:02:35.0±1.2, 32°33'N×102°2'E±0°3, h14km, n7, σ0°55'/7, mb3.5/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**15.60**	**3**	Pn	**P**	**16 06 18.7**	**0.0**
	0.1nm,0.3s,baz=186,slow=8.7,SNR=2.9						
MKAR	**Makanchi Array**	**22.76**	**316**	P	**P**	**16 07 37.7**	**+0.8**
	0.2nm,0.5s,baz=126,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**26.12**	**332**	P	**P**	**16 08 08.9**	**+0.5**
	0.6nm,0.6s,baz=133,slow=10,SNR=3.6						
BVAR	**Borovoye Array**	**32.49**	**320**	P	**P**	**16 09 04.7**	**-0.3**
	0.2nm,0.4s,baz=148,slow=8.5,SNR=2.4						
FINES	**FINESS Array B**	**57.14**	**326**	P	**P**	**16 12 20.5**	**-0.4**
	0.7nm,0.6s,baz=66,slow=6.7,SNR=5.0						
WRA	**Warramunga Arr**	**58.92**	**148**	P	**P**	**16 12 33.8**	**-0.1**
	0.5nm,1.0s,baz=340,slow=7.3,SNR=4.6						
ASAR	**Alice Springs**	**62.00**	**150**	P	**P**	**16 12 55.1**	**+0.3**
	0.4nm,1.2s,baz=332,slow=6.4,SNR=3.3						

MEX 08 16:55:55.9±0.8, 18°98N×105°42W, h13km±48km, MD3.8, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.63**	**34**	*i* P	Pg	16 56 06.8	-1.4
CJM				*i* S	Sg	16 56 14.2	-2.4
R15V		**1.37**	**82**	*e*P	Pn	16 56 16.8	-4.1
R15V				*i* S	Sn	16 56 33.7	-5.2
EZ5V		**1.79**	**73**	*e*P	Pn	16 56 23.9	-3.0
EZ5V				*e*S	Sn	16 56 45.6	-4.1
MMIG	**Aquila**	**2.08**	**109**	*e*P	Pn	16 56 26.6	-3.9
MMIG				*e*S	Sn	16 56 52.3	-4.0
ANIG	**Ahuacatlan**	**2.23**	**22**	*e*P	Pn	16 56 29.8	-3.0
ANIG				*e*S	Sn	16 56 57.1	-3.3

IDC 08 17:03:40.1±3.4, 31°33S×176°85W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=80.2km s-min=38.0km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.51**	**214**	Pn	Pn	17 05 44.2	-0.4
	0.2nm,0.3s,baz=304,slow=3.6,SNR=2.1						
URZ				Sn	Sn	17 07 22.8	+1.4
	0.8nm,0.3s,baz=0.5,slow=22,SNR=6.1						
ASAR	**Alice Springs**	**44.05**	**267**	P	P	17 11 50.0	0.0
	0.3nm,0.6s,baz=107,slow=7.2,SNR=6.0						
WRA	**Warramunga Arr**	**45.12**	**272**	P	P	17 11 58.3	-0.2
	0.5nm,0.5s,baz=111,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**146.35**	**340**	PKPbc	PKPdf	17 23 21.4	+0.5
	1.7nm,1.0s,baz=57,slow=5.1,SNR=3.7						

IGQ 08 17:04:15.8, 2°76S×78°31W, h12km±170km, Mb4.1, Ms3.9, 1C-9D, Error ellipse: s-maj=6.7km s-min=2.1km az=2.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.51**	**12**	⇓P	Pg	17 04 26.1	0.0
RIOE	**Riobamba**	**1.05**	**342**	P	Pb	17 04 36.5	+0.1
RIOE	**Riobamba**	**1.05**	**342**	S	Sn	17 04 52.0	+0.2
PAT1	**Patacocha**	**1.25**	**354**	⇑P	Pn	17 04 39.3	-0.5
ARRY	**Arrayan**	**1.25**	**353**	P	Pn	17 04 38.8	-0.9
BPAT	**Tungurahua Vol**	**1.25**	**354**	⇓S	Sb	17 04 56.0	-0.7
BPAT	**Tungurahua Vol**	**1.25**	**354**	⇓P	Pn	17 04 39.4	-0.4
BMAS	**Trigal station**	**1.26**	**352**	⇓P	Pn	17 04 39.5	-0.3
IGUA	**Igualata**	**1.30**	**345**	P	Pb	17 04 41.3	+0.2
RETU	**Refugio**	**1.31**	**354**	P	Pn	17 04 40.2	-0.4
BULB	**Ulba Tungurahu**	**1.32**	**355**	⇓S	Sb	17 04 57.3	-0.9
BULB	**Ulba Tungurahu**	**1.32**	**355**	⇓P	Pn	17 04 40.3	-0.3
BRUN	**Tungurahua Vol**	**1.33**	**355**	S	Sn	17 04 59.1	+0.3
BRUN	**Tungurahua Vol**	**1.33**	**355**	P	Pn	17 04 40.8	0.0
JUI6	**Juive**	**1.34**	**353**	S	Sb	17 04 58.4	-0.3
JUI6	**Juive**	**1.34**	**353**	P	Pn	17 04 40.5	-0.3
RUN5	**Runtun**	**1.34**	**355**	P	Pn	17 04 40.8	0.0
RUN5	**Runtun**	**1.34**	**355**	S	Sb	17 04 58.7	-0.1
PISA	**Pisayambo**	**1.69**	**356**	S	Sg	17 05 10.7	-0.8
PISA	**Pisayambo**	**1.69**	**357**	P	Pn	17 04 46.6	+0.7
BMOR	**Cotopaxi Volca**	**2.02**	**356**	⇓S	Sg	17 05 20.7	-1.4
BMOR	**Cotopaxi Volca**	**2.02**	**356**	⇓P	Pb	17 04 52.8	-0.5
MOV1	**Cotopaxi Vol s**	**2.04**	**356**	P	Pb	17 04 53.3	-0.4
BTAM	**Cotopaxi Volca**	**2.07**	**357**	S	Sg	17 05 23.1	-0.7
BTAM	**Cotopaxi Volca**	**2.07**	**357**	P	Pb	17 04 53.4	-0.8
CAMI	**Rancho Maria**	**2.08**	**354**	S	Sg	17 05 23.6	-0.2
CAMI	**Rancho Maria**	**2.08**	**354**	P	Pb	17 04 54.1	-0.1
PAST	**Pastocalle**	**2.08**	**351**	P	Pb	17 04 54.5	+0.4
BREF	**Cotopaxi Volca**	**2.08**	**356**	S	Sg	17 05 23.3	-0.9
BREF	**Cotopaxi Volca**	**2.08**	**356**	P	Pb	17 04 53.9	-0.4
BNAS	**Cotopaxi Volca**	**2.08**	**355**	⇓P	Pb	17 04 54.1	-0.2
COV1	**Cotopaxi Volc**	**2.08**	**359**	P	Pb	17 04 54.0	-0.4
COV1	**Cotopaxi Volc**	**2.08**	**359**	S	Sg	17 05 23.0	-1.3
BVC2	**Cotopaxi Volca**	**2.09**	**357**	P	Pb	17 04 54.3	-0.2
VC1	**Cotopaxi 1**	**2.10**	**357**	P	Pb	17 04 54.2	-0.5
VC1	**Cotopaxi 1**	**2.10**	**357**	S	Sg	17 05 23.7	-1.1
NAS2	**Nasa**	**2.11**	**356**	S	Sg	17 05 24.7	-0.1
NAS2	**Nasa**	**2.11**	**356**	P	Pb	17 04 54.7	0.0
PITA	**Cotopaxi Volc**	**2.19**	**357**	S	Sg	17 05 25.6	-1.8
PITA	**Cotopaxi Volc**	**2.19**	**357**	P	Pb	17 04 55.6	-0.5
GGP	**Refugio Guagua**	**2.58**	**354**	P	Pb	17 05 03.2	+0.3
GGP	**Refugio Guagua**	**2.58**	**354**	S	Sg	17 05 40.1	-0.2
PINO	**Pino**	**2.60**	**353**	P	Pb	17 05 03.5	+0.2
CHAR	**Charly**	**2.73**	**13**	P	Pn	17 05 01.0	+1.0
CONE	**Cono NE Rev Vo**	**2.75**	**14**	P	Pn	17 04 59.9	-0.4
CAYR	**Refugio Cayamb**	**2.77**	**6**	S	Sb	17 05 41.4	+0.7
CAYR	**Refugio Cayamb**	**2.77**	**6**	P	Pb	17 05 04.0	-2.2
ANGU	**Angureal**	**2.80**	**6**	P	Pb	17 05 04.7	-2.0
CAYA	**Cayambe**	**2.83**	**6**	P	Pn	17 05 04.3	+2.7
CAYA	**Cayambe**	**2.83**	**6**	S	Sb	17 05 41.6	-0.6
OTAV	**Otavalo**	**2.98**	**357**	P	Pb	17 05 08.6	-0.9
MAG1	**Magdalena**	**3.05**	**331**	P	Pb	17 05 11.0	+0.9

*ISCJB **08** 17:19:18.1±0.8, 30°95N±0°08×137°7E±0°1, h489km, mb2.8/3, Error ellipse: s-maj=16.3km s-min=10.1km az=23.1*
*IDC **08** 17:19:19.0±1.8, 30°84N×137°60E, h481km±28km, mb2.4/3, mb1 2.6/6, mb1mx2.5/28, mbtmp2.5/6, Error ellipse: s-maj=50.4km s-min=20.9km az=65.0*
*JMA **08** 17:19:20.1±0.5, 31°12N×137°71E, h491km, M3.0*

ISC 08 17:19:19.3±1.1, 31°0N±0°1×137°7E±0°1, h489km, n15, σ1°63/17, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.73**	**41**	P	**P**	**17 20 28.6**	**+1.2**
JHJ2	**Mitsune**	**2.77**	**41**	P	**P**	**17 20 28.8**	**+1.1**
JKN2	**Miekihoku**	**3.42**	**340**	P	**P**	**17 20 33.7**	**+1.5**
JIE	**Ise**	**3.46**	**347**	P	**P**	**17 20 34.3**	**+1.8**
JRY	**Ryogami san**	**5.09**	**11**	P	**P**	**17 20 48.3**	**+2.0**
MJAR	**Matsushiro Arr**	**5.53**	**4**	P	**P**	**17 20 51.3**	**+0.9**
	0.4nm,0.3s,baz=184,slow=12,SNR=3.8						
JAG	**Ashikaga**	**5.59**	**15**	P	**P**	**17 20 51.1**	**+0.1**
JAG				S	**S**	**17 22 03.4**	**-2.7**
JYT	**Yasato**	**5.60**	**21**	P	**P**	**17 20 51.0**	**-0.1**
JHO	**Hitachi**	**6.07**	**23**	P	**P**	**17 20 55.8**	**+0.1**
JHO				*e*S	**S**	**17 22 11.5**	**-3.1**
JNU	**Nakatsue**	**6.14**	**292**	P	**P**	**17 20 56.3**	**-0.2**
	0.4nm,0.3s,baz=103,slow=4.1,SNR=4.9						
KSRS	**Korea Array**	**10.31**	**311**	P	**P**	**17 21 39.8**	**+0.2**
	0.1nm,0.3s,baz=125,slow=9.5,SNR=3.6						
USRK	**Ussuriysk Arra**	**13.90**	**343**	P	**P**	**17 22 20.0**	**+2.2**
	0.5nm,0.3s,baz=155,slow=11,SNR=11						
MKAR	**Makanchi Array**	**44.95**	**307**	P	**P**	**17 26 50.4**	**+0.6**
	0.1nm,0.3s,baz=90,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**50.77**	**184**	P	**P**	**17 27 32.5**	**-1.1**
	0.4nm,0.6s,baz=360,slow=7.8,SNR=8.2						
ASAR	**Alice Springs**	**54.50**	**184**	P	**P**	**17 27 59.5**	**-0.9**
	0.2nm,0.6s,baz=20,slow=11,SNR=6.8						

CSEM 08 17:26:32.3±0.2, 36°78N×55°32E, h40km, ML2.9, 2C-1D, Error ellipse: s-maj=8.7km s-min=4.6km az=153.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRO	**Shahrood**	**0.97**	**144**	*e*Pg	Pn	17 26 49.6	0.0
BJRD	**Bojnurd**	**1.91**	**61**	*e*Pg	Pn	17 27 02.2	-0.3
BJRD				*e*Sg	Sn	17 27 25.8	+0.4
DAMV	**Damavand**	**2.94**	**248**	*e*Pn	Pn	17 27 16.9	0.0
AB31	**Akbulak array**	**12.91**	**14**	Pn	Pn	17 29 22.9	-10
	0.3nm,0.5s,baz=197,SNR=4.5						
AB31				Sn	Sn	17 31 34.0	-21
	0.7nm,0.6s,SNR=9.1						
AB31	**Akbulak array**	**12.91**	**14**	⇓Pn	Pn	17 29 22.9	-10
	0.3nm,0.5s,baz=197,slow=13,SNR=4.5						
AB31				Sn	Sn	17 31 34.0	-21
	0.7nm,0.6s,baz=199,slow=23,SNR=9.1						
AKTO	**Aktyubinsk**	**13.79**	**7**	Pn	Pn	17 29 33.3	-12
	2.8nm,0.9s						
AKTO				Sn	Sn	17 31 59.3	-17
	2.5nm,1.1s						
AKTO	**Aktyubinsk**	**13.79**	**7**	⇑Pn	Pn	17 29 33.3	-12
	2.8nm,0.9s						
AKTO				⇑Sn	Sn	17 31 59.3	-17
	2.5nm,1.1s						

IDC 08 17:29:56.6±2.1, 22°00N×143°32E, h191km±20km, mb3.2/10, mb1 3.5/11, mb1mx3.3/28, mbtmp3.3/11, Error ellipse: s-maj=25.5km s-min=11.5km az=97.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.18**	**349**	P	Pn	17 31 14.8	+1.7
	8.5nm,0.3s,baz=106,slow=23,SNR=11						
JCJ				S	Sn	17 32 12.1	-1.4
	3.5nm,0.3s,baz=294,slow=20,SNR=2.9						
KSRS	**Korea Array**	**20.35**	**323**	P	P	17 34 20.1	+1.8
	0.9nm,0.5s,baz=150,slow=8.4,SNR=8.7						
SONM	**Songino Array**	**39.19**	**320**	P	P	17 37 06.0	-0.2
	0.2nm,0.4s,baz=133,slow=8.4,SNR=3.3						
WRA	**Warramunga Arr**	**42.60**	**193**	P	P	17 37 34.0	-0.1
	1.5nm,0.9s,baz=16,slow=9.1,SNR=17						
FITZ	**Fitzroy Crossi**	**43.45**	**205**	P	P	17 37 40.7	-0.2
	2.9nm,1.1s,baz=45,slow=17						
ASAR	**Alice Springs**	**46.30**	**192**	P	P	17 38 02.9	-0.5
	0.2nm,0.4s,baz=10,slow=7.2,SNR=11						
ZALV	**Zalesovo Beam**	**54.05**	**321**	P	P	17 39 01.1	-0.2
	0.6nm,0.5s,baz=100,slow=6.2,SNR=4.0						
ILAR	**Eielson Array**	**61.72**	**27**	P	P	17 39 53.9	-0.4
	0.6nm,0.7s,baz=258,slow=5.1,SNR=8.2						
YKA	**Yellowknife Ar**	**76.13**	**28**	P	P	17 41 23.4	+0.3
	0.7nm,0.4s,baz=292,slow=5.9,SNR=10						
ARCES	**ARCESS Array B**	**78.68**	**342**	P	P	17 41 36.6	-0.6
	2.2nm,0.9s,baz=54,slow=9.1,SNR=3.6						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	P	17 42 00.8	+0.6
	0.7nm,0.7s,baz=251,slow=7.7,SNR=4.4						
PLCA	**Paso Flores**	**145.86**	**131**	PKPbc	PKPbc	17 49 13.4	-0.3
	0.8nm,0.5s,baz=253,slow=8.9,SNR=3.3						

*ISCJB **08** 17:30:15.4±0.5, 26°34S±0°03×27°45E±0°03, h10km±3km, mb3.9/7, Error ellipse: s-maj=5.4km s-min=3.3km az=137.9*
*PRE **08** 17:30:15.9±3.2, 26°38S×27°45E, h2km, ML3.5*
*NEIC **08** 17:30:15.8, 26°38S×27°46E, h2km, mb4.2/3, After PRE.*
*IDC **08** 17:30:16.1±1.2, 26°42S×27°40E, h0km, mb3.8/4, mb1 4.1/9, mb1mx3.8/29, mbtmp4.0/9, ML3.9/4, Error ellipse: s-maj=17.8km s-min=13.7km az=105.0*

ISC 08 17:30:15.9±0.8, 26°34S±0°02×27°42E±0°02, h8km±5km, n52, σ1°73/93, mb4.1/7, 7D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.09**	**181**	*e*P	**Pg**	**17 30 18.6**	**+0.3**
WDLM				*e*S	**Sg**	**17 30 19.3**	**-0.6**
WDLM				AML	AML	17 30 21.1	
	comp=Z,10μm,0.7s						
KLOF	**Kloof**	**0.17**	**95**	*e*P	**Pg**	**17 30 19.3**	**-0.1**
KLOF				*e*S	**Sg**	**17 30 20.7**	**-1.2**
KLOF				AML	AML	17 30 21.1	
	comp=Z,9μm,0.2s						
KLOF	**Kloof**	**0.17**	**95**	*e*P	**Pg**	**17 30 19.3**	**-0.1**
KLOF				*e*S	**Sg**	**17 30 20.7**	**-1.2**
PRYS	**Parys**	**0.59**	**186**	*e*P	**Pg**	**17 30 27.9**	**+0.5**
PRYS				*e*S	**Sg**	**17 30 34.1**	**-1.0**
PRYS				AML	AML	17 30 39.5	
	comp=Z,870nm,0.5s						
PRYS	**Parys**	**0.59**	**186**	*e*P	**Pg**	**17 30 27.9**	**+0.5**
PRYS				*e*S	**Sg**	**17 30 34.1**	**-1.0**
OBSV	**Observatory**	**0.60**	**76**	⇓*i*P	**Pg**	**17 30 27.1**	**-0.5**
OBSV				*e*S	**Sg**	**17 30 34.1**	**-1.4**
OBSV				AML	AML	17 30 41.2	
	comp=Z,494nm,0.9s						
OBSV	**Observatory**	**0.60**	**76**	⇓*i*P	**Pg**	**17 30 27.1**	**-0.5**
OBSV				*e*S	**Sg**	**17 30 34.1**	**-1.4**
ERPM	**east rand prop**	**0.73**	**91**	⇓*i*P	**Pg**	**17 30 29.6**	**-0.5**
	comp=Z,707nm,0.9s						
ERPM				*e*S	**Sg**	**17 30 37.5**	**-2.1**
ERPM				AML	AML	17 30 45.8	
	comp=Z,707nm,0.9s						
ERPM	**east rand prop**	**0.73**	**91**	⇓*i*P	**Pg**	**17 30 29.6**	**-0.5**
ERPM				*e*S	**Sg**	**17 30 37.5**	**-2.1**
TLEK	**Tau Lekoa**	**0.92**	**227**	*e*P	**Pb**	**17 30 34.5**	**+0.3**
TLEK				*e*S	**Sg**	**17 30 44.4**	**-1.1**
TLEK				AML	AML	17 30 52.9	
	comp=Z,324nm,0.6s						
SLR	**Silverton**	**0.98**	**52**	*e*P	**Pg**	**17 30 34.8**	**+0.1**
SLR				*e*S	**Sg**	**17 30 46.9**	**-0.5**
SLR				AML	AML	17 30 53.8	
	comp=Z,275nm,0.2s						
SLR	**Silverton**	**0.98**	**52**	*e*P	**Pg**	**17 30 34.8**	**+0.1**
SLR				*e*S	**Sg**	**17 30 46.9**	**-0.5**
SEK	**Senekal**	**1.99**	**175**	*e*P	**Pb**	**17 30 51.5**	**-1.0**
SEK				*e*S	**Sb**	**17 31 16.2**	**-1.3**
SEK				AML	AML	17 31 17.6	
	comp=Z,493nm,0.5s						
SEK	**Senekal**	**1.99**	**175**	*e*P	**Pb**	**17 30 51.5**	**-1.0**
SEK				*e*S	**Sb**	**17 31 16.2**	**-1.3**
SWZ	**Schweizer**	**2.05**	**245**	*e*P	**Pb**	**17 30 52.4**	**-1.2**
SWZ				*e*S	**Sb**	**17 31 18.4**	**-0.9**
SWZ				AML	AML	17 31 21.3	
	comp=Z,418nm,0.6s						
SWZ	**Schweizer**	**2.05**	**245**	*e*P	**Pb**	**17 30 52.4**	**-1.2**
SWZ				*e*S	**Sb**	**17 31 18.4**	**-0.9**
LBTB	**Lobatse**	**2.11**	**308**	⇓*i*P	**Pb**	**17 30 54.6**	**+0.1**
LBTB				*e*S	**Sg**	**17 31 23.1**	**-0.6**
LBTB				AML	AML	17 31 25.3	
	comp=Z,855nm,0.3s						
LBTB	**Lobatse**	**2.11**	**308**	⇓*e*Pn	**Pb**	**17 30 54.3**	**-0.2**
LBTB				Pg	**Pg**	**17 30 55.8**	**-0.6**
LBTB				*e*Sn	**Sg**	**17 31 23.1**	**-0.6**
LBTB				Lg	Lg	17 31 23.9	
LBTB				*e*Sg	Sb	17 31 32.5	+11
LBTB	**Lobatse**	**2.11**	**308**	Pn	**Pb**	**17 30 54.6**	**+0.1**
	comp=Z,42nm,0.3s,baz=144,slow=14,SNR=460						
LBTB				Pg	**Pg**	**17 30 55.8**	**-0.6**
	comp=Z,42nm,0.3s,baz=138,slow=17,SNR=476						
LBTB				Lg	Lg	17 31 23.9	
	comp=Z,337nm,0.3s,baz=242,slow=16,SNR=67						
BOSA	**Boshof**	**2.98**	**220**	⇓*i*P	**Pn**	**17 31 04.3**	**+0.6**
BOSA				*e*S	**Sn**	**17 31 39.1**	**-0.5**
BOSA				AML	AML	17 31 47.2	
	comp=Z,125nm,0.3s						
BOSA	**Boshof**	**2.98**	**220**	*e*Pn	**Pn**	**17 31 04.2**	**+0.6**
BOSA				*e*Pb	**Pb**	**17 31 09.8**	**+0.5**
BOSA				*e*Pg	**Pg**	**17 31 13.3**	**+0.3**
BOSA				*e*Sn	**Sn**	**17 31 38.6**	**-1.0**
BOSA				*e*Sg	**Sb**	**17 31 46.8**	**+0.9**
BOSA	**Boshof**	**2.98**	**220**	Pn	**Pn**	**17 31 04.2**	**+0.6**
	comp=Z,7.2nm,0.3s,baz=46,slow=13,SNR=150						
BOSA				Pg	**Pb**	**17 31 09.8**	**+0.5**
	comp=Z,7.6nm,0.3s,baz=42,slow=16,SNR=19						
BOSA				Lg	Lg	17 31 46.9	
	comp=Z,47nm,0.3s,baz=324,slow=15,SNR=23						
KSD	**Kokstad**	**4.54**	**158**	*e*P	**Pn**	**17 31 27.0**	**+1.8**
KSD				*e*S	**Sn**	**17 32 18.8**	**+0.6**
KSD				AML	AML	17 32 40.0	
	comp=Z,37nm,0.5s						
KSD	**Kokstad**	**4.54**	**158**	*e*P	**Pn**	**17 31 27.0**	**+1.8**
KSD				*e*S	**Sn**	**17 32 18.8**	**+0.6**
HVD	**Gariep Dam**	**4.58**	**201**	*e*P	**Pn**	**17 31 25.7**	**0.0**
HVD				*e*S	**Sn**	**17 32 16.6**	**-2.6**
HVD				AML	AML	17 32 51.0	
	comp=Z,44nm,0.5s						
HVD	**Gariep Dam**	**4.58**	**201**	*e*P	**Pn**	**17 31 25.7**	**0.0**
HVD				*e*S	**Sn**	**17 32 16.6**	**-2.6**
MSNA	**Messina**	**4.63**	**31**	*e*P	**Pn**	**17 31 29.2**	**+2.9**
MSNA				*e*S	**Sn**	**17 32 19.5**	**-0.8**
MSNA				AML	AML	17 32 45.4	
	comp=Z,45nm,0.4s						
UPI	**Upington**	**5.85**	**248**	*e*P	**Pn**	**17 31 44.9**	**+1.8**
UPI				*e*S	**Sn**	**17 32 47.6**	**-2.8**
UPI				AML	AML	17 33 22.0	
	comp=Z,52nm,0.4s						
GRM	**Grahamstown**	**7.00**	**186**	*e*P	**Pn**	**17 32 00.3**	**+1.4**
GRM				*e*S	**Sn**	**17 33 15.8**	**-2.9**
GRM				AML	AML	17 34 02.3	
	comp=Z,29nm,0.5s						
BUFB	**Buffelsbos**	**8.13**	**196**	*e*P	**Pn**	**17 32 14.5**	**+0.2**
BUFB				*e*S	**Sn**	**17 33 41.8**	**-4.6**
BUFB				AML	AML	17 33 56.8	
	comp=Z,1.7nm,0.2s						
SUR	**Sutherland**	**8.34**	**222**	*e*P	**Pn**	**17 32 18.9**	**+1.6**
SUR				*e*S	**Sn**	**17 33 46.6**	**-5.3**
SUR				AML	AML	17 34 50.7	
	comp=Z,20nm,0.6s						
SUR	**Sutherland**	**8.34**	**222**	Pn	**Pn**	**17 32 17.9**	**+0.5**
SUR				Sn	**Sn**	**17 33 49.9**	**-2.0**
SUR				*e*Sn	**Sn**	**17 33 52.6**	**+0.7**
SUR				Lg	Lg	17 34 33.4	
SUR				*e*Sg	Sg	17 34 34.3	-9.3
SUR	**Sutherland**	**8.34**	**222**	Pn	**Pn**	**17 32 17.9**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=49,slow=15,SNR=24						
SUR				Sn	**Sn**	**17 33 49.9**	**-2.0**
	comp=Z,2.0nm,0.3s,baz=331,slow=21,SNR=6.0						
SUR				Lg	Lg	17 34 33.4	
	comp=Z,4.9nm,0.3s,baz=136,slow=21,SNR=5.4						
KOMG	**Komaggas**	**9.43**	**246**	*e*P	**Pn**	**17 32 32.7**	**+0.5**
KOMG				*e*S	**Sn**	**17 34 12.9**	**-5.7**
KOMG				AML	AML	17 35 25.6	
	comp=Z,25nm,0.5s						
WIN	**Windhoek**	**10.12**	**290**	*e*S	**Sn**	**17 34 31.9**	**-4.0**
WIN				AML	AML	17 35 43.8	
	comp=Z,4.4nm,0.6s						
ELIM	**Elim**	**10.56**	**217**	*e*S	Sn	17 34 39.9	-6.4
ELIM				AML	AML	17 35 45.4	
	comp=Z,19nm,0.6s						
LSZ	**Lusaka**	**11.03**	**4**	Pn	**Pn**	**17 32 54.5**	**+0.2**
LSZ				Sn	**Sn**	**17 34 54.1**	**-3.8**
LSZ				Lg	Lg	17 36 01.6	
LSZ	**Lusaka**	**11.03**	**4**	Pn	**Pn**	**17 32 54.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=175,slow=15,SNR=9.6						
LSZ				Sn	**Sn**	**17 34 54.1**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=238,slow=22,SNR=4.0						
LSZ				Lg	Lg	17 36 01.6	
	comp=Z,0.3nm,0.3s,baz=129,slow=20,SNR=4.0						
TSUM	**Tsumeb**	**11.52**	**306**	*e*Pn	**Pn**	**17 33 01.5**	**+0.6**
TSUM				*e*Sn	**Sn**	**17 35 07.6**	**-2.4**
TSUM	**Tsumeb**	**11.52**	**306**	Pn	**Pn**	**17 33 01.6**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=122,slow=11,SNR=24						
TOA0	**Torodi Ar. Sit**	**46.55**	**324**	*e*P	**P**	**17 38 45.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**46.55**	**324**	P	**P**	**17 38 45.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**46.55**	**324**	P	**P**	**17 38 45.5**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=139,slow=6.9,SNR=11						
SNAA	**Sanae**	**48.41**	**192**	*e*P	**P**	**17 38 59.7**	**+1.4**
	comp=Z,2.5nm,0.8s						
BRTR	**Keskin Array B**	**65.97**	**5**	P	**P**	**17 41 05.4**	**+2.5**
BRTR	**Keskin Array B**	**65.97**	**5**	P	**P**	**17 41 05.4**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=197,slow=9.0,SNR=2.8						
ESDC	**Sonseca Array**	**71.90**	**335**	P	**P**	**17 41 41.5**	**+1.9**
ESDC	**Sonseca Array**	**71.90**	**335**	P	**P**	**17 41 41.5**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=155,slow=5.7,SNR=6.2						
ESLA	**Sonseca Array**	**71.90**	**335**	*e*P	**P**	**17 41 41.2**	**+1.6**
	comp=Z,1.1nm,0.9s						
TRQA	**Torrquist**	**73.84**	**235**	*e*P	**P**	**17 41 50.8**	**-0.6**
	comp=Z,2.3nm,1.0s						
MKAR	**Makanchi Array**	**88.04**	**34**	P	**P**	**17 43 08.1**	**+1.4**
MKAR	**Makanchi Array**	**88.04**	**34**	P	**P**	**17 43 08.1**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=222,slow=4.4,SNR=5.0						

MEX 08 18:03:03.7±0.7, 18°03N×99°03W, h57km±6km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.57**	**260**	*e*P	Pn	18 03 14.8	-1.6
MEIG				*i* S	Sn	18 03 24.0	-1.6
PLIG	**Platanillo**	**0.58**	**309**	*i* P	Pn	18 03 14.9	-1.6
PLIG				*i* S	Sn	18 03 24.2	-1.6
TLIG	**Tlapa**	**0.64**	**137**	*i* P	Pn	18 03 15.9	-1.3
TLIG				*i* S	Sn	18 03 25.2

n556,σ1⚲58/525,mb5.0/127,MS4.3/35,107C-130D,Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.34**	**15**	*i* P	Pn	18 24 12.9	-5.9
CJM				*i* S	**Sn**	**18 24 22.4**	**-3.3**
CJM	**Chamela**	**0.34**	**15**	*i* P	Pn	18 24 12.9	-5.9
CJM				*i* S	**Sn**	**18 24 22.4**	**-3.3**
R15V		**1.09**	**90**	*e*P	Pn	18 24 22.9	-5.4
R15V				*i* S	**Sn**	**18 24 43.1**	**+0.8**
EZ5V		**1.48**	**78**	*e*P	Pn	18 24 30.1	-3.7
EZ5V				*i* S	**Sn**	**18 24 53.6**	**+1.5**
MMIG	**Aquila**	**1.91**	**117**	*e*P	Pn	18 24 32.7	-6.7
MMIG				*e*S	**Sn**	**18 24 59.1**	**-3.1**
MMIG	**Aquila**	**1.91**	**117**	*e*P	Pn	18 24 32.7	-6.7
MMIG				*e*S	**Sn**	**18 24 59.1**	**-3.1**
ANIG	**Ahuacatlan**	**1.96**	**17**	*e*P	Pn	18 24 36.9	-3.3
ANIG				*e*S	**Sn**	**18 25 03.6**	**-0.1**
ANIG	**Ahuacatlan**	**1.96**	**17**	*e*P	Pn	18 24 36.9	-3.3
ANIG				*e*S	**Sn**	**18 25 03.6**	**-0.1**
MOIG	**Morelia**	**3.75**	**82**	*e*P	Pn	18 25 01.6	-3.4
MOIG				*i* S	**Sn**	**18 25 50.2**	**+2.1**
MOIG	**Morelia**	**3.75**	**82**	*e*P	Pn	18 25 01.6	-3.4
MOIG				*i* S	**Sn**	**18 25 50.2**	**+2.1**
ZIIG	**Zihuatanejo**	**3.81**	**114**	*i* P	Pn	18 24 59.8	-5.7
ZIIG				*i* S	**Sn**	**18 25 48.3**	**-0.9**
ZIIG	**Zihuatanejo**	**3.81**	**114**	*i* P	Pn	18 24 59.8	-5.7
ZIIG				*i* S	**Sn**	**18 25 48.3**	**-0.9**
IGIG	**Irapuato, Guan**	**3.91**	**66**	*e*P	**Pn**	**18 25 04.3**	**-2.7**
IGIG				*i* S	**Sn**	**18 25 54.6**	**+2.8**
MAIG	**Mazatlaan**	**4.17**	**343**	*i* P	Pn	18 25 04.6	-5.9
MAIG				*i* S	**Sn**	**18 25 53.5**	**-4.4**
MAIG	**Mazatlaan**	**4.17**	**343**	*i* P	Pn	18 25 04.6	-5.9
MAIG				*i* S	**Sn**	**18 25 53.5**	**-4.4**
ZAIG	**Zacatecas**	**4.31**	**33**	*i* P	**Pn**	**18 25 09.9**	**-2.7**
ZAIG				*i* S	**Sn**	**18 26 04.3**	**+2.6**
ZAIG	**Zacatecas**	**4.31**	**33**	*i* P	**Pn**	**18 25 09.9**	**-2.7**
ZAIG				*i* S	**Sn**	**18 26 04.3**	**+2.6**
ARIG	**Puente Sto Nin**	**4.62**	**100**	*e*P	Pn	18 25 12.9	-3.8
ARIG				*i* S	**Sn**	**18 26 09.3**	**+0.3**
CAIG	**El Cayaco**	**5.09**	**114**	*i* P	Pn	18 25 18.1	-4.9
CAIG				*e*S	**Sn**	**18 26 18.7**	**-1.8**
PLIG	**Platanillo**	**5.39**	**97**	*i* P	**Pn**	**18 25 24.4**	**-2.9**
PLIG				*i* S	**Sn**	**18 26 28.8**	**+0.7**
PLIG	**Platanillo**	**5.39**	**97**	*i* P	**Pn**	**18 25 24.4**	**-2.9**
PLIG				*i* S	**Sn**	**18 26 28.8**	**+0.7**
H06E1	**SOCORRO T-PHAS** SNR=136	**5.50**	**267**	T	T	18 31 12.7	
H06S1	**SOCORRO T** SNR=45	**5.53**	**266**	T	T	18 31 24.3	
H06N1	**SOCORRO T-PHAS** SNR=26	**5.55**	**268**	T	T	18 31 19.8	
YAIG	**Yautepec**	**5.75**	**92**	*i* P	Pn	18 25 28.7	-3.6
YAIG				*i* S	**Sn**	**18 26 39.0**	**+2.1**
YAIG	**Yautepec**	**5.75**	**92**	*i* P	Pn	18 25 28.7	-3.6
YAIG				*i* S	**Sn**	**18 26 39.0**	**+2.1**
PPM	**Popocatepetl**	**6.15**	**90**	*i* P	**Pn**	**18 25 36.1**	**-2.0**
PPM				*i* S	**Sn**	**18 26 50.3**	**+2.9**
PPM	**Popocatepetl**	**6.15**	**90**	*i* P	**Pn**	**18 25 36.0**	**-2.0**
PPM				*i* S	**Sn**	**18 26 50.3**	**+2.9**
PPM	**Popocatepetl**	**6.15**	**90**	*i* P	**Pn**	**18 25 36.0**	**-2.0**
PPM				*i* S	**Sn**	**18 26 50.3**	**+2.9**
LPIG	**La Paz**	**6.87**	**316**	P	Pn	18 25 52.8	+5.3
LPIG	**La Paz** baz=197,slow=11,SNR=8.5	**6.87**	**316**	P	Pn	18 25 52.8	+5.3
PNIG	**Pinotepa**	**7.22**	**111**	*i* P	Pn	18 25 48.9	-3.5
PNIG				*i* S	**Sn**	**18 27 13.0**	**-0.2**
PNIG	**Pinotepa**	**7.22**	**111**	*i* P	Pn	18 25 48.9	-3.5
PNIG				*i* S	**Sn**	**18 27 13.0**	**-0.2**
TXAR	**Lajitas Array**	**10.20**	**7**	P	**Pn**	**18 26 34.3**	**+1.1**
TXAR				Lg	Lg	18 29 38.0	
TXAR	**Lajitas Array** 0.3nm,0.3s,baz=183,slow=14,SNR=21	**10.20**	**7**	P	**Pn**	**18 26 34.3**	**+1.1**
TXAR	0.4nm,0.3s,baz=190,slow=27,SNR=5.6			Lg	Lg	18 29 38.0	
627A	**Terlingua Ranc** baz=10	**10.36**	**8**	⇓P	**Pn**	**18 26 36.5**	**+1.2**
626A	**Big Bend Ranch** baz=10	**10.38**	**5**	⇓P	**Pn**	**18 26 38.0**	**+2.5**
628A	**Black Gap, Mar** baz=10	**10.47**	**11**	⇓P	**Pn**	**18 26 38.8**	**+2.0**
732A	**Laxson Ranch,** baz=10	**10.62**	**25**	⇑P	**Pn**	**18 26 40.6**	**+1.9**
526A	**Mary Lane Ranc** baz=11	**10.88**	**5**	⇓P	**Pn**	**18 26 44.8**	**+2.3**
631A	**Perdido Creek** baz=11	**11.01**	**21**	⇓P	**Pn**	**18 26 45.2**	**+1.1**
527A	**Woodward Ranch** baz=11	**11.01**	**7**	⇓P	**Pn**	**18 26 46.0**	**+1.7**
528A	**Cox Ranch, San** baz=11	**11.14**	**11**	⇓P	**Pn**	**18 26 48.5**	**+2.4**
529A	**Stev Forest Ra** baz=11	**11.22**	**13**	⇑P	**Pn**	**18 26 49.2**	**+2.2**
530A	**J-C Ranch, Com** baz=11	**11.46**	**17**	⇓P	**Pn**	**18 26 51.6**	**+1.3**
425A	**Indio Mountain** baz=12	**11.56**	**1**	⇑P	**Pn**	**18 26 54.3**	**+2.4**
531A	**Rocksprings** baz=12	**11.71**	**20**	⇑P	**Pn**	**18 26 55.4**	**+1.7**
427A	**Hayter Ranch,** baz=12	**11.73**	**7**	⇓P	**Pn**	**18 26 56.0**	**+1.9**
429A	**Davenport Ranc** baz=12	**11.77**	**14**	⇓P	**Pn**	**18 26 56.8**	**+2.1**
532A	**Rocksprings** baz=12	**11.89**	**23**	⇓P	**Pn**	**18 26 57.8**	**+1.5**
430A	**Baggett Ranch,** baz=12	**12.09**	**16**	⇑P	**Pn**	**18 27 01.2**	**+2.3**
326A	**Caldwell Ranch** baz=12	**12.14**	**5**	⇑P	Pn	18 27 03.3	+3.7
325A	**Bean Ranch, Si** baz=12	**12.15**	**1**	⇓P	**Pn**	**18 27 02.9**	**+3.0**
431A	**Sonora** baz=12	**12.17**	**19**	⇓P	**Pn**	**18 27 02.6**	**+2.5**
533A	**Kerrville** baz=12	**12.18**	**26**	⇓P	**Pn**	**18 27 02.5**	**+2.3**
324A	**Moseley Ranch,** baz=12	**12.22**	**359**	⇓P	**Pn**	**18 27 03.6**	**+2.7**
327A	**Balmorhea Ranc** baz=12	**12.23**	**7**	⇑P	**Pn**	**18 27 03.7**	**+2.8**
JCT	**Junction City**	**12.25**	**22**	*e*P	**Pn**	**18 27 03.2**	**+2.1**
JCT	comp=Z,129nm,1.4s			pmax	pmax		
JCT	**Junction City** comp=Z,129nm,1.4s	**12.25**	**22**	*e*Pn	**Pn**	**18 27 03.2**	**+2.1**
JCT				*e*Lg	Lg	18 30 41.4	
JCT	**Junction City** baz=12	**12.25**	**22**	⇓P	**Pn**	**18 27 03.5**	**+2.4**
328A	**Wristen Ranch,** baz=12,SNR=7.0	**12.34**	**9**	⇓P	**Pn**	**18 27 04.3**	**+2.0**
534A	**Blanco** baz=12,SNR=14	**12.38**	**28**	⇓P	**Pn**	**18 27 04.4**	**+1.5**
320A	**Kipp Ranch, An** baz=12	**12.49**	**346**	⇑P	Pn	18 27 08.0	+3.5
329A	**Wagon Wheel Ra** baz=12	**12.59**	**12**	⇓P	**Pn**	**18 27 08.1**	**+2.3**
432A	**Menard** baz=12	**12.61**	**21**	⇓P	**Pn**	**18 27 07.5**	**+1.4**
330A	**Mertzon** baz=13	**12.69**	**16**	⇓P	**Pn**	**18 27 09.6**	**+2.4**
319A	**Douglas** baz=13	**12.71**	**344**	⇓P	Pn	18 27 11.4	+3.8
433A	**Art** baz=13	**12.76**	**24**	⇑P	**Pn**	**18 27 09.9**	**+1.9**
331A	**San Angelo** baz=13	**12.81**	**18**	⇓P	**Pn**	**18 27 11.2**	**+2.4**
224A	**Cornudas Mount** baz=13	**12.85**	**359**	⇑P	**Pn**	**18 27 12.0**	**+2.6**
226B	**Tecolote Peak,** baz=13	**12.88**	**4**	⇑P	**Pn**	**18 27 12.5**	**+2.8**
227A	**Bennet, Jal** baz=13	**12.89**	**7**	⇑P	**Pn**	**18 27 10.8**	**+0.9**
220A	**Playas Peak, P** baz=13	**13.04**	**347**	⇑P	**Pn**	**18 27 15.0**	**+3.0**
229A	**Bryant Ranch,** baz=13	**13.09**	**13**	⇓P	**Pn**	**18 27 14.9**	**+2.4**
228A	**UT Block 9, Go** baz=13	**13.09**	**10**	⇓P	**Pn**	**18 27 15.2**	**+2.5**
332A	**Millersview** baz=13,SNR=18	**13.10**	**21**	⇓P	**Pn**	**18 27 14.1**	**+1.4**
434A	**Burnet** baz=13	**13.15**	**27**	⇓P	**Pn**	**18 27 15.3**	**+1.9**
230A	**Sterling City** baz=13	**13.17**	**15**	⇑P	**Pn**	**18 27 16.0**	**+2.3**
333A	**Richland Sprin** baz=13	**13.31**	**23**	⇓P	**Pn**	**18 27 16.4**	**+0.7**
231A	**Bronte** baz=13	**13.43**	**18**	⇑P	**Pn**	**18 27 19.0**	**+1.8**
125A	**Gardner Draw,** baz=13	**13.44**	**2**	⇑P	**Pn**	**18 27 19.9**	**+2.5**
123A	**Bell Site, Whi** baz=13	**13.44**	**356**	⇓P	Pn	18 27 21.3	+3.8
126A	**Clayton Basin,** baz=13	**13.45**	**4**	⇑P	**Pn**	**18 27 20.2**	**+2.5**
121A	**Cookes Peak, D** comp=Z,164nm,1.7s	**13.52**	**350**	*e*Pn	**Pn**	**18 27 19.6**	**+1.0**
121A	**Cookes Peak, D** baz=14	**13.52**	**350**	⇑P	**Pn**	**18 27 21.1**	**+2.6**
232A	**Coleman** baz=14	**13.59**	**20**	⇑P	**Pn**	**18 27 21.0**	**+1.6**
128A	**Castleberry Fa** baz=14	**13.60**	**10**	⇑P	**Pn**	**18 27 21.1**	**+1.4**
334A	**Lometa** baz=14,SNR=6.7	**13.61**	**26**	⇑P	**Pn**	**18 27 21.0**	**+1.3**
HKT	**Hockley**	**13.65**	**36**	P	**Pn**	**18 27 17.8**	**-2.4**
HKT	comp=Z,54nm,1.3s			pmax	pmax		
HKT	**Hockley** comp=Z,54nm,1.3s	**13.65**	**36**	Pn	**Pn**	**18 27 17.8**	**-2.4**
120A	**U Bar Ranch, L** baz=14	**13.68**	**347**	⇑P	Pn	18 27 24.0	+3.1
129A	**Stewart Farms,** baz=14	**13.72**	**12**	⇑P	**Pn**	**18 27 22.4**	**+1.2**
130A	**Snyder** baz=14,SNR=6.6	**13.88**	**15**	⇑P	**Pn**	**18 27 24.5**	**+1.1**
335A	**Moody** baz=14	**13.92**	**29**	⇓P	**Pn**	**18 27 24.8**	**+0.9**
TUC	**Tucson**	**14.03**	**340**	*e*P	**Pn**	**18 27 26.2**	**+0.7**
TUC	comp=Z,32nm,0.9s			pmax	pmax		
TUC	**Tucson** comp=Z,32nm,0.9s	**14.03**	**340**	*e*Pn	**Pn**	**18 27 26.2**	**+0.7**
Z25A	**Roswell** baz=14	**14.05**	**1**	⇑P	**Pn**	**18 27 28.1**	**+2.3**
Z23A	**Rita Site, Whi** baz=14	**14.07**	**356**	⇓P	**Pn**	**18 27 28.0**	**+2.0**
131A	**Roby** baz=14	**14.10**	**17**	⇓P	**Pn**	**18 27 27.7**	**+1.3**
Z22A	**Elephant Butte** baz=14	**14.12**	**354**	⇓P	**Pn**	**18 27 29.5**	**+2.8**
Z27A	**Tatum** baz=14	**14.19**	**7**	⇑P	**Pn**	**18 27 29.4**	**+1.9**
Z20A	**Nine Sixteen R** baz=14	**14.22**	**348**	⇓P	**Pn**	**18 27 30.8**	**+2.7**
Z28A	**Tucker Farm, M** baz=14	**14.27**	**9**	⇓P	**Pn**	**18 27 29.9**	**+1.2**
Z29A	**Hungry Hill Ra** baz=14	**14.36**	**12**	⇑P	**Pn**	**18 27 31.0**	**+1.2**
214A	**Organ Pipe Nat** comp=Z,84nm,1.3s	**14.48**	**333**	*e*Pn	**Pn**	**18 27 30.3**	**-1.1**
214A	**Organ Pipe Nat** baz=14	**14.48**	**333**	⇑P	**P**	**18 27 35.0**	**-2.0**
133A	**Hamilton Ranch** baz=14	**14.49**	**21**	⇑P	**Pn**	**18 27 32.6**	**+1.1**
Z30A	**Sanderson Ranc** baz=14	**14.50**	**14**	⇑P	**Pn**	**18 27 33.2**	**+1.5**
WHTX	**Lake Whitney** comp=Z,76nm,0.8s	**14.51**	**27**	*e*Pn	**Pn**	**18 27 31.4**	**-0.3**
WHTX	**Lake Whitney** baz=14	**14.51**	**27**	⇑P	**Pn**	**18 27 32.6**	**+0.8**
APG	**El Apazote**	**14.62**	**104**	P	**P**	**18 27 36.2**	**-2.5**
APG				Lg	Lg	18 31 47.9	
APG	**El Apazote** comp=Z,0.6nm,0.3s,baz=290,slow=15,SNR=9.3	**14.62**	**104**	P	**P**	**18 27 36.2**	**-2.5**
APG	comp=Z,0.1nm,0.3s,baz=228,slow=24,SNR=4.8			Lg	Lg	18 31 47.9	
APG				LR	LR	18 33 00.6	
Y25A	**Mesa, Roswell** comp=Z,1μm,18.5s,baz=108,slow=36 baz=15,SNR=17	**14.70**	**1**	⇓P	**Pn**	**18 27 35.8**	**+1.5**
Y26A	**Elida** baz=15	**14.74**	**4**	⇑P	**Pn**	**18 27 36.6**	**+1.8**
Y27A	**Causey** baz=15	**14.76**	**6**	⇑P	**Pn**	**18 27 36.5**	**+1.5**
134A	**White-Moore Ra** baz=15	**14.77**	**24**	⇓P	**Pn**	**18 27 36.1**	**+1.0**
Z31A	**Sharp Cattle R** baz=15,SNR=6.6	**14.78**	**17**	⇓P	**Pn**	**18 27 36.0**	**+0.7**
Y22A	**Socorro** baz=15	**14.79**	**354**	⇑P	**P**	**18 27 38.6**	**-1.9**
Y28A	**McKinney Farm,** baz=15,SNR=9.2	**14.90**	**9**	⇓P	**Pn**	**18 27 37.8**	**+0.9**
Y29A	**Porterfield Fa** baz=15	**14.95**	**11**	⇓P	**Pn**	**18 27 38.7**	**+1.2**
Z32A	**Haskell** baz=15,SNR=6.8	**14.96**	**19**	⇓P	**Pn**	**18 27 38.4**	**+0.8**
135A	**Vickery Place,** baz=15,SNR=5.7	**15.02**	**26**	⇓P	**Pn**	**18 27 39.0**	**+0.6**
Y30A	**Stafford Cattl** baz=15,SNR=6.6	**15.12**	**14**	⇑P	**Pn**	**18 27 41.3**	**+1.5**
Z33A	**Whitaker Ranch** baz=15	**15.16**	**21**	⇑P	**Pn**	**18 27 41.6**	**+1.3**
LAZ	**Ladron** comp=Z,19nm,1.3s	**15.27**	**354**	Pn	**P**	**18 27 45.8**	**-0.1**
X25A	**Clemmons Ranch** baz=15	**15.30**	**1**	⇑P	**P**	**18 27 45.8**	**-0.3**
Y31A	**Rekieta Farm,** baz=15,SNR=9.5	**15.36**	**15**	⇓P	**Pn**	**18 27 44.1**	**+1.3**
X26A	**CR and CF Fran** baz=15	**15.36**	**4**	⇑P	**P**	**18 27 46.5**	**-0.2**
X28A	**Dimmitt** baz=15	**15.51**	**9**	⇑P	**Pn**	**18 27 45.9**	**+1.1**
X29A	**Tulia** baz=15	**15.51**	**11**	⇓P	**Pn**	**18 27 45.9**	**+1.0**
Z34A	**Collier Ranch,** baz=15	**15.54**	**23**	⇓P	**Pn**	**18 27 45.7**	**+0.6**
113A	**Mohawk Valley,** baz=16,SNR=9.3	**15.60**	**332**	⇓P	**P**	**18 27 50.2**	**+1.0**
Y32A	**R-V Farms, Ver** baz=16	**15.62**	**18**	⇓P	**Pn**	**18 27 46.6**	**+0.5**
X30A	**Coker Ranch, T** baz=16,SNR=16	**15.68**	**13**	⇑P	**Pn**	**18 27 47.8**	**+0.9**
ANMO	**Albuquerque**	**15.76**	**356**	P	**P**	**18 27 50.4**	**-0.8**
ANMO				Lg	Lg	18 32 19.9	
ANMO	**Albuquerque** comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=9.3	**15.76**	**356**	P	**P**	**18 27 50.4**	**-0.8**
ANMO	comp=Z,0.1nm,0.3s,baz=220,slow=17,SNR=2.1			Lg	Lg	18 32 19.9	
ANMO	comp=Z,1μm,21.7s,baz=16,slow=35			LR	LR	18 33 14.3	
Z35A	**Perchaven, San** baz=16,SNR=9.4	**15.76**	**25**	⇑P	**Pn**	**18 27 48.9**	**+0.9**
Y33A	**Hilltop Ranch,** baz=16	**15.87**	**20**	⇓P	**Pn**	**18 27 49.8**	**+0.4**
X18A	**Snowflake** baz=16,SNR=6.6	**15.88**	**345**	⇓P	**P**	**18 27 52.4**	**-0.2**
W26A	**Owens Ranch, T** baz=16	**15.90**	**4**	⇓P	**Pn**	**18 27 51.0**	**+1.2**
TEIG	**Tepich** comp=Z,36nm,0.9s	**15.91**	**83**	*e*Pn	**Pn**	**18 27 48.1**	**-1.8**
TEIG	**Tepich** comp=Z,1.2nm,0.3s,baz=269,slow=13,SNR=8.9	**15.91**	**83**	P	**Pn**	**18 27 48.5**	**-1.4**
TEIG	comp=Z,850nm,19.6s,baz=186,slow=40			LR	LR	18 34 30.3	
AMTX	**Amarillo** baz=16	**15.95**	**10**	⇓P	**Pn**	**18 27 51.8**	**+1.4**
W23A	**Werner Place,** baz=16	**15.95**	**357**	⇑P	**Pn**	**18 27 51.2**	**+0.6**
W24A	**Lazy 6 Ranch,** baz=16	**15.98**	**359**	⇓P	**P**	**18 27 52.5**	**-1.1**
W25A	**X Bar L Ranch,** baz=16	**15.99**	**2**	⇑P	**P**	**18 27 52.8**	**-1.0**
X32A	**Elmer** baz=16,SNR=26	**16.05**	**18**	⇑P	**Pn**	**18 27 51.4**	**-0.2**
X31A	**McDonald Ranch** baz=16,SNR=12	**16.06**	**16**	⇓P	**Pn**	**18 27 52.0**	**+0.2**
Y34A	**Reagan Ranch,** baz=16	**16.12**	**23**	⇓P	**Pn**	**18 27 53.1**	**+0.5**
W29A	**Amraillo** baz=16	**16.18**	**10**	⇑P	**Pn**	**18 27 54.5**	**+1.1**
X16A	**Lo Mia Camp, P** baz=16	**16.19**	**341**	⇓P	**P**	**18 27 56.3**	**+0.3**
W28A	**Vega** baz=16	**16.23**	**9**	⇑P	**Pn**	**18 27 54.8**	**+0.8**
Y14A	**Wickenburg** baz=16	**16.29**	**336**	⇑P	**P**	**18 27 57.7**	**+0.7**
GLA	**Glamis**	**16.32**	**330**	*e*P	**Pn**	**18 27 55.3**	**+0.2**
GLA	**Glamis**	**16.32**	**330**	*e*Pn	**Pn**	**18 27 55.3**	**+0.2**
GLA	**Glamis** baz=16	**16.32**	**330**	⇓P	**P**	**18 27 59.1**	**+1.8**
W18A	**Petrified Fore** comp=Z,192nm,1.7s	**16.40**	**347**	*e*Pn	**P**	**18 27 59.4**	**+1.0**
W18A	**Petrified Fore**	**16.40**	**347**	⇑P	**P**	**18 27 58.5**	**+0.1**
X33A	**Lawton** baz=16,SNR=5.4	**16.40**	**20**	⇓P	**Pn**	**18 27 56.3**	**+0.2**
V24A	**Rampart Ranch,** baz=16	**16.49**	**360**	⇓P	**P**	**18 27 59.5**	**+0.1**
WMOK	**Wichita Mounta**	**16.50**	**19**	⇑*e*P	**Pn**	**18 27 57.2**	**-0.1**
WMOK	comp=Z,52nm,1.2s			pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,52nm,1.2s	**16.50**	**19**	⇑*e*Pn	**Pn**	**18 27 57.2**	**-0.1**
V23A	**Ortiz Mt. (NFS** baz=16	**16.53**	**357**	⇓P	**Pn**	**18 27 59.0**	**+1.0**
W31A	**Holland Ranch,** baz=16	**16.60**	**15**	⇓P	**Pn**	**18 27 59.0**	**+0.4**
V26A	**Tequesquite Ra** baz=17	**16.60**	**4**	⇓P	**P**	**18 27 59.9**	**-0.6**
V25A	**Rancho No Teng** baz=17	**16.61**	**1**	⇓P	**P**	**18 28 00.3**	**-0.3**
V27A	**Dan Oppiter Fa** baz=17	**16.64**	**7**	⇑P	**P**	**18 28 00.4**	**-0.6**
X34A	**Smith Ranch, M** baz=17,SNR=18	**16.68**	**21**	⇑P	**Pn**	**18 27 59.3**	**-0.3**
V28A	**Channing** baz=17	**16.71**	**8**	⇓P	**P**	**18 28 01.7**	**0.0**
W32A	**Sentinel** baz=17	**16.72**	**17**	⇓P	**P**	**18 28 01.2**	**-0.5**
V22A	**San Miguel Ran** baz=17	**16.75**	**355**	⇓P	**P**	**18 28 02.2**	**0.0**
Y12C	**Blythe** baz=17	**16.76**	**332**	⇓P	**P**	**18 28 03.4**	**+1.3**
W33A	**Caddo, Fort Co** baz=17	**16.98**	**19**	⇓P	**P**	**18 28 03.9**	**-0.6**
MONP	**Monument Peak** baz=17	**17.00**	**326**	⇑P	**P**	**18 28 07.9**	**+2.9**
PDMCI	**Parker Dam,Lak** baz=17	**17.07**	**334**	⇓P	**P**	**18 28 07.3**	**+1.8**
BC3	**Big Chuckawall** baz=17	**17.11**	**329**	⇑P	**P**	**18 28 08.3**	**+2.2**
U23A	**El Rito** baz=17	**17.12**	**357**	⇓P	**P**	**18 28 07.1**	**+0.8**
U25A	**Circle Dot Ran** baz=17	**17.17**	**2**	⇑P	**P**	**18 28 07.3**	**+0.4**
V31A	**Spring Creek L** baz=17	**17.18**	**15**	⇑P	**P**	**18 28 06.8**	**-0.1**
WUAZ	**Wupatki** comp=Z,84nm,0.9s	**17.19**	**343**	⇑*e*Pn	**P**	**18 28 08.7**	**+1.6**
WUAZ	**Wupatki** baz=17	**17.19**	**343**	⇑P	**P**	**18 28 08.7**	**+1.6**
U26A	**Atchley Ranch,** baz=17	**17.20**	**4**	⇑P	**P**	**18 28 07.5**	**+0.3**
U22A	**Llaves** baz=17	**17.21**	**355**	⇑P	**P**	**18 28 08.4**	**+1.1**
W34A	**Bridge Creek,** baz=17	**17.27**	**21**	⇓P	**P**	**18 28 07.7**	**-0.2**
U27A	**Thompson Grove** baz=17,SNR=7.5	**17.30**	**6**	⇑P	**P**	**18 28 08.3**	**+0.1**
U28A	**Mallet** baz=17	**17.33**	**8**	⇓P	**P**	**18 28 08.3**	**-0.3**
V32A	**Arapaho** baz=17	**17.34**	**17**	⇓P	**P**	**18 28 08.8**	**+0.3**
IRM	**Iron Mountain** baz=18	**17.39**	**331**	⇓P	**P**	**18 28 11.8**	**+2.6**
PFO	**Pinyon Flat Ob**	**17.57**	**327**	P	**Pn**	**18 28 10.8**	**0.0**
PFO	**Pinyon Flat Ob** baz=18	**17.57**	**327**	⇑P	**P**	**18 28 14.1**	**+2.8**
PFO	**Pinyon Flat Ob** comp=Z,0.1nm,0.3s,baz=150,slow=10,SNR=2.9	**17.57**	**327**	P	**Pn**	**18 28 10.8**	**0.0**
PFO	comp=Z,744nm,18.2s,baz=134,slow=37			LR	LR	18 35 00.8	
V33A	**Lossen Ranch,** baz=18,SNR=8.0	**17.65**	**19**	⇓P	**Pn**	**18 28 11.4**	**-0.2**
BELC	**Belle Mtn. Jos** baz=18	**17.66**	**329**	⇑P	**P**	**18 28 14.3**	**+2.1**
W13A	**Hualapai Mount** baz=18	**17.66**	**336**	⇓P	**P**	**18 28 13.8**	**+1.5**
U30A	**WK&E Inc. Balk** baz=18	**17.73**	**12**	⇓P	**P**	**18 28 13.2**	**+0.2**
U31A	**Nine Bar Ranch** baz=18	**17.75**	**14**	⇑P	**P**	**18 28 13.2**	**0.0**
T24B	**San Luis** baz=18	**17.82**	**359**	⇓P	**P**	**18 28 15.0**	**+0.8**
TGUH	**Tegucigalpa,Un** comp=Z,126nm,1.4s	**17.85**	**104**	P	**Pn**	**18 28 11.2**	**-2.9**
V34A	**Guthrie** baz=18,SNR=23	**17.91**	**20**	⇓P	**Pn**	**18 28 14.2**	**-0.5**
T25A	**Trinidad** baz=18	**17.91**	**2**	⇑P	**Pn**	**18 28 14.8**	**-0.2**
T27A	**Campo** baz=18	**17.95**	**6**	⇑P	**P**	**18 28 15.5**	**+0.1**
U32A	**Winter Ranch,** baz=18	**17.97**	**16**	⇑P	**Pn**	**18 28 15.1**	**-0.5**
T26A	**Comanche Natio** baz=18	**17.99**	**4**	⇓P	**Pn**	**18 28 15.9**	**+0.1**
T28A	**Walsh** baz=18	**18.07**	**8**	⇓P	**Pn**	**18 28 16.9**	**+0.1**
GMRC	**Granite Mounta** baz=18	**18.14**	**331**	⇑P	**Pn**	**18 28 19.6**	**+1.9**
LDFC	**Landfair** comp=Z,263nm,1.3s	**18.14**	**333**	*e*P	**Pn**	**18 28 21.3**	**+3.6**
MVCO	**Mesa Verde** comp=Z,44nm,1.2s	**18.21**	**351**	*e*P	**Pn**	**18 28 19.7**	**+1.0**
MVCO	**Mesa Verde** baz=18	**18.21**	**351**	⇓P	**Pn**	**18 28 19.6**	**+0.9**
T30A	**Plains** baz=18,SNR=6.0	**18.27**	**12**	⇓P	**Pn**	**18 28 19.1**	**0.0**
U15A	**North Rim** baz=18	**18.31**	**341**	⇑P	**Pn**	**18 28 22.4**	**+2.5**
S24A	**Houchin Ranch,** baz=18	**18.40**	**360**	⇑P	**Pn**	**18 28 23.0**	**+2.0**
S25A	**Robets Cordova** baz=18	**18.43**	**2**	⇓P	**Pn**	**18 28 21.6**	**+0.3**
MIAR	**Mount Ida**	**18.44**	**32**	*e*P	**P**	**18 28 18.0**	**-2.6**
MIAR	comp=Z,17nm,1.0s			pmax	pmax		
MIAR	**Mount Ida** comp=Z,17nm,1.0s	**18.44**	**32**	*e*P	**P**	**18 28 18.0**	**-2.6**
S26A	**Kim** baz=18	**18.44**	**4**	⇑P	**Pn**	**18 28 21.4**	**+0.1**
U34A	**Anderson Ranch** baz=18	**18.45**	**20**	⇑P	**P**	**18 28 20.8**	**+0.1**
T31A	**Randall Ranch,** baz=18	**18.49**	**14**	⇓P	**P**	**18 28 21.3**	**+0.1**
HEC	**Hector,Ludlow** baz=19	**18.49**	**330**	⇓P	**Pn**	**18 28 23.4**	**+1.5**
S27A	**Las Animas** baz=18	**18.55**	**6**	⇓P	**Pn**	**18 28 22.9**	**+0.2**
S22A	**4UR Ranch, Cre** baz=19	**18.57**	**356**	⇓P	**Pn**	**18 28 23.3**	**+0.3**
S28A	**Manter** baz=18	**18.57**	**8**	⇓P	**Pn**	**18 28 22.6**	**-0.2**
TUL1	**Tulsa** comp=Z,50nm,0.7s	**18.60**	**24**	*e*P	**P**	**18 28 20.9**	**-1.5**
TUL1	**Tulsa** baz=18	**18.60**	**24**	⇓P	**P**	**18 28 21.8**	**-0.6**
FMP	**Fort Macarthur** baz=19	**18.64**	**324**	⇑P	**Pn**	**18 28 25.9**	**+2.3**
S29A	**Ulysses** baz=19,SNR=5.1	**18.71**	**10**	⇑P	**P**	**18 28 23.6**	**-0.1**
T32A	**Huddler Ranch,** baz=19	**18.75**	**16**	⇓P	**P**	**18 28 24.0**	**0.0**
TUQ	**Turquoise Moun** baz=19	**18.80**	**332**	⇑P	**Pn**	**18 28 27.1**	**+1.4**
T33A	**Patterson Ranc** baz=19	**18.84**	**17**	⇑P	**P**	**18 28 24.9**	**-0.1**
S30A	**Montezuma** baz=19

R26A **Arlington** 19.12 4 ⇓P Pn 18 28 29.1 -0.4
baz=19
PV01 **Paradox Valley** 19.13 352 eP P 18 28 28.8 +0.3
R27A **Eads** 19.15 6 ⇑P P 18 28 28.2 -0.4
baz=19
S32A **Newby Ranch, P** 19.24 15 ⇓P P 18 28 28.9 -0.5
baz=19,SNR=5.6
UALR **University of** 19.24 34 P P 18 28 29.5 +0.1
comp=Z,25nm,1.2s
R28A **Tribune** 19.32 8 ⇑P P 18 28 29.7 -0.6
baz=19,SNR=7.8
SHOC **Shoshone** 19.35 332 ⇓P Pn 18 28 32.6 +0.5
baz=19
EDW2 **Edwards Air Fo** 19.36 326 ⇑P Pn 18 28 33.7 +1.4
baz=19
SHPR **Sheep Range** 19.39 335 eP Pn 18 28 32.5 -0.2
comp=Z,225nm,1.8s
PV04 **Paradox Valley** 19.43 351 eP Pn 18 28 33.2 0.0
R29A **Marienthal** 19.50 9 ⇓P P 18 28 31.6 -0.7
baz=19,SNR=9.0
R30A **Dighton** 19.51 12 ⇑P P 18 28 31.6 -0.8
baz=19
R31A **Burdett** 19.66 13 ⇓P P 18 28 33.0 -1.0
baz=20,SNR=8.6
LRMC **Laurel Mountai** 19.67 328 ⇑P Pn 18 28 36.7 +0.6
baz=20
CCUT **Cedar City** 19.67 340 eP Pn 18 28 35.8 -0.4
comp=Z,128nm,1.8s
Q25A **Bedland, Calha** 19.69 2 ⇑P P 18 28 34.8 +0.3
baz=20
Q26A **Hugo** 19.73 4 ⇓P P 18 28 35.4 +0.5
baz=20
ARUT **Antelope Range** 19.91 340 eP P 18 28 38.2 +1.2
ARUT pmax pmax
comp=Z,2µm,1.2s
ARUT **Antelope Range** 19.91 340 eP P 18 28 38.2 +1.2
comp=Z,2µm,1.2s
Q29A **Oakley** 19.98 10 ⇓P P 18 28 37.0 -0.5
baz=20,SNR=18
R32A **Long Quarter,** 19.98 15 ⇓P P 18 28 36.5 -1.0
baz=20,SNR=8.3
Q28A **Sharon Springs** 20.02 8 ⇑P P 18 28 37.7 -0.4
baz=20,SNR=19
MPMC **Manual Prospec** 20.04 330 ⇓P Pn 18 28 40.3 -0.2
baz=20
R33A **Olander Ranch,** 20.06 17 ⇑P P 18 28 37.8 -0.5
baz=20
FURC **Furnace Creek,** 20.08 331 ⇓P Pn 18 28 40.8 +0.1
baz=20
BRAL **Brewton** 20.14 51 P P 18 28 37.2 -2.0
comp=Z,98nm,0.9s
P23A **Jefferson** 20.14 358 ⇑P P 18 28 40.0 +0.4
baz=20
Q30A **Quinter** 20.19 11 P P 18 28 39.7 -0.1
baz=20,SNR=33
ISA **Isabella** 20.21 327 eP P 18 28 41.2 +1.1
ISA pmax pmax
comp=Z,20nm,1.3s
ISA **Isabella** 20.21 327 eP P 18 28 41.2 +1.1
comp=Z,20nm,1.3s
ISA **Isabella** 20.21 327 ⇑P Pn 18 28 42.8 +0.3
baz=20
TPNV **Topopah Spring** 20.21 333 ⇑P Pn 18 28 42.2 -0.4
baz=20
MVU **Marysvale** 20.22 344 eP P 18 28 41.3 +1.0
comp=Z,114nm,1.4s
P25A **Willow Gulch B** 20.29 2 ⇓P P 18 28 41.1 +0.1
baz=20
P26A **Davis Ranch, A** 20.38 4 ⇑P P 18 28 41.7 -0.2
baz=20
Q31A **Ellis** 20.38 13 ⇓P P 18 28 41.3 -0.5
baz=20,SNR=6.5
P22A **Eagle** 20.40 356 ⇑P P 18 28 43.1 +0.8
baz=20,SNR=6.6
SRU **San Rafael** 20.41 348 eP P 18 28 42.6 +0.2
SRU pmax pmax
comp=Z,29nm,0.8s
SRU **San Rafael** 20.41 348 eP P 18 28 42.6 +0.2
comp=Z,29nm,0.8s
P27A **Ficken Ranch,** 20.43 6 ⇑P P 18 28 42.8 +0.3
baz=20
P28A **Saint Francis** 20.54 7 ⇓P P 18 28 43.5 -0.1
baz=20
Q32A **Meitler Ranch,** 20.55 15 ⇓P P 18 28 43.1 -0.6
baz=20,SNR=6.6
ISCO **Idaho Springs** 20.56 359 eP P 18 28 44.2 +0.1
ISCO pmax pmax
comp=Z,12nm,0.8s
ISCO **Idaho Springs** 20.56 359 eP P 18 28 44.2 +0.1
comp=Z,12nm,0.8s
ISCO **Idaho Springs** 20.56 359 ⇓P P 18 28 44.3 +0.2
baz=20
P29A **Atwood** 20.68 9 ⇑P P 18 28 44.7 -0.4
baz=21
OXF **Oxford** 20.70 39 eP P 18 28 41.3 -4.0
OXF pmax pmax
comp=Z,64nm,0.9s
OXF **Oxford** 20.70 39 eP P 18 28 41.3 -4.0
comp=Z,64nm,0.9s
TMUT **Trail Mountain** 20.73 347 eP P 18 28 46.8 +0.8
comp=Z,101nm,0.9s
P30A **Selden** 20.73 11 ⇓P P 18 28 45.1 -0.6
baz=21,SNR=29
Q33A **Connelly Farm,** 20.74 16 ⇓P P 18 28 44.9 -0.9
baz=21
SMMC **Simmler** 20.77 324 ⇑P Pn 18 28 49.5 +0.5
baz=21
P31A **Stockton** 20.88 13 ⇑P P 18 28 46.5 -0.8
baz=21
O24A **Longmont** 20.88 0 ⇑P P 18 28 47.4 +0.1
baz=21
O22A **Kremmling** 20.95 357 ⇓P P 18 28 48.4 +0.1
baz=21,SNR=15
O23A **Lake Granby, G** 20.98 358 ⇑P P 18 28 48.5 -0.1
baz=21
O26A **Horse Wrangler** 21.06 4 ⇓P P 18 28 49.5 +0.2
baz=21
O20A **White River Ci** 21.06 353 eP P 18 28 50.3 +0.9
comp=Z,37nm,0.8s
O20A **White River Ci** 21.06 353 ⇓P P 18 28 50.5 +1.1
baz=21
O27A **Beecher Island** 21.07 6 ⇑P P 18 28 49.4 0.0
baz=21
O28A **Krutsinger Ran** 21.08 7 ⇓P P 18 28 48.9 -0.5
baz=21,SNR=5.2
RCTC **Rector, Farmer** 21.11 327 ⇓P P 18 28 51.9 +2.2
baz=21
P32A **Huiting Farm,** 21.14 14 ⇓P P 18 28 48.8 -1.3
baz=21
R11A **Troy Canyon, C** 21.16 337 eP P 18 28 50.9 +0.4
comp=Z,118nm,1.5s
R11A **Troy Canyon, C** 21.16 337 ⇓P P 18 28 51.8 +1.3
baz=21
KSU1 **Kansas State U** 21.19 19 eP P 18 28 48.8 -1.7
comp=Z,157nm,0.8s
TIN **Tinemaha** 21.19 330 ⇓P P 18 28 52.9 +2.1
baz=21
P33A **Williams Farm,** 21.19 16 ⇓P P 18 28 49.8 -0.8
baz=21
O29A **4D Ranch, Culb** 21.21 9 ⇑P P 18 28 50.6 -0.3
baz=21
LRAL **Lakeview Retre** 21.30 46 eP P 18 28 50.2 -1.6
comp=Z,20nm,0.8s
O30A **MW Ranch, Wils** 21.39 11 ⇓P P 18 28 52.1 -0.6
baz=21
JTS **JuntasAbangare** 21.40 112 P P 18 28 56.3 +3.2
JTS **JuntasAbangare** 21.40 112 P P 18 28 56.3 +3.2
comp=Z,14nm,1.0s,baz=297,slow=9.5,SNR=7.5
JTS LR LR 18 36 43.1
comp=Z,520nm,18.8s,baz=301,slow=35
O31A **Woolen Ranch,** 21.50 12 ⇑P P 18 28 53.4 -0.5
baz=21
MPU **Maple Canyon** 21.51 346 eP P 18 28 54.9 +0.7
comp=Z,88nm,1.1s
NLU **North Lily Min** 21.56 345 eP P 18 28 55.9 +1.2
comp=Z,26nm,1.2s
TPH **Tonopah** 21.58 333 eP P 18 28 56.9 +1.9
TPH pmax pmax
comp=Z,194nm,1.7s
TPH **Tonopah** 21.58 333 eP P 18 28 56.9 +1.9
comp=Z,194nm,1.7s
N24A **Carr** 21.58 1 ⇑P P 18 28 55.2 +0.2
baz=22
DAU **Daniels Canyon** 21.81 347 eP P 18 28 57.8 +0.3
DAU pmax pmax
comp=Z,97nm,0.8s
DAU **Daniels Canyon** 21.81 347 eP P 18 28 57.8 +0.3
comp=Z,97nm,0.8s

O32A **Brockman Farm,** 21.83 14 ⇓P P 18 28 57.0 -0.4
baz=22,SNR=7.3
DUG **Dugway** 21.97 344 eP P 18 28 59.4 +0.4
DUG pmax pmax
comp=Z,155nm,1.6s
DUG **Dugway** 21.97 344 eP P 18 28 59.4 +0.4
comp=Z,155nm,1.6s
DUG **Dugway** 21.97 344 ⇓P P 18 29 00.0 +1.0
baz=22
JLU **Jordanelle** 22.04 347 eP P 18 28 59.8 -0.1
comp=Z,123nm,1.4s
NV11 **Mina Array Sit** 22.28 332 eP P 18 29 03.7 +1.2
NVAR **Mina Array Bea** 22.34 332 P P 18 29 05.3 +2.2
NVAR **Mina Array Bea** 22.34 332 P P 18 29 05.3 +2.2
comp=Z,8.6nm,0.9s,baz=157,slow=12,SNR=22
NVAR LR LR 18 38 50.3
comp=Z,584nm,18.6s,baz=45,slow=40
BGU **Big Grassy Mou** 22.71 344 eP P 18 29 06.8 -0.2
comp=Z,28nm,1.3s
WVT **Waverly** 22.75 39 eP P 18 29 02.1 -5.1
WVT pmax pmax
comp=Z,17nm,1.0s
WVT **Waverly** 22.75 39 eP P 18 29 02.1 -5.1
comp=Z,17nm,1.0s
WAKR **Walker** 22.92 330 eP P 18 29 11.6 +2.3
comp=Z,230nm,1.7s
SPUT **South Promonto** 22.93 346 eP P 18 29 10.8 +1.5
comp=Z,154nm,1.7s
TIGA **Tifton** 22.94 54 eP P 18 29 08.9 -0.3
comp=Z,65nm,1.0s
TIGA **Tifton** 22.94 54 ⇓P P 18 29 09.2 -0.1
baz=23
CMB **Columbia Colle** 23.02 328 eP P 18 29 11.8 +1.7
CMB pmax pmax
comp=Z,56nm,1.4s
CMB **Columbia Colle** 23.02 328 eP P 18 29 11.8 +1.7
comp=Z,56nm,1.4s
ELK **Elko** 23.18 340 P P 18 29 12.0 +0.2
ELK **Elko** 23.18 340 P P 18 29 12.0 +0.2
comp=Z,12nm,0.8s,baz=180,slow=7.1,SNR=31
SWET **Sewanee** 23.32 43 eP P 18 29 09.9 -3.1
comp=Z,25nm,0.8s
HVU **Hansel Valley** 23.45 346 eP P 18 29 14.4 0.0
HVU pmax pmax
comp=Z,12nm,0.8s
HVU **Hansel Valley** 23.45 346 eP P 18 29 14.4 0.0
comp=Z,12nm,0.8s
BMN **Battle Mountai** 23.59 336 eP P 18 29 16.2 +0.5
BMN pmax pmax
comp=Z,181nm,1.8s
BMN **Battle Mountai** 23.59 336 eP P 18 29 16.1 +0.5
comp=Z,181nm,1.8s
PDAR **Pinedale Array** 23.82 352 P P 18 29 17.3 -0.5
PDAR **Pinedale Array** 23.82 352 P P 18 29 17.3 -0.5
comp=Z,5.6nm,0.7s,baz=158,slow=9.7,SNR=22
PDAR LR LR 18 38 55.2
comp=Z,821nm,18.9s,baz=193,slow=38
PAHR **Pah Rah Range** 23.87 332 eP P 18 29 21.2 +2.9
comp=Z,503nm,2.4s
USIN **University of** 24.13 35 eP P 18 29 19.4 -1.1
comp=Z,155nm,1.0s
CPCT **Cooper Cave** 24.38 44 eP P 18 29 20.3 -2.5
BEKR **Beckworth** 24.44 331 eP P 18 29 23.8 +0.2
comp=Z,41nm,1.3s
OLIL **Olney** 24.46 34 eP P 18 29 22.0 -1.4
comp=Z,42nm,0.9s
SCIA **State Center** 24.82 22 eP P 18 29 26.3 -0.5
comp=Z,39nm,1.0s
RSSD **Black Hills** 24.89 2 eP P 18 29 27.3 -0.3
RSSD pmax pmax
comp=Z,13nm,0.8s
RSSD **Black Hills** 24.89 2 eP P 18 29 27.3 -0.3
comp=Z,13nm,0.8s
TKL **Tuckaleechee C** 25.00 45 eP P 18 29 26.0 -2.4
TKL **Tuckaleechee C** 25.00 45 P P 18 29 26.4 -2.0
comp=Z,17nm,0.8s,baz=203,slow=12,SNR=12
TKL LR LR 18 42 03.3
comp=Z,469nm,20.2s,baz=76,slow=44
HDIL **Hopedale** 25.27 29 eP P 18 29 29.1 -1.8
comp=Z,73nm,0.8s
ECSD **EROS Data Cent** 25.51 14 eP P 18 29 30.5 -2.5
comp=Z,12nm,1.0s
HLID **Hailey** 25.54 344 eP P 18 29 33.8 +0.3
comp=Z,41nm,1.3s
HLID **Hailey** 25.54 344 ⇓P P 18 29 34.7 +1.2
baz=26
H17A **Grant Village** 25.56 351 ⇓P P 18 29 35.1 +1.4
baz=26
YFT **Old Faithful** 25.65 351 eP P 18 29 35.6 +1.1
comp=Z,57nm,0.8s
MFID **Camas Ranch** 25.79 342 eP P 18 29 36.9 +1.2
comp=Z,33nm,1.4s
WVOR **Wild Horse Val** 25.86 337 eP P 18 29 35.8 -0.5
WVOR pmax pmax
comp=Z,17nm,1.0s
WVOR **Wild Horse Val** 25.86 337 eP P 18 29 35.8 -0.5
comp=Z,17nm,1.0s
YMR **Madison River** 25.88 350 eP P 18 29 36.9 +0.3
comp=Z,46nm,1.0s
MOD **Modoc** 26.07 334 eP P 18 29 40.5 +2.2
comp=Z,25nm,1.0s
QLMT **Earthquake Lak** 26.12 350 eP P 18 29 39.1 +0.4
comp=Z,4.4nm,1.1s
SFIN **Scholer Farm** 26.20 32 P P 18 29 38.8 -0.5
comp=Z,27nm,0.7s
SFIN **Scholer Farm** 26.20 32 ⇑P P 18 29 39.0 -0.2
baz=26
MCMT **McKenzie Canyo** 26.38 348 eP P 18 29 41.8 +0.7
comp=Z,12nm,0.8s
M04C **Macdoel** 26.65 331 ⇑P P 18 29 44.6 +1.2
baz=27
JFWS **Jewell Farm** 26.80 25 eP P 18 29 42.8 -1.8
JFWS pmax pmax
comp=Z,100nm,0.8s
JFWS **Jewell Farm** 26.80 25 eP P 18 29 42.8 -1.8
comp=Z,100nm,0.8s
GCMT **Greycliff** 26.81 353 eP P 18 29 44.5 -0.4
comp=Z,16nm,1.2s
YBH **Yreka Blue Hor** 27.01 330 P P 18 29 45.2 -1.4
YBH **Yreka Blue Hor** 27.01 330 P P 18 29 45.2 -1.4
comp=Z,1.1nm,0.6s,baz=172,slow=7.1,SNR=2.8
YBH LR LR 18 41 04.8
comp=Z,248nm,19.4s,baz=358,slow=38
LRM **Limekiln Ridge** 27.26 349 eP P 18 29 49.0 0.0
comp=Z,475nm,0.9s
J05D **Fort Rock, OR** 27.60 334 ⇑P P 18 29 53.0 +1.0
baz=28
SPMN **St. Paul** 27.93 19 ⇑P P 18 29 54.5 -0.2
baz=28
J04D **Umpqua Nationa** 27.93 333 ⇓P P 18 29 56.7 +1.6
baz=28
HRY **Holter Researc** 28.01 350 eP P 18 29 55.0 -0.6
comp=Z,18nm,0.8s
BLA **Blacksburg** 28.10 45 eP P 18 29 53.4 -3.0
BLA pmax pmax
comp=Z,16nm,0.8s
BLA **Blacksburg** 28.10 45 eP P 18 29 53.4 -3.0
comp=Z,16nm,0.8s
CHMT **Chamberlain Mo** 28.46 348 eP P 18 29 59.8 +0.1
comp=Z,20nm,0.9s
MSO **Missoula** 28.52 347 ⇓P P 18 30 00.7 +0.7
baz=28
SLMT **Seeley Lake** 28.82 348 eP P 18 30 02.3 -0.5
comp=Z,30nm,0.8s
EGMT **Eagleton** 29.02 354 eP P 18 30 03.4 -1.1
comp=Z,40nm,1.1s
EGMT **Eagleton** 29.02 354 ⇓P P 18 30 04.8 +0.3
baz=29
SWMT **Swartz Lake** 29.18 348 eP P 18 30 05.7 -0.3
comp=Z,39nm,1.2s
DGMT **Dagmar** 29.23 1 ⇑P P 18 30 07.0 +0.7
baz=29
JTMT **Jett** 29.46 347 eP P 18 30 09.7 +1.3
comp=Z,23nm,1.5s
YBMT **Yellow Bay** 29.52 348 eP P 18 30 08.3 -0.7
comp=Z,44nm,1.4s
AGMN **Agassiz Nation** 30.01 12 eP P 18 30 11.9 -1.3
comp=Z,24nm,1.1s
JSRW **J. Sargeant Re** 30.08 46 eP P 18 30 12.1 -1.8
NEW **Newport** 30.61 344 eP P 18 30 18.8 +0.3
comp=Z,37nm,1.3s
NEW **Newport** 30.61 344 ⇓P P 18 30 19.0 +0.5
baz=31
LON **Longmire** 30.72 337 eP P 18 30 19.9 +0.3
LON pmax pmax
comp=Z,21nm,1.3s
LON **Longmire** 30.72 337 eP P 18 30 19.9 +0.3

comp=Z,20nm,1.3s
EYMN **Ely** 30.77 18 eP P 18 30 17.3 -2.6
comp=Z,31nm,1.0s
SDMD **Soldier's Deli** 31.66 44 eP P 18 30 25.7 -2.1
comp=Z,14nm,0.7s
ULM **Lac du Bonnet** 31.87 11 P P 18 30 27.2 -2.3
ULM **Lac du Bonnet** 31.87 11 P P 18 30 27.2 -2.3
comp=Z,2.8nm,0.7s,baz=189,slow=7.5,SNR=4.6
ULM LR LR 18 44 12.8
comp=Z,1µm,19.4s,baz=208,slow=38
OTAV **Otavalo** 32.23 123 eP P 18 30 35.5 +1.9
comp=Z,43nm,1.4s
ROSC **El Rosal** 33.23 111 P P 18 30 42.9 +0.5
ROSC **El Rosal** 33.23 111 LR LR 18 45 44.3
comp=Z,194nm,18.9s,baz=193,slow=39
SADO **Sadowa** 33.45 34 P P 18 30 41.0 -2.5
SADO **Sadowa** 33.45 34 P P 18 30 41.0 -2.5
comp=Z,9.5nm,0.7s,baz=267,slow=11,SNR=8.7
SADO LR LR 18 45 42.1
comp=Z,398nm,21.2s,baz=186,slow=39
EDM **Edmonton** 34.58 351 eP P 18 30 51.3 -1.8
EDM **Edmonton** 34.58 351 eP P 18 30 51.3 -1.8
SDV **Santo Domingo** 34.93 102 eP P 18 30 56.2 -0.6
comp=Z,6.8nm,0.8s
FFC **Flin Flon** 35.57 3 eP P 18 30 59.5 -2.1
FFC pmax pmax
comp=Z,14nm,0.8s
FFC **Flin Flon** 35.57 3 eP P 18 30 59.5 -2.1
comp=Z,14nm,0.8s
SJG **San Juan** 36.90 85 LR LR 18 47 25.0
comp=Z,331nm,21.4s,baz=31,slow=38
ATAH **Atahualpa** 37.12 132 P P 18 31 18.6 +2.9
ATAH **Atahualpa** 37.12 132 P P 18 31 18.6 +2.9
comp=Z,12nm,0.9s,baz=327,slow=6.6,SNR=5.4
ATAH LR LR 18 43 28.0
comp=Z,271nm,20.8s,baz=143,slow=31
DLBC **Dease Lake** 43.23 341 eP P 18 32 06.0 +0.6
YKA **Yellowknife Ar** 43.78 354 P P 18 32 08.5 -1.2
YKA **Yellowknife Ar** 43.78 354 P P 18 32 08.5 -1.2
comp=Z,12nm,0.8s,baz=165,slow=7.8,SNR=42
YKW3 **Yellowknife Ar** 43.85 354 eP P 18 32 07.4 -2.8
comp=Z,0.3nm,0.9s
SCHQ **Schefferville** 45.94 30 P P 18 32 26.7 -0.3
SCHQ **Schefferville** 45.94 30 P P 18 32 26.7 -0.3
comp=Z,3.9nm,0.8s,baz=222,slow=14,SNR=2.5
SCHQ LR LR 18 53 03.5
comp=Z,430nm,20.4s,baz=195,slow=38
PTGA **Pitinga** 48.53 109 eP P 18 32 48.1 +0.4
comp=Z,20nm,1.1s
SAML **Samuel** 49.90 120 eP P 18 32 57.7 -0.5
comp=Z,22nm,1.3s
LPAZ **La Paz** 50.66 132 eP P 18 33 05.7 +1.1
comp=Z,11nm,1.2s
LPAZ **La Paz** 50.66 132 LR LR 18 54 08.5
comp=Z,164nm,18.9s,baz=121,slow=35
FRB **Frobisher Bay** 50.95 20 LR LR 18 55 40.2
comp=Z,559nm,19.0s,baz=340,slow=37
RKT **Ikkitea** 51.15 216 eLR LR 18 47 43.7
comp=Z,727nm,27.0s
OHAK **Old Harbor** 51.91 329 eP P 18 33 13.0 +0.3
comp=Z,86nm,1.5s
INK **Inuvik** 52.25 347 P P 18 33 14.5 -0.5
INK **Inuvik** 52.25 347 P P 18 33 14.5 -0.5
comp=Z,9.5nm,0.8s,baz=141,slow=6.3,SNR=23
RSO **Redoubt South** 53.18 333 eP P 18 33 24.3 +1.9
comp=Z,54nm,0.9s
ILAR **Eielson Array** 53.33 339 P P 18 33 23.2 +0.1
ILAR **Eielson Array** 53.33 339 P P 18 33 23.2 +0.1
comp=Z,7.4nm,1.0s,baz=149,slow=5.9,SNR=28
ILAR LR LR 18 59 35.0
comp=Z,285nm,20.4s,baz=139,slow=40
COLA **College** 53.72 339 eP P 18 33 29.9 +4.0
COLA pmax pmax
comp=Z,39nm,1.2s
TRF **Thorofare Moun** 53.76 337 eP P 18 33 25.6 -0.9
comp=Z,55nm,1.1s
PPLA **Purkeypile** 54.19 336 eP P 18 33 31.2 +1.7
comp=Z,48nm,1.2s
LVC **Limon Verde** 54.56 138 P P 18 33 35.5 +2.6
comp=Z,13nm,1.2s
RES **Resolute Bay** 55.81 3 P P 18 33 38.9 -2.0
RES **Resolute Bay** 55.81 3 P P 18 33 38.9 -2.0
comp=Z,6.8nm,0.8s,baz=180,slow=9.1,SNR=11
PPT **Papeete** 56.92 233 LR LR 18 50 44.6
comp=Z,292nm,21.4s,baz=14,slow=28
PPT2 **Papeete2** 56.93 233 eS S 18 41 55.8 +15
comp=Z,120nm,27.5s
PPT2 eLR LR 18 50 17.0
comp=Z,540nm,26.2s,baz=57
H03N2 **Juan Fernandez** 57.99 154 T T 19 36 39.2
baz=333,slow=75,SNR=13
H03N1 **Juan Fernandez** 58.00 154 T T 19 36 46.8
baz=333,slow=75,SNR=15
H03N3 **Juan Fernandez** 58.01 154 T T 19 36 38.2
baz=333,slow=75,SNR=12
LCO **Las Campanas** 58.31 144 P P 18 34 02.6 +3.1
TBI **Tubuai** 60.48 228 eLR LR 18 51 51.1
comp=Z,536nm,27.8s
CPUP **Villa Florida** 64.80 133 eP P 18 34 43.2 +0.2
comp=Z,2.7nm,1.3s
CPUP e 18 34 50.2
CPUP **Villa Florida** 64.80 133 P P 18 34 44.3 +1.3
comp=Z,1.3nm,0.7s,baz=330,slow=5.6,SNR=2.6
CPUP LR LR 19 02 42.0
comp=Z,70nm,18.4s,baz=314,slow=36
SUMG **Summit** 64.91 18 i P P 18 34 42.7 -0.9
SUMG pmax pmax
comp=Z,7.0nm,1.1s
SUMG **Summit** 64.91 18 i P P 18 34 42.7 -0.9
comp=Z,6.5nm,1.1s
SUMG **Summit** 64.91 18 eP P 18 34 41.8 -1.8
comp=Z,11nm,1.0s
BDFB **Brasilia** 65.99 118 P P 18 34 51.0 0.0
BDFB **Brasilia** 65.99 118 P P 18 34 51.0 0.0
comp=Z,3.1nm,0.8s,baz=330,slow=8.1,SNR=3.2
PLCA **Paso Flores** 67.72 152 eP P 18 35 01.2 -0.4
comp=Z,14nm,1.3s
PLCA **Paso Flores** 67.72 152 P P 18 35 01.2 -0.4
comp=Z,3.7nm,1.0s,baz=336,slow=9.5,SNR=5.5
PLCA LR LR 18 59 34.3
comp=Z,161nm,18.1s,baz=68,slow=31
TRQA **Tornquist** 69.88 145 eP P 18 35 16.3 +1.3
comp=Z,7.6nm,0.9s
SPITS **Spitsbergen Ar** 77.43 10 P P 18 36 00.1 +1.4
SPITS **Spitsbergen Ar** 77.43 10 P P 18 36 00.1 +1.4
comp=Z,6.7nm,0.7s,baz=302,slow=8.3,SNR=6.5
SEY **Seymchan** 78.65 333 i P P 18 36 06.9 +1.2
PETK **Petropavlovsk-** 79.08 322 P P 18 36 09.5 +1.2
PETK pmax pmax
comp=Z,6.0nm,1.0s
PETK MLR MLR
comp=Z,46nm,20.9s
PETK **Petropavlovsk-** 79.08 322 P P 18 36 09.5 +1.2
PETK **Petropavlovsk-** 79.08 322 P P 18 36 09.5 +1.2
comp=Z,6.0nm,1.0s,baz=93,slow=7.8,SNR=3.8
PETK LR LR 19 05 45.4
comp=Z,46nm,20.9s,baz=228,slow=32
ESK **Eskdalemuir** 81.01 34 P P 18 36 20.3 +1.7
ESK **Eskdalemuir** 81.01 34 P P 18 36 20.3 +1.7
TIXI **Tiksi** 82.32 345 eP P 18 36 24.4 -0.8
TIXI pmax pmax
comp=Z,14nm,0.9s
PMAFR **Mafra** 82.57 51 eP P 18 36 31.8 +4.6
comp=Z,109nm,1.3s
PCAS **Casmilo, Conde** 82.79 50 eP P 18 36 31.7 +3.4
comp=Z,80nm,1.7s
POLO **Lamas de Olo** 82.87 49 eP P 18 36 28.7 -0.1
comp=Z,42nm,1.7s
PVRL **Vila Real** 82.96 49 eP P 18 36 32.1 +2.9
comp=Z,57nm,1.9s
PACT **Alcochete** 82.96 52 eP P 18 36 31.4 +2.2
comp=Z,161nm,1.4s
PTOM **Tomar** 83.00 51 eP P 18 36 30.4 +1.0
comp=Z,34nm,2.6s
PVIS **Viseu** 83.02 49 eP P 18 36 31.0 +1.5
comp=Z,48nm,1.6s
PMTG **Montargil** 83.31 51 eP P 18 36 31.6 +0.6
comp=Z,31nm,0.9s
MTE **Manteigas** 83.37 50 eP P 18 36 32.9 +1.5
comp=Z,48nm,1.6s
PNCL **Nicolau / Gran** 83.40 52 eP P 18 36 32.5 +1.0
comp=Z,45nm,1.8s
PTEO **Sao Teotonio** 83.44 53 eP P 18 36 32.6 +0.9
comp=Z,47nm,1.2s
MVO **Moncorvo** 83.48 49 eP P 18 36 33.4 +1.4
comp=Z,46nm,1.8s
EVOP **Sao Brissos** 83.57 52 eP P 18 36 31.9 -0.4

EVOP pmax pmax
comp=Z,56nm,0.9s
EVOP Sao Brissos 83.57 52 *e*P **P 18 36 31.9 -0.4**
comp=Z,56nm,0.9s
MORF Marmelete 83.57 53 *e*P **P 18 36 35.2 +2.7**
comp=Z,33nm,1.5s
PCBR Castelo Branco 83.61 50 *e*P **P 18 36 34.4 +1.9**
comp=Z,40nm,1.9s
EVO Evora 83.65 52 *e*P **P 18 36 31.9 -0.8**
comp=Z,56nm,0.9s
MESJ Messejana 83.72 52 *e*P **P 18 36 32.9 -0.3**
MESJ AMb AMB 18 36 38.9
comp=Z,26nm,1.7s
PMRV Marv??o 83.81 51 *e*P **P 18 36 34.2 +0.6**
comp=Z,49nm,1.9s
PESTR Estremoz 83.85 51 *e*P **P 18 36 35.3 +1.5**
comp=Z,30nm,1.7s
PBEJ Beja 83.92 52 *e*P **P 18 36 36.7 +2.5**
comp=Z,26nm,1.8s
PCVE Castro Verde 83.92 52 *e*P **P 18 36 36.5 +2.3**
comp=Z,39nm,1.6s
SGMF Saint Gilles 83.95 41 *e*P **P 18 36 34.9 +0.8**
comp=Z,44nm,1.0s
SGMF Saint Gilles 83.95 41 *e*P **P 18 36 34.9 +0.8**
SGMF pmax pmax
comp=Z,44nm,1.0s
SGMF Saint Gilles 83.95 41 *e*P **P 18 36 34.9 +0.8**
comp=Z,44nm,1.0s
PBDV Barranco-do-Ve 84.14 53 *e*P **P 18 36 37.9 +2.6**
comp=Z,74nm,1.7s
PVAQ Vaqueiros 84.24 53 *e*P **P 18 36 38.7 +2.9**
comp=Z,39nm,1.8s
PBAR Barrancos 84.49 52 *e*P **P 18 36 37.8 +0.8**
comp=Z,29nm,1.9s
ARCES ARCESS Array B 84.89 16 P **P 18 36 38.1 -0.3**
ARCES ARCESS Array B 84.89 16 P **P 18 36 38.1 -0.3**
comp=Z,5.4nm,0.8s,baz=306,slow=3.2,SNR=8.8
ARCES LR LR 19 14 55.0
comp=Z,283nm,18.3s,baz=336,slow=36
GRR Gorron 84.95 40 *e*P **P 18 36 40.8 +1.7**
comp=Z,44nm,0.9s
GRR Gorron 84.95 40 *e*P **P 18 36 40.8 +1.7**
GRR pmax pmax
comp=Z,44nm,0.9s
GRR Gorron 84.95 40 *e*P **P 18 36 40.8 +1.7**
comp=Z,44nm,0.9s
FLN La Foliniere 85.03 40 *e*P **P 18 36 41.3 +1.8**
comp=Z,49nm,0.8s
FLN La Foliniere 85.03 40 *e*P **P 18 36 41.3 +1.8**
FLN pmax pmax
comp=Z,49nm,0.8s
FLN La Foliniere 85.03 40 *e*P **P 18 36 41.3 +1.8**
comp=Z,49nm,0.8s
LDF La Druitiere 85.32 40 *e*P **P 18 36 42.5 +1.5**
comp=Z,75nm,1.3s
LDF La Druitiere 85.32 40 *e*P **P 18 36 42.5 +1.5**
LDF pmax pmax
comp=Z,75nm,1.3s
LDF La Druitiere 85.32 40 *e*P **P 18 36 42.5 +1.5**
comp=Z,75nm,1.3s
NB2 NORSAR Subarra 85.35 26 P **P 18 36 42.8 +1.8**
comp=Z,9.1nm,1.1s,baz=301,slow=5.3
NOA NORSAR Array B 85.35 26 P **P 18 36 39.8 -1.1**
NOA NORSAR Array B 85.35 26 P **P 18 36 39.8 -1.1**
comp=Z,5.3nm,0.9s,baz=302,slow=5.0,SNR=12
NOA LR LR 19 12 43.6
comp=Z,101nm,20.4s,baz=295,slow=34
ESDC Sonseca Array 86.20 49 P **P 18 36 44.6 -1.0**
ESDC Sonseca Array 86.20 49 P **P 18 36 44.6 -1.0**
comp=Z,4.4nm,0.8s,baz=306,slow=4.9,SNR=16
ESDC LR LR 19 18 05.7
comp=Z,119nm,19.4s,baz=340,slow=38
ESLA Sonseca Array 86.20 49 *e*P **P 18 36 43.8 -1.9**
comp=Z,8.9nm,1.4s
ETSF Etsaut 87.33 45 *e*P **P 18 36 51.9 +0.8**
comp=Z,52nm,1.3s
ETSF Etsaut 87.33 45 *e*P **P 18 36 51.9 +0.8**
ETSF pmax pmax
comp=Z,52nm,1.3s
ETSF Etsaut 87.33 45 *e*P **P 18 36 51.9 +0.8**
comp=Z,52nm,1.3s
RJF Les Rejaudoux 87.70 43 *e*P **P 18 36 53.4 +0.7**
comp=Z,57nm,1.3s
RJF Les Rejaudoux 87.70 43 *e*P **P 18 36 53.4 +0.7**
RJF pmax pmax
comp=Z,57nm,1.3s
RJF Les Rejaudoux 87.70 43 *e*P **P 18 36 53.4 +0.7**
comp=Z,57nm,1.3s
SSF Saint Saulge 88.18 40 *e*P **P 18 36 54.9 -0.1**
comp=Z,10nm,0.9s
SSF Saint Saulge 88.18 40 *e*P **P 18 36 54.9 -0.1**
SSF pmax pmax
comp=Z,11nm,0.9s
SSF Saint Saulge 88.18 40 *e*P **P 18 36 54.9 -0.1**
comp=Z,10nm,0.9s
YAK Yakutsk 88.22 337 *e*P **P 18 36 54.4 -0.4**
YAK pmax pmax
comp=Z,50nm,1.1s
YAK pmax pmax
comp=E,21nm,1.5s
YAK pmax pmax
comp=N,13nm,1.5s
MDT Midelt 88.23 56 LR LR 19 12 28.4
comp=N,122nm,20.4s,baz=318,slow=33
FINES FINESS Array B 90.74 21 P **P 18 37 06.4 -0.2**
FINES FINESS Array B 90.74 21 P **P 18 37 06.4 -0.2**
comp=N,1.2nm,0.6s,baz=290,slow=5.8,SNR=6.1
FINES LR LR 19 17 52.7
comp=N,208nm,19.1s,baz=117,slow=36
URZ Urewera 92.50 230 LR LR 19 09 15.7
comp=N,146nm,19.6s,baz=66,slow=29
GERES GERESS Array B 93.21 35 P **P 18 37 19.5 +1.0**
GERES GERESS Array B 93.21 35 P **P 18 37 19.5 +1.0**
comp=N,0.4nm,0.6s,baz=284,slow=4.0,SNR=2.8
GERES LR LR 19 18 56.4
comp=N,260nm,19.6s,baz=95,slow=35
VRAC Vranov 94.50 34 LR LR 19 19 16.2
comp=N,169nm,19.7s,baz=352,slow=35
KLMR Klimovskoe 95.32 17 *e*P **P 18 37 28.0 +0.3**
KLMR pmax pmax
comp=Z,13nm,1.3s
DZM Mont Dzumac 95.61 249 *e*LR LR 19 08 44.5
comp=Z,335nm,30.4s
DZM Mont Dzumac 95.61 249 LR LR 19 11 01.7
comp=Z,147nm,21.5s,baz=25,slow=29
KEST Kesra 97.40 48 LR LR 19 25 17.3
comp=Z,50nm,18.3s,baz=12,slow=38
DBIC Dimbokro 97.46 80 LR LR 19 21 00.4
comp=Z,65nm,18.1s,baz=293,slow=35
OBN Obninsk 99.15 21 *e*P **Pdif 18 37 46.9 +1.8**
OBN *e* 18 41 52.4
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,200nm,17.0s
AKASG Malin Array Be 99.69 27 *i*P **Pdif 18 37 49.0 +1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 99.69 27 P **Pdif 18 37 48.4 +0.7**
AKASG Malin Array Be 99.69 27 P **Pdif 18 37 48.4 +0.7**
comp=Z,0.2nm,0.3s,baz=306,slow=3.9,SNR=4.9
AKASG LR LR 19 23 10.5
comp=Z,200nm,18.0s,baz=340,slow=36
TORD Torodi Ar. Bea 101.11 72 PP PP 18 42 02.0 -1.8
TORD Torodi Ar. Bea 101.11 72 PP PP 18 42 02.0 -1.8
comp=Z,0.7nm,1.0s,baz=289,slow=5.7,SNR=3.6
KIV Kislovodsk 110.61 24 *i*PKIKP **PKiKP 18 42 40.2 +3.6**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,138nm,20.0s
HHC Hu-ho-hao-te 111.24 331 *e*PKP **PKiKP 18 42 36.6 -1.3**
HHC sPKP 18 43 14.8
HHC PP **PP 18 43 20.0 +3.0**
HHC SKS SKSdf 18 49 38.6 -7.5
HHC SKKS SKKSac 18 50 03.8 -13
HHC SS **SS 18 58 39.8 -6.0**
HHC AMB AMB
comp=Z,150nm,9.1s
HHC LR LR
comp=Z,260nm,20.4s
HHC LR LR
comp=Z,210nm,20.9s
HHC LR LR
comp=Z,190nm,20.8s
WMQ Urumqi 116.22 350 PKP **PKPdf 18 42 48.0 +0.6**
WMQ PP PP 18 43 59.0 +7.1
WMQ PKS **PKSdf 18 46 23.0 -1.1**
WMQ SKS **SKSdf 18 49 49.0 -6.5**
WMQ SKKS SKKSac 18 50 41.0 -9.1
WMQ SS **SS 18 59 48.0 -2.8**
WMQ LR LR
comp=Z,190nm,24.0s
WMQ LR LR
comp=Z,180nm,24.0s
WMQ LR LR
comp=Z,170nm,24.0s
LZH Lanzhou 118.58 333 *e*PKP **PKPdf 18 42 50.6 -1.6**
LZH LR LR
comp=Z,150nm,18.0s
LZH LR LR
comp=Z,160nm,18.0s
LZH LR LR
comp=Z,180nm,20.1s
CD2 Chengdu 122.98 330 *e*PKP **PKPdf 18 43 01.8 +1.1**
WRA Warramunga Arr 124.22 259 PKPpre PKPpre 18 43 00.5
WRA Warramunga Arr 124.22 259 PKhKP PKPpre 18 43 00.5
comp=Z,1.1nm,0.8s,baz=79,slow=2.1,SNR=7.1
GYA Guiyang 125.13 325 *e*Pdif **Pdif 18 39 41.4 -0.1**
GYA PKP **PKPdf 18 43 05.0 0.0**
GYA PP **PP 18 44 57.6 +4.0**
GYA AMB AMB
comp=Z,110nm,7.9s
ASAR Alice Springs 125.18 254 PKPpre PKPpre 18 43 03.3
ASAR Alice Springs 125.18 254 PKhKP PKPpre 18 43 03.3
comp=Z,2.3nm,0.8s,baz=84,slow=2.4,SNR=11
BOSA Boshof 133.95 112 PKP **PKPdf 18 43 23.1 +1.5**
BOSA Boshof 133.95 112 PKP **PKPdf 18 43 23.1 +1.5**
comp=Z,7.1nm,1.2s,baz=270,slow=1.6,SNR=2.9
CMAR Chiang Mai Arr 135.76 326 PKP **PKPdf 18 43 26.9 +1.7**
CMAR Chiang Mai Arr 135.76 326 PKP **PKPdf 18 43 26.9 +1.7**
comp=Z,1.6nm,0.9s,baz=29,slow=2.1,SNR=7.9
KMBO Kilima Mbogo 139.02 69 PKPdf PKPdf 18 43 38.2 +6.6
HYB Hyderabad 143.46 354 *i*PKP PKPbc 18 43 38.0 +1.6
IPM Ipoh 145.14 310 *e*PKPdf **PKPbc 18 43 40.2 -1.6**

*IDC **08** 18:27:57.7±2.5, 1.°80S×100.°55E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, Error ellipse: s-maj=91.4km s-min=19.4km az=58.0*
*DJA **08** 18:28:08.7±1.2, 1.°5S×15.°10.°2E±.°, h18km±16km, M3.5/4, MLv3.5/4*
ISC 08 18:28:00.4±1.4, 1.°5S±0.°1×100.°7E±0.°1, h10km, n19, σ1s61/12, mb3.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.04**	**342**	P		18 28 28.9	+7.8
BKNI	**Bangkinang**	**1.80**	**10**	P	**Pn**	**18 28 28.7**	**-2.7**
RGRI	**Rengat**	**1.95**	**56**	P	Pn	18 28 24.7	-8.8
MNSI	**Mandailing Nat**	**2.51**	**333**	P	**Pg**	**18 28 48.1**	**-0.4**
KGM	**Kluang**	**4.32**	**37**	P	**Pb**	**18 29 17.2**	**+0.8**
MYKOM	**Kota Tinggi**	**4.49**	**44**	P	**Pb**	**18 29 19.6**	**+0.3**
FRIM	**Kepong**	**4.75**	**11**	P	**Pb**	**18 29 22.6**	**-1.1**
IPM	**Ipoh**	**5.90**	**3**	P	Pb	18 29 38.3	-5.1
KULM	**Kulim**	**6.70**	**359**	P	Pb	18 29 49.5	-7.5
CMAR	**Chiang Mai Arr**	**19.86**	**355**	P	**Pn**	**18 32 35.2**	**+1.8**
	0.5nm,0.4s,baz=188,slow=9.8,SNR=8.0						
H08S2	**Diego Garcia H**	**28.79**	**257**	T	T	19 02 50.5	
	baz=80,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**28.80**	**257**	T	T	19 02 52.2	
	baz=80,slow=75,SNR=14						
H08S1	**Diego Carcia H**	**28.81**	**257**	T	T	19 02 51.3	
	baz=80,slow=75,SNR=15						
WRA	**Warramunga Arr**	**37.65**	**122**	P	**P**	**18 35 14.3**	**-1.7**
	0.1nm,0.3s,baz=301,slow=9.7,SNR=9.1						
ASAR	**Alice Springs**	**39.00**	**127**	P	**P**	**18 35 26.0**	**-1.3**
	0.3nm,0.5s,baz=303,slow=7.9,SNR=9.0						
SONM	**Songino Array**	**49.34**	**5**	P	**P**	**18 36 51.6**	**+1.6**
	0.6nm,0.5s,baz=186,slow=9.2,SNR=5.8						
MKAR	**Makanchi Array**	**50.71**	**344**	P	**P**	**18 37 01.4**	**+1.2**
	1.3nm,0.6s,baz=161,slow=8.8,SNR=21						
USRK	**Ussuriysk Arra**	**53.34**	**28**	P	**P**	**18 37 21.2**	**+1.3**
	1.2nm,0.6s,baz=232,slow=7.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**56.77**	**349**	P	**P**	**18 37 44.9**	**+0.4**
	1.1nm,0.2s,baz=165,slow=6.3,SNR=12						

*MEX **08** 18:30:34.8±0.9, 19.°03N×105.°36W, h13km±49km, MD3.9*
*ISCJB **08** 18:30:37.0±0.5, 19.°54N±0.°05×104.°62W±0.°05, h10km, mb4.0/15, Error ellipse: s-maj=7.9km s-min=5.8km az=28.9*
*IDC **08** 18:30:36.3±1.4, 19.°59N×104.°53W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/25, mbtmp3.8/9, Error ellipse: s-maj=52.5km s-min=28.7km az=73.0*
*NEIC **08** 18:30:37.3±1.5, 19.°36N×104.°66W, h11km±10km, mb4.0/16, MD3.9(MEX), Error ellipse: s-maj=16.2km s-min=8.5km az=52.0*
ISC 08 18:30:37.2±0.6, 19.°38N±0.°09×104.°68W±0.°07, h10km, n48, σ0s78/51, mb3.9/15, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.36**	**289**	*i* P	**Pg**	**18 30 44.5**	**+0.1**
CJM				*i* S	**Sb**	**18 30 51.5**	**0.0**
CJM	**Chamela**	**0.36**	**289**	*i* P	**Pg**	**18 30 44.5**	**+0.1**
CJM				*i* S	**Sb**	**18 30 51.5**	**0.0**
R15V		**0.69**	**107**	*e*P	**Pn**	**18 30 54.5**	**+1.4**
R15V				*i* S	Sn	18 31 11.0	+7.2
EZ5V		**1.02**	**84**	*e*P	Pn	18 31 01.7	+3.9
EZ5V				*i* S	Sn	18 31 22.3	+10
MMIG	**Aquila**	**1.67**	**130**	*e*P	**Pn**	**18 31 06.4**	**-0.1**
MMIG				*i* S	**Sg**	**18 31 30.4**	**-0.3**
MMIG	**Aquila**	**1.67**	**130**	*e*P	**Pn**	**18 31 06.4**	**-0.1**
MMIG				*i* S	**Sg**	**18 31 30.4**	**-0.3**
TUC	**Tucson**	**13.99**	**338**	Pn	**Pn**	**18 33 57.5**	**+1.8**
WMOK	**Wichita Mounta**	**16.17**	**18**	*e*P	**Pn**	**18 34 23.9**	**-0.6**
	4.9nm,0.6s						
GLA	**Glamis**	**16.36**	**328**	P	**Pn**	**18 34 27.5**	**+0.4**
	1.7nm,0.8s						
WUAZ	**Wupatki**	**17.13**	**341**	*e*P	**P**	**18 34 38.4**	**-0.1**
	15nm,0.9s						
GSC	**Goldstone**	**19.14**	**328**	*e*P	**Pn**	**18 35 01.6**	**0.0**
SHPR	**Sheep Range**	**19.39**	**334**	P	**Pn**	**18 35 04.7**	**+0.1**
	27nm,2.0s						
CCUT	**Cedar City**	**19.63**	**339**	P	**Pn**	**18 35 07.4**	**-0.1**
	8.0nm,1.3s						
ARUT	**Antelope Range**	**19.87**	**339**	*e*P	**Pn**	**18 35 10.2**	**-0.2**
	171nm,1.1s						
MVU	**Marysvale**	**20.15**	**343**	*e*P	**P**	**18 35 12.5**	**+0.7**
	14nm,1.1s						
ISA	**Isabella**	**20.28**	**326**	*e*P	**P**	**18 35 11.9**	**-1.2**
	2.6nm,1.2s						
SRU	**San Rafael**	**20.30**	**347**	*e*P	**P**	**18 35 13.9**	**+0.4**
	8.0nm,0.9s						
KSU1	**Kansas State U**	**20.86**	**18**	*e*P	**P**	**18 35 20.2**	**+0.9**
	18nm,0.8s						
TPH	**Tonopah**	**21.59**	**332**	P	**P**	**18 35 27.4**	**0.0**
	9.9nm,1.4s						
NVAR	**Mina Array Bea**	**22.37**	**331**	P	**P**	**18 35 36.1**	**+0.4**
NVAR	**Mina Array Bea**	**22.37**	**331**	P	**P**	**18 35 36.1**	**+0.4**
	1.2nm,0.8s,baz=159,slow=10,SNR=5.4						
WAKR	**Walker**	**22.96**	**329**	*e*P	**P**	**18 35 42.2**	**+0.1**
	18nm,1.4s						
ELK	**Elko**	**23.14**	**339**	*e*P	**P**	**18 35 43.5**	**-0.3**
	4.8nm,1.1s						
ELK	**Elko**	**23.14**	**339**	P	**P**	**18 35 43.4**	**-0.5**
	1.9nm,0.9s,baz=170,slow=6.1,SNR=7.5						
HVU	**Hansel Valley**	**23.37**	**345**	*e*P	**P**	**18 35 46.1**	**0.0**
	12nm,1.0s						
PDAR	**Pinedale Array**	**23.68**	**351**	P	**P**	**18 35 49.0**	**-0.3**
PDAR	**Pinedale Array**	**23.68**	**351**	P	**P**	**18 35 49.0**	**-0.3**
	1.4nm,0.7s,baz=156,slow=9.8,SNR=7.2						
HLID	**Hailey**	**25.46**	**343**	*e*P	**P**	**18 36 05.5**	**0.0**
	2.2nm,0.8s						
MCMT	**McKenzie Canyo**	**26.27**	**347**	*e*P	**P**	**18 36 13.5**	**+0.5**
	1.7nm,0.8s						
LRM	**Limekiln Ridge**	**27.14**	**348**	*e*P	**P**	**18 36 19.6**	**-1.2**
	61nm,0.8s						
DLBC	**Dease Lake**	**43.17**	**341**	P	**P**	**18 38 38.0**	**0.0**
DLBC	**Dease Lake**	**43.17**	**341**	P	**P**	**18 38 38.0**	**0.0**
	1.7nm,0.7s,baz=175,slow=7.1,SNR=4.9						
YKA	**Yellowknife Ar**	**43.62**	**353**	P	**P**	**18 38 40.1**	**-1.4**
YKA	**Yellowknife Ar**	**43.62**	**353**	P	**P**	**18 38 40.1**	**-1.4**
	1.8nm,0.8s,baz=166,slow=7.5,SNR=14						
INK	**Inuvik**	**52.15**	**347**	*e*P	**P**	**18 39 46.4**	**-1.0**
	12nm,1.3s						
INK	**Inuvik**	**52.15**	**347**	P	**P**	**18 39 45.9**	**-1.5**
	4.4nm,1.1s,baz=136,slow=6.5,SNR=5.0						
ILAR	**Eielson Array**	**53.30**	**339**	P	**P**	**18 39 54.3**	**-1.7**
ILAR	**Eielson Array**	**53.30**	**339**	P	**P**	**18 39 54.3**	**-1.7**
	1.0nm,0.9s,baz=145,slow=6.3,SNR=12						
NOA	**NORSAR Array B**	**84.98**	**26**	P	**P**	**18 43 12.7**	**+0.1**
NOA	**NORSAR Array B**	**84.98**	**26**	P	**P**	**18 43 12.7**	**+0.1**
	1.1nm,0.8s,baz=309,slow=5.6,SNR=4.4						
ESDC	**Sonseca Array**	**85.74**	**50**	P	**P**	**18 43 16.5**	**-0.4**
ESDC	**Sonseca Array**	**85.74**	**50**	P	**P**	**18 43 16.5**	**-0.4**
	0.2nm,0.4s,baz=295,slow=4.5,SNR=3.6						
WRA	**Warramunga Arr**	**124.68**	**259**	PKPpre	PKPpre	18 49 32.9	
WRA				PKP	**PKiKP**	**18 49 39.0**	**+0.8**
WRA	**Warramunga Arr**	**124.68**	**259**	PKhKP	PKPpre	18 49 32.9	
	0.3nm,0.8s,baz=78,slow=2.4,SNR=4.2						
WRA				PKP	**PKiKP**	**18 49 39.0**	**+0.8**
	0.4nm,0.5s,baz=81,slow=2.5,SNR=8.5						
ASAR	**Alice Springs**	**125.65**	**254**	PKP	**PKPdf**	**18 49 40.6**	**+0.9**
ASAR	**Alice Springs**	**125.65**	**254**	PKP	**PKPdf**	**18 49 40.6**	**+0.9**
	0.5nm,0.8s,baz=81,slow=2.4,SNR=6.0						
CMAR	**Chiang Mai Arr**	**135.82**	**327**	PKP	**PKPdf**	**18 49 59.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**135.82**	**327**	PKP	**PKPdf**	**18 49 59.9**	**+0.8**
	0.2nm,0.3s,baz=22,slow=1.0,SNR=3.6						

GUC 08 18:37:32.2±0.5, 22.°45S×66.°88W, h295km±33km, ML4.3, 6C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**2.28**	**286**	⇑ *i*P	Pn	18 38 23.6	+2.5
PB09				*e*S	S	18 39 04.8	+4.7
PB09				AML	AML	18 39 08.7	
	comp=E,114nm,0.5s						
PB04	**Plate Boundary**	**2.42**	**274**	⇑ *i*P	Pn	18 38 31.1	+9.1
PB04				*i* S	S	18 39 15.7	+14
PB04				AML	AML	18 39 19.1	
	comp=N,90nm,0.2s						
PB01	**Plate Boundary**	**2.80**	**300**	⇑ *i*P	Pn	18 38 27.9	+2.1
PB01				*i* S	S	18 39 11.0	+2.5
PB01				AML	AML	18 39 13.5	
	comp=N,151nm,0.4s						
PB07	**Plate Boundary**	**2.88**	**284**	⇑ *i*P	Pn	18 38 29.6	+2.9
PB07				*i* S	S	18 39 12.8	+2.8
PB07				AML	AML	18 39 14.4	
	comp=N,114nm,0.5s						
CEN1	**Los Morros**	**3.20**	**252**	⇓ *i*P	Pn	18 38 34.3	+4.5
CEN1				*e*S	S	18 39 21.3	+5.7
CEN1				AML	AML	18 39 24.3	
	comp=N,74nm,0.6s						
ANCH	**Antofagasta**	**3.47**	**249**	*e*P	Pn	18 38 35.5	+3.2
ANCH				*e*S	S	18 39 23.8	+3.3
HMBC	**Humberstone**	**3.54**	**307**	⇑ *i*P	Pn	18 38 35.2	+1.9
HMBC				*i* S	S	18 39 24.2	+1.9
HMBC				AML	AML	18 39 27.8	
	comp=N,235nm,0.8s						
PB10	**Plate Boundary**	**3.54**	**252**	⇑ *i*P	Pn	18 38 36.4	+3.2
PB10				*i* S	S	18 39 25.0	+3.0
PB10				AML	AML	18 39 27.8	
	comp=N,258nm,0.4s						
PSGC	**Pisagua**	**4.15**	**313**	*e*P	Pn	18 38 41.3	+1.3
PSGC				*i* S	S	18 39 35.5	+1.2
PSGC				AML	AML	18 39 40.1	
	comp=N,62nm,0.5s						
MNMC	**Minimini**	**4.17**	**322**	*e*P	Pn	18 38 42.7	+2.3
MNMC				*i* S	S	18 39 37.2	+2.1
MNMC				AML	AML	18 39 41.4	
	comp=E,250nm,0.1s						

IDC 08 18:38:25.2±0.9, 11.°67S×166.°51E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=303.8km s-min=55.0km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.98**	**251**	P	P	18 44 53.6	+0.2
	0.5nm,0.8s,baz=82,slow=9.6,SNR=4.2						
ASAR	**Alice Springs**	**33.19**	**244**	P	P	18 45 03.8	-0.3
	0.7nm,0.8s,baz=72,slow=9.6,SNR=8.3						
MKAR	**Makanchi Array**	**94.48**	**317**	P	P	18 51 47.4	-0.1
	0.5nm,0.7s,baz=113,slow=5.5,SNR=5.2						

MEX 08 18:45:51.0±0.4, 19.°00N×105.°30W, h16km±999km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.55**	**26**	*i* P	Pg	18 46 00.2	-1.8
CJM				*i* S	Sg	18 46 07.2	-2.2
R15V		**1.26**	**82**	*i* P	Pn	18 46 10.2	-3.8
R15V				*i* S	Sb	18 46 25.2	-5.2
EZ5V		**1.67**	**73**	*e*P	Pn	18 46 17.1	-2.8
EZ5V				*i* S	Sn	18 46 36.7	-4.6
MMIG	**Aquila**	**1.98**	**111**	*e*P	Pn	18 46 20.7	-3.2
MMIG				*i* S	Sn	18 46 43.8	-4.6
ANIG	**Ahuacatlan**	**2.17**	**20**	*e*P	Pn	18 46 23.8	-2.8
ANIG				*e*S	Sn	18 46 49.4	-3.9

*IDC **08** 18:50:10.9±0.9, 13.°90S×166.°67E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.1/21, mbtmp4.2/11, ML3.4/2, MS3.7/9, Ms1 3.7/9, ms1mx3.4/33, Error ellipse: s-maj=27.0km s-min=20.3km az=122.0*
*ISCJB **08** 18:50:13.7±0.9, 14.°12S±0.°07×166.°8E±0.°1, h33km, mb4.2/9, MS3.3/8, Error ellipse: s-maj=18.3km s-min=9.3km az=174.8*
*AUST **08** 18:50:27.9, 13.°47S×166.°94E, h200km*
ISC 08 18:50:15.9±0.9, 14.°06S±0.°08×166.°8E±0.°1, h35km, n34, σ1s06/31, mb4.1/9, MS3.4/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.97**	**182**	*e*Pn	**Pn**	**18 52 09.8**	**+0.4**
	28nm,0.3s						
DZM				*e*Sn	**Sn**	**18 53 37.6**	**-0.8**
	33nm,0.3s						
DZM				*e*LR	LR	18 53 55.7	
	269nm,24.8s						
DZM	**Mont Dzumac**	**7.97**	**182**	Pn	**Pn**	**18 52 09.0**	**-0.4**
	2.2nm,0.3s,baz=186,slow=19,SNR=8.4						
DZM				Sn	**Sn**	**18 53 36.7**	**-1.8**
	baz=120,slow=20,SNR=1.5						
DZM				LR	LR	18 54 35.6	
	comp=Z,209nm,20.1s,baz=13,slow=33						
HNR	**Honiara**	**8.11**	**304**	LR	LR	18 55 17.7	
	comp=Z,15nm,28.6s,baz=138,slow=39						
PMG	**Port Moresby**	**19.74**	**281**	P	**P**	**18 54 42.3**	**-0.6**
	0.1nm,0.3s,baz=104,slow=6.7,SNR=6.2						
PMG	**Port Moresby**	**19.74**	**281**	P	**Pn**	**18 54 45.2**	**+0.7**
	baz=20,SNR=4.0						
PMG				P	**Pn**	**18 54 45.2**	**+0.7**
	baz=20,SNR=4.0						
PMG				P	**Pn**	**18 54 45.2**	**+0.7**
	baz=20,SNR=4.0						
CTA	**Charters Tower**	**20.49**	**250**	P	**P**	**18 54 52.1**	**+1.1**
	7.8nm,0.8s,baz=82,slow=13,SNR=7.7						
RMQ	**Roma**	**20.89**	**231**	P	Pn	18 54 57.9	-0.1
	baz=21,SNR=6.1						
COEN	**Coen**	**22.89**	**267**	P	**P**	**18 55 17.5**	**+0.8**
	baz=23,SNR=4.7						
QLP	**Quilpie**	**24.47**	**236**	P	**P**	**18 55 32.7**	**+0.8**
	baz=25,SNR=15						
CMSA	**Cobar Meteorol**	**25.99**	**224**	P	**P**	**18 55 46.2**	**+0.6**
	baz=27,SNR=5.1						
STKA	**Stephens Creek**	**29.06**	**228**	P	**P**	**18 56 13.4**	**+0.4**
	9.1nm,0.7s,baz=28,slow=8.0,SNR=34						
STKA				LR	LR	19 07 49.1	
	comp=Z,211nm,18.6s,baz=28,slow=36						
STKA	**Stephens Creek**	**29.06**	**228**	P	**P**	**18 56 13.8**	**+0.7**
	baz=30,SNR=6.3						
WRA	**Warramunga Arr**	**31.52**	**255**	P	**P**	**18 56 33.5**	**-1.5**
	2.1nm,0.8s,baz=86,slow=9.2,SNR=17						
WRA				LR	LR	19 08 21.0	
	comp=Z,16nm,28.6s,baz=65,slow=35						
HTT	**Hallett**	**31.79**	**228**	P	**P**	**18 56 38.4**	**+1.2**
	baz=32,SNR=3.2						
ASAR	**Alice Springs**	**32.46**	**248**	P	**P**	**18 56 41.9**	**-1.4**
	3.2nm,0.7s,baz=73,slow=9.6,SNR=82						
ASAR				LR	LR	19 09 14.0	
	comp=Z,16nm,28.6s,baz=50,slow=35						
BBOO	**Buckleboo**	**33.60**	**231**	P	**P**	**18 56 53.4**	**+0.3**
	baz=34,SNR=6.9						
FITZ	**Fitzroy Crossi**	**39.66**	**259**	P	**P**	**18 57 43.5**	**-1.4**
	baz=136,slow=11						
FITZ				LR	LR	19 14 07.0	
	comp=Z,156nm,18.6s,baz=78,slow=36						

PPT2	**Papeete2**	**42.09**	**101**	*e*LR	LR	19 10 09.4	
	148nm,27.8s						
TBI	**Tubuai**	**42.34**	**109**	*e*LR	LR	19 10 22.8	
	193nm,26.5s						
MEEK	**Meekatharra**	**46.59**	**247**	P	**P**	**18 58 40.8**	**-0.1**
	baz=47,SNR=5.0						
NWAO	**Narrogin (SRO)**	**48.67**	**238**	LR	LR	19 19 27.9	
	comp=Z,86nm,18.4s,baz=104,slow=36						
VNDA	**Vanda**	**63.51**	**181**	P	**P**	**19 00 44.6**	**+2.4**
	1.1nm,0.6s,baz=5.1,slow=6.6,SNR=7.0						
CMAR	**Chiang Mai Arr**	**74.23**	**294**	P	**P**	**19 01 50.5**	**+0.6**
	1.2nm,0.9s,baz=108,slow=5.8,SNR=12						
SONM	**Songino Array**	**81.67**	**324**	P	**P**	**19 02 30.5**	**-0.2**
	0.5nm,0.7s,baz=134,slow=6.2,SNR=5.4						
MAW	**Mawson**	**82.31**	**202**	LR	LR	19 32 34.6	
	comp=Z,16nm,28.6s,baz=159,slow=31						
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**19 02 51.2**	**-1.4**
	6.4nm,0.5s,baz=238,slow=5.5,SNR=8.2						
PMSA	**Palmer Station**	**92.56**	**161**	LR	LR	19 35 28.5	
	comp=Z,19nm,28.6s,baz=85,slow=29						
MKAR	**Makanchi Array**	**96.39**	**317**	P	**P**	**19 03 40.0**	**-1.4**
	0.4nm,0.7s,baz=106,slow=4.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**96.57**	**324**	P	**P**	**19 03 42.2**	**+0.3**
	0.4nm,0.5s,baz=108,slow=4.7,SNR=3.5						
USHA	**Ushuaia**	**97.09**	**151**	LR	LR	19 39 01.8	
	comp=Z,16nm,28.6s,baz=93,slow=30						
ARCES	**ARCESS Array B**	**119.49**	**345**	PKP	**PKPdf**	**19 09 00.0**	**-1.3**
	2.5nm,0.9s,baz=66,slow=2.3,SNR=6.5						
FINES	**FINESS Array B**	**124.93**	**338**	PKP	**PKPdf**	**19 09 13.0**	**+1.1**
	0.9nm,0.7s,baz=5.2,slow=4.2,SNR=4.4						
AKASG	**Malin Array Be**	**129.91**	**326**	PKP	**PKPdf**	**19 09 22.2**	**+0.4**
	0.2nm,0.3s,baz=50,slow=1.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**165.46**	**268**	PKP	**PKPdf**	**19 10 19.0**	**+1.2**
	0.5nm,0.7s,baz=102,slow=0.5,SNR=2.9						
TORD				PKPab	**PKPab**	**19 11 15.9**	**-0.2**
	0.5nm,0.9s,baz=116,slow=3.4,SNR=2.1						

*ATH **08** 18:53:41.8,37.25N×19.97E,h4km±3km,MD3.6/22*
*CSEM **08** 18:53:44.7±0.7,37.31N×20.16E,h1km±1km,ML2.6, Error ellipse: s-maj=13.4km s-min=6.2km az=67.0*
*THE **08** 18:53:45.4,37.29N×20.21E,h0km±2km,ML2.6/3, Error ellipse: s-maj=2.6km s-min=0.9km az=238.0*

ISC 08 18:53:42.4±2.0,37.25N±0.05×20.03E±0.08,h5km±11km, n81,σ0s97/98,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.78**	**90**	P		**Pb**	**18 53 57.8**	**-0.7**
SFD				S		**Sg**	**18 54 07.7**	**+0.1**
SFD	**Strofades**	**0.78**	**90**	*e*PB		**Pb**	**18 53 58.6**	**+0.1**
SFD				*e*SG		**Sb**	**18 54 09.2**	**-0.2**
SFD	**Strofades**	**0.78**	**90**	P		**Pb**	**18 53 57.8**	**-0.7**
SFD	**Strofades**	**0.78**	**90**	*e*Pb		**Pb**	**18 53 58.6**	**+0.1**
SFD				S		**Sg**	**18 54 07.7**	**+0.1**
SFD				*e*Sb		**Sb**	**18 54 09.2**	**-0.2**
VLS	**Valsamata**	**1.02**	**25**	P		**Pn**	**18 54 02.7**	**-0.7**
VLS				S		**Sb**	**18 54 16.5**	**+0.2**
VLS	**Valsamata**	**1.02**	**25**	*e*PG		**Pn**	**18 54 02.2**	**-1.2**
VLS	**Valsamata**	**1.02**	**25**	*e*Pn		**Pn**	**18 54 02.2**	**-1.2**
VLS	**Valsamata**	**1.02**	**25**	P		**Pn**	**18 54 02.7**	**-0.7**
VLS				S		**Sb**	**18 54 16.5**	**+0.2**
KFL	**Anninata**	**1.04**	**35**	P		**Pn**	**18 54 02.8**	**-0.9**
KFL				S		**Sb**	**18 54 16.9**	**0.0**
KFL	**Anninata**	**1.04**	**35**	P		**Pn**	**18 54 02.8**	**-0.9**
KFL				S		**Sb**	**18 54 16.9**	**0.0**
AMT	**Artemida-Makis**	**1.36**	**78**	P		**Pg**	**18 54 09.1**	**+0.6**
AMT	**Artemida-Makis**	**1.36**	**78**	*e*PN		**Pg**	**18 54 09.0**	**+0.6**
AMT	**Artemida-Makis**	**1.36**	**78**	*e*Pb		**Pg**	**18 54 09.0**	**+0.6**
RLS	**Riolos of Patr**	**1.39**	**54**	P		**Pg**	**18 54 08.8**	**-0.2**
RLS				S		**Sb**	**18 54 26.5**	**-0.4**
RLS	**Riolos of Patr**	**1.39**	**54**	*e*PG		**Pb**	**18 54 08.1**	**-0.7**
RLS	**Riolos of Patr**	**1.39**	**54**	*e*Pg		**Pb**	**18 54 08.1**	**-0.7**
RLS	**Riolos of Patr**	**1.39**	**54**	P		**Pg**	**18 54 08.8**	**-0.2**
RLS				S		**Sb**	**18 54 26.5**	**-0.4**
PYL	**PYLOS**	**1.41**	**104**	P		**Pb**	**18 54 08.8**	**-0.4**
PYL				S		**Sg**	**18 54 29.1**	**+1.4**
PYL	**PYLOS**	**1.41**	**104**	*e*PG		**Pb**	**18 54 08.8**	**-0.4**
PYL	**PYLOS**	**1.41**	**104**	P		**Pb**	**18 54 08.8**	**-0.4**
DRO	**Drossia**	**1.50**	**62**	P		**Pb**	**18 54 10.3**	**-0.5**
DRO				S		**Sg**	**18 54 31.2**	**+0.5**
DRO	**Drossia**	**1.50**	**62**	*e*PB		**Pg**	**18 54 10.8**	**-0.4**
DRO	**Drossia**	**1.50**	**62**	P		**Pb**	**18 54 10.3**	**-0.5**
DRO	**Drossia**	**1.50**	**62**	*e*Pg		**Pg**	**18 54 10.8**	**-0.4**
ITM	**Ithomi**	**1.51**	**92**	P		**Pb**	**18 54 10.3**	**-0.6**
ITM	**Ithomi**	**1.51**	**92**	*e*PB		**Pb**	**18 54 10.2**	**-0.6**
ITM	**Ithomi**	**1.51**	**92**	P		**Pb**	**18 54 10.3**	**-0.6**
LKD2	**Lefkada island**	**1.61**	**18**	P		**Pg**	**18 54 14.1**	**+0.9**
LKD2				S		**Sg**	**18 54 35.7**	**+1.6**
LKD2	**Lefkada island**	**1.61**	**18**	*e*PB		**Pg**	**18 54 13.3**	**+0.1**
LKD2	**Lefkada island**	**1.61**	**18**	*e*Pb		**Pg**	**18 54 13.3**	**+0.1**
LKD2	**Lefkada island**	**1.61**	**18**	P		**Pg**	**18 54 14.1**	**+0.9**
LKD2				S		**Sg**	**18 54 35.7**	**+1.6**
PDO	**Prodromos**	**1.62**	**34**	P		**Pg**	**18 54 12.8**	**-0.6**
PDO				S		**Sg**	**18 54 34.4**	**-0.1**
PDO	**Prodromos**	**1.62**	**34**	*e*PB		**Pg**	**18 54 12.8**	**-0.6**
PDO	**Prodromos**	**1.62**	**34**	P		**Pg**	**18 54 12.8**	**-0.6**
PDO				S		**Sg**	**18 54 34.4**	**-0.1**
LAKA	**Lakka**	**1.83**	**57**	P		**Pb**	**18 54 15.9**	**-0.4**
LAKA	**Lakka**	**1.83**	**57**	*e*PG		**Pb**	**18 54 16.0**	**-0.4**
LAKA	**Lakka**	**1.83**	**57**	P		**Pb**	**18 54 15.9**	**-0.4**
KLV	**Kalavryta, Ach**	**1.86**	**64**	P		**Pb**	**18 54 15.6**	**-1.2**
KLV				S		**Sb**	**18 54 39.8**	**-0.5**
KLV	**Kalavryta, Ach**	**1.86**	**64**	*e*PG		**Pn**	**18 54 15.3**	**+0.4**
KLV	**Kalavryta, Ach**	**1.86**	**64**	*e*Pb		**Pn**	**18 54 15.3**	**+0.4**
KLV	**Kalavryta, Ach**	**1.86**	**64**	P		**Pb**	**18 54 15.6**	**-1.2**
VLX	**Vlachokerasia**	**1.87**	**86**	P		**Pb**	**18 54 16.4**	**-0.7**
VLX	**Vlachokerasia**	**1.87**	**86**	*e*PG		**Pg**	**18 54 18.3**	**0.0**
VLX	**Vlachokerasia**	**1.87**	**86**	P		**Pb**	**18 54 16.4**	**-0.7**
VLX	**Vlachokerasia**	**1.87**	**86**	*e*Pg		**Pg**	**18 54 18.3**	**0.0**
EFP	**Efpalio**	**1.89**	**51**	*e*PG		**Pg**	**18 54 17.6**	**-1.0**
EFP	**Efpalio**	**1.89**	**51**	*e*Pg		**Pg**	**18 54 17.6**	**-1.0**
GUR	**Goura**	**1.96**	**69**	P		**Pb**	**18 54 17.2**	**-1.3**
GUR				S		**Sn**	**18 54 41.6**	**+0.3**
GUR	**Goura**	**1.96**	**69**	*e*PN		**Pb**	**18 54 18.1**	**-0.4**
GUR	**Goura**	**1.96**	**69**	P		**Pb**	**18 54 17.2**	**-1.3**
GUR	**Goura**	**1.96**	**69**	*e*Pn		**Pb**	**18 54 18.1**	**-0.4**
GUR				S		**Sn**	**18 54 41.6**	**+0.3**
KALE	**Kalithea**	**2.02**	**55**	*e*PG		**Pg**	**18 54 20.1**	**-0.9**
KALE	**Kalithea**	**2.02**	**55**	*e*Pg		**Pg**	**18 54 20.1**	**-0.9**
DSF	**Desfina**	**2.29**	**59**	*e*PN		**Pb**	**18 54 24.1**	**0.0**
DSF	**Desfina**	**2.29**	**59**	*e*Pn		**Pb**	**18 54 24.1**	**0.0**
VLI	**Veliai**	**2.38**	**102**	P		**Pn**	**18 54 23.1**	**+1.0**
VLI	**Veliai**	**2.38**	**102**	*e*PB		**Pb**	**18 54 24.2**	**-1.6**
VLI	**Veliai**	**2.38**	**102**	P		**Pn**	**18 54 23.1**	**+1.0**
VLI	**Veliai**	**2.38**	**102**	*e*Pn		**Pb**	**18 54 24.2**	**-1.6**
MAKR	**Makrakomi, Fth**	**2.41**	**43**	*e*PN		**Pb**	**18 54 25.0**	**-1.3**
MAKR	**Makrakomi, Fth**	**2.41**	**43**	*e*Pn		**Pb**	**18 54 25.0**	**-1.3**
LTK	**Loutraki**	**2.45**	**71**	*e*PN		**Pb**	**18 54 26.3**	**-0.6**
LTK	**Loutraki**	**2.45**	**71**	*e*Pn		**Pb**	**18 54 26.3**	**-0.6**
AGG	**Agios Georgios**	**2.53**	**45**	*e*PB		**Pn**	**18 54 25.4**	**+1.3**
AGG	**Agios Georgios**	**2.53**	**45**	*e*Pb		**Pn**	**18 54 25.4**	**+1.3**
DID	**Didima**	**2.56**	**83**	P		**Pn**	**18 54 25.7**	**+1.1**
DID	**Didima**	**2.56**	**83**	*e*PN		**Pb**	**18 54 28.2**	**-0.6**
DID	**Didima**	**2.56**	**83**	P		**Pn**	**18 54 25.7**	**+1.1**
DID	**Didima**	**2.56**	**83**	*e*Pn		**Pb**	**18 54 28.2**	**-0.6**
KYTH	**Kithira**	**2.60**	**111**	P		**Pb**	**18 54 27.0**	**-2.4**
KYTH	**Kithira**	**2.60**	**111**	*e*PB		**Pb**	**18 54 27.4**	**-2.0**
KYTH	**Kithira**	**2.60**	**111**	P		**Pb**	**18 54 27.0**	**-2.4**
KYTH	**Kithira**	**2.60**	**111**	*e*Pn		**Pb**	**18 54 27.4**	**-2.0**
LKR	**Lokris**	**2.73**	**58**	*e*PN		**Pb**	**18 54 29.4**	**-2.2**
LKR	**Lokris**	**2.73**	**58**	*e*Pn		**Pb**	**18 54 29.4**	**-2.2**
THL	**Klokotos Trika**	**2.78**	**33**	*e*PN		**Pn**	**18 54 28.9**	**+1.3**
THL	**Klokotos Trika**	**2.78**	**33**	*e*Pb		**Pn**	**18 54 28.9**	**+1.3**
NEST	**Nestorio**	**3.25**	**14**	*e*PN		Pn	18 54 36.4	+2.3
NEST	**Nestorio**	**3.25**	**14**	*e*Pn		Pn	18 54 36.4	+2.3
FNA	**Florina**	**3.68**	**16**	*e*PN		**Pn**	**18 54 41.2**	**+1.3**
FNA	**Florina**	**3.68**	**16**	*e*Pn		**Pn**	**18 54 41.2**	**+1.3**

*ISCJB **08** 18:57:35.9±0.5,12.28N±0.04×88.48W±0.05,h47km±4km, mb4.5/24,MS3.9/9,Error ellipse: s-maj=9.7km s-min=3.7km az=135.8*
*CASC **08** 18:57:36.2±2.4,12.26N×88.59W,h35km±999km,MD4.3, ML4.0,mb4.8(NEIC)*
*IDC **08** 18:57:36.9±3.0,12.45N×88.27W,h39km±25km,mb4.2/11, mb1 4.4/13,mb1mx4.1/27,mbtmp4.1/13,ML3.3/2,MS3.7/10, Ms1 3.7/10,ms1mx3.5/39,Error ellipse: s-maj=33.7km s-min=15.4km az=49.0*
*NEIC **08** 18:57:37.4±1.5,12.32N×88.41W,h52km±12km,mb4.8/15,*

Error ellipse: s-maj=20.2km s-min=9.6km az=50.0
*BJI **08** 18:57:37.5,12.30N×88.30W,h80km,mB5.2/4,Ms5.1/1, Ms7 4.7/2*

ISC 08 18:57:36.6±1.2,12.26N±0.06×88.57W±0.06,h45km±10km, n258,σ1s49/261,mb4.7/24,MS3.8/9,96C-74D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.20**	**14**	⇑*i*P		**Pn**	**18 57 57.1**	**-0.1**
VSM				*e*S		**Sn**	**18 58 13.1**	**+0.7**
BLLM	**Bellamira**	**1.22**	**16**	*e*P		**Pn**	**18 57 57.0**	**-0.3**
BLLM				*e*S		**Sn**	**18 58 13.2**	**+0.5**
CNCH	**Conchagua**	**1.24**	**35**	⇓*e*P		**Pn**	**18 57 57.1**	**-0.5**
SNVI	**San Vicente**	**1.37**	**349**	⇑*e*P		**Pn**	**18 57 58.9**	**-0.5**
SNVI				*e*S		**Sn**	**18 58 15.5**	**-1.0**
LFRS	**El Faro**	**1.44**	**341**	⇑*i*P		**Pn**	**18 57 59.3**	**-1.0**
LBRS	**Las Brisas**	**1.54**	**343**	⇑*e*P		**Pn**	**18 58 01.3**	**-0.4**
CAHU	**Cacacuatique**	**1.54**	**13**	⇑*i*P		**Pn**	**18 58 02.3**	**+0.5**
SNET	**Serv Nac Est T**	**1.56**	**336**	⇑*e*P		**Pn**	**18 58 00.8**	**-1.1**
SNET				*e*S		**Sn**	**18 58 19.8**	**-1.2**
SNET				AML	AML		18 58 31.4	
	comp=Z,2μm,0.5s							
LFU	**La Fuente**	**1.57**	**340**	*e*P		**Pn**	**18 58 01.5**	**-0.7**
BOQS	**Boqueron**	**1.62**	**335**	*i*P		**Pn**	**18 58 02.2**	**-0.7**
SBLS	**San Blas**	**1.87**	**327**	⇑*e*P		**Pn**	**18 58 06.1**	**-0.3**
SNJE	**San Jose**	**1.89**	**328**	⇑*i*P		**Pn**	**18 58 06.2**	**-0.4**
SNJE				*e*S		**Sn**	**18 58 28.7**	**-0.6**
RTR	**El Retiro**	**1.93**	**327**	⇑*i*P		**Pn**	**18 58 06.9**	**-0.3**
RTR				*e*S		**Sn**	**18 58 30.4**	**0.0**
RBDL	**Robledal**	**2.14**	**330**	⇑*i*P		**Pn**	**18 58 10.2**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.19**	**35**	⇑*i*P		**Pn**	**18 58 11.2**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.19**	**35**	*e*Pn		**Pn**	**18 58 11.1**	**+0.5**
HUEN		**2.35**	**88**	⇓*i*P		**Pn**	**18 58 14.4**	**+1.7**
IXG	**Ixpaco**	**2.64**	**316**	*e*P		**Pn**	**18 58 17.1**	**+0.3**
NBG	**Las Nubes**	**2.88**	**323**	*e*P		Pn	18 58 23.5	+3.2
MRL	**Marmol**	**2.99**	**339**	*e*P		**Pn**	**18 58 23.8**	**+2.0**
APG	**El Apazote**	**3.29**	**326**	Pn		**Pn**	**18 58 24.6**	**-1.3**
APG	**El Apazote**	**3.29**	**326**	Pn		**Pn**	**18 58 24.6**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=159,slow=9.8,SNR=14							
APG				LR		LR	19 00 05.8	
	comp=Z,674nm,19.0s,baz=212,slow=45							
VCR	**Vista de Mar**	**3.58**	**126**	*e*P		**Pn**	**18 58 29.1**	**-0.7**
JTS	**JuntasAbangare**	**4.06**	**119**	Pn		**Pn**	**18 58 35.3**	**-0.9**
JTS	**JuntasAbangare**	**4.06**	**119**	Pn		**Pn**	**18 58 35.3**	**-0.9**
	comp=Z,4.0nm,0.3s,baz=308,slow=18,SNR=15							
JTS				LR		LR	19 00 32.4	
	comp=Z,505nm,21.8s,baz=306,slow=45							
JCR	**Jicaral**	**4.16**	**125**	*e*P		**Pn**	**18 58 37.4**	**-0.3**
CGA2	**Cerro Gallo 2**	**4.61**	**119**	*e*P		**Pn**	**18 58 46.0**	**+2.1**
CGA2				*e*S		**Sn**	**18 59 35.5**	**-0.8**
QCR	**Quepos**	**5.17**	**123**	*e*P		**Pn**	**18 58 51.4**	**-0.1**
URSC	**Urasca**	**5.29**	**117**	*e*P		**Pn**	**18 58 54.9**	**+1.6**
BUS	**Buena Vista**	**5.44**	**119**	*e*P		**Pn**	**18 58 56.9**	**+1.3**
BUS				*e*S		**Sn**	**18 59 54.7**	**-2.5**
TEIG	**Tepich**	**7.92**	**2**	Pn		**Pn**	**18 59 30.3**	**+1.0**
TEIG				Lg	Lg		19 01 41.5	
TEIG	**Tepich**	**7.92**	**2**	Pn		**Pn**	**18 59 30.3**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=197,slow=18,SNR=7.5							
TEIG				Lg	Lg		19 01 41.5	
	comp=Z,1.4nm,0.3s,baz=240,slow=20,SNR=6.1							
TEIG				LR	LR		19 02 51.8	
	comp=Z,762nm,18.3s,baz=98,slow=41							
MTDJ	**Mount Denham**	**12.19**	**60**	P		**Pn**	**19 00 25.7**	**-2.1**
732A	**Laxson Ranch,**	**19.53**	**329**	⇓P		**P**	**19 02 01.1**	**+0.7**
	baz=20,SNR=12							
534A	**Blanco**	**19.93**	**334**	⇓P		**P**	**19 02 05.1**	**+0.4**
	baz=20,SNR=20							
533A	**Kerrville**	**20.21**	**333**	⇓P		**P**	**19 02 08.0**	**+0.2**
	baz=20,SNR=35							
631A	**Perdido Creek**	**20.39**	**329**	⇑P		**P**	**19 02 10.1**	**+0.3**
	baz=20,SNR=12							
434A	**Burnet**	**20.53**	**336**	⇓P		**P**	**19 02 11.3**	**+0.1**
	baz=21,SNR=17							
335A	**Moody**	**20.62**	**338**	⇑P		**P**	**19 02 12.6**	**+0.4**
	baz=21,SNR=7.0							
532A	**Rocksprings**	**20.65**	**331**	⇓P		**P**	**19 02 13.6**	**+1.0**
	baz=21,SNR=44							
LRAL	**Lakeview Retre**	**20.73**	**4**	*e*P		Pn	19 02 14.8	-1.3
	comp=Z,20nm,1.0s							
433A	**Art**	**20.82**	**334**	⇑P		**P**	**19 02 14.5**	**+0.2**
	baz=21,SNR=31							
JCT	**Junction City**	**20.90**	**332**	*e*P		**P**	**19 02 15.9**	**+0.6**
	comp=Z,54nm,0.8s							
JCT	**Junction City**	**20.90**	**332**	⇑P		**P**	**19 02 15.7**	**+0.4**
	baz=21,SNR=26							
334A	**Lometa**	**20.97**	**336**	⇑P		**P**	**19 02 16.1**	**+0.1**
	baz=21,SNR=15							
531A	**Rocksprings**	**20.99**	**330**	⇓P		**P**	**19 02 17.1**	**+0.8**
	baz=21,SNR=11							
432A	**Menard**	**21.23**	**332**	⇑P		**P**	**19 02 19.7**	**+0.9**
	baz=21,SNR=22							
333A	**Richland Sprin**	**21.27**	**335**	⇑P		**P**	**19 02 19.5**	**+0.3**
	baz=21,SNR=35							
WHTX	**Lake Whitney**	**21.27**	**339**	*e*P		**P**	**19 02 18.1**	**-1.1**
WHTX	**Lake Whitney**	**21.27**	**339**	⇓P		**P**	**19 02 19.0**	**-0.2**
	baz=21							
530A	**J-C Ranch, Com**	**21.38**	**328**	⇑P		**P**	**19 02 22.0**	**+1.6**
	baz=22,SNR=19							
431A	**Sonora**	**21.45**	**331**	⇓P		**P**	**19 02 22.0**	**+0.8**
	baz=22,SNR=37							
332A	**Millersview**	**21.64**	**333**	⇑P		**P**	**19 02 23.6**	**+0.4**
	baz=22,SNR=17							
628A	**Black Gap, Mar**	**21.70**	**324**	⇑P		**P**	**19 02 26.5**	**+2.6**
	baz=22,SNR=17							
ATAH	**Atahualpa**	**21.77**	**152**	LR		LR	19 09 22.7	
	comp=Z,171nm,20.6s,baz=128,slow=32							
135A	**Vickery Place,**	**21.77**	**340**	⇓P		**P**	**19 02 25.1**	**+0.6**
	baz=22							
529A	**Stev Forest Ra**	**21.82**	**327**	⇑P		**P**	**19 02 26.7**	**+1.5**
	baz=22,SNR=12							
430A	**Baggett Ranch,**	**21.84**	**330**	⇑P		**P**	**19 02 26.5**	**+1.1**
	baz=22,SNR=19							
331A	**San Angelo**	**21.89**	**332**	⇑P		**P**	**19 02 26.6**	**+0.7**
	baz=22,SNR=23							
627A	**Terlingua Ranc**	**21.96**	**323**	⇓P		**P**	**19 02 29.3**	**+2.5**
	baz=22,SNR=36							
134A	**White-Moore Ra**	**22.02**	**338**	⇓P		**P**	**19 02 27.3**	**+0.1**
	baz=22							
232A	**Coleman**	**22.03**	**334**	⇑P		**P**	**19 02 27.4**	**0.0**
	baz=22,SNR=19							
TXAR	**Lajitas Array**	**22.04**	**323**	P		**P**	**19 02 29.1**	**+1.5**
TXAR	**Lajitas Array**	**22.04**	**323**	P		**P**	**19 02 29.1**	**+1.5**
	comp=Z,11nm,0.7s,baz=145,slow=11,SNR=55							
TXAR				LR		LR	19 13 03.9	
	comp=Z,151nm,21.2s,baz=180,slow=42							
429A	**Davenport Ranc**	**22.04**	**328**	⇓P		**P**	**19 02 28.5**	**+1.0**
	baz=22,SNR=8.4							
330A	**Mertzon**	**22.32**	**331**	⇑P		**P**	**19 02 31.4**	**+0.8**
	baz=22,SNR=17							
133A	**Hamilton Ranch**	**22.37**	**337**	⇑P		**P**	**19 02 31.2**	**+0.2**
	baz=22,SNR=11							
231A	**Bronte**	**22.37**	**333**	⇑P		**P**	**19 02 30.9**	**-0.1**
	baz=22							
Z35A	**Perchaven, San**	**22.43**	**341**	⇑P		**P**	**19 02 31.4**	**-0.2**
	baz=22							
626A	**Big Bend Ranch**	**22.48**	**322**	⇓P		**P**	**19 02 35.1**	**+2.8**
	baz=23							
527A	**Woodward Ranch**	**22.61**	**324**	⇑P		**P**	**19 02 35.2**	**+1.5**
	baz=23							
MIAR	**Mount Ida**	**22.65**	**349**	*e*P		**P**	**19 02 34.5**	**+0.6**
	comp=Z,33nm,0.8s							
UALR	**University of**	**22.67**	**352**	*e*P		**P**	**19 02 35.1**	**+0.9**
	comp=Z,29nm,0.9s							
230A	**Sterling City**	**22.69**	**331**	⇑P		**P**	**19 02 34.5**	**+0.1**
	baz=23							
329A	**Wagon Wheel Ra**	**22.78**	**329**	⇑P		**P**	**19 02 35.4**	**-0.1**
	baz=23							
526A	**Mary Lane Ranc**	**22.82**	**323**	⇑P		**P**	**19 02 37.8**	**+1.8**
	baz=23							
Z33A	**Whitaker Ranch**	**22.91**	**338**	⇑P		**P**	**19 02 36.1**	**-0.6**
	baz=23,SNR=9.5							
131A	**Roby**	**23.03**	**334**	⇓P		**P**	**19 02 37.6**	**-0.4**
	baz=23							
229A	**Bryant Ranch,**	**23.09**	**330**	⇓P		**P**	**19 02 38.7**	**+0.1**
	baz=23							
328A	**Wristen Ranch,**	**23.12**	**328**	⇑P		**P**	**19 02 39.5**	**+0.6**
	baz=23,SNR=24							
Y34A	**Reagan Ranch,**	**23.16**	**340**	⇓P		**P**	**19 02 39.3**	**+0.1**
	baz=23							
Z32A	**Haskell**	**23.20**	**336**	⇑P		**P**	**19 02 39.2**	**-0.4**
	baz=23							
130A	**Snyder**	**23.22**	**333**	⇑P		**P**	**19 02 39.1**	**-0.8**
	baz=23,SNR=7.6							
426A	**McDonald Obser**	**23.24**	**324**	⇑P		**P**	**19 02 42.3**	**+2.0**
	baz=23							
Z31A	**Sharp Cattle R**	**23.48**	**335**	⇓P		**P**	**19 02 41.9**	**-0.4**
	baz=24,SNR=16							
Y33A	**Hilltop Ranch,**	**23.51**	**339**	⇑P		**P**	**19 02 43.0**	**+0.4**
	baz=24							
228A	**UT Block 9, Go**	**23.59**	**329**	⇓P		**P**	**19 02 43.9**	**+0.3**
	baz=24							
129A	**Stewart Farms,**	**23.66**	**331**	⇓P		**P**	**19 02 43.9**	**-0.2**
	baz=24,SNR=8.3							
TKL	**Tuckaleechee C**	**23.70**	**10**	*e*P		**P**	**19 02 44.4**	**+0.1**
TKL	**Tuckaleechee C**	**23.70**	**10**	P		**P**	**19 02 44.6**	**+0.3**
	comp=Z,23nm,0.9s,baz=190,slow=12,SNR=6.8							
TKL				LR		LR	19 12 05.1	
	comp=Z,133nm,18.9s,baz=290,slow=37							
326A	**Caldwell Ranch**	**23.70**	**326**	⇑P		**P**	**19 02 45.8**	**+1.3**
	baz=24							
LPIG	**La Paz**	**23.73**	**303**	LR		LR	19 13 16.3	
	comp=Z,374nm,18.5s,baz=24,slow=39							
X34A	**Smith Ranch, M**	**23.78**	**341**	⇑P		**P**	**19 02 46.0**	**+0.9**
	baz=24,SNR=16							
Y32A	**R-V Farms, Ver**	**23.80**	**337**	⇑P		**P**	**19 02 45.7**	**+0.3**
	baz=24							
Z30A	**Sanderson Ranc**	**23.87**	**333**	⇓P		**P**	**19 02 46.3**	**+0.2**
	baz=24,SNR=11							
425A	**Indio Mountain**	**23.88**	**323**	⇑P		**P**	**19 02 47.4**	**+1.2**
	baz=24							
X33A	**Lawton**	**23.95**	**339**	⇑P		**P**	**19 02 47.2**	**+0.6**
	baz=24							
128A	**Castleberry Fa**	**23.95**	**330**	⇓P		**P**	**19 02 47.8**	**+1.0**
	baz=24							
Y31A	**Rekieta Farm,**	**24.09**	**336**	⇑P		**P**	**19 02 48.5**	**+0.6**
	baz=24,SNR=17							
Z29A	**Hungry Hill Ra**	**24.11**	**332**	⇓P		**P**	**19 02 48.2**	**0.0**
	baz=24,SNR=12							
X32A	**Elmer**	**24.12**	**338**	⇓P		**P**	**19 02 49.0**	**+0.8**
	baz=24,SNR=8.3							
Y30A	**Stafford Cattl**	**24.28**	**334**	⇑P		**P**	**19 02 50.3**	**+0.6**
	baz=24,SNR=13							
W34A	**Bridge Creek,**	**24.34**	**341**	⇑P		**P**	**19 02 50.7**	**+0.4**
	baz=24,SNR=12							
TUL1	**Tulsa**	**24.43**	**346**	*e*P		**P**	**19 02 50.8**	**-0.2**
TUL1	**Tulsa**	**24.43**	**346**	⇑P		**P**	**19 02 51.9**	**+0.8**
	baz=24							
W33A	**Caddo, Fort Co**	**24.49**	**340**	⇑P		**P**	**19 02 52.5**	**+0.8**
	baz=25							
X31A	**McDonald Ranch**	**24.57

	baz=29							
S26A	**Kim**	**28.56**	**335**	⇑P		**P**	**19 03 30.0**	**+1.6**
	baz=29							
T25A	**Trinidad**	**28.56**	**333**	⇑P		**P**	**19 03 30.6**	**+2.1**
	baz=29							
Q29A	**Oakley**	**28.72**	**340**	⇑P		**P**	**19 03 30.8**	**+1.0**
	baz=29							
U23A	**El Rito**	**28.74**	**329**	⇓P		**P**	**19 03 32.8**	**+2.6**
	baz=29							
P31A	**Stockton**	**28.79**	**342**	⇓P		**P**	**19 03 31.9**	**+1.6**
	baz=29							
R27A	**Eads**	**28.86**	**336**	⇑P		**P**	**19 03 32.4**	**+1.4**
	baz=29							
S25A	**Robets Cordova**	**29.00**	**333**	⇓P		**P**	**19 03 35.0**	**+2.6**
	baz=29							
P30A	**Selden**	**29.07**	**341**	⇑P		**P**	**19 03 33.9**	**+1.1**
	baz=29							
O32A	**Brockman Farm,**	**29.17**	**345**	⇑P		**P**	**19 03 34.1**	**+0.4**
	baz=29							
Q28A	**Sharon Springs**	**29.17**	**339**	⇑P		**P**	**19 03 34.9**	**+1.1**
	baz=29							
S24A	**Houchin Ranch,**	**29.33**	**332**	⇓P		**P**	**19 03 37.3**	**+1.9**
	baz=29							
R25A	**Fountain Ranch**	**29.34**	**334**	⇓P		**P**	**19 03 36.8**	**+1.4**
	baz=29							
O31A	**Woolen Ranch,**	**29.36**	**343**	⇑P		**P**	**19 03 37.0**	**+1.6**
	baz=29							
O30A	**MW Ranch, Wils**	**29.60**	**342**	⇓P		**P**	**19 03 38.9**	**+1.4**
	baz=30							
P28A	**Saint Francis**	**29.60**	**339**	⇓P		**P**	**19 03 38.9**	**+1.3**
	baz=30							
Q26A	**Hugo**	**29.69**	**336**	⇑P		**P**	**19 03 40.0**	**+1.6**
	baz=30							
R24A	**Sanders Place,**	**29.77**	**333**	⇓P		**P**	**19 03 41.8**	**+2.6**
	baz=30							
P27A	**Ficken Ranch,**	**29.88**	**338**	⇓P		**P**	**19 03 41.9**	**+1.8**
	baz=30							
Q25A	**Bedland, Calha**	**29.98**	**335**	⇓P		**P**	**19 03 42.8**	**+1.7**
	baz=30							
R23A	**Moffat**	**30.06**	**332**	⇑P		**P**	**19 03 44.5**	**+2.7**
	baz=30							
P26A	**Davis Ranch, A**	**30.17**	**337**	⇓P		**P**	**19 03 44.6**	**+1.9**
	baz=30							
S22A	**4UR Ranch, Cre**	**30.18**	**330**	⇓P		**P**	**19 03 45.8**	**+2.9**
	baz=30							
X16A	**Lo Mia Camp, P**	**30.31**	**320**	⇑P		P	19 03 48.3	+4.3
	baz=30							
MVCO	**Mesa Verde**	**30.60**	**328**	⇓P		**P**	**19 03 49.2**	**+2.6**
	baz=31							
O26A	**Horse Wrangler**	**30.75**	**338**	⇓P		**P**	**19 03 49.4**	**+1.6**
	baz=31							
P23A	**Jefferson**	**31.04**	**334**	⇓P		**P**	**19 03 52.7**	**+2.2**
	baz=31							
ISCO	**Idaho Springs**	**31.29**	**334**	⇓P		**P**	**19 03 55.2**	**+2.4**
	baz=31							
P22A	**Eagle**	**31.62**	**333**	⇑P		**P**	**19 03 57.7**	**+2.1**
	baz=32							
GLA	**Glamis**	**31.70**	**315**	⇓P		**P**	**19 03 58.1**	**+2.0**
	baz=32							
PV04	**Paradox Valley**	**31.71**	**329**	*e*P		P	19 03 59.5	+3.2
O23A	**Lake Granby, G**	**31.76**	**334**	⇓P		**P**	**19 03 59.0**	**+2.1**
	baz=32							
O22A	**Kremmling**	**31.99**	**333**	⇓P		**P**	**19 04 01.2**	**+2.3**
	baz=32							
O20A	**White River Ci**	**32.74**	**332**	*e*P		**P**	**19 04 08.4**	**+3.1**
O20A	**White River Ci**	**32.74**	**332**	⇓P		**P**	**19 04 08.2**	**+2.8**
	baz=33							
SAML	**Samuel**	**32.88**	**129**	*e*P		**P**	**19 04 05.6**	**-0.9**
	comp=Z,3.2nm,0.8s							
SPMN	**St. Paul**	**33.05**	**355**	*e*P		**P**	**19 04 06.7**	**-1.1**
ARUT	**Antelope Range**	**33.76**	**323**	*e*P		P	19 04 18.9	+4.6
	comp=Z,68nm,0.8s							
TUQ	**Turquoise Moun**	**33.82**	**318**	⇓P		**P**	**19 04 16.2**	**+1.4**
	baz=34							
PDAR	**Pinedale Array**	**35.43**	**333**	P		**P**	**19 04 29.6**	**+1.0**
PDAR				PcP		**PcP**	**19 06 58.5**	**+0.8**
PDAR	**Pinedale Array**	**35.43**	**333**	P		**P**	**19 04 29.6**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=141,slow=10,SNR=6.2							
PDAR				PcP		**PcP**	**19 06 58.5**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=123,slow=3.3,SNR=4.4							
EYMN	**Ely**	**35.66**	**357**	*e*P		**P**	**19 04 28.3**	**-2.0**
	comp=Z,5.8nm,0.7s							
AGMN	**Agassiz Nation**	**36.44**	**352**	*e*P		**P**	**19 04 36.0**	**-0.9**
	comp=Z,16nm,0.7s							
NVAR	**Mina Array Bea**	**37.13**	**320**	P		**P**	**19 04 44.8**	**+1.5**
NVAR				PcP		**PcP**	**19 07 03.8**	**+0.8**
NVAR	**Mina Array Bea**	**37.13**	**320**	P		**P**	**19 04 44.8**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=122,slow=8.6,SNR=11							
NVAR				PcP		**PcP**	**19 07 03.8**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=150,slow=3.8,SNR=5.9							
HLID	**Hailey**	**38.33**	**329**	⇑P		**P**	**19 04 54.6**	**+1.3**
	baz=38							
ULM	**Lac du Bonnet**	**38.35**	**352**	*e*P		**P**	**19 04 51.7**	**-1.4**
	comp=Z,15nm,0.9s							
ULM	**Lac du Bonnet**	**38.35**	**352**	P		**P**	**19 04 51.9**	**-1.2**
	comp=Z,16nm,0.7s,baz=167,slow=8.4,SNR=24							
DGMT	**Dagmar**	**38.37**	**343**	*e*P		**P**	**19 04 54.1**	**+0.7**
	comp=Z,32nm,0.7s							
MCMT	**McKenzie Canyo**	**38.53**	**332**	*e*P		**P**	**19 04 56.8**	**+1.8**
	comp=Z,3.8nm,0.8s							
SIV	**San Ignacio**	**39.09**	**135**	P		**P**	**19 04 59.4**	**-0.4**
SIV	**San Ignacio**	**39.09**	**135**	P		**P**	**19 04 59.4**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=336,slow=9.4,SNR=11							
LRM	**Limekiln Ridge**	**39.12**	**333**	*e*P		**P**	**19 05 01.7**	**+1.8**
	comp=Z,21nm,0.7s							
EGMT	**Eagleton**	**39.80**	**338**	P		**P**	**19 05 06.6**	**+1.2**
	comp=Z,16nm,0.9s							
B19A	**Brinkman Farms**	**39.87**	**339**	⇑P		**P**	**19 05 06.8**	**+0.8**
	baz=40							
MSO	**Missoula**	**40.55**	**333**	⇑P		**P**	**19 05 12.1**	**+0.5**
	baz=41							
EDM	**Edmonton**	**45.39**	**339**	*e*P		**P**	**19 05 50.3**	**-0.3**
SCHQ	**Schefferville**	**45.78**	**17**	P		**P**	**19 05 51.9**	**-1.7**
SCHQ	**Schefferville**	**45.78**	**17**	P		**P**	**19 05 51.9**	**-1.7**
	comp=Z,11nm,0.8s,baz=227,slow=8.6,SNR=8.0							
BDFB	**Brasilia**	**48.78**	**124**	LR		LR	19 28 50.2	
	comp=Z,112nm,19.1s,baz=138,slow=38							
CPUP	**Villa Florida**	**48.94**	**142**	LR		LR	19 28 16.6	
	comp=Z,69nm,19.1s,baz=193,slow=38							
YKA	**Yellowknife Ar**	**53.51**	**345**	P		**P**	**19 06 51.7**	**-0.6**
YKA	**Yellowknife Ar**	**53.51**	**345**	P		**P**	**19 06 51.7**	**-0.6**
	comp=Z,4.9nm,1.0s,baz=141,slow=7.6,SNR=36							
YKW3	**Yellowknife Ar**	**53.57**	**345**	*e*P		**P**	**19 06 51.8**	**-0.9**
	comp=Z,0.1nm,1.0s							
PLCA	**Paso Flores**	**55.30**	**163**	LR		LR	19 28 40.2	
	comp=Z,73nm,19.0s,baz=57,slow=34							
ILAR	**Eielson Array**	**65.75**	**336**	P		**P**	**19 08 16.9**	**+0.4**
ILAR	**Eielson Array**	**65.75**	**336**	P		**P**	**19 08 16.9**	**+0.4**
	comp=Z,5.0nm,0.3s,baz=119,slow=4.5,SNR=14							
SUMG	**Summit**	**67.04**	**15**	P		**P**	**19 08 24.6**	**-0.5**
	comp=Z,8.3nm,1.0s							
ESDC	**Sonseca Array**	**78.17**	**52**	P		**P**	**19 09 30.6**	**-0.9**
ESDC	**Sonseca Array**	**78.17**	**52**	P		**P**	**19 09 30.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=293,slow=6.7,SNR=3.5							
PMSA	**Palmer Station**	**79.02**	**170**	P		P	19 09 28.3	-7.1
SONM	**Songino Array**	**118.70**	**349**	PKP		**PKPdf**	**19 16 21.9**	**+1.8**
SONM	**Songino Array**	**118.70**	**349**	PKP		**PKPdf**	**19 16 21.9**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=8.9,slow=2.1,SNR=4.5							
KSRS	**Korea Array**	**119.84**	**327**	PKP		**PKPdf**	**19 16 24.3**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=15,slow=2.6,SNR=3.4							
KSAR	**Wonju Array Be**	**119.87**	**327**	PKP		**PKPdf**	**19 16 24.3**	**+1.9**
BJI	**Beijing**	**123.11**	**337**	PKP		**PKPdf**	**19 16 24.6**	**-4.0**
HHC	**Hu-ho-hao-te**	**123.97**	**342**	*e*PKP		PKPdf	19 16 23.3	-7.1
HHC				PP		**PP**	**19 18 14.2**	**+1.0**
HHC				SKS		SKSdf	19 23 31.7	-7.3
HHC				SKKS		**SKKSac**	**19 25 03.4**	**-6.1**
HHC				SS		**SS**	**19 35 00.8**	**+1.8**
HHC				AMB		AMB		
	comp=Z,160nm,9.2s							
HHC				LR		LR		
	comp=Z,160nm,21.0s							
WMQ	**Urumqi**	**124.09**	**3**	PKP		PKPdf	19 16 25.4	-5.1
GTA	**Gaotai**	**128.00**	**352**	*e*PKP		**PKPdf**	**19 16 34.8**	**-3.4**
LZH	**Lanzhou**	**130.50**	**347**	*e*PKP		**PKPdf**	**19 16 39.1**	**-4.0**
LZH				LR		LR		
	comp=Z,150nm,18.1s							
LZH				LR		LR		
	comp=Z,150nm,18.0s							
LZH				LR		LR		
	comp=Z,170nm,20.0s							
CD2	**Chengdu**	**135.47**	**345**	*e*PKP		PKPdf	19 16 46.2	-6.2
WRA	**Warramunga Arr**	**138.16**	**254**	PKP		**PKPdf**	**19 16 59.3**	**+1.7**
WRA	**Warramunga Arr**	**138.16**	**254**	PKP		**PKPdf**	**19 16 59.3**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=90,slow=1.7,SNR=3.0							
ASAR	**Alice Springs**	**138.18**	**248**	PKP		**PKPdf**	**19 16 59.2**	**+1.7**
ASAR	**Alice Springs**	**138.18**	**248**	PKP		**PKPdf**	**19 16 59.2**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=112,slow=1.0,SNR=2.5							
GYA	**Guiyang**	**138.76**	**339**	*e*Pdif		**Pdif**	**19 14 06.8**	**-3.3**
GYA				PKP		**PKPdf**	**19 16 55.2**	**-3.5**
GYA				sPKP			19 17 28.0	
GYA				PP		**PP**	**19 19 50.4**	**+1.7**
GYA				AMB		AMB		
	comp=Z,110nm,7.8s							
CHTO	**Chiang Mai**	**148.25**	**346**	*e*PKPab		**PKPdf**	**19 17 17.3**	**+2.0**
CM31	**Chiang Mai Arr**	**148.59**	**346**	*e*PKPab		**PKPbc**	**19 17 20.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**148.59**	**346**	PKPbc		**PKPdf**	**19 17 18.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**148.59**	**346**	PKPbc		**PKPdf**	**19 17 18.1**	**+2.1**
	comp=Z,4.4nm,0.8s,baz=341,slow=3.6,SNR=32							

AUST ***08*** *19:03:32.3±0.0, 5°.21S×129°.77E, h183km, Error ellipse: s-maj=1.0km s-min=0.7km az=241.0*
BJI ***08*** *19:03:32.3, 5°.10S×130°.04E, h200km, mb4.0/7*
ISCJB ***08*** *19:03:33.0±0.2, 5°.23S±0°.03×129°.84E±0°.05, h200km, mb3.9/14, Error ellipse: s-maj=6.5km s-min=4.1km az=162.1*
IDC ***08*** *19:03:35.3±2.2, 5°.26S×129°.85E, h211km±21km, mb3.7/13, mb1 3.8/15, mb1mx3.8/21, mbtmp4.3/15, Error ellipse: s-maj=21.0km s-min=7.6km az=78.0*
DJA ***08*** *19:03:36.7±0.3, 5°S±4°×13°0E±°, h184km±5km, M4.6/11, mB4.8/9, mb4.7/11, MLv5.1/7, Mw(mB)4.1/9, Mwp5.8/1*

ISC 08 19:03:34.3±0.5, 5°.20S±0°.06×129°.89E±0°.08, h200km, n70, σ1§10/70, mb3.9/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.68**	**1**	P		**Pn**	**19 04 03.8**	**+1.6**
BNDI				S		**Sn**	**19 04 24.4**	**+0.5**
TLE	**Tual**	**2.87**	**99**	P		**Pn**	**19 04 24.4**	**+2.0**
TLE	**Tual**	**2.87**	**99**	P		**Pn**	**19 04 24.2**	**+1.8**
	baz=3.0,SNR=142							
SAUI	**Saumlaki**	**3.10**	**153**	P		**Pn**	**19 04 26.5**	**+1.4**
FAKI	**Fak Fak**	**3.27**	**46**	P		**Pn**	**19 04 27.0**	**-0.2**
FAKI				S		Sn	19 05 01.5	-7.1
FAKI	**Fak Fak**	**3.27**	**46**	P		**Pn**	**19 04 27.0**	**-0.2**
	baz=3.4,SNR=1000							
NLAI	**Namlea**	**3.40**	**305**	P		**Pn**	**19 04 30.0**	**+1.3**
SWI	**Sorong**	**4.53**	**18**	P		**Pn**	**19 04 42.0**	**-0.7**
LBMI	**Labuha**	**5.12**	**332**	P		**Pn**	**19 04 50.6**	**+0.2**
	204nm,0.7s,6µm2.3nm							
TNTI	**Ternate**	**6.45**	**337**	P		**Pn**	**19 05 08.9**	**+1.5**
	60nm,0.8s							
SRPI	**Serui, Papua**	**7.15**	**63**	P		**Pn**	**19 05 16.5**	**-0.1**
	149nm,0.8s,3µm							
BAKI	**Biak**	**7.38**	**58**	P		**Pn**	**19 05 20.5**	**+1.0**
	187nm,0.5s,3µm							
MTN	**Manton Dam**	**7.69**	**171**	P		**Pn**	**19 05 22.9**	**-0.6**
	baz=7.8,SNR=130							
KDU	**Kakadu**	**7.86**	**161**	P		**Pn**	**19 05 24.9**	**-0.8**
	baz=7.9,SNR=793							
LUWI	**Luwuk**	**8.22**	**300**	P		**Pn**	**19 05 32.0**	**+1.5**
	51nm,1.3s,553nm							
LUWI	**Luwuk**	**8.22**	**300**	P		**Pn**	**19 05 32.1**	**+1.5**
	baz=8.1,SNR=5.2							
KMSI	**Cibinong**	**8.23**	**314**	P		**Pn**	**19 05 31.6**	**+1.0**
	183nm,1.0s							
MMRI	**Maumere**	**8.32**	**245**	P		Pn	19 05 35.3	+3.5
	66nm,1.3s,744nm							
GTOI	**Gorontalo**	**8.99**	**310**	P		Pn	19 05 44.2	+3.7
	76nm,0.8s,722nm							
BKSI	**Bulukumba**	**9.72**	**269**	P		**Pn**	**19 05 52.8**	**+2.7**
	9.1nm,0.8s,442nm							
MRSI	**Marisa**	**9.74**	**305**	P		**Pn**	**19 05 50.9**	**+0.6**
	4nm,0.9s,460nm							
LBFI	**Labuhan Bajo,**	**10.45**	**251**	P		**Pn**	**19 06 00.5**	**+1.1**
KNRA	**Kununurra**	**10.47**	**186**	P		**Pn**	**19 05 58.4**	**-1.2**
	baz=10,SNR=99							
FITZ	**Fitzroy Crossi**	**13.47**	**198**	P		**Pn**	**19 06 35.7**	**-2.1**
	5.2nm,0.3s,baz=27,slow=11,SNR=54							
FITZ				S		S	19 08 57.0	-11
	5.8nm,0.3s,baz=85,slow=18,SNR=9.0							
WRA	**Warramunga Arr**	**15.28**	**164**	P		**Pn**	**19 06 58.5**	**-1.5**
	3.0nm,0.3s,baz=335,slow=12,SNR=78							
WRA				S		S	19 09 40.0	-10
	5.1nm,0.3s,baz=341,slow=22,SNR=16							
COEN	**Coen**	**15.72**	**125**	P		**P**	**19 07 05.9**	**+0.7**
	baz=16,SNR=37							
KKM	**Kota Kinabalu**	**17.64**	**309**	P		**P**	**19 07 27.6**	**+1.1**
	baz=18,SNR=5.6							
ASAR	**Alice Springs**	**18.76**	**168**	P		**P**	**19 07 39.6**	**+1.1**
	13nm,0.3s,baz=348,slow=10,SNR=1654							
ASAR				S		**S**	**19 10 58.0**	**-3.4**
	1.0nm,0.3s,baz=351,slow=21,SNR=13							
CTA	**Charters Tower**	**21.73**	**134**	P		**P**	**19 08 11.4**	**+1.4**
	1.3nm,0.3s,baz=297,slow=9.3,SNR=4.2							
CISI	**Cisompet, Garu**	**22.06**	**263**	P		**P**	**19 08 11.1**	**-2.2**
	baz=22,SNR=4.8							
MEEK	**Meekatharra**	**23.88**	**206**	P		**P**	**19 08 29.1**	**-0.7**
	baz=24,SNR=5.0							
KMBL	**Kambalda**	**27.09**	**195**	P		**P**	**19 08 58.6**	**0.0**
	baz=27,SNR=23							
MORW	**Moraws**	**27.12**	**207**	P		**P**	**19 08 58.5**	**-0.3**
	baz=27,SNR=5.3							
BBOO	**Buckleboo**	**28.06**	**169**	P		**P**	**19 09 07.6**	**+0.4**
	baz=28,SNR=8.4							
BLDU	**Ballidu**	**28.16**	**205**	P		**P**	**19 09 08.3**	**+0.3**
	baz=28,SNR=8.6							
KLBR	**Kellerberrin**	**28.61**	**202**	P		**P**	**19 09 12.2**	**+0.1**
	baz=29,SNR=9.6							
STKA	**Stephens Creek**	**28.71**	**159**	P		**P**	**19 09 13.3**	**+0.4**
	2.5nm,0.4s,baz=335,slow=9.2,SNR=26							
STKA	**Stephens Creek**	**28.71**	**159**	P		**P**	**19 09 13.4**	**+0.4**
	baz=29,SNR=20							
HTT	**Hallett**	**29.32**	**164**	P		**P**	**19 09 20.3**	**+2.0**
	baz=30,SNR=9.0							
NWAO	**Narrogin (SRO)**	**30.00**	**202**	P		**P**	**19 09 23.9**	**-0.4**
	6.5nm,0.5s,baz=43,slow=9.7,SNR=9.8							
CMSA	**Cobar Meteorol**	**30.10**	**152**	P		**P**	**19 09 26.3**	**+1.0**
	baz=30,SNR=8.6							
RKGY	**Rocky Gully**	**31.61**	**201**	P		**P**	**19 09 39.8**	**+1.4**
	baz=32,SNR=13							
CMAR	**Chiang Mai Arr**	**38.52**	**308**	P		**P**	**19 10 37.6**	**-0.1**
	1.8nm,0.6s,baz=135,slow=7.0,SNR=25							
CMAR				ScP		**ScP**	**19 16 14.6**	**-0.9**
	0.4nm,0.8s,baz=178,slow=3.8,SNR=4.9							
MJAR	**Matsushiro Arr**	**42.25**	**10**	P		**P**	**19 11 06.9**	**-1.1**
	5.4nm,0.6s,baz=183,slow=9.4,SNR=14							
MAT	**Matsushiro**	**42.25**	**10**	P		**P**	**19 11 06.4**	**-1.6**
KSRS	**Korea Array**	**42.48**	**358**	P		**P**	**19 11 09.8**	**+0.1**
	1.4nm,0.6s,baz=176,slow=8.7,SNR=7.4							
NFK	**Norfolk Island**	**43.09**	**128**	P		P	19 11 19.0	+4.1
	baz=43,SNR=3.0							
USRK	**Ussuriysk Arra**	**49.21**	**2**	P		**P**	**19 12 02.0**	**-0.3**
	2.7nm,0.8s,baz=188,slow=8.7,SNR=6.3							
ODAN	**Odare**	**52.01**	**310**	*e*P		**P**	**19 12 23.2**	**-0.7**
TAPN	**Taplejung**	**52.03**	**311**	*e*P		**P**	**19 12 23.5**	**-0.5**
	7.7nm,0.4s							
GTA	**Gaotai**	**52.36**	**331**	*e*P		**P**	**19 12 26.6**	**+0.5**
GTA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
RAMN	**Ramite**	**52.66**	**310**	*e*P		**P**	**19 12 28.7**	**0.0**
	14nm,0.4s							
JIRN	**Jiri**	**53.34**	**310**	*e*P		**P**	**19 12 33.3**	**-0.4**
GUN	**Gumba**	**53.70**	**310**	*e*P		**P**	**19 12 35.7**	**-0.7**
	18nm,0.7s							
PKI	**Pulchoki**	**53.89**	**310**	*e*P		**P**	**19 12 36.8**	**-0.9**
	4.3nm,0.6s							
KKN	**Kakani**	**54.10**	**310**	*e*P		**P**	**19 12 38.4**	**-0.7**
	9.5nm,0.7s							
DMN	**Daman**	**54.14**	**310**	*e*P		**P**	**19 12 39.0**	**-0.4**
GKN	**Gorkha**	**54.70**	**310**	*e*P		**P**	**19 12 42.7**	**-0.6**
KOLN	**Koldanda**	**55.38**	**309**	*e*P		**P**	**19 12 47.9**	**-0.4**
DANN	**Dangsing**	**55.54**	**310**	*e*P		**P**	**19 12 48.9**	**-0.6**
PYUN	**Piuthan**	**56.02**	**309**	*e*P		**P**	**19 12 52.7**	**-0.1**
	25nm,0.8s							
SONM	**Songino Array**	**56.72**	**341**	P		**P**	**19 12 57.7**	**+0.4**
	0.9nm,0.5s,baz=158,slow=6.7,SNR=9.7							
PETK	**Petropavlovsk-**	**62.66**	**18**	P		**P**	**19 13 38.0**	**+0.4**
	4.6nm,0.9s,baz=194,slow=5.2,SNR=4.4							
MKAR	**Makanchi Array**	**66.67**	**326**	P		**P**	**19 14 03.7**	**0.0**
	2.1nm,0.5s,baz=120,slow=7.2,SNR=47							
ZALV	**Zalesovo Beam**	**69.94**	**334**	P		**P**	**19 14 22.9**	**-0.7**
	1.0nm,0.5s,baz=116,slow=6.6,SNR=6.9							
VNDA	**Vanda**	**74.23**	**173**	P		**P**	**19 14 48.3**	**-0.5**
	1.5nm,0.8s,baz=339,slow=7.4,SNR=5.1							
MAW	**Mawson**	**76.57**	**201**	P		**P**	**19 15 02.2**	**0.0**
	1.6nm,0.7s,baz=54,slow=7.1,SNR=6.4							
TORD	**Torodi Ar. Bea**	**128.33**	**283**	PKP		**PKPdf**	**19 22 17.4**	**-0.7**
	0.4nm,0.7s,baz=91,slow=2.8,SNR=3.2							
CPUP	**Villa Florida**	**147.88**	**168**	PKPbc		**PKPbc**	**19 22 56.0**	**-0.5**
	1.3nm,0.4s,baz=192,slow=4.1,SNR=6.6							
LPAZ	**La Paz**	**152.18**	**140**	PKPbc		**PKPbc**	**19 23 08.1**	**+0.2**
	2.5nm,0.4s,baz=73,slow=0.4,SNR=9.0							

ISCJB ***08*** *19:16:06.7±0.6, 21°.70S±0°.04×68°.12W±0°.08, h125km±9km, mb4.2/4, Error ellipse: s-maj=12.7km s-min=7.4km az=3.0*
IDC ***08*** *19:16:06.8±2.2, 21°.79S×68°.09W, h110km±17km, mb4.1/4, mb1 4.0/7, mb1mx3.7/18, mbtmp4.3/7, Error ellipse: s-maj=28.4km s-min=17.2km az=76.0*
GUC ***08*** *19:16:08.1±0.7, 21°.67S×68°.49W, h148km±6km, ML4.1*

ISC 08 19:16:07.1±0.8, 21°.66S±0°.05×68°.06W±0°.07, h111km±9km, n21, σ1§68/28, mb4.4/4, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**1.11**	**263**	⇑*i*P		**Pn**	**19 16 31.1**	**+1.3**
PB09				*i* S		**Sn**	**19 16 48.8**	**+1.9**
PB09				AML		AML	19 16 51.2	
	comp=E,3µm,0.6s							
PB04	**Plate Boundary**	**1.46**	**245**	⇑*i*P		Pn	19 16 40.5	+7.0
PB04				*i* S		Sn	19 17 05.1	+12
PB04				AML		AML	19 17 11.0	
	comp=E,796nm,0.4s							
MACH	**Maria Elena**	**1.67**	**251**	*e*P		**Pn**	**19 16 36.4**	**+0.1**
MACH				*i* S		**Sn**	**19 16 57.5**	**-1.0**
PB07	**Plate Boundary**	**1.70**	**267**	⇑*i*P		**Pn**	**19 16 36.5**	**-0.2**
PB07				*i* S		**Sn**	**19 16 58.0**	**-1.2**
PB07				AML		AML	19 16 59.0	
	comp=E,2µm,0.4s							
PATCX	**Punta Patache**	**2.13**	**293**	⇑*i*P		**Pn**	**19 16 41.9**	**0.0**
PATCX				*i* S		**Sn**	**19 17 06.7**	**-1.8**
PATCX				AML		AML	19 17 09.2	
	comp=N,4µm,0.3s							
HMBC	**Humberstone**	**2.19**	**308**	⇑*i*P		**Pn**	**19 16 43.0**	**+0.2**
HMBC				*i* S		**Sn**	**19 17 09.3**	**-0.8**
HMBC				AML		AML	19 17 11.2	
	comp=N,2µm,0.2s							
CEN1	**Los Morros**	**2.63**	**229**	*e*P		**Pn**	**19 16 50.9**	**+2.6**
CEN1				*i* S		**Sn**	**19 17 23.2**	**+3.2**
CEN1				AML		AML	19 17 31.6	
	comp=N,245nm,0.8s							
MNMC	**Minimini**	**2.90**	**330**	*e*P		**Pn**	**19 16 53.3**	**+1.1**
MNMC				*i* S		**Sn**	**19 17 27.9**	**+1.1**
MNMC				AML		AML	19 17 31.5	
	comp=N,898nm,0.3s							
PB10	**Plate Boundary**	**2.96**	**231**	*e*P		**Pn**	**19 16 51.8**	**-0.7**
PB10				AML		AML	19 17 37.2	
	comp=N,783nm,0.7s							
ANCH	**Antofagasta**	**2.96**	**227**	*e*P		**Pn**	**19 16 53.1**	**+0.5**
LPAZ	**La Paz**	**5.34**	**359**	P		**Pn**	**19 17 28.3**	**+3.1**
	comp=N,2.8nm,0.3s,baz=185,slow=6.7,SNR=44							
LPAZ				S		**Sn**	**19 18 29.0**	**+3.1**
	comp=N,0.2nm,0.3s,baz=90,slow=13,SNR=1.6							
SIV	**San Ignacio**	**8.69**	**51**	P		**Pn**	**19 18 10.0**	**0.0**
	comp=N,6.0nm,0.3s,baz=246,slow=12,SNR=49							
SIV				S		**Sn**	**19 19 42.3**	**-4.0**
	comp=N,0.3nm,0.3s,baz=192,slow=19,SNR=2.4							
CFAA	**Coronel Fontan**	**9.91**	**181**	P		Pn	19 18 23.6	-2.8
	comp=N,0.1nm,0.3s,baz=354,slow=14,SNR=9.7							
CPUP	**Villa Florida**	**10.85**	**117**	P		**Pn**	**19 18 39.0**	**-0.2**
	comp=N,0.3nm,0.3s,baz=265,slow=11,SNR=4.8							
DBIC	**Dimbokro**	**68.02**	**73**	P		**P**	**19 26 55.1**	**+0.1**
	comp=N,2.9nm,0.4s,baz=235,slow=7.4,SNR=8.5							
ULM	**Lac du Bonnet**	**75.71**	**342**	P		**P**	**19 27 39.5**	**-0.7**
	comp=N,1.0nm,0.5s,baz=147,slow=6.5,SNR=1.8							
TORD	**Torodi Ar. Bea**	**76.66**	**70**	P		**P**	**19 27 46.5**	**+0.3**
	comp=N,4.5nm,0.6s,baz=256,slow=5.5,SNR=60							
YKA	**Yellowknife Ar**	**91.60**	**340**	P		**P**	**19 29 01.0**	**0.0**
	comp=N,0.9nm,0.5s,baz=133,slow=4.7,SNR=17							
ASAR	**Alice Springs**	**130.

MMIG Aquila 1.89 114 *e*P Pn 19 34 26.8 -3.1
MMIG *i*S Sn 19 34 51.3 -1.8
ANIG Ahuacatlan 2.07 17 *e*P Pn 19 34 31.1 -1.4
ANIG *i*S Sn 19 34 58.0 +0.4
ANIG Ahuacatlan 2.07 17 *e*P Pn 19 34 31.1 -1.4
ANIG *i*S Sn 19 34 58.0 +0.4
ZIIG Zihuatanejo 3.80 112 *i*P Pn 19 34 55.0 -1.3
ZIIG *i*S Sn 19 35 39.6 -0.6
ZIIG Zihuatanejo 3.80 112 *i*P Pn 19 34 55.0 -1.3
ZIIG *i*S Sn 19 35 39.6 -0.6
MOIG Morelia 3.80 80 *i*P Pn 19 34 55.8 -0.7
MOIG *i*S Sn 19 35 41.5 +0.9
MOIG Morelia 3.80 80 *i*P Pn 19 34 55.8 -0.7
MOIG *i*S Sn 19 35 41.5 +0.9
IGIG Irapuato, Guan 3.98 64 *e*P Pn 19 34 58.7 -0.2
IGIG *i*S Sn 19 35 46.3 +1.4
MAIG Mazatlaan 4.27 344 *i*P Sn 19 35 00.2 -2.4
MAIG *i*S Sn 19 35 50.8 -0.8
MAIG Mazatlaan 4.27 344 *i*P Pn 19 35 00.2 -2.4
MAIG *e*S Sn 19 35 50.8 -0.8
ARIG Puente Sto Nin 4.63 99 *e*P Pn 19 35 07.2 -0.5
ARIG *i*S Sn 19 36 01.1 +0.3
CAIG El Cayaco 5.07 113 *i*P Pn 19 35 12.5 -1.2
CAIG *i*S Sn 19 36 11.1 -0.5
CAIG El Cayaco 5.07 113 *i*P Pn 19 35 12.5 -1.2
CAIG *i*S Sn 19 36 11.1 -0.5
PLIG Platanillo 5.41 96 *e*P Pn 19 35 18.4 0.0
PLIG *i*S Sn 19 36 21.3 +1.3
PLIG Platanillo 5.41 96 *e*P Pn 19 35 18.4 0.0
PLIG *i*S Sn 19 36 21.3 +1.3
YAIG Yautepec 5.78 91 *e*P Pn 19 35 22.3 -1.2
YAIG *i*S Sn 19 36 29.3 +0.1
YAIG Yautepec 5.78 91 *e*P Pn 19 35 22.3 -1.2
YAIG *i*S Sn 19 36 29.3 +0.1
LPIG La Paz 6.93 317 P Pn 19 35 40.8 +1.7
LPIG S Sb 19 37 10.2 -11
LPIG La Paz 6.93 317 P Pn 19 35 40.8 +1.7
baz=9.9,slow=5.7,SNR=4.7
LPIG S Sb 19 37 10.2 -11
3.7nm,0.3s,baz=232,slow=20,SNR=1.6
PNIG Pinotepa 7.22 111 *e*P Pn 19 35 42.2 -1.0
PNIG *i*S Sn 19 37 05.3 +0.9
PNIG Pinotepa 7.22 111 *e*P Pn 19 35 42.2 -1.0
PNIG *i*S Sn 19 37 05.3 +0.9
TXAR Lajitas Array 10.31 7 P Pn 19 36 28.7 +3.0
TXAR Lg Lg 19 39 22.5
TXAR Lajitas Array 10.31 7 P Pn 19 36 28.7 +3.0
0.1nm,0.3s,baz=190,slow=14,SNR=27
TXAR Lg Lg 19 39 22.5
0.3nm,0.3s,baz=177,slow=21,SNR=3.7
TXAR LR LR 19 39 51.9
comp=Z,985nm,21.9s,baz=0.0,slow=35
428A Kincaid Ranch, 11.83 10 ⇓P Pn 19 36 50.5 +4.1
baz=12
JCT Junction City 12.36 22⇑ *e*P Pn 19 36 56.6 +2.9
JCT pmax pmax
comp=Z,99nm,1.2s
JCT Junction City 12.36 22⇑ *e*Pn Pn 19 36 56.6 +2.9
comp=Z,99nm,1.2s
JCT Junction City 12.36 22 ⇓P Pn 19 36 56.6 +2.9
baz=12,SNR=18
MNTX Cornudas Mount 12.58 359 *e*Pn Pn 19 37 00.4 +3.8
comp=Z,9.1nm,1.0s
CLNB Carlsbad 13.19 5 P Pn 19 37 04.5 -0.6
121A Cookes Peak, D 13.62 351 *e*P Pn 19 37 12.4 +1.5
comp=Z,126nm,1.7s
HKT Hockley 13.76 36⇑ *e*P Pn 19 37 12.4 -0.2
HKT pmax pmax
comp=Z,8.0nm,1.1s
HKT Hockley 13.76 36⇑ *e*Pn Pn 19 37 12.4 -0.2
comp=Z,8.2nm,1.1s
TUC Tucson 14.12 340⇑ *i*P Pn 19 37 19.8 +2.0
TUC pmax pmax
comp=Z,23nm,0.8s
TUC Tucson 14.12 340⇑ *i*Pn Pn 19 37 19.8 +2.0
comp=Z,22nm,0.8s
214A Organ Pipe Nat 14.56 333 *e*P Pn 19 37 25.7 +1.9
comp=Z,48nm,0.9s
WHTX Lake Whitney 14.62 27 P Pn 19 37 24.9 +0.3
comp=Z,66nm,0.7s
APG El Apazote 14.63 104 P Pn 19 37 27.0 +2.1
APG Lg Lg 19 41 33.1
APG El Apazote 14.63 104 P Pn 19 37 27.0 +2.1
comp=Z,0.2nm,0.3s,baz=287,slow=14,SNR=9.4
APG Lg Lg 19 41 33.1
comp=Z,0.2nm,0.3s,baz=48,slow=19,SNR=3.6
APG LR LR 19 42 51.6
comp=Z,2µm,18.7s,baz=277,slow=36
LAZ Ladron 15.38 354 Pn Pn 19 37 33.6 -1.2
comp=Z,22nm,1.3s
Z14A Wintersburg 15.85 335 ⇓P P 19 37 43.5 -0.8
baz=16
ANMO Albuquerque 15.86 356 P Pn 19 37 42.4 +1.3
ANMO Lg Lg 19 42 34.7
ANMO Albuquerque 15.86 356 P Pn 19 37 42.4 +1.3
comp=Z,0.1nm,0.3s,baz=181,slow=11,SNR=9.7
ANMO Lg Lg 19 42 34.7
comp=Z,0.2nm,0.3s,baz=243,slow=19,SNR=3.2
TEIG Tepich 15.95 83 *e*P Pn 19 37 40.5 -1.6
comp=Z,24nm,1.0s
TEIG Tepich 15.95 83 P Pn 19 37 41.0 -1.1
comp=Z,0.8nm,0.3s,baz=256,slow=12,SNR=4.6
AMTX Amarillo 16.06 10 ⇑P Pn 19 37 44.9 +1.5
baz=16
GLA Glamis 16.40 330 *e*P Pn 19 37 47.6 -0.2
GLA pmax pmax
comp=Z,28nm,1.4s
GLA Glamis 16.40 330 *e*Pn Pn 19 37 47.6 -0.2
comp=Z,28nm,1.4s
GLA Glamis 16.40 330 ⇓P P 19 37 53.0 +2.5
baz=16
W18A Petrified Fore 16.50 347 *e*P P 19 37 51.4 -0.3
comp=Z,268nm,1.9s
WMOK Wichita Mounta 16.61 19 *e*P Pn 19 37 47.8 -2.6
WMOK pmax pmax
comp=Z,61nm,1.4s
WMOK Wichita Mounta 16.61 19 *e*Pn Pn 19 37 47.8 -2.6
comp=Z,61nm,1.4s
DVTC Desert V Tower 16.72 326 ⇑P P 19 37 56.6 +2.6
baz=17
SWSC Sam W. Stewart 16.78 328 ⇓P P 19 37 57.5 +2.9
baz=17,SNR=7.6
BAR Barrett 17.04 325 Pn P 19 37 59.6 +2.1
comp=Z,164nm,1.8s
MONP Monument Peak 17.07 326 ⇑P P 19 38 00.8 +2.8
baz=17
PDMCI Parker Dam,Lak 17.15 334 ⇑P P 19 38 00.9 +2.2
baz=17,SNR=13
BC3 Big Chuckawall 17.19 330 ⇑P P 19 38 01.8 +2.6
baz=17,SNR=15
WUAZ Wupatki 17.28 343 *e*Pn P 19 38 01.0 +0.6
comp=Z,303nm,1.5s
WUAZ Wupatki 17.28 343 ⇓P P 19 38 01.6 +1.3
baz=17,SNR=27
IRM Iron Mountain 17.47 331 ⇓P P 19 38 03.9 +1.6
baz=18,SNR=12
PFO Pinyon Flat Ob 17.65 327 P P 19 38 06.9 +2.5
PFO Pinyon Flat Ob 17.65 327 ⇑P P 19 38 07.1 +2.7
baz=18
PFO Pinyon Flat Ob 17.65 327 P P 19 38 06.9 +2.5
comp=Z,0.2nm,0.3s,baz=131,slow=12,SNR=3.3
PFO LR LR 19 44 02.2
comp=Z,16nm,28.6s,baz=146,slow=34
BELC Belle Mtn. Jos 17.73 329 ⇓P P 19 38 08.0 +2.7
baz=18
TGUH Tegucigalpa,Un 17.86 104 *e*P P 19 38 06.9 +0.3
comp=Z,100nm,1.5s
MURC Murrieta 18.03 326 ⇑P P 19 38 11.9 +3.4
baz=18
GMRC Granite Mounta 18.21 331 ⇓P P 19 38 13.3 +2.7
baz=18,SNR=13
LDFC Landfair 18.22 333 *e*P P 19 38 13.8 +3.2
comp=Z,175nm,1.4s
MVCO Mesa Verde 18.31 352 *e*P P 19 38 12.6 +0.8
comp=Z,397nm,2.4s
MVCO Mesa Verde 18.31 352 ⇓P P 19 38 12.8 +1.0
baz=18,SNR=6.3
SCI San Clemente I 18.32 322 ⇑P P 19 38 16.2 +4.6
baz=18
BBRC Big Bear Solar 18.40 328 ⇑P Pn 19 38 16.0 +3.1
baz=18
MIAR Mount Ida 18.54 31 *e*P P 19 38 11.7 -2.4
MIAR pmax pmax
comp=Z,10.0nm,0.8s
MIAR Mount Ida 18.54 31 *e*P P 19 38 11.7 -2.4
comp=Z,10nm,0.8s
HEC Hector,Ludlow 18.57 330 ⇓P Pn 19 38 17.6 +2.8
baz=19
SDCO Great Sand Dun 18.61 359 *e*P P 19 38 15.1 -0.1
comp=Z,54nm,1.8s
TUL1 Tulsa 18.71 24 *e*P P 19 38 14.5 -1.4
comp=Z,52nm,0.8s
BFSC Mount Baldy Ra 18.76 326 ⇑P Pn 19 38 19.5 +2.3
baz=19
TUQ Turquoise Moun 18.88 332 ⇑P Pn 19 38 20.2 +1.6
baz=19,SNR=17
MWC Mount Wilson 18.96 325 P Pn 19 38 21.3 +1.6
MWC pmax pmax
comp=Z,63nm,1.2s
MWC Mount Wilson 18.96 325 P Pn 19 38 21.3 +1.6
comp=Z,63nm,1.2s
PASC Pasadena Art C 18.99 325 P Pn 19 38 25.3 +5.4
comp=Z,14nm,0.5s
DECC Green Verdugo 19.13 325 ⇓P Pn 19 38 24.0 +2.5
baz=19
GSC Goldstone 19.18 330 *e*P Pn 19 38 22.8 +0.7
GSC pmax pmax
comp=Z,11nm,1.1s
GSC Goldstone 19.18 330 *e*P Pn 19 38 22.8 +0.7
comp=Z,11nm,1.1s
GSC Goldstone 19.18 330 ⇑P Pn 19 38 24.1 +2.0
baz=19,SNR=5.3
PV01 Paradox Valley 19.23 352 *e*P Pn 19 38 23.9 +1.0
comp=Z,3µm,1.3s
SHOC Shoshone 19.43 332 ⇓P Pn 19 38 26.1 +1.1
baz=20
EDW2 Edwards Air Fo 19.43 327 ⇑P Pn 19 38 27.4 +2.2
baz=20,SNR=5.4
BLG Laguna Peak 19.43 323 ⇓P Pn 19 38 26.7 +1.5
baz=20
SHPR Sheep Range 19.47 335 *e*P Pn 19 38 26.6 +0.9
comp=Z,260nm,1.8s
PV04 Paradox Valley 19.53 351 *e*P Pn 19 38 27.1 +0.7
OSI Osito Adit 19.62 325 P P 19 38 24.8 -1.1
comp=Z,35nm,0.9s
OSI Osito Adit 19.62 325 ⇓P Pn 19 38 29.0 +1.6
baz=20
BSC Santa Cruz Isl 19.68 322 ⇓P Pn 19 38 29.1 +1.0
baz=20
LRMC Laurel Mountai 19.75 328 ⇓P Pn 19 38 30.1 +1.2
baz=20,SNR=15
CCUT Cedar City 19.76 340 *e*P Pn 19 38 29.8 +0.6
comp=Z,121nm,1.7s
Q24A Divide 19.83 0 ⇓P P 19 38 29.2 +0.7
baz=20
ARUT Antelope Range 20.00 341 *e*P Pn 19 38 32.4 +0.3
ARUT pmax pmax
comp=Z,2µm,1.2s
ARUT Antelope Range 20.00 341 *e*P Pn 19 38 32.4 +0.2
comp=Z,2µm,1.2s
ARVC Arvin 20.06 326 ⇓P Pn 19 38 32.8 +0.2
baz=20
MPMC Manual Prospec 20.11 330 ⇑P Pn 19 38 33.7 +0.2
baz=20,SNR=15
FURC Furnace Creek, 20.16 332 ⇓P Pn 19 38 34.4 +0.7
baz=20
ISA Isabella 20.29 327 *e*P Pn 19 38 35.6 +0.3
ISA pmax pmax
comp=Z,63nm,1.8s
ISA Isabella 20.29 327 *e*P Pn 19 38 35.5 +0.2
comp=Z,63nm,1.8s
ISA Isabella 20.29 327 ⇑P Pn 19 38 35.4 +0.1
baz=20,SNR=12
TPNV Topopah Spring 20.30 334 ⇑P Pn 19 38 35.8 +0.2
baz=20,SNR=29
MVU Marysvale 20.32 344 *e*P Pn 19 38 35.7 -0.2
comp=Z,80nm,1.2s
PKM Peak Mountain 20.43 323 ⇑P Pn 19 38 38.1 +0.9
baz=20
SRU San Rafael 20.51 348 *e*P P 19 38 36.6 +0.9
SRU pmax pmax
comp=Z,72nm,1.3s
SRU San Rafael 20.51 348 *e*P P 19 38 36.6 +0.9
comp=Z,72nm,1.3s
ISCO Idaho Springs 20.67 359 *e*P P 19 38 38.5 +0.9
ISCO pmax pmax
comp=Z,26nm,1.2s
ISCO Idaho Springs 20.67 359 *e*P P 19 38 38.5 +0.9
comp=Z,26nm,1.2s
ISCO Idaho Springs 20.67 359 ⇓P P 19 38 38.3 +0.7
baz=21,SNR=16
CWC Cottonwood Cre 20.70 329 ⇓P Pn 19 38 40.4 +0.1
baz=21
TMUT Trail Mountain 20.83 347 *e*P Pn 19 38 40.8 -1.2
comp=Z,100nm,0.9s
SMMC Simmler 20.84 324 ⇑P Pn 19 38 43.2 +1.5
baz=21
O20A White River Ci 21.16 353 *e*P P 19 38 44.4 +1.6
comp=Z,32nm,0.8s
R11A Troy Canyon, C 21.25 337 *e*P P 19 38 45.4 +1.7
comp=Z,105nm,1.5s
TIN Tinemaha 21.27 330 ⇑P P 19 38 46.3 +2.4
baz=21,SNR=9.3
KSU1 Kansas State U 21.30 19 *e*P P 19 38 43.1 -1.0
comp=Z,105nm,0.8s
JTS JuntasAbangare 21.39 111 P P 19 38 46.6 +1.3
JTS JuntasAbangare 21.39 111 P P 19 38 47.7 +2.4
comp=Z,174nm,1.0s,SNR=5.5
JTS JuntasAbangare 21.39 111 P P 19 38 46.6 +1.3
comp=Z,6.5nm,0.8s,baz=292,slow=9.0,SNR=4.1
JTS LR LR 19 46 35.2
comp=Z,713nm,19.4s,baz=296,slow=35
LRAL Lakeview Retre 21.40 46 *e*P P 19 38 43.5 -1.7
comp=Z,32nm,1.1s
MPU Maple Canyon 21.61 346 *e*P P 19 38 48.9 +1.3
comp=Z,110nm,1.2s
NLU North Lily Min 21.65 345 *e*P P 19 38 49.1 +1.0
comp=Z,109nm,1.9s
TPH Tonopah 21.66 333 *e*P P 19 38 49.5 +1.3
TPH pmax pmax
comp=Z,179nm,1.8s
TPH Tonopah 21.66 333 *e*P P 19 38 49.5 +1.3
comp=Z,179nm,1.8s
DAU Daniels Canyon 21.91 347 *e*P P 19 38 52.1 +1.2
DAU pmax pmax
comp=Z,69nm,0.8s
DAU Daniels Canyon 21.91 347 *e*P P 19 38 52.1 +1.2
comp=Z,69nm,0.8s
MLAC Mammoth Lakes 22.02 330 ⇑P P 19 38 54.4 +2.3
baz=22
DUG Dugway 22.06 344 *e*P P 19 38 53.7 +1.2
DUG pmax pmax
comp=Z,154nm,1.6s
DUG Dugway 22.06 344 *e*P P 19 38 53.7 +1.2
comp=Z,154nm,1.6s
DUG Dugway 22.06 344 ⇓P P 19 38 53.6 +1.2
baz=22,SNR=16
JLU Jordanelle 22.13 347 *e*P P 19 38 53.8 +0.5
comp=Z,30nm,0.8s
M22A Cedar Creek Ra 22.30 357 P P 19 38 55.3 +0.2
baz=22
NV11 Mina Array Sit 22.36 332 *e*P P 19 38 56.9 +1.3
NVAR Mina Array Bea 22.42 332 P P 19 38 57.7 +1.3
NVAR Mina Array Bea 22.42 332 P P 19 38 57.7 +1.3
comp=Z,6.1nm,0.9s,baz=150,slow=9.2,SNR=22
NVAR LR LR 19 47 01.2
comp=Z,16nm,28.6s,baz=215,slow=35
BGU Big Grassy Mou 22.80 344 *e*P P 19 39 00.6 +0.3
comp=Z,35nm,1.5s
WVT Waverly 22.85 38 P P 19 38 56.7 -4.0
WVT Waverly 22.85 38 P P 19 38 56.7 -4.0
WAKR Walker 23.00 330 *e*P P 19 39 04.5 +2.1
comp=Z,318nm,1.8s
SPUT South Promonto 23.03 346 *e*P P 19 39 03.5 +0.9
comp=Z,370nm,2.1s
CMB Columbia Colle 23.09 328 *e*P P 19 39 04.4 +1.2
CMB pmax pmax
comp=Z,168nm,1.8s
CMB Columbia Colle 23.09 328 *e*P P 19 39 04.4 +1.2
comp=Z,168nm,1.8s
ELK Elko 23.27 340 *e*P P 19 39 06.2 +1.0
comp=Z,120nm,1.8s
HVU Hansel Valley 23.55 346 *e*P P 19 39 08.4 +0.5
HVU pmax pmax
comp=Z,78nm,0.9s
HVU Hansel Valley 23.55 346 *e*P P 19 39 08.4 +0.5
comp=Z,78nm,0.9s
BMN Battle Mountai 23.68 337 *e*P P 19 39 10.3 +1.2
BMN pmax pmax
comp=Z,253nm,1.8s
BMN Battle Mountai 23.68 337 *e*P P 19 39 10.3 +1.2
comp=Z,253nm,1.8s
BW06 Boulder Array 23.92 352 *e*P P 19 39 11.0 -0.5
comp=Z,35nm,1.3s
PDAR Pinedale Array 23.92 352 P P 19 39 11.1 -0.4
PDAR Pinedale Array 23.92 352 P P 19 39 11.1 -0.4
comp=Z,5.8nm,0.8s,baz=159,slow=10.0,SNR=38
PDAR LR LR 19 49 04.3
comp=Z,16nm,28.6s,baz=184,slow=38
PAHR Pah Rah Range 23.95 332 *e*P P 19 39 13.8 +2.0
comp=Z,196nm,1.7s
AHID Auburn Hatcher 24.15 349 *e*P P 19 39 13.4 -0.2
comp=Z,44nm,1.1s
USIN University of 24.23 35 *e*P P 19 39 13.0 -1.2
comp=Z,55nm,0.8s
PAYG Puerto Ayora 24.46 142 P P 19 39 24.8 +8.3
BEKR Beckworth 24.52 331 *e*P P 19 39 18.5 +1.6
comp=Z,44nm,1.4s
OLIL Olney 24.57 34 *e*P P 19 39 16.3 -0.9
comp=Z,34nm,1.0s
RSSD Black Hills 25.00 2 *e*P P 19 39 20.2 -1.1
RSSD pmax pmax
comp=Z,13nm,0.8s
RSSD Black Hills 25.00 2 *e*P P 19 39 20.2 -1.1
comp=Z,13nm,0.8s
TKL Tuckaleechee C 25.09 44 P P 19 39 19.3 -2.7
TKL Tuckaleechee C 25.09 44 P P 19 39 19.3 -2.7
comp=Z,8.9nm,0.7s,baz=205,slow=10,SNR=9.8
ECSD EROS Data Cent 25.62 14 *e*P P 19 39 22.5 -4.2
comp=Z,11nm,1.0s
HLID Hailey 25.63 344 *e*P P 19 39 26.9 -0.2
comp=Z,15nm,0.9s
HLID Hailey 25.63 344 ⇑P P 19 39 27.6 +0.6
baz=26,SNR=30
H17A Grant Village 25.66 351 *e*P P 19 39 28.2 +0.9
comp=Z,12nm,0.8s
YFT Old Faithful 25.75 351 *e*P P 19 39 29.7 +1.5
comp=Z,45nm,0.9s
MFID Camas Ranch 25.88 342 *e*P P 19 39 29.7 +0.5
comp=Z,198nm,1.9s
WVOR Wild Horse Val 25.94 337 *e*P P 19 39 30.8 +1.0
WVOR pmax pmax
comp=Z,42nm,1.4s
WVOR Wild Horse Val 25.94 337 *e*P P 19 39 30.8 +1.0
comp=Z,42nm,1.4s
YMR Madison River 25.98 351 *e*P P 19 39 31.1 +0.8
comp=Z,38nm,1.1s
WDC Whiskeytown Da 26.11 329 *e*P P 19 39 30.2 -1.0
WDC pmax pmax
comp=Z,9.0nm,1.0s
WDC Whiskeytown Da 26.11 329 *e*P P 19 39 30.1 -1.0
comp=Z,9.1nm,1.0s
G21A Lodge Grass 26.14 357 ⇑P P 19 39 31.3 -0.2
baz=26
MOD Modoc 26.15 334 *e*P P 19 39 32.0 +0.3
comp=Z,66nm,1.6s
QLMT Earthquake Lak 26.22 350 *e*P P 19 39 33.3 +0.9
comp=Z,3.7nm,1.1s
MCMT McKenzie Canyo 26.48 348 *e*P P 19 39 35.9 +1.2
comp=Z,12nm,0.8s
N02D Trinity Center 26.50 329 ⇓P P 19 39 35.9 +1.2
baz=26
M04C Macdoel 26.73 332 ⇓P P 19 39 38.0 +1.1
baz=27
JFWS Jewell Farm 26.91 25 *e*P P 19 39 35.9 -2.5
JFWS pmax pmax
comp=Z,70nm,0.8s
JFWS Jewell Farm 26.91 25 *e*P P 19 39 35.9 -2.5
comp=Z,70nm,0.8s
GCMT Greycliff 26.91 353 *e*P P 19 39 37.9 -0.6
comp=Z,6.2nm,0.8s
BOZ Bozeman (W) 27.04 350 *e*P P 19 39 39.7 0.0
BOZ pmax pmax
comp=Z,26nm,0.9s
BOZ Bozeman (W) 27.04 350 *e*P P 19 39 39.7 0.0
comp=Z,26nm,0.9s
YBH Yreka Blue Hor 27.09 330 P P 19 39 41.6 +1.5
YBH Yreka Blue Hor 27.09 330 P P 19 39 41.6 +1.5
comp=Z,2.8nm,0.9s,baz=135,slow=10.0,SNR=2.8
YBH LR LR 19 49 33.9
comp=Z,252nm,19.8s,baz=205,slow=34
LRM Limekiln Ridge 27.36 349 *e*P P 19 39 43.4 +0.8
comp=Z,432nm,0.9s
KRMB Red Mountain 27.50 329 P P 19 39 49.6 +5.8
comp=Z,134nm,1.7s
BMO Blue Mountains 27.63 341 *e*P P 19 39 44.4 -0.5
comp=Z,40nm,0.1s
J05D Fort Rock, OR 27.68 334 ⇓P P 19 39 46.8 +1.3
baz=28
L02D Cave Junction, 27.84 330 ⇑P P 19 39 48.1 +1.4
baz=28
HUMO Hull Mountain 27.88 331 *e*P P 19 39 47.9 +0.7
comp=Z,20nm,1.6s
PINOR Pine Mountain 27.98 335 *e*P P 19 39 53.8 +6.0
comp=Z,13nm,1.4s
J04D Umpqua Nationa 28.02 333 ⇓P P 19 39 50.0 +1.5
baz=28
HRY Holter Researc 28.11 350 *e*P P 19 39 49.2 0.0
comp=Z,15nm,0.9s
BLA Blacksburg 28.20 45 *e*P P 19 39 45.3 -4.8
BLA pmax pmax
comp=Z,31nm,1.0s
BLA Blacksburg 28.20 45 *e*P P 19 39 45.3 -4.8
comp=Z,31nm,1.0s
CHMT Chamberlain Mo 28.56 348 *e*P P 19 39 53.5 +0.2
comp=Z,17nm,0.9s
I04A Tendick Farm, 28.59 333 ⇑P P 19 39 53.8 +0.4
baz=29
I05D Terrebonne, OR 28.60 335 ⇓P P 19 39 54.5 +1.0
baz=29
MSO Missoula 28.61 347 ⇑P P 19 39 54.2 +0.5
baz=29,SNR=18
SLMT Seeley Lake 28.92 348 *e*P P 19 39 56.2 -0.2
comp=Z,19nm,0.7s
EGMT Eagleton 29.13 354 *e*P P 19 39 58.1 -0.1
comp=Z,30nm,1.0s
EGMT Eagleton 29.13 354 ⇑P P 19 39 58.2 +0.1
baz=29,SNR=9.2
SWMT Swartz Lake 29.27 348 *e*P P 19 39 59.4 -0.1
comp=Z,23nm,1.0s
DGMT Dagmar 29.34 1 ⇑P P 19 39 59.6 -0.4
baz=29
G05D Wamic, OR 29.35 336 ⇑P P 19 40 01.2 +1.0
baz=29
B19A Brinkman Farms 29.48 355 ⇑P P 19 40 00.9 -0.3
baz=29
G03D McMinnville, O 30.10 334 ⇓P P 19 40 07.6 +0.9
baz=30
JSRW J. Sargeant Re 30.18 46 *e*P P 19 40 04.3 -3.1
NEW Newport 30.70 344 *e*P P 19 40 12.1 0.0
comp=Z,36nm,1.3s
NEW Newport 30.70 344 ⇑P P 19 40 12.4 +0.3
baz=31,SNR=11
F04D Rainier, OR 30.71 335 ⇓P P 19 40 13.2 +1.1
baz=31
WALA Waterton Lakes 30.74 349 P P 19 40 12.6 +0.1
comp=Z,0.4nm,0.9s
EYMN Ely 30.88 18 *e*P P 19 40 11.1 -2.5
comp=Z,21nm,0.9s
ULM Lac du Bonnet 31.98 11 LR LR 19 52 22.7
comp=Z,469nm,19.9s,baz=206,slow=35
OTAV Otavalo 32.20 122 *e*P P 19 40 28.5 +2.4
comp=Z,67nm,1.7s
SADO Sadowa 33.56 34 P P 19 40 34.5 -2.7
SADO Sadowa 33.56 34 P P 19 40 34.5 -2.7
comp=Z,7.7nm,0.7s,baz=261,slow=8.8,SNR=8.9
EDM Edmonton 34.68 351 *e*P P 19 40 46.1 -0.7
EDM Edmonton 34.68 351 *e*P P 19 40 46.1 -0.7
SDV Santo Domingo 34.94 102 *e*P P 19 40 50.4 +0.7
comp=Z,6.1nm,0.8s
FFC Flin Flon 35.68 3 *e*P P 19 40 53.8 -1.6
FFC pmax pmax
comp=Z,42nm,1.4s
FFC Flin Flon 35.68 3 *e*P P 19 40 53.8 -1.6
comp=Z,42nm,1.4s
SJG San Juan 36.94 85 P P 19 41 08.5 +1.9
SJG San Juan 36.94 85 P P 19 41 08.5 +1.9
comp=Z,6.5nm,0.3s,baz=254,slow=7.4,SNR=3.7
SJG LR LR 19 57 49.1
comp=Z,423nm,19.5s,baz=278,slow=39
ATAH Atahualpa 37.07 132 P P 19 41 10.7 +2.6
ATAH Atahualpa 37.07 132 P P 19 41 10.7 +2.6
comp=Z,3.5nm,0.4s,baz=319,slow=9.0,SNR=4.4
DLBC Dease Lake 43.32 341 P P 19 42 00.1 +1.1
DLBC Dease Lake 43.32 341 P P 19 42 00.1 +1.1
comp=Z,12nm,0.8s,baz=151,slow=6.9,SNR=27
YKA Yellowknife Ar 43.88 354 P P 19 42 02.4 -1.1
YKA PcP PcP 19 43 49.0 -0.3
YKA Yellowknife Ar 43.88 354 P P 19 42 02.3 -1.1

comp=Z,13nm,0.9s,baz=166,slow=7.6,SNR=44
YKA PcP **PcP** **19 43 48.9 -0.3**
comp=Z,0.8nm,0.9s,baz=169,slow=3.2,SNR=3.6
YKW3 Yellowknife Ar 43.95 354 *e*P **P** **19 42 02.6 -1.3**
comp=Z,0.3nm,0.9s
SCHQ Schefferville 46.05 30 P P 19 42 17.3 -3.5
SCHQ Schefferville 46.05 30 P P 19 42 17.3 -3.5
comp=Z,8.8nm,1.1s,baz=251,slow=10.0,SNR=2.7
HYT Haines Junctio 47.58 339 *e*P **P** **19 42 34.1 +1.3**
PTGA Pitinga 48.52 109 *e*P **P** **19 42 40.6 -0.1**
comp=Z,25nm,1.3s
SAML Samuel 49.88 120 *e*P **P** **19 42 49.5 -1.4**
comp=Z,40nm,1.5s
DAWY Dawson 50.54 341 *e*P **P** **19 42 55.9 +0.5**
LPAZ La Paz 50.61 132 *e*P **P** **19 42 56.7 -0.5**
comp=Z,14nm,1.3s
LPAZ La Paz 50.61 132 P **P** **19 42 59.6 +2.5**
comp=Z,5.7nm,1.1s,baz=302,slow=3.2,SNR=11
LPAZ LR LR 20 02 42.0
comp=Z,16nm,28.6s,baz=316,slow=34
RKT Rikitea 51.04 216 *e*LR LR 19 57 36.5
comp=Z,945nm,27.2s
FRB Frobisher Bay 51.07 20 P **P** **19 43 00.2 +1.0**
FRB Frobisher Bay 51.07 20 P **P** **19 43 00.2 +1.0**
comp=Z,4.4nm,0.9s,baz=247,slow=12,SNR=3.4
FRB LR LR 20 05 40.8
comp=Z,650nm,19.7s,baz=286,slow=37
PAX Paxson 51.80 338 *e*P **P** **19 43 04.9 0.0**
PAX pmax pmax
comp=Z,36nm,1.5s
PAX Paxson 51.80 338 *e*P **P** **19 43 04.9 0.0**
comp=Z,36nm,1.5s
INK Inuvik 52.35 347 *e*P **P** **19 43 08.3 -0.4**
comp=Z,78nm,1.4s
INK Inuvik 52.35 347 P **P** **19 43 08.9 +0.2**
comp=Z,14nm,0.9s,baz=139,slow=7.2,SNR=31
INK LR LR 20 06 07.0
comp=Z,16nm,28.6s,baz=155,slow=37
PMR Palmer 52.36 335 *e*P **P** **19 43 08.7 -0.2**
PMR Palmer 52.36 335 *e*P **P** **19 43 08.7 -0.2**
RSO Redoubt South 53.26 333 *e*P **P** **19 43 16.3 +0.4**
comp=Z,33nm,0.9s
ILAR Eielson Array 53.42 339 P **P** **19 43 16.3 -0.5**
ILAR PcP **PcP** **19 44 26.0 +2.3**
ILAR Eielson Array 53.42 339 P **P** **19 43 16.3 -0.5**
comp=Z,6.9nm,0.9s,baz=152,slow=5.8,SNR=51
ILAR PcP **PcP** **19 44 26.0 +2.3**
comp=Z,1.1nm,0.7s,baz=141,slow=5.8,SNR=2.2
ILAR LR LR 20 07 40.9
comp=Z,16nm,28.6s,baz=142,slow=38
MCK McKinley 53.51 337 *e*P **P** **19 43 17.5 0.0**
MCK pmax pmax
comp=Z,57nm,1.7s
MCK McKinley 53.51 337 *e*P **P** **19 43 17.5 0.0**
comp=Z,57nm,1.7s
COLA College 53.81 339 *i* P **P** **19 43 22.3 +2.7**
COLA pmax pmax
comp=Z,91nm,3.4s
COLA College 53.81 339 *e*P **P** **19 43 18.1 -1.5**
TRF Thorofare Moun 53.84 337 *e*P **P** **19 43 20.5 +0.4**
comp=Z,49nm,1.2s
PPLA Purkeypile 54.27 336 *e*P **P** **19 43 23.7 +0.5**
comp=Z,40nm,1.2s
LVC Limon Verde 54.51 138 P P 19 43 29.9 +4.4
comp=Z,27nm,1.5s
SIV San Ignacio 55.64 126 P **P** **19 43 34.1 +0.6**
SIV San Ignacio 55.64 126 P **P** **19 43 34.1 +0.6**
comp=Z,6.8nm,1.2s,baz=311,slow=9.8,SNR=7.1
RES Resolute Bay 55.92 3 P **P** **19 43 33.1 -1.6**
RES Resolute Bay 55.92 3 P **P** **19 43 33.1 -1.6**
comp=Z,5.5nm,0.9s,baz=180,slow=10,SNR=8.5
RES LR LR 20 08 28.4
comp=Z,1μm,19.4s,baz=188,slow=37
COLD Coldfoot 55.99 341 *e*P **P** **19 43 36.3 +0.9**
comp=Z,124nm,2.1s
IM04 Indian Mountai 56.48 338 *e*P **P** **19 43 37.5 -1.4**
PPT Papeete 56.83 233 LR LR 20 01 45.0
comp=Z,173nm,21.1s,baz=14,slow=29
PPT2 Papeete2 56.84 233 *e*S S 19 51 47.4 +13
comp=Z,421nm,27.2s
PPT2 *e*LR LR 20 00 10.9
comp=Z,793nm,26.2s,baz=49
H03N2 Juan Fernandez 57.91 154 T T 20 46 40.0
baz=332,slow=75,SNR=18
H03N1 Juan Fernandez 57.92 154 T T 20 46 33.3
baz=332,slow=75,SNR=27
H03N3 Juan Fernandez 57.92 154 T T 20 46 32.8
baz=332,slow=75,SNR=20
TBI Tubuai 60.38 228 *e*S S 19 52 34.1 +14
comp=Z,126nm,23.5s
TBI *e*LR LR 20 01 44.3
comp=Z,731nm,27.2s,baz=49
CPUP Villa Florida 64.75 133 P **P** **19 44 37.5 +1.7**
CPUP Villa Florida 64.75 133 P **P** **19 44 37.5 +1.7**
comp=Z,2.4nm,0.6s,baz=302,slow=7.8,SNR=5.8
CPUP LR LR 20 13 04.8
comp=Z,83nm,18.5s,baz=315,slow=36
SUMG Summit 65.02 18 *e*P P 19 44 34.2 -3.2
SUMG pmax pmax
comp=Z,169nm,2.3s
SUMG Summit 65.02 18 *e*P P 19 44 34.2 -3.2
comp=Z,169nm,2.3s
BDFB Brasilia 65.97 118 P **P** **19 44 45.0 +1.0**
BDFB Brasilia 65.97 118 P **P** **19 44 45.0 +1.0**
comp=Z,3.3nm,0.7s,baz=315,slow=6.9,SNR=2.7
RAR Rarotonga 66.78 236 LR LR 20 05 56.6
comp=Z,292nm,20.0s,baz=312,slow=28
PLCA Paso Flores 67.64 152 P **P** **19 44 54.6 +0.5**
PLCA Paso Flores 67.64 152 P **P** **19 44 54.6 +0.5**
comp=Z,2.7nm,0.8s,baz=329,slow=8.6,SNR=4.9
PLCA LR LR 20 08 09.7
comp=Z,164nm,18.2s,baz=284,slow=30
TRQA Tornquist 69.81 145 *e*P **P** **19 45 09.1 +1.4**
comp=Z,25nm,1.6s
AFI Afiamalu 73.32 248 LR LR 20 11 57.9
comp=Z,16nm,28.6s,baz=68,slow=31
SPITS Spitsbergen Ar 77.54 10 P **P** **19 45 52.7 +0.1**
SPITS Spitsbergen Ar 77.54 10 P **P** **19 45 52.7 +0.1**
comp=Z,6.6nm,0.7s,baz=270,slow=7.2,SNR=6.4
SEY Seymchan 78.73 333 *i* P **P** **19 45 59.5 +0.2**
PETK Petropavlovsk- 79.15 322 P P 19 46 06.6 +4.7
PETK Petropavlovsk- 79.15 322 P P 19 46 06.6 +4.7
PETK Petropavlovsk- 79.15 322 P P 19 46 06.6 +4.7
comp=Z,4.1nm,0.7s,baz=69,slow=7.9,SNR=4.0
PETK LR LR 20 15 25.2
comp=Z,37nm,19.0s,baz=60,slow=31
TIXI Tiksi 82.41 345⇑ *e*P **P** **19 46 18.3 -0.6**
TIXI pmax pmax
comp=Z,24nm,1.5s
TIXI Tiksi 82.41 345 *e*P **P** **19 46 18.0 -0.9**
comp=Z,25nm,1.1s
PTOM Tomar 83.09 51 *e*P **P** **19 46 23.9 +0.8**
comp=Z,59nm,1.5s
PMTG Montargil 83.41 51 *e*P **P** **19 46 25.7 +1.0**
comp=Z,36nm,1.4s
MTE Manteigas 83.47 50 *e*P **P** **19 46 25.2 +0.1**
comp=Z,57nm,2.1s
PNCL Nicolau / Gran 83.49 52 *e*P **P** **19 46 25.9 +0.7**
comp=Z,37nm,1.9s
PTEO Sao Teotonio 83.53 53 *e*P **P** **19 46 26.7 +1.3**
comp=Z,64nm,1.3s
MVO Moncorvo 83.58 49 *e*P **P** **19 46 26.7 +1.0**
comp=Z,40nm,1.8s
PFVI Vila Bisbo 83.59 53 *e*P **P** **19 46 27.1 +1.4**
comp=Z,47nm,1.5s
EVOP Sao Brissos 83.66 52 *e*P **P** **19 46 25.2 -0.8**
EVOP pmax pmax
comp=Z,51nm,0.9s
EVOP Sao Brissos 83.66 52 *e*P **P** **19 46 25.2 -0.8**
comp=Z,51nm,0.9s
MORF Marmelete 83.66 53 *e*P **P** **19 46 27.4 +1.2**
comp=Z,40nm,1.8s
PCBR Castelo Branco 83.70 50 *e*P **P** **19 46 26.9 +0.7**
comp=Z,43nm,1.7s
EVO Evora 83.74 52 *e*P **P** **19 46 25.2 -1.3**
comp=Z,51nm,0.9s
PMRV Marv??o 83.90 51 *e*P **P** **19 46 27.4 +0.1**
comp=Z,45nm,1.9s
PESTR Estremoz 83.94 51 *e*P **P** **19 46 28.2 +0.7**
comp=Z,31nm,2.0s
PBEJ Beja 84.01 52 *e*P **P** **19 46 28.9 +1.0**
comp=Z,26nm,1.8s
PCVE Castro Verde 84.02 52 *e*P **P** **19 46 28.7 +0.8**
comp=Z,43nm,1.9s
SGMF Saint Gilles 84.06 41 *e*P **P** **19 46 28.3 +0.4**
comp=Z,84nm,1.3s
SGMF Saint Gilles 84.06 41 *e*P **P** **19 46 28.3 +0.4**

SGMF pmax pmax
comp=Z,84nm,1.3s
SGMF Saint Gilles 84.06 41 *e*P **P** **19 46 28.3 +0.4**
comp=Z,84nm,1.3s
PVAQ Vaqueiros 84.33 53 *e*P **P** **19 46 30.1 +0.6**
comp=Z,42nm,1.7s
PBAR Barrancos 84.58 52 *e*P **P** **19 46 31.0 +0.3**
comp=Z,51nm,1.9s
ARCES ARCESS Array B 85.00 16 P **P** **19 46 32.2 0.0**
ARCES ARCESS Array B 85.00 16 P **P** **19 46 32.2 0.0**
comp=Z,4.8nm,0.8s,baz=330,slow=5.2,SNR=7.2
ARCES LR LR 20 24 46.8
comp=Z,348nm,19.6s,baz=322,slow=36
GRR Gorron 85.05 40 *e*P **P** **19 46 33.8 +0.9**
comp=Z,28nm,0.8s
GRR Gorron 85.05 40 *e*P **P** **19 46 33.8 +0.9**
GRR pmax pmax
comp=Z,29nm,0.8s
GRR Gorron 85.05 40 *e*P **P** **19 46 33.8 +0.9**
comp=Z,28nm,0.8s
FLN La Foliniere 85.14 40 *e*P **P** **19 46 34.2 +0.9**
comp=Z,76nm,1.0s
FLN La Foliniere 85.14 40 *e*P **P** **19 46 34.2 +0.9**
FLN pmax pmax
comp=Z,77nm,1.0s
FLN La Foliniere 85.14 40 *e*P **P** **19 46 34.2 +0.9**
comp=Z,76nm,1.0s
LDF La Druitiere 85.42 40 *e*P **P** **19 46 35.5 +0.8**
LDF La Druitiere 85.42 40 *e*P **P** **19 46 35.5 +0.8**
LDF La Druitiere 85.42 40 *e*P **P** **19 46 35.5 +0.8**
NB2 NORSAR Subarra 85.46 26 P **P** **19 46 35.3 +0.5**
comp=Z,1.7nm,0.8s,baz=303,slow=5.3
NOA NORSAR Array B 85.46 26 P **P** **19 46 34.4 -0.4**
NOA NORSAR Array B 85.46 26 P **P** **19 46 34.4 -0.4**
comp=Z,3.2nm,0.8s,baz=305,slow=5.3,SNR=8.7
NOA LR LR 20 23 34.8
comp=Z,16nm,28.6s,baz=295,slow=35
ESDC Sonseca Array 86.29 49 P **P** **19 46 38.7 -0.7**
ESDC Sonseca Array 86.29 49 P **P** **19 46 38.7 -0.7**
comp=Z,3.1nm,0.8s,baz=304,slow=5.2,SNR=15
ESDC LR LR 20 27 50.0
comp=Z,85nm,18.1s,baz=300,slow=38
ESLA Sonseca Array 86.29 49 P **P** **19 46 39.0 -0.3**
comp=Z,1.2nm,0.8s
ETSF Etsaut 87.42 45 *e*P **P** **19 46 45.7 +0.9**
comp=Z,12nm,0.9s
ETSF Etsaut 87.42 45 *e*P **P** **19 46 45.7 +0.9**
ETSF pmax pmax
comp=Z,12nm,0.9s
ETSF Etsaut 87.42 45 *e*P **P** **19 46 45.7 +0.9**
comp=Z,12nm,0.9s
GIVF Givet 87.70 37 *e*P **P** **19 46 45.8 -0.1**
GIVF Givet 87.70 37 *e*P **P** **19 46 45.8 -0.1**
GIVF Givet 87.70 37 *e*P **P** **19 46 45.8 -0.1**
RJF Les Rejaudoux 87.80 43 *e*P **P** **19 46 46.9 +0.4**
comp=Z,6.7nm,0.6s
RJF Les Rejaudoux 87.80 43 *e*P **P** **19 46 46.9 +0.4**
RJF pmax pmax
comp=Z,7.0nm,0.6s
RJF Les Rejaudoux 87.80 43 *e*P **P** **19 46 46.9 +0.4**
comp=Z,6.7nm,0.6s
TCF Toulx Ste Croi 87.82 41 *e*P **P** **19 46 45.6 -1.0**
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 87.82 41 *e*P **P** **19 46 45.6 -1.0**
TCF pmax pmax
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 87.82 41 *e*P **P** **19 46 45.6 -1.0**
comp=Z,15nm,1.0s
SSF Saint Saulge 88.28 40 *e*P **P** **19 46 47.8 -0.9**
comp=Z,10.0nm,0.8s
SSF Saint Saulge 88.28 40 *e*P **P** **19 46 47.8 -0.9**
SSF pmax pmax
comp=Z,10.0nm,0.8s
SSF Saint Saulge 88.28 40 *e*P **P** **19 46 47.8 -0.9**
comp=Z,10.0nm,0.8s
YAK Yakutsk 88.30 337 *e*P **P** **19 46 48.1 -0.4**
YAK pmax pmax
comp=Z,32nm,1.2s
YAK pmax pmax
comp=N,6.0nm,1.6s
YAK pmax pmax
comp=E,11nm,1.4s
YAK Yakutsk 88.30 337 *e*P **P** **19 46 48.7 +0.2**
comp=E,29nm,0.8s
MDT Midelt 88.32 56 P **P** **19 46 49.0 -0.4**
MDT Midelt 88.32 56 P **P** **19 46 49.0 -0.4**
comp=E,6.4nm,0.9s,baz=305,slow=3.9,SNR=18
LOR Lormes 88.41 40 *e*P **P** **19 46 48.7 -0.6**
comp=E,30nm,1.2s
LOR Lormes 88.41 40 *e*P **P** **19 46 48.7 -0.6**
comp=E,30nm,1.2s
PMSA Palmer Station 89.31 164 P P 19 46 59.9 +7.0
FINES FINESS Array B 90.85 21 P **P** **19 46 59.4 -1.1**
FINES FINESS Array B 90.85 21 P **P** **19 46 59.4 -1.1**
comp=E,1.4nm,0.8s,baz=350,slow=5.8,SNR=7.2
FINES LR LR 20 29 23.4
comp=E,17nm,28.6s,baz=330,slow=37
GRF Grafenberg Arr 91.50 36 *e*P **P** **19 47 03.9 +0.2**
comp=Z,56nm,2.4s
CLL Collm 91.58 34 *e*P P 19 47 09.0 +5.0
CLL Collm 91.58 34 *e*(P) P 19 47 09.0 +5.0
CLL *e*PS **PnS** **19 59 18.0 +3.2**
URZ Urewera 92.40 230 LR LR 20 18 36.3
comp=Z,17nm,28.6s,baz=56,slow=29
GERES GERESS Array B 93.32 35 P **P** **19 47 11.9 -0.4**
GERES GERESS Array B 93.32 35 P **P** **19 47 11.9 -0.4**
comp=Z,0.4nm,0.6s,baz=195,slow=2.6,SNR=3.5
GERES LR LR 20 28 59.2
comp=Z,17nm,28.6s,baz=298,slow=35
DZM Mont Dzumac 95.55 249 *e*LR LR 20 18 40.2
comp=Z,392nm,26.4s
KEST Kesra 97.50 48 P **P** **19 47 30.7 -0.9**
KEST Kesra 97.50 48 P **P** **19 47 30.7 -0.9**
comp=Z,4.9nm,1.2s,baz=338,slow=5.4,SNR=3.3
KEST LR LR 20 30 46.5
comp=Z,35nm,20.0s,baz=252,slow=35
DBIC Dimbokro 97.51 80 LR LR 20 28 09.0
comp=Z,91nm,21.1s,baz=280,slow=33
OBN Obninsk 99.26 21 *e*P **Pdif** **19 47 43.9 +5.0**
OBN *e*PS **PS** **20 00 38.9 +1.0**
OBN *e*SS SS 20 05 51.9 -4.8
OBN pmax pmax
comp=Z,6.0nm,1.7s
OBN MLR MLR
comp=Z,300nm,15.0s
AKASG Malin Array Be 99.80 27 *i* P **Pdif** **19 47 39.4 -2.0**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 99.80 27 P **Pdif** **19 47 40.5 -0.9**
AKASG Malin Array Be 99.80 27 P **Pdif** **19 47 40.5 -0.9**
comp=Z,0.8nm,0.7s,baz=316,slow=3.6,SNR=5.8
AKASG LR LR 20 32 51.5
comp=Z,17nm,28.6s,baz=345,slow=36
KIV Kislovodsk 110.72 24 *i* PKIKP **PKiKP** **19 52 25.9 -4.4**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,184nm,20.0s
HHC Hu-ho-hao-te 111.31 331 *e*PKP PKiKP 19 52 26.3 -5.2
HHC PP **PP** **19 53 10.6 0.0**
HHC AMB AMB
comp=Z,200nm,9.2s
HHC LR LR
comp=Z,420nm,20.4s
HHC LR LR
comp=Z,330nm,20.3s
HHC LR LR
comp=Z,220nm,20.1s
WMQ Urumqi 116.32 350 PKP **PKPdf** **19 52 38.0 -3.0**
WMQ PP **PP** **19 53 48.0 +2.4**
WMQ PKS **PKSdf** **19 56 13.0 -4.7**
WMQ AMB AMB
comp=Z,37nm,9.0s
WMQ LR LR
comp=Z,220nm,25.0s
WMQ LR LR
comp=Z,180nm,25.0s
WMQ LR LR
comp=Z,220nm,25.0s
LZH Lanzhou 118.66 333 *e*PKP **PKPdf** **19 52 46.4 +0.6**
LZH PP PP 19 54 07.5 +5.1
LZH SKKS 20 00 44.0
LZH AMB AMB
comp=Z,110nm,7.6s
KSH Kashi 121.72 359 PKP **PKPdf** **19 52 49.0 -2.6**
KSH PKS **PKSdf** **19 56 24.1 -4.3**

KSH AMB AMB
comp=Z,110nm,6.2s
KSH LR LR
comp=Z,160nm,7.5s
KSH LR LR
comp=Z,180nm,6.3s
KSH LR LR
comp=Z,250nm,8.0s
CD2 Chengdu 123.06 330 *e*PKP **PKPdf** **19 52 54.0 -0.3**
WRA Warramunga Arr 124.17 258 PKP **PKPdf** **19 52 55.8 -0.7**
WRA Warramunga Arr 124.17 258 PKP **PKPdf** **19 52 55.8 -0.7**
comp=Z,1.7nm,0.7s,baz=77,slow=2.2,SNR=8.5
ASAR Alice Springs 125.12 254 PKP **PKPdf** **19 52 57.6 -0.7**
ASAR Alice Springs 125.12 254 PKP **PKPdf** **19 52 57.6 -0.7**
comp=Z,1.6nm,1.2s,baz=84,slow=1.7,SNR=6.5
GYA Guiyang 125.20 325 *e*Pdif **Pdif** **19 49 33.7 -1.4**
GYA PKP **PKPdf** **19 52 57.4 -1.2**
GYA sPKP 19 53 31.0
GYA PP **PP** **19 54 50.3 +3.1**
GYA AMB AMB
comp=Z,110nm,7.7s
CMAR Chiang Mai Arr 135.83 326 PKP **PKPdf** **19 53 19.9 +1.2**
CMAR Chiang Mai Arr 135.83 326 PKP **PKPdf** **19 53 19.9 +1.2**
comp=Z,1.1nm,1.0s,baz=324,slow=2.0,SNR=4.8
IPM Ipoh 145.18 310 *e*PKPdf **PKPbc** **19 53 35.0 -0.3**

*ISCJB **08** 19:34:07.3±0.8, 5.82N±0.07×126.2E±0.1, h127km, mb3.5/4, Error ellipse: s-maj=15.7km s-min=8.0km az=151.6*
*MAN **08** 19:34:09, 6.14N×126.15E, h140km, mb4.6, ML3.4, MS3.4*
*IDC **08** 19:34:14.5±28.0, 3.79N×126.35E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=491.2km s-min=104.2km az=147.0*
ISC 08 19:34:08.0±1.2, 5.91N±0.09×126.2E±0.1, h127km, n12, σ1s56/14, mb3.6/4, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.03**	**1**		*e*P		**Pn**	**19 34 32.6**	**+1.7**
MATI					*e*S		**Sn**	**19 34 44.0**	**-4.4**
GSPH	**General Santos**	**1.29**	**278**⇑		*i*P		**Pn**	**19 34 33.2**	**-0.5**
GSPH					*i* S		**Sn**	**19 34 52.6**	**-0.7**
DMPH	**Davao City--Mi**	**1.37**	**328**⇑		*e*P		**Pn**	**19 34 35.7**	**+1.3**
DMPH					*e*S		**Sn**	**19 34 54.9**	**+0.3**
KCP	**Kidapawan**	**1.58**	**314**⇑		*e*P		**Pn**	**19 34 37.5**	**+0.7**
KCP					*i* S		**Sn**	**19 34 59.1**	**+0.3**
BUKP	**Musuan**	**2.27**	**329**		*e*P		**Pn**	**19 34 46.5**	**+1.2**
CGP	**Cagayan de Oro**	**2.95**	**329**⇑		*i*P		Pn	19 35 03.1	+9.2
CGP					*i* S		Sn	19 35 05.8	-24
PAGZ	**Pagadian**	**3.42**	**304**		*e*P		**Pn**	**19 35 00.3**	**+0.3**
OCLP	**Ormoc**	**5.35**	**343**		*e*P		**Pn**	**19 35 25.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.87**	**181**	P			**P**	**19 39 09.8**	**-0.1**
	0.6nm,0.3s,baz=6.4,slow=8.0,SNR=7.9								
WRA	**Warramunga Arr**	**26.30**	**163**	P			**P**	**19 39 37.2**	**-0.1**
	0.2nm,0.3s,baz=340,slow=9.5,SNR=9.1								
ASAR	**Alice Springs**	**30.34**	**166**	P			**P**	**19 40 08.2**	**+0.4**
	0.7nm,0.4s,baz=340,slow=6.9,SNR=24								
STKA	**Stephens Creek**	**40.33**	**160**	P			P	19 41 38.9	+5.7
	1.6nm,0.9s,baz=342,slow=9.6,SNR=3.1								

*IDC **08** 19:42:06.3±1.5, 15.12S×172.23W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/22, mbtmp4.0/5, MS3.3/2, Ms1 3.3/2, ms1mx3.1/28, Error ellipse: s-maj=59.2km s-min=16.1km az=121.0*
*ISCJB **08** 19:42:07.6±1.2, 15.2S±0.2×172.3W±0.3, h18km, mb3.9/5, MS3.2/2, Error ellipse: s-maj=48.9km s-min=9.2km az=30.4*
ISC 08 19:42:08.8±1.6, 15.1S±0.2×172.2W±0.4, h18km, n9, σ0s73/8, mb4.0/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.25**	**20**			Pn	**Pn**	**19 42 30.7**	**-0.8**
	64nm,0.3s,baz=107,slow=20,SNR=48								
AFI						Sn	**Sg**	**19 42 49.4**	**0.0**
	325nm,0.3s,baz=343,slow=19,SNR=26								
DZM	**Mont Dzumac**	**21.36**	**248**	LR		LR		19 52 34.9	
	comp=Z,53nm,22.0s,baz=82,slow=30								
URZ	**Urewera**	**24.93**	**200**	P		**P**		**19 47 30.6**	**-0.4**
	3.9nm,0.4s,baz=49,slow=11,SNR=4.2								
HNR	**Honiara**	**27.75**	**278**	LR		LR		19 56 59.6	
	comp=Z,113nm,19.3s,baz=244,slow=32								
STKA	**Stephens Creek**	**45.17**	**240**	P		**P**		**19 50 24.4**	**-0.3**
	1.8nm,0.9s,baz=45,slow=5.7,SNR=3.3								
WRA	**Warramunga Arr**	**51.02**	**256**	P		**P**		**19 51 10.4**	**+0.2**
	0.5nm,0.8s,baz=94,slow=6.5,SNR=7.2								
ASAR	**Alice Springs**	**51.28**	**252**	P		**P**		**19 51 12.1**	**0.0**
	2.0nm,0.7s,baz=86,slow=8.3,SNR=21								
ILAR	**Eielson Array**	**81.93**	**11**	P		**P**		**19 54 28.2**	**+1.3**
	0.5nm,0.7s,baz=220,slow=5.8,SNR=6.3								
BRTR	**Keskin Array B**	**146.62**	**322**	PKPbc		**PKPab**		**20 01 50.7**	**-0.2**
	3.0nm,1.0s,baz=54,slow=2.5,SNR=7.6								

IDC 08 19:42:50.2±1.6, 25.79S×70.58W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/16, mbtmp3.8/1, Error ellipse: s-maj=142.8km s-min=67.5km az=151.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**80.24**	**70**	P		P	P	19 55 03.2	0.0
	0.5nm,0.5s,baz=243,slow=4.2,SNR=8.3								
WRA	**Warramunga Arr**	**128.49**	**210**	PKP		PKPdf		20 01 59.5	-0.3
	0.8nm,1.0s,baz=147,slow=1.4,SNR=5.1								
ZALV	**Zalesovo Beam**	**146.47**	**26**	PKPbc		PKPdf		20 02 32.1	+0.6
	2.8nm,0.8s,baz=316,slow=4.0,SNR=13								
MKAR	**Makanchi Array**	**149.96**	**39**	PKPbc		PKPbc		20 02 42.1	-0.4
	0.8nm,0.7s,baz=306,slow=2.7,SNR=6.1								

IDC 08 19:46:54.9±7.6, 15.87S×172.84W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/29, Error ellipse: s-maj=343.2km s-min=34.9km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**28**	Pn		Pn		19 47 27.1	-5.9
	36nm,0.3s,baz=229,slow=9.3,SNR=7.7								
AFI						Sn	Sn	19 47 45.2	-16
	97nm,0.3s,baz=165,slow=20,SNR=13								
AFI						LR	LR	19 48 02.4	
	comp=Z,583nm,20.8s,baz=147,slow=31								
WRA	**Warramunga Arr**	**50.26**	**257**	P		P		19 55 53.3	-0.2
	0.3nm,0.5s,baz=95,slow=7.6,SNR=10								
ASAR	**Alice Springs**	**50.48**	**252**	P		P		19 55 54.9	-0.2
	1.4nm,0.6s,baz=89,slow=8.0,SNR=12								
ILAR	**Eielson Array**	**82.80**	**11**	P		P		19 59 20.2	-0.4
	0.5nm,0.8s,baz=224,slow=6.5,SNR=6.1								
BRTR	**Keskin Array B**	**146.86**	**321**	PKPbc		PKPbc		20 06 39.6	-0.1
	1.0nm,0.8s,baz=29,slow=3.3,SNR=5.2								

*ISCJB **08** 19:49:48.7±0.7, 37.20N±0.03×19.95E±0.03, h15km±5km, mb3.6/11, Error ellipse: s-maj=5.1km s-min=3.1km az=40.5*
*TIR **08** 19:49:49.3, 37.45N×22.00E, h7km*
*CSEM **08** 19:49:50.4±0.2, 37.23N×20.11E, h2km, ML3.6, Error ellipse: s-maj=4.9km s-min=3.0km az=50.0*
*IDC **08** 19:49:51.0±1.0, 37.39N×20.36E, h0km, mb3.6/10, mb1 3.7/16, mb1mx3.6/34, mbtmp3.6/16, ML3.4/6, Error ellipse: s-maj=19.5km s-min=16.4km az=55.0*
*ATH **08** 19:49:51.9, 37.33N×20.23E, h17km±1km, ML3.6*
*BEO **08** 19:49:52.6±1.0, 37.41N×20.09E, h0km*
*THE **08** 19:49:53.2, 37.34N×20.26E, h0km±2km, ML3.6/6, Error ellipse: s-maj=2.8km s-min=1.2km az=231.0*
*HLW **08** 19:49:58.0, 37.21N×20.82E, h33km±29km, Md0.0, Ml4.0*
ISC 08 19:49:49.7±1.4, 37.26N±0.03×20.11E±0.04, h4km±9km, n262, σ1s30/309, mb3.8/11, 10C-10D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.72**	**90**	P		**Pb**		**19 50 05.0**	**+0.2**
SFD				S		**Sg**		**19 50 13.0**	**+0.2**
SFD	**Strofades**	**0.72**	**90**	*e*PN		**Pb**		**19 50 04.8**	**0.0**
SFD				*e*SN		**Sb**		**19 50 13.4**	**-1.6**
SFD	**Strofades**	**0.72**	**90**	P		**Pb**		**19 50 05.0**	**+0.2**
SFD				S		**Sb**		**19 50 14.5**	**-0.5**
VLS	**Valsamata**	**0.99**	**22**	P		**Pg**		**19 50 08.4**	**-0.3**

VLS				S	Sg	19 50 20.8	-0.8	
VLS	**Valsamata**	**0.99**	**22**	*e*PN	Pg	19 50 08.7	0.0	
VLS				*e*SN	Sb	19 50 22.0	-1.0	
VLS	**Valsamata**	**0.99**	**22**	P	Pg	19 50 08.4	-0.3	
VLS	**Valsamata**	**0.99**	**22**	*e*Pn	Pg	19 50 08.7	0.0	
VLS				*e*Sn	Sb	19 50 22.0	-1.0	
KFL	**Anninata**	**1.01**	**32**	P	Pg	19 50 08.9	-0.1	
KFL				S	Sb	19 50 22.4	-0.9	
KFL	**Anninata**	**1.01**	**32**	P	Pg	19 50 08.2	-0.8	
KFL				S	Sb	19 50 22.1	-1.2	
AMT	**Artemida-Makis**	**1.30**	**77**	P	Pn	19 50 15.7	+1.0	
AMT				S	Sn	19 50 32.4	-0.1	
AMT	**Artemida-Makis**	**1.30**	**77**	*e*PN	Pg	19 50 14.4	-0.2	
AMT				*e*SN	Sn	19 50 31.3	-1.2	
AMT	**Artemida-Makis**	**1.30**	**77**	*e*Pn	Pg	19 50 14.4	-0.2	
AMT	**Artemida-Makis**	**1.30**	**77**	P	Pn	19 50 15.7	+1.0	
AMT				*e*Sn	Sn	19 50 31.3	-1.2	
AMT				S	Sn	19 50 32.4	-0.1	
RLS	**Riolos of Patr**	**1.34**	**53**	P	Pn	19 50 14.7	-0.5	
RLS				S	Sn	19 50 33.2	-0.2	
RLS	**Riolos of Patr**	**1.34**	**53**	*e*PN	Pn	19 50 14.4	-0.8	
RLS				*e*SN	Sn	19 50 32.0	-1.4	
RLS	**Riolos of Patr**	**1.34**	**53**	*e*Pn	Pn	19 50 14.4	-0.8	
RLS	**Riolos of Patr**	**1.34**	**53**	P	Pn	19 50 14.7	-0.5	
RLS				*e*Sn	Sn	19 50 32.0	-1.4	
RLS				S	Sn	19 50 33.2	-0.2	
PYL	**PYLOS**	**1.35**	**105**	P	Pn	19 50 15.9	+0.6	
PYL				S	Sn	19 50 33.7	0.0	
PYL	**PYLOS**	**1.35**	**105**	*e*PN	Pn	19 50 16.0	+0.6	
PYL				*e*SN	Sn	19 50 33.6	-0.1	
PYL	**PYLOS**	**1.35**	**105**	*e*Pn	Pn	19 50 16.0	+0.6	
PYL				S	Sn	19 50 33.7	0.0	
DRO	**Drossia**	**1.45**	**61**	P	Pg	19 50 18.0	+0.6	
DRO				S	Sn	19 50 36.6	+0.5	
DRO	**Drossia**	**1.45**	**61**	*e*PN	Pn	19 50 16.8	+0.1	
DRO				*e*SN	Sn	19 50 35.2	-0.9	
DRO	**Drossia**	**1.45**	**61**	*e*Pn	Pn	19 50 16.8	+0.1	
DRO	**Drossia**	**1.45**	**61**	P	Pg	19 50 18.0	+0.6	
DRO				*e*Sn	Sn	19 50 35.2	-0.9	
DRO				S	Sg	19 50 37.0	+0.9	
ITM	**Ithomi**	**1.45**	**92**	P	Pb	19 50 17.5	+0.3	
ITM				S	Sg	19 50 36.9	+0.7	
ITM	**Ithomi**	**1.45**	**92**	*e*PN	Pb	19 50 17.6	+0.3	
ITM				*e*SN	Sg	19 50 36.7	+0.5	
ITM	**Ithomi**	**1.45**	**92**	*e*Pn	Pb	19 50 17.6	+0.3	
ITM				S	Sg	19 50 36.9	+0.7	
PDO	**Prodromos**	**1.58**	**32**	P	Pg	19 50 20.4	+0.3	
PDO				S	Sg	19 50 40.6	0.0	
PDO	**Prodromos**	**1.58**	**32**	*e*PN	Pg	19 50 20.2	+0.1	
PDO	**Prodromos**	**1.58**	**32**	*e*Pn	Pg	19 50 20.2	+0.1	
PDO				S	Sg	19 50 40.6	0.0	
LKD2	**Lefkada island**	**1.59**	**16**	P	Pb	19 50 20.0	+0.3	
LKD2				S	Sg	19 50 40.5	-0.3	
LKD2	**Lefkada island**	**1.59**	**16**	*e*PN	Pb	19 50 19.9	+0.3	
LKD2	**Lefkada island**	**1.59**	**16**	*e*Pn	Pb	19 50 19.9	+0.3	
LKD2				S	Sg	19 50 40.5	-0.3	
PVO	**Paravola**	**1.76**	**39**	P	Pg	19 50 23.1	-0.3	
PVO				S	Sg	19 50 44.8	-1.4	
PVO	**Paravola**	**1.76**	**39**	P	Pb	19 50 22.3	-0.2	
PVO				S	Sg	19 50 44.8	-1.4	
PSA1	**Psathopyrgos**	**1.76**	**52**	*e*PN	Pb	19 50 22.1	-0.5	
LAKA	**Lakka**	**1.77**	**56**	P	Pb	19 50 23.1	+0.3	
LAKA	**Lakka**	**1.77**	**56**	*e*PN	Pb	19 50 23.1	+0.3	
LAKA	**Lakka**	**1.77**	**56**	P	Pb	19 50 23.1	+0.3	
KLV	**Kalavryta, Ach**	**1.80**	**63**	P	Pb	19 50 22.7	-0.5	
KLV				S	Sg	19 50 46.1	-1.3	
KLV	**Kalavryta, Ach**	**1.80**	**63**	*e*PN	Pb	19 50 22.8	-0.5	
KLV	**Kalavryta, Ach**	**1.80**	**63**	P	Pb	19 50 22.7	-0.5	
KLV				S	Sg	19 50 46.1	-1.3	
VLX	**Vlachokerasia**	**1.81**	**86**	P	Pb	19 50 23.3	-0.1	
VLX				S	Sg	19 50 47.4	-0.4	
VLX	**Vlachokerasia**	**1.81**	**86**	*e*PN	Pb	19 50 23.0	-0.4	
VLX	**Vlachokerasia**	**1.81**	**86**	*e*Pn	Pb	19 50 23.0	-0.4	
VLX	**Vlachokerasia**	**1.81**	**86**	P	Pb	19 50 23.3	-0.1	
VLX				S	Sg	19 50 47.4	-0.4	
EFP	**Efpalio**	**1.84**	**50**	P	Pb	19 50 23.8	-0.1	
EFP	**Efpalio**	**1.84**	**50**	*e*PN	Pb	19 50 24.1	+0.2	
EFP	**Efpalio**	**1.84**	**50**	P	Pb	19 50 23.6	-0.3	
EFP	**Efpalio**	**1.84**	**50**	*e*Pn	Pb	19 50 24.1	+0.2	
EFP				S	Sg	19 50 48.9	+0.2	
GUR	**Goura**	**1.90**	**68**	P	Pb	19 50 24.4	-0.5	
GUR				S	Sb	19 50 48.5	-0.5	
GUR	**Goura**	**1.90**	**68**	*e*PN	Pb	19 50 24.1	-0.8	
GUR	**Goura**	**1.90**	**68**	*e*Pn	Pb	19 50 24.1	-0.8	
GUR	**Goura**	**1.90**	**68**	P	Pb	19 50 24.4	-0.5	
GUR				S	Sb	19 50 48.5	-0.5	
KALE	**Kalithea**	**1.96**	**54**	P	Pb	19 50 25.6	-0.5	
KALE	**Kalithea**	**1.96**	**54**	*e*PN	Pb	19 50 25.5	-0.5	
KALE	**Kalithea**	**1.96**	**54**	*e*Pn	Pb	19 50 25.5	-0.5	
KALE				S	Sg	19 50 51.2	-1.6	
EVR	**Evrytania**	**2.13**	**38**	P	Pb	19 50 28.4	-0.5	
EVR	**Evrytania**	**2.13**	**38**	*e*PN	Pn	19 50 27.4	+1.3	
EVR	**Evrytania**	**2.13**	**38**	*e*Pn	Pn	19 50 27.4	+1.3	
EVR	**Evrytania**	**2.13**	**38**	P	Pb	19 50 28.4	-0.5	
EVR				S	Sg	19 50 58.8	+0.7	
DSF	**Desfina**	**2.23**	**58**	P	Pb	19 50 29.5	-1.1	
DSF				S	Sb	19 50 57.2	-1.4	
DSF	**Desfina**	**2.23**	**58**	*e*PN	Pb	19 50 29.5	-1.1	
DSF	**Desfina**	**2.23**	**58**	P	Pb	19 50 29.5	-1.1	
DSF				S	Sb	19 50 57.2	-1.4	
DESF	**Desfina**	**2.24**	**58**	*e*PN	Pb	19 50 29.3	-1.4	
DESF	**Desfina**	**2.24**	**58**	*e*Pn	Pb	19 50 29.3	-1.4	
IGT	**Igoumenitsa**	**2.28**	**4**	P	Pn	19 50 29.8	+1.7	
IGT	**Igoumenitsa**	**2.28**	**4**	*e*PN	Pb	19 50 30.7	-0.7	
IGT	**Igoumenitsa**	**2.28**	**4**	P	Pn	19 50 29.8	+1.7	
IGT	**Igoumenitsa**	**2.28**	**4**	*e*Pn	Pb	19 50 30.7	-0.7	
VLI	**Veliai**	**2.32**	**103**	P	Pb	19 50 31.2	-0.9	
VLI	**Veliai**	**2.32**	**103**	*e*PN	Pb	19 50 31.2	-0.9	
VLI	**Veliai**	**2.32**	**103**	P	Pb	19 50 31.1	-1.0	
VLI				S	Sn	19 50 57.7	0.0	
MAKR	**Makrakomi, Fth**	**2.37**	**42**	P	Pb	19 50 31.6	-1.3	
MAKR	**Makrakomi, Fth**	**2.37**	**42**	*e*PN	Pn	19 50 30.8	+1.4	
MAKR	**Makrakomi, Fth**	**2.37**	**42**	*e*Pn	Pn	19 50 30.8	+1.4	
MAKR	**Makrakomi, Fth**	**2.37**	**42**	P	Pb	19 50 31.6	-1.3	
LTK	**Loutraki**	**2.39**	**70**	P	Pn	19 50 30.5	+0.8	
LTK	**Loutraki**	**2.39**	**70**	*e*PB	Pn	19 50 30.5	+0.8	
LTK	**Loutraki**	**2.39**	**70**	P	Pn	19 50 30.5	+0.8	
JAN	**Janina**	**2.47**	**13**	*e*PN	Pn	19 50 32.2	+1.5	
JAN	**Janina**	**2.47**	**13**	*e*Pn	Pn	19 50 32.2	+1.5	
KEK	**Kerkira**	**2.47**	**354**	P	Pn	19 50 31.9	+1.2	
KEK	**Kerkira**	**2.47**	**354**	*e*PB	Pn	19 50 32.7	+2.0	
KEK	**Kerkira**	**2.47**	**354**	P	Pn	19 50 31.9	+1.2	
KEK	**Kerkira**	**2.47**	**354**	*e*Pb	Pn	19 50 32.7	+2.0	
AGG	**Agios Georgios**	**2.48**	**44**	P	Pn	19 50 32.7	+1.8	
AGG	**Agios Georgios**	**2.48**	**44**	*e*PN	Pn	19 50 32.6	+1.7	
AGG	**Agios Georgios**	**2.48**	**44**	*e*Pn	Pn	19 50 32.6	+1.7	
DID	**Didima**	**2.50**	**83**	P	Pn	19 50 31.8	+0.6	
DID	**Didima**	**2.50**	**83**	*e*PB	Pn	19 50 31.6	+0.4	
DID	**Didima**	**2.50**	**83**	P	Pn	19 50 31.8	+0.6	
AXAR	**Agios Charalam**	**2.51**	**52**	P	Pb	19 50 33.6	-1.8	
AXAR	**Agios Charalam**	**2.51**	**52**	P	Pb	19 50 33.4	-2.0	
KYTH	**Kithira**	**2.54**	**112**	P	Pb	19 50 34.7	-1.2	
KYTH	**Kithira**	**2.54**	**112**	*e*PB	Pb	19 50 34.7	-1.2	
KYTH	**Kithira**	**2.54**	**112**	*e*Pb	Pb	19 50 34.7	-1.2	
SRN	**Sarande**	**2.62**	**358**	*i* PN	Pn	19 50 34.4	+1.5	
SRN	**Sarande**	**2.62**	**358**	*i* Pn	Pn	19 50 34.3	+1.5	
LKR	**Lokris**	**2.67**	**58**	*e*PN	Pn	19 50 34.3	+0.8	
LKR	**Lokris**	**2.67**	**58**	*e*Pn	Pn	19 50 34.3	+0.8	
VIL2	**Platees**	**2.68**	**68**	*e*PN	Pn	19 50 34.4	+0.8	
VILL	**Villia**	**2.69**	**69**	P	Pn	19 50 34.4	+0.6	
VILL	**Villia**	**2.69**	**69**	P	Pn	19 50 34.4	+0.6	
NAIG	**Nisos Aigina**	**2.73**	**78**	*e*PN	Pn	19 50 34.7	+0.4	
NAIG	**Nisos Aigina**	**2.73**	**78**	*e*Pn	Pn	19 50 34.7	+0.4	
THL	**Klokotos Trika**	**2.75**	**32**	P	Pn	19 50 36.4	+1.9	
THL	**Klokotos Trika**	**2.75**	**32**	*e*PN	Pn	19 50 36.2	+1.7	
THL	**Klokotos Trika**	**2.75**	**32**	*e*Pn	Pn	19 50 36.2	+1.7	
ANKY	**Antikythira Is**	**2.92**	**117**	*e*PN	Pn	19 50 39.2	+2.4	
ANKY	**Antikythira Is**	**2.92**	**117**	*e*Pn	Pn	19 50 39.2	+2.4	
SMIA	**Simia**	**2.93**	**56**	*e*PN	Pn	19 50 39.0	+1.9	
SMIA	**Simia**	**2.93**	**56**	*e*Pn	Pn	19 50 39.0	+1.9	
ATH	**Athens Observa**	**2.95**	**75**	*e*PN	Pn	19 50 39.4	+2.1	
ATH	**Athens Observa**	**2.95**	**75**	*e*Pn	Pn	19 50 39.4	+2.1	
PTL	**Penteli**	**3.08**	**74**	*e*PN	Pn	19 50 40.2	+1.1	
PTL	**Penteli**	**3.08**	**74**	*e*Pn	Pn	19 50 40.2	+1.1	
MRKA	**Markates**	**3.10**	**61**	*e*PN	Pn	19 50 40.2	+0.8	
MRKA	**Markates**	**3.10**	**61**	*e*Pn	Pn	19 50 40.2	+0.8	
NEO	**Neokhori**	**3.19**	**49**	*e*PN	Pn	19 50 41.9	+1.2	
NEO	**Neokhori**	**3.19**	**49**	*e*Pn	Pn	19 50 41.9	+1.2	
XOR	**Xorichti**	**3.21**	**48**	*e*PN	Pn	19 50 42.6	+1.7	
XOR	**Xorichti**	**3.21**	**48**	*e*Pn	Pn	19 50 42.6	+1.7	
NEST	**Nestorio**	**3.24**	**13**	*e*PB	Pn	19 50 44.2	+2.8	
NEST	**Nestorio**	**3.24**	**13**	*e*Pb	Pn	19 50 44.2	+2.8	
SKIA	**Skiathos**	**3.26**	**53**	*e*PN	Pn	19 50 43.4	+1.8	
SKIA	**Skiathos**	**3.26**	**53**	*e*Pn	Pn	19 50 43.4	+1.8	
KZN	**Kozani**	**3.31**	**23**	P	Pn	19 50 44.5	+2.2	
KZN	**Kozani**	**3.31**	**23**	P	Pn	19 50 44.5	+2.2	
LIT	**Litokhoron**	**3.40**	**32**	*e*PN	Pn	19 50 44.6	+1.1	
LIT	**Litokhoron**	**3.40**	**32**	*e*Pn	Pn	19 50 44.6	+1.1	
KBN	**Korca**	**3.40**	**9**	*i* PN	Pn	19 50 46.5	+2.9	
KBN	**Korca**	**3.40**	**9**	*i* Pn	Pn	19 50 46.5	+2.9	
AOS	**Alonnisos**	**3.53**	**56**	*e*PN	Pn	19 50 47.5	+2.2	
AOS	**Alonnisos**	**3.53**	**56**	*e*Pn	Pn	19 50 47.5	+2.2	
FNA	**Florina**	**3.66**	**15**	*e*PN	Pn	19 50 48.8	+1.7	
FNA	**Florina**	**3.66**	**15**	*e*Pn	Pn	19 50 48.8	+1.7	
VAM	**Vamos**	**3.78**	**118**	*e*PN	Pn	19 50 51.6	+2.9	
VAM	**Vamos**	**3.78**	**118**	*e*Pn	Pn	19 50 51.6	+2.9	
BIA	**Bitola**	**3.87**	**14**	*i* Pn	Pn	19 50 52.0	+1.9	
BIA	**Bitola**	**3.87**	**14**	*i* Pn	Pn	19 50 52.0	+1.9	
THE	**Thessaloniki**	**4.04**	**33**	*e*PN	Pn	19 50 53.9	+1.6	
THE	**Thessaloniki**	**4.04**	**33**	*e*Pn	Pn	19 50 53.9	+1.6	
PLG	**Polygyros**	**4.06**	**39**	*e*PN	Pn	19 50 53.1	+0.5	
PLG	**Polygyros**	**4.06**	**39**	*e*Pn	Pn	19 50 53.1	+0.5	
HORT	**Hortiatis**	**4.07**	**34**	*e*PN	Pn	19 50 54.1	+1.3	
HORT	**Hortiatis**	**4.07**	**34**	*e*Pn	Pn	19 50 54.1	+1.3	
PE1	**Pezze di Greco**	**4.12**	**330**	*e*PN	Pn	19 50 56.2	+2.9	
IDI	**Anoyia**	**4.33**	**116**	*e*P	Pn	19 51 00.4	+4.0	
IDI	**Anoyia**	**4.33**	**116**	*e*P	Pn	19 51 00.4	+4.0	
IDI	**Anoyia**	**4.33**	**116**	Pn	Pn	19 50 55.4	-1.0	
	0.3nm,0.3s,baz=287,slow=14,SNR=6.4							
IDI					Sn	19 51 47.4	0.0	
	3.1nm,0.3s,baz=323,slow=20,SNR=10							
APE	**Apeiranthos**	**4.33**	**91**	*e*P	Pn	19 50 58.5	+2.2	
APE	**Apeiranthos**	**4.33**	**91**	*e*PN	Pn	19 50 58.0	+1.6	
APE	**Apeiranthos**	**4.33**	**91**	‖ *i*P	Pn	19 50 56.3	-0.1	
APE	**Apeiranthos**	**4.33**	**91**	‖ *i*P	Pn	19 50 56.3	-0.1	
APE	**Apeiranthos**	**4.33**	**91**	*e*Pn	Pn	19 50 58.0	+1.6	
SOH	**Sokhos**	**4.36**	**34**	*e*PN	Pn	19 50 58.0	+1.2	
SOH	**Sokhos**	**4.36**	**34**	*e*Pn	Pn	19 50 58.0	+1.2	
PHP	**Peshkopia**	**4.43**	**3**	*i* PN	Pn	19 50 59.5	+1.8	
PHP				*i* SN	Sn	19 51 46.1	-3.7	
PHP	**Peshkopia**	**4.43**	**3**	*i* Pn	Pn	19 50 59.5	+1.8	
KNT	**Kendrikon**	**4.46**	**28**	*e*PN	Pn	19 51 00.2	+2.1	
KNT	**Kendrikon**	**4.46**	**28**	*e*Pn	Pn	19 51 00.2	+2.1	
VAY	**Valandovo**	**4.48**	**24**	*i* Pn	Pn	19 50 58.7	+0.3	
VAY	**Valandovo**	**4.48**	**24**	*i* Pn	Pn	19 50 58.7	+0.3	
VAY	**Valandovo**	**4.48**	**24**	*i* Pn	Pn	19 50 59.2	+0.8	
SRS	**Serrai**	**4.71**	**34**	*e*PN	Pn	19 51 03.3	+1.8	
SRS	**Serrai**	**4.71**	**34**	*e*Pn	Pn	19 51 03.3	+1.8	
SKO	**Skopje**	**4.82**	**12**	*e*Pn	Pn	19 51 04.1	+1.1	
SKO	**Skopje**	**4.82**	**12**	*e*Pn	Pn	19 51 03.1	+0.1	
SKO	**Skopje**	**4.82**	**12**	*e*Pn	Pn	19 51 04.1	+1.1	
CDT	**Castel del Mon**	**4.85**	**323**	*e*Pn	Pn	19 51 06.9	+3.5	
NVR	**Nevrokopi**	**5.02**	**34**	*e*PN	Pn	19 51 06.9	+1.1	
NVR	**Nevrokopi**	**5.02**	**34**	*e*Pn	Pn	19 51 06.9	+1.1	
KAVA	**Kavala**	**5.07**	**41**	*e*PN	Pn	19 51 08.1	+1.7	
KAVA	**Kavala**	**5.07**	**41**	*e*Pn	Pn	19 51 08.1	+1.7	
KKB	**Krupnik**	**5.14**	**26**	*i* P	Pn	19 51 08.6	+1.1	
KKB	**Krupnik**	**5.14**	**26**	*i* P	Pn	19 51 08.6	+1.1	
MMB	**Musomiste**	**5.15**	**32**	*i* P	Pn	19 51 08.5	+0.9	
MMB	**Musomiste**	**5.15**	**32**	‖ *i*P	Pn	19 51 08.5	+0.9	
MMB	**Musomiste**	**5.15**	**32**	*i* P	Pn	19 51 08.5	+0.9	
PDG	**Podgorica**	**5.21**	**353**	*e*Pn	Pn	19 51 10.0	+1.6	
PDG				*e*SN	Sn	19 52 06.1	-2.8	
PDG	**Podgorica**	**5.21**	**353**	*e*Pn	Pn	19 51 10.0	+1.6	
PDG				*e*Sn	Sn	19 52 06.1	-2.8	
TREB	**Trebinje**	**5.62**	**347**	*e*Pn	Pn	19 51 14.1	+0.1	
TREB				*e*Sn	Sn	19 52 17.3	-1.7	
TREB	**Trebinje**	**5.62**	**347**	*e*Pn	Pn	19 51 14.1	+0.1	
RZN	**Rozhen**	**5.68**	**37**	*i* P	Pn	19 51 16.0	+1.0	
RZN	**Rozhen**	**5.68**	**37**	*i* P	Pn	19 51 16.0	+1.0	
VTS	**Vitosha**	**5.83**	**23**	*e*P	Pn	19 51 17.1	0.0	
VTS	**Vitosha**	**5.83**	**23**	*i* P	Pn	19 51 18.7	+1.6	
VTS	**Vitosha**	**5.83**	**23**	*i* Pn	Pn	19 51 18.9	+1.8	
VTS				*e*Sn	Sn	19 52 22.1	-2.4	
VTS	**Vitosha**	**5.83**	**23**	‖ *i*P	Pn	19 51 18.9	+1.8	
VTS	**Vitosha**	**5.83**	**23**	*e*P	Pn	19 51 17.1	0.0	
VTS	**Vitosha**	**5.83**	**23**	*i* Pn	Pn	19 51 18.9	+1.8	
GELI	**Tayfur-Gelibol**	**5.87**	**56**	*e*P	Pn	19 51 18.6	+1.2	
GELI	**Tayfur-Gelibol**	**5.87**	**56**	*e*P	Pn	19 51 18.7	+1.2	
STON	**Ston**	**5.91**	**342**	*e*PN	Pn	19 51 18.6	+0.7	
STON				*e*SN	Sn	19 52 23.1	-2.9	
STON	**Ston**	**5.91**	**342**	*e*Pn	Pn	19 51 18.6	+0.7	
SJES	**Sjenica**	**6.00**	**359**	*e*PN	Pn	19 51 19.6	+0.3	
SJES	**Sjenica**	**6.00**	**359**	*e*Pn	Pn	19 51 19.6	+0.3	
SELS	**Selova**	**6.01**	**7**	*e*Pn	Pn	19 51 19.9	+0.6	
KDZ	**Kurdzhali**	**6.01**	**41**	‖ *i*P	Pn	19 51 19.7	+0.4	
KDZ	**Kurdzhali**	**6.01**	**41**	‖ *i*P	Pn	19 51 19.7	+0.4	
LTBQ	**Tobruq**	**6.06**	**148**	*e*S	Sn	19 52 25.8	-4.1	
	SNR=23							
ZAPS	**Zavoj**	**6.31**	**17**	*e*Pn	Pn	19 51 24.9	+1.4	
BBLS	**Lazići**	**6.62**	**356**	*e*PN	Pn	19 51 29.0	+1.1	
BBLS	**Lazići**	**6.62**	**356**	*e*Pn	Pn	19 51 29.0	+1.1	
GRUS	**Gruza**	**6.64**	**4**	*e*Pn	Pn	19 51 28.3	+0.3	
GRUS	**Gruza**	**6.64**	**4**	*e*Pn	Pn	19 51 28.3	+0.3	
MPEP	**Malo Peshtene**	**6.69**	**23**	*i* P	Pn	19 51 30.0	+1.3	
DIVS	**Divibare**	**6.84**	**359**	*e*PN	Pn	19 51 31.0	+0.2	
DIVS	**Divibare**	**6.84**	**359**	*e*PN	Pn	19 51 31.0	+0.2	
EDRB	**Edirne**	**6.87**	**46**	*e*P	Pn	19 51 31.7	+0.5	
EDRB	**Edirne**	**6.87**	**46**	*e*P	Pn	19 51 31.7	+0.5	
TEKS	**Tekeris**	**7.30**	**357**	*e*PN	Pn	19 51 37.3	+0.2	
TEKS	**Tekeris**	**7.30**	**357**	*e*PN	Pn	19 51 37.3	+0.2	
ELL	**Elmali**	**7.85**	**91**	*e*P	Pn	19 51 46.9	+2.1	
ELL	**Elmali**	**7.85**	**91**	*e*P	Pn	19 51 46.9	+2.1	
FGSL	**Fruska Gora**	**7.90**	**358**	*e*PN	Pn	19 51 44.7	-0.6	
FRGS	**Fruska Gora**	**7.90**	**358**	*e*Pn	Pn	19 51 44.7	-0.6	
UDBI	**Udbina**	**7.97**	**337**	*e*Pn	Pn	19 51 46.9	+0.5	
UDBI				Sn	Sn	19 53 17.2	+0.1	
UDBI	**Udbina**	**7.97**	**337**	*e*Pn	Pn	19 51 46.9	+0.5	
UDBI				Sn	Sn	19 53 17.1	+0.1	
NVLJ	**Novalja**	**8.31**	**333**	*e*Pn	Pn	19 51 53.1	+2.3	
NVLJ				Sn	Sn	19 53 21.4	-3.6	
NVLJ	**Novalja**	**8.31**	**333**	*e*Pn	Pn	19 51 53.1	+2.3	
GZR	**Gura Zlata**	**8.37**	**13**	‖ *i*P	Pn	19 51 52.2	+0.4	
GZR	**Gura Zlata**	**8.37**	**13**	‖ *i*P	Pn	19 51 52.2	+0.4	
BZS	**Buzias**	**8.43**	**7**	‖ *i*P	Pn	19 51 52.2	-0.3	
BZS	**Buzias**	**8.43**	**7**	‖ *i*P	Pn	19 51 52.2	-0.3	
ARR	**Arges**	**8.79**	**21**	‖ *i*P	Pn	19 51 58.5	+1.0	
ARR	**Arges**	**8.79**	**21**	‖ *i*P	Pn	19 51 58.5	+1.0	
VOIR		**8.97**	**23**	‖ *i*P	Pn	19 52 01.3	+1.2	
VOIR		**8.97**	**23**	‖ *i*P	Pn	19 52 01.3	+1.2	
SWA2		**9.15**	**149**	AMP		19 54 00.0		
	comp=E,40µm,0.7s,logA/T=4.8,baz=152							
SWA2		**9.15**	**149**	P	Pn	19 52 02.0	-0.5	
MLR	**Muntele Rosu**	**9.32**	**26**	‖ *i*P	Pn	19 52 06.8	+1.9	
MLR	**Muntele Rosu**	**9.32**	**26**	‖ *i*P	Pn	19 52 06.8	+1.9	
MLR	**Muntele Rosu**	**9.32**	**26**	Pn	Pn	19 52 06.9	+1.9	
	comp=E,0.2nm,0.3s,baz=217,slow=6.2,SNR=18							
PLOR	**Plostina**	**9.88**	**28**	‖ *i*P	Pn	19 52 14.3	+1.8	
PLOR	**Plostina**	**9.88**	**28**	‖ *i*P	Pn	19 52 14.3	+1.8	
VRI	**Vrincioaia**	**9.92**	**28**	‖ *i*P	Pn	19 52 15.0	+1.9	
VRI	**Vrincioaia**	**9.92**	**28**	‖ *i*P	Pn	19 52 15.0	+1.9	
BRTR	**Keskin Array B**	**10.88**	**73**	Pn	Pn	19 52 26.0	-0.3	
	comp=E,0.1nm,0.3s,baz=248,slow=14,SNR=2.4							
AWBH		**11.57**	**138**	P	Pn	19 52 34.9	-0.8	
	baz=140							
AWBH		**11.57**	**138**	P	Pn	19 52 34.9	-0.8	
HFRF	**Wahat Farafira**	**12.23**	**143**	P	Pn	19 52 43.5	-1.2	
	baz=145							
HFRF	**Wahat Farafira**	**12.23**	**143**	P	Pn	19 52 43.5	-1.2	
GLL	**Jalalah**	**12.34**	**125**	P	Pn	19 52 44.4	-1.8	
	baz=126							
GLL	**Jalalah**	**12.34**	**125**	P	Pn	19 52 44.4	-1.8	
GERES	**GERESS Array B**	**12.49**	**340**	Pn	Pn	19 52 48.7	+0.5	
	comp=E,0.2nm,0.3s,baz=161,slow=14,SNR=4.3							
SUZ		**12.92**	**121**	P	Pn	19 52 51.7	-2.4	
	baz=122							
SUZ		**12.92**	**121**	P	Pn	19 52 51.7	-2.4	
EIL	**Elat**	**14.50**	**117**	Pn	Pn	19 53 15.2	-0.6	
	comp=E,0.5nm,0.3s,baz=303,slow=12,SNR=4.8							
AKASG	**Malin Array Be**	**14.94**	**23**	Pn	Pn	19 53 21.3	-0.2	
	comp=E,0.2nm,0.3s,baz=211,slow=11,SNR=4.2							
HFS	**Hagfors**	**23.26**	**352**	P	P	19 54 58.2	+0.3	
	comp=E,2.5nm,0.6s,baz=161,slow=10,SNR=13							
EKA	**Eskdalemuir Ar**	**24.00**	**326**	P	P	19 55 07.5	+2.3	
	comp=E,1.1nm,0.7s,baz=134,slow=10,SNR=3.4							
FINES	**FINESS Array B**	**24.50**	**7**	P	P	19 55 09.2	-0.5	
	comp=E,1.0nm,0.4s,baz=184,slow=9.1,SNR=15							
KAF	**Kangasniemi**	**25.18**	**7**	*e*p	P	19 55 16.0	+0.1	
	comp=E,1.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**29.11**	**219**	P	P	19 55 55.7	+4.1	
	comp=E,1.0nm,0.7s,baz=30,slow=9.3,SNR=9.5							
ARCES	**ARCESS Array B**	**32.47**	**4**	P	P	19 56 20.7	-0.1	
	comp=E,0.7nm,0.5s,baz=191,slow=9.2,SNR=9.9							
MKAR	**Makanchi Array**	**46.06**	**58**	P	P	19 58 13.7	-0.9	
	comp=E,0.2nm,0.4s,baz=274,slow=6.9,SNR=9.0							
ZALV	**Zalesovo Beam**	**46.55**	**47**	P	P	19 58 17.4	-0.8	
	comp=E,0.8nm,0.4s,baz=288,slow=8

LAKA	Lakka	1.62	58	*e*Pg	Pg	20 23 30.0	-0.1
KLV	Kalavryta, Ach	1.65	66	P	Pn	20 23 27.3	-1.1
KLV				S	Sn	20 23 50.0	+0.2
KLV	Kalavryta, Ach	1.65	66	*e*PB	Pb	20 23 29.6	-0.2
KLV	Kalavryta, Ach	1.65	66	P	Pn	20 23 27.3	-1.1
KLV	Kalavryta, Ach	1.65	66	*e*Pb	Pb	20 23 29.6	-0.2
KLV				S	Sn	20 23 50.0	+0.2
EFP	Efpalio	1.68	51	*e*PB	Pb	20 23 29.5	-0.6
EFP	Efpalio	1.68	51	*e*Pb	Pb	20 23 29.5	-0.6
GUR	Goura	1.76	71	*e*PN	Pb	20 23 31.1	-0.5
GUR	Goura	1.76	71	*e*Pn	Pb	20 23 31.1	-0.5
KALE	Kalithea	1.81	56	*e*PN	Pb	20 23 32.5	+0.1
KALE	Kalithea	1.81	56	*e*Pn	Pb	20 23 32.5	+0.1
DESF	Desfina	2.08	60	*e*PB	Pn	20 23 35.6	+1.3
DESF	Desfina	2.08	60	*e*Pn	Pn	20 23 35.6	+1.3
IGT	Igoumenitsa	2.14	2	*e*PN	Pb	20 23 38.0	0.0
MAKR	Makrakomi, Fth	2.20	42	*e*PN	Pb	20 23 38.8	-0.3
AGG	Agios Georgios	2.32	45	*e*PB	Pb	20 23 39.4	-1.7
DID	Didima	2.39	86	*e*PN	Pb	20 23 41.3	-1.0
KYTH	Kithira	2.51	115	*e*PN	Pn	20 23 41.8	+1.7
KYTH	Kithira	2.51	115	*e*Pn	Pn	20 23 41.8	+1.7
NEST	Nestorio	3.08	12	*e*PN	Pb	20 23 51.5	-2.7

IDC **08** *20:35:11.4±2.4, 54°.20N×162°.72W, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/34, mbtmp3.8/14, ML3.6/2, Error ellipse: s-maj=61.0km s-min=17.1km az=155.0*

NEIC **08** *20:35:14.8, 54°.14N×162°.52W, h5km, ML3.5(AEIC), After AEIC.*

ISCJB **08** *20:35:15.9±0.8, 54°.13N±0°.07×162°.41W±0°.08, h53km±6km, mb3.8/12, Error ellipse: s-maj=13.2km s-min=5.4km az=154.6*

ISC 08 20:35:18.8±1.6, **54°.3N**±0°.1×**162°.58W**±0°.06, **h55**km±11km, **n64**, σ1°**07**/60, **mb3.8**/12, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	Deer Island	0.74	15	P	Pn	20 35 31.3	-1.9
FALS	False Pass	0.77	322	P	Pn	20 35 32.4	-1.3
FALS				S	Sn	20 35 45.1	+0.6
DTNA	Dutton South F	0.92	12	P	Pn	20 35 34.3	-1.3
SSLN	Shishaldin Nor	0.99	305	P	Pn	20 35 36.2	-0.3
SSLW	Shishaldin Wes	1.03	301	P	Pn	20 35 36.3	-0.9
SSBA	Shishaldin	1.04	301	P	Pn	20 35 36.2	-1.0
SSBA				S	Sn	20 35 53.0	+2.2
WESE	West Dahl East	1.19	281	P	Pn	20 35 38.1	-1.2
WESN	West Dahl Nort	1.21	286	P	Pn	20 35 38.6	-0.8
SDPT	Sand Point	1.64	47	P	Pn	20 35 44.9	-0.3
SDPT				S	Sn	20 36 07.3	+2.1
AKSA	Akutan Strait	1.83	268	P	Pn	20 35 46.5	-1.3
AKUT	Akutan	1.88	268	*e*Pn	Pn	20 35 46.5	-1.9
AKUT				*e*Sn	Sn	20 36 10.8	-0.1
AHB	Akutan Harbor	1.90	267	P	Pn	20 35 48.1	-0.7
AKGG	Akutan Green G	2.00	270	P	Pn	20 35 49.6	-0.6
AKGG				S	Sn	20 36 15.7	+1.7
ZRO	Akutan Zero	2.00	267	P	Pn	20 35 49.5	-0.7
LVA	Lava Point	2.03	269	P	Pn	20 35 50.2	-0.4
AKRB	Akutan Reef Bi	2.05	268	P	Pn	20 35 49.7	-1.1
MTBL	Makushin Table	2.43	265	P	Pn	20 35 56.1	0.0
MREP	Makushin Rep't	2.49	261	P	Pn	20 35 56.1	-0.8
MSW	Makushin Switc	2.50	264	P	Pn	20 35 55.7	-1.3
MCIR	Makushin Cirqu	2.55	265	P	Pn	20 35 57.8	0.0
OKFG	Magazine Ridge	3.27	257	P	Pn	20 36 06.9	-0.5
OKTU	Okmok Mt. Tuli	3.35	257	P	Pn	20 36 09.3	+0.7
ANPK	Aniakchak Peak	3.62	43	P	Pn	20 36 12.7	+0.3
OHAK	Old Harbor	6.03	57	*e*Pn	Pn	20 36 43.0	-2.3
KDAK	Kodiak Island	6.63	54	*e*Pn	Pn	20 36 51.5	-1.9
TNA	Tin City	11.65	349	*e*Pn	Pn	20 38 03.2	+1.2
ILAR	Eielson Array	13.17	31	Pn	Pn	20 38 19.1	-3.6
ILAR	Eielson Array 0.1nm,0.3s,baz=222,slow=14,SNR=4.0	13.17	31	Pn	Pn	20 38 19.1	-3.6
COLD	Coldfoot 3.4nm,0.7s	14.31	20	*e*Pn	Pn	20 38 39.3	+1.2
INK	Inuvik	19.54	33	P	P	20 39 39.2	-2.2
INK	Inuvik 0.2nm,0.3s,baz=237,slow=8.6,SNR=6.2	19.54	33	P	P	20 39 39.2	-2.2
PETK	Petropavlovsk-	23.34	284	P	P	20 40 21.5	-0.5
PETK	Petropavlovsk- 3.8nm,0.5s,baz=85,slow=12,SNR=8.5	23.34	284	P	P	20 40 21.5	-0.5
YKA	Yellowknife Ar	25.90	52	P	P	20 40 46.0	+0.8
YKA	Yellowknife Ar 0.5nm,0.5s,baz=270,slow=9.0,SNR=14	25.90	52	P	P	20 40 45.9	+0.8
H11N2	WAKE ISLAND Hy baz=29,slow=76,SNR=112	41.59	226	T	T	21 27 31.7	
H11N3	WAKE ISLAND Hy baz=29,slow=76,SNR=126	41.60	226	T	T	21 27 36.1	
H11N1	WAKE ISLAND Hy baz=29,slow=76,SNR=77	41.61	226	T	T	21 27 36.9	
H11S1	WAKE ISLAND Hy baz=27,slow=77,SNR=128	42.76	226	T	T	21 29 03.2	
H11S2	WAKE ISLAND Hy baz=27,slow=77,SNR=95	42.77	226	T	T	21 29 01.4	
H11S3	WAKE ISLAND Hy baz=27,slow=77,SNR=66	42.78	226	T	T	21 29 04.5	
KSRS	Korea Array 0.5nm,0.5s,baz=53,slow=7.6,SNR=4.4	49.16	280	P	P	20 44 00.5	-0.4
KSAR	Wonju Array Be	49.19	280	P	P	20 44 00.5	-0.6
SONM	Songino Array	53.75	303	P	P	20 44 34.9	-0.4
SONM				PcP	PcP	20 45 40.3	-0.3
SONM	Songino Array 0.2nm,0.7s,baz=35,slow=5.3,SNR=2.6	53.75	303	P	P	20 44 34.9	-0.4
SONM				PcP	PcP	20 45 40.3	-0.3
KURK	Kurchatov 0.3nm,0.7s,baz=22,slow=4.7,SNR=3.1	63.55	322	P	P	20 45 44.0	+0.9
KURBB	Kurchatov Arra 0.3nm,0.5s,baz=39,slow=5.5,SNR=4.3	63.66	322	P	P	20 45 44.0	+0.2
BVAR	Borovoye Array	64.41	328	P	P	20 45 48.9	+0.1
BVAR	Borovoye Array 0.9nm,0.5s,baz=41,slow=6.3,SNR=7.4	64.41	328	P	P	20 45 48.9	+0.1
FINES	FINESS Array B	64.44	355	P	P	20 45 48.1	-0.7
FINES	FINESS Array B 0.6nm,0.5s,baz=72,slow=6.2,SNR=5.7	64.44	355	P	P	20 45 48.1	-0.7
MKAR	Makanchi Array	65.34	317	P	P	20 45 54.6	-0.4
MKAR	Makanchi Array 0.2nm,0.6s,baz=33,slow=5.5,SNR=3.0	65.34	317	P	P	20 45 54.6	-0.4
HFS	Hagfors	65.92	2	P	P	20 45 58.3	-0.1
HFS	Hagfors 1.5nm,0.4s,baz=42,slow=2.4,SNR=12	65.92	2	P	P	20 45 58.3	-0.1
EKA	Eskdalemuir Ar	69.47	12	P	P	20 46 21.8	+0.9
EKA	Eskdalemuir Ar 1.9nm,0.8s,baz=354,slow=5.7,SNR=3.3	69.47	12	P	P	20 46 21.8	+0.9
AKASG	Malin Array Be	74.95	352	P	P	20 46 53.2	-0.4
AKASG	Malin Array Be 1.0nm,0.4s,baz=9.1,slow=7.0,SNR=5.0	74.95	352	P	P	20 46 53.2	-0.4
CMAR	Chiang Mai Arr	80.05	288	P	P	20 47 23.4	+0.8
CMAR	Chiang Mai Arr 0.9nm,0.8s,baz=17,slow=4.9,SNR=6.7	80.05	288	P	P	20 47 23.4	+0.8
H03N2	Juan Fernandez baz=321,slow=75,SNR=18	112.95	116	T	T	22 56 43.4	
H03N1	Juan Fernandez baz=321,slow=75,SNR=20	112.96	116	T	T	22 56 44.9	
H03N3	Juan Fernandez baz=321,slow=75,SNR=21	112.96	116	T	T	22 56 43.6	

ISCJB **08** *20:36:18.9±1.0, 37°.27N±0°.03×19°.93E±0°.04, h13km±8km, mb3.4/9, Error ellipse: s-maj=6.4km s-min=4.1km az=35.2*

IDC **08** *20:36:19.0±1.2, 37°.30N×20°.33E, h0km, mb3.5/9, mb1 3.5/13, mb1mx3.4/33, mbtmp3.4/13, ML3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/38, Error ellipse: s-maj=21.2km s-min=19.5km az=39.0*

CSEM **08** *20:36:19.2±0.3, 37°.26N×20°.03E, h2km, ML3.5, Error ellipse: s-maj=6.4km s-min=4.1km az=43.0*

ATH **08** *20:36:20.8, 37°.34N×20°.13E, h17km±1km, ML3.4*

THE **08** *20:36:21.5, 37°.32N×20°.16E, h0km±3km, ML3.5/5, Error ellipse: s-maj=4.0km s-min=1.5km az=260.0*

BEO **08** *20:36:21.5±1.9, 37°.44N×19°.93E, h0km, ML3.5/8*

SKO **08** *20:36:41.2, 38°.63N×21°.13E, h0km*

ISC 08 20:36:19.8±1.4, **37°.29N**±0°.04×**20°.05E**±0°.04, **h7**km±9km, **n162**, σ1°**13**/198, **mb3.6**/9, **2C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	Strofades	0.77	92	P	Pg	20 36 34.2	-0.4
SFD				S	Sg	20 36 45.5	+0.8
SFD	Strofades	0.77	92	*e*PN	Pg	20 36 34.3	-0.4
SFD				*e*SN	Sg	20 36 45.0	+0.3
SFD	Strofades	0.77	92	P	Pg	20 36 34.2	-0.4
SFD				*e*Sn	Sg	20 36 45.0	+0.3
VLS	Valsamata	0.99	26	P	Pg	20 36 38.0	-0.8
VLS				S	Sb	20 36 52.7	+0.1
VLS	Valsamata	0.99	26	*e*PN	Pg	20 36 38.3	-0.5
VLS				*e*SN	Sg	20 36 51.1	-0.6
VLS	Valsamata	0.99	26	P	Pg	20 36 37.4	-1.4
VLS	Valsamata	0.99	26	*e*Pn	Pg	20 36 38.3	-0.5
VLS				*e*Sn	Sg	20 36 51.1	-0.6
VLS				S	Sb	20 36 53.8	+1.2
KFL	Anninata	1.01	35	P	Pg	20 36 38.2	-1.0
KFL				S	Sg	20 36 52.1	-0.3
KFL	Anninata	1.01	35	P	Pg	20 36 37.6	-1.6
KFL				S	Sb	20 36 53.2	0.0
AMT	Artemida-Makis	1.35	79	P	Pn	20 36 44.5	-0.6
AMT				S	Sg	20 37 03.3	+0.2
AMT	Artemida-Makis	1.35	79	*e*PN	Pn	20 36 45.2	+0.1
AMT				*e*SN	Sg	20 37 02.8	-0.3
AMT	Artemida-Makis	1.35	79	P	Pn	20 36 44.5	-0.6
AMT	Artemida-Makis	1.35	79	*e*Pn	Pn	20 36 45.2	+0.1
AMT				*e*Sn	Sg	20 37 02.8	-0.3
AMT				S	Sg	20 37 03.3	+0.2
RLS	Riolos of Patr	1.37	55	P	Pn	20 36 44.5	-0.8
RLS				S	Sg	20 37 02.9	-0.8
RLS	Riolos of Patr	1.37	55	*e*PN	Pn	20 36 45.1	-0.2
RLS				*e*SN	Sg	20 37 02.4	-1.3
RLS	Riolos of Patr	1.37	55	P	Pn	20 36 44.5	-0.8
RLS	Riolos of Patr	1.37	55	*e*Pn	Pn	20 36 45.1	-0.2
RLS				*e*Sn	Sg	20 37 02.4	-1.3
RLS				S	Sb	20 37 03.8	+0.4
PYL	PYLOS	1.41	105	P	Pn	20 36 45.2	-0.7
PYL				S	Sb	20 37 04.8	+0.1
PYL	PYLOS	1.41	105	P	Pn	20 36 45.2	-0.7
PYL				S	Sb	20 37 02.4	-2.3
DRO	Drossia	1.48	63	P	Pn	20 36 47.0	+0.1
DRO	Drossia	1.48	63	*e*PN	Pn	20 36 47.4	+0.5
DRO				*e*SN	Sb	20 37 06.4	-0.3
DRO	Drossia	1.48	63	P	Pn	20 36 47.0	+0.1
DRO	Drossia	1.48	63	*e*Pn	Pn	20 36 47.4	+0.5
DRO				*e*Sn	Sb	20 37 06.4	-0.3
DRO				S	Sg	20 37 08.3	+0.9
ITM	Ithomi	1.50	93	P	Pn	20 36 46.9	-0.3
ITM	Ithomi	1.50	93	*e*PB	Pn	20 36 46.8	-0.4
ITM				*e*SN	Sn	20 37 07.6	+0.5
ITM	Ithomi	1.50	93	P	Pn	20 36 46.9	-0.3
ITM				S	Sn	20 37 04.2	-2.9
ITM				*e*Sn	Sn	20 37 07.6	+0.5
LKD2	Lefkada island	1.58	18	P	Pn	20 36 49.0	+0.8
LKD2	Lefkada island	1.58	18	*e*PN	Pb	20 36 49.4	+0.1
LKD2	Lefkada island	1.58	18	P	Pn	20 36 49.1	+0.8
LKD2	Lefkada island	1.58	18	*e*Pn	Pb	20 36 49.4	+0.1
LKD2				S	Sg	20 37 13.7	+3.2
PDO	Prodromos	1.59	34	P	Pn	20 36 49.4	+1.0
PDO	Prodromos	1.59	34	*e*PN	Pn	20 36 49.4	+1.0
PDO				*e*SN	Sn	20 37 09.4	+0.1
PDO	Prodromos	1.59	34	P	Pn	20 36 49.4	+1.0
PDO				*e*Sn	Sn	20 37 09.4	+0.1
PDO				S	Sg	20 37 10.9	0.0
PVO	Paravola	1.77	41	P	Pn	20 36 52.1	+1.2
PVO				S	Sg	20 37 18.1	+1.4
PSA1	Psathopyrgos	1.79	54	*e*PN	Pb	20 36 52.5	-0.4
LAKA	Lakka	1.80	57	P	Pn	20 36 52.2	+0.8
LAKA	Lakka	1.80	57	*e*PN	Pn	20 36 52.6	+1.2
LAKA	Lakka	1.80	57	P	Pn	20 36 52.2	+0.8
KLV	Kalavryta, Ach	1.83	65	P	Pn	20 36 52.4	+0.6
KLV	Kalavryta, Ach	1.83	65	*e*PN	Pn	20 36 52.0	+0.2
KLV	Kalavryta, Ach	1.83	65	*e*Pn	Pn	20 36 52.0	+0.2
KLV	Kalavryta, Ach	1.83	65	P	Pn	20 36 52.4	+0.6
VLX	Vlachokerasia	1.86	87	P	Pn	20 36 53.5	+1.3
VLX				S	Sb	20 37 18.1	+0.3
VLX	Vlachokerasia	1.86	87	*e*PB	Pn	20 36 52.4	+0.2
VLX	Vlachokerasia	1.86	87	*e*Pn	Pn	20 36 52.4	+0.2
VLX	Vlachokerasia	1.86	87	P	Pn	20 36 53.5	+1.3
VLX				S	Sb	20 37 18.1	+0.3
EFP	Efpalio	1.86	52	P	Pn	20 36 53.3	+1.2
EFP	Efpalio	1.86	52	*e*PN	Pn	20 36 53.1	+1.0
EFP	Efpalio	1.86	52	P	Pn	20 36 53.3	+1.2
GUR	Goura	1.94	70	P	Pn	20 36 53.8	+0.5
GUR				S	Sn	20 37 18.8	+0.9
GUR	Goura	1.94	70	*e*PB	Pn	20 36 53.3	0.0
GUR	Goura	1.94	70	*e*Pb	Pn	20 36 53.3	0.0
GUR	Goura	1.94	70	P	Pn	20 36 53.8	+0.5
GUR				S	Sn	20 37 18.8	+0.9
KALE	Kalithea	1.99	56	*e*PN	Pn	20 36 55.2	+1.2
EVR	Evrytania	2.14	40	*e*PN	Pn	20 36 57.8	+1.7
EVR	Evrytania	2.14	40	*e*Pn	Pn	20 36 57.8	+1.7
IGT	Igoumenitsa	2.26	6	*e*PB	Pn	20 36 58.5	+0.9
IGT	Igoumenitsa	2.26	6	*e*Pb	Pn	20 36 58.5	+0.9
DSF	Desfina	2.26	59	*e*PN	Pn	20 36 59.5	+1.7
DESF	Desfina	2.27	59	*e*PN	Pn	20 36 59.5	+1.7
VLI	Veliai	2.38	103	P	Pn	20 37 00.6	+1.3
VLI	Veliai	2.38	103	*e*PN	Pn	20 37 00.9	+1.6
VLI	Veliai	2.38	103	P	Pn	20 37 00.6	+1.3
MAKR	Makrakomi, Fth	2.38	43	P	Pn	20 37 00.9	+1.5
MAKR	Makrakomi, Fth	2.38	43	*e*PN	Pn	20 37 00.8	+1.4
MAKR	Makrakomi, Fth	2.38	43	*e*Pn	Pn	20 37 00.8	+1.4
LTK	Loutraki	2.43	71	*e*PB	Pn	20 37 00.7	+0.7
LTK	Loutraki	2.43	71	*e*Pb	Pn	20 37 00.7	+0.7
JAN	Janina	2.45	15	*e*PB	Pn	20 37 01.5	+1.2
JAN	Janina	2.45	15	*e*Pb	Pn	20 37 01.5	+1.2
AGG	Agios Georgios	2.50	45	P	Pn	20 37 01.9	+0.9
AGG	Agios Georgios	2.50	45	*e*PN	Pn	20 37 01.9	+0.9
AGG	Agios Georgios	2.50	45	P	Pn	20 37 01.9	+0.9
DID	Didima	2.55	84	P	Pn	20 37 01.6	-0.1
DID	Didima	2.55	84	*e*PN	Pn	20 37 01.9	+0.2
DID	Didima	2.55	84	P	Pn	20 37 01.6	-0.1
DID	Didima	2.55	84	*e*Pn	Pn	20 37 01.9	+0.2
KYTH	Kithira	2.60	112	P	Pn	20 37 04.0	+1.7
KYTH	Kithira	2.60	112	*e*PN	Pn	20 37 04.1	+1.7
LKR	Lokris	2.70	59	*e*PN	Pn	20 37 04.1	+0.4
VIL2	Platees	2.72	69	*e*PN	Pn	20 37 05.1	+1.2
THL	Klokotos Trika	2.75	34	P	Pn	20 37 05.6	+1.2
THL	Klokotos Trika	2.75	34	*e*PN	Pn	20 37 05.6	+1.2
THL	Klokotos Trika	2.75	34	P	Pn	20 37 05.6	+1.2
NAIG	Nisos Aigina	2.78	79	*e*PB	Pn	20 37 06.3	+1.6
NAIG	Nisos Aigina	2.78	79	*e*Pb	Pn	20 37 06.3	+1.6
SMIA	Simia	2.96	57	*e*PN	Pn	20 37 07.4	+0.1
SMIA	Simia	2.96	57	*e*Pn	Pn	20 37 07.4	+0.1
ATH	Athens Observa	2.99	76	*e*PN	Pn	20 37 09.0	+1.3
PTL	Penteli	3.12	75	*e*PN	Pn	20 37 10.7	+1.2
NEO	Neokhori	3.21	50	*e*PN	Pn	20 37 11.9	+1.1
NEO	Neokhori	3.21	50	*e*Pn	Pn	20 37 11.9	+1.1
NEST	Nestorio	3.22	14	*e*PB	Pn	20 37 13.4	+2.5
NEST	Nestorio	3.22	14	*e*Pb	Pn	20 37 13.4	+2.5
XOR	Xorichti	3.23	49	*e*PN	Pn	20 37 12.2	+1.2
XOR	Xorichti	3.23	49	*e*Pn	Pn	20 37 12.2	+1.2
KZN	Kozani	3.30	24	*e*PN	Pn	20 37 13.6	+1.5
KZN	Kozani	3.30	24	*e*Pn	Pn	20 37 13.6	+1.5
LIT	Litokhoron	3.40	33	*e*PN	Pn	20 37 13.8	+0.5
LIT	Litokhoron	3.40	33	*e*Pn	Pn	20 37 13.8	+0.5
FNA	Florina	3.64	16	*e*PN	Pn	20 37 17.9	+1.2
FNA	Florina	3.64	16	*e*Pn	Pn	20 37 17.9	+1.2
BIA	Bitola	3.86	15	*e*PN	Pn	20 37 21.1	+1.4
BIA	Bitola	3.86	15	*e*Pn	Pn	20 37 21.0	+1.4
PLG	Polygyros	4.07	40	*e*PN	Pn	20 37 23.3	+0.8
PLG	Polygyros	4.07	40	*e*Pn	Pn	20 37 23.3	+0.8
HORT	Hortiatis	4.08	35	*e*PN	Pn	20 37 23.3	+0.6
HORT	Hortiatis	4.08	35	*e*Pn	Pn	20 37 23.3	+0.6
SOH	Sokhos	4.37	35	*e*PN	Pn	20 37 27.5	+0.8
SOH	Sokhos	4.37	35	*e*Pn	Pn	20 37 27.5	+0.8
IDI	Anoyia 0.3nm,0.3s,baz=302,slow=17,SNR=4.2	4.39	116	Pn	Pn	20 37 24.8	-2.2
IDI				Sn	Sn	20 38 13.0	-5.4
	1.7nm,0.3s,baz=329,slow=22,SNR=4.4						
KNT	Kendrikon	4.46	29	*e*PN	Pn	20 37 29.3	+1.4
KNT	Kendrikon	4.46	29	*e*Pn	Pn	20 37 29.3	+1.4
VAY	Valandovo	4.48	25	*e*PN	Pn	20 37 28.4	+0.3
VAY	Valandovo	4.48	25	*e*Pn	Pn	20 37 28.1	0.0
VAY	Valandovo	4.48	25	*e*Pn	Pn	20 37 28.4	+0.3
SRS	Serrai	4.71	35	*e*PN	Pn	20 37 32.3	+0.9
SRS	Serrai	4.71	35	*e*Pn	Pn	20 37 32.3	+0.9
SKO	Skopje	4.80	13	*e*PN	Pn	20 37 34.3	+1.7
SKO	Skopje	4.80	13	*e*Pn	Pn	20 37 34.7	+2.1
NVR	Nevrokopi	5.02	35	*e*PN	Pn	20 37 37.0	+1.4
NVR	Nevrokopi	5.02	35	*e*Pn	Pn	20 37 37.0	+1.4
TREB	Trebinje	5.58	347	*e*PN	Pn	20 37 42.7	-0.6
TREB	Trebinje	5.58	347	*e*Pn	Pn	20 37 42.7	-0.6
VTS	Vitosha	5.83	24	*i*Pn	Pn	20 37 47.7	+0.9
VTS				*e*Sn	Sn	20 38 51.6	-2.4
VTS	Vitosha	5.83	24	*i*Pn	Pn	20 37 47.7	+0.9
STON	Ston	5.86	343	*e*PN	Pn	20 37 46.9	-0.2
STON				Sn	Sn	20 38 50.9	-3.6
STON	Ston	5.86	343	*e*Pn	Pn	20 37 47.3	+0.2
STON	Ston	5.86	343	*e*Pn	Pn	20 37 47.3	+0.2
SJES	Sjenica	5.97	359	*e*PN	Pn	20 37 48.0	-0.7
SJES	Sjenica	5.97	359	*e*Pn	Pn	20 37 48.0	-0.7
SELS	Selova	5.99	8	*e*PN	Pn	20 37 48.8	0.0
LTBQ	Tobruq SNR=23	6.12	147	*i*P	Pn	20 37 48.9	-1.7
IVAS	Ivanjica	6.29	1	*e*PN	Pn	20 37 52.8	-0.2
IVAS	Ivanjica	6.29	1	*e*Pn	Pn	20 37 52.8	-0.2
ZAPS	Zavoj	6.30	17	*e*PN	Pn	20 37 53.8	+0.6
BOVS	Bovan	6.47	11	*e*PN	Pn	20 37 55.2	-0.2
BBLS	Lazići	6.59	356	*e*PN	Pn	20 37 56.6	-0.6
BBLS	Lazići	6.59	356	*e*Pn	Pn	20 37 56.6	-0.6
GRUS	Gruza	6.62	4	*e*PN	Pn	20 37 56.5	-1.0
GRUS	Gruza	6.62	4	*e*Pn	Pn	20 37 56.5	-1.0
DIVS	Divibare	6.81	360	*e*PN	Pn	20 37 59.4	-0.8
DIVS	Divibare	6.81	360	*e*Pn	Pn	20 37 59.4	-0.8
TEKS	Tekeris	7.27	357	*e*PN	Pn	20 38 05.9	-0.5
TEKS	Tekeris	7.27	357	*e*Pn	Pn	20 38 05.9	-0.5
NVLJ	Novalja	8.26	333	*e*PN	Pn	20 38 22.2	+2.2
NVLJ				Sn	Sn	20 39 50.8	-2.7
NVLJ	Novalja	8.26	333	*e*Pn	Pn	20 38 22.1	+2.2
MLR	Muntele Rosu 0.1nm,0.3s,baz=183,slow=15,SNR=9.9	9.32	27	Pn	Pn	20 38 36.2	+1.6
DAVOX	Davos/Dischmat	12.12	325	LR	LR	20 45 04.1	
	comp=Z,15nm,28.6s,baz=335,slow=43						
GERES	GERESS Array B 0.1nm,0.3s,baz=148,slow=15,SNR=3.8	12.44	340	Pn	Pn	20 39 18.3	+0.9
ESDC	Sonseca Array 0.2nm,0.3s,baz=83,slow=10,SNR=4.3	18.94	285	P	Pn	20 40 45.7	+3.7
HFS	Hagfors 1.0nm,0.5s,baz=163,slow=10,SNR=9.0	23.23	352	P	P	20 41 27.3	0.0
EKA	Eskdalemuir Ar 0.4nm,0.4s,baz=131,slow=8.7,SNR=2.9	23.95	326	P	P	20 41 35.4	+1.0
NB2	NORSAR Subarra comp=Z,1.9nm,0.7s,baz=162,slow=10	24.42	350	P	P	20 41 39.7	+0.8
NB2	NORSAR Subarra comp=Z,1.9nm,0.7s,SNR=4.0	24.42	350	P	P	20 41 39.7	+0.8
NOA	NORSAR Array B comp=Z,0.7nm,0.5s,baz=162,slow=9.8,SNR=2.8	24.42	350	P	P	20 41 39.8	+1.0
FINES	FINESS Array B comp=Z,2.1nm,0.9s,baz=182,slow=8.2,SNR=8.4	24.48	7	P	P	20 41 38.5	-0.8
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.8s,baz=30,slow=9.1,SNR=3.8	29.10	219	P	P	20 42 22.7	+1.4
ARCES	ARCESS Array B comp=Z,1.3nm,0.9s,baz=180,slow=9.8,SNR=5.5	32.45	4	P	P	20 42 49.5	-0.8
KURBB	Kurchatov Arra comp=Z,0.2nm,0.5s,baz=279,slow=8.8,SNR=2.6	43.06	53	P	P	20 44 19.0	-1.2
MKAR	Makanchi Array comp=Z,0.2nm,0.6s,baz=286,slow=6.4,SNR=4.5	46.09	58	P	P	20 44 43.2	-1.3
ZALV	Zalesovo Beam comp=Z,0.5nm,0.5s,baz=284,slow=8.0,SNR=2.5	46.57	47	P	P	20 44 46.3	-1.8

MEX 08 20:42:35.2±1.1, **19°.02N**×**105°.35W**, **h11**km±49km, **MD4.0**, **Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.56	31	*i*P	Pg	20 42 45.3	-0.8
CJM				*i*S	Sg	20 42 52.3	-1.3
R15V		1.30	83	*i*P	Pn	20 42 54.8	-4.6
R15V				*i*S	Sb	20 43 12.5	-4.1
EZ5V		1.71	74	*e*P	Pn	20 43 02.3	-3.1
EZ5V				*i*S

STKA	**Stephens Creek**	**38.55**	**243**	P		P		20 57 33.0	0.0
	1.7nm,0.8s,baz=78,slow=9.3,SNR=2.4								
WRA	**Warramunga Arr**	**45.04**	**261**	P		P		20 58 26.6	+0.2
	0.3nm,0.3s,baz=96,slow=8.0,SNR=43								
ASAR	**Alice Springs**	**45.06**	**256**	P		P		20 58 26.5	0.0
	1.3nm,0.5s,baz=98,slow=7.7,SNR=32								
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P		P		20 59 30.6	-0.1
	0.7nm,0.4s,baz=91,slow=8.0,SNR=3.0								
ILAR	**Eielson Array**	**87.12**	**13**	P		P		21 02 56.2	+0.5
	0.2nm,0.4s,baz=225,slow=6.5,SNR=5.9								
CMAR	**Chiang Mai Arr**	**89.98**	**289**	P		P		21 03 09.2	-1.1
	0.5nm,0.6s,baz=123,slow=4.4,SNR=2.8								

MAN 08 21:00:04,6.77N×123.64E,h1km,mb4.7,ML3.6,MS3.6, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.75**	**53**	*e*P	Pg	21 00 18.6	+0.2
CTBH				*i* S	Sg	21 00 28.9	+0.7
PAGZ	**Pagadian**	**1.10**	**346**	*e*P	Pb	21 00 26.2	+0.2
PAGZ				*e*S	Sn	21 00 42.8	+0.2
IPIL	**Ipil**	**1.47**	**314**	*e*P	Pb	21 00 32.2	0.0
BUKP	**Musuan**	**1.79**	**52**	*e*P	Pn	21 00 36.3	+0.2
CGP	**Cagayan de Oro**	**1.97**	**32**	*i* P	Pn	21 00 39.1	+0.5
CGP				*i* S	Sb	21 01 05.9	0.0

*ISCJB **08** 21:04:01.9±0.4,34°.89N±0°.03×23°.46E±0°.03,h62km±4km, mb3.8/11, Error ellipse: s-maj=5.6km s-min=3.4km az=36.3*
*CSEM **08** 21:04:02.1±0.2,34°.79N×23°.45E,h40km,ML3.4, Error ellipse: s-maj=5.0km s-min=3.1km az=43.0*
*ATH **08** 21:04:03.2,35°.05N×23°.48E,h39km±1km,ML3.2*
*THE **08** 21:04:04.2,34°.92N×23°.51E,h38km±6km,ML3.4/2, Error ellipse: s-maj=6.7km s-min=1.1km az=102.0*
*IDC **08** 21:04:04.8±1.9,35°.04N×23°.43E,h62km±15km,mb3.6/11, mb1 3.6/15,mb1mx3.5/33,mbtmp3.5/15, Error ellipse: s-maj=19.5km s-min=16.6km az=17.0*
*HLW **08** 21:04:06.3,34°.78N×24°.01E,h33km±30km,Md0.0,Ml3.8*

ISC 08 21:04:02.4±0.5,34°.85N±0°.02×23°.45E±0°.03,h50km±5km, n204,σ1°15/217,mb3.9/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.53**	**91**	P	**Pn**	**21 04 13.5**	**-0.5**
GVD				S	**Sn**	**21 04 21.8**	**-0.4**
GVD	**Gavdhos**	**0.53**	**91**	P	**Pn**	21 04 13.5	-0.5
GVD				S	**Sn**	21 04 21.8	-0.4
VAM	**Vamos**	**0.83**	**48**	P	**Pn**	21 04 17.6	-0.2
VAM				S	**Sn**	21 04 28.6	-0.5
VAM	**Vamos**	**0.83**	**48**	*e*PN	**Pn**	21 04 17.6	-0.2
VAM				*e*SN	**Sn**	21 04 28.1	-1.0
VAM	**Vamos**	**0.83**	**48**	P	**Pn**	21 04 17.6	-0.2
VAM				*e*Sn	**Sn**	21 04 28.1	-1.0
ANKY	**Antikythira Is**	**1.02**	**353**	P	**Pn**	21 04 21.4	+1.0
ANKY				S	**Sn**	21 04 34.0	+0.4
ANKY	**Antikythira Is**	**1.02**	**353**	*e*PN	**Pn**	21 04 20.5	+0.1
ANKY				*e*SN	**Sn**	21 04 31.4	-2.2
ANKY	**Antikythira Is**	**1.02**	**353**	*e*Pn	**Pn**	21 04 20.5	+0.1
ANKY	**Antikythira Is**	**1.02**	**353**	P	**Pn**	21 04 21.4	+1.0
ANKY				*e*Sn	**Sn**	21 04 31.4	-2.2
ANKY				S	**Sn**	21 04 34.0	+0.4
SIVA	**Sivas**	**1.13**	**81**	P	**Pn**	21 04 22.7	+0.8
SIVA	**Sivas**	**1.13**	**81**	*e*PB	**Pn**	21 04 22.7	+0.8
SIVA				*e*SN	**Sn**	21 04 38.5	+2.2
SIVA	**Sivas**	**1.13**	**81**	P	**Pn**	21 04 22.7	+0.8
SIVA				*e*Sn	**Sn**	21 04 38.5	+2.2
IDI	**Anoyia**	**1.26**	**69**	*e*P	**Pn**	21 04 24.8	+1.1
IDI				*e*S	**Sn**	21 04 41.4	+1.8
IDI	**Anoyia**	**1.26**	**69**	P	**Pn**	21 04 24.7	+1.0
IDI	**Anoyia**	**1.26**	**69**	*e*PN	**Pn**	21 04 24.8	+1.1
IDI				*e*SN	**Sn**	21 04 40.7	+1.1
IDI	**Anoyia**	**1.26**	**69**	P	**Pn**	21 04 24.7	+1.0
IDI				*e*Sn	**Sn**	21 04 40.7	+1.1
IDI	**Anoyia**	**1.26**	**69**	P	**Pn**	21 04 24.6	+1.0
	52nm,0.3s,baz=254,slow=13,SNR=321						
IDI				S	**Sn**	**21 04 41.9**	**+2.3**
	54nm,0.3s,baz=337,slow=20,SNR=9.1						
KYTH	**Kithira**	**1.46**	**347**	P	**Pn**	**21 04 27.7**	**+1.2**
KYTH	**Kithira**	**1.46**	**347**	*e*PN	**Pn**	21 04 26.6	+0.1
KYTH	**Kithira**	**1.46**	**347**	*e*Pn	**Pn**	21 04 26.6	+0.1
KYTH	**Kithira**	**1.46**	**347**	P	**Pn**	21 04 27.7	+1.2
LAST	**Lasithi**	**1.69**	**79**	P	**Pn**	21 04 31.0	+1.3
LAST				S	**Sn**	21 04 50.4	+0.2
LAST	**Lasithi**	**1.69**	**79**	*e*PN	Pn	21 04 31.5	+1.8
LAST				*e*SN	**Sn**	21 04 52.1	+1.9
LAST	**Lasithi**	**1.69**	**79**	P	**Pn**	21 04 31.0	+1.3
LAST	**Lasithi**	**1.69**	**79**	*e*Pn	Pn	21 04 31.5	+1.8
LAST				S	**Sn**	21 04 50.4	+0.2
LAST				*e*Sn	**Sn**	21 04 52.1	+1.8
NPS	**Neapolis**	**1.82**	**76**	P	**Pn**	**21 04 31.0**	**-0.3**
NPS	**Neapolis**	**1.82**	**76**	*e*PB	Pn	21 04 33.3	+2.0
NPS				*e*SN	**Sn**	**21 04 54.3**	**+1.0**
NPS	**Neapolis**	**1.82**	**76**	P	**Pn**	**21 04 31.0**	**-0.3**
NPS	**Neapolis**	**1.82**	**76**	*e*Pb	Pn	21 04 33.3	+2.0
NPS				*e*Sn	**Sn**	**21 04 54.3**	**+1.0**
VLI	**Veliai**	**1.91**	**348**	P	**Pn**	**21 04 33.7**	**+1.2**
VLI	**Veliai**	**1.91**	**348**	*e*PN	**Pn**	**21 04 32.6**	**+0.1**
VLI				*e*SN	**Sn**	**21 04 53.8**	**-1.5**
VLI	**Veliai**	**1.91**	**348**	*e*Pn	**Pn**	**21 04 32.6**	**+0.1**
VLI	**Veliai**	**1.91**	**348**	P	**Pn**	**21 04 33.7**	**+1.2**
VLI				*e*Sn	**Sn**	**21 04 53.8**	**-1.5**
SANT	**Santorini**	**2.23**	**47**	P	**Pn**	**21 04 36.9**	**-0.1**
SANT	**Santorini**	**2.23**	**47**	*e*PN	**Pn**	**21 04 36.9**	**-0.1**
SANT				*e*SN	**Sn**	**21 05 02.5**	**-0.8**
SANT	**Santorini**	**2.23**	**47**	P	**Pn**	**21 04 36.9**	**-0.1**
SANT				*e*Sn	**Sn**	**21 05 02.5**	**-0.8**
THR1	**Thera Island**	**2.23**	**47**	P	**Pn**	**21 04 36.7**	**-0.3**
THR1	**Thera Island**	**2.23**	**47**	P	**Pn**	**21 04 36.7**	**-0.3**
THR2	**Thira island,**	**2.27**	**45**	P	**Pn**	**21 04 37.3**	**-0.1**
THR2	**Thira island,**	**2.27**	**45**	P	**Pn**	**21 04 37.3**	**-0.1**
ZKR	**Zakros**	**2.29**	**83**	P	**Pn**	**21 04 39.2**	**+1.5**
ZKR	**Zakros**	**2.29**	**83**	*e*PN	Pn	21 04 39.7	+2.0
ZKR				*e*SN	**Sn**	**21 05 06.8**	**+2.1**
ZKR	**Zakros**	**2.29**	**83**	P	**Pn**	**21 04 39.2**	**+1.5**
ZKR	**Zakros**	**2.29**	**83**	*e*Pn	Pn	21 04 39.7	+2.0
ZKR				*e*Sn	**Sn**	**21 05 06.8**	**+2.1**
ITM	**Ithomi**	**2.63**	**332**	P	**Pn**	**21 04 43.4**	**+1.0**
ITM				S	**Sn**	**21 05 13.9**	**+0.8**
ITM	**Ithomi**	**2.63**	**332**	*e*PN	**Pn**	**21 04 43.5**	**+1.0**
ITM	**Ithomi**	**2.63**	**332**	P	**Pn**	**21 04 43.4**	**+1.0**
ITM				S	**Sn**	**21 05 13.9**	**+0.8**
DID	**Didima**	**2.65**	**356**	P	**Pn**	**21 04 42.6**	**-0.1**
DID	**Didima**	**2.65**	**356**	*e*PN	**Pn**	**21 04 42.8**	**+0.1**
DID	**Didima**	**2.65**	**356**	*e*Pn	**Pn**	**21 04 42.8**	**+0.1**
VLX	**Vlachokerasia**	**2.66**	**341**	*e*PN	**Pn**	**21 04 43.2**	**+0.3**
VLX	**Vlachokerasia**	**2.66**	**341**	*e*Pn	**Pn**	**21 04 43.2**	**+0.3**
APE	**Apeiranthos**	**2.78**	**37**	*e*P	**Pn**	**21 04 44.0**	**-0.5**
APE				*e*S	**Sn**	**21 05 15.2**	**-1.7**
APE	**Apeiranthos**	**2.78**	**37**	*e*PN	**Pn**	**21 04 43.7**	**-0.8**
APE	**Apeiranthos**	**2.78**	**37**	*e*Pn	**Pn**	**21 04 43.7**	**-0.8**
APE	**Apeiranthos**	**2.78**	**37**	*e*P	**Pn**	**21 04 44.0**	**-0.5**
LTBQ	**Tobruq** SNR=76	**2.82**	**172**	*i* P	**Pn**	**21 04 45.9**	**+0.9**
LTBQ				*e*S	**Sn**	**21 05 19.8**	**+2.1**
	46nm,0.4s,SNR=76						
NAIG	**Nisos Aigina**	**2.90**	**1**	*e*PN	**Pn**	**21 04 46.5**	**+0.4**
AMT	**Artemida-Makis**	**3.02**	**333**	*e*PN	**Pn**	**21 04 48.8**	**+1.0**
AMT	**Artemida-Makis**	**3.02**	**333**	*e*Pn	**Pn**	**21 04 48.8**	**+1.0**
KARP	**Karpathos**	**3.12**	**76**	P	**Pn**	**21 04 49.5**	**+0.4**
KARP				S	**Sn**	**21 05 25.7**	**+0.6**
KARP	**Karpathos**	**3.12**	**76**	P	**Pn**	**21 04 49.5**	**+0.4**
KARP				S	**Sn**	**21 05 25.7**	**+0.6**
ATH	**Athens Observa**	**3.12**	**4**	*e*PN	**Pn**	**21 04 50.0**	**+0.9**
LTK	**Loutraki**	**3.19**	**353**	*e*PN	**Pn**	**21 04 50.3**	**+0.3**
LTK	**Loutraki**	**3.19**	**353**	*e*Pn	**Pn**	**21 04 50.3**	**+0.3**
GUR	**Goura**	**3.20**	**344**	P	Pn	21 04 51.9	+1.5
GUR	**Goura**	**3.20**	**344**	*e*PN	**Pn**	**21 04 51.0**	**+0.6**
GUR	**Goura**	**3.20**	**344**	*e*Pn	**Pn**	**21 04 51.0**	**+0.6**
GUR	**Goura**	**3.20**	**344**	P	Pn	21 04 51.9	+1.5
PTL	**Penteli**	**3.21**	**6**	*e*PN	**Pn**	**21 04 50.4**	**+0.1**
VILL	**Villia**	**3.31**	**358**	*e*Pn	**Pn**	**21 04 52.3**	**+0.6**
KLV	**Kalavryta, Ach**	**3.35**	**342**	P	**Pn**	**21 04 53.3**	**+1.0**
KLV	**Kalavryta, Ach**	**3.35**	**342**	*e*PN	**Pn**	**21 04 53.6**	**+1.3**
KLV	**Kalavryta, Ach**	**3.35**	**342**	P	**Pn**	**21 04 53.3**	**+1.0**
KLV	**Kalavryta, Ach**	**3.35**	**342**	*e*Pn	**Pn**	**21 04 53.6**	**+1.3**
VIL2	**Platees**	**3.35**	**358**	*e*PN	**Pn**	**21 04 52.3**	**-0.1**
DRO	**Drossia**	**3.40**	**336**	*e*PN	**Pn**	**21 04 54.1**	**+1.2**
DRO	**Drossia**	**3.40**	**336**	*e*Pn	**Pn**	**21 04 54.1**	**+1.2**
RLS	**Riolos of Patr**	**3.57**	**334**	*e*PN	Pn	21 04 57.0	+1.7
RLS	**Riolos of Patr**	**3.57**	**334**	*e*Pn	Pn	21 04 57.0	+1.7
LAKA	**Lakka**	**3.58**	**341**	*e*PN	**Pn**	**21 04 56.4**	**+0.9**
LAKA	**Lakka**	**3.58**	**341**	*e*Pn	**Pn**	**21 04 56.4**	**+0.9**
DSF	**Desfina**	**3.63**	**348**	*e*PN	**Pn**	**21 04 56.7**	**+0.6**
DSF	**Desfina**	**3.63**	**348**	*e*Pn	**Pn**	**21 04 56.7**	**+0.6**
DESF	**Desfina**	**3.63**	**349**	*e*PN	**Pn**	**21 04 56.8**	**+0.7**
DESF	**Desfina**	**3.63**	**349**	*e*Pn	**Pn**	**21 04 56.8**	**+0.7**
KALE	**Kalithea**	**3.68**	**344**	*e*PN	**Pn**	**21 04 57.6**	**+0.7**
KALE	**Kalithea**	**3.68**	**344**	*e*Pn	**Pn**	**21 04 57.6**	**+0.7**
EFP	**Efpalio**	**3.77**	**341**	*e*PN	**Pn**	**21 04 58.7**	**+0.6**
EFP	**Efpalio**	**3.77**	**341**	*e*Pn	**Pn**	**21 04 58.7**	**+0.6**
LKR	**Lokris**	**3.81**	**355**	*e*PN	**Pn**	**21 04 59.0**	**+0.5**
LKR	**Lokris**	**3.81**	**355**	*e*Pn	**Pn**	**21 04 59.0**	**+0.5**
BODT	**Bodrum**	**3.83**	**54**	*e*P	**Pn**	**21 04 58.9**	**0.0**
BODT	**Bodrum**	**3.83**	**54**	*e*P	**Pn**	**21 04 58.9**	**0.0**
SMG	**Samos**	**3.95**	**43**	*e*PN	**Pn**	**21 05 01.1**	**+0.6**
SMG	**Samos**	**3.95**	**43**	*e*Pn	**Pn**	**21 05 01.1**	**+0.6**
SMIA	**Simia**	**4.02**	**357**	*e*PN	**Pn**	**21 05 02.1**	**+0.6**
SMIA	**Simia**	**4.02**	**357**	*e*Pn	**Pn**	**21 05 02.1**	**+0.6**
VLS	**Valsamata**	**4.04**	**326**	*e*PN	**Pn**	**21 05 01.2**	**-0.5**
VLS	**Valsamata**	**4.04**	**326**	*e*Pn	**Pn**	**21 05 01.2**	**-0.5**
ARG	**Arkhangelos**	**4.05**	**69**	*e*PN	**Pn**	**21 05 02.7**	**+0.8**
ARG	**Arkhangelos**	**4.05**	**69**	*e*Pn	**Pn**	**21 05 02.7**	**+0.8**
CHOS	**Chios island**	**4.10**	**30**	*e*PN	**Pn**	**21 05 01.7**	**-1.0**
CHOS	**Chios island**	**4.10**	**30**	*e*Pn	**Pn**	**21 05 01.7**	**-1.0**
PDO	**Prodromos**	**4.16**	**335**	*e*PN	Pn	21 05 05.5	+2.2
PDO	**Prodromos**	**4.16**	**335**	*e*Pn	Pn	21 05 05.5	+2.2
AGG	**Agios Georgios**	**4.25**	**348**	*e*PN	**Pn**	**21 05 05.6**	**+0.9**
AGG	**Agios Georgios**	**4.25**	**348**	*e*Pn	**Pn**	**21 05 05.6**	**+0.9**
EVR	**Evrytania**	**4.26**	**343**	*e*PN	**Pn**	**21 05 05.8**	**+0.9**
EVR	**Evrytania**	**4.26**	**343**	*e*Pn	**Pn**	**21 05 05.8**	**+0.9**
MAKR	**Makrakomi, Fth**	**4.28**	**346**	*e*PN	**Pn**	**21 05 05.8**	**+0.7**
MAKR	**Makrakomi, Fth**	**4.28**	**346**	*e*Pn	**Pn**	**21 05 05.8**	**+0.7**
SKIA	**Skiathos**	**4.30**	**0**	*e*PN	**Pn**	**21 05 05.8**	**+0.4**
SKIA	**Skiathos**	**4.30**	**0**	*e*Pn	**Pn**	**21 05 05.8**	**+0.4**
NEO	**Neokhori**	**4.45**	**358**	*e*PN	**Pn**	**21 05 07.0**	**-0.4**
NEO	**Neokhori**	**4.45**	**358**	*e*Pn	**Pn**	**21 05 07.0**	**-0.4**
YER	**Yerkesik**	**4.53**	**58**	*e*P	**Pn**	**21 05 09.7**	**+1.2**
YER	**Yerkesik**	**4.53**	**58**	*e*P	**Pn**	**21 05 09.7**	**+1.2**
DALY	**Dalyan (Mu˘la**	**4.66**	**64**	*e*P	**Pn**	**21 05 11.5**	**+1.3**
DALY	**Dalyan (Mu˘la**	**4.66**	**64**	*e*P	**Pn**	**21 05 11.5**	**+1.3**
THL	**Klokotos Trika**	**4.84**	**347**	*e*PN	**Pn**	**21 05 12.9**	**+0.2**
THL	**Klokotos Trika**	**4.84**	**347**	*e*Pn	**Pn**	**21 05 12.9**	**+0.2**
PRK	**Paraskevi**	**4.93**	**26**	*e*PN	**Pn**	**21 05 13.4**	**-0.5**
PRK	**Paraskevi**	**4.93**	**26**	*e*Pn	**Pn**	**21 05 13.4**	**-0.5**
LIA	**Limnos Island**	**5.22**	**15**	*e*PN	**Pn**	**21 05 17.3**	**-0.6**
LIA	**Limnos Island**	**5.22**	**15**	*e*Pn	**Pn**	**21 05 17.3**	**-0.6**
JAN	**Janina**	**5.22**	**337**	*e*PN	**Pn**	**21 05 18.8**	**+0.8**
JAN	**Janina**	**5.22**	**337**	*e*Pn	**Pn**	**21 05 18.8**	**+0.8**
IGT	**Igoumenitsa**	**5.29**	**333**	*e*PN	**Pn**	**21 05 19.9**	**+1.0**
IGT	**Igoumenitsa**	**5.29**	**333**	*e*Pn	**Pn**	**21 05 19.9**	**+1.0**
OUR	**Ouranopolis**	**5.49**	**4**	*e*PN	**Pn**	**21 05 22.2**	**+0.6**
OUR	**Ouranopolis**	**5.49**	**4**	*e*Pn	**Pn**	**21 05 22.2**	**+0.6**
KULA	**Kula-Manisa**	**5.56**	**47**	*e*P	**Pn**	**21 05 23.1**	**+0.4**
ELL	**Elmali**	**5.58**	**68**	*e*P	**Pn**	**21 05 23.7**	**+0.7**
ELL	**Elmali**	**5.58**	**68**	*e*P	**Pn**	**21 05 23.7**	**+0.7**
KZN	**Kozani**	**5.60**	**347**	*e*PN	**Pn**	**21 05 23.8**	**+0.6**
KZN	**Kozani**	**5.60**	**347**	*e*Pn	**Pn**	**21 05 23.8**	**+0.6**
KEK	**Kerkira**	**5.66**	**330**	*e*PN	**Pn**	**21 05 25.2**	**+1.3**
HORT	**Hortiatis**	**5.74**	**357**	*e*PN	Pn	21 05 26.6	+1.5
HORT	**Hortiatis**	**5.74**	**357**	*e*Pn	Pn	21 05 26.6	+1.5
SWA2		**5.85**	**163**	P	**Pn**	**21 05 26.2**	**-0.4**
	baz=167						
SWA2				AMP		21 06 00.0	
	comp=E,80μm,0.5s,logA/T=5.2,baz=167						
SWA2		**5.85**	**163**	P	**Pn**	**21 05 26.2**	**-0.4**
NEST	**Nestorio**	**5.87**	**342**	*e*PN	**Pn**	**21 05 28.3**	**+1.4**
NEST	**Nestorio**	**5.87**	**342**	*e*Pn	**Pn**	**21 05 28.3**	**+1.4**
SOH	**Sokhos**	**5.96**	**359**	*e*PN	**Pn**	**21 05 28.5**	**+0.4**
SOH	**Sokhos**	**5.96**	**359**	*e*Pn	**Pn**	**21 05 28.5**	**+0.4**
GELI	**Tayfur-Gelibol**	**6.03**	**23**	*e*P	**Pn**	**21 05 28.7**	**-0.4**
GELI	**Tayfur-Gelibol**	**6.03**	**23**	*e*P	**Pn**	**21 05 28.7**	**-0.4**
FNA	**Florina**	**6.14**	**345**	*e*PN	**Pn**	**21 05 31.7**	**+1.1**
FNA	**Florina**	**6.14**	**345**	*e*Pn	**Pn**	**21 05 31.7**	**+1.1**
SRS	**Serrai**	**6.25**	**1**	*e*PN	**Pn**	**21 05 33.0**	**+0.9**
SRS	**Serrai**	**6.25**	**1**	*e*Pn	**Pn**	**21 05 33.0**	**+0.9**
ERIK	**Erikli-Kesan**	**6.29**	**22**	*e*P	**Pn**	**21 05 31.9**	**-0.7**
ERIK	**Erikli-Kesan**	**6.29**	**22**	*e*P	**Pn**	**21 05 31.9**	**-0.7**
KNT	**Kendrikon**	**6.31**	**356**	*e*PN	**Pn**	**21 05 33.6**	**+0.7**
KNT	**Kendrikon**	**6.31**	**356**	*e*Pn	**Pn**	**21 05 33.6**	**+0.7**
BIA	**Bitola**	**6.38**	**345**	*i* Pn	**Pn**	**21 05 34.0**	**+0.1**
BIA	**Bitola**	**6.38**	**345**	*i* Pn	**Pn**	**21 05 33.9**	**+0.1**
NVR	**Nevrokopi**	**6.49**	**3**	*e*PN	**Pn**	**21 05 35.1**	**-0.3**
NVR	**Nevrokopi**	**6.49**	**3**	*e*Pn	**Pn**	**21 05 35.1**	**-0.3**
VAY	**Valandovo**	**6.49**	**354**	*i* Pn	**Pn**	**21 05 36.5**	**+1.2**
VAY	**Valandovo**	**6.49**	**354**	*i* Pn	Pn	21 05 37.0	+1.6
LFK	**Lefkose**	**8.28**	**84**	*e*P	Pn	21 06 03.6	+3.6
IKL	**Isikli**	**8.46**	**78**	*e*P	Pn	21 05 57.8	-4.5
KOT	**Kottamia**	**8.62**	**122**	P	Pn	21 06 01.5	-3.1
	baz=124						
KOT	**Kottamia**	**8.62**	**122**	P	Pn	21 06 01.5	-3.1
HSAF	**As Saff**	**8.62**	**125**	P	**Pn**	**21 06 02.6**	**-2.0**
	baz=126						
HSAF	**As Saff**	**8.62**	**125**	P	**Pn**	**21 06 02.6**	**-2.0**
HFRF	**Wahat Farafira**	**8.74**	**150**	P	**Pn**	**21 06 04.9**	**-1.3**
	baz=153						
HFRF	**Wahat Farafira**	**8.74**	**150**	P	**Pn**	**21 06 04.9**	**-1.3**
GLL	**Jalalah**	**8.75**	**125**	P	**Pn**	**21 06 03.5**	**-2.9**
	baz=126						
GLL	**Jalalah**	**8.75**	**125**	P	**Pn**	**21 06 03.5**	**-2.9**
SUZ		**9.38**	**120**	P	**Pn**	**21 06 12.3**	**-2.7**
	baz=121						
SUZ		**9.38**	**120**	P	**Pn**	**21 06 12.3**	**-2.7**
BRTR	**Keskin Array B**	**9.46**	**56**	P	**Pn**	**21 06 16.9**	**+0.7**
	comp=E,0.1nm,0.3s,baz=275,slow=12,SNR=5.0						
MMAI	**Mount Meron Ar**	**10.10**	**97**	P	**Pn**	**21 06 22.2**	**-2.7**
	comp=E,1.3nm,0.3s,baz=293,slow=11,SNR=9.7						
MMAI				S	**Sn**	**21 08 11.1**	**-5.6**
	comp=E,1.1nm,0.3s,baz=278,slow=25,SNR=2.0						
HNKL	**Nakhl**	**10.16**	**116**	S	Sn	21 08 05.1	-13
	baz=117						
HNKL	**Nakhl**	**10.16**	**116**	S	Sn	21 08 05.1	-13
GRB	**Gharib**	**10.32**	**127**	P	**Pn**	**21 06 25.1**	**-2.7**
	baz=128						
GRB	**Gharib**	**10.32**	**127**	P	**Pn**	**21 06 25.1**	**-2.7**
EIL	**Elat**	**11.02**	**115**	P	**Pn**	**21 06 35.3**	**-2.1**
	comp=E,0.7nm,0.3s,baz=323,slow=5.1,SNR=6.5						
EIL				S	Sn	21 08 32.6	-6.6
	comp=E,0.6nm,0.3s,baz=360,slow=12,SNR=2.1						
UDBI	**Udbina**	**11.32**	**331**	*e*Pn	**Pn**	**21 06 39.5**	**-2.1**
UDBI				Sn	Sn	21 08 36.0	-11
NVLJ	**Novalja**	**11.72**	**328**	*i* Pn	**Pn**	**21 06 43.9**	**-3.0**
NVLJ				Sn	Sn	21 08 44.0	-12
GERES	**GERESS Array B**	**15.73**	**336**	P	**Pn**	**21 07 39.3**	**-1.4**
	comp=E,0.1nm,0.3s,baz=151,slow=11,SNR=3.2						
KHC	**Kasperske Hory**	**16.08**	**336**	*e*P	**P**	**21 07 48.1**	**+1.1**
DPC	**Dobruska-Polom**	**16.34**	**344**	*e*P	**P**	**21 07 51.5**	**+1.0**
AKASG	**Malin Array Be**	**16.39**	**13**	P	**Pn**	**21 07 48.5**	**-0.3**
	comp=E,1.2nm,0.3s,baz=210,slow=10.0,SNR=4.9						
PRU	**Pruhonice**	**16.47**	**339**	*e*P	**P**	**21 07 52.6**	**+0.6**
KBZ	**Khabaz**	**17.44**	**54**	P	**P**	**21 08 03.5**	**+0.9**
	comp=E,0.1nm,0.3s,baz=229,slow=11,SNR=5.0						
KBZ				S	Sn	21 11 00.5	-15
	comp=E,0.1nm,0.3s,baz=314,slow=16,SNR=1.7						
HFS	**Hagfors**	**26.08**	**349**	P	**P**	**21 09 30.5**	**-0.6**
	comp=E,1.5nm,0.4s,baz=155,slow=11,SNR=16						
FINES	**FINESS Array B**	**26.66**	**3**	P	**P**	**21 09 34.7**	**-1.5**
	comp=E,2.4nm,0.9s,baz=161,slow=8.1,SNR=5.0						
NB2	**NORSAR Subarra**	**27.36**	**347**	P	**P**	**21 09 42.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**27.36**	**347**	P	**P**	**21 09 42.0**	**-0.6**
	comp=Z,0.4nm,0.3s,SNR=3.4						
NOA	**NORSAR Array B**	**27.36**	**347**	P	**P**	**21 09 42.2**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=159,slow=9.9,SNR=5.8						
EKA	**Eskdalemuir Ar**	**27.50**	**326**	P	**P**	**21 09 44.7**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=126,slow=8.1,SNR=6.3						
TORD	**Torodi r. Bea**	**29.23**	**228**	P	**P**	**21 10 01.9**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=35,slow=8.9,SNR=11						
ARCES	**ARCESS Array B**	**34.75**	**1**	P	**P**	**21 10 46.2**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=182,slow=8.5,SNR=8.2						
SPITS	**Spitsbergen Ar**	**43.53**	**358**	P	**P**	**21 12 01.0**	**+0.3**
	comp=Z,9.2nm,1.1s,baz=153,slow=13,SNR=7.6						
MKAR	**Makanchi Array**	**45.11**	**56**	P	**P**	**21 12 13.9**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=268,slow=7.7,SNR=80						
MKAR				PcP	**PcP**	**21 13 53.6**	**0.0**
	comp=Z,0.6nm,0.9s,baz=280,slow=3.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**46.23**	**46**	P	**P**	**21 12 21.6**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=274,slow=9.7,SNR=7.5						
SONM	**Songino Array**	**60.76**	**50**	P	**P**	**21 14 09.8**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=288,slow=6.6,SNR=14						
YKA	**Yellowknife Ar**	**77.30**	**341**	P	**P**	**21 15 52.3**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=31,slow=5.3,SNR=4.5						
WRA	**Warramunga Arr**	**117.95**	**96**	PKP	**PKPdf**	**21 22 44.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=318,slow=1.9,SNR=3.0						
ASAR	**Alice Springs**	**119.38**	**100**	PKP	**PKPdf**	**21 22 47.4**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=346,slow=1.1,SNR=3.6						

*ATH **08** 21:10:33.5,37°.24N×19°.93E,h5km,MD3.5/10*
*CSEM **08** 21:10:35.4±0.8,37°.28N×20°.09E,h2km,ML2.5, Error ellipse: s-maj=15.1km s-min=6.8km az=56.0*
*THE **08** 21:10:36.7,37°.32N×20°.13E,h6km±2km,ML2.5/2, Error ellipse: s-maj=2.8km s-min=1.4km az=247.0*

ISC 08 21:10:35.2±2.5,37°.29N±0°.06×20°.06E±0°.09,h5km±11km, n54,σ0°.54/72,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.76**	**92**	P	**Pg**	**21 10 50.0**	**+0.1**
SFD				S	**Sb**	**21 11 01.8**	**+0.2**
SFD	**Strofades**	**0.76**	**92**	*e*PB	**Pg**	**21 10 50.2**	**+0.3**
SFD				*e*SB	**Sb**	**21 11 02.7**	**+1

EGUA Guajares 2.56 38 P Pn 21 13 16.1 -0.6
29nm,0.3s,SNR=7.9
SELV Sierra Elvira 2.82 31 P Pn 21 13 21.8 +1.6
6.9nm,0.5s,SNR=7.9
SELV S Sn 21 13 54.2 +0.3
12nm,0.6s,SNR=7.9
SELV Sierra Elvira 2.82 31 P Pn 21 13 21.8 +1.6
6.9nm,0.5s,SNR=7.9
SELV S Sn 21 13 54.2 +0.3
12nm,0.6s,SNR=7.9
ELUQ Luque 2.91 20 P Pn 21 13 23.2 +1.6
2.1nm,0.2s,SNR=7.9
ELUQ S Sn 21 13 56.7 +0.4
7.2nm,0.2s,SNR=7.9
ELUQ Luque 2.91 20 P Pn 21 13 23.2 +1.6
2.1nm,0.2s,SNR=7.9
ELUQ S Sn 21 13 56.7 +0.4
7.2nm,0.2s,SNR=7.9
EQUE Quentar 2.92 35 P Pn 21 13 23.3 +1.6
3.0nm,0.3s,SNR=10
EQUE S Sn 21 13 56.6 +0.1
3.9nm,0.3s
EQUE Quentar 2.92 35 P Pn 21 13 23.3 +1.6
3.0nm,0.3s,SNR=10
EQUE S Sn 21 13 56.6 +0.1
3.9nm,0.3s
ECOG Cogollos-Vega 2.92 33 P Pn 21 13 23.3 +1.6
10nm,0.4s,SNR=7.9
ECOG S Sn 21 13 58.0 +1.4
5.0nm,0.3s,SNR=7.9
ECOG Cogollos-Vega 2.92 33 P Pn 21 13 23.3 +1.6
10nm,0.4s,SNR=7.9
ECOG S Sn 21 13 58.0 +1.4
5.0nm,0.3s,SNR=7.9
ZFT Errachidia 2.97 160 P Pn 21 13 23.0 +0.6
ZFT S Sn 21 13 56.0 -1.9
ZFT Errachidia 2.97 160 P Pn 21 13 23.0 +0.6
ZFT S Sn 21 13 56.0 -1.9
EBER Berja 2.98 46 P Pn 21 13 22.4 -0.3
7.4nm,0.4s,SNR=31
EBER S Sn 21 13 58.1 -0.2
52nm,0.4s
EBER Berja 2.98 46 P Pn 21 13 22.4 -0.3
7.4nm,0.4s,SNR=31
EBER S Sn 21 13 58.1 -0.2
52nm,0.4s
EMIN Mina Concepcio 3.06 343 P Pn 21 13 23.6 0.0
1.1nm,0.2s,SNR=23
EMIN S Sn 21 13 57.6 -2.4
7.2nm,0.2s
EMIN Mina Concepcio 3.06 343 P Pn 21 13 23.6 0.0
1.1nm,0.2s,SNR=23
EMIN S Sn 21 13 57.6 -2.4
7.2nm,0.2s
PBDV Barranco-do-Ve 3.08 322 *e*Pn Pn 21 13 24.1 +0.2
PBDV *e*Sn Sn 21 13 59.3 -1.2
PBDV A A 21 14 00.7
41nm,0.2s
PBDV Barranco-do-Ve 3.08 322 *e*Pn Pn 21 13 24.1 +0.2
PBDV *e*Sn Sn 21 13 59.3 -1.2
41nm,0.2s
PVAQ Vaqueiros 3.11 326 *e*Pn Pn 21 13 24.5 +0.3
PVAQ *e*Sn Sn 21 13 59.7 -1.4
PVAQ A A 21 14 00.8
85nm,0.3s
PVAQ Vaqueiros 3.11 326 *e*Pn Pn 21 13 24.5 +0.3
PVAQ *e*Sn Sn 21 13 59.7 -1.4
85nm,0.3s
EGRO El Granado 3.12 330 ⇑P Pn 21 13 24.7 +0.4
6.5nm,0.1s,SNR=18
EGRO S Sn 21 14 00.2 -1.1
44nm,0.2s
EGRO El Granado 3.12 330 P Pn 21 13 24.7 +0.4
6.5nm,0.1s,SNR=18
EGRO S Sn 21 14 00.2 -1.1
44nm,0.2s
ECAB El Cabril 3.24 2 P Pn 21 13 26.1 +0.1
1.9nm,0.1s,SNR=33
ECAB S Sn 21 14 02.0 -2.3
11nm,0.2s
ECAB El Cabril 3.24 2 P Pn 21 13 26.1 +0.1
1.9nm,0.1s,SNR=33
ECAB S Sn 21 14 02.0 -2.3
11nm,0.2s
GORA Gorafe 3.33 37 P Pn 21 13 29.3 +2.0
4.9nm,0.2s,SNR=7.9
GORA S Sn 21 14 07.2 +0.5
11nm,0.3s,SNR=7.9
GORA Gorafe 3.33 37 P Pn 21 13 29.3 +2.0
4.9nm,0.2s,SNR=7.9
GORA S Sn 21 14 07.2 +0.5
11nm,0.3s,SNR=7.9
EADA Adamuz 3.42 13 P Pn 21 13 28.8 +0.3
1.9nm,0.2s,SNR=7.9
EADA S Sn 21 14 06.9 -1.9
12nm,0.3s,SNR=7.9
EADA Adamuz 3.42 13 P Pn 21 13 28.8 +0.3
1.9nm,0.2s,SNR=7.9
EADA S Sn 21 14 06.9 -1.9
12nm,0.3s,SNR=7.9
PCVE Castro Verde 3.44 325 *e*Pn Pn 21 13 29.2 +0.4
PCVE *e*Sn Sn 21 14 07.2 -2.1
PCVE A A 21 14 09.4
42nm,0.3s
PCVE Castro Verde 3.44 325 *e*Pn Pn 21 13 29.2 +0.4
PCVE *e*Sn Sn 21 14 07.2 -2.1
42nm,0.3s
PFVI Vila Bisbo 3.51 312 P Pn 21 13 29.6 -0.2
4.3nm,0.2s,SNR=13
PFVI S Sn 21 14 10.0 -1.1
31nm,0.2s,SNR=7.9
PFVI Vila Bisbo 3.51 312 *e*Pn Pn 21 13 29.6 -0.2
PFVI *e*Sn Sn 21 14 09.9 -1.1
PFVI A A 21 14 15.4
18nm,0.4s
PFVI Vila Bisbo 3.51 312 *e*Pn Pn 21 13 29.6 -0.2
PFVI *e*Sn Sn 21 14 09.9 -1.1
18nm,0.4s
MORF Marmelete 3.52 315 P Pn 21 13 29.7 -0.2
SNR=7.9
MORF S Sn 21 14 09.4 -2.0
SNR=7.9
MORF Marmelete 3.52 315 *e*Pn Pn 21 13 29.9 0.0
MORF *e*Sn Sn 21 14 10.1 -1.3
MORF A A 21 14 12.1
34nm,0.2s
MORF Marmelete 3.52 315 *e*Pn Pn 21 13 29.9 0.0
MORF S Sn 21 14 09.4 -2.0
SNR=7.9
MORF *e*Sn Sb 21 14 10.1 -10
34nm,0.2s
PBAR Barrancos 3.54 341 *e*Pn Pn 21 13 30.3 +0.1
PBAR *e*Sn Sn 21 14 09.5 -2.3
PBAR A A 21 14 15.4
25nm,0.4s
PBAR Barrancos 3.54 341 *e*Pn Pn 21 13 30.3 +0.1
PBAR *e*Sn Sn 21 14 09.5 -2.3
25nm,0.4s
EQES Quesada 3.57 33 P Pn 21 13 32.2 +1.5
4.3nm,0.3s,SNR=20
EQES S Sn 21 14 13.6 +0.8
6.4nm,0.3s
EQES Quesada 3.57 33 P Pn 21 13 32.2 +1.5
4.3nm,0.3s,SNR=20
EQES S Sn 21 14 13.6 +0.8
6.4nm,0.3s
PBEJ Beja 3.69 330 *e*Pn Pn 21 13 32.6 +0.3
PBEJ *e*Sn Sn 21 14 13.4 -2.1
PBEJ A A 21 14 14.9
20nm,0.3s
PBEJ Beja 3.69 330 *e*Pn Pn 21 13 32.6 +0.3
PBEJ *e*Sn Sn 21 14 13.4 -2.1
20nm,0.3s
MESJ Messejana 3.69 325 *e*P Pn 21 13 32.5 +0.3
MESJ *e*S Sn 21 14 13.5 -2.0
MESJ AML AML 21 14 15.7
comp=E,93nm,0.3s
MESJ Messejana 3.69 325 P Pn 21 13 32.1 -0.2
SNR=7.9
MESJ S Sn 21 14 13.3 -2.3
SNR=7.9
MESJ Messejana 3.69 325 P Pn 21 13 32.1 -0.2
SNR=7.9
MESJ S Sn 21 14 13.3 -2.3
SNR=7.9
PTEO Sao Teotonio 3.73 317 *e*Pn Pn 21 13 32.9 +0.1
PTEO *e*Sn Sn 21 14 15.4 -1.0
PTEO A A 21 14 17.8
comp=E,30nm,0.1s
PTEO Sao Teotonio 3.73 317 *e*Pn Pn 21 13 32.9 +0.1
PTEO *e*Sn Sn 21 14 15.4 -1.0
comp=E,30nm,0.1s
EHUE Huescar 3.81 38 P Pn 21 13 35.8 +1.8
comp=E,2.3nm,0.3s,SNR=7.9
EHUE S Sn 21 14 19.0 +0.4
comp=E,4.5nm,0.4s,SNR=7.9
EHUE Huescar 3.81 38 P Pn 21 13 35.8 +1.8
comp=E,2.3nm,0.3s,SNR=7.9
EHUE S Sn 21 14 19.0 +0.4
comp=E,4.5nm,0.4s,SNR=7.9
PNCL Nicolau / Gran 4.06 325 *e*Pn Pn 21 13 37.6 +0.3
PNCL *e*Sn Sn 21 14 22.2 -2.3
PNCL A A 21 14 34.7
comp=E,23nm,0.5s
PNCL Nicolau / Gran 4.06 325 *e*Pn Pn 21 13 37.6 +0.3
PNCL *e*Sn Sn 21 14 22.2 -2.3
comp=E,23nm,0.5s
SESP Santiago Espad 4.08 36 P Pn 21 13 39.1 +1.4
comp=E,2.7nm,0.4s,SNR=7.9
SESP S Sn 21 14 24.5 -0.7
comp=E,6.6nm,0.4s,SNR=7.9
SESP Santiago Espad 4.08 36 P Pn 21 13 39.1 +1.4
comp=E,2.7nm,0.4s,SNR=7.9
SESP S Sn 21 14 24.5 -0.7
comp=E,6.6nm,0.4s,SNR=7.9
EBAD Badajoz 4.09 344 P Pn 21 13 37.9 +0.3
comp=E,3.0nm,0.2s,SNR=46
EBAD S Sn 21 14 22.6 -2.6
comp=E,23nm,0.2s
EBAD Badajoz 4.09 344 P Pn 21 13 37.9 +0.3
comp=E,3.0nm,0.2s,SNR=46
EBAD S Sn 21 14 22.6 -2.6
comp=E,23nm,0.2s
OUK Oukaimeden 4.11 209 P Pn 21 13 39.0 +0.8
OUK S Sn 21 14 25.0 -1.2
OUK Oukaimeden 4.11 209 P Pn 21 13 39.0 +0.8
OUK S Sn 21 14 25.0 -1.2
EVO Evora 4.19 332 *e*P Pn 21 13 39.7 +0.6
EVO *e*Sn Sn 21 14 20.6 -7.1
comp=E,95nm,0.3s
CIA Chichaoua 4.23 220 P Pn 21 13 42.0 +2.4
CIA S Sn 21 14 28.0 -0.8
CIA Chichaoua 4.23 220 P Pn 21 13 42.0 +2.4
CIA S Sn 21 14 28.0 -0.8
EVOP Sao Brissos 4.23 331 *e*P Pn 21 13 39.7 +0.1
PESTR Estremoz 4.35 338 *e*Pn Pn 21 13 42.5 +1.3
PESTR *e*Sn Sn 21 14 29.9 -1.7
PESTR A A 21 14 32.7
comp=E,13nm,0.3s
PESTR Estremoz 4.35 338 *e*Pn Pn 21 13 42.5 +1.3
PESTR *e*Sn Sn 21 14 29.9 -1.7
comp=E,13nm,0.3s
EVIA Vianos 4.52 32 P Pn 21 13 44.3 +0.7
comp=E,6.7nm,0.3s,SNR=5.7
EVIA S Sn 21 14 34.3 -1.7
comp=E,13nm,0.3s,SNR=7.9
EVIA Vianos 4.52 32 P Pn 21 13 44.3 +0.7
comp=E,6.7nm,0.3s,SNR=5.7
EVIA S Sn 21 14 34.3 -1.7
comp=E,13nm,0.3s,SNR=7.9
EMUR La Murta 4.59 48 P Pn 21 13 45.3 +0.7
comp=E,1.6nm,0.3s,SNR=7.9
EMUR S Sn 21 14 35.8 -2.0
comp=E,2.5nm,0.4s,SNR=7.9
EMUR La Murta 4.59 48 P Pn 21 13 45.3 +0.7
comp=E,1.6nm,0.3s,SNR=7.9
EMUR S Sn 21 14 35.8 -2.0
comp=E,2.5nm,0.4s,SNR=7.9
PACT Alcochete 4.73 327 *e*Pn Pn 21 13 47.9 +1.4
PACT *e*Sn Sn 21 14 40.2 -0.8
PACT A A 21 14 46.0
comp=E,14nm,0.2s
PACT Alcochete 4.73 327 *e*Pn Pn 21 13 47.9 +1.4
PACT *e*Sn Sn 21 14 40.2 -0.8
comp=E,14nm,0.2s
PMTG Montargil 4.74 334 *e*Pn Pn 21 13 46.9 +0.3
PMTG *e*Sn Sn 21 14 39.2 -2.1
PMTG A A 21 14 40.9
comp=E,16nm,0.4s
PMTG Montargil 4.74 334 *e*Pn Pn 21 13 46.9 +0.3
PMTG *e*Sn Sn 21 14 39.2 -2.1
comp=E,16nm,0.4s
PMRV Marv??o 4.82 343 *e*Pn Pn 21 13 48.4 +0.7
PMRV *e*Sn Sn 21 14 40.6 -2.6
PMRV A A 21 14 43.7
comp=E,16nm,0.9s
PMRV Marv??o 4.82 343 *e*Pn Pn 21 13 48.4 +0.7
PMRV *e*Sn Sn 21 14 40.6 -2.6
comp=E,16nm,0.9s
ETOB Tobarra 4.98 39 P Pn 21 13 50.4 +0.4
comp=E,2.1nm,0.3s,SNR=7.9
ETOB S Sn 21 14 45.7 -1.6
comp=E,2.1nm,0.4s,SNR=7.9
ETOB Tobarra 4.98 39 P Pn 21 13 50.4 +0.4
comp=E,2.1nm,0.3s,SNR=7.9
ETOB S Sn 21 14 45.7 -1.6
comp=E,2.1nm,0.4s,SNR=7.9
ESDC Sonseca Array 4.99 14 P Pn 21 13 50.3 +0.1
comp=E,1.4nm,0.2s,baz=196,slow=12,SNR=15
ESDC S Sn 21 14 44.8 -2.9
comp=E,2.8nm,0.2s,baz=197,slow=23,SNR=7.9
ESDC Sonseca Array 4.99 14 P Pn 21 13 50.3 +0.1
comp=E,1.4nm,0.2s,SNR=15
ESDC S Sn 21 14 44.8 -2.9
comp=E,2.8nm,0.2s,SNR=7.9
PMAFR Mafra 5.09 325 P Pn 21 13 51.8 +0.4
comp=E,5.5nm,0.2s,SNR=7.9
PMAFR S Sn 21 14 47.7 -2.2
comp=E,42nm,0.3s,SNR=7.9
PMAFR Mafra 5.09 325 *e*Pn Pn 21 13 52.2 +0.8
PMAFR *e*Sn Sn 21 14 48.3 -1.6
PMAFR A A 21 15 01.7
comp=E,20nm,0.6s
PMAFR Mafra 5.09 325 P Pn 21 13 51.8 +0.4
comp=E,5.5nm,0.2s,SNR=7.9
PMAFR Mafra 5.09 325 *e*Pn Pn 21 13 52.2 +0.8
PMAFR *e*Sn Sn 21 14 47.7 -2.2
comp=E,42nm,0.3s,SNR=7.9
PMAFR *e*Sn Sb 21 14 48.3 -17
comp=E,20nm,0.6s
PCBR Castelo Branco 5.23 343 *e*Pn Pn 21 13 54.1 +0.8
PCBR *e*Sn Sn 21 14 49.2 -4.2
PCBR A A 21 14 52.0
comp=E,14nm,0.3s
PCBR Castelo Branco 5.23 343 *e*Pn Pn 21 13 54.1 +0.8
PCBR *e*Sn Sn 21 14 49.2 -4.2
comp=E,14nm,0.3s
EPLA Plasencia 5.24 356 P Pn 21 13 54.0 +0.5
comp=E,1.7nm,0.2s,SNR=7.9
EPLA S Sn 21 14 48.8 -4.9
comp=E,4.7nm,0.2s,SNR=7.9
EPLA Plasencia 5.24 356 P Pn 21 13 54.0 +0.5
comp=E,1.7nm,0.2s,SNR=7.9
PTOM Tomar 5.29 335 *e*Pn Pn 21 13 55.2 +1.0
PTOM *e*Sn Sn 21 14 52.3 -2.7
PTOM A A 21 14 54.2
comp=E,24nm,0.3s
PTOM Tomar 5.29 335 *e*Pn Pn 21 13 55.2 +1.0
PTOM *e*Sn Sn 21 14 52.3 -2.7
comp=E,24nm,0.3s
PCAS Casmilo, Conde 5.71 337 *e*Pn Pn 21 14 01.1 +1.1
PCAS *e*Sn Sn 21 15 03.2 -2.1
PCAS A A 21 15 04.7
comp=E,6.3nm,0.3s
PCAS Casmilo, Conde 5.71 337 *e*Pn Pn 21 14 01.1 +1.1
PCAS *e*Sn Sn 21 15 03.2 -2.1
comp=E,6.3nm,0.3s
MTE Manteigas 5.78 345 *e*Pn Pn 21 14 01.7 +0.8
MTE *e*Sn Sn 21 15 03.2 -3.8
MTE A A 21 15 06.1
comp=E,18nm,0.5s
MTE Manteigas 5.78 345 *e*Pn Pn 21 14 01.7 +0.8
GUD Guadarrama 5.90 10 P Pn 21 14 02.7 0.0
comp=E,0.6nm,0.2s,SNR=7.9
GUD S Sn 21 15 05.6 -4.6
comp=E,1.7nm,0.2s,SNR=7.9
GUD Guadarrama 5.90 10 P Pn 21 14 02.7 0.0
comp=E,0.6nm,0.2s,SNR=7.9
PVIS Viseu 6.16 343 *e*Pn Pn 21 14 07.3 +1.1
PVIS *e*Sn Sn 21 15 12.9 -3.5
PVIS A A 21 15 15.1
comp=E,7.4nm,0.3s
PVIS Viseu 6.16 343 *e*Pn Pn 21 14 07.3 +1.1
PVIS *e*Sn Sn 21 15 12.9 -3.5
comp=E,7.4nm,0.3s
MVO Moncorvo 6.43 350 P Pn 21 14 09.5 -0.4
comp=E,3.0nm,0.3s,SNR=7.9
MVO S Sn 21 15 18.8 -4.3
comp=E,11nm,0.3s,SNR=7.9
MVO Moncorvo 6.43 350 *e*Pn Pn 21 14 10.8 +0.9
MVO *e*Sn Sn 21 15 20.2 -2.8
MVO A A 21 15 21.6
comp=E,13nm,0.3s
MVO Moncorvo 6.43 350 P Pn 21 14 09.5 -0.4
comp=E,3.0nm,0.3s,SNR=7.9
MVO Moncorvo 6.43 350 *e*Pn Pn 21 14 10.8 +0.9
MVO *e*Sn Sn 21 15 20.2 -2.8
comp=E,13nm,0.3s
ETOR Torete 6.58 24 ⇑P Pn 21 14 11.6 -0.4
comp=E,2.9nm,0.2s,SNR=18
ETOR S Sn 21 15 23.1 -3.7
comp=E,9.2nm,0.3s,SNR=7.9
ETOR Torete 6.58 24 P Pn 21 14 11.6 -0.4
comp=E,2.9nm,0.2s,SNR=18
PVRL Vila Real 6.65 346 *e*Pn Pn 21 14 13.4 +0.4
PVRL *e*Sn Sn 21 15 23.8 -4.8
PVRL A A 21 15 26.3
comp=E,21nm,0.3s
PVRL Vila Real 6.65 346 *e*Pn Pn 21 14 13.4 +0.4
PTO Porto 6.74 340 *e*Sn Sn 21 15 26.8 -3.8
PTO A A 21 15 29.1
comp=E,12nm,0.1s
POLO Lamas de Olo 6.76 345 *e*Pn Pn 21 14 15.2 +0.7
POLO *e*Sn Sn 21 15 27.0 -4.3
POLO A A 21 15 29.9
comp=E,4.5nm,0.5s
POLO Lamas de Olo 6.76 345 *e*Pn Pn 21 14 15.2 +0.7
PBRG Braganca 7.02 353 *e*Pn Pn 21 14 18.6 +0.6
PBRG *e*Sn Sn 21 15 32.8 -4.8
PBRG A A 21 15 35.1
comp=E,3.3nm,0.2s
PBRG Braganca 7.02 353 *e*Pn Pn 21 14 18.6 +0.6
PCAB Cabril 7.14 345 *e*Sn Sn 21 15 37.1 -3.3
PCAB A A 21 15 39.9
comp=E,3.3nm,0.1s
PCAB Cabril 7.14 345 *e*Sn Sn 21 15 37.1 -3.3
comp=E,3.3nm,0.1s
ECAL Calabor 7.16 353 P Pn 21 14 20.4 +0.5
comp=E,2.7nm,0.3s,SNR=7.9
ECAL S Sn 21 15 35.7 -5.3
comp=E,4.4nm,0.3s,SNR=7.9
ECAL Calabor 7.16 353 P Pn 21 14 20.4 +0.5
comp=E,2.7nm,0.3s,SNR=7.9
ELOB Lobios 7.29 345 P Pn 21 14 21.4 -0.4
comp=E,0.9nm,0.3s,SNR=7.9
ELOB S Sn 21 15 38.5 -5.9
comp=E,9.1nm,0.3s,SNR=7.9
ELOB Lobios 7.29 345 P Pn 21 14 21.4 -0.4
comp=E,0.9nm,0.3s,SNR=7.9
PGAV Gavieira, Arco 7.43 344 *e*Pn Pn 21 14 27.3 +3.6
PGAV *e*Sn Sn 21 15 42.2 -5.6
PGAV A A 21 15 45.5
comp=E,7.1nm,0.6s
EARI Arriondas 8.46 2 P Pn 21 14 37.3 -0.4
comp=E,2.6nm,0.7s,SNR=4.0
EARI S Sn 21 16 06.6 -6.4
comp=E,2.1nm,0.4s,SNR=7.9
EARI Arriondas 8.46 2 P Pn 21 14 37.3 -0.4
comp=E,2.6nm,0.7s,SNR=4.0
ELAN Lanestosa 8.54 10 P Pn 21 14 39.2 +0.4
comp=E,1.6nm,0.3s,SNR=7.9
ELAN S Sn 21 16 10.3 -4.7
comp=E,2.6nm,0.4s,SNR=7.9
ELAN Lanestosa 8.54 10 P Pn 21 14 39.2 +0.4
comp=E,1.6nm,0.3s,SNR=7.9
IEPA Eparoz 8.61 22 P Pn 21 14 40.2 +0.5
comp=E,1.8nm,0.5s,SNR=7.9
IEPA S Sn 21 16 10.9 -5.7
comp=E,1.1nm,0.3s,SNR=7.9
IEPA Eparoz 8.61 22 P Pn 21 14 40.2 +0.5
comp=E,1.8nm,0.5s,SNR=7.9
IELO Elcoad 8.67 22 P Pn 21 14 41.7 +1.0
comp=E,4.4nm,0.6s,SNR=7.9
IELO S Sn 21 16 13.9 -4.3
comp=E,2.1nm,0.4s,SNR=7.9
IELO Elcoad 8.67 22 P Pn 21 14 41.7 +1.0
comp=E,4.4nm,0.6s,SNR=7.9
SJPF Ste Jean 8.92 21 *e*P Pn 21 14 45.2 +1.1
SJPF *e*Sn Sn 21 16 13.6 -11
comp=E,1.5nm,0.4s
SJPF Ste Jean 8.92 21 P Pn 21 14 45.2 +1.1
ETSF Etsaut 8.94 24 *e*P Pn 21 14 45.9 +1.5
ETSF *e*Sn Sn 21 16 14.6 -10
comp=E,0.6nm,0.3s
ETSF Etsaut 8.94 24 P Pn 21 14 45.9 +1.5
EALK Alkurruntz 8.94 19 P Pn 21 14 45.9 +1.6
comp=E,1.1nm,0.3s,SNR=7.9
EALK S Sn 21 16 19.7 -5.0
comp=E,4.7nm,0.5s,SNR=7.9
EALK Alkurruntz 8.94 19 P Pn 21 14 45.9 +1.6
comp=E,1.1nm,0.3s,SNR=7.9
EBIE Bielsa 9.01 28 P Pn 21 14 45.2 -0.2
comp=E,1.3nm,0.6s,SNR=7.9
EBIE S Sn 21 16 21.4 -5.3
comp=E,0.7nm,0.4s,SNR=4.0
EBIE Bielsa 9.01 28 P Pn 21 14 45.2 -0.2
comp=E,1.3nm,0.6s,SNR=7.9
ATE Arette 9.06 23 P Pn 21 14 46.9 +0.9
comp=E,1.3nm,0.6s,SNR=7.9
EPF Esparros 9.38 27 *e*P Pn 21 14 52.4 +2.1
EPF *e*Sn Sn 21 16 25.3 -10
comp=E,7.5nm,0.7s
EPF Esparros 9.38 27 P Pn 21 14 52.4 +2.1

JMA ***08*** *21:42:45.4±0.1,23°.60N×121°.77E,h37km±5km,M2.8*
TAP ***08*** *21:42:46.5,23°.63N×121°.74E,h31km,ML3.5,B*
ISC 08 21:42:45.9±1.1,23°.60N±0°.02×121°.77E±0°.02,h34km±2km,
n55,σ0967/100,14C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village** baz=294	**0.23**	**298**	P	**Pb**	**21 42 53.0**	**0.0**
TEGC				*e*S	**Sb**	**21 42 58.0**	**+0.2**
ESF	**Shoufeng Towns** baz=323	**0.36**	**319**	P	**Pb**	**21 42 54.2**	**-0.3**
ESF				*i* S	**Sb**	**21 42 60.0**	**-0.5**
ESL	**Shilin** baz=304	**0.37**	**305**	⇑*i* P	**Pb**	**21 42 54.1**	**-0.6**
ESL				S	**Sn**	**21 42 59.7**	**-1.1**
HWA	**Hwalien** baz=341	**0.40**	**339**	*e*P	**Pb**	**21 42 54.9**	**-0.3**
HWA				*e*S	**Sn**	**21 43 01.5**	**-0.2**
EHY	**Hungye** baz=263	**0.42**	**257**	⇑*i* P	**Pb**	**21 42 55.5**	**-0.2**
EHY				S	**Sn**	**21 43 01.9**	**-0.1**
TWF1	**Yuli** baz=246	**0.50**	**240**	*i* P	**Pn**	**21 42 56.8**	**+0.2**
TWF1				*e*S	**Sn**	**21 43 04.3**	**+0.3**
TWD	**Chiawan** baz=353	**0.50**	**342**	⇑*i* P	**Pb**	**21 42 56.1**	**-0.5**
TWD				*i* S	**Sb**	**21 43 03.2**	**-0.9**
CHKT	**Chengkung** baz=202	**0.62**	**217**	*e*P	**Pn**	**21 42 57.8**	**-0.4**
CHKT				*e*S	**Sn**	**21 43 06.1**	**-0.9**
WHF	**Whuan Shan** baz=321	**0.71**	**320**	⇑*i* P	**Pn**	**21 42 59.6**	**-0.4**
WHF				S	**Sn**	**21 43 09.2**	**-0.8**
YUS	**Yu-Shan** baz=258	**0.76**	**262**	P	**Pb**	**21 43 01.1**	**0.0**
YUS				S	**Sn**	**21 43 11.1**	**-0.1**
ELDTW	**Lidau** baz=225	**0.80**	**239**	⇑P	**Pn**	**21 43 00.7**	**-0.2**
ELDTW				*e*S	**Sn**	**21 43 10.5**	**-1.1**
ENA	**Nanau** baz=1.0	**0.83**	**358**	⇑*e*P	**Pn**	**21 43 01.1**	**-0.1**
ENA				*e*S	**Sb**	**21 43 12.2**	**-0.7**
	baz=1.0						

SMLT	**Sun Moon Lake** baz=292	**0.84**	**290**	⇑*i*P	**Pb**	**21 43 01.9**	**-0.4**
SMLT				*e*S	**Sb**	**21 43 12.8**	**-0.5**
TWT	**Tachien** baz=313	**0.85**	**320**	⇑*i*P	**Pb**	**21 43 02.1**	**-0.3**
TWT				S	**Sn**	**21 43 12.6**	**-0.3**
ALS	**Alishan** baz=261	**0.89**	**264**	⇑P	**Pb**	**21 43 03.2**	**+0.1**
ALS				*e*S	**Sb**	**21 43 14.8**	**0.0**
TYC	**Yuchr** baz=298	**0.89**	**290**	⇑*i*P	**Pb**	**21 43 02.5**	**-0.5**
TYC				S	**Sb**	**21 43 14.3**	**-0.2**
NNS	**Nan Shan** baz=338	**0.91**	**337**	*e*P	**Pn**	**21 43 02.6**	**+0.1**
NNS				*e*S	**Sn**	**21 43 14.1**	**-0.4**
CHN5	**Tsauling** baz=267	**1.00**	**270**	⇑P	**Pb**	**21 43 05.2**	**+0.3**
CHN5				*e*S	**Sb**	**21 43 18.5**	**+0.7**
TWG	**Pinlang** baz=226	**1.00**	**220**	*e*P	**Pn**	**21 43 03.2**	**-0.5**
TWG				*e*S	**Sn**	**21 43 15.9**	**-0.7**
TWC	**Suao** baz=7.0	**1.01**	**4**	P	**Pb**	**21 43 04.2**	**-0.8**
TWC				S	**Sb**	**21 43 17.1**	**-0.9**
TTN	**Taitung** baz=201	**1.02**	**214**	*e*P	**Pn**	**21 43 03.9**	**+0.1**
STYT	**Tauyuan** baz=237	**1.02**	**245**	⇑*i*P	**Pb**	**21 43 04.9**	**-0.4**
STYT				S	**Sb**	**21 43 18.0**	**-0.5**
WNT	**Mingjian** baz=284	**1.03**	**286**	*e*P	**Pb**	**21 43 05.7**	**+0.3**
WNT				*e*S	**Sb**	**21 43 19.4**	**+0.9**
ENTT	**Nioudou** baz=352	**1.05**	**350**	*i* P	**Pb**	**21 43 04.9**	**-0.8**
ENTT				S	**Sb**	**21 43 18.4**	**-0.8**
WGK	**Gukeng** baz=272	**1.11**	**275**	*e*P	**Pb**	**21 43 06.3**	**-0.3**
WGK				*e*S	**Sb**	**21 43 20.8**	**0.0**
WTP	**Ta-pu** baz=248	**1.11**	**252**	⇑*i*P	**Pb**	**21 43 06.8**	**0.0**
WTP				*e*S	**Sb**	**21 43 21.5**	**+0.4**
NSK	**Sanguang** baz=343	**1.14**	**341**	*e*P	**Pb**	**21 43 06.2**	**-0.9**
NSK				*e*S	**Sn**	**21 43 19.9**	**-0.1**
TCU	**Taichung** baz=298	**1.14**	**299**	*e*P	**Pb**	**21 43 07.0**	**-0.1**
TWQ1	**Liyutan** baz=310	**1.18**	**310**	⇑P	**Pb**	**21 43 08.2**	**+0.4**
TWQ1				*e*S	**Sb**	**21 43 23.1**	**+0.4**
CHN2	**Minshiung** baz=264	**1.19**	**267**	*e*P	**Pb**	**21 43 07.4**	**-0.5**
CHN2				*e*S	**Sb**	**21 43 24.3**	**+1.3**
SGST	**Jiashian** baz=230	**1.20**	**245**	*e*P	**Pb**	**21 43 08.0**	**-0.2**
SGST				*e*S	**Sb**	**21 43 23.7**	**+0.2**
CHN1	**Nanshi** baz=247	**1.21**	**250**	*e*P	**Pb**	**21 43 08.4**	**+0.1**
CHN1				*e*S	**Sb**	**21 43 24.6**	**+0.8**
TWK	**Hsinying** baz=250	**1.22**	**255**	*e*P	**Pb**	**21 43 08.2**	**-0.3**
TWK				*e*S	**Sb**	**21 43 24.1**	**+0.1**
NSY	**Sanyi** baz=312	**1.23**	**312**	*e*P	**Pb**	**21 43 08.7**	**+0.1**
NSY				*e*S	**Sb**	**21 43 25.6**	**+1.4**
CHY	**Chiayi** baz=262	**1.23**	**266**	*e*P	**Pb**	**21 43 08.2**	**-0.6**
CHY				*e*S	**Sb**	**21 43 25.4**	**+1.0**
NSTT	**Nanjuang** baz=328	**1.24**	**326**	P	**Pb**	**21 43 08.7**	**-0.2**
NSTT				*e*S	**Sb**	**21 43 23.7**	**-0.9**
ECL	**Taimali** baz=214	**1.25**	**217**	*e*P	**Pb**	**21 43 06.3**	**-0.6**
EGS	baz=9.0	**1.25**	**7**	*e*P	**Pb**	**21 43 08.1**	**-0.9**
SSD	**Sandimen** baz=223	**1.34**	**231**	*e*P	**Pb**	**21 43 10.2**	**-0.5**
WTCT	**Ta-ch'eng** baz=269	**1.39**	**281**	*e*P	**Pb**	**21 43 10.6**	**-0.7**
WTCT				*e*S	**Sb**	**21 43 30.0**	**+1.3**
CHN3	**Shinhua** baz=244	**1.39**	**248**	*e*P	**Pb**	**21 43 11.3**	**0.0**
CHN3				*e*S	**Sb**	**21 43 29.2**	**+0.4**
WSF	**Szhu** baz=269	**1.42**	**272**	*e*P	**Pb**	**21 43 10.8**	**-1.1**
WSF				*e*S	**Sb**	**21 43 29.6**	**0.0**
YOJ	**Yonaguni jima**	**1.43**	**53**	P	**Pn**	**21 43 10.3**	**+0.8**
YOJ				*e*S	**Sn**	**21 43 27.5**	**+0.5**
YOJ	**Yonaguni jima** baz=56	**1.43**	**53**	*e*P	**Pn**	**21 43 10.2**	**+0.8**
YOJ				*e*S	**Sn**	**21 43 27.9**	**+0.9**
TWS1	**Kuangyinshan** baz=350	**1.53**	**348**	*e*P	**Pb**	**21 43 13.1**	**-0.7**
LAY	**Lan-yu** baz=185	**1.57**	**187**	*e*P	**Pn**	**21 43 11.1**	**-0.3**
SCZT	**Fangliau** baz=207	**1.61**	**221**	*e*P	**Pb**	**21 43 14.2**	**-1.0**
SCZT				*e*S	**Sb**	**21 43 35.6**	**+0.4**
TWK1	**Hengchun** baz=198	**1.87**	**208**	*e*P	**Pn**	**21 43 15.0**	**-0.6**
HATJ	**Hateruma jima**	**1.92**	**76**	P	**Pn**	**21 43 16.8**	**+0.5**
HATJ				*e*S	**Sn**	**21 43 39.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.94**	**67**	P	**Pn**	**21 43 17.3**	**+0.8**
IRIF				*e*S	**Sn**	**21 43 40.2**	**+0.5**
PNG	**Penghu** baz=267	**2.03**	**270**	*e*P	**Pn**	**21 43 18.9**	**+1.2**
JKRS	**Kuro-shima**	**2.15**	**72**	P	**Pn**	**21 43 20.6**	**+1.2**
JKRS				*e*S	**Sn**	**21 43 45.6**	**+0.7**
JIJ	**Ishigaki jima**	**2.30**	**70**	P	**Pn**	**21 43 21.8**	**+0.3**
JIJ				*e*S	**Sn**	**21 43 48.1**	**-0.6**
JTJ	**Tarama**	**2.88**	**68**	P	**Pn**	**21 43 29.8**	**+0.4**
JTJ				*e*S	**Sn**	**21 44 03.0**	**+0.2**
KNM	**Kinmen** baz=282	**3.15**	**286**	*e*P	**Pn**	**21 43 35.8**	**+2.5**

*ISCJB **08** 21:44:59.3±0.6, 6.7N±0.1×124.0E±0.2, h550km, mb3.8/12, Error ellipse: s-maj=22.3km s-min=9.4km az=148.9*

*IDC **08** 21:45:01.9±1.5, 6.65N×123.90E, h566km±18km, mb3.2/12, mb1 3.3/12, mb1mx3.1/26, mbtmp3.2/12, Error ellipse: s-maj=28.2km s-min=9.3km az=69.0*

ISC 08 21:45:00.3±0.7, 6.7N±0.1×124.0E±0.2, h550km, n26, σ0$72/32, mb3.8/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 1.1nm,0.7s,baz=109,slow=6.6,SNR=16	**27.03**	**298**	P	**P**	**21 50 00.1**	**+0.9**
WRA	**Warramunga Arr** 1.2nm,0.3s,baz=331,slow=11,SNR=38	**28.35**	**159**	P	**P**	**21 50 10.7**	**0.0**
WRA				PcP	**PcP**	**21 53 05.9**	**+0.3**
WRA	0.3nm,0.4s,baz=333,slow=2.4,SNR=5.5			ScP	**ScP**	**21 55 54.4**	**-0.5**
ASAR	**Alice Springs** 0.9nm,0.5s,baz=340,slow=6.9,SNR=18	**31.67**	**162**	P	**P**	**21 50 40.4**	**+1.1**
ASAR				PcP	**PcP**	**21 53 14.6**	**+0.2**
ASAR	0.4nm,0.4s,baz=334,slow=2.6,SNR=4.9			ScP	**ScP**	**21 56 05.2**	**-0.6**
USRK	0.4nm,0.5s,baz=327,slow=2.6,SNR=5.1 **Ussuriysk Arra**	**38.05**	**9**	P	**P**	**21 51 33.1**	**+1.1**
	0.3nm,0.3s,baz=184,slow=5.8,SNR=2.9						
NWAO	**Narrogin (SRO)** 23nm,1.1s,baz=11,slow=14,SNR=5.7	**39.88**	**189**	P	**P**	**21 51 47.5**	**+0.5**
TAPN	**Taplejung** 6.4nm,0.4s	**40.06**	**305**	*e*P	**P**	**21 51 49.1**	**+0.1**
ODAN	**Odare** 12nm,0.6s	**40.13**	**304**	*e*P	**P**	**21 51 49.8**	**+0.4**
RAMN	**Ramite** 9.0nm,0.7s	**40.81**	**304**	*e*P	**P**	**21 51 55.0**	**+0.1**
JIRN	**Jiri** 13nm,0.7s	**41.42**	**305**	*e*P	**P**	**21 52 00.1**	**+0.2**
GUN	**Gumba** 9.6nm,0.4s	**41.78**	**305**	*e*P	**P**	**21 52 02.8**	**+0.2**
STKA	**Stephens Creek** 3.0nm,1.1s,baz=286,slow=13,SNR=3.7	**41.86**	**157**	P	**P**	**21 52 02.4**	**-0.3**
PKI	**Pulchoki** 3.2nm,0.3s	**42.03**	**304**	*e*P	**P**	**21 52 04.2**	**-0.4**
PKIN	**Phulchoki** 1.3nm,0.2s	**42.04**	**304**	*e*P	**P**	**21 52 04.4**	**-0.2**
KKN	**Kakani** 4.2nm,0.4s	**42.22**	**305**	*e*P	**P**	**21 52 05.6**	**-0.3**
DMN	**Daman** 2.9nm,0.4s	**42.29**	**304**	*e*P	**P**	**21 52 06.4**	**-0.2**
GKN	**Gorkha**	**42.83**	**305**	*e*P	**P**	**21 52 10.3**	**-0.3**
KOLN	**Koldanda** 11nm,0.3s	**43.59**	**304**	*e*P	**P**	**21 52 17.0**	**+0.4**
DANN	**Dangsing** 15nm,0.4s	**43.67**	**305**	*e*P	**P**	**21 52 17.6**	**+0.2**
SONM	**Songino Array** 1.6nm,0.6s,baz=159,slow=8.5,SNR=13	**43.67**	**343**	P	**P**	**21 52 17.8**	**+1.0**
SONM				PcP	**PcP**	**21 53 51.4**	**-0.3**
PYUN	0.2nm,0.4s,baz=161,slow=6.2,SNR=3.9 **Piuthan** 15nm,0.4s	**44.21**	**304**	*e*P	**P**	**21 52 21.9**	**+0.4**
MKAR	**Makanchi Array** 4.1nm,0.6s,baz=121,slow=7.9,SNR=95	**53.58**	**325**	P	**P**	**21 53 30.9**	**+0.7**
MKAR				PcP	**PcP**	**21 54 25.7**	**-2.2**
ZALV	0.7nm,0.5s,baz=117,slow=4.5,SNR=6.7 **Zalesovo Beam** 1.7nm,0.4s,baz=111,slow=5.8,SNR=13	**56.74**	**334**	P	**P**	**21 53 51.6**	**-0.4**
AKTO	**Aktyubinsk** 3.7nm,0.6s,baz=101,slow=11	**69.65**	**321**	P	**P**	**21 55 14.3**	**-0.6**
ARCES	**ARCESS Array B** 2.4nm,0.9s,baz=46,slow=5.2,SNR=4.0	**86.75**	**340**	P	**P**	**21 56 45.1**	**-0.9**
FINES	**FINESS Array B** 1.6nm,0.9s,baz=31,slow=4.4,SNR=4.1	**87.95**	**332**	P	**P**	**21 56 50.7**	**-1.0**
TORD	**Torodi Ar. Bea** 0.4nm,0.3s,baz=69,slow=1.6,SNR=13	**119.36**	**289**	PKP	**PKPdf**	**22 02 47.8**	**-0.8**

KRSC 08 21:55:40.5±4.4, 55.07N×162.07E, h67km±66km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.55**	**201**	P	Pn	21 55 55.1	+1.6
MKZ				*i* S	Sn	21 56 04.9	+1.9
KZV	**Kizimen**	**1.02**	**273**	P	Pn	21 56 00.8	+1.5
KZV				*i* S	Sn	21 56 14.1	+0.8
TUMR	**Tumrok**	**1.12**	**282**	P	Pn	21 56 02.4	+1.8
TUMR				*i* S	Sn	21 56 18.2	+2.7
BZGR	**Bezymyannyi-Gr**	**1.17**	**319**	P	Pn	21 56 03.2	+2.0
BZGR				*i* S	Sn	21 56 18.9	+2.3
ZLN	**Zelenaya**	**1.19**	**323**	P	Pn	21 56 02.8	+1.4
ZLN				*i* S	Sn	21 56 18.9	+1.8
KBTR	**Krutoberegovo**	**1.22**	**20**	P	Pn	21 56 04.2	+2.6
KBTR				*i* S	Sn	21 56 20.8	+3.4
KBG	**Krutoberegovo**	**1.24**	**17**	P	Pn	21 56 04.8	+2.9
KBG				*i* S	Sn	21 56 22.0	+4.1
BZMR	**Bezymyannaya**	**1.25**	**315**	P	Pn	21 56 03.1	+0.9
BZMR				*i* S	Sn	21 56 19.6	+1.1
KMNR	**Kamenistaya**	**1.25**	**304**	P	Pn	21 56 04.3	+2.1
KMNR				*i* S	Sn	21 56 21.5	+3.1
BZWR	**Bezymyannyi-We**	**1.27**	**316**	P	Pn	21 56 04.1	+1.6
BZWR				*i* S	Sn	21 56 21.6	+2.6
LGNR	**Loginova**	**1.28**	**323**	P	Pn	21 56 05.2	+2.3
KIRR	**Kirishev**	**1.32**	**313**	P	Pn	21 56 04.8	+1.6
KIRR				*i* S	Sn	21 56 22.2	+2.0
KPT	**Kopyto**	**1.38**	**311**	P	Pn	21 56 05.8	+1.9
KPT				*i* S	Sn	21 56 24.3	+2.8
KRSR	**Krestovskiy**	**1.43**	**324**	P	Pn	21 56 06.4	+1.8
KRSR				*i* S	Sn	21 56 24.4	+1.7
KLY	**Klyuchi**	**1.48**	**328**	P	Pn	21 56 06.5	+1.4
KLY				*i* S	Sn	21 56 25.3	+1.7
SMKR	**Semkarok**	**1.55**	**348**	P	Pn	21 56 08.8	+2.6
SMKR				*i* S	Sn	21 56 29.3	+3.8
BDR	**Baidarnaya**	**1.58**	**342**	P	Pn	21 56 09.2	+2.7
BDR				*i* S	Sn	21 56 29.3	+3.2
KOZ	**Kozyrevsk**	**1.59**	**309**	P	Pn	21 56 08.8	+2.2
KOZ				*i* S	Sn	21 56 29.4	+3.1
SRKR	**Sorokina**	**1.67**	**343**	P	Pn	21 56 10.3	+2.6
SRKR				*i* S	Sn	21 56 31.7	+3.5
SRDR	**Sredinnyy**	**1.83**	**314**	P	Pn	21 56 11.4	+1.6
SRDR				*i* S	Sn	21 56 33.7	+1.7
ESO	**Esso**	**2.10**	**295**	P	Pn	21 56 15.2	+1.8
ESO				*i* S	Sn	21 56 39.5	+0.9
BKI	**Bering**	**2.24**	**85**	P	Pn	21 56 17.6	+2.3
BKI				*i* S	Sn	21 56 43.8	+1.9
SPN	**Mys Shipunski**	**2.31**	**212**	P	Pn	21 56 17.6	+1.3
SPN				*i* S	Sn	21 56 44.2	+0.5
NLC	**Nalytchevo**	**2.49**	**221**	P	Pn	21 56 20.9	+2.3
NLC				*i* S	Sn	21 56 49.5	+1.6
SDLR	**Sedlovina**	**2.59**	**228**	P	Pn	21 56 22.7	+2.4
SDLR				*i* S	Sn	21 56 52.9	+2.1
KRER	**Koryakskii**	**2.63**	**229**	P	Pn	21 56 23.5	+2.6
KRER				*i* S	Sn	21 56 54.5	+2.6
SMAR	**Somma**	**2.64**	**228**	P	Pn	21 56 23.4	+2.4
SMAR				*i* S	Sn	21 56 54.4	+2.3
KRX	**Arik**	**2.64**	**231**	P	Pn	21 56 23.5	+2.6
KRX				*i* S	Sn	21 56 54.1	+2.1
AVH	**Avacha**	**2.67**	**229**	P	Pn	21 56 24.0	+2.8
AVH				*i* S	Sn	21 56 55.5	+3.1
UGLR	**Uglovaya**	**2.67**	**227**	P	Pn	21 56 23.8	+2.5
UGLR				*i* S	Sn	21 56 55.0	+2.4
KOK	**Koryaka**	**2.69**	**230**	P	Pn	21 56 24.1	+2.5
KOK				*i* S	Sn	21 56 55.3	+2.2
GNL	**Ganaly**	**2.78**	**242**	P	Pn	21 56 25.2	+2.4
PET	**Petropavlovsk**	**2.87**	**226**	P	Pn	21 56 27.0	+3.1
PET				*i* S	Sn	21 56 59.5	+2.2
RUS	**Russkaya**	**3.38**	**220**	P	Pn	21 56 32.6	+1.8
MTVR	**Mutnovka**	**3.47**	**223**	P	Pn	21 56 35.2	+3.0
MTVR				*i* S	Sn	21 57 15.0	+2.8
ASAK	**Asacha**	**3.66**	**224**	*e*P	Pn	21 56 37.0	+2.3
ASAK				*i* S	Sn	21 57 19.5	+2.8

*IDC **08** 22:07:30.5±1.0, 1.36S×99.49E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.9/26, mbtmp4.0/13, ML3.3/2, Error ellipse: s-maj=39.9km s-min=15.2km az=56.0*

*ISCJB **08** 22:07:32.0±0.4, 1.50S±0.03×99.30E±0.05, h30km, mb4.1/17, Error ellipse: s-maj=7.0km s-min=4.9km az=171.0*

*DJA **08** 22:07:33.5±1.5, 1°S±3°×9°9E±°, h21km±17km, M4.4/10, mb4.5/4, mB5.0/2, MLv4.3/10, Mw(mB)4.3/2*

*NEIC **08** 22:07:35.4±2.2, 1.48S×99.49E, h39km±16km, mb4.2/8, Error ellipse: s-maj=29.1km s-min=8.4km az=53.0*

ISC 08 22:07:34.4±0.6, 1.47S±0.06×99.37E±0.07, h30km, n58, σ1$19/55, mb4.1/17, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.44**	**46**	P	**Pn**	**22 07 57.1**	**-1.3**
PPI				S	**Sb**	**22 08 16.5**	**-2.0**
MNSI	**Mandailing Nat**	**2.26**	**5**	P	**Pn**	**22 08 09.3**	**-0.5**
MNSI				S	**Sn**	**22 08 36.2**	**-0.4**
BKNI	**Bangkinang**	**2.44**	**43**	P	**Pn**	**22 08 12.3**	**0.0**
BKNI				S	**Sn**	**22 08 41.9**	**+0.8**
GSI	**Gunungsitoli**	**3.29**	**327**	P	**Pn**	**22 08 22.5**	**-1.4**
PSI	**Prapat**	**4.27**	**354**	Pn	**Pn**	**22 08 36.0**	**-1.5**
PSI	**Prapat** 1.3nm,0.3s,baz=187,slow=8.6,SNR=4.7	**4.27**	**354**	Pn	**Pn**	**22 08 36.0**	**-1.5**
MNAI	**Manna**	**4.59**	**129**	P	**Pn**	**22 08 42.3**	**+0.5**
LHSI	**Lahat**	**4.76**	**120**	P	**Pn**	**22 08 44.7**	**+0.5**
MYKOM	**Kota Tinggi** 32nm,0.7s,0.2nm	**5.53**	**54**	P	**Pn**	**22 08 55.5**	**+0.8**
MDSI	**Maura Dua** 20nm,0.9s,0.1nm	**5.66**	**122**	P	**Pn**	**22 08 57.6**	**+1.1**
LWLI	**Liwa** 89nm,0.7s,3µm0.3nm	**5.86**	**127**	P	**Pn**	**22 09 00.0**	**+0.6**
IPM	**Ipoh**	**6.14**	**16**	P	**Pn**	**22 09 02.7**	**-0.4**
IPM	**Ipoh** 22nm,0.8s	**6.14**	**16**	*e*Pn	Pn	22 09 06.1	+3.0
IPM				*e*Sn	**Sn**	**22 10 14.7**	**+2.3**
KULM	**Kulim** 12nm,0.7s	**6.83**	**11**	*e*Pn	**Pn**	**22 09 12.4**	**-0.3**
KULM				*e*Sn	**Sn**	**22 10 31.8**	**+2.3**
CMAR	**Chiang Mai Arr**	**19.81**	**359**	P	**P**	**22 12 02.5**	**-0.2**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=187,slow=11,SNR=13	**19.81**	**359**	P	**P**	**22 12 02.5**	**-0.2**
CHTO	**Chiang Mai** 2.9nm,0.6s	**20.16**	**359**	*e*P	Pn	22 12 08.1	-0.4
H08S2	**Diego Garcia H** baz=78,slow=75,SNR=80	**27.47**	**256**	T	T	22 41 10.8	
H08S3	**Diego Garcia H** baz=78,slow=75,SNR=139	**27.48**	**256**	T	T	22 41 11.7	
H08S1	**Diego Carcia H** baz=78,slow=75,SNR=174	**27.49**	**256**	T	T	22 41 12.8	
H08N1	**Diego Carcia H** baz=74,SNR=4.4	**28.69**	**260**	T	T	22 43 26.1	
H08N2	**Diego Garcia H** baz=74,SNR=4.1	**28.70**	**260**	T	T	22 43 25.5	
H08N3	**Diego Garcia H** baz=74,SNR=3.4	**28.72**	**260**	T	T	22 43 29.1	
LSA	**Lhasa** 3.0nm,0.6s	**31.98**	**346**	*e*P	**P**	**22 13 58.8**	**+0.3**
H01W3	**Cape Leeuwin H** baz=336,slow=76,SNR=5.7	**35.98**	**159**	T	T	22 52 18.7	
H01W2	**Cape Leeuwin H** baz=336,slow=76,SNR=9.9	**35.99**	**159**	T	T	22 52 19.7	
H01W1	**Cape Leeuwin H** baz=336,slow=76,SNR=5.3	**35.99**	**159**	T	T	22 52 19.9	
WRA	**Warramunga Arr**	**38.80**	**121**	P	**P**	**22 14 56.1**	**-0.8**
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=302,slow=9.2,SNR=19	**38.80**	**121**	P	**P**	**22 14 56.1**	**-0.8**
WRAB	**Tennant Creek** 2.4nm,0.7s	**38.81**	**121**	*e*P	**P**	**22 14 56.1**	**-0.8**
ASAR	**Alice Springs**	**40.07**	**126**	P	**P**	**22 15 07.6**	**+0.1**
ASAR	**Alice Springs** 1.7nm,1.0s,baz=296,slow=8.0,SNR=10	**40.07**	**126**	P	**P**	**22 15 07.6**	**+0.1**
KSAR	**Wonju Array Be**	**46.86**	**31**	P	**P**	**22 16 00.5**	**-1.4**
KSRS	**Korea Array** 1.0nm,0.6s,baz=223,slow=7.4,SNR=5.8	**46.89**	**31**	P	**P**	**22 16 00.5**	**-1.6**
AAK	**Ala-Archa** 2.9nm,1.0s	**49.30**	**336**	*e*P	**P**	**22 16 20.6**	**-0.3**
AAK	**Ala-Archa** 1.1nm,0.6s,baz=133,slow=9.6,SNR=4.0	**49.30**	**336**	P	P	22 16 24.7	+3.8
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**22 16 21.8**	**-0.3**
SONM				PcP	**PcP**	**22 17 46.2**	**+2.3**
SONM	**Songino Array** 0.7nm,0.6s,baz=190,slow=8.9,SNR=5.1	**49.48**	**6**	P	**P**	**22 16 21.8**	**-0.3**
SONM				PcP	**PcP**	**22 17 46.2**	**+2.3**
EKS2	0.8nm,0.6s,baz=191,slow=2.3,SNR=2.9 **Erkin-Say** 7.5nm,1.0s	**49.62**	**335**	P	**P**	**22 16 24.6**	**+1.3**
STKA	**Stephens Creek** 0.8nm,0.9s	**49.97**	**132**	*e*P	**P**	**22 16 24.2**	**-1.8**
STKA	**Stephens Creek** 2.3nm,0.9s,baz=333,slow=8.9,SNR=2.6	**49.97**	**132**	P	**P**	**22 16 27.3**	**+1.3**
MK31	**Makanchi Array**	**50.35**	**345**	*e*P	**P**	**22 16 28.9**	**+0.2**
MKAR	**Makanchi Array**	**50.35**	**345**	P	**P**	**22 16 28.6**	**-0.1**
MKAR				PcP	**PcP**	**22 17 49.2**	**+2.2**
MKAR	**Makanchi Array** 1.4nm,0.6s,baz=155,slow=8.3,SNR=22	**50.35**	**345**	P	**P**	**22 16 28.6**	**-0.1**
MKAR				PcP	**PcP**	**22 17 49.2**	**+2.2**
USRK	0.5nm,0.7s,baz=151,slow=6.3,SNR=1.5 **Ussuriysk Arra** 2.3nm,0.7s,baz=225,slow=4.7,SNR=9.8	**53.99**	**29**	P	**P**	**22 16 54.9**	**-0.8**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=164,slow=6.5,SNR=6.5	**54.87**	**344**	P	**P**	**22 17 01.9**	**-0.1**
KURK	**Kurchatov** 1.8nm,0.8s	**54.93**	**344**	*e*P	**P**	**22 17 03.9**	**+1.5**
ZAA0	**Zalesovo Array**	**56.54**	**350**	*e*P	**P**	**22 17 13.3**	**-0.5**
ZALV	**Zalesovo Beam**	**56.54**	**350**	P	**P**	**22 17 13.6**	**-0.3**
ZALV	**Zalesovo Beam** 1.8nm,0.5s,baz=183,slow=8.0,SNR=12	**56.54**	**350**	P	**P**	**22 17 13.6**	**-0.3**
ABKAR	**Akbulak array** 0.5nm,0.5s	**60.88**	**332**	*e*P	**P**	**22 17 45.4**	**+1.3**
KBZ	**Khabaz**	**67.50**	**319**	P	**P**	**22 18 27.8**	**+0.1**
KBZ	**Khabaz** 2.5nm,0.9s,baz=124,slow=11,SNR=3.4	**67.50**	**319**	P	**P**	**22 18 27.8**	**+0.1**
SYO	**Syowa Base**	**79.17**	**199**	*e*P	**P**	**22 19 27.8**	**-2.7**
FINES	**FINESS Array B**	**83.35**	**332**	P	**P**	**22 19 58.3**	**-0.1**
FINES	**FINESS Array B** 1.1nm,0.7s,baz=104,slow=5.9,SNR=4.6	**83.35**	**332**	P	**P**	**22 19 58.3**	**-0.1**
TXAR	**Lajitas Array**	**144.66**	**36**	PKP	**PKPdf**	**22 27 08.9**	**-0.2**
TXAR	**Lajitas Array** 0.6nm,0.5s,baz=337,slow=2.9,SNR=4.7	**144.66**	**36**	PKP	**PKPdf**	**22 27 08.9**	**-0.2**

*ISCJB **08** 22:09:23.2±0.2, 40.60S±0.02×174.87E±0.03, h70km±2km, mb4.8/20, Error ellipse: s-maj=4.2km s-min=2.7km az=26.4*

*BJI **08** 22:09:23.3, 40.60S×174.80E, h46km, mB5.6/10, mb5.3/13, Ms5.3/7, Ms7 5.0/7*

*IDC **08** 22:09:24.1±2.0, 40.45S×174.80E, h54km±18km, mb4.2/6, mb1 4.3/9, mb1mx4.0/20, mbtmp4.1/9, ML3.7/3, MS3.8/15, Ms1 3.8/15, ms1mx3.7/27, Error ellipse: s-maj=19.5km s-min=13.8km az=132.0*

*NEIC **08** 22:09:25.4, 40.56S×174.85E, h46km, mb4.5/6, ML5.1(WEL), After WEL.*

NEIC Felt [IV] at Awapuni, Feilding, Foxton, Hokowhitu, Kelburn, Levin, Lower Hutt, Marton, Massey University, Otaki, Palmerston North, Paraparaumu, Paraparaumu Beach, Petone, Raumati Beach, Raumati South, Tawa, Titahi Bay, Waikanae, Wanganui, Wellington and Whitby on the North Island. Also felt at Bulls, Inglewood, Kapiti and Porirua.

*WEL **08** 22:09:25.4±0.1, 40.56S×174.85E, h49km±1km, ML5.1/22, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0, maximum reported intensity MM 5.*

WEL Felt from King Country to Marlborough, and from Nelson to Hawke''s Bay.

ISC 08 22:09:24.1±0.5, 40.60S±0.03×174.84E±0.03, h56km±3km, n210, σ1$48/222, mb4.8/20, MS4.0/16, 15C-24D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.27**	**169**	PN	**Pn**	**22 09 33.7**	**0.0**
KIW				SN	**Sn**	**22 09 40.3**	**-0.2**
KIW				AML	AML	22 09 41.9	
OGWZ	**Otaki Gorge**	**0.33**	**131**	⇑PN	**Pn**	**22 09 34.4**	**+0.3**
OGWZ				SN	**Sn**	**22 09 42.1**	**+0.8**
CAW	**Cannon Point**	**0.54**	**161**	PN	**Pn**	**22 09 37.3**	**+1.1**
CAW				AML	AML	22 09 48.6	
CAW				AML	AML	22 09 48.8	
MRZ	**Mangatainoka R**	**0.57**	**97**	PN	**Pn**	**22 09 36.7**	**+0.2**
MRZ				AML	AML	22 09 48.0	
MRZ				AML	AML	22 09 48.9	
HOWZ	**Holdsworth Sta**	**0.59**	**121**	⇓PN	**Pn**	**22 09 37.4**	**+0.6**
WEL	**Wellington**	**0.69**	**185**	PN	**Pn**	**22 09 39.1**	**+1.1**
SNZO	**South Karori**	**0.72**	**188**	PN	**Pn**	**22 09 39.3**	**+1.0**
SNZO				AML	AML	22 09 52.6	
SNZO				AML	AML	22 09 52.6	
SNZO				AML	AML	22 09 52.7	
SNZO				AML	AML	22 09 52.7	
SNZO	**South Karori**	**0.72**	**188**	*e*Pn	**Pn**	**22 09 39.6**	**+1.2**
SNZO				*e*Sn	**Sn**	**22 09 50.8**	**+2.0**
DUWZ	**D'Urville Isla**	**0.73**	**253**	⇓PN	**Pn**	**22 09 38.1**	**-0.4**
POWZ	**Post Office Ro**	**0.74**	**74**	PN	**Pn**	**22 09 39.0**	**+0.5**
TCW	**Tory Channel**	**0.75**	**215**	⇑PN	**Pn**	**22 09 39.4**	**+0.7**
TCW				AML	AML	22 09 52.1	
TCW				AML

PLWZ	Palliser	1.02	162		PN	Pn	22 09 43.7	+1.4		
TRWZ	Traveller	1.03	142		AML	AML	22 10 04.5			
TRWZ					AML	AML	22 10 06.3			
DVHZ	Dannevirke	1.05	74	⇓	PN	Pn	22 09 42.6	-0.1		
BFZ	Birch Farm	1.07	95	⇑	PN	Pn	22 09 42.9	0.0		
BFZ	Birch Farm	1.07	95	e	Pn	Pn	22 09 43.3	+0.3		
BFZ				e	Sn	Sn	22 09 57.3	+0.3		
TUWZ	Tuamarina	1.07	219	⇓	PN	Pn	22 09 44.1	+1.2		
TUWZ					AML	AML	22 10 00.0			
TUWZ					AML	AML	22 10 03.8			
CPWZ	Castlepoint	1.08	107		PN	Pn	22 09 43.9	+0.8		
CMWZ	Cape Campbell	1.24	202		PN	Pn	22 09 47.1	+1.8		
CMWZ					AML	AML	22 10 10.2			
CMWZ					AML	AML	22 10 11.0			
PNHZ	Pukenui	1.24	57	⇓	PN	Pn	22 09 45.1	-0.1		
ANWZ	Angora Road	1.25	84		PN	Pn	22 09 45.4	+0.1		
NNZ	Nelson	1.27	240	⇑	PN	Pn	22 09 46.0	+0.5		
MTVZ	Mangateitei	1.30	22	⇑	PN	Pn	22 09 46.4	+0.3		
BSWZ	Blackbirch Sta	1.33	213	⇓	PN	Pn	22 09 47.5	+1.1		
BSWZ					AML	AML	22 10 08.8			
BSWZ					AML	AML	22 10 14.2			
WPHZ	Waipukurau	1.33	67		PN	Pn	22 09 46.5	+0.1		
RAEZ	Rainy Point	1.35	345		PN	Pn	22 09 47.6	+0.9		
PKVZ	Pokaka	1.36	17		PN	Pn	22 09 46.9	0.0		
MOVZ	Moawhango	1.38	31	⇑	PN	Pn	22 09 47.2	+0.1		
DFE	Dawson Falls	1.39	336	⇓	PN	Pn	22 09 47.8	+0.5		
WNVZ	Wahianoa	1.40	25		PN	Pn	22 09 47.9	+0.5		
NMEZ	Namu Road	1.40	328		PN	Pn	22 09 47.9	+0.7		
TRVZ	Turoa	1.41	23		PN	Pn	22 09 47.8	+0.2		
PRHZ	Porangahau	1.41	77		PN	Pn	22 09 47.7	+0.3		
DRZ	Dome Shelter	1.43	23		PN	Pn	22 09 48.5	+0.5		
WHVZ	Whangaehu Hut	1.43	24		PN	Pn	22 09 48.5	+0.2		
NEZ	North Egmont	1.44	336		PN	Pn	22 09 48.6	+0.7		
FWVZ	Far West T-bar	1.45	22		PN	Pn	22 09 48.3	+0.1		
KHEZ	Kahui Hut	1.45	334	⇑	PN	Pn	22 09 48.6	+0.5		
BHHZ	Black Hill Sta	1.45	41	⇓	PN	Pn	22 09 48.5	+0.4		
TUVZ	Tukino	1.47	25		PN	Pn	22 09 49.0	+0.7		
VRZ	Vera Road	1.47	358		PN	Pn	22 09 48.4	+0.1		
DREZ	Durham Road	1.49	340		PN	Pn	22 09 49.3	+0.8		
WPVZ	Whakapapa	1.49	22		PN	Pn	22 09 49.1	+0.4		
COVZ	Chateau Observ	1.50	21	⇓	PN	Pn	22 09 49.1	+0.4		
NWEZ	Newall Road	1.52	330		PN	Pn	22 09 49.5	+0.6		
NGZ	Ngauruhoe	1.54	23		PN	Pn	22 09 49.7	+0.4		
PKE	Pukeiti	1.55	335		PN	Pn	22 09 50.0	+0.6		
OTVZ	Oturere	1.57	24	⇑	PN	Pn	22 09 50.4	+0.7		
MHEZ	Mangahewa	1.57	345		PN	Pn	22 09 50.6	+1.0		
WTVZ	West Tongariro	1.59	22	⇑	PN	Pn	22 09 50.3	+0.3		
TWVZ	Taurewa	1.59	17		PN	Pn	22 09 50.0	0.0		
KRVZ	Karewarewa	1.62	23		PN	Pn	22 09 50.8	+0.4		
PXZ	Pawanui	1.65	71		PN	Pn	22 09 50.1	-0.5		
PXZ					AML	AML	22 10 28.5			
PXZ					AML	AML	22 10 30.6			
PXZ					AML	AML	22 10 31.3			
PXZ					AML	AML	22 10 31.3			
KATZ	Kakaramea	1.75	22		PN	Pn	22 09 52.9	+0.8		
KAHZ	Kahuranaki	1.75	63	⇓	PN	Pn	22 09 51.5	-0.6		
QRZ	Quartz Range	1.77	262		PN	Pn	22 09 52.4	+0.1		
RITZ	Rihia Road	1.80	26	⇑	PN	Pn	22 09 53.5	+0.7		
MCHZ	McNeill Hill	1.83	52		PN	Pn	22 09 53.2	0.0		
THZ	Tophouse	1.87	231	⇓	PN	Pn	22 09 54.3	+0.6		
RATZ	Rangitukua	1.87	23	⇓	PN	Pn	22 09 55.2	+1.4		
BKZ	Black Stump Fm	1.91	42		PN	Pn	22 09 53.7	-0.6		
BKZ					AML	AML	22 10 38.1			
BKZ					AML	AML	22 10 42.2			
BKZ	Black Stump Fm	1.91	42	e	Pn	Pn	22 09 54.4	0.0		
BKZ				e	Sn	Sn	22 10 17.8	+0.5		
CKHZ	Cape Kidnapper	1.95	62		PN	Pn	22 09 54.1	-0.7		
HATZ	Hinemaiaia	1.96	30		PN	Pn	22 09 54.8	-0.2		
WATZ	Wairara	2.01	20		PN	Pn	22 09 56.1	+0.5		
KHZ	Kahutara	2.06	208		PN	Pn	22 09 56.6	+0.3		
KHZ					AML	AML	22 10 34.3			
KHZ					AML	AML	22 10 41.1			
KHZ	Kahutara	2.06	208	e	Pn	Pn	22 09 56.8	+0.5		
HIZ	Hauiti	2.08	0		PN	Pn	22 09 57.2	+0.6		
WHTZ	Whakaora	2.11	24		PN	Pn	22 09 57.9	+0.8		
NMHZ	Naumai	2.13	46	⇓	PN	Pn	22 09 56.8	-0.4		
TLZ	Tolley Road	2.33	14		PN	Pn	22 09 59.9	-0.1		
ALRZ	Allen Road	2.34	30	⇓	PN	Pn	22 09 59.5	-0.6		
WHHZ	Waihua	2.39	51		PN	Pn	22 09 51.6	-9.2		
RAHZ	Arahi	2.41	47	⇓	PN	Pn	22 10 00.1	-1.0		
PRRZ	Plateau Road	2.42	30	⇑	PN	Pn	22 10 00.6	-0.6		
GRRZ	Galatos Road	2.45	24		PN	Sn	22 10 24.0	-6.4		
HRRZ	Handcock Road	2.47	27		PN	Pn	22 10 02.2	+0.3		
DSZ	Denniston Nort	2.56	242		PN	Pn	22 10 03.4	+0.2		
RRRZ	Republican Roa	2.63	34		PN	Pn	22 10 05.8	+2.1		
SNGZ	Shannon Statio	2.65	48		PN	Pn	22 10 02.9	-1.4		
TARZ	Mount Tarawera	2.69	29		PN	Pn	22 10 04.7	-0.3		
KNZ	Kokohu	2.69	55	⇓	PN	Pn	22 10 02.9	-1.9		
MHGZ	Mahia Peninsul	2.77	60		PN	Pn	22 10 04.3	-1.6		
PRGZ	Paritu Road	2.88	55		PN	Pn	22 10 05.5	-2.0		
TOZ	Tahuroa Road	2.91	10		PN	Pn	22 10 07.9	0.0		
LTZ	Lake Taylor	2.91	221		PN	Pn	22 10 07.6	-0.4		
URZ	Urewera	2.92	38	⇓	PN	Pn	22 10 06.1	-2.0		
URZ					AML	AML	22 10 49.5			
URZ					AML	AML	22 11 01.5			
URZ	Urewera	2.92	38	e	Pn	Pn	22 10 07.0	-1.1		
URZ				e	Sn	Sn	22 10 40.5	-1.4		
URZ	Urewera	2.92	38	P		Pn	22 10 06.1	-2.0		
	9.5nm,0.3s,baz=238,slow=7.5,SNR=35									
URZ				S		Sn	22 10 40.5	-1.4		
	96nm,0.3s,baz=246,slow=6.0,SNR=6.4									
RIGZ	Rimuhau	2.94	51	⇑	PN	Pn	22 10 06.6	-1.8		
MARZ	Manawahe	2.97	29		PN	Pn	22 10 08.3	-0.4		
MWZ	Matawai	3.07	43	⇑	PN	Pn	22 10 08.4	-1.7		
MWZ					AML	AML	22 11 11.4			
MWZ					AML	AML	22 11 11.4			
MWZ					AML	AML	22 11 11.5			
MWZ					AML	AML	22 11 11.5			
CNGZ	Carnagh Statio	3.35	52		PN	Pn	22 10 11.8	-2.1		
CRLZ	Canterbury Las	3.40	208		PN	Pn	22 10 12.5	-2.2		
OXZ	Oxford	3.43	217		PN	Pn	22 10 13.6	-1.5		
MKAZ	Moumakai	3.49	4	⇓	PN	Pn	22 10 16.1	+0.3		
KBAZ	Karaka Road Bo	3.50	1		PN	Pn	22 10 16.8	+0.9		
MQZ	McQueen's Vall	3.51	207	⇓	PN	Pn	22 10 14.1	-1.9		
OTAZ	Otara	3.64	1		PN	Pn	22 10 19.5	+1.5		
PUZ	Puketiti	3.66	48		PN	Pn	22 10 14.2	-4.0		
PUZ					AML	AML	22 11 25.0			
PUZ					AML	AML	22 11 28.5			
WTAZ	Waiatarua	3.66	357		PN	Pn	22 10 19.1	+0.9		
HBAZ	Herne Bay Bore	3.74	359		PN	Pn	22 10 20.3	+1.1		
MTAZ	Motutapu	3.81	1	e	PN	Pn	22 10 20.4	+0.3		
RVAZ	Riverhead Bore	3.83	357		PN	Pn	22 10 21.1	+0.7		
KUZ	Kuaotunu	3.91	10		PN	Pn	22 10 21.6	+0.1		
WVZ	Waitaha Valley	3.94	230		PN	Pn	22 10 21.4	-0.5		
ABAZ	Army Bay	3.99	360		PN	Pn	22 10 23.3	+0.7		
MXZ	Matakaoa Point	4.06	43		PN	Pn	22 10 21.5	-2.1		
MXZ					AML	AML	22 11 29.1			
MXZ					AML	AML	22 11 29.1			
MXZ					AML	AML	22 11 30.9			
MXZ					AML	AML	22 11 30.9			
RPZ	Rata Peaks	4.20	221		PN	Pn	22 10 24.2	-1.4		
RPZ	Rata Peaks	4.20	221	e	Pn	Pn	22 10 24.3	-1.3		
RPZ				e	Sn	Sn	22 11 11.2	-2.1		
RPZ	Rata Peaks	4.20	221	P		Pn	22 10 25.1	-0.5		
	5.1nm,0.3s,baz=338,slow=2.6,SNR=12									
RPZ				S		Sn	22 11 09.7	-3.6		
	45nm,0.3s,baz=300,slow=22,SNR=14									
RPZ				LR		LR	22 12 28.9			
	comp=Z,463nm,19.5s,baz=233,slow=43									
WCZ	Waipu Caves	4.67	355	⇑	PN	Pn	22 10 32.0	+0.1		
FOZ	Fox Glacier	4.85	231		PN	Pn	22 10 32.0	-2.4		
LBZ	Lake Benmore	5.12	221		PN	Pn	22 10 35.7	-2.5		
ODZ	Otahua Downs	5.41	213		PN	Pn	22 10 40.1	-2.0		
ODZ	Otahua Downs	5.41	213	e	Pn	Pn	22 10 40.3	-1.8		
ODZ				e	Sn	Sn	22 11 38.6	-4.4		
OUZ	Omahuta	5.46	349		PN	Pn	22 10 41.2	+0.4		
OUZ	Omahuta	5.46	349	e	Pn	Pn	22 10 43.0	+0.2		
OUZ				e	Sn	Sn	22 11 42.2	-2.0		
EAZ	Earnscleugh	6.16	219		PN	Pn	22 10 50.2	-2.1		
CTZ	Chatham Island	7.08	119		PN	Pn	22 11 04.6	-0.3		
WHZ	Wether Hill Ro	7.30	221	e	Pn	Pn	22 11 05.7	-2.3		
WHZ				e	Sn	Sn	22 12 22.8	-6.7		
DCZ	Deep Cove	7.45	227	e	Pn	Pn	22 11 08.9	-1.1		
RAO	Raoul Island	12.78	30		Pn	Pn	22 12 23.1	+0.2		
DZM	Mont Dzumac	19.79	336		P	P	22 13 49.7	-0.2		
DZM	Mont Dzumac	19.79	336	P		P	22 13 49.7	-0.2		
	0.3nm,0.3s,baz=175,slow=15,SNR=3.9									
DZM				LR		LR	22 20 23.7			
	comp=Z,269nm,20.6s,baz=204,slow=34									
ARMA	Armidale	21.39	291	P		P	22 14 06.1	-1.0		
MSVF	Nonsavu	22.95	8	e	P	P	22 14 22.9	-0.8		
	16nm,0.7s									
STKA	Stephens Creek	28.06	277		P	P	22 15 10.3	+0.2		
STKA	Stephens Creek	28.06	277		LR	LR	22 26 08.2			
	comp=Z,145nm,19.1s,baz=147,slow=36									
RAR	Rarotonga	28.95	56	e	P	P	22 15 17.0	-1.0		
VNDA	Vanda	37.43	185		LR	LR	22 29 46.0			
	comp=Z,41nm,21.5s,baz=347,slow=32									
ASAR	Alice Springs	38.17	284		P	P	22 16 38.1	-0.1		
ASAR					ScP	ScP	22 22 32.5	-2.2		
ASAR	Alice Springs	38.17	284		P	P	22 16 38.1	-0.1		
	2.0nm,0.5s,baz=133,slow=8.7,SNR=36									
ASAR					ScP	ScP	22 22 32.5	-2.2		
	0.5nm,0.7s,baz=128,slow=4.0,SNR=4.6									
PPT	Papeete	38.26	64		LR	LR	22 28 05.6			
	comp=Z,109nm,20.2s,baz=0.6,slow=29									
COEN	Coen	38.32	305	e	P	P	22 16 37.2	-2.1		
	66nm,1.1s									
KNTN	Kanton	39.56	21	e	P	P	22 16 50.5	+0.8		
	712nm,2.0s									
WRAB	Tennant Creek	40.14	289	e	P	P	22 16 54.1	-0.5		
	5.4nm,0.6s									
WRA	Warramunga Arr	40.14	289		P	P	22 16 54.2	-0.4		
WRA					ScP	ScP	22 22 39.2	-3.1		
WRA	Warramunga Arr	40.14	289		P	P	22 16 54.2	-0.4		
	4.6nm,0.6s,baz=126,slow=8.0,SNR=62									
WRA					ScP	ScP	22 22 39.2	-3.1		
	0.9nm,1.0s,baz=126,slow=3.2,SNR=4.9									
FITZ	Fitzroy Crossi	47.67	283		P	P	22 17 55.0	+0.1		
FITZ	Fitzroy Crossi	47.67	283		P	P	22 17 55.0	+0.1		
	2.5nm,0.8s,baz=163,slow=7.3,SNR=8.8									
FITZ					LR	LR	22 36 56.2			
	comp=Z,60nm,19.2s,baz=105,slow=35									
QSPA	South Pole Qui	49.53	180	e	P	P	22 18 08.8	-0.1		
	16nm,1.2s									
QSPA	South Pole Qui	49.53	180		P	P	22 18 10.9	+2.1		
	8.1nm,0.9s,baz=30,slow=2.6,SNR=15									
QSPA					LR	LR	22 38 06.5			
	comp=Z,75nm,20.0s,baz=227,slow=35									
MBWA	Marble Bar	50.27	275	e	P	P	22 18 13.1	-1.8		
RPN	Rapa Nui	62.60	103	e	P	P	22 19 41.1	-1.4		
	672nm,2.4s									
SYO	Syowa Base	65.81	196	⇓	P	P	22 20 02.2	-0.6		
SNAA	Sanae	68.02	181	e	P	P	22 20 18.7	+1.8		
SNAA	Sanae	68.02	181	e	P	P	22 20 16.6	-0.3		
	1.3nm,0.6s									
VNA2	Neumayer--Watz	68.77	179	e	P	P	22 20 23.4	+1.8		
JCJ	Chichijima	73.87	330		LR	LR	22 52 45.7			
	comp=Z,124nm,18.0s,baz=86,slow=35									
PLCA	Paso Flores	79.61	135	e	P	P	22 21 24.4	-0.9		
	1.8nm,0.6s									
PLCA	Paso Flores	79.61	135		LR	LR	22 47 56.0			
	comp=Z,96nm,18.9s,baz=260,slow=29									
TRQA	Tornquist	86.05	139		P	P	22 21 57.0	-1.6		
KSRS	Korea Array	88.78	324		P	P	22 22 12.8	+1.5		
	1.2nm,0.7s,baz=147,slow=5.1,SNR=5.2									
KSRS					LR	LR	22 56 09.3			
	comp=Z,32nm,20.0s,baz=125,slow=32									
KSAR	Wonju Array Be	88.78	324		P	P	22 22 12.8	+1.5		
NJ2	Nanjing	88.89	315	e	P	P	22 22 15.9	+3.9		
NJ2					pmax	pmax				
	comp=Z,10.0nm,0.6s									
WHN	Wuhan	90.24	311	⇓	P	P	22 22 20.4	+2.0		
CMAR	Chiang Mai Arr	91.60	293		P	P	22 22 25.7	+0.7		
CMAR	Chiang Mai Arr	91.60	293		P	P	22 22 25.7	+0.7		
	1.7nm,0.4s,baz=148,slow=3.3,SNR=6.1									
CMAR					LR	LR	23 08 12.1			
	comp=Z,34nm,18.4s,baz=151,slow=39									
GYA	Guiyang	91.92	304		P	P	22 22 30.2	+3.7		
GYA					pP	pP	22 22 41.8	-0.8		
GYA					sP	sP	22 22 49.0	+0.2		
GYA					PP	PP	22 26 13.5	+6.7		
GYA					SKS	SKSac	22 32 58.7	+4.1		
GYA					S	ScS	22 33 28.6	+2.6		
GYA					sS	sS	22 33 49.4	-1.6		
GYA					SS	SS	22 39 39.7	+5.9		
GYA					pmax	pmax				
	comp=Z,20nm,1.0s									
GYA					pmax	pmax				
	comp=Z,130nm,5.2s									
GYA					LR	LR				
	comp=N,560nm,22.7s									
GYA					LR	LR				
	comp=E,510nm,24.2s									
GYA					LR	LR				
	comp=Z,590nm,23.6s									
FX1	Attu Island--F	93.12	359		LR	LR	22 57 14.1			
	comp=Z,90nm,19.1s,baz=288,slow=31									
KMI	Kunming	93.53	300		P	P	22 22 39.6	+5.6		
KMI					pmax	pmax				
	comp=Z,5.0nm,0.5s									
MDJ	Mudanjiang	94.06	329		P	P	22 22 33.8	-1.9		
MDJ					pmax	pmax				
	comp=Z,9.0nm,2.6s									
MDJ					pmax	pmax				
	comp=Z,84nm,3.6s									
PETK	Petropavlovsk-	94.50	350		LR	LR	23 00 59.1			
	comp=Z,92nm,21.4s,baz=97,slow=33									
CN2	Changchun	95.06	327	e	P	P	22 22 43.3	+3.0		
BJI	Beijing	96.39	319		P	P	22 22 46.3	-0.2		
BJI					pmax	pmax				
	comp=Z,4.0nm,0.9s									
CD2	Chengdu	96.84	305	e	P	P	22 22 53.2	+4.4		
CD2					pmax	pmax				
	comp=Z,10.0nm,1.2s									
CPUP	Villa Florida	97.65	134		LR	LR	23 02 56.4			
	comp=Z,38nm,19.1s,baz=2.1,slow=33									
LPAZ	La Paz	98.72	120		LR	LR	22 57 40.2			
	comp=Z,48nm,18.8s,baz=118,slow=29									
HHC	Hu-ho-hao-te	99.36	317	e	P	Pdif	22 23 03.4	+3.5		
HHC					pP	pP	22 23 18.3	+2.1		
HHC					sP	sP	22 23 23.5	+1.2		
HHC					PP	PP	22 27 11.4	+7.2		
HHC					SKS	SKSac	22 33 38.3	+5.0		
HHC					S	S	22 34 28.5	+1.1		
HHC					sS	sS	22 34 53.6	-1.4		
HHC					pmax	pmax				
	comp=Z,34nm,1.5s									
HHC					pmax	pmax				
	comp=Z,260nm,8.4s									
HHC					LR	LR				
	comp=N,270nm,18.0s									
HHC					LR	LR				
	comp=E,230nm,19.3s									
HHC					LR	LR				
	comp=Z,210nm,18.0s									
LZH	Lanzhou	100.33	309	e	P	Pdif	22 23 11.6	+7.1		
LZH					pP	pP	22 23 25.5	+4.8		
LZH					sP	sP	22 23 30.7	+3.8		
LZH				e	S	Sdif	22 34 41.2	+5.4		
LZH					pmax	pmax				
	comp=Z,18nm,1.5s									
LZH					pmax	pmax				
	comp=Z,100nm,9.0s									
LZH					LR	LR				
	comp=N,210nm,17.0s									
LZH					LR	LR				
	comp=E,200nm,18.0s									
LZH					LR	LR				
	comp=Z,250nm,19.7s									
ILAR	Eielson Array	109.24	16		PP	PP	22 28 23.4	+6.3		
ILAR	Eielson Array	109.24	16		PP	PP	22 28 23.4	+6.3		
	2.3nm,1.4s,baz=195,slow=10,SNR=4.0									
WMQ	Urumqi	114.82	307		PKP	PKPdf	22 28 02.3	+4.4		
YKA	Yellowknife Ar	117.16	29		PKP	PKPdf	22 28 01.0	-0.7		
YKA	Yellowknife Ar	117.16	29		PKP	PKPdf	22 28 01.0	-0.7		
	0.4nm,0.8s,baz=237,slow=1.9,SNR=4.7									
MKAR	Makanchi Array	119.62	308		PKP	PKPdf	22 28 05.8	-1.1		
MKAR	Makanchi Array	119.62	308		PKP	PKPdf	22 28 05.8	-1.1		
	0.6nm,0.9s,baz=85,slow=4.6,SNR=3.5									
KURK	Kurchatov	123.56	311		PKP	PKPdf	22 28 13.3	-1.1		
KURBB	Kurchatov Arra	123.57	311		PKP	PKPdf	22 28 13.3	-1.1		
	0.6nm,0.7s,baz=109,slow=2.0,SNR=5.0									
KBZ	Khabaz	144.63	291		PKP	PKPab	22 28 52.4	-0.2		
KBZ	Khabaz	144.63	291		PKP	PKPab	22 28 52.4	-0.2		
	4.0nm,0.9s,baz=118,slow=5.5,SNR=5.6									
LIC	Lamto	145.78	180	e	PKIKP	PKPab	22 28 58.2	+0.6		
	53nm,1.3s									
KIC	Kosan Boka	145.91	181	e	PKIKP	PKPab	22 28 58.6	+0.5		
	25nm,0.9s									
TIC	Toumodi	146.19	180	e	PKIKP	PKPbc	22 28 58.2	-0.3		
	19nm,0.9s									
DBIC	Dimbokro	146.22	181		PKPbc	PKPab	22 28 59.5	+0.2		
DBIC	Dimbokro	146.22	181		PKPbc	PKPab	22 28 59.5	+0.2		
	6.4nm,1.1s,baz=123,slow=4.6,SNR=5.2									
ARCES	ARCESS Array B	146.84	341		PKPbc	PKPbc	22 28 58.1	-0.6		
ARCES	ARCESS Array B	146.84	341		PKPbc	PKPbc	22 28 58.1	-0.6		
	7.5nm,0.8s,baz=57,slow=2.1,SNR=20									
MMAI	Mount Meron Ar	146.88	270		PKPbc	PKPbc	22 29 01.0	+0.9		
MMAI	Mount Meron Ar	146.88	270		PKPbc	PKPbc	22 29 01.0	+0.9		
	3.3nm,0.8s,baz=128,slow=2.4,SNR=6.7									
BRTR	Keskin Array B	150.50	281		PKPbc	PKPbc	22 29 08.7	-0.5		
BRTR	Keskin Array B	150.50	281		PKPbc	PKPbc	22 29 08.7	-0.5		
	3.1nm,0.9s,baz=162,slow=5.0,SNR=13									
FINES	FINESS Array B	151.80	328		PKPbc	PKPbc	22 29 11.0	-0.3		
FINES					PKPab	PKPab	22 29 20.3	-0.3		
FINES	FINESS Array B	151.80	328		PKPbc	PKPbc	22 29 11.0	-0.3		
	3.0nm,0.9s,baz=122,slow=9.3,SNR=4.1									
FINES					PKPab	PKPab	22 29 20.3	-0.3		
	1.3nm,0.6s,baz=62,slow=4.9,SNR=4.1									
TORD	Torodi Ar. Bea	152.00	194		PKP	PKPdf	22 29 07.3	+0.7		
TORD					PKPbc	PKPbc	22 29 13.4	+0.2		
TORD					PKPab	PKPab	22 29 23.6	+1.1		
TORD	Torodi Ar. Bea	152.00	194		PKP	PKPdf	22 29 07.3	+0.7		
	1.2nm,0.9s,baz=162,slow=1.1,SNR=6.6									
TORD					PKPbc	PKPbc	22 29 13.4	+0.2		
	3.8nm,0.7s,baz=159,slow=3.8,SNR=31									
TORD					PKPab	PKPab	22 29 23.6	+1.1		
	6.1nm,1.0s,baz=166,slow=2.1,SNR=15									
AKASG	Malin Array Be	154.14	305		PKPbc	PKPbc	22 29 16.1	-0.7		
AKASG					PKPab	PKPab	22 29 28.6	-2.3		
AKASG	Malin Array Be	154.14	305		PKPbc	PKPbc	22 29 16.2	-0.7		
	0.6nm,0.6s,baz=83,slow=2.3,SNR=4.4									
AKASG					PKPab	PKPab	22 29 28.6	-2.3		
	0.2nm,0.3s,baz=69,slow=3.5,SNR=4.9									
HFS	Hagfors	157.20	335		PKPab	PKPab	22 29 41.3	-2.3		
HFS	Hagfors	157.20	335		PKPab	PKPab	22 29 41.3	-2.3		
	1.9nm,0.8s,baz=0.0,slow=7.2,SNR=4.1									

IDC ***08*** *22:26:43.4±0.9, 45.°59S×165.°90E, h0km, mb3.9/6, mb1 4.0/7, mb1mx4.0/17, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=27.2km s-min=19.7km az=57.0*
ISCJB ***08*** *22:26:44.2±1.2, 45.°69S±0.°05×165.°78E±0.°06, h20km±8km, mb3.9/6, Error ellipse: s-maj=8.5km s-min=7.2km az=155.3*
NEIC ***08*** *22:26:45.5, 45.°77S×165.°89E, h7km, ML4.3(WEL), After WEL.*
WEL ***08*** *22:26:46.6±0.7, 45.°78S×165.°89E, h33km, ML4.3/14, Error ellipse: s-maj=7.8km s-min=2.8km az=90.0*
ISC 08 22:26:44.7±1.8, 45.°73S±0.°05×165.°87E±0.°06, h9km±11km, n57, σ0°92/56, mb3.9/6, 1C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.72	128	PN	Pg	Pg	22 26 58.8	+0.3
PYZ				SN	Sb	Sb	22 27 08.8	-0.6
PYZ	Puysegur Point	0.72	128	P*	Pg	Pg	22 26 58.8	+0.3
PYZ				S*	Sb	Sb	22 27 08.8	-0.6
DCZ	Deep Cove	0.94	75	PN	Pg	Pg

mb1 4.0/20,mb1mx3.9/34,mbtmp3.8/20,ML3.8/6,MS3.5/2, Ms1 3.5/2,ms1mx2.7/38,Error ellipse: s-maj=14.9km s-min=11.2km az=158.0

*ISCJB **08** 22:30:17.3±0.3,38°.61N±0°.03×69°.79E±0°.04,h12km, mb3.9/23,MS3.5/4,Error ellipse: s-maj=5.0km s-min=3.3km az=157.3*

*NEIC **08** 22:30:20.4±2.2,38°.65N×69°.80E,h20km±17km,mb4.4/4, Error ellipse: s-maj=8.6km s-min=7.2km az=181.0*

*MOS **08** 22:30:21.7±1.4,38°.64N×69°.81E,h45km,mb4.2/17,Error ellipse: s-maj=9.2km s-min=5.3km az=75.7*

*BJI **08** 22:30:31.0,39°.07N×70°.67E,h70km,mb4.1/6,Ms3.9/1*

ISC 08 22:30:19.0±0.4,38°.61N±0°.04×69.73E±0°.05,h12km,n133, σ1§64/137,mb4.0/22,MS3.5/4,8C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.09**	**188**	*e*PN	**Pn**	**22 31 23.3**	**+1.7**
KBL	**Kabul**	**4.09**	**188**	*e*Pn	**Pn**	**22 31 23.3**	**+1.7**
KBL				*e*Sn	**Sn**	22 32 05.6	-4.0
KK31	**Karatay Array**	**4.53**	**7**	⇑Pn	**Pn**	**22 31 30.0**	**+2.6**
	8.6nm,0.4s,baz=195,slow=14,SNR=417						
KK31				⇑Pg	**Pb**	**22 31 40.9**	**+2.5**
	30nm,0.5s,baz=196,slow=15,SNR=20						
KK31				⇑Sn	**Sn**	**22 32 25.5**	**+5.5**
	51nm,0.7s						
KK31				⇑Lg	Lg	22 32 39.4	
	69nm,0.6s,baz=189,slow=27,SNR=8.3						
KKAR	**Karatay Array**	**4.53**	**7**	*e*PN	**Pn**	**22 31 28.6**	**+1.2**
KKAR				*e*		22 32 21.3	
KKAR	**Karatay Array**	**4.53**	**7**	*e*Pn	**Pn**	**22 31 28.6**	**+1.2**
KKAR				*e*Sn	**Sn**	**22 32 21.3**	**+1.3**
AML	**Almayashu**	**4.64**	**39**	*i* PN	**Pn**	**22 31 31.8**	**+2.5**
AML	**Almayashu**	**4.64**	**39**	P	**Pn**	**22 31 31.7**	**+2.5**
	SNR=12						
KSH	**Kashi**	**4.94**	**77**	P	Pn	22 31 29.8	-3.4
KSH				smax	smax		
	comp=N,87nm,0.7s						
KSH				smax	smax		
	comp=E,89nm,0.8s						
EKS2	**Erkin-Say**	**5.09**	**36**	*e*PN	**Pn**	**22 31 34.8**	**-0.3**
EKS2				*e*		22 32 34.9	
EKS2				pmax	pmax		
	comp=Z,33nm,0.7s						
EKS2	**Erkin-Say**	**5.09**	**36**	P	Pn	22 31 40.6	+5.5
	SNR=7.9						
EKS2	**Erkin-Say**	**5.09**	**36**	*e*Pn	**Pn**	**22 31 34.8**	**-0.3**
	comp=Z,32nm,0.7s						
EKS2				*e*Sn	**Sn**	**22 32 34.9**	**+1.1**
UCH	**Uchtor**	**5.14**	**44**	*i* PN	Pn	22 31 39.7	+3.6
UCH	**Uchtor**	**5.14**	**44**	P	Pn	22 31 39.7	+3.6
	SNR=11						
AAK	**Ala-Archa**	**5.41**	**41**	PN	**Pn**	**22 31 41.7**	**+2.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK	**Ala-Archa**	**5.41**	**41**	P	**Pn**	**22 31 42.5**	**+2.8**
	SNR=18						
AAK	**Ala-Archa**	**5.41**	**41**	*e*Pn	**Pn**	**22 31 40.5**	**+0.8**
	comp=Z,23nm,0.6s						
AAK				*e*Sn	**Sn**	**22 32 39.3**	**-2.7**
AAK				Lg	Lg	22 33 08.4	
AAK	**Ala-Archa**	**5.41**	**41**	Pn	**Pn**	**22 31 41.7**	**+2.0**
	comp=Z,3.2nm,0.3s,baz=206,slow=6.4,SNR=48						
AAK				Sn	**Sn**	**22 32 39.5**	**-2.5**
	comp=Z,1.9nm,0.3s,baz=261,slow=8.2,SNR=4.3						
AAK				Lg	Lg	22 33 08.4	
	comp=Z,3.1nm,0.3s,baz=338,slow=22,SNR=6.5						
KZA	**Kyzart**	**5.46**	**49**	*i* PN	**Pn**	**22 31 42.5**	**+2.0**
KZA	**Kyzart**	**5.46**	**49**	P	**Pn**	**22 31 42.6**	**+2.0**
	SNR=41						
KBK	**Karagaybulak**	**5.67**	**43**	*i* PN	**Pn**	**22 31 45.6**	**+2.5**
KBK	**Karagaybulak**	**5.67**	**43**	P	**Pn**	**22 31 45.6**	**+2.5**
	SNR=21						
CHMS	**Chumysh**	**5.81**	**39**	*i* PN	Pn	22 31 49.3	+4.3
CHMS	**Chumysh**	**5.81**	**39**	P	Pn	22 31 49.3	+4.3
	SNR=14						
USP	**Ospenovka**	**5.89**	**36**	*i* PN	Pn	22 31 50.3	+4.2
USP	**Ospenovka**	**5.89**	**36**	P	Pn	22 31 50.4	+4.2
	SNR=12						
TKM2	**Tokmak 2**	**6.20**	**44**	*e*PN	**Pn**	**22 31 51.0**	**+0.6**
TKM2				*e*		22 33 01.6	
TKM2				pmax	pmax		
	comp=Z,16nm,0.5s						
TKM2	**Tokmak 2**	**6.20**	**44**	P	Pn	22 31 56.0	+5.6
	SNR=23						
TKM2	**Tokmak 2**	**6.20**	**44**	*e*Pn	**Pn**	**22 31 51.0**	**+0.6**
	comp=Z,16nm,0.5s						
TKM2				*e*Sn	**Sn**	**22 33 01.6**	**+0.3**
TKM2	**Tokmak 2**	**6.20**	**44**	⇑Pn	**Pn**	**22 31 51.7**	**+1.3**
	comp=Z,11nm,0.5s						
TKM2				⇑Sn	Sn	22 33 07.8	+6.5
	comp=Z,58nm,0.8s						
DHRM	**DHARAMSHALA**	**8.30**	**138**	*e*P	**Pn**	**22 32 20.5**	**+1.1**
DHRM				*e*S	**Sn**	**22 33 52.2**	**-1.0**
SMLA	**Simla**	**9.64**	**138**	*e*P	**Pn**	**22 32 38.6**	**+1.1**
SMLA				*e*S	**Sn**	**22 34 24.6**	**-1.1**
DDI	**Dehra Dun**	**10.74**	**138**	*e*S	**Sn**	**22 34 52.6**	**-0.3**
MK31	**Makanchi Array**	**12.33**	**44**	*e*P	**Pn**	**22 33 14.7**	**+0.4**
MK31	**Makanchi Array**	**12.33**	**44**	*e*Pn	**Pn**	**22 33 14.7**	**+0.4**
MK31	**Makanchi Array**	**12.33**	**44**	⇑Pn	**Pn**	**22 33 14.5**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=226,slow=12,SNR=11						
MKAR	**Makanchi Array**	**12.33**	**44**	P	**Pn**	**22 33 15.4**	**+1.1**
MKAR	**Makanchi Array**	**12.33**	**44**	Pn	**Pn**	**22 33 15.3**	**+1.1**
MKAR				Lg	Lg	22 36 49.4	
MKAR	**Makanchi Array**	**12.33**	**44**	Pn	**Pn**	**22 33 15.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=228,slow=14,SNR=12						
MKAR				Lg	Lg	22 36 49.4	
	comp=Z,0.1nm,0.3s,baz=251,slow=22,SNR=3.3						
AB31	**Akbulak array**	**12.76**	**330**	⇑Pn	**Pn**	**22 33 18.2**	**-1.9**
	comp=Z,5.0nm,0.5s						
AB31				⇓Sn	Sn	22 35 35.5	-6.4
ABKAR	**Akbulak array**	**12.76**	**330**	*e*Pn	**Pn**	**22 33 18.0**	**-2.1**
	comp=Z,7.9nm,0.4s						
ABKAR				*e*Sn	**Sn**	**22 35 36.1**	**-5.8**
KURBB	**Kurchatov Array**	**13.54**	**25**	Pn	**Pn**	**22 33 29.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=214,slow=11,SNR=5.2						
KURBB				Lg	Lg	22 37 22.0	
	comp=Z,0.1nm,0.3s,baz=221,slow=33,SNR=4.5						
KURK	**Kurchatov**	**13.65**	**25**	P	**Pn**	**22 33 29.8**	**-2.4**
KURK	**Kurchatov**	**13.65**	**25**	Pn	**Pn**	**22 33 29.8**	**-2.4**
KURK				Lg	Lg	22 37 22.0	
BVA0	**Borovoye Array**	**14.43**	**2**	⇓Pn	**Pn**	**22 33 41.3**	**-1.6**
	comp=Z,2.7nm,0.4s,baz=164,slow=12,SNR=18						
BVAR	**Borovoye Array**	**14.43**	**2**	P	**Pn**	**22 33 41.3**	**-1.6**
BVAR						22 36 20.3	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**14.43**	**2**	Pn	**Pn**	**22 33 41.3**	**-1.6**
BVAR				Sn	**Sn**	**22 36 20.2**	**-2.4**
BVAR				Lg	Lg	22 37 54.8	
BVAR	**Borovoye Array**	**14.43**	**2**	Pn	**Pn**	**22 33 41.3**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=162,slow=13,SNR=18						
BVAR				Sn	**Sn**	**22 36 20.3**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=167,slow=20,SNR=3.3						
BVAR				Lg	Lg	22 37 54.7	
	comp=Z,0.2nm,0.3s,baz=160,slow=31,SNR=3.3						
AKTO	**Aktyubinsk**	**14.46**	**329**	P	**Pn**	**22 33 43.1**	**-0.2**
AKTO						22 36 19.7	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**14.46**	**329**	Pn	**Pn**	**22 33 43.1**	**-0.2**
AKTO				Sn	**Sn**	**22 36 19.6**	**-3.8**
AKTO	**Aktyubinsk**	**14.46**	**329**	Pn	**Pn**	**22 33 43.1**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=138,slow=15,SNR=24						
AKTO				Sn	**Sn**	**22 36 19.6**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=159,slow=23,SNR=3.1						
AKTO	**Aktyubinsk**	**14.46**	**329**	⇓Pn	**Pn**	**22 33 42.5**	**-0.8**
	comp=Z,4.6nm,0.6s						
BRVK	**Borovoye**	**14.46**	**1**	*e*P	**Pn**	**22 33 41.7**	**-1.6**
BRVK				*e*		22 36 22.4	
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BRVK	**Borovoye**	**14.46**	**1**	*e*Pn	**Pn**	**22 33 41.7**	**-1.6**
	comp=Z,7.0nm,0.5s						
BRVK				*e*Sn	**Sn**	**22 36 22.4**	**-1.0**
BRVK	**Borovoye**	**14.46**	**1**	⇓Pn	**Pn**	**22 33 43.1**	**-0.2**
	comp=Z,6.9nm,0.5s						
WMQ	**Urumqi**	**14.48**	**63**	P	**P**	**22 33 50.0**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,12nm,1.0s						
PYUN	**Piuthan**	**15.23**	**130**	*e*P	**P**	**22 33 58.2**	**-0.9**
PYUN	**Piuthan**	**15.23**	**130**	*e*P	**P**	**22 33 58.2**	**-0.9**
GKN	**Gorkha**	**16.32**	**126**	*e*P	**Pn**	**22 34 08.8**	**+0.6**
GKN	**Gorkha**	**16.32**	**126**	*e*P	**Pn**	**22 34 08.8**	**+0.6**
BHPL	**Bhopal**	**16.67**	**155**	*e*P	**Pn**	**22 34 11.7**	**-0.8**
BHPL				AMB	AMB	22 34 17.0	
	comp=Z,10nm,0.2s						
DMN	**Daman**	**16.89**	**126**	*e*P	**P**	**22 34 17.3**	**-0.2**
DMN	**Daman**	**16.89**	**126**	*e*P	**P**	**22 34 17.3**	**-0.2**
PKIN	**Phulchoki**	**17.10**	**125**	*e*P	**Pn**	**22 34 18.5**	**+0.4**
PKI	**Pulchoki**	**17.11**	**125**	*e*P	**Pn**	**22 34 18.6**	**+0.3**
	comp=Z,16nm,0.6s						
PKI	**Pulchoki**	**17.11**	**125**	*e*P	**Pn**	**22 34 18.6**	**+0.3**
PKI	**Pulchoki**	**17.11**	**125**	*e*P	**Pn**	**22 34 18.6**	**+0.3**
GUN	**Gumba**	**17.18**	**124**	*e*P	**Pn**	**22 34 19.2**	**-0.1**
GUN	**Gumba**	**17.18**	**124**	*e*P	**Pn**	**22 34 19.2**	**-0.1**
JIRN	**Jiri**	**17.56**	**124**	*e*P	**Pn**	**22 34 24.1**	**+0.2**
JIRN	**Jiri**	**17.56**	**124**	*e*P	**Pn**	**22 34 24.1**	**+0.2**
RAMN	**Ramite**	**18.31**	**124**	*e*P	**Pn**	**22 34 31.9**	**-1.1**
RAMN	**Ramite**	**18.31**	**124**	*e*P	**Pn**	**22 34 31.9**	**-1.1**
ZAA0	**Zalesovo Array**	**18.49**	**29**	*e*P	**P**	**22 34 34.1**	**-0.5**
ZALV	**Zalesovo Beam**	**18.49**	**29**	P	**P**	**22 34 33.6**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.49**	**29**	P	**P**	**22 34 33.6**	**-1.1**
ZALV	**Zalesovo Beam**	**18.49**	**29**	P	**P**	**22 34 33.6**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=227,slow=12,SNR=9.5						
NVS	**Novosibirsk**	**18.64**	**25**	*e*P	**P**	**22 34 34.8**	**-1.5**
TAPN	**Taplejung**	**18.77**	**121**	*e*P	**P**	**22 34 36.7**	**-1.6**
TAPN	**Taplejung**	**18.77**	**121**	*e*P	**P**	**22 34 36.7**	**-1.6**
ODAN	**Odare**	**18.88**	**123**	*e*P	**P**	**22 34 38.8**	**-0.7**
	comp=Z,26nm,0.7s						
ODAN	**Odare**	**18.88**	**123**	*e*P	**P**	**22 34 38.8**	**-0.7**
ARU	**Arti**	**19.32**	**341**	*d* iP	**P**	**22 34 43.9**	**+0.2**
ARU				S	**Sn**	**22 38 16.6**	**-4.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LSA	**Lhasa**	**19.79**	**110**	*e*P	**P**	**22 34 48.6**	**-1.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LSA	**Lhasa**	**19.79**	**110**	*e*P	**P**	**22 34 48.6**	**-1.1**
	comp=Z,4.2nm,0.9s						
BOK	**Bokaro**	**20.18**	**132**	*e*P	**P**	**22 34 53.4**	**0.0**
BOK				AMB	AMB	22 34 58.2	
	comp=Z,16nm,1.4s						
KBZ	**Khabaz**	**20.79**	**293**	P	Pn	22 35 01.3	-1.0
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**20.79**	**293**	P	Pn	22 35 01.3	-1.0
KBZ	**Khabaz**	**20.79**	**293**	P	Pn	22 35 01.3	-1.0
	comp=Z,2.2nm,0.8s,baz=145,slow=9.1,SNR=4.8						
KIV	**Kislovodsk**	**20.97**	**293**	*e*P	**P**	**22 35 02.9**	**+1.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIV	**Kislovodsk**	**20.97**	**293**	*e*P	**P**	**22 35 02.9**	**+1.0**
	comp=Z,4.2nm,0.4s						
GTA	**Gaotai**	**23.34**	**79**	*e*P	**P**	**22 35 27.9**	**+0.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VRHR	**Novokhopersk**	**23.35**	**311**	*e*P	**P**	**22 35 31.1**	**+4.1**
VRHR				pmax	pmax		
	comp=Z,20nm,0.7s						
VRHR				pmax	pmax		
	comp=N,7.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VORD	**Divnogorie**	**24.69**	**310**	*e*P	**P**	**22 35 42.3**	**+2.6**
VORD				pmax	pmax		
	comp=N,8.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VSR	**Storozhevoye**	**24.85**	**310**	*e*P	**P**	**22 35 42.2**	**+1.1**
VSR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VSR				pmax	pmax		
	comp=N,3.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,3.0nm,0.6s						
ZAK	**Zakamensk**	**26.44**	**53**	*e*P	P	22 35 48.9	-6.8
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
OBN	**Obninsk**	**27.69**	**317**	*e*P	**P**	**22 36 09.3**	**+2.6**
OBN				*e**PP	pP	22 36 26.4	+16
OBN				*e*		22 36 59.4	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s						
BR131	**Keskin Array S**	**27.89**	**284**	*e*P	**P**	**22 36 09.8**	**+1.0**
BRTR	**Keskin Array B**	**27.89**	**284**	P	**P**	**22 36 11.3**	**+2.5**
BRTR	**Keskin Array B**	**27.89**	**284**	P	**P**	**22 36 11.3**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=98,slow=10,SNR=3.4						
SONM	**Songino Array**	**28.04**	**59**	P	**P**	**22 36 10.1**	**0.0**
SONM				PcP	**PcP**	**22 39 25.1**	**+0.6**
SONM	**Songino Array**	**28.04**	**59**	P	**P**	**22 36 10.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=263,slow=9.6,SNR=4.3						
SONM				PcP	**PcP**	**22 39 25.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=236,slow=1.8,SNR=3.2						
AKASG	**Malin Array Be**	**30.86**	**306**	P	**P**	**22 36 36.3**	**+1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**30.86**	**306**	P	**P**	**22 36 36.3**	**+1.4**
AKASG	**Malin Array Be**	**30.86**	**306**	P	**P**	**22 36 36.3**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=80,slow=7.1,SNR=8.8						
FINES	**FINESS Array B**	**35.18**	**325**	P	**P**	**22 37 12.8**	**+0.3**
FINES	**FINESS Array B**	**35.18**	**325**	P	**P**	**22 37 12.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=119,slow=7.5,SNR=9.5						
ARCES	**ARCESS Array B**	**38.81**	**337**	P	**P**	**22 37 44.0**	**+0.7**
ARCES	**ARCESS Array B**	**38.81**	**337**	P	**P**	**22 37 44.0**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=109,slow=7.4,SNR=24						
NB2	**NORSAR Subarra**	**42.10**	**322**	P	**P**	**22 38 11.0**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**42.10**	**322**	P	**P**	**22 38 11.1**	**+0.6**
NOA	**NORSAR Array B**	**42.10**	**322**	P	**P**	**22 38 11.1**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=96,slow=8.3,SNR=12						
NAO01	**NORSAR Array S**	**42.24**	**321**	*e*P	**P**	**22 38 11.6**	**-0.1**
TIXI	**Tiksi**	**44.22**	**23**	⇓*e*P	**P**	**22 38 27.4**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,50nm,16.0s						
KMBO	**Kilima Mbogo**	**49.56**	**225**	LR	LR	23 02 04.2	
	comp=Z,46nm,19.1s,baz=298,slow=38						
ESDC	**Sonseca Array**	**55.60**	**296**	P	**P**	**22 39 55.5**	**+0.9**
ESDC	**Sonseca Array**	**55.60**	**296**	P	**P**	**22 39 55.5**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=59,slow=7.1,SNR=10						
ESLA	**Sonseca Array**	**55.60**	**296**	*e*P	**P**	**22 39 54.8**	**+0.2**
JCJ	**Chichijima**	**60.52**	**78**	LR	LR	23 07 42.3	
	comp=Z,50nm,19.8s,baz=92,slow=37						
TORD	**Torodi Ar. Bea**	**64.79**	**267**	P	**P**	**22 40 57.7**	**0.0**
TORD	**Torodi Ar. Bea**	**64.79**	**267**	P	**P**	**22 40 57.7**	**0.0**
	comp=Z,0.5nm,0.6s,baz=43,slow=5.9,SNR=7.2						
INK	**Inuvik**	**71.99**	**9**	P	**P**	**22 41 42.5**	**+0.5**
INK	**Inuvik**	**71.99**	**9**	P	**P**	**22 41 42.5**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=339,slow=7.0,SNR=18						
ILAR	**Eielson Array**	**73.03**	**16**	P	**P**	**22 41 48.1**	**-0.1**
ILAR	**Eielson Array**	**73.03**	**16**	P	**P**	**22 41 48.1**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=326,slow=6.6,SNR=5.5						
TSUM	**Tsumeb**	**75.45**	**230**	*e*P	**P**	**22 42 02.2**	**-0.9**
	comp=Z,18nm,2.0s						
YKA	**Yellowknife Ar**	**79.19**	**2**	P	**P**	**22 42 23.5**	**+0.2**
YKA	**Yellowknife Ar**	**79.19**	**2**	P	**P**	**22 42 23.5**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=352,slow=5.6,SNR=12						
WRA	**Warramunga Arr**	**83.95**	**121**	P	**P**	**22 42 48.5**	**-0.6**
WRA	**Warramunga Arr**	**83.95**	**121**	P	**P**	**22 42 48.5**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=324,slow=4.8,SNR=13						
WRAB	**Tennant Creek**	**83.95**	**121**	*e*P	**P**	**22 42 47.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRAB	**Tennant Creek**	**83.95**	**121**	*e*P	**P**	**22 42 47.7**	**-1.4**
	comp=Z,3.3nm,0.9s						
ASAR	**Alice Springs**	**86.28**	**124**	P	**P**	**22 43 00.2**	**-0.6**
ASAR	**Alice Springs**	**86.28**	**124**	P	**P**	**22 43 00.2**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=309,slow=5.2,SNR=8.2						

*ISCJB **08** 22:35:18.9±1.0, 13°.5N±0°.2×93°.6E±0°.3,h10km,mb3.3/5, Error ellipse: s-maj=54.3km s-min=11.0km az=147.5*

*IDC **08** 22:35:20.7±1.2, 12°.27N×92°.75E,h0km,mb3.4/5, mb1 3.5/6,mb1mx3.4/27,mbtmp3.4/6,ML3.8/1,Error ellipse: s-maj=41.6km s-min=22.8km az=59.0*

ISC 08 22:35:20.6±1.2,13°.5N±0°.1×93°.5E±0°.1,h10km,n17, σ0§37/12,mb3.2/5,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.26**	**46**	Pn	**Pb**	**22 37 26.9**	**0.0**
	0.3nm,0.3s,baz=238,slow=15,SNR=3.8						
ODAN	**Odare**	**14.50**	**338**	*e*P	**Pn**	**22 38 46.1**	**-0.1**
TAPN	**Taplejung**	**14.84**	**340**	*e*P	**Pn**	**22 38 50.8**	**0.0**
RAMN	**Ramite**	**14.89**	**336**	*e*P	**Pn**	**22 38 51.4**	**-0.1**
PKI	**Pulchoki**	**15.93**	**333**	*e*P	**Pn**	**22 39 04.8**	**-0.5**
PKIN	**Phulchoki**	**15.95**	**333**	*e*P	**Pn**	**22 39 04.8**	**-0.6**
	3.6nm,0.3s						
DMN	**Daman**	**16.10**	**332**	*e*P	**Pn**	**22 39 07.7**	**+0.3**
	3.7nm,0.4s						
GKN	**Gorkha**	**16.65**	**332**	*e*P	**Pn**	**22 39 14.6**	**+0.3**
	6.4nm,0.4s						
KOLN	**Koldanda**	**16.96**	**329**	*e*P	**Pn**	**22 39 18.5**	**+0.2**
	2.1nm,0.3s						
H08S3	**Diego Garcia H**	**29.52**	**226**	T	T	23 10 28.6	
	baz=44,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**29.53**	**226**	T	T	23 10 29.8	
	baz=44,slow=14						
H08S1	**Diego Garcia H**	**29.55**	**226**	T	T	23 10 31.1	
	baz=44,slow=75,SNR=14						
MKAR	**Makanchi Array**	**34.54**	**346**	P	P	22 42 19.8	+11
	0.1nm,0.5s,baz=168,slow=13,SNR=2.2						
ZALV	**Zalesovo Beam**	**40.98**	**352**	P	P	22 43 13.3	+10
	0.2nm,0.4s,baz=141,slow=9.3,SNR=2.9						
WRA	**Warramunga Arr**	**52.15**	**129**	P	**P**	**22 44 32.0**	**+0.3**
	0.1nm,0.5s,baz=301,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**54.09**	**133**	P	**P**	**22 44 45.4**	**-0.5**
	0.2nm,0.4s,baz=303,slow=6.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**88.67**	**283**	P	**P**	**22 48 15.0**	**+0.1**
	0.4nm,1.0s,baz=66,slow=3.6,SNR=2.5						

*IDC **08** 22:54:09.7±3.1,5°.91S×147°.88E,h0km,mb4.2/3, mb1 4.3/5,mb1mx3.8/19,mbtmp4.1/5,ML3.5/2,Error ellipse: s-maj=65.0km s-min=40.0km az=88.0*

ISC 08 22:54:19.1±2.6,6°.2S±0°.2×147°.8E±0°.4,h60km,n6,σ0§67/7, mb3.9/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.24**	**191**	Pn	**Pn**	**22 55 07.5**	**-0.1**
	5.4nm,0.3s,baz=34,slow=8.5,SNR=15						
PMG				Sn	**Sn**	**22 55 44.6**	**-0.3**
	4.4nm,0.3s,baz=50,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**18.88**	**222**	P	**P**	**22 58 34.3**	**-0.5**
	0.5nm,0.3s,baz=46,slow=11,SNR=28						
ASAR	**Alice Springs**	**21.89**	**216**	P	**P**	**22 59 07.2**	**-0.1**
	2.0nm,0.6s,baz=56,slow=8.9,SNR=27						
FITZ	**Fitzroy Crossi**	**24.61**	**239**	P	**P**	**22 59 34.5**	**+0.5**
	17nm,0.8s,baz=0.0,slow=4.1						
STKA	**Stephens Creek**	**26.19**	**192**	P	**P**	**22 59 49.0**	**+0.8**
	2.3nm,0.6s,baz=8.6,slow=12,SNR=5.0						
TORD	**Torodi Ar. Bea**	**145.87**	**284**	PKPbc	**PKPdf**	**23 13 51.5**	**-0.7**
	0.4nm,1.0s,baz=84,slow=3.4,SNR=4.2						

GUC 08 23:12:57.6±0.7,22°.64S×68°.85W,h98km±4km,MD3.8, ML3.7,5C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**0.66**	**114**	*e*P	Pn	23 13 15.3	+0.4
SPCH				*i* S	Sn	23 13 28.8	+1.0
SPCH				AML	AML	23 13 29.9	
	comp=E,5µm,0.6s						
PB09	**Plate Boundary**	**0.91**	**337**	⇑*i*P	Pn	23 13 18.4	+1.2
PB09				*i* S	Sn	23 13 33.4	+1.5
PB09				AML	AML	23 13 34.5	
	comp=E,5µm,0.3s						
MACH	**Maria Elena**	**0.95**	**298**	⇑*i*P	Pn	23 13 17.9	+0.3
MACH				*i* S	Sn	23 13 33.9	+1.2
PB07	**Plate Boundary**	**1.32**	**313**	⇑*i*P	Pn	23 13 22.5	+0.7
PB07				*i* S	Sn	23 13 40.9	+0.8
PB07				AML	AML	23 13 42.3	
	comp=E,2µm,0.6s						
CEN1	**Los Morros**	**1.45**	**239**	⇑*i*P	Pn	23 13 26.4	+3.1
CEN1				*i* S	Sn	23 13 47.9	+5.1
CEN1				AML	AML	23 13 51.4	
	comp=N,494nm,0.7s						
PB01	**Plate Boundary**	**1.69**	**339**	⇓*i

comp=Z,20nm,0.6s
TSUM Tsumeb 14.14 342 *e*S Sn 23 27 32.8 -5.3
RUDU RUNDU 14.98 351 *e*P P 23 25 15.7 -2.0
RUDU *e*S Sn 23 27 50.3 -8.3
RUDU AML AML 23 30 17.1
comp=Z,5.1nm,0.4s
LSZ Lusaka 18.28 19 *e*P Pn 23 25 53.9 -0.2
LSZ *e*S Sn 23 29 19.0 +0.2

*IDC **08** 23:22:29.2±5.0, 36°.06N×71°.40E, h70km±41km, mb3.5/9, mb1 3.7/14, mb1mx3.5/32, mbtmp3.9/14, ML4.2/4, Error ellipse: s-maj=31.6km s-min=21.2km az=10.0*
*ISCJB **08** 23:22:34.8±0.6, 36°.25N±0°.04×71°.93E±0°.08, h141km, mb3.5/8, Error ellipse: s-maj=10.0km s-min=3.5km az=152.0*
*NNC **08** 23:22:38.0±5.1, 36°.72N×70°.69E, h90km±64km, mb3.6, mpv4.2, Error ellipse: s-maj=37.9km s-min=25.7km az=19.0*

ISC 08 23:22:34.2±0.8, 36°.17N±0°.07×72°.00E±0°.08, h141km, n44, σ1§64/45, mb3.5/8, 8C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.10**	**12**	P	**Pn**	**23 24 01.8**	**-0.6**
	SNR=20						
UCH	**Uchtor**	**6.36**	**17**	P	**Pn**	**23 24 06.3**	**+0.3**
	SNR=11						
SMLA	**Simla**	**6.62**	**138**	*i* P	Pn	23 24 13.0	+3.9
SMLA				*i* S	**Sn**	**23 25 26.8**	**+3.4**
SMLA				*i* S	Sn	23 25 29.5	+6.2
SMLA				AML	AML	23 25 31.1	
	comp=N,1μm,0.3s						
SMLA				AML	AML	23 25 31.2	
	comp=E,896nm,0.2s						
EKS2	**Erkin-Say**	**6.63**	**11**	P	**Pn**	**23 24 08.9**	**-0.3**
	SNR=12						
AAK	**Ala-Archa**	**6.74**	**16**	P	**Pn**	**23 24 11.1**	**+0.3**
	SNR=6.3						
AAK	**Ala-Archa**	**6.74**	**16**	P	**Pn**	**23 24 10.9**	**+0.1**
	comp=E,3.0nm,0.3s,baz=181,slow=6.4,SNR=51						
AAK				S	**Sn**	**23 25 25.1**	**-1.3**
	comp=E,1.4nm,0.3s,baz=327,slow=23,SNR=6.3						
KK31	**Karatay Array**	**7.02**	**351**	⇓P	Pn	23 24 10.5	-3.9
	comp=E,7.7nm,0.3s,baz=180,slow=13,SNR=598						
KK31				⇑S	Sn	23 25 22.8	-10
	comp=E,7.6nm,0.3s,baz=185,slow=24,SNR=13						
CHMS	**Chumysh**	**7.14**	**16**	P	**Pn**	**23 24 15.8**	**-0.2**
	SNR=13						
TKM2	**Tokmak 2**	**7.29**	**21**	P	**Pn**	**23 24 19.7**	**+1.4**
	SNR=12						
TKM2	**Tokmak 2**	**7.29**	**21**	⇑P	**Pn**	**23 24 19.1**	**+0.9**
	comp=E,7.1nm,0.6s						
TKM2				⇓S	**Sn**	**23 25 42.4**	**+2.7**
	comp=E,5.6nm,1.0s						
PYUN	**Piuthan**	**12.30**	**128**	*e*P	P	23 25 27.8	-3.5
	comp=E,168nm,0.4s						
DANN	**Dangsing**	**12.63**	**125**	*e*P	**Pn**	**23 25 31.6**	**+2.3**
	comp=E,24nm,0.2s						
DANN				*e*S	**Sn**	**23 27 47.4**	**-1.6**
KOLN	**Koldanda**	**12.92**	**127**	*e*P	**P**	**23 25 35.5**	**-2.6**
	comp=E,34nm,0.3s						
MK31	**Makanchi Array**	**13.11**	**33**	⇓P	P	23 25 43.3	+3.4
	comp=E,0.2nm,0.3s,baz=206,slow=12,SNR=9.9						
MKAR	**Makanchi Array**	**13.11**	**33**	P	**P**	**23 25 37.6**	**-2.3**
	comp=E,0.1nm,0.3s,baz=212,slow=11,SNR=4.5						
GKN	**Gorkha**	**13.45**	**124**	*e*P	**P**	**23 25 42.3**	**-1.7**
	comp=E,55nm,0.4s						
GKN				*e*S	**Sn**	**23 28 06.1**	**-2.2**
DMN	**Daman**	**14.02**	**124**	*e*P	**P**	**23 25 49.6**	**-0.8**
	comp=E,36nm,0.5s						
KKN	**Kakani**	**14.02**	**123**	*e*P	**P**	**23 25 49.9**	**-0.5**
	comp=E,25nm,0.4s						
KKN				*e*S	**Sn**	**23 28 20.5**	**-1.7**
PKIN	**Phulchoki**	**14.23**	**123**	*e*P	**P**	**23 25 53.0**	**+0.2**
	comp=E,18nm,0.3s						
PKIN				*e*S	**Sn**	**23 28 25.3**	**-2.1**
PKI	**Pulchoki**	**14.25**	**123**	*e*P	**P**	**23 25 53.0**	**0.0**
	comp=E,18nm,0.3s						
GUN	**Gumba**	**14.35**	**121**	*e*P	**P**	**23 25 53.6**	**-0.6**
	comp=E,19nm,0.3s						
JIRN	**Jiri**	**14.72**	**121**	*e*P	**P**	**23 25 59.3**	**+0.9**
	comp=E,39nm,0.3s						
JIRN				*e*S	**Sn**	**23 28 37.4**	**-2.0**
KUR17	**Kurchatov Arra**	**15.19**	**16**	⇑P	**P**	**23 26 04.7**	**+1.8**
	comp=E,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**15.20**	**16**	P	**P**	**23 26 04.2**	**+1.2**
	comp=E,0.4nm,0.3s,baz=205,slow=11,SNR=15						
KURK	**Kurchatov**	**15.30**	**16**	⇑P	**P**	**23 26 05.7**	**+1.5**
	comp=E,1.4nm,0.7s						
RAMN	**Ramite**	**15.46**	**122**	*e*P	**P**	**23 26 08.0**	**+1.7**
	comp=E,30nm,0.6s						
RAMN				*e*S	**Sn**	**23 28 55.0**	**-1.8**
AB31	**Akbulak array**	**15.77**	**330**	⇓P	Pn	23 26 02.6	-5.7
	comp=E,1.5nm,0.3s						
AB31				⇑S	Sn	23 28 40.3	-23
	comp=E,2.7nm,0.6s,baz=144,slow=23,SNR=9.1						
TAPN	**Taplejung**	**15.98**	**119**	*e*P	**P**	**23 26 14.7**	**+2.5**
	comp=E,11nm,0.3s						
ODAN	**Odare**	**16.06**	**121**	*e*P	**P**	**23 26 15.6**	**+2.6**
	comp=E,19nm,0.5s						
BVA0	**Borovoye Array**	**16.89**	**357**	⇑P	**Pn**	**23 26 22.2**	**+0.2**
	comp=E,1.5nm,0.5s,baz=171,slow=13,SNR=14						
BVAR	**Borovoye Array**	**16.89**	**357**	P	**P**	**23 26 20.4**	**-1.4**
	comp=E,0.8nm,0.3s,baz=154,slow=10,SNR=12						
BRVK	**Borovoye**	**16.93**	**356**	⇑P	**Pn**	**23 26 22.0**	**-0.5**
	comp=E,5.8nm,1.0s						
AKTO	**Aktyubinsk**	**17.47**	**329**	P	**P**	**23 26 26.2**	**-1.9**
	comp=E,1.0nm,0.3s,baz=158,slow=11,SNR=16						
AKTO				S	S	23 29 24.6	-18
	comp=E,0.3nm,0.3s,baz=120,slow=15,SNR=4.0						
AKTO	**Aktyubinsk**	**17.47**	**329**	⇓P	**P**	**23 26 25.8**	**-2.3**
	comp=E,5.3nm,0.8s						
AKTO				⇑S	S	23 29 23.0	-20
	comp=E,5.3nm,1.0s						
ZALV	**Zalesovo Beam**	**19.89**	**23**	P	**Pn**	**23 26 57.0**	**-0.4**
	comp=E,13nm,0.3s,baz=204,slow=10.0,SNR=103						
SONM	**Songino Array**	**27.86**	**55**	P	P	23 28 17.2	+6.5
	comp=E,0.1nm,0.3s,baz=254,slow=10,SNR=2.3						
AKASG	**Malin Array Be**	**33.78**	**309**	P	**P**	**23 29 02.6**	**+0.2**
	comp=E,0.3nm,0.3s,baz=83,slow=6.6,SNR=3.4						
FINES	**FINESS Array B**	**38.21**	**326**	P	**P**	**23 29 41.3**	**+1.4**
	comp=E,1.3nm,0.4s,baz=118,slow=9.6,SNR=14						
ARCES	**ARCESS Array B**	**41.76**	**337**	P	**P**	**23 30 11.0**	**+1.9**
	comp=E,0.9nm,0.4s,baz=118,slow=9.1,SNR=22						
NB2	**NORSAR Subarra**	**45.13**	**323**	P	**P**	**23 30 37.4**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**45.13**	**323**	P	**P**	**23 30 36.7**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=96,slow=7.7,SNR=14						
TORD	**Torodi Ar. Bea**	**66.52**	**269**	P	**P**	**23 33 07.5**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=48,slow=6.1,SNR=13						
WRA	**Warramunga Arr**	**81.13**	**123**	P	P	23 34 39.5	+5.4
	comp=Z,0.2nm,0.5s,baz=325,slow=5.0,SNR=4.7						
YKA	**Yellowknife Ar**	**81.53**	**3**	P	P	23 34 39.0	+3.4
	comp=Z,0.6nm,0.6s,baz=350,slow=5.4,SNR=12						

WEL 08 23:23:36.2±0.6, 39°.75S×174°.28E, h201km±4km, ML3.5/6, 1C, Error ellipse: s-maj=5.2km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.55**	**91**	⇑PN	Pn	23 24 03.8	+0.3
WAZ				SN	S	23 24 24.8	0.0
PKVZ	**Pokaka**	**0.94**	**62**	PN	Pn	23 24 04.6	-1.1
PKVZ				SN	S	23 24 26.9	-1.5
DUWZ	**D'Urville Isla**	**1.09**	**194**	PN	Pn	23 24 06.4	-0.2
KIW	**Kapiti Island**	**1.22**	**157**	PN	Pn	23 24 07.5	-0.1
KIW				SN	S	23 24 31.0	-0.8
OGWZ	**Otaki Gorge**	**1.27**	**148**	PN	Pn	23 24 08.1	+0.2
OGWZ				SN	S	23 24 31.5	-1.0
TSZ	**Takapari Road**	**1.33**	**104**	PN	Pn	23 24 08.5	0.0
TSZ				SN	S	23 24 32.5	-0.8
MRZ	**Mangatainoka R**	**1.35**	**133**	PN	Pn	23 24 08.5	-0.1
TCW	**Tory Channel**	**1.47**	**180**	PN	Pn	23 24 09.7	+0.1
CAW	**Cannon Point**	**1.49**	**156**	PN	Pn	23 24 09.8	0.0
NNZ	**Nelson**	**1.62**	**205**	PN	Pn	23 24 10.3	-0.6
TUWZ	**Tuamarina**	**1.70**	**188**	AML	AML	23 24 41.1	
QRZ	**Quartz Range**	**1.72**	**230**	PN	Pn	23 24 10.1	-1.8
BFZ	**Birch Farm**	**1.77**	**122**	PN	Pn	23 24 12.3	-0.2
TMWZ	**Te Maipa**	**1.84**	**138**	PN	Pn	23 24 13.0	-0.1
THZ	**Tophouse**	**2.27**	**207**	PN	Pn	23 24 16.6	-1.0
RIGZ	**Rimuhau**	**2.90**	**70**	PN	Pn	23 24 23.3	-1.4

*IDC **08** 23:42:22.0±2.4, 2°.81S×97°.69E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, ML3.2/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/25, Error ellipse: s-maj=90.0km s-min=21.6km az=59.0*
*ISCJB **08** 23:42:31.2±1.0, 1°.51S±0°.07×99°.38E±0°.08, h30km, mb3.5/5, MS3.9/1, Error ellipse: s-maj=11.7km s-min=9.5km az=24.0*
*DJA **08** 23:42:34.3±1.2, 1°.5S±8°×9°9E±°, h12km, M3.7/4, MLv3.7/4*

ISC 08 23:42:33.0±1.3, 1°.49S±0°.10×99°.40E±0°.09, h30km, n15, σ1§33/13, mb3.5/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.43**	**44**	P	**Pn**	**23 42 55.0**	**-1.9**
PPI				S	**Sn**	**23 43 13.3**	**-1.4**
MNSI	**Mandailing Nat**	**2.28**	**4**	P	**Pn**	**23 43 08.0**	**-0.6**
MNSI				S	**Sn**	**23 43 34.3**	**-1.3**
BKNI	**Bangkinang**	**2.44**	**42**	P	**Pn**	**23 43 13.0**	**+2.2**
BKNI				S	**Sn**	**23 43 40.5**	**+0.9**
GSI	**Gunungsitoli**	**3.32**	**327**	P	**Pn**	**23 43 22.9**	**-0.1**
PSI	**Prapat**	**4.29**	**354**	Pn	**Pb**	**23 43 48.5**	**+0.7**
	0.7nm,0.3s,baz=180,slow=9.2,SNR=5.2						
H08S2	**Diego Garcia H**	**27.50**	**256**	T	T	00 16 10.0	
	baz=77,slow=76,SNR=139						
H08S3	**Diego Garcia H**	**27.50**	**256**	T	T	00 16 11.2	
	baz=77,slow=76,SNR=172						
H08S1	**Diego Garcia H**	**27.52**	**256**	T	T	00 16 10.6	
	baz=77,slow=76,SNR=118						
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**23 49 54.1**	**-1.0**
	0.4nm,0.4s,baz=302,slow=9.2,SNR=6.7						
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**23 50 05.7**	**-0.1**
	0.3nm,0.6s,baz=289,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**49.50**	**6**	P	P	23 51 24.4	+3.5
	0.3nm,0.4s,baz=186,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**50.38**	**345**	P	**P**	**23 51 26.7**	**-0.8**
	0.3nm,0.5s,baz=155,slow=8.2,SNR=7.7						
OPO	**Ambohidratompo**	**52.90**	**248**	LR	LR	00 07 57.0	
	comp=Z,98nm,19.6s,baz=207,slow=30						
ZALV	**Zalesovo Beam**	**56.56**	**350**	P	**P**	**23 52 14.0**	**+1.4**
	0.8nm,0.6s,baz=181,slow=11,SNR=4.5						
TXAR	**Lajitas Array**	**144.65**	**36**	PKPbc	**PKPab**	**00 02 06.7**	**+0.4**
	0.4nm,0.7s,baz=198,slow=0.3,SNR=2.5						

IDC 08 23:44:23.9±11.0, 2°.32S×98°.47E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=540.8km s-min=24.7km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**26.40**	**258**	T	T	00 18 13.5	
	baz=78,slow=75,SNR=24						
H08S3	**Diego Garcia H**	**26.41**	**258**	T	T	00 18 13.8	
	baz=78,slow=75,SNR=31						
H08S1	**Diego Garcia H**	**26.42**	**258**	T	T	00 18 10.7	
	baz=78,slow=75,SNR=32						
WRA	**Warramunga Arr**	**39.16**	**119**	P	P	23 51 53.4	-0.5
	0.3nm,0.4s,baz=302,slow=9.2,SNR=7.6						
ASAR	**Alice Springs**	**40.31**	**125**	P	P	23 52 03.7	+0.3
	0.1nm,0.3s,baz=301,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**50.94**	**346**	P	P	23 53 25.9	-1.3
	0.5nm,0.7s,baz=158,slow=8.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**57.21**	**350**	P	P	23 54 13.7	+0.9
	1.4nm,0.6s,baz=165,slow=6.7,SNR=7.0						

*IDC **09** 00:07:01.7±1.6, 15°.31S×171°.87W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/22, mbtmp3.8/4, Error ellipse: s-maj=54.7km s-min=18.0km az=110.0*
*ISCJB **09** 00:07:03.5±1.6, 15°.4S±0°.1×171°.9W±0°.4, h23km, mb3.8/4, Error ellipse: s-maj=50.4km s-min=10.4km az=15.3*

ISC 09 00:07:04.8±1.7, 15°.3S±0°.1×171°.8W±0°.4, h23km, n6, σ0§89/7, mb3.9/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.39**	**3**	Pn	**Pn**	**00 07 28.0**	**-0.9**
	34nm,0.3s,baz=204,slow=12,SNR=24						
AFI				Sn	**Sb**	**00 07 48.1**	**+0.5**
	132nm,0.3s,baz=180,slow=20,SNR=20						
URZ	**Urewera**	**24.85**	**201**	P	**P**	**00 12 25.2**	**-0.4**
	2.3nm,0.4s,baz=33,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**51.32**	**257**	P	**P**	**00 16 07.8**	**+0.1**
	0.6nm,0.8s,baz=94,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**51.56**	**252**	P	**P**	**00 16 10.1**	**+0.5**
	2.5nm,0.9s,baz=87,slow=8.7,SNR=21						
ILAR	**Eielson Array**	**82.08**	**11**	P	**P**	**00 19 23.9**	**+1.0**
	0.3nm,0.7s,baz=206,slow=5.6,SNR=3.7						
BRTR	**Keskin Array B**	**147.02**	**322**	PKPbc	**PKPab**	**00 26 46.8**	**-0.8**
	0.6nm,0.9s,baz=48,slow=2.1,SNR=3.0						

*ISCJB **09** 00:11:02.5±0.4, 35°.75N±0°.02×4°.74W±0°.02, h97km±5km, Error ellipse: s-maj=4.0km s-min=2.9km az=11.7*
*LDG **09** 00:11:02.9±0.4, 35°.76N×4°.52W, h20km, Ml3.1/4, Error ellipse: s-maj=8.6km s-min=4.9km az=176.0*
*SFS **09** 00:11:03.0, 35°.66N×4°.62W, h95km, ML2.7*
*MDD **09** 00:11:03.7±0.5, 35°.64N×4°.61W, h91km±7km, mb2.7/19, Error ellipse: s-maj=4.3km s-min=3.9km az=74.0, PRXIMO*
*CSEM **09** 00:11:03.2±0.2, 35°.64N×4°.67W, h80km, ML3.9/9, Error ellipse: s-maj=3.8km s-min=3.3km az=17.0*
*INMG **09** 00:11:04.9±1.5, 35°.78N×4°.74W, h21km±11km, ML3.0, Error ellipse: s-maj=7.7km s-min=3.1km az=163.0*
*IGIL **09** 00:11:04.5, 35°.84N×4°.80W, h1km, ML3.1*
*CNRM **09** 00:11:05.3, 35°.55N×4°.81W, h27km, MD3.1*

ISC 09 00:11:00.6±1.2, 35°.64N±0°.03×4°.64W±0°.02, h110km±7km, n154, σ1§84/227, 9C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECEU	**Ceuta**	**0.65**	**294**	P	**Pn**	**00 11 20.8**	**+2.3**
	5.2nm,0.1s,SNR=51						
ECEU				S	**Sn**	**00 11 31.6**	**-0.4**
	31nm,0.1s,SNR=5.3						
ECEU	**Ceuta**	**0.65**	**294**	P	**Pn**	**00 11 20.8**	**+2.3**
	5.2nm,0.1s,SNR=51						
ECEU				S	**Sn**	**00 11 31.6**	**-0.4**
	31nm,0.1s,SNR=5.3						
EMIJ	**Mijas**	**0.93**	**353**	⇑P	**Pn**	**00 11 21.3**	**+0.2**
	27nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**00 11 34.4**	**-2.2**
	45nm,0.1s,SNR=26						
EMIJ	**Mijas**	**0.93**	**353**	P	**Pn**	**00 11 21.3**	**+0.2**
	27nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**00 11 34.4**	**-2.2**
	45nm,0.1s,SNR=26						
REAL	**Reales**	**0.96**	**332**	P	**Pn**	**00 11 23.5**	**+2.0**
REAL				S	**Sn**	**00 11 34.4**	**-2.9**
REAL	**Reales**	**0.96**	**332**	P	**Pn**	**00 11 23.5**	**+2.0**
REAL				S	**Sn**	**00 11 34.4**	**-2.9**
TOU	**Touzarine**	**0.99**	**133**	P	**Pn**	**00 11 23.0**	**+1.2**
TOU				S	**Sn**	**00 11 36.0**	**-1.7**
TOU	**Touzarine**	**0.99**	**133**	P	**Pn**	**00 11 23.0**	**+1.2**
TOU				S	**Sn**	**00 11 36.0**	**-1.7**
EMAL	**Malaga-Limoner**	**1.14**	**9**	⇑P	**Pn**	**00 11 23.7**	**+0.6**
EMAL				S	**Sn**	**00 11 38.4**	**-1.8**
EMAL	**Malaga-Limoner**	**1.14**	**9**	P	**Pn**	**00 11 23.7**	**+0.6**
EMAL				S	**Sn**	**00 11 38.4**	**-1.8**
CNIL	**Conil**	**1.36**	**303**	P	Pn	00 11 29.2	+3.6
CNIL	**Conil**	**1.36**	**303**	*i* P	Pn	00 11 29.2	+3.6
LIJA	**Lijar**	**1.41**	**334**	⇓P	Pn	00 11 29.4	+3.1
LIJA	**Lijar**	**1.41**	**334**	P	Pn	00 11 29.4	+3.1
EMEL	**Melilla**	**1.42**	**103**	P	**Pn**	**00 11 27.6**	**+1.3**
	11nm,0.1s,SNR=7.9						
EMEL				S	**Sn**	**00 11 45.3**	**-0.6**
	21nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**1.42**	**103**	P	**Pn**	**00 11 27.6**	**+1.2**
	11nm,0.1s,SNR=7.9						
EMLI				S	**Sn**	**00 11 45.3**	**-0.7**
	21nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.43**	**103**	P	**Pn**	**00 11 27.7**	**+1.2**
	24nm,0.1s,SNR=4.0						
MELI				S	**Sn**	**00 11 45.0**	**-1.2**
	2.9nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.43**	**103**	P	**Pn**	**00 11 27.7**	**+1.2**
	24nm,0.1s,SNR=4.0						
MELI				S	**Sn**	**00 11 45.0**	**-1.2**
	2.9nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**1.48**	**36**	P	**Pn**	**00 11 27.6**	**+0.5**
	9.2nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**00 11 45.6**	**-1.6**
	48nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.48**	**36**	P	**Pn**	**00 11 27.6**	**+0.5**
	9.2nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**00 11 45.6**	**-1.6**
	48nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.57**	**322**	⇑P	**Pn**	**00 11 30.5**	**+2.3**
	18nm,0.2s,SNR=18						
ESPR				S	**Sn**	**00 11 50.3**	**+1.1**
	55nm,0.3s,SNR=9.9						
ESPR	**Espera**	**1.57**	**322**	P	**Pn**	**00 11 30.5**	**+2.3**
	18nm,0.2s,SNR=18						
ESPR				S	**Sn**	**00 11 50.3**	**+1.1**
	55nm,0.3s,SNR=9.9						
SELV	**Sierra Elvira**	**1.76**	**24**	P	Pn	00 11 33.8	+3.2
	5.1nm,0.4s,SNR=7.9						
SELV				S	**Sn**	**00 11 55.4**	**+2.0**
	4.9nm,0.2s,SNR=4.0						
SELV	**Sierra Elvira**	**1.76**	**24**	P	Pn	00 11 33.8	+3.2
	5.1nm,0.4s,SNR=7.9						
SELV				S	**Sn**	**00 11 55.4**	**+2.0**
	4.9nm,0.2s,SNR=4.0						
EQUE	**Quentar**	**1.84**	**31**	P	**Pn**	**00 11 34.2**	**+2.6**
	0.4nm,0.1s,SNR=12						
EQUE				S	**Sn**	**00 11 55.2**	**-0.1**
	1.6nm,0.2s,SNR=7.6						
EQUE	**Quentar**	**1.84**	**31**	P	**Pn**	**00 11 34.2**	**+2.6**
	0.4nm,0.1s,SNR=12						
EQUE				S	**Sn**	**00 11 55.2**	**-0.1**
	1.6nm,0.2s,SNR=7.6						
ECOG	**Cogollos-Vega**	**1.85**	**28**	P	**Pn**	**00 11 33.0**	**+1.2**
	0.5nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**00 11 57.5**	**+1.9**
	9.4nm,0.3s,SNR=11						
ECOG	**Cogollos-Vega**	**1.85**	**28**	P	**Pn**	**00 11 33.0**	**+1.2**
	0.5nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**00 11 57.5**	**+1.9**
	9.4nm,0.3s,SNR=11						
EBER	**Berja**	**1.89**	**48**	P	**Pn**	**00 11 33.2**	**+0.8**
	0.6nm,0.2s,SNR=13						
EBER				S	**Sn**	**00 11 56.0**	**-0.6**
	5.1nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.89**	**48**	P	**Pn**	**00 11 33.2**	**+0.8**
	0.6nm,0.2s,SNR=13						
EBER				S	**Sn**	**00 11 56.0**	**-0.6**
	5.1nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.94**	**9**	P	**Pn**	**00 11 34.7**	**+1.8**
	1.9nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**00 11 57.7**	**+0.2**
	76nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.94**	**9**	P	**Pn**	**00 11 34.7**	**+1.8**
	1.9nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**00 11 57.7**	**+0.2**
	76nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**2.25**	**35**	P	Pn	00 11 39.8	+3.0
	0.7nm,0.1s,SNR=4.0						
GORA				S	**Sn**	**00 12 06.7**	**+2.2**
	6.8nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**2.25**	**35**	P	Pn	00 11 39.8	+3.0
	0.7nm,0.1s,SNR=4.0						
GORA				S	**Sn**	**00 12 06.7**	**+2.2**
	6.8nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**2.27**	**192**	P	**Pn**	**00 11 38.0**	**+0.7**
MIF				S	**Sn**	**00 12 01.0**	**-4.4**
MIF	**Mishlifen**	**2.27**	**192**	P	**Pn**	**00 11 38.0**	**+0.7**
EQES	**Quesada**	**2.50**	**30**	P	**Pn**	**00 11 42.2**	**+2.1**
	0.6nm,0.1s,SNR=27						
EQES				S	**Sn**	**00 12 10.0**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.50**	**30**	P	**Pn**	**00 11 42.2**	**+2.1**
	0.6nm,0.1s,SNR=27						
EQES				S	**Sn**	**00 12 10.0**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.51**	**346**	⇑P	**Pn**	**00 11 41.4**	**+1.2**
	2.0nm,0.1s,SNR=18						
ECAB				S	**Sn**	**00 12 08.9**	**-1.7**
	32nm,0.1s,SNR=58						
ECAB	**El Cabril**	**2.51**	**346**	P	**Pn**	**00 11 41.4**	**+1.2**
	2.0nm,0.1s,SNR=18						
ECAB				S	**Sn**	**00 12 08.9**	**-1.7**
	32nm,0.1s,SNR=58						
EADA	**Adamuz**	**2.53**	**1**	⇑P	**Pn**	**00 11 42.0**	**+1.7**
	7.4nm,0.1s,SNR=18						
EADA				S	**Sn**	**00 12 10.0**	**-0.9**
	17nm,0.0s,SNR=7.9						
EADA	**Adamuz**	**2.53**	**1**	P	**Pn**	**00 11 42.0**	**+1.7**
	7.4nm,0.1s,SNR=18						
EADA				S	**Sn**	**00 12 10.0**	**-0.9**
	17nm,0.0s,SNR=7.9						
CZD	**Col de Zad**	**2.62**	**187**	P	**Pn**	**00 11 43.5**	**+1.7**
CZD				S	**Sn**	**00 12 12.0**	**-1.4**
CZD	**Col de Zad**	**2.62**	**187**	P	**Pn**	**00 11 43.5**	**+1.7**
CZD				*i* S	**Sn**	**00 12 12.0**	**-1.4**
EMIN	**Mina Concepcio**	**2.68**	**323**	⇑P	**Pn**	**00 11 44.0**	**+1.7**
	13nm,0.1s,SNR=18						
EMIN				S	**Sn**	**00 12 12.9**	**-1.6**
	35nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.68**	**323**	P	**Pn**	**00 11 44.0**	**+1.7**
	13nm,0.1s,SNR=18

PBEJ eSn Sn 00 12 32.8 -1.5
31nm,0.3s
ZFT Errachidia 3.60 176 P Pn 00 11 57.0 +2.2
ZFT S Sn 00 12 37.0 +0.4
ZFT Errachidia 3.60 176 P Pn 00 11 57.0 +2.2
ZFT S Sn 00 12 37.0 +0.4
MESJ Messejana 3.62 308 eP Pn 00 11 56.5 +1.8
MESJ eS Sn 00 12 35.0 -1.7
MESJ AML AML 00 12 37.1
comp=N,47nm,0.2s
MESJ Messejana 3.62 308 P Pn 00 11 56.6 +1.8
SNR=7.9
MESJ S Sn 00 12 34.1 -2.6
SNR=7.9
MESJ Messejana 3.62 308 P Pn 00 11 56.6 +1.9
SNR=7.9
MORF Marmelete 3.64 298 P Pn 00 11 56.0 +1.0
MORF S Sn 00 12 35.9 -1.2
SNR=7.9
MORF Marmelete 3.64 298 ePn Pn 00 11 56.7 +1.7
MORF eSn Sn 00 12 36.5 -0.7
MORF A A 00 12 37.3
comp=N,57nm,0.2s
MORF Marmelete 3.64 298 P Pn 00 11 56.0 +1.0
SNR=7.9
MORF Marmelete 3.64 298 ePn Pn 00 11 56.7 +1.7
MORF eSn Sn 00 12 36.5 -0.7
comp=N,57nm,0.2s
EBAD Badajoz 3.64 329 P Pn 00 11 56.9 +1.8
comp=N,6.6nm,0.1s,SNR=106
EBAD S Sn 00 12 36.1 -1.2
comp=N,50nm,0.1s,SNR=16
EBAD Badajoz 3.64 329 P Pn 00 11 56.9 +1.8
comp=N,6.6nm,0.1s,SNR=106
PFVI Vila Bisbo 3.69 295 P Pn 00 11 57.4 +1.7
comp=N,2.2nm,0.1s,SNR=20
PFVI S Sn 00 12 37.7 -0.7
comp=N,29nm,0.2s,SNR=12
PFVI Vila Bisbo 3.69 295 ePn Pn 00 11 57.4 +1.7
PFVI eSn Sn 00 12 37.5 -1.0
PFVI A A 00 12 40.6
comp=N,21nm,0.2s
PFVI Vila Bisbo 3.69 295 P Pn 00 11 57.4 +1.7
comp=N,2.2nm,0.1s,SNR=20
PFVI S Sn 00 12 37.7 -0.7
comp=N,29nm,0.2s,SNR=12
PTEO Sao Teotonio 3.80 301 ePn Pn 00 11 59.2 +2.1
PTEO eSn Sn 00 12 40.3 -0.7
PTEO A A 00 12 42.3
comp=N,27nm,0.3s
PTEO Sao Teotonio 3.80 301 ePn Pn 00 11 59.2 +2.1
PTEO eSn Sn 00 12 40.3 -0.7
comp=N,27nm,0.3s
ETOB Tobarra 3.89 39 ⇓P Pn 00 12 00.2 +1.8
comp=N,2.0nm,0.2s,SNR=18
ETOB S Sn 00 12 42.6 -0.7
comp=N,0.4nm,0.2s,SNR=7.9
ETOB Tobarra 3.89 39 P Pn 00 12 00.2 +1.8
comp=N,2.0nm,0.2s,SNR=18
ETOB S Sn 00 12 42.6 -0.7
comp=N,0.4nm,0.2s,SNR=7.9
EVO Evora 3.95 318 ePn Pn 00 12 01.6 +2.4
EVO eSn Sn 00 12 44.2 -0.5
comp=N,71nm,0.5s
PNCL Nicolau / Gran 3.98 310 ePn Pn 00 12 01.3 +1.8
PNCL eSn Sn 00 12 43.5 -1.8
PNCL A A 00 12 46.4
comp=N,26nm,0.3s
PNCL Nicolau / Gran 3.98 310 ePn Pn 00 12 01.3 +1.8
PNCL eSn Sn 00 12 43.5 -1.8
comp=N,26nm,0.3s
PESTR Estremoz 3.99 325 ePn Pn 00 12 01.9 +2.1
PESTR eSn Sn 00 12 44.2 -1.5
PESTR A A 00 12 45.9
comp=N,25nm,0.3s
PESTR Estremoz 3.99 325 ePn Pn 00 12 01.9 +2.1
PESTR eSn Sn 00 12 44.2 -1.5
comp=N,25nm,0.3s
EVOP Sao Brissos 4.01 317 ePn Pn 00 12 01.6 +1.6
EVOP eSn Sn 00 12 44.2 -1.8
comp=N,35nm,0.5s
ESDC Sonseca Array 4.07 7 P Pn 00 12 02.2 +1.4
comp=N,0.4nm,0.3s,baz=187,slow=14,SNR=61
ESDC S Sn 00 12 44.8 -2.7
baz=188,slow=24,SNR=7.9
ESDC Sonseca Array 4.07 7 P Pn 00 12 02.2 +1.4
comp=N,0.4nm,0.3s,SNR=61
PMRV Marv??o 4.37 331 ePn Pn 00 12 07.0 +2.1
PMRV eSn Sn 00 12 52.1 -2.7
PMRV A A 00 13 07.5
comp=N,17nm,0.7s
PMRV Marv??o 4.37 331 ePn Pn 00 12 07.0 +2.1
PMRV eSn Sn 00 12 52.1 -2.7
comp=N,17nm,0.7s
PMTG Montargil 4.46 321 ePn Pn 00 12 08.0 +2.0
PMTG eSn Sn 00 12 54.9 -2.0
PMTG A A 00 12 58.8
comp=N,16nm,0.6s
PMTG Montargil 4.46 321 ePn Pn 00 12 08.0 +2.0
PMTG eSn Sn 00 12 54.9 -2.0
comp=N,16nm,0.6s
EPLA Plasencia 4.56 346 P Pn 00 12 09.4 +1.9
comp=N,0.5nm,0.1s,SNR=7.5
EPLA S Sn 00 12 56.8 -2.7
comp=N,14nm,0.2s,SNR=19
EPLA Plasencia 4.56 346 P Pn 00 12 09.4 +1.9
comp=N,0.5nm,0.1s,SNR=7.5
PACT Alcochete 4.58 314 ePn Pn 00 12 10.2 +2.6
PACT eSn Sn 00 12 59.2 -0.5
PACT A A 00 13 14.8
comp=N,20nm,0.4s
PACT Alcochete 4.58 314 ePn Pn 00 12 10.2 +2.6
PACT eSn Sn 00 12 59.2 -0.5
comp=N,20nm,0.4s
ALMR Almeirim 4.71 319 eP Pn 00 12 12.3 +2.9
ALMR eS Sn 00 13 00.1 -2.7
ALMR AML AML 00 13 03.6
comp=N,32nm,0.5s
ALMR Almeirim 4.71 319 P Pn 00 12 12.5 +3.1
SNR=7.9
ALMR S Sn 00 13 00.3 -2.5
SNR=7.9
ALMR Almeirim 4.71 319 P Pn 00 12 12.5 +3.1
SNR=7.9
PCBR Castelo Branco 4.76 333 ePn Pn 00 12 12.0 +1.9
PCBR eSn Sn 00 13 01.2 -2.9
PCBR A A 00 13 16.0
comp=N,7.4nm,0.3s
PCBR Castelo Branco 4.76 333 ePn Pn 00 12 12.0 +1.9
PCBR eSn Sn 00 13 01.2 -2.9
comp=N,7.4nm,0.3s
PMAFR Mafra 4.97 313 P Pn 00 12 16.2 +3.3
comp=N,0.7nm,0.1s,SNR=4.0
PMAFR S Sn 00 13 08.6 -0.5
comp=N,4.5nm,0.1s,SNR=7.5
PMAFR Mafra 4.97 313 ePn Pn 00 12 16.3 +3.4
PMAFR eSn Sn 00 13 08.0 -1.1
PMAFR A A 00 13 18.6
comp=N,15nm,0.8s
PMAFR Mafra 4.97 313 P Pn 00 12 16.2 +3.3
comp=N,0.7nm,0.1s,SNR=4.0
PMAFR eSn Sn 00 13 08.0 -1.1
comp=N,15nm,0.8s
PMAFR S Sn 00 13 08.6 -0.5
comp=N,4.5nm,0.1s,SNR=7.5
PTOM Tomar 4.97 324 ePn Pn 00 12 15.6 +2.6
PTOM eSn Sn 00 13 07.1 -2.2
PTOM A A 00 13 11.5
comp=N,19nm,0.3s
PTOM Tomar 4.97 324 ePn Pn 00 12 15.6 +2.6
PTOM eSn Sn 00 13 07.1 -2.2
comp=N,19nm,0.3s
GUD Guadarrama 5.01 4 P Pn 00 12 15.1 +1.5
comp=N,0.1nm,0.1s,SNR=7.9
GUD S Sn 00 13 07.5 -3.0
comp=N,12nm,0.3s,SNR=13
GUD Guadarrama 5.01 4 P Pn 00 12 15.1 +1.5
comp=N,0.1nm,0.1s,SNR=7.9
MTE Manteigas 5.28 335 ePn Pn 00 12 19.5 +2.4
MTE eSn Sn 00 13 16.1 -0.7
MTE A A 00 13 30.9
comp=N,13nm,0.7s
MTE Manteigas 5.28 335 ePn Pn 00 12 19.5 +2.4
MTE eSn Sn 00 13 16.1 -0.7
comp=N,13nm,0.7s
PCAS Casmilo, Conde 5.36 326 ePn Pn 00 12 20.7 +2.5
PCAS eSn Sn 00 13 16.2 -2.5
PCAS A A 00 13 21.4
comp=N,8.1nm,0.2s
PCAS Casmilo, Conde 5.36 326 ePn Pn 00 12 20.7 +2.5
PCAS eSn Sn 00 13 16.2 -2.5
comp=N,8.1nm,0.2s
ETOR Torete 5.56 21 P Pn 00 12 22.4 +1.4
comp=N,3.6nm,0.2s,SNR=18
ETOR S Sn 00 13 19.6 -4.1
comp=N,12nm,0.2s,SNR=7.9
ETOR Torete 5.56 21 P Pn 00 12 22.4 +1.4
comp=N,3.6nm,0.2s,SNR=18
PVIS Viseu 5.68 334 ePn Pn 00 12 24.4 +1.8
PVIS eSn Sn 00 13 24.5 -2.0
PVIS A A 00 13 27.5
comp=N,12nm,0.6s
PVIS Viseu 5.68 334 ePn Pn 00 12 24.4 +1.8
MVO Moncorvo 5.83 342 P Pn 00 12 27.1 +2.6
comp=N,0.2nm,0.0s,SNR=7.8
MVO S Sn 00 13 27.5 -2.6
comp=N,0.5nm,0.0s,SNR=7.9
MVO Moncorvo 5.83 342 ePn Pn 00 12 27.2 +2.6
MVO eSn Sn 00 13 28.6 -1.5
MVO A A 00 13 41.6
comp=N,6.7nm,0.4s
MVO Moncorvo 5.83 342 P Pn 00 12 27.1 +2.6
comp=N,0.2nm,0.0s,SNR=7.8
PVRL Vila Real 6.12 338 ePn Pn 00 12 31.2 +2.6
PVRL eSn Sn 00 13 34.3 -3.0
PVRL A A 00 13 37.5
comp=N,31nm,0.1s
PVRL Vila Real 6.12 338 ePn Pn 00 12 31.2 +2.6
POLO Lamas de Olo 6.24 338 ePn Pn 00 12 32.8 +2.6
POLO eSn Sn 00 13 37.7 -2.4
POLO A A 00 13 40.6
comp=N,1.5nm,0.2s
POLO Lamas de Olo 6.24 338 ePn Pn 00 12 32.8 +2.6
PTO Porto 6.31 332 eSn Sn 00 13 39.9 -1.8
PTO A A 00 13 42.9
comp=N,14nm,0.1s
PBRG Braganca 6.37 346 ePn Pn 00 12 34.6 +2.6
PBRG eSn Sn 00 13 39.6 -3.7
PBRG A A 00 13 44.3
comp=N,3.6nm,0.2s
PBRG Braganca 6.37 346 ePn Pn 00 12 34.6 +2.6
ECAL Calabor 6.50 346 S Sn 00 13 44.5 -2.0
comp=N,0.9nm,0.1s,SNR=6.1
PCAB Cabril 6.62 337 ePn Pn 00 12 38.3 +3.1
PCAB eSn Sn 00 13 46.5 -2.7
PCAB A A 00 13 50.5
comp=N,5.7nm,0.1s
PCAB Cabril 6.62 337 ePn Pn 00 12 38.3 +3.1
ELOB Lobios 6.77 338 P Pn 00 12 40.0 +2.7
comp=N,0.4nm,0.1s,SNR=7.9
ELOB S Sn 00 13 50.8 -2.2
comp=N,0.4nm,0.1s,SNR=7.9
ELOB Lobios 6.77 338 P Pn 00 12 40.0 +2.7
comp=N,0.4nm,0.1s,SNR=7.9
PGAV Gavieira, Arco 6.92 337 ePn Pn 00 12 42.2 +2.7
PGAV eSn Sn 00 13 54.0 -2.7
PGAV A A 00 13 57.4
comp=N,3.4nm,0.2s
PGAV Gavieira, Arco 6.92 337 ePn Pn 00 12 42.2 +2.7
IZUN Zunzarren 7.62 18 P Pn 00 12 53.0 +4.1
comp=N,0.1nm,0.1s,SNR=7.9
IZUN S Sn 00 14 10.3 -3.4
comp=N,2.2nm,0.3s,SNR=7.9
IZUN Zunzarren 7.62 18 P Pn 00 12 53.0 +4.1
comp=N,0.1nm,0.1s,SNR=7.9
ELAN Lanestosa 7.64 7 P Pn 00 12 52.5 +3.4
comp=N,0.1nm,0.1s,SNR=4.0
ELAN S Sn 00 14 10.2 -3.7
comp=N,2.3nm,0.4s,SNR=7.9
ELAN Lanestosa 7.64 7 P Pn 00 12 52.5 +3.4
comp=N,0.1nm,0.1s,SNR=4.0
IELO Elcoad 7.67 19 P Pn 00 12 53.9 +4.4
comp=N,0.2nm,0.1s,SNR=4.0
IELO S Sn 00 14 11.9 -2.7
comp=N,1.6nm,0.3s,SNR=7.9
IELO Elcoad 7.67 19 P Pn 00 12 53.9 +4.4
comp=N,0.2nm,0.1s,SNR=4.0
EARI Arriondas 7.67 357 S Sn 00 14 11.2 -3.5
comp=N,0.6nm,0.2s,SNR=7.9
ETSF Etsaut 7.91 22 eP Pn 00 12 56.2 +3.4
ETSF eSn Sn 00 14 13.2 -7.5
comp=N,0.4nm,0.2s
ETSF Etsaut 7.91 22 P Pn 00 12 56.2 +3.4
SJPF Ste Jean 7.92 18 eP Pn 00 12 56.8 +3.9
SJPF eSn Sn 00 14 13.8 -7.0
comp=N,0.8nm,0.2s
SJPF Ste Jean 7.92 18 P Pn 00 12 56.8 +3.9
EALK Alkurruntz 7.95 17 S Sn 00 14 17.9 -3.5
comp=N,6.0nm,0.3s,SNR=7.9
EBIE Bielsa 7.97 26 S Sn 00 14 20.0 -2.0
comp=N,0.8nm,0.4s,SNR=7.9
ATE Arette 8.04 21 P Pn 00 12 58.3 +3.8
comp=N,0.2nm,0.1s,SNR=4.0
EPF Esparros 8.33 26 ePn Pn 00 12 57.5 -1.0
EPF Esparros 8.33 26 eP Pn 00 13 02.6 +4.1
EPF eSn Sn 00 14 23.3 -7.5
comp=N,0.7nm,0.2s
EPF Esparros 8.33 26 P Pn 00 13 02.6 +4.1

IDC 09 00:20:44.8±1.7, 5°41N×121°55E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/24, mbtmp3.7/3, Error ellipse: s-maj=218.4km s-min=24.8km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.16**	**154**	P	P	00 26 38.6	-0.4
	0.6nm,0.6s,baz=331,slow=11,SNR=10						
ASAR	**Alice Springs**	**31.31**	**158**	P	P	00 27 07.5	+0.5
	0.2nm,0.3s,baz=344,slow=7.1,SNR=6.4						
MKAR	**Makanchi Array**	**53.30**	**327**	P	P	00 30 05.5	-0.1
	0.5nm,0.5s,baz=117,slow=8.0,SNR=11						

*ISCJB **09** 00:23:21.9±0.9, 17°.8S±0°.2×178°.5W±0°.2, h579km, mb3.8/15, Error ellipse: s-maj=33.1km s-min=12.0km az=147.4*
*IDC **09** 00:23:21.3±4.2, 17°.83S×178°.38W, h563km±48km, mb3.4/15, mb1 3.6/16, mb1mx3.5/22, mbtmp3.4/16, Error ellipse: s-maj=33.1km s-min=19.6km az=145.0*
ISC 09 00:23:22.5±1.0, 17°.9S±0°.2×178°.4W±0°.2, h579km, n59, σ0s61/58, mb3.8/15, 16C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**00 26 29.2**	**-0.7**
	1.7nm,0.3s,baz=85,slow=19,SNR=13						
CTA	**Charters Tower**	**33.45**	**260**	P	**P**	**00 29 14.7**	**-0.1**
	2.2nm,0.5s,baz=98,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**00 29 57.9**	**+0.5**
	6.3nm,0.7s,baz=98,slow=8.2,SNR=14						
WRA	**Warramunga Arr**	**44.64**	**259**	P	**P**	**00 30 44.1**	**-0.6**
	1.5nm,0.5s,baz=90,slow=8.1,SNR=9.0						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**00 30 46.2**	**+0.2**
	8.9nm,0.6s,baz=88,slow=8.6,SNR=76						
ASAR				PcP	**PcP**	**00 32 15.4**	**0.0**
	1.2nm,0.6s,baz=104,slow=4.3,SNR=1.7						
FITZ	**Fitzroy Crossi**	**53.03**	**261**	P	**P**	**00 31 46.3**	**-0.4**
	1.6nm,0.7s,baz=117,slow=4.5,SNR=4.1						
MJAR	**Matsushiro Arr**	**67.88**	**323**	P	**P**	**00 33 24.2**	**+0.2**
	3.4nm,0.5s,baz=150,slow=5.9,SNR=8.6						
MAT	**Matsushiro**	**67.88**	**323**	P	**P**	**00 33 24.0**	**-0.1**
PETK	**Petropavlovsk-**	**73.64**	**345**	P	**P**	**00 33 57.7**	**+0.2**
	4.6nm,0.6s,baz=123,slow=8.3,SNR=6.7						
KSRS	**Korea Array**	**74.67**	**318**	P	**P**	**00 34 04.4**	**+0.8**
	1.2nm,0.7s,baz=134,slow=7.0,SNR=4.0						
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**00 34 30.0**	**+0.3**
	0.8nm,0.6s,baz=226,slow=8.5,SNR=5.9						
ILAR	**Eielson Array**	**85.85**	**13**	P	**P**	**00 34 59.8**	**-1.3**
	1.1nm,0.4s,baz=223,slow=5.1,SNR=33						
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**00 35 03.8**	**+1.1**
	0.9nm,0.8s,baz=227,slow=4.8,SNR=6.4						
PDAR	**Pinedale Array**	**87.33**	**43**	P	**P**	**00 35 08.6**	**-0.3**
	1.1nm,0.7s,baz=217,slow=2.9,SNR=9.0						
CMAR	**Chiang Mai Arr**	**88.87**	**290**	P	**P**	**00 35 18.3**	**+2.0**
	0.7nm,0.5s,baz=131,slow=2.5,SNR=6.7						
SONM	**Songino Array**	**93.52**	**319**	P	**P**	**00 35 37.1**	**-0.2**
	0.2nm,0.3s,baz=134,slow=6.2,SNR=3.5						
YKA	**Yellowknife Ar**	**94.30**	**25**	P	**P**	**00 35 39.5**	**-0.7**
	0.4nm,0.6s,baz=239,slow=4.8,SNR=5.9						
ARCES	**ARCESS Array B**	**126.28**	**350**	PKP	**PKPdf**	**00 41 18.3**	**-1.0**
	2.5nm,0.9s,baz=4.4,slow=6.3,SNR=5.9						
FINES	**FINESS Array B**	**133.15**	**344**	PKP	**PKPdf**	**00 41 31.5**	**-1.0**
	0.9nm,0.8s,baz=17,slow=1.9,SNR=3.6						
LEOM	**Leova**	**143.97**	**328**	⇑*i*P	PKPab	00 41 52.3	0.0
KWP	**Kalwaria Pacla**	**144.04**	**336**	⇓*i*P	PKPbc	00 41 52.3	0.0
BURAR	**Bucovina Array**	**144.58**	**332**	⇑*i*P	**PKPab**	**00 41 54.5**	**-0.3**
GHRR		**144.67**	**328**	⇓*i*P	**PKPab**	**00 41 55.3**	**+0.3**
TESR	**Tescani**	**144.73**	**330**	⇑*i*P	**PKPdf**	**00 41 54.1**	**+0.1**
BRTR	**Keskin Array B**	**144.76**	**315**	PKP	**PKPdf**	**00 41 54.5**	**0.0**
	3.1nm,0.8s,baz=138,slow=4.6,SNR=16						
CFR	**Carcaliu**	**144.91**	**327**	⇓*i*P	**PKPab**	**00 41 55.6**	**-0.3**
NIE	**Niedzica**	**145.09**	**339**	*e*PX	**PKPdf**	**00 41 55.9**	**+1.3**
VRI	**Vrincioaia**	**145.15**	**329**	⇑*i*P	**PKPbc**	**00 41 55.8**	**0.0**
TIRR	**Tirgusor**	**145.24**	**325**	⇓*i*P	**PKPdf**	**00 41 53.8**	**-1.1**
TRPA	**Tarpa**	**145.31**	**335**	⇑*i*P	**PKPbc**	**00 41 56.2**	**+0.1**
TLB	**Topalu**	**145.35**	**326**	⇓*i*P	**PKPbc**	**00 41 56.2**	**-0.1**
CLL	**Collm**	**145.43**	**347**	⇓*i*PKPbc	**PKPbc**	**00 41 56.0**	**-0.4**
	comp=Z,11nm,0.7s						
OKC	**Ostrava-Krasne**	**145.44**	**341**	*e*P	**PKPbc**	**00 41 56.1**	**-0.3**
OKC				*ex*	x	00 42 18.5	
UPC	**Upice**	**145.46**	**344**	*e*P	**PKPbc**	**00 41 56.6**	**+0.1**
UPC				*ex*	x	00 41 59.1	
DPC	**Dobruska-Polom**	**145.51**	**343**	*e*P	**PKPbc**	**00 41 57.0**	**+0.3**
DPC				*ex*	x	00 42 18.4	
BRG	**Berggiesshubel**	**145.63**	**346**	*e*P	**PKPbc**	**00 41 57.0**	**+0.1**
	comp=Z,6.9nm,1.0s						
MORC	**Moravsky Berou**	**145.68**	**342**	⇓*i*P	**PKPbc**	**00 41 57.5**	**+0.3**
MSAB	**Monastry St. A**	**145.80**	**325**	⇓*i*P	**PKPbc**	**00 41 57.7**	**+0.1**
MLR	**Muntele Rosu**	**145.80**	**329**	⇑*i*P	**PKPbc**	**00 41 58.7**	**+0.9**
PVCC	**Panska Ves**	**145.81**	**345**	*e*P	**PKPdf**	**00 41 55.9**	**+0.2**
CJR	**Cluj-Napoca**	**145.99**	**333**	⇑*i*P	**PKPbc**	**00 41 58.6**	**+0.4**
DRGR		**146.31**	**333**	⇑*i*P	**PKPbc**	**00 41 59.1**	**0.0**
PRU	**Pruhonice**	**146.31**	**345**	*e*P	**PKPbc**	**00 41 58.9**	**0.0**
PRU				*ex*	x	00 42 19.9	
VRAC	**Vranov**	**146.38**	**342**	⇑*i*P	**PKPab**	**00 42 02.3**	**+0.6**
PSZ	**Piszkesteto**	**146.50**	**337**	⇓*i*P	**PKPbc**	**00 41 59.6**	**0.0**
ARR	**Arges**	**146.53**	**330**	⇓*i*P	**PKPbc**	**00 42 00.5**	**+0.8**
HUMR	**Humele**	**146.97**	**329**	⇓*i*P	**PKPbc**	**00 41 59.8**	**-1.0**
SIRR	**Siria**	**147.17**	**334**	⇑*i*P	**PKPbc**	**00 42 01.6**	**+0.3**
KHC	**Kasperske Hory**	**147.34**	**345**	*e*P	**PKPbc**	**00 42 01.7**	**0.0**
KHC				*ex*	x	00 42 23.8	
GZR	**Gura Zlata**	**147.37**	**332**	⇓*i*P	**PKPbc**	**00 42 01.5**	**-0.5**
JMB	**Yambol**	**147.55**	**324**	⇑*i*P	**PKPbc**	**00 42 02.9**	**+0.5**
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	**PKPbc**	**00 42 02.3**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=26,slow=2.9,SNR=30						
BZS	**Buzias**	**147.70**	**333**	⇑*i*P	**PKPbc**	**00 42 02.5**	**-0.2**
KDZ	**Kurdzhali**	**148.74**	**324**	⇓*i*P	**PKPbc**	**00 42 05.0**	**-0.5**
VTS	**Vitosha**	**149.26**	**328**	⇓*i*P	**PKPbc**	**00 42 06.6**	**-0.3**
WTTA	**Wattenberg**	**149.54**	**346**	⇑*i*PKPbc	**PKPbc**	**00 42 07.2**	**-0.2**
	comp=Z,8.7nm,0.6s						
ABTA	**Abfaltersbach**	**149.82**	**345**	⇑*i*PKPbc	**PKPbc**	**00 42 07.1**	**-0.9**
	comp=Z,7.6nm,0.7s						
DAVA	**Damuels**	**149.88**	**349**	⇑*i*PKPbc	**PKPbc**	**00 42 07.4**	**-0.8**
	comp=Z,6.4nm,0.9s						
FETA	**Feichten**	**149.97**	**347**	⇑*i*PKPbc	**PKPbc**	**00 42 08.2**	**-0.2**
	comp=Z,6.9nm,1.0s						

*BJI **09** 00:24:51.0, 3°.07S×119°.36E, h43km, mB5.1/18, mb4.7/25, Ms4.8/6, Ms7 4.5/6*
*IDC **09** 00:24:53.2±0.7, 2°.16S×119°.12E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.1/24, mbtmp4.2/13, MS3.5/1, Ms1 3.4/1, ms1mx2.8/35, Error ellipse: s-maj=28.6km s-min=13.4km az=63.0*
*ISCJB **09** 00:24:57.6±0.4, 2°.24S±0°.03×119°.01E±0°.04, h47km±4km, mb4.5/34, MS3.9/3, Error ellipse: s-maj=6.6km s-min=4.7km az=163.0*
*DJA **09** 00:24:57.1±0.5, 2°.S±2°×11°.9E±°, h14km±4km, M5.1/13, mb5.5/1, MLv4.8/13*
*NEIC **09** 00:24:58.4±0.9, 2°.25S×119°.05E, h41km±9km, mb4.5/13, Error ellipse: s-maj=12.1km s-min=4.9km az=57.0*
ISC 09 00:24:59.4±0.4, 2°.27S±0°.03×119°.00E±0°.05, h44km±3km, n85, σ1s48/113, mb4.5/34, MS4.0/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMSI	**Mamuju**	**0.42**	**192**	P	**Pn**	**00 25 07.1**	**-2.4**
MMSI				S	**Sn**	**00 25 15.7**	**-0.9**
MJSI	**Majene**	**1.27**	**181**	P	**Pn**	**00 25 20.3**	**-0.5**
MJSI				S	**Sn**	**00 25 40.1**	**+3.5**
SPSI	**Sidrap Palu**	**1.85**	**155**	P	**Pn**	**00 25 29.4**	**+0.7**
SPSI				S	**Sn**	**00 25 51.7**	**+0.9**
SGKI	**Sangatta, Kali**	**2.22**	**321**	P	Pn	00 25 44.4	+11
SGKI				S	Sn	00 26 21.5	+21
BKB	**Balikpapan**	**2.33**	**296**	P	**Pn**	**00 25 35.1**	**-0.2**
BNSI	**Bone**	**2.38**	**152**	P	**Pn**	**00 25 37.7**	**+1.7**
BNSI				S	**Sn**	**00 26 09.1**	**+5.0**
KAPI	**Kappang**	**2.83**	**165**	P	**Pn**	**00 25 43.9**	**+1.8**
KAPI	**Kappang**	**2.83**	**165**	*e*Pn	**Pn**	**00 25 42.4**	**+0.3**
KAPI				*e*Sn	**Sn**	**00 26 12.6**	**-2.4**
APSI	**Ampana**	**2.97**	**63**	P	**Pn**	**00 25 43.3**	**-0.8**
BKSI	**Bulukumba**	**3.23**	**160**	P	**Pn**	**00 25 49.1**	**+1.4**
KKSI	**Kolaka, Sulawe**	**3.25**	**126**	P	Pn	00 26 01.3	+13
LUWI	**Luwuk**	**3.96**	**72**	P	**Pn**	**00 25 56.4**	**-1.3**
MRSI	**Marisa**	**4.01**	**47**	P	**Pn**	**00 25 56.3**	**-2.1**
MRSI				S	**Sn**	**00 26 44.4**	**+0.2**
MTKI	**Muara Teweh, K**	**4.31**	**288**	P	**Pn**	**00 26 01.0**	**-1.5**
GTOI	**Gorontalo**	**4.94**	**54**	P	**Pn**	**00 26 10.0**	**-1.2**
KMSI	**Cibinong**	**5.73**	**60**	P	**Pn**	**00 26 21.8**	**-0.2**
KKM	**Kota Kinabalu**	**8.72**	**341**	*e*Pn	**Pn**	**00 27 02.4**	**-0.7**
KKM				Sn	**Sn**	**00 28 40.7**	**+0.5**
KSM	**Kuching**	**9.45**	**293**	*e*Pn	**Pn**	**00 27 11.1**	**-2.0**
KULM	**Kulim**	**19.81**	**292**	*e*P	**P**	**00 29 25.7**	**-0.7**
	9.4nm,0.8s						
PSI	**Prapat**	**20.69**	**284**	P	**P**	**00 29 37.0**	**+0.8**
PSI	**Prapat**	**20.69**	**284**	P	**P**	**00 29 37.0**	**+0.8**
	8.7nm,0.8s,baz=189,slow=2.6,SNR=6.7						
QIZ	**Qiongzhong**	**23.00**	**337**	P	**P**	**00 30 01.4**	**+0.7**
QIZ				S	**S**	**00 34 10.5**	**+2.4**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,120nm,4.1s						
WRA	**Warramunga Arr**	**23.09**	**141**	P	**P**	**00 30 00.7**	**-0.9**
WRA	**Warramunga Arr**	**23.09**	**141**	P	**P**	**00 30 00.7**	**-0.9**
	1.8nm,0.7s,baz=318,slow=11,SNR=13						
WRAB	**Tennant Creek**	**23.09**	**141**	*e*P	**P**	**00 30 00.6**	**-1.0**
	10nm,0.9s						
AS31	**Alice Springs**	**25.70**	**147**	*e*P	**P**	**00 30 24.5**	**-1.2**
ASAR	**Alice Springs**	**25.70**	**147**	P	**P**	**00 30 25.4**	**-0.3**
ASAR	**Alice Springs**	**25.70**	**147**	P	**P**	**00 30 25.4**	**-0.3**
	0.8nm,0.7s,baz=324,slow=8.3,SNR=9.6						
NACB	**Ninganchiao**	**26.41**	**5**	*e*P	**P**	**00 30 30.2**	**-1.8**
	20nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.53**	**317**	P	**P**	**00 30 49.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**28.53**	**317**	P	**P**	**00 30 49.8**	**-1.3**
	0.6nm,0.3s,baz=146,slow=6.6,SNR=3.5						
CM31	**Chiang Mai Arr**	**28.53**	**317**	*e*P	**P**	**00 30 50.0**	**-1.2**
GYA	**Guiyang**	**30.95**	**338**	*e*P	**P**	**00 31 15.0**	**+2.4**
GYA				pP	**pP**	**00 31 26.8**	**+2.4**
GYA				sP	**sP**	**00 31 31.6**	**+1.9**
GYA				PP	**PnPn**	**00 32 19.0**	**+4.3**
GYA				S	**S**	**00 36 16.2**	**+1.9**
GYA				sS	**sS**	**00 36 35.9**	**+1.8**
GYA				ScP	**ScP**	**00 37 47.5**	**-0.2**
GYA				ScS	**ScS**	**00 41 42.1**	**-2.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CTA	**Charters Tower**	**31.97**	**126**	P	**P**	**00 31 21.2**	**-0.3**
CTA	**Charters Tower**	**31.97**	**126**	P	**P**	**00 31 21.2**	**-0.3**
	1.1nm,0.3s,baz=291,slow=8.6,SNR=2.3						
ENH	**Enshi**	**33.61**	**345**	*e*P	**P**	**00 31 35.2**	**-0.5**
NJ2	**Nanjing**	**34.14**	**360**	*e*P	**P**	**00 31 42.1**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
BBOO	**Buckleboo**	**34.34**	**154**	*e*P	**P**	**00 31 41.3**	**-0.8**
	1μm,1.9s						
CD2	**Chengdu**	**36.05**	**337**	*e*P	**P**	**00 31 57.2**	**+0.3**
CD2				sP	**sP**	**00 32 12.7**	**-1.4**
CD2				PP	**PP**	**00 33 21.4**	**+1.9**
CD2				S	**S**	**00 37 34.8**	**+1.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=N,120nm,12.

comp=Z,71nm,20.1s,baz=26,slow=39
KSAR Wonju Array Be 40.37 11 P **P** **00 32 33.1 +0.1**
KSRS Korea Array 40.38 11 P **P** **00 32 33.1 0.0**
6.7nm,0.8s,baz=184,slow=11,SNR=20
LZH Lanzhou 40.70 341 *e*P **P** **00 32 36.8 +0.8**
LZH pP **pP** **00 32 48.6 +0.5**
LZH sP **sP** **00 32 52.9 -0.4**
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.3s
LSA Lhasa 41.47 322 *e*P **P** **00 32 44.1 +1.3**
7.5nm,0.8s
ARMA Armidale 41.69 136 *e*P **P** **00 32 42.5 -1.7**
BJI Beijing 42.19 357 P **P** **00 32 47.5 -0.4**
BJI pmax pmax
comp=Z,19nm,0.6s
BJI pmax pmax
comp=Z,65nm,3.6s
MJAR Matsushiro Arr 42.56 23 P P 00 32 47.8 -3.3
MJAR Matsushiro Arr 42.56 23 P P 00 32 47.8 -3.3
3.3nm,0.7s,baz=200,slow=8.9,SNR=8.8
HHC Hu-ho-hao-te 43.45 352 *e*P **P** **00 32 58.2 -0.1**
HHC PP **PP** **00 34 41.5 +1.5**
HHC PcP **PcP** **00 34 45.2 -0.7**
HHC ScP **ScP** **00 38 32.9 -1.1**
HHC PcS **PcS** **00 38 36.6 -2.1**
HHC S **S** **00 39 25.0 +1.3**
HHC pmax pmax
comp=Z,32nm,1.1s
HHC pmax pmax
comp=Z,120nm,6.0s
HHC LR LR
comp=N,220nm,16.1s
HHC LR LR
comp=E,370nm,16.5s
HHC LR LR
comp=Z,180nm,16.2s
GTA Gaotai 45.07 339 *e*P **P** **00 33 12.7 +1.4**
GTA pP **pP** **00 33 22.7 -0.9**
GTA sP **sP** **00 33 26.8 -2.0**
GTA pmax pmax
comp=Z,6.0nm,1.0s
CN2 Changchun 46.23 6 *e*P **P** **00 33 23.0 +2.8**
MDJ Mudanjiang 47.63 10 P **P** **00 33 30.5 -0.6**
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,140nm,7.0s
MDJ Mudanjiang 47.63 10 *e*P **P** **00 33 30.6 -0.5**
26nm,1.2s
TAU Tasmania Unive 47.70 152 *e*P **P** **00 33 30.7 -1.0**
USRK Ussuriysk Arra 47.70 13 P **P** **00 33 30.5 -1.2**
4.1nm,0.6s,baz=190,slow=7.5,SNR=10
DZM Mont Dzumac 50.09 117 *e*LR LR 00 33 11.7
465nm,25.0s
ULN Ulaanbaatar 51.01 350 *e*P **P** **00 33 57.2 +0.1**
11nm,1.2s
SONM Songino Array 51.10 349 P **P** **00 33 57.9 +0.1**
SONM Songino Array 51.10 349 P **P** **00 33 57.9 +0.1**
4.8nm,0.6s,baz=169,slow=8.2,SNR=49
WMQ Urumqi 53.79 332 P **P** **00 34 19.6 +1.9**
WMQ pmax pmax
comp=Z,12nm,1.0s
KSH Kashi 57.31 321 P **P** **00 34 44.1 +1.0**
KSH pP **pP** **00 34 54.1 -1.6**
KSH sP **sP** **00 35 00.0 -0.9**
KSH PP **PP** **00 36 54.2 +3.4**
KSH S **S** **00 42 34.6 -1.9**
KSH sS **sS** **00 42 58.3 +0.8**
KSH ScS **ScS** **00 44 30.1 +0.9**
KSH pmax pmax
comp=Z,150nm,6.2s
KSH LR LR
comp=N,130nm,5.9s
KSH LR LR
comp=E,120nm,6.4s
KSH LR LR
comp=Z,140nm,6.8s
MK31 Makanchi Array 58.55 331 *e*P **P** **00 34 51.2 -0.4**
MKAR Makanchi Array 58.55 331 *e*P **P** **00 34 52.1 +0.6**
MKAR Makanchi Array 58.55 331 P **P** **00 34 52.0 +0.4**
2.2nm,0.7s,baz=136,slow=7.6,SNR=26
KBL Kabul 59.44 313 *e*P **P** **00 34 58.1 -0.1**
7.0nm,0.8s
TKM2 Tokmak 2 59.57 324 *e*P **P** **00 34 58.6 -0.3**
2.9nm,1.0s
AAK Ala-Archa 60.05 323 *e*P **P** **00 35 01.9 -0.2**
1.8nm,0.6s
EKS2 Erkin-Say 60.49 323 *e*P **P** **00 35 04.2 -0.9**
ZAA0 Zalesovo Array 62.82 338 *e*P **P** **00 35 19.4 -1.0**
ZALV Zalesovo Beam 62.82 338 P **P** **00 35 19.4 -1.0**
ZALV Zalesovo Beam 62.82 338 P **P** **00 35 19.4 -1.0**
3.2nm,0.8s,baz=131,slow=4.5,SNR=15
KURK Kurchatov 63.03 332 *e*P **P** **00 35 21.8 -0.1**
5.7nm,1.2s
URZ Urewera 63.91 132 *e*P **P** **00 35 27.0 -1.0**
12nm,0.5s
BRVK Borovoye 68.50 331 *e*P **P** **00 35 56.6 -0.5**
2.3nm,0.7s
ABKAR Akbulak array 72.13 324 *e*P **P** **00 36 18.8 -0.6**
ARU Arti 76.05 330 *e*P **P** **00 36 40.2 -1.9**
2.2nm,0.6s
KIV Kislovodsk 81.75 315 P **P** **00 37 13.6 -0.2**
BRTR Keskin Array B 87.86 310 P **P** **00 37 43.3 -1.4**
BRTR Keskin Array B 87.86 310 P **P** **00 37 43.3 -1.4**
0.2nm,0.3s,baz=97,slow=6.2,SNR=3.3
LBTB Lobatse 92.14 245 *e*P **P** **00 38 02.7 -2.3**
CPUP Villa Florida 151.34 187 PKPbc **PKPbc** **00 44 49.5 +0.4**
CPUP Villa Florida 151.34 187 PKPbc **PKPbc** **00 44 49.5 +0.4**
1.1nm,0.5s,baz=168,slow=7.8,SNR=4.5
LPAZ La Paz 160.26 159 PKPab **PKPab** **00 45 37.5 +1.3**
LPAZ La Paz 160.26 159 PKPab **PKPab** **00 45 37.5 +1.3**
1.9nm,0.6s,baz=184,slow=3.8,SNR=9.1

IDC 09 00:32:48.0±9.2, 32°.56S×180°.00W, h240km±64km, mb2.9/2, mb1 3.1/3, mb1mx3.0/17, mbtmp2.9/3, Error ellipse: s-maj=93.3km s-min=32.8km az=46.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**6.16**	**202**	P		Pn	00 34 17.8	0.0
	0.2nm,0.3s,baz=90,slow=20,SNR=1.9							
URZ				S		S	00 35 30.0	+0.4
	2.5nm,0.3s,baz=166,slow=21,SNR=12							
ASAR	**Alice Springs**	**41.35**	**270**	P		P	00 40 10.1	-0.8
	0.5nm,0.8s,baz=112,slow=8.4,SNR=4.1							
WRA	**Warramunga Arr**	**42.54**	**276**	P		P	00 40 20.7	+0.3
	0.7nm,0.6s,baz=116,slow=7.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**160.61**	**185**	PKPab		PKPab	00 53 02.0	-0.4
	0.2nm,0.7s,baz=187,slow=4.1,SNR=2.3							

IDC 09 00:35:10.9±30.0, 14°.87S×178°.84W, h537km±375km, mb2.7/6, mb1 3.1/6, mb1mx2.9/19, mbtmp3.6/6, Error ellipse: s-maj=121.1km s-min=76.8km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**44.85**	**257**	P		P	00 42 37.1	-0.5
	0.2nm,0.3s,baz=94,slow=7.4,SNR=12							
ASAR	**Alice Springs**	**45.29**	**251**	P		P	00 42 41.1	+0.1
	8.7nm,0.5s,baz=84,slow=8.4,SNR=137							
YBH	**Yreka Blue Hor**	**76.45**	**40**	P		P	00 46 05.8	+0.2
	0.8nm,0.5s,baz=259,slow=3.0,SNR=2.5							
NVAR	**Mina Array Bea**	**77.55**	**44**	P		P	00 46 11.6	-0.1
	0.2nm,0.6s,baz=252,slow=7.5,SNR=2.5							
ILAR	**Eielson Array**	**83.04**	**13**	P		P	00 46 39.8	+0.3
	0.2nm,0.5s,baz=232,slow=6.2,SNR=4.4							
TXAR	**Lajitas Array**	**84.74**	**58**	P		P	00 46 49.1	+0.3
	0.3nm,0.7s,baz=210,slow=4.8,SNR=3.4							
PDAR	**Pinedale Array**	**85.45**	**44**	P		P	00 46 51.6	-0.5
	0.4nm,0.6s,baz=195,slow=1.4,SNR=2.7							

*CSEM **09** 00:45:02.1±0.3, 36°.14N×21°.45E, h10km, ML3.5, Error ellipse: s-maj=8.4km s-min=5.0km az=52.0*
*ATH **09** 00:45:03.1, 36°.12N×21°.51E, h30km±2km, ML3.2*
*THE **09** 00:45:04.9, 36°.18N×21°.57E, h14km±2km, ML3.5/4, Error ellipse: s-maj=2.3km s-min=1.3km az=43.0*
*IDC **09** 00:45:04.4±3.7, 36°.75N×22°.16E, h0km, mb3.7/5,*

mb1 3.6/8, mb1mx3.4/30, mbtmp3.6/8, ML3.2/3, Error ellipse: s-maj=79.6km s-min=18.6km az=45.0
*BEO **09** 00:45:05.7±4.3, 36°.18N×21°.28E, h0km, ML4.0/5*
ISC 09 00:45:04.6±1.3, 36°.11N±0°.06×21°.49E±0°.05, h44km±14km, n161, σ1§28/183, mb3.8/5, 3C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PYL	**PYLOS**	**0.81**	**15**	P		**Pn**	**00 45 18.7**	**-1.0**
PYL				S		**Sn**	**00 45 29.8**	**-0.8**
PYL	**PYLOS**	**0.81**	**15**	*e*PN		**Pn**	**00 45 18.8**	**-1.0**
PYL				*e*SN		**Sn**	**00 45 30.6**	**0.0**
PYL	**PYLOS**	**0.81**	**15**	P		**Pn**	**00 45 18.7**	**-1.0**
PYL				S		**Sn**	**00 45 29.8**	**-0.8**
PYL				*e*Sn		**Sn**	**00 45 30.6**	**0.0**
ITM	**Ithomi**	**1.12**	**18**	P		**Pn**	**00 45 23.5**	**-0.5**
ITM				S		**Sn**	**00 45 38.7**	**+0.4**
ITM	**Ithomi**	**1.12**	**18**	*e*PN		**Pn**	**00 45 23.8**	**-0.2**
ITM				*e*SN		**Sn**	**00 45 38.9**	**+0.6**
ITM	**Ithomi**	**1.12**	**18**	P		**Pn**	**00 45 23.5**	**-0.5**
ITM	**Ithomi**	**1.12**	**18**	*e*Pn		**Pn**	**00 45 23.8**	**-0.2**
ITM				*e*Sn		**Sn**	**00 45 38.9**	**+0.6**
SFD	**Strofades**	**1.20**	**342**	P		**Pn**	**00 45 25.4**	**+0.5**
SFD				S		**Sn**	**00 45 41.7**	**+1.7**
SFD	**Strofades**	**1.20**	**342**	*e*PN		**Pn**	**00 45 25.5**	**+0.5**
SFD				*e*SN		**Sn**	**00 45 41.8**	**+1.7**
SFD	**Strofades**	**1.20**	**342**	P		**Pn**	**00 45 25.4**	**+0.5**
SFD				*e*Sn		**Sn**	**00 45 41.8**	**+1.7**
KYTH	**Kithira**	**1.27**	**82**	P		**Pn**	**00 45 27.2**	**+1.3**
KYTH	**Kithira**	**1.27**	**82**	*e*PN		**Pn**	**00 45 27.3**	**+1.3**
KYTH	**Kithira**	**1.27**	**82**	P		**Pn**	**00 45 27.2**	**+1.3**
VLI	**Veliai**	**1.32**	**62**	P		**Pn**	**00 45 27.0**	**+0.4**
VLI				S		**Sn**	**00 45 44.2**	**+1.2**
VLI	**Veliai**	**1.32**	**62**	*e*PN		**Pn**	**00 45 27.4**	**+0.8**
VLI				*e*SN		**Sn**	**00 45 44.5**	**+1.5**
VLI	**Veliai**	**1.32**	**62**	P		**Pn**	**00 45 27.0**	**+0.4**
VLI	**Veliai**	**1.32**	**62**	*e*Pn		**Pn**	**00 45 27.4**	**+0.8**
VLI				S		**Sn**	**00 45 44.2**	**+1.2**
AMT	**Artemida-Makis**	**1.43**	**7**	P		**Pn**	**00 45 28.3**	**+0.1**
AMT	**Artemida-Makis**	**1.43**	**7**	*e*PB		**Pn**	**00 45 28.3**	**+0.1**
AMT				*e*SN		**Sn**	**00 45 47.7**	**+1.9**
AMT	**Artemida-Makis**	**1.43**	**7**	P		**Pn**	**00 45 28.3**	**+0.1**
AMT				*e*Sn		**Sn**	**00 45 47.7**	**+1.9**
VLX	**Vlachokerasia**	**1.45**	**29**	P		**Pn**	**00 45 28.5**	**0.0**
VLX				S		**Sn**	**00 45 47.1**	**+0.8**
VLX	**Vlachokerasia**	**1.45**	**29**	*e*PB		**Pn**	**00 45 28.5**	**0.0**
VLX				*e*SN		**Sn**	**00 45 48.5**	**+2.2**
VLX	**Vlachokerasia**	**1.45**	**29**	P		**Pn**	**00 45 28.5**	**0.0**
VLX				S		**Sn**	**00 45 47.1**	**+0.8**
VLX				*e*Sn		**Sn**	**00 45 48.5**	**+2.2**
ANKY	**Antikythira Is**	**1.49**	**99**	P		**Pn**	**00 45 30.7**	**+1.7**
ANKY	**Antikythira Is**	**1.49**	**99**	‖ *i* PN		**Pn**	**00 45 30.7**	**+1.7**
ANKY				*e*SN		**Sn**	**00 45 49.3**	**+2.0**
ANKY	**Antikythira Is**	**1.49**	**99**	P		**Pn**	**00 45 30.7**	**+1.7**
ANKY				*e*Sn		**Sn**	**00 45 49.3**	**+2.0**
DRO	**Drossia**	**1.85**	**6**	P		**Pn**	**00 45 34.9**	**+1.0**
DRO	**Drossia**	**1.85**	**6**	*e*PB		**Pn**	**00 45 35.1**	**+1.2**
DRO	**Drossia**	**1.85**	**6**	*e*Pb		**Pn**	**00 45 35.1**	**+1.2**
RLS	**Riolos of Patr**	**1.94**	**360**	P		**Pn**	**00 45 36.4**	**+1.2**
RLS	**Riolos of Patr**	**1.94**	**360**	P		**Pn**	**00 45 36.4**	**+1.2**
GUR	**Goura**	**1.95**	**20**	*e*PB		**Pn**	**00 45 36.5**	**+1.2**
GUR	**Goura**	**1.95**	**20**	*e*Pb		**Pn**	**00 45 36.5**	**+1.2**
DID	**Didima**	**1.98**	**45**	P		**Pn**	**00 45 35.5**	**-0.1**
DID	**Didima**	**1.98**	**45**	*e*PN		**Pn**	**00 45 35.6**	**-0.1**
DID	**Didima**	**1.98**	**45**	*e*Pn		**Pn**	**00 45 35.6**	**-0.1**
KLV	**Kalavryta, Ach**	**2.00**	**15**	P		**Pn**	**00 45 36.9**	**+0.9**
KLV	**Kalavryta, Ach**	**2.00**	**15**	*e*PB		**Pn**	**00 45 36.9**	**+0.9**
KLV	**Kalavryta, Ach**	**2.00**	**15**	P		**Pn**	**00 45 36.9**	**+0.9**
KFL	**Anninata**	**2.07**	**345**	P		**Pn**	**00 45 37.7**	**+0.8**
KFL				S		**Sn**	**00 46 04.1**	**+2.6**
KFL	**Anninata**	**2.07**	**345**	P		**Pn**	**00 45 37.7**	**+0.8**
KFL				S		**Sn**	**00 46 04.1**	**+2.6**
LAKA	**Lakka**	**2.16**	**10**	P		**Pn**	**00 45 39.5**	**+1.3**
LAKA	**Lakka**	**2.16**	**10**	*e*PB		**Pn**	**00 45 39.7**	**+1.5**
LAKA	**Lakka**	**2.16**	**10**	*e*Pb		**Pn**	**00 45 39.7**	**+1.5**
VLS	**Valsamata**	**2.18**	**341**	P		**Pn**	**00 45 39.0**	**+0.5**
VLS	**Valsamata**	**2.18**	**341**	P		**Pn**	**00 45 39.0**	**+0.5**
LTK	**Loutraki**	**2.25**	**31**	P		**Pn**	**00 45 39.2**	**-0.1**
LTK	**Loutraki**	**2.25**	**31**	*e*PN		**Pn**	**00 45 39.8**	**+0.5**
LTK	**Loutraki**	**2.25**	**31**	P		**Pn**	**00 45 39.2**	**-0.1**
LTK	**Loutraki**	**2.25**	**31**	*e*Pn		**Pn**	**00 45 39.8**	**+0.5**
VAM	**Vamos**	**2.32**	**107**	P		**Pn**	**00 45 41.5**	**+1.2**
VAM	**Vamos**	**2.32**	**107**	*e*PN		**Pn**	**00 45 41.7**	**+1.4**
VAM	**Vamos**	**2.32**	**107**	P		**Pn**	**00 45 41.5**	**+1.2**
KALE	**Kalithea**	**2.33**	**13**	P		**Pn**	**00 45 42.0**	**+1.4**
KALE	**Kalithea**	**2.33**	**13**	*e*PB		**Pn**	**00 45 42.2**	**+1.6**
KALE	**Kalithea**	**2.33**	**13**	*e*Pb		**Pn**	**00 45 42.2**	**+1.6**
EFP	**Efpalio**	**2.34**	**8**	P		**Pn**	**00 45 42.3**	**+1.8**
EFP	**Efpalio**	**2.34**	**8**	*e*PB		**Pn**	**00 45 42.3**	**+1.8**
EFP	**Efpalio**	**2.34**	**8**	P		**Pn**	**00 45 42.3**	**+1.8**
DSF	**Desfina**	**2.44**	**20**	P		**Pn**	**00 45 41.7**	**-0.3**
DSF	**Desfina**	**2.44**	**20**	*e*PN		**Pn**	**00 45 41.8**	**-0.3**
DSF	**Desfina**	**2.44**	**20**	*e*Pn		**Pn**	**00 45 41.8**	**-0.3**
DESF	**Desfina**	**2.44**	**20**	*e*PN		**Pn**	**00 45 41.8**	**-0.3**
DESF	**Desfina**	**2.44**	**20**	*e*Pn		**Pn**	**00 45 41.8**	**-0.3**
GVD	**Gavdhos**	**2.47**	**120**	*e*PN		**Pn**	**00 45 41.9**	**-0.5**
GVD	**Gavdhos**	**2.47**	**120**	*e*Pn		**Pn**	**00 45 41.9**	**-0.5**
PDO	**Prodromos**	**2.50**	**355**	P		**Pn**	**00 45 44.3**	**+1.6**
PDO	**Prodromos**	**2.50**	**355**	*e*PB		**Pn**	**00 45 45.1**	**+2.4**
PDO	**Prodromos**	**2.50**	**355**	P		**Pn**	**00 45 44.3**	**+1.6**
PDO	**Prodromos**	**2.50**	**355**	*e*Pb		**Pn**	**00 45 45.1**	**+2.4**
ATH	**Athens Observa**	**2.58**	**43**	*e*PB		**Pn**	**00 45 46.2**	**+2.4**
ATH	**Athens Observa**	**2.58**	**43**	*e*Pb		**Pn**	**00 45 46.2**	**+2.4**
ATHU	**Athens Univers**	**2.61**	**44**	P		**Pn**	**00 45 44.3**	**0.0**
ATHU	**Athens Univers**	**2.61**	**44**	P		**Pn**	**00 45 44.3**	**0.0**
PTL	**Penteli**	**2.71**	**44**	P		**Pn**	**00 45 45.6**	**-0.2**
PTL	**Penteli**	**2.71**	**44**	P		**Pn**	**00 45 45.6**	**-0.2**
LKD2	**Lefkada island**	**2.75**	**346**	P		**Pn**	**00 45 48.1**	**+1.8**
LKD2	**Lefkada island**	**2.75**	**346**	P		**Pn**	**00 45 48.1**	**+1.8**
LKR	**Lokris**	**2.81**	**25**	P		**Pn**	**00 45 46.2**	**-0.8**
LKR	**Lokris**	**2.81**	**25**	P		**Pn**	**00 45 46.2**	**-0.8**
AXAR	**Agios Charalam**	**2.81**	**19**	P		**Pn**	**00 45 47.5**	**+0.4**
AXAR	**Agios Charalam**	**2.81**	**19**	P		**Pn**	**00 45 47.5**	**+0.4**
IDI	**Anoyia**	**2.89**	**106**	P		**Pn**	**00 45 48.6**	**+0.4**
IDI	**Anoyia**	**2.89**	**106**	*e*PN		**Pn**	**00 45 48.6**	**+0.4**
IDI	**Anoyia**	**2.89**	**106**	P		**Pn**	**00 45 48.6**	**+0.4**
IDI	**Anoyia**	**2.89**	**106**	Pn		**Pn**	**00 45 48.9**	**+0.7**
	1.4nm,0.3s,baz=294,slow=16,SNR=22							
IDI						Sn	**00 46 23.7**	**+1.9**
	9.6nm,0.3s,baz=302,slow=22,SNR=12							
MAKR	**Makrakomi, Fth**	**2.94**	**10**	P		**Pn**	**00 45 50.9**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.94**	**10**	*e*PB		**Pn**	**00 45 51.8**	**+2.9**
MAKR	**Makrakomi, Fth**	**2.94**	**10**	P		**Pn**	**00 45 50.9**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.94**	**10**	*e*Pb		**Pn**	**00 45 51.8**	**+2.9**
AGG	**Agios Georgios**	**2.98**	**13**	P		**Pn**	**00 45 49.8**	**+0.3**
AGG	**Agios Georgios**	**2.98**	**13**	P		**Pn**	**00 45 49.8**	**+0.3**
MRKA	**Markates**	**3.08**	**32**	*e*PN		**Pn**	**00 45 51.4**	**+0.6**
MRKA	**Markates**	**3.08**	**32**	*e*Pn		**Pn**	**00 45 51.4**	**+0.6**
SMIA	**Simia**	**3.08**	**26**	P		**Pn**	**00 45 50.5**	**-0.3**
SMIA	**Simia**	**3.08**	**26**	*e*PN		**Pn**	**00 45 50.3**	**-0.6**
SMIA	**Simia**	**3.08**	**26**	P		**Pn**	**00 45 50.5**	**-0.3**
SANT	**Santorini**	**3.22**	**84**	P		**Pn**	**00 45 52.2**	**-0.5**
SANT	**Santorini**	**3.22**	**84**	*e*PN		**Pn**	**00 45 52.3**	**-0.5**
SANT	**Santorini**	**3.22**	**84**	*e*Pn		**Pn**	**00 45 52.3**	**-0.5**
LAST	**Lasithi**	**3.39**	**105**	*e*PN		**Pn**	**00 45 56.8**	**+1.7**
LAST	**Lasithi**	**3.39**	**105**	*e*Pn		**Pn**	**00 45 56.8**	**+1.7**
APE	**Apeiranthos**	**3.39**	**72**	P		**Pn**	**00 45 54.5**	**-0.6**
APE	**Apeiranthos**	**3.39**	**72**	*e*PN		**Pn**	**00 45 54.8**	**-0.3**
APE	**Apeiranthos**	**3.39**	**72**	P		**Pn**	**00 45 54.5**	**-0.6**
APE	**Apeiranthos**	**3.39**	**72**	*e*Pn		**Pn**	**00 45 54.8**	**-0.3**
SKIA	**Skiathos**	**3.43**	**27**	*e*PN		**Pn**	**00 45 57.7**	**+2.1**
SKIA	**Skiathos**	**3.43**	**27**	*e*Pn		**Pn**	**00 45 57.7**	**+2.1**
THL	**Klokotos Trika**	**3.47**	**7**	P		**Pn**	**00 45 57.0**	**+0.9**
THL	**Klokotos Trika**	**3.47**	**7**	P		**Pn**	**00 45 57.0**	**+0.9**
IGT	**Igoumenitsa**	**3.54**	**345**	P		**Pn**	**00 45 57.4**	**+0.4**
IGT	**Igoumenitsa**	**3.54**	**345**	P		**Pn**	**00 45 57.4**	**+0.4**
JAN	**Janina**	**3.58**	**352**	P		**Pn**	**00 45 58.8**	**+1.2**
JAN	**Janina**	**3.58**	**352**	P		**Pn**	**00 45 58.8**	**+1.2**
MEV	**Metsovon**	**3.67**	**357**	P		**Pn**	**00 46 00.9**	**+1.8**
MEV	**Metsovon**	**3.67**	**357**	P		**Pn**	**00 46 00.9**	**+1.8**
NEST	**Nestorio**	**4.31**	**356**	P		**Pn**	**00 46 09.2**	**+1.4**
NEST	**Nestorio**	**4.31**	**356**	P		**Pn**	**00 46 09.2**	**+1.4**
LTBQ	**Tobruq**	**4.52**	**153**	*i* P		Pn	00 46 08.8	-1.8
	SNR=37							
BIA	**Bitola**	**4.90**	**359**	*i* Pn		**Pn**	**00 46 15.9**	**0.0**
BIA	**Bitola**	**4.90**	**359**	*i* Pn		**Pn**	**00 46 15.8**	**0.0**
SOH	**Sokhos**	**4.93**	**17**	P		**Pn**	**00 46 16.6**	**+0.4**
SOH	**Sokhos**	**4.93**	**17**	P		**Pn**	**00 46 16.6**	**+0.4**
VAY	**Valandovo**	**5.27**	**9**	*i* Pn		**Pn**	**00 46 21.0**	**+0.2**
VAY	**Valandovo**	**5.27**	**9**	*i* Pn		**Pn**	**00 46 21.4**	**+0.6**
SKO	**Skopje**	**5.85**	**360**	*e*Pn		**Pn**	**00 46 28.0**	**-0.8**
SKO	**Skopje**	**5.85**	**360**	*e*Pn		**Pn**	**00 46 28.5**	**-0.3**
PDG	**Podgorica**	**6.54**	**345**	*e*Pn		**Pn**	**00 46 36.2**	**-2.1**
PDG				*e*Sn		Sn	00 47 45.1	-6.4
PDG	**Podgorica**	**6.54**	**345**	*e*Pn		**Pn**	**00 46 36.2**	**-2.1**
VTS	**Vitosha**	**6.61**	**11**	*e*Pn		**Pn**	**00 46 38.1**	**-1.2**
VTS	**Vitosha**	**6.61**	**11**	*e*Pn		**Pn**	**00 46 38.1**	**-1.2**
TREB	**Trebinje**	**7.03**	**341**	*e*Pn		**Pn**	**00 46 43.2**	**-1.7**
TREB				*e*Sn		Sn	00 47 55.8	-7.7
TREB	**Trebinje**	**7.03**	**341**	*e*Pn		**Pn**	**00 46 43.2**	**-1.7**
SELS	**Selova**	**7.11**	**358**	*e*Pn		**Pn**	**00 46 44.3**	**-1.7**
ZAPS	**Zavoj**	**7.21**	**7**	*e*Pn		**Pn**	**00 46 47.4**	**0.0**
SJES	**Sjenica**	**7.24**	**351**	*e*Pn		**Pn**	**00 46 45.8**	**-2.1**
STON	**Ston**	**7.36**	**338**	*e*Pn		**Pn**	**00 46 47.4**	**-2.0**
STON				Sn		Sn	00 48 01.9	-10
STON	**Ston**	**7.36**	**338**	*e*Pn		**Pn**	**00 46 48.0**	**-1.4**
STON	**Ston**	**7.36**	**338**	*e*Pn		**Pn**	**00 46 48.0**	**-1.4**
IVAS	**Ivanjica**	**7.53**	**353**	*e*Pn		**Pn**	**00 46 50.4**	**-1.4**
IVAS	**Ivanjica**	**7.53**	**353**	*e*Pn		**Pn**	**00 46 50.4**	**-1.4**
GRUS	**Gruza**	**7.79**	**356**	*e*Pn		**Pn**	**00 46 54.0**	**-1.4**
GRUS	**Gruza**	**7.79**	**356**	*e*Pn		**Pn**	**00 46 54.0**	**-1.4**
BBLS	**Lazići**	**7.91**	**349**	*e*Pn		**Pn**	**00 46 56.0**	**-1.1**
BBLS				*e*Sn		Sn	00 48 16.1	-9.1
BBLS	**Lazići**	**7.91**	**349**	*e*Pn		**Pn**	**00 46 56.0**	**-1.1**
DIVS	**Divibare**	**8.06**	**352**	*e*Pn		**Pn**	**00 46 57.2**	**-1.9**
DIVS				*e*Sn		Sn	00 48 20.8	-8.1
DIVS	**Divibare**	**8.06**	**352**	*e*Pn		**Pn**	**00 46 57.2**	**-1.9**
TEKS	**Tekeris**	**8.56**	**351**	‖ *i* Pn		**Pn**	**00 47 04.0**	**-1.9**
TEKS	**Tekeris**	**8.56**	**351**	‖ *i* Pn		**Pn**	**00 47 04.0**	**-1.9**
FGSL	**Fruska Gora**	**9.13**	**353**	*e*Pn		**Pn**	**00 47 11.6**	**-2.1**
FRGS	**Fruska Gora**	**9.13**	**353**	*e*Pn		**Pn**	**00 47 11.6**	**-2.1**
UDBI	**Udbina**	**9.47**	**334**	*e*Pn		**Pn**	**00 47 18.6**	**+0.1**
UDBI				Sn		Sn	00 48 56.5	-7.1
UDBI	**Udbina**	**9.47**	**334**	*e*Pn		**Pn**	**00 47 18.5**	**+0.1**
NVLJ	**Novalja**	**9.83**	**331**	*e*Pn		**Pn**	**00 47 21.2**	**-2.1**
NVLJ				Sn		Sn	00 49 03.9	-8.4
MMAI	**Mount Meron Ar**	**11.88**	**101**	Pn		Pn	00 47 47.9	-3.6
	0.2nm,0.3s,baz=300,slow=11,SNR=4.0							
MMAI				Sn		Sn	00 49 51.4	-11
	0.6nm,0.3s,baz=281,slow=27,SNR=3.9							
GERES	**GERESS Array B**	**13.95**	**338**	Pn		**Pn**	**00 48 19.6**	**-0.1**
	0.1nm,0.3s,baz=144,slow=8.5,SNR=3.3							
HFS	**Hagfors**	**24.56**	**351**	P		**P**	**00 50 20.0**	**0.0**
	0.7nm,0.4s,baz=158,slow=12,SNR=8.5							
FINES	**FINESS Array B**	**25.52**	**5**	P		**P**	**00 50 28.6**	**-0.1**
	0.3nm,0.3s,baz=164,slow=11,SNR=8.2							
ARCES	**ARCESS Array B**	**33.55**	**3**	P		**P**	**00 51 40.0**	**+0.2**
	1.2nm,0.8s,baz=190,slow=10,SNR=15							
MKAR	**Makanchi Array**	**45.76**	**57**	P		**P**	**00 53 21.1**	**-0.5**
	0.4nm,0.3s,baz=270,slow=7.2,SNR=24							
ZALV	**Zalesovo Beam**	**46.52**	**47**	P		**P**	**00 53 26.4**	**-1.0**
	0.7nm,0.3s,baz=267,slow=8.8,SNR=4.4							

*IDC **09** 00:49:37.4±0.5, 14°.51N×56°.36E, h0km, mb4.3/32, mb1 4.4/32, mb1mx4.4/38, mbtmp4.3/32, MS3.8/22, Ms1 3.8/22, ms1mx3.7/37, Error ellipse: s-maj=13.8km s-min=12.3km az=163.0*
*ISCJB **09** 00:49:38.4±1.4, 14°.50N±0°.04×56°.23E±0°.03, h14km±8km, mb4.6/107, MS3.9/30, Error ellipse: s-maj=6.8km s-min=5.5km az=6.6*
*BJI **09** 00:49:38.5, 14°.50N×56°.30E, h10km, mB5.0/25, mb4.7/34, Ms4.6/15, Ms7 4.4/18*
*OMAN **09** 00:49:38.2±0.6, 14°.49N×56°.24E, h0km, Error ellipse: s-maj=15.4km s-min=6.8km az=101.0*
*CSEM **09** 00:49:39.0±0.3, 14°.38N×56°.36E, h10km, mb4.7/43, Ms3.6, Error ellipse: s-maj=11.0km s-min=9.8km az=175.0*
*NEIC **09** 00:49:39.3±0.4, 14°.52N×56°.23E, h10km, mb4.8/23, Error ellipse: s-maj=8.1km s-min=7.2km az=123.0*
*MOS **09** 00:49:40.7±1.3, 14°.48N×56°.26E, h33km, mb4.9/50, Error ellipse: s-maj=8.2km s-min=4.0

GEVA Gevas 26.40 336 *i* P P 00 55 19.3 +2.5
GNI Garni 27.44 341 *e*P P 00 55 27.4 +1.3
comp=Z,43nm,1.2s
GNI Garni 27.44 341 *e*P P 00 55 26.6 +0.5
comp=Z,436nm,17.0s
TUTA Tutak 27.44 337 *i* P P 00 55 28.6 +2.4
TUTA Tutak 27.44 337 *i* P P 00 55 28.6 +2.4
EKAR Karacoban 27.61 336 *i* P P 00 55 31.3 +3.6
EATA Eleskirt 27.97 337 *i* P P 00 55 33.2 +2.2
EATA Eleskirt 27.97 337 *i* P P 00 55 33.2 +2.2
DIGO Kars 28.13 339 *i* P P 00 55 34.0 +1.6
DIGO Kars 28.13 339 *i* P P 00 55 34.0 +1.6
EAK Akyaka 28.30 340 *i* P P 00 55 35.3 +1.5
EAK Akyaka 28.30 340 *i* P P 00 55 35.3 +1.5
HOMI Horasan 28.35 336 *i* P P 00 55 36.9 +2.5
AKCD Akcadag 28.68 329 *i* P P 00 55 45.0 +7.8
KEMA Kemaliye 29.17 331 *i* P P 00 55 45.3 +3.9
DAGI Agillar 29.24 338 *i* P P 00 55 43.7 +1.6
DBAD Bademkaya 29.27 337 *i* P P 00 55 43.6 +1.3
DBAD Bademkaya 29.27 337 *i* P P 00 55 43.6 +1.3
MBAR Mbarara 29.34 241 LR LR 01 06 50.1
comp=Z,130nm,18.8s,baz=73,slow=35
KELT Kelkit 29.53 333 *i* P P 00 55 47.8 +3.0
KELT Kelkit 29.53 333 *i* P P 00 55 47.8 +3.0
SUSE Susehri 30.05 332 *i* P P 00 55 52.5 +3.1
SUSE Susehri 30.05 332 *i* P P 00 55 52.5 +3.1
ZEI Tsey 30.10 342 *e*P P 00 55 50.3 +0.5
ZEI pmax pmax
comp=Z,21nm,1.5s
KSH Kashi 30.36 31 P P 00 55 48.1 -3.9
KSH pP pP 00 55 56.1 -1.4
KSH sP sP 00 55 58.0 -1.7
KSH PP **PnPn** **00 56 49.2 -1.2**
KSH S S 01 00 42.0 -10
KSH sS sS 01 00 55.1 -5.7
KSH pmax pmax
comp=Z,16nm,1.3s
KSH pmax pmax
comp=Z,100nm,4.1s
KSH LR LR
comp=Z,150nm,8.7s
KSH LR LR
comp=Z,150nm,7.7s
KSH LR LR
comp=Z,240nm,6.3s
AVNT Avonos 30.64 326 *i* P P 00 55 58.7 +4.2
KKAR Karatay Array 31.03 21 *e*P P **00 55 58.7 +0.9**
KKAR Karatay Array 31.03 21 *e*P P **00 55 58.7 +0.9**
KKAR Karatay Array 31.03 21 *e*P P **00 55 58.7 +0.9**
KBZ Khabaz 31.26 341 P P **00 56 00.4 +0.7**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ MLR MLR
comp=Z,193nm,21.4s
KBZ Khabaz 31.26 341 P P **00 56 00.3 +0.7**
KBZ Khabaz 31.26 341 P P **00 56 00.4 +0.7**
comp=Z,193nm,21.4s
KBZ Khabaz 31.26 341 P P **00 56 00.3 +0.7**
comp=Z,7.1nm,0.9s,baz=170,slow=7.2,SNR=8.5
KBZ LR LR 01 10 24.7
comp=Z,193nm,21.4s,baz=143,slow=40
KIV Kislovodsk 31.53 341 *e*P P **00 56 03.6 +1.4**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,150nm,15.0s
KIV Kislovodsk 31.53 341 *e*P P **00 56 03.7 +1.4**
comp=Z,22nm,1.0s
KIV Kislovodsk 31.53 341 *e*P P **00 56 03.6 +1.4**
comp=Z,150nm,15.0s
EKS2 Erkin-Say 31.87 25 *e*P P **00 56 07.9 +2.6**
EKS2 pmax pmax
comp=Z,8.0nm,1.0s
EKS2 Erkin-Say 31.87 25 *e*P P **00 56 07.9 +2.6**
comp=Z,8.1nm,1.0s
BRTR Keskin Array B 31.97 326 P P **00 56 06.9 +0.6**
BRTR Keskin Array B 31.97 326 P P **00 56 06.9 +0.6**
comp=Z,135nm,19.3s
BRTR Keskin Array B 31.97 326 P P **00 56 06.9 +0.6**
comp=Z,1.8nm,1.1s,baz=149,slow=9.8,SNR=8.7
BRTR LR LR 01 10 32.1
comp=Z,135nm,19.3s,baz=4.9,slow=39
AAK Ala-Archa 32.14 26 P P **00 56 10.0 +2.2**
SNR=10
AAK Ala-Archa 32.14 26 *e*P P **00 56 09.3 +1.5**
AAK pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 32.14 26 *e*P P **00 56 09.2 +1.5**
comp=Z,16nm,1.1s
AAK Ala-Archa 32.14 26 *e*P P **00 56 09.2 +1.5**
comp=Z,16nm,1.1s
TKM2 Tokmak 2 32.85 27 *e*P P **00 56 15.1 +1.1**
TKM2 pmax pmax
comp=Z,11nm,1.2s
TKM2 Tokmak 2 32.85 27 *e*P P **00 56 15.1 +1.1**
comp=Z,11nm,1.2s
TKM2 Tokmak 2 32.85 27 *e*P P **00 56 15.1 +1.1**
comp=Z,11nm,1.2s
ABKAR Akbulak array 34.78 4 *e*P P **00 56 30.2 -0.2**
ABKAR Akbulak array 34.78 4 *e*P P **00 56 30.2 -0.2**
SIM Simferopol' 35.65 333 *e*P P **00 56 39.0 +1.0**
SIM pmax pmax
comp=Z,50nm,1.2s
SIM Simferopol' 35.65 333 *e*P P **00 56 39.0 +1.0**
comp=Z,50nm,1.2s
AKTK Aktyubinsk 35.85 2 P P **00 56 39.2 -0.5**
comp=Z,4.0nm,0.8s
AKTK Aktyubinsk 35.85 2 PcP PcP **00 59 06.3 -0.5**
comp=Z,215nm,19.9s
AKTO Aktyubinsk 35.85 2 P P **00 56 39.2 -0.5**
AKTO 00 59 06.3
AKTO pmax pmax
comp=Z,4.0nm,0.8s
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO MLR MLR
comp=Z,215nm,19.9s
AKTO Aktyubinsk 35.85 2 P P **00 56 39.2 -0.5**
AKTO PcP PcP **00 59 06.2 -0.6**
AKTO Aktyubinsk 35.85 2 P P **00 56 39.2 -0.5**
AKTO Aktyubinsk 35.85 2 PcP PcP **00 59 06.2 -0.6**
AKTO Aktyubinsk 35.85 2 P P **00 56 39.2 -0.5**
comp=Z,3.8nm,0.8s,baz=204,slow=9.8,SNR=9.7
AKTO PcP PcP **00 59 06.2 -0.6**
comp=Z,1.4nm,0.6s,baz=180,slow=4.0,SNR=4.1
AKTO LR LR 01 13 25.2
comp=Z,215nm,19.9s,baz=186,slow=40
KDZ Kurdzhali 37.96 321 ⇓P P **00 57 00.2 +2.4**
KDZ Kurdzhali 37.96 321 ⇓*i*P P **00 57 00.2 +2.4**
KDZ Kurdzhali 37.96 321 ⇓*i*P P **00 57 00.2 +2.4**
TIRR Tirgusor 38.06 327 *e*P P **00 56 57.8 -0.7**
TIRR pmax pmax
comp=Z,22nm,1.1s
TIRR Tirgusor 38.06 327 ⇑*i*P P **00 57 01.4 +2.9**
TIRR Tirgusor 38.06 327 *e*P P **00 56 57.8 -0.7**
comp=Z,22nm,1.1s
TIRR Tirgusor 38.06 327 *e*P P **00 56 57.8 -0.7**
comp=Z,22nm,1.1s
TLB Topalu 38.34 327 ⇑P P **00 57 01.8 +1.0**
TLB Topalu 38.34 327 ⇑*i*P P **00 57 01.8 +1.0**
TLB Topalu 38.34 327 ⇑*i*P P **00 57 01.8 +1.0**
VRHR Novokhopersk 38.34 345 *e*P P **00 57 00.5 -0.2**
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,80nm,1.8s
VRHR pmax pmax
comp=E,40nm,1.1s
VRHR Novokhopersk 38.34 345 *e*P P **00 57 00.5 -0.2**
comp=E,80nm,1.8s
CFR Carcaliu 38.69 328 ⇑P P **00 57 05.7 +1.9**
CFR Carcaliu 38.69 328 ⇑*i*P P **00 57 05.7 +1.9**
CFR Carcaliu 38.69 328 ⇑*i*P P **00 57 05.7 +1.9**
VORD Divnogorie 38.84 343 *e*P P **00 57 03.5 -1.5**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,1.4s
VORD Divnogorie 38.84 343 *e*P P **00 57 03.5 -1.5**
MK31 Makanchi Array 38.86 29 *e*P P **00 57 04.9 -0.4**
MK31 Makanchi Array 38.86 29 *e*P P **00 57 04.9 -0.4**
MK31 Makanchi Array 38.86 29 *e*P P **00 57 04.9 -0.4**
MKAR Makanchi Array 38.86 29 P P **00 57 05.4 +0.1**
MKAR pmax pmax 00 59 15.6
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR MLR MLR
comp=Z,113nm,18.5s
MKAR Makanchi Array 38.86 29 P P **00 57 05.4 +0.1**
MKAR PcP PcP **00 59 15.6 -0.6**
MKAR Makanchi Array 38.86 29 P P **00 57 05.4 +0.1**
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 38.86 29 PcP PcP **00 59 15.6 -0.6**
comp=Z,113nm,18.5s
MKAR Makanchi Array 38.86 29 P P **00 57 05.4 +0.1**
comp=Z,2.3nm,0.8s,baz=213,slow=8.3,SNR=15
MKAR PcP PcP **00 59 15.6 -0.6**
comp=Z,1.0nm,0.9s,baz=266,slow=3.5,SNR=4.0
MKAR LR LR 01 14 34.7
comp=Z,113nm,18.5s,baz=268,slow=39
MMB Musomiste 38.96 320 ⇓P P **00 57 07.0 +0.8**
MMB Musomiste 38.96 320 ⇓*i*P P **00 57 07.0 +0.8**
MMB Musomiste 38.96 320 ⇓*i*P P **00 57 07.0 +0.8**
VSR Storozhevoye 39.10 343 ⇓*e*P P **00 57 06.5 -0.6**
VSR pmax pmax
comp=Z,67nm,1.5s
VSR Storozhevoye 39.10 343 *e*P P **00 57 06.5 -0.6**
comp=Z,67nm,1.5s
ISR Istrita 39.49 327 ⇑P P **00 57 12.7 +2.1**
ISR Istrita 39.49 327 ⇑*i*P P **00 57 12.7 +2.1**
ISR Istrita 39.49 327 ⇑*i*P P **00 57 12.7 +2.1**
LEOM Leova 39.53 329 ⇑P P **00 57 12.5 +1.7**
LEOM Leova 39.53 329 ⇑*i*P P **00 57 12.5 +1.7**
LEOM Leova 39.53 329 ⇑*i*P P **00 57 12.5 +1.7**
KIS Kishinev 39.63 330 *e*P P **00 57 12.0 +0.4**
KIS Kishinev 39.63 330 *e*P P **00 57 12.0 +0.4**
KIS *e* 00 57 18.0
KIS Kishinev 39.63 330 *e*P P **00 57 12.0 +0.4**
GHRR 39.67 328 ⇓*i*P P **00 57 13.5 +1.5**
GHRR 39.67 328 ⇓*i*P P **00 57 13.5 +1.5**
WMQ Urumqi 39.68 36 P P **00 57 14.0 +1.8**
WMQ sP **sP** **00 57 21.0 +1.0**
WMQ PP **PnPn** **00 58 49.0 +2.5**
WMQ PcP **PcP** **00 59 20.0 +1.2**
WMQ ScP **ScP** **01 03 12.0 +5.0**
WMQ S **S** **01 03 17.0 +2.1**
WMQ SS **SS** **01 06 06.0 -4.5**
WMQ ScS **ScS** **01 07 19.0 -0.5**
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,58nm,4.0s
WMQ LR LR
comp=Z,110nm,15.0s
WMQ LR LR
comp=Z,180nm,16.0s
WMQ LR LR
comp=Z,140nm,15.0s
VTS Vitosha 39.84 321 ⇓P P **00 57 15.0 +1.3**
VTS Vitosha 39.84 321 ⇓*i*P P **00 57 15.0 +1.3**
VTS Vitosha 39.84 321 ⇓*i*P P **00 57 15.0 +1.3**
VRI Vrincioaia 39.89 328 ⇑P P **00 57 15.6 +1.8**
VRI Vrincioaia 39.89 328 ⇑*i*P P **00 57 15.6 +1.8**
VRI Vrincioaia 39.89 328 ⇑*i*P P **00 57 15.6 +1.8**
PLOR Plostina 39.92 328 ⇑P P **00 57 16.1 +2.0**
PLOR Plostina 39.92 328 ⇑*i*P P **00 57 16.1 +2.0**
PLOR Plostina 39.92 328 ⇑*i*P P **00 57 16.1 +2.0**
BVAR Borovoye Array 40.03 13 LR LR 01 15 07.7
comp=Z,137nm,20.1s,baz=256,slow=38
BRVK Borovoye 40.04 13 ⇑*i*P P **00 57 15.1 +0.1**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK MLR MLR
comp=Z,161nm,16.0s
BRVK Borovoye 40.04 13 *i* P P **00 57 15.1 +0.1**
comp=Z,161nm,16.0s
MLR Muntele Rosu 40.05 327 ⇓*i*P P 00 57 18.6 +3.3
MLR Muntele Rosu 40.05 327 ⇓*i*P P 00 57 18.6 +3.3
TESR Tescani 40.36 328 ⇑*i*P P **00 57 18.9 +1.1**
TESR Tescani 40.36 328 ⇑*i*P P **00 57 18.9 +1.1**
KURK Kurchatov 40.41 22 P P **00 57 18.1 0.0**
SNR=7.9
KURK Kurchatov 40.41 22 *e*P P **00 57 18.0 0.0**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 40.41 22 *e*P P **00 57 18.0 0.0**
comp=Z,5.0nm,1.0s
KURK Kurchatov 40.41 22 *e*P P **00 57 18.0 0.0**
comp=Z,5.0nm,1.0s
VOIR 40.50 326 ⇑P P **00 57 20.4 +1.4**
VOIR 40.50 326 ⇑*i*P P **00 57 20.4 +1.4**
VOIR 40.50 326 ⇑*i*P P **00 57 20.4 +1.4**
LSZ Lusaka 40.54 224 P P **00 57 20.3 +0.6**
LSZ Lusaka 40.54 224 P P **00 57 20.3 +0.6**
comp=Z,5.7nm,0.7s,baz=42,slow=10,SNR=22
ARR Arges 40.68 326 ⇑*i*P P **00 57 21.9 +1.4**
ARR Arges 40.68 326 ⇑*i*P P **00 57 21.9 +1.4**
CMAR Chiang Mai Arr 41.10 78 P P **00 57 22.8 -1.4**
CMAR Chiang Mai Arr 41.10 78 P P **00 57 22.8 -1.4**
comp=Z,3.0nm,0.7s,baz=274,slow=8.9,SNR=30
CMAR LR LR 01 16 14.0
comp=Z,54nm,19.0s,baz=168,slow=39
CMAI Chiengmai2 41.19 76 P P **00 57 24.9 -0.2**
comp=Z,37nm,0.9s
BOLS Boljevac 41.30 322 ⇓*i*P P **00 57 24.7 -0.8**
SELS Selova 41.47 321 *e*P P **00 57 26.5 -0.5**
LAMP Lampang 41.75 78 P P **00 57 30.8 +1.2**
comp=Z,34nm,1.1s
BURAR Bucovina Array 41.83 329 ⇑P P **00 57 31.1 +1.2**
BURAR Bucovina Array 41.83 329 ⇑*i*P P **00 57 31.1 +1.2**
BURAR Bucovina Array 41.83 329 ⇑*i*P P **00 57 31.1 +1.2**
BUR08 Bucovina Ar. S 41.85 329 *e*P P **00 57 30.2 0.0**
ARU Arti 41.87 2 *c i*P P **00 57 31.4 +1.4**
ARU 00 59 05.5
ARU S S **01 03 46.6 -0.4**
ARU SS SS 01 06 43.5 -10
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 41.87 2 *e*P P **00 57 31.8 +1.9**
comp=Z,7.5nm,1.1s
GRUS Grnza 42.08 321 *i* P P **00 57 32.2 +0.3**
AK02 Malin Array Si 42.15 334 *e*P P **00 57 31.6 -0.8**
AK01 Malin Array Si 42.17 335 *e*P P **00 57 31.5 -1.0**
AK01 *e*PP PP **00 59 09.9 -0.4**
AKASG Malin Array Be 42.18 335 P P **00 57 32.2 -0.4**
AKASG 00 59 10.0
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 42.18 335 P P **00 57 32.1 -0.4**
AKASG PP PP **00 59 10.0 -0.3**
AKASG Malin Array Be 42.18 335 PP PP 00 59 10.0 -0.3
AKASG Malin Array Be 42.18 335 P P **00 57 32.1 -0.4**
comp=Z,6.0nm,0.8s,baz=140,slow=7.5,SNR=27
AKASG PP PP **00 59 10.0 -0.3**
comp=Z,5.1nm,1.0s,baz=137,slow=11,SNR=5.8
AKBB Malin Array Si 42.18 335 *e*P P **00 57 32.4 -0.2**
AKBB Malin Array Si 42.18 335 *e*P P **00 57 32.4 -0.2**
KIEV Kiev 42.18 335 *e*P P **00 57 32.0 -0.6**
KIEV pmax pmax
comp=Z,18nm,1.2s
KIEV Kiev 42.18 335 *e*P P **00 57 31.9 -0.6**
comp=Z,18nm,1.2s
IVAS Ivanjica 42.26 320 *e*P P **00 57 33.7 +0.3**
TRUS Trudelj 42.45 321 ⇓*i*P P **00 57 35.9 +1.0**
BZS Buzias 42.52 324 ⇑P P **00 57 36.2 +0.7**
BZS Buzias 42.52 324 ⇑*i*P P **00 57 36.2 +0.7**
BZS Buzias 42.52 324 ⇑*i*P P **00 57 36.2 +0.7**
DRGR 42.62 326 ⇑P P **00 57 37.6 +1.3**
DRGR 42.62 326 ⇑*i*P P **00 57 37.6 +1.3**
DRGR 42.62 326 ⇑*i*P P **00 57 37.6 +1.3**
BBLS Lazići 42.87 320 *i* P P **00 57 38.8 +0.4**
SIRR Siria 42.88 325 ⇑*i*P P **00 57 40.0 +1.6**
SIRR Siria 42.88 325 ⇑*i*P P **00 57 40.0 +1.6**
PBKT Sadao Pong 43.11 81 P P **00 57 40.3 -0.3**
comp=Z,5.8nm,1.3s
TEKS Tekeris 43.15 321 ⇓*i*P P **00 57 40.8 +0.1**
OBN Obninsk 43.28 344 ⇑*i*P P **00 57 39.8 -1.7**
OBN *e* 00 59 26.2
OBN *e*S S **01 04 10.1 +2.3**
OBN *e*SS SS 01 07 09.7 -12
OBN pmax pmax
comp=Z,31nm,1.3s
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 43.28 344 *e*P P **00 57 40.5 -1.0**
comp=Z,36nm,1.3s
FGSL Fruska Gora 43.31 322 ⇓*i*P P **00 57 41.9 0.0**
TRPA Tarpa 43.54 327 ⇑*i*P P **00 57 44.8 +1.2**
MOS Moscow 43.56 345 *e*P P **00 57 41.6 -2.1**
MOS pmax pmax
comp=Z,35nm,1.1s
PSI Prapat 43.71 101 LR LR 01 12 25.2
comp=Z,73nm,20.0s,baz=303,slow=31
UZH Uzhgorod 43.98 328 *e*P P **00 57 46.2 -1.0**
UZH *e* 00 57 52.6
KOLS Kolonicke sedl 44.18 328 *e*P P **00 57 50.0 +1.2**
KOLS pmax pmax
comp=Z,21nm,1.6s
KOLS Kolonicke sedl 44.18 328 *e*P P **00 57 50.0 +1.2**
KWP Kalwaria Pacla 44.41 329 *e*P P **00 57 51.1 +0.5**
KWP pmax pmax
comp=Z,16nm,1.1s
KWP Kalwaria Pacla 44.41 329 *e*P P **00 57 51.2 +0.5**
KWP Kalwaria Pacla 44.41 329 ⇑*i*P P **00 57 51.9 +1.2**
KWP Kalwaria Pacla 44.41 329 *e*P P **00 57 51.1 +0.5**
comp=Z,16nm,1.1s
KWP Kalwaria Pacla 44.41 329 ⇑*i*P P **00 57 51.9 +1.2**
CRVS Cervenica-Dubn 44.58 328 *e*P P **00 57 53.2 +1.2**
CRVS pmax pmax
comp=Z,10.0nm,1.4s
CRVS Cervenica-Dubn 44.58 328 *e*P P **00 57 53.2 +1.2**
KMI Kunming 44.84 69 P P **00 57 56.2 +1.5**
KMI S S **01 04 35.9 +4.0**
KMI pmax pmax
comp=Z,13nm,0.5s
KMI LR LR
comp=Z,180nm,20.8s
SOKR Solikamsk 45.00 0 *e*P P **00 57 55.7 +0.5**
SOKR pmax pmax
comp=Z,5.0nm,0.6s
ZAA0 Zalesovo Array 45.29 23 *e*P P **00 57 56.3 -1.3**
ZALV Zalesovo Beam 45.29 23 P P **00 57 57.0 -0.6**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZALV MLR MLR
comp=Z,79nm,19.5s
ZALV Zalesovo Beam 45.29 23 P P **00 57 57.0 -0.6**
ZALV Zalesovo Beam 45.29 23 P P **00 57 57.0 -0.6**
comp=Z,7.6nm,0.8s,baz=233,slow=7.6,SNR=37
ZALV LR LR 01 18 41.9
comp=Z,79nm,19.5s,baz=71,slow=39
NVS Novosibirsk 45.39 22 *e*P P **00 57 57.3 -1.1**
NVS pmax pmax
comp=Z,28nm,1.2s
GTA Gaotai 45.51 49 *e*P P **00 57 59.7 -0.1**
GTA pP **pP** **00 58 10.3 +4.9**
GTA sP sP 00 58 14.3 +6.7
GTA S **S** **01 04 39.9 -1.2**
GTA sS sS 01 04 57.0 +6.7
GTA SS **ScS** **01 07 56.8 +1.0**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,84nm,6.2s
GTA LR LR
comp=Z,150nm,15.7s
GTA LR LR
comp=Z,200nm,15.4s
GTA LR LR
comp=Z,240nm,17.1s
MICGM Minsk 45.60 337 *e* P **00 58 00.0 -0.1**
MNK Minsk 45.62 337 *e*P P **00 58 00.0 -0.2**
CD2 Chengdu 46.44 61 *e*P P **00 58 08.5 +1.4**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,40nm,5.6s
OKC Ostrava-Krasne 46.88 327 *i* P P **00 58 10.4 +0.2**
OKC Ostrava-Krasne 46.88 327 *i* P P **00 58 10.4 +0.2**
OKC Ostrava-Krasne 46.88 327 P P **00 58 10.4 +0.2**
ARSA Arzberg 46.95 323 ⇑*i*P P **00 58 11.6 +0.8**
comp=Z,17nm,1.9s
ARSA Arzberg 46.95 323 P P **00 58 11.6 +0.8**
comp=Z,17nm,1.9s
SOKA Soboth 46.95 322 ⇓*i*P P **00 58 11.7 +0.8**
comp=Z,19nm,1.8s
SOKA Soboth 46.95 322 P P **00 58 11.7 +0.8**
comp=Z,19nm,1.8s
CONA Conrad Observa 47.09 324 ⇑*i*P P **00 58 12.4 +0.4**
comp=Z,22nm,1.5s
CONA Conrad Observa 47.09 324 P P **00 58 12.4 +0.4**
comp=Z,22nm,1.5s
SUW Suwalki 47.13 334 *e*P P **00 58 12.2 +0.1**
SUW pmax pmax
comp=Z,37nm,1.0s
SUW Suwalki 47.13 334 *e*P P **00 58 12.0 -0.1**
SUW Suwalki 47.13 334 *e*P P **00 58 12.2 +0.1**
comp=Z,37nm,1.0s
MORC Moravsky Berou 47.16 326 ⇑P P **00 58 12.6 +0.1**
MORC Moravsky Berou 47.16 326 ⇑*i*P P **00 58 12.6 +0.1**
MORC Moravsky Berou 47.16 326 ⇑*i*P P **00 58 12.6 +0.1**
HVS Khovu-Aksy 47.35 31 *c i*P P **00 58 14.7 +0.8**
HVS pmax pmax
comp=Z,112nm,1.8s
VRAC Vranov 47.42 325 P P **00 58 14.0 -0.4**
VRAC Vranov 47.42 325 P P **00 58 14.0 -0.4**
comp=Z,1.5nm,0.4s,baz=141,slow=10,SNR=3.3
UBPT Khong Chiam 47.53 82 P P **00 58 14.8 -1.0**
LZH Lanzhou 47.57 54 *e*P P 00 58 21.3 +5.3
LZH pP pP 00 58 25.6 +3.9
LZH sP sP 00 58 26.6 +2.7
LZH pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 47.83 349 *e*P P **00 58 14.8 -2.6**
KLMR pmax pmax
comp=Z,21nm,1.4s
DPC Dobruska-Polom 48.14 327 *i* P P **00 58 19.4 -0.6**
DPC *e* 00 58 25.5
DPC Dobruska-Polom 48.14 327 *i* P P **00 58 19.4 -0.6**
DPC *e*pP **pP** **00 58 25.5 -0.2**
DPC Dobruska-Polom 48.14 327 *e*P P **00 58 19.8 -0.3**
DPC Dobruska-Polom 48.14 327 P P **00 58 19.4 -0.6**
KSP Ksiaz 48.42 327 *e*P P **00 58 21.9 -0.3**
KSP Ksiaz 48.42 327 *e*P P **00 58 22.1 -0.1**
GYA Guiyang 48.46 67 *e*P P **00 58 25.0 +2.0**
GYA PP **PP** **01 00 18.6 +2.8**
GYA ScP **ScP** **01 03 43.0 -0.3**
GYA S **S** **01 05 25.9 +2.4**
GYA ScS **ScS** **01 08 15.3 -0.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.0s
TAM Tamanrasset 48.53 288 *e*P P **00 58 24.1 +0.5**
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 48.53 288 *e*P P **00 58 24.1 +0.5**
comp=Z,6.0nm,1.0s
GERES GERESS Array B 48.80 324 P P **00 58 24.1 -1.1**
GERES GERESS Array B 48.80 324 P P **00 58 24.1 -1.1**
comp=Z,0.8nm,0.8s,baz=126,slow=6.8,SNR=6.4
GERES LR LR 01 18 32.4
comp=Z,118nm,19.8s,baz=178,slow=36
KHC Kasperske Hory 49.01 324 *i* P P **00 58 25.8 -1.0**
KHC *e* 00 58 31.7
KHC Kasperske Hory 49.01 324 *i* P P **00 58 25.8 -1.0**
KHC *e*pP **pP** **00 58 31.7 -0.7**
KHC Kasperske Hory 49.01 324 *e*P P **00 58 28.1 +1.3**
comp=Z,5.5nm,1.1s
KHC Kasperske Hory 49.01 324 P P **00 58 25.8 -1.0**
VSU Vasula 49.07 340 *i* P P **00 58 27.0 0.0**
VSU pmax pmax
comp=Z,68nm,1.2s
WTTA Wattenberg 49.28 321 ⇑*i*P P **00 58 28.6 -0.5**
comp=Z,12nm,1.0s
WTTA Wattenberg 49.28 321 P P **00 58 28.6 -0.5**
comp=Z,12nm,1.0s
LBTB Lobatse 49.35 218 *e*P P **00 58 31.0 +1.3**
comp=Z,31nm,1.1s
MOTA Moosalm 49.65 321 ⇓*i*P P **00 58 30.7 -1.1**
comp=Z,12nm,0.9s
MOTA Moosalm 49.65 321 P P **00 58 30.7 -1.1**
comp=Z,12nm,0.9s
FETA Feichten 49.74 320 ⇑*i*P P **00 58 32.1 -0.4**
comp=Z,7.5nm,1.1s
FETA Feichten 49.74 320 P P **00 58 32.1 -0.4**
comp=Z,7.5nm,1.1s

RETA	Reutte	49.92	321	⇑ *i* P		P	00 58 32.8	-1.0
	comp=Z,5.8nm,1.0s							
RETA	Reutte	49.92	321	P		P	00 58 32.8	-1.0
	comp=Z,5.8nm,1.0s							
DAVOX	Davos/Dischmat	50.17	320	P		P	00 58 35.1	-0.7
DAVOX	Davos/Dischmat	50.17	320	P		P	00 58 35.1	-0.7
	comp=Z,4.6nm,0.9s,baz=136,slow=8.3,SNR=5.8							
NKC	Novy Kostel	50.20	325	*i* P		P	00 58 35.6	-0.2
NKC				*e*			00 58 42.3	
NKC	Novy Kostel	50.20	325	*i* P		P	00 58 35.6	-0.2
NKC				*ex*		x	00 58 42.3	
NKC	Novy Kostel	50.20	325	P		P	00 58 35.6	-0.2
DAVA	Damuels	50.37	320	⇓ *i* P		P	00 58 36.4	-1.0
	comp=Z,15nm,1.4s							
DAVA	Damuels	50.37	320	P		P	00 58 36.4	-1.0
	comp=Z,15nm,1.4s							
CLL	Collm	50.43	326	*e*P		P	00 58 37.0	-0.5
	comp=Z,9.0nm,1.1s							
CLL				*e*(sP)		sP	00 58 44.0	-1.3
TSUM	Tsumeb	50.68	230	*e*P		P	00 58 41.3	+1.4
	comp=Z,34nm,1.9s							
TMCR	Tamitsa	51.16	350	*e*P		P	00 58 41.7	-1.0
TMCR				*e*			00 59 53.3	
TMCR					pmax	pmax		
	comp=Z,21nm,1.4s							
XAN	Xi'an	51.25	58	P		P	00 58 42.1	-1.9
XAN				pP		pP	00 58 49.1	-0.6
XAN					pmax	pmax		
	comp=Z,3.0nm,1.2s							
QIZ	Qiongzhong	51.40	77	P		P	00 58 46.4	+1.1
QIZ				S		S	01 06 06.5	+2.1
QIZ					pmax	pmax		
	comp=Z,120nm,6.4s							
MBDF	Montbardon	51.42	316	*e*P		P	00 58 43.9	-1.3
	comp=Z,25nm,1.2s							
MBDF	Montbardon	51.42	316	*e*P		P	00 58 43.9	-1.3
MBDF					pmax	pmax		
	comp=Z,25nm,1.2s							
MBDF	Montbardon	51.42	316	*e*P		P	00 58 43.9	-1.3
	comp=Z,25nm,1.2s							
FINES	FINESS Array B	51.61	342	P		P	00 58 45.5	-0.7
FINES	FINESS Array B	51.61	342	P		P	00 58 45.5	-0.7
	comp=Z,4.4nm,1.0s,baz=143,slow=9.0,SNR=6.8							
FINES				LR		LR	01 23 50.0	
	comp=Z,119nm,20.3s,baz=28,slow=40							
LPG	La Plagne	51.69	317	*e*P		P	00 58 46.1	-1.3
	comp=Z,28nm,0.9s							
LPG	La Plagne	51.69	317	*e*P		P	00 58 46.1	-1.3
LPG					pmax	pmax		
	comp=Z,28nm,0.9s							
LPG	La Plagne	51.69	317	*e*P		P	00 58 46.1	-1.3
	comp=Z,28nm,0.9s							
LPL	La Plagne	51.71	317	*e*P		P	00 58 46.2	-1.3
	comp=Z,55nm,1.3s							
LPL	La Plagne	51.71	317	*e*P		P	00 58 46.2	-1.3
LPL					pmax	pmax		
	comp=Z,55nm,1.3s							
LPL	La Plagne	51.71	317	*e*P		P	00 58 46.2	-1.3
	comp=Z,55nm,1.3s							
BOSA	Boshof	52.30	215	*e*P		P	00 58 52.4	+0.5
BOSA	Boshof	52.30	215	P		P	00 58 51.9	0.0
	comp=Z,6.2nm,0.8s,baz=47,slow=8.3,SNR=14							
BOSA				LR		LR	01 22 51.6	
	comp=Z,130nm,19.2s,baz=359,slow=38							
CDF	Champ du Feu	52.43	321	*e*P		P	00 58 51.2	-1.5
	comp=Z,39nm,1.2s							
CDF	Champ du Feu	52.43	321	*e*P		P	00 58 51.2	-1.5
CDF					pmax	pmax		
	comp=Z,39nm,1.2s							
CDF	Champ du Feu	52.43	321	*e*P		P	00 58 51.2	-1.5
	comp=Z,39nm,1.2s							
HINF	Hinteralfeld	52.47	320	*e*P		P	00 58 51.1	-1.8
HINF	Hinteralfeld	52.47	320	*e*P		P	00 58 51.1	-1.8
HINF	Hinteralfeld	52.47	320	*e*P		P	00 58 51.1	-1.8
CABF	La Chapelle	52.52	318	*e*P		P	00 58 52.6	-0.7
	comp=Z,54nm,1.2s							
CABF	La Chapelle	52.52	318	*e*P		P	00 58 52.6	-0.7
CABF					pmax	pmax		
	comp=Z,54nm,1.2s							
CABF	La Chapelle	52.52	318	*e*P		P	00 58 52.6	-0.7
	comp=Z,54nm,1.2s							
TORD	Torodi Ar. Bea	52.84	276	P		P	00 58 56.6	+0.5
TORD	Torodi Ar. Bea	52.84	276	P		P	00 58 56.6	+0.5
	comp=Z,1.8nm,0.9s,baz=84,slow=4.9,SNR=7.0							
TORD				LR		LR	01 20 42.2	
	comp=Z,105nm,18.4s,baz=325,slow=35							
HAU	Haudompre	52.85	320	*e*P		P	00 58 53.8	-1.9
HAU	Haudompre	52.85	320	*e*P		P	00 58 53.8	-1.9
HAU	Haudompre	52.85	320	*e*P		P	00 58 53.8	-1.9
VIVF	Saint-Julien-l	52.87	316	*e*P		P	00 58 54.7	-1.2
VIVF	Saint-Julien-l	52.87	316	*e*P		P	00 58 54.7	-1.2
VIVF	Saint-Julien-l	52.87	316	*e*P		P	00 58 54.7	-1.2
SONM	Songino Array	53.00	40	P		P	00 58 57.1	+0.2
SONM	Songino Array	53.00	40	P		P	00 58 57.1	+0.2
	comp=Z,1.3nm,0.7s,baz=237,slow=7.7,SNR=11							
SONM				LR		LR	01 24 49.5	
	comp=Z,120nm,18.4s,baz=277,slow=40							
LASF	Ste Croix	53.20	315	*e*P		P	00 58 57.3	-1.0
	comp=Z,25nm,1.1s							
LASF	Ste Croix	53.20	315	*e*P		P	00 58 57.3	-1.0
	comp=Z,25nm,1.1s							
PAGF	Fort de Pagny	53.44	320	*e*P		P	00 58 58.7	-1.3
PAGF	Fort de Pagny	53.44	320	*e*P		P	00 58 58.7	-1.3
SFTF	Sexfontaines	53.74	320	*e*P		P	00 59 01.1	-1.1
	comp=Z,19nm,0.9s							
SFTF	Sexfontaines	53.74	320	*e*P		P	00 59 01.1	-1.1
	comp=Z,19nm,0.9s							
MEZF	Maizieres J'vi	53.84	320	*e*P		P	00 59 02.0	-0.9
	comp=Z,44nm,1.2s							
MEZF	Maizieres J'vi	53.84	320	*e*P		P	00 59 02.0	-0.9
	comp=Z,44nm,1.2s							
SMF	Signal de Mont	53.99	318	*e*P		P	00 59 02.6	-1.4
	comp=Z,31nm,1.4s							
SMF	Signal de Mont	53.99	318	*e*P		P	00 59 02.6	-1.4
SMF					pmax	pmax		
	comp=Z,31nm,1.4s							
SMF	Signal de Mont	53.99	318	*e*P		P	00 59 02.6	-1.4
	comp=Z,31nm,1.4s							
MTLF	Montolieu	54.14	313	*e*P		P	00 59 04.2	-1.0
MTLF	Montolieu	54.14	313	*e*P		P	00 59 04.2	-1.0
MTLF	Montolieu	54.14	313	*e*P		P	00 59 04.2	-1.0
MTLF	Montolieu	54.14	313	*e*P		P	00 59 04.2	-1.0
LOR	Lormes	54.17	318	*e*P		P	00 59 04.2	-1.2
	comp=Z,32nm,1.1s							
LOR	Lormes	54.17	318	*e*P		P	00 59 04.2	-1.2
	comp=Z,32nm,1.1s							
LOR	Lormes	54.17	318	*e*P		P	00 59 04.2	-1.2
	comp=Z,16nm,1.1s							
SSF	Saint Saulge	54.34	318	*e*P		P	00 59 05.3	-1.3
	comp=Z,40nm,1.3s							
SSF	Saint Saulge	54.34	318	*e*P		P	00 59 05.3	-1.3
SSF					pmax	pmax		
	comp=Z,40nm,1.3s							
SSF	Saint Saulge	54.34	318	*e*P		P	00 59 05.3	-1.3
	comp=Z,40nm,1.3s							
SSF	Saint Saulge	54.34	318	*e*P		P	00 59 05.3	-1.3
	comp=Z,40nm,1.3s							
AVF	Avril sur Loir	54.35	318	*e*P		P	00 59 05.9	-0.8
	comp=Z,24nm,1.1s							
AVF	Avril sur Loir	54.35	318	*e*P		P	00 59 05.9	-0.8
AVF					pmax	pmax		
	comp=Z,24nm,1.1s							
AVF	Avril sur Loir	54.35	318	*e*P		P	00 59 05.9	-0.8
	comp=Z,24nm,1.1s							
AVF	Avril sur Loir	54.35	318	*e*P		P	00 59 05.9	-0.8
	comp=Z,12nm,1.1s							
HHC	Hu-ho-hao-te	54.55	50	*e*P		P	00 59 08.4	0.0
HHC				PcP		PcP	01 00 11.2	-0.3
HHC				PP		PP	01 01 12.3	+1.5
HHC				ScP		ScP	01 04 07.5	-1.8
HHC				PcS		PcS	01 04 09.6	-1.6
HHC				S		S	01 06 46.0	-1.2
HHC				SS		SS	01 10 27.7	-2.1
HHC					pmax	pmax		
	comp=Z,41nm,1.0s							
HHC					pmax	pmax		
	comp=Z,370nm,6.7s							
HHC				LR		LR		
	comp=Z,340nm,16.2s							
HHC				LR		LR		
	comp=Z,510nm,16.5s							
HHC				LR		LR		
	comp=Z,390nm,16.5s							
BGF	Bois d'Agland	54.61	317	*e*P		P	00 59 07.6	-1.0
	comp=Z,46nm,1.1s							
BGF	Bois d'Agland	54.61	317	*e*P		P	00 59 07.6	-1.0
BGF					pmax	pmax		
	comp=Z,46nm,1.1s							
BGF	Bois d'Agland	54.61	317	*e*P		P	00 59 07.6	-1.0
	comp=Z,23nm,1.1s							
CAF	Calviac	54.67	315	*e*P		P	00 59 07.9	-1.1
	comp=Z,12nm,1.0s							
CAF	Calviac	54.67	315	*e*P		P	00 59 07.9	-1.1
CAF					pmax	pmax		
	comp=Z,12nm,1.0s							
CAF	Calviac	54.67	315	*e*P		P	00 59 07.9	-1.1
	comp=Z,12nm,1.0s							
CAF	Calviac	54.67	315	*e*P		P	00 59 07.9	-1.1
	comp=Z,5.9nm,1.0s							
TCF	Toulx Ste Croi	54.95	317	*e*P		P	00 59 10.7	-0.4
TCF	Toulx Ste Croi	54.95	317	*e*P		P	00 59 10.7	-0.4
TCF	Toulx Ste Croi	54.95	317	*e*P		P	00 59 10.7	-0.4
TCF	Toulx Ste Croi	54.95	317	*e*P		P	00 59 10.7	-0.4
HYF	Humbligny	54.96	318	*e*P		P	00 59 10.3	-0.8
HYF	Humbligny	54.96	318	*e*P		P	00 59 10.3	-0.8
HYF	Humbligny	54.96	318	*e*P		P	00 59 10.3	-0.8
HFS	Hagfors	55.04	336	P		P	00 59 09.3	-2.1
HFS	Hagfors	55.04	336	P		P	00 59 09.3	-2.1
	comp=Z,4.0nm,0.9s,baz=105,slow=9.1,SNR=4.0							
ETSF	Etsaut	56.01	312	*e*P		P	00 59 17.9	-0.9
ETSF	Etsaut	56.01	312	*e*P		P	00 59 17.9	-0.9
ETSF	Etsaut	56.01	312	*e*P		P	00 59 17.9	-0.9
ETSF	Etsaut	56.01	312	*e*P		P	00 59 17.9	-0.9
NOA	NORSAR Array B	56.57	336	P		P	00 59 20.9	-1.5
NOA	NORSAR Array B	56.57	336	P		P	00 59 20.9	-1.5
	comp=Z,57nm,19.5s							
NOA	NORSAR Array B	56.57	336	P		P	00 59 20.9	-1.5
	comp=Z,0.9nm,0.8s,baz=148,slow=6.8,SNR=3.4							
NOA				LR		LR	01 25 41.9	
	comp=Z,57nm,19.4s,baz=255,slow=38							
LDF	La Druitiere	57.13	319	*e*P		P	00 59 24.9	-1.7
LDF	La Druitiere	57.13	319	*e*P		P	00 59 24.9	-1.7
LDF	La Druitiere	57.13	319	*e*P		P	00 59 24.9	-1.7
LDF	La Druitiere	57.13	319	*e*P		P	00 59 24.9	-1.7
FLN	La Foliniere	57.40	319	*e*P		P	00 59 26.9	-1.6
	comp=Z,118nm,1.5s							
FLN	La Foliniere	57.40	319	*e*P		P	00 59 26.9	-1.6
FLN					pmax	pmax		
	comp=Z,118nm,1.5s							
FLN	La Foliniere	57.40	319	*e*P		P	00 59 26.9	-1.6
	comp=Z,118nm,1.5s							
FLN	La Foliniere	57.40	319	*e*P		P	00 59 26.9	-1.6
	comp=Z,59nm,1.5s							
MDT	Midelt	57.86	300	P		P	00 59 31.5	-0.7
MDT	Midelt	57.86	300	P		P	00 59 31.5	-0.7
MDT	Midelt	57.86	300	P		P	00 59 31.5	-0.7
	comp=Z,3.3nm,1.0s,baz=126,slow=8.4,SNR=6.6							
BJI	Beijing	57.88	52	P		P	00 59 32.9	+0.9
BJI				S		S	01 07 26.5	-4.5
BJI				SS		SS	01 11 24.2	+2.3
BJI					pmax	pmax		
	comp=Z,9.0nm,0.9s							
BJI					pmax	pmax		
	comp=Z,130nm,4.5s							
BJI				LR		LR		
	comp=Z,160nm,21.1s							
BJI				LR		LR		
	comp=Z,200nm,23.3s							
BJI				LR		LR		
	comp=Z,120nm,24.1s							
ESDC	Sonseca Array	57.98	308	P		P	00 59 32.1	-0.7
ESDC	Sonseca Array	57.98	308	P		P	00 59 32.1	-0.7
ESDC	Sonseca Array	57.98	308	P		P	00 59 32.1	-0.7
	comp=Z,1.7nm,0.6s,baz=85,slow=6.3,SNR=18							
ARCES	ARCESS Array B	58.26	348	P		P	00 59 33.0	-1.2
ARCES	ARCESS Array B	58.26	348	P		P	00 59 33.0	-1.2
	comp=Z,3.0nm,0.8s							
ARCES	ARCESS Array B	58.26	348	P		P	00 59 33.0	-1.2
	comp=Z,2.7nm,0.8s,baz=106,slow=6.6,SNR=6.8							
NJ2	Nanjing	59.38	61	*e*P		P	00 59 43.3	+0.7
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.7s							
DBIC	Dimbokro	60.38	269	P		P	00 59 50.6	+0.9
DBIC	Dimbokro	60.38	269	P		P	00 59 50.6	+0.9
	comp=Z,5.0nm,1.2s							
DBIC	Dimbokro	60.38	269	P		P	00 59 50.6	+0.9
	comp=Z,4.9nm,1.2s,baz=80,slow=11,SNR=1.7							
EKA	Eskdalemuir Ar	60.89	326	P		P	00 59 52.8	+0.2
EKA	Eskdalemuir Ar	60.89	326	P		P	00 59 52.8	+0.2
	comp=Z,3.0nm,0.9s							
EKA	Eskdalemuir Ar	60.89	326	P		P	00 59 52.8	+0.2
	comp=Z,3.3nm,0.9s,baz=144,slow=8.7,SNR=3.8							
HIA	Hailar	61.91	42	*i* P		P	00 59 59.6	0.0
	comp=Z,13nm,1.6s							
CN2	Changchun	65.14	48	*e*P		P	01 00 20.4	-0.6
SPITS	Spitsbergen Ar	66.60	352	P		P	01 00 29.6	-0.3
SPITS	Spitsbergen Ar	66.60	352	P		P	01 00 29.6	-0.3
	comp=Z,7.0nm,0.9s							
SPITS	Spitsbergen Ar	66.60	352	P		P	01 00 29.6	-0.3
	comp=Z,7.1nm,0.9s,baz=120,slow=11,SNR=2.7							
KSAR	Wonju Array Be	66.85	55	P		P	01 00 30.0	-2.2
KSAR	Wonju Array Be	66.85	55	P		P	01 00 30.0	-2.2
KSRS	Korea Array	66.88	55	P		P	01 00 30.0	-2.3
	comp=Z,69nm,18.8s							
KSRS	Korea Array	66.88	55	P		P	01 00 30.0	-2.3
	comp=Z,1.0nm,0.3s,baz=268,slow=7.1,SNR=7.3							
KSRS				LR		LR	01 31 08.4	
	comp=Z,69nm,18.8s,baz=156,slow=37							
YAK	Yakutsk	69.54	29	*e*P		P	01 00 47.2	-1.3
YAK					pmax	pmax		
	comp=Z,29nm,1.7s							
YAK	Yakutsk	69.54	29	*e*P		P	01 00 47.2	-1.3
	comp=Z,29nm,1.7s							
USRK	Ussuriysk Arra	69.87	48	P		P	01 00 49.7	-1.2
	comp=Z,1.9nm,0.8s,baz=243,slow=7.7,SNR=4.7							
TIXI	Tiksi	70.87	19	*e*P		P	01 00 50.5	-6.0
TIXI					pmax	pmax		
	comp=Z,5.0nm,0.3s							
TIXI	Tiksi	70.87	19	*e*P		P	01 00 50.5	-6.0
	comp=Z,5.2nm,0.3s							
H01W3	Cape Leeuwin H	73.69	133	T		T	02 21 26.2	
	baz=301,slow=75,SNR=26							
H01W2	Cape Leeuwin H	73.69	133	T		T	02 21 26.5	
	baz=301,slow=75,SNR=24							
H01W1	Cape Leeuwin H	73.70	133	T		T	02 21 26.4	
	baz=301,slow=75,SNR=24							
MJAR	Matsushiro Arr	75.16	56	P		P	01 01 20.3	-2.3
MJAR	Matsushiro Arr	75.16	56	P		P	01 01 20.3	-2.3
	comp=Z,55nm,20.8s							
MJAR	Matsushiro Arr	75.16	56	P		P	01 01 20.3	-2.3
	comp=Z,0.8nm,0.6s,baz=290,slow=7.1,SNR=3.1							
MJAR				LR		LR	01 37 02.5	
	comp=Z,55nm,20.8s,baz=15,slow=38							
SEY	Seymchan	79.99	28	*i* P		P	01 01 48.8	-0.2
SEY	Seymchan	79.99	28	*i* P		P	01 01 48.8	-0.2
MAW	Mawson	82.04	177	LR		LR	01 28 40.3	
	comp=Z,89nm,21.8s,baz=170,slow=29							
WRA	Warramunga Arr	84.09	112	P		P	01 02 09.0	-2.4
WRA	Warramunga Arr	84.09	112	P		P	01 02 09.0	-2.4
	comp=Z,2.0nm,0.9s							
WRA	Warramunga Arr	84.09	112	P		P	01 02 09.0	-2.4
	comp=Z,1.8nm,0.9s,baz=295,slow=4.3,SNR=8.3							
ASAR	Alice Springs	84.85	116	P		P	01 02 13.0	-2.2
ASAR	Alice Springs	84.85	116	P		P	01 02 13.0	-2.2
	comp=Z,3.0nm,1.2s							
ASAR	Alice Springs	84.85	116	P		P	01 02 13.0	-2.2
	comp=Z,3.2nm,1.1s,baz=287,slow=4.5,SNR=8.1							
ASAR				LR		LR	01 34 08.9	
	comp=Z,69nm,19.3s,baz=355,slow=32							
PETK	Petropavlovsk-	85.27	36	LR		LR	01 38 18.1	
	comp=Z,53nm,21.0s,baz=330,slow=34							
INK	Inuvik	97.10	4	P		P	01 03 09.2	-2.6
INK	Inuvik	97.10	4	P		P	01 03 09.3	-2.6
	comp=Z,2.0nm,1.1s							
INK	Inuvik	97.10	4	P		P	01 03 09.2	-2.6
	comp=Z,1.9nm,1.1s,baz=12,slow=5.0,SNR=3.1							
PDAR	Pinedale Array	121.52	348	PKP		PKPdf	01 08 33.0	-1.2
PDAR	Pinedale Array	121.52	348	PKIKP		PKPdf	01 08 33.0	-1.2
PDAR	Pinedale Array	121.52	348	PKP		PKPdf	01 08 33.0	-1.2
	comp=Z,0.7nm,0.7s,baz=58,slow=3.3,SNR=6.1							
NVAR	Mina Array Bea	127.08	355	PKP		PKPdf	01 08 45.0	+0.1
NVAR	Mina Array Bea	127.08	355	PKIKP		PKPdf	01 08 45.0	+0.1
NVAR	Mina Array Bea	127.08	355	PKP		PKPdf	01 08 45.0	+0.1
	comp=Z,1.7nm,0.8s,baz=354,slow=1.8,SNR=11							

*IDC **09** 00:59:14.7±17.0, 53.˚10N×167.˚74W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/29, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=336.3km s-min=48.8km az=85.0*

*ISCJB **09** 00:59:32.5±1.3, 53.˚59N±0.˚06×164.˚69W±0.˚06, h29km±9km, mb3.3/2, Error ellipse: s-maj=10.9km s-min=4.6km az=158.5*

*NEIC **09** 00:59:34.1, 53.˚61N×164.˚72W, h17km, ML3.7(AEIC), After AEIC.*

ISC 09 00:59:34.2±1.9, 53.˚67N±0.˚09×164.˚79W±0.˚05, h26km±14km, n29, σ0↑75/36, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.71	311	P	Pb	00 59 47.7	-0.3
AKSA				S	Sn	00 59 58.7	0.0
AKA	Akutan	0.75	309	P	Pb	00 59 48.7	+0.2
AKA				S	Sb	00 59 59.3	+1.0
AKUT	Akutan	0.75	309	*e*P	Pb	00 59 48.0	-0.5
AKUT				*e*S	Sb	00 59 58.4	0.0
WESE	West Dahl East	0.81	8	P	Pb	00 59 49.3	-0.4
ZRO	Akutan Zero	0.82	301	P	Pb	00 59 49.3	-0.5
LVA	Lava Point	0.89	304	P	Pb	00 59 50.4	-0.5
AKGG	Akutan Green G	0.89	307	P	Pb	00 59 50.3	-0.6
AKGG				S	Sn	01 00 03.4	+0.3
AKRB	Akutan Reef Bi	0.89	302	P	Pb	00 59 50.3	-0.7
WESN	West Dahl Nort	0.91	7	P	Pb	00 59 50.9	-0.4
MTBL	Makushin Table	1.16	286	P	Pn	00 59 53.9	-1.0
SSLW	Shishaldin Wes	1.17	19	P	Pn	00 59 54.2	-0.7
SSBA	Shishaldin	1.17	19	P	Pn	00 59 54.1	-0.9
SSBA				S	Sn	01 00 09.6	-0.5
MSW	Makushin Switc	1.21	282	P	Pn	00 59 54.2	-1.2
SSLN	Shishaldin Nor	1.23	22	P	Pn	00 59 55.2	-0.6
MCIR	Makushin Cirqu	1.28	283	P	Pn	00 59 55.6	-0.8
FALS	False Pass	1.43	33	P	Pn	00 59 57.4	-1.1
OKFG	Magazine Ridge	1.88	263	P	Pn	01 00 04.7	0.0
OKFG				S	Sn	01 00 27.8	+0.1
OKTU	Okmok Mt. Tuli	1.96	263	P	Pn	01 00 05.0	-0.9
OKRE	Okmok R'deer P	2.02	267	P	Pn	01 00 07.3	+0.7
OKAK	Okmok	2.13	269	P	Pn	01 00 09.2	+1.1
HAG	Hague Volcano	2.35	44	P	Pn	01 00 11.3	+0.1
PS4A	Pavlof South-4	2.39	44	P	Pn	01 00 12.2	+0.5
NIKH	Nikolski High	2.54	256	P	Pn	01 00 12.9	-0.8
NIKH				S	Sn	01 00 43.6	-0.2
SDPT	Sand Point	3.02	54	P	Pn	01 00 20.1	-0.3
SDPT				S	Sn	01 00 54.7	-0.9
OHAK	Old Harbor	7.44	57	P	Pn	01 01 20.3	-0.6
ILAR	Eielson Array	14.34	32	Pn	Pn	01 02 56.9	+1.6
	0.0nm,0.3s,baz=230,slow=9.9,SNR=3.0						
INK	Inuvik	20.74	33	P	P	01 04 11.4	-1.0
	0.8nm,0.7s,baz=228,slow=17,SNR=6.4						
YKA	Yellowknife Ar	27.28	51	P	P	01 05 16.5	+0.4
	0.4nm,0.7s,baz=278,slow=9.6,SNR=3.8						
TXAR	Lajitas Array	50.01	94	P	P	01 08 23.7	-2.7
	0.3nm,0.5s,baz=289,slow=4.9,SNR=3.8						

*IDC **09** 01:01:01.4±0.8, 6.˚16N×127.˚29E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/25, mbtmp3.9/9, MS3.7/1, Ms1 3.7/1, ms1mx2.8/39, Error ellipse: s-maj=59.7km s-min=16.0km az=72.0*

*ISCJB **09** 01:01:10.7±0.6, 5.˚93N±0.˚06×127.˚00E±0.˚07, h83km, mb3.7/9, Error ellipse: s-maj=11.3km s-min=6.9km az=151.4*

*MAN **09** 01:01:15, 6.˚20N×127.˚04E, h45km, mb4.6, ML3.5, MS3.4*

ISC 09 01:01:12.0±0.8, 5.˚90N±0.˚07×126.˚9E±0.˚1, h83km, n17, σ1↑44/18, mb3.9/9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.24	327	*e*P	Pn	01 01 36.5	+2.4
MATI				*e*S	Sn	01 01 48.7	-2.1
GSPH	General Santos	1.98	276	⇓ *i* P	Pn	01 01 43.9	+0.1
GSPH				*i* S	Sn	01 02 07.3	-0.7
BIPH	Bislig	2.34	346	↑ *e*P	Pn	01 01 49.3	+0.7
BIPH				*e*S	Sn	01 02 15.3	-1.2
BUKP	Musuan	2.70	317	*e*P	Pn	01 01 57.0	+3.5
CGP	Cagayan de Oro	3.37	319	*e*P	Pn	01 02 05.4	+3.0
PAGZ	Pagadian	4.02	299	*e*P	Pn	01 02 15.0	+3.8
FITZ	Fitzroy Crossi	23.88	183	P	P	01 06 19.6	+1.5
FITZ				LR	LR	01 14 57.2	
	comp=Z,177nm,21.7s,baz=174,slow=35						
WRA	Warramunga Arr	26.69	164	P	P	01 06 45.1	+1.6
	0.4nm,0.4s,baz=344,slow=10,SNR=16						
ASAR	Alice Springs	30.16	167	P	P	01 07 14.9	+0.4
	0.2nm,0.5s,baz=350,slow=7.6,SNR=3.5						
STKA	Stephens Creek	40.08	160	P	P	01 08 38.8	-0.7
	0.8nm,0.4s,baz=336,slow=10.0,SNR=2.7						
MKAR	Makanchi Array	55.91	324	P	P	01 10 41.9	+0.4
	0.6nm,0.4s,baz=117,slow=7.1,SNR=19						
KURBB	Kurchatov Arra	60.04	327	P	P	01 11 10.5	+0.3
	1.7nm,0.6s,baz=121,slow=7.6,SNR=7.6						
KURBB				ScP	ScP	01 15 59.3	+10
	0.4nm,0.4s,baz=108,slow=2.1,SNR=4.9						
BVAR	Borovoye Array	65.63	326	P	P	01 11 47.8	+0.5
	0.6nm,0.5s,baz=100,slow=5.2,SNR=4.2						
ILAR

DID	Didima	1.87	44	P	Pn	01 15 33.6 +0.7
DID	Didima	1.87	44	*e*PN	Pn	01 15 33.6 +0.7
DID	Didima	1.87	44	P	Pn	01 15 33.6 +0.7
RLS	Riolos of Patr	1.89	357	*e*PN	Pn	01 15 34.9 +1.8
RLS	Riolos of Patr	1.89	357	*e*Pn	Pn	01 15 34.9 +1.8
KLV	Kalavryta, Ach	1.92	13	P	Pn	01 15 34.9 +1.3
KLV	Kalavryta, Ach	1.92	13	*e*PB	Pn	01 15 35.0 +1.3
KLV	Kalavryta, Ach	1.92	13	P	Pn	01 15 34.9 +1.3
LAKA	Lakka	2.09	8	*e*PN	Pn	01 15 37.8 +1.9
LAKA	Lakka	2.09	8	*e*Pn	Pn	01 15 37.8 +1.9
LTK	Loutraki	2.15	30	*e*Pn	Pn	01 15 37.6 +0.9
LTK	Loutraki	2.15	30	*e*PN	Pn	01 15 37.6 +0.9
VLS	Valsamata	2.17	338	*e*PN	Pn	01 15 39.3 +2.4
VLS	Valsamata	2.17	338	*e*Pn	Pn	01 15 39.3 +2.4
VAM	Vamos	2.24	109	P	Pn	01 15 39.6 +1.7
VAM	Vamos	2.24	109	*e*PN	Pn	01 15 39.7 +1.8
VAM	Vamos	2.24	109	P	Pn	01 15 39.6 +1.7
KALE	Kalithea	2.26	11	P	Pn	01 15 39.8 +1.5
KALE	Kalithea	2.26	11	*e*PN	Pn	01 15 40.3 +2.0
KALE	Kalithea	2.26	11	P	Pn	01 15 39.8 +1.5
KALE	Kalithea	2.26	11	*e*Pn	Pn	01 15 40.3 +2.0
EFP	Efpalio	2.27	6	*e*PB	Pn	01 15 40.8 +2.5
DSF	Desfina	2.36	18	P	Pn	01 15 39.8 +0.2
DSF	Desfina	2.36	18	*e*PN	Pn	01 15 40.8 +1.2
DSF	Desfina	2.36	18	P	Pn	01 15 39.8 +0.2
DSF	Desfina	2.36	18	*e*Pn	Pn	01 15 40.8 +1.2
VILL	Villia	2.41	34	*e*Pn	Pn	01 15 41.3 +0.9
VIL2	Platees	2.43	32	*e*PN	Pn	01 15 41.3 +0.7
PVO	Paravola	2.45	358	P	Pn	01 15 42.7 +1.9
PDO	Prodromos	2.45	352	P	Pn	01 15 42.6 +1.8
PDO	Prodromos	2.45	352	*e*PN	Pn	01 15 43.3 +2.5
PDO	Prodromos	2.45	352	P	Pn	01 15 42.6 +1.8
PDO	Prodromos	2.45	352	*e*Pn	Pn	01 15 43.3 +2.5
LKR	Lokris	2.71	24	P	Pn	01 15 44.3 -0.1
LKR	Lokris	2.71	24	*e*PN	Pn	01 15 44.8 +0.3
LKR	Lokris	2.71	24	P	Pn	01 15 44.3 -0.1
LKR	Lokris	2.71	24	*e*Pn	Pn	01 15 44.8 +0.3
LKD2	Lefkada island	2.73	344	P	Pn	01 15 46.1 +1.5
LKD2	Lefkada island	2.73	344	P	Pn	01 15 46.1 +1.5
AXAR	Agios Charalam	2.73	18	P	Pn	01 15 45.5 +0.9
AXAR	Agios Charalam	2.73	18	P	Pn	01 15 45.5 +0.9
EVR	Evrytania	2.75	3	*e*PN	Pn	01 15 47.2 +2.2
EVR	Evrytania	2.75	3	*e*Pn	Pn	01 15 47.2 +2.2
IDI	Anoyia	2.81	107	P	Pn	01 15 46.7 +0.9
IDI	Anoyia	2.81	107	P	Pn	01 15 46.7 +0.9
MAKR	Makrakomi, Fth	2.87	8	*e*PN	Pn	01 15 48.3 +1.7
MAKR	Makrakomi, Fth	2.87	8	*e*Pn	Pn	01 15 48.3 +1.7
AGG	Agios Georgios	2.91	11	P	Pn	01 15 48.4 +1.3
AGG	Agios Georgios	2.91	11	*e*PN	Pn	01 15 48.2 +1.1
AGG	Agios Georgios	2.91	11	*e*Pn	Pn	01 15 48.2 +1.1
MRKA	Markates	2.98	31	*e*PN	Pn	01 15 48.0 -0.2
MRKA	Markates	2.98	31	*e*Pn	Pn	01 15 48.0 -0.2
NPS	Neapolis	3.38	104	P	Pn	01 15 54.5 +0.9
NPS	Neapolis	3.38	104	P	Pn	01 15 54.5 +0.9
THL	Klokotos Trika	3.41	5	*e*PN	Pn	01 15 55.6 +1.6
THL	Klokotos Trika	3.41	5	*e*Pn	Pn	01 15 55.6 +1.6
IGT	Igoumenitsa	3.51	344	P	Pn	01 15 55.5 +0.1
IGT	Igoumenitsa	3.51	344	P	Pn	01 15 55.5 +0.1
NEST	Nestorio	4.26	354	P	Pn	01 16 07.7 +1.9
NEST	Nestorio	4.26	354	P	Pn	01 16 07.7 +1.9
BIA	Bitola	4.85	357	*e*Pn	Pn	01 16 14.5 +0.6
BIA				*e*Sn	Sn	01 17 07.4 -1.5
BIA	Bitola	4.85	357	*e*Pn	Pn	01 16 14.4 +0.6
BIA				*e*Sn	Sn	01 17 07.4 -1.5
VAY	Valandovo	5.20	8	*e*Pn	Pn	01 16 19.1 +0.5
VAY	Valandovo	5.20	8	*e*Pn	Pn	01 16 19.5 +0.9
STON	Ston	7.34	337	*e*Pn	Pn	01 16 46.2 -1.8
STON				Sn	Sn	01 18 00.9 -9.3
STON	Ston	7.34	337	*e*Pn	Pn	01 16 46.2 -1.8
GRUS	Gruza	7.74	355	*e*Pn	Pn	01 16 52.0 -1.5

*IDC **09** 01:31:03.8±1.9, 0.°40.S×132.°30.E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.6/23, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=98.1km s-min=21.0km az=75.0*
*ISCJB **09** 01:31:06.5±1.0, 0.°47.S±0.°07×132.°3.E±0.°2, h31km, mb3.5/4, Error ellipse: s-maj=28.8km s-min=10.2km az=176.7*
*AUST **09** 01:31:24.8, 1.°48.S×132.°50.E, h100km*
ISC 09 01:31:08.9±1.4, 0.°6.S±0.°1×132.°2.E±0.°3, h31km, n14, σ2s02/12, mb3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.29**	**178**	P	**Pb**	**01 31 49.0**	**-0.5**
	baz=1.5,SNR=38						
TLE	**Tual**	**5.02**	**173**	P	Pn	01 32 28.6	+6.5
	baz=4.2,SNR=4.0						
KDU	**Kakadu**	**12.00**	**179**	P	**Pn**	**01 34 00.3**	**+2.5**
	baz=11,SNR=6.1						
MTN	**Manton Dam**	**12.19**	**185**	P	**Pn**	**01 34 03.2**	**+2.7**
	baz=11,SNR=6.8						
KNRA	**Kununurra**	**15.34**	**192**	P	**P**	**01 34 46.4**	**-1.2**
	baz=15,SNR=5.9						
FITZ	**Fitzroy Crossi**	**18.52**	**200**	P	**Pn**	**01 35 24.9**	**+1.7**
	0.1nm,0.3s,baz=17,slow=14,SNR=3.6						
FITZ				S	**Sn**	**01 38 48.1**	**-1.3**
WRA	**Warramunga Arr**	**19.33**	**174**	P	**Pn**	**01 35 33.7**	**+0.7**
	0.4nm,0.3s,baz=354,slow=12,SNR=14						
WRA				S	**Sn**	**01 39 05.3**	**-3.7**
	0.1nm,0.3s,baz=355,slow=23,SNR=5.1						
ASAR	**Alice Springs**	**22.98**	**176**	P	**P**	**01 36 12.4**	**+1.3**
	1.1nm,0.6s,baz=358,slow=15,SNR=17						
STKA	**Stephens Creek**	**32.35**	**165**	P	**P**	**01 37 35.5**	**0.0**
	1.1nm,0.8s,baz=329,slow=8.7,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**39.59**	**57**	T	T	02 19 54.5	
	baz=246,slow=75,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**39.61**	**57**	T	T	02 19 56.5	
	baz=246,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**39.61**	**57**	T	T	02 19 56.5	
	baz=246,slow=75,SNR=5.6						
MKAR	**Makanchi Array**	**64.21**	**324**	P	**P**	**01 41 40.5**	**-0.4**
	0.3nm,0.7s,baz=111,slow=9.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**68.31**	**327**	P	**P**	**01 42 05.9**	**-1.1**
	0.3nm,0.7s,baz=120,slow=5.5,SNR=4.5						

*CSEM **09** 01:49:12.4±0.2, 37.°54N×53.°92E, h2km, ML3.6, Error ellipse: s-maj=6.0km s-min=3.3km az=160.0*
TEH 09 01:49:13.0, 37.°57N×53.°89E, h4km, ML3.6, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**1.07**	**182**	*e*Pg	Pg	01 49 32.0	-1.8
IGLO				*e*Sg	Sg	01 49 47.0	-0.9
IGLO				*e*		01 49 48.5	
	comp=Z,90μm,0.3s						
IALA	**Alasht**	**1.72**	**210**	*e*Pn	Pn	01 49 43.2	-0.9
IALA				*e*Sg	Sn	01 50 06.8	0.0
IALA				*e*		01 50 09.8	
	comp=Z,35μm,0.1s						
IALA	**Alasht**	**1.72**	**210**	*e*Pn	Pn	01 49 43.2	-0.9
IALA				*e*Sg	Sn	01 50 06.8	0.0
MRVT	**Maraveh tapeh**	**1.75**	**87**	*e*Pg	Pn	01 49 42.2	-2.1
ISHM	**Shahmirzad**	**1.83**	**195**	*e*Pn	Pn	01 49 45.3	-0.3
ISHM				*e*Sg	Sn	01 50 09.3	-0.1
ISHM				*e*		01 50 11.8	
	comp=Z,12μm,0.1s						
ISHM	**Shahmirzad**	**1.83**	**195**	*e*Pn	Pn	01 49 45.3	-0.3
ISHM				*e*Sg	Sn	01 50 09.3	-0.1
IANJ	**Anjilo**	**2.10**	**179**	*e*Pn	Pn	01 49 48.6	-0.7
IANJ				*e*		01 50 23.6	
	comp=Z,5μm,0.3s						
IANJ	**Anjilo**	**2.10**	**179**	*e*Pn	Pn	01 49 48.6	-0.7
IFIR	**Firoozkooh**	**2.13**	**206**	*e*Pn	Pn	01 49 49.7	0.0
IFIR				*e*		01 50 21.7	
	comp=Z,9μm,0.1s						
IFIR	**Firoozkooh**	**2.13**	**206**	*e*Pn	Pn	01 49 49.7	0.0
SHRO	**Shahrood**	**2.33**	**132**	*e*Pg	Pn	01 49 50.9	-1.3
DAMV	**Damavand**	**2.48**	**219**	*e*Pn	Pn	01 49 53.9	-0.6
IDMV	**Damavand**	**2.49**	**217**	*e*Pn	Pn	01 49 54.2	-0.5
IDMV				*e*		01 50 32.6	
	comp=Z,3μm,0.1s						
IDMV	**Damavand**	**2.49**	**217**	*e*Pn	Pn	01 49 54.2	-0.5
CHTH	**Charan**	**2.77**	**234**	*e*Pn	Pn	01 49 58.8	+0.3
IVRN	**Varamin**	**3.11**	**215**	*e*Pn	Pn	01 50 02.5	-0.4
IVRN				*e*		01 50 56.3	
	comp=Z,1μm,0.2s						
IVRN	**Varamin**	**3.11**	**215**	*e*Pn	Pn	01 50 02.5	-0.4
ISFR	**Sfrayin**	**3.32**	**98**	*e*Pn	Pn	01 50 05.3	-0.8
ISFR				*e*		01 51 25.4	
	comp=Z,1μm,0.2s						
ISFR	**Sfrayin**	**3.32**	**98**	*e*Pn	Pn	01 50 05.3	-0.8
ISFB	**Sefidab**	**3.48**	**203**	*e*Pn	Pn	01 50 07.4	-0.6
ISFB				*e*		01 51 03.8	
	comp=Z,1μm,0.1s						
ISFB	**Sefidab**	**3.48**	**203**	*e*Pn	Pn	01 50 07.4	-0.6
IKRD	**Kardeh**	**3.78**	**101**	*e*Pn	Pb	01 50 22.4	+1.7
IKRD				*e*		01 50 56.2	
	comp=Z,246nm,0.1s						
IKRD	**Kardeh**	**3.78**	**101**	*e*Pn	Pb	01 50 22.4	+1.7
IRAZ	**Razeghan**	**3.85**	**237**	*e*	Sg	01 51 15.6	-1.7
	comp=Z,558nm,0.2s						
IPAY	**Payeh**	**4.24**	**104**	*e*Pn	Pn	01 50 17.6	-1.1
IPAY				*e*		01 51 35.4	
	comp=Z,264nm,0.2s						
IPAY	**Payeh**	**4.24**	**104**	*e*Pn	Pn	01 50 17.6	-1.1
IKLH	**Kolahrood**	**4.64**	**205**	*e*Pn	Pn	01 50 23.3	-1.0
IKLH				*e*		01 51 57.6	
	comp=Z,512nm,0.3s						
IKLH	**Kolahrood**	**4.64**	**205**	*e*Pn	Pn	01 50 23.3	-1.0
TABS	**Tabas**	**4.72**	**145**	*e*Pn	Pn	01 50 23.6	-1.5
IZEF	**Zefreh**	**4.84**	**196**	*e*Pn	Pn	01 50 26.2	-0.7
IZEF				*e*		01 51 52.6	
	comp=Z,211nm,0.2s						
IZEF	**Zefreh**	**4.84**	**196**	*e*Pn	Pn	01 50 26.2	-0.7
IMYA	**Miami**	**5.13**	**102**	*e*Pn	Pn	01 50 30.4	-0.4
IMYA				*e*		01 51 12.9	
	comp=Z,148nm,0.4s						
IMYA	**Miami**	**5.13**	**102**	*e*Pn	Pn	01 50 30.4	-0.4
ICHK	**Chekchek**	**5.33**	**175**	*e*Pn	Pn	01 50 32.6	-1.1
ICHK				*e*		01 51 11.6	
	comp=Z,228nm,0.2s						
ICHK	**Chekchek**	**5.33**	**175**	*e*Pn	Pn	01 50 32.6	-1.1
IBST	**Bostanabad**	**5.55**	**273**	*e*Pn	Pn	01 50 35.8	-0.9
IBST				*e*		01 50 40.0	
	comp=Z,70nm,0.1s						
IBST	**Bostanabad**	**5.55**	**273**	*e*Pn	Pn	01 50 35.8	-0.9
ISAD	**Sadrabad**	**5.65**	**182**	*e*Pn	Pn	01 50 37.3	-0.8
ISAD				*e*		01 52 21.5	
	comp=Z,338nm,0.3s						
ISAD	**Sadrabad**	**5.65**	**182**	*e*Pn	Pn	01 50 37.3	-0.8
IMEH	**Mehriz**	**6.20**	**174**	*e*Pn	Pn	01 50 44.4	-1.2
IMEH				*e*		01 52 50.8	
	comp=Z,98nm,0.2s						
IMEH	**Mehriz**	**6.20**	**174**	*e*Pn	Pn	01 50 44.4	-1.2

*ISK **09** 01:52:58.3, 39.°26N×28.°19E, h8km, MD3.3*
*ISCJB **09** 01:52:58.6±0.4, 39.°26N±0.°02×28.°19E±0.°02, h8km±3km, Error ellipse: s-maj=2.9km s-min=2.8km az=176.7*
*DDA **09** 01:52:58.4, 39.°26N×28.°19E, h10km, MD3.2*
*CSEM **09** 01:52:59.0±0.1, 39.°25N×28.°18E, h10km, MD3.2, Error ellipse: s-maj=2.2km s-min=2.1km az=162.0*
*THE **09** 01:53:03.2, 39.°31N×27.°80E, h6km±4km, ML2.6/2, Error ellipse: s-maj=4.6km s-min=2.0km az=350.0*
*ATH **09** 01:53:04.9, 39.°26N×27.°65E, h43km, MD3.5/6*
ISC 09 01:52:59.1±0.9, 39.°26N±0.°02×28.°18E±0.°02, h15km±8km, n119, σ0s87/145, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.41**	**33**	*i* P	**Pg**	**01 53 06.8**	**-0.6**
DURS				*i* S	Sg	01 53 12.8	-0.3
DURS	**Dursunbey**	**0.41**	**33**	*i* P	**Pg**	**01 53 06.8**	**-0.6**
DURS				*i* S	Sg	01 53 12.8	-0.3
BALB	**Balikesir**	**0.45**	**328**	*e*PG	**Pg**	**01 53 07.8**	**-0.3**
BALB				*e*SG	Sg	01 53 14.4	+0.2
BALB	**Balikesir**	**0.45**	**328**	*e*Pg	**Pg**	**01 53 07.8**	**-0.3**
BALB				*e*Sg	Sg	01 53 14.4	+0.2
DEMI	**Demirci**	**0.47**	**117**	*i* P	**Pg**	**01 53 08.1**	**-0.3**
DEMI				*i* S	Sg	01 53 14.3	-0.5
DEMI	**Demirci**	**0.47**	**117**	*i* P	**Pg**	**01 53 08.1**	**-0.3**
DEMI				*i* S	Sg	01 53 14.3	-0.5
AKHS	**Akhisar**	**0.48**	**217**	*i* P	**Pg**	**01 53 08.4**	**-0.2**
AKHS				*i* S	Sg	01 53 15.6	+0.6
AKHS	**Akhisar**	**0.48**	**217**	*i* P	**Pg**	**01 53 08.4**	**-0.2**
AKHS				*i* S	Sg	01 53 15.6	+0.6
AKS	**Akhisar**	**0.48**	**217**	*e*PG	**Pg**	**01 53 08.0**	**-0.6**
AKS				*e*SG	Sg	01 53 15.2	+0.2
AKS	**Akhisar**	**0.48**	**217**	*e*Pg	**Pg**	**01 53 08.0**	**-0.6**
AKS				*e*Sg	Sg	01 53 15.2	+0.2
BALY	**Balya**	**0.65**	**318**	*i* P	**Pg**	**01 53 11.3**	**-0.5**
BALY				*i* S	Sg	01 53 20.7	+0.2
BALY	**Balya**	**0.65**	**318**	*i* P	**Pg**	**01 53 11.3**	**-0.5**
BALY				*i* S	Sg	01 53 20.7	+0.2
MANT	**Manisa**	**0.82**	**159**	*i* P	**Pg**	**01 53 14.7**	**-0.4**
MANT	**Manisa**	**0.82**	**159**	*i* P	**Pg**	**01 53 14.7**	**-0.4**
KULA	**Kula-Manisa**	**0.83**	**153**	*e*PG	**Pg**	**01 53 14.8**	**-0.4**
GONE	**Gonen-Balikesi**	**0.88**	**334**	*e*PG	**Pg**	**01 53 15.5**	**-0.6**
GONE	**Gonen-Balikesi**	**0.88**	**334**	*e*Pg	**Pg**	**01 53 15.5**	**-0.6**
ORLT	**Orhaneli**	**0.96**	**35**	*e*PG	**Pg**	**01 53 17.5**	**-0.2**
ORLT	**Orhaneli**	**0.96**	**35**	*e*Pg	**Pg**	**01 53 17.5**	**-0.2**
TVSB	**Tavsanli**	**1.01**	**79**	*e*PG	**Pg**	**01 53 18.1**	**-0.5**
TVSB				*e*SG	**Sb**	**01 53 32.1**	**+0.7**
TVSB	**Tavsanli**	**1.01**	**79**	*e*Pg	**Pg**	**01 53 18.1**	**-0.5**
TVSB				*e*Sg	**Sb**	**01 53 32.1**	**+0.7**
KCTX	**Karacabey (Bur**	**1.01**	**8**	*e*PG	**Pg**	**01 53 18.0**	**-0.7**
GDZ	**Gediz**	**1.02**	**99**	*i* P	**Pg**	**01 53 18.3**	**-0.6**
GDZ				*i* S	Sg	01 53 32.0	-0.3
GDZ	**Gediz**	**1.02**	**99**	*i* P	**Pg**	**01 53 18.3**	**-0.6**
GDZ				*i* S	Sg	01 53 32.0	-0.3
BNT	**Bandirma**	**1.11**	**350**	*e*PN	**Pb**	**01 53 20.0**	**0.0**
EDC	**Edincik**	**1.11**	**347**	*e*PN	**Pb**	**01 53 19.9**	**-0.1**
IZM	**Izmir**	**1.12**	**220**	*e*PN	**Pb**	**01 53 19.8**	**-0.3**
IZM	**Izmir**	**1.12**	**220**	*e*Pn	**Pb**	**01 53 19.8**	**-0.3**
AYVA	**Ayvalik**	**1.16**	**273**	*i* P	**Pb**	**01 53 21.1**	**+0.3**
AYVA				*i* S	Sg	01 53 36.9	+0.3
AYVA	**Ayvalik**	**1.16**	**273**	*i* P	**Pb**	**01 53 21.1**	**+0.3**
AYVA				*i* S	Sg	01 53 36.9	+0.3
MDNY	**Mudanya-Bursa**	**1.23**	**26**	*e*PN	Pn	01 53 21.6	-0.1
MDNY	**Mudanya-Bursa**	**1.23**	**26**	*e*Pn	Pn	01 53 21.6	-0.1
KRBG	**Karabiga-Canak**	**1.32**	**329**	*e*PN	Pn	01 53 23.0	0.0
KRBG	**Karabiga-Canak**	**1.32**	**329**	*e*Pn	Pn	01 53 23.0	0.0
AYDB	**Zeytinkoy-Aydi**	**1.33**	**190**	*e*PN	Pn	01 53 23.6	+0.4
KHAL	**Karahalli**	**1.35**	**131**	*i* P	Pn	01 53 23.2	-0.3
KHAL				*i* S	Sb	01 53 41.0	-0.3
KHAL	**Karahalli**	**1.35**	**131**	*i* P	Pn	01 53 23.2	-0.3
KHAL				*i* S	Sb	01 53 41.0	-0.3
KHL	**Karahalli**	**1.40**	**131**	*e*PN	Pn	01 53 24.2	+0.1
KHL	**Karahalli**	**1.40**	**131**	*e*Pn	Pn	01 53 24.2	+0.1
ARMT	**Armutlu**	**1.41**	**22**	*e*PN	Pn	01 53 23.6	-0.6
ARMT	**Armutlu**	**1.41**	**22**	*e*Pn	Pn	01 53 23.6	-0.6
GEMT	**Gemlik**	**1.41**	**33**	*e*PN	Pn	01 53 24.7	+0.5
GEMT	**Gemlik**	**1.41**	**33**	*e*Pn	Pn	01 53 24.7	+0.5
MRMT	**Marmara Adasi**	**1.42**	**342**	*e*PN	Pn	01 53 24.4	0.0
PRK	**Paraskevi**	**1.48**	**270**	P	Pn	01 53 25.3	+0.1
PRK				S	Sn	01 53 41.9	-2.4
PRK	**Paraskevi**	**1.48**	**270**	*e*P	Pn	01 53 25.0	-0.2
PRK	**Paraskevi**	**1.48**	**270**	P	Pn	01 53 25.3	+0.1
PRK				S	Sn	01 53 41.9	-2.4
LPK	**Lapseki**	**1.56**	**316**	*e*PN	Pn	01 53 27.1	+0.8
LPK	**Lapseki**	**1.56**	**316**	*e*Pn	Pn	01 53 27.1	+0.8
CAVI	**Cavuskoy**	**1.59**	**53**	*e*PN	Pn	01 53 27.5	+0.9
CAVI	**Cavuskoy**	**1.59**	**53**	*e*Pn	Pn	01 53 27.5	+0.9
AYDN	**Tasoluk**	**1.61**	**189**	*i* P	Pn	01 53 26.4	-0.6
AYDN				*i* S	Sg	01 53 51.6	+0.5
AYDN	**Tasoluk**	**1.61**	**189**	*i* P	Pn	01 53 26.4	-0.6
ADVT	**Abdulvahap**	**1.68**	**45**	*e*PN	Pn	01 53 27.5	-0.3
ADVT	**Abdulvahap**	**1.68**	**45**	*e*Pn	Pn	01 53 27.5	-0.3
GELI	**Tayfur-Gelibol**	**1.74**	**311**	*e*PN	Pn	01 53 29.7	+1.0
GELI	**Tayfur-Gelibol**	**1.74**	**311**	*e*Pn	Pn	01 53 29.7	+1.0
SIGRI	**SIGRI**	**1.81**	**269**	P	Pn	01 53 29.5	-0.1
SIGR	**SIGRI**	**1.81**	**269**	*e*P	Pn	01 53 29.6	-0.1
SIGR	**SIGRI**	**1.81**	**269**	*e*Pn	Pn	01 53 29.6	-0.1
BORA	**Eskisehir**	**1.86**	**70**	*i* P	Pn	01 53 30.4	0.0
BORA				*i* S	Sg	01 53 59.5	+0.5
BORA	**Eskisehir**	**1.86**	**70**	*i* P	Pn	01 53 30.4	0.0
SMG	**Samos**	**1.87**	**215**	P	Pb	01 53 33.5	+0.5
SMG	**Samos**	**1.87**	**215**	*e*P	Pb	01 53 33.4	+0.5
SMG	**Samos**	**1.87**	**215**	P	Pb	01 53 33.5	+0.5
CHOS	**Chios island**	**1.88**	**243**	P	Pn	01 53 30.4	-0.3
CHOS				S	Sn	01 53 53.5	-0.6
CHOS	**Chios island**	**1.88**	**243**	*e*P	Pn	01 53 30.3	-0.4
CHOS	**Chios island**	**1.88**	**243**	P	Pn	01 53 30.4	-0.3
CHOS				S	Sn	01 53 53.5	-0.6
CRLT	**Corlu**	**1.90**	**350**	*e*PN	Pn	01 53 32.1	+1.2
CRLT	**Corlu**	**1.90**	**350**	*e*Pn	Pn	01 53 32.1	+1.2
ERIK	**Erikli-Kesan**	**1.91**	**318**	*e*PN	Pn	01 53 32.0	+1.0
ISK	**Istanbul-Kandi**	**1.93**	**20**	*e*PN	Pn	01 53 32.2	+1.0
ISK	**Istanbul-Kandi**	**1.93**	**20**	*e*Pn	Pn	01 53 32.2	+1.0
HRT	**Hereke**	**1.93**	**36**	*e*PN	Pn	01 53 32.5	+1.1
HRT	**Hereke**	**1.93**	**36**	*e*Pn	Pn	01 53 32.5	+1.1
GPA	**Golpazari**	**1.94**	**57**	*e*PN	Pn	01 53 32.7	+1.3
GPA	**Golpazari**	**1.94**	**57**	*e*Pn	Pn	01 53 32.7	+1.3
SLVT	**Silivri**	**1.97**	**1**	*e*PN	Pn	01 53 33.2	+1.3
SLVT	**Silivri**	**1.97**	**1**	*e*Pn	Pn	01 53 33.2	+1.3
BGKT	**Bogazkoy**	**1.97**	**13**	*e*PN	Pn	01 53 33.2	+1.3
BGKT	**Bogazkoy**	**1.97**	**13**	*e*Pn	Pn	01 53 33.2	+1.3
SHUT	**Suhut-Afyon**	**1.98**	**110**	*e*PN	Pn	01 53 32.8	+0.7
SHUT	**Suhut-Afyon**	**1.98**	**110**	*e*Pn	Pn	01 53 32.8	+0.7
CTKS	**Kestanelik-??a**	**1.99**	**7**	*e*PN	Pn	01 53 33.5	+1.4
CTKS	**Kestanelik-??a**	**1.99**	**7**	*e*Pn	Pn	01 53 33.5	+1.4
ESKT	**Eskisehir**	**2.08**	**82**	*e*PN	Pn	01 53 35.1	+1.5
ESKT	**Eskisehir**	**2.08**	**82**	*e*Pn	Pn	01 53 35.1	+1.5
KLYT	**Kilyos**	**2.10**	**18**	*e*PN	Pn	01 53 34.9	+1.3
KLYT	**Kilyos**	**2.10**	**18**	*e*Pn	Pn	01 53 34.9	+1.3
YER	**Yerkesik**	**2.12**	**178**	*e*PN	Pn	01 53 35.2	+1.2
YER	**Yerkesik**	**2.12**	**178**	*e*Pn	Pn	01 53 35.2	+1.2
GULT	**Gulveren**	**2.14**	**56**	*e*PN	Pn	01 53 35.5	+1.1
GULT	**Gulveren**	**2.14**	**56**	*e*Pn	Pn	01 53 35.5	+1.1
ENEZ	**Enez**	**2.15**	**314**	*e*PN	Pn	01 53 36.1	+1.8
SILT	**Sile**	**2.20**	**30**	*e*PN	Pn	01 53 36.2	+1.2
SILT	**Sile**	**2.20**	**30**	*e*Pn	Pn	01 53 36.2	+1.2
CTYL	**Yal??k??y-??at**	**2.22**	**2**	*e*PN	Pn	01 53 36.7	+1.4
CTYL	**Yal??k??y-??at**	**2.22**	**2**	*e*Pn	Pn	01 53 36.7	+1.4
BODT	**Bodrum**	**2.30**	**198**	*e*PN	Pn	01 53 37.7	+1.3
BODT	**Bodrum**	**2.30**	**198**	*e*Pn	Pn	01 53 37.7	+1.3
ALN	**Alexandroupoli**	**2.32**	**316**	P	Pn	01 53 37.0	+0.4
ALN	**Alexandroupoli**	**2.32**	**316**	*e*P	Pn	01 53 37.5	+0.9
ALN	**Alexandroupoli**	**2.32**	**316**	*e*P	Pn	01 53 37.5	+0.9
SMTH	**Samothraki Isl**	**2.37**	**302**	P	Pn	01 53 37.9	+0.5
SMTH	**Samothraki Isl**	**2.37**	**302**	*e*P	Pn	01 53 38.4	+1.0
SMTH	**Samothraki Isl**	**2.37**	**302**	P	Pn	01 53 37.9	+0.5
LIA	**Limnos Island**	**2.41**	**286**	P	Pn	01 53 38.3	+0.5
LIA	**Limnos Island**	**2.41**	**286**	*e*P	Pn	01 53 37.9	+0.1
LIA	**Limnos Island**	**2.41**	**286**	P	Pn	01 53 38.3	+0.5
SVRH	**Sivrihisar-ESK**	**2.60**	**85**	*e*PN	Pn	01 53 41.6	+1.0
SVRH	**Sivrihisar-ESK**	**2.60**	**85**	*e*Pn	Pn	01 53 41.6	+1.0
MDUB	**Mudurnu**	**2.62**	**61**	*e*PN	Pn	01 53 41.9	+1.0
MDUB	**Mudurnu**	**2.62**	**61**	*e*Pn	Pn	01 53 41.9	+1.0
EDRB	**Edirne**	**2.81**	**337**	*e*PN	Pn	01 53 44.8	+1.4
**

GELI	**Tayfur-Gelibol**	**1.43**	**311**	*e*Pn	**Pn**	**02 11 14.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**180**	*e*PN	**Pb**	**02 11 16.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**180**	*e*Pn	**Pb**	**02 11 16.6**	**-0.2**
SIGR	**SIGRI**	**1.60**	**261**	*e*PG	**Pb**	**02 11 18.0**	**0.0**
SIGR				*e*SB	**Sg**	**02 11 39.9**	**-0.2**
SIGR	**SIGRI**	**1.60**	**261**	*e*Pg	**Pb**	**02 11 18.0**	**0.0**
SIGR				*e*Sb	**Sg**	**02 11 39.9**	**-0.2**
ERIK	**Erikli-Kesan**	**1.60**	**319**	*e*PN	**Pn**	**02 11 16.3**	**-0.4**
ERIK	**Erikli-Kesan**	**1.60**	**319**	*e*Pn	**Pn**	**02 11 16.3**	**-0.4**
CRLT	**Corlu**	**1.66**	**356**	*e*PN	**Pn**	**02 11 17.8**	**+0.2**
CRLT	**Corlu**	**1.66**	**356**	*e*Pn	**Pn**	**02 11 17.8**	**+0.2**
SLVT	**Silivri**	**1.78**	**8**	*e*PN	**Pn**	**02 11 19.7**	**+0.6**
SLVT	**Silivri**	**1.78**	**8**	*e*Pn	**Pn**	**02 11 19.7**	**+0.6**
CHOS	**Chios island**	**1.79**	**234**	*e*PN	**Pb**	**02 11 21.6**	**+0.2**
CHOS				*e*SN	**Sb**	**02 11 45.0**	**+1.2**
CHOS	**Chios island**	**1.79**	**234**	*e*Pn	**Pb**	**02 11 21.6**	**+0.2**
CHOS				*e*Sn	**Sb**	**02 11 45.0**	**+1.2**
CTKS	**Kestanelik-??a**	**1.83**	**15**	*e*PN	**Pb**	**02 11 21.2**	**-0.8**
CTKS	**Kestanelik-??a**	**1.83**	**15**	*e*Pn	**Pb**	**02 11 21.2**	**-0.8**
ALN	**Alexandroupoli**	**2.01**	**316**	*e*PG	**Pg**	**02 11 27.1**	**-0.1**
ALN	**Alexandroupoli**	**2.01**	**316**	*e*Pg	**Pg**	**02 11 27.1**	**-0.1**
SMTH	**Samothraki Isl**	**2.07**	**300**	*e*PN	**Pb**	**02 11 26.1**	**0.0**
SMTH	**Samothraki Isl**	**2.07**	**300**	*e*Pn	**Pb**	**02 11 26.1**	**0.0**
GULT	**Gulveren**	**2.23**	**64**	*e*PN	**Pn**	**02 11 27.1**	**+1.6**
GULT	**Gulveren**	**2.23**	**64**	*e*Pn	**Pn**	**02 11 27.1**	**+1.6**
ESKT	**Eskisehir**	**2.29**	**88**	*e*PN	**Pn**	**02 11 28.1**	**+1.8**
ESKT	**Eskisehir**	**2.29**	**88**	*e*Pn	**Pn**	**02 11 28.1**	**+1.8**
EDRB	**Edirne**	**2.53**	**340**	*e*PN	**Pn**	**02 11 30.1**	**+0.6**
EDRB	**Edirne**	**2.53**	**340**	*e*Pn	**Pn**	**02 11 30.1**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.81**	**89**	*e*PN	**Pn**	**02 11 35.5**	**+2.1**
SVRH	**Sivrihisar-ESK**	**2.81**	**89**	*e*Pn	**Pn**	**02 11 35.5**	**+2.1**

BEO ***09*** *02:16:55.9±1.0, 40.81N×20.79E, h0km±5km, ML2.1/6*
CSEM ***09*** *02:16:56.9±0.2, 40.87N×20.74E, h5km, ML2.5, Error ellipse: s-maj=4.0km s-min=2.7km az=47.0*
THE ***09*** *02:16:57.0, 40.88N×20.74E, h0km±1km, ML2.5/4, Error ellipse: s-maj=1.8km s-min=0.6km az=296.0*
SKO ***09*** *02:16:57.7, 40.92N×20.83E, h17km, M1.9, ML2.3*

ISC 09 02:16:57.0±1.0, 40.88N±0.02×20.75E±0.02, h7km±9km, n45, σ0s82/80, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.26**	**174**	P	**Pg**	**02 17 01.6**	**-0.5**
KBN				S	**Sg**	**02 17 05.7**	**+0.2**
KBN	**Korca**	**0.26**	**174**	P	**Pg**	**02 17 01.6**	**-0.5**
KBN				S	**Sg**	**02 17 05.7**	**+0.2**
BIA	**Bitola**	**0.46**	**72**	P	**Pg**	**02 17 05.7**	**-0.1**
BIA				S	**Sb**	**02 17 13.3**	**-1.2**
BIA	**Bitola**	**0.46**	**72**	*i* Pg	**Pg**	**02 17 05.8**	**-0.1**
BIA				*i* Sg	**Sb**	**02 17 13.4**	**-1.1**
BIA	**Bitola**	**0.46**	**72**	P	**Pg**	**02 17 05.7**	**-0.1**
BIA				S	**Sb**	**02 17 13.3**	**-1.2**
FNA	**Florina**	**0.48**	**101**	P	**Pg**	**02 17 06.7**	**+0.3**
FNA				S	**Sb**	**02 17 14.3**	**-0.9**
FNA	**Florina**	**0.48**	**101**	P	**Pg**	**02 17 06.7**	**+0.3**
FNA				S	**Sb**	**02 17 14.3**	**-0.9**
NEST	**Nestorio**	**0.52**	**154**	P	**Pg**	**02 17 06.7**	**-0.3**
NEST				S	**Sg**	**02 17 14.2**	**+0.5**
NEST	**Nestorio**	**0.52**	**154**	P	**Pg**	**02 17 06.7**	**-0.3**
NEST				S	**Sg**	**02 17 14.2**	**+0.5**
PHP	**Peshkopia**	**0.84**	**344**	P	**Pg**	**02 17 12.4**	**-0.8**
PHP				S	**Sg**	**02 17 25.2**	**+1.1**
PHP	**Peshkopia**	**0.84**	**344**	P	**Pg**	**02 17 12.4**	**-0.8**
PHP				S	**Sg**	**02 17 25.2**	**+1.1**
KZN	**Kozani**	**0.96**	**126**	P	**Pg**	**02 17 14.8**	**-0.7**
KZN				S	**Sb**	**02 17 29.8**	**+0.7**
KZN	**Kozani**	**0.96**	**126**	P	**Pg**	**02 17 14.8**	**-0.7**
KZN				S	**Sb**	**02 17 29.8**	**+0.7**
SKO	**Skopje**	**1.21**	**25**	*e*Pn	**Pg**	**02 17 20.1**	**-0.1**
SKO				*e*Sn	**Sn**	**02 17 38.1**	**+1.0**
SKO	**Skopje**	**1.21**	**25**	*i* Pg	**Pb**	**02 17 20.2**	**-0.1**
SKO				*i* Sg	**Sn**	**02 17 37.5**	**+0.4**
SKO				*i* Lg	Lg	02 17 39.2	
	comp=N,77nm,0.5s						
SKO				*i* Lg	Lg	02 17 39.3	
	comp=E,51nm,0.7s						
SKO	**Skopje**	**1.21**	**25**	*e*Pn	**Pg**	**02 17 20.1**	**-0.1**
SKO	**Skopje**	**1.21**	**25**	*i* Pg	**Pn**	**02 17 20.7**	**+0.3**
SKO				*e*Sn	**Sn**	**02 17 38.1**	**+1.0**
SKO				*i* Lg	Lg	02 17 39.7	
	comp=E,51nm,0.7s						
IGT	**Igoumenitsa**	**1.38**	**194**	P	**Pn**	**02 17 23.2**	**+0.4**
IGT				S	**Sn**	**02 17 43.0**	**+1.7**
IGT	**Igoumenitsa**	**1.38**	**194**	P	**Pn**	**02 17 23.2**	**+0.4**
VAY	**Valandovo**	**1.44**	**72**	P	**Pn**	**02 17 23.4**	**-0.2**
VAY				S	**Sg**	**02 17 44.3**	**+0.9**
VAY	**Valandovo**	**1.44**	**72**	*e*Pn	**Pn**	**02 17 23.3**	**-0.3**
VAY				*e*Sn	**Sg**	**02 17 42.9**	**-0.5**
VAY	**Valandovo**	**1.44**	**72**	*i* Pg	**Pn**	**02 17 23.5**	**-0.2**
VAY				*i* Sg	**Sg**	**02 17 44.3**	**+0.9**
VAY				*i* Lg	Lg	02 17 47.9	
	comp=N,68nm,1.0s						
VAY				*i* Lg	Lg	02 17 48.1	
	comp=E,28nm,0.6s						
VAY	**Valandovo**	**1.44**	**72**	P	**Pn**	**02 17 23.4**	**-0.2**
VAY	**Valandovo**	**1.44**	**72**	*i* Pg	**Pb**	**02 17 23.9**	**-0.3**
VAY				*e*Sn	**Sg**	**02 17 42.9**	**-0.5**
VAY				S	**Sg**	**02 17 44.3**	**+0.9**
VAY				*i* Lg	Lg	02 17 48.6	
	comp=E,28nm,0.6s						
THL	**Klokotos Trika**	**1.63**	**143**	P	**Pn**	**02 17 26.1**	**0.0**
THL	**Klokotos Trika**	**1.63**	**143**	P	**Pn**	**02 17 26.1**	**0.0**
PDG	**Podgorica**	**1.91**	**325**	*e*Pn	**Pn**	**02 17 30.6**	**+0.5**
PDG				*e*Sn	**Sb**	**02 17 56.7**	**+0.3**
PDG	**Podgorica**	**1.91**	**325**	*e*Pn	**Pn**	**02 17 30.6**	**+0.5**
PDG				*e*Sn	**Sb**	**02 17 56.7**	**+0.3**
SELS	**Selova**	**2.36**	**7**	*e*Pn	**Pn**	**02 17 37.4**	**+1.2**
SJES	**Sjenica**	**2.45**	**347**	*e*Pn	**Pn**	**02 17 37.7**	**+0.1**
SJES				*e*Sg	**Sg**	**02 18 16.0**	**+0.2**
VTS	**Vitosha**	**2.51**	**46**	*e*Pn	**Pn**	**02 17 38.1**	**-0.3**
VTS				*e*Sn	**Sn**	**02 18 10.3**	**+0.9**
VTS	**Vitosha**	**2.51**	**46**	*e*Pn	**Pn**	**02 17 38.1**	**-0.3**
VTS				*e*Sn	**Sn**	**02 18 10.3**	**+0.9**
TREB	**Trebinje**	**2.57**	**316**	*e*Pn	**Pn**	**02 17 39.4**	**+0.3**
TREB				*e*Sn	**Sn**	**02 18 11.9**	**+1.3**
TREB	**Trebinje**	**2.57**	**316**	*e*Pn	**Pn**	**02 17 39.4**	**+0.3**
TREB				*e*Sn	**Sn**	**02 18 11.9**	**+1.3**
ZAPS	**Zavoj**	**2.77**	**30**	*e*Pn	**Pn**	**02 17 41.7**	**-0.2**
GRUS	**Gruza**	**3.01**	**359**	*e*Pn	**Pn**	**02 17 45.8**	**+0.7**
GRUS	**Gruza**	**3.01**	**359**	*e*Pn	**Pn**	**02 17 45.8**	**+0.7**
STON	**Ston**	**3.03**	**312**	*e*Pn	**Pn**	**02 17 45.7**	**+0.3**
STON				Sn	**Sn**	**02 18 21.5**	**-0.3**
STON	**Ston**	**3.03**	**312**	*e*Pn	**Pn**	**02 17 45.6**	**+0.3**
STON				Sn	**Sn**	**02 18 21.5**	**-0.3**
DIVS	**Divibare**	**3.27**	**350**	*e*Pn	**Pn**	**02 17 49.2**	**+0.4**
DIVS	**Divibare**	**3.27**	**350**	*e*Pn	**Pn**	**02 17 49.2**	**+0.4**
UDBI	**Udbina**	**5.18**	**316**	*e*Pn	**Pn**	**02 18 16.6**	**+1.6**
UDBI				Sn	**Sn**	**02 19 14.5**	**-0.5**
UDBI	**Udbina**	**5.18**	**316**	*e*Pn	**Pn**	**02 18 16.6**	**+1.6**
UDBI				Sn	**Sn**	**02 19 14.5**	**-0.5**
NVLJ	**Novalja**	**5.69**	**312**	*e*Pn	**Pn**	**02 18 20.6**	**-1.3**
NVLJ				Sn	**Sn**	**02 19 25.1**	**-2.3**
NVLJ	**Novalja**	**5.69**	**312**	*e*Pn	**Pn**	**02 18 20.5**	**-1.3**
NVLJ				Sn	**Sn**	**02 19 25.1**	**-2.3**

MOS ***09*** *02:25:41.6±1.0, 51.78N×176.96W, h49km, mb5.2/93, MS4.3/21, Error ellipse: s-maj=6.6km s-min=5.2km az=91.5*
ISCJB ***09*** *02:25:42.8±0.2, 51.70N±0.03×176.91W±0.02, h63km±1km, mb5.1/280, Error ellipse: s-maj=5.0km s-min=1.7km az=177.0*
BJI ***09*** *02:25:42.0, 51.75N×177.09W, h56km, mB5.1/36, mb5.4/55, Ms4.8/43, Ms7 4.5/42*
NEIC ***09*** *02:25:42.6, 51.38N×176.75W, h30km, mb5.1/192, ML5.2(AEIC), After AEIC.*
NEIC Felt on Adak.
IDC ***09*** *02:25:43.5±0.6, 51.78N×176.97W, h54km±4km, mb4.5/38, mb1 4.6/39, mb1mx4.6/43, mbtmp4.5/39, MS4.3/26, Ms1 4.3/26, ms1mx4.2/35, Error ellipse: s-maj=11.5km s-min=7.6km az=165.0*
GCMT ***09*** *02:25:44.5±0.2, 51.47N×176.74W, h48km, MW5.1, Moment Tensor Solution. s66,c97; s99,c157; Moment tensor: Scale 10^16Nm; Mrr4.97±.16; Mθθ-4.82±.12; Mϕϕ-0.15±.12; Mrθ1.28±.11; Mθϕ-1.91±.08; Mϕr2.17±.09;*

Best double couple: M0 5.80000×10^16 NP1:ϕ=5.40000°, δ57.00000°, λ71.00000°. NP2:ϕ=267.00000°, δ37.00000°, λ117.00000°. Principal axes: T 5.8000, Plg71.0000°, Azm280.0000°; N 0.0700, Plg16.0000°, Azm65.0000°; P -5.8600, Plg11.0000°, Azm158.0000°; Data Used: II IU IC G CN CU. Surface waves from 103 sta.
SZGRF ***09*** *02:26:03.0, 51.21N×176.94W, h33km, mb4.6, Andreanof Islands, Aleutian Islands, United States*
DJA ***09*** *02:26:08.6±5.4, 52.2N±12.2×177.7W±2.7, h276km±51km, M5.3/20, mB5.8/6, mb5.2/20, Mw(mB)5.3/6, Mwp6.8/1*

ISC 09 02:25:43.5±0.3, 51.67N±0.05×176.90W±0.02, h56km±1km, h56km:pP-P, n1133, σ1906/1332, mb5.1/280, MS4.4/47, 234C-217D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIRH	**Kanaga Island**	**0.27**	**332**	P	**Pn**	**02 25 53.1**	**+0.2**
KIKV	**Kanaga Island**	**0.27**	**321**	P	**Pn**	**02 25 52.9**	**-0.1**
KINC	**Kanaga Island**	**0.30**	**332**	P	**Pn**	**02 25 53.5**	**+0.3**
KICM	**Kanaga Island**	**0.32**	**324**	P	**Pn**	**02 25 53.6**	**+0.3**
ETKA	**Kagalaska Isla**	**0.36**	**57**	P	**Pn**	**02 25 52.5**	**-1.2**
ETKA				S	**Sn**	**02 25 58.7**	**-2.4**
ADAG	**Mount Adagdak**	**0.36**	**30**	P	**Pn**	**02 25 54.1**	**+0.4**
GSCK	**Great Sitkin C**	**0.57**	**52**	P	**Pn**	**02 25 55.5**	**-0.5**
GSTD	**Great Sitkin T**	**0.61**	**50**	P	**Pn**	**02 25 56.1**	**-0.4**
GSTD				S	**Sn**	**02 26 05.2**	**-0.7**
TAFL	**Tanaga Flats**	**0.63**	**279**	P	**Pn**	**02 25 56.3**	**-0.3**
GSMY	**Great Sitkin M**	**0.64**	**54**	P	**Pn**	**02 25 56.3**	**-0.6**
GSTR	**Great Sitkin T**	**0.67**	**50**	*e*Pn	**Pn**	**02 25 57.0**	**-0.2**
TAFP	**Tanaga Falls P**	**0.72**	**290**	P	**Pn**	**02 25 58.0**	**+0.3**
TASE	**Tanaga Southea**	**0.73**	**284**	P	**Pn**	**02 25 58.3**	**+0.4**
TANO	**Tanaga North**	**0.80**	**289**	P	**Pn**	**02 25 59.6**	**+0.8**
GAEA	**Gareloi East**	**1.16**	**277**	P	**Pn**	**02 26 03.9**	**+0.4**
GALAA	**Gareloi Lava P**	**1.17**	**275**	P	**Pn**	**02 26 04.0**	**+0.4**
GANE	**Gareloi Northe**	**1.18**	**278**	P	**Pn**	**02 26 04.2**	**+0.4**
CERAA	**Semis' Rag'd T**	**2.14**	**278**	P	**Pn**	**02 26 17.2**	**+0.5**
CESW	**Semis' Southwe**	**2.21**	**278**	P	**Pn**	**02 26 17.8**	**+0.1**
CEAP	**Semis' Anvil P**	**2.21**	**280**	P	**Pn**	**02 26 18.5**	**+0.7**
CETU	**Semis' Tuman**	**2.26**	**279**	P	**Pn**	**02 26 19.0**	**+0.5**
AMKA	**Amchitka**	**2.39**	**265**	P	**Pn**	**02 26 19.9**	**-0.2**
AMKA				S	**Sn**	**02 26 48.7**	**+0.4**
LSPA	**Little Sitkin**	**2.83**	**278**	P	**Pn**	**02 26 27.1**	**+0.9**
LSNW	**Little Sitkin**	**2.86**	**278**	P	**Pn**	**02 26 27.4**	**+0.7**
LSSA	**Little Sitkin**	**2.87**	**278**	P	**Pn**	**02 26 27.5**	**+0.8**
NIKH	**Nikolski High**	**5.10**	**72**	P	**Pn**	**02 26 56.9**	**-0.4**
NIKH				S	**Sn**	**02 27 52.7**	**-2.1**
OKRE	**Okmok R'deer P**	**5.64**	**67**	P	**Pn**	**02 27 04.1**	**-0.5**
SMY	**Shemya**	**5.64**	**284**	P	**Pn**	**02 27 04.1**	**-0.5**
SMY				S	**Sn**	**02 28 09.8**	**+1.8**
SMY	**Shemya**	**5.64**	**284**	P	**Pn**	**02 27 04.1**	**-0.5**
SMY				S	**Sn**	**02 28 09.8**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**5.67**	**69**	P	**Pn**	**02 27 06.4**	**+1.3**
OKFG	**Magazine Ridge**	**5.75**	**69**	P	**Pn**	**02 27 06.4**	**+0.2**
OKFG				S	**Sn**	**02 28 10.3**	**-0.5**
FX1	**Attu Island--F**	**6.22**	**285**	P	**Pn**	**02 27 11.7**	**-1.0**
FX1				S	**Sn**	**02 28 22.3**	**0.0**
FX1	**Attu Island--F**	**6.22**	**285**	P	**Pn**	**02 27 12.3**	**-0.3**
	56nm,0.3s,baz=192,slow=1.5,SNR=67						
FX1				S	**Sn**	**02 28 25.1**	**+2.8**
	197nm,0.3s,baz=30,slow=18,SNR=11						
MSW	**Makushin Switc**	**6.54**	**66**	P	**Pn**	**02 27 16.8**	**-0.1**
SPIA	**Saint Paul Isl**	**6.75**	**32**	P	**Pn**	**02 27 21.7**	**+2.0**
SPIA				S	**Sn**	**02 28 36.8**	**+1.7**
LVA	**Lava Point**	**7.03**	**65**	P	**Pn**	**02 27 22.8**	**-0.8**
ZRO	**Akutan Zero**	**7.04**	**66**	P	**Pn**	**02 27 23.7**	**-0.1**
AKGG	**Akutan Green G**	**7.06**	**65**	P	**Pn**	**02 27 24.6**	**+0.5**
AKUT	**Akutan**	**7.17**	**65**	*e*Pn	**Pn**	**02 27 28.5**	**+3.0**
FALS	**False Pass**	**8.69**	**63**	*e*Pn	**Pn**	**02 27 49.0**	**+2.7**
SDPT	**Sand Point**	**10.45**	**63**	*e*Pn	**Pn**	**02 28 11.4**	**+1.0**
GAMB	**Gambell**	**12.45**	**11**	*e*Pn	Pn	02 28 42.0	+4.4
OHAK	**Old Harbor**	**14.78**	**59**	*e*Pn	**Pn**	**02 29 06.1**	**-2.8**
	68nm,0.5s						
PET	**Petropavlovsk**	**14.99**	**285**	*e*P	**P**	**02 29 17.4**	**+1.4**
PET				pmax	pmax		
	comp=Z,89nm,1.0s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET	**Petropavlovsk**	**14.99**	**285**	*e*Pn	**P**	**02 29 15.4**	**-0.5**
KDAK	**Kodiak Island**	**15.27**	**57**	*e*Pn	**Pn**	**02 29 12.6**	**-2.7**
	comp=Z,138nm,1.1s						
KDAK	**Kodiak Island**	**15.27**	**57**	Pn	**Pn**	**02 29 12.3**	**-2.9**
	comp=Z,838nm,0.5s,SNR=28						
PETK	**Petropavlovsk-**	**15.56**	**285**	P	**P**	**02 29 21.0**	**-1.3**
PETK				S	**Sn**	**02 32 12.8**	**+2.6**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,986nm,20.9s						
PETK	**Petropavlovsk-**	**15.56**	**285**	P	**P**	**02 29 21.0**	**-1.3**
PETK				S	**Sn**	**02 32 12.8**	**+2.6**
PETK	**Petropavlovsk-**	**15.56**	**285**	P	**P**	**02 29 21.0**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=99,slow=14,SNR=29						
PETK				S	**Sn**	**02 32 12.8**	**+2.6**
	comp=Z,1.7nm,0.3s,baz=84,slow=31,SNR=6.4						
PETK				LR	LR	02 35 01.4	
	comp=Z,986nm,20.9s,baz=90,slow=36						
RSO	**Redoubt South**	**16.02**	**47**	*e*Pn	**Pn**	**02 29 26.1**	**+1.2**
SPU	**Mount Spurr**	**16.61**	**45**	*e*P	**P**	**02 29 35.6**	**+1.5**
PPLA	**Purkeypile**	**17.33**	**40**	*e*Pn	**P**	**02 29 44.2**	**+2.2**
	comp=Z,141nm,0.8s						
SEW	**Seward**	**17.45**	**50**	*e*Pn	**Pn**	**02 29 41.0**	**-1.6**
	comp=Z,58nm,1.0s						
SEW				*e*Sn	**Sn**	**02 32 53.5**	**-2.2**
RC01	**Rabbit Creek A**	**17.62**	**47**	*e*Pn	**P**	**02 29 45.5**	**+0.4**
	comp=Z,41nm,1.1s						
CAST	**Castle Rocks**	**17.63**	**39**	*e*Pn	**P**	**02 29 47.5**	**+2.4**
	comp=Z,48nm,1.0s						
PMR	**Palmer**	**18.07**	**46**	*e*P	**Pn**	**02 29 51.3**	**+1.1**
PMR				pmax	pmax		
	comp=Z,54nm,1.3s						
PMR	**Palmer**	**18.07**	**46**	*e*Pn	**Pn**	**02 29 51.3**	**+1.1**
	comp=Z,54nm,1.3s						
TRF	**Thorofare Moun**	**18.35**	**40**	*e*Pn	**Pn**	**02 29 54.5**	**+0.8**
	comp=Z,263nm,1.2s						
BPAW	**Bear Paw Mtn.**	**18.39**	**37**	*e*Pn	**Pn**	**02 29 55.5**	**+1.3**
	comp=Z,62nm,1.0s						
BPAW				*e*PcP	**PcP**	**02 34 22.0**	**0.0**
IM04	**Indian Mountai**	**18.50**	**30**	*e*P	**Pn**	**02 29 55.6**	**+0.2**
IM04				*e*PcP	**PcP**	**02 34 22.4**	**+0.3**
IM04				*e*ScP	**ScP**	**02 37 52.9**	**+0.3**
DIV	**Divide**	**19.47**	**49**	*e*P	**P**	**02 30 05.2**	**-0.2**
	comp=Z,28nm,0.8s						
RAGM	**Ragged Mountai**	**19.82**	**51**	*e*Pn	**Pn**	**02 30 11.4**	**+0.2**
	comp=Z,30nm,0.8s						
COLA	**College**	**19.96**	**37**	*i* P	**P**	**02 30 10.4**	**-0.1**
COLA				pmax	pmax		
	comp=Z,18nm,1.0s						
COLA				MLR	MLR		
	comp=Z,3μm,18.0s						
COLA	**College**	**19.96**	**37**	*e*P	**P**	**02 30 10.3**	**-0.2**
	comp=Z,17nm,0.9s						
PAX	**Paxson**	**20.16**	**44**	*e*P	**P**	**02 30 14.0**	**+1.1**
PAX				pmax	pmax		
	comp=Z,90nm,1.0s						
PAX	**Paxson**	**20.16**	**44**	*e*P	**P**	**02 30 14.0**	**+1.1**
	comp=Z,90nm,1.0s						
PAX				*e*ScP	**ScP**	**02 37 58.8**	**+2.3**
ILAR	**Eielson Array**	**20.28**	**38**	P	**P**	**02 30 12.5**	**-1.6**
ILAR				S	**S**	**02 33 58.5**	**+0.4**
ILAR				PcP	**PcP**	**02 34 24.8**	**-0.5**
ILAR				ScP	**ScP**	**02 37 57.1**	**+0.5**
ILAR	**Eielson Array**	**20.28**	**38**	P	**P**	**02 30 12.5**	**-1.6**
	comp=Z,12nm,0.9s,baz=244,slow=11,SNR=55						
ILAR				S	**S**	**02 33 58.5**	**+0.4**
	comp=Z,3.2nm,1.1s,baz=227,slow=16,SNR=4.0						
ILAR				PcP	**PcP**	**02 34 24.8**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=282,slow=3.7,SNR=12						
ILAR				ScP	**ScP**	**02 37 57.1**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=283,slow=3.4,SNR=10						
ILAR				LR	LR	02 39 21.1	
	comp=Z,743nm,20.0s,baz=359,slow=40						
COLD	**Coldfoot**	**20.40**	**30**	*e*P	Pn	02 30 17.0	-0.9
	comp=Z,89nm,1.0s						
COLD				*e*PcP	**PcP**	**02 34 25.9**	**+0.4**
COLD				*e*ScP	**ScP**	**02 37 59.3**	**+2.5**
MENT	**Mentasta**	**20.91**	**45**	*e*P	**P**	**02 30 22.1**	**+1.2**
DOT	**Dot Lake**	**20.98**	**43**	*e*P	**P**	**02 30 21.3**	**-0.4**
	comp=Z,81nm,0.8s						
DOT				*e*PcP	**PcP**	**02 34 27.2**	**+0.5**
DOT				*e*ScP	**ScP**	**02 38 00.6**	**+2.2**
DAWY	**Dawson**	**23.08**	**43**	*e*P	**P**	**02 30 43.7**	**-0.3**
DAWY				*e*ScP	**ScP**	**02 38 05.8**	**+2.0**
HYT	**Haines Junctio**	**23.39**	**52**	*e*P	**P**	**02 30 46.9**	**-0.1**
YSS	**Yuzh-Sakhalins**	**26.48**	**276**	⇓*i*P	**P**	**02 31 16.2**	**+1.1**
YSS				*e*		02 31 31.5	
YSS				pmax	pmax		
	comp=Z,110nm,1.1s						
YSS				MLR	MLR		
	comp=E,600nm,20.0s						
YSS				MLR	MLR		
	comp=Z,1μm,20.0s						
YSS	**Yuzh-Sakhalins**	**26.48**	**276**	*e*P	**P**	**02 31 16.1**	**+1.0**
	comp=Z,118nm,1.1s						
INK	**Inuvik**	**26.54**	**35**	*e*P	**P**	**02 31 14.7**	**-0.8**
	comp=Z,18nm,0.9s						
INK				*e*PcP	**PcP**	**02 34 38.4**	**0.0**
INK				*e*ScP	**ScP**	**02 38 13.8**	**+0.6**
INK	**Inuvik**	**26.54**	**35**	P	**P**	**02 31 15.8**	**+0.3**
	comp=Z,4.3nm,0.4s,baz=247,slow=8.3,SNR=50						
INK				PcP	**PcP**	**02 34 38.8**	**+0.4**
	comp=Z,26nm,0.8s,baz=269,slow=2.0,SNR=16						
INK				ScP	**ScP**	**02 38 14.0**	**+0.8**
	comp=Z,4.2nm,1.1s,baz=289,slow=3.6,SNR=5.6						
INK				LR	LR	02 43 19.6	
	comp=Z,562nm,18.2s,baz=227,slow=40						
DLBC	**Dease Lake**	**27.21**	**57**	P	**P**	**02 31 21.7**	**0.0**
DLBC				PcP	**PcP**	**02 34 40.7**	**+0.4**
DLBC	**Dease Lake**	**27.21**	**57**	P	**P**	**02 31 21.7**	**0.0**
	comp=Z,4.1nm,1.1s,baz=283,slow=9.8,SNR=5.4						
DLBC				PcP	**PcP**	**02 34 40.7**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=271,slow=3.1,SNR=5.4						
ASAJ	**Asahikawa**	**27.90**	**270**	*e*P	**P**	**02 31 27.9**	**+0.1**
	comp=Z,46nm,1.1s						
ASAJ	**Asahikawa**	**27.90**	**270**	P	**P**	**02 31 28.6**	**+0.7**
	comp=Z,80nm,1.0s,baz=26,slow=7.2,SNR=13						
ASAJ				LR	LR	02 42 28.2	
	comp=Z,237nm,18.8s,baz=66,slow=36						
ERM	**Erimo**	**28.66**	**266**	⇑*i*P	**P**	**02 31 35.5**	**+0.9**
ERM				pmax	pmax		
	comp=Z,76nm,1.0s						
BBB	**Bella Bella**	**29.64**	**69**	P	**P**	**02 31 45.0**	**+1.8**
BBB	**Bella Bella**	**29.64**	**69**	P	**P**	**02 31 45.0**	**+1.8**
	comp=Z,29nm,0.9s,baz=278,slow=9.4,SNR=8.7						
YAK	**Yakutsk**	**30.12**	**311**	*i* P	**P**	**02 31 48.3**	**+0.9**
YAK				pmax	pmax		
	comp=Z,12nm,0.4s						
HABR	**Khabarovsk**	**30.57**	**283**	*ce*P	**P**	**02 31 50.6**	**-0.9**
HABR				*e*		02 32 09.7	
HABR				*e*S	**S**	**02 36 50.0**	**+0.9**
HABR				*e*		02 37 12.6	
HABR				SS	**SnSn**	**02 38 32.5**	**+2.4**
HABR				*e*		02 42 22.0	
HABR				pmax	pmax		
	comp=N,25nm,1.4s						
HABR				pmax	pmax		
	comp=E,25nm,1.4s						
HABR				pmax	pmax		
	comp=Z,53nm,1.4s						
HABR				MLR	MLR		
	comp=Z,783nm,19.0s						
TIXI	**Tiksi**	**30.98**	**330**	*ce*P	**P**	**02 31 55.7**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,12nm,2.5s						
TIXI				MLR	MLR		
	comp=Z,860nm,17.0s						
KLR	**Kul'dur**	**32.24**	**286**	*e*P	P	02 32 02.2	-4.0
KLR				pmax	pmax		
	comp=Z,90nm,1.2s						
NLWA	**Neilton Lookou**	**34.05**	**76**	*e*P	**P**	**02 32 24.5**	**+2.5**
	comp=Z,31nm,1.1s						
NLWA				*e*PcP	**PcP**	**02 34 58.9**	**+0.4**
YKW3	**Yell

baz=36
WTV **Waterville** 36.26 73 P P 02 32 42.3 +1.3
EBG **Ellensburg** 36.26 75 P P 02 32 43.1 +2.1
B08A **Colville Reser** 36.32 72 eP P 02 32 42.7 +1.2
comp=Z,125nm,1.6s
H04A **Detroit Lake** 36.39 79 eP P 02 32 44.0 +1.8
comp=Z,37nm,0.9s
BROR **Big Rock Looko** 36.45 80 P P 02 32 44.7 +2.2
VFP **Flag Point** 36.51 78 P P 02 32 45.2 +1.9
I04A **Tendick Farm,** 36.72 80 ⇑P P 02 32 46.6 +1.6
baz=36
E07A **Sunnyside** 36.86 75 eP P 02 32 48.0 +1.8
comp=Z,46nm,1.4s
L02D **Cave Junction,** 36.87 83 ⇓P P 02 32 48.1 +1.9
baz=37
BLTW **Bickleton** 36.99 76 P P 02 32 49.1 +1.8
HUMO **Hull Mountain** 37.02 82 eP P 02 32 50.1 +2.5
comp=Z,26nm,1.6s
G06A **Carlson Farm,** 37.05 77 eP P 02 32 49.5 +1.7
I05D **Terrebonne, OR** 37.09 79 ⇓P P 02 32 49.6 +1.4
baz=37
HAWA **Hanford** 37.14 75 eP P 02 32 49.9 +1.4
comp=Z,32nn,0.8s
HAWA ePcP PcP 02 35 08.4 +0.9
OD2 **Odessa Site #2** 37.14 73 P P 02 32 49.7 +1.2
D08A **Wollman Farm,** 37.18 74 eP P 02 32 49.8 +1.0
comp=Z,48nn,1.4s
J04D **Umpqua Nationa** 37.20 81 ⇓P P 02 32 51.1 +1.8
baz=37
C09A **Chrisman Ranch** 37.21 72 eP P 02 32 50.0 +1.0
comp=Z,94nm,1.7s
VIPM **Ingram Point** 37.44 78 P P 02 32 53.1 +1.8
VIPM **Ingram Point** 37.44 78 P P 02 32 53.1 +1.8
EDM **Edmonton** 37.63 62 eP P 02 32 52.8 +0.2
EDM **Edmonton** 37.63 62 eP P 02 32 52.8 +0.2
YBH **Yreka Blue Hor** 37.66 83 eP P 02 32 55.5 +2.4
comp=Z,11nm,0.9s
NEW **Newport** 37.67 71 eP P 02 32 53.8 +0.9
comp=Z,51nm,0.7s
NEW **Newport** 37.67 71 ⇓P P 02 32 53.3 +0.4
baz=38,SNR=42
J05D **Fort Rock, OR** 37.72 80 ⇓P P 02 32 55.3 +1.7
baz=38
K04D **Chiloquin, OR** 37.76 82 ⇓P P 02 32 55.4 +1.5
baz=38
M02C **Callahan** 37.77 84 ⇓P P 02 32 55.8 +1.9
baz=38
E09A **Wood Farm, Sta** 37.91 74 eP P 02 32 55.9 +0.9
comp=Z,32nn,1.1s
E09A eScP ScP 02 38 52.9 +0.5
G08A **Pilot Rock** 38.04 76 eP P 02 32 57.6 +1.3
comp=Z,10nn,0.8s
N02D **Trinity Center** 38.10 84 ⇑P P 02 32 58.5 +1.8
baz=38
M04C **Macdoel** 38.17 83 ⇑P P 02 32 59.3 +1.9
baz=38
K05A **Summer Lake** 38.23 81 eP P 02 33 00.3 +2.4
comp=Z,81nn,1.4s
I07A **Izee** 38.35 78 eP P 02 33 00.1 +1.3
comp=Z,18nn,0.7s
WDC **Whiskeytown Da** 38.43 85 eP P 02 33 01.3 +1.9
WDC e 02 35 11.8
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC **Whiskeytown Da** 38.43 85 eP P 02 33 01.3 +1.9
comp=Z,10nm,1.0s
WDC ePcP PcP 02 35 11.8 +0.2
CN2 **Changchun** 38.66 282 eP P 02 33 00.7 -0.6
CN2 epP pP 02 33 16.5 +0.9
CN2 eS S 02 38 51.0 -2.7
CN2 pmax pmax
comp=Z,20nn,0.7s
CN2 LR LR
comp=Z,500nn,20.0s
CN2 LR LR
comp=Z,700nn,20.0s
CN2 LR LR
comp=Z,600nn,22.0s
F10A **Beach Ranch, E** 38.73 74 eP P 02 33 03.2 +1.2
comp=Z,25nn,0.9s
F10A eScP ScP 02 39 04.7 +9.0
RES **Resolute Bay** 38.99 25 eP P 02 33 03.3 -0.3
comp=Z,7.9nm,1.1s
MOD **Modoc** 39.05 82 eP P 02 33 06.7 +1.9
comp=Z,3.9nm,0.8s
MOD ePcP PcP 02 35 14.6 +0.8
WALA **Waterton Lakes** 39.16 68 eP P 02 33 06.2 +0.7
comp=Z,3.1nm,1.1s
WALA ePcP PcP 02 35 15.5 +1.6
BSMT **Bassoo Peak** 39.24 70 eP P 02 33 07.2 +0.9
BSMT ePcP PcP 02 35 14.8 +0.5
BMO **Blue Mountains** 39.27 76 eP P 02 33 07.4 +0.9
comp=Z,19nm,1.0s
BMO ePcP PcP 02 35 14.1 -0.2
HIA **Hailar** 39.28 292 eP P 02 33 06.5 0.0
comp=Z,9.2nm,0.6s
HIA ePcP PcP 02 35 13.5 -0.7
J08A **Circle Bar Ran** 39.37 78 eP P 02 33 09.0 +1.7
comp=Z,17nm,0.8s
BLMT **Blacktail Moun** 39.41 70 eP P 02 33 08.7 +0.9
BLMT ePcP PcP 02 35 15.1 +0.3
JTMT **Jette** 39.59 70 eP P 02 33 10.4 +1.3
JTMT ePcP PcP 02 35 15.5 +0.2
YBMT **Yellow Bay** 39.69 70 eP P 02 33 11.1 +1.1
WVOR **Wild Horse Val** 39.78 80 eP P 02 33 12.1 +1.3
WVOR e 02 39 09.8
WVOR pmax pmax
comp=Z,22nn,0.8s
WVOR **Wild Horse Val** 39.78 80 eP P 02 33 12.1 +1.3
comp=Z,22nn,0.8s
WVOR eScP S 02 39 09.8 -1.0
OHCM **Honcut** 39.81 86 eP P 02 33 12.1 +1.2
SWMT **Swartz Lake** 39.87 70 eP P 02 33 12.1 +0.6
SWMT ePcP PcP 02 35 16.4 +0.2
BEKR **Beckworth** 40.20 84 eP P 02 33 15.4 +1.1
comp=Z,4.2nn,0.9s
BEKR ePcP PcP 02 35 17.5 0.0
MSO **Missoula** 40.25 71 eP P 02 33 15.2 +0.5
comp=Z,89nn,1.3s
MSO **Missoula** 40.25 71 ⇓P P 02 33 14.5 -0.2
baz=40,SNR=55
SLMT **Seeley Lake** 40.30 70 eP P 02 33 15.9 +0.8
comp=Z,90nn,1.3s
SLMT ePP PP 02 34 49.5 +1.0
SLMT ePcP PcP 02 35 18.1 +0.4
CHMT **Chamberlain Mo** 40.61 71 eP P 02 33 17.9 +0.1
KSRS **Korea Array** 40.82 272 P P 02 33 20.4 +1.1
comp=Z,27nn,0.9s,baz=58,slow=7.9,SNR=62
KSRS LR LR 02 51 09.3
comp=Z,67nn,18.9s,baz=40,slow=37
KSAR **Wonju Array Be** 40.85 272 P P 02 33 20.4 +0.8
PAHR **Pah Rah Range** 40.90 84 eP P 02 33 21.7 +1.6
comp=Z,22nn,0.9s
PAHR ePcP PcP 02 35 20.2 +0.5
MFID **Camas Ranch** 40.94 77 eP P 02 33 21.1 +0.7
comp=Z,14nn,1.0s
CMB **Columbia Colle** 41.29 86 eP P 02 33 24.8 +1.6
CMB e 02 35 21.5
CMB pmax pmax
comp=Z,13nn,1.0s
CMB **Columbia Colle** 41.29 86 eP P 02 33 24.8 +1.6
comp=Z,13nn,1.0s
CMB ePcP PcP 02 35 21.5 +0.6
WAKR **Walker** 41.59 85 eP P 02 33 27.8 +1.9
WAKR ePcP PcP 02 35 22.8 +0.7
INCN **Inchon** 41.60 273 eP P 02 33 26.5 +0.7
comp=Z,59nn,0.8s
LRM **Limekiln Ridge** 41.66 72 eP P 02 33 26.8 +0.5
LRM ePcP PcP 02 35 22.8 +0.6
HLID **Hailey** 41.72 76 eP P 02 33 27.8 +0.9
comp=Z,25nn,0.9s
HLID ePcP PcP 02 35 23.4 +1.1
HLID eScP ScP 02 39 08.5 +1.0
HLID **Hailey** 41.72 76 ⇑P P 02 33 27.1 +0.3
baz=42,SNR=49
JNU **Nakatsue** 41.79 265 eP P 02 33 27.2 -0.1
comp=Z,68nn,1.1s
BMN **Battle Mountai** 41.80 81 eP P 02 33 28.8 +1.3
BMN pmax pmax
comp=Z,5.0nm,0.5s
BMN **Battle Mountai** 41.80 81 eP P 02 33 28.8 +1.3
comp=Z,5.4nm,0.5s
DLMT **Dillon** 41.82 72 eP P 02 33 28.3 +0.7
comp=Z,20nn,1.3s
DLMT ePcP PcP 02 35 23.3 +0.7
DLMT eScP ScP 02 39 09.6 +1.8
TJN **Taejon** 41.84 271 i P P 02 33 28.2 +0.5
MCMT **McKenzie Canyo** 41.96 73 eP P 02 33 29.6 +0.8
comp=Z,9.9nm,0.7s
EGMT **Eagleton** 42.07 67 eP P 02 33 29.6 0.0
comp=Z,54nn,0.8s
EGMT ePcP PcP 02 35 23.3 -0.1
EGMT **Eagleton** 42.07 67 ⇑P P 02 33 29.9 +0.3
baz=42
BOZ **Bozeman (W)** 42.23 71 eP P 02 33 31.8 +0.8
BOZ e 02 35 24.5
BOZ pmax pmax
comp=Z,139nn,1.5s
BOZ **Bozeman (W)** 42.23 71 eP P 02 33 31.8 +0.8
comp=Z,139nn,1.5s
BOZ ePcP PcP 02 35 24.5 +0.5
B19A **Brinkman Farms** 42.31 66 ⇓P P 02 33 31.4 0.0
baz=42,SNR=52
NVAR **Mina Array Bea** 42.34 84 P P 02 33 33.4 +1.5
NVAR PcP PcP 02 35 25.6 +1.1
NVAR ScP ScP 02 39 10.9 +0.8
NVAR **Mina Array Bea** 42.34 84 P P 02 33 33.4 +1.5
comp=Z,9.2nm,0.8s,baz=296,slow=8.8,SNR=3.8
NVAR PcP PcP 02 35 25.6 +1.1
comp=Z,8.5nm,0.8s,baz=291,slow=4.0,SNR=6.8
NVAR ScP ScP 02 39 10.9 +0.8
comp=Z,1.8nm,0.8s,baz=292,slow=5.0,SNR=5.7
NV11 **Mina Array Sit** 42.43 84 eP P 02 33 34.0 +1.3
MLAC **Mammoth Lakes** 42.50 86 ⇓P P 02 33 34.7 +1.4
baz=42
C19A **Slack Wire Ran** 42.63 67 ⇑P P 02 33 34.6 +0.6
baz=42,SNR=132
A20A **Cobblestone Ra** 42.67 65 ⇑P P 02 33 34.2 -0.2
baz=42,SNR=45
QLMT **Earthquake Lak** 42.80 72 eP P 02 33 36.6 +1.0
QLMT ePcP PcP 02 35 26.6 +0.7
ELK **Elko** 42.83 80 eP P 02 33 37.4 +1.4
comp=Z,11nn,0.8s
MTUM **Tungsten Hills** 42.84 86 eP P 02 33 37.8 +1.8
B20A **Solberg Farm,** 42.85 66 ⇓P P 02 33 35.6 -0.2
baz=43,SNR=20
FFC **Flin Flon** 43.01 55 eP P 02 33 37.0 +0.1
FFC e 02 35 27.0
FFC **Flin Flon** 43.01 55 eP P 02 33 37.0 +0.1
FFC ePcP PcP 02 35 27.0 +0.8
D19A **Cripps Ranch,** 43.03 68 ⇑P P 02 33 37.5 +0.2
baz=43,SNR=62
RCTC **Rector, Farmer** 43.08 88 ⇑P P 02 33 39.5 +1.8
baz=43
YMR **Madison River** 43.16 72 eP P 02 33 39.9 +1.3
comp=Z,40nn,0.9s
YMR ePcP PcP 02 35 29.2 +2.0
A21A **Bergtoll Ranch** 43.18 65 ⇑P P 02 33 38.5 0.0
baz=43,SNR=24
TPH **Tonopah** 43.23 84 eP P 02 33 40.5 +1.3
TPH e 02 35 27.9
TPH pmax pmax
comp=Z,16nn,0.9s
TPH **Tonopah** 43.23 84 eP P 02 33 40.5 +1.3
comp=Z,16nn,0.9s
TPH ePcP PcP 02 35 27.9 +0.4
TIN **Tinemaha** 43.24 86 ⇓P P 02 33 40.1 +0.9
baz=43,SNR=6.5
C20A **Veseth Ranch,** 43.24 67 ⇑P P 02 33 39.2 +0.2
baz=43,SNR=46
YNR **Norris Junctio** 43.31 72 eP P 02 33 40.8 +1.0
comp=Z,123nn,1.7s
YNR ePcP PcP 02 35 28.4 +0.7
GCMT **Greycliff** 43.31 70 eP P 02 33 40.5 +0.9
comp=Z,27nn,1.1s
GCMT ePcP PcP 02 35 28.1 +0.6
YFT **Old Faithful** 43.36 72 eP P 02 33 42.6 +2.4
comp=Z,32nn,0.9s
YFT ePcP PcP 02 35 30.5 +2.5
B21A **Ellsworth Farm** 43.42 65 ⇑P P 02 33 40.6 +0.2
baz=43
E19A **Rath Farm, Rou** 43.46 69 ⇓P P 02 33 41.1 +0.3
baz=43,SNR=41
D20A **Manuel Ranch,** 43.50 68 ⇑P P 02 33 41.5 +0.4
baz=43,SNR=31
H17A **Grant Village** 43.55 72 eP P 02 33 44.0 +2.2
H17A **Grant Village** 43.55 72 ⇓P P 02 33 43.4 +1.7
baz=43,SNR=18
IMW **Indian Meadow** 43.61 73 eP P 02 33 43.8 +1.5
comp=Z,123nm,2.1s
PKM **Peak Mountain** 43.63 90 ⇑P P 02 33 44.4 +2.0
baz=43
FLWY **Flagg Ranch** 43.65 73 eP P 02 33 44.3 +1.7
comp=Z,25nn,0.8s
F19A **Roth Farm, Mol** 43.70 70 ⇑P P 02 33 43.2 +0.4
baz=44,SNR=21
CWC **Cottonwood Cre** 43.72 87 ⇑P P 02 33 44.1 +1.0
baz=44,SNR=7.5
HVU **Hansel Valley** 43.73 77 eP P 02 33 44.5 +1.4
HVU e 02 35 29.6
HVU pmax pmax
comp=Z,33nn,1.0s
HVU **Hansel Valley** 43.73 77 eP P 02 33 44.5 +1.4
comp=Z,33nn,1.0s
HVU ePcP PcP 02 35 29.6 +0.5
A22A **Carney Farms,** 43.75 64 ⇓P P 02 33 42.7 -0.4
baz=44,SNR=22
MOOW **Moose Ponds** 43.81 73 eP P 02 33 45.0 +1.1
comp=Z,44nn,2.0s
E20A **Meyer Farm, Mu** 43.82 68 ⇑P P 02 33 43.9 +0.2
baz=44,SNR=24
TPAW **Teton Pass** 43.84 74 eP P 02 33 45.6 +1.5
comp=Z,54nn,1.8s
RLMT **Red Lodge** 43.91 71 eP P 02 33 45.4 +0.8
comp=Z,105nn,1.1s
RLMT ePcP PcP 02 35 30.1 +0.3
REDW **Red Top Meadow** 43.97 74 eP P 02 33 46.6 +1.5
comp=Z,23nn,1.3s
ISA **Isabella** 43.97 88 eP P 02 33 45.7 +0.7
ISA pmax pmax
comp=Z,4.0nn,1.1s
ISA **Isabella** 43.97 88 eP P 02 33 45.7 +0.7
comp=Z,3.8nn,1.1s
ISA **Isabella** 43.97 88 ⇑P P 02 33 45.3 +0.3
baz=44,SNR=5.1
LOHW **Long Hollow** 43.97 73 eP P 02 33 46.4 +1.2
comp=Z,12nn,1.0s
B22A **Reddig Ranch S** 44.07 65 ⇓P P 02 33 45.4 -0.2
baz=44,SNR=25
R11A **Troy Canyon, C** 44.07 83 eP P 02 33 46.6 +0.7
R11A ePcP PcP 02 35 30.7 +0.4
R11A **Troy Canyon, C** 44.07 83 ⇑P P 02 33 46.4 +0.5
baz=44,SNR=31
BGU **Big Grassy Mou** 44.08 78 eP P 02 33 47.2 +1.3
comp=Z,8.6nm,1.1s
ARVC **Arvin** 44.09 89 ⇑P P 02 33 46.0 +0.1
baz=44
AHID **Auburn Hatcher** 44.16 75 eP P 02 33 48.2 +1.6
comp=Z,15nn,0.8s
D21A **La Casta Ranch** 44.17 67 ⇑P P 02 33 46.6 +0.2
baz=44,SNR=55
F20A **Billings** 44.19 69 ⇓P P 02 33 47.3 +0.5
baz=44,SNR=36
SPUT **South Promonto** 44.20 77 eP P 02 33 47.5 +0.6
comp=Z,11nn,0.9s
SPUT ePcP PcP 02 35 30.7 0.0
H19A **Powell** 44.33 71 ⇓P P 02 33 48.7 +0.8
baz=44,SNR=42
A23A **Redstone** 44.35 64 ⇓P P 02 33 47.7 -0.1
baz=44,SNR=7.5
E21A **Keefer Ranch,** 44.41 68 ⇓P P 02 33 48.9 +0.6
baz=44,SNR=13
C22A **Vida** 44.43 66 ⇑P P 02 33 48.7 +0.2
baz=44,SNR=17
FURC **Furnace Creek,** 44.46 86 ⇑P P 02 33 49.6 +0.8
baz=44,SNR=12
G20A **Bridger** 44.48 70 ⇑P P 02 33 49.1 0.0
baz=44,SNR=65
TPNV **Topopah Spring** 44.53 85 eP P 02 33 50.4 +0.8
TPNV pmax pmax
comp=Z,26nn,0.8s
TPNV **Topopah Spring** 44.53 85 eP P 02 33 50.4 +0.8
comp=Z,26nn,0.8s
TPNV **Topopah Spring** 44.53 85 ⇓P P 02 33 50.3 +0.7
baz=44,SNR=46
B23A **Brockton** 44.55 64 ⇑P P 02 33 49.3 -0.1
baz=44,SNR=48
LRMC **Laurel Mountai** 44.58 87 ⇑P P 02 33 50.4 +0.5
baz=44,SNR=6.4
D22A **Cohagen** 44.59 67 ⇓P P 02 33 50.1 +0.3
baz=44,SNR=110
DUG **Dugway** 44.65 79 eP P 02 33 51.4 +0.9
DUG e 02 35 32.8
DUG pmax pmax
comp=Z,30nn,1.0s
DUG **Dugway** 44.65 79 eP P 02 33 51.4 +0.9
comp=Z,30nn,1.0s
DUG ePcP PcP 02 35 32.8 +0.6
DUG **Dugway** 44.65 79 ⇓P P 02 33 51.2 +0.7
baz=44,SNR=24
I19A **Meeteetse** 44.69 72 ⇑P P 02 33 51.3 +0.5
baz=44,SNR=12
F21A **Absaloka Mine,** 44.78 69 ⇑P P 02 33 51.6 +0.3
baz=45,SNR=20
EDW2 **Edwards Air Fo** 44.78 88 ⇓P P 02 33 51.5 0.0
baz=45
C23A **Lambert** 44.80 65 ⇓P P 02 33 51.7 +0.3
baz=45,SNR=74
LAO **LASA Array** 44.81 67 eP P 02 33 52.4 +0.8
comp=Z,85nn,0.8s
LAO ePcP PcP 02 35 33.6 +1.0
A24A **Westby** 44.85 63 ⇑P P 02 33 52.7 +0.8
baz=45,SNR=18
FCC **Fort Churchill** 44.90 47 eP P 02 33 50.8 -1.2
FCC pmax pmax
comp=Z,1.0nm,0.8s
FCC **Fort Churchill** 44.90 47 eP P 02 33 50.8 -1.2
comp=Z,0.5nm,0.8s
DGMT **Dagmar** 44.99 64 eP P 02 33 53.2 +0.3
comp=Z,70nn,1.4s
DGMT **Dagmar** 44.99 64 ⇓P P 02 33 52.6 -0.4
baz=45
H20A **Greybull** 45.02 71 ⇑P P 02 33 53.2 -0.1
baz=45,SNR=22
G21A **Lodge Grass** 45.06 69 ⇓P P 02 33 53.6 -0.1
baz=45,SNR=19
BW06 **Boulder Array** 45.09 74 eP P 02 33 54.5 +0.5
comp=Z,28nn,0.9s
PDAR **Pinedale Array** 45.09 74 P P 02 33 54.5 +0.5
PDAR PcP PcP 02 35 34.4 +0.6
PDAR **Pinedale Array** 45.09 74 P P 02 33 54.5 +0.5
comp=Z,23nn,0.7s,baz=304,slow=3.8,SNR=184
PDAR PcP PcP 02 35 34.4 +0.6
comp=Z,3.1nn,0.7s,baz=300,slow=0.7,SNR=2.9
PDAR LR LR 02 50 23.1
comp=Z,303nn,21.7s,baz=304,slow=33
J19A **Crowheart** 45.10 73 ⇓P P 02 33 54.8 +0.8
baz=45,SNR=16
E22A **Miles City** 45.11 67 ⇓P P 02 33 54.5 +0.5
baz=45,SNR=70
D23A **Lindsay** 45.13 66 ⇑P P 02 33 54.6 +0.5
baz=45
MWC **Mount Wilson** 45.17 89 eP P 02 33 55.6 +0.9
MWC pmax pmax
comp=Z,39nn,1.3s
MWC **Mount Wilson** 45.17 89 eP P 02 33 55.6 +0.9
comp=Z,39nn,1.3s
SHOC **Shoshone** 45.18 86 ⇑P P 02 33 55.1 +0.5
baz=45,SNR=11
JLU **Jordanelle** 45.23 77 eP P 02 33 56.6 +1.4
comp=Z,18nn,1.0s
JLU ePcP PcP 02 35 34.5 +0.1
GSC **Goldstone** 45.24 87 eP P 02 33 55.8 +0.7
GSC e 02 35 33.8
GSC pmax pmax
comp=Z,6.0nm,0.8s
GSC **Goldstone** 45.24 87 eP P 02 33 55.8 +0.7
comp=Z,6.1nm,0.8s
GSC ePcP PcP 02 35 33.8 -0.5
GSC **Goldstone** 45.24 87 ⇓P P 02 33 55.8 +0.7
baz=45,SNR=23
NLU **North Lily Min** 45.24 78 eP P 02 33 56.5 +1.3
comp=Z,15nn,1.0s
NLU ePcP PcP 02 35 35.1 +0.7
I20A **Worland** 45.25 71 ⇓P P 02 33 55.9 +0.7
baz=45,SNR=20
F22A **Rosebud** 45.30 68 ⇑P P 02 33 55.5 +0.1
baz=45,SNR=38
A25A **Svangstu Ranch** 45.34 63 ⇓P P 02 33 55.3 -0.4
baz=45,SNR=6.6
C24A **Savage** 45.38 65 ⇓P P 02 33 56.4 +0.4
baz=45,SNR=10
BFSC **Mount Baldy Ra** 45.41 89 ⇑P P 02 33 57.0 +0.5
baz=45,SNR=6.0
E23A **Ismay** 45.45 67 ⇓P P 02 33 57.1 +0.5
baz=45,SNR=70
DAU **Daniels Canyon** 45.46 77 eP P 02 33 58.2 +1.1
DAU e 02 35 36.2
DAU **Daniels Canyon** 45.46 77 eP P 02 33 58.2 +1.1
DAU ePcP PcP 02 35 36.2 +1.0
MPU **Maple Canyon** 45.47 78 eP P 02 33 58.5 +1.4
comp=Z,12nn,0.7s
MPU ePcP PcP 02 35 36.0 +0.9
SHPR **Sheep Range** 45.49 84 eP P 02 33 57.4 +0.2
SHPR ePcP PcP 02 35 35.8 +0.6
CIS **Catalina Islan** 45.49 90 ⇓P P 02 33 57.7 +0.6
baz=45
H21A **Big Horn, Sher** 45.50 70 ⇓P P 02 33 57.4 +0.3
baz=45,SNR=19
G22A **Birney** 45.60 69 ⇑P P 02 33 57.9 0.0
baz=45,SNR=13
J20A **Shoshoni** 45.62 72 ⇑P P 02 33 59.1 +0.9
baz=46,SNR=15
D24A **Glendive** 45.66 66 ⇑P P 02 33 58.9 +0.6
baz=46,SNR=41
B25A **Knox Farm, Ray** 45.68 64 ⇑P P 02 33 58.2 -0.2
baz=46,SNR=11
TUQ **Turquoise Moun** 45.70 86 ⇑P P 02 33 59.1 +0.2
baz=46,SNR=7.7
ARUT **Antelope Range** 45.74 82 eP P 02 34 00.0 +0.8
ARUT pmax pmax
comp=Z,152nn,0.7s
ARUT **Antelope Range** 45.74 82 eP P 02 33 60.0 +0.8
comp=Z,152nn,0.7s
I21A **Big Trails, Te** 45.82 71 ⇓P P 02 33 59.9 +0.1
baz=46,SNR=53
F23A **Volborg** 45.83 68 ⇑P P 02 33 59.9 +0.3
baz=46,SNR=80
HEC **Hector,Ludlow** 45.84 87 ⇑P P 02 34 00.3 +0.4
baz=46,SNR=8.5
BBRC **Big Bear Solar** 45.85 88 ⇓P P 02 34 00.8 +0.7
baz=46
H22A **Clearmont** 45.92 70 ⇑P P 02 34 00.5 0.0
baz=46,SNR=21
C25A **Freed Ranch, W** 45.93 64 ⇓P P 02 34 00.3 -0.2
baz=46,SNR=9.2
CCUT **Cedar City** 45.94 82 eP P 02 34 01.9 +1.0
comp=Z,6.5nm,0.7s
A26A **Wade Farm, Ken** 45.96 62 ⇑P P 02 34 00.1 -0.4
baz=46,SNR=5.6
E24A **Baker** 45.98 66 ⇑P P 02 34 01.0 +0.1
baz=46,SNR=31
J21A **Lysite** 46.00 72 ⇓P P 02 34 01.6 +0.3
baz=46,SNR=15
MVU **Marysvale** 46.05 80 eP P 02 34 02.7 +1.0
comp=Z,13nn,0.8s
MVU ePcP PcP 02 35 38.1 +0.9
MURC **Murrieta** 46.11 89 ⇑P P 02 34 02.2 +0.2
baz=46
G23A **Biddle** 46.13 68 ⇑P P 02 34 02.0 -0.1
baz=46,SNR=32
B26A **Jensen Ranch,** 46.14 63 ⇓P P 02 34 02.1 +0.1
baz=46
TMUT **Trail Mountain** 46.17 79 eP P 02 34 03.2 +0.5
comp=Z,28nn,0.8s
D25A **Fairfield** 46.21 65 ⇑P P 02 34 02.5 -0.2
baz=46,SNR=8.2
I22A **9 Mile Ranch,** 46.25 71 ⇑P P 02 34 03.6 +0.5
baz=46,SNR=28
IRK **Irkutsk** 46.28 303 eP P 02 34 03.4 +0.4
IRK pmax pmax
comp=Z,57nn,1.4s
GMRC **Granite Mounta** 46.29 87 ⇓P P 02 34 03.9 +0.3
baz=46,SNR=11
F24A **Ekalaka** 46.31 67 ⇓P P 02 34 03.4 0.0
baz=46,SNR=49
LDFC **Landfair** 46.44 86 eP P 02 34 05.5 +0.9
comp=Z,27nn,0.9s
BJI **Beijing** 46.47 283 P P 02 34 05.4 +0.8
BJI S S 02 40 51.9 +3.4
BJI pmax pmax
comp=Z,140nn,0.9s
BJI LR LR
comp=Z,500nn,20.9s
BJI LR LR
comp=Z,490nn,20.0s
BJI LR LR
comp=Z,610nn,23.5s

BJT	**Baijiatuau**	**46.49**	**283**	*e*P		**P**	**02 34 05.2**	**+0.4**
	comp=Z,135nm,0.9s								
C26A	**Wahner Farm, P**	**46.52**	**64**	⇑P		**P**	**02 34 05.2**	**+0.2**
	baz=46								
E25A	**Miller Ranch,**	**46.53**	**66**	⇓P		**P**	**02 34 05.5**	**+0.3**
	baz=46,SNR=20								
K21A	**Alcova**	**46.54**	**72**	⇑P		**P**	**02 34 05.3**	**-0.2**
	baz=46,SNR=21								
PFO	**Pinyon Flat Ob**	**46.57**	**88**	P		**P**	**02 34 06.2**	**+0.5**
PFO	**Pinyon Flat Ob**	**46.57**	**88**	⇑P		**P**	**02 34 06.0**	**+0.3**
	baz=46								
PFO	**Pinyon Flat Ob**	**46.57**	**88**	P		**P**	**02 34 06.2**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=333,slow=8.4,SNR=5.6								
PFO				LR		LR	02 49 41.4		
	comp=Z,343nm,19.8s,baz=92,slow=31								
BELC	**Belle Mtn. Jos**	**46.60**	**88**	⇓P		**P**	**02 34 06.0**	**+0.1**
	baz=46								
G24A	**Alzada**	**46.62**	**68**	⇓P		**P**	**02 34 05.6**	**-0.3**
	baz=46,SNR=31								
109C	**Camp Elliot, M**	**46.65**	**90**	⇓P		**P**	**02 34 05.8**	**-0.3**
	baz=46								
B27A	**Peters Farms,**	**46.66**	**63**	⇑P		**P**	**02 34 06.0**	**-0.1**
	baz=46								
SRU	**San Rafael**	**46.70**	**78**	*e*P		**P**	**02 34 08.0**	**+1.3**
SRU				*e*			02 35 39.6		
SRU				pmax		pmax			
	comp=Z,20nm,0.9s								
SRU	**San Rafael**	**46.70**	**78**	*e*P		**P**	**02 34 08.0**	**+1.3**
	comp=Z,20nm,0.9s								
SRU				*e*PcP		**PcP**	**02 35 39.6**	**+0.2**
D26A	**Manning**	**46.78**	**65**	⇓P		**P**	**02 34 07.0**	**0.0**
	baz=47,SNR=7.1								
I23A	**Meade Ranch, G**	**46.81**	**70**	⇑P		**P**	**02 34 07.7**	**+0.2**
	baz=47								
F25A	**Bowman**	**46.83**	**67**	⇓P		**P**	**02 34 07.7**	**+0.2**
	baz=47,SNR=18								
H24A	**Dirks Ranch, A**	**46.88**	**68**	⇑P		**P**	**02 34 07.2**	**-0.8**
	baz=47,SNR=45								
TLY	**Talaya**	**46.91**	**303**	*e*P		**P**	**02 34 10.1**	**+2.1**
TLY				*e*			02 35 56.2		
TLY				*e*S		S	02 41 13.3	+19	
TLY				*e*SS		**SS**	**02 44 20.2**	**-1.0**
TLY				pmax		pmax			
	comp=Z,5.0nm,0.8s								
TLY				MLR		MLR			
	comp=Z,385nm,21.0s								
TLY	**Talaya**	**46.91**	**303**	*e*P		**P**	**02 34 07.2**	**-0.7**
TLY				*e*PcP		**PcP**	**02 35 40.2**	**+0.4**
C27A	**Sayler Ranch,**	**46.91**	**63**	⇑P		**P**	**02 34 08.4**	**+0.3**
	baz=47								
A28A	**Rude Farm, Bot**	**46.92**	**61**	⇑P		**P**	**02 34 07.8**	**-0.4**
	baz=47								
K22A	**Casper**	**46.96**	**72**	*e*P		**P**	**02 34 08.7**	**+0.1**
K22A				*e*PcP		**PcP**	**02 35 40.6**	**+0.3**
K22A	**Casper**	**46.96**	**72**	⇓P		**P**	**02 34 08.4**	**-0.3**
	baz=47,SNR=13								
IRM	**Iron Mountain**	**47.02**	**87**	⇑P		**P**	**02 34 09.5**	**+0.4**
	baz=47								
MONP	**Monument Peak**	**47.07**	**89**	⇓P		**P**	**02 34 10.3**	**+0.6**
	baz=47								
E26A	**Carlson Angus**	**47.08**	**65**	⇓P		**P**	**02 34 08.9**	**-0.5**
	baz=47,SNR=29								
J23A	**Dilts Ranch, B**	**47.09**	**71**	⇓P		**P**	**02 34 09.5**	**-0.1**
	baz=47,SNR=10								
RWWY	**Rawlins**	**47.13**	**73**	*e*P		P	02 34 14.2	+4.1	
	comp=Z,216nm,2.3s								
B28A	**Dugan Ranch, T**	**47.13**	**62**	⇑P		**P**	**02 34 08.9**	**-0.8**
	baz=47,SNR=5.8								
BC3	**Big Chuckawall**	**47.16**	**88**	⇓P		**P**	**02 34 10.8**	**+0.5**
	baz=47								
W13A	**Hualapai Mount**	**47.19**	**85**	⇑P		**P**	**02 34 11.0**	**+0.5**
	baz=47								
ULN	**Ulaanbaatar**	**47.20**	**297**	*e*P		**P**	**02 34 09.9**	**-0.5**
	comp=Z,20nm,0.7s								
ULN				*e*PcP		**PcP**	**02 35 41.4**	**+0.4**
ULN				*e*ScP		**ScP**	**02 39 30.7**	**+0.9**
D27A	**Center**	**47.24**	**64**	⇑P		**P**	**02 34 10.6**	**-0.1**
	baz=47,SNR=5.9								
G25A	**Newell**	**47.28**	**67**	⇑P		**P**	**02 34 10.7**	**-0.3**
	baz=47,SNR=23								
U15A	**North Rim**	**47.31**	**82**	⇑P		**P**	**02 34 12.3**	**+0.7**
	baz=47,SNR=58								
F26A	**Lodgepole**	**47.32**	**66**	⇑P		**P**	**02 34 11.3**	**0.0**
	baz=47,SNR=16								
I24A	**Kuemmerle Ranc**	**47.36**	**69**	⇑P		**P**	**02 34 11.3**	**-0.4**
	baz=47,SNR=8.3								
L22A	**Ellis Ranch, M**	**47.39**	**73**	⇓P		**P**	**02 34 12.9**	**+0.8**
	baz=47,SNR=9.3								
K23A	**Bowen Ranch, D**	**47.43**	**71**	⇑P		**P**	**02 34 12.2**	**-0.1**
	baz=47,SNR=11								
O20A	**White River Ci**	**47.46**	**76**	*e*P		**P**	**02 34 13.1**	**+0.5**
O20A				*e*PcP		**PcP**	**02 35 42.4**	**+0.2**
O20A	**White River Ci**	**47.46**	**76**	⇑P		**P**	**02 34 12.9**	**+0.3**
	baz=47,SNR=21								
A29A	**Manning Farm,**	**47.48**	**61**	⇑P		**P**	**02 34 12.0**	**-0.5**
	baz=47								
H25A	**Fruitdale**	**47.51**	**68**	⇓P		**P**	**02 34 12.4**	**-0.4**
	baz=47,SNR=40								
C28A	**Hausauer Farms**	**47.53**	**63**	⇑P		**P**	**02 34 12.7**	**-0.2**
	baz=47								
RSSD	**Black Hills**	**47.55**	**69**	*e*P		**P**	**02 34 13.2**	**-0.1**
RSSD				*e*			02 35 42.4		
RSSD				pmax		pmax			
	comp=Z,8.0nm,0.8s								
RSSD	**Black Hills**	**47.55**	**69**	*e*P		**P**	**02 34 13.2**	**-0.1**
	comp=Z,8.4nm,0.8s								
RSSD				*e*PcP		**PcP**	**02 35 42.4**	**0.0**
PDMCI	**Parker Dam,Lak**	**47.55**	**86**	⇑P		**P**	**02 34 13.3**	**+0.1**
	baz=47,SNR=6.7								
SONM	**Songino Array**	**47.58**	**297**	P		**P**	**02 34 12.9**	**-0.4**
SONM				PcP		**PcP**	**02 35 42.7**	**+0.3**
SONM				ScP		**ScP**	**02 39 32.3**	**+0.9**
SONM	**Songino Array**	**47.58**	**297**	P		**P**	**02 34 12.9**	**-0.4**
	comp=Z,16nm,0.7s,baz=56,slow=6.4,SNR=96								
SONM				PcP		**PcP**	**02 35 42.7**	**+0.3**
	comp=Z,30nm,0.8s,baz=66,slow=2.8,SNR=26								
SONM				ScP		**ScP**	**02 39 32.3**	**+0.9**
	comp=Z,6.3nm,1.1s,baz=59,slow=2.9,SNR=14								
SONM				LR		LR	02 55 12.0		
	comp=Z,396nm,18.2s,baz=23,slow=37								
E27A	**Carson**	**47.61**	**65**	⇑P		**P**	**02 34 13.2**	**-0.3**
	baz=48,SNR=15								
J24A	**Dixon Ranch, L**	**47.65**	**70**	⇑P		**P**	**02 34 13.8**	**-0.1**
	baz=48,SNR=19								
M22A	**Cedar Creek Ra**	**47.67**	**73**	⇑P		**P**	**02 34 14.2**	**-0.1**
	baz=48,SNR=7.7								
Y12C	**Blythe**	**47.68**	**87**	⇑P		**P**	**02 34 14.6**	**+0.4**
	baz=48,SNR=6.2								
F27A	**Lemmon**	**47.68**	**66**	⇓P		**P**	**02 34 14.0**	**0.0**
	baz=48,SNR=14								
G26A	**Maurine**	**47.69**	**67**	⇑P		**P**	**02 34 14.1**	**0.0**
	baz=48,SNR=69								
D28A	**Regan**	**47.73**	**64**	⇓P		**P**	**02 34 14.4**	**-0.1**
	baz=48,SNR=9.1								
L23A	**Garrett**	**47.77**	**72**	⇑P		**P**	**02 34 15.1**	**0.0**
	baz=48,SNR=25								
I25A	**Rochford**	**47.78**	**69**	⇑P		**P**	**02 34 14.6**	**-0.5**
	baz=48,SNR=19								
JOW	**Kunigami**	**47.79**	**260**	*e*P		**P**	**02 34 15.1**	**-0.1**
	comp=Z,28nm,1.0s								
ZAK	**Zakamensk**	**47.82**	**302**	⇓*e*P		**P**	**02 34 16.9**	**+1.7**
ZAK				pmax		pmax			
	comp=Z,12nm,1.2s								
MDND	**Maddock**	**47.89**	**62**	*e*P		**P**	**02 34 15.9**	**+0.3**
	comp=Z,67nm,1.1s								
MDND	**Maddock**	**47.89**	**62**	⇑P		**P**	**02 34 15.3**	**-0.3**
	baz=48,SNR=6.2								
GLA	**Glamis**	**47.95**	**88**	*e*P		**P**	**02 34 17.3**	**+0.9**
GLA				pmax		pmax			
	comp=Z,25nm,1.4s								
GLA	**Glamis**	**47.95**	**88**	*e*P		**P**	**02 34 17.3**	**+0.9**
	comp=Z,25nm,1.4s								
GLA	**Glamis**	**47.95**	**88**	⇓P		**P**	**02 34 17.0**	**+0.6**
	baz=48								
A30A	**Hoffart Farm,**	**47.98**	**60**	⇑P		**P**	**02 34 15.7**	**-0.6**
	baz=48								
H26A	**Fairpoint**	**47.98**	**68**	⇓P		**P**	**02 34 16.1**	**-0.4**
	baz=48,SNR=14								
G27A	**Dupree**	**48.02**	**66**	⇑P		**P**	**02 34 16.5**	**-0.2**
	baz=48,SNR=42								
E28A	**Huff**	**48.02**	**64**	⇑P		**P**	**02 34 16.5**	**-0.2**
	baz=48								
J25A	**Sunshine Ranch**	**48.12**	**70**	⇑P		**P**	**02 34 17.1**	**-0.5**
	baz=48,SNR=8.0								
N22A	**Wattenberg Ran**	**48.12**	**74**	⇑P		**P**	**02 34 18.0**	**+0.1**
	baz=48,SNR=22								
PV04	**Paradox Valley**	**48.14**	**78**	*e*P		**P**	**02 34 18.7**	**+0.8**
M23A	**Laramie**	**48.15**	**73**	⇑P		**P**	**02 34 18.2**	**+0.2**
	baz=48								
B30A	**Myrvik Farm, E**	**48.24**	**61**	⇑P		**P**	**02 34 17.9**	**-0.5**
	baz=48,SNR=6.2								
L24A	**Wheatland**	**48.27**	**72**	⇑P		**P**	**02 34 18.7**	**-0.1**
	baz=48,SNR=5.8								
I26A	**New Underwood**	**48.28**	**68**	⇑P		**P**	**02 34 18.5**	**-0.3**
	baz=48,SNR=9.8								
D29A	**Pettibone, Tap**	**48.35**	**63**	⇓P		**P**	**02 34 19.1**	**-0.1**
	baz=48								
N23A	**Red Feather La**	**48.37**	**73**	⇓P		**P**	**02 34 20.2**	**+0.5**
	baz=48,SNR=12								
H27A	**Howes**	**48.38**	**67**	⇓P		**P**	**02 34 19.2**	**-0.3**
	baz=48,SNR=9.5								
F28A	**McLaughlin**	**48.38**	**65**	⇓P		**P**	**02 34 19.2**	**-0.3**
	baz=48,SNR=12								
PHWY	**Pilot Hill**	**48.41**	**73**	*e*P		**P**	**02 34 20.4**	**+0.3**
	comp=Z,5.9nm,0.8s								
O22A	**Kremmling**	**48.46**	**75**	⇑P		**P**	**02 34 20.7**	**+0.2**
	baz=48,SNR=13								
WUAZ	**Wupatki**	**48.47**	**83**	*e*P		**P**	**02 34 21.8**	**+1.3**
	comp=Z,25nm,0.7s								
WUAZ	**Wupatki**	**48.47**	**83**	⇓P		**P**	**02 34 21.5**	**+1.1**
	baz=48,SNR=24								
Y14A	**Wickenburg**	**48.50**	**85**	⇓P		**P**	**02 34 21.1**	**+0.5**
	baz=48,SNR=11								
PV01	**Padox Valley**	**48.51**	**78**	*e*P		**P**	**02 34 20.9**	**+0.1**
ULM	**Lac du Bonnet**	**48.53**	**58**	P		**P**	**02 34 20.2**	**-0.2**
ULM				PcP		**PcP**	**02 35 45.5**	**0.0**
ULM	**Lac du Bonnet**	**48.53**	**58**	P		**P**	**02 34 20.2**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=299,slow=9.5,SNR=5.9								
ULM				PcP		**PcP**	**02 35 45.5**	**0.0**
	comp=Z,4.8nm,0.7s,baz=319,slow=7.7,SNR=4.1								
ULM				LR		LR	02 56 00.8		
	comp=Z,208nm,21.1s,baz=313,slow=38								
K25A	**Mack Ranch, Ha**	**48.55**	**70**	⇓P		**P**	**02 34 20.8**	**-0.2**
	baz=48,SNR=8.9								
J26A	**Sides Ranch, S**	**48.59**	**69**	⇓P		**P**	**02 34 20.5**	**-0.6**
	baz=48,SNR=14								
C30A	**Mose, Pekin**	**48.59**	**62**	⇓P		**P**	**02 34 20.3**	**-0.7**
	baz=48								
M24A	**Cheyenne**	**48.68**	**72**	⇑P		**P**	**02 34 23.0**	**+0.9**
	baz=48								
P22A	**Eagle**	**48.69**	**75**	⇑P		**P**	**02 34 22.6**	**+0.5**
	baz=48								
I27A	**Quinn**	**48.73**	**68**	⇑P		**P**	**02 34 21.7**	**-0.5**
	baz=49,SNR=37								
HHC	**Hu-ho-hao-te**	**48.75**	**287**	*e*P		**P**	**02 34 23.2**	**+0.7**
HHC				PP		**PP**	**02 36 17.0**	**+1.3**
HHC				ScP		**ScP**	**02 39 36.7**	**+0.2**
HHC				PcS		**PcS**	**02 39 43.4**	**+0.5**
HHC				S		**S**	**02 41 18.6**	**-2.5**
HHC				ScS		**ScS**	**02 44 07.9**	**-1.7**
HHC				SS		**SS**	**02 44 44.8**	**-6.7**
HHC				pmax		pmax			
	comp=Z,82nm,1.0s								
HHC				pmax		pmax			
	comp=Z,480nm,6.4s								
HHC				LR		LR			
	comp=Z,450nm,16.3s								
HHC				LR		LR			
	comp=Z,570nm,16.6s								
HHC				LR		LR			
	comp=Z,590nm,16.5s								
L25A	**Engebretsen Ra**	**48.77**	**71**	⇑P		**P**	**02 34 22.5**	**-0.1**
	baz=49,SNR=9.6								
G28A	**Parade**	**48.78**	**66**	⇓P		**P**	**02 34 22.1**	**-0.4**
	baz=49,SNR=14								
D30A	**Buchanan**	**48.79**	**63**	⇓P		**P**	**02 34 22.1**	**-0.5**
	baz=49,SNR=11								
113A	**Mohawk Valley,**	**48.81**	**87**	⇑P		**P**	**02 34 22.9**	**+0.1**
	baz=49,SNR=5.2								
O23A	**Lake Granby, G**	**48.81**	**74**	⇑P		**P**	**02 34 23.9**	**+0.7**
	baz=49,SNR=19								
K26A	**Motz Farm, Whi**	**48.90**	**70**	⇓P		**P**	**02 34 23.3**	**-0.3**
	baz=49,SNR=7.5								
Z14A	**Wintersburg**	**48.92**	**86**	⇓P		**P**	**02 34 24.2**	**+0.5**
	baz=49								
F29A	**Eureka**	**48.94**	**65**	⇑P		**P**	**02 34 23.2**	**-0.6**
	baz=49								
H28A	**Mission Ridge**	**48.96**	**67**	⇑P		**P**	**02 34 23.9**	**0.0**
	baz=49,SNR=25								
N24A	**Carr**	**49.04**	**73**	⇑P		**P**	**02 34 25.6**	**+0.9**
	baz=49								
MVCO	**Mesa Verde**	**49.14**	**79**	*e*P		**P**	**02 34 26.5**	**+0.8**
	comp=Z,15nm,0.6s								
MVCO	**Mesa Verde**	**49.14**	**79**	⇑P		**P**	**02 34 25.9**	**+0.2**
	baz=49,SNR=14								
X16A	**Lo Mia Camp, P**	**49.15**	**84**	⇑P		**P**	**02 34 26.0**	**+0.3**
	baz=49,SNR=15								
M25A	**Palm-Egli Farm**	**49.16**	**72**	⇓P		**P**	**02 34 26.4**	**+0.7**
	baz=49,SNR=7.9								
J27A	**Elkhorn Farm,**	**49.25**	**69**	⇑P		**P**	**02 34 26.0**	**-0.2**
	baz=49,SNR=29								
ISCO	**Idaho Springs**	**49.25**	**74**	*e*P		**P**	**02 34 26.9**	**+0.4**
ISCO				*e*			02 35 49.4		
ISCO				pmax		pmax			
	comp=Z,12nm,1.0s								
ISCO	**Idaho Springs**	**49.25**	**74**	*e*P		**P**	**02 34 26.9**	**+0.4**
	comp=Z,12nm,1.0s								
ISCO				*e*PcP		**PcP**	**02 35 49.4**	**+0.7**
ISCO	**Idaho Springs**	**49.25**	**74**	⇓P		**P**	**02 34 27.0**	**+0.5**
	baz=49,SNR=11								
G29A	**Hoven**	**49.27**	**65**	⇑P		**P**	**02 34 26.1**	**-0.2**
	baz=49								
I28A	**Midland**	**49.28**	**67**	⇑P		**P**	**02 34 26.5**	**+0.1**
	baz=49,SNR=54								
L26A	**Underwood Farm**	**49.36**	**71**	⇓P		**P**	**02 34 27.4**	**+0.2**
	baz=49								
O24A	**Longmont**	**49.37**	**74**	⇑P		**P**	**02 34 28.5**	**+1.3**
	baz=49								
H29A	**Onida**	**49.45**	**66**	⇓P		**P**	**02 34 27.5**	**-0.1**
	baz=49,SNR=9.9								
K27A	**Flueckinger Fa**	**49.45**	**69**	⇓P		**P**	**02 34 27.2**	**-0.5**
	baz=49,SNR=6.0								
J28A	**Allard Ranch,**	**49.59**	**68**	⇑P		**P**	**02 34 29.0**	**+0.2**
	baz=49,SNR=38								
AGMN	**Agassiz Nation**	**49.67**	**60**	*e*P		**P**	**02 34 28.5**	**-0.7**
M26A	**McRoberts Ranc**	**49.68**	**71**	⇑P		**P**	**02 34 30.5**	**+1.0**
	baz=50								
W18A	**Petrified Fore**	**49.74**	**82**	⇑P		**P**	**02 34 31.1**	**+0.9**
	baz=50								
G30A	**Faulkton**	**49.75**	**65**	⇑P		**P**	**02 34 29.0**	**-0.9**
	baz=50,SNR=8.5								
I29A	**Vivian Onida**	**49.76**	**67**	⇓P		**P**	**02 34 29.4**	**-0.6**
	baz=50,SNR=21								
L27A	**T5 Ranch, Ells**	**49.78**	**70**	⇑P		**P**	**02 34 30.9**	**+0.6**
	baz=50								
S22A	**4UR Ranch, Cre**	**49.81**	**77**	⇑P		**P**	**02 34 31.7**	**+0.8**
	baz=50,SNR=17								
BTO	**Baotou**	**49.82**	**288**	*e*P		**P**	**02 34 31.3**	**+0.7**
P24A	**Kohler Place,**	**49.85**	**74**	⇑P		**P**	**02 34 32.2**	**+1.2**
	baz=50								
O25A	**Wiggins**	**49.94**	**73**	⇓P		**P**	**02 34 32.4**	**+0.8**
	baz=50								
K28A	**Ten Mile Ranch**	**49.95**	**69**	⇓P		**P**	**02 34 31.5**	**0.0**
	baz=50,SNR=18								
214A	**Organ Pipe Nat**	**49.95**	**87**	*e*P		**P**	**02 34 31.5**	**-0.1**
214A				*e*PcP		**PcP**	**02 35 51.9**	**+0.8**
214A	**Organ Pipe Nat**	**49.95**	**87**	⇓P		**P**	**02 34 32.0**	**+0.4**
	baz=50,SNR=6.3								
NJ2	**Nanjing**	**49.99**	**273**	*e*P		**P**	**02 34 31.7**	**-0.1**
NJ2				pP		**pP**	**02 34 44.4**	**-2.3**
NJ2				sP		**sP**	**02 34 50.9**	**-2.2**
NJ2				S		**S**	**02 41 36.0**	**-2.3**
NJ2				sS		**sS**	**02 42 02.2**	**-1.1**
NJ2				pmax		pmax			
	comp=Z,40nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,90nm,11.5s								
NJ2				LR		LR			
	comp=Z,2μm,23.2s								
NJ2				LR		LR			
	comp=Z,2μm,25.5s								
NJ2				LR		LR			
	comp=Z,330nm,23.8s								
X18A	**Snowflake**	**50.00**	**83**	⇓P		**P**	**02 34 32.5**	**+0.4**
	baz=50,SNR=12								
Q24A	**Divide**	**50.05**	**75**	⇓P		**P**	**02 34 33.4**	**+0.7**
	baz=50								
M27A	**Reverse DX Ran**	**50.09**	**71**	⇑P		**P**	**02 34 33.2**	**+0.6**
	baz=50								
J29A	**Okreek**	**50.12**	**67**	⇓P		**P**	**02 34 32.9**	**+0.1**
	baz=50,SNR=75								
R23A	**Moffat**	**50.14**	**76**	⇓P		**P**	**02 34 34.0**	**+0.7**
	baz=50								
BRSD	**Miller**	**50.27**	**66**	*e*P		**P**	**02 34 34.0**	**+0.1**
BRSD	**Miller**	**50.27**	**66**	⇑P		**P**	**02 34 33.5**	**-0.4**
	baz=50,SNR=9.1								
P25A	**Willow Gulch B**	**50.29**	**74**	⇓P		**P**	**02 34 35.4**	**+1.1**
	baz=50,SNR=9.7								
L28A	**Connealy Angus**	**50.30**	**70**	⇑P		**P**	**02 34 34.5**	**+0.3**
	baz=50								
I30A	**Oacoma**	**50.33**	**66**	⇑P		**P**	**02 34 33.8**	**-0.5**
	baz=50,SNR=10								
O26A	**Horse Wrangler**	**50.34**	**72**	⇓P		**P**	**02 34 35.1**	**+0.5**
	baz=50,SNR=6.3								
S23A	**Nye Farm, Mont**	**50.34**	**77**	⇑P		**P**	**02 34 35.8**	**+1.0**
	baz=50								
N27A	**Anderson Farm,**	**50.45**	**71**	⇓P		**P**	**02 34 35.9**	**+0.5**
	baz=50								
K29A	**Lazy Trails An**	**50.52**	**68**	⇓P		**P**	**02 34 36.1**	**+0.2**
	baz=50,SNR=15								
R24A	**Sanders Place,**	**50.55**	**76**	⇑P		**P**	**02 34 37.0**	**+0.8**
	baz=50,SNR=12								
SDCO	**Great Sand Dun**	**50.62**	**76**	*e*P		**P**	**02 34 38.0**	**+1.0**
	comp=Z,19nm,1.0s								
SDCO				*e*PcP		**PcP**	**02 35 53.9**	**+0.1**
Q25A	**Bedland, Calha**	**50.63**	**74**	⇑P		**P**	**02 34 37.5**	**+0.6**
	baz=50,SNR=5.2								
J30A	**Dallas**	**50.65**	**67**	⇑P		**P**	**02 34 36.8**	**0.0**
	baz=50,SNR=22								
U22A	**Llaves**	**50.69**	**79**	⇑P		**P**	**02 34 38.1**	**+0.7**
	baz=50,SNR=8.7								
P26A	**Davis Ranch, A**	**50.76**	**73**	⇓P		**P**	**02 34 38.8**	**+1.0**
	baz=51,SNR=7.1								
T23A	**Casias Ranch,**	**50.76**	**77**	⇑P		**P**	**02 34 38.5**	**+0.6**
	baz=51								
M28A	**Bar X Bar Ranc**	**50.76**	**70**	⇓P		**P**	**02 34 38.3**	**+0.6**
	baz=51								
S24A	**Houchin Ranch,**	**50.86**	**76**	⇓P		**P**	**02 34 39.6**	**+0.8**
	baz=51,SNR=15								
L29A	**Maesberg Ranch**	**50.87**	**69**	⇓P		**P**	**02 34 38.7**	**+0.2**
	baz=51								
O27A	**Beecher Island**	**50.87**	**72**	⇓P		**P**	**02 34 39.0**	**+0.4**
	baz=51,SNR=5.0								
V22A	**San Miguel Ran**	**50.95**	**79**	⇑P		**P**	**02 34 39.7**	**+0.3**
	baz=51,SNR=10								
TUC	**Tucson**	**50.97**	**85**	*e*P		**P**	**02 34 40.0**	**+0.6**
TUC				*e*			02 35 55.7		
TUC				pmax		pmax			
	comp=Z,12nm,0.8s								
TUC	**Tucson**	**50.97**	**85**	*e*P		**P**	**02 34 40.0**	**+0.6**
	comp=Z,12nm,0.8s								
TUC				*e*PcP		**PcP**	**02 35 55.7**	**+0.8**
K30A	**Basset**	**50.99**	**68**	⇓P		**P**	**02 34 39.7**	**+0.3**
	baz=51,SNR=22								
Q26A	**Hugo**	**51.06**	**74**	⇑P		**P**	**02 34 41.1**	**+1.0**
	baz=51								
R25A	**Fountain Ranch**	**51.10**	**75**	⇑P		**P**	**02 34 40.5**	**+0.2**
	baz=51,SNR=28								
N28A	**Pribbeno Ranch**	**51.11**	**71**	⇓P		**P**	**02 34 40.8**	**+0.5**
	baz=51								
U23A	**El Rito**	**51.12**	**78**	⇑P		**P**	**02 34 41.7**	**+1.1**
	baz=51,SNR=19								
M29A	**Burnside Ranch**	**51.13**	**70**	⇑P		**P**	**02 34 40.1**	**-0.4**
	baz=51,SNR=6.3								
T24B	**San Luis**	**51.14**	**77**	⇑P		**P**	**02 34 41.8**	**+0.9**
	baz=51								
S25A	**Robets Cordova**	**51.32**	**76**	⇓P		**P**	**02 34 42.4**	**+0.3**
	baz=51,SNR=21								
O28A	**Krutsinger Ran**	**51.33**	**72**	⇓P		**P**	**02 34 42.1**	**+0.2**
	baz=51,SNR=7.6								
L30A	**Spencer Herefo**	**51.38**	**69**	⇓P		**P**	**02 34 42.0**	**-0.3**
	baz=51,SNR=5.3								
R26A	**Arlington**	**51.50**	**75**	⇑P		**P**	**02 34 43.4**	**+0.1**
	baz=51,SNR=25								
V23A	**Ortiz Mt. (NFS**	**51.51**	**79**	⇑P		**P**	**02 34 44.5**	**+1.0**
	baz=51,SNR=15								
KSCO	**Kaye Shedlock'**	**51.53**	**73**	*e*P		**P**	**02 34 45.1**	**+1.5**
KSCO	**Kaye Shedlock'**	**51.53**	**73**	⇑P		**P**	**02 34 44.3**	**+0.8**
	baz=51								
M30A	**Dale-Ortello V**	**51.55**	**69**	⇑P		**P**	**02 34 44.1**	**+0.5**
	baz=51								
N29A	**Votaw Ranch, W**	**51.56**	**70**	⇓P		**P**	**02 34 44.3**	**+0.6**
	baz=51								
U24A	**Moreno Valley**	**51.62**	**78**	⇓P		**P**	**02 34 45.3**	**+0.8**
	baz=51								
T25A	**Trinidad**	**51.67**	**76**	⇑P		**P**	**02 34 45.5**	**+0.8**

S28A Manter 52.89 74 ⇑P P 02 34 54.3 +0.7
baz=53,SNR=17
W25A X Bar L Ranch, 52.91 78 ⇓P P 02 34 54.4 +0.5
baz=53,SNR=23
V26A Tequesquite Ra 52.94 77 ⇑P P 02 34 54.3 +0.3
baz=53,SNR=22
N32A Stulken Farm, 52.96 69 ⇑P P 02 34 53.5 -0.5
baz=53
Q30A Quinter 52.99 72 ⇓P P 02 34 54.8 +0.6
baz=53,SNR=7.6
320A Kipp Ranch, An 53.03 85 ⇓P P 02 34 55.2 +0.4
baz=53,SNR=8.5
122A Conniff Cattle 53.05 82 ⇑P P 02 34 55.8 +0.9
baz=53,SNR=6.2
T28A Walsh 53.07 75 ⇑P P 02 34 55.3 +0.3
baz=53
U27A Thompson Grove 53.10 76 ⇑P P 02 34 55.5 +0.2
baz=53,SNR=11
P31A Stockton 53.13 71 ⇑P P 02 34 55.2 -0.1
baz=53,SNR=5.7
Z23A Rita Site, Whi 53.14 81 ⇓P P 02 34 56.3 +0.8
baz=53
SPMN St. Paul 53.21 61 *e*P P 02 34 56.6 +0.8
comp=Z,41nm,1.6s
SPMN St. Paul 53.21 61 ⇓P P 02 34 55.5 -0.3
baz=53
X25A Clemmons Ranch 53.25 79 ⇑P P 02 34 57.1 +0.8
baz=53,SNR=9.6
222A Williams Famil 53.39 83 ⇑P P 02 34 58.0 +0.6
baz=53,SNR=6.5
R30A Dighton 53.41 72 ⇓P P 02 34 57.9 +0.6
baz=53,SNR=6.3
W26A Owens Ranch, T 53.42 78 ⇑P P 02 34 58.1 +0.5
baz=53,SNR=5.2
Q31A Ellis 53.46 71 ⇓P P 02 34 57.9 +0.2
baz=53
U28A Mallet 53.49 76 ⇑P P 02 34 58.1 0.0
baz=53,SNR=17
P32A Huiting Farm, 53.52 70 ⇑P P 02 34 58.0 -0.1
baz=53
V27A Dan Oppiter Fa 53.54 77 ⇑P P 02 34 58.4 0.0
baz=53
T29A Hugoton 53.54 74 ⇑P P 02 34 58.6 +0.2
baz=53
Z24A Sheeppen Canyo 53.63 80 ⇑P P 02 34 59.6 +0.4
baz=53,SNR=18
Y25A Mesa, Roswell 53.64 79 ⇓P P 02 34 59.6 +0.5
baz=53,SNR=16
S30A Montezuma 53.72 73 ⇑P P 02 34 60.0 +0.3
baz=54,SNR=9.8
X26A CR and CF Fran 53.75 78 ⇓P P 02 35 00.3 +0.3
baz=54,SNR=5.1
WHN Wuhan 53.82 275 ⇑P P 02 35 00.1 -0.3
R31A Burdett 53.85 72 ⇑P P 02 35 00.8 +0.2
baz=54,SNR=9.6
W27A Bowe Ranch, En 53.86 77 ⇓P P 02 35 01.1 +0.3
baz=54,SNR=5.8
V28A Channing 53.91 76 ⇓P P 02 35 01.0 -0.1
baz=54
Q32A Meitler Ranch, 53.96 71 ⇓P P 02 35 01.1 -0.2
baz=54,SNR=6.9
124A Stringfield Ra 54.00 81 ⇓P P 02 35 02.2 +0.3
baz=54,SNR=6.9
U29A Oasis Ranch, S 54.02 75 ⇓P P 02 35 02.1 +0.2
baz=54
Z25A Roswell 54.06 80 ⇑P P 02 35 02.7 +0.5
baz=54,SNR=7.6
X27A F and S Farms, 54.12 78 ⇑P P 02 35 02.9 +0.2
baz=54
Y26A Elida 54.17 79 ⇓P P 02 35 03.2 +0.2
baz=54
P33A Williams Farm, 54.17 70 ⇑P P 02 35 02.7 -0.2
baz=54
R32A Long Quarter, 54.24 71 ⇓P P 02 35 03.2 -0.2
baz=54,SNR=5.3
V29A Stinnett 54.26 76 ⇓P P 02 35 04.1 +0.5
baz=54
S31A Mullinville 54.31 73 ⇑P P 02 35 03.9 0.0
baz=54
U30A WK&E Inc. Balk 54.34 74 ⇑P P 02 35 04.1 -0.1
baz=54,SNR=7.0
Q33A Connelly Farm, 54.38 70 ⇓P P 02 35 04.1 -0.3
baz=54,SNR=19
224A Cornudas Mount 54.38 82 ⇑P P 02 35 05.1 +0.4
baz=54,SNR=16
Z26A Caprock 54.52 80 ⇓P P 02 35 05.9 +0.4
baz=54,SNR=17
125A Gardner Draw, 54.52 81 ⇑P P 02 35 05.9 +0.3
baz=54,SNR=17
SSLB Suanglung 54.53 264 *e*P P 02 35 05.0 -0.6
comp=Z,75nm,0.9s
T31A Randall Ranch, 54.55 73 ⇓P P 02 35 05.8 +0.1
baz=54
Y27A Causey 54.60 78 ⇑P P 02 35 06.2 +0.1
baz=54,SNR=23
YULB Yu-li 54.60 263 *e*P P 02 35 05.1 -1.1
comp=Z,24nm,1.0s
ZAA0 Zalesovo Array 54.69 314 *e*P P 02 35 06.7 +0.3
ZAA0 *e*PcP PcP 02 36 08.4 0.0
ZALV Zalesovo Beam 54.69 314 P P 02 35 04.7 -1.7
ZALV 02 36 08.6
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV pmax pmax
comp=Z,21nm,0.9s
ZALV pmax pmax
comp=N,1.0nm,0.7s
ZALV MLR MLR
comp=Z,398nm,19.3s
ZALV Zalesovo Beam 54.69 314 P P 02 35 04.7 -1.7
ZALV PcP PcP 02 36 08.6 +0.1
ZALV ScP ScP 02 40 01.0 -0.8
ZALV Zalesovo Beam 54.69 314 P P 02 35 04.7 -1.7
comp=Z,1.5nm,0.6s,baz=21,slow=5.4,SNR=4.5
ZALV PcP PcP 02 36 08.6 +0.1
comp=Z,21nm,0.9s,baz=22,slow=4.8,SNR=34
ZALV ScP ScP 02 40 01.0 -0.8
comp=Z,1.2nm,0.7s,baz=28,slow=6.7,SNR=4.1
ZALV LR LR 03 00 27.1
comp=Z,398nm,19.3s,baz=66,slow=38
MNTX Cornudas Mount 54.73 82 *e*P P 02 35 07.8 +0.7
comp=Z,18nm,0.9s
R33A Olander Ranch, 54.74 71 ⇓P P 02 35 06.7 -0.3
baz=55,SNR=5.6
X28A Dimmitt 54.76 77 ⇑P P 02 35 07.6 +0.3
baz=55
XAN Xi'an 54.77 282 P P 02 35 07.3 0.0
XAN pP pP 02 35 17.3 -5.0
XAN S S 02 42 38.6 -5.1
XAN ScS ScS 02 44 43.3 -8.1
XAN SS SS 02 46 21.4 -5.6
XAN pmax pmax
comp=Z,40nm,1.1s
XAN pmax pmax
comp=Z,58nm,7.8s
XAN LR LR
comp=Z,190nm,21.5s
XAN LR LR
comp=Z,130nm,23.5s
XAN LR LR
comp=Z,120nm,22.5s
MSTX Muleshoe 54.78 78 *e*P P 02 35 07.8 +0.3
MSTX Muleshoe 54.78 78 ⇑P P 02 35 07.3 -0.2
baz=55,SNR=13
225A Deer Hill, Car 54.79 81 ⇑P P 02 35 08.1 +0.5
baz=55,SNR=7.1
NVS Novosibirsk 54.80 316 *e*P P 02 35 04.4 -2.7
NVS *e* 02 36 07.6
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,2.0nm,0.6s
AMTX Amarillo 54.82 77 ⇑P P 02 35 08.0 +0.3
baz=55
V30A Spur Ranch, Mi 54.83 75 ⇑P P 02 35 08.0 +0.3
baz=55
324A Moseley Ranch, 54.84 82 ⇑P P 02 35 08.3 +0.3
baz=55
126A Clayton Basin, 54.92 80 ⇓P P 02 35 08.6 +0.2
baz=55,SNR=10
U31A Nine Bar Ranch 54.93 74 ⇑P P 02 35 08.6 +0.1
baz=55
T32A Huddler Ranch, 54.94 73 ⇓P P 02 35 08.5 0.0
baz=55
Z27A Tatum 54.95 79 ⇓P P 02 35 08.6 -0.2
baz=55,SNR=9.7
KSU1 Kansas State U 55.03 69 *e*P P 02 35 08.4 -0.7
comp=E,69nm,0.8s
KSU1 *e*PcP PcP 02 36 10.5 +0.5
TPUB Ta-pu 55.09 264 *e*P P 02 35 09.9 +0.2
comp=E,48nm,0.9s
X29A Tulia 55.11 77 ⇓P P 02 35 10.1 +0.3
baz=55
SCIA State Center 55.12 65 *e*P P 02 35 10.3 +0.6
comp=E,61nm,1.0s
Y28A McKinney Farm, 55.14 78 ⇓P P 02 35 09.7 -0.3
baz=55,SNR=9.3
325A Bean Ranch, Si 55.21 82 ⇑P P 02 35 10.9 +0.2
baz=55,SNR=31
S33A Kaszmaul Farm, 55.21 72 ⇑P P 02 35 10.5 +0.1
baz=55
226B Tecolote Peak, 55.22 81 ⇓P P 02 35 11.1 +0.4
baz=55,SNR=23
W30A Crocket Farms 55.29 76 ⇓P P 02 35 11.7 +0.6
baz=55
127A Arkansas Junct 55.30 80 ⇓P P 02 35 11.4 +0.1
baz=55
V31A Spring Creek L 55.33 74 ⇓P P 02 35 12.0 +0.6
baz=55
T33A Patterson Ranc 55.41 72 ⇑P P 02 35 11.7 -0.1
baz=55
U32A Winter Ranch, 55.43 73 ⇓P P 02 35 11.8 -0.2
baz=55,SNR=5.2
Z28A Tucker Farm, M 55.48 78 ⇑P P 02 35 12.2 -0.3
baz=55,SNR=6.9
Y29A Porterfield Fa 55.52 77 ⇑P P 02 35 12.9 +0.1
baz=55,SNR=8.8
425A Indio Mountain 55.60 82 ⇓P P 02 35 13.9 +0.4
baz=55,SNR=31
X30A Coker Ranch, T 55.61 76 ⇓P P 02 35 13.4 +0.1
baz=55,SNR=9.1
W31A Holland Ranch, 55.67 75 ⇓P P 02 35 13.9 +0.2
baz=56
227A Bennet, Jal 55.80 80 ⇑P P 02 35 14.8 +0.1
baz=56,SNR=5.1
326A Caldwell Ranch 55.86 81 ⇑P P 02 35 15.8 +0.6
baz=56
128A Castleberry Fa 55.88 79 ⇑P P 02 35 15.3 0.0
baz=56,SNR=17
Z29A Hungry Hill Ra 55.91 78 ⇓P P 02 35 15.4 -0.2
baz=56,SNR=11
Y30A Stafford Cattl 55.98 77 ⇑P P 02 35 16.3 +0.2
baz=56,SNR=6.0
X31A McDonald Ranch 56.02 76 ⇑P P 02 35 16.3 0.0
baz=56,SNR=7.9
JFWS Jewell Farm 56.11 62 *e*P P 02 35 15.2 -1.6
JFWS pmax pmax
comp=Z,25nm,0.9s
JFWS Jewell Farm 56.11 62 *e*P P 02 35 15.2 -1.6
comp=Z,25nm,0.9s
228A UT Block 9, Go 56.16 80 ⇑P P 02 35 17.2 -0.1
baz=56
V33A Lossen Ranch, 56.23 73 ⇓P P 02 35 17.7 -0.1
baz=56
129A Stewart Farms, 56.25 79 ⇓P P 02 35 17.8 -0.1
baz=56,SNR=6.0
Z30A Sanderson Ranc 56.25 78 ⇓P P 02 35 17.5 -0.4
baz=56,SNR=8.2
U34A Anderson Ranch 56.26 72 ⇓P P 02 35 17.7 -0.2
baz=56,SNR=7.0
426A McDonald Obser 56.28 82 ⇓P P 02 35 18.1 -0.3
baz=56,SNR=12
LZH Lanzhou 56.44 287 ⇓P P 02 35 21.0 +1.6
LZH pP pP 02 35 39.0 +4.5
LZH PcP PcP 02 36 16.7 +0.9
LZH S S 02 43 00.4 -5.8
LZH sS sS 02 43 29.0 -2.6
LZH SS SS 02 46 51.0 -2.5
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,82nm,4.5s
LZH LR LR
comp=Z,850nm,15.4s
LZH LR LR
comp=Z,950nm,15.5s
LZH LR LR
comp=Z,1μm,15.7s
328A Wristen Ranch, 56.53 80 ⇓P P 02 35 19.8 -0.2
baz=56,SNR=31
427A Hayter Ranch, 56.54 81 ⇑P P 02 35 19.9 -0.2
baz=56,SNR=9.7
GTA Gaotai 56.56 293 *e*P P 02 35 20.3 +0.1
GTA pP pP 02 35 34.6 -0.6
GTA sP sP 02 35 40.6 -1.0
GTA PcP PcP 02 36 16.0 -0.1
GTA S S 02 43 05.3 -2.3
GTA sS sS 02 43 30.2 -2.8
GTA ScS ScS 02 45 02.4 -1.9
GTA SS SS 02 46 54.0 -1.1
GTA pmax pmax
comp=Z,23nm,1.4s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,220nm,21.9s
GTA LR LR
comp=Z,340nm,22.8s
GTA LR LR
comp=Z,500nm,20.9s
W33A Caddo, Fort Co 56.58 74 ⇑P P 02 35 21.0 +0.8
baz=56
X32A Elmer 56.59 75 ⇓P P 02 35 20.6 +0.3
baz=56
526A Mary Lane Ranc 56.66 82 ⇓P P 02 35 21.4 +0.3
baz=56,SNR=18
V34A Guthrie 56.68 73 ⇑P P 02 35 21.0 0.0
baz=56,SNR=7.6
229A Bryant Ranch, 56.74 79 ⇑P P 02 35 21.5 0.0
baz=56
Y32A R-V Farms, Ver 56.78 76 ⇓P P 02 35 22.0 +0.4
baz=57,SNR=7.5
130A Snyder 56.82 78 ⇑P P 02 35 21.9 -0.1
baz=57,SNR=5.5
Z31A Sharp Cattle R 56.82 77 ⇓P P 02 35 21.7 -0.3
baz=57,SNR=9.0
527A Woodward Ranch 56.90 82 ⇓P P 02 35 22.5 -0.2
baz=57,SNR=8.4
W34A Bridge Creek, 56.94 74 ⇓P P 02 35 22.8 0.0
baz=57
329A Wagon Wheel Ra 56.97 80 ⇑P P 02 35 22.9 -0.2
baz=57,SNR=10.0
626A Big Bend Ranch 56.99 83 ⇓P P 02 35 23.3 0.0
baz=57,SNR=28
ENH Enshi 57.02 278 *e*P P 02 35 23.0 -0.4
comp=Z,43nm,0.8s
428A Kincaid Ranch, 57.06 81 ⇓P P 02 35 24.5 +0.7
baz=57
131A Roby 57.12 78 ⇓P P 02 35 24.5 +0.4
baz=57
230A Sterling City 57.22 79 ⇑P P 02 35 24.8 -0.1
baz=57,SNR=14
Z32A Haskell 57.23 76 ⇓P P 02 35 24.9 0.0
baz=57,SNR=16
Y33A Hilltop Ranch, 57.27 75 ⇓P P 02 35 25.6 +0.5
baz=57
X34A Smith Ranch, M 57.34 74 ⇓P P 02 35 26.3 +0.7
baz=57
528A Cox Ranch, San 57.40 81 ⇓P P 02 35 26.2 +0.1
baz=57,SNR=22
TXAR Lajitas Array 57.44 83 P P 02 35 27.0 +0.6
TXAR PcP PcP 02 36 20.7 +1.1
TXAR ScP ScP 02 40 14.7 +0.2
TXAR Lajitas Array 57.44 83 P P 02 35 27.0 +0.6
comp=Z,13nm,0.8s,baz=299,slow=5.4,SNR=137
TXAR PcP PcP 02 36 20.7 +1.1
comp=Z,9.2nm,0.9s,baz=300,slow=5.0,SNR=4.6
TXAR ScP ScP 02 40 14.7 +0.2
comp=Z,0.7nm,0.9s,baz=289,slow=5.6,SNR=3.2
TXAR LR LR 02 59 15.8
comp=Z,70nm,18.3s,baz=0.0,slow=35
330A Mertzon 57.52 79 ⇓P P 02 35 26.6 -0.3
baz=57,SNR=7.4
627A Terlingua Ranc 57.52 82 ⇑P P 02 35 27.1 0.0
baz=57,SNR=21
ABTX Abilene, Hawle 57.60 77 *e*P P 02 35 28.3 +0.8
ABTX Abilene, Hawle 57.60 77 ⇓P P 02 35 27.7 +0.1
baz=57,SNR=6.2
429A Davenport Ranc 57.62 80 ⇓P P 02 35 27.3 -0.4
baz=57,SNR=12
KEV Kevo 57.64 350 *e*P P 02 35 28.2 +1.1
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 57.64 350 *ep* P 02 35 28.2 +1.1
comp=Z,0.5nm,0.3s
TUL1 Tulsa 57.65 72 *e*P P 02 35 26.8 -1.0
TUL1 Tulsa 57.65 72 ⇓P P 02 35 27.5 -0.2
baz=58,SNR=10
231A Bronte 57.67 78 ⇑P P 02 35 28.4 +0.4
baz=58
Z33A Whitaker Ranch 57.68 76 ⇑P P 02 35 27.9 -0.1
baz=58,SNR=12
529A Stev Forest Ra 57.77 81 ⇑P P 02 35 28.5 -0.3
baz=58,SNR=8.8
628A Black Gap, Mar 57.81 82 ⇓P P 02 35 28.6 -0.5
baz=58,SNR=20
Y34A Reagan Ranch, 57.82 75 ⇓P P 02 35 29.1 +0.1
baz=58,SNR=20
430A Baggett Ranch, 57.91 80 ⇓P P 02 35 29.4 -0.3
baz=58,SNR=23
ARCES ARCESS Array B 58.00 351 P P 02 35 28.0 -1.8
ARCES pP pP 02 35 43.5 -1.4
ARCES PcP PcP 02 36 21.4 +0.3
ARCES ARCESS Array B 58.00 351 P P 02 35 28.0 -1.8
comp=Z,3.5nm,0.8s,baz=17,slow=5.8,SNR=13
ARCES pP pP 02 35 43.5 -1.4
comp=Z,4.9nm,0.7s,baz=40,slow=9.6,SNR=5.2
ARCES PcP PcP 02 36 21.4 +0.3
comp=Z,3.2nm,0.6s,baz=17,slow=5.1,SNR=4.6
ARCES LR LR 03 01 03.6
comp=Z,568nm,19.5s,baz=352,slow=37
331A San Angelo 58.04 79 ⇑P P 02 35 30.2 -0.4
baz=58,SNR=13
133A Hamilton Ranch 58.06 77 ⇑P P 02 35 30.7 0.0
baz=58,SNR=11
232A Coleman 58.11 78 ⇑P P 02 35 30.6 -0.5
baz=58,SNR=12
Z34A Collier Ranch, 58.13 75 ⇑P P 02 35 31.2 0.0
baz=58,SNR=7.9
HDIL Hopedale 58.23 64 *e*P P 02 35 31.5 -0.2
comp=Z,57nm,0.8s
530A J-C Ranch, Com 58.30 80 ⇑P P 02 35 32.0 -0.4
baz=58,SNR=35
431A Sonora 58.37 79 ⇑P P 02 35 32.4 -0.6
baz=58,SNR=24
332A Millersview 58.41 78 ⇓P P 02 35 33.0 -0.2
baz=58,SNR=16
Z35A Perchaven, San 58.56 75 ⇓P P 02 35 34.4 +0.2
baz=58
134A White-Moore Ra 58.59 76 ⇓P P 02 35 34.5 +0.1
baz=58,SNR=15
432A Menard 58.73 79 ⇓P P 02 35 34.9 -0.6
baz=58,SNR=8.2
531A Rocksprings 58.77 80 ⇓P P 02 35 35.4 -0.3
baz=59,SNR=7.4
333A Richland Sprin 58.91 78 ⇑P P 02 35 36.2 -0.4
baz=59,SNR=6.3
135A Vickery Place, 59.00 76 ⇓P P 02 35 37.9 +0.6
baz=59
JCT Junction City 59.01 79 *e*P P 02 35 37.2 -0.1
JCT *e* 02 36 26.4
JCT pmax pmax
comp=Z,22nm,0.8s
JCT Junction City 59.01 79 *e*P P 02 35 37.2 -0.1
comp=Z,22nm,0.8s
JCT *e*PcP PcP 02 36 26.4 +0.6
JCT Junction City 59.01 79 ⇑P P 02 35 36.7 -0.7
baz=59,SNR=6.2
SCHQ Schefferville 59.03 39 P P 02 35 36.9 -0.2
SCHQ Schefferville 59.03 39 P P 02 35 36.9 -0.2
comp=Z,7.5nm,0.8s,baz=274,slow=14,SNR=6.1
532A Rocksprings 59.19 79 ⇓P P 02 35 37.9 -0.7
baz=59,SNR=9.4
433A Art 59.25 78 ⇑P P 02 35 38.4 -0.6
baz=59,SNR=9.4
631A Perdido Creek 59.28 80 ⇓P P 02 35 38.3 -1.0
baz=59,SNR=11
334A Lometa 59.36 77 ⇓P P 02 35 39.6 -0.1
baz=59,SNR=23
WHTX Lake Whitney 59.37 76 *e*P P 02 35 40.6 +0.8
WHTX *e*PcP PcP 02 36 27.9 +0.7
WHTX Lake Whitney 59.37 76 ⇓P P 02 35 39.7 -0.1
baz=59,SNR=7.4
SFIN Scholer Farm 59.57 62 *e*P P 02 35 41.2 +0.2
SFIN Scholer Farm 59.57 62 ⇑P P 02 35 40.7 -0.3
baz=59,SNR=11
KURK Kurchatov 59.68 315 *e*P P 02 35 40.0 -1.6
KURK *e* 02 36 27.4
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 59.68 315 *e*P P 02 35 40.0 -1.6
comp=Z,7.5nm,0.9s
KURK *e*PcP PcP 02 36 27.4 -0.6
KURK Kurchatov 59.68 315 P P 02 35 40.6 -1.0
comp=Z,110nm,0.5s,SNR=12
632A Uvalde 59.70 80 ⇓P P 02 35 41.1 -1.0
baz=60,SNR=8.1
434A Burnet 59.70 78 ⇓P P 02 35 41.6 -0.6
baz=60,SNR=14
533A Kerrville 59.76 79 ⇓P P 02 35 42.0 -0.5
baz=60,SNR=10
MIAR Mount Ida 59.91 71 *e*P P 02 35 43.6 +0.2
MIAR pmax pmax
comp=Z,49nm,0.9s
MIAR Mount Ida 59.91 71 *e*P P 02 35 43.6 +0.2
comp=Z,49nm,0.9s
CD2 Chengdu 60.08 283 ⇑*i*P P 02 35 45.1 +0.4
CD2 pP pP 02 35 59.7 -0.2
CD2 sP sP 02 36 05.8 -0.5
CD2 PcP PcP 02 36 30.8 +0.7
CD2 PP PP 02 37 59.5 +2.1
CD2 S S 02 43 51.0 -2.4
CD2 sS sS 02 44 15.8 -3.2
CD2 ScS SKKSac 02 45 26.9 -3.2
CD2 SS SS 02 47 48.8 -1.7
CD2 pmax pmax
comp=Z,260nm,0.8s
CD2 pmax pmax
comp=Z,110nm,5.8s
CD2 LR LR
comp=Z,240nm,23.8s
CD2 LR LR
comp=Z,280nm,22.6s
CD2 LR LR
comp=Z,330nm,23.8s
534A Blanco 60.13 78 ⇓P P 02 35 44.5 -0.5
baz=60,SNR=7.0
732A Laxson Ranch, 60.14 81 ⇓P P 02 35 45.0 -0.1
baz=60,SNR=20
OLIL Olney 60.15 64 *e*P P 02 35 44.8 -0.2
comp=Z,96nm,0.8s
WMQ Urumqi 60.18 304 P P 02 35 47.0 +1.8
WMQ pP pP 02 36 03.0 +2.5
WMQ sP sP 02 36 10.0 +3.2
WMQ PcP PcP 02 36 32.0 +1.7
WMQ PP PP 02 38 02.0 +4.0
WMQ ScP ScP 02 40 27.0 +0.7
WMQ S S 02 43 54.0 -0.5
WMQ ScS SKKSac 02 45 28.0 -2.5
WMQ SS SS 02 47 53.0 +1.5
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,170nm,5.0s
WMQ LR LR
comp=Z,430nm,22.0s
WMQ LR LR
comp=Z,330nm,20.0s
WMQ LR LR
comp=Z,270nm,20.0s
SIUC Southern Illin 60.22 66 *e*P P 02 35 45.3 -0.3
comp=Z,52nm,0.8s
UALR University of 60.47 70 *e*P P 02 35 47.4 +0.2
comp=Z,42nm,1.3s
PARMO Parma 60.65 67 *e*P P 02 35 48.7 +0.2
BLO Bloomington 60.72 63 *e*P P 02 35 48.5 -0.5
BLO pmax pmax
comp=Z,42nm,0.7s
BLO Bloomington 60.72 63 *e*P P 02 35 48.5 -0.5
comp=Z,42nm,0.7s
MK31 Makanchi Array 60.78 309 *i* P P 02 35 47.8 -1.5
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 60.78 309 *e*P P 02 35 47.5 -1.7
MKAR Makanchi Array 60.78 309 P P 02 35 47.8 -1.5
MKAR 02 36 29.0
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR

MKAR **Makanchi Array** 60.78 309 *e*P P 02 35 48.1 -1.1
MKAR PcP PcP 02 36 28.9 -3.7
comp=Z,4.3nm,0.7s,baz=50,slow=5.9,SNR=21
MKAR Makanchi Array 60.78 309 P P 02 35 47.8 -1.5
MKAR PcP PcP 02 36 28.9 -3.7
comp=Z,2.3nm,0.6s,baz=61,slow=4.4,SNR=6.1
MKAR LR LR 03 04 37.7
comp=Z,132nm,18.3s,baz=19,slow=38
SOKR Solikamsk 60.92 332 *e*P P 02 35 51.9 +2.0
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,480nm,19.0s
USIN University of 60.93 65 *e*P P 02 35 50.4 0.0
comp=Z,132nm,0.8s
TMCR Tamitsa 61.34 343 *e*P pP 02 36 09.5 +1.5
TMCR pmax pmax
comp=Z,61nm,0.4s
HALT Halls 61.42 67 *e*P P 02 35 53.5 -0.1
BVAR Borovoye Array 61.43 321 P P 02 35 52.4 -1.1
BVAR 02 36 35.4
BVAR pmax pmax
comp=Z,24nm,0.6s
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 61.43 321 P P 02 35 52.4 -1.1
BVAR PcP PcP 02 36 35.4 +0.3
BVAR Borovoye Array 61.43 321 P P 02 35 52.4 -1.1
comp=Z,24nm,0.6s,baz=48,slow=6.2,SNR=134
BVAR PcP PcP 02 36 35.4 +0.3
comp=Z,6.4nm,0.6s,baz=52,slow=5.8,SNR=3.9
BRVK Borovoye 61.45 321 *e*P P 02 35 53.5 -0.1
BRVK pmax pmax
comp=Z,20nm,0.6s
BRVK Borovoye 61.45 321 *e*P P 02 35 53.5 -0.1
comp=Z,20nm,0.6s
BRVK Borovoye 61.45 321 P P 02 35 53.3 -0.3
comp=Z,190nm,0.6s,SNR=9.5
GYA Guiyang 61.47 277 ⇑*i*P P 02 35 54.2 -0.1
GYA pP pP 02 36 12.8 +3.2
GYA sP sP 02 36 18.5 +2.6
GYA PcP PcP 02 36 35.0 -0.8
GYA PP PP 02 38 12.3 +2.4
GYA ScP ScP 02 40 31.8 -0.6
GYA PcS PcS 02 40 40.4 +1.3
GYA S S 02 44 09.7 -1.8
GYA sS sS 02 44 35.0 -2.2
GYA ScS SKKSac 02 45 37.9 -3.0
GYA SS SS 02 48 12.0 -0.7
GYA pmax pmax
comp=Z,60nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,580nm,18.9s
GYA LR LR
comp=Z,520nm,19.0s
GYA LR LR
comp=Z,550nm,18.8s
WCI Wyandotte Cave 61.51 64 *e*P P 02 35 53.8 -0.5
WCI pmax pmax
comp=Z,54nm,0.9s
WCI Wyandotte Cave 61.51 64 *e*P P 02 35 53.8 -0.5
comp=Z,54nm,0.9s
HKT Hockley 61.80 77 *e*P P 02 35 57.3 +1.1
HKT pmax pmax
comp=Z,72nm,1.8s
HKT Hockley 61.80 77 *e*P P 02 35 57.3 +1.1
comp=Z,72nm,1.8s
ACSO Alum Creek Sta 61.91 60 *e*P P 02 35 56.7 -0.2
comp=Z,26nm,0.8s
SVE Sverdlovsk 61.98 328 *e*P P 02 35 56.7 -0.5
SVE pmax pmax
comp=Z,15nm,0.8s
WVT Waverly 62.13 66 *e*P P 02 35 58.8 +0.4
WVT pmax pmax
comp=Z,18nm,0.8s
WVT Waverly 62.13 66 *e*P P 02 35 58.8 +0.4
comp=Z,18nm,0.8s
OXF Oxford 62.37 69 *e*P P 02 36 00.1 0.0
OXF pmax pmax
comp=Z,230nm,1.0s
OXF Oxford 62.37 69 *e*P P 02 36 00.1 0.0
comp=Z,230nm,1.0s
ARU Arti 62.98 329*d* *i*P P 02 36 03.7 -0.1
ARU S S 02 44 32.1 +2.7
ARU SS SS 02 48 31.1 -3.4
ARU pmax pmax
comp=Z,13nm,0.6s
ARU Arti 62.98 329 *e*P P 02 36 03.7 -0.1
comp=Z,15nm,0.7s
JOF Joensuu 63.62 346 *e*P P 02 36 07.5 -0.4
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 63.62 346 *e*p P 02 36 07.5 -0.4
comp=Z,0.6nm,0.3s
SWET Sewanee 63.86 66 *e*P P 02 36 09.9 -0.2
comp=Z,38nm,1.0s
MCWV Mont Chateau 64.00 58 *e*P P 02 36 10.8 -0.1
comp=Z,22nm,0.9s
MCWV *e*PcP PcP 02 36 46.5 +0.7
KLMR Klimovskoe 64.10 341 *e*P P 02 36 09.6 -1.5
KLMR pmax pmax
comp=Z,24nm,1.4s
BINY Binghamton 64.15 54 *e*P P 02 36 10.6 -1.2
comp=Z,360nm,2.5s
TZTN Tazewell 64.24 63 *e*P P 02 36 13.1 +0.7
comp=Z,55nm,0.9s
SSPA Standing Stone 64.32 57 *e*P P 02 36 14.1 +1.2
comp=Z,18nm,1.1s
CPCT Cooper Cave 64.49 65 *e*P P 02 36 13.2 -0.9
TKL Tuckaleechee C 64.76 64 *e*P P 02 36 15.8 0.0
LRAL Lakeview Retre 64.82 68 *e*P P 02 36 15.9 -0.3
comp=Z,22nm,0.8s
KMI Kunming 64.86 279 P P 02 36 17.5 +0.6
KMI pP pP 02 36 31.7 -0.6
KMI S S 02 44 53.6 -0.4
KMI SS SS 02 49 03.6 -2.2
KMI pmax pmax
comp=Z,140nm,1.0s
KMI LR LR
comp=Z,150nm,22.9s
KMI LR LR
comp=Z,160nm,20.1s
KMI LR LR
comp=Z,280nm,28.6s
QIZ Qiongzhong 64.96 269 P P 02 36 17.3 0.0
QIZ pP pP 02 36 31.4 -1.3
QIZ S S 02 44 55.2 +0.3
QIZ ScS ScS 02 46 07.6 +0.2
QIZ pmax pmax
comp=Z,31nm,1.8s
QIZ LR LR
comp=Z,190nm,3.8s
QIZ LR LR
comp=Z,220nm,15.0s
KAF Kangasniemi 65.08 348 *e*P P 02 36 16.3 -1.2
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 65.08 348 *e*p P 02 36 16.3 -1.2
comp=Z,0.9nm,0.4s
AFI Afiamalu 65.45 175 P P 02 36 20.0 -0.4
AFI Afiamalu 65.45 175 P P 02 36 20.0 -0.4
comp=Z,15nm,0.7s,baz=22,slow=16,SNR=2.5
BLA Blacksburg 65.48 61 *e*P P 02 36 20.8 +0.2
BLA pmax pmax
comp=Z,47nm,0.8s
BLA Blacksburg 65.48 61 *e*P P 02 36 20.8 +0.2
comp=Z,47nm,0.8s
ODNJ Ogdensburg 65.67 54 *e*P P 02 36 22.3 +0.7
comp=Z,11nm,0.9s
FINES FINESS Array B 65.76 348 P P 02 36 20.7 -1.2
FINES pP pP 02 36 36.9 -0.3
FINES FINESS Array B 65.76 348 P P 02 36 20.7 -1.2
comp=Z,3.1nm,0.7s,baz=58,slow=4.7,SNR=10
FINES pP pP 02 36 36.9 -0.3
comp=Z,6.0nm,0.9s,baz=67,slow=6.4,SNR=4.0
FINES LR LR 03 06 54.7
comp=Z,404nm,18.9s,baz=164,slow=38
BRAL Brewton 66.26 70 *e*P P 02 36 25.8 +0.2
comp=Z,266nm,1.6s
KMSC Kings Mountain 66.49 63 *e*P P 02 36 27.7 +0.6
KMSC Kings Mountain 66.49 63 ⇑P P 02 36 27.3 +0.3
baz=66,SNR=26
TKM2 Tokmak 2 66.84 310 *e*P P 02 36 29.4 0.0
TKM2 *e* 02 36 57.7
TKM2 pmax pmax
comp=Z,11nm,0.9s
TKM2 Tokmak 2 66.84 310 P P 02 36 33.0 +3.5
SNR=12
TKM2 Tokmak 2 66.84 310 *e*P P 02 36 29.4 0.0
comp=Z,11nm,0.9s
TKM2 *e*PcP PcP 02 36 57.7 -0.1
USP Ospenovka 67.10 311 *i* P P 02 36 32.0 +1.2
USP Ospenovka 67.10 311 P P 02 36 32.1 +1.2
SNR=18
JSC Jenkinsville 67.17 63 *e*P P 02 36 31.8 +0.5
JSC Jenkinsville 67.17 63 *e*P P 02 36 31.8 +0.5
KBK Karagaybulak 67.36 311 P P 02 36 33.4 +0.8
SNR=9.3
NB2 NORSAR Subarra 67.46 356 P P 02 36 31.7 -1.1
comp=Z,2.0nm,0.7s,baz=6.2,slow=6.5
NOA NORSAR Array B 67.46 356 P P 02 36 31.4 -1.3
NOA pP pP 02 36 47.4 -0.9
NOA NORSAR Array B 67.46 356 P P 02 36 31.4 -1.3
comp=Z,3.3nm,0.7s,baz=3.9,slow=6.3,SNR=12
NOA pP pP 02 36 47.4 -0.9
comp=Z,2.6nm,0.8s,baz=4.4,slow=6.4,SNR=3.8
NOA LR LR 03 03 42.4
comp=Z,216nm,20.7s,baz=350,slow=34
AAK Ala-Archa 67.59 311 *e*P P 02 36 34.2 +0.1
AAK pmax pmax
comp=Z,13nm,0.7s
AAK Ala-Archa 67.59 311 P P 02 36 34.2 +0.1
SNR=12
AAK Ala-Archa 67.59 311 *e*P P 02 36 34.1 +0.1
comp=Z,13nm,0.7s
AAK Ala-Archa 67.59 311 P P 02 36 34.9 +0.8
comp=Z,107nm,0.7s,SNR=11
KZA Kyzart 67.66 310 *i* P P 02 36 35.7 +0.9
KZA Kyzart 67.66 310 P P 02 36 35.7 +0.9
SNR=8.3
EKS2 Erkin-Say 67.90 311 *e*P P 02 36 36.2 +0.2
EKS2 *e* 02 37 00.7
EKS2 pmax pmax
comp=Z,13nm,0.7s
EKS2 Erkin-Say 67.90 311 P P 02 36 36.3 +0.3
SNR=13
EKS2 Erkin-Say 67.90 311 *e*P P 02 36 36.2 +0.2
comp=Z,13nm,0.7s
EKS2 *e*PcP PcP 02 37 00.7 -1.4
TIGA Tifton 67.95 67 ⇓P P 02 36 35.8 -0.5
baz=68
TAOE Nuku Hiva Isla 68.07 140 *e*T T 03 50 38.0
comp=Z,91nm,0.3s
AKTO Aktyubinsk 68.13 326 P P 02 36 36.9 -0.3
AKTO 02 37 06.4
AKTO pmax pmax
comp=Z,28nm,0.7s
AKTO pmax pmax
comp=Z,8.0nm,0.8s
AKTO Aktyubinsk 68.13 326 P P 02 36 36.9 -0.3
AKTO PcP PcP 02 37 06.4 +3.6
AKTO Aktyubinsk 68.13 326 P P 02 36 36.9 -0.3
comp=Z,28nm,0.7s,baz=39,slow=6.1,SNR=135
AKTO PcP PcP 02 37 06.4 +3.6
comp=Z,7.7nm,0.8s,baz=50,slow=7.7,SNR=3.5
HFS Hagfors 68.23 354 P P 02 36 37.1 -0.5
HFS sP sP 02 36 57.6 -1.8
HFS Hagfors 68.23 354 P P 02 36 37.1 -0.5
comp=Z,3.8nm,0.6s,baz=39,slow=5.7,SNR=16
HFS sP sP 02 36 57.6 -1.8
comp=Z,4.1nm,0.7s,baz=35,slow=5.4,SNR=3.9
PMG Port Moresby 68.25 219 *e*P P 02 36 38.5 +0.3
comp=Z,30nm,1.0s
AML Almayashu 68.35 311 *i* P P 02 36 40.7 +1.5
AML Almayashu 68.35 311 P P 02 36 40.7 +1.5
SNR=12
AB31 Akbulak array 68.42 324 *i* P P 02 36 38.6 -0.3
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 68.42 324 *e*P P 02 36 39.0 0.0
comp=Z,12nm,0.7s
ABKAR *e*PcP PcP 02 37 03.6 -0.4
LSA Lhasa 68.46 291 *e*P P 02 36 41.6 +1.5
LSA *e* 02 37 04.6
LSA pmax pmax
comp=Z,30nm,0.6s
LSA Lhasa 68.46 291 *e*P P 02 36 41.6 +1.5
comp=Z,30nm,0.6s
LSA *e*PcP PcP 02 37 04.6 -0.5
VSU Vasula 68.55 347 *i* P P 02 36 37.9 -1.7
VSU pmax pmax
comp=Z,90nm,2.8s
VSU MLR MLR
comp=Z,590nm,19.0s
RGRS Roger Stewart 68.78 64 *e*P P 02 36 42.8 +1.4
KK31 Karatay Array 69.06 314 *e*P P 02 36 42.4 -0.7
KK31 pmax pmax
comp=Z,15nm,0.6s
KKAR Karatay Array 69.06 314 *e*P P 02 36 42.8 -0.2
KKAR pmax pmax
comp=Z,24nm,0.8s
KKAR Karatay Array 69.06 314 *e*P P 02 36 42.8 -0.2
comp=Z,24nm,0.8s
KSH Kashi 69.27 308 P P 02 36 47.5 +2.9
KSH pP pP 02 37 03.1 +3.0
KSH sP sP 02 37 11.1 +4.7
KSH PP PP 02 39 24.1 +6.4
KSH S S 02 45 46.1 -0.5
KSH sS sS 02 46 15.9 +3.2
KSH ScS SKKSac 02 46 40.1 +0.3
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,160nm,6.0s
KSH LR LR
comp=Z,170nm,5.3s
KSH LR LR
comp=Z,170nm,5.9s
KSH LR LR
comp=Z,300nm,5.6s
CRAI Chiangrai 69.94 277 P P 02 36 49.1 +0.3
comp=Z,228nm,0.7s
OBN Obninsk 70.01 340⇑ *e*P P 02 36 46.6 -2.0
OBN *e*SS SS 02 50 24.0 +0.7
OBN pmax pmax
comp=Z,16nm,1.7s
OBN MLR MLR
comp=Z,200nm,17.0s
IMP Imphal 70.47 285 *e*P P 02 36 52.0 -0.1
UBPT Khong Chiam 70.51 270 P P 02 36 52.6 +0.3
comp=Z,42nm,0.8s
CMAI Chiengmai2 70.99 278 P P 02 36 55.8 +0.4
comp=Z,72nm,1.0s,comp=Z,4μm
PMOR Pomariorio Ree 71.03 150 *e*P P 02 37 01.3 +6.1
comp=Z,26nm,1.0s
PMOR Pomariorio Ree 71.03 150 *e*T T 03 54 20.6
comp=Z,27nm,0.2s
KKM Kota Kinabalu 71.04 255 *e*P P 02 36 56.3 +0.6
comp=Z,42nm,1.1s
SHL Shillong 71.11 287 *i* P P 02 36 55.5 -0.6
VAH Vaihoa 71.33 150 *e*P P 02 37 02.9 +5.9
comp=Z,27nm,1.0s
GTOI Gorontalo 71.39 246 P P 02 36 56.7 -0.9
LAMP Lampang 71.69 277 P P 02 36 59.9 +0.5
comp=Z,9.6nm,0.9s,comp=Z,96nm
CMMT Chiang Mai 71.89 278 P P 02 37 00.6 0.0
comp=Z,22nm,1.3s,comp=Z,670nm
CHTO Chiang Mai 71.89 278 *e*P P 02 37 00.8 +0.1
CHTO pmax pmax
comp=Z,9.0nm,1.3s
CHTO Chiang Mai 71.89 278 P P 02 37 00.5 -0.1
comp=Z,102nm,1.3s,comp=Z,1μm
CHTO Chiang Mai 71.89 278 *e*P P 02 37 00.8 +0.1
comp=Z,9.2nm,1.3s
CHTO Chiang Mai 71.89 278 P P 02 37 00.7 +0.1
comp=Z,102nm,1.3s,comp=Z,1μm
MRSI Marisa 72.13 247 P P 02 37 01.9 -0.1
CM31 Chiang Mai Arr 72.16 277 *e*P P 02 37 02.4 +0.1
comp=Z,11nm,0.4s
CMAR Chiang Mai Arr 72.16 277 P P 02 37 02.8 +0.5
CMAR Chiang Mai Arr 72.16 277 P P 02 37 02.8 +0.5
comp=Z,24nm,0.7s,baz=28,slow=6.9,SNR=54
CMAR LR LR 03 11 44.8
comp=Z,116nm,18.8s,baz=2.9,slow=38
TAPN Taplejung 72.22 292 *e*P P 02 37 02.9 +0.1
comp=Z,105nm,0.7s
TAPN Taplejung 72.22 292 *e*P P 02 37 02.9 +0.1
PBKT Sadao Pong 72.33 274 P P 02 37 03.3 +0.1
comp=Z,50nm,0.8s
VRHR Novokhopersk 72.55 336 *e*P P 02 37 02.3 -1.7
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=E,8.0nm,0.8s
ODAN Odare 72.77 291 *e*P P 02 37 06.3 +0.2
comp=E,34nm,0.6s
ODAN Odare 72.77 291 *e*P P 02 37 06.3 +0.2
GUN Gumba 72.84 293 *e*P P 02 37 06.7 +0.1
comp=E,167nm,0.7s
GUN Gumba 72.84 293 *e*P P 02 37 06.7 +0.1
JIRN Jiri 72.86 293 *e*P P 02 37 06.8 +0.1
comp=E,174nm,0.7s
JIRN Jiri 72.86 293 *e*P P 02 37 06.8 +0.1
LUWI Luwuk 72.90 245 P P 02 37 02.5 -4.1
PPT Papeete 72.95 153 LR LR 03 04 12.0
comp=E,255nm,19.0s,baz=5.7,slow=32
PPT2 Papeete2 72.97 153 *e*S SKiKP 02 46 38.5 +4.1
comp=E,180nm,32.8s
PPT2 Papeete2 72.97 153 *e*LR LR 02 59 19.7
comp=E,419nm,23.5s
PPT2 Papeete2 72.97 153 *e*T T 03 56 49.1
comp=E,16nm,0.3s
TIAR Tiarei 73.01 153 *e*T T 03 56 58.8
comp=E,5.9nm,0.3s
PAE Paea 73.04 153 *e*T T 03 56 50.8
comp=E,4.6nm,0.4s
VSR Storozhevoye 73.05 337⇓ *e*P P 02 37 06.9 -0.1
VSR pmax pmax
comp=Z,27nm,1.1s
VSR MLR MLR
comp=Z,561nm,25.0s
RAMN Ramite 73.16 292 *e*P P 02 37 08.4 0.0
comp=Z,181nm,0.6s
RAMN Ramite 73.16 292 *e*P P 02 37 08.4 0.0
EKA Eskdalemuir Ar 73.24 4 P P 02 37 09.2 +1.1
EKA Eskdalemuir Ar 73.24 4 P P 02 37 09.2 +1.1
comp=Z,1.9nm,0.6s,baz=1.2,slow=4.8,SNR=4.7
VORD Divnogorie 73.25 337 *e*P P 02 37 08.2 0.0
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
TVO Taravao 73.25 153 *e*T T 03 57 16.8
comp=E,1.5nm,0.3s
ESK Eskdalemuir 73.26 4 *e*P P 02 37 09.0 +0.8
ESK pmax pmax
comp=Z,31nm,1.3s
ESK Eskdalemuir 73.26 4 *e*P P 02 37 09.0 +0.8
comp=Z,31nm,1.3s
KKN Kakani 73.28 294 *e*P P 02 37 09.3 +0.3
comp=Z,58nm,0.6s
KKN Kakani 73.28 294 *e*P P 02 37 09.3 +0.3
KKN Kakani 73.28 294 *e*P P 02 37 09.3 +0.3
PKI Pulchoki 73.37 293 *e*P P 02 37 09.5 -0.2
comp=Z,58nm,0.8s
PKI Pulchoki 73.37 293 *e*P P 02 37 09.5 -0.2
PKI Pulchoki 73.37 293 *e*P P 02 37 09.5 -0.2
PKIN Phulchoki 73.37 293 *e*P P 02 37 09.2 -0.5
comp=Z,33nm,0.6s
GKN Gorkha 73.48 294 *e*P P 02 37 09.8 -0.4
comp=Z,58nm,0.8s
GKN Gorkha 73.48 294 *e*P P 02 37 09.8 -0.4
DMN Daman 73.52 294 *e*P P 02 37 11.1 +0.6
comp=Z,60nm,0.6s
DMN Daman 73.52 294 *e*P P 02 37 11.1 +0.6
DANN Dangsing 73.71 295 *e*P P 02 37 11.6 -0.1
comp=Z,70nm,0.8s
DANN Dangsing 73.71 295 *e*P P 02 37 11.6 -0.1
COEN Coen 73.97 220 *e*P P 02 37 12.2 -0.6
comp=Z,111nm,1.0s
KOLN Koldanda 74.25 295 *e*P P 02 37 14.5 -0.2
comp=Z,23nm,0.7s
KOLN Koldanda 74.25 295 *e*P P 02 37 14.5 -0.2
PYUN Piuthan 74.34 295 *e*P P 02 37 14.9 -0.3
comp=Z,105nm,0.8s
PYUN Piuthan 74.34 295 *e*P P 02 37 14.9 -0.3
CHBT CHBT 74.39 271 P P 02 37 16.2 +0.8
comp=Z,33nm,1.2s,comp=Z,986nm
DZM Mont Dzumac 74.86 196 *e*LR LR 03 00 23.9
comp=Z,428nm,25.6s
PATY Pattaya 75.18 272 P P 02 37 20.6 +0.7
comp=Z,26nm,0.9s
AKASG Malin Array Be 75.63 343 P P 02 37 20.8 -1.2
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 75.63 343 P P 02 37 20.8 -1.2
AKASG Malin Array Be 75.63 343 P P 02 37 20.8 -1.2
comp=Z,3.5nm,0.6s,baz=18,slow=5.8,SNR=17
AKASG LR LR 03 16 16.3
comp=Z,275nm,18.8s,baz=345,slow=40
KIEV Kiev 75.64 343 *e*P P 02 37 20.9 -1.2
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 75.64 343 *e*P P 02 37 20.9 -1.2
comp=Z,8.0nm,0.9s
KKSI Kolaka, Sulawe 76.09 244 P P 02 37 22.0 -3.1
SBUM Sibu 76.29 256 P P 02 37 27.0 +0.7
comp=Z,23nm,0.7s
SBUM Sibu 76.29 256 *e*P P 02 37 26.9 +0.6
KBL Kabul 76.59 309 *e*P P 02 37 27.2 -0.8
KBL pmax pmax
comp=Z,26nm,0.9s
KBL Kabul 76.59 309 *e*P P 02 37 27.2 -0.8
comp=Z,26nm,0.9s
BBSI Bau Bau 76.66 243 P P 02 37 27.1 -1.2
SPSI Sidrap Palu 76.99 246 P P 02 37 29.7 -0.5
CLL Collm 77.06 354 *i* sP sP 02 37 48.2 -3.9
BNSI Bone 77.16 246 P P 02 37 31.2 +0.1
BRG Berggiesshubel 77.42 353 *e*P P 02 37 31.6 -0.5
comp=Z,9.2nm,1.3s
BRG *e* 02 37 51.7
comp=Z,10nm,1.6s
BRG *e* 02 38 20.9
comp=Z,8.9nm,1.3s
KWP Kalwaria Pacla 77.71 347 *e*P P 02 37 33.8 0.0
KWP pmax pmax
comp=Z,24nm,1.0s
KWP Kalwaria Pacla 77.71 347 *e*P P 02 37 33.8 0.0
KWP Kalwaria Pacla 77.71 347 ⇓*i*P P 02 37 33.7 0.0
KWP Kalwaria Pacla 77.71 347 *e*P P 02 37 33.8 0.0
comp=Z,24nm,1.0s
KAPI Kappang 77.86 246 P P 02 37 35.5 +0.5
KAPI Kappang 77.86 246 P P 02 37 35.7 +0.7
comp=Z,221nm,1.0s,comp=Z,3μm
KAPI Kappang 77.86 246 *e*P P 02 37 35.5 +0.5
comp=Z,122nm,0.7s
KAPI Kappang 77.86 246 P P 02 37 35.5 +0.5
comp=Z,219nm,0.8s,SNR=6.0
BKSI Bulukumba 77.90 245 P P 02 37 35.2 0.0
MORC Moravsky Berou 78.19 350 *e*P P 02 37 36.4 -0.1
MORC pmax pmax
comp=Z,3.0nm,1.0s
MORC Moravsky Berou 78.19 350 *e*P P 02 37 36.4 -0.1
comp=Z,2.8nm,1.0s
KSM Kuching 78.22 257 P P 02 37 37.9 +0.8
comp=Z,38nm,1.2s,comp=Z,626nm
KSM Kuching 78.22 257 *e*P P 02 37 37.7 +0.6
comp=Z,9.5nm,0.6s
CTAO Charters Tower 78.39 215 *e*P P 02 37 38.0 +0.2
CTAO pmax pmax
comp=Z,26nm,1.0s
CTAO Charters Tower 78.39 215 *e*P P 02 37 38.0 +0.2
comp=Z,26nm,1.0s
TBI Tubuai 78.48 154 *e*S S 02 47 34.2 +4.4
comp=Z,126nm,36.0s
TBI Tubuai 78.48 154 *e*LR LR 03 01 57.4
comp=Z,483nm,30.5s,baz=339
ABKT Ailbek 78.67 319 P P 02 37 39.9 +0.5
comp=Z,73nm,1.0s,SNR=5.1
UZH Uzhgorod 78.74 347⇑ *i*P P 02 37 40.0 +0.5
UZH *i* 02 37 56.0
VRAC Vranov 78.75 351⇑ *i*P P 02 37 39.7 +0.1
VRAC Vranov 78.75 351 P P 02 37 39.3 -0.2
VRAC Vranov 78.75 351 P P 02 37 39.3 -0.2
comp=Z,2.8nm,0.9s,baz=354,slow=8.1,SNR=4.2
GRF Grafenberg Arr 78.78 355 *e*P sP 02 38 00.4 -1.4
comp=Z,7.0nm,1.1s
KIV Kislovodsk 78.79 332 *e*P P 02 37 40.0 0.0
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR

comp=Z,206nm,18.0s
KIV Kislovodsk 78.79 332 *e*P **P 02 37 39.5 -0.5**
comp=Z,19nm,1.1s
TGUH Tegucigalpa,Un 78.88 81 *e*P **P 02 37 42.7 +1.9**
comp=Z,36nm,0.8s
KBZ Khabaz 78.93 332 LR LR 03 15 51.7
comp=Z,266nm,21.9s,baz=24,slow=38
KHC Kasperske Hory 79.19 353 *i* P **P 02 37 41.8 -0.2**
KHC pmax pmax
comp=Z,85nm,2.9s
TRPA Tarpa 79.20 347⇑ *i*P **P 02 37 42.4 +0.4**
KIS Kishinev 79.26 342 *e*P **P 02 37 42.0 -0.4**
KIS LRM MLR 03 17 56.0
comp=Z,500nm,16.0s
KIS Kishinev 79.26 342 *e*P **P 02 37 42.0 -0.4**
BUR08 Bucovina Ar. S 79.27 345 *e*P **P 02 37 42.2 -0.3**
BURAR Bucovina Array 79.30 345⇓ *i*P **P 02 37 42.5 -0.2**
GERES GERESS Array B 79.46 353 P **P 02 37 42.6 -1.0**
GERES pP **pP 02 37 58.5 -0.9**
GERES GERESS Array B 79.46 353 P **P 02 37 42.6 -1.0**
comp=Z,1.1nm,0.8s,baz=35,slow=4.9,SNR=9.8
GERES pP **pP 02 37 58.5 -0.9**
comp=Z,0.9nm,0.8s,baz=28,slow=6.0,SNR=3.4
GERES LR LR 03 17 21.9
comp=Z,240nm,19.1s,baz=188,slow=39
ZEI Tsey 79.49 331 *e*P **P 02 37 44.2 +0.2**
ZEI pmax pmax
comp=Z,15nm,1.1s
SURT Suratani 79.51 271 P **P 02 37 44.7 +0.5**
comp=Z,26nm,1.0s
PSZ Piszkesteto 79.76 349 *e*P **P 02 37 44.9 -0.3**
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 79.76 349 *e*P **P 02 37 44.9 -0.3**
comp=Z,3.5nm,0.8s
LEOM Leova 79.88 343⇓ *i*P **P 02 37 45.8 +0.1**
LDF La Druitiere 80.08 2 *e*P **P 02 37 47.0 +0.2**
LDF La Druitiere 80.08 2 *e*P **P 02 37 47.0 +0.2**
LDF La Druitiere 80.08 2 *e*P **P 02 37 47.0 +0.2**
TESR Tescani 80.13 344⇓ *i*P **P 02 37 46.8 -0.3**
PAGF Fort de Pagny 80.13 358 *e*P **P 02 37 47.1 0.0**
comp=Z,4.9nm,0.8s
PAGF Fort de Pagny 80.13 358 *e*P **P 02 37 47.1 0.0**
comp=Z,4.9nm,0.8s
MEZF Maizieres J'vi 80.20 359 *e*P **P 02 37 47.1 -0.3**
MEZF Maizieres J'vi 80.20 359 *e*P **P 02 37 47.1 -0.3**
CDF Champ du Feu 80.24 357 *e*P **P 02 37 47.2 -0.6**
comp=Z,9.0nm,0.9s
CDF Champ du Feu 80.24 357 *e*P **P 02 37 47.2 -0.6**
CDF pmax pmax
comp=Z,9.0nm,0.9s
CDF Champ du Feu 80.24 357 *e*P **P 02 37 47.2 -0.6**
comp=Z,9.0nm,0.9s
GRR Gorron 80.27 3 *e*P **P 02 37 48.0 +0.2**
comp=Z,48nm,1.1s
GRR Gorron 80.27 3 *e*P **P 02 37 48.0 +0.2**
GRR pmax pmax
comp=Z,49nm,1.1s
GRR Gorron 80.27 3 *e*P **P 02 37 48.0 +0.2**
comp=Z,48nm,1.1s
GHRR 80.43 343⇑ *i*P **P 02 37 49.9 +1.2**
DRGR 80.48 346⇓ *i*P **P 02 37 48.7 -0.4**
SFTF Sexfontaines 80.50 359 *e*P **P 02 37 48.7 -0.3**
comp=Z,15nm,0.8s
SFTF Sexfontaines 80.50 359 *e*P **P 02 37 48.7 -0.3**
comp=Z,15nm,0.8s
HAU Haudompre 80.67 358 *e*P **P 02 37 49.5 -0.5**
HAU eR
comp=Z,380nm,20.8s
HAU Haudompre 80.67 358 *e*P **P 02 37 49.5 -0.5**
HAU Haudompre 80.67 358 *e*P **P 02 37 49.5 -0.5**
VRI Vrincioaia 80.74 344⇓ *i*P **P 02 37 52.2 +1.8**
PLOR Plostina 80.77 344⇑ *i*P **P 02 37 52.0 +1.4**
HINF Hinteralfeld 80.84 357 *e*P **P 02 37 50.2 -0.8**
HINF Hinteralfeld 80.84 357 *e*P **P 02 37 50.2 -0.8**
HINF Hinteralfeld 80.84 357 *e*P **P 02 37 50.2 -0.8**
CFR Carcaliu 81.14 342⇑ *i*P **P 02 37 52.8 +0.3**
SIRR Siria 81.15 347⇑ *i*P **P 02 37 52.8 +0.2**
KULM Kulim 81.19 267 *e*P **P 02 37 52.9 -0.4**
comp=Z,41nm,1.3s
MLR Muntele Rosu 81.24 344⇓ *i*P **P 02 37 54.7 +1.5**
MLR Muntele Rosu 81.24 344 P **P 02 37 54.0 +0.8**
MLR Muntele Rosu 81.24 344 P **P 02 37 54.0 +0.8**
comp=Z,3.8nm,1.0s,baz=182,slow=3.3,SNR=18
VOIR 81.44 345⇓ *i*P **P 02 37 55.7 +1.5**
LOR Lormes 81.44 359 *e*P **P 02 37 54.3 +0.2**
LOR eR
comp=Z,388nm,22.5s
LOR Lormes 81.44 359 *e*P **P 02 37 54.3 +0.2**
ISR Istrita 81.49 343⇑ *i*P **P 02 37 55.0 +0.5**
SOKA Soboth 81.50 352⇑ *i*P **P 02 37 54.6 +0.1**
comp=Z,7.9nm,0.8s
IPM Ipoh 81.59 267 P **P 02 37 55.4 +0.1**
comp=Z,37nm,1.1s
IPM Ipoh 81.59 267 *e*P **P 02 37 55.1 -0.2**
comp=Z,23nm,0.7s
GNI Garni 81.62 329 *e*P **P 02 37 56.8 +1.4**
comp=Z,30nm,1.3s
SSF Saint Saulge 81.65 360 *e*P **P 02 37 55.5 +0.3**
comp=Z,9.0nm,0.8s
SSF Saint Saulge 81.65 360 *e*P **P 02 37 55.5 +0.3**
SSF pmax pmax
comp=Z,9.0nm,0.8s
SSF Saint Saulge 81.65 360 *e*P **P 02 37 55.5 +0.3**
comp=Z,9.0nm,0.8s
EIDS Eidsvold 81.70 209 *e*P **P 02 37 56.0 +0.5**
comp=Z,251nm,2.9s
OBKA Obir 81.71 352⇑ *i*P **P 02 37 56.5 +0.8**
comp=Z,7.3nm,0.8s
TLB Topalu 81.73 342⇑ *i*P **P 02 37 56.2 +0.6**
DAVOX Davos/Dischmat 81.76 355 P **P 02 37 56.1 +0.1**
DAVOX Davos/Dischmat 81.76 355 P **P 02 37 56.1 +0.1**
comp=Z,1.5nm,0.7s,baz=340,slow=19,SNR=5.1
TIRR Tirgusor 81.78 342⇓ *i*P **P 02 37 55.8 -0.1**
BZS Buzias 81.79 347⇓ *i*P **P 02 37 56.4 +0.5**
GZR Gura Zlata 81.84 346⇓ *i*P **P 02 37 56.2 -0.1**
AVF Avril sur Loir 81.92 360 *e*P **P 02 37 56.8 +0.2**
comp=Z,14nm,1.1s
AVF Avril sur Loir 81.92 360 *e*P **P 02 37 56.8 +0.2**
AVF pmax pmax
comp=Z,14nm,1.0s
AVF Avril sur Loir 81.92 360 *e*P **P 02 37 56.8 +0.2**
comp=Z,14nm,1.0s
SMF Signal de Mont 82.07 359 *e*P **P 02 37 57.0 -0.4**
comp=Z,20nm,1.1s
SMF Signal de Mont 82.07 359 *e*P **P 02 37 57.0 -0.4**
SMF pmax pmax
comp=Z,20nm,1.1s
SMF Signal de Mont 82.07 359 *e*P **P 02 37 57.0 -0.4**
comp=Z,20nm,1.1s
MFF Saint Martin d 82.07 2 *e*P **P 02 37 57.2 -0.2**
MFF Saint Martin d 82.07 2 *e*P **P 02 37 57.2 -0.2**
MFF Saint Martin d 82.07 2 *e*P **P 02 37 57.2 -0.2**
HUMR Humele 82.34 344⇓ *i*P **P 02 37 58.8 0.0**
MTNI Mataram 82.84 246 P **P 02 38 00.2 -1.6**
comp=Z,25nm,1.4s,comp=Z,740nmcomp=Z,0.1nm
KHKI Kahang-Kahang 82.95 247 P **P 02 38 00.8 -1.5**
comp=Z,68nm,0.9s,comp=Z,715nmcomp=Z,0.2nm
RKT Rikitea 83.04 142 *e*LR LR 03 04 15.9
comp=Z,489nm,26.2s
WRAB Tennant Creek 83.04 225*c i*P **P 02 38 01.8 -0.8**
WRAB pmax pmax
comp=Z,68nm,0.8s
WRAB Tennant Creek 83.04 225 *e*P **P 02 38 01.7 -1.0**
comp=Z,32nm,1.0s
WRAB Tennant Creek 83.04 225 P **P 02 38 01.5 -1.1**
comp=Z,185nm,1.0s,SNR=23
WRA Warramunga Arr 83.05 225 P **P 02 38 01.9 -0.8**
WRA PKKPbc **PKKPbc 02 56 20.3 -2.7**
WRA Warramunga Arr 83.05 225 P **P 02 38 01.9 -0.8**
comp=Z,24nm,0.8s,baz=33,slow=5.8,SNR=156
WRA PKKPbc **PKKPbc 02 56 20.3 -2.7**
comp=Z,0.5nm,0.7s,baz=225,slow=2.4,SNR=2.8
WRA LR LR 03 12 16.6
comp=Z,117nm,20.1s,baz=55,slow=34
LPL La Plagne 83.15 357 *e*P **P 02 38 02.6 -0.7**
LPL La Plagne 83.15 357 *e*P **P 02 38 02.6 -0.7**
LPL La Plagne 83.15 357 *e*P **P 02 38 02.6 -0.7**
LPG La Plagne 83.17 357 *e*P **P 02 38 03.1 -0.4**
LPG La Plagne 83.17 357 *e*P **P 02 38 03.1 -0.4**
LPG La Plagne 83.17 357 *e*P **P 02 38 03.1 -0.4**
JTS JuntasAbangare 83.22 82 *e*P **P 02 38 03.3 -0.6**
comp=Z,9.9nm,0.9s
CAF Calviac 83.78 1 *e*P **P 02 38 06.9 +0.5**
comp=Z,11nm,0.9s
CAF Calviac 83.78 1 *e*P **P 02 38 06.9 +0.5**
CAF pmax pmax
comp=Z,11nm,0.9s
CAF Calviac 83.78 1 *e*P **P 02 38 06.9 +0.5**
comp=Z,11nm,0.9s
VIVF Saint-Julien-l 83.85 359 *e*P **P 02 38 06.5 -0.2**
VIVF Saint-Julien-l 83.85 359 *e*P **P 02 38 06.5 -0.2**
VIVF Saint-Julien-l 83.85 359 *e*P **P 02 38 06.5 -0.2**
PSI Prapat 84.20 267 P **P 02 38 08.9 -0.1**
comp=Z,115nm,0.9s,comp=Z,906nm
VTS Vitosha 84.51 345⇓ *i*P **P 02 38 10.0 -0.2**
NGJI Ngawi 84.56 251 P **P 02 38 12.2 +1.7**
comp=Z,59nm,0.8s,comp=Z,0.2nm
NGJI Ngawi 84.56 251 P **P 02 38 10.9 +0.4**
comp=Z,52nm,1.1s
SJI Sawahan 84.67 251 P **P 02 38 10.8 -0.4**
comp=Z,38nm,1.1s,comp=Z,3μmcomp=Z,0.2nm
SJI Sawahan 84.67 251 P **P 02 38 10.6 -0.6**
comp=Z,34nm,0.9s,comp=Z,3μm
PWJI Pagerwojo 84.88 250 P **P 02 38 10.8 -1.4**
BR131 Keskin Array S 85.16 337 *e*P **P 02 38 13.1 -0.5**
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 85.16 337 P **P 02 38 13.3 -0.2**
BRTR Keskin Array B 85.16 337 P **P 02 38 13.3 -0.2**
comp=Z,13nm,0.8s,baz=51,slow=2.5,SNR=72
BRTR LR LR 03 20 37.5
comp=Z,97nm,18.3s,baz=42,slow=39
HYB Hyderabad 85.22 292 *i* P **P 02 38 12.0 -2.0**
MALT Malatya 85.22 333⇑ *i*P **P 02 38 15.0 +1.2**
MTLF Montolieu 85.37 1 *e*P **P 02 38 14.8 +0.5**
MTLF Montolieu 85.37 1 *e*P **P 02 38 14.8 +0.5**
MTLF Montolieu 85.37 1 *e*P **P 02 38 14.8 +0.5**
SJPF Ste Jean 85.53 3 *e*P **P 02 38 15.4 +0.3**
SJPF Ste Jean 85.53 3 *e*P **P 02 38 15.4 +0.3**
SJPF Ste Jean 85.53 3 *e*P **P 02 38 15.4 +0.3**
TGJI Tegal 85.55 253 P **P 02 38 15.8 +0.3**
comp=Z,32nm,1.3s
BJII Banjamegara 85.56 252 P **P 02 38 15.0 -0.7**
BJII Banjamegara 85.56 252 P **P 02 38 14.9 -0.7**
comp=Z,45nm,0.9s
ETSF Etsaut 85.76 3 *e*P **P 02 38 16.6 +0.2**
comp=Z,9.5nm,0.9s
ETSF Etsaut 85.76 3 *e*P **P 02 38 16.6 +0.2**
ETSF pmax pmax
comp=Z,10.0nm,0.9s
ETSF Etsaut 85.76 3 *e*P **P 02 38 16.6 +0.2**
comp=Z,9.5nm,0.9s
KPJI Karang Pucung 86.03 253 P **P 02 38 16.5 -1.4**
comp=Z,63nm,1.0s
GSI Gunungsitoli 86.20 267 P **P 02 38 19.5 +0.6**
comp=Z,62nm,1.2s
GSI Gunungsitoli 86.20 267 *e*P **P 02 38 19.5 +0.6**
comp=Z,33nm,0.7s
KLSI 86.47 258 P **P 02 38 19.0 -1.1**
comp=Z,33nm,1.3s
AS31 Alice Springs 86.51 224 *e*P **P 02 38 19.9 -0.2**
ASAR Alice Springs 86.51 224 P **P 02 38 20.0 -0.1**
ASAR Alice Springs 86.51 224 P **P 02 38 20.0 -0.1**
comp=Z,28nm,0.8s,baz=28,slow=4.7,SNR=202
ASAR LR LR 03 11 06.4
comp=Z,162nm,20.7s,baz=57,slow=32
LHSI Lahat 86.53 259 P **P 02 38 19.3 -1.1**
comp=Z,50nm,1.2s
MDSI Maura Dua 86.65 259 P **P 02 38 19.1 -1.9**
LRS Lares 87.64 63 *e*P **P 02 38 26.0 +0.2**
TIP Timpagrande 88.75 349 *e*P **P 02 38 30.0 -0.9**
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 88.83 5 P **P 02 38 30.2 -1.0**
ESDC Sonseca Array 88.83 5 P **P 02 38 30.2 -1.0**
comp=Z,1.5nm,0.8s,baz=353,slow=5.1,SNR=9.8
CSS Prodhromos 89.75 336 *e*P **P 02 38 34.8 -0.8**
comp=Z,1.7nm,0.7s
STKA Stephens Creek 90.82 214 *e*P **P 02 38 40.7 +0.5**
comp=Z,4.4nm,0.7s
STKA Stephens Creek 90.82 214 P **P 02 38 41.0 +0.8**
comp=Z,20nm,0.7s,baz=347,slow=6.2,SNR=33
STKA LR LR 03 14 08.7
comp=Z,154nm,19.3s,baz=25,slow=32
MBWA Marble Bar 91.16 237 *e*P **P 02 38 41.5 -0.6**
comp=Z,31nm,0.8s
ASF Jabal al Asfar 91.40 332 P **P 02 38 43.2 -0.1**
ASF Jabal al Asfar 91.40 332 P **P 02 38 43.2 -0.1**
comp=Z,7.3nm,1.2s,baz=244,slow=2.2,SNR=3.9
PALK Palole 91.97 284 *e*P **P 02 38 46.4 +0.2**
comp=Z,58nm,1.0s
SDV Santo Domingo 93.00 72 *e*P **P 02 38 51.7 +0.6**
comp=Z,2.4nm,0.8s
ROSC El Rosal 93.97 77 *e*P **P 02 38 56.2 +0.4**
OTAV Otavalo 95.06 83 *e*P **P 02 39 01.3 +0.4**
comp=Z,4.3nm,0.9s
FORT Forrest 95.24 225 *e*P **P 02 39 00.9 +0.3**
comp=Z,19nm,0.9s
SAML Samuel 111.61 77 *e*PKP **PKiKP 02 44 12.1 +0.4**
SAML *e*PP **PP 02 44 51.6 -2.2**
TORD Torodi Ar. Bea 115.45 2 PKP **PKPdf 02 44 18.2 -0.9**
TORD PKKPbc **PKKPbc 02 54 51.4 +0.8**
TORD Torodi Ar. Bea 115.45 2 PKP **PKPdf 02 44 18.2 -0.9**
comp=Z,5.1nm,0.7s,baz=345,slow=2.5,SNR=48
TORD PKKPbc **PKKPbc 02 54 51.4 +0.8**
comp=Z,2.0nm,0.8s,baz=161,slow=2.6,SNR=16
LVC Limon Verde 118.48 91 *e*PKPdf **PKPdf 02 44 25.2 +0.3**
H03N2 Juan Fernandez 120.08 107 T T 04 56 03.3
baz=315,slow=75,SNR=1517
H03N1 Juan Fernandez 120.10 107 T T 04 56 02.6
baz=315,slow=75,SNR=1319
H03N3 Juan Fernandez 120.10 107 T T 04 55 54.1
baz=315,slow=75,SNR=1519
DBIC Dimbokro 121.50 9 *e*PKPdf **PKPdf 02 44 30.0 -0.8**
DBIC PKP **PKPdf 02 44 30.2 -0.5**
DBIC Dimbokro 121.50 9 PKP **PKPdf 02 44 30.2 -0.5**
comp=Z,9.7nm,0.7s,baz=4.1,slow=2.7,SNR=18
TIC Toumodi 121.50 9 *e*PKP1 **PKPdf 02 44 29.8 -1.0**
comp=Z,43nm,0.9s
KIC Kosan Boka 121.81 9 *e*PKP1 **PKPdf 02 44 30.7 -0.7**
comp=Z,36nm,0.8s
LIC Lamto 121.92 10 *e*PKP1 **PKPdf 02 44 30.9 -0.6**
comp=Z,58nm,0.8s
KMBO Kilima Mbogo 122.05 319 *e*PKPdf **PKPdf 02 44 32.7 +0.6**
KMBO Kilima Mbogo 122.05 319 PKP **PKPdf 02 44 32.1 0.0**
comp=Z,8.0nm,1.0s,baz=5.4,slow=2.7,SNR=21
BDFB Brasilia 125.89 68 PKP **PKPdf 02 44 39.0 -0.2**
BDFB Brasilia 125.89 68 PKP **PKPdf 02 44 39.0 -0.2**
comp=Z,5.5nm,1.0s,baz=196,slow=6.0,SNR=5.5
CPUP Villa Florida 128.38 85 *e*PKPdf **PKPdf 02 44 43.3 -0.2**
CPUP Villa Florida 128.38 85 PKP **PKPdf 02 44 43.3 -0.2**
comp=Z,3.7nm,0.8s,baz=348,slow=3.5,SNR=4.8
VNDA Vanda 129.59 186 PKP **PKPdf 02 44 43.9 -0.4**
VNDA Vanda 129.59 186 PKP **PKPdf 02 44 43.9 -0.4**
comp=Z,3.5nm,1.1s,baz=31,slow=3.5,SNR=3.0
PLCA Paso Flores 129.92 108 *e*PKPdf **PKPdf 02 44 46.1 +0.1**
PLCA SKPbc SKPbc 02 48 03.6 0.0
PLCA Paso Flores 129.92 108 PKP **PKPdf 02 44 46.0 -0.1**
comp=Z,8.1nm,0.9s,baz=260,slow=2.2,SNR=18
PLCA SKPbc SKPbc 02 48 03.6 0.0
comp=Z,3.1nm,0.9s,baz=305,slow=5.0,SNR=5.7
PLCA SKP 02 48 14.8
comp=Z,3.6nm,0.9s,baz=279,slow=5.2,SNR=6.6
TRQA Tornquist 133.43 100 *e*PKPdf **PKPdf 02 44 52.2 -0.5**
ASCN Ascension 134.09 24 *e*PKPdf **PKPdf 02 44 55.1 +0.5**
QSPA South Pole Qui 141.42 180 *e*PKPpre PKPpre 02 45 00.1
QSPA PKP **PKPdf 02 45 07.7 +1.1**
QSPA South Pole Qui 141.42 180 PKhKP PKPpre 02 44 59.5
comp=Z,7.8nm,0.7s,baz=35,slow=1.1,SNR=14
QSPA PKP **PKPdf 02 45 07.7 +1.1**
comp=Z,23nm,0.9s,baz=332,slow=1.3,SNR=19
PMSA Palmer Station 144.15 138 PKP PKPbc 02 45 09.7 +0.1
PMSA Palmer Station 144.15 138 PKP PKPbc 02 45 09.7 +0.1
comp=Z,23nm,0.8s,baz=272,slow=3.8,SNR=6.1
TSUM Tsumeb 145.66 335 *e*PKPbc **PKPdf 02 45 15.6 0.0**
MAW Mawson 147.44 218 *e*PKPbc **PKPbc 02 45 19.4 -0.1**
MAW Mawson 147.44 218 PKPbc **PKPbc 02 45 19.6 +0.1**
comp=Z,70nm,0.9s,baz=90,slow=2.8,SNR=95
LBTB Lobatse 148.33 319 *e*PKPbc **PKPbc 02 45 23.6 +0.3**
BOSA Boshof 151.63 316 *e*PKPbc **PKPbc 02 45 31.2 -0.1**
BOSA Boshof 151.63 316 PKPbc **PKPbc 02 45 31.4 +0.1**
comp=Z,78nm,0.7s,baz=42,slow=1.9,SNR=9.5
SYO Syowa Base 155.54 211⇑ *e*pPKPdf **PKPab 02 45 52.0 -3.4**
SYO Syowa Base 155.54 211⇑ *e*P PKPab 02 46 05.0 +10
SNAA Sanae 159.75 175 *e*PKPab **PKPab 02 46 12.3 -1.3**
SNAA Sanae 159.75 175 *e*PKPab **PKPab 02 46 12.1 -1.5**
VNA2 Neumayer--Watz 160.09 170 *e*PKPab **PKPab 02 46 14.8 -0.2**

IDC 09 03:02:30.0±2.6, 8°24S×119°59E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=234.5km s-min=28.0km az=52.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.42**	**131**	P	Pn	03 06 46.8	-0.3
	0.2nm,0.3s,baz=305,slow=13,SNR=11						
ASAR	**Alice Springs**	**20.58**	**140**	P	P	03 07 10.9	+0.2
	0.7nm,0.5s,baz=317,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**64.05**	**332**	P	P	03 13 05.6	-0.1
	0.2nm,0.5s,baz=135,slow=6.8,SNR=4.3						

BJI ***09*** *03:37:15.3, 1°.15N×99°.70E, h182km, mB4.7/17, mb4.6/34*
ISCJB ***09*** *03:37:18.3±0.2, 1°.31N±0°.03×99°.85E±0°.03, h204km±2km, mb4.5/98, Error ellipse: s-maj=5.1km s-min=2.7km az=135.0*
MOS ***09*** *03:37:18.6±0.9, 1°.45N×100°.11E, h208km, mb4.4/36, Error ellipse: s-maj=13.1km s-min=5.2km az=118.1*
IDC ***09*** *03:37:19.3±0.5, 1°.35N×100°.01E, h202km±4km, mb4.1/36, mb1 4.1/37, mb1mx4.1/40, mbtmp4.6/37, Error ellipse: s-maj=10.9km s-min=6.7km az=59.0*
NEIC ***09*** *03:37:19.8±0.5, 1°.34N×99°.98E, h207km±4km, mb4.9/23, Error ellipse: s-maj=6.5km s-min=3.9km az=46.0*
AUST ***09*** *03:37:20.2±0.0, 1°.15N×99°.99E, h202km, Error ellipse: s-maj=1.1km s-min=0.6km az=230.0*
DJA ***09*** *03:37:20.2±0.2, 1°N±3°×10°0E±1°, h173km±3km, M4.9/40, mB5.3/25, mb5.1/40, MLv5.3/20, Mw(mB)4.8/25*
BKK ***09*** *03:37:20.0±0.3, 1°N±3°×10°0E±1°, h185km±5km, M4.8/17, mB5.2/11, mb4.8/17, MLv5.0/11, Mw(mB)4.6/11*
ISC 09 03:37:19.2±0.3, 1°.31N±0°.03×99°.89E±0°.04, h205km±2km, h205km:pP-P, n405, σ1°.931/484, mb4.5/97, 21C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.59**	**211**	P	**Pn**	**03 37 46.9**	**-0.3**
MNSI				S	S	**03 38 07.8**	**-1.3**
BKNI	**Bangkinang**	**1.51**	**130**	P	Pn	**03 37 53.4**	**0.0**
BKNI				S	**S**	**03 38 19.4**	**-0.2**
BKNI	**Bangkinang**	**1.51**	**130**	P	**Pn**	**03 37 53.5**	**+0.1**
	baz=1.3,SNR=76						
PSI	**Prapat**	**1.77**	**327**	P	**Pn**	**03 37 55.3**	**-0.6**
PSI	**Prapat**	**1.77**	**327**	P	**Pn**	**03 37 55.0**	**-1.0**
PSI				S	**S**	**03 38 21.8**	**-2.4**
PSI	**Prapat**	**1.77**	**327**	P	**Pn**	**03 37 55.0**	**-1.0**
	164nm,0.3s,baz=156,slow=6.6,SNR=748						
PSI				S	**S**	**03 38 21.8**	**-2.4**
	49nm,0.3s,baz=357,slow=21,SNR=33						
PSI	**Prapat**	**1.77**	**327**	P	**Pn**	**03 37 55.5**	**-0.4**
	baz=1.9,SNR=496						
PPI	**Padang Panjang**	**1.82**	**164**	P	**Pn**	**03 37 56.0**	**-0.3**
PPI	**Padang Panjang**	**1.82**	**164**	P	**Pn**	**03 37 56.4**	**+0.1**
	baz=1.7,SNR=18						
GSI	**Gunungsitoli**	**2.31**	**270**	P	**Pn**	**03 38 02.1**	**+0.8**
GSI				S	**S**	**03 38 32.7**	**-0.9**
FRIM	**Kepong**	**2.59**	**42**	P	**Pn**	**03 38 04.0**	**-0.4**
RGRI	**Rengat**	**2.95**	**124**	P	Pn	03 38 01.5	-7.0
KCSI	**Kotacane, Aceh**	**3.05**	**316**	P	**Pn**	**03 38 09.6**	**-0.1**
KCSI				S	**S**	**03 38 46.6**	**-2.1**
TPTI		**3.33**	**306**	P	**Pn**	**03 38 13.0**	**0.0**
TPTI				S	**S**	**03 38 54.1**	**-0.5**
IPM	**Ipoh**	**3.35**	**20**	P	**Pn**	**03 38 14.2**	**+1.0**
IPM	**Ipoh**	**3.35**	**20**	P	**Pn**	**03 38 13.9**	**+0.7**
IPM	**Ipoh**	**3.35**	**20**	*e*Pn	**Pn**	**03 38 14.0**	**+0.7**
IPM				*e*S	**S**	**03 38 53.8**	**-1.4**
KGM	**Kluang**	**3.50**	**78**	P	**Pn**	**03 38 15.5**	**+0.5**
SNSI	**Sinabang, Aceh**	**3.72**	**287**	P	**Pn**	**03 38 18.2**	**+0.4**
SNSI				S	**S**	**03 39 01.6**	**-1.6**
BTDF	**Bukit Timah Da**	**3.88**	**89**	P	Pn	03 38 27.7	+7.9
	baz=3.8,SNR=3.3						
BTDF				P	Pn	03 38 27.7	+7.9
	baz=3.8,SNR=3.3						
MYKOM	**Kota Tinggi**	**3.99**	**83**	P	**Pn**	**03 38 21.7**	**+0.6**
MYKOM	**Kota Tinggi**	**3.99**	**83**	P	**Pn**	**03 38 20.9**	**-0.1**
KULM	**Kulim**	**4.03**	**11**	P	**Pn**	**03 38 21.6**	**+0.1**
KULM	**Kulim**	**4.03**	**11**	P	**Pn**	**03 38 21.3**	**-0.2**
KULM	**Kulim**	**4.03**	**11**	*e*Pn	**Pn**	**03 38 21.4**	**-0.2**
KULM				*e*S	**S**	**03 39 10.3**	**+0.2**
JMBI	**JAMBI**	**4.75**	**128**	P	**Pn**	**03 38 31.5**	**+0.9**
LHMI	**Lhok Sumawe**	**4.88**	**323**	P	**Pn**	**03 38 32.3**	**+0.1**
LHMI	**Lhok Sumawe**	**4.88**	**323**	P	**Pn**	**03 38 32.6**	**+0.4**
	baz=5.1,SNR=20						
MASI	**Maura Aman, Be**	**5.00**	**152**	P	**Pn**	**03 38 33.0**	**-0.9**
KTGM	**Kuala Trenggan**	**5.14**	**39**	P	**Pn**	**03 38 35.6**	**0.0**
LHSI	**Lahat**	**6.26**	**145**	P	**Pn**	**03 38 49.3**	**-0.6**
	835nm,1.0s,12μm3.4nm						
MNAI	**Manna**	**6.41**	**151**	P	**Pn**	**03 38 49.6**	**-2.3**
	629nm,0.5s,26μm4.9nm						
MNAI				S	**S**	**03 40 00.7**	**-4.5**
	629nm,0.5s,26μm4.9nm						
MNAI	**Manna**	**6.41**	**151**	P	**Pn**	**03 38 49.6**	**-2.3**
	baz=6.3,SNR=84						
PMBI	**Palembang**	**6.44**	**131**	P	**Pn**	**03 38 52.1**	**-0.2**
	1μm,1.1s,27μm3.9nm						
PKDT	**Phuket**	**6.72**	**347**	P	**Pn**	**03 38 54.5**	**-1.4**
	326nm,0.6s,6μm1.5nm						
MDSI	**Maura Dua**	**7.17**	**143**	P	**Pn**	**03 39 00.4**	**-1.4**
	366nm,0.9s,3μm1.4nm						
LWLI	**Liwa**	**7.54**	**146**	P	**Pn**	**03 39 04.3**	**-2.3**
	586nm,0.6s,9μm2.5nm						
KLSI		**7.67**	**141**	P	**Pn**	**03 39 07.4**	**-0.9**
	518nm,0.8s,4μm1.8nm						
SURT	**Suratani**	**7.68**	**352**	P	**Pn**	**03 39 06.4**	**-1.9**
	32nm,0.5s,415nm0.1nm						
KASI	**Kota Agung**	**8.20**	**146**	P	Pn	03 39 11.5	-3.6
	248nm,0.5s,4μm						
CMBY	**CAMPBELL BAY**	**8.21**	**314**	*e*P	**Pn**	**03 39 13.3**	**-2.0**
CMBY				*ex*	x	03 40 40.5	
BLSI	**Bandar Lampung**	**8.52**	**141**	P	**Pn**	**03 39 19.5**	**+0.2**
	270nm,0.5s,1.1nm						
KSM	**Kuching**	**10.42**	**89**	P	**Pn**	**03 39 46.1**	**+2.2**
STKI	**Sintang**	**11.65**	**96**	P	**P**	**03 40 07.8**	**+3.1**
CISI	**Cisompet, Garu**	**11.83**	**138**	P	**Pn**	**03 39 58.8**	**-3.2**
	102nm,0.5s,6μm						
CISI	**Cisompet, Garu**	**11.83**	**138**	P	Pn	03 39 57.8	-4.2
	baz=12,SNR=4.6						
TGJI	**Tegal**	**12.28**	**132**	P	**Pn**	**03 40 09.4**	**+1.8**
	47nm,1.1s						
SBUM	**Sibu**	**12.38**	**85**	P	**P**	**03 40 11.0**	**-1.8**
SBUM	**Sibu**	**12.38**	**85**	P	**P**	**03 40 10.8**	**-2.0**
	43nm,0.8s,440nm						
CMJI	**Cimerak**	**12.43**	**137**	P	Pn	03 40 04.5	-4.9
	84nm,0.6s,2μm						
KPJI	**Karang Pucung**	**12.45**	**134**	P	**Pn**	**03 40 08.7**	**-1.0**
	65nm,0.7s,914nm						
BJII	**Banjamegara**	**13.03**	**131**	P	**Pn**	**03 40 15.9**	**-1.1**
	65nm,0.9s						
XMI	**Christmas Isla**	**13.03**	**154**	P	Pn	03 40 12.8	-4.2
	baz=13,SNR=12						
XMIS	**Christmas Isla**	**13.04**	**154**	*e*Pn	Pn	03 40 10.4	-6.7
	300nm,0.5s						
XMIS				*e*S	S	03 42 27.2	-15
XMIS	**Christmas Isla**	**13.04**	**154**	P	Pn	03 40 10.9	-6.3
	baz=13,SNR=4.9						
BTM	**Bintulu**	**13.32**	**82**	P	**P**	**03 40 24.0**	**+0.7**
SMRI	**Semarang**	**13.41**	**128**	P	**P**	**03 40 23.6**	**-0.7**
	254nm,1.0s						
DGPR	**DIGLIPUR**	**13.66**	**330**	*e*P	**Pn**	**03 40 24.2**	**-0.6**
DGPR				*ex*	x	03 42 48.8	
UGM	**Wanagama**	**14.01**	**131**	P	**Pn**	**03 40 26.2**	**-3.1**
	baz=14,SNR=24						
NGJI	**Ngawi**	**14.41**	**127**	P	**P**	**03 40 37.7**	**+2.4**
	152nm,1.0s						
CHAI	**Chaiyaphum**	**14.65**	**8**	P	P	03 40 49.8	+12
PCJI	**

123nm,0.7s
KKM Kota Kinabalu 16.95 73 P **Pn** **03 41 07.1 +2.1**
KKM Kota Kinabalu 16.95 73 P **Pn** **03 41 06.6 +1.6**
121nm,1.1s,1µm
KKM Kota Kinabalu 16.95 73 *eP* **Pn** **03 41 05.1 +0.2**
72nm,0.7s
KKM Kota Kinabalu 16.95 73 P **Pn** **03 41 05.6 +0.7**
baz=17,SNR=9.4
CMAR Chiang Mai Arr 17.07 357 P **P** **03 41 04.2 -0.5**
CMAR ScP **ScP** **03 48 54.1 -0.1**
CMAR Chiang Mai Arr 17.07 357 P **P** **03 41 04.2 -0.5**
0.6nm,0.3s,baz=187,slow=12,SNR=29
CMAR ScP **ScP** **03 48 54.1 -0.1**
baz=213,slow=3.3,SNR=11
CMMT Chiang Mai 17.42 357 P **Pn** **03 41 10.3 0.0**
9.7nm,0.8s,526nm
CHTO Chiang Mai 17.42 357 *eP* **Pn** **03 41 10.0 -0.3**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO Chiang Mai 17.42 357 P **Pn** **03 41 10.3 0.0**
comp=Z,43nm,0.8s
CHTO Chiang Mai 17.42 357 *eP* **Pn** **03 41 10.0 -0.3**
comp=Z,4.8nm,0.6s
CHTO Chiang Mai 17.42 357 P **Pn** **03 41 10.3 0.0**
comp=Z,43nm,0.8s
KDM Kudat 17.79 71 P **Pn** **03 41 15.3 +0.6**
SDKM Sandakan 17.80 76 P **Pn** **03 41 15.2 +0.3**
SRBI Singaraja 17.90 122 P **Pn** **03 41 18.2 +2.2**
comp=Z,368nm,0.8s,comp=Z,3µm
TSM Tawau 18.20 80 P **Pn** **03 41 18.7 -0.9**
KHKI Kahang-Kahang 18.38 122 P **Pn** **03 41 23.0 +1.4**
comp=Z,217nm,0.7s,comp=Z,2µm
MTNI Mataram 19.00 122 P **Pn** **03 41 31.4 +2.5**
comp=Z,24nm,1.2s
PALK Pallekele 20.02 288 *eP* Pn 03 41 40.1 -1.2
comp=Z,55nm,0.6s
QIZ Qiongzhong 20.14 28 P **P** **03 41 39.5 +1.7**
QIZ sP **sP** **03 42 35.9 -1.9**
QIZ S **S** **03 45 16.8 +4.1**
QIZ LR LR
comp=Z,260nm,4.0s
QIZ LR LR
comp=Z,130nm,5.4s
QIZ Qiongzhong 20.14 28 *eP* **P** **03 41 38.9 +1.0**
comp=Z,24nm,0.8s
SPSI Sidrap Palu 20.55 105 P Pn 03 41 47.1 -0.6
comp=Z,20nm,0.7s
KAPI Kappang 20.81 108 P Pn 03 41 48.8 -2.3
comp=Z,112nm,1.1s
KAPI Kappang 20.81 108 *eP* **P** **03 41 45.3 +0.2**
comp=Z,47nm,0.6s
TOLI Toli-Toli 20.90 90 P Pn 03 41 53.5 +1.2
comp=Z,468nm,0.5s
BNSI Bone 20.98 106 P **P** **03 41 49.6 +2.7**
comp=Z,47nm,1.3s,comp=Z,616nm
BKSI Bulukumba 21.26 108 P **P** **03 41 52.3 +2.6**
comp=Z,46nm,0.7s
APSI Ampana 21.87 96 P **P** **03 41 58.1 +2.1**
comp=Z,201nm,1.2s,comp=Z,2µm
MRSI Marisa 22.07 92 P **P** **03 41 58.1 +0.3**
comp=Z,164nm,1.0s,comp=Z,2µm
LUWI Luwuk 23.00 96 P **P** **03 42 09.3 +2.9**
comp=Z,293nm,0.9s,comp=Z,3µm
LUWI Luwuk 23.00 96 P **P** **03 42 09.8 +3.4**
baz=23,SNR=8.0
VIS Vishakhapatnam 23.04 316 *eP* **P** **03 42 05.7 -0.9**
GTOI Gorontalo 23.13 91 P **P** **03 42 07.2 -0.3**
comp=Z,270nm,0.7s,comp=Z,2µm
BBSI Bau Bau 23.64 107 P P 03 42 18.0 +5.8
comp=Z,74nm,0.7s
KMI Kunming 23.84 6 P **P** **03 42 15.6 +1.5**
KMI pmax pmax
comp=Z,23nm,0.9s
IMP Imphal 24.04 347 *ex* **P** **03 42 17.0 +1.3**
SHL Shillong 25.32 343 *eP* **P** **03 42 27.5 0.0**
SHL *eS* **S** **03 46 36.6 -1.9**
GYA Guiyang 25.84 14 *eP* **P** **03 42 34.2 +2.1**
GYA pP **pP** **03 43 13.8 +0.7**
GYA sP **sP** **03 43 37.6 +0.6**
GYA PcP **PcP** **03 45 57.0 +1.1**
GYA S **S** **03 46 48.9 +2.4**
GYA sS **sS** **03 47 58.4 -1.9**
GYA ScP **ScP** **03 49 17.2 +1.0**
GYA PcS **PcS** **03 49 37.0 -0.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
BOK Bokaro 26.15 330 *eP* **P** **03 42 36.7 +1.9**
HYB Hyderabad 26.39 309 *i* P **P** **03 42 38.0 +1.0**
NLAI Namlea 27.57 99 P P 03 42 52.5 +4.9
ODAN Odare 28.10 336 *eP* **P** **03 42 53.8 +1.4**
ODAN Odare 28.10 336 *eP* **P** **03 42 53.8 +1.4**
TAPN Taplejung 28.41 337 *eP* **P** **03 42 56.6 +1.5**
comp=Z,15nm,0.4s
RAMN Ramite 28.51 335 *eP* **P** **03 42 57.6 +1.6**
comp=Z,17nm,0.4s
H08S2 Diego Garcia H 28.73 252 T T 04 11 02.9
baz=71,slow=75,SNR=240
H08S3 Diego Garcia H 28.74 252 T T 04 10 59.5
baz=71,slow=75,SNR=284
H08S1 Diego Carcia H 28.75 252 T T 04 10 54.0
baz=71,slow=75,SNR=343
JIRN Jiri 29.31 335 *eP* **P** **03 43 04.4 +1.2**
comp=Z,14nm,0.3s
LSA Lhasa 29.44 344 *eP* **P** **03 43 05.8 +1.4**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 29.44 344 *eP* **P** **03 43 05.8 +1.4**
comp=Z,11nm,0.7s
PKI Pulchoki 29.57 333 *eP* **P** **03 43 06.3 +0.8**
comp=Z,12nm,0.6s
PKIN Phulchoki 29.59 333 *eP* **P** **03 43 06.3 +0.8**
comp=Z,6.7nm,0.3s
GUN Gumba 29.66 334 *eP* **P** **03 43 07.6 +1.3**
comp=Z,70nm,0.5s
GUN Gumba 29.66 334 *eP* **P** **03 43 07.6 +1.3**
CD2 Chengdu 29.67 7 *eP* P 03 43 09.5 +3.5
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,50nm,5.4s
DMN Daman 29.74 333 *eP* **P** **03 43 07.9 +1.0**
DMN Daman 29.74 333 *eP* **P** **03 43 07.9 +1.0**
KKN Kakani 29.82 333 *eP* **P** **03 43 08.5 +1.0**
KKN Kakani 29.82 333 *eP* **P** **03 43 08.5 +1.0**
KKN Kakani 29.82 333 *eP* **P** **03 43 08.5 +1.0**
GKN Gorkha 30.30 333 *eP* **P** **03 43 12.6 +1.0**
GKN Gorkha 30.30 333 *eP* **P** **03 43 12.6 +1.0**
KOLN Koldanda 30.59 331 *eP* **P** **03 43 15.4 +1.1**
comp=Z,57nm,0.6s
KOLN Koldanda 30.59 331 *eP* **P** **03 43 15.4 +1.1**
BHPL Bhopal 30.83 317 *eP* **P** **03 43 17.6 +1.3**
BHPL AMB AMB 03 43 18.1
comp=Z,21nm,0.4s
DANN Dangsing 31.00 332 *eP* **P** **03 43 19.0 +1.0**
comp=Z,37nm,0.5s
DANN Dangsing 31.00 332 *eP* **P** **03 43 19.0 +1.0**
PYUN Piuthan 31.16 330 *eP* **P** **03 43 19.6 +0.3**
comp=Z,41nm,0.5s
PYUN Piuthan 31.16 330 *eP* **P** **03 43 19.6 +0.3**
FITZ Fitzroy Crossi 31.85 128 P **P** **03 43 23.9 -1.3**
FITZ Fitzroy Crossi 31.85 128 P **P** **03 43 23.9 -1.3**
comp=Z,5.7nm,1.1s,baz=302,slow=7.0
FAKI Fak Fak 32.62 97 P **P** **03 43 31.9 -0.1**
baz=32,SNR=4.0
KNRA Kununurra 33.15 122 P **P** **03 43 36.0 -0.5**
baz=33,SNR=6.4
XAN Xi'an 33.64 14 P **P** **03 43 39.5 -1.1**
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN pmax pmax
comp=Z,40nm,5.7s
MTN Manton Dam 34.04 115 P **P** **03 43 43.4 -0.8**
baz=34,SNR=4.7
NDI New Delhi 34.78 324 *eP* **P** **03 43 50.0 -0.4**
NDI *eS* **S** **03 49 05.0 -0.7**
LZH Lanzhou 34.80 6 *eP* **P** **03 43 51.4 +0.7**
LZH pP **pP** **03 44 32.8 -0.2**
LZH sP **sP** **03 44 55.0 -1.5**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.3s
KDU Kakadu 35.20 114 P **P** **03 43 53.4 -0.8**
baz=35,SNR=6.2
NJ2 Nanjing 35.43 28 *eP* **P** **03 43 57.5 +1.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
SMLA Simla 36.64 326 *eP* **P** **03 44 06.6 +0.5**
NWAO Narrogin (SRO) 37.78 156 P **P** **03 44 16.6 +0.9**
NWAO Narrogin (SRO) 37.78 156 P **P** **03 44 16.6 +0.9**
comp=Z,6.5nm,0.6s,baz=300,slow=8.1,SNR=4.8
GTA Gaotai 37.92 360 P **P** **03 44 17.8 +0.8**
GTA pP **pP** **03 45 00.8 +0.9**
GTA sP **sP** **03 45 23.3 0.0**
GTA PcP **PcP** **03 46 28.6 0.0**
GTA S **ScP** **03 49 56.2 -0.6**
GTA sS **sS** **03 51 08.2 -1.0**
GTA SS **SS** **03 52 47.5 -1.8**
GTA pmax pmax
comp=Z,20nm,1.1s
GTA pmax pmax
comp=Z,93nm,5.0s
DHRM DHARAMSHALA 37.97 327 *eP* **P** **03 44 18.1 +0.5**
WRA Warramunga Arr 39.84 124 P **P** **03 44 33.1 +0.1**
WRA PcP **PcP** **03 46 35.0 0.0**
WRA ScP **ScP** **03 50 02.9 -1.6**
WRA S **S** **03 50 17.4 -4.9**
WRA Warramunga Arr 39.84 124 P **P** **03 44 33.1 +0.1**
comp=Z,46nm,0.5s,baz=303,slow=9.1,SNR=560
WRA PcP **PcP** **03 46 35.0 0.0**
comp=Z,6.6nm,0.6s,baz=316,slow=2.5,SNR=21
WRA ScP **ScP** **03 50 02.9 -1.6**
comp=Z,5.1nm,0.7s,baz=314,slow=3.1,SNR=31
WRA S **S** **03 50 17.4 -4.9**
comp=Z,4.4nm,1.1s,baz=296,slow=16,SNR=9.6
WRAB Tennant Creek 39.84 124 *eP* **P** **03 44 33.3 +0.2**
WRAB *e* 03 46 34.9
WRAB pmax pmax
comp=Z,46nm,0.5s
WRAB Tennant Creek 39.84 124 *eP* **P** **03 44 33.3 +0.2**
comp=Z,46nm,0.5s
WRAB *e*PcP **PcP** **03 46 34.9 0.0**
WRAB *e*ScP **ScP** **03 50 03.3 -1.2**
BJI Beijing 41.30 19 P **P** **03 44 44.3 -0.4**
BJI pmax pmax
comp=Z,15nm,0.7s
AS31 Alice Springs 41.34 129 *eP* **P** **03 44 45.8 +0.4**
AS31 *e*PcP **PcP** **03 46 40.1 +0.3**
AS31 *e*ScP **ScP** **03 50 08.7 -1.7**
ASAR Alice Springs 41.34 129 P **P** **03 44 44.8 -0.6**
ASAR PcP **PcP** **03 46 40.0 +0.3**
ASAR ScP **ScP** **03 50 08.6 -1.8**
ASAR S **S** **03 50 39.5 -5.1**
ASAR Alice Springs 41.34 129 P **P** **03 44 44.8 -0.6**
comp=Z,3.5nm,0.5s,baz=300,slow=8.0,SNR=60
ASAR PcP **PcP** **03 46 40.0 +0.3**
comp=Z,5.5nm,0.6s,baz=308,slow=2.9,SNR=28
ASAR ScP **ScP** **03 50 08.6 -1.8**
comp=Z,9.7nm,0.7s,baz=305,slow=3.9,SNR=58
ASAR S **S** **03 50 39.5 -5.1**
comp=Z,0.6nm,0.6s,baz=294,slow=15,SNR=4.3
JNU Nakatsue 42.98 39 P **P** **03 44 58.0 -0.5**
JNU Nakatsue 42.98 39 P **P** **03 44 58.0 -0.5**
comp=Z,11nm,0.8s,baz=165,slow=4.1,SNR=7.3
WMQ Urumqi 43.70 347 P **P** **03 45 06.0 +1.9**
WMQ pP **pP** **03 45 45.0 -3.0**
WMQ sP sP 03 46 05.0 -6.1
WMQ PP **PP** **03 46 53.0 +2.8**
WMQ S **S** **03 51 24.0 +5.5**
WMQ pmax pmax
comp=Z,92nm,1.0s
WMQ pmax pmax
comp=Z,150nm,4.0s
KSH Kashi 43.84 333 P **P** **03 45 04.8 -0.5**
KSH pP pP 03 45 43.2 -6.1
KSH sP sP 03 46 03.7 -8.6
KSH PcP **PcP** **03 46 47.1 -0.8**
KSH S **S** **03 51 20.1 -0.6**
KSH sS sS 03 52 30.1 -8.0
KSH SS **ScS** **03 54 37.2 -5.2**
KSH pmax pmax
comp=Z,6.0nm,0.4s
KSH pmax pmax
comp=Z,170nm,7.2s
KSH LR LR
comp=Z,130nm,6.7s
KSH LR LR
comp=Z,110nm,4.7s
KSH LR LR
comp=Z,170nm,7.7s
KSAR Wonju Array Be 44.25 32 P **P** **03 45 07.7 -0.7**
KSRS Korea Array 44.28 32 P **P** **03 45 07.7 -0.9**
comp=Z,9.2nm,0.6s,baz=224,slow=8.5,SNR=41
COEN Coen 45.48 111 P **P** **03 45 17.9 -0.6**
baz=45,SNR=5.3
SONM Songino Array 46.69 6 P **P** **03 45 28.1 +0.5**
SONM PcP **PcP** **03 46 57.5 -0.2**
SONM ScP **ScP** **03 50 29.6 -2.2**
SONM Songino Array 46.69 6 P **P** **03 45 28.1 +0.5**
comp=Z,6.0nm,0.4s,baz=189,slow=9.9,SNR=87
SONM PcP **PcP** **03 46 57.5 -0.2**
comp=Z,5.2nm,0.5s,baz=186,slow=4.1,SNR=12
SONM ScP **ScP** **03 50 29.6 -2.2**
comp=Z,1.6nm,0.8s,baz=216,slow=2.0,SNR=6.6
TKM2 Tokmak 2 46.79 336 *eP* **P** **03 45 29.7 +1.2**
TKM2 pmax pmax
comp=Z,6.0nm,0.5s
TKM2 Tokmak 2 46.79 336 P **P** **03 45 29.9 +1.4**
SNR=9.6
TKM2 Tokmak 2 46.79 336 *eP* **P** **03 45 29.7 +1.2**
comp=Z,6.1nm,0.5s
KBK Karagaybulak 46.84 335 P **P** **03 45 30.9 +2.0**
SNR=8.3
AML Almayashu 46.97 333 *i* P **P** **03 45 31.9 +1.8**
AML Almayashu 46.97 333 P **P** **03 45 31.9 +1.8**
SNR=7.1
AAK Ala-Archa 47.02 334 P **P** **03 45 31.7 +1.5**
AAK 03 46 59.8
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK pmax pmax
comp=N,1.0nm,0.5s
AAK Ala-Archa 47.02 334 *eP* **P** **03 45 31.9 +1.7**
AAK *e*PcP **PcP** **03 46 59.8 +0.8**
AAK ScP **ScP** **03 50 32.9 -0.5**
AAK Ala-Archa 47.02 334 P **P** **03 45 31.7 +1.5**
comp=N,2.8nm,0.7s,baz=90,slow=2.4,SNR=10
AAK PcP **PcP** **03 46 59.8 +0.8**
comp=N,3.8nm,0.6s,baz=140,slow=3.9,SNR=5.7
AAK ScP **ScP** **03 50 32.9 -0.5**
comp=N,1.4nm,0.5s,baz=321,slow=14,SNR=3.8
EKS2 Erkin-Say 47.35 334 *eP* **P** **03 45 34.0 +1.2**
EKS2 pmax pmax
comp=Z,6.0nm,0.6s
EKS2 Erkin-Say 47.35 334 P **P** **03 45 34.6 +1.8**
SNR=6.7
EKS2 Erkin-Say 47.35 334 *eP* **P** **03 45 34.0 +1.2**
comp=Z,6.0nm,0.6s
USP Ospenovka 47.53 335 *i* P **P** **03 45 35.6 +1.6**
USP Ospenovka 47.53 335 P **P** **03 45 35.6 +1.6**
SNR=5.5
MK31 Makanchi Array 47.84 344 P **P** **03 45 36.9 +0.6**
MK31 pmax pmax
comp=Z,6.0nm,0.3s
MK31 Makanchi Array 47.84 344 *eP* **P** **03 45 37.0 +0.6**
MKAR Makanchi Array 47.84 344 P **P** **03 45 37.1 +0.8**
MKAR S **S** **03 52 18.1 +0.7**
MKAR pmax pmax
comp=Z,12nm,0.3s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR smax smax
comp=N,1.0nm,0.8s
MKAR Makanchi Array 47.84 344 P **P** **03 45 37.1 +0.8**
MKAR ScP **ScP** **03 50 35.2 -1.4**
MKAR S **S** **03 52 18.1 +0.7**
MKAR Makanchi Array 47.84 344 P **P** **03 45 37.1 +0.8**
comp=N,12nm,0.3s,baz=160,slow=8.3,SNR=616
MKAR ScP **ScP** **03 50 35.2 -1.4**
comp=N,1.1nm,0.9s,baz=141,slow=6.1,SNR=4.3
MKAR S **S** **03 52 18.1 +0.7**
comp=N,0.9nm,0.8s,baz=158,slow=14,SNR=6.4
CN2 Changchun 48.04 25 *eP* P 03 45 43.8 +6.0
BBOO Buckleboo 48.13 138 P **P** **03 45 38.2 -0.5**
baz=48,SNR=5.2
KK31 Karatay Array 49.20 332 P **P** **03 45 47.5 +0.8**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 49.20 332 *eP* **P** **03 45 47.5 +0.8**
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 49.20 332 *eP* **P** **03 45 47.5 +0.8**
comp=Z,1.2nm,0.3s
HVS Khovu-Aksy 49.92 355|| *eP* **P** **03 45 52.4 +0.3**
HVS pmax pmax
comp=Z,25nm,0.6s
CTA Charters Tower 50.16 118 PcP **PcP** **03 47 11.2 +0.5**
CTA ScP **ScP** **03 50 45.7 -1.4**
CTA Charters Tower 50.16 118 PcP **PcP** **03 47 11.2 +0.5**
baz=300,slow=8.1
CTA ScP **ScP** **03 50 45.7 -1.4**
comp=Z,4.7nm,0.9s,baz=290,slow=5.6,SNR=4.9
CTAO Charters Tower 50.16 118 *eP* **P** **03 45 54.7 +0.4**
CTAO pmax pmax
comp=Z,8.0nm,0.8s
CTAO Charters Tower 50.16 118 *eP* **P** **03 45 54.7 +0.4**
comp=Z,8.0nm,0.8s
HTT Hallett 50.43 137 P **P** **03 45 56.8 +0.6**
baz=50,SNR=3.6
MDJ Mudanjiang 50.50 27 P **P** **03 45 58.4 +1.9**
MDJ pmax pmax
comp=Z,5.0nm,1.2s
MDJ pmax pmax
comp=Z,72nm,9.1s
QLP Quilpie 50.94 126 P **P** **03 46 00.6 +0.6**
baz=51,SNR=12
USRK Ussuriysk Arra 51.33 29 P **P** **03 46 02.4 -0.2**
comp=Z,8.9nm,0.8s,baz=264,slow=2.0,SNR=21
STKA Stephens Creek 51.46 134 P **P** **03 46 03.2 -0.6**
STKA PcP **PcP** **03 47 15.1 -0.2**
STKA ScP **ScP** **03 50 50.7 -1.7**
STKA Stephens Creek 51.46 134 P **P** **03 46 03.2 -0.6**
comp=Z,3.5nm,0.6s,baz=312,slow=6.8,SNR=9.0
STKA PcP **PcP** **03 47 15.1 -0.2**
comp=Z,3.1nm,0.5s,baz=299,slow=3.9,SNR=4.3
STKA ScP **ScP** **03 50 50.7 -1.7**
comp=Z,2.3nm,0.8s,baz=54,slow=21,SNR=2.9
STKA Stephens Creek 51.46 134 P **P** **03 46 03.6 -0.2**
baz=51,SNR=8.2
KURBB Kurchatov Arra 52.37 343 P **P** **03 46 10.8 +0.6**
comp=Z,5.2nm,0.4s,baz=161,slow=6.9,SNR=109
KURBB pP **pP** **03 46 57.6 +1.9**
comp=Z,1.4nm,0.6s,baz=158,slow=6.7,SNR=1.5
KURBB PcP **PcP** **03 47 18.4 +0.2**
comp=Z,1.6nm,0.4s,baz=150,slow=3.3,SNR=5.5
KURK Kurchatov 52.43 343 P **P** **03 46 10.8 +0.2**
KURK *PP **pP** **03 46 57.6 +1.5**
KURK 03 47 18.4
KURK pmax pmax
comp=Z,5.0nm,0.4s
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 52.43 343 *eP* **P** **03 46 10.6 0.0**
comp=Z,13nm,0.9s
KURK pP **pP** **03 46 57.6 +1.5**
KURK PcP **PcP** **03 47 18.4 0.0**
ZAA0 Zalesovo Array 53.92 349 *eP* **P** **03 46 21.7 +0.3**
ZALV Zalesovo Beam 53.92 349 P **P** **03 46 21.8 +0.4**
ZALV S **S** **03 53 40.0 -0.6**
ZALV pmax pmax
comp=Z,48nm,0.4s
ZALV smax smax
comp=N,2.0nm,0.7s
ZALV Zalesovo Beam 53.92 349 P **P** **03 46 21.8 +0.4**
ZALV S **S** **03 53 40.0 -0.6**
ZALV Zalesovo Beam 53.92 349 P **P** **03 46 21.8 +0.4**
comp=N,48nm,0.4s,baz=178,slow=6.2,SNR=308
ZALV S **S** **03 53 40.0 -0.6**
comp=N,2.4nm,0.7s,baz=162,slow=11,SNR=10.0
CMSA Cobar Meteorol 54.32 131 P **P** **03 46 25.1 +0.3**
baz=54,SNR=9.6
NVS Novosibirsk 55.08 348 *eP* **P** **03 46 28.7 -1.0**
NVS *eS* **S** **03 53 52.4 -3.5**
NVS pmax pmax
comp=Z,18nm,0.7s
NVS pmax pmax
comp=N,11nm,0.6s
NVS pmax pmax
comp=E,10.0nm,0.6s
NVS smax smax
comp=N,8.0nm,1.4s
NVS smax smax
comp=E,17nm,1.4s
EIDS Eidsvold 56.14 122 *eP* **P** **03 46 38.1 +0.2**
comp=E,20nm,0.5s
EIDS Eidsvold 56.14 122 P **P** **03 46 38.4 +0.6**
baz=56,SNR=18
ASAJ Asahikawa 56.99 36 P **P** **03 46 43.4 -0.1**
ASAJ Asahikawa 56.99 36 P **P** **03 46 43.4 -0.1**
comp=E,6.1nm,0.6s,baz=257,slow=19,SNR=4.3
BVA0 Borovoye Array 57.07 339 P **P** **03 46 43.4 -0.5**
BVA0 pmax pmax
comp=Z,7.0nm,0.5s
BVAR Borovoye Array 57.07 339 P **P** **03 46 43.7 -0.2**
BVAR *PP **pP** **03 47 30.4 +0.2**
BVAR S **S** **03 54 20.5 -1.8**
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR smax smax
comp=N,2.0nm,0.9s
BVAR Borovoye Array 57.07 339 P **P** **03 46 43.7 -0.2**
BVAR pP **pP** **03 47 30.4 +0.2**
BVAR S **S** **03 54 20.5 -1.8**
BVAR Borovoye Array 57.07 339 P **P** **03 46 43.7 -0.2**
comp=N,8.1nm,0.5s,baz=142,slow=9.5,SNR=60
BVAR pP **pP** **03 47 30.4 +0.2**
comp=N,1.8nm,0.6s,baz=139,slow=9.2,SNR=1.8
BVAR S **S** **03 54 20.5 -1.8**
comp=N,2.3nm,0.9s,baz=130,slow=11,SNR=3.8
BRVK Borovoye 57.13 339*c i*P **P** **03 46 44.4 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 57.13 339 *eP* **P** **03 46 44.2 -0.1**
comp=Z,4.9nm,0.5s
AB31 Akbulak array 58.72 331 *i* P **P** **03 46 55.2 -0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 58.72 331 *eP* **P** **03 46 55.2 -0.2**
comp=Z,8.2nm,0.5s
AKTO Aktyubinsk 60.43 331 P **P** **03 47 06.6 -0.5**
AKTO pmax pmax
comp=Z,3.0nm,0.4s
AKTO Aktyubinsk 60.43 331 P **P** **03 47 06.6 -0.5**
AKTO Aktyubinsk 60.43 331 P **P** **03 47 06.6 -0.5**
comp=Z,2.8nm,0.4s,baz=98,slow=4.2,SNR=5.7
SVE Sverdlovsk 63.61 337 *eP* **P** **03 47 28.7 +0.6**
SVE pmax pmax
comp=Z,15nm,1.1s
ARU Arti 64.16 336*d i*P **P** **03 47 31.1 -0.6**
ARU *PP **pP** **03 48 15.7 -3.3**
ARU S **S** **03 55 53.4 +1.3**
ARU SS **SS** **04 00 01.4 -3.9**
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU Arti 64.16 336 *eP* **P** **03 47 31.3 -0.3**
comp=Z,2.9nm,0.3s
KBZ Khabaz 65.77 318 P **P** **03 47 42.8 +0.5**
KBZ pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 65.77 318 P **P** **03 47 42.8 +0.5**
KBZ Khabaz 65.77 318 P **P** **03 47 42.8 +0.5**
comp=Z,2.8nm,0.6s,baz=97,slow=6.0,SNR=8.7
MMAI Mount Meron Ar 68.03 305 P **P** **03 47 58.6 +1.6**
MMAI Mount Meron Ar 68.03 305 P **P** **03 47 58.6 +1.6**
comp=Z,2.3nm,0.8s,baz=97,slow=4.8,SNR=3.0
DZM Mont Dzumac 68.87 114 P **P** **03 48 03.0 +0.7**
DZM Mont Dzumac 68.87 114 P **P** **03 48 03.0 +0.7**
comp=Z,5.4nm,0.7s,baz=288,slow=19,SNR=3.8
VRHR Novokhopersk 69.56 325 *eP* **P** **03 48 04.4 -1.5**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.6s
PETK Petropavlovsk- 70.17 33 P **P** **03 48 09.0 -0.6**
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK Petropavlovsk- 70.17 33 P **P** **03 48 09.0 -0.6**
PETK Petropavlovsk- 70.17 33 P **P** **03 48 09.0 -0.6**
comp=Z,4.3nm,0.7s,baz=184,slow=7.0,SNR=3.9

VSR	**Storozhevoye**	**71.03 325**	*d*	iP		**P**	**03 48 14.2**	**-0.5**
VSR				pmax		pmax			
	comp=Z,28nm,0.7s								
BR131	**Keskin Array S**	**71.04 312**		*e*P		**P**	**03 48 15.1**	**-0.2**
	comp=Z,2.4nm,0.6s								
BRTR	**Keskin Array B**	**71.04 312**		P		**P**	**03 48 15.1**	**-0.2**
BRTR	**Keskin Array B**	**71.04 312**		P		**P**	**03 48 15.1**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=132,slow=7.2,SNR=26								
TIXI	**Tiksi**	**72.63**	**9**	*i* P		**P**	**03 48 22.9**	**-1.0**
TIXI				pmax		pmax			
	comp=Z,10.0nm,1.5s								
MAW	**Mawson**	**73.44 194**		P		**P**	**03 48 30.3**	**+1.6**
MAW	**Mawson**	**73.44 194**		P		**P**	**03 48 30.3**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=48,slow=7.2,SNR=5.3								
OBN	**Obninsk**	**73.95 328**	⇑	*i*P		**P**	**03 48 30.2**	**-1.7**
OBN				*e*			03 51 16.5		
OBN				*e*S		**SKiKP**	**03 57 41.5**	**+2.3**
OBN				pmax		pmax			
	comp=Z,16nm,0.8s								
KLMR	**Klimovskoe**	**74.83 334**		*e*P		**P**	**03 48 35.7**	**-1.1**
KLMR				pmax		pmax			
	comp=Z,16nm,1.3s								
AK02	**Malin Array Si**	**76.82 322**		*e*P		**P**	**03 48 48.2**	**-0.2**
AKASG	**Malin Array Be**	**76.82 322**		P		**P**	**03 48 48.0**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**76.82 322**		P		**P**	**03 48 48.0**	**-0.4**
AKASG	**Malin Array Be**	**76.82 322**		P		**P**	**03 48 48.0**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=85,slow=5.0,SNR=15								
AK01	**Malin Array Si**	**76.83 322**		*e*P		**P**	**03 48 47.9**	**-0.5**
KIEV	**Kiev**	**76.83 322**	⇓	*e*P		**P**	**03 48 47.3**	**-1.1**
TMCR	**Tamitsa**	**76.88 337**		*e*P		**P**	**03 48 48.4**	**0.0**
TMCR				pmax		pmax			
	comp=Z,13nm,0.7s								
IDI	**Anoyia**	**77.01 306**		P		**P**	**03 48 50.3**	**+0.4**
IDI	**Anoyia**	**77.01 306**		P		**P**	**03 48 50.3**	**+0.4**
	comp=Z,8.6nm,1.0s,baz=95,slow=12,SNR=2.6								
BOSA	**Boshof**	**77.16 240**		P		**P**	**03 48 52.2**	**+1.3**
BOSA				pP		**pP**	**03 49 39.2**	**-0.8**
BOSA	**Boshof**	**77.16 240**		P		**P**	**03 48 52.2**	**+1.3**
	comp=Z,3.4nm,0.8s,baz=62,slow=2.8,SNR=6.3								
BOSA				pP		**pP**	**03 49 39.2**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=124,slow=6.8,SNR=2.4								
VRI	**Vrincioaia**	**77.38 317**	⇑	*i*P		**P**	**03 48 52.9**	**+1.3**
VRI	**Vrincioaia**	**77.38 317**	⇑	*i*P		**P**	**03 48 52.9**	**+1.3**
TESR	**Tescani**	**77.56 317**	⇑	*i*P		**P**	**03 48 53.5**	**+0.9**
MLR	**Muntele Rosu**	**77.84 316**	⇓	*i*P		**P**	**03 48 55.7**	**+1.4**
MLR	**Muntele Rosu**	**77.84 316**		P		**P**	**03 48 55.1**	**+0.8**
MLR	**Muntele Rosu**	**77.84 316**		P		**P**	**03 48 55.1**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=144,slow=8.7								
VOIR		**78.45 316**	⇑	iP		**P**	**03 48 58.0**	**+0.4**
VOIR		**78.45 316**	⇑	*i*P		**P**	**03 48 58.0**	**+0.4**
BURAR	**Bucovina Array**	**78.73 318**	⇑	iP		**P**	**03 49 00.5**	**+1.4**
BURAR	**Bucovina Array**	**78.73 318**	⇑	*i*P		**P**	**03 49 00.5**	**+1.4**
BUR08	**Bucovina Ar. S**	**78.74 318**		*e*P		**P**	**03 49 00.4**	**+1.2**
FX1	**Attu Island--F**	**78.91 36**		*e*P		**P**	**03 49 00.4**	**+0.6**
JOF	**Joensuu**	**79.21 334**		*e*P		**P**	**03 49 02.4**	**+1.2**
JOF				pmax		pmax			
	comp=Z,3.0nm,0.5s								
JOF	**Joensuu**	**79.21 334**		*e*p		**P**	**03 49 02.4**	**+1.2**
	comp=Z,3.4nm,0.5s								
VTS	**Vitosha**	**79.32 313**	⇑	iP		**P**	**03 49 02.7**	**+0.2**
VTS	**Vitosha**	**79.32 313**	⇑	*i*P		**P**	**03 49 02.7**	**+0.2**
DRGR		**80.28 317**	⇑	iP		**P**	**03 49 09.1**	**+1.7**
DRGR		**80.28 317**	⇑	*i*P		**P**	**03 49 09.1**	**+1.7**
TRPA	**Tarpa**	**80.59 319**	⇑	*i*P		**P**	**03 49 10.2**	**+1.3**
KWP	**Kalwaria Pacla**	**80.71 320**	⇓	P		**P**	**03 49 10.7**	**+1.1**
KWP	**Kalwaria Pacla**	**80.71 320**	⇓	*i*P		**P**	**03 49 10.7**	**+1.1**
URZ	**Urewera**	**80.79 129**		P		**P**	**03 49 09.4**	**-0.8**
URZ	**Urewera**	**80.79 129**		P		**P**	**03 49 09.4**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=247,slow=7.7,SNR=3.8								
BZS	**Buzias**	**80.86 316**	⇑	iP		**P**	**03 49 11.1**	**+0.6**
BZS	**Buzias**	**80.86 316**	⇑	*i*P		**P**	**03 49 11.1**	**+0.6**
SIRR	**Siria**	**80.92 317**	⇑	*i*P		**P**	**03 49 11.8**	**+1.0**
FINES	**FINESS Array B**	**81.15 332**		P		**P**	**03 49 11.9**	**+0.3**
FINES	**FINESS Array B**	**81.15 332**		P		**P**	**03 49 11.9**	**+0.3**
	comp=Z,3.2nm,0.3s,baz=112,slow=5.2,SNR=78								
KAF	**Kangasniemi**	**81.21 333**		*e*P		**P**	**03 49 12.7**	**+0.8**
KAF				pmax		pmax			
	comp=Z,6.0nm,0.4s								
KAF	**Kangasniemi**	**81.21 333**		*e*p		**P**	**03 49 12.7**	**+0.8**
	comp=Z,5.8nm,0.4s								
KEV	**Kevo**	**82.90 340**		*e*P		**P**	**03 49 20.7**	**+0.2**
KEV				pmax		pmax			
	comp=Z,2.0nm,0.3s								
KEV	**Kevo**	**82.90 340**		*e*p		**P**	**03 49 20.7**	**+0.2**
	comp=Z,1.7nm,0.3s								
PKSM	**Moragy**	**83.00 316**	⇓	P		**P**	**03 49 22.1**	**+0.5**
PKSM	**Moragy**	**83.00 316**	⇓	*i*P		**P**	**03 49 22.1**	**+0.5**
ARCES	**ARCESS Array B**	**83.35 340**		P		**P**	**03 49 23.2**	**+0.3**
ARCES	**ARCESS Array B**	**83.35 340**		P		**P**	**03 49 23.2**	**+0.3**
	comp=Z,10nm,0.4s,baz=101,slow=4.6,SNR=216								
MORC	**Moravsky Berou**	**84.06 320**	⇓	P		**P**	**03 49 28.3**	**+1.3**
MORC	**Moravsky Berou**	**84.06 320**	⇓	*i*P		**P**	**03 49 28.3**	**+1.3**
SOKA	**Soboth**	**85.52 317**		*i*PcP		**PcP**	**03 49 36.2**	**-0.8**
	comp=Z,3.4nm,0.7s								
BRG	**Berggiesshubel**	**86.43 321**		*e*P		**P**	**03 49 39.6**	**+1.0**
	comp=Z,4.6nm,1.1s								
BRG				*e*			03 49 42.9		
	comp=Z,3.1nm,0.8s								
BRG				*e*pP		**pP**	**03 50 29.4**	**+0.7**
	comp=Z,5.2nm,1.0s								
GERES	**GERESS Array B**	**86.51 319**		P		**P**	**03 49 40.1**	**+0.9**
GERES				pP		**pP**	**03 50 28.6**	**-0.7**
GERES	**GERESS Array B**	**86.51 319**		P		**P**	**03 49 40.1**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=105,slow=5.2,SNR=14								
GERES				pP		**pP**	**03 50 28.6**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=102,slow=3.3,SNR=2.8								
KHC	**Kasperske Hory**	**86.60 319**	⇓	*e*P		**P**	**03 49 39.7**	**+0.2**
KHC				pmax		pmax			
	comp=Z,115nm,3.8s								
HFS	**Hagfors**	**86.97 330**		P		**P**	**03 49 41.5**	**+0.5**
HFS	**Hagfors**	**86.97 330**		P		**P**	**03 49 41.5**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=108,slow=4.8,SNR=28								
CLL	**Collm**	**87.03 321**		*e*P		**P**	**03 49 43.0**	**+1.5**
ABTA	**Abfaltersbach**	**87.25 317**	⇑	*i*P		**P**	**03 49 43.2**	**+0.4**
	comp=Z,11nm,1.3s								
SPITS	**Spitsbergen Ar**	**87.40 348**		P		**P**	**03 49 42.2**	**-0.5**
SPITS	**Spitsbergen Ar**	**87.40 348**		P		**P**	**03 49 42.2**	**-0.5**
	comp=Z,13nm,0.5s,baz=98,slow=8.9,SNR=52								
WTTA	**Wattenberg**	**87.86 317**	⇓	*i*P		**P**	**03 49 45.8**	**0.0**
	comp=Z,6.0nm,0.6s,SNR=4.4								
NB2	**NORSAR Subarra**	**88.22 331**		P		**P**	**03 49 47.7**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=91,slow=4.8								
NOA	**NORSAR Array B**	**88.22 331**		P		**P**	**03 49 47.4**	**+0.4**
NOA	**NORSAR Array B**	**88.22 331**		P		**P**	**03 49 47.4**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=90,slow=4.6,SNR=4.2								
MOTA	**Moosalm**	**88.22 317**	⇑	*i*P		**P**	**03 49 47.7**	**+0.2**
	comp=Z,3.1nm,0.6s								
RETA	**Reutte**	**88.45 317**		*i* P		**P**	**03 49 49.0**	**+0.6**
	comp=Z,8.1nm,0.8s,SNR=6.1								
FETA	**Feichten**	**88.48 317**		*i* PcP		**P**	**03 49 49.4**	**+0.7**
	comp=Z,3.1nm,0.7s,SNR=5.2								
DAVA	**Damuels**	**89.06 317**	⇑	*i*PcP		**PcP**	**03 49 53.1**	**+0.4**
	comp=Z,4.3nm,0.8s								
DAVOX	**Davos/Dischmat**	**89.06 317**		P		**P**	**03 49 52.6**	**+1.1**
DAVOX	**Davos/Dischmat**	**89.06 317**		P		**P**	**03 49 52.6**	**+1.1**
	comp=Z,11nm,0.5s,baz=141,slow=4.6,SNR=40								
KEST	**Kesra**	**89.69 306**		P		**P**	**03 49 55.8**	**+1.3**
KEST	**Kesra**	**89.69 306**		P		**P**	**03 49 55.8**	**+1.3**
	comp=Z,3.0nm,0.9s,baz=203,slow=6.6,SNR=6.3								
PGF	**Pioggiola**	**89.78 312**		*e*P		**P**	**03 49 55.4**	**+0.6**
	comp=Z,82nm,1.1s								
PGF	**Pioggiola**	**89.78 312**		*e*P		**P**	**03 49 55.4**	**+0.6**
PGF				pmax		pmax			
	comp=Z,82nm,1.1s								
PGF	**Pioggiola**	**89.78 312**		*e*P		**P**	**03 49 55.4**	**+0.6**
	comp=Z,82nm,1.1s								
BFO	**Black Forest**	**90.07 318**		*i* P		**P**	**03 49 57.5**	**+1.6**
CDF	**Champ du Feu**	**90.77 318**		*e*P		**P**	**03 49 59.8**	**+0.5**
CDF	**Champ du Feu**	**90.77 318**		*e*P		**P**	**03 49 59.8**	**+0.5**
CDF	**Champ du Feu**	**90.77 318**		*e*P		**P**	**03 49 59.8**	**+0.5**
SBF	**Sospel**	**90.88 314**		*e*P		**P**	**03 50 00.6**	**+0.8**
	comp=Z,27nm,0.6s								
SBF	**Sospel**	**90.88 314**		*e*P		**P**	**03 50 00.6**	**+0.8**
SBF				pmax		pmax			
	comp=Z,27nm,0.6s								
SBF	**Sospel**	**90.88 314**		*e*P		**P**	**03 50 00.6**	**+0.8**
	comp=Z,27nm,0.6s								
LPG	**La Plagne**	**91.28 315**		*e*P		**P**	**03 50 02.9**	**+1.0**
	comp=Z,24nm,0.9s								
LPG	**La Plagne**	**91.28 315**		*e*P		**P**	**03 50 02.9**	**+1.0**
LPG				pmax		pmax			
	comp=Z,24nm,0.9s								
LPG	**La Plagne**	**91.28 315**		*e*P		**P**	**03 50 02.9**	**+1.0**
	comp=Z,21nm,0.8s								
LPL	**La Plagne**	**91.30 315**		*e*P		**P**	**03 50 02.9**	**+1.0**
	comp=Z,21nm,0.8s								
LPL	**La Plagne**	**91.30 315**		*e*P		**P**	**03 50 02.9**	**+1.0**
LPL				pmax		pmax			
	comp=Z,21nm,0.8s								
LPL	**La Plagne**	**91.30 315**		*e*P		**P**	**03 50 02.9**	**+1.0**
	comp=Z,21nm,0.8s								
MBDF	**Montbardon**	**91.31 315**		*e*P		**P**	**03 50 02.1**	**+0.2**
MBDF	**Montbardon**	**91.31 315**		*e*P		**P**	**03 50 02.1**	**+0.2**
MBDF	**Montbardon**	**91.31 315**		*e*P		**P**	**03 50 02.1**	**+0.2**
HAU	**Haudompre**	**91.41 318**		*e*P		**P**	**03 50 02.8**	**+0.6**
	comp=Z,12nm,0.7s								
HAU	**Haudompre**	**91.41 318**		*e*P		**P**	**03 50 02.8**	**+0.6**
HAU				pmax		pmax			
	comp=Z,12nm,0.7s								
HAU	**Haudompre**	**91.41 318**		*e*P		**P**	**03 50 02.8**	**+0.6**
	comp=Z,12nm,0.7s								
CABF	**La Chapelle**	**91.68 317**		*e*P		**P**	**03 50 04.5**	**+1.0**
CABF	**La Chapelle**	**91.68 317**		*e*P		**P**	**03 50 04.5**	**+1.0**
CABF	**La Chapelle**	**91.68 317**		*e*P		**P**	**03 50 04.5**	**+1.0**
ORIF	**Oris-en-Rattie**	**91.93 315**		*e*P		**P**	**03 50 05.4**	**+0.7**
ORIF	**Oris-en-Rattie**	**91.93 315**		*e*P		**P**	**03 50 05.4**	**+0.7**
ORIF	**Oris-en-Rattie**	**91.93 315**		*e*P		**P**	**03 50 05.4**	**+0.7**
SFTF	**Sexfontaines**	**92.28 318**		*e*P		**P**	**03 50 06.9**	**+0.8**
SFTF	**Sexfontaines**	**92.28 318**		*e*P		**P**	**03 50 06.9**	**+0.8**
VIVF	**Saint-Julien-l**	**92.79 315**		*e*P		**P**	**03 50 08.7**	**+0.1**
VIVF	**Saint-Julien-l**	**92.79 315**		*e*P		**P**	**03 50 08.7**	**+0.1**
VIVF	**Saint-Julien-l**	**92.79 315**		*e*P		**P**	**03 50 08.7**	**+0.1**
LOR	**Lormes**	**93.15 317**		*e*P		**P**	**03 50 10.8**	**+0.6**
	comp=Z,8.3nm,0.6s								
LOR	**Lormes**	**93.15 317**		*e*P		**P**	**03 50 10.8**	**+0.6**
	comp=Z,8.3nm,0.6s								
SMF	**Signal de Mont**	**93.22 317**		*e*P		**P**	**03 50 11.1**	**+0.6**
	comp=Z,11nm,0.8s								
SMF	**Signal de Mont**	**93.22 317**		*e*P		**P**	**03 50 11.1**	**+0.6**
SMF				pmax		pmax			
	comp=Z,11nm,0.8s								
SMF	**Signal de Mont**	**93.22 317**		*e*P		**P**	**03 50 11.1**	**+0.6**
	comp=Z,11nm,0.8s								
SSF	**Saint Saulge**	**93.41 317**		*e*P		**P**	**03 50 11.8**	**+0.5**
SSF	**Saint Saulge**	**93.41 317**		*e*P		**P**	**03 50 11.8**	**+0.5**
SSF	**Saint Saulge**	**93.41 317**		*e*P		**P**	**03 50 11.8**	**+0.5**
BGF	**Bois d'Agland**	**93.91 317**		*e*P		**P**	**03 50 14.5**	**+0.8**
BGF	**Bois d'Agland**	**93.91 317**		*e*P		**P**	**03 50 14.5**	**+0.8**
BGF	**Bois d'Agland**	**93.91 317**		*e*P		**P**	**03 50 14.5**	**+0.8**
IM04	**Indian Mountai**	**95.42 23**		*e*P		**P**	**03 50 19.9**	**-0.3**
LDF	**La Druitiere**	**95.65 319**		*e*P		**P**	**03 50 22.0**	**+0.5**
LDF	**La Druitiere**	**95.65 319**		*e*P		**P**	**03 50 22.0**	**+0.5**
LDF	**La Druitiere**	**95.65 319**		*e*P		**P**	**03 50 22.0**	**+0.5**
FLN	**La Foliniere**	**95.86 319**		*e*P		**P**	**03 50 22.7**	**+0.2**
	comp=Z,12nm,0.7s								
FLN	**La Foliniere**	**95.86 319**		*e*P		**P**	**03 50 22.7**	**+0.2**
FLN				pmax		pmax			
	comp=Z,12nm,0.7s								
FLN	**La Foliniere**	**95.86 319**		*e*P		**P**	**03 50 22.7**	**+0.2**
	comp=Z,12nm,0.7s								
EKA	**Eskdalemuir Ar**	**96.34 326**		P		**P**	**03 50 24.9**	**+0.4**
EKA	**Eskdalemuir Ar**	**96.34 326**		P		**P**	**03 50 24.9**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=96,slow=5.1,SNR=4.1								
BPAW	**Bear Paw Mtn.**	**97.09 25**		*e*P		**P**	**03 50 27.3**	**-0.5**
	comp=Z,12nm,0.9s								
TORD	**Torodi Ar. Bea**	**97.68 283**		P		Pdif	03 50 32.3	+0.8
TORD				PKiKP		**PKiKP**	**03 55 04.0**	**-0.7**
TORD				PKKPbc		**PKKPbc**	**04 07 06.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**97.68 283**		P		Pdif	03 50 32.3	+0.8
	comp=Z,0.2nm,0.7s,baz=95,slow=5.4,SNR=2.7								
TORD				PKiKP		**PKiKP**	**03 55 04.0**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=98,slow=1.8,SNR=4.6								
TORD				PKKPbc		**PKKPbc**	**04 07 06.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=299,slow=3.0,SNR=12								
ILAR	**Eielson Array**	**98.54 23**		P		**P**	**03 50 32.9**	**-1.3**
ILAR	**Eielson Array**	**98.54 23**		P		**P**	**03 50 32.9**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=285,slow=4.5,SNR=7.4								
FFC	**Flin Flon**	**121.32 15**		*i* PKIKP		PKPdf	03 55 56.2	+8.3
SCHQ	**Schefferville**	**122.99 351**		PKP		**PKPdf**	**03 55 50.5**	**-0.6**
SCHQ	**Schefferville**	**122.99 351**		PKP		**PKPdf**	**03 55 50.5**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=270,slow=3.0,SNR=8.1								
ULM	**Lac du Bonnet**	**126.89 13**		PKP		**PKPdf**	**03 55 57.8**	**-0.9**
ULM	**Lac du Bonnet**	**126.89 13**		PKP		**PKPdf**	**03 55 57.8**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=4.9,slow=6.7,SNR=5.2								
NVAR	**Mina Array Bea**	**127.09 38**		PKP		**PKPdf**	**03 56 00.5**	**+0.7**
NVAR	**Mina Array Bea**	**127.09 38**		PKP		**PKPdf**	**03 56 00.5**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=260,slow=2.2,SNR=7.4								
PDAR	**Pinedale Array**	**128.74 28**		PKP		**PKPdf**	**03 56 02.9**	**+0.1**
PDAR	**Pinedale Array**	**128.74 28**		PKP		**PKPdf**	**03 56 02.9**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=162,slow=1.8,SNR=8.6								
TXAR	**Lajitas Array**	**142.11 35**		PKPpre		PKPpre	03 56 22.8		
TXAR				SKPbc		**SKPbc**	**03 59 44.0**	**-2.1**
TXAR	**Lajitas Array**	**142.11 35**		PKhKP		PKPpre	03 56 22.8		
	comp=Z,0.6nm,0.4s,baz=258,slow=0.3,SNR=19								
TXAR				SKPbc		**SKPbc**	**03 59 44.0**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=129,slow=0.6,SNR=7.7								
LRAL	**Lakeview Retre**	**145.23 10**		*e*PKPdf		**PKPdf**	**03 56 30.1**	**-3.0**
BDFB	**Brasilia**	**145.29 244**		PKPbc		**PKPab**	**03 56 34.5**	**+0.3**
BDFB				pPKPbc		pPKPbc	03 57 25.6	-0.5
BDFB	**Brasilia**	**145.29 244**		PKPbc		**PKPab**	**03 56 34.5**	**+0.3**
	comp=Z,9.3nm,0.5s,baz=104,slow=3.2,SNR=41								
BDFB				pPKPbc		pPKPbc	03 57 25.6	-0.5
	comp=Z,8.8nm,0.9s,baz=90,slow=2.8,SNR=5.0								
CPUP	**Villa Florida**	**146.84 219**		*e*PKPbc		**PKPbc**	**03 56 37.9**	**-0.2**
CPUP				pPKPbc		pPKPbc	03 57 29.6	-0.8
CPUP	**Villa Florida**	**146.84 219**		PKPbc		**PKPbc**	**03 56 38.2**	**+0.2**
	comp=Z,6.4nm,0.6s,baz=103,slow=2.3,SNR=14								
CPUP				pPKPbc		pPKPbc	03 57 29.6	-0.8
	comp=Z,5.2nm,0.8s,baz=94,slow=3.0,SNR=4.3								
LPAZ	**La Paz**	**161.00 218**		PKPab		**PKPab**	**03 57 42.0**	**+1.5**
LPAZ	**La Paz**	**161.00 218**		PKPab		**PKPab**	**03 57 42.0**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=225,slow=13,SNR=4.5								
ROSC	**El Rosal**	**171.58 317**		PKP		**PKPdf**	**03 57 04.3**	**-0.5**
ROSC				PKPab		**PKPab**	**03 58 28.8**	**+1.7**
ROSC	**El Rosal**	**171.58 317**		PKP		**PKPdf**	**03 57 04.3**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=107,slow=19,SNR=4.0								
ROSC				PKPab		**PKPab**	**03 58 28.8**	**+1.7**
	comp=Z,1.9nm,0.5s,baz=114,slow=22,SNR=4.0								

PRU ***09*** *03:47:32.2,51.36N×16.17E,h0km*
CSEM ***09*** *03:47:34.0,51.29N×16.18E,h0km, After GFU*
ISC 09 03:47:32.3±2.4,51.4N±0.1×16.17E±0.07,h0km,n15,
σ0s79/21,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.51**	**171**	*e*Pg	**Pg**	**03 47 41.6**	**-0.5**
KSP				*e*Sg	**Sg**	**03 47 49.6**	**+0.9**
UPC	**Upice**	**0.85**	**187**	*e*PG	**Pg**	**03 47 48.4**	**-0.1**
UPC	**Upice**	**0.85**	**187**	Pg	**Pg**	**03 47 48.4**	**-0.1**
DPC	**Dobruska-Polom**	**1.00**	**174**	*e*PG	**Pg**	**03 47 50.7**	**-0.8**
DPC				*e*SG	**Sg**	**03 48 04.9**	**+0.4**
DPC	**Dobruska-Polom**	**1.00**	**174**	Pg	**Pg**	**03 47 50.7**	**-0.8**
DPC				Sg	**Sg**	**03 48 04.9**	**+0.4**
PVCC	**Panska Ves**	**1.30**	**232**	*e*PG	**Pg**	**03 47 56.5**	**-0.7**
PVCC				*e*SG	**Sg**	**03 48 14.7**	**+0.6**
	14nm,0.2s						
PVCC	**Panska Ves**	**1.30**	**232**	Pg	**Pg**	**03 47 56.5**	**-0.7**
PVCC				Sg	**Sg**	**03 48 14.7**	**+0.6**
	14nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**252**	SG	**Sg**	**03 48 19.4**	**-0.4**
	2.9nm,0.5s						
PRU	**Pruhonice**	**1.71**	**218**	*e*SG	**Sn**	**03 48 26.3**	**+0.5**
PRU	**Pruhonice**	**1.71**	**218**	Sg	**Sn**	**03 48 26.3**	**+0.5**
CLL	**Collm**	**1.99**	**270**	*e*(Pg)	**Pn**	**03 48 07.0**	**-0.1**
CLL				*e*Sg	**Sb**	**03 48 35.0**	**+0.5**
NKC	**Novy Kostel**	**2.61**	**246**	*e*SG	**Sg**	**03 48 57.2**	**+1.1**
NKC	**Novy Kostel**	**2.61**	**246**	Sg	**Sg**	**03 48 57.2**	**+1.1**
KHC	**Kasperske Hory**	**2.77**	**218**	*e*SG	**Sg**	**03 49 00.0**	**-1.3**
KHC	**Kasperske Hory**	**2.77**	**218**	Sg	**Sg**	**03 49 00.0**	**-1.3**

IDC 09 04:06:53.4±2.9,31.13S×179.17W,h0km,mb3.5/2,
mb1 3.8/3,mb1mx3.6/17,mbtmp3.5/3,ML2.9/1,MS3.5/2,
Ms1 3.5/2,ms1mx3.0/25,Error ellipse: s-maj=67.4km
s-min=45.4km az=109.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.16**	**30**	LR	LR	04 07 58.6	
	comp=Z,653nm,18.3s,baz=80,slow=30						
URZ	**Urewera**	**7.75**	**202**	Pn	Pn	04 08 47.2	-0.2
	0.2nm,0.3s,baz=0.0,slow=7.1,SNR=3.1						
URZ				Sn	Sn	04 10 04.1	-12
	0.5nm,0.3s,baz=36,slow=19,SNR=3.1						
ASAR	**Alice Springs**	**42.08**	**268**	P	P	04 14 47.2	-0.1
	0.5nm,0.8s,baz=108,slow=7.4,SNR=5.0						
WRA	**Warramunga Arr**	**43.13**	**274**	P	P	04 14 55.8	-0.1
	0.5nm,0.5s,baz=113,slow=7.9,SNR=5.8						
NWAO	**Narrogin (SRO)**	**53.20**	**250**	LR	LR	04 36 06.2	
	comp=Z,78nm,18.7s,baz=98,slow=33						
FINES	**FINESS Array B**	**145.47**	**339**	PKPbc	PKPdf	04 26 31.9	-0.8
	0.8nm,0.5s,baz=45,slow=3.0,SNR=6.9						

ISCJB ***09*** *04:22:07.5±0.5,38.02N±0.06×75.6E±0.1,h135km,*
mb3.5/5, Error ellipse: s-maj=15.2km s-min=5.4km
az=153.1
IDC ***09*** *04:22:08.8±5.1,38.04N×75.65E,h127km±35km,mb3.4/5,*
mb1 3.4/9,mb1mx3.1/30,mbtmp3.2/9, Error ellipse:
s-maj=52.4km s-min=34.0km az=143.0
NNC ***09*** *04:22:11.8±6.2,38.57N×74.94E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=50.6km s-min=33.1km az=148.0
ISC 09 04:22:07.3±0.7,37.98N±0.07×75.8E±0.1,h135km,n30,
σ1s50/32,mb3.5/5,4C-2D,Tajikistan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**4.11**	**354**	P	**Pn**	**04 23 09.4**	**+0.4**
	SNR=48						
ULHL	**Ulahol**	**4.27**	**4**	P	**Pn**	**04 23 12.4**	**+1.5**
	SNR=20						
UCH	**Uchtor**	**4.36**	**347**	P	**Pn**	**04 23 12.5**	**+0.2**
	SNR=64						
AML	**Almayashu**	**4.45**	**339**	P	**Pn**	**04 23 13.6**	**+0.1**
	SNR=37						
KBK	**Karagaybulak**	**4.71**	**352**	P	**Pn**	**04 23 17.5**	**+0.7**
	SNR=11						
AAK	**Ala-Archa**	**4.75**	**348**	P	**Pn**	**04 23 18.0**	**+0.7**
	SNR=7.1						
AAK	**Ala-Archa**	**4.75**	**348**	P	**Pn**	**04 23 17.6**	**+0.3**
	2.2nm,0.3s,baz=151,slow=8.8,SNR=16						
AAK				S	**Sn**	**04

KURBB	**Kurchatov Arra**	**48.16**	**350**	P		P	05 05 42.2	-0.6
	4.3nm,0.2s,baz=174,slow=7.0,SNR=6.4							
KSRS	**Korea Array**	**48.84**	**41**	LR		LR	05 29 02.9	
	comp=Z,34nm,18.2s,baz=355,slow=39							
WRA	**Warramunga Arr**	**49.49**	**120**	P		P	05 05 53.2	-0.3
	0.6nm,0.7s,baz=298,slow=8.6,SNR=11							
ZALV	**Zalesovo Beam**	**50.72**	**356**	P		P	05 06 01.9	-0.3
	0.4nm,0.3s,baz=169,slow=8.3,SNR=3.2							
BRTR	**Keskin Array B**	**62.27**	**314**	P		P	05 07 24.4	-0.6
	0.4nm,0.6s,baz=121,slow=7.8,SNR=4.0							
FINES	**FINESS Array B**	**74.81**	**334**	P		P	05 08 43.9	+1.2
	1.6nm,0.9s,baz=163,slow=10,SNR=3.0							
ARCES	**ARCESS Array B**	**78.16**	**341**	P		P	05 09 01.8	+0.1
	2.1nm,1.1s,baz=77,slow=8.7,SNR=3.5							

*ISCJB **09** 05:06:48.8±0.8, 49°.5N±0°.2×28°.6W±0°.2, h17km, mb3.6/8, MS3.8/3, Error ellipse: s-maj=31.8km s-min=14.7km az=31.6*

*IDC **09** 05:06:48.2±0.9, 49°.52N×28°.62W, h0km, mb3.5/9, mb1 3.8/9, mb1mx3.6/33, mbtmp3.5/9, MS3.8/3, Ms1 3.8/3, ms1mx3.2/39, Error ellipse: s-maj=37.2km s-min=19.5km az=29.0*

ISC 09 05:06:50.7±1.0, 49°.5N±0°.2×28°.6W±0°.2, h17km, n14, σ0s58/10, mb3.6/8, MS3.8/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**20.03**	**110**	P	Pn	05 11 23.4	-1.1
	0.4nm,0.6s,baz=316,slow=9.0,SNR=4.0						
GERES	**GERESS Array B**	**27.41**	**75**	LR	LR	05 24 21.5	
	comp=Z,165nm,20.3s,baz=285,slow=38						
TKL	**Tuckaleechee C**	**41.98**	**272**	LR	LR	05 31 08.6	
	comp=Z,147nm,18.2s,baz=54,slow=35						
TORD	**Torodi Ar. Bea**	**43.97**	**135**	P	**P**	**05 14 57.4**	**+0.4**
	0.5nm,0.8s,baz=334,slow=8.9,SNR=6.9						
YKA	**Yellowknife Ar**	**46.16**	**320**	P	**P**	**05 15 14.4**	**+0.6**
	0.6nm,0.9s,baz=59,slow=8.2,SNR=4.2						
DBIC	**Dimbokro**	**47.14**	**147**	LR	LR	05 33 15.3	
	comp=Z,94nm,19.4s,baz=333,slow=34						
INK	**Inuvik**	**50.10**	**332**	P	**P**	**05 15 44.1**	**0.0**
	0.7nm,0.8s,baz=22,slow=5.5,SNR=3.0						
PDAR	**Pinedale Array**	**53.95**	**296**	P	**P**	**05 16 13.2**	**-0.4**
	1.3nm,0.9s,baz=74,slow=7.6,SNR=8.2						
ILAR	**Eielson Array**	**56.45**	**333**	P	**P**	**05 16 31.9**	**+0.9**
	0.5nm,0.9s,baz=38,slow=6.8,SNR=6.1						
TXAR	**Lajitas Array**	**58.91**	**280**	P	**P**	**05 16 48.5**	**-0.4**
	0.4nm,0.7s,baz=78,slow=5.8,SNR=5.4						
MKAR	**Makanchi Array**	**66.98**	**44**	P	**P**	**05 17 41.6**	**-0.6**
	0.5nm,0.7s,baz=311,slow=6.2,SNR=4.6						
SONM	**Songino Array**	**75.54**	**29**	P	**P**	**05 18 34.3**	**+0.1**
	0.6nm,0.9s,baz=316,slow=4.0,SNR=4.2						
WRA	**Warramunga Arr**	**147.51**	**31**	PKPbc	**PKPbc**	**05 26 33.4**	**-0.5**
	0.5nm,0.8s,baz=340,slow=2.9,SNR=4.8						
ASAR	**Alice Springs**	**150.79**	**34**	PKPbc	**PKPbc**	**05 26 41.7**	**-0.4**
	1.3nm,0.7s,baz=343,slow=2.0,SNR=14						

IDC 09 05:57:04.0±2.2, 8°.93S×148°.47E, h0km, mb2.9/1, mb1 3.3/2, mb1mx3.2/15, mbtmp3.1/2, ML2.9/1, Error ellipse: s-maj=68.2km s-min=22.0km az=158.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.38**	**250**	Pg	Pn	05 57 30.6	0.0
	59nm,0.3s,baz=67,slow=8.2,SNR=78						
PMG				Lg	Lg	05 57 47.9	
	50nm,0.3s,baz=165,slow=22,SNR=16						
WRA	**Warramunga Arr**	**17.51**	**230**	P	Pn	06 01 08.8	-1.0
	0.0nm,0.3s,baz=54,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**20.22**	**222**	P	P	06 01 40.5	-0.3
	0.4nm,0.5s,baz=59,slow=7.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**147.14**	**280**	PKPbc	PKPbc	06 16 49.5	-0.7
	0.4nm,0.8s,baz=92,slow=3.8,SNR=2.9						

KRSC 09 06:02:25.3±4.7, 49°.96N×156°.76E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.83**	**331**	*e*P	Pb	06 02 41.9	-0.3
SKR				*i* S	Sb	06 02 53.7	0.0
PAU	**Pauzhetka**	**1.51**	**1**	*e*P	Pb	06 02 53.8	0.0
PAU				*i* S	Sg	06 03 13.7	-0.1
MIPR	**Malaya Ipel'ka**	**2.32**	**360**	*e*P	Pn	06 03 04.7	+0.6
ASAK	**Asacha**	**2.53**	**16**	*e*P	Pb	06 03 09.8	-1.5
MTVR	**Mutnovka**	**2.68**	**19**	*e*P	Pb	06 03 12.9	-1.0
RUS	**Russkaya**	**2.71**	**23**	*e*P	Pn	06 03 11.2	+1.7
RUS				*i* S	Sn	06 03 43.9	+1.3
UGLR	**Uglovaya**	**3.50**	**21**	*e*P	Pb	06 03 24.5	-3.3
SMAR	**Somma**	**3.54**	**20**	*e*P	Pb	06 03 25.1	-3.7
KRX	**Arik**	**3.60**	**18**	*e*P	Pb	06 03 26.1	-3.5
MKZ	**Mys Kozlova**	**5.52**	**32**	*e*P	Pn	06 03 50.6	+2.5

*KRSC **09** 06:04:42.5±8.1, 55°.74N×166°.22E, h41km±40km, ML3.6*

*ISCJB **09** 06:04:44.3±0.7, 55°.60N±0°.08×166°.06E±0°.07, h20km, mb3.2/2, Error ellipse: s-maj=11.5km s-min=5.6km az=166.6*

*IDC **09** 06:04:44.1±1.8, 55°.70N×166°.13E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.3/28, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=33.9km s-min=27.3km az=29.0*

ISC 09 06:04:46.0±1.2, 55°.7N±0°.1×166°.04E±0°.07, h20km, n18, σ1s01/24, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.88**	**287**	*e*P	**Pn**	**06 05 15.2**	**-1.8**
KBTR				*e*S	**Sn**	**06 05 39.0**	**-1.1**
MKZ	**Mys Kozlova**	**2.73**	**247**	*e*P	**Pn**	**06 05 27.1**	**-1.6**
MKZ				*i* S	**Sn**	**06 05 59.0**	**-2.0**
KZV	**Kizimen**	**3.33**	**262**	*e*P	**Pn**	**06 05 37.1**	**0.0**
KZV				*e*S	**Sn**	**06 06 16.3**	**+0.2**
TUMR	**Tumrok**	**3.38**	**265**	*e*P	**Pn**	**06 05 38.3**	**+0.6**
TUMR				*i* S	**Sn**	**06 06 18.0**	**+0.7**
SDLR	**Sedlovina**	**4.83**	**243**	*e*P	**Pn**	**06 05 57.6**	**0.0**
SDLR				*e*S	**Sn**	**06 06 52.8**	**-0.2**
SMAR	**Somma**	**4.88**	**243**	*e*P	**Pn**	**06 05 58.5**	**+0.1**
KRER	**Koryakskii**	**4.88**	**243**	*e*P	**Pn**	**06 05 58.9**	**+0.4**
KRER				*i* S	**Sn**	**06 06 53.9**	**-0.6**
KRX	**Arik**	**4.91**	**244**	*e*P	**Pn**	**06 05 59.0**	**+0.3**
KRX				*i* S	**Sn**	**06 06 55.4**	**+0.5**
AVH	**Avacha**	**4.91**	**243**	*e*P	**Pn**	**06 05 58.9**	**+0.2**
AVH				*i* S	**Sn**	**06 06 54.5**	**-0.4**
FX1	**Attu Island--F**	**5.04**	**121**	Pn	**Pn**	**06 05 58.2**	**-2.2**
	0.7nm,0.3s,baz=323,slow=5.1,SNR=3.4						
FX1				Sn	Sn	06 06 50.9	-7.0
	0.7nm,0.3s,baz=96,slow=16,SNR=1.9						
GNL	**Ganaly**	**5.11**	**250**	P	**Pn**	**06 06 01.4**	**-0.1**
RUS	**Russkaya**	**5.51**	**237**	*e*P	**Pn**	**06 06 06.1**	**-0.8**
PETK	**Petropavlovsk-**	**5.53**	**245**	Pn	**Pn**	**06 06 07.9**	**+0.9**
	1.1nm,0.3s,baz=72,slow=18,SNR=7.9						
PETK				Sn	**Sn**	**06 07 09.9**	**-0.1**
	0.0nm,0.3s,baz=40,slow=25,SNR=2.2						
ILAR	**Eielson Array**	**24.48**	**49**	P	**P**	**06 10 03.7**	**+0.3**
	0.7nm,1.1s,baz=254,slow=8.2,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**35.92**	**179**	T	T	06 49 16.0	
	baz=1.1,slow=76,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**35.94**	**179**	T	T	06 49 17.9	
	baz=1.1,slow=76,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**35.94**	**179**	T	T	06 49 09.7	
	baz=1.1,slow=76,SNR=4.9						
TXAR	**Lajitas Array**	**66.47**	**72**	P	**P**	**06 15 35.4**	**+1.4**
	0.2nm,0.7s,baz=303,slow=5.0,SNR=3.4						

*ISCJB **09** 06:34:03.6±0.5, 47°.74N±0°.07×152°.12E±0°.09, h124km, mb3.7/17, Error ellipse: s-maj=11.9km s-min=5.2km az=141.3*

*IDC **09** 06:34:04.8±0.9, 47°.64N×152°.03E, h129km±7km, mb3.4/18, mb1 3.6/19, mb1mx3.5/28, mbtmp3.4/19, Error ellipse: s-maj=16.3km s-min=11.6km az=153.0*

*SKHL **09** 06:34:04.7±1.1, 47°.35N×152°.52E, h146km±4km, mb4.5/2, msh5.3/2*

*MOS **09** 06:34:05.8±0.9, 47°.71N×152°.08E, h154km, mb3.9/9, Error ellipse: s-maj=18.0km s-min=11.4km az=65.9*

ISC 09 06:34:05.0±0.6, 47°.66N±0°.09×152°.13E±0°.08, h124km, n58, σ1s34/60, mb3.6/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.82**	**232**	*e*P	**Pn**	**06 35 04.2**	**+2.1**
KUR				AMB	AMB	06 35 04.7	
	100nm,0.7s						
KUR				*e*S	**Sn**	**06 35 48.0**	**+1.7**
KUR				A	A	06 35 59.0	
	110nm,0.5s						
SKR	**Severo-Kuril's**	**4.00**	**39**	*e*PN	**Pn**	**06 35 05.0**	**+0.5**
SKR				*e*S	**Sn**	**06 35 52.0**	**+1.3**
SKR				smax	smax		
	comp=E,70nm,0.5s						
SKR				smax	smax		
	comp=N,100nm,0.3s						
SKR	**Severo-Kuril's**	**4.00**	**39**	*e*P	**Pn**	**06 35 05.0**	**+0.5**
SKR				*e*S	**Sn**	**06 35 51.0**	**+0.3**
SKR				A	A	06 35 55.5	
	comp=N,100nm,0.4s						
SKR				A	A	06 35 55.5	
	comp=N,70nm,0.4s						
PETK	**Petropavlovsk-**	**6.52**	**31**	PN	**Pn**	**06 35 40.6**	**+2.4**
PETK				S	**Sn**	**06 36 54.4**	**+3.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.52**	**31**	P	**Pn**	**06 35 40.6**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=202,slow=15,SNR=14						
PETK				S	**Sn**	**06 36 54.4**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=219,slow=26,SNR=2.4						
PET	**Petropavlovsk**	**6.80**	**35**	*e*PN	Pn	06 35 48.2	+6.1
PET	**Petropavlovsk**	**6.80**	**35**	*e*P	Pn	06 35 48.2	+6.1
TYV	**Tymovskoe**	**6.98**	**301**	*e*P	Pn	06 35 48.7	+4.2
TYV				AMB	AMB	06 35 49.0	
	comp=Z,10.0nm,0.6s						
JKA	**Kamikawa-asahi**	**7.53**	**245**	*e*P	**Pn**	**06 35 54.0**	**+2.0**
ASAJ	**Asahikawa**	**7.54**	**245**	P	**Pn**	**06 35 54.0**	**+1.9**
	comp=Z,7.1nm,0.3s,baz=69,slow=14,SNR=28						
ERM	**Erimo**	**8.51**	**232**	*e*PN	**Pn**	**06 36 07.2**	**+2.0**
ERM	**Erimo**	**8.51**	**232**	*e*P	**Pn**	**06 36 07.2**	**+2.0**
EKMR	**Ekimchan**	**13.37**	**301**	*e*P	**Pn**	**06 37 10.0**	**+0.3**
EKMR				AMB	AMB	06 37 11.5	
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Arra**	**14.43**	**264**	P	**Pn**	**06 37 24.4**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=67,slow=13,SNR=12						
BMKR	**Bomnak**	**16.17**	**305**	*e*P	**Pn**	**06 37 43.7**	**-1.1**
KROS	**Kirovskiy**	**17.15**	**303**	*e*P	**P**	**06 37 55.6**	**-0.9**
KSRS	**Korea Array**	**20.46**	**249**	*e*P	**P**	**06 38 33.1**	**+0.5**
KSRS	**Korea Array**	**20.46**	**249**	P	**P**	**06 38 32.9**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=54,slow=10,SNR=11						
HIA	**Hailar**	**21.45**	**286**	*e*P	**P**	**06 38 43.1**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**30.33**	**152**	T	T	07 11 55.1	
	baz=343,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**30.35**	**152**	T	T	07 11 52.6	
	baz=343,slow=76,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**30.35**	**152**	T	T	07 12 00.4	
	baz=343,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**31.42**	**153**	T	T	07 13 21.4	
	baz=344						
H11S3	**WAKE ISLAND Hy**	**31.43**	**153**	T	T	07 13 22.7	
	baz=344						
H11S2	**WAKE ISLAND Hy**	**31.44**	**153**	T	T	07 13 21.1	
	baz=344						
ILAR	**Eielson Array**	**36.26**	**39**	*e*P	**P**	**06 40 56.3**	**+0.5**
ILAR	**Eielson Array**	**36.26**	**39**	P	**P**	**06 40 56.3**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=261,slow=8.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.54**	**305**	P	**P**	**06 41 38.6**	**-1.2**
ZALV						06 43 34.1	
ZALV	**Zalesovo Beam**	**41.54**	**305**	P	**P**	**06 41 38.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=76,slow=6.1,SNR=2.5						
ZALV				PcP	**PcP**	**06 43 34.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=5.7,slow=1.4,SNR=3.0						
MKAR	**Makanchi Array**	**45.94**	**296**	P	**P**	**06 42 13.4**	**-1.7**
MKAR				*PP	**pP**	**06 42 43.8**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**45.94**	**296**	*e*P	**P**	**06 42 13.4**	**-1.7**
MKAR	**Makanchi Array**	**45.94**	**296**	P	**P**	**06 42 13.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=60,slow=6.9,SNR=8.3						
MKAR				pP	**pP**	**06 42 43.8**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=60,slow=10,SNR=4.8						
KURK	**Kurchatov**	**46.31**	**303**	P	**P**	**06 42 17.1**	**-0.8**
KURK				*PP	**pP**	**06 42 46.9**	**+0.6**
KURK	**Kurchatov**	**46.31**	**303**	*e*P	**P**	**06 42 17.1**	**-0.8**
KURBB	**Kurchatov Arra**	**46.40**	**302**	P	**P**	**06 42 17.1**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=68,slow=8.3,SNR=5.7						
KURBB				pP	**pP**	**06 42 46.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=100,slow=26,SNR=2.6						
BVAR	**Borovoye Array**	**49.77**	**308**	P	**P**	**06 42 43.5**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.77**	**308**	P	**P**	**06 42 43.5**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=50,slow=7.1,SNR=4.4						
YKA	**Yellowknife Ar**	**50.60**	**37**	*e*P	**P**	**06 42 51.1**	**+0.5**
YKA	**Yellowknife Ar**	**50.60**	**37**	P	**P**	**06 42 51.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=300,slow=6.8,SNR=3.6						
CMAR	**Chiang Mai Arr**	**51.95**	**255**	*e*P	**P**	**06 43 01.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**51.95**	**255**	P	**P**	**06 43 01.1**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=43,slow=6.8,SNR=6.3						
ARCES	**ARCESS Array B**	**56.77**	**340**	*e*P	**P**	**06 43 34.1**	**-1.3**
ARCES	**ARCESS Array B**	**56.77**	**340**	P	**P**	**06 43 34.1**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=29,slow=9.4,SNR=2.6						
NVAR	**Mina Array Bea**	**62.60**	**62**	P	**P**	**06 44 16.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=312,slow=9.5,SNR=3.1						
FINES	**FINESS Array B**	**62.93**	**334**	P	**P**	**06 44 16.1**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=35,slow=7.0,SNR=5.3						
PDAR	**Pinedale Array**	**64.75**	**54**	P	**P**	**06 44 29.2**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=1.8,SNR=3.5						
NB2	**NORSAR Subarra**	**67.15**	**341**	P	**P**	**06 44 45.2**	**+0.3**
	comp=Z,4.4nm,1.1s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.15**	**341**	*e*P	**P**	**06 44 45.1**	**+0.2**
NOA	**NORSAR Array B**	**67.15**	**341**	P	**P**	**06 44 44.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=29,slow=6.2,SNR=4.7						
WRA	**Warramunga Arr**	**69.16**	**198**	*e*P	**P**	**06 44 56.0**	**-1.8**
WRA	**Warramunga Arr**	**69.16**	**198**	P	**P**	**06 44 56.0**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=9.7,slow=6.4,SNR=4.3						
AKASG	**Malin Array Be**	**70.42**	**325**	*e*P	**P**	**06 45 03.9**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**70.42**	**325**	P	**P**	**06 45 03.5**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=35,slow=6.3,SNR=5.9						
SCHQ	**Schefferville**	**72.73**	**22**	P	**P**	**06 45 18.5**	**-0.6**
	comp=Z,7.8nm,1.1s,baz=287,slow=17,SNR=3.0						
ASAR	**Alice Springs**	**72.86**	**197**	*e*P	**P**	**06 45 19.7**	**-0.5**
ASAR	**Alice Springs**	**72.86**	**197**	P	**P**	**06 45 19.6**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=12,slow=5.8,SNR=9.5						
TXAR	**Lajitas Array**	**77.62**	**60**	*e*P	**P**	**06 45 46.9**	**-0.8**
TXAR	**Lajitas Array**	**77.62**	**60**	P	**P**	**06 45 46.9**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=302,slow=4.2,SNR=4.5						
TXAR				pP	**pP**	**06 46 18.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=312,slow=3.4,SNR=4.8						

IDC 09 06:40:32.8±1.2, 55°.71N×166°.23E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.2/28, mbtmp3.2/5, ML2.6/1, Error ellipse: s-maj=33.1km s-min=18.1km az=16.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**4.95**	**122**	Pn	Pn	06 41 46.5	-1.8
	0.9nm,0.3s,baz=330,slow=8.1,SNR=3.0						
FX1				Sn	Sn	06 42 38.8	-7.5
	0.9nm,0.3s,baz=157,slow=15,SNR=2.3						
PETK	**Petropavlovsk-**	**5.62**	**246**	Pn	Pn	06 41 56.1	-1.5
	1.3nm,0.3s,baz=86,slow=19,SNR=8.0						
PETK				Sn	Sn	06 42 56.7	-6.2
	0.2nm,0.3s,baz=12,slow=22,SNR=2.8						
ILAR	**Eielson Array**	**24.40**	**49**	P	P	06 45 51.6	-0.9
	0.4nm,0.7s,baz=256,slow=8.3,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**35.92**	**179**	T	T	07 24 59.7	
	baz=2.0,slow=75						
H11N3	**WAKE ISLAND Hy**	**35.94**	**179**	T	T	07 25 00.7	
	baz=2.0,slow=75						
H11N1	**WAKE ISLAND Hy**	**35.94**	**179**	T	T	07 25 01.0	
	baz=2.0						
SONM	**Songino Array**	**36.79**	**283**	P	P	06 47 42.6	+0.4
	0.3nm,0.9s,baz=69,slow=9.4,SNR=2.2						
TXAR	**Lajitas Array**	**66.36**	**72**	P	P	06 51 23.6	+0.2
	0.2nm,0.7s,baz=289,slow=5.5,SNR=2.9						

*ISCJB **09** 06:52:53.4±1.0, 16°.1N±0°.1×46°.3W±0°.3, h10km, mb3.6/6, MS3.5/2, Error ellipse: s-maj=36.7km s-min=20.4km az=9.7*

*IDC **09** 06:52:53.4±1.1, 16°.03N×46°.27W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/26, mbtmp3.7/6, MS3.5/3, Ms1 3.6/3, ms1mx3.2/33, Error ellipse: s-maj=38.3km s-min=24.3km az=102.0*

ISC 09 06:52:55.0±1.1, 16°.0N±0°.2×46°.3W±0°.3, h10km, n14, σ1s09/6, mb3.8/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**19.09**	**279**	LR	LR	07 03 04.9	
	comp=Z,137nm,19.0s,baz=273,slow=32						
LPAZ	**La Paz**	**38.67**	**215**	P	**P**	**07 00 19.2**	**-0.6**
	0.9nm,0.9s,baz=41,slow=10,SNR=3.0						
LPAZ				LR	LR	07 18 22.2	
	comp=Z,68nm,18.7s,baz=72,slow=40						
H10N3	**ASCENSION HYDR**	**39.42**	**125**	T	T	07 42 04.4	
	baz=306,slow=75,SNR=5.1						
H10N2	**ASCENSION HYDR**	**39.42**	**125**	T	T	07 42 04.4	
	baz=306,slow=75,SNR=4.5						
H10N1	**ASCENSION HYDR**	**39.44**	**125**	T	T	07 42 05.7	
	baz=306,slow=75,SNR=4.1						
H10S3	**ASCENSION HYDR**	**39.97**	**126**	T	T	07 42 47.5	
	baz=308,slow=75						
H10S1	**ASCENSION HYDR**	**39.97**	**126**	T	T	07 42 49.0	
	baz=308						
H10S2	**ASCENSION HYDR**	**39.98**	**126**	T	T	07 42 48.0	
	baz=308,slow=75						
APG	**El Apazote**	**42.51**	**275**	LR	LR	07 16 08.9	
	comp=Z,76nm,19.9s,baz=281,slow=33						
CPUP	**Villa Florida**	**43.45**	**194**	P	**P**	**07 00 59.0**	**+0.7**
	1.4nm,0.6s,baz=27,slow=2.3,SNR=3.2						
PDAR	**Pinedale Array**	**59.72**	**310**	P	**P**	**07 02 59.5**	**-0.8**
	0.2nm,0.7s,baz=64,slow=8.3,SNR=2.1						
YKA	**Yellowknife Ar**	**65.92**	**332**	P	**P**	**07 03 41.0**	**+0.1**
	0.6nm,0.8s,baz=106,slow=7.6,SNR=7.3						
BRTR	**Keskin Array B**	**72.29**	**53**	P	**P**	**07 04 20.6**	**-0.6**
	0.5nm,0.8s,baz=281,slow=8.4,SNR=2.6						
ILAR	**Eielson Array**	**80.08**	**335**	P	**P**	**07 05 06.2**	**+1.3**
	1.2nm,0.9s,baz=66,slow=4.7,SNR=12						

GUC 09 07:00:16.8±0.6, 32°.67S×69°.22W, h15km, MD3.6, ML2.8, 2C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.32**	**249**	↓*i*P	Pn	07 00 39.3	-1.4
PEL				*i* S	Sb	07 00 56.5	-1.5
PEL				AML	AML	07 01 01.0	
	comp=N,368nm,0.5s						
CLCH	**Cerro Calan**	**1.32**	**237**	↓*i*P	Pn	07 00 39.4	-1.4
CLCH				*i* S	Sb	07 00 56.7	-1.5
CLCH				AML	AML	07 00 59.8	
	comp=E,200nm,0.5s						
ANTU	**Antumapu**	**1.48**	**233**	*e*P	Pn	07 00 42.1	-1.0
ANTU				*i* S	Sn	07 01 01.4	-0.8
ROCH	**El Roble**	**1.54**	**258**	↓*i*P	Pn	07 00 43.7	-0.3
ROCH				*i* S	Sn	07 01 04.2	+0.3
ROCH				AML	AML	07 01 05.1	
	comp=E,265nm,0.5s						
RCDM	**Rinconada Maip**	**1.56**	**238**	*e*P	Pn	07 00 43.9	-0.2
RCDM				*i* S	Sn	07 01 04.4	+0.4
RCDM				AML	AML	07 01 07.2	
	comp=N,158nm,0.6s						
CHCH	**Chadas Angostu**	**1.73**	**223**	↑*i*P	Pn	07 00 46.3	-0.2
CHCH				*i* S	Sn	07 01 08.7	+0.2
CACH	**El Canelo**	**1.84**	**218**	↑*i*P	Pn	07 00 48.3	+0.2
CACH				*i* S	Sb	07 01 12.5	-0.9

*KRSC **09** 07:01:35.4±2.9, 55°.50N×166°.21E, h38km±42km, ML4.0*

*IDC **09** 07:01:35.2±0.9, 55°.73N×166°.18E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.5/29, mbtmp3.4/8, ML3.2/2, Error ellipse: s-maj=27.6km s-min=15.0km az=20.0*

ISC 09 07:01:37.0±1.5, 55°.53N±0°.05×166°.16E±0°.06, h20km±7km, n38, σ1s42/57, mb3.5/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.34**	**198**	P	**Pg**	**07 01 44.1**	**-0.3**
BKI				S	**Sb**	**07 01 50.0**	**+0.6**
KBTR	**Krutoberegovo**	**2.00**	**291**	P	**Pn**	**07 02 06.8**	**-2.9**
KBTR				S	**Sn**	**07 02 30.5**	**-3.6**
KBG	**Krutoberegovo**	**2.08**	**292**	P	**Pn**	**07 02 08.7**	**-2.0**
KBG				S	**Sn**	**07 02 33.2**	**-2.7**
MKZ	**Mys Kozlova**	**2.73**	**251**	P	**Pn**	**07 02 18.4**	**-1.2**
MKZ				S	**Sn**	**07 02 50.6**	**-1.4**
SMKR	**Semkarok**	**2.83**	**294**	P	**Pn**	**07 02 20.3**	**-0.9**
SMKR				S	**Sn**	**07 02 53.8**	**-1.0**
SRKR	**Sorokina**	**3.02**	**294**	P	**Pn**	**07 02 22.4**	**-1.2**
KMNR	**Kamenistaya**	**3.36**	**276**	P	**Pn**	**07 02 29.1**	**+0.6**
KZV	**Kizimen**	**3.38**	**265**	P	**Pn**	**07 02 28.4**	**-0.3**
KZV				S	**Sn**	**07 03 06.6**	**-1.6**
TUMR	**Tumrok**	**3.44

baz=39,SNR=8.2
QLP Quilpie 34.27 253 P **P** 07 09 01.5 +0.2
baz=40,SNR=8.7
STKA Stephens Creek 37.02 244 P **P** 07 09 24.1 +0.2
4.5nm,0.5s,baz=92,slow=10,SNR=21
STKA Stephens Creek 37.02 244 P **P** 07 09 24.4 +0.5
baz=43,SNR=16
HTT Hallett 39.47 242 P **P** 07 09 43.8 +0.3
baz=45,SNR=7.7
BBOO Buckleboo 41.78 244 P **P** 07 10 01.7 -0.1
baz=47,SNR=8.6
ASAR Alice Springs 43.72 257 P **P** 07 10 16.9 0.0
15nm,0.5s,baz=97,slow=7.5,SNR=268
ASAR PcP **PcP** 07 11 49.4 +0.5
1.1nm,0.5s,baz=103,slow=4.0,SNR=4.6
ASAR ScP **ScP** 07 14 42.2 +1.9
0.5nm,0.7s,baz=108,slow=3.0,SNR=2.9
ASAR S **S** 07 16 03.0 +0.3
1.5nm,0.9s,baz=97,slow=14,SNR=8.3
WRA Warramunga Arr 43.80 262 P **P** 07 10 16.9 -0.7
7.1nm,0.5s,baz=98,slow=7.9,SNR=190
MTN Manton Dam 48.38 271 P **P** 07 10 51.5 -0.5
baz=54,SNR=6.1
KNRA Kununurra 49.87 267 P **P** 07 11 02.8 -0.1
baz=56,SNR=4.8
MEEK Meekatharra 57.13 251 P **P** 07 11 53.3 -0.5
baz=63,SNR=3.9
QSPA South Pole Qui 69.43 180 P **P** 07 13 11.5 +0.3
1.0nm,0.2s,baz=291,slow=1.2,SNR=4.8
PETK Petropavlovsk- 76.21 346 P **P** 07 13 49.9 +0.1
5.2nm,0.9s,baz=148,slow=8.7,SNR=3.6
PMBI Palembang 76.24 272 P P 07 13 44.0 -6.9
baz=82,SNR=3.1
USRK Ussuriysk Arra 78.64 326 P **P** 07 14 04.3 +1.3
2.7nm,0.7s,baz=95,slow=4.3,SNR=7.9
NVAR Mina Array Bea 81.66 44 P **P** 07 14 19.0 -0.1
0.8nm,0.7s,baz=214,slow=7.8,SNR=4.6
TXAR Lajitas Array 87.79 58 P **P** 07 14 49.5 +0.7
1.1nm,0.8s,baz=215,slow=5.7,SNR=11
ILAR Eielson Array 88.62 13 P **P** 07 14 50.5 -1.1
0.5nm,0.9s,baz=217,slow=6.1,SNR=4.9
CMAR Chiang Mai Arr 89.42 290 P **P** 07 14 58.0 +1.5
2.0nm,0.5s,baz=133,slow=3.7,SNR=10
PDAR Pinedale Array 89.60 44 P **P** 07 14 56.6 -0.4
0.7nm,0.7s,baz=179,slow=3.1,SNR=5.5
MKAR Makanchi Array 110.72 313 PKiKP **PKiKP** 07 20 26.1 -1.0
0.2nm,0.5s,baz=56,slow=5.4,SNR=3.9
KURBB Kurchatov Arra 113.61 317 PKiKP **PKiKP** 07 20 31.2 -1.3
0.3nm,0.7s,baz=83,slow=1.8,SNR=4.9
BVAR Borovoye Array 118.68 320 PKP **PKPdf** 07 20 41.6 -0.5
0.8nm,0.4s,baz=115,slow=1.5,SNR=5.0
ARCES ARCESS Array B 128.91 349 PKP **PKPdf** 07 20 59.9 -1.4
2.3nm,0.9s,baz=50,slow=3.8,SNR=4.5
AKASG Malin Array Be 142.75 330 PKhKP PKPpre 07 21 24.4
3.6nm,0.4s,baz=42,slow=4.3,SNR=28
BRTR Keskin Array B 146.35 312 PKPbc **PKPbc** 07 21 36.6 0.0
1.3nm,0.6s,baz=150,slow=5.4,SNR=6.7
MMAI Mount Meron Ar 147.20 299 PKPbc **PKPbc** 07 21 39.3 +0.4
1.5nm,0.4s,baz=72,slow=2.7,SNR=4.0
CLL Collm 148.01 346 *i* (P) **PKPbc** 07 21 40.7 +0.4
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 148.19 345 *eP* **PKPbc** 07 21 40.9 +0.1
comp=Z,2.8nm,0.6s
GERES GERESS Array B 150.11 343 PKPbc **PKPbc** 07 21 45.5 -0.1
comp=Z,0.8nm,0.8s,baz=29,slow=3.0,SNR=4.5

IDC 09 07:03:17.8±10.0, 15°59S×173°07W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/21, mbtmp3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/28, Error ellipse: s-maj=465.5km s-min=27.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**37**	Pn	Pn	07 03 53.3	-0.9
	9.1nm,0.3s,baz=26,slow=5.7,SNR=11						
AFI				Sn	Sn	07 04 15.3	-5.5
	17nm,0.3s,baz=204,slow=21,SNR=5.5						
HNR	**Honiara**	**27.03**	**280**	LR	LR	07 16 40.5	
	comp=Z,79nm,19.4s,baz=352,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.29**	**329**	T	T	07 51 36.4	
	baz=152,slow=75						
H11S3	**WAKE ISLAND Hy**	**39.30**	**329**	T	T	07 51 37.5	
	baz=152,slow=75						
H11S1	**WAKE ISLAND Hy**	**39.31**	**329**	T	T	07 51 35.1	
	baz=152						
WRA	**Warramunga Arr**	**50.11**	**257**	P	P	07 12 14.1	-1.1
	0.4nm,0.8s,baz=97,slow=6.8,SNR=2.5						
ASAR	**Alice Springs**	**50.36**	**252**	P	P	07 12 17.2	+0.2
	1.9nm,0.8s,baz=87,slow=8.1,SNR=7.9						
BRTR	**Keskin Array B**	**146.51**	**321**	PKPbc	PKPbc	07 23 01.8	+0.3
	0.4nm,0.4s,baz=78,slow=2.1,SNR=2.8						

*IDC **09** 07:07:20.5±4.9, 35°.96N×70°.43E, h182km±42km, mb3.1/6, mb1 3.1/11, mb1mx2.9/31, mbtmp3.0/11, Error ellipse: s-maj=48.2km s-min=31.3km az=144.0*
*ISCJB **09** 07:07:25.5±0.6, 36°.54N±0°.04×70°.37E±0°.09, h204km, mb3.2/5, Error ellipse: s-maj=10.6km s-min=5.1km az=157.3*
*NNC **09** 07:07:32.1±2.2, 36°.95N×70°.41E, h209km±29km, mb2.8, mpv3.7, Error ellipse: s-maj=21.5km s-min=12.5km az=14.0*

ISC 09 07:07:26.4±1.1, 36°.54N±0°.09×70°.4E±0°.1, h204km, n27, σ1§20/29, mb3.2/5, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.55**	**1**	⇓P	**Pn**	**07 09 01.3**	**+0.5**
	2.2nm,0.3s,baz=183,slow=12,SNR=185						
KK31				⇑S	**S**	**07 10 12.5**	**-3.1**
	1.3nm,0.3s,baz=186,slow=21,SNR=4.2						
AAK	**Ala-Archa**	**6.86**	**26**	P	**Pn**	**07 09 05.8**	**+0.9**
	1.1nm,0.3s,baz=136,slow=9.6,SNR=8.8						
AAK				S	**S**	**07 10 22.4**	**-0.6**
	2.3nm,0.3s,baz=324,slow=21,SNR=21						
TKM2	**Tokmak 2**	**7.53**	**31**	⇑P	**Pn**	**07 09 14.5**	**+0.9**
	3.6nm,0.6s						
TKM2				⇑S	**S**	**07 10 36.9**	**-2.0**
	4.0nm,0.8s						
MKAR	**Makanchi Array**	**13.55**	**37**	P	**Pn**	**07 10 30.8**	**+0.3**
	0.0nm,0.3s,baz=223,slow=14,SNR=2.7						
PYUN	**Piuthan**	**13.57**	**125**	*eP*	**Pn**	**07 10 28.7**	**-2.4**
	27nm,0.6s						
DANN	**Dangsing**	**13.92**	**122**	*eP*	**Pn**	**07 10 35.0**	**-0.6**
	9.8nm,0.6s						
KOLN	**Koldanda**	**14.19**	**124**	*eP*	**Pn**	**07 10 37.9**	**-0.9**
	3.9nm,0.4s						
AB31	**Akbulak array**	**14.81**	**332**	⇑P	**P**	**07 10 47.7**	**+1.0**
	1.1nm,0.3s,baz=160,slow=12,SNR=5.6						
KURBB	**Kurchatov Arra**	**15.25**	**20**	P	**P**	**07 10 51.7**	**+0.2**
	0.1nm,0.3s,baz=210,slow=10,SNR=5.7						
DMN	**Daman**	**15.31**	**121**	*eP*	**Pn**	**07 10 52.6**	**0.0**
KKN	**Kakani**	**15.32**	**120**	*eP*	**Pn**	**07 10 52.5**	**-0.1**
	11nm,0.4s						
PKIN	**Phulchoki**	**15.53**	**121**	*eP*	**Pn**	**07 10 55.9**	**+0.6**
PKI	**Pulchoki**	**15.55**	**121**	*eP*	**Pn**	**07 10 55.9**	**+0.4**
	29nm,0.6s						
GUN	**Gumba**	**15.67**	**119**	*eP*	**Pn**	**07 10 58.5**	**+1.6**
JIRN	**Jiri**	**16.04**	**119**	*eP*	**Pn**	**07 11 02.3**	**+0.9**
	41nm,0.6s						
BVAR	**Borovoye Array**	**16.48**	**360**	P	**Pn**	**07 11 08.8**	**+2.7**
	0.2nm,0.3s,baz=159,slow=12,SNR=2.8						
AKTO	**Aktyubinsk**	**16.50**	**331**	P	**Pn**	**07 11 06.0**	**-0.4**
	0.3nm,0.3s,baz=144,slow=6.0,SNR=8.0						
AKTO	**Aktyubinsk**	**16.50**	**331**	⇓P	**Pn**	**07 11 06.5**	**+0.1**
	0.9nm,0.5s						
RAMN	**Ramite**	**16.76**	**120**	*eP*	**Pn**	**07 11 09.6**	**-0.3**
	12nm,0.4s						
TAPN	**Taplejung**	**17.30**	**117**	*eP*	**Pn**	**07 11 16.4**	**0.0**
	5.8nm,0.4s						
ODAN	**Odare**	**17.37**	**119**	*eP*	**Pn**	**07 11 17.1**	**0.0**
	24nm,0.7s						
ZALV	**Zalesovo Beam**	**20.09**	**25**	P	**P**	**07 11 44.6**	**+0.5**
	0.7nm,0.4s,baz=232,slow=8.9,SNR=4.5						
FINES	**FINESS Array B**	**37.17**	**326**	P	**P**	**07 14 18.0**	**+0.5**
	1.3nm,0.8s,baz=126,slow=9.3,SNR=2.7						
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	**07 14 49.0**	**+0.6**
	1.7nm,0.8s,baz=105,slow=7.6,SNR=9.3						
NOA	**NORSAR Array B**	**44.05**	**323**	P	**P**	**07 15 12.4**	**-1.3**
	0.5nm,0.8s,baz=97,slow=7.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**65.23**	**268**	P	P	07 17 42.9	-3.5
	0.2nm,0.4s,baz=35,slow=5.2,SNR=3.7						
YKA	**Yellowknife Ar**	**81.22**	**2**	P	**P**	**07 19 18.7**	**-0.4**
	0.2nm,0.6s,baz=351,slow=5.3,SNR=4.2						

*IDC **09** 07:17:11.2±1.0, 16°.04S×173°.52W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.8/5, Error ellipse: s-maj=49.0km s-min=25.5km az=139.0*

ISC 09 07:17:15.1±1.0, 15°.7S±0°.2×173°.2W±0°.3, h29km, n16, σ1§97/10, mb3.9/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.29**	**38**	Pn	**Pn**	**07 17 49.5**	**-1.4**
	12nm,0.3s,baz=202,slow=16,SNR=15						
AFI				Sn	**Sn**	**07 18 16.2**	**-2.0**
	32nm,0.3s,baz=196,slow=22,SNR=12						
H11S2	**WAKE ISLAND Hy**	**39.32**	**329**	T	T	08 06 39.7	
	baz=153,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	08 06 41.0	
	baz=153,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**39.34**	**329**	T	T	08 06 41.5	
	baz=153,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	08 07 53.0	
	baz=152,slow=77,SNR=20						
H11N1	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	08 07 53.9	
	baz=152,slow=77,SNR=14						
H11N2	**WAKE ISLAND Hy**	**40.29**	**330**	T	T	08 07 54.4	
	baz=152,slow=77,SNR=21						
WRA	**Warramunga Arr**	**49.93**	**257**	P	**P**	**07 26 04.6**	**-2.2**
	1.1nm,0.9s,baz=94,slow=6.2,SNR=6.3						
ASAR	**Alice Springs**	**50.17**	**252**	P	P	07 26 05.5	-3.1
	2.1nm,0.8s,baz=84,slow=8.2,SNR=13						
QSPA	**South Pole Qui**	**74.33**	**180**	P	**P**	**07 28 48.5**	**-1.3**
	0.9nm,0.4s,baz=7.2,slow=4.3,SNR=3.9						
NVAR	**Mina Array Bea**	**74.46**	**42**	P	**P**	**07 28 54.1**	**+3.0**
	0.5nm,0.8s,baz=224,slow=7.6,SNR=2.9						
ILAR	**Eielson Array**	**82.73**	**11**	P	**P**	**07 29 38.0**	**+2.2**
	0.2nm,0.6s,baz=221,slow=6.2,SNR=4.3						
BVAR	**Borovoye Array**	**118.23**	**322**	PKP	**PKPdf**	**07 35 59.3**	**-0.1**
	0.4nm,0.7s,baz=101,slow=2.9,SNR=2.5						
KMBO	**Kilima Mbogo**	**145.54**	**244**	PKPbc	**PKPbc**	**07 36 52.8**	**+0.7**
	1.0nm,0.3s,baz=148,slow=9.5,SNR=3.2						
GERES	**GERESS Array B**	**146.48**	**352**	PKPbc	**PKPab**	**07 36 55.1**	**+0.5**
	0.3nm,0.5s,baz=110,slow=1.1,SNR=3.1						
BRTR	**Keskin Array B**	**146.51**	**321**	PKPbc	**PKPab**	**07 36 55.1**	**+0.1**
	2.5nm,0.9s,baz=113,slow=1.7,SNR=8.0						

IDC 09 07:19:35.1±4.2, 15°.48S×173°.84W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, ML2.2/1, Error ellipse: s-maj=250.2km s-min=29.0km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.54**	**52**	Pn	Pn	07 20 16.6	-1.0
	27nm,0.3s,baz=223,slow=19,SNR=4.0						
AFI				Sn	Sn	07 20 40.7	-8.7
	22nm,0.3s,baz=43,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**49.41**	**257**	P	P	07 28 27.0	-0.2
	0.6nm,1.0s,baz=91,slow=7.0,SNR=7.1						
ASAR	**Alice Springs**	**49.68**	**252**	P	P	07 28 28.4	-0.9
	0.8nm,0.5s,baz=87,slow=7.3,SNR=6.8						
BRTR	**Keskin Array B**	**145.96**	**321**	PKPbc	PKPab	07 39 17.9	+0.1
	1.2nm,0.8s,baz=65,slow=2.4,SNR=4.3						

IDC 09 07:20:50.3±9.5, 15°.93S×173°.42W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/20, mbtmp3.7/3, Error ellipse: s-maj=453.2km s-min=28.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.56**	**39**	Pn	Pn	07 21 31.8	-1.3
	baz=232,slow=19,SNR=1.4						
AFI				Sn	Sn	07 21 57.2	-7.9
	21nm,0.3s,baz=60,slow=20,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**39.40**	**329**	T	T	08 10 25.1	
	baz=144						
H11S3	**WAKE ISLAND Hy**	**39.42**	**329**	T	T	08 10 27.4	
	baz=144						
H11S1	**WAKE ISLAND Hy**	**39.42**	**329**	T	T	08 10 31.0	
	baz=144						
H11N3	**WAKE ISLAND Hy**	**40.36**	**331**	T	T	08 11 39.5	
	baz=142,slow=75						
H11N1	**WAKE ISLAND Hy**	**40.36**	**331**	T	T	08 11 41.3	
	baz=142,slow=75						
H11N2	**WAKE ISLAND Hy**	**40.38**	**331**	T	T	08 11 43.8	
	baz=142,slow=75						
WRA	**Warramunga Arr**	**49.70**	**257**	P	P	07 29 43.9	-0.7
	0.2nm,0.3s,baz=91,slow=8.8,SNR=6.4						
ASAR	**Alice Springs**	**49.93**	**252**	P	P	07 29 45.8	-0.5
	1.4nm,0.8s,baz=87,slow=8.6,SNR=8.3						
BRTR	**Keskin Array B**	**146.55**	**320**	PKPbc	PKPab	07 40 35.1	0.0
	1.1nm,0.8s,baz=63,slow=3.6,SNR=4.3						

*IDC **09** 07:24:41.5±0.7, 15°.45N×46°.56W, h0km, mb3.9/11, mb1 4.2/11, mb1mx3.9/26, mbtmp3.9/11, MS3.6/6, Ms1 3.6/6, ms1mx3.3/29, Error ellipse: s-maj=22.6km s-min=21.2km az=45.0*
*ISCJB **09** 07:24:42.5±0.6, 15°.5N±0°.1×46°.6W±0°.1, h17km, mb3.9/11, MS3.6/5, Error ellipse: s-maj=18.1km s-min=17.2km az=138.7*

ISC 09 07:24:44.2±0.7, 15°.4N±0°.1×46°.6W±0°.1, h17km, n20, σ0§45/12, mb3.9/11, MS3.6/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**18.94**	**281**	LR	LR	07 33 54.4	
	comp=Z,115nm,19.6s,baz=98,slow=29						
BBTS	**Babate**	**29.00**	**88**	LR	LR	07 38 29.6	
	comp=Z,157nm,20.3s,baz=340,slow=29						
LPAZ	**La Paz**	**38.03**	**215**	P	**P**	**07 32 02.5**	**-0.1**
	0.5nm,0.6s,baz=14,slow=12,SNR=3.9						
LPAZ				LR	LR	07 46 35.9	
	comp=Z,57nm,20.0s,baz=265,slow=34						
H10N3	**ASCENSION HYDR**	**39.29**	**124**	T	T	08 13 56.6	
	baz=306,slow=75,SNR=7.8						
H10N2	**ASCENSION HYDR**	**39.30**	**124**	T	T	08 13 56.9	
	baz=306,slow=75,SNR=7.8						
H10N1	**ASCENSION HYDR**	**39.31**	**124**	T	T	08 13 58.1	
	baz=306,slow=75,SNR=6.9						
H10S3	**ASCENSION HYDR**	**39.82**	**125**	T	T	08 14 46.1	
	baz=307						
H10S1	**ASCENSION HYDR**	**39.83**	**125**	T	T	08 14 36.5	
	baz=307						
H10S2	**ASCENSION HYDR**	**39.84**	**125**	T	T	08 14 43.8	
	baz=307						
SCHQ	**Schefferville**	**42.35**	**343**	LR	LR	07 48 19.2	
	comp=Z,120nm,19.9s,baz=156,slow=34						
CPUP	**Villa Florida**	**42.81**	**194**	P	**P**	**07 32 41.1**	**-0.1**
	1.4nm,0.3s,baz=0.0,slow=14,SNR=2.9						
TORD	**Torodi Ar. Bea**	**46.75**	**86**	P	**P**	**07 33 12.7**	**-0.3**
	1.3nm,1.1s,baz=275,slow=7.6,SNR=3.5						
TORD				LR	LR	07 50 32.3	
	comp=Z,59nm,19.6s,baz=310,slow=33						
ULM	**Lac du Bonnet**	**52.67**	**322**	P	**P**	**07 33 57.0**	**-0.6**
	4.1nm,0.8s,baz=81,slow=3.7,SNR=5.5						
TXAR	**Lajitas Array**	**54.11**	**295**	P	**P**	**07 34 08.9**	**+0.3**
	0.6nm,0.9s,baz=89,slow=6.8,SNR=3.9						
TXAR				PcP	**PcP**	**07 35 13.7**	**+0.4**
	0.6nm,1.1s,baz=121,slow=3.5,SNR=4.0						
TXAR				LR	LR	07 59 48.2	
	comp=Z,106nm,18.9s,baz=120,slow=39						
PDAR	**Pinedale Array**	**59.91**	**311**	P	**P**	**07 34 50.0**	**+0.3**
	0.7nm,0.8s,baz=105,slow=9.8,SNR=4.9						
YKA	**Yellowknife Ar**	**66.32**	**332**	P	**P**	**07 35 30.9**	**-0.6**
	1.3nm,0.8s,baz=101,slow=7.4,SNR=15						
AKASG	**Malin Array Be**	**69.23**	**41**	P	**P**	**07 35 49.9**	**-0.2**
	0.2nm,0.4s,baz=267,slow=5.6,SNR=4.4						
BRTR	**Keskin Array B**	**72.85**	**53**	P	**P**	**07 36 13.2**	**+0.7**
	1.6nm,0.9s,baz=284,slow=5.0,SNR=6.2						
ILAR	**Eielson Array**	**80.51**	**335**	P	**P**	**07 36 55.5**	**+0.3**
	4.0nm,0.9s,baz=71,slow=4.6,SNR=29						
BOSA	**Boshof**	**82.03**	**122**	P	**P**	**07 37 04.0**	**0.0**
	3.7nm,1.1s,baz=277,slow=3.7,SNR=5.0						

*IDC **09** 07:48:11.8±0.4, 54°.50S×135°.77W, h0km, mb4.6/16, mb1 4.7/16, mb1mx4.6/18, mbtmp4.6/16, MS5.2/22, Ms1 5.1/22, ms1mx5.1/24, Error ellipse: s-maj=22.9km s-min=13.0km az=176.0*
*ISCJB **09** 07:48:12.8±0.2, 54°.94S±0°.05×135°.8W±0°.1, h10km, mb4.9/38, MS5.2/150, Error ellipse: s-maj=8.5km s-min=7.3km az=23.2*
*NEIC **09** 07:48:14.0±0.3, 54°.71S×135°.81W, h10km, mb5.3/23, MS5.2/119, MW5.6, Error ellipse: s-maj=14.0km s-min=8.9km az=166.0, Moment Tensor Solution. s15 Moment tensor: Scale 10¹⁷Nm; Mrr=0.96; Mθθ2.48; Mϕϕ-1.52; Mrθ-0.15; Mrϕ1.61; Mθϕ-0.30; Best double couple: M₀2.70000×10¹⁷ NP1:ϕ26.00000°, δ85.00000°, λ-170.00000°. NP2:ϕ295.00000°, δ80.00000°, λ-5.00000°. Principal axes: T 3.0600, Plg3.0000°, Azm160.0000°; N -0.9300, Plg78.0000°, Azm53.0000°; P -2.1300, Plg11.0000°, Azm251.0000°;*
*MOS **09** 07:48:14.1±2.2, 55°.06S×135°.67W, h10km, mb5.2/11, MS5.0/5 Error ellipse: s-maj=22.4km s-min=17.2km az=76.1*
*BJI **09** 07:48:17.0, 54°.80S×135°.50W, h10km, mB5.5/16, Ms5.5/16, Ms7 5.2/15*
*DJA **09** 07:48:18.8±6.7, 54°S±21°×13°5W±2°0, h85km±57km, M4.9/11, mb4.9/11*
*GCMT **09** 07:48:21.0±0.1, 54°.70S×135°.44W, h16km, MW5.6, Moment Tensor Solution. s103, c177; s62, c70; Moment tensor: Scale 10¹⁷Nm; Mrr=0.13±.03; Mθθ2.14±.04; Mϕϕ-2.01±.03; Mrθ0.38±.10; Mrϕ2.33±.03; Mθϕ0.37±.09; Best double couple: M₀3.20000×10¹⁷ NP1:ϕ21.00000°, δ87.00000°, λ171.00000°. NP2:ϕ111.00000°, δ81.00000°, λ3.00000°. Principal axes: T 3.2600, Plg8.0000°, Azm336.0000°; N -0.1900, Plg81.0000°, Azm179.0000°; P -3.0700, Plg4.0000°, Azm66.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=127, comp=229, per=50.*

ISC 09 07:48:14.9±0.3, 54°.89S±0°.05×135°.43W±0°.06, h10km, n333, σ1§79/211, mb5.0/37, MS5.2/150, 1C-2D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**30.36**	**201**	PFAKE		07 54 40.0	+14
SBA				LR	LR		
	comp=Z,2μm,20.0s						
VNDA	**Vanda**	**31.32**	**202**	*eP*	**P**	**07 54 35.2**	**+0.5**
	comp=Z,39nm,1.5s						
VNDA				PcP	**PcP**	**07 57 28.1**	**-0.1**
VNDA	**Vanda**	**31.32**	**202**	P	P	07 54 39.3	+4.6
	comp=Z,10.0nm,1.1s,baz=47,slow=10,SNR=3.2						
VNDA				PcP	**PcP**	**07 57 28.1**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=315,slow=1.4,SNR=2.8						
VNDA				LR	LR	08 03 51.7	
	comp=Z,2μm,21.6s,baz=82,slow=30						
RKT	**Rikitea**	**31.73**	**1**	*eS*	**S**	**07 59 47.2**	**-1.2**
	comp=Z,1μm,28.8s						
RKT				*eLQ*	LQ	08 01 23.8	
	comp=Z,2μm,32.2s						
RKT				*eLR*	LR	08 02 44.4	
	comp=Z,8μm,28.0s,baz=179						
TBI	**Tubuai**	**33.20**	**336**	*eS*	**S**	**08 00 07.8**	**-3.5**
	comp=Z,558nm,27.5s						
TBI				*eLR*	LR	08 03 18.7	
	comp=Z,12μm,28.5s,baz=169						
RPN	**Rapa Nui**	**33.63**	**45**	PFAKE		07 55 10.0	+15
RPN				LR	LR		
	comp=Z,5μm,21.0s						
SNZO	**South Karori**	**35.18**	**272**	PFAKE		07 55 20.0	+11
SNZO				LR	LR		
	comp=Z,4μm,19.0s						
PMSA	**Palmer Station**	**35.26**	**135**	LR	LR	08 05 44.1	
	comp=Z,6μm,20.6s,baz=302,slow=30						
QSPA	**South Pole Qui**	**35.28**	**180**	P	**P**	**07 55 12.1**	**+2.6**
QSPA				PcP	**PcP**	**07 57 41.2**	**+1.5**
QSPA	**South Pole Qui**	**35.28**	**180**	P	**P**	**07 55 12.1**	**+2.6**
	comp=Z,8.5nm,0.6s,baz=120,slow=1.2,SNR=18						
QSPA				PcP	**PcP**	**07 57 41.2**	**+1.5**
	comp=Z,1.6nm,0.2s,baz=75,slow=2.5,SNR=4.6						
QSPA				LR	LR	08 07 45.7	
	comp=Z,4μm,18.6s,baz=74,slow=33						
RPZ	**Rata Peaks**	**35.79**	**265**	LR	LR	08 06 02.4	
	comp=Z,5μm,20.8s,baz=138,slow=30						
URZ	**Urewera**	**35.82**	**278**	LR	LR	08 06 00.2	
	comp=Z,4μm,21.9s,baz=274,slow=30						
USHA	**Ushuaia**	**37.21**	**118**	P	**P**	**07 55 27.8**	**+1.9**
USHA	**Ushuaia**	**37.21**	**118**	P	**P**	**07 55 27.8**	**+1.9**
	comp=Z,14nm,0.8s,baz=199,slow=8.2,SNR=5.1						
RAR	**Rarotonga**	**38.30**	**322**	PFAKE		07 55 40.0	+4.5
RAR				LR	LR		
	comp=Z,4μm,19.0s						
TVO	**Taravao**	**38.53**	**339**	*eP*	**P**	**07 55 38.4**	**+0.9**
	comp=Z,17nm,1.2s						
TIAR	**Tiarei**	**38.77**	**339**	*eP*	**P**	**07 55 40.4**	**+1.0**
	comp=Z,12nm,1.1s						
PPT2	**Papeete2**	**38.79**	**338**	*eS*	**S**	**08 01 40.8**	**+3.8**
	comp=Z,446nm,27.0s						
PPT2				*eLQ*	LQ	08 04 34.6	
	comp=Z,1μm,25.0s						
PPT2				*eLR*	LR	08 06 06.8	
	comp=Z,12μm,26.0s,baz=172						
PPT	**Papeete**	**38.81**	**338**	LR	LR	08 07 30.9	
	comp=Z,3μm,19.3s,baz=124,slow=30						
DRV	**Dumont d'Urvil**	**39.60**	**218**	P	P	07 55 41.0	-4.9
DRV				S	S	08 01 40.0	-8.3
DRV				L	L	08 04 00.0	
DRV				R		08 06 00.0	
RAO	**Raoul Island**	**39.73**	**293**	PFAKE		07 56 00.0	+13
RAO				LR	LR		
	comp=Z,1μm,20.0s						
VAH	**Vaihoa**	**40.69**	**342**	*eP*	**P**	**07 55 52.6**	**-2.8**
	comp=Z,68nm,1.2s						
EFI	**East Falkland**	**44.16**	**119**	*eP*	**P**	**07 56 21.6**	**-1.7**
EFI	**East Falkland**	**44.16**	**119**	PFAKE		07 56 40.0	+17
EFI				LR	LR		
	comp=Z,3μm,19.0s						
PLCA	**Paso Flores**	**44.20**	**99**	*eP*	**P**	**07 56 24.3**	**+0.4**
	comp=Z,14nm,1.2s						
PLCA	**Paso Flores**	**44.20**	**99**	P	**P**	**07 56 24.6**	**+0.7**
	comp=Z,5.3nm,1.0s,baz=227,slow=9.0,SNR=7.8						
PLCA				LR	LR	08 10 36.9	
	comp=Z,3μm,19.3s,baz=233,slow=30						
H03N3	**Juan Fernandez**	**44.40**	**85**	T	T	08 43 53.7	
	baz=223,slow=75,SNR=707						
H03N2	**Juan Fernandez**	**44.41**	**85**	T	T	08 43 54.9	
	baz=223,slow=75,SNR=538						
H03N1	**Juan Fernandez**	**44.42**	**85**	T	T	08 44 00.9	
	baz=223,slow=75,SNR=439						
VNA2	**Neumayer--Watz**	**49.17**	**160**	*eP*	**P**	**07 57 04.0**	**+1.7**
VNA2	**Neumayer--Watz**	**49.17**	**160**	*e*	P	07 57 06.5	+4.2
**VN

comp=Z,5.7nm,0.7s,baz=158,slow=8.4,SNR=14
MAW LR LR 08 22 00.7
comp=Z,1μm,19.2s,baz=162,slow=35
LVC Limon Verde 58.35 85 *e*P **P 07 58 11.2 +0.7**
comp=Z,18nm,1.0s
LVC LR LR
comp=Z,995nm,22.0s
EIDS Eidsvold 60.24 268 *e*P **P 07 58 21.9 -1.3**
comp=Z,77nm,1.8s
STKA Stephens Creek 60.72 255 *e*P **P 07 58 25.8 -0.6**
comp=Z,4.3nm,1.1s
STKA Stephens Creek 60.72 255 P **P 07 58 24.8 -1.6**
comp=Z,10nm,0.8s,baz=132,slow=5.2,SNR=8.3
STKA LR LR 08 20 24.6
comp=Z,2μm,19.9s,baz=146,slow=32
CPUP Villa Florida 62.16 97 *e*P **P 07 58 36.3 +0.1**
comp=Z,0.6nm,0.8s
CPUP Villa Florida 62.16 97 P **P 07 58 35.1 -1.1**
comp=Z,3.6nm,0.8s,baz=206,slow=5.7,SNR=3.6
CPUP LR LR 08 21 31.2
comp=Z,3μm,19.0s,baz=203,slow=32
NNA Nana 62.41 70 PFAKE 07 58 50.0 +12
NNA LR LR
comp=Z,5μm,20.0s
LPAZ La Paz 63.79 81 *e*P **P 07 58 46.6 -1.2**
comp=Z,47nm,1.4s
LPAZ La Paz 63.79 81 P **P 07 58 45.8 -2.1**
comp=Z,7.4nm,1.1s,baz=203,slow=5.5,SNR=13
LPAZ LR LR 08 20 10.8
comp=Z,586nm,21.8s,baz=208,slow=30
PAYG Puerto Ayora 65.36 51 PFAKE 07 59 10.0 +13
PAYG LR LR
comp=Z,2μm,20.0s
CTA Charters Tower 67.13 267 P **P 07 59 06.4 -2.3**
CTA Charters Tower 67.13 267 P **P 07 59 06.4 -2.3**
comp=Z,21nm,0.9s,baz=161,slow=9.1,SNR=10.0
CTA LR LR 08 25 22.9
comp=Z,1μm,18.1s,baz=93,slow=33
CTAO Charters Tower 67.13 267 *e*P **P 07 59 07.3 -1.4**
CTAO pmax pmax
comp=Z,25nm,0.9s
CTAO MLR MLR
comp=Z,1μm,19.0s
CTAO Charters Tower 67.13 267 *e*P **P 07 59 07.3 -1.4**
comp=Z,25nm,0.9s
CTAO LR LR
comp=Z,1μm,19.0s
HNR Honiara 67.84 286 LR LR 08 23 31.0
comp=Z,272nm,19.3s,baz=144,slow=31
FORT Forrest 68.95 246 *e*P **P 07 59 22.6 +2.6**
comp=Z,30nm,0.7s
SPB Sao Paulo 69.92 103 PFAKE 07 59 40.0 +14
SPB LR LR
comp=Z,3μm,19.0s
ASAR Alice Springs 71.36 255 P P 07 59 31.6 -3.3
ASAR Alice Springs 71.36 255 P P 07 59 31.6 -3.3
comp=Z,16nm,0.9s,baz=138,slow=6.2,SNR=37
ASAR LR LR 08 27 45.2
comp=Z,3μm,18.5s,baz=143,slow=33
AS31 Alice Springs 71.36 255 *e*P **P 07 59 32.3 -2.7**
OTAV Otavalo 71.85 62 *e*P **P 07 59 37.6 -0.8**
comp=Z,24nm,1.3s
OTAV LR LR
comp=Z,738nm,22.0s
SAML Samuel 72.53 81 *e*P **P 07 59 40.7 -1.3**
comp=Z,16nm,1.7s
SAML LR LR
comp=Z,1μm,20.0s
H01W1 Cape Leeuwin H 72.59 234 T T 09 19 51.0
baz=145,slow=76,SNR=96
H01W2 Cape Leeuwin H 72.60 234 T T 09 19 45.5
baz=145,slow=76,SNR=81
H01W3 Cape Leeuwin H 72.61 234 T T 09 19 52.2
baz=145,slow=76,SNR=78
COEN Coen 73.77 269 *e*P **P 07 59 48.8 -0.5**
comp=Z,172nm,1.4s
WRA Warramunga Arr 74.06 258 P P 07 59 47.8 -3.3
WRA Warramunga Arr 74.06 258 P P 07 59 47.8 -3.3
comp=Z,12nm,0.8s,baz=145,slow=5.2,SNR=35
WRA LR LR 08 29 20.4
comp=Z,3μm,19.1s,baz=145,slow=33
WRAB Tennant Creek 74.07 258 *e*P **P 07 59 49.3 -1.7**
WRAB pmax pmax
comp=Z,27nm,1.2s
WRAB Tennant Creek 74.07 258 *e*P **P 07 59 48.2 -2.8**
comp=Z,24nm,1.1s
WRAB LR LR
comp=Z,3μm,19.0s
WRAB Tennant Creek 74.07 258 P **P 07 59 48.0 -3.0**
comp=Z,99nm,0.8s,SNR=7.8
PMG Port Moresby 75.12 275 P **P 07 59 55.2 -1.9**
PMG Port Moresby 75.12 275 P **P 07 59 55.2 -1.9**
comp=Z,5.3nm,0.7s,baz=202,slow=6.7,SNR=2.0
PMG LR LR 08 29 20.5
comp=Z,1μm,18.3s,baz=326,slow=33
BDFB Brasilia 75.89 97 *e*P **P 08 00 03.1 +1.4**
BDFB Brasilia 75.89 97 P **P 08 00 01.1 -0.6**
comp=Z,2.0nm,0.5s,baz=243,slow=2.3,SNR=3.0
BDFB LR LR 08 29 13.5
comp=Z,3μm,21.8s,baz=7.8,slow=32
JTS JuntasAbangare 77.47 51 PFAKE 08 00 20.0 +10
JTS LR LR
comp=Z,3μm,21.0s
ROSC El Rosal 77.90 63 *e*P **P 08 00 13.4 +0.1**
ROSC El Rosal 77.90 63 P **P 08 00 12.9 -0.5**
comp=Z,4.1nm,0.8s,baz=128,slow=7.6,SNR=5.0
ROSC LR LR 08 27 48.8
comp=Z,1μm,21.8s,baz=198,slow=30
BCIP Isla Barro Col 78.86 56 PFAKE 08 00 30.0 +12
BCIP LR LR
comp=Z,2μm,21.0s
TGUH Tegucigalpa,Un 79.81 47 *e*P **P 08 00 23.2 0.0**
comp=Z,24nm,1.0s
TGUH LR LR
comp=Z,857nm,22.0s
FITZ Fitzroy Crossi 80.40 252 *e*P **P 08 00 23.8 -2.8**
comp=Z,28nm,1.3s
FITZ Fitzroy Crossi 80.40 252 P **P 08 00 23.9 -2.7**
comp=Z,3.5nm,0.8s,baz=149,slow=11,SNR=7.9
PTGA Pitinga 81.06 78 P **P 08 00 31.0 +0.8**
comp=Z,21nm,1.5s
PTGA LR LR
comp=Z,2μm,22.0s
MBWA Marble Bar 81.09 246 *e*P **P 08 00 28.2 -2.1**
MBWA LR LR
comp=Z,2μm,20.0s
SDV Santo Domingo 83.23 64 PFAKE 08 00 50.0 +8.3
SDV LR LR
comp=Z,262nm,20.0s
TEIG Tepich 84.93 44 *e*P **P 08 00 50.9 +1.0**
comp=Z,50nm,1.2s
TEIG LR LR
comp=Z,937nm,22.0s
MTDJ Mount Denham 87.82 54 PFAKE 08 01 10.0 +5.7
MTDJ LR LR
comp=Z,1μm,22.0s
H11S2 WAKE ISLAND Hy 88.03 306 T T 09 38 16.4
baz=147,slow=76,SNR=41
H11S3 WAKE ISLAND Hy 88.05 306 T T 09 38 20.4
baz=147,slow=76,SNR=39
H11S1 WAKE ISLAND Hy 88.05 306 T T 09 38 20.8
baz=147,slow=76,SNR=32
TXAR Lajitas Array 88.22 27 P **P 08 01 04.0 -1.9**
TXAR Lajitas Array 88.22 27 P **P 08 01 04.0 -1.9**
comp=Z,1.2nm,0.8s,baz=198,slow=8.4,SNR=7.0
626A Big Bend Ranch 88.31 27 P **P 08 01 05.5 -0.8**
baz=89
627A Terlingua Ranc 88.41 28 P **P 08 01 05.1 -1.7**
baz=89
628A Black Gap, Mar 88.57 28 P **P 08 01 08.4 +0.8**
baz=89
214A Organ Pipe Nat 88.66 19 P P 08 01 10.9 +3.0
baz=89
526A Mary Lane Ranc 88.80 27 P **P 08 01 08.8 0.0**
baz=89
H11N3 WAKE ISLAND Hy 89.00 307 T T 09 39 24.8
baz=152
H11N1 WAKE ISLAND Hy 89.01 307 T T 09 39 31.2
baz=152
H11N2 WAKE ISLAND Hy 89.02 307 T T 09 39 31.3
baz=152
631A Perdido Creek 89.15 30 P **P 08 01 08.1 -2.1**
baz=89
528A Cox Ranch, San 89.24 28 P **P 08 01 10.4 -0.3**
baz=90
425A Indio Mountain 89.26 26 P **P 08 01 10.9 +0.1**
baz=90
113A Mohawk Valley, 89.28 18 P **P 08 01 11.0 +0.3**
baz=90
TUC Tucson 89.40 21 *e*P **P 08 01 12.5 +1.1**
TUC pmax pmax
comp=Z,13nm,1.4s
TUC MLR MLR
comp=Z,505nm,19.0s
TUC Tucson 89.40 21 *e*P **P 08 01 12.5 +1.1**
comp=Z,13nm,1.4s
TUC LR LR
comp=Z,505nm,19.0s
632A Uvalde 89.47 31 P **P 08 01 12.6 +0.9**
baz=90
MURC Murrieta 89.52 15 P **P 08 01 12.0 +0.1**
baz=90
PFO Pinyon Flat Ob 89.64 16 PFAKE 08 01 20.0 +7.4
PFO LR LR
comp=Z,1μm,20.0s
324A Moseley Ranch, 89.76 25 P **P 08 01 13.6 +0.5**
baz=90
428A Kincaid Ranch, 89.80 28 P **P 08 01 12.5 -0.9**
baz=90
325A Bean Ranch, Si 89.82 26 P **P 08 01 13.1 -0.4**
baz=90
531A Rocksprings 89.87 30 P **P 08 01 14.5 +0.9**
baz=90
429A Davenport Ranc 89.92 28 P **P 08 01 14.6 +0.8**
baz=90
532A Rocksprings 90.02 30 P **P 08 01 15.0 +0.7**
baz=90
430A Baggett Ranch, 90.26 29 P **P 08 01 15.9 +0.5**
baz=90
431A Sonora 90.34 29 P **P 08 01 15.5 -0.3**
baz=91
224A Cornudas Mount 90.36 25 P **P 08 01 16.0 +0.1**
baz=91
JCT Junction City 90.38 30 *e*P **P 08 01 15.9 0.0**
JCT pmax pmax
comp=Z,27nm,1.3s
JCT MLR MLR
comp=Z,452nm,21.0s
JCT Junction City 90.38 30 *e*P **P 08 01 15.9 0.0**
comp=Z,27nm,1.3s
JCT LR LR
comp=Z,452nm,21.0s
JCT Junction City 90.38 30 P **P 08 01 15.8 -0.2**
baz=91
IRM Iron Mountain 90.39 17 P **P 08 01 17.1 +1.2**
baz=91
GTBY Guantanamo Bay 90.42 55 PFAKE 08 01 30.0 +14
GTBY LR LR
comp=Z,1μm,20.0s
SUR Sutherland 90.71 160 PFAKE 08 01 30.0 +12
SUR LR LR
comp=Z,2μm,20.0s
GRGR Grenville 90.72 70 PFAKE 08 01 30.0 +12
GRGR LR LR
comp=Z,2μm,20.0s
RCBR Riachuelo 90.73 101 PFAKE 08 01 30.0 +12
RCBR LR LR
comp=Z,2μm,19.0s
432A Menard 90.75 30 P **P 08 01 17.4 -0.3**
baz=91
330A Mertzon 90.86 29 P **P 08 01 18.7 +0.5**
baz=91
HEC Hector,Ludlow 90.86 16 P **P 08 01 17.3 -0.8**
baz=91
125A Gardner Draw, 91.13 26 P **P 08 01 19.3 -0.2**
baz=91
LRMC Laurel Mountai 91.29 14 P **P 08 01 20.5 +0.4**
baz=92
X16A Lo Mia Camp, P 91.31 20 P **P 08 01 20.1 -0.3**
baz=92
333A Richland Sprin 91.41 31 P **P 08 01 22.0 +1.3**
baz=92
SDDR Presa de Saban 91.46 58 PFAKE 08 01 30.0 +8.7
SDDR LR LR
comp=Z,565nm,19.0s
TUQ Turquoise Moun 91.52 16 P **P 08 01 22.1 +0.9**
baz=92
231A Bronte 91.60 29 P **P 08 01 22.4 +0.8**
baz=92
128A Castleberry Fa 91.65 27 P **P 08 01 23.0 +1.2**
baz=92
Z25A Roswell 91.70 25 P **P 08 01 22.5 +0.3**
baz=92
X18A Snowflake 91.72 21 P **P 08 01 22.5 +0.2**
baz=92
WUAZ Wupatki 92.39 19 PFAKE 08 01 40.0 +15
WUAZ LR LR
comp=Z,812nm,19.0s
BBGH Gun Hill 92.70 71 PFAKE 08 01 40.0 +13
BBGH LR LR
comp=Z,3μm,21.0s
ANMO Albuquerque 92.88 23 PFAKE 08 01 40.0 +12
ANMO LR LR
comp=Z,388nm,20.0s
TPNV Topopah Spring 92.95 15 *e*P P 08 01 32.3 +4.4
TPNV pmax pmax
comp=Z,80nm,2.8s
TPNV Topopah Spring 92.95 15 *e*P P 08 01 32.2 +4.4
comp=Z,80nm,2.8s
U15A North Rim 93.10 19 P **P 08 01 27.3 -1.5**
baz=93
Z32A Haskell 93.12 29 P **P 08 01 27.8 -0.8**
baz=92
FDF Fort de France 93.14 69 PFAKE 08 01 40.0 +11
FDF LR LR
comp=Z,2μm,19.0s
SJG San Juan 93.31 63 PFAKE 08 01 40.0 +10
SJG LR LR
comp=Z,672nm,20.0s
GRTK Grand Turk 93.68 57 PFAKE 08 01 40.0 +8.6
GRTK LR LR
comp=Z,621nm,20.0s
NVAR Mina Array Bea 94.11 13 P **P 08 01 31.1 -2.1**
NVAR Mina Array Bea 94.11 13 P **P 08 01 31.1 -2.1**
comp=Z,0.1nm,0.3s,baz=190,slow=9.1,SNR=2.7
NV11 Mina Array Sit 94.13 14 *e*P **P 08 01 31.4 -1.9**
KAPI Kappang 94.38 255 PFAKE 08 01 40.0 +5.1
KAPI LR LR
comp=Z,735nm,20.0s
R11A Troy Canyon, C 94.42 16 P **P 08 01 34.0 -0.6**
baz=95
MVCO Mesa Verde 94.61 21 PFAKE 08 01 50.0 +14
MVCO LR LR
comp=Z,590nm,21.0s
WMOK Wichita Mounta 94.66 30 PFAKE 08 01 50.0 +14
WMOK LR LR
comp=Z,423nm,19.0s
BRAL Brewton 95.10 40 PFAKE 08 01 50.0 +12
BRAL LR LR
comp=Z,956nm,19.0s
BOSA Boshof 95.19 163 LR LR 08 42 03.7
comp=Z,2μm,18.4s,baz=190,slow=34
ANWB Willy Bob 95.23 67 PFAKE 08 01 50.0 +11
ANWB LR LR
comp=Z,753nm,20.0s
SDCO Great Sand Dun 95.78 23 PFAKE 08 01 50.0 +9.0
SDCO LR LR
comp=Z,645nm,19.0s
MIAR Mount Ida 96.06 34 PFAKE 08 01 50.0 +8.0
MIAR LR LR
comp=Z,404nm,19.0s
DUG Dugway 96.68 17 PFAKE 08 01 50.0 +5.2
DUG LR LR
comp=Z,430nm,20.0s
SHEL Horse Pasture 97.57 132 PFAKE 08 02 00.0 +10
SHEL LR LR
comp=Z,661nm,19.0s
ISCO Idaho Springs 97.72 23 PFAKE 08 02 00.0 +10
ISCO LR LR
comp=Z,586nm,19.0s
WVOR Wild Horse Val 98.01 12 PFAKE 08 02 00.0 +9.2
WVOR LR LR
comp=Z,1μm,19.0s
AHID Auburn Hatcher 99.47 18 PFAKE 08 02 10.0 +13
AHID LR LR
comp=Z,524nm,19.0s
HLID Hailey 99.70 15 PFAKE 08 02 10.0 +12
HLID LR LR
comp=Z,1μm,19.0s
BW06 Boulder Array 99.76 19 PFAKE 08 02 10.0 +11
BW06 LR LR
comp=Z,902nm,20.0s
PDAR Pinedale Array 99.76 19 P **Pdif 08 01 58.2 -0.5**
PDAR Pinedale Array 99.76 19 P **Pdif 08 01 58.2 -0.5**
comp=Z,0.2nm,0.7s,baz=142,slow=4.5,SNR=3.9
PDAR LR LR 08 38 25.5
comp=Z,673nm,18.0s,baz=212,slow=30
COCO West Island 100.05 232 PFAKE 08 02 10.0 +10
COCO LR LR
comp=Z,604nm,21.0s
BMO Blue Mountains 100.56 13 PFAKE 08 02 10.0 +8.0
BMO LR LR
comp=Z,1μm,19.0s
ASCN Ascension 100.57 120 PFAKE 08 02 10.0 +7.1
ASCN LR LR
comp=Z,460nm,20.0s
DAV Davao City (W) 100.92 267 PFAKE 08 02 10.0 +5.7
DAV LR LR
comp=Z,652nm,20.0s
HAWA Hanford 101.81 11 PFAKE 08 02 20.0 +13
HAWA LR LR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 102.18 17 PFAKE 08 02 20.0 +11
BOZ LR LR
comp=Z,711nm,21.0s
NLWA Neilton Lookou 102.38 8 PFAKE 08 02 20.0 +10
NLWA LR LR
comp=Z,2μm,19.0s
CNNC Cliffs of the 102.42 45 PFAKE 08 02 20.0 +10
CNNC LR LR
comp=Z,827nm,19.0s
TSUM Tsumeb 102.69 154 PFAKE 08 02 20.0 +7.6
TSUM LR LR
comp=Z,2μm,22.0s
HDIL Hopedale 102.92 34 PFAKE 08 02 20.0 +7.5
HDIL LR LR
comp=Z,326nm,20.0s
SCIA State Center 102.93 31 PFAKE 08 02 20.0 +7.5
SCIA LR LR
comp=Z,1μm,19.0s
NEW Newport 103.94 12 PFAKE 08 02 30.0 +13
NEW LR LR
comp=Z,817nm,19.0s
LAO LASA Array 104.18 20 PFAKE 08 02 30.0 +12
LAO LR LR
comp=Z,810nm,20.0s
JFWS Jewell Farm 104.75 33 PFAKE 08 02 30.0 +9.4
JFWS LR LR
comp=Z,442nm,19.0s
EGMT Eagleton 104.80 18 PFAKE 08 02 30.0 +9.2
EGMT LR LR
comp=Z,784nm,20.0s
ACSO Alum Creek Sta 104.81 39 PFAKE 08 02 30.0 +9.1
ACSO LR LR
comp=Z,807nm,19.0s
KSM Kuching 104.96 251 PFAKE 08 02 30.0 +7.6
KSM LR LR
comp=Z,750nm,19.0s
CBN Corbin 105.18 44 PFAKE 08 06 50.0
CBN LR LR
comp=Z,1μm,19.0s
BBSR BB Station 105.88 56 PFAKE 08 06 50.0
BBSR LR LR
comp=Z,552nm,21.0s
ABPO Ambohimpanom 106.35 183 PFAKE 08 06 50.0
ABPO LR LR
comp=Z,2μm,20.0s
ERPA Erie 107.55 40 PFAKE 08 06 50.0
ERPA LR LR
comp=Z,864nm,19.0s
AGMN Agassiz Nation 108.07 27 PFAKE 08 06 50.0
AGMN LR LR
comp=Z,648nm,20.0s
LSZ Lusaka 108.73 163 PFAKE 08 07 00.0
LSZ LR LR
comp=Z,2μm,21.0s
BINY Binghamton 109.15 43 PFAKE 08 06 50.0
BINY LR LR
comp=Z,1μm,22.0s
WRAK Wrangell Islan 110.98 2 PFAKE 08 07 00.0
WRAK LR LR
comp=Z,1μm,20.0s
LONY Lake Ozonia 111.74 42 PFAKE 08 07 00.0
LONY LR LR
comp=Z,815nm,20.0s
FFC Flin Flon 112.66 20 PFAKE 08 07 00.0
FFC LR LR
comp=Z,638nm,19.0s
KDAK Kodiak Island 113.18 350 PFAKE 08 07 00.0
KDAK LR LR
comp=Z,1μm,19.0s
KULM Kulim 113.31 244 PFAKE 08 07 00.0
KULM LR LR
comp=Z,552nm,20.0s
MAJO Matsushiro 117.03 296 PFAKE 08 07 10.0 +11
MAJO LR LR
comp=Z,585nm,19.0s
YHNB Yeheng 117.31 275 PFAKE 08 07 10.0 +10
YHNB LR LR
comp=Z,386nm,20.0s
TATO Taipei 117.48 275 PFAKE 08 07 10.0 +10
TATO LR LR
comp=Z,558nm,21.0s
YKA Yellowknife Ar 118.18 11 PKP **PKPdf 08 07 02.0 +1.4**
YKA PP PP 08 08 22.5 +5.4
YKA Yellowknife Ar 118.18 11 PKP **PKPdf 08 07 02.0 +1.4**
comp=Z,0.2nm,0.8s,baz=140,slow=2.0,SNR=3.3
YKA PP PP 08 08 22.5 +5.4
comp=Z,0.1nm,0.5s,baz=190,slow=10,SNR=4.0
ERM Erimo 118.69 303 PFAKE 08 07 10.0 +7.7
ERM LR LR
comp=Z,545nm,21.0s
QIZ Qiongzhong 119.55 261 PFAKE 08 07 10.0 +5.3
QIZ LR LR
comp=Z,449nm,20.0s
ILAR Eielson Array 119.66 354 PKP **PKPdf 08 07 01.9 -1.5**
ILAR Eielson Array 119.66 354 PKP **PKPdf 08 07 01.9 -1.5**
comp=Z,1.1nm,1.1s,baz=214,slow=2.3,SNR=5.5
COLA College 119.82 354 *i* PKIKP **PKPdf 08 07 07.3 +3.6**
COLA College 119.82 354 PFAKE 08 07 10.0 +6.3
COLA LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 119.96 193 PFAKE 08 07 20.0 +14
MSEY LR LR
comp=Z,742nm,19.0s
MBAR Mbarara 123.53 163 PFAKE 08 07 20.0 +7.2
MBAR LR LR
comp=Z,876nm,22.0s
KMBO Kilima Mbogo 123.84 171 PFAKE 08 07 20.0 +6.5
KMBO LR LR
comp=Z,1μm,20.0s
INCN Inchon 123.92 288 PFAKE 08 07 20.0 +7.5
INCN LR LR
comp=Z,321nm,21.0s
NJ2 Nanjing 124.33 278 *e*PKP **PKPdf 08 07 14.0 +0.6**
NJ2 PP **PP 08 09 02.0 +2.5**
NJ2 AMB AMB
comp=Z,140nm,6.2s
NJ2 LR LR
comp=Z,560nm,22.8s
NJ2 LR LR
comp=Z,490nm,25.4s
CMAR Chiang Mai Arr 125.19 251 PKP **PKPdf 08 07 13.4 -2.1**
CMAR Chiang Mai Arr 125.19 251 PKP **PKPdf 08 07 13.4 -2.1**
comp=Z,1.4nm,0.3s,baz=204,slow=2.4,SNR=9.0
CHTO Chiang Mai 125.48 251 PFAKE 08 07 30.0 +14
CHTO LR LR
comp=Z,539nm,21.0s
TORD Torodi Ar. Bea 126.65 124 PKP **PKPdf 08 07 16.2 -2.2**
TORD Torodi Ar. Bea 126.65 124 PKP **PKPdf 08 07 16.2 -2.2**
comp=Z,0.8nm,0.6s,baz=191,slow=1.1,SNR=6.8
GYA Guiyang 127.17 264 *e*Pdif **Pdif 08 04 01.0 +0.1**
GYA PKP **PKPdf 08 07 19.4 +0.2**
GYA PP **PP 08 09 22.5 +4.0**
GYA PKS **PKSdf 08 10 54.8 -1.2**
GYA SKKS 08 16 12.2
GYA SS **SS 08 26 29.6 +2.4**
GYA AMB AMB
comp=Z,130nm,7.8s
GYA LR LR
comp=Z,180nm,22.4s
GYA LR LR
comp=Z,120nm,23.2s
GYA LR LR
comp=Z,150nm,21.5s
MDJ Mudanjiang 127.39 296 PFAKE 08 07 30.0 +11
MDJ LR LR
comp=Z,372nm,19.0s
ENH Enshi 128.41 269 PFAKE 08 07 30.0 +8.6

ENH LR LR
comp=Z,19nm,21.0s
CN2 Changchun 129.00 293 *e*PKP **PKPdf** **08 07 25.3 +3.3**
BJT Baijiatuan 131.52 283 PFAKE 08 07 40.0 +13
BJT LR LR
comp=Z,441nm,21.0s
BJI Beijing 131.53 283 PKP **PKPdf** **08 07 27.3 +0.4**
BJI PP **PP** **08 09 49.7 +2.9**
BJI SS SS 08 27 26.4 +5.6
BJI AMB AMB
comp=Z,170nm,5.3s
BJI LR LR
comp=Z,260nm,22.6s
BJI LR LR
comp=Z,270nm,19.6s
BJI LR LR
comp=Z,240nm,27.2s
CD2 Chengdu 132.19 265 *e*PKP **PKPdf** **08 07 29.0 +0.4**
CD2 PP **PP** **08 09 55.6 +4.4**
CD2 SKS **SKSdf** **08 14 38.1 -1.7**
CD2 SKKS **SKKSac** **08 16 45.5 -1.4**
CD2 SS **SS** **08 27 31.5 +2.6**
CD2 AMB AMB
comp=Z,180nm,10.8s
CD2 LR LR
comp=Z,380nm,17.8s
CD2 LR LR
comp=Z,430nm,16.8s
CD2 LR LR
comp=Z,350nm,17.2s
HHC Hu-ho-hao-te 134.68 281 *e*PKP **PKPdf** **08 07 32.2 -0.8**
HHC PP **PP** **08 10 09.9 +2.8**
HHC PKS **PKSdf** **08 11 06.3 -3.0**
HHC SKS **SKSdf** **08 14 41.7 -2.2**
HHC SKKS **SKKSac** **08 17 00.9 -0.8**
HHC SS **SS** **08 28 00.7 +1.5**
HHC AMB AMB
comp=Z,120nm,9.0s
HHC LR LR
comp=Z,400nm,21.7s
HHC LR LR
comp=Z,410nm,22.7s
HHC LR LR
comp=Z,400nm,21.4s
HIA Hailar 135.53 295 PFAKE 08 07 40.0 +5.8
HIA LR LR
comp=Z,308nm,20.0s
LZH Lanzhou 135.87 270 *e*PKP **PKPdf** **08 07 32.4 -3.1**
LZH sPKP 08 07 38.1
TAM Tamanrasset 136.75 122 PFAKE 08 07 50.0 +13
TAM LR LR
comp=Z,551nm,19.0s
LSA Lhasa 138.41 252 PFAKE 08 07 50.0 +9.3
LSA LR LR
comp=Z,551nm,22.0s
RTC Rabat Centre 138.89 99 PFAKE 08 07 50.0 +9.1
RTC LR LR
comp=Z,723nm,20.0s
GTA Gaotai 140.47 270 PKP **PKPdf** **08 07 48.2 +4.4**
GTA PP PP 08 10 51.9 +8.6
GTA SKS **SKSdf** **08 14 56.8 +3.0**
GTA SKKS **SKKSac** **08 17 41.6 +5.3**
GTA SS SS 08 29 15.1 +7.1
GTA AMB AMB
comp=Z,140nm,6.7s
GTA LR LR
comp=Z,270nm,19.0s
GTA LR LR
comp=Z,330nm,19.5s
GTA LR LR
comp=Z,370nm,19.0s
EVOP Sao Brissos 141.35 93 *e*PKIKP **PKPdf** **08 07 45.4 +0.2**
EVOP Sao Brissos 141.35 93 *e*PKPdf **PKPdf** **08 07 45.4 +0.2**
EVO Evora 141.41 93 *e*PKIKP **PKPdf** **08 07 45.4 +0.1**
ULN Ulaanbaatar 141.56 286 PFAKE 08 08 00.0 +15
ULN LR LR
comp=Z,313nm,19.0s
SONM Songino Array 141.90 286 PKP **PKPdf** **08 07 42.4 -3.6**
SONM Songino Array 141.90 286 PKP **PKPdf** **08 07 42.4 -3.6**
comp=Z,0.9nm,0.8s,baz=146,slow=3.1,SNR=4.8
TIXI Tiksi 142.41 329 *i* PKIKP **PKPdf** **08 07 48.6 +2.6**
ESDC Sonseca Array 144.51 95 PKP **PKPab** **08 07 48.1 -1.1**
ESDC Sonseca Array 144.51 95 PKP **PKPab** **08 07 48.1 -1.1**
comp=Z,0.6nm,0.3s,baz=265,slow=3.2,SNR=7.7
ZAK Zakamensk 145.00 287 *e*PKIKP **PKPab** **08 07 50.4 -0.4**
ZAK pmax pmax
comp=Z,22nm,1.4s
TLY Talaya 145.45 290 *e*PKP2 **PKPbc** **08 07 50.0 -2.0**
TLY MLR MLR
comp=Z,358nm,19.0s
TLY Talaya 145.45 290 *e*PKPdf **PKPbc** **08 07 50.0 -2.0**
TLY LR LR
comp=Z,358nm,19.0s
SJPF Ste Jean 148.30 93 *e*PKIKP **PKPab** **08 08 03.0 -0.7**
comp=Z,105nm,1.5s
SJPF Ste Jean 148.30 93 *e*PKP2 **PKPab** **08 08 03.0 -0.7**
SJPF Ste Jean 148.30 93 *e*PKPdf **PKPab** **08 08 03.0 -0.7**
ETSF Etsaut 148.55 93 *e*PKIKP **PKPbc** **08 08 02.6 +1.4**
comp=Z,62nm,1.4s
ETSF Etsaut 148.55 93 *e*PKP2 **PKPbc** **08 08 02.6 +1.4**
ETSF Etsaut 148.55 93 *e*PKPdf **PKPbc** **08 08 02.6 +1.4**
KEST Kesra 149.15 114 PKPbc **PKPbc** **08 08 02.8 -0.2**
KEST Kesra 149.15 114 PKPbc **PKPbc** **08 08 02.8 -0.2**
comp=Z,1.4nm,0.9s,baz=296,slow=9.3,SNR=2.3
WMQ Urumqi 150.27 266 PKPbc **PKPdf** **08 08 01.2 +0.9**
WMQ PKS **PKSdf** **08 11 34.2 -0.8**
WMQ PP **PP** **08 11 45.2 +3.8**
WMQ SKS **SKSdf** **08 15 08.2 +0.4**
WMQ SKKS **SKKSac** **08 18 33.2 +1.6**
WMQ SS **SS** **08 31 01.2 +1.5**
WMQ AMB AMB
comp=Z,59nm,10.0s
WMQ LR LR
comp=Z,280nm,26.0s
WMQ LR LR
comp=Z,340nm,26.0s
WMQ LR LR
comp=Z,430nm,26.0s
MTLF Montolieu 150.42 95 *e*PKIKP **PKPdf** **08 08 02.6 +2.2**
comp=Z,45nm,1.4s
MTLF Montolieu 150.42 95 *e*PKIKP **PKPdf** **08 08 02.6 +2.2**
MTLF Montolieu 150.42 95 *e*PKPdf **PKPdf** **08 08 02.6 +2.2**
LFF La Frestale 150.53 91 *e*PKIKP **PKPdf** **08 08 03.0 +2.5**
comp=Z,232nm,1.8s
LFF La Frestale 150.53 91 *e*PKIKP **PKPdf** **08 08 03.0 +2.5**
LFF La Frestale 150.53 91 *e*PKPdf **PKPdf** **08 08 03.0 +2.5**
CAF Calviac 151.28 92 *e*PKIKP **PKPdf** **08 08 03.8 +2.0**
comp=Z,46nm,1.5s
CAF Calviac 151.28 92 *e*PKIKP **PKPdf** **08 08 03.8 +2.0**
CAF Calviac 151.28 92 *e*PKPdf **PKPdf** **08 08 03.8 +2.0**
WDD Wield Dalam 151.92 120 PFAKE 08 08 10.0 +0.6
WDD LR LR
comp=Z,920nm,20.0s
EKA Eskdalemuir Ar 153.11 69 PKPbc **PKPbc** **08 08 10.7 -0.8**
EKA Eskdalemuir Ar 153.11 69 PKPbc **PKPbc** **08 08 10.7 -0.8**
comp=Z,1.8nm,0.7s,baz=252,slow=6.6,SNR=3.1
KBL Kabul 153.48 230 *e*PKIKP **PKPdf** **08 08 05.1 -0.5**
KBL *e* 08 08 11.8
KBL Kabul 153.48 230 *e*PKPdf **PKPdf** **08 08 05.1 -0.5**
KBL *e*PKPbc **PKPbc** **08 08 11.8 -1.4**
KBS Kingsbay 153.50 14 PFAKE 08 08 10.0 -1.7
KBS LR LR
comp=Z,628nm,19.0s
KSH Kashi 153.99 247 PKPbc **PKPdf** **08 08 05.1 -0.9**
KSH pPKP **PKPbc** **08 08 14.1 0.0**
KSH sPKP 08 08 17.2
KSH PKS **PKSdf** **08 11 36.0 -4.3**
KSH AMB AMB
comp=Z,230nm,4.3s
KSH LR LR
comp=Z,140nm,5.8s
KSH LR LR
comp=Z,200nm,5.5s
KSH LR LR
comp=Z,380nm,11.7s
BNI Bardonecchia 154.02 96 PFAKE 08 08 20.0 +6.0
BNI LR LR
comp=Z,1µm,19.0s
CEL Celeste 154.47 119 PFAKE 08 08 20.0 +5.0
CEL LR LR
comp=Z,786nm,20.0s
MK31 Makanchi Array 155.10 267 *e*PKIKP PKPdf 08 08 13.1 +5.9
MK31 Makanchi Array 155.10 267 *e*PKPbc PKPdf 08 08 13.1 +5.9
MKAR Makanchi Array 155.10 267 PKIKP PKPdf 08 08 13.9 +6.7
MKAR 08 08 29.9
MKAR 08 12 09.4
MKAR Makanchi Array 155.10 267 PKPbc PKPdf 08 08 13.9 +6.7
PKPab **PKPab** **08 08 29.9 -2.1**
PP **PP** **08 12 09.4 +0.6**
MKAR Makanchi Array 155.10 267 PKPbc PKPdf 08 08 13.9 +6.7
comp=Z,1.5nm,0.9s,baz=100,slow=1.5,SNR=9.7
PKPab **PKPab** **08 08 29.9 -2.1**
comp=Z,2.3nm,0.7s,baz=169,slow=1.5,SNR=8.3
PP **PP** **08 12 09.4 +0.6**
comp=Z,0.5nm,0.8s,baz=144,slow=6.8,SNR=3.7
VLC Villacollemand 155.59 102 PFAKE 08 08 20.0 +12
VLC LR LR
comp=Z,298nm,19.0s
TIP Timpagrande 155.60 119 PFAKE 08 08 20.0 +12
TIP LR LR
comp=Z,585nm,20.0s
CUC Castrocucco 155.73 116 PFAKE 08 08 20.0 +12
CUC LR LR
comp=Z,425nm,20.0s
TUE Stuetta 156.36 96 PFAKE 08 08 20.0 +11
TUE LR LR
comp=Z,583nm,20.0s
TKM2 Tokmak 2 156.56 252 PFAKE 08 08 20.0 +10
TKM2 LR LR
comp=Z,460nm,19.0s
BFO Black Forest 156.76 91 PFAKE 08 08 20.0 +11
BFO LR LR
comp=Z,574nm,19.0s
ZALV Zalesovo Beam 156.78 284 PKP2 **PKPab** **08 08 36.2 -2.7**
ZALV Zalesovo Beam 156.78 284 PKPab **PKPab** **08 08 36.2 -2.7**
ZALV Zalesovo Beam 156.78 284 PKPab **PKPab** **08 08 36.2 -2.7**
comp=Z,2.7nm,0.9s,baz=48,slow=2.1,SNR=4.7
DAVOX Davos/Dischmat 156.84 96 PKP **PKPdf** **08 08 10.5 +0.8**
DAVOX Davos/Dischmat 156.84 96 PKP **PKPdf** **08 08 10.5 +0.8**
comp=Z,4.2nm,0.9s,baz=100,slow=3.1,SNR=4.3
AAK Ala-Archa 156.97 250 PFAKE 08 08 20.0 +10
AAK LR LR
comp=Z,625nm,19.0s
SANT Santorini 157.29 137 PFAKE 08 08 20.0 +10
SANT LR LR
comp=Z,480nm,19.0s
EKS2 Erkin-Say 157.38 249 PFAKE 08 08 20.0 +10
EKS2 LR LR
comp=Z,643nm,22.0s
CSS Prodhromos 158.59 154 PFAKE 08 08 20.0 +7.9
CSS LR LR
comp=Z,245nm,22.0s
KURK Kurchatov 159.13 273 PFAKE 08 08 20.0 +7.9
KURK LR LR
comp=Z,266nm,20.0s
GERES GERESS Array B 160.11 95 PKP **PKPdf** **08 08 11.7 -1.8**
GERES GERESS Array B 160.11 95 PKP **PKPdf** **08 08 11.7 -1.8**
comp=Z,0.2nm,0.2s,baz=242,slow=2.1,SNR=2.6
ISP Isparta 160.43 145 PFAKE 08 08 20.0 +5.8
ISP LR LR
comp=Z,612nm,20.0s
KONO Kongsberg 160.66 62 PFAKE 08 08 20.0 +6.4
KONO LR LR
comp=Z,1µm,20.0s
CONA Conrad Observa 160.88 99⇓ *i*PKPdf **PKPdf** **08 08 10.7 -3.6**
comp=Z,4.6nm,0.9s
ANTO Ankara 163.02 147 PFAKE 08 08 30.0 +13
ANTO LR LR
comp=Z,544nm,21.0s
KEV Kevo 163.12 21 PFAKE 08 08 30.0 +14
KEV LR LR
comp=Z,771nm,20.0s
BRTR Keskin Array B 163.15 150 PKP **PKPdf** **08 08 16.8 -0.2**
BRTR Keskin Array B 163.15 150 PKP **PKPdf** **08 08 16.8 -0.2**
comp=Z,0.4nm,0.4s,baz=132,slow=2.1,SNR=3.6
PSZ Piszkesteto 163.15 104 PFAKE 08 08 30.0 +13
PSZ LR LR
comp=Z,975nm,21.0s
BVAR Borovoye Array 164.72 274 PKIKP **PKPdf** **08 08 15.7 -2.1**
BVAR Borovoye Array 164.72 274 PKP **PKPdf** **08 08 15.7 -2.1**
BVAR Borovoye Array 164.72 274 PKP **PKPdf** **08 08 15.7 -2.1**
comp=Z,3.3nm,0.5s,baz=141,slow=3.0,SNR=3.1
BRVK Borovoye 164.79 274 PFAKE 08 08 30.0 +12
BRVK LR LR
comp=Z,878nm,19.0s
UZH Uzhgorod 164.88 105 *e*PKIKP **PKPdf** **08 08 21.0 +3.0**
UZH *e* 08 09 10.4
GNI Garni 165.25 181 PFAKE 08 08 30.0 +11
GNI LR LR
comp=Z,846nm,19.0s
KWP Kalwaria Pacla 165.64 102 PFAKE 08 08 30.0 +11
KWP LR LR
comp=Z,783nm,19.0s
LVZ Lovozero 166.14 16 PFAKE 08 08 30.0 +11
LVZ LR LR
comp=Z,12µm,21.0s
KIV Kislovodsk 168.98 173 *e*PKIKP **PKPdf** **08 08 21.8 +0.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 168.98 173 PFAKE 08 08 30.0 +8.6
KIV LR LR
comp=Z,1µm,22.0s
KIEV Kiev 169.79 108 PFAKE 08 08 30.0 +8.5
KIEV LR LR
comp=Z,917nm,20.0s
AKASG Malin Array Be 169.81 108 PKIKP **PKPdf** **08 08 21.6 0.0**
AKASG 08 09 34.1
AKASG Malin Array Be 169.81 108 PKP **PKPdf** **08 08 21.6 0.0**
AKASG PKPab **PKPab** **08 09 34.1 -2.0**
AKASG Malin Array Be 169.81 108 PKP **PKPdf** **08 08 21.6 0.0**
comp=Z,0.3nm,0.3s,baz=284,slow=0.7,SNR=6.8
AKASG PKPab **PKPab** **08 09 34.1 -2.0**
comp=Z,0.2nm,0.3s,baz=251,slow=4.3,SNR=3.1
AKTO Aktyubinsk 170.69 247 PKP2 **PKPab** **08 09 37.5 -2.6**
AKTO Aktyubinsk 170.69 247 PKPab **PKPab** **08 09 37.5 -2.6**
AKTO Aktyubinsk 170.69 247 PKPab **PKPab** **08 09 37.5 -2.6**
comp=Z,2.2nm,0.7s,baz=146,slow=5.7,SNR=5.8
ARU Arti 171.94 287 PFAKE 08 08 30.0 +7.5
ARU LR LR
comp=Z,793nm,20.0s
OBN Obninsk 175.39 84⇓ *i*PKIKP **PKPdf** **08 08 23.2 -0.5**
OBN *e* 08 15 17.1
OBN *e*SS SS 08 35 19.7 +0.2
OBN pmax pmax
comp=Z,16nm,1.2s
OBN Obninsk 175.39 84 PFAKE 08 08 30.0 +6.3
OBN LR LR
comp=Z,1µm,21.0s

MEX 09 07:59:36.0±0.5, 19°04N×105°16W, h9km±9km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.47**	**14**	*e*P	Pg	07 59 44.6	-0.6
CJM				*i* S	Sg	07 59 51.8	+0.3
R15V		**1.12**	**83**	*e*P	Pg	07 59 54.2	-3.6
R15V				*e*S	Sg	08 00 08.4	-4.0
EZ5V		**1.54**	**73**	*e*P	Pn	08 00 00.7	-3.4
EZ5V				*e*S	Sn	08 00 18.7	-5.7
ANIG	**Ahuacatlan**	**2.10**	**17**	*e*P	Pn	08 00 07.7	-3.8
ANIG				*i* S	Sn	08 00 33.9	-3.9

IDC 09 08:13:39.3±6.1, 16°80S×173°12W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/21, mbtmp3.9/4, ML1.5/1, Error ellipse: s-maj=206.5km s-min=25.2km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.15**	**24**	Pn	Pn	08 14 30.6	+0.2
	3.1nm,0.3s,baz=216,slow=19,SNR=5.6						
AFI				Sn	Sn	08 15 08.7	-0.1
	7.5nm,0.3s,baz=156,slow=22,SNR=4.1						
STKA	**Stephens Creek**	**43.59**	**241**	P	P	08 21 44.7	-0.7
	1.7nm,0.9s,baz=84,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**49.80**	**258**	P	P	08 22 34.1	-0.2
	0.4nm,0.5s,baz=95,slow=7.7,SNR=8.4						
ASAR	**Alice Springs**	**49.95**	**253**	P	P	08 22 35.9	+0.5
	3.0nm,0.6s,baz=89,slow=8.6,SNR=54						

DJA 09 08:17:33.7±0.8, 1°N±6°×12°2E±°, h11km±6km, M3.8/5, MLv3.8/5, Minahassa Peninsula, Sulawesi

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

MRSI	**Marisa**	**0.53**	**200**	P	Pg	08 17 44.0	-0.1
MRSI				S	Sg	08 17 51.9	+0.8
GTOI	**Gorontalo**	**0.95**	**111**	P	Pg	08 17 48.4	-3.7
TOLI	**Toli-Toli**	**1.33**	**276**	P	Pn	08 17 56.6	-1.7
TOLI				S	Sb	08 18 14.9	-1.0
APSI	**Ampana**	**1.94**	**194**	P	Pn	08 18 07.3	+0.7
LUWI	**Luwuk**	**2.11**	**162**	P	Pn	08 18 07.9	-1.1

IDC 09 08:18:19.4±1.5, 34°03N×25°20E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/25, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=46.4km s-min=26.3km az=136.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**16.92**	**9**	Pn	Pn	08 22 17.3	-0.1
	baz=203,slow=10,SNR=4.2						
GERES	**GERESS Array B**	**17.10**	**333**	Pn	P	08 22 21.6	-0.1
	0.1nm,0.3s,baz=154,slow=14,SNR=4.7						
TORD	**Torodi Ar. Bea**	**29.80**	**231**	P	P	08 24 28.2	0.0
	0.5nm,0.5s,baz=32,slow=9.5,SNR=4.6						
MKAR	**Makanchi Array**	**44.37**	**56**	P	P	08 26 31.4	-0.1
	0.3nm,0.7s,baz=261,slow=6.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**45.76**	**45**	P	P	08 26 42.3	-0.2
	0.3nm,0.4s,baz=261,slow=8.6,SNR=2.7						

*IDC **09** 08:30:47.7±1.6, 15°29S×173°47W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/20, mbtmp4.0/5, Error ellipse: s-maj=56.9km s-min=27.9km az=123.0*
ISC 09 08:30:49.6±1.1, 15°3S±0°3×173°0W±0°3, h29km, n13, σ1s87/9, mb4.1/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.77**	**40**	Pn	**Pn**	**08 31 18.1**	**-0.2**
	55nm,0.3s,baz=212,slow=8.0,SNR=23						
AFI				Sn	**Sn**	**08 31 37.7**	**-2.2**
	199nm,0.3s,baz=52,slow=20,SNR=29						
URZ	**Urewera**	**24.53**	**199**	P	**P**	**08 36 06.9**	**+0.3**
	4.9nm,0.9s,baz=38,slow=12,SNR=2.6						
H11S2	**WAKE ISLAND Hy**	**39.07**	**328**	T	T	09 19 37.5	
	baz=152,slow=77,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**39.08**	**328**	T	T	09 19 39.1	
	baz=152,slow=77,SNR=11						
H11S1	**WAKE ISLAND Hy**	**39.09**	**328**	T	T	09 19 39.4	
	baz=152,slow=77,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	09 21 02.4	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	09 21 01.7	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**40.03**	**330**	T	T	09 20 58.4	
	baz=152						
STKA	**Stephens Creek**	**44.47**	**240**	P	**P**	**08 38 57.1**	**-1.3**
	2.6nm,0.9s,baz=76,slow=8.3,SNR=3.5						
WRA	**Warramunga Arr**	**50.29**	**257**	P	**P**	**08 39 42.7**	**-1.3**
	0.8nm,0.5s,baz=90,slow=7.6,SNR=26						
WRA				PcP	**PcP**	**08 41 03.7**	**+1.0**
	0.4nm,0.7s,baz=88,slow=3.5,SNR=2.8						
ASAR	**Alice Springs**	**50.56**	**252**	P	**P**	**08 39 44.5**	**-1.4**
	3.3nm,0.5s,baz=87,slow=8.3,SNR=51						
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**08 43 10.5**	**+2.8**
	0.3nm,0.9s,baz=188,slow=6.2,SNR=4.0						
BRTR	**Keskin Array B**	**146.32**	**321**	PKPbc	**PKPab**	**08 50 30.1**	**+1.3**
	2.5nm,1.0s,baz=65,slow=2.9,SNR=8.6						

*IDC **09** 08:37:31.4±10.0, 16°18N×94°16W, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.4/23, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=306.7km s-min=134.1km az=41.0*
*ISCJB **09** 08:37:50.6±0.6, 16°82N±0°05×94°85W±0°04, h127km±7km, mb3.0/2, Error ellipse: s-maj=9.0km s-min=6.4km az=6.6*
*MEX **09** 08:37:52.5±0.9, 16°74N×94°89W, h143km±15km, MD3.8*
ISC 09 08:37:51.7±0.9, 16°83N±0°06×94°84W±0°05, h120km±10km, n10, σ0s73/16, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**1.27**	**18**	*i* P	**Pn**	**08 38 15.5**	**-0.9**
TUIG				*i* S	**Sn**	**08 38 35.2**	**-0.1**
HUIG	**Huatulco**	**1.61**	**229**	*i* P	**Pn**	**08 38 19.9**	**-0.4**
HUIG				*i* S	**Sn**	**08 38 42.8**	**+0.6**
VHO	**Vista Hermosa**	**1.83**	**278**	*e*P	**Pn**	**08 38 24.3**	**+1.1**
VHO				*i* S	**Sn**	**08 38 47.8**	**+0.5**
PCIG		**1.92**	**125**	*e*P	Pn	08 38 25.3	+1.2
PCIG				*e*S	**Sn**	**08 38 49.5**	**+0.7**
PANG	**Puerto Angel**	**1.95**	**234**	*e*P	**Pn**	**08 38 23.8**	**-0.6**
PANG				*e*S	**Sn**	**08 38 48.6**	**-0.9**
THIG		**3.13**	**127**	*e*P	**Pn**	**08 38 39.6**	**0.0**
THIG				*e*S	**Sn**	**08 39 16.6**	**-0.1**
PNIG	**Pinotepa**	**3.18**	**263**	*e*P	**Pn**	**08 38 39.5**	**-0.8**
PNIG				*i* S	**Sn**	**08 39 17.4**	**-0.5**
TXAR	**Lajitas Array**	**14.86**	**328**	Pn	**Pn**	**08 41 16.6**	**+0.8**
	0.0nm,0.3s,baz=139,slow=12,SNR=2.7						
YKA	**Yellowknife Ar**	**47.68**	**348**	P	**P**	**08 46 15.2**	**-0.5**
	0.1nm,0.7s,baz=148,slow=6.7,SNR=3.6						
ILAR	**Eielson Array**	**59.18**	**337**	P	**P**	**08 47 39.8**	**+0.1**
	0.1nm,0.5s,baz=139,slow=5.4,SNR=4.2						

*NNC **09** 08:44:42.2±4.6, 38°27N×71°49E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=37.6km s-min=29.5km az=129.0*
ISC 09 08:44:41.9±3.4, 38°0N±0°2×71°2E±0°2, h25km, n8, σ0s42/9, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.54**	**24**	P	**Pn**	**08 45 49.0**	**-0.3**
	SNR=8.4						
UCH	**Uchtor**	**4.92**	**30**	P	**Pn**	**08 45 55.1**	**+0.6**
	SNR=7.2						
KK31	**Karatay Array**	**5.12**	**354**	⇓Pn	**Pn**	**08 45 57.1**	**+0.1**
	1.9nm,0.3s,baz=174,slow=13,SNR=48						
KK31				⇑Sn	**Sn**	**08 46 55.4**	**+0.1**
	5.6nm,0.3s,baz=171,slow=30,SNR=12						
AAK	**Ala-Archa**	**5.26**	**27**	P	**Pn**	**08 45 59.4**	**+0.3**
	SNR=5.8						
CHMS	**Chumysh**	**5.67**	**27**	P	**Pn**	**08 46 04.4**	**-0.2**
	SNR=5.4						
USP	**Ospenovka**	**5.82**	**24**	P	**Pn**	**08 46 05.9**	**-0.7**
	SNR=9.8						
AB31	**Akbulak array**	**13.88**	**328**	⇑P	**Pn**	**08 47 56.7**	**-0.1**
	0.6nm,0.6s,baz=136,slow=13,SNR=20						
AKTO	**Aktyubinsk**	**15.59**	**327**	⇑P	**P**	**08 48 23.9**	**+0.1**
	2.0nm,0.8s						

*IDC **09** 08:47:58.8±1.0, 32°67N×140°82E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/27, mbtmp3.8/9, ML3.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.8/43, Error ellipse: s-maj=28.8km s-min=21.1km az=82.0*
*NIED **09** 08:48:00, 32°80N×140°70E, h53km, Mw4.5 Best double couple: M0 6.56000×10^15 NP1:φs299.00000°, δ83.00000°, λ-70.00000°. NP2:φs49.00000°, δ21.00000°, λ-159.00000°.*
*ISCJB **09** 08:48:06.3±0.9, 32°76N±0°05×140°64E±0°09, h71km±7km, mb3.6/7, Error ellipse: s-maj=13.0km s-min=8.1km az=2.1*
*JMA **09** 08:48:07.2±0.1, 32°82N×140°74E, h51km, M3.8*
ISC 09 08:48:05.6±1.5, 32°66N±0°06×140°75E±0°09, h51km±15km, n28, σ1s24/32, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.90**	**298**	P	**Pn**	**08 48 22.8**	**+0.8**
JHCJ				S	**Sn**	**08 48 33.5**	**-0.5**
JHJ2	**Mitsune**	**0.91**	**300**	P	**Pn**	**08 48 23.0**	**+1.0**
JHJ2				S	**Sn**	**08 48 34.4**	**+0.3**
JMY	**Miyakejima3**	**1.75**	**324**	P	**Pn**	**08 48 34.7**	**+1.2**
JMY				S	**Sn**	**08 48 53.9**	**-0.7**
BSO1	**Boso 1**	**2.00**	**5**	P	**Pn**	**08 48 36.8**	**+0.4**
JKO	**Kozu shima**	**2.04**	**319**	P	**Pn**	**08 48 38.2**	**+0.8**
JKO				S	**Sn**	**08 49 00.7**	**-0.9**
BSO3	**Boso 3**	**2.15**	**355**	P	**Pn**	**08 48 38.8**	**+0.1**
BSO3				S	**Sn**	**08 49 02.5**	**-1.5**
JIM2	**Oshima 3**	**2.33**	**332**	P	**Pn**	**08 48 41.6**	**+0.2**
JIM2				S	**Sn**	**08 49 06.2**	**-2.7**
BSO4	**Boso 4**	**2.35**	**352**	P	**Pn**	**08 48 42.0**	**+0.4**
BSO4				S	**Sn**	**08 49 08.8**	**-0.4**
JIZS	**Izushimoda**	**2.58**	**323**	P	**Pn**	**08 48 45.9**	**+1.1**
JIZS				S	**Sn**	**08 49 13.5**	**-1.5**
KTJJ	**Kamata 2**	**2.66**	**329**	P	**Pn**	**08 48 46.5**	**+0.5**
KTJJ				S	**Sn**	**08 49 15.4**	**-1.6**
JOD2	**Odawara 2**	**2.94**	**332**	P	**Pn**	**08 48 50.3**	**+0.5**

JOD2				S	Sn	08 49 20.7	-3.2	
MAT	**Matsushiro**	**4.41**	**332**	P	Pn	08 49 12.4	+2.5	
MAT				S	Sn	08 50 00.0	+0.1	
JCJ	**Chichijima**	**5.68**	**167**	Sn	Sn	08 50 30.5	-0.9	
	2.8nm,0.3s,baz=270,slow=20,SNR=1.9							
JCJ				LR	LR	08 51 04.3		
	comp=Z,185nm,21.3s,baz=105,slow=33							
JNU	**Nakatsue**	**8.31**	**276**	Pn	Pn	08 50 02.5	-1.0	
	0.2nm,0.3s,baz=84,slow=9.2,SNR=2.2							
ASAJ	**Asahikawa**	**11.53**	**7**	Pn	Pn	08 50 44.1	-3.3	
	0.6nm,0.3s,baz=246,slow=20,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**26.68**	**112**	T	T	09 22 33.7		
	baz=305							
H11N1	**WAKE ISLAND Hy**	**26.68**	**112**	T	T	09 22 37.3		
	baz=305							
H11N3	**WAKE ISLAND Hy**	**26.70**	**112**	T	T	09 22 38.0		
	baz=305							
H11S3	**WAKE ISLAND Hy**	**27.23**	**115**	T	T	09 23 17.3		
	baz=310							
H11S1	**WAKE ISLAND Hy**	**27.23**	**115**	T	T	09 23 19.0		
	baz=310							
H11S2	**WAKE ISLAND Hy**	**27.24**	**115**	T	T	09 23 20.1		
	baz=310							
ZALV	**Zalesovo Beam**	**44.56**	**316**	P	**P**	**08 56 13.1**	**+0.8**	
	0.6nm,0.5s,baz=85,slow=5.1,SNR=3.0							
MKAR	**Makanchi Array**	**46.10**	**306**	P	**P**	**08 56 23.9**	**-0.8**	
	0.5nm,0.5s,baz=87,slow=9.1,SNR=7.0							
KURBB	**Kurchatov Arra**	**48.36**	**311**	P	**P**	**08 56 42.2**	**+0.1**	
	0.6nm,0.5s,baz=89,slow=8.2,SNR=5.0							
WRA	**Warramunga Arr**	**52.66**	**188**	P	**P**	**08 57 14.7**	**-0.1**	
	0.4nm,0.3s,baz=5.5,slow=7.6,SNR=7.5							
ILAR	**Eielson Array**	**53.50**	**31**	P	**P**	**08 57 20.0**	**-0.5**	
	0.4nm,0.7s,baz=267,slow=8.2,SNR=5.7							
ASAR	**Alice Springs**	**56.39**	**188**	P	**P**	**08 57 42.2**	**+0.4**	
	0.2nm,0.4s,baz=2.0,slow=6.7,SNR=6.0							
TXAR	**Lajitas Array**	**93.23**	**52**	P	**P**	**09 01 16.1**	**+1.1**	
	0.3nm,0.7s,baz=291,slow=2.5,SNR=4.5							

MEX 09 08:51:05.5±0.6, 18°.95N×105°.29W, h20km±81km, MD3.8, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CJM	**Chamela**	**0.59**	**23**	*eP*		Pb		08 51 15.4	-1.9
CJM				*i*	S	Sb		08 51 22.8	-2.4
R15V		**1.26**	**80**	*i*	P	Pn		08 51 24.8	-3.3
R15V				*i*	S	Sn		08 51 40.0	-4.5
EZ5V		**1.68**	**72**	*eP*		Pn		08 51 31.6	-2.5
EZ5V				*i*	S	Sn		08 51 51.2	-4.2
MMIG	**Aquila**	**1.96**	**109**	*eP*		Pn		08 51 35.4	-2.3
MMIG				*i*	S	Sn		08 51 57.2	-4.5
ANIG	**Ahuacatlan**	**2.21**	**19**	*i*	P	Pn		08 51 38.3	-3.0
ANIG				*i*	S	Sn		08 52 05.1	-3.1

*IDC **09** 09:06:57.8±1.1, 54°.51S×135°.90W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.1/16, mbtmp4.2/5, MS3.8/3, Ms1 3.8/3, ms1mx3.3/30, Error ellipse: s-maj=39.3km s-min=27.9km az=175.0*

*ISCJB **09** 09:06:58.2±1.2, 54°.6S±0°.2×136°.0W±0°.3, h13km, mb4.2/5, MS3.8/3, Error ellipse: s-maj=35.4km s-min=27.9km az=167.9*

ISC 09 09:06:59.9±1.2, 54°.5S±0°.3×135°.9W±0°.2, h13km, n16, σ0s56/7, mb4.2/5, MS3.8/3, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
URZ	**Urewera**	**35.51**	**278**	LR		LR		09 25 46.2	
	comp=Z,88nm,20.8s,baz=16,slow=32								
QSPA	**South Pole Qui**	**35.65**	**180**	P		**P**		**09 13 57.6**	**+0.4**
	1.1nm,0.3s,baz=199,slow=1.3,SNR=5.1								
PLCA	**Paso Flores**	**44.52**	**100**	LR		LR		09 29 45.0	
	comp=Z,99nm,18.0s,baz=178,slow=31								
H03N3	**Juan Fernandez**	**44.64**	**86**	T		T		10 02 36.2	
	baz=224,slow=75,SNR=62								
H03N2	**Juan Fernandez**	**44.64**	**86**	T		T		10 02 40.4	
	baz=224,slow=75,SNR=58								
H03N1	**Juan Fernandez**	**44.65**	**86**	T		T		10 02 48.1	
	baz=224,slow=75,SNR=50								
MAW	**Mawson**	**57.39**	**188**	P		**P**		**09 16 46.9**	**-0.4**
	3.3nm,1.0s,baz=187,slow=8.1,SNR=4.2								
LPAZ	**La Paz**	**63.99**	**81**	P		**P**		**09 17 34.0**	**+0.2**
	1.9nm,1.0s,baz=213,slow=4.4,SNR=5.9								
ATAH	**Atahualpa**	**65.72**	**67**	LR		LR		09 39 58.0	
	comp=Z,112nm,19.9s,baz=262,slow=30								
ASAR	**Alice Springs**	**71.20**	**256**	P		**P**		**09 18 18.4**	**-0.2**
	1.7nm,0.8s,baz=138,slow=7.0,SNR=16								
H01W1	**Cape Leeuwin H**	**72.60**	**234**	T		T		10 38 35.2	
	baz=145,slow=76,SNR=18								
H01W2	**Cape Leeuwin H**	**72.60**	**234**	T		T		10 38 36.2	
	baz=145,slow=76,SNR=13								
H01W3	**Cape Leeuwin H**	**72.61**	**234**	T		T		10 38 36.9	
	baz=145,slow=76,SNR=12								
WRA	**Warramunga Arr**	**73.88**	**258**	P		**P**		**09 18 34.3**	**-0.2**
	1.3nm,0.6s,baz=144,slow=5.3,SNR=18								
ESDC	**Sonseca Array**	**144.81**	**95**	PKP		**PKPab**		**09 26 34.2**	**-0.6**
	0.2nm,0.3s,baz=257,slow=4.1,SNR=2.9								
MKAR	**Makanchi Array**	**154.86**	**268**	PKPab		**PKPab**		**09 27 16.1**	**+0.7**
	0.8nm,0.8s,baz=113,slow=5.3,SNR=6.1								

IDC 09 09:10:34.4±2.1, 15°.15S×168°.02E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=52.9km s-min=30.4km az=116.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DZM	**Mont Dzumac**	**7.04**	**192**	Pn		Pn		09 12 19.8	+0.8
	0.3nm,0.3s,baz=107,slow=20,SNR=5.7								
DZM				Sn		Sn		09 13 38.7	-1.2
	0.2nm,0.3s,baz=105,slow=20,SNR=2.3								
WRA	**Warramunga Arr**	**32.43**	**257**	P		P		09 17 05.9	-0.7
	0.3nm,0.9s,baz=88,slow=11,SNR=3.2								
ASAR	**Alice Springs**	**33.20**	**250**	P		P		09 17 13.9	+0.6
	0.4nm,0.4s,baz=79,slow=9.1,SNR=13								
ILAR	**Eielson Array**	**86.70**	**18**	P		P		09 23 19.7	-0.1
	0.5nm,1.0s,baz=214,slow=6.2,SNR=4.0								

*IDC **09** 09:15:05.9±22.0, 18°.47N×103°.63W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.6/23, mbtmp3.3/3, Error ellipse: s-maj=484.4km s-min=216.3km az=129.0*

*ISCJB **09** 09:15:14.1±1.9, 18°.99N±0°.08×105°.25W±0°.08, h25km±10km, mb3.2/3, Error ellipse: s-maj=15.7km s-min=8.4km az=42.2*

*MEX **09** 09:15:14.3±0.9, 18°.96N×105°.41W, h15km±52km, MD3.9*

ISC 09 09:15:15.2±2.2, 19°.02N±0°.09×105°.19W±0°.10, h19km±6km, n9, σ0s85/12, mb3.4/3, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CJM	**Chamela**	**0.50**	**16**	*i*	P	**Pg**		**09 15 25.1**	**-0.2**
CJM				*i*	S	**Sg**		**09 15 32.5**	**+0.4**
R15V		**1.15**	**82**	*eP*		Pn		09 15 34.5	-1.9
R15V				*eS*		**Sn**		**09 15 51.8**	**+0.1**
EZ5V		**1.57**	**73**	*eP*		**Pn**		**09 15 41.9**	**-0.4**
EZ5V				*eS*		**Sn**		**09 16 03.1**	**+0.9**
MMIG	**Aquila**	**1.90**	**112**	*eP*		**Pn**		**09 15 45.4**	**-1.1**
MMIG				*eS*		**Sn**		**09 16 09.8**	**-0.1**
ANIG	**Ahuacatlan**	**2.12**	**17**	*eP*		**Pn**		**09 15 48.8**	**-0.9**
ANIG				*i*	S	**Sn**		**09 16 14.7**	**-0.9**
H06E1	**SOCORRO T-PHAS**	**5.43**	**268**	T		T		09 22 26.4	
	SNR=5.7								
PDAR	**Pinedale Array**	**23.96**	**352**	P		**P**		**09 20 29.1**	**+0.5**
	0.5nm,1.0s,baz=162,slow=9.5,SNR=3.7								
YKA	**Yellowknife Ar**	**43.92**	**354**	P		**P**		**09 23 20.0**	**-0.5**
	0.6nm,0.8s,baz=165,slow=8.2,SNR=5.9								
ILAR	**Eielson Array**	**53.45**	**339**	P		**P**		**09 24 35.0**	**+1.2**
	0.4nm,1.0s,baz=126,slow=4.4,SNR=4.3								

SKHL 09 09:15:59.8±1.4, 52°.79N×143°.55E, h10km, mb3.6/3, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
OKH	**Okha**	**0.85**	**334**	*eP*		Pn		09 16 18.6	+0.8
OKH				*eSg*		Sn		09 16 32.5	+2.3
OKH				A		A		09 16 34.8	
	700nm,0.5s								
NKL	**Nikolayevsk**	**1.77**	**283**	*eP*		Pg		09 16 35.5	+1.7
NKL						AMB	AMB	09 16 37.0	
	6.0nm,0.2s								
NKL				*eSg*		Sg		09 17 00.5	+3.8
NKL				A		A		09 17 02.2	
	38nm,0.3s								
NKL				A		A		09 17 02.2	
	20nm,0.3s								
TYV	**Tymovskoe**	**2.01**	**196**	*eP*		Pg		09 16 39.8	+1.5
TYV						AMB	AMB	09 16 44.0	
	7.0nm,0.5s								
TYV				*eSg*		Sg		09 17 08.5	+4.2
TYV				A		A		09 17 12.2	
	35nm,1.0s								
UGL	**Uglegorsk**	**3.83**	**195**	*eP*		Pg		09 17 16.0	+2.8
UGL						AMB	AMB	09 17 19.0	
	42nm,0.5s								
UGL				*eSg*		Sg		09 18 08.0	+5.2
UGL				A		A		09 18 08.3	
	37nm,0.5s								
EKMR	**Ekimchan**	**6.42**	**277**	*eP*		Pg		09 18 05.5	+2.8
EKMR				*eSg*		Sg		09 19 34.0	+8.2

*ISCJB **09** 09:20:51.5±0.9, 24°.56S±0°.08×69°.4W±0°.2, h99km±17km, mb3.8/1, Error ellipse: s-maj=25.0km s-min=11.0km az=16.1*

*IDC **09** 09:20:52.6±3.1, 24°.52S×69°.05W, h80km±25km, mb3.7/1, mb1 3.4/4, mb1mx3.3/19, mbtmp3.4/4, Error ellipse: s-maj=78.5km s-min=27.0km az=98.0*

*GUC **09** 09:20:53.7±0.8, 24°.45S×69°.41W, h90km, ML3.6*

ISC 09 09:20:51.7±1.0, 24°.60S±0°.06×69°.4W±0°.1, h95km±12km, n23, σ1s44/24, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ANCH	**Antofagasta**	**1.33**	**313**	*i*	P	**Pn**		**09 21 16.0**	**+0.3**
ANCH				*i*	S	**Sn**		**09 21 32.9**	**-0.8**
ANCH						AML	AML	09 21 36.8	
	comp=E,1μm,0.1s								
CEN1	**Los Morros**	**1.43**	**327**	*i*	P	**Pn**		**09 21 17.0**	**-0.1**
CEN1				*i*	S	**Sn**		**09 21 34.5**	**-1.7**
CEN1						AML	AML	09 21 36.4	
	comp=N,504nm,0.1s								
PB10	**Plate Boundary**	**1.54**	**314**	*i*	P	**Pn**		**09 21 18.3**	**0.0**
PB10				*i*	S	**Sn**		**09 21 37.4**	**-1.0**
PB10						AML	AML	09 21 38.7	
	comp=E,3μm,0.3s								
PB10	**Plate Boundary**	**1.54**	**314**	*eP*		**Pn**		**09 21 17.8**	**-0.5**
PB06	**Plate Boundary**	**1.90**	**354**	*i*	P	**Pn**		**09 21 23.5**	**+0.5**
PB06				*i*	S	**Sn**		**09 21 46.4**	**-0.3**
PB06						AML	AML	09 21 47.4	
	comp=E,1μm,0.3s								
PB06	**Plate Boundary**	**1.90**	**354**	*eP*		**Pn**		**09 21 23.2**	**+0.2**
PB04	**Plate Boundary**	**2.33**	**357**	*eP*		**Pn**		**09 21 28.6**	**+0.1**
PB04				*eS*		**Sn**		**09 21 55.5**	**-1.1**
PB04						AML	AML	09 21 58.6	
	comp=N,517nm,0.3s								
PB04	**Plate Boundary**	**2.33**	**357**	*eP*		**Pn**		**09 21 28.8**	**+0.4**
MACH	**Maria Elena**	**2.42**	**351**	*eP*		**Pn**		**09 21 29.8**	**-0.2**
MACH				*eS*		**Sn**		**09 21 57.5**	**-1.7**
PB09	**Plate Boundary**	**2.79**	**2**	*eP*		Pn		09 21 41.2	+6.4
PB07	**Plate Boundary**	**2.90**	**350**	*eP*		**Pn**		**09 21 35.5**	**-0.8**
PB01	**Plate Boundary**	**3.54**	**358**	*eP*		**Pn**		**09 21 45.2**	**+0.4**
HMBC	**Humberstone**	**4.33**	**353**	*eP*		Pn		09 22 04.2	+8.7
LCO	**Las Campanas**	**4.56**	**195**	*eP*		Px		09 22 35.9	
MNMC	**Minimini**	**5.45**	**358**	*eP*		Pn		09 22 20.9	+10
CFAA	**Coronel Fontan**	**7.05**	**172**	P		**Pn**		**09 22 33.9**	**+1.5**
	comp=N,0.1nm,0.3s,baz=357,slow=16,SNR=12								
CFAA				S		**Sn**		**09 23 48.0**	**-2.9**
	comp=N,0.2nm,0.3s,baz=238,slow=19,SNR=9.4								
LPAZ	**La Paz**	**8.35**	**8**	P		**Pn**		**09 22 50.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=359,slow=10,SNR=5.6								
SIV	**San Ignacio**	**11.56**	**44**	P		**Pn**		**09 23 30.7**	**-3.0**
	comp=N,2.3nm,0.3s,baz=259,slow=11,SNR=26								
H03N1	**Juan Fernandez**	**12.14**	**221**	T		T		09 35 37.2	
	baz=42,slow=74,SNR=12								
H03N2	**Juan Fernandez**	**12.15**	**221**	T		T		09 35 43.3	
	baz=42,slow=74,SNR=8.1								
H03N3	**Juan Fernandez**	**12.16**	**221**	T		T		09 35 43.9	
	baz=42,slow=74,SNR=10								
TORD	**Torodi Ar. Bea**	**78.79**	**70**	P		**P**		**09 32 45.8**	**+1.3**
	comp=N,0.9nm,0.6s,baz=260,slow=5.3,SNR=9.6								
TORD				pP		**pP**		**09 33 12.1**	**+2.9**
	comp=N,0.9nm,0.6s,baz=253,slow=5.4,SNR=5.1								
ZALV	**Zalesovo Beam**	**144.91**	**27**	PKP		**PKPdf**		**09 40 18.4**	**+1.1**
	comp=N,0.4nm,0.3s,baz=318,slow=2.0,SNR=4.1								

*ISCJB **09** 09:28:18.9±0.5, 39°.85N±0°.02×25°.71E±0°.03, h8km±4km, Error ellipse: s-maj=4.1km s-min=3.6km az=145.0*

*ATH **09** 09:28:18.8, 39°.84N×25°.67E, h25km±2km, MD3.0/6*

*THE **09** 09:28:19.6, 39°.86N×25°.71E, h1km±2km, ML2.4/5, Error ellipse: s-maj=2.8km s-min=0.9km az=248.0*

*CSEM **09** 09:28:19.7±0.1, 39°.85N×25°.72E, h10km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.4km az=91.0*

*ISK **09** 09:28:19.5, 39°.89N×25°.72E, h8km, MD3.0*

*DDA **09** 09:28:22.5, 39°.73N×26°.13E, h7km, MD3.0*

ISC 09 09:28:19.6±0.9, 39°.84N±0°.02×25°.71E±0°.03, h13km±9km, n47, σ0s61/77, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LIA	**Limnos Island**	**0.41**	**278**	P		**Pg**		**09 28 27.6**	**-0.2**
LIA				*i*		**Sg**		**09 28 33.2**	**+0.1**
LIA	**Limnos Island**	**0.41**	**278**	*e*PB		**Pg**		**09 28 27.5**	**-0.2**
LIA				*e*SB		**Sg**		**09 28 33.3**	**+0.1**
LIA	**Limnos Island**	**0.41**	**278**	*e*Pb		**Pg**		**09 28 27.5**	**-0.2**
LIA				S		**Sg**		**09 28 33.2**	**+0.1**
SMTH	**Samothraki Isl**	**0.64**	**348**	P		**Pg**		**09 28 32.0**	**-0.1**
SMTH				S		**Sg**		**09 28 40.3**	**-0.3**
SMTH	**Samothraki Isl**	**0.64**	**348**	*e*PN		**Pg**		**09 28 31.9**	**-0.1**
SMTH				*e*SN		**Sg**		**09 28 40.6**	**0.0**
SMTH	**Samothraki Isl**	**0.64**	**348**	P		**Pg**		**09 28 32.0**	**-0.1**
SMTH				S		**Sg**		**09 28 40.3**	**-0.3**
SIGR	**SIGRI**	**0.64**	**170**	P		**Pg**		**09 28 31.6**	**-0.6**
SIGR	**SIGRI**	**0.64**	**170**	*e*PN		**Pg**		**09 28 31.5**	**-0.6**
SIGR				*e*SN		**Sg**		**09 28 41.0**	**+0.4**
SIGR	**SIGRI**	**0.64**	**170**	P		**Pg**		**09 28 31.6**	**-0.6**
SIGR				*e*Sn		**Sg**		**09 28 41.0**	**+0.4**
PRK	**Paraskevi**	**0.74**	**144**	P		**Pg**		**09 28 34.1**	**+0.1**
PRK				S		**Sb**		**09 28 44.4**	**0.0**
PRK	**Paraskevi**	**0.74**	**144**	*e*PN		**Pg**		**09 28 34.1**	**+0.1**
PRK				*e*SN		**Sb**		**09 28 44.3**	**-0.1**
PRK	**Paraskevi**	**0.74**	**144**	P		**Pg**		**09 28 34.1**	**+0.1**
PRK				*e*Sn		**Sb**		**09 28 44.3**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.81**	**47**	*e*PG		**Pg**		**09 28 34.8**	**-0.5**
GELI				*e*SG		**Sb**		**09 28 46.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.81**	**47**	*e*Pg		**Pg**		**09 28 34.8**	**-0.5**
GELI				*e*Sg		**Sb**		**09 28 46.2**	**-0.2**
ENEZ	**Enez**	**0.95**	**21**	*e*PG		**Pg**		**09 28 37.6**	**-0.5**
ENEZ				*e*SG		**Sg**		**09 28 50.2**	**-0.3**
ENEZ	**Enez**	**0.95**	**21**	*e*Pg		**Pg**		**09 28 37.6**	**-0.5**
ENEZ				*e*Sg		**Sg**		**09 28 50.2**	**-0.3**
LPK	**Lapseki**	**0.97**	**57**	*e*PG		**Pg**		**09 28 38.1**	**-0.2**
LPK				*e*SG		**Sb**		**09 28 51.1**	**+0.2**
LPK	**Lapseki**	**0.97**	**57**	*e*Pg		**Pg**		**09 28 38.1**	**-0.2**
LPK				*e*Sg		**Sb**		**09 28 51.1**	**+0.2**
ERIK	**Erikli-Kesan**	**1.03**	**37**	*e*PG		**Pg**		**09 28 38.9**	**-0.6**
ERIK				*e*SG		**Sb**		**09 28 53.1**	**+0.3**
ERIK	**Erikli-Kesan**	**1.03**	**37**	*e*Pg		**Pg**		**09 28 38.9**	**-0.6**
ERIK				*e*Sg		**Sb**		**09 28 53.1**	**+0.3**
ALN	**Alexandroupoli**	**1.08**	**14**	*e*PG		**Pg**		**09 28 39.8**	**-0.8**
ALN				*e*SG		**Sg**		**09 28 54.1**	**-0.5**
ALN	**Alexandroupoli**	**1.08**	**14**	P		**Pg**		**09 28 39.9**	**-0.6**
ALN				S		**Sb**		**09 28 54.7**	**+0.4**
ALN	**Alexandroupoli**	**1.08**	**14**	*e*PN		**Pg**		**09 28 39.7**	**-0.8**
ALN	**Alexandroupoli**	**1.08**	**14**	P		**Pg**		**09 28 39.9**	**-0.6**
ALN				*e*Sg		**Sg**		**09 28 54.1**	**-0.5**
RDO	**Rodhopi**	**1.31**	**354**	P		Pn		**09 28 43.2**	**-0.4**
KRBG	**Karabiga-Canak**	**1.34**	**65**	*e*PN		Pn		**09 28 43.8**	**-0.2**
KRBG	**Karabiga-Canak**	**1.34**	**65**	*e*Pn		Pn		**09 28 43.8**	**-0.2**
SART	**Tekirdag**	**1.41**	**53**	*e*P		Pn		**09 28 45.7**	**+0.7**
SART				*e*S		**Sb**		**09 29 03.6**	**-0.2**
BALY	**Balya**	**1.48**	**93**	*e*P		**Pn**		**09 28 46.3**	**+0.3**
BALY				*e*S		**Sn**		**09 29 04.4**	**-0.8**
BALY	**Balya**	**1.48**	**93**	*e*P		**Pn**		**09 28 46.3**	**+0.3**
BALY				*e*S		**Sn**		**09 29 04.4**	**-0.8**
CHOS	**Chios island**	**1.48**	**169**	P		**Pn**		**09 28 45.5**	**-0.5**
CHOS				S		**Sg**		**09 29 07.6**	**+0.3**
CHOS	**Chios island**	**1.48**	**169**	*e*PN		**Pn**		**09 28 45.5**	**-0.5**
CHOS	**Chios island**	**1.48**	**169**	P		**Pn**		**09 28 45.5**	**-0.5**
CHOS				S		**Sg**		**09 29 07.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.54**	**82**	*e*PN		**Pn**		**09 28 47.4**	**+0.7**
GONE	**Gonen-Balikesi**	**1.54**	**82**	*e*Pn		**Pn**		**09 28 47.4**	**+0.7**
AOS	**Alonnisos**	**1.56**	**245**	P		**Pb**		**09 28 48.8**	**+0.4**
AOS	**Alonnisos**	**1.56**	**245**	P		**Pb**		**09 28 48.8**	**+0.4**
MRMT	**Marmara Adasi**	**1.63**	**62**	*e*PN		**Pb**		**09 28 49.8**	**+0.1**
EDC	**Edincik**	**1.73**	**72**	*e*PN		**Pn**		**09 28 50.3**	**+0.9**
BNT	**Bandirma**	**1.77**	**73**	*e*PN		**Pn**		**09 28 50.3**	**+0.3**
AKHS	**Akhisar**	**1.90**	**120**	*e*P		**Pn**		**09 28 51.5**	**-0.1**
AKHS				*e*S		**Sn**		**09 29 14.3**	**-1.2**
AKHS	**Akhisar**	**1.90**	**120**	*e*P		**Pn**		**09 28 51.6**	**-0.1**
AKHS				*e*S		**Sn**		**09 29 14.3**	**-1.2**
DURS	**Dursunbey**	**2.15**	**96**	*e*P		**Pn**		**09 28 55.9**	**+0.6**
DURS				*e*S		**Sn**		**09 29 23.1**	**+1.3**
EDRB	**Edirne**	**2.15**	**21**	*e*PN		**Pn**		**09 28 56.4**	**+1.2**
EDRB	**Edirne**	**2.15**	**21**	*e*Pn		**Pn**		**09 28 56.4**	**+1.2**
ARMT	**Armutlu**	**2.52**	**72**	*e*PN		**Pn**		**09 29 02.2**	**+1.9**
ARMT	**Armutlu**	**2.52**	**72**	*e*Pn		**Pn**		**09 29 02.2**	**+1.9**

IDC 09 09:31:40.6±3.5, 14°.74S×70°.46W, h45km±38km, mb3.4/5, mb1 3.7/7, mb1mx3.6/21, mbtmp3.5/7, ML3.8/2, Error ellipse: s-maj=105.7km s-min=29.7km az=28.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LPAZ	**La Paz**	**2.72**	**125**	P		Pn		09 32 22.3	-0.2
	9.7nm,0.3s,baz=290,slow=11,SNR=180								
SIV	**San Ignacio**	**9.14**	**99**	P		Pn		09 33 50.5	+0.5
	0.8nm,0.3s,baz=279,slow=14,SNR=15								
TXAR	**Lajitas Array**	**54.30**	**324**	P		P		09 41 00.9	-1.8
	0.1nm,0.6s,baz=116,slow=8.1,SNR=2.9								
PDAR	**Pinedale Array**	**67.55**	**330**	P		P		09 42 34.0	+1.3
	0.3nm,0.6s,baz=102,slow=6.7,SNR=2.7								
ULM	**Lac du Bonnet**	**68.46**	**343**	P		P		09 42 37.8	-0.1
	1.1nm,0.6s,baz=153,slow=6.8,SNR=2.8								
TORD	**Torodi Ar. Bea**	**76.60**	**72**	P		P		09 43 26.6	-0.5
	0.4nm,0.8s,baz=248,slow=5.7,SNR=3.5								
YKA	**Yellowknife Ar**	**84.35**	**341**	P		P		09 44 08.1	+0.5
	0.9nm,0.7s,baz=137,slow=5.2,SNR=12								
ZALV	**Zalesovo Beam**	**136.33**	**21**	PKP		PKPdf		09 50 56.5	-0.8
	0.7nm,0.4s,baz=325,slow=1.8,SNR=5.9								
SONM	**Songino Array**	**146.90**	**4**	PKPbc		PKPbc		09 51 18.0	-0.4
	0.8nm,0.7s,baz=326,slow=3.7,SNR=5.6								

*NOU **09** 09:46:02.6±1.0, 21°.32S×171°.08E, h30km, MD3.7, ML5.3*

*NEIC **09** 09:46:03.3±0.1, 22°.15S×170°.96E, h45km, mb5.8/101, ME6.4, MS6.2/151, MW6.4, MW6.4, MW6.4, Error ellipse: s-maj=4.5km s-min=4.1km az=153.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^18 Nm; Mrr=2.84; Mθθ=1.86; Mφφ=0.98; Mrθ=2.52; Mθφ=3.74; Mrφ=1.38; Best double couple: M0=5.30000×10^18 NP1:φs98.00000°, δ64.00000°, λ43.00000°. NP2:φs346.00000°, δ52.00000°, λ147.00000°. Principal axes: T 5.3600, Plg47.0000°, Azm317.0000°; N -0.0400, Plg41.0000°, Azm122.0000°; P -5.3200, Plg7.0000°, Azm218.0000°; Broadband fault plane solution: P waves. NP1:φs8.00000°, δ71.00000°, λ159.00000°. NP2:φs105.00000°, δ70.00000°, λ20.00000°. Principal axes: T Plg28.0000°, Azm326.0000°; N Plg0.0000°, Azm0.0000°; P Plg1.0000°, Azm57.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Noumea, New Caledonia. Also felt at Mont-Dore.

*MOS **09** 09:46:05.7±1.2, 22°.19S×170°.91E, h70km, mb5.9/49, MS6.1/60 Error ellipse: s-maj=7.0km s-min=6.3km az=126.2*

*IDC **09** 09:46:06.6±1.0, 22°.32S×170°.86E, h71km±7km, mb5.1/29, mb1 5.3/33, mb1mx5.3/33, mbtmp5.5/33, MS6.0/27, Ms1 6.0/27, ms1mx5.9/29, Error ellipse: s-maj=7.2km s-min=6.3km az=173.0*

*ISCJB **09** 09:46:07.6±0.1, 22°.24S±0°.03×170°.88E±0°.02, h89km, mb5.8/247, Error ellipse: s-maj=3.7km s-min=2.2km az=169.2*

*BJI **09** 09:46:07.5, 21°.79S×171°.06E, h85km, mB6.3/57, mb5.7/62, Ms6.2/70, Ms7 6.0/69*

*AUST **09** 09:46:08.5±1.2, 22°.23S×171°.03E, h84km±11km, Error ellipse: s-maj=6.2km s-min=5.5km az=159.0*

*NEIC **09** 09:46:09.0±0.0, 22°.28S×170°.91E, h55km Best double couple: NP1:φs10.00000°, δ72.00000°, λ145.00000°. NP2:φs111.00000°, δ57.00

baz=90,slow=20,SNR=1.4
RAO LR LR 09 52 43.9
comp=Z,105µm,18.6s,baz=320,slow=32
OUZ Omahuta 13.16 170 *e*Pn **Pn 09 49 09.9 -2.0**
OUZ *e*Sn **Sn 09 51 36.0 -0.5**
HNR Honiara 16.52 319 P **Pn 09 49 53.3 -1.7**
HNR S **Sn 09 52 59.2 +1.1**
HNR Honiara 16.52 319 P **Pn 09 49 53.3 -1.7**
comp=Z,44nm,0.3s,baz=192,slow=3.3,SNR=38
HNR S **Sn 09 52 59.2 +1.1**
baz=102,slow=9.3,SNR=1.5
HNR LR LR 09 55 32.4
comp=Z,24µm,20.3s,baz=151,slow=34
URZ Urewera 16.85 163 P **Pn 09 49 57.5 -1.3**
comp=Z,244nm,1.3s
URZ S **S 09 53 11.0 +0.1**
URZ *e*S Sn 09 53 13.2 +7.5
URZ ScP **ScP 09 58 12.1 +3.4**
URZ Urewera 16.85 163 P **Pn 09 49 57.6 -1.3**
comp=Z,3.8nm,0.3s,baz=345,slow=5.4,SNR=42
URZ S **S 09 53 11.0 +0.1**
comp=Z,0.5nm,0.3s,baz=342,slow=18,SNR=1.6
URZ LR LR 09 55 01.8
comp=Z,101µm,21.8s,baz=338,slow=32
URZ ScP **ScP 09 58 12.1 +3.4**
comp=Z,0.2nm,0.3s,baz=252,slow=3.2,SNR=3.7
BKZ Black Stump Fm 17.55 166 *e*Pn **Pn 09 50 07.6 +0.1**
comp=Z,2µm,1.3s
NIUE Niue 18.18 84 ⇓P **P 09 50 13.5 -0.9**
baz=18,SNR=5.4
AFI Afiamalu 18.39 66 *e*P **P 09 50 14.4 -2.3**
comp=Z,558nm,1.1s
AFI S **S 09 53 35.8 -6.2**
AFI *e*S **Sn 09 53 46.2 +3.1**
AFI Afiamalu 18.39 66 P **P 09 50 15.8 -0.9**
comp=Z,5.2nm,0.3s,baz=200,slow=18,SNR=25
AFI S **S 09 53 35.8 -6.2**
comp=Z,0.8nm,0.3s,baz=24,slow=20,SNR=2.1
EIDS Eidsvold 18.43 256 *e*P **Pn 09 50 18.8 +0.5**
comp=Z,515nm,1.0s
EIDS *e*S **Sn 09 53 45.2 +1.1**
EIDS Eidsvold 18.43 256 ⇑P **Pn 09 50 19.2 +0.9**
baz=18,SNR=128
BFZ Birch Farm 18.95 167 *e*P **P 09 50 22.0 -0.6**
comp=Z,376nm,0.9s
ARMA Armidale 19.12 241 *e*P **P 09 50 25.2 +0.5**
comp=Z,3µm,1.9s
ARMA *e*S **Sn 09 54 04.1 +3.5**
ARMA Armidale 19.12 241 ⇑P **Pn 09 50 26.6 +0.2**
baz=19
ARMA ⇑P **P 09 50 26.8 +2.1**
baz=19,SNR=88
SNZO South Karori 19.30 171 *e*P **P 09 50 25.9 -0.5**
comp=Z,2µm,1.3s
SNZO *e*S **S 09 54 02.4 +2.1**
RMQ Roma 20.64 254 ⇑P Pn 09 50 43.7 -0.6
baz=21,SNR=226
RIV Riverview 20.90 232 ⇑P Pn 09 50 45.8 -1.4
baz=21
RPZ Rata Peaks 21.44 180 P **P 09 50 48.7 -0.8**
RPZ S **S 09 54 40.5 -2.1**
RPZ *e*S **S 09 54 42.2 -0.4**
RPZ Rata Peaks 21.44 180 P **P 09 50 48.7 -0.8**
comp=Z,160nm,0.8s,baz=337,slow=1.4,SNR=38
RPZ S **S 09 54 40.5 -2.1**
comp=Z,21nm,1.0s,baz=16,slow=20,SNR=1.7
RPZ LR LR 09 57 55.4
comp=Z,40µm,21.0s,baz=352,slow=33
ODZ Otahua Downs 22.77 181 *e*P **P 09 51 02.8 -0.8**
comp=Z,790nm,1.6s
CNB Canberra Magne 22.91 231 P **P 09 51 05.5 +0.3**
baz=23,SNR=123
CTA Charters Tower 23.11 271 P **P 09 51 06.8 -0.4**
CTA PcP **PcP 09 54 56.0 +2.5**
CTA S **S 09 55 13.6 +1.7**
CTA ScP **ScP 09 58 28.2 +4.5**
CTA PKiKP **PKiKP 10 02 37.4 -0.4**
CTA Charters Tower 23.11 271 P **P 09 51 06.8 -0.4**
comp=Z,104nm,0.8s,baz=92,slow=12,SNR=56
CTA PcP **PcP 09 54 56.0 +2.5**
comp=Z,21nm,0.9s,baz=50,slow=4.3,SNR=3.0
CTA S **S 09 55 13.6 +1.7**
comp=Z,7.4nm,0.8s,baz=177,slow=17,SNR=1.8
CTA ScP **ScP 09 58 28.2 +4.5**
comp=Z,14nm,0.8s,baz=102,slow=2.7,SNR=5.6
CTA PKiKP **PKiKP 10 02 37.4 -0.4**
comp=Z,4.4nm,0.8s,baz=243,slow=4.5,SNR=3.8
CTA Charters Tower 23.11 271 ⇓P **P 09 51 08.3 +1.1**
baz=23
CTAO Charters Tower 23.11 271 *e*P **P 09 51 06.8 -0.4**
CTAO *e*S **S 09 55 13.3 +1.5**
CTAO pmax pmax
comp=Z,3µm,2.2s
CTAO MLR MLR
comp=Z,34µm,22.0s
CTAO Charters Tower 23.11 271 *e*P **P 09 51 06.8 -0.4**
comp=Z,3µm,2.2s
CTAO *e*S **S 09 55 13.3 +1.5**
CTAO LR LR
comp=Z,34µm,22.0s
YNG Young 23.16 234 ⇑P **P 09 51 07.9 +0.3**
baz=23,SNR=65
CAN Canberra 23.18 231 *e*P **P 09 51 07.7 -0.1**
CAN *e*S **S 09 55 14.9 +2.2**
CAN pmax pmax
comp=Z,726nm,1.4s
CAN MLR MLR
comp=Z,26µm,20.0s
CAN Canberra 23.18 231 *e*P **P 09 51 07.7 -0.1**
comp=Z,726nm,1.4s
CAN *e*S **S 09 55 14.9 +2.2**
CAN LR LR
comp=Z,26µm,20.0s
CAN Canberra 23.18 231 ⇓P **P 09 51 08.2 +0.4**
baz=23
DCZ Deep Cove 23.41 187 *e*P **P 09 51 10.2 +0.6**
comp=Z,764nm,1.6s
TARA Tarawa 23.51 5 *e*P **P 09 51 11.4 +0.5**
TARA LR LR
comp=Z,31µm,21.0s
WHZ Wether Hill Ro 23.74 185 *e*P **P 09 51 13.9 +1.2**
MILA Mila 23.94 227 P **P 09 51 14.9 +0.3**
baz=24,SNR=126
CMSA Cobar Meteorol 24.31 242 ⇓P **P 09 51 18.2 +0.2**
baz=24,SNR=224
QLP Quilpie 24.68 254 P **P 09 51 21.7 +0.3**
baz=25,SNR=242
RABL Rabaul 25.54 312 ⇑P **P 09 51 30.8 +1.5**
baz=26,SNR=9.0
PMG Port Moresby 26.13 295 P **P 09 51 34.9 +0.3**
comp=Z,936nm,1.1s,comp=Z,17µmcomp=Z,49µm
PMG Port Moresby 26.13 295 *e*P **P 09 51 34.5 -0.1**
comp=Z,692nm,0.9s
PMG S **S 09 55 53.2 -6.9**
PMG Port Moresby 26.13 295 P **P 09 51 34.6 -0.1**
comp=Z,543nm,0.9s,baz=111,slow=5.5,SNR=105
PMG S **S 09 55 53.2 -6.9**
comp=Z,8.6nm,0.8s,baz=173,slow=17,SNR=1.5
PMG LR LR 10 00 21.3
comp=Z,40µm,21.5s,baz=117,slow=33
PMG Port Moresby 26.13 295 ⇓P **P 09 51 34.9 +0.3**
baz=26,SNR=25
PMG ⇓P **P 09 51 34.9 +0.3**
baz=26,SNR=25
PMG ⇓P **P 09 51 34.9 +0.3**
baz=26,SNR=25
TOO Toolangi 26.73 229 ⇑P **P 09 51 40.1 +0.2**
baz=27,SNR=30
RAR Rarotonga 27.22 93 P **P 09 51 44.2 -0.1**
RAR *e*S **S 09 56 16.6 -0.5**
RAR S S 09 56 17.9 +0.7
RAR ScP **ScP 09 58 36.2 +0.9**
RAR LR LR
comp=Z,17µm,22.0s
RAR Rarotonga 27.22 93 P **P 09 51 44.2 -0.1**
comp=Z,19nm,1.0s,baz=40,slow=0.0,SNR=5.6
RAR S **S 09 56 17.9 +0.7**
comp=Z,5.4nm,0.4s,baz=42,slow=0.0,SNR=1.9
COEN Coen 27.60 283 *e*P **P 09 51 48.8 +1.0**
comp=Z,7µm,1.5s
COEN *e*PcP **PcP 09 55 05.9 +2.3**
COEN *e*ScP **SS 09 58 18.9 -3.9**
COEN Coen 27.60 283 P **P 09 51 48.9 +1.0**
baz=28,SNR=61
STKA Stephens Creek 27.77 243 *e*P **P 09 51 48.7 -0.5**
comp=Z,23nm,0.8s

STKA PcP **PcP 09 55 06.0 +2.2**
STKA S **S 09 56 23.1 -2.7**
STKA *e*S S 09 56 24.6 -1.1
STKA PKiKP **PKiKP 10 02 39.3 -0.9**
STKA Stephens Creek 27.77 243 P **P 09 51 49.4 +0.2**
comp=Z,94nm,0.7s,baz=89,slow=9.4,SNR=94
STKA PcP **PcP 09 55 06.0 +2.2**
comp=Z,20nm,0.6s,baz=329,slow=4.6,SNR=3.0
STKA S **S 09 56 23.1 -2.7**
comp=Z,18nm,1.1s,baz=13,slow=14,SNR=1.8
STKA LR LR 10 02 00.9
comp=Z,37µm,20.8s,baz=50,slow=34
STKA PKiKP **PKiKP 10 02 39.3 -0.9**
comp=Z,4.2nm,0.9s,baz=90,slow=5.1,SNR=4.8
STKA Stephens Creek 27.77 243 P **P 09 51 49.4 +0.2**
baz=28,SNR=124
MOO Moorlands 28.28 219 ⇓P **P 09 51 53.7 +0.1**
baz=28,SNR=24
TAU Tasmania Unive 28.50 218 *e*P **P 09 51 55.3 -0.2**
TAU pmax pmax
comp=Z,190nm,1.3s
TAU MLR MLR
comp=Z,31µm,19.0s
TAU Tasmania Unive 28.50 218 *e*P **P 09 51 55.3 -0.2**
comp=Z,190nm,1.3s
TAU LR LR
comp=Z,31µm,19.0s
TAU Tasmania Unive 28.50 218 P **P 09 51 55.5 0.0**
comp=Z,528nm,1.6s,SNR=8.7
ARPS Mount Arapiles 29.04 234 P **P 09 52 00.6 +0.2**
baz=29,SNR=32
HTT Hallett 30.32 241 P **P 09 52 12.0 +0.2**
baz=30,SNR=64
MANU Manus Island 30.45 308 ⇑P **P 09 52 14.2 +1.2**
baz=31,SNR=4.2
KWAJ Kwajalein Atol 31.00 354 *e*P **P 09 52 17.9 0.0**
KWAJ *e* 09 53 20.9
KWAJ Kwajalein Atol 31.00 354 *e*P **P 09 52 17.9 0.0**
KWAJ *e*PP **PnPn 09 53 20.9 -1.6**
PATS Pohnpei 31.41 335 ⇓P **P 09 52 22.4 +0.8**
baz=32,SNR=4.8
MMPI Merauke 32.39 290 P **P 09 52 32.3 +2.1**
comp=Z,1µm,1.6s,comp=Z,23µm
BBOO Buckleboo 32.55 244 *e*P **P 09 52 31.0 -0.4**
comp=Z,5µm,1.1s
BBOO *e*S **S 09 57 43.6 +3.0**
BBOO *e*ScP **ScP 09 58 57.4 +5.0**
BBOO Buckleboo 32.55 244 P **P 09 52 31.0 -0.4**
baz=33,SNR=60
AS31 Alice Springs 34.07 260 *e*P **P 09 52 44.4 -0.4**
AS31 *e*PcP **PcP 09 55 22.6 +1.9**
ASAR Alice Springs 34.07 260 P **P 09 52 44.0 -0.8**
ASAR PcP **PcP 09 55 21.1 +0.5**
ASAR S **S 09 58 05.8 +1.3**
ASAR ScP **ScP 09 59 03.4 +5.5**
ASAR PKiKP **PKiKP 10 02 43.5 -1.2**
ASAR Alice Springs 34.07 260 P **P 09 52 44.0 -0.8**
comp=Z,158nm,0.8s,baz=87,slow=7.2,SNR=244
ASAR PcP **PcP 09 55 21.1 +0.5**
comp=Z,16nm,0.8s,baz=94,slow=2.7,SNR=5.9
ASAR S **S 09 58 05.8 +1.3**
comp=Z,13nm,1.1s,baz=83,slow=17,SNR=5.1
ASAR ScP **ScP 09 59 03.4 +5.5**
comp=Z,16nm,0.8s,baz=103,slow=3.8,SNR=12
ASAR PKiKP **PKiKP 10 02 43.5 -1.2**
comp=Z,2.8nm,0.8s,baz=76,slow=1.2,SNR=7.9
ASAR LR LR 10 06 22.6
comp=Z,40µm,21.5s,baz=97,slow=36
WRAB Tennant Creek 34.16 267 *e*P **P 09 52 44.2 -1.4**
WRAB *e* 09 55 19.6
WRAB *e*S **S 09 58 05.0 -0.9**
WRAB pmax pmax
comp=Z,741nm,1.6s
WRAB MLR MLR
comp=Z,37µm,22.0s
WRAB Tennant Creek 34.16 267 *e*P **P 09 52 44.2 -1.4**
comp=Z,741nm,1.6s
WRAB *e*PcP **PcP 09 55 19.6 -1.4**
WRAB *e*S **S 09 58 05.0 -0.9**
WRAB LR LR
comp=Z,37µm,22.0s
WRAB Tennant Creek 34.16 267 P **P 09 52 44.0 -1.6**
comp=Z,1µm,1.6s,SNR=56
WRA Warramunga Arr 34.17 267 P **P 09 52 44.2 -1.5**
WRA PcP **PcP 09 55 20.9 -0.1**
WRA S **S 09 58 03.9 -2.1**
WRA ScP **ScP 09 59 03.6 +5.3**
WRA PKiKP **PKiKP 10 02 43.9 -0.9**
WRA Warramunga Arr 34.17 267 P **P 09 52 44.2 -1.5**
comp=Z,105nm,1.1s,baz=99,slow=8.9,SNR=107
WRA PcP **PcP 09 55 20.9 -0.1**
comp=Z,36nm,1.1s,baz=94,slow=2.9,SNR=6.3
WRA S **S 09 58 03.9 -2.1**
comp=Z,4.7nm,1.0s,baz=103,slow=13,SNR=2.5
WRA ScP **ScP 09 59 03.6 +5.3**
comp=Z,51nm,1.2s,baz=93,slow=3.7,SNR=9.5
WRA PKiKP **PKiKP 10 02 43.9 -0.9**
comp=Z,4.1nm,0.8s,baz=10,slow=0.2,SNR=9.0
WRA LR LR 10 06 03.3
comp=Z,38µm,21.8s,baz=95,slow=35
JAY Jayapura 35.29 299 ⇑P **P 09 52 55.6 +0.3**
baz=35,SNR=126
GENI Genyem 35.68 299 P **P 09 52 58.9 +0.2**
comp=Z,2µm,1.7s,comp=Z,35µmcomp=Z,54µm
TBI Tubuai 36.45 100 *e*S **S 09 58 39.2 -1.7**
comp=Z,11µm,25.8s
TBI *e*LQ LQ 10 01 17.1
comp=Z,95µm,30.2s
TBI *e*LR LR 10 02 54.0
comp=Z,65µm,28.0s,baz=265
PAE Paea 37.32 90 *e*P **P 09 53 10.3 -2.3**
comp=Z,11nm,1.0s
PPT2 Papeete2 37.34 90 *e*P **P 09 53 11.0 -1.9**
comp=Z,131nm,1.4s
PPT2 *e*S **S 09 58 53.1 -1.6**
comp=Z,13µm,26.8s
PPT2 *e*LQ LQ 10 01 37.6
comp=Z,124µm,28.0s
PPT2 *e*LR LR 10 03 17.9
comp=Z,73µm,26.8s,baz=244
PPT Papeete 37.35 90 P P 09 53 09.2 -3.6
PPT Papeete 37.35 90 P P 09 53 09.2 -3.6
comp=Z,20nm,0.8s,baz=167,slow=14,SNR=2.9
PPT LR LR 10 04 42.9
comp=Z,22µm,21.4s,baz=253,slow=30
TIAR Tiarei 37.56 90 *e*P **P 09 53 12.7 -2.0**
comp=Z,34nm,1.1s
TVO Taravao 37.60 91 *e*P **P 09 53 12.9 -2.1**
comp=Z,23nm,0.9s
KDU Kakadu 37.80 278 P **P 09 53 16.1 -0.6**
baz=38,SNR=67
MEH Mehetia 38.67 91 *e*P **P 09 53 22.0 -2.0**
comp=Z,62nm,1.5s
MTN Manton Dam 38.98 277 P **P 09 53 25.8 -0.8**
baz=39,SNR=82
FORT Forrest 39.11 248 *e*P **P 09 53 27.6 0.0**
comp=Z,380nm,0.9s
FORT *e*PP **PnPn 09 55 05.1 +2.9**
FORT *e* 09 59 03.7
FORT Forrest 39.11 248 P **P 09 53 27.5 0.0**
baz=39,SNR=24
XMAS Kiritimati 39.17 56 *e*P **P 09 53 28.4 +0.3**
comp=Z,143nm,1.1s
SRPI Serui, Papua 39.32 296 P **P 09 53 31.2 +1.8**
comp=Z,2µm,0.9s,comp=Z,21µm
PMOR Pomariorio Ree 39.58 87 *e*P **P 09 53 29.9 -1.6**
comp=Z,228nm,1.1s
VAH Vaihoa 39.76 87 *e*P **P 09 53 30.8 -2.2**
comp=Z,124nm,1.1s
BAKI Biak 39.80 297 P **P 09 53 34.6 +1.2**
comp=Z,2µm,1.1s,comp=Z,30µm
KNRA Kununurra 40.31 272 ⇑P **P 09 53 37.4 -0.3**
baz=40,SNR=145
TLE Tual 40.41 288 P **P 09 53 40.6 +2.1**
comp=Z,994nm,1.7s,comp=Z,25µm
TLE Tual 40.41 288 ⇓P **P 09 53 39.2 +0.7**
baz=40,SNR=6.0
SAUI Saumlaki 40.65 284 P **P 09 53 43.6 +3.1**
comp=Z,723nm,1.7s,comp=Z,21µm
H11S2 WAKE ISLAND Hy 40.67 354 T T 10 37 36.4
baz=175,slow=78,SNR=29
H11S3 WAKE ISLAND Hy 40.68 354 T T 10 37 36.8
baz=175,slow=78,SNR=26
H11S1 WAKE ISLAND Hy 40.69 354 T T 10 37 41.6
baz=175,slow=78,SNR=17
H11N1 WAKE ISLAND Hy 41.86 354 T T 10 39 05.6
baz=174,slow=77,SNR=17

H11N3 WAKE ISLAND Hy 41.87 354 T T 10 39 05.1
baz=174,slow=77,SNR=18
H11N2 WAKE ISLAND Hy 41.88 354 T T 10 39 05.2
baz=174,slow=77,SNR=24
FAKI Fak Fak 42.15 292 P **P 09 53 52.3 -0.4**
comp=Z,916nm,1.6s,comp=Z,20µm
FAKI Fak Fak 42.15 292 P **P 09 53 52.1 -0.6**
baz=42,SNR=51
FITZ Fitzroy Crossi 42.60 267 P **P 09 53 56.3 0.0**
FITZ S **S 10 00 11.7 -1.3**
FITZ Fitzroy Crossi 42.60 267 P **P 09 53 56.3 0.0**
baz=138,slow=10
FITZ S **S 10 00 11.7 -1.3**
comp=Z,4.8nm,0.9s,baz=0.0,slow=5.1,SNR=2.2
FITZ LR LR 10 10 55.2
comp=Z,15µm,21.0s,baz=101,slow=35
BNDI Bandanaira 43.42 288 P **P 09 54 04.0 +1.0**
comp=Z,1µm,1.3s,comp=Z,17µmcomp=Z,36µm
GUMO Guam 43.81 322 *e*P **P 09 54 05.7 -0.3**
comp=Z,51nm,0.8s
GUMO *e* 09 55 47.1
GUMO LR LR
comp=Z,14µm,21.0s
SWI Sorong 44.05 293 P **P 09 54 07.7 -0.3**
comp=Z,1µm,1.4s,comp=Z,18µm
KMBL Kambalda 44.42 247 ⇑P **P 09 54 10.2 -0.7**
baz=44,SNR=28
PALU Palau 46.25 305 ⇑P **P 09 54 25.8 +0.4**
baz=46,SNR=34
NLAI Namlea 46.49 288 P **P 09 54 27.8 +0.4**
comp=Z,701nm,1.6s,comp=Z,14µmcomp=Z,27µm
LBMI Labuha 47.39 291 P **P 09 54 35.9 +1.5**
comp=Z,645nm,2.0s,comp=Z,13µmcomp=Z,29µm
MBWA Marble Bar 47.40 261 P **P 09 54 34.6 +0.2**
SNR=59
MBWA mb 09 54 37.4
SNR=97
MBWA Marble Bar 47.40 261 *e*P **P 09 54 33.3 -1.1**
comp=Z,734nm,0.9s
MBWA *e*PP **PP 09 56 27.3 +0.9**
MBWA *e*S **S 10 01 18.3 -4.0**
MBWA LR LR
comp=Z,24µm,21.0s
MEEK Meekatharra 47.58 254 ⇓P **P 09 54 35.2 -0.5**
baz=48,SNR=96
KLBR Kellerberrin 47.94 247 ⇑P **P 09 54 37.8 -0.6**
baz=48,SNR=46
TNTI Ternate 48.22 292 P **P 09 54 43.2 +2.5**
comp=Z,883nm,1.3s,comp=Z,23µm
NWAO Narrogin (SRO) 48.34 245 P **P 09 54 40.6 -0.9**
NWAO S **S 10 01 33.3 -2.0**
NWAO Narrogin (SRO) 48.34 245 P **P 09 54 40.6 -0.9**
comp=Z,227nm,1.0s,baz=90,slow=7.7,SNR=36
NWAO S **S 10 01 33.3 -2.0**
comp=Z,7.3nm,0.8s,baz=180,slow=17,SNR=1.8
NWAO LR LR 10 14 59.6
comp=Z,28µm,19.3s,baz=86,slow=36
RKGY Rocky Gully 48.52 243 ⇓P **P 09 54 42.8 -0.1**
baz=48,SNR=5.6
DRV Dumont d'Urvil 48.58 196 P P 09 54 32.0 -11
DRV Dumont d'Urvil 48.58 196 PP PP 09 56 26.0 -10
DRV S S 10 01 30.0 -7.8
DRV SS ScS 10 04 41.0 +15
DRV L L 10 06 00.0
DRV R 10 08 00.0
MMRI Maumere 48.63 278 P **P 09 54 45.1 +1.1**
comp=Z,1µm,1.3s,comp=Z,14µmcomp=Z,41µm
BBSI Bau Bau 49.56 282 P **P 09 54 54.0 +2.9**
comp=Z,433nm,1.2s,comp=Z,10µmcomp=Z,23µm
MORW Morawa 49.59 250 ⇓P **P 09 54 50.8 -0.3**
baz=50,SNR=45
RKT Rikitea 49.68 102 *e*S **S 10 01 52.1 -2.2**
comp=Z,6µm,26.0s
RKT *e*LQ LQ 10 06 33.5
comp=Z,50µm,30.0s
RKT *e*LR LR 10 09 02.1
comp=Z,38µm,27.8s,baz=260
WSI Waingapu 50.04 276 P **P 09 54 57.4 +2.7**
comp=Z,3µm,1.4s,comp=Z,38µm
LBFI Labuhan Bajo, 50.85 277 P **P 09 55 01.4 +0.6**
comp=Z,3µm,1.5s,comp=Z,32µm
KKSI Kolaka, Sulawe 50.95 283 P **P 09 55 03.2 +1.7**
comp=Z,519nm,1.6s,comp=Z,11µm
KMSI Cibinong 51.04 290 P **P 09 55 04.2 +2.0**
comp=Z,1µm,1.2s,comp=Z,16µmcomp=Z,29µm
SGSI Sangihe 51.30 294 P **P 09 55 06.2 +2.1**
comp=Z,2µm,0.9s,comp=Z,22µm
LUWI Luwuk 51.34 287 P **P 09 55 05.3 +0.9**
comp=Z,1µm,1.6s,comp=Z,23µmcomp=Z,42µm
LUWI Luwuk 51.34 287 ⇓P **P 09 55 05.5 +1.1**
baz=52,SNR=24
MIDW Midway 51.40 13 PFAKE 09 55 20.0 +16
MIDW LR LR
comp=Z,12µm,19.0s
BKSI Bulukumba 51.85 281 P **P 09 55 08.2 -0.1**
comp=Z,483nm,1.8s,comp=Z,8µmcomp=Z,31µm
GIRL Giralia 52.13 258 ⇑P **P 09 55 12.8 +2.6**
baz=52,SNR=13
BNSI Bone 52.25 282 P **P 09 55 11.8 +0.6**
comp=Z,628nm,1.7s,comp=Z,13µmcomp=Z,22µm
KAPI Kapang 52.32 281 P **P 09 55 12.7 +0.9**
SNR=69
KAPI mb 09 55 16.7
SNR=95
KAPI Kapang 52.32 281 P **P 09 55 12.4 +0.7**
comp=Z,3µm,1.6s,comp=Z,61µmcomp=Z,103µm
KAPI Kapang 52.32 281 *e*P **P 09 55 12.1 +0.4**
comp=Z,8µm,1.6s
KAPI *e*PP **PP 09 57 12.6 +1.4**
KAPI S **S 10 02 33.6 +2.6**
KAPI LR LR
comp=Z,14µm,20.0s
KAPI Kappang 52.32 281 P **P 09 55 12.6 +0.9**
comp=Z,3µm,1.2s,SNR=60
KAPI Kappang 52.32 281 S **S 10 02 33.6 +2.6**
comp=Z,8.6nm,0.5s,baz=187,slow=19,SNR=2.2
APSI Ampana 52.39 287 P **P 09 55 13.3 +1.0**
comp=Z,946nm,1.5s,comp=Z,16µmcomp=Z,31µm
SPSI Sidrap Palu 52.73 282 P **P 09 55 14.3 -0.5**
comp=Z,208nm,1.0s,comp=Z,5µmcomp=Z,23µm
MRSI Marisa 52.78 289 P **P 09 55 14.8 -0.3**
comp=Z,493nm,1.3s,comp=Z,6µm
KIP Kipapa 52.91 37 *e*P **P 09 55 16.2 +0.4**
KIP pmax pmax
comp=Z,63nm,0.8s
KIP MLR MLR
comp=Z,23µm,22.0s
KIP Kipapa 52.91 37 *e*P **P 09 55 16.2 +0.4**
comp=Z,63nm,0.8s
KIP LR LR
comp=Z,23µm,22.0s
POHA Pohakuloa 53.05 41 PFAKE 09 55 30.0 +13
POHA LR LR
comp=Z,17µm,20.0s
TTSI Tana Toraja 53.08 284 P **P 09 55 17.4 +0.1**
comp=Z,404nm,1.0s,comp=Z,6µm
DAV Davao City (W) 53.11 298 P **P 09 55 19.7 +2.2**
SNR=9.2
DAV mb 09 55 26.3
SNR=3.5
DAV Davao City (W) 53.11 298 *e*P **P 09 55 17.2 -0.3**
comp=Z,215nm,0.4s
DAV LR LR
comp=Z,8µm,21.0s
MJSI Majene 53.62 283 P **P 09 55 24.3 +3.0**
comp=Z,1µm,1.4s,comp=Z,13µmcomp=Z,224µm
PTCN Pitcairn Islan 53.73 105 PFAKE 09 55 30.0 +8.0
PTCN LR LR
comp=Z,14µm,22.0s
BUKP Musuan 53.99 298 *e*P **P 09 55 24.9 +0.9**
MMSI Mamuju 54.05 283 P **P 09 55 25.2 +0.7**
comp=Z,438nm,1.6s,comp=Z,16µmcomp=Z,169µm
TOLI Toli-Toli 54.09 289 P **P 09 55 26.7 +1.9**
comp=Z,660nm,1.5s,comp=Z,15µmcomp=Z,37µm
MTNI Mataram 54.22 275 P **P 09 55 26.4 +0.7**
comp=Z,483nm,1.4s,comp=Z,7µmcomp=Z,21µm
CGP Cagayan de Oro 54.61 299 *e*P **P 09 55 28.2 -0.2**
SCPH Surigao 54.74 301 ⇓*e*P **P 09 55 29.8 +0.5**
KHKI Kahang-Kahang 54.83 275 P **P 09 55 29.7 -0.4**
comp=Z,771nm,1.3s,comp=Z,10µm
IGBI Denpasar 55.10 275 P **P 09 55 33.0 +1.0**
comp=Z,1µm,1.4s,comp=Z,16µm
SRBI Singaraja 55.30 276 P **P 09 55 33.5 0.0**
comp=Z,843nm,1.4s,comp=Z,11µmcomp=Z,25µm
PAGZ Pagadian 55.35 297 *e*P **P 09 55 34.5 +0.7**
MSLP Maasin 55.45 301 *e*P **P 09 55 34.5 0.0**
VNDA Vanda 55.53 182 P **P 09 55 33.6 -0.5**

	comp=Z,16nm,1.0s							
VNDA				S	**S**	**10 03 12.3**	**-0.3**	
VNDA				*e*S	S	10 03 15.8	+3.2	
VNDA	**Vanda**	**55.53 182**		P	**P**	**09 55 33.6**	**-0.5**	
	comp=Z,8.2nm,0.6s,baz=355,slow=7.2,SNR=22							
VNDA				S	**S**	**10 03 12.3**	**-0.3**	
	comp=Z,2.7nm,1.1s,baz=163,slow=19,SNR=1.7							
VNDA				LR	LR	10 16 11.8		
	comp=Z,15μm,19.1s,baz=14,slow=33							
SBA	**Scott Base**	**55.72 181**		*e*P	**P**	**09 55 34.9**	**-0.6**	
SBA				pmax	pmax			
	comp=Z,149nm,1.0s							
SBA				MLR	MLR			
	comp=Z,12μm,21.0s							
SBA	**Scott Base**	**55.72 181**		*e*P	**P**	**09 55 34.9**	**-0.6**	
	comp=Z,150nm,1.0s							
SBA				LR	LR			
	comp=Z,12μm,21.0s							
PLP	**Palo**	**55.95 302**	⇓	*e*P	**P**	**09 55 37.2**	**-0.9**	
SGKI	**Sangatta, Kali**	**56.16 285**		P	P	09 55 46.8	+7.1	
OCLP	**Ormoc**	**56.18 301**		*e*P	**P**	**09 55 40.2**	**+0.5**	
ABJI	**Asem Bagus**	**56.30 275**		P	**P**	**09 55 42.2**	**+1.5**	
	comp=Z,489nm,1.7s,comp=Z,9μmcomp=Z,41μm							
CBIJ	**Chichi jima**	**56.37 329**		P	**P**	**09 55 39.9**	**-0.8**	
JCJ	**Chichijima**	**56.37 329**		P	**P**	**09 55 39.9**	**-0.9**	
	comp=Z,257nm,0.8s,baz=229,slow=11,SNR=4.9							
JCJ				LR	LR	10 16 46.5		
	comp=Z,12μm,21.7s,baz=5.1,slow=33							
BKB	**Balikpapan**	**56.48 284**		P	P	09 55 46.0	+4.1	
	comp=Z,541nm,1.7s,comp=Z,13μmcomp=Z,42μm							
KMMI	**Kalianget**	**56.83 276**		P	**P**	**09 55 45.3**	**+0.9**	
	comp=Z,566nm,1.5s,comp=Z,10μmcomp=Z,45μm							
GMJI	**Gumukmas**	**56.86 275**		P	**P**	**09 55 45.3**	**+0.7**	
	comp=Z,568nm,1.3s,comp=Z,6μm							
BLJI	**Banyuglugur**	**56.91 275**		P	**P**	**09 55 45.9**	**+0.9**	
	comp=Z,514nm,1.5s,comp=Z,7μm							
BBKI	**Banjar Baru**	**57.42 281**		P	**P**	**09 55 49.3**	**+0.7**	
	comp=Z,752nm,1.9s,comp=Z,17μm							
GUIM	**Jordan**	**57.55 299**		*e*P	**P**	**09 55 48.9**	**-0.5**	
KRKI	**Karangkates**	**57.82 274**		P	**P**	**09 55 53.6**	**+2.2**	
	comp=Z,818nm,1.5s,comp=Z,19μmcomp=Z,41μm							
RCP	**Roxas**	**57.96 300**	⇑	*e*P	**P**	**09 55 52.4**	**+0.1**	
PVCP	**Virac**	**58.05 303**	⇑	*e*P	**P**	**09 55 50.2**	**-2.7**	
PVCP	**Virac**	**58.05 303**		*e*P	**P**	**09 55 53.8**	**+0.9**	
CASY	**Casey**	**58.06 204**		*e*P	**P**	**09 55 50.3**	**-1.9**	
	comp=Z,258nm,1.2s							
CASY				LR	LR			
	comp=Z,14μm,21.0s							
MYLDM	**Lahad Datu**	**58.07 292**		P	**P**	**09 55 53.5**	**+0.4**	
TSM	**Tawau**	**58.17 290**		P	**P**	**09 55 54.6**	**+0.8**	
GRJI	**Gresik**	**58.25 276**		P	**P**	**09 55 57.0**	**+2.6**	
	comp=Z,268nm,1.6s,comp=Z,4μm							
MTKI	**Muara Teweh, K**	**58.42 283**		P	**P**	**09 55 58.0**	**+2.4**	
	comp=Z,292nm,1.8s							
PWJI	**Pagerwojo**	**58.47 274**		P	**P**	**09 55 56.3**	**+0.4**	
	comp=Z,352nm,1.2s,comp=Z,7μm							
SJI	**Sawahan**	**58.60 275**		P	**P**	**09 55 57.3**	**+0.3**	
	comp=Z,467nm,1.4s,comp=Z,8μm							
PCJI	**Pacitan**	**58.99 274**		P	**P**	**09 56 00.1**	**+0.6**	
	comp=Z,2μm,1.2s,comp=Z,18μm							
NGJI	**Ngawi**	**59.02 275**		P	**P**	**09 56 02.7**	**+3.0**	
	comp=Z,319nm,1.6s,comp=Z,9μm							
SDKM	**Sandakan**	**59.42 291**		P	**P**	**09 56 03.0**	**+0.5**	
UGM	**Wanagama**	**59.69 274**		P	**P**	**09 56 05.8**	**+1.4**	
	comp=Z,708nm,1.4s,comp=Z,10μm							
UGM	**Wanagama**	**59.69 274**		P	**P**	**09 56 04.9**	**+0.5**	
	baz=60,SNR=21							
UWJI	**Ujung Watu**	**59.84 276**		P	**P**	**09 56 07.1**	**+1.7**	
	comp=Z,1μm,1.7s,comp=Z,22μmcomp=Z,17μm							
YOGI	**Yogyakarta**	**59.94 274**		P	**P**	**09 56 08.1**	**+2.0**	
	comp=Z,1μm,1.3s,comp=Z,14μm							
SMRI	**Semarang**	**60.08 275**		P	**P**	**09 56 09.1**	**+2.1**	
	comp=Z,470nm,2.1s,comp=Z,15μmcomp=Z,35μm							
SMRI	**Semarang**	**60.08 275**	⇓	P	**P**	**09 56 08.5**	**+1.5**	
	baz=60,SNR=4.8							
KDM	**Kudat**	**60.37 292**		P	**P**	**09 56 10.5**	**+1.5**	
KKM	**Kota Kinabalu**	**60.47 291**		P	**P**	**09 56 10.5**	**+0.7**	
KKM	**Kota Kinabalu**	**60.47 291**		P	**P**	**09 56 10.4**	**+0.7**	
	comp=Z,718nm,1.6s,comp=Z,18μm							
KKM	**Kota Kinabalu**	**60.47 291**		*e*P	**P**	**09 56 10.2**	**+0.5**	
	comp=Z,1μm,1.4s							
KKM				LR	LR			
	comp=Z,7μm,22.0s							
KKM	**Kota Kinabalu**	**60.47 291**	⇑	P	**P**	**09 56 10.4**	**+0.6**	
	baz=61,SNR=43							
BJII	**Banjamegara**	**60.65 274**		P	**P**	**09 56 12.9**	**+1.9**	
	comp=Z,459nm,1.9s,comp=Z,10μmcomp=Z,42μm							
TGY	**Tagaytay City**	**60.86 302**		P	**P**	**09 56 13.2**	**+0.8**	
TGY	**Tagaytay City**	**60.86 302**		P	**P**	**09 56 13.2**	**+0.8**	
	comp=Z,320nm,0.4s,baz=142,slow=3.0,SNR=18							
CLJI	**Cilicap**	**61.16 273**		P	**P**	**09 56 15.2**	**+0.9**	
	comp=Z,370nm,1.1s,comp=Z,7μm							
TGJI	**Tegal**	**61.36 274**		P	**P**	**09 56 15.6**	**-0.1**	
	comp=Z,665nm,1.4s,comp=Z,10μm							
KPJI	**Karang Pucung**	**61.37 274**		P	**P**	**09 56 16.0**	**+0.2**	
	comp=Z,522nm,1.5s,comp=Z,9μm							
CMJI	**Cimerak**	**61.66 273**		P	**P**	**09 56 17.5**	**-0.2**	
	comp=Z,346nm,1.6s,comp=Z,8μm							
BTM	**Bintulu**	**61.87 287**		P	**P**	**09 56 19.8**	**+0.6**	
STKI	**Sintang**	**61.94 283**		P	**P**	**09 56 20.7**	**+1.1**	
	comp=Z,631nm,1.5s,comp=Z,16μm							
SBUM	**Sibu**	**62.30 285**		P	**P**	**09 56 23.0**	**+0.9**	
SBUM	**Sibu**	**62.30 285**		P	**P**	**09 56 22.8**	**+0.8**	
	comp=Z,297nm,1.8s,comp=Z,9μmcomp=Z,31μm							
CISI	**Cisompet, Garu**	**62.32 273**		P	**P**	**09 56 22.1**	**-0.2**	
	comp=Z,763nm,1.6s,comp=Z,15μmcomp=Z,31μm							
CISI	**Cisompet, Garu**	**62.32 273**	⇑	P	**P**	**09 56 21.9**	**-0.3**	
	baz=62,SNR=3.9							
LEM	**Lembang**	**62.77 274**		P	**P**	**09 56 26.2**	**+0.9**	
	comp=Z,1μm,1.6s,comp=Z,18μm							
LEM	**Lembang**	**62.77 274**	⇑	P	**P**	**09 56 26.3**	**+0.9**	
	baz=63,SNR=13							
XMI	**Christmas Isla**	**63.29 269**	⇑	P	**P**	**09 56 30.0**	**+1.3**	
	baz=63,SNR=5.0							
XMIS	**Christmas Isla**	**63.32 269**		*e*P	**P**	**09 56 28.3**	**-0.5**	
	comp=Z,2μm,1.3s							
XMIS	**Christmas Isla**	**63.32 269**	⇓	P	**P**	**09 56 29.1**	**+0.3**	
	baz=63,SNR=8.2							
KSM	**Kuching**	**63.59 283**		P	**P**	**09 56 31.4**	**+0.8**	
KSM	**Kuching**	**63.59 283**		P	**P**	**09 56 30.8**	**+0.2**	
	comp=Z,642nm,1.5s,comp=Z,9μm							
KSM	**Kuching**	**63.59 283**		*e*P	**P**	**09 56 30.7**	**+0.2**	
	comp=Z,697nm,1.1s							
KSM				*e*PP	**PP**	**09 58 49.0**	**-2.5**	
KSM				*e*S	**S**	**10 05 01.1**	**+3.0**	
KSM				LR	LR			
	comp=Z,12μm,20.0s							
KSM	**Kuching**	**63.59 283**		P	**P**	**09 56 31.0**	**+0.4**	
	baz=64,SNR=90							
SKJI	**Sukabumi**	**63.69 273**		P	**P**	**09 56 32.6**	**+1.4**	
	comp=Z,665nm,1.4s,comp=Z,9μmcomp=Z,17μm							
JOW	**Kunigami**	**63.89 318**		*e*P	**P**	**09 56 32.4**	**+0.1**	
	comp=Z,122nm,1.4s							
JOW				*e*PP	**PP**	**09 58 52.4**	**-1.6**	
TNG	**Tangerang**	**63.90 274**		P	P	09 56 36.1	+3.4	
	comp=Z,2μm,1.3s,comp=Z,33μm							
TNG	**Tangerang**	**63.90 274**		P	P	09 56 36.2	+3.5	
	comp=Z,2μm,1.3s,comp=Z,53μm							
MIR	**Mirnyy**	**65.03 206**	⇓	*i*P	**P**	**09 56 41.0**	**+1.9**	
MIR				*e*		09 59 10.0		
MIR				*e*PPP	PPP	10 00 38.0		
MIR				*e*S	**S**	**10 05 18.0**	**+3.8**	
MIR				*e*PS	**PnS**	**10 05 36.0**	**-9.2**	
MIR				*e*		10 06 32.0		
MIR				*e*SS	**SS**	**10 09 26.0**	**-1.1**	
MIR				pmax	pmax			
	comp=Z,239nm,1.5s							
MIR				pmax	pmax			
	comp=Z,1μm,3.0s							
BLSI	**Bandar Lampung**	**65.50 274**		P	**P**	**09 56 44.1**	**+1.1**	
	comp=Z,589nm,1.1s,comp=Z,7μm							
YOJ	**Yonaguni jima**	**65.73 312**		*e*P	**P**	**09 56 43.8**	**-0.4**	
YOJ				*e*		09 59 09.8		
YOJ				pmax	pmax			
	comp=Z,188nm,1.1s							
YOJ	**Yonaguni jima**	**65.73 312**		*e*P	**P**	**09 56 43.8**	**-0.4**	
	comp=Z,188nm,1.1s							
YOJ				*e*PP	**PP**	**09 59 09.8**	**-0.3**	
TWG	**Pinlang**	**66.04 309**		*e*P	**P**	**09 56 44.4**	**-1.9**	
	comp=Z,131nm,0.4s							
TWG				*e*PP	**PP**	**09 59 08.4**	**-4.4**	
MJAR	**Matsushiro Arr**	**66.11 332**		P	**P**	**09 56 45.2**	**-1.3**	
MJAR	**Matsushiro Arr**	**66.11 332**		P	**P**	**09 56 45.2**	**-1.3**	
	comp=Z,28nm,0.8s,baz=162,slow=5.1,SNR=5.9							
MJAR				LR	LR	10 23 55.4		
	comp=Z,3μm,19.4s,baz=140,slow=34							
MAJO	**Matsushiro**	**66.12 332**		*e*P	**P**	**09 56 45.5**	**-1.0**	
MAJO				*e*		09 59 11.5		
MAJO				MLR	MLR			
	comp=Z,6μm,20.0s							
MAJO	**Matsushiro**	**66.12 332**		*e*P	**P**	**09 56 45.5**	**-1.0**	
MAJO				*e*PP	**PP**	**09 59 11.5**	**-1.8**	
MAJO				LR	LR			
	comp=Z,6μm,20.0s							
MAT	**Matsushiro**	**66.12 332**		P	**P**	**09 56 45.4**	**-1.1**	
MAT				S	**S**	**10 05 28.6**	**+0.4**	
KASI	**Kota Agung**	**66.13 274**		P	**P**	**09 56 46.1**	**-1.0**	
	comp=Z,615nm,1.2s,comp=Z,8μmcomp=Z,19μm							
KLSI		**66.22 275**		P	**P**	**09 56 46.7**	**-1.0**	
	comp=Z,194nm,1.8s,comp=Z,5μm							
YULB	**Yu-li**	**66.24 310**		*e*P	**P**	**09 56 45.8**	**-1.7**	
	comp=Z,188nm,1.6s							
YULB				*e*PP	**PP**	**09 59 10.2**	**-4.4**	
YULB				*e*S	**S**	**10 05 26.4**	**-3.8**	
NACB	**Ninganchiao**	**66.53 311**		*e*P	**P**	**09 56 48.4**	**-1.0**	
	comp=Z,704nm,1.4s							
NACB				*e*PP	PP	09 59 10.6	-6.5	
TPUB	**Ta-pu**	**66.66 310**		*e*P	**P**	**09 56 48.9**	**-1.4**	
	comp=Z,182nm,0.9s							
LWLI	**Liwa**	**66.72 274**		P	**P**	**09 56 51.8**	**+0.8**	
	comp=Z,602nm,1.0s,comp=Z,11μm							
SSLB	**Suanglung**	**66.73 310**		*e*P	**P**	**09 56 49.0**	**-1.7**	
	comp=Z,120nm,0.9s							
MDSI	**Maura Dua**	**66.81 275**		P	**P**	**09 56 49.8**	**-1.6**	
YHNB	**Yeheng**	**67.00 311**		*e*P	**P**	**09 56 51.7**	**-0.8**	
	comp=Z,534nm,1.4s							
YHNB				*e*PP	PP	09 59 16.0	-5.3	
YHNB				LR	LR			
	comp=Z,6μm,20.0s							
JNU	**Nakatsue**	**67.00 324**		*e*P	**P**	**09 56 51.4**	**-0.8**	
	comp=Z,98nm,1.6s							
JNU				*e*S	**S**	**10 05 42.3**	**+3.2**	
JNU				S	**S**	**10 05 42.8**	**+3.7**	
JNU	**Nakatsue**	**67.00 324**		P	**P**	**09 56 51.4**	**-0.8**	
	comp=Z,37nm,0.9s,baz=106,slow=3.8,SNR=18							
JNU				S	**S**	**10 05 42.8**	**+3.7**	
	comp=Z,4.9nm,0.9s,baz=344,slow=16,SNR=2.4							
JNU				LR	LR	10 22 36.4		
	comp=Z,7μm,21.4s,baz=145,slow=33							
TATO	**Taipei**	**67.11 312**		P	**P**	**09 56 54.7**	**+1.6**	
	SNR=7.1							
TATO	**Taipei**	**67.11 312**		mb		09 56 56.7		
	SNR=12							
TATO	**Taipei**	**67.11 312**		*e*P	**P**	**09 56 52.3**	**-0.8**	
	comp=Z,1μm,1.5s							
TATO				*e*PP	**PP**	**09 59 20.8**	**-1.4**	
TATO				LR	LR			
	comp=Z,7μm,21.0s							
LHSI	**Lahat**	**67.66 275**		P	**P**	**09 56 57.2**	**+0.4**	
	comp=Z,280nm,1.7s,comp=Z,7μmcomp=Z,17μm							
QSPA	**South Pole Qui**	**67.85 180**		P	**P**	**09 56 57.1**	**-0.2**	
QSPA				S	**S**	**10 05 49.2**	**+0.6**	
QSPA	**South Pole Qui**	**67.85 180**		P	**P**	**09 56 57.1**	**-0.2**	
	comp=Z,84nm,0.9s,baz=22,slow=2.2,SNR=89							
QSPA				S	**S**	**10 05 49.2**	**+0.6**	
	comp=Z,1.1nm,0.3s,baz=148,slow=21,SNR=12							
MNAI	**Manna**	**67.98 274**		P	**P**	**09 56 59.8**	**+0.9**	
	comp=Z,1μm,2.1s,comp=Z,24μm							
MNAI	**Manna**	**67.98 274**	⇑	P	**P**	**09 56 58.2**	**-0.6**	
	baz=68,SNR=9.5							
JMBI	**JAMBI**	**68.39 277**		P	P	09 57 04.9	+3.5	
	comp=Z,1μm,1.6s,comp=Z,25μm							
ERM	**Erimo**	**68.89 338**		PFAKE		09 57 10.0	+6.2	
ERM				LR	LR			
	comp=Z,17μm,21.0s							
MASI	**Maura Aman, Be**	**69.11 275**		P	**P**	**09 57 05.9**	**0.0**	
	comp=Z,603nm,1.3s,comp=Z,9μm							
QZH	**Quanzhou**	**69.13 310**	⇑	*i*P	P	09 57 02.3	-3.4	
QZH				pP	pP	09 57 23.0	-5.0	
QZH				S	S	10 05 57.0	-7.7	
QZH				pmax	pmax			
	comp=Z,300nm,1.3s							
QZH				pmax	pmax			
	comp=Z,7μm,4.5s							
QZH				LR	LR			
	comp=Z,24μm,35.4s							
BTDF	**Bukit Timah Da**	**69.47 280**	⇑	P	**P**	**09 57 09.3**	**+1.2**	
	baz=70,SNR=5.5							
BTDF				⇑P	**P**	**09 57 09.3**	**+1.2**	
	baz=70,SNR=5.5							
MYKOM	**Kota Tinggi**	**69.58 281**		P	**P**	**09 57 08.5**	**-0.2**	
YUK	**Yuzh-Kuril'sk**	**69.82 341**	*c*	*i*P	P	09 57 02.5	-7.0	
YUK				*i* *PP	**PcP**	**09 57 26.4**	**-5.1**	
YUK				*i* PPP	PPP	10 01 26.7		
YUK				*i* S	**S**	**10 06 12.6**	**+0.6**	
YUK				*i* *SS	**ScS**	**10 07 06.7**	**+3.2**	
YUK				*e*SS	**SS**	**10 10 38.6**	**-4.3**	
YUK				pmax	pmax			
	comp=Z,7μm,6.6s							
RGRI	**Rengat**	**70.10 278**		P	**P**	**09 57 14.9**	**+2.9**	
	comp=Z,823nm,1.4s,comp=Z,101μmcomp=Z,264μm							
KGM	**Kluang**	**70.15 281**		P	**P**	**09 57 13.2**	**+0.9**	
HKC	**Hong Kong Obse**	**70.82 305**	⇑	*i*P	**P**	**09 57 18.0**	**+1.9**	
COCO	**West Island**	**70.91 264**		*e*P	**P**	**09 57 17.9**	**+1.1**	
COCO				pmax	pmax			
	comp=Z,1μm,1.9s							
COCO				MLR	MLR			
	comp=Z,20μm,20.0s							
COCO	**West Island**	**70.91 264**		*e*P	**P**	**09 57 17.9**	**+1.1**	
	comp=Z,1μm,1.9s							
COCO				LR	LR			
	comp=Z,20μm,20.0s							
ASAJ	**Asahikawa**	**70.94 339**		*e*P	**P**	**09 57 18.2**	**+1.9**	
	comp=Z,10.0nm,0.8s							
ASAJ	**Asahikawa**	**70.94 339**		P	**P**	**09 57 18.5**	**+2.2**	
	comp=Z,20nm,0.7s,baz=208,slow=3.1,SNR=9.5							
ASAJ				LR	LR	10 25 09.0		
	comp=Z,14μm,21.5s,baz=170,slow=33							
SSE	**Sheshan**	**71.31 316**		P	**P**	**09 57 20.5**	**+1.6**	
SSE				S	**S**	**10 06 34.2**	**+4.3**	
SSE				pmax	pmax			
	comp=Z,110nm,1.0s							
SSE				pmax	pmax			
	comp=Z,3μm,12.0s							
SSE				LR	LR			
	comp=Z,4μm,22.0s							
SSE				LR	LR			
	comp=Z,4μm,22.0s							
SSE				LR	LR			
	comp=Z,6μm,20.1s							
RPN	**Rapa Nui**	**71.47 112**		PFAKE		09 57 30.0	+10	
RPN				LR	LR			
	comp=Z,10μm,21.0s							
BKNI	**Bangkinang**	**71.56 278**		P	**P**	**09 57 21.9**	**+1.1**	
	comp=Z,671nm,1.6s,comp=Z,15μmcomp=Z,25μm							
BKNI	**Bangkinang**	**71.56 278**		P	**P**	**09 57 23.1**	**+2.3**	
	baz=72,SNR=5.6							
KTGM	**Kuala Trenggan**	**71.70 284**		P	**P**	**09 57 21.1**	**-0.5**	
PPI	**Padang Panjang**	**71.84 277**		P	**P**	**09 57 22.6**	**+0.1**	
KSRS	**Korea Array**	**71.85 325**		P	**P**	**09 57 21.6**	**-0.3**	
	comp=Z,15nm,1.0s,baz=142,slow=6.2,SNR=30							
KSRS				LR	LR	10 28 07.6		
	comp=Z,5μm,19.2s,baz=131,slow=35							
KSAR	**Wonju Array Be**	**71.86 325**		P	**P**	**09 57 21.6**	**-0.4**	
GZH	**Guangzhou**	**71.90 305**		P	**P**	**09 57 24.0**	**+1.5**	
GZH				pmax	pmax			
	comp=Z,10μm,8.1s							
GZH				LR	LR			
	comp=Z,6μm,19.2s							
GZH				LR	LR			
	comp=Z,5μm,21.6s							
GZH				LR	LR			
	comp=Z,14μm,28.1s							
FRIM	**Kepong**	**72.19 281**		P	**P**	**09 57 24.6**	**0.0**	
QIZ	**Qiongzhong**	**72.43 300**		P	**P**	**09 57 26.4**	**+0.5**	
QIZ				pP	**pP**	**09 57 47.7**	**-0.6**	
QIZ				S	**S**	**10 06 44.5**	**+1.3**	
QIZ				sS	**SKSac**	**10 07 22.5**	**-0.6**	
QIZ				pmax	pmax			
	comp=Z,4μm,11.9s							
QIZ				LR	LR			
	comp=Z,4μm,24.0s							
QIZ				LR	LR			
	comp=Z,1μm,20.8s							
QIZ				LR	LR			
	comp=Z,9μm,36.4s							
QIZ	**Qiongzhong**	**72.43 300**		*e*P	**P**	**09 57 26.4**	**+0.5**	
	comp=Z,188nm,1.1s							
QIZ				LR	LR			
	comp=Z,5μm,21.0s							
INCN	**Inchon**	**72.56 324**		P	**P**	**09 57 26.4**	**+0.1**	
	SNR=10							
INCN	**Inchon**	**72.56 324**		mb		09 57 30.7		
	SNR=11							
INCN	**Inchon**	**72.56 324**		*e*P	**P**	**09 57 26.6**	**+0.3**	
	comp=Z,506nm,1.8s							
INCN				LR	LR			
	comp=Z,8μm,22.0s							
IPM	**Ipoh**	**73.25 282**		P	**P**	**09 57 31.5**	**+0.6**	
IPM	**Ipoh**	**73.25 282**		*e*P	**P**	**09 57 30.9**	**0.0**	
	comp=Z,515nm,1.3s							
IPM				*e*PP	PP	10 00 08.2	-7.1	
YSS	**Yuzh-Sakhalins**	**73.40 340**	*j*	*e*P	**P**	**09 57 33.0**	**+2.1**	
YSS				*e*		09 57 50.0		
YSS				*e**PP	pP	09 57 59.0	+5.5	
YSS				*e*PPP	PPP	10 01 58.0		
YSS				*i* S	**SKiKP**	**10 07 00.0**	**+6.4**	
YSS				*e*		10 07 22.0		
YSS				*e*		10 07 34.0		
YSS				*e*PS	PnS	10 07 57.0	+20	
YSS				pmax	pmax			
	comp=N,370nm,2.0s							
YSS				pmax	pmax			
	comp=Z,940nm,2.0s							
YSS				pmax	pmax			
	comp=E,350nm,1.9s							
YSS				MLR	MLR			
	comp=N,8μm,18.0s							
YSS				MLR	MLR			
	comp=Z,7μm,18.0s							
NJ2	**Nanjing**	**73.44 316**		*e*P	**P**	**09 57 31.2**	**-0.3**	
NJ2				pP	**pP**	**09 57 55.4**	**+1.4**	
NJ2				sP	**sP**	**09 58 03.9**	**+0.5**	
NJ2				S	**SKiKP**	**10 06 57.0**	**+2.8**	
NJ2				pmax	pmax			
	comp=Z,260nm,1.0s							
NJ2				pmax	pmax			
	comp=Z,4μm,9.9s							
NJ2				LR	LR			
	comp=Z,6μm,21.9s							
NJ2				LR	LR			
	comp=Z,5μm,21.4s							
NJ2				LR	LR			
	comp=Z,8μm,22.0s							
SKR	**Severo-Kuril's**	**73.75 350**		*e*P	P	09 57 27.0	-5.9	
SKR				*e*S	**S**	**10 06 56.0**	**-0.8**	
SKR				*e*		10 07 28.0		
SKR				*e*PS	**PnS**	**10 07 36.0**	**-5.6**	
SKR				pmax	pmax			
	comp=E,5μm,6.0s							
SKR				pmax	pmax			
	comp=Z,5μm,6.0s							
SKR				pmax	pmax			
	comp=Z,180nm,1.0s							
SKR				pmax	pmax			
	comp=Z,3μm,8.0s							
SKR				pmax	pmax			
	comp=N,2μm,6.0s							
SKR				pmax	pmax			
	comp=E,3μm,8.0s							
SKR				smax	smax			
	comp=N,8μm,14.0s							
SKR				smax	smax			
	comp=E,6μm,12.0s							
SKR				MLR	MLR			
	comp=N,6μm,18.0s							
SKR				MLR	MLR			
	comp=E,6μm,18.0s							
SKR				MLR	MLR			
	comp=Z,9μm,18.0s							
KULM	**Kulim**	**73.93 283**		P	**P**	**09 57 35.4**	**+0.6**	
KULM	**Kulim**	**73.93 283**		*e*P	**P**	**09 57 34.6**	**-0.2**	
	comp=Z,1μm,1.8s							
KULM				LR	LR			
	comp=Z,9μm,20.0s							
VLA	**Vladivostok**	**74.28 331**	*d*	*i*P	**P**	**09 57 38.0**	**+1.8**	
VLA				*e*		09 57 49.4		
VLA				*i*		10 00 23.2		
VLA				*e*S	**S**	**10 07 03.5**	**+0.3**	
VLA				pmax	pmax			
	comp=Z,26nm,1.0s							
PSI	**Prapat**	**74.48 280**		S	**S**	**10 07 07.3**	**+0.5**	
	comp=Z,2.1nm,0.5s,baz=180,slow=20,SNR=3.6							
PSI				LR	LR	10 32 56.1		
	comp=Z,14μm,20.0s,baz=1.1,slow=38							
PSI	**Prapat**	**74.48 280**	⇓	P	**P**	**09 57 37.6**	**-0.6**	
	baz=75,SNR=74							
FX1	**Attu Island--F**	**74.81 1**		*e*P	**P**	**09 57 39.0**	**0.0**	
FX1	**Attu Island--F**	**74.81 1**		P	**P**	**09 57 39.9**	**+0.9**	
	comp=Z,8.5nm,0.3s,baz=257,slow=4.9,SNR=26							
USRK	**Ussuriysk Arra**	**75.10 332**		P	**P**	**09 57 40.6**	**-0.3**	
	comp=Z,9.4nm,0.6s,baz=131,slow=3.0,SNR=38							
USRK				LR	LR	10 27 54.8		
	comp=Z,6μm,20.1s,baz=298,slow=33							
WHN	**Wuhan**	**75.52 312**	⇓	P	**P**	**09 57 43.9**	**+0.3**	
WHN				S	**S**	**10 07 19.0**	**+1.6**	
WHN				pmax	pmax			
	comp=Z,6μm,5.4s							
WHN				LR	LR			
	comp=Z,8μm,22.4s							
WHN				LR	LR			
	comp=Z,7μm,18.8s							
WHN				LR	LR			
	comp=Z,23μm,26.7s							
CHBT	**CHBT**	**75.68 290**		P	**P**	**09 57 47.0**	**+2.2**	
	comp=Z,452nm,1.8s,comp=Z,6μm							
PET	**Petropavlovsk**	**75.68 352**	*c*	*i*P	**P**	**09 57 44.6**	**+0.6**	
PET				*e*		10 00 41.3		
PET				*e*S	**S**	**10 07 16.3**	**-1.9**	
PET				*e*PS	**ScS**	**10 07 50.1**	**+0.3**	
PET				*e*PPS	PPS	10 08 11.0		
PET				pmax	pmax			
	comp=Z,89nm,1.6s							
PET				pmax	pmax			
	comp=Z,4μm,7.1s							
PET				pmax	p

MDJ LR LR
comp=Z,8μm,20.0s
PATY Pattaya 77.03 290 P **P** **09 57 54.4 +1.9**
comp=Z,75nm,1.0s,comp=Z,1μm
PKDT Phuket 77.10 284 P **P** **09 57 55.8 +2.9**
comp=Z,493nm,1.1s
SURT Suratani 77.14 285 P **P** **09 57 54.5 +1.4**
comp=Z,143nm,1.6s,comp=Z,4μm
TIA Tai'an 77.21 318 P **P** **09 57 52.4 -0.7**
TIA PP **PP** **10 00 49.9 +1.5**
TIA pmax pmax
comp=Z,250nm,1.3s
TIA pmax pmax
comp=Z,5μm,8.3s
TIA LR LR
comp=Z,4μm,19.0s
TIA LR LR
comp=Z,6μm,26.2s
TIA LR LR
comp=Z,9μm,21.4s
HABR Khabarovsk 77.35 336*c iP* **P** **09 57 53.7 +0.2**
HABR *e* 09 58 02.9
HABR *e**PP **pP** **09 58 16.7 +0.5**
HABR *e* 10 00 48.5
HABR *e*PPP PPP 10 02 36.1
HABR *e*S **S** **10 07 37.4 +0.7**
HABR *e* 10 08 02.8
HABR *e* 10 08 17.5
HABR *e*SS **SS** **10 12 38.3 +0.8**
HABR *e*SSS SSS 10 16 02.8
HABR pmax pmax
comp=N,36nm,2.3s
HABR pmax pmax
comp=E,21nm,1.1s
HABR pmax pmax
comp=Z,65nm,2.3s
HABR pmax pmax
comp=Z,4μm,6.4s
HABR MLR MLR
comp=Z,3μm,19.0s
CHAI Chaiyaphum 77.41 293 P **P** **09 57 55.1 +0.5**
comp=Z,48nm,0.8s,comp=Z,482nm
CN2 Changchun 77.82 328 *eP* **P** **09 57 55.6 -0.7**
CN2 *ep*P **pP** **09 58 21.0 +2.0**
CN2 *es*P **sP** **09 58 31.6 +3.3**
CN2 PP **PP** **10 00 56.8 +3.5**
CN2 *e*S **S** **10 07 46.4 +4.4**
CN2 LR LR
comp=Z,9μm,24.0s
CN2 LR LR
comp=Z,7μm,24.0s
CN2 LR LR
comp=Z,10μm,24.0s
PBKT Sadao Pong 78.59 293 P **P** **09 58 02.1 +1.0**
comp=Z,274nm,1.9s,comp=Z,6μm
ENH Enshi 78.78 309 *eP* **P** **09 58 01.3 -0.7**
comp=Z,221nm,1.3s
GYA Guiyang 78.81 305⇑ *iP* **P** **09 58 02.0 -0.3**
GYA PP **PP** **10 01 03.0 +0.9**
GYA S **S** **10 07 57.7 +4.1**
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,3μm,10.6s
GYA LR LR
comp=Z,3μm,20.7s
GYA LR LR
comp=Z,4μm,25.9s
GYA LR LR
comp=Z,5μm,25.1s
SRDT SRDT 79.18 290 P **P** **09 58 05.9 +1.5**
comp=Z,1μm,1.5s,comp=Z,25μm
KLR Kul'dur 79.23 335 *eP* P 09 58 00.0 -3.9
KLR *e*S S 10 07 48.0 -8.8
KLR *e*PS **PnS** **10 08 47.0 -4.4**
KLR pmax pmax
comp=N,120nm,2.0s
KLR pmax pmax
comp=E,120nm,2.0s
KLR pmax pmax
comp=Z,730nm,2.0s
KLR pmax pmax
comp=Z,9μm,11.0s
KHLT Khaolaem Dam 79.84 291 P **P** **09 58 09.4 +1.4**
comp=Z,193nm,1.6s,comp=Z,4μm
NANT Nan 79.84 295 P **P** **09 58 09.6 +1.7**
comp=Z,490nm,1.3s,comp=Z,4μm
PAF Port-aux-Franc 80.11 221 *eP* **P** **09 58 12.0 +3.1**
PAF pmax pmax
comp=Z,486nm,1.4s
PAF MLR MLR
comp=Z,10μm,22.0s
PAF Port-aux-Franc 80.11 221 *eP* **P** **09 58 12.0 +3.1**
comp=Z,486nm,1.4s
PAF LR LR
comp=Z,10μm,22.0s
BJT Baijiatuau 80.23 320 *eP* **P** **09 58 08.4 -1.2**
comp=Z,167nm,1.4s
BJT *e*PP **PP** **10 01 10.4 -3.1**
BJT LR LR
comp=Z,11μm,22.0s
BJI Beijing 80.24 320 P **P** **09 58 09.5 -0.1**
BJI sP **sP** **09 58 41.8 +0.1**
BJI PP **PP** **10 01 10.6 -2.9**
BJI S **S** **10 08 12.0 +4.2**
BJI sS **sS** **10 08 47.6 +0.8**
BJI pmax pmax
comp=Z,100nm,2.3s
BJI LR LR
comp=Z,7μm,24.8s
BJI LR LR
comp=Z,7μm,27.2s
BJI LR LR
comp=Z,11μm,24.8s
LAMP Lampang 80.61 294 P **P** **09 58 13.6 +1.5**
comp=Z,101nm,1.0s,comp=Z,853nm
CMBY CAMPBELL BAY 80.72 281 *eP* **P** **09 58 11.3 -1.4**
CMBY AMB AMB 09 58 14.6
comp=Z,258nm,1.6s
CRAI Chiangrai 80.77 296 P **P** **09 58 13.8 +0.9**
comp=Z,156nm,0.8s,comp=Z,4μm
TIY Taiyuan 81.09 317 *eP* **P** **09 58 14.1 -0.2**
TIY S **S** **10 08 19.0 +2.0**
TIY pmax pmax
comp=Z,3μm,9.5s
TIY LR LR
comp=Z,1μm,13.2s
TIY LR LR
comp=Z,3μm,16.3s
TIY LR LR
comp=Z,6μm,23.3s
CM31 Chiang Mai Arr 81.16 294 *eP* **P** **09 58 16.2 +1.2**
comp=Z,206nm,1.0s
CM31 *e*PP **PP** **10 01 20.2 -1.4**
CMAR Chiang Mai Arr 81.16 294 P **P** **09 58 16.6 +1.6**
CMAR PP **PP** **10 01 22.4 +0.8**
CMAR PKKPbc **PKKPbc** **10 16 50.8 +0.1**
CMAR P'P' 10 24 56.0
CMAR Chiang Mai Arr 81.16 294 P **P** **09 58 16.6 +1.6**
comp=Z,112nm,0.9s,baz=134,slow=4.0,SNR=164
CMAR PP **PP** **10 01 22.4 +0.8**
comp=Z,13nm,1.0s,baz=126,slow=6.3,SNR=6.3
CMAR PKKPbc **PKKPbc** **10 16 50.8 +0.1**
comp=Z,7.2nm,0.7s,baz=292,slow=4.1,SNR=19
CMAR PKPPKP **P'P'df** **10 24 56.0 +0.6**
comp=Z,0.6nm,0.3s,baz=286,slow=3.4,SNR=5.7
KMI Kunming 81.18 302 P **P** **09 58 16.5 +1.2**
KMI pP **pP** **09 58 35.9 -2.2**
KMI sP **sP** **09 58 50.2 +2.7**
KMI PP PP 10 01 28.4 +6.5
KMI S **SKSac** **10 08 24.1 -3.0**
KMI pmax pmax
comp=Z,240nm,1.7s
KMI pmax pmax
comp=Z,5μm,8.7s
KMI LR LR
comp=Z,2μm,20.0s
KMI LR LR
comp=Z,3μm,20.4s
KMI LR LR
comp=Z,4μm,23.4s
XAN Xi'an 81.28 312 P **P** **09 58 15.5 +0.1**
XAN PP **PP** **10 01 22.2 -0.2**
XAN S **S** **10 08 17.2 -1.9**
XAN SKS **SKSac** **10 08 23.3 -3.7**
XAN SS **SS** **10 13 39.2 +2.1**
XAN pmax pmax
comp=Z,62nm,1.6s
XAN pmax pmax
comp=Z,1μm,11.1s
XAN LR LR
comp=Z,3μm,24.5s
XAN LR LR
comp=Z,2μm,20.4s
CMMT Chiang Mai 81.32 294 P **P** **09 58 16.8 +0.9**
comp=Z,322nm,2.1s,comp=Z,6μm
CHTO Chiang Mai 81.32 294 P **P** **09 58 17.5 +1.6**
SNR=180
CHTO Chiang Mai 81.32 294 mb 09 58 21.6
SNR=138
CHTO Chiang Mai 81.32 294 *eP* **P** **09 58 17.2 +1.3**
CHTO pmax pmax
comp=Z,220nm,1.0s
CHTO MLR MLR
comp=Z,5μm,20.0s
CHTO Chiang Mai 81.32 294 *eP* **P** **09 58 17.2 +1.3**
comp=Z,220nm,1.0s
CHTO LR LR
comp=Z,5μm,20.0s
CHTO Chiang Mai 81.32 294 P **P** **09 58 16.9 +1.0**
comp=Z,1μm,1.8s,comp=Z,28μm
CMAI Chiengmai2 81.74 295 P **P** **09 58 19.2 +0.9**
comp=Z,238nm,2.1s,comp=Z,5μm
SYO Syowa Base 82.52 196⇑ *eP* **P** **09 58 18.5 -2.7**
SYO Syowa Base 82.52 196⇑ *isP* pP 09 58 39.0 -5.2
SYO Syowa Base 82.52 196⇑ *eP* **S** **10 08 28.4 -2.3**
CD2 Chengdu 83.30 307⇑ *iP* **P** **09 58 26.4 +0.5**
CD2 pP **pP** **09 58 50.2 +1.3**
CD2 sP **sP** **09 59 00.3 +2.1**
CD2 PP **PP** **10 01 42.5 +3.5**
CD2 S **SKSac** **10 08 40.6 0.0**
CD2 sS **sS** **10 09 21.5 +2.4**
CD2 SS **SS** **10 14 10.5 +3.3**
CD2 pmax pmax
comp=Z,110nm,1.8s
CD2 pmax pmax
comp=Z,5μm,10.8s
CD2 LR LR
comp=Z,4μm,22.6s
CD2 LR LR
comp=Z,4μm,22.6s
CD2 LR LR
comp=Z,6μm,27.4s
HHC Hu-ho-hao-te 83.50 319 *eP* **P** **09 58 27.1 +0.2**
HHC sP **sP** **09 59 03.2 +4.1**
HHC PP **PP** **10 01 41.7 +1.1**
HHC SKS **SKSac** **10 08 36.6 -5.0**
HHC S **S** **10 08 40.2 -1.4**
HHC sS **sS** **10 09 24.2 +3.3**
HHC SS **SS** **10 14 11.5 +1.5**
HHC pmax pmax
comp=Z,130nm,1.2s
HHC pmax pmax
comp=Z,7μm,7.6s
HHC LR LR
comp=Z,8μm,17.9s
HHC LR LR
comp=Z,12μm,17.3s
HHC LR LR
comp=Z,19μm,17.7s
PMSA Palmer Station 83.58 159 *eP* **P** **09 58 28.0 +1.2**
comp=Z,77nm,0.9s
PMSA LR LR
comp=Z,7μm,21.0s
PBA Port Blair 83.67 285 *eP* **P** **09 58 26.7 -1.4**
PBA AMB AMB 09 58 29.6
comp=Z,358nm,6.2s
DGPR DIGLIPUR 84.12 287 *eP* **P** **09 58 29.5 -0.9**
DGPR AMB AMB 09 58 32.1
comp=Z,537nm,4.2s
BTO Baotou 84.31 318 *eP* **P** **09 58 28.4 -2.5**
HIA Hailar 84.47 329 *eP* **P** **09 58 30.6 -0.9**
comp=Z,13nm,0.3s
HIA *e*PP **PP** **10 01 43.7 -4.5**
HIA LR LR
comp=Z,7μm,22.0s
OHAK Old Harbor 84.64 19 *eP* **P** **09 58 31.9 -0.1**
comp=Z,35nm,0.8s
KDAK Kodiak Island 85.32 19 PFAKE 09 58 50.0 +15
KDAK LR LR
comp=Z,8μm,22.0s
LZH Lanzhou 85.89 312⇑ P **P** **09 58 40.1 +1.1**
LZH PP **PP** **10 02 01.1 +1.0**
LZH S **S** **10 09 08.0 +2.3**
LZH pmax pmax
comp=Z,440nm,1.1s
LZH pmax pmax
comp=Z,3μm,5.7s
LZH LR LR
comp=Z,3μm,19.5s
LZH LR LR
comp=Z,5μm,18.0s
LZH LR LR
comp=Z,10μm,20.0s
NVL N'lazarevskaya 86.11 187 *eP* **P** **09 58 40.0 +0.6**
NVL *e* 10 02 03.7
NVL pmax pmax
comp=Z,57nm,0.9s
SNAA Sanae 86.26 182 *eP* **P** **09 58 38.9 -1.4**
SNAA Sanae 86.26 182 *eP* **P** **09 58 38.8 -1.4**
comp=Z,267nm,1.4s
BSC Santa Cruz Isl 86.49 51⇓ P **P** **09 58 43.4 +1.5**
baz=87
SAO San Andreas Ge 86.60 48 *eP* **P** **09 58 43.2 +0.9**
SAO pmax pmax
comp=Z,21nm,0.8s
SAO San Andreas Ge 86.60 48 *eP* **P** **09 58 43.2 +0.9**
comp=Z,21nm,0.8s
HOPS Hopland 86.67 45 *eP* **P** **09 58 41.5 -1.1**
comp=Z,39nm,0.9s
KCPM Cahto Peak 86.70 45 *eP* **P** **09 58 43.2 +0.3**
comp=Z,33nm,0.9s
GAMB Gambell 86.79 8 *eP* **P** **09 58 42.4 -0.1**
comp=Z,65nm,1.1s
SCI San Clemente I 86.79 53⇓ P **P** **09 58 44.0 +0.7**
baz=87
PKM Peak Mountain 86.80 50⇑ P **P** **09 58 44.0 +0.4**
baz=87
KIPM Iron Peak 86.83 45 *eP* **P** **09 58 43.9 +0.4**
comp=Z,46nm,0.8s
SMMC Simmler 86.88 50⇑ P **P** **09 58 44.3 +0.5**
baz=87
CIS Catalina Islan 87.10 52⇑ P **P** **09 58 45.1 +0.2**
baz=87
VNA2 Neumayer--Watz 87.10 181 *eP* **P** **09 58 43.9 -0.4**
VNA2 Neumayer--Watz 87.10 181 *e* P 09 58 53.8 +10
KHMM Horse Mountain 87.24 44 *eP* **P** **09 58 46.4 +0.9**
comp=Z,40nm,0.9s
FMP Fort Macarthur 87.33 52⇑ P **P** **09 58 46.4 +0.5**
baz=87
VNA1 Neumayer--Stat 87.38 180 *eP* **P** **09 58 46.3 +0.7**
VNA1 Neumayer--Stat 87.38 180 *e* P 09 58 54.9 +9.3
OSI Osito Adit 87.45 51⇑ P **P** **09 58 46.6 0.0**
baz=88
KRMB Red Mountain 87.48 43 *eP* **P** **09 58 47.1 +0.6**
comp=Z,36nm,1.0s
DECC Green Verdugo 87.56 52⇓ P **P** **09 58 47.2 +0.2**
baz=88
ARVC Arvin 87.62 51⇓ P **P** **09 58 47.5 +0.3**
baz=88,SNR=10
PASC Pasadena Art C 87.63 52 *eP* **P** **09 58 46.8 -0.6**
comp=Z,30nm,0.9s
CLNS Chul'man 87.74 337 *eP* **P** **09 58 49.6 +2.2**
CLNS *e**PP **pP** **09 59 09.7 -0.8**
CLNS *e* 10 02 14.0
CLNS *e*PPP PPP 10 04 12.2
CLNS *e*S **SKSac** **10 09 10.2 +2.8**
CLNS pmax pmax
comp=Z,16nm,1.5s
CLNS pmax pmax
comp=E,115nm,1.5s
CLNS pmax pmax
comp=N,95nm,1.7s
CLNS pmax pmax
comp=Z,9.0nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS pmax pmax
comp=N,12nm,1.3s
CLNS smax smax
comp=E,596nm,15.1s
CLNS smax smax
comp=N,2μm,12.1s
MWC Mount Wilson 87.74 52 *eP* **P** **09 58 47.4 -0.7**
MWC pmax pmax
comp=Z,115nm,1.6s
MWC Mount Wilson 87.74 52 *eP* **P** **09 58 47.4 -0.7**
comp=Z,116nm,1.6s
109C Camp Elliot, M 87.81 53⇑ P **P** **09 58 48.9 +0.7**
baz=88
WDC Whiskeytown Da 87.85 44 *eP* **P** **09 58 48.6 +0.4**
WDC pmax pmax
comp=Z,85nm,1.5s
WDC Whiskeytown Da 87.85 44 *eP* **P** **09 58 48.6 +0.4**
comp=Z,84nm,1.5s
RCTC Rector, Farmer 87.91 49⇑ P **P** **09 58 48.8 +0.2**
baz=88
N02D Trinity Center 87.95 44⇓ P **P** **09 58 49.9 +1.0**
baz=88
CMB Columbia Colle 87.97 47 *eP* **P** **09 58 48.8 -0.2**
CMB pmax pmax
comp=Z,72nm,1.3s
CMB Columbia Colle 87.97 47 *eP* **P** **09 58 48.8 -0.2**
comp=Z,72nm,1.3s
L02D Cave Junction, 88.01 43⇑ P **P** **09 58 49.8 +0.8**
baz=88
BFSC Mount Baldy Ra 88.04 52⇑ P **P** **09 58 50.2 +0.8**
baz=88,SNR=6.8
MURC Murrieta 88.07 53⇓ P **P** **09 58 50.0 +0.5**
baz=88
M02C Callahan 88.08 44⇓ P **P** **09 58 50.3 +0.9**
baz=88
EDW2 Edwards Air Fo 88.11 51⇓ P **P** **09 58 49.6 -0.1**
baz=88,SNR=14
IMP Imphal 88.12 298 *ex* **P** **09 58 50.0 0.0**
ISA Isabella 88.14 50 *eP* **P** **09 58 49.6 -0.2**
ISA pmax pmax
comp=Z,13nm,0.9s
ISA Isabella 88.14 50 *eP* **P** **09 58 49.6 -0.2**
comp=Z,13nm,0.9s
ISA Isabella 88.14 50⇓ P **P** **09 58 49.6 -0.2**
baz=88,SNR=38
MONP Monument Peak 88.32 53⇑ P **P** **09 58 50.1 -0.8**
baz=88
YBH Yreka Blue Hor 88.34 43 *eP* **P** **09 58 50.2 -0.5**
comp=Z,80nm,1.5s
YBH Yreka Blue Hor 88.35 43 P **P** **09 58 50.5 -0.2**
comp=Z,18nm,0.9s,baz=77,slow=1.2,SNR=22
DVTC Desert V Tower 88.45 54⇓ P **P** **09 58 52.0 +0.6**
baz=88
BBRC Big Bear Solar 88.59 52⇓ P **P** **09 58 52.6 +0.4**
baz=89
LRMC Laurel Mountai 88.61 51⇑ P **P** **09 58 52.3 +0.2**
baz=89,SNR=19
PFO Pinyon Flat Ob 88.63 53 *eP* **P** **09 58 52.1 -0.2**
comp=Z,17nm,1.0s
PFO LR LR
comp=Z,14μm,21.0s
PFO Pinyon Flat Ob 88.63 53⇓ P **P** **09 58 52.8 +0.6**
baz=89
PFO Pinyon Flat Ob 88.63 53 P **P** **09 58 52.1 -0.2**
comp=Z,8.7nm,0.9s,baz=256,slow=3.1,SNR=9.1
HUMO Hull Mountain 88.66 42 *eP* **P** **09 58 50.6 -1.4**
comp=Z,71nm,1.3s
LBCM Butte Creek Ri 88.76 45 P **P** **09 58 52.8 +0.1**
CWC Cottonwood Cre 88.79 50⇑ P **P** **09 58 53.3 +0.3**
baz=89,SNR=17
SWSC Sam W. Stewart 88.81 54⇓ P **P** **09 58 53.4 +0.5**
baz=89
RRX Edison Barstow 88.82 51⇓ P **P** **09 58 53.5 +0.5**
baz=89
MLAC Mammoth Lakes 88.84 48⇓ P **P** **09 58 53.8 +0.5**
baz=89
WAKR Walker 88.86 47 *eP* **P** **09 58 53.2 -0.1**
comp=Z,134nm,1.6s
RC01 Rabbit Creek A 88.87 18 *eP* **P** **09 58 51.9 -0.6**
comp=Z,89nm,1.8s
RC01 *e*PP **PP** **10 02 20.1 -3.3**
BEKR Beckworth 88.92 46 *eP* **P** **09 58 53.3 -0.2**
comp=Z,63nm,1.6s
M04C Macdoel 88.93 44⇓ P **P** **09 58 53.8 +0.3**
baz=89
TIN Tinemaha 88.98 49⇓ P **P** **09 58 54.0 +0.1**
baz=89,SNR=11
I03D Drain, OR 88.99 41⇓ P **P** **09 58 54.4 +0.9**
baz=89
BELC Belle Mtn. Jos 89.14 53⇑ P **P** **09 58 55.4 +0.7**
baz=89,SNR=32
GSC Goldstone 89.16 51 *eP* **P** **09 58 54.8 +0.1**
GSC pmax pmax
comp=Z,14nm,1.4s
GSC Goldstone 89.16 51 *eP* **P** **09 58 54.8 +0.1**
comp=Z,14nm,1.4s
GSC Goldstone 89.16 51⇓ P **P** **09 58 54.8 +0.1**
baz=89,SNR=9.1
CIT Chita 89.25 329 *eP* **P** **09 58 56.6 +2.0**
CIT *e* 09 59 16.3
CIT *e* 09 59 22.6
CIT *e* 10 09 20.6
CIT pmax pmax
comp=Z,862nm,2.1s
HEC Hector,Ludlow 89.29 52⇓ P **P** **09 58 54.8 -0.4**
baz=89,SNR=25
BC3 Big Chuckawall 89.39 53⇑ P **P** **09 58 56.3 +0.5**
baz=90,SNR=14
K04D Chiloquin, OR 89.42 43⇓ P **P** **09 58 56.1 +0.4**
baz=90
PMR Palmer 89.45 18 *eP* **P** **09 58 53.3 -1.9**
PMR pmax pmax
comp=Z,138nm,2.0s
PMR Palmer 89.45 18 *eP* **P** **09 58 53.3 -1.9**
comp=Z,138nm,2.0s
PAHR Pah Rah Range 89.49 46 *eP* **P** **09 58 56.3 +0.2**
comp=Z,52nm,1.1s
COR Corvallis 89.50 41 *eP* **P** **09 58 56.2 +0.3**
COR pmax pmax
comp=Z,25nm,0.9s
COR Corvallis 89.50 41 *eP* **P** **09 58 56.2 +0.3**
comp=Z,25nm,0.9s
J04D Umpqua Nationa 89.52 42⇑ P **P** **09 58 56.8 +0.5**
baz=90
GLA Glamis 89.58 54 *eP* **P** **09 58 54.4 -2.2**
GLA pmax pmax
comp=Z,12nm,0.9s
GLA Glamis 89.58 54 *eP* **P** **09 58 54.4 -2.2**
comp=Z,12nm,0.9s
GLA Glamis 89.58 54⇑ P **P** **09 58 56.9 +0.3**
baz=90,SNR=17
NVAR Mina Array Bea 89.59 48 P **P** **09 58 56.6 -0.2**
NVAR PKKPbc **PKKPbc** **10 16 32.3 +0.5**
NVAR P'P' 10 24 38.0
NVAR Mina Array Bea 89.59 48 P **P** **09 58 56.6 -0.2**
comp=Z,26nm,0.8s,baz=231,slow=7.8,SNR=81
NVAR PKKPbc **PKKPbc** **10 16 32.3 +0.5**
comp=Z,1.0nm,0.7s,baz=92,slow=4.5,SNR=5.9
NVAR PKPPKP **P'P'df** **10 24 38.0 -0.7**
comp=Z,2.4nm,1.1s,baz=66,slow=3.6,SNR=4.3
NVAR LR LR 10 31 34.7
comp=Z,14μm,20.5s,baz=131,slow=30
I04A Tendick Farm, 89.62 42⇑ P **P** **09 58 56.7 +0.1**
baz=90
FURC Furnace Creek, 89.67 50⇑ P **P** **09 58 56.9 0.0**
baz=90,SNR=22
NV11 Mina Array Sit 89.70 48 *eP* **P** **09 58 56.9 -0.3**
GMRC Granite Mounta 89.75 52⇓ P **P** **09 58 57.6 +0.1**
baz=90,SNR=15
SHOC Shoshone 89.82 51⇓ P **P** **09 58 57.7 +0.1**
baz=90,SNR=13
IRM Iron Mountain 89.84 53⇑ P **P** **09 58 58.2 +0.3**
baz=90,SNR=24
G03D McMinnville, O 89.86 40⇓ P **P** **09 58 57.9 +0.4**
baz=90
TUQ Turquoise Moun 89.86 51⇑ P **P** **09 58 57.6 -0.4**
baz=90,SNR=22
MOD Modoc 89.98 44 *eP* **P** **09 58 56.9 -1.5**
comp=Z,26nm,0.9s
DIV Divide 90.08 19 *eP* **P** **09 58 56.5 -1.8**
comp=Z,35nm,1.3s
J05D Fort Rock, OR 90.09 43⇑ P **P** **09 58 59.0 +0.1**
baz=90
Y12C Blythe 90.12 53⇑ P **P** **09 58 58.9 -0.1**
baz=90,SNR=19
SHL Shillong 90.14 298 *i* P **P** **09 59 00.0 +0.4**
SHL AMB AMB 09 59 01.9
comp=Z,190nm,3.7s
SHL *ex* x 10 09 26.0
TPH Tonopah 90.17 49 *eP* **P** **09 58 56.8 -2.7**
TPH pmax pmax
comp=Z,48nm,1.0s

TPH	**Tonopah**	**90.17**	**49**	*e*P		**P**	**09 58 56.8**	**-2.7**
	comp=Z,48nm,1.0s								
YAK	**Yakutsk**	**90.18**	**342**	*c i*P		**P**	**09 58 57.3**	**-1.3**
YAK				*e**PP		**pP**	**09 59 24.1**	**+2.3**
YAK				*e*			10 02 30.4		
YAK				*e*S		**SKSac**	**10 09 18.9**	**-2.5**
YAK				*i*			10 09 47.5		
YAK				*e*SS		SS	10 15 54.1	+7.6	
YAK				pmax		pmax			
	comp=Z,33nm,0.9s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.3s								
YAK				pmax		pmax			
	comp=N,6.0nm,1.0s								
YAK				pmax		pmax			
	comp=Z,483nm,4.8s								
YAK				pmax		pmax			
	comp=E,112nm,2.7s								
YAK				pmax		pmax			
	comp=N,193nm,3.8s								
YAK				smax		smax			
	comp=N,2µm,4.5s								
YAK				smax		smax			
	comp=E,495nm,3.0s								
ULN	**Ulaanbaatar**	**90.19**	**323**	P		**P**	**09 58 59.3**	**+0.1**
	SNR=60								
ULN	**Ulaanbaatar**	**90.19**	**323**	mb			09 59 03.7		
	SNR=96								
ULN	**Ulaanbaatar**	**90.19**	**323**	*e*P		**P**	**09 58 59.1**	**-0.2**
	comp=E,436nm,1.6s								
ULN				LR		LR			
	comp=Z,5µm,22.0s								
113A	**Mohawk Valley,**	**90.25**	**55**	⇑P		**P**	**09 58 59.4**	**-0.3**
	baz=90								
LDFC	**Landfair**	**90.29**	**52**	*e*P		**P**	**09 58 59.7**	**-0.3**
	comp=Z,75nm,1.0s								
GTA	**Gaotai**	**90.31**	**313**	⇑P		**P**	**09 59 00.5**	**+0.5**
GTA				pP		**pP**	**09 59 24.3**	**+1.1**
GTA				sP		**sP**	**09 59 32.9**	**+0.4**
GTA				PP		**PP**	**10 02 39.9**	**+4.4**
GTA				SKS		**SKSac**	**10 09 21.8**	**-1.8**
GTA				S		**S**	**10 09 46.7**	**-0.7**
GTA				pmax		pmax			
	comp=Z,120nm,1.6s								
GTA				pmax		pmax			
	comp=Z,3µm,6.4s								
GTA				LR		LR			
	comp=Z,3µm,23.3s								
GTA				LR		LR			
	comp=Z,4µm,21.4s								
GTA				LR		LR			
	comp=Z,9µm,25.2s								
TPNV	**Topopah Spring**	**90.33**	**50**	⇑P		**P**	**09 59 00.1**	**-0.1**
	baz=90								
F04D	**Rainier, OR**	**90.47**	**40**	⇑P		**P**	**09 59 00.8**	**+0.4**
	baz=91								
NEE2	**Needles Airpor**	**90.51**	**52**	⇑P		**P**	**09 59 01.1**	**+0.3**
	baz=91								
SONM	**Songino Array**	**90.54**	**323**	P		**P**	**09 59 00.6**	**-0.3**
SONM				S		**SKSac**	**10 09 27.3**	**+2.7**
SONM				PKKPbc		**PKKPbc**	**10 16 28.6**	**-1.1**
SONM				P'P'			10 24 37.4		
SONM	**Songino Array**	**90.54**	**323**	P		**P**	**09 59 00.6**	**-0.3**
	comp=Z,62nm,0.9s,baz=136,slow=3.0,SNR=134								
SONM				S		**SKSac**	**10 09 27.3**	**+2.7**
	comp=Z,0.6nm,0.9s,baz=197,slow=4.6,SNR=3.6								
SONM				PKKPbc		**PKKPbc**	**10 16 28.6**	**-1.1**
	comp=Z,5.3nm,1.0s,baz=283,slow=3.2,SNR=14								
SONM				PKPPKP		**P'P'df**	**10 24 37.4**	**+1.4**
	comp=Z,2.2nm,1.1s,baz=318,slow=2.0,SNR=6.9								
SONM				LR		LR	10 40 44.4		
	comp=Z,3µm,18.7s,baz=136,slow=36								
214A	**Organ Pipe Nat**	**90.62**	**56**	*e*P		**P**	**09 59 00.3**	**-1.2**
214A	**Organ Pipe Nat**	**90.62**	**56**	⇓P		**P**	**09 59 02.0**	**+0.4**
	baz=91								
TRF	**Thorofare Moun**	**90.65**	**16**	*e*P		**P**	**09 58 59.0**	**-2.0**
	comp=Z,14nm,0.9s								
PDMCI	**Parker Dam,Lak**	**90.65**	**53**	⇑P		**P**	**09 59 01.7**	**+0.1**
	baz=91,SNR=17								
NLWA	**Neilton Lookou**	**90.67**	**38**	*e*P		**P**	**09 59 02.3**	**+1.0**
	comp=Z,23nm,0.9s								
NLWA				LR		LR			
	comp=Z,14µm,20.0s								
LVP	**Lakeview Peak**	**90.82**	**40**	P		**P**	**09 59 02.6**	**+0.4**
SHPR	**Sheep Range**	**90.90**	**51**	*e*P		**P**	**09 59 01.9**	**-0.9**
	comp=Z,61nm,1.5s								
ERK	**Elk Rock**	**90.98**	**40**	P		**P**	**09 59 03.5**	**+0.6**
OSD	**Olympics--Snow**	**91.00**	**38**	P		**P**	**09 59 03.9**	**+0.8**
VIPM	**Ingram Point**	**91.09**	**42**	P		**P**	**09 59 03.9**	**+0.3**
VIPM	**Ingram Point**	**91.09**	**42**	P		**P**	**09 59 03.9**	**+0.3**
Z14A	**Wintersburg**	**91.13**	**54**	⇑P		**P**	**09 59 03.8**	**0.0**
	baz=91,SNR=16								
W13A	**Hualapai Mount**	**91.20**	**52**	⇑P		**P**	**09 59 05.2**	**+0.8**
	baz=91,SNR=20								
BMN	**Battle Mountai**	**91.29**	**47**	*e*P		**P**	**09 59 04.9**	**+0.3**
BMN				pmax		pmax			
	comp=Z,45nm,1.1s								
BMN	**Battle Mountai**	**91.29**	**47**	*e*P		**P**	**09 59 04.9**	**+0.3**
	comp=Z,45nm,1.1s								
WVOR	**Wild Horse Val**	**91.32**	**44**	*e*P		**P**	**09 59 03.1**	**-1.5**
WVOR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
WVOR				MLR		MLR			
	comp=Z,8µm,19.0s								
WVOR	**Wild Horse Val**	**91.32**	**44**	*e*P		**P**	**09 59 03.1**	**-1.5**
	comp=Z,3.9nm,0.9s								
WVOR				LR		LR			
	comp=Z,8µm,19.0s								
Y14A	**Wickenburg**	**91.34**	**54**	⇑P		**P**	**09 59 04.8**	**0.0**
	baz=91,SNR=18								
R11A	**Troy Canyon, C**	**91.44**	**49**	*e*P		**P**	**09 59 04.9**	**-0.4**
R11A	**Troy Canyon, C**	**91.44**	**49**	⇑P		**P**	**09 59 05.9**	**+0.5**
	baz=92								
LON	**Longmire**	**91.53**	**39**	*e*P		**P**	**09 59 04.8**	**-0.6**
LON				pmax		pmax			
	comp=Z,31nm,1.4s								
LON	**Longmire**	**91.53**	**39**	*e*P		**P**	**09 59 04.8**	**-0.6**
	comp=Z,31nm,1.4s								
PGC	**Sidney**	**91.59**	**37**	*e*P		**P**	**09 59 05.7**	**+0.3**
	comp=Z,1.9nm,0.9s								
PAX	**Paxson**	**91.60**	**18**	*e*P		**P**	**09 59 04.7**	**-0.7**
PAX				pmax		pmax			
	comp=Z,48nm,1.8s								
PAX	**Paxson**	**91.60**	**18**	*e*P		**P**	**09 59 04.7**	**-0.7**
	comp=Z,48nm,1.8s								
WRAK	**Wrangell Islan**	**91.72**	**28**	PFAKE			09 59 20.0	+14	
WRAK				LR		LR			
	comp=Z,9µm,21.0s								
IM04	**Indian Mountai**	**91.91**	**14**	*e*P		**P**	**09 59 06.6**	**-0.1**
MENT	**Mentasta**	**92.09**	**19**	*e*P		**P**	**09 59 06.6**	**-0.9**
TUC	**Tucson**	**92.33**	**56**	*e*P		**P**	**09 59 09.3**	**-0.2**
TUC				pmax		pmax			
	comp=Z,13nm,0.9s								
TUC				MLR		MLR			
	comp=Z,10µm,22.0s								
TUC	**Tucson**	**92.33**	**56**	*e*P		**P**	**09 59 09.3**	**-0.2**
	comp=Z,13nm,0.9s								
TUC				LR		LR			
	comp=Z,10µm,22.0s								
LSA	**Lhasa**	**92.43**	**301**	*e*P		**P**	**09 59 10.4**	**-0.1**
LSA				pmax		pmax			
	comp=Z,41nm,0.8s								
LSA				MLR		MLR			
	comp=Z,3µm,21.0s								
LSA	**Lhasa**	**92.43**	**301**	*e*P		**P**	**09 59 10.4**	**-0.1**
	comp=Z,40nm,0.8s								
LSA				*e*PP		PP	10 02 45.8	-7.0	
LSA				LR		LR			
	comp=Z,3µm,21.0s								
COLA	**College**	**92.43**	**16**	*e*P		**P**	**09 59 06.8**	**-2.2**
COLA				pmax		pmax			
	comp=Z,31nm,0.9s								
COLA				MLR		MLR			
	comp=Z,6µm,20.0s								
COLA	**College**	**92.43**	**16**	*e*P		**P**	**09 59 06.8**	**-2.2**
	comp=Z,31nm,0.9s								
COLA				LR		LR			
	comp=Z,6µm,20.0s								
DOT	**Dot Lake**	**92.53**	**18**	*e*P		**P**	**09 59 07.7**	**-1.8**
	comp=Z,15nm,0.9s								
ILAR	**Eielson Array**	**92.60**	**17**	P		**P**	**09 59 08.2**	**-1.6**
ILAR				PKKP		**PKKPbc**	**10 16 24.3**	**-0.7**
ILAR				P'P'			10 24 31.2		
ILAR	**Eielson Array**	**92.60**	**17**	P		**P**	**09 59 08.2**	**-1.6**
	comp=Z,10nm,0.8s,baz=236,slow=6.5,SNR=36								
ILAR				PKKP		**PKKPbc**	**10 16 24.3**	**-0.7**	
	comp=Z,1.2nm,0.9s,baz=328,slow=2.1,SNR=6.8								
ILAR				PKPPKP		**P'P'df**	**10 24 31.2**	**+0.5**	
	comp=Z,1.7nm,1.2s,baz=320,slow=1.0,SNR=6.2								
ILAR				LR		LR	10 33 54.4		
	comp=Z,6µm,21.1s,baz=225,slow=31								
HYT	**Haines Junctio**	**92.61**	**23**	*e*P		**P**	**09 59 08.8**	**-1.3**
HAWA	**Hanford**	**92.70**	**40**	*e*P		**P**	**09 59 10.7**	**-0.1**
	comp=Z,15nm,0.9s								
HAWA				LR		LR			
	comp=Z,13µm,19.0s								
ARUT	**Antelope Range**	**92.70**	**50**	*e*P		**P**	**09 59 11.6**	**+0.4**
ARUT				pmax		pmax			
	comp=Z,72nm,0.9s								
ARUT	**Antelope Range**	**92.70**	**50**	*e*P		**P**	**09 59 11.6**	**+0.4**
	comp=Z,72nm,0.9s								
X16A	**Lo Mia Camp, P**	**92.72**	**54**	⇓P		**P**	**09 59 11.5**	**+0.2**
	baz=93,SNR=26								
ELK	**Elko**	**92.77**	**47**	*e*P		**P**	**09 59 11.8**	**+0.3**
	comp=Z,25nm,1.4s								
PALK	**Pallekele**	**92.92**	**277**	P		P	09 59 15.8	+3.2	
	comp=Z,566nm,1.6s,SNR=6.2								
PALK	**Pallekele**	**92.92**	**277**	P		**P**	**09 59 15.5**	**+2.9**
	SNR=6.7								
PALK	**Pallekele**	**92.92**	**277**	mb			09 59 17.0		
	SNR=11								
PALK	**Pallekele**	**92.92**	**277**	P		**P**	**09 59 12.7**	**+0.1**
	comp=Z,377nm,1.4s								
U15A	**North Rim**	**92.94**	**52**	⇑P		**P**	**09 59 12.5**	**0.0**
	baz=93								
319A	**Douglas**	**93.11**	**57**	⇓P		**P**	**09 59 13.0**	**-0.2**
	baz=93,SNR=13								
WUAZ	**Wupatki**	**93.23**	**53**	*e*P		**P**	**09 59 13.4**	**-0.2**
	comp=Z,32nm,1.2s								
WUAZ				LR		LR			
	comp=Z,10µm,21.0s								
WUAZ	**Wupatki**	**93.23**	**53**	⇑P		**P**	**09 59 13.6**	**0.0**
	baz=93								
BMO	**Blue Mountains**	**93.32**	**43**	PFAKE			09 59 20.0	+6.2	
BMO				LR		LR			
	comp=Z,10µm,22.0s								
H03N3	**Juan Fernandez**	**93.47**	**128**	T		T	11 42 43.9		
	baz=242,slow=76,SNR=14								
H03N2	**Juan Fernandez**	**93.47**	**128**	T		T	11 42 42.3		
	baz=242,slow=76,SNR=12								
H03N1	**Juan Fernandez**	**93.48**	**128**	T		T	11 42 40.9		
	baz=242,slow=76,SNR=11								
MFID	**Camas Ranch**	**93.60**	**44**	*e*P		**P**	**09 59 16.1**	**+1.0**
	comp=Z,10.0nm,0.9s								
ZAK	**Zakamensk**	**93.63**	**324**	⇑*i*P		**P**	**09 59 14.4**	**-0.6**
ZAK				*e*			09 59 41.6		
ZAK				pmax		pmax			
	comp=Z,101nm,1.6s								
320A	**Kipp Ranch, An**	**93.68**	**58**	⇓P		**P**	**09 59 15.9**	**0.0**
	baz=94,SNR=16								
X18A	**Snowflake**	**93.88**	**54**	⇓P		**P**	**09 59 16.8**	**+0.1**
	baz=94								
220A	**Playas Peak, P**	**93.91**	**57**	⇑P		**P**	**09 59 16.9**	**+0.1**
	baz=94								
DLBC	**Dease Lake**	**93.96**	**27**	P		**P**	**09 59 17.6**	**+1.3**
DLBC	**Dease Lake**	**93.96**	**27**	P		**P**	**09 59 17.6**	**+1.3**
	comp=Z,3.3nm,1.0s,baz=245,slow=7.8,SNR=4.1								
IRK	**Irkutsk**	**94.06**	**326**	*e*P		**P**	**09 59 16.3**	**-0.6**
IRK				pmax		pmax			
	comp=Z,179nm,2.0s								
120A	**U Bar Ranch, L**	**94.08**	**57**	⇑P		**P**	**09 59 17.7**	**+0.1**
	baz=94								
TLY	**Talaya**	**94.10**	**325**	P		**P**	**09 59 18.8**	**+1.7**
	comp=Z,269nm,2.1s,SNR=9.6								
TLY	**Talaya**	**94.10**	**325**	*i* P		**P**	**09 59 16.0**	**-1.1**
TLY				*i* S		**SKSac**	**10 09 47.1**	**+3.1**
TLY				*e*S		**S**	**10 10 22.7**	**+2.2**
TLY				*e*PS		**PS**	**10 11 39.6**	**-7.2**
TLY				*e*SS		SS	10 16 56.2	+13	
TLY				pmax		pmax			
	comp=Z,137nm,1.8s								
DUG	**Dugway**	**94.19**	**48**	PFAKE			09 59 30.0	+12	
DUG				LR		LR			
	comp=Z,11µm,20.0s								
DUG	**Dugway**	**94.19**	**48**	⇑P		**P**	**09 59 18.1**	**+0.2**
	baz=94								
TAPN	**Taplejung**	**94.28**	**298**	*e*P		**P**	**09 59 18.8**	**0.0**
	comp=Z,298nm,1.5s								
TAPN	**Taplejung**	**94.28**	**298**	*e*P		**P**	**09 59 18.8**	**0.0**
W18A	**Petrified Fore**	**94.28**	**54**	⇑P		**P**	**09 59 18.8**	**+0.2**
	baz=94								
Z20A	**Nine Sixteen R**	**94.34**	**56**	⇑P		**P**	**09 59 18.4**	**-0.4**
	baz=94								
ODAN	**Odare**	**94.35**	**297**	*e*P		**P**	**09 59 19.1**	**0.0**
	comp=Z,196nm,1.0s								
ODAN	**Odare**	**94.35**	**297**	*e*P		**P**	**09 59 19.1**	**0.0**
VIS	**Vishakhapatnam**	**94.41**	**287**	*e*P		**P**	**09 59 18.1**	**-1.1**
VIS				AMB		AMB	09 59 22.0		
	comp=Z,138nm,1.1s								
BOK	**Bokaro**	**94.45**	**294**	*e*P		**P**	**09 59 18.7**	**-0.6**
BOK				AMB		AMB	09 59 24.0		
	comp=Z,125nm,3.3s								
221A	**Mesquite Ranch**	**94.54**	**57**	⇑P		**P**	**09 59 19.8**	**0.0**
	baz=95								
HLID	**Hailey**	**94.58**	**45**	*e*P		**P**	**09 59 19.6**	**-0.1**
	comp=Z,7.8nm,0.9s								
HLID				LR		LR			
	comp=Z,9µm,21.0s								
HLID	**Hailey**	**94.58**	**45**	⇑P		**P**	**09 59 20.1**	**+0.4**
	baz=95								
121A	**Cookes Peak, D**	**94.74**	**57**	*e*P		**P**	**09 59 20.4**	**-0.3**
EFI	**East Falkland**	**94.84**	**152**	*e*P		**P**	**09 59 19.7**	**-0.9**
EFI				MLR		MLR			
	comp=Z,10µm,22.0s								
EFI	**East Falkland**	**94.84**	**152**	*e*P		**P**	**09 59 19.7**	**-0.9**
EFI				LR		LR			
	comp=Z,10µm,22.0s								
DGAR	**Diego Garcia**	**95.01**	**260**	PFAKE			09 59 30.0	+7.9	
DGAR				LR		LR			
	comp=Z,10µm,21.0s								
NEW	**Newport**	**95.04**	**40**	PFAKE			09 59 30.0	+8.5	
NEW				LR		LR			
	comp=Z,11µm,22.0s								
RAMN	**Ramite**	**95.04**	**297**	*e*P		**P**	**09 59 22.3**	**0.0**
RAMN	**Ramite**	**95.04**	**297**	*e*P		**P**	**09 59 22.3**	**0.0**
PLCA	**Paso Flores**	**95.27**	**138**	P		**P**	**09 59 23.4**	**+0.5**
	comp=Z,9.5nm,1.0s								
PLCA				PKKPbc		**PKKPbc**	**10 16 16.5**	**+0.2**	
PLCA				P'P'			10 24 22.7		
PLCA	**Paso Flores**	**95.27**	**138**	P		**P**	**09 59 23.4**	**+0.5**	
	comp=Z,15nm,0.9s,baz=212,slow=5.7,SNR=18								
PLCA				PKKPbc		**PKKPbc**	**10 16 16.5**	**+0.2**	
	comp=Z,2.6nm,0.8s,baz=292,slow=1.5,SNR=6.2								
PLCA				PKPPKP		P'P'df	10 24 22.7	-7.7	
	comp=Z,2.0nm,0.9s,baz=31,slow=1.7,SNR=3.4								
PLCA				LR		LR	10 32 13.6		
	comp=Z,5µm,21.4s,baz=248,slow=29								
MDRS	**Chennai**	**95.47**	**282**	*e*P		**P**	**09 59 22.6**	**-1.6**
MDRS				AMB		AMB	09 59 29.9		
	comp=Z,215nm,6.5s								
MOY	**Mondy**	**95.52**	**324**	*e*P		**P**	**09 59 24.8**	**+1.1**
MOY				pmax		pmax			
	comp=Z,228nm,2.6s								
JIRN	**Jiri**	**95.64**	**297**	*e*P		**P**	**09 59 24.2**	**-1.0**
	comp=Z,94nm,1.0s								
JIRN	**Jiri**	**95.64**	**297**	*e*P		**P**	**09 59 24.2**	**-1.0**
Z22A	**Elephant Butte**	**95.65**	**57**	⇑P		**P**	**09 59 25.1**	**+0.3**
	baz=96								
GUN	**Gumba**	**95.99**	**298**	*e*P		**P**	**09 59 25.5**	**-1.2**
	comp=Z,123nm,0.9s								
GUN	**Gumba**	**95.99**	**298**	*e*P		**P**	**09 59 25.5**	**-1.2**
MVCO	**Mesa Verde**	**96.04**	**52**	PFAKE			09 59 40.0	+13	
MVCO				LR		LR			
	comp=Z,12µm,22.0s								
PV10	**Paradox Valley**	**96.10**	**51**	*e*P		**P**	**09 59 26.4**	**-0.5**
324A	**Moseley Ranch,**	**96.12**	**59**	⇓P		**P**	**09 59 27.6**	**+0.7**
	baz=96								
MCMT	**McKenzie Canyo**	**96.15**	**44**	*e*P		**P**	**09 59 26.2**	**-0.7**
	comp=Z,2.8nm,1.0s								
BSMT	**Bassoo Peak**	**96.25**	**41**	P		**P**	**09 59 27.7**	**+0.5**
	comp=Z,3.0nm,0.8s								
PKI	**Pulchoki**	**96.25**	**297**	*e*P		**P**	**09 59 27.5**	**-0.4**
	comp=Z,160nm,1.0s								
PKI	**Pulchoki**	**96.25**	**297**	*e*P		**P**	**09 59 27.5**	**-0.4**
PKI	**Pulchoki**	**96.25**	**297**	*e*P		**P**	**09 59 27.5**	**-0.4**
PKIN	**Phulchoki**	**96.27**	**297**	*e*P		**P**	**09 59 27.5**	**-0.4**
	comp=Z,103nm,0.8s								
MNTX	**Cornudas Mount**	**96.30**	**58**	PFAKE			09 59 40.0	+12	
MNTX				LR		LR			
	comp=Z,10µm,22.0s								
MSO	**Missoula**	**96.32**	**42**	⇓P		**P**	**09 59 28.2**	**+0.7**	
	baz=96								
224A	**Cornudas Mount**	**96.33**	**58**	⇑P		**P**	**09 59 28.1**	**+0.2**
	baz=96								
PV01	**Paradox Valley**	**96.35**	**51**	*e*P		**P**	**09 59 27.3**	**-0.7**
	comp=Z,392nm,0.8s								
AHID	**Auburn Hatcher**	**96.44**	**46**	PFAKE			09 59 40.0	+12	
AHID				LR		LR			
	comp=Z,10µm,22.0s								
KKN	**Kakani**	**96.44**	**297**	*e*P		**P**	**09 59 28.3**	**-0.3**
	comp=Z,168nm,0.9s								
KKN	**Kakani**	**96.44**	**297**	*e*P		**P**	**09 59 28.3**	**-0.3**
KKN	**Kakani**	**96.44**	**297**	*e*P		**P**	**09 59 28.3**	**-0.3**
626A	**Big Bend Ranch**	**96.50**	**61**	⇓P		**P**	**09 59 29.2**	**+0.5**
	baz=97								
325A	**Bean Ranch, Si**	**96.50**	**59**	⇓P		**P**	**09 59 29.0**	**+0.2**
	baz=97								
DMN	**Daman**	**96.52**	**297**	*e*P		**P**	**09 59 28.9**	**-0.1**
	comp=Z,249nm,1.0s								
DMN	**Daman**	**96.52**	**297**	*e*P		**P**	**09 59 28.9**	**-0.1**
Y23A	**Lovelace Mesa,**	**96.61**	**56**	⇑P		**P**	**09 59 29.5**	**+0.3**
	baz=97								
ANMO	**Albuquerque**	**96.69**	**55**	*e*P		**P**	**09 59 29.2**	**-0.3**
	comp=Z,3.6nm,0.9s								
ANMO				PKKP		**PKKPdf**	**10 16 14.0**	**-0.8**	
ANMO				LR		LR			
	comp=Z,10µm,20.0s								
ANMO	**Albuquerque**	**96.69**	**55**	PKKP		**PKKPdf**	**10 16 14.0**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=243,slow=2.3,SNR=2.9								
526A	**Mary Lane Ranc**	**96.72**	**60**	⇓P		**P**	**09 59 29.6**	**-0.2**	
	baz=97								
TXAR	**Lajitas Array**	**96.80**	**61**	P		**P**	**09 59 30.9**	**+0.9**	
TXAR				PKKP		**PKKPdf**	**10 16 13.4**	**-0.8**	
TXAR				P'P'			10 24 26.8		
TXAR	**Lajitas Array**	**96.80**	**61**	P		**P**	**09 59 30.9**	**+0.9**	
	comp=Z,2.7nm,1.0s,baz=218,slow=5.6,SNR=12								
TXAR				PKKP		**PKKPdf**	**10 16 13.4**	**-0.8**	
	comp=Z,1.8nm,0.6s,baz=104,slow=3.9,SNR=17								
TXAR				PKPPKP		**P'P'df**	**10 24 26.8**	**+0.7**	
	comp=Z,0.3nm,0.9s,baz=86,slow=2.8,SNR=2.8								
TXAR				LR		LR	10 34 20.4		
	comp=Z,7µm,21.9s,baz=75,slow=30								
TRD	**Trivandrum**	**96.82**	**276**	*e*P		**P**	**09 59 27.8**	**-2.5**	
TRD				AMB		AMB	09 59 31.3		
	comp=Z,55nm,7.1s								
225A	**Deer Hill, Car**	**96.89**	**58**	⇓P		**P**	**09 59 31.1**	**+0.6**	
	baz=97								
426A	**McDonald Obser**	**96.99**	**60**	⇑P		**P**	**09 59 31.5**	**+0.5**	
	baz=97								
GKN	**Gorkha**	**97.05**	**297**	*e*P		**P**	**09 59 30.5**	**-0.8**	
	comp=Z,162nm,1.0s								
GKN	**Gorkha**	**97.05**	**297**	*e*P		**P**	**09 59 30.5**	**-0.8**	
627A	**Terlingua Ranc**	**97.07**	**61**	⇑P		Pdif	09 59 31.8	+0.5	
	baz=97								
527A	**Woodward Ranch**	**97.14**	**60**	⇓P		Pdif	09 59 31.9	+0.2	
	baz=97								
V23A	**Ortiz Mt. (NFS**	**97.20**	**54**	⇑P		Pdif	09 59 32.3	+0.4	
	baz=97								
BOZ	**Bozeman (W)**	**97.27**	**44**	PFAKE			09 59 40.0	+8.1	
BOZ				LR		LR			
	comp=Z,12µm,21.0s								
WALA	**Waterton Lakes**	**97.30**	**40**	*e*P		**P**	**09 59 28.8**	**-3.0**	
	comp=Z,0.1nm,1.0s								
O20A	**White River Ci**	**97.36**	**50**	⇓P		Pdif	09 59 33.0	+0.4	
	baz=98								
226B	**Tecolote Peak,**	**97.40**	**59**	⇓P		Pdif	09 59 33.0	+0.2	
	baz=98								
Z25A	**Roswell**	**97.41**	**57**	⇑P		Pdif	09 59 33.5	+0.7	
	baz=98								
U23A	**El Rito**	**97.41**	**54**	⇑P		Pdif	09 59 33.4	+0.5	
	baz=98								
S22A	**4UR Ranch, Cre**	**97.47**	**52**	⇓P		Pdif	09 59 33.5	+0.3	
	baz=98								
BW06	**Boulder Array**	**97.48**	**47**	PFAKE			09 59 40.0	+7.0	
BW06				LR		LR			
	comp=Z,11µm,22.0s								
PDAR	**Pinedale Array**	**97.48**	**47**	P		Pdif	09 59 34.4	+1.3	
PDAR				PP		**PP**	**10 03 32.4**	**+0.9**	
PDAR				PKKPbc		**PKKPbc**	**10 16 11.0**	**-0.2**	
PDAR				P'P'			10 24 25.2		
PDAR	**Pinedale Array**	**97.48**	**47**	P		Pdif	09 59 34.4	+1.3	
	comp=Z,2.8nm,0.9s,baz=200,slow=3.6,SNR=8.7								
PDAR				PP		**PP**	**10 03 32.4**	**+0.9**	
	comp=Z,2.6nm,1.0s,baz=224,slow=5.0,SNR=5.6								
PDAR				PKKPbc		**PKKPbc**	**10 16 11.0**	**-0.2**	
	comp=Z,0.6nm,0.6s,baz=83,slow=6.2,SNR=5.0								
PDAR				PKPPKP		**P'P'df**	**10 24 25.2**	**+1.4**	
	comp=Z,0.9nm,0.9s,baz=116,slow=2.1,SNR=6.5								
PDAR				LR		LR	10 40 36.2		
	comp=Z,7µm,18.4s,baz=247,slow=34								
628A	**Black Gap, Mar**	**97.48**	**61**	⇑P		Pdif	09 59 33.4	+0.3	
	baz=98								
427A	**Hayter Ranch,**	**97.56**	**60**	⇓P		Pdif	09 59 33.8	+0.3	
	baz=98								
W24A	**Lazy 6 Ranch,**	**97.58**	**55**	⇓P		Pdif	09 59 34.0	+0.3	
	baz=98								
Y25A	**Mesa, Roswell**	**97.66**	**57**	⇓P		Pdif	09 59 34.3	+0.4	
	baz=98								
528A	**Cox Ranch, San**	**97.81**	**61**	⇑P		Pdif	09

ISCO **Idaho Springs** **99.11** **51** PFAKE 09 59 50.0 +10
ISCO LR LR
comp=Z,5µm,19.0s
J21A **Lysite** **99.13** **47** ⇓Pdiff **Pdif** **09 59 41.6 +1.3**
baz=99
S25A **Robets Cordova** **99.20** **53** ⇑Pdiff **Pdif** **09 59 41.6 +0.8**
baz=99
JBP **Jabalpur** **99.28** **291** *eS* **SKSac** **10 10 14.1 +2.1**
430A **Baggett Ranch,** **99.28** **61** ⇓Pdiff **Pdif** **09 59 42.0 +0.9**
baz=99
EGMT **Eagleton** **99.40** **42** PFAKE 09 59 50.0 +8.8
EGMT LR LR
comp=Z,8µm,19.0s
NGP **Nagpur** **99.40** **289** *eP* **Pdif** **09 59 39.6 -2.2**
NGP AMB AMB 09 59 39.8
comp=Z,38nm,7.1s
I21A **Big Trails, Te** **99.40** **47** ⇓Pdiff **Pdif** **09 59 42.7 +1.2**
baz=100
D19A **Cripps Ranch,** **99.62** **43** ⇓Pdiff **Pdif** **09 59 44.0 +1.8**
baz=100
L23A **Garrett** **99.88** **49** ⇓Pdiff **Pdif** **09 59 44.8 +1.1**
baz=100
Y29A **Porterfield Fa** **99.99** **58** ⇑Pdiff **Pdif** **09 59 44.7 +0.5**
baz=100
CMIG **Matias Romero** **100.05** **76** PKKPbc PKKPbc 10 15 57.0 -5.7
CMIG **Matias Romero** **100.05** **76** PKKPbc PKKPbc 10 15 57.0 -5.7
comp=Z,1.9nm,0.9s,baz=90,slow=2.0,SNR=2.7
D20A **Manuel Ranch,** **100.06** **43** ⇓Pdiff **Pdif** **09 59 45.4 +1.2**
baz=100
R26A **Arlington** **100.16** **53** ⇑Pdiff **Pdif** **09 59 45.8 +0.9**
baz=100
JCT **Junction City** **100.34** **61** PFAKE 10 00 00.0 +14
JCT LR LR
comp=Z,9µm,22.0s
WMQ **Urumqi** **100.40** **313** P **Pdif** **09 59 46.0 +0.2**
WMQ PP **PP** **10 03 56.0 +2.5**
WMQ SKS 10 10 15.0
WMQ S **Sdif** **10 11 10.0 -4.7**
WMQ sS **sS** **10 11 52.0 -3.1**
WMQ SS **SS** **10 18 11.0 -1.5**
WMQ pmax pmax
comp=Z,58nm,1.2s
WMQ pmax pmax
comp=Z,1µm,8.0s
WMQ LR LR
comp=Z,4µm,22.0s
WMQ LR LR
comp=Z,6µm,22.0s
WMQ LR LR
comp=Z,8µm,22.0s
332A **Millersview** **100.69** **60** ⇑Pdiff **Pdif** **09 59 48.5 +1.2**
baz=101
433A **Art** **101.01** **61** ⇑Pdiff **Pdif** **09 59 49.1 +0.3**
baz=101
LAO **LASA Array** **101.14** **44** PFAKE 10 00 00.0 +11
LAO LR LR
comp=Z,13µm,22.0s
ABTX **Abilene, Hawle** **101.18** **59** *e*Pdif **Pdif** **09 59 51.5 +2.0**
ABTX **Abilene, Hawle** **101.18** **59** ⇓Pdiff **Pdif** **09 59 50.4 +0.9**
baz=101
BHPL **Bhopal** **101.52** **290** *eP* **Pdif** **09 59 49.7 -1.5**
BHPL AMB AMB 09 59 53.3
comp=Z,32nm,2.5s
Z32A **Haskell** **101.53** **59** ⇓Pdiff **Pdif** **09 59 52.9 +1.9**
baz=102
W31A **Holland Ranch,** **101.78** **57** ⇑Pdiff **Pdif** **09 59 52.7 +0.6**
baz=102
LCO **Las Campanas** **101.78** **128** PFAKE 10 00 00.0 +7.3
LCO LR LR
comp=Z,8µm,22.0s
D23A **Lindsay** **101.96** **44** ⇓Pdiff **Pdif** **09 59 53.5 +0.9**
baz=102
X32A **Elmer** **102.04** **58** ⇓Pdiff **Pdif** **09 59 54.7 +1.5**
baz=102
Z33A **Whitaker Ranch** **102.09** **59** ⇓Pdiff **Pdif** **09 59 54.7 +1.2**
baz=102
TRQA **Tornquist** **102.14** **140** PFAKE 10 00 00.0 +6.2
TRQA LR LR
comp=Z,3µm,21.0s
GOA **Goa** **102.14** **282** *eP* **Pdif** **09 59 53.5 -0.5**
GOA AMB AMB 09 59 55.9
comp=Z,41nm,7.6s
WMOK **Wichita Mounta** **102.54** **58** PFAKE 10 00 10.0 +15
WMOK LR LR
comp=Z,9µm,22.0s
YKA **Yellowknife Ar** **102.58** **27** P **Pdif** **09 59 58.3 +3.4**
YKA PP **PP** **10 04 07.7 -1.6**
YKA PKKPbc **PKKPbc** **10 15 55.6 -1.4**
YKA **Yellowknife Ar** **102.58** **27** P **Pdif** **09 59 58.3 +3.4**
comp=Z,1.1nm,0.8s,baz=253,slow=4.4,SNR=8.5
YKA PP **PP** **10 04 07.7 -1.6**
comp=Z,1.1nm,0.9s,baz=254,slow=6.4,SNR=4.4
YKA PKKPbc **PKKPbc** **10 15 55.6 -1.4**
comp=Z,0.4nm,0.7s,baz=58,slow=2.4,SNR=4.5
WHTX **Lake Whitney** **102.73** **61** ⇑Pdiff **Pdif** **09 59 57.2 +0.9**
baz=103
Z34A **Collier Ranch,** **102.79** **59** ⇑Pdiff **Pdif** **09 59 57.9 +1.3**
baz=103
DGMT **Dagmar** **103.03** **43** PFAKE 10 00 10.0 +13
DGMT LR LR
comp=Z,9µm,22.0s
DDI **Dehra Dun** **103.25** **297** *eP* **Pdif** **09 59 56.7 -2.0**
DDI AMB AMB 10 00 01.3
comp=Z,29nm,0.0s
RER **Riviere de l'E** **103.48** **240** PFAKE 10 00 10.0 +10
RER LR LR
comp=Z,6µm,20.0s
SMLA **Simla** **104.22** **298** *eP* **Pdif** **10 00 01.7 -1.2**
SMLA AMB AMB 10 00 10.2
comp=Z,28nm,4.2s
MK31 **Makanchi Array** **104.96** **315** *eP* **Pdif** **10 00 06.2 +0.3**
MK31 **Makanchi Array** **104.96** **315** *e*Pdif **Pdif** **10 00 06.2 +0.3**
MKAR **Makanchi Array** **104.96** **315** P **Pdif** **10 00 06.0 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR **Makanchi Array** **104.96** **315** Pdif **Pdif** **10 00 06.0 +0.1**
MKAR PKiKP **PKiKP** **10 04 19.6 -0.9**
MKAR PKKPbc **PKKPbc** **10 15 47.1 -2.2**
MKAR P'P' 10 24 10.9
MKAR **Makanchi Array** **104.96** **315** Pdiff **Pdif** **10 00 06.0 +0.1**
comp=Z,3.9nm,0.7s,baz=97,slow=6.6,SNR=14
MKAR PKiKP **PKiKP** **10 04 19.6 -0.9**
comp=Z,2.0nm,0.6s,baz=105,slow=1.5,SNR=13
MKAR PKKPbc **PKKPbc** **10 15 47.1 -2.2**
comp=Z,5.2nm,0.7s,baz=264,slow=3.7,SNR=19
MKAR PKPPKP **P'P'df** **10 24 10.9 +1.6**
comp=Z,1.7nm,0.9s,baz=325,slow=1.8,SNR=8.7
DHRM **DHARAMSHALA** **105.25** **299** *eP* **Pdif** **10 00 07.8 -0.1**
DHRM AMB AMB 10 00 10.5
comp=Z,22nm,3.7s
NNA **Nana** **105.39** **110** PFAKE 10 04 30.0
NNA LR LR
comp=Z,6µm,22.0s
ZAA0 **Zalesovo Array** **105.44** **322** *e*Pdif **Pdif** **10 00 06.7 -1.1**
ZALV **Zalesovo Beam** **105.44** **322** P **Pdif** **10 00 08.2 +0.4**
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV **Zalesovo Beam** **105.44** **322** Pdif **Pdif** **10 00 08.2 +0.4**
ZALV PKiKP **PKiKP** **10 04 20.7 -0.3**
ZALV PKKPbc **PKKPbc** **10 15 47.3 -0.8**
ZALV P'P' 10 24 08.0
ZALV **Zalesovo Beam** **105.44** **322** Pdiff **Pdif** **10 00 08.2 +0.4**
comp=Z,5.8nm,0.8s,baz=114,slow=3.7,SNR=11
ZALV PKiKP **PKiKP** **10 04 20.7 -0.3**
comp=Z,4.7nm,0.8s,baz=132,slow=2.2,SNR=6.3
ZALV PKKPbc **PKKPbc** **10 15 47.3 -0.8**
comp=Z,1.1nm,0.5s,baz=276,slow=3.2,SNR=3.7
ZALV PKPPKP **P'P'df** **10 24 08.0 +0.3**
comp=Z,1.3nm,0.8s,baz=308,slow=7.3,SNR=4.6
KSU1 **Kansas State U** **105.49** **54** PFAKE 10 04 30.0
KSU1 LR LR
comp=Z,7µm,20.0s
TGUH **Tegucigalpa,Un** **105.93** **81** PFAKE 10 04 30.0
TGUH LR LR
comp=Z,4µm,22.0s
FFC **Flin Flon** **106.20** **37** PFAKE 10 04 30.0
FFC LR LR
comp=Z,14µm,21.0s
NVS **Novosibirsk** **106.57** **323** ⇑ *i*P **Pdif** **10 00 10.9 -1.9**
NVS *e* 10 10 44.5
NVS *eS* **SKSdf** **10 11 32.9 +6.0**
NVS pmax pmax
comp=N,15nm,2.0s
NVS pmax pmax
comp=E,29nm,2.0s
NVS pmax pmax
comp=Z,53nm,2.0s
NVS pmax pmax
comp=Z,90nm,2.3s
NVS pmax pmax
comp=N,18nm,2.0s
NVS pmax pmax
comp=E,68nm,2.4s
MIAR **Mount Ida** **106.59** **59** PFAKE 10 04 40.0
MIAR LR LR
comp=Z,12µm,22.0s
LVC **Limon Verde** **106.64** **123** PFAKE 10 04 40.0
LVC LR LR
comp=Z,3µm,22.0s
ECSD **EROS Data Cent** **106.72** **49** PFAKE 10 04 40.0
ECSD LR LR
comp=Z,9µm,20.0s
JTS **JuntasAbangare** **106.80** **86** PFAKE 10 04 40.0
JTS LR LR
comp=Z,4µm,20.0s
TEIG **Tepich** **106.98** **75** PFAKE 10 04 40.0
TEIG LR LR
comp=Z,5µm,21.0s
KSH **Kashi** **107.47** **306** Pdif **Pdif** **10 00 19.1 +1.7**
KSH SS SS 10 19 45.0 -5.0
KSH LR LR
comp=Z,6µm,27.5s
KURK **Kurchatov** **108.30** **318** P **Pdif** **10 00 18.7 -1.9**
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK **Kurchatov** **108.30** **318** Pdif **Pdif** **10 00 18.7 -1.9**
KURK *e*PKPdf **PKiKP** **10 04 25.3 -1.1**
KURK PKiKP **PKiKP** **10 04 26.1 -0.4**
KURK PKKPbc **PKKPbc** **10 15 37.6 -1.4**
KURK LR LR
comp=Z,3µm,21.0s
AGMN **Agassiz Nation** **108.33** **45** PFAKE 10 04 40.0
AGMN LR LR
comp=Z,16µm,22.0s
KURBB **Kurchatov Arra** **108.34** **318** Pdiff **Pdif** **10 00 18.7 -2.1**
comp=Z,0.6nm,0.6s,baz=103,slow=3.6,SNR=3.9
KURBB PKiKP **PKiKP** **10 04 26.1 -0.4**
comp=Z,8.8nm,0.8s,baz=111,slow=2.0,SNR=24
KURBB PKKPbc **PKKPbc** **10 15 37.6 -1.3**
comp=Z,5.3nm,0.8s,baz=273,slow=3.9,SNR=17
TKM2 **Tokmak 2** **108.57** **310** *e*PKPdf **PKiKP** **10 04 26.1 -1.4**
TKM2 *e*PP **PP** **10 04 53.9 -0.5**
TKM2 LR LR
comp=Z,3µm,21.0s
SCIA **State Center** **108.70** **52** PFAKE 10 04 40.0
SCIA LR LR
comp=Z,11µm,22.0s
ULM **Lac du Bonnet** **108.75** **43** PKiKP **PKiKP** **10 04 26.2 -1.0**
ULM PKKPbc **PKKPbc** **10 15 37.1 -0.5**
ULM **Lac du Bonnet** **108.75** **43** PKiKP **PKiKP** **10 04 26.2 -1.0**
comp=Z,3.9nm,0.7s,baz=349,slow=5.3,SNR=3.6
ULM PKKPbc **PKKPbc** **10 15 37.1 -0.5**
comp=Z,3.2nm,0.8s,baz=134,slow=4.6,SNR=3.0
OTAV **Otavalo** **109.14** **98** PFAKE 10 04 40.0
OTAV LR LR
comp=Z,3µm,19.0s
AAK **Ala-Archa** **109.29** **309** P **Pdif** **10 00 27.7 +2.2**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK **Ala-Archa** **109.29** **309** Pdif **Pdif** **10 00 27.7 +2.2**
AAK PKiKP **PKiKP** **10 04 27.7 -1.1**
AAK PKKPbc **PKKPbc** **10 15 36.1 +0.3**
AAK LR LR
comp=Z,3µm,21.0s
AAK **Ala-Archa** **109.29** **309** Pdiff **Pdif** **10 00 27.7 +2.2**
comp=Z,1.6nm,0.8s,baz=287,slow=7.4,SNR=4.2
AAK PKiKP **PKiKP** **10 04 27.7 -1.1**
comp=Z,2.6nm,0.7s,baz=166,slow=6.2,SNR=4.8
AAK PKKPbc **PKKPbc** **10 15 36.1 +0.3**
comp=Z,5.9nm,0.7s,baz=199,slow=4.7,SNR=12
EKS2 **Erkin-Say** **109.82** **309** PFAKE 10 04 40.0
EKS2 LR LR
comp=Z,4µm,22.0s
LPAZ **La Paz** **110.65** **118** *e*PKPdf **PKiKP** **10 04 33.2 +0.5**
LPAZ PKKPbc **PKKPbc** **10 15 31.2 0.0**
LPAZ **La Paz** **110.65** **118** PKiKP **PKiKP** **10 04 31.6 -1.1**
comp=Z,3.1nm,0.8s,baz=160,slow=0.6,SNR=7.5
LPAZ PKKPbc **PKKPbc** **10 15 31.2 0.0**
comp=Z,3.1nm,0.9s,baz=4.6,slow=6.3,SNR=7.9
BRAL **Brewton** **111.00** **64** PFAKE 10 04 40.0
BRAL LR LR
comp=Z,4µm,21.0s
JFWS **Jewell Farm** **111.07** **51** PFAKE 10 04 40.0
JFWS LR LR
comp=Z,8µm,20.0s
EYMN **Ely** **111.12** **46** PFAKE 10 04 40.0
EYMN LR LR
comp=Z,13µm,20.0s
BCIP **Isla Barro Col** **111.15** **89** PFAKE 10 04 40.0
BCIP LR LR
comp=Z,2µm,21.0s
HDIL **Hopedale** **111.31** **54** PFAKE 10 04 40.0
HDIL LR LR
comp=Z,9µm,21.0s
ABPO **Ambohimpanom** **111.39** **238** PFAKE 10 04 40.0
ABPO LR LR
comp=Z,6µm,19.0s
MSEY **Mahe Island** **111.50** **255** PFAKE 10 04 50.0
MSEY LR LR
comp=Z,10µm,22.0s
KBL **Kabul** **111.70** **300** *e*PKIKP **PKiKP** **10 04 33.1 -0.6**
KBL **Kabul** **111.70** **300** *e*PKPdf **PKiKP** **10 04 33.1 -0.6**
KKAR **Karatay Array** **112.26** **309** *e*PKIKP **PKiKP** **10 04 31.3 -2.9**
KKAR *e* 10 05 16.8
KKAR **Karatay Array** **112.26** **309** *e*PKPdf **PKiKP** **10 04 31.2 -2.9**
KKAR *e*PP **PP** **10 05 16.8 -3.9**
RES **Resolute Bay** **112.36** **17** PKiKP **PKiKP** **10 04 32.5 -0.9**
RES PKKPbc **PKKPbc** **10 15 26.2 -0.2**
RES **Resolute Bay** **112.36** **17** PKiKP **PKiKP** **10 04 32.5 -0.9**
comp=Z,3.9nm,0.8s,baz=216,slow=2.8,SNR=9.5
RES PKKPbc **PKKPbc** **10 15 26.2 -0.2**
comp=Z,2.0nm,1.0s,baz=79,slow=9.2,SNR=3.6
CPUP **Villa Florida** **112.81** **133** *e*PKPdf **PKiKP** **10 04 35.3 -0.5**
CPUP PKKPbc **PKKPbc** **10 15 21.1 -2.5**
CPUP **Villa Florida** **112.81** **133** PKiKP **PKiKP** **10 04 34.4 -1.5**
comp=Z,5.6nm,0.8s,baz=225,slow=1.4,SNR=7.1
CPUP PKKPbc **PKKPbc** **10 15 21.1 -2.5**
comp=Z,0.5nm,0.3s,baz=333,slow=2.1,SNR=2.9
VOSK **Vostochnaya** **113.32** **319** PKiKP **PKiKP** **10 04 34.1 -1.8**
VOSK pmax pmax
comp=Z,30nm,1.0s
BVA0 **Borovoye Array** **113.71** **320** *i* PKiKP **PKiKP** **10 04 35.1 -1.5**
BVA0 pmax pmax
comp=Z,37nm,1.1s
BVAR **Borovoye Array** **113.71** **320** *i* PKiKP **PKiKP** **10 04 36.0 -0.6**
BVAR pmax pmax
comp=Z,6.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR **Borovoye Array** **113.71** **320** PKiKP **PKiKP** **10 04 36.0 -0.6**
BVAR PKKPbc **PKKPbc** **10 15 19.9 -1.5**
BVAR **Borovoye Array** **113.71** **320** PKiKP **PKiKP** **10 04 36.0 -0.6**
comp=Z,5.6nm,0.5s,baz=98,slow=3.0,SNR=18
BVAR PKKPbc **PKKPbc** **10 15 19.9 -1.5**
comp=Z,0.7nm,0.5s,baz=302,slow=2.8,SNR=5.5
BRVK **Borovoye** **113.78** **320** PKPdf **PKiKP** **10 04 37.0 +0.3**
SNR=5.6
BRVK **Borovoye** **113.78** **320** *e*PKIKP **PKiKP** **10 04 36.0 -0.7**
BRVK *e* 10 05 31.1
BRVK MLR MLR
comp=Z,9µm,22.0s
BRVK **Borovoye** **113.78** **320** *e*PKPdf **PKiKP** **10 04 36.0 -0.7**
BRVK *e*PP **PP** **10 05 31.1 0.0**
BRVK LR LR
comp=Z,9µm,22.0s
AAM **Ann Arbor** **115.77** **53** PFAKE 10 04 50.0 +9.1
AAM LR LR
comp=Z,7µm,21.0s
ACSO **Alum Creek Sta** **116.00** **55** PFAKE 10 04 50.0 +8.6
ACSO LR LR
comp=Z,10µm,22.0s
MTDJ **Mount Denham** **116.11** **80** PFAKE 10 04 50.0 +7.6
MTDJ LR LR
comp=Z,2µm,22.0s
SIV **San Ignacio** **116.47** **122** PKKPbc PKKPbc 10 15 12.2 +1.3
SIV **San Ignacio** **116.47** **122** PKKPbc PKKPbc 10 15 12.2 +1.3
comp=Z,3.2nm,0.9s,baz=68,slow=3.2,SNR=3.8
BLA **Blacksburg** **117.58** **59** PFAKE 10 05 00.0 +15
BLA LR LR
comp=Z,10µm,22.0s
MCWV **Mont Chateau** **118.33** **56** PFAKE 10 05 00.0 +14
MCWV LR LR
comp=Z,12µm,20.0s
JMDO **Jabal Madar** **118.36** **284** PKPdf **PKPdf** **10 04 46.8 +0.3**
SNR=7.2
ERPA **Erie** **118.46** **53** PFAKE 10 05 00.0 +14
ERPA LR LR
comp=Z,5µm,19.0s
SMDO **Samad** **118.58** **285** PKPdf **PKPdf** **10 04 47.4 +0.4**
SNR=9.3
SAML **Samuel** **118.59** **114** *e*PKPdf **PKPdf** **10 04 45.7 -1.5**
SAML LR LR
comp=Z,13µm,22.0s
SUR **Sutherland** **118.65** **209** *e*PKPdf **PKPdf** **10 04 49.1 +2.0**
SUR LR LR
comp=Z,7µm,19.0s
GTBY **Guantanamo Bay** **118.77** **79** PFAKE 10 05 00.0 +13
GTBY LR LR
comp=Z,2µm,22.0s
IDAH **Dahanechah** **118.89** **296** *eP* **PKPdf** **10 04 47.3 -0.3**
IMYA **Miami** **119.20** **300** *eP* **PKPdf** **10 04 47.4 -0.6**
BSY **Bisya** **119.27** **284** PKPdf **PKPdf** **10 04 47.8 -0.5**
SNR=12
CNNC **Cliffs of the** **119.34** **61** PFAKE 10 05 00.0 +12
CNNC LR LR
comp=Z,10µm,22.0s
SVE **Sverdlovsk** **119.39** **324** *i* PKIKP **PKPdf** **10 04 47.5 +0.1**
SVE *e* 10 15 50.1
SVE pmax pmax
comp=Z,96nm,1.9s
IKOO **Kooshah** **119.56** **296** *eP* **PKPdf** **10 04 46.1 -2.8**
SDV **Santo Domingo** **119.58** **92** *e*PKPdf **PKPdf** **10 04 48.4 -1.0**
SDV LR LR
comp=Z,1µm,20.0s
BOSA **Boshof** **119.58** **215** *e*PKPdf **PKPdf** **10 04 48.5 -0.4**
BOSA **Boshof** **119.58** **215** PKP **PKPdf** **10 04 48.6 -0.4**
comp=Z,6.1nm,0.5s,baz=96,slow=1.3,SNR=14
ISRO **Mashad** **119.70** **300** *eP* **PKPdf** **10 04 48.6 -0.2**
CBN **Corbin** **120.09** **58** PFAKE 10 05 00.0 +11
CBN LR LR
comp=Z,11µm,22.0s
AB31 **Akbulak array** **120.10** **315** *i* PKIKP **PKPdf** **10 04 47.6 -1.4**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR **Akbulak array** **120.10** **315** *e*PKPdf **PKPdf** **10 04 48.2 -0.8**
IPAY **Payeh** **120.10** **300** *eP* **PKPdf** **10 04 49.3 -0.5**
IAKL **Akhelmad** **120.31** **300** *eP* **PKPdf** **10 04 48.4 -1.8**
IEMG **Emamgholi** **120.48** **301** *eP* **PKPdf** **10 04 49.4 -1.1**
IKRD **Kardeh** **120.52** **301** *eP* **PKPdf** **10 04 49.0 -1.6**
ARU **Arti** **120.57** **323** *i* PKIKP **PKPdf** **10 04 48.7 -1.0**
ARU 10 06 14.8
ARU PPP PPP 10 08 49.5
ARU SP SP 10 15 57.0 -2.2
ARU PS **PS** **10 16 05.0 -5.2**
RBK **Rabkut** **120.67** **278** PKPdf **PKPdf** **10 04 51.4 +0.3**
SNR=21
TRIS **Tristan da Cun** **120.95** **177** PFAKE 10 05 00.0 +8.8
TRIS LR LR
comp=Z,8µm,21.0s
SOKR **Solikamsk** **121.10** **327** *d* PKIKP **PKPdf** **10 04 50.0 -0.5**
SOKR pmax pmax
comp=Z,100nm,0.9s
SPB **Sao Paulo** **121.12** **138** PFAKE 10 05 00.0 +8.1
SPB LR LR
comp=Z,4µm,22.0s
AKTO **Aktyubinsk** **121.32** **316** PKIKP **PKPdf** **10 04 50.5 -0.9**
AKTO pmax pmax
comp=Z,22nm,0.7s
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO **Aktyubinsk** **121.32** **316** PKP **PKPdf** **10 04 50.5 -0.9**
AKTO PKKPbc **PKKPab** **10 14 53.0 +0.5**
AKTO **Aktyubinsk** **121.32** **316** PKP **PKPdf** **10 04 50.5 -0.9**
comp=Z,22nm,0.7s,baz=83,slow=1.3,SNR=39
AKTO PKKPbc **PKKPab** **10 14 53.0 +0.5**
comp=Z,4.0nm,0.9s,baz=306,slow=5.4,SNR=7.4
BINY **Binghamton** **121.44** **53** PFAKE 10 05 00.0 +8.1
BINY LR LR
comp=Z,8µm,22.0s
ABTO **Aybut** **121.47** **277** PKPdf **PKPdf** **10 04 53.0 +0.3**
SNR=30
KULLO **Kullorsuaq** **121.85** **14** *i* PKIKP **PKPdf** **10 04 51.1 -0.6**
KULLO pmax pmax
comp=Z,18nm,0.9s
KULLO **Kullorsuaq** **121.85** **14** *i* P **PKPdf** **10 04 51.1 -0.6**
comp=Z,18nm,0.8s
KULLO *i* 10 05 22.4
SDDR **Presa de Saban** **122.02** **81** PFAKE 10 05 10.0 +16
SDDR LR LR
comp=Z,5µm,22.0s
IBAF **Bafgh** **122.33** **294** *eP* **PKPdf** **10 04 53.4 -0.7**
KBS **Kingsbay** **122.42** **355** *e*PKPdf **PKPdf** **10 04 53.6 +0.9**
KBS *e*PP **PP** **10 06 30.6 +0.5**
KBS **Kingsbay** **122.42** **355** PFAKE 10 05 00.0 +7.3
KBS LR LR
comp=Z,3µm,22.0s
LONY **Lake Ozonia** **122.51** **50** PFAKE 10 05 10.0 +16
LONY LR LR
comp=Z,16µm,22.0s
SPA0 **Spitsbergen Ar** **122.71** **354** *eP* **PKPdf** **10 04 51.3 -2.0**
SPA0 *e*PP **PP** **10 06 30.2 -2.0**
SPITS **Spitsbergen Ar** **122.71** **354** PKP **PKPdf** **10 04 52.4 -0.9**
SPITS **Spitsbergen Ar** **122.71** **354** PKP **PKPdf** **10 04 52.4 -0.9**
comp=Z,34nm,0.9s,baz=74,slow=5.2,SNR=13
NCB **Newcomb** **122.77** **51** PFAKE 10 05 10.0 +16
NCB LR LR
comp=Z,11µm,20.0s
GRTK **Grand Turk** **122.77** **78** PFAKE 10 05 10.0 +15
GRTK LR LR
comp=Z,2µm,20.0s
HOPEN **Hopen** **123.07** **351** *e*PP PP 10 06 35.2 +0.7
HOPEN AMS AMS 10 46 54.1
comp=Z,5µm,30.0s
FRB **Frobisher Bay** **123.09** **27** PKP **PKPdf** **10 04 53.6 -0.7**
FRB PKKPab **PKKPab** **10 14 43.6 -0.6**
FRB **Frobisher Bay** **123.09** **27** PKP **PKPdf** **10 04 53.6 -0.7**
comp=Z,23nm,0.9s,baz=301,slow=3.4,SNR=20
FRB PKKPab **PKKPab** **10 14 43.6 -0.6**
comp=Z,2.9nm,0.8s,baz=138,slow=12,SNR=2.3
IMEH **Mehriz** **123.11** **294** *eP* **PKPdf** **10 04 54.3 -1.4**
ICHK **Chekchek** **123.39** **295** *eP* **PKPdf** **10 04 57.1 +0.9**
IANJ **Anjilo** **124.11** **299** *eP* **PKPdf** **10 04 57.2 -0.3**
LBNH **Lisbon** **124.42** **51** PFAKE 10 05 10.0 +12
LBNH LR LR
comp=Z,11µm,19.0s
ISHM **Shahmirzad** **124.64** **299** *eP* **PKPdf** **10 04 57.4 -1.2**
DAG **Danmarks Havn** **125.19** **3** *e*PKIKP **PKPdf** **10 04 57.3 -0.7**
DAG pmax pmax
comp=Z,24nm,1.0s
DAG **Danmarks Havn** **125.19** **3** *i* P **PKPdf** **10 04 57.3 -0.7**
comp=Z,24nm,1.0s
DAG
comp=Z,7µm,30.0s
IZEF **Zefreh** **125.20** **295** *eP* **PKPdf** **10 05 00.3 +0.6**
IGAR **Gharneh** **125.40** **295** *eP* **PKPdf** **10 05 00.1 +0.1**
PTGA **Pitinga** **125.42** **108** *e*PKPdf **PKPdf** **10 04 59.4 -1.0**
PTGA LR LR
comp=Z,22µm,22.0s
IKLH **Kolahrood** **125.87** **296** *eP* **PKPdf** **10 04 59.0 -2.0**
LRS **Lares** **125.92** **83** *e*PKPdf **PKPdf** **10 05 00.1 -1.0**
OBIP **Obispado Ponce** **126.08** **83** *e*PKPdf **PKPdf** **10 05 01.1 -0.3**
OBIP *e*SKPdf **SKPdf** **10 08 26.7 -2.4**
PKME **Peaks-Kenny Pk** **126.24** **49** *e*PKPdf **PKPdf** **10 05 00.4 -0.5**
PKME LR LR
comp=Z,14µm,22.0s
SCHQ **Schefferville** **126.34** **37** PKP **PKPdf** **10 04 59.3 -1.5**
SCHQ **Schefferville** **126.34** **37** PKP **PKPdf** **10 04 59.3 -1.5**
comp=Z,14nm,0.9s,baz=341,slow=3.6,SNR=4.8
BDFB **Brasilia** **126.41** **131** PKP **PKPdf** **10 05 01.7 -0.6**
BDFB **Brasilia** **126.41** **131** PKP **PKPdf** **10 05 01.7 -0.6**
comp=Z,36nm,0.8s,baz=194,slow=2.1,SNR=25
SJG **San Juan** **126.52** **83** *e*PKPdf **PKPdf** **10 05 01.1 -1.1**
SJG LR LR
comp=Z,2µm,22.0s
SUMG **Summit** **127.00** **11** *e*PKIKP **PKPdf** **10 05 03.1 +1.0**
SUMG *e* 10 07 01.6
SUMG **Summit** **127.00** **11** *i* P **PKPdf** **10 05 02.7 +0.6**
comp=Z,11nm,1.3s
SUMG **Summit** **127.00** **11** *e*PKPdf **PKPdf** **10 05 03.1 +1.0**
SUMG *e*PP **PP** **10 07 01.6 +0.4**
MTP **Monte Pirata** **127.06** **84** *e*PKPdf **PKPdf** **10 05 03.1 -0.1**
APA **Apatity** **127.55** **341** ⇓ *i*PKIKP **PKPdf** **10 05 03.4 +0.6**
APA *i* 10 07 08.0
APA pmax pmax
comp=Z,96nm,1.5s

KEV	**Kevo**	**127.82**	**345**	*e*PKIKP	**PKPdf**	**10 05 03.7**	**+0.5**
KEV				MLR	MLR		
	comp=Z,8μm,22.0s						
KEV	**Kevo**	**127.82**	**345**	*e*PKPdf	**PKPdf**	**10 05 03.7**	**+0.5**
KEV				LR	LR		
	comp=Z,8μm,22.0s						
LSZ	**Lusaka**	**127.83**	**228**	*e*PKPdf	**PKPdf**	**10 05 04.5**	**-0.6**
LSZ				LR	LR		
	comp=Z,4μm,20.0s						
SFJD	**Kangerlussuaq**	**128.19**	**19**	PFAKE		10 05 20.0	+16
SFJD				LR	LR		
	comp=Z,15μm,21.0s						
ARCES	**ARCESS Array B**	**128.34**	**345**	PKP	**PKPdf**	**10 05 03.9**	**-0.3**
ARCES	**ARCESS Array B**	**128.34**	**345**	PKP	**PKPdf**	**10 05 03.9**	**-0.3**
	comp=Z,17nm,0.7s,baz=73,slow=1.5,SNR=26						
ARE0	**ARCESS Array S**	**128.34**	**345**	*e*PKPdf	**PKPdf**	**10 05 04.7**	**+0.4**
ARE0				*e*PP	**PP**	**10 07 07.1**	**-2.5**
KBD	**Kabd**	**128.80**	**290**	*e*P	**PKPdf**	**10 05 07.4**	**+1.1**
KBD				AMb	AMB	10 05 11.3	
	comp=Z,122nm,2.1s						
RDF	**Al-Radifah**	**128.89**	**290**	*e*P	**PKPdf**	**10 05 08.1**	**+1.6**
RDF				AMb	AMB	10 05 11.3	
	comp=Z,383nm,1.3s						
KLMR	**Klimovskoe**	**128.90**	**332**	*d* PKIKP	**PKPdf**	**10 05 05.8**	**+0.3**
KLMR				pmax	pmax		
	comp=Z,183nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,7μm,24.0s						
GRGR	**Grenville**	**128.98**	**92**	PFAKE		10 05 20.0	+13
GRGR				LR	LR		
	comp=Z,2μm,22.0s						
MAK	**Makhachkala**	**129.05**	**308**	*i* PKIKP	**PKPdf**	**10 05 05.9**	**-0.4**
MAK				*e*		10 07 13.1	
MAK				*e*SS	SS	10 24 34.6	+6.0
MAK				*e*SSS	SSS	10 29 20.5	
MAK				pmax	pmax		
	comp=Z,557nm,1.2s						
MAK				MLR	MLR		
	comp=Z,4μm,22.0s						
KMBO	**Kilima Mbogo**	**129.24**	**249**	PKPdf	**PKPdf**	**10 05 09.7**	**+1.7**
	SNR=38						
KMBO	**Kilima Mbogo**	**129.24**	**249**	*e*PKPdf	PKPpre	10 05 03.5	
KMBO				PKP	**PKPdf**	**10 05 08.6**	**+0.6**
KMBO				*e*PP	**PP**	**10 07 13.9**	**-3.3**
KMBO				*e*SKPdf	SKPbc	10 08 26.3	+4.4
KMBO				SKPbc	**SKiKP**	**10 08 31.2**	**-5.8**
KMBO				LR	LR		
	comp=Z,6μm,20.0s						
KMBO	**Kilima Mbogo**	**129.24**	**249**	PKP	**PKPdf**	**10 05 08.6**	**+0.6**
	comp=Z,25nm,1.1s,baz=79,slow=2.0,SNR=47						
KMBO				SKPbc	**SKiKP**	**10 08 31.2**	**-5.8**
	comp=Z,6.5nm,0.9s,baz=100,slow=5.3,SNR=7.2						
RST	**Umm Al-Ruwaisa**	**129.43**	**291**	*e*P	**PKPdf**	**10 05 08.4**	**+0.9**
RST				AMb	AMB	10 05 12.0	
	comp=Z,2μm,1.0s						
TRO	**Tromso**	**129.69**	**348**	*e*PP	PP	10 07 17.2	-1.2
TRO				AMS	AMS	10 52 11.4	
	comp=Z,8μm,30.8s						
BBSR	**BB Station**	**130.02**	**66**	PFAKE		10 05 20.0	+11
BBSR				LR	LR		
	comp=Z,2μm,20.0s						
FDF	**Fort de France**	**130.24**	**89**	PFAKE		10 05 20.0	+11
FDF				LR	LR		
	comp=Z,2μm,21.0s						
ANWB	**Willy Bob**	**130.43**	**85**	PFAKE		10 05 20.0	+10
ANWB				LR	LR		
	comp=Z,1μm,20.0s						
SCO	**Scoresbysund**	**131.12**	**6**	*i* PKIKP	**PKPdf**	**10 05 11.2**	**+1.7**
SCO				pmax	pmax		
	comp=Z,12nm,1.0s						
SCO	**Scoresbysund**	**131.12**	**6**	*i* P	**PKPdf**	**10 05 11.2**	**+1.7**
	comp=Z,12nm,1.0s						
TBLG	**Delisi**	**131.22**	**307**	P	**PKPdf**	**10 05 13.3**	**+2.7**
TBLG				S	**SKPab**	**10 08 30.8**	**+2.7**
BBGH	**Gun Hill**	**131.24**	**92**	PFAKE		10 05 20.0	+8.7
BBGH				LR	LR		
	comp=Z,4μm,21.0s						
TSUM	**Tsumeb**	**131.28**	**214**	*e*PKPdf	**PKPdf**	**10 05 10.3**	**-1.3**
TSUM				LR	LR		
	comp=Z,11μm,20.0s						
GUDG	**Gudauri**	**131.33**	**308**	P	PKPdf	10 05 17.3	+6.3
GUDG				S	**SKiKP**	**10 08 39.2**	**-1.1**
GNI	**Garni**	**131.37**	**304**	PKPdf	**PKPdf**	**10 05 12.5**	**+1.4**
	SNR=7.5						
GNI	**Garni**	**131.37**	**304**	*e*PKPdf	**PKPdf**	**10 05 10.7**	**-0.4**
GNI				PKP	**PKPdf**	**10 05 12.3**	**+1.2**
GNI				*e*PP	PP	10 07 25.1	-5.6
GNI				*e*		10 08 30.7	
GNI				LR	LR		
	comp=Z,2μm,21.0s						
GNI	**Garni**	**131.37**	**304**	PKP	**PKPdf**	**10 05 12.3**	**+1.2**
	comp=Z,21nm,0.7s,baz=3.5,slow=6.8,SNR=10						
VRHR	**Novokhopersk**	**131.45**	**319**	*e*PKIKP	**PKPdf**	**10 05 09.7**	**-0.9**
VRHR				pmax	pmax		
	comp=Z,40nm,1.1s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,30nm,1.6s						
ZEI	**Tsey**	**131.71**	**308**	*i* PKIKP	**PKPdf**	**10 05 12.8**	**+1.1**
ZEI				pmax	pmax		
	comp=Z,88nm,2.1s						
MOS	**Moscow**	**132.03**	**326**	*e*PKIKP	**PKPdf**	**10 05 10.2**	**-1.4**
MOS				*e*		10 05 32.5	
MOS				pmax	pmax		
	comp=Z,129nm,1.3s						
MOS				pmax	pmax		
	comp=Z,600nm,2.7s						
ONI	**Oni**	**132.06**	**308**	P	**PKPdf**	**10 05 11.2**	**-1.0**
ONI				S	**SKPab**	**10 08 34.6**	**+2.8**
EAK	**Akyaka**	**132.18**	**305**	*i* P	**PKPdf**	**10 05 11.5**	**-1.1**
DYDN	**Diyadin**	**132.23**	**304**	*i* P	**PKPdf**	**10 05 12.1**	**-0.8**
DESE	**Dese**	**132.24**	**265**	*e*P	**PKPdf**	**10 05 16.2**	**+2.6**
KBZ	**Khabaz**	**132.29**	**309**	PKIKP	**PKPdf**	**10 05 14.4**	**+2.0**
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ				pmax	pmax		
	comp=N,5.0nm,0.8s						
KBZ	**Khabaz**	**132.29**	**309**	PKP	**PKPdf**	**10 05 14.4**	**+2.0**
KBZ				SKPbc	**SKPab**	**10 08 36.2**	**+3.6**
KBZ	**Khabaz**	**132.29**	**309**	PKP	**PKPdf**	**10 05 14.4**	**+2.0**
	comp=N,7.2nm,0.8s,baz=148,slow=4.0,SNR=9.3						
KBZ				SKPbc	**SKPab**	**10 08 36.2**	**+3.6**
	comp=N,5.1nm,0.8s,baz=134,slow=3.0,SNR=4.1						
FURI	**Furi**	**132.34**	**262**	P	**PKPdf**	**10 05 16.4**	**+2.6**
FURI				S	**PP**	**10 07 37.1**	**-0.5**
HAKT	**HAKKARI**	**132.35**	**301**	*i* P	**PKPdf**	**10 05 11.8**	**-1.4**
DIGO	**Kars**	**132.38**	**305**	*i* P	**PKPdf**	**10 05 11.6**	**-1.6**
KIV	**Kislovodsk**	**132.40**	**310**	*i* PKIKP	**PKPdf**	**10 05 13.4**	**+0.6**
KIV				*e*		10 07 35.9	
KIV				*e*		10 12 14.9	
KIV				*e*PS	**PS**	**10 17 49.8**	**-4.8**
KIV				*e*SS	SS	10 25 09.8	+0.1
KIV				*e*SSS	SSS	10 30 03.6	
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV				MLR	MLR		
	comp=Z,5μm,20.0s						
TVAN	**Van**	**132.53**	**302**	*i* P	**PKPdf**	**10 05 12.7**	**-0.7**
VOR	**Voronezh**	**132.69**	**321**	PKIKP	**PKPdf**	**10 05 12.0**	**-1.0**
VOR				pmax	pmax		
	comp=Z,470nm,1.8s						
GEVA	**Gevas**	**132.82**	**302**	*i* P	**PKPdf**	**10 05 11.9**	**-2.0**
VSR	**Storozhevoye**	**132.88**	**320**	*e*PKIKP	**PKPdf**	**10 05 12.8**	**-0.6**
VSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,30nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD	**Divnogorie**	**132.89**	**320**	*e*PKIKP	**PKPdf**	**10 05 12.8**	**-0.6**
VORD				pmax	pmax		
	comp=Z,20nm,0.7s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.7s						
TUTA	**Tutak**	**132.91**	**304**	*i* P	**PKPdf**	**10 05 13.9**	**-0.2**
EATA	**Eleskirt**	**133.12**	**304**	*i* P	**PKPdf**	**10 05 14.6**	**0.0**
SIRN	**S¨–rnak**	**133.39**	**301**	*i* P	**PKPdf**	**10 05 14.2**	**-0.6**
DAGI	**Agillar**	**133.41**	**306**	*i* P	**PKPdf**	**10 05 10.2**	**-4.7**
EKAR	**Karacoban**	**133.51**	**304**	*i* P	**PKPdf**	**10 05 13.1**	**-2.2**
HOMI	**Horasan**	**133.54**	**305**	*i* P	**PKPdf**	**10 05 13.2**	**-2.1**
DBOC	**Borcka**	**133.55**	**306**	*i* P	**PKPdf**	**10 05 14.7**	**-0.4**
DDEM	**Demirkent**	**133.55**	**306**	*i* P	**PKPdf**	**10 05 15.8**	**+0.7**
DBAD	**Bademkaya**	**133.58**	**306**	*i* P	**PKPdf**	**10 05 14.7**	**-0.5**
FIA1	**FINESS Array S**	**133.93**	**337**	*e*PKPdf	**PKPdf**	**10 05 13.0**	**-2.0**
FINES	**FINESS Array B**	**133.93**	**337**	PKP	**PKPdf**	**10 05 12.8**	**-2.3**
FINES				SKPbc	**SKPab**	**10 08 38.8**	**-0.3**
FINES	**FINESS Array B**	**133.93**	**337**	PKhKP	PKPpre	10 05 02.9	
	comp=E,3.3nm,0.7s,baz=57,slow=7.0,SNR=4.6						
FINES				PKP	**PKPdf**	**10 05 12.8**	**-2.3**
	comp=E,24nm,0.9s,baz=103,slow=4.1,SNR=21						
FINES				SKPbc	**SKPab**	**10 08 38.8**	**-0.3**
	comp=E,21nm,0.9s,baz=68,slow=5.1,SNR=14						
ERZM	**Erzurum**	**133.97**	**305**	*i* P	**PKPdf**	**10 05 18.0**	**+1.8**
BNGL	**BINGOL**	**134.25**	**303**	*i* P	**PKPdf**	**10 05 15.9**	**-0.8**
SOC	**Sochi**	**134.59**	**310**	*e*PKIKP	**PKPdf**	**10 05 16.1**	**-0.7**
SOC				*e*		10 07 50.9	
SOC				*e*PPP	PPP	10 10 48.5	
SOC				*e*		10 12 18.6	
SOC				pmax	pmax		
	comp=Z,17nm,0.6s						
SOC				pmax	pmax		
	comp=Z,40nm,0.9s						
SOC				MLR	MLR		
	comp=Z,5μm,21.0s						
MBAR	**Mbarara**	**135.06**	**245**	PFAKE		10 05 30.0	+11
MBAR				LR	LR		
	comp=Z,272nm,21.0s						
DIYA	**Diyarbakir**	**135.16**	**302**	*i* P	**PKPdf**	**10 05 16.2**	**-2.0**
EUZM	**Uzumlu**	**135.27**	**304**	*i* P	**PKPdf**	**10 05 20.6**	**+2.2**
KELT	**Kelkit**	**135.54**	**305**	*i* P	**PKPdf**	**10 05 17.0**	**-2.0**
ANN	**Anapa**	**135.90**	**312**	*i* PKIKP	**PKPdf**	**10 05 19.0**	**-0.2**
ANN				*e*		10 05 42.7	
ANN						10 07 55.9	
ANN				pmax	pmax		
	comp=Z,1μm,7.6s						
ELZG	**Elazig**	**135.98**	**303**	*i* P	**PKPdf**	**10 05 19.3**	**-0.6**
KEMA	**Kemaliye**	**136.26**	**304**	*i* P	**PKPdf**	**10 05 18.6**	**-1.6**
SUSE	**Susehri**	**136.33**	**305**	*i* P	**PKPdf**	**10 05 20.1**	**-0.3**
MALT	**Malatya**	**136.44**	**303**	⇑PKIKP	**PKPdf**	**10 05 21.5**	**+0.9**
MALT	**Malatya**	**136.44**	**303**	⇑*i*P	**PKPdf**	**10 05 21.5**	**+0.9**
AKCD	**Akcadag**	**136.84**	**303**	*i* P	**PKPdf**	**10 05 20.3**	**-1.1**
TBLU	**Trondheim**	**136.97**	**347**	*e*PP	PP	10 08 04.1	-0.6
TBLU				AMS	AMS	10 56 34.7	
	comp=Z,8μm,30.2s						
SCER	**sogukcermik**	**137.20**	**305**	*i* P	**PKPdf**	**10 05 18.4**	**-3.6**
GZT	**Gaziantep**	**137.24**	**301**	*i* P	**PKPdf**	**10 05 23.4**	**+1.2**
ERBA	**Erbaa**	**137.33**	**306**	*i* P	**PKPdf**	**10 05 17.4**	**-4.7**
MICGM	**Minsk**	**137.51**	**329**	⇑*e*PKP	**PKPdf**	**10 05 22.0**	**+0.1**
MNK	**Minsk**	**137.53**	**329**	⇑*e*PKIKP	**PKPdf**	**10 05 22.0**	**+0.1**
MNK				*e*		10 05 39.0	
MNK				pmax	pmax		
	comp=Z,190nm,1.0s						
MNK				MLR	MLR		
	comp=Z,14μm,22.0s						
MNK				MLR	MLR		
	comp=Z,62μm,10.0s						
MNK				MLR	MLR		
	comp=N,28μm,10.0s						
MNK				MLR	MLR		
	comp=N,7μm,22.0s						
MNK				MLR	MLR		
	comp=E,5μm,22.0s						
TOKA	**Tokat**	**137.60**	**306**	*i* P	**PKPdf**	**10 05 18.6**	**-4.0**
ISAL	**Salakas**	**137.69**	**331**	*e*P	**PKPdf**	**10 05 21.7**	**-0.5**
ISAL				AMB	AMB	10 05 25.7	
	comp=Z,18nm,0.9s						
KUZU	**Kuzuini**	**137.70**	**301**	*i* P	**PKPdf**	**10 05 18.9**	**-4.0**
IIGN	**Ignalina**	**137.78**	**331**	*e*P	**PKPdf**	**10 05 22.1**	**-0.3**
IIGN				AMB	AMB	10 05 25.4	
	comp=Z,38nm,0.9s						
NACGM	**Naroch**	**137.80**	**330**	*e*PKP	PKPdf	10 05 16.0	-6.4
PINB	**Pinarbasi**	**137.96**	**304**	*i* P	**PKPdf**	**10 05 22.2**	**-1.4**
HAVZ	**Havza**	**138.02**	**307**	*i* P	**PKPdf**	**10 05 19.6**	**-3.7**
SIM	**Simferopol'**	**138.12**	**313**	*e*PKIKP	**PKPdf**	**10 05 21.2**	**-2.1**
SIM				*e*		10 08 13.0	
SIM				pmax	pmax		
	comp=Z,33nm,1.1s						
SIM				MLR	MLR		
	comp=Z,4μm,24.0s						
ASF	**Jabal al Asfar**	**138.20**	**294**	PKP	**PKPdf**	**10 05 23.5**	**-0.5**
ASF				SKPbc	**SKiKP**	**10 08 56.6**	**+2.1**
ASF	**Jabal al Asfar**	**138.20**	**294**	PKP	**PKPdf**	**10 05 23.5**	**-0.5**
	comp=Z,19nm,0.9s,baz=63,slow=2.5,SNR=13						
ASF				SKPbc	**SKiKP**	**10 08 56.6**	**+2.1**
	comp=Z,8.1nm,0.9s,baz=6.3,slow=3.6,SNR=4.9						
NB2	**NORSAR Subarra1**	**138.72**	**345**	PKPdf	PKPpre	10 05 15.6	
	comp=Z,55nm,1.4s,baz=27,slow=1.8						
NB2	**NORSAR Subarra1**	**138.72**	**345**	PKPdf	PKPpre	10 05 15.6	
	baz=27,slow=1.8						
NOA	**NORSAR Array B**	**138.72**	**345**	PKPpre	PKPpre	10 05 15.6	
NOA				PKP	**PKPdf**	**10 05 24.5**	**+0.5**
NOA				SKP		10 08 53.4	
NOA	**NORSAR Array B**	**138.72**	**345**	PKhKP	PKPpre	10 05 15.6	
	comp=Z,5.9nm,0.8s,baz=32,slow=2.8,SNR=13						
NOA				PKP	**PKPdf**	**10 05 24.5**	**+0.5**
	comp=Z,8.4nm,0.9s,baz=28,slow=2.0,SNR=11						
NOA				SKP		10 08 53.4	
	comp=Z,7.6nm,0.8s,baz=17,slow=4.3,SNR=14						
CTKT	**Corum**	**138.80**	**307**	*i* P	**PKPdf**	**10 05 21.1**	**-3.9**
AKASG	**Malin Array Be**	**138.82**	**323**	PKIKP	**PKPdf**	**10 05 23.9**	**-0.5**
AKASG	**Malin Array Be**	**138.82**	**323**	PKP	**PKPdf**	**10 05 23.9**	**-0.5**
AKASG				SKP		10 08 54.6	
AKASG	**Malin Array Be**	**138.82**	**323**	PKhKP	PKPpre	10 05 14.4	
	comp=Z,1.5nm,0.5s,baz=44,slow=3.9,SNR=9.7						
AKASG				PKP	**PKPdf**	**10 05 23.9**	**-0.5**
	comp=Z,31nm,0.9s,baz=56,slow=2.7,SNR=23						
AKASG				SKP		10 08 54.6	
	comp=Z,19nm,0.9s,baz=47,slow=3.6,SNR=14						
AKBB	**Malin Array Si**	**138.82**	**323**	*e*PKIKP	**PKPdf**	**10 05 23.3**	**-1.1**
AKBB				*e*		10 08 12.9	
AKBB	**Malin Array Si**	**138.82**	**323**	*e*PKPdf	**PKPdf**	**10 05 23.2**	**-1.1**
AKBB				*e*PP	**PP**	**10 08 12.9**	**-4.0**
AK01	**Malin Array Si**	**138.83**	**323**	*e*PKPdf	**PKPdf**	**10 05 23.6**	**-0.8**
KIEV	**Kiev**	**138.83**	**323**	PFAKE		10 05 40.0	+16
KIEV				LR	LR		
	comp=Z,4μm,20.0s						
AK02	**Malin Array Si**	**138.85**	**323**	*e*PKPdf	**PKPdf**	**10 05 23.4**	**-1.1**
HFS	**Hagfors**	**138.87**	**343**	PKHKP	PKPpre	10 05 14.8	
	comp=Z,6.2nm,0.7s,baz=64,slow=3.4,SNR=11						
HFS				SKPbc	**SKiKP**	**10 08 53.9**	**-0.9**
	comp=Z,13nm,0.8s,baz=90,slow=3.0,SNR=10						
AVNT	**Avonos**	**139.13**	**304**	*i* P	PKPdf	10 05 18.1	-7.5
CDAG	**Cicekdag**	**139.33**	**305**	*i* P	PKPdf	10 05 17.1	-8.8
MMAI	**Mount Meron Ar**	**139.42**	**295**	PKPpre	PKPpre	10 05 20.1	
MMAI				SKPbc	**SKiKP**	**10 08 58.6**	**+1.6**
MMAI	**Mount Meron Ar**	**139.42**	**295**	PKhKP	PKPpre	10 05 20.1	
	comp=Z,5.1nm,0.6s,baz=87,slow=4.3,SNR=4.3						
MMAI				SKPbc	**SKiKP**	**10 08 58.6**	**+1.6**
	comp=Z,11nm,0.7s,baz=96,slow=7.6,SNR=7.0						
GULE	**Gulek**	**139.45**	**302**	*i* P	PKPdf	10 05 18.9	-7.4
ILGA	**Ilgaz**	**139.49**	**308**	*i* P	PKPdf	10 05 19.6	-6.7
BR131	**Keskin Array S**	**139.86**	**306**	*e*PKPdf	**PKPdf**	**10 05 27.5**	**+0.6**
BR131				*e*PP	**PP**	**10 08 24.9**	**+0.8**
BRTR	**Keskin Array B**	**139.86**	**306**	PKPpre	PKPpre	10 05 20.6	
BRTR				SKPbc	**SKiKP**	**10 08 58.5**	**+0.7**
BRTR	**Keskin Array B**	**139.86**	**306**	PKhKP	PKPpre	10 05 20.6	
	comp=Z,5.0nm,0.7s,baz=97,slow=6.5,SNR=20						
BRTR				SKPbc	**SKiKP**	**10 08 58.5**	**+0.7**
	comp=Z,7.5nm,0.9s,baz=139,slow=2.6,SNR=6.1						
EIL	**Elat**	**139.92**	**290**	PKPpre	PKPpre	10 05 18.9	
EIL				PKP	**PKPdf**	**10 05 27.8**	**+0.7**
EIL				SKPbc	**SKiKP**	**10 09 00.4**	**+2.4**
EIL	**Elat**	**139.92**	**290**	PKhKP	PKPpre	10 05 18.9	
	comp=Z,10nm,0.9s,baz=15,slow=7.4,SNR=4.7						
EIL				PKP	**PKPdf**	**10 05 27.8**	**+0.7**
	comp=Z,27nm,0.9s,baz=127,slow=2.9,SNR=9.1						
EIL				SKPbc	**SKiKP**	**10 09 00.4**	**+2.4**
	comp=Z,23nm,1.1s,baz=40,slow=7.9,SNR=5.4						
SUW	**Suwalki**	**140.00**	**331**	*e*PKHKP	PKPpre	10 05 18.6	
SUW	**Suwalki**	**140.00**	**331**	*e*PKPpre	PKPpre	10 05 18.6	
SUW				*e*SKPdf	**SKiKP**	**10 08 57.0**	**-0.3**
KIZK	**Mersin**	**140.08**	**301**	*i* P	PKPdf	10 05 20.1	-7.0
KONO	**Kongsberg**	**140.33**	**345**	PFAKE		10 05 40.0	+13
KONO				LR	LR		
	comp=Z,5μm,21.0s						
ANTO	**Ankara**	**140.46**	**306**	PKPdf	**PKPdf**	**10 05 24.4**	**-3.5**
	SNR=15						
ANTO	**Ankara**	**140.46**	**306**	⇑PKIKP	**PKPdf**	**10 05 25.5**	**-2.4**
ANTO	**Ankara**	**140.46**	**306**	⇑*i*P	**PKPdf**	**10 05 25.5**	**-2.4**
ANTO	**Ankara**	**140.46**	**306**	*e*PKPpre	PKPpre	10 05 23.9	
ANTO				*e*PP	**PP**	**10 08 25.3**	**-2.4**
ANTO				LR	LR		
	comp=Z,3μm,22.0s						
BCAM	**Yenicaga**	**140.76**	**308**	*i* P	PKPdf	10 05 19.2	-9.2
KIS	**Kishinev**	**140.78**	**318**	*e*PKP	**PKPdf**	**10 05 28.0**	**-0.1**
KIS	**Kishinev**	**140.78**	**318**	*e*PP	PP	10 08 30.0	+1.0
KIS				*e*SKP		10 09 02.0	
KIS				*e*SKS	SKSdf	10 12 03.0	-27
KIS	**Kishinev**	**140.78**	**318**	*e*PKIKP	**PKPdf**	**10 05 28.0**	**-0.1**
KIS				*e*		10 08 30.0	
KIS				MLR	MLR		
	comp=Z,6μm,25.0s						
KIS				MLR	MLR		
	comp=E,4μm,23.0s						
KIS				MLR	MLR		
	comp=Z,6μm,25.0s						
CSS	**Prodhromos**	**140.94**	**298**	P	PKPdf	10 05 18.0	-11
ERMK	**Ermenek**	**141.03**	**301**	*i* P	PKPdf	10 05 19.7	-9.4
KDHN	**Kadinhani**	**141.28**	**304**	*i* P	PKPdf	10 05 18.2	-11
BTAS	**Taskesti**	**141.61**	**308**	*i* P	PKPdf	10 05 18.4	-12
RCBR	**Riachuelo**	**141.69**	**134**	*e*PKPdf	PKPdf	10 05 23.7	-7.1
RCBR				SKPbc	**SKiKP**	**10 09 03.5**	**+1.2**
RCBR				LR	LR		
	comp=Z,5μm,20.0s						
RCBR	**Riachuelo**	**141.69**	**134**	SKPbc	**SKiKP**	**10 09 03.5**	**+1.2**
	comp=Z,8.5nm,1.0s,baz=189,slow=2.0,SNR=3.6						
SHEL	**Horse Pasture**	**141.92**	**185**	PFAKE		10 05 40.0	+8.8
SHEL				LR	LR		
	comp=Z,3μm,20.0s						
CFR	**Carcaliu**	**141.98**	**316**	⇑PKIKP	**PKPdf**	**10 05 29.2**	**-1.1**
CFR	**Carcaliu**	**141.98**	**316**	⇑*i*P	**PKPdf**	**10 05 29.2**	**-1.1**
SEYT	**Eskypehyr**	**142.00**	**306**	*i* P	PKPdf	10 05 24.9	-5.8
TIRR	**Tirgusor**	**142.09**	**315**	⇑PKIKP	**PKPdf**	**10 05 29.8**	**-0.7**
TIRR	**Tirgusor**	**142.09**	**315**	⇑*i*P	**PKPdf**	**10 05 29.8**	**-0.7**
LVV	**L'vov**	**142.12**	**325**	*e*PKIKP	**PKPdf**	**10 05 27.1**	**-3.3**
LVV				*i*		10 08 34.5	
LVV				*e*		10 12 30.1	
BOLV	**Bolvadin**	**142.13**	**305**	*i* P	PKPdf	10 05 22.3	-8.7
BORA	**Eskisehir**	**142.20**	**307**	*i* P	PKPdf	10 05 23.3	-7.7
TLB	**Topalu**	**142.29**	**315**	⇑PKIKP	**PKPdf**	**10 05 28.9**	**-2.0**
TLB	**Topalu**	**142.29**	**315**	⇑*i*P	**PKPdf**	**10 05 28.9**	**-2.0**
TESR	**Tescani**	**142.33**	**319**	⇑*i*P	**PKPdf**	**10 05 30.2**	**-0.7**
BEL	**Belsk**	**142.51**	**329**	*e*PKIKP	**PKPdf**	**10 05 29.9**	**-1.1**
BEL				MLR	MLR		
	comp=Z,5μm,24.5s						
BEL	**Belsk**	**142.51**	**329**	*e*PKPdf	**PKPdf**	**10 05 29.9**	**-1.1**
BEL				LMZ	LR	11 03 09.8	
PSN	**Preselentsi**	**142.55**	**314**	⇑PKIKP	**PKPdf**	**10 05 30.5**	**-0.9**
PSN	**Preselentsi**	**142.55**	**314**	P	**PKPdf**	**10 05 26.3**	**-5.1**
PSN	**Preselentsi**	**142.55**	**314**	⇑*i*P	**PKPdf**	**10 05 30.5**	**-0.9**
VRI	**Vrincioaia**	**142.57**	**318**	⇓PKIKP	**PKPdf**	**10 05 28.6**	**-2.8**
VRI	**Vrincioaia**	**142.57**	**318**	⇓*i*P	**PKPdf**	**10 05 28.6**	**-2.8**
BSD	**Bornholm Skovb**	**142.58**	**337**	*i* PKIKP	**PKPdf**	**10 05 28.8**	**-2.2**
BSD				pmax	pmax		
	comp=Z,27nm,0.9s						
BSD	**Bornholm Skovb**	**142.58**	**337**	*i* P	**PKPdf**	**10 05 28.8**	**-2.2**
	comp=Z,27nm,0.9s						
PLOR	**Plostina**	**142.63**	**318**	⇓PKIKP	**PKPdf**	**10 05 33.9**	**+2.4**
PLOR	**Plostina**	**142.63**	**318**	⇓*i*P	**PKPdf**	**10 05 33.9**	**+2.4**
BUR08	**Bucovina Ar. S**	**142.64**	**321**	*e*PKPdf	**PKPdf**	**10 05 28.4**	**-3.2**
BUR08				*e*PP	**PP**	**10 08 38.6**	**-1.8**
BUR08				*e*SKPbc	**SKiKP**	**10 09 05.0**	**+1.8**
BURAR	**Bucovina Array**	**142.64**	**321**	⇑PKIKP	**PKPdf**	**10 05 29.4**	**-2.2**
BURAR	**Bucovina Array**	**142.64**	**321**	⇑*i*P	**PKPdf**	**10 05 29.4**	**-2.2**
ISP	**Isparta**	**142.66**	**304**	P	PKPpre	10 05 25.8	
ISP	**Isparta**	**142.66**	**304**	*e*PKHKP	PKPpre	10 05 25.6	
ISP				*e*		10 08 40.0	
ISP				MLR	MLR		
	comp=Z,4μm,20.0s						
ISP	**Isparta**	**142.66**	**304**	*e*PKPdf	PKPpre	10 05 25.6	
ISP				*e*PP	**PP**	**10 08 40.0**	**-1.1**
ISP				LR	LR		
	comp=Z,4μm,20.0s						
KWP	**Kalwaria Pacla**	**142.93**	**325**	*e*PKIKP	**PKPdf**	**10 05 29.4**	**-2.5**
KWP	**Kalwaria Pacla**	**142.93**	**325**	*e*PKPdf	**PKPdf**	**10 05 29.3**	**-2.6**
KWP				*e*PP	PP	10 08 35.7	-6.

BALY	Balya	144.33 308	*i* P		PKPab	10 05 28.2	-4.8
SART	Tekirdag	144.34 310	*i* P		PKPab	10 05 32.4	-0.6
TURN	Turunc	144.37 303	*i* P		PKPab	10 05 31.7	-1.4
MCD	Coleburn Disti	144.42 355	*e*P		PKPab	10 05 31.8	-0.9
AKHS	Akhisar	144.45 306	*i* P		PKPab	10 05 27.8	-5.6
DRGR		144.53 321	⇓PKIKP		PKPbc	10 05 34.1	+0.4
DRGR		144.53 321	⇓*i*P		PKPbc	10 05 34.1	+0.4
LOT	Lotru	144.60 319	⇓*i*P		PKPbc	10 05 34.2	+0.2
PVL	Pavlikeni	144.64 314	P		PKPbc	10 05 34.2	+0.2
MDO	Dochfour	144.65 356	*e*P		PKPab	10 05 32.5	-1.0
KAC	Achnashellach	144.65 356	*e*P		PKPab	10 05 32.9	-0.6
MME1	Meikle Cairn	144.66 354	*e*P		PKPab	10 05 33.1	-0.4
AYDN	Tasoluk	144.73 304	*i* P		PKPab	10 05 33.1	-1.4
KPL	Plockton	144.83 357	*e*P		PKPab	10 05 32.0	-2.1
ARG	Arkhangelos	144.90 302	P		PKPab	10 05 34.1	-1.0
ARG	Arkhangelos	144.90 302	PKIKP		PKPab	10 05 34.1	-1.0
ARG	Arkhangelos	144.90 302	P		PKPab	10 05 34.1	-1.0
RAC	Raciborz	144.91 329	*e*PKIKP		PKPdf	10 05 35.1	-0.2
DIM	Dimitrovgrad	144.98 313	P		PKPdf	10 05 36.3	+0.6
RUE	Ruedersdorf	145.06 336	*e*PKPbc		PKPab	10 05 35.3	+0.2
ALN	Alexandroupoli	145.07 310	P		PKPbc	10 05 33.6	-1.9
ALN	Alexandroupoli	145.07 310	PKP2		PKPbc	10 05 33.6	-1.9
ALN	Alexandroupoli	145.07 310	*e*P		PKPbc	10 05 34.8	-0.7
ALN	Alexandroupoli	145.07 310	P		PKPbc	10 05 33.6	-1.9
BSEG	Bad Segeberg	145.09 340	*e*PKPbc		PKPbc	10 05 34.5	-0.6
OKC	Ostrava-Krasne	145.09 329	*e*PKP2		PKPbc	10 05 34.1	-1.2
OKC			*e*			10 08 51.6	
OKC			MLR	MLR			
	comp=Z,10μm,24.4s						
OKC	Ostrava-Krasne	145.09 329	*e*PKP		PKPbc	10 05 34.1	-1.2
OKC			*e*PP		PP	10 08 51.6	-3.1
OKC			*e*SKKP			10 17 10.7	
OKC			AMS	AMS		11 04 30.0	
	comp=Z,10μm,24.4s						
AYVA	Ayvalik	145.15 308	*i* P		PKPbc	10 05 34.8	-1.0
GCAM	G?zelcaml?	145.22 305	*i* P		PKPbc	10 05 29.8	-6.2
KDZ	Kurdzhali	145.22 312	⇓PKIKP		PKPbc	10 05 35.7	-0.3
KDZ	Kurdzhali	145.22 312	P		PKPbc	10 05 35.8	-0.3
KDZ	Kurdzhali	145.22 312	⇓*i*P		PKPbc	10 05 35.7	-0.3
BDRM	Kayabasi	145.22 303	*i* P		PKPbc	10 05 30.4	-5.7
GZR	Gura Zlata	145.23 319	⇑PKIKP		PKPbc	10 05 35.8	-0.2
GZR	Gura Zlata	145.23 319	⇑*i*P		PKPbc	10 05 35.8	-0.2
KSP	Ksiaz	145.25 332	⇑*e*PKIKP		PKPbc	10 05 35.2	-0.5
KSP			*e*			10 08 52.0	
KSP	Ksiaz	145.25 332	*e*PKPbc		PKPbc	10 05 35.3	-0.5
KSP			*e*PKPab		PKPab	10 05 37.4	+1.5
KSP			LMZ		LR	11 00 45.3	
RDO	Rodhopi	145.33 311	P		PKPbc	10 05 35.3	-1.0
RDO	Rodhopi	145.33 311	*e*P		PKPbc	10 05 36.0	-0.3
RDO	Rodhopi	145.33 311	P		PKPbc	10 05 35.3	-1.0
MORC	Moravsky Berou	145.42 329	*e*PKIKP		PKPdf	10 05 35.6	-0.7
MORC	Moravsky Berou	145.42 329	⇑*i*P		PKPbc	10 05 36.4	0.0
MORC	Moravsky Berou	145.42 329	*e*PKPdf		PKPdf	10 05 35.6	-0.7
SIRR	Siria	145.43 321	⇓*i*P		PKPab	10 05 36.8	0.0
PSZ	Piszkesteto	145.44 325	*e*PKIKP		PKPdf	10 05 36.3	-0.1
PSZ			MLR	MLR			
	comp=Z,7μm,22.0s						
PSZ	Piszkesteto	145.44 325	⇓*i*P		PKPbc	10 05 36.7	+0.1
PSZ	Piszkesteto	145.44 325	*e*PKPdf		PKPdf	10 05 36.3	-0.1
PSZ			LR	LR			
	comp=Z,7μm,22.0s						
PSZ	Piszkesteto	145.44 325	⇓*e*PKPbc		PKPab	10 05 38.1	+1.2
PRK	Paraskevi	145.47 308	P		PKPdf	10 05 36.3	-0.3
PRK	Paraskevi	145.47 308	PKIKP		PKPdf	10 05 36.3	-0.3
PRK	Paraskevi	145.47 308	P		PKPdf	10 05 36.3	-0.3
SMG	Samos	145.52 305	P		PKPdf	10 05 35.8	-1.0
SMG	Samos	145.52 305	*e*P		PKPbc	10 05 37.2	+0.2
SMG	Samos	145.52 305	P		PKPdf	10 05 35.8	-1.0
PLD	Plovdiv	145.53 313	P		PKPdf	10 05 35.6	-1.0
PLD	Plovdiv	145.53 313	PKP2		PKPdf	10 05 35.6	-1.0
PLD	Plovdiv	145.53 313	P		PKPdf	10 05 36.6	0.0
PLD	Plovdiv	145.53 313	P		PKPdf	10 05 35.6	-1.0
DPC	Dobruska-Polom	145.59 331	*e*PKP2		PKPbc	10 05 36.8	-0.1
DPC			*e*			10 08 55.1	
DPC	Dobruska-Polom	145.59 331	*e*PKP		PKPbc	10 05 36.8	-0.1
DPC			*e*PP		PP	10 08 55.1	-2.5
DPC			*e*SKKP			10 17 08.8	
DPC			*ex*	x		10 19 12.3	
DPC			AMS	AMS		11 10 00.0	
SMTH	Samothraki Isl	145.59 310	P		PKPdf	10 05 36.2	-0.6
SMTH	Samothraki Isl	145.59 310	*e*P		PKPdf	10 05 36.4	-0.4
SMTH	Samothraki Isl	145.59 310	P		PKPdf	10 05 36.2	-0.6
UPC	Upice	145.61 331	*e*PKP2		PKPdf	10 05 36.6	+0.1
UPC	Upice	145.61 331	*e*PKP		PKPdf	10 05 36.6	+0.1
UPC			*e*SKKP			10 17 08.7	
MPEP	Malo Peshtene	145.62 316	P		PKPbc	10 05 37.3	+0.1
RZN	Rozhen	145.69 312	P		PKPdf	10 05 37.3	+0.1
PGB	Panagyurishte	145.70 314	P		PKPab	10 05 38.1	+0.1
SIGR	SIGRI	145.79 308	P		PKPab	10 05 39.1	+0.8
SIGR	SIGRI	145.79 308	*e*P		PKPab	10 05 38.2	-0.1
SIGR	SIGRI	145.79 308	P		PKPab	10 05 39.1	+0.8
BZS	Buzias	145.81 320	⇑PKP2		PKPdf	10 05 37.3	+0.3
BZS	Buzias	145.81 320	⇑*i*P		PKPdf	10 05 37.3	+0.3
KARP	Karpathos	145.81 301	P		PKPbc	10 05 37.9	-0.1
KARP	Karpathos	145.81 301	*e*P		PKPbc	10 05 38.0	-0.1
KARP	Karpathos	145.81 301	P		PKPbc	10 05 37.9	-0.1
EAB	Aberfoyle	145.90 355	*e*P		PKPdf	10 05 36.1	-0.7
CHOS	Chios island	145.91 306	P		PKPdf	10 05 36.6	-0.9
CHOS	Chios island	145.91 306	*e*P		PKPdf	10 05 37.8	+0.3
CHOS	Chios island	145.91 306	P		PKPdf	10 05 36.6	-0.9
LIA	Limnos Island	146.04 309	P		PKPdf	10 05 37.8	+0.2
LIA	Limnos Island	146.04 309	*e*P		PKPbc	10 05 38.3	-0.2
LIA	Limnos Island	146.04 309	P		PKPdf	10 05 37.8	+0.2
PKSN	Nyarlorinc	146.08 324	⇓*e*PKPdf		PKPab	10 05 39.9	+0.8
KAVA	Kavala	146.10 311	P		PKPdf	10 05 38.1	+0.5
KAVA	Kavala	146.10 311	*e*P		PKPbc	10 05 38.3	-0.4
KAVA	Kavala	146.10 311	P		PKPdf	10 05 38.1	+0.5
BUD	Budapest	146.18 325	⇑*e*PKPdf		PKPbc	10 05 38.8	+0.1
EBL	Broad Law	146.19 354	*e*P		PKPdf	10 05 35.6	-1.7
VRAC	Vranov	146.19 329	⇑*i*P		PKPbc	10 05 38.7	0.0
VRAC	Vranov	146.19 329	PKPbc		PKPdf	10 05 37.4	-0.2
VRAC	Vranov	146.19 329	PKPbc		PKPdf	10 05 37.4	-0.2
	comp=Z,143nm,0.9s,baz=84,slow=2.5,SNR=50						
PVCC	Panska Ves	146.23 333	*e*PKIKP		PKPdf	10 05 37.1	-0.5
PVCC			*e*			10 05 38.8	
PVCC			*e*			10 05 59.5	
PVCC			*e*			10 09 02.4	
PVCC			MLR	MLR			
	comp=Z,9μm,23.8s						
PVCC	Panska Ves	146.23 333	*e*PKP		PKPdf	10 05 37.1	-0.5
PVCC			*ex*	x		10 05 38.8	
PVCC			*es*PKP			10 05 59.5	
PVCC			*e*PP		PP	10 09 02.4	+1.1
PVCC			*e*SKKP			10 17 06.1	
PVCC			*ex*	x		10 19 17.8	
PVCC			AMS	AMS		11 06 10.0	
	comp=Z,9μm,23.8s						
BRG	Berggiesshubel	146.23 334	*e*PKP		PKPbc	10 05 38.7	0.0
	comp=Z,83nm,1.0s						
BRG			*i*			10 05 42.0	
	comp=Z,879nm,1.3s						
BRG			*e*PKS		PKSdf	10 09 15.2	+2.5
	comp=Z,143nm,2.0s						
BRG			SS	SS		10 28 55.0	+65
BRG							
	comp=N,7μm,24.6s						
BRG							
	comp=E,6μm,27.4s						
BRG							
	comp=Z,10μm,25.2s						
BRG	Berggiesshubel	146.23 334	*e*PKPbc		PKPbc	10 05 38.5	-0.3
CLL	Collm	146.28 335	*e*PKP2		PKPdf	10 05 38.0	+0.4
CLL			pmax	pmax			
	comp=Z,82nm,1.0s						
CLL			pmax	pmax			
	comp=Z,299nm,1.0s						
CLL			MLR	MLR			
	comp=Z,4μm,21.1s						
CLL	Collm	146.28 335	*e*PKPbc		PKPdf	10 05 38.2	+0.6
CLL	Collm	146.28 335	*e*PKPdf		PKPdf	10 05 38.0	+0.4
	comp=Z,82nm,1.0s						
CLL			*i* PKPbc		PKPab	10 05 39.7	-0.1
	comp=Z,299nm,1.0s						
CLL			*i* PKPab		PKiKP	10 05 41.3	-0.6
	comp=Z,368nm,1.0s						
CLL			*es*PKiKP	sPKiKP		10 06 03.0	-12
CLL			*e*PP	PP		10 09 08.0	+6.5
CLL			*e*PPP	PPP		10 12 24.0	
CLL			*e*SKKSac	SKKSac		10 15 42.0	-3.7
CLL			*e*SKKPdf	SKKPdf		10 18 05.0	-3.3
CLL			*e*PSKS			10 19 18.0	
CLL			*e*SS	SS		10 28 01.0	+10
CLL			*e*SSS	SSS		10 33 36.0	
CLL			L	L		11 10 00.0	
	comp=Z,4μm,21.1s						
VTS	Vitosha	146.31 315	P		PKPdf	10 05 37.4	-0.8
VTS	Vitosha	146.31 315	PKIKP		PKPdf	10 05 37.4	-0.8
VTS	Vitosha	146.31 315	P		PKPbc	10 05 38.9	-0.6
VTS	Vitosha	146.31 315	⇑*i*P		PKPab	10 05 42.3	+1.9
VTS	Vitosha	146.31 315	P		PKPdf	10 05 37.4	-0.8
NRDL	Niedersach Rie	146.37 339	*e*PKPbc		PKPbc	10 05 38.7	-0.3
MMB	Musomiste	146.40 313	⇓PKP2		PKPbc	10 05 39.5	-0.1
MMB	Musomiste	146.40 313	P		PKPdf	10 05 38.6	+0.4
MMB	Musomiste	146.40 313	⇓*i*P		PKPbc	10 05 39.5	-0.1
NVR	Nevrokopi	146.41 312	P		PKPdf	10 05 38.7	+0.5
NVR	Nevrokopi	146.41 312	*e*P		PKPbc	10 05 39.0	-0.7
NVR	Nevrokopi	146.41 312	P		PKPdf	10 05 38.7	+0.5
PKS6	Bocsa	146.42 323	⇓*e*PKPdf		PKPbc	10 05 39.2	-0.2
PKSG		146.57 325	⇓*e*PKPdf		PKPbc	10 05 39.9	0.0
PRA	Prague	146.63 332	⇑PKP		PKPdf	10 05 38.0	-0.2
PRA			PP		PP	10 09 01.0	-2.6
EKA	Eskdalemuir Ar	146.64 354	PKPbc		PKPdf	10 05 38.1	+0.1
EKA	Eskdalemuir Ar	146.64 354	PKPbc		PKPdf	10 05 38.1	+0.1
	comp=Z,17nm,0.5s,baz=3.9,slow=3.1,SNR=56						
PRU	Pruhonice	146.64 332	*e*PKIKP		PKPdf	10 05 37.1	-1.2
PRU			*e*			10 05 39.9	
PRU			*e*			10 06 02.4	
PRU			*e*			10 09 00.5	
PRU			MLR	MLR			
	comp=Z,10μm,25.0s						
PRU	Pruhonice	146.64 332	*e*PKP		PKPdf	10 05 37.1	-1.2
PRU			*ex*	x		10 05 39.9	
PRU			*ex*	x		10 06 02.4	
PRU			*ex*	x		10 06 10.6	
PRU			*e*PP	PP		10 09 00.5	-3.2
PRU			*e*SKKP			10 17 04.0	
PRU			*ex*	x		10 19 16.7	
PRU			*e*SKSSKS			10 29 11.2	
PRU			AMS	AMS		11 06 40.0	
	comp=Z,10μm,25.0s						
CSKK	Cs˘‡kako	146.66 325	⇑*e*PKPdf		PKPbc	10 05 39.8	-0.3
ESK	Eskdalemuir	146.66 354	*e*P		PKPdf	10 05 38.1	-0.1
ESK	Eskdalemuir	146.66 354	*e*PKIKP		PKPdf	10 05 37.9	-0.2
ESK			*e*			10 05 39.1	
ESK			MLR	MLR			
	comp=Z,6μm,19.0s						
ESK	Eskdalemuir	146.66 354	*e*PKPdf		PKPdf	10 05 37.9	-0.2
ESK			*e*PKPbc		PKPbc	10 05 39.1	-0.7
ESK			LR	LR			
	comp=Z,6μm,19.0s						
ZKR	Zakros	146.66 301	P		PKPdf	10 05 37.9	-0.9
ZKR	Zakros	146.66 301	*e*P		PKPbc	10 05 41.1	+0.6
ZKR	Zakros	146.66 301	P		PKPdf	10 05 37.9	-0.9
PKS2	Kecel	146.68 323	⇓*e*PKPdf		PKPbc	10 05 40.8	+0.6
SRS	Serrai	146.69 312	P		PKPdf	10 05 38.9	+0.2
SRS	Serrai	146.69 312	PKIKP		PKPdf	10 05 38.9	+0.2
SRS	Serrai	146.69 312	P		PKPdf	10 05 38.9	+0.2
APE	Apeiranthos	146.70 304	P		PKPdf	10 05 36.9	-2.0
APE	Apeiranthos	146.70 304	PKIKP		PKPdf	10 05 36.9	-2.0
APE	Apeiranthos	146.70 304	*e*P		PKPdf	10 05 39.6	+0.7
APE	Apeiranthos	146.70 304	⇑*i*P		PKPdf	10 05 38.2	-0.7
APE	Apeiranthos	146.70 304	P		PKPdf	10 05 36.9	-2.0
KKB	Krupnik	146.72 314	P		PKPab	10 05 41.7	-0.2
TREC	Trest	146.72 330	*e*PKIKP		PKPdf	10 05 38.0	-0.5
TREC			*e*			10 05 40.6	
TREC			*e*			10 06 00.8	
TREC			*e*			10 09 05.2	
TREC			MLR	MLR			
	comp=Z,7μm,24.1s						
TREC	Trest	146.72 330	*e*PKP		PKPdf	10 05 38.0	-0.5
TREC			*ex*	x		10 05 40.6	
TREC			*es*PKP			10 06 00.8	
TREC			*e*PP		PP	10 09 08.1	+0.9
TREC			*e*SKKP			10 17 03.8	
TREC			AMS	AMS		11 11 20.0	
	comp=Z,7μm,24.1s						
OUR	Ouranopolis	146.74 311	P		PKPdf	10 05 37.1	-1.6
OUR	Ouranopolis	146.74 311	PKIKP		PKPdf	10 05 37.1	-1.6
OUR	Ouranopolis	146.74 311	*e*P		PKPbc	10 05 39.9	-0.6
OUR	Ouranopolis	146.74 311	P		PKPdf	10 05 37.1	-1.6
CLZ	Clausthal	146.82 338	*e*PKPbc		PKPbc	10 05 40.2	-0.3
PKST	T˘˙s	146.84 325	⇓*e*PKPdf		PKPbc	10 05 40.3	-0.4
THR2	Thira island,	146.94 303	P		PKPdf	10 05 39.7	+0.5
THR2	Thira island,	146.94 303	P		PKPdf	10 05 39.7	+0.5
SANT	Santorini	146.94 303	P		PKPdf	10 05 37.1	-2.2
SANT	Santorini	146.94 303	P		PKPdf	10 05 37.1	-2.2
SANT			*e*PKPbc		PKPbc	10 05 41.9	+0.5
SANT			LR	LR			
	comp=Z,3μm,21.0s						
SOH	Sokhos	146.98 312	P		PKPbc	10 05 40.9	-0.4
SOH	Sokhos	146.98 312	PKP2		PKPbc	10 05 40.9	-0.4
SOH	Sokhos	146.98 312	P		PKPbc	10 05 40.9	-0.4
PLG	Polygyros	147.10 311	P		PKPbc	10 05 42.0	+0.3
PLG	Polygyros	147.10 311	PKP2		PKPbc	10 05 42.0	+0.3
PLG	Polygyros	147.10 311	P		PKPbc	10 05 42.0	+0.3
NPS	Neapolis	147.11 301	P		PKPab	10 05 43.1	-0.5
NPS	Neapolis	147.11 301	PKP2		PKPab	10 05 43.1	-0.5
NPS	Neapolis	147.11 301	*e*P		PKPbc	10 05 42.7	+0.9
NPS	Neapolis	147.11 301	P		PKPab	10 05 43.1	-0.5
PAIG	Paliouri	147.11 310	P		PKPbc	10 05 41.2	-0.4
PAIG	Paliouri	147.11 310	PKP2		PKPbc	10 05 41.2	-0.4
PAIG	Paliouri	147.11 310	*e*P		PKPbc	10 05 41.3	-0.4
PAIG	Paliouri	147.11 310	P		PKPbc	10 05 41.2	-0.4
PKS9	Tamasi	147.13 324	⇓*e*PKPdf		PKPbc	10 05 42.3	+0.8
KNT	Kendrikon	147.15 313	P		PKPbc	10 05 40.9	-0.8
KNT	Kendrikon	147.15 313	PKP2		PKPbc	10 05 40.9	-0.8
KNT	Kendrikon	147.15 313	*e*P		PKPbc	10 05 41.1	-0.6
KNT	Kendrikon	147.15 313	P		PKPbc	10 05 40.9	-0.8
PKSM	Moragy	147.16 323	⇓PKIKP		PKPdf	10 05 39.5	+0.2
PKSM	Moragy	147.16 323	⇓*i*P		PKPdf	10 05 39.5	+0.2
PKSM	Moragy	147.16 323	⇓*e*PKPdf		PKPbc	10 05 42.3	+0.7
TANN	Tannenbergstha	147.19 334	*e*PKPbc		PKPbc	10 05 41.4	-0.2
GAL1	Galloway	147.24 355	*e*P		PKPdf	10 05 39.4	+0.3
LAST	Lasithi	147.24 301	*e*P		PKPbc	10 05 41.4	-0.9
AOS	Alonnisos	147.25 309	P		PKPdf	10 05 37.4	-2.2
AOS	Alonnisos	147.25 309	P		PKPdf	10 05 37.4	-2.2
HORT	Hortiatis	147.25 311	P		PKPdf	10 05 37.6	-2.1
HORT	Hortiatis	147.25 311	*e*P		PKPbc	10 05 41.2	-0.9
HORT	Hortiatis	147.25 311	P		PKPdf	10 05 37.6	-2.1
IBBN	Ibbenburen	147.28 341	*e*PKPbc		PKPbc	10 05 41.5	-0.2
VAY	Valandovo	147.30 313	P		PKPdf	10 05 38.9	-0.8
VAY	Valandovo	147.30 313	PKIKP		PKPdf	10 05 38.9	-0.8
VAY	Valandovo	147.30 313	P		PKPdf	10 05 38.9	-0.8
VAY	Valandovo	147.30 313	*i* PKP		PKPdf	10 05 39.9	+0.2
SOP	Sopron	147.32 327	⇓*e*PKPdf		PKPbc	10 05 41.3	-0.7
THE	Thessaloniki	147.33 312	P		PKPdf	10 05 39.2	-0.5
THE	Thessaloniki	147.33 312	PKIKP		PKPdf	10 05 39.2	-0.5
THE	Thessaloniki	147.33 312	P		PKPdf	10 05 39.2	-0.5
NKC	Novy Kostel	147.33 334	*e*PKIKP		PKPdf	10 05 38.6	-0.9
NKC			*e*			10 05 41.5	
NKC			MLR	MLR			
	comp=Z,3μm,23.6s						
NKC	Novy Kostel	147.33 334	*e*PKP		PKPdf	10 05 38.6	-0.9
NKC			*ex*	x		10 05 41.5	
NKC			*ex*	x		10 19 23.8	
NKC			AMS	AMS		11 10 10.0	
	comp=Z,3μm,23.6s						
CONA	Conrad Observa	147.50 328	⇑*i*PKPdf		PKPdf	10 05 39.0	-0.9
	comp=Z,311nm,1.3s,SNR=96						
SKIA	Skiathos	147.55 309	P		PKPbc	10 05 41.8	-1.1
SKIA	Skiathos	147.55 309	*e*P		PKPbc	10 05 42.0	-0.9
ERET	Eretria	147.56 307	P		PKPdf	10 05 38.3	-2.0
GRG	Griva	147.58 312	P		PKPdf	10 05 40.4	+0.2
GRG	Griva	147.58 312	PKIKP		PKPdf	10 05 40.4	+0.2
GRG	Griva	147.58 312	*e*P		PKPbc	10 05 43.0	0.0
GRG	Griva	147.58 312	P		PKPdf	10 05 40.4	+0.2
DIVS	Divibare	147.60 319	P		PKPdf	10 05 39.5	-0.7
MRKA	Markates	147.62 308	P		PKPdf	10 05 40.7	+0.4
PTL	Penteli	147.65 307	P		PKPdf	10 05 40.7	+0.3
PTL	Penteli	147.65 307	*e*P		PKPbc	10 05 42.5	-0.7
PTL	Penteli	147.65 307	P		PKPdf	10 05 40.7	+0.3
NEO	Neokhori	147.67 309	P		PKPdf	10 05 38.6	-1.8
NEO	Neokhori	147.67 309	P		PKPdf	10 05 38.6	-1.8
XOR	Xorichti	147.67 309	P		PKPdf	10 05 38.6	-1.8
XOR	Xorichti	147.67 309	*e*P		PKPbc	10 05 42.2	-1.0
XOR	Xorichti	147.67 309	P		PKPdf	10 05 38.6	-1.8
IDI	Anoyia	147.67 301	P		PKPdf	10 05 39.9	-0.7
IDI	Anoyia	147.67 301	*e*P		PKPbc	10 05 43.2	-0.2
IDI	Anoyia	147.67 301	P		PKPdf	10 05 39.9	-0.7
IDI			PKPbc		PKPbc	10 05 42.1	-1.3
IDI			*e*PKPbc		PKiKP	10 05 43.5	-1.9
IDI			*e*			10 09 09.7	
IDI	Anoyia	147.67 301	PKPbc		PKPbc	10 05 42.2	-1.3
	comp=Z,152nm,0.9s,baz=68,slow=4.5,SNR=29						
KHC	Kasperske Hory	147.70 332	*e*PKIKP		PKPdf	10 05 39.3	-0.8
KHC			*e*			10 06 03.1	
KHC			*e*			10 09 07.4	
KHC			MLR	MLR			
	comp=Z,11μm,26.2s						
KHC	Kasperske Hory	147.70 332	*e*PKP		PKPdf	10 05 39.3	-0.8
KHC			*ex*	x		10 05 40.8	
KHC			*es*PKP			10 06 03.1	
KHC			*e*PP		PP	10 09 07.4	-2.6
KHC			*ex*	x		10 17 00.7	
KHC			*ex*	x		10 19 25.6	
KHC			*e*SKSSKS			10 29 16.6	
KHC			AMS	AMS		11 06 00.0	
	comp=Z,11μm,26.2s						
KHC	Kasperske Hory	147.70 332	*e*PKPdf		PKPdf	10 05 38.9	-1.2
ATHU	Athens Univers	147.74 307	P		PKPdf	10 05 38.6	-1.9
ATHU	Athens Univers	147.74 307	P		PKPdf	10 05 38.6	-1.9
SKO	Skopje	147.76 315	P		PKPdf	10 05 39.0	-1.4
SKO	Skopje	147.76 315	PKIKP		PKPdf	10 05 39.0	-1.4
SKO	Skopje	147.76 315	P		PKPdf	10 05 39.0	-1.4
SKO	Skopje	147.76 315	*e*PKP		PKPbc	10 05 42.5	-0.8
	comp=Z,3μm,3.1s						
ATH	Athens Observa	147.78 307	P		PKPdf	10 05 38.6	-2.0
ATH	Athens Observa	147.78 307	P		PKPdf	10 05 38.6	-2.0
SIVA	Sivas	147.80 301	*e*P		PKPbc	10 05 43.9	+0.2
HPK	Haverah Park	147.81 352	*e*P		PKPdf	10 05 40.2	+0.1
FYTO	Fytoko, Volos	147.83 310	P		PKPdf	10 05 40.3	-0.3
FYTO	Fytoko, Volos	147.83 310	P		PKPdf	10 05 40.3	-0.3
SMIA	Símia	147.84 308	P		PKPdf	10 05 37.5	-3.2
GEC2	GERESS Array S	147.85 331	*e*PKPdf		PKPdf	10 05 40.4	-0.1
GERES	GERESS Array B	147.85 331	PKPbc		PKPdf	10 05 41.1	+0.7
GERES	GERESS Array B	147.85 331	PKPbc		PKPdf	10 05 41.1	+0.7
	comp=Z,128nm,0.8s,baz=48,slow=2.0,SNR=42						
WTSB	Winterswijk	147.87 341	*e*PKP		PKPbc	10 05 41.8	-1.5
	comp=Z,1μm,1.9s						
LIT	Litokhoron	147.88 311	P		PKPdf	10 05 39.1	-1.6
LIT	Litokhoron	147.88 311	*e*P		PKPbc	10 05 42.5	-1.3
LIT	Litokhoron	147.88 311	P		PKPdf	10 05 39.1	-1.6
WET	Wettzell	147.99 332	*e*PKPdf		PKPdf	10 05 40.9	+0.3
WET			*e*PKPbc		PKPbc	10 05 42.8	-1.0
BEHE	Becsehely	148.01 325	⇓*e*PKPdf		PKPbc	10 05 42.7	-1.2
VILL	Villia	148.02 307	P		PKPdf	10 05 38.9	-2.1
NAIG	Nisos Aigina	148.03 306	*e*P		PKPbc	10 05 42.8	-1.4
VIL2	Platees	148.03 307	*e*P		PKPbc	10 05 43.5	-0.7
LKR	Lokris	148.07 308	P		PKPdf	10 05 39.4	-1.6
LKR	Lokris	148.07 308	*e*P		PKPbc	10 05 43.4	-0.9
LKR	Lokris	148.07 308	P		PKPdf	10 05 39.4	-1.6
ARSA	Arzberg	148.13 328	*i* PKPdf		PKPdf	10 05 41.0	+0.2
	comp=Z,169nm,1.5s,SNR=33						
BUG	Bochum--Univer	148.19 340	*e*PKPbc		PKPbc	10 05 42.7	-1.4
VAM	Vamos	148.19 302	P		PKPdf	10 05 41.1	-0.2
VAM	Vamos	148.19 302	PKIKP		PKPdf	10 05 41.1	-0.2
VAM	Vamos	148.19 302	*e*P		PKPbc	10 05 45.7	+1.0
VAM	Vamos	148.19 302	P		PKPdf	10 05 41.1	-0.2
LHO	Holmfirth	148.25 352	*e*P		PKPdf	10 05 41.3	+0.5
GRF	Grafenberg Arr	148.25 335	*e*PKPdf		PKPdf	10 05 41.3	+0.3
GRF			*e*L	L		11 11 42.0	
	comp=Z,4μm,21.8s						
GRFO	Grafenberg	148.25 335	*e*PKP2		PKPbc	10 05 44.8	+0.4
GRFO	Grafenberg	148.

ULC	**Ulcinj**	**149.19 316**	⇓	*i*PKP	**PKPdf**	10 05 41.7	-1.1
JAN	**Janina**	**149.21 311**		P	**PKPdf**	10 05 42.0	-0.9
JAN	**Janina**	**149.21 311**		P	**PKPdf**	10 05 42.0	-0.9
BEBN	**Eben Emael**	**149.23 342**		PKPbc	**PKPbc**	10 05 46.2	-0.6
BUM	**Brajici-Budva**	**149.24 317**	⇓	*i*PKP	**PKPdf**	10 05 42.3	-0.6
DRO	**Drossia**	**149.27 308**		P	**PKPdf**	10 05 41.4	-1.6
DRO	**Drossia**	**149.27 308**		*e*P	**PKPbc**	10 05 48.7	+1.3
MEM	**Membach**	**149.30 341**		PKP	**PKPdf**	10 05 44.2	+1.5
MEM	**Membach**	**149.30 341**		PKPbc	**PKPbc**	10 05 46.5	-0.5
KBA	**Koelnbreinsper**	**149.31 329**	⇑	*i*PKPdf	**PKPdf**	10 05 43.2	+0.2
	comp=Z,245nm,0.8s,SNR=17						
ITM	**Ithomi**	**149.39 306**		P	**PKPdf**	10 05 41.3	-1.9
ITM	**Ithomi**	**149.39 306**		*e*P	**PKPbc**	10 05 46.8	-0.9
ITM	**Ithomi**	**149.39 306**		P	**PKPdf**	10 05 41.3	-1.9
PDO	**Prodromos**	**149.41 309**		P	**PKPdf**	10 05 42.5	-0.7
PDO	**Prodromos**	**149.41 309**		*e*P	**PKPbc**	10 05 46.9	-0.8
HCY	**Herceg Novi**	**149.41 318**	⇓	*i*PKP	**PKPdf**	10 05 42.5	-0.6
RLS	**Riolos of Patr**	**149.41 308**		P	**PKPdf**	10 05 44.7	+1.5
RLS	**Riolos of Patr**	**149.41 308**		P	**PKPdf**	10 05 44.7	+1.5
FUR	**Furstenfeldbru**	**149.42 333**		*e*PKPdf	**PKPdf**	10 05 44.0	+1.0
AMT	**Artemida-Makis**	**149.43 307**		P	**PKPdf**	10 05 42.7	-0.6
BOJS	**Bojanci**	**149.44 325**		*e*PKPbc	**PKPdf**	10 05 44.3	+1.3
LJU	**Ljubljana**	**149.46 327**		*e*PKPdf	**PKPdf**	10 05 42.2	-0.9
LJU				*e*PKPbc	**PKPbc**	10 05 44.1	-3.5
LJU				*i*		10 05 48.3	
LJU				*e*		10 05 50.3	
MYKA	**Terra Mystica**	**149.49 328**	⇑	*i*PKPdf	**PKPdf**	10 05 42.5	-0.7
	comp=Z,256nm,0.9s,SNR=45						
ASCN	**Ascension**	**149.59 170**		*e*PKPbc	**PKPbc**	10 05 50.1	+1.2
ASCN				LR	LR		
	comp=Z,3μm,22.0s						
UCC	**Uccle**	**149.60 343**		PKPbc	**PKPbc**	10 05 50.2	+2.5
IGT	**Igoumenitsa**	**149.62 311**		P	**PKPdf**	10 05 44.6	+1.1
IGT	**Igoumenitsa**	**149.62 311**		P	**PKPdf**	10 05 44.6	+1.1
PYL	**PYLOS**	**149.63 306**		P	**PKPdf**	10 05 42.0	-1.6
PYL	**PYLOS**	**149.63 306**		*e*P	**PKPbc**	10 05 47.1	-1.2
PYL	**PYLOS**	**149.63 306**		P	**PKPdf**	10 05 42.0	-1.6
STON	**Ston**	**149.67 319**		P	**PKPbc**	10 05 47.3	-0.8
BCLA	**Clavier**	**149.68 342**		PKP	**PKPdf**	10 05 44.2	+1.0
BCLA				PKPbc	**PKPbc**	10 05 47.8	-0.2
CADS	**Cadrg**	**149.73 328**		*e*PKPbc	**PKPdf**	10 05 44.0	+0.5
STU	**Stuttgart**	**149.78 336**		*e*PKP2	**PKPbc**	10 05 48.4	+0.1
STU	**Stuttgart**	**149.78 336**		*e*PKPdf	**PKPdf**	10 05 44.1	+0.6
STU	**Stuttgart**	**149.78 336**		*e*PKPbc	**PKPbc**	10 05 48.4	+0.1
VOY	**Vojsko**	**149.78 327**		*e*PKPdf	**PKPdf**	10 05 42.7	-1.0
VOY				*e*PKPbc	**PKPbc**	10 05 47.9	-0.6
UDBI	**Udbina**	**149.80 323**		P	**PKPbc**	10 05 47.1	-1.4
SNF	**Seneffe**	**149.89 343**		PKP	**PKPdf**	10 05 44.6	+1.1
SNF				PKPbc	**PKPbc**	10 05 47.2	-1.3
KFL	**Anninata**	**149.89 308**		P	**PKPbc**	10 05 49.0	+0.1
MCH1	**Michaelchurch**	**149.91 353**		*e*P	**PKPdf**	10 05 41.9	-1.7
LPW	**Lampeter**	**149.91 354**		*e*P	**PKPdf**	10 05 41.6	-1.9
KEK	**Kerkira**	**149.91 312**		P	**PKPdf**	10 05 44.6	+0.6
KEK	**Kerkira**	**149.91 312**		P	**PKPdf**	10 05 44.6	+0.6
WATA	**Walderalm**	**149.93 331**	⇑	*i*PKPdf	**PKPdf**	10 05 43.4	-0.5
	comp=Z,179nm,0.7s,SNR=32						
ABTA	**Abfaltersbach**	**149.94 330**	⇑	*i*PKPdf	**PKPdf**	10 05 42.4	-1.5
	comp=Z,285nm,0.8s,SNR=48						
WTTA	**Wattenberg**	**149.96 331**	⇓	*i*PKPdf	**PKPdf**	10 05 43.4	-0.6
	comp=Z,559nm,1.1s,SNR=72						
VLS	**Valsamata**	**150.00 309**		P	**PKPdf**	10 05 41.4	-2.8
VLS	**Valsamata**	**150.00 309**		PKIKP	**PKPdf**	10 05 41.4	-2.8
VLS	**Valsamata**	**150.00 309**		*e*P	**PKPbc**	10 05 49.2	0.0
VLS	**Valsamata**	**150.00 309**		P	**PKPdf**	10 05 41.4	-2.8
MONM	**Monmouth**	**150.04 352**		*e*P	**PKPdf**	10 05 43.6	-0.1
WLF	**Walferdange**	**150.09 340**		PKP	**PKPdf**	10 05 44.7	+0.8
WLF				PKPbc	**PKPbc**	10 05 48.0	-1.0
WLF	**Walferdange**	**150.09 340**		*e*PKIKP	**PKPdf**	10 05 43.6	-0.3
WLF				MLR	MLR		
	comp=Z,7μm,21.0s						
WLF	**Walferdange**	**150.09 340**		*e*PKPdf	**PKPdf**	10 05 45.5	+1.6
WLF	**Walferdange**	**150.09 340**		*e*PKPdf	**PKPdf**	10 05 43.6	-0.3
WLF				*e*PKPbc	**PKPbc**	10 05 49.3	+0.3
WLF				LR	LR		
	comp=Z,7μm,21.0s						
GIVF	**Givet**	**150.10 342**		*e*PKIKP	**PKPdf**	10 05 44.4	+0.5
GIVF	**Givet**	**150.10 342**		*e*PKIKP	**PKPdf**	10 05 44.4	+0.5
GIVF	**Givet**	**150.10 342**		*e*PKPdf	**PKPdf**	10 05 44.4	+0.5
LANF	**Langenberg**	**150.12 337**		PKP	**PKPdf**	10 05 45.3	+1.3
MOTA	**Moosalm**	**150.13 332**	⇑	*i*PKPdf	**PKPdf**	10 05 44.0	-0.3
	comp=Z,345nm,0.8s,SNR=142						
RETA	**Reutte**	**150.17 332**	⇓	*i*PKPdf	**PKPdf**	10 05 44.4	+0.2
	comp=Z,218nm,1.0s,SNR=57						
DOU	**Dourbes**	**150.17 342**		PKP	**PKPdf**	10 05 44.9	+0.9
DOU				PKPbc	**PKPbc**	10 05 48.7	-0.5
NVLJ	**Novalja**	**150.27 324**		P	**PKPbc**	10 05 48.6	-1.0
BFO	**Black Forest**	**150.47 336**		*e*PKIKP	**PKPbc**	10 05 50.0	0.0
BFO				MLR	MLR		
	comp=Z,6μm,19.0s						
BFO	**Black Forest**	**150.47 336**		*e*PKPdf	**PKPdf**	10 05 45.0	+0.4
BFO				*e*PKPbc	**PKPbc**	10 05 49.2	-0.8
BFO	**Black Forest**	**150.47 336**		*e*PKPbc	**PKPbc**	10 05 50.0	0.0
BFO				*e*PKPab	**PKPab**	10 05 58.5	+1.8
BFO				LR	LR		
	comp=Z,6μm,19.0s						
FETA	**Feichten**	**150.54 332**	⇑	*i*PKPdf	**PKPdf**	10 05 44.7	-0.2
	comp=Z,361nm,1.0s,SNR=71						
DAVA	**Damuels**	**150.70 333**		*i*PKPdf	**PKPdf**	10 05 45.9	+0.7
	comp=Z,318nm,1.1s,SNR=36						
WLS	**Welschbruch**	**150.76 337**		PKP	**PKPdf**	10 05 46.4	+1.3
CDF	**Champ du Feu**	**150.79 337**		*e*PKIKP	**PKPdf**	10 05 45.1	-0.1
	comp=Z,176nm,1.7s						
CDF	**Champ du Feu**	**150.79 337**		*e*PKIKP	**PKPdf**	10 05 45.1	-0.1
CDF	**Champ du Feu**	**150.79 337**		*e*PKPdf	**PKPdf**	10 05 45.1	-0.1
FELD	**Feldberg im Sc**	**150.97 336**		PKP	**PKPdf**	10 05 46.2	+0.7
ECH	**Echery**	**151.00 337**		PKP	**PKPdf**	10 05 46.2	+0.8
ECH	**Echery**	**151.00 337**		*e*PKIKP	**PKPdf**	10 05 45.5	+0.1
ECH				MLR	MLR		
	comp=Z,5μm,20.0s						
ECH	**Echery**	**151.00 337**		*e*PKPdf	**PKPdf**	10 05 45.5	+0.1
ECH				*e*PKPbc	**PKPbc**	10 05 51.4	+0.2
ECH				LR	LR		
	comp=Z,5μm,20.0s						
DAVOX	**Davos/Dischmat**	**151.10 333**		PKP	**PKPdf**	10 05 46.1	+0.2
DAVOX				PKPbc	**PKiKP**	10 05 52.2	-0.1
DAVOX	**Davos/Dischmat**	**151.10 333**		PKP	**PKPdf**	10 05 46.1	+0.2
	comp=Z,26nm,0.8s,baz=65,slow=3.1,SNR=22						
DAVOX				PKPbc	**PKiKP**	10 05 52.2	-0.1
	comp=Z,341nm,0.7s,baz=92,slow=2.6,SNR=146						
PAGF	**Fort de Pagny**	**151.19 339**		*e*PKIKP	**PKPdf**	10 05 46.1	+0.4
PAGF	**Fort de Pagny**	**151.19 339**		*e*PKPdf	**PKPdf**	10 05 46.1	+0.4
MOF	**Molkenrain**	**151.31 337**		PKP	**PKPdf**	10 05 46.8	+0.8
THEF	**They Montfort**	**151.39 339**		PKP	**PKPdf**	10 05 46.9	+0.9
HINF	**Hinteralfeld**	**151.44 337**		*e*PKIKP	**PKPdf**	10 05 46.1	0.0
	comp=Z,240nm,1.5s						
HINF	**Hinteralfeld**	**151.44 337**		*e*PKIKP	**PKPdf**	10 05 46.1	0.0
HINF	**Hinteralfeld**	**151.44 337**		*e*PKPdf	**PKPdf**	10 05 46.1	0.0
MEZF	**Maizieres J'vi**	**151.46 340**		*e*PKIKP	**PKPdf**	10 05 46.7	+0.6
MEZF	**Maizieres J'vi**	**151.46 340**		*e*PKPdf	**PKPdf**	10 05 46.7	+0.6
HAU	**Haudompre**	**151.46 338**		*e*PKIKP	**PKPdf**	10 05 46.3	+0.2
	comp=Z,193nm,1.6s						
HAU				*e*R			
	comp=Z,8μm,21.8s						
HAU	**Haudompre**	**151.46 338**		*e*PKIKP	**PKPdf**	10 05 46.3	+0.2
HAU	**Haudompre**	**151.46 338**		*e*PKPdf	**PKPdf**	10 05 46.3	+0.2
TUE	**Stuetta**	**151.57 333**		*e*PKPdf	**PKPdf**	10 05 45.0	-1.6
TUE				*e*PKPbc	**PKiKP**	10 05 53.7	+0.5
TUE				*e*PKPab	**PKPab**	10 06 03.9	+2.2
TUE				LR	LR		
	comp=Z,7μm,22.0s						
SFTF	**Sexfontaines**	**151.72 340**		*e*PKIKP	**PKPdf**	10 05 47.0	+0.5
	comp=Z,245nm,1.4s						
SFTF	**Sexfontaines**	**151.72 340**		*e*PKPdf	**PKPdf**	10 05 47.0	+0.5
LOMF	**Lomont**	**151.84 337**		PKP	**PKPdf**	10 05 48.2	+1.4
TIP	**Timpagrande**	**152.24 313**		P	**PKPdf**	10 05 46.1	-1.5
TIP	**Timpagrande**	**152.24 313**		*e*PKPdf	**PKPdf**	10 05 45.8	-1.8
TIP				*e*PKPbc	**PKPbc**	10 05 54.2	-0.2
TIP				*e*PKPab	**PKPab**	10 06 07.2	+2.7
TIP				*e*PP	**PP**	10 09 37.2	+0.3
TIP				LR	LR		
	comp=Z,3μm,21.0s						
CUC	**Castrocucco**	**152.44 316**		*e*PKPbc	**PKPbc**	10 05 54.4	-0.4
CUC				*e*PKPab	**PKPab**	10 06 07.0	+1.7
CUC				LR	LR		
	comp=Z,5μm,22.0s						
FLN	**La Foliniere**	**152.64 348**		*e*PKIKP	**PKPdf**	10 05 48.1	+0.3
	comp=Z,420nm,1.6s						
FLN				*e*R			
	comp=Z,7μm,22.5s						
FLN	**La Foliniere**	**152.64 348**		*e*PKIKP	**PKPdf**	10 05 48.1	+0.3
FLN	**La Foliniere**	**152.64 348**		*e*PKPdf	**PKPdf**	10 05 48.1	+0.3
LDF	**La Druitiere**	**152.73 347**		*e*PKIKP	**PKPdf**	10 05 48.2	+0.2
	comp=Z,276nm,1.5s						
LDF	**La Druitiere**	**152.73 347**		*e*PKIKP	**PKPdf**	10 05 48.2	+0.2
LDF	**La Druitiere**	**152.73 347**		*e*PKPdf	**PKPdf**	10 05 48.2	+0.2
CABF	**La Chapelle**	**152.74 337**		*e*PKIKP	**PKPdf**	10 05 47.5	-0.7
	comp=Z,164nm,1.1s						
CABF	**La Chapelle**	**152.74 337**		*e*PKIKP	**PKPdf**	10 05 47.5	-0.7
CABF	**La Chapelle**	**152.74 337**		*e*PKPdf	**PKPdf**	10 05 47.5	-0.7
OG01	**Vacheresse**	**152.76 336**		PKP	**PKPdf**	10 05 49.2	+1.0
VLC	**Villacollemand**	**152.86 328**		*e*PKPdf	**PKPdf**	10 05 48.6	+0.2
VLC				*e*PKPbc	**PKPbc**	10 05 55.6	0.0
VLC				LR	LR		
	comp=Z,6μm,22.0s						
LOR	**Lormes**	**152.92 340**		*e*PKIKP	**PKPdf**	10 05 48.7	+0.4
	comp=Z,301nm,1.8s						
LOR				*e*R			
	comp=Z,9μm,22.8s						
LOR	**Lormes**	**152.92 340**		*e*PKPdf	**PKPdf**	10 05 48.7	+0.4
GRR	**Gorron**	**153.08 348**		*e*PKIKP	**PKPdf**	10 05 48.9	+0.4
	comp=Z,178nm,1.4s						
GRR	**Gorron**	**153.08 348**		*e*PKIKP	**PKPdf**	10 05 48.9	+0.4
GRR	**Gorron**	**153.08 348**		*e*PKPdf	**PKPdf**	10 05 48.9	+0.4
SSF	**Saint Saulge**	**153.22 341**		*e*PKIKP	**PKPdf**	10 05 49.2	+0.5
	comp=Z,214nm,1.6s						
SSF	**Saint Saulge**	**153.22 341**		*e*PKIKP	**PKPdf**	10 05 49.2	+0.5
SSF	**Saint Saulge**	**153.22 341**		*e*PKPdf	**PKPdf**	10 05 49.2	+0.5
CEL	**Celeste**	**153.28 312**		*e*PKPdf	**PKPdf**	10 05 47.5	-1.7
CEL				*e*PKPab	**PKPab**	10 06 08.2	-0.7
CEL				*e*PP	**PP**	10 09 42.1	-0.7
CEL				LR	LR		
	comp=Z,4μm,21.0s						
HYF	**Humbligny**	**153.28 342**		*e*PKIKP	**PKPdf**	10 05 49.7	+0.9
HYF	**Humbligny**	**153.28 342**		*e*PKPdf	**PKPdf**	10 05 49.7	+0.9
RSL	**Roselend**	**153.31 335**		PKP	**PKPdf**	10 05 49.9	+0.8
LPL	**La Plagne**	**153.41 335**		*e*PKIKP	**PKPdf**	10 05 49.9	+0.5
	comp=Z,88nm,1.5s						
LPL	**La Plagne**	**153.41 335**		*e*PKIKP	**PKPdf**	10 05 49.9	+0.5
LPL	**La Plagne**	**153.41 335**		*e*PKPdf	**PKPdf**	10 05 49.9	+0.5
LPG	**La Plagne**	**153.42 335**		*e*PKIKP	**PKPdf**	10 05 49.9	+0.4
	comp=Z,79nm,1.4s						
LPG	**La Plagne**	**153.42 335**		*e*PKIKP	**PKPdf**	10 05 49.9	+0.4
LPG	**La Plagne**	**153.42 335**		*e*PKPdf	**PKPdf**	10 05 49.9	+0.4
SMF	**Signal de Mont**	**153.48 340**		*e*PKIKP	**PKPdf**	10 05 49.3	+0.2
	comp=Z,123nm,1.4s						
SMF	**Signal de Mont**	**153.48 340**		*e*PKIKP	**PKPdf**	10 05 49.3	+0.2
SMF	**Signal de Mont**	**153.48 340**		*e*PKPdf	**PKPdf**	10 05 49.3	+0.2
AVF	**Avril sur Loir**	**153.50 341**		*e*PKIKP	**PKPdf**	10 05 49.2	+0.1
	comp=Z,66nm,1.3s						
AVF	**Avril sur Loir**	**153.50 341**		*e*PKIKP	**PKPdf**	10 05 49.2	+0.1
AVF	**Avril sur Loir**	**153.50 341**		*e*PKPdf	**PKPdf**	10 05 49.2	+0.1
SGMF	**Saint Gilles**	**153.50 350**		*e*PKIKP	**PKPdf**	10 05 49.2	+0.1
	comp=Z,108nm,1.1s						
SGMF	**Saint Gilles**	**153.50 350**		*e*PKIKP	**PKPdf**	10 05 49.2	+0.1
SGMF	**Saint Gilles**	**153.50 350**		*e*PKPdf	**PKPdf**	10 05 49.2	+0.1
ROSF	**Rostrenen**	**153.53 351**		*e*PKIKP	**PKPdf**	10 05 49.1	0.0
	comp=Z,126nm,1.5s						
ROSF	**Rostrenen**	**153.53 351**		*e*PKIKP	**PKPdf**	10 05 49.1	0.0
ROSF	**Rostrenen**	**153.53 351**		*e*PKPdf	**PKPdf**	10 05 49.1	0.0
BNI	**Bardonecchia**	**153.82 334**		*e*PKIKP	**PKPdf**	10 05 49.7	-0.1
BNI				*e*		10 06 12.7	
BNI				MLR	MLR		
	comp=Z,9μm,20.0s						
BNI	**Bardonecchia**	**153.82 334**		*e*PKPdf	**PKPdf**	10 05 49.7	-0.1
BNI				*e*PKPbc	**PKiKP**	10 05 59.4	+1.5
BNI				*e*PKPab	**PKPab**	10 06 12.7	+1.7
BNI				LR	LR		
	comp=Z,9μm,20.0s						
BGF	**Bois d'Agland**	**153.87 341**		*e*PKIKP	**PKPdf**	10 05 50.2	+0.5
	comp=Z,383nm,1.7s						
BGF	**Bois d'Agland**	**153.87 341**		*e*PKIKP	**PKPdf**	10 05 50.2	+0.5
BGF	**Bois d'Agland**	**153.87 341**		*e*PKPdf	**PKPdf**	10 05 50.2	+0.5
GDM	**Grand'Maison**	**153.91 335**		PKP	**PKPdf**	10 05 50.4	+0.4
QUIF	**Quistinic**	**153.93 351**		*e*PKIKP	**PKPdf**	10 05 49.7	0.0
QUIF	**Quistinic**	**153.93 351**		*e*PKIKP	**PKPdf**	10 05 49.7	0.0
QUIF	**Quistinic**	**153.93 351**		*e*PKPdf	**PKPdf**	10 05 49.7	0.0
GRN	**Grenoble**	**154.03 336**		PKP	**PKPdf**	10 05 50.5	+0.4
MBDF	**Montbardon**	**154.05 334**		*e*PKIKP	**PKPdf**	10 05 50.4	+0.2
	comp=Z,167nm,1.7s						
MBDF	**Montbardon**	**154.05 334**		*e*PKIKP	**PKPdf**	10 05 50.4	+0.2
MBDF	**Montbardon**	**154.05 334**		*e*PKPdf	**PKPdf**	10 05 50.4	+0.2
PLDF	**La Plantade**	**154.15 339**		PKP	**PKPdf**	10 05 50.5	+0.3
SURF	**Saint Ours**	**154.23 333**		PKP	**PKPdf**	10 05 51.3	+0.8
AGO	**Saint Agoulin**	**154.23 340**		PKP	**PKPdf**	10 05 50.7	+0.5
ORIF	**Oris-en-Rattie**	**154.25 335**		*e*PKIKP	**PKPdf**	10 05 50.8	+0.4
	comp=Z,95nm,1.3s						
ORIF				*e*R			
	comp=Z,5μm,21.5s						
ORIF	**Oris-en-Rattie**	**154.25 335**		*e*PKIKP	**PKPdf**	10 05 50.8	+0.4
ORIF	**Oris-en-Rattie**	**154.25 335**		*e*PKPdf	**PKPdf**	10 05 50.8	+0.4
TCF	**Toulx Ste Croi**	**154.30 342**		*e*PKIKP	**PKPdf**	10 05 50.7	+0.4
	comp=Z,417nm,1.6s						
TCF	**Toulx Ste Croi**	**154.30 342**		*e*PKIKP	**PKPdf**	10 05 50.7	+0.4
TCF	**Toulx Ste Croi**	**154.30 342**		*e*PKPdf	**PKPdf**	10 05 50.7	+0.4
SAOF	**Saorge**	**154.31 332**		PKP	**PKPdf**	10 05 50.8	+0.4
AUTN	**L'Aution**	**154.36 332**		PKP	**PKPdf**	10 05 51.8	+1.1
TOUF	**Mont Tournerai**	**154.42 332**		PKP	**PKPdf**	10 05 51.3	+0.5
SSB	**Saint Sauveur**	**154.44 337**		PKP	**PKPdf**	10 05 51.6	+1.0
SSB	**Saint Sauveur**	**154.44 337**		*e*PKIKP	**PKPdf**	10 05 49.8	-0.8
SSB				*e*		10 06 13.4	
SSB				*e*		10 09 50.3	
SSB				MLR	MLR		
	comp=Z,5μm,20.0s						
SSB	**Saint Sauveur**	**154.44 337**		*e*PKPdf	**PKPdf**	10 05 49.8	-0.8
SSB				*e*PKPbc	**PKiKP**	10 06 00.0	+1.0
SSB				*e*PKPab	**PKPab**	10 06 13.4	-0.2
SSB				*e*PP	**PP**	10 09 50.3	+1.9
SSB				LR	LR		
	comp=Z,5μm,20.0s						
SBF	**Sospel**	**154.46 332**		*e*PKIKP	**PKPdf**	10 05 50.5	-0.2
	comp=Z,195nm,1.3s						
SBF	**Sospel**	**154.46 332**		*e*PKIKP	**PKPdf**	10 05 50.5	-0.2
SBF	**Sospel**	**154.46 332**		*e*PKPdf	**PKPdf**	10 05 50.5	-0.2
LUCF	**Luceram**	**154.47 332**		PKP	**PKPdf**	10 05 51.1	+0.4
COLF	**Collangettes**	**154.52 339**		PKP	**PKPdf**	10 05 51.4	+0.7
PYM	**Petit Puy Mans**	**154.54 340**		PKP	**PKPdf**	10 05 50.5	-0.3
MVIF	**Mont Vial**	**154.56 332**		PKP	**PKPdf**	10 05 51.6	+0.7
REVF	**Revere**	**154.59 331**		PKP	**PKPdf**	10 05 49.7	-1.1
MFF	**Saint Martin d**	**154.62 346**		*e*PKIKP	**PKPdf**	10 05 51.1	+0.4
	comp=Z,465nm,1.6s						
MFF	**Saint Martin d**	**154.62 346**		*e*PKIKP	**PKPdf**	10 05 51.1	+0.4
MFF	**Saint Martin d**	**154.62 346**		*e*PKPdf	**PKPdf**	10 05 51.1	+0.4
LCHF	**La Chataignera**	**154.69 347**		PKP	**PKPdf**	10 05 50.2	-0.6
VERF	**Verneugheol**	**154.71 341**		PKP	**PKPdf**	10 05 49.9	-1.1
PGF	**Pioggiola**	**154.73 328**		*e*PKIKP	**PKPdf**	10 05 51.0	-0.2
	comp=Z,223nm,1.4s						
PGF	**Pioggiola**	**154.73 328**		*e*PKIKP	**PKPdf**	10 05 51.0	-0.2
PGF	**Pioggiola**	**154.73 328**		*e*PKPdf	**PKPdf**	10 05 51.0	-0.2
OG26	**St.-Nazaire-De**	**154.75 335**		PKP	**PKPdf**	10 05 50.8	-0.3
VIVF	**Saint-Julien-l**	**154.76 337**		*e*PKIKP	**PKPdf**	10 05 51.5	+0.5
	comp=Z,228nm,1.5s						
VIVF	**Saint-Julien-l**	**154.76 337**		*e*PKIKP	**PKPdf**	10 05 51.5	+0.5
VIVF	**Saint-Julien-l**	**154.76 337**		*e*PKPdf	**PKPdf**	10 05 51.5	+0.5
CALN	**Calern**	**154.78 332**		PKP	**PKPdf**	10 05 51.8	+0.6
LBL	**Lubilhac**	**154.93 339**		PKP	**PKPdf**	10 05 50.7	-0.6
FRNF	**Fournols**	**155.01 340**		PKP	**PKPdf**	10 05 53.0	+1.6
FRF	**La Foret Royal**	**155.04 332**		*e*PKIKP	**PKPdf**	10 05 51.6	+0.2
	comp=Z,170nm,1.5s						
FRF	**La Foret Royal**	**155.04 332**		*e*PKIKP	**PKPdf**	10 05 51.6	+0.2
FRF	**La Foret Royal**	**155.04 332**		*e*PKPdf	**PKPdf**	10 05 51.6	+0.2
SMRF	**Simiane la Rot**	**155.15 334**		*e*PKIKP	**PKPdf**	10 05 52.3	+0.7
	comp=Z,176nm,1.5s						
SMRF	**Simiane la Rot**	**155.15 334**		*e*PKPdf	**PKPdf**	10 05 52.3	+0.7
LMR	**La Mourre**	**155.28 332**		*e*PKIKP	**PKPdf**	10 05 51.8	+0.1
LMR	**La Mourre**	**155.28 332**		*e*PKIKP	**PKPdf**	10 05 51.8	+0.1
LMR	**La Mourre**	**155.28 332**		*e*PKPdf	**PKPdf**	10 05 51.8	+0.1
WDD	**Wield Dalam**	**155.38 309**		PFAKE		10 06 00.0	+7.9
WDD				LR	LR		
	comp=Z,3μm,20.0s						
RJF	**Les Rejaudoux**	**155.40 342**		*e*PKIKP	**PKPdf**	10 05 52.4	+0.6
	comp=Z,367nm,1.6s						
RJF				*e*R			
	comp=Z,7μm,21.8s						
RJF	**Les Rejaudoux**	**155.40 342**		*e*PKIKP	**PKPdf**	10 05 52.4	+0.6
RJF	**Les Rejaudoux**	**155.40 342**		*e*PKPdf	**PKPdf**	10 05 52.4	+0.6
PRAF	**Pradon**	**155.46 335**		PKP	**PKPdf**	10 05 53.4	+1.4
TREF	**Trevaresse**	**155.52 334**		PKP	**PKPdf**	10 05 54.4	+2.3
CAF	**Calviac**	**155.57 341**		*e*PKIKP	**PKPdf**	10 05 52.8	+0.7
	comp=Z,300nm,1.7s						
CAF	**Calviac**	**155.57 341**		*e*PKIKP	**PKPdf**	10 05 52.8	+0.7
CAF	**Calviac**	**155.57 341**		*e*PKPdf	**PKPdf**	10 05 52.8	+0.7
BERF	**Bertagne**	**155.65 333**		PKP	**PKPdf**	10 05 53.7	+1.3
GELF	**Grande-Etoile**	**155.70 334**		PKP	**PKPdf**	10 05 52.7	+0.4
LASF	**Ste Croix**	**155.72 337**		*e*PKIKP	**PKPdf**	10 05 53.0	+0.7
	comp=Z,279nm,1.8s						
LASF	**Ste Croix**	**155.72 337**		*e*PKPdf	**PKPdf**	10 05 53.0	+0.7
LFF	**La Frestale**	**155.95 343**		*e*PKIKP	**PKPdf**	10 05 53.2	+0.6
	comp=Z,124nm,1.2s						
LFF	**La Frestale**	**155.95 343**		*e*PKIKP	**PKPdf**	10 05 53.2	+0.6
LFF	**La Frestale**	**155.95 343**		*e*PKPdf	**PKPdf**	10 05 53.2	+0.6
VSL	**Villasalto**	**156.68 322**		PFAKE		10 06 00.0	+6.3
VSL				LR	LR		
	comp=Z,5μm,22.0s						
MTLF	**Montolieu**	**156.94 339**		*e*PKIKP	**PKPdf**	10 05 54.5	+0.6
	comp=Z,249nm,1.8s						
MTLF	**Montolieu**	**156.94 339**		*e*PKIKP	**PKPdf**	10 05 54.5	+0.6
MTLF	**Montolieu**	**156.94 339**		*e*PKPdf	**PKPdf**	10 05 54.5	+0.6
FILF	**Fillols**	**157.51 337**		PKP	**PKPdf**	10 05 53.8	-1.0
EPF	**Esparros**	**157.82 341**		*e*PKIKP	**PKPdf**	10 05 55.7	+0.6
	comp=Z,275nm,1.7s						
EPF	**Esparros**	**157.82

1.1nm,1.1s,baz=336,slow=6.4,SNR=3.8
YKA Yellowknife Ar 46.11 320 P **P** 09 57 10.4 **0.0**
0.9nm,0.9s,baz=64,slow=7.7,SNR=6.9
YKA PcP **PcP** 09 58 45.7 **-0.5**
0.5nm,0.8s,baz=61,slow=4.0,SNR=5.2
INK Inuvik 50.05 332 P **P** 09 57 40.1 **-0.7**
2.0nm,1.0s,baz=30,slow=7.3,SNR=4.3
PDAR Pinedale Array 53.90 296 P **P** 09 58 10.0 **-0.1**
2.0nm,0.9s,baz=67,slow=6.4,SNR=14
ILAR Eielson Array 56.40 333 P **P** 09 58 28.2 **+0.7**
0.8nm,0.9s,baz=40,slow=6.1,SNR=12
BVAR Borovoye Array 57.15 45 P **P** 09 58 33.4 **+0.4**
0.4nm,0.5s,baz=313,slow=9.6,SNR=3.9
TXAR Lajitas Array 58.86 280 P **P** 09 58 45.9 **+0.4**
0.5nm,0.9s,baz=55,slow=6.6,SNR=5.2
H10S1 ASCENSION HYDR 59.50 164 T T 11 02 55.2
baz=350,slow=75,SNR=3.4
H10S3 ASCENSION HYDR 59.51 164 T T 11 02 59.0
baz=350,slow=75,SNR=4.3
H10S2 ASCENSION HYDR 59.52 164 T T 11 02 58.5
baz=350,slow=75,SNR=4.5
MKAR Makanchi Array 66.99 44 P **P** 09 59 39.2 **0.0**
0.7nm,0.9s,baz=335,slow=6.4,SNR=4.4
WRA Warramunga Arr 147.51 31 PKPbc **PKPbc** 10 08 30.5 **-0.3**
0.8nm,0.8s,baz=336,slow=2.5,SNR=4.9
ASAR Alice Springs 150.79 34 PKPbc **PKPbc** 10 08 38.3 **-0.7**
1.6nm,0.8s,baz=332,slow=1.9,SNR=12

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*ISCJB **09** 09:51:26.8±0.6, 36.˚10N±0.˚06×139.˚21E±0.˚09, h127km±3km, mb3.9/6, Error ellipse: s-maj=12.9km s-min=8.6km az=19.8*
*IDC **09** 09:51:26.4±1.8, 36.˚11N×139.˚39E, h117km±12km, mb3.6/5, mb1 3.7/8, mb1mx3.4/29, mbtmp3.6/8, Error ellipse: s-maj=30.1km s-min=19.5km az=82.0*
*JMA **09** 09:51:28.5±0.1, 36.˚11N×139.˚20E, h117km±1km, M3.5*
ISC 09 09:51:27.8±0.9, **36.˚12N**±0.˚06×**139.˚19E**±0.˚09, **h121**km±6km, **n24,** σ0**°86/27, mb4.0/6, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.26**	**246**	P			**Pn**	**09 51 45.3**	**+0.6**
JRY				S			**Sn**	**09 51 57.4**	**-0.1**
JHU	**Hanno**	**0.28**	**165**	P			**Pn**	**09 51 45.5**	**+0.7**
JHU				S			**Sn**	**09 51 57.9**	**+0.4**
JAG	**Ashikaga**	**0.37**	**35**	P			**Pn**	**09 51 45.6**	**+0.5**
JAG				S			**Sn**	**09 51 58.1**	**-0.1**
JKT	**Katashina**	**0.65**	**4**	P			**Pn**	**09 51 47.5**	**+0.6**
JKT				S			**Sn**	**09 52 01.8**	**+0.4**
JYN	**Shimob**	**0.81**	**220**	P			**Pn**	**09 51 48.2**	**-0.1**
JYN				S			**Sn**	**09 52 04.1**	**+0.4**
JOD2	**Odawara 2**	**0.86**	**186**	P			**Pn**	**09 51 48.3**	**-0.3**
JOD2				S			**Sn**	**09 52 03.9**	**-0.4**
MJAR	**Matsushiro Arr**	**0.90**	**298**	P			**Pn**	**09 51 48.1**	**-0.9**
MAT	**Matsushiro**	**0.90**	**298**	P			**Pn**	**09 51 48.9**	**0.0**
MAT				S			**Sn**	**09 52 04.4**	**-0.5**
MAT	**Matsushiro**	**0.90**	**298**	P			**Pn**	**09 51 48.9**	**0.0**
MAT				S			**Sn**	**09 52 04.3**	**-0.6**
JFT	**Otama**	**1.67**	**33**	P			**Pn**	**09 51 58.6**	**+1.3**
JNS	**Sasagawa**	**1.70**	**3**	P			**Pn**	**09 51 58.4**	**+0.8**
JNU	**Nakatsue**	**7.48**	**249**	P			**Pn**	**09 53 15.0**	**+0.8**
	0.4nm,0.3s,baz=53,slow=3.5,SNR=7.9								
ASAJ	**Asahikawa**	**8.40**	**17**	P			**Pn**	**09 53 24.9**	**-1.6**
	1.4nm,0.3s,baz=112,slow=19,SNR=9.4								
KSRS	**Korea Array**	**9.14**	**282**	P			**Pn**	**09 53 38.6**	**+2.1**
	0.3nm,0.3s,baz=97,slow=14,SNR=16								
JCJ	**Chichijima**	**9.35**	**163**	P			Pn	09 53 33.4	-6.2
	6.0nm,0.3s,baz=233,slow=20,SNR=3.6								
JCJ				S			Sn	09 55 10.9	-12
	4.3nm,0.3s,baz=300,slow=20,SNR=3.2								
SONM	**Songino Array**	**26.84**	**306**	P			**P**	**09 56 58.2**	**+1.2**
	0.4nm,0.6s,baz=98,slow=10,SNR=3.6								
H11N2	**WAKE ISLAND Hy**	**29.28**	**116**	T			T	10 27 15.5	
	baz=311,slow=76,SNR=6.7								
H11N1	**WAKE ISLAND Hy**	**29.29**	**116**	T			T	10 27 12.8	
	baz=311,slow=76,SNR=9.2								
H11N3	**WAKE ISLAND Hy**	**29.30**	**116**	T			T	10 27 30.0	
	baz=311,slow=76,SNR=4.3								
MKAR	**Makanchi Array**	**43.09**	**303**	P			**P**	**09 59 15.0**	**-0.8**
	0.9nm,0.7s,baz=90,slow=9.3,SNR=8.3								
KURBB	**Kurchatov Arra**	**45.16**	**308**	P			**P**	**09 59 31.6**	**-0.6**
	1.0nm,0.4s,baz=85,slow=7.7,SNR=11								
BVAR	**Borovoye Array**	**49.87**	**313**	P			P	10 00 12.6	+4.1
	0.8nm,0.4s,baz=92,slow=6.9,SNR=5.6								
WRA	**Warramunga Arr**	**55.95**	**186**	P			**P**	**10 00 52.5**	**-1.0**
	2.5nm,0.4s,baz=1.4,slow=7.5,SNR=18								
ARCES	**ARCESS Array B**	**64.21**	**339**	P			**P**	**10 01 49.2**	**0.0**
	1.2nm,0.7s,baz=53,slow=7.7,SNR=5.1								

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*ISCJB **09** 09:56:10.9±1.4, 5.˚9S±0.˚1×146.˚2E±0.˚2, h32km, mb3.8/3, Error ellipse: s-maj=27.8km s-min=14.2km az=167.0*
*IDC **09** 09:56:18.6±5.8, 6.˚09S×146.˚44E, h88km±53km, mb3.5/3, mb1 3.7/6, mb1mx3.4/17, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=55.9km s-min=30.1km az=124.0*
ISC 09 09:56:13.1±1.4, **5.˚8S**±0.˚1×**146.˚1E**±0.˚2, **h32**km, **n7,** σ2**°05/7, mb3.9/3, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**164**	P			**Pn**	**09 57 11.0**	**+2.7**
	36nm,0.3s,baz=20,slow=4.1,SNR=90								
PMG				S			**Sn**	**09 57 48.2**	**-2.7**
	30nm,0.3s,baz=168,slow=24,SNR=9.2								
CTA	**Charters Tower**	**14.18**	**179**	P			Pn	09 59 35.9	+4.0
	4.6nm,0.3s,baz=360,slow=14,SNR=27								
WRA	**Warramunga Arr**	**18.12**	**218**	P			**Pn**	**10 00 21.9**	**-0.6**
	0.1nm,0.3s,baz=39,slow=11,SNR=6.3								
ASAR	**Alice Springs**	**21.29**	**212**	P			**P**	**10 00 57.8**	**+0.6**
	1.3nm,0.8s,baz=52,slow=8.8,SNR=4.9								
STKA	**Stephens Creek**	**26.27**	**189**	P			**P**	**10 01 44.8**	**-0.8**
	1.5nm,0.4s,baz=57,slow=1.6,SNR=7.0								
ILAR	**Eielson Array**	**85.66**	**23**	P			**P**	**10 08 47.5**	**-0.9**
	1.0nm,0.6s,baz=253,slow=4.8,SNR=13								
TORD	**Torodi Ar. Bea**	**144.20**	**284**	PKP			**PKPab**	**10 15 44.9**	**+0.3**
	1.5nm,0.6s,baz=72,slow=2.9,SNR=11								

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*ISCJB **09** 10:05:18.6±0.7, 2.˚22N±0.˚09×126.˚9E±0.˚2, h63km, mb4.0/9, Error ellipse: s-maj=32.3km s-min=11.7km az=169.7*
*IDC **09** 10:05:26.3±11.0, 2.˚17N×126.˚93E, h125km±120km, mb3.6/10, mb1 3.8/10, mb1mx3.6/22, mbtmp3.6/10, Error ellipse: s-maj=34.1km s-min=15.7km az=79.0*
ISC 09 10:05:20.0±0.9, **2.˚2N**±0.˚1×**126.˚9E**±0.˚3, **h63**km, **n10,** σ1**°24/10, mb4.1/9, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.19**	**184**	P			**P**	**10 09 50.6**	**+0.8**
	1.8nm,0.6s,baz=30,slow=12,SNR=4.6								
WRA	**Warramunga Arr**	**23.15**	**162**	P			**P**	**10 10 22.6**	**+1.4**
	1.4nm,0.3s,baz=342,slow=12,SNR=50								
ASAR	**Alice Springs**	**26.57**	**166**	P			**P**	**10 10 53.8**	**+1.4**
	0.7nm,0.4s,baz=345,slow=8.3,SNR=16								
CMAR	**Chiang Mai Arr**	**31.86**	**302**	P			**P**	**10 11 39.5**	**+0.1**
	2.1nm,0.6s,baz=136,slow=6.3,SNR=4.3								
KSRS	**Korea Array**	**35.12**	**1**	P			**P**	**10 12 08.9**	**+1.4**
	1.4nm,0.7s,baz=181,slow=9.1,SNR=4.7								
MJAR	**Matsushiro Arr**	**35.75**	**16**	P			**P**	**10 12 12.7**	**-0.2**
	1.7nm,0.7s,baz=187,slow=10,SNR=5.4								
STKA	**Stephens Creek**	**36.61**	**159**	P			**P**	**10 12 18.5**	**-1.9**
	4.3nm,1.1s,baz=339,slow=8.6,SNR=3.4								
USRK	**Ussuriysk Arra**	**42.08**	**5**	P			**P**	**10 13 05.3**	**-0.4**
	4.2nm,0.8s,baz=186,slow=7.2,SNR=12								
SONM	**Songino Array**	**48.83**	**342**	P			**P**	**10 13 59.1**	**-0.2**
	0.9nm,0.8s,baz=175,slow=7.6,SNR=5.5								
MKAR	**Makanchi Array**	**58.95**	**326**	P			**P**	**10 15 12.4**	**-0.6**
	1.3nm,0.6s,baz=120,slow=7.3,SNR=15								

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*ISCJB **09** 10:11:25.3±0.6, 31.˚50N±0.˚04×59.˚54E±0.˚07, h10km, Error ellipse: s-maj=8.8km s-min=4.9km az=157.7*
*CSEM **09** 10:11:26.5±0.3, 31.˚51N×59.˚51E, h2km, ML4.1, Error ellipse: s-maj=6.5km s-min=4.8km az=116.0*
*THR **09** 10:11:27.4±0.5, 31.˚51N×59.˚45E, h18km±7km, ML3.8*
*TEH **09** 10:11:28.5, 31.˚52N×59.˚42E, h6km, ML4.1*
ISC 09 10:11:27.9±1.1, **31.˚53N**±0.˚05×**59.˚44E**±0.˚06, **h10**km, **n38,** σ0**°63/43, 2C-2D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKOO	**Kooshah**	**0.96**	**337**	ǁ*e*Pg			**Pg**	**10 11 45.6**	**-1.0**
IKOO				*e*Sg			**Sg**	**10 11 59.9**	**+0.7**
IKOO				*e*				10 12 01.9	
	comp=Z,21µm,0.1s								
IKOO	**Kooshah**	**0.96**	**337**	ǁ*e*Pg			**Pg**	**10 11 45.6**	**-1.0**
IKOO				*e*Sg			**Sg**	**10 11 59.9**	**+0.7**
IDAH	**Dahanechah**	**1.26**	**17**	ǁ*e*Pg			**Pn**	**10 11 51.6**	**-0.3**
IDAH				*e*				10 11 53.8	
	comp=Z,17µm,0.1s								
IDAH	**Dahanechah**	**1.26**	**17**	ǁ*e*Pg			**Pn**	**10 11 51.6**	**-0.3**
ITEG	**Tejag**	**1.48**	**337**	*e*Pn			**Pn**	**10 11 55.1**	**+0.2**
ITEG				*e*				10 11 56.8	
	comp=Z,38µm,0.1s								
ITEG				*e*Sg			**Sg**	**10 12 15.9**	**+0.2**
ITEG	**Tejag**	**1.48**	**337**	*e*Pn			**Pn**	**10 11 55.1**	**+0.2**
ITEG				*e*Sg			**Sg**	**10 12 15.9**	**+0.2**
SHRT	**Shahrakht**	**2.23**	**19**	*e*Pg			**Pb**	**10 12 08.3**	**-0.1**
SHRT	**Shahrakht**	**2.23**	**19**	*e*Pg			**Pb**	**10 12 08.3**	**-0.1**
ZHSF	**Zahedan**	**2.23**	**149**	*e*PN5			**Pn**	**10 12 05.2**	**0.0**
ZHSF				*e*Sg			**Sb**	**10 12 37.1**	**+0.8**
ZHSF				*e*		AML	AML	10 12 44.5	
	comp=E,345nm,0.4s								
TABS	**Tabas**	**2.88**	**318**	*e*Pn			**Pn**	**10 12 14.9**	**+0.9**
TABS				*e*		AML	AML	10 13 04.6	
	comp=N,477nm,0.8s								
TABS				*e*		AML	AML	10 13 05.6	
	comp=E,242nm,0.7s								
TABS	**Tabas**	**2.88**	**318**	*e*Pn			**Pn**	**10 12 14.9**	**+0.9**
IBAF	**Bafgh**	**3.31**	**272**	*e*			**Sg**	**10 13 13.3**	**-1.0**
	comp=Z,4µm,0.1s								
IMEH	**Mehriz**	**4.13**	**269**	*e*Pn			**Pn**	**10 12 31.9**	**+0.6**
IMEH				*e*				10 13 40.5	
	comp=Z,2µm,0.2s								
IMEH	**Mehriz**	**4.13**	**269**	*e*Pn			**Pn**	**10 12 31.9**	**+0.6**
ICHK	**Chekchek**	**4.34**	**281**	*e*Pn			**Pn**	**10 12 35.0**	**+0.8**
ICHK	**Chekchek**	**4.34**	**281**	*e*Pn			**Pn**	**10 12 35.0**	**+0.8**
ISAD	**Sadrabad**	**4.92**	**276**	*e*Pn			**Pn**	**10 12 42.6**	**+0.4**
ISAD				*e*				10 14 08.2	
	comp=E,2µm,0.4s								
ISAD	**Sadrabad**	**4.92**	**276**	*e*Pn			**Pn**	**10 12 42.6**	**+0.4**
SHRO	**Shahrood**	**5.29**	**328**	*e*Pn			**Pn**	**10 12 48.5**	**+1.4**
SHRO	**Shahrood**	**5.29**	**328**	*e*Pn			**Pn**	**10 12 48.5**	**+1.4**
NASN	**Na'in**	**5.76**	**284**	*e*PN5			**Pn**	**10 12 55.0**	**+1.1**
NASN				*e*		AML	AML	10 14 38.6	
	comp=N,42nm,0.6s								
NASN				*e*		AML	AML	10 14 39.8	
	comp=E,39nm,0.5s								
IEMG	**Emamgholi**	**5.91**	**354**	*e*Pn			**Pn**	**10 12 56.2**	**+0.4**
IEMG	**Emamgholi**	**5.91**	**354**	*e*Pn			**Pn**	**10 12 56.2**	**+0.4**
IANJ	**Anjilo**	**6.06**	**312**	*e*Pn			**Pn**	**10 12 58.0**	**+0.2**
IANJ	**Anjilo**	**6.06**	**312**	*e*Pn			**Pn**	**10 12 58.0**	**+0.2**
IZEF	**Zefreh**	**6.18**	**285**	*e*Pn			**Pn**	**10 12 59.2**	**-0.3**
IZEF				*e*				10 14 55.5	
	comp=Z,304nm,0.3s								
IZEF	**Zefreh**	**6.18**	**285**	*e*Pn			**Pn**	**10 12 59.2**	**-0.3**
ISHM	**Shahmirzad**	**6.67**	**311**	*e*Pn			**Pn**	**10 13 06.3**	**+0.1**
ISHM	**Shahmirzad**	**6.67**	**311**	*e*Pn			**Pn**	**10 13 06.3**	**+0.1**
ISFB	**Sefidab**	**6.67**	**297**	*e*Pn			**Pn**	**10 13 06.2**	**+0.1**
ISFB	**Sefidab**	**6.67**	**297**	*e*Pn			**Pn**	**10 13 06.2**	**+0.1**
IGLO	**Ghaloghah**	**6.80**	**318**	*e*Pn			**Pn**	**10 13 08.6**	**+0.6**
IKLH	**Kolahrood**	**6.88**	**287**	*e*Pn			**Pn**	**10 13 09.1**	**-0.1**
IKLH	**Kolahrood**	**6.88**	**287**	*e*Pn			**Pn**	**10 13 09.1**	**-0.1**
IFIR	**Firoozkooh**	**6.92**	**308**	*e*Pn			**Pn**	**10 13 09.6**	**-0.1**
IFIR	**Firoozkooh**	**6.92**	**308**	*e*Pn			**Pn**	**10 13 09.6**	**-0.1**
IDMV	**Damavand**	**7.38**	**305**	*e*Pn			**Pn**	**10 13 16.8**	**+0.7**
IDMV	**Damavand**	**7.38**	**305**	*e*Pn			**Pn**	**10 13 16.8**	**+0.7**

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*ISCJB **09** 10:16:59.9±0.3, 2.˚42N±0.˚04×99.˚15E±0.˚04, h171km±3km, mb4.0/22, Error ellipse: s-maj=6.9km s-min=5.9km az=150.4*
*NEIC **09** 10:17:00.9±0.6, 2.˚42N×99.˚21E, h166km±4km, mb4.4/6, Error ellipse: s-maj=11.0km s-min=5.6km az=58.0*
*IDC **09** 10:17:00.3±0.4, 2.˚40N×99.˚16E, h159km±2km, mb3.8/19, mb1 3.9/20, mb1mx3.7/32, mbtmp3.8/20, Error ellipse: s-maj=23.0km s-min=10.0km az=53.0*
*DJA **09** 10:17:01.0±0.5, 2.˚N±4.˚×9.˚9E±.˚, h164km±10km, M4.2/8, mb4.4/3, mB5.4/1, MLv4.2/8, Mw(mB)4.9/1*
ISC 09 10:17:00.8±0.7, **2.˚44N**±0.˚05×**99.˚20E**±0.˚05, **h163**km±6km, **n84,** σ0**°75/92, mb4.0/22, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.45**	**322**	P			**Pn**	**10 17 24.0**	**+0.5**
PSI	**Prapat**	**0.45**	**322**	P			**Pn**	**10 17 24.1**	**+0.5**
PSI				S			**Sn**	**10 17 40.3**	**-0.7**
PSI	**Prapat**	**0.45**	**322**	P			**Pn**	**10 17 24.1**	**+0.5**
	60nm,0.3s,baz=298,slow=1.5,SNR=175								
PSI				S			**Sn**	**10 17 40.3**	**-0.7**
	36nm,0.3s,baz=93,slow=2.6,SNR=15								
MNSI	**Mandailing Nat**	**1.68**	**167**	P			**Pn**	**10 17 34.7**	**+1.4**
KCSI	**Kotacane, Aceh**	**1.78**	**307**	P			**Pn**	**10 17 34.8**	**+0.5**
KCSI				S			**Sn**	**10 17 59.8**	**-0.4**
GSI	**Gunungsitoli**	**1.98**	**235**	P			**Pn**	**10 17 37.1**	**+0.6**
GSI				S			**Sn**	**10 18 04.7**	**+0.7**
TPTI		**2.17**	**292**	P			**Pn**	**10 17 38.9**	**+0.2**
TPTI				S			**Sn**	**10 18 06.3**	**-1.6**
FRIM	**Kepong**	**2.55**	**72**	P			**Pn**	**10 17 44.3**	**+1.1**
IPM	**Ipoh**	**2.72**	**42**	*e*Pn			**Pn**	**10 17 46.5**	**+1.2**
SNSI	**Sinabang, Aceh**	**2.87**	**269**	P			**Pn**	**10 17 47.6**	**+0.6**
SNSI				S			**Sn**	**10 18 20.9**	**-2.0**
KULM	**Kulim**	**3.18**	**27**	P			**Pn**	**10 17 51.2**	**+0.3**
KULM	**Kulim**	**3.18**	**27**	*e*Pn			**Pn**	**10 17 50.9**	**0.0**
KULM				*e*Sn			**Sn**	**10 18 29.1**	**-0.9**
LHSI	**Lahat**	**7.58**	**145**	P			**Pn**	**10 18 49.0**	**+0.3**
	62nm,0.4s,0.3nm								
MDSI	**Maura Dua**	**8.49**	**144**	P			**Pn**	**10 19 00.2**	**-0.6**
	16nm,0.9s,4µm								
KLSI		**8.99**	**142**	P			**Pn**	**10 19 07.2**	**-0.1**
CHBT	**CHBT**	**10.70**	**17**	P			**P**	**10 19 39.0**	**+0.8**
	42nm,1.4s,5µm								
SRDT	**SRDT**	**11.83**	**360**	P			**P**	**10 19 52.3**	**+1.3**
	82nm,1.3s,9µm								
KHLT	**Khaolaem Dam**	**12.29**	**357**	P			**P**	**10 19 56.9**	**+0.8**
	18nm,1.1s								
CHAI	**Chaiyaphum**	**13.65**	**11**	P			**P**	**10 20 11.9**	**+0.7**
	4.5nm,0.8s,898nm								
PBKT	**Sadao Pong**	**14.14**	**7**	P			**P**	**10 20 16.9**	**+0.2**
	20nm,0.8s								
UBPT	**Khong Chiam**	**14.18**	**26**	P			**P**	**10 20 16.0**	**-1.1**
	30nm,0.8s								
CM31	**Chiang Mai Arr**	**15.92**	**359**	*e*Pn			**P**	**10 20 36.8**	**+0.5**
	29nm,0.9s								
CMAR	**Chiang Mai Arr**	**15.92**	**359**	P			**P**	**10 20 37.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**15.92**	**359**	P			**P**	**10 20 37.1**	**+0.7**
	0.9nm,0.3s,baz=192,slow=11,SNR=19								
LAMP	**Lampang**	**15.98**	**2**	P			**P**	**10 20 38.6**	**+1.5**
	5.2nm,0.8s								
CMMT	**Chiang Mai**	**16.27**	**359**	*e*P			**P**	**10 20 40.8**	**+0.5**
	36nm,1.3s								
CHTO	**Chiang Mai**	**16.27**	**359**	*e*P			**P**	**10 20 40.2**	**0.0**
	12nm,0.8s								
CHTO	**Chiang Mai**	**16.27**	**359**	P			**Pn**	**10 20 40.9**	**+0.6**
	69nm,0.8s								
CMAI	**Chiengmai2**	**17.38**	**360**	P			**Pn**	**10 20 53.5**	**-0.3**
	8.6nm,1.0s								
CRAI	**Chiangrai**	**17.71**	**4**	P			**Pn**	**10 20 58.7**	**+1.1**
H08S2	**Diego Garcia H**	**28.46**	**249**	T			T	10 50 45.2	
	baz=70,slow=75,SNR=7.6								
H08S3	**Diego Garcia H**	**28.47**	**249**	T			T	10 50 34.3	
	baz=70,slow=75,SNR=13								
H08S1	**Diego Garcia H**	**28.48**	**249**	T			T	10 50 40.6	
	baz=70,slow=75,SNR=9.8								
FITZ	**Fitzroy Crossi**	**33.09**	**129**	P			**P**	**10 23 20.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**33.09**	**129**	P			**P**	**10 23 20.4**	**-1.1**
	2.2nm,0.8s,baz=297,slow=9.0,SNR=4.2								
WRA	**Warramunga Arr**	**41.04**	**124**	P			**P**	**10 24 27.8**	**-0.7**
WRA	**Warramunga Arr**	**41.04**	**124**	P			**P**	**10 24 27.8**	**-0.7**
	1.5nm,0.4s,baz=299,slow=9.2,SNR=32								
WRAB	**Tennant Creek**	**41.05**	**124**	*e*P			**P**	**10 24 28.2**	**-0.4**
	2.6nm,0.4s								
AS31	**Alice Springs**	**42.59**	**130**	*e*P			**P**	**10 24 40.8**	**-0.4**
ASAR	**Alice Springs**	**42.59**	**130**	P			**P**	**10 24 40.7**	**-0.4**
ASAR	**Alice Springs**	**42.59**	**130**	P			**P**	**10 24 40.7**	**-0.4**
	0.7nm,0.5s,baz=302,slow=7.3,SNR=13								
TKM2	**Tokmak 2**	**45.47**	**336**	*e*P			**P**	**10 25 04.2**	**+0.3**
	5.3nm,1.1s								
SONM	**Songino Array**	**45.64**	**7**	P			**P**	**10 25 05.3**	**+0.2**
SONM						PcP	**PcP**	**10 26 40.7**	**+0.1**
SONM	**Songino Array**	**45.64**	**7**	P			**P**	**10 25 05.3**	**+0.2**
	4.9nm,0.7s,baz=189,slow=9.7,SNR=17								
SONM						PcP	**PcP**	**10 26 40.7**	**+0.1**
	1.1nm,0.6s,baz=186,slow=3.5,SNR=5.2								
AAK	**Ala-Archa**	**45.70**	**334**	P			**P**	**10 25 07.3**	**+1.6**
AAK	**Ala-Archa**	**45.70**	**334**	P			**P**	**10 25 07.3**	**+1.6**
	3.2nm,0.6s,baz=136,slow=8.4,SNR=10								
MK31	**Makanchi Array**	**46.56**	**344**	*e*P			**P**	**10 25 11.9**	**-0.2**
MKAR	**Makanchi Array**	**46.56**	**344**	P			**P**	**10 25 12.0**	**-0.2**
MKAR						PcP	**PcP**	**10 26 43.3**	**-0.3**
MKAR	**Makanchi Array**	**46.56**	**344**	P			**P**	**10 25 12.0**	**-0.2**
	1.7nm,0.3s,baz=157,slow=8.6,SNR=20								
MKAR						PcP	**PcP**	**10 26 43.3**	**-0.3**
	0.4nm,0.6s,baz=168,slow=3.3,SNR=2.9								
USRK	**Ussuriysk Arra**	**50.69**	**30**	P			**P**	**10 25 44.4**	**+0.7**
	2.0nm,0.8s,baz=225,slow=1.3,SNR=5.7								
KURBB	**Kurchatov Arra**	**51.09**	**343**	P			**P**	**10 25 46.4**	**-0.1**
	2.6nm,0.6s,baz=163,slow=7.0,SNR=25								
KURBB						PcP	**PcP**	**10 27 00.2**	**+0.3**
	0.8nm,0.5s,baz=158,slow=3.5,SNR=7.9								
KURK	**Kurchatov**	**51.15**	**343**	P			**P**	**10 25 46.4**	**-0.5**
KURK						PcP	**PcP**	**10 27 00.2**	**+0.1**
ZAA0	**Zalesovo Array**	**52.68**	**349**	*e*P			**P**	**10 25 57.9**	**-0.4**
ZALV	**Zalesovo Beam**	**52.68**	**349**	P			**P**	**10 25 58.1**	**-0.2**
ZALV	**Zalesovo Beam**	**52.68**	**349**	P			**P**	**10 25 58.1**	**-0.2**
	5.0nm,0.5s,baz=177,slow=6.1,SNR=20								
STKA	**Stephens Creek**	**52.74**	**134**	P			**P**	**10 25 58.6**	**-0.5**
STKA	**Stephens Creek**	**52.74**	**134**	P			**P**	**10 25 58.6**	**-0.5**
	1.7nm,0.8s,baz=318,slow=14,SNR=3.3								
BVAR	**Borovoye Array**	**55.77**	**339**	P			**P**	**10 26 19.9**	**-0.7**
BVAR	**Borovoye Array**	**55.77**	**339**	P			**P**	**10 26 19.9**	**-0.7**
	3.3nm,0.6s,baz=134,slow=8.5,SNR=21								
ABKAR	**Akbulak array**	**57.39**	**331**	*e*P			**P**	**10 26 31.6**	**-0.6**
	6.9nm,0.6s								
AKTO	**Aktyubinsk**	**59.11**	**331**	P			**P**	**10 26 43.2**	**-0.9**
AKTO	**Aktyubinsk**	**59.11**	**331**	P			**P**	**10 26 43.2**	**-0.9**
	2.3nm,0.6s,baz=129,slow=7.0,SNR=10								
KBZ	**Khabaz**	**64.47**	**318**	P			**P**	**10 27 20.0**	**0.0**
KBZ	**Khabaz**	**64.47**	**318**	P			**P**	**10 27 20.0**	**0.0**
	3.1nm,0.8s,baz=116,slow=4.1,SNR=4.7								
BRTR	**Keskin Array B**	**69.77**	**312**	P			**P**	**10 27 52.8**	**-1.0**
BRTR	**Keskin Array B**	**69.77**	**312**	P			**P**	**10 27 52.8**	**-1.0**
	2.2nm,0.8s,baz=122,slow=8.9,SNR=11								
BR131	**Keskin Array S**	**69.77**	**312**	*e*P			**P**	**10 27 52.5**	**-1.2**
	2.3nm,0.9s								
AKASG	**Malin Array Be**	**75.51**	**322**	P			**P**	**10 28 26.2**	**-0.9**
AKASG	**Malin Array Be**	**75.51**	**322**	P			**P**	**10 28 26.2**	**-0.9**
	0.4nm,0.3s,baz=88,slow=4.2,SNR=4.5								
BOSA	**Boshof**	**77.12**	**240**	P			**P**	**10 28 37.5**	**+0.6**
BOSA	**Boshof**	**77.12**	**240**	P			**P**	**10 28 37.5**	**+0.6**
	1.4nm,0.6s,baz=95,slow=4.8,SNR=4.9								
BUR08	**Bucovina Ar. S**	**77.44**	**318**	*e*P			**P**	**10 28 38.7**	**+0.5**
FINES	**FINESS Array B**	**79.83**	**332**	P			**P**	**10 28 51.1**	**+0.3**
FINES	**FINESS Array B**	**79.83**	**332**	P			**P**	**10 28 51.1**	**+0.3**
	1.6nm,0.5s,baz=100,slow=4.9,SNR=6.9								

ASAR	**Alice Springs**	**26.49**	**223**	P	**P**	**11 00 58.5**	**-0.2**
	0.3nm,0.5s,baz=58,slow=8.8,SNR=6.2						
STKA	**Stephens Creek**	**29.03**	**201**	P	**P**	**11 01 21.6**	**+0.3**
	1.7nm,0.8s,baz=21,slow=14,SNR=2.7						
FITZ	**Fitzroy Crossi**	**30.15**	**242**	P	**P**	**11 01 30.2**	**-1.1**
	3.6nm,1.1s,baz=54,slow=14,SNR=4.5						
SONM	**Songino Array**	**66.74**	**328**	P	**P**	**11 06 12.5**	**+0.5**
	0.5nm,0.9s,baz=133,slow=6.1,SNR=2.3						
MKAR	**Makanchi Array**	**80.81**	**319**	P	**P**	**11 07 34.4**	**+0.1**
	0.3nm,0.6s,baz=104,slow=7.1,SNR=4.2						
ILAR	**Eielson Array**	**82.03**	**22**	P	**P**	**11 07 40.7**	**+0.4**
	0.3nm,0.9s,baz=247,slow=5.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**84.26**	**322**	P	**P**	**11 07 51.8**	**-0.3**
	0.1nm,0.5s,baz=107,slow=3.7,SNR=4.4						
MAW	**Mawson**	**85.71**	**203**	P	**P**	**11 07 59.0**	**0.0**
	0.8nm,0.5s,baz=112,slow=5.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**150.92**	**288**	PKPbc	**PKPbc**	**11 15 13.1**	**-0.9**
	0.8nm,0.5s,baz=73,slow=1.6,SNR=17						

*IDC **09** 11:08:06.1±1.9,0˚.50N×124˚.13E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.2/22,mbtmp3.2/3,Error ellipse: s-maj=209.0km s-min=26.1km az=63.0*

*ISCJB **09** 11:08:13.4±0.8,0˚.1N±0˚.1×122˚.99E±0˚.08,h150km, mb3.1/3,Error ellipse: s-maj=17.1km s-min=9.7km az=158.2*

*DJA **09** 11:08:18.2±0.7,0˚S±9˚×12˚3E±˚,h40km±117km,M4.4/4, mb4.6/2,mB5.1/1,MLv4.3/4,Mw(mB)4.5/1*

ISC 09 11:08:15.6±1.5,0˚.3N±0˚.1×122˚.91E±0˚.08,h150km,n13, σ2s48/10,mb3.0/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.39**	**15**	P	**Pn**	**11 08 35.5**	**-1.0**
MRSI	**Marisa**	**0.99**	**283**	P	**Pn**	**11 08 39.2**	**-1.2**
KMSI	**Cibinong**	**1.11**	**74**	P	**Pn**	**11 08 38.9**	**-2.5**
APSI	**Ampana**	**1.71**	**227**	P	Pn	11 08 43.4	-4.1
TTSI	**Tana Toraja**	**4.51**	**223**	P	**Pn**	**11 09 20.3**	**-2.3**
LBMI	**Labuha**	**4.67**	**101**	P	**Pn**	**11 09 23.5**	**-1.3**
MMSI	**Mamuju**	**4.96**	**234**	P	**Pn**	**11 09 28.1**	**-0.4**
SPSI	**Sidrap Palu**	**5.24**	**217**	P	**Pn**	**11 09 29.6**	**-2.6**
BNSI	**Bone**	**5.41**	**211**	P	**Pn**	**11 09 32.9**	**-1.6**
NLAI	**Namlea**	**5.44**	**130**	P	Pn	11 09 29.9	-5.0
	54nm,0.6s,2μm						
WRA	**Warramunga Arr**	**22.99**	**151**	P	**P**	**11 13 09.1**	**+1.7**
	0.5nm,0.8s,baz=335,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**26.07**	**157**	P	**P**	**11 13 39.2**	**+3.8**
	0.2nm,0.5s,baz=342,slow=15,SNR=3.0						
MKAR	**Makanchi Array**	**58.35**	**328**	P	P	11 18 06.4	+11
	0.2nm,0.3s,baz=123,slow=5.3,SNR=4.8						

IDC 09 11:19:07.9±2.9,3˚.85S×151˚.91E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/19,mbtmp3.7/3,Error ellipse: s-maj=107.7km s-min=41.3km az=123.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.44**	**226**	P	P	11 24 20.1	+1.1
	1.1nm,0.5s,baz=51,slow=10.0,SNR=23						
ASAR	**Alice Springs**	**26.28**	**220**	P	P	11 24 44.4	-0.9
	0.3nm,0.8s,baz=56,slow=8.6,SNR=8.9						
FITZ	**Fitzroy Crossi**	**29.36**	**239**	P	P	11 25 13.6	+0.8
	2.4nm,1.0s,baz=58,slow=14,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.16**	**289**	PKPbc	PKPbc	11 38 58.1	-1.4
	0.9nm,0.7s,baz=54,slow=2.4,SNR=5.9						

*CSEM **09** 11:49:15.4±0.3,59˚.32N×27˚.29E,h2km,ML1.7,Error ellipse: s-maj=7.1km s-min=3.4km az=102.0,Mining explosion.*

HEL 09 11:49:16.8±0.1,59˚.31N×27˚.16E,h0km,ML1.0, Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.88**	**195**	*e*P	Pg	11 49 32.3	-1.2
VSU				*e*S	Sg	11 49 44.5	-0.4
VSU	**Vasula**	**0.88**	**195**	P	Pg	11 49 32.3	-1.2
VSU				S	Sg	11 49 44.5	-0.4
VJF	**Virojoki**	**1.25**	**9**	*e*P	Pg	11 49 39.2	-1.6
VJF				*e*SB	Sg	11 49 55.9	-1.1
VJF	**Virojoki**	**1.25**	**9**	P	Pg	11 49 39.1	-1.7
VJF				Sb	Sg	11 49 55.9	-1.1
PVF	**Pernaja**	**1.40**	**333**	*e*P	Pn	11 49 42.1	-1.5
PVF				*e*S	Sg	11 49 59.6	-2.2
PVF	**Pernaja**	**1.40**	**333**	P	Pn	11 49 42.0	-1.6
PVF				S	Sg	11 49 59.6	-2.2
SRPE	**Suurupi**	**1.43**	**277**	*e*S	Sg	11 50 02.8	+0.1
	SNR=50						
MEF	**Metsahovi**	**1.67**	**304**	*e*P	Pn	11 49 46.5	-0.8
MEF				*e*S	Sn	11 50 07.0	-2.4
MEF	**Metsahovi**	**1.67**	**304**	P	Pn	11 49 46.4	-0.8
MEF				*e*S	Sn	11 50 07.3	-2.0
	4.3nm,0.2s,SNR=50						
MTSE	**Matsula**	**1.83**	**252**	*e*PN	Pn	11 49 49.3	-0.1
MTSE				*e*SN	Sb	11 50 14.5	0.0
MTSE	**Matsula**	**1.83**	**252**	*e*P	Pn	11 49 48.4	-1.0
	SNR=50						
MTSE	**Matsula**	**1.83**	**252**	Pn	Pn	11 49 49.3	-0.1
MTSE				*e*S	Sn	11 50 13.4	+0.2
	SNR=50						
MTSE				Sn	Sb	11 50 14.4	0.0
FIA0	**FINESS Array S**	**2.21**	**346**	*e*PB	Pn	11 49 55.2	+0.5
SLIT	**Slitere, Latvi**	**3.06**	**239**	*e*S	Sb	11 50 47.1	-2.8
	3.0nm,1.0s,SNR=50						

IDC 09 11:53:11.0±2.4,4˚.69N×123˚.88E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/25,mbtmp3.5/3,Error ellipse: s-maj=305.9km s-min=25.6km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.55**	**158**	P	P	11 58 51.0	+0.2
	0.5nm,0.3s,baz=336,slow=9.7,SNR=21						
ASAR	**Alice Springs**	**29.83**	**161**	P	P	11 59 19.9	-0.3
	0.2nm,0.4s,baz=340,slow=7.1,SNR=8.2						
MKAR	**Makanchi Array**	**55.17**	**326**	P	P	12 02 45.5	-0.1
	0.1nm,0.3s,baz=125,slow=8.1,SNR=6.6						

IDC 09 11:54:50.7±6.8,0˚.36S×100˚.82E,h0km,mb3.4/2, mb1 3.6/2,mb1mx3.2/24,mbtmp3.4/2,Error ellipse: s-maj=356.6km s-min=34.0km az=52.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**29.15**	**255**	T	T	12 28 32.7	
	baz=78,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**29.15**	**255**	T	T	12 28 40.7	
	baz=78,slow=76,SNR=20						
H08S1	**Diego Carcia H**	**29.17**	**255**	T	T	12 28 39.5	
	baz=78,slow=76,SNR=23						
WRA	**Warramunga Arr**	**38.15**	**123**	P	P	12 02 12.2	0.0
	0.2nm,0.4s,baz=301,slow=9.1,SNR=4.7						
MKAR	**Makanchi Array**	**49.69**	**343**	P	P	12 03 44.6	+0.1
	0.3nm,0.4s,baz=159,slow=8.8,SNR=5.4						
TXAR	**Lajitas Array**	**142.91**	**37**	PKP	PKPdf	12 14 24.8	-2.4
	0.3nm,0.8s,baz=316,slow=2.5,SNR=2.3						

*ISCJB **09** 12:13:24.2±0.1,49˚.46N±0˚.04×28˚.59W±0˚.02,h10km, mb4.7/173,MS4.3/62,Error ellipse: s-maj=5.9km s-min=1.7km az=4.3*

*MOS **09** 12:13:24.1±0.9,49˚.50N×28˚.52W,h10km,mb4.9/68, MS4.2/8,Error ellipse: s-maj=8.1km s-min=5.4km az=173.6*

*IDC **09** 12:13:24.4±0.4,49˚.57N×28˚.61W,h0km,mb4.3/31, mb1 4.5/32,mb1mx4.4/39,mbtmp4.3/32,ML4.2/1,MS4.2/25, Ms1 4.2/25,ms1mx4.1/44,Error ellipse: s-maj=14.1km s-min=9.9km az=13.0*

*NEIC **09** 12:13:26.0±0.1,49˚.55N×28˚.49W,h10km,mb4.9/133, Error ellipse: s-maj=5.4km s-min=1.8km az=189.0*

*BJI **09** 12:13:26.9,50˚.46N×28˚.85W,h10km,mB5.4/21,mb4.8/27, Ms5.2/8,Ms7 4.8/8*

*CSEM **09** 12:13:26.0±0.1,49˚.55N×28˚.54W,h10km,mb4.8/99,Ms4.1, Error ellipse: s-maj=6.3km s-min=2.1km az=8.0*

*SZGRF **09** 12:13:47.5,49˚.34N×25˚.36W,h33km,mb4.5,Northern Mid-Atlantic Ridge*

ISC 09 12:13:26.9±0.5,49˚.53N±0˚.06×28˚.56W±0˚.05,h14km±2km, h14km:pP-P,n1065,σ0s90/1054,mb4.8/171,MS4.3/62, 181C-178D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**16.02**	**110**	*e*P	Pn	12 17 05.5	-6.2
	66nm,1.9s						
ESK	**Eskdalemuir**	**16.46**	**60**	*i* P	**P**	**12 17 21.3**	**+1.4**
ESK	**Eskdalemuir**	**16.46**	**60**	*i* P	**P**	**12 17 21.3**	**+1.4**
EKA	**Eskdalemuir Ar**	**16.49**	**60**	Pn	**Pn**	**12 17 15.8**	**-1.8**
EKA	**Eskdalemuir Ar**	**16.49**	**60**	Pn	**Pn**	**12 17 15.8**	**-1.8**
EKA	**Eskdalemuir Ar**	**16.49**	**60**	Pn	**Pn**	**12 17 15.8**	**-1.8**
	baz=260,slow=8.4,SNR=10.0						
ROSF	**Rostrenen**	**16.64**	**84**	*e*P	**Pn**	**12 17 16.9**	**-2.6**
	172nm,1.6s						
ROSF	**Rostrenen**	**16.64**	**84**	*e*P	**Pn**	**12 17 16.9**	**-2.6**
ROSF				pmax	pmax		
	comp=Z,172nm,1.6s						
ROSF	**Rostrenen**	**16.64**	**84**	*e*P	**Pn**	**12 17 16.9**	**-2.6**
	comp=Z,172nm,1.6s						
POLO	**Lamas de Olo**	**16.66**	**111**	*e*P	**P**	**12 17 22.6**	**+0.4**
	comp=Z,23nm,1.5s						
POLO	**Lamas de Olo**	**16.66**	**111**	*e*P	**P**	**12 17 22.6**	**+0.4**
	comp=Z,23nm,1.5s						
QUIF	**Quistinic**	**16.81**	**86**	*e*P	**Pn**	**12 17 19.3**	**-2.3**
	comp=Z,178nm,1.5s						
QUIF	**Quistinic**	**16.81**	**86**	*e*P	**Pn**	**12 17 19.3**	**-2.3**
QUIF				pmax	pmax		
	comp=Z,178nm,1.5s						
QUIF	**Quistinic**	**16.81**	**86**	*e*P	**Pn**	**12 17 19.3**	**-2.3**
	comp=Z,178nm,1.5s						
PBRG	**Braganca**	**17.05**	**109**	*e*P	**Pn**	**12 17 25.2**	**+0.4**
	comp=Z,39nm,1.5s						
PBRG	**Braganca**	**17.05**	**109**	*e*P	**Pn**	**12 17 25.2**	**+0.4**
	comp=Z,39nm,1.5s						
SGMF	**Saint Gilles**	**17.12**	**84**	*e*P	**Pn**	**12 17 23.1**	**-2.5**
	comp=Z,53nm,1.2s						
SGMF	**Saint Gilles**	**17.12**	**84**	*e*P	**Pn**	**12 17 23.1**	**-2.5**
SGMF				pmax	pmax		
	comp=Z,53nm,1.2s						
SGMF	**Saint Gilles**	**17.12**	**84**	*e*P	**Pn**	**12 17 23.1**	**-2.5**
	comp=Z,53nm,1.2s						
MVO	**Moncorvo**	**17.25**	**111**	*e*P	**P**	**12 17 28.0**	**-0.7**
	comp=Z,38nm,1.5s						
MVO	**Moncorvo**	**17.25**	**111**	*e*P	**P**	**12 17 28.0**	**-0.7**
	comp=Z,38nm,1.5s						
GRR	**Gorron**	**18.19**	**83**	*e*P	**Pn**	**12 17 37.6**	**-1.2**
	comp=Z,64nm,1.0s						
GRR	**Gorron**	**18.19**	**83**	*e*P	**Pn**	**12 17 37.6**	**-1.2**
GRR				pmax	pmax		
	comp=Z,64nm,1.0s						
GRR	**Gorron**	**18.19**	**83**	*e*P	**Pn**	**12 17 37.6**	**-1.2**
	comp=Z,64nm,1.0s						
GRR	**Gorron**	**18.19**	**83**	*e*P	**Pn**	**12 17 37.6**	**-1.2**
	comp=Z,32nm,1.0s						
EVOP	**Sao Brissos**	**18.29**	**119**	*e*P	**Pn**	**12 17 38.4**	**-1.6**
EVOP				pmax	pmax		
	comp=Z,61nm,1.4s						
EVOP	**Sao Brissos**	**18.29**	**119**	*e*P	**Pn**	**12 17 38.4**	**-1.6**
	comp=Z,61nm,1.4s						
EVOP	**Sao Brissos**	**18.29**	**119**	*e*P	**Pn**	**12 17 38.4**	**-1.6**
	comp=Z,30nm,1.4s						
FLN	**La Foliniere**	**18.35**	**82**	*e*P	**Pn**	**12 17 39.1**	**-1.6**
	comp=Z,49nm,1.1s,baz=290						
FLN				*e*R			
	comp=Z,1μm,18.9s						
FLN	**La Foliniere**	**18.35**	**82**	*e*P	**Pn**	**12 17 39.1**	**-1.6**
FLN				pmax	pmax		
	comp=Z,49nm,1.1s						
FLN	**La Foliniere**	**18.35**	**82**	*e*P	**Pn**	**12 17 39.1**	**-1.6**
	comp=Z,49nm,1.1s						
FLN	**La Foliniere**	**18.35**	**82**	*e*P	**Pn**	**12 17 39.1**	**-1.6**
	comp=Z,24nm,1.1s,baz=290						
EVO	**Evora**	**18.35**	**119**	*e*P	**Pn**	**12 17 38.4**	**-2.4**
	comp=Z,61nm,1.4s						
EVO				*e*R			
	comp=Z,1μm,22.6s						
LDF	**La Druitiere**	**18.62**	**82**	*e*P	**Pn**	**12 17 44.0**	**0.0**
	comp=Z,59nm,1.3s						
LDF	**La Druitiere**	**18.62**	**82**	*e*P	**Pn**	**12 17 44.0**	**0.0**
LDF				pmax	pmax		
	comp=Z,59nm,1.3s						
LDF	**La Druitiere**	**18.62**	**82**	*e*P	**Pn**	**12 17 44.0**	**0.0**
	comp=Z,59nm,1.3s						
LDF	**La Druitiere**	**18.62**	**82**	*e*P	**Pn**	**12 17 44.0**	**0.0**
	comp=Z,30nm,1.3s						
PCVE	**Castro Verde**	**18.96**	**121**	*e*P	**Pn**	**12 17 48.4**	**+0.1**
	comp=Z,30nm,1.8s						
PCVE	**Castro Verde**	**18.96**	**121**	*e*P	**Pn**	**12 17 48.4**	**+0.1**
	comp=Z,30nm,1.8s						
MFF	**Saint Martin d**	**19.16**	**88**	*e*P	**P**	**12 17 49.7**	**0.0**
	comp=Z,87nm,1.4s						
MFF	**Saint Martin d**	**19.16**	**88**	*e*P	**P**	**12 17 49.7**	**0.0**
MFF				pmax	pmax		
	comp=Z,87nm,1.4s						
MFF	**Saint Martin d**	**19.16**	**88**	*e*P	**P**	**12 17 49.7**	**0.0**
	comp=Z,87nm,1.4s						
MFF	**Saint Martin d**	**19.16**	**88**	*e*P	**P**	**12 17 49.7**	**0.0**
	comp=Z,44nm,1.4s						
PAB	**San Pablo**	**19.85**	**111**	*e*P	**Pn**	**12 17 58.9**	**-0.1**
PAB				pmax	pmax		
	comp=Z,3.0nm,1.2s						
PAB	**San Pablo**	**19.85**	**111**	*e*P	**Pn**	**12 17 58.9**	**-0.1**
	comp=Z,3.5nm,1.2s						
PAB	**San Pablo**	**19.85**	**111**	*e*P	**Pn**	**12 17 58.9**	**-0.1**
	comp=Z,3.0nm,1.2s						
SJPF	**Ste Jean**	**19.87**	**98**	*e*P	**P**	**12 17 57.5**	**0.0**
	comp=Z,64nm,1.4s						
SJPF	**Ste Jean**	**19.87**	**98**	*e*P	**P**	**12 17 57.5**	**0.0**
SJPF				pmax	pmax		
	comp=Z,64nm,1.4s						
SJPF	**Ste Jean**	**19.87**	**98**	*e*P	**P**	**12 17 57.5**	**0.0**
	comp=Z,64nm,1.4s						
SJPF	**Ste Jean**	**19.87**	**98**	*e*P	**P**	**12 17 57.5**	**0.0**
	comp=Z,32nm,1.4s						
ESDC	**Sonseca Array**	**20.01**	**110**	P	**P**	**12 17 59.0**	**-0.1**
ESDC	**Sonseca Array**	**20.01**	**110**	P	**P**	**12 17 59.0**	**-0.1**
ESDC	**Sonseca Array**	**20.01**	**110**	P	**P**	**12 17 59.0**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=306,slow=9.4,SNR=10.0						
ESDC				LR	LR	12 23 49.1	
	comp=Z,800nm,21.4s,baz=295,slow=31						
LFF	**La Frestale**	**20.35**	**92**	*e*P	**P**	**12 18 02.7**	**+0.1**
	comp=Z,124nm,1.4s						
LFF	**La Frestale**	**20.35**	**92**	*e*P	**P**	**12 18 02.7**	**+0.1**
LFF				pmax	pmax		
	comp=Z,124nm,1.4s						
LFF	**La Frestale**	**20.35**	**92**	*e*P	**P**	**12 18 02.7**	**+0.1**
	comp=Z,124nm,1.4s						
LFF	**La Frestale**	**20.35**	**92**	*e*P	**P**	**12 18 02.7**	**+0.1**
	comp=Z,62nm,1.4s						
ETSF	**Etsaut**	**20.40**	**98**	*e*P	**P**	**12 18 02.8**	**-0.5**
	comp=Z,124nm,1.5s						
ETSF	**Etsaut**	**20.40**	**98**	*e*P	**P**	**12 18 02.8**	**-0.5**
ETSF				pmax	pmax		
	comp=Z,124nm,1.5s						
ETSF	**Etsaut**	**20.40**	**98**	*e*P	**P**	**12 18 02.8**	**-0.5**
	comp=Z,124nm,1.5s						
ETSF	**Etsaut**	**20.40**	**98**	*e*P	**P**	**12 18 02.8**	**-0.5**
	comp=Z,62nm,1.5s						
RJF	**Les Rejaudoux**	**20.71**	**90**	*e*P	**P**	**12 18 05.8**	**-0.8**
	comp=Z,41nm,1.1s						
RJF				*e*R			
	comp=Z,1μm,19.5s						
RJF	**Les Rejaudoux**	**20.71**	**90**	*e*P	**P**	**12 18 05.8**	**-0.8**
RJF				pmax	pmax		
	comp=Z,41nm,1.0s						
RJF	**Les Rejaudoux**	**20.71**	**90**	*e*P	**P**	**12 18 05.8**	**-0.8**
	comp=Z,41nm,1.0s						
RJF	**Les Rejaudoux**	**20.71**	**90**	*e*P	**P**	**12 18 05.8**	**-0.8**
	comp=Z,20nm,1.1s						
TCF	**Toulx Ste Croi**	**20.80**	**87**	*e*P	**P**	**12 18 06.9**	**-0.7**
	comp=Z,91nm,1.2s						
TCF	**Toulx Ste Croi**	**20.80**	**87**	*e*P	**P**	**12 18 06.9**	**-0.7**
TCF				pmax	pmax		
	comp=Z,91nm,1.2s						
TCF	**Toulx Ste Croi**	**20.80**	**87**	*e*P	**P**	**12 18 06.9**	**-0.7**
	comp=Z,91nm,1.2s						
TCF	**Toulx Ste Croi**	**20.80**	**87**	*e*P	**P**	**12 18 06.9**	**-0.7**
	comp=Z,46nm,1.2s						
EPF	**Esparros**	**20.92**	**97**	*e*P	**P**	**12 18 08.2**	**-0.7**
	comp=Z,71nm,1.4s						
EPF	**Esparros**	**20.92**	**97**	*e*P	**P**	**12 18 08.2**	**-0.7**
EPF				pmax	pmax		
	comp=Z,71nm,1.4s						
EPF	**Esparros**	**20.92**	**97**	*e*P	**P**	**12 18 08.2**	**-0.7**
	comp=Z,71nm,1.4s						
EPF	**Esparros**	**20.92**	**97**	*e*P	**P**	**12 18 08.2**	**-0.7**
	comp=Z,36nm,1.4s						
SNF	**Seneffe**	**21.04**	**75**	P	**P**	**12 18 10.9**	**+0.9**
SNF	**Seneffe**	**21.04**	**75**	P	**P**	**12 18 10.9**	**+0.9**
BGF	**Bois d'Agland**	**21.13**	**86**	*e*P	**P**	**12 18 10.2**	**-0.8**
	comp=Z,132nm,1.1s						
BGF	**Bois d'Agland**	**21.13**	**86**	*e*P	**P**	**12 18 10.2**	**-0.8**
BGF				pmax	pmax		
	comp=Z,132nm,1.1s						
BGF	**Bois d'Agland**	**21.13**	**86**	*e*P	**P**	**12 18 10.2**	**-0.8**
	comp=Z,132nm,1.1s						
BGF	**Bois d'Agland**	**21.13**	**86**	*e*P	**P**	**12 18 10.2**	**-0.8**
	comp=Z,66nm,1.1s						
CAF	**Calviac**	**21.22**	**91**	*e*P	**P**	**12 18 11.1**	**-1.0**
	comp=Z,124nm,1.4s						
CAF	**Calviac**	**21.22**	**91**	*e*P	**P**	**12 18 11.1**	**-1.0**
CAF				pmax	pmax		
	comp=Z,124nm,1.4s						
CAF	**Calviac**	**21.22**	**91**	*e*P	**P**	**12 18 11.1**	**-1.0**
	comp=Z,124nm,1.4s						
CAF	**Calviac**	**21.22**	**91**	*e*P	**P**	**12 18 11.1**	**-1.0**
	comp=Z,62nm,1.4s						
SCO	**Scoresbysund**	**21.26**	**6**	*i* P	**P**	**12 18 13.4**	**+1.2**
	comp=Z,18nm,0.9s						
SCO	**Scoresbysund**	**21.26**	**6**	*i* P	**P**	**12 18 13.4**	**+1.2**
	comp=Z,18nm,0.9s						
DOU	**Dourbes**	**21.31**	**76**	P	**P**	**12 18 11.9**	**-1.0**
	comp=Z,15nm,1.3s						
DOU	**Dourbes**	**21.31**	**76**	P	**P**	**12 18 11.9**	**-1.0**
	comp=Z,15nm,1.3s						
AVF	**Avril sur Loir**	**21.38**	**85**	*e*P	**P**	**12 18 13.1**	**-0.6**
	comp=Z,118nm,1.3s						
AVF	**Avril sur Loir**	**21.38**	**85**	*e*P	**P**	**12 18 13.1**	**-0.6**
AVF				pmax	pmax		
	comp=Z,118nm,1.3s						
AVF	**Avril sur Loir**	**21.38**	**85**	*e*P	**P**	**12 18 13.1**	**-0.6**
	comp=Z,118nm,1.3s						
AVF	**Avril sur Loir**	**21.38**	**85**	*e*P	**P**	**12 18 13.1**	**-0.6**
	comp=Z,59nm,1.3s						
SSF	**Saint Saulge**	**21.39**	**84**	*e*P	**P**	**12 18 12.8**	**-1.1**
	comp=Z,83nm,1.2s						
SSF	**Saint Saulge**	**21.39**	**84**	*e*P	**P**	**12 18 12.8**	**-1.1**
SSF				pmax	pmax		
	comp=Z,83nm,1.2s						
SSF	**Saint Saulge**	**21.39**	**84**	*e*P	**P**	**12 18 12.8**	**-1.1**
	comp=Z,83nm,1.2s						
SSF	**Saint Saulge**	**21.39**	**84**	*e*P	**P**	**12 18 12.8**	**-1.1**
	comp=Z,42nm,1.2s						
GIVF	**Givet**	**21.45**	**76**	*e*P	**P**	**12 18 13.2**	**-1.3**
	comp=Z,83nm,1.1s						
GIVF	**Givet**	**21.45**	**76**	*e*P	**P**	**12 18 13.2**	**-1.3**
GIVF				pmax	pmax		
	comp=Z,83nm,1.1s						
GIVF	**Givet**	**21.45**	**76**	*e*P	**P**	**12 18 13.2**	**-1.3**
	comp=Z,83nm,1.1s						
GIVF	**Givet**	**21.45**	**76**	*e*P	**P**	**12 18 13.2**	**-1.3**
	comp=Z,42nm,1.1s						
AGO	**Saint Agoulin**	**21.49**	**87**	*e*P	**P**	**12 18 15.7**	**+0.8**
AGO	**Saint Agoulin**	**21.49**	**87**	*e*P	**P**	**12 18 15.7**	**+0.8**
PYM	**Petit Puy Mans**	**21.52**	**88**	*e*P	**P**	**12 18 15.5**	**+0.2**
PYM	**Petit Puy Mans**	**21.52**	**88**	*e*P	**P**	**12 18 15.5**	**+0.2**
LOR	**Lormes**	**21.55**	**84**	*e*P	**P**	**12 18 14.6**	**-1.1**
	comp=Z,63nm,1.2s,baz=290						
LOR				*e*R			
	comp=Z,2μm,18.2s						
LOR	**Lormes**	**21.55**	**84**	*e*P	**P**	**12 18 14.6**	**-1.1**
	comp=Z,63nm,1.2s						
LOR	**Lormes**	**21.55**	**84**	*e*P	**P**	**12 18 14.6**	**-1.1**
	comp=Z,32nm,1.2s,baz=290						
BCLA	**Clavier**	**21.69**	**75**	P	**P**	**12 18 19.4**	**+2.3**
	comp=Z,23nm,1.5s						
BCLA	**Clavier**	**21.69**	**75**	P	**P**	**12 18 19.3**	**+2.3**
	comp=Z,23nm,1.5s						
SMF	**Signal de Mont**	**21.74**	**85**	*e*P	**P**	**12 18 16.6**	**-1.1**
	comp=Z,108nm,1.2s						
SMF	**Signal de Mont**	**21.74**	**85**	*e*P	**P**	**12 18 16.6**	**-1.1**
SMF				pmax	pmax		
	comp=Z,108nm,1.2s						
SMF	**Signal de Mont**	**21.74**	**85**	*e*P	**P**	**12 18 16.6**	**-1.1**
	comp=Z,108nm,1.2s						
SMF	**Signal de Mont**	**21.74**	**85**	*e*P	**P**	**12 18 16.6**	**-1.1**
	comp=Z,54nm,1.2s						
PLDF	**La Plantade**	**21.83**	**87**	*e*P	**P**	**12 18 19.5**	**+0.8**
PLDF	**La Plantade**	**21.83**	**87**	*e*P	**P**	**12 18 19.5**	**+0.8**
LBL	**Lubilhac**	**21.87**	**89**	*e*P	**P**	**12 18 20.9**	**+1.8**
LBL	**Lubilhac**	**21.87**	**89**	*e*P	**P**	**12 18 20.9**	**+1.8**
MEZF	**Maizieres J'vi**	**21.97**	**80**	*e*P	**P**	**12 18 18.8**	**-1.3**
	comp=Z,225nm,1.5s,baz=292						
MEZF	**Maizieres J'vi**	**21.97**	**80**	*e*P	**P**	**12 18 18.8**	**-1.3**
	comp=Z,225nm,1.5s						
MEZF	**Maizieres J'vi**	**21.97**	**80**	*e*P	**P**	**12 18 18.8**	**-1.3**
	comp=Z,113nm,1.5s,baz=292						
MTLF	**Montolieu**	**21.99**	**95**	*e*P	**P**	**12 18 19.6**	**-0.8**
	comp=Z,90nm,1.4s						
MTLF	**Montolieu**	**21.99**	**95**	*e*P	**P**	**12 18 19.6**	**-0.8**
MTLF				pmax	pmax		
	comp=Z,90nm,1.4s						
MTLF	**Montolieu**	**21.99**	**95**	*e*P	**P**	**12 18 19.6**	**-0.8**
	comp=Z,90nm,1.4s						
MTLF	**Montolieu**	**21.99**	**95**	*e*P	**P**	**12 18 19.6**	**-0.8**
	comp=Z,45nm,1.4s						
SFTF	**Sexfontaines**	**22.04**	**81**	*e*P	**P**	**12 18 19.9**	**

CABF La Chapelle 23.21 84 *e*P **P 12 18 31.5 -1.8**
comp=Z,77nm,1.2s
CABF La Chapelle 23.21 84 *e*P **P 12 18 31.5 -1.8**
comp=Z,39nm,1.2s
HINF Hinteralfeld 23.32 81 *e*P **P 12 18 31.5 -2.8**
comp=Z,90nm,1.5s
HINF Hinteralfeld 23.32 81 *e*P **P 12 18 31.5 -2.8**
HINF pmax pmax
comp=Z,90nm,1.5s
HINF Hinteralfeld 23.32 81 *e*P **P 12 18 31.5 -2.8**
comp=Z,90nm,1.5s
ECH Echery 23.40 79 *e*P **P 12 18 35.5 +0.4**
ECH pmax pmax
comp=Z,17nm,1.1s
ECH Echery 23.40 79 *e*P **P 12 18 35.5 +0.4**
comp=Z,17nm,1.1s
ECH Echery 23.40 79 *e*P **P 12 18 35.5 +0.4**
comp=Z,17nm,1.1s
CDF Champ du Feu 23.42 79 *e*P **P 12 18 33.7 -1.7**
comp=Z,46nm,1.3s
CDF Champ du Feu 23.42 79 *e*P **P 12 18 33.7 -1.7**
CDF pmax pmax
comp=Z,46nm,1.3s
CDF Champ du Feu 23.42 79 *e*P **P 12 18 33.7 -1.7**
comp=Z,46nm,1.3s
CDF Champ du Feu 23.42 79 *e*P **P 12 18 33.7 -1.7**
comp=Z,23nm,1.3s
LOMF Lomont 23.45 82 *e*P **P 12 18 36.4 +0.8**
LOMF Lomont 23.45 82 *e*P **P 12 18 36.4 +0.8**
JMIC Jan Mayen 23.47 16 LR LR 12 26 12.2
comp=Z,426nm,21.0s,baz=259,slow=33
MOF Molkenrain 23.49 80 *e*P **P 12 18 34.8 -1.3**
MOF Molkenrain 23.49 80 *e*P **P 12 18 34.8 -1.3**
SUMG Summit 23.55 353 *i*P **P 12 18 36.3 -0.5**
comp=Z,17nm,0.9s
SUMG Summit 23.55 353 *e*P **P 12 18 37.0 +0.2**
comp=Z,28nm,1.0s
SUMG Summit 23.55 353 *e*P **P 12 18 37.0 +0.2**
comp=Z,28nm,1.0s
LANF Langenberg 23.60 77 *e*P **P 12 18 37.9 +0.8**
LANF Langenberg 23.60 77 *e*P **P 12 18 37.9 +0.8**
ORIF Oris-en-Rattie 23.70 88 *e*P **P 12 18 36.3 -1.9**
ORIF eR
comp=Z,527nm,17.0s
ORIF Oris-en-Rattie 23.70 88 *e*P **P 12 18 36.3 -1.9**
ORIF Oris-en-Rattie 23.70 88 *e*P **P 12 18 36.3 -1.9**
ORIF Oris-en-Rattie 23.70 88 *e*P **P 12 18 36.3 -1.9**
SCHQ Schefferville 23.84 298 P **P 12 18 37.8 -1.6**
SCHQ Schefferville 23.84 298 P **P 12 18 37.8 -1.6**
SCHQ Schefferville 23.84 298 P **P 12 18 37.8 -1.6**
comp=Z,4.3nm,0.7s,baz=80,slow=15,SNR=3.3
SCHQ LR LR 12 26 16.2
comp=Z,382nm,18.5s,baz=243,slow=32
SMRF Simiane la Rot 23.90 90 *e*P **P 12 18 37.3 -2.7**
comp=Z,118nm,1.7s
SMRF Simiane la Rot 23.90 90 *e*P **P 12 18 37.3 -2.7**
comp=Z,118nm,1.7s
LPL La Plagne 24.03 86 *e*P **P 12 18 40.0 -1.4**
comp=Z,72nm,1.7s
LPL La Plagne 24.03 86 *e*P **P 12 18 40.0 -1.4**
LPL pmax pmax
comp=Z,72nm,1.7s
LPL La Plagne 24.03 86 *e*P **P 12 18 40.0 -1.4**
comp=Z,72nm,1.7s
LPL La Plagne 24.03 86 *e*P **P 12 18 40.0 -1.4**
comp=Z,36nm,1.7s
FELD Feldberg im Sc 24.04 80 *e*P **P 12 18 40.5 -0.9**
FELD Feldberg im Sc 24.04 80 *e*P **P 12 18 40.5 -0.9**
LPG La Plagne 24.05 86 *e*P **P 12 18 39.8 -1.9**
comp=Z,44nm,1.2s
LPG La Plagne 24.05 86 *e*P **P 12 18 39.8 -1.9**
LPG pmax pmax
comp=Z,44nm,1.2s
LPG La Plagne 24.05 86 *e*P **P 12 18 39.8 -1.9**
comp=Z,44nm,1.2s
LPG La Plagne 24.05 86 *e*P **P 12 18 39.8 -1.9**
comp=Z,22nm,1.2s
SENIN Lac Senin/Sane 24.08 84 *e*P **P 12 18 41.9 0.0**
comp=Z,23nm,1.1s
SENIN Lac Senin/Sane 24.08 84 *e*P **P 12 18 41.9 0.0**
comp=Z,23nm,1.1s
BFO Black Forest 24.11 79 PFAKE 12 18 50.0 +8.0
BFO LR LR
comp=Z,1μm,21.6s
MBDF Montbardon 24.36 88 *e*P **P 12 18 42.9 -1.5**
comp=Z,101nm,1.8s
MBDF Montbardon 24.36 88 *e*P **P 12 18 42.9 -1.5**
MBDF pmax pmax
comp=Z,101nm,1.8s
MBDF Montbardon 24.36 88 *e*P **P 12 18 42.9 -1.5**
comp=Z,101nm,1.8s
MBDF Montbardon 24.36 88 *e*P **P 12 18 42.9 -1.5**
comp=Z,51nm,1.8s
MDT Midelt 24.41 124 P **P 12 18 45.4 +0.5**
MDT Midelt 24.41 124 P **P 12 18 45.4 +0.5**
MDT Midelt 24.41 124 P **P 12 18 45.4 +0.5**
comp=Z,4.4nm,1.0s,baz=329,slow=12,SNR=9.8
SPAK Spaichingen-Ko 24.47 79 *e*P **P 12 18 46.7 +1.4**
STU Stuttgart 24.54 77 PFAKE 12 19 00.0 +14
STU LR LR
comp=Z,800nm,20.4s
LMR La Mourre 24.79 91 *e*P **P 12 18 46.5 -1.6**
comp=Z,163nm,1.8s
LMR La Mourre 24.79 91 *e*P **P 12 18 46.5 -1.6**
LMR pmax pmax
comp=Z,163nm,1.8s
LMR La Mourre 24.79 91 *e*P **P 12 18 46.5 -1.6**
comp=Z,163nm,1.8s
LMR La Mourre 24.79 91 *e*P **P 12 18 46.5 -1.6**
comp=Z,82nm,1.8s
NOA NORSAR Array B 24.99 47 P **P 12 18 50.2 +0.4**
NOA NORSAR Array B 24.99 47 P **P 12 18 50.2 +0.4**
comp=Z,513nm,18.2s
NOA NORSAR Array B 24.99 47 P **P 12 18 50.2 +0.4**
comp=Z,3.2nm,1.0s,baz=262,slow=9.9,SNR=4.4
NOA LR LR 12 28 07.0
comp=Z,513nm,18.2s,baz=265,slow=35
SBF Sospel 25.16 89 *e*P **P 12 18 49.6 -1.9**
SBF Sospel 25.16 89 *e*P **P 12 18 49.6 -1.9**
SBF Sospel 25.16 89 *e*P **P 12 18 49.6 -1.9**
SBF Sospel 25.16 89 *e*P **P 12 18 49.6 -1.9**
TUE Stuetta 25.37 82 *e*P **P 12 18 54.4 +0.8**
comp=Z,32nm,1.2s
TUE LR LR
comp=Z,2μm,20.0s
TUE Stuetta 25.37 82 *e*P **P 12 18 54.4 +0.8**
comp=Z,32nm,1.2s
GRFO Grafenberg 25.57 74 PFAKE 12 19 10.0 +15
GRFO LR LR
comp=Z,900nm,18.3s
GRF Grafenberg Arr 25.57 74 *e*P **P 12 18 55.0 -0.2**
comp=Z,17nm,1.1s
DAVOX Davos/Dischmat 25.60 81 P **P 12 18 55.3 -0.4**
DAVOX Davos/Dischmat 25.60 81 P **P 12 18 55.3 -0.4**
comp=Z,718nm,21.9s
DAVOX Davos/Dischmat 25.60 81 P **P 12 18 55.3 -0.4**
comp=Z,5.5nm,1.0s,baz=280,slow=12,SNR=6.7
DAVOX LR LR 12 28 47.0
comp=Z,718nm,21.9s,baz=259,slow=36
FRB Frobisher Bay 25.65 319 P **P 12 18 55.9 +0.2**
FRB Frobisher Bay 25.65 319 P **P 12 18 55.9 +0.2**
comp=Z,15nm,1.0s
FRB Frobisher Bay 25.65 319 P **P 12 18 55.9 +0.2**
comp=Z,15nm,1.0s,baz=107,slow=8.7,SNR=9.2
FRB LR LR 12 26 28.9
comp=Z,429nm,21.8s,baz=17,slow=31
FUORN Ofenpass-Fuorn 25.91 81 *e*P **P 12 18 59.3 +0.8**
comp=Z,24nm,1.2s
FUORN LR LR
comp=Z,1μm,18.0s
FUORN Ofenpass-Fuorn 25.91 81 *e*P **P 12 18 59.3 +0.8**
comp=Z,24nm,1.2s
RETA Reutte 25.93 79⇑ *i*P **P 12 18 59.3 +0.8**
comp=Z,17nm,1.5s
RETA Reutte 25.93 79 P **P 12 18 59.3 +0.8**
comp=Z,17nm,1.5s
FETA Feichten 26.07 80⇑ *i*P **P 12 19 00.3 +0.4**
comp=Z,9.2nm,1.2s
FETA Feichten 26.07 80 P **P 12 19 00.3 +0.4**
comp=Z,9.2nm,1.2s
HFS Hagfors 26.09 50 LR LR 12 28 41.5
comp=Z,568nm,18.7s,baz=301,slow=35
MOTA Moosalm 26.20 79⇑ *i*P **P 12 19 01.8 +0.7**
comp=Z,11nm,1.1s
MOTA Moosalm 26.20 79 P **P 12 19 01.8 +0.7**
comp=Z,11nm,1.1s
NKC Novy Kostel 26.20 73 *e*P **P 12 19 01.7 +0.8**
NKC Novy Kostel 26.20 73 *e*P **P 12 19 01.7 +0.8**
NKC Novy Kostel 26.20 73 *e*P **P 12 19 01.7 +0.8**
CLL Collm 26.29 70 *i*P **P 12 19 02.5 +0.8**
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL MLR MLR
comp=Z,600nm,21.1s
CLL Collm 26.29 70 *i*P **P 12 19 02.5 +0.8**
comp=Z,10.0nm,1.4s
CLL LmV 12 28 00.0
comp=Z,600nm,21.1s
CLL Collm 26.29 70 *i*P **P 12 19 02.5 +0.8**
comp=Z,600nm,21.1s
WTTA Wattenberg 26.57 79⇑ *i*pP **P 12 19 04.3 -0.1**
comp=Z,21nm,1.2s
WTTA Wattenberg 26.57 79 P **P 12 19 04.3 -0.1**
comp=Z,21nm,1.2s
PGF Pioggiola 26.77 91 *e*P **P 12 19 04.1 -2.1**
comp=Z,132nm,1.5s
PGF Pioggiola 26.77 91 *e*P **P 12 19 04.1 -2.1**
PGF pmax pmax
comp=Z,132nm,1.5s
PGF Pioggiola 26.77 91 *e*P **P 12 19 04.1 -2.1**
comp=Z,132nm,1.5s
PGF Pioggiola 26.77 91 *e*P **P 12 19 04.1 -2.1**
comp=Z,66nm,1.5s
VLC Villacollemand 26.95 86 PFAKE 12 19 20.0 +12
VLC LR LR
comp=Z,400nm,18.0s
BRG Berggiesshubel 26.97 71 *e*P **P 12 19 08.1 +0.3**
comp=Z,4.2nm,1.0s
KHC Kasperske Hory 27.21 75 *e*P **P 12 19 10.6 +0.6**
KHC pmax pmax
comp=Z,16nm,1.6s
KHC Kasperske Hory 27.21 75 *e*P **P 12 19 08.7 -1.3**
KHC *e*pP **pP 12 19 13.1 -1.2**
KHC Kasperske Hory 27.21 75 *e*P **P 12 19 10.6 +0.6**
comp=Z,16nm,1.6s
KHC Kasperske Hory 27.21 75 *e*P **P 12 19 10.6 +0.6**
comp=Z,16nm,1.6s
GEC2 GERESS Array S 27.37 75 *e*P **P 12 19 12.1 +0.6**
GEC2 GERESS Array S 27.37 75 *e*P **P 12 19 12.1 +0.6**
GEC2 GERESS Array S 27.37 75 *e*P **P 12 19 12.1 +0.6**
GERES GERESS Array B 27.37 75 P **P 12 19 11.5 0.0**
GERES GERESS Array B 27.37 75 P **P 12 19 11.5 0.0**
comp=Z,615nm,20.8s
GERES GERESS Array B 27.37 75 P **P 12 19 11.5 0.0**
comp=Z,1.8nm,0.8s,baz=289,slow=8.3,SNR=10
GERES LR LR 12 29 26.5
comp=Z,615nm,20.8s,baz=108,slow=35
PRU Pruhonice 27.57 72 *e*P **P 12 19 17.0 +3.9**
PRU *e* 12 19 24.6
PRU Pruhonice 27.57 72 *e*P **P 12 19 17.0 +3.9**
PRU *ex* x 12 19 24.6
PKME Peaks-Kenny Pk 27.66 277 PFAKE 12 19 30.0 +16
PKME LR LR
comp=Z,800nm,19.4s
UPC Upice 28.34 71 *e*P **P 12 19 21.0 +1.0**
UPC Upice 28.34 71 *e*P **P 12 19 21.0 +1.0**
UPC Upice 28.34 71 *e*P **P 12 19 21.0 +1.0**
DPC Dobruska-Polom 28.57 71 *e*P **P 12 19 23.5 +1.4**
DPC *e* 12 19 29.7
DPC Dobruska-Polom 28.57 71 *e*P **P 12 19 23.5 +1.4**
DPC *ex* x 12 19 29.7
DPC Dobruska-Polom 28.57 71 PFAKE 12 19 30.0 +7.8
DPC LR LR
comp=Z,4μm,19.9s
DPC Dobruska-Polom 28.57 71 *e*P **P 12 19 23.5 +1.4**
VRAC Vranov 29.04 73 LR LR 12 30 05.2
comp=Z,699nm,20.1s,baz=261,slow=34
MORC Moravsky Berou 29.49 72 PFAKE 12 19 40.0 +10
MORC LR LR
comp=Z,800nm,22.0s
LBNH Lisbon 29.79 277 PFAKE 12 19 50.0 +17
LBNH LR LR
comp=Z,900nm,19.8s
HRV Adam Dziewonsk 30.34 273 PFAKE 12 19 50.0 +12
HRV LR LR
comp=Z,900nm,19.6s
FRNY Flat Rock 30.61 279 PFAKE 12 19 50.0 +10
FRNY LR LR
comp=Z,1μm,18.4s
KEST Kesra 30.76 102 P **P 12 19 40.5 -1.2**
KEST Kesra 30.76 102 P **P 12 19 40.5 -1.2**
KEST Kesra 30.76 102 P **P 12 19 40.5 -1.2**
comp=Z,4.3nm,1.0s,baz=342,slow=6.4,SNR=3.3
KEST LR LR 12 29 58.4
comp=Z,109nm,20.0s,baz=204,slow=32
ACCN Adirondack Com 31.30 276 PFAKE 12 20 00.0 +14
ACCN LR LR
comp=Z,1μm,18.5s
LONY Lake Ozonia 31.34 279 PFAKE 12 20 00.0 +13
LONY LR LR
comp=Z,800nm,18.0s
PSZ Piszkesteto 31.57 74 *e*P **P 12 19 49.4 +0.7**
PSZ pmax pmax
comp=Z,14nm,1.2s
PSZ MLR MLR
comp=Z,800nm,19.0s
PSZ Piszkesteto 31.57 74 *e*P **P 12 19 49.4 +0.7**
comp=Z,14nm,1.2s
PSZ LR LR
comp=Z,800nm,19.0s
PSZ Piszkesteto 31.57 74 *e*P **P 12 19 49.4 +0.7**
comp=Z,14nm,1.2s
PTN Potsdam (NY) 31.62 279 PFAKE 12 20 00.0 +11
PTN LR LR
comp=Z,2μm,21.2s
FINES FINESS Array B 32.17 47 P **P 12 19 52.8 -1.0**
FINES FINESS Array B 32.17 47 P **P 12 19 52.8 -1.0**
FINES FINESS Array B 32.17 47 P **P 12 19 52.8 -1.0**
comp=Z,4.2nm,0.8s,baz=251,slow=5.8,SNR=8.5
FINES LR LR 12 31 53.9
comp=Z,747nm,18.9s,baz=268,slow=34
ARCES ARCESS Array B 32.37 32 P **P 12 19 55.0 -0.5**
ARCES ARCESS Array B 32.37 32 P **P 12 19 55.0 -0.5**
ARCES ARCESS Array B 32.37 32 P **P 12 19 55.0 -0.5**
comp=Z,5.5nm,0.8s,baz=254,slow=8.7,SNR=12
CUC Castrocucco 32.50 90 PFAKE 12 20 10.0 +13
CUC LR LR
comp=Z,500nm,18.7s
KWP Kalwaria Pacla 32.71 70 PFAKE 12 20 10.0 +11
KWP LR LR
comp=Z,400nm,21.0s
CPNY Central Park 32.75 272 PFAKE 12 20 10.0 +11
CPNY LR LR
comp=Z,1μm,18.7s
KEV Kevo 32.93 32 PFAKE 12 20 10.0 +10
KEV LR LR
comp=Z,300nm,19.0s
ODNJ Ogdensburg 33.02 273 PFAKE 12 20 10.0 +8.6
ODNJ LR LR
comp=Z,700nm,18.5s
SPITS Spitsbergen Ar 33.14 15 LR LR 12 30 41.1
comp=Z,311nm,21.2s,baz=195,slow=31
BINY Binghamton 33.36 276 PFAKE 12 20 20.0 +16
BINY LR LR
comp=Z,1μm,20.3s
CEL Celeste 33.49 93 PFAKE 12 20 20.0 +14
CEL LR LR
comp=Z,500nm,18.0s
TIP Timpagrande 33.55 90 PFAKE 12 20 20.0 +14
TIP LR LR
comp=Z,500nm,18.8s
LUPA Lehigh Univers 33.77 273 PFAKE 12 20 20.0 +12
LUPA LR LR
comp=Z,700nm,20.3s
MVL Millersville 34.72 273 PFAKE 12 20 30.0 +14
MVL LR LR
comp=Z,900nm,19.1s
BUR08 Bucovina Ar. S 34.98 72 *e*P **P 12 20 19.4 +0.8**
BUR08 Bucovina Ar. S 34.98 72 *e*P **P 12 20 19.4 +0.8**
BBTS Babate 36.13 160 LR LR 12 33 05.1
comp=Z,222nm,18.2s,baz=172,slow=33
KIEV Kiev 36.25 65 PFAKE 12 20 40.0 +11
KIEV LR LR
comp=Z,900nm,19.6s
AKASG Malin Array Be 36.26 65 *i*P **P 12 20 29.6 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 36.26 65 P **P 12 20 27.7 -1.6**
AKASG Malin Array Be 36.26 65 P **P 12 20 27.7 -1.6**
AKASG Malin Array Be 36.26 65 P **P 12 20 27.7 -1.6**
comp=Z,3.0nm,0.8s,baz=285,slow=8.9,SNR=7.8
AKASG LR LR 12 35 08.0
comp=Z,524nm,18.5s,baz=285,slow=36
ALLY Alegheny Colle 36.33 278 PFAKE 12 20 40.0 +10
ALLY LR LR
comp=Z,1μm,18.1s
CBN Corbin 36.37 271 PFAKE 12 20 40.0 +10
CBN LR LR
comp=Z,701nm,19.8s
RES Resolute Bay 36.80 336 P **P 12 20 33.6 0.0**
RES Resolute Bay 36.80 336 P **P 12 20 33.6 0.0**
RES Resolute Bay 36.80 336 P **P 12 20 33.6 0.0**
comp=Z,3.2nm,1.0s,baz=77,slow=8.8,SNR=8.5
AAM Ann Arbor 38.26 281 PFAKE 12 21 00.0 +14
AAM LR LR
comp=Z,801nm,21.8s
KLMR Klimovskoe 38.69 47 *e*P **P 12 20 48.8 -1.0**
KLMR pmax pmax
comp=Z,18nm,1.7s
KMSC Kings Mountain 40.74 270⇑P **P 12 21 07.7 +0.6**
baz=41
IDI Anoyia 41.09 90 LR LR 12 38 34.9
comp=Z,248nm,20.6s,baz=122,slow=37
SFIN Scholer Farm 41.47 280⇑P **P 12 21 13.6 +0.5**
baz=41
ULM Lac du Bonnet 42.02 298 P **P 12 21 16.9 -0.6**
ULM Lac du Bonnet 42.02 298 P **P 12 21 16.9 -0.6**
ULM Lac du Bonnet 42.02 298 P **P 12 21 16.9 -0.6**
comp=Z,6.9nm,0.8s,baz=64,slow=8.9,SNR=7.7
ULM LR LR 12 36 19.1
comp=Z,249nm,19.6s,baz=66,slow=33
SPMN St. Paul 42.54 290⇑P **P 12 21 22.5 +0.7**
baz=42
CPCT Cooper Cave 42.63 273 *e*P **P 12 21 23.7 +1.1**
CPCT Cooper Cave 42.63 273 *e*P **P 12 21 23.7 +1.1**
FFC Flin Flon 43.47 306 *e*P **P 12 21 29.5 +0.3**
FFC pmax pmax
comp=Z,13nm,1.1s
FFC Flin Flon 43.47 306 *e*P **P 12 21 29.5 +0.3**
comp=Z,13nm,1.1s
FFC Flin Flon 43.47 306 *e*P **P 12 21 29.5 +0.3**
comp=Z,13nm,1.1s
TOA0 Torodi Ar. Sit 43.97 135 *e*P **P 12 21 34.3 +0.8**
TOA0 Torodi Ar. Sit 43.97 135 *e*P **P 12 21 34.3 +0.8**
TORD Torodi Ar. Bea 43.97 135 P **P 12 21 33.8 +0.3**
TORD Torodi Ar. Bea 43.97 135 P **P 12 21 33.8 +0.3**
TORD Torodi Ar. Bea 43.97 135 P **P 12 21 33.8 +0.3**
comp=Z,3.2nm,0.9s,baz=332,slow=6.6,SNR=13
TORD LR LR 12 38 11.6
comp=Z,361nm,20.9s,baz=315,slow=34
A30A Hoffart Farm, 44.02 297⇓P **P 12 21 34.1 +0.3**
baz=44
BRTR Keskin Array B 44.17 78 P **P 12 21 36.1 +1.0**
BRTR PcP **PcP 12 23 19.1 -0.8**
BRTR Keskin Array B 44.17 78 P **P 12 21 36.2 +1.0**
BRTR Keskin Array B 44.17 78 P **P 12 21 36.1 +1.0**
comp=Z,2.4nm,1.0s,baz=298,slow=6.3,SNR=7.6
BRTR PcP **PcP 12 23 19.1 -0.8**
comp=Z,1.6nm,0.9s,baz=264,slow=3.5,SNR=4.9
BRTR LR LR 12 38 31.8
comp=Z,224nm,21.0s,baz=99,slow=34
B30A Myrvik Farm, E 44.27 297⇑P **P 12 21 36.1 +0.3**
baz=44,SNR=8.6
SIUC Southern Illin 44.33 278 *e*P **P 12 21 36.7 +0.4**
comp=Z,26nm,0.9s
SIUC Southern Illin 44.33 278 *e*P **P 12 21 36.7 +0.4**
comp=Z,26nm,0.9s
A29A Manning Farm, 44.57 298⇑P **P 12 21 38.3 +0.2**
baz=44,SNR=5.5
C30A Mose, Pekin 44.73 296⇓P **P 12 21 39.3 0.0**
baz=45
D30A Buchanan 45.19 295⇓P **P 12 21 43.1 +0.1**
baz=45
B28A Dugan Ranch, T 45.46 297⇓P **P 12 21 45.2 +0.1**
baz=45
ECSD EROS Data Cent 45.65 290 *e*P **P 12 21 47.4 +0.6**
comp=Z,29nm,1.4s
ECSD EROS Data Cent 45.65 290 *e*P **P 12 21 47.3 +0.6**
comp=Z,29nm,1.4s
LRAL Lakeview Retre 45.73 272 *e*P **P 12 21 47.6 +0.1**
comp=Z,221nm,2.8s
LRAL Lakeview Retre 45.73 272 *e*P **P 12 21 47.6 +0.1**
comp=Z,221nm,2.8s
YKA Yellowknife Ar 46.16 320 P **P 12 21 50.2 -0.3**
YKA PcP **PcP 12 23 24.9 -1.2**
YKA Yellowknife Ar 46.16 320 P **P 12 21 50.2 -0.3**
YKA Yellowknife Ar 46.16 320 P **P 12 21 50.2 -0.3**
comp=Z,5.4nm,0.9s,baz=64,slow=7.9,SNR=33
YKA PcP **PcP 12 23 24.9 -1.2**
comp=Z,2.5nm,0.9s,baz=58,slow=4.0,SNR=13
A26A Wade Farm, Ken 46.20 299⇓P **P 12 21 51.0 0.0**
baz=46
BRSD Miller 46.70 292⇑P **P 12 21 55.6 +0.6**
baz=47
A25A Svangstu Ranch 46.79 299⇓P **P 12 21 55.9 +0.3**
baz=47
DBIC Dimbokro 47.14 147 P **P 12 21 59.5 +0.9**
DBIC Dimbokro 47.14 147 P **P 12 21 59.5 +0.9**
DBIC Dimbokro 47.14 147 P **P 12 21 59.5 +0.9**
comp=Z,3.9nm,0.9s,baz=346,slow=7.4,SNR=4.5
DBIC LR LR 12 39 20.6
comp=Z,298nm,20.2s,baz=231,slow=33
E27A Carson 47.19 296⇑P **P 12 21 59.3 +0.4**
baz=47
A24A Westby 47.30 300⇓P **P 12 22 00.4 +0.7**
baz=47
H29A Onida 47.35 293⇑P **P 12 22 00.8 +0.7**
baz=47
D26A Manning 47.38 297⇓P **P 12 22 01.0 +0.6**
baz=47
C25A Freed Ranch, W 47.50 298⇑P **P 12 22 02.0 +0.8**
baz=47
G28A Parade 47.53 294⇑P **P 12 22 01.4 -0.1**
baz=47
J30A Dallas 47.63 291⇑P **P 12 22 02.4 +0.1**
baz=48,SNR=8.0
DGMT Dagmar 47.64 299 *e*P **P 12 22 02.7 +0.4**
comp=Z,247nm,2.8s
DGMT Dagmar 47.64 299⇑P **P 12 22 02.7 +0.4**
baz=48
DGMT Dagmar 47.64 299 *e*P **P 12 22 02.7 +0.4**
comp=Z,247nm,2.8s
E26A Carlson Angus 47.70 296⇑P **P 12 22 03.0 +0.3**
baz=48
KBZ Khabaz 47.72 68 P **P 12 22 04.7 +1.8**
KBZ 12 23 32.3
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ MLR MLR
comp=Z,326nm,21.5s
KBZ Khabaz 47.72 68 P **P 12 22 04.7 +1.8**
KBZ PcP **PcP 12 23 32.3 +0.4**
KBZ Khabaz 47.72 68 P **P 12 22 04.7 +1.8**
KBZ Khabaz 47.72 68 PcP **PcP 12 23 32.3 +0.4**
KBZ Khabaz 47.72 68 P **P 12 22 04.7 +1.8**
comp=Z,3.3nm,1.0s,baz=308,slow=2.7,SNR=4.5
KBZ PcP **PcP 12 23 32.3 +0.4**
comp=Z,3.4nm,0.9s,baz=262,slow=3.9,SNR=4.7
KBZ LR LR 12 42 20.0
comp=Z,326nm,21.5s,baz=329,slow=36
I29A Vivian Onida 47.74 292⇓P **P 12 22 03.6 +0.5**
baz=48
F27A Lemmon 47.76 295⇓P **P 12 22 03.2 -0.1**
baz=48,SNR=8.5
A23A Redstone 47.78 300⇓P **P 12 22 03.6 +0.2**
baz=48
H28A Mission Ridge 47.81 293⇓P **P 12 22 03.7 +0.1**
baz=48
D25A Fairfield 47.84 297⇓P **P 12 22 04.2 +0.4**
baz=48
L31A Butterfield Fa 47.87 289⇓P **P 12 22 04.2 0.0**
baz=48
G27A Dupree 47.97 295⇑P **P 12 22 05.1 +0.2**
baz=48,SNR=9.1
K30A Basset 48.06 290⇓P **P 12 22 05.6 0.0**
baz=48
J29A Okreek 48.09 292⇓P **P 12 22 06.3 +0.5**
baz=48,SNR=7.3
B23A Brockton 48.10 300⇓P **P 12 22 06.7 +0.9**
baz=48,SNR=15
F26A Lodgepole 48.15 296⇑P **P 12 22 06.6 +0.3**
baz=48
E25A Miller Ranch, 48.23 297⇓P **P 12 22 07.7 +0.7**
baz=48,SNR=7.2
KSU1 Kansas State U 48.24 285 *e*P **P 12 22 06.9 -0.2**
comp=Z,27nm,1.0s

KSU1 **Kansas State U** 48.24 285 *e*P P 12 22 06.9 -0.2
comp=Z,27nm,1.0s
C24A **Savage** 48.27 298 ⇓P P 12 22 07.8 +0.6
baz=48
I28A **Midland** 48.27 293 ⇑P P 12 22 07.3 +0.1
baz=48,SNR=7.4
N32A **Stulken Farm,** 48.34 287 ⇓P P 12 22 07.7 -0.1
baz=48
A22A **Carney Farms,** 48.34 301 ⇑P P 12 22 08.2 +0.5
baz=48,SNR=11
G26A **Maurine** 48.41 295 ⇑P P 12 22 08.2 -0.1
baz=48
M31A **Lambtecht Ranc** 48.42 289 ⇑P P 12 22 08.1 -0.4
baz=48
D24A **Glendive** 48.44 298 ⇑P P 12 22 09.1 +0.6
baz=48,SNR=5.6
K29A **Lazy Trails An** 48.45 291 ⇑P P 12 22 08.7 +0.1
baz=48
H27A **Howes** 48.47 294 ⇑P P 12 22 08.9 +0.2
baz=48
C23A **Lambert** 48.56 299 ⇑P P 12 22 10.2 +0.7
baz=48,SNR=7.1
F25A **Bowman** 48.57 296 ⇑P P 12 22 09.9 +0.4
baz=48
J28A **Allard Ranch,** 48.63 292 ⇓P P 12 22 10.2 +0.2
baz=48,SNR=11
E24A **Baker** 48.72 297 ⇓P P 12 22 11.2 +0.5
baz=49
B22A **Reddig Ranch S** 48.75 300 ⇓P P 12 22 11.3 +0.3
baz=49
I27A **Quinn** 48.76 293 ⇑P P 12 22 11.1 0.0
baz=49,SNR=8.8
ZEI **Tsey** 48.85 69 *e*P P
ZEI pmax pmax
comp=Z,8.0nm,1.1s
H26A **Fairpoint** 48.89 294 ⇓P P 12 22 12.3 +0.3
baz=49
A21A **Bergtoll Ranch** 48.91 301 ⇑P P 12 22 12.7 +0.6
baz=49,SNR=5.7
D23A **Lindsay** 48.91 298 ⇑P P 12 22 12.9 +0.7
baz=49
L29A **Maesberg Ranch** 48.94 290 ⇓P P 12 22 12.1 -0.3
baz=49,SNR=5.2
G25A **Newell** 48.95 295 ⇓P P 12 22 12.5 0.0
baz=49
C22A **Vida** 48.99 299 ⇓P P 12 22 13.0 +0.2
baz=49,SNR=8.2
MIAR **Mount Ida** 49.05 278 *e*P P 12 22 12.8 -0.5
MIAR pmax pmax
comp=Z,165nm,2.5s
MIAR **Mount Ida** 49.05 278 *e*P P 12 22 12.8 -0.5
comp=Z,165nm,2.5s
MIAR **Mount Ida** 49.05 278 *e*P P 12 22 12.8 -0.5
comp=Z,165nm,2.5s
K28A **Ten Mile Ranch** 49.11 291 ⇑P P 12 22 14.0 +0.3
baz=49
P32A **Huiting Farm,** 49.19 286 ⇑P P 12 22 14.0 -0.3
baz=49
J27A **Elkhorn Farm,** 49.19 292 ⇑P P 12 22 14.8 +0.4
baz=49
F24A **Ekalaka** 49.19 296 ⇑P P 12 22 14.5 +0.1
baz=49
B21A **Ellsworth Farm** 49.26 301 ⇓P P 12 22 15.3 +0.5
baz=49
E23A **Ismay** 49.34 298 ⇑P P 12 22 16.0 +0.6
baz=49,SNR=11
H25A **Fruitdale** 49.37 295 ⇑P P 12 22 15.8 0.0
baz=49
M29A **Burnside Ranch** 49.42 290 ⇓P P 12 22 16.5 +0.3
baz=49
G24A **Alzada** 49.46 296 ⇑P P 12 22 16.4 0.0
baz=49
D22A **Cohagen** 49.48 299 ⇓P P 12 22 17.0 +0.5
baz=49,SNR=8.8
A20A **Cobblestone Ra** 49.52 301 ⇑P P 12 22 16.9 +0.1
baz=49
Q32A **Meitler Ranch,** 49.53 286 ⇑P P 12 22 16.3 -0.7
baz=49
ARU **Arti** 49.54 47 *d i*P P 12 22 16.8 0.0
ARU 12 24 05.1
ARU S S 12 29 25.5 +1.7
ARU SS SS 12 32 45.7 -9.5
ARU pmax pmax
comp=Z,15nm,1.7s
ARU **Arti** 49.54 47 *e*P P 12 22 16.7 0.0
comp=Z,7.8nm,0.9s
ARU **Arti** 49.54 47 *e*P P 12 22 16.7 0.0
comp=Z,7.8nm,0.9s
R33A **Olander Ranch,** 49.58 285 ⇑P P 12 22 16.3 -1.0
baz=50
L28A **Connealy Angus** 49.61 291 ⇓P P 12 22 17.5 -0.1
baz=50
TUL1 **Tulsa** 49.64 281 *e*P P 12 22 16.0 -1.8
comp=Z,30nm,1.4s
TUL1 **Tulsa** 49.64 281 ⇓P P 12 22 16.7 -1.0
baz=50
TUL1 **Tulsa** 49.64 281 *e*P P 12 22 16.0 -1.8
comp=Z,30nm,1.4s
K27A **Flueckinger Fa** 49.64 292 ⇓P P 12 22 17.6 -0.2
baz=50
E22A **Miles City** 49.74 298 ⇑P P 12 22 19.0 +0.5
baz=50
LAO **LASA Array** 49.76 298 *e*P P 12 22 19.6 +1.0
comp=Z,27nm,1.1s
LAO **LASA Array** 49.76 298 *e*P P 12 22 19.6 +1.0
comp=Z,27nm,1.1s
I25A **Rochford** 49.79 294 ⇓P P 12 22 18.6 -0.5
baz=50
J26A **Sides Ranch, S** 49.80 293 ⇓P P 12 22 19.2 +0.1
baz=50,SNR=6.0
B20A **Solberg Farm,** 49.82 301 ⇓P P 12 22 19.1 +0.1
baz=50,SNR=7.1
F23A **Volborg** 49.82 297 ⇓P P 12 22 19.0 -0.2
baz=50,SNR=7.6
H24A **Dirks Ranch, A** 49.87 295 ⇓P P 12 22 19.3 -0.3
baz=50,SNR=6.5
R32A **Long Quarter,** 49.97 285 ⇓P P 12 22 19.5 -0.8
baz=50
D21A **La Casta Ranch** 49.99 299 ⇑P P 12 22 20.7 +0.3
baz=50
Q31A **Ellis** 50.05 286 ⇓P P 12 22 20.0 -1.0
baz=50
EDM **Edmonton** 50.09 309 *e*P P 12 22 21.3 +0.3
EDM **Edmonton** 50.09 309 *e*P P 12 22 21.3 +0.3
EDM **Edmonton** 50.09 309 *e*P P 12 22 21.3 +0.3
G23A **Biddle** 50.10 296 ⇓P P 12 22 21.2 -0.2
baz=50,SNR=5.7
J25A **Sunshine Ranch** 50.19 293 ⇓P P 12 22 21.9 -0.2
baz=50,SNR=12
C20A **Veseth Ranch,** 50.20 300 ⇓P P 12 22 22.0 0.0
baz=50
K26A **Motz Farm, Whi** 50.21 292 ⇑P P 12 22 22.4 +0.2
baz=50
O29A **4D Ranch, Culb** 50.26 288 ⇓P P 12 22 22.1 -0.4
baz=50
P30A **Selden** 50.26 287 ⇓P P 12 22 21.8 -0.7
baz=50,SNR=5.2
F22A **Rosebud** 50.28 297 ⇓P P 12 22 22.6 0.0
baz=50
B19A **Brinkman Farms** 50.32 301 ⇑P P 12 22 23.0 +0.1
baz=50,SNR=7.4
N28A **Pribbeno Ranch** 50.39 289 ⇑P P 12 22 23.0 -0.6
baz=50
M27A **Reverse DX Ran** 50.41 291 ⇓P P 12 22 24.1 +0.4
baz=50
I24A **Kuemmerle Ranc** 50.41 294 ⇑P P 12 22 23.8 +0.1
baz=50,SNR=5.3
U34A **Anderson Ranch** 50.43 282 ⇑P P 12 22 23.4 -0.3
baz=50
T33A **Patterson Ranc** 50.48 284 ⇓P P 12 22 24.0 -0.2
baz=50
S32A **Newby Ranch, P** 50.54 285 ⇑P P 12 22 23.9 -0.8
baz=50
R31A **Burdett** 50.56 286 ⇑P P 12 22 24.1 -0.7
baz=50
Q30A **Quinter** 50.58 287 ⇑P P 12 22 24.1 -0.9
baz=50
G22A **Birney** 50.62 297 ⇑P P 12 22 25.3 +0.1
baz=50
D20A **Manuel Ranch,** 50.63 300 ⇑P P 12 22 25.5 +0.3
baz=50,SNR=8.7
P29A **Atwood** 50.65 288 ⇓P P 12 22 24.5 -1.0
baz=50
K25A **Mack Ranch, Ha** 50.68 293 ⇑P P 12 22 26.7 +0.9
baz=50
J24A **Dixon Ranch, L** 50.74 294 ⇑P P 12 22 26.0 -0.2
baz=51
C19A **Slack Wire Ran** 50.78 301 ⇓P P 12 22 26.6 +0.2
baz=51,SNR=6.6
V34A **Guthrie** 50.79 282 ⇓P P 12 22 26.2 -0.3
baz=51
T32A **Huddler Ranch,** 50.85 284 ⇓P P 12 22 26.3 -0.8
baz=51
O28A **Krutsinger Ran** 50.86 289 ⇓P P 12 22 26.3 -0.8
baz=51
M26A **McRoberts Ranc** 50.91 291 ⇓P P 12 22 28.0 +0.5
baz=51
N27A **Anderson Farm,** 50.93 290 ⇓P P 12 22 26.9 -0.7
baz=51
S31A **Mullinville** 50.94 285 ⇑P P 12 22 26.9 -0.8
baz=51
E20A **Meyer Farm, Mu** 50.95 299 ⇓P P 12 22 27.8 +0.1
baz=51
L25A **Engebretsen Ra** 51.00 292 ⇑P P 12 22 28.3 +0.1
baz=51
D19A **Cripps Ranch,** 51.01 300 ⇓P P 12 22 28.0 -0.1
baz=51,SNR=6.3
EGMT **Eagleton** 51.01 301 *e*P P 12 22 28.6 +0.4
comp=Z,26nm,1.0s
EGMT **Eagleton** 51.01 301 ⇑P P 12 22 28.3 +0.2
baz=51,SNR=9.5
EGMT **Eagleton** 51.01 301 *e*P P 12 22 28.6 +0.4
comp=Z,26nm,1.0s
H22A **Clearmont** 51.01 296 ⇓P P 12 22 28.0 -0.2
baz=51
R30A **Dighton** 51.03 286 ⇑P P 12 22 27.7 -0.7
baz=51,SNR=6.2
Q29A **Oakley** 51.11 287 ⇓P P 12 22 28.1 -0.9
baz=51,SNR=7.9
G21A **Lodge Grass** 51.15 297 ⇓P P 12 22 28.8 -0.5
baz=51,SNR=6.4
P28A **Saint Francis** 51.18 288 ⇓P P 12 22 29.1 -0.4
baz=51
K24A **Anderson Ranch** 51.18 293 ⇓P P 12 22 29.5 -0.1
baz=51
J23A **Dilts Ranch, B** 51.23 294 ⇑P P 12 22 29.9 0.0
baz=51
O27A **Beecher Island** 51.26 289 ⇑P P 12 22 29.9 -0.2
baz=51
V33A **Lossen Ranch,** 51.28 282 ⇑P P 12 22 30.3 0.0
baz=51
W34A **Bridge Creek,** 51.32 281 ⇓P P 12 22 30.5 -0.1
baz=51
E19A **Rath Farm, Rou** 51.35 299 ⇑P P 12 22 30.4 -0.3
baz=51
F20A **Billings** 51.36 298 ⇓P P 12 22 31.0 +0.2
baz=51,SNR=5.2
T31A **Randall Ranch,** 51.38 284 ⇓P P 12 22 30.7 -0.3
baz=51
U32A **Winter Ranch,** 51.39 283 ⇓P P 12 22 30.5 -0.6
baz=51
H21A **Big Horn, Sher** 51.40 296 ⇑P P 12 22 30.9 -0.2
baz=51
M25A **Palm-Egli Farm** 51.48 292 ⇑P P 12 22 32.6 +0.8
baz=51
I22A **9 Mile Ranch,** 51.49 295 ⇓P P 12 22 31.9 0.0
baz=51,SNR=17
Q28A **Sharon Springs** 51.53 288 ⇓P P 12 22 31.5 -0.7
baz=51
S30A **Montezuma** 51.54 286 ⇓P P 12 22 32.1 -0.1
baz=51
K23A **Bowen Ranch, D** 51.65 294 ⇑P P 12 22 33.1 0.0
baz=52
L24A **Wheatland** 51.65 293 ⇑P P 12 22 32.8 -0.3
baz=52
P27A **Ficken Ranch,** 51.70 289 ⇑P P 12 22 33.0 -0.5
baz=52
G20A **Bridger** 51.73 298 ⇑P P 12 22 33.4 -0.2
baz=52,SNR=12
O26A **Horse Wrangler** 51.74 290 ⇓P P 12 22 33.6 -0.1
baz=52,SNR=7.0
X34A **Smith Ranch, M** 51.76 281 ⇓P P 12 22 33.9 +0.1
baz=52
F19A **Roth Farm, Mol** 51.79 299 ⇓P P 12 22 33.9 -0.1
baz=52
W33A **Caddo, Fort Co** 51.82 282 ⇑P P 12 22 33.9 -0.3
baz=52
V32A **Arapaho** 51.83 283 ⇑P P 12 22 34.1 -0.2
baz=52,SNR=5.4
M24A **Cheyenne** 51.93 292 ⇑P P 12 22 35.6 +0.4
baz=52,SNR=7.1
R28A **Tribune** 51.96 287 ⇓P P 12 22 34.7 -0.7
baz=52
S29A **Ulysses** 51.97 286 ⇓P P 12 22 35.0 -0.4
baz=52
I21A **Big Trails, Te** 52.02 296 ⇑P P 12 22 35.2 -0.6
baz=52,SNR=17
H20A **Greybull** 52.03 297 ⇑P P 12 22 35.8 -0.1
baz=52,SNR=23
KSCO **Kaye Shedlock'** 52.06 288 *e*P P 12 22 36.0 -0.1
comp=Z,24nm,1.3s
KSCO **Kaye Shedlock'** 52.06 288 ⇑P P 12 22 35.7 -0.5
baz=52
KSCO **Kaye Shedlock'** 52.06 288 *e*P P 12 22 36.0 -0.1
comp=Z,24nm,1.3s
L23A **Garrett** 52.07 293 ⇓P P 12 22 35.5 -0.8
baz=52
Y34A **Reagan Ranch,** 52.12 280 ⇓P P 12 22 36.0 -0.5
baz=52
P26A **Davis Ranch, A** 52.17 289 ⇓P P 12 22 36.8 -0.1
baz=52
X33A **Lawton** 52.22 281 ⇓P P 12 22 36.8 -0.4
baz=52
K22A **Casper** 52.24 294 *e*P P 12 22 37.2 -0.3
K22A **Casper** 52.24 294 ⇑P P 12 22 37.3 -0.3
baz=52,SNR=14
K22A **Casper** 52.24 294 *e*P P 12 22 37.2 -0.3
WMOK **Wichita Mounta** 52.28 282 *e*P P 12 22 37.4 -0.3
WMOK pmax pmax
comp=Z,202nm,2.8s
WMOK **Wichita Mounta** 52.28 282 *e*P P 12 22 37.4 -0.3
comp=Z,202nm,2.8s
WMOK **Wichita Mounta** 52.28 282 *e*P P 12 22 37.4 -0.3
comp=Z,202nm,2.8s
V31A **Spring Creek L** 52.30 283 ⇓P P 12 22 38.0 +0.1
baz=52
O25A **Wiggins** 52.31 290 ⇓P P 12 22 38.1 +0.1
baz=52
W32A **Sentinel** 52.33 282 ⇑P P 12 22 37.7 -0.3
baz=52,SNR=6.2
U30A **WK&E Inc. Balk** 52.34 285 ⇑P P 12 22 37.8 -0.4
baz=52
N24A **Carr** 52.34 291 ⇓P P 12 22 38.4 +0.1
baz=52,SNR=5.6
T29A **Hugoton** 52.36 286 ⇓P P 12 22 38.1 -0.2
baz=52
J21A **Lysite** 52.38 295 ⇓P P 12 22 38.0 -0.5
baz=52,SNR=6.5
I20A **Worland** 52.42 296 ⇑P P 12 22 38.7 -0.1
baz=52,SNR=7.8
M23A **Laramie** 52.47 292 ⇑P P 12 22 39.1 -0.2
baz=52
S28A **Manter** 52.47 286 ⇓P P 12 22 38.9 -0.3
baz=52
H19A **Powell** 52.50 298 ⇓P P 12 22 39.6 +0.3
baz=52,SNR=9.1
L22A **Ellis Ranch, M** 52.56 293 ⇓P P 12 22 40.5 +0.6
baz=52,SNR=12
Z34A **Collier Ranch,** 52.59 280 ⇓P P 12 22 39.6 -0.4
baz=52
R27A **Eads** 52.60 288 ⇑P P 12 22 39.8 -0.4
baz=52,SNR=8.0
Y33A **Hilltop Ranch,** 52.64 281 ⇓P P 12 22 40.0 -0.4
baz=52,SNR=8.1
Q26A **Hugo** 52.66 289 ⇓P P 12 22 40.5 -0.1
baz=52,SNR=8.1
K21A **Alcova** 52.69 295 ⇓P P 12 22 40.3 -0.5
baz=52,SNR=13
WALA **Waterton Lakes** 52.70 304 *e*P P 12 22 40.7 0.0
comp=Z,0.9nm,0.9s
WALA **Waterton Lakes** 52.70 304 *e*P P 12 22 40.7 0.0
comp=Z,0.9nm,0.9s
P25A **Willow Gulch B** 52.70 290 ⇓P P 12 22 40.8 -0.2
baz=53
W31A **Holland Ranch,** 52.73 283 ⇓P P 12 22 40.7 -0.4
baz=53
J20A **Shoshoni** 52.75 296 ⇓P P 12 22 41.6 +0.4
baz=53,SNR=24
135A **Vickery Place,** 52.79 279 ⇓P P 12 22 41.2 -0.2
baz=53
X32A **Elmer** 52.80 282 ⇓P P 12 22 41.4 -0.2
baz=53
I19A **Meeteetse** 52.88 297 ⇓P P 12 22 42.4 +0.2
baz=53,SNR=7.4
O24A **Longmont** 52.88 291 ⇑P P 12 22 42.5 +0.2
baz=53
T28A **Walsh** 52.90 286 ⇑P P 12 22 42.2 -0.1
baz=53
N23A **Red Feather La** 52.95 292 ⇑P P 12 22 43.4 +0.5
baz=53,SNR=23
R26A **Arlington** 53.00 288 ⇑P P 12 22 43.0 -0.1
baz=53,SNR=12
X31A **McDonald Ranch** 53.11 282 ⇓P P 12 22 43.6 -0.2
baz=53,SNR=8.3
Q25A **Bedland, Calha** 53.12 289 ⇓P P 12 22 43.6 -0.5
baz=53
Y32A **R-V Farms, Ver** 53.16 281 ⇑P P 12 22 43.7 -0.5
baz=53
WHTX **Lake Whitney** 53.18 278 ⇑P P 12 22 43.6 -0.8
baz=53
Z33A **Whitaker Ranch** 53.19 280 ⇑P P 12 22 43.7 -0.8
baz=53
134A **White-Moore Ra** 53.21 279 ⇑P P 12 22 44.4 -0.2
baz=53
RWWY **Rawlins** 53.23 294 *e*P P 12 22 51.7 +6.8
comp=Z,38nm,1.0s
V29A **Stinnett** 53.30 284 ⇑P P 12 22 45.1 -0.2
baz=53
N22A **Wattenberg Ran** 53.31 292 ⇑P P 12 22 46.2 +0.7
baz=53
T27A **Campo** 53.31 286 ⇑P P 12 22 45.3 -0.2
baz=53,SNR=5.3
O23A **Lake Granby, G** 53.35 291 ⇓P P 12 22 45.6 -0.2
baz=53
J19A **Crowheart** 53.37 296 ⇓P P 12 22 45.5 -0.4
baz=53,SNR=18
ISCO **Idaho Springs** 53.41 291 *e*P P 12 22 46.3 -0.1
ISCO pmax pmax
comp=Z,10.0nm,1.2s
ISCO **Idaho Springs** 53.41 291 *e*P P 12 22 46.3 -0.1
comp=Z,9.9nm,1.2s
ISCO **Idaho Springs** 53.41 291 ⇓P P 12 22 46.5 +0.1
baz=53
ISCO **Idaho Springs** 53.41 291 *e*P P 12 22 46.3 -0.1
comp=Z,9.9nm,1.2s
YBMT **Yellow Bay** 53.45 303 *e*P P 12 22 45.7 -0.6
YBMT **Yellow Bay** 53.45 303 *e*P P 12 22 45.7 -0.6
HKT **Hockley** 53.47 275 *e*P P 12 22 46.4 0.0
HKT pmax pmax
comp=Z,14nm,1.1s
HKT **Hockley** 53.47 275 *e*P P 12 22 46.4 0.0
comp=Z,14nm,1.1s
HKT **Hockley** 53.47 275 *e*P P 12 22 46.4 0.0
comp=Z,14nm,1.1s
SLMT **Seeley Lake** 53.53 302 *e*P P 12 22 46.4 -0.5
SLMT **Seeley Lake** 53.53 302 *e*P P 12 22 46.4 -0.5
H17A **Grant Village** 53.58 298 *e*P P 12 22 49.6 +2.1
H17A **Grant Village** 53.58 298 *e*P P 12 22 49.6 +2.1
CHMT **Chamberlain Mo** 53.59 302 *e*P P 12 22 47.4 0.0
CHMT **Chamberlain Mo** 53.59 302 *e*P P 12 22 47.4 0.0
R25A **Fountain Ranch** 53.61 288 ⇓P P 12 22 47.8 +0.1
baz=54,SNR=8.4
Z32A **Haskell** 53.63 281 ⇑P P 12 22 47.2 -0.5
baz=54,SNR=5.2
YMR **Madison River** 53.64 299 *e*P P 12 22 47.9 0.0
comp=Z,11nm,1.1s
YMR **Madison River** 53.64 299 *e*P P 12 22 47.9 0.0
comp=Z,11nm,1.1s
Q24A **Divide** 53.64 290 ⇑P P 12 22 47.5 -0.6
baz=54
SWMT **Swartz Lake** 53.65 303 *e*P P 12 22 46.8 -1.0
SWMT **Swartz Lake** 53.65 303 *e*P P 12 22 46.8 -1.0
YFT **Old Faithful** 53.70 298 *e*P P 12 22 49.1 +0.8
comp=Z,18nm,1.1s
YFT **Old Faithful** 53.70 298 *e*P P 12 22 49.1 +0.8
comp=Z,18nm,1.1s
Y31A **Rekieta Farm,** 53.71 282 ⇑P P 12 22 48.1 -0.2
baz=54,SNR=10
133A **Hamilton Ranch** 53.72 280 ⇑P P 12 22 47.9 -0.5
baz=54
O22A **Kremmling** 53.76 292 ⇓P P 12 22 48.9 0.0
baz=54,SNR=6.4
U27A **Thompson Grove** 53.78 286 ⇓P P 12 22 48.8 0.0
baz=54,SNR=13
T26A **Comanche Natio** 53.79 287 ⇓P P 12 22 49.2 +0.2
baz=54,SNR=8.4
LRM **Limekiln Ridge** 53.79 300 *e*P P 12 22 49.1 +0.1
LRM **Limekiln Ridge** 53.79 300 *e*P P 12 22 49.1 +0.1
X30A **Coker Ranch, T** 53.80 283 ⇑P P 12 22 48.7 -0.2
baz=54,SNR=6.5
P23A **Jefferson** 53.81 290 ⇓P P 12 22 49.8 +0.5
baz=54
V28A **Channing** 53.82 285 ⇓P P 12 22 49.3 +0.1
baz=54
FLWY **Flagg Ranch** 53.84 298 *e*P P 12 22 50.0 +0.7
comp=Z,12nm,1.0s
FLWY **Flagg Ranch** 53.84 298 *e*P P 12 22 50.0 +0.7
comp=Z,12nm,1.0s
W29A **Amraillo** 53.86 284 ⇓P P 12 22 49.8 +0.4
baz=54,SNR=8.2
BSMT **Bassoo Peak** 53.88 304 *e*P P 12 22 49.4 -0.1
BSMT **Bassoo Peak** 53.88 304 *e*P P 12 22 49.4 -0.1
BW06 **Boulder Array** 53.97 296 *e*P P 12 22 49.2 -1.1
BW06 **Boulder Array** 53.97 296 *e*P P 12 22 49.2 -1.1
PDAR **Pinedale Array** 53.97 296 P P 12 22 49.4 -0.9
PDAR **Pinedale Array** 53.97 296 P P 12 22 49.4 -0.9
PDAR **Pinedale Array** 53.97 296 P P 12 22 49.4 -0.9
comp=Z,12nm,0.9s,baz=64,slow=7.0,SNR=69
PDAR LR LR 12 43 10.2
comp=Z,329nm,19.3s,baz=28,slow=33
S25A **Robets Cordova** 54.01 288 ⇓P P 12 22 50.8 +0.2
baz=54
MSO **Missoula** 54.02 302 *e*P P 12 22 50.1 -0.3
comp=Z,6.8nm,1.0s
MSO **Missoula** 54.02 302 ⇑P P 12 22 49.9 -0.6
baz=54,SNR=6.6
MSO **Missoula** 54.02 302 *e*P P 12 22 50.2 -0.3
comp=Z,6.8nm,1.0s
AMTX **Amarillo** 54.03 284 *e*P P 12 22 50.8 +0.1
comp=Z,23nm,0.9s
AMTX **Amarillo** 54.03 284 ⇓P P 12 22 50.9 +0.1
baz=54
AMTX **Amarillo** 54.03 284 *e*P P 12 22 50.8 +0.1
comp=Z,23nm,0.9s
Z31A **Sharp Cattle R** 54.05 281 ⇑P P 12 22 49.9 -0.9
baz=54
LOHW **Long Hollow** 54.06 297 *e*P P 12 22 50.8 -0.2
comp=Z,7.4nm,1.0s
LOHW **Long Hollow** 54.06 297 *e*P P 12 22 50.8 -0.2
comp=Z,7.4nm,1.0s
MOOW **Moose Ponds** 54.06 298 *e*P P 12 22 50.8 -0.2
comp=Z,9.6nm,1.0s
MOOW **Moose Ponds** 54.06 298 *e*P P 12 22 50.8 -0.2
comp=Z,9.6nm,1.0s
R24A **Sanders Place,** 54.07 289 ⇑P P 12 22 51.4 +0.3
baz=54
334A **Lometa** 54.12 278 ⇑P P 12 22 50.3 -0.9
baz=54
DLMT **Dillon** 54.15 300 *e*P P 12 22 51.5 0.0
comp=Z,15nm,1.3s
DLMT **Dillon** 54.15 300 *e*P P 12 22 51.5 0.0
comp=Z,15nm,1.3s
Y30A **Stafford Cattl** 54.17 282 ⇑P P 12 22 50.9 -0.9
baz=54
ABTX **Abilene, Hawle** 54.18 280 ⇑P P 12 22 51.0 -0.8
baz=54
V27A **Dan Oppiter Fa** 54.20 285 ⇑P P 12 22 52.2 +0.2
baz=54
P22A **Eagle** 54.23 291 ⇓P P 12 22 52.1 -0.1
baz=54
AB31 **Akbulak array** 54.25 54 *i*P P 12 22 52.9 +0.9
ABKAR **Akbulak array** 54.25 54 *e*P P 12 22 53.0 +1.0
ABKAR **Akbulak array** 54.25 54 *e*P P 12 22 53.0 +1.0
T25A **Trinidad** 54.32 287 ⇑P P 12 22 53.2 +0.3
baz=54,SNR=6.7
X29A **Tulia** 54.32 283 ⇑P P 12 22 52.9 +0.1
baz=54
TPAW **Teton Pass** 54.34 297 *e*P P 12 22 52.9 -0.1
comp=Z,7.0nm,0.8s
TPAW **Teton Pass** 54.34 297 *e*P P 12 22 52.9 -0.1
comp=Z,7.0nm,0.8s
REDW **Red Top Meadow** 54.36 297 *e*P P 12 22 53.2 0.0
comp=Z,17nm,1.2s
REDW **Red Top Meadow** 54.36 297 *e*P P 12 22 53.2 0.0
comp=Z,17nm,1.2s
U26A **Atchley Ranch,** 54.37 286 ⇑P P 12 22 53.2 -0.1
baz=54
X28A **Dimmitt** 54.59 284 ⇓P P 12 22 55.2 +0.4
baz=54
DAWY **Dawson** 54.59 330 *e*P P 12 22 54.5 +0.2
DAWY **Dawson** 54.59 330 *e*P P 12 22 54.5 +0.2
333A **Richland Sprin** 54.60 278 ⇑P P 12 22 54.0 -0.8
baz=54

SDCO **Great Sand Dun** 54.61 289 *eP* P 12 22 54.9 -0.2
comp=Z,6.8nm,1.3s
SDCO **Great Sand Dun** 54.61 289 *eP* P 12 22 54.9 -0.2
comp=Z,6.8nm,1.3s
MCMT **McKenzie Canyo** 54.62 300 *eP* P 12 22 55.2 +0.2
comp=Z,4.3nm,1.4s
MCMT **McKenzie Canyo** 54.62 300 *eP* P 12 22 55.2 +0.2
comp=Z,4.3nm,1.4s
131A **Roby** 54.63 281 ⇑P P 12 22 54.4 -0.5
baz=54
232A **Coleman** 54.66 279 ⇑P P 12 22 54.5 -0.8
baz=55
Y29A **Porterfield Fa** 54.68 283 ⇓P P 12 22 54.9 -0.5
baz=55
Z30A **Sanderson Ranc** 54.70 282 ⇓P P 12 22 54.3 -1.2
baz=55
DLBC **Dease Lake** 54.76 321 *eP* P 12 22 56.2 +0.5
DLBC **Dease Lake** 54.76 321 *eP* P 12 22 56.2 +0.5
V26A **Tequesquite Ra** 54.78 286 ⇑P P 12 22 55.8 -0.4
baz=55,SNR=6.5
U25A **Circle Dot Ran** 54.78 287 ⇑P P 12 22 57.1 +0.9
baz=55,SNR=12
W27A **Bowe Ranch, En** 54.79 285 ⇓P P 12 22 56.2 0.0
baz=55,SNR=10
O20A **White River Ci** 54.80 293 *eP* P 12 22 56.7 +0.3
O20A **White River Ci** 54.80 293 ⇓P P 12 22 56.6 +0.3
baz=55,SNR=11
O20A **White River Ci** 54.80 293 *eP* P 12 22 56.7 +0.3
AHID **Auburn Hatcher** 54.87 297 *eP* P 12 22 55.9 -0.9
comp=Z,12nm,0.9s
AHID **Auburn Hatcher** 54.87 297 *eP* P 12 22 55.9 -0.9
comp=Z,12nm,0.9s
NEW **Newport** 54.88 305 *eP* P 12 22 56.2 -0.5
comp=Z,152nm,2.7s
NEW **Newport** 54.88 305 ⇑P P 12 22 56.2 -0.5
baz=55,SNR=7.2
NEW **Newport** 54.88 305 *eP* P 12 22 56.2 -0.5
comp=Z,152nm,2.7s
S23A **Nye Farm, Mont** 54.95 289 ⇑P P 12 22 57.8 +0.3
baz=55
T24B **San Luis** 54.97 288 ⇑P P 12 22 58.3 +0.6
baz=55
Y28A **McKinney Farm,** 55.01 283 ⇑P P 12 22 57.3 -0.5
baz=55
130A **Snyder** 55.05 281 ⇓P P 12 22 57.6 -0.4
baz=55
433A **Art** 55.05 278 ⇑P P 12 22 57.1 -0.9
baz=55,SNR=8.4
332A **Millersview** 55.05 279 ⇓P P 12 22 57.1 -1.0
baz=55,SNR=5.6
231A **Bronte** 55.06 280 ⇑P P 12 22 57.9 -0.3
baz=55
X27A **F and S Farms,** 55.08 284 ⇓P P 12 22 58.0 -0.4
baz=55
Z29A **Hungry Hill Ra** 55.09 282 ⇑P P 12 22 57.6 -0.7
baz=55
534A **Blanco** 55.13 277 ⇓P P 12 22 57.9 -0.8
baz=55,SNR=8.5
W26A **Owens Ranch, T** 55.21 285 ⇓P P 12 23 00.1 +0.7
baz=55
V25A **Rancho No Teng** 55.27 286 ⇓P P 12 22 59.4 -0.4
baz=55
MSTX **Muleshoe** 55.31 283 *eP* P 12 22 59.9 -0.1
MSTX **Muleshoe** 55.31 283 ⇓P P 12 22 59.9 -0.1
baz=55,SNR=13
MSTX **Muleshoe** 55.31 283 *eP* P 12 22 59.9 -0.1
T23A **Casias Ranch,** 55.39 288 ⇓P P 12 23 00.5 -0.2
baz=55
432A **Menard** 55.42 279 ⇓P P 12 23 00.3 -0.5
baz=55,SNR=16
S22A **4UR Ranch, Cre** 55.43 290 ⇑P P 12 23 00.8 -0.3
baz=55
533A **Kerrville** 55.46 277 ⇓P P 12 23 00.2 -0.8
baz=55,SNR=6.3
Z28A **Tucker Farm, M** 55.50 283 ⇑P P 12 23 00.7 -0.6
baz=55,SNR=5.4
331A **San Angelo** 55.54 279 ⇑P P 12 23 01.1 -0.5
baz=55
COLD **Coldfoot** 55.55 336 *eP* P 12 23 01.0 -0.2
comp=Z,7.3nm,1.0s
COLD **Coldfoot** 55.55 336 *eP* P 12 23 01.0 -0.2
comp=Z,7.3nm,1.0s
W25A **X Bar L Ranch,** 55.57 286 ⇓P P 12 23 01.6 -0.3
baz=55
X26A **CR and CF Fran** 55.59 285 ⇓P P 12 23 01.7 -0.4
baz=56
129A **Stewart Farms,** 55.60 282 ⇓P P 12 23 01.3 -0.7
baz=56
230A **Sterling City** 55.60 280 ⇓P P 12 23 01.6 -0.4
baz=56
Y27A **Causey** 55.61 284 ⇑P P 12 23 01.7 -0.5
baz=56
JCT **Junction City** 55.69 278 *eP* P 12 23 01.6 -1.1
JCT pmax pmax
comp=Z,12nm,0.9s
JCT **Junction City** 55.69 278 *eP* P 12 23 01.6 -1.1
comp=Z,12nm,0.9s
JCT **Junction City** 55.69 278 ⇑P P 12 23 02.2 -0.5
baz=56
JCT **Junction City** 55.69 278 *eP* P 12 23 01.5 -1.1
comp=Z,12nm,0.9s
V24A **Rampart Ranch,** 55.75 287 ⇑P P 12 23 03.9 +0.6
baz=56
C09A **Chrisman Ranch** 55.78 305 *eP* P 12 23 02.5 -0.6
comp=Z,7.6nm,0.9s
C09A **Chrisman Ranch** 55.78 305 *eP* P 12 23 02.5 -0.6
comp=Z,7.6nm,0.9s
U23A **El Rito** 55.94 288 ⇑P P 12 23 04.7 +0.1
baz=56,SNR=8.5
330A **Mertzon** 55.96 280 ⇓P P 12 23 03.9 -0.8
baz=56
532A **Rocksprings** 55.99 278 ⇓P P 12 23 04.5 -0.3
baz=56,SNR=9.3
B08A **Colville Reser** 55.99 306 *eP* P 12 23 04.2 -0.4
comp=Z,11nm,0.9s
B08A **Colville Reser** 55.99 306 *eP* P 12 23 04.2 -0.4
comp=Z,11nm,0.9s
229A **Bryant Ranch,** 56.00 281 ⇑P P 12 23 04.5 -0.4
baz=56
128A **Castleberry Fa** 56.00 282 ⇓P P 12 23 04.1 -0.9
baz=56
Y26A **Elida** 56.00 284 ⇑P P 12 23 04.9 -0.1
baz=56
Z27A **Tatum** 56.01 283 ⇑P P 12 23 04.7 -0.3
baz=56,SNR=5.6
431A **Sonora** 56.07 279 ⇑P P 12 23 05.1 -0.4
baz=56,SNR=5.9
HYT **Haines Junctio** 56.11 326 *eP* P 12 23 05.2 -0.2
HYT **Haines Junctio** 56.11 326 *eP* P 12 23 05.2 -0.2
W24A **Lazy 6 Ranch,** 56.17 286 ⇓P P 12 23 06.8 +0.5
baz=56,SNR=6.5
PV01 **Paradox Valley** 56.25 291 *eP* P 12 23 06.9 0.0
comp=Z,545nm,1.1s
PV01 **Paradox Valley** 56.25 291 *eP* P 12 23 06.9 0.0
comp=Z,545nm,1.1s
HLID **Hailey** 56.28 299 *eP* P 12 23 07.4 +0.5
comp=Z,9.6nm,1.0s
HLID **Hailey** 56.28 299 ⇑P P 12 23 07.5 +0.5
baz=56,SNR=10
HLID **Hailey** 56.28 299 *eP* P 12 23 07.4 +0.5
comp=Z,9.6nm,1.0s
PV04 **Paradox Valley** 56.29 291 *eP* P 12 23 07.8 +0.7
PV04 **Paradox Valley** 56.29 291 *eP* P 12 23 07.8 +0.7
V23A **Ortiz Mt. (NFS** 56.31 287 ⇑P P 12 23 07.4 +0.1
baz=56
U22A **Llaves** 56.32 288 ⇑P P 12 23 07.8 +0.4
baz=56
632A **Uvalde** 56.33 277 ⇓P P 12 23 06.9 -0.3
baz=56
F10A **Beach Ranch, E** 56.35 303 *eP* P 12 23 06.8 -0.4
comp=Z,12nm,1.0s
F10A **Beach Ranch, E** 56.35 303 *eP* P 12 23 06.8 -0.4
comp=Z,12nm,1.0s
531A **Rocksprings** 56.38 278 ⇓P P 12 23 07.3 -0.3
baz=56,SNR=9.2
DOT **Dot Lake** 56.39 331 *eP* P 12 23 07.7 +0.5
comp=Z,12nm,1.1s
DOT **Dot Lake** 56.39 331 *eP* P 12 23 07.7 +0.5
comp=Z,12nm,1.1s
430A **Baggett Ranch,** 56.41 280 ⇓P P 12 23 07.8 0.0
baz=56,SNR=13
JLU **Jordanelle** 56.42 295 *eP* P 12 23 07.7 -0.3
comp=Z,62nm,2.6s
JLU **Jordanelle** 56.42 295 *eP* P 12 23 07.7 -0.3
comp=Z,62nm,2.6s
329A **Wagon Wheel Ra** 56.42 281 ⇓P P 12 23 07.3 -0.7
baz=56
DAU **Daniels Canyon** 56.42 295 *eP* P 12 23 08.4 +0.3
DAU **Daniels Canyon** 56.42 295 *eP* P 12 23 08.4 +0.3
ILAR **Eielson Array** 56.44 333 P P 12 23 07.1 -0.4
ILAR **Eielson Array** 56.44 333 P P 12 23 07.1 -0.4
ILAR **Eielson Array** 56.44 333 P P 12 23 07.1 -0.4
comp=Z,5.4nm,1.0s,baz=41,slow=5.3,SNR=39
ILAR LR LR 12 44 48.0
comp=Z,220nm,20.9s,baz=259,slow=33
HVU **Hansel Valley** 56.45 297 *eP* P 12 23 07.9 -0.3
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU **Hansel Valley** 56.45 297 *eP* P 12 23 07.9 -0.3
comp=Z,10nm,1.0s
HVU **Hansel Valley** 56.45 297 *eP* P 12 23 07.9 -0.3
comp=Z,10nm,1.0s
E09A **Wood Farm, Sta** 56.51 304 *eP* P 12 23 06.8 -1.5
comp=Z,5.1nm,0.8s
E09A **Wood Farm, Sta** 56.51 304 *eP* P 12 23 06.8 -1.5
comp=Z,5.1nm,0.8s
Z26A **Caprock** 56.52 284 ⇑P P 12 23 09.3 +0.6
baz=56
Y25A **Mesa, Roswell** 56.55 285 ⇑P P 12 23 08.7 -0.2
baz=56
COLA **College** 56.65 334 *eP* P 12 23 08.8 -0.1
COLA pmax pmax
comp=Z,2.0nm,0.8s
COLA **College** 56.65 334 *eP* P 12 23 08.8 -0.1
comp=Z,1.6nm,0.8s
COLA **College** 56.65 334 *eP* P 12 23 08.8 -0.1
comp=Z,1.6nm,0.8s
V22A **San Miguel Ran** 56.65 288 ⇓P P 12 23 10.8 +1.1
baz=56,SNR=11
W23A **Werner Place,** 56.66 287 ⇑P P 12 23 10.3 +0.5
baz=56,SNR=8.2
MENT **Mentasta** 56.78 330 *eP* P 12 23 09.5 -0.5
MENT **Mentasta** 56.78 330 *eP* P 12 23 09.5 -0.5
MVCO **Mesa Verde** 56.80 290 *eP* P 12 23 11.2 +0.4
comp=Z,13nm,1.0s
MVCO **Mesa Verde** 56.80 290 ⇓P P 12 23 11.5 +0.8
baz=57,SNR=7.5
MVCO **Mesa Verde** 56.80 290 *eP* P 12 23 11.1 +0.4
comp=Z,13nm,1.0s
SRU **San Rafael** 56.81 293 *eP* P 12 23 10.6 -0.2
SRU pmax pmax
comp=Z,19nm,1.0s
SRU **San Rafael** 56.81 293 *eP* P 12 23 10.6 -0.2
comp=Z,19nm,1.0s
SRU **San Rafael** 56.81 293 *eP* P 12 23 10.6 -0.2
comp=Z,19nm,1.0s
530A **J-U-Ranch, Com** 56.90 279 ⇑P P 12 23 11.0 -0.3
baz=57,SNR=7.2
MPU **Maple Canyon** 56.90 294 *eP* P 12 23 11.4 0.0
comp=Z,13nm,1.1s
MPU **Maple Canyon** 56.90 294 *eP* P 12 23 11.4 0.0
comp=Z,13nm,1.1s
631A **Perdido Creek** 56.90 278 ⇑P P 12 23 10.4 -0.9
baz=57
429A **Davenport Ranc** 56.94 280 ⇓P P 12 23 11.1 -0.5
baz=57,SNR=9.3
732A **Laxson Ranch,** 56.97 277 ⇓P P 12 23 11.3 -0.5
baz=57
Z25A **Roswell** 56.98 284 ⇑P P 12 23 12.3 +0.3
baz=57,SNR=6.7
BRVK **Borovoye** 57.02 45 *eP* P 12 23 12.2 +0.4
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK **Borovoye** 57.02 45 *eP* P 12 23 12.2 +0.4
comp=Z,6.4nm,1.0s
BRVK **Borovoye** 57.02 45 *eP* P 12 23 12.2 +0.4
comp=Z,6.4nm,1.0s
328A **Wristen Ranch,** 57.02 281 ⇓P P 12 23 11.3 -0.9
baz=57,SNR=5.3
X23A **Hourglass Bar** 57.06 286 ⇓P P 12 23 13.2 +0.5
baz=57
BVA0 **Borovoye Array** 57.09 45 *i P* P 12 23 12.7 +0.4
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BMO **Blue Mountains** 57.09 302 *eP* P 12 23 11.4 -1.2
comp=Z,6.8nm,1.0s
BMO **Blue Mountains** 57.09 302 *eP* P 12 23 11.4 -1.2
comp=Z,6.8nm,1.0s
TMUT **Trail Mountain** 57.10 294 *eP* P 12 23 12.9 -0.1
comp=Z,14nm,0.9s
TMUT **Trail Mountain** 57.10 294 *eP* P 12 23 12.9 -0.1
comp=Z,14nm,0.9s
BGU **Big Grassy Mou** 57.14 296 *eP* P 12 23 12.8 -0.3
comp=Z,4.1nm,1.0s
BGU **Big Grassy Mou** 57.14 296 *eP* P 12 23 12.8 -0.3
comp=Z,4.1nm,1.0s
MFID **Camas Ranch** 57.17 300 *eP* P 12 23 12.9 -0.3
comp=Z,17nm,1.6s
MFID **Camas Ranch** 57.17 300 *eP* P 12 23 12.9 -0.3
comp=Z,17nm,1.6s
NLU **North Lily Min** 57.20 295 *eP* P 12 23 13.1 -0.5
comp=Z,10nm,1.0s
NLU **North Lily Min** 57.20 295 *eP* P 12 23 13.1 -0.5
comp=Z,10nm,1.0s
PAX **Paxson** 57.32 331 *eP* P 12 23 14.2 +0.3
PAX pmax pmax
comp=Z,9.0nm,0.7s
PAX **Paxson** 57.32 331 *eP* P 12 23 14.2 +0.3
comp=Z,8.6nm,0.7s
PAX **Paxson** 57.32 331 *eP* P 12 23 14.1 +0.2
comp=Z,8.6nm,0.7s
HAWA **Hanford** 57.33 305 *eP* P 12 23 13.3 -0.8
comp=Z,60nm,2.5s
HAWA **Hanford** 57.33 305 *eP* P 12 23 13.3 -0.8
comp=Z,60nm,2.5s
125A **Gardner Draw,** 57.35 283 ⇑P P 12 23 14.3 -0.3
baz=57
Z24A **Sheeppen Canyo** 57.36 285 ⇑P P 12 23 15.0 +0.2
baz=57
428A **Kincaid Ranch,** 57.38 280 ⇓P P 12 23 14.6 -0.2
baz=57
LTY **Liberty** 57.38 306 *eP* P 12 23 13.6 -1.0
comp=Z,23nm,1.1s
LTY **Liberty** 57.38 306 *eP* P 12 23 13.6 -1.0
comp=Z,23nm,1.1s
E07A **Sunnyside** 57.40 305 *eP* P 12 23 13.8 -0.8
comp=Z,8.8nm,1.0s
E07A **Sunnyside** 57.40 305 *eP* P 12 23 13.8 -0.8
comp=Z,8.8nm,1.0s
Y23A **Lovelace Mesa,** 57.40 286 ⇑P P 12 23 15.3 +0.3
baz=57,SNR=7.2
226B **Tecolote Peak,** 57.43 283 ⇓P P 12 23 14.9 -0.2
baz=57,SNR=5.8
IM04 **Indian Mountai** 57.44 337 *eP* P 12 23 14.3 -0.3
IM04 **Indian Mountai** 57.44 337 *eP* P 12 23 14.3 -0.3
GDL2 **Guadalupe Moun** 57.47 283 *eP* P 12 23 10.0 -5.5
529A **Stev Forest Ra** 57.48 280 ⇓P P 12 23 14.8 -0.6
baz=57,SNR=13
DUG **Dugway** 57.48 295 *eP* P 12 23 15.8 +0.4
DUG pmax pmax
comp=Z,18nm,0.8s
DUG **Dugway** 57.48 295 *eP* P 12 23 15.8 +0.4
comp=Z,18nm,0.8s
DUG **Dugway** 57.48 295 ⇑P P 12 23 15.5 +0.1
baz=57,SNR=27
DUG **Dugway** 57.48 295 *eP* P 12 23 15.8 +0.4
comp=Z,18nm,0.8s
VOSK **Vostochnaya** 57.56 45 *i P* P 12 23 15.0 -0.6
VOSK pmax pmax
comp=Z,5.0nm,1.1s
BNM **Barren Site** 57.62 286 *eP* P 12 23 17.2 +0.6
comp=Z,13nm,1.3s
BNM **Barren Site** 57.62 286 *eP* P 12 23 17.2 +0.6
comp=Z,13nm,1.3s
G08A **Pilot Rock** 57.72 303 *eP* P 12 23 15.9 -1.1
comp=Z,7.9nm,1.0s
G08A **Pilot Rock** 57.72 303 *eP* P 12 23 15.9 -1.1
comp=Z,7.9nm,1.0s
427A **Hayter Ranch,** 57.75 281 ⇑P P 12 23 17.1 -0.3
baz=58,SNR=6.0
LAZ **Ladron** 57.77 287 *eP* P 12 23 18.5 +0.8
comp=Z,3.7nm,1.1s
LAZ **Ladron** 57.77 287 *eP* P 12 23 18.5 +0.8
comp=Z,3.7nm,1.1s
326A **Caldwell Ranch** 57.81 282 ⇑P P 12 23 17.9 0.0
baz=58
528A **Cox Ranch, San** 57.82 280 ⇓P P 12 23 17.7 -0.2
baz=58,SNR=10
225A **Deer Hill, Car** 57.82 283 ⇑P P 12 23 17.9 -0.1
baz=58
124A **Stringfield Ra** 57.83 284 ⇓P P 12 23 18.2 +0.1
baz=58,SNR=7.0
Z23A **Rita Site, Whi** 57.95 285 ⇑P P 12 23 19.0 +0.2
baz=58
Y22A **Socorro** 57.97 286 ⇑P P 12 23 19.7 +0.7
baz=58,SNR=11
BPAW **Bear Paw Mtn.** 58.13 334 *eP* P 12 23 19.8 +0.3
comp=Z,6.7nm,1.0s
BPAW **Bear Paw Mtn.** 58.13 334 *eP* P 12 23 19.8 +0.3
comp=Z,6.7nm,1.0s
MVU **Marysvale** 58.21 293 *eP* P 12 23 21.3 +0.6
comp=Z,18nm,1.0s
MVU **Marysvale** 58.21 293 *eP* P 12 23 21.3 +0.6
comp=Z,18nm,1.0s
426A **McDonald Obser** 58.28 281 ⇓P P 12 23 21.4 +0.2
baz=58,SNR=13
224A **Cornudas Mount** 58.29 284 ⇑P P 12 23 21.0 -0.2
baz=58,SNR=6.7
628A **Black Gap, Mar** 58.34 280 ⇓P P 12 23 20.8 -0.7
baz=58
527A **Woodward Ranch** 58.36 281 ⇑P P 12 23 21.5 -0.2
baz=58,SNR=13
325A **Bean Ranch, Si** 58.41 283 ⇓P P 12 23 21.3 -0.8
baz=58
Z22A **Elephant Butte** 58.42 286 ⇓P P 12 23 22.6 +0.5
baz=58,SNR=12
H10N2 **ASCENSION HYDR** 58.42 164 T T 13 26 19.0
baz=0.2,slow=75,SNR=4.8
H10N3 **ASCENSION HYDR** 58.43 164 T T 13 26 20.5
baz=0.2,slow=75,SNR=4.0
H10N1 **ASCENSION HYDR** 58.44 164 T T 13 26 21.0
baz=0.2
ELK **Elko** 58.55 297 *eP* P 12 23 23.8 +0.8
comp=Z,9.9nm,1.0s
ELK **Elko** 58.55 297 *eP* P 12 23 23.8 +0.8
comp=Z,9.9nm,1.0s
627A **Terlingua Ranc** 58.68 280 ⇑P P 12 23 24.0 +0.1
baz=59,SNR=21
324A **Moseley Ranch,** 58.69 283 ⇓P P 12 23 23.4 -0.5
baz=59
J08A **Circle Bar Ran** 58.69 301 *eP* P 12 23 23.6 -0.2
comp=Z,11nm,1.0s
J08A **Circle Bar Ran** 58.69 301 *eP* P 12 23 23.6 -0.2
comp=Z,11nm,1.0s
526A **Mary Lane Ranc** 58.72 281 ⇑P P 12 23 24.4 +0.1
baz=59
425A **Indio Mountain** 58.81 282 ⇑P P 12 23 24.7 -0.1
baz=59,SNR=5.7
122A **Conniff Cattle** 58.81 285 ⇑P P 12 23 24.0 -0.8
baz=59
W18A **Petrified Fore** 58.91 289 *eP* P 12 23 25.9 +0.3
comp=Z,8.3nm,1.0s
W18A **Petrified Fore** 58.91 289 ⇑P P 12 23 25.4 -0.2
baz=59
W18A **Petrified Fore** 58.91 289 *eP* P 12 23 25.9 +0.3
comp=Z,8.3nm,1.0s
TXAR **Lajitas Array** 58.94 280 P P 12 23 25.4 -0.3
TXAR **Lajitas Array** 58.94 280 P P 12 23 25.4 -0.3
TXAR **Lajitas Array** 58.94 280 P P 12 23 25.4 -0.3
comp=Z,2.5nm,0.9s,baz=63,slow=6.1,SNR=26
TXAR LR LR 12 47 46.1
comp=Z,426nm,20.3s,baz=355,slow=35
CAST **Castle Rocks** 58.97 334 *eP* P 12 23 25.1 -0.3
comp=Z,11nm,1.1s
CAST **Castle Rocks** 58.97 334 *eP* P 12 23 25.0 -0.3
comp=Z,11nm,1.1s
626A **Big Bend Ranch** 59.09 280 ⇑P P 12 23 26.5 -0.3
baz=59
222A **Williams Famil** 59.27 285 ⇑P P 12 23 28.1 +0.1
baz=59
E03A **Lebam** 59.36 307 *eP* P 12 23 28.9 +0.7
comp=Z,21nm,1.0s
E03A **Lebam** 59.36 307 *eP* P 12 23 29.0 +0.7
comp=Z,21nm,1.0s
WVOR **Wild Horse Val** 59.38 301 *eP* P 12 23 29.0 +0.3
WVOR pmax pmax
comp=Z,16nm,0.9s
WVOR **Wild Horse Val** 59.38 301 *eP* P 12 23 29.0 +0.3
comp=Z,16nm,0.9s
WVOR **Wild Horse Val** 59.38 301 *eP* P 12 23 29.0 +0.3
comp=Z,16nm,0.9s
ARUT **Antelope Range** 59.41 294 *eP* P 12 23 29.2 +0.2
ARUT pmax pmax
comp=Z,159nm,0.9s
ARUT **Antelope Range** 59.41 294 *eP* P 12 23 29.2 +0.2
comp=Z,160nm,0.9s
ARUT **Antelope Range** 59.41 294 *eP* P 12 23 29.4 +0.4
121A **Cookes Peak, D** 59.41 285 *eP* P 12 23 29.4 +0.3
121A **Cookes Peak, D** 59.41 285 ⇑P P 12 23 29.1 0.0
baz=59,SNR=5.1
X18A **Snowflake** 59.44 289 ⇓P P 12 23 28.9 -0.3
baz=59,SNR=6.1
H10S1 **ASCENSION HYDR** 59.48 164 T T 13 27 32.9
baz=350
H10S3 **ASCENSION HYDR** 59.49 164 T T 13 27 34.0
baz=350
PMR **Palmer** 59.49 331 *eP* P 12 23 29.6 +0.7
PMR pmax pmax
comp=Z,15nm,1.0s
PMR **Palmer** 59.49 331 *eP* P 12 23 29.6 +0.7
comp=Z,14nm,1.0s
PMR **Palmer** 59.49 331 *eP* P 12 23 29.6 +0.7
comp=Z,14nm,1.0s
H10S2 **ASCENSION HYDR** 59.50 164 T T 13 27 34.9
baz=350
CCUT **Cedar City** 59.52 293 *eP* P 12 23 30.1 +0.3
comp=Z,21nm,1.0s
CCUT **Cedar City** 59.52 293 *eP* P 12 23 30.1 +0.3
comp=Z,21nm,1.0s
Z20A **Nine Sixteen R** 59.53 286 ⇑P P 12 23 29.7 -0.1
baz=59
WUAZ **Wupatki** 59.66 290 *eP* P 12 23 31.3 +0.6
comp=Z,16nm,1.0s
WUAZ **Wupatki** 59.66 290 ⇑P P 12 23 31.0 +0.3
baz=60,SNR=15
WUAZ **Wupatki** 59.66 290 *eP* P 12 23 31.3 +0.6
comp=Z,16nm,1.0s
PINOR **Pine Mountain** 59.72 303 *eP* P 12 23 31.5 +0.7
PINOR **Pine Mountain** 59.72 303 *eP* P 12 23 31.5 +0.7
BMN **Battle Mountai** 59.89 298 *eP* P 12 23 32.7 +0.5
BMN pmax pmax
comp=Z,9.0nm,0.9s
BMN **Battle Mountai** 59.89 298 *eP* P 12 23 32.7 +0.5
comp=Z,8.6nm,0.9s
BMN **Battle Mountai** 59.89 298 *eP* P 12 23 32.7 +0.5
comp=Z,8.6nm,0.9s
120A **U Bar Ranch, L** 59.94 286 ⇑P P 12 23 32.5 -0.1
baz=60
J05D **Fort Rock, OR** 60.27 303 ⇓P P 12 23 34.8 +0.1
baz=60
220A **Playas Peak, P** 60.30 285 ⇑P P 12 23 35.3 +0.2
baz=60,SNR=7.4
R11A **Troy Canyon, C** 60.31 295 *eP* P 12 23 35.3 +0.1
R11A **Troy Canyon, C** 60.31 295 ⇑P P 12 23 35.1 -0.1
baz=60,SNR=15
R11A **Troy Canyon, C** 60.31 295 *eP* P 12 23 35.3 +0.1
K05A **Summer Lake** 60.45 302 *eP* P 12 23 36.3 +0.3
comp=Z,20nm,1.0s
K05A **Summer Lake** 60.45 302 *eP* P 12 23 36.3 +0.3
comp=Z,20nm,1.0s
I04A **Tendick Farm,** 60.57 304 ⇑P P 12 23 36.4 -0.3
baz=60
MOD **Modoc** 60.67 301 *eP* P 12 23 37.5 0.0
comp=Z,3.1nm,1.0s
MOD **Modoc** 60.67 301 *eP* P 12 23 37.5 0.0
comp=Z,3.1nm,1.0s
320A **Kipp Ranch, An** 60.68 285 ⇑P P 12 23 37.9 +0.2
baz=61
SPU **Mount Spurr** 60.70 332 *eP* P 12 23 36.8 -0.6
SPU **Mount Spurr** 60.70 332 *eP* P 12 23 36.8 -0.6
J04D **Umpqua Nationa** 60.77 303 ⇑P P 12 23 38.1 -0.2
baz=61
319A **Douglas** 61.13 285 ⇓P P 12 23 41.1 +0.4
baz=61
SHPR **Sheep Range** 61.29 294 *eP* P 12 23 42.2 +0.4
SHPR **Sheep Range** 61.29 294 *eP* P 12 23 42.2 +0.4
NVS **Novosibirsk** 61.39 38 *eP* P 12 23 42.0 0.0
NVS pmax pmax
comp=Z,31nm,2.0s
TUC **Tucson** 61.44 287 *eP* P 12 23 43.1 +0.3
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC **Tucson** 61.44 287 *eP* P 12 23 43.1 +0.3
comp=Z,7.6nm,1.1s
TUC **Tucson** 61.44 287 *eP* P 12 23 43.1 +0.3
comp=Z,7.6nm,1.1s
TPH **Tonopah** 61.46 296 *eP* P 12 23 43.2 +0.2
TPH pmax pmax
comp=Z,13nm,1.1s
TPH **Tonopah** 61.46 296 *eP* P 12 23 43.1 +0.2
comp=Z,13nm,1.1s

TPH	Tonopah	61.46	296	*e*P		P		12 23 43.2	+0.2	
	comp=Z,13nm,1.1s									
W13A	Hualapai Mount	61.46	292	⇑P		P		12 23 43.7	+0.6	
	baz=61,SNR=9.6									
M04C	Macdoel	61.60	302	⇓P		P		12 23 43.7	-0.1	
	baz=61									
PAHR	Pah Rah Range	61.61	299	*e*P		P		12 23 44.2	+0.3	
	comp=Z,15nm,1.1s									
PAHR	Pah Rah Range	61.61	299	*e*P		P		12 23 44.2	+0.3	
	comp=Z,15nm,1.1s									
TPNV	Topopah Spring	61.64	295	*e*P		P		12 23 44.0	-0.2	
TPNV					pmax		pmax			
	comp=Z,7.0nm,1.0s									
TPNV	Topopah Spring	61.64	295	*e*P		P		12 23 44.0	-0.2	
	comp=Z,7.1nm,1.0s									
TPNV	Topopah Spring	61.64	295	⇓P		P		12 23 44.2	0.0	
	baz=62,SNR=6.2									
TPNV	Topopah Spring	61.64	295	*e*P		P		12 23 44.0	-0.2	
	comp=Z,7.1nm,1.0s									
Y14A	Wickenburg	61.71	290	⇓P		P		12 23 45.0	+0.5	
	baz=62,SNR=5.2									
BEKR	Beckworth	62.06	299	*e*P		P		12 23 47.2	+0.2	
	comp=Z,4.1nm,1.1s									
BEKR	Beckworth	62.06	299	*e*P		P		12 23 47.2	+0.2	
	comp=Z,4.1nm,1.1s									
Z14A	Wintersburg	62.06	289	⇓P		P		12 23 47.3	+0.4	
	baz=62									
YBH	Yreka Blue Hor	62.12	302	*e*P		P		12 23 45.7	-1.5	
YBH	Yreka Blue Hor	62.12	302	*e*P		P		12 23 45.7	-1.5	
YBH	Yreka Blue Hor	62.12	302	P		P		12 23 45.2	-2.0	
	comp=Z,5.2nm,1.0s,baz=44,slow=1,9,SNR=8.7									
PDMCI	Parker Dam,Lak	62.16	291	⇑P		P		12 23 48.0	+0.5	
	baz=62,SNR=7.4									
LDFC	Landfair	62.22	292	*e*P		P		12 23 48.4	+0.3	
LDFC	Landfair	62.22	292	*e*P		P		12 23 48.3	+0.3	
L02D	Cave Junction,	62.31	303	⇑P		P		12 23 47.5	-1.0	
	baz=62									
FURC	Furnace Creek,	62.32	295	⇑P		P		12 23 48.9	+0.4	
	baz=62,SNR=8.6									
SHOC	Shoshone	62.36	294	⇑P		P		12 23 49.3	+0.4	
	baz=62,SNR=6.3									
KURK	Kurchatov	62.41	43	*e*P		P		12 23 48.7	-0.2	
KURK					pmax		pmax			
	comp=Z,4.0nm,1.0s									
KURK	Kurchatov	62.41	43	*e*P		P		12 23 48.7	-0.2	
	comp=Z,4.0nm,1.0s									
KURK	Kurchatov	62.41	43	*e*P		P		12 23 48.7	-0.2	
	comp=Z,4.0nm,1.0s									
M02C	Callahan	62.42	302	⇓P		P		12 23 48.5	-0.8	
	baz=62									
TUQ	Turquoise Moun	62.47	293	⇑P		P		12 23 49.3	-0.4	
	baz=62									
N02D	Trinity Center	62.63	302	⇑P		P		12 23 49.8	-0.9	
	baz=62									
ZALV	Zalesovo Beam	62.68	38	*i* P		P		12 23 53.9	+3.3	
ZALV					pmax		pmax			
	comp=Z,1.0nm,0.6s									
ZALV	Zalesovo Beam	62.68	38	P		P		12 23 50.1	-0.6	
ZALV	Zalesovo Beam	62.68	38	P		P		12 23 50.1	-0.6	
ZALV	Zalesovo Beam	62.68	38	P		P		12 23 50.1	-0.6	
	comp=Z,0.7nm,0.6s,baz=308,slow=7.4,SNR=4.5									
MTUM	Tungsten Hills	62.73	296	*e*P		P		12 23 51.5	0.0	
MTUM	Tungsten Hills	62.73	296	*e*P		P		12 23 51.5	0.0	
TIN	Tinemaha	62.73	296	⇓P		P		12 23 52.1	+0.7	
	baz=63									
GMRC	Granite Mounta	62.75	292	⇑P		P		12 23 52.1	+0.4	
	baz=63,SNR=18									
Y12C	Blythe	62.76	291	⇓P		P		12 23 52.0	+0.4	
	baz=63									
IRM	Iron Mountain	62.87	292	⇓P		P		12 23 52.9	+0.6	
	baz=63,SNR=7.0									
214A	Organ Pipe Nat	62.94	288	*e*P		P		12 23 52.6	-0.2	
214A	Organ Pipe Nat	62.94	288	⇓P		P		12 23 52.6	-0.2	
	baz=63,SNR=5.2									
113A	Mohawk Valley,	62.97	290	⇑P		P		12 23 53.3	+0.3	
	baz=63									
OHCM	Honcut	63.06	300	*e*P		P		12 23 53.1	-0.3	
OHCM	Honcut	63.06	300	*e*P		P		12 23 53.1	-0.3	
GSC	Goldstone	63.09	294	*e*P		P		12 23 54.5	+0.7	
GSC					pmax		pmax			
	comp=Z,8.0nm,0.9s									
GSC	Goldstone	63.09	294	*e*P		P		12 23 54.5	+0.7	
	comp=Z,7.9nm,0.9s									
GSC	Goldstone	63.09	294	⇑P		P		12 23 54.5	+0.7	
	baz=63,SNR=21									
GSC	Goldstone	63.09	294	*e*P		P		12 23 54.5	+0.7	
	comp=Z,7.9nm,0.9s									
HEC	Hector,Ludlow	63.12	293	⇑P		P		12 23 54.7	+0.7	
	baz=63									
KHMM	Horse Mountain	63.26	302	*e*P		P		12 23 54.9	-0.1	
	comp=Z,17nm,1.0s									
KHMM	Horse Mountain	63.26	302	*e*P		P		12 23 54.8	-0.1	
	comp=Z,17nm,1.0s									
BC3	Big Chuckawall	63.39	291	⇓P		P		12 23 56.3	+0.4	
	baz=63,SNR=7.1									
GLA	Glamis	63.43	290	⇑P		P		12 23 56.0	0.0	
	baz=63									
BELC	Belle Mtn. Jos	63.49	292	⇓P		P		12 23 57.0	+0.5	
	baz=63									
RRX	Edison Barstow	63.49	293	⇓P		P		12 23 56.9	+0.5	
	baz=63									
LRMC	Laurel Mountai	63.49	294	⇑P		P		12 23 57.1	+0.5	
	baz=63,SNR=15									
ISA	Isabella	63.83	295	*e*P		P		12 23 59.5	+0.8	
ISA					pmax		pmax			
	comp=Z,4.0nm,0.9s									
ISA	Isabella	63.83	295	*e*P		P		12 23 59.5	+0.8	
	comp=Z,4.2nm,0.9s									
ISA	Isabella	63.83	295	⇓P		P		12 23 59.7	+1.0	
	baz=64,SNR=14									
ISA	Isabella	63.83	295	*e*P		P		12 23 59.5	+0.8	
	comp=Z,4.2nm,0.9s									
RCTC	Rector, Farmer	63.84	296	⇓P		P		12 23 59.4	+0.8	
	baz=64									
PFO	Pinyon Flat Ob	64.03	292	P		P		12 23 59.9	-0.2	
PFO	Pinyon Flat Ob	64.03	292	⇓P		P		12 24 00.3	+0.1	
	baz=64									
PFO	Pinyon Flat Ob	64.03	292	P		P		12 23 59.9	-0.2	
PFO	Pinyon Flat Ob	64.03	292	P		P		12 23 59.9	-0.2	
	comp=Z,11nm,1.0s,baz=53,slow=5.1,SNR=8.3									
EDW2	Edwards Air Fo	64.08	294	⇓P		P		12 24 00.5	+0.2	
	baz=64									
SWSC	Sam W. Stewart	64.09	291	⇓P		P		12 24 00.8	+0.5	
	baz=64									
BFSC	Mount Baldy Ra	64.32	293	⇓P		P		12 24 02.2	+0.2	
	baz=64									
DVTC	Desert V Tower	64.47	291	⇓P		P		12 24 03.7	+0.7	
	baz=64									
MURC	Murrieta	64.49	292	⇑P		P		12 24 03.6	+0.6	
	baz=64									
MONP	Monument Peak	64.51	291	⇓P		P		12 24 04.0	+0.7	
	baz=64									
OTAV	Otavalo	64.98	238	*e*P		P		12 24 07.5	+0.6	
	comp=Z,9.4nm,1.2s									
OTAV	Otavalo	64.98	238	*e*P		P		12 24 07.5	+0.6	
	comp=Z,9.4nm,1.2s									
PKM	Peak Mountain	65.15	295	⇑P		P		12 24 07.0	-0.5	
	baz=65									
SAML	Samuel	65.64	218	*e*P		P		12 24 10.6	+0.1	
	comp=Z,7.0nm,1.2s									
SAML	Samuel	65.64	218	*e*P		P		12 24 10.6	+0.1	
	comp=Z,7.0nm,1.2s									
EKS2	Erkin-Say	65.83	52	*e*P		P		12 24 13.3	+1.6	
EKS2					pmax		pmax			
	comp=Z,8.0nm,1.1s									
EKS2	Erkin-Say	65.83	52	*e*P		P		12 24 13.3	+1.6	
	comp=Z,8.2nm,1.1s									
EKS2	Erkin-Say	65.83	52	*e*P		P		12 24 13.3	+1.6	
	comp=Z,8.2nm,1.1s									
MK31	Makanchi Array	66.93	44	*e*P		P		12 24 18.3	-0.3	
MK31	Makanchi Array	66.93	44	*e*P		P		12 24 18.3	-0.3	
MK31	Makanchi Array	66.93	44	*e*P		P		12 24 18.3	-0.3	
MKAR	Makanchi Array	66.93	44	P		P		12 24 18.3	-0.2	
MKAR					pmax		pmax			
	comp=Z,6.0nm,0.9s									
MKAR	Makanchi Array	66.93	44	*e*P		P		12 24 18.4	-0.2	
MKAR	Makanchi Array	66.93	44	*e*P		P		12 24 18.4	-0.2	
MKAR	Makanchi Array	66.93	44	P		P		12 24 18.3	-0.2	
	comp=Z,5.6nm,0.9s,baz=326,slow=5.0,SNR=34									
MKAR					LR		LR	12 52 55.8		
	comp=Z,313nm,18.4s,baz=332,slow=35									
BDFB	Brasilia	67.13	200	P		P		12 24 20.2	+0.1	
BDFB	Brasilia	67.13	200	P		P		12 24 20.2	+0.1	
BDFB	Brasilia	67.13	200	P		P		12 24 20.2	+0.1	
	comp=Z,3.7nm,0.8s,baz=11,slow=13,SNR=3.7									
BDFB					LR		LR	12 45 51.8		
	comp=Z,190nm,20.9s,baz=171,slow=29									
KSH	Kashi	69.25	53	P		P		12 24 36.4	+3.0	
KSH				pP		pP		12 24 37.8	-0.2	
KSH				sP		sP		12 24 39.9	+0.2	
KSH				PP		PP		12 27 05.2	-0.7	
KSH				S		S		12 33 40.2	+1.1	
KSH				sS		sS		12 33 48.8	+2.1	
KSH				SS		SS		12 38 07.7	+2.9	
KSH					pmax		pmax			
	comp=Z,5.0nm,0.5s									
KSH					pmax		pmax			
	comp=Z,210nm,5.5s									
KSH					LR		LR			
	comp=Z,150nm,8.4s									
KSH					LR		LR			
	comp=Z,190nm,6.2s									
KSH					LR		LR			
	comp=Z,240nm,8.7s									
WMQ	Urumqi	71.65	43	P		P		12 24 50.0	+2.1	
WMQ				sP		sP		12 24 57.0	+2.8	
WMQ				PcP		PcP		12 25 10.0	+3.0	
WMQ				PP		PP		12 27 31.0	+4.7	
WMQ				S		S		12 34 08.0	+1.1	
WMQ				ScS		ScS		12 34 52.0	-0.6	
WMQ					pmax		pmax			
	comp=Z,12nm,1.1s									
WMQ					pmax		pmax			
	comp=Z,400nm,6.0s									
WMQ					LR		LR			
	comp=Z,300nm,20.0s									
WMQ					LR		LR			
	comp=Z,180nm,18.0s									
WMQ					LR		LR			
	comp=Z,220nm,18.0s									
LPAZ	La Paz	74.28	219	*e*P		P		12 25 04.2	-0.1	
	comp=Z,20nm,1.9s									
LPAZ	La Paz	74.28	219	P		P		12 25 04.2	-0.1	
	comp=Z,1.0nm,0.7s									
LPAZ	La Paz	74.28	219	P		P		12 25 04.2	-0.1	
	comp=Z,1.0nm,0.7s,baz=61,slow=5.7,SNR=4.8									
SONM	Songino Array	75.50	30	P		P		12 25 10.6	+0.1	
SONM	Songino Array	75.50	30	P		P		12 25 10.6	+0.1	
	comp=Z,4.0nm,0.9s									
SONM	Songino Array	75.50	30	P		P		12 25 10.6	+0.1	
	comp=Z,3.6nm,0.9s,baz=320,slow=6.4,SNR=15									
ULN	Ulaanbaatar	75.69	29	*e*P		P		12 25 12.5	+0.9	
	comp=Z,16nm,1.3s									
ULN	Ulaanbaatar	75.69	29	*e*P		P		12 25 12.5	+0.9	
	comp=Z,16nm,1.3s									
PYUN	Piuthan	81.72	56	*e*P		P		12 25 44.1	-1.1	
	comp=Z,29nm,0.8s									
PYUN	Piuthan	81.72	56	*e*P		P		12 25 44.1	-1.1	
PYUN	Piuthan	81.72	56	*e*P		P		12 25 44.1	-1.1	
DANN	Dangsing	81.94	55	*e*P		P		12 25 46.6	+0.1	
	comp=Z,44nm,1.0s									
DANN	Dangsing	81.94	55	*e*P		P		12 25 46.6	+0.1	
DANN	Dangsing	81.94	55	*e*P		P		12 25 46.6	+0.1	
KOLN	Koldanda	82.31	56	*e*P		P		12 25 47.5	-0.8	
	comp=Z,24nm,1.1s									
KOLN	Koldanda	82.31	56	*e*P		P		12 25 47.5	-0.8	
KOLN	Koldanda	82.31	56	*e*P		P		12 25 47.5	-0.8	
GKN	Gorkha	82.68	55	*e*P		P		12 25 50.2	0.0	
GKN	Gorkha	82.68	55	*e*P		P		12 25 50.2	0.0	
GKN	Gorkha	82.68	55	*e*P		P		12 25 50.2	0.0	
KKN	Kakani	83.19	55	*e*P		P		12 25 53.7	+0.8	
KKN	Kakani	83.19	55	*e*P		P		12 25 53.7	+0.8	
KKN	Kakani	83.19	55	*e*P		P		12 25 53.7	+0.8	
KKN	Kakani	83.19	55	*e*P		P		12 25 53.7	+0.8	
DMN	Daman	83.25	55	*e*P		P		12 25 53.5	+0.3	
DMN	Daman	83.25	55	*e*P		P		12 25 53.5	+0.3	
DMN	Daman	83.25	55	*e*P		P		12 25 53.5	+0.3	
HHC	Hu-ho-hao-te	83.40	29	*e*P		P		12 25 52.0	-1.6	
HHC				sP		sP		12 25 58.7	-1.3	
HHC				PP		PP		12 29 05.8	+1.1	
HHC				S		S		12 36 09.6	-4.7	
HHC				sS		SKKSac		12 36 18.0	-2.0	
HHC				SS		SS		12 41 37.4	-0.8	
HHC					pmax		pmax			
	comp=Z,22nm,1.1s									
HHC					pmax		pmax			
	comp=Z,360nm,6.7s									
HHC					LR		LR			
	comp=Z,380nm,17.3s									
HHC					LR		LR			
	comp=Z,440nm,17.3s									
HHC					LR		LR			
	comp=Z,410nm,17.5s									
GUN	Gumba	83.42	54	*e*P		P		12 25 55.0	+0.8	
	comp=Z,45nm,1.0s									
GUN	Gumba	83.42	54	*e*P		P		12 25 55.0	+0.8	
GUN	Gumba	83.42	54	*e*P		P		12 25 55.0	+0.8	
PKIN	Phulchoki	83.43	55	*e*P		P		12 25 54.6	+0.4	
PKI	Pulchoki	83.44	55	*e*P		P		12 25 54.5	+0.3	
PKI	Pulchoki	83.44	55	*e*P		P		12 25 54.6	+0.3	
PKI	Pulchoki	83.44	55	*e*P		P		12 25 54.6	+0.3	
PKI	Pulchoki	83.44	55	*e*P		P		12 25 54.6	+0.3	
JIRN	Jiri	83.78	54	*e*P		P		12 25 56.3	+0.2	
	comp=Z,38nm,1.1s									
JIRN	Jiri	83.78	54	*e*P		P		12 25 56.3	+0.2	
JIRN	Jiri	83.78	54	*e*P		P		12 25 56.3	+0.2	
CN2	Changchun	84.31	19	*e*P		P		12 25 57.7	-0.4	
MDJ	Mudanjiang	84.32	15	P		P		12 25 57.2	-0.9	
MDJ					pmax		pmax			
	comp=Z,6.0nm,1.2s									
MDJ					pmax		pmax			
	comp=Z,250nm,10.6s									
RAMN	Ramite	84.57	54	*e*P		P		12 26 00.2	+0.2	
	comp=Z,26nm,1.1s									
RAMN	Ramite	84.57	54	*e*P		P		12 26 00.2	+0.2	
RAMN	Ramite	84.57	54	*e*P		P		12 26 00.2	+0.2	
TAPN	Taplejung	84.83	53	*e*P		P		12 26 03.0	+1.6	
TAPN	Taplejung	84.83	53	*e*P		P		12 26 03.0	+1.6	
TAPN	Taplejung	84.83	53	*e*P		P		12 26 03.0	+1.6	
LZH	Lanzhou	84.90	37	*e*P		P		12 26 02.1	+0.7	
LZH				pP		pP		12 26 05.5	-0.6	
LZH				sP		sP		12 26 07.1	-0.7	
LZH					pmax		pmax			
	comp=Z,27nm,1.3s									
LZH					pmax		pmax			
	comp=Z,210nm,6.0s									
USRK	Ussuriysk Arra	85.12	14	P		P		12 26 01.9	-0.2	
	comp=Z,1.7nm,0.6s,baz=352,slow=2.3,SNR=5.3									
LCO	Las Campanas	86.72	216	*e*P		P		12 26 10.7	+0.3	
	comp=Z,21nm,1.1s									
LCO	Las Campanas	86.72	216	*e*P		P		12 26 10.7	+0.3	
	comp=Z,21nm,1.1s									
CD2	Chengdu	89.39	39	*e*P		P		12 26 22.5	-0.6	
CD2					pmax		pmax			
	comp=Z,10.0nm,1.4s									
CD2					pmax		pmax			
	comp=Z,40nm,8.2s									
NJ2	Nanjing	93.76	27	*e*P		P		12 26 42.7	-0.6	
NJ2				pP		pP		12 26 46.4	-1.6	
NJ2				sP		sP		12 26 47.6	-2.1	
NJ2				S		S		12 37 50.5	-1.6	
NJ2				sS		ScS		12 37 56.0	+2.3	
NJ2					pmax		pmax			
	comp=Z,10.0nm,0.6s									
NJ2					pmax		pmax			
	comp=Z,490nm,8.0s									
NJ2					LR		LR			
	comp=Z,2μm,23.4s									
NJ2					LR		LR			
	comp=Z,2μm,19.6s									
NJ2					LR		LR			
	comp=Z,260nm,22.3s									
GYA	Guiyang	94.50	39	*e*P		P		12 26 47.0	+0.1	
GYA				PP		PP		12 30 35.6	+1.9	
GYA				SKS		SKSac		12 37 21.0	-1.0	
GYA				S		S		12 37 55.5	-3.6	
GYA				SS		SS		12 44 19.2	-0.8	
GYA					pmax		pmax			
	comp=Z,10.0nm,1.0s									
GYA					pmax		pmax			
	comp=Z,90nm,5.7s									
GYA					LR		LR			
	comp=Z,470nm,20.3s									
GYA					LR		LR			
	comp=Z,360nm,25.0s									
GYA					LR		LR			
	comp=Z,480nm,25.4s									
PLCA	Paso Flores	97.18	211	P		Pdif		12 26 59.0	+0.5	
PLCA	Paso Flores	97.18	211	P		Pdif		12 26 59.0	+0.4	
	comp=Z,3.0nm,1.0s									
PLCA	Paso Flores	97.18	211	P		Pdif		12 26 59.0	+0.5	
	comp=Z,2.5nm,1.0s,baz=56,slow=7.3,SNR=3.7									
CMAR	Chiang Mai Arr	97.92	49	P		Pdif		12 27 02.8	+0.3	
CMAR	Chiang Mai Arr	97.92	49	P		Pdif		12 27 02.8	+0.3	
CMAR	Chiang Mai Arr	97.92	49	P		Pdif		12 27 02.8	+0.3	
	comp=Z,0.4nm,0.6s,baz=313,slow=6.8,SNR=4.2									
QIZ	Qiongzhong	102.42	40	P		Pdif		12 27 21.7	-0.8	
QIZ				S		Sdif		12 39 04.0	-2.2	
WRA	Warramunga Arr	147.47	31	PKPbc		PKPdf		12 33 09.1	+1.2	
WRA	Warramunga Arr	147.47	31	PKPbc		PKPdf		12 33 09.1	+1.2	
WRA	Warramunga Arr	147.47	31	PKPbc		PKPdf		12 33 09.1	+1.2	
	comp=Z,4.5nm,1.0s,baz=334,slow=3.3,SNR=16									
AS31	Alice Springs	150.75	34	*e*PKPbc		PKPbc		12 33 17.7	-0.9	
AS31	Alice Springs	150.75	34	*e*PKPbc		PKPbc		12 33 17.7	-0.9	
ASAR	Alice Springs	150.75	34	PKP		PKPdf		12 33 12.3	-0.8	
ASAR				PKPbc		PKPbc		12 33 17.5	-1.1	
ASAR	Alice Springs	150.75	34	PKIKP		PKPdf		12 33 12.3	-0.8	
ASAR	Alice Springs	150.75	34	PKPbc		PKPbc		12 33 17.5	-1.1	
ASAR	Alice Springs	150.75	34	PKP		PKPdf		12 33 12.3	-0.8	
	comp=Z,0.9nm,0.9s,baz=2.6,slow=2.8,SNR=4.2									
ASAR				PKPbc		PKPbc		12 33 17.5	-1.1	
	comp=Z,7.0nm,0.9s,baz=342,slow=2.1,SNR=46									
VNDA	Vanda	151.62	185	PKPbc		PKPbc		12 33 19.0	0.0	
VNDA				PKPab		PKPab		12 33 27.3	-0.5	
VNDA	Vanda	151.62	185	PKPbc		PKPbc		12 33 19.0	0.0	
VNDA	Vanda	151.62	185	PKPbc		PKPbc		12 33 19.0	0.0	
	comp=Z,1.4nm,0.8s,baz=267,slow=2.9,SNR=3.7									
VNDA				PKPab		PKPab		12 33 27.3	-0.5	
	comp=Z,5.4nm,0.9s,baz=214,slow=1.7,SNR=7.6									

IDC 09 12:34:55.6±7.9, 6°07S×153°32E, h63km±59km, mb2.8/2, mb1 3.3/3, mb1mx3.0/19, mbtmp3.1/3, ML2.6/1, Error ellipse: s-maj=100.6km s-min=47.6km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.95**	**241**	P	Pn	12 36 35.2	+0.4
	0.7nm,0.3s,baz=137,slow=6.6,SNR=3.0						
PMG				S	Sn	12 37 53.8	+1.3
	0.4nm,0.3s,baz=234,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**23.03**	**231**	P	P	12 39 54.8	-0.9
	0.3nm,0.8s,baz=53,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**25.59**	**225**	P	P	12 40 19.0	-0.2
	0.5nm,0.8s,baz=62,slow=8.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**151.18**	**286**	PKPbc	PKPbc	12 54 43.1	+0.2
	0.3nm,0.6s,baz=80,slow=2.0,SNR=2.4						

*IDC **09** 12:39:08.1±1.4, 28°96N×130°04E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/26, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=77.2km s-min=22.7km az=78.0*
*JMA **09** 12:39:11.9±0.1, 29°11N×130°16E, h62km±4km, M3.4*
*ISCJB **09** 12:39:12.1±0.6, 29°10N±0°04×130°20E±0°09, h52km±8km, mb3.6/3, Error ellipse: s-maj=14.6km s-min=3.9km az=22.0*

ISC 09 12:39:12.9±1.8, 29°10N±0°05×130°20E±0°10, h38km±3km, n14, σ0°62/24, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.79**	**339**	P	**Pn**	**12 39 26.9**	**-0.7**
JNN				*e*S	**Sn**	**12 39 38.7**	**+0.4**
JZK	**Kikaishima**	**0.81**	**194**	P	**Pn**	**12 39 27.9**	**+0.1**
JZK				*e*S	**Sn**	**12 39 39.3**	**+0.7**
JAM	**Amami Oshima**	**0.86**	**217**	P	**Pn**	**12 39 27.6**	**-0.9**
JAM				S	**Sn**	**12 39 39.3**	**-0.6**
JAMN	**Amaminishikomi**	**1.24**	**227**	P	**Pn**	**12 39 33.7**	**0.0**
JAMN				S	**Sn**	**12 39 49.9**	**+0.7**
JKC	**Kuchinoerabu**	**1.36**	**360**	P	**Pn**	**12 39 35.1**	**-0.3**
JKC				S	**Sn**	**12 39 51.7**	**-0.4**
JTN	**Tanegashima 3**	**1.69**	**23**	P	**Pn**	**12 39 40.0**	**0.0**
JTN				S	**Sn**	**12 40 00.2**	**-0.2**
JTK	**Tokunoshima**	**1.71**	**220**	P	**Pn**	**12 39 40.1**	**-0.1**
JTK				S	**Sn**	**12 40 01.8**	**+1.0**
JTSR	**Tashiro 2**	**2.15**	**17**	P	**Pn**	**12 39 46.3**	**0.0**
JTSR				*e*S	**Sn**	**12 40 11.8**	**0.0**
JOW	**Kunigami**	**2.83**	**217**	P	**Pn**	**12 39 55.4**	**-0.2**
JOW				*e*S	**Sn**	**12 40 27.9**	**-0.5**
JAGN	**Aguni-jima**	**3.62**	**227**	P	**Pn**	**12 40 06.6**	**+0.1**
JAGN				*e*S	**Sn**	**12 40 48.4**	**+0.5**
JNU	**Nakatsue**	**4.05**	**8**	Pn	**Pn**	**12 40 13.7**	**+1.3**
	1.5nm,0.3s,baz=136,slow=2.6,SNR=42						
SONM	**Songino Array**	**26.23**	**322**	P	**P**	**12 44 44.9**	**+0.5**
	0.5nm,0.7s,baz=140,slow=9.4,SNR=3.3						
WRA	**Warramunga Arr**	**48.92**	**175**	P	**P**	**12 47 54.4**	**-0.9**
	1.7nm,1.0s,baz=355,slow=8.4,SNR=8.2						
ASAR	**Alice Springs**	**52.58**	**176**	P	**P**

AVH				S	Sn	13 38 28.6	+1.5
KOK	**Koryaka**	**3.06**	**18**	P	Pn	13 37 52.7	+2.6
KOK				S	Sn	13 38 29.5	+2.3
SMAR	**Somma**	**3.07**	**20**	P	Pn	13 37 52.3	+1.9
SMAR				S	Sn	13 38 29.5	+1.9
KRER	**Koryakskii**	**3.09**	**19**	P	Pn	13 37 52.1	+1.4
KRER				S	Sn	13 38 28.3	0.0
SDLR	**Sedlovina**	**3.10**	**20**	P	Pn	13 37 51.8	+1.1
SDLR				S	Sn	13 38 27.8	-0.4
NLC	**Nalytchevo**	**3.12**	**26**	P	Pn	13 37 51.9	+1.2
NLC				S	Sn	13 38 26.8	-1.5
KRX	**Arik**	**3.13**	**17**	P	Pn	13 37 52.5	+1.4
KRX				S	Sn	13 38 30.2	+1.2
SPN	**Mys Shipunski**	**3.27**	**33**	S	Sn	13 38 31.7	-0.4
GNL	**Ganaly**	**3.35**	**9**	P	Pn	13 37 55.3	+1.1
GNL				S	Sn	13 38 33.6	-0.8
MKZ	**Mys Kozlova**	**5.04**	**32**	P	Pn	13 38 17.6	+0.4
KZV	**Kizimen**	**5.12**	**21**	P	Pn	13 38 21.1	+2.7
TUMR	**Tumrok**	**5.24**	**20**	P	Pn	13 38 20.6	+0.5
KBTR	**Krutoberegovo**	**6.76**	**28**	P	Pn	13 38 41.3	+0.5

MAN 09 13:42:27.1±0.37N×125.15E, h3km, mb4.5, ML3.4, MS3.3, 2C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.37**	**230**	*e*P	Pb	13 42 35.6	-0.7
MSLP				*e*S	Sg	13 42 39.1	+0.1
SCPH	**Surigao**	**0.68**	**150**	*e*P	Pg	13 42 39.4	-0.6
PLP	**Palo**	**0.80**	**348**	*e*P	Pb	13 42 43.2	-0.4
PLP				*e*S	Sb	13 42 56.0	+1.1
OCLP	**Ormoc**	**0.86**	**322**	*e*P	Pb	13 42 44.4	-0.1
LLP	**Lapu-Lapu**	**1.16**	**267**	*e*P	Pg	13 42 49.0	-0.4
LLP				*e*S	Sn	13 43 06.0	-0.6
BUTP	**Butuan**	**1.47**	**161**	*e*P	Pb	13 42 54.9	-0.2
BUKP	**Musuan**	**2.48**	**182**	*e*P	Pn	13 43 09.2	+0.8
RCP	**Roxas**	**2.64**	**297**	*e*P	Pn	13 43 11.9	+1.4
PVCP	**Virac**	**3.35**	**343**	*e*P	Pn	13 43 21.6	+1.4

IDC 09 14:12:00.3±10.0, 2°30N×97°59E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.9/29, Error ellipse: s-maj=522.4km s-min=30.3km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H** baz=72,slow=75,SNR=8.6	**26.91**	**248**	T	T	14 44 39.1	
H08S3	**Diego Garcia H** baz=72,slow=75,SNR=9.8	**26.92**	**248**	T	T	14 44 33.2	
H08S1	**Diego Garcia H** baz=72,slow=75,SNR=10	**26.93**	**248**	T	T	14 44 22.3	
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=299,slow=8.8,SNR=4.6	**42.30**	**123**	P	P	14 19 56.0	-0.1
MKAR	**Makanchi Array** 0.5nm,0.9s,baz=142,slow=8.4,SNR=3.3	**46.28**	**345**	P	P	14 20 27.8	+0.1
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=167,slow=6.6,SNR=4.6	**52.55**	**351**	P	P	14 21 14.9	-0.4
ZALV	comp=Z,40nm,19.9s,baz=342,slow=36			LR	LR	14 43 41.7	

*ISCJB **09** 14:14:39.0±0.7, 59.06N±0.05×18.34E±0.06, h0km, Error ellipse: s-maj=7.6km s-min=4.5km az=168.9*
*CSEM **09** 14:14:39.7±0.3, 59.03N×18.18E, h1km, ML1.5, Error ellipse: s-maj=6.0km s-min=3.9km az=168.0, Mining explosion.*
*UPP **09** 14:14:39.3, 58.98N×18.20E, h0km, ML1.5, Mining explosion.*
*HEL **09** 14:14:40.2±0.1, 58.98N×18.22E, h0km, ML1.8, ML1.5(UPP), Explosion*
*IDC **09** 14:14:40.9±2.5, 58.97N×18.14E, h0km, mb1 3.1/3, mb1mx2.9/27, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=27.1km s-min=9.7km az=179.0*

ISC 09 14:14:39.9±1.0, 59.02N±0.05×18.15E±0.03, h0km, n40, σ1§89/59, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.70**	**20**	*i* P	**Pg**	**14 14 53.1**	**-0.2**
NRTU				*i* S	**Sg**	**14 15 02.5**	**+0.1**
NRTU	**Norrtaelje**	**0.70**	**20**	P	**Pg**	**14 14 53.1**	**-0.2**
NRTU				S	**Sg**	**14 15 02.5**	**+0.1**
ESKU	**Eskilstuna**	**0.93**	**284**	*e*P	**Pg**	**14 14 57.3**	**-0.4**
ESKU	**Eskilstuna** baz=96	**0.93**	**284**	P	**Pg**	**14 14 57.3**	**-0.4**
BACU	**Backbrunna**	**0.99**	**328**	*e*P	**Pg**	**14 14 58.7**	**-0.2**
BACU	**Backbrunna**	**0.99**	**328**	P	**Pg**	**14 14 58.7**	**-0.2**
FLYU	**Flymyra**	**1.12**	**353**	*e*P	**Pg**	**14 15 01.0**	**-0.3**
FLYU	**Flymyra**	**1.12**	**353**	P	**Pg**	**14 15 01.0**	**-0.3**
OSTU	**Oestervaala**	**1.32**	**337**	*e*P	**Pg**	**14 15 04.6**	**-0.5**
OSTU	**Oestervaala**	**1.32**	**337**	P	**Pg**	**14 15 04.6**	**-0.5**
GRAU	**Graesoe**	**1.33**	**8**	*e*P	**Pg**	**14 15 04.7**	**-0.7**
GRAU	**Graesoe**	**1.33**	**8**	P	**Pg**	**14 15 04.7**	**-0.7**
FORU	**Forsmark**	**1.37**	**1**	*e*P	**Pg**	**14 15 05.5**	**-0.6**
FORU	**Forsmark**	**1.37**	**1**	P	**Pg**	**14 15 05.5**	**-0.6**
AAL	**Aland**	**1.49**	**38**	*e*P	**Pn**	**14 15 07.0**	**-0.9**
AAL	**Aland**	**1.49**	**38**	P	**Pn**	**14 15 07.0**	**-0.9**
LNKU	**Linkoeping**	**1.60**	**241**	*e*P	**Pn**	**14 15 08.9**	**-0.5**
LNKU	**Linkoeping**	**1.60**	**241**	P	**Pn**	**14 15 08.9**	**-0.5**
NRAU	**Nora**	**1.69**	**290**	*e*P	**Pn**	**14 15 11.0**	**+0.4**
NRAU	**Nora**	**1.69**	**290**	P	**Pn**	**14 15 11.0**	**+0.4**
RAF	**Rauma**	**2.71**	**41**	*e*P	**Pn**	**14 15 25.0**	**+0.4**
RAF				*e*S	**Sn**	**14 15 57.7**	**-0.2**
RAF				*e*SG	**Sb**	**14 16 03.1**	**+0.3**
RAF	**Rauma**	**2.71**	**41**	P	**Pn**	**14 15 24.9**	**+0.4**
RAF				S	**Sn**	**14 15 57.7**	**-0.2**
RAF				Sg	**Sb**	**14 16 03.0**	**+0.3**
MTSE	**Matsula**	**2.96**	**94**	*e*P	**Pn**	**14 15 27.4**	**-0.6**
MTSE				*e*S	**Sn**	**14 16 02.6**	**-1.6**
MTSE	**Matsula**	**2.96**	**94**	P	**Pn**	**14 15 27.4**	**-0.6**
MTSE				S	**Sn**	**14 16 02.5**	**-1.6**
MEF	**Metsahovi**	**3.39**	**67**	*e*SG	**Sb**	**14 16 23.6**	**+1.0**
MEF	**Metsahovi**	**3.39**	**67**	Sg	**Sb**	**14 16 23.5**	**+1.0**
NOA	**NORSAR Array B** 0.1nm,0.3s,baz=173,slow=7.9,SNR=4.5	**4.03**	**303**	Pn	**Pn**	**14 15 43.0**	**+0.2**
NOA	0.5nm,0.3s,baz=100,slow=7.6,SNR=7.4			Lg	Lg	14 16 45.8	
PVF	**Pernaja**	**4.18**	**65**	*e*S	**Sn**	**14 16 31.9**	**-2.6**
PVF				*e*SG	**Sb**	**14 16 49.0**	**+3.7**
PVF	**Pernaja**	**4.18**	**65**	S	**Sn**	**14 16 31.8**	**-2.6**
PVF				Sg	**Sb**	**14 16 49.0**	**+3.7**
KEF	**Keuruu**	**4.57**	**44**	*e*P	**Pn**	**14 15 50.9**	**+0.6**
KEF				*e*S	**Sn**	**14 16 41.8**	**-2.2**
KEF				*e*SG	**Sb**	**14 17 01.7**	**+5.2**
KEF	**Keuruu**	**4.57**	**44**	P	**Pn**	**14 15 50.8**	**+0.6**
KEF				S	**Sn**	**14 16 41.8**	**-2.2**
VAF	**Ylistaro**	**4.59**	**27**	*e*SG	**Sb**	**14 17 01.6**	**+4.6**
FIA0	**FINESS Array S**	**4.64**	**55**	*e*P	**Pn**	**14 15 51.8**	**+0.7**
FIA0				*e*S	**Sn**	**14 16 44.1**	**-1.5**
FIA0	comp=Z,0.9nm,0.2s			MSG		14 17 07.4	
FIA0	**FINESS Array S**	**4.64**	**55**	P	**Pn**	**14 15 51.8**	**+0.7**
FIA0				S	**Sn**	**14 16 44.0**	**-1.5**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=244,slow=12,SNR=7.3	**4.64**	**55**	Pn	**Pn**	**14 15 51.8**	**+0.7**
FINES				Pg	**Pb**	**14 16 01.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=240,slow=15,SNR=4.2						
FINES				Sn	**Sn**	**14 16 46.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=251,slow=20,SNR=5.0						
FINES				Lg	Lg	14 17 05.0	
	comp=Z,0.6nm,0.3s,baz=248,slow=22,SNR=8.2						
KAF	**Kangasniemi**	**5.08**	**49**	*e*P	**Pn**	**14 15 57.7**	**+0.6**
KAF				*e*SG	**Sb**	**14 17 16.3**	**+5.3**
KAF	comp=Z,0.7nm,0.2s			MSG		14 17 20.4	
KAF	**Kangasniemi**	**5.08**	**49**	P	**Pn**	**14 15 57.7**	**+0.6**
SUF	**Sumiainen**	**5.39**	**43**	*e*S	**Sn**	**14 17 01.3**	**-2.8**
SUF				*e*SG	Sg	14 17 26.9	-5.8
SUF	comp=Z,1.2nm,0.4s			MSG		14 17 33.9	
SUF	**Sumiainen**	**5.39**	**43**	S	**Sn**	**14 17 01.2**	**-2.8**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=186,slow=14,SNR=8.8	**11.02**	**14**	Pn	**Pn**	**14 17 16.3**	**-2.2**
ARCES	comp=Z,0.1nm,0.3s,baz=175,slow=34,SNR=2.4			Sn	**Sn**	**14 19 16.6**	**-5.6**

*CSEM **09** 14:16:25.0, 60.65N×28.09E, h0km, ML1.0, Mining explosion. After HEL*

HEL 09 14:16:25.0±0.3, 60.65N×28.09E, h0km, ML1.0, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**1.11**	**265**	*e*PN	Pn	14 16 50.7	+3.0
PVF	**Pernaja**	**1.11**	**265**	Pn	Pn	14 16 50.7	+3.0
FIA0	**FINESS Array S**	**1.26**	**310**	*e*P	Pg	14 16 47.6	-1.6
FIA0				*e*S	Sg	14 17 04.0	-1.6
FIA0	comp=Z,0.9nm,0.2s			MSG		14 17 04.0	
FIA0	**FINESS Array S**	**1.26**	**310**	P	Pg	14 16 47.6	-1.6
FIA0				S	Sg	14 17 04.0	-1.6
FIA0	**FINESS Array S**	**1.26**	**310**	Sg	Sg	14 17 03.6	-2.0
FIA0	**FINESS Array S**	**1.26**	**310**	*e*SG	Sg	14 17 03.7	-1.9
KAF	**Kangasniemi**	**1.70**	**330**	*e*PG	Pn	14 16 55.3	-0.6
KAF				*e*SG	Sn	14 17 17.2	-1.1
KAF	comp=Z,1.1nm,0.4s			MSG		14 17 17.2	
KAF	**Kangasniemi**	**1.70**	**330**	Pg	Pn	14 16 55.3	-0.6
KAF				Sg	Sn	14 17 17.2	-1.1
KAF	**Kangasniemi**	**1.70**	**330**	S	Pg	14 16 55.0	-2.6
KAF	**Kangasniemi**	**1.70**	**330**	*e*S	Pg	14 16 55.1	-2.5
SUF	**Sumiainen**	**2.27**	**337**	*e*P	Pn	14 17 04.0	+0.2
SUF	**Sumiainen**	**2.27**	**337**	P	Pn	14 17 03.9	+0.1

*ISK **09** 14:16:59.3, 41.66N×27.52E, h5km, MD3.1*
*ISCJB **09** 14:17:00.8±0.5, 41.64N±0.02×27.49E±0.02, h7km±4km, Error ellipse: s-maj=3.3km s-min=2.9km az=29.6*
*ATH **09** 14:17:01.7, 41.62N×27.42E, h23km±4km, MD3.5/6*
*SOF **09** 14:17:01.2, 41.59N×27.53E, h15km, MD2.8*
*CSEM **09** 14:17:01.5±0.1, 41.62N×27.50E, h8km, MD3.1, Error ellipse: s-maj=2.7km s-min=2.1km az=32.0*
*DDA **09** 14:17:01.5, 41.63N×27.56E, h30km, MD3.0*
*SKO **09** 14:17:02.5, 41.64N×27.50E, h15km, M2.4, ML3.2*
*THE **09** 14:17:03.0, 41.64N×27.45E, h15km±7km, ML3.2/6, Error ellipse: s-maj=9.6km s-min=0.8km az=84.0*

ISC 09 14:17:01.5±1.1, 41.62N±0.02×27.51E±0.02, h7km±9km, n118, σ0§83/151, 4C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTYL	**Yal??k??y-??at**	**0.60**	**104**	*e*PG	**Pg**	**14 17 12.0**	**-1.1**
CTYL	**Yal??k??y-??at**	**0.60**	**104**	*e*Pg	**Pg**	**14 17 12.0**	**-1.1**
EDRB	**Edirne**	**0.61**	**292**	*e*PG	**Pg**	**14 17 12.3**	**-1.0**
EDRB				*e*SG	**Sg**	**14 17 21.5**	**+0.1**
EDRB	**Edirne**	**0.61**	**292**	*e*Pg	**Pg**	**14 17 12.4**	**-1.0**
EDRB				*e*Sg	**Sg**	**14 17 21.5**	**+0.1**
TKR	**Tekirdag**	**0.63**	**178**	*e*PG	**Pg**	**14 17 13.5**	**-0.1**
TKR				*e*SG	**Sb**	**14 17 23.9**	**+0.2**
TKR	**Tekirdag**	**0.63**	**178**	*e*Pg	**Pg**	**14 17 13.5**	**-0.1**
TKR				*e*Sg	**Sb**	**14 17 23.9**	**+0.2**
SLVT	**Silivri**	**0.66**	**126**	*e*PG	**Pg**	**14 17 13.7**	**-0.4**
SLVT	**Silivri**	**0.66**	**126**	*e*Pg	**Pg**	**14 17 13.7**	**-0.4**
ELBA	**Catalca**	**0.84**	**124**	*i* P	**Pg**	**14 17 17.1**	**-0.5**
ELBA				*i* S	**Sg**	**14 17 28.7**	**+0.2**
ELBA	**Catalca**	**0.84**	**124**	*i* P	**Pg**	**14 17 17.1**	**-0.5**
ELBA				*i* S	**Sg**	**14 17 28.7**	**+0.2**
CTKS	**Kestanelik-??a**	**0.84**	**117**	*e*PG	**Pg**	**14 17 17.0**	**-0.6**
CTKS	**Kestanelik-??a**	**0.84**	**117**	*e*Pg	**Pg**	**14 17 17.0**	**-0.6**
SART	**Tekirdag**	**0.96**	**195**	*i* P	**Pg**	**14 17 20.0**	**+0.1**
SART				*i* S	**Sb**	**14 17 33.9**	**+0.5**
SART	**Tekirdag**	**0.96**	**195**	*i* P	**Pg**	**14 17 20.0**	**+0.1**
SART				*i* S	**Sb**	**14 17 33.9**	**+0.5**
MRMT	**Marmara Adasi**	**1.02**	**176**	*e*PG	**Pg**	**14 17 20.9**	**-0.1**
MRMT	**Marmara Adasi**	**1.02**	**176**	*e*Pg	**Pg**	**14 17 20.9**	**-0.1**
JMB	**Yambol**	**1.09**	**321**	P	**Pg**	**14 17 22.1**	**-0.4**
JMB				S	**Sb**	**14 17 37.1**	**0.0**
JMB	**Yambol**	**1.09**	**321**	P	**Pb**	**14 17 22.7**	**+0.1**
JMB	**Yambol**	**1.09**	**321**	*i* P	**Pg**	**14 17 22.0**	**-0.4**
JMB	**Yambol**	**1.09**	**321**	P	**Pg**	**14 17 22.1**	**-0.4**
JMB				S	**Sb**	**14 17 37.1**	**0.0**
ERIK	**Erikli-Kesan**	**1.21**	**219**	*e*PN	**Pb**	**14 17 24.4**	**-0.2**
ERIK	**Erikli-Kesan**	**1.21**	**219**	*e*Pn	**Pb**	**14 17 24.4**	**-0.2**
KLYT	**Kilyos**	**1.21**	**107**	*e*PN	**Pb**	**14 17 23.4**	**-1.2**
KLYT	**Kilyos**	**1.21**	**107**	*e*Pn	**Pb**	**14 17 23.4**	**-1.2**
KRBG	**Karabiga-Canak**	**1.23**	**187**	*e*PN	**Pn**	**14 17 24.4**	**-0.7**
KRBG	**Karabiga-Canak**	**1.23**	**187**	*e*Pn	**Pn**	**14 17 24.4**	**-0.7**
ISK	**Istanbul-Kandi**	**1.29**	**115**	*e*PN	**Pn**	**14 17 25.1**	**-0.8**
ISK	**Istanbul-Kandi**	**1.29**	**115**	*e*Pn	**Pn**	**14 17 25.1**	**-0.8**
EDC	**Edincik**	**1.30**	**168**	*e*PN	**Pn**	**14 17 26.1**	**+0.1**
EDC	**Edincik**	**1.30**	**168**	*e*Pn	**Pn**	**14 17 26.1**	**+0.1**
BNT	**Bandirma**	**1.30**	**166**	*e*PN	**Pn**	**14 17 25.9**	**-0.1**
BNT	**Bandirma**	**1.30**	**166**	*e*Pn	**Pn**	**14 17 25.9**	**-0.1**
ALN	**Alexandroupoli**	**1.32**	**237**	*e*PN	**Pn**	**14 17 26.2**	**0.0**
ALN	**Alexandroupoli**	**1.32**	**237**	P	**Pn**	**14 17 25.8**	**-0.4**
ALN				S	**Sb**	**14 17 43.5**	**0.0**
ALN	**Alexandroupoli**	**1.32**	**237**	*e*PN	**Pn**	**14 17 25.9**	**-0.3**
ALN				*e*SN	**Sb**	**14 17 43.1**	**-0.4**
ALN	**Alexandroupoli**	**1.32**	**237**	*e*Pn	**Pn**	**14 17 25.9**	**-0.3**
ALN				*e*Sn	**Sb**	**14 17 43.1**	**-0.4**
ENEZ	**Enez**	**1.35**	**230**	*e*PN	**Pn**	**14 17 26.8**	**+0.1**
ENEZ	**Enez**	**1.35**	**230**	*e*Pn	**Pn**	**14 17 26.8**	**+0.1**
LPK	**Lapseki**	**1.37**	**205**	*e*PN	**Pn**	**14 17 27.3**	**+0.4**
LPK	**Lapseki**	**1.37**	**205**	*e*Pn	**Pn**	**14 17 27.3**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.45**	**213**	*e*PN	**Pb**	**14 17 28.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.45**	**213**	*e*Pn	**Pb**	**14 17 28.9**	**+0.2**
ARMT	**Armutlu**	**1.47**	**135**	*e*PN	**Pn**	**14 17 28.4**	**+0.2**
ARMT	**Armutlu**	**1.47**	**135**	*e*Pn	**Pn**	**14 17 28.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.50**	**154**	*e*PN	**Pn**	**14 17 29.2**	**+0.5**
KCTX	**Karacabey (Bur**	**1.50**	**154**	*e*Pn	**Pn**	**14 17 29.2**	**+0.5**
RDO	**Rodhopi**	**1.56**	**253**	P	**Pn**	**14 17 29.1**	**-0.4**
RDO				S	**Sn**	**14 17 49.1**	**-0.8**
RDO	**Rodhopi**	**1.56**	**253**	*e*PN	**Pn**	**14 17 29.2**	**-0.3**
RDO				*e*SN	**Sn**	**14 17 49.4**	**-0.5**
RDO	**Rodhopi**	**1.56**	**253**	*e*Pn	**Pn**	**14 17 29.2**	**-0.3**
RDO				S	**Sn**	**14 17 49.1**	**-0.8**
KDZ	**Kurdzhali**	**1.57**	**272**	P	**Pn**	**14 17 29.9**	**+0.2**
KDZ				Pg	**Pg**	**14 17 31.3**	**-0.2**
KDZ	**Kurdzhali**	**1.57**	**272**	*i* P	**Pn**	**14 17 29.9**	**+0.2**
KDZ	**Kurdzhali**	**1.57**	**272**	P	**Pn**	**14 17 29.9**	**+0.2**
KDZ	**Kurdzhali**	**1.57**	**272**	Pg	**Pg**	**14 17 31.3**	**-0.2**
KDZ				S	**Sb**	**14 17 50.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.58**	**175**	*e*PN	**Pn**	**14 17 29.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.58**	**175**	*e*Pn	**Pn**	**14 17 29.5**	**-0.3**
PRD	**Provadia**	**1.58**	**357**	P	**Pn**	**14 17 29.3**	**-0.6**
PRD	**Provadia**	**1.58**	**357**	P	**Pn**	**14 17 29.3**	**-0.6**
SILT	**Sile**	**1.67**	**105**	*e*PN	**Pn**	**14 17 31.4**	**+0.3**
SILT	**Sile**	**1.67**	**105**	*e*Pn	**Pn**	**14 17 31.4**	**+0.3**
GEMT	**Gemlik**	**1.74**	**132**	*e*PN	**Pn**	**14 17 32.7**	**+0.7**
GEMT	**Gemlik**	**1.74**	**132**	*e*Pn	**Pn**	**14 17 32.7**	**+0.7**
HRT	**Hereke**	**1.81**	**115**	*e*PN	**Pn**	**14 17 34.1**	**+1.0**
HRT	**Hereke**	**1.81**	**115**	*e*Pn	**Pn**	**14 17 34.1**	**+1.0**
BALY	**Balya**	**1.88**	**177**	*i* P	**Pn**	**14 17 33.5**	**-0.5**
BALY				*i* S	**Sn**	**14 17 59.0**	**+1.1**
BALY	**Balya**	**1.88**	**177**	*i* P	**Pn**	**14 17 33.5**	**-0.5**
BALY				*i* S	**Sn**	**14 17 59.0**	**+1.1**
SMTH	**Samothraki Isl**	**1.89**	**233**	P	**Pn**	**14 17 33.4**	**-0.6**
SMTH				S	**Sn**	**14 17 56.9**	**-1.1**
SMTH	**Samothraki Isl**	**1.89**	**233**	*e*PB	**Pn**	**14 17 33.6**	**-0.4**
SMTH	**Samothraki Isl**	**1.89**	**233**	P	**Pn**	**14 17 33.4**	**-0.6**
SMTH				S	**Sn**	**14 17 56.9**	**-1.1**
BALB	**Balikesir**	**2.00**	**172**	*e*PN	**Pn**	**14 17 36.2**	**+0.6**
BALB	**Balikesir**	**2.00**	**172**	*e*Pn	**Pn**	**14 17 36.2**	**+0.6**
SZH	**Strazhica**	**2.02**	**325**	P	**Pn**	**14 17 35.8**	**-0.1**
SZH	**Strazhica**	**2.02**	**325**	P	**Pn**	**14 17 35.8**	**-0.1**
ADVT	**Abdulvahap**	**2.06**	**124**	*e*PN	**Pn**	**14 17 37.0**	**+0.6**
ADVT	**Abdulvahap**	**2.06**	**124**	*e*Pn	**Pn**	**14 17 37.1**	**+0.6**
RZN	**Rozhen**	**2.09**	**273**	*i* P	**Pn**	**14 17 36.5**	**-0.6**
RZN	**Rozhen**	**2.09**	**273**	*i* P	**Pn**	**14 17 36.5**	**-0.6**
PSN	**Preselentsi**	**2.12**	**13**	*i* P	**Pb**	**14 17 39.2**	**-1.0**
PSN	**Preselentsi**	**2.12**	**13**	*i* P	**Pb**	**14 17 39.2**	**-1.0**
PSN				S	**Sn**	**14 18 02.6**	**-1.2**
CAVI	**Cavuskoy**	**2.27**	**128**	*e*PN	**Pn**	**14 17 40.2**	**+0.9**
CAVI	**Cavuskoy**	**2.27**	**128**	*e*Pn	**Pn**	**14 17 40.2**	**+0.9**
KAVA	**Kavala**	**2.34**	**256**	P	**Pn**	**14 17 39.4**	**-0.9**
KAVA				S	**Sn**	**14 18 08.0**	**-1.2**
KAVA	**Kavala**	**2.34**	**256**	*e*PB	**Pn**	**14 17 40.5**	**+0.2**
KAVA	**Kavala**	**2.34**	**256**	P	**Pn**	**14 17 39.4**	**-0.9**
KAVA	**Kavala**	**2.34**	**256**	*e*Pb	**Pn**	**14 17 40.5**	**+0.2**
KAVA				S	**Sn**	**14 18 08.0**	**-1.2**
AYVA	**Ayvalik**	**2.39**	**195**	*i* P	**Pn**	**14 17 43.0**	**+2.0**
AYVA	**Ayvalik**	**2.39**	**195**	*i* P	**Pn**	**14 17 43.0**	**+2.0**
MSAB	**Monastry St. A**	**2.48**	**5**	*i* P	**Pn**	**14 17 41.9**	**-0.3**
MSAB	**Monastry St. A**	**2.48**	**5**	*i* P	**Pn**	**14 17 41.9**	**-0.3**
MSAB				S	**Sn**	**14 18 12.9**	**+0.2**
GULT	**Gulveren**	**2.56**	**117**	*e*PN	**Pn**	**14 17 43.9**	**+0.4**
GULT	**Gulveren**	**2.56**	**117**	*e*Pn	**Pn**	**14 17 43.9**	**+0.4**
NVR	**Nevrokopi**	**2.75**	**266**	P	**Pn**	**14 17 45.2**	**-0.8**
NVR				S	**Sn**	**14 18 18.5**	**-1.0**
NVR	**Nevrokopi**	**2.75**	**266**	P	**Pn**	**14 17 45.2**	**-0.8**
NVR				S	**Sn**	**14 18 18.5**	**-1.0**
MMB	**Musomiste**	**2.83**	**271**	*i* P	**Pb**	**14 17 53.9**	**+1.5**
MMB	**Musomiste**	**2.83**	**271**	S	**Sg**	**14 18 32.3**	**-0.2**
TIRR	**Tirgusor**	**2.91**	**13**	*i* P	**Pn**	**14 17 48.6**	**+0.4**
TIRR	**Tirgusor**	**2.91**	**13**	*i* P	**Pn**	**14 17 48.6**	**+0.4**
TIRR				S	**Sn**	**14 18 21.6**	**-1.8**
SRS	**Serrai**	**2.99**	**262**	P	**Pn**	**14 17 48.6**	**-0.6**
SRS				S	**Sn**	**14 18 24.2**	**-1.1**
SRS	**Serrai**	**2.99**	**262**	*e*PN	**Pn**	**14 17 49.1**	**-0.1**
SRS	**Serrai**	**2.99**	**262**	P	**Pn**	**14 17 48.6**	**-0.6**
SRS	**Serrai**	**2.99**	**262**	*e*Pn	**Pn**	**14 17 49.1**	**-0.1**
SRS				S	**Sn**	**14 18 24.2**	**-1.1**
TLB	**Topalu**	**2.99**	**7**	*i* P	**Pb**	**14 17 54.5**	**-0.5**
TLB	**Topalu**	**2.99**	**7**	S	**Sb**	**14 18 32.9**	**+1.2**
MPEP	**Malo Peshtene**	**3.28**	**303**	*e*P	**Pb**	**14 18 01.8**	**+1.8**
VTS	**Vitosha**	**3.34**	**288**	P	**Pn**	**14 17 55.0**	**+0.8**
VTS	**Vitosha**	**3.34**	**288**	P	**Pn**	**14 17 55.0**	**+0.8**
CHOS	**Chios island**	**3.42**	**200**	*e*PN	**Pn**	**14 17 56.0**	**+0.8**
CHOS	**Chios island**	**3.42**	**200**	*e*Pn	**Pn**	**14 17 56.0**	**+0.8**
CFR	**Carcaliu**	**3.59**	**7**	*i* P	**Pb**	**14 18 07.7**	**+2.5**
CFR	**Carcaliu**	**3.59**	**7**	S	**Sb**	**14 18 49.4**	**+0.6**
VAY	**Valandovo**	**3.72**	**267**	*e*Pn	**Pn**	**14 17 59.1**	**-0.2**
VAY				*e*Sg	**Sg**	**14 18 60.0**	**-1.0**
VAY	comp=E,26nm,0.7s			eLg	Lg	14 19 05.4	
VAY	comp=N,38nm,1.2s			eLg	Lg	14 19 05.6	
VAY	**Valandovo**	**3.72**	**267**	*e*Pn	**Pn**	**14 17 59.5**	**+0.2**
VAY				*e*Sg	**Sg**	**14 19 00.4**	**-0.6**
VAY	comp=N,38nm,1.2s			eLg	Lg	14 19 01.1	
MLR	**Muntele Rosu**	**4.03**	**344**	*i* P	**Pn**	**14 18 05.4**	**+1.7**
MLR	**Muntele Rosu**	**4.03**	**344**	S	**Sg**	**14 19 15.4**	**+4.4**
MLR	**Muntele Rosu**	**4.03**	**344**	*i* P	**Pn**	**14 18 05.4**	**+1.7**
VOIR		**4.21**	**336**	*i* P	**Pn**	**14 18 05.6**	**-0.5**
VOIR		**4.21**	**336**	S	**Sg**	**14 19 15.7**	**-1.1**
GRUS	**Gruza**	**5.49**	**297**	*i* Pn	**Pn**	**14 18 23.4**	**-0.2**
DIVS	**Divibare**	**6.05**	**297**	*e*Pn	**Pn**	**14 18 32.1**	**+0.7**

*IDC **09** 14:24:11.2±1.6, 55.43N×163.44E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/27, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=137.6km s-min=24.4km az=145.0*
*KRSC **09** 14:24:13.1±4.8, 55.50N×163.02E, h33km±32km, ML3.8*
*ISCJB **09** 14:24:15.3±0.4, 55.50N±0.02×162.97E±0.05, h54km±8km, mb3.1/3, Error ellipse: s-maj=4.7km s-min=3.3km az=29.1*
*MOS **09** 14:24:15.0±0.2, 55.79N×162.66E, h50km, mb4.1/1, Error ellipse: s-maj=99.9km s-min=30.0km az=58.8*

ISC 09 14:24:16.1±1.1, 55.53N±0.03×162.99E±0.04, h43km±15km, n47, σ1§11/81, mb3.2/3, Near east coast of Kamchatka Peninsula

| Code | Station Name | Δ° |

WEL 09 14:25:04.6±0.2, 45°12S×167°37E, h95km±2km, ML3.8/13, 2C-8D, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.39**	**203**	⇑P	Pn	14 25 18.9	-0.2
DCZ				SN	Sn	14 25 29.5	-0.5
DCZ				AML	AML	14 25 30.2	
DCZ				AML	AML	14 25 31.3	
DCZ				AML	AML	14 25 31.3	
MSZ	**Milford Sound**	**0.59**	**42**	⇑P	Pn	14 25 20.9	+0.3
MSZ				SN	Sn	14 25 32.5	-0.1
MSZ				AML	AML	14 25 34.7	
MSZ				AML	AML	14 25 34.8	
MSZ				AML	AML	14 25 34.9	
MLZ	**Mavora Lakes**	**0.61**	**113**	⇓P	Pn	14 25 20.5	-0.4
MLZ				SN	Sn	14 25 32.4	-0.6
MLZ				AML	AML	14 25 33.2	
WHZ	**Wether Hill Ro**	**0.88**	**153**	PN	Pn	14 25 23.2	-0.1
WHZ				SN	Sn	14 25 36.8	-0.6
WHZ				AML	AML	14 25 37.3	
PYZ	**Puysegur Point**	**1.16**	**205**	PN	Pn	14 25 26.8	+0.4
WKZ	**Wanaka**	**1.20**	**77**	PN	Pn	14 25 26.9	-0.1
WKZ				AML	AML	14 25 28.4	
WKZ				SN	Sn	14 25 43.1	-0.9
WKZ				AML	AML	14 25 46.0	
WKZ				AML	AML	14 25 47.0	
EAZ	**Earnscleugh**	**1.37**	**96**	⇓P	Pn	14 25 28.8	-0.2
EAZ				AML	AML	14 25 29.4	
EAZ				AML	AML	14 25 29.6	
EAZ				AML	AML	14 25 47.6	
EAZ				AML	AML	14 25 47.6	
JCZ	**Jackson Bay**	**1.44**	**44**	PN	Pn	14 25 29.4	-0.6
JCZ				AML	AML	14 25 55.1	
JCZ				AML	AML	14 25 56.4	
APZ	**The Paps**	**1.77**	**166**	PN	Pn	14 25 33.9	-0.1
APZ				AML	AML	14 25 57.5	
APZ				AML	AML	14 25 58.9	
TUZ	**Tuapeka**	**1.80**	**119**	⇓PN	Pn	14 25 33.9	-0.4
TUZ				AML	AML	14 25 55.1	
TUZ				AML	AML	14 25 55.2	
SYZ	**Scrubby Hill**	**1.88**	**140**	PN	Pn	14 25 35.0	-0.4
SYZ				AML	AML	14 25 57.5	
SYZ				AML	AML	14 25 57.5	
SYZ				AML	AML	14 25 58.7	
SYZ				AML	AML	14 25 58.7	
LBZ	**Lake Benmore**	**2.13**	**71**	⇓PN	Pn	14 25 37.0	-1.7
LBZ				AML	AML	14 26 02.2	
LBZ				AML	AML	14 26 02.3	
LBZ				AML	AML	14 26 02.5	
LBZ				AML	AML	14 26 02.5	
FOZ	**Fox Glacier**	**2.27**	**48**	⇓PN	Pn	14 25 39.9	-0.7
ODZ	**Otahua Downs**	**2.32**	**89**	⇓PN	Pn	14 25 39.8	-1.4
HHSZ	**Highcliff Hill**	**2.39**	**110**	⇓PN	Pn	14 25 41.5	-0.7
RPZ	**Rata Peaks**	**2.99**	**63**	⇓PN	Pn	14 25 47.5	-2.6
RPZ				AML	AML	14 26 21.8	
RPZ				AML	AML	14 26 22.0	
OXZ	**Oxford**	**3.80**	**64**	PN	Pn	14 25 57.4	-3.7
MQZ	**McQueen's Vall**	**4.04**	**71**	PN	Pn	14 26 01.6	-2.6
CRLZ	**Canterbury Las**	**4.07**	**70**	PN	Pn	14 26 02.2	-2.4
LTZ	**Lake Taylor**	**4.24**	**58**	PN	Pn	14 26 03.6	-3.3
DSZ	**Denniston Nort**	**4.66**	**45**	PN	Pn	14 26 09.9	-2.9
THZ	**Tophouse**	**5.24**	**52**	PN	Pn	14 26 17.0	-3.6
QRZ	**Quartz Range**	**5.72**	**43**	PN	Pn	14 26 25.2	-1.8

MAN 09 15:03:05.1, 14°61N×121°27E, h12km, mb4.0, ML2.8, MS2.5, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LQP	**Lukban**	**0.56**	**153**	⇑*e*P	Pg	15 03 15.8	-0.4
TGY	**Tagaytay City**	**0.60**	**213**	⇓*i*P	Pb	15 03 18.2	+0.6
TGY				*i* S	Sn	15 03 28.4	-0.9
PCPH	**Palayan**	**0.96**	**350**	⇑*e*P	Pg	15 03 22.7	-0.8
PCPH				*e*S	Sg	15 03 34.9	-1.1
LUBP	**Lubang**	**1.33**	**229**	*e*P	Pb	15 03 29.7	-0.1
LUBP				*e*S	Sn	15 03 47.1	+0.1
GQP	**Guinayangan**	**1.34**	**122**	⇓*e*P	Pn	15 03 27.8	-1.7
GQP				*i* S	Sg	15 03 48.6	+0.5
AUQP	**San Andres**	**1.87**	**133**	*e*P	Pg	15 03 40.4	-0.5
SJMP	**San Jose**	**2.14**	**184**	*e*P	Pb	15 03 42.5	-1.3
OTRP	**Odiongan**	**2.35**	**162**	*e*P	Pb	15 03 47.7	+0.4
BUSP	**Coron**	**2.80**	**202**	*e*P	Pn	15 03 50.5	+0.9
ENPP	**El Nido**	**3.84**	**208**	*e*P	Pn	15 04 04.4	+0.5

*ISCJB **09** 15:32:20.8±1.4, 34°.00N±0°.04×25°.50E±0°.04, h6km±9km, mb3.6/10, Error ellipse: s-maj=8.3km s-min=4.7km az=30.8*
*ATH **09** 15:32:21.2, 33°.95N×25°.18E, h10km±2km, MD3.8/13*
*IDC **09** 15:32:21.7±1.1, 34°.08N×25°.40E, h0km, mb3.8/9, mb1 3.9/15, mb1mx3.8/31, mbtmp3.8/15, ML4.1/5, Error ellipse: s-maj=22.2km s-min=19.0km az=29.0*
*CSEM **09** 15:32:22.3±0.5, 34°.05N×25°.45E, h2km, ML3.1, Error ellipse: s-maj=9.8km s-min=5.5km az=14.0*
*THE **09** 15:32:27.7, 34°.36N×25°.36E, h0km±3km, ML3.1/1, Error ellipse: s-maj=6.0km s-min=1.6km az=157.0*
ISC 09 15:32:22.3±1.6, 34°01N±0°.06×25°31E±0°.03, h11km±9km, n89, σ1§41/94, mb3.7/10, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.09**	**338**	*e*PN	**Pn**	**15 32 42.6**	**-0.9**
SIVA				*e*SB	**Sb**	**15 32 56.9**	**-0.5**
SIVA	**Sivas**	**1.09**	**338**	*e*Pn	**Pn**	**15 32 42.6**	**-0.9**
SIVA				*e*Sb	**Sb**	**15 32 56.9**	**-0.5**
LAST	**Lasithi**	**1.16**	**7**	P	**Pn**	**15 32 43.5**	**-1.0**
LAST				S	**Sb**	**15 32 56.7**	**-2.8**
LAST	**Lasithi**	**1.16**	**7**	*e*PB	**Pg**	**15 32 44.7**	**+0.1**
LAST				*e*SB	**Sg**	**15 33 01.0**	**+1.3**
LAST	**Lasithi**	**1.16**	**7**	P	**Pn**	**15 32 43.5**	**-1.0**
LAST	**Lasithi**	**1.16**	**7**	*e*Pb	**Pg**	**15 32 44.7**	**+0.1**
LAST				S	**Sb**	**15 32 56.7**	**-2.8**
LAST				*e*Sb	**Sg**	**15 33 01.0**	**+1.3**
NPS	**Neapolis**	**1.28**	**11**	P	**Pn**	**15 32 45.5**	**-0.6**
NPS				S	**Sb**	**15 32 58.9**	**-3.9**
NPS	**Neapolis**	**1.28**	**11**	*e*PB	**Pn**	**15 32 46.1**	**0.0**
NPS	**Neapolis**	**1.28**	**11**	P	**Pn**	**15 32 45.5**	**-0.6**
NPS	**Neapolis**	**1.28**	**11**	*e*Pb	**Pn**	**15 32 46.1**	**0.0**
NPS				S	**Sb**	**15 32 58.9**	**-3.9**
GVD	**Gavdhos**	**1.31**	**310**	*e*PN	**Pg**	**15 32 48.2**	**+0.7**
GVD				*e*SN	Sn	15 33 09.3	+5.3
GVD	**Gavdhos**	**1.31**	**310**	P	Pg	15 32 48.6	+1.2
GVD				S	**Sn**	**15 33 06.6**	**+2.6**
GVD	**Gavdhos**	**1.31**	**310**	*e*PB	**Pb**	**15 32 45.1**	**-1.8**
GVD				*e*SB	**Sn**	**15 33 02.6**	**-1.4**
GVD	**Gavdhos**	**1.31**	**310**	*e*Pn	**Pg**	**15 32 48.2**	**+0.7**
GVD	**Gavdhos**	**1.31**	**310**	P	Pg	15 32 48.6	+1.2
GVD				S	**Sn**	**15 33 06.6**	**+2.6**
GVD				*e*Sn	Sn	15 33 09.3	+5.3
IDI	**Anoyia**	**1.32**	**345**	*e*PN	**Pg**	**15 32 47.3**	**-0.5**
IDI	**Anoyia**	**1.32**	**345**	P	**Pb**	**15 32 46.8**	**-0.4**
IDI				S	**Sb**	**15 33 03.0**	**-1.2**
IDI	**Anoyia**	**1.32**	**345**	*e*PG	**Pb**	**15 32 46.6**	**-0.6**
IDI	**Anoyia**	**1.32**	**345**	*e*Pg	**Pb**	**15 32 46.6**	**-0.6**
IDI	**Anoyia**	**1.32**	**345**	P	**Pb**	**15 32 46.8**	**-0.4**
IDI	**Anoyia**	**1.32**	**345**	*e*Pn	**Pg**	**15 32 47.3**	**-0.5**
IDI				S	**Sb**	**15 33 03.0**	**-1.2**
IDI	**Anoyia**	**1.32**	**345**	Pn	**Pg**	**15 32 47.3**	**-0.5**
	26nm,0.3s,baz=167,slow=18,SNR=94						
ZKR	**Zakros**	**1.33**	**34**	*e*PN	**Pn**	**15 32 46.7**	**-0.1**
ZKR				*e*SN	**Sn**	**15 33 06.3**	**+1.7**
ZKR	**Zakros**	**1.33**	**34**	P	**Pn**	**15 32 47.0**	**+0.2**
ZKR	**Zakros**	**1.33**	**34**	*e*PB	**Pg**	**15 32 48.6**	**+0.7**
ZKR	**Zakros**	**1.33**	**34**	*e*Pn	**Pn**	**15 32 46.7**	**-0.1**
ZKR	**Zakros**	**1.33**	**34**	P	**Pn**	**15 32 47.0**	**+0.2**
ZKR	**Zakros**	**1.33**	**34**	*e*Pb	**Pg**	**15 32 48.6**	**+0.7**
VAM	**Vamos**	**1.67**	**327**	P	**Pg**	**15 32 53.9**	**-0.4**
VAM	**Vamos**	**1.67**	**327**	*e*PB	**Pg**	**15 32 52.8**	**-1.5**
VAM	**Vamos**	**1.67**	**327**	*e*Pb	**Pg**	**15 32 52.8**	**-1.5**
VAM	**Vamos**	**1.67**	**327**	P	**Pg**	**15 32 53.9**	**-0.4**
KARP	**Karpathos**	**2.16**	**44**	P	**Pb**	**15 33 01.0**	**-0.4**
KARP	**Karpathos**	**2.16**	**44**	*e*PN	**Pb**	**15 33 01.3**	**-0.1**
KARP	**Karpathos**	**2.16**	**44**	*e*Pn	**Pb**	**15 33 01.3**	**-0.1**
SANT	**Santorini**	**2.36**	**3**	*e*PN	**Pn**	**15 33 02.0**	**+1.0**
SANT	**Santorini**	**2.36**	**3**	P	**Pn**	**15 33 02.4**	**+1.4**
SANT	**Santorini**	**2.36**	**3**	*e*Pn	**Pn**	**15 33 02.8**	**+1.8**
SANT	**Santorini**	**2.36**	**3**	*e*Pn	**Pn**	**15 33 02.8**	**+1.8**
THR1	**Thera Island**	**2.36**	**3**	*e*Pn	**Pn**	**15 33 01.9**	**+0.9**
KYTH	**Kithira**	**2.94**	**321**	P	**Pb**	**15 33 12.0**	**-2.6**
KYTH	**Kithira**	**2.94**	**321**	*e*PB	Pb	15 33 10.6	-4.0
KYTH	**Kithira**	**2.94**	**321**	*e*Pb	Pb	15 33 10.6	-4.0
KYTH	**Kithira**	**2.94**	**321**	P	**Pb**	**15 33 12.0**	**-2.6**
APE	**Apeiranthos**	**3.06**	**3**	*e*PN	**Pn**	**15 33 11.7**	**+1.1**
APE	**Apeiranthos**	**3.06**	**3**	*e*PN	**Pn**	**15 33 12.5**	**+1.9**
APE	**Apeiranthos**	**3.06**	**3**	*e*Pn	**Pn**	**15 33 12.5**	**+1.9**
DID	**Didima**	**3.88**	**335**	P	**Pn**	**15 33 22.8**	**+0.9**
DID				S	**Sn**	**15 34 06.7**	**-0.7**
DID	**Didima**	**3.88**	**335**	*e*PN	**Pn**	**15 33 23.5**	**+1.6**
DID	**Didima**	**3.88**	**335**	P	**Pn**	**15 33 22.8**	**+0.9**
DID	**Didima**	**3.88**	**335**	*e*Pn	**Pn**	**15 33 23.5**	**+1.6**
DID				S	**Sn**	**15 34 06.7**	**-0.7**
DALY	**Dalyan (Mu˘la**	**3.91**	**43**	*e*PN	**Pn**	**15 33 21.5**	**-0.8**
DALY	**Dalyan (Mu˘la**	**3.91**	**43**	*e*Pn	**Pn**	**15 33 21.5**	**-0.8**
VLX	**Vlachokerasia**	**4.12**	**325**	*e*PN	Pn	15 33 27.1	+1.9
VLX	**Vlachokerasia**	**4.12**	**325**	*e*Pn	Pn	15 33 27.1	+1.9
ITM	**Ithomi**	**4.20**	**320**	*e*PN	Pn	15 33 28.1	+1.9
ITM	**Ithomi**	**4.20**	**320**	*e*Pn	Pn	15 33 28.1	+1.9
LTK	**Loutraki**	**4.44**	**335**	*e*PN	Pn	15 33 31.8	+2.3
LTK	**Loutraki**	**4.44**	**335**	*e*Pn	Pn	15 33 31.8	+2.3
GUR	**Goura**	**4.60**	**329**	*e*PN	**Pn**	**15 33 33.0**	**+1.1**
GUR	**Goura**	**4.60**	**329**	*e*Pn	**Pn**	**15 33 33.0**	**+1.1**
ELL	**Elmali**	**4.64**	**53**	*e*PN	**Pn**	**15 33 31.2**	**-1.2**
ELL	**Elmali**	**4.64**	**53**	*e*Pn	**Pn**	**15 33 31.3**	**-1.2**
SUTC	**Sutluce-Ispart**	**5.78**	**52**	*e*PN	**Pn**	**15 33 47.6**	**-0.4**
SUTC	**Sutluce-Ispart**	**5.78**	**52**	*e*Pn	**Pn**	**15 33 47.6**	**-0.4**
LEF	**Lefka**	**6.35**	**78**	*e*PN	**Pn**	**15 33 53.9**	**-1.9**
LEF	**Lefka**	**6.35**	**78**	*e*Pn	**Pn**	**15 33 53.9**	**-1.9**
CSS	**Prodhromos**	**6.69**	**80**	*e*PN	**Pn**	**15 33 59.1**	**-1.3**
CSS	**Prodhromos**	**6.69**	**80**	*e*Pn	**Pn**	**15 33 59.1**	**-1.3**
IKL	**Isikli**	**7.21**	**70**	*e*PN	**Pn**	**15 34 06.5**	**-1.1**
IKL	**Isikli**	**7.21**	**70**	*e*Pn	**Pn**	**15 34 06.5**	**-1.1**
MMAI	**Mount Meron Ar**	**8.48**	**94**	Pn	**Pn**	**15 34 24.1**	**-1.0**
	1.2nm,0.3s,baz=265,slow=12,SNR=4.8						
MMAI					Sn	**15 35 57.9**	**-3.1**
	1.4nm,0.3s,baz=261,slow=19,SNR=2.9						
BRTR	**Keskin Array B**	**8.78**	**47**	Pn	**Pn**	**15 34 31.8**	**+2.5**
	0.2nm,0.3s,baz=224,slow=15,SNR=5.6						
EIL	**Elat**	**9.27**	**115**	Pn	**Pn**	**15 34 35.8**	**0.0**
	0.7nm,0.3s,baz=288,slow=11,SNR=7.6						
GNI	**Garni**	**16.66**	**63**	Pn	**P**	**15 36 20.4**	**+2.1**
	0.7nm,0.3s,baz=311,slow=3.3,SNR=7.3						
KBZ	**Khabaz**	**16.76**	**49**	Pn	**P**	**15 36 19.4**	**+0.4**
	0.1nm,0.3s,baz=245,slow=13,SNR=3.5						
AKASG	**Malin Array Be**	**16.93**	**9**	Pn	**P**	**15 36 20.0**	**-0.9**
	1.7nm,0.3s,baz=202,slow=10,SNR=18						
GERES	**GERESS Array B**	**17.16**	**333**	P	**P**	**15 36 24.4**	**+0.8**
	0.7nm,0.3s,baz=144,slow=12,SNR=15						
HFS	**Hagfors**	**27.23**	**347**	P	**P**	**15 38 06.7**	**+0.8**
	2.2nm,1.0s,baz=159,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**27.46**	**1**	P	**P**	**15 38 06.7**	**-1.3**
	1.3nm,0.8s,baz=188,slow=8.4,SNR=2.8						
EKA	**Eskdalemuir Ar**	**29.06**	**326**	P	P	15 38 26.2	+3.9
	0.6nm,0.5s,baz=116,slow=9.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**29.86**	**232**	P	P	15 38 32.4	+2.6
	0.4nm,0.7s,baz=28,slow=10,SNR=3.3						
ARCES	**ARCESS Array B**	**35.58**	**0**	P	**P**	**15 39 19.9**	**+0.6**
	1.3nm,0.9s,baz=186,slow=9.1,SNR=3.8						
MKAR	**Makanchi Array**	**44.31**	**56**	P	**P**	**15 40 32.9**	**+0.8**
	1.8nm,0.5s,baz=269,slow=7.7,SNR=28						
ZALV	**Zalesovo Beam**	**45.72**	**45**	P	**P**	**15 40 43.0**	**-0.2**
	0.6nm,0.4s,baz=281,slow=15,SNR=4.4						
YKA	**Yellowknife Ar**	**78.58**	**342**	P	**P**	**15 44 23.7**	**+0.2**
	0.2nm,0.5s,baz=30,slow=5.5,SNR=5.0						
KSRS	**Korea Array**	**78.89**	**52**	P	**P**	**15 44 26.6**	**+1.0**
	0.9nm,0.6s,baz=292,slow=4.5,SNR=3.9						
ILAR	**Eielson Array**	**81.36**	**357**	P	**P**	**15 44 39.4**	**+0.8**
	0.3nm,0.8s,baz=2.5,slow=2.8,SNR=7.3						

*MDD **09** 15:33:08.8±2.8, 36°.77N×12°.54W, h50km, mb3.9/5, Error ellipse: s-maj=23.9km s-min=22.4km az=100.0, PRXIMO*
*INMG **09** 15:33:11.0±0.8, 36°.62N×12°.61W, h10km, ML2.2, Error ellipse: s-maj=18.8km s-min=6.9km az=157.0*
*CSEM **09** 15:33:11.7±0.6, 37°.05N×12°.08W, h10km, mb3.9, Error ellipse: s-maj=11.2km s-min=10.7km az=144.0*
ISC 09 15:33:08.6±4.0, 36°9N±0°.1×12°3W±0°.2, h10km, n38, σ1§30/66, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.75**	**85**	P	**Pn**	**15 33 53.4**	**+0.8**
	2.9nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**15 34 25.4**	**-0.5**
	9.0nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.75**	**85**	*e*Pn	**Pn**	**15 33 53.5**	**+0.8**
PFVI				*e*Sn	**Sn**	**15 34 25.8**	**-0.1**
PFVI	**Vila Bisbo**	**2.75**	**85**	*e*Pn	**Pn**	**15 33 53.5**	**+0.8**
PFVI				S	**Sn**	**15 34 25.4**	**-0.5**
	9.0nm,0.2s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**15 34 25.8**	**-0.1**
MORF	**Marmelete**	**2.90**	**82**	P	**Pn**	**15 33 55.2**	**+0.4**
	SNR=7.9						
MORF				S	**Sn**	**15 34 29.8**	**0.0**
	SNR=7.9						
MORF	**Marmelete**	**2.90**	**82**	*e*Pn	**Pn**	**15 33 56.0**	**+1.2**
MORF				*e*Sn	**Sn**	**15 34 29.8**	**0.0**
MORF				A	A	15 34 31.0	
	4.7nm,0.1s						
MORF	**Marmelete**	**2.90**	**82**	P	**Pn**	**15 33 55.2**	**+0.4**
	SNR=7.9						
MORF	**Marmelete**	**2.90**	**82**	*e*Pn	**Pn**	**15 33 56.0**	**+1.2**
MORF				S	**Sn**	**15 34 29.8**	**0.0**
	SNR=7.9						
PMAFR	**Mafra**	**3.09**	**49**	P	**Pn**	**15 33 58.3**	**+0.9**
	8.7nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**15 34 34.9**	**+0.5**
	49nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.09**	**49**	P	**Pn**	**15 33 58.3**	**+0.9**
	8.7nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**15 34 34.9**	**+0.5**
	49nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.18**	**67**	*e*Pn	**Pn**	**15 34 00.3**	**+1.7**
PNCL				*e*Sn	**Sn**	**15 34 37.9**	**+1.3**
PNCL	**Nicolau / Gran**	**3.18**	**67**	*e*Pn	**Pn**	**15 34 00.3**	**+1.7**
PNCL				*e*Sn	**Sn**	**15 34 37.9**	**+1.3**
PCVE	**Castro Verde**	**3.43**	**77**	*e*Pn	**Pn**	**15 34 04.0**	**+1.9**
PCVE				*e*Sn	**Sn**	**15 34 42.4**	**-0.3**
PCVE				A	A	15 34 45.0	
	1.6nm,0.2s						
PCVE	**Castro Verde**	**3.43**	**77**	*e*Pn	**Pn**	**15 34 04.0**	**+1.9**
PCVE				*e*Sn	**Sn**	**15 34 42.4**	**-0.3**
	1.6nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.46**	**84**	*e*Pn	**Pn**	**15 34 03.9**	**+1.3**
PBDV				*e*Sn	**Sn**	**15 34 44.7**	**+1.0**
PBDV				A	A	15 34 51.4	
	2.1nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.46**	**84**	*e*Pn	**Pn**	**15 34 03.9**	**+1.3**
PBDV				*e*Sn	**Sn**	**15 34 44.7**	**+1.0**
	2.1nm,0.2s						
PVAQ	**Vaqueiros**	**3.65**	**81**	*e*Pn	**Pn**	**15 34 06.5**	**+1.4**
PVAQ				*e*Sn	**Sn**	**15 34 48.1**	**-0.1**
PVAQ				A	A	15 34 52.4	
	3.6nm,0.1s						
PVAQ	**Vaqueiros**	**3.65**	**81**	*e*Pn	**Pn**	**15 34 06.5**	**+1.4**
PVAQ				*e*Sn	**Sn**	**15 34 48.1**	**-0.1**
	3.6nm,0.1s						
EGRO	**El Granado**	**3.85**	**80**	P	**Pn**	**15 34 09.0**	**+1.2**
	0.9nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**15 34 52.0**	**-1.1**
	4.0nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.85**	**80**	P	**Pn**	**15 34 09.0**	**+1.2**
	0.9nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**15 34 52.0**	**-1.1**
	4.0nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**4.32**	**72**	*e*Pn	**Pn**	**15 34 16.2**	**+1.9**
PBAR				*e*Sn	**Sn**	**15 35 04.6**	**-0.1**
PBAR	**Barrancos**	**4.32**	**72**	*e*Pn	**Pn**	**15 34 16.2**	**+1.9**
PBAR				*e*Sn	**Sn**	**15 35 04.6**	**-0.1**
EMIN	**Mina Concepcio**	**4.52**	**78**	P	**Pn**	**15 34 17.9**	**+0.8**
	0.6nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**15 35 08.0**	**-1.6**
	1.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.52**	**78**	P	**Pn**	**15 34 17.9**	**+0.8**
	0.6nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**15 35 08.0**	**-1.6**
	1.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.52**	**65**	P	**Pn**	**15 34 18.2**	**+1.1**
	0.6nm,0.1s,SNR=5.9						
EBAD				S	**Sn**	**15 35 09.3**	**-0.4**
	2.5nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.12**	**89**	P	**Pn**	**15 34 24.7**	**-0.7**
	0.8nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**15 35 22.3**	**-2.3**
	3.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**5.12**	**89**	P	**Pn**	**15 34 24.7**	**-0.7**
	0.8nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**15 35 22.3**	**-2.3**
	3.9nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**5.55**	**76**	P	**Pn**	**15 34 32.2**	**+1.0**
	1.3nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**15 35 32.7**	**-2.3**
	1.3nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**5.55**	**76**	P	**Pn**	**15 34 32.2**	**+1.0**
	1.3nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**15 35 32.7**	**-2.3**
	1.3nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**5.85**	**42**	S	**Sn**	**15 35 40.7**	**-1.9**
	2.7nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**5.85**	**42**	S	**Sn**	**15 35 40.7**	**-1.9**
	2.7nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**5.89**	**32**	S	**Sn**	**15 35 41.2**	**-2.3**
	1.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.89**	**32**	S	**Sn**	**15 35 41.2**	**-2.3**
	1.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.22**	**76**	P	**Pn**	**15 34 40.8**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**15 35 49.6**	**-2.0**
	1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.22**	**76**	P	**Pn**	**15 34 40.8**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**15 35 49.6**	**-2.0**
	1.0nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.50**	**22**	S	Sn	15 35 52.0	-6.5
	7.1nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.56**	**39**	S	Sn	15 35 56.6	-3.5
	3.8nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.56**	**39**	S	Sn	15 35 56.6	-3.5
	3.8nm,0.4s,SNR=7.9						

*DDA **09** 15:54:42.6, 37°.64N×38°.44E, h16km, ML3.8*
*ISK **09** 15:54:42.2, 37°.62N×38°.40E, h4km, MD3.3*
*CSEM **09** 15:54:43.2±0.1, 37°.64N×38°.40E, h2km, ML3.8, Error ellipse: s-maj=3.9km s-min=2.9km az=145.0*
ISC 09 15:54:43.5±0.9, 37°65N±0°.02×38°42E±0°.02, h8km±9km, n69, σ0§77/88, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.21**	**210**	*i* P	**Pg**	**15 54 48.0**	**+0.3**
ATAB				*i* S	**Sg**	**15 54 51.2**	**+0.7**
ATAB	**Bozova**	**0.21**	**210**	*i* P	**Pg**	**15 54 48.0**	**+0.3**
ATAB				*i* S	**Sg**	**15 54 51.2**	**+0.7**
URFA	**Urfa**	**0.38**	**123**	*e*PG	**Pg**	**15 54 50.6**	**-0.3**
URFA				*e*SG	**Sg**	**15 54 55.4**	**-0.5**
URFA	**Urfa**	**0.38**	**123**	*e*Pg	**Pg**	**15 54 50.7**	**-0.3**
URFA				*e*Sg	**Sg**	**15 54 55.4**	**-0.5**
MALT	**Malatya**	**0.66**	**0**	*e*PG	**Pg**	**15 54 55.8**	**-0.6**
MALT	**Malatya**	**0.66**	**0**	*e*Pg	**Pg**	**15 54 55.8**	**-0.6**
GZT	**Gaziantep**	**0.74**	**247**	*i* P	**Pg**	**15 54 57.9**	**0.0**
GZT				*i* S	**Sb**	**15 55 08.9**	**-0.2**
AKCD	**Akcadag**	**0.76**	**329**	*i* P	**Pg**	**15 54 57.8**	**-0.3**
AKCD	**Akcadag**	**0.76**	**329**	*i* P	**Pg**	**15 54 57.8**	**-0.3**
ELZG	**Elazig**	**0.96**	**27**	*i* P	**Pg**	**15 55 01.1**	**-0.8**
ELZG				*i* S	**Sg**	**15 55 13.8**	**-0.6**
ELZG	**Elazig**	**0.96**	**27**	*i* P	**Pg**	**15 55 01.1**	**-0.8**
ELZG				*i* S	**Sg**	**15 55 13.8**	**-0.6**
SVRC

LBFI	**Labuhan Bajo,**	**1.70**	**292**	P	**Pn**	**15 59 35.9 +0.7**
BKSI	**Bulukumba**	**4.01**	**340**	P	**Pn**	**16 00 05.4 -0.4**
BNSI	**Bone**	**4.89**	**344**	P	**Pn**	**16 00 19.5 +1.8**
	17nm,1.3s,0.1nm					
MTNI	**Mataram**	**5.27**	**275**	P	**Pn**	**16 00 20.9 -1.9**
	21nm,0.4s,677nm0.1nm					
SPSI	**Sidrap Palu**	**5.40**	**342**	P	**Pn**	**16 00 26.5 +1.9**
	15nm,1.2s,0.1nm					
KHKI	**Kahang-Kahang**	**5.85**	**277**	P	**Pn**	**16 00 28.6 -2.2**
KNRA	**Kununurra**	**9.64**	**133**	P	**Pn**	**16 01 21.7 -0.6**
	baz=9.4,SNR=6.5					
FITZ	**Fitzroy Crossi**	**9.80**	**156**	P	**Pn**	**16 01 25.7 +1.3**
	baz=9.8,SNR=4.7					
MTN	**Manton Dam**	**10.17**	**112**	P	**Pn**	**16 01 28.1 -1.4**
	baz=9.8,SNR=14					
KDU	**Kakadu**	**11.36**	**109**	P	**Pn**	**16 01 43.6 -2.1**
	baz=11,SNR=16					
MEEK	**Meekatharra**	**17.63**	**188**	P	Pn	16 03 09.8 +4.0
	baz=18,SNR=6.6					

SZGRF ***09*** *16:00:30.6, 1°.31S×23°.03W, h33km, mb5.2, MS5.8, Central Mid-Atlantic Ridge*

ISCJB ***09*** *16:00:41.6±0.2, 0°.70S±0°.03×21°.07W±0°.03, h10km, mb5.1/164, MS5.6/201, Error ellipse: s-maj=4.6km s-min=4.0km az=35.6*

MOS ***09*** *16:00:42.0±1.1, 0°.59S×20°.97W, h10km, mb5.6/68, MS5.7/39, Error ellipse: s-maj=10.4km s-min=4.3km az=64.1*

IDC ***09*** *16:00:42.1±0.4, 0°.69S×21°.05W, h0km, mb4.4/32, mb1 4.5/33, mb1mx4.5/37, mbtmp4.4/33, ML5.2/1, MS5.5/24, Ms1 5.5/24, ms1mx5.4/33, Error ellipse: s-maj=10.7km s-min=9.6km az=62.0*

NEIC ***09*** *16:00:42.0±0.0, 0°.73S×21°.05W, h15km Best double couple: NP1:φs84.00000°, δ82.00000°, λ167.00000°. NP2:φs175.00000°, δ77.00000°, λ7.00000°. Principal axes: T 4.6600, Plg14.0000°, Azm39.0000°; N -0.2100, Plg75.0000°, Azm235.0000°; P -4.4500, Plg3.0000°, Azm130.0000°;*

NEIC ***09*** *16:00:43.3±0.2, 0°.64S×21°.07W, h10km, mb5.5/101, MS5.6/152, MW6.4, MW6.3, MW6.4 Error ellipse: s-maj=5.6km s-min=4.8km az=135.0, Moment Tensor Solution. s69 Moment tensor: Scale 10¹⁸Nm; Mrr=0.19; Mθθ 1.62; Mϕϕ-1.43; Mrθ-0.20; Mθϕ-3.66; Mϕr 0.07; Best double couple: M₀4.00000×10¹⁸ NP1:φs259.00000°, δ89.00000°, λ177.00000°. NP2:φs349.00000°, δ87.00000°, λ1.00000°. Principal axes: T 4.0700, Plg2.0000°, Azm213.0000°; N -0.2000, Plg87.0000°, Azm48.0000°; P -3.8700, Plg0.0000°, Azm303.0000°;*

GCMT ***09*** *16:00:56.2±0.1, 0°.62S×20°.80W, h26km, MW6.4, Moment Tensor Solution. s134, c299; s99, c242; Moment tensor: Scale 10¹⁸Nm; Mrr-0.07±.02; Mθθ 1.66±.02; Mϕϕ-1.60±.02; Mrθ 0.18±.05; Mθϕ-4.93±.02; Mϕr 0.61±.05; Best double couple: M₀5.20000×10¹⁸ NP1:φs171.00000°, δ87.00000°, λ-6.00000°. NP2:φs261.00000°, δ84.00000°, λ-177.00000°. Principal axes: T 5.2300, Plg2.0000°, Azm216.0000°; N -0.0100, Plg83.0000°, Azm325.0000°; P -5.2300, Plg7.0000°, Azm126.0000°; Data Used: II IU CU CN IC G. Mantle waves from 122 sta. Surface waves: sta=137, comp=320, per= 50.*

NEIC ***09*** *16:00:57.8±0.0, 0°.52S×20°.86W, h10km, Moment Tensor Solution. s153 Moment tensor: Scale 10¹⁸Nm; Mrr-0.24; Mθθ 1.41; Mϕϕ-1.16; Mrθ-2.10; Mθϕ-4.15; Mϕr 1.68; Best double couple: M₀5.00000×10¹⁸ NP1:φs354.00000°, δ74.00000°, λ19.00000°. NP2:φs259.00000°, δ72.00000°, λ164.00000°. Principal axes: T 5.6900, Plg24.0000°, Azm216.0000°; N -1.4600, Plg65.0000°, Azm31.0000°; P -4.2200, Plg1.0000°, Azm125.0000°;*

ISC 09 16:00:43.2±0.2, 0°.72S±0°.04×21°.14W±0°.04, h10km, n728, σ1°.71/560, mb5.2/164, MS5.6/201, 22C-18D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**9.68**	**137**	Pn		**Pn**	**16 03 01.4**	**-1.1**
H10N3				T		T	16 12 35.2	
	baz=318,slow=74,SNR=6312							
H10N2	**ASCENSION HYDR**	**9.68**	**137**	Pn		**Pn**	**16 03 01.4**	**-1.1**
H10N2				T		T	16 12 37.2	
	baz=318,slow=74,SNR=244							
H10N1	**ASCENSION HYDR**	**9.70**	**137**	Pn		**Pn**	**16 03 01.6**	**-1.2**
H10N1				T		T	16 12 33.3	
	baz=318,slow=74							
ASCN	**Ascension**	**9.85**	**137**	*e*Pn		**Pn**	**16 03 02.9**	**-2.1**
	544nm,0.5s							
ASCN	**Ascension**	**9.85**	**137**	Pn		**Pn**	**16 03 04.6**	**-0.4**
	7um,0.4s,SNR=20							
H10S1	**ASCENSION HYDR**	**10.41**	**142**	Pn		**Pn**	**16 03 11.7**	**-0.8**
H10S1				T		T	16 13 51.5	
	baz=321,slow=74,SNR=504							
H10S3	**ASCENSION HYDR**	**10.41**	**142**	Pn		**Pn**	**16 03 11.5**	**-1.1**
H10S3				T		T	16 13 35.3	
	baz=321,slow=74							
H10S2	**ASCENSION HYDR**	**10.43**	**142**	Pn		**Pn**	**16 03 11.6**	**-1.2**
H10S2				T		T	16 13 30.3	
	baz=321,slow=74,SNR=281							
RCBR	**Riachuelo**	**15.58**	**251**	*e*Pn		Pn	16 04 17.1	-6.1
	82nm,0.6s							
RCBR				Sn		Sn	16 06 53.5	-23
RCBR	**Riachuelo**	**15.58**	**251**	Pn		Pn	16 04 18.1	-5.2
	25nm,0.3s,baz=73,slow=12,SNR=104							
RCBR				Sn		Sn	16 06 53.5	-23
	26nm,0.3s,baz=146,slow=22,SNR=8.6							
RCBR				LR		LR	16 09 09.2	
	comp=Z,11μm,18.6s,baz=243,slow=32							
BBTS	**Babate**	**15.95**	**16**	Pn		**Pn**	**16 04 24.4**	**-3.5**
BBTS				Sn		Sn	16 07 09.7	-15
BBTS	**Babate**	**15.95**	**16**	Pn		**Pn**	**16 04 24.4**	**-3.5**
	7.5nm,0.3s,baz=211,slow=3.4,SNR=10.0							
BBTS				Sn		Sn	16 07 09.7	-15
	5.9nm,0.3s,baz=209,slow=19,SNR=4.2							
BBTS				LR		LR	16 09 26.4	
	comp=Z,31μm,19.8s,baz=48,slow=33							
LIC	**Lamto**	**17.50**	**67**	*e*Pn		**Pn**	**16 04 47.6**	**0.0**
	baz=255							
LIC				*e*Sn		Sn	16 07 50.4	-12
	849nm,0.8s							
LIC				*e*R				
	62μm,23.0s							
LIC	**Lamto**	**17.50**	**67**	*e*P		**P**	**16 04 48.7**	**-0.1**
	306nm,0.8s							
LIC	**Lamto**	**17.50**	**67**	*e*Pn		**Pn**	**16 04 47.6**	**0.0**
LIC				*e*Sn		Sn	16 07 50.4	-12
TIC	**Toumodi**	**17.67**	**65**	*e*P		**Pn**	**16 04 49.4**	**-0.4**
	168nm,0.2s							
KIC	**Kosan Boka**	**17.82**	**67**	*e*P		**Pn**	**16 04 51.3**	**-0.2**
	252nm,0.8s							
DBIC	**Dimbokro**	**17.83**	**65**	*e*P		**P**	**16 04 52.2**	**-0.2**
DBIC	**Dimbokro**	**17.83**	**65**	*e*P		**Pn**	**16 04 51.2**	**-0.5**
	79nm,1.3s							
DBIC				*e*S		Sn	16 07 55.3	-15
DBIC				S		Sn	16 07 56.0	-15
DBIC	**Dimbokro**	**17.83**	**65**	P		**Pn**	**16 04 50.1**	**-1.5**
	8.7nm,0.3s,baz=232,slow=14,SNR=51							
DBIC				S		Sn	16 07 56.0	-15
	16nm,0.3s,baz=138,slow=21,SNR=11							
DBIC				LR		LR	16 09 16.8	
	comp=Z,36μm,21.4s,baz=228,slow=29							
SHEL	**Horse Pasture**	**21.44**	**136**	PFAKE			16 05 40.0	+8.1
SHEL				LR		LR		
	comp=Z,20μm,21.0s							
TOA0	**Torodi Ar. Sit**	**26.51**	**58**	*e*P		**P**	**16 06 18.9**	**-2.3**
TORD	**Torodi Ar. Bea**	**26.51**	**58**	P		**P**	**16 06 20.9**	**-0.2**
TORD				S		**S**	**16 10 51.6**	**-4.0**
TORD	**Torodi Ar. Bea**	**26.51**	**58**	P		**P**	**16 06 20.9**	**-0.2**
	comp=Z,55nm,1.0s,baz=240,slow=9.9,SNR=33							
TORD				S		**S**	**16 10 51.6**	**-4.0**
	comp=Z,8.2nm,0.9s,baz=219,slow=28,SNR=2.8							
TORD				LR		LR	16 14 53.1	
	comp=Z,33μm,19.0s,baz=235,slow=32							
BDFB	**Brasilia**	**30.38**	**239**	P		**P**	**16 06 55.2**	**-0.7**
BDFB				S		**S**	**16 11 53.6**	**-3.3**
BDFB	**Brasilia**	**30.38**	**239**	P		**P**	**16 06 55.2**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=42,slow=5.7,SNR=5.5							
BDFB				S		**S**	**16 11 53.6**	**-3.3**
	comp=Z,3.7nm,0.8s,baz=140,slow=13,SNR=1.2							
BDFB				LR		LR	16 17 58.1	
	comp=Z,17μm,19.1s,baz=267,slow=34							
SPB	**Sao Paulo**	**34.17**	**226**	PFAKE			16 07 40.0	+11
SPB				LR		LR		
	comp=Z,5μm,19.0s							
TAM	**Tamanrasset**	**34.93**	**46**	*e*P		**P**	**16 07 34.5**	**-1.2**
TAM				pmax		pmax		
	comp=Z,53nm,0.8s							
TAM				MLR		MLR		
	comp=Z,13μm,20.0s							
TAM	**Tamanrasset**	**34.93**	**46**	*e*P		**P**	**16 07 34.5**	**-1.2**
	comp=Z,53nm,0.8s							
TAM				LR		LR		
	comp=Z,13μm,20.0s							
MDT	**Midelt**	**36.83**	**24**	P		**P**	**16 07 51.6**	**-0.2**
MDT				S		**S**	**16 13 36.3**	**0.0**
MDT	**Midelt**	**36.83**	**24**	P		**P**	**16 07 51.6**	**-0.2**
	comp=Z,4.7nm,1.0s,baz=227,slow=8.9,SNR=8.4							
MDT				S		**S**	**16 13 36.3**	**0.0**
	comp=Z,3.5nm,0.8s,baz=44,slow=19,SNR=1.9							
RTC	**Rabat Centre**	**37.04**	**20**	PFAKE			16 08 00.0	+6.6
RTC				LR		LR		
	comp=Z,11μm,19.0s							
H09N1	**TRISTAN DA CUN**	**37.07**	**168**	T		T	16 47 27.0	
	SNR=5.4							
TRIS	**Tristan da Cun**	**37.07**	**168**	PFAKE			16 08 10.0	+16
TRIS				LR		LR		
	comp=Z,6μm,21.0s							
H09W1	**TRISTAN DA CUN**	**37.10**	**168**	T		T	16 47 38.5	
	SNR=34							
CMLA	**Cha da Macela**	**38.51**	**354**	PFAKE			16 08 20.0	+14
CMLA				LR		LR		
	comp=Z,8μm,19.0s							
PTGA	**Pitinga**	**38.83**	**270**	*e*P		**P**	**16 08 07.3**	**-1.5**
	comp=Z,5.8nm,1.0s							
PTGA				LR		LR		
	comp=Z,3μm,20.0s							
MORF	**Marmelete**	**39.57**	**16**	*e*P		P	16 08 24.9	+10
	comp=Z,89nm,1.4s							
PCVE	**Castro Verde**	**40.04**	**16**	*e*P		**P**	**16 08 19.1**	**+0.5**
	comp=Z,86nm,1.6s							
MESJ	**Messejana**	**40.19**	**16**	*e*P		**P**	**16 08 21.7**	**+1.9**
MESJ				AMb		AMB	16 08 38.6	
	comp=Z,86nm,2.0s							
MESJ				*e*PP		**PnPn**	**16 09 54.4**	**-1.5**
MESJ				*e*S		**S**	**16 14 30.4**	**+3.8**
PBEJ	**Beja**	**40.46**	**16**	*e*P		P	16 08 26.5	+4.4
	comp=Z,88nm,1.6s							
BBGH	**Gun Hill**	**40.51**	**291**	PFAKE			16 08 30.0	+7.2
BBGH				LR		LR		
	comp=Z,6μm,20.0s							
LIS	**Lisbon**	**40.77**	**14**	AMb		AMB	16 08 38.5	
	comp=Z,159nm,1.6s							
LIS				*e*PP		**PP**	**16 10 00.1**	**+1.4**
LIS				*e*S		**S**	**16 14 38.6**	**+3.3**
EVOP	**Sao Brissos**	**40.86**	**16**	*e*P		P	16 08 30.8	+5.5
EVOP				pmax		pmax		
	comp=Z,160nm,1.4s							
EVOP	**Sao Brissos**	**40.86**	**16**	*e*P		P	16 08 30.8	+5.5
	comp=Z,160nm,1.4s							
EVO	**Evora**	**40.89**	**16**	*e*P		P	16 08 30.8	+5.2
	comp=Z,160nm,1.4s							
EVO				*e*R				
	comp=Z,11μm,21.5s							
EVO	**Evora**	**40.89**	**16**	*e*P		P	16 08 29.3	+3.7
	comp=Z,121nm,1.6s							
ETRT	**Tiaret**	**41.59**	**28**	P		P	16 08 38.4	+6.8
PMRV	**Marv??o**	**41.90**	**16**	*e*P		**P**	**16 08 36.2**	**+2.3**
	comp=Z,99nm,1.8s							
EANR	**'Ain N'Sour**	**41.96**	**27**	P		**P**	**16 08 35.2**	**+0.7**
H05S1	**Guadeloupe/Mar**	**42.07**	**293**	T		T	16 53 56.4	
	SNR=9.5							
TSUM	**Tsumeb**	**42.15**	**118**	*e*P		**P**	**16 08 35.2**	**-1.3**
TSUM	**Tsumeb**	**42.15**	**118**	*e*P		**P**	**16 08 35.2**	**-1.3**
	comp=Z,45nm,1.4s							
TSUM				S		**S**	**16 14 58.2**	**+1.4**
TSUM				LR		LR		
	comp=Z,19μm,20.0s							
TSUM	**Tsumeb**	**42.15**	**118**	P		**P**	**16 08 35.4**	**-1.0**
	comp=Z,10nm,0.9s,baz=273,slow=8.4,SNR=6.7							
TSUM				S		**S**	**16 14 58.2**	**+1.4**
	comp=Z,1.2nm,1.0s,baz=235,slow=16,SNR=1.8							
SIV	**San Ignacio**	**42.20**	**247**	P		**P**	**16 08 37.3**	**+0.5**
SIV	**San Ignacio**	**42.20**	**247**	P		**P**	**16 08 37.3**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=89,slow=9.2,SNR=6.3							
GRGR	**Grenville**	**42.20**	**289**	PFAKE			16 08 50.0	+13
GRGR				LR		LR		
	comp=Z,1μm,19.0s							
ECHA	**Ech Chlef**	**42.24**	**27**	P		**P**	**16 08 33.7**	**-3.0**
EBNR	**Beni Rached**	**42.43**	**27**	P		P	16 08 31.2	-7.2
FDF	**Fort de France**	**42.45**	**293**	PFAKE			16 08 50.0	+11
FDF				LR		LR		
	comp=Z,3μm,21.0s							
SAML	**Samuel**	**42.64**	**258**	*e*P		**P**	**16 08 40.0**	**-0.4**
	comp=Z,0.8nm,0.8s							
SAML				LR		LR		
	comp=Z,3μm,19.0s							
MTE	**Manteigas**	**42.77**	**15**	P		**P**	**16 08 41.9**	**+0.9**
	comp=Z,30nm,0.9s							
MTE				LR		LR		
	comp=Z,6μm,22.0s							
H05N1	**Guadeloupe/Mar**	**42.87**	**295**	T		T	16 54 49.8	
PAB	**San Pablo**	**42.92**	**19**	*e*P		**P**	**16 08 42.4**	**0.0**
PAB				pmax		pmax		
	comp=Z,102nm,1.6s							
PAB				MLR		MLR		
	comp=Z,6μm,19.0s							
PAB	**San Pablo**	**42.92**	**19**	*e*P		**P**	**16 08 42.4**	**0.0**
	comp=Z,102nm,1.6s							
PAB				LR		LR		
	comp=Z,6μm,19.0s							
WIN	**Windhoek**	**43.05**	**123**	*e*P		**P**	**16 08 46.5**	**+2.7**
WIN				AMB		AMB	16 09 04.8	
	comp=Z,14nm,2.8s							
WIN	**Windhoek**	**43.05**	**123**	P		**P**	**16 08 46.5**	**+2.7**
WIN				pmax		pmax		
	comp=Z,14nm,2.8s							
WIN	**Windhoek**	**43.05**	**123**	P		**P**	**16 08 46.5**	**+2.7**
	comp=Z,14nm,2.8s							
CPUP	**Villa Florida**	**43.13**	**231**	*e*P		**P**	**16 08 44.2**	**0.0**
	comp=Z,0.8nm,0.8s							
CPUP	**Villa Florida**	**43.13**	**231**	P		**P**	**16 08 44.2**	**0.0**
	comp=Z,2.5nm,0.6s,baz=61,slow=7.8,SNR=4.0							
CPUP				LR		LR	16 26 07.7	
	comp=Z,6μm,18.5s,baz=46,slow=35							
ESDC	**Sonseca Array**	**43.17**	**19**	P		**P**	**16 08 44.9**	**+0.5**
ESDC	**Sonseca Array**	**43.17**	**19**	P		**P**	**16 08 44.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=204,slow=8.5,SNR=10							
ESDC				LR		LR	16 26 31.5	
	comp=Z,6μm,18.4s,baz=195,slow=36							
ESLA	**Sonseca Array**	**43.17**	**19**	*e*P		**P**	**16 08 42.8**	**-1.6**
	comp=Z,181nm,2.1s							
ADJB	**Djebel Djouab**	**43.23**	**29**	P		P	16 08 51.2	+6.2
ABA	**Alger-Bouzarea**	**43.55**	**28**	P		**P**	**16 08 50.6**	**+3.2**
RUDU	**RUNDU**	**43.62**	**115**	*e*P		P	16 08 53.7	+5.3
RUDU				AMB		AMB	16 09 10.6	
	comp=Z,76nm,1.6s							
RUDU	**RUNDU**	**43.62**	**115**	P		P	16 08 53.7	+5.3
	comp=Z,76nm,1.6s							
ANWB	**Willy Bob**	**43.98**	**297**	PFAKE			16 09 00.0	+8.9
ANWB				LR		LR		
	comp=Z,2μm,20.0s							
SET	**Setif**	**44.26**	**31**	P		P	16 09 04.0	+11
CTEI	**Djebel Teioual**	**44.68**	**32**	P		P	16 09 02.1	+5.5
CASM	**Ain Smara**	**44.88**	**32**	P		P	16 09 02.1	+4.0
ABSA	**Djebel Ababsia**	**45.42**	**33**	P		**P**	**16 09 02.8**	**+0.4**
CMAH	**Djebel Manchou**	**45.65**	**33**	P		**P**	**16 09 04.0**	**-0.2**
KEST	**Kesra**	**46.07**	**35**	*e*P		**P**	**16 09 05.1**	**-2.5**
KEST				S		S	16 16 02.1	+8.8
KEST	**Kesra**	**46.07**	**35**	P		**P**	**16 09 08.1**	**+0.5**
	comp=Z,9.1nm,1.0s,baz=211,slow=9.8,SNR=5.1							
KEST				S		S	16 16 02.1	+8.8
	comp=Z,2.9nm,1.1s,baz=17,slow=19,SNR=2.5							
KEST				LR		LR	16 28 34.8	
	comp=Z,14μm,18.5s,baz=340,slow=36							
SJPF	**Ste Jean**	**47.16**	**20**	*e*P		**P**	**16 09 14.9**	**-1.1**
	comp=Z,114nm,1.3s							
SJPF	**Ste Jean**	**47.16**	**20**	*e*P		**P**	**16 09 14.9**	**-1.1**
SJPF				pmax		pmax		
	comp=Z,114nm,1.3s							
SJPF	**Ste Jean**	**47.16**	**20**	*e*P		**P**	**16 09 14.9**	**-1.1**
	comp=Z,114nm,1.3s							
ETSF	**Etsaut**	**47.20**	**21**	*e*P		**P**	**16 09 15.5**	**-0.9**
	comp=Z,135nm,1.3s							
ETSF	**Etsaut**	**47.20**	**21**	*e*P		**P**	**16 09 15.5**	**-0.9**
ETSF				pmax		pmax		
	comp=Z,135nm,1.3s							
ETSF	**Etsaut**	**47.20**	**21**	*e*P		**P**	**16 09 15.5**	**-0.9**
	comp=Z,135nm,1.3s							
ATE	**Arette**	**47.32**	**20**	*e*P		**P**	**16 09 18.6**	**+1.4**
MTP	**Monte Pirata**	**47.51**	**295**	*e*P		**P**	**16 09 20.1**	**+1.1**
	comp=Z,35nm,0.7s							
LABF	**Labassere**	**47.56**	**21**	*e*P		**P**	**16 09 19.8**	**+0.7**
EPF	**Esparros**	**47.64**	**21**	*e*P		**P**	**16 09 17.1**	**-2.6**
	comp=Z,69nm,1.0s							
EPF	**Esparros**	**47.64**	**21**	*e*P		**P**	**16 09 17.1**	**-2.6**
EPF				pmax		pmax		
	comp=Z,69nm,1.0s							
EPF	**Esparros**	**47.64**	**21**	*e*P		**P**	**16 09 17.1**	**-2.6**
	comp=Z,69nm,1.0s							
VALF	**Valcebollere**	**47.74**	**23**	*e*P		**P**	**16 09 20.7**	**+0.1**
MLS	**Moulis**	**47.86**	**22**	*e*P		**P**	**16 09 21.9**	**+0.5**
SJG	**San Juan**	**48.05**	**295**	LR		LR	16 26 12.3	
	comp=Z,3μm,19.5s,baz=120,slow=32							
LPA	**La Plata**	**48.30**	**221**	*de*P		**P**	**16 09 24.0**	**-0.9**
LPA				PPP		PPP	16 12 05.0	
LPA				S		**S**	**16 16 27.0**	**+2.0**
LPA				sS		**sS**	**16 16 31.0**	**+0.8**
LPA				PSP		PSP	16 16 42.0	
LPA				PKIKP		**PKiKP**	**16 17 39.0**	**-3.3**
LPA				SCS		**ScS**	**16 19 16.0**	**-2.4**
LPA				SS		SS	16 20 06.0	+11
LPA				SS(2)			16 20 47.0	
CELP	**Cerrillos**	**48.43**	**295**	*e*P		**P**	**16 09 26.4**	**+0.2**
MTLF	**Montolieu**	**48.61**	**23**	*e*P		**P**	**16 09 26.5**	**-0.7**
	comp=Z,86nm,1.4s							
MTLF	**Montolieu**	**48.61**	**23**	*e*P		**P**	**16 09 26.5**	**-0.7**
MTLF				pmax		pmax		
	comp=Z,86nm,1.4s							
MTLF	**Montolieu**	**48.61**	**23**	*e*P		**P**	**16 09 26.5**	**-0.7**
	comp=Z,86nm,1.4s							
LRS	**Lares**	**48.74**	**295**	*e*P		**P**	**16 09 29.2**	**+0.6**
VSL	**Villasalto**	**48.81**	**31**	PFAKE			16 09 40.0	+11
VSL				LR		LR		
	comp=Z,8μm,21.0s							
LPAZ	**La Paz**	**48.81**	**249**	*e*P		**P**	**16 09 29.5**	**-0.4**
	comp=Z,58nm,1.1s							
LPAZ				S		**S**	**16 16 31.6**	**-2.4**
LPAZ	**La Paz**	**48.81**	**249**	P		P	16 09 34.3	+4.4
	comp=Z,13nm,0.9s,baz=58,slow=5.7,SNR=15							
LPAZ				S		**S**	**16 16 31.6**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=153,slow=4.5,SNR=2.1							
UPI	**Upington**	**48.95**	**128**	*e*P		**P**	**16 09 30.4**	**+0.3**
UPI				AMB		AMB	16 09 54.1	
	comp=Z,39nm,5.2s							
UPI	**Upington**	**48.95**	**128**	P		**P**	**16 09 30.4**	**+0.3**
	comp=Z,39nm,5.2s							
WDD	**Wield Dalam**	**49.27**	**39**	PFAKE			16 09 40.0	+7.7
WDD				LR		LR		
	comp=Z,14μm,20.0s							
LFF	**La Frestale**	**49.44**	**20**	*e*P		**P**	**16 09 31.9**	**-1.6**
	comp=Z,45nm,0.7s							
LFF	**La Frestale**	**49.44**	**20**	*e*P		**P**	**16 09 31.9**	**-1.6**
LFF				pmax		pmax		
	comp=Z,45nm,0.7s							
LFF	**La Frestale**	**49.44**	**20**	*e*P		**P**	**16 09 31.9**	**-1.6**
	comp=Z,45nm,0.7s							
LASF	**Ste Croix**	**49.87**	**23**	*e*P		**P**	**16 09 36.8**	**0.0**
	comp=Z,106nm,1.3s							
LASF	**Ste Croix**	**49.87**	**23**	*e*P		**P**	**16 09 36.8**	**0.0**
	comp=Z,106nm,1.3s							
CAF	**Calviac**	**49.91**	**21**	*e*P		**P**	**16 09 36.3**	**-0.8**
	comp=Z,84nm,1.1s							
CAF	**Calviac**	**49.91**	**21**	*e*P		**P**	**16 09 36.3**	**-0.8**
CAF				pmax		pmax		
	comp=Z,84nm,1.1s							
CAF	**Calviac**	**49.91**	**21**	*e*P		**P**	**16 09 36.3**	**-0.8**
	comp=Z,84nm,1.1s							
RJF	**Les Rejaudoux**	**50.03**	**21**	*e*P		**P**	**16 09 37.7**	**-0.3**
	comp=Z,118nm,1.4s							
RJF				*e*R				
	comp=Z,13μm,18.0s							
RJF	**Les Rejaudoux**	**50.03**	**21**	*e*P		**P**	**16 09 37.7**	**-0.3**
RJF				pmax		pmax		
	comp=Z,119nm,1.4s							
RJF	**Les Rejaudoux**	**50.03**	**21**	*e*P		**P**	**16 09 37.7**	**-0.3**
	comp=Z,118nm,1.4s							
SDV	**Santo Domingo**	**50.22**	**282**	*e*P		**P**	**16 09 39.2**	**-1.0**
	comp=Z,8.1nm,1.3s							
SDV				LR		LR		
	comp=Z,751nm,19.0s							
LMR	**La Mourre**	**50.38**	**26**	*e*P		**P**	**16 09 39.9**	**-0.7**
	comp=Z,100nm,1.1s							
LMR	**La Mourre**	**50.38**	**26**	*e*P		**P**	**16 09 39.9**	**-0.7**
LMR				pmax		pmax		
	comp=Z,100nm,1.1s							
LMR	**La Mourre**	**50.38**	**26**	*e*P		**P**	**16 09 39.9**	**-0.7**
	comp=Z,100nm,1.1s							
FRNF	**Fournols**	**50.48**	**22**	*e*P		**P**	**16 09 41.2**	**-0.3**
SMRF	**Simiane la Rot**	**50.49**	**25**	*e*P		**P**	**16 09 41.0**	**-0.6**
	comp=Z,87nm,1.3s							
SMRF	**Simiane la Rot**	**50.49**	**25**	*e*P		**P**	**16 09 41.0**	**-0.6**
	comp=Z,87nm,1.3s							
SUR	**Sutherland**	**50.51**	**133**	*e*P		**P**	**16 09 41.8**	**-0.3**
SUR				AMB		AMB	16 10 06.3	
	comp=Z,32nm,4.5s							
SUR	**Sutherland**	**50.51**	**133**	*e*P		**P**	**16 09 41.2**	**-0.9**
	comp=Z,35nm,0.8s							
SUR				S		**S**	**16 16 58.2**	**+1.7**
SUR				LR		LR		
	comp=Z,6μm,19.0s							
SUR	**Sutherland**	**50.51**	**133**	P		**P**	**16 09 41.8**	**-0.3**
	comp=Z,24nm,0.9s,baz=291,slow=10,SNR=9.6							
SUR				S		**S**	**16 16 58.2**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=12,slow=20,SNR=1.5							
LBL	**Lubilhac**	**50.60**	**22**	*e*P		**P**	**16 09 43.6**	**+1.2**
MFF	**Saint Martin d**	**50.61**	**19**	*e*P		**P**	**16 09 41.3**	**-1.0**
	comp=Z,210nm,1.5s							
**MFF

comp=Z,50nm,2.0s
LBTB Lobatse 51.17 122 *e*P **P 16 09 45.9 -1.2**
comp=Z,28nm,0.8s
SBF Sospel 51.21 26 *e*P **P 16 09 45.8 -1.2**
comp=Z,158nm,1.2s
SBF Sospel 51.21 26 *e*P **P 16 09 45.8 -1.2**
SBF pmax pmax
comp=Z,158nm,1.2s
SBF Sospel 51.21 26 *e*P **P 16 09 45.8 -1.2**
comp=Z,158nm,1.2s
AGO Saint Agoulin 51.26 22 *e*P **P 16 09 47.9 +0.6**
LVC Limon Verde 51.26 241 P P 16 09 42.7 -5.3
comp=Z,13nm,0.9s
LVC LR LR
comp=Z,3µm,19.0s
ROSF Rostrenen 51.27 15 *e*P **P 16 09 46.3 -1.0**
comp=Z,222nm,1.7s
ROSF Rostrenen 51.27 15 *e*P **P 16 09 46.3 -1.0**
ROSF pmax pmax
comp=Z,222nm,1.7s
ROSF Rostrenen 51.27 15 *e*P **P 16 09 46.3 -1.0**
comp=Z,222nm,1.7s
SGMF Saint Gilles 51.38 16 *e*P **P 16 09 47.7 -0.4**
comp=Z,50nm,0.9s
SGMF Saint Gilles 51.38 16 *e*P **P 16 09 47.7 -0.4**
SGMF pmax pmax
comp=Z,50nm,0.9s
SGMF Saint Gilles 51.38 16 *e*P **P 16 09 47.7 -0.4**
comp=Z,50nm,0.9s
ORIF Oris-en-Rattie 51.39 24 *e*P **P 16 09 48.2 -0.1**
comp=Z,79nm,1.1s
ORIF *e*R
comp=Z,12µm,18.2s
ORIF Oris-en-Rattie 51.39 24 *e*P **P 16 09 48.2 -0.1**
ORIF pmax pmax
comp=Z,79nm,1.1s
ORIF Oris-en-Rattie 51.39 24 *e*P **P 16 09 48.2 -0.1**
comp=Z,79nm,1.1s
BGF Bois d'Agland 51.59 21 *e*P **P 16 09 48.9 -0.8**
comp=Z,238nm,1.9s
BGF Bois d'Agland 51.59 21 *e*P **P 16 09 48.9 -0.8**
BGF pmax pmax
comp=Z,238nm,1.9s
BGF Bois d'Agland 51.59 21 *e*P **P 16 09 48.9 -0.8**
comp=Z,238nm,1.9s
MBDF Montbardon 51.60 25 *e*P **P 16 09 50.8 +0.7**
comp=Z,137nm,1.0s
MBDF Montbardon 51.60 25 *e*P **P 16 09 50.8 +0.7**
MBDF pmax pmax
comp=Z,137nm,1.0s
MBDF Montbardon 51.60 25 *e*P **P 16 09 50.8 +0.7**
comp=Z,137nm,1.0s
CEL Celeste 51.63 37 PFAKE 16 10 00.0 +10
CEL LR LR
comp=Z,13µm,19.0s
SWZ Schweizer 51.74 125 *e*P **P 16 09 50.9 -0.5**
SWZ AMB AMB 16 10 06.5
comp=Z,82nm,1.2s
SWZ Schweizer 51.74 125 P P **16 09 50.9 -0.5**
comp=Z,82nm,1.2s
BNI Bardonecchia 51.83 25 *e*P **P 16 09 50.9 -0.8**
BNI pmax pmax
comp=Z,49nm,0.9s
BNI MLR MLR
comp=Z,8µm,19.0s
BNI Bardonecchia 51.83 25 *e*P **P 16 09 50.9 -0.8**
comp=Z,49nm,0.9s
BNI LR LR
comp=Z,8µm,19.0s
MBAR Mbarara 51.87 90 *e*P P 16 09 58.4 +5.7
MBAR Mbarara 51.87 90 P P 16 09 58.4 +5.7
MBAR LR LR
comp=Z,734nm,20.0s
AVF Avril sur Loir 51.97 21 *e*P **P 16 09 51.3 -1.2**
comp=Z,66nm,1.2s
AVF Avril sur Loir 51.97 21 *e*P **P 16 09 51.3 -1.2**
AVF pmax pmax
comp=Z,66nm,1.2s
AVF Avril sur Loir 51.97 21 *e*P **P 16 09 51.3 -1.2**
comp=Z,66nm,1.2s
GRR Gorron 51.99 17 *e*P **P 16 09 52.1 -0.5**
comp=Z,87nm,1.0s
GRR Gorron 51.99 17 *e*P **P 16 09 52.1 -0.5**
GRR pmax pmax
comp=Z,87nm,1.0s
GRR Gorron 51.99 17 *e*P **P 16 09 52.1 -0.5**
comp=Z,87nm,1.0s
SMF Signal de Mont 52.02 22 *e*P **P 16 09 54.2 +1.2**
comp=Z,162nm,1.8s
SMF Signal de Mont 52.02 22 *e*P **P 16 09 54.2 +1.2**
SMF pmax pmax
comp=Z,162nm,1.8s
SMF Signal de Mont 52.02 22 *e*P **P 16 09 54.2 +1.2**
comp=Z,162nm,1.8s
LPG La Plagne 52.22 25 *e*P **P 16 09 54.8 0.0**
comp=Z,94nm,0.9s
LPG La Plagne 52.22 25 *e*P **P 16 09 54.8 0.0**
LPG pmax pmax
comp=Z,94nm,0.9s
LPG La Plagne 52.22 25 *e*P **P 16 09 54.8 0.0**
comp=Z,94nm,0.9s
LPL La Plagne 52.22 25 *e*P **P 16 09 54.8 +0.1**
comp=Z,110nm,1.2s
LPL La Plagne 52.22 25 *e*P **P 16 09 54.8 +0.1**
LPL pmax pmax
comp=Z,110nm,1.2s
LPL La Plagne 52.22 25 *e*P **P 16 09 54.8 +0.1**
comp=Z,110nm,1.2s
BOSA Boshof 52.24 126 *e*P **P 16 09 55.8 +0.7**
BOSA AMB AMB 16 10 08.9
comp=Z,44nm,2.1s
BOSA Boshof 52.24 126 *e*P **P 16 09 55.5 +0.4**
comp=Z,27nm,0.8s
BOSA S **S 16 17 22.1 +1.7**
BOSA Boshof 52.24 126 P **P 16 09 55.3 +0.2**
comp=Z,18nm,1.0s,baz=285,slow=7.1,SNR=14
BOSA S **S 16 17 22.1 +1.7**
comp=Z,0.8nm,0.7s,baz=5.6,slow=19,SNR=2.1
BOSA LR LR 16 28 11.1
comp=Z,7µm,19.5s,baz=288,slow=32
SSF Saint Saulge 52.25 21 *e*P **P 16 09 54.8 +0.1**
comp=Z,133nm,1.3s
SSF Saint Saulge 52.25 21 *e*P **P 16 09 54.8 +0.1**
SSF pmax pmax
comp=Z,133nm,1.3s
SSF Saint Saulge 52.25 21 *e*P **P 16 09 54.8 +0.1**
comp=Z,133nm,1.3s
LDF La Druitiere 52.39 17 *e*P **P 16 09 54.9 -0.7**
comp=Z,128nm,1.4s
LDF La Druitiere 52.39 17 *e*P **P 16 09 54.9 -0.7**
LDF pmax pmax
comp=Z,129nm,1.4s
LDF La Druitiere 52.39 17 *e*P **P 16 09 54.9 -0.7**
comp=Z,128nm,1.4s
FLN La Foliniere 52.43 17 *e*P **P 16 09 56.3 +0.4**
comp=Z,55nm,1.0s
FLN *e*R
comp=Z,6µm,18.0s
FLN La Foliniere 52.43 17 *e*P **P 16 09 56.3 +0.4**
FLN pmax pmax
comp=Z,55nm,1.0s
FLN La Foliniere 52.43 17 *e*P **P 16 09 56.3 +0.4**
comp=Z,55nm,1.0s
LOR Lormes 52.55 21 *e*P **P 16 09 56.9 0.0**
comp=Z,244nm,1.7s
LOR *e*R
comp=Z,12µm,21.5s
LOR Lormes 52.55 21 *e*P **P 16 09 56.9 0.0**
comp=Z,244nm,1.7s
CUC Castrocucco 52.71 35 PFAKE 16 10 10.0 +12
CUC LR LR
comp=Z,9µm,22.0s
TIP Timpagrande 52.74 37 *e*P **P 16 09 58.7 +0.2**
comp=Z,43nm,1.3s
TIP LR LR
comp=Z,2µm,20.0s
TRQA Tornquist 52.78 220 *e*P **P 16 09 59.5 +0.7**
comp=Z,20nm,1.1s
TRQA LR LR
comp=Z,2µm,19.0s
VLC Villacollemand 52.79 28 PFAKE 16 10 10.0 +11
VLC LR LR
comp=Z,6µm,19.0s
CABF La Chapelle 52.85 23 *e*P **P 16 09 58.0 -1.2**
comp=Z,86nm,1.1s
CABF La Chapelle 52.85 23 *e*P **P 16 09 58.0 -1.2**
CABF pmax pmax
comp=Z,86nm,1.1s
CABF La Chapelle 52.85 23 *e*P **P 16 09 58.0 -1.2**
comp=Z,86nm,1.1s
SDDR Presa de Saban 52.97 294 *e*P **P 16 10 01.2 +0.7**
comp=Z,11nm,0.8s
SDDR LR LR
comp=Z,3µm,21.0s
HVD Gariep Dam 53.25 129 *e*P P 16 10 07.1 +4.6
HVD AMB AMB 16 10 12.6
comp=Z,54nm,3.9s
HVD Gariep Dam 53.25 129 P P 16 10 07.1 +4.6
HVD pmax pmax
comp=Z,54nm,3.9s
HVD Gariep Dam 53.25 129 P P 16 10 07.1 +4.6
comp=Z,54nm,3.9s
VAL Valentia 53.27 8⇑*i*S S 16 17 49.7 +16
ROSC El Rosal 53.42 277 P **P 16 10 05.0 +0.7**
comp=Z,11nm,1.4s
ROSC S S 16 17 26.1 -11
ROSC El Rosal 53.42 277 P **P 16 10 05.0 +0.7**
comp=Z,5.7nm,0.4s,baz=80,slow=21,SNR=5.5
ROSC S S 16 17 26.1 -11
comp=Z,5.0nm,0.4s,baz=102,slow=19,SNR=2.2
ROSC LR LR 16 31 24.4
comp=Z,3µm,21.1s,baz=313,slow=34
GRTK Grand Turk 53.56 298 PFAKE
GRTK LR LR 16 10 20.0 +15
comp=Z,2µm,22.0s
OBSV Observatory 53.67 122 *e*P **P 16 10 04.9 -0.8**
OBSV AMB AMB 16 10 19.0
comp=Z,56nm,4.2s
SLR Silverton 53.70 122 *e*P **P 16 10 06.8 +0.9**
SLR AMB AMB 16 10 31.3
comp=Z,49nm,1.1s
SLR Silverton 53.70 122 P **P 16 10 06.8 +0.9**
SLR pmax pmax
comp=Z,49nm,1.1s
SLR Silverton 53.70 122 P P **16 10 06.8 +0.9**
comp=Z,49nm,1.1s
LOMF Lomont 53.75 23 *e*P **P 16 10 04.5 -1.3**
SFTF Sexfontaines 53.77 21 *e*P **P 16 10 05.3 -0.6**
comp=Z,130nm,1.2s
SFTF Sexfontaines 53.77 21 *e*P **P 16 10 05.3 -0.6**
comp=Z,130nm,1.2s
ERPM east rand prop 53.87 123 *e*P **P 16 10 07.0 -0.1**
ERPM AMB AMB 16 10 17.8
comp=Z,41nm,1.7s
ERPM east rand prop 53.87 123 P **P 16 10 07.0 -0.1**
comp=Z,41nm,1.7s
MEZF Maizieres J'vi 54.03 21 *e*P **P 16 10 06.6 -1.1**
comp=Z,103nm,0.9s
MEZF Maizieres J'vi 54.03 21 *e*P **P 16 10 06.6 -1.1**
comp=Z,103nm,0.9s
SEK Senekal 54.06 125 *e*P **P 16 10 08.8 +0.3**
SEK AMB AMB 16 10 23.2
comp=Z,65nm,1.3s
SEK Senekal 54.06 125 P **P 16 10 08.8 +0.3**
comp=Z,65nm,1.3s
TUE Stuetta 54.09 26 *e*P **P 16 10 08.0 -0.5**
comp=Z,16nm,0.7s
TUE LR LR
comp=Z,8µm,21.0s
HAU Haudompre 54.10 22 *e*P **P 16 10 08.0 -0.3**
comp=Z,101nm,0.9s
HAU *e*R
comp=Z,7µm,20.8s
HAU Haudompre 54.10 22 *e*P **P 16 10 08.0 -0.3**
HAU pmax pmax
comp=Z,101nm,0.9s
HAU Haudompre 54.10 22 *e*P **P 16 10 08.0 -0.3**
comp=Z,101nm,0.9s
HINF Hinteralfeld 54.14 23 *e*P **P 16 10 08.0 -0.6**
comp=Z,91nm,1.4s
HINF Hinteralfeld 54.14 23 *e*P **P 16 10 08.0 -0.6**
HINF pmax pmax
comp=Z,91nm,1.4s
HINF Hinteralfeld 54.14 23 *e*P **P 16 10 08.0 -0.6**
comp=Z,91nm,1.4s
THEF Thuy Montfort 54.14 22 *e*P **P 16 10 08.5 -0.1**
MSNA Messina 54.18 117 *e*P **P 16 10 10.2 +0.9**
MSNA AML AML 16 10 33.0
comp=Z,7.9nm,0.7s
MSNA Messina 54.18 117 P **P 16 10 10.2 +0.9**
MOF Molkenrain 54.28 23 *e*P **P 16 10 09.8 +0.1**
PAGF Fort de Pagny 54.32 22 *e*P **P 16 10 09.4 -0.4**
comp=Z,68nm,1.5s
PAGF Fort de Pagny 54.32 22 *e*P **P 16 10 09.4 -0.4**
comp=Z,68nm,1.5s
DAVOX Davos/Dischmat 54.56 26 P **P 16 10 11.6 -0.3**
DAVOX Davos/Dischmat 54.56 26 P **P 16 10 11.6 -0.3**
comp=Z,19nm,1.0s,baz=208,slow=5.6,SNR=11
ECH Echery 54.58 23 *e*P **P 16 10 12.2 +0.4**
ECH Echery 54.58 23 *e*P **P 16 10 11.4 -0.4**
ECH pmax pmax
comp=Z,24nm,1.0s
ECH MLR MLR
comp=Z,6µm,21.0s
ECH Echery 54.58 23 *e*P **P 16 10 11.4 -0.4**
comp=Z,24nm,1.0s
ECH LR LR
comp=Z,6µm,21.0s
FELD Feldberg im Sc 54.64 24 *e*P **P 16 10 11.9 -0.5**
CDF Champ du Feu 54.79 23 *e*P **P 16 10 12.6 -0.8**
comp=Z,103nm,1.2s
CDF Champ du Feu 54.79 23 *e*P **P 16 10 12.6 -0.8**
CDF pmax pmax
comp=Z,103nm,1.2s
CDF Champ du Feu 54.79 23 *e*P **P 16 10 12.6 -0.8**
comp=Z,103nm,1.2s
WLS Welschbruch 54.82 23 *e*P **P 16 10 14.2 +0.7**
DAVA Damuels 54.96 25⇑*i*P **P 16 10 13.8 -0.9**
comp=Z,75nm,1.0s
LCO Las Campanas 54.96 235 *e*P **P 16 10 17.8 +2.6**
comp=Z,52nm,1.5s
LCO LR LR
comp=Z,4µm,20.0s
GVD Gavdhos 55.10 45 *e*P **P 16 10 13.7 -2.1**
FETA Feichten 55.12 26⇑*i*P **P 16 10 14.5 -1.4**
comp=Z,41nm,1.2s
BFO Black Forest 55.14 24 *e*P **P 16 10 14.5 -1.3**
BFO pmax pmax
comp=Z,44nm,0.9s
BFO MLR MLR
comp=Z,6µm,19.0s
BFO Black Forest 55.14 24 *e*P **P 16 10 14.5 -1.3**
comp=Z,44nm,0.9s
BFO LR LR
comp=Z,6µm,19.0s
GRM Grahamstown 55.18 131 *e*P **P 16 10 16.6 +0.1**
GRM AMB AMB 16 10 33.5
comp=Z,85nm,5.1s
GRM Grahamstown 55.18 131 P **P 16 10 16.6 +0.1**
GRM pmax pmax
comp=Z,85nm,5.1s
GRM Grahamstown 55.18 131 P **P 16 10 16.6 +0.1**
comp=Z,85nm,5.1s
DOU Dourbes 55.21 20 P **P 16 10 16.5 +0.2**
comp=Z,17nm,1.4s
VLI Veliai 55.27 43 *e*P **P 16 10 17.8 +0.9**
GIVF Givet 55.30 20 *e*P **P 16 10 16.0 -0.9**
comp=Z,197nm,1.6s
GIVF Givet 55.30 20 *e*P **P 16 10 16.0 -0.9**
GIVF pmax pmax
comp=Z,197nm,1.6s
GIVF Givet 55.30 20 *e*P **P 16 10 16.0 -0.9**
comp=Z,197nm,1.6s
WLF Walferdange 55.40 21 P P 16 10 22.0 +4.4
comp=Z,31nm,2.0s
WLF Walferdange 55.40 21 PFAKE 16 10 30.0 +12
WLF LR LR
comp=Z,10µm,22.0s
LANF Langenberg 55.45 23 *e*P **P 16 10 18.0 -0.1**
KLV Kalavryta, Ach 55.46 41 *e*P **P 16 10 19.4 +1.0**
WTTA Wattenberg 55.71 27⇑*i*P **P 16 10 19.8 -0.3**
comp=Z,38nm,1.0s
ABTA Abfaltersbach 55.72 27⇑*i*P **P 16 10 19.8 -0.3**
comp=Z,30nm,0.8s
BCLA Clavier 55.73 20 P **P 16 10 22.4 +2.4**
STU Stuttgart 55.84 24 *e*P **P 16 10 20.1 -0.7**
STU Stuttgart 55.84 24 *e*P **P 16 10 20.1 -0.7**
VOY Vojsko 55.85 29 *e*P **P 16 10 20.6 -0.5**
VOY *e* 16 10 30.4
VOY *e* 16 10 44.9
DID Didima 55.89 42 *e*P **P 16 10 21.3 -0.2**
IDI Anoyia 55.89 45 *e*P P 16 10 17.3 -4.2
IDI Anoyia 55.89 45 *e*P **P 16 10 22.4 +0.8**
comp=Z,49nm,1.0s
IDI S **S 16 18 13.3 +3.9**
IDI Anoyia 55.89 45 P **P 16 10 22.8 +1.2**
comp=Z,18nm,1.1s,baz=228,slow=11,SNR=4.9
IDI S **S 16 18 13.3 +3.9**
comp=Z,7.3nm,0.9s,baz=10,slow=11,SNR=3.4
LTK Loutraki 55.99 42 *e*P **P 16 10 24.6 +2.5**
NEST Nestorio 56.11 38 *e*P **P 16 10 25.1 +2.0**
MEM Membach 56.13 20 P **P 16 10 25.0 +2.2**
comp=Z,29nm,1.5s
VIL2 Platees 56.29 42 *e*P **P 16 10 24.3 0.0**
NNA Nana 56.37 256 PFAKE 16 10 40.0 +15
NNA LR LR
comp=Z,4µm,19.0s
BIA Bitola 56.63 38 *e*P **P 16 10 29.1 +2.4**
GTBY Guantanamo Bay 56.70 294 PFAKE 16 10 40.0 +13
GTBY LR LR
comp=Z,2µm,21.0s
LIT Litokhoron 56.83 39 *e*P P 16 10 36.7 +8.6
SANT Santorini 56.83 44 PFAKE 16 10 40.0 +12
SANT LR LR
comp=Z,6µm,19.0s
XOR Xorichti 56.87 40 *e*P **P 16 10 30.1 +1.7**
AOS Alonnisos 57.21 41 *e*P P 16 10 38.4 +7.6
APE Apeiranthos 57.23 44 *e*P P 16 10 23.8 -7.2
APE Apeiranthos 57.23 44⇓P P 16 10 35.9 +4.9
APE Apeiranthos 57.23 44⇓*i*P P 16 10 35.9 +4.9
SKO Skopje 57.27 37 *e*P **P 16 10 33.3 +2.2**
OTAV Otavalo 57.32 271 *e*P **P 16 10 29.5 -3.1**
comp=Z,35nm,1.9s
OTAV LR LR
comp=Z,2µm,20.0s
MOA Molln 57.34 28⇓*i*P **P 16 10 30.4 -1.2**
comp=Z,14nm,1.2s
GRFO Grafenberg 57.38 24 *e*P **P 16 10 30.8 -1.0**
GRFO pmax pmax
comp=Z,21nm,0.8s
GRFO Grafenberg 57.38 24 *e*P **P 16 10 30.8 -1.0**
comp=Z,22nm,0.8s
GRF Grafenberg Arr 57.38 24 *e*P **P 16 10 30.9 -0.9**
comp=Z,38nm,1.4s
GRF *e*L L 16 29 06.3
comp=Z,16µm,39.1s
VAY Valandovo 57.58 38 *e*P **P 16 10 35.8 +2.5**
EKA Eskdalemuir Ar 57.78 12 P **P 16 10 34.3 -0.2**
EKA Eskdalemuir Ar 57.78 12 P **P 16 10 34.3 -0.2**
comp=Z,1.7nm,0.6s,baz=199,slow=5.1,SNR=6.2
GERES GERESS Array B 57.81 26 P **P 16 10 34.2 -0.8**
GERES PP **PP 16 12 41.9 -1.3**
GERES GERESS Array B 57.81 26 P **P 16 10 34.2 -0.8**
comp=Z,5.1nm,0.9s,baz=213,slow=6.4,SNR=17
GERES PP **PP 16 12 41.9 -1.3**
comp=Z,8.3nm,1.0s,baz=193,slow=8.1,SNR=3.4
GERES LR LR 16 35 06.9
comp=Z,6µm,18.7s,baz=239,slow=36
KHC Kasperske Hory 57.97 26 *e*P **P 16 10 34.9 -1.1**
KHC *e* 16 10 41.6
KHC *e* 16 14 03.1
KHC *e*S **S 16 18 40.7 +4.4**
KHC *e*SS **SS 16 22 32.1 +4.5**
KHC MLR MLR
comp=Z,10µm,16.4s
KHC Kasperske Hory 57.97 26 *e*P **P 16 10 34.9 -1.1**
KHC *e*pP **pP 16 10 41.6 +2.4**
KHC *e*x x 16 10 50.6
KHC *e*x x 16 14 03.1
KHC *e*S **S 16 18 40.7 +4.4**
KHC *e*SS **SS 16 22 32.1 +4.5**
KHC AMS AMS 16 34 50.0
comp=Z,10µm,16.4s
KHC Kasperske Hory 57.97 26 *e*P **P 16 10 34.3 -1.7**
comp=Z,16nm,1.0s
CONA Conrad Observa 58.14 28⇓*i*P **P 16 10 35.6 -1.7**
comp=Z,18nm,1.3s
NKC Novy Kostel 58.31 25 *e*P **P 16 10 38.6 +0.3**
NKC *e*S S 16 18 48.1 +7.4
NKC MLR MLR
comp=Z,3µm,15.4s
NKC Novy Kostel 58.31 25 *e*P **P 16 10 38.6 +0.3**
NKC *e*x x 16 10 50.9
NKC *e*x x 16 14 19.5
NKC *e*S S 16 18 48.1 +7.4
NKC AMS AMS 16 36 10.0
comp=Z,3µm,15.4s
PKSM Moragy 58.36 31⇑P P 16 10 46.5 +7.8
PKSM Moragy 58.36 31⇑*i*P P 16 10 46.5 +7.8
KMBO Kilima Mbogo 58.38 91 P **P 16 10 39.6 -0.2**
comp=Z,66nm,1.8s
KMBO LR LR
comp=Z,14µm,19.0s
BODT Bodrum 58.47 45 *e*P **P 16 10 38.1 -1.6**
MTDJ Mount Denham 58.53 292 PFAKE 16 10 50.0 +9.5
MTDJ LR LR
comp=Z,1µm,20.0s
BDRM Kayabasi 58.56 45 *i* P **P 16 10 38.1 -2.2**
VTS Vitosha 58.70 37⇓P P 16 10 47.3 +6.0
VTS Vitosha 58.70 37⇓*i*P P 16 10 47.3 +6.0
GCAM G?zelcaml? 58.72 44 *i* P P 16 10 45.3 +3.9
TREC Trest 58.94 27 *e*P **P 16 10 41.6 -1.2**
TREC *e* 16 10 49.4
TREC *e* 16 14 17.7
TREC *e*S **S 16 18 48.1 -0.9**
TREC MLR MLR
comp=Z,7µm,13.4s
TREC Trest 58.94 27 *e*P **P 16 10 41.6 -1.2**
TREC *e*x x 16 10 49.4
TREC *e*x x 16 10 56.6
TREC *e*x x 16 14 17.7
TREC *e*S **S 16 18 48.1 -0.9**
TREC AMS AMS 16 41 20.0
comp=Z,7µm,13.4s
PRU Pruhonice 59.02 26 *e*P **P 16 10 43.1 -0.2**
PRU *e* 16 14 17.7
PRU *e*S **S 16 18 55.3 +5.4**
PRU MLR MLR
comp=Z,9µm,15.5s
PRU Pruhonice 59.02 26 *e*P **P 16 10 43.1 -0.2**
PRU *e*x x 16 10 58.1
PRU *e*x x 16 14 17.7
PRU *e*S **S 16 18 55.3 +5.4**
PRU AMS AMS 16 35 40.0
comp=Z,9µm,15.5s
PRA Prague 59.03 26 P **P 16 10 43.0 -0.3**
PRA S **S 16 18 56.0 +5.9**
AYDN Tasoluk 59.15 44 *i* P **P 16 10 47.6 +3.1**
BCIP Isla Barro Col 59.27 281 PFAKE 16 11 00.0 +14
BCIP LR LR
comp=Z,1µm,19.0s
AYDB Zeytinkoy-Aydi 59.29 44 *e*P **P 16 10 44.2 -1.3**
DALY Dalyan (Mu˙la 59.30 45 *e*P P 16 10 39.7 -5.7
CLL Collm 59.35 24 *i* P **P 16 10 46.8 +1.3**
CLL *e*PS **PnS 16 19 00.0 -6.3**
CLL pmax pmax
comp=Z,22nm,1.5s
CLL Collm 59.35 24 *e*P **P 16 10 45.0 -0.5**
comp=Z,22nm,1.5s
CLL *e*sP **sP 16 10 50.0 0.0**
CLL *i* 16 11 22.3
comp=Z,101nm,2.1s
CLL *e*PP PP 16 13 06.0 +9.3
CLL *e*PPP PPP 16 14 24.0
CLL *e*S S 16 19 03.0 +8.8
comp=N,15µm,27.1s
CLL *e*S S 16 19 03.0 +8.8
comp=E,12µm,25.5s
CLL LV 16 34 00.0
comp=Z,4µm,19.4s
BRG Berggiesshubel 59.42 25 *e*P **P 16 10 44.8 -1.2**
comp=Z,8.5nm,1.4s
BRG *e* 16 10 52.5
comp=Z,12nm,1.2s
BRG S S 16 19 05.0 +10
BRG SS SS 16 23 06.0 +16
BRG
comp=N,4µm,16.8s
BRG
comp=E,3µm,12.7s
BRG
comp=Z,7µm,20.1s
PVCC Panska Ves 59.43 26 *e*P **P 16 10 46.2 +0.1**
PVCC *e* 16 14 22.9
PVCC *e*S S 16 19 04.7 +9.5
PVCC MLR MLR
comp=Z,9µm,16.2s

PVCC Panska Ves 59.43 26 *e*P P **16 10 46.2 +0.1**
PVCC *ex* x 16 10 55.6
PVCC *ex* x 16 11 00.2
PVCC *ex* x 16 14 22.9
PVCC *ex* x 16 19 04.7
PVCC AMS AMS 16 35 50.0
comp=Z,9μm,16.2s
EFI East Falkland 59.50 206 PFAKE 16 11 00.0 +14
EFI LR LR
comp=Z,2μm,20.0s
KDZ Kurdzhali 59.53 39⇑ *i*P P **16 10 50.0 +3.0**
ALN Alexandroupoli 59.54 40 *e*P P 16 10 50.4 +3.5
BZS Buzias 59.58 34 ⇓P P **16 10 47.0 -0.2**
BZS Buzias 59.58 34 ⇓*i*P P **16 10 47.0 -0.2**
AKHS Akhisar 59.69 43 *i*P P 16 10 56.9 +8.7
AKAS Kas 59.72 46 *i*P P **16 10 49.5 +1.0**
PLCA Paso Flores 59.83 222 P P **16 10 51.8 +2.6**
PLCA S S 16 19 13.0 +12
PLCA Paso Flores 59.83 222 P P **16 10 51.8 +2.6**
comp=Z,4.4nm,1.1s,baz=65,slow=9.7,SNR=3.6
PLCA S S 16 19 13.0 +12
comp=Z,1.1nm,0.9s,baz=59,slow=5.9,SNR=1.9
PLCA LR LR 16 33 20.2
comp=Z,1μm,19.8s,baz=72,slow=33
BALY Balya 59.98 42 *i*P P 16 10 57.0 +6.8
SIRR Siria 60.00 33⇑ *i*P P 16 10 58.5 +8.4
UPC Upice 60.05 26 *e*P P **16 10 50.3 -0.1**
UPC Upice 60.05 26 *e*P P **16 10 50.3 -0.1**
UPC *ex* x 16 10 59.7
UPC *ex* x 16 11 04.4
DPC Dobruska-Polom 60.08 27 *e*P P **16 10 49.6 -1.0**
DPC *eS* S **16 19 07.7 +4.1**
DPC Dobruska-Polom 60.08 27 *e*P P **16 10 49.6 -1.0**
DPC *ex* x 16 10 59.8
DPC *eS* S **16 19 07.7 +4.1**
DPC AMS AMS 16 37 00.0
GZR Gura Zlata 60.09 34⇑ *i*P P 16 10 56.7 +5.9
KRLC Kraliky 60.09 27 *e*P P **16 10 50.5 -0.2**
KRLC Kraliky 60.09 27 *e*P P **16 10 50.5 -0.2**
KRLC *ex* x 16 11 05.1
KRBG Karabiga-Canak 60.09 41 *e*P P 16 11 01.0 +10
KULA Kula-Manisa 60.10 44 *e*P P **16 10 50.0 -1.0**
PSZ Piszkesteto 60.12 31 *e*P P **16 10 50.2 -0.8**
PSZ pmax pmax
comp=Z,37nm,0.9s
PSZ MLR MLR
comp=Z,6μm,21.0s
PSZ Piszkesteto 60.12 31⇑ *i*P P 16 10 54.5 +3.5
PSZ Piszkesteto 60.12 31 *e*P P **16 10 50.1 -0.8**
comp=Z,37nm,0.9s
PSZ LR LR
comp=Z,6μm,21.0s
GOLH Golhisar 60.14 45 *i*P P **16 10 51.3 0.0**
MORC Moravsky Berou 60.23 28 *e*P P **16 10 49.1 -2.6**
MORC pmax pmax
comp=Z,22nm,1.1s
MORC Moravsky Berou 60.23 28 ⇓*i*P P **16 10 54.2 +2.5**
MORC Moravsky Berou 60.23 28 *e*P P **16 10 49.1 -2.6**
comp=Z,22nm,1.1s
DEMI Demirci 60.38 43 *i*P P 16 10 56.8 +3.8
KSP Ksiaz 60.41 26 *e*P P **16 10 52.7 -0.1**
KSP *eS* S **16 19 12.0 +4.1**
KSP MLR MLR
comp=Z,16μm,18.8s
KSP Ksiaz 60.41 26 *e*P P **16 10 52.7 -0.1**
KSP *eS* S 16 19 22.9 +15
KSP LMZ LR 16 30 56.8
OKC Ostrava-Krasne 60.56 28 *e*P P **16 10 53.7 -0.1**
OKC *e* 16 14 42.6
OKC *eS* S 16 19 18.6 +8.9
OKC *eSS* SS 16 23 00.0 -8.1
OKC MLR MLR
comp=Z,7μm,13.7s
OKC Ostrava-Krasne 60.56 28 *e*P P **16 10 53.7 -0.1**
OKC *ex* x 16 11 07.9
OKC *ex* x 16 14 42.6
OKC *eS* S 16 19 18.6 +8.9
OKC *eSS* SS 16 23 00.0 -8.1
OKC AMS AMS 16 43 30.0
comp=Z,7μm,13.7s
KHAL Karahalli 60.61 44 *i*P P **16 10 56.6 +2.0**
LOT Lotru 60.68 35⇑ *i*P P 16 11 00.4 +5.5
KCTX Karacabey (Bur 60.73 42 *e*P P 16 11 02.8 +7.6
DRGR 60.90 33 ⇑P P 16 11 03.1 +6.8
DRGR 60.90 33⇑ *i*P P 16 11 03.1 +6.8
GDZ Gediz 60.93 43 *i*P P **16 10 59.7 +2.9**
ISP Isparta 61.08 45 *e*P P 16 11 05.2 +7.4
ISP Isparta 61.08 45 PFAKE 16 11 10.0 +12
ISP LR LR
comp=Z,5μm,22.0s
TVSB Tavsanli 61.09 43 *e*P P **16 10 59.0 +1.2**
ARR Arges 61.13 35 ⇓*i*P P 16 11 04.0 +6.1
SUTC Sutluce-Ispart 61.27 46 *e*P P 16 10 51.1 -8.0
VOIR 61.41 35 ⇓P P **16 10 59.5 -0.4**
VOIR 61.41 35 ⇓*i*P P **16 10 59.5 -0.4**
SHUT Suhut-Afyon 61.43 44 *e*P P **16 11 03.2 +3.0**
DESE Dese 61.52 77 *e*P P 16 10 52.6 -8.9
DESE *eS* S 16 19 37.1 +13
CRVS Cervenica-Dubn 61.56 31 *e*P P 16 11 05.6 +4.9
CRVS pmax pmax
comp=Z,13nm,1.3s
CRVS Cervenica-Dubn 61.56 31 *es*P P **16 11 05.6 +4.9**
PRD Provadia 61.60 39 ⇑P P **16 11 00.2 -0.8**
TRPA Tarpa 61.63 32⇑ *i*P P 16 11 05.9 +4.8
BOLV Bolvadin 61.78 44 *i*P P **16 11 04.1 +1.5**
UZH Uzhgorod 61.81 31 *e*P P **16 11 04.8 +2.4**
UZH *e* 16 11 07.4
UZH *e* 16 11 10.0
UZH *i*S S **16 19 26.2 +0.5**
UZH *ePS* PnS **16 19 34.0 -6.1**
UZH MLR MLR
comp=N,4μm,14.0s
UZH MLR MLR
comp=E,3μm,14.0s
UZH MLR MLR
comp=Z,3μm,14.0s
CSS Prodhromos 61.96 49 *e*P P **16 11 04.4 +0.8**
CSS Prodhromos 61.96 49 PFAKE 16 11 20.0 +16
CSS LR LR
comp=Z,2μm,20.0s
BORA Eskisehir 61.96 43 *i*P P 16 11 07.6 +4.0
MLR Muntele Rosu 61.96 36 ⇓*i*P P **16 11 02.7 -0.9**
MUD Monsted U'grnd 62.04 18 *e*P P **16 11 06.5 +2.8**
MUD *e* 16 19 35.2
MUD pmax pmax
comp=Z,31nm,0.9s
MUD MLR MLR
comp=Z,6μm,14.0s
MUD Monsted U'grnd 62.04 18 *i*P P **16 11 06.5 +2.8**
comp=Z,31nm,0.8s
MUD *e* 16 19 35.2
MUD
comp=Z,7μm,13.0s
PKME Peaks-Kenny Pk 62.47 324 PFAKE 16 11 20.0 +13
PKME LR LR
comp=Z,3μm,19.0s
KDHN Kadinhani 62.52 45 *i*P P **16 11 10.3 +2.9**
VRI Vrincioaia 62.63 36 ⇓P P **16 11 10.8 +2.9**
VRI Vrincioaia 62.63 36 ⇓*i*P P **16 11 10.8 +2.9**
KWP Kalwaria Pacla 62.65 30 *e*P P 16 11 14.0 +5.9
KWP Kalwaria Pacla 62.65 30 *e*P P 16 11 13.9 +5.9
KWP LMZ LR 16 32 46.9
KWP Kalwaria Pacla 62.65 30 PFAKE 16 11 20.0 +12
KWP LR LR
comp=Z,6μm,21.0s
BTAS Taskesti 62.65 43 *i*P P **16 11 05.7 -2.6**
IKL Isikli 62.72 48 *e*P P 16 11 03.4 -5.3
BURAR Bucovina Array 62.76 33 ⇓P P 16 11 14.8 +5.9
BURAR Bucovina Array 62.76 33 ⇓*i*P P 16 11 14.8 +5.9
BUR08 Bucovina Ar. S 62.77 33 P P **16 11 09.8 +0.8**
KIZK Mersin 63.16 48 *i*P P **16 11 09.9 -1.7**
BCAM Yenicaga 63.49 43 *i*P P **16 11 14.1 +0.2**
LBNH Lisbon 63.53 322 PFAKE 16 11 30.0 +16
LBNH LR LR
comp=Z,5μm,22.0s
ANTO Ankara 63.57 44 ⇑P P 16 11 10.0 -4.4
ANTO Ankara 63.57 44 ⇑*i*P P 16 11 10.0 -4.4
ANTO Ankara 63.57 44 PFAKE 16 11 30.0 +16
ANTO LR LR
comp=Z,6μm,21.0s
MERS Mersin 63.59 48 *e*P P **16 11 14.8 +0.3**
CNNC Cliffs of the 63.80 310 PFAKE 16 11 30.0 +14
CNNC LR LR
comp=Z,3μm,21.0s
BR131 Keskin Array S 64.10 44 *e*P P **16 11 17.4 -0.5**
comp=Z,10nm,0.7s
BRTR Keskin Array B 64.10 44 P P **16 11 17.4 -0.6**
BRTR Keskin Array B 64.10 44 P P **16 11 17.4 -0.6**
comp=Z,3.4nm,0.9s,baz=241,slow=6.5,SNR=8.3
BRTR LR LR 16 39 50.7
comp=Z,4μm,19.5s,baz=71,slow=37
ELDT Eldivan 64.28 44 *i*P P 16 11 23.0 +3.9
JTS JuntasAbangare 64.40 282 PFAKE 16 11 30.0 +10
JTS LR LR
comp=Z,2μm,20.0s
KIS Kishinev 64.46 36 *e*P P 16 11 25.0 +5.0
KIS LRM MLR 16 40 38.0
comp=Z,3μm,17.0s
KIS Kishinev 64.46 36 *e*P P 16 11 25.0 +5.0
KIS *e* 16 13 48.0
KIS *e* 16 15 12.0
KIS MLR MLR
comp=Z,4μm,19.0s
KIS MLR MLR
comp=N,3μm,17.0s
KIS MLR MLR
comp=Z,4μm,20.0s
YAYL Yayladag 64.46 49 *i*P P 16 11 25.4 +5.0
CBN Corbin 64.53 313 PFAKE 16 11 30.0 +9.4
CBN LR LR
comp=Z,2μm,21.0s
CDAG Cicekdag 64.57 45 *i*P P **16 11 21.6 +0.5**
TAHT Tahtakopru-Hat 64.64 49 *e*P P 16 11 25.6 +4.2
ILGA Ilgaz 64.72 43 *i*P P 16 11 30.5 +8.4
KOZT Kozan 64.78 47 *e*P P 16 11 31.1 +8.7
KONO Kongsberg 64.81 17 PFAKE 16 11 30.0 +8.0
KONO LR LR
comp=Z,7μm,19.0s
NCB Newcomb 64.85 320 PFAKE 16 11 30.0 +7.3
NCB LR LR
comp=Z,3μm,20.0s
CORM Corum 64.98 44 *e*P P 16 11 35.4 +12
BINY Binghamton 65.20 318 PFAKE 16 11 40.0 +15
BINY LR LR
comp=Z,2μm,20.0s
LONY Lake Ozonia 65.38 321 PFAKE 16 11 40.0 +14
LONY LR LR
comp=Z,3μm,19.0s
KMRS Kahramanmaras 65.58 48 *e*P P 16 11 32.7 +5.1
SUW Suwalki 65.66 27 *e*P P **16 11 26.9 -0.8**
SUW pmax pmax
comp=Z,89nm,1.1s
SUW Suwalki 65.66 27 *e*P P **16 11 26.9 -0.8**
SUW LMZ LR 16 33 49.3
SUW Suwalki 65.66 27 *e*P P **16 11 26.9 -0.8**
comp=Z,89nm,1.1s
HAVZ Havza 66.10 44 *i*P P **16 11 32.8 +1.9**
BLA Blacksburg 66.41 312 PFAKE 16 11 50.0 +17
BLA LR LR
comp=Z,3μm,20.0s
NB2 NORSAR Subarra 66.41 17 P P **16 11 34.3 +1.9**
comp=Z,18nm,0.9s,baz=213,slow=6.5
NB2 NORSAR Subarra 66.41 17 P P **16 11 34.3 +1.9**
baz=213,slow=6.5
NOA NORSAR Array B 66.41 17 P P **16 11 32.0 -0.4**
NOA NORSAR Array B 66.41 17 P P **16 11 32.0 -0.4**
comp=Z,5.2nm,0.9s,baz=214,slow=6.4,SNR=8.7
NOA LR LR 16 42 14.4
comp=Z,5μm,18.6s,baz=220,slow=38
SVSK Karacayir 66.55 45 *e*P P **16 11 36.5 +2.8**
SCER sogukcermik 66.62 45 *i*P P 16 11 42.5 +8.2
AKCD Akcadag 66.62 47 *i*P P **16 11 34.3 -0.1**
AK02 Malin Array Si 66.64 32 *e*P P **16 11 31.4 -2.6**
KIEV Kiev 66.66 32 *e*P P **16 11 31.6 -2.5**
KIEV pmax pmax
comp=Z,33nm,0.8s
KIEV MLR MLR
comp=Z,3μm,20.0s
KIEV Kiev 66.66 32 *e*P P **16 11 31.6 -2.5**
comp=Z,33nm,0.8s
KIEV LR LR
comp=Z,3μm,20.0s
AK01 Malin Array Si 66.66 32 *e*P P **16 11 32.4 -1.7**
ERBA Erbaa 66.67 45 *i*P P **16 11 34.8 +0.3**
AKASG Malin Array Be 66.67 32 P P **16 11 32.9 -1.3**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG MLR MLR
comp=Z,3μm,21.7s
AKASG Malin Array Be 66.67 32 P P **16 11 32.9 -1.3**
AKASG Malin Array Be 66.67 32 P P **16 11 32.9 -1.3**
comp=Z,7.5nm,0.8s,baz=235,slow=6.9,SNR=14
AKASG LR LR 16 39 34.6
comp=Z,3μm,21.6s,baz=235,slow=35
AKBB Malin Array Si 66.67 32 P P **16 11 32.1 -2.1**
AKBB Malin Array Si 66.67 32 P P **16 11 32.1 -2.1**
SCHQ Schefferville 66.81 333 P P **16 11 36.0 +1.0**
SCHQ Schefferville 66.81 333 P P **16 11 36.0 +1.0**
comp=Z,5.2nm,0.8s,baz=92,slow=4.0,SNR=4.0
SCHQ LR LR 16 36 32.9
comp=Z,3μm,20.1s,baz=133,slow=32
MCWV Mont Chateau 66.86 314 PFAKE 16 11 50.0 +14
MCWV LR LR
comp=Z,2μm,19.0s
MALT Malatya 67.00 47 *e*P P 16 11 43.6 +6.9
MALT Malatya 67.00 47 ⇑P P **16 11 36.9 +0.2**
MALT Malatya 67.00 47 ⇑*i*P P **16 11 36.9 +0.2**
TGUH Tegucigalpa,Un 67.07 286 PFAKE 16 11 50.0 +13
TGUH LR LR
comp=Z,2μm,22.0s
KEMA Kemaliye 67.39 47 *i*P P **16 11 37.0 -2.2**
ELZG Elazig 67.48 47 *i*P P **16 11 39.6 -0.2**
SVRC Sivrice-ELAZID 67.67 48 *e*P P **16 11 42.9 +1.9**
NACGM Naroch 67.86 28 *e*P P 16 11 46.0 +4.3
ERPA Erie 67.89 317 PFAKE 16 11 50.0 +7.9
ERPA LR LR
comp=Z,2μm,20.0s
PTK Pertek 67.91 47 *e*P P **16 11 45.1 +2.5**
MNK Minsk 68.12 28 *e*P P 16 11 49.0 +5.7
MNK *eS* S **16 20 46.0 +2.9**
MNK *ePS* PnS **16 21 04.0 -2.1**
MNK *e* 16 21 24.0
MNK MLR MLR
comp=N,5μm,14.0s
MNK MLR MLR
comp=Z,3μm,12.0s
MNK MLR MLR
comp=Z,7μm,14.0s
MNK MLR MLR
comp=E,7μm,12.0s
MNK MLR MLR
comp=E,6μm,14.0s
MICGM Minsk 68.14 28 *e*P P 16 11 49.0 +5.6
ANN Anapa 68.75 41 P P **16 11 46.4 -1.0**
ANN S S **16 20 46.7 -4.3**
ANN pmax pmax
comp=Z,85nm,1.3s
ANN MLR MLR
comp=Z,2μm,17.0s
TEIG Tepich 68.87 292 PFAKE 16 12 00.0 +11
TEIG LR LR
comp=Z,2μm,22.0s
BNGB Bing ¶ll 68.89 47 *e*P P 16 11 55.9 +7.3
PAYG Puerto Ayora 69.14 270 PFAKE 16 12 00.0 +9.5
PAYG LR LR
comp=Z,2μm,22.0s
ACSO Alum Creek Sta 69.32 314 PFAKE 16 12 00.0 +8.9
ACSO LR LR
comp=Z,3μm,19.0s
ABPO Ambohimpanom 69.34 110 PFAKE 16 12 00.0 +8.1
ABPO LR LR
comp=Z,3μm,21.0s
SIRT Sirnak 69.74 49 *e*P P 16 12 03.5 +10
SOC Sochi 69.80 43 *e*P P **16 11 52.6 -1.4**
SOC *e* 16 12 14.7
SOC *e* 16 14 26.0
SOC *eS* S **16 21 01.3 -2.2**
SOC *i* 16 21 50.1
SOC pmax pmax
comp=Z,18nm,0.9s
SOC MLR MLR
comp=Z,4μm,17.0s
BRAL Brewton 69.89 303 PFAKE 16 12 10.0 +15
BRAL LR LR
comp=Z,2μm,20.0s
EKAR Karacoban 70.00 48 *i*P P **16 11 56.3 +0.7**
HOMI Horasan 70.13 47 *i*P P **16 11 59.1 +2.7**
APG El Apazote 70.25 286 P P **16 11 57.0 -0.6**
APG El Apazote 70.25 286 P P **16 11 57.0 -0.6**
comp=Z,3.1nm,0.8s,baz=104,slow=4.2,SNR=4.4
DDEM Demirkent 70.29 46 *i*P P **16 11 57.7 +0.4**
DBAD Bademkaya 70.29 46 *i*P P **16 11 54.9 -2.3**
VNA1 Neumayer--Stat 70.32 175 *e*P P **16 11 59.6 +3.0**
DAGI Agillar 70.47 46 *i*P P **16 11 58.6 +0.3**
AAM Ann Arbor 70.49 316 PFAKE 16 12 10.0 +12
AAM LR LR
comp=Z,3μm,22.0s
EATA Eleskirt 70.50 47 *i*P P 16 12 06.2 +7.4
ARTV Artvin 70.51 46 *i*P P 16 12 02.3 +3.6
TUTA Tutak 70.59 48 *i*P P 16 12 08.2 +9.0
VNA2 Neumayer--Watz 70.66 175 *e*P P 16 12 02.2 +3.4
HAKT HAKKARI 70.72 50 *i*P P **16 12 02.4 +2.3**
TVAN Van 70.77 49 *i*P P 16 12 04.8 +4.4
PMSA Palmer Station 71.03 198 PFAKE 16 12 10.0 +9.0
PMSA LR LR
comp=Z,965nm,19.0s
CHVG Ch'k'valeri 71.12 44 P P 16 12 09.6 +7.5
EAK Akyaka 71.56 46 *i*P P 16 12 08.9 +3.8
FINES FINESS Array B 71.62 22 P P **16 12 04.6 -0.1**
FINES FINESS Array B 71.62 22 P P **16 12 04.6 -0.1**
comp=Z,9.1nm,0.8s,baz=188,slow=3.9,SNR=12
FINES LR LR 16 45 11.3
comp=Z,4μm,18.1s,baz=235,slow=37
FIA1 FINESS Array S 71.62 22 *e*P P **16 12 04.4 -0.3**
AKH Akhalkalaki 71.70 46 P P 16 12 14.4 +8.6
SNAA Sanae 71.81 174 *e*P P 16 12 10.8 +5.0
SNAA Sanae 71.81 174 *e*P P **16 12 05.6 -0.1**
SNAA Sanae 71.81 174 *e*P P **16 12 06.0 +0.2**
comp=Z,48nm,1.4s
SNAA Sanae 71.81 174 P P **16 12 06.7 +0.9**
comp=Z,0.7nm,0.9s,baz=291,slow=8.6,SNR=2.7
KIV Kislovodsk 71.95 43 *e*P P **16 12 06.9 -0.3**
KIV *e* 16 12 25.3
KIV *e* 16 14 46.9
KIV *e*PPP PPP 16 16 30.2
KIV *eS* S **16 21 28.3 -0.4**
KIV *eSS* SS **16 26 02.0 -3.4**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 71.95 43 PFAKE 16 12 20.0 +13
KIV LR LR
comp=Z,4μm,22.0s
KBZ Khabaz 72.02 43 P P **16 12 08.4 +1.0**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ MLR MLR
comp=Z,3μm,20.1s
KBZ Khabaz 72.02 43 P P **16 12 08.4 +1.0**
KBZ Khabaz 72.02 43 P P **16 12 08.4 +1.0**
comp=Z,4.3nm,0.9s,baz=228,slow=4.8,SNR=6.2
KBZ LR LR 16 44 46.0
comp=Z,3μm,20.1s,baz=255,slow=37
ONI Oni 72.04 45 P P **16 12 09.6 +1.9**
KAF Kangasniemi 72.13 21 *e*P P **16 12 08.2 +0.5**
KAF pmax pmax
comp=Z,12nm,0.8s
KAF Kangasniemi 72.13 21 *ep* P **16 12 08.2 +0.5**
comp=Z,12nm,0.8s
IGHG Ghaleghazi 72.13 54 *e*P P 16 12 13.2 +4.5
GNI Garni 72.23 47 *e*P P **16 12 08.0 -1.1**
comp=Z,68nm,1.3s
GNI LR LR
comp=Z,4μm,21.0s
ZEI Tsey 72.41 44 *e*P P **16 12 07.4 -2.8**
ZEI pmax pmax
comp=Z,31nm,1.7s
VSR Storozhevoye 72.43 35 *e*P P **16 12 11.2 +1.4**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.8s
ILIN Lien 72.58 53 *e*P P **16 12 10.7 -0.7**
TBLG Delisi 72.69 46 P P 16 12 17.1 +5.5
IKOM Komasi 72.85 54 *e*P P **16 12 11.8 -1.1**
NVL N'lazarevskaya 73.15 169 *e*P P **16 12 26.4 +13**
NVL *e*PPP PPP 16 16 51.0
NVL *eS* S **16 21 41.1 -0.1**
NVL pmax pmax
comp=Z,17nm,1.0s
NVL MLR MLR
comp=Z,1μm,16.0s
FRB Frobisher Bay 73.16 340 P P **16 12 15.6 +1.8**
FRB Frobisher Bay 73.16 340 P P **16 12 15.6 +1.8**
comp=Z,1.8nm,0.5s,baz=97,slow=11,SNR=3.2
IHRS Heris 73.47 50 *e*P P **16 12 17.2 +0.7**
MOS Moscow 73.56 30 *e*P P **16 12 16.1 -0.3**
MOS *eS* SKiKP **16 21 49.5 +2.3**
MOS pmax pmax
comp=Z,45nm,0.9s
MOS MLR MLR
comp=Z,3μm,16.0s
VRHR Novokhopersk 73.81 36 *e*P P **16 12 18.6 +0.7**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,1.3s
ISRB Sarab 73.82 50 *e*P P 16 12 22.1 +3.5
SUMG Summit 74.00 355 *i*P P 16 12 33.1 +14
comp=E,19nm,0.9s
HDIL Hopedale 74.02 313 PFAKE 16 12 30.0 +11
HDIL LR LR
comp=Z,2μm,19.0s
JOF Joensuu 74.47 22 *e*P P **16 12 23.1 +1.6**
JOF pmax pmax
comp=Z,9.0nm,0.7s
JOF Joensuu 74.47 22 *ep* P **16 12 23.1 +1.6**
comp=Z,9.2nm,0.7s
MAK Makhachkala 75.00 45 *e*P P 16 12 20.9 -4.1
MAK *e* 16 12 32.6
MAK *e* 16 15 09.7
MAK *e*PPP PPP 16 16 53.4
MAK *eS* SKiKP **16 21 55.7 +6.0**
MAK *e* 16 22 34.6
MAK pmax pmax
comp=Z,498nm,1.6s
MAK MLR MLR
comp=Z,4μm,18.0s
JFWS Jewell Farm 75.32 315 PFAKE 16 12 40.0 +13
JFWS LR LR
comp=Z,2μm,20.0s
MIAR Mount Ida 75.99 306 PFAKE 16 12 40.0 +9.0
MIAR LR LR
comp=Z,1μm,20.0s
IKLH Kolahrood 76.00 55 *e*P P 16 12 38.1 +6.7
IVRN Varamin 76.43 54 *e*P P **16 12 32.4 -1.1**
IZEF Zefreh 76.55 56 *e*P P **16 12 32.8 -1.7**
MSEY Mahe Island 76.60 95 PFAKE 16 12 50.0 +15
MSEY LR LR
comp=Z,5μm,19.0s
ISRV Sarvestan 76.66 60 *e*P P **16 12 34.1 -1.2**
IPAR Pars 76.67 59 *e*P P **16 12 33.9 -1.4**
ARCES ARCESS Array B 76.72 15 P P **16 12 35.7 +1.3**
ARCES ARCESS Array B 76.72 15 P P **16 12 35.7 +1.3**
comp=Z,1.7nm,0.8s,baz=224,slow=7.5,SNR=4.4
ARE0 ARCESS Array S 76.72 15 P P **16 12 34.4 +0.1**
ISFB Sefidab 76.73 55 *e*P P **16 12 33.8 -1.5**
KLMR Klimovskoe 76.77 26 *e*P P **16 12 33.0 -1.7**
KLMR *e* 16 15 30.8
KLMR S S 16 22 15.8 -6.0
KLMR pmax pmax
comp=Z,75nm,1.7s
IDMV Damavand 76.78 53 *e*P P 16 12 39.4 +3.6
SCIA State Center 77.21 313 PFAKE 16 12 50.0 +12
SCIA LR LR
comp=Z,2μm,21.0s
EYMN Ely 77.48 320 PFAKE 16 12 50.0 +11
EYMN LR LR
comp=Z,2μm,20.0s
RER Riviere de l'E 77.51 111 PFAKE 16 12 50.0 +10
RER LR LR
comp=Z,4μm,19.0s
ISAD Sadrabad 77.52 57 *e*P P **16 12 42.3 +2.3**
APA Apatity 77.82 19 *i*P P 16 12 49.0 +8.5
APA MLR MLR
comp=Z,5μm,16.0s
IMEH Mehriz 78.23 58 *e*P P **16 12 43.1 -0.8**

IANJ Anjilo 78.27 54 *e*P P 16 12 49.7 +5.6
LVZ Lovozero 78.40 19 PFAKE 16 12 50.0 +6.2
LVZ LR LR
comp=Z,4μm,20.0s
IBAF Bafgh 79.06 58 *e*P P 16 12 54.3 +5.9
SYO Syowa Base 79.17 161⇑ *e*P **P 16 12 46.6 -1.4**
SYO Syowa Base 79.17 161⇑ *e*PcP **PcP 16 12 54.8 -1.5**
KSU1 Kansas State U 79.20 310 PFAKE 16 13 00.0 +11
KSU1 LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 80.03 315 *e*P **P 16 12 52.6 -0.6**
comp=Z,74nm,1.3s
ECSD LR LR
comp=Z,2μm,21.0s
WMOK Wichita Mounta 80.26 305 PFAKE 16 13 10.0 +15
WMOK LR LR
comp=Z,2μm,20.0s
AGMN Agassiz Nation 80.41 319 *e*P **P 16 12 53.8 -1.3**
comp=Z,44nm,1.4s
AGMN LR LR
comp=Z,2μm,21.0s
JCT Junction City 80.60 301 *e*P **P 16 12 56.8 +0.2**
JCT pmax pmax
comp=Z,31nm,1.1s
JCT MLR MLR
comp=Z,941nm,20.0s
JCT Junction City 80.60 301 *e*P **P 16 12 56.8 +0.2**
comp=Z,31nm,1.1s
JCT LR LR
comp=Z,941nm,20.0s
ABTX Abilene, Hawle 80.71 303 *e*P **P 16 12 54.3 -2.8**
ULM Lac du Bonnet 80.83 321 *e*P **P 16 12 56.6 -0.7**
comp=Z,32nm,1.4s
ULM Lac du Bonnet 80.83 321 LR LR 16 44 41.9
comp=Z,3μm,18.4s,baz=355,slow=33
KBS Kingsbay 81.39 6 PFAKE 16 13 10.0 +10
KBS LR LR
comp=Z,2μm,20.0s
ISFR Sfrayin 81.77 53 *e*P **P 16 13 02.9 -0.1**
ITEG Tejag 81.90 57 *e*P **P 16 13 03.1 -0.6**
IKRD Kardeh 82.14 53 *e*P P 16 13 10.0 +5.1
IPAY Payeh 82.49 53 *e*P **P 16 13 07.7 +1.0**
ISRO Mashad 82.85 53 *e*P **P 16 13 08.3 -0.2**
MSTX Muleshoe 83.46 304 *e*P **P 16 13 11.9 +0.2**
KSCO Kaye Shedlock' 83.83 309 *e*P **P 16 13 12.1 -1.4**
TXAR Lajitas Array 83.83 299 P **P 16 13 14.9 +1.2**
TXAR Lajitas Array 83.83 299 P **P 16 13 14.9 +1.2**
comp=Z,1.6nm,0.9s,baz=117,slow=6.7,SNR=12
TXAR LR LR 16 48 13.2
comp=Z,641nm,19.4s,baz=0.0,slow=34
SOKR Solikamsk 84.52 30 *e*P P 16 13 30.9 +15
SOKR SS SS 16 29 09.1 -4.4
SOKR pmax pmax
comp=Z,60nm,1.0s
SOKR MLR MLR
comp=Z,3μm,15.0s
ABKAR Akbulak array 84.72 41 *e*P **P 16 13 16.9 -0.6**
comp=Z,22nm,1.0s
ARU Arti 84.90 33 P **P 16 13 19.7 +1.4**
ARU 16 16 37.1
ARU PPP PPP 16 18 25.1
ARU S **S 16 23 43.8 -3.1**
ARU Arti 84.90 33 PFAKE 16 13 30.0 +12
ARU LR LR
comp=Z,3μm,19.0s
FFC Flin Flon 85.29 325 PFAKE 16 13 30.0 +10
FFC LR LR
comp=Z,3μm,22.0s
RSSD Black Hills 85.39 314 *e*P **P 16 13 22.5 +1.1**
RSSD pmax pmax
comp=Z,9.0nm,0.6s
RSSD Black Hills 85.39 314 *e*P **P 16 13 22.5 +1.1**
comp=Z,9.5nm,0.6s
MNTX Cornudas Mount 85.47 302 PFAKE 16 13 30.0 +8.2
MNTX LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 85.92 319 *e*P **P 16 13 26.5 +2.8**
comp=Z,135nm,1.7s
DGMT LR LR
comp=Z,3μm,20.0s
SDCO Great Sand Dun 85.97 308 *e*P **P 16 13 25.8 +1.3**
comp=Z,20nm,1.1s
SDCO LR LR
comp=Z,2μm,20.0s
SVE Sverdlovsk 86.09 33 *e*P P 16 13 34.1 +10
SVE *e*S **S 16 23 58.0 -0.7**
SVE pmax pmax
comp=Z,29nm,1.2s
ISCO Idaho Springs 86.20 310 PFAKE 16 13 40.0 +14
ISCO LR LR
comp=Z,2μm,21.0s
RES Resolute Bay 86.43 345 P **P 16 13 26.5 +0.9**
RES Resolute Bay 86.43 345 P **P 16 13 26.5 +0.9**
comp=Z,1.5nm,1.0s,baz=172,slow=7.1,SNR=2.0
ANMO Albuquerque 86.57 305 P **P 16 13 28.8 +1.4**
ANMO LR LR
comp=Z,2μm,19.0s
ANMO Albuquerque 86.57 305 P **P 16 13 28.8 +1.4**
comp=Z,1.8nm,0.7s,baz=72,slow=8.7,SNR=6.1
MAW Mawson 87.04 158 P **P 16 13 29.9 +1.2**
comp=Z,9.5nm,1.8s
MAW Mawson 87.04 158 P P 16 13 32.3 +3.6
comp=Z,2.3nm,0.9s,baz=287,slow=14,SNR=3.3
LAO LASA Array 87.14 317 *e*P **P 16 13 28.2 -1.5**
comp=Z,24nm,1.0s
LAO LR LR
comp=Z,3μm,20.0s
RPN Rapa Nui 88.07 243 PFAKE 16 13 50.0 +15
RPN LR LR
comp=Z,2μm,20.0s
O20A White River Ci 88.24 310 *e*P **P 16 13 32.6 -2.7**
MVCO Mesa Verde 88.33 307 *e*P **P 16 13 39.0 +3.1**
comp=Z,7.8nm,1.1s
MVCO LR LR
comp=Z,2μm,19.0s
BW06 Boulder Array 89.32 313 PFAKE 16 13 50.0 +10
BW06 LR LR
comp=Z,2μm,20.0s
PDAR Pinedale Array 89.32 313 P **P 16 13 41.8 +1.3**
PDAR Pinedale Array 89.32 313 P **P 16 13 41.8 +1.3**
comp=Z,0.8nm,0.8s,baz=90,slow=3.7,SNR=4.4
PDAR LR LR 16 48 00.2
comp=Z,2μm,22.0s,baz=98,slow=32
QSPA South Pole Qui 89.35 180 *e*P **P 16 13 41.7 +1.8**
comp=Z,37nm,0.9s
QSPA LR LR
comp=Z,2μm,22.0s
EGMT Eagleton 89.60 318 PFAKE 16 13 50.0 +8.6
EGMT LR LR
comp=Z,2μm,22.0s
TUC Tucson 90.08 302 PFAKE 16 14 00.0 +16
TUC LR LR
comp=Z,1μm,20.0s
PAF Port-aux-Franc 90.34 139 PFAKE 16 14 00.0 +15
PAF LR LR
comp=Z,4μm,19.0s
YMR Madison River 90.38 314 P **P 16 13 45.5 +0.2**
comp=Z,14nm,0.9s
AHID Auburn Hatcher 90.46 313 PFAKE 16 14 00.0 +14
AHID LR LR
comp=Z,3μm,22.0s
KBL Kabul 90.56 56 P **P 16 13 43.6 -2.8**
KBL pmax pmax
comp=Z,20nm,1.0s
KBL Kabul 90.56 56 P **P 16 13 43.6 -2.8**
comp=Z,20nm,1.0s
WUAZ Wupatki 90.61 305 PFAKE 16 14 00.0 +13
WUAZ LR LR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 90.86 315 PFAKE 16 14 00.0 +13
BOZ LR LR
comp=Z,2μm,20.0s
BRVK Borovoye 91.43 37 *e*P **P 16 13 48.9 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,1.2s
BRVK Borovoye 91.43 37 PFAKE 16 14 00.0 +10
BRVK LR LR
comp=Z,4μm,21.0s
LRM Limekiln Ridge 91.43 316 *e*P **P 16 13 52.9 +2.7**
comp=Z,142nm,1.6s
HVU Hansel Valley 91.70 312 P **P 16 13 51.2 -0.3**
HVU pmax pmax
comp=Z,8.0nm,1.0s
HVU Hansel Valley 91.70 312 P **P 16 13 51.2 -0.3**
comp=Z,7.7nm,1.0s
DUG Dugway 91.74 310 PFAKE 16 14 00.0 +8.3
DUG LR LR
comp=Z,1μm,20.0s
EDM Edmonton 91.90 323 P **P 16 13 52.9 +0.9**
EDM Edmonton 91.90 323 P **P 16 13 52.9 +0.9**
YKA Yellowknife Ar 92.25 332 P **P 16 13 54.0 +0.8**
YKA Yellowknife Ar 92.25 332 P **P 16 13 54.0 +0.8**
comp=Z,1.4nm,0.8s,baz=91,slow=5.3,SNR=8.8
YKW3 Yellowknife Ar 92.25 332 *e*P **P 16 13 52.0 -1.2**
comp=Z,0.2nm,1.0s
HLID Hailey 92.87 313 PFAKE
HLID LR LR 16 14 10.0 +13
comp=Z,2μm,21.0s
DGAR Diego Garcia 93.47 97 PFAKE 16 14 10.0 +10
DGAR LR LR
comp=Z,6μm,20.0s
ELK Elko 93.58 311 P **P 16 14 02.0 +1.7**
ELK Elko 93.58 311 P **P 16 14 02.0 +1.7**
comp=Z,0.8nm,0.8s,baz=90,slow=20,SNR=3.1
EKS2 Erkin-Say 94.11 47 PFAKE 16 14 10.0 +7.5
EKS2 LR LR
comp=Z,5μm,19.0s
NEW Newport 94.53 318 PFAKE 16 14 20.0 +16
NEW LR LR
comp=Z,3μm,20.0s
AAK Ala-Archa 94.64 47 *e*P P 16 14 11.3 +6.3
AAK pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 94.64 47 PFAKE 16 14 20.0 +15
AAK LR LR
comp=Z,4μm,21.0s
PFO Pinyon Flat Ob 94.83 303 PFAKE 16 14 20.0 +14
PFO LR LR
comp=Z,1μm,20.0s
BMO Blue Mountains 94.89 315 *e*P **P 16 14 06.4 +0.4**
BMO pmax pmax
comp=Z,6.0nm,0.9s
BMO MLR MLR
comp=Z,2μm,20.0s
BMO Blue Mountains 94.89 315 *e*P **P 16 14 06.4 +0.4**
comp=Z,6.1nm,0.9s
BMO LR LR
comp=Z,2μm,20.0s
TKM2 Tokmak 2 95.43 47 PFAKE 16 14 20.0 +11
TKM2 LR LR
comp=Z,4μm,19.0s
WVOR Wild Horse Val 96.03 312 PFAKE 16 14 20.0 +8.7
WVOR LR LR
comp=Z,2μm,19.0s
HAWA Hanford 96.32 316 PFAKE 16 14 20.0 +7.7
HAWA LR LR
comp=Z,2μm,20.0s
AAA Alma-Ata 96.39 47 *i* P **P 16 14 15.8 +3.0**
AAA *i* S **S 16 25 33.9 +0.5**
AAA pmax pmax
comp=Z,600nm,8.0s
AAA smax smax
comp=N,3μm,18.8s
AAA MLR MLR
comp=Z,3μm,16.0s
KURK Kurchatov 96.74 39 PFAKE 16 14 20.0 +5.9
KURK LR LR
comp=Z,2μm,21.0s
LON Longmire 97.84 317 *e*P Pdif 16 14 21.0 +1.6
LON pmax pmax
comp=Z,4.0nm,1.0s
LON Longmire 97.84 317 *e*P Pdif 16 14 21.0 +1.6
comp=Z,4.4nm,1.0s
NLWA Neilton Lookou 99.14 318 PFAKE 16 14 40.0 +15
NLWA LR LR
comp=Z,5μm,19.0s
MKAR Makanchi Array 99.71 43 PKKP PKKPdf 16 31 01.8 +7.2
MKAR Makanchi Array 99.71 43 PKKP PKKPdf 16 31 01.8 +7.2
comp=Z,0.4nm,0.8s,baz=83,slow=4.5,SNR=3.8
MKAR LR LR 17 07 57.9
comp=Z,3μm,18.3s,baz=116,slow=40
ZALV Zalesovo Beam 99.94 35 LR LR 17 01 56.5
comp=Z,3μm,20.2s,baz=198,slow=37
SBA Scott Base 101.39 182 PFAKE 16 14 50.0 +16
SBA LR LR
comp=Z,803nm,21.0s
WRAK Wrangell Islan 102.21 328 PFAKE 16 14 50.0 +12
WRAK LR LR
comp=Z,3μm,22.0s
CASY Casey 104.92 162 PFAKE 16 15 00.0 +10
CASY LR LR
comp=Z,2μm,19.0s
COLA College 105.46 339 *e*Pdif **Pdif 16 14 52.5 -0.1**
comp=Z,28nm,0.8s
COLA LR LR
comp=Z,3μm,20.0s
LSA Lhasa 109.64 59 PFAKE 16 19 30.0
LSA LR LR
comp=Z,3μm,20.0s
TLY Talaya 111.40 33 PFAKE 16 19 30.0
TLY LR LR
comp=Z,3μm,20.0s
KDAK Kodiak Island 111.42 334 PFAKE 16 19 30.0
KDAK LR LR
comp=Z,4μm,20.0s
DRV Dumont d'Urvil 111.44 172 PP PP 16 19 43.0 -14
DRV SKKS 16 27 29.0
DRV SP SP 16 29 52.0 +25
DRV SS **SS 16 35 29.0 -1.7**
RKT Rikitea 111.54 245 *e*PP PP 16 19 54.1 -5.8
comp=Z,254nm,33.5s
RKT Rikitea 111.54 245 *e*SS SS 16 35 27.4 -7.9
comp=Z,2μm,32.8s
RKT Rikitea 111.54 245 *e*LR LR 16 52 31.3
comp=Z,1μm,39.0s
GTA Gaotai 113.97 47 *e*PKP **PKiKP 16 19 23.3 +0.1**
GTA PP **PP 16 20 21.0 +4.2**
GTA SKS **SKSdf 16 26 34.6 -1.2**
GTA SKKS **SKKSac 16 27 14.3 -5.2**
GTA SS **SS 16 36 06.6 -0.2**
GTA AMB AMB
comp=Z,94nm,7.8s
GTA LR LR
comp=Z,2μm,19.0s
GTA LR LR
comp=Z,2μm,20.4s
GTA LR LR
comp=Z,3μm,19.9s
ULN Ulaanbaatar 115.19 36 PFAKE 16 19 40.0 +15
ULN LR LR
comp=Z,3μm,20.0s
COCO West Island 117.13 104 PFAKE 16 19 40.0 +10
COCO LR LR
comp=Z,2μm,20.0s
LZH Lanzhou 118.14 49 *e*PKP **PKPdf 16 19 27.9 -3.5**
LZH sPKP 16 19 33.0
LZH PP **PP 16 20 48.0 +1.8**
LZH *e*SKKS 16 27 36.1
LZH SS **SS 16 36 57.0 -4.6**
LZH AMB AMB
comp=Z,280nm,6.7s
LZH LR LR
comp=Z,3μm,16.8s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,5μm,18.5s
CHTO Chiang Mai 118.61 69 PFAKE 16 19 40.0 +7.5
CHTO LR LR
comp=Z,2μm,19.0s
CD2 Chengdu 119.87 54 *e*PKP **PKPdf 16 19 32.6 -2.1**
KMI Kunming 120.70 61 PKP **PKPdf 16 19 35.7 -1.0**
KMI PP **PP 16 21 06.5 +2.2**
KMI SKS **SKSdf 16 26 46.3 -3.2**
KMI SKKS SKKSac 16 27 57.2 -7.8
KMI SS **SS 16 37 38.3 +2.8**
KMI LR LR
comp=Z,2μm,21.2s
KMI LR LR
comp=Z,1μm,22.9s
KMI LR LR
comp=Z,2μm,22.9s
HIA Hailar 121.17 29 PFAKE 16 19 50.0 +13
HIA LR LR
comp=Z,4μm,20.0s
HHC Hu-ho-hao-te 121.51 41 *e*PKP **PKPdf 16 19 35.7 -1.9**
HHC PP **PP 16 21 10.8 +1.9**
HHC SKS **SKSdf 16 26 46.2 -3.9**
HHC SKKS **SKKSac 16 28 02.5 -6.8**
HHC SS **SS 16 37 42.9 -1.3**
HHC AMB AMB
comp=Z,290nm,9.2s
HHC LR LR
comp=Z,6μm,20.4s
HHC LR LR
comp=Z,3μm,20.4s
HHC LR LR
comp=Z,5μm,20.3s
KULM Kulim 121.71 84 PFAKE 16 19 50.0 +11
KULM LR LR
comp=Z,3μm,22.0s
GYA Guiyang 123.71 58 *e*Pdif **Pdif 16 16 12.5 -2.4**
GYA PKP **PKPdf 16 19 40.0 -2.3**
GYA PP **PP 16 21 25.4 +0.9**
GYA PKS **PKSdf 16 23 15.8 -3.4**
GYA SKKS 16 28 17.3
GYA SS **SS 16 38 11.0 -2.5**
GYA AMB AMB
comp=Z,130nm,8.0s
TBI Tubuai 124.40 241 *e*PP PP 16 21 26.4 -2.7
comp=Z,321nm,31.2s
TBI Tubuai 124.40 241 *e*SS SS 16 38 19.8 -2.2
comp=Z,3μm,33.0s
TBI Tubuai 124.40 241 *e*LQ LQ 16 52 59.3
comp=Z,6μm,36.2s
TBI *e*LR LR 16 58 33.7
comp=Z,2μm,39.0s
BJI Beijing 124.91 39 PKP **PKPdf 16 19 42.4 -1.6**
BJI PP **PP 16 21 33.4 +1.7**
BJI SS SS 16 38 21.7 -5.3
BJI LR LR
comp=Z,3μm,17.5s
BJI LR LR
comp=Z,2μm,20.4s
BJI LR LR
comp=Z,4μm,27.9s
BJT Baijiatuau 124.92 39 PFAKE 16 20 00.0 +16
BJT LR LR
comp=Z,3μm,21.0s
PPT2 Papeete2 126.10 248 *e*PP PP 16 21 33.0 -7.8
comp=Z,383nm,30.8s
PPT2 Papeete2 126.10 248 *e*SS SS 16 38 41.1 -2.9
comp=Z,3μm,34.8s
PPT2 Papeete2 126.10 248 *e*LQ LQ 16 53 55.3
comp=Z,6μm,34.5s
PPT2 *e*LR LR 16 59 18.3
comp=Z,1μm,27.2s
CN2 Changchun 127.81 30 *e*PKP **PKPdf 16 19 50.5 +1.0**
CN2 PP **PP 16 21 55.6 +5.1**
CN2 LR LR
comp=Z,2μm,24.0s
CN2 LR LR
comp=Z,2μm,24.0s
CN2 LR LR
comp=Z,1μm,25.0s
QIZ Qiongzhong 128.64 66 PFAKE 16 20 00.0 +8.3
QIZ LR LR
comp=Z,2μm,22.0s
MDJ Mudanjiang 129.18 27 PKP **PKPdf 16 19 50.7 -1.4**
MDJ PP PP 16 22 08.9 +9.5
MDJ PKS **PKSdf 16 23 28.6 +0.1**
MDJ SKS **SKSdf 16 27 03.5 -0.5**
MDJ LR LR
comp=Z,2μm,49.7s
MDJ LR LR
comp=Z,4μm,40.7s
MDJ LR LR
comp=Z,4μm,45.2s
MDJ Mudanjiang 129.18 27 PFAKE 16 20 00.0 +7.9
MDJ LR LR
comp=Z,2μm,20.0s
NJ2 Nanjing 131.07 46 *e*PKP **PKPdf 16 19 55.0 -1.0**
NJ2 LR LR
comp=Z,690nm,23.6s
NJ2 LR LR
comp=Z,440nm,23.5s
NJ2 LR LR
comp=Z,270nm,18.1s
KSM Kuching 131.45 89 PFAKE 16 20 10.0 +13
KSM LR LR
comp=Z,2μm,20.0s
INCN Inchon 132.88 35 PFAKE 16 20 10.0 +11
INCN LR LR
comp=Z,2μm,19.0s
SSE Sheshan 133.26 46 PKP **PKPdf 16 19 56.3 -3.9**
SSE PP **PP 16 22 26.3 -0.3**
SSE SS SS 16 40 07.7 -3.0
SSE AMB AMB
comp=Z,300nm,12.0s
SSE LR LR
comp=Z,2μm,30.0s
SSE LR LR
comp=Z,3μm,30.0s
SSE LR LR
comp=Z,2μm,32.5s
QZH Quanzhou 134.26 55 PKP **PKPdf 16 20 05.6 +3.4**
QZH LR LR
comp=Z,3μm,26.4s
TAU Tasmania Unive 135.34 168 PFAKE 16 20 20.0 +16
TAU LR LR
comp=Z,2μm,20.0s
SNZO South Karori 135.76 197 PFAKE 16 20 20.0 +15
SNZO LR LR
comp=Z,2μm,20.0s
MBWA Marble Bar 136.01 122 PFAKE 16 20 20.0 +14
MBWA LR LR
comp=Z,2μm,20.0s
ERM Erimo 136.53 17 PFAKE 16 20 20.0 +14
ERM LR LR
comp=Z,2μm,21.0s
TATO Taipei 136.59 53 PFAKE 16 20 20.0 +13
TATO LR LR
comp=Z,2μm,19.0s
YHNB Yeheng 136.64 54 PFAKE 16 20 20.0 +13
YHNB LR LR
comp=Z,2μm,19.0s
KKM Kota Kinabalu 137.12 82 PFAKE 16 20 20.0 +12
KKM LR LR
comp=Z,2μm,20.0s
MAJO Matsushiro 139.55 26 PFAKE 16 20 20.0 +8.3
MAJO LR LR
comp=Z,2μm,20.0s
KAPI Kappang 140.52 99 PFAKE 16 20 30.0 +16
KAPI LR LR
comp=Z,1μm,20.0s
RAO Raoul Island 142.84 215 PFAKE 16 20 30.0 +12
RAO LR LR
comp=Z,1μm,19.0s
CAN Canberra 142.98 167 PFAKE 16 20 30.0 +12
CAN LR LR
comp=Z,1μm,20.0s
STKA Stephens Creek 143.69 155 *e*PKPdf **PKPdf 16 20 19.6 +0.3**
STKA PKP **PKPdf 16 20 20.4 +1.1**
STKA Stephens Creek 143.69 155 PKP **PKPdf 16 20 20.4 +1.1**
comp=Z,3.8nm,0.9s,baz=236,slow=3.6,SNR=3.8
MIDW Midway 144.44 322 PFAKE 16 20 30.0 +9.4
MIDW LR LR
comp=Z,2μm,19.0s
ASAR Alice Springs 145.71 137 PKPbc **PKPdf 16 20 23.2 +0.1**
ASAR Alice Springs 145.71 137 PKPbc **PKPdf 16 20 23.2 +0.1**
comp=Z,2.6nm,0.8s,baz=222,slow=2.5,SNR=18
AS31 Alice Springs 145.71 137 *e*PKPdf **PKPdf 16 20 22.6 -0.5**
DAV Davao City (W) 146.22 78 PFAKE 16 20 40.0 +14
DAV LR LR
comp=Z,2μm,20.0s
AFI Afiamalu 147.49 242 PFAKE 16 20 40.0 +9.2
AFI LR LR
comp=Z,1μm,19.0s
WRA Warramunga Arr 148.38 132 PKPbc **PKPbc 16 20 31.7 +0.7**
WRA Warramunga Arr 148.38 132 PKPbc **PKPbc 16 20 31.7 +0.7**
comp=Z,1.5nm,0.8s,baz=236,slow=2.4,SNR=7.9
WRAB Tennant Creek 148.40 132 PKP2 **PKPab 16 20 33.4 -0.8**
WRAB MLR MLR
comp=Z,3μm,20.0s
WRAB Tennant Creek 148.40 132 PKPbc **PKPab 16 20 33.4 -0.8**
WRAB LR LR
comp=Z,3μm,20.0s
MSVF Nonsavu 153.67 225 PFAKE 16 20 50.0 -6.1
MSVF LR LR
comp=Z,1μm,19.0s
CTAO Charters Tower 155.91 150 PFAKE 16 20 50.0 +11
CTAO LR LR
comp=Z,3μm,19.0s
DZM Mont Dzumac 156.17 198 *e*PP PP 16 24 43.4 +0.9
comp=Z,628nm,28.6s
DZM Mont Dzumac 156.17 198 *e*SS SS 16 44 27.0 -4.3
comp=Z,3μm,31.8s

DZM	**Mont Dzumac**	**156.17**	**198**	*e*LR	LR	17 13 10.4	
	comp=Z,5μm,36.0s						
GUMO	**Guam**	**161.15**	**47**	PFAKE		16 21 00.0	+15
GUMO				LR	LR		
	comp=Z,1μm,20.0s						
PMG	**Port Moresby**	**164.60**	**131**	PFAKE		16 21 00.0	+11
PMG				LR	LR		
	comp=Z,2μm,19.0s						
HNR	**Honiara**	**169.85**	**186**	PFAKE		16 21 00.0	+7.6
HNR				LR	LR		
	comp=Z,305nm,20.0s						

NIED ***09*** *16:05:00.33˚10N×138˚20E,h320km,Mw4.9 Best double couple: M0 2.40000×10^16 NP1:φ=179.00000°, δ84.00000°,λ49.00000°. NP2:φ=83.00000°,δ41.00000°, λ172.00000°.*

BJI ***09*** *16:05:54.3,32˚92N×138˚32E,h297km,mB4.7/30, mb4.9/57*

MOS ***09*** *16:05:59.2±0.9,33˚00N×137˚94E,h313km,mb4.7/52, Error ellipse: s-maj=7.9km s-min=5.3km az=100.1*

JMA ***09*** *16:05:59.1±0.3,33˚05N×138˚15E,h332km±3km,M4.5 Broadband fault plane solution: P waves. NP1: φs172.00000°,δ76.00000°,λ55.00000°. NP2:φs63.00000°, δ38.00000°,λ157.00000°. Principal axes: T Plg47.0000°, Azm45.0000°; N Plg34.0000°, Azm181.0000°; P Plg23.0000°, Azm288.0000°;*

ISCJB ***09*** *16:06:00.5±0.2,33˚03N±0˚03×137˚86E±0˚02, h320km±1km,mb4.7/148 Error ellipse: s-maj=4.9km s-min=2.8km az=165.5*

NEIC ***09*** *16:06:00.2±0.3,32˚98N×137˚92E,h310km±3km,mb4.9/85, MW4.9(NIED),Error ellipse: s-maj=4.6km s-min=2.9km az=148.0*

IDC ***09*** *16:06:00.7±0.8,33˚02N×137˚96E,h314km±7km,mb4.2/29, mb1 4.3/34,mb1mx4.3/39,mbtmp4.9/34,Error ellipse: s-maj=9.6km s-min=8.1km az=120.0*

ISC 09 16:06:00.0±0.4,33.05N±0.04×137.95E±0.03,h311km±2km, h311km:pP-P,n724,σ1s18/823,mb4.8/148,200C-186D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TK01	**Tokai 1**	**0.77**	**337**	P		**Pn**	**16 06 42.4 +2.2**
TK01				S		**S**	**16 07 16.1 +3.8**
TK02	**Tokai 2**	**0.91**	**350**	↑P		**Pn**	**16 06 43.2 +2.4**
TK02				S		**S**	**16 07 17.2 +3.8**
TTO3	**TONANKAI O.B.S**	**0.93**	**331**	↑P		**Pn**	**16 06 43.7 +2.7**
TTO3				S		**S**	**16 07 18.5 +4.8**
TTO4	**TONANKAI O.B.S**	**1.01**	**340**	↑P		**Pn**	**16 06 43.6 +2.4**
TTO4				S		**S**	**16 07 17.4 +3.3**
TTO2	**TONANKAI O.B.S**	**1.03**	**312**	↑P		**Pn**	**16 06 44.1 +2.8**
TTO2				S		**S**	**16 07 19.8 +5.6**
TK03	**Tokai 3**	**1.11**	**1**	P		**Pn**	**16 06 43.4 +1.5**
TK03				S		**S**	**16 07 19.1 +3.9**
TTO1	**TONANKAI O.B.S**	**1.13**	**301**	↑P		**Pn**	**16 06 44.3 +2.6**
TTO5	**TONANKAI O.B.S**	**1.21**	**351**	↑P		**Pn**	**16 06 44.6 +2.3**
JKO	**Kozu shima**	**1.51**	**41**	P		**Pn**	**16 06 45.6 +1.4**
JHCJ	**Hachijojimakas**	**1.56**	**89**	P		**Pn**	**16 06 44.7 +0.1**
JHCJ				S		**S**	**16 07 20.3 +0.2**
JHJ2	**Mitsune**	**1.57**	**87**	P		**Pn**	**16 06 44.6 -0.1**
JHJ2				S		**S**	**16 07 21.0 +0.7**
JHJ2	**Mitsune**	**1.57**	**87**	*e*P		**Pn**	**16 06 43.5 -1.2**
JSG	**Sagara**	**1.63**	**7**	P		**Pn**	**16 06 46.9 +1.9**
JSG				S		**S**	**16 07 23.5 +2.6**
JIE	**Ise**	**1.69**	**323**	↑P		**Pn**	**16 06 47.5 +2.1**
JIE				S		**S**	**16 07 24.1 +2.4**
JAA	**Atsumi**	**1.71**	**337**	↑P		**Pn**	**16 06 47.6 +2.0**
JAA				S		**S**	**16 07 24.7 +2.8**
HMMJ	**Hamamatsu 2**	**1.81**	**354**	↑P		**Pn**	**16 06 48.0 +1.7**
HMMJ				S		**S**	**16 07 25.0 +1.8**
JKN2	**Miekihoku**	**1.83**	**311**	↑P		**Pn**	**16 06 48.3 +1.9**
JKN2				S		**S**	**16 07 25.7 +2.3**
JIZS	**Izushimoda**	**1.83**	**25**	P		**Pn**	**16 06 47.7 +1.3**
JIZS				S		**S**	**16 07 25.1 +1.6**
JWZ	**Kozaga**	**1.93**	**285**	↑P		**Pn**	**16 06 48.9 +1.7**
JWZ				S		**S**	**16 07 26.9 +2.1**
JIM2	**Oshima 3**	**2.07**	**36**	↓P		**Pn**	**16 06 48.7 +0.4**
JWY	**Kouya**	**2.28**	**301**	↓P		**Pn**	**16 06 52.4 +2.3**
JWY				S		**S**	**16 07 32.5 +2.5**
JOD2	**Odawara 2**	**2.40**	**23**	↓P		**Pn**	**16 06 51.7 +0.7**
JOD2				S		**S**	**16 07 33.0 +1.3**
JYN	**Shimob**	**2.49**	**11**	P		**Pn**	**16 06 53.4 +1.6**
JYN				S		**S**	**16 07 35.0 +1.8**
MJAR	**Matsushiro Arr**	**3.49**	**3**	P		**Pn**	**16 07 02.1 +0.7**
MJAR				S		**S**	**16 07 51.2 +0.7**
MJAR	**Matsushiro Arr**	**3.49**	**3**	P		**Pn**	**16 07 02.1 +0.7**
	14nm,0.3s,baz=181,slow=9.8,SNR=418						
MJAR				S		**S**	**16 07 51.2 +0.7**
	4.5nm,0.3s,baz=216,slow=15,SNR=3.9						
MAJO	**Matsushiro**	**3.49**	**3**	*e*P		**Pn**	**16 07 02.2 +0.8**
MAJO	**Matsushiro**	**3.49**	**3**	*e*P		**Pn**	**16 07 02.2 +0.8**
MAT	**Matsushiro**	**3.49**	**3**	P		**Pn**	**16 07 02.4 +1.0**
MAT				S		**S**	**16 07 51.9 +1.4**
JNU	**Nakatsue**	**5.93**	**273**	*e*P		**Pn**	**16 07 30.1 +1.3**
	29nm,1.0s						
JNU				S		**S**	**16 08 43.5 +3.0**
JNU	**Nakatsue**	**5.93**	**273**	P		**Pn**	**16 07 31.2 +2.4**
	3.7nm,0.3s,baz=53,slow=6.4,SNR=41						
JNU				S		**S**	**16 08 43.5 +3.0**
	baz=94,slow=21,SNR=7.4						
CBIJ	**Chichi jima**	**6.98**	**147**	*e*P		Pn	16 07 36.4 -5.1
	112nm,0.4s						
CBIJ				S		S	16 08 53.7 -10
JCJ	**Chichijima**	**6.98**	**147**	P		Pn	16 07 36.6 -4.8
	108nm,0.3s,baz=333,slow=8.5,SNR=34						
JCJ				S		S	16 08 53.7 -10
	515nm,0.3s,baz=276,slow=23,SNR=22						
KSRS	**Korea Array**	**9.30**	**301**	P		**P**	**16 08 12.2 -1.1**
	12nm,0.3s,baz=110,slow=13,SNR=288						
KSRS				ScP		**ScP**	**16 16 58.0 -0.8**
	0.1nm,0.3s,baz=99,slow=0.5,SNR=9.6						
KSAR	**Wonju Array Be**	**9.32**	**301**	P		**P**	**16 08 12.2 -1.4**
KSAR				ScP		**ScP**	**16 16 58.0 -0.8**
ERM	**Erimo**	**9.86**	**23**	Pn		**Pn**	**16 08 14.5 -1.6**
	640nm,0.5s,SNR=6.3						
INCN	**Inchon**	**10.25**	**299**	*e*P		**P**	**16 08 23.2 -0.7**
	551nm,1.0s						
JOW	**Kunigami**	**10.43**	**236**	*e*P		**P**	**16 08 24.9 -1.1**
	43nm,0.8s						
ASAJ	**Asahikawa**	**11.63**	**17**	*e*P		**Pn**	**16 08 36.1 -1.6**
	33nm,0.8s						
ASAJ				S		**S**	**16 10 42.6 -4.7**
ASAJ	**Asahikawa**	**11.63**	**17**	P		**Pn**	**16 08 36.6 -1.1**
	3.0nm,0.3s,baz=233,slow=14,SNR=31						
ASAJ				S		**S**	**16 10 42.6 -4.7**
	1.8nm,0.3s,baz=312,slow=25,SNR=4.2						
USRK	**Ussuriysk Arra**	**12.06**	**339**	P		**Pn**	**16 08 43.2 +0.3**
	7.1nm,0.3s,baz=149,slow=10,SNR=104						
YUK	**Yuzh-Kuril'sk**	**12.59**	**27**	*c i*P		**P**	**16 08 51.7 +2.0**
YUK				*i* S		**S**	**16 11 05.1 -3.6**
YUK					pmax	pmax	
	comp=N,210nm,0.5s						
YUK					pmax	pmax	
	comp=E,120nm,0.5s						
YUK					pmax	pmax	
	comp=Z,289nm,0.5s						
MDJ	**Mudanjiang**	**13.25**	**333**	P		**Pn**	**16 08 57.6 +0.4**
MDJ				S		**S**	**16 11 22.5 -0.7**
MDJ				ScP		**ScP**	**16 17 01.3 -2.8**
MDJ				PcS		PcS	16 17 29.3 -6.1
MDJ				ScS		**ScS**	**16 20 43.3 +2.5**
MDJ					pmax	pmax	
	comp=Z,220nm,0.8s						
MDJ					pmax	pmax	
	comp=Z,240nm,6.0s						
MDJ					LR	LR	
	comp=Z,52nm,23.0s						
MDJ					LR	LR	
	comp=Z,37nm,16.7s						
MDJ					LR	LR	
	comp=Z,36nm,16.7s						
MDJ	**Mudanjiang**	**13.25**	**333**	*e*P		**Pn**	**16 08 57.5 +0.4**
	comp=Z,162nm,0.9s						
YSS	**Yuzh-Sakhalins**	**14.36**	**13**	*e*P		**Pn**	**16 09 10.0 -0.4**
YSS				*e*S		**S**	**16 11 44.0 -2.5**
YSS					pmax	pmax	
	comp=Z,220nm,0.9s						
YSS					pmax	pmax	
	comp=N,190nm,1.0s						
CN2	**Changchun**	**14.51**	**321**	*e*P		**P**	**16 09 11.3 +0.3**
CN2				*e*S		**S**	**16 11 47.1 -2.6**
CN2					pmax	pmax	
	comp=N,20nm,0.8s						
YOJ	**Yonaguni jima**	**15.63**	**241**	*e*P		**P**	**16 09 21.2 -2.3**
YOJ	**Yonaguni jima**	**15.63**	**241**	*e*P		**P**	**16 09 21.2 -2.3**
NJ2	**Nanjing**	**16.13**	**272**	*e*P		**P**	**16 09 29.4 +0.5**
NJ2					pmax	pmax	
	comp=N,20nm,1.0s						
KLR	**Kul'dur**	**16.81**	**346**	*e*P		**P**	**16 09 32.3 -3.8**
KLR				*e*S		S	16 12 27.0 -8.4
KLR					pmax	pmax	
	comp=E,28nm,1.0s						
KLR					pmax	pmax	
	comp=Z,64nm,1.0s						
NACB	**Ninganchiao**	**16.85**	**243**	*e*P		**P**	**16 09 35.5 -1.2**
YULB	**Yu-li**	**17.52**	**241**	*e*P		**P**	**16 09 42.5 -1.6**
	comp=Z,7.5nm,0.4s						
SSLB	**Suanglung**	**17.55**	**243**	*e*P		**P**	**16 09 43.7 -0.7**
	comp=Z,7.7nm,0.6s						
TWG	**Pinlang**	**18.04**	**240**	*e*P		**P**	**16 09 48.2 -1.3**
TPUB	**Ta-pu**	**18.07**	**242**	*e*P		**P**	**16 09 50.7 +0.7**
BJI	**Beijing**	**18.81**	**298**	P		**P**	**16 09 57.4 -0.1**
BJI				sP		**sP**	**16 11 21.8 -2.2**
BJI				S		**S**	**16 13 17.0 +2.3**
BJI					pmax	pmax	
	comp=Z,280nm,0.5s						
BJT	**Baijiatuau**	**18.81**	**298**	*e*P		**P**	**16 09 57.2 -0.3**
	comp=Z,232nm,0.6s						
HIA	**Hailar**	**21.13**	**325**	*e*P		**P**	**16 10 20.2 -0.9**
	comp=Z,98nm,1.0s						
SKR	**Severo-Kuril's**	**22.11**	**32**	*e*P		**P**	**16 10 27.6 -2.3**
SKR					pmax	pmax	
	comp=N,180nm,1.0s						
SKR					pmax	pmax	
	comp=E,180nm,1.0s						
SKR					pmax	pmax	
	comp=Z,220nm,1.0s						
HHC	**Hu-ho-hao-te**	**22.42**	**298**	*e*P		**P**	**16 10 33.0 0.0**
HHC				sP		**sP**	**16 12 03.5 -0.2**
HHC				S		**S**	**16 14 13.4 -2.5**
HHC				PcP		**PcP**	**16 14 17.2 +0.7**
HHC				ScP		**ScP**	**16 17 23.2 -0.7**
HHC				PcS		**PcS**	**16 17 55.4 -0.1**
HHC				ScS		**ScS**	**16 21 07.1 -2.5**
HHC					pmax	pmax	
	comp=Z,210nm,0.9s						
HHC					pmax	pmax	
	comp=Z,1μm,4.1s						
HHC					LR	LR	
	comp=Z,480nm,11.1s						
HHC					LR	LR	
	comp=Z,430nm,10.4s						
HHC					LR	LR	
	comp=Z,500nm,11.1s						
BTO	**Baotou**	**23.52**	**297**	*e*P		**P**	**16 10 43.8 +0.8**
XAN	**Xi'an**	**24.18**	**280**	P		**P**	**16 10 48.9 -0.1**
XAN					pmax	pmax	
	comp=Z,24nm,0.9s						
XAN					LR	LR	
	comp=Z,4μm,31.7s						
XAN					LR	LR	
	comp=Z,980nm,18.4s						
ENH	**Enshi**	**24.35**	**271**	*e*P		**P**	**16 10 50.7 +0.2**
PETK	**Petropavlovsk-**	**24.55**	**29**	P		**P**	**16 10 52.7 +0.7**
PETK					pmax	pmax	
	comp=Z,20nm,0.9s						
PETK	**Petropavlovsk-**	**24.55**	**29**	P		**P**	**16 10 52.7 +0.7**
PETK	**Petropavlovsk-**	**24.55**	**29**	P		**P**	**16 10 52.7 +0.7**
	comp=Z,20nm,0.9s,baz=225,slow=7.6,SNR=37						
PET	**Petropavlovsk**	**24.89**	**30**	*e*P		**P**	**16 10 55.4 +0.4**
PET					pmax	pmax	
	comp=Z,55nm,1.1s						
CLNS	**Chul'man**	**25.43**	**343**	*e*P		**P**	**16 11 01.4 +1.5**
CLNS					pmax	pmax	
	comp=Z,16nm,0.9s						
CLNS					pmax	pmax	
	comp=N,10.0nm,1.1s						
CLNS					pmax	pmax	
	comp=E,6.0nm,1.0s						
CIT	**Chita**	**25.92**	**324**	*e*P		**P**	**16 11 04.6 +0.3**
CIT					pmax	pmax	
	comp=Z,77nm,1.4s						
ULN	**Ulaanbaatar**	**27.55**	**312**	*e*P		**P**	**16 11 20.2 +1.1**
	comp=Z,53nm,0.8s						
GYA	**Guiyang**	**27.87**	**265**	↑*i*P		**P**	**16 11 21.6 -0.5**
GYA				pP		**pP**	**16 12 19.3 -1.7**
GYA				sP		**sP**	**16 12 53.4 -3.9**
GYA				PcP		**PcP**	**16 14 30.0 +0.9**
GYA				S		**S**	**16 15 42.8 +0.5**
GYA				sS		sS	16 17 23.5 -6.6
GYA				ScP		**ScP**	**16 17 41.2 +1.4**
GYA				PcS		**PcS**	**16 18 11.0 -0.7**
GYA				ScS		**ScS**	**16 21 32.6 -0.3**
GYA					pmax	pmax	
	comp=Z,20nm,0.8s						
GYA					pmax	pmax	
	comp=Z,130nm,4.8s						
SONM	**Songino Array**	**27.95**	**311**	P		**P**	**16 11 23.9 +1.4**
SONM				ScP		**ScP**	**16 17 38.6 -1.1**
SONM	**Songino Array**	**27.95**	**311**	P		**P**	**16 11 23.9 +1.4**
	comp=Z,50nm,0.8s,baz=117,slow=8.6,SNR=67						
SONM				ScP		**ScP**	**16 17 38.6 -1.1**
	comp=Z,2.0nm,0.7s,baz=89,slow=2.1,SNR=4.9						
LZH	**Lanzhou**	**28.16**	**286**	↓P		**P**	**16 11 24.6 0.0**
LZH				pP		**pP**	**16 12 19.8 -3.7**
LZH				sP		sP	16 12 53.1 -6.8
LZH				*e*S		**S**	**16 15 45.0 -1.7**
LZH					pmax	pmax	
	comp=Z,140nm,1.4s						
LZH					pmax	pmax	
	comp=Z,410nm,4.0s						
QIZ	**Qiongzhong**	**28.74**	**248**	P		**P**	**16 11 28.8 -0.9**
QIZ				sP		**sP**	**16 13 01.4 -3.6**
QIZ				S		**S**	**16 15 54.1 -1.7**
QIZ				sS		**ScP**	**16 17 41.3 -1.2**
QIZ					pmax	pmax	
	comp=Z,18nm,1.6s						
QIZ					LR	LR	
	comp=Z,1μm,48.1s						
QIZ					LR	LR	
	comp=Z,2μm,23.8s						
CD2	**Chengdu**	**29.01**	**275**	*e*P		**P**	**16 11 31.8 -0.1**
CD2				pP		**pP**	**16 12 30.0 -1.1**
CD2				sP		**sP**	**16 13 04.5 -2.8**
CD2				PcP		**PcP**	**16 14 31.9 +0.1**
CD2				S		**S**	**16 16 00.1 +0.3**
CD2				sS		**ScP**	**16 17 42.5 -0.7**
CD2					pmax	pmax	
	comp=Z,170nm,1.0s						
CD2					pmax	pmax	
	comp=Z,180nm,7.2s						
YAK	**Yakutsk**	**29.48**	**352**	*e*P		**P**	**16 11 34.2 -1.4**
YAK					pmax	pmax	
	comp=E,4.0nm,1.0s						
YAK					pmax	pmax	
	comp=N,14nm,1.3s						
YAK					pmax	pmax	
	comp=Z,12nm,1.1s						
ZAK	**Zakamensk**	**30.77**	**315**	*e*P		**P**	**16 11 47.6 +0.4**
ZAK					pmax	pmax	
	comp=Z,18nm,1.4s						
TLY	**Talaya**	**31.05**	**317**	*i* P		**P**	**16 11 51.1 +1.5**
TLY					pmax	pmax	
	comp=Z,30nm,1.3s						
TLY	**Talaya**	**31.05**	**317**	*e*P		**P**	**16 11 50.7 +1.1**
	comp=Z,14nm,0.9s						
GTA	**Gaotai**	**31.24**	**293**	P		**P**	**16 11 51.6 +0.1**
GTA				pP		**pP**	**16 12 52.6 +1.5**
GTA				S		**S**	**16 16 34.0 -0.6**
GTA				ScP		**ScP**	**16 17 49.7 -0.8**
GTA				sS		**sS**	**16 18 22.7 -0.2**
GTA				SS		**SS**	**16 18 51.7 -8.9**
GTA					pmax	pmax	
	comp=Z,35nm,1.0s						
GTA					pmax	pmax	
	comp=Z,140nm,6.4s						
GTA					LR	LR	
	comp=Z,130nm,17.3s						
GTA					LR	LR	
	comp=Z,230nm,17.3s						
GTA					LR	LR	
	comp=Z,180nm,17.1s						
KMI	**Kunming**	**31.65**	**265**	P		**P**	**16 11 55.2 -0.2**
KMI					pmax	pmax	
	comp=Z,17nm,0.6s						
FX1	**Attu Island--F**	**32.05**	**41**	*e*P		**P**	**16 11 59.9 +1.7**
MOY	**Mondy**	**32.58**	**316**	*e*P		**P**	**16 12 04.1 +1.2**
CRAI	**Chiangrai**	**35.74**	**259**	P		**P**	**16 12 30.9 +0.7**
	comp=Z,235nm,1.2s,comp=Z,15μm						
CHAI	**Chaiyaphum**	**36.69**	**251**	P		**P**	**16 12 38.2 +0.1**
	comp=Z,5.2nm,0.5s						
CMAI	**Chiengmai2**	**36.98**	**259**	P		**P**	**16 12 42.8 +2.0**
	comp=Z,31nm,0.8s						
PBKT	**Sadao Pong**	**37.13**	**253**	P		**P**	**16 12 42.6 +0.8**
	comp=Z,17nm,1.5s,comp=Z,1μm						
LAMP	**Lampang**	**37.19**	**257**	P		**P**	**16 12 43.9 +1.6**
	comp=Z,5.9nm,0.8s						
CMMT	**Chiang Mai**	**37.60**	**258**	P		**P**	**16 12 46.5 +0.7**
	comp=Z,14nm,1.4s,comp=Z,729nm						
CHTO	**Chiang Mai**	**37.60**	**258**	*e*P		**P**	**16 12 45.7 -0.1**
CHTO					pmax	pmax	
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**37.60**	**258**	*e*P		**P**	**16 12 45.7 -0.1**
	comp=Z,10nm,0.9s						
CHTO	**Chiang Mai**	**37.60**	**258**	P		**P**	**16 12 46.6 +0.8**
	comp=Z,64nm,1.4s						
CM31	**Chiang Mai Arr**	**37.78**	**257**	*e*P		**P**	**16 12 46.3 -1.0**
	comp=Z,3.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**37.78**	**257**	P		**P**	**16 12 47.1 -0.2**
CMAR					ScP	**S**	**16 18 15.1 +0.5**
CMAR	**Chiang Mai Arr**	**37.78**	**257**	P		**P**	**16 12 47.1 -0.2**
	comp=Z,4.3nm,0.8s,baz=50,slow=7.2,SNR=50						
CMAR					ScP	**S**	**16 18 15.1 +0.5**
	comp=Z,2.4nm,1.1s,baz=18,slow=2.8,SNR=11						
CHBT	**CHBT**	**38.26**	**247**	P		**P**	**16 12 52.5 +1.2**
	comp=Z,26nm,1.1s						
LSA	**Lhasa**	**39.84**	**278**	*e*P		**P**	**16 13 05.7 +1.0**
LSA					pmax	pmax	
	comp=Z,35nm,0.7s						
LSA	**Lhasa**	**39.84**	**278**	*e*P		**P**	**16 13 05.7 +1.0**
	comp=Z,35nm,0.7s						
KHLT	**Khaolaem Dam**	**40.01**	**253**	P		**P**	**16 13 07.4 +1.7**
	comp=Z,5.2nm,1.2s						
WMQ	**Urumqi**	**40.25**	**301**	P		**P**	**16 13 08.0 +0.6**
WMQ				pP		**pP**	**16 14 12.0 +2.5**
WMQ				PcP		**PcP**	**16 15 08.0 +3.6**
WMQ				ScP		**ScP**	**16 18 23.0 -0.4**
WMQ				S		**S**	**16 18 52.0 +1.2**
WMQ				sS		**sS**	**16 20 44.0 +1.7**
WMQ				SS		**SS**	**16 21 58.0 -5.1**
WMQ				ScS		**ScS**	**16 22 36.0 -2.3**
WMQ					pmax	pmax	
	comp=Z,31nm,1.0s						
WMQ					pmax	pmax	
	comp=Z,270nm,4.0s						
WMQ					LR	LR	
	comp=Z,940nm,13.0s						
WMQ					LR	LR	
	comp=Z,2μm,15.0s						
WMQ					LR	LR	
	comp=Z,2μm,15.0s						
KSM	**Kuching**	**40.74**	**225**	*e*P		**P**	**16 13 12.2 +0.6**
	comp=Z,10nm,0.4s						
ZAA0	**Zalesovo Array**	**42.63**	**316**	*e*P		**P**	**16 13 26.3 0.0**
ZALV	**Zalesovo Beam**	**42.63**	**316**	P		**P**	**16 13 26.3 0.0**
ZALV							16 15 11.8
ZALV					pmax	pmax	
	comp=Z,4.0nm,0.3s						
ZALV					pmax	pmax	
	comp=Z,2.0nm,0.5s						
ZALV					pmax	pmax	
	comp=N,5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**42.63**	**316**	P		**P**	**16 13 26.3 0.0**
ZALV					PcP	**PcP**	**16 15 11.8 -0.2**
ZALV					ScP	**ScP**	**16 18 31.0 -1.6**
ZALV	**Zalesovo Beam**	**42.63**	**316**	P		**P**	**16 13 26.3 0.0**
	comp=N,4.3nm,0.3s,baz=96,slow=6.1,SNR=60						
ZALV					PcP	**PcP**	**16 15 11.8 -0.2**
	comp=N,2.4nm,0.5s,baz=94,slow=3.1,SNR=4.0						
ZALV					ScP	**ScP**	**16 18 31.0 -1.6**
	comp=N,5.3nm,0.6s,baz=119,slow=3.5,SNR=11						
TAPN	**Taplejung**	**43.46**	**276**	↓*i*P		**P**	**16 13 34.0 +0.4**
	comp=N,36nm,0.3s						
NVS	**Novosibirsk**	**43.66**	**317**	*e*P		**P**	**16 13 34.0 -0.5**
NVS					pmax	pmax	
	comp=Z,31nm,0.9s						
NVS					pmax	pmax	
	comp=N,8.0nm,0.9s						
NVS					pmax	pmax	
	comp=E,29nm,1.2s						
ODAN	**Odare**	**43.90**	**276**	↓*i*P		**P**	**16 13 37.2 +0.2**
	comp=E,79nm,0.4s						
MK31	**Makanchi Array**	**43.95**	**305**	P		**P**	**16 13 37.2 +0.3**
MK31					pmax	pmax	
	comp=Z,9.0nm,0.4s						
MK31	**Makanchi Array**	**43.95**	**305**	*e*P		**P**	**16 13 37.5 +0.5**
MKAR	**Makanchi Array**	**43.95**	**305**	P		**P**	**16 13 37.4 +0.5**
MKAR					pmax	pmax	
	comp=Z,11nm,0.4s						
MKAR					pmax	pmax	
	comp=N,5.0nm,0.8s						
MKAR	**Makanchi Array**	**43.95**	**305**	P		**P**	**16 13 37.4 +0.5**
MKAR					ScP	**ScP**	**16 18 36.6 -1.6**
MKAR	**Makanchi Array**	**43.95**	**305**	P		**P**	**16 13 37.4 +0.5**
	comp=N,11nm,0.4s,baz=86,slow=9.6,SNR=215						
MKAR					ScP	**ScP**	**16 18 36.6 -1.6**
	comp=N,4.9nm,0.8s,baz=81,slow=4.9,SNR=11						
RAMN	**Ramite**	**44.52**	**276**	↓*i*P		**P**	**16 13 42.2 +0.2**
	comp=N,284nm,0.7s						
RAMN	**Ramite**	**44.52**	**276**	↓*i*P		**P**	**16 13 42.2 +0.2**
JIRN	**Jiri**	**44.62**	**277**	↓*i*P		**P**	**16 13 43.6 +0.7**
JIRN	**Jiri**	**44.62**	**277**	↓*i*P		**P**	**16 13 43.6 +0.7**
IPM	**Ipoh**	**44.64**	**238**	*e*P		**P**	**16 13 41.8 -1.0**
	comp=N,28nm,1.0s						
GUN	**Gumba**	**44.79**	**278**	↓*i*P		**P**	**16 13 44.8 +0.6**
	comp=N,183nm,0.7s						
GUN	**Gumba**	**44.79**	**278**	↓*i*P		**P**	**16 13 44.8 +0.6**
PKI	**Pulchoki**	**45.30**	**278**	↓*i*P		**P**	**16 13 48.1 -0.1**
PKI	**Pulchoki**	**45.30**	**278**	↓*i*P		**P**	**16 13 48.1 -0.1**
PKI	**Pulchoki**	**45.30**	**278**	↓*i*P		**P**	**16 13 48.1 -0.1**
PKIN	**Phulchoki**	**45.31**	**278**	↓*i*P		**P**	**16 13 48.0 -0.2**
KKN	**Kakani**	**45.33**	**278**	↓*i*P		**P**	**16 13 48.4 +0.1**
KKN	**Kakani**	**45.33**	**278**	↓*i*P		**P**	**16 13 48.4 +0.1**
KKN	**Kakani**	**45.33**	**278**	↓*i*P		**P**	**16 13 48.4 +0.1**
DMN	**Daman**	**45.54**	**278**	↓*i*P		**P**	**16 13 50.1 +0.2**
	comp=N,130nm,0.9s						
DMN	**Daman**	**45.54**	**278**	↓*i*P		**P**	**16 13 50.1 +0.2**
TNA	**Tin City**	**45.71**	**28**	*e*P		**P**	**16 13 51.8 +1.5**
	comp=N,34nm,0.9s						
GKN	**Gorkha**	**45.79**	**278**	↓*i*P		**P**	**16 13 52.1 +0.3**
GKN	**Gorkha**	**45.79**	**278**	↓*i*P		**P**	**16 13 52.1 +0.3**
KURK	**Kurchatov**	**46.26**	**311**	P		**P**	**16 13 54.7 -0.1**
KURK					pmax	pmax	
	comp=Z,43nm,1.1s						
KURK	**Kurchatov**	**46.26**	**311**	*e*P		**P**	**16 13 54.6 -0.3**
	comp=Z,29nm,0.8s						
KURK	**Kurchatov**	**46.26**	**311**	P		**P**	**16 13 54.6 -0.3**
	comp=Z,432nm,0.4s,SNR=50						
DANN	**Dangsing**	**46.40**	**279

BVA0 pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 51.28 314 *e*P **P 16 14 33.2 +0.4**
BRVK pmax pmax
comp=Z,8.0nm,0.5s
BRVK Borovoye 51.28 314 *e*P **P 16 14 33.2 +0.4**
comp=Z,7.6nm,0.5s
BRVK Borovoye 51.28 314 P **P 16 14 33.6 +0.9**
comp=Z,97nm,0.5s,SNR=5.5
IM04 Indian Mountai 51.50 29 *e*P **P 16 14 34.8 +0.7**
RSO Redoubt South 51.79 36 *e*P **P 16 14 37.1 +0.6**
comp=Z,167nm,0.8s
KDAK Kodiak Island 51.97 40 *e*P **P 16 14 37.9 +0.3**
comp=Z,86nm,0.7s
KDAK Kodiak Island 51.97 40 P **P 16 14 38.0 +0.3**
comp=Z,823nm,0.7s,SNR=42
PPLA Purkeypile 52.05 33 *e*P **P 16 14 40.0 +1.6**
comp=Z,47nm,0.8s
FITZ Fitzroy Crossi 52.21 195 *e*P **P 16 14 40.1 +0.3**
BPAW Bear Paw Mtn. 52.60 32 *e*P **P 16 14 43.4 +1.2**
comp=Z,32nm,1.1s
KK31 Karatay Array 52.73 302 *e*P **P 16 14 43.4 -0.1**
KK31 pmax pmax
comp=Z,12nm,0.5s
WRAB Tennant Creek 52.80 184 *e*P **P 16 14 43.3 -0.8**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WRAB Tennant Creek 52.80 184 *e*P **P 16 14 43.3 -0.8**
comp=Z,6.5nm,0.7s
WRAB Tennant Creek 52.80 184 P **P 16 14 43.0 -1.1**
comp=Z,56nm,0.4s,SNR=27
WRA Warramunga Arr 52.81 184 P **P 16 14 43.5 -0.7**
WRA PcP **pP 16 15 49.5 -0.5**
WRA ScP **ScP 16 19 14.8 -1.2**
WRA Warramunga Arr 52.81 184 P **P 16 14 43.5 -0.7**
comp=Z,3.3nm,0.3s,baz=0.1,slow=7.7,SNR=120
WRA PcP **pP 16 15 49.5 -0.5**
comp=Z,4.3nm,0.8s,baz=358,slow=4.0,SNR=7.4
WRA ScP **ScP 16 19 14.7 -1.2**
comp=Z,1.3nm,0.7s,baz=357,slow=4.5,SNR=7.2
TRF Thorofare Moun 52.91 32 *e*P **P 16 14 45.0 +0.3**
comp=Z,11nm,0.7s
COLD Coldfoot 53.00 28 *e*P **P 16 14 46.3 +1.3**
comp=Z,9.0nm,0.7s
RC01 Rabbit Creek A 53.25 35 *e*P **P 16 14 47.0 +0.1**
comp=Z,48nm,1.1s
RC01 *e*PcP **PcP 16 15 50.8 +0.7**
SEW Seward 53.45 37 *e*P **P 16 14 48.5 +0.1**
comp=Z,76nm,0.9s
PMR Palmer 53.51 35 *e*P **P 16 14 48.6 -0.2**
PMR pmax pmax
comp=Z,53nm,0.9s
PMR Palmer 53.51 35 *e*P **P 16 14 48.5 -0.2**
comp=Z,53nm,0.9s
MCK McKinley 53.51 32 *e*P **P 16 14 49.3 +0.5**
MCK pmax pmax
comp=Z,63nm,1.0s
MCK McKinley 53.51 32 *e*P **P 16 14 49.3 +0.5**
comp=Z,63nm,1.0s
ILAR Eielson Array 54.37 31 P **P 16 14 54.9 0.0**
ILAR PcP **PcP 16 15 53.3 -1.1**
ILAR Eielson Array 54.37 31 P **P 16 14 54.9 0.0**
comp=Z,22nm,0.7s,baz=280,slow=5.6,SNR=263
ILAR PcP **PcP 16 15 53.3 -1.1**
comp=Z,1.8nm,0.7s,baz=279,slow=3.9,SNR=2.4
PAX Paxson 55.12 33 *e*P **P 16 15 01.1 +0.7**
comp=Z,23nm,0.8s
PAX *e*PcP **PcP 16 15 58.7 +1.2**
DIV Divide 55.16 35 *e*P **P 16 15 01.7 +1.0**
comp=Z,17nm,0.5s
HYB Hyderabad 55.27 269 *i* P **P 16 15 01.5 -0.6**
DOT Dot Lake 55.69 32 *e*P **P 16 15 04.6 +0.3**
comp=Z,39nm,0.7s
DOT *e*PcP **PcP 16 16 00.3 +0.8**
MENT Mentasta 55.92 33 *e*P **P 16 15 07.3 +1.3**
AS31 Alice Springs 56.53 184 *e*P **P 16 15 10.2 -0.6**
ASAR Alice Springs 56.53 184 P **P 16 15 10.2 -0.5**
ASAR PcP **PcP 16 16 04.5 +1.1**
ASAR ScP **ScP 16 19 31.1 -1.1**
ASAR Alice Springs 56.53 184 P **P 16 15 10.2 -0.5**
comp=Z,2.7nm,0.6s,baz=9.6,slow=8.2,SNR=58
ASAR PcP **PcP 16 16 04.5 +1.1**
comp=Z,1.4nm,0.5s,baz=2.8,slow=3.8,SNR=5.6
ASAR ScP **ScP 16 19 31.1 -1.1**
comp=Z,0.8nm,0.7s,baz=359,slow=4.8,SNR=5.1
MBWA Marble Bar 56.64 200 *e*P **P 16 15 11.1 -0.4**
comp=Z,7.3nm,0.5s
ARU Arti 57.50 320 P **P 16 15 17.5 +0.4**
comp=Z,139nm,0.4s,SNR=7.3
DAWY Dawson 57.68 31 *e*P **P 16 15 19.1 +0.8**
HYT Haines Junctio 59.19 35 *e*P **P 16 15 30.3 +1.6**
INK Inuvik 59.21 26 *e*P **P 16 15 29.1 +0.5**
comp=Z,34nm,1.2s
IEMG Emamgholi 63.09 299 *e*P **P 16 15 56.4 +1.0**
IKRD Kardeh 63.43 298 *e*P **P 16 15 54.5 -3.1**
SPITS Spitsbergen Ar 63.87 349 P **P 16 16 01.5 +2.1**
SPITS Spitsbergen Ar 63.87 349 P **P 16 16 01.5 +2.1**
comp=Z,5.8nm,0.9s,baz=23,slow=1.9,SNR=4.3
IDAH Dahanechah 64.00 293 *e*P **P 16 16 02.0 +0.6**
STKA Stephens Creek 64.67 177 P **P 16 16 05.2 +0.1**
STKA Stephens Creek 64.67 177 P **P 16 16 05.2 +0.1**
comp=Z,3.0nm,0.7s,baz=353,slow=10,SNR=8.5
APA Apatity 65.14 336 *i* P **P 16 16 08.0 +0.2**
APA *i* 16 16 40.0
ARCES ARCESS Array B 66.71 339 P **P 16 16 18.2 +0.6**
ARCES ARCESS Array B 66.71 339 P **P 16 16 18.2 +0.6**
comp=Z,4.0nm,0.5s,baz=63,slow=8.4,SNR=22
RES Resolute Bay 67.14 13 *e*P **P 16 16 20.8 +0.6**
comp=Z,46nm,0.9s
RES Resolute Bay 67.14 13 P **P 16 16 21.0 +0.8**
comp=Z,32nm,0.5s,baz=307,slow=7.0,SNR=60
IANJ Anjilo 67.37 298 *e*P **P 16 16 23.2 +0.5**
ILAS Lasjerd 68.11 299 *e*P **P 16 16 28.3 +1.0**
JOF Joensuu 68.12 332 *e*P **P 16 16 26.5 0.0**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 68.12 332 *e*p **P 16 16 26.5 0.0**
comp=Z,6.3nm,0.6s
YKW3 Yellowknife Ar 68.62 28 *e*P **P 16 16 29.7 +0.1**
comp=Z,0.3nm,1.0s
YKA Yellowknife Ar 68.66 28 P **P 16 16 30.2 +0.3**
YKA Yellowknife Ar 68.66 28 P **P 16 16 30.2 +0.3**
comp=Z,9.0nm,0.6s,baz=304,slow=6.3,SNR=50
IDMV Damavand 68.70 299 *e*P **P 16 16 31.8 +0.8**
IZEF Zefreh 69.67 297 *e*P **P 16 16 37.5 +0.6**
IPAR Pars 70.51 293 *e*P **P 16 16 42.4 +0.3**
KAF Kangasniemi 70.52 332 *e*P **P 16 16 41.1 -0.1**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 70.52 332 *e*p **P 16 16 41.1 -0.1**
comp=Z,4.1nm,0.5s
ISRV Sarvestan 70.67 293 *e*P **P 16 16 42.7 -0.4**
ISRB Sarab 70.84 303 *e*P **P 16 16 44.5 +0.7**
FINES FINESS Array B 70.99 332 P **P 16 16 44.2 +0.2**
FINES FINESS Array B 70.99 332 P **P 16 16 44.2 +0.2**
comp=Z,7.8nm,0.8s,baz=57,slow=6.1,SNR=10
IHRS Heris 71.05 304 *e*P **P 16 16 45.2 +0.1**
OBC Olympics--Boni 71.08 45 P **P 16 16 46.6 +1.7**
PGC Sidney 71.16 44 *e*P **P 16 16 46.6 +1.5**
comp=Z,2.9nm,1.0s
KBZ Khabaz 71.32 310 P **P 16 16 47.1 +0.9**
KBZ pmax pmax
comp=Z,15nm,0.8s
KBZ Khabaz 71.32 310 P **P 16 16 47.1 +0.9**
KBZ Khabaz 71.32 310 P **P 16 16 47.1 +0.9**
comp=Z,15nm,0.8s,baz=72,slow=2.8,SNR=13
NLWA Neilton Lookou 71.52 45 *e*P **P 16 16 49.1 +1.7**
comp=Z,64nm,1.1s
GNI Garni 71.78 306 *e*P **P 16 16 50.7 +1.4**
IMRD Marand 71.80 305 *e*P **P 16 16 50.0 +0.5**
CMW Cultus Mountai 72.04 44 P **P 16 16 52.1 +1.5**
KULLO Kullorsuaq 72.17 4 *i* P **P 16 16 51.3 +0.5**
KULLO pmax pmax
comp=Z,20nm,0.8s
KULLO Kullorsuaq 72.17 4 *i* P **P 16 16 51.3 +0.5**
comp=Z,20nm,0.7s
G03D McMinnville, O 72.95 47 ⇑P **P 16 16 57.6 +1.7**
baz=73
TDL Tradedollar La 73.02 46 P **P 16 16 57.8 +1.4**
LVP Lakeview Peak 73.04 46 P **P 16 16 57.9 +1.3**
LON Longmire 73.06 45 *e*P **P 16 16 56.4 -0.1**
LON pmax pmax
comp=Z,16nm,1.1s
LON Longmire 73.06 45 *e*P **P 16 16 56.4 -0.1**
comp=Z,16nm,1.1s
MPOR Mary's Peak 73.12 48 P **P 16 16 58.8 +1.8**
COR Corvallis 73.24 48 *e*P **P 16 16 59.2 +1.7**
COR pmax pmax
comp=Z,139nm,1.2s
COR Corvallis 73.24 48 *e*P **P 16 16 59.2 +1.7**
comp=Z,138nm,1.2s
WPW White Pass 73.24 45 P **P 16 16 58.8 +1.1**
KEBM Edson Butte 73.44 49 *e*P **P 16 17 00.6 +1.8**
comp=Z,117nm,0.9s
ETW Entiat 73.49 44 P **P 16 17 00.0 +0.9**
I03D Drain, OR 73.65 48 ⇓P **P 16 17 01.9 +1.9**
baz=74
WTV Waterville 73.66 43 P **P 16 17 00.6 +0.6**
VLL Laurance Lake 73.79 46 P **P 16 17 02.3 +1.4**
SAW Saint Andrews 73.98 43 P **P 16 17 02.4 +0.5**
VFP Flag Point 73.99 46 P **P 16 17 03.4 +1.2**
G05D Wamic, OR 74.12 46 ⇑P **P 16 17 04.3 +1.6**
baz=74
I04A Tendick Farm, 74.19 48 ⇑P **P 16 17 04.2 +1.1**
baz=74
L02D Cave Junction, 74.26 50 ⇓P **P 16 17 05.1 +1.6**
baz=74
HUMO Hull Mountain 74.45 49 *e*P **P 16 17 06.0 +1.3**
comp=Z,18nm,0.9s
BLTW Bickleton 74.46 45 P **P 16 17 05.8 +1.2**
I05D Terrebonne, OR 74.57 47 ⇓P **P 16 17 07.0 +1.6**
baz=74
SUMG Summit 74.63 359 *i* P **P 16 17 06.9 +1.4**
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 74.63 359 *i* P **P 16 17 06.9 +1.4**
comp=Z,12nm,0.9s
J04D Umpqua Nationa 74.66 48 ⇓P **P 16 17 07.6 +1.5**
baz=74
UMR Umm Al-Rimmam 74.73 295 *e*P **P 16 17 06.2 -0.2**
UMR AMb AMB 16 17 07.2
comp=Z,55nm,0.4s
VIPM Ingram Point 74.92 47 P **P 16 17 08.6 +1.1**
VIPM Ingram Point 74.92 47 P **P 16 17 08.6 +1.1**
KBD Kabd 74.93 295 *e*P **P 16 17 07.5 0.0**
KBD AMb AMB 16 17 08.6
comp=Z,26nm,0.4s
NEW Newport 74.97 42 *e*P **P 16 17 07.2 -0.4**
comp=Z,36nm,1.2s
NEW Newport 74.97 42 ⇑P **P 16 17 08.5 +0.9**
baz=75
YBH Yreka Blue Hor 75.05 50 *e*P **P 16 17 09.3 +1.1**
comp=Z,23nm,0.8s
M02C Callahan 75.14 50 ⇑P **P 16 17 10.4 +1.8**
baz=75
J05D Fort Rock, OR 75.18 48 ⇓P **P 16 17 10.7 +1.7**
baz=75
K04D Chiloquin, OR 75.20 49 ⇓P **P 16 17 10.7 +1.7**
baz=75
RST Umm Al-Ruwaisa 75.30 296 *e*P **P 16 17 08.9 -0.7**
RST AMb AMB 16 17 10.2
comp=Z,615nm,0.9s
N02D Trinity Center 75.45 51 ⇑P **P 16 17 12.0 +1.6**
baz=75
M04C Macdoel 75.59 49 ⇑P **P 16 17 12.6 +1.4**
baz=75
AKASG Malin Array Be 75.67 322 P **P 16 17 11.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 75.67 322 P **P 16 17 11.0 -0.3**
AKASG Malin Array Be 75.67 322 P **P 16 17 11.0 -0.3**
comp=Z,3.4nm,0.6s,baz=50,slow=6.0,SNR=28
AK01 Malin Array Si 75.68 322 *e*P **P 16 17 10.9 -0.4**
WDC Whiskeytown Da 75.76 51 *e*P **P 16 17 12.8 +0.8**
WDC pmax pmax
comp=Z,32nm,1.2s
WDC Whiskeytown Da 75.76 51 *e*P **P 16 17 12.8 +0.8**
comp=Z,32nm,1.2s
WALA Waterton Lakes 76.30 40 *e*P **P 16 17 15.9 +0.8**
comp=Z,1.0nm,0.7s
MOD Modoc 76.50 49 *e*P **P 16 17 16.9 +0.6**
comp=Z,29nm,0.8s
BSMT Bassoo Peak 76.51 41 *e*P **P 16 17 17.3 +0.9**
comp=Z,24nm,1.1s
BLMT Blacktail Moun 76.65 41 *e*P **P 16 17 18.2 +1.0**
comp=Z,38nm,1.1s
NB2 NORSAR Subarra 76.72 336 P **P 16 17 16.2 -0.9**
comp=Z,2.5nm,0.6s,baz=43,slow=5.9
NOA NORSAR Array B 76.72 336 P **P 16 17 17.1 0.0**
NOA NORSAR Array B 76.72 336 P **P 16 17 17.1 0.0**
comp=Z,3.1nm,0.7s,baz=44,slow=5.6,SNR=10.0
BMO Blue Mountains 76.73 45 *e*P **P 16 17 18.4 +0.8**
JTMT Jette 76.85 41 *e*P **P 16 17 19.1 +0.9**
comp=Z,36nm,1.1s
YBMT Yellow Bay 76.93 41 *e*P **P 16 17 19.5 +0.8**
comp=Z,25nm,1.2s
SWMT Swan Lake 77.14 41 *e*P **P 16 17 20.5 +0.7**
comp=Z,21nm,1.0s
WVOR Wild Horse Val 77.25 48 *e*P **P 16 17 21.7 +1.2**
WVOR pmax pmax
comp=Z,32nm,0.8s
WVOR Wild Horse Val 77.25 48 *e*P **P 16 17 21.7 +1.2**
comp=Z,32nm,0.8s
BEKR Beckworth 77.55 51 *e*P **P 16 17 22.8 +0.5**
comp=Z,26nm,0.8s
MSO Missoula 77.56 42 ⇑P **P 16 17 22.5 +0.4**
baz=77
SLMT Seeley Lake 77.58 41 *e*P **P 16 17 22.7 +0.5**
comp=Z,46nm,0.6s
CHMT Chamberlain Mo 77.90 42 *e*P **P 16 17 24.0 -0.1**
comp=Z,7.2nm,0.6s
PAHR Pah Rah Range 78.27 50 *e*P **P 16 17 26.9 +0.7**
comp=Z,36nm,0.8s
MFID Camas Ranch 78.42 46 *e*P **P 16 17 27.7 +0.8**
comp=Z,25nm,0.8s
CMB Columbia Colle 78.53 52 *e*P **P 16 17 27.8 +0.3**
CMB pmax pmax
comp=Z,37nm,1.1s
CMB Columbia Colle 78.53 52 *e*P **P 16 17 27.8 +0.3**
comp=Z,37nm,1.1s
FFC Flin Flon 78.58 31 *e*P **P 16 17 27.0 -0.4**
FFC pmax pmax
comp=Z,37nm,1.0s
FFC Flin Flon 78.58 31 *e*P **P 16 17 27.0 -0.4**
comp=Z,37nm,1.0s
FFC Flin Flon 78.58 31 P **P 16 17 27.0 -0.4**
comp=Z,198nm,1.0s,SNR=9.5
WAKR Walker 78.89 51 *e*P **P 16 17 30.5 +0.8**
comp=Z,20nm,0.9s
LRM Limekiln Ridge 78.99 42 *e*P **P 16 17 30.9 +0.8**
comp=Z,590nm,1.2s
A19A Klindworth Far 79.11 38 ⇓P **P 16 17 31.5 +1.0**
baz=79
EGMT Eagleton 79.14 39 *e*P **P 16 17 31.1 +0.5**
comp=Z,44nm,0.9s
EGMT Eagleton 79.14 39 ⇓P **P 16 17 31.3 +0.6**
baz=79,SNR=12
HLID Hailey 79.18 45 *e*P **P 16 17 32.1 +1.1**
comp=Z,14nm,0.8s
HLID Hailey 79.18 45 ⇓P **P 16 17 32.3 +1.3**
baz=79
BMN Battle Mountai 79.25 49 *e*P **P 16 17 32.5 +1.1**
BMN pmax pmax
comp=Z,43nm,1.0s
BMN Battle Mountai 79.25 49 *e*P **P 16 17 32.5 +1.1**
comp=Z,43nm,1.0s
B19A Brinkman Farms 79.30 39 ⇓P **P 16 17 32.3 +0.9**
baz=79,SNR=11
BR131 Keskin Array S 79.31 310 *e*P **P 16 17 32.1 +0.3**
BRTR Keskin Array B 79.31 310 P **P 16 17 32.5 +0.7**
BRTR Keskin Array B 79.31 310 P **P 16 17 32.5 +0.7**
comp=Z,6.3nm,0.8s,baz=105,slow=4.8,SNR=29
MCMT McKenzie Canyo 79.35 43 *e*P **P 16 17 32.3 +0.2**
comp=Z,1.3nm,0.6s
BOZ Bozeman (W) 79.56 42 *e*P **P 16 17 33.5 +0.5**
BOZ pmax pmax
comp=Z,19nm,0.8s
BOZ Bozeman (W) 79.56 42 *e*P **P 16 17 33.5 +0.5**
comp=Z,19nm,0.8s
A20A Cobblestone Ra 79.57 38 ⇓P **P 16 17 33.4 +0.5**
baz=79
NVAR Mina Array Bea 79.68 51 P **P 16 17 34.8 +1.0**
NVAR Mina Array Bea 79.68 51 P **P 16 17 34.8 +1.0**
comp=Z,22nm,0.9s,baz=289,slow=6.2,SNR=63
C19A Slack Wire Ran 79.69 39 ⇓P **P 16 17 34.5 +0.9**
baz=80,SNR=14
NV11 Mina Array Sit 79.77 51 *e*P **P 16 17 34.9 +0.6**
B20A Solberg Farm, 79.79 38 ⇑P **P 16 17 34.7 +0.6**
baz=80
A21A Bergtoll Ranch 80.01 37 ⇓P **P 16 17 35.7 +0.5**
baz=80,SNR=15
SFJD Kangerlussuaq 80.05 3 *i* P **P 16 17 34.8 -0.2**
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 80.05 3 P **P 16 17 35.4 +0.4**
SFJD Kangerlussuaq 80.05 3 P **P 16 17 35.4 +0.4**
comp=Z,12nm,0.7s,baz=64,slow=6.9,SNR=4.2
D19A Cripps Ranch, 80.14 40 ⇓P **P 16 17 36.8 +0.8**
baz=80,SNR=15
QLMT Earthquake Lak 80.16 43 *e*P **P 16 17 36.9 +0.6**
comp=Z,1.8nm,1.0s
C20A Veseth Ranch, 80.26 39 ⇑P **P 16 17 37.3 +0.7**
baz=80,SNR=7.5
ELK Elko 80.31 48 *e*P **P 16 17 38.3 +1.1**
comp=Z,18nm,0.9s
ELK Elko 80.31 48 P **P 16 17 38.5 +1.3**
comp=Z,17nm,0.9s,baz=264,slow=23,SNR=38
B21A Ellsworth Farm 80.32 38 ⇓P **P 16 17 37.1 +0.3**
baz=80,SNR=11
TIN Tinemaha 80.50 52 ⇑P **P 16 17 39.7 +1.6**
baz=80
A22A Carney Farms, 80.52 37 ⇓P **P 16 17 38.2 +0.3**
baz=80,SNR=16
YMR Madison River 80.52 42 *e*P **P 16 17 39.7 +1.4**
comp=Z,37nm,1.0s
TPH Tonopah 80.58 51 *e*P **P 16 17 39.2 +0.5**
TPH pmax pmax
comp=Z,37nm,1.0s
TPH Tonopah 80.58 51 *e*P **P 16 17 39.2 +0.5**
comp=Z,37nm,1.0s
D20A Manuel Ranch, 80.58 39 ⇓P **P 16 17 39.0 +0.7**
baz=80,SNR=17
E19A Rath Farm, Rou 80.63 40 ⇓P **P 16 17 39.4 +0.8**
baz=80,SNR=28
PKM Peak Mountain 80.63 55 ⇓P **P 16 17 39.9 +1.0**
baz=80
H17A Grant Village 80.91 42 *e*P **P 16 17 43.1 +2.8**
H17A Grant Village 80.91 42 ⇓P **P 16 17 43.2 +2.9**
baz=81,SNR=18
F19A Roth Farm, Mol 80.92 41 ⇑P **P 16 17 40.8 +0.6**
baz=81,SNR=8.3
B22A Reddig Ranch S 80.92 37 ⇑P **P 16 17 40.0 -0.1**
baz=81,SNR=6.7
CWC Cottonwood Cre 80.94 52 ⇓P **P 16 17 41.0 +0.5**
baz=81
E20A Meyer Farm, Mu 80.95 40 ⇓P **P 16 17 41.0 +0.7**
baz=81,SNR=20
A23A Redstone 81.06 36 ⇑P **P 16 17 41.0 +0.3**
baz=81
ISA Isabella 81.11 53 *e*P **P 16 17 40.7 -0.7**
ISA pmax pmax
comp=Z,2.0nm,0.9s
ISA Isabella 81.11 53 *e*P **P 16 17 40.7 -0.7**
comp=Z,1.7nm,0.9s
ISA Isabella 81.11 53 ⇑P **P 16 17 40.9 -0.4**
baz=81
ARVC Arvin 81.17 54 ⇑P **P 16 17 42.3 +0.8**
baz=81
D21A La Casta Ranch 81.20 39 ⇓P **P 16 17 42.0 +0.5**
baz=81,SNR=11
I17A Pilgrim Ck. 81.20 43 ⇓P **P 16 17 43.7 +1.9**
baz=81,SNR=16
HVU Hansel Valley 81.20 46 *e*P **P 16 17 43.0 +1.2**
HVU pmax pmax
comp=Z,43nm,0.7s
HVU Hansel Valley 81.20 46 *e*P **P 16 17 43.0 +1.2**
comp=Z,43nm,0.7s
H18A Shoshone NF, C 81.25 42 ⇓P **P 16 17 43.4 +1.4**
baz=81
FRB Frobisher Bay 81.26 12 P **P 16 17 41.9 +0.5**
FRB Frobisher Bay 81.26 12 P **P 16 17 41.9 +0.5**
comp=Z,21nm,0.6s,baz=342,slow=5.8,SNR=31
B23A Brockton 81.33 37 ⇑P **P 16 17 43.1 +1.0**
baz=81
C22A Vida 81.34 38 ⇑P **P 16 17 42.5 +0.2**
baz=81
F20A Billings 81.39 40 ⇑P **P 16 17 42.9 +0.3**
baz=81
R11A Troy Canyon, C 81.48 50 *e*P **P 16 17 43.6 +0.3**
R11A Troy Canyon, C 81.48 50 ⇑P **P 16 17 44.3 +1.0**
baz=81
E21A Keefer Ranch, 81.49 39 ⇑P **P 16 17 43.8 +0.7**
baz=81
A24A Westby 81.52 36 ⇑P **P 16 17 43.4 +0.2**
baz=81
OSI Osito Adit 81.53 54 ⇑P **P 16 17 44.8 +1.3**
baz=81
BGU Big Grassy Mou 81.56 46 *e*P **P 16 17 44.6 +1.0**
comp=Z,3.9nm,0.7s
D22A Cohagen 81.57 38 ⇓P **P 16 17 44.2 +0.7**
baz=81,SNR=8.2
H19A Powell 81.63 42 ⇓P **P 16 17 45.2 +1.2**
baz=82,SNR=7.6
C23A Lambert 81.66 37 ⇑P **P 16 17 44.4 +0.5**
baz=82
G20A Bridger 81.72 41 ⇓P **P 16 17 44.5 +0.1**
baz=82,SNR=7.6
DGMT Dagmar 81.72 36 ⇓P **P 16 17 44.4 +0.2**
baz=82
FURC Furnace Creek, 81.73 52 ⇓P **P 16 17 45.4 +1.1**
baz=82
LRMC Laurel Mountai 81.75 53 ⇑P **P 16 17 45.4 +0.7**
baz=82
TPNV Topopah Spring 81.86 51 ⇓P **P 16 17 46.0 +0.7**
baz=82
EDW2 Edwards Air Fo 81.88 54 ⇓P **P 16 17 46.1 +0.8**
baz=82
F21A Absaloka Mine, 81.92 40 ⇑P **P 16 17 45.9 +0.5**
baz=82
KSP Ksiaz 81.93 327 *e*P **P 16 17 45.7 +0.5**
A25A Svangstu Ranch 81.94 36 ⇓P **P 16 17 46.3 +1.0**
baz=82
I19A Meeteetse 82.03 42 ⇑P **P 16 17 47.2 +1.1**
baz=82,SNR=6.6
D23A Lindsay 82.06 38 ⇑P **P 16 17 46.8 +0.8**
baz=82,SNR=5.9
DUG Dugway 82.13 47 *e*P **P 16 17 47.7 +1.1**
DUG pmax pmax
comp=Z,32nm,0.8s
DUG Dugway 82.13 47 *e*P **P 16 17 47.6 +1.1**
comp=Z,32nm,0.8s
DUG Dugway 82.13 47 ⇓P **P 16 17 47.8 +1.1**
baz=82,SNR=20
E22A Miles City 82.15 39 ⇑P **P 16 17 47.2 +0.7**
baz=82
C24A Savage 82.23 37 ⇓P **P 16 17 47.6 +0.8**
baz=82
KRLC Kraliky 82.24 326 *e*P **P 16 17 47.5 +0.7**
KRLC Kraliky 82.24 326 *e*P **P 16 17 47.5 +0.7**
DPC Dobruska-Polom 82.26 327 *e*P **P 16 17 47.7 +0.7**
DPC Dobruska-Polom 82.26 327 *e*P **P 16 17 47.7 +0.7**
DPC *e*PCP **PcP 16 17 51.5 +0.1**
DPC *e*x x 16 17 55.9
G21A Lodge Grass 82.26 40 ⇑P **P 16 17 47.9 +0.7**
baz=82
UPC Upice 82.29 327 *e*P **P 16 17 47.9 +0.8**
UPC Upice 82.29 327 *e*P **P 16 17 47.9 +0.8**
H20A Greybull 82.30 41 ⇓P **P 16 17 49.2 +1.8**
baz=82,SNR=7.5
F22A Rosebud 82.42 39 ⇑P **P 16 17 48.3 +0.4**
baz=82
GSC Goldstone 82.44 53 ⇓P **P 16 17 48.8 +0.6**
baz=82
SHOC Shoshone 82.44 52 ⇓P **P 16 17 48.9 +0.8**
baz=82
E23A Ismay 82.45 38 ⇓P **P 16 17 48.7 +0.6**
baz=82
BFSC Mount Baldy Ra 82.47 54 ⇑P **P 16 17 49.5 +1.0**
baz=82
J19A Crowheart 82.47 43 ⇑P **P 16 17 49.4 +1.0**
baz=82,SNR=26
PDAR Pinedale Array 82.50 43 P **P 16 17 48.9 +0.3**
PDAR Pinedale Array 82.50 43 P **P 16 17 48.9 +0.3**
comp=Z,15nm,0.9s,baz=305,slow=2.2,SNR=45
A26A Wade Farm, Ken 82.50 35 ⇓P **P 16 17 48.7 +0.5**
baz=82
D24A Glendive 82.55 38 ⇓P **P 16 17 48.9 +0.4**
baz=82,SNR=6.5
I20A Worland 82.56 42 ⇓P **P 16 17 49.6 +0.9**
baz=82,SNR=5.8
C25A Freed Ranch, W 82.70 37 ⇓P **P 16 17 50.4 +1.1**
baz=82
JLU Jordanelle 82.71 46 *e*P **P 16 17 50.4 +0.7**
comp=Z,32nm,1.2s
NLU North Lily Min 82.72 47 *e*P **P 16 17 50.7 +0.9**
comp=Z,31nm,1.0s
H21A Big Horn, Sher 82.73 41 ⇓P **P 16 17 50.1 +0.5**
baz=82
B26A Jensen Ranch, 82.75 36 ⇑P **P 16 17 50.6 +1.1**
baz=83

G22A	**Birney**	82.76	40	⇑P		P	16 17 50.1 +0.4
	baz=83						
SHPR	**Sheep Range**	82.83	51	*e*P		P	16 17 50.9 +0.6
	comp=Z,28nm,1.2s						
A27A	**Ledoux Ranch,**	82.84	35	⇓P		P	16 17 50.8 +0.9
	baz=83						
F23A	**Volborg**	82.91	39	⇑P		P	16 17 51.1 +0.7
	baz=83						
E24A	**Baker**	82.93	38	⇓P		P	16 17 50.6 +0.1
	baz=83,SNR=5.5						
PVCC	**Panska Ves**	82.94	328	*e*P		P	16 17 50.9 +0.6
PVCC	**Panska Ves**	82.94	328	*e*P		P	16 17 50.9 +0.6
DAU	**Daniels Canyon**	82.94	46	*e*P		P	16 17 52.0 +1.0
DAU				pmax		pmax	
	comp=Z,38nm,0.9s						
DAU	**Daniels Canyon**	82.94	46	*e*P		P	16 17 52.0 +1.0
	comp=Z,38nm,0.9s						
TUQ	**Turquoise Moun**	82.95	52	⇑P		P	16 17 51.9 +1.0
	baz=83						
MPU	**Maple Canyon**	82.96	46	*e*P		P	16 17 51.8 +0.9
	comp=Z,48nm,1.0s						
J20A	**Shoshoni**	82.97	42	⇑P		P	16 17 51.7 +0.9
	baz=83						
BRG	**Berggiesshubel**	82.97	328	*e*P		P	16 17 50.1 -0.3
	comp=Z,4.5nm,0.9s						
BRG	**Berggiesshubel**	82.97	328	*e*P		P	16 17 50.2 -0.3
BRG				pmax		pmax	
	comp=Z,5.0nm,0.9s						
HEC	**Hector,Ludlow**	83.03	53	⇑P		P	16 17 52.2 +1.0
	baz=83						
D25A	**Fairfield**	83.04	37	⇓P		P	16 17 51.8 +0.7
	baz=83						
CLL	**Collm**	83.07	329	*i* P		P	16 17 51.3 +0.3
CLL				pmax		pmax	
	comp=Z,10.0nm,1.1s						
CLL	**Collm**	83.07	329	*i* P		P	16 17 51.3 +0.3
	comp=Z,10.0nm,1.1s						
CLL				*i*			16 17 59.3
I21A	**Big Trails, Te**	83.12	41	⇑P		P	16 17 52.3 +0.7
	baz=83,SNR=6.2						
H22A	**Clearmont**	83.13	40	⇑P		P	16 17 52.2 +0.6
	baz=83						
MURC	**Murrieta**	83.15	54	⇑P		P	16 17 52.3 +0.5
	baz=83						
ARUT	**Antelope Range**	83.18	49	*e*P		P	16 17 52.5 +0.4
ARUT				pmax		pmax	
	comp=Z,343nm,1.1s						
ARUT	**Antelope Range**	83.18	49	*e*P		P	16 17 52.5 +0.4
	comp=Z,343nm,1.1s						
C26A	**Wahner Farm, P**	83.20	36	⇑P		P	16 17 52.6 +0.8
	baz=83						
G23A	**Biddle**	83.26	40	⇓P		P	16 17 52.5 +0.3
	baz=83						
J21A	**Lysite**	83.33	42	⇓P		P	16 17 53.3 +0.5
	baz=83,SNR=12						
F24A	**Ekalaka**	83.33	39	⇓P		P	16 17 53.0 +0.4
	baz=83						
A28A	**Rude Farm, Bot**	83.34	34	⇑P		P	16 17 53.0 +0.5
	baz=83						
TREC	**Trest**	83.38	326	*e*P		P	16 17 53.1 +0.4
TREC	**Trest**	83.38	326	*e*P		P	16 17 53.1 +0.4
E25A	**Miller Ranch,**	83.44	38	⇑P		P	16 17 53.6 +0.5
	baz=83						
GMRC	**Granite Mounta**	83.50	53	⇑P		P	16 17 54.7 +0.9
	baz=83						
I22A	**9 Mile Ranch,**	83.52	41	⇑P		P	16 17 54.5 +0.9
	baz=83						
MVU	**Marysvale**	83.52	48	*e*P		P	16 17 55.1 +1.2
	comp=Z,24nm,0.9s						
C27A	**Sayler Ranch,**	83.57	36	⇓P		P	16 17 54.5 +0.9
	baz=83						
D26A	**Manning**	83.57	37	⇓P		P	16 17 54.1 +0.4
	baz=83						
B28A	**Dugan Ranch, T**	83.61	35	⇓P		P	16 17 54.3 +0.5
	baz=83						
109C	**Camp Elliot, M**	83.62	55	⇓P		P	16 17 54.8 +0.6
	baz=84						
PFO	**Pinyon Flat Ob**	83.65	54	*e*P		P	16 17 54.5 0.0
	comp=Z,38nm,1.0s						
PFO	**Pinyon Flat Ob**	83.65	54	P		P	16 17 54.9 +0.5
	comp=Z,246nm,0.7s,SNR=7.9						
PFO	**Pinyon Flat Ob**	83.65	54	⇓P		P	16 17 55.0 +0.5
	baz=84						
PFO	**Pinyon Flat Ob**	83.65	54	P		P	16 17 54.8 +0.3
	comp=Z,30nm,0.8s,baz=314,slow=4.4,SNR=28						
G24A	**Alzada**	83.69	39	⇑P		P	16 17 54.4 0.0
	baz=84						
LDFC	**Landfair**	83.70	52	*e*P		P	16 17 54.7 +0.1
	comp=Z,51nm,1.3s						
BELC	**Belle Mtn. Jos**	83.73	53	⇑P		P	16 17 55.3 +0.4
	baz=84						
F25A	**Bowman**	83.79	38	⇓P		P	16 17 55.2 +0.4
	baz=84,SNR=5.5						
A29A	**Manning Farm,**	83.81	34	⇓P		P	16 17 55.3 +0.5
	baz=84						
J22A	**Midwest**	83.83	41	⇑P		P	16 17 55.8 +0.5
	baz=84						
K21A	**Alcova**	83.90	42	⇑P		P	16 17 56.3 +0.7
	baz=84,SNR=23						
E26A	**Carlson Angus**	83.94	37	⇑P		P	16 17 56.1 +0.5
	baz=84						
D27A	**Center**	83.97	36	⇓P		P	16 17 56.4 +0.7
	baz=84						
H24A	**Dirks Ranch, A**	84.00	39	⇓P		P	16 17 55.9 -0.1
	baz=84,SNR=6.0						
BAR	**Barrett**	84.04	55	*e*P		P	16 17 56.4 0.0
	comp=Z,15nm,0.9s						
B29A	**Wagenman Farm,**	84.08	34	⇑P		P	16 17 56.9 +0.7
	baz=84						
MONP	**Monument Peak**	84.09	55	⇑P		P	16 17 57.6 +0.7
	baz=84						
NKC	**Novy Kostel**	84.09	328	*e*P		P	16 17 56.8 +0.6
NKC	**Novy Kostel**	84.09	328	*e*P		P	16 17 56.8 +0.6
C28A	**Hausauer Farms**	84.11	35	⇓P		P	16 17 57.4 +1.0
	baz=84						
SRU	**San Rafael**	84.19	47	*e*P		P	16 17 57.7 +0.6
SRU				pmax		pmax	
	comp=Z,48nm,0.8s						
SRU	**San Rafael**	84.19	47	*e*P		P	16 17 57.7 +0.6
	comp=Z,48nm,0.8s						
NEE2	**Needles Airpor**	84.20	52	⇓P		P	16 17 57.7 +0.6
	baz=84						
IRM	**Iron Mountain**	84.21	53	⇑P		P	16 17 58.0 +0.8
	baz=84						
A30A	**Hoffart Farm,**	84.24	33	⇑P		P	16 17 57.4 +0.4
	baz=84						
K22A	**Casper**	84.30	42	⇑P		P	16 17 58.1 +0.5
	baz=84						
BC3	**Big Chuckawall**	84.30	53	⇓P		P	16 17 58.5 +0.7
	baz=84						
G25A	**Newell**	84.31	39	⇑P		P	16 17 57.9 +0.4
	baz=84						
J23A	**Dilts Ranch, B**	84.35	41	⇑P		P	16 17 58.1 +0.3
	baz=84						
ULM	**Lac du Bonnet**	84.38	31	P		P	16 17 57.4 -0.2
ULM	**Lac du Bonnet**	84.38	31	P		P	16 17 57.4 -0.2
	comp=Z,7.4nm,0.7s,baz=308,slow=6.8,SNR=7.9						
KHC	**Kasperske Hory**	84.38	327	*e*P		P	16 17 58.0 +0.3
KHC	**Kasperske Hory**	84.38	327	*e*P		P	16 17 58.0 +0.3
KHC				*e*PCP		PcP	16 18 01.0 +0.2
KHC	**Kasperske Hory**	84.38	327	*e*P		P	16 17 57.9 +0.3
D28A	**Regan**	84.39	36	⇓P		P	16 17 58.6 +0.9
	baz=84						
MDND	**Maddock**	84.40	35	⇓P		P	16 17 58.3 +0.5
	baz=84						
E27A	**Carson**	84.42	37	⇓P		P	16 17 58.7 +0.8
	baz=84						
DVTC	**Desert V Tower**	84.44	55	⇑P		P	16 17 59.1 +0.7
	baz=84						
N20A	**Spence Gulch,**	84.46	44	⇓P		P	16 17 59.8 +1.3
	baz=84						
SWSC	**Sam W. Stewart**	84.49	54	⇑P		P	16 17 59.1 +0.6
	baz=84						
W13A	**Hualapai Mount**	84.49	52	⇑P		P	16 17 59.6 +0.8
	baz=84						
GERES	**GERESS Array B**	84.53	327	P		P	16 17 58.2 -0.3
GERES	**GERESS Array B**	84.53	327	P		P	16 17 58.2 -0.3
	comp=Z,1.0nm,0.6s,baz=38,slow=6.8,SNR=7.8						
I24A	**Kuemmerle Ranc**	84.55	40	⇓P		P	16 17 59.0 +0.3
	baz=84						
F27A	**Lemmon**	84.57	37	⇑P		P	16 17 58.9 +0.2
	baz=84						
B30A	**Myrvik Farm, E**	84.57	34	⇓P		P	16 17 59.0 +0.4
	baz=84						
H25A	**Fruitdale**	84.59	39	⇓P		P	16 17 59.4 +0.5
	baz=84						
G26A	**Maurine**	84.66	38	⇓P		P	16 17 59.8 +0.6
	baz=84,SNR=6.0						
RSSD	**Black Hills**	84.70	40	*e*P		P	16 17 59.9 +0.3
RSSD	**Black Hills**	84.70	40	*e*P		P	16 17 59.9 +0.3
U15A	**North Rim**	84.73	50	⇑P		P	16 18 01.0 +1.0
	baz=85						
K23A	**Bowen Ranch, D**	84.73	41	⇓P		P	16 18 00.1 +0.3
	baz=84						
L22A	**Ellis Ranch, M**	84.75	42	⇑P		P	16 18 00.9 +1.0
	baz=85						
E28A	**Huff**	84.75	36	⇑P		P	16 17 59.9 +0.3
	baz=84						
PDMCI	**Parker Dam,Lak**	84.80	52	⇑P		P	16 18 00.6 +0.6
	baz=85						
Y12C	**Blythe**	84.87	53	⇑P		P	16 18 01.4 +1.0
	baz=85						
J24A	**Dixon Ranch, L**	84.88	41	⇑P		P	16 18 00.5 +0.1
	baz=85						
O20A	**White River Ci**	84.92	45	*e*P		P	16 18 01.1 +0.3
O20A	**White River Ci**	84.92	45	⇓P		P	16 18 01.4 +0.6
	baz=85,SNR=10.0						
I25A	**Rochford**	84.93	40	⇓P		P	16 18 01.1 +0.4
	baz=85,SNR=6.7						
G27A	**Dupree**	84.95	38	⇑P		P	16 18 01.0 +0.4
	baz=85						
H26A	**Fairpoint**	85.03	39	⇓P		P	16 18 01.5 +0.4
	baz=85						
C30A	**Mose, Pekin**	85.03	34	⇑P		P	16 18 01.1 +0.1
	baz=85						
M22A	**Cedar Creek Ra**	85.06	43	⇓P		P	16 18 02.8 +1.3
	baz=85						
GLA	**Glamis**	85.08	54	*e*P		P	16 18 02.2 +0.7
GLA				pmax		pmax	
	comp=Z,6.0nm,0.8s						
GLA	**Glamis**	85.08	54	*e*P		P	16 18 02.2 +0.7
	comp=Z,6.4nm,0.8s						
GLA	**Glamis**	85.08	54	⇓P		P	16 18 02.6 +1.1
	baz=85						
L23A	**Garrett**	85.11	42	⇑P		P	16 18 01.8 +0.1
	baz=85,SNR=11						
E29A	**Napoleon**	85.28	36	⇓P		P	16 18 02.5 +0.3
	baz=85						
J25A	**Sunshine Ranch**	85.31	40	⇑P		P	16 18 02.8 +0.3
	baz=85						
D30A	**Buchanan**	85.32	35	⇑P		P	16 18 03.1 +0.7
	baz=85						
I26A	**New Underwood**	85.38	39	⇓P		P	16 18 03.7 +0.8
	baz=85						
H27A	**Howes**	85.39	38	⇑P		P	16 18 03.3 +0.5
	baz=85,SNR=8.6						
M23A	**Laramie**	85.52	43	⇓P		P	16 18 04.5 +0.8
	baz=85						
N22A	**Wattenberg Ran**	85.53	43	⇑P		P	16 18 05.2 +1.3
	baz=85						
L24A	**Wheatland**	85.58	42	⇑P		P	16 18 05.1 +1.1
	baz=85						
E30A	**Jud**	85.68	35	⇑P		P	16 18 04.9 +0.7
	baz=86						
J26A	**Sides Ranch, S**	85.75	40	⇑P		P	16 18 05.0 +0.3
	baz=86,SNR=7.0						
N23A	**Red Feather La**	85.77	43	⇓P		P	16 18 05.9 +0.9
	baz=86,SNR=6.1						
Y14A	**Wickenburg**	85.77	52	⇓P		P	16 18 05.8 +0.9
	baz=86						
I27A	**Quinn**	85.78	39	⇑P		P	16 18 05.0 +0.2
	baz=86,SNR=5.5						
K25A	**Mack Ranch, Ha**	85.79	41	⇓P		P	16 18 05.6 +0.7
	baz=86						
EKA	**Eskdalemuir Ar**	85.87	339	P		P	16 18 05.1 +0.3
EKA	**Eskdalemuir Ar**	85.87	339	P		P	16 18 05.1 +0.3
	comp=Z,1.8nm,0.8s,baz=23,slow=3.8,SNR=3.0						
WUAZ	**Wupatki**	85.87	50	⇓P		P	16 18 06.5 +1.0
	baz=86,SNR=7.0						
O22A	**Kremmling**	85.90	44	⇑P		P	16 18 06.3 +0.6
	baz=86,SNR=12						
H28A	**Mission Ridge**	85.90	38	⇓P		P	16 18 06.4 +1.1
	baz=86						
113A	**Mohawk Valley,**	85.97	53	⇑P		P	16 18 06.7 +0.9
	baz=86						
PV01	**Paradox Valley**	85.99	46	*e*P		P	16 18 06.9 +0.7
M24A	**Cheyenne**	86.03	42	⇑P		P	16 18 07.1 +0.9
	baz=86						
L25A	**Engebretsen Ra**	86.05	41	⇑P		P	16 18 06.9 +0.7
	baz=86						
K26A	**Mc Farm, Whi**	86.11	40	⇑P		P	16 18 06.9 +0.4
	baz=86						
P22A	**Eagle**	86.14	44	⇓P		P	16 18 08.1 +1.2
	baz=86,SNR=8.3						
O23A	**Lake Granby, G**	86.23	44	⇓P		P	16 18 08.7 +1.4
	baz=86,SNR=9.0						
I28A	**Midland**	86.29	38	⇑P		P	16 18 07.7 +0.4
	baz=86,SNR=7.4						
J27A	**Elkhorn Farm,**	86.37	39	⇓P		P	16 18 08.5 +0.9
	baz=86,SNR=11						
N24A	**Carr**	86.42	43	⇑P		P	16 18 08.5 +0.4
	baz=86						
M25A	**Palm-Egli Farm**	86.48	42	⇓P		P	16 18 09.6 +1.3
	baz=86						
X16A	**Lo Mia Camp, P**	86.50	51	⇓P		P	16 18 09.7 +1.1
	baz=86						
G30A	**Faulkton**	86.54	37	⇓P		P	16 18 08.6 +0.3
	baz=86						
MVCO	**Mesa Verde**	86.62	47	⇑P		P	16 18 10.2 +1.0
	baz=86						
J28A	**Allard Ranch,**	86.66	39	⇑P		P	16 18 09.7 +0.7
	baz=86						
ISCO	**Idaho Springs**	86.68	44	⇑P		P	16 18 10.6 +1.1
	baz=86						
I29A	**Vivian Onida**	86.73	38	⇑P		P	16 18 09.6 +0.3
	baz=86						
O24A	**Longmont**	86.78	43	⇓P		P	16 18 11.0 +1.2
	baz=87						
P23A	**Jefferson**	86.82	44	⇓P		P	16 18 11.3 +1.0
	baz=87						
M26A	**McRoberts Ranc**	86.97	41	⇓P		P	16 18 11.4 +0.8
	baz=87						
K28A	**Ten Mile Ranch**	87.08	39	⇓P		P	16 18 11.7 +0.6
	baz=87						
214A	**Organ Pipe Nat**	87.10	53	⇑P		P	16 18 12.7 +1.4
	baz=87						
J29A	**Okreek**	87.15	38	⇓P		P	16 18 11.6 +0.3
	baz=87						
I30A	**Oacoma**	87.25	38	⇑P		P	16 18 12.2 +0.4
	baz=87						
S22A	**4UR Ranch, Cre**	87.30	46	⇑P		P	16 18 14.0 +1.5
	baz=87						
O25A	**Wiggins**	87.33	43	⇑P		P	16 18 13.2 +0.8
	baz=87						
X18A	**Snowflake**	87.40	50	⇓P		P	16 18 14.0 +1.1
	baz=87						
Q24A	**Divide**	87.50	44	⇑P		P	16 18 14.2 +0.8
	baz=87						
K29A	**Lazy Trails An**	87.60	39	⇓P		P	16 18 14.0 +0.5
	baz=87						
R23A	**Moffat**	87.61	45	⇓P		P	16 18 15.2 +1.3
	baz=87						
J30A	**Dallas**	87.64	38	⇓P		P	16 18 14.1 +0.5
	baz=87						
O26A	**Horse Wrangler**	87.70	42	⇓P		P	16 18 14.5 +0.4
	baz=88						
P25A	**Willow Gulch B**	87.70	43	⇓P		P	16 18 15.2 +1.0
	baz=88						
N27A	**Anderson Farm,**	87.75	41	⇓P		P	16 18 14.8 +0.5
	baz=88						
DAVOX	**Davos/Dischmat**	87.80	327	P		P	16 18 14.5 0.0
DAVOX	**Davos/Dischmat**	87.80	327	P		P	16 18 14.5 0.0
	comp=Z,2.7nm,0.8s,baz=220,slow=3.4,SNR=3.1						
M28A	**Bar X Bar Ranc**	87.99	40	⇓P		P	16 18 15.4 0.0
	baz=88						
L29A	**Maasberg Ranch**	88.00	39	⇑P		P	16 18 15.7 +0.3
	baz=88						
R24A	**Sanders Place,**	88.01	45	⇑P		P	16 18 17.1 +1.4
	baz=88,SNR=5.9						
K30A	**Basset**	88.03	39	⇓P		P	16 18 16.3 +0.7
	baz=88						
P26A	**Davis Ranch, A**	88.14	43	⇓P		P	16 18 16.8 +0.6
	baz=88						
U22A	**Llaves**	88.17	47	⇑P		P	16 18 17.8 +1.2
	baz=88						
O27A	**Beecher Island**	88.20	42	⇑P		P	16 18 16.8 +0.3
	baz=88						
T23A	**Casias Ranch,**	88.24	46	⇑P		P	16 18 18.3 +1.4
	baz=88						
S24A	**Houchin Ranch,**	88.33	45	⇓P		P	16 18 18.7 +1.4
	baz=88						
N28A	**Pribbeno Ranch**	88.38	41	⇑P		P	16 18 17.7 +0.4
	baz=88						
V22A	**San Miguel Ran**	88.44	47	⇑P		P	16 18 18.7 +1.0
	baz=88						
Q26A	**Hugo**	88.47	43	⇑P		P	16 18 18.3 +0.5
	baz=88						
R25A	**Fountain Ranch**	88.55	44	⇓P		P	16 18 18.3 +0.2
	baz=88						
P27A	**Ficken Ranch,**	88.58	42	⇓P		P	16 18 18.7 +0.5
	baz=88						
U23A	**El Rito**	88.61	47	⇓P		P	16 18 20.2 +1.6
	baz=88						
T24B	**San Luis**	88.61	46	⇑P		P	16 18 20.1 +1.4
	baz=88						
S25A	**Robets Cordova**	88.78	45	⇑P		P	16 18 19.7 +0.4
	baz=89						
L31A	**Butterfield Fa**	88.79	38	⇓P		P	16 18 19.8 +0.7
	baz=89						
KSCO	**Kaye Shedlock'**	88.92	43	⇓P		P	16 18 20.7 +0.9
	baz=89						
R26A	**Arlington**	88.93	44	⇑P		P	16 18 20.4 +0.5
	baz=89,SNR=9.8						
V23A	**Ortiz Mt. (NFS**	88.99	47	⇓P		P	16 18 21.9 +1.5
	baz=89						
P28A	**Saint Francis**	89.03	42	⇑P		P	16 18 20.8 +0.5
	baz=89						
T25A	**Trinidad**	89.14	45	⇑P		P	16 18 22.2 +1.1
	baz=89						
Z20A	**Nine Sixteen R**	89.17	50	⇑P		P	16 18 22.6 +1.5
	baz=89						
M31A	**Lambtecht Ranc**	89.31	39	⇑P		P	16 18 21.9 +0.3
	baz=89						
R27A	**Eads**	89.32	43	⇓P		P	16 18 22.2 +0.5
	baz=89						
Q28A	**Sharon Springs**	89.34	42	⇑P		P	16 18 22.4 +0.6
	baz=89						
ANMO	**Albuquerque**	89.34	48	*e*P		P	16 18 22.6 +0.6
ANMO	**Albuquerque**	89.34	48	P		P	16 18 22.9 +0.8
	comp=Z,4.5nm,0.7s,baz=313,slow=2.7,SNR=12						
W23A	**Werner Place,**	89.39	47	⇑P		P	16 18 23.5 +1.3
	baz=89						
P29A	**Atwood**	89.47	41	⇑P		P	16 18 22.8 +0.5
	baz=89						
120A	**U Bar Ranch, L**	89.50	51	⇓P		P	16 18 24.2 +1.5
	baz=89						
SPMN	**St. Paul**	89.51	33	⇑P		P	16 18 22.9 +0.6
	baz=89						
V24A	**Rampart Ranch,**	89.56	47	⇑P		P	16 18 24.7 +1.7
	baz=89						
T26A	**Comanche Natio**	89.60	45	⇑P		P	16 18 23.8 +0.6
	baz=89						
U25A	**Circle Dot Ran**	89.64	46	⇓P		P	16 18 24.3 +1.0
	baz=90,SNR=6.1						
S27A	**Las Animas**	89.67	44	⇑P		P	16 18 24.0 +0.6
	baz=90						
Y22A	**Socorro**	89.68	49	⇑P		P	16 18 24.5 +1.0
	baz=90						
BGNE	**Belgrade**	89.70	39	⇓P		P	16 18 23.6 +0.3
	baz=90						
319A	**Douglas**	89.82	52	⇓P		P	16 18 25.3 +1.1
	baz=90						
W24A	**Lazy 6 Ranch,**	89.82	47	⇑P		P	16 18 25.3 +1.1
	baz=90,SNR=5.3						
R28A	**Tribune**	89.84	43	⇑P		P	16 18 24.7 +0.6
	baz=90						
V25A	**Rancho No Teng**	89.89	46	⇑P		P	16 18 25.5 +1.0
	baz=90,SNR=7.3						
Q29A	**Oakley**	89.94	42	⇑P		P	16 18 24.9 +0.4
	baz=90						
220A	**Playas Peak, P**	89.98	51	⇓P		P	16 18 26.2 +1.2
	baz=90						
U26A	**Atchley Ranch,**	90.04	45	⇑P		P	16 18 26.2 +1.0
	baz=90						
121A	**Cookes Peak, D**	90.06	50	⇑P		P	16 18 26.5 +1.2
	baz=90						
Z22A	**Elephant Butte**	90.12	49	⇑P		P	16 18 26.6 +1.0
	baz=90						
R29A	**Marienthal**	90.17	42	⇑P		P	16 18 26.1 +0.5
	baz=90						
T27A	**Campo**	90.19	44	⇓P		P	16 18 26.5 +0.6
	baz=90						
Y23A	**Lovelace Mesa,**	90.26	48	⇑P		P	16 18 26.8 +0.5
	baz=90,SNR=5.9						
Q30A	**Quinter**	90.30	41	⇑P		P	16 18 26.7 +0.5
	baz=90						
S28A	**Manter**	90.31	43	⇓P		P	16 18 27.2 +0.9
	baz=90						
320A	**Kipp Ranch, An**	90.34	52	⇑P		P	16 18 28.2 +1.6
	baz=90						
P31A	**Stockton**	90.38	41	⇑P		P	16 18 26.8 +0.3
	baz=90						
W25A	**X Bar L Ranch,**	90.39	47	⇓P		P	16 18 27.6 +0.8
	baz=90,SNR=6.5						
V26A	**Tequesquite Ra**	90.42	46	⇑P		P	16 18 27.3 +0.4
	baz=90,SNR=5.6						
U27A	**Thompson Grove**	90.57	45	⇓P		P	16 18 28.6 +1.0
	baz=90						
Z23A	**Rita Site, Whi**	90.58	49	⇓P		P	16 18 28.6 +0.9
	baz=90						
X25A	**Clemmons Ranch**	90.73	47	⇑P		P	16 18 29.4 +1.0
	baz=91,SNR=5.4						
S29A	**Ulysses**	90.74	43	⇓P		P	16 18 28.9 +0.7
	baz=90						
R30A	**Dighton**	90.75	42	⇓P		P	16 18 29.1 +0.8
	baz=91						
222A	**Williams Famil**	90.78	50	⇓P		P	16 18 29.8 +1.2
	baz=91						
W26A	**Owens Ranch, T**	90.90	46	⇑P		P	16 18 30.3 +1.1
	baz=91						
T29A	**Hugoton**	90.96	43	⇓P		P	16 18 30.2 +0.9
	baz=91						
V27A	**Dan Oppiter Fa**	91.01	45	⇓P		P	16 18 30.4 +0.8
	baz=91						
Z24A	**Sheeppen Canyo**	91.09	48	⇑P		P	16 18 30.8 +0.7
	baz=91						
S30A	**Montezuma**	91.10	43	⇑P		P	16 18 30.1 +0.2
	baz=91,SNR=5.2						
Y25A	**Mesa, Roswell**	91.11	48	⇓P		P	16 18 30.4 +0.2
	baz=91						
R31A	**Burdett**	91.17	42	⇓P		P	16 18 30.5 +0.3
	baz=91						
X26A	**CR and CF Fran**	91.24	47	⇓P		P	16 18 31.3 +0.6
	baz=91,SNR=6.0						
W27A	**Bowe Ranch, En**	91.35	46	⇑P		P	16 18 32.0 +0.8
	baz=91,SNR=13						
V28A	**Channing**	91.38	45	⇑P		P	16 18 32.5 +1.1
	baz=91						
124A	**Stringfield Ra**	91.44	49	⇑P		P	16 18 32.6 +0.8
	baz=91						
Z25A	**Roswell**	91.53	48	⇑P		P	16 18 32.9 +0.9
	baz=91						
R32A	**Long Quarter,**	91.53	41	⇓P		P	16 18 31.9 +0.1
	baz=91						
Q33A	**Connelly Farm,**	91.60	40	⇑P		P	16 18 32.2 +0.1
	baz=91						
X27A	**F and S Farms,**	91.61

	baz=92								
T32A	**Huddler Ranch,**	**92.29**	**42**	⇑P		**P**		**16 18 36.0**	**+0.6**
	baz=92								
AMTX	**Amarillo**	**92.30**	**45**	⇑P		**P**		**16 18 36.5**	**+1.0**
	baz=92								
U31A	**Nine Bar Ranch**	**92.34**	**43**	⇑P		**P**		**16 18 36.8**	**+1.2**
	baz=92								
126A	**Clayton Basin,**	**92.38**	**48**	⇑P		**P**		**16 18 36.3**	**+0.3**
	baz=92								
Z27A	**Tatum**	**92.44**	**47**	⇓P		**P**		**16 18 36.4**	**+0.2**
	baz=92,SNR=7.2								
S33A	**Kaszmaul Farm,**	**92.51**	**41**	⇑P		**P**		**16 18 36.8**	**+0.4**
	baz=92								
X29A	**Tulia**	**92.59**	**46**	⇑P		**P**		**16 18 37.8**	**+0.9**
	baz=92								
Y28A	**McKinney Farm,**	**92.62**	**46**	⇑P		**P**		**16 18 37.5**	**+0.5**
	baz=92								
325A	**Bean Ranch, Si**	**92.63**	**50**	⇓P		**P**		**16 18 38.1**	**+0.8**
	baz=92								
226B	**Tecolote Peak,**	**92.67**	**49**	⇑P		**P**		**16 18 37.9**	**+0.6**
	baz=92								
V31A	**Spring Creek L**	**92.76**	**44**	⇑P		**P**		**16 18 38.6**	**+1.0**
	baz=93								
Z28A	**Tucker Farm, M**	**92.96**	**47**	⇓P		**P**		**16 18 39.3**	**+0.7**
	baz=93								
425A	**Indio Mountain**	**93.01**	**50**	⇓P		**P**		**16 18 39.7**	**+0.8**
	baz=93								
Y29A	**Porterfield Fa**	**93.01**	**46**	⇑P		**P**		**16 18 39.7**	**+0.9**
	baz=93								
W31A	**Holland Ranch,**	**93.11**	**44**	⇑P		**P**		**16 18 40.1**	**+0.9**
	baz=93								
326A	**Caldwell Ranch**	**93.30**	**49**	⇓P		**P**		**16 18 40.9**	**+0.7**
	baz=93								
128A	**Castleberry Fa**	**93.36**	**47**	⇓P		**P**		**16 18 41.1**	**+0.6**
	baz=93								
Z29A	**Hungry Hill Ra**	**93.40**	**46**	⇑P		**P**		**16 18 41.0**	**+0.4**
	baz=93,SNR=6.2								
Y30A	**Stafford Cattl**	**93.46**	**46**	⇓P		**P**		**16 18 41.6**	**+0.7**
	baz=93								
X31A	**McDonald Ranch**	**93.48**	**44**	⇓P		**P**		**16 18 41.5**	**+0.7**
	baz=93								
W32A	**Sentinel**	**93.56**	**44**	⇓P		**P**		**16 18 42.2**	**+1.0**
	baz=93								
U34A	**Anderson Ranch**	**93.60**	**42**	⇓P		**P**		**16 18 42.0**	**+0.6**
	baz=93								
228A	**UT Block 9, Go**	**93.63**	**48**	⇓P		**P**		**16 18 42.4**	**+0.6**
	baz=94								
426A	**McDonald Obser**	**93.70**	**50**	⇓P		**P**		**16 18 42.8**	**+0.6**
	baz=94								
Z30A	**Sanderson Ranc**	**93.73**	**46**	⇑P		**P**		**16 18 42.5**	**+0.4**
	baz=94								
427A	**Hayter Ranch,**	**93.98**	**49**	⇓P		**P**		**16 18 44.0**	**+0.7**
	baz=94								
328A	**Wristen Ranch,**	**93.99**	**48**	⇑P		**P**		**16 18 44.1**	**+0.7**
	baz=94								
X32A	**Elmer**	**94.03**	**44**	⇑P		**P**		**16 18 43.7**	**+0.3**
	baz=94								
V34A	**Guthrie**	**94.04**	**42**	⇑P		**P**		**16 18 43.9**	**+0.4**
	baz=94								
526A	**Mary Lane Ranc**	**94.06**	**50**	⇑P		**P**		**16 18 44.7**	**+0.9**
	baz=94								
Y32A	**R-V Farms, Ver**	**94.24**	**45**	⇑P		**P**		**16 18 44.7**	**+0.4**
	baz=94								
Z31A	**Sharp Cattle R**	**94.30**	**45**	⇑P		**P**		**16 18 44.8**	**+0.1**
	baz=94								
527A	**Woodward Ranch**	**94.32**	**50**	⇑P		**P**		**16 18 45.5**	**+0.6**
	baz=94								
626A	**Big Bend Ranch**	**94.37**	**51**	⇑P		**P**		**16 18 46.0**	**+0.8**
	baz=94								
329A	**Wagon Wheel Ra**	**94.44**	**48**	⇑P		**P**		**16 18 46.1**	**+0.7**
	baz=94								
428A	**Kincaid Ranch,**	**94.52**	**49**	⇑P		**P**		**16 18 46.6**	**+0.8**
	baz=94								
230A	**Sterling City**	**94.70**	**47**	⇓P		**P**		**16 18 47.0**	**+0.4**
	baz=94								
Z32A	**Haskell**	**94.70**	**45**	⇑P		**P**		**16 18 47.1**	**+0.6**
	baz=94								
Y33A	**Hilltop Ranch,**	**94.71**	**44**	⇑P		**P**		**16 18 46.8**	**+0.3**
	baz=94								
TXAR	**Lajitas Array**	**94.82**	**50**	P		**P**		**16 18 47.9**	**+0.7**
TXAR				PP		**PP**		**16 22 40.7**	**+0.8**
TXAR	**Lajitas Array**	**94.82**	**50**	P		**P**		**16 18 47.9**	**+0.7**
	comp=Z,8.0nm,0.7s,baz=289,slow=2.2,SNR=60								
TXAR				PP		**PP**		**16 22 40.7**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=283,slow=5.2,SNR=3.1								
528A	**Cox Ranch, San**	**94.83**	**49**	⇑P		**P**		**16 18 48.2**	**+0.9**
	baz=95								
627A	**Terlingua Ranc**	**94.92**	**50**	⇑P		**P**		**16 18 48.6**	**+0.9**
	baz=95								
Z33A	**Whitaker Ranch**	**95.14**	**45**	⇑P		**P**		**16 18 49.0**	**+0.5**
	baz=95								
529A	**Stev Forest Ra**	**95.22**	**49**	⇑P		**P**		**16 18 49.6**	**+0.6**
	baz=95								
628A	**Black Gap, Mar**	**95.22**	**50**	⇑P		**P**		**16 18 49.5**	**+0.5**
	baz=95								
530A	**J-C Ranch, Com**	**95.76**	**48**	⇓P		**P**		**16 18 52.2**	**+0.8**
	baz=96								
332A	**Millersview**	**95.89**	**47**	⇑P		**P**		**16 18 52.4**	**+0.5**
	baz=96								
Z35A	**Perchaven, San**	**96.00**	**44**	⇑P		**P**		**16 18 52.6**	**+0.3**
	baz=96								
432A	**Menard**	**96.22**	**47**	⇓P		**P**		**16 18 54.1**	**+0.7**
	baz=96								
531A	**Rocksprings**	**96.24**	**48**	⇑P		**P**		**16 18 54.4**	**+0.8**
	baz=96								
333A	**Richland Sprin**	**96.39**	**46**	⇑P		**P**		**16 18 54.5**	**+0.3**
	baz=96								
JCT	**Junction City**	**96.49**	**47**	⇑P		**P**		**16 18 55.1**	**+0.5**
	baz=96								
532A	**Rocksprings**	**96.67**	**48**	⇑P		**P**		**16 18 55.9**	**+0.4**
	baz=96								
334A	**Lometa**	**96.84**	**46**	⇓P		**P**		**16 18 56.5**	**+0.3**
	baz=97								
SDV	**Santo Domingo**	**130.20**	**38**	*e*PKPdf		**PKPdf**		**16 24 33.7**	**-0.5**
SAML	**Samuel**	**149.08**	**44**	*e*PKPdf		**PKPdf**		**16 25 07.7**	**-0.1**
SAML				*e*PKPbc		**PKPbc**		**16 25 11.9**	**-0.4**
LPAZ	**La Paz**	**151.14**	**61**	*e*PKPbc		**PKPbc**		**16 25 17.8**	**-0.1**
LPAZ	**La Paz**	**151.14**	**61**	PKPbc		**PKPbc**		**16 25 18.2**	**+0.3**
	comp=Z,9.9nm,0.7s,baz=331,slow=3.1,SNR=33								
PLCA	**Paso Flores**	**156.03**	**117**	PKPab		**PKPab**		**16 25 47.4**	**+1.0**
PLCA	**Paso Flores**	**156.03**	**117**	PKPab		**PKPab**		**16 25 47.4**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=270,slow=5.1,SNR=7.3								
BDFB	**Brasilia**	**161.84**	**19**	PKPab		**PKPab**		**16 26 12.4**	**+0.3**
BDFB	**Brasilia**	**161.84**	**19**	PKPab		**PKPab**		**16 26 12.4**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=36,slow=8.7,SNR=3.5								

LDG ***09*** *17:24:27.1±0.2,37.°05N×15.°09W,h30km,Ml4.1/4,Error ellipse: s-maj=4.7km s-min=3.5km az=27.0*

SFS ***09*** *17:24:35.0,37.°25N×14.°30W,h0km,ML4.9*

MDD ***09*** *17:24:35.6±1.4,37.°20N×14.°68W,h40km,mb4.9/36,Error ellipse: s-maj=13.5km s-min=9.5km az=84.0,PRXIMO*

IGIL ***09*** *17:24:36.4,37.°25N×14.°39W,h2km,ML3.9*

IDC ***09*** *17:24:38.0±2.4,36.°95N×13.°77W,h0km,mb3.5/3, mb1 3.9/5,mb1mx3.5/32,mbtmp3.8/5,ML5.3/1,MS4.1/1, Ms1 4.1/1,ms1mx3.3/31,Error ellipse: s-maj=41.5km s-min=26.1km az=79.0*

INMG ***09*** *17:24:37.4±1.9,37.°11N×14.°76W,h10km,ML3.6,Error ellipse: s-maj=6.3km s-min=2.8km az=124.0*

CNRM ***09*** *17:24:37.4,37.°03N×14.°55W,h30km,MD4.0*

CSEM ***09*** *17:24:40.3±0.3,37.°23N×14.°10W,h30km,ML4.3/26,Error ellipse: s-maj=5.1km s-min=4.0km az=86.0*

ISC 09 17:24:35.3±1.2,37.°20N±0.°05×14.°25W±0.°08,h10km,n177,
σ1ᵍ991/287,mb3.3/3,2D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PMAFR	**Mafra**	**4.29**	**64**	P	**Pn**		**17 25 42.4**	**+1.7**
	108nm,0.1s,SNR=44							
PMAFR				S	**Sn**		**17 26 31.2**	**+0.4**
	173nm,0.3s,SNR=7.6							
PMAFR	**Mafra**	**4.29**	**64**	*e*Pn	**Pn**		**17 25 42.4**	**+1.7**
PMAFR				*e*Sn	**Sn**		**17 26 31.6**	**+0.8**
PMAFR				A	A		17 26 38.5	
	179nm,0.2s							
PMAFR	**Mafra**	**4.29**	**64**	P	**Pn**		**17 25 42.4**	**+1.7**
	108nm,0.1s,SNR=44							
PMAFR				S	**Sn**		**17 26 31.2**	**+0.4**
	173nm,0.3s,SNR=7.6							
PMAFR				*e*Sn	**Sn**		**17 26 31.6**	**+0.8**
	179nm,0.2s							
LIS	**Lisbon**	**4.30**	**68**	*e*P	**Pn**		**17 25 42.3**	**+1.5**
LIS				*e*S	**Sn**		**17 26 30.0**	**-1.0**
LIS				AML	AML		17 26 34.0	
	comp=N,457nm,0.3s							
LIS	**Lisbon**	**4.30**	**68**	P	**Pn**		**17 25 42.5**	**+1.7**
	SNR=7.9							
LIS				S	**Sn**		**17 26 30.5**	**-0.5**
	SNR=7.9							
PFVI	**Vila Bisbo**	**4.33**	**89**	⇓P	**Pn**		**17 25 42.9**	**+1.7**
	comp=N,52nm,0.2s,SNR=18							
PFVI				S	**Sn**		**17 26 29.8**	**-1.9**
	comp=N,154nm,0.2s,SNR=6.0							
PFVI	**Vila Bisbo**	**4.33**	**89**	⇓*i*Pn	**Pn**		**17 25 42.9**	**+1.7**
PFVI				*e*Sn	**Sn**		**17 26 31.4**	**-0.3**
PFVI				A	A		17 26 35.4	
	comp=N,70nm,0.5s							
PFVI	**Vila Bisbo**	**4.33**	**89**	P	**Pn**		**17 25 42.9**	**+1.7**
	comp=N,52nm,0.2s,SNR=18							
PFVI				S	**Sn**		**17 26 29.8**	**-1.9**
	comp=N,154nm,0.2s,SNR=6.0							
PFVI				*e*Sn	**Sn**		**17 26 31.4**	**-0.3**
	comp=N,70nm,0.5s							
PTEO	**Sao Teotonio**	**4.41**	**84**	*e*Pn	**Pn**		**17 25 44.0**	**+1.7**
PTEO				*e*Sn	**Sn**		**17 26 32.9**	**-0.8**
PTEO				A	A		17 26 39.1	
	comp=N,68nm,0.7s							
PTEO	**Sao Teotonio**	**4.41**	**84**	*e*Pn	**Pn**		**17 25 44.0**	**+1.7**
PTEO				*e*Sn	**Sn**		**17 26 32.9**	**-0.8**
	comp=N,68nm,0.7s							
PMPST	**Porto Santo, M**	**4.45**	**203**	*e*P	Pn		17 25 36.2	-6.7
PMPST				*e*S	Sn		17 26 19.4	-15
PMPST				A	A		17 26 25.9	
	comp=N,104nm,0.3s							
MORF	**Marmelete**	**4.46**	**87**	P	**Pn**		**17 25 44.8**	**+1.7**
	SNR=7.9							
MORF				S	**Sn**		**17 26 34.2**	**-1.0**
	SNR=7.9							
MORF	**Marmelete**	**4.46**	**87**	*e*Pn	**Pn**		**17 25 44.7**	**+1.6**
MORF				*e*Sn	**Sn**		**17 26 34.2**	**-1.0**
MORF				A	A		17 26 40.4	
	comp=N,62nm,0.2s							
MORF	**Marmelete**	**4.46**	**87**	*e*Pn	**Pn**		**17 25 44.7**	**+1.6**
MORF				S	**Sn**		**17 26 34.2**	**-1.0**
	SNR=7.9							
PMPS	**Porto Santo**	**4.47**	**203**	*e*P	Pn		17 25 36.2	-7.0
PMPS				*e*S	Sn		17 26 19.7	-16
PMPS				A	A		17 26 25.7	
	comp=N,87nm,0.3s							
PACT	**Alcochete**	**4.55**	**68**	*e*Pn	**Pn**		**17 25 46.1**	**+1.8**
PACT				*e*Sn	**Sn**		**17 26 38.7**	**+1.5**
PACT				A	A		17 26 47.3	
	comp=N,64nm,0.3s							
PACT	**Alcochete**	**4.55**	**68**	*e*Pn	**Pn**		**17 25 46.1**	**+1.8**
PACT				*e*Sn	**Sn**		**17 26 38.7**	**+1.5**
	comp=N,64nm,0.3s							
PNCL	**Nicolau / Gran**	**4.63**	**77**	*e*Pn	**Pn**		**17 25 46.6**	**+1.3**
PNCL				*e*Sn	**Sn**		**17 26 38.4**	**-0.6**
PNCL				A	A		17 26 40.3	
	comp=N,56nm,0.4s							
PNCL	**Nicolau / Gran**	**4.63**	**77**	*e*Pn	**Pn**		**17 25 46.6**	**+1.3**
PNCL				*e*Sn	**Sn**		**17 26 38.4**	**-0.6**
	comp=N,56nm,0.4s							
MESJ	**Messejana**	**4.83**	**81**	*e*P	**Pn**		**17 25 49.5**	**+1.4**
MESJ				*e*S	**Sn**		**17 26 43.3**	**-0.8**
MESJ				AML	AML		17 26 48.0	
	comp=N,87nm,0.3s							
MESJ	**Messejana**	**4.83**	**81**	P	**Pn**		**17 25 49.7**	**+1.6**
	SNR=7.9							
MESJ				S	**Sn**		**17 26 43.8**	**-0.3**
	SNR=7.9							
MESJ	**Messejana**	**4.83**	**81**	P	**Pn**		**17 25 49.7**	**+1.6**
	SNR=7.9							
MESJ				S	**Sn**		**17 26 43.8**	**-0.3**
	SNR=7.9							
ALMR	**Almeirim**	**4.87**	**65**	*e*P	**Pn**		**17 25 49.9**	**+1.2**
ALMR				AML	AML		17 26 49.3	
	comp=N,212nm,0.4s							
ALMR	**Almeirim**	**4.87**	**65**	P	**Pn**		**17 25 49.3**	**+0.6**
	SNR=7.9							
ALMR	**Almeirim**	**4.87**	**65**	P	**Pn**		**17 25 49.3**	**+0.6**
	SNR=7.9							
PCVE	**Castro Verde**	**4.96**	**83**	*e*Pn	**Pn**		**17 25 51.1**	**+1.2**
PCVE				*e*Sn	**Sn**		**17 26 46.1**	**-1.2**
PCVE				A	A		17 26 49.7	
	comp=N,46nm,0.5s							
PCVE	**Castro Verde**	**4.96**	**83**	*e*Pn	**Pn**		**17 25 51.1**	**+1.2**
PCVE				*e*Sn	**Sn**		**17 26 46.1**	**-1.2**
	comp=N,46nm,0.5s							
PMAR	**Madeira**	**4.97**	**207**	*e*P	Pn		17 25 44.8	-5.4
PMAR				*e*S	Sn		17 26 31.9	-16
PMAR				A	A		17 26 43.3	
	comp=N,93nm,0.3s							
PMOZ	**Porto Moniz, M**	**4.99**	**210**	*e*S	Sn		17 26 32.4	-16
PMOZ				A	A		17 26 43.9	
	comp=N,142nm,0.4s							
EVOP	**Sao Brissos**	**5.02**	**73**	*e*P	**Pn**		**17 25 51.5**	**+0.8**
EVOP				*e*Sn	**Sn**		**17 26 47.2**	**-1.6**
	comp=N,69nm,0.3s							
PBDV	**Barranco-do-Ve**	**5.04**	**88**	*e*Pn	**Pn**		**17 25 52.7**	**+1.7**
PBDV				*e*Sn	**Sn**		**17 26 48.9**	**-0.4**
PBDV				A	A		17 26 56.5	
	comp=N,44nm,0.4s							
PBDV	**Barranco-do-Ve**	**5.04**	**88**	*e*Pn	**Pn**		**17 25 52.7**	**+1.7**
PBDV				*e*Sn	**Sn**		**17 26 48.9**	**-0.4**
	comp=N,44nm,0.4s							
PMTG	**Montargil**	**5.10**	**67**	*e*Pn	**Pn**		**17 25 52.8**	**+1.0**
PMTG				*e*Sn	**Sn**		**17 26 50.1**	**-0.6**
PMTG				A	A		17 26 57.3	
	comp=N,31nm,0.5s							
PMTG	**Montargil**	**5.10**	**67**	*e*Pn	**Pn**		**17 25 52.8**	**+1.0**
PMTG				*e*Sn	**Sn**		**17 26 50.1**	**-0.6**
	comp=N,31nm,0.5s							
EVO	**Evora**	**5.11**	**73**	*e*P	**Pn**		**17 25 51.5**	**-0.4**
EVO				*e*Sn	**Sn**		**17 26 47.2**	**-3.7**
	comp=N,138nm,0.3s							
EVO	**Evora**	**5.11**	**73**	*e*Pn	**Pn**		**17 25 53.4**	**+1.5**
EVO				*e*Sn	**Sn**		**17 26 50.1**	**-0.8**
EVO				A	A		17 27 00.4	
	comp=N,43nm,0.2s							
EVO	**Evora**	**5.11**	**73**	*e*Pn	**Pn**		**17 25 53.4**	**+1.5**
EVO				*e*Sn	**Sn**		**17 26 50.1**	**-0.8**
	comp=N,43nm,0.2s							
PBEJ	**Beja**	**5.13**	**79**	*e*Pn	**Pn**		**17 25 54.5**	**+2.3**
PBEJ				*e*Sn	**Sn**		**17 26 50.7**	**-0.8**
PBEJ				A	A		17 26 55.4	
	comp=N,54nm,0.2s							
PBEJ	**Beja**	**5.13**	**79**	*e*Pn	**Pn**		**17 25 54.5**	**+2.3**
PBEJ				*e*Sn	**Sn**		**17 26 50.7**	**-0.8**
	comp=N,54nm,0.2s							
PTOM	**Tomar**	**5.18**	**60**	*e*Pn	**Pn**		**17 25 54.3**	**+1.4**
PTOM				*e*Sn	**Sn**		**17 26 53.5**	**+0.8**
PTOM				A	A		17 27 01.1	
	comp=N,54nm,0.4s							
PTOM	**Tomar**	**5.18**	**60**	*e*Pn	**Pn**		**17 25 54.3**	**+1.4**
PTOM				*e*Sn	**Sn**		**17 26 53.5**	**+0.8**
	comp=N,54nm,0.4s							
PVAQ	**Vaqueiros**	**5.21**	**86**	*e*Pn	**Pn**		**17 25 55.0**	**+1.7**
PVAQ				*e*Sn	**Sn**		**17 26 52.6**	**-0.8**
PVAQ				A	A		17 26 56.6	
	comp=N,60nm,0.3s							
PVAQ	**Vaqueiros**	**5.21**	**86**	*e*Pn	**Pn**		**17 25 55.0**	**+1.7**
PVAQ				*e*Sn	**Sn**		**17 26 52.6**	**-0.8**
	comp=N,60nm,0.3s							
PCAS	**Casmilo, Conde**	**5.33**	**56**	*e*Pn	**Pn**		**17 25 56.6**	**+1.7**
PCAS				*e*Sn	**Sn**		**17 26 56.5**	**+0.2**
PCAS				A	A		17 26 59.3	
	comp=N,24nm,1.1s							
PCAS	**Casmilo, Conde**	**5.33**	**56**	*e*Pn	**Pn**		**17 25 56.6**	**+1.7**
PCAS				*e*Sn	**Sn**		**17 26 56.5**	**+0.2**
	comp=N,24nm,1.1s							
EGRO	**El Granado**	**5.40**	**84**	P	**Pn**		**17 25 56.8**	**+1.0**
	comp=N,19nm,0.3s,SNR=55							
EGRO				S	**Sn**		**17 26 57.8**	**-0.2**
	comp=N,49nm,0.3s,SNR=132							
EGRO	**El Granado**	**5.40**	**84**	P	**Pn**		**17 25 56.8**	**+1.0**
	comp=N,19nm,0.3s,SNR=55							
EGRO				S	**Sn**		**17 26 57.8**	**-0.2**
	comp=N,49nm,0.3s,SNR=132							
PESTR	**Estremoz**	**5.51**	**70**	*e*Pn	**Pn**		**17 25 58.5**	**+1.0**
PESTR				*e*Sn	**Sn**		**17 26 59.6**	**-1.3**
PESTR				A	A		17 27 05.8	
	comp=N,35nm,0.3s							
PESTR	**Estremoz**	**5.51**	**70**	*e*Pn	**Pn**		**17 25 58.5**	**+1.0**
PESTR				*e*Sn	**Sn**		**17 26 59.6**	**-1.3**
	comp=N,35nm,0.3s							
PBAR	**Barrancos**	**5.80**	**78**	*e*Pn	**Pn**		**17 26 03.3**	**+1.9**
PBAR				*e*Sn	**Sn**		**17 27 07.1**	**-0.8**
PBAR				A	A		17 27 11.6	
	comp=N,25nm,0.4s							
PBAR	**Barrancos**	**5.80**	**78**	*e*Pn	**Pn**		**17 26 03.3**	**+1.9**
PBAR				*e*Sn	**Sn**		**17 27 07.1**	**-0.8**
	comp=N,25nm,0.4s							
PMRV	**Marv??o**	**5.83**	**65**	*e*Pn	**Pn**		**17 26 02.8**	**+0.9**
PMRV				*e*Sn	**Sn**		**17 27 07.5**	**-1.3**
PMRV				A	A		17 27 11.5	
	comp=N,45nm,0.3s							
PMRV	**Marv??o**	**5.83**	**65**	*e*Pn	**Pn**		**17 26 02.8**	**+0.9**
PMRV				*e*Sn	**Sn**		**17 27 07.5**	**-1.3**
	comp=N,45nm,0.3s							
EBAD	**Badajoz**	**5.92**	**73**	P	**Pn**		**17 26 04.1**	**+1.1**
	comp=N,20nm,0.1s,SNR=64							
EBAD				S	**Sn**		**17 27 09.3**	**-1.6**
	comp=N,80nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**5.92**	**73**	P	**Pn**		**17 26 04.1**	**+1.1**
	comp=N,20nm,0.1s,SNR=64							
EBAD				S	**Sn**		**17 27 09.4**	**-1.6**
	comp=N,80nm,0.2s,SNR=7.9							
PCBR	**Castelo Branco**	**5.92**	**62**	*e*Pn	**Pn**		**17 26 04.5**	**+1.4**
PCBR				*e*Sn	**Sn**		**17 27 11.4**	**+0.3**
PCBR				A	A		17 27 13.3	
	comp=N,17nm,0.3s							
PCBR	**Castelo Branco**	**5.92**	**62**	*e*Pn	**Pn**		**17 26 04.5**	**+1.4**
PCBR				*e*Sn	**Sn**		**17 27 11.4**	**+0.3**
	comp=N,17nm,0.3s							
EMIN	**Mina Concepcio**	**6.05**	**82**	P	**Pn**		**17 26 06.3**	**+1.5**
	comp=N,11nm,0.2s,SNR=68							
EMIN				S	**Sn**		**17 27 12.7**	**-1.4**
	comp=N,14nm,0.2s,SNR=6.9							
EMIN	**Mina Concepcio**	**6.05**	**82**	P	**Pn**		**17 26 06.3**	**+1.5**
	comp=N,11nm,0.2s,SNR=68							
EMIN				S	**Sn**		**17 27 12.7**	**-1.4**
	comp=N,14nm,0.2s,SNR=6.9							
PVIS	**Viseu**	**6.07**	**53**	*e*Pn	**Pn**		**17 26 06.8**	**+1.7**
PVIS				*e*Sn	**Sn**		**17 27 14.1**	**-0.6**
PVIS				A	A		17 27 15.0	
	comp=N,18nm,0.2s							
PVIS	**Viseu**	**6.07**	**53**	*e*Pn	**Pn**		**17 26 06.8**	**+1.7**
PVIS				*e*Sn	**Sn**		**17 27 14.1**	**-0.6**
	comp=N,18nm,0.2s							
MTE	**Manteigas**	**6.13**	**57**	*e*Sn	**Sn**		**17 27 16.2**	**-0.1**
MTE				A	A		17 27 20.3	
	comp=N,31nm,0.3s							
MTE	**Manteigas**	**6.13**	**57**	*e*Sn	**Sn**		**17 27 16.2**	**-0.1**
	comp=N,31nm,0.3s							
PVRL	**Vila Real**	**6.50**	**49**	*e*Sn	**Sn**		**17 27 23.4**	**-1.9**
PVRL				A	A		17 27 26.4	
	comp=N,19nm,0.1s							
PVRL	**Vila Real**	**6.50**	**49**	*e*Sn	**Sn**		**17 27 23.4**	**-1.9**
	comp=N,19nm,0.1s							
POLO	**Lamas de Olo**	**6.51**	**48**	*e*Pn	**Pn**		**17 26 12.0**	**+0.7**
POLO				*e*Sn	**Sn**		**17 27 23.1**	**-2.6**
POLO				A	A		17 27 26.6	
	comp=N,6.5nm,0.5s							
POLO	**Lamas de Olo**	**6.51**	**48**	*e*Pn	**Pn**		**17 26 12.0**	**+0.7**
POLO				*e*Sn	**Sn**		**17 27 23.1**	**-2.6**
	comp=N,6.5nm,0.5s							
PCAB	**Cabril**	**6.59**	**45**	*e*Pn	**Pn**		**17 26 13.7**	**+1.4**
PCAB				*e*Sn	**Sn**		**17 27 24.5**	**-3.0**
PCAB				A	A		17 27 32.7	
	comp=N,27nm,0.3s							
PCAB	**Cabril**	**6.59**	**45**	*e*Pn	**Pn**		**17 26 13.7**	**+1.4**
PCAB				*e*Sn	**Sn**		**17 27 24.5**	**-3.0**
	comp=N,27nm,0.3s							
PGAV	**Gavieira, Arco**	**6.63**	**42**	*e*Pn	**Pn**		**17 26 13.7**	**+0.8**
PGAV				*e*Sn	**Sn**		**17 27 25.1**	**-3.4**
PGAV				A	A		17 27 34.6	
	comp=N,33nm,0.4s							
PGAV	**Gavieira, Arco**	**6.63**	**42**	*e*Pn	**Pn**		**17 26 13.7**	**+0.8**
PGAV				*e*Sn	**Sn**		**17 27 25.1**	**-3.4**
	comp=N,33nm,0.4s							
ELOB	**Lobios**	**6.68**	**44**	P	**Pn**		**17 26 14.0**	**+0.5**
	comp=N,10nm,0.2s,SNR=26							
ELOB				S	**Sn**		**17 27 25.6**	**-4.1**
	comp=N,16nm,0.1s							
ELOB	**Lobios**	**6.68**	**44**	P	**Pn**		**17 26 14.0**	**+0.5**
	comp=N,10nm,0.2s,SNR=26							
ESPR	**Espera**	**6.72**	**90**	P	**Pn**		**17 26 16.0**	**+2.0**
	comp=N,13nm,0.2s,SNR=18							
ESPR				S	**Sn**		**17 27 29.6**	**-1.0**
	comp=N,61nm,0.3s,SNR=5.4							
ESPR	**Espera**	**6.72**	**90**	P	**Pn**		**17 26 16.0**	**+2.0**
	comp=N,13nm,0.2s,SNR=18							
ESPR				S	**Sn**		**17 27 29.6**	**-1.0**
	comp=N,61nm,0.3s,SNR=5.4							
MVO	**Moncorvo**	**6.86**	**53**	P	**Pn**		**17 26 16.9**	**+0.8**
	comp=N,23nm,0.2s,SNR=47							
MVO				S	**Sn**		**17 27 30.5**	**-3.7**
	comp=N,18nm,0.2s,SNR=6.8							
MVO	**Moncorvo**	**6.86**	**53**	*e*Pn	**Pn**		**

ELUQ					S		Sn	17 27 59.3	-1.8
	comp=N,11nm,0.2s,SNR=7.9								
OUK	**Oukaimeden**	**7.97**	**137**		P		**Pn**	**17 26 32.0**	**+0.4**
OUK					S		**Sn**	**17 27 57.0**	**-5.0**
OUK	**Oukaimeden**	**7.97**	**137**	*i*	P		**Pn**	**17 26 32.0**	**+0.4**
TZC	**Tazercounte**	**8.13**	**126**		P		**Pn**	**17 26 36.0**	**+2.4**
TZC					S		**Sn**	**17 28 03.0**	**-2.7**
TZC	**Tazercounte**	**8.13**	**126**	*i*	P		**Pn**	**17 26 36.0**	**+2.4**
TZC				*i*	S		**Sn**	**17 28 03.0**	**-2.7**
KIB	**El Ksiba**	**8.17**	**122**		P		**Pn**	**17 26 35.0**	**+1.0**
KIB					S		**Sn**	**17 28 03.0**	**-3.4**
KIB	**El Ksiba**	**8.17**	**122**	*i*	P		**Pn**	**17 26 35.0**	**+1.0**
EPON	**Pontenova**	**8.18**	**39**		P		**Pn**	**17 26 34.2**	**+0.2**
	comp=N,9.4nm,0.3s,SNR=10								
EPON					S		Sn	17 27 58.5	-8.0
	comp=N,6.8nm,0.1s,SNR=6.7								
EPON	**Pontenova**	**8.18**	**39**		P		**Pn**	**17 26 34.2**	**+0.2**
	comp=N,9.4nm,0.3s,SNR=10								
ESDC	**Sonseca Array**	**8.44**	**70**		P		**Pn**	**17 26 38.7**	**+1.0**
	comp=N,16nm,0.1s,baz=253,slow=13,SNR=38								
ESDC					S		**Sn**	**17 28 10.5**	**-2.5**
	comp=N,6.6nm,0.2s,baz=255,slow=23,SNR=8.8								
ESDC	**Sonseca Array**	**8.44**	**70**		P		**Pn**	**17 26 38.7**	**+1.0**
	comp=N,16nm,0.1s,SNR=38								
ESDC					S		**Sn**	**17 28 10.5**	**-2.5**
	comp=N,6.6nm,0.2s,SNR=8.8								
ESDC	**Sonseca Array**	**8.44**	**70**		Pn		**Pn**	**17 26 38.5**	**+0.8**
	comp=N,11nm,0.3s,baz=254,slow=13,SNR=68								
ESDC					Sn		**Sn**	**17 28 09.9**	**-3.1**
	comp=N,5.0nm,0.3s,baz=254,slow=23,SNR=9.7								
EGUA	**Guajares**	**8.55**	**89**		P		**Pn**	**17 26 41.1**	**+1.9**
	comp=N,8.2nm,0.2s,SNR=7.9								
EGUA					S		**Sn**	**17 28 12.7**	**-3.1**
	comp=N,16nm,0.4s,SNR=7.9								
EGUA	**Guajares**	**8.55**	**89**		P		**Pn**	**17 26 41.1**	**+1.9**
	comp=N,8.2nm,0.2s,SNR=7.9								
EGUA					S		**Sn**	**17 28 12.7**	**-3.1**
	comp=N,16nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**8.58**	**63**		P		**Pn**	**17 26 41.2**	**+1.5**
	comp=N,3.1nm,0.2s,SNR=17								
GUD					S		**Sn**	**17 28 12.0**	**-4.6**
	comp=N,6.0nm,0.3s								
GUD	**Guadarrama**	**8.58**	**63**		P		**Pn**	**17 26 41.2**	**+1.5**
	comp=N,3.1nm,0.2s,SNR=17								
CZD	**Col de Zad**	**8.61**	**116**		P		**Pn**	**17 26 42.0**	**+1.8**
CZD					S		**Sn**	**17 28 13.0**	**-4.5**
CZD	**Col de Zad**	**8.61**	**116**	*i*	P		**Pn**	**17 26 42.0**	**+1.8**
EQUE	**Quentar**	**8.62**	**87**		P		**Pn**	**17 26 42.6**	**+2.4**
	comp=N,6.9nm,0.3s,SNR=32								
EQUE					S		**Sn**	**17 28 15.3**	**-2.3**
	comp=N,6.2nm,0.4s								
EQUE	**Quentar**	**8.62**	**87**		P		**Pn**	**17 26 42.6**	**+2.4**
	comp=N,6.9nm,0.3s,SNR=32								
EQUE					S		**Sn**	**17 28 15.3**	**-2.3**
	comp=N,6.2nm,0.4s								
EQES	**Quesada**	**8.90**	**83**		P		**Pn**	**17 26 45.2**	**+1.1**
	comp=N,5.4nm,0.3s,SNR=6.2								
EQES					S		**Sn**	**17 28 21.5**	**-3.0**
	comp=N,4.3nm,0.3s								
EQES	**Quesada**	**8.90**	**83**		P		**Pn**	**17 26 45.2**	**+1.1**
	comp=N,5.4nm,0.3s,SNR=6.2								
EQES					S		**Sn**	**17 28 21.5**	**-3.0**
	comp=N,4.3nm,0.3s								
MDT	**Midelt**	**9.03**	**116**		Pn		**Pn**	**17 26 45.7**	**-0.1**
	comp=N,0.9nm,0.3s,baz=309,slow=7.7,SNR=16								
MDT					Sn		Sn	17 28 20.7	-6.9
	comp=N,3.0nm,0.3s,baz=109,slow=6.4,SNR=13								
EBER	**Berja**	**9.08**	**88**		P		**Pn**	**17 26 49.2**	**+2.5**
	comp=N,1.3nm,0.2s,SNR=7.4								
EBER					S		**Sn**	**17 28 26.1**	**-3.0**
	comp=N,4.9nm,0.4s								
EBER	**Berja**	**9.08**	**88**		P		**Pn**	**17 26 49.2**	**+2.5**
	comp=N,1.3nm,0.2s,SNR=7.4								
EBER					S		**Sn**	**17 28 26.1**	**-3.0**
	comp=N,4.9nm,0.4s								
EARI	**Arriondas**	**9.21**	**46**		P		**Pn**	**17 26 49.1**	**+0.9**
	comp=N,8.3nm,0.4s,SNR=20								
EARI					S		Sn	17 28 26.0	-5.9
	comp=N,3.3nm,0.4s								
EARI	**Arriondas**	**9.21**	**46**		P		**Pn**	**17 26 49.1**	**+0.9**
	comp=N,8.3nm,0.4s,SNR=20								
EHUE	**Huescar**	**9.28**	**83**		P		**Pn**	**17 26 50.3**	**+1.0**
	comp=N,1.2nm,0.2s,SNR=7.9								
EHUE					S		**Sn**	**17 28 31.2**	**-2.6**
	comp=N,3.1nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**9.28**	**83**		P		**Pn**	**17 26 50.3**	**+1.0**
	comp=N,1.2nm,0.2s,SNR=7.9								
EHUE					S		**Sn**	**17 28 31.2**	**-2.6**
	comp=N,3.1nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**9.32**	**81**		P		**Pn**	**17 26 50.9**	**+1.0**
	comp=N,4.2nm,0.3s,SNR=7.9								
SESP					S		**Sn**	**17 28 32.7**	**-2.2**
	comp=N,5.8nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**9.32**	**81**		P		**Pn**	**17 26 50.9**	**+1.0**
	comp=N,4.2nm,0.3s,SNR=7.9								
SESP					S		**Sn**	**17 28 32.7**	**-2.2**
	comp=N,5.8nm,0.3s,SNR=7.9								
EVIA	**Vianos**	**9.39**	**78**		P		**Pn**	**17 26 52.0**	**+1.2**
	comp=N,26nm,0.4s,SNR=7.0								
EVIA					S		**Sn**	**17 28 34.2**	**-2.3**
	comp=N,16nm,0.4s,SNR=4.8								
EVIA	**Vianos**	**9.39**	**78**		P		**Pn**	**17 26 52.0**	**+1.2**
	comp=N,26nm,0.4s,SNR=7.0								
EVIA					S		**Sn**	**17 28 34.2**	**-2.3**
	comp=N,16nm,0.4s,SNR=4.8								
ZFT	**Errachidia**	**9.64**	**119**		P		**Pn**	**17 26 56.0**	**+1.7**
ZFT					S		**Sn**	**17 28 40.0**	**-2.8**
ZFT	**Errachidia**	**9.64**	**119**	*i*	P		**Pn**	**17 26 56.0**	**+1.7**
ZFT				*i*	S		**Sn**	**17 28 40.0**	**-2.8**
ETOB	**Tobarra**	**10.14**	**78**		P		**Pn**	**17 27 01.4**	**+0.5**
	comp=N,4.1nm,0.3s,SNR=8.3								
ETOB					S		**Sn**	**17 28 51.4**	**-3.3**
	comp=N,2.7nm,0.5s,SNR=7.9								
ETOB	**Tobarra**	**10.14**	**78**		P		**Pn**	**17 27 01.5**	**+0.5**
	comp=N,4.1nm,0.3s,SNR=8.3								
ETOB					S		**Sn**	**17 28 51.4**	**-3.3**
	comp=N,2.7nm,0.5s,SNR=7.9								
ETOR	**Torete**	**10.15**	**65**		P		**Pn**	**17 27 02.5**	**+1.3**
	comp=N,53nm,0.2s,SNR=13								
ETOR					S		**Sn**	**17 28 50.4**	**-4.7**
	comp=N,7.1nm,0.2s,SNR=7.9								
ETOR	**Torete**	**10.15**	**65**		P		**Pn**	**17 27 02.5**	**+1.3**
	comp=N,53nm,0.2s,SNR=13								
ELAN	**Lanestosa**	**10.23**	**51**		P		**Pn**	**17 27 02.7**	**+0.6**
	comp=N,6.3nm,0.2s,SNR=16								
ELAN					S		Sn	17 28 49.9	-6.8
	comp=N,3.2nm,0.4s,SNR=7.9								
ELAN	**Lanestosa**	**10.23**	**51**		P		**Pn**	**17 27 02.7**	**+0.6**
	comp=N,6.3nm,0.2s,SNR=16								
EMOS	**Mosqueruela**	**11.21**	**69**		P		**Pn**	**17 27 17.8**	**+2.1**
	comp=N,5.3nm,0.4s,SNR=13								
EMOS					S		**Sn**	**17 29 16.6**	**-4.5**
	comp=N,3.3nm,0.4s,SNR=7.9								
EMOS	**Mosqueruela**	**11.21**	**69**		P		**Pn**	**17 27 17.8**	**+2.1**
	comp=N,5.3nm,0.4s,SNR=13								
EMOS					S		**Sn**	**17 29 16.6**	**-4.5**
	comp=N,3.3nm,0.4s,SNR=7.9								
IUNC	**Unciti**	**11.24**	**56**		P		**Pn**	**17 27 18.4**	**+2.3**
	comp=N,3.8nm,0.3s,SNR=7.9								
IUNC	**Unciti**	**11.24**	**56**		P		**Pn**	**17 27 18.4**	**+2.3**
	comp=N,3.8nm,0.3s,SNR=7.9								
IUSE	**Utxeti**	**11.29**	**56**		P		**Pn**	**17 27 18.8**	**+2.1**
	comp=N,2.3nm,0.2s,SNR=7.9								
IUSE	**Utxeti**	**11.29**	**56**		P		**Pn**	**17 27 18.8**	**+2.1**
	comp=N,2.3nm,0.2s,SNR=7.9								
IZUN	**Zunzarren**	**11.31**	**56**		P		**Pn**	**17 27 19.1**	**+2.0**
	comp=N,3.5nm,0.4s,SNR=7.9								
IZUN	**Zunzarren**	**11.31**	**56**		P		**Pn**	**17 27 19.1**	**+2.0**
	comp=N,3.5nm,0.4s,SNR=7.9								
ELIZ	**Elizondo**	**11.40**	**55**		P		**Pn**	**17 27 19.9**	**+1.7**
	comp=N,4.5nm,0.2s,SNR=7.9								
ELIZ	**Elizondo**	**11.40**	**55**		P		**Pn**	**17 27 19.9**	**+1.7**
	comp=N,4.5nm,0.2s,SNR=7.9								
IEPA	**Eparoz**	**11.40**	**57**		P		**Pn**	**17 27 19.4**	**+1.1**
	comp=N,1.9nm,0.3s,SNR=7.9								
IEPA					S		Sn	17 29 17.9	-7.9
	comp=N,5.0nm,0.4s,SNR=7.9								
IEPA	**Eparoz**	**11.40**	**57**		P		**Pn**	**17 27 19.4**	**+1.1**
	comp=N,1.9nm,0.3s,SNR=7.9								
EALK	**Alkurruntz**	**11.44**	**54**		P		**Pn**	**17 27 20.7**	**+2.0**
	comp=N,2.0nm,0.3s,SNR=7.9								
EALK	**Alkurruntz**	**11.44**	**54**		P		**Pn**	**17 27 20.7**	**+2.0**
	comp=N,2.0nm,0.3s,SNR=7.9								
IELO	**Elcoad**	**11.45**	**56**		P		**Pn**	**17 27 20.9**	**+1.9**
	comp=N,2.1nm,0.2s,SNR=7.9								
IELO					S		**Sn**	**17 29 21.8**	**-5.1**
	comp=N,2.1nm,0.3s,SNR=7.9								
IELO	**Elcoad**	**11.45**	**56**		P		**Pn**	**17 27 20.9**	**+1.9**
	comp=N,2.1nm,0.2s,SNR=7.9								
ESAC	**San Caprasio**	**11.56**	**63**		P		**Pn**	**17 27 22.3**	**+1.8**
	comp=N,6.0nm,0.2s,SNR=7.9								
ESAC					S		Sn	17 29 23.9	-5.8
	comp=N,15nm,0.4s,SNR=7.9								
ESAC	**San Caprasio**	**11.56**	**63**		P		**Pn**	**17 27 22.3**	**+1.8**
	comp=N,6.0nm,0.2s,SNR=7.9								
SJPF	**Ste Jean**	**11.58**	**55**	*e*	P		**Pn**	**17 27 22.1**	**+1.5**
SJPF				*e*	Sn		Sn	17 29 24.2	-5.7
	comp=N,4.2nm,0.4s								
SJPF	**Ste Jean**	**11.58**	**55**		P		**Pn**	**17 27 22.1**	**+1.5**
ATE	**Arette**	**11.91**	**56**		P		**Pn**	**17 27 27.7**	**+2.5**
	comp=N,2.6nm,0.2s,SNR=7.9								
ETSF	**Etsaut**	**11.93**	**57**	*e*	P		**Pn**	**17 27 27.3**	**+1.8**
ETSF				*e*	Sn		Sn	17 29 32.5	-6.1
	comp=N,3.4nm,0.4s								
ETSF	**Etsaut**	**11.93**	**57**		P		**Pn**	**17 27 27.3**	**+1.8**
EBIE	**Bielsa**	**12.32**	**59**		P		**Pn**	**17 27 32.8**	**+1.8**
	comp=N,3.1nm,0.3s,SNR=12								
EBIE					S		**Sn**	**17 29 43.0**	**-5.5**
	comp=N,0.9nm,0.4s,SNR=7.9								
EBIE	**Bielsa**	**12.32**	**59**		P		**Pn**	**17 27 32.8**	**+1.8**
	comp=N,3.1nm,0.3s,SNR=12								
EPF	**Esparros**	**12.59**	**58**	*e*	P		**Pn**	**17 27 36.3**	**+1.8**
EPF				*e*	Sn		Sn	17 29 48.6	-6.1
	comp=N,1.4nm,0.2s								
EPF	**Esparros**	**12.59**	**58**		P		**Pn**	**17 27 36.3**	**+1.8**
QUIF	**Quistinic**	**13.45**	**34**	*e*	P		**Pn**	**17 27 44.5**	**-1.7**
CFON	**Fontmartina**	**13.66**	**65**		P		**Pn**	**17 27 50.7**	**+1.5**
	comp=N,2.4nm,0.2s,SNR=6.6								
ROSF	**Rostrenen**	**13.72**	**32**	*e*	P		**Pn**	**17 27 48.4**	**-1.5**
SGMF	**Saint Gilles**	**13.98**	**34**	*e*	P		**Pn**	**17 27 51.9**	**-1.4**
MFF	**Saint Martin d**	**14.07**	**44**	*e*	P		**Pn**	**17 27 55.0**	**+0.4**
RJF	**Les Rejaudoux**	**14.34**	**51**	*e*	P		**Pn**	**17 27 58.5**	**+0.1**
CAF	**Calviac**	**14.51**	**53**	*e*	P		**Pn**	**17 28 00.6**	**-0.1**
BBTS	**Babate**	**22.54**	**186**		LR		LR	17 37 03.7	
	comp=N,463nm,19.6s,baz=305,slow=33								
GERES	**GERESS Array B**	**23.38**	**51**		P		**P**	**17 29 46.8**	**+2.7**
	comp=N,0.4nm,0.5s,baz=249,slow=10,SNR=3.9								
TORD	**Torodi Ar. Bea**	**27.87**	**145**		P		**P**	**17 30 25.3**	**-0.1**
	comp=N,0.5nm,0.9s,baz=332,slow=8.8,SNR=3.0								
ARCES	**ARCESS Array B**	**38.79**	**21**		P		P	17 32 04.7	+4.9
	comp=N,1.6nm,0.9s,baz=230,slow=8.1,SNR=3.4								

*CSEM **09** 17:28:33.5, 38°.12N×26°.42W, h2km, ML3.6, After PDA*

PDA 09 17:28:33.5±0.9, 38°.12N×26°.42W, h2km±3km, MD3.6, ML3.6, Error ellipse: s-maj=6.1km s-min=1.2km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSET	**Sete Cidades**	**0.63**	**118**	*e*P		Pg	17 28 44.3	-1.3
PSET				*e*S		Sg	17 28 52.7	-1.1
PSET				A		A	17 28 55.0	
	3μm,0.3s							
PSET	**Sete Cidades**	**0.63**	**118**	*e*P		Pg	17 28 44.3	-1.3
PSET				*e*S		Sg	17 28 52.7	-1.1
PDA	**Ponta Delgada**	**0.71**	**122**	*e*P		Pg	17 28 45.5	-1.6
PDA				*e*S		Sg	17 28 54.6	-1.6
PDA				A		A	17 28 55.8	
	2μm,0.5s							
PDA	**Ponta Delgada**	**0.71**	**122**	*e*P		Pg	17 28 45.5	-1.6
PDA				*e*S		Sg	17 28 54.6	-1.6
GRON	**Grota Negra**	**0.79**	**117**	*e*P		Pg	17 28 48.0	-0.7
GRON				*e*S		Sg	17 28 59.5	+0.6
GRON				A		A	17 29 01.9	
	575nm,0.1s							
CMLA	**Cha da Macela**	**0.79**	**117**	*e*P		Pg	17 28 46.9	-1.9
CMLA				*e*S		Sg	17 28 56.9	-2.2
CMLA				A		A	17 28 57.8	
	4μm,0.4s							
CMLA	**Cha da Macela**	**0.79**	**117**	*e*P		Pg	17 28 46.9	-1.9
CMLA				*e*S		Sg	17 28 56.9	-2.2
ADH	**Angra Heroismo**	**0.83**	**310**	*e*P		Pg	17 28 47.2	-2.3
ADH				*e*S		Sg	17 28 57.9	-2.4
ADH				A		A	17 28 59.5	
	687nm,0.4s							
ADH	**Angra Heroismo**	**0.83**	**310**	*e*P		Pg	17 28 47.2	-2.3
ADH				*e*S		Sg	17 28 57.9	-2.4
BART	**Pico Bartolome**	**1.05**	**109**	*e*P		Pg	17 28 49.9	-3.8
BART				*e*S		Sg	17 29 02.9	-4.5
BART				A		A	17 29 08.5	
	1μm,0.4s							
BART	**Pico Bartolome**	**1.05**	**109**	*e*P		Pg	17 28 49.9	-3.8
BART				*e*S		Sg	17 29 02.9	-4.5
TOPO	**Topo**	**1.27**	**292**	*e*P		Pg	17 28 53.5	-4.4
TOPO				*e*S		Sg	17 29 08.4	-6.0
TOPO	**Topo**	**1.27**	**292**	*e*P		Pg	17 28 53.5	-4.4
TOPO				*e*S		Sg	17 29 08.4	-6.0
PMAN	**Manadas**	**1.41**	**292**	*e*P		Pn	17 28 55.3	-4.9
PMAN				*e*S		Sg	17 29 11.2	-7.5
PMAN				A		A	17 29 13.1	
	221nm,0.3s							
PMAN	**Manadas**	**1.41**	**292**	*e*P		Pn	17 28 55.3	-4.9
PMAN				*e*S		Sg	17 29 11.2	-7.5
PGRA	**Graciosa**	**1.52**	**307**	*e*S		Sn	17 29 14.2	-8.0
PGRA				A		A	17 29 16.9	
	141nm,0.4s							
PGRA	**Graciosa**	**1.52**	**307**	*e*S		Sn	17 29 14.2	-8.0
PSMA	**Santa Maria**	**1.52**	**137**	*e*P		Pn	17 28 57.1	-4.7
PSMA				*e*S		Sn	17 29 14.5	-7.7
PSMA				A		A	17 29 15.6	
	218nm,0.2s							
ROSA	**Rosais**	**1.55**	**293**	*e*P		Pn	17 28 57.6	-4.6
ROSA				*e*S		Sn	17 29 15.2	-7.7
ROSA				A		A	17 29 21.5	
	191nm,0.3s							
ROSA	**Rosais**	**1.55**	**293**	*e*P		Pn	17 28 57.6	-4.6
ROSA				*e*S		Sn	17 29 15.2	-7.7
PSMN	**Pico do Norte,**	**1.55**	**136**	*e*P		Pn	17 28 57.5	-4.7
PSMN				*e*S		Sn	17 29 15.1	-7.8
PSMN				A		A	17 29 16.1	
	109nm,0.2s							
PSMN	**Pico do Norte,**	**1.55**	**136**	*e*P		Pn	17 28 57.5	-4.7
PSMN				*e*S		Sn	17 29 15.1	-7.8
PICO	**Pico**	**1.62**	**284**	*e*P		Pn	17 28 58.4	-4.8
PICO	**Pico**	**1.62**	**284**	*e*P		Pn	17 28 58.4	-4.8
PCAN	**Candelaria**	**1.66**	**282**	*e*P		Pn	17 28 59.1	-4.6
PCAN				*e*S		Sn	17 29 17.7	-7.9
PCAN				A		A	17 29 24.1	
	115nm,0.2s							
PCAN	**Candelaria**	**1.66**	**282**	*e*P		Pn	17 28 59.1	-4.6
PCAN				*e*S		Sn	17 29 17.7	-7.9

*CSEM **09** 17:54:08.4, 45°.48N×26°.45E, h144km, MD3.9/2, After BUC*

BUC 09 17:54:08.4±0.8, 45°.48N×26°.45E, h144km±7km, MD3.9/2, 36C-33D, Error ellipse: s-maj=4.8km s-min=4.6km az=1.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.35**	**272**	↑*i*P		Pn	17 54 28.3	-0.3
MLR	**Muntele Rosu**	**0.35**	**272**	↑*i*P		Pn	17 54 28.3	-0.3
MLR				*i*	S	Sn	17 54 42.7	-1.2
MLR	**Muntele Rosu**	**0.35**	**272**	↑*i*P		Pn	17 54 28.3	-0.3
MLR				*i*	S	Sn	17 54 42.7	-1.2
PLOR	**Plostina**	**0.40**	**21**	↑*i*P		Pn	17 54 28.4	-0.2
PLOR	**Plostina**	**0.40**	**21**	↑*i*P		Pn	17 54 28.4	-0.2
PLOR				*i*	S	Sn	17 54 43.2	-0.9
PLOR	**Plostina**	**0.40**	**21**	↑*i*P		Pn	17 54 28.4	-0.2
PLOR				*i*	S	Pn	17 54 43.2	-0.9
VRI	**Vrincioaia**	**0.43**	**27**	↑*i*P		Pn	17 54 28.8	0.0
VRI	**Vrincioaia**	**0.43**	**27**	↑*i*P		Pn	17 54 28.8	0.0
VRI				*i*	S	Sn	17 54 43.1	-1.2
VRI	**Vrincioaia**	**0.43**	**27**	↑*i*P		Pn	17 54 28.8	0.0
VRI				*i*	S	Sn	17 54 43.1	-1.2
ODBI	**Odobesti**	**0.51**	**56**	↑*i*P		Pn	17 54 29.8	+0.7
ODBI	**Odobesti**	**0.51**	**56**	↑*i*P		Pn	17 54 29.8	+0.7
ODBI				*i*	S	Sn	17 54 46.1	+1.2
ODBI	**Odobesti**	**0.51**	**56**	↑*i*P		Pn	17 54 29.8	+0.7
ODBI				*i*	S	Sn	17 54 46.1	+1.2
SECR		**0.52**	**211**	S		Sn	17 54 45.0	+0.1
SECR		**0.52**	**211**	*i*	S	Sn	17 54 45.0	+0.1
SECR		**0.52**	**211**	*i*	S	Sn	17 54 45.0	+0.1
PETR	**Petresti**	**0.60**	**66**	↓*i*P		Pn	17 54 30.0	+0.4
PETR	**Petresti**	**0.60**	**66**	↓*i*P		Pn	17 54 30.0	+0.4
PETR				*i*	S	Sn	17 54 45.8	+0.1
PETR	**Petresti**	**0.60**	**66**	↓*i*P		Pn	17 54 30.0	+0.4
PETR				*i*	S	Sn	17 54 45.8	+0.1
PLAR	**PLOIESTI**	**0.64**	**208**		S	Sn	17 54 46.4	+0.3
PLAR	**PLOIESTI**	**0.64**	**208**	*i*	S	Sn	17 54 46.4	+0.3
PLAR	**PLOIESTI**	**0.64**	**208**	*i*	S	Sn	17 54 46.4	+0.3
PGOR	**Pogoanele**	**0.69**	**146**	↑*i*P		Pn	17 54 30.4	+0.3
PGOR	**Pogoanele**	**0.69**	**146**	↑*i*P		Pn	17 54 30.4	+0.3
PGOR				*i*	S	Sn	17 54 46.9	+0.3
PGOR	**Pogoanele**	**0.69**	**146**	↑*i*P		Pn	17 54 30.4	+0.3
PGOR				*i*	S	Sn	17 54 46.9	+0.3
SULR		**0.81**	**190**	↓*i*P		Pn	17 54 31.2	+0.2
SULR		**0.81**	**190**	↓*i*P		Pn	17 54 31.2	+0.2
SULR				*i*	S	Sn	17 54 48.2	0.0
SULR		**0.81**	**190**	↓*i*P		Pn	17 54 31.2	+0.2
SULR				*i*	S	Sn	17 54 48.2	0.0
DOPR	**Dopca**	**0.89**	**304**	↓*i*P		Pn	17 54 31.3	-0.4
DOPR	**Dopca**	**0.89**	**304**	↓*i*P		Pn	17 54 31.3	-0.4
DOPR				*i*	S	Sn	17 54 48.3	-1.1
DOPR	**Dopca**	**0.89**	**304**	↓*i*P		Pn	17 54 31.3	-0.4
DOPR				*i*	S	Sn	17 54 48.3	-1.1
VOIR		**0.98**	**268**	↓*i*P		Pn	17 54 32.2	-0.4
VOIR		**0.98**	**268**	↓*i*P		Pn	17 54 32.2	-0.4
VOIR				*i*	S	Sn	17 54 49.6	-1.4
VOIR		**0.98**	**268**	↓*i*P		Pn	17 54 32.2	-0.4
VOIR				*i*	S	Sn	17 54 49.6	-1.4
TESR	**Tescani**	**1.04**	**8**	↑*i*P		Pn	17 54 32.6	-0.4
TESR	**Tescani**	**1.04**	**8**	↑*i*P		Pn	17 54 32.6	-0.4
TESR				*i*	S	Sn	17 54 49.5	-2.3
TESR	**Tescani**	**1.04**	**8**	↑*i*P		Pn	17 54 32.6	-0.4
TESR				*i*	S	Sn	17 54 49.5	-2.3
AMRR	**Amara**	**1.07**	**144**	↑*i*P		Pn	17 54 33.3	+0.1
AMRR	**Amara**	**1.07**	**144**	↑*i*P		Pn	17 54 33.3	+0.1
AMRR				*i*	S	Sn	17 54 51.5	-0.6
AMRR	**Amara**	**1.07**	**144**	↑*i*P		Pn	17 54 33.3	+0.1
AMRR				*i*	S	Sn	17 54 51.5	-0.6
CIOR	**Ciorogarla**	**1.10**	**202**	↑*i*P		Pn	17 54 33.4	-0.1
CIOR	**Ciorogarla**	**1.10**	**202**	↑*i*P		Pn	17 54 33.4	-0.1
CIOR				*i*	S	Sn	17 54 51.8	-0.8
CIOR	**Ciorogarla**	**1.10**	**202**	↑*i*P		Pn	17 54 33.4	-0.1
CIOR				*i*	S	Sn	17 54 51.8	-0.8
BUC1	**Bucharest**	**1.17**	**195**	↓*i*P		Pn	17 54 34.1	0.0
BUC1	**Bucharest**	**1.17**	**195**	↓*i*P		Pn	17 54 34.1	0.0
BUC1				*i*	S	Sn	17 54 52.7	-1.0
BUC1	**Bucharest**	**1.17**	**195**	↓*i*P		Pn	17 54 34.1	0.0
BUC1				*i*	S	Sn	17 54 52.7	-1.0
CFR	**Carcaliu**	**1.23**	**104**	↓*i*P		Pn	17 54 34.3	-0.4
CFR	**Carcaliu**	**1.23**	**104**	↓*i*P		Pn	17 54 34.3	-0.4
CFR				*i*	S	Sn	17 54 53.0	-1.7
CFR	**Carcaliu**	**1.23**	**104**	↓*i*P		Pn	17 54 34.3	-0.4
CFR				*i*	S	Sn	17 54 53.0	-1.7
HUMR	**Humele**	**1.41**	**228**	↓*i*P		Pn	17 54 36.0	-0.5
HUMR	**Humele**	**1.41**	**228**	↓*i*P		Pn	17 54 36.0	-0.5
HUMR				*i*	S	Sn	17 54 56.5	-1.5
HUMR	**Humele**	**1.41**	**228**	↓*i*P		Pn	17 54 36.0	-0.5
HUMR	

ellipse: s-maj=1.5km s-min=0.8km az=145.0
*ATH **09** 18:14:40.8,41.°79N×23.°18E,h29km±3km,MD3.2/16*
ISC 09 18:14:38.8±0.7,41.°93N±0.°01×23.°14E±0.°02,h11km±6km,
n138,σ1°16/177,18C-12D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.08**	**215**	*i* Pg	**Pg**	**18 14 41.7**	**+0.5**
KKB	**Krupnik**	**0.08**	**215**	*i* Pg	**Pg**	**18 14 41.7**	**+0.5**
MMB	**Musomiste**	**0.56**	**128**	*i* Pg	**Pg**	**18 14 50.0**	**+0.4**
MMB	**Musomiste**	**0.56**	**128**	⇑*i* P	**Pg**	**18 14 50.0**	**+0.4**
MMB	**Musomiste**	**0.56**	**128**	⇑*i* P	**Pg**	**18 14 50.0**	**+0.4**
MMB				S	**Sb**	**18 14 58.2**	**-0.3**
VTS	**Vitosha**	**0.66**	**4**	*i* Pg	**Pg**	**18 14 51.5**	**-0.1**
VTS	**Vitosha**	**0.66**	**4**	⇑*i* Pg	**Pg**	**18 14 51.3**	**-0.3**
VTS				*e*Sg	**Sg**	**18 15 00.2**	**-0.2**
VTS	**Vitosha**	**0.66**	**4**	⇓*i* P	**Pg**	**18 14 50.9**	**-0.7**
VTS	**Vitosha**	**0.66**	**4**	S	**Sg**	**18 15 00.3**	**-0.2**
VTS	**Vitosha**	**0.66**	**4**	⇓*i* P	**Pg**	**18 14 50.9**	**-0.7**
VTS	**Vitosha**	**0.66**	**4**	*i* Pg	**Pg**	**18 14 51.5**	**-0.1**
VTS				*e*Sg	**Sg**	**18 15 00.2**	**-0.2**
VAY	**Valandovo**	**0.74**	**215**	P	**Pg**	**18 14 52.3**	**-0.8**
VAY				S	**Sg**	**18 14 52.3**	**-0.8**
VAY	**Valandovo**	**0.74**	**215**	⇓*e*Pg	**Pg**	**18 14 52.3**	**-0.8**
VAY				*e*Sg	**Sg**	**18 15 01.8**	**-1.1**
VAY	**Valandovo**	**0.74**	**215**	*i* Pg	**Pg**	**18 14 52.5**	**-0.7**
VAY				*i* Sg	**Sg**	**18 15 02.2**	**-0.6**
VAY				*i* Lg	Lg	18 15 02.3	
	comp=E,267nm,0.6s						
VAY				*i* Lg	Lg	18 15 03.4	
	comp=N,332nm,0.3s						
VAY	**Valandovo**	**0.74**	**215**	P	**Pg**	**18 14 52.3**	**-0.8**
VAY				*e*Sg	**Sg**	**18 15 01.8**	**-1.1**
VAY				*i* Lg	Lg	18 15 01.9	
	comp=N,332nm,0.3s						
VAY				S	**Sg**	**18 15 02.1**	**-0.8**
KNT	**Kendrikon**	**0.79**	**194**	P	**Pg**	**18 14 53.4**	**-0.6**
KNT				S	**Sg**	**18 15 03.7**	**-0.6**
KNT	**Kendrikon**	**0.79**	**194**	*e*PN	**Pg**	**18 14 53.5**	**-0.6**
KNT				*e*SN	**Sg**	**18 15 03.7**	**-0.6**
KNT	**Kendrikon**	**0.79**	**194**	P	**Pg**	**18 14 53.4**	**-0.6**
KNT				S	**Sg**	**18 15 03.7**	**-0.6**
NVR	**Nevrokopi**	**0.79**	**137**	P	**Pg**	**18 14 53.9**	**-0.1**
NVR				S	**Sg**	**18 15 04.2**	**-0.1**
NVR	**Nevrokopi**	**0.79**	**137**	*e*PN	**Pg**	**18 14 53.6**	**-0.4**
NVR				*e*SN	**Sg**	**18 15 04.3**	**-0.1**
NVR	**Nevrokopi**	**0.79**	**137**	*e*PN	**Pg**	**18 14 53.6**	**-0.4**
NVR	**Nevrokopi**	**0.79**	**137**	P	**Pg**	**18 14 53.9**	**-0.1**
NVR				S	**Sg**	**18 15 04.2**	**-0.1**
SRS	**Serrai**	**0.88**	**157**	P	**Pg**	**18 14 55.2**	**-0.5**
SRS				S	**Sg**	**18 15 05.6**	**-1.6**
SRS	**Serrai**	**0.88**	**157**	*e*PN	**Pg**	**18 14 55.2**	**-0.5**
SRS				*e*SN	**Sg**	**18 15 05.9**	**-1.3**
SRS	**Serrai**	**0.88**	**157**	P	**Pg**	**18 14 55.2**	**-0.5**
SRS				S	**Sg**	**18 15 05.6**	**-1.6**
PGB	**Panagyurishte**	**0.98**	**50**	*i* Pg	**Pg**	**18 14 56.7**	**-0.9**
PGB	**Panagyurishte**	**0.98**	**50**	*i* Pg	**Pg**	**18 14 56.7**	**-0.9**
SOH	**Sokhos**	**1.12**	**172**	P	**Pg**	**18 14 59.5**	**-0.8**
SOH				S	**Sg**	**18 15 14.4**	**-0.4**
SOH	**Sokhos**	**1.12**	**172**	*e*PN	**Pg**	**18 14 59.5**	**-0.8**
SOH				*e*SN	**Sg**	**18 15 13.6**	**-1.2**
SOH	**Sokhos**	**1.12**	**172**	P	**Pg**	**18 14 59.5**	**-0.8**
SOH				*e*Sn	**Sg**	**18 15 13.6**	**-1.2**
SOH				S	**Sg**	**18 15 14.4**	**-0.4**
PLD	**Plovdiv**	**1.18**	**81**	P	**Pg**	**18 15 01.1**	**-0.2**
PLD				S	**Sn**	**18 15 18.0**	**+0.8**
PLD	**Plovdiv**	**1.18**	**81**	*i* P	**Pg**	**18 15 01.1**	**-0.2**
PLD	**Plovdiv**	**1.18**	**81**	*i* Pg	**Pg**	**18 15 00.9**	**-0.4**
PLD				*e*Sg	**Sn**	**18 15 17.6**	**+0.4**
PLD	**Plovdiv**	**1.18**	**81**	*i* P	**Pg**	**18 15 01.1**	**-0.2**
PLD				*e*Sg	**Sn**	**18 15 17.6**	**+0.4**
PLD				S	**Sn**	**18 15 18.0**	**+0.8**
RZN	**Rozhen**	**1.20**	**101**	*i* P	**Pg**	**18 15 01.3**	**-0.5**
RZN	**Rozhen**	**1.20**	**101**	*i* P	**Pg**	**18 15 01.3**	**-0.5**
SKO	**Skopje**	**1.27**	**272**	*e*Pg	**Pn**	**18 15 01.2**	**-1.3**
SKO				*i* Sg	**Sg**	**18 15 18.5**	**-1.2**
SKO				*i* Lg	Lg	18 15 19.7	
	comp=N,26nm,0.3s						
SKO				*i* Lg	Lg	18 15 23.1	
	comp=E,47nm,0.9s						
SKO	**Skopje**	**1.27**	**272**	*e*Pg	**Pn**	**18 15 01.6**	**-0.9**
SKO				*i* Sg	**Sg**	**18 15 19.0**	**-0.7**
SKO				*i* Lg	Lg	18 15 23.6	
	comp=E,47nm,0.9s						
THE	**Thessaloniki**	**1.30**	**186**	P	**Pn**	**18 15 02.5**	**-0.4**
THE				S	**Sb**	**18 15 20.7**	**+0.7**
THE	**Thessaloniki**	**1.30**	**186**	*e*PN	**Pn**	**18 15 02.4**	**-0.4**
THE				*e*SN	**Sg**	**18 15 19.0**	**-1.7**
THE	**Thessaloniki**	**1.30**	**186**	P	**Pn**	**18 15 02.5**	**-0.4**
THE				*e*Sn	**Sg**	**18 15 19.0**	**-1.7**
THE				S	**Sb**	**18 15 20.7**	**+0.7**
HORT	**Hortiatis**	**1.33**	**181**	P	**Pn**	**18 15 02.7**	**-0.7**
HORT				S	**Sg**	**18 15 21.2**	**-0.4**
HORT	**Hortiatis**	**1.33**	**181**	*e*PN	**Pn**	**18 15 03.2**	**-0.2**
HORT	**Hortiatis**	**1.33**	**181**	P	**Pn**	**18 15 02.7**	**-0.7**
HORT	**Hortiatis**	**1.33**	**181**	*e*Pn	**Pn**	**18 15 03.2**	**-0.2**
HORT				S	**Sg**	**18 15 21.2**	**-0.4**
KAVA	**Kavala**	**1.39**	**132**	P	**Pn**	**18 15 04.1**	**0.0**
KAVA				S	**Sb**	**18 15 22.3**	**-0.2**
KAVA	**Kavala**	**1.39**	**132**	*e*PN	**Pn**	**18 15 04.1**	**0.0**
KAVA				*e*SN	**Sg**	**18 15 23.1**	**-0.4**
KAVA	**Kavala**	**1.39**	**132**	P	**Pn**	**18 15 04.1**	**0.0**
KAVA				S	**Sb**	**18 15 22.3**	**-0.2**
KAVA				*e*Sn	**Sg**	**18 15 23.1**	**-0.4**
ZAPS	**Zavoj**	**1.39**	**345**	*e*Pn	**Pn**	**18 15 04.1**	**-0.1**
MPEP	**Malo Peshtene**	**1.49**	**17**	*i* P	**Pn**	**18 15 06.1**	**+0.6**
PLG	**Polygyros**	**1.57**	**172**	*e*PN	**Pn**	**18 15 06.2**	**-0.4**
PLG	**Polygyros**	**1.57**	**172**	*e*Pn	**Pn**	**18 15 06.2**	**-0.4**
BIA	**Bitola**	**1.64**	**237**	*e*Pg	**Pn**	**18 15 08.5**	**+0.9**
BIA				*i* Sg	**Sn**	**18 15 30.2**	**+1.4**
BIA				*i* Lg	Lg	18 15 31.3	
	comp=N,9.7nm,0.3s						
BIA				*i* Lg	Lg	18 15 32.3	
	comp=E,10nm,0.3s						
BIA	**Bitola**	**1.64**	**237**	*e*Pg	**Pn**	**18 15 08.5**	**+0.9**
BIA				*i* Sg	**Sn**	**18 15 30.2**	**+1.4**
BIA				*i* Lg	Lg	18 15 32.2	
	comp=E,10nm,0.3s						
OUR	**Ouranopolis**	**1.72**	**158**	*e*PB	**Pn**	**18 15 07.7**	**-0.9**
OUR	**Ouranopolis**	**1.72**	**158**	*e*Pb	**Pn**	**18 15 07.7**	**-0.9**
KDZ	**Kurdzhali**	**1.72**	**99**	P	**Pn**	**18 15 09.2**	**+0.5**
KDZ	**Kurdzhali**	**1.72**	**99**	⇑*i* P	**Pn**	**18 15 09.4**	**+0.7**
KDZ	**Kurdzhali**	**1.72**	**99**	P	**Pn**	**18 15 09.2**	**+0.5**
KDZ				S	**Sb**	**18 15 32.3**	**+0.2**
FNA	**Florina**	**1.75**	**230**	*e*PB	**Pn**	**18 15 10.0**	**+0.8**
FNA	**Florina**	**1.75**	**230**	*e*Pn	**Pn**	**18 15 10.0**	**+0.8**
DIM	**Dimitrovgrad**	**1.79**	**85**	P	**Pb**	**18 15 12.0**	**+0.5**
DIM	**Dimitrovgrad**	**1.79**	**85**	P	**Pb**	**18 15 12.0**	**+0.5**
RDO	**Rodhopi**	**1.96**	**113**	P	**Pn**	**18 15 12.5**	**+0.6**
RDO	**Rodhopi**	**1.96**	**113**	*e*PB	**Pn**	**18 15 13.5**	**+1.7**
RDO	**Rodhopi**	**1.96**	**113**	P	**Pn**	**18 15 12.5**	**+0.6**
RDO	**Rodhopi**	**1.96**	**113**	*e*Pn	**Pn**	**18 15 13.6**	**+1.7**
SELS	**Selova**	**1.97**	**311**	⇑*i* PN	**Pn**	**18 15 14.2**	**+2.0**
PAIG	**Paliouri**	**2.04**	**168**	*e*PN	**Pn**	**18 15 12.3**	**-0.8**
PAIG	**Paliouri**	**2.04**	**168**	*e*Pb	**Pn**	**18 15 12.3**	**-0.8**
PVL	**Pavlikeni**	**2.07**	**51**	*i* P	**Pn**	**18 15 14.5**	**+1.1**
PVL	**Pavlikeni**	**2.07**	**51**	*i* P	**Pn**	**18 15 14.5**	**+1.1**
BOLS	**Boljevac**	**2.09**	**336**	*e*Pn	**Pn**	**18 15 14.1**	**+0.4**
BOLS	**Boljevac**	**2.09**	**336**	*e*Pn	**Pn**	**18 15 14.1**	**+0.4**
NEST	**Nestorio**	**2.19**	**227**	*e*PN	**Pn**	**18 15 16.6**	**+1.4**
NEST	**Nestorio**	**2.19**	**227**	*e*Pb	**Pn**	**18 15 16.6**	**+1.4**
SMTH	**Samothraki Isl**	**2.32**	**128**	*e*PN	**Pn**	**18 15 17.9**	**+1.0**
SMTH	**Samothraki Isl**	**2.32**	**128**	*e*Pn	**Pn**	**18 15 17.9**	**+1.0**
ALN	**Alexandroupoli**	**2.42**	**114**	P	**Pn**	**18 15 18.6**	**+0.4**
ALN	**Alexandroupoli**	**2.42**	**114**	*e*PN	**Pn**	**18 15 19.8**	**+1.6**
ALN	**Alexandroupoli**	**2.42**	**114**	P	**Pn**	**18 15 18.6**	**+0.4**
ALN	**Alexandroupoli**	**2.42**	**114**	*e*Pn	**Pn**	**18 15 19.8**	**+1.6**
THL	**Klokotos Trika**	**2.51**	**200**	*e*PN	**Pn**	**18 15 19.8**	**+0.3**
THL	**Klokotos Trika**	**2.51**	**200**	*e*Pn	**Pn**	**18 15 19.8**	**+0.3**
XOR	**Xorichti**	**2.56**	**179**	*e*PN	**Pn**	**18 15 20.0**	**-0.2**
XOR	**Xorichti**	**2.56**	**179**	*e*Pn	**Pn**	**18 15 20.0**	**-0.2**
JMB	**Yambol**	**2.61**	**77**	⇓*i* P	**Pb**	**18 15 27.2**	**+1.6**
JMB	**Yambol**	**2.61**	**77**	S	**Sg**	**18 16 00.5**	**-2.1**
NEO	**Neokhori**	**2.62**	**179**	*e*PN	**Pn**	**18 15 20.9**	**-0.2**
NEO	**Neokhori**	**2.62**	**179**	*e*Pn	**Pn**	**18 15 20.9**	**-0.2**
GRUS	**Gruza**	**2.65**	**318**	*e*Pn	**Pn**	**18 15 23.5**	**+2.1**
GRUS				*e*Sn	**Sn**	**18 15 53.7**	**+0.2**
GRUS	**Gruza**	**2.65**	**318**	*e*Pn	**Pn**	**18 15 23.5**	**+2.1**
GRUS				*e*Sn	**Sn**	**18 15 53.7**	**+0.2**
SJES	**Sjenica**	**2.69**	**301**	*e*Pn	**Pn**	**18 15 23.5**	**+1.4**
SVIS	**Svilajnac**	**2.73**	**329**	*e*Pn	**Pn**	**18 15 24.0**	**+1.5**
IVAS	**Ivanjica**	**2.75**	**308**	*e*Pn	**Pn**	**18 15 24.2**	**+1.3**
IVAS	**Ivanjica**	**2.75**	**308**	*e*Pn	**Pn**	**18 15 24.2**	**+1.3**
HUMR	**Humele**	**2.92**	**27**	⇑*i* P	Pn	18 15 28.8	+3.6
HUMR	**Humele**	**2.92**	**27**	S	**Sg**	**18 16 11.0**	**-1.6**
HUMR	**Humele**	**2.92**	**27**	⇑*i* P	Pn	18 15 28.8	+3.6
AGG	**Agios Georgios**	**2.97**	**192**	*e*PN	**Pn**	**18 15 27.3**	**+1.4**
AGG	**Agios Georgios**	**2.97**	**192**	*e*Pn	**Pn**	**18 15 27.3**	**+1.4**
TRUS	**Trudelj**	**3.04**	**320**	*e*Pn	**Pn**	**18 15 27.8**	**+0.9**
TRUS	**Trudelj**	**3.04**	**320**	*e*Pn	**Pn**	**18 15 27.8**	**+0.9**
DIVS	**Divibare**	**3.17**	**314**	*e*Pn	**Pn**	**18 15 27.8**	**-0.8**
DIVS	**Divibare**	**3.17**	**314**	*e*Pn	**Pn**	**18 15 27.8**	**-0.8**
BBLS	**Lazići**	**3.36**	**306**	*e*Pn	**Pn**	**18 15 31.9**	**+0.7**
BBLS	**Lazići**	**3.36**	**306**	*e*Pn	**Pn**	**18 15 31.9**	**+0.7**
GZR	**Gura Zlata**	**3.47**	**356**	⇓*i* P	**Pn**	**18 15 34.9**	**+2.1**
GZR	**Gura Zlata**	**3.47**	**356**	S	**Sg**	**18 16 28.9**	**-1.3**
GZR	**Gura Zlata**	**3.47**	**356**	⇓*i* P	**Pn**	**18 15 34.9**	**+2.1**
LOT	**Lotru**	**3.55**	**7**	⇓*i* P	**Pn**	**18 15 35.8**	**+1.9**
LOT	**Lotru**	**3.55**	**7**	⇓*i* P	**Pn**	**18 15 35.8**	**+1.9**
LOT				S	**Sn**	**18 16 13.9**	**-1.9**
VOIR		**3.77**	**21**	⇑*i* P	**Pn**	**18 15 38.2**	**+1.3**
VOIR		**3.77**	**21**	S	**Sg**	**18 16 40.3**	**+0.6**
VOIR		**3.77**	**21**	⇑*i* P	**Pn**	**18 15 38.2**	**+1.3**
BZS	**Buzias**	**3.85**	**344**	*e*Pn	**Pn**	**18 15 37.4**	**-0.5**
BZS	**Buzias**	**3.85**	**344**	⇓*i* P	Pn	18 15 34.8	-3.1
BZS	**Buzias**	**3.85**	**344**	S	**Sg**	**18 16 40.0**	**-2.3**
BZS	**Buzias**	**3.85**	**344**	⇓*i* P	Pn	18 15 34.8	-3.1
BZS	**Buzias**	**3.85**	**344**	*e*Pn	**Pn**	**18 15 37.4**	**-0.5**
MSAB	**Monastry St. A**	**4.06**	**56**	S	**Sg**	**18 16 45.2**	**-3.8**
MLR	**Muntele Rosu**	**4.10**	**29**	⇑*i* P	**Pn**	**18 15 40.3**	**-1.2**
MLR	**Muntele Rosu**	**4.10**	**29**	S	**Sg**	**18 16 49.1**	**-1.2**
MLR	**Muntele Rosu**	**4.10**	**29**	⇑*i* P	**Pn**	**18 15 40.3**	**-1.2**
TLB	**Topalu**	**4.46**	**52**	⇓*i* P	**Pn**	**18 15 46.5**	**+0.3**
TLB	**Topalu**	**4.46**	**52**	S	**Sb**	**18 16 56.0**	**+5.3**
TLB	**Topalu**	**4.46**	**52**	⇓*i* P	**Pn**	**18 15 46.5**	**+0.3**
SIRR	**Siria**	**4.47**	**347**	⇑*i* P	**Pg**	**18 16 03.6**	**-0.7**
SIRR	**Siria**	**4.47**	**347**	S	**Sg**	**18 16 58.5**	**-3.6**
TIRR	**Tirgusor**	**4.61**	**55**	S	**Sg**	**18 17 04.9**	**-1.7**
PLOR	**Plostina**	**4.67**	**32**	⇑*i* P	**Pn**	**18 15 49.9**	**+0.7**
PLOR	**Plostina**	**4.67**	**32**	⇑*i* P	**Pn**	**18 15 49.9**	**+0.7**
VRI	**Vrincioaia**	**4.71**	**32**	⇑*i* P	**Pn**	**18 15 51.0**	**+1.2**
VRI	**Vrincioaia**	**4.71**	**32**	S	**Sg**	**18 17 09.3**	**-0.6**
VRI	**Vrincioaia**	**4.71**	**32**	⇑*i* P	**Pn**	**18 15 51.0**	**+1.2**
CFR	**Carcaliu**	**4.87**	**47**	⇑*i* P	**Pn**	**18 15 52.0**	**+0.1**
CFR	**Carcaliu**	**4.87**	**47**	S	**Sg**	**18 17 10.5**	**-4.5**
CFR	**Carcaliu**	**4.87**	**47**	⇑*i* P	**Pn**	**18 15 52.0**	**+0.1**

*ISCJB **09** 18:32:22.1±0.2,44.°07N±0.°01×105.°38W±0.°02,h0km,Error ellipse: s-maj=2.3km s-min=2.0km az=158.7*
*NEIC **09** 18:32:22.6±0.6,44.°08N×105.°27W,h0km,ML3.2, Error ellipse: s-maj=9.4km s-min=7.3km az=160.0,Suspected Mining explosion.*
NEIC 30 km [20 miles] SE of Gillette.
*IDC **09** 18:32:23.2±1.4,44.°43N×105.°83W,h0km,mb1 3.7/3, mb1mx3.3/29,mbtmp3.4/3,ML2.3/2,Error ellipse: s-maj=61.4km s-min=9.4km az=145.0*
ISC 09 18:32:22.4±0.7,44.°08N±0.°02×105.°37W±0.°02,h0km,n71, σ0°84/92,38C-32D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.13**	**209**	P	**Pg**	**18 32 25.1**	**+0.2**
	baz=0.2,SNR=1000						
I23A				⇑S	**Sg**	**18 32 28.4**	**+1.7**
	baz=0.2						
H23A	**Clabaugh Cattl**	**0.48**	**358**	⇓P	**Pg**	**18 32 32.2**	**+0.5**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.58**	**112**	⇓P	**Pg**	**18 32 33.8**	**+0.2**
	baz=0.5,SNR=78						
J23A	**Dilts Ranch, B**	**0.69**	**191**	⇑P	**Pg**	**18 32 35.3**	**-0.2**
	baz=0.7,SNR=43						
J23A				⇑S	**Sg**	**18 32 44.5**	**+0.1**
	baz=0.7						
I22A	**9 Mile Ranch,**	**0.82**	**257**	⇓P	**Pg**	**18 32 38.0**	**-0.2**
	baz=0.9,SNR=41						
H22A	**Clearmont**	**0.87**	**307**	⇓P	**Pg**	**18 32 39.3**	**+0.2**
	baz=0.9,SNR=26						
H24A	**Dirks Ranch, A**	**0.89**	**41**	⇑P	**Pg**	**18 32 39.4**	**-0.1**
	baz=0.8,SNR=140						
J24A	**Dixon Ranch, L**	**0.91**	**145**	⇓P	**Pg**	**18 32 39.6**	**-0.2**
	baz=0.9,SNR=44						
J24A				⇑S	**Sg**	**18 32 52.0**	**+0.4**
	baz=0.9						
RSSD	**Black Hills**	**0.96**	**87**	*e*P	**Pg**	**18 32 40.3**	**-0.6**
G23A	**Biddle**	**1.12**	**359**	⇓P	**Pg**	**18 32 43.8**	**-0.1**
	baz=1.1						
G23A				⇑S	**Sb**	**18 32 59.8**	**-0.2**
	baz=1.1						
I25A	**Rochford**	**1.19**	**92**	⇑P	**Pg**	**18 32 44.8**	**-0.3**
	baz=1.1,SNR=39						
I25A				⇑S	**Sg**	**18 33 01.0**	**+0.6**
	baz=1.1						
G22A	**Birney**	**1.32**	**330**	⇑P	**Pg**	**18 32 47.0**	**-0.6**
	baz=1.4,SNR=22						
G22A				⇑S	**Sb**	**18 33 05.2**	**-0.3**
	baz=1.4						
H21A	**Big Horn, Sher**	**1.32**	**295**	⇑P	**Pg**	**18 32 47.0**	**-0.7**
	baz=1.4,SNR=27						
H21A				⇓S	**Sb**	**18 33 05.5**	**-0.1**
	baz=1.4						
J25A	**Sunshine Ranch**	**1.33**	**121**	P	**Pg**	**18 32 47.3**	**-0.6**
	baz=1.3,SNR=75						
K23A	**Bowen Ranch, D**	**1.34**	**188**	⇓P	**Pg**	**18 32 47.1**	**-0.9**
	baz=1.3,SNR=11						
K23A				⇓S	**Sg**	**18 33 05.6**	**+0.3**
	baz=1.3						
H25A	**Fruitdale**	**1.39**	**66**	⇑P	**Pn**	**18 32 48.5**	**-0.6**
	baz=1.3,SNR=17						
I21A	**Big Trails, Te**	**1.41**	**260**	⇓P	**Pn**	**18 32 47.6**	**-1.9**
	baz=1.5						
I21A				⇓S	**Sg**	**18 33 07.8**	**0.0**
	baz=1.5						
K24A	**Anderson Ranch**	**1.42**	**163**	⇓P	**Pn**	**18 32 48.6**	**-0.9**
	baz=1.4,SNR=17						
K24A				⇑S	**Sg**	**18 33 08.3**	**+0.5**
	baz=1.4						
G24A	**Alzada**	**1.42**	**28**	⇓P	**Pn**	**18 32 49.2**	**-0.5**
	baz=1.4,SNR=21						
F23A	**Volborg**	**1.64**	**359**	⇓P	**Pn**	**18 32 52.4**	**-0.3**
	baz=1.6,SNR=17						
K22A	**Casper**	**1.66**	**211**	*e*P	**Pn**	**18 32 52.0**	**-0.8**
K22A	**Casper**	**1.66**	**211**	⇑P	**Pn**	**18 32 52.1**	**-0.8**
	baz=1.7,SNR=42						
K22A				⇓S	**Sn**	**18 33 14.5**	**-0.4**
	baz=1.7						
J21A	**Lysite**	**1.67**	**245**	⇑P	**Pn**	**18 32 52.0**	**-1.1**
	baz=1.7,SNR=55						
J21A				⇑S	**Sn**	**18 33 13.8**	**-1.5**
	baz=1.7						
G21A	**Lodge Grass**	**1.74**	**312**	⇑P	**Pn**	**18 32 53.8**	**-0.2**
	baz=1.8,SNR=24						
G21A				⇑Sb	**Sg**	**18 33 18.6**	**+0.3**
	baz=1.8						
F22A	**Rosebud**	**1.81**	**340**	⇑P	**Pn**	**18 32 54.8**	**-0.2**
	baz=1.8,SNR=35						
F22A				⇓Sb	**Sg**	**18 33 20.9**	**+0.3**
	baz=1.8						
I26A	**New Underwood**	**1.81**	**91**	⇑Pb	**Pb**	**18 32 56.2**	**-0.3**
	baz=1.7						
K25A	**Mack Ranch, Ha**	**1.83**	**143**	⇓Pb	**Pn**	**18 32 56.1**	**+0.8**
	baz=1.8						
K25A				⇓Sb	**Sb**	**18 33 21.3**	**+1.0**
	baz=1.8						
J26A	**Sides Ranch, S**	**1.83**	**114**	⇑Pb	**Pn**	**18 32 56.1**	**+0.9**
	baz=1.8,SNR=19						
F24A	**Ekalaka**	**1.89**	**20**	⇑Pb	**Pb**	**18 32 57.3**	**-0.5**
	baz=1.9						
F24A				⇓Sb	**Sg**	**18 33 23.1**	**+0.1**
	baz=1.9						
H20A	**Greybull**	**1.93**	**283**	⇑P	**Pn**	**18 32 56.3**	**-0.3**
	baz=2.0,SNR=26						
H20A				⇑S	**Sn**	**18 33 21.8**	**+0.2**
	baz=2.0						
L23A	**Garrett**	**1.98**	**187**	⇓P	**Pn**	**18 32 57.1**	**-0.3**
	baz=2.0,SNR=48						
L23A				⇑S	**Sn**	**18 33 23.1**	**+0.2**
	baz=2.0						
K21A	**Alcova**	**1.99**	**224**	⇓P	**Pn**	**18 32 57.2**	**-0.3**
	baz=2.0,SNR=28						
K21A				⇑S	**Sn**	**18 33 23.4**	**+0.2**
	baz=2.0						
I20A	**Worland**	**1.99**	**267**	⇑P	**Pn**	**18 32 57.3**	**-0.2**
	baz=2.1,SNR=74						
I20A				⇓S	**Sn**	**18 33 23.3**	**+0.2**
	baz=2.1						
L24A	**Wheatland**	**2.06**	**171**	⇓P	**Pn**	**18 32 58.3**	**-0.1**
	baz=2.0,SNR=6.0						
J20A	**Shoshoni**	**2.09**	**251**	⇑Pb	**Pb**	**18 33 00.3**	**-1.0**
	baz=2.2						
K26A	**Motz Farm, Whi**	**2.11**	**130**	⇑P	**Pn**	**18 32 59.3**	**+0.3**
	baz=2.0						
F21A	**Absaloka Mine,**	**2.14**	**325**	⇓P	**Pn**	**18 32 59.2**	**-0.3**
	baz=2.2						
F21A				⇑Sb	**Sg**	**18 33 30.1**	**-1.1**
	baz=2.2						
L25A	**Engebretsen Ra**	**2.18**	**151**	⇓P	**Pn**	**18 33 00.6**	**+0.5**
	baz=2.1,SNR=24						
G26A	**Maurine**	**2.32**	**57**	⇑Pb	**Pb**	**18 33 04.5**	**-0.7**
	baz=2.3						
G26A				⇓Sb	**Sb**	**18 33 35.5**	**+1.1**
	baz=2.3						
G20A	**Bridger**	**2.33**	**300**	⇑P	**Pn**	**18 33 01.4**	**-0.6**
	baz=2.4,SNR=92						
G20A				⇑Sb	**Sb**	**18 33 35.2**	**+0.6**
	baz=2.4						
I27A	**Quinn**	**2.39**	**89**	⇑Pb	**Pb**	**18 33 05.8**	**-0.6**
	baz=2.3						
E22A	**Miles City**	**2.40**	**350**	⇑P	**Pn**	**18 33 03.0**	**+0.1**
	baz=2.4,SNR=12						
E23A	**Ismay**	**2.42**	**1**	⇓P	**Pn**	**18 33 03.4**	**+0.1**
	baz=2.4,SNR=27						
I19A	**Meeteetse**	**2.61**	**270**	⇓P	**Pn**	**18 33 06.1**	**+0.1**
	baz=2.7,SNR=11						
F20A	**Billings**	**2.62**	**312**	⇑P	**Pn**	**18 33 05.4**	**-0.7**
	baz=2.7,SNR=9.6						
M24A	**Cheyenne**	**2.64**	**171**	⇓P	**Pn**	**18 33 06.9**	**+0.4**
	baz=2.6,SNR=15						
H19A	**Powell**	**2.66**	**284**	⇓P	**Pn**	**18 33 06.5**	**-0.1**
	baz=2.7,SNR=14						
RLMT	**Red Lodge**	**2.97**	**292**	*e*Pn	**Pn**	**18 33 11.1**	**+0.1**
F19A	**Roth Farm, Mol**	**3.09**	**306**	⇓P	**Pn**	**18 33 12.6**	**0.0**
	baz=3.2,SNR=16						
D23A	**Lindsay**	**3.10**	**2**	⇓P	**Pn**	**18 33 13.0**	**+0.4**
	baz=3.1,SNR=20						
BW06	**Boulder Array**	**3.32**	**248**	*e*Pn	**Pn**	**18 33 16.2**	**+0.4**
PDAR	**Pinedale Array**	**3.32**	**248**	Pn	**Pn**	**18 33 16.4**	**+0.6**
PDAR				Lg	Lg	18 34 03.2	
PDAR	**Pinedale Array**	**3.32**	**248**	Pn	**Pn**	**18 33 16.4**	**+0.6**
	3.0nm,0.3s,baz=70,slow=16,SNR=61						
PDAR				Lg	Lg	18 34 03.2	
	8.0nm,0.3s,baz=58,slow=32,SNR=23						
H17A	**Grant Village**	**3.75**	**277**	*e*Pn	**Pn**	**18 33 23.4**	**+1.6**
ISCO	**Idaho Springs**	**4.28**	**182**	*e*Pn	**Pn**	**18 33 29.0**	**-0.1**
AHID	**Auburn Hatcher**	**4.37**	**255**	Pg	**Pb**	**18 33 42.0**	**+1.7**
QLMT

RAMN	**Ramite**	**71.23**	**290**	*eP*	**P**	**19 52 23.8**	**+1.0**
	16nm,0.7s							
KKN	**Kakani**	**71.39**	**291**	*eP*	**P**	**19 52 24.7**	**+1.0**
PKI	**Pulchoki**	**71.48**	**291**	*eP*	**P**	**19 52 25.2**	**+0.9**
	5.0nm,0.7s							
PKIN	**Phulchoki**	**71.48**	**291**	*eP*	**P**	**19 52 25.2**	**+0.9**
	3.1nm,0.5s							
GKN	**Gorkha**	**71.61**	**292**	*eP*	**P**	**19 52 26.2**	**+1.3**
	11nm,0.9s							
DMN	**Daman**	**71.63**	**291**	*eP*	**P**	**19 52 26.2**	**+1.0**
DANN	**Dangsing**	**71.87**	**293**	*eP*	**P**	**19 52 27.8**	**+1.2**
	12nm,0.9s							
PYUN	**Piuthan**	**72.50**	**293**	*eP*	**P**	**19 52 31.9**	**+1.6**
	22nm,1.0s							
AKASG	**Malin Array Be**	**75.64**	**341**	P	**P**	**19 52 47.3**	**-0.6**
	0.6nm,0.5s,baz=21,slow=6.5,SNR=4.0							
WRA	**Warramunga Arr**	**80.86**	**222**	P	**P**	**19 53 16.6**	**-0.4**
	0.6nm,0.7s,baz=32,slow=6.0,SNR=5.4							
ASAR	**Alice Springs**	**84.35**	**221**	P	**P**	**19 53 36.1**	**+1.0**
	0.3nm,0.7s,baz=34,slow=5.0,SNR=4.1							
BRTR	**Keskin Array B**	**84.89**	**334**	P	**P**	**19 53 38.3**	**+0.3**
	0.5nm,0.6s,baz=0.0,slow=2.9,SNR=3.4							

*DDA **09** 19:53:54.7, 34°.85N×27°.58E, h6km, MD3.0*
*ISK **09** 19:53:59.9, 34°.68N×28°.29E, h22km, MD3.5*
*ATH **09** 19:54:03.5, 35°.13N×27°.81E, h12km±6km, MD3.2/6*
*CSEM **09** 19:54:03.8±0.8, 35°.17N×27°.83E, h2km, MD3.2, Error ellipse: s-maj=23.3km s-min=7.1km az=145.0*

ISC 09 19:54:03.4±1.4, 35°.18N±0°.06×27°.94E±0°.04, h7km±11km, n40, σ1ᵎ22/50, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.73**	**300**		*ePG*	**Pg**	**19 54 16.1**	**-1.4**
KARP					*eSB*	**Sg**	**19 54 25.2**	**-1.8**
ARG	**Arkhangelos**	**1.05**	**8**		*ePG*	**Pb**	**19 54 23.9**	**0.0**
ARG					*eSB*	**Sn**	**19 54 40.8**	**+1.4**
ARG	**Arkhangelos**	**1.05**	**8**		*ePg*	**Pb**	**19 54 23.9**	**0.0**
ARG					*eSb*	**Sn**	**19 54 40.8**	**+1.4**
ZKR	**Zakros**	**1.41**	**268**		*ePN*	**Pg**	**19 54 30.2**	**-0.2**
ZKR					*eSN*	**Sg**	**19 54 51.6**	**+2.9**
ZKR	**Zakros**	**1.41**	**268**		*ePB*	**Pn**	**19 54 28.3**	**-1.2**
ZKR	**Zakros**	**1.41**	**268**		*ePb*	**Pn**	**19 54 28.3**	**-1.2**
ZKR	**Zakros**	**1.41**	**268**		*ePn*	**Pg**	**19 54 30.2**	**-0.2**
ZKR					*eSn*	**Sg**	**19 54 51.6**	**+2.9**
AKAS	**Kas**	**1.72**	**52**		*iP*	**Pb**	**19 54 35.5**	**+0.1**
AKAS					*iS*	**Sg**	**19 55 00.7**	**+2.1**
AKAS	**Kas**	**1.72**	**52**		*iP*	**Pb**	**19 54 35.5**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.74**	**19**		*ePN*	**Pg**	**19 54 36.2**	**-0.5**
DALY	**Dalyan (Mu˘la**	**1.74**	**19**		*ePn*	**Pg**	**19 54 36.2**	**-0.5**
TURN	**Turunc**	**1.77**	**18**		*iP*	**Pn**	**19 54 35.1**	**+0.6**
TURN					*iS*	**Sn**	**19 54 56.6**	**-0.7**
TURN	**Turunc**	**1.77**	**18**		*iP*	**Pn**	**19 54 35.1**	**+0.6**
TURN					*iS*	**Sn**	**19 54 56.6**	**-0.7**
NPS	**Neapolis**	**1.90**	**273**		*ePG*	**Pb**	**19 54 37.7**	**-0.8**
NPS	**Neapolis**	**1.90**	**273**		*ePg*	**Pb**	**19 54 37.7**	**-0.8**
BDRM	**Kayabasi**	**1.92**	**348**		*iP*	**Pn**	**19 54 37.3**	**+0.7**
BDRM					*iS*	**Sb**	**19 55 02.3**	**-0.7**
BDRM	**Kayabasi**	**1.92**	**348**		*iP*	**Pn**	**19 54 37.3**	**+0.7**
BDRM					*iS*	**Sb**	**19 55 02.3**	**-0.7**
BODT	**Bodrum**	**1.95**	**345**		*ePN*	**Pg**	**19 54 40.8**	**+0.1**
BODT	**Bodrum**	**1.95**	**345**		*ePn*	**Pg**	**19 54 40.8**	**+0.1**
LAST	**Lasithi**	**2.01**	**270**		*ePG*	**Pb**	**19 54 39.3**	**-1.1**
LAST	**Lasithi**	**2.01**	**270**		*ePg*	**Pb**	**19 54 39.3**	**-1.1**
ELL	**Elmali**	**2.24**	**45**		*ePN*	**Pn**	**19 54 39.3**	**-1.7**
ELL	**Elmali**	**2.24**	**45**		*ePn*	**Pn**	**19 54 39.3**	**-1.7**
AYDN	**Tasoluk**	**2.48**	**359**		*iP*	**Pn**	**19 54 44.8**	**+0.6**
AYDN	**Tasoluk**	**2.48**	**359**		*iP*	**Pn**	**19 54 44.8**	**+0.6**
IDI	**Anoyia**	**2.50**	**273**		*ePN*	**Pn**	**19 54 45.4**	**+0.9**
IDI	**Anoyia**	**2.50**	**273**		*ePN*	**Pn**	**19 54 45.3**	**+0.9**
IDI	**Anoyia**	**2.50**	**273**		*ePn*	**Pn**	**19 54 45.4**	**+0.9**
SMG	**Samos**	**2.67**	**341**		*ePB*	**Pn**	**19 54 48.0**	**+1.1**
SMG	**Samos**	**2.67**	**341**		*ePb*	**Pn**	**19 54 48.0**	**+1.1**
APE	**Apeiranthos**	**2.71**	**315**		*ePN*	**Pb**	**19 54 51.1**	**-1.1**
APE	**Apeiranthos**	**2.71**	**315**		*ePB*	**Pn**	**19 54 48.1**	**+0.7**
APE	**Apeiranthos**	**2.71**	**315**		*ePb*	**Pn**	**19 54 48.1**	**+0.7**
APE	**Apeiranthos**	**2.71**	**315**		*ePn*	**Pb**	**19 54 51.1**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**2.76**	**359**		*ePN*	**Pb**	**19 54 51.2**	**-2.0**
AYDB	**Zeytinkoy-Aydi**	**2.76**	**359**		*ePn*	**Pb**	**19 54 51.2**	**-2.0**
VAM	**Vamos**	**3.06**	**275**		*ePN*	**Pn**	**19 54 52.6**	**+0.4**
VAM	**Vamos**	**3.06**	**275**		*ePn*	**Pn**	**19 54 52.6**	**+0.4**
VLI	**Veliai**	**4.34**	**292**		*ePN*	**Pn**	**19 55 11.2**	**+1.5**
VLI	**Veliai**	**4.34**	**292**		*ePn*	**Pn**	**19 55 11.2**	**+1.5**

WEL 09 20:02:40.8±0.6, 46°.10S×165°.98E, h26km±1km, ML3.6/12, 1D, Error ellipse: s-maj=6.0km s-min=2.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.49**	**99**		P*	Pb	20 02 50.5	-0.5
PYZ					S*	Sb	20 02 57.1	-0.4
DCZ	**Deep Cove**	**1.03**	**53**		PN	Pn	20 02 58.9	-0.7
DCZ					SN	Sb	20 03 12.3	-0.7
DCZ					AML	AML	20 03 13.6	
DCZ					AML	AML	20 03 15.0	
DCZ					AML	AML	20 03 15.0	
WHZ	**Wether Hill Ro**	**1.39**	**82**		PN	Pn	20 03 04.6	0.0
WHZ					*e*SN	Sn	20 03 22.1	+0.1
WHZ					AML	AML	20 03 25.6	
APZ	**The Paps**	**1.57**	**119**		⇓PN	Pn	20 03 06.3	-0.9
APZ					SN	Sn	20 03 26.1	-0.6
APZ					AML	AML	20 03 27.1	
MLZ	**Mavora Lakes**	**1.71**	**65**		PN	Pn	20 03 09.8	+0.8
MLZ					AML	AML	20 03 36.1	
MLZ					AML	AML	20 03 41.4	
MSZ	**Milford Sound**	**1.98**	**45**		AML	AML	20 03 52.3	
MSZ					AML	AML	20 03 59.8	
SYZ	**Scrubby Hill**	**2.23**	**103**		PN	Pn	20 03 16.5	+0.4
SYZ					AML	AML	20 03 49.6	
WKZ	**Wanaka**	**2.49**	**60**		PN	Pb	20 03 22.3	-2.5
WKZ					AML	AML	20 03 59.7	
WKZ					AML	AML	20 04 05.5	
EAZ	**Earnscleugh**	**2.49**	**71**		PN	Pn	20 03 21.7	+2.0
EAZ					AML	AML	20 03 57.0	
EAZ					AML	AML	20 03 57.5	
EAZ					AML	AML	20 03 57.9	
EAZ					AML	AML	20 04 04.1	
TUZ	**Tuapeka**	**2.55**	**88**		PN	Pn	20 03 21.6	+1.1
TUZ					AML	AML	20 03 58.2	
TUZ					AML	AML	20 03 59.1	
JCZ	**Jackson Bay**	**2.82**	**45**		PN	Pn	20 03 26.3	+1.9
JCZ					AML	AML	20 04 17.6	
JCZ					AML	AML	20 04 18.0	
LBZ	**Lake Benmore**	**3.43**	**62**		PN	Pn	20 03 33.4	+0.8
ODZ	**Otahua Downs**	**3.44**	**74**		PN	Pn	20 03 32.4	-0.3
FOZ	**Fox Glacier**	**3.66**	**48**		PN	Pn	20 03 37.8	+2.2

*ISCJB **09** 20:23:34.8±0.7, 49°.9N±0°.1×28°.4W±0°.1, h10km, mb4.0/22, MS3.5/1, Error ellipse: s-maj=20.3km s-min=7.8km az=18.3*
*IDC **09** 20:23:35.3±0.8, 49°.94N×28°.46W, h0km, mb3.7/14, mb1 3.9/14, mb1mx3.7/37, mbtmp3.7/14, MS3.6/1, Ms1 3.6/1, ms1mx3.1/32, Error ellipse: s-maj=27.0km s-min=15.0km az=21.0*

ISC 09 20:23:36.7±0.8, 49°.9N±0°.2×28°.4W±0°.1, h10km, n32, σ1ᵎ05/31, mb4.1/23, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**20.07**	**111**		P	**P**	**20 28 09.0**	**-1.2**
	0.3nm,0.5s,baz=317,slow=8.7,SNR=4.0							
TCF	**Toulx Ste Croi**	**20.70**	**88**		*eP*	**P**	**20 28 16.5**	**-0.4**
	77nm,1.8s							
BGF	**Bois d'Agland**	**21.02**	**87**		*eP*	**P**	**20 28 19.9**	**-0.4**
	92nm,1.5s							
AVF	**Avril sur Loir**	**21.26**	**86**		*eP*	**P**	**20 28 22.6**	**-0.3**
	21nm,1.1s							
SSF	**Saint Saulge**	**21.27**	**85**		*eP*	**P**	**20 28 22.8**	**-0.2**
	20nm,1.1s							
GIVF	**Givet**	**21.27**	**77**		*eP*	**P**	**20 28 22.9**	**-0.1**
LOR	**Lormes**	**21.43**	**85**		*eP*	**P**	**20 28 23.8**	**-0.9**
	11nm,0.9s							
SMF	**Signal de Mont**	**21.63**	**86**		*eP*	**P**	**20 28 25.4**	**-1.5**
	52nm,1.5s							
MEZF	**Maizieres J'vi**	**21.82**	**81**		*eP*	**P**	**20 28 28.4**	**-0.5**
	25nm,1.0s							
SFTF	**Sexfontaines**	**21.89**	**82**		*eP*	**P**	**20 28 29.6**	**-0.1**
	94nm,1.6s							
MTLF	**Montolieu**	**21.95**	**96**		*eP*	**P**	**20 28 29.4**	**-0.9**
	47nm,1.7s							
PAGF	**Fort de Pagny**	**22.23**	**80**		*eP*	**P**	**20 28 32.2**	**-1.1**
HAU	**Haudompre**	**22.79**	**81**		*eP*	**P**	**20 28 38.8**	**-0.5**
	13nm,0.9s							
VIVF	**Saint-Julien-l**	**22.86**	**90**		*eP*	**P**	**20 28 37.5**	**-2.5**
HINF	**Hinteralfeld**	**23.17**	**82**		*eP*	**P**	**20 28 41.2**	**-2.1**
SCHQ	**Schefferville**	**23.73**	**297**		LR	LR	20 36 08.0	
					dmin=Z,159nm,20.0s,baz=150,slow=32			
LPG	**La Plagne**	**23.94**	**87**		*eP*	**P**	**20 28 49.8**	**-1.3**
	40nm,1.7s							
MDT	**Midelt**	**24.57**	**125**		P	**P**	**20 28 57.2**	**+0.4**
	3.8nm,1.2s,baz=339,slow=12,SNR=4.5							
FRB	**Frobisher Bay**	**25.41**	**318**		P	**P**	**20 29 03.5**	**-0.4**
	3.3nm,0.9s,baz=89,slow=9.9,SNR=3.2							
ARCES	**ARCESS Array B**	**31.99**	**32**		P	**P**	**20 30 03.9**	**+1.3**
	2.8nm,0.9s,baz=296,slow=9.2,SNR=4.0							
AKASG	**Malin Array Be**	**36.02**	**66**		P	**P**	**20 30 37.2**	**-0.6**
	0.3nm,0.3s,baz=292,slow=8.4,SNR=3.1							
TORD	**Torodi Ar. Bea**	**44.19**	**135**		P	**P**	**20 31 47.5**	**+1.7**
	1.2nm,0.8s,baz=332,slow=7.0,SNR=5.4							
YKA	**Yellowknife Ar**	**45.90**	**320**		P	**P**	**20 31 59.3**	**+0.4**
	1.9nm,1.0s,baz=61,slow=7.8,SNR=4.9							
INK	**Inuvik**	**49.77**	**332**		P	**P**	**20 32 28.3**	**-0.5**
	1.7nm,1.0s,baz=75,slow=6.3,SNR=3.9							
PDAR	**Pinedale Array**	**53.87**	**296**		P	**P**	**20 32 59.1**	**-0.9**
	1.9nm,0.9s,baz=69,slow=8.1,SNR=8.6							
ILAR	**Eielson Array**	**56.12**	**333**		P	**P**	**20 33 16.7**	**+1.0**
	0.6nm,0.8s,baz=41,slow=5.7,SNR=4.7							
TXAR	**Lajitas Array**	**58.95**	**280**		P	**P**	**20 33 35.6**	**-0.7**
	0.2nm,0.4s,baz=17,slow=9.5,SNR=3.3							
NVAR	**Mina Array Bea**	**61.74**	**297**		P	**P**	**20 33 56.2**	**+0.8**
	0.1nm,0.3s,baz=82,slow=6.5,SNR=2.9							
KURBB	**Kurchatov Arra**	**62.08**	**44**		P	**P**	**20 33 57.0**	**-0.2**
	1.0nm,0.9s,baz=317,slow=7.2,SNR=7.0							
MKAR	**Makanchi Array**	**66.58**	**4**		P	**P**	**20 34 27.4**	**+0.6**
	1.5nm,1.0s,baz=316,slow=3.3,SNR=6.5							
WRA	**Warramunga Arr**	**147.08**	**31**		PKPbc	**PKPbc**	**20 43 19.0**	**-0.8**
	0.9nm,1.0s,baz=336,slow=3.1,SNR=4.7							
ASAR	**Alice Springs**	**150.37**	**34**		PKPbc	**PKPbc**	**20 43 27.3**	**-0.9**
	1.9nm,0.9s,baz=358,slow=3.4,SNR=13							

*IDC **09** 20:49:40.4±1.2, 1°.41N×126°.35E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/22, mbtmp4.1/7, ML3.7/1, Error ellipse: s-maj=126.3km s-min=16.9km az=69.0*
*ISCJB **09** 20:49:45.7±0.7, 1°.45N±0°.07×126°.56E±0°.07, h47km, mb4.2/6, Error ellipse: s-maj=11.2km s-min=8.7km az=40.8*
*DJA **09** 20:49:48.0±1.0, 1°.N±6°×12°.7E±°, h52km±27km, M4.5/6, mb4.6/3, mB4.9/1, MLv4.4/6, Mw(mB)4.2/1*

ISC 09 20:49:47.2±0.9, 1°.42N±0°.09×126°.54E±0°.07, h47km, n18, σ1ᵎ33/18, mb4.3/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.05**	**128**		P	**Pn**	**20 50 07.2**	**+1.7**
LBMI	**Labuha**	**2.26**	**155**		P	**Pn**	**20 50 22.8**	**+0.8**
SGSI	**Sangihe**	**2.47**	**336**		P	**Pn**	**20 50 25.1**	**+0.1**
KMSI	**Cibinong**	**2.69**	**252**		P	**Pn**	**20 50 28.0**	**0.0**
GTOI	**Gorontalo**	**3.61**	**258**		P	**Pn**	**20 50 42.0**	**+1.4**
LUWI	**Luwuk**	**4.49**	**237**		P	**Pn**	**20 50 54.7**	**+2.0**
NLAI	**Namlea**	**4.66**	**173**		P	**Pn**	**20 50 56.3**	**+1.3**
MRSI	**Marisa**	**4.69**	**259**		P	**Pn**	**20 50 57.2**	**+1.8**
APSI	**Ampana**	**5.41**	**245**		P	**Pn**	**20 51 06.8**	**+1.5**
	81nm,0.8s,1μm							
TTSI	**Tana Toraja**	**8.04**	**237**		P	**Pn**	**20 51 42.2**	**+0.7**
	27nm,0.6s,0.1nm							
SPSI	**Sidrap Palu**	**8.62**	**232**		P	**Pn**	**20 51 49.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.41**	**183**		P	**P**	**20 54 07.8**	**-1.8**
	0.2nm,0.3s,baz=278,slow=19,SNR=7.9							
WRA	**Warramunga Arr**	**22.56**	**161**		P	**P**	**20 54 42.8**	**-0.8**
	6.1nm,0.5s,baz=340,slow=11,SNR=74							
ASAR	**Alice Springs**	**25.94**	**164**		P	**P**	**20 55 15.7**	**+0.4**
	1.7nm,0.5s,baz=341,slow=8.0,SNR=31							
STKA	**Stephens Creek**	**36.06**	**158**		P	**P**	**20 56 43.8**	**-0.6**
	4.2nm,0.9s,baz=329,slow=13,SNR=4.8							
MKAR	**Makanchi Array**	**59.35**	**326**		P	**P**	**20 59 43.8**	**-0.8**
	0.8nm,0.4s,baz=121,slow=7.6,SNR=26							
ZALV	**Zalesovo Beam**	**62.56**	**334**		P	**P**	**21 00 04.6**	**-1.6**
	0.4nm,0.4s,baz=134,slow=4.2,SNR=2.8							
FINES	**FINESS Array B**	**93.77**	**332**		P	**P**	**21 03 00.3**	**+1.4**
	1.4nm,1.0s,baz=56,slow=5.2,SNR=3.9							

IDC 09 20:54:44.9±1.3, 13°.47N×92°.64E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/27, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=46.9km s-min=23.4km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.83**	**50**		Pn	Pn	20 56 42.2	+2.0
	0.2nm,0.3s,baz=238,slow=14,SNR=2.8							
CMAR					Sn	Sn	20 58 07.4	-2.3
	0.2nm,0.3s,baz=239,slow=27,SNR=5.3							
H08S3	**Diego Garcia H**	**28.98**	**225**		T	T	21 31 11.7	
	baz=43,slow=76,SNR=27							
H08S2	**Diego Garcia H**	**28.99**	**225**		T	T	21 31 11.6	
	baz=43,slow=76,SNR=29							
H08S1	**Diego Carcia H**	**29.00**	**225**		T	T	21 31 13.1	
	baz=43,slow=76,SNR=23							
MKAR	**Makanchi Array**	**34.34**	**347**		P	P	21 01 31.9	-1.5
	0.2nm,0.7s,baz=155,slow=9.2,SNR=2.1							
WRA	**Warramunga Arr**	**52.78**	**128**		P	P	21 04 01.9	-0.3
	0.4nm,0.7s,baz=310,slow=7.8,SNR=11							
ASAR	**Alice Springs**	**54.69**	**132**		P	P	21 04 15.9	-0.2
	0.2nm,0.3s,baz=309,slow=6.8,SNR=4.8							
BRTR	**Keskin Array B**	**57.74**	**309**		P	P	21 04 39.2	+1.2
	0.7nm,0.8s,baz=114,slow=7.5,SNR=4.2							

*NIED **09** 20:55:00, 34°.90N×138°.00E, h20km, Mw3.8 Best double couple: M₀5.58000×10¹⁴ NP1:ϕs331.00000°, δ77.00000°, λ18.00000°. NP2:ϕs237.00000°, δ73.00000°, λ167.00000°.*
*IDC **09** 20:55:19.5±1.4, 34°.81N×137°.99E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.3/27, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=33.6km s-min=14.8km az=102.0*
*ISCJB **09** 20:55:21.4±0.5, 34°.87N±0°.04×137°.99E±0°.05, h17km±5km, mb3.5/2, Error ellipse: s-maj=6.9km s-min=5.2km az=39.8*
*JMA **09** 20:55:21.7, 34°.89N×137°.98E, h16km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs332.00000°, δ89.00000°, λ16.00000°. NP2: ϕs242.00000°, δ74.00000°, λ179.00000°. Principal axes: T Plg12.0000°, Azm198.0000°; N Plg74.0000°, Azm334.0000°; P Plg11.0000°, Azm106.0000°;*
JMA Felt III J1.

ISC 09 20:55:21.5±0.9, 34°.85N±0°.04×138°.01E±0°.04, h18km±3km, n17, σ0ᵎ89/23, 6C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKKG	**Kakegawa**	**0.07**	**206**		P	**Pg**	**20 55 24.9**	**0.0**
JKKG					S	**Sg**	**20 55 27.3**	**+0.1**
JHMK	**Hamakita**	**0.21**	**260**		P	**Pb**	**20 55 26.1**	**-0.3**
JHMK					S	**Sb**	**20 55 29.3**	**-0.2**
HMMJ	**Hamamatsu 2**	**0.24**	**271**		⇓P	**Pg**	**20 55 26.7**	**-0.4**
HMMJ					S	**Sb**	**20 55 30.1**	**-0.7**
SHZ3	**Shizuoka 3**	**0.27**	**37**		⇑P	**Pg**	**20 55 27.3**	**-0.3**
SHZ3					S	**Sg**	**20 55 31.2**	**-0.6**
JYZW	**Yoshizawa**	**0.27**	**302**		P	**Pg**	**20 55 26.9**	**-0.7**
TK04	**Tokai 4**	**0.48**	**194**		⇑P	**Pn**	**20 55 32.3**	**-1.0**
JNY	**Yasuok**	**0.52**	**346**		⇑P	**Pg**	**20 55 31.2**	**-0.8**
JNY					S	**Sg**	**20 55 37.9**	**-1.2**
TTO5	**TONANKAI O.B.S**	**0.65**	**202**		⇑P	**Pn**	**20 55 35.1**	**-0.5**
JIZS	**Izushimoda**	**0.73**	**100**		⇓P	**Pb**	**20 55 35.2**	**-0.4**
JYN	**Shimob**	**0.78**	**34**		⇑P	**Pb**	**20 55 35.8**	**-0.7**
TK02	**Tokai 2**	**0.93**	**193**		⇑P	**Pb**	**20 55 38.4**	**-0.5**
JOD2	**Odawara 2**	**0.97**	**65**		⇓P	**Pb**	**20 55 39.4**	**-0.4**
MJAR	**Matsushiro Arr**	**1.69**	**5**		Pn	**Pn**	**20 55 50.5**	**+0.3**
	24nm,0.3s,baz=189,slow=15,SNR=278							
MJAR					Lg	Lg	20 56 13.4	
	25nm,0.3s,baz=189,slow=22,SNR=13							
MAT	**Matsushiro**	**1.69**	**5**		P	**Pn**	**20 55 50.6**	**+0.4**
MAT					S	**Sb**	**20 56 13.0**	**-0.1**
JNU	**Nakatsue**	**6.17**	**256**		Pn	**Pn**	**20 56 53.5**	**+1.7**
	0.5nm,0.3s,baz=82,slow=6.5,SNR=9.2							
ILAR	**Eielson Array**	**52.80**	**31**		P	**P**	**21 04 37.6**	**+2.3**
	0.3nm,0.8s,baz=279,slow=7.6,SNR=2.7							
WRA	**Warramunga Arr**	**54.60**	**184**		P	**P**	**21 04 48.4**	**-0.6**
	0.9nm,1.0s,baz=0.6,slow=8.1,SNR=4.1							

WEL 09 21:03:19.4±0.2, 38°.74S×176°.09E, h103km±2km, ML3.9/20, 30C-16D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.13**	**304**		PN	Pn	21 03 33.8	0.0
HATZ	**Hinemaiaia**	**0.15**	**180**		⇑PN	Pn	21 03 33.4	-0.4
HATZ					SN	Sn	21 03 43.6	-0.9
ALRZ	**Allen Road**	**0.26**	**48**		⇓PN	Pn	21 03 33.6	-0.5
ALRZ					SN	Sn	21 03 44.6	-0.6
RATZ	**Rangitukua**	**0.28**	**243**		⇑PN	Pn	21 03 33.9	-0.3
WATZ	**Wairara**	**0.28**	**276**		⇑PN	Pn	21 03 34.1	-0.2
WATZ					SN	Sn	21 03 45.0	-0.3
RITZ	**Rihia Road**	**0.30**	**217**		PN	Pn	21 03 34.3	0.0
PRRZ	**Plateau Road**	**0.34**	**45**		PN	Pn	21 03 33.9	-0.5
HRRZ	**Handcock Road**	**0.38**	**24**		⇓PN	Pn	21 03 34.6	-0.1
KATZ	**Kakaramea**	**0.39**	**232**		⇑PN	Pn	21 03 34.8	-0.1
KRVZ	**Karewarewa**	**0.50**	**224**		⇑PN	Pn	21 03 35.4	-0.2
RRRZ	**Republican Roa**	**0.52**	**40**		⇓PN	Pn	21 03 35.3	-0.4
HLRZ	**Highlands Stat**	**0.53**	**23**		⇑PN	Pn	21 03 36.4	+0.7
BKZ	**Black Stump Fm**	**0.53**	**144**		⇑PN	Pn	21 03 35.4	-0.3
BKZ					SN	Sn	21 03 47.0	-1.0
BKZ					AML	AML	21 03 47.2	
OTVZ	**Oturere**	**0.54**	**218**		PN	Pn	21 03 36.1	+0.1
WTVZ	**West Tongariro**	**0.54**	**226**		⇑PN	Pn	21 03 35.7	-0.2
UTU	**Utuhina**	**0.57**	**8**		⇓PN	Pn	21 03 36.1	+0.2
NGZ	**Ngauruhoe**	**0.58**	**221**		⇑PN	Pn	21 03 36.0	-0.2
TLZ	**Tolley Road**	**0.60**	**313**		PN	Pn	21 03 36.4	+0.2
TARZ	**Mount Tarawera**	**0.60**	**33**		PN	Pn	21 03 36.1	-0.2
TWVZ	**Taurewa**	**0.61**	**237**		⇑PN	Pn	21 03 36.3	-0.1
COVZ	**Chateau Observ**	**0.63**	**223**		⇑PN	Pn	21 03 36.2	-0.3
TUVZ	**Tukino**	**0.63**	**213**		⇑PN	Pn	21 03 36.7	+0.1
WPVZ	**Whakapapa**	**0.63**	**222**		PN	Pn	21 03 36.3	-0.3
NMHZ	**Naumai**	**0.66**	**123**		⇑PN	Pn	21 03 37.3	+0.5
FWVZ	**Far West T-bar**	**0.67**	**219**		⇑PN	Pn	21 03 36.7	-0.3
OMRZ	**Omania**	**0.67**	**19**		⇓PN	Pn	21 03 36.7	-0.1
WHVZ	**Whangaehu Hut**	**0.67**	**216**		PN	Pn	21 03 36.9	-0.2
DRZ	**Dome Shelter**	**0.68**	**217**		PN	Pn	21 03 37.3	0.0
TRVZ	**Turoa**	**0.70**	**217**		PN	Pn	21 03 37.2	-0.2
WNVZ	**Wahianoa**	**0.70**	**213**		⇑PN	Pn	21 03 37.3	+0.1
MOVZ	**Moawhango**	**0.72**	**201**		⇑PN	Pn	21 03 37.0	-0.3
KARZ	**Kaharoa**	**0.73**	**10**		⇓PN	Pn	21 03 37.3	0.0
BHHZ	**Black Hill Sta**	**0.75**	**182**		⇑PN	Pn	21 03 37.3	-0.2
RAHZ	**Arahi**	**0.80**	**103**		⇓PN	Pn	21 03 38.2	+0.2
PKVZ	**Pokaka**	**0.80**	**226**		⇑PN	Pn	21 03 38.1	+0.1
MTVZ	**Mangateitei**	**0.81**	**217**		⇑PN	Pn	21 03 38.2	+0.1
EDRZ	**Edgecumbe**	**0.81**	**39**		⇓PN	Pn	21 03 37.7	-0.5
MCHZ	**McNeill Hill**	**0.85**	**146**		⇑PN	Pn	21 03 39.0	+0.6
MARZ	**Manawahe**	**0.88**	**32**		⇓PN	Pn	21 03 38.5	-0.3
URZ	**Urewera**	**0.93**	**59**		⇓PN	Pn	21 03 38.6	-0.6
URZ					AML	AML	21 03 53.8	
URZ					AML	AML	21 03 53.9	
WHHZ	**Waihua**	**0.95**	**111**

σ1⇕10/7, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.22**	**190**	Pn	**Pn**	**21 15 42.1**	**-0.7**
	2.8nm,0.3s,baz=342,slow=15,SNR=15						
DZM				Sn	**Sn**	**21 16 32.4**	**+0.8**
	1.9nm,0.3s,baz=307,slow=20,SNR=3.9						
STKA	**Stephens Creek**	**27.02**	**234**	P	**P**	**21 20 20.9**	**+0.6**
	3.0nm,0.8s,baz=54,slow=9.2,SNR=4.4						
WRA	**Warramunga Arr**	**31.15**	**261**	P	**P**	**21 20 56.0**	**-1.2**
	0.4nm,0.8s,baz=89,slow=9.4,SNR=4.7						
ASAR	**Alice Springs**	**31.63**	**254**	P	**P**	**21 21 00.9**	**-0.5**
	1.1nm,0.8s,baz=76,slow=9.2,SNR=11						
TGY	**Tagaytay City**	**55.64**	**302**	LR	LR	21 46 28.9	
	comp=Z,224nm,18.2s,baz=300,slow=34						
CMAR	**Chiang Mai Arr**	**76.21**	**295**	P	**P**	**21 26 28.1**	**+1.2**
	0.9nm,0.8s,baz=134,slow=4.4,SNR=8.7						
ILAR	**Eielson Array**	**89.53**	**18**	P	**P**	**21 27 34.6**	**-0.3**
	0.2nm,0.7s,baz=236,slow=5.5,SNR=3.3						

*IDC **09** 21:24:53.9±1.7, 17.86S×167.24E, h0km, mb4.3/4, mb1 4.4/6, mb1mx4.1/20, mbtmp4.2/6, ML4.1/2, Error ellipse: s-maj=41.4km s-min=26.0km az=123.0*
*ISCJB **09** 21:24:55.6±1.5, 17.90S±0.09×167.2E±0.2, h20km, mb4.2/4, Error ellipse: s-maj=28.1km s-min=12.2km az=176.2*

ISC 09 21:24:57.2±1.6, 17.9S±0.1×167.2E±0.2, h20km, n7, σ0§54/9, mb4.3/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.22**	**189**	Pn	**Pn**	**21 26 00.8**	**+0.3**
	5.3nm,0.3s,baz=25,slow=18,SNR=19						
DZM				Sn	**Sn**	**21 26 49.5**	**+0.2**
	8.0nm,0.3s,baz=228,slow=20,SNR=4.3						
DZM	**Mont Dzumac**	**4.22**	**189**	*e*P	**Pn**	**21 26 00.6**	**+0.1**
DZM				*e*S	**Sn**	**21 26 48.4**	**-0.9**
CTA	**Charters Tower**	**19.91**	**260**	P	**Pn**	**21 29 29.5**	**0.0**
	0.6nm,0.3s,baz=93,slow=14,SNR=7.4						
STKA	**Stephens Creek**	**26.98**	**234**	P	**P**	**21 30 38.5**	**+0.7**
	9.0nm,0.8s,baz=76,slow=9.2,SNR=16						
WRA	**Warramunga Arr**	**31.11**	**261**	P	**P**	**21 31 14.1**	**-0.5**
	1.0nm,0.7s,baz=91,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**31.59**	**254**	P	**P**	**21 31 18.9**	**0.0**
	3.7nm,0.8s,baz=79,slow=8.3,SNR=42						
ILAR	**Eielson Array**	**89.54**	**18**	P	**P**	**21 37 52.6**	**-0.1**
	0.9nm,0.7s,baz=237,slow=5.0,SNR=18						

BER 09 21:28:56.8±1.0, 66.28N×14.86E, h0km, MD1.7, ML1.3, Suspected explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOR8	**Moi Rana**	**0.20**	**237**	*e*P	Pg	21 28 57.4	-3.3
MOR8				AML	AML	21 29 03.8	
	comp=Z,177nm,0.4s						
FLOS	**Flostrand**	**0.61**	**276**	*e*P	Pg	21 29 06.8	-1.6
FLOS	**Flostrand**	**0.61**	**276**	*e*P	Pg	21 29 07.6	-0.9
KONS	**Konsvik**	**0.74**	**288**	*e*P	Pg	21 29 07.6	-3.3
KONS				*e*S	Sg	21 29 18.1	-2.2
KONS				IAML		21 29 20.4	
	comp=Z,5.3nm,0.6s						
KONS	**Konsvik**	**0.74**	**288**	*e*Pg	Pg	21 29 09.6	-1.2
KONS				*e*S	Sg	21 29 20.0	-0.4
STOK	**Stokkvaagen**	**0.75**	**275**	*e*S	Sg	21 29 20.5	-0.2
STOK				IAML		21 29 21.6	
	comp=N,5.6nm,0.5s						
STOK	**Stokkvaagen**	**0.75**	**275**	*e*P	Pg	21 29 11.2	+0.1
STOK				*e*S	Sg	21 29 19.9	-0.9
STOK				AML	AML	21 29 23.1	
	comp=E,12nm,0.7s						

*IDC **09** 21:28:59.3±0.3, 2.86N×95.95E, h0km, mb5.3/36, mb1 5.3/38, mb1mx5.3/38, mbtmp5.3/38, ML4.6/2, Error ellipse: s-maj=12.4km s-min=8.6km az=57.0*
*BJI **09** 21:28:59.6, 2.53N×95.78E, h30km, mB6.0/56, mb5.7/65, Ms6.2/80, Ms7 6.0/72*
*ISCJB **09** 21:29:00.8±0.6, 2.76N±0.02×95.88E±0.01, h17km±4km, mb5.6/288, MS5.9/207, Error ellipse: s-maj=3.4km s-min=2.4km az=19.7*
*AUST **09** 21:29:00.8±4.1, 2.50N×95.95E, h6km±29km, Error ellipse: s-maj=11.2km s-min=8.5km az=43.0*
*SZGRF **09** 21:29:02.4, 1.98N×94.95E, h19km, mb5.6, MS5.6, Off west coast of northern Sumatera, Indonesia*
*NEIC **09** 21:29:02.9±0.1, 2.76N×95.91E, h21km, mb5.7/124, ME6.0, MS5.9/140, MW6.0, MW5.9, MW6.0, Error ellipse: s-maj=4.3km s-min=3.0km az=210.0, Moment Tensor Solution. s101 Moment tensor: Scale 10¹⁷Nm; Mrr4.29; Mθθ-3.20; Mϕϕ-1.08; Mrθ4.88; Mθϕ3.01; Mϕr-4.09; Best double couple: M₀8.00000×10¹⁷ NP1:ϕs129.00000°, δ72.00000°, λ93.00000°. NP2:ϕs299.00000°, δ19.00000°, λ80.00000°. Principal axes: T 7.4800, Plg63.0000°, Azm44.0000°; N 1.0200, Plg3.0000°, Azm308.0000°; P -8.4900, Plg26.0000°, Azm216.0000°; Broadband fault plane solution: P waves. NP1:ϕs310.00000°, δ15.00000°, λ90.00000°. NP2:ϕs130.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm40.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm220.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*MOS **09** 21:29:03.2±1.1, 2.86N×96.02E, h33km, mb5.9/87, MS5.7/60 Error ellipse: s-maj=7.1km s-min=3.8km az=119.0*
*BKK **09** 21:29:04.0±0.2, 3°N±2°×9°E±°, h10km, M5.7/52, mb5.6/52, mB6.0/48, MLv5.8/10, Mw(mB)5.7/48*
*DJA **09** 21:29:05.3±0.2, 3°N±3°×9°E±°, h10km, M5.7/90, mb5.7/90, mB6.1/75, MLv5.9/12, Mw(mB)5.7/75, Mwp6.0/18*
*NEIC **09** 21:29:05.0±0.0, 2.75N×95.97E, h20km Best double couple: NP1:ϕs135.00000°, δ82.00000°, λ90.00000°. NP2:ϕs313.00000°, δ7.00000°, λ88.00000°. Principal axes: T 1.1400, Plg52.0000°, Azm45.0000°; N 0.0600, Plg0.0000°, Azm315.0000°; P -1.1900, Plg37.0000°, Azm225.0000°;*
*GCMT **09** 21:29:06.3±0.1, 2.40N×95.70E, h23km, MW5.9, Moment Tensor Solution. s123,c254; s50,c61; Moment tensor: Scale 10¹⁷Nm; Mrr4.89±.08; Mθθ-3.26±.05; Mϕϕ-1.63±.06; Mrθ5.04±.14; Mθϕ2.55±.04; Mϕr-5.18±.15; Best double couple: M₀8.80000×10¹⁷ NP1:ϕs134.00000°, δ73.00000°, λ95.00000°. NP2:ϕs298.00000°, δ18.00000°, λ74.00000°. Principal axes: T 8.7300, Plg62.0000°, Azm52.0000°; N 0.1300, Plg5.0000°, Azm313.0000°; P -8.8600, Plg28.0000°, Azm220.0000°; Data Used: II IU CN CU IC G. Surface waves: sta=126, comp=255, per= 50.*
*NEIC **09** 21:29:20.8±0.0, 2.08N×95.01E, h25km Best double couple: NP1:ϕs281.00000°, δ11.00000°, λ56.00000°. NP2:ϕs135.00000°, δ81.00000°, λ96.00000°. Principal axes: T 1.2700, Plg53.0000°, Azm52.0000°; N -0.0400, Plg6.0000°, Azm314.0000°; P -1.2300, Plg35.0000°, Azm219.0000°;*

ISC 09 21:29:03.5±0.3, 2.75N±0.03×95.90E±0.03, h25km±1km, h25km:pP-P, n1400, σ1§56/1455, mb5.7/289, MS5.9/207, 77C-34D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.54**	**128**	P	**Pb**	**21 29 14.0**	**-0.4**
TPTI		**1.37**	**68**	P	**Pn**	**21 29 26.3**	**-0.7**
KCSI	**Kotacane, Aceh**	**2.02**	**68**	P	**Pn**	**21 29 36.4**	**+0.5**
GSI	**Gunungsitoli**	**2.20**	**131**	*e*Pn	**Pn**	**21 29 37.1**	**-1.4**
GSI				*e*Sn	**Sn**	**21 30 00.7**	**-4.2**
LHMI	**Lhok Sumawe**	**2.68**	**23**	⇓P	**Pn**	**21 29 46.9**	**+1.9**
	baz=2.9,SNR=145						
TSI	**Tuntungan**	**2.76**	**74**	P	**Pn**	**21 29 47.8**	**+1.7**
PSI	**Prapat**	**3.02**	**89**	P	**Pn**	**21 29 50.0**	**+0.2**
PSI	**Prapat**	**3.02**	**89**	Pn	**Pn**	**21 29 49.4**	**-0.4**
PSI	**Prapat**	**3.02**	**89**	Pn	**Pn**	**21 29 49.4**	**-0.4**
	96nm,0.3s,baz=287,slow=6.3,SNR=171						
PSI	**Prapat**	**3.02**	**89**	⇑P	**Pn**	**21 29 50.3**	**+0.5**
	baz=3.0,SNR=271						
MNSI	**Mandailing Nat**	**4.16**	**118**	P	**Pn**	**21 30 04.8**	**-0.5**
CMBY	**CAMPBELL BAY**	**4.67**	**335**	*e*P	**Pn**	**21 30 10.8**	**-1.6**
CMBY				AMB	AMB	21 31 18.0	
	comp=Z,2μm,1.1s						

KULM	**Kulim**	**5.37**	**62**	P	**Pn**	**21 30 23.4**	**+1.4**
KULM	**Kulim**	**5.37**	**62**	P	**Pn**	**21 30 22.7**	**+0.7**
	comp=Z,3μm,1.1s,comp=Z,22μmcomp=Z,7.4nm						
KULM	**Kulim**	**5.37**	**62**	⇑*i*Pn	**Pn**	**21 30 22.8**	**+0.8**
KULM				*e*Sn	**Sn**	**21 31 25.2**	**+2.2**
IPM	**Ipoh**	**5.39**	**71**	P	**Pn**	**21 30 23.8**	**+1.4**
IPM	**Ipoh**	**5.39**	**71**	P	**Pn**	**21 30 23.0**	**+0.6**
	comp=Z,3μm,1.1s,comp=Z,31μmcomp=Z,196μmcomp=Z,10nm						
IPM	**Ipoh**	**5.39**	**71**	⇑*i*Pn	**Pn**	**21 30 23.1**	**+0.7**
IPM				*e*Sn	**Sn**	**21 31 27.1**	**+3.4**
PPI	**Padang Panjang**	**5.51**	**125**	P	**Pn**	**21 30 24.1**	**+0.2**
	comp=Z,1μm,1.1s,comp=Z,19μmcomp=Z,63μmcomp=Z,6.0nm						
PKDT	**Phuket**	**5.66**	**25**	P	**Pn**	**21 30 26.5**	**+0.5**
	comp=Z,1μm,1.1s,comp=Z,19μmcomp=Z,4.4nm						
BKNI	**Bangkinang**	**5.67**	**115**	P	**Pn**	**21 30 26.0**	**-0.2**
	comp=Z,2μm,1.1s,comp=Z,24μmcomp=Z,78μmcomp=Z,15nm						
FRIM	**Kepong**	**5.74**	**85**	P	**Pn**	**21 30 28.4**	**+1.3**
SURT	**Suratani**	**6.81**	**25**	P	**Pn**	**21 30 42.7**	**+0.9**
	comp=Z,251nm,0.9s,comp=Z,5μmcomp=Z,1.3nm						
RGRI	**Rengat**	**7.13**	**115**	P	**Pn**	**21 30 45.6**	**-0.6**
	comp=Z,749nm,0.5s,comp=Z,74μmcomp=Z,27μmcomp=Z,7.2nm						
KGM	**Kluang**	**7.45**	**95**	P	**Pn**	**21 30 51.8**	**+1.2**
KTGM	**Kuala Trenggan**	**7.66**	**70**	P	**Pn**	**21 30 55.1**	**+1.6**
BTDF	**Bukit Timah Da**	**7.99**	**100**	⇓P	**Pn**	**21 30 58.0**	**0.0**
	baz=7.9,SNR=36						
BTDF				⇓P	**Pn**	**21 30 58.0**	**0.0**
	baz=7.9,SNR=36						
MYKOM	**Kota Tinggi**	**8.00**	**97**	P	**Pn**	**21 30 58.8**	**+0.6**
MYKOM	**Kota Tinggi**	**8.00**	**97**	P	**Pn**	**21 30 59.0**	**+0.8**
	comp=Z,503nm,1.2s,comp=Z,7μmcomp=Z,87μmcomp=Z,2.1nm						
MYKOM	**Kota Tinggi**	**8.00**	**97**	*e*Pn	**Pn**	**21 30 58.7**	**+0.6**
MYKOM				*e*Sn	**Sn**	**21 32 28.0**	**+0.1**
JMBI	**JAMBI**	**8.88**	**119**	P	**Pn**	**21 31 12.3**	**+2.1**
	comp=Z,852nm,1.1s,comp=Z,13μmcomp=Z,5.0nm						
PBA	**Port Blair**	**9.39**	**341**	*e*P	**Pn**	**21 31 15.6**	**-1.6**
PBA				AMB	AMB	21 31 39.4	
	comp=Z,153nm,0.0s						
MNAI	**Manna**	**9.98**	**135**	P	**Pn**	**21 31 25.1**	**-0.2**
	comp=Z,2μm,0.8s,comp=Z,24μm						
MNAI	**Manna**	**9.98**	**135**	*e*Pn	**Pn**	**21 31 23.9**	**-1.5**
MNAI				*e*Sn	Sn	21 33 08.8	-7.8
MNAI	**Manna**	**9.98**	**135**	⇑P	**Pn**	**21 31 23.4**	**-1.9**
	baz=9.8,SNR=129						
LHSI	**Lahat**	**10.03**	**131**	P	**Pn**	**21 31 25.3**	**-0.8**
	comp=Z,936nm,0.8s,comp=Z,10μmcomp=Z,19μm						
DGPR	**DIGLIPUR**	**10.77**	**344**	*e*P	Pn	21 31 32.6	-3.6
DGPR				AMB	AMB	21 31 59.9	
	comp=Z,203nm,2.5s						
MDSI	**Maura Dua**	**10.96**	**131**	P	**Pn**	**21 31 36.4**	**-2.3**
	comp=Z,513nm,0.7s,comp=Z,5μm						
LWLI	**Liwa**	**11.22**	**133**	P	**Pn**	**21 31 40.2**	**-2.3**
	comp=Z,2μm,0.7s,comp=Z,14μm						
PATY	**Pattaya**	**11.24**	**26**	P	**Pn**	**21 31 45.5**	**+2.9**
	comp=Z,58nm,0.9s,comp=Z,608nm						
KLSI		**11.51**	**130**	P	**Pn**	**21 31 44.3**	**-2.0**
	comp=Z,342nm,0.7s,comp=Z,4μm						
CHBT	**CHBT**	**11.80**	**32**	P	**Pn**	**21 31 52.6**	**+2.3**
	comp=Z,322nm,0.9s,comp=Z,5μm						
KASI	**Kota Agung**	**11.88**	**134**	P	**Pn**	**21 31 48.6**	**-2.8**
	comp=Z,520nm,0.7s,comp=Z,5μmcomp=Z,13μm						
KHLT	**Khaolaem Dam**	**12.26**	**12**	P	**Pn**	**21 31 57.8**	**+1.2**
	comp=Z,58nm,1.6s,comp=Z,2μm						
BLSI	**Bandar Lampung**	**12.33**	**131**	P	**Pn**	**21 31 57.0**	**-0.6**
	comp=Z,226nm,0.8s,comp=Z,4μmcomp=Z,9μm						
CHAI	**Chaiyaphum**	**14.38**	**24**	P	**Pn**	**21 32 27.1**	**+1.6**
	comp=Z,70nm,0.8s						
SKJI	**Sukabumi**	**14.38**	**132**	P	**Pn**	**21 32 24.7**	**-1.0**
	comp=Z,260nm,0.6s,comp=Z,4μm						
KSM	**Kuching**	**14.45**	**95**	P	**Pn**	**21 32 28.1**	**+1.6**
KSM	**Kuching**	**14.45**	**95**	P	**Pn**	**21 32 29.1**	**+2.5**
	comp=Z,200nm,0.7s,comp=Z,4μmcomp=Z,29μm						
KSM	**Kuching**	**14.45**	**95**	⇑*i*Pn	**Pn**	**21 32 26.3**	**-0.2**
KSM				*e*Sn	Sn	21 34 54.9	-11
PBKT	**Sadao Pong**	**14.61**	**20**	P	**Pn**	**21 32 29.0**	**+0.3**
	comp=Z,210nm,1.0s,comp=Z,6μm						
LEM	**Lembang**	**15.07**	**129**	P	**Pn**	**21 32 33.8**	**-1.3**
	comp=Z,89nm,1.1s,comp=Z,3μm						
LEM	**Lembang**	**15.07**	**129**	⇑P	**Pn**	**21 32 32.1**	**-3.0**
	baz=15,SNR=4.7						
UBPT	**Khong Chiam**	**15.62**	**37**	P	**Pn**	**21 32 42.5**	**+0.4**
	comp=Z,536nm,0.9s						
CISI	**Cisompet, Garu**	**15.69**	**131**	P	**Pn**	**21 32 38.7**	**-4.3**
CISI	**Cisompet, Garu**	**15.69**	**131**	*e*Pn	Pn	21 32 36.4	-6.6
	comp=Z,130nm,0.7s						
PALK	**Pallekele**	**15.79**	**287**	P	**P**	**21 32 49.2**	**+1.1**
	comp=Z,989nm,1.0s,SNR=5.3						
PALK	**Pallekele**	**15.79**	**287**	*e*Pn	**Pn**	**21 32 45.9**	**+1.5**
	comp=Z,602nm,1.2s						
STKI	**Sintang**	**15.79**	**99**	P	**Pn**	**21 32 46.1**	**+1.7**
	comp=Z,598nm,0.9s,comp=Z,10μmcomp=Z,24μm						
CMAR	**Chiang Mai Arr**	**15.89**	**11**	Pn	**Pn**	**21 32 44.4**	**-1.2**
CMAR				ScP	**ScP**	**21 41 18.4**	**+2.0**
CMAR	**Chiang Mai Arr**	**15.89**	**11**	Pn	**Pn**	**21 32 44.4**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=196,slow=14,SNR=73						
CMAR				ScP	**ScP**	**21 41 18.4**	**+2.0**
	baz=231,slow=3.1,SNR=4.6						
LAMP	**Lampang**	**16.10**	**13**	P	**Pn**	**21 32 48.4**	**+0.2**
	comp=Z,86nm,0.9s,comp=Z,533nm						
CHTO	**Chiang Mai**	**16.24**	**10**	Pn	**Pn**	**21 32 49.4**	**-0.7**
	SNR=90						
CHTO	**Chiang Mai**	**16.24**	**10**	⇑*i*P	**Pn**	**21 32 49.3**	**-0.8**
CHTO				*e*		21 35 48.0	
CHTO				pmax	pmax		
	comp=Z,44nm,1.0s						
CHTO	**Chiang Mai**	**16.24**	**10**	⇑*i*Pn	**Pn**	**21 32 49.3**	**-0.8**
	comp=Z,44nm,1.0s						
CHTO				*e*Sn	**Sn**	**21 35 48.0**	**-1.6**
CHTO	**Chiang Mai**	**16.24**	**10**	P	**Pn**	**21 32 49.0**	**-1.1**
	comp=Z,608nm,1.4s,comp=Z,22μm						
CMMT	**Chiang Mai**	**16.24**	**10**	P	**Pn**	**21 32 48.9**	**-1.2**
	comp=Z,229nm,0.9s,comp=Z,5μm						
TGJI	**Tegal**	**16.29**	**126**	P	**Pn**	**21 32 51.6**	**+0.9**
	comp=Z,174nm,0.9s,comp=Z,2μm						
SBUM	**Sibu**	**16.30**	**91**	P	**Pn**	**21 32 51.7**	**+0.8**
SBUM	**Sibu**	**16.30**	**91**	P	**Pn**	**21 32 52.2**	**+1.3**
	comp=Z,150nm,1.3s,comp=Z,7μmcomp=Z,55μm						
SBUM	**Sibu**	**16.30**	**91**	*e*Pn	**Pn**	**21 32 51.1**	**+0.2**
	comp=Z,188nm,0.9s						
CMJI	**Cimerak**	**16.31**	**130**	P	**Pn**	**21 32 48.8**	**-2.2**
	comp=Z,127nm,1.0s,comp=Z,2μm						
XMI	**Christmas Isla**	**16.33**	**144**	⇑P	**Pn**	**21 32 47.3**	**-4.0**
	baz=16,SNR=5.1						
XMIS	**Christmas Isla**	**16.34**	**144**	*e*Pn	Pn	21 32 45.2	-6.1
	comp=Z,359nm,1.6s						
KPJI	**Karang Pucung**	**16.41**	**128**	P	**Pn**	**21 32 50.2**	**-2.0**
	comp=Z,125nm,1.3s,comp=Z,2μm						
PBKI	**Pangkalan Bun**	**16.67**	**109**	P	**P**	**21 32 58.1**	**+0.4**
	comp=Z,850nm,1.7s,comp=Z,12μm						
BJII	**Banjamegara**	**17.03**	**126**	P	**Pn**	**21 32 59.1**	**-1.1**
	comp=Z,64nm,0.8s,comp=Z,2μm						
BTM	**Bintulu**	**17.16**	**88**	P	**P**	**21 33 04.2**	**+1.0**
CMAI	**Chiengmai2**	**17.35**	**10**	P	**Pn**	**21 33 03.6**	**-0.6**
	comp=Z,370nm,0.9s,comp=Z,15μm						
SMRI	**Semarang**	**17.47**	**124**	P	**P**	**21 33 06.7**	**+0.1**
	comp=Z,374nm,1.2s,comp=Z,5μm						
SMRI	**Semarang**	**17.47**	**124**	*e*Pn	**Pn**	**21 33 06.1**	**+0.5**
	comp=Z,461nm,1.2s						
CRAI	**Chiangrai**	**17.91**	**14**	P	**Pn**	**21 33 10.7**	**-0.3**
	comp=Z,411nm,0.7s,comp=Z,21μm						
UGM	**Wanagama**	**18.02**	**126**	⇑P	**Pn**	**21 33 09.4**	**-3.1**
	baz=18,SNR=19						
WOJI	**Wonogiri, Jawa**	**18.31**	**125**	P	**Pn**	**21 33 17.4**	**+1.5**
	comp=Z,119nm,1.2s,comp=Z,8μm						
NGJI	**Ngawi**	**18.49**	**123**	P	**Pn**	**21 33 21.7**	**+3.6**
	comp=Z,298nm,1.4s,comp=Z,4μm						
MDRS	**Chennai**	**18.57**	**304**	*e*P	**Pn**	**21 33 19.0**	**-0.1**
SJI	**Sawahan**	**18.95**	**123**	P	**Pn**	**21 33 23.7**	**0.0**
	comp=Z,126nm,1.0s,comp=Z,9μm						
PWJI	**Pagerwojo**	**19.13**	**124**	P	**P**	**21 33 25.2**	**+0.3**
	comp=Z,88nm,0.7s,comp=Z,2μm						
VIS	**Vishakhapatnam**	**19.33**	**321**	*e*P	**Pn**	**21 33 28.1**	**-0.2**
VIS				AMB	AMB	21 33 33.2	
	comp=Z,144nm,0.5s						
VIS				*i*		21 36 54.5	
MTKI	**Muara Teweh, K**	**19.34**	**101**	P	**Pn**	**21 33 28.6**	**+0.2**
	comp=Z,650nm,0.7s,comp=Z,13μm						
TRD	**Trivandrum**	**19.70**	**288**	*e*P	**P**	**21 33 30.7**	**-0.4**
KRKI	**Karangkates**	**19.74**	**123**	P	Pn	21 33 39.1	+5.9
	comp=Z,142nm,0.7s,comp=Z,16μm						
BBKI	**Banjar Baru**	**19.91**	**108**	P	**P**	**21 33 34.3**	**+0.9**
	comp=Z,747nm,0.9s,comp=Z,16μm						
BWNR	**Bhubaneshwar**	**20.03**	**331**	*e*	P	21 33 28.0	-6.7
BWNR				*e*		21 36 00.0	
KMMI	**Kalianget**	**20.49**	**118**	P	Pn	21 33 41.5	-0.5
	comp=Z,411nm,1.4s,comp=Z,7μm						
BLJI	**Banyuglugur**	**20.50**	**121**	P	Pn	21 33 44.2	+2.1
	comp=Z,163nm,1.4s,comp=Z,4μm						

KKM	**Kota Kinabalu**	**20.51**	**80**	P	**P**	**21 33 40.4**	**+0.3**
KKM	**Kota Kinabalu**	**20.51**	**80**	P	Pn	21 33 41.9	-0.5
	comp=Z,430nm,1.0s,comp=Z,8μmcomp=Z,71μm						
KKM	**Kota Kinabalu**	**20.51**	**80**	⇑*i*P	**P**	**21 33 39.8**	**-0.3**
	comp=Z,421nm,1.0s						
KKM				*e*S	**S**	**21 37 27.7**	**-1.1**
KKM				LR	LR		
	comp=Z,13μm,19.0s						
KKM	**Kota Kinabalu**	**20.51**	**80**	P	**P**	**21 33 40.2**	**+0.1**
	baz=20,SNR=15						
QIZ	**Qiongzhong**	**21.16**	**39**	P	**P**	**21 33 48.2**	**+1.2**
QIZ				S	**S**	**21 37 43.4**	**+2.1**
QIZ				LR	LR		
	comp=Z,50μm,15.6s						
QIZ				LR	LR		
	comp=Z,37μm,16.7s						
QIZ				LR	LR		
	comp=Z,42μm,18.4s						
QIZ	**Qiongzhong**	**21.16**	**39**	PFAKE		21 34 00.0	+13
QIZ				LR	LR		
	comp=Z,42μm,19.0s						
KDM	**Kudat**	**21.26**	**78**	P	**P**	**21 33 48.7**	**+0.6**
BKB	**Balikpapan**	**21.36**	**100**	P	**P**	**21 33 52.2**	**+3.0**
	comp=Z,1μm,1.1s,comp=Z,19μm						
SDKM	**Sandakan**	**21.43**	**82**	P	**P**	**21 33 50.3**	**+0.3**
SGKI	**Sangatta, Kali**	**21.94**	**98**	P	**P**	**21 33 57.9**	**+2.5**
	comp=Z,482nm,1.3s,comp=Z,10μm						
TSM	**Tawau**	**21.98**	**85**	P	**P**	**21 33 56.9**	**+1.0**
IMP	**Imphal**	**21.99**	**355**	*e*P9	**P**	**21 33 56.0**	**+0.1**
IMP				*e*S	**S**	**21 37 54.0**	**-3.5**
SRBI	**Singaraja**	**22.06**	**119**	P	**P**	**21 33 59.5**	**+2.8**
	comp=Z,322nm,1.0s,comp=Z,4μm						
HYB	**Hyderabad**	**22.42**	**312**	*i* P	**P**	**21 34 03.0**	**+2.5**
	comp=Z,93nm,0.5s						
HYB				*e*S	**S**	**21 38 08.0**	**+2.4**
HYB				LR	LR	21 41 32.0	
	comp=Z,28nm,20.0s						
HYB	**Hyderabad**	**22.42**	**312**	*e*P	**P**	**21 34 02.0**	**+1.4**
HYB				AMB	AMB	21 34 13.2	
	comp=Z,124nm,0.9s						
KHKI	**Kahang-Kahang**	**22.54**	**119**	P	**P**	**21 34 04.0**	**+2.2**
	comp=Z,194nm,0.8s,comp=Z,3μm						
MYLDM	**Lahad Datu**	**22.67**	**83**	P	**P**	**21 34 04.0**	**+0.8**
MYLDM	**Lahad Datu**	**22.67**	**83**	P	**P**	**21 34 04.0**	**+0.8**
	comp=Z,630nm,1.0s,comp=Z,10μmcomp=Z,58μm						
MYLDM	**Lahad Datu**	**22.67**	**83**	*e*P	**P**	**21 34 03.5**	**+0.3**
	comp=Z,505nm,1.0s						
KAAM	**Kaadhehdhoo**	**23.01**	**265**	P	**P**	**21 34 10.7**	**+4.0**
	comp=Z,321nm,1.3s,comp=Z,10μm						
SHL	**Shillong**	**23.02**	**351**	*e*P	**P**	**21 34 06.5**	**-0.4**
SHL				AMB	AMB	21 34 11.1	
	comp=Z,332nm,1.4s						
SHL				*ex*	**S**	**21 38 15.0**	**-1.2**
BOK	**Bokaro**	**23.06**	**336**	*e*P	**P**	**21 34 06.2**	**-0.9**
BOK				AMB	AMB	21 34 09.5	
	comp=Z,731nm,4.8s						
MTNI	**Mataram**	**23.16**	**119**	P	**P**	**21 34 07.8**	**-0.4**
	comp=Z,80nm,0.8s,comp=Z,2μm						
KMI	**Kunming**	**23.20**	**16**	P	**P**	**21 34 08.9**	**+0.1**
KMI				pP	**pP**	**21 34 18.1**	**+2.1**
KMI				sP	**sP**	**21 34 22.8**	**+3.6**
KMI				PP	**PnPn**	**21 34 37.1**	**+2.3**
KMI				S	**S**	**21 38 15.0**	**-4.5**
KMI				pmax	pmax		
	comp=Z,220nm,1.2s						
KMI				pmax	pmax		
	comp=Z,4μm,6.3s						
KMI				LR	LR		
	comp=Z,47μm,15.2s						
KMI				LR	LR		
	comp=Z,23μm,12.7s						
KMI				LR	LR		
	comp=Z,49μm,15.5s						
MMSI	**Mamuju**	**23.62**	**103**	P	**P**	**21 34 13.5**	**+0.6**
	comp=Z,414nm,0.8s,comp=Z,11μm						
MJSI	**Majene**	**23.90**	**105**	P	**P**	**21 34 15.7**	**+0.2**
	comp=Z,854nm,2.1s,comp=Z,19μmcomp=Z,26μm						
PCI	**Palu**	**24.20**	**98**	P	**P**	**21 34 19.5**	**+1.2**
	comp=Z,9μm,0.9s,comp=Z,184μm						
NGP	**Nagpur**	**24.57**	**319**	*e*P	**P**	**21 34 22.1**	**+0.5**
NGP				*ex*	x	21 34 31.8	
	comp=Z,189nm,0.9s						
NGP				*ex*	x	21 38 32.7	
TTSI	**Tana Toraja**	**24.59**	**103**	P	**P**	**21 34 24

comp=Z,813nm,1.0s
DMN Daman 26.79 338 *e*P **P** **21 34 42.5 +0.6**
comp=Z,813nm,1.0s
GUN Gumba 26.79 340 *e*P **P** **21 34 42.5 +0.5**
comp=Z,2μm,1.0s
GUN Gumba 26.79 340 *e*P **P** **21 34 42.5 +0.5**
comp=Z,2μm,1.0s
KKN Kakani 26.89 339 *e*P **P** **21 34 43.2 +0.4**
comp=Z,1μm,1.0s
KKN Kakani 26.89 339 *e*P **P** **21 34 43.2 +0.4**
KKN Kakani 26.89 339 *e*P **P** **21 34 43.2 +0.4**
comp=Z,1μm,1.0s
BHPL Bhopal 27.12 320 *e*P **P** **21 34 46.1 +1.4**
BHPL AMB AMB 21 34 48.2
comp=Z,57nm,6.4s
LUWI Luwuk 27.12 98 P **P** **21 34 45.7 +0.9**
comp=Z,297nm,1.2s,comp=Z,5μm
TGY Tagaytay City 27.17 64 P **P** **21 34 44.8 -0.5**
TGY Tagaytay City 27.17 64 P **P** **21 34 44.8 -0.5**
comp=Z,553nm,1.0s,baz=211,slow=3.1,SNR=14
LSA Lhasa 27.18 351 P **P** **21 34 45.9 +0.2**
LSA pP **pP** **21 34 55.1 +1.9**
LSA S **S** **21 39 28.1 +4.7**
LSA pmax pmax
comp=Z,380nm,1.0s
LSA LR LR
comp=Z,6μm,22.0s
LSA LR LR
comp=Z,12μm,22.0s
LSA LR LR
comp=Z,21μm,22.0s
LSA Lhasa 27.18 351 PFAKE 21 35 00.0 +14
LSA LR LR
comp=Z,23μm,21.0s
GKN Gorkha 27.32 338 *e*P **P** **21 34 47.2 +0.6**
comp=Z,2μm,1.0s
GKN Gorkha 27.32 338 *e*P **P** **21 34 47.2 +0.6**
comp=Z,2μm,1.0s
KOLN Koldanda 27.52 336 *e*P **P** **21 34 49.0 +0.6**
comp=Z,626nm,0.8s
KOLN Koldanda 27.52 336 *e*P **P** **21 34 49.0 +0.6**
comp=Z,626nm,0.8s
GUIM Jordan 27.61 72 *e*P **P** **21 34 52.5 +3.3**
LQP Lukban 27.72 64⇑*e*P **P** **21 34 50.5 +0.1**
BBSI Bau Bau 27.86 107 P **P** **21 34 54.5 +3.1**
comp=Z,254nm,1.1s,comp=Z,4μm,comp=Z,13μm
DANN Dangsing 27.97 337 *e*P **P** **21 34 53.0 +0.4**
comp=Z,558nm,0.8s
DANN Dangsing 27.97 337 *e*P **P** **21 34 53.0 +0.4**
comp=Z,558nm,0.8s
RCP Roxas 28.01 70⇑*e*P **P** **21 34 52.7 0.0**
PYUN Piuthan 28.06 335 *e*P **P** **21 34 53.7 +0.4**
comp=Z,917nm,0.8s
PYUN Piuthan 28.06 335 *e*P **P** **21 34 53.7 +0.4**
comp=Z,917nm,0.8s
KMSI Cibinong 28.15 94 P P 21 34 57.8 +3.8
comp=Z,534nm,0.9s,comp=Z,6μm,comp=Z,13μm
GQP Guinayangan 28.47 66⇓*e*P **P** **21 34 57.1 +0.3**
MMRI Maumere 28.59 114 P **P** **21 34 57.4 -0.5**
comp=Z,117nm,1.3s
MMRI Maumere 28.59 114 *e*P P 21 34 54.6 -3.2
comp=Z,201nm,1.3s
CD2 Chengdu 28.98 14 P **P** **21 35 00.2 -1.0**
CD2 pP **pP** **21 35 10.8 +2.0**
CD2 sP **sP** **21 35 14.9 +3.0**
CD2 PP **PnPn** **21 35 55.6 +2.1**
CD2 PcP **PcP** **21 38 08.2 -1.5**
CD2 S **S** **21 39 48.6 -2.2**
CD2 sS **sS** **21 40 05.6 +2.3**
CD2 SS **SnSn** **21 41 19.6 +4.6**
CD2 ScS **ScS** **21 45 38.2 -5.5**
CD2 pmax pmax
comp=Z,390nm,1.2s
CD2 pmax pmax
comp=Z,3μm,10.8s
CD2 LR LR
comp=Z,46μm,14.3s
CD2 LR LR
comp=Z,36μm,19.0s
CD2 LR LR
comp=Z,49μm,14.3s
CGP Cagayan de Oro 29.20 78 *e*P **P** **21 35 02.6 -0.7**
BUKP Musuan 29.47 79 *e*P **P** **21 35 06.3 +0.6**
OCLP Ormoc 29.64 72 *e*P P 21 35 10.9 +3.7
MSLP Maasin 29.67 74 *e*P P 21 35 11.2 +3.7
DAV Davao City (W) 29.87 81 P **P** **21 35 11.3 +2.0**
SNR=7.8
DAV Davao City (W) 29.87 81 PFAKE 21 35 20.0 +11
DAV LR LR
comp=Z,11μm,19.0s
PLP Palo 30.02 72⇓*e*P **P** **21 35 11.0 +0.4**
ENH Enshi 30.25 24 PFAKE 21 35 20.0 +7.5
ENH LR LR
comp=Z,837nm,20.0s
LGTI Lohaghat 30.44 332 *e*P3 **P** **21 35 16.8 +2.7**
QZH Quanzhou 31.07 43⇑*i*P P 21 35 15.4 -4.3
QZH S **S** **21 40 19.0 -4.6**
QZH LR LR
comp=Z,65μm,14.5s
QZH LR LR
comp=Z,28μm,13.5s
QZH LR LR
comp=Z,73μm,13.1s
NDI New Delhi 31.34 327 *ex* **P** **21 35 21.0 -1.1**
NDI *ex* x 21 35 44.7
NDI *ex* **S** **21 40 28.0 +0.2**
TNTI Ternate 31.51 93 *e*P **P** **21 35 25.4 +1.6**
comp=Z,49nm,0.9s
TWG Pinlang 31.52 49 P **P** **21 35 22.2 -1.5**
comp=Z,270nm,0.8s
NLAI Namlea 31.75 101 P **P** **21 35 28.8 +3.0**
comp=Z,138nm,0.8s,comp=Z,2μm
LBMI Labuha 31.77 96 P **P** **21 35 27.6 +1.6**
comp=Z,223nm,1.7s,comp=Z,3μm
SSLB Suanglung 32.00 47 *e*P **P** **21 35 26.8 -1.2**
comp=Z,44nm,0.9s
SSLB *e*PcP **PcP** **21 38 18.4 +0.7**
SSLB *e*S **S** **21 40 38.1 -0.3**
YULB Yu-li 32.02 48⇑*e*P **P** **21 35 27.1 -1.0**
comp=Z,77nm,0.8s
YULB *e*PP **PP** **21 36 40.9 +0.1**
YULB *e*PcP **PcP** **21 38 18.7 +0.9**
YULB *e*S **S** **21 40 35.7 -2.9**
DDI Dehra Dun 32.22 330 *e*P **P** **21 35 29.2 -0.7**
DDI AMB AMB 21 35 34.2
comp=Z,171nm,0.4s
BHJ Bhuj 32.58 311 *e*P **P** **21 35 33.8 +0.7**
WHN Wuhan 32.70 30 ⇑P **P** **21 35 33.5 -0.4**
WHN PP **PnPn** **21 36 42.0 -0.4**
WHN LR LR
comp=Z,36μm,14.8s
WHN LR LR
comp=Z,27μm,13.9s
WHN LR LR
comp=Z,61μm,13.6s
YHNB Yeheng 32.84 46 PFAKE 21 35 50.0 +15
YHNB LR LR
comp=Z,17μm,19.0s
TATO Taipei 33.11 46 PFAKE 21 35 50.0 +12
TATO LR LR
comp=Z,14μm,20.0s
MBWA Marble Bar 33.30 137 *e*P **P** **21 35 40.0 +0.6**
comp=Z,80nm,1.3s
MBWA LR LR
comp=Z,16μm,19.0s
SMLA Simla 33.31 330 *i*P **P** **21 35 39.4 +0.1**
SMLA AMB AMB 21 35 46.2
comp=Z,486nm,0.4s
SMLA *i*S **S** **21 41 00.2 +1.7**
XAN Xi'an 33.42 20 P **P** **21 35 38.9 -1.4**
XAN PP **PnPn** **21 36 52.2 +0.5**
XAN S **S** **21 41 02.7 +2.5**
XAN pmax pmax
comp=Z,73nm,1.0s
XAN pmax pmax
comp=Z,530nm,9.2s
XAN LR LR
comp=Z,13μm,18.4s
XAN LR LR
comp=Z,8μm,16.4s
XAN LR LR
comp=Z,6μm,17.4s
MSAI Masohi 33.56 100 P **P** **21 35 41.9 +0.1**
comp=Z,28nm,0.7s,comp=Z,548nm
YOJ Yonaguni jima 33.91 48 *e*P **P** **21 35 44.4 -0.3**
YOJ *e* 21 38 23.5
YOJ pmax pmax
comp=Z,35nm,1.0s
YOJ Yonaguni jima 33.91 48 *e*P **P** **21 35 44.4 -0.3**
comp=Z,35nm,1.0s
YOJ *e*PcP **PcP** **21 38 23.5 +0.5**
LZH Lanzhou 33.98 12⇑P **P** **21 35 44.6 -0.7**
LZH pP **pP** **21 35 57.4 +4.5**
LZH sP sP 21 36 02.8 +6.8
LZH PP **PnPn** **21 36 59.9 +1.1**
LZH S **S** **21 41 08.1 -1.0**
LZH sS **sS** **21 41 21.1 -0.5**
LZH SS **SnSn** **21 43 14.2 -2.4**
LZH ScS **ScS** **21 46 07.6 -1.0**
LZH pmax pmax
comp=Z,470nm,1.0s
LZH pmax pmax
comp=Z,1μm,4.0s
LZH LR LR
comp=Z,11μm,13.0s
LZH LR LR
comp=Z,18μm,13.2s
LZH LR LR
comp=Z,23μm,17.2s
DHRM DHARAMSHALA 34.65 330 *e*P **P** **21 35 50.3 -0.9**
DHRM AMB AMB 21 36 02.3
comp=Z,168nm,2.9s
SWI Sorong 35.53 95 P **P** **21 35 59.2 +0.4**
comp=Z,211nm,1.0s,comp=Z,3μm
FITZ Fitzroy Crossi 35.88 126 *e*P **P** **21 36 00.3 -1.4**
comp=Z,39nm,0.8s
NJ2 Nanjing 36.27 34 *e*P **P** **21 36 05.4 +0.5**
NJ2 pP **pP** **21 36 09.6 -2.9**
NJ2 S **S** **21 41 47.3 +3.2**
NJ2 pmax pmax
comp=Z,40nm,0.8s
NJ2 pmax pmax
comp=Z,1μm,6.3s
NJ2 LR LR
comp=Z,20μm,11.2s
NJ2 LR LR
comp=Z,25μm,16.8s
NJ2 LR LR
comp=Z,28μm,13.4s
GTA Gaotai 36.67 5⇑P **P** **21 36 07.7 -0.6**
GTA pP **pP** **21 36 13.8 -2.2**
GTA sP **sP** **21 36 16.7 -2.4**
GTA PcP **PcP** **21 38 30.1 -0.8**
GTA S **S** **21 41 50.5 +0.3**
GTA ScP **ScP** **21 42 14.6 -1.6**
GTA SS **SnSn** **21 44 17.8 -3.8**
GTA ScS **ScS** **21 46 22.4 -0.6**
GTA pmax pmax
comp=Z,97nm,1.1s
GTA pmax pmax
comp=Z,2μm,6.2s
GTA LR LR
comp=Z,11μm,18.1s
GTA LR LR
comp=Z,7μm,17.6s
GTA LR LR
comp=Z,15μm,18.1s
FAKI Fak Fak 36.77 99 P **P** **21 36 11.0 +1.6**
comp=Z,220nm,1.2s,comp=Z,3μm
SSE Sheshan 36.94 38 P **P** **21 36 12.1 +1.5**
SSE S **S** **21 41 55.9 +1.5**
SSE sS **ScP** **21 42 15.1 -2.1**
SSE pmax pmax
comp=Z,67nm,0.7s
SSE pmax pmax
comp=Z,2μm,11.7s
SSE LR LR
comp=Z,21μm,18.0s
SSE LR LR
comp=Z,21μm,18.0s
SSE LR LR
comp=Z,23μm,20.8s
TLE Tual 37.72 103 P **P** **21 36 17.5 0.0**
comp=Z,273nm,0.8s,comp=Z,4μm
TIY Taiyuan 37.96 22 *e*P **P** **21 36 18.4 -0.9**
TIY sP **sP** **21 36 30.6 +0.5**
TIY PP **PnPn** **21 37 49.5 +1.8**
TIY S **S** **21 42 14.4 +4.5**
TIY SS **SnSn** **21 44 51.5 -1.3**
TIY pmax pmax
comp=Z,2μm,6.2s
TIY LR LR
comp=Z,12μm,12.2s
TIY LR LR
comp=Z,13μm,12.0s
TIY LR LR
comp=Z,58μm,14.9s
TIA Tai'an 38.64 28 P **P** **21 36 23.9 -1.1**
TIA PP **PnPn** **21 38 01.9 +6.0**
TIA pmax pmax
comp=Z,140nm,0.8s
TIA pmax pmax
comp=Z,2μm,10.1s
TIA LR LR
comp=Z,26μm,15.5s
TIA LR LR
comp=Z,24μm,16.7s
TIA LR LR
comp=Z,46μm,15.5s
JOW Kunigami 39.18 49 *e*P **P** **21 36 30.7 +1.2**
comp=Z,18nm,0.6s
JOW *e*PcP **PcP** **21 38 40.0 +1.2**
BTO Baotou 39.79 17 *e*P P 21 36 24.9 -10
KBL Kabul 40.32 325 *e*P **P** **21 36 39.0 -0.2**
KBL *e* 21 38 13.2
KBL pmax pmax
comp=Z,43nm,0.9s
KBL Kabul 40.32 325 *e*P **P** **21 36 39.0 -0.2**
comp=Z,43nm,0.9s
KBL *e*PP **PP** **21 38 13.2 +0.9**
HHC Hu-ho-hao-te 40.48 18 *e*P **P** **21 36 40.1 -0.2**
HHC PP **PnPn** **21 38 17.4 -0.4**
HHC PcP **PcP** **21 38 42.5 -0.3**
HHC ScP **ScP** **21 42 28.0 -2.7**
HHC PcS **PcS** **21 42 31.9 -1.5**
HHC S **S** **21 42 47.8 +0.1**
HHC ScS **ScS** **21 46 40.9 -4.0**
HHC pmax pmax
comp=Z,140nm,1.0s
HHC pmax pmax
comp=Z,5μm,5.3s
HHC LR LR
comp=Z,16μm,14.9s
HHC LR LR
comp=Z,33μm,14.5s
HHC LR LR
comp=Z,16μm,14.0s
SRPI Serui, Papua 40.59 96 P **P** **21 36 43.3 +1.8**
comp=Z,218nm,1.0s
NWAO Narrogin (SRO) 40.82 152 P **P** **21 36 42.2 -0.9**
NWAO Narrogin (SRO) 40.82 152 P **P** **21 36 42.2 -0.9**
comp=Z,16nm,0.8s,baz=330,slow=10.0,SNR=8.3
KSH Kashi 40.84 336 P **P** **21 36 41.9 -1.4**
KSH pP **pP** **21 36 46.7 -4.3**
KSH sP **sP** **21 36 50.2 -4.0**
KSH PP **PP** **21 38 18.3 +0.5**
KSH S **S** **21 42 48.0 -5.2**
KSH SS SS 21 45 44.8 -10
KSH pmax pmax
comp=Z,16nm,0.6s
KSH pmax pmax
comp=Z,1μm,4.7s
KSH LR LR
comp=Z,8μm,21.3s
KSH LR LR
comp=Z,5μm,18.5s
KSH LR LR
comp=Z,9μm,20.9s
MSEY Mahe Island 41.06 260 PFAKE 21 37 00.0 +15
MSEY LR LR
comp=Z,14μm,19.0s
H01W3 Cape Leeuwin H 41.16 157 T T 22 20 13.5
baz=333,slow=76,SNR=7865
H01W2 Cape Leeuwin H 41.17 157 T T 22 20 19.2
baz=333,slow=76,SNR=8751
H01W1 Cape Leeuwin H 41.18 157 T T 22 20 11.7
baz=333,slow=76,SNR=8893
BJT Baijiatuau 41.40 24 PFAKE 21 37 00.0 +12
BJT LR LR
comp=Z,9μm,19.0s
BJI Beijing 41.42 24 P **P** **21 36 48.3 +0.4**
BJI PP **PnPn** **21 38 29.1 +0.4**
BJI S **S** **21 43 03.3 +1.8**
BJI pmax pmax
comp=Z,760nm,0.9s
BJI pmax pmax
comp=Z,3μm,6.3s
BJI LR LR
comp=Z,13μm,16.8s
BJI LR LR
comp=Z,20μm,17.5s
BJI LR LR
comp=Z,5μm,23.6s
WMQ Urumqi 41.54 351 P **P** **21 36 49.0 0.0**
WMQ pP **pP** **21 36 59.0 +2.3**
WMQ sP **sP** **21 37 03.0 +3.2**
WMQ PP **PnPn** **21 38 29.0 -1.1**
WMQ PcP **PcP** **21 38 47.0 +0.9**
WMQ ScP **ScP** **21 42 33.0 -1.8**
WMQ S **S** **21 43 02.0 -1.4**
WMQ sS **sS** **21 43 17.0 +0.9**
WMQ SS **SS** **21 46 02.0 -6.8**
WMQ ScS **ScS** **21 46 49.0 -2.1**
WMQ pmax pmax
comp=Z,230nm,1.0s
WMQ pmax pmax
comp=Z,3μm,4.0s
WMQ LR LR
comp=Z,12μm,15.0s
WMQ LR LR
comp=Z,14μm,16.0s
WMQ LR LR
comp=Z,11μm,15.0s
BSY Bisya 42.45 301 P P 21 37 00.2 +3.6
SNR=11
KZA Kyzart 43.31 337 *i*P **P** **21 37 05.2 +1.4**
KZA Kyzart 43.31 337 P **P** **21 37 05.3 +1.4**
SNR=11
RBK Rabkut 43.45 293 P P 21 37 09.7 +4.8
SNR=12
UCH Uchtor 43.73 337 *i*P **P** **21 37 07.9 +0.7**
UCH Uchtor 43.73 337 P **P** **21 37 07.9 +0.7**
SNR=78
AAA Alma-Ata 43.74 340 *i*P **P** **21 37 08.1 +1.3**
AAA *i*S **S** **21 43 34.0 -1.7**
AAA pmax pmax
comp=Z,4μm,6.7s
AAA smax smax
comp=E,9μm,9.0s
AAA MLR MLR
comp=Z,7μm,19.0s
TKM2 Tokmak 2 43.91 338⇑*e*P **P** **21 37 08.7 +0.3**
TKM2 *e* 21 38 51.6
TKM2 *e*S **S** **21 43 38.8 +0.3**
TKM2 pmax pmax
comp=Z,420nm,1.9s
TKM2 MLR MLR
comp=Z,15μm,22.0s
TKM2 Tokmak 2 43.91 338 P **P** **21 37 09.1 +0.7**
SNR=20
TKM2 Tokmak 2 43.91 338⇑*e*P **P** **21 37 08.7 +0.3**
comp=Z,420nm,1.9s
TKM2 *e*PP **PP** **21 38 51.6 +0.7**
TKM2 *e*S **S** **21 43 38.8 +0.3**
TKM2 LR LR
comp=Z,15μm,22.0s
WB0 Warramunga Arr 43.92 122 ⇑P **P** **21 37 07.3 -1.2**
baz=44
KBK Karagaybulak 43.92 338 P **P** **21 37 09.8 +1.3**
SNR=80
WRA Warramunga Arr 43.95 123 P **P** **21 37 07.2 -1.7**
WRA S **S** **21 43 35.0 -4.3**
WRA Warramunga Arr 43.95 123 P **P** **21 37 07.2 -1.7**
comp=Z,77nm,0.9s,baz=303,slow=9.1,SNR=102
WRA S **S** **21 43 35.0 -4.3**
comp=Z,5.1nm,1.1s,baz=293,slow=16,SNR=4.8
WRAB Tennant Creek 43.96 123 *e*P **P** **21 37 08.7 -0.2**
WRAB S **S** **21 43 35.4 -4.1**
WRAB pmax pmax
comp=Z,141nm,1.2s
WRAB MLR MLR
comp=Z,18μm,20.0s
WRAB Tennant Creek 43.96 123 *e*P **P** **21 37 08.7 -0.2**
comp=Z,141nm,1.2s
WRAB S **S** **21 43 35.4 -4.1**
WRAB LR LR
comp=Z,18μm,20.0s
WRAB Tennant Creek 43.96 123 P **P** **21 37 08.2 -0.7**
comp=Z,603nm,1.0s,SNR=20
AML Almayashu 43.97 336 *i*P **P** **21 37 10.5 +1.4**
AML Almayashu 43.97 336 P **P** **21 37 10.5 +1.4**
SNR=66
AAK Ala-Archa 44.08 337 *e*P **P** **21 37 11.4 +1.7**
AAK Ala-Archa 44.08 337 P **P** **21 37 11.4 +1.7**
SNR=30
AAK Ala-Archa 44.08 337 P **P** **21 37 09.9 +0.2**
AAK Ala-Archa 44.08 337 P **P** **21 37 11.9 +2.2**
comp=Z,501nm,1.0s,SNR=22
AAK Ala-Archa 44.08 337 P **P** **21 37 09.9 +0.2**
comp=Z,20nm,0.6s,baz=151,slow=5.8
FRU Bishkek 44.20 337 *e*P **P** **21 37 11.0 +0.5**
FRU *i* 21 37 28.0
FRU *i* 21 38 53.0
FRU *i* 21 39 00.0
FRU *e*S **S** **21 43 46.0 +3.6**
FRU *e* 21 44 06.0
FRU pmax pmax
comp=Z,1μm,3.2s
FRU smax smax
comp=E,1μm,4.0s
FRU MLR MLR
comp=Z,12μm,19.5s
ABTO Aybut 44.25 292 P **P** **21 37 14.0 +2.6**
SNR=18
CHMS Chumysh 44.29 338 *i*P **P** **21 37 11.4 +0.2**
CHMS Chumysh 44.29 338 P **P** **21 37 11.5 +0.2**
SNR=40
EKS2 Erkin-Say 44.38 337⇑*e*P **P** **21 37 13.0 +0.9**
EKS2 *e* 21 38 57.7
EKS2 *e*S **S** **21 43 47.8 +2.5**
EKS2 pmax pmax
comp=Z,252nm,1.8s
EKS2 MLR MLR
comp=Z,7μm,21.0s
EKS2 Erkin-Say 44.38 337 P **P** **21 37 13.3 +1.2**
SNR=39
EKS2 Erkin-Say 44.38 337⇑*e*P **P** **21 37 13.0 +0.9**
comp=Z,252nm,1.8s
EKS2 *e*PP **PP** **21 38 57.7 +1.8**
EKS2 *e*S **S** **21 43 47.8 +2.5**
EKS2 LR LR
comp=Z,7μm,21.0s
JNU Nakatsue 44.54 43 *e*P **P** **21 37 12.8 -0.6**
comp=Z,20nm,0.9s
INCN Inchon 44.61 35 *e*P **P** **21 37 14.8 +0.9**
comp=Z,430nm,2.1s
INCN *e*PcP **PcP** **21 38 57.3 +0.8**
INCN *e*S **S** **21 43 48.4 -0.2**
INCN LR LR
comp=Z,29μm,19.0s
USP Ospenovka 44.62 338 *i*P **P** **21 37 15.1 +1.3**
USP Ospenovka 44.62 338 P **P** **21 37 15.1 +1.3**
SNR=10
IDAH Dahanechah 45.06 316 *e*P **P** **21 37 18.6 +0.8**
FORT Forrest 45.29 140 *e*P **P** **21 37 20.5 +1.2**
comp=Z,110nm,0.7s
KSAR Wonju Array Be 45.32 36 P **P** **21 37 17.7 -1.7**
KSAR ScP **ScP** **21 42 51.6 +1.4**
KSRS Korea Array 45.35 36 P **P** **21 37 17.7 -2.0**
comp=Z,33nm,0.7s,baz=232,slow=8.3,SNR=59
KSRS ScP **ScP** **21 42 51.6 +1.3**
comp=Z,1.7nm,0.8s,baz=251,slow=3.7,SNR=3.7
ASAR Alice Springs 45.36 127 P **P** **21 37 18.6 -1.5**
ASAR PcP **PcP** **21 38 58.8 -0.7**
ASAR ScP **ScP** **21 42 50.7 0.0**
ASAR Alice Springs 45.36 127 P **P** **21 37 18.6 -1.5**
comp=Z,14nm,0.5s,baz=296,slow=7.6,SNR=63
ASAR PcP **PcP** **21 38 58.8 -0.7**
comp=Z,7.4nm,0.9s,baz=308,slow=4.5,SNR=4.3
ASAR ScP **ScP** **21 42 50.7 0.0**
comp=Z,2.4nm,0.9s,baz=317,slow=3.9,SNR=4.5
AS06 Alice Springs 45.40 127⇑P **P** **21 37 18.2 -2.2**
baz=45
MK31 Makanchi Array 45.44 347 P **P** **21 37 20.0 -0.3**
MK31 pmax pmax
comp=Z,319nm,1.2s

MKAR Makanchi Array 45.44 347 *e*P **P** **21 37 20.4 0.0**
MKAR S **S** **21 43 59.9 -0.4**
MKAR Makanchi Array 45.44 347 *e*P **P** **21 37 20.4 0.0**
MKAR S **S** **21 43 59.9 -0.4**
MKAR Makanchi Array 45.44 347 P **P** **21 37 20.2 -0.1**
comp=Z,252nm,1.2s,baz=159,slow=8.3,SNR=507
MKAR S **S** **21 43 59.9 -0.4**
comp=Z,1.4nm,1.0s,baz=205,slow=27,SNR=2.2
SONM Songino Array 45.82 10 P **P** **21 37 22.9 -0.5**
SONM PcP **PcP** **21 39 02.1 +1.5**
SONM Songino Array 45.82 10 P **P** **21 37 22.9 -0.5**
comp=Z,105nm,0.8s,baz=192,slow=7.3,SNR=82
SONM PcP **PcP** **21 39 02.1 +1.5**
comp=Z,32nm,0.8s,baz=190,slow=3.8,SNR=6.5
ITEG Tejag 45.93 315 *e*P **P** **21 37 24.8 +0.2**
RER Riviere de l'E 45.94 237 PFAKE 21 37 30.0 +5.3
RER LR LR
comp=Z,6μm,19.0s
ULN Ulaanbaatar 45.97 10 P **P** **21 37 24.4 -0.2**
SNR=29
ULN Ulaanbaatar 45.97 10⇑ *e*P **P** **21 37 24.2 -0.4**
comp=Z,162nm,1.2s
ULN *e*PcP **PcP** **21 39 02.4 +1.2**
ULN *e*S **S** **21 44 08.8 +0.7**
ULN LR LR
comp=Z,20μm,19.0s
KK31 Karatay Array 46.11 334 *i* P **P** **21 37 25.3 -0.3**
KK31 pmax pmax
comp=Z,145nm,1.1s
KKAR Karatay Array 46.11 334 *e*P **P** **21 37 25.6 0.0**
KKAR *e* 21 39 02.2
KKAR *e*S **S** **21 44 10.9 +0.9**
KKAR Karatay Array 46.11 334 *e*P **P** **21 37 25.6 0.0**
KKAR *e*PcP **PcP** **21 39 02.2 +0.6**
KKAR *e*S **S** **21 44 10.8 +0.9**
SNY Shenyang 46.15 29 ⇑P **P** **21 37 25.0 -0.9**
SNY PP **PP** **21 39 15.9 +1.4**
SNY S **S** **21 44 09.3 -1.2**
SNY pmax pmax
comp=Z,81nm,0.8s
SNY pmax pmax
comp=Z,1μm,10.1s
SNY LR LR
comp=Z,17μm,18.6s
SNY LR LR
comp=Z,11μm,18.1s
SNY LR LR
comp=Z,14μm,20.0s
IMYA Miami 46.98 320 *e*P **P** **21 37 32.7 -0.1**
ISRO Mashad 47.38 319 *e*P **P** **21 37 35.7 -0.1**
IBAF Bafgh 47.58 312 *e*P **P** **21 37 37.7 +0.2**
IPAY Payeh 47.77 319 *e*P **P** **21 37 38.9 -0.1**
ZAK Zakamensk 47.87 6⇑ *i*P **P** **21 37 38.7 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
IMEH Mehriz 48.20 311 *e*P **P** **21 37 41.1 -1.4**
IKRD Kardeh 48.27 319 *e*P P 21 37 38.5 -4.4
CN2 Changchun 48.54 28 *e*P **P** **21 37 43.6 -1.0**
CN2 *e*pP **pP** **21 37 53.5 +1.1**
CN2 *e*sP **sP** **21 37 57.5 +2.0**
CN2 PP **PP** **21 39 36.5 -1.1**
CN2 *e*S **S** **21 44 46.0 +1.4**
CN2 SS SS 21 48 07.5 -7.4
CN2 pmax pmax
comp=Z,40nm,1.4s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,6μm,17.0s
CN2 LR LR
comp=Z,10μm,17.0s
CN2 LR LR
comp=Z,13μm,18.0s
IEMG Emamgholi 48.56 320 *e*P **P** **21 37 45.2 0.0**
IPAR Pars 48.72 308 *e*P **P** **21 37 47.5 +1.0**
ICHK Chekchek 48.76 312 *e*P **P** **21 37 46.8 +0.1**
MOY Mondy 48.94 4 *e*P **P** **21 37 49.6 +2.0**
MOY pmax pmax
comp=Z,185nm,4.5s
ISAD Sadrabad 49.14 311 *e*P **P** **21 37 48.8 -1.0**
TLY Talaya 49.19 6 P **P** **21 37 50.6 +1.1**
comp=Z,371nm,0.8s,SNR=13
TLY Talaya 49.19 6 *e*P **P** **21 37 48.8 -0.7**
TLY *e* 21 39 09.7
TLY *e* 21 39 44.8
TLY *e*PPP PPP 21 40 30.6
TLY *e*S **S** **21 44 53.4 -0.2**
TLY *e* 21 47 39.3
TLY pmax pmax
comp=Z,89nm,1.3s
TLY MLR MLR
comp=Z,13μm,18.0s
ABKT Ailbek 49.20 320 P **P** **21 37 50.7 +0.9**
comp=Z,659nm,0.7s,SNR=27
ISHV Shirvan 49.24 320 *e*P **P** **21 37 50.9 +0.6**
GUMO Guam 49.55 75 PFAKE 21 38 00.0 +7.2
GUMO LR LR
comp=Z,509nm,20.0s
COEN Coen 49.72 111 *e*P **P** **21 37 53.9 -0.1**
comp=Z,38nm,1.0s
COEN PcP **PcP** **21 39 15.3 +0.3**
IRK Irkutsk 49.82 7 *e*P **P** **21 37 51.9 -2.3**
IRK *e* 21 40 43.7
IRK pmax pmax
comp=Z,268nm,2.2s
KURBB Kurchatov Arra 49.91 346 P **P** **21 37 55.0 0.0**
comp=Z,44nm,0.9s,baz=168,slow=6.7,SNR=121
KURBB S S 21 45 10.1 +6.5
comp=Z,12nm,1.2s,baz=155,slow=12,SNR=6.8
KURK Kurchatov 49.98 346 P **P** **21 37 55.6 +0.2**
SNR=55
KURK Kurchatov 49.98 346 *e*P **P** **21 37 55.4 0.0**
KURK *e*S **S** **21 45 05.0 +0.6**
KURK S S 21 45 10.1 +5.6
KURK MLR MLR
comp=Z,7μm,22.0s
KURK Kurchatov 49.98 346 *e*P **P** **21 37 55.4 0.0**
KURK *e*S **S** **21 45 05.0 +0.6**
KURK S S 21 45 10.1 +5.6
KURK LR LR
comp=Z,14μm,22.0s
KURK Kurchatov 49.98 346 P **P** **21 37 55.8 +0.4**
comp=Z,617nm,1.3s,SNR=65
CBIJ Chichi jima 50.43 57 P **P** **21 37 59.0 -0.3**
JCJ Chichijima 50.43 57 P **P** **21 37 59.0 -0.3**
comp=Z,155nm,0.8s,baz=341,slow=19,SNR=5.6
IGAR Gharneh 50.61 311 *e*P **P** **21 38 00.7 -0.1**
IZEF Zefreh 50.61 311 *e*P **P** **21 38 00.2 -0.7**
HIA Hailar 50.62 20 PFAKE 21 38 10.0 +10
HIA LR LR
comp=Z,18μm,21.0s
IANJ Anjilo 50.69 315 *e*P **P** **21 38 00.6 -0.8**
MDJ Mudanjiang 51.18 31 P **P** **21 38 05.1 +0.5**
MDJ PcP **PcP** **21 39 18.6 -1.2**
MDJ PP PP 21 40 07.0 +5.4
MDJ S **S** **21 45 25.7 +4.3**
MDJ pmax pmax
comp=Z,84nm,0.9s
MDJ pmax pmax
comp=Z,2μm,9.7s
MDJ LR LR
comp=Z,13μm,19.4s
MDJ LR LR
comp=Z,9μm,19.4s
MDJ LR LR
comp=Z,20μm,14.5s
MDJ Mudanjiang 51.18 31 PFAKE 21 38 10.0 +5.4
MDJ LR LR
comp=Z,12μm,21.0s
IKIA Kiasar 51.22 316 *e*P **P** **21 38 05.6 +0.2**
CIT Chita 51.27 14 *e*P **P** **21 38 05.9 +0.7**
CIT *e* 21 38 16.2
CIT *e* 21 45 29.7
CIT *e* 21 47 56.4
CIT pmax pmax
comp=Z,291nm,2.2s
ISHM Shahmirzad 51.30 315 *e*P **P** **21 38 07.9 +1.9**
ILAS Lasjerd 51.32 315 *e*P **P** **21 38 05.7 -0.5**
ISFB Sefidab 51.35 313 *e*P **P** **21 38 05.5 -0.7**
IKLH Kolahrood 51.36 311 *e*P **P** **21 38 06.3 -0.2**
VLA Vladivostok 51.37 33⇓ *i*P **P** **21 38 04.4 -1.6**
VLA *e* 21 39 21.4
VLA 21 39 59.8
VLA *e*S **S** **21 45 21.2 -2.8**
VLA pmax pmax
comp=Z,123nm,1.2s
MAJO Matsushiro 51.45 44 *e*P **P** **21 38 07.3 +0.5**
MAJO *e* 21 39 22.0
MAJO pmax pmax
comp=Z,21nm,0.9s
MAJO MLR MLR
comp=Z,9μm,19.0s
MAJO Matsushiro 51.45 44 *e*P **P** **21 38 07.3 +0.5**
comp=Z,22nm,0.9s
MAJO *e*PcP **PcP** **21 39 22.0 +0.9**
MAJO LR LR
comp=Z,9μm,19.0s
MAT Matsushiro 51.45 44 P **P** **21 38 08.4 +1.6**
MAT S **S** **21 45 27.4 +1.9**
MJAR Matsushiro Arr 51.45 44 P **P** **21 38 05.1 -1.8**
MJAR PcP **PcP** **21 39 23.0 +1.9**
MJAR Matsushiro Arr 51.45 44 P **P** **21 38 05.1 -1.8**
comp=Z,12nm,1.1s,baz=231,slow=4.4,SNR=5.7
MJAR PcP **PcP** **21 39 23.0 +1.9**
comp=Z,20nm,0.8s,baz=227,slow=2.0,SNR=9.8
IFIR Firoozkooh 51.60 315 *e*P **P** **21 38 08.8 +0.6**
IALA Alasht 51.77 315 *e*P **P** **21 38 09.9 +0.3**
ZALV Zalesovo Beam 51.84 352 P **P** **21 38 09.1 -0.3**
ZALV S **S** **21 45 28.6 -1.6**
ZALV Zalesovo Beam 51.84 352 P **P** **21 38 09.1 -0.3**
ZALV S **S** **21 45 28.6 -1.6**
ZALV P'P' 22 08 48.2
ZALV Zalesovo Beam 51.84 352 P **P** **21 38 09.1 -0.3**
comp=Z,137nm,0.5s,baz=180,slow=7.0,SNR=183
ZALV S **S** **21 45 28.6 -1.6**
comp=Z,0.3nm,0.3s,baz=159,slow=9.3,SNR=2.1
ZALV PKPPKP **P'P'df** **22 08 48.2 +2.8**
comp=Z,1.4nm,0.9s,baz=300,slow=2.9,SNR=4.6
BBOO Buckleboo 51.89 136 *e*P **P** **21 38 11.0 +0.9**
comp=Z,36nm,1.0s
IVRN Varamin 52.02 313 *e*P **P** **21 38 10.8 -0.4**
IDMV Damavand 52.08 314 *e*P **P** **21 38 12.1 +0.2**
USRK Ussuriysk Arra 52.14 32 P **P** **21 38 11.6 -0.2**
comp=Z,61nm,0.9s,baz=236,slow=6.6,SNR=41
PMG Port Moresby 52.48 104 P **P** **21 38 15.3 +0.5**
comp=Z,65nm,0.9s,comp=Z,2μm
PMG Port Moresby 52.48 104 *e*P **P** **21 38 14.5 -0.3**
comp=Z,12nm,0.7s
PMG LR LR
comp=Z,6μm,19.0s
PMG Port Moresby 52.48 104 P **P** **21 38 15.4 +0.6**
comp=Z,56nm,0.8s,baz=347,slow=3.0,SNR=21
ABPO Ambohimpanom 52.51 244 PFAKE 21 38 30.0 +15
ABPO LR LR
comp=Z,6μm,19.0s
KBD Kabd 52.76 305 *e*P **P** **21 38 17.3 +0.7**
KBD AMb AMB 21 38 30.9
comp=Z,128nm,1.4s
UMR Umm Al-Rimmam 52.87 305 *e*P **P** **21 38 17.4 0.0**
UMR AMb AMB 21 38 22.5
comp=Z,119nm,0.8s
NVS Novosibirsk 52.95 351⇑ *i*P **P** **21 38 16.4 -1.1**
NVS *e* 21 38 30.8
NVS *e*S **S** **21 45 43.0 -2.2**
NVS pmax pmax
comp=Z,105nm,0.9s
NVS pmax pmax
comp=N,67nm,0.9s
NVS smax smax
comp=E,399nm,3.4s
NVS smax smax
comp=N,38nm,1.6s
IMHD Mahdasht 53.11 314 *e*P **P** **21 38 19.7 +0.4**
RST Umm Al-Ruwaisa 53.44 305 *e*P **P** **21 38 21.7 0.0**
RST AMb AMB 21 38 26.8
comp=Z,548nm,1.0s
VOSK Vostochnaya 53.93 342 *i* P **P** **21 38 24.1 -0.8**
VOSK pmax pmax
comp=Z,187nm,1.1s
CTA Charters Tower 54.35 117 P **P** **21 38 27.9 -0.6**
CTA Charters Tower 54.35 117 P **P** **21 38 27.9 -0.6**
comp=Z,57nm,0.8s,baz=296,slow=9.1,SNR=29
CTA Charters Tower 54.35 117⇑P **P** **21 38 28.0 -0.6**
baz=54
CTAO Charters Tower 54.35 117 *e*P **P** **21 38 28.0 -0.6**
CTAO MLR MLR
comp=Z,10μm,20.0s
CTAO Charters Tower 54.35 117 *e*P **P** **21 38 28.0 -0.6**
CTAO LR LR
comp=Z,10μm,20.0s
BVA0 Borovoye Array 54.38 341 *i* P **P** **21 38 27.4 -0.7**
BVA0 pmax pmax
comp=Z,176nm,1.5s
BVAR Borovoye Array 54.38 341 P **P** **21 38 27.4 -0.7**
BVAR Borovoye Array 54.38 341 P **P** **21 38 27.4 -0.7**
BVAR Borovoye Array 54.38 341 P **P** **21 38 27.4 -0.7**
comp=Z,43nm,0.6s,baz=142,slow=7.5,SNR=56
BRVK Borovoye 54.44 341 P **P** **21 38 28.3 -0.2**
SNR=38
BRVK Borovoye 54.44 341 *e*P **P** **21 38 27.9 -0.6**
BRVK pmax pmax
comp=Z,69nm,0.9s
BRVK MLR MLR
comp=Z,9μm,22.0s
BRVK Borovoye 54.44 341 *e*P **P** **21 38 27.9 -0.6**
comp=Z,69nm,0.9s
BRVK LR LR
comp=Z,9μm,22.0s
BRVK Borovoye 54.44 341 P **P** **21 38 27.9 -0.6**
comp=Z,535nm,0.9s,SNR=30
STKA Stephens Creek 55.35 132 *e*P **P** **21 38 34.8 -0.7**
STKA Stephens Creek 55.35 132 P **P** **21 38 33.6 -1.9**
comp=Z,38nm,0.7s,baz=308,slow=6.1,SNR=39
KLR Kul'dur 55.48 28 *e*P P 21 38 32.2 -3.9
KLR *e*S **S** **21 46 22.5 +2.8**
KLR pmax pmax
comp=E,78nm,1.8s
KLR pmax pmax
comp=Z,250nm,1.8s
KLR pmax pmax
comp=E,1μm,7.0s
KLR pmax pmax
comp=Z,3μm,7.0s
ILIN Lien 55.51 311 *e*P **P** **21 38 36.3 -0.6**
AB31 Akbulak array 55.55 332 *i* P **P** **21 38 35.7 -0.9**
AB31 pmax pmax
comp=Z,300nm,1.2s
ABKAR Akbulak array 55.55 332 *e*P **P** **21 38 36.5 -0.2**
IGHG Ghaleghazi 55.57 310 *e*P **P** **21 38 36.1 -1.3**
DESE Dese 56.39 281 *e*P **P** **21 38 43.9 +0.3**
DESE *e*S S 21 46 40.8 +7.3
PAF Port-aux-Franc 56.45 200 PFAKE 21 38 50.0 +7.0
PAF LR LR
comp=Z,5μm,20.0s
HABR Khabarovsk 56.56 30*c**e*P **P** **21 38 41.4 -2.5**
HABR *e**PP **pP** **21 38 50.9 -0.9**
HABR *e* 21 38 55.0
HABR *e* 21 39 37.9
HABR *e* 21 40 46.2
HABR *e*S **S** **21 46 29.5 -4.6**
HABR *e* 21 46 46.0
HABR *e* 21 48 27.5
HABR SS **SS** **21 50 17.3 -4.5**
HABR *e*SSS SSS 21 52 34.3
HABR pmax pmax
comp=N,19nm,2.0s
HABR pmax pmax
comp=E,53nm,2.0s
HABR pmax pmax
comp=Z,71nm,2.0s
HABR MLR MLR
comp=N,13μm,19.0s
HABR MLR MLR
comp=Z,16μm,19.0s
HABR MLR MLR
comp=E,12μm,18.0s
AKTO Aktyubinsk 57.27 332 P **P** **21 38 47.9 -1.0**
AKTO pmax pmax
comp=Z,87nm,1.1s
AKTO Aktyubinsk 57.27 332 P **P** **21 38 47.8 -1.1**
AKTO Aktyubinsk 57.27 332 P **P** **21 38 47.8 -1.1**
comp=Z,50nm,0.9s,baz=135,slow=7.1,SNR=3.9
ITBZ Tabriz 57.48 315 *e*P **P** **21 38 50.4 -0.5**
ERM Erimo 57.52 40 PFAKE 21 39 00.0 +9.2
ERM LR LR
comp=Z,9μm,22.0s
IMRD Marand 58.00 315 *e*P **P** **21 38 54.4 -0.1**
ASAJ Asahikawa 58.23 38 *e*P P 21 39 00.2 +4.4
ASAJ Asahikawa 58.23 38 P **P** **21 38 55.1 -0.7**
comp=Z,16nm,1.0s,baz=220,slow=18,SNR=4.5
CLNS Chul'man 58.67 18 *e*P **P** **21 38 57.9 -0.7**
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=E,18nm,1.3s
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS MLR MLR
comp=Z,17μm,14.0s
CLNS MLR MLR
comp=E,16μm,11.0s
CLNS MLR MLR
comp=N,28μm,14.0s
MAK Makhachkala 58.72 320 *e*P **P** **21 38 58.4 -0.8**
MAK *e* 21 41 10.2
MAK *e*S **S** **21 47 00.5 -2.1**
MAK *e* 21 48 45.2
MAK *e*SS **SS** **21 50 58.4 +2.4**
MAK *e*SSS SSS 21 53 20.6
MAK pmax pmax
comp=Z,478nm,2.1s
MAK MLR MLR
comp=Z,3μm,19.0s
KMBO Kilima Mbogo 58.76 267 P **P** **21 39 01.0 +0.7**
SNR=25
KMBO Kilima Mbogo 58.76 267 *e*P **P** **21 39 00.6 +0.3**
KMBO LR LR
comp=Z,16μm,20.0s
KMBO Kilima Mbogo 58.76 267 P **P** **21 39 00.1 -0.2**
comp=Z,20nm,0.9s,baz=62,slow=9.6,SNR=52
CUKT Cukurca 58.92 313 *e*P **P** **21 38 59.7 -1.2**
HAKT HAKKARI 58.97 313 *i* P P 21 38 58.0 -3.3
GNI Garni 59.29 316 P **P** **21 39 05.7 +2.3**
SNR=17
GNI Garni 59.29 316 *e*P **P** **21 39 03.8 +0.4**
comp=Z,134nm,1.2s
GNI LR LR
comp=Z,4μm,20.0s
CLDR Caldiran 59.45 315 *e*P **P** **21 39 04.2 -0.4**
TVAN Van 59.57 314 *i* P **P** **21 39 03.2 -2.3**
GEVA Gevas 59.73 313 *i* P **P** **21 39 04.3 -2.3**
DYDN Diyadin 59.77 315 *i* P **P** **21 39 08.5 +1.6**
YSS Yuzh-Sakhalins 59.83 35 *e*P **P** **21 39 08.2 +1.5**
YSS *e* 21 39 15.0
YSS *e* 21 39 58.9
YSS *e*PPP PPP 21 42 46.0
YSS *e*S **S** **21 47 18.0 +1.3**
YSS *e*PS **PnS** **21 47 30.0 -1.4**
YSS *e*SSS SSS 21 53 41.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,8μm,17.0s
YSS MLR MLR
comp=N,7μm,15.0s
YSS MLR MLR
comp=E,6μm,18.0s
SIRN S¨–rnak 59.90 312 *i* P **P** **21 39 06.3 -1.3**
TBLG Delisi 59.97 318 P **P** **21 39 07.8 -0.2**
TBLG S **S** **21 47 16.1 -2.8**
YUK Yuzh-Kuril'sk 60.23 40*c* *i*P P 21 39 02.4 -7.2
YUK *i* 21 39 53.3
YUK *i* 21 41 25.8
YUK *i* PPP PPP 21 42 44.7
YUK *i* S S 21 47 15.7 -6.4
YUK *i* 21 48 58.0
YUK MLR MLR
comp=N,3μm,20.0s
YUK MLR MLR
comp=E,5μm,20.0s
YUK MLR MLR
comp=Z,7μm,20.0s
EIDS Eidsvold 60.28 121 *e*P **P** **21 39 10.6 +0.3**
comp=Z,23nm,1.0s
EAK Akyaka 60.30 316 *i* P **P** **21 39 10.1 -0.3**
TUTA Tutak 60.34 315 *i* P **P** **21 39 12.4 +1.7**
DIGO Kars 60.35 316 *i* P **P** **21 39 09.9 -0.9**
TATV Tatvan 60.38 313 *i* P **P** **21 39 13.5 +2.5**
GUDG Gudauri 60.47 318 P **P** **21 39 11.7 +0.1**
KARS Kars 60.64 316 *e*P **P** **21 39 14.7 +2.0**
AKH Akhalkalaki 60.68 317 P **P** **21 39 14.0 +1.0**
AKH S **S** **21 47 28.0 -0.3**
EATA Eleskirt 60.75 315 *i* P **P** **21 39 13.2 -0.4**
SVE Sverdlovsk 60.78 339*de*P **P** **21 39 12.7 -0.4**
SVE *e*S **S** **21 47 29.2 +0.5**
SVE *e* 21 48 58.1
SVE pmax pmax
comp=Z,239nm,1.0s
SVE pmax pmax
comp=Z,1μm,14.0s
SVE MLR MLR
comp=Z,8μm,21.0s
EKAR Karacoban 60.82 314 *i* P **P** **21 39 16.2 +2.2**
ZEI Tsey 60.99 318 *e*P **P** **21 39 15.0 -0.1**
ZEI pmax pmax
comp=Z,40nm,1.0s
MARD Mardin 61.05 312 *i* P **P** **21 39 13.0 -2.5**
ONI Oni 61.21 318 P **P** **21 39 17.6 +1.2**
ONI S **S** **21 47 33.7 -1.1**
VRTB Varto-Mus 61.22 314 *e*P **P** **21 39 16.3 -0.3**
HOMI Horasan 61.23 315 *i* P **P** **21 39 17.6 +0.7**
ARU Arti 61.26 337 P **P** **21 39 15.2 -1.1**
comp=Z,798nm,1.0s,SNR=62
ARU Arti 61.26 337*c* *i*P **P** **21 39 15.3 -1.1**
ARU 21 39 55.8
ARU PPP PPP 21 42 56.3
ARU S **S** **21 47 33.7 -1.2**
ARU 21 49 05.4
ARU pmax pmax
comp=Z,147nm,1.0s
ARU MLR MLR
comp=Z,10μm,19.0s
MAZI Mazidag 61.34 312 *e*P **P** **21 39 17.5 +0.1**
BNGL BINGOL 61.36 313 *i* P P 21 39 21.0 +3.3
ERZM Erzurum 61.56 315 *i* P **P** **21 39 20.2 +1.1**
EZM Erzurum 61.56 315 *e*P **P** **21 39 19.6 +0.4**
DAGI Agillar 61.63 316 *i* P P 21 39 16.0 -3.3
ARTV Artvin 61.66 316 *i* P **P** **21 39 21.3 +1.6**
DDEM Demirkent 61.67 316 *i* P **P** **21 39 17.7 -1.9**
BNGB Bing¨göl 61.72 313 *e*P **P** **21 39 22.3 +2.3**
DIYA Diyarbakir 61.75 312 *i* P **P** **21 39 21.6 +1.4**
DBAD Bademkaya 61.76 316 *i* P **P** **21 39 21.2 +1.0**
DBOC Borcka 61.91 316 *i* P **P** **21 39 20.6 -0.5**
KBZ Khabaz 62.06 319 P **P** **21 39 22.1 +0.1**
KBZ Khabaz 62.06 319 P **P** **21 39 22.1 +0.1**
KBZ Khabaz 62.06 319 P **P** **21 39 22.1 +0.1**
comp=Z,32nm,0.9s,baz=124,slow=5.0,SNR=23
CHVG Ch'k'valeri 62.18 318 P **P** **21 39 23.7 +0.8**
KIV Kislovodsk 62.30 319 P **P** **21 39 23.7 0.0**
comp=Z,519nm,1.2s,SNR=20
CAN Canberra 62.41 132 PFAKE 21 39 30.0 +5.4
CAN LR LR
comp=Z,10μm,20.0s
ARMA Armidale 62.49 126 *e*P **P** **21 39 27.7 +2.4**
comp=Z,67nm,1.3s
SVRC Sivrice-ELAZID 62.51 312 *e*P P 21 39 28.7 +3.3
GOF Gofitskoye 62.55 320 *e*P **P** **21 39 26.6 +1.3**
GOF *e*S **SKSac** **21 49 14.9 -1.2**
GOF pmax pmax
comp=Z,80nm,1.0s
URFA Urfa 62.56 311 *e*P **P** **21 39 26.4 +0.8**
BAYT Ayd¨–ntepe-Bay 62.62 315 *e*P **P** **21 39 28.2 +2.1**
PTK Pertek 62.62 313 *e*P **P** **21 39 27.0 +0.9**
EUZM Erzumlu 62.68 314 *i* P P **21 39 27.9 +1.4**
ELZG Elazig 62.78 312 *i* P P 21 39 31.2 +4.0
ATAB Bozova 62.96 311 *i* P **P** **21 39 31.1 +2.8**
MACK Trabzon 63.08 315 *i* P **P** **21 39 31.4 +2.4**
KTUT Trabzon 63.10 315 *e*P P 21 39 25.7 -3.3
MALT Malatya 63.14 312 *e*P **P** **21 39 29.1 -0.4**
MALT Malatya 63.14 312⇑ *i*P **P** **21 39 30.2 +0.7**
KELT Kelkit 63.16 314 *i* P **P** **21 39 26.9 -2.8**
KEMA Kemaliye 63.41 313 *i* P P 21 39 28.0 -3.2
ILIC ilic-Erzincan 63.41 313 *e*P **P** **21 39 32.3 +1.0**
GZT Gaziantep 63.48 311 *i* P **P** **21 39 32.3 +0.5**
AKCD Akcadag 63.51 312 *i* P **P** **21 39 33.9 +1.9**
KUZU Kuzuini 63.67 310 *i* P **P** **21 39 34.2 +1.2**
ESPY Espiye-Giresun 63.81 315 *e*P **P** **21 39 33.8 +0.1**
DARE Darende-Malaty 63.92 312 *e*P P 21 39 38.0 +3.4
SUSE Susehri 63.94 314 *i* P P 21 39 29.0 -5.8
KMRS Kahramanmaras 64.03 311 *e*P **P** **21 39 32.6 -2.7**
SOC Sochi 64.11 318*c* *i*P **P** **21 39 36.1 +0.5**
SOC *e**PP **pP** **21 39 44.3 +0.6**

SOC e 21 40 10.9
SOC e 21 41 58.8
SOC eS **S** **21 48 08.4 -2.7**
SOC pmax pmax
comp=Z,66nm,0.8s
YAYL Yayladag 64.20 309 *i* P **P** **21 39 37.2 +0.6**
TAHT Tahtakopru-Hat 64.24 309 *e* P P 21 39 40.3 +3.7
YAK Yakutsk 64.31 17 *i* P **P** **21 39 35.3 -1.3**
YAK e 21 40 16.1
YAK e 21 41 58.9
YAK eS **S** **21 48 09.6 -3.3**
YAK e 21 49 24.5
YAK eSS **SS** **21 52 21.8 -1.1**
YAK pmax pmax
comp=E,99nm,1.0s
YAK pmax pmax
comp=N,121nm,1.1s
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=E,22nm,0.8s
YAK pmax pmax
comp=N,35nm,1.0s
YAK smax smax
comp=N,980nm,6.4s
YAK smax smax
comp=E,454nm,3.3s
YAK MLR MLR
comp=Z,32µm,17.0s
YAK MLR MLR
comp=N,15µm,15.0s
YAK MLR MLR
comp=E,15µm,15.0s
SCER sogukcermik 64.60 313 *i* P **P** **21 39 36.8 -2.3**
RSDY Resadiye-TOKAT 64.63 314 *e* P **P** **21 39 38.1 -1.1**
SVSK Karacayir 64.71 313 *e* P **P** **21 39 37.4 -2.2**
CEYT Ceyhan 64.76 310 *e* P P 21 39 43.8 +3.8
PINB Pinarbasi 64.76 312 *i* P **P** **21 39 40.2 -0.1**
TAU Tasmania Unive 64.83 141 PFAKE 21 39 50.0 +10
TAU LR LR
comp=Z,5µm,20.0s
ERBA Erbaa 65.14 314 *i* P **P** **21 39 42.2 -0.2**
TOKA Tokat 65.22 314 *i* P **P** **21 39 41.5 -1.5**
MBAR Mbarara 65.23 268 *e* P **P** **21 39 43.0 -0.7**
MBAR Mbarara 65.23 268 P **P** **21 39 43.0 -0.7**
MBAR LR LR
comp=Z,635nm,21.0s
GULE Gulek 65.58 310 *i* P **P** **21 39 44.7 -0.8**
MERS Mersin 65.66 309 *e* P **P** **21 39 46.3 +0.3**
KVT Kavak 65.77 314 *e* P **P** **21 39 44.3 -2.3**
KIZK Mersin 65.85 309 *i* P **P** **21 39 47.4 +0.3**
AVNT Avonos 65.94 311 *i* P **P** **21 39 47.1 -0.8**
HAVZ Havza 66.01 314 *i* P P 21 39 44.6 -3.5
LFK Lefkose 66.02 308 *e* P P 21 39 53.1 +4.8
ANN Anapa 66.09 318 P **P** **21 39 49.2 +0.8**
ANN 21 42 17.5
ANN S **S** **21 48 35.3 0.0**
ANN pmax pmax
comp=Z,70nm,1.2s
ANN MLR MLR
comp=Z,2µm,24.0s
CSS Prodhromos 66.11 307 *e* P **P** **21 39 51.4 +2.7**
CSS Prodhromos 66.11 307 P P 21 39 52.3 +3.5
CSS Prodhromos 66.11 307 *e* P **P** **21 39 51.5 +2.7**
CSS LR LR
comp=Z,2µm,19.0s
VRHR Novokhopersk 66.13 326 *e* P **P** **21 39 49.2 +0.6**
VRHR pmax pmax
comp=Z,140nm,1.1s
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR pmax pmax
comp=E,100nm,1.4s
VRHR MLR MLR
comp=Z,3µm,21.0s
VRHR MLR MLR
comp=N,1µm,22.0s
VRHR MLR MLR
comp=E,2µm,23.0s
IKL Isikli 66.14 309 *e* P **P** **21 39 49.1 +0.1**
LEF Lefka 66.49 307 *e* P **P** **21 39 51.0 -0.3**
DIKM Dikmen 66.52 315 *e* P **P** **21 39 52.5 +1.2**
CORM Corum 66.52 313 *e* P **P** **21 39 54.3 +2.8**
CDAG Cicekdag 66.55 312 *i* P **P** **21 39 51.7 0.0**
BR131 Keskin Array S 67.12 312 *e* P **P** **21 39 54.8 -0.6**
comp=E,25nm,0.9s
BRTR Keskin Array B 67.12 312 P **P** **21 39 54.4 -1.0**
BRTR Keskin Array B 67.12 312 P **P** **21 39 54.4 -1.0**
comp=E,15nm,0.9s,baz=124,slow=6.7,SNR=33
GAZI Gazipasa 67.22 308 *i* P P 21 39 52.4 -3.5
VORD Divnogorie 67.39 325 *e* P **P** **21 39 57.2 +0.6**
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=Z,60nm,0.9s
VORD pmax pmax
comp=E,80nm,1.0s
ILGA Ilgaz 67.44 314 *i* P **P** **21 39 59.0 +1.5**
BBAL Bala 67.45 312 *i* P **P** **21 39 54.4 -3.1**
AFSR Af˙ar-Bala (A 67.46 312 *e* P **P** **21 40 00.0 +2.5**
ELDT Eldivan 67.49 313 *i* P **P** **21 39 56.1 -1.6**
BZK Bozkurt 67.50 315 *e* P **P** **21 40 00.1 +2.5**
VSR Storozhevoye 67.57 325 *e* P **P** **21 39 57.9 +0.2**
VSR pmax pmax
comp=Z,70nm,0.9s
VSR pmax pmax
comp=N,20nm,0.7s
VSR pmax pmax
comp=E,60nm,0.8s
LADK Ladik-KONYA 67.67 310 *e* P **P** **21 40 01.8 +3.0**
VOR Voronezh 67.77 326 P **P** **21 40 00.0 +1.0**
VOR pmax pmax
comp=Z,260nm,1.2s
ANTO Ankara 67.78 312 *e* P **P** **21 39 59.9 +0.5**
ANTO Ankara 67.78 312 P P 21 40 11.7 +12
SNR=7.0
ANTO Ankara 67.78 312 *e* P **P** **21 40 01.3 +1.8**
ANTO pmax pmax
comp=Z,98nm,1.4s
ANTO MLR MLR
comp=Z,3µm,22.0s
ANTO Ankara 67.78 312 *i* P **P** **21 40 00.0 +0.5**
ANTO Ankara 67.78 312 *e* P **P** **21 40 01.3 +1.8**
comp=Z,98nm,1.4s
ANTO LR LR
comp=Z,3µm,22.0s
KDHN Kadinhani 67.94 311 *i* P **P** **21 39 58.8 -1.7**
SIM Simferopol' 68.36 318 *ce* P **P** **21 40 04.3 +1.4**
SIM pmax pmax
comp=Z,65nm,0.9s
BCAM Yenicaga 68.58 313 *i* P P 21 40 00.9 -3.5
SVRH Sivrihisar-ESK 68.62 311 *e* P **P** **21 40 02.8 -1.9**
BOLV Bolvadin 68.87 311 *i* P **P** **21 40 07.3 +1.0**
MSNA Messina 68.91 245 *e* P **P** **21 40 06.3 -0.5**
MSNA AMB AMB 21 40 17.3
comp=Z,44nm,1.7s
MSNA Messina 68.91 245 P **P** **21 40 06.3 -0.5**
comp=Z,44nm,1.7s
ISP Isparta 68.99 310 *e* P **P** **21 40 08.3 +1.2**
ISP pmax pmax
comp=Z,132nm,1.4s
ISP MLR MLR
comp=Z,4µm,19.0s
ISP Isparta 68.99 310 *e* P **P** **21 40 08.3 +1.2**
comp=Z,132nm,1.4s
ISP LR LR
comp=Z,4µm,19.0s
SHUT Suhut-Afyon 69.13 310 *e* P **P** **21 40 07.6 -0.4**
SEYT Eskypehyr 69.14 311 *i* P **P** **21 40 08.5 +0.5**
BTAS Taskesti 69.29 312 *i* P **P** **21 40 09.1 +0.2**
AKAS Kas 69.35 308 *i* P **P** **21 40 07.7 -1.7**
SKR Severo-Kuril's 69.37 36 *e* P **P** **21 40 07.0 -2.0**
SKR e 21 40 32.0
SKR ePPP PPP 21 44 21.0
SKR eS **S** **21 49 19.0 +4.7**
SKR ePS **PnS** **21 49 34.0 -7.7**
SKR e 21 49 54.0
SKR pmax pmax
comp=N,130nm,0.9s
SKR pmax pmax
comp=E,100nm,0.9s
SKR pmax pmax
comp=Z,200nm,0.9s
SKR pmax pmax
comp=N,3µm,10.0s
SKR pmax pmax
comp=E,3µm,10.0s
SKR pmax pmax
comp=Z,3µm,10.0s
SKR smax smax
comp=N,3µm,16.0s
SKR smax smax
comp=E,3µm,16.0s
SKR MLR MLR
comp=N,3µm,18.0s
SKR MLR MLR
comp=E,4µm,18.0s
SKR MLR MLR
comp=Z,6µm,18.0s
BORA Eskisehir 69.53 312 *i* P **P** **21 40 10.6 +0.2**
GOLH Golhisar 69.60 309 *i* P P 21 40 06.1 -4.8
GULT Gulveren 69.62 312 *e* P **P** **21 40 10.1 -0.8**
CASY Casey 69.67 174 PFAKE 21 40 20.0 +9.5
CASY LR LR
comp=Z,8µm,20.0s
CAVI Cavuskoy 70.06 312 *e* P **P** **21 40 15.8 +2.2**
GDZ Gediz 70.07 311 *i* P **P** **21 40 14.6 +0.8**
TVSB Tavsanli 70.17 311 *e* P **P** **21 40 12.4 -1.9**
DALY Dalyan (Mu˙la 70.22 308 *e* P P 21 40 08.3 -6.2
HRT Hereke 70.34 312 *e* P **P** **21 40 16.3 +1.0**
MOS Moscow 70.35 329 *e* P **P** **21 40 12.7 -2.2**
MOS *e* 21 40 22.9
MOS *e* 21 42 55.1
MOS *e* **S** **21 49 22.8 -2.9**
MOS pmax pmax
comp=Z,115nm,0.9s
MOS pmax pmax
comp=Z,300nm,1.2s
MOS smax smax
comp=E,1µm,5.2s
MOS smax smax
comp=N,2µm,4.5s
MOS MLR MLR
comp=E,7µm,21.0s
MOS MLR MLR
comp=Z,10µm,21.0s
MOS MLR MLR
comp=N,5µm,20.0s
GEMT Gemlik 70.60 312 *e* P **P** **21 40 19.2 +2.4**
OBN Obninsk 70.63 328 P **P** **21 40 16.5 -0.1**
comp=N,511nm,1.0s,SNR=10.0
OBN Obninsk 70.63 328 *i* P **P** **21 40 16.3 -0.3**
OBN *e* 21 42 50.5
OBN *i* S **S** **21 49 32.9 +3.9**
OBN pmax pmax
comp=Z,93nm,1.0s
OBN MLR MLR
comp=Z,5µm,20.0s
DEMI Demirci 70.64 310 *i* P P 21 40 10.6 -6.6
ARMT Armutlu 70.87 312 *e* P **P** **21 40 19.2 +0.7**
DURS Dursunbey 70.95 311 *i* P P 21 40 13.8 -5.3
AYDN Tasoluk 71.00 309 *i* P **P** **21 40 20.8 +1.4**
KARP Karpathos 71.16 307 P **P** **21 40 20.4 0.0**
KARP Karpathos 71.16 307 *e* P **P** **21 40 20.6 +0.2**
KARP Karpathos 71.16 307 P **P** **21 40 20.4 0.0**
PETK Petropavlovsk- 71.18 34 P **P** **21 40 19.4 -0.7**
PETK Petropavlovsk- 71.18 34 P **P** **21 40 19.4 -0.7**
PETK Petropavlovsk- 71.18 34 P **P** **21 40 19.4 -0.7**
comp=Z,9.1nm,0.8s,baz=191,slow=7.1,SNR=5.5
SLR Silverton 71.19 242 *e* P **P** **21 40 19.3 -1.6**
SLR AMB AMB 21 40 30.5
comp=Z,69nm,1.1s
SLR Silverton 71.19 242 P **P** **21 40 19.3 -1.6**
SLR pmax pmax
comp=Z,69nm,1.1s
SLR Silverton 71.19 242 P **P** **21 40 19.3 -1.6**
comp=Z,69nm,1.1s
CTKS Kestanelik-??a 71.29 313 *e* P **P** **21 40 23.3 +2.3**
AKHS Akhisar 71.29 310 *i* P P 21 40 16.5 -4.6
ERPM east rand prop 71.36 241 *e* P **P** **21 40 22.2 +0.3**
ERPM AMB AMB 21 40 32.0
comp=Z,51nm,5.0s
ERPM east rand prop 71.36 241 P **P** **21 40 22.2 +0.3**
comp=Z,51nm,5.0s
BALB Balikesir 71.40 311 *e* P **P** **21 40 23.9 +2.2**
OBSV Observatory 71.47 241 *e* P **P** **21 40 19.7 -2.9**
OBSV AMB AMB 21 40 32.8
comp=Z,52nm,5.1s
PET Petropavlovsk 71.69 34 *e* P **P** **21 40 23.4 +0.3**
PET *e* **S** **21 49 40.5 -0.8**
PET *e* PS **PnS** **21 50 03.9 -8.6**
PET pmax pmax
comp=Z,2µm,16.4s
PET MLR MLR
comp=Z,6µm,19.0s
PET MLR MLR
comp=Z,7µm,20.0s
KLMR Klimovskoe 71.81 335 *c* P **P** **21 40 22.2 -1.5**
KLMR *e* **S** **21 49 38.0 -4.4**
KLMR pmax pmax
comp=Z,109nm,1.0s
SMG Samos 71.82 309 *e* P **P** **21 40 26.7 +2.4**
ZKR Zakros 71.85 306 *e* P P 21 40 20.8 -3.7
KLOF Kloof 71.91 241 *e* P **P** **21 40 23.2 -2.0**
KLOF AMB AMB 21 40 29.2
comp=Z,29nm,2.4s
KLOF Kloof 71.91 241 P **P** **21 40 23.2 -2.0**
comp=Z,29nm,2.4s
TLCR 72.02 317 *i* P **P** **21 40 24.6 -0.7**
TIRR Tirgusor 72.12 316 *e* P **P** **21 40 27.9 +2.0**
TIRR pmax pmax
comp=Z,41nm,0.9s
TIRR Tirgusor 72.12 316 *i* P **P** **21 40 26.7 +0.8**
TIRR Tirgusor 72.12 316 *e* P **P** **21 40 27.9 +2.0**
comp=Z,41nm,0.9s
SEK Senekal 72.33 239 *e* P **P** **21 40 27.1 -0.6**
SEK AMB AMB 21 40 38.0
comp=Z,64nm,1.4s
SEK Senekal 72.33 239 P **P** **21 40 27.1 -0.6**
comp=Z,64nm,1.4s
NPS Neapolis 72.36 306 P **P** **21 40 28.3 +0.7**
NPS Neapolis 72.36 306 P **P** **21 40 28.3 +0.7**
NPS Neapolis 72.36 306 *e* P **P** **21 40 30.1 +2.5**
NPS Neapolis 72.36 306 P **P** **21 40 28.3 +0.7**
TLB Topalu 72.41 316 *i* P **P** **21 40 27.1 -0.5**
LAST Lasithi 72.45 306 *e* P **P** **21 40 28.2 0.0**
CFR Carcaliu 72.48 317 *i* P **P** **21 40 29.7 +1.6**
KIS Kishinev 72.49 319 *e* P P 21 40 37.0 +8.9
KIS Kishinev 72.49 319 *e* PP PP 21 43 12.0 +2.6
KIS Kishinev 72.49 319 *e* PPP PPP 21 44 58.0
KIS LRM MLR 22 14 55.0
comp=Z,3µm,20.0s
KIS Kishinev 72.49 319 *e* P P 21 40 37.0 +8.9
KIS *e* 21 43 12.0
KIS *e* PPP PPP 21 44 58.0
KIS *e* 21 54 36.0
KIS MLR MLR
comp=Z,4µm,19.0s
KIS MLR MLR
comp=Z,3µm,20.0s
PRK Paraskevi 72.54 310 *e* P **P** **21 40 31.1 +2.5**
CHOS Chios island 72.55 309 *e* P P 21 40 33.5 +4.8
SANT Santorini 72.66 307 PFAKE 21 40 40.0 +11
SANT LR LR
comp=Z,2µm,20.0s
EDRB Edirne 72.71 313 *e* P **P** **21 40 32.0 +2.5**
APE Apeiranthos 72.72 308 *e* P P 21 40 25.6 -4.2
LEOM Leova 72.73 318 *i* P **P** **21 40 30.1 +0.6**
IDI Anoyia 72.95 306 *e* P **P** **21 40 31.3 +0.2**
IDI Anoyia 72.95 306 *e* P **P** **21 40 33.7 +2.5**
comp=Z,66nm,1.2s
JMB Yambol 72.96 314 *i* P **P** **21 40 32.3 +1.3**
SIVA Sivas 72.97 306 *e* P **P** **21 40 30.9 -0.3**
ALN Alexandroupoli 73.03 312 *e* P **P** **21 40 30.6 -0.8**
DZM Mont Dzumac 73.09 114 *e* P **P** **21 40 34.0 +1.8**
comp=Z,67nm,1.0s
DZM *e* **S** **SKiKP** **21 50 02.3 -1.2**
comp=Z,8µm,26.9s
DZM Mont Dzumac 73.09 114 *e* LR LR 22 02 56.8
comp=Z,11µm,22.3s
SORM Soroca 73.09 320 *i* P **P** **21 40 33.7 +2.1**
GHRR 73.19 317 *i* P **P** **21 40 30.6 -1.7**
PETR Petresti 73.23 317 *i* P **P** **21 40 34.6 +2.1**
AK02 Malin Array Si 73.25 322 *e* P **P** **21 40 31.4 -1.1**
AKASG Malin Array Be 73.25 322 P P **P** **21 40 30.7 -1.8**
AKASG Malin Array Be 73.25 322 P P **P** **21 40 30.7 -1.8**
AKASG Malin Array Be 73.25 322 P P **P** **21 40 30.7 -1.8**
comp=Z,28nm,1.0s,baz=90,slow=4.9,SNR=40
AKBB Malin Array Si 73.25 322 *e* P **P** **21 40 30.9 -1.6**
AKBB Malin Array Si 73.25 322 *e* P **P** **21 40 30.9 -1.6**
AK01 Malin Array Si 73.25 322 *e* P **P** **21 40 31.1 -1.4**
KIEV Kiev 73.26 322 *e* P **P** **21 40 31.7 -0.8**
KIEV pmax pmax
comp=Z,57nm,1.1s
KIEV MLR MLR
comp=Z,3µm,20.0s
KIEV Kiev 73.26 322 *e* P **P** **21 40 31.7 -0.8**
comp=Z,57nm,1.1s
KIEV LR LR
comp=Z,3µm,20.0s
GRER 73.33 317 *i* P P 21 40 37.5 +4.4
SMTH Samothraki Isl 73.34 311 *e* P **P** **21 40 31.6 -1.7**
LBTB Lobatse 73.42 243 *e* P **P** **21 40 34.8 +0.6**
LBTB AMB AMB 21 40 44.7
comp=Z,49nm,1.6s
LBTB Lobatse 73.42 243 *e* P **P** **21 40 34.8 +0.6**
comp=Z,47nm,1.0s
VAM Vamos 73.52 306 P **P** **21 40 34.4 -0.1**
VAM Vamos 73.52 306 P **P** **21 40 34.4 -0.1**
VAM Vamos 73.52 306 *e* P **P** **21 40 34.8 +0.3**
VAM Vamos 73.52 306 P **P** **21 40 34.4 -0.1**
VRI Vrincioaia 73.61 317 *i* P **P** **21 40 34.4 -0.4**
KDZ Kurdzhali 73.64 313 *i* P **P** **21 40 36.4 +1.3**
PLOR Plostina 73.66 317 *i* P **P** **21 40 36.0 +0.9**
TESR Tescani 73.81 318 *i* P **P** **21 40 36.0 +0.1**
SECR 73.88 316 *i* P **P** **21 40 37.3 +1.0**
MAW Mawson 73.92 193 P **P** **21 40 37.9 +1.9**
comp=Z,7.0nm,1.2s
MAW *e* PP **PP** **21 43 22.7 +1.4**
MAW Mawson 73.92 193 P **P** **21 40 37.9 +1.9**
comp=Z,3.5nm,0.9s,baz=35,slow=9.4,SNR=4.7
TMCR Tamitsa 74.00 337 *e* P **P** **21 40 37.1 +0.5**
TMCR *e* 21 43 22.6
TMCR pmax pmax
comp=Z,140nm,1.0s
MLR Muntele Rosu 74.06 317 *i* P **P** **21 40 38.3 +0.7**
SWZ Schweizer 74.08 241 *e* P **P** **21 40 37.1 -0.9**
SWZ AMB AMB 21 40 42.0
comp=Z,84nm,2.8s
SWZ Schweizer 74.08 241 P **P** **21 40 37.1 -0.9**
comp=Z,84nm,2.8s
KAVA Kavala 74.19 312 *e* P **P** **21 40 39.7 +1.5**
PTL Penteli 74.19 309 *e* P **P** **21 40 37.5 -0.9**
PRAR RASCA 74.29 319 *i* P **P** **21 40 39.0 +0.3**
ANKY Antikythira Is 74.31 306 *e* P **P** **21 40 41.7 +2.6**
AOS Alonnisos 74.36 310 *e* P **P** **21 40 39.7 +0.4**
BOSA Boshof 74.43 239 *e* P **P** **21 40 39.3 -0.7**
BOSA AMB AMB 21 40 50.2
comp=Z,47nm,1.6s
BOSA Boshof 74.43 239 *e* P **P** **21 40 40.6 +0.5**
BOSA Boshof 74.43 239 P **P** **21 40 39.4 -0.7**
comp=Z,9.3nm,0.9s,baz=88,slow=6.3,SNR=10
HUMR Humele 74.53 315 *i* P **P** **21 40 40.2 +0.1**
DOPR Dopca 74.54 317 *i* P **P** **21 40 42.9 +2.7**
MTUR Matau 74.61 316 *i* P **P** **21 40 40.6 -0.1**
HVD Gariep Dam 74.65 237 *e* P **P** **21 40 42.0 +0.7**
HVD AMB AMB 21 40 51.8
comp=Z,59nm,4.9s
HVD Gariep Dam 74.65 237 P **P** **21 40 42.0 +0.7**
HVD pmax pmax
comp=Z,59nm,4.9s
HVD Gariep Dam 74.65 237 P **P** **21 40 42.0 +0.7**
comp=Z,59nm,4.9s
VOIR 74.66 316 *i* P **P** **21 40 40.7 -0.3**
VIL2 Platees 74.68 309 *e* P **P** **21 40 41.6 +0.4**
VLI Veliai 74.72 307 *e* P P 21 40 46.0 +4.6
NVR Nevrokopi 74.74 312 *e* P **P** **21 40 42.8 +1.3**
MMB Musomiste 74.88 312 *i* P **P** **21 40 41.8 -0.5**
SRS Serrai 74.90 312 *e* P **P** **21 40 39.9 -2.5**
ARR Arges 74.94 316 *i* P **P** **21 40 42.6 0.0**
BURAR Bucovina Array 75.01 319 *i* P **P** **21 40 43.3 +0.3**
BUR08 Bucovina Ar. S 75.03 319 *e* P **P** **21 40 43.6 +0.5**
SOE Somerset East 75.07 235 *e* P **P** **21 40 41.8 -1.8**
SOE AMB AMB 21 40 48.2
comp=Z,51nm,5.2s
SOE Somerset East 75.07 235 P **P** **21 40 41.8 -1.8**
comp=Z,51nm,5.2s
MICGM Minsk 75.12 326 *i* e P **P** **21 40 43.0 -0.3**
MNK Minsk 75.15 326 *de* P **P** **21 40 43.0 -0.5**
MNK *e* 21 40 54.0
MNK eS S 21 50 14.0 -6.5
MNK pmax pmax
comp=Z,380nm,1.0s
MNK pmax pmax
comp=E,90nm,1.0s
MNK MLR MLR
comp=E,3µm,16.0s
MNK MLR MLR
comp=E,8µm,20.0s
MNK MLR MLR
comp=Z,3µm,16.0s
MNK MLR MLR
comp=N,3µm,16.0s
MNK MLR MLR
comp=N,7µm,20.0s
MNK MLR MLR
comp=Z,9µm,20.0s
MPEP Malo Peshtene 75.18 314 P P 21 40 54.1 +10
KKB Krupnik 75.40 312 P **P** **21 40 47.7 +2.4**
KNT Kendrikon 75.42 312 *e* P **P** **21 40 45.6 +0.2**
VTS Vitosha 75.43 313 P P 21 40 49.4 +3.8
VTS Vitosha 75.43 313 *i* P **P** **21 40 45.4 -0.2**
AGG Agios Georgios 75.53 309 *e* P **P** **21 40 43.7 -2.4**
KLV Kalavryta, Ach 75.53 308 *e* P **P** **21 40 45.7 -0.4**
LOT Lotru 75.55 316 *i* P **P** **21 40 46.0 -0.2**
LIT Litokhoron 75.56 311 *e* P P 21 40 50.8 +4.5
KALE Kalithea 75.59 309 *e* P **P** **21 40 43.8 -2.7**
ITM Ithomi 75.59 308 *e* P P 21 40 50.6 +4.2
MAKR Makrakomi, Fth 75.68 309 *e* P **P** **21 40 48.5 +1.6**
LAKA Lakka 75.69 309 *e* P **P** **21 40 46.9 -0.1**
VAY Valandovo 75.69 312 *i* P **P** **21 40 48.0 +1.1**
NACGM Naroch 75.85 326 *e* P **P** **21 40 45.0 -2.5**
THL Klokotos Trika 75.85 310 *e* P **P** **21 40 45.6 -2.2**
EVR Evrytania 75.92 309 *e* P **P** **21 40 50.9 +2.5**
IDID Didziasalis 75.98 327 *e* P **P** **21 40 48.2 -0.1**
IDID AMB AMB 21 40 52.8
comp=Z,59nm,1.0s
DRV Dumont d'Urvil 75.99 163 PP PP 21 43 31.0 -7.8
DRV S **SKiKP** **21 50 13.0 +6.5**
DRV SS SS 21 55 00.0 -22
DRV L L 22 00 00.0
DRV R 22 04 00.0
RLS Riolos of Patr 76.07 308 *e* P **P** **21 40 52.0 +2.9**
BMR Baia Mare 76.16 318 *i* P **P** **21 40 52.5 +3.0**
JOF Joensuu 76.20 335 *e* P **P** **21 40 49.0 -0.3**
JOF pmax pmax
comp=Z,36nm,0.7s
JOF Joensuu 76.20 335 *ep* **P** **21 40 49.0 -0.3**
comp=Z,36nm,0.7s
GZR Gura Zlata 76.23 316 *i* P **P** **21 40 49.9 -0.1**
LVV L'vov 76.26 321 *e* P **P** **21 40 51.5 +1.6**
LVV *e* 21 43 50.1
LVV eS **S** **21 50 32.5 -0.4**
LVV MLR MLR
comp=N,1µm,18.0s
LVV MLR MLR
comp=E,2µm,18.0s
LVV MLR MLR
comp=Z,2µm,18.0s
IIGN Ignalina 76.28 327 *e* P **P** **21 40 49.3 -0.6**
IIGN AMB AMB 21 40 54.0
comp=Z,60nm,0.9s
ISAL Salakas 76.39 327 *e* P **P** **21 40 50.4 -0.2**
ISAL AMB AMB 21 40 55.1
comp=Z,43nm,1.0s
FNA Florina 76.51 311 *e* P **P** **21 40 51.3 -0.3**
DRGR 76.52 317 *i* P **P** **21 40 52.1 +0.5**
BIA Bitola 76.58 311 *i* P **P** **21 40 53.1 +1.1**
SKO Skopje 76.63 312 *i* P **P** **21 40 54.6 +2.4**
NEST Nestorio 76.70 311 *e* P P 21 40 57.1 +4.3
VSU Vasula 76.87 330 *c* P **P** **21 40 53.7 +0.5**
TRPA Tarpa 76.88 319 *i* P **P** **21 40 54.0 +0.5**
TRPA Tarpa 76.88 319 *e* P **P** **21 40 55.1 +1.6**
TARA Tarawa 76.97 89 PFAKE 21 41 00.0 +5.3
TARA LR LR
comp=Z,3µm,21.0s
KWP Kalwaria Pacla 77.06 320 *e* P **P** **21 40 54.7 +0.2**
KWP *e* 21 41 04.5
KWP eS **S** **21 50 37.4 -4.4**
KWP MLR MLR
comp=Z,2µm,21.5s

KWP Kalwaria Pacla 77.06 320 *e*P **P** **21 40 54.7 +0.2**
KWP *e*PcP **PcP** **21 41 04.4 -1.0**
KWP *e*S **S** **21 50 37.3 -4.5**
KWP LMZ LR 22 19 17.2
KWP Kalwaria Pacla 77.06 320⇑ *i*P **P** **21 40 55.3 +0.8**
KWP Kalwaria Pacla 77.06 320 *e*P **P** **21 40 54.6 +0.1**
comp=Z,173nm,1.4s
KWP PP **PP** **21 43 43.8 -4.3**
KWP LR LR
comp=Z,3µm,20.0s
BZS Buzias 77.07 316⇑ *i*P **P** **21 40 54.9 +0.3**
IGT Igoumenitsa 77.13 310 *e*P **P** **21 40 54.5 -0.6**
UZH Uzhgorod 77.14 319 *e*P **P** **21 40 54.3 -0.6**
UZH *e* 21 41 03.3
UZH *e* 21 41 06.3
UZH *e* 21 41 10.3
UZH *e*PPP PPP 21 45 32.5
UZH *e*S **S** **21 50 40.5 -2.1**
UZH *e*PS **PnS** **21 51 30.3 +6.7**
UZH MLR MLR
comp=N,2µm,22.0s
UZH MLR MLR
comp=E,2µm,22.0s
UZH MLR MLR
comp=Z,900nm,22.0s
SIRR Siria 77.15 317⇓ *i*P **P** **21 40 55.6 +0.5**
KOLS Kolonicke sedl 77.21 320 *e*P **P** **21 40 55.9 +0.5**
KOLS pmax pmax
comp=Z,56nm,1.0s
KOLS Kolonicke sedl 77.21 320 *e*P **P** **21 40 55.8 +0.4**
APA Apatity 77.23 340⇓ *i*P **P** **21 40 55.0 -0.1**
APA *i* 21 41 12.0
APA *i* 21 43 52.0
APA *i* S **S** **21 50 42.0 -0.9**
APA pmax pmax
comp=Z,78nm,1.0s
APA MLR MLR
comp=Z,7µm,23.0s
KEK Kerkira 77.56 310 *e*P **P** **21 40 59.8 +2.2**
SUW Suwalki 77.67 325 *e*P **P** **21 40 56.8 -1.0**
SUW *e* 21 41 07.1
SUW *e*S **S** **21 50 44.1 -4.1**
SUW *e**SS **sS** **21 50 59.6 -2.2**
SUW MLR MLR
comp=Z,3µm,23.8s
SUW Suwalki 77.67 325 *e*P **P** **21 40 56.8 -1.0**
SUW *e*PcP **PcP** **21 41 07.0 -0.9**
SUW *e*S **S** **21 50 44.1 -4.1**
SUW *e*sS **sS** **21 50 59.5 -2.2**
SUW LMZ LR 22 18 35.1
SUW Suwalki 77.67 325 *e*P **P** **21 40 57.1 -0.7**
comp=Z,238nm,0.9s
RUDU RUNDU 77.72 251 *e*P **P** **21 40 56.4 -2.6**
RUDU AMB AMB 21 41 10.2
comp=Z,67nm,1.4s
RUDU RUNDU 77.72 251 P **P** **21 40 56.4 -2.6**
comp=Z,67nm,1.4s
CRVS Cervenica-Dubn 77.73 319 *e*P **P** **21 40 59.8 +1.5**
CRVS pmax pmax
comp=Z,84nm,2.6s
CRVS Cervenica-Dubn 77.73 319 *e*P **P** **21 40 59.8 +1.5**
UPI Upington 77.85 240 *e*P **P** **21 41 02.3 +2.8**
UPI AMB AMB 21 41 10.3
comp=Z,55nm,4.9s
UPI Upington 77.85 240 P **P** **21 41 02.3 +2.8**
comp=Z,55nm,4.9s
STHS Stebnicka Huta 77.96 320 *e*P **P** **21 41 00.5 +0.9**
STHS pmax pmax
comp=Z,32nm,1.0s
STHS Stebnicka Huta 77.96 320 *e*P **P** **21 41 00.5 +0.9**
FIA1 FINESS Array S 78.04 333 *e*P **P** **21 40 58.9 -0.8**
FIA1 *e*PP **PP** **21 43 56.6 +0.6**
FINES FINESS Array B 78.04 333 P **P** **21 40 58.5 -1.2**
FINES FINESS Array B 78.04 333 P **P** **21 40 58.5 -1.2**
comp=Z,52nm,0.9s,baz=100,slow=6.1,SNR=47
KAF Kangasniemi 78.13 333 *e*P **P** **21 41 00.0 -0.2**
KAF pmax pmax
comp=Z,72nm,0.8s
KAF Kangasniemi 78.13 333 *e*p **P** **21 41 00.0 -0.2**
comp=Z,72nm,0.8s
PKSN Nyarlorinc 78.47 317 *e*P **P** **21 41 05.3 +2.9**
NIE Niedzica 78.56 320 *e*P **P** **21 41 03.1 +0.2**
NIE *e**PP **pP** **21 41 06.6 -4.5**
NIE *e*S **S** **21 50 59.0 +1.0**
NIE MLR MLR
comp=Z,2µm,20.4s
NIE Niedzica 78.56 320 *e*P **P** **21 41 03.1 +0.2**
NIE *e*pP **pP** **21 41 06.6 -4.5**
NIE *e*S **S** **21 50 59.0 +1.0**
NIE L L 22 18 53.0
comp=Z,2µm,20.4s
PSZ Piszkesteto 78.60 318 *e*P **P** **21 41 03.3 +0.1**
PSZ MLR MLR
comp=Z,3µm,21.0s
PSZ Piszkesteto 78.60 318⇑ *i*P **P** **21 41 03.8 +0.6**
PSZ Piszkesteto 78.60 318 *e*P **P** **21 41 03.3 +0.1**
PSZ LR LR
comp=Z,3µm,21.0s
PSZ Piszkesteto 78.60 318⇓ *e* P 21 41 06.5 +3.3
PKS6 Bocsa 78.63 317 *e* P 21 41 12.4 +9.1
BEL Belsk 78.66 322 *e*P **P** **21 41 03.6 +0.3**
BEL *e* 21 41 13.3
BEL *e*S **S** **21 50 58.8 -0.2**
BEL MLR MLR
comp=Z,3µm,21.2s
BEL Belsk 78.66 322 *e*P **P** **21 41 03.6 +0.3**
BEL *e*PcP **PcP** **21 41 13.2 +1.0**
BEL *e*S **S** **21 50 58.7 -0.2**
BEL *e*pS **pS** **21 51 05.5 -3.7**
BEL LMZ LR 22 20 21.7
PKS2 Kecel 78.85 317 *e*P **P** **21 41 07.5 +3.0**
SUR Sutherland 78.93 236 *e*P **P** **21 41 06.7 +1.2**
SUR AMB AMB 21 41 08.6
comp=Z,49nm,3.9s
SUR Sutherland 78.93 236 *e*P P 21 41 09.2 +3.7
comp=Z,43nm,1.8s
SUR LR LR
comp=Z,8µm,19.0s
OJC Ojcow 79.01 321 *e*P **P** **21 41 04.6 -0.7**
OJC *e**SP sP 21 41 09.1 -7.5
OJC *e*S **S** **21 51 01.7 -1.1**
OJC MLR MLR
comp=Z,3µm,19.4s
OJC Ojcow 79.01 321 *e*P **P** **21 41 04.6 -0.7**
OJC *e*sP sP 21 41 09.1 -7.5
OJC *e*S **S** **21 51 01.7 -1.1**
OJC L L 22 22 06.0
comp=Z,3µm,19.4s
PKSM Moragy 79.21 316⇑ *i*P **P** **21 41 06.8 +0.3**
PKSM Moragy 79.21 316 *e* P 21 41 14.9 +8.4
PKS9 Tamasi 79.51 317 *e*P **P** **21 41 10.7 +2.6**
PKSG 79.53 318 *e*P **P** **21 41 08.3 +0.1**
CVNA Calvinia 79.65 237 *e*P **P** **21 41 08.1 -1.2**
CVNA AMB AMB 21 41 20.5
comp=Z,55nm,1.9s
CVNA Calvinia 79.65 237 P **P** **21 41 08.1 -1.2**
comp=Z,55nm,1.9s
PKST T''s 79.76 317 *e*P **P** **21 41 09.7 +0.2**
TIP Timpagrande 79.85 309 PFAKE 21 41 20.0 +10
TIP LR LR
comp=Z,1µm,21.0s
TSUM Tsumeb 79.89 250 *e*P **P** **21 41 12.2 +1.3**
TSUM AMB AMB 21 41 21.9
comp=Z,2µm,5.7s
TSUM Tsumeb 79.89 250 *e*P **P** **21 41 12.7 +1.8**
TSUM LR LR
comp=Z,8µm,19.0s
OKC Ostrava-Krasne 80.01 320 *e*P **P** **21 41 10.3 -0.5**
OKC *e* 21 41 21.3
OKC *e*S **S** **21 51 14.5 +1.1**
OKC MLR MLR
comp=Z,2µm,23.0s
OKC Ostrava-Krasne 80.01 320 *e*P **P** **21 41 10.3 -0.5**
OKC *e*pP **PcP** **21 41 13.4 -4.8**
OKC *e*sP **sP** **21 41 21.3 -0.7**
OKC *e*S **S** **21 51 14.5 +1.1**
OKC AMS AMS 22 23 10.0
comp=Z,2µm,23.0s
ELIM Elim 80.20 234 *e*P **P** **21 41 12.1 -0.1**
ELIM AMB AMB 21 41 16.6
comp=Z,84nm,2.1s
ELIM Elim 80.20 234 P **P** **21 41 12.1 -0.1**
comp=Z,84nm,2.1s

KEV Kevo 80.22 341 *e*P **P** **21 41 11.6 +0.1**
KEV pmax pmax
comp=Z,55nm,1.1s
KEV MLR MLR
comp=Z,6µm,20.0s
KEV Kevo 80.22 341 *e*P **P** **21 41 11.6 +0.1**
comp=Z,55nm,1.1s
KEV LR LR
comp=Z,6µm,20.0s
MORC Moravsky Berou 80.39 320 *e*P **P** **21 41 12.4 -0.5**
MORC pmax pmax
comp=Z,20nm,0.9s
MORC Moravsky Berou 80.39 320⇑ *i*P **P** **21 41 13.6 +0.7**
MORC Moravsky Berou 80.39 320 *e*P **P** **21 41 12.3 -0.5**
comp=Z,20nm,0.9s
MORC *e*PP PP 21 44 07.7 -8.3
CEL Celeste 80.46 308 *e*P P 21 41 17.5 +4.0
comp=Z,148nm,1.2s
CEL LR LR
comp=Z,2µm,20.0s
CUC Castrocucco 80.64 310 PFAKE 21 41 20.0 +5.5
CUC LR LR
comp=Z,3µm,21.0s
ARCES ARCESS Array B 80.65 340 P **P** **21 41 13.5 -0.3**
ARCES ARCESS Array B 80.65 340 P **P** **21 41 13.5 -0.3**
comp=Z,26nm,0.5s,baz=98,slow=5.2,SNR=56
ARE0 ARCESS Array S 80.65 340 *e*P **P** **21 41 13.6 -0.2**
ARE0 ARCESS Array S 80.65 340 *e*P **P** **21 41 14.1 +0.3**
ARE0 *e*PP PP 21 44 10.8 -6.8
WIN Windhoek 80.73 247 *e*P **P** **21 41 14.7 -0.8**
WIN AMB AMB 21 41 26.8
comp=Z,18nm,5.4s
WIN Windhoek 80.73 247 P **P** **21 41 14.7 -0.8**
WIN pmax pmax
comp=Z,18nm,5.4s
WIN Windhoek 80.73 247 P **P** **21 41 14.7 -0.8**
comp=Z,18nm,5.4s
SOP Sopron 80.80 318 *e*P P 21 41 18.6 +3.5
KOGS Kog 80.88 316 *e*P **P** **21 41 15.7 +0.1**
KOGS *e*S **S** **21 51 19.9 -2.7**
KRLC Kraliky 80.92 320 *e*P **P** **21 41 15.4 -0.3**
KRLC *e* 21 41 26.5
KRLC Kraliky 80.92 320 *e*P **P** **21 41 15.4 -0.3**
KRLC *e*pP **PcP** **21 41 18.3 -3.9**
KRLC *ex* x 21 41 26.5
VRAC Vranov 80.95 319⇓ *i*P **P** **21 41 16.4 +0.5**
GKP Gorka Klasztor 81.03 323 *e*P **P** **21 41 17.3 +1.1**
GKP *e* 21 41 25.6
GKP *e*S **S** **21 51 24.7 +0.9**
GKP MLR MLR
comp=Z,3µm,23.9s
GKP Gorka Klasztor 81.03 323 *e*P **P** **21 41 17.2 +1.1**
GKP *e*PcP **pP** **21 41 25.5 +1.1**
GKP *e*S **S** **21 51 24.6 +0.8**
GKP LMZ LR 22 18 18.8
SYO Syowa Base 81.07 198⇓ *e*P **P** **21 41 18.7 +2.7**
SYO Syowa Base 81.07 198⇓ *e*PcP **PcP** **21 41 23.4 +1.1**
RPZ Rata Peaks 81.21 135 *e*P **P** **21 41 18.9 +1.5**
RPZ Rata Peaks 81.21 135 P **P** **21 41 18.5 +1.1**
comp=Z,34nm,0.6s,baz=235,slow=3.7,SNR=16
DPC Dobruska-Polom 81.24 320 *e*P **P** **21 41 17.5 +0.1**
DPC *e* 21 41 28.4
DPC *e*S **S** **21 51 27.1 +0.8**
DPC Dobruska-Polom 81.24 320 *e*P **P** **21 41 17.5 +0.1**
DPC *e*pP **PcP** **21 41 20.4 -3.2**
DPC *ex* x 21 41 28.4
DPC *e*S **S** **21 51 27.1 +0.8**
DPC AMS AMS 22 24 50.0
DPC Dobruska-Polom 81.24 320 *e*P **P** **21 41 18.2 +0.8**
KTK1 Kautokeino 81.28 340 *e*P **P** **21 41 17.2 0.0**
CONA Conrad Observa 81.29 318⇑ *i*P **P** **21 41 17.3 -0.5**
comp=Z,13nm,0.9s,SNR=5.5
KSP Ksiaz 81.31 321 *e*P **P** **21 41 17.6 -0.1**
KSP *e**PP **PcP** **21 41 24.2 +0.4**
KSP *e*S **S** **21 51 27.0 0.0**
KSP MLR MLR
comp=Z,5µm,25.6s
KSP Ksiaz 81.31 321 *e*P **P** **21 41 18.6 +0.9**
KSP *e*S **S** **21 51 27.2 +0.2**
KSP LMZ LR 22 17 44.6
KOMG Komaggas 81.33 239 *e*P **P** **21 41 16.8 -1.5**
KOMG AMB AMB 21 41 23.1
comp=Z,47nm,1.6s
KOMG Komaggas 81.33 239 P **P** **21 41 16.8 -1.5**
comp=Z,47nm,1.6s
GROS Grobnik 81.40 316 *e*P **P** **21 41 18.5 +0.1**
WDD Wield Dalam 81.41 306 PFAKE 21 41 30.0 +11
WDD LR LR
comp=Z,3µm,19.0s
UPC Upice 81.45 321 *e*P **P** **21 41 19.1 +0.6**
UPC *e* 21 41 27.8
UPC Upice 81.45 321 *e*P **P** **21 41 19.1 +0.6**
UPC *e*pP **PcP** **21 41 21.2 -3.3**
UPC *e*sP **sP** **21 41 27.8 -1.9**
ARSA Arzberg 81.45 317⇑ *i*P **P** **21 41 18.7 +0.1**
comp=Z,41nm,1.0s,SNR=6.1
BOJS Bojanci 81.49 315 *i* P **P** **21 41 19.2 +0.4**
OUZ Omahuta 81.55 126 *e*P **P** **21 41 22.5 +3.2**
comp=Z,69nm,1.7s
TREC Trest 81.67 319 *e*P **P** **21 41 18.9 -0.8**
TREC *e* 21 41 29.1
TREC *e*S **S** **21 51 32.1 +1.3**
TREC MLR MLR
comp=Z,2µm,21.8s
TREC Trest 81.67 319 *e*P **P** **21 41 18.9 -0.8**
TREC *e*pP **PcP** **21 41 22.0 -3.5**
TREC *e*sP **sP** **21 41 29.1 -1.8**
TREC *e*S **S** **21 51 32.1 +1.3**
TREC AMS AMS 22 21 20.0
comp=Z,2µm,21.8s
SOKA Soboth 81.74 317⇓ *i*P **P** **21 41 20.3 +0.1**
comp=Z,36nm,1.0s,SNR=8.7
LJU Ljubljana 82.04 316 *i* P **P** **21 41 22.5 +0.8**
PRU Pruhonice 82.34 320 *e*P **P** **21 41 23.5 +0.3**
PRU *e* 21 41 33.6
PRU *e*S **S** **21 51 38.4 +0.8**
PRU *e* 21 57 04.2
PRU MLR MLR
comp=Z,2µm,14.6s
PRU Pruhonice 82.34 320 *e*P **P** **21 41 23.5 +0.3**
PRU *ex* x 21 41 33.6
PRU *e*S **S** **21 51 38.4 +0.8**
PRU *e*SS **SS** **21 57 04.2 +5.9**
PRU AMS AMS 22 21 50.0
comp=Z,2µm,14.6s
MOA Molln 82.35 318⇑ *i*P **P** **21 41 21.5 -1.8**
comp=Z,15nm,1.0s
PVCC Panska Ves 82.37 320 *e*P **P** **21 41 23.3 0.0**
PVCC *e* 21 41 33.9
PVCC MLR MLR
comp=Z,3µm,22.4s
PVCC Panska Ves 82.37 320 *e*P **P** **21 41 23.3 0.0**
PVCC *ex* x 21 41 26.3
PVCC *ex* x 21 41 33.9
PVCC AMS AMS 22 27 10.0
comp=Z,3µm,22.4s
PRA Prague 82.42 320 P **P** **21 41 24.0 +0.4**
PRA S **S** **21 51 39.0 +0.6**
VOY Vojsko 82.48 316 *e*P **P** **21 41 24.0 -0.1**
VOY *e* 21 41 33.0
VOY *e* 21 41 41.9
VOY *e* 21 41 54.7
BSD Bornholm Skovb 82.60 325⇓ *i*P **P** **21 41 25.9 +1.6**
BSD pmax pmax
comp=Z,32nm,0.9s
BSD MLR MLR
comp=Z,2µm,18.0s
BSD Bornholm Skovb 82.60 325⇓ *i*P **P** **21 41 25.9 +1.6**
comp=Z,32nm,0.9s
BSD
comp=Z,2µm,18.0s
MYKA Terra Mystica 82.69 316⇑ *i*P **P** **21 41 24.9 -0.2**
comp=Z,49nm,1.5s
BRG Berggiesshubel 82.80 321 *e*P **P** **21 41 25.2 -0.3**
comp=Z,5.8nm,1.0s
BRG *i* 21 41 28.0
comp=Z,21nm,1.0s
BRG Berggiesshubel 82.80 321 S S 21 51 49.0 +6.8
BRG SS SS 21 57 21.0 +16
BRG
comp=N,3µm,26.0s
BRG
comp=E,1µm,13.4s

BRG
comp=Z,2µm,14.4s
BRG Berggiesshubel 82.80 321 *e*P **P** **21 41 25.4 -0.1**
comp=Z,68nm,1.5s
GEC2 GERESS Array S 82.80 319 *e*P **P** **21 41 25.9 +0.1**
GEC2 GERESS Array S 82.80 319 *e*P **P** **21 41 25.5 -0.2**
comp=Z,199nm,1.9s
GEC2 GERESS Array S 82.80 319 *e*P **P** **21 41 25.9 +0.1**
GERES GERESS Array B 82.80 319 P **P** **21 41 25.8 +0.1**
GERES GERESS Array B 82.80 319 P **P** **21 41 25.8 +0.1**
comp=Z,33nm,0.9s,baz=94,slow=5.4,SNR=58
KHC Kasperske Hory 82.90 319 *e*P **P** **21 41 25.4 -0.8**
KHC *e* 21 41 35.7
KHC *e*S **S** **21 51 43.3 -0.2**
KHC *e* 21 57 06.6
KHC MLR MLR
comp=Z,2µm,14.3s
KHC Kasperske Hory 82.90 319 *e*P **P** **21 41 25.4 -0.8**
KHC *e*pP **PcP** **21 41 28.8 -2.1**
KHC *ex* x 21 41 35.7
KHC *e*S **S** **21 51 43.3 -0.2**
KHC *e*SS **SS** **21 57 06.6 -0.1**
KHC AMS AMS 22 24 30.0
comp=Z,2µm,14.3s
KHC Kasperske Hory 82.90 319 *e*P **P** **21 41 25.9 -0.2**
comp=Z,131nm,2.4s
TRO Tromso 82.91 340 *e*P **P** **21 41 28.8 +3.2**
TRO IAmb IAmb 21 41 29.2
comp=Z,52nm,1.0s
TRO IAMS 22 23 26.8
comp=Z,10µm,22.2s
TRO AMS AMS 22 23 31.0
comp=Z,6µm,17.6s
TRO IAMS 22 23 39.6
comp=Z,7µm,19.2s
HOPEN Hopen 82.93 347 *e*P **P** **21 41 25.2 -0.5**
HOPEN AMS AMS 22 22 47.3
comp=Z,5µm,17.3s
RJOB Jochberg 83.34 318 *e*P **P** **21 41 27.3 -1.2**
comp=Z,25nm,0.9s
MSVF Nonsavu 83.36 108 PFAKE 21 41 40.0 +11
MSVF LR LR
comp=Z,4µm,19.0s
WET Wettzell 83.36 319 *e*P **P** **21 41 28.2 -0.3**
comp=Z,128nm,1.9s
SNZO South Karori 83.41 132 PFAKE 21 41 40.0 +11
SNZO LR LR
comp=Z,7µm,20.0s
CLL Collm 83.42 321 *i* P **P** **21 41 30.0 +1.3**
CLL *e*S **S** **21 51 48.0 -0.5**
CLL pmax pmax
comp=Z,21nm,1.0s
CLL MLR MLR
comp=Z,4µm,20.3s
CLL Collm 83.42 321 *e*P **P** **21 41 28.0 -0.7**
comp=Z,74nm,1.9s
CLL Collm 83.42 321 *i* P **P** **21 41 30.0 +1.3**
comp=Z,21nm,1.0s
CLL *i* (sP) **sP** **21 41 38.7 -1.3**
comp=Z,74nm,1.9s
CLL *e*S **S** **21 51 48.0 -0.5**
CLL *e*SS **SS** **21 57 19.0 +4.8**
CLL LmV 22 26 00.0
comp=Z,4µm,20.3s
ABTA Abfaltersbach 83.47 317⇑ *i*P **P** **21 41 28.2 -1.0**
comp=Z,22nm,0.9s,SNR=6.8
NKC Novy Kostel 83.71 320 *e*P **P** **21 41 30.2 -0.1**
NKC *e* 21 41 40.8
NKC *e*S **S** **21 51 50.7 -0.8**
NKC MLR MLR
comp=Z,2µm,23.2s
NKC Novy Kostel 83.71 320 *e*P **P** **21 41 30.2 -0.1**
NKC *e*pP **PcP** **21 41 33.1 -1.3**
NKC *ex* x 21 41 40.8
NKC *e*S **S** **21 51 50.7 -0.8**
NKC AMS AMS 22 25 10.0
comp=Z,2µm,23.2s
TANN Tannenbergstha 83.71 320 *e*P **P** **21 41 29.9 -0.4**
comp=Z,49nm,1.7s
BJO Bjornoya 83.83 345 AMS AMS 22 27 10.2
comp=Z,4µm,14.4s
ROTZ Rotzenmuhle 83.84 320 *e*P **P** **21 41 31.0 +0.1**
comp=Z,106nm,1.9s
STEI Steigen 83.95 338 *e*P **P** **21 41 31.6 +0.5**
STEI IAmb IAmb 21 41 34.6
comp=Z,85nm,0.9s
WTTA Wattenberg 84.10 317⇑ *i*P **P** **21 41 32.3 -0.3**
comp=Z,41nm,0.9s,SNR=11
WATA Walderalm 84.14 317⇓ *i*P **P** **21 41 31.8 -0.9**
comp=Z,17nm,0.8s,SNR=6.3
FUR Furstenfeldbru 84.38 318 *e*P **P** **21 41 32.8 -0.9**
comp=Z,52nm,1.3s
BKZ Black Stump Fm 84.43 130 *e*P **P** **21 41 34.9 +0.6**
comp=Z,39nm,1.1s
MOTA Moosalm 84.46 317⇓ *i*P **P** **21 41 33.8 -0.5**
comp=Z,39nm,0.9s,SNR=26
GRF Grafenberg Arr 84.47 319 *e*P **P** **21 41 34.1 -0.1**
comp=Z,63nm,1.1s
GRF *e*L L 22 23 18.6
comp=Z,2µm,21.7s
GRFO Grafenberg 84.47 319 *e*P **P** **21 41 35.0 +0.8**
GRFO pmax pmax
comp=Z,44nm,0.9s
GRFO Grafenberg 84.47 319 *e*P **P** **21 41 35.0 +0.8**
comp=Z,44nm,0.9s
LOF Lofoten 84.61 338 *e*P **P** **21 41 34.4 0.0**
RETA Reutte 84.70 317⇓ *i*P **P** **21 41 33.6 -1.9**
comp=Z,38nm,1.1s,SNR=7.4
FETA Feichten 84.71 317⇑ *i*P **P** **21 41 34.8 -0.9**
comp=Z,25nm,1.1s,SNR=7.4
URZ Urewera 84.79 129 *e*P **P** **21 41 36.8 +0.9**
URZ Urewera 84.79 129 P **P** **21 41 35.8 -0.1**
comp=Z,8.0nm,0.6s,baz=47,slow=15,SNR=6.5
NC602 NORSAR Array S 84.85 331 *e*P **P** **21 41 34.6 -1.2**
VLC Villacollemand 84.88 314 *e*P **P** **21 41 37.2 +0.8**
comp=Z,20nm,1.0s
VLC LR LR
comp=Z,3µm,22.0s
NSS Namsos 84.92 334 *e*P **P** **21 41 35.9 -0.1**
NSS AMS AMS 22 23 02.7
comp=Z,4µm,17.9s
FUORN Ofenpass-Fuorn 85.02 316 *e*P **P** **21 41 37.5 +0.2**
comp=Z,82nm,1.2s
NB2 NORSAR Subarra 85.03 331 P **P** **21 41 36.5 -0.3**
comp=Z,38nm,0.9s,baz=96,slow=5.3
NB2 NORSAR Subarra 85.03 331 P **P** **21 41 36.5 -0.3**
baz=96,slow=5.3
NOA NORSAR Array B 85.03 331 P **P** **21 41 36.3 -0.5**
NOA PP **PP** **21 44 54.8 +1.0**
NOA NORSAR Array B 85.03 331 P **P** **21 41 36.3 -0.5**
comp=Z,28nm,0.9s,baz=93,slow=5.5,SNR=38
NOA PP **PP** **21 44 54.8 +1.0**
comp=Z,5.4nm,1.0s,baz=92,slow=8.5,SNR=4.4
CLZ Clausthal 85.09 322 *e*P **P** **21 41 36.9 -0.3**
comp=Z,50nm,1.5s
NAO01 NORSAR Array S 85.18 331 *e*P **P** **21 41 37.9 +0.4**
comp=Z,33nm,0.9s
SPA0 Spitsbergen Ar 85.18 348 *e*S **S** **21 52 03.8 -1.4**
SPITS Spitsbergen Ar 85.18 348 P **P** **21 41 36.3 -0.9**
SPITS Spitsbergen Ar 85.18 348 P **P** **21 41 36.3 -0.9**
comp=Z,58nm,0.9s,baz=90,slow=0.1,SNR=12
BSEG Bad Segeberg 85.19 324 *e*P **P** **21 41 37.6 0.0**
comp=Z,82nm,1.4s
NRDL Niedersach Rie 85.27 322 *e*P **P** **21 41 38.1 +0.1**
comp=Z,89nm,1.5s
UBBA Unterbreizbach 85.29 321 *e*P **P** **21 41 37.8 -0.3**
comp=Z,42nm,1.7s
DAVA Damuels 85.29 317⇑ *i*P **P** **21 41 38.0 -0.5**
comp=Z,44nm,0.9s,SNR=13
VSL Villasalto 85.58 309 *e*P **P** **21 41 41.6 +1.6**
comp=Z,36nm,1.0s
VSL LR LR
comp=Z,1µm,21.0s
TBLU Trondheim 85.59 333 *e*P **P** **21 41 40.3 +0.8**
TBLU AMS AMS 22 24 20.7
comp=Z,8µm,23.2s
KEST Kesra 85.61 305 *e*P **P** **21 41 42.3 +2.0**
KEST Kesra 85.61 305 P **P** **21 41 40.8 +0.5**
comp=Z,13nm,0.9s,baz=290,slow=4.0,SNR=16
TUE Stuetta 85.65 316 *e*P **P** **21 41 42.3 +1.9**
comp=Z,48nm,1.2s
TUE LR LR
comp=Z,4µm,22.0s
KONO Kongsberg 85.77 329 *e* 21 52 16.5
KONO AMS AMS 22 25 22.9
comp=Z,4µm,18.8s

KONO	**Kongsberg**	**85.77**	**329**	*e*P	**P**	**21 41 41.2**	**+0.8**
KONO	comp=Z,19nm,1.0s			pmax	pmax		
KONO	comp=Z,6µm,19.0s			MLR	MLR		
KONO	**Kongsberg**	**85.77**	**329**	*e*P	**P**	**21 41 41.2**	**+0.8**
KONO	comp=Z,19nm,1.0s			LR	LR		
STU	**Stuttgart**	**85.78**	**319**	*e*P	**P**	**21 41 43.1**	**+2.4**
STU	**Stuttgart**	**85.78**	**319**	*e*P	**P**	**21 41 39.9**	**-0.8**
STU	comp=Z,43nm,1.5s **Stuttgart**	**85.78**	**319**	*e*P	**P**	**21 41 43.1**	**+2.4**
MIDW	**Midway**	**85.83**	**62**	PFAKE		21 41 50.0	+8.6
MIDW	comp=Z,4µm,22.0s			LR	LR		
PGF	**Pioggiola**	**85.87**	**312**	*e*P	**P**	**21 41 41.0**	**-0.5**
PGF	comp=Z,127nm,1.6s **Pioggiola**	**85.87**	**312**	*e*P	**P**	**21 41 41.0**	**-0.5**
PGF	comp=Z,127nm,1.6s			pmax	pmax		
PGF	**Pioggiola**	**85.87**	**312**	*e*P	**P**	**21 41 41.0**	**-0.5**
	comp=Z,127nm,1.6s						
MUD	**Monsted U'grnd**	**85.92**	**326**	*i* P	**P**	**21 41 44.0**	**+2.8**
MUD	comp=Z,26nm,0.9s			pmax	pmax		
MUD	comp=Z,4µm,22.0s			MLR	MLR		
MUD	**Monsted U'grnd**	**85.92**	**326**	*i* P	**P**	**21 41 44.0**	**+2.8**
MUD	comp=Z,26nm,0.9s						
	comp=Z,4µm,21.0s						
KBS	**Kingsbay**	**86.16**	**349**	*e*P	**P**	**21 41 41.5**	**-0.5**
KBS				*e*		21 52 14.7	
KBS	comp=Z,4µm,21.0s			AMS	AMS	22 24 56.8	
KBS	**Kingsbay**	**86.16**	**349**	PFAKE		21 41 50.0	+8.0
KBS	comp=Z,5µm,22.0s			LR	LR		
BFO	**Black Forest**	**86.35**	**318**	*ce*P	**P**	**21 41 43.7**	**+0.1**
BFO	**Black Forest**	**86.35**	**318**	*e*P	**P**	**21 41 42.5**	**-1.1**
BFO	comp=Z,30nm,1.1s **Black Forest**	**86.35**	**318**	*e*P	**P**	**21 41 42.9**	**-0.6**
BFO	comp=Z,2µm,22.0s			LR	LR		
BFO	**Black Forest**	**86.35**	**318**	P	**P**	**21 41 43.0**	**-0.6**
FELD	comp=Z,142nm,1.0s,SNR=6.2 **Feldberg im Sc**	**86.57**	**318**	*e*P	**P**	**21 41 43.6**	**-1.2**
LANF	**Langenberg**	**86.69**	**319**	*e*P	**P**	**21 41 46.0**	**+0.7**
IBBN	**Ibbenburen**	**86.71**	**322**	*e*P	**P**	**21 41 45.0**	**-0.2**
MOL	comp=Z,62nm,1.2s **Molde**	**86.82**	**332**	*e*P	**P**	**21 41 46.1**	**+0.6**
MOL				IAmb	IAmb	21 41 50.1	
MOL	comp=Z,46nm,0.8s			AMS	AMS	22 26 02.6	
SAOF	comp=Z,5µm,25.3s **Saorge**	**86.92**	**314**	*e*P	**P**	**21 41 47.7**	**+1.2**
WLS	**Welschbruch**	**87.00**	**318**	*e*P	**P**	**21 41 46.3**	**-0.5**
SBF	**Sospel**	**87.01**	**314**	*e*P	**P**	**21 41 46.3**	**-0.7**
SBF	comp=Z,95nm,1.0s			pmax	pmax		
SBF	comp=Z,95nm,1.0s **Sospel**	**87.01**	**314**	*e*P	**P**	**21 41 46.3**	**-0.7**
	comp=Z,95nm,1.0s						
BUG	**Bochum--Univer**	**87.02**	**321**	*e*P	**P**	**21 41 46.4**	**-0.3**
CDF	comp=Z,114nm,1.8s **Champ du Feu**	**87.05**	**318**	*e*P	**P**	**21 41 46.1**	**-1.0**
CDF	comp=Z,25nm,0.9s **Champ du Feu**	**87.05**	**318**	*e*P	**P**	**21 41 46.1**	**-1.0**
CDF	comp=Z,25nm,0.9s			pmax	pmax		
CDF	**Champ du Feu**	**87.05**	**318**	*e*P	**P**	**21 41 46.1**	**-1.0**
	comp=Z,25nm,0.9s						
REVF	**Revere**	**87.06**	**313**	*e*P	**P**	**21 41 49.3**	**+2.1**
SENIN	**Lac Senin/Sane**	**87.06**	**316**	*e*P	**P**	**21 41 48.1**	**+0.7**
LUCF	comp=Z,138nm,1.8s **Luceram**	**87.07**	**314**	*e*P	**P**	**21 41 46.4**	**-0.9**
ECH	**Echery**	**87.13**	**318**	*e*P	**P**	**21 41 48.0**	**+0.6**
ECH	**Echery**	**87.13**	**318**	*e*P	**P**	**21 41 47.0**	**-0.4**
ECH	comp=Z,23nm,0.9s			pmax	pmax		
ECH	comp=Z,3µm,20.0s			MLR	MLR		
ECH	**Echery**	**87.13**	**318**	*e*P	**P**	**21 41 47.0**	**-0.4**
ECH	comp=Z,23nm,0.9s			LR	LR		
TOUF	comp=Z,3µm,20.0s **Mont Tournerai**	**87.14**	**314**	*e*P	**P**	**21 41 46.9**	**-0.9**
MOF	**Molkenrain**	**87.15**	**318**	*e*P	**P**	**21 41 48.6**	**+1.0**
MVIF	**Mont Vial**	**87.21**	**314**	*e*P	**P**	**21 41 49.4**	**+1.3**
WTSB	**Winterswijk**	**87.30**	**322**	*e*P	**P**	**21 41 48.2**	**+0.2**
HINF	**Hinteralfeld**	**87.34**	**318**	*e*P	**P**	**21 41 47.2**	**-1.3**
HINF	comp=Z,22nm,1.1s **Hinteralfeld**	**87.34**	**318**	*e*P	**P**	**21 41 47.2**	**-1.3**
HINF	comp=Z,22nm,1.1s			pmax	pmax		
HINF	**Hinteralfeld**	**87.34**	**318**	*e*P	**P**	**21 41 47.2**	**-1.3**
CALN	comp=Z,22nm,1.1s **Calern**	**87.41**	**314**	*e*P	**P**	**21 41 49.9**	**+0.9**
LPG	**La Plagne**	**87.46**	**315**	*e*P	**P**	**21 41 48.9**	**-0.5**
LPG	comp=Z,61nm,0.9s			pmax	pmax		
LPG	**La Plagne**	**87.46**	**315**	*e*P	**P**	**21 41 48.9**	**-0.5**
	comp=Z,61nm,0.9s						
LPG	**La Plagne**	**87.46**	**315**	*e*P	**P**	**21 41 48.9**	**-0.5**
	comp=Z,61nm,0.9s						
MBDF	**Montbardon**	**87.47**	**314**	*e*P	**P**	**21 41 48.1**	**-1.2**
MBDF	comp=Z,67nm,1.3s **Montbardon**	**87.47**	**314**	*e*P	**P**	**21 41 48.1**	**-1.2**
MBDF	comp=Z,67nm,1.3s			pmax	pmax		
MBDF	**Montbardon**	**87.47**	**314**	*e*P	**P**	**21 41 48.1**	**-1.2**
	comp=Z,67nm,1.3s						
LPL	**La Plagne**	**87.48**	**315**	*e*P	**P**	**21 41 48.9**	**-0.5**
LPL	comp=Z,88nm,1.0s **La Plagne**	**87.48**	**315**	*e*P	**P**	**21 41 48.9**	**-0.5**
LPL	comp=Z,88nm,1.0s			pmax	pmax		
LPL	**La Plagne**	**87.48**	**315**	*e*P	**P**	**21 41 48.9**	**-0.5**
	comp=Z,88nm,1.0s						
BNI	**Bardonecchia**	**87.53**	**315**	*e*P	**P**	**21 41 51.9**	**+2.4**
BNI	comp=Z,3µm,20.0s			MLR	MLR		
BNI	**Bardonecchia**	**87.53**	**315**	*e*P	**P**	**21 41 51.9**	**+2.4**
BNI	comp=Z,3µm,20.0s			LR	LR		
RSL	**Roselend**	**87.55**	**315**	*e*P	**P**	**21 41 50.0**	**+0.3**
FRF	**La Foret Royal**	**87.59**	**313**	*e*P	**P**	**21 41 49.4**	**-0.3**
FRF	comp=Z,84nm,1.3s **La Foret Royal**	**87.59**	**313**	*e*P	**P**	**21 41 49.4**	**-0.3**
FRF	comp=Z,84nm,1.3s			pmax	pmax		
FRF	**La Foret Royal**	**87.59**	**313**	*e*P	**P**	**21 41 49.4**	**-0.3**
	comp=Z,84nm,1.3s						
VNDA	**Vanda**	**87.59**	**169**	*e*P	**P**	**21 41 50.0**	**+1.1**
VNDA	**Vanda**	**87.59**	**169**	P	**P**	**21 41 49.7**	**+0.8**
HAU	comp=Z,1.1nm,0.8s,baz=240,slow=4.8,SNR=4.4 **Haudompre**	**87.68**	**318**	*e*P	**P**	**21 41 49.2**	**-0.9**
HAU	comp=Z,75nm,0.9s			*e*R			
HAU	comp=Z,2µm,19.2s **Haudompre**	**87.68**	**318**	*e*P	**P**	**21 41 49.2**	**-0.9**
HAU	comp=Z,75nm,0.9s			pmax	pmax		
HAU	**Haudompre**	**87.68**	**318**	*e*P	**P**	**21 41 49.2**	**-0.9**
	comp=Z,75nm,0.9s						
WLF	**Walferdange**	**87.76**	**319**	P	**P**	**21 41 53.3**	**+3.0**
WLF	**Walferdange**	**87.76**	**319**	*e*P	**P**	**21 41 52.9**	**+2.5**
WLF	comp=Z,50nm,1.4s			pmax	pmax		
WLF	comp=Z,4µm,22.0s			MLR	MLR		
WLF	**Walferdange**	**87.76**	**319**	*e*P	**P**	**21 41 50.4**	**0.0**
WLF	comp=Z,110nm,1.9s **Walferdange**	**87.76**	**319**	*e*P	**P**	**21 41 52.9**	**+2.5**
WLF	comp=Z,50nm,1.4s			LR	LR		
MEM	comp=Z,4µm,22.0s **Membach**	**87.83**	**320**	P	**P**	**21 41 51.3**	**+0.6**
MEM	comp=Z,20nm,1.2s **Membach**	**87.83**	**320**	*e*P	**P**	**21 41 51.9**	**+1.2**
MEM	comp=Z,31nm,1.0s			pmax	pmax		
MEM	**Membach**	**87.83**	**320**	*e*P	**P**	**21 41 51.9**	**+1.2**
	comp=Z,31nm,1.0s						

HGN	**Heimansgroeve**	**87.87**	**321**	*e*P	**P**	**21 41 52.8**	**+1.9**
HGN	**Heimansgroeve**	**87.87**	**321**	*e*S	**S**	**21 52 34.8**	**+2.5**
HGN				*e*ScSP		21 54 01.8	
HGN				*e*SS	SS	21 59 05.5	+46
CABF	**La Chapelle**	**87.90**	**316**	*e*P	**P**	**21 41 50.9**	**-0.3**
CABF	comp=Z,79nm,1.1s **La Chapelle**	**87.90**	**316**	*e*P	**P**	**21 41 50.9**	**-0.3**
CABF	comp=Z,79nm,1.1s			pmax	pmax		
CABF	**La Chapelle**	**87.90**	**316**	*e*P	**P**	**21 41 50.9**	**-0.3**
	comp=Z,79nm,1.1s						
BER	**Bergen**	**87.91**	**330**	AMS	AMS	22 26 48.7	
THEF	comp=Z,5µm,22.0s **They Montfort**	**87.92**	**318**	*e*P	**P**	**21 41 51.5**	**+0.3**
RAO	**Raoul Island**	**87.99**	**119**	PFAKE		21 42 00.0	+8.1
RAO	comp=Z,4µm,22.0s			LR	LR		
PAGF	**Fort de Pagny**	**88.08**	**318**	*e*P	**P**	**21 41 51.3**	**-0.6**
PAGF	comp=Z,8.9nm,1.1s **Fort de Pagny**	**88.08**	**318**	*e*P	**P**	**21 41 51.3**	**-0.6**
ORIF	comp=Z,8.9nm,1.0s **Oris-en-Rattie**	**88.10**	**315**	*e*P	**P**	**21 41 51.2**	**-1.0**
ORIF	comp=Z,4µm,20.8s			*e*R			
ORIF	**Oris-en-Rattie**	**88.10**	**315**	*e*P	**P**	**21 41 51.2**	**-1.0**
ORIF	**Oris-en-Rattie**	**88.10**	**315**	*e*P	**P**	**21 41 51.2**	**-1.0**
BCLA	**Clavier**	**88.29**	**320**	P	**P**	**21 41 52.2**	**-0.6**
SMRF	**Simiane la Rot**	**88.35**	**314**	*e*P	**P**	**21 41 52.7**	**-0.7**
SMRF	comp=Z,129nm,1.5s **Simiane la Rot**	**88.35**	**314**	*e*P	**P**	**21 41 52.7**	**-0.7**
MEZF	comp=Z,129nm,1.5s **Maizieres J'vi**	**88.53**	**318**	*e*P	**P**	**21 41 53.7**	**-0.3**
MEZF	comp=Z,30nm,0.9s **Maizieres J'vi**	**88.53**	**318**	*e*P	**P**	**21 41 53.7**	**-0.3**
SFTF	comp=Z,30nm,0.9s **Sexfontaines**	**88.55**	**318**	*e*P	**P**	**21 41 53.6**	**-0.6**
SFTF	comp=Z,78nm,0.9s **Sexfontaines**	**88.55**	**318**	*e*P	**P**	**21 41 53.6**	**-0.6**
GIVF	comp=Z,78nm,0.9s **Givet**	**88.61**	**320**	*e*P	**P**	**21 41 54.1**	**-0.3**
GIVF	comp=Z,53nm,1.0s **Givet**	**88.61**	**320**	*e*P	**P**	**21 41 54.1**	**-0.3**
GIVF	comp=Z,53nm,1.0s			pmax	pmax		
GIVF	**Givet**	**88.61**	**320**	*e*P	**P**	**21 41 54.1**	**-0.3**
GAMB	comp=Z,53nm,1.0s **Gambell**	**88.62**	**26**	*e*P	**P**	**21 41 54.6**	**+0.5**
SBA	comp=Z,55nm,1.3s **Scott Base**	**88.69**	**168**	PFAKE		21 42 00.0	+5.8
SBA	comp=Z,5µm,19.0s			LR	LR		
DOU	**Dourbes**	**88.75**	**320**	P	**P**	**21 41 55.9**	**+0.9**
SNF	comp=Z,8.1nm,1.0s **Seneffe**	**88.93**	**320**	P	**P**	**21 41 55.7**	**-0.2**
VIVF	**Saint-Julien-l**	**88.96**	**315**	*e*P	**P**	**21 41 55.8**	**-0.4**
VIVF	comp=Z,47nm,1.2s **Saint-Julien-l**	**88.96**	**315**	*e*P	**P**	**21 41 55.8**	**-0.4**
VIVF	comp=Z,47nm,1.2s			pmax	pmax		
VIVF	**Saint-Julien-l**	**88.96**	**315**	*e*P	**P**	**21 41 55.8**	**-0.4**
SSB	comp=Z,47nm,1.2s **Saint Sauveur**	**89.03**	**315**	*e*P	**P**	**21 41 56.6**	**+0.1**
SSB	comp=Z,21nm,1.0s			pmax	pmax		
SSB	comp=Z,2µm,20.0s			MLR	MLR		
SSB	**Saint Sauveur**	**89.03**	**315**	*e*P	**P**	**21 41 56.6**	**+0.1**
SSB	comp=Z,21nm,1.0s			LR	LR		
TAM	comp=Z,2µm,20.0s **Tamanrasset**	**89.30**	**293**	*e*P	**P**	**21 41 59.8**	**+1.4**
TAM	comp=Z,25nm,1.1s			pmax	pmax		
TAM	comp=Z,4µm,19.0s			MLR	MLR		
TAM	**Tamanrasset**	**89.30**	**293**	*e*P	**P**	**21 41 59.8**	**+1.4**
TAM	comp=Z,25nm,1.1s			LR	LR		
LOR	comp=Z,4µm,19.0s **Lormes**	**89.39**	**317**	*e*P	**P**	**21 41 57.8**	**-0.4**
LOR	comp=Z,196nm,1.6s			*e*R			
LOR	comp=Z,2µm,20.5s						
LOR	**Lormes**	**89.39**	**317**	*e*P	**P**	**21 41 57.8**	**-0.4**
SMF	comp=Z,196nm,1.6s **Signal de Mont**	**89.44**	**316**	*e*P	**P**	**21 41 57.9**	**-0.5**
SMF	comp=Z,44nm,0.9s **Signal de Mont**	**89.44**	**316**	*e*P	**P**	**21 41 57.9**	**-0.5**
SMF	comp=Z,45nm,0.9s			pmax	pmax		
SMF	**Signal de Mont**	**89.44**	**316**	*e*P	**P**	**21 41 57.9**	**-0.5**
LASF	comp=Z,44nm,0.9s **Ste Croix**	**89.58**	**314**	*e*P	**P**	**21 41 58.3**	**-0.8**
LASF	comp=Z,104nm,1.6s **Ste Croix**	**89.58**	**314**	*e*P	**P**	**21 41 58.3**	**-0.8**
SSF	comp=Z,104nm,1.6s **Saint Saulge**	**89.64**	**317**	*e*P	**P**	**21 41 59.2**	**-0.1**
SSF	comp=Z,154nm,1.6s **Saint Saulge**	**89.64**	**317**	*e*P	**P**	**21 41 59.2**	**-0.1**
SSF	comp=Z,154nm,1.6s			pmax	pmax		
SSF	**Saint Saulge**	**89.64**	**317**	*e*P	**P**	**21 41 59.2**	**-0.1**
	comp=Z,154nm,1.6s						
AVF	**Avril sur Loir**	**89.77**	**317**	*e*P	**P**	**21 41 59.5**	**-0.4**
AVF	comp=Z,43nm,1.0s **Avril sur Loir**	**89.77**	**317**	*e*P	**P**	**21 41 59.5**	**-0.4**
AVF	comp=Z,43nm,1.0s			pmax	pmax		
AVF	**Avril sur Loir**	**89.77**	**317**	*e*P	**P**	**21 41 59.5**	**-0.4**
	comp=Z,43nm,1.0s						
LBL	**Lubilhac**	**89.94**	**315**	*e*P	**P**	**21 42 03.4**	**+2.5**
AGO	**Saint Agoulin**	**89.97**	**316**	*e*P	**P**	**21 42 01.5**	**+0.6**
PYM	**Petit Puy Mans**	**90.08**	**316**	*e*P	**P**	**21 42 02.2**	**+0.7**
TNA	**Tin City**	**90.08**	**24**	*e*P	**P**	**21 42 01.3**	**+0.4**
BGF	comp=Z,9.3nm,0.8s **Bois d'Agland**	**90.13**	**316**	*e*P	**P**	**21 42 01.8**	**+0.2**
BGF	comp=Z,82nm,1.1s **Bois d'Agland**	**90.13**	**316**	*e*P	**P**	**21 42 01.8**	**+0.2**
BGF	comp=Z,83nm,1.1s			pmax	pmax		
BGF	**Bois d'Agland**	**90.13**	**316**	*e*P	**P**	**21 42 01.8**	**+0.2**
	comp=Z,82nm,1.1s						
HYF	**Humbligny**	**90.22**	**317**	*e*P	**P**	**21 42 02.3**	**+0.3**
HYF	**Humbligny**	**90.22**	**317**	*e*P	**P**	**21 42 02.3**	**+0.3**
MENF	**Mencas**	**90.28**	**320**	*e*P	**P**	**21 42 00.4**	**-1.8**
TCF	**Toulx Ste Croi**	**90.59**	**316**	*e*P	**P**	**21 42 02.8**	**-1.0**
TCF	comp=Z,178nm,1.9s **Toulx Ste Croi**	**90.59**	**316**	*e*P	**P**	**21 42 02.8**	**-1.0**
TCF	comp=Z,178nm,1.9s			pmax	pmax		
TCF	**Toulx Ste Croi**	**90.59**	**316**	*e*P	**P**	**21 42 02.8**	**-1.0**
	comp=Z,178nm,1.9s						
CAF	**Calviac**	**90.80**	**315**	*e*P	**P**	**21 42 05.1**	**+0.3**
CAF	comp=Z,25nm,1.1s **Calviac**	**90.80**	**315**	*e*P	**P**	**21 42 05.1**	**+0.3**
CAF	comp=Z,25nm,1.1s			pmax	pmax		
CAF	**Calviac**	**90.80**	**315**	*e*P	**P**	**21 42 05.1**	**+0.3**
	comp=Z,25nm,1.1s						
MTLF	**Montolieu**	**90.82**	**313**	*e*P	**P**	**21 42 04.9**	**0.0**
MTLF	comp=Z,88nm,1.4s **Montolieu**	**90.82**	**313**	*e*P	**P**	**21 42 04.9**	**0.0**
MTLF	comp=Z,88nm,1.4s			pmax	pmax		
MTLF	**Montolieu**	**90.82**	**313**	*e*P	**P**	**21 42 04.9**	**0.0**
	comp=Z,88nm,1.4s						
RJF	**Les Rejaudoux**	**91.16**	**315**	*e*P	**P**	**21 42 06.8**	**+0.4**
RJF	comp=Z,104nm,1.5s			*e*R			
RJF	comp=Z,2µm,22.8s						
RJF	**Les Rejaudoux**	**91.16**	**315**	*e*P	**P**	**21 42 06.8**	**+0.4**
RJF	comp=Z,104nm,1.5s			pmax	pmax		
RJF	**Les Rejaudoux**	**91.16**	**315**	*e*P	**P**	**21 42 06.8**	**+0.4**
	comp=Z,104nm,1.5s						
LFF	**La Frestale**	**91.74**	**315**	*e*P	**P**	**21 42 08.6**	**-0.5**
LFF	comp=Z,88nm,1.3s **La Frestale**	**91.74**	**315**	*e*P	**P**	**21 42 08.6**	**-0.5**
LFF	comp=Z,88nm,1.3s			pmax	pmax		
LFF	**La Frestale**	**91.74**	**315**	*e*P	**P**	**21 42 08.6**	**-0.5**
	comp=Z,88nm,1.3s						
LDF	**La Druitiere**	**91.95**	**319**	*e*P	**P**	**21 42 09.9**	**-0.1**
LDF	comp=Z,84nm,1.0s **La Druitiere**	**91.95**	**319**	*e*P	**P**	**21 42 09.9**	**-0.1**
LDF	comp=Z,84nm,1.0s			pmax	pmax		

LDF	**La Druitiere**	**91.95**	**319**	*e*P	**P**	**21 42 09.9**	**-0.1**
FLN	comp=Z,84nm,1.0s **La Foliniere**	**92.17**	**319**	*e*P	**P**	**21 42 10.8**	**-0.2**
FLN	comp=Z,101nm,1.0s			*e*R			
FLN	comp=Z,2µm,20.5s **La Foliniere**	**92.17**	**319**	*e*P	**P**	**21 42 10.8**	**-0.2**
FLN	comp=Z,101nm,1.0s			pmax	pmax		
FLN	**La Foliniere**	**92.17**	**319**	*e*P	**P**	**21 42 10.8**	**-0.2**
	comp=Z,101nm,1.0s						
MFF	**Saint Martin d**	**92.18**	**317**	*e*P	**P**	**21 42 10.1**	**-1.0**
MFF	comp=Z,154nm,1.6s **Saint Martin d**	**92.18**	**317**	*e*P	**P**	**21 42 10.1**	**-1.0**
MFF	comp=Z,154nm,1.6s			pmax	pmax		
MFF	**Saint Martin d**	**92.18**	**317**	*e*P	**P**	**21 42 10.1**	**-1.0**
	comp=Z,154nm,1.6s						
EPF	**Esparros**	**92.21**	**313**	*e*P	**P**	**21 42 10.6**	**-0.8**
EPF	comp=Z,37nm,1.3s **Esparros**	**92.21**	**313**	*e*P	**P**	**21 42 10.6**	**-0.8**
EPF	comp=Z,37nm,1.3s			pmax	pmax		
EPF	**Esparros**	**92.21**	**313**	*e*P	**P**	**21 42 10.6**	**-0.8**
	comp=Z,37nm,1.3s						
GRR	**Gorron**	**92.46**	**319**	*e*P	**P**	**21 42 12.4**	**+0.1**
GRR	comp=Z,104nm,1.3s **Gorron**	**92.46**	**319**	*e*P	**P**	**21 42 12.4**	**+0.1**
GRR	comp=Z,104nm,1.3s			pmax	pmax		
GRR	**Gorron**	**92.46**	**319**	*e*P	**P**	**21 42 12.4**	**+0.1**
	comp=Z,104nm,1.3s						
QSPA	**South Pole Qui**	**92.68**	**180**	*e*P	**P**	**21 42 14.7**	**+1.6**
QSPA	comp=Z,16nm,1.1s			LR	LR		
ETSF	comp=Z,12µm,19.0s **Etsaut**	**92.88**	**313**	*e*P	**P**	**21 42 16.6**	**+2.0**
ETSF	comp=Z,55nm,1.1s **Etsaut**	**92.88**	**313**	*e*P	**P**	**21 42 16.6**	**+2.0**
ETSF	comp=Z,55nm,1.1s			pmax	pmax		
ETSF	**Etsaut**	**92.88**	**313**	*e*P	**P**	**21 42 16.6**	**+2.0**
	comp=Z,55nm,1.1s						
AFI	**Afiamalu**	**92.90**	**104**	PFAKE		21 42 30.0	+15
AFI	comp=Z,1µm,22.0s			LR	LR		
ESK	**Eskdalemuir**	**92.94**	**326**	PFAKE		21 42 20.0	+5.6
ESK	comp=Z,5µm,21.0s			LR	LR		
SJPF	**Ste Jean**	**93.34**	**313**	*e*P	**P**	**21 42 17.0**	**+0.4**
SJPF	comp=Z,61nm,1.2s **Ste Jean**	**93.34**	**313**	*e*P	**P**	**21 42 17.0**	**+0.4**
SJPF	comp=Z,61nm,1.2s			pmax	pmax		
SJPF	**Ste Jean**	**93.34**	**313**	*e*P	**P**	**21 42 17.0**	**+0.4**
	comp=Z,61nm,1.2s						
TOAO	**Torodi Ar. Sit**	**93.48**	**283**	*e*P	**P**	**21 42 18.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**93.48**	**283**	P	**P**	**21 42 18.9**	**+1.1**
TORD				PP	PP	21 46 10.2	+7.8
TORD				PKKPbc	**PKKPbc**	**21 59 25.9**	**+2.0**
TORD	**Torodi Ar. Bea**	**93.48**	**283**	P	**P**	**21 42 18.9**	**+1.1**
TORD	comp=Z,6.8nm,1.0s,baz=82,slow=4.1,SNR=24			PP	PP	21 46 10.2	+7.8
TORD	comp=Z,2.3nm,1.0s,baz=74,slow=6.4,SNR=4.7			PKKPbc	**PKKPbc**	**21 59 25.9**	**+2.0**
SGMF	comp=Z,1.1nm,0.8s,baz=303,slow=3.3,SNR=8.8 **Saint Gilles**	**93.60**	**319**	*e*P	**P**	**21 42 16.4**	**-1.2**
SGMF	comp=Z,195nm,1.8s **Saint Gilles**	**93.60**	**319**	*e*P	**P**	**21 42 16.4**	**-1.2**
SGMF	comp=Z,195nm,1.8s			pmax	pmax		
SGMF	**Saint Gilles**	**93.60**	**319**	*e*P	**P**	**21 42 16.4**	**-1.2**
	comp=Z,195nm,1.8s						
QUIF	**Quistinic**	**94.05**	**318**	*e*P	**P**	**21 42 19.4**	**-0.3**
QUIF	comp=Z,358nm,1.8s **Quistinic**	**94.05**	**318**	*e*P	**P**	**21 42 19.4**	**-0.3**
QUIF	comp=Z,358nm,1.8s			pmax	pmax		
QUIF	**Quistinic**	**94.05**	**318**	*e*P	**P**	**21 42 19.4**	**-0.3**
	comp=Z,358nm,1.8s						
ROSF	**Rostrenen**	**94.06**	**319**	*e*P	**P**	**21 42 18.0**	**-1.7**
ROSF	**Rostrenen**	**94.06**	**319**	*e*P	**P**	**21 42 18.0**	**-1.7**
ROSF	**Rostrenen**	**94.06**	**319**	*e*P	**P**	**21 42 18.0**	**-1.7**
ALE	**Alert**	**94.28**	**357**	P	**P**	**21 42 18.9**	**-1.2**
IM04	comp=Z,120nm,0.7s,SNR=7.3 **Indian Mountai**	**95.66**	**23**	*e*P	**P**	**21 42 26.3**	**-0.4**
ESDC	**Sonseca Array**	**95.84**	**310**	P	**P**	**21 42 28.6**	**+0.4**
ESDC				PP	PP	21 46 31.2	+11
ESDC	**Sonseca Array**	**95.84**	**310**	P	**P**	**21 42 28.6**	**+0.4**
ESDC	comp=Z,1.1nm,0.6s,baz=68,slow=4.7,SNR=11			PP	PP	21 46 31.2	+11
PAB	comp=Z,3.3nm,1.0s,baz=77,slow=6.8,SNR=5.5 **San Pablo**	**96.16**	**310**	PFAKE		21 42 40.0	+10
PAB	comp=Z,3µm,19.0s			LR	LR		
SVW2	**Sparrevohn**	**96.46**	**28**	*e*P	**P**	**21 42 33.0**	**+2.6**
COLD	comp=Z,16nm,1.1s **Coldfoot**	**96.53**	**21**	P	**P**	**21 42 30.2**	**-0.3**
CAST	comp=Z,3.7nm,0.9s **Castle Rocks**	**97.23**	**25**	*e*P	Pdif	21 42 36.5	+2.5
BPAW	**Bear Faw Mtn.**	**97.44**	**24**	*e*P	**P**	**21 42 34.6**	**-0.3**
TRF	**Thorofare Moun**	**97.97**	**25**	*e*P	Pdif	21 42 38.2	+0.8
RSO	comp=Z,63nm,1.9s **Redoubt South**	**97.98**	**28**	*e*P	Pdif	21 42 40.0	+2.4
COLA	**College**	**98.37**	**23**	PFAKE		21 42 50.0	+11
COLA	comp=Z,4µm,20.0s			LR	LR		
MCK	**McKinley**	**98.41**	**24**	*e*P	**P**	**21 42 38.1**	**-1.1**
MCK	comp=Z,17nm,1.2s			pmax	pmax		
MCK	**McKinley**	**98.41**	**24**	*e*P	**P**	**21 42 38.1**	**-1.1**
	comp=Z,17nm,1.2s						
MTE	**Manteigas**	**98.43**	**311**	PFAKE		21 42 50.0	+10
MTE	comp=Z,3µm,20.0s			LR	LR		
ILAR	**Eielson Array**	**98.78**	**23**	P	**P**	**21 42 38.5**	**-2.3**
ILAR				PP	PP	21 46 17.7	-24
ILAR				PKKPbc	**PKKPbc**	**21 59 09.8**	**-1.4**
ILAR	**Eielson Array**	**98.78**	**23**	P	**P**	**21 42 38.5**	**-2.3**
ILAR	comp=Z,2.0nm,1.0s,baz=299,slow=4.7,SNR=18			PP	PP	21 46 17.7	-24
ILAR	comp=Z,1.5nm,1.0s,baz=291,slow=7.1,SNR=4.8			PKKPbc	**PKKPbc**	**21 59 09.8**	**-1.4**
KDAK	comp=Z,1.0nm,0.9s,baz=128,slow=1.2,SNR=8.7 **Kodiak Island**	**98.98**	**30**	PFAKE		21 42 50.0	+8.2
KDAK	comp=Z,4µm,22.0s			LR	LR		
RTC	**Rabat Centre**	**99.02**	**305**	PFAKE		21 42 50.0	+7.4
RTC	comp=Z,2µm,19.0s			LR	LR		
RC01	**Rabbit Creek A**	**99.12**	**27**	*e*P	**Pdif**	**21 42 42.9**	**+0.5**
PMR	**Palmer**	**99.19**	**26**	*e*P	**Pdif**	**21 42 44.1**	**+1.4**
PMR	comp=Z,12nm,1.1s			pmax	pmax		
PMR	**Palmer**	**99.19**	**26**	*e*P	**Pdif**	**21 42 44.1**	**+1.4**
	comp=Z,12nm,1.1s						
SUMG	**Summit**	**99.50**	**347**	*i* P	**Pdif**	**21 42 45.5**	**+1.2**
SUMG	comp=Z,12nm,0.9s			pmax	pmax		
SUMG	**Summit**	**99.50**	**347**	*i* P	**Pdif**	**21 42 45.5**	**+1.2**
	comp=Z,12nm,0.9s						
SUMG	**Summit**	**99.50**	**347**	*e*P	**Pdif**	**21 42 47.6**	**+3.2**
SHEL	**Horse Pasture**	**101.95**	**254**	PFAKE		21 43 10.0	+14
SHEL	comp=Z,6µm,19.0s			LR	LR		
RAR	**Rarotonga**	**104.34**	**111**	PFAKE		21 43 20.0	+14
RAR	comp=Z,2µm,22.0s		

comp=Z,2.2nm,1.0s,baz=326,slow=5.8,SNR=5.0
YKA PKKPbc **PKKPbc** 21 58 31.9 -2.3
comp=Z,1.1nm,1.0s,baz=142,slow=3.0,SNR=7.0
CMLA Cha da Macela 112.56 313 PFAKE 21 47 50.0
CMLA LR LR
comp=Z,4µm,20.0s
TBI Tubuai 113.67 114 *e*PP PP 21 48 26.7 -6.3
comp=Z,417nm,27.5s
TBI *e*Sdif Sdif 21 56 18.0 +3.2
comp=Z,1µm,28.0s
TBI *e*SP **SP** **21 58 10.6 +3.8**
comp=Z,671nm,27.8s
TBI *e*SS **SS** **22 04 23.3 +3.3**
comp=Z,2µm,27.8s
TBI Tubuai 113.67 114 *e*LR LR 22 21 43.1
comp=Z,4µm,23.8s
PPT2 Papeete2 114.19 108 *e*PP **PP** **21 48 39.9 +2.9**
comp=Z,454nm,25.5s
PPT2 *e*Sdif Sdif 21 56 20.1 +0.6
comp=Z,2µm,26.0s
PPT2 *e*SP **SP** **21 58 12.5 +0.5**
comp=Z,2µm,24.5s
PPT2 Papeete2 114.19 108 *e*LR LR 22 21 58.9
comp=Z,5µm,25.2s
PMSA Palmer Station 116.43 189 PFAKE 21 47 50.0 +5.4
PMSA LR LR
comp=Z,3µm,20.0s
SACV Santiago Islan 117.60 288 PFAKE 21 48 00.0 +12
SACV LR LR
comp=Z,2µm,20.0s
EDM Edmonton 119.08 20 *e*PKIKP **PKPdf** **21 47 49.5 -0.7**
EDM Edmonton 119.08 20 *e*PKPdf **PKPdf** **21 47 49.5 -0.7**
NLWA Neilton Lookou 119.12 30 PFAKE 21 48 00.0 +10
NLWA LR LR
comp=Z,2µm,21.0s
HDW Hoodsport 119.35 29 P **PKPdf** **21 47 53.4 +2.4**
TDL Tradedollar La 120.66 30 P **PKPdf** **21 47 55.5 +1.9**
WTV Waterville 120.78 27 P **PKPdf** **21 47 54.8 +1.1**
FFC Flin Flon 120.84 12 *i* PKIKP **PKPdf** **21 47 53.5 0.0**
FFC Flin Flon 120.84 12 PFAKE 21 48 00.0 +6.5
FFC LR LR
comp=Z,4µm,20.0s
SCHQ Schefferville 120.87 348 PKP **PKPdf** **21 47 54.3 +0.7**
SCHQ Schefferville 120.87 348 PKP **PKPdf** **21 47 54.3 +0.7**
comp=Z,5.0nm,0.7s,baz=68,slow=1.8,SNR=7.2
NEW Newport 121.61 25 PFAKE 21 48 10.0 +15
NEW LR LR
comp=Z,4µm,20.0s
NEW Newport 121.61 25 P **PKPdf** **21 47 55.0 -0.2**
baz=121
VFP Flag Point 121.76 30 P **PKPdf** **21 47 57.6 +1.9**
I03D Drain, OR 121.89 33 P **PKPdf** **21 47 56.0 +0.2**
baz=122
HAWA Hanford 121.93 28 *e*PKPdf **PKPdf** **21 47 56.0 +0.2**
HAWA LR LR
comp=Z,4µm,22.0s
REDWA Red Mountain 122.05 28 P **PKPdf** **21 47 58.6 +2.5**
I04A Tendick Farm, 122.32 32 P **PKPdf** **21 47 56.4 -0.4**
baz=122
HUOR Husband 122.40 31 P **PKPdf** **21 47 59.5 +2.4**
I05D Terrebonne, OR 122.51 31 P **PKPdf** **21 47 57.5 +0.4**
baz=122
L02D Cave Junction, 122.77 34 P **PKPdf** **21 47 57.4 -0.2**
baz=123
HUMO Hull Mountain 122.83 33 *e*PKPdf **PKPdf** **21 47 58.2 +0.5**
J04D Umpqua Nationa 122.86 32 P **PKPdf** **21 47 58.0 0.0**
baz=123
BSMT Bassoo Peak 122.91 24 *e*PKPdf **PKPdf** **21 47 57.1 -0.9**
PINOR Pine Mountain 123.12 31 *e*PKPdf **PKPdf** **21 47 57.5 -0.7**
J05D Fort Rock, OR 123.30 32 P **PKPdf** **21 47 60.0 +1.2**
baz=123
SWMT Swartz Lake 123.50 24 *e*PKPdf **PKPdf** **21 47 57.1 -1.9**
KHMM Horse Mountain 123.53 35 *e*PKPdf **PKPdf** **21 47 59.3 0.0**
M02C Callahan 123.69 34 P **PKPdf** **21 47 59.2 -0.3**
baz=124
SLMT Seeley Lake 123.92 24 *e*PKPdf **PKPdf** **21 47 59.1 -0.8**
SLMT *e*PP **PP** **21 49 43.4 +0.9**
M04C Macdoel 124.00 34 P **PKPdf** **21 48 00.3 +0.1**
baz=124
N02D Trinity Center 124.05 35 P **PKPdf** **21 48 00.8 +0.7**
baz=124
MSO Missoula 124.07 24 P **PKPdf** **21 47 59.7 -0.4**
baz=124
A19A Klindworth Far 124.26 19 P **PKPdf** **21 47 59.8 -0.6**
baz=124
KIPM Iron Peak 124.36 36 *e*PKPdf **PKPdf** **21 48 02.4 +1.5**
A20A Cobblestone Ra 124.57 19 P **PKPdf** **21 48 02.1 +1.2**
baz=124
B19A Brinkman Farms 124.60 20 P **PKPdf** **21 48 01.5 +0.5**
baz=124
EGMT Eagleton 124.69 21 *e*PKPdf **PKPdf** **21 48 01.6 +0.4**
EGMT LR LR
comp=Z,3µm,19.0s
EGMT Eagleton 124.69 21 P **PKPdf** **21 48 01.4 +0.2**
baz=124
MOD Modoc 124.75 32 *e*PKPdf **PKPdf** **21 48 01.6 -0.1**
A21A Bergtoll Ranch 124.79 18 P **PKPdf** **21 48 01.2 -0.1**
baz=125
B20A Solberg Farm, 124.92 19 P **PKPdf** **21 48 01.7 +0.1**
baz=125
A22A Carney Farms, 125.10 17 P **PKPdf** **21 48 01.4 -0.6**
baz=125
HOPS Hopland 125.12 37 *e*PKPdf **PKPdf** **21 48 02.6 +0.4**
C19A Slack Wire Ran 125.18 20 P **PKPdf** **21 48 02.1 0.0**
baz=125
WVOR Wild Horse Val 125.25 31 *e*PKIKP **PKPdf** **21 48 03.1 +0.6**
WVOR MLR MLR
comp=Z,3µm,21.0s
WVOR Wild Horse Val 125.25 31 *e*PKPdf **PKPdf** **21 48 03.1 +0.6**
WVOR LR LR
comp=Z,3µm,21.0s
C20A Veseth Ranch, 125.56 20 P **PKPdf** **21 48 02.8 0.0**
baz=125
A24A Westby 125.71 16 P **PKPdf** **21 48 02.9 -0.2**
baz=126
D19A Cripps Ranch, 125.73 21 P **PKPdf** **21 48 02.7 -0.5**
baz=126
B23A Brockton 125.84 17 P **PKPdf** **21 48 02.9 -0.5**
baz=126
MFID Camas Ranch 125.91 28 *e*PKPdf **PKPdf** **21 48 04.7 +0.9**
BOZ Bozeman (W) 125.97 24 *e*PKIKP **PKPdf** **21 48 04.3 +0.5**
BOZ MLR MLR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 125.97 24 *e*PKPdf **PKPdf** **21 48 04.3 +0.5**
BOZ LR LR
comp=Z,3µm,20.0s
D20A Manuel Ranch, 126.05 20 P **PKPdf** **21 48 04.8 +1.0**
baz=126
DGMT Dagmar 126.07 16 PFAKE 21 48 10.0 +6.2
DGMT LR LR
comp=Z,4µm,20.0s
DGMT Dagmar 126.07 16 P **PKPdf** **21 48 04.8 +1.0**
baz=126
BEKR Beckworth 126.12 34 *e*PKPdf **PKPdf** **21 48 02.9 -1.4**
C22A Vida 126.22 18 P **PKPdf** **21 48 04.4 +0.3**
baz=126
ULM Lac du Bonnet 126.25 9 *e*PKPdf **PKPdf** **21 48 03.7 -0.4**
ULM Lac du Bonnet 126.25 9 PKP **PKPdf** **21 48 03.6 -0.4**
comp=Z,21nm,0.8s,baz=345,slow=1.9,SNR=20
A26A Wade Farm, Ken 126.25 15 P **PKPdf** **21 48 05.2 +1.1**
baz=126
E19A Rath Farm, Rou 126.37 21 P **PKPdf** **21 48 05.5 +1.0**
baz=126
C23A Lambert 126.38 18 P **PKPdf** **21 48 04.7 +0.3**
baz=126
HLID Hailey 126.45 27 *e*PKPdf **PKPdf** **21 48 04.5 -0.4**
HLID LR LR
comp=Z,4µm,22.0s
HLID Hailey 126.45 27 P **PKPdf** **21 48 04.9 0.0**
baz=126
D21A La Casta Ranch 126.46 19 P **PKPdf** **21 48 05.5 +0.8**
baz=126
B25A Knox Farm, Ray 126.53 16 P **PKPdf** **21 48 06.0 +1.4**
baz=126
E20A Meyer Farm, Mu 126.56 21 P **PKPdf** **21 48 05.0 +0.1**
baz=126
EFI East Falkland 126.59 200 PFAKE 21 48 10.0 +5.5
EFI LR LR
comp=Z,4µm,20.0s
D22A Cohagen 126.65 19 P **PKPdf** **21 48 05.6 +0.6**
baz=126
RKT Rikitea 126.79 117 *e*PP PP 21 50 00.9 -2.1
comp=Z,287nm,24.2s
RKT Rikitea 126.79 117 *e*SS SS 22 07 15.9 +7.4
comp=Z,3µm,29.5s
RKT Rikitea 126.79 117 *e*LR LR 22 27 50.0

comp=Z,3µm,24.8s
F19A Roth Farm, Mol 126.83 22 P **PKPdf** **21 48 05.2 -0.2**
baz=127
C24A Savage 126.85 17 P **PKPdf** **21 48 07.0 +1.7**
baz=127
A29A Manning Farm, 126.88 12 P **PKPdf** **21 48 04.7 -0.5**
baz=127
E21A Keefer Ranch, 126.89 20 P **PKPdf** **21 48 06.4 +0.9**
baz=127
D23A Lindsay 126.94 18 P **PKPdf** **21 48 06.2 +0.7**
baz=127
LAO LASA Array 127.05 19 *e*PKPdf **PKPdf** **21 48 05.9 +0.2**
LAO LR LR
comp=Z,4µm,21.0s
A30A Hoffart Farm, 127.06 12 P **PKPdf** **21 48 05.9 +0.3**
baz=127
C26A Wahner Farm, P 127.23 15 P **PKPdf** **21 48 06.3 +0.3**
baz=127
D24A Glendive 127.25 17 P **PKPdf** **21 48 06.5 +0.4**
baz=127
CMB Columbia Colle 127.34 36 *e*PKIKP **PKPdf** **21 48 06.5 0.0**
CMB Columbia Colle 127.34 36 *e*PKPdf **PKPdf** **21 48 06.5 0.0**
E22A Miles City 127.36 19 P **PKPdf** **21 48 07.1 +0.8**
baz=127
G20A Bridger 127.64 21 P **PKPdf** **21 48 06.8 -0.2**
baz=127
E24A Baker 127.76 18 P **PKPdf** **21 48 07.6 +0.5**
baz=128
MDND Maddock 127.82 13 *e*PKPdf **PKPdf** **21 48 07.1 0.0**
MDND Maddock 127.82 13 P **PKPdf** **21 48 08.1 +1.0**
baz=128
H19A Powell 127.82 22 P **PKPdf** **21 48 08.0 +0.7**
baz=128
F22A Rosebud 127.83 20 P **PKPdf** **21 48 08.3 +1.0**
baz=128
G21A Lodge Grass 127.99 21 P **PKPdf** **21 48 08.0 +0.4**
baz=128
E25A Miller Ranch, 128.08 17 P **PKPdf** **21 48 09.2 +1.5**
baz=128
AGMN Agassiz Nation 128.14 10 PFAKE 21 48 20.0 +12
AGMN LR LR
comp=Z,5µm,20.0s
F23A Volborg 128.17 19 P **PKPdf** **21 48 08.8 +0.9**
baz=128
D28A Regan 128.20 14 P **PKPdf** **21 48 08.7 +0.9**
baz=128
ELK Elko 128.21 30 *e*PKPdf **PKPdf** **21 48 09.2 +0.8**
NVAR Mina Array Bea 128.27 34 PKP **PKPdf** **21 48 07.9 -0.7**
NVAR Mina Array Bea 128.27 34 PKP **PKPdf** **21 48 07.9 -0.7**
comp=Z,12nm,0.9s,baz=215,slow=2.6,SNR=36
G22A Birney 128.31 20 P **PKPdf** **21 48 08.9 +0.6**
baz=128
H20A Greybull 128.34 22 P **PKPdf** **21 48 09.3 +0.9**
baz=128
NV11 Mina Array Sit 128.35 34 *e*PKPdf **PKPdf** **21 48 08.9 +0.3**
I19A Meeteetse 128.35 23 P **PKPdf** **21 48 10.1 +1.6**
baz=128
F24A Ekalaka 128.36 18 P **PKPdf** **21 48 09.9 +1.5**
baz=128
AHID Auburn Hatcher 128.55 25 PFAKE 21 48 20.0 +11
AHID LR LR
comp=Z,4µm,19.0s
F25A Bowman 128.59 17 P **PKPdf** **21 48 10.5 +1.8**
baz=128
HVU Hansel Valley 128.60 27 *e*PKIKP **PKPdf** **21 48 09.6 +0.6**
HVU Hansel Valley 128.60 27 *e*PKPdf **PKPdf** **21 48 09.6 +0.6**
G23A Biddle 128.63 19 P **PKPdf** **21 48 09.8 +1.0**
baz=128
E28A Huff 128.75 15 P **PKPdf** **21 48 10.2 +1.3**
baz=128
I20A Worland 128.75 22 P **PKPdf** **21 48 10.3 +1.1**
baz=129
F26A Lodgepole 128.88 17 P **PKPdf** **21 48 10.4 +1.1**
baz=129
F27A Lemmon 129.04 16 P **PKPdf** **21 48 10.6 +1.0**
baz=129
EYMN Ely 129.10 6 PFAKE 21 48 20.0 +10
EYMN LR LR
comp=Z,5µm,22.0s
I21A Big Trails, Te 129.18 22 P **PKPdf** **21 48 10.6 +0.6**
baz=129
BW06 Boulder Array 129.19 24 *e*PKPdf **PKPdf** **21 48 10.2 0.0**
BW06 LR LR
comp=Z,5µm,20.0s
PDAR Pinedale Array 129.19 24 PKP **PKPdf** **21 48 09.3 -0.8**
PDAR Pinedale Array 129.19 24 PKP **PKPdf** **21 48 09.3 -0.8**
comp=Z,5.5nm,0.8s,baz=48,slow=2.2,SNR=18
J20A Shoshoni 129.28 23 P **PKPdf** **21 48 11.0 +0.8**
baz=129
H24A Dirks Ranch, A 129.31 19 P **PKPdf** **21 48 10.5 +0.3**
baz=129
I22A 9 Mile Ranch, 129.41 21 P **PKPdf** **21 48 12.1 +1.6**
baz=129
G26A Maurine 129.41 17 P **PKPdf** **21 48 11.3 +1.0**
baz=129
G27A Dupree 129.52 16 P **PKPdf** **21 48 11.5 +1.0**
baz=129
J21A Lysite 129.53 22 P **PKPdf** **21 48 12.3 +1.6**
baz=129
CWC Cottonwood Cre 129.77 36 P **PKPdf** **21 48 12.4 +1.0**
baz=130
GRAC Grapevine Rang 129.79 35 P **PKPdf** **21 48 12.3 +1.1**
baz=130
R11A Troy Canyon, C 129.81 32 *e*PKPdf **PKPdf** **21 48 11.8 +0.4**
R11A Troy Canyon, C 129.81 32 P **PKPdf** **21 48 12.3 +0.9**
baz=130
DUG Dugway 129.82 29 *e*PKIKP **PKPdf** **21 48 12.1 +0.8**
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway 129.82 29 *e*PKPdf **PKPdf** **21 48 12.1 +0.8**
DUG LR LR
comp=Z,2µm,19.0s
DUG Dugway 129.82 29 P **PKPdf** **21 48 12.9 +1.6**
baz=130
J22A Midwest 129.83 21 P **PKPdf** **21 48 12.1 +0.8**
baz=130
RSSD Black Hills 130.03 19 *e*PKIKP **PKPdf** **21 48 12.4 +0.7**
RSSD Black Hills 130.03 19 *e*PKPdf **PKPdf** **21 48 12.4 +0.7**
ISA Isabella 130.07 37 P **PKPdf** **21 48 12.0 +0.2**
baz=130
K21A Alcova 130.21 22 P **PKPdf** **21 48 12.7 +0.6**
baz=130
I25A Rochford 130.22 19 P **PKPdf** **21 48 12.4 +0.4**
baz=130
MPMC Manual Prospec 130.38 36 P **PKPdf** **21 48 13.2 +0.6**
baz=130
PKME Peaks-Kenny Pk 130.41 346 PFAKE 21 48 20.0 +7.9
PKME LR LR
comp=Z,4µm,19.0s
TPNV Topopah Spring 130.47 34 P **PKPdf** **21 48 14.0 +1.3**
baz=130
K22A Casper 130.47 22 P **PKPdf** **21 48 13.3 +0.7**
baz=130
PTCN Pitcairn Islan 130.49 121 PFAKE 21 48 20.0 +7.2
PTCN LR LR
comp=Z,4µm,20.0s
K23A Bowen Ranch, D 130.71 21 P **PKPdf** **21 48 14.2 +1.2**
baz=130
J25A Sunshine Ranch 130.76 19 P **PKPdf** **21 48 14.2 +1.2**
baz=131
I28A Midland 131.00 16 P **PKPdf** **21 48 15.1 +1.7**
baz=131
J26A Sides Ranch, S 131.06 18 P **PKPdf** **21 48 15.0 +1.4**
baz=131
I29A Vivian Onida 131.22 16 P **PKPdf** **21 48 15.4 +1.6**
baz=131
L23A Garrett 131.24 21 P **PKPdf** **21 48 15.2 +1.1**
baz=131
TMUT Trail Mountain 131.29 28 *e*PKPdf **PKPdf** **21 48 15.5 +1.1**
GSC Goldstone 131.31 36 P **PKPdf** **21 48 16.0 +1.7**
baz=131
M22A Cedar Creek Ra 131.52 23 P **PKPdf** **21 48 16.3 +1.6**
baz=131
TUQ Turquoise Moun 131.72 35 P **PKPdf** **21 48 17.1 +2.0**
baz=132
L25A Engebretsen Ra 131.81 20 P **PKPdf** **21 48 17.0 +2.0**
baz=132
RCBR Riachuelo 131.85 265 PFAKE 21 48 30.0 +14
RCBR LR LR
comp=Z,2µm,19.0s
O20A White River Ci 131.93 25 *e*PKPdf **PKPdf** **21 48 16.3 +0.9**
O20A White River Ci 131.93 25 P **PKPdf** **21 48 16.5 +1.1**
baz=132
LBNH Lisbon 131.97 348 PFAKE 21 48 30.0 +15
LBNH LR LR
comp=Z,3µm,20.0s
LONY Lake Ozonia 132.08 351 PFAKE 21 48 30.0 +15
LONY LR LR
comp=Z,4µm,21.0s
J30A Dallas 132.09 15 P **PKPdf** **21 48 17.5 +2.2**
baz=132
M24A Cheyenne 132.12 21 P **PKPdf** **21 48 17.4 +1.7**
baz=132
GMRC Granite Mounta 132.34 36 P **PKPdf** **21 48 18.3 +2.1**
baz=132
ECSD EROS Data Cent 132.38 12 *e*PKPdf **PKPdf** **21 48 16.4 +0.5**
ECSD LR LR
comp=Z,5µm,21.0s
LDFC Landfair 132.45 35 *e*PKPdf **PKPdf** **21 48 16.3 -0.1**
O22A Kremmling 132.60 23 P **PKPdf** **21 48 18.4 +1.6**
baz=132
NCB Newcomb 132.65 350 PFAKE 21 48 30.0 +14
NCB LR LR
comp=Z,3µm,22.0s
PFO Pinyon Flat Ob 132.68 37 PFAKE 21 48 30.0 +13
PFO LR LR
comp=Z,2µm,20.0s
O23A Lake Granby, G 132.81 23 P **PKPdf** **21 48 18.5 +1.3**
baz=133
U15A North Rim 132.99 31 P **PKPdf** **21 48 19.9 +2.3**
baz=133
IRM Iron Mountain 133.08 36 P **PKPdf** **21 48 19.5 +2.0**
baz=133
W13A Hualapai Mount 133.12 34 P **PKPdf** **21 48 19.6 +1.7**
baz=133
MONP Monument Peak 133.19 38 P **PKPdf** **21 48 19.7 +1.7**
baz=133
BC3 Big Chuckawall 133.25 37 P **PKPdf** **21 48 19.3 +1.3**
baz=133
ISCO Idaho Springs 133.28 23 *e*PKIKP **PKPdf** **21 48 18.7 +0.6**
ISCO MLR MLR
comp=Z,4µm,21.0s
ISCO Idaho Springs 133.28 23 *e*PKPdf **PKPdf** **21 48 18.7 +0.6**
ISCO LR LR
comp=Z,4µm,21.0s
ISCO Idaho Springs 133.28 23 P **PKPdf** **21 48 19.0 +0.9**
baz=133
PV01 Paradox Valley 133.44 27 *e*PKPdf **PKPdf** **21 48 19.2 +0.9**
SWSC Sam W. Stewart 133.54 38 P **PKPdf** **21 48 20.7 +2.4**
baz=133
DVTC Desert V Tower 133.55 38 P **PKPdf** **21 48 20.4 +1.9**
baz=133
P23A Jefferson 133.56 23 P **PKPdf** **21 48 21.1 +2.4**
baz=133
PDMCI Parker Dam,Lak 133.56 35 P **PKPdf** **21 48 20.4 +2.0**
baz=133
Y12C Blythe 133.73 36 P **PKPdf** **21 48 20.8 +2.1**
baz=134
GLA Glamis 134.05 37 P **PKPdf** **21 48 20.7 +1.3**
baz=134
O27A Beecher Island 134.07 20 P **PKPdf** **21 48 20.3 +1.0**
baz=134
WUAZ Wupatki 134.16 31 *e*PKPdf **PKPdf** **21 48 19.8 +0.1**
WUAZ LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 134.16 31 P **PKPdf** **21 48 20.6 +0.9**
baz=134
JFWS Jewell Farm 134.21 6 PFAKE 21 48 30.0 +11
JFWS LR LR
comp=Z,4µm,20.0s
BGNE Belgrade 134.23 15 *e*PKPdf **PKPdf** **21 48 20.0 +0.5**
BGNE Belgrade 134.23 15 P **PKPdf** **21 48 20.6 +1.2**
baz=134
MVCO Mesa Verde 134.23 27 *e*PKPdf **PKPdf** **21 48 20.6 +0.8**
MVCO LR LR
comp=Z,4µm,19.0s
MVCO Mesa Verde 134.23 27 P **PKPdf** **21 48 20.7 +0.8**
baz=134
P26A Davis Ranch, A 134.33 21 P **PKPdf** **21 48 20.1 +0.3**
baz=134
Y14A Wickenburg 134.47 34 P **PKPdf** **21 48 21.3 +1.1**
baz=134
BINY Binghamton 134.66 352 PFAKE 21 48 30.0 +10
BINY LR LR
comp=Z,4µm,20.0s
SCIA State Center 134.79 10 PFAKE 21 48 30.0 +10
SCIA LR LR
comp=Z,4µm,20.0s
Q26A Hugo 134.83 21 P **PKPdf** **21 48 22.5 +1.6**
baz=135
O30A MW Ranch, Wils 134.84 17 P **PKPdf** **21 48 21.7 +1.0**
baz=135
P28A Saint Francis 134.87 19 P **PKPdf** **21 48 22.3 +1.5**
baz=135
Z14A Wintersburg 134.92 35 P **PKPdf** **21 48 22.8 +1.8**
baz=135
X16A Lo Mia Camp, P 134.97 32 P **PKPdf** **21 48 22.7 +1.4**
baz=135
SDCO Great Sand Dun 135.09 24 *e*PKPdf **PKPdf** **21 48 22.4 +0.8**
SDCO LR LR
comp=Z,3µm,21.0s
AAM Ann Arbor 135.16 360 PFAKE 21 48 30.0 +8.9
AAM LR LR
comp=Z,4µm,21.0s
ERPA Erie 135.19 356 PFAKE 21 48 30.0 +8.8
ERPA LR LR
comp=Z,4µm,20.0s
R25A Fountain Ranch 135.22 23 P **PKPdf** **21 48 22.0 +0.5**
baz=135
R26A Arlington 135.41 22 P **PKPdf** **21 48 23.1 +1.2**
baz=135
S25A Robets Cordova 135.59 23 P **PKPdf** **21 48 22.7 +0.4**
baz=135
R27A Eads 135.66 21 P **PKPdf** **21 48 21.7 -0.7**
baz=136
U22A Llaves 135.66 27 P **PKPdf** **21 48 23.1 +0.5**
baz=136
X18A Snowflake 135.66 31 P **PKPdf** **21 48 23.8 +1.3**
baz=136
S26A Kim 136.00 22 P **PKPdf** **21 48 23.8 +0.8**
baz=136
V22A San Miguel Ran 136.02 27 P **PKPdf** **21 48 23.2 -0.1**
baz=136
T25A Trinidad 136.05 24 P **PKPdf** **21 48 23.7 +0.4**
baz=136
P33A Williams Farm, 136.20 15 P **PKPdf** **21 48 23.8 +0.6**
baz=136
T26A Comanche Natio 136.34 23 P **PKPdf** **21 48 24.0 +0.2**
baz=136
S28A Manter 136.60 21 P **PKPdf** **21 48 21.8 -2.3**
baz=136
HDIL Hopedale 136.64 6 PFAKE 21 48 30.0 +6.1
HDIL LR LR
comp=Z,58µm,22.0s
KSU1 Kansas State U 136.79 14 *e*PKPdf **PKPdf** **21 48 25.0 +0.7**
KSU1 LR LR
comp=Z,4µm,20.0s
TUC Tucson 136.92 34 PFAKE 21 48 30.0 +5.2
TUC LR LR
comp=Z,3µm,22.0s
ANMO Albuquerque 137.03 27 *e*PKPpre PKPpre 21 48 16.4
ANMO *e*PKPdf **PKPdf** **21 48 25.5 +0.4**
ANMO LR LR
comp=Z,5µm,19.0s
V25A Rancho No Teng 137.09 25 P **PKPdf** **21 48 22.4 -2.8**
baz=137
ACSO Alum Creek Sta 137.22 359 PFAKE 21 48 40.0 +15
ACSO LR LR
comp=Z,4µm,20.0s
W24A Lazy 6 Ranch, 137.28 26 P **PKPdf** **21 48 23.7 -1.9**
baz=137
Z20A Nine Sixteen R 137.47 31 P **PKPdf** **21 48 26.6 +0.6**
baz=137
MCWV Mont Chateau 137.62 355 PFAKE 21 48 40.0 +14
MCWV LR LR
comp=Z,5µm,19.0s
Z22A Elephant Butte 138.18 29 P **PKPdf** **21 48 27.3 +0.1**
baz=138
W27A Bowe Ranch, En 138.39 24 P **PKPdf** **21 48 29.1 +1.6**
baz=138
220A Playas Peak, P 138.46 32 P **PKPdf** **21 48 29.8 +2.0**
baz=138
319A Douglas 138.46 33 P **PKPdf** **21 48 29.8 +2.0**
baz=138
Y25A Mesa, Roswell 138.68 26 P **PKPdf** **21 48 28.9 +0.8**
baz=138
Z24A Sheeppen Canyo 138.87 27 P **PKPdf** **21 48 26.7 -1.9**
baz=139
SPB Sao Paulo 138.94 237 PFAKE 21 48 40.0 +11
SPB LR LR
comp=Z,3µm,20.0s
Z25A Roswell 139.21 27 P **PKPdf** **21 48 30.8 +1.7**
baz=139
TRQA Tornquist 139.44 207 *e*PKPdf **PKPdf** **21 48 28.4 -0.8**

TRQA				LR	LR			
	comp=Z,4μm,19.0s							
BLA	**Blacksburg**	**140.10**	**355**	PFAKE		21 48 40.0	+10	
BLA				LR	LR			
	comp=Z,4μm,19.0s							
MNTX	**Cornudas Mount**	**140.22**	**29**	PFAKE		21 48 40.0	+9.2	
MNTX				LR	LR			
	comp=Z,3μm,20.0s							
WMOK	**Wichita Mounta**	**140.24**	**19**	PFAKE		21 48 40.0	+9.2	
WMOK				LR	LR			
	comp=Z,4μm,20.0s							
PLCA	**Paso Flores**	**140.25**	**196**	PKPpre	PKPpre	21 48 23.9		
PLCA				PKP	**PKPdf**	**21 48 28.6**	**-2.0**	
PLCA	**Paso Flores**	**140.25**	**196**	PKhKP	PKPpre	21 48 23.9		
	comp=Z,2.1nm,0.8s,baz=272,slow=2.2,SNR=3.2							
PLCA				PKP	**PKPdf**	**21 48 28.6**	**-2.0**	
	comp=Z,5.8nm,1.1s,baz=172,slow=10,SNR=3.2							
Z29A	**Hungry Hill Ra**	**140.51**	**23**	P	**PKPdf**	**21 48 28.9**	**-2.4**	
	baz=140							
131A	**Roby**	**141.54**	**22**	P	**PKPdf**	**21 48 29.8**	**-3.3**	
	baz=141							
426A	**McDonald Obser**	**141.71**	**28**	P	**PKPdf**	**21 48 30.5**	**-3.3**	
	baz=142							
CNNC	**Cliffs of the**	**141.77**	**352**	PFAKE		21 48 40.0	+6.6	
CNNC				LR	LR			
	comp=Z,5μm,21.0s							
MIAR	**Mount Ida**	**141.85**	**13**	PFAKE		21 48 40.0	+6.4	
MIAR				LR	LR			
	comp=Z,5μm,20.0s							
427A	**Hayter Ranch,**	**141.85**	**27**	P	**PKPdf**	**21 48 31.9**	**-2.0**	
	baz=142							
ABTX	**Abilene, Hawle**	**141.86**	**21**	P	**PKPdf**	**21 48 30.6**	**-3.1**	
	baz=142							
230A	**Sterling City**	**141.95**	**24**	P	**PKPdf**	**21 48 30.4**	**-3.6**	
	baz=142							
526A	**Mary Lane Ranc**	**142.19**	**29**	P	**PKPdf**	**21 48 32.1**	**-2.5**	
	baz=142							
BDFB	**Brasilia**	**142.23**	**248**	PKP	**PKPdf**	**21 48 34.5**	**-0.4**	
BDFB	**Brasilia**	**142.23**	**248**	PKP	**PKPdf**	**21 48 34.5**	**-0.4**	
	comp=Z,8.8nm,1.0s,baz=135,slow=5.7,SNR=4.4							
428A	**Kincaid Ranch,**	**142.28**	**27**	P	**PKPdf**	**21 48 32.5**	**-2.2**	
	baz=142							
527A	**Woodward Ranch**	**142.35**	**28**	P	**PKPdf**	**21 48 32.0**	**-2.9**	
	baz=142							
232A	**Coleman**	**142.52**	**22**	P	**PKPdf**	**21 48 32.6**	**-2.4**	
	baz=142							
626A	**Big Bend Ranch**	**142.59**	**29**	P	**PKPdf**	**21 48 32.0**	**-3.2**	
	baz=142							
528A	**Cox Ranch, San**	**142.72**	**27**	P	**PKPdf**	**21 48 32.5**	**-2.9**	
	baz=142							
429A	**Davenport Ranc**	**142.72**	**26**	P	**PKPdf**	**21 48 32.5**	**-2.9**	
	baz=142							
331A	**San Angelo**	**142.74**	**23**	P	**PKPdf**	**21 48 32.4**	**-2.9**	
	baz=143							
430A	**Baggett Ranch,**	**142.86**	**25**	P	**PKPdf**	**21 48 32.4**	**-3.2**	
	baz=143							
332A	**Millersview**	**142.94**	**22**	P	**PKPdf**	**21 48 32.9**	**-2.8**	
	baz=143							
TXAR	**Lajitas Array**	**143.00**	**29**	PKP	**PKPdf**	**21 48 33.7**	**-2.3**	
TXAR	**Lajitas Array**	**143.00**	**29**	PKP	**PKPdf**	**21 48 33.7**	**-2.3**	
	comp=Z,6.4nm,0.8s,baz=306,slow=1.4,SNR=31							
529A	**Stev Forest Ra**	**143.01**	**27**	P	PKPbc	21 48 33.6	+1.0	
	baz=143							
627A	**Terlingua Ranc**	**143.03**	**29**	P	PKPbc	21 48 33.4	+0.7	
	baz=143							
WHTX	**Lake Whitney**	**143.20**	**19**	*e*PKPdf	PKPbc	21 48 33.4	+0.4	
431A	**Sonora**	**143.21**	**24**	P	PKPbc	21 48 34.1	+0.9	
	baz=143							
628A	**Black Gap, Mar**	**143.24**	**28**	P	PKPbc	21 48 34.3	+1.0	
	baz=143							
333A	**Richland Sprin**	**143.27**	**22**	P	PKPbc	21 48 33.9	+0.7	
	baz=143							
432A	**Menard**	**143.37**	**23**	P	PKPbc	21 48 34.5	+0.9	
	baz=143							
530A	**J-C Ranch, Com**	**143.37**	**25**	P	PKPbc	21 48 34.0	+0.4	
	baz=143							
334A	**Lometa**	**143.53**	**21**	P	PKPbc	21 48 34.0	+0.1	
	baz=143							
531A	**Rocksprings**	**143.69**	**24**	P	PKPbc	21 48 34.5	-0.1	
	baz=144							
JCT	**Junction City**	**143.72**	**23**	PFAKE		21 48 50.0	+13	
JCT				LR	LR			
	comp=Z,4μm,22.0s							
JCT	**Junction City**	**143.72**	**23**	P	PKPbc	21 48 34.5	-0.1	
	baz=144							
433A	**Art**	**143.75**	**22**	P	PKPbc	21 48 35.6	+1.0	
	baz=144							
335A	**Moody**	**143.86**	**20**	P	PKPbc	21 48 35.8	+0.9	
	baz=144							
532A	**Rocksprings**	**143.99**	**24**	P	PKPbc	21 48 35.3	-0.1	
	baz=144							
434A	**Burnet**	**143.99**	**21**	P	PKPbc	21 48 35.3	-0.1	
	baz=144							
LRAL	**Lakeview Retre**	**144.31**	**4**	*e*PKPdf	**PKPdf**	**21 48 37.8**	**-0.2**	
631A	**Perdido Creek**	**144.34**	**25**	P	PKPbc	21 48 36.5	0.0	
	baz=144							
632A	**Uvalde**	**144.58**	**24**	P	**PKPdf**	**21 48 38.1**	**-0.6**	
	baz=144							
534A	**Blanco**	**144.63**	**22**	P	PKPbc	21 48 38.0	+0.6	
	baz=144							
CPUP	**Villa Florida**	**145.22**	**225**	PKPbc	**PKPab**	**21 48 39.5**	**+0.1**	
CPUP				*e*PKP	**PKPdf**	**21 48 40.1**	**+0.3**	
CPUP	**Villa Florida**	**145.22**	**225**	PKPbc	**PKPab**	**21 48 39.5**	**+0.1**	
	comp=Z,7.5nm,0.6s,baz=102,slow=3.0,SNR=15							
HKT	**Hockley**	**145.60**	**18**	*e*PKIKP	**PKPdf**	**21 48 40.2**	**0.0**	
HKT	**Hockley**	**145.60**	**18**	*e*PKPdf	**PKPdf**	**21 48 40.2**	**0.0**	
RPN	**Rapa Nui**	**145.78**	**137**	PFAKE		21 48 50.0	+8.5	
RPN				LR	LR			
	comp=Z,2μm,20.0s							
TIGA	**Tifton**	**146.00**	**359**	*e*PKPdf	**PKPbc**	**21 48 41.4**	**-0.3**	
BRAL	**Brewton**	**146.31**	**5**	PFAKE		21 48 50.0	+6.7	
BRAL				LR	LR			
	comp=Z,6μm,20.0s							
TLL	**Tololo Astrono**	**149.96**	**203**	⇑*iP*	**PKPbc**	**21 48 53.5**	**+0.8**	
ANWB	**Willy Bob**	**150.07**	**313**	PFAKE		21 49 00.0	+1.3	
ANWB				LR	LR			
	comp=Z,3μm,20.0s							
LCO	**Las Campanas**	**150.94**	**205**	⇑*iP*	**PKPbc**	**21 48 56.2**	**+1.1**	
LCO	**Las Campanas**	**150.94**	**205**	⇑*iP*	**PKPbc**	**21 48 56.2**	**+1.1**	
BBGH	**Gun Hill**	**150.97**	**304**	PFAKE		21 49 00.0	-2.6	
BBGH				LR	LR			
	comp=Z,4μm,19.0s							
FDF	**Fort de France**	**151.39**	**308**	PFAKE		21 49 00.0	+3.8	
FDF				LR	LR			
	comp=Z,2μm,20.0s							
SJG	**San Juan**	**152.75**	**320**	PFAKE		21 49 00.0	+0.9	
SJG				LR	LR			
	comp=Z,3μm,21.0s							
GRTK	**Grand Turk**	**152.75**	**333**	PFAKE		21 49 00.0	+0.9	
GRTK				LR	LR			
	comp=Z,3μm,20.0s							
CELP	**Cerrillos**	**153.05**	**321**	PKPdf	**PKPdf**	**21 48 53.1**	**+0.6**	
GRGR	**Grenville**	**153.24**	**304**	PFAKE		21 49 00.0	-0.3	
GRGR				LR	LR			
	comp=Z,2μm,22.0s							
SDDR	**Presa de Saban**	**155.00**	**330**	*e*PKPab	**PKPab**	**21 49 20.0**	**+0.7**	
SDDR				LR	LR			
	comp=Z,4μm,22.0s							
LVC	**Limon Verde**	**155.36**	**215**	PFAKE		21 49 10.0	-11	
LVC				LR	LR			
	comp=Z,2μm,21.0s							
PTGA	**Pitinga**	**155.80**	**274**	PFAKE		21 49 10.0	-13	
PTGA				LR	LR			
	comp=Z,3μm,20.0s							
GTBY	**Guantanamo Bay**	**155.80**	**339**	PFAKE		21 49 10.0	-13	
GTBY				LR	LR			
	comp=Z,3μm,21.0s							
TEIG	**Tepich**	**156.80**	**10**	PFAKE		21 49 10.0	+12	
TEIG				LR	LR			
	comp=Z,3μm,20.0s							
MTDJ	**Mount Denham**	**158.18**	**343**	PFAKE		21 49 10.0	+11	
MTDJ				LR	LR			
	comp=Z,3μm,20.0s							
SAML	**Samuel**	**158.31**	**253**	*e*PKPdf	**PKPdf**	**21 49 00.1**	**+0.4**	
SAML				LR	LR			
	comp=Z,4μm,20.0s							
LPAZ	**La Paz**	**159.32**	**228**	*e*PKPdf	**PKPdf**	**21 49 01.7**	**+0.1**	
LPAZ				PKP	**PKPdf**	**21 49 01.8**	**+0.2**	
LPAZ				PKPab	**PKPab**	**21 49 40.0**	**+1.2**	
LPAZ	**La Paz**	**159.32**	**228**	PKP	**PKPdf**	**21 49 01.8**	**+0.2**	
	comp=Z,5.6nm,0.9s,baz=64,slow=7.4,SNR=11							
LPAZ				PKPab	**PKPab**	**21 49 40.0**	**+1.2**	
	comp=Z,10nm,0.9s,baz=96,slow=15,SNR=6.7							
TGUH	**Tegucigalpa,Un**	**163.01**	**11**	PFAKE		21 49 10.0	+5.3	
TGUH				LR	LR			
	comp=Z,3μm,19.0s							
JTS	**JuntasAbangare**	**167.02**	**4**	PFAKE		21 49 20.0	+12	
JTS				LR	LR			
	comp=Z,2μm,19.0s							
BCIP	**Isla Barro Col**	**167.43**	**340**	PFAKE		21 49 20.0	+12	
BCIP				LR	LR			
	comp=Z,3μm,20.0s							
ROSC	**El Rosal**	**167.66**	**308**	PKP	**PKPdf**	**21 49 09.8**	**+0.6**	
ROSC	**El Rosal**	**167.66**	**308**	PKP	**PKPdf**	**21 49 09.8**	**+0.6**	
	comp=Z,4.3nm,0.3s,baz=102,slow=20,SNR=2.8							
NNA	**Nana**	**168.34**	**218**	PFAKE		21 49 20.0	+11	
NNA				LR	LR			
	comp=Z,4μm,20.0s							
PAYG	**Puerto Ayora**	**173.48**	**72**	PFAKE		21 49 20.0	+8.1	
PAYG				LR	LR			
	comp=Z,3μm,20.0s							
OTAV	**Otavalo**	**173.62**	**298**	*e*PKPdf	**PKPdf**	**21 49 12.8**	**+0.3**	
OTAV				*e*PKPab	**PKPab**	**21 50 42.8**	**+0.9**	
OTAV				LR	LR			
	comp=Z,4μm,19.0s							

*IDC **09** 21:29:44.1±1.6,3.˚23N×96.˚12E,h0km,mb5.3/9,mb1 5.3/9, mb1mx4.8/27,mbtmp5.3/9,MS5.5/3,Ms1 5.5/3, ms1mx5.1/8,Error ellipse: s-maj=54.6km s-min=20.2km az=59.0*

*ISCJB **09** 21:29:46.5±1.4,3.˚2N±0.˚2×96.˚1E±0.˚3,h31km,mb5.3/9, MS5.6/3,Error ellipse: s-maj=44.5km s-min=17.0km az=149.4*

ISC 09 21:29:48.8±1.9,3.˚2N±0.˚2×96.˚2E±0.˚4,h31km,n11,σ0s63/9, mb5.5/9,MS5.6/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**44.80**	**36**	P		P	**P**	**21 37 59.9**	**-0.1**
	19nm,0.7s,baz=223,slow=8.1,SNR=6.5								
MKAR	**Makanchi Array**	**45.02**	**347**	P		P	**P**	**21 38 01.7**	**+0.1**
	41nm,0.4s,baz=163,slow=8.7,SNR=14								
SONM	**Songino Array**	**45.29**	**10**	P		P	**P**	**21 38 04.4**	**+0.5**
	66nm,0.8s,baz=193,slow=9.4,SNR=6.7								
ASAR	**Alice Springs**	**45.46**	**128**	P		P	**P**	**21 38 04.7**	**-0.8**
	10nm,0.7s,baz=291,slow=7.4,SNR=6.9								
ASAR						LR	LR	21 57 21.1	
	comp=Z,9μm,21.6s,baz=306,slow=36								
KURBB	**Kurchatov Arra**	**49.50**	**345**	P		P	**P**	**21 38 36.4**	**0.0**
	31nm,0.6s,baz=158,slow=7.5,SNR=9.8								
MJAR	**Matsushiro Arr**	**50.92**	**44**	P		P	**P**	**21 38 47.2**	**-0.2**
	8.7nm,1.1s,baz=229,slow=9.5,SNR=4.3								
ZALV	**Zalesovo Beam**	**51.39**	**351**	P		P	**P**	**21 38 50.1**	**-0.5**
	74nm,0.7s,baz=170,slow=6.6,SNR=5.1								
BVAR	**Borovoye Array**	**53.99**	**341**	P		P	**P**	**21 39 09.2**	**-0.7**
	37nm,0.8s,baz=145,slow=9.9,SNR=4.5								
STKA	**Stephens Creek**	**55.50**	**133**	P		P	**P**	**21 39 22.0**	**+0.9**
	27nm,0.7s,baz=298,slow=10,SNR=4.9								
AKTO	**Aktyubinsk**	**56.95**	**332**	LR		LR		22 05 53.1	
	comp=Z,4μm,20.1s,baz=141,slow=38								
AKASG	**Malin Array Be**	**73.01**	**322**	LR		LR		22 18 59.0	
	comp=Z,3μm,21.2s,baz=115,slow=40								

GUC 09 21:55:12.5±0.7,32.˚74S×71.˚99W,h17km±13km,MD3.9, ML3.7,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41**	**134**	*e*P		P	Pg	21 55 19.9	-1.0
IHA				*i* S		S	Sg	21 55 25.2	-1.3
PACH	**Papudo**	**0.51**	**66**	⇑*i*P		P	Pg	21 55 22.5	-0.4
PACH				*e*S		S	Sb	21 55 30.1	-0.3
ROCH	**El Roble**	**0.86**	**106**	⇓*i*P		P	Pb	21 55 27.9	-1.4
ROCH				*i* S		S	Sb	21 55 39.2	-1.5
ROCH					AML	AML		21 55 40.7	
	comp=E,6μm,0.6s								
PEL	**Peldehue**	**1.17**	**110**	⇑*i*P		P	Pn	21 55 33.1	-1.1
PEL				*i* S		S	Sb	21 55 48.6	-0.7
PEL					AML	AML		21 55 54.7	
	comp=E,5μm,0.3s								
JACH	**Jahuel**	**1.18**	**87**	⇓*i*P		P	Pn	21 55 33.4	-1.0
TACH	**Talagante**	**1.27**	**136**	*i* P		P	Pn	21 55 34.3	-1.2
TACH				*i* S		S	Sb	21 55 50.2	-1.8
LNV	**Longovilo**	**1.30**	**158**	*e*P		P	Pn	21 55 34.5	-1.4
SAN	**Santiago**	**1.32**	**123**	⇓*i*P		P	Pn	21 55 35.6	-0.6
SAN				*i* S		S	Sn	21 55 52.8	-0.8
CLCH	**Cerro Calan**	**1.38**	**118**	*i* P		P	Pn	21 55 36.6	-0.6
CLCH				*i* S		S	Sn	21 55 54.6	-0.6
CLCH					AML	AML		21 56 03.5	
	comp=E,2μm,0.6s								
ANTU	**Antumapu**	**1.41**	**126**	*e*P		P	Pn	21 55 37.0	-0.4
ANTU					AML	AML		21 56 02.9	
	comp=N,2μm,0.2s								
PCH	**Pirque**	**1.52**	**126**	⇑*i*P		P	Pn	21 55 38.9	-0.2
CHCH	**Chadas Angostu**	**1.63**	**137**	⇓*i*P		P	Pn	21 55 40.5	-0.1
CHCH				*i* S		S	Sn	21 56 01.0	-0.3
CMCH	**Combarbala**	**1.78**	**29**	⇑*i*P		P	Pn	21 55 42.9	+0.3
CMCH				*i* S		S	Sn	21 56 05.5	+0.6
CMCH					AML	AML		21 56 14.3	
	comp=E,3μm,0.8s								
CACH	**El Canelo**	**1.80**	**140**	⇑*i*P		P	Pn	21 55 44.0	+1.1
CACH				*i* S		S	Sb	21 56 07.2	-0.4
LMEL	**Las Melosas**	**1.86**	**127**	*e*P		P	Pn	21 55 44.3	+0.4
LMEL				*i* S		S	Sb	21 56 08.7	-0.7
LMEL					AML	AML		21 56 13.3	
	comp=N,997nm,0.5s								
TLL	**Tololo Astrono**	**2.76**	**22**	⇑*i*P		P	Pn	21 55 57.5	+1.1
TLL					AML	AML		21 56 53.9	
	comp=N,165nm,0.7s								

*LDG **09** 21:55:47.0±0.6,23.˚28N×94.˚63E,h10km,Mb4.3/7,Error ellipse: s-maj=24.4km s-min=19.9km az=146.0*

*NEIC **09** 21:55:53.6±0.3,23.˚48N×94.˚54E,h35km,mb4.5/7,Error ellipse: s-maj=11.9km s-min=7.2km az=47.0*

*ISCJB **09** 21:56:00.5±0.5,23.˚63N±0.˚09×94.˚29E±0.˚06,h99km, mb4.1/26,Error ellipse: s-maj=14.0km s-min=4.9km az=26.2*

*IDC **09** 21:56:00.9±2.4,23.˚67N×94.˚73E,h100km±21km,mb3.8/17, mb1 3.9/18,mb1mx3.7/30,mbtmp3.8/18,Error ellipse: s-maj=26.1km s-min=11.0km az=55.0*

ISC 09 21:56:00.7±0.6,23.˚47N±0.˚09×94.˚31E±0.˚08,h99km,n102, σ1s54/130,mb4.2/26,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.36**	**345**	*e*P		P	**Pn**	**21 56 26.0**	**+0.7**
IMP				*e*S		S	**Sn**	**21 56 46.0**	**+2.2**
SHL	**Shillong**	**3.04**	**314**	*e*PN		P	**Pn**	**21 56 48.2**	**+1.0**
SHL				*e*SN		S	**Sn**	**21 57 21.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**6.60**	**138**	P		P	**Pn**	**21 57 33.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**6.60**	**138**	P		P	**Pn**	**21 57 33.3**	**-1.9**
	0.5nm,0.3s,baz=317,slow=13,SNR=13								
LSA	**Lhasa**	**6.82**	**336**	*e*Pn		P	**Pn**	**21 57 36.9**	**-1.7**
	13nm,0.4s								
LSA				*e*Sn		S	Sn	21 58 44.0	-11
TAPN	**Taplejung**	**7.11**	**304**	*e*Pn		P	**Pn**	**21 57 43.8**	**+1.4**
TAPN				*e*Sn		S	**Sn**	**21 59 00.7**	**-1.1**
	74nm,0.3s								
TAPN	**Taplejung**	**7.11**	**304**	*e*Pn		P	**Pn**	**21 57 43.8**	**+1.4**
TAPN				*e*Sn		S	**Sn**	**21 59 00.7**	**-1.1**
ODAN	**Odare**	**7.12**	**300**	*e*Pn		P	**Pn**	**21 57 43.5**	**+1.0**
ODAN				*e*Sn		S	**Sn**	**21 59 00.0**	**-2.0**
	203nm,0.3s								
ODAN	**Odare**	**7.12**	**300**	*e*Pn		P	**Pn**	**21 57 43.5**	**+1.0**
ODAN				*e*Sn		S	**Sn**	**21 59 00.0**	**-2.0**
RAMN	**Ramite**	**7.80**	**298**	*e*Pn		P	**Pn**	**21 57 53.0**	**+1.3**
RAMN	**Ramite**	**7.80**	**298**	*e*Pn		P	**Pn**	**21 57 53.0**	**+1.3**
JIRN	**Jiri**	**8.44**	**301**	*e*Pn		P	**Pn**	**21 58 02.1**	**+1.6**
JIRN				*e*Sn		S	**Sn**	**21 59 32.8**	**-1.5**
	118nm,0.3s								
JIRN	**Jiri**	**8.44**	**301**	*e*Pn		P	**Pn**	**21 58 02.1**	**+1.6**
JIRN				*e*Sn		S	**Sn**	**21 59 32.8**	**-1.5**
GUN	**Gumba**	**8.80**	**302**	*e*Pn		P	**Pn**	**21 58 06.9**	**+1.5**
GUN				*e*Sn		S	**Sn**	**21 59 40.0**	**-3.0**
	128nm,0.3s								
GUN	**Gumba**	**8.80**	**302**	*e*Pn		P	**Pn**	**21 58 06.9**	**+1.5**
GUN				*e*Sn		S	**Sn**	**21 59 40.0**	**-3.0**
PKI	**Pulchoki**	**9.02**	**299**	*e*Pn		P	**Pn**	**21 58 09.2**	**+0.8**
PKI				*e*Sn		S	**Sn**	**21 59 45.7**	**-2.7**
	48nm,0.4s								
PKI	**Pulchoki**	**9.02**	**299**	*e*Pn		P	**Pn**	**21 58 09.7**	**+1.3**
PKI				*e*Sn		S	**Sn**	**21 59 46.0**	**-2.4**
PKIN	**Phulchoki**	**9.03**	**299**	*e*Pn		P	**Pn**	**21 58 09.7**	**+1.2**
PKIN				*e*Sn		S	**Sn**	**21 59 46.0**	**-2.6**
	43nm,0.4s								
KKN	**Kakani**	**9.22**	**300**	*e*Pn		P	**Pn**	**21 58 11.4**	**+0.4**
KKN				*e*Sn		S	**Sn**	**21 59 50.5**	**-2.5**
	34nm,0.2s								
KKN	**Kakani**	**9.22**	**300**	*e*Pn		P	**Pn**	**21 58 11.4**	**+0.4**
KKN				*e*Sn		S	**Sn**	**21 59 50.5**	**-2.5**
DMN	**Daman**	**9.28**	**298**	*e*Pn		P	**Pn**	**21 58 12.9**	**+1.0**
DMN				*e*Sn		S	**Sn**	**21 59 51.5**	**-3.1**
DMN	**Daman**	**9.28**	**298**	*e*Pn		P	**Pn**	**21 58 12.9**	**+1.0**
DMN				*e*Sn		S	**Sn**	**21 59 51.5**	**-3.1**
GKN	**Gorkha**	**9.82**	**299**	*e*Pn		P	**Pn**	**21 58 20.2**	**+1.1**
GKN				*e*Sn		S	**Sn**	**22 00 04.4**	**-3.2**
	128nm,0.4s								
GKN	**Gorkha**	**9.82**	**299**	*e*Pn		P	**Pn**	**21 58 20.2**	**+1.1**
GKN				*e*Sn		S	**Sn**	**22 00 04.4**	**-3.2**
KOLN	**Koldanda**	**10.57**	**296**	*e*Pn		P	**Pn**	**21 58 29.4**	**0.0**
KOLN				*e*Sn		S	**Sn**	**22 00 20.6**	**-5.4**
	66nm,0.5s								
KOLN	**Koldanda**	**10.57**	**296**	*e*Pn		P	**Pn**	**21 58 29.4**	**0.0**
KOLN				*e*Sn		S	**Sn**	**22 00 20.6**	**-5.4**
DANN	**Dangsing**	**10.67**	**299**	*e*Pn		P	**Pn**	**21 58 30.3**	**-0.5**
DANN				*e*Sn		S	**Sn**	**22 00 25.3**	**-3.1**
	39nm,0.4s								
DANN	**Dangsing**	**10.67**	**299**	*e*Pn		P	**Pn**	**21 58 30.3**	**-0.5**
DANN				*e*Sn		S	**Sn**	**22 00 25.3**	**-3.1**
PYUN	**Piuthan**	**11.20**	**297**	*e*Pn		P	**Pn**	**21 58 38.6**	**+0.8**
PYUN	**Piuthan**	**11.20**	**297**	*e*Pn		P	**Pn**	**21 58 38.6**	**+0.8**
ENH	**Enshi**	**15.13**	**60**	*e*Pn		P	Pn	21 59 22.7	-6.6
	8.7nm,0.7s								
MK31	**Makanchi Array**	**25.21**	**340**	*e*P		P	**P**	**22 01 17.3**	**+0.2**
MKAR	**Makanchi Array**	**25.21**	**340**	P		P	**P**	**22 01 17.6**	**+0.5**
MKAR				PcP		PcP	**PcP**	**22 04 48.2**	**0.0**
MKAR	**Makanchi Array**	**25.21**	**340**	P		P	**P**	**22 01 17.6**	**+0.5**
	9.4nm,0.8s,baz=143,slow=9.8,SNR=22								
MKAR				PcP		PcP	**PcP**	**22 04 48.2**	**0.0**
	0.3nm,0.4s,baz=178,slow=3.2,SNR=4.9								
AAK	**Ala-Archa**	**25.21**	**324**	P		P	**P**	**22 01 19.2**	**+1.8**
AAK	**Ala-Archa**	**25.21**	**324**	P		P	**P**	**22 01 19.2**	**+1.8**
	1.6nm,0.4s,baz=134,slow=8.8,SNR=6.0								
KURBB	**Kurchatov Arra**	**29.76**	**340**	P		P	**P**	**22 01 57.4**	**-0.3**
	1.3nm,0.9s,baz=150,slow=8.4,SNR=5.0								
KURBB				PcP		PcP	**PcP**	**22 04 58.9**	**-0.2**
	1.2nm,0.7s,baz=170,slow=2.2,SNR=12								
KURBB				ScP		ScP	**ScP**	**22 08 31.0**	**-1.2**
	0.7nm,0.7s,baz=150,slow=2.6,SNR=9.3								
KURK	**Kurchatov**	**29.81**	**340**	*e*P		P	**P**	**22 01 57.4**	**-0.7**
	0.6nm,0.6s								
KURK				PcP		PcP	**PcP**	**22 04 58.9**	**-0.3**
KURK				ScP		ScP	**ScP**	**22 08 31.0**	**-1.3**
ZALV	**Zalesovo Beam**	**31.27**	**349**	P		P	**P**	**22 02 10.3**	**-0.7**
ZALV	**Zalesovo Beam**	**31.27**	**349**	P		P	**P**	**22 02 10.3**	**-0.7**
	0.8nm,0.4s,baz=173,slow=9.5,SNR=4.8								
BVAR	**Borovoye Array**	**34.66**	**334**	P		P	**P**	**22 02 40.8**	**+0.3**
BVAR				PcP		PcP	**PcP**	**22 05 12.1**	**-0.4**
BVAR	**Borovoye Array**	**34.66**	**334**	P		P	**P**	**22 02 40.8**	**+0.3**
	1.9nm,0.6s,baz=136,slow=11,SNR=12								
BVAR				PcP		PcP	**PcP**	**22 05 12.1**	**-0.4**
	0.9nm,0.7s,baz=129,slow=3.6,SNR=5.0								
BRVK	**Borovoye**	**34.72**	**334**	*e*P		P	**P**	**22 02 41.0**	**0.0**
	1.5nm,0.4s								
USRK	**Ussuriysk Arra**	**37.08**	**47**	P		P	P	22 02 57.0	-4.3
	0.9nm,0.7s,baz=256,slow=6.9,SNR=5.6								
ABKAR	**Akbulak array**	**37.27**	**322**	*e*P		P	**P**	**22 03 02.0**	**-0.8**
	1.4nm,0.4s								
BRTR	**Keskin Array B**	**53.21**	**303**	P		P	**P**	**22 05 10.2**	**+1.1**
BRTR	**Keskin Array B**	**53.21**	**303**	P		P	**P**	**22 05 10.2**	**+1.1**
	0.5nm,0.6s,baz=123,slow=7.0,SNR=4.4								
AKASG	**Malin Array Be**	**56.53**	**316**	P		P	**P**	**22 05 32.6**	**0.0**
AKASG	**Malin Array Be**	**56.53**	**316**	P		P	**P**	**22 05 32.6**	**0.0**
	0.8nm,0.4s,baz=86,slow=6.0,SNR=9.5								
WRA	**Warramunga Arr**	**58.18**	**135**	P		P	**P**	**22 05 44.0**	**-0.6**
WRA	**Warramunga Arr**	**58.18**	**135**	P		P	**P**	**22 05 44.0**	**-0.6**
	5.1nm,0.5s,baz=324,slow=7.4,SNR=88								
WRAB	**Tennant Creek**	**58.18**	**135**	*e*P		P	P	22 05 42.0	-2.6
	5.1nm,

AVH	**Avacha**	**2.00**	**267**	*e*P		Pn	21 59 31.1	+0.9
AVH				*e*S		Sn	21 59 56.1	+0.7
KRX	**Arik**	**2.05**	**269**	*e*P		Pn	21 59 31.0	+0.1
KRX				*e*S		Sn	21 59 55.8	-0.9
KOK	**Koryaka**	**2.06**	**268**	*e*P		Pn	21 59 31.7	+0.7
KOK				*e*S		Sn	21 59 56.8	-0.1
PET	**Petropavlovsk**	**2.09**	**260**	*e*S		Sn	21 59 57.3	-0.1
TUMR	**Tumrok**	**2.17**	**330**	*e*P		Pn	21 59 33.4	+0.8
TUMR				*e*S		Sn	21 59 59.3	-0.3
RUS	**Russkaya**	**2.37**	**247**	*e*P		Pn	21 59 37.0	+1.9
GNL	**Ganaly**	**2.48**	**278**	P		Pn	21 59 38.2	+1.5
GNL				*e*S		Sb	22 00 09.5	-2.1
MTVR	**Mutnovka**	**2.54**	**250**	*e*P		Pn	21 59 39.3	+1.7
MTVR				*e*S		Sn	22 00 09.5	+0.9
KMNR	**Kamenistaya**	**2.56**	**336**	*e*P		Pn	21 59 38.8	+0.9
ASAK	**Asacha**	**2.73**	**249**	*e*P		Pn	21 59 42.5	+2.3
ASAK				*e*S		Sn	22 00 14.2	+0.8
KBTR	**Krutoberegovo**	**2.82**	**9**	P		Pn	21 59 43.4	+2.1
BKI	**Bering**	**2.90**	**51**	*e*P		Pn	21 59 42.7	+0.4
BKI				*e*S		Sn	22 00 15.6	-1.5
APC	**Apacha**	**3.00**	**262**	*e*P		Pn	21 59 46.4	+2.7
ESO	**Esso**	**3.17**	**323**	*e*P		Pn	21 59 47.1	+0.9
SMKR	**Semkarok**	**3.18**	**354**	*e*P		Pn	21 59 48.3	+2.0
BDR	**Baidarnaya**	**3.18**	**351**	*e*P		Pn	21 59 49.0	+2.6
SRDR	**Sredinnyy**	**3.20**	**336**	*e*P		Pn	21 59 47.6	+1.0
SRKR	**Sorokina**	**3.27**	**351**	P		Pn	21 59 49.7	+2.1

*CSEM **09** 22:06:22.1, 35˚.40N × 27˚.53E, h21km, MD3.5, After ATH*
ATH 09 22:06:22.1, 35˚.40N × 27˚.53E, h21 km ± 6km, **MD3.5**/6, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.34**	**296**	*e*PB	Pb	22 06 29.8	+0.4
KARP	**Karpathos**	**0.34**	**296**	*e*Pb	Pb	22 06 29.8	+0.4
ARG	**Arkhangelos**	**0.95**	**31**	*e*PB	Pb	22 06 39.4	-0.4
ARG				*e*SN	Sn	22 06 54.4	+1.3
ARG	**Arkhangelos**	**0.95**	**31**	*e*Pb	Pb	22 06 39.4	-0.4
ARG				*e*Sn	Sn	22 06 54.4	+1.3
ZKR	**Zakros**	**1.11**	**256**	*e*PN	Pb	22 06 43.1	+0.5
ZKR	**Zakros**	**1.11**	**256**	*e*Pn	Pb	22 06 43.1	+0.5
NPS	**Neapolis**	**1.57**	**266**	*e*PN	Pb	22 06 51.9	+1.4
NPS	**Neapolis**	**1.57**	**266**	*e*Pn	Pb	22 06 51.9	+1.4
LAST	**Lasithi**	**1.69**	**263**	*e*PN	Pb	22 06 52.6	-0.1
LAST	**Lasithi**	**1.69**	**263**	*e*Pn	Pb	22 06 52.6	-0.1
IDI	**Anoyia**	**2.16**	**268**	*e*PB	Pn	22 06 58.6	+1.6
IDI	**Anoyia**	**2.16**	**268**	*e*Pb	Pn	22 06 58.6	+1.6

*CSEM **09** 22:31:32.2, 34˚.94N × 23˚.41E, h5km, MD3.5, After ATH*
ATH 09 22:31:32.2, 34˚.94N × 23˚.41E, h5 km, **MD3.5**/10, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.57**	**100**	*e*PB	Pg	22 31 43.3	+0.2
GVD				*e*SB	Sg	22 31 51.7	+1.2
GVD	**Gavdhos**	**0.57**	**100**	*e*Pb	Pg	22 31 43.3	+0.2
GVD				*e*Sb	Sg	22 31 51.7	+1.2
VAM	**Vamos**	**0.80**	**54**	*e*PG	Pg	22 31 47.0	-0.5
VAM				*e*SB	Sb	22 31 59.0	-0.7
VAM	**Vamos**	**0.80**	**54**	*e*Pg	Pg	22 31 47.0	-0.5
VAM				*e*Sb	Sb	22 31 59.0	-0.7
ANKY	**Antikythira Is**	**0.93**	**355**	*e*PG	Pg	22 31 49.9	-0.2
ANKY				*e*SB	Sb	22 32 03.3	-0.2
ANKY	**Antikythira Is**	**0.93**	**355**	*e*Pg	Pg	22 31 49.9	-0.2
ANKY				*e*Sb	Sb	22 32 03.3	-0.2
SIVA	**Sivas**	**1.15**	**86**	*e*PG	Pg	22 31 53.4	-0.9
SIVA	**Sivas**	**1.15**	**86**	*e*Pg	Pg	22 31 53.4	-0.9
IDI	**Anoyia**	**1.26**	**74**	*e*PN	Pg	22 31 55.2	-1.3
IDI				*e*SB	Sn	22 32 14.3	+0.3
IDI	**Anoyia**	**1.26**	**74**	*e*Pn	Pg	22 31 55.2	-1.3
IDI				*e*Sb	Sn	22 32 14.3	+0.3
KYTH	**Kithira**	**1.37**	**347**	*e*PB	Pb	22 31 58.5	+0.1
KYTH	**Kithira**	**1.37**	**347**	*e*Pb	Pb	22 31 58.5	+0.1
LAST	**Lasithi**	**1.71**	**82**	*e*PN	Pg	22 32 05.0	-0.2
LAST	**Lasithi**	**1.71**	**82**	*e*Pn	Pg	22 32 05.0	-0.2
VLI	**Veliai**	**1.82**	**348**	*e*PN	Pg	22 32 07.2	+0.2
VLI	**Veliai**	**1.82**	**348**	*e*Pn	Pg	22 32 07.2	+0.2
NPS	**Neapolis**	**1.83**	**79**	*e*PN	Pb	22 32 06.6	+0.3
NPS	**Neapolis**	**1.83**	**79**	*e*Pn	Pb	22 32 06.6	+0.3
APE	**Apeiranthos**	**2.73**	**38**	*e*PG	Pb	22 32 22.3	+0.6
APE	**Apeiranthos**	**2.73**	**38**	*e*Pg	Pb	22 32 22.3	+0.6

*JMA **09** 22:32:03.3±0.1, 24˚.32N × 122˚.00E, h0km, M2.3*
*TAP **09** 22:32:03.2, 24˚.31N × 121˚.98E, h22km, ML3.1, C*
ISC 09 22:32:02.9±1.2, **24˚.30N**±0˚.02 × **122˚.02E**±0˚.03, **h11** km ± 10km, **n40**, σ0**81/67**, **1C-6D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.25**	**272**	*e*P	**Pb**	**22 32 09.3**	**-0.3**
	baz=276						
ENA	**Nanau**	**0.28**	**296**	⇓*i*P	**Pb**	**22 32 09.5**	**-0.5**
	baz=305						
ENA				*e*S	**Sb**	**22 32 13.6**	**-1.2**
	baz=305						
TWC	**Suao**	**0.34**	**334**	⇓*i*P	**Pb**	**22 32 10.7**	**-0.4**
	baz=345						
TWC				*i* S	**Sb**	**22 32 15.6**	**-0.9**
	baz=345						
TWD	**Chiawan**	**0.44**	**240**	P	**Pb**	**22 32 12.7**	**-0.1**
	baz=239						
TWD				*e*S	**Sb**	**22 32 19.8**	**+0.4**
	baz=239						
HWA	**Hwalien**	**0.50**	**229**	*e*P	**Pb**	**22 32 14.1**	**+0.4**
	baz=238						
TWE	**Neicheng**	**0.52**	**323**	⇓*i*P	**Pb**	**22 32 13.8**	**-0.3**
	baz=328						
TWE				*e*S	**Sb**	**22 32 20.7**	**-1.1**
	baz=328						
ENTT	**Nioudou**	**0.53**	**309**	⇓*i*P	**Pb**	**22 32 13.9**	**-0.3**
	baz=316						
ENTT				*e*S	**Sb**	**22 32 21.5**	**-0.4**
	baz=316						
EGS		**0.55**	**352**	*i* P	**Pb**	**22 32 14.5**	**0.0**
	baz=356						
EGS				*i* S	**Sb**	**22 32 22.1**	**-0.2**
	baz=356						
NNS	**Nan Shan**	**0.60**	**283**	⇓*i*P	**Pb**	**22 32 15.3**	**-0.3**
	baz=289						
NNS				*i* S	**Sb**	**22 32 23.9**	**-0.3**
	baz=289						
TWB1	**Santiao Chiao**	**0.70**	**358**	P	**Pb**	**22 32 17.4**	**+0.1**
	baz=354						
TWB1				*e*S	**Sb**	**22 32 26.6**	**-0.3**
	baz=354						
WHF	**Hehuan Shan**	**0.70**	**257**	*i* P	**Pg**	**22 32 17.1**	**+0.4**
	baz=256						
WHF				*e*S	**Sb**	**22 32 27.7**	**+0.4**
	baz=256						
NSK	**Sanguang**	**0.70**	**302**	⇓*i*P	**Pb**	**22 32 17.0**	**-0.3**
	baz=306						
NSK				*i* S	**Sg**	**22 32 26.1**	**+0.3**
	baz=306						
ESL	**Shilin**	**0.72**	**228**	*e*P	**Pg**	**22 32 16.9**	**0.0**
	baz=224						
ESL				*e*S	**Sb**	**22 32 28.2**	**+0.7**
	baz=224						
TWT	**Tachien**	**0.77**	**266**	*e*P	**Pb**	**22 32 18.5**	**0.0**
	baz=266						
TWT				S	**Sb**	**22 32 29.7**	**+0.7**
	baz=266						
TAP1	**Taipei**	**0.86**	**329**	*e*P	**Pb**	**22 32 20.9**	**-0.1**
	baz=323						
YOJ	**Yonaguni jima**	**0.92**	**80**	P	**Pb**	**22 32 21.7**	**+0.8**
YOJ				S	**Sn**	**22 32 35.5**	**+0.4**
TWS1	**Kuangyinshan**	**0.96**	**326**	*e*P	**Pn**	**22 32 22.5**	**+0.1**
	baz=324						
TWS1				*e*S	**Sn**	**22 32 35.5**	**-0.6**
	baz=324						
NSTT	**Nanjuang**	**0.98**	**290**	*i* P	**Pn**	**22 32 22.3**	**-0.4**
	baz=283						
NSTT				S	**Sb**	**22 32 35.4**	**+0.5**
	baz=283						
NCU	**National Centr**	**1.00**	**312**	*e*P	**Pb**	**22 32 22.6**	**+0.2**
	baz=319						
NCU				*e*S	**Sn**	**22 32 37.3**	**+0.1**
	baz=319						
EHY	**Hungye**	**1.02**	**219**	*e*P	**Pg**	**22 32 22.2**	**-0.3**
	baz=217						
TWY	**Chenhua**	**1.04**	**339**	*e*P	**Pn**	**22 32 23.6**	**+0.2**
	baz=342						
TWY				*e*S	**Sn**	**22 32 37.2**	**-0.9**
	baz=342						
SMLT	**Sun Moon Lake**	**1.10**	**248**	*e*P	**Pb**	**22 32 23.2**	**-0.9**
	baz=247						
TYC	**Yuchr**	**1.13**	**250**	⇑P	**Pb**	**22 32 24.1**	**-0.4**
	baz=241						
TYC				*e*S	**Sn**	**22 32 41.6**	**+1.3**
	baz=241						
TWQ1	**Liyutan**	**1.14**	**272**	*e*P	**Pn**	**22 32 24.9**	**+0.1**
	baz=265						
NSY	**Sanyi**	**1.15**	**276**	*e*P	**Pg**	**22 32 25.0**	**-0.1**
	baz=276						
NSY				*e*S	**Sn**	**22 32 41.7**	**+0.9**
	baz=276						
TWF1	**Yuli**	**1.15**	**215**	*e*P	**Pb**	**22 32 23.5**	**-1.4**
	baz=228						
TCU	**Taichung**	**1.23**	**263**	*e*P	**Pg**	**22 32 26.9**	**+0.2**
	baz=263						
TCU				*e*S	**Sn**	**22 32 43.6**	**+0.8**
	baz=263						
YUS	**Yu-Shan**	**1.27**	**230**	P	**Pn**	**22 32 26.6**	**-0.4**
	baz=228						
YUS				*e*S	**Sb**	**22 32 44.2**	**+0.5**
	baz=228						
CHKT	**Chengkung**	**1.34**	**207**	*e*P	**Pn**	**22 32 27.9**	**+0.3**
	baz=192						
CHKT				*e*S	**Sb**	**22 32 40.8**	**-4.5**
	baz=192						
ALS	**Alishan**	**1.36**	**235**	*e*P	**Pn**	**22 32 28.7**	**+0.5**
	baz=218						
ALS				*e*S	**Sg**	**22 32 47.2**	**+0.4**
	baz=218						
CHN5	**Tsauling**	**1.41**	**240**	*e*P	**Pn**	**22 32 29.1**	**+0.4**
	baz=223						
CHN5				*e*S	**Sg**	**22 32 48.9**	**+0.5**
	baz=223						
ELDTW	**Lidau**	**1.44**	**220**	*e*P	**Pn**	**22 32 27.8**	**-1.3**
	baz=205						
IRIF	**Iriomote-Funau**	**1.56**	**89**	*e*S	**Sn**	**22 32 51.7**	**+0.7**
STYT	**Tauyuan**	**1.62**	**226**	*e*P	**Pn**	**22 32 31.5**	**0.0**
	baz=212						
WTP	**Ta-pu**	**1.66**	**231**	*e*P	**Pn**	**22 32 32.6**	**+0.5**
	baz=228						
WTP				*e*S	**Sg**	**22 32 55.8**	**-0.6**
	baz=228						
CHY	**Chiayi**	**1.66**	**241**	*e*P	**Pb**	**22 32 33.5**	**-0.1**
	baz=240						
TWK	**Hsinying**	**1.74**	**234**	*e*P	**Pn**	**22 32 34.1**	**+0.9**
	baz=231						
TWK				*e*S	**Sb**	**22 32 56.8**	**0.0**
	baz=231						
CHN1	**Nanshi**	**1.76**	**231**	*e*P	**Pn**	**22 32 34.4**	**+1.0**
	baz=229						
CHN1				*e*S	**Sb**	**22 32 57.7**	**+0.3**
	baz=229						
JKRS	**Kuro-shima**	**1.82**	**92**	*e*S	**Sg**	**22 33 01.4**	**-0.1**
JIJ	**Ishigaki jima**	**1.94**	**88**	*e*S	**Sn**	**22 33 00.4**	**+0.1**

*NIED **09** 23:25:00, 43˚.00N × 146˚.90E, h26km, Mw5.2 Best double couple: M0 6.33000 × 10^16 NP1: ϕs 235.00000°, δ 85.00000°, λ -108.00000°. NP2: ϕs 129.00000°, δ 19.00000°, λ -17.00000°.*
*MOS **09** 23:25:33.8±0.8, 43˚.03N × 146˚.83E, h27km, mb5.4/96, MS5.0/23, Error ellipse: s-maj=5.9km s-min=4.2km az=103.9*
*SKHL **09** 23:25:35.4±1.0, 42˚.99N × 147˚.06E, h50km ± 5km, mb5.8/8, mbh5.7/4, Ms5.0/9, msh5.6/4*
*JMA **09** 23:25:35.2±0.2, 43˚.00N × 146˚.94E, h54km ± 4km, M5.2*
JMA Felt II J1.
*ISCJB **09** 23:25:36.6±0.4, 43˚.09N±0˚.03 × 146˚.80E±0˚.02, h45km ± 3km, mb5.1/260, MS4.9/46, Error ellipse: s-maj=4.3km s-min=2.3km az=168.1*
*BJI **09** 23:25:36.8, 43˚.27N × 146˚.72E, h48km, mB5.3/41, mb5.0/51, Ms4.8/57, Ms7 4.6/54*
*NEIC **09** 23:25:38.0±0.4, 43˚.05N × 146˚.74E, h46km ± 3km, mb5.2/151, Error ellipse: s-maj=4.3km s-min=2.3km az=163.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
*IDC **09** 23:25:37.1±0.5, 43˚.04N × 146˚.80E, h40km ± 3km, mb4.5/29, mb1 4.6/35, mb1mx4.6/37, mbtmp4.5/35, ML3.8/6, MS4.8/27, Ms1 4.8/27, ms1mx4.6/39, Error ellipse: s-maj=12.1km s-min=9.4km az=150.0*
*GCMT **09** 23:25:38.6±0.3, 43˚.06N × 146˚.94E, h21km ± 1km, MW5.2, Moment Tensor Solution. s39,c43; s82,c133; Moment tensor: Scale 10^16 Nm; Mrr 2.66±.28; Mθθ 5.08±.21; Mϕϕ -2.43±.15; Mrθ 4.20±.51; Mrϕ -0.44±.12; Mθϕ 6.09±.68; Best double couple: M0 8.50000 × 10^16 NP1: ϕs 229.00000°, δ 81.00000°, λ -118.00000°. NP2: ϕs 122.00000°, δ 30.00000°, λ -19.00000°. Principal axes: T 7.5000, Plg30.0000°, Azm342.0000°; N 1.9100, Plg28.0000°, Azm234.0000°; P -9.4200, Plg47.0000°, Azm110.0000°; Data Used: II IU G CN IC CU.*
*SZGRF **09** 23:25:40.5, 43˚.82N × 147˚.06E, h44km, mb5.5, Kuril Islands, Russia*
ISC 09 23:25:38.0±0.3, **43˚.14N**±0˚.04 × **146˚.77E**±0˚.03, **h44** km ± 1km, **h44**km:**pP-P**, **n1188**, σ1**93**/1324, **mb5.2**/261, **MS4.9**/46, **251C-178D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.78**	**287**	⇑P	**Pn**	**23 25 52.7**	**+0.2**
NEM2				*e*S	**Sn**	**23 26 05.5**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**1.11**	**324**	*c i*PN	**Pn**	**23 25 57.2**	**+0.2**
YUK				*i* S	**Sn**	**23 26 14.2**	**+3.0**
YUK				pmax	pmax		
	comp=N,3μm,0.4s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				pmax	pmax		
	comp=Z,7μm,0.4s						
YUK				pmax	pmax		
	comp=Z,39μm,2.2s						
YUK				smax	smax		
	comp=N,191μm,3.5s						
YUK				smax	smax		
	comp=E,47μm,1.8s						
YUK				smax	smax		
	comp=E,127nm,0.3s						
YUK				smax	smax		
	comp=N,40μm,0.7s						
JRA	**Rausu**	**1.44**	**304**	⇑P	**Pn**	**23 26 02.2**	**+0.7**
JAK	**Akkeshi**	**1.52**	**265**	⇑P	**Pn**	**23 26 02.3**	**-0.4**
JAK				*e*S	**Sn**	**23 26 22.0**	**+0.7**
JNK	**Nakash**	**1.56**	**287**	P	**Pn**	**23 26 03.1**	**-0.1**
JNK				*e*S	**Sn**	**23 26 24.0**	**+1.8**
JOB	**Onbets**	**2.16**	**265**	⇑P	**Pn**	**23 26 11.2**	**-0.3**
JOB				*e*S	**Sn**	**23 26 38.0**	**+1.0**
JAR	**Ashorobuto**	**2.20**	**275**	⇑P	**Pn**	**23 26 12.2**	**+0.3**
JAR				*e*S	**Sn**	**23 26 39.5**	**+1.6**
KUR	**Kuril'sk**	**2.24**	**20**	*e*PN	**Pn**	**23 26 12.0**	**-0.5**
KUR				*e*S	**Sn**	**23 26 37.0**	**-1.8**
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
KUR				smax	smax		
	comp=N,8μm,0.9s						
KUR				smax	smax		
	comp=E,6μm,0.9s						
KUR				smax	smax		
	comp=N,50μm,2.0s						
KUR				smax	smax		
	comp=E,25μm,3.0s						
KUR	**Kuril'sk**	**2.24**	**20**	⇑*e*P	**Pn**	**23 26 12.2**	**-0.3**
KUR				AMB	AMB	23 26 14.0	
	comp=E,10μm,3.0s						
KUR				AMB	AMB	23 26 23.0	
	comp=E,3μm,1.0s						
KUR				AMB	AMB	23 26 23.0	
	comp=E,900nm,0.4s						
KUR				AMB	AMB	23 26 23.0	
	comp=E,450nm,0.4s						
KUR				*i* S	**Sn**	**23 26 39.0**	**+0.2**
KUR				A	A	23 26 43.0	
	comp=E,25μm,3.0s						
KUR				A	A	23 26 43.0	
	comp=E,30μm,4.0s						
KUR				A	A	23 26 43.0	
	comp=E,48μm,4.0s						
KUR				A	A	23 26 53.5	
	comp=E,3μm,0.6s						
JTKR	**Abashiri--Toko**	**2.24**	**293**	⇑P	**Pn**	**23 26 13.7**	**+1.2**
JCH	**Churui**	**2.56**	**259**	P	**Pn**	**23 26 16.3**	**-0.6**
JMP	**Maruseppu**	**2.62**	**290**	⇑P	**Pn**	**23 26 19.0**	**+1.2**
HRK	**Horoka**	**2.67**	**278**	*e*P	**Pn**	**23 26 19.8**	**+1.2**
ERM	**Erimo**	**2.89**	**248**	*e*PN	**Pn**	**23 26 22.5**	**+1.0**
ERM				*e*		23 26 56.5	
ERM	**Erimo**	**2.89**	**248**	*e*P	**Pn**	**23 26 22.3**	**+0.8**
ERM	**Erimo**	**2.89**	**248**	*e*Pn	**Pn**	**23 26 22.5**	**+1.0**
ERM				*e*Sn	**Sn**	**23 26 56.5**	**+1.5**
ERM	**Erimo**	**2.89**	**248**	Pn	**Pn**	**23 26 22.0**	**+0.5**
	comp=E,7μm,0.5s						
JEM	**Erimo**	**2.89**	**248**	⇑P	**Pn**	**23 26 22.0**	**+0.5**
JKK2	**Kamakawa 2**	**3.01**	**285**	P	**Pn**	**23 26 24.7**	**+1.5**
JFR	**Furan**	**3.05**	**272**	P	**Pn**	**23 26 24.3**	**+0.6**
JNBK	**Urakawa-nobuka**	**3.08**	**255**	P	**Pn**	**23 26 23.8**	**-0.3**
JKA	**Kamikawa-asahi**	**3.18**	**289**	*e*P	**Pn**	**23 26 25.4**	**0.0**
ASAJ	**Asahikawa**	**3.18**	**289**	P	**Pn**	**23 26 27.5**	**+2.1**
ASAJ	**Asahikawa**	**3.18**	**289**	*e*Pn	**Pn**	**23 26 27.5**	**+2.1**
ASAJ				*e*Sn	**Sn**	**23 27 02.0**	**-0.1**
ASAJ	**Asahikawa**	**3.18**	**289**	P	**Pn**	**23 26 25.4**	**-0.1**
	comp=E,31nm,0.3s,baz=121,slow=11,SNR=64						
ASAJ				LR	LR	23 28 02.1	
	comp=E,23μm,19.3s,baz=127,slow=45						
JBT2	**Biratori 2**	**3.25**	**265**	P	**Pn**	**23 26 26.2**	**-0.2**
JAB	**Ashibetsu**	**3.33**	**278**	P	**Pn**	**23 26 30.0**	**+2.4**
JKB	**Kayabe**	**4.42**	**255**	⇑P	**Pn**	**23 26 42.6**	**+0.2**
JOT	**Ohata**	**4.59**	**249**	P	**Pn**	**23 26 44.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**4.76**	**325**	*α i*PN	**Pn**	**23 26 48.6**	**+1.6**
YSS				pmax	pmax		
	comp=Z,110nm,1.0s						
YSS				MLR	MLR		
	comp=Z,14μm,15.0s						
YSS				MLR	MLR		
	comp=N,13μm,17.0s						
YSS				MLR	MLR		
	comp=E,5μm,18.0s						
YSS	**Yuzh-Sakhalins**	**4.76**	**325**	*i* P	**Pn**	**23 26 48.6**	**+1.6**
YSS				⇑*i*P	**Pn**	**23 26 48.8**	**+1.8**
YSS				AMB	AMB	23 26 49.8	
	comp=E,110nm,1.0s						
YSS				AMB	AMB	23 26 51.0	
	comp=E,1μm,4.0s						
YSS				*e*S	**Sn**	**23 27 43.8**	**+3.0**
YSS				A	A	23 28 08.7	
	comp=E,360nm,0.8s						
YSS				AMS	AMS	23 29 06.0	
	comp=E,13μm,17.0s						
YSS				AMS	AMS	23 29 06.0	
	comp=E,5μm,17.0s						
YSS				AMS	AMS	23 29 06.0	
	comp=E,14μm,17.0s						
YSS				AMS	AMS	23 29 06.0	
	comp=E,10μm,16.0s						
YSS				AMS	AMS	23 29 06.0	
	comp=E,14μm,16.0s						
JTH	**Tanohata**	**4.88**	**231**	⇑P	Pn	23 26 45.4	-3.3
JAH	**Hinai**	**5.46**	**239**	P	**Pn**	**23 26 54.8**	**-1.9**
OFUJ	**Ofunato**	**5.59**	**225**	⇑P	Pn	23 26 55.2	-3.3
UGL	**Uglegorsk**	**6.78**	**333**	*e*PN	**Pn**	**23 27 17.0**	**+2.3**
UGL				pmax	pmax		
	comp=E,900nm,1.4s						
UGL				pmax	pmax		
	comp=N,3μm,4.0s						
UGL				pmax	pmax		
	comp=E,2μm,4.0s						
UGL				pmax	pmax		
	comp=Z,2μm,4.0s						
UGL				MLR	MLR		
	comp=Z,10μm,16.0s						
UGL				MLR	MLR		
	comp=N,6μm,17.0s						
UGL				MLR	MLR		
	comp=E,5μm,17.0s						
UGL	**Uglegorsk**	**6.78**	**333**	⇑*e*P	**Pn**	**23 27 17.0**	**+2.3**
UGL				*e*P	Pn	23 27 18.0	+3.3
UGL				AMB	AMB	23 27 19.2	
	comp=E,220nm,1.0s						
UGL				AMB	AMB	23 27 20.0	
	comp=E,3μm,4.0s						
UGL				AMB	AMB	23 27 20.0	
	comp=E,2μm,4.0s						
UGL				AMB	AMB	23 27 20.0	
	comp=E,2μm,4.0s						
UGL				*e*S	**Sn**	**23 28 33.2**	**+2.7**
UGL				A	A	23 29 16.0	
	comp=E,630nm,1.0s						
UGL				A	A	23 29 16.4	
	comp=E,4μm,4.0s						
UGL				AMS	AMS	23 30 15.0	
	comp=E,6μm,17.0s						
UGL				AMS	AMS	23 30 15.0	
	comp=E,5μm,17.0s						
UGL				AMS	AMS	23 30 15.0	
	comp=E,10μm,17.0s						
TEY	**Ternei**	**7.56**	**288**	*e*P	Pn	23 27 30.0	+4.5
TEY				AMB	AMB	23 27 40.0	
	comp=E,1μm,3.0s						
TEY				AMB	AMB	23 27 42.8	
	comp=E,70nm,0.8s						
TEY				AMB	AMB	23 27 42.8	
	comp=E,130nm,0.8s						
TEY				AMS	AMS	23 30 38.0	
	comp=E,7μm,17.0s						
TEY				AMS	AMS	23 30 38.0	
	comp=E,12μm,17.0s						
JHO	**Hitachi**	**8.07**	**218**	P	Pn	23 27 28.7	-3.9
TYV	**Tymovskoe**	**8.22**	**341**	*e*P	**Pn**	**23 27 36.4**	**+1.9**
TYV				AMB	AMB	23 27 40.0	
	comp=E,2μm,6.0s						
TYV				AMB	AMB	23 27 40.0	
	comp=E,2μm,6.0s						
TYV				AMB	AMB	23 27 41.2	
	comp=E,30nm,1.0s						
TYV				AMB	AMB	23 27 41.2	
	comp=E,70nm,1.0s						
TYV				*e*S	**Sn**	**23 29 07.0**	**+1.1**
TYV				A	A	23 29 34.0	
	comp=E,1μm,6.0s						
TYV				AMS	AMS	23 31 10.0	
	comp=E,4μm,14.0s						
MJAR	**Matsushiro Arr**	**9.31**	**228**	*e*P	**Pn**	**23 27 47.2**	**-2.3**
MJAR	**Matsushiro Arr**	**9.31**	**228**	P	**Pn**	**23 27 47.2**	**-2.3**
MJAR	**Matsushiro Arr**	**9.31**	**228**	P	**Pn**	**23 27 47.2**	**-2.3**
	comp=E,1.7nm,0.3s,baz=29,slow=13,SNR=11						
MAJO	**Matsushiro**	**9.31**	**228**	*e*PN	**Pn**	**23 27 47.2**	**-2.4**
MAJO	**Matsushiro**	**9.31**	**228**	*e*Pn	**Pn**	**23 27 47.2**	**-2.4**
MAJO				*e*Sn	**Sn**	**23 29 32.7**	**-0.2**
MAT	**Matsushiro**	**9.31**	**228**	P	**Pn**	**23 27 46.9**	**-2.6**
MAT				S	**Sn**	**23 29 29.1**	**-3.8**
HABR	**Khabarovsk**	**9.76**	**307**	*c e*PN	**Pn**	**23 27 57.9**	**+2.3**
HABR				pmax	pmax		
	comp=Z,153nm,2.2s						
HABR				pmax	pmax		
	comp=N,69nm,1.5s						
HABR				MLR	MLR		
	comp=Z,6μm,17.0s						
HABR	**Khabarovsk**	**9.76**	**307**	⇑*e*P	**Pn**	**23 27 57.9**	**+2.3**
HABR				AMB	AMB	23 28 00.6	
	comp=Z,200nm,2.0s						
HABR				AMS	AMS	23 32 31.0	
	comp=Z,6μm,17.0s						
SKR	**Severo-K

GRNR	**Gornyy**	**10.39**	**321**	*e*P		Pn		23 28 08.6	+4.3
GRNR					AMB	AMB		23 28 08.9	
	comp=Z,20nm,0.8s								
OKH	**Okha**	**10.72**	**348**	*e*P		**Pn**		**23 28 10.8**	**+2.1**
OKH				*e*rx		rx		23 28 23.2	
OKH					AMS	AMS		23 31 39.0	
	comp=Z,6µm,14.0s								
OKH					AMS	AMS		23 31 39.0	
	comp=Z,10µm,14.0s								
OKH					AMS	AMS		23 31 39.0	
	comp=Z,8µm,14.0s								
USRK	**Ussuriysk Arra**	**10.76**	**281**	P		**Pn**		**23 28 08.9**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=89,slow=12,SNR=21								
USRK					LR	LR		23 32 33.7	
	comp=Z,4µm,19.0s,baz=245,slow=39								
NKL	**Nikolayevsk**	**10.80**	**340**	*i* P		**Pn**		**23 28 11.4**	**+1.6**
NKL				⇑*i*P		**Pn**		**23 28 11.4**	**+1.6**
NKL					AMB	AMB		23 28 12.8	
	comp=Z,70nm,1.1s								
NKL					AMB	AMB		23 28 14.2	
	comp=Z,1µm,5.0s								
NKL					AMB	AMB		23 28 14.2	
	comp=Z,700nm,5.0s								
NKL					AMB	AMB		23 28 14.2	
	comp=Z,2µm,5.0s								
NKL				*e*S		**Sn**		**23 30 09.0**	**-0.3**
NKL					AMS	AMS		23 32 55.0	
	comp=Z,3µm,17.0s								
NKL					AMS	AMS		23 32 55.0	
	comp=Z,4µm,17.0s								
NKL					AMS	AMS		23 32 55.0	
	comp=Z,6µm,17.0s								
VLA	**Vladivostok**	**10.88**	**275**	⇓*i*PN		**Pn**		**23 28 12.3**	**+1.3**
VLA	**Vladivostok**	**10.88**	**275**	⇓*i*P		**Pn**		**23 28 12.3**	**+1.3**
KLR	**Kul'dur**	**12.05**	**306**	*e*PN		**Pn**		**23 28 25.5**	**-1.4**
KLR				*e*				23 30 56.0	
KLR					MLR	MLR			
	comp=N,2µm,12.0s								
KLR					MLR	MLR			
	comp=Z,14µm,12.0s								
KLR	**Kul'dur**	**12.05**	**306**	*e*P		**Pn**		**23 28 25.5**	**-1.4**
KLR					AMS	AMS		23 34 43.0	
	comp=Z,2µm,12.0s								
KLR					AMS	AMS		23 34 43.0	
	comp=Z,14µm,12.0s								
PEA0B	**Petropavlovsk-**	**12.35**	**32**	*e*Pn		**Pn**		**23 28 31.8**	**+0.9**
PETK	**Petropavlovsk-**	**12.35**	**32**	PN		**Pn**		**23 28 29.2**	**-1.7**
PETK					pmax	pmax			
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**12.35**	**32**	P		**Pn**		**23 28 29.2**	**-1.7**
PETK	**Petropavlovsk-**	**12.35**	**32**	P		Pn		**23 28 29.2**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=197,slow=14,SNR=4.4								
MDJ	**Mudanjiang**	**12.48**	**283**	P		**Pn**		**23 28 33.9**	**+1.0**
MDJ				S		**Sn**		**23 30 51.9**	**+1.5**
MDJ				PcP		**PcP**		**23 34 09.3**	**-0.6**
MDJ				PcS		**PcS**		**23 37 46.5**	**+2.5**
MDJ					pmax	pmax			
	comp=Z,31nm,0.7s								
MDJ					pmax	pmax			
	comp=Z,300nm,6.2s								
MDJ					LR	LR			
	comp=Z,900nm,14.6s								
MDJ					LR	LR			
	comp=Z,2µm,15.4s								
MDJ					LR	LR			
	comp=Z,4µm,16.3s								
MDJ	**Mudanjiang**	**12.48**	**283**	*e*P		**Pn**		**23 28 32.8**	**-0.1**
MDJ	**Mudanjiang**	**12.48**	**283**	*e*Pn		**Pn**		**23 28 32.8**	**-0.1**
	comp=Z,73nm,1.0s								
PET	**Petropavlovsk**	**12.67**	**35**	*e*S		S		23 31 09.2	-11
PET					AMS	AMS		23 33 41.5	
	comp=Z,4µm,15.0s								
EKMR	**Ekimchan**	**13.54**	**322**	*e*P		Pn		23 28 43.9	-3.3
EKMR					AMB	AMB		23 28 48.0	
	comp=Z,30nm,0.7s								
KSRS	**Korea Array**	**15.45**	**255**	*e*P		**Pn**		**23 29 12.9**	**+0.2**
KSRS	**Korea Array**	**15.45**	**255**	P		**Pn**		**23 29 12.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=62,slow=13,SNR=5.3								
KSRS					LR	LR		23 35 01.2	
	comp=Z,2µm,20.5s,baz=65,slow=36								
KSAR	**Wonju Array Be**	**15.48**	**255**	*e*P		**Pn**		**23 29 12.9**	**-0.3**
KSAR	**Wonju Array Be**	**15.48**	**255**	P		**Pn**		**23 29 12.9**	**-0.3**
CN2	**Changchun**	**15.49**	**280**	*e*P		**Pn**		**23 29 11.6**	**-1.7**
CN2				*e*pP		**P**		**23 29 19.1**	**+2.1**
CN2				*e*sP		sP		23 29 23.8	-9.3
CN2				*e*S		**Sn**		**23 32 02.1**	**-1.6**
CN2					pmax	pmax			
	comp=Z,20nm,1.0s								
CN2					pmax	pmax			
	comp=Z,200nm,6.0s								
CN2					LR	LR			
	comp=Z,2µm,17.0s								
CN2					LR	LR			
	comp=Z,3µm,17.0s								
CN2					LR	LR			
	comp=Z,4µm,15.0s								
JNU	**Nakatsue**	**15.98**	**237**	*e*Pn		**Pn**		**23 29 20.5**	**+0.8**
JNU	**Nakatsue**	**15.98**	**237**	P		**Pn**		**23 29 17.7**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=164,slow=20,SNR=3.0								
JNU					LR	LR		23 36 03.5	
	comp=Z,3µm,19.0s,baz=38,slow=39								
JCJ	**Chichijima**	**16.44**	**195**	LR		LR		23 34 17.1	
	comp=Z,759nm,21.6s,baz=328,slow=32								
BMKR	**Bomnak**	**16.46**	**321**	*e*P		**Pn**		**23 29 23.0**	**-2.5**
BMKR					AMB	AMB		23 29 27.4	
	comp=Z,10.0nm,0.8s								
ZEA	**Zeya**	**16.68**	**316**	*e*P		**Pn**		**23 29 27.6**	**-0.7**
ZEA					AMB	AMB		23 29 30.4	
	comp=Z,50nm,1.4s								
ZEA					AMB	AMB		23 29 30.4	
	comp=Z,40nm,1.4s								
ZEA					AMB	AMB		23 29 30.4	
	comp=Z,60nm,1.4s								
ZEA					AMB	AMB		23 29 38.0	
	comp=Z,200nm,4.0s								
ZEA					AMB	AMB		23 29 38.0	
	comp=Z,400nm,4.0s								
ZEA				*e*S		**Sn**		**23 32 26.0**	**-6.3**
ZEA				A		A		23 33 04.0	
	comp=Z,1µm,8.0s								
ZEA				A		A		23 33 04.0	
	comp=Z,800nm,8.0s								
ZEA					AMS	AMS		23 36 50.0	
	comp=Z,5µm,16.0s								
ZEA					AMS	AMS		23 36 50.0	
	comp=Z,8µm,16.0s								
KROS	**Kirovskiy**	**17.19**	**318**	*e*P		**Pn**		**23 29 30.8**	**-3.8**
KROS					AMB	AMB		23 29 35.0	
	comp=Z,10.0nm,0.5s								
CLNS	**Chul'man**	**19.52**	**322**	*e*P		**P**		**23 29 58.9**	**-2.5**
CLNS					pmax	pmax			
	comp=Z,9.0nm,1.1s								
CLNS					pmax	pmax			
	comp=E,6.0nm,1.1s								
CLNS					pmax	pmax			
	comp=N,7.0nm,1.3s								
CLNS					MLR	MLR			
	comp=Z,3µm,16.0s								
CLNS					MLR	MLR			
	comp=E,4µm,19.0s								
CLNS					MLR	MLR			
	comp=N,2µm,15.0s								
HIA	**Hailar**	**19.62**	**298**	*e*P		**P**		**23 30 02.2**	**-0.3**
HIA	**Hailar**	**19.62**	**298**	*e*P		**P**		**23 30 02.2**	**-0.3**
	comp=N,66nm,1.3s								
FX1	**Attu Island--F**	**20.07**	**52**	*e*P		**P**		**23 30 07.9**	**+0.6**
FX1	**Attu Island--F**	**20.07**	**52**	P		**P**		**23 30 07.7**	**+0.4**
	comp=N,43nm,0.7s,baz=81,slow=2.4,SNR=21								
SMY	**Shemya**	**20.56**	**53**	*e*P		Pn		23 30 13.9	-1.3
SMY					pmax	pmax			
	comp=Z,451nm,1.3s								
SMY	**Shemya**	**20.56**	**53**	*e*P		Pn		23 30 13.9	-1.3
SMY	**Shemya**	**20.56**	**53**	*e*P		Pn		23 30 13.9	-1.3
	comp=Z,451nm,1.3s								
YAK	**Yakutsk**	**21.45**	**338**	*e*P		**P**		**23 30 19.0**	**-3.1**
YAK				*e*S		**S**		**23 34 19.8**	**+2.4**
YAK				*e*SSS		SSS		23 34 58.8	
YAK				*e*				23 41 37.7	
YAK					pmax	pmax			
	comp=Z,24nm,1.0s								
YAK					smax	smax			
	comp=E,194nm,2.9s								
YAK					smax	smax			
	comp=N,78nm,2.3s								
YAK					MLR	MLR			
	comp=Z,3µm,17.0s								
YAK					MLR	MLR			
	comp=N,2µm,15.0s								
YAK					MLR	MLR			
	comp=E,719nm,17.0s								
YAK	**Yakutsk**	**21.45**	**338**	*e*P		**P**		**23 30 19.0**	**-3.1**
JOW	**Kunigami**	**22.15**	**229**	*e*P		**P**		**23 30 30.6**	**+0.6**
	comp=E,114nm,1.2s								
BJI	**Beijing**	**23.03**	**273**	P		**P**		**23 30 38.1**	**-1.0**
BJI					pmax	pmax			
	comp=E,66nm,1.2s								
BJI					pmax	pmax			
	comp=E,500nm,6.8s								
BJI					LR	LR			
	comp=E,1µm,16.6s								
BJI					LR	LR			
	comp=E,1µm,20.6s								
BJI					LR	LR			
	comp=E,2µm,22.5s								
BJT	**Baijiatuan**	**23.04**	**273**	*e*P		**P**		**23 30 37.9**	**-1.3**
BJT	**Baijiatuan**	**23.04**	**273**	*e*P		**P**		**23 30 37.9**	**-1.3**
	comp=E,110nm,0.9s								
BJT				*e*PcP		**PcP**		**23 34 27.9**	**+0.7**
SSE	**Sheshan**	**23.58**	**248**	P		**P**		**23 30 43.6**	**-0.9**
SSE				pP		**pP**		**23 30 53.8**	**-2.0**
SSE				S		**S**		**23 34 57.1**	**+1.6**
SSE					pmax	pmax			
	comp=E,39nm,1.0s								
SSE					pmax	pmax			
	comp=E,190nm,5.0s								
SSE					LR	LR			
	comp=E,1µm,22.9s								
SSE					LR	LR			
	comp=E,1µm,22.9s								
SSE					LR	LR			
	comp=E,1µm,19.6s								
CIT	**Chita**	**23.92**	**303**	*e*P		**P**		**23 30 48.5**	**+0.9**
CIT				*e*				23 30 57.3	
CIT				*e*				23 31 15.2	
CIT				*e*				23 31 28.4	
NJ2	**Nanjing**	**24.62**	**253**	*e*P		**P**		**23 30 54.6**	**+0.5**
NJ2				pP		**pP**		**23 31 04.3**	**-1.5**
NJ2				sP		**sP**		**23 31 10.6**	**-0.5**
NJ2				S		**S**		**23 35 14.0**	**+1.7**
NJ2				sS		**sS**		**23 35 31.0**	**-0.8**
NJ2					pmax	pmax			
	comp=E,20nm,0.7s								
NJ2					pmax	pmax			
	comp=E,370nm,10.1s								
NJ2					LR	LR			
	comp=E,4µm,17.6s								
NJ2					LR	LR			
	comp=E,2µm,16.9s								
NJ2					LR	LR			
	comp=E,3µm,19.5s								
HHC	**Hu-ho-hao-te**	**26.15**	**277**	*e*P		**P**		**23 31 08.5**	**+0.5**
HHC				PP		**PnPn**		**23 31 49.5**	**+1.6**
HHC				S		**S**		**23 35 35.4**	**-1.3**
HHC				SS		**SnSn**		**23 36 42.9**	**+5.0**
HHC				ScP		**ScP**		**23 38 11.6**	**+1.4**
HHC				PcS		**PcS**		**23 38 15.9**	**+0.6**
HHC					pmax	pmax			
	comp=E,110nm,0.7s								
HHC					pmax	pmax			
	comp=E,850nm,4.8s								
HHC					LR	LR			
	comp=E,2µm,12.1s								
HHC					LR	LR			
	comp=E,2µm,12.9s								
HHC					LR	LR			
	comp=E,2µm,12.8s								
BTO	**Baotou**	**27.34**	**277**	*e*P		**P**		**23 31 18.8**	**0.0**
ULN	**Ulaanbaatar**	**28.01**	**294**	*e*P		**P**		**23 31 24.6**	**-0.1**
	comp=E,69nm,1.1s								
SONM	**Songino Array**	**28.45**	**294**	P		**P**		**23 31 29.4**	**+0.7**
SONM	**Songino Array**	**28.45**	**294**	P		**P**		**23 31 29.4**	**+0.7**
	comp=E,38nm,0.9s,baz=85,slow=9.0,SNR=118								
SONM					LR	LR		23 44 01.7	
	comp=E,5µm,19.5s,baz=82,slow=39								
WHN	**Wuhan**	**28.64**	**255**	⇓P		**P**		**23 31 31.2**	**+0.9**
WHN					LR	LR			
	comp=E,2µm,18.1s								
WHN					LR	LR			
	comp=E,4µm,17.2s								
WHN					LR	LR			
	comp=E,4µm,17.4s								
YULB	**Yu-li**	**28.82**	**235**	*e*P		**P**		**23 31 32.6**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**28.83**	**138**	T		T		00 02 32.0	
	baz=331,slow=76,SNR=1839								
H11N1	**WAKE ISLAND Hy**	**28.84**	**138**	T		T		00 02 26.3	
	baz=331,slow=76,SNR=1512								
H11N3	**WAKE ISLAND Hy**	**28.85**	**138**	T		T		00 02 25.2	
	baz=331,slow=76,SNR=1458								
TPUB	**Ta-pu**	**29.29**	**236**	*e*P		**P**		**23 31 35.7**	**-0.5**
	comp=E,30nm,1.0s								
H11S1	**WAKE ISLAND Hy**	**29.78**	**139**	T		T		00 03 35.6	
	baz=333,slow=77,SNR=3818								
H11S3	**WAKE ISLAND Hy**	**29.79**	**139**	T		T		00 03 33.5	
	baz=333,slow=77,SNR=2673								
H11S2	**WAKE ISLAND Hy**	**29.80**	**139**	T		T		00 03 36.3	
	baz=333,slow=77,SNR=3006								
ZAK	**Zakamensk**	**30.30**	**299**	⇑*i*P		**P**		**23 31 45.7**	**+0.8**
ZAK				*e*				23 34 49.0	
ZAK					pmax	pmax			
	comp=Z,14nm,1.4s								
ZAK	**Zakamensk**	**30.30**	**299**	⇑*i*P		**P**		**23 31 45.7**	**+0.8**
XAN	**Xi'an**	**30.73**	**266**	P		**P**		**23 31 48.7**	**-0.1**
XAN				pP		**pP**		**23 32 02.4**	**+1.8**
XAN				S		**S**		**23 36 44.4**	**-4.3**
XAN					LR	LR			
	comp=Z,520nm,23.5s								
XAN					LR	LR			
	comp=Z,160nm,21.5s								
ENH	**Enshi**	**32.26**	**259**	*e*P		**P**		**23 31 59.4**	**-3.0**
	comp=Z,29nm,0.9s								
TNA	**Tin City**	**33.52**	**32**	*e*P		**P**		**23 32 13.4**	**+0.6**
	comp=Z,46nm,1.0s								
LZH	**Lanzhou**	**33.52**	**273**	*e*P		**P**		**23 32 14.7**	**+1.3**
LZH				pP		**pP**		**23 32 26.9**	**+1.6**
LZH				sP		**sP**		**23 32 31.9**	**+1.4**
LZH				S		**S**		**23 37 32.0**	**-0.4**
LZH				sS		**sS**		**23 37 52.6**	**+0.4**
LZH				SS		**SnSn**		**23 39 33.0**	**-4.4**
LZH					pmax	pmax			
	comp=Z,39nm,1.4s								
LZH					pmax	pmax			
	comp=Z,150nm,4.0s								
LZH					LR	LR			
	comp=Z,1µm,18.6s								
LZH					LR	LR			
	comp=Z,930nm,18.6s								
LZH					LR	LR			
	comp=Z,1µm,19.9s								
GTA	**Gaotai**	**35.12**	**280**	⇑P		**P**		**23 32 28.0**	**+0.8**
GTA				pP		**pP**		**23 32 40.4**	**+1.3**
GTA				sP		**sP**		**23 32 45.7**	**+1.3**
GTA				S		**S**		**23 37 56.0**	**-1.0**
GTA				sS		**sS**		**23 38 16.7**	**-0.3**
GTA				SS		**SnSn**		**23 40 12.1**	**-4.1**
GTA					pmax	pmax			
	comp=Z,12nm,1.8s								
GTA					pmax	pmax			
	comp=Z,300nm,7.8s								
GTA					LR	LR			
	comp=Z,840nm,16.1s								
GTA					LR	LR			
	comp=Z,790nm,17.6s								
GTA					LR	LR			
	comp=Z,1µm,16.2s								
CD2	**Chengdu**	**36.07**	**265**	P		**P**		**23 32 35.4**	**+0.1**
CD2				pP		**pP**		**23 32 48.2**	**+0.9**
CD2				sP		**sP**		**23 32 54.4**	**+1.9**
CD2				PP		**PP**		**23 33 58.1**	**+0.3**
CD2				PcP		**PcP**		**23 35 01.5**	**+0.8**
CD2				S		S		23 38 19.5	+8.0
CD2				sS		**sS**		**23 38 31.3**	**-0.2**
CD2				SS		**SnSn**		**23 40 31.5**	**-7.7**
CD2					pmax	pmax			
	comp=Z,50nm,1.1s								
CD2					pmax	pmax			
	comp=Z,150nm,10.2s								
CD2					LR	LR			
	comp=Z,890nm,17.8s								
CD2					LR	LR			
	comp=Z,810nm,13.4s								
CD2					LR	LR			
	comp=Z,930nm,17.8s								
HVS	**Khovu-Aksy**	**36.27**	**302**	*c i*P		**P**		**23 32 36.2**	**-0.7**
HVS					pmax	pmax			
	comp=Z,62nm,1.2s								
GYA	**Guiyang**	**36.50**	**256**	⇑*i*P		**P**		**23 32 38.9**	**-0.2**
GYA				pP		**pP**		**23 32 53.0**	**+1.9**
GYA				sP		**sP**		**23 32 59.2**	**+2.9**
GYA				PP		**PP**		**23 34 05.1**	**+2.4**
GYA				PcP		**PcP**		**23 35 03.8**	**+1.6**
GYA				S		**S**		**23 38 17.6**	**-0.7**
GYA				sS		**sS**		**23 38 39.5**	**+1.2**
GYA				ScP		**ScP**		**23 38 47.4**	**+2.4**
GYA				SS		**SnSn**		**23 40 42.0**	**-7.8**
GYA				ScS		**ScS**		**23 42 49.3**	**-2.4**
GYA					pmax	pmax			
	comp=Z,20nm,0.8s								
GYA					pmax	pmax			
	comp=Z,130nm,4.9s								
GYA					LR	LR			
	comp=Z,630nm,15.9s								
GYA					LR	LR			
	comp=Z,570nm,17.2s								
GYA					LR	LR			
	comp=Z,750nm,17.5s								
SVW2	**Sparrevohn**	**38.21**	**42**	*e*P		**P**		**23 32 53.8**	**+0.7**
	comp=Z,340nm,3.0s								
IM04	**Indian Mountai**	**39.29**	**34**	*e*P		**P**		**23 33 02.5**	**+0.4**
PPLA	**Purkeypile**	**39.83**	**39**	*e*P		**P**		**23 33 08.1**	**+1.4**
	comp=Z,107nm,1.3s								
KDAK	**Kodiak Island**	**39.87**	**47**	*e*P		**P**		**23 33 06.3**	**-0.6**
	comp=Z,42nm,1.0s								
CAST	**Castle Rocks**	**39.88**	**38**	*e*P		P		23 33 11.1	+4.1
	comp=Z,25nm,0.9s								
KMI	**Kunming**	**40.11**	**258**	P		**P**		**23 33 10.1**	**+0.5**
KMI				pP		**pP**		**23 33 22.8**	**+1.1**
KMI				S		**S**		**23 39 14.1**	**+1.0**
KMI					pmax	pmax			
	comp=Z,41nm,1.1s								
KMI					pmax	pmax			
	comp=Z,280nm,4.7s								
KMI					LR	LR			
	comp=Z,800nm,16.9s								
KMI					LR	LR			
	comp=Z,550nm,17.6s								
KMI					LR	LR			
	comp=Z,920nm,17.2s								
BPAW	**Bear Paw Mtn.**	**40.38**	**37**	*e*P		**P**		**23 33 11.9**	**+0.8**
	comp=Z,20nm,0.9s								
TRF	**Thorofare Moun**	**40.69**	**38**	*e*P		**P**		**23 33 15.8**	**+1.9**
	comp=Z,202nm,2.3s								
COLD	**Coldfoot**	**40.82**	**32**	*e*P		**P**		**23 33 15.4**	**+0.8**
	comp=Z,35nm,1.0s								
RC01	**Rabbit Creek A**	**41.04**	**41**	*e*P		**P**		**23 33 16.5**	**-0.1**
	comp=Z,31nm,0.7s								
ZAA0	**Zalesovo Array**	**41.15**	**308**	*e*P		**P**		**23 33 15.6**	**-2.0**
ZAA0				*e*PcP		**PcP**		**23 35 16.2**	**+0.1**
ZALV	**Zalesovo Beam**	**41.15**	**308**	P		**P**		**23 33 15.6**	**-1.9**
ZALV								23 35 16.7	
ZALV								23 35 31.4	
ZALV					pmax	pmax			
	comp=Z,3.0nm,0.4s								
ZALV					MLR	MLR			
	comp=Z,860nm,18.7s								
ZALV	**Zalesovo Beam**	**41.15**	**308**	P		**P**		**23 33 15.6**	**-1.9**
ZALV				PcP		**PcP**		**23 35 16.6**	**+0.6**
ZALV				pPcP				23 35 31.4	
ZALV	**Zalesovo Beam**	**41.15**	**308**	P		**P**		**23 33 15.6**	**-1.9**
	comp=Z,3.2nm,0.4s,baz=54,slow=7.5,SNR=25								
ZALV				PcP		**PcP**		**23 35 16.6**	**+0.6**
	comp=Z,6.3nm,0.7s,baz=63,slow=3.5,SNR=6.6								
ZALV				pPcP				23 35 31.4	
	comp=Z,11nm,0.8s,baz=82,slow=3.0,SNR=6.2								
ZALV					LR	LR		23 51 46.7	
	comp=Z,860nm,18.7s,baz=175,slow=38								
SEW	**Seward**	**41.27**	**43**	*e*P		**P**		**23 33 17.9**	**-0.5**
	comp=Z,150nm,2.0s								
MCK	**McKinley**	**41.29**	**37**	*e*P		**P**		**23 33 19.1**	**+0.5**
MCK					pmax	pmax			
	comp=Z,28nm,0.8s								
MCK	**McKinley**	**41.29**	**37**	*e*P		**P**		**23 33 19.1**	**+0.5**
	comp=Z,28nm,0.8s								
PMR	**Palmer**	**41.30**	**41**	*e*P		**P**		**23 33 18.9**	**+0.2**
PMR					pmax	pmax			
	comp=Z,23nm,1.0s								
PMR	**Palmer**	**41.30**	**41**	*e*P		**P**		**23 33 18.9**	**+0.2**
	comp=Z,23nm,1.0s								
COLA	**College**	**41.73**	**36**	*e*P		**P**		**23 33 23.0**	**+0.8**
COLA					pmax	pmax			
	comp=Z,13nm,0.9s								
COLA	**College**	**41.73**	**36**	*e*P		**P**		**23 33 23.0**	**+0.8**
COLA	**College**	**41.73**	**36**	*e*P		**P**		**23 33 22.9**	**+0.8**
	comp=Z,13nm,0.9s								
NVS	**Novosibirsk**	**41.88**	**309**	*e*P		**P**		**23 33 22.0**	**-1.6**
NVS					pmax	pmax			
	comp=Z,18nm,1.1s								
NVS					pmax	pmax			
	comp=E,14nm,1.4s								
NVS	**Novosibirsk**	**41.88**	**309**	*e*P		**P**		**23 33 22.0**	**-1.6**
WMQ	**Urumqi**	**42.06**	**292**	P		**P**		**23 33 26.0**	**+0.7**
WMQ				pP		**pP**		**23 33 38.0**	**+0.6**
WMQ				sP		**sP**		**23 33 44.0**	**+1.4**
WMQ				PP		**PP**		**23 35 07.0**	**+4.0**
WMQ				PcP		**PcP**		**23 35 21.0**	**+1.6**
WMQ				ScP		**ScP**		**23 39 06.0**	**-0.1**
WMQ				S		**S**		**23 39 42.0**	**+0.6**
WMQ				sS		**sS**		**23 40 02.0**	**+0.4**
WMQ				SS		**SS**		**23 42 44.0**	**-5.5**
WMQ				ScS		**ScS**		**23 43 22.0**	**-1.7**
WMQ					pmax	pmax			
	comp=E,53nm,1.0s								
WMQ					pmax	pmax			
	comp=E,330nm,4.0s								
WMQ					LR	LR			
	comp=E,2µm,14.0s								
WMQ					LR	LR			
	comp=E,3µm,16.0s								
WMQ					LR	LR			
	comp=E,5µm,16.0s								
ILAR	**Eielson Array**	**42.15**	**36**	*e*P		**P**		**23 33 25.5**	**-0.1**
ILAR	**Eielson Array**	**42.15**	**36**	P		**P**		**23 33 25.4**	**-0.1**
ILAR	**Eielson Array**	**42.15**	**36**	P		**P**		**23 33 25.4**	**-0.1**
	comp=E,5.0nm,0.8s,baz=257,slow=6.8,SNR=48								
ILAR					LR	LR		23 50 35.3	
	comp=E,519nm,19.3s,baz=115,slow=36								
PAX	**Paxson**	**42.89**	**38**	*e*P		**P**		**23 33 30.4**	**-1.4**
PAX					pmax	pmax			
	comp=Z,14nm,0.9s								
PAX	**Paxson**	**42.89**	**38**	*e*P		**P**		**23 33 30.4**	**-1.4**
	comp=Z,14nm,0.9s								
DIV	**Divide**	**42.96**	**41**	*e*P		**P**		**23 33 33.3**	**+1.0**
	comp=Z,61nm,1.0s								
DOT	**Dot Lake**	**43.46**	**37**	*e*P		**P**		**23 33 36.2**	**-0.1**
	comp=Z,18nm,0.7s								
BMRM	**Bremner River**	**43.54**	**41**	*e*P		**P**		**23 33 38.0**	**+1.0**
	comp=Z,80nm,1.0s								
RAGM	**Ragged Mountai**	**43.59**	**42**	*e*P		**P**		**23 33 39.2**	**+1.8**
	comp=Z,76nm,1.4s								
MK31	**Makanchi Array**	**44.62**	**298**	*e*P		**P**		**23 33 46.2**	**+0.4**
MK31				*e*S		**S**		**23 40 17.0**	**-1.7**
MK31	**Makanchi Array**	**44.62**	**298**	*e*P		**P**		**23 33 46.2**	**

LSA	**Lhasa**	**45.93**	**272**	*e*P		**P**	**23 33 57.1**	**+0.2**
	comp=Z,15nm,0.9s								
CMAI	**Chiengmai2**	**46.04**	**255**	P		**P**	**23 33 58.5**	**+1.0**
	comp=Z,75nm,1.2s								
LAMP	**Lampang**	**46.56**	**253**	P		**P**	**23 34 02.9**	**+1.5**
	comp=Z,11nm,1.0s,comp=Z,96nm								
CHAI	**Chaiyaphum**	**46.73**	**249**	P		**P**	**23 34 05.4**	**+2.7**
	comp=Z,8.8nm,1.0s,comp=Z,127nm								
CMMT	**Chiang Mai**	**46.85**	**254**	P		**P**	**23 34 04.4**	**+0.7**
	comp=Z,21nm,1.1s								
CHTO	**Chiang Mai**	**46.85**	**254**	*e*P		**P**	**23 34 04.6**	**+0.9**
CHTO				pmax		pmax			
	comp=Z,6.0nm,1.1s								
CHTO	**Chiang Mai**	**46.85**	**254**	*e*P		**P**	**23 34 04.6**	**+0.9**
	comp=Z,6.4nm,1.1s								
CHTO	**Chiang Mai**	**46.85**	**254**	P		**P**	**23 34 04.4**	**+0.7**
	comp=Z,96nm,1.0s,comp=Z,2µm								
PBKT	**Sadao Pong**	**46.96**	**250**	P		**P**	**23 34 06.6**	**+2.1**
	comp=Z,16nm,1.4s,comp=Z,2µm								
HYT	**Haines Junctio**	**46.97**	**41**	*e*P		**P**	**23 34 05.7**	**+1.4**
INK	**Inuvik**	**47.07**	**30**	*e*P		**P**	**23 34 05.2**	**+0.5**
INK				*e*rx		rx	23 34 18.7		
INK	**Inuvik**	**47.07**	**30**	*e*P		**P**	**23 34 05.2**	**+0.5**
	comp=Z,37nm,0.8s								
INK				*e*			23 34 18.7		
INK	**Inuvik**	**47.07**	**30**	P		**P**	**23 34 05.5**	**+0.8**
	comp=Z,24nm,0.7s,baz=297,slow=7.4,SNR=83								
CM31	**Chiang Mai Arr**	**47.09**	**254**	*e*P		**P**	**23 34 05.5**	**-0.1**
	comp=Z,4.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**47.09**	**254**	*e*P		**P**	**23 34 05.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**47.09**	**254**	P		**P**	**23 34 05.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**47.09**	**254**	P		**P**	**23 34 05.8**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=42,slow=7.5,SNR=25								
CMAR				LR		LR	23 55 47.5		
	comp=Z,844nm,18.3s,baz=48,slow=38								
UMPA	**Umpang Tak**	**48.67**	**252**	P		P	23 34 23.2	+5.4	
	comp=Z,77nm,0.9s,comp=Z,7µm								
PATY	**Pattaya**	**49.60**	**247**	P		pP	23 34 39.1	+1.8	
	comp=Z,9.8nm,1.4s								
BVAR	**Borovoye Array**	**49.67**	**310**	LR		LR	23 57 21.8		
	comp=Z,2µm,18.0s,baz=76,slow=38								
BRVK	**Borovoye**	**49.72**	**310**	*e*P		**P**	**23 34 25.7**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,111nm,1.8s								
BRVK	**Borovoye**	**49.72**	**310**	*e*P		**P**	**23 34 25.7**	**+0.3**
	comp=Z,111nm,1.8s								
BRVK	**Borovoye**	**49.72**	**310**	P		**P**	**23 34 25.7**	**+0.3**
	comp=Z,134nm,1.2s,SNR=11								
TAPN	**Taplejung**	**49.75**	**272**	*e*P		**P**	**23 34 27.0**	**+0.7**
	comp=Z,99nm,1.1s								
TAPN	**Taplejung**	**49.75**	**272**	*e*P		**P**	**23 34 27.0**	**+0.7**
KHLT	**Khaolaem Dam**	**49.83**	**251**	P		**P**	**23 34 28.7**	**+2.0**
	comp=Z,18nm,1.4s,comp=Z,1µm								
ODAN	**Odare**	**50.26**	**271**	*e*P		**P**	**23 34 30.5**	**+0.4**
	comp=Z,130nm,1.3s								
ODAN	**Odare**	**50.26**	**271**	*e*P		**P**	**23 34 30.5**	**+0.4**
TKM2	**Tokmak 2**	**50.52**	**296**	*e*P		**P**	**23 34 33.0**	**+1.2**
TKM2				pmax		pmax			
	comp=Z,59nm,1.2s								
TKM2	**Tokmak 2**	**50.52**	**296**	P		**P**	**23 34 33.0**	**+1.2**
	SNR=12								
TKM2	**Tokmak 2**	**50.52**	**296**	*e*P		**P**	**23 34 33.0**	**+1.2**
	comp=Z,59nm,1.2s								
JIRN	**Jiri**	**50.69**	**273**	*e*P		**P**	**23 34 34.1**	**+0.6**
	comp=Z,102nm,1.0s								
JIRN	**Jiri**	**50.69**	**273**	*e*P		**P**	**23 34 34.1**	**+0.6**
GUN	**Gumba**	**50.77**	**274**	*e*P		**P**	**23 34 34.6**	**+0.5**
	comp=Z,138nm,0.7s								
GUN	**Gumba**	**50.77**	**274**	*e*P		**P**	**23 34 34.6**	**+0.5**
RAMN	**Ramite**	**50.79**	**272**	*e*P		**P**	**23 34 34.2**	**+0.1**
	comp=Z,148nm,1.0s								
RAMN	**Ramite**	**50.79**	**272**	*e*P		**P**	**23 34 34.2**	**+0.1**
WRAK	**Wrangell Islan**	**50.88**	**45**	*e*P		**P**	**23 34 36.5**	**+2.4**
	comp=Z,14nm,0.9s								
CHMS	**Chumysh**	**51.04**	**296**	*i* P		**P**	**23 34 36.3**	**+0.8**
CHMS	**Chumysh**	**51.04**	**296**	P		**P**	**23 34 36.3**	**+0.8**
	SNR=7.0								
KBK	**Karagaybulak**	**51.06**	**296**	P		**P**	**23 34 36.9**	**+1.0**
	SNR=18								
USP	**Ospenovka**	**51.08**	**297**	*i* P		**P**	**23 34 36.7**	**+0.8**
USP	**Ospenovka**	**51.08**	**297**	P		**P**	**23 34 36.7**	**+0.8**
	SNR=25								
KZA	**Kyzart**	**51.12**	**295**	*i* P		**P**	**23 34 38.2**	**+1.6**
KZA	**Kyzart**	**51.12**	**295**	P		**P**	**23 34 38.3**	**+1.6**
	SNR=6.5								
FRU	**Bishkek**	**51.20**	**296**	*e*P		**P**	**23 34 37.5**	**+0.7**
FRU				*e*S		**S**	**23 41 56.0**	**+4.1**
FRU				pmax		pmax			
	comp=Z,180nm,2.4s								
FRU				MLR		MLR			
	comp=Z,1µm,18.0s								
FRU				MLR		MLR			
	comp=E,1µm,17.0s								
FRU	**Bishkek**	**51.20**	**296**	*e*P		**P**	**23 34 37.5**	**+0.7**
KKN	**Kakani**	**51.28**	**274**	*e*P		**P**	**23 34 38.3**	**+0.6**
	comp=E,124nm,1.1s								
KKN	**Kakani**	**51.28**	**274**	*e*P		**P**	**23 34 38.3**	**+0.6**
KKN	**Kakani**	**51.28**	**274**	*e*P		**P**	**23 34 38.3**	**+0.6**
PKI	**Pulchoki**	**51.31**	**273**	*e*P		**P**	**23 34 38.3**	**+0.2**
	comp=E,161nm,1.3s								
PKI	**Pulchoki**	**51.31**	**273**	*e*P		**P**	**23 34 38.3**	**+0.2**
PKI	**Pulchoki**	**51.31**	**273**	*e*P		**P**	**23 34 38.3**	**+0.2**
PKIN	**Phulchoki**	**51.31**	**273**	*e*P		**P**	**23 34 38.3**	**+0.2**
	comp=E,158nm,1.4s								
DLBC	**Dease Lake**	**51.32**	**42**	*e*P		**P**	**23 34 38.2**	**+0.7**
DLBC				*e*PP		**PP**	**23 36 35.4**	**+1.0**
DLBC	**Dease Lake**	**51.32**	**42**	P		**P**	**23 34 36.5**	**-1.0**
	comp=E,2.3nm,0.7s,baz=311,slow=7.1,SNR=7.8								
AAK	**Ala-Archa**	**51.37**	**296**	P		**P**	**23 34 38.1**	**-0.1**
AAK				pmax		pmax			
	comp=Z,3.0nm,0.4s								
AAK				MLR		MLR			
	comp=Z,1µm,18.8s								
AAK	**Ala-Archa**	**51.37**	**296**	P		**P**	**23 34 38.8**	**+0.6**
	SNR=10								
AAK	**Ala-Archa**	**51.37**	**296**	*e*P		**P**	**23 34 38.1**	**-0.1**
AAK	**Ala-Archa**	**51.37**	**296**	*e*P		**P**	**23 34 38.1**	**-0.1**
	comp=Z,17nm,0.9s								
AAK	**Ala-Archa**	**51.37**	**296**	P		**P**	**23 34 38.6**	**+0.4**
	comp=Z,63nm,0.7s,SNR=7.6								
AAK	**Ala-Archa**	**51.37**	**296**	P		**P**	**23 34 38.1**	**-0.1**
	comp=Z,2.8nm,0.4s,baz=66,slow=8.1,SNR=3.5								
AAK				LR		LR	23 58 54.9		
	comp=Z,1µm,18.8s,baz=55,slow=39								
DMN	**Daman**	**51.51**	**274**	*e*P		**P**	**23 34 40.1**	**+0.6**
	comp=Z,155nm,1.1s								
DMN	**Daman**	**51.51**	**274**	*e*P		**P**	**23 34 40.1**	**+0.6**
GKN	**Gorkha**	**51.63**	**274**	*e*P		**P**	**23 34 40.6**	**+0.3**
	comp=Z,275nm,1.4s								
GKN	**Gorkha**	**51.63**	**274**	*e*P		**P**	**23 34 40.6**	**+0.3**
KSH	**Kashi**	**51.83**	**292**	P		P	23 34 45.9	+4.3	
KSH				pP		pP	23 34 55.2	+1.2	
KSH				sP		sP	23 34 59.3	+0.2	
KSH				PP		**PP**	**23 36 44.1**	**+4.7**
KSH				S		**S**	**23 42 05.4**	**+4.6**
KSH				SS		**SS**	**23 45 40.8**	**+3.4**
KSH				pmax		pmax			
	comp=Z,11nm,1.0s								
KSH				pmax		pmax			
	comp=Z,180nm,4.3s								
KSH				LR		LR			
	comp=Z,250nm,4.2s								
KSH				LR		LR			
	comp=Z,180nm,3.1s								
KSH				LR		LR			
	comp=Z,240nm,7.9s								
EKS2	**Erkin-Say**	**51.83**	**296**	*e*P		**P**	**23 34 42.0**	**+0.4**
EKS2				pmax		pmax			
	comp=Z,13nm,0.8s								
EKS2	**Erkin-Say**	**51.83**	**296**	P		**P**	**23 34 43.0**	**+1.4**
	SNR=8.7								
EKS2	**Erkin-Say**	**51.83**	**296**	*e*P		**P**	**23 34 42.0**	**+0.4**
	comp=Z,13nm,0.8s								
DANN	**Dangsing**	**52.07**	**275**	*e*P		**P**	**23 34 44.6**	**+0.8**
	comp=Z,309nm,0.9s								
DANN	**Dangsing**	**52.07**	**275**	*e*P		**P**	**23 34 44.6**	**+0.8**
AML	**Almayashu**	**52.13**	**296**	*i* P		**P**	**23 34 45.3**	**+1.2**
AML	**Almayashu**	**52.13**	**296**	P		**P**	**23 34 45.3**	**+1.2**
	SNR=9.7								
PMG	**Port Moresby**	**52.29**	**180**	LR		LR	23 52 14.8		
	comp=Z,425nm,20.1s,baz=197,slow=31								
KOLN	**Koldanda**	**52.51**	**275**	*e*P		**P**	**23 34 47.7**	**+0.8**
	comp=Z,149nm,1.0s								
KOLN	**Koldanda**	**52.51**	**275**	*e*P		**P**	**23 34 47.7**	**+0.8**
PYUN	**Piuthan**	**52.77**	**276**	*e*P		**P**	**23 34 49.4**	**+0.5**
	comp=Z,240nm,1.0s								
PYUN	**Piuthan**	**52.77**	**276**	*e*P		**P**	**23 34 49.4**	**+0.5**
SVE	**Sverdlovsk**	**53.39**	**317**	*de*P		**P**	**23 34 53.1**	**+0.3**
SVE				pmax		pmax			
	comp=Z,91nm,1.3s								
SVE				MLR		MLR			
	comp=Z,2µm,16.0s								
SVE	**Sverdlovsk**	**53.39**	**317**	*e*P		**P**	**23 34 53.1**	**+0.3**
HNR	**Honiara**	**53.68**	**164**	LR		LR	23 54 49.5		
	comp=Z,820nm,19.7s,baz=351,slow=33								
ALE	**Alert**	**53.74**	**5**	P		**P**	**23 34 54.9**	**-0.1**
	comp=Z,77nm,1.4s,SNR=5.2								
KKAR	**Karatay Array**	**53.75**	**298**	*e*P		**P**	**23 34 56.0**	**+0.4**
KKAR	**Karatay Array**	**53.75**	**298**	*e*P		**P**	**23 34 56.0**	**+0.4**
SOKR	**Solikamsk**	**54.07**	**321**	*c i*P		**P**	**23 34 57.6**	**0.0**
SOKR				pmax		pmax			
	comp=Z,60nm,1.4s								
ARU	**Arti**	**54.60**	**317**	P		**P**	**23 35 01.9**	**+0.3**
	comp=Z,358nm,1.0s,SNR=23								
ARU	**Arti**	**54.60**	**317**	*c i*P		**P**	**23 35 01.3**	**-0.3**
ARU				*PP		**pP**	**23 35 14.7**	**+0.7**
ARU							23 36 04.6		
ARU							23 37 02.4		
ARU				S		**S**	**23 42 38.3**	**+0.6**
ARU				SS		**SS**	**23 46 17.3**	**-2.9**
ARU				pmax		pmax			
	comp=Z,105nm,1.7s								
ARU				MLR		MLR			
	comp=Z,2µm,17.0s								
ARU	**Arti**	**54.60**	**317**	⇑*i*P		**P**	**23 35 01.3**	**-0.3**
ARU				*erx*		rx	23 35 14.7		
KULM	**Kulim**	**55.41**	**241**	*e*P		P	23 35 04.4	-3.5	
	comp=Z,28nm,1.0s								
RES	**Resolute Bay**	**55.63**	**16**	*e*P		**P**	**23 35 08.3**	**-0.4**
	comp=Z,36nm,0.6s								
RES	**Resolute Bay**	**55.63**	**16**	P		**P**	**23 35 08.6**	**-0.1**
	comp=Z,39nm,0.8s,baz=309,slow=7.0,SNR=88								
YKA	**Yellowknife Ar**	**56.46**	**33**	P		**P**	**23 35 15.1**	**+0.2**
YKA	**Yellowknife Ar**	**56.46**	**33**	P		**P**	**23 35 15.0**	**+0.2**
	comp=Z,6.7nm,0.8s,baz=300,slow=7.0,SNR=25								
ABKAR	**Akbulak array**	**57.23**	**309**	*e*P		**P**	**23 35 21.0**	**+0.6**
AKTO	**Aktyubinsk**	**57.72**	**311**	LR		LR	00 02 21.3		
	comp=Z,1µm,19.3s,baz=32,slow=38								
KEV	**Kevo**	**59.19**	**339**	*e*P		**P**	**23 35 33.6**	**-0.2**
KEV				pmax		pmax			
	comp=Z,4.0nm,0.5s								
KEV	**Kevo**	**59.19**	**339**	*e*p		**P**	**23 35 33.6**	**-0.2**
	comp=Z,4.3nm,0.5s								
TMCR	**Tamitsa**	**59.37**	**331**	*e*P		**P**	**23 35 34.4**	**-0.7**
TMCR				*e*			23 36 20.9		
TMCR				pmax		pmax			
	comp=Z,62nm,1.3s								
PMBI	**Palembang**	**59.42**	**231**	*e*P		**P**	**23 35 34.3**	**-1.8**
	comp=Z,660nm,0.4s								
NLWA	**Neilton Lookou**	**59.64**	**52**	*e*P		**P**	**23 35 38.3**	**+0.9**
	comp=Z,16nm,0.9s								
ARCES	**ARCESS Array B**	**59.72**	**340**	*e*P		**P**	**23 35 37.1**	**-0.4**
ARCES	**ARCESS Array B**	**59.72**	**340**	P		**P**	**23 35 37.1**	**-0.4**
ARCES	**ARCESS Array B**	**59.72**	**340**	P		**P**	**23 35 37.1**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=43,slow=7.9,SNR=29								
ARCES				LR		LR	00 06 10.1		
	comp=Z,632nm,19.2s,baz=41,slow=41								
ARE0	**ARCESS Array S**	**59.72**	**340**	*e*P		**P**	**23 35 37.4**	**-0.1**
ARE0	**ARCESS Array S**	**59.72**	**340**	*e*P		**P**	**23 35 37.5**	**-0.1**
E03A	**Lebam**	**60.27**	**53**	*e*P		**P**	**23 35 41.9**	**+0.3**
	comp=Z,30nm,1.0s								
KLMR	**Klimovskoe**	**60.80**	**328**	*e*P		**P**	**23 35 42.5**	**-2.5**
KLMR				pmax		pmax			
	comp=Z,80nm,1.5s								
KLMR				MLR		MLR			
	comp=Z,1µm,19.0s								
G03D	**McMinnville, O**	**61.17**	**54**	⇓P		**P**	**23 35 48.0**	**+0.2**
	baz=61								
LON	**Longmire**	**61.17**	**52**	*e*P		**P**	**23 35 49.6**	**+1.7**
LON				pmax		pmax			
	comp=Z,19nm,1.6s								
LON	**Longmire**	**61.17**	**52**	*e*P		**P**	**23 35 49.6**	**+1.7**
	comp=Z,19nm,1.6s								
TRO	**Tromso**	**61.25**	**342**	*e*P		**P**	**23 35 48.4**	**+0.5**
F04A	**Amboy**	**61.27**	**53**	*e*P		**P**	**23 35 49.2**	**+0.8**
	comp=Z,29nm,0.8s								
LTY	**Liberty**	**61.54**	**51**	*e*P		**P**	**23 35 50.5**	**+0.2**
	comp=Z,12nm,1.0s								
B08A	**Colville Reser**	**61.68**	**49**	*e*P		**P**	**23 35 51.2**	**0.0**
	comp=Z,14nm,1.0s								
I03D	**Drain, OR**	**61.96**	**55**	⇑P		**P**	**23 35 53.7**	**+0.6**
	baz=62								
EDM	**Edmonton**	**62.04**	**42**	*e*P		**P**	**23 35 53.8**	**+0.2**
EDM	**Edmonton**	**62.04**	**42**	*e*P		**P**	**23 35 53.8**	**+0.2**
EDM	**Edmonton**	**62.04**	**42**	*e*P		**P**	**23 35 53.8**	**+0.2**
H04A	**Detroit Lake**	**62.10**	**54**	*e*P		**P**	**23 35 54.5**	**+0.4**
	comp=Z,16nm,0.9s								
G05D	**Wamic, OR**	**62.30**	**53**	⇓P		**P**	**23 35 55.6**	**+0.1**
	baz=62								
E07A	**Sunnyside**	**62.40**	**51**	*e*P		**P**	**23 35 56.9**	**+0.8**
	comp=Z,24nm,1.1s								
I04A	**Tendick Farm,**	**62.47**	**55**	⇑P		**P**	**23 35 56.7**	**+0.1**
	baz=62								
HYB	**Hyderabad**	**62.48**	**268**	*i* P		**P**	**23 35 58.0**	**+1.0**
JOF	**Joensuu**	**62.50**	**332**	*e*P		**P**	**23 35 56.2**	**-0.2**
JOF				pmax		pmax			
	comp=Z,16nm,0.6s								
JOF	**Joensuu**	**62.50**	**332**	*e*p		**P**	**23 35 56.2**	**-0.2**
	comp=Z,16nm,0.6s								
C09A	**Chrisman Ranch**	**62.58**	**49**	*e*P		**P**	**23 35 57.5**	**+0.3**
D08A	**Wollman Farm,**	**62.64**	**50**	*e*P		**P**	**23 35 57.9**	**+0.3**
	comp=Z,15nm,1.0s								
L02D	**Cave Junction,**	**62.67**	**57**	⇑P		**P**	**23 35 58.3**	**+0.4**
	baz=62								
G06A	**Carlson Farm,**	**62.70**	**53**	*e*P		**P**	**23 35 58.7**	**+0.6**
	comp=Z,86nm,2.4s								
I05D	**Terrebonne, OR**	**62.79**	**54**	⇓P		**P**	**23 35 58.8**	**0.0**
	baz=63								
NEW	**Newport**	**62.95**	**48**	*e*P		**P**	**23 36 00.0**	**+0.3**
	comp=Z,20nm,0.9s								
NEW	**Newport**	**62.95**	**48**	⇑P		**P**	**23 35 59.6**	**-0.1**
	baz=63,SNR=6.1								
J04D	**Umpqua Nationa**	**62.96**	**55**	⇑P		**P**	**23 36 00.4**	**+0.3**
	baz=63								
KHMM	**Horse Mountain**	**63.32**	**58**	*e*P		**P**	**23 36 03.8**	**+1.4**
	comp=Z,15nm,0.9s								
J05D	**Fort Rock, OR**	**63.46**	**55**	⇓P		**P**	**23 36 03.9**	**+0.6**
	baz=63								
YBH	**Yreka Blue Hor**	**63.46**	**57**	*e*P		**P**	**23 36 04.1**	**+0.8**
YBH	**Yreka Blue Hor**	**63.46**	**57**	P		**P**	**23 36 03.3**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=294,slow=2.3,SNR=15								
M02C	**Callahan**	**63.57**	**57**	⇓P		**P**	**23 36 04.6**	**+0.6**
	baz=63								
G08A	**Pilot Rock**	**63.63**	**52**	*e*P		**P**	**23 36 04.8**	**+0.4**
	comp=Z,13nm,1.5s								
WRAB	**Tennant Creek**	**63.79**	**193**	*e*P		**P**	**23 36 04.1**	**-1.3**
WRAB				pmax		pmax			
	comp=Z,40nm,0.8s								
WRAB	**Tennant Creek**	**63.79**	**193**	*e*P		**P**	**23 36 03.5**	**-2.0**
	comp=Z,22nm,0.8s								
WRAB	**Tennant Creek**	**63.79**	**193**	P		**P**	**23 36 03.3**	**-2.1**
	comp=Z,113nm,0.8s,SNR=12								
WRA	**Warramunga Arr**	**63.80**	**193**	*e*P		**P**	**23 36 03.7**	**-1.8**
WRA	**Warramunga Arr**	**63.80**	**193**	P		**P**	**23 36 03.7**	**-1.8**
WRA	**Warramunga Arr**	**63.80**	**193**	P		**P**	**23 36 03.7**	**-1.8**
	comp=Z,12nm,0.8s,baz=15,slow=7.0,SNR=70								
N02D	**Trinity Center**	**63.90**	**57**	⇑P		**P**	**23 36 06.9**	**+0.7**
	baz=64								
FITZ	**Fitzroy Crossi**	**63.96**	**202**	P		**P**	**23 36 05.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**63.96**	**202**	P		**P**	**23 36 05.0**	**-1.5**
	comp=Z,5.7nm,0.9s,baz=86,slow=1.4,SNR=6.8								
M04C	**Macdoel**	**63.96**	**56**	⇑P		**P**	**23 36 07.2**	**+0.5**
	baz=64								
K05A	**Summer Lake**	**63.99**	**55**	*e*P		**P**	**23 36 07.8**	**+0.9**
	comp=Z,23nm,0.9s								
I07A	**Izee**	**64.02**	**53**	*e*P		**P**	**23 36 07.2**	**+0.3**
	comp=Z,36nm,2.0s								
IMYA	**Miami**	**64.13**	**296**	*e*P		**P**	**23 36 08.9**	**+1.0**
WALA	**Waterton Lakes**	**64.20**	**46**	*e*P		**P**	**23 36 08.5**	**+0.4**
	comp=Z,0.5nm,1.0s								
F10A	**Beach Ranch, E**	**64.22**	**50**	*e*P		**P**	**23 36 09.2**	**+0.9**
	comp=Z,89nm,2.3s								
WDC	**Whiskeytown Da**	**64.23**	**58**	*e*P		**P**	**23 36 08.6**	**+0.4**
WDC				pmax		pmax			
	comp=Z,12nm,0.9s								
WDC	**Whiskeytown Da**	**64.23**	**58**	*e*P		**P**	**23 36 08.6**	**+0.4**
	comp=Z,12nm,0.9s								
BSMT	**Bassoo Peak**	**64.46**	**48**	*e*P		**P**	**23 36 10.6**	**+0.7**
ABKT	**Ailbek**	**64.49**	**299**	P		**P**	**23 36 10.6**	**+0.6**
	comp=Z,100nm,0.5s,SNR=5.7								
SUMG	**Summit**	**64.53**	**2**	*i* P		**P**	**23 36 10.2**	**0.0**
SUMG				*i*			23 36 19.3		
SUMG				pmax		pmax			
	comp=Z,20nm,1.2s								
SUMG	**Summit**	**64.53**	**2**	*i* P		**P**	**23 36 10.2**	**0.0**
	comp=Z,20nm,1.2s								
SUMG				*i*			23 36 19.3		
SUMG	**Summit**	**64.53**	**2**	*e*P		**P**	**23 36 10.6**	**+0.5**
	comp=Z,108nm,1.1s								
ISRO	**Mashad**	**64.56**	**297**	*e*P		**P**	**23 36 11.6**	**+1.0**
BLMT	**Blacktail Moun**	**64.59**	**47**	*e*P		**P**	**23 36 11.7**	**+1.0**
KAF	**Kangasniemi**	**64.73**	**333**	*e*P		**P**	**23 36 11.0**	**-0.1**
KAF				pmax		pmax			
	comp=Z,23nm,1.4s								
KAF	**Kangasniemi**	**64.73**	**333**	*e*p		**P**	**23 36 11.0**	**-0.1**
	comp=Z,23nm,1.4s								
MOS	**Moscow**	**64.78**	**324**	*e*P		P	23 36 08.3	-3.2	
MOS				*e*			23 36 41.7		
MOS				pmax		pmax			
	comp=Z,300nm,2.2s								
MOS				pmax		pmax			
	comp=Z,103nm,1.6s								
MOS				MLR		MLR			
	comp=N,300nm,15.0s								
MOS				MLR		MLR			
	comp=E,800nm,15.0s								
MOS				MLR		MLR			
	comp=Z,1µm,15.0s								
MOS	**Moscow**	**64.78**	**324**	*e*P		P	23 36 08.3	-3.2	
IPAY	**Payeh**	**64.79**	**297**	*e*P		**P**	**23 36 13.1**	**+0.9**
JTMT	**Jette**	**64.79**	**47**	*e*P		**P**	**23 36 12.7**	**+0.8**
MOD	**Modoc**	**64.82**	**55**	*e*P		**P**	**23 36 12.6**	**+0.3**
	comp=Z,3.2nm,0.8s								
BMO	**Blue Mountains**	**64.84**	**51**	*e*P		**P**	**23 36 12.5**	**+0.2**
	comp=Z,58nm,2.4s								
YBMT	**Yellow Bay**	**64.87**	**47**	*e*P		**P**	**23 36 14.7**	**+2.3**
IKRD	**Kardeh**	**64.91**	**298**	*e*P		**P**	**23 36 10.6**	**-2.4**
MOR8	**Moi Rana**	**65.02**	**341**	⇑*i*P		**P**	**23 36 11.4**	**-1.5**
J08A	**Circle Bar Ran**	**65.05**	**53**	*e*P		**P**	**23 36 14.6**	**+0.9**
	comp=Z,13nm,1.0s								
SWMT	**Swartz Lake**	**65.09**	**48**	*e*P		**P**	**23 36 14.5**	**+0.6**
POO	**Poona**	**65.21**	**273**	*e*P		**P**	**23 36 14.0**	**-1.0**
FIA1	**FINESS Array S**	**65.29**	**333**	*e*P		**P**	**23 36 14.5**	**-0.3**
FINES	**FINESS Array B**	**65.29**	**333**	P		**P**	**23 36 14.6**	**-0.2**
FINES	**FINESS Array B**	**65.29**	**333**	P		**P**	**23 36 14.6**	**-0.2**
	comp=Z,17nm,0.7s,baz=43,slow=8.0,SNR=62								
FINES				LR		LR	00 07 27.8		
	comp=Z,649nm,19.9s,baz=36,slow=38								
WVOR	**Wild Horse Val**	**65.50**	**54**	*e*P		**P**	**23 36 17.3**	**+0.6**
WVOR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
WVOR	**Wild Horse Val**	**65.50**	**54**	*e*P		**P**	**23 36 17.3**	**+0.6**
	comp=Z,10nm,1.0s								
SLMT	**Seeley Lake**	**65.52**	**48**	*e*P		**P**	**23 36 16.9**	**+0.2**
	comp=Z,16nm,0.7s								
MSO	**Missoula**	**65.53**	**48**	*e*P		**P**	**23 36 16.9**	**+0.1**
	comp=Z,20nm,0.9s								
MSO	**Missoula**	**65.53**	**48**	⇑P		**P**	**23 36 16.7**	**-0.1**
	baz=65,SNR=6.6								
OHCM	**Honcut**	**65.62**	**58**	*e*P		**P**	**23 36 17.4**	**+0.1**
OBN	**Obninsk**	**65.64**	**324**	P		**P**	**23 36 17.9**	**+0.8**
	comp=Z,303nm,0.8s,SNR=7.1								
OBN	**Obninsk**	**65.64**	**324**	⇑*i*P		**P**	**23 36 17.2**	**+0.1**
OBN				*e*			23 38 43.0		
OBN				pmax		pmax			
	comp=Z,129nm,1.7s								
OBN				MLR		MLR			
	comp=Z,1µm,16.0s								
OBN	**Obninsk**	**65.64**	**324**	⇑*i*P		**P**	**23 36 17.2**	**+0.1**
CHMT	**Chamberlain Mo**	**65.85**	**48**	*e*P		**P**	**23 36 18.9**	**0.0**
VRHR	**Novokhopersk**	**65.91**	**318**	*e*P		**P**	**23 36 17.0**	**-1.9**
VRHR				pmax		pmax			
	comp=N,30nm,0.8s								
VRHR				pmax		pmax			
	comp=Z,60nm,0.8s								
VRHR				pmax		pmax			
	comp=E,20nm,0.6s								
BEKR	**Beckworth**	**66.00**	**57**	*e*P		**P**	**23 36 20.0**	**+0.1**
	comp=E,11nm,0.8s								
FFC	**Flin Flon**	**66.36**	**36**	*e*P		**P**	**23 36 22.1**	**+0.3**
FFC				pmax		pmax			
	comp=Z,10.0nm,0.9s								
FFC	**Flin Flon**

NVAR **Mina Array Bea** 68.14 57 *e*P P 23 36 34.0 +0.4
NVAR *e*rx rx 23 36 45.5
NVAR **Mina Array Bea** 68.14 57 P P 23 36 34.0 +0.4
NVAR pP pP 23 36 45.5 -1.0
NVAR **Mina Array Bea** 68.14 57 P P 23 36 34.0 +0.4
comp=Z,6.8nm,0.7s,baz=291,slow=7.2,SNR=67
NVAR pP pP 23 36 45.5 -1.0
comp=Z,16nm,0.7s,baz=300,slow=7.2,SNR=20
QLMT Earthquake Lak 68.15 49 *e*P P 23 36 34.3 +0.7
B21A Ellsworth Farm 68.16 44 ⇑P P 23 36 33.6 +0.3
baz=68
NV11 Mina Array Sit 68.23 57 *e*P P 23 36 33.5 -0.6
A22A Carney Farms, 68.34 43 ⇑P P 23 36 34.7 +0.2
baz=68
TBLU Trondheim 68.45 340 *e*P P 23 36 34.1 -0.7
D20A Manuel Ranch, 68.46 45 ⇓P P 23 36 35.6 +0.4
baz=68,SNR=7.4
E19A Rath Farm, Rou 68.53 46 ⇓P P 23 36 35.9 +0.2
baz=68
ELK Elko 68.55 54 *e*P P 23 36 36.9 +0.7
comp=Z,69nm,2.6s
YNR Norris Junctio 68.64 48 *e*P P 23 36 41.5 +4.8
comp=Z,15nm,1.0s
MTUM Tungsten Hills 68.64 59 *e*P P 23 36 37.4 +0.7
IANJ Anjilo 68.66 299 *e*P P 23 36 38.2 +1.2
YFT Old Faithful 68.72 49 *e*P P 23 36 39.6 +2.5
comp=Z,27nm,1.0s
F19A Roth Farm, Mol 68.84 47 ⇑P P 23 36 38.0 +0.3
baz=69
E20A Meyer Farm, Mu 68.84 46 ⇓P P 23 36 38.0 +0.4
baz=69
ISHM Shahmirzad 68.85 300 *e*P P 23 36 39.8 +1.6
A23A Redstone 68.87 42 ⇑P P 23 36 37.1 -0.7
baz=69
H17A Grant Village 68.90 49 ⇑P P 23 36 39.2 +0.9
baz=69
TPH Tonopah 69.03 57 *e*P P 23 36 39.1 0.0
TPH pmax pmax
comp=Z,18nm,0.8s
TPH Tonopah 69.03 57 *e*P P 23 36 39.1 0.0
comp=Z,18nm,0.8s
FLWY Flagg Ranch 69.03 49 *e*P P 23 36 40.6 +1.5
comp=Z,17nm,1.0s
D21A La Casta Ranch 69.06 45 ⇓P P 23 36 39.8 +0.7
baz=69
B23A Brockton 69.15 43 ⇓P P 23 36 40.0 +0.5
baz=69
I17A Pilgrim Ck. 69.20 49 ⇓P P 23 36 41.1 +0.9
baz=69
MOOW Moose Ponds 69.22 49 *e*P P 23 36 41.2 +0.9
comp=Z,24nm,1.3s
TPAW Teton Pass 69.27 49 *e*P P 23 36 41.7 +1.0
comp=Z,34nm,1.1s
F20A Billings 69.29 46 ⇓P P 23 36 41.5 +0.9
baz=69
A24A Westby 69.32 42 ⇑P P 23 36 41.5 +0.9
baz=69
HVU Hansel Valley 69.34 52 *e*P P 23 36 41.4 +0.5
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 69.34 52 *e*P P 23 36 41.4 +0.5
comp=Z,9.1nm,0.9s
PKM Peak Mountain 69.38 61 ⇑P P 23 36 41.7 +0.3
baz=69
LOHW Long Hollow 69.39 49 *e*P P 23 36 42.3 +1.0
comp=Z,32nm,1.5s
REDW Red Top Meadow 69.41 50 *e*P P 23 36 42.1 +0.6
comp=Z,16nm,0.9s
D22A Cohagen 69.42 44 ⇑P P 23 36 41.8 +0.5
baz=69
C23A Lambert 69.49 43 ⇑P P 23 36 41.8 +0.1
baz=69
CWC Cottonwood Cre 69.52 59 ⇓P P 23 36 42.2 0.0
baz=69
DGMT Dagmar 69.53 42 ⇑P P 23 36 42.0 +0.2
baz=69
IDID Didziasalis 69.53 328 *e*P P 23 36 42.3 +0.7
IDID AMB AMB 23 36 42.9
comp=Z,22nm,1.1s
ISAL Salakas 69.58 329 *e*P P 23 36 42.6 +0.7
ISAL AMB AMB 23 36 43.3
comp=Z,26nm,1.0s
H19A Powell 69.58 48 ⇑P P 23 36 42.7 +0.3
baz=69
G20A Bridger 69.64 47 ⇑P P 23 36 42.7 0.0
baz=70
MICGM Minsk 69.69 327 ⇓*e*P P 23 36 33.0 -10
MNK Minsk 69.70 327 ⇓*e*P P 23 36 33.0 -10
MNK pmax pmax
comp=Z,220nm,1.0s
MNK pmax pmax
comp=N,140nm,1.0s
IIGN Ignalina 69.71 328 *e*P P 23 36 42.9 +0.1
IIGN AMB AMB 23 36 43.5
comp=Z,30nm,0.9s
LAO LASA Array 69.71 45 *e*P P 23 36 43.1 +0.1
comp=Z,20nm,0.9s
SBC Santa Barbara 69.73 62 ⇑P P 23 36 43.9 +0.7
baz=70
BGU Big Grassy Mou 69.73 53 *e*P P 23 36 44.1 +0.7
comp=Z,22nm,2.4s
ISA Isabella 69.76 60 *e*P P 23 36 43.0 -0.5
ISA pmax pmax
comp=Z,11nm,1.4s
ISA Isabella 69.76 60 *e*P P 23 36 43.0 -0.5
comp=Z,11nm,1.4s
ISA Isabella 69.76 60 ⇑P P 23 36 43.4 -0.1
baz=70
F21A Absaloka Mine, 69.82 46 ⇑P P 23 36 44.1 +0.3
baz=70
NACGM Naroch 69.83 328 *e* P 23 36 41.0 -2.5
R11A Troy Canyon, C 69.86 56 *e*P P 23 36 44.2 0.0
R11A Troy Canyon, C 69.86 56 ⇑P P 23 36 44.2 0.0
baz=70,SNR=12
D23A Lindsay 69.90 44 ⇓P P 23 36 44.5 +0.2
baz=70
GUDG Gudauri 69.94 310 P P 23 36 45.9 +1.2
KIV Kislovodsk 69.96 312 P P 23 36 45.1 +0.4
comp=Z,483nm,0.6s,SNR=14
KBZ Khabaz 69.99 311 P P 23 36 45.9 +1.2
KBZ pmax pmax
comp=Z,14nm,0.9s
KBZ MLR MLR
comp=Z,2μm,18.1s
KBZ Khabaz 69.99 311 P P 23 36 45.9 +1.2
KBZ Khabaz 69.99 311 P P 23 36 45.9 +1.2
comp=Z,14nm,0.9s,baz=59,slow=5.9,SNR=21
KBZ LR LR 00 13 02.3
comp=Z,2μm,18.1s,baz=230,slow=41
I19A Meeteetse 70.00 48 ⇓P P 23 36 44.6 -0.4
baz=70
IBAF Bafgh 70.00 295 *e*P P 23 36 45.2 0.0
E22A Miles City 70.02 45 ⇑P P 23 36 45.1 +0.1
baz=70
ZEI Tsey 70.05 310 *e*P P 23 36 44.9 -0.5
ZEI pmax pmax
comp=Z,45nm,0.8s
DUS Dusheti 70.05 309 P P 23 36 46.6 +1.4
NB2 NORSAR Subarra 70.07 339 P P 23 36 44.9 0.0
comp=Z,87nm,1.2s,baz=32,slow=6.5
NB2 NORSAR Subarra 70.07 339 P P 23 36 44.9 0.0
baz=32,slow=6.5
NOA NORSAR Array B 70.07 339 P P 23 36 45.0 0.0
NOA NORSAR Array B 70.07 339 P P 23 36 45.0 0.0
comp=Z,22nm,0.8s,baz=32,slow=6.2,SNR=104
NOA LR LR 00 12 22.4
comp=Z,931nm,18.2s,baz=30,slow=40
MPMC Manual Prospec 70.13 59 ⇓P P 23 36 45.8 -0.1
baz=70
G21A Lodge Grass 70.17 46 ⇑P P 23 36 46.0 +0.1
baz=70
NC602 NORSAR Array S 70.24 338 *e*P P 23 36 45.7 -0.3
FURC Furnace Creek, 70.26 58 ⇑P P 23 36 46.9 +0.4
baz=70,SNR=8.0
TBLG Delisi 70.27 309 P P 23 36 47.6 +1.1
A26A Wade Farm, Ken 70.29 41 ⇓P P 23 36 46.8 +0.3
baz=70
F22A Rosebud 70.30 45 ⇓P P 23 36 46.3 -0.4
baz=70
E23A Ismay 70.31 44 ⇑P P 23 36 46.5 -0.2
baz=70
DUG Dugway 70.33 53 *e*P P 23 36 47.5 +0.4
DUG pmax pmax
comp=Z,15nm,1.1s
DUG Dugway 70.33 53 *e*P P 23 36 47.5 +0.4
comp=Z,15nm,1.1s
DUG Dugway 70.33 53 ⇓P P 23 36 46.8 -0.2
baz=70
TPNV Topopah Spring 70.34 58 *e*P P 23 36 47.3 +0.1
TPNV pmax pmax
comp=Z,20nm,1.0s
TPNV Topopah Spring 70.34 58 *e*P P 23 36 47.2 +0.1
comp=Z,20nm,1.0s
TPNV Topopah Spring 70.34 58 ⇓P P 23 36 47.0 -0.2
baz=70
ICHK Chekchek 70.35 296 *e*P P 23 36 47.8 +0.4
IVRN Varamin 70.35 300 *e*P P 23 36 48.1 +0.9
LRMC Laurel Mountai 70.37 60 ⇑P P 23 36 46.8 -0.5
baz=70
ONI Oni 70.43 310 P P 23 36 48.6 +1.0
ISFB Sefidab 70.43 299 *e*P P 23 36 47.5 -0.2
J19A Crowheart 70.47 49 ⇑P P 23 36 48.2 +0.3
baz=70,SNR=8.5
BW06 Boulder Array 70.52 49 *e*P P 23 36 48.1 -0.1
comp=Z,15nm,1.1s
PDAR Pinedale Array 70.52 49 P P 23 36 48.0 -0.3
PDAR Pinedale Array 70.52 49 P P 23 36 48.0 -0.3
comp=Z,3.6nm,0.6s,baz=253,slow=0.9,SNR=36
I20A Worland 70.52 48 ⇓P P 23 36 48.1 -0.1
baz=70,SNR=5.9
B26A Jensen Ranch, 70.55 41 ⇑P P 23 36 48.7 +0.5
baz=70
EDW2 Edwards Air Fo 70.56 60 ⇑P P 23 36 48.2 -0.2
baz=70,SNR=6.0
IMHD Mahdasht 70.59 301 *e*P P 23 36 49.6 +0.9
H21A Big Horn, Sher 70.65 47 ⇓P P 23 36 48.9 -0.1
baz=70,SNR=5.8
G22A Birney 70.66 46 ⇓P P 23 36 48.7 -0.2
baz=70
IMEH Mehriz 70.75 295 *e*P P 23 36 49.8 -0.1
E24A Baker 70.77 44 ⇑P P 23 36 49.7 +0.1
baz=71
F23A Volborg 70.78 45 ⇓P P 23 36 49.8 +0.2
baz=71
JLU Jordanelle 70.86 52 *e*P P 23 36 51.8 +1.4
comp=Z,125nm,2.8s
D25A Fairfield 70.86 43 ⇓P P 23 36 50.6 +0.5
baz=71
NLU North Lily Min 70.92 53 *e*P P 23 36 51.3 +0.5
comp=Z,8.6nm,0.9s
J20A Shoshoni 70.94 48 ⇓P P 23 36 50.9 +0.1
baz=71,SNR=6.2
ISAD Sadrabad 71.04 296 *e*P P 23 36 51.4 -0.3
GSC Goldstone 71.04 59 *e*P P 23 36 50.8 -0.6
GSC pmax pmax
comp=Z,2.0nm,0.9s
GSC Goldstone 71.04 59 *e*P P 23 36 50.8 -0.6
comp=Z,2.5nm,0.9s
GSC Goldstone 71.04 59 ⇑P P 23 36 51.4 0.0
baz=71
I21A Big Trails, Te 71.06 47 ⇑P P 23 36 51.6 +0.1
baz=71,SNR=11
CHVG Ch'k'valeri 71.11 311 P P 23 36 52.3 +0.8
A28A Rude Farm, Bot 71.12 40 ⇑P P 23 36 52.0 +0.4
baz=71
MPU Maple Canyon 71.14 53 *e*P P 23 36 52.7 +0.6
comp=Z,9.3nm,0.8s
G23A Biddle 71.14 45 ⇑P P 23 36 51.9 +0.1
baz=71
BFSC Mount Baldy Ra 71.17 61 ⇓P P 23 36 52.4 +0.1
baz=71
F24A Ekalaka 71.19 44 ⇓P P 23 36 52.2 +0.1
baz=71
SHPR Sheep Range 71.29 57 *e*P P 23 36 53.8 +0.8
J21A Lysite 71.29 48 ⇓P P 23 36 52.9 0.0
baz=71
GNI Garni 71.30 308 *e*P P 23 36 55.3 +2.4
comp=Z,65nm,1.1s
IZEF Zefreh 71.30 298 *e*P P 23 36 53.9 +0.7
C27A Sayler Ranch, 71.37 41 ⇑P P 23 36 53.5 +0.4
baz=71
D26A Manning 71.39 42 ⇓P P 23 36 53.6 +0.4
baz=71
B28A Dugan Ranch, T 71.40 40 ⇑P P 23 36 53.6 +0.3
baz=71
SCI San Clemente I 71.41 62 ⇑P P 23 36 53.9 +0.4
baz=71
I22A 9 Mile Ranch, 71.44 47 ⇓P P 23 36 53.5 -0.2
baz=71,SNR=6.2
TUQ Turquoise Moun 71.50 59 ⇓P P 23 36 54.5 +0.2
baz=71
ARUT Antelope Range 71.51 55 *e*P P 23 36 54.2 -0.1
ARUT pmax pmax
comp=Z,211nm,1.2s
ARUT Antelope Range 71.51 55 *e*P P 23 36 54.2 -0.1
comp=Z,211nm,1.2s
IKLH Kolahrood 71.51 298 *e*P P 23 36 55.3 +0.8
A29A Manning Farm, 71.59 39 ⇑P P 23 36 54.6 +0.2
baz=71
F25A Bowman 71.64 44 ⇓P P 23 36 55.1 +0.4
baz=71
HEC Hector,Ludlow 71.64 59 ⇑P P 23 36 55.1 +0.1
baz=72
IMRD Marand 71.67 306 *e*P P 23 36 55.4 +0.2
CCUT Cedar City 71.71 56 *e*P P 23 36 56.4 +0.8
comp=Z,36nm,1.7s
E26A Carlson Angus 71.76 43 ⇓P P 23 36 56.0 +0.5
baz=72
D27A Center 71.78 42 ⇓P P 23 36 55.6 +0.1
baz=72
SOC Sochi 71.81 313 *e*P P 23 36 55.0 -0.8
SOC *e**PP pP 23 37 08.3 -0.4
SOC *e**SP sP 23 37 15.1 +1.4
SOC *e* 23 39 35.0
SOC *e*PPP PPP 23 41 15.3
SOC *e*S S 23 46 09.5 -3.3
SOC pmax pmax
comp=Z,22nm,0.9s
SOC MLR MLR
comp=Z,2μm,18.0s
SOC Sochi 71.81 313 *e*P P 23 36 55.0 -0.8
SOC *e*rx rx 23 37 08.3
B29A Wagenman Farm, 71.86 40 ⇑P P 23 36 56.1 +0.1
baz=72
MURC Murrieta 71.88 61 ⇓P P 23 36 57.0 +0.6
baz=72
K21A Alcova 71.88 48 ⇓P P 23 36 56.2 -0.3
baz=72,SNR=5.2
SUW Suwalki 71.88 329 *e*P P 23 36 55.4 -0.6
SUW pmax pmax
comp=Z,68nm,1.1s
SUW Suwalki 71.88 329 *e*P P 23 36 55.2 -0.8
SUW *e* 23 37 21.7
SUW Suwalki 71.88 329 *e*P P 23 36 55.4 -0.6
comp=Z,68nm,1.1s
H24A Dirks Ranch, A 71.88 45 ⇓P P 23 36 56.0 -0.3
baz=72
AKASG Malin Array Be 71.91 324 P P 23 36 56.2 0.0
AKASG *e**PP pP 23 37 07.3 -1.8
AKASG pmax pmax
comp=Z,9.0nm,0.4s
AKASG MLR MLR
comp=Z,1μm,18.3s
AKASG Malin Array Be 71.91 324 P P 23 36 56.2 0.0
AKASG pP pP 23 37 07.3 -1.8
AKASG Malin Array Be 71.91 324 P P 23 36 56.2 0.0
comp=Z,9.1nm,0.4s,baz=40,slow=6.1,SNR=109
AKASG pP pP 23 37 07.3 -1.8
comp=Z,21nm,0.6s,baz=40,slow=6.2,SNR=17
AKASG LR LR 00 11 43.6
comp=Z,1μm,18.3s,baz=45,slow=38
AKBB Malin Array Si 71.91 324 *e*P P 23 36 55.9 -0.3
AKBB *e* 23 37 06.5
AKBB Malin Array Si 71.91 324 *e*P P 23 36 55.9 -0.3
AKBB *e* 23 37 06.5
KIEV Kiev 71.92 324 *e*P P 23 36 56.3 +0.1
KIEV pmax pmax
comp=Z,32nm,0.9s
KIEV Kiev 71.92 324 *e*P P 23 36 56.3 +0.1
comp=Z,32nm,0.9s
AK02 Malin Array Si 71.94 324 *e*P P 23 36 56.0 -0.4
AK02 *e* 23 37 07.5
A30A Hoffart Farm, 72.01 39 ⇓P P 23 36 58.1 +1.2
baz=72
F26A Lodgepole 72.09 43 ⇓P P 23 36 57.6 +0.1
baz=72
GMRC Granite Mounta 72.09 59 ⇓P P 23 36 57.9 +0.1
baz=72
BER Bergen 72.12 341 *e*P P 23 36 58.9 +1.7
ULM Lac du Bonnet 72.16 37 *e*P P 23 36 57.4 -0.3
ULM *e*rx rx 23 37 09.9
ULM Lac du Bonnet 72.16 37 P P 23 36 57.4 -0.3
ULM pP pP 23 37 09.9 -0.7
ULM Lac du Bonnet 72.16 37 P P 23 36 57.4 -0.3
comp=Z,2.8nm,0.8s,baz=333,slow=11,SNR=3.8
ULM pP pP 23 37 09.9 -0.7
comp=Z,4.7nm,0.6s,baz=322,slow=10.0,SNR=5.1
G25A Newell 72.16 44 ⇑P P 23 36 57.9 0.0
baz=72
MDND Maddock 72.18 40 *e*P P 23 36 58.9 +0.9
MDND Maddock 72.18 40 ⇑P P 23 36 58.3 +0.3
baz=72
ANN Anapa 72.19 315 P P 23 36 59.0 +1.1
ANN *PP pP 23 37 09.5 -1.4
ANN S S 23 46 19.7 +2.7
ANN pmax pmax
comp=Z,36nm,0.9s
ANN MLR MLR
comp=Z,918nm,24.0s
ANN Anapa 72.19 315 *e*P P 23 36 59.0 +1.1
ANN *e*rx rx 23 37 09.5
D28A Regan 72.19 41 ⇑P P 23 36 57.5 -0.5
baz=72
ODD1 Odda 72.22 340 *e*P P 23 36 58.8 +0.8
LDFC Landfair 72.24 58 *e*P P 23 36 59.0 +0.3
comp=Z,32nm,1.1s
K22A Casper 72.26 48 *e*P P 23 36 57.8 -0.9
K22A Casper 72.26 48 ⇓P P 23 36 58.3 -0.4
baz=72,SNR=5.8
PFO Pinyon Flat Ob 72.34 60 *e*P P 23 36 59.1 -0.3
PFO Pinyon Flat Ob 72.34 60 ⇓P P 23 36 59.0 -0.3
baz=72
B30A Myrvik Farm, E 72.35 39 ⇑P P 23 36 59.0 +0.1
baz=72
SRU San Rafael 72.38 53 *e*P P 23 36 59.9 +0.4
SRU pmax pmax
comp=Z,14nm,0.7s
SRU San Rafael 72.38 53 *e*P P 23 36 59.9 +0.4
comp=Z,14nm,0.7s
BELC Belle Mtn. Jos 72.38 60 ⇑P P 23 36 59.5 0.0
baz=72
F27A Lemmon 72.40 43 ⇑P P 23 36 59.3 0.0
baz=72
I24A Kuemmerle Ranc 72.45 46 ⇓P P 23 36 59.7 -0.1
baz=72
H25A Fruitdale 72.46 45 ⇑P P 23 36 59.5 -0.3
baz=72
G26A Maurine 72.51 44 ⇑P P 23 37 00.1 +0.1
baz=72
RSSD Black Hills 72.58 45 *e*P P 23 37 00.4 -0.3
RSSD pmax pmax
comp=Z,3.0nm,0.8s
RSSD Black Hills 72.58 45 *e*P P 23 37 00.4 -0.3
comp=Z,3.2nm,0.8s
K23A Bowen Ranch, D 72.68 47 ⇓P P 23 37 00.9 -0.2
baz=72
L22A Ellis Ranch, M 72.73 48 ⇑P P 23 37 01.9 +0.3
baz=72
IPAR Pars 72.78 295 *e*P P 23 37 02.4 +0.2
G27A Dupree 72.79 43 ⇓P P 23 37 01.4 -0.2
baz=73
J24A Dixon Ranch, L 72.80 46 ⇓P P 23 37 01.1 -0.7
baz=73
IRM Iron Mountain 72.81 59 ⇑P P 23 37 01.9 -0.1
baz=73
MONP Monument Peak 72.83 61 ⇓P P 23 37 01.5 -0.9
baz=73
BC3 Big Chuckawall 72.95 60 ⇓P P 23 37 02.5 -0.4
baz=73
W13A Hualapai Mount 72.99 58 ⇑P P 23 37 03.2 0.0
baz=73
O20A White River Ci 73.00 51 *e*P P 23 37 03.7 +0.5
O20A White River Ci 73.00 51 ⇑P P 23 37 03.1 -0.2
baz=73
M22A Cedar Creek Ra 73.07 49 ⇓P P 23 37 03.3 -0.3
baz=73
L23A Garrett 73.07 48 ⇑P P 23 37 03.7 0.0
baz=73
U15A North Rim 73.10 56 ⇓P P 23 37 04.4 +0.5
baz=73
D30A Buchanan 73.11 41 ⇑P P 23 37 03.8 +0.3
baz=73
K24A Anderson Ranch 73.13 47 ⇑P P 23 37 03.6 -0.2
baz=73
DVTC Desert V Tower 73.19 61 ⇓P P 23 37 04.3 +0.1
baz=73
J25A Sunshine Ranch 73.21 46 ⇓P P 23 37 04.1 -0.2
baz=73
H27A Howes 73.24 44 ⇓P P 23 37 04.5 +0.1
baz=73
I26A New Underwood 73.26 45 ⇑P P 23 37 05.0 +0.5
baz=73
PDMCI Parker Dam,Lak 73.36 59 ⇑P P 23 37 05.8 +0.7
baz=73
Y12C Blythe 73.48 59 ⇑P P 23 37 06.5 +0.7
baz=73
M23A Laramie 73.50 48 ⇑P P 23 37 06.5 +0.3
baz=73
L24A Wheatland 73.54 48 ⇑P P 23 37 06.8 +0.5
baz=73
N22A Wattenberg Ran 73.56 49 ⇑P P 23 37 06.7 +0.1
baz=73
AGMN Agassiz Nation 73.59 38 *e*P P 23 37 05.8 -0.5
I27A Quinn 73.64 44 ⇓P P 23 37 06.9 +0.1
baz=74
J26A Sides Ranch, S 73.64 46 ⇑P P 23 37 06.6 -0.1
baz=74
K25A Mack Ranch, Ha 73.71 47 ⇓P P 23 37 07.3 0.0
baz=74
GLA Glamis 73.74 60 *e*P P 23 37 08.3 +0.8
GLA Glamis 73.74 60 *e*P P 23 37 08.3 +0.8
GLA Glamis 73.74 60 ⇑P P 23 37 07.8 +0.4
baz=74
H28A Mission Ridge 73.74 43 ⇓P P 23 37 07.4 +0.2
baz=74
N23A Red Feather La 73.77 49 ⇑P P 23 37 07.8 0.0
baz=74
PV04 Paradox Valley 73.80 52 *e*P P 23 37 08.5 +0.6
BSD Bornholm Skovb 73.91 334 *i*P P 23 37 07.9 -0.1
BSD *i* 23 37 19.5
BSD pmax pmax
comp=Z,16nm,0.8s
BSD Bornholm Skovb 73.91 334 *i*P P 23 37 07.9 -0.1
comp=Z,16nm,0.7s
BSD *i* 23 37 19.5
O22A Kremmling 73.94 50 ⇑P P 23 37 08.9 +0.1
baz=74
L25A Engebretsen Ra 73.98 47 ⇑P P 23 37 09.1 +0.3
baz=74
M24A Cheyenne 73.99 48 ⇑P P 23 37 09.2 +0.2
baz=74
K26A Motz Farm, Whi 74.02 46 ⇓P P 23 37 09.1 +0.1
baz=74
IGHG Ghaleghazi 74.02 302 *e*P P 23 37 08.4 -0.9
I28A Midland 74.14 44 ⇓P P 23 37 09.2 -0.5
baz=74
PV01 Paradox Valley 74.17 52 *e*P P 23 37 10.1 0.0
comp=Z,2μm,1.1s
H29A Onida 74.18 43 ⇑P P 23 37 09.9 +0.1
baz=74
P22A Eagle 74.21 50 ⇑P P 23 37 10.9 +0.6
baz=74
COP Copenhagen 74.22 335 *e*P P 23 37 09.1 -0.7
COP pmax pmax
comp=Z,24nm,0.8s
COP Copenhagen 74.22 335 *i*P P 23 37 09.1 -0.7
comp=Z,24nm,0.7s
J27A Elkhorn Farm, 74.24 45 ⇑P P 23 37 10.6 +0.3
baz=74
WUAZ Wupatki 74.26 56 *e*P P 23 37 11.4 +0.8
comp=Z,12nm,0.9s
WUAZ Wupatki 74.26 56 ⇑P P 23 37 10.3 -0.3
baz=74
O23A Lake Granby, G 74.26 49 ⇑P P 23 37 10.9 +0.2
baz=74
Y14A Wickenburg 74.30 58 ⇑P P 23 37 10.7 0.0
baz=74
G30A Faulkton 74.35 42 ⇑P P 23 37 10.8 +0.1
baz=74
N24A Carr 74.40 48 ⇑P P 23 37 11.7 +0.4
baz=74
M25A Palm-Egli Farm 74.43 47 ⇓P P 23 37 12.0 +0.5
baz=74
K27A Flueckinger Fa 74.51 46 ⇑P P 23 37 12.1 +0.2
baz=74
J28A Allard Ranch, 74.52 45 ⇓P P 23 37 12.2 +0.4
baz=74
MUD Monsted U'grnd 74.54 337 *e*P P 23 37 11.8 +0.2
MUD pmax pmax
comp=Z,12nm,0.9s

MUD Monsted U'grnd 74.54 337 *i* P P 23 37 11.8 +0.2
comp=Z,12nm,0.9s
I29A Vivian Onida 74.57 44 ⇓P P 23 37 12.4 +0.3
baz=74
113A Mohawk Valley, 74.60 60 ⇑P P 23 37 12.8 +0.4
baz=74
GKP Gorka Klasztor 74.64 331 *e*P P 23 37 12.6 +0.4
GKP *e* 23 37 21.1
GKP Gorka Klasztor 74.64 331 *e*P P 23 37 12.6 +0.4
GKP *e* 23 37 21.1
ISCO Idaho Springs 74.71 50 *e*P P 23 37 13.7 +0.4
ISCO pmax pmax
comp=Z,11nm,1.0s
ISCO Idaho Springs 74.71 50 *e*P P 23 37 13.7 +0.4
comp=Z,11nm,1.0s
ISCO Idaho Springs 74.71 50 ⇑P P 23 37 13.3 0.0
baz=74,SNR=6.0
LVV L'vov 74.77 326 *e*P P 23 37 13.2 +0.1
LVV *e* 23 37 26.4
STKA Stephens Creek 74.80 185 *e*P P 23 37 13.0 -0.3
STKA *e*PcP pP 23 37 26.2 0.0
STKA Stephens Creek 74.80 185 P P 23 37 12.4 -0.8
comp=Z,7.0nm,0.8s,baz=340,slow=6.6,SNR=8.3
MVCO Mesa Verde 74.83 53 *e*P P 23 37 13.9 -0.1
comp=Z,14nm,0.9s
MVCO Mesa Verde 74.83 53 ⇑P P 23 37 13.6 -0.4
baz=75
P23A Jefferson 74.88 50 ⇓P P 23 37 14.7 +0.3
baz=75
M26A McRoberts Ranc 74.90 47 ⇓P P 23 37 14.4 +0.2
baz=75
K28A Ten Mile Ranch 74.96 45 ⇑P P 23 37 14.8 +0.4
baz=75
J29A Okreek 75.00 44 ⇑P P 23 37 14.9 +0.3
baz=75
I30A Oacoma 75.09 43 ⇓P P 23 37 15.5 +0.4
baz=75
M27A Reverse DX Ran 75.26 47 ⇑P P 23 37 16.4 +0.2
baz=75
N26A Koester Ranch, 75.31 47 ⇑P P 23 37 16.6 +0.1
baz=75
O25A Wiggins 75.32 49 ⇓P P 23 37 16.8 +0.2
baz=75
S22A 4UR Ranch, Cre 75.44 52 ⇓P P 23 37 17.8 +0.2
baz=75
KWP Kalwaria Pacla 75.46 326 *e*P P 23 37 17.5 +0.4
KWP pmax pmax
comp=Z,219nm,1.4s
KWP Kalwaria Pacla 75.46 326 *e*P P 23 37 18.1 +1.0
KWP *e*pP pP 23 37 31.0 +0.9
KWP Kalwaria Pacla 75.46 326 ⇑*i*P P 23 37 18.2 +1.1
KWP Kalwaria Pacla 75.46 326 *e*P P 23 37 17.5 +0.4
comp=Z,219nm,1.4s
K29A Lazy Trails An 75.46 44 ⇑P P 23 37 17.2 -0.1
baz=75
LEOM Leova 75.47 321 ⇑*i*P P 23 37 18.0 +0.9
J30A Dallas 75.48 44 ⇓P P 23 37 17.0 -0.3
baz=75
Q24A Divide 75.55 50 ⇑P P 23 37 17.6 -0.5
baz=75
N27A Anderson Farm, 75.69 47 ⇓P P 23 37 18.7 0.0
baz=76
R23A Moffat 75.70 51 ⇑P P 23 37 19.0 0.0
baz=76
P25A Willow Gulch B 75.71 49 ⇑P P 23 37 18.8 -0.1
baz=76
214A Organ Pipe Nat 75.74 60 ⇑P P 23 37 19.2 +0.1
baz=76
X18A Snowflake 75.78 56 ⇑P P 23 37 19.0 -0.5
baz=76
K30A Basset 75.89 44 ⇑P P 23 37 19.7 0.0
baz=76
M28A Bar X Bar Ranc 75.89 46 ⇓P P 23 37 19.7 -0.1
baz=76
BUR08 Bucovina Ar. S 75.94 324 *e*P P 23 37 19.9 -0.2
BUR08 *e*PcP PcP 23 37 31.8 -0.5
BURAR Bucovina Array 75.96 324 ⇑*i*P P 23 37 20.9 +0.8
R24A Sanders Place, 76.08 50 ⇓P P 23 37 21.3 +0.2
baz=76,SNR=5.7
Q25A Bedland, Calha 76.09 49 ⇑P P 23 37 21.7 +0.6
baz=76
P26A Davis Ranch, A 76.13 48 ⇑P P 23 37 21.5 +0.2
baz=76
MALT Malatya 76.14 310 ⇑*i*P P 23 37 23.4 +2.1
OJC Ojcow 76.15 328 *e*P P 23 37 21.4 +0.4
OJC Ojcow 76.15 328 *e*P P 23 37 21.4 +0.4
O27A Beecher Island 76.16 48 ⇑P P 23 37 21.3 0.0
baz=76
GHRR 76.16 321 ⇓*i*P P 23 37 22.6 +1.5
TESR Tescani 76.17 322 ⇑*i*P P 23 37 21.8 +0.6
KOLS Kolonicke sedl 76.18 326 *e*P P 23 37 21.7 +0.5
KOLS pmax pmax
comp=Z,29nm,1.8s
KOLS Kolonicke sedl 76.18 326 *e*P P 23 37 21.7 +0.5
SDCO Great Sand Dun 76.20 51 *e*P P 23 37 22.4 +0.5
comp=Z,126nm,3.0s
STHS Stebnicka Huta 76.22 327 *e*P P 23 37 21.4 0.0
STHS pmax pmax
comp=Z,31nm,1.6s
STHS Stebnicka Huta 76.22 327 *e*P P 23 37 21.4 0.0
N28A Pribbeno Ranch 76.31 47 ⇓P P 23 37 22.9 +0.7
baz=76
BSEG Bad Segeberg 76.36 335 *e*P P 23 37 22.5 +0.4
comp=Z,94nm,1.4s
BSEG *e*pP pP 23 37 35.3 +0.2
comp=Z,94nm,1.4s
U22A Llaves 76.36 53 ⇑P P 23 37 23.4 +0.6
baz=76
UZH Uzhgorod 76.41 326 *e*P P 23 37 20.1 -2.4
UZH *e* 23 37 31.5
UZH *e*S S 23 47 00.5 -3.8
UZH MLR MLR
comp=N,800nm,16.0s
UZH MLR MLR
comp=E,1μm,16.0s
UZH MLR MLR
comp=Z,700nm,16.0s
UZH Uzhgorod 76.41 326 *e*P P 23 37 20.1 -2.4
S24A Houchin Ranch, 76.43 51 ⇑P P 23 37 22.8 -0.4
baz=76
RUE Ruedersdorf 76.48 333 *e*P P 23 37 23.0 +0.2
comp=Z,28nm,0.7s
Q26A Hugo 76.48 49 ⇑P P 23 37 23.1 -0.2
baz=76
CFR Carcaliu 76.49 320 ⇑*i*P P 23 37 23.3 +0.3
CRVS Cervenica-Dubn 76.54 326 *e*P P 23 37 23.8 +0.6
CRVS pmax pmax
comp=Z,13nm,1.1s
CRVS Cervenica-Dubn 76.54 326 *e*P P 23 37 23.8 +0.6
P27A Ficken Ranch, 76.55 48 ⇓P P 23 37 23.9 +0.2
baz=76
O28A Krutsinger Ran 76.58 47 ⇑P P 23 37 23.8 0.0
baz=76
NIE Niedzica 76.59 327 *e*P P 23 37 24.6 +1.1
NIE *e**PP PcP 23 37 35.0 +0.1
NIE Niedzica 76.59 327 *e*P P 23 37 24.6 +1.1
NIE *e*pP PcP 23 37 35.0 +0.1
R25A Fountain Ranch 76.60 50 ⇑P P 23 37 24.0 +0.1
baz=76
ECSD EROS Data Cent 76.61 42 *e*P P 23 37 23.5 -0.2
VRI Vrincioaia 76.62 322 ⇑*i*P P 23 37 25.5 +1.7
L31A Butterfield Fa 76.64 44 ⇑P P 23 37 24.3 +0.3
baz=76
V22A San Miguel Ran 76.65 53 ⇓P P 23 37 24.5 +0.1
baz=76
BMR Baia Mare 76.66 324 ⇑*i*P P 23 37 25.1 +1.2
PLOR Plostina 76.67 322 ⇑*i*P P 23 37 24.9 +0.8
N29A Votaw Ranch, W 76.70 46 ⇓P P 23 37 25.0 +0.6
baz=76
TRPA Tarpa 76.70 325 ⇓*i*P P 23 37 25.4 +1.3
TRPA Tarpa 76.70 325 ⇑*e*P P 23 37 25.1 +1.0
KBD Kabd 76.73 297 *e*P P 23 37 23.9 -0.7
KBD AMb AMB 23 37 40.2
comp=Z,52nm,1.2s
T24B San Luis 76.74 51 ⇓P P 23 37 24.0 -1.0
baz=77
TUC Tucson 76.77 58 *e*P P 23 37 25.1 +0.2
TUC Tucson 76.77 58 *e*P P 23 37 25.1 +0.2
U23A El Rito 76.78 52 ⇑P P 23 37 25.8 +0.7
baz=77
S25A Robets Cordova 76.86 50 ⇓P P 23 37 25.9 +0.4
baz=77
KSCO Kaye Shedlock' 76.91 48 *e*P P 23 37 29.7 +4.0
comp=Z,51nm,1.3s
KSCO Kaye Shedlock' 76.91 48 ⇓P P 23 37 26.1 +0.4
baz=77

KSP Ksiaz 76.96 330 ⇑*e*P P 23 37 26.3 +0.7
KSP *e**PP pP 23 37 38.8 +0.2
KSP Ksiaz 76.96 330 *e*P P 23 37 26.0 +0.4
KSP *e*pP pP 23 37 38.9 +0.3
KSP Ksiaz 76.96 330 *e*Pg P 23 37 26.2 +0.7
KSP *e*Sg pP 23 37 38.3 -0.3
R26A Arlington 76.96 49 ⇑P P 23 37 26.3 +0.3
baz=77
RST Umm Al-Ruwaisa 76.97 298 *e*P P 23 37 25.5 -0.4
RST AMb AMB 23 37 37.9
comp=Z,380nm,1.0s
N30A Hueftle Ranch, 76.99 46 ⇑P P 23 37 25.2 -0.8
baz=77
RDF Al-Radifah 76.99 297 *e*P P 23 37 25.4 -0.8
RDF AMb AMB 23 37 33.0
comp=Z,59nm,1.8s
OKC Ostrava-Krasne 77.09 329 *e*P P 23 37 27.0 +0.7
OKC *e* 23 37 39.8
OKC Ostrava-Krasne 77.09 329 ⇑*e*P P 23 37 27.0 +0.7
OKC *e*pP pP 23 37 39.8 +0.5
O29A 4D Ranch, Culb 77.11 47 ⇑P P 23 37 26.7 0.0
baz=77
DOPR Dapca 77.15 322 ⇑*i*P P 23 37 28.9 +2.1
M31A Lambtecht Ranc 77.18 45 ⇓P P 23 37 27.4 +0.4
baz=77
V23A Ortiz Mt. (NFS 77.19 53 ⇓P P 23 37 27.9 +0.5
baz=77
T25A Trinidad 77.24 51 ⇑P P 23 37 27.8 +0.1
baz=77
MLR Muntele Rosu 77.26 322 ⇓*i*P P 23 37 28.4 +0.9
ISR Istrita 77.27 321 ⇓*i*P P 23 37 28.5 +1.0
SPMN St. Paul 77.29 39 ⇑P P 23 37 27.7 +0.2
baz=77
Q28A Sharon Springs 77.31 48 ⇓P P 23 37 27.3 -0.6
baz=77
R27A Eads 77.33 49 ⇑P P 23 37 28.0 0.0
baz=77
UPC Upice 77.33 330 *e*P P 23 37 28.3 +0.6
UPC *e* 23 37 41.1
UPC Upice 77.33 330 ⇑*e*P P 23 37 28.3 +0.6
UPC *e*pP pP 23 37 41.1 +0.4
DPC Dobruska-Polom 77.35 330 ⇑*i*P P 23 37 28.8 +1.0
DPC *e* 23 37 41.7
DPC Dobruska-Polom 77.35 330 ⇑*i*P P 23 37 28.8 +1.0
DPC *e*pP pP 23 37 41.7 +0.8
DPC Dobruska-Polom 77.35 330 *e*P P 23 37 28.9 +1.0
MORC Moravsky Berou 77.37 329 *e*P P 23 37 28.0 0.0
MORC pmax pmax
comp=Z,74nm,1.5s
MORC Moravsky Berou 77.37 329 ⇑*i*P P 23 37 28.6 +0.7
MORC Moravsky Berou 77.37 329 *e*P P 23 37 27.9 0.0
comp=Z,74nm,1.5s
S26A Kim 77.43 50 ⇑P P 23 37 28.5 -0.2
baz=77
MSAB Monastry St. A 77.45 320 ⇓*i*P P 23 37 29.8 +1.4
BGNE Belgrade 77.55 44 ⇑P P 23 37 28.1 -1.1
baz=77
LAZ Lazon 77.56 54 *e*P P 23 37 30.0 +0.5
comp=Z,8.1nm,1.3s
N31A Bailey Ranch, 77.57 45 ⇑P P 23 37 28.7 -0.6
baz=77
Z20A Nine Sixteen R 77.57 56 ⇑P P 23 37 30.0 +0.5
baz=77
ANMO Albuquerque 77.59 54 *e*P P 23 37 30.2 +0.6
comp=Z,88nm,2.8s
W23A Werner Place, 77.62 53 ⇑P P 23 37 30.3 +0.5
baz=78
NRDL Niedersach Rie 77.66 335 *e*P P 23 37 29.6 +0.2
comp=Z,67nm,1.5s
T26A Comanche Natio 77.68 50 ⇓P P 23 37 29.7 -0.4
baz=78,SNR=5.7
DRGR 77.68 324 ⇓*i*P P 23 37 30.2 +0.4
VOIR 77.71 322 ⇓*i*P P 23 37 31.3 +1.3
CLL Collm 77.73 332 ⇑*i*P P 23 37 29.7 -0.1
CLL *i* *PP pP 23 37 42.5 -0.4
CLL pmax pmax
comp=Z,26nm,0.9s
CLL MLR MLR
comp=Z,1μm,19.0s
CLL Collm 77.73 332 *e*P P 23 37 29.6 -0.2
comp=Z,61nm,1.2s
CLL *e*pP pP 23 37 41.7 -1.2
CLL Collm 77.73 332 ⇑*i*P P 23 37 29.7 -0.1
comp=Z,26nm,0.9s
CLL *i* pP pP 23 37 42.5 -0.4
comp=Z,61nm,1.2s
CLL *e*S S 23 47 30.0 +12
CLL LmV 00 16 12.0
comp=Z,1μm,19.0s
CLL Collm 77.73 332 ⇑*i*P P 23 37 29.7 -0.1
V24A Rampart Ranch, 77.74 52 ⇑P P 23 37 31.1 +0.6
baz=78
BR131 Keskin Array S 77.76 313 *e*P P 23 37 30.9 +0.4
comp=Z,5.8nm,0.7s
BRTR Keskin Array B 77.76 313 P P 23 37 31.1 +0.7
BRTR pP pP 23 37 43.5 0.0
BRTR Keskin Array B 77.76 313 P P 23 37 31.1 +0.7
comp=Z,4.1nm,0.7s,baz=76,slow=3.4,SNR=27
BRTR pP pP 23 37 43.5 0.0
comp=Z,9.4nm,0.8s,baz=61,slow=4.4,SNR=18
BRTR LR LR 00 17 56.5
comp=Z,784nm,18.9s,baz=250,slow=40
U25A Circle Dot Ran 77.76 51 ⇑P P 23 37 30.8 +0.3
baz=78
BRG Berggiesshubel 77.77 332 *e*P P 23 37 30.3 +0.2
comp=Z,13nm,1.1s
BRG *i* 23 37 43.1
comp=Z,63nm,1.8s
BRG *e*PP PP 23 40 32.0 +6.9
comp=Z,9.9nm,1.6s
BRG
comp=N,1μm,24.7s
BRG
comp=E,385nm,13.9s
BRG
comp=Z,2μm,20.1s
BRG Berggiesshubel 77.77 332 *e*P P 23 37 30.2 +0.2
comp=Z,63nm,1.8s
BRG *e*pP pP 23 37 42.5 -0.6
P30A Selden 77.82 47 ⇑P P 23 37 30.7 0.0
baz=78
PVCC Panska Ves 77.83 331 *e*P P 23 37 31.2 +0.7
PVCC *e* 23 37 44.6
PVCC Panska Ves 77.83 331 ⇑*e*P P 23 37 31.2 +0.7
PVCC *e*pP pP 23 37 44.6 +1.1
R28A Tribune 77.84 48 ⇓P P 23 37 30.5 -0.4
baz=78
Q29A Oakley 77.90 48 ⇓P P 23 37 31.1 0.0
baz=78
120A U Bar Ranch, L 77.94 57 ⇑P P 23 37 31.8 +0.2
baz=78
ARR Arges 77.95 322 ⇑*i*P P 23 37 33.2 +1.9
PSZ Piszkesteto 77.95 327 *e*P P 23 37 32.3 +1.0
PSZ pmax pmax
comp=Z,55nm,1.2s
PSZ Piszkesteto 77.95 327 ⇑*i*P P 23 37 32.5 +1.2
PSZ Piszkesteto 77.95 327 *e*P P 23 37 32.3 +1.0
comp=Z,55nm,1.2s
PSZ Piszkesteto 77.95 327 ⇑*e*P pP 23 37 45.1 +0.8
Y22A Socorro 77.99 55 ⇓P P 23 37 32.3 +0.4
baz=78
X23A Hourglass Bar 78.00 54 ⇓P P 23 37 32.3 +0.4
baz=78
W24A Lazy 6 Ranch, 78.02 53 ⇓P P 23 37 32.3 +0.3
baz=78,SNR=5.2
V25A Rancho No Teng 78.04 52 ⇓P P 23 37 31.3 -0.9
baz=78
ANTO Ankara 78.10 314 *e*P P 23 37 33.3 +1.0
ANTO pmax pmax
comp=Z,40nm,0.9s
ANTO Ankara 78.10 314 ⇓*i*P P 23 37 33.3 +1.0
ANTO Ankara 78.10 314 *e*P P 23 37 33.3 +1.0
comp=Z,40nm,0.9s
VRAC Vranov 78.11 329 ⇓*i*P P 23 37 33.4 +1.4
CLZ Clausthal 78.14 334 *e*P P 23 37 32.6 +0.4
comp=Z,146nm,1.5s
CLZ *e*pP pP 23 37 45.4 +0.2
U26A Atchley Ranch, 78.14 51 ⇑P P 23 37 31.3 -1.4
baz=78
R29A Marienthal 78.14 48 ⇓P P 23 37 31.5 -1.0
baz=78
Q30A Quinter 78.24 47 ⇑P P 23 37 32.2 -0.8
baz=78
T27A Campo 78.25 50 ⇑P P 23 37 33.0 -0.2
baz=78
PRA Prague 78.27 331 ⇑P P 23 37 34.0 +1.2

LOT Lotru 78.27 323 ⇑*i*P P 23 37 34.0 +0.9
SCHQ Schefferville 78.29 19 *e*P P 23 37 32.9 0.0
SCHQ *e*rx rx 23 37 45.4
SCHQ Schefferville 78.29 19 P P 23 37 32.9 0.0
SCHQ pP pP 23 37 45.4 -0.5
SCHQ Schefferville 78.29 19 P P 23 37 32.9 0.0
comp=Z,4.7nm,0.7s,baz=343,slow=6.6,SNR=5.2
SCHQ pP pP 23 37 45.4 -0.5
comp=Z,18nm,0.9s,baz=348,slow=7.2,SNR=8.2
SCHQ LR LR 00 13 14.9
comp=Z,597nm,21.5s,baz=72,slow=36
P31A Stockton 78.30 46 ⇑P P 23 37 32.7 -0.6
baz=78
PRU Pruhonice 78.30 331 *e*P P 23 37 33.6 +0.6
PRU *e* 23 37 46.5
PRU Pruhonice 78.30 331 ⇑*e*P P 23 37 33.6 +0.6
PRU *e*pP pP 23 37 46.5 +0.4
PRU *e*sP sP 23 37 50.2 -0.9
PRU Pruhonice 78.30 331 *e*P P 23 37 33.6 +0.6
S28A Manter 78.33 49 ⇓P P 23 37 33.4 -0.1
baz=78
319A Douglas 78.34 58 ⇓P P 23 37 34.4 +0.7
baz=78
220A Playas Peak, P 78.45 57 ⇑P P 23 37 34.9 +0.5
baz=78
Z22A Elephant Butte 78.46 55 ⇓P P 23 37 34.9 +0.5
baz=78
121A Cookes Peak, D 78.47 56 *e*P P 23 37 34.6 +0.1
121A Cookes Peak, D 78.47 56 ⇑P P 23 37 35.0 +0.5
baz=78
TREC Trest 78.53 330 *e*P P 23 37 34.8 +0.4
TREC *e* 23 37 48.5
TREC Trest 78.53 330 ⇑*e*P P 23 37 34.8 +0.4
TREC *e*pP pP 23 37 48.5 +1.1
Y23A Lovelace Mesa, 78.53 54 ⇑P P 23 37 35.3 +0.4
baz=78,SNR=8.7
SIRR Siria 78.54 325 ⇑*i*P P 23 37 35.3 +0.8
V26A Tequesquite Ra 78.54 51 ⇑P P 23 37 34.6 -0.3
baz=78
T28A Walsh 78.54 50 ⇓P P 23 37 35.1 +0.4
baz=78
IBBN Ibbenburen 78.55 336 *e*P P 23 37 34.5 +0.2
comp=Z,130nm,1.5s
W25A X Bar L Ranch, 78.56 52 ⇓P P 23 37 35.2 +0.2
baz=78,SNR=5.6
P32A Huiting Farm, 78.63 46 ⇓P P 23 37 34.6 -0.5
baz=78
U27A Thompson Grove 78.64 50 ⇓P P 23 37 35.5 +0.1
baz=78
ESK Eskdalemuir 78.65 343 *e*P P 23 37 34.5 -0.4
ESK Eskdalemuir 78.65 343 *e*P P 23 37 34.5 -0.4
BUD Budapest 78.65 327 ⇑*e* pP 23 37 49.0 +0.9
Q31A Ellis 78.66 47 ⇑P P 23 37 35.5 +0.2
baz=78
TANN Tannenbergstha 78.66 332 *e*P P 23 37 35.4 +0.3
comp=Z,39nm,1.8s
GZR Gura Zlata 78.75 323 ⇓*i*P P 23 37 36.3 +0.6
NKC Novy Kostel 78.82 332 *e*P P 23 37 36.4 +0.4
NKC *e* 23 37 49.2
NKC Novy Kostel 78.82 332 ⇑*e*P P 23 37 36.4 +0.4
NKC *e*pP pP 23 37 49.2 +0.2
NKC *e*sP sP 23 37 53.1 -0.9
Z23A Rita Site, Whi 78.89 55 ⇓P P 23 37 36.6 -0.2
baz=79
X25A Clemmons Ranch 78.93 53 ⇑P P 23 37 37.0 0.0
baz=79
BZS Buzias 79.07 324 ⇑*i*P P 23 37 37.4 0.0
V27A Dan Oppiter Fa 79.11 51 ⇑P P 23 37 37.8 -0.1
baz=79
R31A Burdett 79.11 47 ⇑P P 23 37 37.5 -0.3
baz=79
Q32A Meitler Ranch, 79.12 46 ⇓P P 23 37 37.5 -0.3
baz=79
WTSB Winterswijk 79.13 336 *e*P P 23 37 37.9 +0.4
UBBA Unterbreizbach 79.14 334 *e*P P 23 37 37.7 +0.2
comp=Z,74nm,1.7s
JMB Yambol 79.28 319 ⇓*i*P P 23 37 40.1 +1.5
ROTZ Rotzenmuhle 79.30 332 *e*P P 23 37 39.3 +0.7
comp=Z,48nm,1.4s
Y25A Mesa, Roswell 79.34 53 ⇓P P 23 37 39.2 0.0
baz=79
KHC Kasperske Hory 79.36 331 ⇑*i*P P 23 37 39.4 +0.5
KHC *e* 23 37 52.6
KHC Kasperske Hory 79.36 331 ⇑*i*P P 23 37 39.4 +0.5
KHC *e*pP pP 23 37 52.6 +0.6
KHC *e*sP sP 23 37 56.1 -0.9
KHC *ex* x 23 38 02.5
KHC Kasperske Hory 79.36 331 ⇑*i*P P 23 37 39.4 +0.5
KHC Kasperske Hory 79.36 331 *e*P P 23 37 39.5 +0.5
comp=Z,33nm,1.0s
Z24A Sheeppen Canyo 79.36 54 ⇓P P 23 37 39.6 +0.2
baz=79
BUG Bochum--Univer 79.45 336 *e*P P 23 37 39.3 0.0
comp=Z,133nm,1.7s
BUG *e*pP pP 23 37 52.2 -0.2
R32A Long Quarter, 79.45 47 ⇑P P 23 37 38.8 -0.8
baz=79
SOP Sopron 79.46 328 ⇑*e* pP 23 37 53.5 +1.0
V28A Channing 79.46 51 ⇑P P 23 37 39.7 -0.1
baz=79
W27A Bowe Ranch, En 79.48 52 ⇑P P 23 37 39.6 -0.4
baz=79
Q33A Connelly Farm, 79.49 46 ⇓P P 23 37 38.9 -0.9
baz=79
CONA Conrad Observa 79.52 329 ⇑*i*P P 23 37 41.1 +1.2
comp=Z,49nm,1.4s
GEC2 GERESS Array S 79.55 331 *e*P P 23 37 40.6 +0.5
GEC2 GERESS Array S 79.55 331 *e*P P 23 37 40.2 +0.2
comp=Z,46nm,1.7s
GEC2 GERESS Array S 79.55 331 *e*P P 23 37 40.6 +0.5
GERES GERESS Array B 79.55 331 *e*P P 23 37 40.3 +0.2
GERES *e*rx rx 23 37 53.3
GERES GERESS Array B 79.55 331 P P 23 37 40.3 +0.2
GERES *e*pP pP 23 37 53.3 +0.1
GERES GERESS Array B 79.55 331 P P 23 37 40.3 +0.2
comp=Z,3.5nm,0.8s,baz=32,slow=5.2,SNR=32
GERES pP pP 23 37 53.3 +0.1
comp=Z,2.5nm,0.6s,baz=40,slow=5.2,SNR=9.0
GERES LR LR 00 17 12.3
comp=Z,928nm,19.0s,baz=25,slow=39
WET Wettzell 79.59 331 *e*P P 23 37 40.7 +0.5
comp=Z,70nm,1.4s
GRF Grafenberg Arr 79.70 332 *e*P P 23 37 41.3 +0.6
comp=Z,104nm,1.4s
GRF *e*pP pP 23 37 54.1 +0.3
GRFO Grafenberg 79.70 332 *e*P P 23 37 41.5 +0.8
GRFO pmax pmax
comp=Z,62nm,1.2s
GRFO Grafenberg 79.70 332 *e*P P 23 37 41.5 +0.8
comp=Z,62nm,1.2s
124A Stringfield Ra 79.75 55 ⇑P P 23 37 41.5 -0.1
baz=80
V29A Stinnett 79.77 50 ⇑P P 23 37 41.3 -0.2
baz=80
Z25A Roswell 79.78 54 ⇑P P 23 37 41.9 +0.3
baz=80
PKSM Moragy 79.84 326 ⇓*i*P P 23 37 41.5 0.0
PKSM Moragy 79.84 326 ⇑P pP 23 37 54.4 -0.2
Y26A Elida 79.85 53 ⇓P P 23 37 42.5 +0.5
baz=80
T31A Randall Ranch, 79.90 48 ⇓P P 23 37 41.6 -0.5
baz=80
R33A Olander Ranch, 79.92 46 ⇑P P 23 37 41.4 -0.8
baz=80
224A Cornudas Mount 80.15 55 ⇑P P 23 37 43.8 +0.1
baz=80,SNR=5.5
MOA Molln 80.18 330 ⇑*i*P P 23 37 43.9 +0.5
comp=Z,24nm,1.7s
Z26A Caprock 80.22 53 ⇓P P 23 37 44.0 0.0
baz=80,SNR=8.5
T32A Huddler Ranch, 80.25 48 ⇑P P 23 37 43.8 -0.2
baz=80
125A Gardner Draw, 80.26 54 ⇑P P 23 37 44.3 +0.1
baz=80,SNR=5.7
Y27A Causey 80.26 52 ⇓P P 23 37 44.1 -0.1
baz=80
U31A Nine Bar Ranch 80.34 49 ⇑P P 23 37 44.6 +0.1
baz=80
NWAO Narrogin (SRO) 80.39 205 pP pP 23 37 57.4 -0.2
NWAO Narrogin (SRO) 80.39 205 pP pP 23 37 57.4 -0.2
comp=Z,15nm,0.8s,baz=5.9,slow=5.3,SNR=3.4
AMTX Amarillo 80.40 51 ⇓P P 23 37 44.3 -0.6
baz=80
MSTX Muleshoe 80.43 52 ⇑P P 23 37 45.2 +0.1
baz=80
HGN Heimansgroeve 80.45 336 *e*P P 23 37 44.8 +0.1

comp=Z,14nm,1.1s
MNTX Cornudas Mount 80.50 55 *e*P P 23 37 45.1 -0.3
comp=Z,16nm,1.0s
225A Deer Hill, Car 80.55 55 ⇓P P 23 37 45.8 -0.1
baz=80
MEM Membach 80.56 336 P P 23 37 45.9 +0.5
comp=Z,28nm,1.7s
MEM Membach 80.56 336 *e*P P 23 37 46.4 +1.1
MEM pmax pmax
comp=Z,51nm,1.2s
MEM Membach 80.56 336 *e*P P 23 37 46.4 +1.1
comp=Z,50nm,1.2s
324A Moseley Ranch, 80.62 56 ⇑P P 23 37 46.5 +0.2
baz=80
Z27A Tatum 80.64 53 ⇓P P 23 37 46.2 0.0
baz=80,SNR=12
126A Clayton Basin, 80.64 54 ⇓P P 23 37 46.7 +0.4
baz=80
VTS Vitosha 80.76 321 ⇑*i*P P 23 37 47.6 +0.9
V31A Spring Creek L 80.78 49 ⇑P P 23 37 47.3 +0.4
baz=81
RJOB Jochberg 80.81 331 *e*P P 23 37 47.5 +0.7
comp=Z,32nm,1.1s
SOKA Soboth 80.87 329 ⇑*i*P P 23 37 47.5 +0.3
comp=Z,41nm,1.3s
GROS Grobnik 80.87 328 *e*P P 23 37 47.2 0.0
GROS *e*pP **pP** 23 38 00.2 -0.1
PERS Pernice 80.88 329 *e*P P 23 37 47.5 +0.3
PERS *e*pP **pP** 23 38 00.4 +0.1
226B Tecolote Peak, 80.96 54 ⇑⇑P P 23 37 48.1 +0.2
baz=81,SNR=7.5
325A Bean Ranch, Si 80.98 55 ⇓P P 23 37 48.1 0.0
baz=81,SNR=5.8
FUR Furstenfeldbru 80.99 332 *e*P P 23 37 48.1 +0.4
comp=Z,80nm,1.3s
FUR *e*pP **pP** 23 38 00.9 +0.1
W31A Holland Ranch, 81.15 50 ⇓P P 23 37 49.3 +0.5
baz=81
STU Stuttgart 81.17 333 *e*P P 23 37 48.7 +0.1
STU pmax pmax
comp=Z,59nm,1.3s
STU Stuttgart 81.17 333 *e*P P 23 37 48.7 +0.1
comp=Z,48nm,1.1s
STU *e*pP **pP** 23 38 01.8 +0.1
STU Stuttgart 81.17 333 *e*P P 23 37 48.7 +0.1
comp=Z,59nm,1.3s
V32A Arapaho 81.26 49 ⇑P P 23 37 50.2 +0.8
baz=81
MMB Musomiste 81.30 320 ⇓*i*P P 23 37 50.6 +1.1
WLF Walferdange 81.36 335 *e*P P 23 37 50.2 +0.6
comp=Z,123nm,2.2s
GIVF Givet 81.37 336 *e*P P 23 37 49.4 -0.2
GIVF Givet 81.37 336 *e*P P 23 37 49.4 -0.2
GIVF Givet 81.37 336 *e*P P 23 37 49.4 -0.2
LEGS Legarje 81.37 328 *e*P P 23 37 49.6 -0.2
LEGS *e*pP **pP** 23 38 02.3 -0.6
425A Indio Mountain 81.39 56 ⇓P P 23 37 49.9 -0.4
baz=81,SNR=9.0
CSS Prodhromos 81.40 310 *e*P P 23 37 49.9 -0.2
DOU Dourbes 81.44 336 P P 23 37 50.4 +0.4
LANF Langenberg 81.44 334 *e*P P 23 37 50.4 +0.3
227A Bennet, Jal 81.53 54 ⇓P P 23 37 50.6 -0.3
baz=81
X31A McDonald Ranch 81.54 50 ⇓P P 23 37 50.6 -0.3
baz=81
U34A Anderson Ranch 81.55 47 ⇓P P 23 37 50.1 -0.8
baz=81
Z29A Hungry Hill Ra 81.56 52 ⇓P P 23 37 50.9 -0.2
baz=81
128A Castleberry Fa 81.56 53 ⇑P P 23 37 51.2 +0.1
baz=81,SNR=7.3
Y30A Stafford Cattl 81.57 51 ⇓P P 23 37 50.3 -0.8
baz=81
WATA Walderalm 81.59 331 ⇓*i*P P 23 37 51.5 +0.4
comp=Z,11nm,0.7s,SNR=7.3
V33A Lossen Ranch, 81.60 48 ⇓P P 23 37 50.3 -0.9
baz=81
326A Caldwell Ranch 81.62 55 ⇑P P 23 37 51.5 +0.1
baz=82,SNR=6.5
WTTA Wattenberg 81.63 331 ⇑*i*P P 23 37 52.0 +0.7
comp=Z,54nm,1.4s
OUZ Omahuta 81.74 158 *e*P P 23 37 54.4 +2.8
comp=Z,20nm,1.2s
RETA Reutte 81.75 332 ⇑*i*P P 23 37 52.1 +0.3
comp=Z,40nm,1.6s
MOTA Moosalm 81.75 331 ⇓*i*P P 23 37 52.2 +0.3
comp=Z,48nm,1.2s,SNR=11
BFO Black Forest 81.84 333 *e*P P 23 37 51.8 -0.4
BFO pmax pmax
comp=Z,43nm,1.4s
BFO Black Forest 81.84 333 *e*P P 23 37 52.2 0.0
comp=Z,78nm,1.8s
BFO *e*pP **pP** 23 38 05.2 -0.1
BFO Black Forest 81.84 333 *e*P P 23 37 51.8 -0.4
comp=Z,43nm,1.4s
228A UT Block 9, Go 81.86 53 ⇑P P 23 37 52.9 +0.2
baz=82
Z30A Sanderson Ranc 81.87 52 ⇓P P 23 37 52.8 +0.1
baz=82
Y31A Rekieta Farm, 81.87 51 ⇑P P 23 37 52.7 +0.1
baz=82
W33A Caddo, Fort Co 82.00 49 ⇓P P 23 37 53.9 +0.6
baz=82
V34A Guthrie 82.01 48 ⇑P P 23 37 53.5 +0.2
baz=82
426A McDonald Obser 82.05 55 ⇑P P 23 37 54.2 +0.3
baz=82
SKO Skopje 82.05 322 *e*P P 23 37 53.4 0.0
VAY Valandovo 82.05 321 *e*P P 23 37 53.3 -0.1
X32A Elmer 82.08 50 ⇓P P 23 37 54.2 +0.5
baz=82
CDF Champ du Feu 82.11 334 *e*P P 23 37 53.7 0.0
comp=Z,24nm,1.0s
CDF *e*pP **pP** 23 38 06.9 +0.1
CDF Champ du Feu 82.11 334 *e*P P 23 37 53.7 0.0
CDF *e**PP **pP** 23 38 06.9 +0.1
CDF pmax pmax
comp=Z,25nm,1.0s
CDF Champ du Feu 82.11 334 *e*P P 23 37 53.7 0.0
comp=Z,24nm,1.0s
CDF *e*pP **pP** 23 38 06.9 +0.1
WMOK Wichita Mounta 82.13 49 *e*P P 23 37 54.3 +0.3
WMOK pmax pmax
comp=Z,35nm,1.8s
WMOK Wichita Mounta 82.13 49 *e*P P 23 37 54.3 +0.3
comp=Z,35nm,1.8s
FETA Feichten 82.16 331 ⇑*i*P P 23 37 54.5 +0.4
comp=Z,28nm,1.5s
DAVA Damuels 82.22 332 ⇑*i*P P 23 37 54.9 +0.4
comp=Z,49nm,1.5s
328A Wristen Ranch, 82.26 54 ⇓P P 23 37 55.1 +0.3
baz=82,SNR=11
427A Hayter Ranch, 82.29 55 ⇓P P 23 37 55.1 +0.1
baz=82
W34A Bridge Creek, 82.31 48 ⇓P P 23 37 55.8 +0.9
baz=82
ECH Echery 82.32 334 *e*P P 23 37 57.6 +2.9
ECH Echery 82.32 334 *e*P P 23 37 54.3 -0.4
ECH pmax pmax
comp=Z,39nm,1.3s
ECH Echery 82.32 334 *e*P P 23 37 54.3 -0.4
comp=Z,39nm,1.3s
FELD Feldberg im Sc 82.34 333 *e*P P 23 37 54.7 -0.3
Z31A Sharp Cattle R 82.41 51 ⇓P P 23 37 55.5 0.0
baz=82
229A Bryant Ranch, 82.43 53 ⇓P P 23 37 56.0 +0.3
baz=82
526A Mary Lane Ranc 82.44 56 ⇑P P 23 37 55.9 0.0
baz=82,SNR=6.7
130A Snyder 82.46 52 ⇓P P 23 37 55.4 -0.4
baz=82
PAGF Fort de Pagny 82.47 335 *e*P P 23 37 55.7 +0.2
comp=Z,9.0nm,1.0s
PAGF *e*pP **pP** 23 38 09.1 +0.5
PAGF Fort de Pagny 82.47 335 *e*P P 23 37 55.7 +0.2
comp=Z,9.0nm,1.0s
PAGF *e*pP **pP** 23 38 09.1 +0.5
MOF Molkenrain 82.65 334 *e*P P 23 37 59.0 +2.5
FUORN Ofenpass-Fuorn 82.67 331 *e*P P 23 37 57.4 +0.6
comp=Z,36nm,1.1s
329A Wagon Wheel Ra 82.68 53 ⇑P P 23 37 57.0 +0.1
baz=82,SNR=9.0
THEF They Montfort 82.68 335 *e*P P 23 37 55.7 -0.9
MEZF Maizieres J'vi 82.72 335 *e*P P 23 37 57.0 +0.2
MEZF *e*pP **pP** 23 38 10.3 +0.4
MEZF Maizieres J'vi 82.72 335 *e*P P 23 37 57.0 +0.2
MEZF *e*pP **pP** 23 38 10.3 +0.4
131A Roby 82.74 52 ⇑P P 23 37 57.4 +0.2
baz=83
X34A Smith Ranch, M 82.75 49 ⇑P P 23 37 58.0 +0.7
baz=83
Y33A Hilltop Ranch, 82.75 50 ⇓P P 23 37 57.7 +0.5
baz=83
HAU Haudompre 82.76 334 *e*P P 23 37 56.9 -0.1
HAU *e*R
comp=Z,1µm,19.8s
HAU Haudompre 82.76 334 *e*P P 23 37 56.9 -0.1
HAU Haudompre 82.76 334 *e*P P 23 37 56.9 -0.1
HINF Hinteralfeld 82.77 334 *e*P P 23 37 56.7 -0.4
HINF Hinteralfeld 82.77 334 *e*P P 23 37 56.7 -0.4
HINF Hinteralfeld 82.77 334 *e*P P 23 37 56.7 -0.4
626A Big Bend Ranch 82.78 56 ⇓P P 23 37 57.5 0.0
baz=83,SNR=6.5
Z32A Haskell 82.79 51 ⇓P P 23 37 57.3 -0.1
baz=83
428A Kincaid Ranch, 82.81 54 ⇑P P 23 37 57.8 +0.1
baz=83,SNR=7.4
BIA Bitola 82.86 322 *e*P P 23 37 57.0 -0.7
TUL1 Tulsa 82.88 47 *e*P P 23 37 57.9 +0.1
comp=Z,20nm,1.0s
TUL1 Tulsa 82.88 47 ⇓P P 23 37 57.6 -0.2
baz=83
230A Sterling City 82.89 53 ⇓P P 23 37 58.0 0.0
baz=83,SNR=7.7
SFTF Sexfontaines 82.99 335 *e*P P 23 37 58.0 -0.2
comp=Z,21nm,1.0s
SFTF *e*pP **pP** 23 38 11.5 +0.2
SFTF Sexfontaines 82.99 335 *e*P P 23 37 58.0 -0.2
comp=Z,21nm,1.0s
SFTF *e*pP **pP** 23 38 11.5 +0.2
TUE Stuetta 83.11 332 *e*P P 23 37 59.7 +0.6
comp=Z,47nm,1.4s
PMOR Pomariorio Ree 83.12 118 *e*T T 01 09 24.9
comp=Z,36nm,0.2s
528A Cox Ranch, San 83.16 55 ⇓P P 23 37 59.3 -0.2
baz=83,SNR=5.5
LOMF Lomont 83.19 334 *e*P P 23 37 59.0 -0.3
ABTX Abilene, Hawle 83.20 51 *e*P P 23 38 00.5 +0.8
ABTX Abilene, Hawle 83.20 51 ⇑P P 23 37 59.1 -0.5
baz=83
330A Mertzon 83.21 53 ⇑P P 23 37 59.4 -0.3
baz=83
Z33A Whitaker Ranch 83.21 50 ⇑P P 23 37 59.1 -0.5
baz=83
TXAR Lajitas Array 83.22 56 *e*P P 23 38 00.0 +0.1
TXAR Lajitas Array 83.22 56 P P 23 37 60.0 +0.1
TXAR Lajitas Array 83.22 56 P P 23 37 60.0 +0.1
comp=Z,3.3nm,0.7s,baz=299,slow=4.1,SNR=41
TXAR LR LR 00 15 40.3
comp=Z,137nm,18.7s,baz=60,slow=36
Y34A Reagan Ranch, 83.27 49 ⇑P P 23 38 00.2 +0.3
baz=83
627A Terlingua Ranc 83.31 56 ⇑P P 23 38 00.2 -0.1
baz=83
231A Bronte 83.32 52 ⇑P P 23 37 59.6 -0.6
baz=83
429A Davenport Ranc 83.35 54 ⇑P P 23 38 00.2 -0.3
baz=83
529A Stev Forest Ra 83.52 54 ⇓P P 23 38 01.2 -0.1
baz=83,SNR=8.6
628A Black Gap, Mar 83.58 55 ⇓P P 23 38 01.9 +0.3
baz=83
Z34A Collier Ranch, 83.62 50 ⇓P P 23 38 01.9 +0.1
baz=83
430A Baggett Ranch, 83.62 53 ⇑P P 23 38 01.7 -0.2
baz=84
SFIN Scholer Farm 83.69 38 ⇑P P 23 38 01.6 -0.3
baz=84
331A San Angelo 83.72 53 ⇓P P 23 38 02.4 +0.1
baz=84
232A Coleman 83.74 52 ⇓P P 23 38 02.0 -0.4
baz=84
SENIN Lac Senin/Sane 83.90 333 *e*P P 23 38 03.6 +0.5
comp=Z,89nm,1.9s
PPT Papeete 83.95 121 LR LR 00 06 28.3
comp=Z,498nm,20.7s,baz=220,slow=29
PPT2 Papeete2 83.96 121 *e*LR LR 00 04 30.0
comp=Z,1µm,23.2s
530A J-C Ranch, Com 84.03 54 ⇓P P 23 38 03.8 -0.1
baz=84,SNR=5.6
332A Millersview 84.06 52 ⇓P P 23 38 03.6 -0.4
baz=84
FLN La Foliniere 84.06 339 *e*P P 23 38 03.6 0.0
FLN *e*pP **pP** 23 38 17.0 +0.2
FLN *e*R
comp=Z,883nm,21.0s
FLN La Foliniere 84.06 339 *e*P P 23 38 03.6 0.0
FLN *e**PP **pP** 23 38 17.0 +0.2
FLN La Foliniere 84.06 339 *e*P P 23 38 03.6 0.0
FLN *e*rx rx 23 38 17.0
FLN La Foliniere 84.06 339 *e*P P 23 38 03.6 0.0
FLN *e*pP **pP** 23 38 17.0 +0.2
431A Sonora 84.07 53 ⇓P P 23 38 04.0 -0.1
baz=84
CABF La Chapelle 84.08 334 *e*P P 23 38 03.9 0.0
comp=Z,6.9nm,0.9s
CABF La Chapelle 84.08 334 *e*P P 23 38 03.9 0.0
CABF pmax pmax
comp=Z,7.0nm,0.9s
CABF La Chapelle 84.08 334 *e*P P 23 38 03.9 0.0
comp=Z,6.9nm,0.9s
LDF La Druitiere 84.12 339 *e*P P 23 38 04.3 +0.4
LDF La Druitiere 84.12 339 *e*P P 23 38 04.3 +0.4
LDF La Druitiere 84.12 339 *e*P P 23 38 04.3 +0.4
134A White-Moore Ra 84.12 50 ⇓P P 23 38 04.4 +0.1
baz=84
LOR Lormes 84.19 336 *e*P P 23 38 04.3 -0.1
comp=Z,16nm,0.8s
LOR *e*R
comp=Z,881nm,19.0s
LOR Lormes 84.19 336 *e*P P 23 38 04.3 -0.1
comp=Z,16nm,0.8s
432A Menard 84.40 52 ⇑P P 23 38 05.8 0.0
baz=84
SSF Saint Saulge 84.48 336 *e*P P 23 38 05.9 +0.1
comp=Z,13nm,0.9s
SSF *e*pP **pP** 23 38 19.2 +0.2
SSF Saint Saulge 84.48 336 *e*P P 23 38 05.9 +0.1
SSF *e**PP **pP** 23 38 19.2 +0.2
SSF pmax pmax
comp=Z,13nm,0.9s
SSF Saint Saulge 84.48 336 *e*P P 23 38 05.9 +0.1
SSF *e*rx rx 23 38 19.2
SSF Saint Saulge 84.48 336 *e*P P 23 38 05.9 +0.1
comp=Z,13nm,0.9s
SSF *e*pP **pP** 23 38 19.2 +0.2
531A Rocksprings 84.48 53 ⇓P P 23 38 06.0 -0.3
baz=84
GRR Gorron 84.50 339 *e*P P 23 38 06.1 +0.2
GRR Gorron 84.50 339 *e*P P 23 38 06.1 +0.2
GRR Gorron 84.50 339 *e*P P 23 38 06.1 +0.2
135A Vickery Place, 84.51 50 ⇓P P 23 38 06.6 +0.4
baz=84
333A Richland Sprin 84.54 52 ⇓P P 23 38 06.6 +0.1
baz=84
JCT Junction City 84.69 53 *e*P P 23 38 07.4 +0.2
JCT pmax pmax
comp=Z,27nm,0.9s
JCT Junction City 84.69 53 *e*P P 23 38 07.4 +0.2
comp=Z,27nm,0.9s
JCT Junction City 84.69 53 ⇓P P 23 38 06.5 -0.8
baz=84
VLC Villacollemand 84.74 330 *e*P P 23 38 07.4 +0.2
SMF Signal de Mont 84.75 335 *e*P P 23 38 07.4 +0.2
comp=Z,35nm,1.0s
SMF Signal de Mont 84.75 335 *e*P P 23 38 07.4 +0.2
SMF pmax pmax
comp=Z,35nm,1.0s
SMF Signal de Mont 84.75 335 *e*P P 23 38 07.4 +0.2
comp=Z,35nm,1.0s
AVF Avril sur Loir 84.77 336 *e*P P 23 38 07.5 +0.2
comp=Z,26nm,1.0s
AVF *e*pP **pP** 23 38 20.8 +0.4
AVF Avril sur Loir 84.77 336 *e*P P 23 38 07.5 +0.2
AVF *e**PP **pP** 23 38 20.8 +0.4
AVF pmax pmax
comp=Z,26nm,1.0s
AVF Avril sur Loir 84.77 336 *e*P P 23 38 07.5 +0.2
AVF *e*rx rx 23 38 20.8
AVF Avril sur Loir 84.77 336 *e*P P 23 38 07.5 +0.2
comp=Z,26nm,1.0s
AVF *e*pP **pP** 23 38 20.8 +0.4
SIUC Southern Illin 84.82 41 *e*P P 23 38 07.9 +0.3
comp=Z,40nm,0.8s
LPL La Plagne 84.83 333 *e*P P 23 38 08.3 +0.4
comp=Z,21nm,1.1s
LPL *e*pP **pP** 23 38 21.8 +0.7
LPL La Plagne 84.83 333 *e*P P 23 38 08.3 +0.4
LPL *e**PP **pP** 23 38 21.8 +0.7
LPL pmax pmax
comp=Z,21nm,1.1s
LPL La Plagne 84.83 333 *e*P P 23 38 08.3 +0.4
LPL *e*rx rx 23 38 21.8
LPL La Plagne 84.83 333 *e*P P 23 38 08.3 +0.4
comp=Z,21nm,1.1s
LPL *e*pP **pP** 23 38 21.8 +0.7
LPG La Plagne 84.84 333 *e*P P 23 38 08.6 +0.5
comp=Z,12nm,0.8s
LPG *e*pP **pP** 23 38 22.0 +0.8
LPG La Plagne 84.84 333 *e*P P 23 38 08.6 +0.5
LPG *e**PP **pP** 23 38 22.0 +0.8
LPG pmax pmax
comp=Z,12nm,0.8s
LPG La Plagne 84.84 333 *e*P P 23 38 08.6 +0.5
LPG *e*rx rx 23 38 22.0
LPG La Plagne 84.84 333 *e*P P 23 38 08.6 +0.5
comp=Z,12nm,0.8s
LPG *e*pP **pP** 23 38 22.0 +0.8
532A Rocksprings 84.89 53 ⇑P P 23 38 08.2 0.0
baz=85
433A Art 84.90 52 ⇓P P 23 38 08.4 +0.1
baz=85
WHTX Lake Whitney 84.91 50 ⇑P P 23 38 07.9 -0.3
baz=85
334A Lometa 84.96 51 ⇑P P 23 38 08.8 +0.3
baz=85
631A Perdido Creek 85.02 54 ⇑P P 23 38 08.5 -0.3
baz=85,SNR=10.0
SGMF Saint Gilles 85.06 340 *e*P P 23 38 09.2 +0.5
comp=Z,37nm,1.0s
SGMF *e*pP **pP** 23 38 22.7 +0.8
SGMF Saint Gilles 85.06 340 *e*P P 23 38 09.2 +0.5
SGMF *e**PP **pP** 23 38 22.7 +0.8
SGMF pmax pmax
comp=Z,37nm,1.0s
SGMF Saint Gilles 85.06 340 *e*P P 23 38 09.2 +0.5
SGMF *e*rx rx 23 38 22.7
SGMF Saint Gilles 85.06 340 *e*P P 23 38 09.2 +0.5
comp=Z,37nm,1.0s
SGMF *e*pP **pP** 23 38 22.7 +0.8
MIAR Mount Ida 85.09 46 *e*P P 23 38 09.3 +0.2
MIAR pmax pmax
comp=Z,22nm,0.8s
MIAR Mount Ida 85.09 46 *e*P P 23 38 09.3 +0.2
comp=Z,22nm,0.8s
BGF Bois d'Agland 85.13 336 *e*P P 23 38 09.3 +0.2
BGF Bois d'Agland 85.13 336 *e*P P 23 38 09.3 +0.2
BGF Bois d'Agland 85.13 336 *e*P P 23 38 09.3 +0.2
MEH Mehetia 85.13 120 *e*T T 01 11 55.5
comp=Z,14nm,0.3s
ROSF Rostrenen 85.16 340 *e*P P 23 38 09.8 +0.6
comp=Z,91nm,1.3s
ROSF Rostrenen 85.16 340 *e*P P 23 38 09.8 +0.6
ROSF pmax pmax
comp=Z,91nm,1.3s
ROSF Rostrenen 85.16 340 *e*P P 23 38 09.8 +0.6
comp=Z,91nm,1.3s
BNI Bardonecchia 85.26 333 *e*P P 23 38 09.8 -0.2
BNI pmax pmax
comp=Z,16nm,1.1s
BNI Bardonecchia 85.26 333 *e*P P 23 38 09.8 -0.2
comp=Z,16nm,1.1s
434A Burnet 85.33 51 ⇓P P 23 38 10.7 +0.3
baz=85
632A Uvalde 85.41 53 ⇓P P 23 38 10.9 0.0
baz=85
533A Kerrville 85.43 52 ⇓P P 23 38 11.3 +0.4
baz=85
AGO Saint Agoulin 85.50 336 *e*P P 23 38 11.8 +0.8
MBDF Montbardon 85.52 333 *e*P P 23 38 11.3 0.0
MBDF Montbardon 85.52 333 *e*P P 23 38 11.3 0.0
MBDF Montbardon 85.52 333 *e*P P 23 38 11.3 0.0
QUIF Quistinic 85.53 340 *e*P P 23 38 11.4 +0.4
comp=Z,72nm,1.1s
QUIF Quistinic 85.53 340 *e*P P 23 38 11.4 +0.4
QUIF pmax pmax
comp=Z,72nm,1.1s
QUIF Quistinic 85.53 340 *e*P P 23 38 11.4 +0.4
comp=Z,72nm,1.1s
TCF Toulx Ste Croi 85.56 336 *e*P P 23 38 11.7 +0.4
comp=Z,44nm,1.2s
TCF *e*pP **pP** 23 38 25.3 +0.8
TCF Toulx Ste Croi 85.56 336 *e*P P 23 38 11.7 +0.4
TCF *e**PP **pP** 23 38 25.3 +0.8
TCF pmax pmax
comp=Z,44nm,1.2s
TCF Toulx Ste Croi 85.56 336 *e*P P 23 38 11.7 +0.4
TCF *e*rx rx 23 38 25.3
TCF Toulx Ste Croi 85.56 336 *e*P P 23 38 11.7 +0.4
comp=Z,44nm,1.2s
TCF *e*pP **pP** 23 38 25.3 +0.8
ORIF Oris-en-Rattie 85.64 333 *e*P P 23 38 12.3 +0.5
comp=Z,16nm,1.1s
ORIF *e*pP **pP** 23 38 25.7 +0.7
ORIF *e*R
comp=Z,1µm,22.5s
ORIF Oris-en-Rattie 85.64 333 *e*P P 23 38 12.3 +0.5
ORIF *e**PP **pP** 23 38 25.7 +0.7
ORIF pmax pmax
comp=Z,17nm,1.1s
ORIF Oris-en-Rattie 85.64 333 *e*P P 23 38 12.3 +0.5
comp=Z,16nm,1.1s
ORIF *e*pP **pP** 23 38 25.7 +0.7
IDI Anoyia 85.66 316 *e*P P 23 38 12.5 +0.4
534A Blanco 85.79 52 ⇓P P 23 38 13.0 +0.3
baz=86
PYM Petit Puy Mans 85.81 335 *e*P P 23 38 13.4 +0.8
SAOF Saorge 85.90 332 *e*P P 23 38 13.9 +0.9
AUTN L'Aution 85.94 332 *e*P P 23 38 11.7 -1.8
MFF Saint Martin d 85.95 338 *e*P P 23 38 13.7 +0.5
comp=Z,18nm,0.8s
MFF *e*pP **pP** 23 38 27.2 +0.8
MFF Saint Martin d 85.95 338 *e*P P 23 38 13.7 +0.5
MFF *e**PP **pP** 23 38 27.2 +0.8
MFF pmax pmax
comp=Z,18nm,0.8s
MFF Saint Martin d 85.95 338 *e*P P 23 38 13.7 +0.5
MFF *e*rx rx 23 38 27.2
MFF Saint Martin d 85.95 338 *e*P P 23 38 13.7 +0.5
comp=Z,18nm,0.8s
MFF *e*pP **pP** 23 38 27.2 +0.8
TOUF Mont Tournerai 85.98 332 *e*P P 23 38 16.6 +3.0
SBF Sospel 86.05 332 *e*P P 23 38 13.4 -0.4
SBF Sospel 86.05 332 *e*P P 23 38 13.4 -0.4
SBF Sospel 86.05 332 *e*P P 23 38 13.4 -0.4
LUCF Luceram 86.06 332 *e*P P 23 38 14.8 +0.9
VIVF Saint-Julien-l 86.09 334 *e*P P 23 38 14.5 +0.5
comp=Z,18nm,0.9s
VIVF Saint-Julien-l 86.09 334 *e*P P 23 38 14.5 +0.5
VIVF pmax pmax
comp=Z,18nm,0.9s
VIVF Saint-Julien-l 86.09 334 *e*P P 23 38 14.5 +0.5
comp=Z,18nm,0.9s
MVIF Mont Vial 86.12 332 *e*P P 23 38 14.2 -0.1
REVF Revere 86.18 332 *e*P P 23 38 18.9 +4.5
CALN Calern 86.33 332 *e*P P 23 38 16.3 +1.0
SMRF Simiane la Rot 86.58 333 *e*P P 23 38 16.8 +0.4
SMRF Simiane la Rot 86.58 333 *e*P P 23 38 16.8 +0.4
FRF La Foret Royal 86.59 332 *e*P P 23 38 16.0 -0.4
FRF *e*pP **pP** 23 38 29.6 0.0
FRF La Foret Royal 86.59 332 *e*P P 23 38 16.0 -0.4
FRF *e**PP **pP** 23 38 29.6 0.0
FRF La Foret Royal 86.59 332 *e*P P 23 38 16.0 -0.4
FRF *e*pP **pP** 23 38 29.6 0.0
PGF Pioggiola 86.64 330 *e*P P 23 38 16.5 -0.3
PGF Pioggiola 86.64 330 *e*P P 23 38 16.5 -0.3
PGF Pioggiola 86.64 330 *e*P P 23 38 16.5 -0.3
RJF Les Rejaudoux 86.66 336 *e*P P 23 38 17.3 +0.6
RJF *e*R
comp=Z,1µm,20.2s
RJF Les Rejaudoux 86.66 336 *e*P P 23 38 17.3 +0.6
RJF Les Rejaudoux 86.66 336 *e*P P 23 38 17.3 +0.6
WVT Waverly 86.75 41 *e*P P 23 38 17.2 -0.1
WVT Waverly 86.75 41 *e*P P 23 38 17.2 -0.1
LMR La Mourre 86.83 332 *e*P P 23 38 17.5 -0.1
comp=Z,32nm,1.0s

LMR	**La Mourre**	**86.83**	**332**	*e*P	**P**		**23 38 17.5**	**-0.1**
LMR				pmax	pmax				
	comp=Z,32nm,1.0s								
LMR	**La Mourre**	**86.83**	**332**	*e*P	**P**		**23 38 17.5**	**-0.1**
	comp=Z,32nm,1.0s								
CAF	**Calviac**	**86.84**	**336**	*e*P	**P**		**23 38 18.7**	**+1.1**
	comp=Z,42nm,1.1s								
CAF	**Calviac**	**86.84**	**336**	*e*P	**P**		**23 38 18.7**	**+1.1**
CAF				pmax	pmax				
	comp=Z,43nm,1.1s								
CAF	**Calviac**	**86.84**	**336**	*e*P	**P**		**23 38 18.7**	**+1.1**
	comp=Z,42nm,1.1s								
LASF	**Ste Croix**	**87.05**	**334**	*e*P	**P**		**23 38 19.5**	**+0.8**
LASF				*e*pP	**pP**		**23 38 33.0**	**+1.1**
LASF	**Ste Croix**	**87.05**	**334**	*e*P	**P**		**23 38 19.5**	**+0.8**
LASF				*e*pP	**pP**		**23 38 33.0**	**+1.1**
LFF	**La Frestale**	**87.22**	**337**	*e*P	**P**		**23 38 20.3**	**+0.9**
LFF				*e*pP	**pP**		**23 38 33.8**	**+1.2**
LFF	**La Frestale**	**87.22**	**337**	*e*P	**P**		**23 38 20.3**	**+0.9**
LFF				*e*'PP	**pP**		**23 38 33.8**	**+1.2**
LFF	**La Frestale**	**87.22**	**337**	*e*P	**P**		**23 38 20.3**	**+0.9**
LFF				*e*pP	**pP**		**23 38 33.8**	**+1.2**
MTLF	**Montolieu**	**88.23**	**335**	*e*P	**P**		**23 38 25.2**	**+0.9**
MTLF				*e*pP	**pP**		**23 38 38.7**	**+1.2**
MTLF	**Montolieu**	**88.23**	**335**	*e*P	**P**		**23 38 25.2**	**+0.9**
MTLF				*e*'PP	**pP**		**23 38 38.7**	**+1.2**
MTLF	**Montolieu**	**88.23**	**335**	*e*P	**P**		**23 38 25.2**	**+0.9**
MTLF				*e*pP	**pP**		**23 38 38.7**	**+1.2**
TBI	**Tubuai**	**88.35**	**124**	*e*LR	LR		00 06 33.5	
	comp=Z,685nm,24.0s								
TBI	**Tubuai**	**88.35**	**124**	*e*T	T		01 15 55.6	
	comp=Z,8.2nm,0.3s								
SWET	**Sewanee**	**88.40**	**41**	*e*P	**P**		**23 38 25.1**	**-0.2**
	comp=Z,26nm,0.8s								
CPCT	**Cooper Cave**	**88.87**	**40**	*e*P	P		23 38 32.0	+4.5
TKL	**Tuckaleechee C**	**89.05**	**39**	*e*P	**P**		**23 38 27.8**	**-0.5**
EPF	**Esparros**	**89.08**	**336**	*e*P	**P**		**23 38 28.3**	**-0.1**
	comp=Z,10.0nm,0.9s								
EPF	**Esparros**	**89.08**	**336**	*e*P	**P**		**23 38 28.3**	**-0.1**
EPF				pmax	pmax				
	comp=Z,10.0nm,0.9s								
EPF	**Esparros**	**89.08**	**336**	*e*P	**P**		**23 38 28.3**	**-0.1**
	comp=Z,10.0nm,0.9s								
SJPF	**Ste Jean**	**89.46**	**337**	*e*P	**P**		**23 38 30.0**	**-0.1**
SJPF	**Ste Jean**	**89.46**	**337**	*e*P	**P**		**23 38 30.0**	**-0.1**
SJPF	**Ste Jean**	**89.46**	**337**	*e*P	**P**		**23 38 30.0**	**-0.1**
ETSF	**Etsaut**	**89.46**	**337**	*e*P	**P**		**23 38 30.1**	**-0.1**
ETSF	**Etsaut**	**89.46**	**337**	*e*P	**P**		**23 38 30.1**	**-0.1**
ETSF	**Etsaut**	**89.46**	**337**	*e*P	**P**		**23 38 30.1**	**-0.1**
KEST	**Kesra**	**92.43**	**327**	LR	LR		00 25 38.6	
	comp=Z,273nm,18.7s,baz=186,slow=39								
ESDC	**Sonseca Array**	**93.41**	**338**	P	**P**		**23 38 48.4**	**-0.1**
ESDC	**Sonseca Array**	**93.41**	**338**	P	**P**		**23 38 48.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=22,slow=3.8,SNR=5.8								
ESDC				LR	LR		00 25 16.0		
	comp=Z,202nm,20.6s,baz=15,slow=38								
RKT	**Rikitea**	**97.41**	**115**	*e*LR	LR		00 10 47.8		
	comp=Z,600nm,31.5s								
TORD	**Torodi Ar. Bea**	**115.51**	**322**	PKP	**PKPdf**		**23 44 14.5**	**-0.9**
TORD				PP	**PP**		**23 45 12.0**	**-4.6**
TORD				PKKPbc	**PKKPbc**		**23 54 48.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**115.51**	**322**	PKP	**PKPdf**		**23 44 14.5**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=25,slow=2.2,SNR=5.4								
TORD				PP	**PP**		**23 45 12.0**	**-4.6**
	comp=Z,1.9nm,0.8s,baz=27,slow=7.4,SNR=10								
TORD				PKKPbc	**PKKPbc**		**23 54 48.0**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=214,slow=2.4,SNR=13								
VNDA	**Vanda**	**120.75**	**176**	PKP	**PKPdf**		**23 44 23.0**	**-0.6**
VNDA	**Vanda**	**120.75**	**176**	PKP	**PKPdf**		**23 44 23.0**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=57,slow=7.4,SNR=3.0								
DBIC	**Dimbokro**	**124.13**	**325**	PKP	**PKPdf**		**23 44 31.7**	**-0.3**
DBIC	**Dimbokro**	**124.13**	**325**	PKP	**PKPdf**		**23 44 31.7**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=150,slow=5.1,SNR=4.4								
SAML	**Samuel**	**137.05**	**46**	*e*PKPdf	**PKPdf**		**23 44 55.4**	**-1.0**
H03N2	**Juan Fernandez**	**143.24**	**90**	T	T		02 25 13.1		
	baz=293,slow=72,SNR=11								
H03N3	**Juan Fernandez**	**143.26**	**90**	T	T		02 25 17.5		
	baz=293,slow=72,SNR=9.7								
H03N1	**Juan Fernandez**	**143.26**	**90**	T	T		02 25 17.7		
	baz=293,slow=72,SNR=11								
SIV	**San Ignacio**	**144.00**	**50**	PKP	PKPbc		23 45 06.7	-0.2	
SIV	**San Ignacio**	**144.00**	**50**	PKP	PKPbc		23 45 06.7	-0.2	
	comp=Z,2.1nm,0.8s,baz=274,slow=5.5,SNR=4.6								
LCO	**Las Campanas**	**146.89**	**77**	*e*PKPdf	**PKPdf**		**23 45 14.3**	**+0.5**
SNAA	**Sanae**	**147.79**	**197**	*e*P	**PKPbc**		**23 45 16.5**	**-0.2**
SNAA	**Sanae**	**147.79**	**197**	*e*	**PKPab**		**23 45 23.4**	**+4.2**
SNAA	**Sanae**	**147.79**	**197**	*e*PKPdf	**PKPdf**		**23 45 14.4**	**+0.7**
SNAA				PKPbc	**PKPbc**		**23 45 15.4**	**-1.2**
SNAA	**Sanae**	**147.79**	**197**	PKPbc	**PKPbc**		**23 45 15.4**	**-1.2**
	comp=Z,6.0nm,1.1s,baz=136,slow=3.9,SNR=11								
VNA2	**Neumayer--Watz**	**149.32**	**196**	*e*P	**PKPbc**		**23 45 20.9**	**+0.3**
VNA2	**Neumayer--Watz**	**149.32**	**196**	*e*	**PKPab**		**23 45 28.7**	**+3.3**
VNA1	**Neumayer--Stat**	**149.72**	**196**	*e*P	**PKPbc**		**23 45 22.0**	**+0.5**
VNA1	**Neumayer--Stat**	**149.72**	**196**	*e*	**PKPab**		**23 45 30.1**	**+3.2**
BDFB	**Brasilia**	**149.82**	**29**	PKPbc	**PKPbc**		**23 45 23.6**	**0.0**
BDFB	**Brasilia**	**149.82**	**29**	PKPbc	**PKPbc**		**23 45 23.6**	**0.0**
	comp=Z,3.9nm,0.6s,baz=258,slow=2.4,SNR=9.0								
CFAA	**Coronel Fontan**	**150.10**	**79**	PKPbc	**PKPbc**		**23 45 23.1**	**-0.7**
CFAA	**Coronel Fontan**	**150.10**	**79**	PKPbc	**PKPbc**		**23 45 23.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=296,slow=3.7,SNR=11								
PLCA	**Paso Flores**	**152.28**	**98**	PKPbc	**PKPbc**		**23 45 28.3**	**-0.3**
PLCA	**Paso Flores**	**152.28**	**98**	PKPbc	**PKPbc**		**23 45 28.3**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=320,slow=4.6,SNR=4.2								

IDC ***09*** *23:32:18.8±1.2,5°.27N×94°.18E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.8/29, mbtmp4.0/9, ML4.1/2, MS3.8/1, Ms1 3.8/1, ms1mx3.3/39, Error ellipse: s-maj=43.5km s-min=21.2km az=50.0*

ISC 09 23:32:26.3±1.2, 5°.7N±0°.2×94°.7E±0°.2, h46km, n10, σ1$=74/9, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.14**	**124**	Pn	**Pn**	**23 33 41.2**	**+0.4**
	2.2nm,0.3s,baz=310,slow=19,SNR=7.1						
CMAR	**Chiang Mai Arr**	**13.36**	**18**	Pn	**P**	**23 35 39.2**	**-2.5**
	0.5nm,0.3s,baz=207,slow=14,SNR=2.5						
MKAR	**Makanchi Array**	**42.31**	**347**	P	**P**	**23 40 16.6**	**+1.1**
	4.3nm,0.6s,baz=166,slow=8.2,SNR=32						
SONM	**Songino Array**	**43.17**	**12**	P	**P**	**23 40 24.0**	**+1.3**
	0.8nm,0.6s,baz=185,slow=7.4,SNR=4.7						
WRA	**Warramunga Arr**	**46.61**	**124**	LR	LR	00 01 06.0	
	comp=Z,101nm,18.4s,baz=40,slow=37						
ASAR	**Alice Springs**	**48.15**	**129**	P	**P**	**23 41 01.8**	**-0.5**
	0.7nm,0.6s,baz=303,slow=7.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**48.77**	**352**	P	**P**	**23 41 08.4**	**+2.0**
	2.5nm,0.3s,baz=175,slow=6.8,SNR=26						
BVAR	**Borovoye Array**	**51.20**	**341**	P	**P**	**23 41 26.1**	**+1.1**
	1.0nm,0.6s,baz=134,slow=11,SNR=7.6						
BRTR	**Keskin Array B**	**64.23**	**311**	P	**P**	**23 42 55.2**	**-1.8**
	0.4nm,0.7s,baz=74,slow=7.7,SNR=2.6						
GERES	**GERESS Array B**	**79.78**	**318**	P	**P**	**23 44 29.7**	**-0.2**
	0.8nm,0.6s,baz=96,slow=5.4,SNR=9.1						

IDC 09 23:36:19.5±2.6, 2°.43S×139°.05E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=113.2km s-min=25.8km az=82.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.00**	**194**	P	Pn	23 40 31.0	-0.3
	0.4nm,0.3s,baz=13,slow=11,SNR=25						
WRA				S	Sn	23 43 40.9	-12
	0.1nm,0.3s,baz=4.9,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**21.69**	**193**	P	P	23 41 11.8	-0.3
	2.2nm,0.6s,baz=20,slow=11,SNR=15						
STKA	**Stephens Creek**	**29.39**	**176**	P	P	23 42 24.4	-0.2
	2.6nm,0.8s,baz=333,slow=9.0,SNR=3.4						
MKAR	**Makanchi Array**	**69.78**	**322**	P	P	23 47 32.0	+0.3
	0.2nm,0.4s,baz=106,slow=7.3,SNR=6.8						

JMA 09 23:42:00.1±0.2, 43°.01N×146°.90E, h56km±4km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.92**	**293**	P	Pn	23 42 17.1	+0.2
NEM2				*e*S	Sn	23 42 29.6	+0.4
JRA	**Rausu**	**1.59**	**306**	P	Pn	23 42 26.6	+0.7
JAK	**Akkeshi**	**1.62**	**270**	P	Pn	23 42 27.0	+0.8
JAK				*e*S	Sn	23 42 46.2	+0.2
JNK	**Nakash**	**1.69**	**291**	P	Pn	23 42 27.7	+0.4
JNK				*e*S	Sn	23 42 47.7	-0.2
JOB	**Onbets**	**2.25**	**268**	P	Pn	23 42 35.9	+1.0
JOB				*e*S	Sn	23 43 02.2	+0.7
JAR	**Ashorobuto**	**2.31**	**278**	P	Pn	23 42 37.1	+1.4
JAR				*e*S	Sn	23 43 03.9	+1.0
JTKR	**Abashiri--Toko**	**2.38**	**295**	P	Pn	23 42 38.2	+1.6
JCH	**Churui**	**2.63**	**263**	P	Pn	23 42 41.1	+1.0
JNBK	**Urakawa-nobuka**	**3.15**	**258**	P	Pn	23 42 48.4	+1.3

ATH ***09*** *23:42:53.5, 34°.83N×23°.35E, h28km±2km, MD3.7/25, ML3.3*
CSEM ***09*** *23:42:54.0±0.3, 34°.76N×23°.43E, h20km, ML2.9, Error ellipse: s-maj=8.4km s-min=4.7km az=47.0*
THE ***09*** *23:42:58.7, 35°.03N×23°.63E, h23km±1km, ML2.9/4, Error ellipse: s-maj=2.7km s-min=0.9km az=208.0*
HLW ***09*** *23:42:59.5, 34°.63N×24°.02E, h15km±15km, Md0.0, Ml3.2*

ISC 09 23:42:57.3±1.6, 35°.00N±0°.06×23°.58E±0°.04, h18km±4km, n83, σ1$=92/98, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.45**	**111**	P	**Pb**	**23 43 06.5**	**-0.1**
GVD				S	**Sb**	**23 43 14.2**	**+1.2**
GVD	**Gavdhos**	**0.45**	**111**	*e*PN	**Pb**	**23 43 06.6**	**-0.1**
GVD	**Gavdhos**	**0.45**	**111**	P	**Pb**	**23 43 06.5**	**-0.1**
GVD				S	**Sb**	**23 43 14.2**	**+1.2**
VAM	**Vamos**	**0.65**	**51**	P	**Pg**	**23 43 10.7**	**+0.5**
VAM				S	**Sg**	**23 43 19.4**	**+0.5**
VAM	**Vamos**	**0.65**	**51**	*e*PN	**Pg**	**23 43 10.7**	**+0.5**
VAM				*e*SN	**Sn**	**23 43 24.5**	**+3.1**
VAM	**Vamos**	**0.65**	**51**	P	**Pg**	**23 43 10.7**	**+0.5**
VAM				S	**Sg**	**23 43 19.4**	**+0.5**
VAM				*e*Sn	**Sn**	**23 43 24.5**	**+3.1**
ANKY	**Antikythira Is**	**0.90**	**345**	P	**Pg**	**23 43 14.5**	**-0.3**
ANKY				S	**Sg**	**23 43 27.5**	**+0.9**
ANKY	**Antikythira Is**	**0.90**	**345**	*e*PN	**Pg**	**23 43 13.8**	**-1.0**
ANKY				*e*SN	**Sg**	**23 43 28.1**	**+1.5**
ANKY	**Antikythira Is**	**0.90**	**345**	*e*Pn	**Pg**	**23 43 13.8**	**-1.0**
ANKY	**Antikythira Is**	**0.90**	**345**	P	**Pg**	**23 43 14.5**	**-0.3**
ANKY				S	**Sg**	**23 43 27.5**	**+0.9**
ANKY				*e*Sn	**Sg**	**23 43 28.1**	**+1.5**
SIVA	**Sivas**	**1.01**	**89**	P	**Pb**	**23 43 15.8**	**-0.4**
SIVA				S	**Sg**	**23 43 29.4**	**-0.8**
SIVA	**Sivas**	**1.01**	**89**	*e*PN	**Pg**	**23 43 16.5**	**-0.4**
SIVA	**Sivas**	**1.01**	**89**	P	**Pb**	**23 43 15.8**	**-0.4**
SIVA	**Sivas**	**1.01**	**89**	*e*Pn	**Pg**	**23 43 16.5**	**-0.4**
SIVA				S	**Sg**	**23 43 29.4**	**-0.8**
IDI	**Anoyia**	**1.11**	**75**	P	**Pn**	**23 43 17.6**	**-0.4**
IDI				S	**Sb**	**23 43 31.4**	**-0.8**
IDI	**Anoyia**	**1.11**	**75**	*e*PB	**Pn**	**23 43 17.7**	**-0.3**
IDI				*e*SN	**Sn**	**23 43 38.1**	**+5.2**
IDI	**Anoyia**	**1.11**	**75**	P	**Pn**	**23 43 17.6**	**-0.4**
IDI				S	**Sb**	**23 43 31.4**	**-0.8**
KYTH	**Kithira**	**1.35**	**341**	P	**Pn**	**23 43 20.8**	**-0.5**
KYTH	**Kithira**	**1.35**	**341**	*e*PN	**Pn**	**23 43 20.8**	**-0.5**
KYTH	**Kithira**	**1.35**	**341**	P	**Pn**	**23 43 20.8**	**-0.5**
LAST	**Lasithi**	**1.57**	**84**	P	**Pn**	**23 43 24.6**	**+0.3**
LAST				S	**Sn**	**23 43 42.8**	**-1.3**
LAST	**Lasithi**	**1.57**	**84**	*e*PN	**Pn**	**23 43 24.7**	**+0.4**
LAST	**Lasithi**	**1.57**	**84**	P	**Pn**	**23 43 24.6**	**+0.3**
LAST				S	**Sn**	**23 43 42.8**	**-1.3**
NPS	**Neapolis**	**1.69**	**80**	P	**Pn**	**23 43 26.3**	**+0.4**
NPS	**Neapolis**	**1.69**	**80**	*e*PB	**Pn**	**23 43 26.4**	**+0.5**
NPS	**Neapolis**	**1.69**	**80**	P	**Pn**	**23 43 26.3**	**+0.4**
VLI	**Veliai**	**1.79**	**343**	P	**Pn**	**23 43 27.4**	**+0.1**
VLI				S	**Sn**	**23 43 49.0**	**-0.6**
VLI	**Veliai**	**1.79**	**343**	*e*PB	**Pn**	**23 43 26.7**	**-0.6**
VLI	**Veliai**	**1.79**	**343**	*e*Pb	**Pn**	**23 43 26.7**	**-0.6**
VLI	**Veliai**	**1.79**	**343**	P	**Pn**	**23 43 27.4**	**+0.1**
VLI				S	**Sn**	**23 43 49.0**	**-0.6**
SANT	**Santorini**	**2.05**	**48**	P	**Pn**	**23 43 30.0**	**-0.8**
SANT				S	**Sn**	**23 43 55.1**	**-1.0**
SANT	**Santorini**	**2.05**	**48**	*e*PN	**Pn**	**23 43 30.1**	**-0.8**
SANT	**Santorini**	**2.05**	**48**	*e*Pn	**Pn**	**23 43 30.1**	**-0.8**
SANT				S	**Sn**	**23 43 55.1**	**-1.0**
THR1	**Thera Island**	**2.05**	**48**	P	**Pn**	**23 43 30.1**	**-0.8**
THR1	**Thera Island**	**2.05**	**48**	P	**Pn**	**23 43 30.1**	**-0.8**
THR2	**Thira island,**	**2.09**	**46**	P	**Pn**	**23 43 30.9**	**-0.5**
THR2	**Thira island,**	**2.09**	**46**	P	**Pn**	**23 43 30.9**	**-0.5**
ZKR	**Zakros**	**2.17**	**86**	P	**Pn**	**23 43 32.9**	**+0.5**
ZKR	**Zakros**	**2.17**	**86**	*e*PN	**Pn**	**23 43 33.1**	**+0.7**
ZKR	**Zakros**	**2.17**	**86**	P	**Pn**	**23 43 32.9**	**+0.5**
DID	**Didima**	**2.52**	**354**	P	**Pn**	**23 43 36.6**	**-0.7**
DID	**Didima**	**2.52**	**354**	P	**Pn**	**23 43 36.6**	**-0.7**
ITM	**Ithomi**	**2.56**	**329**	*e*PB	**Pn**	**23 43 37.7**	**-0.1**
ITM	**Ithomi**	**2.56**	**329**	*e*Pb	**Pn**	**23 43 37.7**	**-0.1**
APE	**Apeiranthos**	**2.60**	**37**	*e*PN	**Pn**	**23 43 38.3**	**-0.2**
APE	**Apeiranthos**	**2.60**	**37**	*e*Pn	**Pn**	**23 43 38.3**	**-0.2**
ATH	**Athens Observa**	**2.97**	**2**	*e*PN	**Pn**	**23 43 43.1**	**-0.4**
ATH	**Athens Observa**	**2.97**	**2**	*e*Pn	**Pn**	**23 43 43.1**	**-0.4**
KARP	**Karpathos**	**2.98**	**78**	P	**Pn**	**23 43 42.6**	**-1.1**
KARP				S	**Sn**	**23 44 17.7**	**-1.3**
KARP	**Karpathos**	**2.98**	**78**	*e*PN	**Pn**	**23 43 42.7**	**-1.0**
KARP	**Karpathos**	**2.98**	**78**	*e*Pn	**Pn**	**23 43 42.7**	**-1.0**
KARP				S	**Sn**	**23 44 17.7**	**-1.3**
PTL	**Penteli**	**3.05**	**4**	*e*PN	**Pn**	**23 43 43.6**	**-1.0**
PTL	**Penteli**	**3.05**	**4**	*e*Pn	**Pn**	**23 43 43.6**	**-1.0**
GUR	**Goura**	**3.10**	**342**	P	**Pn**	**23 43 45.1**	**-0.2**
GUR	**Goura**	**3.10**	**342**	P	**Pn**	**23 43 45.1**	**-0.2**
VILL	**Villia**	**3.17**	**356**	*e*Pn	**Pn**	**23 43 45.4**	**-0.8**
VIL2	**Platees**	**3.22**	**356**	*e*PN	**Pn**	**23 43 45.4**	**-1.5**
KLV	**Kalavryta, Ach**	**3.25**	**340**	*e*PN	**Pn**	**23 43 48.0**	**+0.6**
KLV	**Kalavryta, Ach**	**3.25**	**340**	*e*Pn	**Pn**	**23 43 48.0**	**+0.6**
LAKA	**Lakka**	**3.48**	**339**	*e*PN	**Pn**	**23 43 51.0**	**+0.5**
LAKA	**Lakka**	**3.48**	**339**	*e*Pn	**Pn**	**23 43 51.0**	**+0.5**
DESF	**Desfina**	**3.51**	**346**	*e*PN	**Pn**	**23 43 50.1**	**-0.9**
DESF	**Desfina**	**3.51**	**346**	*e*Pn	**Pn**	**23 43 50.1**	**-0.9**
LKR	**Lokris**	**3.67**	**353**	*e*PN	**Pn**	**23 43 52.1**	**-1.0**
LKR	**Lokris**	**3.67**	**353**	*e*Pn	**Pn**	**23 43 52.1**	**-1.0**
MRKA	**Markates**	**3.70**	**0**	*e*PN	**Pn**	**23 43 52.3**	**-1.2**
MRKA	**Markates**	**3.70**	**0**	*e*Pn	**Pn**	**23 43 52.3**	**-1.2**
SMIA	**Simia**	**3.88**	**356**	*e*PN	**Pn**	**23 43 56.9**	**+0.8**
SMIA	**Simia**	**3.88**	**356**	*e*Pn	**Pn**	**23 43 56.9**	**+0.8**
ARG	**Arkhangelos**	**3.90**	**71**	P	**Pn**	**23 43 55.7**	**-0.5**
ARG	**Arkhangelos**	**3.90**	**71**	P	**Pn**	**23 43 55.7**	**-0.5**
AGG	**Agios Georgios**	**4.14**	**346**	*e*PN	**Pn**	**23 43 59.3**	**-0.3**
AGG	**Agios Georgios**	**4.14**	**346**	*e*Pn	**Pn**	**23 43 59.3**	**-0.3**
MAKR	**Makrakomi, Fth**	**4.17**	**344**	*e*PN	**Pn**	**23 44 00.4**	**+0.4**
MAKR	**Makrakomi, Fth**	**4.17**	**344**	*e*Pn	**Pn**	**23 44 00.4**	**+0.4**
SWA2		**5.96**	**164**	AMP		23 45 00.0	
	comp=N,20μm,0.2s,logA/T=4.9,baz=166						
SWA2		**5.96**	**164**	P	Pn	23 44 19.0	-5.5
AWBH		**8.06**	**144**	P	Pn	23 44 47.2	-6.2
	baz=145						
AWBH		**8.06**	**144**	P	Pn	23 44 47.2	-6.2
GLL	**Jalalah**	**8.75**	**126**	P	Pn	23 44 56.6	-6.3
	baz=125						
GLL	**Jalalah**	**8.75**	**126**	P	Pn	23 44 56.6	-6.3
HFRF	**Wahat Farafira**	**8.81**	**151**	P	Pn	23 44 57.1	-6.6
	baz=152						
HFRF	**Wahat Farafira**	**8.81**	**151**	P	Pn	23 44 57.1	-6.6

ISCJB ***09*** *23:48:22.8±0.3, 44°.08N±0°.04×88°.57E±0°.04, h10km, mb4.1/20, Error ellipse: s-maj=6.0km s-min=4.2km az=15.1*
IDC ***09*** *23:48:22.6±0.7, 43°.83N×88°.56E, h0km, mb3.8/12, mb1 4.0/18, mb1mx3.9/34, mbtmp3.9/18, ML3.9/5, Error ellipse: s-maj=20.0km s-min=10.4km az=41.0*
NNC ***09*** *23:48:24.9±3.1, 44°.27N×88°.53E, h0km, mb4.4, mpv4.6, Error ellipse: s-maj=37.6km s-min=23.8km az=53.0*
MOS ***09*** *23:48:24.5±1.2, 43°.97N×88°.53E, h24km, mb4.5/13, Error ellipse: s-maj=13.7km s-min=7.1km az=130.8*
NEIC ***09*** *23:48:25.6±2.4, 43°.97N×88°.56E, h20km±15km, mb4.5/7, Error ellipse: s-maj=8.0km s-min=6.4km az=222.0*
BJI ***09*** *23:48:26.9, 43°.90N×88°.56E, h10km, mb3.9/4, ML4.1/11*

ISC 09 23:48:24.9±0.5, 44°.07N±0°.06×88°.53E±0°.04, h10km, n99, σ1$=60/117, mb4.1/20, 11C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.65**	**248**	Pg	**Pg**	**23 48 37.8**	**+0.3**
WMQ				Sg	**Sg**	**23 48 46.2**	**+0.1**
WMQ				smax	smax		
	comp=N,9μm,0.5s						
WMQ				smax	smax		
	comp=E,9μm,0.5s						
MK31	**Makanchi Array**	**5.17**	**304**	*e*P	**Pn**	**23 49 44.8**	**+2.5**
MK31				*e*	Pn	23 50 43.6	
MK31	**Makanchi Array**	**5.17**	**304**	*e*Pn	**Pn**	**23 49 44.8**	**+2.5**
MK31				*e*Sn	**Sn**	**23 50 43.6**	**+1.5**
MK31	**Makanchi Array**	**5.17**	**304**	⇑Pn	**Pn**	**23 49 44.9**	**+2.5**
	42nm,0.5s,baz=114,slow=13,SNR=2421						
MK31				⇓Sn	**Sn**	**23 50 45.2**	**+3.1**
	27nm,0.5s,baz=117,slow=25,SNR=3.7						
MK31				⇑Lg	Lg	23 51 08.5	
	56nm,0.5s,baz=116,slow=31,SNR=4.1						
MKAR	**Makanchi Array**	**5.17**	**304**	P	**Pn**	**23 49 44.9**	**+2.5**
MKAR						23 50 45.2	
MKAR				pmax	pmax		
	comp=Z,28nm,0.3s						
MKAR				smax	smax		
	comp=N,15nm,0.3s						
MKAR	**Makanchi Array**	**5.17**	**304**	Pn	**Pn**	**23 49 44.9**	**+2.5**
MKAR				Sn	**Sn**	**23 50 45.2**	**+3.1**
MKAR				Lg	Lg	23 51 10.5	
	comp=N,28nm,0.3s,baz=119,slow=13,SNR=1629						
MKAR				Sn	**Sn**	**23 50 45.2**	**+3.1**
	comp=N,15nm,0.3s,baz=98,slow=28,SNR=6.2						
MKAR				Lg	Lg	23 51 10.5	
	comp=N,17nm,0.3s,baz=121,slow=26,SNR=4.1						
KNDC	**Almaty**	**8.43**	**268**	⇑Pn	**Pn**	**23 50 28.2**	**+1.0**
KNDC				⇑Lg	Lg	23 52 58.2	
KURBB	**Kurchatov Arra**	**9.44**	**318**	Pn	**Pn**	**23 50 41.5**	**+0.7**
	comp=N,7.1nm,0.3s,baz=129,slow=13,SNR=83						
KURBB				Sn	**Sn**	**23 52 28.1**	**+1.3**
	comp=N,3.3nm,0.3s,baz=132,slow=12,SNR=5.4						
KURBB				Lg	Lg	23 53 27.4	
	comp=N,1.0nm,0.3s,baz=123,slow=31,SNR=4.5						
KURBB	**Kurchatov Arra**	**9.44**	**318**	⇑Pn	**Pn**	**23 50 41.2**	**+0.4**
	comp=N,9.7nm,0.3s						
KURBB				⇓Sn	**Sn**	**23 52 24.7**	**-2.2**
	comp=N,10.0nm,0.4s						
KURBB				⇓Lg	Lg	23 53 22.5	
	comp=N,80nm,1.1s						
KURK	**Kurchatov**	**9.45**	**318**	P	**Pn**	**23 50 41.5**	**+0.5**
KURK						23 52 28.1	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KURK				smax	smax		
	comp=N,3.0nm,0.3s						
KURK	**Kurchatov**	**9.45**	**318**	*e*Pn	**Pn**	**23 50 41.2**	**+0.2**
	comp=N,24nm,0.3s						
KURK				*e*Sn	**Sn**	**23 52 24.0**	**-3.2**
KURK				Lg	Lg	23 53 27.4	
KURK	**Kurchatov**	**9.45**	**318**	⇑Pn	**Pn**	**23 50 40.9**	**-0.1**
	comp=N,6.8nm,0.3s						
KURK				⇓Sn	**Sn**	**23 52 24.6**	**-2.6**
	comp=N,6.8nm,0.5s						
KURK				⇓Lg	Lg	23 53 22.3	
	comp=N,25nm,0.7s						
TKM2	**Tokmak 2**	**9.47**	**268**	*e*P	**Pn**	**23 50 41.5**	**-0.1**
TKM2				*e*		23 52 33.2	
TKM2			

ARU				S	Sn	23 58 12.1	+26	
ARU				pmax	pmax			
	comp=Z,19nm,1.0s							
ARU	**Arti**	**22.60**	**314**	*e*P	**P**	**23 53 25.4**	**-0.1**	
	comp=Z,20nm,0.9s							
CMAR	**Chiang Mai Arr**	**26.99**	**158**	P	**P**	**23 54 05.3**	**-1.6**	
CMAR	**Chiang Mai Arr**	**26.99**	**158**	P	**P**	**23 54 05.3**	**-1.6**	
	comp=Z,1.8nm,0.3s,baz=347,slow=11,SNR=4.4							
AKASG	**Malin Array Be**	**39.75**	**301**	P	**P**	**23 55 57.6**	**+0.1**	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**39.75**	**301**	P	**P**	**23 55 57.5**	**+0.1**	
AKASG	**Malin Array Be**	**39.75**	**301**	P	**P**	**23 55 57.5**	**+0.1**	
	comp=Z,1.9nm,0.7s,baz=64,slow=8.4,SNR=5.9							
FINES	**FINESS Array B**	**39.83**	**318**	P	**P**	**23 55 58.4**	**+0.5**	
FINES	**FINESS Array B**	**39.83**	**318**	P	**P**	**23 55 58.4**	**+0.5**	
	comp=Z,1.6nm,0.8s,baz=86,slow=7.5,SNR=8.6							
ARCES	**ARCESS Array B**	**40.20**	**331**	P	**P**	**23 56 02.3**	**+1.3**	
ARCES				PcP	**PcP**	**23 58 04.3**	**-0.5**	
ARCES	**ARCESS Array B**	**40.20**	**331**	P	**P**	**23 56 02.3**	**+1.3**	
	comp=Z,1.0nm,0.6s,baz=80,slow=8.7,SNR=9.4							
ARCES				PcP	**PcP**	**23 58 04.3**	**-0.5**	
	comp=Z,0.8nm,0.8s,baz=96,slow=2.5,SNR=6.5							
BRTR	**Keskin Array B**	**40.45**	**284**	P	**P**	**23 56 03.0**	**-0.6**	
BRTR	**Keskin Array B**	**40.45**	**284**	P	**P**	**23 56 03.0**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=94,slow=8.8,SNR=4.3							
NIE	**Niedzica**	**45.61**	**302**	*e*P	**P**	**23 56 46.7**	**+1.6**	
NIE	**Niedzica**	**45.61**	**302**	*e*P	**P**	**23 56 46.7**	**+1.6**	
OJC	**Ojcow**	**45.64**	**303**	*e*P	**P**	**23 56 45.7**	**+0.3**	
OJC	**Ojcow**	**45.64**	**303**	*e*P	**P**	**23 56 45.7**	**+0.3**	
NB2	**NORSAR Subarra**	**46.96**	**319**	P	**P**	**23 56 55.8**	**+0.2**	
	comp=Z,1.3nm,0.7s,baz=73,slow=7.9							
NOA	**NORSAR Array B**	**46.96**	**319**	P	**P**	**23 56 55.9**	**+0.3**	
NOA	**NORSAR Array B**	**46.96**	**319**	P	**P**	**23 56 55.9**	**+0.3**	
	comp=Z,1.3nm,0.7s,baz=73,slow=7.9,SNR=4.7							
CLL	**Collm**	**49.26**	**307**	*e*P	**P**	**23 57 14.0**	**+0.5**	
LPG	**La Plagne**	**55.59**	**302**	*e*P	**P**	**23 58 01.8**	**+1.0**	
	comp=Z,7.0nm,0.7s							
LPG	**La Plagne**	**55.59**	**302**	*e*P	**P**	**23 58 01.8**	**+1.0**	
LPG				pmax	pmax			
	comp=Z,7.0nm,0.7s							
LPG	**La Plagne**	**55.59**	**302**	*e*P	**P**	**23 58 01.8**	**+1.0**	
	comp=Z,7.0nm,0.7s							
LPL	**La Plagne**	**55.59**	**302**	*e*P	**P**	**23 58 01.7**	**+0.9**	
	comp=Z,5.8nm,0.6s							
LPL	**La Plagne**	**55.59**	**302**	*e*P	**P**	**23 58 01.7**	**+0.9**	
LPL				pmax	pmax			
	comp=Z,6.0nm,0.6s							
LPL	**La Plagne**	**55.59**	**302**	*e*P	**P**	**23 58 01.7**	**+0.9**	
	comp=Z,5.8nm,0.6s							
MBDF	**Montbardon**	**55.96**	**302**	*e*P	**P**	**23 58 04.0**	**+0.6**	
	comp=Z,6.0nm,0.8s							
MBDF	**Montbardon**	**55.96**	**302**	*e*P	**P**	**23 58 04.0**	**+0.6**	
MBDF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
MBDF	**Montbardon**	**55.96**	**302**	*e*P	**P**	**23 58 04.0**	**+0.6**	
	comp=Z,6.0nm,0.8s							
ORIF	**Oris-en-Rattie**	**56.41**	**302**	*e*P	**P**	**23 58 06.5**	**0.0**	
	comp=Z,3.9nm,0.7s							
ORIF	**Oris-en-Rattie**	**56.41**	**302**	*e*P	**P**	**23 58 06.5**	**0.0**	
ORIF				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ORIF	**Oris-en-Rattie**	**56.41**	**302**	*e*P	**P**	**23 58 06.5**	**0.0**	
	comp=Z,3.9nm,0.6s							
BGF	**Bois d'Agland**	**57.38**	**305**	*e*P	**P**	**23 58 13.4**	**+0.2**	
	comp=Z,8.9nm,0.7s							
BGF	**Bois d'Agland**	**57.38**	**305**	*e*P	**P**	**23 58 13.4**	**+0.2**	
BGF				pmax	pmax			
	comp=Z,9.0nm,0.7s							
BGF	**Bois d'Agland**	**57.38**	**305**	*e*P	**P**	**23 58 13.4**	**+0.2**	
	comp=Z,8.9nm,0.7s							
ILAR	**Eielson Array**	**63.20**	**23**	P	**P**	**23 58 53.9**	**+1.1**	
ILAR	**Eielson Array**	**63.20**	**23**	P	**P**	**23 58 53.9**	**+1.1**	
	comp=Z,0.3nm,0.7s,baz=309,slow=4.9,SNR=5.6							
ESDC	**Sonseca Array**	**65.39**	**302**	P	**P**	**23 59 08.0**	**+0.4**	
ESDC	**Sonseca Array**	**65.39**	**302**	P	**P**	**23 59 08.0**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=46,slow=6.8,SNR=6.6							
WRAB	**Tennant Creek**	**76.24**	**136**	*e*P	**P**	**00 00 11.4**	**-2.2**	
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRAB	**Tennant Creek**	**76.24**	**136**	*e*P	**P**	**00 00 11.4**	**-2.2**	
	comp=Z,1.8nm,0.8s							
WRA	**Warramunga Arr**	**76.25**	**136**	P	**P**	**00 00 12.4**	**-1.2**	
WRA	**Warramunga Arr**	**76.25**	**136**	P	**P**	**00 00 12.4**	**-1.2**	
	comp=Z,0.6nm,0.7s,baz=338,slow=5.7,SNR=7.2							
TORD	**Torodi Ar. Bea**	**78.73**	**277**	P	**P**	**00 00 26.3**	**-1.5**	
TORD	**Torodi Ar. Bea**	**78.73**	**277**	P	**P**	**00 00 26.3**	**-1.5**	
	comp=Z,0.2nm,0.4s,baz=43,slow=5.4,SNR=5.6							
ASAR	**Alice Springs**	**79.18**	**138**	P	**P**	**00 00 27.6**	**-2.4**	
ASAR	**Alice Springs**	**79.18**	**138**	P	**P**	**00 00 27.6**	**-2.4**	
	comp=Z,0.4nm,0.6s,baz=327,slow=4.9,SNR=5.3							
LPAZ	**La Paz**	**145.98**	**317**	PKPbc	**PKPdf**	**00 08 04.6**	**-0.5**	
LPAZ	**La Paz**	**145.98**	**317**	PKPbc	**PKPdf**	**00 08 04.6**	**-0.5**	
	comp=Z,0.5nm,0.4s,baz=333,slow=4.5,SNR=3.4							
CPUP	**Villa Florida**	**147.27**	**291**	PKPbc	**PKPdf**	**00 08 07.2**	**+0.9**	
CPUP	**Villa Florida**	**147.27**	**291**	PKPbc	**PKPdf**	**00 08 07.2**	**+0.9**	
	comp=Z,0.6nm,0.4s,baz=8.9,slow=8.8,SNR=3.4							

WEL 10 00:12:56.8±0.7, 41.58S×178.47E, *h*33km, ML3.7/21, 4C-3D, Error ellipse: s-maj=5.5km s-min=4.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMWZ	**Te Maipa**	**2.00**	**283**	*e*PN	Pn	00 13 27.5	-0.8
TIWZ	**Tintock**	**2.11**	**292**	PN	Pn	00 13 29.0	-0.8
PRWZ	**Pori Road**	**2.15**	**298**	PN	Pn	00 13 30.0	-0.3
KAHZ	**Kahuranaki**	**2.16**	**325**	PN	Pn	00 13 30.4	-0.2
WPHZ	**Waipukurau**	**2.16**	**314**	PN	Pn	00 13 30.4	-0.2
DVHZ	**Dannevirke**	**2.17**	**306**	PN	Pn	00 13 30.1	-0.5
CKHZ	**Cape Kidnapper**	**2.20**	**331**	PN	Pn	00 13 30.2	-0.8
HOWZ	**Holdsworth Sta**	**2.33**	**286**	PN	Pn	00 13 32.1	-0.8
POWZ	**Post Office Ro**	**2.37**	**299**	PN	Pn	00 13 33.2	-0.1
MRZ	**Mangatainoka R**	**2.37**	**292**	PN	Pn	00 13 32.7	-0.7
MRZ				SN	Sn	00 13 58.6	-2.8
PNHZ	**Pukenui**	**2.40**	**313**	PN	Pn	00 13 33.6	-0.3
PLWZ	**Palliser**	**2.41**	**269**	*e*PN	Pn	00 13 31.5	-2.5
PLWZ				SN	Sn	00 13 59.2	-3.3
TSZ	**Takapari Road**	**2.44**	**308**	⇑PN	Pn	00 13 34.1	-0.2
TSZ				AML	AML	00 13 34.3	
TSZ				SN	Sn	00 14 00.4	-2.7
MHGZ	**Mahia Peninsul**	**2.46**	**350**	PN	Pn	00 13 33.4	-1.3
MCHZ	**McNeill Hill**	**2.53**	**327**	PN	Pn	00 13 35.4	-0.2
CAW	**Cannon Point**	**2.61**	**279**	*e*PN	Pn	00 13 35.8	-0.8
OGWZ	**Otaki Gorge**	**2.61**	**286**	PN	Pn	00 13 36.1	-0.5
KNZ	**Kokohu**	**2.63**	**346**	PN	Pn	00 13 35.4	-1.6
PRGZ	**Paritu Road**	**2.69**	**350**	PN	Pn	00 13 36.7	-1.2
KIW	**Kapiti Island**	**2.78**	**284**	PN	Pn	00 13 37.8	-1.2
NMHZ	**Naumai**	**2.79**	**332**	PN	Pn	00 13 38.9	-0.3
BKZ	**Black Stump Fm**	**2.85**	**327**	⇑PN	Pn	00 13 39.6	-0.5
BKZ				*e*SN	Sn	00 14 09.7	-3.6
RIGZ	**Rimuhau**	**2.93**	**349**	PN	Pn	00 13 39.9	-1.2
SNGZ	**Shannon Statio**	**2.93**	**342**	PN	Pn	00 13 40.4	-0.7
MOVZ	**Moawhango**	**3.00**	**315**	PN	Pn	00 13 42.7	+0.5
WNVZ	**Wahianoa**	**3.14**	**315**	⇓PN	Pn	00 13 45.2	+0.9
TUVZ	**Tukino**	**3.16**	**316**	PN	Pn	00 13 45.3	+0.9
MTVZ	**Mangateitei**	**3.17**	**313**	PN	Pn	00 13 45.8	+1.3
TCW	**Tory Channel**	**3.18**	**275**	*e*PN	Pn	00 13 43.1	-1.4
TCW				AML	AML	00 14 21.8	
TRVZ	**Turoa**	**3.19**	**315**	⇑PN	Pn	00 13 45.7	+0.7
WAZ	**Wanganui**	**3.22**	**303**	PN	Pn	00 13 46.6	+1.6
OTVZ	**Oturere**	**3.23**	**318**	PN	Pn	00 13 46.1	+0.7
NGZ	**Ngauruhoe**	**3.25**	**317**	PN	Pn	00 13 46.2	+0.4
WPVZ	**Whakapapa**	**3.26**	**316**	PN	Pn	00 13 46.5	+0.7
KRVZ	**Karewarewa**	**3.29**	**318**	PN	Pn	00 13 46.9	+0.6
WTVZ	**West Tongariro**	**3.31**	**317**	PN	Pn	00 13 47.0	+0.6
MWZ	**Matawai**	**3.33**	**347**	⇓PN	Pn	00 13 45.0	-1.6
URZ	**Urewera**	**3.48**	**342**	⇑PN	Pn	00 13 47.8	-0.8
URZ				*e*SN	Sn	00 14 24.8	-3.9
PUZ	**Puketiti**	**3.51**	**357**	PN	Pn	00 13 46.8	-2.3
TARZ	**Mount Tarawera**	**3.67**	**335**	⇓PN	Pn	00 13 51.2	-0.2
KHZ	**Kahutara**	**3.77**	**256**	PN	Pn	00 13 50.2	-2.4
MXZ	**Matakaoa Point**	**4.02**	**358**	PN	Pn	00 13 54.2	-1.9
HIZ	**Hauiti**	**4.13**	**317**	PN	Pn	00 13 57.6	0.0
QRZ	**Quartz Range**	**4.55**	**278**	PN	Pn	00 14 03.1	-0.2
LTZ	**Lake Taylor**	**4.76**	**253**	PN	Pn	00 14 03.4	-2.9
MQZ	**McQueen's Vall**	**4.79**	**242**	PN	Pn	00 14 02.8	-3.8
OXZ	**Oxford**	**5.07**	**248**	*e*PN	Pn	00 14 07.0	-3.4

*ISK **10** 00:13:30.7, 37.62N×38.42E, h5km, MD3.6*
*DDA **10** 00:13:31.6, 37.66N×38.43E, h17km, ML3.6*

*CSEM **10** 00:13:32.4±0.2, 37.65N×38.41E, h2km, ML3.6, Error ellipse: s-maj=4.5km s-min=3.6km az=158.0*
ISC 10 00:13:31.2±0.9, 37.66N±0.02×38.45E±0.02, h12km±8km, n62, σ1.08/77, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.23**	**213**	*i* P	**Pb**	**00 13 36.8**	**-0.5**
ATAB				*i* S	**Sg**	**00 13 40.1**	**+0.7**
ATAB	**Bozova**	**0.23**	**213**	*i* P	**Pb**	**00 13 36.8**	**-0.5**
ATAB				*i* S	**Sg**	**00 13 40.1**	**+0.7**
URFA	**Urfa**	**0.37**	**127**	*e*PG	**Pb**	**00 13 39.5**	**-0.2**
URFA				*e*SG	**Sb**	**00 13 45.0**	**-0.4**
URFA	**Urfa**	**0.37**	**127**	*e*Pg	**Pb**	**00 13 39.5**	**-0.2**
URFA				*e*Sg	**Sb**	**00 13 45.0**	**-0.4**
MALT	**Malatya**	**0.65**	**358**	*e*PG	**Pb**	**00 13 44.8**	**+0.2**
MALT	**Malatya**	**0.65**	**358**	*e*Pg	**Pb**	**00 13 44.8**	**+0.2**
AKCD	**Akcadag**	**0.76**	**327**	*i* P	**Pb**	**00 13 46.6**	**+0.2**
AKCD				*i* S	**Sg**	**00 13 55.3**	**-0.6**
AKCD	**Akcadag**	**0.76**	**327**	*i* P	**Pb**	**00 13 46.6**	**+0.2**
AKCD				*i* S	**Sg**	**00 13 55.3**	**-0.6**
GZT	**Gaziantep**	**0.77**	**247**	*i* P	**Pn**	**00 13 47.0**	**-1.0**
GZT				*i* S	**Sn**	**00 13 59.0**	**-0.4**
ELZG	**Elazig**	**0.93**	**27**	*i* P	**Pn**	**00 13 49.9**	**-0.4**
ELZG				*i* S	**Sn**	**00 14 03.2**	**-0.5**
ELZG	**Elazig**	**0.93**	**27**	*i* P	**Pn**	**00 13 49.9**	**-0.4**
ELZG				*i* S	**Sn**	**00 14 03.2**	**-0.5**
SVRC	**Sivrice-ELAZID**	**0.98**	**43**	*e*PG	**Pn**	**00 13 50.7**	**-0.3**
SVRC				*e*SG	**Sn**	**00 14 07.0**	**+2.2**
SVRC	**Sivrice-ELAZID**	**0.98**	**43**	*e*Pg	**Pn**	**00 13 50.7**	**-0.3**
SVRC				*e*Sg	**Sn**	**00 14 07.1**	**+2.2**
DARE	**Darende-Malaty**	**1.19**	**320**	*e*PN	**Pg**	**00 13 54.2**	**+0.1**
DARE	**Darende-Malaty**	**1.19**	**320**	*e*Pn	**Pg**	**00 13 54.2**	**+0.1**
KMRS	**Kahramanmaras**	**1.24**	**263**	*e*PN	**Pg**	**00 13 54.7**	**-0.4**
KMRS	**Kahramanmaras**	**1.24**	**263**	*e*Pn	**Pg**	**00 13 54.7**	**-0.4**
DIYA	**Diyarbakir**	**1.35**	**78**	*i* P	**Pg**	**00 13 57.4**	**+0.3**
DIYA				*i* S	**Sg**	**00 14 16.0**	**+1.4**
DIYA	**Diyarbakir**	**1.35**	**78**	*i* P	**Pg**	**00 13 57.4**	**+0.3**
DIYA				*i* S	**Sg**	**00 14 16.0**	**+1.4**
KUZU	**Kuzuini**	**1.41**	**231**	*i* P	**Pg**	**00 13 57.9**	**-0.5**
KUZU				*i* S	**Sg**	**00 14 17.9**	**+1.2**
KUZU	**Kuzuini**	**1.41**	**231**	*i* P	**Pg**	**00 13 57.9**	**-0.5**
KUZU				*i* S	**Sg**	**00 14 17.9**	**+1.2**
PTK	**Pertek**	**1.43**	**31**	*e*PN	**Pg**	**00 13 59.6**	**+0.8**
PTK	**Pertek**	**1.43**	**31**	*e*Pn	**Pg**	**00 13 59.6**	**+0.8**
MAZI	**Mazidag**	**1.60**	**97**	*e*PN	**Pg**	**00 14 01.4**	**-0.5**
MAZI	**Mazidag**	**1.60**	**97**	*e*Pn	**Pg**	**00 14 01.4**	**-0.5**
KEMA	**Kemaliye**	**1.60**	**1**	*i* P	**Pg**	**00 14 01.7**	**-0.3**
KEMA				*i* S	**Sg**	**00 14 23.1**	**+0.2**
KEMA	**Kemaliye**	**1.60**	**1**	*i* P	**Pg**	**00 14 01.7**	**-0.3**
KEMA				*i* S	**Sg**	**00 14 23.1**	**+0.2**
ILIC	**ilic-Erzincan**	**1.79**	**3**	*e*PN	**Pb**	**00 14 04.4**	**+0.4**
ILIC	**ilic-Erzincan**	**1.79**	**3**	*e*Pn	**Pb**	**00 14 04.4**	**+0.4**
MARD	**Mardin**	**1.88**	**100**	*i* P	**Pb**	**00 14 04.3**	**-1.2**
MARD				*i* S	**Sg**	**00 14 32.4**	**+0.6**
PINB	**Pinarbasi**	**1.91**	**303**	*i* P	**Pb**	**00 14 06.2**	**+0.1**
PINB				*i* S	**Sg**	**00 14 32.6**	**0.0**
PINB	**Pinarbasi**	**1.91**	**303**	*i* P	**Pb**	**00 14 06.2**	**+0.1**
PINB				*i* S	**Sg**	**00 14 32.6**	**0.0**
BINT	**Bingol**	**2.01**	**52**	*e*Pn	**Pg**	**00 14 09.7**	**-0.1**
KOZT	**Kozan**	**2.09**	**266**	*e*PN	**Pb**	**00 14 08.6**	**-0.5**
KOZT	**Kozan**	**2.09**	**266**	*e*Pn	**Pb**	**00 14 08.6**	**-0.5**
ERZN	**Erzincan**	**2.16**	**27**	*e*PN	**Pb**	**00 14 10.4**	**0.0**
BNGB	**Bing¨ll**	**2.20**	**52**	*e*PN	**Pb**	**00 14 09.7**	**-1.2**
EZC	**Erzincan**	**2.20**	**18**	*e*PN	**Pb**	**00 14 10.4**	**-0.6**
EZC	**Erzincan**	**2.20**	**18**	*e*Pn	**Pb**	**00 14 10.4**	**-0.6**
TAHT	**Tahtakopru-Hat**	**2.22**	**235**	*e*PN	**Pn**	**00 14 08.6**	**+0.7**
TAHT	**Tahtakopru-Hat**	**2.22**	**235**	*e*Pn	**Pn**	**00 14 08.6**	**+0.7**
CEYT	**Ceyhan**	**2.25**	**254**	*e*PN	**Pb**	**00 14 10.4**	**-1.4**
CEYT	**Ceyhan**	**2.25**	**254**	*e*Pn	**Pb**	**00 14 10.4**	**-1.4**
BTMT	**Batman**	**2.46**	**77**	*e*PN	**Pb**	**00 14 14.9**	**-0.5**
BTMT	**Batman**	**2.46**	**77**	*e*Pn	**Pb**	**00 14 14.9**	**-0.5**
SVSK	**Karacayir**	**2.52**	**334**	*e*PN	**Pb**	**00 14 15.2**	**-1.1**
SVSK	**Karacayir**	**2.52**	**334**	*e*Pn	**Pb**	**00 14 15.2**	**-1.1**
VRTB	**Varto-Mus**	**2.79**	**57**	*e*PN	**Pb**	**00 14 19.3**	**-1.8**
VRTB	**Varto-Mus**	**2.79**	**57**	*e*Pn	**Pb**	**00 14 19.3**	**-1.8**
RSDY	**Resadiye-TOKAT**	**2.87**	**343**	*e*PN	**Pb**	**00 14 20.1**	**-2.2**
RSDY	**Resadiye-TOKAT**	**2.87**	**343**	*e*Pn	**Pb**	**00 14 20.1**	**-2.2**
GUMT	**Gumushane**	**2.91**	**16**	*e*PN	**Pb**	**00 14 21.2**	**-1.8**
GUMT	**Gumushane**	**2.91**	**16**	*e*Pn	**Pb**	**00 14 21.2**	**-1.8**
BAYT	**Ayd¨¬ntepe-Bay**	**3.03**	**25**	*e*PN	**Pb**	**00 14 22.7**	**-2.4**
BAYT	**Ayd¨¬ntepe-Bay**	**3.03**	**25**	*e*Pn	**Pb**	**00 14 22.7**	**-2.4**
NIG	**Nigde**	**3.07**	**280**	*e*PN	**Pn**	**00 14 22.3**	**+2.5**
NIG	**Nigde**	**3.07**	**280**	*e*Pn	**Pn**	**00 14 22.3**	**+2.5**
SIRT	**Sirnak**	**3.17**	**92**	*e*PN	Pb	00 14 24.1	-3.4
SIRT	**Sirnak**	**3.17**	**92**	*e*Pn	Pb	00 14 24.1	-3.4
EZM	**Erzurum**	**3.19**	**45**	*e*PN	Pb	00 14 24.6	-3.4
CUKT	**Cukurca**	**4.12**	**94**	*e*PN	Pn	00 14 37.6	+3.5
CUKT	**Cukurca**	**4.12**	**94**	*e*Pn	Pn	00 14 37.6	+3.5

IDC 10 00:32:26.6±4.3, 17.83S×172.67W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/21, mbtmp3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx3.1/29, Error ellipse: s-maj=287.4km s-min=31.2km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**12.35**	**202**	LR	LR	00 39 10.2	
	comp=Z,191nm,21.5s,baz=85,slow=33						
WRA	**Warramunga Arr**	**50.01**	**259**	P	P	00 41 22.4	-0.9
	0.6nm,1.0s,baz=95,slow=7.5,SNR=4.4						
ASAR	**Alice Springs**	**50.07**	**254**	P	P	00 41 23.7	0.0
	1.4nm,0.6s,baz=88,slow=8.6,SNR=22						
PDAR	**Pinedale Array**	**83.60**	**41**	P	P	00 44 56.6	-0.7
	0.5nm,1.0s,baz=226,slow=5.2,SNR=2.9						
BRTR	**Keskin Array B**	**148.46**	**319**	PKPbc	PKPbc	00 52 16.4	+0.7
	0.6nm,0.9s,baz=19,slow=4.9,SNR=3.4						

*ISCJB **10** 00:32:36.6±0.6, 37.27N±0.03×36.24E±0.03, h0km±6km, Error ellipse: s-maj=4.7km s-min=3.7km az=171.5*
*DDA **10** 00:32:36.6, 37.34N×36.26E, h7km, ML3.5*
*ISK **10** 00:32:36.2, 37.27N×36.25E, h5km, MD3.3*
*CSEM **10** 00:32:37.0±0.2, 37.27N×36.24E, h0km±1km, MD3.3, Error ellipse: s-maj=2.6km s-min=2.1km az=173.0*
ISC 10 00:32:37.1±1.1, 37.28N±0.03×36.24E±0.02, h3km±10km, n45, σ0.66/62, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.38**	**302**	*e*PG	**Pg**	**00 32 44.3**	**-0.1**
KOZT				*e*SG	**Sg**	**00 32 50.6**	**+1.1**
KOZT	**Kozan**	**0.38**	**302**	*e*Pg	**Pg**	**00 32 44.3**	**-0.1**
KOZT				*e*Sg	**Sg**	**00 32 50.6**	**+1.1**
CEYT	**Ceyhan**	**0.47**	**236**	*e*PG	**Pg**	**00 32 46.0**	**-0.1**
CEYT				*e*SG	**Sg**	**00 32 53.1**	**+0.8**
CEYT	**Ceyhan**	**0.47**	**236**	*e*Pg	**Pg**	**00 32 46.0**	**-0.1**
CEYT				*e*Sg	**Sg**	**00 32 53.1**	**+0.8**
KMRS	**Kahramanmaras**	**0.58**	**67**	*e*PG	**Pg**	**00 32 47.4**	**-0.7**
KMRS				*e*SG	**Sg**	**00 32 55.6**	**0.0**
KMRS	**Kahramanmaras**	**0.58**	**67**	*e*Pg	**Pg**	**00 32 47.4**	**-0.7**
KMRS				*e*Sg	**Sg**	**00 32 55.6**	**0.0**
KUZU	**Kuzuini**	**0.84**	**127**	*i* P	**Pg**	**00 32 53.3**	**+0.2**
KUZU				*i* S	**Sg**	**00 33 04.7**	**+0.6**
KUZU	**Kuzuini**	**0.84**	**127**	*i* P	**Pg**	**00 32 53.3**	**+0.2**
KUZU				*i* S	**Sg**	**00 33 04.7**	**+0.6**
TAHT	**Tahtakopru-Hat**	**0.90**	**183**	*e*PG	**Pg**	**00 32 53.9**	**-0.4**
TAHT	**Tahtakopru-Hat**	**0.90**	**183**	*e*Pg	**Pg**	**00 32 53.9**	**-0.4**
GZT	**Gaziantep**	**1.06**	**85**	*i* P	**Pg**	**00 32 57.1**	**-0.3**
GZT				*i* S	**Sg**	**00 33 10.5**	**-0.7**
GULE	**Gulek**	**1.16**	**271**	*i* P	**Pg**	**00 32 57.4**	**-2.0**
GULE	**Gulek**	**1.16**	**271**	*i* P	**Pg**	**00 32 57.4**	**-2.0**
YAYL	**Yayladag**	**1.25**	**185**	*i* P	**Pg**	**00 33 00.8**	**-0.2**
YAYL				*i* S	**Sb**	**00 33 17.6**	**-0.2**
YAYL	**Yayladag**	**1.25**	**185**	*i* P	**Pg**	**00 33 00.8**	**-0.2**
YAYL				*i* S	**Sb**	**00 33 17.6**	**-0.2**
PINB	**Pinarbasi**	**1.40**	**5**	*i* P	**Pn**	**00 33 03.6**	**-0.1**
PINB				*i* S	**Sn**	**00 33 23.2**	**+0.2**
PINB	**Pinarbasi**	**1.40**	**5**	*i* P	**Pn**	**00 33 03.7**	**-0.1**
PINB				*i* S	**Sn**	**00 33 23.2**	**+0.2**
MERS	**Mersin**	**1.43**	**254**	*e*PN	**Pn**	**00 33 03.6**	**-0.3**
MERS	**Mersin**	**1.43**	**254**	*e*Pn	**Pn**	**00 33 03.7**	**-0.3**
DARE	**Darende-Malaty**	**1.62**	**37**	*e*PN	**Pn**	**00 33 05.8**	**-0.9**
DARE	**Darende-Malaty**	**1.62**	**37**	*e*Pn	**Pn**	**00 33 05.8**	**-0.9**
ATAB	**Bozova**	**1.65**	**83**	*i* P	**Pb**	**00 33 07.8**	**-0.4**
ATAB				*i* S	**Sb**	**00 33 29.6**	**+0.2**
ATAB	**Bozova**	**1.65**	**83**	*i* P	**Pb**	**00 33 07.8**	**-0.4**
ATAB				*i* S	**Sb**	**00 33 29.6**	**+0.2**
AKCD	**Akcadag**	**1.68**	**52**	*i* P	**Pn**	**00 33 07.8**	**+0.3**
AKCD				*i* S	**Sn**	**00 33 29.8**	**+0.2**
AKCD	**Akcadag**	**1.68**	**52**	*i* P	**Pn**	**00 33 07.8**	**+0.3**
AKCD				*i* S	**Sn**	**00 33 29.8**	**+0.2**
MALT	**Malatya**	**2.02**	**59**	*e*PN	**Pn**	**00 33 12.2**	**0.0**
MALT	**Malatya**	**2.02**	**59**	*e*Pn	**Pn**	**00 33 12.2**	**0.0**
URFA	**Urfa**	**2.07**	**85**	*e*PN	**Pn**	**00 33 13.1**	**+0.3**
URFA	**Urfa**	**2.07**	**85**	*e*Pn	**Pn**	**00 33 13.1**	**+0.3**
IKL	**Isikli**	**2.29**	**244**	*e*PN	**Pn**	**00 33 15.2**	**-0.6**
IKL	**Isikli**	**2.29**	**244**	*e*Pn	**Pn**	**00 33 15.2**	**-0.6**
SULT	**Sultanhani-AKS**	**2.34**	**294**	*e*PN	**Pn**	**00 33 16.8**	**+0.2**
SULT	**Sultanhani-AKS**	**2.34**	**294**	*e*Pn	**Pn**	**00 33 16.8**	**+0.2**
YOZ	**Yozgat**	**2.46**	**343**	*e*PN	**Pn**	**00 33 18.9**	**+0.6**
YOZ	**Yozgat**	**2.46**	**343**	*e*Pn	**Pn**	**00 33 18.9**	**+0.6**
SVSK	**Karacayir**	**2.70**	**13**	*e*PN	**Pn**	**00 33 21.8**	**+0.4**
SVSK	**Karacayir**	**2.70**	**13**	*e*Pn	**Pn**	**00 33 21.8**	**+0.4**
ILIC	**ilic-Erzincan**	**2.84**	**39**	*e*PN	**Pn**	**00 33 23.9**	**+0.4**
ILIC	**ilic-Erzincan**	**2.84**	**39**	*e*Pn	**Pn**	**00 33 23.9**	**+0.4**
PTK	**Pertek**	**2.97**	**56**	*e*PN	**Pn**	**00 33 25.7**	**+0.5**
PTK	**Pertek**	**2.97**	**56**	*e*Pn	**Pn**	**00 33 25.7**	**+0.5**
AFSR	**Af¨ar-Bala (A**	**3.30**	**312**	*e*PN	**Pn**	**00 33 31.2**	**+1.5**
AFSR	**Af¨ar-Bala (A**	**3.30**	**312**	*e*Pn	**Pn**	**00 33 31.2**	**+1.5**
MAZI	**Mazidag**	**3.36**	**86**	*e*PN	**Pn**	**00 33 30.9**	**+0.3**
MAZI	**Mazidag**	**3.36**	**86**	*e*Pn	**Pn**	**00 33

FINES	**FINESS Array B**	**124.98**	**28**	PKP		PKPdf	01 45 57.2	-1.0
	1.0nm,0.8s,baz=132,slow=4.1,SNR=4.3							
YKA	**Yellowknife Ar**	**136.96**	**317**	PKP		PKPdf	01 46 20.4	-0.4
	0.4nm,0.5s,baz=124,slow=2.4,SNR=6.8							
INK	**Inuvik**	**146.61**	**320**	PKPbc		PKPbc	01 46 38.7	-0.8
	1.4nm,0.4s,baz=128,slow=2.6,SNR=14							
ILAR	**Eielson Array**	**150.87**	**310**	PKPbc		PKPbc	01 46 50.4	-0.2
	1.3nm,0.7s,baz=123,slow=1.7,SNR=17							
ILAR				PKPab		PKPab	01 46 57.8	-0.2
	0.8nm,0.8s,baz=86,slow=3.3,SNR=6.8							

*NEIC **10** 01:31:46.0, 19.°20N×67.°27W, h25km, MD3.7(RSPR), After RSPR.*

RSPR 10 01:31:46.0, 19.°20N×67.°27W, h25km±19km, MD3.8/12, 28C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.74**	**168**	*e*P			Pb	01 31 57.8	-2.4
AGPR	**Aguadilla, PR**	**0.74**	**168**	*e*S			Sb	01 32 08.0	-1.9
AGPR	**Aguadilla, PR**	**0.74**	**168**	*e*Pg			Pb	01 31 57.7	-2.5
AGPR				*e*S			Sb	01 32 09.1	-0.8
IDE	**Isla Desecheo**	**0.83**	**194**	*e*P			Pb	01 31 59.4	-2.4
IDE	**Isla Desecheo**	**0.83**	**194**	*e*P			Pb	01 31 59.4	-2.4
IDE				*e*S			Sb	01 32 11.0	-1.5
AOPR	**Arecibo Observ**	**0.97**	**150**	*e*P			Pn	01 32 01.7	-2.4
AOPR	**Arecibo Observ**	**0.97**	**150**	*e*P			Pn	01 32 01.7	-2.4
AOPR				*e*S			Sb	01 32 14.6	-2.1
LRS	**Lares**	**0.98**	**156**	*e*P			Pn	01 32 01.4	-2.9
LRS	**Lares**	**0.98**	**156**	*e*Pg			Pn	01 32 01.2	-3.1
MPR	**Mayaguez**	**0.99**	**173**	*e*P			Pn	01 32 01.6	-2.7
MPR				*e*S			Sb	01 32 14.3	-2.7
MPR	**Mayaguez**	**0.99**	**173**	*e*P			Pn	01 32 01.6	-2.7
MPR				*e*S			Sb	01 32 14.3	-2.7
LSP	**Las Mesas**	**1.03**	**170**	*e*P			Pn	01 32 02.2	-2.7
LSP	**Las Mesas**	**1.03**	**170**	*e*Pg			Pn	01 32 02.2	-2.7
CRPR	**Cabo Rojo, PR**	**1.19**	**173**	*e*P			Pn	01 32 05.2	-1.9
CRPR	**Cabo Rojo, PR**	**1.19**	**173**	*e*P			Pn	01 32 05.2	-1.9
CRPR				*e*S			Sn	01 32 19.9	-2.6
IMO	**Isla Mona**	**1.24**	**209**	*e*P			Pn	01 32 05.7	-2.0
IMO	**Isla Mona**	**1.24**	**209**	*e*P			Pn	01 32 05.7	-2.0
PCDR	**Punta Cana, DR**	**1.25**	**237**	*e*P			Pn	01 32 06.1	-1.8
PCDR	**Punta Cana, DR**	**1.25**	**237**	*e*P			Pn	01 32 06.1	-1.8
PCDR				*e*S			Sn	01 32 20.8	-3.3
GBPR	**Guanica, Bosqu**	**1.27**	**163**	*e*P			Pn	01 32 06.1	-2.0
GBPR	**Guanica, Bosqu**	**1.27**	**163**	*e*P			Pn	01 32 06.1	-2.0
GBPR				*e*S			Sn	01 32 21.3	-3.1
CELP	**Cerrillos**	**1.29**	**150**	*e*P			Pn	01 32 06.4	-2.1
CELP	**Cerrillos**	**1.29**	**150**	*e*P			Pn	01 32 06.4	-2.1
SJG	**San Juan**	**1.51**	**135**	*e*P			Pn	01 32 09.5	-2.0
SJG	**San Juan**	**1.51**	**135**	*e*P			Pn	01 32 09.4	-2.1
SJG	**San Juan**	**1.51**	**135**	*e*Pn			Pn	01 32 09.6	-1.9
SJG				*e*S			Sn	01 32 29.4	-1.0
CBYP	**Canovanas**	**1.62**	**124**	*e*P			Pn	01 32 10.4	-2.7
CBYP	**Canovanas**	**1.62**	**124**	*e*P			Pn	01 32 10.8	-2.3
CBYP	**Canovanas**	**1.62**	**124**	*e*Pn			Pn	01 32 10.4	-2.7
CBYP				*e*S			Sn	01 32 31.4	-1.9
HUMP	**Col San Antoni**	**1.70**	**128**	*e*P			Pn	01 32 11.9	-2.2
HUMP	**Col San Antoni**	**1.70**	**128**	*e*P			Pn	01 32 11.9	-2.2
HUMP	**Col San Antoni**	**1.70**	**128**	*e*P			Pn	01 32 11.9	-2.2
HUMP				*e*S			Sn	01 32 32.6	-2.5
CPD	**Cerro la Pandu**	**1.72**	**132**	*e*P			Pn	01 32 12.4	-2.1
CPD	**Cerro la Pandu**	**1.72**	**132**	*e*P			Pn	01 32 12.4	-2.1
MTP	**Monte Pirata**	**1.96**	**124**	*e*P			Pn	01 32 15.4	-2.2
MTP	**Monte Pirata**	**1.96**	**124**	*e*Pn			Pn	01 32 15.1	-2.6
MTP				*e*S			Sn	01 32 41.8	+0.3
DR12	**Loma Pena Alta**	**2.04**	**259**	*e*P			Pn	01 32 16.9	-2.0
DR12	**Loma Pena Alta**	**2.04**	**259**	*e*P			Pn	01 32 16.9	-2.0
TBVI	**Tortola**	**2.63**	**107**	*e*P			Pn	01 32 25.6	-1.3
TBVI	**Tortola**	**2.63**	**107**	*e*P			Pn	01 32 25.6	-1.3
SDDR	**Presa de Saban**	**3.81**	**267**	*e*P			Pn	01 32 42.5	-0.7
SDDR	**Presa de Saban**	**3.81**	**267**	*e*Pn			Pn	01 32 42.6	-0.6
SDDR				*e*S			Sb	01 33 44.5	+6.1

IDC 10 01:43:06.2±2.1, 2.°84S×129.°64E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=114.6km s-min=24.8km az=73.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Cressi**	**15.67**	**194**	Pn			Pn	01 46 49.5	+1.0
	baz=16,slow=15								
WRA	**Warramunga Arr**	**17.61**	**165**	P			Pn	01 47 11.9	-1.3
	0.3nm,0.3s,baz=347,slow=12,SNR=14								
WRA				S			Sn	01 50 18.0	-12
	0.0nm,0.3s,baz=343,slow=20,SNR=3.4								
ASAR	**Alice Springs**	**21.12**	**169**	P			P	01 47 53.1	+0.4
	2.1nm,0.5s,baz=347,slow=10,SNR=20								
MKAR	**Makanchi Array**	**64.58**	**326**	P			P	01 53 45.4	-0.1
	0.2nm,0.4s,baz=116,slow=7.5,SNR=10								

MEX 10 01:43:51.0±0.5, 16.°08N×99.°13W, h12km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.01**	**72**	*i* P			Pg	01 44 07.5	-3.1
PNIG				*i* S			Sg	01 44 19.8	-3.9
CAIG	**El Cayaco**	**1.46**	**311**	*i* P			Pn	01 44 13.7	-3.5
CAIG				*i* S			Sn	01 44 31.0	-5.2
TLIG	**Tlapa**	**1.57**	**20**	*i* P			Pn	01 44 15.3	-3.6
TLIG				*i* S			Sn	01 44 34.0	-5.4
MEIG	**Mezcala**	**1.89**	**346**	*i* P			Pn	01 44 19.6	-3.7
MEIG				*i* S			Sn	01 44 43.3	-4.1
PLIG	**Platanillo**	**2.33**	**351**	*i* P			Pn	01 44 26.4	-2.9
PLIG				*i* S			Sn	01 44 53.8	-4.2
YAIG	**Yautepec**	**2.77**	**1**	*i* P			Pn	01 44 35.5	+0.1
YAIG				*i* S			Sn	01 45 05.4	-3.6

*ISCJB **10** 02:05:19.0±0.8, 18.°62S±0.°10×169.°5E±0.°1, h240km, mb3.9/10, Error ellipse: s-maj=20.1km s-min=10.4km az=31.9*

*IDC **10** 02:05:24.0±2.5, 18.°96S×169.°42E, h282km±25km, mb3.6/11, mb1 3.7/12, mb1mx3.6/20, mbtmp3.6/12, Error ellipse: s-maj=20.8km s-min=17.5km az=0.0*

ISC 10 02:05:19.9±0.8, 18.°7S±0.°1×169.°6E±0.°2, h240km, n19, σ1°38/21, mb3.9/10, 3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.44**	**221**	P			**Pn**	**02 06 30.7**	**+2.1**
	1.9nm,0.3s,baz=50,slow=19,SNR=15								
DZM				S			**S**	**02 07 24.4**	**+1.2**
	1.8nm,0.3s,baz=127,slow=23,SNR=5.0								
URZ	**Urewera**	**20.57**	**163**	P			**P**	**02 09 40.4**	**-0.1**
	3.1nm,0.4s,baz=307,slow=20,SNR=3.7								
CTA	**Charters Tower**	**22.02**	**263**	P			**P**	**02 09 54.5**	**-0.6**
	2.0nm,0.5s,baz=89,slow=11,SNR=4.3								
STKA	**Stephens Creek**	**28.39**	**237**	P			**P**	**02 10 51.4**	**-0.7**
	2.0nm,0.7s,baz=66,slow=11,SNR=5.9								
WRA	**Warramunga Arr**	**33.23**	**262**	P			**P**	**02 11 32.9**	**-1.8**
	1.0nm,0.3s,baz=96,slow=8.4,SNR=29								
WRA				PcP			**PcP**	**02 14 10.1**	**-1.3**
	0.4nm,0.7s,baz=92,slow=3.8,SNR=4.3								
ASAR	**Alice Springs**	**33.55**	**255**	P			**P**	**02 11 36.4**	**-1.2**
	11nm,0.5s,baz=83,slow=8.9,SNR=165								
USRK	**Ussuriysk Arra**	**71.41**	**332**	P			**P**	**02 16 15.9**	**+2.1**
	1.1nm,0.6s,baz=115,slow=10,SNR=3.0								
PETK	**Petropavlovsk-**	**72.25**	**353**	P			**P**	**02 16 20.4**	**+1.8**
	4.2nm,0.7s,baz=147,slow=8.9,SNR=5.0								
CMAR	**Chiang Mai Arr**	**78.57**	**294**	P			**P**	**02 16 55.6**	**+0.3**
	1.2nm,0.4s,baz=140,slow=4.7,SNR=5.6								
SONM	**Songino Array**	**86.98**	**323**	P			**P**	**02 17 38.4**	**+0.3**
	1.8nm,0.8s,baz=148,slow=4.5,SNR=8.2								
NVAR	**Mina Array Bea**	**88.22**	**48**	P			**P**	**02 17 44.7**	**+0.4**
	0.4nm,0.6s,baz=224,slow=7.6,SNR=4.1								
ILAR	**Eielson Array**	**89.64**	**17**	P			**P**	**02 17 48.8**	**-1.1**
	0.6nm,0.7s,baz=235,slow=5.5,SNR=9.7								
YKA	**Yellowknife Ar**	**100.06**	**27**	P			**Pdif**	**02 18 39.1**	**+1.6**
	0.4nm,0.6s,baz=259,slow=4.3,SNR=5.4								
ARCES	**ARCESS Array B**	**124.63**	**345**	PKP			**PKPdf**	**02 23 48.8**	**-1.3**
	1.0nm,0.6s,baz=80,slow=2.7,SNR=19								
GERES	**GERESS Array B**	**144.17**	**333**	PKP			**PKPab**	**02 24 25.4**	**-0.1**
	1.1nm,0.6s,baz=34,slow=3.7,SNR=13								
MOA	**Molln**	**144.65**	**331**	*i* PKPab			PKPbc	02 24 27.3	0.0
ABTA	**Abfaltersbach**	**146.27**	**331**	*i* PKPbc			**PKPdf**	**02 24 31.0**	**+0.3**
	1.7nm,0.5s								
MOTA	**Moosalm**	**146.44**	**333**	*i* PKPbc			**PKPdf**	**02 24 31.9**	**+0.8**
	1.4nm,0.5s								
TORD	**Torodi Ar. Bea**	**167.09**	**246**	PKP			**PKPdf**	**02 24 55.9**	**-1.8**
	0.8nm,1.0s,baz=111,slow=0.6,SNR=4.7								
TORD				PKPab			**PKPab**	**02 26 01.5**	**-1.8**
	0.2nm,0.7s,baz=114,slow=2.9,SNR=2.4								

GUC 10 02:24:46.2±0.7, 32.°73S×71.°93W, h32km±7km, MD3.6, ML2.4, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.81**	**108**	*i* P			Pn	02 25 00.8	-0.9
ROCH				*i* S			Sn	02 25 12.2	-0.7
ROCH				AML		AML	AML	02 25 13.7	
	comp=N,350nm,0.5s								
PEL	**Peldehue**	**1.12**	**112**	*i* P			Pn	02 25 05.8	+0.1
PEL				*i* S			Sb	02 25 21.5	0.0
PEL				AML		AML	AML	02 25 27.6	
	comp=E,203nm,0.4s								
LNV	**Longovilo**	**1.30**	**161**	*e*P			Pn	02 25 08.8	+0.7
CLCH	**Cerro Calan**	**1.34**	**120**	*i* P			Pn	02 25 09.5	+0.7
CLCH				*i* S			Sb	02 25 27.5	-0.5
CLCH				AML		AML	AML	02 25 36.4	
	comp=E,94nm,0.6s								
CACH	**El Canelo**	**1.78**	**142**	*e*P			Pb	02 25 16.9	-1.4
CACH				*i* S			Sb	02 25 40.4	0.0

IDC 10 02:27:01.0±2.2, 16.°57S×172.°80W, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.0/23, mbtmp4.1/5, ML1.7/1, Error ellipse: s-maj=64.7km s-min=23.5km az=117.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.82**	**21**	Pn			Pn	02 27 47.7	+0.3
	6.5nm,0.3s,baz=190,slow=11,SNR=4.6								
AFI				Sn			Sn	02 28 22.6	+0.3
	28nm,0.3s,baz=196,slow=23,SNR=5.0								
URZ	**Urewera**	**23.36**	**200**	P			P	02 32 10.8	-0.4
	5.0nm,0.5s,baz=343,slow=3.0,SNR=6.1								
STKA	**Stephens Creek**	**43.97**	**241**	P			P	02 35 11.2	+0.9
	1.9nm,0.7s,baz=107,slow=11,SNR=3.2								
WRA	**Warramunga Arr**	**50.15**	**258**	P			P	02 35 58.2	-0.5
	0.7nm,0.5s,baz=94,slow=7.1,SNR=16								
ASAR	**Alice Springs**	**50.31**	**253**	P			P	02 35 59.7	-0.3
	2.6nm,0.5s,baz=88,slow=8.5,SNR=39								

*DJA **10** 02:30:38.0±1.5, 55.°N±15.°×15.°4E±2.°4, h620km±18km, M5.8/29, mb6.0/29, mB6.1/28, Mw(mB)5.7/28*

*BGS **10** 02:30:49.5±1.2, 53.°34N×156.°08E, h656km, mb5.8*

*ISCJB **10** 02:30:50.9±0.1, 53.°44N±0.°02×152.°73E±0.°02, h649km±1km, mb6.0/533, Error ellipse: s-maj=2.5km s-min=1.4km az=165.5*

*MOS **10** 02:30:50.6±0.8, 53.°45N×152.°77E, h643km, mb6.2/118, Error ellipse: s-maj=6.5km s-min=3.9km az=96.2*

*NEIC **10** 02:30:51.0±0.0, 53.°46N×152.°68E, h641km Best double couple: NP1:φs19.00000°, δ68.00000°, λ-56.00000°. NP2:φs139.00000°, δ38.00000°, λ-142.00000°. Principal axes: T 2.3900, Plg16.0000°, Azm85.0000°; N 0.0300, Plg30.0000°, Azm185.0000°; P -2.4300, Plg54.0000°, Azm330.0000°;*

*BJI **10** 02:30:51.0, 53.°39N×152.°69E, h651km, mB5.8/42, mb6.0/64*

*NEIC **10** 02:30:52.7±0.1, 53.°42N×152.°76E, mb6.1/251, ME5.8, MW6.2, MW6.3, MW6.3, Error ellipse: s-maj=3.0km s-min=1.9km az=156.0, Moment Tensor Solution. s114 Moment tensor: Scale 10¹⁸Nm; Mrr=2.02; Mθθ-1.03; Mφφ3.05; Mrθ-1.84; Mθφ-0.41; Mφr-1.51; Best double couple: M₀3.60000×10¹⁸ NP1:φs27.00000°, δ68.00000°, λ-54.00000°. NP2:φs144.00000°, δ41.00000°, λ-146.00000°. Principal axes: T 3.4700, Plg15.0000°, Azm91.0000°; N 0.2700, Plg32.0000°, Azm192.0000°; P -3.7400, Plg52.0000°, Azm339.0000°; Broadband fault plane solution: P waves. NP1:φs141.00000°, δ40.00000°, λ-148.00000°. NP2:φs25.00000°, δ70.00000°, λ-55.00000°. Principal axes: T Plg18.0000°, Azm90.0000°; N Plg0.0000°, Azm0.0000°; P Plg52.0000°, Azm336.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

*IDC **10** 02:30:53.0±0.3, 53.°45N×152.°75E, h661km±3km, mb5.4/46, mb1 5.5/48, mb1mx5.5/48, mbtmp6.4/48 Error ellipse: s-maj=5.1km s-min=4.6km az=127.0*

*GCMT **10** 02:30:54.9±0.1, 53.°44N×152.°77E, h656km, MW6.3, Moment Tensor Solution. s138, c327; s99, c146; Moment tensor: Scale 10¹⁸Nm; Mrr-1.78±.02; Mθθ-1.07±.02; Mφφ2.85±.02; Mrθ-1.34±.02; Mθφ-0.61±.02; Mφr-1.51±.02; Best double couple: M₀3.30000×10¹⁸ NP1:φs23.00000°, δ69.00000°, λ-54.00000°. NP2: φs139.00000°, δ41.00000°, λ-147.00000°. Principal axes: T 3.3100, Plg16.0000°, Azm87.0000°; N -0.0900, Plg34.0000°, Azm188.0000°; P -3.2200, Plg52.0000°, Azm336.0000°; Data Used: II IU CU CN IC G. Mantle waves from 103 sta.*

*KRSC **10** 02:30:55.7±0.7, 53.°27N×153.°13E, h597km±6km, ML6.5*

*SZGRF **10** 02:31:06.2, 55.°50N×151.°50E, h656km, mb7.0, Sea of Okhotsk*

*NEIC **10** 02:31:10.0±0.0, 53.°41N×152.°53E, h648km, Moment Tensor Solution. s92 Moment tensor: Scale 10¹⁸Nm; Mrr-1.70; Mθθ-1.21; Mφφ2.90; Mrθ-1.39; Mθφ-0.35; Mφr-1.53; Best double couple: M₀3.30000×10¹⁸ NP1: φs142.00000°, δ41.00000°, λ-147.00000°. NP2: φs27.00000°, δ70.00000°, λ-53.00000°. Principal axes: T 3.3600, Plg17.0000°, Azm90.0000°; N -0.1800, Plg33.0000°, Azm192.0000°; P -3.2000, Plg51.0000°, Azm338.0000°;*

ISC 10 02:30:52.1±0.2, 53.°40N±0.°02×152.°80E±0.°02, h653km±1km, h651km:pP-P, n2185, σ1°24/3066, mb6.1/532, 311C-675D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.65**	**114**	P			**P**	**02 32 12.5**	**-1.4**
MIPR				*i* S			**S**	**02 33 18.4**	**-2.4**
APC	**Apacha**	**2.67**	**99**	*e*P			**P**	**02 32 12.7**	**-1.2**
APC				*i* S			**S**	**02 33 17.9**	**-2.9**
PEA0B	**Petropavlovsk-**	**2.96**	**94**	*e*P			**P**	**02 32 13.8**	**-1.6**
PEA0B				*e*S			**S**	**02 33 22.8**	**-0.7**
PETK	**Petropavlovsk-**	**2.96**	**94**	P			**P**	**02 32 14.1**	**-1.3**
PETK				S			**S**	**02 33 19.4**	**-4.1**
PETK	**Petropavlovsk-**	**2.96**	**94**	P			**P**	**02 32 14.1**	**-1.3**
PETK				S			**S**	**02 33 19.4**	**-4.1**
PETK				ScP			**ScP**	**02 40 39.1**	**+0.1**
PETK				PKiKP			**PKiKP**	**02 46 10.0**	**-0.8**
PETK	**Petropavlovsk-**	**2.96**	**94**	P			**P**	**02 32 14.1**	**-1.3**
	995nm,0.3s,baz=36,slow=2.1,SNR=4144								
PETK				S			**S**	**02 33 19.4**	**-4.1**
	baz=284,slow=7.3,SNR=1.5								
PETK				ScP			**ScP**	**02 40 39.1**	**+0.1**
	0.6nm,0.3s,baz=78,slow=3.4,SNR=8.8								
PETK				PKiKP			**PKiKP**	**02 46 10.0**	**-0.8**
	0.5nm,0.3s,baz=151,slow=3.3,SNR=5.0								
GNL	**Ganaly**	**3.08**	**82**	P			**P**	**02 32 14.7**	**-1.4**
PAU	**Pauzhetka**	**3.13**	**127**	P			**P**	**02 32 14.6**	**-1.7**
PAU				S			**S**	**02 33 22.1**	**-2.9**
PAU	**Pauzhetka**	**3.13**	**127**	*e*P			**P**	**02 32 14.6**	**-1.7**
PAU				*i* S			**S**	**02 33 22.1**	**-2.9**
ASAK	**Asacha**	**3.25**	**106**	*e*P			**P**	**02 32 15.4**	**-1.7**
GRL	**Gorelyy**	**3.30**	**103**	P			**P**	**02 32 15.8**	**-1.6**
MTVR	**Mutnovka**	**3.38**	**104**	*e*P			**P**	**02 32 16.1**	**-1.8**
SKR	**Severo-Kuril's**	**3.41**	**142**	*i* P			P	02 32 13.0	-4.9
SKR				*e*S			S	02 33 21.0	-6.8
SKR					pmax	pmax			
	comp=N,5μm,1.0s								
SKR					pmax	pmax			
	comp=E,2μm,1.0s								
SKR					pmax	pmax			
	comp=Z,12μm,1.0s								
SKR					pmax	pmax			
	comp=N,35μm,4.0s								
SKR					pmax	pmax			
	comp=E,33μm,4.0s								
SKR					pmax	pmax			
	comp=Z,70μm,4.0s								
SKR					smax	smax			
	comp=N,35μm,4.0s								
SKR					smax	smax			
	comp=E,28μm,4.0s								
SKR					smax	smax			
	comp=Z,16μm,10.0s								
SKR					smax	smax			
	comp=N,8μm,0.9s								
SKR					smax	smax			
	comp=E,5μm,0.9s								
SKR					smax	smax			
	comp=Z,2μm,0.9s								
SKR					MLR	MLR			
	comp=Z,10μm,8.0s								
SKR					MLR	MLR			
	comp=N,18μm,10.0s								
SKR					MLR	MLR			
	comp=E,10μm,10.0s								
SKR	**Severo-Kuril's**	**3.41**	**142**	*e*P			**P**	**02 32 15.6**	**-2.3**
SKR				*i* S			**S**	**02 33 22.8**	**-5.0**
KOK	**Koryaka**	**3.50**	**89**	P			**P**	**02 32 17.1**	**-1.3**
KRX	**Arik**	**3.50**	**88**	P			**P**	**02 32 17.0**	**-1.5**
INSR	**Institute**	**3.50**	**93**	*e*P			**P**	**02 32 16.7**	**-1.6**
INSR				*i* S			**S**	**02 33 24.7**	**-4.2**
PET	**Petropavlovsk**	**3.54**	**94**	*i* P			**P**	**02 32 16.6**	**-2.0**
PET				*i* S			**S**	**02 33 24.7**	**-4.5**
PET					pmax	pmax			
	comp=Z,42μm,2.8s								
PET					pmax	pmax			
	comp=Z,19μm,0.6s								
PET					pmax	pmax			
	comp=Z,22μm,8.7s								
PET					smax	smax			
	comp=N,95μm,3.5s								
PET					smax	smax			
	comp=N,30μm,1.0s								
PET					smax	smax			
	comp=E,24μm,1.0s								
PET					smax	smax			
	comp=E,166μm,6.8s								
PET					smax	smax			
	comp=N,68μm,11.3s								
PET					smax	smax			
	comp=E,80μm,14.4s								
PET					MLR	MLR			
	comp=Z,15μm,12.0s								
PET					MLR	MLR			
	comp=Z,8μm,10.0s								
PET	**Petropavlovsk**	**3.54**	**94**	*e*P			**P**	**02 32 16.5**	**-2.0**
PET				*i* S			**S**	**02 33 25.0**	**-4.2**
AVH	**Avacha**	**3.56**	**90**	P			**P**	**02 32 17.3**	**-1.5**
KRR	**Koryakskii**	**3.57**	**89**	P			**P**	**02 32 17.4**	**-1.6**
RUS	**Russkaya**	**3.59**	**103**	P			P	02 32 16.3	-2.6
RUS				S			S	02 33 24.3	-5.5
RUS	**Russkaya**	**3.59**	**103**	P			P	02 32 16.3	-2.6
RUS				*i* S			S	02 33 24.3	-5.5
SMAR	**Somma**	**3.60**	**90**	P			**P**	**02 32 17.7**	**-1.5**
UGLR	**Uglovaya**	**3.62**	**91**	P			**P**	**02 32 17.7**	**-1.5**
SDLR	**Sedlovina**	**3.65**	**89**	P			**P**	**02 32 17.6**	**-1.7**
NLC	**Nalytchevo**	**3.94**	**91**	P			**P**	**02 32 18.5**	**-2.4**
NLC				S			**S**	**02 33 28.9**	**-4.7**
NLC	**Nalytchevo**	**3.94**	**91**	*e*P			**P**	**02 32 18.5**	**-2.4**
NLC				*i* S			**S**	**02 33 28.9**	**-4.7**
KII	**Karymskiy**	**4.00**	**78**	*e*P			**P**	**02 32 20.5**	**-0.9**
ESO	**Esso**	**4.26**	**51**	P			**P**	**02 32 22.5**	**-0.5**
ESO				S			**S**	**02 33 37.2**	**-0.3**
ESO	**Esso**	**4.26**	**51**	*e*P			**P**	**02 32 22.5**	**-0.5**
ESO				*i* S			**S**	**02 33 37.2**	**-0.3**
SPN	**Mys Shipunski**	**4.35**	**91**	P			P	02 32 20.9	-2.7
SPN	**Mys Shipunski**	**4.35**	**91**	P			P	02 32 20.9	-2.7
TUMR	**Tumrok**	**4.70**	**63**	P			**P**	**02 32 24.5**	**-1.6**
TUMR				*i* S			**S**	**02 33 41.6**	**-1.6**
KZV	**Kizimen**	**4.72**	**66**	P			**P**	**02 32 24.5**	**-1.8**
KZV				*i* S			**S**	**02 33 40.3**	**-3.3**
KOZ	**Kozyrevsk**	**4.89**	**54**	*e*P			**P**	**02 32 26.4**	**-0.9**
KOZ				*i* S			**S**	**02 33 45.4**	**-0.1**
KOZR	**Kozyr**	**4.91**	**54**	P			**P**	**02 32 26.4**	**-1.1**
KOZR				S			**S**	**02 33 45.4**	**-0.3**
KMNR	**Kamenistaya**	**4.93**	**58**	P			**P**	**02 32 26.3**	**-1.5**
KMNR				*i* S			**S**	**02 33 44.8**	**-1.4**
SRDR	**Sredinnyy**	**4.95**	**51**	*e*P			**P**	**02 32 26.7**	**-1.1**
SRDR				*i* S			**S**	**02 33 46.3**	**-0.1**
KPT	**Kopyto**	**5.02**	**56**	*e*P			**P**	**02 32 26.9**	**-1.5**
KPT				*i* S			**S**	**02 33 46.9**	**-0.4**
KIRR	**Kirishev**	**5.07**	**57**	*e*P			**P**	**02 32 27.0**	**-1.8**
KIRR				*i* S			**S**	**02 33 46.4**	**-1.8**
BZMR	**Bezymyannaya**	**5.14**	**57**	*e*P			**P**	**02 32 27.7**	**-1.6**
BZWR	**Bezymyannyi-We**	**5.15**	**57**	*e*P			**P**	**02 32 28.4**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**5.24**	**58**	*e*P			**P**	**02 32 29.2**	**-0.9**
LGNR	**Loginova**	**5.30**	**56**	P			**P**	**02 32 30.1**	**-0.6**
KRSR	**Krestovskiy**	**5.30**	**55**	*e*P			**P**	**02 32 29.2**	**-1.3**
KRSR				*i* S			**S**	**02 33 50.6**	**-0.7**
ZLN	**Zelenaya**	**5.33**	**57**	*e*P			**P**	**02 32 30.6**	**-0.1**
CIRR	**Tsirk**	**5.35**	**56**	*e*P			**P**	**02 32 31.0**	**+0.1**
KLY	**Klyuchi**	**5.39**	**54**	P			**P**	**02 32 30.1**	**-1.0**
KLY				S			**S**	**02 33 52.7**	**+0.4**
KLY	**Klyuchi**	**5.39**	**54**	*e*P			**P**	**02 32 30.1**	**-1.0**
KLY				*i* S			**S**	**02 33 52.7**	**

comp=N,3μm,0.6s
YUK pmax pmax
comp=E,3μm,0.6s
YUK pmax pmax
comp=Z,3μm,0.6s
YUK smax smax
comp=N,28μm,5.5s
YUK smax smax
comp=E,25μm,5.5s
YUK MLR MLR
comp=N,5μm,9.0s
YUK MLR MLR
comp=E,3μm,9.0s
YUK MLR MLR
comp=Z,6μm,9.0s
ASAJ Asahikawa 11.46 220 *e*P **P** **02 33 23.2 -2.6**
ASAJ eS S 02 35 23.7 -7.7
ASAJ ScP **ScP** **02 40 46.9 -0.1**
ASAJ PKiKP **PKiKP** **02 46 11.8 -0.7**
ASAJ Asahikawa 11.46 220 P **P** **02 33 23.7 -2.1**
comp=Z,86nm,0.3s,baz=11,slow=3.1,SNR=375
ASAJ S **S** **02 35 25.6 -5.8**
comp=Z,1.5nm,0.3s,baz=98,slow=15,SNR=2.8
ASAJ ScP **ScP** **02 40 46.9 -0.1**
comp=Z,2.4nm,0.3s,baz=333,slow=1.5,SNR=6.8
ASAJ PKiKP **PKiKP** **02 46 11.8 -0.7**
comp=Z,1.3nm,0.3s,baz=180,slow=2.0,SNR=5.2
HABR Khabarovsk 12.22 253*c i*P **P** **02 33 33.6 +0.9**
HABR eS **S** **02 35 46.2 +2.4**
HABR pmax pmax
comp=N,1μm,1.0s
HABR pmax pmax
comp=E,5μm,1.0s
HABR pmax pmax
comp=Z,8μm,1.0s
HABR MLR MLR
comp=Z,2μm,13.0s
FX1 Attu Island--F 12.24 84 *e*P **P** **02 33 32.8 +0.1**
FX1 S **S** **02 35 43.3 -0.7**
FX1 *e*ScP **ScP** **02 40 48.6 +0.6**
FX1 ScS **ScS** **02 44 23.5 -0.5**
FX1 Attu Island--F 12.24 84 P **P** **02 33 32.8 +0.1**
comp=Z,4μm,0.3s,baz=313,slow=4.3,SNR=2062
FX1 S **S** **02 35 43.3 -0.7**
comp=Z,54nm,0.3s,baz=75,slow=20,SNR=4.0
FX1 ScP **ScP** **02 40 47.8 -0.2**
comp=Z,16nm,0.3s,baz=272,slow=1.7,SNR=5.1
FX1 ScS **ScS** **02 44 23.5 -0.5**
comp=Z,6.5nm,0.3s,baz=89,slow=18,SNR=6.6
SMY Shemya 12.82 84 *e*P **P** **02 33 38.1 0.0**
SMY Shemya 12.82 84 *e*P **P** **02 33 38.0 0.0**
ERM Erimo 13.09 213 *e*P **P** **02 33 38.4 -2.4**
ERM eS S 02 35 52.4 -6.0
ERM Erimo 13.09 213 *e*P **P** **02 33 38.4 -2.4**
ERM eS S 02 35 52.4 -6.0
ERM Erimo 13.09 213 P **P** **02 33 38.2 -2.6**
comp=Z,24μm,0.5s
KLR Kul'dur 13.79 261*d i*P **P** **02 33 44.6 -2.5**
KLR eS S 02 35 59.5 -10
KLR pmax pmax
comp=N,7μm,8.0s
KLR pmax pmax
comp=E,12μm,8.0s
KLR pmax pmax
comp=Z,2μm,8.0s
YAK Yakutsk 15.00 314*d i*P **P** **02 33 57.7 -0.1**
YAK eS S 02 36 35.0 +6.0
YAK pmax pmax
comp=Z,2μm,1.1s
YAK pmax pmax
comp=N,810nm,1.3s
YAK pmax pmax
comp=E,2μm,1.4s
YAK smax smax
comp=N,10μm,1.1s
YAK smax smax
comp=E,24μm,1.3s
AMKA Amchitka 16.27 86 *e*P **P** **02 34 09.4 -0.3**
AMKA *e*S **S** **02 36 50.0 -0.1**
CLNS Chul'man 16.28 293 *e*P **P** **02 34 10.5 +0.8**
CLNS *e*S **S** **02 36 50.3 +0.1**
CLNS pmax pmax
comp=Z,573nm,1.0s
CLNS pmax pmax
comp=E,2μm,0.9s
CLNS pmax pmax
comp=N,1μm,1.1s
CLNS smax smax
comp=E,2μm,1.5s
CLNS smax smax
comp=N,3μm,1.4s
USRK Ussuriysk Arra 16.46 244 P **P** **02 34 11.3 -0.2**
comp=N,91nm,0.3s,baz=56,slow=7.4,SNR=605
USRK S **S** **02 36 49.8 -3.7**
baz=34,slow=10,SNR=1.4
USRK PcP **PcP** **02 38 21.6 0.0**
comp=N,4.9nm,0.3s,baz=54,slow=2.5,SNR=5.1
USRK ScP **ScP** **02 40 55.8 +0.1**
comp=N,1.9nm,0.3s,baz=333,slow=1.6,SNR=22
VLA Vladivostok 17.25 242*c i*P **P** **02 34 17.9 -0.8**
VLA *i*S **S** **02 37 05.0 -1.1**
VLA pmax pmax
comp=Z,2μm,0.9s
MDJ Mudanjiang 17.51 249 P **P** **02 34 21.3 +0.2**
MDJ PcP **PcP** **02 38 26.4 +3.1**
MDJ ScP **ScP** **02 41 01.0 +3.2**
MDJ PcS **PcS** **02 41 55.1 -4.8**
MDJ pmax pmax
comp=Z,1μm,1.1s
MDJ pmax pmax
comp=Z,4μm,6.8s
MDJ Mudanjiang 17.51 249 *e*P **P** **02 34 21.1 +0.1**
comp=Z,2μm,1.0s
MDJ *e*ScP **ScP** **02 40 56.7 -1.1**
GSTR Great Sitkin T 18.83 81 *e*P **P** **02 34 33.5 +0.6**
MAJO Matsushiro 19.70 217 *e*P **P** **02 34 41.8 +0.9**
MAJO eS **S** **02 37 46.8 +1.5**
MAJO pmax pmax
comp=Z,2μm,1.3s
MAJO Matsushiro 19.70 217 *e*P **P** **02 34 41.8 +0.9**
comp=Z,2μm,1.3s
MAJO eS **S** **02 37 46.8 +1.5**
MAJO *e*PcP **PcP** **02 38 27.0 -0.4**
MAJO *e*ScP **ScP** **02 41 02.5 -0.4**
MAT Matsushiro 19.70 217 P **P** **02 34 41.8 +0.9**
MAT S **S** **02 37 46.5 +1.2**
MJAR Matsushiro Arr 19.70 217 P **P** **02 34 41.9 +0.9**
MJAR PcP **PcP** **02 38 26.9 -0.5**
MJAR ScP **ScP** **02 41 02.0 -1.0**
MJAR *e* 03 08 35.1
MJAR Matsushiro Arr 19.70 217 P **P** **02 34 41.9 +0.9**
comp=Z,86nm,0.3s,baz=29,slow=7.6,SNR=1010
MJAR PcP **PcP** **02 38 27.0 -0.5**
comp=Z,15nm,0.3s,baz=116,slow=1.1,SNR=15
MJAR ScP **ScP** **02 41 02.0 -1.0**
comp=Z,3.2nm,0.3s,baz=23,slow=1.0,SNR=18
MJAR P3KPbc 03 08 35.1
comp=Z,0.2nm,0.3s,baz=197,slow=5.6,SNR=16
CN2 Changchun 20.36 253 *e*P **P** **02 34 46.5 -0.2**
CN2 eS **S** **02 37 53.3 -2.2**
CN2 PcP **PcP** **02 38 28.1 -0.4**
CN2 ScP **ScP** **02 41 04.1 -0.3**
CN2 PcS **PcS** **02 42 05.8 -0.9**
CN2 ScS **ScS** **02 44 47.7 -0.4**
CN2 pmax pmax
comp=Z,200nm,3.0s
GAMB Gambell 20.92 46 *e*P **P** **02 34 51.4 +0.1**
comp=Z,570nm,1.4s
GAMB *e*ScP **ScP** **02 41 07.0 +1.6**
HIA Hailar 20.95 272 *e*P **P** **02 34 52.0 0.0**
comp=Z,588nm,1.1s
TIXI Tiksi 21.09 339 *e*P **P** **02 34 53.3 +0.5**
TIXI pmax pmax
comp=Z,4μm,1.1s
TIXI Tiksi 21.09 339 *e*P **P** **02 34 53.3 +0.5**
comp=Z,4μm,1.1s
TIXI *e*ScP **ScP** **02 41 05.0 -0.6**
SPIA Saint Paul Isl 21.20 65 *e*P **P** **02 34 54.8 +0.8**
comp=Z,2μm,0.6s
JHJ2 Mitsune 22.30 210 *e*P **P** **02 35 03.6 -0.6**
comp=Z,200nm,0.6s
SNY Shenyang 22.68 251 ⇑P **P** **02 35 07.9 +0.6**
SNY sP sP 02 37 46.7 -6.7
SNY S **S** **02 38 29.8 -2.1**
SNY pmax pmax
comp=Z,290nm,1.0s
SNY pmax pmax
comp=Z,4μm,3.0s
TNA Tin City 22.91 43 *e*P **P** **02 35 09.9 +1.0**
comp=Z,853nm,0.8s
TNA *e* 02 38 37.6
TNA *e*ScP **ScP** **02 41 10.5 0.0**
KSRS Korea Array 23.46 237 P **P** **02 35 15.8 +1.5**
comp=Z,737nm,0.8s,baz=36,slow=9.1,SNR=1013
KSRS PcP **PcP** **02 38 35.4 +0.4**
comp=Z,174nm,0.8s,baz=6.9,slow=2.3,SNR=23
KSRS ScP **ScP** **02 41 12.7 +0.1**
comp=Z,134nm,1.0s,baz=25,slow=2.1,SNR=28
KSAR Wonju Array Be 23.49 237 P **P** **02 35 15.8 +1.3**
KSAR PcP **PcP** **02 38 35.4 +0.3**
KSAR ScP **ScP** **02 41 12.7 0.0**
CIT Chita 23.62 283 *e*P **P** **02 35 16.5 +1.0**
CIT *e* 02 38 47.3
CIT pmax pmax
comp=Z,566nm,2.1s
UNV Unalaska Valle 23.91 72 *e*P **P** **02 35 16.4 -1.6**
comp=Z,1μm,1.2s
UNV eS **S** **02 38 51.5 +0.5**
UNV *e*ScP **ScP** **02 41 12.8 -0.7**
INCN Inchon 24.10 239 P **P** **02 35 20.9 +0.9**
SNR=10.0
INCN Inchon 24.10 239 *e*P **P** **02 35 20.2 +0.3**
comp=Z,373nm,0.9s
AKUT Akutan 24.25 71 *e*P **P** **02 35 20.1 -0.9**
comp=Z,1μm,0.5s
FALS False Pass 25.39 69 *e*P **P** **02 35 30.3 -0.6**
comp=Z,801nm,0.6s
FALS *e*PcP **PcP** **02 38 38.8 -0.3**
FALS *e*ScP **ScP** **02 41 17.6 -0.1**
JNU Nakatsue 25.61 226 *e*P **P** **02 35 34.4 +1.2**
comp=Z,130nm,0.7s
JNU PcP **PcP** **02 38 39.1 -1.0**
JNU S **S** **02 39 15.6 -2.5**
JNU ScP **ScP** **02 41 18.1 -0.8**
JNU Nakatsue 25.61 226 P **P** **02 35 34.3 +1.0**
comp=Z,211nm,0.4s,baz=56,slow=8.1,SNR=294
JNU PcP **PcP** **02 38 39.1 -1.0**
comp=Z,66nm,1.0s,baz=90,slow=3.0,SNR=3.0
JNU S **S** **02 39 15.6 -2.5**
comp=Z,130nm,0.9s,baz=229,slow=20,SNR=7.6
JNU ScP **ScP** **02 41 18.1 -0.8**
comp=Z,175nm,1.0s,baz=41,slow=5.0,SNR=7.5
SDPT Sand Point 26.89 67 *e*P **P** **02 35 42.1 -1.9**
comp=Z,380nm,0.4s
CBIJ Chichi jima 27.43 201 *e*P **P** **02 35 49.8 +0.6**
comp=Z,445nm,0.6s
CBIJ PcP **PcP** **02 38 43.8 -0.7**
CBIJ S **S** **02 39 46.4 0.0**
CBIJ *e*ScP **ScP** **02 41 23.3 -1.1**
JCJ Chichijima 27.43 201 P **P** **02 35 49.7 +0.5**
comp=Z,954nm,0.5s,baz=47,slow=4.4,SNR=88
JCJ PcP **PcP** **02 38 43.8 -0.7**
comp=Z,235nm,0.6s,baz=310,slow=3.6,SNR=4.7
JCJ S **S** **02 39 46.4 -0.1**
comp=Z,129nm,0.9s,baz=180,slow=19,SNR=5.1
JCJ ScP **ScP** **02 41 23.4 -1.0**
comp=Z,296nm,0.8s,baz=135,slow=1.4,SNR=5.8
BJI Beijing 28.10 257 P **P** **02 35 55.0 +0.3**
BJI PcP **PcP** **02 38 45.5 -0.5**
BJI sP **sP** **02 38 47.7 -1.9**
BJI S **S** **02 39 54.3 -2.0**
BJI ScP **ScP** **02 41 26.5 +0.3**
BJI PcS **PcS** **02 42 28.2 -0.8**
BJI ScS **ScS** **02 45 20.0 -0.4**
BJI pmax pmax
comp=Z,280nm,1.1s
BJI pmax pmax
comp=Z,2μm,4.0s
BJT Baijiatuau 28.11 256 *e*P **P** **02 35 54.9 0.0**
comp=Z,154nm,0.4s
BJT *e* 02 37 29.9
BJT *e* 02 38 45.9
BJT *e*ScP **ScP** **02 41 25.8 -0.5**
SVW2 Sparrevohn 28.28 53 *e*P **P** **02 35 57.2 +1.2**
IM04 Indian Mountai 28.74 43 *e*P **P** **02 36 00.4 +0.5**
IRK Irkutsk 28.90 288 *e*P **P** **02 35 59.9 -1.6**
IRK *e* 02 38 46.9
IRK *e*S **S** **02 40 08.1 -0.4**
IRK pmax pmax
comp=Z,586nm,2.1s
ULN Ulaanbaatar 29.13 278 P **P** **02 36 05.0 +1.3**
SNR=40
ULN Ulaanbaatar 29.13 278 *e*P **P** **02 36 04.6 +0.9**
ULN *e* 02 37 34.7
ULN *e* 02 38 48.0
ULN *e*S **S** **02 40 12.2 -0.3**
ULN *e*ScP **ScP** **02 41 28.6 -1.1**
TLY Talaya 29.48 287 P **P** **02 36 08.3 +1.9**
comp=Z,2μm,1.0s,SNR=71
TLY Talaya 29.48 287 *i* P **P** **02 36 07.9 +1.5**
TLY *e* 02 38 49.6
TLY *e* 02 39 00.1
TLY *i*S **S** **02 40 20.2 +2.9**
TLY pmax pmax
comp=Z,563nm,1.2s
TLY Talaya 29.48 287 *e*P **P** **02 36 07.8 +1.5**
comp=Z,425nm,1.0s
TLY *e* 02 37 39.5
TLY *e*PcP **PcP** **02 38 50.2 +0.8**
TLY *e*S **S** **02 40 21.8 +4.5**
TLY *e*ScP **ScP** **02 41 29.9 -0.7**
SONM Songino Array 29.54 278 P **P** **02 36 08.3 +1.2**
SONM PcP **PcP** **02 38 49.7 -0.1**
SONM S **S** **02 40 18.9 +0.3**
SONM ScP **ScP** **02 41 29.9 -1.0**
SONM *e* 03 07 50.4
SONM PKKKP 03 08 56.9
SONM Songino Array 29.54 278 P **P** **02 36 08.3 +1.2**
comp=Z,59nm,0.5s,baz=62,slow=8.1,SNR=328
SONM PcP **PcP** **02 38 49.7 -0.1**
comp=Z,108nm,0.6s,baz=119,slow=1.8,SNR=13
SONM S **S** **02 40 18.9 +0.3**
comp=Z,32nm,1.1s,baz=70,slow=12,SNR=3.6
SONM ScP **ScP** **02 41 29.9 -1.0**
comp=Z,32nm,0.8s,baz=73,slow=2.4,SNR=5.6
SONM P3KPbc 03 07 50.4
comp=Z,1.7nm,0.7s,baz=242,slow=5.4,SNR=8.6
SONM P3KP 03 08 56.8
comp=Z,1.9nm,1.1s,baz=281,slow=0.7,SNR=3.5
CAST Castle Rocks 29.62 48 *e*P **P** **02 36 08.7 +1.2**
comp=Z,667nm,0.9s
PPLA Purkeypile 29.64 49 *e*P **P** **02 36 09.2 +1.4**
comp=Z,1μm,1.0s
PPLA *e*S **S** **02 40 23.8 +4.1**
PPLA *e*ScP **ScP** **02 41 31.8 +0.8**
RSO Redoubt South 29.75 54 *e*P **P** **02 36 09.6 +0.7**
SPU Mount Spurr 29.96 53 *e*P **P** **02 36 11.6 +1.2**
COLD Coldfoot 30.16 41 *e*P **P** **02 36 12.6 +0.7**
comp=Z,910nm,0.8s
TIA Tai'an 30.18 250 ⇑P **P** **02 36 13.0 +0.4**
TIA sP **sP** **02 39 08.6 +0.1**
TIA pmax pmax
comp=Z,380nm,0.9s
TIA pmax pmax
comp=Z,2μm,3.0s
ZAK Zakamensk 30.22 285 *e*P **P** **02 36 13.8 +1.0**
ZAK *e* 02 40 29.9
ZAK pmax pmax
comp=Z,179nm,1.2s
OHAK Old Harbor 30.24 61 *e*P **P** **02 36 12.5 -0.3**
comp=Z,1μm,1.0s
HHC Hu-ho-hao-te 30.30 262 *e*P **P** **02 36 13.9 +0.2**
HHC S **S** **02 40 26.3 -4.0**
HHC ScP **ScP** **02 41 33.2 -0.4**
HHC pmax pmax
comp=Z,240nm,0.9s
HHC pmax pmax
comp=Z,1μm,5.0s
TRF Thorofare Moun 30.42 48 *e*P **P** **02 36 15.1 +0.6**
comp=Z,852nm,0.9s
TRF *e*S **S** **02 40 26.4 -5.3**
TRF *e*ScP **ScP** **02 41 34.3 +0.7**
KDAK Kodiak Island 30.46 60 *e*P **P** **02 36 14.0 -0.6**
comp=Z,910nm,1.0s
KDAK Kodiak Island 30.46 60 P **P** **02 36 14.0 -0.6**
comp=Z,6μm,0.5s
MCK McKinley 30.98 47 *e*P **P** **02 36 19.3 +0.3**
MCK *e*S **S** **02 40 38.1 -1.8**
MCK pmax pmax
comp=Z,819nm,0.7s
MCK McKinley 30.98 47 *e*P **P** **02 36 19.3 +0.3**
comp=Z,819nm,0.7s
MCK *e*S **S** **02 40 38.0 -1.8**
MCK *e*ScP **ScP** **02 41 35.4 +0.1**
MOY Mondy 31.00 288 *e*P **P** **02 36 21.1 +1.7**
MOY *e* 02 40 40.4
MOY pmax pmax
comp=Z,554nm,2.6s
RC01 Rabbit Creek A 31.08 53 *e*P **P** **02 36 19.3 -0.5**
comp=Z,505nm,0.7s
RC01 *e*PcP **PcP** **02 38 53.8 +0.2**
RC01 *e*S **S** **02 40 36.4 -5.1**
RC01 *e*ScP **ScP** **02 41 36.0 +0.3**
PMR Palmer 31.26 51 *e*P **P** **02 36 21.9 +0.6**
PMR Palmer 31.26 51 *e*P **P** **02 36 21.9 +0.6**
COLA College 31.29 45 *e*P **P** **02 36 22.5 +0.9**
COLA *e* 02 38 56.4
COLA *e*S **S** **02 40 43.8 -0.7**
COLA pmax pmax
comp=Z,440nm,0.9s
COLA College 31.29 45 *e*P **P** **02 36 22.4 +0.9**
comp=Z,440nm,0.9s
COLA *e*PcP **PcP** **02 38 56.4 +2.4**
COLA *e*S **S** **02 40 43.8 -0.7**
COLA *e*ScP **ScP** **02 41 36.0 -0.2**
BTO Baotou 31.36 263 *e*P **P** **02 36 23.9 +1.2**
SEW Seward 31.44 54 *e*P **P** **02 36 22.6 -0.2**
comp=Z,2μm,1.4s
SEW *e*S **S** **02 40 46.3 -0.5**
SEW *e*ScP **ScP** **02 41 37.7 +0.8**
ILAR Eielson Array 31.71 45 P **P** **02 36 25.4 +0.2**
ILAR S **S** **02 40 49.4 -1.6**
ILAR ScP **ScP** **02 41 36.6 -1.2**
ILAR *e* 03 07 37.8
ILAR P4KP 03 17 49.8
ILAR Eielson Array 31.71 45 P **P** **02 36 25.4 +0.2**
comp=Z,403nm,0.7s,baz=277,slow=7.5,SNR=1566
ILAR S **S** **02 40 49.4 -1.6**
comp=Z,74nm,1.0s,baz=268,slow=12,SNR=10
ILAR ScP **ScP** **02 41 36.6 -1.2**
comp=Z,154nm,1.0s,baz=290,slow=3.8,SNR=12
ILAR P3KPbc 03 07 37.8
comp=Z,12nm,1.0s,baz=99,slow=1.6,SNR=5.5
ILAR P4KP 03 17 49.8
comp=Z,0.8nm,0.7s,baz=282,slow=3.8,SNR=7.3
TIY Taiyuan 31.82 257 *e*P **P** **02 36 27.1 +0.5**
TIY sP **sP** **02 39 23.5 +0.3**
TIY S **S** **02 40 52.1 -1.4**
TIY pmax pmax
comp=Z,1μm,4.2s
SSE Sheshan 31.89 238 P **P** **02 36 27.2 +0.1**
SSE sP **sP** **02 39 22.0 -1.7**
SSE S **S** **02 40 53.9 -0.6**
SSE pmax pmax
comp=Z,230nm,0.9s
SSE pmax pmax
comp=Z,960nm,9.6s
JOW Kunigami 32.18 224 *e*P **P** **02 36 29.5 -0.1**
comp=Z,119nm,0.5s
NJ2 Nanjing 32.35 242 *e*P **P** **02 36 31.2 +0.3**
NJ2 PcP **PcP** **02 38 57.4 -0.2**
NJ2 sP sP 02 39 22.0 -5.8
NJ2 S **S** **02 40 59.0 -2.4**
NJ2 ScP **ScP** **02 41 40.2 -0.3**
NJ2 SS **SS** **02 44 17.3 +3.3**
NJ2 ScS **ScS** **02 45 39.1 -2.7**
NJ2 pmax pmax
comp=Z,420nm,0.9s
NJ2 pmax pmax
comp=Z,1μm,7.5s
PAX Paxson 32.65 48 *e*P **P** **02 36 32.6 -0.6**
PAX eS **S** **02 41 06.1 +0.7**
PAX pmax pmax
comp=Z,211nm,0.7s
PAX Paxson 32.65 48 *e*P **P** **02 36 32.6 -0.6**
comp=Z,211nm,0.7s
PAX eS **S** **02 41 06.1 +0.7**
PAX *e*ScP **ScP** **02 41 42.3 +1.1**
DIV Divide 32.94 52 *e*P **P** **02 36 36.3 +0.7**
comp=Z,2μm,1.3s
DIV eS **S** **02 41 10.8 +1.0**
DOT Dot Lake 33.13 47 *e*P **P** **02 36 36.5 -0.6**
MID Middleton Isla 33.13 55 *e*P **P** **02 36 38.0 +0.9**
MID pmax pmax
comp=Z,2μm,1.0s
MID Middleton Isla 33.13 55 *e*P **P** **02 36 38.0 +0.9**
comp=Z,2μm,1.0s
MIDW Midway 33.37 127 *e*P **P** **02 36 40.0 +0.5**
comp=Z,450nm,0.8s
MIDW *e*PcP **PcP** **02 39 00.8 +0.3**
MIDW *e*ScP **ScP** **02 41 44.2 0.0**
MENT Mentasta 33.44 48 *e*P **P** **02 36 40.1 +0.4**
BMRM Bremner River 33.53 52 *e*P **P** **02 36 41.3 +0.8**
RAGM Ragged Mountai 33.66 53 *e*P **P** **02 36 42.7 +1.1**
comp=Z,2μm,1.4s
DAWY Dawson 35.04 45 *e*P **P** **02 36 53.0 0.0**
HVS Khovu-Aksy 35.34 291*d i*P **P** **02 36 56.7 +1.1**
HVS pmax pmax
comp=Z,3μm,1.2s
WHN Wuhan 35.95 246 ⇑*i*P **P** **02 37 01.0 +0.3**
WHN PcP **PcP** **02 39 08.4 +0.2**
WHN S **S** **02 41 54.4 -0.7**
WHN SS **SS** **02 45 07.7 -6.0**
WHN pmax pmax
comp=Z,420nm,0.8s
WHN pmax pmax
comp=Z,3μm,4.8s
INK Inuvik 36.29 37 *e*P **P** **02 37 03.6 +0.7**
comp=Z,540nm,0.6s
INK *e*PcP **PcP** **02 39 08.5 -0.1**
INK PcP **PcP** **02 39 08.9 +0.3**
INK ScP **ScP** **02 41 54.7 +0.6**
INK ScS **ScS** **02 46 00.9 -1.4**
INK PKiKP **PKiKP** **02 46 23.4 -1.5**
INK *e* 03 07 20.0
INK Inuvik 36.29 37 P **P** **02 37 03.6 +0.7**
comp=Z,618nm,0.7s,baz=300,slow=7.2,SNR=1771
INK PcP **PcP** **02 39 08.9 +0.3**
comp=Z,79nm,0.4s,baz=276,slow=4.9,SNR=4.5
INK ScP **ScP** **02 41 54.7 +0.6**
comp=Z,208nm,0.8s,baz=294,slow=4.5,SNR=12
INK ScS **ScS** **02 46 00.9 -1.4**
comp=Z,46nm,0.8s,baz=232,slow=31,SNR=26
INK PKiKP **PKiKP** **02 46 23.4 -1.5**
comp=Z,47nm,1.0s,baz=171,slow=5.1,SNR=3.1
INK P3KPbc 03 07 20.0
comp=Z,4.2nm,0.7s,baz=90,slow=4.1,SNR=17
XAN Xi'an 36.42 256 P **P** **02 37 04.8 +0.2**
XAN sP sP 02 39 59.1 -4.6
XAN ScP **ScP** **02 41 56.7 +1.3**
XAN S **S** **02 42 00.8 -1.4**
XAN SS **SS** **02 45 17.1 -4.4**
XAN ScS **ScS** **02 46 06.1 +1.8**
YOJ Yonaguni jima 36.55 229 *e*P **P** **02 37 03.5 -2.2**
YOJ Yonaguni jima 36.55 229 *e*P **P** **02 37 03.5 -2.2**
comp=Z,69nm,1.4s
TATO Taipei 36.81 232 *e*P **P** **02 37 08.9 +1.1**
HYT Haines Junctio 36.87 50 *e*P **P** **02 37 09.6 +1.5**
YHNB Yeheng 37.12 232 *e*P **P** **02 37 10.3 -0.2**
comp=Z,46nm,0.6s
YHNB *e* 02 38 55.3
YHNB *e*ScP **ScP** **02 41 56.9 -1.3**
DHAK Deception Hill 37.18 53 *e*P **P** **02 37 11.7 +1.4**
NACB Ninganchiao 37.45 231 *e*P **P** **02 37 11.8 -1.2**
comp=Z,39nm,0.4s
NACB *e*PcP **PcP** **02 39 12.8 -0.2**
NACB *e*ScP **ScP** **02 41 59.4 +0.1**
LZH Lanzhou 37.98 263 ⇓P **P** **02 37 19.1 +1.7**
LZH PP **PP** **02 39 08.8 +3.6**
LZH sP **sP** **02 40 18.1 +0.7**
LZH ScP **ScP** **02 42 01.5 0.0**
LZH S **S** **02 42 25.7 +0.3**
LZH SS **SS** **02 45 43.0 -4.3**
LZH pmax pmax
comp=Z,230nm,1.0s
LZH pmax pmax
comp=Z,1μm,4.0s
SSLB Suanglung 38.08 232 *e*P **P** **02 37 18.0 -0.1**
comp=Z,156nm,1.4s
SSLB *e* 02 39 09.7
SSLB *e*ScP **ScP** **02 42 01.7 -0.1**
GTA Gaotai 38.21 270 ⇓P **P** **02 37 20.7 +1.6**
GTA PcP **PcP** **02 39 19.3 +3.9**
GTA sP sP 02 40 13.0 -6.3

GTA ScP **ScP** **02 42 02.4 +0.1**
GTA S **S** **02 42 31.1 +2.5**
GTA SS **SS** **02 45 44.5 -6.3**
GTA ScS **ScS** **02 46 11.9 -2.9**
GTA pmax pmax
comp=Z,470nm,0.8s
GTA pmax pmax
comp=Z,1µm,6.2s
QZH Quanzhou 38.24 236 ⇑ *i*P **P** **02 37 16.2 -3.1**
QZH sP **sP** **02 40 15.3 -4.1**
QZH pmax pmax
comp=Z,130nm,0.8s
QZH pmax pmax
comp=Z,1µm,2.8s
YULB Yu-li 38.25 231 *e*P **P** **02 37 19.2 -0.3**
comp=Z,83nm,0.6s
YULB *e*PcP **PcP** **02 39 15.7 +0.1**
YULB *e*S **S** **02 42 31.7 +2.5**
TPUB Ta-pu 38.64 232 *e*P **P** **02 37 22.6 -0.1**
comp=Z,284nm,1.1s
TPUB *e*PcP **PcP** **02 39 17.0 +0.1**
TPUB *e*ScP **ScP** **02 42 04.3 +0.3**
TPUB *e*S **S** **02 42 34.3 -0.6**
TWG Pinlang 38.85 231 *e*P **P** **02 37 23.7 -0.6**
comp=Z,523nm,0.5s
TWG PcP **PcP** **02 39 15.6 -1.9**
TWG *e*ScP **ScP** **02 42 03.3 -1.4**
ZAA0 Zalesovo Array 38.86 299 *e*P **P** **02 37 23.6 -0.3**
ZAA0 *e*PcP **PcP** **02 39 16.7 -0.3**
ZALV Zalesovo Beam 38.86 299 P **P** **02 37 23.7 -0.2**
ZALV 02 39 16.8
ZALV S **S** **02 42 37.1 -0.1**
ZALV *i* 02 46 26.0
ZALV Zalesovo Beam 38.86 299 P **P** **02 37 23.6 -0.2**
ZALV PcP **PcP** **02 39 16.8 -0.2**
ZALV S **S** **02 42 37.0 -0.1**
ZALV PKiKP **PKiKP** **02 46 25.9 -1.6**
ZALV *e* 03 07 10.6
ZALV PKKKP 03 08 38.9
ZALV Zalesovo Beam 38.86 299 P **P** **02 37 23.7 -0.2**
comp=Z,248nm,0.6s,baz=57,slow=7.0,SNR=930
ZALV PcP **PcP** **02 39 16.8 -0.2**
comp=Z,173nm,0.5s,baz=50,slow=2.5,SNR=15
ZALV S **S** **02 42 37.0 -0.1**
comp=Z,9.0nm,0.7s,baz=34,slow=14,SNR=3.1
ZALV PKiKP **PKiKP** **02 46 25.9 -1.6**
comp=Z,17nm,0.6s,baz=152,slow=0.8,SNR=8.8
P3KPbc 03 07 10.6
comp=Z,1.0nm,0.4s,baz=222,slow=4.5,SNR=4.5
ZALV P3KP 03 08 38.9
comp=Z,0.6nm,0.6s,baz=306,slow=3.4,SNR=3.0
ENH Enshi 38.86 251 *e*P **P** **02 37 24.8 +0.5**
comp=Z,266nm,0.6s
ENH *e*PcP **PcP** **02 39 17.3 -0.2**
ENH *e*ScP **ScP** **02 42 04.3 -0.4**
ENH *e*S **S** **02 42 36.4 -1.6**
NVS Novosibirsk 39.26 301 ⇓ *i*P **P** **02 37 27.3 +0.2**
NVS *i* S **S** **02 42 39.9 -3.1**
NVS *e* 02 45 56.9
NVS pmax pmax
comp=N,388nm,1.2s
NVS pmax pmax
comp=Z,943nm,1.2s
NVS smax smax
comp=E,2µm,1.6s
NVS smax smax
comp=N,644nm,1.4s
SIT Sitka 39.42 55 *e*P **P** **02 37 30.4 +2.2**
SIT pmax pmax
comp=Z,1µm,1.2s
SIT Sitka 39.42 55 *e*P **P** **02 37 30.4 +2.2**
comp=Z,1µm,1.2s
WRAK Wrangell Islan 41.17 55 *e*P **P** **02 37 44.1 +2.1**
comp=Z,531nm,0.9s
WRAK *e*ScP **ScP** **02 42 14.4 +1.1**
CRAG Craig 41.24 56 *e*P **P** **02 37 44.4 +1.8**
comp=Z,327nm,1.0s
CD2 Chengdu 41.69 257 ⇓ *i*P **P** **02 37 47.5 +0.9**
CD2 PcP **PcP** **02 39 29.2 +2.3**
CD2 pP **pP** **02 39 35.8 +0.1**
CD2 PP **PP** **02 39 40.2 +1.2**
CD2 sP **sP** **02 40 45.8 -3.0**
CD2 ScP **ScP** **02 42 18.2 +2.2**
CD2 S **S** **02 43 18.3 -0.4**
CD2 sS **ScS** **02 46 33.5 -2.6**
CD2 SS **SS** **02 46 47.2 -0.1**
CD2 pmax pmax
comp=Z,640nm,8.3s
WMQ Urumqi 42.69 284 P **P** **02 37 56.0 +1.8**
WMQ pP **pP** **02 39 44.0 -0.1**
WMQ sP **sP** **02 40 56.0 -1.0**
WMQ S **S** **02 43 34.0 +1.4**
WMQ SS **SS** **02 47 03.0 +0.1**
WMQ pmax pmax
comp=Z,1µm,0.9s
WMQ pmax pmax
comp=Z,4µm,3.0s
ALE Alert 43.14 6 P **P** **02 37 57.3 +0.2**
comp=Z,5µm,0.8s
GYA Guiyang 43.37 250 ⇓ *i*P **P** **02 38 00.3 +0.5**
GYA PcP **PcP** **02 39 32.1 -0.7**
GYA pP **pP** **02 39 49.5 -0.8**
GYA PP **PP** **02 39 57.0 +2.6**
GYA sP **sP** **02 41 03.6 +0.7**
GYA ScP **ScP** **02 42 25.0 +2.0**
GYA PcS **PcS** **02 43 27.2 +0.2**
GYA S **S** **02 43 42.7 -0.1**
GYA ScS **ScS** **02 46 47.9 +0.9**
GYA SS **SS** **02 47 14.6 0.0**
GYA pmax pmax
comp=Z,170nm,0.7s
GYA pmax pmax
comp=Z,2µm,9.9s
CAUP Cauayan 43.66 226 *e*P **P** **02 38 05.1 +3.2**
SZP Santa 43.72 228 *e*P **P** **02 38 04.4 +2.0**
SZP *e*PcP **PcP** **02 39 35.2 +1.4**
SZP *e*S **S** **02 43 46.3 -1.2**
KURK Kurchatov 43.78 298 P **P** **02 38 03.0 +0.6**
SNR=775
KURK Kurchatov 43.78 298 P **P** **02 38 03.4 +1.0**
KURK 02 39 33.7
KURK *PP **PP** **02 39 56.2 -1.2**
KURK S **S** **02 43 44.3 -3.3**
KURK Kurchatov 43.78 298 P **P** **02 38 03.4 +1.0**
KURK PcP **PcP** **02 39 33.7 +0.1**
KURK pP **PP** **02 39 56.1 -1.2**
KURK ScP **ScP** **02 42 23.7 -0.4**
KURK S **S** **02 43 44.2 -3.3**
KURK PKiKP **PKiKP** **02 46 30.5 -1.5**
KURK *e* 03 06 49.8
KURK PKKKP 03 08 30.1
KURK P'P' 03 09 35.0
KURK *e* 03 15 41.7
KURK Kurchatov 43.78 298 P **P** **02 38 02.7 +0.3**
comp=Z,17µm,0.4s
KURBB Kurchatov Arra 43.88 298 P **P** **02 38 03.4 +0.2**
comp=Z,700nm,0.5s,baz=60,slow=7.3,SNR=4059
KURBB PcP **PcP** **02 39 33.7 -0.2**
comp=Z,177nm,0.9s,baz=65,slow=3.7,SNR=9.2
KURBB pP **pP** **02 39 56.1 +2.1**
comp=Z,197nm,0.9s,baz=58,slow=8.9,SNR=9.4
KURBB ScP **ScP** **02 42 23.7 -0.8**
comp=Z,43nm,0.8s,baz=66,slow=4.0,SNR=5.4
KURBB S **S** **02 43 44.2 -4.7**
comp=Z,141nm,1.1s,baz=57,slow=13,SNR=10
KURBB PKiKP **PKiKP** **02 46 30.5 -1.6**
comp=Z,7.8nm,0.8s,baz=64,slow=0.8,SNR=4.7
KURBB P3KPbc 03 06 49.8
comp=Z,0.5nm,0.7s,baz=246,slow=4.7,SNR=4.8
KURBB P3KP 03 08 30.1
comp=Z,2.2nm,1.1s,baz=202,slow=1.8,SNR=5.2
KURBB PKPPKP **P'P'df** **03 09 35.0 -0.8**
comp=Z,0.2nm,0.6s,baz=224,slow=3.1,SNR=2.5
KURBB P4KPbc 03 15 41.7
comp=Z,2.0nm,0.7s,baz=57,slow=3.6,SNR=15
MKAR Makanchi Array 44.01 291 P **P** **02 38 04.5 +0.2**
MKAR 02 39 34.3
MKAR S **S** **02 43 50.4 -0.7**
MKAR Makanchi Array 44.01 291 P **P** **02 38 04.5 +0.2**
MKAR PcP **PcP** **02 39 34.3 -0.3**
MKAR ScP **ScP** **02 42 24.2 -1.0**
MKAR S **S** **02 43 50.4 -0.7**
MKAR PKiKP **PKiKP** **02 46 30.8 -1.7**
MKAR *e* 03 15 43.1
MKAR Makanchi Array 44.01 291 P **P** **02 38 04.5 +0.2**
comp=Z,307nm,0.5s,baz=63,slow=7.2,SNR=5608
MKAR PcP **PcP** **02 39 34.3 -0.3**
comp=Z,18nm,0.3s,baz=63,slow=3.1,SNR=3.3
MKAR ScP **ScP** **02 42 24.2 -1.0**
comp=Z,56nm,1.0s,baz=52,slow=5.7,SNR=3.8
MKAR S **S** **02 43 50.4 -0.7**
comp=Z,30nm,0.7s,baz=59,slow=2.1,SNR=8.2
MKAR PKiKP **PKiKP** **02 46 30.8 -1.7**
comp=Z,36nm,1.2s,baz=204,slow=1.7,SNR=4.7
MKAR P4KPbc 03 15 43.1
comp=Z,4.1nm,0.8s,baz=52,slow=3.7,SNR=19
RES Resolute Bay 44.63 20 P **P** **02 38 08.4 0.0**
RES PcP **PcP** **02 39 36.0 -0.1**
RES ScP **ScP** **02 42 26.9 -0.3**
RES S **S** **02 43 58.6 -0.1**
RES PKiKP **PKiKP** **02 46 30.9 -1.3**
RES Resolute Bay 44.63 20 P **P** **02 38 08.4 0.0**
comp=Z,792nm,1.0s,baz=321,slow=8.0,SNR=576
RES PcP **PcP** **02 39 36.0 -0.1**
comp=Z,145nm,0.6s,baz=294,slow=4.8,SNR=7.0
RES ScP **ScP** **02 42 26.9 -0.3**
comp=Z,160nm,0.8s,baz=302,slow=4.3,SNR=11
RES S **S** **02 43 58.6 -0.1**
comp=Z,21nm,1.0s,baz=197,slow=19,SNR=7.6
RES PKiKP **PKiKP** **02 46 30.9 -1.3**
comp=Z,6.6nm,0.7s,baz=268,slow=4.1,SNR=4.4
BALP Baler 44.84 225 *e*P **P** **02 38 11.7 +0.8**
BOLP Bolinao 44.99 227 *e*P **P** **02 38 12.9 +0.8**
SCZP Santa Cruz 45.53 227 *e*P **P** **02 38 15.8 -0.3**
PVCP Virac 45.73 221 *e*P **P** **02 38 18.9 +1.3**
YKA Yellowknife Ar 45.84 40 P **P** **02 38 18.1 +0.3**
YKA PcP **PcP** **02 39 40.5 -0.1**
YKA ScP **ScP** **02 42 32.3 -0.1**
YKA S **S** **02 44 14.2 -1.7**
YKA ScS **ScS** **02 47 01.4 -0.2**
YKA *e* 03 06 40.2
YKA PKKKP 03 08 24.3
YKA P'P'ab **P'P'ab** **03 10 34.2 -4.6**
YKA *e* 03 15 51.8
YKA Yellowknife Ar 45.84 40 P **P** **02 38 18.1 +0.3**
comp=Z,263nm,0.5s,baz=305,slow=7.0,SNR=565
YKA PcP **PcP** **02 39 40.6 -0.1**
comp=Z,27nm,0.4s,baz=313,slow=3.6,SNR=13
YKA ScP **ScP** **02 42 32.3 -0.1**
comp=Z,96nm,0.8s,baz=304,slow=4.1,SNR=22
YKA S **S** **02 44 14.2 -1.7**
comp=Z,49nm,1.2s,baz=306,slow=11,SNR=3.6
YKA ScS **ScS** **02 47 01.4 -0.2**
comp=Z,10nm,1.1s,baz=310,slow=8.2,SNR=4.0
YKA P3KPbc 03 06 40.2
comp=Z,0.8nm,0.6s,baz=122,slow=4.3,SNR=7.0
YKA P3KP 03 08 24.3
comp=Z,0.5nm,0.9s,baz=42,slow=1.9,SNR=3.6
YKA PKP2ab 03 10 34.2
comp=Z,1.1nm,0.8s,baz=114,slow=4.1,SNR=4.4
YKA P4KPbc 03 15 51.8
comp=Z,0.2nm,0.6s,baz=298,slow=4.7,SNR=8.4
KBS Kingsbay 45.89 350 ⇓ *i*P **P** **02 38 18.3 +0.2**
KBS Kingsbay 45.89 350 *e*P **P** **02 38 18.4 +0.4**
KBS pmax pmax
comp=Z,1µm,0.8s
KBS Kingsbay 45.89 350 *e*P **P** **02 38 18.4 +0.4**
comp=Z,1µm,0.8s
SPA0 Spitsbergen Ar 46.04 349 *e*P **P** **02 38 18.6 -0.5**
SPITS Spitsbergen Ar 46.04 349 PKiKP **PKiKP** **02 46 32.6 -1.0**
SPITS Spitsbergen Ar 46.04 349 PKiKP **PKiKP** **02 46 32.6 -1.0**
comp=Z,17nm,0.9s,baz=131,slow=6.5,SNR=5.7
KWAJ Kwajalein Atol 46.06 159 *e*P **P** **02 38 21.8 +1.7**
KWAJ pmax pmax
comp=Z,496nm,0.9s
KWAJ Kwajalein Atol 46.06 159 *e*P **P** **02 38 21.8 +1.7**
comp=Z,496nm,0.9s
HOPEN Hopen 46.18 345 ⇓ *i*P **P** **02 38 19.5 -0.7**
HOPEN AMB AMB 02 38 23.6
comp=Z,2µm,1.4s
TGY Tagaytay City 46.58 225 P **P** **02 38 25.1 +1.0**
TGY PcP **PcP** **02 39 44.4 +0.3**
TGY ScP **ScP** **02 42 37.9 +1.5**
TGY S **S** **02 44 29.8 +2.4**
TGY Tagaytay City 46.58 225 P **P** **02 38 25.1 +1.0**
comp=Z,250nm,0.5s,baz=335,slow=8.3,SNR=6.3
TGY PcP **PcP** **02 39 44.4 +0.3**
comp=Z,203nm,0.4s,baz=132,slow=3.2,SNR=6.4
TGY ScP **ScP** **02 42 37.9 +1.5**
comp=Z,114nm,0.3s,baz=245,slow=2.3,SNR=6.0
TGY S **S** **02 44 29.8 +2.4**
comp=Z,125nm,0.3s,baz=36,slow=19,SNR=5.5
KMI Kunming 46.63 253 ⇓ P **P** **02 38 25.4 +0.8**
KMI PcP **PcP** **02 39 44.5 +0.1**
KMI pP **pP** **02 40 18.5 +0.6**
KMI sP **sP** **02 41 28.7 -0.8**
KMI ScP **ScP** **02 42 36.3 -0.5**
KMI PcS **PcS** **02 43 40.5 -0.5**
KMI S **S** **02 44 25.4 -3.0**
KMI ScS **ScS** **02 47 05.3 -3.3**
KMI sS **sS** **02 47 50.8 -2.9**
KMI SS **SS** **02 48 05.6 -0.8**
KMI pmax pmax
comp=Z,240nm,0.9s
KMI pmax pmax
comp=Z,860nm,3.1s
BVAR Borovoye Array 46.68 305 P **P** **02 38 24.5 +0.1**
BVAR 02 39 43.6
BVAR S **S** **02 44 27.1 -0.8**
BVAR Borovoye Array 46.68 305 P **P** **02 38 24.4 +0.1**
BVAR PcP **PcP** **02 39 43.6 -0.3**
BVAR ScP **ScP** **02 42 35.4 -0.8**
BVAR S **S** **02 44 27.1 -0.8**
BVAR PKKKP 03 08 29.7
BVAR *e* 03 15 55.5
BVAR Borovoye Array 46.68 305 P **P** **02 38 24.5 +0.1**
comp=Z,826nm,0.8s,baz=58,slow=8.2,SNR=4022
BVAR PcP **PcP** **02 39 43.6 -0.3**
comp=Z,144nm,0.4s,baz=85,slow=2.7,SNR=13
BVAR ScP **ScP** **02 42 35.4 -0.8**
comp=Z,59nm,1.0s,baz=60,slow=2.8,SNR=2.7
BVAR S **S** **02 44 27.1 -0.8**
comp=Z,33nm,1.0s,baz=55,slow=13,SNR=4.0
BVAR P3KP 03 08 29.7
comp=Z,0.4nm,0.7s,baz=202,slow=3.1,SNR=2.9
BVAR P4KPbc 03 15 55.5
comp=Z,4.7nm,0.7s,baz=69,slow=4.9,SNR=20
BRVK Borovoye 46.72 305 P **P** **02 38 25.1 +0.5**
SNR=653
BRVK Borovoye 46.72 305 *e*P **P** **02 38 24.8 +0.3**
BRVK pmax pmax
comp=Z,1µm,0.8s
BRVK Borovoye 46.72 305 *e*P **P** **02 38 24.8 +0.3**
comp=Z,1µm,0.8s
BRVK Borovoye 46.72 305 P **P** **02 38 24.3 -0.3**
comp=Z,8µm,0.8s
QIZ Qiongzhong 47.61 241 P **P** **02 38 33.6 +1.9**
QIZ pP **pP** **02 40 24.3 -1.5**
QIZ sP **sP** **02 41 34.9 -2.2**
QIZ S **S** **02 44 42.1 +0.7**
QIZ sS **sS** **02 48 06.6 -1.4**
QIZ pmax pmax
comp=Z,140nm,0.8s
QIZ pmax pmax
comp=Z,220nm,5.9s
QIZ Qiongzhong 47.61 241 *e*P **P** **02 38 33.5 +1.8**
comp=Z,117nm,0.8s
QIZ *e*PcP **PcP** **02 39 48.6 +0.8**
QIZ *e*ScP **ScP** **02 42 41.9 +1.2**
OTRP Odiongan 47.70 223 *e*P **P** **02 38 34.1 +1.8**
MSLP Maasin 48.63 218 *e*P **P** **02 38 40.1 +0.8**
BJO Bjornoya 48.67 345 ⇓ *i*P **P** **02 38 38.2 -0.5**
BJO AMB AMB 02 38 40.8
comp=Z,1µm,1.7s
SLVN Son La 48.95 249 *e*P **P** **02 38 42.9 +1.2**
SLVN *e*PcP **PcP** **02 39 53.6 +0.9**
SLVN *e* 02 40 39.5
SLVN *e*ScP **ScP** **02 42 46.5 0.0**
SVE Sverdlovsk 48.96 313 *c i*P **P** **02 38 41.5 +0.4**
SVE *e* 02 39 53.7
SVE *e* 02 41 44.5
SVE *e*S **S** **02 44 58.5 -0.2**
SVE pmax pmax
comp=Z,2µm,1.4s
KIP Kipapa 49.04 111 ⇑ *i*P **P** **02 38 42.8 +0.6**
KIP pmax pmax
comp=Z,686nm,0.8s
KIP Kipapa 49.04 111 *e*P **P** **02 38 42.3 +0.1**
GUIM Jordan 49.05 221 *e*P **P** **02 38 43.4 +1.2**
MGB Mount Grey 49.15 60 P **P** **02 38 43.6 +0.8**
AAA Alma-Ata 49.16 291 *i*P **P** **02 38 44.3 +1.4**
AAA *i* S **S** **02 45 03.9 +1.9**
AAA pmax pmax
comp=Z,3µm,1.0s
AAA smax smax
comp=E,10µm,2.6s
DAG Danmarks Havn 49.99 357 ⇓ *i*P **P** **02 38 47.9 -0.3**
DAG *i* *PP **PcP** **02 39 55.3 -0.3**
DAG pmax pmax
comp=Z,540nm,1.0s
DAG Danmarks Havn 49.99 357 ⇓ *i*P **P** **02 38 47.9 -0.3**
comp=Z,536nm,1.0s
DAG *i* pP **PcP** **02 39 55.3 -0.3**
LSA Lhasa 50.04 267 P **P** **02 38 49.3 -0.7**
LSA pmax pmax
comp=Z,510nm,1.2s
LSA pmax pmax
comp=Z,810nm,7.0s
LSA Lhasa 50.04 267 *e*P **P** **02 38 51.6 +1.6**
LSA *e* 02 39 57.8
LSA *e* 02 40 51.3
LSA pmax pmax
comp=Z,453nm,0.8s
LSA Lhasa 50.04 267 *e*P **P** **02 38 51.6 +1.6**
comp=Z,453nm,0.8s
LSA *e*PcP **PcP** **02 39 57.8 +0.5**
LSA *e* 02 40 51.3
LSA *e*ScP **ScP** **02 42 52.2 +0.6**
LSA *e*S S 02 45 05.2 -10
ARU Arti 50.11 314 P **P** **02 38 49.8 +0.4**
comp=Z,11µm,0.5s
ARU Arti 50.11 314 *e*P **P** **02 38 49.3 -0.1**
ARU *e* 02 39 55.8
ARU *e*S **S** **02 45 14.6 +0.4**
ARU pmax pmax
comp=Z,1µm,0.8s
ARU Arti 50.11 314 *e*P **P** **02 38 49.3 -0.1**
comp=Z,1µm,0.8s
ARU *e*PcP **PcP** **02 39 56.0 -0.4**
ARU *e*ScP **ScP** **02 42 50.0 -0.8**
ARU *e*S **S** **02 45 13.7 -0.5**
TKM2 Tokmak 2 50.14 291 *e*P **P** **02 38 50.8 +0.6**
TKM2 *e* 02 39 56.5
TKM2 *e*S **S** **02 45 17.6 +2.0**
TKM2 Tokmak 2 50.14 291 P **P** **02 38 50.9 +0.6**
SNR=45
TKM2 Tokmak 2 50.14 291 *e*P **P** **02 38 50.8 +0.6**
comp=Z,40nm,2.3s
TKM2 *e*PcP **PcP** **02 39 56.5 -0.6**
TKM2 *e*S **S** **02 45 17.6 +2.0**
ULHL Ulahol 50.22 290 *i*P **P** **02 38 51.5 +0.8**
ULHL Ulahol 50.22 290 P **P** **02 38 51.6 +0.8**
SNR=50
VDB Vedder Mountai 50.46 58 P **P** **02 38 52.4 +0.3**
A05A Maple Falls 50.49 58 *e*P **P** **02 38 52.8 +0.5**
USP Ospenovka 50.53 292 *i*P **P** **02 38 53.6 +0.9**
USP Ospenovka 50.53 292 P **P** **02 38 53.7 +0.9**
SNR=87
CHMS Chumysh 50.56 292 *i*P **P** **02 38 53.7 +0.7**
CHMS Chumysh 50.56 292 P **P** **02 38 53.8 +0.7**
SNR=11
NLWA Neilton Lookou 50.59 61 *e*P **P** **02 38 54.5 +1.4**
HKL Haleakala 50.59 110 *e*P **P** **02 38 55.1 +1.2**
HKL Haleakala 50.59 110 *e*P **P** **02 38 55.1 +1.2**
LVZ Lovozero 50.62 334 P **P** **02 38 52.8 -0.2**
comp=Z,7µm,1.0s
LVZ Lovozero 50.62 334 *d i*P **P** **02 38 52.3 -0.7**
LVZ pmax pmax
comp=Z,2µm,1.3s
BUKP Musuan 50.64 217 *e*P **P** **02 38 55.2 +1.3**
KBK Karagaybulak 50.68 291 P **P** **02 38 54.8 +0.8**
SNR=22
FRU Bishkek 50.75 292 ⇓ *i*P **P** **02 38 55.0 +0.7**
FRU *i* 02 39 58.0
FRU *i* *PP **pP** **02 40 53.0 +2.2**
FRU *e* 02 41 59.5
FRU *i* S **S** **02 45 23.0 -0.3**
FRU *e* 02 48 45.0
FRU pmax pmax
comp=Z,2µm,1.6s
FRU smax smax
comp=E,3µm,2.5s
CMW Cultus Mountai 50.84 59 P **P** **02 38 56.1 +1.1**
KZA Kyzart 50.89 290 *i*P **P** **02 38 56.9 +1.1**
KZA Kyzart 50.89 290 P **P** **02 38 57.0 +1.1**
SNR=18
AAK Ala-Archa 50.95 291 P **P** **02 38 56.9 +1.0**
SNR=261
AAK Ala-Archa 50.95 291 *e*P **P** **02 38 56.4 +0.5**
AAK S **S** **02 45 28.0 +1.8**
AAK Ala-Archa 50.95 291 P **P** **02 38 56.7 +0.8**
SNR=72
AAK Ala-Archa 50.95 291 *e*P **P** **02 38 56.4 +0.5**
AAK S **S** **02 45 28.0 +1.8**
AAK *e* 03 16 13.7
AAK Ala-Archa 50.95 291 P **P** **02 38 56.6 +0.7**
comp=E,4µm,1.0s
AAK Ala-Archa 50.95 291 S **S** **02 45 28.0 +1.8**
comp=E,107nm,1.3s,baz=280,slow=19,SNR=22
AAK P4KPbc 03 16 13.7
comp=E,4.3nm,0.7s,baz=38,slow=12,SNR=12
KEV Kevo 51.03 339 *e*P **P** **02 38 55.2 -0.6**
KEV Kevo 51.03 339 *e*p **P** **02 38 55.3 -0.6**
KEV Kevo 51.03 339 *e*P **P** **02 38 55.2 -0.6**
B06A Marblemount 51.10 58 *e*P **P** **02 38 57.3 +0.7**
UCH Uchtor 51.20 291 *i*P **P** **02 38 58.8 +0.7**
UCH Uchtor 51.20 291 P **P** **02 38 58.8 +0.7**
SNR=8.2
DAV Davao City (W) 51.21 216 P **P** **02 38 59.6 +1.6**
SNR=8.4
PAGZ Pagadian 51.29 219 *e*P **P** **02 38 58.7 +0.2**
EKS2 Erkin-Say 51.33 292 *e*P **P** **02 38 59.6 +1.0**
EKS2 *e* 02 40 01.6
EKS2 *e*S **S** **02 45 28.5 -2.7**
EKS2 Erkin-Say 51.33 292 P **P** **02 38 59.6 +1.0**
SNR=107
EKS2 Erkin-Say 51.33 292 *e*P **P** **02 38 59.6 +1.0**
comp=E,126nm,2.4s
EKS2 *e*PcP **PcP** **02 40 01.6 +0.1**
EKS2 *e*S **S** **02 45 28.5 -2.7**
HTW Haystack Looko 51.41 59 P **P** **02 38 59.8 +0.8**
BMW Boistfort Moun 51.52 61 P **P** **02 39 01.0 +1.2**
BMW Boistfort Moun 51.52 61 P **P** **02 39 01.0 +1.2**
ARCES ARCESS Array B 51.53 339 P **P** **02 38 59.1 -0.4**
ARCES PcP **PcP** **02 40 01.6 0.0**
ARCES S **S** **02 45 29.4 -3.4**
ARCES P'P' 03 09 23.0
ARCES *e* 03 16 15.8
ARCES ARCESS Array B 51.53 339 P **P** **02 38 59.1 -0.4**
comp=E,440nm,0.7s,baz=33,slow=6.8,SNR=2091
ARCES PcP **PcP** **02 40 01.6 0.0**
comp=E,64nm,0.6s,baz=38,slow=4.6,SNR=2.7
ARCES S **S** **02 45 29.4 -3.4**
comp=E,47nm,1.2s,baz=37,slow=14,SNR=4.7
ARCES PKPPKP **P'P'df** **03 09 23.0 -2.9**
comp=E,4.5nm,0.8s,baz=182,slow=3.6,SNR=3.9
ARCES P4KPbc 03 16 15.8
comp=E,5.9nm,1.0s,baz=31,slow=14,SNR=5.1
ARE0 ARCESS Array S 51.53 339 ⇓ *i*P **P** **02 38 59.0 -0.4**
ARE0 ARCESS Array S 51.53 339 *e*P **P** **02 38 59.2 -0.3**
ARE0 *e*PcP **PcP** **02 40 01.4 -0.2**
ARE0 *e* 02 40 58.9
ARE0 *e*S **S** **02 45 30.6 -2.2**
KKH Kailua Kona 51.57 110 *e*P **P** **02 39 01.4 +1.0**
KKH Kailua Kona 51.57 110 *e*P **P** **02 39 01.4 +1.0**
F03A Seaside 51.70 62 *e*P **P** **02 39 02.4 +1.4**
D05A Enumclaw 51.70 60 *e*P **P** **02 39 02.1 +1.1**
AML Almayashu 51.72 291 P **P** **02 39 02.7 +1.0**
SNR=18
POHA Pohakuloa 51.76 110 *e*P **P** **02 39 02.7 +0.6**
comp=E,1µm,0.8s
POHA *e*ScP **ScP** **02 42 59.9 +1.0**
CRAI Chiangrai 51.81 251 P **P** **02 39 03.1 +0.9**
comp=E,218nm,1.5s,comp=E,8µm
F04D Rainier, OR 51.89 62 ⇑ P **P** **02 39 03.4 +1.1**
baz=52
NLW Nelson Butte 51.97 58 P **P** **02 39 04.0 +0.9**
ERK Elk Rock 52.09 61 P **P** **02 39 04.8 +0.9**
KSH Kashi 52.18 288 ⇓ *i*P P 02 39 09.3 +4.6
KSH pP pP 02 41 07.6 +5.3
KSH sP sP 02 42 17.2 +4.5
KSH PcS **PcS** **02 44 07.5 +3.1**

KSH S S 02 45 46.4 +3.8
KSH sS sS 02 49 18.9 +4.7
KSH SS SS 02 49 41.4 +8.5
KSH pmax pmax
comp=E,640nm,1.0s
WPW White Pass 52.25 60 P P 02 39 06.0 +1.0
B08A Colville Reser 52.30 57 *eP* P 02 39 05.9 +0.6
F04A Amboy 52.30 61 *eP* P 02 39 06.3 +1.0
G03D McMinnville, O 52.32 63 ⇑P P 02 39 06.7 +1.2
baz=52
LTY Liberty 52.34 59 *eP* P 02 39 06.2 +0.6
MTMW Mount Mitchell 52.34 61 P P 02 39 06.9 +1.2
TMCR Tamitsa 52.41 330 ⇓*iP* P 02 39 06.0 +0.3
TMCR *eS* S 02 45 45.2 +0.7
TMCR pmax pmax
comp=Z,4μm,1.3s
WTV Waterville 52.41 58 P P 02 39 06.5 +0.4
TBM Table Mountain 52.43 59 P P 02 39 07.1 +0.8
KTK1 Kautokeino 52.43 339 ⇑*iP* P 02 39 05.8 -0.1
SHL Shillong 52.65 263 *i* P P 02 39 08.5 +0.2
SHL *eS* S 02 45 50.5 +1.3
SAW Saint Andrews 52.69 58 P P 02 39 08.5 +0.4
COR Corvallis 52.72 63 *eP* P 02 39 09.9 +1.7
COR pmax pmax
comp=Z,430nm,1.0s
COR Corvallis 52.72 63 *eP* P 02 39 09.9 +1.7
comp=Z,430nm,1.0s
COR *eScP* ScP 02 43 00.9 -1.4
TRO Tromso 52.78 342 ⇓*iP* P 02 39 08.6 +0.3
TRO AMB AMB 02 39 10.9
comp=Z,2μm,1.6s
CMAI Chiengmai2 52.80 252 P P 02 39 10.4 +1.0
comp=Z,334nm,1.2s,comp=Z,6μm
UBPT Khong Chiam 53.03 243 P P 02 39 11.7 +0.9
comp=Z,298nm,1.2s
TRW Toppenish Ridg 53.04 60 P P 02 39 11.7 +1.2
VFP Flag Point 53.20 61 P P 02 39 13.0 +1.1
I03D Drain, OR 53.28 64 ⇓P P 02 39 14.2 +2.0
baz=53
G05D Wamic, OR 53.33 61 ⇓P P 02 39 13.9 +1.2
baz=53
WRD Warden 53.42 59 P P 02 39 13.0 -0.1
NEW Newport 53.47 56 *eP* P 02 39 13.9 +0.4
comp=Z,276nm,1.1s
NEW *eScP* ScP 02 43 04.5 -1.1
NEW Newport 53.47 56 ⇑P P 02 39 14.1 +0.5
baz=53,SNR=229
NEW ⇓ScP ScP 02 43 06.1 +0.5
baz=53,SNR=5.5
NEW ⇓S S 02 45 59.6 +0.6
baz=53
HAWA Hanford 53.49 59 *eP* P 02 39 14.5 +0.8
comp=Z,452nm,1.1s
HAWA *eScP* ScP 02 43 05.4 -0.3
LAMP Lampang 53.59 251 P P 02 39 15.9 +1.1
comp=Z,364nm,0.8s,comp=Z,2μm
I04A Tendick Farm, 53.72 63 ⇓P P 02 39 16.8 +1.4
baz=54
CMMT Chiang Mai 53.75 252 P P 02 39 16.6 +0.7
comp=Z,881nm,0.8s,comp=Z,9μm
CHTO Chiang Mai 53.75 252 P P 02 39 16.9 +1.0
SNR=188
CHTO Chiang Mai 53.75 252 *eP* P 02 39 17.2 +1.3
CHTO *e* 02 40 10.7
CHTO *e* 02 41 15.4
CHTO pmax pmax
comp=Z,495nm,0.6s
CHTO Chiang Mai 53.75 252 *eP* P 02 39 17.2 +1.3
comp=Z,496nm,0.6s
CHTO *ePcP* PcP 02 40 10.7 -0.3
CHTO *e* 02 41 15.4
CHTO Chiang Mai 53.75 252 P P 02 39 16.6 +0.7
comp=Z,4μm,0.8s,comp=Z,39μm
TAPN Taplejung 53.82 268 *eP* P 02 39 17.6 +1.0
comp=Z,2μm,0.7s
TAPN Taplejung 53.82 268 *eP* P 02 39 17.6 +1.0
comp=Z,2μm,0.7s
I05D Terrebonne, OR 53.93 62 ⇑P P 02 39 18.2 +1.3
baz=54
CM31 Chiang Mai Arr 54.03 251 *eP* P 02 39 19.4 +1.5
comp=Z,280nm,0.6s
CM31 *ePcP* PcP 02 40 12.6 +0.6
CM31 *epP* pP 02 41 20.1 +3.2
CM31 *eScP* ScP 02 43 08.4 -0.1
CMAR Chiang Mai Arr 54.03 251 P P 02 39 19.3 +1.4
CMAR PcP PcP 02 40 12.5 +0.5
CMAR pP pP 02 41 19.4 +2.5
CMAR ScP ScP 02 43 08.0 -0.5
CMAR S S 02 46 06.8 -0.3
CMAR PKiKP PKiKP 02 46 42.8 -0.8
CMAR PKKKP 03 08 12.3
CMAR P'P' 03 09 07.3
CMAR ⇑*e* 03 09 35.0
CMAR *e* 03 16 29.6
CMAR Chiang Mai Arr 54.03 251 P P 02 39 19.3 +1.4
comp=Z,326nm,0.7s,baz=23,slow=6.7,SNR=901
CMAR PcP PcP 02 40 12.5 +0.5
comp=Z,131nm,0.7s,baz=12,slow=3.5,SNR=9.9
CMAR pP pP 02 41 19.4 +2.5
comp=Z,64nm,1.0s,baz=25,slow=6.8,SNR=6.3
CMAR ScP ScP 02 43 08.0 -0.5
comp=Z,85nm,0.9s,baz=20,slow=4.5,SNR=12
CMAR S S 02 46 06.8 -0.3
comp=Z,3.4nm,0.4s,baz=31,slow=4.2,SNR=5.0
CMAR PKiKP PKiKP 02 46 42.8 -0.8
comp=Z,3.0nm,0.6s,baz=300,slow=1.1,SNR=2.5
CMAR P3KP 03 08 12.3
comp=Z,0.7nm,0.3s,baz=270,slow=3.6,SNR=2.1
CMAR PKPPKP P'P'df 03 09 07.3 -14
comp=Z,3.3nm,0.8s,baz=228,slow=4.3,SNR=9.7
CMAR PKP2bc 03 09 35.0
comp=Z,5.9nm,0.9s,baz=233,slow=3.7,SNR=8.1
CMAR P4KPbc 03 16 29.6
comp=Z,5.5nm,0.8s,baz=16,slow=4.2,SNR=9.3
SUMG Summit 54.08 4 ⇓*iP* P 02 39 18.2 +0.4
SUMG pmax pmax
comp=Z,1μm,0.9s
SUMG Summit 54.08 4 ⇓*iP* P 02 39 18.2 +0.4
comp=Z,1μm,0.9s
ABKAR Akbulak array 54.16 306 *eP* P 02 39 18.4 +0.1
comp=Z,21μm,1.4s
ABKAR *ePcP* PcP 02 40 11.1 -0.9
ABKAR *epP* pP 02 41 15.8 -1.5
L02D Cave Junction, 54.18 66 ⇑P P 02 39 20.5 +1.9
baz=54
HUMO Hull Mountain 54.23 65 *eP* P 02 39 20.7 +1.7
comp=Z,457nm,1.1s
HUMO *eScP* ScP 02 43 09.6 +0.5
J04D Umpqua Nationa 54.26 64 ⇑P P 02 39 21.2 +1.9
baz=54
DLV T Lat 54.27 237 *eP* P 02 39 21.1 +1.4
DLV *ePcP* PcP 02 40 13.4 +0.2
DLV *e* 02 41 21.6
AKTO Aktyubinsk 54.28 308 S S 02 46 09.4 0.0
comp=Z,11nm,1.0s,baz=337,slow=18,SNR=4.7
AKTO PKPPKP P'P'df 03 09 04.7 -17
comp=Z,11nm,1.1s,baz=224,slow=6.3,SNR=10
ODAN Odare 54.37 268 *eP* P 02 39 21.1 +0.7
comp=Z,2μm,1.0s
ODAN Odare 54.37 268 *eP* P 02 39 21.1 +0.7
comp=Z,2μm,1.0s
KLMR Klimovskoe 54.37 326 *dP* P 02 39 19.9 +0.4
KLMR *e* 02 41 32.0
KLMR *i* S S 02 46 09.6 -0.6
KLMR pmax pmax
comp=Z,5μm,1.4s
CHAI Chaiyaphum 54.40 247 P P 02 39 20.9 +0.5
comp=Z,189nm,0.7s,comp=Z,2μm
PBKT Sadao Pong 54.42 248 P P 02 39 21.3 +0.8
comp=Z,428nm,0.9s,comp=Z,5μm
TARA Tarawa 54.48 155 *eP* P 02 39 21.8 +0.8
comp=Z,149nm,0.9s
JIRN Jiri 54.50 270 *eP* P 02 39 22.2 +0.7
comp=Z,810nm,0.6s
JIRN Jiri 54.50 270 *eP* P 02 39 22.2 +0.7
comp=Z,810nm,0.6s
GUN Gumba 54.50 270 *eP* P 02 39 22.1 +0.7
comp=Z,920nm,0.5s
GUN Gumba 54.50 270 *eP* P 02 39 22.1 +0.7
comp=Z,920nm,0.5s
J05D Fort Rock, OR 54.70 63 ⇓P P 02 39 24.4 +2.1
baz=54
KDM Kudat 54.76 226 P P 02 39 25.3 +2.4
RAMN Ramite 54.78 269 *eP* P 02 39 24.0 +0.8
RAMN Ramite 54.78 269 *eP* P 02 39 24.0 +0.8

K04D Chiloquin, OR 54.87 64 ⇑P P 02 39 25.2 +1.7
baz=55
STEI Steigen 54.94 342 ⇓*iP* P 02 39 22.6 -0.8
KKN Kakani 54.95 270 *eP* P 02 39 25.3 +0.9
comp=Z,1μm,0.6s
KKN Kakani 54.95 270 *eP* P 02 39 25.3 +0.9
comp=Z,1μm,0.6s
YBH Yreka Blue Hor 54.96 65 *eP* P 02 39 26.1 +2.0
comp=Z,389nm,1.2s
YBH *epP* pP 02 41 27.6 +4.0
YBH *eScP* ScP 02 43 12.7 +0.3
YBH *eS* S 02 46 24.8 +6.1
YBH P'P' 03 09 03.6
YBH Yreka Blue Hor 54.96 65 P P 02 39 25.2 +1.1
comp=Z,198nm,0.8s,baz=326,slow=6.1,SNR=386
YBH S S 02 46 22.4 +3.7
comp=Z,5.8nm,1.0s,baz=266,slow=23,SNR=15
YBH PKPPKP P'P'df 03 09 03.6 -17
comp=Z,3.1nm,1.0s,baz=50,slow=2.2,SNR=5.2
PKI Pulchoki 55.03 270 *eP* P 02 39 25.7 +0.7
PKI Pulchoki 55.03 270 *eP* P 02 39 25.8 +0.7
PKI pmax pmax
comp=Z,842nm,0.6s
PKI Pulchoki 55.03 270 *eP* P 02 39 25.8 +0.7
comp=Z,842nm,0.6s
PKIN Phulchoki 55.04 270 *eP* P 02 39 25.8 +0.8
comp=Z,842nm,0.6s
LOF Lofoten 55.07 343 *eP* P 02 39 23.2 -1.1
LOF AMB AMB 02 39 26.1
comp=Z,2μm,1.2s
M02C Callahan 55.12 66 ⇓P P 02 39 27.3 +2.1
baz=55
JNW Jan Mayen West 55.15 353 *eP* P 02 39 26.0 +1.2
GKN Gorkha 55.18 271 *eP* P 02 39 26.6 +0.7
GKN Gorkha 55.18 271 *eP* P 02 39 26.6 +0.7
DMN Daman 55.19 270 *eP* P 02 39 27.1 +1.0
DMN Daman 55.19 270 *eP* P 02 39 27.1 +1.0
JMIC Jan Mayen 55.20 353 *eP* P 02 39 25.9 +0.8
JOF Joensuu 55.33 332 *eP* P 02 39 25.9 -0.2
JOF Joensuu 55.33 332 *ep* P 02 39 25.9 -0.2
M04C Macdoel 55.40 65 ⇑P P 02 39 29.0 +1.8
baz=55
DANN Dangsing 55.45 272 *eP* P 02 39 28.8 +0.9
DANN Dangsing 55.45 272 *eP* P 02 39 28.8 +0.9
N02D Trinity Center 55.48 66 ⇓P P 02 39 29.8 +2.1
baz=55
MYLDM Lahad Datu 55.63 223 P P 02 39 31.8 +2.9
BMO Blue Mountains 55.69 59 *eP* P 02 39 30.1 +1.1
comp=Z,360nm,1.3s
BMO *eScP* ScP 02 43 11.7 -3.8
BMO *eS* S 02 46 30.3 +2.4
SDKM Sandakan 55.75 224 P P 02 39 31.0 +1.2
KKM Kota Kinabalu 55.81 226 P P 02 39 32.2 +2.0
KKM Kota Kinabalu 55.81 226 *eP* P 02 39 31.8 +1.5
comp=Z,194nm,0.9s
KKM *ePcP* PcP 02 40 19.2 +0.1
KKM *epP* pP 02 41 31.7 +1.1
KKM *eScP* ScP 02 43 16.8 +0.4
WDC Whiskeytown Da 55.85 66 *eP* P 02 39 31.3 +1.2
WDC pmax pmax
comp=Z,294nm,1.1s
WDC Whiskeytown Da 55.85 66 *eP* P 02 39 31.3 +1.2
comp=Z,294nm,1.1s
WDC *eScP* ScP 02 43 16.0 -0.1
FFC Flin Flon 55.87 43 *eP* P 02 39 30.6 +0.6
FFC *eS* S 02 46 29.7 0.0
FFC pmax pmax
comp=Z,681nm,0.8s
FFC Flin Flon 55.87 43 *eP* P 02 39 30.6 +0.6
comp=Z,680nm,0.8s
FFC *eScP* ScP 02 43 15.8 -0.1
FFC *eS* S 02 46 29.7 0.0
FFC Flin Flon 55.87 43 P P 02 39 30.3 +0.3
comp=Z,5μm,0.8s
FCC Fort Churchill 55.87 35 *eP* P 02 39 29.8 -0.1
FCC *eS* S 02 46 27.6 -2.0
FCC Fort Churchill 55.87 35 *eP* P 02 39 29.8 -0.1
comp=Z,0.7nm,0.8s
FCC *eScP* ScP 02 43 15.9 0.0
FCC *eS* S 02 46 27.6 -2.0
KOLN Koldanda 55.97 272 *eP* P 02 39 32.1 +0.7
KOLN Koldanda 55.97 272 *eP* P 02 39 32.1 +0.7
MSO Missoula 56.02 56 ⇓P P 02 39 32.1 +0.8
baz=56,SNR=426
MSO ⇓ScP ScP 02 43 16.9 -0.1
baz=56,SNR=5.9
PYUN Piuthan 56.09 273 *eP* P 02 39 33.0 +0.8
PYUN Piuthan 56.09 273 *eP* P 02 39 33.0 +0.8
MOD Modoc 56.15 64 *eP* P 02 39 33.8 +1.4
comp=Z,391nm,1.1s
MOD *eScP* ScP 02 43 18.2 +0.5
MOD *eS* S 02 46 34.2 +0.2
SCO Scoresbysund 56.37 358 *iP* P 02 39 33.5 +0.4
SCO pmax pmax
comp=Z,370nm,1.0s
SCO Scoresbysund 56.37 358 *i* P P 02 39 33.5 +0.4
comp=Z,369nm,1.0s
ILULI Ilulissat 56.45 10 *eP* P 02 39 32.9 -0.8
ILULI pmax pmax
comp=Z,580nm,0.9s
ILULI Ilulissat 56.45 10 *i* P P 02 39 32.9 -0.8
comp=Z,583nm,0.8s
KONS Konsvik 56.59 342 *eP* P 02 39 33.9 -0.8
KONS AMB AMB 02 39 37.5
comp=Z,502nm,0.6s
MOR8 Moi Rana 56.63 341 ⇓*iP* P 02 39 33.2 -1.8
MOR8 AMB AMB 02 39 35.8
comp=Z,1μm,1.1s
HOPS Hopland 56.66 68 *eP* P 02 39 36.9 +1.3
comp=Z,392nm,1.2s
HOPS *eScP* ScP 02 43 20.4 +0.6
WVOR Wild Horse Val 56.67 62 *eP* P 02 39 37.2 +1.4
WVOR *eS* S 02 46 42.2 +1.6
WVOR pmax pmax
comp=Z,631nm,1.1s
WVOR Wild Horse Val 56.67 62 *eP* P 02 39 37.2 +1.4
comp=Z,631nm,1.1s
WVOR *eS* S 02 46 42.2 +1.6
TSM Tawau 56.69 223 P P 02 39 37.6 +1.5
FLOS Flostrand 56.69 342 *eP* P 02 39 33.9 -1.5
FLOS AMB AMB 02 39 36.8
comp=Z,1μm,1.8s
LGTI Lohaghat 56.74 276 *eP* P 02 39 38.2 +1.9
LGTI *ex* x 02 41 42.4
STOK Stokkvaagen 56.76 342 *eP* P 02 39 35.0 -0.8
A19A Klindworth Far 57.05 51 ⇓P P 02 39 38.9 +0.6
baz=57
A19A ⇓ScP ScP 02 43 21.8 +0.4
baz=57
DHRM DHARAMSHALA 57.06 281 *eP* P 02 39 39.0 +0.2
DHRM AMB AMB 02 39 39.9
comp=Z,1μm,0.3s
HRY Holter Researc 57.14 55 *eP* P 02 39 40.2 +1.3
comp=Z,1μm,1.1s
HRY *eScP* ScP 02 43 22.6 +0.7
KHLT Khaolaem Dam 57.18 249 P P 02 39 40.7 +1.2
comp=Z,181nm,0.9s,comp=Z,2μm
SDNR Sundarnagar 57.20 280 *eP* P 02 39 39.0 -0.5
SDNR *eS* S 02 46 46.6 -0.9
EGMT Eagleton 57.21 52 *eP* P 02 39 40.0 +0.6
comp=Z,706nm,1.1s
EGMT *ePcP* PcP 02 40 24.3 0.0
EGMT *eScP* ScP 02 43 22.3 +0.1
EGMT Eagleton 57.21 52 ⇓P P 02 39 39.9 +0.6
baz=57,SNR=22
EGMT ⇑ScP ScP 02 43 22.4 +0.2
baz=57,SNR=7.6
B19A Brinkman Farms 57.29 52 ⇓P P 02 39 40.6 +0.8
baz=57,SNR=100
B19A ⇑ScP ScP 02 43 22.7 +0.2
baz=57,SNR=5.6
SMLA Simla 57.36 279 *iP* P 02 39 40.5 +0.1
SMLA AMB AMB 02 39 41.3
comp=Z,11μm,0.6s
SMLA *i* x x 02 46 41.0
KAF Kangasniemi 57.36 333 *eP* P 02 39 39.8 -0.2
KAF pmax pmax
comp=Z,1μm,1.0s
KAF Kangasniemi 57.36 333 *ep* P 02 39 39.8 -0.2
comp=Z,1μm,1.0s
MCCM Marconi Confer 57.36 69 *eP* P 02 39 41.0 +0.7
comp=Z,299nm,1.0s
DDI Dehra Dun 57.41 278 *eP* P 02 39 41.1 +0.1
DDI AMB AMB 02 39 41.8
comp=Z,1μm,0.3s

PATY Pattaya 57.45 246 P P 02 39 42.4 +1.1
comp=Z,101nm,0.9s,comp=Z,1μm
A20A Cobblestone Ra 57.46 51 ⇓P P 02 39 41.9 +0.9
baz=57,SNR=190
A20A ⇑ScP ScP 02 43 23.5 +0.2
baz=57,SNR=9.1
BEKR Beckworth 57.54 66 *eP* P 02 39 42.8 +1.0
comp=Z,236nm,1.1s
BEKR *eScP* ScP 02 43 24.3 +0.4
BEKR *eS* S 02 46 54.7 +2.9
BOK Bokaro 57.56 267 *eP* P 02 39 42.7 +0.7
BOK AMB AMB 02 39 42.8
comp=Z,456nm,0.9s
BHK Bhakra 57.59 280 *eP* P 02 39 40.8 -1.3
B20A Solberg Farm, 57.73 51 ⇑P P 02 39 43.5 +0.7
baz=58,SNR=41
B20A ⇓ScP ScP 02 43 24.5 0.0
baz=58,SNR=7.7
C19A Slack Wire Ran 57.75 52 ⇓P P 02 39 44.1 +1.1
baz=58,SNR=95
C19A ⇓ScP ScP 02 43 25.1 +0.5
baz=58,SNR=10
A21A Bergtoll Ranch 57.84 50 ⇑P P 02 39 44.7 +1.2
baz=58,SNR=351
A21A ⇓ScP ScP 02 43 25.1 +0.1
baz=58,SNR=11
FIA1 FINESS Array S 57.97 333 *eP* P 02 39 43.9 -0.2
FIA1 *ePcP* PcP 02 40 26.2 -0.6
FIA1 *eS* S 02 46 54.9 -1.2
FINES FINESS Array B 57.97 333 P P 02 39 44.0 -0.1
FINES PcP PcP 02 40 26.3 -0.5
FINES S S 02 46 55.2 -1.0
FINES P'P' 03 09 17.9
FINES *e* 03 16 43.8
FINES FINESS Array B 57.97 333 P P 02 39 44.0 -0.1
comp=Z,318nm,0.3s,baz=31,slow=7.5,SNR=4252
FINES PcP PcP 02 40 26.3 -0.5
comp=Z,92nm,0.5s,baz=58,slow=3.4,SNR=5.4
FINES S S 02 46 55.2 -1.0
comp=Z,33nm,0.9s,baz=40,slow=15,SNR=5.0
FINES PKPPKP P'P'df 03 09 17.9 +1.4
comp=Z,3.1nm,0.7s,baz=165,slow=3.2,SNR=3.3
FINES P4KPbc 03 16 43.8
comp=Z,8.4nm,1.0s,baz=32,slow=2.9,SNR=9.3
BOZ Bozeman (W) 57.99 55 *eP* P 02 39 46.0 +1.2
BOZ *e* 02 40 31.9
BOZ pmax pmax
comp=Z,496nm,0.9s
BOZ Bozeman (W) 57.99 55 *eP* P 02 39 46.0 +1.2
comp=Z,496nm,0.9s
BOZ *ePcP* PcP 02 40 31.9 +4.4
BOZ *eScP* ScP 02 43 26.0 +0.2
HLID Hailey 58.08 59 *eP* P 02 39 46.4 +1.0
comp=Z,18nm,0.4s
HLID *eScP* ScP 02 43 27.0 +0.7
HLID *eS* S 02 47 06.2 +7.8
HLID Hailey 58.08 59 ⇑P P 02 39 46.6 +1.2
baz=58,SNR=165
HLID ⇓ScP ScP 02 43 27.1 +0.9
baz=58
B21A Ellsworth Farm 58.21 50 ⇓P P 02 39 46.7 +0.7
baz=58,SNR=99
B21A ⇑ScP ScP 02 43 26.7 +0.2
baz=58
D19A Cripps Ranch, 58.24 53 ⇑P P 02 39 47.3 +1.0
baz=58,SNR=171
D19A ⇑ScP ScP 02 43 27.3 +0.5
baz=58,SNR=13
C20A Veseth Ranch, 58.26 52 ⇓P P 02 39 47.5 +1.2
baz=58,SNR=466
C20A ⇓ScP ScP 02 43 27.1 +0.3
baz=58
A22A Carney Farms, 58.30 49 ⇓P P 02 39 47.4 +0.7
baz=58,SNR=288
A22A ⇓ScP ScP 02 43 26.5 -0.5
baz=58,SNR=11
NSS Namsos 58.57 341 ⇓*iP* P 02 39 47.3 -0.7
NSS AMB AMB 02 39 49.8
comp=Z,496nm,0.6s
MRSI Marisa 58.62 217 P P 02 39 49.7 +0.6
comp=Z,927nm,0.9s,comp=Z,7μm
SFJD Kangerlussuaq 58.64 11 *iP* P 02 39 47.7 -0.7
comp=Z,376nm,0.9s
SFJD Kangerlussuaq 58.64 11 *eP* P 02 39 47.6 -0.7
comp=Z,881nm,1.0s
SFJD *ePcP* PcP 02 40 30.3 +0.9
D20A Manuel Ranch, 58.65 52 ⇓P P 02 39 50.4 +1.4
baz=58,SNR=398
D20A ⇓ScP ScP 02 43 29.0 +0.5
baz=58,SNR=7.3
QLMT Earthquake Lak 58.68 56 *eP* P 02 39 50.5 +1.1
comp=Z,29nm,0.9s
QLMT *eScP* ScP 02 43 30.2 +1.3
FAKI Fak Fak 58.70 204 P P 02 39 50.2 +0.6
comp=Z,432nm,0.9s,comp=Z,4μm
B22A Reddig Ranch S 58.77 50 ⇓P P 02 39 50.6 +0.9
baz=58,SNR=108
B22A ⇓ScP ScP 02 43 28.8 -0.3
baz=58,SNR=7.8
E19A Rath Farm, Rou 58.79 53 ⇓P P 02 39 51.3 +1.3
baz=59,SNR=193
E19A ⇑ScP ScP 02 43 29.4 +0.1
baz=59,SNR=9.0
A23A Redstone 58.80 49 ⇓P P 02 39 50.4 +0.6
baz=58,SNR=20
A23A ⇓ScP ScP 02 43 29.4 +0.2
baz=58
CMB Columbia Colle 58.82 67 *eP* P 02 39 51.3 +1.0
CMB *eS* S 02 47 14.1 +6.3
CMB pmax pmax
comp=Z,578nm,1.2s
CMB Columbia Colle 58.82 67 *eP* P 02 39 51.3 +1.0
comp=Z,578nm,1.2s
CMB *eScP* ScP 02 43 30.4 +0.9
CMB *eS* S 02 47 14.1 +6.3
BMN Battle Mountai 58.83 63 *eP* P 02 39 51.8 +1.4
BMN pmax pmax
comp=Z,357nm,1.1s
BMN Battle Mountai 58.83 63 *eP* P 02 39 51.8 +1.4
comp=Z,357nm,1.1s
BMN *eScP* ScP 02 43 30.4 +0.8
MOS Moscow 58.91 323 *eP* P 02 39 47.2 -3.2
MOS *i* *PP pP 02 41 53.3 +0.6
MOS *i* 02 42 11.0
MOS *i* S S 02 47 07.3 -0.7
MOS *e* 02 48 31.2
MOS *eSS* SS 02 51 15.1 -1.6
MOS pmax pmax
comp=Z,3μm,1.2s
MOS pmax pmax
comp=Z,5μm,1.6s
YMR Madison River 59.02 56 *eP* P 02 39 52.9 +1.2
comp=Z,1μm,0.6s
YMR *eScP* ScP 02 43 30.7 +0.2
E20A Meyer Farm, Mu 59.08 53 ⇓P P 02 39 53.2 +1.4
baz=59,SNR=212
E20A ⇓ScP ScP 02 43 30.9 +0.4
baz=59,SNR=7.0
B23A Brockton 59.11 49 ⇑P P 02 39 52.7 +0.7
baz=59,SNR=149
B23A ⇑ScP ScP 02 43 30.9 +0.3
baz=59,SNR=8.2
NDI New Delhi 59.11 277 *eP* P 02 39 50.0 -2.2
NDI *ex* x 02 40 15.6
NDI *i* *x* 02 40 29.0
YNR Norris Junctio 59.13 56 *eP* P 02 39 54.1 +1.7
comp=Z,380nm,1.2s
YNR *eScP* ScP 02 43 31.3 +0.3
SAO San Andreas Ge 59.14 69 *eP* P 02 39 53.2 +0.8
SAO pmax pmax
comp=Z,276nm,1.3s
SAO San Andreas Ge 59.14 69 *eP* P 02 39 53.2 +0.8
comp=Z,276nm,1.3s
F19A Roth Farm, Mol 59.16 54 ⇓P P 02 39 53.7 +1.3
baz=59,SNR=184
F19A ⇓ScP ScP 02 43 31.2 +0.3
baz=59
D21A La Casta Ranch 59.20 52 ⇑P P 02 39 53.7 +1.0
baz=59,SNR=121
D21A ⇑ScP ScP 02 43 31.3 +0.3
baz=59,SNR=10
A24A Westby 59.22 48 ⇓P P 02 39 53.2 +0.5
baz=59,SNR=71
A24A ⇑ScP ScP 02 43 31.2 +0.2
baz=59
C22A Vida 59.23 50 ⇓P P 02 39 53.4 +0.6

baz=59,SNR=63
C22A ⇓ScP **ScP** **02 43 31.0 -0.1**
baz=59
YFT **Old Faithful** **59.24** **56** *e*P **P** **02 39 55.7 +2.5**
comp=Z,483nm,0.9s
YFT *e*ScP **ScP** **02 43 34.4 +2.9**
H17A **Grant Village** **59.41** **56** *e*P **P** **02 39 56.9 +2.6**
H17A *e*ScP **ScP** **02 43 34.8 +2.5**
H17A *e*S S 02 47 23.5 +8.2
H17A **Grant Village** **59.41** **56** ⇑P **P** **02 39 56.9 +2.6**
baz=59,SNR=219
H17A ⇑ScP **ScP** **02 43 34.2 +1.9**
baz=59
DGMT **Dagmar** **59.46** **49** *e*P **P** **02 39 54.7 +0.4**
comp=Z,680nm,1.0s
DGMT *e*PcP **PcP** **02 40 34.2 +1.1**
DGMT *e*ScP **ScP** **02 43 32.2 +0.1**
DGMT **Dagmar** **59.46** **49** ⇓P **P** **02 39 54.8 +0.5**
baz=59,SNR=91
DGMT ⇑ScP **ScP** **02 43 32.4 +0.3**
baz=59,SNR=9.1
C23A **Lambert** **59.51** **50** ⇓P **P** **02 39 55.6 +1.0**
baz=59,SNR=164
C23A ⇓ScP **ScP** **02 43 32.8 +0.5**
baz=59
D22A **Cohagen** **59.52** **51** ⇑P **P** **02 39 55.5 +0.8**
baz=59,SNR=83
D22A ⇑ScP **ScP** **02 43 33.0 +0.6**
baz=59
RLMT **Red Lodge** **59.53** **54** *e*P **P** **02 39 56.3 +1.2**
RLMT *e*PcP PcP 02 40 23.9 -10
RLMT *e*ScP **ScP** **02 43 33.3 +0.6**
RLMT *e*S **S** **02 47 21.8 +5.1**
E21A **Keefer Ranch,** **59.55** **52** ⇓P **P** **02 39 56.2 +1.3**
baz=59,SNR=123
E21A ⇑ScP **ScP** **02 43 32.8 +0.3**
baz=59
F20A **Billings** **59.58** **53** ⇓P **P** **02 39 56.3 +1.1**
baz=59,SNR=136
F20A ⇑ScP **ScP** **02 43 32.5 -0.3**
baz=59
A25A **Svangstu Ranch** **59.60** **48** ⇑P **P** **02 39 56.0 +0.8**
baz=59,SNR=73
A25A ⇑ScP **ScP** **02 43 33.1 +0.4**
baz=59
KBL **Kabul** **59.62** **288** *e*P **P** **02 39 54.8 -1.0**
KBL *e*S S 02 47 09.1 -9.0
KBL pmax pmax
comp=Z,1μm,1.1s
KBL **Kabul** **59.62** **288** *e*P **P** **02 39 54.8 -1.0**
comp=Z,1μm,1.1s
KBL *e*S S 02 47 09.1 -9.0
ELK **Elko** **59.66** **62** *e*P **P** **02 39 57.4 +1.4**
comp=Z,180nm,1.2s
ELK *e*S **S** **02 47 19.0 +0.5**
ELK ⇑*e* 03 09 15.9
ELK **Elko** **59.66** **62** PKP2bc **P'P'df** **03 09 15.9 +1.6**
comp=Z,12nm,1.0s,baz=183,slow=1.0,SNR=8.0
NVAR **Mina Array Bea** **59.68** **65** P **P** **02 39 57.1 +0.9**
NVAR ScP **ScP** **02 43 33.5 0.0**
NVAR S **S** **02 47 20.8 +2.0**
NVAR SKKS **SKKSdf** **03 06 53.5 +1.1**
NVAR P'P' 03 09 16.4
NVAR *e* 03 16 53.0
NVAR **Mina Array Bea** **59.68** **65** P **P** **02 39 57.1 +0.9**
comp=Z,394nm,1.1s,baz=297,slow=6.3,SNR=762
NVAR ScP **ScP** **02 43 33.5 0.0**
comp=Z,29nm,0.9s,baz=299,slow=3.9,SNR=4.4
NVAR S **S** **02 47 20.8 +2.0**
comp=Z,3.5nm,1.0s,baz=309,slow=4.3,SNR=2.0
NVAR SKKS **SKKSdf** **03 06 53.5 +1.1**
comp=Z,2.8nm,1.0s,baz=160,slow=2.9,SNR=8.1
NVAR PKPPKP **P'P'df** **03 09 16.4 +2.2**
comp=Z,14nm,1.2s,baz=168,slow=2.8,SNR=4.5
NVAR P4KPbc 03 16 53.0
comp=Z,1.4nm,0.9s,baz=280,slow=4.5,SNR=5.3
BTM **Bintulu** **59.71** **228** P **P** **02 39 57.7 +1.3**
LUWI **Luwuk** **59.74** **215** P **P** **02 39 55.5 -1.0**
comp=Z,439nm,0.7s,comp=Z,6μm
I17A **Pilgrim Ck.** **59.76** **56** ⇓P **P** **02 39 58.7 +2.1**
baz=60,SNR=29
I17A ⇓ScP **ScP** **02 43 35.2 +1.4**
baz=60
NV11 **Mina Array Sit** **59.76** **65** *e*P **P** **02 39 57.9 +1.2**
NV11 *e*ScP **ScP** **02 43 34.2 +0.5**
NV11 *e*S **S** **02 47 18.9 -0.7**
OBN **Obninsk** **59.77** **323** P **P** **02 39 55.6 -0.5**
comp=Z,12μm,1.0s
OBN **Obninsk** **59.77** **323** *d i*P **P** **02 39 55.8 -0.3**
OBN *i* 02 40 32.8
OBN *i* *PP **pP** **02 41 59.7 +0.8**
OBN *i* 02 42 18.1
OBN *i* *SP **sP** **02 43 04.9 -3.0**
OBN *i* S **S** **02 47 16.8 -2.0**
OBN pmax pmax
comp=Z,3μm,1.2s
LAO **LASA Array** **59.84** **51** *e*P **P** **02 39 57.8 +1.0**
comp=Z,664nm,1.1s
LAO *e*ScP **ScP** **02 43 34.3 +0.4**
D23A **Lindsay** **59.96** **50** ⇓P **P** **02 39 58.8 +1.2**
baz=60,SNR=204
D23A ⇑ScP **ScP** **02 43 35.2 +0.8**
baz=60,SNR=6.8
MLAC **Mammoth Lakes** **59.97** **66** ⇑P **P** **02 39 60.0 +1.9**
baz=60,SNR=74
MLAC ⇓ScP **ScP** **02 43 35.6 +0.8**
baz=60
G20A **Bridger** **59.97** **54** ⇑P **P** **02 39 58.5 +0.7**
baz=60,SNR=161
G20A ⇑ScP **ScP** **02 43 34.0 -0.5**
baz=60
MSAI **Masohi** **59.98** **208** P **P** **02 39 59.7 +1.6**
comp=Z,75nm,1.0s
H19A **Powell** **60.00** **55** ⇓P **P** **02 39 59.1 +1.1**
baz=60,SNR=80
H19A ⇓ScP **ScP** **02 43 35.1 +0.4**
baz=60
APSI **Ampana** **60.02** **217** P **P** **02 39 58.5 +0.2**
comp=Z,1μm,0.7s,comp=Z,11μm
F21A **Absaloka Mine,** **60.05** **53** ⇑P **P** **02 39 59.2 +0.9**
baz=60,SNR=57
F21A ⇓ScP **ScP** **02 43 34.9 +0.1**
baz=60
C24A **Savage** **60.05** **50** ⇓P **P** **02 39 59.1 +0.9**
baz=60,SNR=28
C24A ⇑ScP **ScP** **02 43 34.8 +0.1**
baz=60
TBLU **Trondheim** **60.06** **341** ⇓*i*P **P** **02 39 56.3 -1.6**
B25A **Knox Farm, Ray** **60.08** **48** ⇓P **P** **02 39 59.3 +0.9**
baz=60,SNR=65
B25A ⇓ScP **ScP** **02 43 35.8 +0.9**
baz=60,SNR=9.1
A26A **Wade Farm, Ken** **60.11** **47** ⇑P **P** **02 39 59.2 +0.7**
baz=60,SNR=91
A26A ⇓ScP **ScP** **02 43 35.1 +0.2**
baz=60
E22A **Miles City** **60.15** **51** ⇑P **P** **02 39 59.7 +0.8**
baz=60,SNR=180
E22A ⇓ScP **ScP** **02 43 35.7 +0.5**
baz=60
VSU **Vasula** **60.26** **331** *d i*P **P** **02 39 59.3 0.0**
VSU pmax pmax
comp=Z,6μm,1.2s
AHID **Auburn Hatcher** **60.33** **57** *e*P **P** **02 40 01.1 +0.8**
comp=Z,366nm,1.1s
D24A **Glendive** **60.41** **50** ⇓P **P** **02 40 01.7 +1.1**
baz=60,SNR=283
D24A ⇓ScP **ScP** **02 43 37.0 +0.6**
baz=60,SNR=7.5
B26A **Jensen Ranch,** **60.41** **48** ⇑P **P** **02 40 01.5 +1.0**
baz=60,SNR=27
B26A ⇓ScP **ScP** **02 43 36.9 +0.6**
baz=60
E23A **Ismay** **60.41** **51** ⇓P **P** **02 40 01.6 +1.1**
baz=60,SNR=155
E23A ⇓ScP **ScP** **02 43 36.8 +0.5**
baz=60
NLAI **Namlea** **60.41** **210** P **P** **02 40 02.2 +1.3**
comp=Z,272nm,0.6s,comp=Z,3μm
C25A **Freed Ranch, W** **60.45** **49** ⇓P **P** **02 40 01.8 +1.0**
baz=60,SNR=73
C25A ⇓ScP **ScP** **02 43 37.4 +0.8**
baz=60,SNR=6.2
G21A **Lodge Grass** **60.45** **53** ⇓P **P** **02 40 01.7 +0.7**
baz=60,SNR=104
G21A ⇑ScP **ScP** **02 43 36.8 +0.1**
baz=60
I19A **Meeteetse** **60.45** **55** ⇑P **P** **02 40 02.2 +1.1**
baz=60,SNR=70
I19A ⇑ScP **ScP** **02 43 36.5 -0.3**
baz=60
F22A **Rosebud** **60.49** **52** ⇓P **P** **02 40 01.9 +0.7**
baz=60,SNR=128
F22A ⇓ScP **ScP** **02 43 37.1 +0.3**
baz=60,SNR=5.5
TPH **Tonopah** **60.53** **65** *e*P **P** **02 40 02.7 +1.0**
TPH *e*S **S** **02 47 32.1 +2.9**
TPH pmax pmax
comp=Z,530nm,1.2s
TPH **Tonopah** **60.53** **65** *e*P **P** **02 40 02.7 +1.0**
comp=Z,530nm,1.2s
TPH *e*ScP **ScP** **02 43 37.8 +0.5**
TPH *e*S **S** **02 47 32.1 +2.9**
H20A **Greybull** **60.61** **54** ⇓P **P** **02 40 02.4 +0.4**
baz=60,SNR=142
H20A ⇓ScP **ScP** **02 43 37.9 +0.5**
baz=60
RCTC **Rector, Farmer** **60.70** **68** ⇓P **P** **02 40 03.2 +0.7**
baz=60,SNR=65
TIN **Tinemaha** **60.72** **66** ⇓P **P** **02 40 04.5 +1.6**
baz=60,SNR=97
TIN ⇑ScP **ScP** **02 43 39.1 +1.1**
baz=60
SBUM **Sibu** **60.76** **228** P **P** **02 40 05.6 +2.3**
B27A **Peters Farms,** **60.82** **47** ⇓P **P** **02 40 04.0 +0.8**
baz=61,SNR=86
B27A ⇑ScP **ScP** **02 43 38.7 +0.6**
baz=61
E24A **Baker** **60.83** **50** ⇑P **P** **02 40 04.0 +0.6**
baz=61,SNR=68
E24A ⇓ScP **ScP** **02 43 38.7 +0.5**
baz=61,SNR=5.9
D25A **Fairfield** **60.84** **49** ⇑P **P** **02 40 04.5 +1.1**
baz=61,SNR=67
D25A ⇑ScP **ScP** **02 43 39.1 +0.8**
baz=61
BNDI **Bandanaira** **60.84** **206** P **P** **02 40 04.4 +0.7**
comp=Z,917nm,1.0s,comp=Z,10μm
A28A **Rude Farm, Bot** **60.87** **46** ⇑P **P** **02 40 04.1 +0.6**
baz=61,SNR=65
A28A ⇑ScP **ScP** **02 43 38.8 +0.5**
baz=61
C26A **Wahner Farm, P** **60.88** **48** ⇓P **P** **02 40 04.6 +1.0**
baz=61,SNR=91
C26A ⇑ScP **ScP** **02 43 39.1 +0.7**
baz=61
G22A **Birney** **60.89** **53** ⇑P **P** **02 40 04.6 +0.8**
baz=61,SNR=164
G22A ⇓ScP **ScP** **02 43 38.9 +0.3**
baz=61
F23A **Volborg** **60.94** **52** ⇑P **P** **02 40 04.8 +0.7**
baz=61,SNR=315
F23A ⇑ScP **ScP** **02 43 39.1 +0.4**
baz=61,SNR=5.0
I20A **Worland** **60.94** **55** ⇑P **P** **02 40 05.3 +1.1**
baz=61,SNR=135
I20A ⇓ScP **ScP** **02 43 39.7 +0.8**
baz=61
H21A **Big Horn, Sher** **60.97** **53** ⇓P **P** **02 40 05.2 +0.9**
baz=61,SNR=276
H21A ⇓ScP **ScP** **02 43 39.3 +0.3**
baz=61
VRHR **Novokhopersk** **60.98** **318** *e*P **P** **02 40 01.8 -2.3**
VRHR *e*S **S** **02 47 30.8 -3.0**
VRHR pmax pmax
comp=Z,2μm,1.6s
VRHR pmax pmax
comp=N,2μm,1.4s
VRHR pmax pmax
comp=E,870nm,0.8s
VRHR smax smax
comp=E,3μm,1.7s
VRHR smax smax
comp=Z,540nm,2.2s
VRHR smax smax
comp=N,1μm,1.2s
J19A **Crowheart** **60.99** **56** ⇓P **P** **02 40 05.8 +1.2**
baz=61,SNR=34
J19A ⇑ScP **ScP** **02 43 39.3 +0.1**
baz=61
SMMC **Simmler** **61.00** **69** ⇑P **P** **02 40 06.1 +1.5**
baz=61,SNR=68
SMMC ⇓ScP **ScP** **02 43 40.3 +1.2**
baz=61
BW06 **Boulder Array** **61.11** **56** *e*P **P** **02 40 06.0 +0.6**
comp=N,388nm,1.1s
BW06 pP **pP** **02 42 13.4 +4.2**
BW06 *e*S **S** **02 47 35.0 -1.3**
PDAR **Pinedale Array** **61.11** **56** P **P** **02 40 06.1 +0.6**
PDAR pP **pP** **02 42 13.0 +3.9**
PDAR ScP **ScP** **02 43 38.9 -0.8**
PDAR S **S** **02 47 37.5 +1.3**
PDAR SKKS **SKKSdf** **03 06 48.8 -1.5**
PDAR P'P' 03 09 13.2
PDAR *e* 03 17 00.3
PDAR **Pinedale Array** **61.11** **56** P **P** **02 40 06.1 +0.6**
comp=N,217nm,0.9s,baz=308,slow=2.2,SNR=561
PDAR pP **pP** **02 42 13.0 +3.9**
comp=N,26nm,0.9s,baz=326,slow=2.7,SNR=3.3
PDAR ScP **ScP** **02 43 38.9 -0.8**
comp=N,20nm,0.9s,baz=350,slow=1.1,SNR=3.1
PDAR S **S** **02 47 37.5 +1.3**
comp=N,5.1nm,1.1s,baz=5.2,slow=2.0,SNR=5.3
PDAR SKKS **SKKSdf** **03 06 48.8 -1.5**
comp=N,3.3nm,1.2s,baz=106,slow=4.9,SNR=5.8
PDAR PKPPKP **P'P'df** **03 09 13.2 +1.2**
comp=N,11nm,1.1s,baz=134,slow=4.3,SNR=11
PDAR P4KPbc 03 17 00.3
comp=N,0.5nm,0.7s,baz=29,slow=3.4,SNR=4.3
B28A **Dugan Ranch, T** **61.18** **47** ⇓P **P** **02 40 06.0 +0.5**
baz=61,SNR=118
B28A ⇑ScP **ScP** **02 43 40.1 +0.4**
baz=61
MOL **Molde** **61.19** **342** ⇓*i*P **P** **02 40 04.9 -0.3**
MOL AMB AMB 02 40 07.3
comp=Z,1μm,1.3s
R11A **Troy Canyon, C** **61.21** **64** ⇑P **P** **02 40 07.0 +0.9**
baz=61,SNR=256
R11A ⇑ScP **ScP** **02 43 41.0 +0.7**
baz=61
GRAC **Grapevine Rang** **61.23** **66** ⇑P **P** **02 40 07.8 +1.7**
baz=61,SNR=128
GRAC ⇓ScP **ScP** **02 43 40.8 +0.7**
baz=61
C27A **Sayler Ranch,** **61.23** **48** ⇓P **P** **02 40 06.8 +0.9**
baz=61,SNR=53
C27A ⇓ScP **ScP** **02 43 40.7 +0.7**
baz=61
CWC **Cottonwood Cre** **61.25** **67** ⇓P **P** **02 40 07.5 +1.1**
baz=61,SNR=257
CWC ⇑ScP **ScP** **02 43 40.8 +0.4**
baz=61
E25A **Miller Ranch,** **61.29** **50** ⇑P **P** **02 40 07.1 +0.8**
baz=61,SNR=122
E25A ⇓ScP **ScP** **02 43 40.9 +0.6**
baz=61
F24A **Ekalaka** **61.30** **51** ⇑P **P** **02 40 07.1 +0.7**
baz=61,SNR=164
F24A ⇑ScP **ScP** **02 43 41.0 +0.6**
baz=61
A29A **Manning Farm,** **61.31** **46** ⇑P **P** **02 40 06.9 +0.5**
baz=61,SNR=199
A29A ⇑ScP **ScP** **02 43 39.8 -0.5**
baz=61
H22A **Clearmont** **61.33** **53** ⇑P **P** **02 40 07.3 +0.7**
baz=61,SNR=24
H22A ⇑ScP **ScP** **02 43 40.7 +0.1**
baz=61
D26A **Manning** **61.33** **49** ⇓P **P** **02 40 07.4 +0.8**
baz=61,SNR=61
D26A ⇑ScP **ScP** **02 43 40.9 +0.4**
baz=61,SNR=5.5
DUG **Dugway** **61.33** **61** *e*P **P** **02 40 08.0 +1.2**
DUG *e*S **S** **02 47 41.0 +2.1**
DUG pmax pmax
comp=Z,572nm,1.2s
DUG **Dugway** **61.33** **61** *e*P **P** **02 40 08.0 +1.2**
comp=Z,572nm,1.2s
DUG *e* 02 42 17.5
DUG *e*S **S** **02 47 41.0 +2.1**
DUG **Dugway** **61.33** **61** ⇑P **P** **02 40 08.1 +1.3**
baz=61,SNR=444
DUG ⇓ScP **ScP** **02 43 41.0 +0.2**
baz=61
G23A **Biddle** **61.33** **52** ⇓P **P** **02 40 07.2 +0.6**
baz=61,SNR=127
G23A ⇑ScP **ScP** **02 43 40.7 +0.2**
baz=61
DOMB **Dombas** **61.39** **341** *e*P **P** **02 40 06.4 -0.3**
DOMB AMB AMB 02 40 08.7
comp=Z,612nm,0.5s
J20A **Shoshoni** **61.40** **55** ⇑P **P** **02 40 08.3 +1.1**
baz=61,SNR=102
J20A ⇑ScP **ScP** **02 43 41.5 +0.5**
baz=61
PKM **Peak Mountain** **61.41** **69** ⇑P **P** **02 40 08.9 +1.4**
baz=61,SNR=198
PKM ⇓ScP **ScP** **02 43 41.4 +0.2**
baz=61
VOR **Voronezh** **61.44** **320** ⇓*i*P **P** **02 40 05.0 -2.1**
VOR *e*S **S** **02 47 37.0 -2.5**
VOR pmax pmax
comp=Z,2μm,1.2s
I21A **Big Trails, Te** **61.45** **54** ⇓P **P** **02 40 08.4 +0.8**
baz=61,SNR=530
I21A ⇓ScP **ScP** **02 43 41.4 +0.2**
baz=61
JBP **Jabalpur** **61.57** **271** ⇓*i*P **P** **02 40 08.5 +0.1**
JBP *ex* x 02 42 14.0
ISA **Isabella** **61.60** **68** ⇑P **P** **02 40 08.7 +0.2**
baz=61,SNR=217
ISA ⇓ScP **ScP** **02 43 43.6 +1.7**
baz=61
B29A **Wagenman Farm,** **61.60** **46** ⇓P **P** **02 40 08.8 +0.5**
baz=61,SNR=160
B29A ⇓ScP **ScP** **02 43 42.3 +0.7**
baz=61
D27A **Center** **61.68** **48** ⇓P **P** **02 40 09.6 +0.8**
baz=61,SNR=37
D27A ⇑ScP **ScP** **02 43 42.9 +0.9**
baz=61
ULM **Lac du Bonnet** **61.69** **43** *e*P **P** **02 40 08.5 -0.3**
comp=Z,143nm,1.2s
ULM *e*PcP **PcP** **02 40 42.7 +0.5**
ULM *e*pP **pP** **02 42 12.7 -0.1**
ULM ScP **ScP** **02 43 41.3 -0.6**
ULM S **S** **02 47 40.8 -1.8**
ULM P'P' 03 09 06.1
ULM *e* 03 17 02.2
ULM **Lac du Bonnet** **61.69** **43** P **P** **02 40 08.6 -0.1**
comp=Z,68nm,0.3s,baz=319,slow=6.9,SNR=173
ULM pP pP 02 42 19.3 +6.5
comp=Z,29nm,0.8s,baz=306,slow=8.1,SNR=2.6
ULM ScP **ScP** **02 43 41.3 -0.6**
comp=Z,34nm,0.8s,baz=328,slow=4.6,SNR=3.2
ULM S **S** **02 47 40.8 -1.8**
comp=Z,47nm,0.9s,baz=225,slow=22,SNR=16
ULM PKPPKP **P'P'df** **03 09 06.1 -4.7**
comp=Z,7.1nm,0.9s,baz=98,slow=4.1,SNR=4.6
ULM P4KPbc 03 17 02.2
comp=Z,3.4nm,1.1s,baz=318,slow=6.8,SNR=4.1
A30A **Hoffart Farm,** **61.69** **45** ⇓P **P** **02 40 09.2 +0.4**
baz=61,SNR=92
A30A ⇑ScP **ScP** **02 43 41.7 -0.2**
baz=61
DGPR **DIGLIPUR** **61.69** **253** *e*P **P** **02 40 10.1 +0.8**
DGPR AMB AMB 02 40 10.5
comp=Z,934nm,0.4s
F25A **Bowman** **61.69** **50** ⇓P **P** **02 40 09.6 +0.7**
baz=61,SNR=107
F25A ⇑ScP **ScP** **02 43 42.8 +0.6**
baz=61,SNR=6.8
G24A **Alzada** **61.70** **51** ⇑P **P** **02 40 09.3 +0.3**
baz=61,SNR=107
G24A ⇑ScP **ScP** **02 43 42.3 +0.2**
baz=61
J21A **Lysite** **61.72** **55** ⇓P **P** **02 40 10.1 +0.7**
baz=62,SNR=150
J21A ⇓ScP **ScP** **02 43 43.0 +0.5**
baz=62
C28A **Hausauer Farms** **61.72** **47** ⇓P **P** **02 40 09.9 +0.8**
baz=62
C28A ⇑ScP **ScP** **02 43 43.0 +0.8**
baz=62
E26A **Carlson Angus** **61.74** **49** ⇑P **P** **02 40 09.8 +0.5**
baz=62,SNR=108
E26A ⇑ScP **ScP** **02 43 42.9 +0.6**
baz=62
I22A **9 Mile Ranch,** **61.78** **54** ⇑P **P** **02 40 10.3 +0.6**
baz=62,SNR=107
I22A ⇓ScP **ScP** **02 43 43.5 +0.9**
baz=62
ARVC **Arvin** **61.79** **68** ⇓P **P** **02 40 10.1 +0.4**
baz=62,SNR=28
SBC **Santa Barbara** **61.80** **70** ⇓P **P** **02 40 11.2 +1.5**
baz=62,SNR=17
H23A **Clabaugh Cattl** **61.80** **53** ⇓P **P** **02 40 10.1 +0.3**
baz=62,SNR=21
H23A ⇑ScP **ScP** **02 43 43.2 +0.6**
baz=62
MPMC **Manual Prospec** **61.85** **67** ⇓P **P** **02 40 11.3 +1.0**
baz=62,SNR=366
VSR **Storozhevoye** **61.86** **319** *e*P **P** **02 40 08.7 -1.1**
VSR *e*S **S** **02 47 43.1 -1.5**
VSR pmax pmax
comp=Z,2μm,1.4s
VSR pmax pmax
comp=N,2μm,1.1s
VSR pmax pmax
comp=E,1μm,1.1s
VSR smax smax
comp=E,5μm,1.6s
VSR smax smax
comp=Z,120nm,1.4s
VSR smax smax
comp=N,670nm,1.3s
TPNV **Topopah Spring** **61.88** **65** ⇓P **P** **02 40 11.5 +1.1**
baz=62,SNR=402
NB2 **NORSAR Subarra** **61.88** **340** P **P** **02 40 09.8 0.0**
comp=Z,2μm,1.1s,baz=25,slow=6.9
NB2 **NORSAR Subarra** **61.88** **340** P **P** **02 40 09.8 0.0**
baz=25,slow=6.9
NOA **NORSAR Array B** **61.88** **340** P **P** **02 40 09.9 0.0**
NOA PcP **PcP** **02 40 42.4 -0.4**
NOA S **S** **02 47 43.7 -1.0**
NOA SKKS **SKKSdf** **03 06 45.0 -2.5**
NOA ⇑*e* 03 09 14.4
NOA **NORSAR Array B** **61.88** **340** P **P** **02 40 09.9 0.0**
comp=Z,607nm,0.7s,baz=26,slow=6.6,SNR=1722
NOA PcP **PcP** **02 40 42.4 -0.4**
comp=Z,77nm,0.8s,baz=25,slow=3.3,SNR=4.1
NOA S **S** **02 47 43.7 -1.0**
comp=Z,6.1nm,0.8s,baz=17,slow=12,SNR=3.3
NOA SKKS **SKKSdf** **03 06 45.0 -2.5**
comp=Z,1.3nm,0.8s,baz=208,slow=2.4,SNR=3.6
NOA PKP2bc 03 09 14.4
comp=Z,20nm,1.2s,baz=204,slow=2.7,SNR=4.7
NLU **North Lily Min** **61.89** **60** *e*P **P** **02 40 11.7 +1.2**
comp=Z,236nm,1.1s
NLU *e*PcP **PcP** **02 40 44.9 +1.5**
FURC **Furnace Creek,** **61.89** **66** ⇑P **P** **02 40 11.6 +1.4**
baz=62,SNR=482
MDND **Maddock** **61.97** **47** ⇑P **P** **02 40 11.4 +0.8**
baz=62,SNR=108
VORD **Divnogorie** **62.00** **319** *e*P **P** **02 40 08.9 -1.8**
VORD *e*S **S** **02 47 43.9 -2.4**
VORD pmax pmax
comp=Z,2μm,1.2s
VORD pmax pmax
comp=N,2μm,1.1s
VORD pmax pmax
comp=E,1μm,1.0s
VORD smax smax
comp=N,1μm,3.8s
VORD smax smax
comp=Z,290nm,2.4s
VORD smax smax
comp=E,1μm,3.0s
D28A **Regan** **62.04** **48** ⇑P **P** **02 40 12.0 +0.9**
baz=62,SNR=52
B30A **Myrvik Farm, E** **62.05** **45** ⇑P **P** **02 40 11.5 +0.4**
baz=62,SNR=305
H24A **Dirks Ranch, A** **62.07** **52** ⇓P **P** **02 40 11.7 +0.2**
baz=62,SNR=275
NC602 **NORSAR Array S** **62.09** **340** ⇓*i*P **P** **02 40 10.7 -0.4**
BORG **Borgarnes** **62.10** **357** P **P** **02 40 11.9 +0.8**
BORG **Borgarnes** **62.10** **357** P **P** **02 40 12.3 +1.2**
comp=E,6μm,1.0s,SNR=23
BORG **Borgarnes** **62.10** **357** P **P** **02 40 11.9 +0.8**
comp=E,862nm,1.0s,baz=13,slow=4.8
F26A **Lodgepole** **62.11** **50** ⇑P **P** **02 40 12.2 +0.6**

baz=62,SNR=135
NAO01 **NORSAR Array S** 62.13 340 *e*P P 02 40 11.1 -0.3
comp=E,39nm,0.5s
NAO01 *e*PcP PcP 02 40 42.1 -1.7
NAO01 *e*PP PP 02 42 33.6 -5.7
LRMC **Laurel Mountai** 62.17 67 ⇑P P 02 40 13.2 +1.0
baz=62,SNR=226
BSC **Santa Cruz Isl** 62.17 70 ⇑P P 02 40 13.1 +0.9
baz=62,SNR=27
HFS **Hagfors** 62.17 338 S S 02 47 47.1 -1.0
comp=E,29nm,1.0s,baz=41,slow=12,SNR=4.1
E27A **Carson** 62.18 49 ⇓P P 02 40 12.8 +0.7
baz=62,SNR=221
I23A **Meade Ranch, G** 62.22 53 ⇓P P 02 40 12.9 +0.4
baz=62
OSI **Osito Adit** 62.23 69 ⇑P P 02 40 13.7 +1.2
baz=62,SNR=6.6
G25A **Newell** 62.26 51 ⇓P P 02 40 13.0 +0.4
baz=62,SNR=49
K21A **Alcova** 62.35 55 ⇑P P 02 40 13.8 +0.5
baz=62,SNR=103
F27A **Lemmon** 62.39 50 ⇓P P 02 40 13.7 +0.3
baz=62,SNR=92
EDW2 **Edwards Air Fo** 62.44 68 ⇑P P 02 40 15.0 +1.1
baz=62,SNR=307
E28A **Huff** 62.46 48 ⇑P P 02 40 14.4 +0.6
baz=62,SNR=44
KSM **Kuching** 62.49 230 P P 02 40 16.2 +1.8
KSM **Kuching** 62.49 230 *e*P P 02 40 15.8 +1.4
comp=E,658nm,0.9s
KSM *e*PcP PcP 02 40 45.0 -0.9
KSM *e*pP pP 02 42 21.0 +1.9
C30A **Mose, Pekin** 62.56 46 ⇓P P 02 40 14.3 -0.1
baz=62,SNR=36
G26A **Maurine** 62.56 50 ⇑P P 02 40 14.9 +0.4
baz=62,SNR=190
D29A **Pettibone, Tap** 62.57 47 ⇓P P 02 40 14.8 +0.3
baz=62,SNR=35
J23A **Dilts Ranch, B** 62.60 54 ⇑P P 02 40 15.1 +0.2
baz=62,SNR=13
H25A **Fruitdale** 62.61 51 ⇑P P 02 40 15.1 +0.2
baz=62,SNR=101
KTGM **Kuala Trenggan** 62.62 239 P P 02 40 17.2 +1.9
SHOC **Shoshone** 62.63 66 ⇑P P 02 40 16.1 +1.1
baz=62,SNR=63
MMSI **Mamuju** 62.66 219 P P 02 40 15.7 +0.2
comp=E,975nm,1.1s,comp=E,9μm
K22A **Casper** 62.69 55 ⇑P P 02 40 16.0 +0.5
baz=62,SNR=98
I24A **Kuemmerle Ranc** 62.70 53 ⇑P P 02 40 15.6 +0.1
baz=62,SNR=89
DECC **Green Verdugo** 62.71 69 ⇑P P 02 40 16.6 +0.9
baz=62,SNR=27
HYA **Hoyanger** 62.73 343 ⇓*i*P P 02 40 15.1 -0.2
PMG **Port Moresby** 62.74 186 *e*P P 02 40 16.6 +0.7
comp=E,208nm,0.8s
PMG *e*PcP PcP 02 40 46.7 -0.2
PMG S S 02 47 58.0 +1.8
PMG **Port Moresby** 62.74 186 S S 02 47 58.0 +1.8
comp=E,4.8nm,0.3s,baz=45,slow=19,SNR=4.9
RSSD **Black Hills** 62.78 52 *e*P P 02 40 16.6 +0.4
RSSD *e**PP pP 02 42 21.9 +1.0
RSSD *e*S S 02 47 58.3 +1.8
RSSD pmax pmax
comp=Z,609nm,0.8s
RSSD **Black Hills** 62.78 52 *e*P P 02 40 16.6 +0.4
comp=Z,609nm,0.8s
RSSD *e*pP pP 02 42 21.9 +1.0
RSSD *e*S S 02 47 58.2 +1.8
GSC **Goldstone** 62.78 67 ⇓P P 02 40 17.1 +0.9
baz=63,SNR=229
G27A **Dupree** 62.81 50 ⇓P P 02 40 16.3 +0.2
baz=62,SNR=91
PASC **Pasadena Art C** 62.85 69 *e*P P 02 40 17.0 +0.5
comp=Z,325nm,1.1s
PASC *e*PcP PcP 02 40 45.4 -1.8
ISAL **Salakas** 62.87 329 *e*P P 02 40 16.7 +0.5
ISAL AMB AMB 02 40 18.9
comp=Z,728nm,1.2s
ISAL *e*S S 02 47 55.8 -0.8
HNR **Honiara** 62.88 172 S S 02 47 55.5 -2.3
comp=Z,322nm,0.9s,baz=39,slow=6.5,SNR=2.6
MVU **Marysvale** 62.89 61 *e*P P 02 40 18.5 +1.5
comp=Z,357nm,1.1s
MVU *e*S S 02 48 04.9 +6.9
D30A **Buchanan** 62.90 47 ⇓P P 02 40 16.5 0.0
baz=63,SNR=104
E29A **Napoleon** 62.93 48 ⇑P P 02 40 16.6 -0.2
baz=63,SNR=43
F28A **McLaughlin** 62.96 49 ⇓P P 02 40 17.3 +0.3
baz=63,SNR=111
RRX **Edison Barstow** 62.99 67 ⇑P P 02 40 18.5 +1.1
baz=63
OSL **Oslo** 62.99 340 *e*P P 02 40 17.1 +0.3
OSL AMB AMB 02 40 19.6
comp=Z,2μm,0.9s
H26A **Fairpoint** 63.00 51 ⇓P P 02 40 17.5 +0.2
baz=63,SNR=76
IIGN **Ignalina** 63.02 329 *e*P P 02 40 17.2 0.0
IIGN AMB AMB 02 40 19.4
comp=Z,966nm,1.1s
IIGN *e*S S 02 47 58.1 -0.4
PBA **Port Blair** 63.03 252 *e*P P 02 40 17.9 +0.1
BHPL **Bhopal** 63.04 273 *e*P P 02 40 17.6 -0.3
KKSI **Kolaka, Sulawe** 63.05 215 P P 02 40 19.4 +1.5
comp=Z,506nm,0.9s,comp=Z,5μm
K23A **Bowen Ranch, D** 63.05 54 ⇓P P 02 40 17.5 -0.3
baz=63,SNR=33
J24A **Dixon Ranch, L** 63.08 53 ⇑P P 02 40 18.0 0.0
baz=63,SNR=51
SUE **Sulen** 63.09 343 ⇓*i*P P 02 40 17.5 0.0
SUE AMB AMB 02 40 19.6
comp=Z,2μm,1.3s
BFSC **Mount Baldy Ra** 63.10 68 ⇓P P 02 40 19.0 +0.8
baz=63,SNR=137
FMP **Fort Macarthur** 63.13 69 ⇑P P 02 40 19.1 +0.9
baz=63,SNR=6.8
ABKT **Ailbek** 63.15 298 P P 02 40 19.1 +0.7
comp=Z,8μm,0.9s
TUQ **Turquoise Moun** 63.17 66 ⇓P P 02 40 19.8 +1.2
baz=63,SNR=370
L22A **Ellis Ranch, M** 63.20 55 ⇓P P 02 40 19.7 +0.9
baz=63,SNR=99
AGMN **Agassiz Nation** 63.21 44 *e*P P 02 40 18.1 -0.5
comp=Z,322nm,1.0s
AGMN *e*S S 02 48 06.9 +5.8
MICGM **Minsk** 63.22 328 ⇓*i*P P 02 40 17.0 -1.4
NACGM **Naroch** 63.23 328 *e*P P 02 40 17.0 -1.5
MNK **Minsk** 63.23 328 *d i*P P 02 40 17.0 -1.5
MNK *e* 02 40 44.0
MNK *e**PP pP 02 42 24.0 +0.4
MNK *e* 02 43 28.0
MNK *e*PPP PPP 02 44 28.0
MNK *e*S S 02 47 57.0 -4.1
MNK *e* 02 49 04.0
MNK *e*SSS SSS 02 55 40.0
MNK pmax pmax
comp=N,9μm,2.0s
MNK pmax pmax
comp=Z,2μm,1.0s
MNK pmax pmax
comp=E,5μm,2.0s
MNK pmax pmax
comp=N,4μm,1.0s
MNK pmax pmax
comp=E,4μm,1.0s
MNK smax smax
comp=E,12μm,2.0s
MNK smax smax
comp=E,3μm,1.5s
MNK smax smax
comp=N,5μm,1.5s
MNK smax smax
comp=N,7μm,2.0s
IMYA **Miami** 63.27 295 *e*P P 02 40 20.2 +0.9
CIS **Catalina Islan** 63.30 69 ⇑P P 02 40 20.0 +0.7
baz=63,SNR=42
E30A **Jud** 63.30 47 ⇑P P 02 40 19.2 0.0
baz=63,SNR=84
H27A **Howes** 63.31 50 ⇑P P 02 40 19.6 +0.3
baz=63,SNR=126
HEC **Hector Ludlow** 63.39 67 ⇑P P 02 40 21.2 +1.2
baz=63,SNR=149
I26A **New Underwood** 63.40 51 ⇑P P 02 40 20.5 +0.6
baz=63,SNR=48
F29A **Eureka** 63.41 48 ⇑P P 02 40 20.0 +0.1
baz=63,SNR=41
MJSI **Majene** 63.43 218 P P 02 40 20.3 0.0
comp=N,191nm,1.2s,comp=N,2μm
J25A **Sunshine Ranch** 63.45 52 ⇑P P 02 40 20.3 +0.1
baz=63,SNR=114
K24A **Anderson Ranch** 63.47 54 ⇑P P 02 40 19.8 -0.7
baz=63,SNR=5.6
KONO **Kongsberg** 63.48 340 ⇓*i*P P 02 40 20.2 +0.2
KONO **Kongsberg** 63.48 340 *e*P P 02 40 20.0 0.0
KONO pmax pmax
comp=Z,2μm,1.2s
KONO **Kongsberg** 63.48 340 *e*P P 02 40 20.0 0.0
comp=Z,2μm,1.2s
BBRC **Big Bear Solar** 63.49 68 ⇓P P 02 40 21.8 +1.0
baz=63,SNR=69
L23A **Garrett** 63.50 55 ⇑P P 02 40 20.6 -0.1
baz=63,SNR=65
G28A **Parade** 63.50 49 ⇑P P 02 40 20.7 +0.2
baz=63,SNR=48
SPSI **Sidrap Palu** 63.52 217 P P 02 40 20.8 -0.1
comp=Z,312nm,1.3s,comp=Z,4μm
SCI **San Clemente I** 63.53 70 ⇓P P 02 40 21.7 +0.9
baz=63,SNR=7.6
RUND **Rundenannen** 63.59 343 ⇓*i*P P 02 40 19.9 -0.8
RUND AMB AMB 02 40 22.5
comp=Z,3μm,1.0s
M22A **Cedar Creek Ra** 63.59 56 ⇑P P 02 40 21.8 +0.4
baz=63,SNR=114
BER **Bergen** 63.62 343 ⇓*i*P P 02 40 21.0 +0.1
BER AMB AMB 02 40 23.3
comp=Z,2μm,1.0s
ISRO **Mashad** 63.63 296 *e*P P 02 40 22.8 +1.2
NGP **Nagpur** 63.66 270 *e*P P 02 40 20.8 -1.0
NGP *ex* x 02 42 29.3
ISHV **Shirvan** 63.67 298 *e*P P 02 40 23.0 +1.1
O20A **White River Ci** 63.72 58 ⇓P P 02 40 22.8 +0.6
baz=64,SNR=238
VIS **Vishakhapatnam** 63.74 264 *e*P P 02 40 22.1 -0.1
I27A **Quinn** 63.75 51 ⇑P P 02 40 22.6 +0.5
baz=64,SNR=154
H28A **Mission Ridge** 63.76 50 ⇓P P 02 40 22.5 +0.4
baz=64,SNR=116
F30A **Leola** 63.77 48 ⇓P P 02 40 21.9 -0.2
baz=64,SNR=9.0
IPAY **Payeh** 63.78 296 *e*P P 02 40 24.3 +1.6
GMRC **Granite Mounta** 63.80 67 ⇓P P 02 40 23.8 +1.1
baz=64,SNR=310
IKRD **Kardeh** 63.80 297 *e*P P 02 40 20.6 -2.2
ODD1 **Odda** 63.82 342 ⇓*i*P P 02 40 22.4 +0.2
ODD1 AMB AMB 02 40 24.9
comp=Z,1μm,1.7s
MURC **Murrieta** 63.82 68 ⇑P P 02 40 23.5 +0.8
baz=64,SNR=92
J26A **Sides Ranch, S** 63.85 52 ⇑P P 02 40 23.3 +0.6
baz=64,SNR=100
G29A **Hoven** 63.86 49 ⇓P P 02 40 22.8 0.0
baz=64,SNR=25
ISFR **Sfrayin** 63.87 297 *e*P P 02 40 24.5 +1.3
L24A **Wheatland** 63.92 54 ⇓P P 02 40 23.7 +0.4
baz=64,SNR=16
KULM **Kulim** 63.94 241 P P 02 40 25.0 +1.4
KULM **Kulim** 63.94 241 *e*P P 02 40 24.8 +1.1
comp=Z,446nm,0.9s
KULM *e*PcP PcP 02 40 52.4 +0.5
KULM *e*pP pP 02 42 31.1 +1.8
BBSI **Bau Bau** 63.96 214 P P 02 40 24.9 +1.2
comp=Z,227nm,1.0s,comp=Z,3μm
M23A **Laramie** 63.97 55 ⇓P P 02 40 24.0 +0.3
baz=64,SNR=35
K25A **Mack Ranch, Ha** 64.00 53 ⇓P P 02 40 24.0 +0.2
baz=64,SNR=22
N22A **Wattenberg Ran** 64.12 56 ⇑P P 02 40 25.8 +1.1
baz=64,SNR=83
H29A **Onida** 64.17 49 ⇑P P 02 40 24.8 +0.2
baz=64,SNR=55
BELC **Belle Mtn. Jos** 64.19 67 ⇓P P 02 40 25.7 +0.5
baz=64,SNR=144
I28A **Midland** 64.21 50 ⇑P P 02 40 25.1 +0.1
baz=64,SNR=93
PFO **Pinyon Flat Ob** 64.23 68 *e*P P 02 40 25.9 +0.6
comp=Z,250nm,1.3s
PFO *e*pP pP 02 42 33.7 +2.6
PFO *e*PP PP 02 43 01.4 +3.1
PFO *e*S S 02 48 12.7 -1.3
PFO ⇑*e* 03 09 02.0
PFO **Pinyon Flat Ob** 64.23 68 P P 02 40 26.3 +0.9
comp=Z,800nm,1.1s,SNR=84
PFO **Pinyon Flat Ob** 64.23 68 ⇓P P 02 40 26.0 +0.6
baz=64,SNR=100
PFO **Pinyon Flat Ob** 64.23 68 PKP2bc 03 09 02.0
comp=Z,13nm,1.1s,baz=117,slow=2.9,SNR=5.4
G30A **Faulkton** 64.26 48 ⇑P P 02 40 25.1 -0.2
baz=64,SNR=92
K26A **Motz Farm, Whi** 64.27 53 ⇑P P 02 40 25.6 +0.2
baz=64,SNR=81
N23A **Red Feather La** 64.30 56 ⇑P P 02 40 26.6 +0.7
baz=64,SNR=78
L25A **Engebretsen Ra** 64.31 53 ⇓P P 02 40 25.9 +0.2
baz=64,SNR=14
NEE2 **Needles Airpor** 64.38 66 ⇑P P 02 40 26.9 +0.8
baz=64,SNR=26
U15A **North Rim** 64.39 63 ⇓P P 02 40 27.8 +1.2
baz=64,SNR=266
J27A **Elkhorn Farm,** 64.40 51 ⇓P P 02 40 26.9 +0.6
baz=64,SNR=64
109C **Camp Elliot, M** 64.41 69 ⇓P P 02 40 27.1 +0.8
baz=64,SNR=31
M24A **Cheyenne** 64.41 54 ⇓P P 02 40 27.4 +0.9
baz=64,SNR=36
IPM **Ipoh** 64.43 240 P P 02 40 27.3 +0.6
IPM **Ipoh** 64.43 240 *e*P P 02 40 27.2 +0.4
comp=Z,391nm,0.8s
IPM *e*PcP PcP 02 40 53.8 -0.2
IPM *e*pP pP 02 42 33.7 +1.0
KAPI **Kappang** 64.50 217 P P 02 40 28.2 +1.1
SNR=22
KAPI **Kappang** 64.50 217 *e*P P 02 40 27.7 +0.7
comp=Z,1μm,1.1s
KAPI *e*pP pP 02 42 34.7 +1.7
KAPI *e*S S 02 48 20.4 +3.1
KAPI **Kappang** 64.50 217 P P 02 40 27.6 +0.5
comp=Z,1μm,0.6s,SNR=29
W13A **Hualapai Mount** 64.53 65 ⇓P P 02 40 28.4 +1.0
baz=64,SNR=230
IRM **Iron Mountain** 64.54 67 ⇓P P 02 40 28.5 +1.3
baz=64,SNR=343
O22A **Kremmling** 64.55 57 ⇓P P 02 40 28.2 +0.6
baz=64,SNR=116
I29A **Vivian Onida** 64.59 50 ⇓P P 02 40 27.4 0.0
baz=64,SNR=97
J28A **Allard Ranch,** 64.62 51 ⇑P P 02 40 28.1 +0.5
baz=64,SNR=180
BKSI **Bulukumba** 64.65 217 P P 02 40 28.2 +0.2
comp=Z,347nm,0.8s,comp=Z,3μm
MAK **Makhachkala** 64.67 308 *e*P P 02 40 28.2 +0.5
MAK *e* 02 43 00.8
MAK *e*PPP PPP 02 44 44.9
MAK *e*S S 02 48 19.0 +0.4
MAK *e* 02 49 22.8
MAK *e*SS SS 02 52 53.7 +7.5
MAK *e*SSS SSS 02 55 57.8
MAK pmax pmax
comp=Z,1μm,1.1s
MAK MLR MLR
comp=Z,3μm,21.0s
K27A **Flueckinger Fa** 64.71 52 ⇑P P 02 40 28.4 +0.2
baz=64,SNR=65
KMY **Karmoy** 64.73 342 ⇓*i*P P 02 40 28.1 +0.2
KMY AMB AMB 02 40 30.3
comp=Z,1μm,2.3s
BC3 **Big Chuckawall** 64.75 67 ⇓P P 02 40 29.4 +0.8
baz=65,SNR=119
MONP **Monument Peak** 64.79 68 ⇓P P 02 40 29.8 +0.8
baz=65,SNR=55
M25A **Palm-Egli Farm** 64.81 54 ⇑P P 02 40 29.7 +0.8
baz=65,SNR=13
L26A **Underwood Farm** 64.82 53 ⇑P P 02 40 29.1 +0.2
baz=65,SNR=13
O23A **Lake Granby, G** 64.83 56 ⇓P P 02 40 30.7 +1.4
baz=65,SNR=61
NRS **Narsarsuaq** 64.87 10 *i*P P 02 40 27.9 -0.8
NRS pmax pmax
comp=Z,370nm,1.0s
N24A **Carr** 64.87 55 ⇑P P 02 40 30.4 +1.0
baz=65,SNR=47
BRSD **Miller** 64.87 49 *e*P P 02 40 29.1 0.0
BRSD *e*S S 02 48 20.1 -1.0
BRSD **Miller** 64.88 49 ⇓P P 02 40 29.1 0.0
baz=65,SNR=34
P22A **Eagle** 64.88 57 ⇑P P 02 40 30.4 +0.9
baz=65,SNR=90
LRW **Lerwick** 64.91 346 *e*P P 02 40 28.6 -0.3
HOMB **Homborsund** 64.98 340 *e*P P 02 40 29.4 0.0
PDMCI **Parker Dam,Lak** 64.99 66 ⇑P P 02 40 30.9 +1.0
baz=65,SNR=108
J29A **Okreek** 65.06 50 ⇑P P 02 40 30.5 +0.2
baz=65,SNR=149
GOF **Gofitskoye** 65.07 313 ⇓*i*P P 02 40 31.0 +0.7
GOF *i* 02 41 00.4
GOF *e*S S 02 48 23.7 +0.4
GOF *i* 02 49 01.4
GOF pmax pmax
comp=Z,3μm,1.3s
GOF smax smax
comp=N,390nm,1.4s
GOF smax smax
comp=E,10.0nm,1.4s
I30A **Oacoma** 65.08 49 ⇓P P 02 40 30.4 +0.1
baz=65,SNR=164
SUW **Suwalki** 65.09 330 *e*P P 02 40 29.8 -0.4
SUW *e*S S 02 48 22.9 -0.3
SUW pmax pmax
comp=Z,3μm,0.8s
SUW **Suwalki** 65.09 330 *e*P P 02 40 29.8 -0.4
SUW *e*S S 02 48 22.9 -0.3
SUW LMZ LR 02 56 45.9
SUW **Suwalki** 65.09 330 *e*P P 02 40 29.8 -0.4
comp=Z,3μm,0.8s
SUW *e*S S 02 48 22.9 -0.3
SWSC **Sam W. Stewart** 65.10 68 ⇑P P 02 40 31.4 +0.7
baz=65,SNR=68
K28A **Ten Mile Ranch** 65.11 51 ⇑P P 02 40 31.4 +0.7
baz=65,SNR=99
DVTC **Desert V Tower** 65.14 68 ⇓P P 02 40 32.0 +1.0
baz=65,SNR=41
L27A **T5 Ranch, Ells** 65.15 52 ⇑P P 02 40 31.4 +0.5
baz=65,SNR=57
SNART **Snartemo** 65.18 341 ⇓*i*P P 02 40 31.1 +0.5
SNART AMB AMB 02 40 33.4
comp=Z,2μm,1.4s
FRIM **Kepong** 65.18 239 P P 02 40 32.4 +1.0
Y12C **Blythe** 65.19 66 ⇓P P 02 40 32.5 +1.2
baz=65,SNR=210
M26A **McRoberts Ranc** 65.23 53 ⇑P P 02 40 32.4 +1.0
baz=65,SNR=34
N25A **Grover** 65.27 54 ⇑P P 02 40 32.9 +1.1
baz=65,SNR=47
EYMN **Ely** 65.28 42 *e*P P 02 40 31.0 -0.5
comp=Z,791nm,1.1s
EYMN *e*pP pP 02 42 39.7 +1.9
ISCO **Idaho Springs** 65.30 56 *e*P P 02 40 33.1 +1.0
ISCO *e* 02 40 59.5
ISCO *e**PP pP 02 42 39.8 +1.3
ISCO **Idaho Springs** 65.30 56 *e*P P 02 40 33.1 +1.0
comp=Z,45nm,0.8s
ISCO *e*PcP PcP 02 40 59.5 +1.8
ISCO *e*pP pP 02 42 39.8 +1.3
ISCO **Idaho Springs** 65.30 56 ⇓P P 02 40 33.3 +1.1
baz=65,SNR=200
MYKOM **Kota Tinggi** 65.30 236 P P 02 40 33.9 +1.8
O24A **Longmont** 65.32 56 ⇓P P 02 40 33.5 +1.4
baz=65,SNR=65
KGM **Kluang** 65.37 237 P P 02 40 34.0 +1.5
XMAS **Kiritimati** 65.48 123 *e*P P 02 40 33.9 +0.7
comp=Z,403nm,0.9s
J30A **Dallas** 65.50 50 ⇑P P 02 40 33.2 +0.2
baz=65,SNR=138
P23A **Jefferson** 65.51 57 ⇑P P 02 40 34.8 +1.2
baz=65,SNR=33
M27A **Reverse DX Ran** 65.54 53 ⇓P P 02 40 34.0 +0.6
baz=65,SNR=13
GLA **Glamis** 65.55 67 ⇓P P 02 40 34.7 +1.2
baz=65,SNR=92
K29A **Lazy Trails An** 65.56 51 ⇓P P 02 40 34.1 +0.7
baz=65,SNR=40
WUAZ **Wupatki** 65.57 63 *e*P P 02 40 35.1 +1.3
comp=Z,444nm,1.2s
WUAZ *e*S S 02 48 34.9 +5.0
WUAZ **Wupatki** 65.57 63 ⇑P P 02 40 35.2 +1.5
baz=65,SNR=251
L28A **Connealy Angus** 65.58 52 ⇑P P 02 40 34.3 +0.7
baz=65,SNR=54
N26A **Koester Ranch,** 65.68 54 ⇑P P 02 40 35.2 +0.9
baz=65,SNR=32
O25A **Wiggins** 65.79 55 ⇓P P 02 40 35.6 +0.6
baz=66,SNR=39
MVCO **Mesa Verde** 65.80 60 *e*P P 02 40 35.8 +0.6
comp=Z,1μm,1.2s
MVCO **Mesa Verde** 65.80 60 ⇓P P 02 40 36.0 +0.8
baz=66,SNR=140
P24A **Kohler Place,** 65.86 56 ⇓P P 02 40 36.7 +1.2
baz=66,SNR=53
Q23A **Hartsel** 65.87 57 ⇓P P 02 40 36.7 +1.0
baz=66,SNR=11
Y14A **Wickenburg** 65.88 65 ⇓P P 02 40 36.7 +1.2
baz=66,SNR=208
AKASG **Malin Array Be** 65.95 325 P P 02 40 35.1 -0.5
AKASG *PP pP 02 42 43.4 +1.1
AKASG S S 02 48 31.3 -2.2
AKASG **Malin Array Be** 65.95 325 P P 02 40 35.1 -0.5
AKASG pP pP 02 42 43.4 +1.1
AKASG S S 02 48 31.3 -2.2
AKASG ⇑*e* 03 08 58.5
AKASG *e* 03 17 18.8
AKASG **Malin Array Be** 65.95 325 P P 02 40 35.1 -0.5
comp=Z,286nm,0.4s,baz=31,slow=6.2,SNR=1068
AKASG pP pP 02 42 43.4 +1.1
comp=Z,96nm,1.1s,baz=34,slow=6.8,SNR=2.8
AKASG S S 02 48 31.3 -2.2
comp=Z,30nm,1.1s,baz=36,slow=12,SNR=13
AKASG PKP2bc 03 08 58.5
comp=Z,2.9nm,0.8s,baz=215,slow=3.8,SNR=4.8
AKASG P4KPbc 03 17 18.8
comp=Z,2.6nm,0.7s,baz=33,slow=5.4,SNR=22
K30A **Basset** 65.96 50 ⇑P P 02 40 36.4 +0.5
baz=66,SNR=67
KIEV **Kiev** 65.96 325 *e*P P 02 40 35.0 -0.6
KIEV *e**PP pP 02 42 42.1 -0.2
KIEV *e*S S 02 48 28.3 -5.3
KIEV pmax pmax
comp=Z,2μm,1.2s
KIEV **Kiev** 65.96 325 *e*P P 02 40 35.0 -0.6
comp=Z,2μm,1.2s
KIEV *e*pP pP 02 42 42.1 -0.2
KIEV *e*S S 02 48 28.3 -5.3
N27A **Anderson Farm,** 66.03 53 ⇑P P 02 40 37.2 +0.8
baz=66,SNR=68
L29A **Maesberg Ranch** 66.03 51 ⇑P P 02 40 36.7 +0.3
baz=66,SNR=14
O26A **Horse Wrangler** 66.09 54 ⇓P P 02 40 37.2 +0.4
baz=66,SNR=21
IDAH **Dahanechah** 66.09 293 *e*P P 02 40 37.6 +0.5
KIV **Kislovodsk** 66.09 312 P P 02 40 37.5 +0.8
comp=Z,5μm,0.9s
KIV **Kislovodsk** 66.09 312 *d i*P P 02 40 37.2 +0.5
KIV *e* 02 41 01.2
KIV *e**PP pP 02 42 42.7 -0.8
KIV *e* 02 43 13.6
KIV *e**SP sP 02 43 48.6 -2.6
KIV *e*S S 02 48 37.4 +1.8
KIV *e*SS SS 02 53 11.0 +2.8
KIV pmax pmax
comp=Z,2μm,4.2s
KIV pmax pmax
comp=Z,614nm,0.9s
KIV MLR MLR
comp=Z,1μm,17.0s
M28A **Bar X Bar Ranc** 66.13 52 ⇓P P 02 40 37.6 +0.6
baz=66,SNR=37
CMBY **CAMPBELL BAY** 66.15 248 *e*P P 02 40 36.6 -0.7
CMBY AMB AMB 02 40 37.7
comp=Z,834nm,1.3s
Q24A **Divide** 66.17 56 ⇓P P 02 40 38.1 +0.6
baz=66,SNR=93
KBZ **Khabaz** 66.18 312 P P 02 40 37.9 +0.8
KBZ S S 02 48 37.4 +1.1
KBZ **Khabaz** 66.18 312 P P 02 40 37.9 +0.8
KBZ S S 02 48 37.4 +1.1
KBZ **Khabaz** 66.18 312 P P 02 40 37.9 +0.8
comp=Z,797nm,0.9s,baz=39,slow=8.2
KBZ S S 02 48 37.4 +1.1
comp=Z,43nm,1.4s,baz=30,slow=20,SNR=9.0

P25A **Willow Gulch B** 66.23 55 ⇓P P 02 40 38.7 +0.9
baz=66,SNR=61
S22A **4UR Ranch, Cre** 66.25 58 ⇓P P 02 40 39.2 +1.2
baz=66,SNR=135
113A **Mohawk Valley,** 66.35 67 ⇑P P 02 40 39.3 +0.9
baz=66,SNR=128
Z14A **Wintersburg** 66.35 66 ⇑P P 02 40 39.4 +1.1
baz=66,SNR=41
X16A **Lo Mia Camp, P** 66.36 64 ⇑P P 02 40 40.2 +1.6
baz=66,SNR=294
BSD **Bornholm Skovb** 66.40 335⇓*i*P P 02 40 37.9 -0.4
BSD pmax pmax
comp=Z,720nm,1.0s
BSD **Bornholm Skovb** 66.40 335⇓*i*P P 02 40 37.9 -0.4
comp=Z,724nm,0.9s
M29A **Burnside Ranch** 66.41 52 ⇓P P 02 40 38.8 +0.1
baz=66,SNR=22
GUDG **Gudauri** 66.46 310 P P 02 40 39.3 +0.2
GUDG S S 02 48 41.4 +1.2
ZEI **Tsey** 66.47 311 *e*P P 02 40 38.8 -0.4
ZEI pmax pmax
comp=Z,814nm,1.3s
L30A **Spencer Herefo** 66.47 51 ⇓P P 02 40 39.1 +0.1
baz=66,SNR=26
IGLO **Ghaloghah** 66.48 300 *e*P P 02 40 40.3 +0.9
ECSD **EROS Data Cent** 66.48 48 *e*P P 02 40 38.7 -0.3
comp=Z,383nm,0.6s
ECSD *e*PcP **PcP** 02 40 58.7 -3.5
ECSD *e*S **S** 02 48 39.2 -0.8
COP **Copenhagen** 66.49 337⇓*i*P P 02 40 39.1 +0.3
COP pmax pmax
comp=Z,370nm,1.0s
COP MLR MLR
comp=Z,930nm,14.0s
COP **Copenhagen** 66.49 337⇓*i*P P 02 40 39.1 +0.3
comp=Z,368nm,0.9s
COP
comp=Z,930nm,14.0s
MUD **Monsted U'grnd** 66.52 339⇓*i*P P 02 40 39.3 +0.4
MUD pmax pmax
comp=Z,400nm,0.9s
MUD **Monsted U'grnd** 66.52 339⇓*i*P P 02 40 39.3 +0.4
comp=Z,395nm,0.9s
O27A **Beecher Island** 66.53 54 ⇓P P 02 40 39.8 +0.3
baz=66,SNR=52
N28A **Pribbeno Ranch** 66.60 53 ⇓P P 02 40 40.0 +0.1
baz=66,SNR=37
P26A **Davis Ranch, A** 66.60 55 ⇓P P 02 40 40.4 +0.4
baz=66,SNR=16
DUS **Dusheti** 66.65 310 P P 02 40 41.1 +1.0
DUS S S 02 48 43.4 +1.3
Q25A **Bedland, Calha** 66.65 56 ⇑P P 02 40 40.9 +0.5
baz=66,SNR=44
L31A **Butterfield Fa** 66.70 50 ⇑P P 02 40 40.8 +0.4
baz=66,SNR=63
S23A **Nye Farm, Mont** 66.70 58 ⇓P P 02 40 42.1 +1.3
baz=66,SNR=24
M30A **Dale-Ortello V** 66.72 51 ⇓P P 02 40 40.5 -0.2
baz=66,SNR=20
W18A **Petrified Fore** 66.74 62 ⇓P P 02 40 42.2 +1.2
baz=66,SNR=46
R24A **Sanders Place,** 66.75 57 ⇑P P 02 40 41.9 +0.9
baz=66,SNR=97
IKIA **Kiasar** 66.78 300 *e*P P 02 40 42.2 +0.9
ONI **Oni** 66.83 311 P P 02 40 42.1 +0.9
ONI S S 02 48 46.5 +2.3
HYB **Hyderabad** 66.83 268 *i*P P 02 40 41.0 -0.5
comp=Z,121nm,0.5s
HYB *e*pP **pP** 02 42 52.0 +3.2
HYB *e*sP **sP** 02 43 58.0 +1.8
HYB *e*S **S** 02 48 44.0 -0.8
HYB **Hyderabad** 66.83 268 *e*P P 02 40 41.4 -0.1
SEAG **Tbilisi Sea** 66.86 309 P P 02 40 42.2 +0.9
LLD **Lille Linde** 66.86 337 *i*P P 02 40 41.2 +0.1
LLD **Lille Linde** 66.86 337 *i*P P 02 40 41.2 +0.1
TBLG **Delisi** 66.91 309 P P 02 40 42.6 +0.9
TBLG S S 02 48 45.1 0.0
O28A **Krutsinger Ran** 66.92 53 ⇓P P 02 40 41.9 +0.1
baz=67,SNR=38
SDCO **Great Sand Dun** 66.92 58 *e*P P 02 40 42.8 +0.7
comp=Z,223nm,1.2s
SDCO *e*S **S** 02 48 44.0 -1.9
N29A **Votaw Ranch, W** 66.93 52 ⇓P P 02 40 41.8 0.0
baz=67,SNR=19
SPMN **St. Paul** 66.93 44 *e*P P 02 40 41.3 -0.4
SPMN *e*S **S** 02 48 44.6 -0.6
SPMN **St. Paul** 66.93 44 ⇓P P 02 40 41.2 -0.6
baz=67,SNR=69
PSI **Prapat** 66.95 241 S S 02 48 47.6 +1.2
comp=Z,3.5nm,0.4s,baz=253,slow=20,SNR=34
PSI P4KPbc 03 17 27.9
comp=Z,5.6nm,0.8s,baz=315,slow=11,SNR=5.6
P27A **Ficken Ranch,** 66.98 54 ⇑P P 02 40 42.3 0.0
baz=67,SNR=11
Q26A **Hugo** 67.00 55 ⇑P P 02 40 42.8 +0.3
baz=67,SNR=30
X18A **Snowflake** 67.08 63 ⇓P P 02 40 44.4 +1.3
baz=67,SNR=146
S24A **Houchin Ranch,** 67.15 57 ⇓P P 02 40 44.5 +1.0
baz=67,SNR=147
N30A **Hueftle Ranch,** 67.20 52 ⇑P P 02 40 43.4 -0.1
baz=67,SNR=6.4
T23A **Casias Ranch,** 67.20 58 ⇑P P 02 40 44.7 +0.9
baz=67,SNR=39
IANJ **Anjilo** 67.22 299 *e*P P 02 40 45.1 +1.1
R25A **Fountain Ranch** 67.23 56 ⇓P P 02 40 44.2 +0.3
baz=67,SNR=68
SCHQ **Schefferville** 67.27 24 *e*P P 02 40 43.2 -0.4
comp=Z,645nm,0.9s
SCHQ S S 02 48 45.5 -3.2
SCHQ P'P' 03 09 01.0
SCHQ **Schefferville** 67.27 24 P P 02 40 43.3 -0.4
comp=Z,224nm,0.3s,baz=359,slow=6.1,SNR=322
SCHQ S S 02 48 45.5 -3.2
comp=Z,25nm,1.2s,baz=126,slow=18,SNR=5.9
SCHQ PKPPKP **P'P'df** 03 09 01.0 -0.6
comp=Z,44nm,1.1s,baz=31,slow=4.2,SNR=7.1
U22A **Llaves** 67.29 59 ⇑P P 02 40 45.3 +1.0
baz=67,SNR=6.2
ISHM **Shahmirzad** 67.29 300 *e*P P 02 40 45.7 +1.3
M31A **Lambtecht Ranc** 67.29 51 ⇓P P 02 40 43.9 -0.1
baz=67,SNR=81
RGN **Rugen** 67.31 336 *e*P P 02 40 44.6 +0.8
comp=Z,3μm,1.0s
IALA **Alasht** 67.33 300 *e*P P 02 40 45.1 +0.4
KZR **Kazreti** 67.34 309 P P 02 40 44.7 +0.4
CHVG **Ch'k'valeri** 67.34 312 P P 02 40 44.9 +0.7
CHVG S S 02 48 52.6 +2.6
P28A **Saint Francis** 67.36 54 ⇑P P 02 40 44.5 0.0
baz=67,SNR=36
KSCO **Kaye Shedlock'** 67.38 55 *e*P P 02 40 44.8 +0.1
KSCO **Kaye Shedlock'** 67.38 55 ⇓P P 02 40 44.8 +0.1
baz=67,SNR=24
O29A **4D Ranch, Culb** 67.39 53 ⇓P P 02 40 44.7 0.0
baz=67,SNR=56
GKP **Gorka Klasztor** 67.45 333⇓*e*P P 02 40 44.9 +0.2
GKP *e*S **S** 02 48 53.9 +3.1
GKP pmax pmax
comp=Z,3μm,1.2s
GKP **Gorka Klasztor** 67.45 333 *e*P P 02 40 44.8 +0.1
GKP *e*S **S** 02 48 53.8 +3.0
GKP LMZ LR 02 58 14.0
MVH1 **Achvaich** 67.47 347⇓*i*P P 02 40 44.3 -0.4
214A **Organ Pipe Nat** 67.49 67 *e*P P 02 40 46.2 +0.8
214A *e*pP **pP** 02 42 54.7 +1.7
214A **Organ Pipe Nat** 67.49 67 ⇓P P 02 40 46.4 +1.0
baz=67,SNR=76
T24B **San Luis** 67.51 58 ⇓P P 02 40 46.9 +1.2
baz=67,SNR=33
R26A **Arlington** 67.52 56 ⇓P P 02 40 45.8 +0.2
baz=67,SNR=163
S25A **Robets Cordova** 67.53 57 ⇑P P 02 40 45.6 -0.1
baz=67,SNR=52
COEN **Coen** 67.59 190 *e*P P 02 40 46.6 +0.6
comp=Z,2μm,0.7s
COEN *e*PcP **PcP** 02 41 05.7 -1.4
COEN *e*pP **pP** 02 42 56.8 +2.9
V22A **San Miguel Ran** 67.61 60 ⇑P P 02 40 47.1 +0.7
baz=67,SNR=39
BGNE **Belgrade** 67.62 50 ⇓P P 02 40 46.0 -0.1
baz=67,SNR=38
BHJ **Bhuj** 67.66 279 *e*P P 02 40 46.7 +0.2
BHJ AMB AMB 02 40 47.5
comp=Z,611nm,0.3s
U23A **El Rito** 67.66 59 ⇑P P 02 40 47.9 +1.3
baz=67

MCD **Coleburn Disti** 67.67 346⇓*i*P P 02 40 45.7 -0.2
ANN **Anapa** 67.68 316*d i*P P 02 40 45.7 -0.5
ANN *e**PP **pP** 02 42 53.8 -0.1
ANN *e* 02 43 28.4
ANN *i*S **S** 02 48 52.4 -1.4
ANN *e* 02 49 40.1
ANN *e*SS **SS** 02 53 29.1 -2.9
ANN *e*SSS SSS 02 56 48.8
ANN pmax pmax
comp=Z,688nm,1.5s
SOC **Sochi** 67.69 314*d i*P P 02 40 46.4 +0.1
SOC *i* 02 41 06.5
SOC *i**PP **pP** 02 42 53.7 -0.3
SOC *i* 02 43 25.9
SOC *i**SP **sP** 02 44 01.3 -0.2
SOC *i*PPP PPP 02 45 14.1
SOC *i*S **S** 02 48 54.1 +0.1
SOC *e* 02 49 40.3
SOC *e*SS **SS** 02 53 32.5 +0.2
SOC pmax pmax
comp=Z,552nm,0.7s
SOC pmax pmax
comp=Z,3μm,2.0s
IFIR **Firoozkooh** 67.69 300 *e*P P 02 40 47.8 +0.9
BEL **Belsk** 67.70 330⇓*e*P P 02 40 47.0 +0.8
BEL *e*S **S** 02 48 56.5 +2.7
BEL pmax pmax
comp=Z,7μm,1.3s
BEL **Belsk** 67.70 330 *e*P P 02 40 47.0 +0.8
BEL *e*S **S** 02 48 56.4 +2.7
BEL LMZ LR 02 57 30.1
O30A **MW Ranch, Wils** 67.70 52 ⇑P P 02 40 46.3 -0.2
baz=67,SNR=70
N31A **Bailey Ranch,** 67.71 51 ⇑P P 02 40 46.5 -0.1
baz=68,SNR=39
Q28A **Sharon Springs** 67.72 54 ⇑P P 02 40 46.5 -0.2
baz=68,SNR=31
P29A **Atwood** 67.74 53 ⇑P P 02 40 46.6 -0.2
baz=68,SNR=42
AKH **Akhalkalaki** 67.74 310 P P 02 40 48.1 +1.2
AKH S S 02 48 56.7 +1.6
R27A **Eads** 67.86 55 ⇑P P 02 40 47.5 -0.1
baz=68,SNR=62
MME1 **Meikle Cairn** 67.89 346⇓*i*P P 02 40 46.8 -0.5
T25A **Trinidad** 67.94 57 ⇓P P 02 40 48.5 +0.2
baz=68,SNR=71
MDO **Dochfour** 67.96 347⇓*i*P P 02 40 47.5 -0.2
KAC **Achnashellach** 68.03 347⇓*i*P P 02 40 47.9 -0.2
S26A **Kim** 68.04 56 ⇑P P 02 40 48.5 -0.2
baz=68,SNR=95
N32A **Stulken Farm,** 68.07 51 ⇓P P 02 40 48.4 -0.4
baz=68,SNR=38
O31A **Woolen Ranch,** 68.07 52 ⇓P P 02 40 48.3 -0.5
baz=68,SNR=40
U24A **Moreno Valley** 68.07 58 ⇓P P 02 40 50.1 +1.0
baz=68
P30A **Selden** 68.11 53 ⇑P P 02 40 48.9 -0.1
baz=68,SNR=91
IDMV **Damavand** 68.12 300 *e*P P 02 40 50.4 +1.0
V23A **Ortiz Mt. (NFS** 68.12 59 ⇓P P 02 40 51.0 +1.7
baz=68,SNR=67
GNI **Garni** 68.16 308 P P 02 40 50.8 +1.4
SNR=244
GNI **Garni** 68.16 308 *e*P P 02 40 50.7 +1.3
comp=Z,757nm,0.9s
GNI *e*pP **pP** 02 42 56.3 -1.1
GNI *e*S **S** 02 49 01.8 +2.0
GNI *e*S S 02 49 07.0 +7.2
GNI **Garni** 68.16 308 P P 02 40 50.8 +1.3
comp=Z,235nm,0.7s,baz=16,slow=4.3,SNR=222
GNI S S 02 49 01.8 +2.0
comp=Z,1.1nm,0.3s,baz=4.8,slow=12,SNR=3.4
DRUM **Mains of Drumt** 68.20 346⇓*i*P P 02 40 48.8 -0.3
DRUM AMB AMB 02 40 51.3
comp=Z,1μm,1.4s
KPL **Plockton** 68.23 348⇓*i*P P 02 40 49.0 -0.2
KPL AMB AMB 02 40 50.9
comp=Z,864nm,1.2s
EAK **Akyaka** 68.26 309 *i*P P 02 40 50.0 0.0
Q29A **Oakley** 68.27 54 ⇓P P 02 40 49.9 -0.2
baz=68,SNR=229
S27A **Las Animas** 68.28 56 ⇓P P 02 40 49.9 -0.3
baz=68
R28A **Tribune** 68.30 55 ⇓P P 02 40 50.1 -0.2
baz=68,SNR=86
TUC **Tucson** 68.33 65 *e*P P 02 40 51.3 +0.8
TUC pmax pmax
comp=Z,127nm,1.3s
TUC **Tucson** 68.33 65 *e*P P 02 40 51.3 +0.8
comp=Z,127nm,1.3s
T26A **Comanche Natio** 68.33 57 ⇓P P 02 40 50.4 -0.2
baz=68,SNR=114
SORM **Soroca** 68.42 324⇓*i*P P 02 40 50.0 -0.6
LVV **L'vov** 68.45 327⇑*i*P P 02 40 50.7 -0.1
LVV *e* 02 43 00.0
LVV *e* 02 43 37.0
LVV *e*S **S** 02 49 01.4 -1.1
LVV *e* 02 49 43.4
LVV *e*SS SS 02 53 52.4 +8.9
O32A **Brockman Farm,** 68.47 51 ⇑P P 02 40 50.4 -0.8
baz=68,SNR=54
U25A **Circle Dot Ran** 68.52 58 ⇑P P 02 40 52.0 +0.3
comp=68,SNR=17
P31A **Stockton** 68.54 52 ⇑P P 02 40 51.2 -0.4
baz=68,SNR=103
KARS **Kars** 68.55 310 *e*P P 02 40 53.2 +1.4
R29A **Marienthal** 68.56 54 ⇑P P 02 40 51.7 -0.1
baz=68,SNR=195
BCA **Borcka** 68.56 311 *e*P P 02 40 51.8 +0.1
Q30A **Quinter** 68.57 53 ⇑P P 02 40 51.8 0.0
baz=68,SNR=65
DIGO **Kars** 68.58 309 *i*P P 02 40 51.6 -0.5
W23A **Werner Place,** 68.59 60 ⇓P P 02 40 53.3 +1.1
baz=68,SNR=26
BSEG **Bad Segeberg** 68.59 337 *e*P P 02 40 52.1 +0.6
comp=Z,969nm,1.2s
ANMO **Albuquerque** 68.59 60 *e*P P 02 40 52.9 +0.7
comp=Z,193nm,1.4s
ANMO *e*pP **pP** 02 43 04.1 +3.6
V24A **Rampart Ranch,** 68.60 59 ⇑P P 02 40 53.5 +1.2
baz=68,SNR=88
DBOC **Borcka** 68.62 311 *i*P P 02 40 50.9 -1.2
ARTV **Artvin** 68.63 311 *i*P P 02 40 51.8 -0.5
LAZ **Ladron** 68.66 61 *e*P P 02 40 54.0 +1.5
comp=Z,166nm,1.2s
LAZ *e*pP **pP** 02 43 04.5 +3.7
DAGI **Agillar** 68.72 311 *i*P P 02 40 52.6 -0.2
IVRN **Varamin** 68.73 300 *e*P P 02 40 53.7 +0.9
IMHD **Mahdasht** 68.74 301 *e*P P 02 40 53.6 +0.7
POO **Poona** 68.78 273⇓*i*P P 02 40 53.0 -0.3
POO *e*P P 02 40 53.3 0.0
POO *i*PCP **PcP** 02 41 13.0 +0.7
P32A **Huiting Farm,** 68.83 52 ⇑P P 02 40 52.6 -0.7
baz=69,SNR=109
S28A **Manter** 68.84 55 ⇑P P 02 40 53.4 -0.1
baz=69,SNR=39
T27A **Campo** 68.85 56 ⇓P P 02 40 53.6 0.0
baz=69,SNR=55
V25A **Rancho No Teng** 68.85 58 ⇑P P 02 40 54.3 +0.6
baz=69,SNR=40
U26A **Atchley Ranch,** 68.86 57 ⇑P P 02 40 53.9 +0.1
baz=69,SNR=12
DBAD **Bademkaya** 68.87 311 *i*P P 02 40 54.3 +0.7
Z20A **Nine Sixteen R** 68.89 63 ⇓P P 02 40 55.3 +1.4
baz=69,SNR=146
SIM **Simferopol'** 68.91 318*d i*P P 02 40 53.0 -0.6
SIM *e**PP **pP** 02 43 02.0 0.0
SIM *e* 02 44 10.0
SIM *e*S **S** 02 49 08.0 +0.1
SIM *e*SS **SS** 02 53 56.0 +5.3
SIM pmax pmax
comp=Z,522nm,1.1s
LENM **Lemitar** 68.93 61 *e*P P 02 40 55.4 +1.2
comp=Z,118nm,1.1s
LENM *e*pP **pP** 02 43 05.7 +3.1
W24A **Lazy 6 Ranch,** 68.93 59 ⇓P P 02 40 55.4 +1.1
baz=69,SNR=49
Q31A **Ellis** 68.94 53 ⇑P P 02 40 53.4 -0.6
baz=69,SNR=39
DDEM **Demirkent** 68.95 311 *i*P P 02 40 54.5 +0.4
ISFB **Sefidab** 68.96 299 *e*P P 02 40 54.9 +0.7
LPM **Los Pinos Moun** 68.99 61 *e*P P 02 40 55.8 +1.2
comp=Z,180nm,1.2s
LPM *e*pP **pP** 02 43 03.2 +0.2
X23A **Hourglass Bar** 69.02 60 ⇓P P 02 40 55.7 +1.0

baz=69
Y22D **IRIS PASSCAL I** 69.03 61 ⇑P P 02 40 56.3 +1.6
baz=69,SNR=8.4
KWP **Kalwaria Pacla** 69.04 328 *e*P P 02 40 54.9 +0.6
KWP *e*S **S** 02 49 10.9 +1.6
KWP pmax pmax
comp=Z,6μm,1.3s
KWP **Kalwaria Pacla** 69.04 328 *e*P P 02 40 54.9 +0.6
KWP *e*S **S** 02 49 10.6 +1.3
KWP LMZ LR 02 58 55.0
KWP **Kalwaria Pacla** 69.04 328⇓*i*P P 02 40 55.0 +0.6
KWP **Kalwaria Pacla** 69.04 328⇑*i*P S 02 49 10.4 +1.1
KWP **Kalwaria Pacla** 69.04 328 *e*P P 02 40 54.9 +0.6
comp=Z,6μm,1.3s
KWP *e*S **S** 02 49 10.8 +1.6
IFTB **Fath-abad** 69.05 306 *e*P P 02 40 55.3 +0.4
RUE **Ruedersdorf** 69.08 335 *e*P P 02 40 54.8 +0.3
comp=Z,2μm,1.1s
RUE *e*pP **pP** 02 43 05.7 +2.8
R30A **Dighton** 69.09 54 ⇑P P 02 40 54.5 -0.4
baz=69,SNR=21
PZAR **Pazar-Rize** 69.10 311 *e*P P 02 40 55.4 +0.6
T28A **Walsh** 69.10 56 ⇑P P 02 40 54.9 -0.2
baz=69,SNR=50
Y22A **Socorro** 69.11 61 ⇓P P 02 40 56.6 +1.3
baz=69,SNR=69
BNM **Barren Site** 69.12 61 *e*P P 02 40 56.5 +1.1
comp=Z,264nm,1.3s
BNM *e*pP **pP** 02 43 06.0 +2.0
DYDN **Diyadin** 69.13 309 *i*P P 02 40 56.6 +1.2
EAB **Aberfoyle** 69.17 347⇓*i*P P 02 40 54.9 -0.1
ESY **Stoneypath** 69.18 345⇓*i*P P 02 40 54.8 -0.3
S29A **Ulysses** 69.20 55 ⇓P P 02 40 55.4 -0.2
baz=69,SNR=24
KIS **Kishinev** 69.22 323⇓*i*P P 02 40 55.0 -0.5
comp=Z,3μm,1.6s
KIS *i*pP **pP** 02 43 02.0 -2.0
KIS **Kishinev** 69.22 323 *i*PP PP 02 43 40.0 -0.1
comp=Z,1μm,4.0s
KIS *i*S **S** 02 49 10.0 -1.4
comp=Z,4μm,3.0s
KIS *i*ScS **SKSac** 02 49 50.0 -3.1
KIS *i*sS sS 02 53 00.0 -0.5
KIS *i*SS **SS** 02 53 59.0 +3.7
KIS *i*SSS SSS 02 57 04.0
KIS **Kishinev** 69.22 323κ*i*P P 02 40 55.0 -0.5
KIS *i**PP **pP** 02 43 02.0 -2.0
KIS *i* 02 43 40.0
KIS *i* 02 44 10.0
KIS *i*S **S** 02 49 10.0 -1.4
KIS *i* 02 49 50.0
KIS *i*SS **SS** 02 53 59.0 +3.7
KIS pmax pmax
comp=Z,3μm,1.6s
KIS pmax pmax
comp=N,2μm,1.4s
KIS pmax pmax
comp=E,1μm,1.2s
KIS pmax pmax
comp=N,2μm,2.0s
KIS pmax pmax
comp=E,1μm,2.0s
KIS pmax pmax
comp=Z,3μm,2.0s
KIS pmax pmax
comp=Z,1μm,4.0s
KIS **Kishinev** 69.22 323⇑*i*P P 02 40 54.9 -0.5
U27A **Thompson Grove** 69.30 57 ⇑P P 02 40 56.3 0.0
baz=69,SNR=124
120A **U Bar Ranch, L** 69.30 63 ⇓P P 02 40 57.9 +1.5
baz=69,SNR=141
V26A **Tequesquite Ra** 69.30 58 ⇑P P 02 40 56.2 -0.1
baz=69,SNR=58
CLDR **Caldiran** 69.34 308 *e*P P 02 40 58.1 +1.5
Q32A **Meitler Ranch,** 69.35 52 ⇑P P 02 40 55.7 -0.6
baz=69,SNR=120
EBL **Broad Law** 69.39 346⇓*i*P P 02 40 56.1 -0.2
P33A **Williams Farm,** 69.40 51 ⇓P P 02 40 55.8 -0.9
baz=69,SNR=25
W25A **X Bar L Ranch,** 69.41 59 ⇑P P 02 40 57.5 +0.6
baz=69,SNR=85
OJC **Ojcow** 69.42 330⇓*i*P P 02 40 56.3 -0.3
OJC *e* 02 41 14.3
OJC *e* 02 43 41.4
OJC *e*S **S** 02 49 13.2 -0.4
OJC **Ojcow** 69.42 330 *i*P P 02 40 56.3 -0.3
OJC *e*PcP **PcP** 02 41 14.3 -0.2
OJC *e*PP **PP** 02 43 41.4 -0.3
OJC *e*S **S** 02 49 13.2 -0.4
EATA **Eleskirt** 69.43 310 *i*P P 02 40 58.7 +1.4
SCIA **State Center** 69.44 47 *e*P P 02 40 57.2 +0.4
comp=Z,1μm,1.0s
SCIA PcP **PcP** 02 41 13.4 -1.3
ICHK **Chekchek** 69.44 296 *e*P P 02 40 58.0 +0.7
R31A **Burdett** 69.44 53 ⇓P P 02 40 56.1 -0.9
baz=69,SNR=69
T29A **Hugoton** 69.48 55 ⇓P P 02 40 56.8 -0.5
baz=69,SNR=15
S30A **Montezuma** 69.50 54 ⇑P P 02 40 57.0 -0.4
baz=69,SNR=70
IAS **Iasi** 69.50 324⇑*i*P P 02 40 56.7 -0.4
IAZR **Azarshahr** 69.51 306 *e*P P 02 40 58.2 +0.5
HOMI **Horasan** 69.56 310 *i*P P 02 40 58.5 +0.6
PGBU **Glenifferbraes** 69.56 347⇓*i*P P 02 40 57.4 +0.1
PGBU AMB AMB 02 40 59.9
comp=Z,2μm,1.6s
Y23A **Lovelace Mesa,** 69.59 61 ⇓P P 02 40 59.4 +1.3
baz=69,SNR=169
U28A **Mallet** 69.63 56 ⇓P P 02 40 57.7 -0.5
baz=69,SNR=37
Z22A **Elephant Butte** 69.64 62 ⇓P P 02 40 59.6 +1.2
baz=69,SNR=138
TUTA **Tutak** 69.65 309 *i*P P 02 40 59.8 +1.3
Q33A **Connelly Farm,** 69.68 52 ⇓P P 02 40 57.8 -0.6
baz=69,SNR=136
STHS **Stebnicka Huta** 69.69 329 *e*P P 02 40 59.2 +1.0
STHS pmax pmax
comp=Z,984nm,1.3s
STHS **Stebnicka Huta** 69.69 329 *e*P P 02 40 59.2 +1.0
R32A **Long Quarter,** 69.73 53 ⇑P P 02 40 57.9 -0.8
baz=70,SNR=33
KTUT **Trabzon** 69.76 312 *e*P P 02 40 58.6 -0.1
121A **Cookes Peak, D** 69.76 63 *e*P P 02 41 00.6 +1.4
121A *e*PP **PP** 02 43 47.8 +2.4
121A **Cookes Peak, D** 69.76 63 ⇓P P 02 41 00.8 +1.6
baz=70,SNR=119
KOLS **Kolonicke sedl** 69.79 328 *e*P P 02 40 59.2 +0.4
KOLS pmax pmax
comp=Z,915nm,1.2s
KOLS **Kolonicke sedl** 69.79 328 *e*P P 02 40 59.2 +0.4
MACK **Trabzon** 69.80 312 *i*P P 02 40 58.6 -0.4
V27A **Dan Oppiter Fa** 69.81 57 ⇑P P 02 40 59.2 -0.1
baz=70,SNR=12
EKA **Eskdalemuir Ar** 69.83 346 P P 02 40 59.0 +0.1
EKA S S 02 49 17.2 -0.8
EKA P'P' 03 08 49.9
EKA **Eskdalemuir Ar** 69.83 346 P P 02 40 59.0 +0.1
comp=Z,269nm,0.3s,baz=18,slow=5.1,SNR=2260
EKA S S 02 49 17.2 -0.8
comp=Z,17nm,1.2s,baz=12,slow=15,SNR=5.5
EKA PKPPKP P'P'df 03 08 49.9 -7.3
comp=Z,6.6nm,0.8s,baz=182,slow=2.5,SNR=7.9
PRAR **RASCA** 69.83 324⇓*i*P P 02 40 58.6 -0.5
X25A **Clemmons Ranch** 69.85 59 ⇑P P 02 41 00.7 +1.1
baz=70,SNR=117
ESK **Eskdalemuir** 69.85 346⇓*i*P P 02 40 58.9 -0.1
ESK AMB AMB 02 41 00.9
comp=Z,516nm,0.9s
ESK **Eskdalemuir** 69.85 346 *e*P P 02 40 58.9 -0.1
ESK pmax pmax
comp=Z,367nm,0.6s
ESK **Eskdalemuir** 69.85 346 *e*P P 02 40 58.9 -0.1
comp=Z,367nm,0.6s
ESK **Eskdalemuir** 69.85 346 P P 02 40 59.5 +0.5
comp=Z,4μm,0.4s
220A **Playas Peak, P** 69.86 64 ⇓P P 02 41 00.9 +1.2
baz=70,SNR=180
319A **Douglas** 69.86 64 ⇑P P 02 41 00.9 +1.2
baz=70,SNR=55
W26A **Owens Ranch, T** 69.87 58 ⇓P P 02 41 00.3 +0.7
baz=70,SNR=41
LEOM **Leova** 69.87 323⇓*i*P P 02 40 59.1 -0.2
JFWS **Jewell Farm** 69.88 44 *e*P P 02 40 58.4 -1.0
JFWS *e*S **S** 02 49 18.8 -0.3
JFWS pmax pmax

comp=Z,145nm,0.6s
JFWS Jewell Farm 69.88 44 *e*P **P** **02 40 58.4 -1.0**
comp=Z,145nm,0.6s
JFWS *e*S **S** **02 49 18.8 -0.3**
KSP Ksiaz 69.88 332⇓*i*P **P** **02 40 59.5 +0.3**
KSP *e**PP **pP** **02 43 10.7 +2.5**
KSP *e*S **S** **02 49 17.9 -0.9**
KSP Ksiaz 69.88 332 *e*P **P** **02 40 59.6 +0.3**
KSP *e*S **S** **02 49 17.9 -0.9**
KSP LMZ LR 02 58 56.9
ERZM Erzurum 69.91 310 *i*P **P** **02 41 00.9 +0.8**
T30A Plains 69.94 55⇑P **P** **02 40 59.5 -0.5**
baz=70,SNR=7.0
BUR08 Bucovina Ar. S 69.94 325 *e*P **P** **02 40 60.0 +0.1**
BUR08 *e*PP **PP** **02 43 42.5 -3.7**
BURAR Bucovina Array 69.96 325⇓*i*P **P** **02 41 00.0 0.0**
BURAR Bucovina Array 69.96 325⇑*i*P **S** **02 49 23.9 +3.9**
NRDL Niedersach Rie 69.97 337 *e*P **P** **02 41 00.0 +0.3**
comp=Z,852nm,1.2s
NIE Niedzica 69.98 329⇓*i*P **P** **02 41 00.7 +0.8**
NIE *e* 02 41 17.5
NIE *e**PP **pP** **02 43 08.6 -0.3**
NIE *e*S **S** **02 49 20.5 +0.5**
NIE Niedzica 69.98 329 *i*P **P** **02 41 00.7 +0.8**
NIE *e*PcP **PcP** **02 41 17.5 +0.6**
NIE *e*pP **pP** **02 43 08.6 -0.3**
NIE *e*S **S** **02 49 20.5 +0.5**
IMEH Mehriz 69.99 296 *e*P **P** **02 41 00.2 -0.4**
S31A Mullinville 70.00 54⇑P **P** **02 40 59.4 -0.8**
baz=70,SNR=38
Z23A Rita Site, Whi 70.02 61⇓P **P** **02 41 01.8 +1.3**
baz=70,SNR=35
RAC Raciborz 70.02 331 *e*P **P** **02 41 01.0 +0.9**
IZEF Zefreh 70.04 298 *e*P **P** **02 41 01.8 +0.9**
U29A Oasis Ranch, S 70.05 56⇑P **P** **02 41 00.1 -0.5**
baz=70,SNR=6.0
UZH Uzhgorod 70.05 328⇓*i*P **P** **02 40 58.7 -1.6**
UZH *e* 02 41 14.5
UZH *e*S **S** **02 49 18.0 -2.7**
UZH *e* 02 49 57.5
TVAN Van 70.07 308 *i*P **P** **02 41 01.8 +0.9**
BAYT Ayd¯–ntepe-Bay 70.08 311 *e*P **P** **02 41 01.7 +0.9**
CRVS Cervenica-Dubn 70.08 328 *e*P **P** **02 41 01.0 +0.5**
CRVS pmax pmax
comp=Z,420nm,1.1s
CRVS Cervenica-Dubn 70.08 328 *e*P **P** **02 41 01.0 +0.5**
ISAD Sadrabad 70.08 297 *e*P **P** **02 41 01.6 +0.4**
IKLH Kolahrood 70.11 299 *e*P **P** **02 41 02.4 +1.1**
EKAR Karacoban 70.11 309 *i*P **P** **02 41 01.9 +0.7**
V28A Channing 70.12 57⇑P **P** **02 41 00.7 -0.5**
baz=70,SNR=20
R33A Olander Ranch, 70.16 52⇑P **P** **02 41 00.5 -0.7**
baz=70,SNR=95
KSU1 Kansas State U 70.17 51 *e*P **P** **02 41 00.5 -0.8**
comp=Z,389nm,0.8s
KSU1 *e*S **S** **02 49 21.1 -1.3**
221A Mesquite Ranch 70.17 63⇓P **P** **02 41 02.8 +1.3**
baz=70,SNR=14
S32A Newby Ranch, P 70.19 53⇑P **P** **02 41 00.8 -0.7**
baz=70,SNR=55
W27A Bowe Ranch, En 70.24 58⇑P **P** **02 41 01.9 0.0**
baz=70,SNR=32
OKC Ostrava-Krasne 70.25 331⇓*i*P **P** **02 41 02.0 +0.5**
OKC *e*S **S** **02 49 22.9 -0.1**
OKC Ostrava-Krasne 70.25 331⇓*i*P **P** **02 41 02.0 +0.5**
OKC *e*S **S** **02 49 22.9 -0.1**
OKC *e*XS **sS** **02 53 13.3 +0.2**
UPC Upice 70.26 332⇓*i*P **P** **02 41 01.8 +0.2**
UPC Upice 70.26 332⇓*i*P **P** **02 41 01.8 +0.2**
X26A CR and CF Fran 70.27 59⇑P **P** **02 41 02.6 +0.6**
baz=70,SNR=48
U30A WK&E Inc. Balk 70.29 55⇑P **P** **02 41 01.5 -0.5**
baz=70,SNR=16
320A Kipp Ranch, An 70.29 64⇑P **P** **02 41 03.6 +1.3**
baz=70,SNR=74
Y25A Mesa, Roswell 70.30 60⇓P **P** **02 41 02.9 +0.6**
baz=70,SNR=124
T31A Randall Ranch, 70.32 54⇓P **P** **02 41 01.5 -0.6**
baz=70,SNR=60
DPC Dobruska-Polom 70.32 332⇓*i*P **P** **02 41 02.6 +0.7**
DPC *e*S **S** **02 49 23.9 +0.1**
DPC Dobruska-Polom 70.32 332⇓*i*P **P** **02 41 02.6 +0.7**
DPC *e*S **S** **02 49 23.9 +0.1**
DPC *e*XS **sS** **02 53 15.3 +1.3**
PWJI Pagerwojo 70.33 224 P **P** **02 41 01.4 -1.0**
comp=Z,2µm,0.7s,comp=Z,19µm
CLL Collm 70.34 335⇓*i*P **P** **02 41 02.0 0.0**
CLL *i* *PP **pP** **02 43 12.4 +1.3**
CLL *e*S **S** **02 49 23.0 -0.9**
CLL pmax pmax
comp=Z,2µm,1.1s
CLL Collm 70.34 335 *e*P **P** **02 41 01.9 0.0**
comp=Z,2µm,1.1s
CLL *e*pP **pP** **02 43 13.3 +2.2**
CLL Collm 70.34 335⇓*i*P **P** **02 41 02.0 0.0**
comp=Z,2µm,1.1s
CLL *e*Plp 02 41 03.0
comp=Z,3µm,10.9s
CLL *i* pP **pP** **02 43 12.4 +1.3**
comp=Z,157nm,1.1s
CLL *e*PP **PP** **02 43 51.0 +1.6**
CLL *e*sP **sP** **02 44 18.0 -0.2**
CLL *e*PPP PPP 02 45 48.0
CLL *e*S **S** **02 49 23.0 -0.9**
comp=Z,96nm,1.5s
CLL *e*Slp 02 49 30.0
CLL *e*Slp 02 49 30.0
CLL *e*SsS **SKSac** **02 50 01.0 -0.4**
CLL *e*sS **sS** **02 53 16.0 +1.9**
CLL *e*SSS SSS 02 57 30.0
V29A Stinnett 70.38 56⇑P **P** **02 41 02.1 -0.5**
baz=70,SNR=14
GCD Castle Douglas 70.40 346⇓*e*P **P** **02 41 02.0 -0.2**
TRPA Tarpa 70.41 327⇓*i*P **P** **02 41 03.0 +0.7**
TRPA Tarpa 70.41 327⇑*i*P **S** **02 49 27.1 +2.4**
TRPA Tarpa 70.41 327⇓*e* **P** **02 41 03.1 +0.7**
GEVA Gevas 70.41 308 *i*P **P** **02 41 02.2 -0.7**
TESR Tescani 70.41 324⇓*i*P **P** **02 41 02.4 -0.1**
TESR Tescani 70.41 324⇓*i*P **S** **02 49 23.1 -1.8**
Z24A Sheeppen Canyo 70.42 60⇑P **P** **02 41 04.1 +1.1**
baz=70,SNR=252
TGJI Tegal 70.43 227 P **P** **02 41 03.4 +0.4**
comp=Z,626nm,1.0s,comp=Z,7µm
KRLC Kraliky 70.44 332⇓*i*P **P** **02 41 03.0 +0.4**
KRLC Kraliky 70.44 332⇓*i*P **P** **02 41 03.0 +0.4**
222A Williams Famil 70.46 62⇓P **P** **02 41 04.2 +1.0**
baz=70,SNR=25
VRTB Varto-Mus 70.47 310 *e*P **P** **02 41 04.3 +1.2**
GRSN GIRESUNGRSN 70.47 313 *i*P **P** **02 41 01.7 -1.3**
MORC Moravsky Berou 70.48 331 *e*P **P** **02 41 03.0 +0.1**
MORC *e**PP **pP** **02 43 13.6 +1.4**
MORC pmax pmax
comp=Z,2µm,1.1s
MORC Moravsky Berou 70.48 331⇓*i*P **P** **02 41 03.5 +0.6**
MORC Moravsky Berou 70.48 331 *e*P **P** **02 41 03.0 +0.1**
comp=Z,2µm,1.1s
MORC *e*pP **pP** **02 43 13.6 +1.4**
123A Bell Site, Whi 70.49 62⇓P **P** **02 41 04.6 +1.3**
baz=70,SNR=10
BMR Baia Mare 70.49 326⇓*i*P **P** **02 41 03.4 +0.5**
BMR Baia Mare 70.49 326⇑*i*P S 02 49 35.3 +10
BRG Berggiesshubel 70.49 334⇓*i*P **P** **02 41 02.8 0.0**
comp=Z,809nm,1.2s
BRG *e*pP pP 02 43 17.8 +5.7
comp=Z,169nm,1.4s
BRG *e*PP **PP** **02 43 50.9 +0.2**
comp=Z,259nm,1.4s
BRG sP **sP** **02 44 17.0 -2.2**
BRG S **S** **02 49 27.0 +1.4**
BRG SS **SS** **02 54 20.0 +5.7**
BRG *e*PKPPKP P'P'df 03 08 22.1 -34
comp=Z,15nm,1.9s
BRG Berggiesshubel 70.49 334 *e*P **P** **02 41 02.9 0.0**
comp=Z,808nm,1.2s
BRG *e*PP PP 02 43 44.1 -6.6
KLSI 70.50 232 P **P** **02 41 03.0 -0.4**
comp=Z,528nm,1.2s,comp=Z,7µm
CLZ Clausthal 70.51 336 *e*P **P** **02 41 03.7 +0.7**
comp=Z,2µm,1.2s
CLZ *e*pP **pP** **02 43 13.8 +1.6**
GAL1 Galloway 70.51 346⇓*i*P **P** **02 41 02.5 -0.3**
GAL1 ⇓*e*P **P** **02 41 02.6 -0.2**
GAL1 AMB AMB 02 41 04.4
comp=Z,932nm,1.2s

W28A Vega 70.52 57⇑P **P** **02 41 03.9 +0.4**
baz=70,SNR=32
GHRR 70.53 323⇓*i*P **P** **02 41 03.8 +0.6**
WOJI Wonogiri, Jawa 70.53 225 P **P** **02 41 02.3 -1.3**
comp=Z,752nm,1.2s,comp=Z,7µm
KESW Keswick, Cumbr 70.54 345⇓*i*P **P** **02 41 03.1 0.0**
KESW AMB AMB 02 41 05.1
comp=Z,1µm,1.1s
X27A F and S Farms, 70.55 58⇓P **P** **02 41 04.5 +0.8**
baz=70,SNR=50
IGAR Gharneh 70.57 298 *e*P **P** **02 41 04.6 +0.6**
MDSI Maura Dua 70.58 232 P **P** **02 41 02.9 -1.0**
comp=Z,427nm,1.0s,comp=Z,4µm
BJII Banjamegara 70.59 226 P **P** **02 41 03.8 -0.2**
comp=Z,574nm,0.8s,comp=Z,6µm
T32A Huddler Ranch, 70.61 54⇓P **P** **02 41 03.2 -0.7**
baz=70,SNR=59
TATV Tatvan 70.62 309 *i*P **P** **02 41 05.4 +1.2**
PVCC Panska Ves 70.64 333⇓*i*P **P** **02 41 04.1 +0.4**
PVCC *e*S **S** **02 49 26.9 -0.4**
PVCC Panska Ves 70.64 333⇓*i*P **P** **02 41 04.1 +0.4**
PVCC *e*S **S** **02 49 26.9 -0.4**
PVCC *ex* x 02 53 13.8
KELT Kelkit 70.67 312 *i*P **P** **02 41 05.4 +1.0**
IBBN Ibbenburen 70.68 338 *e*P **P** **02 41 04.3 +0.4**
comp=Z,1µm,1.2s
IBBN *e*PP PP 02 43 44.4 -7.8
HAKT HAKKARI 70.70 307 *i*P **P** **02 41 05.0 +0.4**
S33A Kaszmaul Farm, 70.73 53⇑P **P** **02 41 04.0 -0.5**
baz=70,SNR=26
PCJI Pacitan 70.75 224 P **P** **02 41 03.3 -1.5**
comp=Z,713nm,0.7s,comp=Z,7µm
Y26A Elida 70.75 59⇓P **P** **02 41 05.4 +0.5**
baz=70,SNR=35
TLCR 70.76 322⇑*i*P **P** **02 41 04.5 0.0**
UGM Wanagama 70.77 225 P **P** **02 41 04.0 -1.0**
comp=Z,954nm,1.4s,comp=Z,11µm
BNGL BINGOL 70.78 310 *i*P **P** **02 41 05.9 +0.8**
Z25A Roswell 70.79 60⇓P **P** **02 41 05.9 +0.8**
baz=71,SNR=33
U31A Nine Bar Ranch 70.81 55⇑P **P** **02 41 05.0 -0.1**
baz=71,SNR=7.6
EUZM Uzumlu 70.83 311 *i*P **P** **02 41 05.2 0.0**
BLSI Bandar Lampung 70.85 231 P **P** **02 41 04.3 -1.2**
comp=Z,696nm,0.8s,comp=Z,6µm
124A Stringfield Ra 70.86 61⇑P **P** **02 41 06.4 +0.7**
baz=71,SNR=64
V30A Spur Ranch, Mi 70.88 56⇓P **P** **02 41 05.2 -0.3**
baz=71,SNR=8.7
PETR Petresti 70.88 323⇓*i*P **P** **02 41 06.3 +1.1**
223A Chaparral, Ant 70.89 62⇓P **P** **02 41 06.8 +1.1**
baz=71,SNR=15
W29A Amraillo 70.91 57⇑P **P** **02 41 05.7 0.0**
baz=71,SNR=13
HPK Haverah Park 70.92 344⇓*i*P **P** **02 41 05.6 +0.3**
HPK AMB AMB 02 41 07.4
comp=Z,2µm,1.2s
KPJI Karang Pucung 70.93 227 P **P** **02 41 05.0 -0.9**
comp=Z,423nm,0.9s,comp=Z,5µm
VRI Vrincioaia 70.94 323⇓*i*P **P** **02 41 05.7 +0.1**
VRI Vrincioaia 70.94 323⇑*i*P S 02 49 38.7 +7.9
BNGB Bing¶ll 70.97 310 *e*P **P** **02 41 07.2 +1.2**
PLOR Plostina 70.98 323⇓*i*P **P** **02 41 05.9 0.0**
CFR Carcaliu 71.02 322⇓*i*P **P** **02 41 05.8 -0.2**
T33A Patterson Ranc 71.02 53⇑P **P** **02 41 05.6 -0.6**
baz=71,SNR=25
LEM Lembang 71.06 228 P **P** **02 41 06.6 -0.3**
comp=Z,495nm,1.1s,comp=Z,5µm
AMTX Amarillo 71.08 57⇓P **P** **02 41 07.2 +0.5**
baz=71
SUSE Susehri 71.09 313 *i*P **P** **02 41 06.4 -0.3**
PRA Prague 71.09 333⇓P **P** **02 41 07.0 +0.6**
LWLI Liwa 71.11 232 P **P** **02 41 05.5 -1.6**
comp=Z,2µm,0.7s,comp=Z,17µm
X28A Dimmitt 71.11 57⇓P **P** **02 41 07.0 0.0**
baz=71,SNR=24
Y27A Causey 71.12 59⇓P **P** **02 41 07.5 +0.5**
baz=71,SNR=77
PRU Pruhonice 71.14 333⇓*i*P **P** **02 41 07.1 +0.5**
PRU Pruhonice 71.14 333⇓*i*P **P** **02 41 07.1 +0.5**
PRU *ex* x 02 53 21.4
GOA Goa 71.16 271 *e*P **P** **02 41 07.1 -0.2**
GOA AMB AMB 02 41 08.5
comp=Z,676nm,1.0s
DIKM Dikmen 71.17 315 *e*P **P** **02 41 08.0 +1.0**
VRAC Vranov 71.18 331⇓*i*P **P** **02 41 07.7 +0.8**
VRAC Vranov 71.18 331 P **P** **02 41 07.7 +0.8**
VRAC S **S** **02 49 32.9 -0.5**
VRAC Vranov 71.18 331 P **P** **02 41 07.7 +0.8**
comp=Z,849nm,1.0s,baz=30,slow=5.8,SNR=449
VRAC S **S** **02 49 32.9 -0.5**
comp=Z,12nm,1.1s,baz=199,slow=21,SNR=6.9
Z26A Caprock 71.18 59⇓P **P** **02 41 08.1 +0.7**
baz=71,SNR=175
LMK Market Rasen 71.19 343⇓*i*P **P** **02 41 06.7 -0.1**
LMK AMB AMB 02 41 08.6
comp=Z,1µm,1.2s
ILIN Lien 71.21 303 *e*P **P** **02 41 07.3 -0.4**
WTSB Winterswijk 71.21 339 *e*P **P** **02 41 07.1 +0.1**
comp=Z,1µm,1.0s
WTSB *e*pP **PP** **02 43 58.4 +1.8**
U32A Winter Ranch, 71.22 54⇓P **P** **02 41 07.3 0.0**
baz=71,SNR=24
MSTX Muleshoe 71.25 58⇑P **P** **02 41 08.0 +0.2**
baz=71,SNR=88
GRER 71.27 323⇓*i*P **P** **02 41 08.1 +0.6**
V31A Spring Creek L 71.29 55⇑P **P** **02 41 08.3 +0.5**
baz=71,SNR=65
GMM Mts of Mourne 71.29 347⇓*e*P **P** **02 41 07.0 -0.5**
TANN Tannenbergstha 71.30 334 *e*P **P** **02 41 08.1 +0.4**
comp=Z,1µm,1.6s
TANN *e*pP **pP** **02 43 19.5 +2.2**
KVT Kavak 71.31 315 *e*P **P** **02 41 09.1 +1.2**
125A Gardner Draw, 71.31 60⇓P **P** **02 41 09.1 +1.0**
baz=71,SNR=143
224A Cornudas Mount 71.32 61⇑P **P** **02 41 09.2 +1.0**
baz=71,SNR=84
RSDY 71.32 313 *e*P **P** **02 41 08.8 +0.9**
DOPR Dopca 71.33 324⇓*i*P **P** **02 41 08.5 +0.7**
ERBA Erbaa 71.33 314 *i*P **P** **02 41 08.6 +0.6**
KASI Kota Agung 71.34 232 P **P** **02 41 06.1 -2.2**
comp=Z,451nm,1.1s,comp=Z,4µm
LHO Holmfirth 71.36 344⇓*i*P **P** **02 41 07.7 -0.1**
SIRN S¯–rnak 71.36 308 *i*P **P** **02 41 08.7 +0.4**
W30A Crocket Farms 71.39 56⇓P **P** **02 41 09.1 +0.6**
baz=71,SNR=21
X29A Tulia 71.42 57⇓P **P** **02 41 09.1 +0.4**
baz=71,SNR=75
PSZ Piszkesteto 71.43 329 *e*P **P** **02 41 08.9 +0.4**
PSZ pmax pmax
comp=Z,1µm,1.3s
PSZ Piszkesteto 71.43 329⇑*i*P **P** **02 41 08.9 +0.4**
PSZ Piszkesteto 71.43 329 *e*P **P** **02 41 08.9 +0.4**
comp=Z,1µm,1.3s
PSZ Piszkesteto 71.43 329⇓*e* **P** **02 41 09.2 +0.7**
BZK Bozkurt 71.44 316 *e*P **P** **02 41 08.9 +0.4**
HAVZ Havza 71.45 315 *i*P **P** **02 41 10.0 +1.3**
NKC Novy Kostel 71.47 334⇓*i*P **P** **02 41 08.9 +0.3**
NKC *e* 02 44 00.5
NKC *e*SS SS 02 54 36.0 +6.9
NKC Novy Kostel 71.47 334⇓*i*P **P** **02 41 08.9 +0.3**
NKC *e*PP **PP** **02 44 00.5 +1.6**
NKC *e*SS SS 02 54 36.0 +6.9
TREC Trest 71.50 332⇓*i*P **P** **02 41 09.3 +0.5**
TREC *e*S **S** **02 49 37.4 +0.4**
TREC Trest 71.50 332⇓*i*P **P** **02 41 09.3 +0.5**
TREC *e*S **S** **02 49 37.4 +0.4**
BOYT Boyabat 71.51 316 *i*P **P** **02 41 10.3 +1.3**
DRGR 71.52 326⇓*i*P **P** **02 41 09.1 +0.1**
MDB Medias 71.53 325⇑*i*P **P** **02 41 10.0 +1.0**
TIRR Tirgusor 71.53 321 *e*P **P** **02 41 08.9 -0.1**
TIRR *e**PP **pP** **02 43 19.9 +1.1**
TIRR pmax pmax
comp=Z,580nm,1.0s
TIRR Tirgusor 71.53 321⇓*i*P **P** **02 41 08.9 -0.1**
TIRR Tirgusor 71.53 321 *e*P **P** **02 41 08.9 -0.1**
comp=Z,580nm,1.0s
TIRR *e*pP **pP** **02 43 19.9 +1.1**
Z27A Tatum 71.54 59⇑P **P** **02 41 09.8 +0.4**
baz=71,SNR=197
MLR Muntele Rosu 71.54 324⇓*i*P **P** **02 41 09.1 -0.1**
MLR Muntele Rosu 71.54 324⇓*i*P **S** **02 49 32.0 -5.8**
MLR Muntele Rosu 71.54 324 P **P** **02 41 09.5 +0.2**
MLR S **SKiKP** **02 49 38.5 -0.1**

MLR Muntele Rosu 71.54 324 P **P** **02 41 09.5 +0.2**
comp=Z,107nm,0.7s,baz=13,slow=5.3,SNR=12
MLR S **SKiKP** **02 49 38.5 -0.1**
comp=Z,6.7nm,1.1s,baz=102,slow=21,SNR=6.7
UBBA Unterbreizbach 71.54 336 *e*P **P** **02 41 09.3 +0.5**
comp=Z,1µm,1.5s
ILIC ilic-Erzincan 71.54 312 *e*P **P** **02 41 12.0 +2.6**
CMJI Cimerak 71.55 227 P **P** **02 41 06.5 -2.9**
comp=Z,238nm,0.9s,comp=Z,2µm
TLB Topalu 71.56 322⇓*i*P **P** **02 41 09.3 +0.2**
Y28A McKinney Farm, 71.57 58⇓P **P** **02 41 09.7 +0.1**
baz=71,SNR=65
BEST Besiri 71.58 309 *i*P **P** **02 41 10.8 +1.3**
KBI1 Birley Grange 71.58 344⇓*i*P **P** **02 41 09.2 0.0**
BUG Bochum--Univer 71.60 338 *e*P **P** **02 41 09.4 +0.1**
comp=Z,2µm,1.5s
BUG *e*PP PP 02 43 53.9 -6.0
CISI Cisompet, Garu 71.62 228 P **P** **02 41 07.2 -2.8**
PTK Pertek 71.63 311 *e*P **P** **02 41 11.4 +1.4**
ISR Istrita 71.65 323⇑*i*P **P** **02 41 10.2 +0.4**
126A Clayton Basin, 71.65 60⇓P **P** **02 41 10.7 +0.6**
baz=71,SNR=34
225A Deer Hill, Car 71.66 61⇓P **P** **02 41 11.3 +1.0**
baz=71,SNR=64
PGOR Pogoanele 71.67 323⇑*i*P **P** **02 41 10.5 +0.7**
MNTX Cornudas Mount 71.69 62 *e*P **P** **02 41 11.1 +0.9**
comp=Z,350nm,0.9s
MNTX *e*pP **pP** **02 43 23.4 +3.2**
W31A Holland Ranch, 71.70 55⇓P **P** **02 41 10.8 +0.5**
baz=72,SNR=37
V32A Arapaho 71.72 55⇓P **P** **02 41 10.7 +0.4**
baz=72,SNR=31
KEMA Kemaliye 71.73 312 *i*P **P** **02 41 10.3 0.0**
TOKA Tokat 71.75 314 *i*P **P** **02 41 11.4 +1.0**
EFOR EFORIE 71.77 321⇓*i*P **P** **02 41 10.9 +0.5**
CVD Cernavoda 71.79 322⇓*i*P **P** **02 41 10.8 +0.3**
AMRR Amara 71.80 322⇓*i*P **P** **02 41 11.1 +0.6**
X30A Coker Ranch, T 71.83 57⇑P **P** **02 41 10.9 -0.1**
baz=72,SNR=39
324A Moseley Ranch, 71.83 62⇓P **P** **02 41 11.8 +0.6**
baz=72,SNR=69
SCER sogukcermik 71.84 313 *i*P **P** **02 41 11.9 +0.8**
STNC Stoke 71.85 344⇓*e*P **P** **02 41 10.8 +0.1**
SVSK Karacayir 71.86 313 *e*P **P** **02 41 12.1 +1.2**
U34A Anderson Ranch 71.88 53⇑P **P** **02 41 11.2 0.0**
baz=72,SNR=61
IGHG Ghaleghazi 71.88 303 *e*P **P** **02 41 10.9 -0.6**
WME Myndd Eilian 71.88 346⇓*i*P **P** **02 41 10.4 -0.4**
SECR 71.89 323⇓*i*P **P** **02 41 11.2 +0.1**
SECR 71.89 323⇓*i*P **S** **02 49 42.0 +0.6**
Y29A Porterfield Fa 71.90 58⇑P **P** **02 41 11.7 +0.3**
baz=72,SNR=31
VOIR 71.90 324⇓*i*P **P** **02 41 11.8 +0.5**
VOIR 71.90 324⇓*i*P **S** **02 49 37.5 -4.2**
WPM1 Penmaenmawr 71.95 346⇓*i*P **P** **02 41 11.0 -0.3**
ROTZ Rotzenmuhle 71.96 334 *e*P **P** **02 41 12.2 +0.8**
comp=Z,1µm,1.2s
127A Arkansas Junct 71.97 59⇓P **P** **02 41 12.2 +0.3**
baz=72,SNR=30
Z28A Tucker Farm, M 71.99 58⇑P **P** **02 41 12.0 0.0**
baz=72,SNR=56
IBND Bandar-abas 71.99 292 *e*P **P** **02 41 11.7 -0.2**
WLF1 Llynfaes 72.00 346 *e*P **P** **02 41 11.0 -0.5**
V33A Lossen Ranch, 72.01 54⇑P **P** **02 41 11.9 -0.1**
baz=72,SNR=66
MANR Mangalia 72.01 321⇓*i*P **P** **02 41 11.9 +0.1**
226B Tecolote Peak, 72.03 60⇑P **P** **02 41 13.2 +1.0**
baz=72,SNR=232
YRC Rhoscolyn 72.06 346⇓*e*P **P** **02 41 11.2 -0.7**
MSAB Monastry St. A 72.06 322⇓*i*P **P** **02 41 12.5 +0.4**
MSAB Monastry St. A 72.06 322⇓*i*P **S** **02 49 43.1 -0.2**
MTUR Matau 72.08 324⇓*i*P **P** **02 41 12.6 +0.3**
DIYA Diyarbakir 72.09 310 *i*P **P** **02 41 11.7 -0.8**
BUD Budapest 72.09 329⇓*e* **P** **02 41 13.1 +0.9**
W32A Sentinel 72.10 55⇑P **P** **02 41 13.2 +0.7**
baz=72,SNR=124
YLL Llanberis 72.11 346⇓*e*P **P** **02 41 11.8 -0.3**
ARR Arges 72.11 324⇑*i*P **P** **02 41 13.4 +1.0**
ARR Arges 72.11 324⇓*i*P **S** **02 49 49.5 +5.5**
X31A McDonald Ranch 72.13 56⇑P **P** **02 41 13.0 +0.3**
baz=72,SNR=81
SULR 72.13 323⇑*i*P **P** **02 41 12.6 +0.2**
SULR 72.13 323⇓*i*P **S** **02 49 45.8 +1.8**
ELZG Elazig 72.14 311 *i*P **P** **02 41 13.9 +1.0**
325A Bean Ranch, Si 72.16 61⇓P **P** **02 41 13.9 +0.8**
baz=72,SNR=81
KHC Kasperske Hory 72.18 333⇓*i*P **P** **02 41 13.5 +0.8**
KHC *e* 02 41 27.5
KHC *e**PP **pP** **02 43 23.5 +0.6**
KHC *e*S **S** **02 49 43.8 -0.7**
KHC Kasperske Hory 72.18 333⇓*i*P **P** **02 41 13.5 +0.8**
KHC *e*PCP **PcP** **02 41 27.5 +1.1**
KHC *e*pP **pP** **02 43 23.5 +0.6**
KHC *e*PP PP 02 43 58.5 -6.4
KHC *e*S **S** **02 49 43.8 -0.7**
KHC *ex* x 02 53 31.0
KHC Kasperske Hory 72.18 333 *e*P **P** **02 41 13.2 +0.5**
comp=Z,2µm,1.2s
FOEL Foel Wylfa 72.20 345⇓*i*P **P** **02 41 12.8 +0.1**
FOEL AMB AMB 02 41 14.7
comp=Z,903nm,1.2s
CTKT Corum 72.22 315 *i*P **P** **02 41 13.5 +0.2**
HDIL Hopedale 72.23 45 *e*P **P** **02 41 12.6 -0.5**
comp=Z,887nm,1.0s
DEV Deva 72.25 326⇓*i*P **P** **02 41 13.3 +0.2**
Y30A Stafford Cattl 72.27 57⇑P **P** **02 41 13.8 +0.2**
baz=72,SNR=26
MARD Mardin 72.28 309 *i*P **P** **02 41 14.4 +0.8**
PSN Preselentsi 72.28 321⇓*i*P **P** **02 41 13.9 +0.6**
GRF Grafenberg Arr 72.28 335 *e*P **P** **02 41 14.0 +0.7**
comp=Z,2µm,1.2s
GRF *e*pP **pP** **02 43 26.2 +2.7**
GRF *e*PP PP 02 43 59.7 -6.0
GRFO Grafenberg 72.28 335 *e*P **P** **02 41 13.8 +0.6**
GRFO pmax pmax
comp=Z,2µm,1.1s
GRFO Grafenberg 72.28 335 *e*P **P** **02 41 13.8 +0.6**
comp=Z,2µm,1.1s
YRE Yr Eifl 72.30 346⇓*i*P **P** **02 41 12.9 -0.3**
ILGA Ilgaz 72.31 316 *i*P **P** **02 41 14.6 +0.7**
MAZI Mazidag 72.31 309 *e*P **P** **02 41 14.6 +0.8**
DSB Dublin 72.32 347 *e*P **P** **02 41 13.0 -0.3**
comp=Z,665nm,1.1s
SIRR Siria 72.33 327⇓*i*P **P** **02 41 13.7 +0.1**
SIRR Siria 72.33 327⇑*i*P **S** **02 49 45.8 -0.5**
LOT Lotru 72.34 325⇑*i*P **P** **02 41 13.3 -0.5**
LOT Lotru 72.34 325⇓*i*P **S** **02 49 40.7 -5.9**
PKSN Nyarlorinc 72.35 328⇓*e* **P** **02 41 14.5 +0.9**
WET Wettzell 72.36 334 *e*P **P** **02 41 14.4 +0.7**
comp=Z,2µm,1.3s
Z29A Hungry Hill Ra 72.36 58⇓P **P** **02 41 14.5 +0.5**
baz=72,SNR=118
V34A Guthrie 72.37 53⇓P **P** **02 41 14.3 +0.3**
baz=72,SNR=116
INCR INCERC-Sediu C 72.37 323⇓*i*P **P** **02 41 14.0 +0.2**
BTMR Bucharest-Geot 72.39 323⇓*i*P **P** **02 41 14.2 +0.2**
BVCR Bucharest-Old 72.40 323⇑*i*P **P** **02 41 13.5 -0.5**
GEC2 GERESS Array S 72.41 333 *e*P **P** **02 41 14.4 +0.3**
comp=Z,1µm,1.6s
GEC2 *e*pP **pP** **02 43 29.5 +5.1**
GEC2 *e*PP PP 02 44 00.9 -5.9
GERES GERESS Array B 72.41 333 P **P** **02 41 14.2 +0.1**
GERES PP PP 02 43 57.3 -10
GERES S **S** **02 49 47.3 +0.1**
GERES P'P' 03 08 43.0
GERES GERESS Array B 72.41 333 P **P** **02 41 14.3 +0.1**
comp=Z,117nm,0.6s,baz=34,slow=5.8,SNR=1039
GERES PP PP 02 43 57.3 -10
comp=Z,33nm,1.0s,baz=21,slow=5.8,SNR=3.4
GERES S **S** **02 49 47.3 +0.1**
comp=Z,1.0nm,0.9s,baz=45,slow=13,SNR=2.1
GERES PKPPKP P'P'df 03 08 43.0 -10
comp=Z,1.9nm,1.0s,baz=180,slow=2.7,SNR=4.2
BAPR Bucharest-Chil 72.42 323⇓*i*P **P** **02 41 14.3 +0.2**
CSKK Cs ‡kako 72.43 329⇓*e* **P** **02 41 15.1 +1.0**
GOLR 72.45 324⇑*i*P **P** **02 41 14.0 -0.3**
W33A Caddo, Fort Co 72.46 54⇓P **P** **02 41 15.4 +0.9**
baz=72,SNR=71
128A Castleberry Fa 72.46 59⇑P **P** **02 41 15.2 +0.4**
baz=72,SNR=166
CIOR Ciorogarla 72.47 323⇑*i*P **P** **02 41 14.1 -0.3**
BUC1 Bucharest 72.50 323⇑*i*P **P** **02 41 14.1 -0.5**
HLM1 Long Mynd 72.51 345⇓*i*P **P** **02 41 14.4 -0.1**
HLM1 AMB AMB 02 41 16.5

comp=Z,602nm,1.2s
RMVG GOVORA 72.52 324 ⇓ *i*P P 02 41 16.3 +1.6
Y31A Rekieta Farm, 72.52 56 ⇑P P 02 41 14.9 0.0
baz=72,SNR=42
227A Bennet, Jal 72.53 60 ⇑P P 02 41 15.6 +0.5
baz=72,SNR=9.5
HGN Heimansgroeve 72.53 339 *e*P P 02 41 14.8 +0.2
comp=Z,2µm,1.2s
HGN *e*pP **PP** 02 44 08.5 +0.8
MALT Malatya 72.54 311 *e*P P 02 41 16.4 +1.3
MALT Malatya 72.54 311 ⇓ *i*P P 02 41 16.7 +1.6
BEBN Eben Emael 72.56 339 P P 02 41 14.8 0.0
comp=Z,515nm,1.4s
SADO Sadowa 72.59 36 S **SKiKP** 02 49 43.0 +3.0
comp=Z,3.7nm,0.8s,baz=270,slow=20,SNR=3.0
PKST T"s 72.59 330 ⇓ *e* P 02 41 15.6 +0.5
425A Indio Mountain 72.61 62 ⇑P P 02 41 16.7 +1.1
baz=72,SNR=170
Z30A Sanderson Ranc 72.63 57 ⇑P P 02 41 15.7 +0.1
baz=72,SNR=115
CONA Conrad Observa 72.63 331 ⇓ *i*P P 02 41 16.4 +1.0
comp=Z,1µm,1.3s,SNR=617
WMOK Wichita Mounta 72.64 55 *e*P P 02 41 15.7 +0.1
WMOK *e**PP **pP** 02 43 26.0 0.0
WMOK *e*S **S** 02 49 50.3 +0.3
WMOK Wichita Mounta 72.64 55 *e*P P 02 41 15.7 +0.1
comp=Z,19µm,2.3s
WMOK *e*pP **pP** 02 43 26.0 0.0
WMOK *e*S **S** 02 49 50.3 +0.3
X32A Elmer 72.64 55 ⇓P P 02 41 15.8 +0.2
baz=72,SNR=66
SOP Sopron 72.65 331 ⇓ *e* P 02 41 16.5 +1.1
CORM Corum 72.66 315 *e*P P 02 41 17.0 +1.3
MEM Membach 72.66 339 P P 02 41 15.6 +0.2
comp=Z,1µm,1.3s
PKS6 Bocsa 72.71 328 ⇓ *e* P 02 41 16.0 +0.3
HUMR Humele 72.72 324 ⇓ *i*P P 02 41 14.7 -1.1
326A Caldwell Ranch 72.72 61 ⇑P P 02 41 17.0 +0.8
baz=72,SNR=128
GZR Gura Zlata 72.73 326 ⇓ *i*P P 02 41 15.9 0.0
GZR Gura Zlata 72.73 326 ⇑ *i*P S 02 49 49.5 -1.2
W34A Bridge Creek, 72.73 54 ⇓P P 02 41 16.6 +0.5
baz=72,SNR=61
DARE Darende-Malaty 72.75 312 *e*P P 02 41 17.5 +1.3
129A Stewart Farms, 72.77 58 ⇓P P 02 41 16.6 +0.2
baz=72,SNR=5.3
AKCD Akcadag 72.78 312 *i*P P 02 41 17.1 +0.6
228A UT Block 9, Go 72.81 59 ⇑P P 02 41 17.0 +0.4
baz=73,SNR=65
UCC Uccle 72.83 340 P P 02 41 16.3 0.0
Y32A R-V Farms, Ver 72.90 56 ⇑P P 02 41 17.1 +0.1
baz=73,SNR=113
ELDT Eldivan 72.90 316 *i*P P 02 41 17.6 +0.4
PKS2 Kecel 72.92 328 ⇓ *e* P 02 41 17.0 +0.1
BZS Buzias 72.92 326 ⇓ *i*P P 02 41 16.6 -0.3
BZS Buzias 72.92 326 ⇑ *i*P S 02 49 52.0 -0.7
X33A Lawton 72.93 55 ⇓P P 02 41 17.4 +0.2
baz=73,SNR=32
327A Balmorhea Ranc 72.94 60 ⇓P P 02 41 18.5 +1.1
baz=73,SNR=7.2
TIM Timisoara 72.94 327 ⇓ *i*P P 02 41 17.5 +0.5
BCLA Clavier 72.99 339 P P 02 41 17.5 +0.2
comp=Z,820nm,1.3s
MCH1 Michaelchurch 73.03 345 ⇓ *e*P P 02 41 17.2 -0.3
MCH1 AMB AMB 02 41 20.0
comp=Z,606nm,1.6s
AAM Ann Arbor 73.05 40 *e*P P 02 41 17.7 -0.1
AAM pmax pmax
comp=Z,547nm,0.7s
AAM Ann Arbor 73.05 40 *e*P P 02 41 17.7 -0.1
comp=Z,547nm,0.7s
LPW Lampeter 73.09 345 *e*P P 02 41 17.0 -0.7
Z31A Sharp Cattle R 73.10 57 ⇑P P 02 41 18.2 0.0
baz=73,SNR=82
STRD Stroud 73.11 344 ⇓ *i*P P 02 41 18.1 +0.2
STRD AMB AMB 02 41 19.9
comp=Z,2µm,1.2s
PKS9 Tamasi 73.12 329 ⇓ *e* P 02 41 18.0 -0.1
SNF Seneffe 73.12 340 P P 02 41 18.1 +0.2
TUL1 Tulsa 73.13 52 *e*P P 02 41 18.6 +0.2
TUL1 Tulsa 73.13 52 ⇑P P 02 41 18.8 +0.5
baz=73,SNR=151
ELSH Elham, Standar 73.14 342 ⇓ *e*P P 02 41 18.6 +0.6
ELSH AMB AMB 02 41 20.3
comp=Z,2µm,1.2s
PINB Pinarbasi 73.14 313 *i*P P 02 41 18.9 +0.2
MONM Monmouth 73.16 344 ⇓ *i*P P 02 41 18.1 0.0
MOA Molln 73.16 332 ⇓ *i*P P 02 41 18.8 +0.5
comp=Z,400nm,1.0s,SNR=167
BCAM Yenicaga 73.19 317 *i*P P 02 41 19.3 +0.6
426A McDonald Obser 73.21 61 ⇓P P 02 41 19.7 +0.5
baz=73,SNR=139
X34A Smith Ranch, M 73.21 54 ⇓P P 02 41 19.5 +0.7
baz=73,SNR=104
CDAG Cicekdag 73.23 315 *i*P P 02 41 18.5 -0.5
130A Snyder 73.26 58 ⇑P P 02 41 19.3 +0.2
baz=73,SNR=41
328A Wristen Ranch, 73.28 60 ⇓P P 02 41 19.9 +0.6
baz=73,SNR=152
BANR Banloc 73.28 327 ⇓ *i*P P 02 41 19.9 +0.9
BANR Banloc 73.28 327 ⇑ *i*P S 02 49 58.4 +1.8
OLDB Oldbury-Upon-S 73.29 344 ⇓ *e*P P 02 41 18.6 -0.3
OLDB AMB AMB 02 41 21.4
comp=Z,628nm,1.8s
Y33A Hilltop Ranch, 73.30 55 ⇑P P 02 41 19.5 +0.1
baz=73,SNR=99
SFIN Scholer Farm 73.30 44 *e*P P 02 41 18.6 -0.6
SFIN Scholer Farm 73.30 44 ⇓P P 02 41 18.7 -0.5
baz=73,SNR=24
SWN1 Swindon 73.31 344 ⇓ *i*P P 02 41 19.5 +0.5
SWN1 AMB AMB 02 41 21.3
comp=Z,4µm,1.2s
BANOM Banah 73.31 291 ⇑P P 02 41 19.5 -0.1
SNR=70
229A Bryant Ranch, 73.33 59 ⇓P P 02 41 20.1 +0.5
baz=73,SNR=44
ZIMR 73.34 323 ⇑ *i*P P 02 41 18.9 -0.4
PKSM Moragy 73.34 329 ⇓ *i*P P 02 41 18.9 -0.4
PKSM Moragy 73.34 329 ⇓ *e* P 02 41 19.0 -0.4
ARSA Arzberg 73.35 331 *i*P P 02 41 20.3 +0.9
comp=Z,1µm,1.4s,SNR=329
427A Hayter Ranch, 73.39 61 ⇑P P 02 41 21.0 +1.0
baz=73,SNR=198
GIVF Givet 73.39 339 ⇓ *i*P P 02 41 19.6 +0.1
comp=Z,2µm,1.2s
GIVF Givet 73.39 339 ⇓ *i*P P 02 41 19.6 +0.1
GIVF pmax pmax
comp=Z,2µm,1.2s
GIVF Givet 73.39 339 ⇓ *i*P P 02 41 19.6 +0.1
comp=Z,2µm,1.2s
RMGR Halanga-Turnu 73.40 325 ⇓ *i*P P 02 41 18.3 -1.3
CTA Charters Tower 73.40 186 S S 02 49 59.8 +1.4
comp=Z,4.0nm,0.8s,baz=0.0,slow=3.0,SNR=9.7
CTAO Charters Tower 73.40 186 *e*P P 02 41 20.1 +0.2
CTAO pmax pmax
comp=Z,278nm,0.8s
CTAO Charters Tower 73.40 186 *e*P P 02 41 20.1 +0.2
comp=Z,278nm,0.8s
WOL Wolverton 73.40 343 ⇓ *i*P P 02 41 19.5 0.0
WOL AMB AMB 02 41 21.3
comp=Z,1µm,1.2s
Z32A Haskell 73.44 56 ⇓P P 02 41 20.0 -0.2
baz=73,SNR=106
DOU Dourbes 73.45 339 P P 02 41 19.9 0.0
comp=Z,466nm,1.5s
BR131 Keskin Array S 73.45 315 *e*P P 02 41 20.4 +0.1
comp=Z,449nm,0.9s
BR131 *e*pP **pP** 02 43 32.6 +1.4
BRTR Keskin Array B 73.45 315 P P 02 41 20.6 +0.3
BRTR pP **pP** 02 43 32.8 +1.6
BRTR S S 02 49 57.4 -1.6
BRTR Keskin Array B 73.45 315 P P 02 41 20.6 +0.3
comp=Z,355nm,0.9s,baz=55,slow=2.6,SNR=870
BRTR pP **pP** 02 43 32.7 +1.6
comp=Z,85nm,1.1s,baz=47,slow=3.7,SNR=7.8
BRTR S S 02 49 57.4 -1.6
comp=Z,2.8nm,1.1s,baz=57,slow=5.3,SNR=2.0
BATH Bath 73.46 344 ⇓ *i*P P 02 41 19.9 0.0
BATH AMB AMB 02 41 21.5
comp=Z,1µm,1.2s
131A Roby 73.49 57 ⇓P P 02 41 20.9 +0.5
baz=73,SNR=63
MENF Mencas 73.51 341 ⇓ *e*P P 02 41 20.5 +0.4
WLF Walferdange 73.52 338 P P 02 41 20.7 +0.4
comp=Z,515nm,1.8s
WLF Walferdange 73.52 338 *e*P P 02 41 20.5 +0.3
WLF pmax pmax
comp=Z,647nm,1.2s
WLF Walferdange 73.52 338 *e*P P 02 41 20.7 +0.4
comp=Z,815nm,1.2s
WLF Walferdange 73.52 338 *e*P P 02 41 20.5 +0.3
comp=Z,646nm,1.2s
PALK Pallekele 73.54 260 P P 02 41 21.6 +0.6
comp=Z,3µm,0.8s,SNR=54
PALK Pallekele 73.54 260 P P 02 41 21.3 +0.3
SNR=16
PALK Pallekele 73.54 260 *e*P P 02 41 21.0 0.0
comp=Z,1µm,0.9s
HMNX Herstmonceux 73.56 342 ⇓ *i*P P 02 41 21.2 +0.8
HMNX AMB AMB 02 41 23.0
comp=Z,2µm,1.2s
AFI Afiamalu 73.59 144 *e*P P 02 41 22.0 +0.8
comp=Z,101nm,0.9s
329A Wagon Wheel Ra 73.62 59 ⇑P P 02 41 21.7 +0.5
baz=73,SNR=61
STU Stuttgart 73.64 336 *e*P P 02 41 21.2 +0.2
STU pmax pmax
comp=Z,1µm,1.1s
STU Stuttgart 73.64 336 *e*P P 02 41 21.2 +0.2
comp=Z,1µm,1.1s
STU Stuttgart 73.64 336 *e*P P 02 41 21.2 +0.2
comp=Z,1µm,1.1s
526A Mary Lane Ranc 73.66 62 ⇑P P 02 41 22.8 +1.2
baz=74,SNR=225
RJOB Jochberg 73.67 333 *e*P P 02 41 22.1 +0.9
comp=Z,691nm,1.4s
FUR Furstenfeldbru 73.67 334 *e*P P 02 41 21.8 +0.6
comp=Z,2µm,1.2s
BEHE Becsehely 73.68 330 ⇓ *e* P 02 41 22.0 +0.8
LOD Lodumlu 73.68 316 *e*P P 02 41 22.1 +0.7
ANTO Ankara 73.69 316 *e*P P 02 41 21.8 +0.3
ANTO Ankara 73.69 316 P P 02 41 22.3 +0.8
SNR=201
ANTO Ankara 73.69 316 *e*P P 02 41 22.0 +0.5
ANTO *e**PP **pP** 02 43 33.6 +1.1
ANTO pmax pmax
comp=Z,1µm,1.3s
ANTO Ankara 73.69 316 ⇓ *i*P P 02 41 22.1 +0.5
ANTO Ankara 73.69 316 *e*P P 02 41 22.0 +0.5
comp=Z,1µm,1.3s
ANTO *e*pP **pP** 02 43 33.6 +1.1
GZT Gaziantep 73.71 311 *i*P P 02 41 22.4 +0.6
AVNT Avonos 73.73 314 *i*P P 02 41 22.7 +0.8
PVL Pavlikeni 73.73 323 *i*P P 02 41 21.7 +0.2
230A Sterling City 73.75 58 ⇓P P 02 41 22.0 +0.1
baz=74,SNR=44
Y34A Reagan Ranch, 73.76 55 ⇓P P 02 41 22.1 +0.2
baz=74,SNR=90
LANF Langenberg 73.78 337 ⇓ *e*P P 02 41 22.2 +0.4
Z33A Whitaker Ranch 73.81 56 ⇓P P 02 41 22.1 -0.1
baz=74,SNR=68
BBAL Bala 73.82 316 *i*P P 02 41 22.3 0.0
BTAS Taskesti 73.83 318 *i*P P 02 41 21.6 -0.7
MDUB Mudurnu 73.83 317 *e*P P 02 41 22.8 +0.4
527A Woodward Ranch 73.84 61 ⇓P P 02 41 23.3 +0.7
baz=74,SNR=187
428A Kincaid Ranch, 73.86 60 ⇑P P 02 41 24.0 +1.3
baz=74,SNR=164
SILT Sile 73.88 319 *e*P P 02 41 22.8 +0.4
ABTX Abilene, Hawle 73.90 57 *e*P P 02 41 22.9 +0.2
ABTX Abilene, Hawle 73.90 57 ⇑P P 02 41 23.0 +0.2
baz=74,SNR=110
JMB Yambol 73.92 322 P P 02 41 22.5 -0.2
JMB Yambol 73.92 322 ⇓ *i*P P 02 41 23.1 +0.4
AFSR Af'ar-Bala (A 73.93 316 *e*P P 02 41 23.3 +0.5
SOKA Soboth 74.01 331 ⇓ *i*P P 02 41 23.8 +0.6
comp=Z,2µm,1.4s,SNR=568
SPNC Sapanca-Adapaz 74.01 318 *e*P P 02 41 23.8 +0.6
PERS Pernice 74.02 331 *i*P P 02 41 23.8 +0.6
PERS *i* PP **PP** 02 44 23.3 +3.0
PERS *i* S **S** 02 50 05.1 +0.3
PERS *es*S **sS** 02 54 01.8 +3.4
KLYT Kilyos 74.03 319 *e*P P 02 41 23.3 +0.1
626A Big Bend Ranch 74.03 62 ⇑P P 02 41 24.5 +0.9
baz=74,SNR=128
HEX Exmoor 74.06 345 ⇓ *i*P P 02 41 23.3 0.0
VAL Valentia 74.08 349 ⇑ *i*P P 02 41 23.9 +0.6
330A Mertzon 74.10 59 ⇓P P 02 41 24.0 +0.1
baz=74,SNR=47
MSVF Nonsavu 74.11 155 *e*P P 02 41 25.5 +1.5
MSVF pmax pmax
comp=Z,145nm,1.2s
MSVF Nonsavu 74.11 155 *e*P P 02 41 25.5 +1.5
comp=Z,145nm,1.2s
231A Bronte 74.11 58 ⇓P P 02 41 23.7 -0.3
baz=74,SNR=44
KBA Koelnbreinsper 74.12 332 ⇓ *i*P P 02 41 24.9 +0.9
comp=Z,4µm,1.1s,SNR=459
CTYL Yal??k??y-??at 74.13 320 *e*P P 02 41 23.9 +0.1
UOSS Wadi Hilu 74.13 290 P P 02 41 23.6 -0.5
comp=Z,6µm,0.6s
HRT Hereke 74.15 319 *e*P P 02 41 24.4 +0.3
Z34A Collier Ranch, 74.16 55 ⇑P P 02 41 24.1 -0.1
baz=74,SNR=56
MPEP Malo Peshtene 74.18 324 *i*P P 02 41 23.9 -0.2
ISK Istanbul-Kandi 74.18 319 *e*P P 02 41 24.0 -0.2
BGKT Bogazkoy 74.19 319 *e*P P 02 41 23.6 -0.6
HTL Hartland 74.24 345 ⇓ *i*P P 02 41 24.2 0.0
HTL AMB AMB 02 41 26.1
comp=Z,578nm,1.2s
CTKS Kestanelik-??a 74.25 320 *e*P P 02 41 24.6 +0.1
528A Cox Ranch, San 74.26 61 ⇑P P 02 41 26.0 +1.1
baz=74,SNR=116
BFO Black Forest 74.26 336 *e*P P 02 41 24.6 +0.1
BFO pmax pmax
comp=Z,1µm,1.1s
BFO Black Forest 74.26 336 *e*P P 02 41 24.7 +0.2
comp=Z,1µm,1.1s
BFO *e*pP **pP** 02 43 36.8 +1.0
BFO Black Forest 74.26 336 *e*P P 02 41 24.6 +0.1
comp=Z,1µm,1.1s
BFO Black Forest 74.26 336 P P 02 41 24.0 -0.5
comp=Z,5µm,1.0s
OLIL Olney 74.26 45 *e*P P 02 41 24.9 +0.2
comp=Z,482nm,1.3s
HATD Hatta, Dubai 74.26 290 ⇓P P 02 41 24.9 0.0
SNR=134
LONY Lake Ozonia 74.27 33 *e*P P 02 41 23.8 -0.8
comp=Z,319nm,0.9s
133A Hamilton Ranch 74.28 56 ⇓P P 02 41 25.0 +0.1
baz=74,SNR=161
PHSR Pinarhisar 74.29 321 *e*P P 02 41 25.3 +0.5
OBKA Obir 74.30 331 ⇓ *i*P P 02 41 25.3 +0.4
comp=Z,1µm,1.4s,SNR=191
429A Davenport Ranc 74.36 60 ⇑P P 02 41 25.4 0.0
baz=74,SNR=52
ELBA Catalca 74.36 320 *i*P P 02 41 24.8 -0.3
WATA Walderalm 74.36 334 ⇓ *i*P P 02 41 25.9 +0.7
comp=Z,2µm,1.2s,SNR=457
SLVT Silivri 74.37 320 *e*P P 02 41 25.7 +0.5
KOZT Kozan 74.38 313 *e*P P 02 41 26.1 +0.8
WBK Wadi Bani Khal 74.38 287 ⇑P P 02 41 26.2 +0.6
SNR=103
NAZ Nazwa, Dubai 74.40 291 ⇓P P 02 41 25.4 -0.2
SNR=60
WTTA Wattenberg 74.41 334 ⇓ *i*P P 02 41 26.5 +0.9
comp=Z,2µm,1.0s,SNR=546
KUZU Kuzuini 74.41 311 *i*P P 02 41 25.4 -0.2
ASHO Ashiyiah 74.42 290 ⇑P P 02 41 25.5 -0.3
SNR=149
CDF Champ du Feu 74.43 337 ⇓ *i*P P 02 41 25.8 +0.3
comp=Z,3µm,1.2s
CDF Champ du Feu 74.43 337 ⇓ *i*P P 02 41 25.8 +0.3
CDF pmax pmax
comp=Z,3µm,1.2s
CDF Champ du Feu 74.43 337 ⇓ *i*P P 02 41 25.8 +0.3
comp=Z,3µm,1.2s
RETA Reutte 74.43 334 ⇓ *i*P P 02 41 26.0 +0.5
comp=Z,617nm,1.2s,SNR=183
MYKA Terra Mystica 74.45 332 *i*P P 02 41 25.8 +0.1
comp=Z,805nm,1.1s,SNR=212
ADVT Abdulvahap 74.45 318 *e*P P 02 41 25.7 +0.1
TXAR Lajitas Array 74.46 62 P P 02 41 26.7 +0.7
TXAR pP **pP** 02 43 37.8 +0.4
TXAR S S 02 50 09.5 -0.6
TXAR PKKPbc **PKKPbc** 03 00 42.4 -1.0
TXAR SKKS SKKSdf 03 06 15.8 -18
TXAR Lajitas Array 74.46 62 P P 02 41 26.7 +0.7
comp=Z,61nm,0.7s,baz=294,slow=3.8,SNR=401
TXAR pP **pP** 02 43 37.8 +0.4
comp=Z,20nm,0.8s,baz=312,slow=4.0,SNR=4.6
TXAR S S 02 50 09.5 -0.6
comp=Z,3.3nm,1.0s,baz=350,slow=10,SNR=2.5
TXAR PKKPbc **PKKPbc** 03 00 42.4 -1.0
comp=Z,0.6nm,0.6s,baz=157,slow=4.9,SNR=3.0
TXAR SKKS SKKSdf 03 06 15.8 -18
comp=Z,2.4nm,0.8s,baz=150,slow=6.5,SNR=20
TXAR PKPPKP **P'P'df** 03 08 46.6 -2.7
comp=Z,1.6nm,1.0s,baz=159,slow=3.8,SNR=5.5
MOTA Moosalm 74.48 334 ⇓ *i*P P 02 41 26.4 +0.5
comp=Z,2µm,1.2s,SNR=800
232A Coleman 74.49 57 ⇓P P 02 41 26.1 0.0
baz=74,SNR=117
627A Terlingua Ranc 74.51 62 ⇓P P 02 41 27.3 +0.9
baz=74,SNR=207
Z35A Perchaven, San 74.52 55 ⇑P P 02 41 25.8 -0.4
baz=74,SNR=39
BLO Bloomington 74.55 44 *e*P P 02 41 25.9 -0.4
BLO pmax pmax
comp=Z,215nm,0.8s
BLO Bloomington 74.55 44 *e*P P 02 41 25.9 -0.4
comp=Z,215nm,0.8s
331A San Angelo 74.56 58 ⇓P P 02 41 26.6 +0.1
baz=74,SNR=108
430A Baggett Ranch, 74.56 59 ⇑P P 02 41 26.7 +0.2
baz=74
SVRH Sivrihisar-ESK 74.57 317 *e*P P 02 41 26.2 -0.2
HOQ Hoqain 74.57 289 ⇑P P 02 41 26.5 -0.1
SNR=84
529A Stev Forest Ra 74.58 60 ⇑P P 02 41 27.4 +0.7
baz=74,SNR=194
ERPA Erie 74.59 38 *e*P P 02 41 25.9 -0.6
comp=Z,887nm,0.9s
CAVI Cavuskoy 74.61 318 *e*P P 02 41 27.0 +0.4
SIUC Southern Illin 74.63 47 *e*P P 02 41 26.5 -0.2
comp=Z,718nm,1.1s
BORA Eskisehir 74.64 318 *i*P P 02 41 26.3 -0.6
CRLT Corlu 74.64 320 *e*P P 02 41 27.6 +0.9
ECH Echery 74.65 337 ⇓ *e*P P 02 41 26.8 +0.1
ECH Echery 74.65 337 *e*P P 02 41 26.7 +0.1
ECH pmax pmax
comp=Z,1µm,1.1s
ECH Echery 74.65 337 *e*P P 02 41 26.7 0.0
comp=Z,1µm,1.1s
ABTA Abfaltersbach 74.65 333 ⇓ *i*P P 02 41 26.8 0.0
comp=Z,1µm,1.3s,SNR=342
PAGF Fort de Pagny 74.66 338 ⇓ *i*P P 02 41 27.3 +0.6
comp=Z,2µm,1.1s,baz=28
PAGF Fort de Pagny 74.66 338 ⇓ *i*P P 02 41 27.3 +0.6
comp=Z,2µm,1.1s
GEMT Gemlik 74.67 319 *e*P P 02 41 27.0 +0.1
ARMT Armutlu 74.69 319 *e*P P 02 41 26.8 -0.2
DYA Yadsworthy 74.70 345 ⇓ *i*P P 02 41 26.6 -0.2
DYA AMB AMB 02 41 28.6
comp=Z,1µm,1.2s
SISC Sisak 74.71 330 P P 02 41 26.9 -0.1
134A White-Moore Ra 74.72 56 ⇓P P 02 41 27.5 +0.2
baz=74,SNR=44
LJU Ljubljana 74.73 331 *i*P P 02 41 27.0 -0.1
LJU *i* PP **PP** 02 44 29.1 +3.1
LJU *i* S **S** 02 50 10.1 -2.3
PGB Panagyurishte 74.73 323 *i*P P 02 41 26.9 -0.4
BSTP Nigde 74.74 314 *i*P P 02 41 28.2 +0.7
628A Black Gap, Mar 74.74 61 ⇓P P 02 41 28.4 +0.8
baz=74,SNR=101
WRAB Tennant Creek 74.75 198 *d i*P P 02 41 27.8 +0.4
WRAB pmax pmax
comp=Z,2µm,0.9s
WRAB Tennant Creek 74.75 198 *e*P P 02 41 27.9 +0.4
comp=Z,592nm,0.8s
WRAB Tennant Creek 74.75 198 P P 02 41 27.0 -0.5
comp=Z,4µm,0.8s
FELD Feldberg im Sc 74.76 336 ⇓ *e*P P 02 41 27.5 +0.1
WRA Warramunga Arr 74.76 198 P P 02 41 27.8 +0.3
WRA pP **pP** 02 43 40.3 +1.0
WRA S **S** 02 50 13.5 +0.3
WRA PKKP **PKKPdf** 03 00 29.5 -1.7
WRA PKKPbc **PKKPbc** 03 00 42.5 -1.2
WRA SKKS SKKSdf 03 06 15.8 -24
WRA P'P' 03 08 47.0
WRA Warramunga Arr 74.76 198 P P 02 41 27.8 +0.3
comp=Z,498nm,0.7s,baz=12,slow=5.7,SNR=903
WRA pP **pP** 02 43 40.3 +1.0
comp=Z,29nm,0.9s,baz=16,slow=6.5,SNR=3.8
WRA S **S** 02 50 13.5 +0.3
comp=Z,4.1nm,1.0s,baz=0.5,slow=10,SNR=5.4
WRA PKKP **PKKPdf** 03 00 29.5 -1.7
comp=Z,1.5nm,0.9s,baz=190,slow=5.8,SNR=3.8
WRA PKKPbc **PKKPbc** 03 00 42.5 -1.2
comp=Z,1.3nm,0.6s,baz=204,slow=2.5,SNR=15
WRA SKKS SKKSdf 03 06 15.8 -24
comp=Z,1.9nm,1.0s,baz=192,slow=3.9,SNR=4.9
WRA PKPPKP **P'P'df** 03 08 47.0 +1.8
comp=Z,9.5nm,1.1s,baz=203,slow=2.3,SNR=8.4
TRD Trivandrum 74.78 264 ⇑ *ex* **PcP** 02 41 34.6 -3.4
TRD *e*S **S** 02 50 16.6 +2.9
SEYT Eskypehyr 74.78 317 *i*P P 02 41 26.8 -0.9
SULT Sultanhani-AKS 74.78 315 *e*P P 02 41 28.1 +0.4
DIVS Divibare 74.80 327 P P 02 41 27.4 -0.2
CEYT Ceyhan 74.81 312 *e*P P 02 41 28.9 +1.2
MDNY Mudanya-Bursa 74.84 319 *e*P P 02 41 28.1 +0.2
DAVA Damuels 74.85 335 *i*P P 02 41 28.4 +0.4
comp=Z,993nm,1.1s,SNR=281
332A Millersview 74.85 58 ⇑P P 02 41 28.3 +0.2
baz=75,SNR=117
MEZF Maizieres J'vi 74.86 338 ⇓ *i*P P 02 41 28.3 +0.6
comp=Z,3µm,1.1s
MEZF Maizieres J'vi 74.86 338 ⇓ *i*P P 02 41 28.3 +0.6
comp=Z,3µm,1.1s
ASUD Al Ashush, Dub 74.87 291 P P 02 41 28.6 +0.3
SNR=38
FETA Feichten 74.87 334 ⇓ *i*P P 02 41 28.9 +0.8
comp=Z,1µm,1.3s,SNR=279
THEF They Montfort 74.91 338 ⇓ *e*P P 02 41 28.5 +0.4
PLD Plovdiv 74.93 323 P P 02 41 27.9 -0.4
ALLY Alegheny Colle 74.94 38 *e*P P 02 41 28.2 -0.2
comp=Z,835nm,1.0s
LPIG La Paz 74.96 70 P P 02 41 29.1 +0.4
LPIG La Paz 74.96 70 P P 02 41 29.1 +0.4
comp=Z,34nm,0.3s,baz=6.8,slow=1.3,SNR=15
FITZ Fitzroy Crossi 74.97 207 S S 02 50 15.0 -0.4
comp=Z,14nm,1.2s,baz=162,slow=20,SNR=14
FITZ PKPPKP **P'P'df** 03 08 43.5 -1.5
comp=Z,3.7nm,1.0s,baz=218,slow=6.2,SNR=3.7
NCB Newcomb 74.97 33 *e*P P 02 41 28.0 -0.5
comp=Z,369nm,0.8s
431A Sonora 74.97 59 ⇓P P 02 41 28.8 0.0
baz=75,SNR=98
MOF Molkenrain 74.99 337 ⇓ *e*P P 02 41 28.7 0.0
JAVS Javornik 75.00 332 *i*P P 02 41 28.1 -0.6
JAVS *e*PP **PP** 02 44 29.6 +1.2
JAVS *i* S **S** 02 50 14.1 -1.4
GULE Gulek 75.01 313 *i*P P 02 41 29.6 +0.6
BOJS Bojanci 75.01 331 *i*P P 02 41 28.8 +0.2
BOJS *i* PP **PP** 02 44 30.3 +1.9
BOJS *i* S **S** 02 50 15.6 +0.3
BOJS *es*S **sS** 02 54 09.7 -0.1
YURE YUREGIR 75.01 312 *i*P P 02 41 29.8 +0.9
530A J-C Ranch, Com 75.02 60 ⇓P P 02 41 29.5 +0.4
baz=75,SNR=106
HAU Haudompre 75.03 337 ⇓ *i*P P 02 41 28.9 +0.1
comp=Z,2µm,1.1s
HAU *e*R
comp=Z,1µm,22.8s
HAU Haudompre 75.03 337 ⇓ *i*P P 02 41 28.9 +0.1
HAU pmax pmax
comp=Z,2µm,1.1s
HAU Haudompre 75.03 337 ⇓ *i*P P 02 41 28.9 +0.1
comp=Z,2µm,1.1s
VTS Vitosha 75.03 324 *e*P P 02 41 28.9 -0.2
VTS Vitosha 75.03 324 P P 02 41 29.1 0.0
VTS Vitosha 75.03 324 *i*P P 02 41 28.6 -0.5
VTS Vitosha 75.03 324 ⇓ *i*P P 02 41 29.1 0.0
VTS Vitosha 75.03 324 ⇓ *i*P S 02 50 16.8 +0.7
KDZ Kurdzhali 75.06 322 ⇓ *i*P P 02 41 29.5 +0.4
135A Vickery Place, 75.07 55 ⇓P P 02 41 29.5 +0.3
baz=75,SNR=52
JMDO Jabal Madar 75.07 287 P P 02 41 29.8 +0.4
SNR=205
ACSO Alum Creek Sta 75.08 41 *e*P P 02 41 29.1 -0.1
comp=Z,531nm,1.0s
MIB Mutribah 75.09 300 *e*P P 02 41 29.3 -0.1
MIB AMb AMB 02 41 30.4
comp=Z,3µm,1.3s

USIN University of 75.09 45 *e*P P 02 41 29.2 0.0
comp=Z,938nm,1.0s
HINF Hinteralfeld 75.09 337⇓*i*P P 02 41 29.0 -0.1
comp=Z,1μm,1.2s
HINF Hinteralfeld 75.09 337⇓*i*P P 02 41 29.0 -0.1
HINF pmax pmax
comp=Z,1μm,1.2s
HINF Hinteralfeld 75.09 337⇓*i*P P 02 41 29.0 -0.1
comp=Z,1μm,1.2s
UMR Umm Al-Rimmam 75.09 299 *e*P P 02 41 29.0 -0.4
UMR AMb AMB 02 41 31.7
comp=Z,2μm,0.8s
KDHN Kadinhani 75.11 316 *i*P P 02 41 28.3 -1.2
SFTF Sexfontaines 75.14 338⇓*i*P P 02 41 29.6 +0.2
comp=Z,3μm,0.9s,baz=43
SFTF Sexfontaines 75.14 338⇓*i*P P 02 41 29.6 +0.2
comp=Z,3μm,0.9s
TAHT Tahtakopru-Hat 75.14 312 *e*P P 02 41 30.5 +1.0
XMIS Christmas Isla 75.18 228 *e*P P 02 41 29.4 -0.6
comp=Z,2μm,0.9s
XMIS *e*pP **pP** 02 43 42.5 +0.6
ARQ Araqi 75.21 289 P P 02 41 30.5 +0.3
SNR=163
432A Menard 75.23 58 ⇑P P 02 41 30.3 +0.1
baz=75,SNR=68
SART Tekirdag 75.23 320 *i*P P 02 41 29.6 -0.4
LADK Ladik-KONYA 75.27 315 *e*P P 02 41 30.4 0.0
PARMO Parma 75.27 48 *e*P P 02 41 30.4 +0.1
333A Richland Sprin 75.28 57 ⇑P P 02 41 30.6 +0.1
baz=75,SNR=110
MDV Middlebury 75.28 32 *e*P P 02 41 29.8 -0.4
RZN Rozhen 75.28 322 *i*P P 02 41 30.3 -0.2
MIAR Mount Ida 75.29 51 *e*P P 02 41 30.7 +0.3
MIAR *e**PP **pP** 02 43 44.1 +1.9
MIAR *e*S **S** 02 50 18.1 -0.6
MIAR pmax pmax
comp=Z,219nm,0.9s
MIAR Mount Ida 75.29 51 *e*P P 02 41 30.6 +0.3
comp=Z,218nm,0.9s
MIAR *e*pP **pP** 02 43 44.1 +1.9
MIAR *e*S **S** 02 50 18.1 -0.6
BSY Bisya 75.29 288 P P 02 41 31.0 +0.4
SNR=217
DAVOX Davos/Dischmat 75.32 335 P P 02 41 31.2 +0.6
DAVOX PKiKP **PKiKP** 02 47 10.8 -0.6
DAVOX S **S** 02 50 17.9 -1.1
DAVOX Davos/Dischmat 75.32 335 P P 02 41 31.2 +0.6
comp=Z,248nm,0.6s,baz=18,slow=4.1,SNR=280
DAVOX PKiKP **PKiKP** 02 47 10.8 -0.6
comp=Z,6.7nm,0.6s,baz=260,slow=6.1,SNR=4.3
DAVOX S **S** 02 50 17.9 -1.1
comp=Z,3.3nm,0.8s,baz=333,slow=14,SNR=3.0
PKME Peaks-Kenny Pk 75.33 29 *e*P P 02 41 30.5 0.0
comp=Z,379nm,1.0s
TVSB Tavsanli 75.40 318 *e*P P 02 41 31.2 +0.1
KBD Kabd 75.41 299 *e*P P 02 41 31.1 -0.1
KBD AMb AMB 02 41 32.4
comp=Z,2μm,1.1s
531A Rocksprings 75.42 59 ⇓P P 02 41 31.4 +0.1
baz=75,SNR=53
BOLV Bolvadin 75.42 317 *i*P P 02 41 30.6 -0.6
KRBG Karabiga-Canak 75.44 320 *e*P P 02 41 31.5 +0.4
WCI Wyandotte Cave 75.45 44 *e*P P 02 41 31.1 -0.2
WCI pmax pmax
comp=Z,586nm,0.9s
WCI Wyandotte Cave 75.45 44 *e*P P 02 41 31.1 -0.2
comp=Z,586nm,0.9s
RDO Rodhopi 75.45 322 P P 02 41 31.5 +0.3
RDO Rodhopi 75.45 322 *e*P P 02 41 31.4 +0.3
YAYL Yayladag 75.46 312 *i*P P 02 41 31.8 +0.3
LBNH Lisbon 75.46 32 *e*P P 02 41 31.5 +0.3
LBNH pmax pmax
comp=Z,315nm,1.0s
LBNH Lisbon 75.46 32 *e*P P 02 41 31.5 +0.3
comp=Z,315nm,1.0s
MERS Mersin 75.47 313 *e*P P 02 41 31.6 +0.1
ALT Altintas 75.48 317 *i*P P 02 41 23.4 -8.1
ALN Alexandroupoli 75.48 321 *e*P P 02 41 31.3 -0.1
ALN Alexandroupoli 75.48 321 P P 02 41 31.2 -0.1
ALN Alexandroupoli 75.48 321 *e*P P 02 41 30.8 -0.5
ERIK Erikli-Kesan 75.50 321 *e*P P 02 41 31.8 +0.4
WHTX Lake Whitney 75.50 56 *e*P P 02 41 32.1 +0.4
WHTX Lake Whitney 75.50 56 ⇓P P 02 41 31.9 +0.3
baz=75,SNR=50
RST Umm Al-Ruwaisa 75.51 300 *e*P P 02 41 31.3 -0.4
RST AMb AMB 02 41 32.5
comp=Z,26μm,0.9s
LOMF Lomont 75.53 337⇓*e*P P 02 41 32.0 +0.3
JCT Junction City 75.55 58 *e*P P 02 41 32.0 +0.1
JCT pmax pmax
comp=Z,287nm,1.0s
JCT Junction City 75.55 58 *e*P P 02 41 32.0 +0.1
comp=Z,286nm,1.0s
JCT Junction City 75.55 58 ⇓P P 02 41 32.0 +0.1
baz=75,SNR=92
ENEZ Enez 75.58 321 *e*P P 02 41 32.2 +0.3
JDG Jersey Dam (Ga 75.59 343⇓*e*P P 02 41 31.7 0.0
GONE Gonen-Balikesi 75.59 320 *e*P P 02 41 32.2 +0.2
JDC Jersey Dam (Cr 75.60 343⇓*i*P P 02 41 31.7 -0.1
334A Lometa 75.65 57 ⇓P P 02 41 32.6 +0.1
baz=75,SNR=164
DURS Dursunbey 75.67 319 *i*P P 02 41 30.9 -1.6
LPK Lapseki 75.67 320 *e*P P 02 41 32.9 +0.5
UALR University of 75.67 50 *e*P P 02 41 32.4 -0.1
comp=Z,89nm,0.9s
ACCN Adirondack Com 75.67 33 *e*P P 02 41 32.0 -0.4
comp=Z,410nm,1.0s
PLE Pljevlja 75.68 327⇓*i*P P 02 41 32.2 -0.4
RDF Al-Radifah 75.68 299 *e*P P 02 41 33.1 +0.4
RDF AMb AMB 02 41 35.0
comp=Z,5μm,1.4s
433A Art 75.68 58 ⇓P P 02 41 32.7 0.0
baz=76,SNR=117
GDZ Gediz 75.70 318 *i*P P 02 41 31.5 -1.3
KKB Krupnik 75.72 324 *i*P P 02 41 32.8 +0.1
FLN La Foliniere 75.73 342⇓*i*P P 02 41 32.7 +0.2
comp=Z,5μm,1.2s,baz=21
FLN *e*R
comp=Z,615nm,20.5s
FLN La Foliniere 75.73 342⇓*i*P P 02 41 32.7 +0.2
FLN pmax pmax
comp=Z,5μm,1.2s
FLN La Foliniere 75.73 342⇓*i*P P 02 41 32.7 +0.2
comp=Z,5μm,1.2s
SHUT Suhut-Afyon 75.73 317 *e*P P 02 41 33.4 +0.5
MMB Musomiste 75.73 323⇓*i*P P 02 41 33.0 +0.2
GNAR Gosnell 75.74 48 *e*P P 02 41 32.8 0.0
comp=Z,12μm,1.1s
TUE Stuetta 75.74 335 *e*P P 02 41 33.6 +0.6
comp=Z,734nm,0.9s
UDBI Udbina 75.74 330 P P 02 41 32.2 -0.6
GELI Tayfur-Gelibol 75.75 321 *e*P P 02 41 33.0 +0.2
532A Rocksprings 75.78 59 ⇓P P 02 41 33.3 0.0
baz=76,SNR=101
HBAR Harrisburg 75.79 49 *e*P P 02 41 33.4 +0.3
GLAT Glass 75.81 47 *e*P P 02 41 33.8 +0.6
LDF La Druitiere 75.82 342⇓*i*P P 02 41 33.1 0.0
comp=Z,3μm,1.2s
LDF La Druitiere 75.82 342⇓*i*P P 02 41 33.1 0.0
LDF pmax pmax
comp=Z,3μm,1.2s
LDF La Druitiere 75.82 342⇓*i*P P 02 41 33.1 0.0
comp=Z,3μm,1.2s
BALB Balikesir 75.86 319 *e*P P 02 41 33.6 +0.1
BALY Balya 75.88 319 *i*P P 02 41 33.2 -0.4
NVR Nevrokopi 75.89 323 P P 02 41 33.7 +0.1
NVR Nevrokopi 75.89 323 *e*P P 02 41 33.8 +0.1
IVA Berane 75.92 326⇓*i*P P 02 41 33.9 0.0
BINY Binghamton 75.95 35 *e*P P 02 41 33.3 -0.7
comp=Z,370nm,1.1s
BINY *e*PP **PP** 02 44 37.3 +1.0
UPM Unac-Piva 75.95 327⇓*i*P P 02 41 33.5 -0.7
KIZK Mersin 75.96 313 *i*P P 02 41 33.5 -0.6
KAVA Kavala 75.96 322 P P 02 41 33.9 -0.1
KAVA Kavala 75.96 322 *e*P P 02 41 33.8 -0.2
NVLJ Novalja 75.98 330 P P 02 41 33.4 -0.6
631A Perdido Creek 76.01 59 ⇑P P 02 41 34.7 +0.2
baz=76,SNR=164
SMTH Samothraki Isl 76.05 321 P P 02 41 33.9 -0.6
SMTH Samothraki Isl 76.05 321 *e*P P 02 41 33.8 -0.7
DEMI Demirci 76.05 318 *i*P P 02 41 33.0 -1.6
434A Burnet 76.05 57 ⇓P P 02 41 34.6 -0.1
baz=76,SNR=84
DZM Mont Dzumac 76.08 167 *e*P P 02 41 36.5 +1.7
comp=Z,456nm,1.5s
DZM *e*pP **pP** 02 43 47.5 +0.2
comp=Z,145nm,2.0s
DZM Mont Dzumac 76.08 167 P P 02 41 36.2 +1.4
DZM pP **pP** 02 43 49.7 +2.4
DZM Mont Dzumac 76.08 167 P P 02 41 36.2 +1.4
comp=Z,99nm,0.8s,baz=354,slow=8.3,SNR=37
DZM pP **pP** 02 43 49.7 +2.4
comp=Z,24nm,1.0s,baz=349,slow=4.3,SNR=3.2
HALT Halls 76.08 48 *e*P P 02 41 35.6 +0.8
NOUC Port Laguerre 76.09 167 *e*P P 02 41 35.7 +0.9
NOUC Port Laguerre 76.09 167 *e*P P 02 41 35.7 +0.9
335A Moody 76.09 56 ⇑P P 02 41 35.2 +0.3
baz=76,SNR=74
PVY Plav 76.15 326⇓*i*P P 02 41 34.7 -0.5
GRR Gorron 76.15 342⇓*i*P P 02 41 35.3 +0.4
comp=Z,6μm,1.1s
GRR Gorron 76.15 342⇓*i*P P 02 41 35.3 +0.4
GRR pmax pmax
comp=Z,6μm,1.1s
GRR Gorron 76.15 342⇓*i*P P 02 41 35.3 +0.4
comp=Z,6μm,1.1s
SRS Serrai 76.19 323 P P 02 41 34.3 -1.0
SRS Serrai 76.19 323 *e*P P 02 41 34.8 -0.5
SKO Skopje 76.20 325 P P 02 41 35.0 -0.3
SKO Skopje 76.20 325 *i*P P 02 41 34.5 -0.8
533A Kerrville 76.26 58 ⇓P P 02 41 36.1 +0.2
baz=76,SNR=65
NKY Niksic 76.27 327⇓*i*P P 02 41 35.1 -0.7
LOR Lormes 76.28 339⇓*i*P P 02 41 35.8 +0.1
comp=Z,4μm,1.2s,baz=26
LOR *e*R
comp=Z,1μm,19.8s
LOR Lormes 76.28 339⇓*i*P P 02 41 35.8 +0.1
comp=Z,4μm,1.2s
KHAL Karahalli 76.31 317 *i*P P 02 41 34.9 -1.2
NKME Niksic 76.33 327⇓*i*P P 02 41 35.1 -0.9
632A Uvalde 76.34 59 ⇑P P 02 41 36.5 +0.3
baz=76,SNR=56
BRY Bratogost 76.34 327⇓*i*P P 02 41 35.2 -1.0
IKL Isikli 76.36 313 *e*P P 02 41 35.9 -0.4
ISP Isparta 76.36 316 *e*P P 02 41 35.5 -0.9
ISP Isparta 76.36 316 P P 02 41 35.7 -0.7
ISP Isparta 76.36 316 *e*P P 02 41 35.4 -0.9
ISP *e**PP **pP** 02 43 50.7 +2.0
ISP pmax pmax
comp=Z,897nm,1.4s
ISP Isparta 76.36 316⇓*i*P P 02 41 35.7 -0.7
ISP Isparta 76.36 316 *e*P P 02 41 35.4 -0.9
comp=Z,897nm,1.4s
ISP *e*pP **pP** 02 43 50.7 +2.0
VAY Valandovo 76.38 324 P P 02 41 36.0 -0.3
VAY Valandovo 76.38 324 *i*P P 02 41 35.4 -0.8
KNT Kendrikon 76.40 323 P P 02 41 36.5 +0.1
KNT Kendrikon 76.40 323 *e*P P 02 41 36.3 -0.1
CABF La Chapelle 76.40 337⇓*i*P P 02 41 36.8 +0.4
comp=Z,3μm,1.3s
CABF La Chapelle 76.40 337⇓*i*P P 02 41 36.8 +0.4
CABF pmax pmax
comp=Z,3μm,1.3s
CABF La Chapelle 76.40 337⇓*i*P P 02 41 36.8 +0.4
comp=Z,3μm,1.3s
SUTC Sutluce-Ispart 76.46 316 *e*P P 02 41 36.7 -0.2
KULA Kula-Manisa 76.52 318 *e*P P 02 41 37.2 0.0
OG01 Vacheresse 76.53 337⇓*e*P P 02 41 37.5 +0.4
PDG Podgorica 76.53 327 P P 02 41 36.5 -0.5
TTG Podgorica 76.53 327⇓*i*P P 02 41 36.6 -0.5
SOH Sokhos 76.54 323 P P 02 41 35.8 -1.4
HYF Humbligny 76.54 340⇓*i*P P 02 41 37.7 +0.6
HYF Humbligny 76.54 340⇓*i*P P 02 41 37.7 +0.6
AKHS Akhisar 76.55 319 *i*P P 02 41 36.5 -0.7
SSF Saint Saulge 76.56 339⇓*i*P P 02 41 37.3 +0.2
comp=Z,1μm,1.2s
SSF Saint Saulge 76.56 339⇓*i*P P 02 41 37.3 +0.2
SSF pmax pmax
comp=Z,1μm,1.2s
SSF Saint Saulge 76.56 339⇓*i*P P 02 41 37.3 +0.2
comp=Z,1μm,1.2s
WVT Waverly 76.56 46 *e*P P 02 41 37.3 -0.1
WVT *e**PP **pP** 02 43 50.4 +0.6
WVT pmax pmax
comp=Z,484nm,1.3s
WVT Waverly 76.56 46 *e*P P 02 41 37.3 -0.1
comp=Z,484nm,1.3s
WVT *e*pP **pP** 02 43 50.4 +0.6
WVT *e*S S 02 50 21.7 -11
534A Blanco 76.58 58 ⇓P P 02 41 37.7 +0.1
baz=76,SNR=132
MANT Manisa 76.58 318 *i*P P 02 41 37.0 -0.8
SGMF Saint Gilles 76.58 343⇓*i*P P 02 41 37.7 +0.5
comp=Z,3μm,1.0s
SGMF Saint Gilles 76.58 343⇓*i*P P 02 41 37.7 +0.5
SGMF pmax pmax
comp=Z,3μm,1.0s
SGMF Saint Gilles 76.58 343⇓*i*P P 02 41 37.7 +0.5
comp=Z,3μm,1.0s
AYVA Ayvalik 76.61 320 *i*P P 02 41 36.4 -1.2
ROSF Rostrenen 76.63 344⇓*i*P P 02 41 37.9 +0.4
comp=Z,5μm,1.3s
ROSF Rostrenen 76.63 344⇓*i*P P 02 41 37.9 +0.4
ROSF pmax pmax
comp=Z,5μm,1.3s
ROSF Rostrenen 76.63 344⇓*i*P P 02 41 37.9 +0.4
comp=Z,5μm,1.3s
STON Ston 76.64 328 P P 02 41 36.2 -1.4
BCK Bucak 76.64 316 *e*P P 02 41 37.0 -0.8
LIA Limnos Island 76.67 321 P P 02 41 37.6 -0.3
LIA Limnos Island 76.67 321 *e*P P 02 41 37.3 -0.6
OUR Ouranopolis 76.74 322 *e*P P 02 41 37.8 -0.4
BUM Brajici-Budva 76.76 327⇓*i*P P 02 41 37.7 -0.7
HCY Herceg Novi 76.76 327⇓*i*P P 02 41 37.3 -1.0
MCWV Mont Chateau 76.78 39 *e*P P 02 41 38.5 0.0
comp=Z,359nm,0.9s
FKH Fakeheh 76.81 310 *e*P P 02 41 39.5 +0.6
PRK Paraskevi 76.83 320 P P 02 41 38.3 -0.5
PRK Paraskevi 76.83 320 *e*P P 02 41 38.2 -0.3
THE Thessaloniki 76.84 323 P P 02 41 37.5 -1.3
THE Thessaloniki 76.84 323 *e*P P 02 41 37.8 -1.0
AVF Avril sur Loir 76.85 339⇓*i*P P 02 41 39.0 +0.3
comp=Z,3μm,1.2s
AVF Avril sur Loir 76.85 339⇓*i*P P 02 41 39.0 +0.3
AVF pmax pmax
comp=Z,3μm,1.2s
AVF Avril sur Loir 76.85 339⇓*i*P P 02 41 39.0 +0.3
comp=Z,3μm,1.2s
732A Laxson Ranch, 76.87 59 ⇑P P 02 41 39.9 +0.8
baz=77,SNR=104
SMF Signal de Mont 76.88 339⇓*i*P P 02 41 39.2 +0.3
comp=Z,5μm,1.4s
SMF Signal de Mont 76.88 339⇓*i*P P 02 41 39.2 +0.3
SMF pmax pmax
comp=Z,5μm,1.4s
SMF Signal de Mont 76.88 339⇓*i*P P 02 41 39.2 +0.3
comp=Z,5μm,1.4s
PLG Polygyros 76.90 323 P P 02 41 38.6 -0.6
PLG Polygyros 76.90 323 *e*P P 02 41 38.6 -0.6
ULC Ulcinj 76.95 326⇓*i*P P 02 41 38.6 -0.8
GAZI Gazipasa 76.95 314 *i*P P 02 41 37.4 -2.1
HWQ Hawqa 77.00 311 *e*P P 02 41 39.7 -0.2
QUIF Quistinic 77.02 344⇓*i*P P 02 41 39.8 +0.2
comp=Z,2μm,0.9s
QUIF Quistinic 77.02 344⇓*i*P P 02 41 39.8 +0.2
QUIF pmax pmax
comp=Z,2μm,0.9s
QUIF Quistinic 77.02 344⇓*i*P P 02 41 39.8 +0.2
comp=Z,2μm,0.9s
SIGR SIGRI 77.02 320 P P 02 41 39.0 -0.7
SIGR SIGRI 77.02 320 *e*P P 02 41 38.8 -0.9
BIA Bitola 77.08 324 P P 02 41 39.0 -1.2
BIA Bitola 77.08 324 *i*P P 02 41 38.7 -1.5
ANTB Antalya 77.09 316 *e*P P 02 41 39.0 -1.2
HRV Adam Dziewonsk 77.14 32 *e*P P 02 41 40.4 0.0
HRV pmax pmax
comp=Z,340nm,1.0s
HRV Adam Dziewonsk 77.14 32 *e*P P 02 41 40.4 0.0
comp=Z,340nm,1.0s
RSL Roselend 77.14 336⇓*e*P P 02 41 41.1 +0.6
BGF Bois d'Agland 77.18 339⇓*i*P P 02 41 40.8 +0.3
comp=Z,2μm,1.2s
BGF Bois d'Agland 77.18 339⇓*i*P P 02 41 40.8 +0.3
BGF pmax pmax
comp=Z,2μm,1.2s
BGF Bois d'Agland 77.18 339⇓*i*P P 02 41 40.8 +0.3
comp=Z,2μm,1.2s
PAIG Paliouri 77.21 322 *e*P P 02 41 39.8 -0.9
OXF Oxford 77.22 49 *e*P P 02 41 41.0 0.0
OXF *e* 02 44 49.2
OXF *e*S S 02 50 32.1 -7.1
OXF pmax pmax
comp=Z,711nm,1.0s
OXF Oxford 77.22 49 *e*P P 02 41 41.0 0.0
comp=Z,711nm,1.0s
OXF *e*PP **PP** 02 44 49.1 +2.2
OXF *e*S S 02 50 32.1 -7.1
LFK Lefkose 77.23 313 *e*P P 02 41 41.0 -0.1
GOLH Golhisar 77.25 317 *i*P P 02 41 39.0 -2.2
FNA Florina 77.27 324 P P 02 41 40.5 -0.7
FNA Florina 77.27 324 *e*P P 02 41 40.3 -0.9
LPL La Plagne 77.28 336⇓*i*P P 02 41 42.4 +1.0
comp=Z,3μm,1.2s
LPL *e*pP **pP** 02 43 57.0 +2.9
LPL La Plagne 77.28 336⇓*i*P P 02 41 42.4 +1.0
LPL *e**PP **pP** 02 43 57.0 +2.9
LPL pmax pmax
comp=Z,3μm,1.2s
LPL La Plagne 77.28 336⇓*i*P P 02 41 42.4 +1.0
comp=Z,3μm,1.2s
LPL *e*pP **pP** 02 43 57.0 +2.9
LPG La Plagne 77.29 336⇓*i*P P 02 41 42.6 +1.1
comp=Z,5μm,1.2s
LPG La Plagne 77.29 336⇓*i*P P 02 41 42.6 +1.1
LPG pmax pmax
comp=Z,5μm,1.2s
LPG La Plagne 77.29 336⇓*i*P P 02 41 42.6 +1.1
comp=Z,5μm,1.2s
AYDB Zeytinkoy-Aydi 77.32 318 *e*P P 02 41 41.0 -0.6
BHL Bhannes 77.44 311 *e*P P 02 41 42.3 0.0
LIT Litokhoron 77.48 323 P P 02 41 41.3 -1.0
LIT Litokhoron 77.48 323 *e*P P 02 41 41.1 -1.0
ELL Elmali 77.53 316 *e*P P 02 41 42.5 -0.3
KZN Kozani 77.56 324 P P 02 41 41.8 -1.0
KZN Kozani 77.56 324 *e*P P 02 41 41.6 -1.2
TCF Toulx Ste Croi 77.57 340⇓*i*P P 02 41 43.1 +0.5
comp=Z,3μm,1.2s
TCF Toulx Ste Croi 77.57 340⇓*i*P P 02 41 43.1 +0.5
TCF pmax pmax
comp=Z,3μm,1.2s
TCF Toulx Ste Croi 77.57 340⇓*i*P P 02 41 43.1 +0.5
comp=Z,3μm,1.2s
AYDN Tasoluk 77.57 318 *i*P P 02 41 42.4 -0.5
CSS Prodhromos 77.59 313 *e*P P 02 41 42.8 -0.2
CSS Prodhromos 77.59 313 P P 02 41 43.0 +0.1
CSS Prodhromos 77.59 313 *e*P P 02 41 42.9 -0.1
comp=Z,275nm,1.0s
CSS *e*pP **pP** 02 43 57.0 +1.1
CSS *e*S **S** 02 50 41.6 -1.4
AGO Saint Agoulin 77.60 339⇓*e*P P 02 41 44.6 +1.8
VLC Villacollemand 77.61 333 *e*P P 02 41 43.1 +0.2
comp=Z,2μm,1.1s
VLC *e*S S 02 50 48.7 +5.7
LEF Lefka 77.65 313 *e*P P 02 41 42.7 -0.5
CHOS Chios island 77.66 320 *e*P P 02 41 42.9 -0.4
CHOS Chios island 77.66 320 P P 02 41 42.9 -0.4
CHOS Chios island 77.66 320 *e*P P 02 41 42.6 -0.7
RCY Rachaya 77.70 310 *e*P P 02 41 43.9 +0.2
NEST Nestorio 77.72 324 P P 02 41 43.2 -0.4
NEST Nestorio 77.72 324 *e*P P 02 41 42.7 -0.9
PAL Palisades 77.72 34 *e*P P 02 41 43.0 -0.5
PAL pmax pmax
comp=Z,356nm,1.0s
PAL Palisades 77.72 34 *e*P P 02 41 43.0 -0.5
comp=Z,356nm,1.0s
GDM Grand'Maison 77.72 337⇓*e*P P 02 41 44.6 +1.0
BNI Bardonecchia 77.73 336 *e*P P 02 41 44.4 +0.7
BNI *e* 02 44 52.0
BNI *e*S **S** 02 50 47.5 +3.1
BNI pmax pmax
comp=Z,2μm,1.4s
BNI Bardonecchia 77.73 336 *e*P P 02 41 44.4 +0.7
comp=Z,2μm,1.4s
BNI *e*PP **PP** 02 44 52.0 +1.2
BNI *e*S **S** 02 50 47.5 +3.1
MFF Saint Martin d 77.74 341⇓*i*P P 02 41 44.1 +0.6
comp=Z,3μm,1.2s
MFF Saint Martin d 77.74 341⇓*i*P P 02 41 44.1 +0.6
MFF pmax pmax
comp=Z,3μm,1.2s
MFF Saint Martin d 77.74 341⇓*i*P P 02 41 44.1 +0.6
comp=Z,3μm,1.2s
GRN Grenoble 77.77 337⇓*e*P P 02 41 44.9 +1.1
BRNJ Basking Ridge 77.78 35 *e*P P 02 41 42.9 -0.9
comp=Z,257nm,1.0s
LCHF La Chataignera 77.79 342⇓*e*P P 02 41 44.6 +0.9
GCAM G?zelcaml? 77.79 319 *i*P P 02 41 42.3 -1.6
AOS Alonnisos 77.80 322 *e*P P 02 41 43.4 -0.6
AOS Alonnisos 77.80 322 P P 02 41 43.3 -0.6
AOS Alonnisos 77.80 322 *e*P P 02 41 43.0 -0.9
XOR Xorichti 77.88 322 P P 02 41 43.3 -1.1
XOR Xorichti 77.88 322 *e*P P 02 41 43.4 -1.0
CPNY Central Park 77.89 34 *e*P P 02 41 44.5 +0.1
comp=Z,440nm,1.1s
PYM Petit Puy Mans 77.91 339⇓*e*P P 02 41 46.2 +1.7
NEO Neokhori 77.92 322 P P 02 41 43.5 -1.1
NEO Neokhori 77.92 322 *e*P P 02 41 43.5 -1.1
FYTO Fytoko, Volos 77.93 323 P P 02 41 43.9 -0.8
SMG Samos 77.94 319 P P 02 41 42.1 -2.7
SMG Samos 77.94 319 *e*P P 02 41 43.7 -1.1
SKIA Skiathos 77.95 322 P P 02 41 43.9 -0.9
SKIA Skiathos 77.95 322 *e*P P 02 41 43.8 -1.0
HKT Hockley 77.97 56 *e*P P 02 41 45.7 +0.8
HKT pmax pmax
comp=Z,232nm,1.4s
HKT Hockley 77.97 56 *e*P P 02 41 45.7 +0.8
comp=Z,232nm,1.4s
DALY Dalyan (Mu'la 77.99 317 *e*P P 02 41 45.2 +0.3
MBDF Montbardon 78.01 336⇓*i*P P 02 41 45.6 +0.4
comp=Z,744nm,0.8s
MBDF Montbardon 78.01 336⇓*i*P P 02 41 45.6 +0.4
MBDF pmax pmax
comp=Z,744nm,0.8s
MBDF Montbardon 78.01 336⇓*i*P P 02 41 45.6 +0.4
comp=Z,744nm,0.8s
SSB Saint Sauveur 78.02 338⇓*e*P P 02 41 45.7 +0.6
SSB Saint Sauveur 78.02 338 *e*P P 02 41 45.6 +0.5
SSB pmax pmax
comp=Z,1μm,1.0s
SSB Saint Sauveur 78.02 338 *e*P P 02 41 45.6 +0.5
comp=Z,1μm,1.0s
VERF Verneugheol 78.02 339⇓*e*P P 02 41 45.5 +0.4
ORIF Oris-en-Rattie 78.05 337⇓*i*P P 02 41 46.2 +0.9
comp=Z,722nm,0.6s
ORIF *e*R
comp=Z,1μm,19.5s
ORIF Oris-en-Rattie 78.05 337⇓*i*P P 02 41 46.2 +0.9
ORIF pmax pmax
comp=Z,722nm,0.6s
ORIF Oris-en-Rattie 78.05 337⇓*i*P P 02 41 46.2 +0.9
comp=Z,722nm,0.6s
AKAS Kas 78.10 316 *i*P P 02 41 44.1 -1.7
SDMD Soldier's Deli 78.11 37 *e*P P 02 41 45.4 -0.3
comp=Z,251nm,1.0s
SWET Sewanee 78.16 46 *e*P P 02 41 45.3 -0.7
comp=Z,815nm,1.2s
KSL Kastellorizon 78.18 316 *e*P P 02 41 45.4 -0.6
SURF Saint Ours 78.23 336⇓*e*P P 02 41 47.2 +0.8
BDRM Kayabasi 78.26 318 *i*P P 02 41 45.2 -1.2
MMAI Mount Meron Ar 78.30 310 P P 02 41 47.4 +0.6
MMAI pP **pP** 02 44 01.3 +1.1
MMAI S **S** 02 50 50.0 -0.5
MMAI Mount Meron Ar 78.30 310 P P 02 41 47.4 +0.6
comp=Z,632nm,0.6s,baz=33,slow=6.9,SNR=1153
MMAI pP **pP** 02 44 01.3 +1.1
comp=Z,106nm,1.2s,baz=39,slow=5.5,SNR=4.5
MMAI S **S** 02 50 50.0 -0.5
comp=Z,7.1nm,1.1s,baz=355,slow=14,SNR=2.5
SMIA Simia 78.30 322 P P 02 41 45.7 -0.9
SMIA Simia 78.30 322 *e*P P 02 41 45.8 -0.9
ASF Jabal al Asfar 78.31 309 P P 02 41 47.5 +0.5
ASF S **S** 02 50 50.8 0.0
ASF Jabal al Asfar 78.31 309 P P 02 41 47.5 +0.5
comp=Z,592nm,1.1s,baz=13,slow=0.7,SNR=452
ASF S **S** 02 50 50.8 0.0
comp=Z,1.3nm,0.4s,baz=37,slow=20,SNR=13
MRKA Markates 78.31 322 P P 02 41 45.8 -1.0
MRKA Markates 78.31 322 *e*P P 02 41 45.7 -1.0
BODT Bodrum 78.31 318 *e*P P 02 41 45.9 -0.9
LBL Lubilhac 78.35 339⇓*e*P P 02 41 48.7 +1.8
VIVF Saint-Julien-l 78.39 337⇓*i*P P 02 41 47.8 +0.8

	comp=Z,2µm,1.2s								
VIVF	**Saint-Julien-I**	**78.39**	**337**	⇓	*i*P		**P**	**02 41 47.8**	**+0.8**
VIVF					pmax		pmax		
	comp=Z,2µm,1.2s								
VIVF	**Saint-Julien-I**	**78.39**	**337**	⇓	*i*P		**P**	**02 41 47.8**	**+0.8**
	comp=Z,2µm,1.2s								
EIDS	**Eidsvold**	**78.45**	**182**		*e*P		**P**	**02 41 48.0**	**+0.6**
	comp=Z,115nm,0.9s								
EIDS					*e*pP		**pP**	**02 44 01.1**	**+0.1**
JAN	**Janina**	**78.46**	**324**		P		**P**	**02 41 47.6**	**+0.1**
JAN	**Janina**	**78.46**	**324**		*e*P		**P**	**02 41 47.4**	**-0.1**
ERET	**Eretria**	**78.46**	**321**		P		**P**	**02 41 46.8**	**-0.8**
AS31	**Alice Springs**	**78.47**	**198**		*e*P		**P**	**02 41 48.3**	**+0.7**
AS31					*e*S		**S**	**02 50 53.8**	**+1.6**
ASAR	**Alice Springs**	**78.47**	**198**		P		**P**	**02 41 48.5**	**+0.8**
ASAR					pP		**pP**	**02 44 03.2**	**+2.0**
ASAR					S		**S**	**02 50 53.0**	**+0.8**
ASAR					PKKP		**PKKPdf**	**03 00 24.6**	**-0.8**
ASAR					PKKPbc		**PKKPbc**	**03 00 36.2**	**+0.5**
ASAR					P'P'			03 08 41.9	
ASAR	**Alice Springs**	**78.47**	**198**		P		**P**	**02 41 48.5**	**+0.8**
	comp=Z,589nm,0.7s,baz=12,slow=5.7,SNR=3459								
ASAR					pP		**pP**	**02 44 03.2**	**+2.0**
	comp=Z,22nm,0.8s,baz=11,slow=5.7,SNR=4.1								
ASAR					S		**S**	**02 50 53.0**	**+0.8**
	comp=Z,38nm,1.1s,baz=1.7,slow=7.0,SNR=19								
ASAR					PKKP		**PKKPdf**	**03 00 24.6**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=198,slow=4.6,SNR=3.0								
ASAR					PKKPbc		**PKKPbc**	**03 00 36.2**	**+0.5**
	comp=Z,6.9nm,0.7s,baz=196,slow=2.1,SNR=19								
ASAR					PKPPKP		**P'P'df**	**03 08 41.9**	**+3.3**
	comp=Z,13nm,1.0s,baz=166,slow=1.2,SNR=6.5								
AGG	**Agios Georgios**	**78.50**	**323**		P		**P**	**02 41 45.8**	**-2.0**
AGG	**Agios Georgios**	**78.50**	**323**		*e*P		**P**	**02 41 45.7**	**-2.0**
OG26	**St.-Nazaire-De**	**78.50**	**337**	⇓	*e*P		**P**	**02 41 48.8**	**+1.1**
SAOF	**Saorge**	**78.51**	**335**	⇓	*e*P		**P**	**02 41 47.7**	**0.0**
AUTN	**L'Aution**	**78.54**	**335**	⇓	*e*P		**P**	**02 41 48.0**	**-0.1**
CPCT	**Cooper Cave**	**78.55**	**45**		*e*P		**P**	**02 41 47.6**	**-0.5**
TOUF	**Mont Tournerai**	**78.56**	**335**	⇓	*e*P		**P**	**02 41 48.3**	**+0.1**
MAKR	**Makrakomi, Fth**	**78.57**	**323**		P		**P**	**02 41 46.7**	**-1.4**
MAKR	**Makrakomi, Fth**	**78.57**	**323**		*e*P		**P**	**02 41 46.9**	**-1.2**
LKR	**Lokris**	**78.58**	**322**		P		**P**	**02 41 46.5**	**-1.6**
LKR	**Lokris**	**78.58**	**322**		*e*P		**P**	**02 41 46.7**	**-1.4**
AXAR	**Agios Charalam**	**78.60**	**322**		P		**P**	**02 41 46.8**	**-1.5**
RJF	**Les Rejaudoux**	**78.65**	**340**	⇓	*i*P		**P**	**02 41 48.8**	**+0.4**
	comp=Z,2µm,1.3s								
RJF					*e*R				
	comp=Z,1µm,21.8s								
RJF	**Les Rejaudoux**	**78.65**	**340**	⇓	*i*P		**P**	**02 41 48.8**	**+0.4**
RJF					pmax		pmax		
	comp=Z,2µm,1.3s								
RJF	**Les Rejaudoux**	**78.65**	**340**	⇓	*i*P		**P**	**02 41 48.8**	**+0.4**
	comp=Z,2µm,1.3s								
LUCF	**Luceram**	**78.65**	**335**	⇓	*e*P		**P**	**02 41 48.7**	**+0.2**
SBF	**Sospel**	**78.66**	**335**	⇓	*i*P		**P**	**02 41 48.5**	**0.0**
	comp=Z,4µm,1.1s								
SBF	**Sospel**	**78.66**	**335**	⇓	*i*P		**P**	**02 41 48.5**	**0.0**
SBF					pmax		pmax		
	comp=Z,4µm,1.1s								
SBF	**Sospel**	**78.66**	**335**	⇓	*i*P		**P**	**02 41 48.5**	**0.0**
	comp=Z,4µm,1.1s								
TKL	**Tuckaleechee C**	**78.69**	**44**		*e*P		**P**	**02 41 48.2**	**-0.5**
BLA	**Blacksburg**	**78.69**	**41**		*e*P		**P**	**02 41 48.5**	**-0.3**
BLA					pmax		pmax		
	comp=Z,402nm,1.0s								
BLA	**Blacksburg**	**78.69**	**41**		*e*P		**P**	**02 41 48.5**	**-0.3**
	comp=Z,402nm,1.0s								
MVIF	**Mont Vial**	**78.70**	**335**	⇓	*e*P		**P**	**02 41 48.9**	**+0.1**
ARG	**Arkhangelos**	**78.72**	**317**		P		**P**	**02 41 48.5**	**-0.4**
ARG	**Arkhangelos**	**78.72**	**317**		*e*P		**P**	**02 41 48.3**	**-0.6**
IGT	**Igoumenitsa**	**78.75**	**324**		*e*P		**P**	**02 41 48.0**	**-1.0**
KEK	**Kerkira**	**78.78**	**325**		P		**P**	**02 41 48.5**	**-0.6**
KEK	**Kerkira**	**78.78**	**325**		*e*P		**P**	**02 41 48.2**	**-0.9**
EVR	**Evrytania**	**78.78**	**323**		P		**P**	**02 41 48.1**	**-1.2**
EVR	**Evrytania**	**78.78**	**323**		*e*P		**P**	**02 41 48.0**	**-1.2**
PTL	**Penteli**	**78.79**	**321**		P		**P**	**02 41 47.9**	**-1.4**
PTL	**Penteli**	**78.79**	**321**		*e*P		**P**	**02 41 47.8**	**-1.5**
REVF	**Revere**	**78.79**	**335**	⇓	*e*P		**P**	**02 41 49.4**	**+0.2**
VIL2	**Platees**	**78.87**	**322**		*e*P		**P**	**02 41 48.4**	**-1.3**
ATHU	**Athens Univers**	**78.89**	**321**		P		**P**	**02 41 48.2**	**-1.6**
VILL	**Villia**	**78.89**	**322**		P		**P**	**02 41 47.5**	**-2.3**
CAF	**Calviac**	**78.90**	**339**	⇓	*i*P		**P**	**02 41 50.6**	**+0.9**
	comp=Z,2µm,1.1s								
CAF	**Calviac**	**78.90**	**339**	⇓	*i*P		**P**	**02 41 50.6**	**+0.9**
CAF					pmax		pmax		
	comp=Z,2µm,1.1s								
CAF	**Calviac**	**78.90**	**339**	⇓	*i*P		**P**	**02 41 50.6**	**+0.9**
	comp=Z,2µm,1.1s								
CALN	**Calern**	**78.90**	**336**	⇓	*e*P		**P**	**02 41 50.1**	**+0.2**
STOF	**St-Etienne Org**	**78.91**	**336**		*e*P		**P**	**02 41 50.7**	**+0.9**
ATH	**Athens Observa**	**78.91**	**321**		P		**P**	**02 41 48.3**	**-1.6**
ATH	**Athens Observa**	**78.91**	**321**		*e*P		**P**	**02 41 48.2**	**-1.6**
DESF	**Desfina**	**78.96**	**322**		*e*P		**P**	**02 41 47.7**	**-2.5**
CBN	**Corbin**	**78.98**	**38**		*e*P		**P**	**02 41 50.2**	**0.0**
	comp=Z,402nm,0.8s								
SMRF	**Simiane la Rot**	**79.01**	**337**	⇓	*i*P		**P**	**02 41 51.1**	**+0.8**
	comp=Z,2µm,1.3s								
SMRF	**Simiane la Rot**	**79.01**	**337**	⇓	*i*P		**P**	**02 41 51.1**	**+0.8**
	comp=Z,2µm,1.3s								
APE	**Apeiranthos**	**79.01**	**320**		*e*P		**P**	**02 41 48.6**	**-1.9**
APE	**Apeiranthos**	**79.01**	**320**		P		**P**	**02 41 48.3**	**-2.2**
APE	**Apeiranthos**	**79.01**	**320**	*d*	*i*P		**P**	**02 41 48.2**	**-2.2**
APE					pmax		pmax		
	comp=Z,288nm,1.2s								
APE	**Apeiranthos**	**79.01**	**320**		*e*P		**P**	**02 41 48.2**	**-2.2**
APE	**Apeiranthos**	**79.01**	**320**	⇓	*i*P		**P**	**02 41 48.3**	**-2.2**
KALE	**Kalithea**	**79.12**	**323**		P		**P**	**02 41 49.4**	**-1.7**
KALE	**Kalithea**	**79.12**	**323**		*e*P		**P**	**02 41 49.2**	**-1.9**
FRF	**La Foret Royal**	**79.14**	**336**	⇓	*i*P		**P**	**02 41 51.0**	**0.0**
	comp=Z,1µm,1.3s								
FRF	**La Foret Royal**	**79.14**	**336**	⇓	*i*P		**P**	**02 41 51.0**	**0.0**
FRF					pmax		pmax		
	comp=Z,1µm,1.3s								
FRF	**La Foret Royal**	**79.14**	**336**	⇓	*i*P		**P**	**02 41 51.0**	**0.0**
	comp=Z,1µm,1.3s								
LFF	**La Frestale**	**79.16**	**340**	⇓	*i*P		**P**	**02 41 51.9**	**+0.9**
	comp=Z,4µm,1.1s								
LFF	**La Frestale**	**79.16**	**340**	⇓	*i*P		**P**	**02 41 51.9**	**+0.9**
LFF					pmax		pmax		
	comp=Z,4µm,1.1s								
LFF	**La Frestale**	**79.16**	**340**	⇓	*i*P		**P**	**02 41 51.9**	**+0.9**
	comp=Z,4µm,1.1s								
NAIG	**Nisos Aigina**	**79.18**	**321**		*e*P		**P**	**02 41 49.1**	**-2.2**
TAVF	**Tavernes**	**79.23**	**336**		*e*P		**P**	**02 41 52.2**	**+0.7**
JSRW	**J. Sargeant Re**	**79.25**	**39**		*e*P		**P**	**02 41 51.1**	**-0.5**
PSA1	**Psathopyrgos**	**79.27**	**323**		*e*P		**P**	**02 41 50.7**	**-1.0**
LKD2	**Lefkada island**	**79.30**	**324**		P		**P**	**02 41 50.8**	**-1.1**
LKD2	**Lefkada island**	**79.30**	**324**		*e*P		**P**	**02 41 51.0**	**-0.9**
LASF	**Ste Croix**	**79.31**	**338**	⇓	*i*P		**P**	**02 41 52.9**	**+1.0**
	comp=Z,2µm,1.3s								
LASF	**Ste Croix**	**79.31**	**338**	⇓	*i*P		**P**	**02 41 52.9**	**+1.0**
	comp=Z,2µm,1.3s								
LAKA	**Lakka**	**79.31**	**323**		P		**P**	**02 41 50.9**	**-1.1**
LAKA	**Lakka**	**79.31**	**323**		*e*P		**P**	**02 41 50.5**	**-1.5**
TREF	**Trevaresse**	**79.39**	**337**		*e*P		**P**	**02 41 53.6**	**+1.3**
LMR	**La Mourre**	**79.39**	**336**	⇓	*i*P		**P**	**02 41 52.6**	**+0.3**
	comp=Z,3µm,1.2s								
LMR	**La Mourre**	**79.39**	**336**	⇓	*i*P		**P**	**02 41 52.6**	**+0.3**
LMR					pmax		pmax		
	comp=Z,3µm,1.2s								
LMR	**La Mourre**	**79.39**	**336**	⇓	*i*P		**P**	**02 41 52.6**	**+0.3**
	comp=Z,3µm,1.2s								
KLV	**Kalavryta, Ach**	**79.43**	**322**		P		**P**	**02 41 51.3**	**-1.4**
KLV	**Kalavryta, Ach**	**79.43**	**322**		*e*P		**P**	**02 41 51.1**	**-1.6**
PGF	**Pioggiola**	**79.48**	**334**	⇓	*i*P		**P**	**02 41 52.9**	**0.0**
	comp=Z,2µm,1.1s								
PGF	**Pioggiola**	**79.48**	**334**	⇓	*i*P		**P**	**02 41 52.9**	**0.0**
PGF					pmax		pmax		
	comp=Z,2µm,1.1s								
PGF	**Pioggiola**	**79.48**	**334**	⇓	*i*P		**P**	**02 41 52.9**	**0.0**
	comp=Z,2µm,1.1s								
LRAL	**Lakeview Retre**	**79.54**	**48**		*e*P		**P**	**02 41 52.5**	**-0.8**
	comp=Z,166nm,0.8s								
LRAL					*e*S		**S**	**02 50 60.0**	**-3.2**
MBWA	**Marble Bar**	**79.57**	**211**		*e*P		**P**	**02 41 52.8**	**-0.6**
	comp=Z,428nm,0.8s								
GELF	**Grande-Etoile**	**79.60**	**336**		*e*P		**P**	**02 41 54.3**	**+0.9**
BERF	**Bertagne**	**79.61**	**336**		*e*P		**P**	**02 41 54.3**	**+0.8**
SANT	**Santorini**	**79.65**	**319**		*e*P		**P**	**02 41 51.0**	**-2.8**
SANT	**Santorini**	**79.65**	**319**		P		P	02 41 48.6	-5.2
SANT	**Santorini**	**79.65**	**319**		*e*P		**P**	**02 41 50.8**	**-3.1**
SANT	**Santorini**	**79.65**	**319**		*e*P		**P**	**02 41 50.7**	**-3.1**
	comp=Z,186nm,0.9s								
RLS	**Riolos of Patr**	**79.66**	**323**		P		**P**	**02 41 53.3**	**-0.5**
RLS	**Riolos of Patr**	**79.66**	**323**		*e*P		**P**	**02 41 53.2**	**-0.5**
KARP	**Karpathos**	**79.69**	**318**		P		**P**	**02 41 52.4**	**-1.6**
KARP	**Karpathos**	**79.69**	**318**		*e*P		**P**	**02 41 52.6**	**-1.4**
CUC	**Castrocucco**	**79.84**	**328**		*e*P		**P**	**02 41 53.6**	**-1.2**
	comp=Z,487nm,1.2s								
CUC					*e*pP		**pP**	**02 44 08.5**	**-0.3**
VLS	**Valsamata**	**79.87**	**324**		P		**P**	**02 41 54.4**	**-0.5**
VLS	**Valsamata**	**79.87**	**324**		*e*P		**P**	**02 41 53.8**	**-1.1**
KMSC	**Kings Mountain**	**80.13**	**42**		*e*P		**P**	**02 41 55.9**	**-0.4**
KMSC	**Kings Mountain**	**80.13**	**42**	⇑	P		**P**	**02 41 56.1**	**-0.2**
	baz=80,SNR=61								
OSPF	**L'Ospedale**	**80.26**	**333**	⇓	*e*P		**P**	**02 41 57.2**	**+0.3**
ITM	**Ithomi**	**80.27**	**322**		P		**P**	**02 41 55.7**	**-1.3**
ITM	**Ithomi**	**80.27**	**322**		*e*P		**P**	**02 41 55.5**	**-1.5**
TIP	**Timpagrande**	**80.28**	**327**		P		**P**	**02 41 56.9**	**-0.1**
TIP	**Timpagrande**	**80.28**	**327**		*e*P		**P**	**02 41 57.0**	**-0.1**
	comp=Z,783nm,1.2s								
TIP					*e*pP		**pP**	**02 44 12.8**	**+1.5**
VLI	**Veliai**	**80.31**	**321**		P		**P**	**02 41 54.4**	**-2.8**
VLI	**Veliai**	**80.31**	**321**		*e*P		**P**	**02 41 54.2**	**-3.0**
MTLF	**Montolieu**	**80.38**	**339**	⇓	*i*P		**P**	**02 41 58.2**	**+0.8**
	comp=Z,2µm,1.2s								
MTLF	**Montolieu**	**80.38**	**339**	⇓	*i*P		**P**	**02 41 58.2**	**+0.8**
MTLF					pmax		pmax		
	comp=Z,2µm,1.2s								
MTLF	**Montolieu**	**80.38**	**339**	⇓	*i*P		**P**	**02 41 58.2**	**+0.8**
	comp=Z,2µm,1.2s								
ZKR	**Zakros**	**80.44**	**318**		*e*P		**P**	**02 41 57.1**	**-0.8**
ZKR	**Zakros**	**80.44**	**318**		P		**P**	**02 41 57.1**	**-0.8**
ZKR	**Zakros**	**80.44**	**318**		*e*P		**P**	**02 41 56.6**	**-1.3**
NPS	**Neapolis**	**80.55**	**319**		P		**P**	**02 41 56.4**	**-2.1**
NPS	**Neapolis**	**80.55**	**319**		*e*P		**P**	**02 41 56.4**	**-2.1**
LAST	**Lasithi**	**80.70**	**319**		*e*P		**P**	**02 41 57.6**	**-1.7**
COCO	**West Island**	**80.81**	**235**		P		**P**	**02 42 00.9**	**+1.0**
	SNR=8.5								
COCO	**West Island**	**80.81**	**235**		*e*P		**P**	**02 42 00.2**	**+0.3**
COCO					pmax		pmax		
	comp=Z,1µm,1.3s								
COCO	**West Island**	**80.81**	**235**		*e*P		**P**	**02 42 00.2**	**+0.3**
	comp=Z,1µm,1.3s								
COCO	**West Island**	**80.81**	**235**		P		**P**	**02 42 00.6**	**+0.7**
	comp=Z,4µm,1.1s,SNR=11								
IDI	**Anoyia**	**80.82**	**319**		*e*P		**P**	**02 41 57.6**	**-2.3**
IDI	**Anoyia**	**80.82**	**319**		P		**P**	**02 41 57.5**	**-2.4**
IDI	**Anoyia**	**80.82**	**319**		*e*P		**P**	**02 41 57.4**	**-2.4**
IDI	**Anoyia**	**80.82**	**319**		*e*P		**P**	**02 41 57.6**	**-2.3**
	comp=Z,613nm,1.1s								
IDI					S		S	02 51 05.7	-10
IDI					PKKPbc		**PKKPbc**	**03 00 31.6**	**+1.6**
IDI	**Anoyia**	**80.82**	**319**		S		S	02 51 05.7	-10
	comp=Z,28nm,1.0s,baz=46,slow=11,SNR=9.4								
IDI					PKKPbc		**PKKPbc**	**03 00 31.6**	**+1.6**
	comp=Z,7.0nm,0.5s,baz=185,slow=8.1,SNR=9.8								
ANKY	**Antikythira Is**	**80.92**	**321**		*e*P		**P**	**02 41 58.7**	**-1.6**
VAM	**Vamos**	**80.98**	**320**		P		**P**	**02 41 58.0**	**-2.6**
VAM	**Vamos**	**80.98**	**320**		*e*P		**P**	**02 41 59.2**	**-1.4**
MLS	**Moulis**	**80.98**	**339**	⇓	*e*P		**P**	**02 42 01.1**	**+0.5**
FILF	**Fillols**	**81.05**	**338**	⇓	*e*P		**P**	**02 42 01.6**	**+0.7**
SJAF	**Saint Jean de**	**81.05**	**338**	⇓	*e*P		**P**	**02 42 00.8**	**-0.1**
EPF	**Esparros**	**81.07**	**340**	⇓	*i*P		**P**	**02 42 00.9**	**-0.1**
	comp=Z,313nm,0.5s								
EPF	**Esparros**	**81.07**	**340**	⇓	*i*P		**P**	**02 42 00.9**	**-0.1**
EPF					pmax		pmax		
	comp=Z,313nm,0.5s								
EPF	**Esparros**	**81.07**	**340**	⇓	*i*P		**P**	**02 42 00.9**	**-0.1**
	comp=Z,313nm,0.5s								
SIVA	**Sivas**	**81.08**	**319**		*e*P		**P**	**02 41 59.8**	**-1.4**
SIVA	**Sivas**	**81.08**	**319**		P		**P**	**02 42 00.3**	**-0.9**
SIVA	**Sivas**	**81.08**	**319**		*e*P		**P**	**02 41 59.9**	**-1.3**
LABF	**Labassere**	**81.11**	**340**	⇓	*e*P		**P**	**02 42 00.7**	**-0.5**
MELF	**Melles**	**81.14**	**340**	⇓	*e*P		**P**	**02 42 01.1**	**-0.3**
ORDF	**Ordiarp**	**81.15**	**341**	⇓	*e*P		**P**	**02 42 01.0**	**-0.4**
OSSF	**Osses**	**81.17**	**341**	⇓	*e*P		**P**	**02 42 01.0**	**-0.5**
ATE	**Arette**	**81.23**	**341**	⇓	*e*P		**P**	**02 42 01.3**	**-0.5**
BRAL	**Brewton**	**81.23**	**49**		*e*P		**P**	**02 42 02.5**	**+0.5**
	comp=Z,1µm,1.3s								
VIEF	**Viey**	**81.28**	**340**	⇓	*e*P		**P**	**02 42 02.6**	**+0.5**
RESF	**Ens**	**81.28**	**340**	⇓	*e*P		**P**	**02 42 02.9**	**+0.7**
SJPF	**Ste Jean**	**81.30**	**341**	⇓	*i*P		**P**	**02 42 02.0**	**-0.2**
	comp=Z,192nm,0.7s								
SJPF	**Ste Jean**	**81.30**	**341**	⇓	*i*P		**P**	**02 42 02.0**	**-0.2**
SJPF					pmax		pmax		
	comp=Z,192nm,0.7s								
SJPF	**Ste Jean**	**81.30**	**341**	⇓	*i*P		**P**	**02 42 02.0**	**-0.2**
	comp=Z,192nm,0.7s								
EIL	**Elat**	**81.32**	**309**		P		**P**	**02 42 02.9**	**+0.4**
EIL					S		**S**	**02 51 19.1**	**-2.0**
EIL	**Elat**	**81.32**	**309**		P		**P**	**02 42 02.9**	**+0.4**
	comp=Z,785nm,0.9s,baz=12,slow=3.7								
EIL					S		**S**	**02 51 19.1**	**-2.0**
	comp=Z,6.5nm,1.0s,baz=112,slow=23,SNR=11								
VALF	**Valcebollere**	**81.32**	**339**	⇓	*e*P		**P**	**02 42 03.0**	**+0.6**
LARF	**Larrau**	**81.33**	**341**	⇓	*e*P		**P**	**02 42 02.5**	**+0.1**
ETSF	**Etsaut**	**81.38**	**341**	⇓	*i*P		**P**	**02 42 03.1**	**+0.5**
	comp=Z,570nm,0.7s								
ETSF	**Etsaut**	**81.38**	**341**	⇓	*i*P		**P**	**02 42 03.1**	**+0.5**
ETSF					pmax		pmax		
	comp=Z,570nm,0.7s								
ETSF	**Etsaut**	**81.38**	**341**	⇓	*i*P		**P**	**02 42 03.1**	**+0.5**
	comp=Z,570nm,0.7s								
CEL	**Celeste**	**81.39**	**327**		*e*P		**P**	**02 42 01.0**	**-1.8**
	comp=Z,303nm,1.0s								
CNNC	**Cliffs of the**	**81.40**	**40**		*e*P		**P**	**02 42 03.0**	**+0.2**
	comp=Z,918nm,1.1s								
GVD	**Gavdhos**	**81.52**	**320**		P		**P**	**02 42 02.0**	**-1.4**
GVD	**Gavdhos**	**81.52**	**320**		*e*P		**P**	**02 42 02.2**	**-1.2**
GVD	**Gavdhos**	**81.52**	**320**		*e*P		**P**	**02 42 02.0**	**-1.4**
	comp=Z,4µm,1.4s								
GVD					*e*pP		**pP**	**02 44 19.0**	**+0.8**
VSL	**Villasalto**	**82.23**	**332**		*e*P		**P**	**02 42 07.0**	**+0.1**
	comp=Z,1µm,1.2s								
VSL					*e*			02 45 25.6	
TIGA	**Tifton**	**82.39**	**46**		*e*P		**P**	**02 42 08.2**	**+0.4**
TIGA					*e*pP		**pP**	**02 44 25.2**	**+2.1**
TIGA	**Tifton**	**82.39**	**46**	⇑	P		**P**	**02 42 08.7**	**+0.8**
	baz=82,SNR=43								
ARMA	**Armidale**	**83.47**	**181**		*e*P		**P**	**02 42 13.9**	**+0.8**
	comp=Z,129nm,1.1s								
ARMA					*e*pP		**pP**	**02 44 29.7**	**+0.6**
PBRG	**Braganca**	**83.55**	**345**		*e*P		**P**	**02 42 12.7**	**-0.8**
	comp=Z,350nm,1.2s								
PGAV	**Gavieira, Arco**	**83.62**	**346**		*e*P		**P**	**02 42 13.3**	**-0.6**
	comp=Z,544nm,1.2s								
PCAB	**Cabril**	**83.83**	**346**		*e*P		**P**	**02 42 14.0**	**-0.9**
	comp=Z,483nm,1.2s								
WDD	**Wield Dalam**	**84.02**	**327**		*e*P		**P**	**02 42 15.5**	**-0.3**
	comp=Z,3µm,1.2s								
POLO	**Lame de Olo**	**84.13**	**345**		*e*P		**P**	**02 42 15.7**	**-0.7**
	comp=Z,519nm,1.1s								
PVRL	**Vila Real**	**84.21**	**345**		*e*P		**P**	**02 42 16.1**	**-0.6**
	comp=Z,1µm,1.1s								
MVO	**Moncorvo**	**84.22**	**345**		*e*P		**P**	**02 42 15.8**	**-1.0**
	comp=Z,708nm,1.2s								
PTO	**Porto**	**84.48**	**346**		*e*P		**P**	**02 42 17.0**	**-0.9**
	comp=Z,424nm,1.6s								
PVIS	**Viseu**	**84.79**	**345**		*e*P		**P**	**02 42 18.5**	**-1.0**
	comp=Z,646nm,1.3s								
RAR	**Rarotonga**	**84.84**	**136**		P		**P**	**02 42 20.6**	**+0.8**
RAR	**Rarotonga**	**84.84**	**136**		P		**P**	**02 42 20.6**	**+0.8**
	comp=Z,52nm,0.9s,baz=270,slow=6.7,SNR=9.1								
PMOR	**Pomariorio Ree**	**84.87**	**123**		*e*P		**P**	**02 42 22.0**	**+1.9**
	comp=Z,147nm,1.0s								
MTE	**Manteigas**	**85.05**	**345**		*e*P		**P**	**02 42 20.0**	**-0.8**
	comp=Z,589nm,1.2s								
MTE	**Manteigas**	**85.05**	**345**		*e*P		**P**	**02 42 19.8**	**-1.0**
	comp=Z,351nm,0.8s								
ESDC	**Sonseca Array**	**85.15**	**342**		P		**P**	**02 42 20.5**	**-0.8**
ESDC					pP		**pP**	**02 44 38.9**	**+1.1**
ESDC					PP		**PP**	**02 45 53.1**	**+2.7**
ESDC					S		**S**	**02 51 53.8**	**-4.5**
ESDC					PKKPbc		**PKKPbc**	**03 00 20.8**	**+0.2**
ESDC					P'P'			03 08 24.0	
ESDC	**Sonseca Array**	**85.15**	**342**		P		**P**	**02 42 20.5**	**-0.8**
	comp=Z,57nm,0.4s,baz=8.0,slow=4.3,SNR=381								
ESDC					pP		**pP**	**02 44 38.9**	**+1.1**
	comp=Z,20nm,0.9s,baz=7.7,slow=4.0,SNR=5.5								
ESDC					PP		**PP**	**02 45 53.1**	**+2.7**
	comp=Z,80nm,1.2s,baz=12,slow=8.5,SNR=8.9								
ESDC					S		**S**	**02 51 53.8**	**-4.5**
	comp=Z,0.9nm,0.8s,baz=332,slow=7.3,SNR=2.2								
ESDC					PKKPbc		**PKKPbc**	**03 00 20.8**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=217,slow=2.2,SNR=16								
ESDC					PKPPKP		P'P'df	03 08 24.0	-6.0
	comp=Z,2.2nm,0.8s,baz=169,slow=0.6,SNR=6.3								
ESLA	**Sonseca Array**	**85.15**	**342**		*e*P		**P**	**02 42 20.3**	**-1.0**
	comp=Z,176nm,1.2s								
ESLA					*e*pP		**pP**	**02 44 39.4**	**+1.6**
VAH	**Vaihoa**	**85.21**	**123**		*e*P		**P**	**02 42 23.4**	**+1.7**
	comp=Z,100nm,0.9s								
PAB	**San Pablo**	**85.34**	**342**		*e*P		**P**	**02 42 21.1**	**-1.1**
PAB					*e*			02 45 49.4	
PAB					pmax		pmax		
	comp=Z,393nm,1.1s								
PAB	**San Pablo**	**85.34**	**342**		*e*P		**P**	**02 42 21.1**	**-1.1**
	comp=Z,393nm,1.1s								
PAB					*e*			02 45 49.4	
CMAH	**Djebel Manchou**	**85.45**	**333**		P		**P**	**02 42 21.8**	**-1.0**
CAEH	**'Ain El Ouahch**	**85.46**	**333**		P		**P**	**02 42 22.0**	**-0.8**
STKA	**Stephens Creek**	**85.48**	**190**		*e*P		**P**	**02 42 22.7**	**+0.1**
	comp=Z,22nm,0.9s								
STKA					*e*pP		**pP**	**02 44 40.6**	**+1.0**
STKA					pP		**pwP**	**02 44 42.8**	**+3.2**
STKA					S		**S**	**02 52 00.8**	**-0.3**
STKA					PKKPbc		**PKKPbc**	**03 00 21.3**	**+1.3**
STKA	**Stephens Creek**	**85.48**	**190**		P		**P**	**02 42 22.7**	**+0.1**
	comp=Z,91nm,0.8s,baz=11,slow=3.5,SNR=153								
STKA					pP		**pwP**	**02 44 42.8**	**+3.2**
	comp=Z,12nm,0.7s,baz=8.6,slow=7.2,SNR=2.7								
STKA					S		**S**	**02 52 00.8**	**-0.3**
	comp=Z,9.4nm,1.1s,baz=38,slow=12,SNR=8.0								
STKA					PKKPbc		**PKKPbc**	**03 00 21.3**	**+1.3**
	comp=Z,10nm,0.8s,baz=222,slow=1.1,SNR=8.2								
PCAS	**Casmilo, Conde**	**85.53**	**346**		*e*P		**P**	**02 42 21.9**	**-1.1**
	comp=

NWAO				PKKPbc	**PKKPbc**	03 00 07.0	+1.4	
	comp=Z,5.5nm,0.5s,baz=180,slow=3.0,SNR=4.5							
MDT	**Midelt**	**91.92**	**341**	P	**P**	**02 42 51.6**	**-1.4**	
MDT				S	**SKSac**	**02 52 22.8**	**-1.8**	
MDT	**Midelt**	**91.92**	**341**	P	**P**	**02 42 51.6**	**-1.4**	
	comp=Z,49nm,1.0s,baz=26,slow=5.2,SNR=66							
MDT				S	**SKSac**	**02 52 22.8**	**-1.8**	
	comp=Z,1.7nm,0.8s,baz=17,slow=8.4,SNR=2.3							
PMPST	**Porto Santo, M**	**93.36**	**351**	*e*P	**P**	**02 42 58.9**	**-0.5**	
	comp=Z,547nm,1.1s							
PMPS	**Porto Santo**	**93.39**	**351**	*e*P	**P**	**02 42 58.8**	**-0.7**	
	comp=Z,475nm,1.3s							
URZ	**Urewera**	**93.69**	**161**	S	**SKSac**	**02 52 27.5**	**-5.4**	
	comp=Z,2.8nm,0.6s,baz=141,slow=6.5,SNR=4.2							
PMOZ	**Porto Moniz, M**	**93.70**	**352**	*e*P	**P**	**02 43 00.1**	**-1.0**	
	comp=Z,418nm,1.2s							
PMAR	**Madeira**	**93.77**	**351**	*e*P	**P**	**02 43 00.3**	**-1.2**	
	comp=Z,540nm,1.2s							
FUL	**Funchal**	**93.84**	**351**	*e*P	**P**	**02 43 00.5**	**-1.1**	
	comp=Z,334nm,1.1s							
TGUH	**Tegucigalpa,Un**	**95.55**	**58**	*e*P	**P**	**02 43 09.9**	**+0.5**	
	comp=Z,19nm,0.6s							
MSEY	**Mahe Island**	**98.10**	**273**	*e*Pdif	Pdif	02 43 20.4	-0.6	
	comp=Z,48nm,1.1s							
TAM	**Tamanrasset**	**99.00**	**330**	*e*P	Pdif	02 43 24.4	-0.6	
TAM				*e**PP	pP	02 45 40.2	-4.3	
TAM				pmax	pmax			
	comp=Z,82nm,1.1s							
TAM	**Tamanrasset**	**99.00**	**330**	*e*Pdif	Pdif	02 43 24.4	-0.7	
	comp=Z,82nm,1.1s							
TAM				*e*pP	pP	02 45 40.2	-4.3	
JTS	**JuntasAbangare**	**99.92**	**58**	S	**SKSac**	**02 53 04.5**	**-1.4**	
	comp=Z,13nm,1.0s,baz=206,slow=19,SNR=9.3							
LRS	**Lares**	**100.85**	**38**	*e*Pdif	**Pdif**	**02 43 34.2**	**+1.0**	
SJG	**San Juan**	**101.27**	**38**	PP	PP	02 47 51.1	-3.0	
SJG	**San Juan**	**101.27**	**38**	PP	PP	02 47 51.1	-3.0	
	comp=Z,35nm,0.9s,baz=323,slow=11,SNR=5.1							
KMBO	**Kilima Mbogo**	**105.89**	**290**	*e*Pdif	**Pdif**	**02 43 54.9**	**-1.0**	
	comp=Z,4.8nm,0.9s							
KMBO				*e*PKPdf	**PKiKP**	**02 48 03.2**	**-0.7**	
KMBO				PKKPbc	**PKKPbc**	**02 59 28.4**	**+2.6**	
KMBO	**Kilima Mbogo**	**105.89**	**290**	Pdiff	**Pdif**	**02 43 55.5**	**-0.4**	
	comp=Z,3.5nm,1.1s,baz=16,slow=9.1,SNR=6.6							
KMBO				PKiKP	**PKiKP**	**02 48 03.9**	**-0.1**	
	comp=Z,15nm,1.1s,baz=31,slow=7.3,SNR=7.4							
KMBO				PKKPbc	**PKKPbc**	**02 59 28.4**	**+2.6**	
	comp=Z,1.9nm,0.6s,baz=186,slow=5.7,SNR=6.7							
SDV	**Santo Domingo**	**107.87**	**46**	*e*PKPdf	**PKiKP**	**02 48 07.2**	**-0.4**	
TOA0	**Torodi Ar. Sit**	**109.25**	**330**	*e*Pdif	**Pdif**	**02 44 09.3**	**-1.3**	
TORD	**Torodi Ar. Bea**	**109.25**	**330**	Pdif	**Pdif**	**02 44 09.2**	**-1.3**	
TORD				PP	PP	02 48 45.0	-6.8	
TORD				SKP		02 50 44.4		
TORD				PKKPbc	**PKKPbc**	**02 59 15.0**	**-0.7**	
TORD				PKKPab	**PKKPdf**	**02 59 30.8**	**+2.9**	
TORD				SKKPbc	SKKPbc	03 01 52.0	-1.6	
TORD	**Torodi Ar. Bea**	**109.25**	**330**	Pdiff	**Pdif**	**02 44 09.2**	**-1.3**	
	comp=Z,8.0nm,0.9s,baz=23,slow=3.8,SNR=22							
TORD				PP	PP	02 48 45.0	-6.8	
	baz=12,slow=7.7							
TORD				SKP		02 50 44.4		
	comp=Z,18nm,1.0s,baz=10,slow=2.9,SNR=4.9							
TORD				PKKPbc	**PKKPbc**	**02 59 15.0**	**-0.7**	
	comp=Z,3.9nm,0.4s,baz=182,slow=2.9,SNR=38							
TORD				PKKPab	**PKKPdf**	**02 59 30.8**	**+2.9**	
	comp=Z,7.3nm,0.8s,baz=192,slow=4.5,SNR=6.9							
TORD				SKKPbc	SKKPbc	03 01 52.0	-1.6	
	comp=Z,3.4nm,0.8s,baz=204,slow=4.4,SNR=4.4							
ROSC	**El Rosal**	**109.79**	**51**	*e*PKPdf	**PKiKP**	**02 48 11.8**	**+0.3**	
ROSC				*e*PP	**PP**	**02 48 57.6**	**+1.2**	
ROSC				PKKPbc	**PKKPbc**	**02 59 15.1**	**+0.8**	
ROSC	**El Rosal**	**109.79**	**51**	PKiKP	**PKiKP**	**02 48 11.8**	**+0.3**	
	comp=Z,4.0nm,0.3s,baz=312,slow=2.6,SNR=4.3							
ROSC				PKKPbc	**PKKPbc**	**02 59 15.1**	**+0.8**	
	comp=Z,16nm,0.6s,baz=107,slow=8.9,SNR=13							
BBTS	**Babate**	**111.60**	**349**	PKiKP	**PKiKP**	**02 48 14.9**	**+0.6**	
BBTS	**Babate**	**111.60**	**349**	PKiKP	**PKiKP**	**02 48 14.9**	**+0.6**	
	comp=Z,57nm,1.0s,baz=319,slow=2.7,SNR=9.5							
SACV	**Santiago Islan**	**111.84**	**356**	*e*PKPdf	**PKiKP**	**02 48 14.7**	**-0.1**	
OPO	**Ambohidratompo**	**113.98**	**271**	PKiKP	**PKiKP**	**02 48 18.7**	**-0.2**	
OPO				PP	**PP**	**02 49 25.8**	**-0.4**	
OPO	**Ambohidratompo**	**113.98**	**271**	PKiKP	**PKiKP**	**02 48 18.7**	**-0.2**	
	comp=Z,16nm,0.9s,baz=82,slow=3.3,SNR=10							
OPO				PP	**PP**	**02 49 25.8**	**-0.4**	
	comp=Z,22nm,0.9s,baz=55,slow=6.9,SNR=6.1							
ABPO	**Ambohimpanom**	**114.30**	**271**	*e*PKIKP	PKPdf	02 48 18.7	-0.8	
ABPO				*e*		02 49 26.8		
ABPO	**Ambohimpanom**	**114.30**	**271**	*e*PKPdf	PKPdf	02 48 18.7	-0.8	
ABPO				*e*PP	**PP**	**02 49 26.8**	**-1.6**	
DBIC	**Dimbokro**	**117.24**	**335**	Pdif	**Pdif**	**02 44 48.1**	**+2.0**	
DBIC				*e*PKPdf	**PKPdf**	**02 48 24.4**	**-0.8**	
DBIC				PP	PP	02 49 36.5	-11	
DBIC				*e*PP	PP	02 49 36.6	-11	
DBIC				SKP		02 50 60.0		
DBIC				PKKPbc	**PKKPbc**	**02 58 49.4**	**-0.2**	
DBIC	**Dimbokro**	**117.24**	**335**	Pdiff	**Pdif**	**02 44 48.1**	**+2.0**	
	comp=Z,2.5nm,0.7s,baz=281,slow=5.2,SNR=4.1							
DBIC				PKP	**PKPdf**	**02 48 24.4**	**-0.8**	
	comp=Z,51nm,0.4s,baz=9.5,slow=2.0,SNR=105							
DBIC				PP	PP	02 49 36.5	-11	
	comp=Z,152nm,1.2s,baz=356,slow=8.9,SNR=5.7							
DBIC				SKP		02 50 60.0		
	comp=Z,51nm,0.8s,baz=340,slow=2.3,SNR=7.4							
DBIC				PKKPbc	**PKKPbc**	**02 58 49.4**	**-0.2**	
	comp=Z,5.6nm,0.8s,baz=157,slow=2.6,SNR=5.0							
TIC	**Toumodi**	**117.31**	**335**	*e*PKIKP	**PKPdf**	**02 48 24.5**	**-0.9**	
	comp=Z,162nm,0.6s							
KIC	**Kosan Boka**	**117.51**	**335**	*e*PKIKP	**PKPdf**	**02 48 24.9**	**-0.9**	
	comp=Z,114nm,0.6s							
LIC	**Lamto**	**117.71**	**335**	*i*PKIKP	**PKPdf**	**02 48 25.2**	**-0.9**	
	comp=Z,81nm,0.4s							
LIC				*e*R				
	comp=Z,420nm,22.5s							
LIC	**Lamto**	**117.71**	**335**	*e*PKIKP	**PKPdf**	**02 48 25.2**	**-0.9**	
	comp=Z,235nm,0.7s							
LIC	**Lamto**	**117.71**	**335**	*i*PKPdf	**PKPdf**	**02 48 25.2**	**-0.9**	
ATAH	**Atahualpa**	**118.11**	**61**	PKP	**PKPdf**	**02 48 26.9**	**-0.4**	
ATAH				SKP		02 51 02.2		
ATAH				PKKPab	**PKKPab**	**02 58 54.7**	**+1.0**	
ATAH	**Atahualpa**	**118.11**	**61**	PKP	**PKPdf**	**02 48 26.9**	**-0.4**	
	comp=Z,28nm,0.8s,baz=358,slow=2.1							
ATAH				SKP		02 51 02.2		
	comp=Z,47nm,0.9s,baz=44,slow=3.1,SNR=7.3							
ATAH				PKKPab	**PKKPab**	**02 58 54.7**	**+1.0**	
	comp=Z,19nm,0.7s,baz=145,slow=5.2,SNR=9.4							
DRV	**Dumont d'Urvil**	**120.13**	**186**	PP	PP	02 50 12.0	+4.5	
DRV	**Dumont d'Urvil**	**120.13**	**186**	SS	SS	03 05 40.0	-6.3	
PTGA	**Pitinga**	**120.91**	**39**	*e*PKPdf	**PKPdf**	**02 48 32.0**	**-0.3**	
PTGA				*e*PP	**PP**	**02 50 07.9**	**-4.4**	
LSZ	**Lusaka**	**122.55**	**290**	*e*PKPdf	**PKPdf**	**02 48 35.2**	**-0.2**	
LSZ	**Lusaka**	**122.55**	**290**	PKP	**PKPdf**	**02 48 35.2**	**-0.2**	
	comp=Z,80nm,0.6s							
NNA	**Nana**	**123.00**	**63**	*e*PKPdf	**PKPdf**	**02 48 35.3**	**-1.0**	
CASY	**Casey**	**123.58**	**199**	*e*PKPdf	**PKPdf**	**02 48 35.6**	**-0.1**	
PAF	**Port-aux-Franc**	**123.74**	**231**	*e*PKIKP	**PKPdf**	**02 48 37.1**	**+0.6**	
PAF	**Port-aux-Franc**	**123.74**	**231**	*e*PKPdf	**PKPdf**	**02 48 37.1**	**+0.6**	
SAML	**Samuel**	**127.05**	**47**	*e*PKPdf	**PKPdf**	**02 48 43.9**	**-0.1**	
MIR	**Mirnyy**	**127.83**	**206**	*i*PKIKP	**PKPdf**	**02 48 44.0**	**+0.2**	
MIR				pmax	pmax			
	comp=Z,188nm,1.0s							
VNDA	**Vanda**	**130.77**	**177**	PKPpre	PKPpre	02 48 30.6		
VNDA				*e*PKPdf	**PKPdf**	**02 48 48.7**	**-0.4**	
VNDA				*e*		02 51 12.4		
VNDA				SKPbc	**SKPbc**	**02 51 12.8**	**-0.8**	
VNDA				PKKP	**PKKPdf**	**02 58 49.3**	**-0.4**	
VNDA	**Vanda**	**130.77**	**177**	PKhKP	PKPpre	02 48 30.6		
	comp=Z,1.2nm,0.6s,baz=338,slow=4.6,SNR=3.7							
VNDA				PKP	**PKPdf**	**02 48 48.7**	**-0.4**	
	comp=Z,33nm,0.9s,baz=326,slow=4.0,SNR=49							
VNDA				SKPbc	**SKPbc**	**02 51 12.8**	**-0.8**	
	comp=Z,106nm,1.1s,baz=331,slow=4.1,SNR=20							
VNDA				PKKP	**PKKPdf**	**02 58 49.3**	**-0.4**	
	comp=Z,4.5nm,1.1s,baz=143,slow=5.1,SNR=2.8							
LPAZ	**La Paz**	**131.13**	**57**	PKPpre	PKPpre	02 48 36.6		
LPAZ				PKP	**PKPdf**	**02 48 52.5**	**+0.1**	
LPAZ				SKPbc	**SKPbc**	**02 51 16.3**	**-1.2**	
LPAZ				SKKPbc	**SKKPbc**	**03 00 48.5**	**+2.1**	
LPAZ	**La Paz**	**131.13**	**57**	PKhKP	PKPpre	02 48 36.6		
	comp=Z,1.8nm,0.5s,baz=278,slow=2.2,SNR=4.9							
LPAZ				PKP	**PKPdf**	**02 48 52.5**	**+0.1**	
	comp=Z,50nm,1.0s,baz=327,slow=4.1,SNR=47							
LPAZ				SKPbc	**SKPbc**	**02 51 16.3**	**-1.2**	
	comp=Z,191nm,0.7s,baz=337,slow=3.7,SNR=70							
LPAZ				SKKPbc	**SKKPbc**	**03 00 48.5**	**+2.1**	
	comp=Z,4.9nm,0.8s,baz=167,slow=1.9,SNR=5.2							
SBA	**Scott Base**	**131.27**	**176**	*e*PKIKP	**PKPdf**	**02 48 49.2**	**-0.8**	
SBA	**Scott Base**	**131.27**	**176**	*e*PKPdf	**PKPdf**	**02 48 49.2**	**-0.8**	
SBA				*e*		02 51 15.5		
TSUM	**Tsumeb**	**131.57**	**297**	*e*PKPpre	PKPpre	02 48 37.2		
TSUM				*e*PKPdf	**PKPdf**	**02 48 52.1**	**-0.5**	
TSUM				*e*		02 51 17.9		
LBTB	**Lobatse**	**131.70**	**285**	PKPpre	PKPpre	02 48 35.2		
LBTB				*e*PKPdf	**PKPdf**	**02 48 52.2**	**-0.4**	
LBTB				PKP	**PKPdf**	**02 48 52.7**	**+0.1**	
LBTB				SKPbc	**SKPbc**	**02 51 17.6**	**-1.0**	
LBTB				SKKPbc	**SKKPbc**	**03 00 44.9**	**+0.4**	
LBTB	**Lobatse**	**131.70**	**285**	PKhKP	PKPpre	02 48 35.2		
	comp=Z,18nm,0.8s,baz=72,slow=1.5,SNR=13							
LBTB				PKP	**PKPdf**	**02 48 52.7**	**+0.1**	
	comp=Z,78nm,0.6s,baz=78,slow=1.7,SNR=36							
LBTB				SKPbc	**SKPbc**	**02 51 17.6**	**-1.0**	
	comp=Z,90nm,0.9s,baz=46,slow=2.5,SNR=12							
LBTB				SKKPbc	**SKKPbc**	**03 00 44.9**	**+0.4**	
	comp=Z,11nm,0.9s,baz=247,slow=4.0,SNR=6.9							
RCBR	**Riachuelo**	**132.04**	**12**	*e*PKPdf	**PKPdf**	**02 48 53.5**	**0.0**	
RCBR				PKP	**PKPdf**	**02 48 53.7**	**+0.2**	
RCBR				SKPbc	**SKPbc**	**02 51 19.7**	**-0.5**	
RCBR				*e*		02 51 21.0		
RCBR	**Riachuelo**	**132.04**	**12**	PKP	**PKPdf**	**02 48 53.7**	**+0.2**	
	comp=Z,96nm,0.8s,baz=4.8,slow=2.1,SNR=26							
RCBR				SKPbc	**SKPbc**	**02 51 19.7**	**-0.5**	
	comp=Z,264nm,1.1s,baz=344,slow=3.0,SNR=30							
SIV	**San Ignacio**	**134.22**	**48**	SKPbc	**SKPbc**	**02 51 25.2**	**-1.9**	
SIV				PKKP	**PKKPdf**	**02 58 42.0**	**+0.4**	
SIV				SKKPbc	**SKKPbc**	**03 00 33.9**	**-0.6**	
SIV	**San Ignacio**	**134.22**	**48**	SKPbc	**SKPbc**	**02 51 25.2**	**-1.9**	
	comp=Z,250nm,0.8s,baz=324,slow=2.8,SNR=18							
SIV				PKKP	**PKKPdf**	**02 58 42.0**	**+0.4**	
	comp=Z,4.3nm,0.8s,baz=154,slow=2.9,SNR=4.1							
SIV				SKKPbc	**SKKPbc**	**03 00 33.9**	**-0.6**	
	comp=Z,6.4nm,0.6s,baz=144,slow=4.5,SNR=13							
BOSA	**Boshof**	**134.62**	**282**	*e*PKPpre	PKPpre	02 48 42.2		
BOSA				PKPpre	PKPpre	02 48 42.4		
BOSA				*e*PKPdf	**PKPdf**	**02 48 57.5**	**-0.5**	
BOSA				PKP	**PKPdf**	**02 48 57.8**	**-0.2**	
BOSA				SKPbc	**SKPbc**	**02 51 26.8**	**-1.4**	
BOSA				*e*		02 51 27.1		
BOSA				SKKPbc	**SKKPbc**	**03 00 33.5**	**-0.7**	
BOSA	**Boshof**	**134.62**	**282**	PKhKP	PKPpre	02 48 42.4		
	comp=Z,8.3nm,0.4s,baz=44,slow=3.3,SNR=23							
BOSA				PKP	**PKPdf**	**02 48 57.8**	**-0.2**	
	comp=Z,92nm,0.6s,baz=30,slow=2.0,SNR=26							
BOSA				SKPbc	**SKPbc**	**02 51 26.8**	**-1.4**	
	comp=Z,15nm,0.7s,baz=35,slow=3.8,SNR=4.7							
BOSA				SKKPbc	**SKKPbc**	**03 00 33.5**	**-0.7**	
	comp=Z,8.1nm,0.9s,baz=210,slow=2.9,SNR=6.8							
LVC	**Limon Verde**	**135.99**	**62**	*e*PKPpre	PKPpre	02 48 50.0		
LVC				*e*PKPdf	**PKPdf**	**02 49 01.8**	**+0.9**	
LVC				*e*		02 51 34.1		
MAW	**Mawson**	**137.69**	**215**	PKPpre	PKPpre	02 48 50.2		
MAW				*e*PKPpre	PKPpre	02 48 53.1		
MAW				PKP	**PKPdf**	**02 49 02.4**	**+0.2**	
MAW				*e*PKPdf	**PKiKP**	**02 49 02.5**	**-1.9**	
MAW				SKPbc	**SKPbc**	**02 51 35.2**	**-0.5**	
MAW				*e*		02 51 36.2		
MAW				SKKPbc	**SKKPbc**	**03 00 23.9**	**-1.4**	
MAW	**Mawson**	**137.69**	**215**	PKhKP	PKPpre	02 48 50.2		
	comp=Z,22nm,0.5s,baz=61,slow=1.7,SNR=11							
MAW				PKP	**PKPdf**	**02 49 02.4**	**+0.2**	
	comp=Z,113nm,0.7s,baz=78,slow=4.7,SNR=27							
MAW				SKPbc	**SKPbc**	**02 51 35.2**	**-0.5**	
	comp=Z,106nm,0.9s,baz=48,slow=2.8,SNR=12							
MAW				SKKPbc	**SKKPbc**	**03 00 23.9**	**-1.4**	
	comp=Z,17nm,0.8s,baz=257,slow=5.4,SNR=18							
BDFB	**Brasilia**	**138.93**	**31**	PKPpre	PKPpre	02 48 56.5		
BDFB				PKP	**PKPdf**	**02 49 06.2**	**0.0**	
BDFB				SKPbc	**SKPbc**	**02 51 40.3**	**-0.8**	
BDFB				PKKP	**PKKPdf**	**02 58 33.3**	**+0.7**	
BDFB				SKKPbc	**SKKPbc**	**03 00 19.4**	**+2.6**	
BDFB	**Brasilia**	**138.93**	**31**	PKhKP	PKPpre	02 48 56.5		
	comp=Z,36nm,0.9s,baz=300,slow=1.4,SNR=37							
BDFB				PKP	**PKPdf**	**02 49 06.2**	**0.0**	
	comp=Z,129nm,1.0s,baz=352,slow=5.7,SNR=24							
BDFB				SKPbc	**SKPbc**	**02 51 40.3**	**-0.8**	
	comp=Z,190nm,1.1s,baz=336,slow=3.8,SNR=16							
BDFB				PKKP	**PKKPdf**	**02 58 33.3**	**+0.7**	
	comp=Z,5.1nm,0.5s,baz=177,slow=3.6,SNR=9.8							
BDFB				SKKPbc	**SKKPbc**	**03 00 19.4**	**+2.6**	
	comp=Z,9.4nm,1.1s,baz=145,slow=6.5,SNR=3.8							
SUR	**Sutherland**	**139.98**	**282**	PKPpre	PKPpre	02 49 00.8		
SUR				*e*PKPdf	**PKPdf**	**02 49 03.0**	**-4.9**	
SUR				SKPbc	**SKPbc**	**02 51 42.9**	**-0.6**	
SUR				*e*		02 51 43.4		
SUR				SKKPbc	**SKKPbc**	**03 00 16.9**	**+2.8**	
SUR	**Sutherland**	**139.98**	**282**	PKhKP	PKPpre	02 49 00.8		
	comp=Z,175nm,0.9s,baz=346,slow=1.9,SNR=81							
SUR				SKPbc	**SKPbc**	**02 51 42.9**	**-0.6**	
	comp=Z,28nm,1.0s,baz=76,slow=4.2,SNR=2.5							
SUR				SKKPbc	**SKKPbc**	**03 00 16.9**	**+2.8**	
	comp=Z,16nm,1.0s,baz=195,slow=5.4,SNR=9.7							
LCO	**Las Campanas**	**140.07**	**70**	*e*PKPpre	PKPpre	02 49 01.5		
LCO				*e*PKPdf	**PKPdf**	**02 49 09.0**	**+0.8**	
LCO				*e*		02 51 44.3		
TLL	**Tololo Astrono**	**140.89**	**71**	*i*P	**PKPdf**	**02 49 04.6**	**-5.0**	
IHA	**Instituto Hidr**	**142.53**	**75**	⇓*i*P	**PKPdf**	**02 49 09.5**	**-2.6**	
ROCH	**El Roble**	**142.85**	**74**	⇓*i*P	**PKPdf**	**02 49 10.6**	**-2.3**	
QSPA	**South Pole Qui**	**143.14**	**180**	*e*PKPdf	PKPab	02 49 09.9	-0.8	
QSPA				PKP	PKPbc	02 49 10.0	-0.9	
QSPA				*e*SKPbc	**SKPbc**	**02 51 49.3**	**-0.7**	
QSPA				SKPbc	**SKPbc**	**02 51 49.5**	**-0.5**	
QSPA				SKKPbc	**SKKPab**	**03 00 03.1**	**-0.5**	
QSPA	**South Pole Qui**	**143.14**	**180**	PKP	PKPab	02 49 10.0	-0.7	
	comp=Z,960nm,0.6s,baz=326,slow=0.8,SNR=2017							
QSPA				SKPbc	**SKPbc**	**02 51 49.5**	**-0.5**	
	comp=Z,200nm,0.8s,baz=272,slow=1.6,SNR=8.4							
QSPA				SKKPbc	**SKKPab**	**03 00 03.1**	**-0.5**	
	comp=Z,30nm,0.9s,baz=220,slow=1.4,SNR=7.2							
PEL	**Peldehue**	**143.16**	**74**	⇑*i*P	PKPab	02 49 11.6	-0.1	
CFAA	**Coronel Fontan**	**143.42**	**70**	PKP	PKPbc	02 49 12.3	-0.5	
CFAA				SKPbc	**SKPbc**	**02 51 51.4**	**-0.5**	
CFAA				SKKPbc	**SKKPbc**	**03 00 00.3**	**+0.1**	
CFAA	**Coronel Fontan**	**143.42**	**70**	PKP	**PKPbc**	02 49 12.3	-0.5	
	comp=Z,19nm,0.5s,baz=284,slow=2.5,SNR=220							
CFAA				SKPbc	**SKPbc**	**02 51 51.4**	**-0.5**	
	comp=Z,22nm,0.8s,baz=338,slow=2.5,SNR=18							
CFAA				SKKPbc	**SKKPbc**	**03 00 00.3**	**+0.1**	
	comp=Z,1.7nm,0.9s,baz=151,slow=3.7,SNR=6.3							
CLCH	**Cerro Calan**	**143.43**	**74**	⇓*i*P	PKPbc	02 49 12.6	-0.2	
LMEL	**Las Melosas**	**143.95**	**75**	*i*P	PKPbc	02 49 14.3	-0.2	
CCHI	**Chillan**	**144.78**	**80**	⇓*i*P	PKPab	02 49 24.8	+7.0	
CPUP	**Villa Florida**	**144.90**	**52**	PKP	**PKPdf**	**02 49 16.4**	**+0.1**	
CPUP				*e*PKPdf	PKPbc	02 49 16.9	-0.4	
CPUP				*e*PKPbc	**PKPab**	**02 49 17.5**	**-1.0**	
CPUP				*e*		02 51 50.2		
CPUP				SKPbc	**SKPbc**	**02 51 55.1**	**-0.2**	
CPUP				SKKPbc	**SKKPbc**	**02 59 53.4**	**-0.3**	
CPUP	**Villa Florida**	**144.90**	**52**	PKP	**PKPdf**	**02 49 16.4**	**+0.1**	
	comp=Z,403nm,0.9s,baz=314,slow=2.5,SNR=171							
CPUP				SKPbc	**SKPbc**	**02 51 55.1**	**-0.2**	
	comp=Z,137nm,1.1s,baz=354,slow=3.0,SNR=4.2							
CPUP				SKKPbc	**SKKPbc**	**02 59 53.4**	**-0.3**	
	comp=Z,5.0nm,0.7s,baz=125,slow=5.7,SNR=2.9							
SYO	**Syowa Base**	**146.32**	**217**	⇑*i*X	**PKPdf**	**02 49 15.0**	**-2.4**	
SYO	**Syowa Base**	**146.32**	**217**	⇑*i*X	**PKPdf**	**02 49 18.2**	**+0.8**	
SPB	**Sao Paulo**	**146.53**	**35**	*e*PKPdf	**PKPdf**	**02 49 19.9**	**+0.7**	
SPB				*e*		02 51 50.9		
PLCA	**Paso Flores**	**148.38**	**84**	*e*PKPdf	**PKPdf**	**02 49 20.9**	**-0.9**	
PLCA				PKP	**PKPdf**	**02 49 21.2**	**-0.6**	
PLCA				PKPbc	**PKPbc**	**02 49 26.6**	**+0.3**	
PLCA				*e*PKPbc	PKPab	02 49 26.9	-5.5	
PLCA				*e*		02 51 53.8		
PLCA				SKP		02 51 54.1		
PLCA	**Paso Flores**	**148.38**	**84**	PKP	**PKPdf**	**02 49 21.2**	**-0.6**	
	comp=Z,35nm,1.0s,baz=271,slow=1.9,SNR=29							
PLCA				PKPbc	**PKPbc**	**02 49 26.6**	**+0.3**	
	comp=Z,200nm,0.9s,baz=301,slow=3.3,SNR=118							
PLCA				SKP		02 51 54.1		
	comp=Z,40nm,0.8s,baz=305,slow=3.0,SNR=5.4							
TRQA	**Tornquist**	**151.63**	**71**	*e*PKPdf	**PKPdf**	**02 49 26.1**	**-0.7**	
TRQA				*e*PKPbc	**PKPbc**	**02 49 33.7**	**-0.2**	
TRQA				*e*		02 52 00.1		
NVL	**N'lazarevskaya**	**155.47**	**210**	*i*PKIKP	**PKPdf**	**02 49 30.5**	**-0.7**	
NVL				pmax	pmax			
	comp=Z,66nm,1.1s							
USHA	**Ushuaia**	**156.03**	**110**	PKPab	**PKPab**	**02 50 04.2**	**-0.2**	
USHA				SKPbc		02 52 10.8		
USHA	**Ushuaia**	**156.03**	**110**	PKPab	**PKPab**	**02 50 04.2**	**-0.2**	
	comp=Z,17nm,0.8s,baz=269,slow=6.6,SNR=4.5							
USHA				SKPbc		02 52 10.8		
	comp=Z,16nm,0.9s,baz=272,slow=2.9,SNR=4.2							
SNAA	**Sanae**	**158.80**	**201**	*e*PKPdf	**PKPdf**	**02 49 34.2**	**-1.2**	
SNAA	**Sanae**	**158.80**	**201**	*e*PKPab	**PKPab**	**02 50 14.9**	**-1.3**	
SNAA	**Sanae**	**158.80**	**201**	*e*SKKSac	SKKSac	02 59 46.2	+2.4	
SNAA	**Sanae**	**158.80**	**201**	*e*PKPdf	**PKPdf**	**02 49 33.8**	**-1.5**	
SNAA				PKP	**PKPdf**	**02 49 34.2**	**-1.2**	
SNAA				*e*PKPab	**PKPab**	**02 50 15.2**	**-0.9**	
SNAA				PP	**PP**	**02 53 56.7**	**-3.6**	
SNAA				*e*PP	PP	02 53 58.9	-1.4	
SNAA	**Sanae**	**158.80**	**201**	PKP	**PKPdf**	**02 49 34.2**	**-1.2**	
	comp=Z,12nm,1.1s,baz=127,slow=1.1,SNR=41							
SNAA				PKPab	**PKPab**	**02 50 15.3**	**-0.9**	
	comp=Z,29nm,0.8s,baz=137,slow=5.7,SNR=14							
SNAA				PP	**PP**	**02 53 56.7**	**-3.6**	
	comp=Z,16nm,1.0s,baz=201,slow=5.7,SNR=4.2							
VNA2	**Neumayer--Watz**	**160.32**	**199**	*e*PKPdf	**PKPdf**	**02 49 36.4**	**-0.6**	
VNA2	**Neumayer--Watz**	**160.32**	**199**	*e*PKPab	**PKPab**	**02 50 22.2**	**-0.5**	
VNA2	**Neumayer--Watz**	**160.32**	**199**	*e*SKKSac	SKKSac	02 59 49.6	-1.9	
VNA1	**Neumayer--Stat**	**160.71**	**199**	*e*PKPdf	**PKPdf**	**02 49 36.9**	**-0.5**	
VNA1	**Neumayer--Stat**	**160.71**	**199**	*e*PKPab	**PKPab**	**02 50 23.9**	**-0.5**	
VNA1	**Neumayer--Stat**	**160.71**	**199**	*e*SKKSac	SKKSac	02 59 48.6	-4.8	
EFI	**East Falkland**	**161.22**	**97**	*e*PKIKP	**PKPdf**	**02 49 35.2**	**-3.3**	
EFI				*e*		02 50 27.3		
EFI	**East Falkland**	**161.22**	**97**	*e*PKPdf	**PKPdf**	**02 49 35.1**

DFE	Dawson Falls	1.39	337		Pn		Pn	02 54 40.6	+0.4
NMEZ	Namu Road	1.39	329	⇑	PN		Pn	02 54 40.8	+0.7
MOVZ	Moawhango	1.40	32		PN		Pn	02 54 40.0	-0.4
MOVZ	Moawhango	1.40	32		Pn		Pn	02 54 40.0	-0.4
WNVZ	Wahianoa	1.41	26		PN		Pn	02 54 40.8	+0.1
WNVZ	Wahianoa	1.41	26		Pn		Pn	02 54 40.8	+0.1
TRVZ	Turoa	1.42	24		PN		Pn	02 54 40.7	-0.1
TRVZ	Turoa	1.42	24		Pn		Pn	02 54 40.7	-0.1
PRHZ	Porangahau	1.44	77		PN		Pn	02 54 40.7	-0.1
PRHZ	Porangahau	1.44	77		Pn		Pn	02 54 40.7	-0.1
NEZ	North Egmont	1.44	338		PN		Pn	02 54 41.2	+0.3
NEZ	North Egmont	1.44	338		Pn		Pn	02 54 41.2	+0.3
KHEZ	Kahui Hut	1.44	335		PN		Pn	02 54 41.4	+0.4
DRZ	Dome Shelter	1.45	24		PN		Pn	02 54 41.7	+0.4
DRZ	Dome Shelter	1.45	24		Pn		Pn	02 54 41.7	+0.4
WHVZ	Whangaehu Hut	1.45	25		PN		Pn	02 54 41.5	+0.2
FWVZ	Far West T-bar	1.47	23		PN		Pn	02 54 41.3	-0.1
FWVZ	Far West T-bar	1.47	23		Pn		Pn	02 54 41.3	-0.1
VRZ	Vera Road	1.48	359	⇑	PN		Pn	02 54 41.7	+0.3
VRZ					SN		Sn	02 55 00.1	+0.4
VRZ	Vera Road	1.48	359		Pn		Pn	02 54 41.6	+0.3
TUVZ	Tukino	1.49	26	⇓	PN		Pn	02 54 42.1	+0.5
TUVZ	Tukino	1.49	26		Pn		Pn	02 54 42.1	+0.5
DREZ	Durham Road	1.49	342		PN		Pn	02 54 42.1	+0.6
DREZ	Durham Road	1.49	342		Pn		Pn	02 54 42.1	+0.6
WPVZ	Whakapapa	1.51	22		PN		Pn	02 54 42.0	+0.1
WPVZ	Whakapapa	1.51	22		Pn		Pn	02 54 42.0	+0.1
NWEZ	Newall Road	1.51	331		PN		Pn	02 54 42.7	+0.8
NWEZ	Newall Road	1.51	331		Pn		Pn	02 54 42.7	+0.8
COVZ	Chateau Observ	1.52	22		PN		Pn	02 54 42.1	+0.1
PKE	Pukeiti	1.54	336		PN		Pn	02 54 42.9	+0.6
PKE	Pukeiti	1.54	336		Pn		Pn	02 54 42.9	+0.6
NGZ	Ngauruhoe	1.55	24		PN		Pn	02 54 42.8	+0.3
NGZ	Ngauruhoe	1.55	24		Pn		Pn	02 54 42.8	+0.3
MHEZ	Mangahewa	1.57	346		PN		Pn	02 54 43.4	+0.7
MHEZ	Mangahewa	1.57	346		Pn		Pn	02 54 43.4	+0.7
OTVZ	Oturere	1.58	25	⇓	PN		Pn	02 54 43.5	+0.5
OTVZ	Oturere	1.58	25		Pn		Pn	02 54 43.5	+0.5
WTVZ	West Tongariro	1.60	22		PN		Pn	02 54 43.3	+0.1
WTVZ	West Tongariro	1.60	22		Pn		Pn	02 54 43.3	+0.1
TWVZ	Taurewa	1.61	18		PN		Pn	02 54 42.9	-0.3
TWVZ	Taurewa	1.61	18		Pn		Pn	02 54 42.9	-0.3
KRVZ	Karewarewa	1.64	23		PN		Pn	02 54 43.8	+0.1
KRVZ	Karewarewa	1.64	23		Pn		Pn	02 54 43.8	+0.1
PXZ	Pawanui	1.68	71	*e*	PN		Pn	02 54 42.3	-1.7
PXZ					AML		AML	02 55 05.4	
PXZ					AML		AML	02 55 17.2	
PXZ					AML		AML	02 55 20.5	
PXZ					AML		AML	02 55 22.0	
QRZ	Quartz Range	1.74	262		PN		Pn	02 54 45.2	+0.3
QRZ	Quartz Range	1.74	262		Pn		Pn	02 54 45.2	+0.3
KATZ	Kakaramea	1.77	23		PN		Pn	02 54 46.1	+0.7
KATZ	Kakaramea	1.77	23		Pn		Pn	02 54 46.1	+0.7
KAHZ	Kahuranaki	1.78	64		PN		Pn	02 54 44.4	-1.1
KAHZ	Kahuranaki	1.78	64		Pn		Pn	02 54 44.5	-1.1
RITZ	Rihia Road	1.82	27		PN		Pn	02 54 46.9	+0.9
RITZ	Rihia Road	1.82	27		Pn		Pn	02 54 46.9	+0.9
THZ	Tophouse	1.84	230	⇑	PN		Pn	02 54 47.2	+0.8
THZ	Tophouse	1.84	230		Pn		Pn	02 54 47.2	+0.8
RATZ	Rangitukua	1.89	24		PN		Pn	02 54 48.3	+1.3
RATZ	Rangitukua	1.89	24		Pn		Pn	02 54 48.3	+1.3
BKZ	Black Stump Fm	1.94	43		PN		Pn	02 54 46.9	-0.7
BKZ					AML		AML	02 55 17.9	
BKZ					AML		AML	02 55 18.8	
BKZ	Black Stump Fm	1.94	43		Pn		Pn	02 54 47.0	-0.7
CKHZ	Cape Kidnapper	1.98	62		Pn		Pn	02 54 47.1	-1.1
WATZ	Wairara	2.02	21	⇑	PN		Pn	02 54 50.1	+1.3
WATZ	Wairara	2.02	21		Pn		Pn	02 54 50.1	+1.3
KHZ	Kahutara	2.04	207	⇓	PN		Pn	02 54 49.6	+0.6
KHZ	Kahutara	2.04	207	*e*	Pn		Pn	02 54 49.6	+0.6
HIZ	Hauiti	2.09	1	⇑	PN		Pn	02 54 50.1	+0.4
HIZ	Hauiti	2.09	1		Pn		Pn	02 54 50.1	+0.4
WHTZ	Whakaora	2.13	25		PN		Pn	02 54 51.9	+1.6
WHTZ	Whakaora	2.13	25		Pn		Pn	02 54 51.9	+1.6
NMHZ	Naumai	2.15	46		PN		Pn	02 54 49.7	-1.0
NMHZ	Naumai	2.15	46		Pn		Pn	02 54 49.7	-1.0
TLZ	Tolley Road	2.34	14		PN		Pn	02 54 52.8	-0.4
DSZ	Dennistion Nort	2.54	242		PN		Pn	02 54 56.2	+0.4
KNZ	Kokohu	2.72	55	*e*	PN		Pn	02 54 56.1	-2.1
LTZ	Lake Taylor	2.89	220		PN		Pn	02 55 00.5	-0.1
LTZ	Lake Taylor	2.89	220		Pn		Pn	02 55 00.5	-0.1
TOZ	Tahuroa Road	2.92	11		PN		Pn	02 55 00.7	-0.3
TOZ	Tahuroa Road	2.92	11		Pn		Pn	02 55 00.8	-0.3
URZ	Urewera	2.95	38		AML		AML	02 55 44.9	
URZ					AML		AML	02 55 45.2	
URZ	Urewera	2.95	38	*e*	PN		Pn	02 55 02.5	+1.1
URZ				*e*	S		Sn	02 55 38.9	+3.4
URZ	Urewera	2.95	38		P		Pn	02 55 02.6	+1.2
	8.6nm,0.3s,baz=233,slow=8.1,SNR=17								
URZ					S		Sn	02 55 38.0	+2.5
	18nm,0.3s,baz=110,slow=18,SNR=8.0								
RIGZ	Rimuhau	2.97	51		PN		Pn	02 54 59.6	-2.1
MWZ	Matawai	3.10	44		PN		Pn	02 55 01.4	-2.1
MWZ					AML		AML	02 55 53.9	
MWZ					AML		AML	02 55 55.1	
MWZ	Matawai	3.10	44		Pn		Pn	02 55 01.4	-2.1
OXZ	Oxford	3.41	216		PN		Pn	02 55 06.4	-1.4
MQZ	McQueen's Vall	3.49	207		PN		Pn	02 55 06.9	-1.9
MQZ	McQueen's Vall	3.49	207		Pn		Pn	02 55 06.9	-1.9
MKAZ	Moumakai	3.50	5		PN		Pn	02 55 08.9	-0.1
MKAZ	Moumakai	3.50	5		Pn		Pn	02 55 08.9	-0.1
RPZ	Rata Peaks	4.17	221	*e*	Pn		Pn	02 55 21.6	+3.4
RPZ				*e*	S		Sn	02 55 59.0	-6.7
RPZ	Rata Peaks	4.17	221		P		Pn	02 55 17.8	-0.4
	1.3nm,0.3s,baz=33,slow=18,SNR=5.1								
RPZ					S		Sn	02 56 02.6	-3.1
	7.8nm,0.3s,baz=95,slow=18,SNR=11								
FOZ	Fox Glacier	4.82	230		PN		Pn	02 55 24.7	-2.2
FOZ	Fox Glacier	4.82	230		Pn		Pn	02 55 24.7	-2.2
ODZ	Otahua Downs	5.39	213		PN		Pn	02 55 33.1	-1.8
ODZ	Otahua Downs	5.39	213	*e*	Pn		Pn	02 55 34.2	-0.7
ODZ				*e*	S		Sn	02 56 31.5	-4.0
JCZ	Jackson Bay	5.66	230		Pn		Pn	02 55 38.6	-0.1
ASAR	Alice Springs	38.15	284		P		P	03 01 30.8	-0.2
	0.5nm,0.6s,baz=136,slow=8.3,SNR=4.8								
WRA	Warramunga Arr	40.11	289		P		P	03 01 46.8	-0.6
	0.4nm,0.5s,baz=130,slow=7.9,SNR=6.2								
ARCES	ARCESS Array B	146.84	341		PKPbc		PKPdf	03 13 50.0	+0.2
	1.2nm,0.6s,baz=52,slow=1.5,SNR=4.7								

*ISCJB **10** 03:02:31.2±0.5, 2°.21S±0°.06×100°.56E±0°.08, h56km, mb4.3/21, Error ellipse: s-maj=11.5km s-min=7.1km az=154.1*
*IDC **10** 03:02:36.7±2.7, 2°.04S×100°.78E, h87km±22km, mb3.9/18, mb1 4.0/19, mb1mx3.8/30, mbtmp3.9/19, Error ellipse: s-maj=34.9km s-min=11.5km az=52.0*
*AUST **10** 03:02:36.7, 1°.90S×100°.99E, h100km*
*NEIC **10** 03:02:37.1±1.4, 1°.98S×100°.87E, h88km±10km, mb4.6/4, Error ellipse: s-maj=22.3km s-min=6.5km az=52.0*
*DJA **10** 03:02:40.2±0.7, 2°.5±6°×10°.1E±°, h10km, M4.3/6, mb4.7/1, mB4.9/1, MLv4.1/6, Mw(mB)4.2/1*

ISC 10 03:02:33.1±0.6, **2°.21S**±0°.10×**100°.68E**±0°.09, **h56**km, **n74**, σ1**18**/68, **mb4.3**/21, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	Padang Panjang	1.76	351	P	Pn	03 03 00.8	-0.5
PPI	Padang Panjang	1.76	351	P	Pn	03 03 00.8	-0.5
	baz=1.6,SNR=40						
BKNI	Bangkinang	2.54	8	P	Pn	03 03 11.8	-0.2
BKNI	Bangkinang	2.54	8	P	Pn	03 03 12.6	+0.6
	baz=2.2,SNR=5.1						
MNAI	Manna	3.12	133	P	Pn	03 03 23.9	+4.0
	baz=3.1,SNR=5.4						
LHSI	Lahat	3.26	120	P	Pn	03 03 33.7	+12
PMBI	Palembang	4.15	100	P	Pn	03 03 32.0	-2.0
	baz=3.9,SNR=3.2						
BTDF	Bukit Timah Da	4.70	41	P	Pn	03 03 42.1	+0.5
	baz=4.3,SNR=4.8						
BTDF				P	Pn	03 03 42.1	+0.5
	baz=4.3,SNR=4.8						
KGM	Kluang	4.96	32	P	Pn	03 03 45.8	+0.8
KASI	Kota Agung	5.04	131	P	Pn	03 04 00.1	+14
MYKOM	Kota Tinggi	5.08	39	P	Pn	03 03 47.7	+0.9
MYKOM	Kota Tinggi	5.08	39	P	Pn	03 03 47.7	+0.9
PSI	Prapat	5.28	341	P	Pn	03 03 50.9	+1.3
PSI	Prapat	5.28	341	P	Pn	03 03 50.9	+1.3
PSI	Prapat	5.28	341	P	Pn	03 03 50.9	+1.3
	2.6nm,0.3s,baz=154,slow=5.9,SNR=7.2						
PSI	Prapat	5.28	341	P	Pn	03 03 50.7	+1.1
	baz=5.0,SNR=3.9						
IPM	Ipoh	6.65	3	*e*	Pn	03 04 09.4	+1.1
	14nm,0.5s						
KULM	Kulim	7.45	360	*e*	Pn	03 04 20.2	+1.0
KTGM	Kuala Trenggan	7.88	18	P	Pn	03 04 27.2	+2.1
CISI	Cisompet, Garu	8.87	127	P	Pn	03 04 44.0	+5.1
	baz=8.8,SNR=4.2						
CMAR	Chiang Mai Arr	20.61	355	P	P	03 07 07.9	0.0
CMAR	Chiang Mai Arr	20.61	355	P	P	03 07 07.9	0.0
	1.2nm,0.3s,baz=183,slow=7.2,SNR=3.4						
H08S2	Diego Garcia H	28.59	258	T	T	03 37 34.2	
	baz=81,slow=75,SNR=59						
H08S3	Diego Garcia H	28.59	258	T	T	03 37 34.7	
	baz=81,slow=75,SNR=52						
H08S1	Diego Carcia H	28.61	258	T	T	03 37 32.6	
	baz=81,slow=75,SNR=40						
FITZ	Fitzroy Crossi	29.14	124	P	P	03 08 29.4	+0.3
FITZ	Fitzroy Crossi	29.14	124	P	P	03 08 29.4	+0.3
	3.8nm,1.1s,baz=315,slow=10.0,SNR=2.9						
FAKI	Fak Fak	31.55	92	P	P	03 08 47.4	-3.1
	baz=31,SNR=6.4						
H01W3	Cape Leeuwin H	34.84	160	T	T	03 46 05.3	
	baz=330						
H01W2	Cape Leeuwin H	34.85	160	T	T	03 46 05.0	
	baz=330						
H01W1	Cape Leeuwin H	34.86	160	T	T	03 46 04.7	
	baz=330						
WRA	Warramunga Arr	37.30	121	P	P	03 09 40.0	-0.2
WRA	Warramunga Arr	37.30	121	P	P	03 09 40.0	-0.2
	1.0nm,0.4s,baz=306,slow=8.8,SNR=24						
WRAB	Tennant Creek	37.31	121	*e*	P	03 09 40.9	+0.6
	2.2nm,0.4s						
ASAR	Alice Springs	38.58	126	P	P	03 09 51.8	+0.8
ASAR				PcP	PcP	03 12 02.8	0.0
ASAR	Alice Springs	38.58	126	P	P	03 09 51.8	+0.8
	3.7nm,0.6s,baz=303,slow=7.8,SNR=46						
ASAR				PcP	PcP	03 12 02.8	0.0
	0.6nm,0.4s,baz=300,slow=2.6,SNR=3.1						
STKA	Stephens Creek	48.51	132	P	P	03 11 11.8	+1.2
STKA	Stephens Creek	48.51	132	P	P	03 11 11.8	+1.2
	1.3nm,0.5s,baz=309,slow=8.1,SNR=4.6						
SONM	Songino Array	50.09	5	P	P	03 11 21.9	-0.7
SONM	Songino Array	50.09	5	P	P	03 11 21.9	-0.7
	1.2nm,0.4s,baz=185,slow=7.8,SNR=11						
TKM2	Tokmak 2	50.29	336	*e*	P	03 11 24.6	+0.3
	4.4nm,0.4s						
AAK	Ala-Archa	50.51	335	P	P	03 11 26.3	+0.4
AAK	Ala-Archa	50.51	335	P	P	03 11 26.3	+0.4
	1.3nm,0.6s,baz=144,slow=12,SNR=4.0						
EKS2	Erkin-Say	50.84	335	*e*	P	03 11 28.7	+0.4
	4.7nm,0.6s						
MKAR	Makanchi Array	51.41	344	P	P	03 11 31.6	-0.9
MKAR	Makanchi Array	51.41	344	P	P	03 11 31.6	-0.9
	6.1nm,0.6s,baz=160,slow=8.8,SNR=86						
CMSA	Cobar Meteorol	51.46	129	P	P	03 11 34.6	+1.5
	baz=52,SNR=6.9						
USRK	Ussuriysk Arra	54.02	28	P	P	03 11 50.8	-0.9
	3.4nm,0.7s,baz=222,slow=6.5,SNR=7.2						
USRK				ScP	ScP	03 16 45.3	-4.5
	4.7nm,0.9s,baz=54,slow=5.5,SNR=6.5						
KURBB	Kurchatov Arra	55.94	343	P	P	03 12 04.5	-0.9
	1.5nm,0.5s,baz=164,slow=7.3,SNR=19						
KURBB				pP	pP	03 12 22.9	+2.4
	1.2nm,0.7s,baz=166,slow=7.1,SNR=6.2						
KURK	Kurchatov	56.00	343	P	P	03 12 04.5	-1.3
KURK				pP	pP	03 12 22.9	+2.0
ZALV	Zalesovo Beam	57.50	349	P	P	03 12 15.1	-1.4
ZALV	Zalesovo Beam	57.50	349	P	P	03 12 15.1	-1.4
	3.6nm,0.3s,baz=176,slow=5.9,SNR=16						
PATS	Pohnpei	58.22	81	P	P	03 12 29.0	+6.7
	baz=58,SNR=3.2						
BVAR	Borovoye Array	60.61	340	P	P	03 12 36.6	-1.5
BVAR				pP	pP	03 12 55.8	+2.5
BVAR	Borovoye Array	60.61	340	P	P	03 12 36.6	-1.5
	1.2nm,0.4s,baz=146,slow=8.9,SNR=14						
BVAR				pP	pP	03 12 55.8	+2.5
	1.4nm,0.7s,baz=139,slow=9.6,SNR=4.0						
ABKAR	Akbulak array	62.15	331	*e*	P	03 12 47.1	-1.4
	3.0nm,0.5s						
KBZ	Khabaz	68.91	319	P	P	03 13 32.4	+0.1
KBZ	Khabaz	68.91	319	P	P	03 13 32.4	+0.1
	3.1nm,1.1s,baz=102,slow=8.2,SNR=4.6						
BRTR	Keskin Array B	73.96	312	P	P	03 14 02.0	-1.0
BRTR	Keskin Array B	73.96	312	P	P	03 14 02.0	-1.0
	1.1nm,0.6s,baz=138,slow=5.2,SNR=5.6						
FINES	FINESS Array B	84.61	332	P	P	03 15 00.0	-0.3
FINES	FINESS Array B	84.61	332	P	P	03 15 00.0	-0.3
	1.6nm,0.8s,baz=108,slow=6.2,SNR=5.3						
ARCES	ARCESS Array B	86.90	340	P	P	03 15 11.1	-0.5
ARCES	ARCESS Array B	86.90	340	P	P	03 15 11.1	-0.5
	0.8nm,0.5s,baz=102,slow=5.3,SNR=16						
GERES	GERESS Array B	89.65	319	P	P	03 15 25.1	-0.1
GERES	GERESS Array B	89.65	319	P	P	03 15 25.1	-0.1
	0.2nm,0.4s,baz=49,slow=6.6,SNR=3.6						
HFS	Hagfors	90.39	330	P	P	03 15 28.6	+0.4
HFS	Hagfors	90.39	330	P	P	03 15 28.6	+0.4
	1.0nm,0.8s,baz=177,slow=2.9,SNR=4.7						
TXAR	Lajitas Array	144.45	38	PKP	PKPbc	03 22 02.7	+0.1
TXAR	Lajitas Array	144.45	38	PKP	PKPbc	03 22 02.7	+0.1
	0.7nm,0.4s,baz=316,slow=0.5,SNR=36						
CFAA	Coronel Fontan	144.76	197	PKP	PKPdf	03 22 05.1	+0.6
CFAA	Coronel Fontan	144.76	197	PKP	PKPdf	03 22 05.1	+0.6
	baz=279,slow=3.2						
MIAR	Mount Ida	145.19	21	*e*	PKPbc	03 22 04.4	-0.3
JCT	Junction City	145.84	33	*e*	PKPbc	03 22 06.7	+0.3

*BJI **10** 03:13:18.6, 8°.38S×129°.52E, h140km, mB5.1/16, mb4.7/26*
*IDC **10** 03:13:22.6±2.7, 7°.27S×129°.14E, h93km±24km, mb4.1/20, mb1 4.2/22, mb1mx4.1/26, mbtmp4.4/22, Error ellipse: s-maj=18.7km s-min=10.3km az=72.0*
*NEIC **10** 03:13:24.8±0.9, 7°.32S×129°.23E, h117km±9km, mb5.1/27, Error ellipse: s-maj=8.7km s-min=4.5km az=53.0*
*AUST **10** 03:13:24.9, 7°.48S×129.04E, h100km*
*ISCJB **10** 03:13:25.5±0.7, 7°.35S±0°.03×129°.20E±0°.04, h137km±7km, mb4.5/58, Error ellipse: s-maj=7.4km s-min=5.0km az=148.8*

ISC 10 03:13:27.9±0.5, **7°.41S**±0°.05×**129°.18E**±0°.05, **h141**km±3km, **n174**, σ1**27**/188, **mb4.5**/58, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	Tual	3.95	64	P	Pn	03 14 29.4	+2.2
	baz=4.1,SNR=32						
FAKI	Fak Fak	5.40	35	P	Pn	03 14 45.1	-1.4
	baz=5.6,SNR=51						
MTN	Manton Dam	5.74	161	P	Pn	03 14 50.9	-0.1
	baz=5.7,SNR=82						
KDU	Kakadu	6.17	149	P	Pn	03 14 56.4	-0.4
	baz=6.2,SNR=306						
MMRI	Maumere	6.98	259	*e*	Pn	03 15 07.8	+0.1
MMRI				*e*	Sn	03 16 26.5	+0.6
KNRA	Kununurra	8.23	183	P	Pn	03 15 22.7	-1.7
	baz=8.2,SNR=398						
LUWI	Luwuk	8.99	314	P	Pn	03 15 25.5	-9.0
	baz=9.0,SNR=3.5						
KAPI	Kappang	9.67	284	*e*	Pn	03 15 45.4	+1.7
FITZ	Fitzroy Crossi	11.18	198	*e*	Pn	03 16 00.4	-3.3
	0.3nm,0.6s						
FITZ				*e*	Sn	03 17 57.8	-9.3
FITZ	Fitzroy Crossi	11.18	198	P	Pn	03 16 00.2	-3.5
	26nm,0.3s,baz=29,slow=11,SNR=470						
FITZ				S	Sn	03 17 56.6	-11
	18nm,0.3s,baz=110,slow=18,SNR=10.0						
WRAB	Tennant Creek	13.43	159	*e*	Pn	03 16 29.4	-3.6
WRAB				*e*	Sn	03 18 49.2	-12
WRA	Warramunga Arr	13.43	159	P	Pn	03 16 29.6	-3.4
WRA				S	Sn	03 18 49.8	-12
WRA	Warramunga Arr	13.43	159	P	Pn	03 16 29.6	-3.4
	4.4nm,0.3s,baz=339,slow=13,SNR=144						
WRA				S	Sn	03 18 49.8	-12
	5.9nm,0.3s,baz=336,slow=22,SNR=6.4						
COEN	Coen	15.21	117	*e*	Pn	03 16 53.5	-2.0
	193nm,1.2s						
COEN				*e*	Sn	03 19 32.8	-12
COEN	Coen	15.21	117	P	Pn	03 16 54.2	-1.3
	baz=15,SNR=19						
PALU	Palau	15.57	20	P	Pn	03 16 54.4	-5.5
	baz=16,SNR=4.2						
MYLDM	Lahad Datu	16.43	319	P	P	03 17 13.6	+3.0
MYLDM	Lahad Datu	16.43	319	*e*	P	03 17 13.1	+2.4
	98nm,1.1s						
MBWA	Marble Bar	16.44	213	*e*	Pn	03 17 09.0	-1.6
	65nm,1.1s						
MBWA				*e*	Sn	03 19 56.0	-18
AS31	Alice Springs	16.79	165	*e*	Pn	03 17 13.4	-1.3
AS31				*e*	Sn	03 20 10.7	-12
ASAR	Alice Springs	16.79	165	P	P	03 17 13.0	-1.7
ASAR				S	Sn	03 20 10.9	-12
ASAR	Alice Springs	16.79	165	P	P	03 17 13.0	-1.7
	4.2nm,0.3s,baz=332,slow=8.7,SNR=189						
ASAR				S	Sn	03 20 10.9	-12
	4.0nm,0.3s,baz=350,slow=27,SNR=11						
WRKA	Warakurna	17.55	183	P	P	03 17 23.1	+0.1
	baz=18,SNR=104						
SDKM	Sandakan	17.63	317	P	Pn	03 17 26.3	+1.3
PMG	Port Moresby	17.90	98	*e*	Pn	03 17 31.3	+3.2
PMG	Port Moresby	17.90	98	P	P	03 17 26.2	-0.6
	0.9nm,0.3s,baz=287,slow=14,SNR=2.5						
UGM	Wanagama	18.50	267	P	P	03 17 31.8	-1.6
	baz=18,SNR=6.5						
KKM	Kota Kinabalu	18.60	316	P	Pn	03 17 35.4	-1.1
KKM	Kota Kinabalu	18.60	316	*e*	Pn	03 17 34.8	-1.7
KKM	Kota Kinabalu	18.60	316	P	Pn	03 17 35.3	-1.2
	baz=19,SNR=9.7						
BTM	Bintulu	19.21	303	P	Pn	03 17 43.4	-0.2
SBUM	Sibu	19.55	299	P	Pn	03 17 45.6	-1.9
SBUM	Sibu	19.55	299	*e*	P	03 17 45.5	+0.6
KSM	Kuching	20.79	294	P	P	03 17 58.4	+0.2
KSM	Kuching	20.79	294	*e*	P	03 17 57.1	-1.0
	69nm,0.9s						
KSM	Kuching	20.79	294	P	P	03 17 58.5	+0.4
	baz=21,SNR=3.7						
CTA	Charters Tower	20.80	129	P	P	03 17 59.5	+1.3
CTA				S	S	03 21 43.3	+0.5
CTA	Charters Tower	20.80	129	P	P	03 17 59.5	+1.3
	3.7nm,0.7s,baz=291,slow=15,SNR=4.7						
CTA				S	S	03 21 43.3	+0.5
	4.6nm,0.8s,baz=252,slow=19,SNR=2.8						
CTAO	Charters Tower	20.80	129	*e*	Pn	03 18 00.8	-1.6
GIRL	Giralia	20.89	222	P	P	03 18 01.1	+1.9
	baz=21,SNR=3.8						
CISI	Cisompet, Garu	21.18	268	*e*	P	03 18 01.7	-0.8
MEEK	Meekatharra	21.61	206	P	P	03 18 06.7	-0.1
	baz=22,SNR=16						
FORT	Forrest	23.28	182	*e*	P	03 18 23.4	+0.4
	136nm,0.8s						
FORT	Forrest	23.28	182	P	P	03 18 23.8	+0.7
	baz=23,SNR=30						
QLP	Quilpie	23.85	145	P	P	03 18 29.8	+1.5
	baz=24,SNR=21						
KMBL	Kambalda	24.80	195	P	P	03 18 37.6	+0.8
	baz=25,SNR=12						
MORW	Morawa	24.86	208	P	P	03 18 39.6	+2.2
	baz=25,SNR=13						
BLDU	Ballidu	25.88	205	P	P	03 18 50.1	+3.5
	baz=26,SNR=7.9						
BBOO	Buckleboo	26.07	167	*e*	P	03 18 49.0	+0.6
BBOO	Buckleboo	26.07	167	P	P	03 18 48.9	+0.6
	baz=26,SNR=13						
KLBR	Kellerberrin	26.32	202	P	P	03 18 51.2	+0.6
	baz=26,SNR=11						
STKA	Stephens Creek	26.96	156	*e*	P	03 18 56.8	+0.5
	1.8nm,0.7s						
STKA	Stephens Creek	26.96	156	P	P	03 18 57.0	+0.7
	8.5nm,0.5s,baz=326,slow=7.4,SNR=23						
STKA	Stephens Creek	26.96	156	P	P	03 18 57.0	+0.7
	baz=27,SNR=13						
HTT	Hallett	27.43	162	P	P	03 19 01.7	+1.2
	baz=28,SNR=4.6						
NWAO	Narrogin (SRO)	27.71	202	P	P	03 19 04.3	+1.3
NWAO	Narrogin (SRO)	27.71	202	P	P	03 19 04.3	+1.3
	4.5nm,0.4s,baz=26,slow=9.0,SNR=5.7						
CMSA	Cobar Meteorol	28.53	149	P	P	03 19 11.6

LSA	Lhasa	51.93	317	*e*P		P	03 22 23.1	0.0
	14nm,0.7s							
ODAN	Odare	52.91	312	*e*P		P	03 22 29.0	-1.1
	23nm,0.6s							
ODAN	Odare	52.91	312	*e*P		P	03 22 29.0	-1.1
	23nm,0.6s							
TAPN	Taplejung	52.95	312	*e*P		P	03 22 29.3	-1.1
	13nm,0.3s							
TAPN	Taplejung	52.95	312	*e*P		P	03 22 29.3	-1.1
	13nm,0.3s							
RAMN	Ramite	53.55	311	*e*P		P	03 22 33.9	-0.8
	62nm,0.6s							
RAMN	Ramite	53.55	311	*e*P		P	03 22 33.9	-0.8
	62nm,0.6s							
GTA	Gaotai	53.94	332	*e*P		P	03 22 36.8	-0.4
GTA				pP		pP	03 23 09.2	-0.7
GTA				sP		sP	03 23 25.2	-0.3
GTA				PcP		PcP	03 23 41.3	+0.5
GTA				S		S	03 30 01.7	-0.3
GTA				pmax		pmax		
	comp=Z,5.0nm,1.4s							
GTA				pmax		pmax		
	comp=Z,280nm,6.9s							
GTA				LR		LR		
	comp=N,230nm,17.1s							
GTA				LR		LR		
	comp=E,260nm,17.6s							
GTA				LR		LR		
	comp=Z,330nm,16.6s							
JIRN	Jiri	54.24	312	*e*P		P	03 22 38.8	-1.1
	25nm,0.7s							
JIRN	Jiri	54.24	312	*e*P		P	03 22 38.8	-1.1
	25nm,0.7s							
GUN	Gumba	54.61	312	*e*P		P	03 22 41.4	-1.1
	48nm,0.6s							
GUN	Gumba	54.61	312	*e*P		P	03 22 41.4	-1.1
	48nm,0.6s							
PKI	Pulchoki	54.77	311	*e*P		P	03 22 42.2	-1.5
	19nm,0.6s							
PKI	Pulchoki	54.77	311	*e*P		P	03 22 42.6	-1.1
PKIN	Phulchoki	54.79	311	*e*P		P	03 22 42.6	-1.1
KKN	Kakani	54.99	311	*e*P		P	03 22 43.8	-1.3
	22nm,0.6s							
KKN	Kakani	54.99	311	*e*P		P	03 22 43.8	-1.3
	22nm,0.6s							
DMN	Daman	55.02	311	*e*P		P	03 22 44.3	-1.1
	12nm,0.4s							
DMN	Daman	55.02	311	*e*P		P	03 22 44.3	-1.1
	12nm,0.4s							
GKN	Gorkha	55.58	311	*e*P		P	03 22 48.2	-1.1
	25nm,0.3s							
GKN	Gorkha	55.58	311	*e*P		P	03 22 48.2	-1.1
	25nm,0.3s							
KOLN	Koldanda	56.24	310	*e*P		P	03 22 52.9	-1.1
	43nm,0.8s							
KOLN	Koldanda	56.24	310	*e*P		P	03 22 52.9	-1.1
	43nm,0.8s							
DANN	Dangsing	56.42	311	*e*P		P	03 22 54.1	-1.3
	24nm,0.8s							
DANN	Dangsing	56.42	311	*e*P		P	03 22 54.1	-1.3
	24nm,0.8s							
PYUN	Piuthan	56.87	310	*e*P		P	03 22 57.3	-1.2
	121nm,0.8s							
PYUN	Piuthan	56.87	310	*e*P		P	03 22 57.3	-1.2
	121nm,0.8s							
SONM	Songino Array	58.57	342	P		P	03 23 09.0	-0.8
SONM				pP		pP	03 23 31.2	-12
SONM	Songino Array	58.57	342	P		P	03 23 09.0	-0.8
	1.4nm,0.9s,baz=161,slow=6.0,SNR=4.8							
SONM				pP		pP	03 23 31.2	-12
	0.8nm,0.5s,baz=159,slow=7.1,SNR=3.4							
WMQ	Urumqi	63.29	328	P		P	03 23 43.8	+2.0
WMQ				pmax		pmax		
	comp=Z,11nm,1.0s							
PETK	Petropavlovsk-	64.96	19	P		P	03 23 52.4	0.0
PETK	Petropavlovsk-	64.96	19	P		P	03 23 52.4	0.0
	2.2nm,0.6s,baz=188,slow=5.1,SNR=3.2							
KSH	Kashi	67.77	318	P		P	03 24 10.8	+0.1
KSH				pP		pP	03 24 44.0	-0.9
KSH				sP		sP	03 25 00.6	+0.6
KSH				PP		PP	03 26 44.4	+2.3
KSH				S		S	03 32 51.5	-6.1
KSH				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KSH				LR		LR		
	comp=N,150nm,7.9s							
KSH				LR		LR		
	comp=E,250nm,10.5s							
KSH				LR		LR		
	comp=Z,210nm,10.0s							
MK31	Makanchi Array	68.12	327	*e*P		P	03 24 12.0	-0.6
MKAR	Makanchi Array	68.12	327	P		P	03 24 12.0	-0.7
MKAR	Makanchi Array	68.12	327	P		P	03 24 12.0	-0.7
	2.7nm,0.4s,baz=121,slow=6.9,SNR=49							
TKM2	Tokmak 2	69.78	321	*e*P		P	03 24 22.7	-0.5
	5.3nm,0.7s							
AAK	Ala-Archa	70.33	320	P		P	03 24 26.4	-0.1
AAK	Ala-Archa	70.33	320	P		P	03 24 26.4	-0.1
	4.6nm,0.8s,baz=128,slow=4.9,SNR=15							
EKS2	Erkin-Say	70.80	320	*e*P		P	03 24 29.5	+0.2
	5.0nm,0.8s							
ZAA0	Zalesovo Array	71.59	334	*e*P		P	03 24 31.8	-1.9
ZALV	Zalesovo Beam	71.59	334	P		P	03 24 32.1	-1.5
ZALV	Zalesovo Beam	71.59	334	P		P	03 24 32.1	-1.5
	2.0nm,0.5s,baz=128,slow=5.0,SNR=12							
VNDA	Vanda	72.15	173	*e*P		P	03 24 37.0	+0.3
	1.8nm,1.0s							
VNDA	Vanda	72.15	173	P		P	03 24 37.2	+0.6
	2.0nm,0.8s,baz=303,slow=7.1,SNR=10							
KURBB	Kurchatov Arra	72.43	329	P		P	03 24 38.0	-0.8
	3.2nm,0.7s,baz=136,slow=5.1,SNR=15							
KURK	Kurchatov	72.44	329	P		P	03 24 38.0	-0.8
KKAR	Karatay Array	73.11	319	*e*P		P	03 24 41.9	-1.1
	7.1nm,1.0s							
MAW	Mawson	74.28	201	P		P	03 24 50.4	+1.1
MAW	Mawson	74.28	201	P		P	03 24 50.4	+1.1
	1.8nm,0.6s,baz=78,slow=8.4,SNR=7.5							
BVAR	Borovoye Array	77.97	328	P		P	03 25 09.6	-0.9
BVAR	Borovoye Array	77.97	328	P		P	03 25 09.6	-0.9
	1.8nm,0.7s,baz=144,slow=5.2,SNR=11							
BRVK	Borovoye	78.05	328	*e*P		P	03 25 09.2	-1.6
	3.1nm,0.8s							
TIXI	Tiksi	78.89	360	*e*P		P	03 25 14.0	-1.1
	3.8nm,0.4s							
ABKAR	Akbulak array	82.32	322	*e*P		P	03 25 32.4	-1.4
	1.6nm,0.5s							
QSPA	South Pole Qui	82.57	180	P		P	03 25 35.7	+0.7
QSPA	South Pole Qui	82.57	180	P		P	03 25 35.7	+0.7
	1.8nm,0.4s,baz=270,slow=2.0,SNR=4.3							
ARU	Arti	85.62	328	*e*P		P	03 25 49.0	-1.3
	3.5nm,0.8s							
KBD	Kabd	86.20	300	*e*P		P	03 25 52.6	-1.3
KBD				AMb		AMB	03 25 53.3	
	comp=Z,30nm,1.0s							
RDF	Al-Radifah	86.28	300	*e*P		P	03 25 53.8	-0.4
RDF				AMb		AMB	03 25 59.3	
	comp=Z,49nm,1.7s							
RST	Umm Al-Ruwaisa	86.86	300	*e*P		P	03 25 56.1	-0.9
RST				AMb		AMB	03 26 56.6	
	comp=Z,316nm,0.7s							
ILAR	Eielson Array	94.06	25	P		P	03 26 27.8	-2.1
ILAR	Eielson Array	94.06	25	P		P	03 26 27.8	-2.1
	comp=Z,0.3nm,0.8s,baz=263,slow=4.8,SNR=4.8							
BOSA	Boshof	98.56	240	P		P	03 26 51.3	0.0
BOSA	Boshof	98.56	240	P		P	03 26 51.3	0.0
	comp=Z,1.9nm,0.9s,baz=117,slow=2.3,SNR=3.8							
ARCES	ARCESS Array B	101.67	340	P		Pdif	03 27 03.4	-0.7
ARCES	ARCESS Array B	101.67	340	P		Pdif	03 27 03.4	-0.7
	comp=Z,1.3nm,0.9s,baz=92,slow=5.0,SNR=5.6							
GERES	GERESS Array B	112.21	320	PKiKP		PKiKP	03 31 46.3	-0.7
GERES	GERESS Array B	112.21	320	PKiKP		PKiKP	03 31 46.3	-0.7
	comp=Z,0.7nm,0.7s,baz=56,slow=2.4,SNR=6.8							
PDAR	Pinedale Array	117.75	45	PKP		PKPdf	03 31 58.4	+0.3
PDAR	Pinedale Array	117.75	45	PKP		PKPdf	03 31 58.4	+0.3
	comp=Z,0.4nm,0.6s,baz=129,slow=1.3,SNR=3.2							
ULM	Lac du Bonnet	123.23	33	PKP		PKPdf	03 32 07.0	-1.0
ULM	Lac du Bonnet	123.23	33	PKP		PKPdf	03 32 07.0	-1.0
	comp=Z,0.9nm,0.5s,baz=256,slow=4.2,SNR=4.0							
TXAR	Lajitas Array	125.83	59	PKP		PKPdf	03 32 14.5	+0.7
TXAR	Lajitas Array	125.83	59	PKP		PKPdf	03 32 14.5	+0.7
	comp=Z,0.2nm,0.5s,baz=287,slow=3.3,SNR=7.2							
TORD	Torodi Ar. Bea	128.09	281	PKP		PKPdf	03 32 17.7	-0.7
TORD	Torodi Ar. Bea	128.09	281	PKP		PKPdf	03 32 17.7	-0.7
	comp=Z,1.7nm,0.6s,baz=60,slow=1.9,SNR=17							
PLCA	Paso Flores	128.77	161	PKP		PKPdf	03 32 19.7	+0.6
PLCA	Paso Flores	128.77	161	PKP		PKPdf	03 32 19.7	+0.6
	comp=Z,0.8nm,0.6s,baz=225,slow=7.1,SNR=3.1							
DBIC	Dimbokro	134.39	272	PKP		PKPdf	03 32 30.9	+0.6
DBIC	Dimbokro	134.39	272	PKP		PKPdf	03 32 30.9	+0.6
	comp=Z,4.1nm,1.1s,baz=12,slow=1.7,SNR=4.5							
CPUP	Villa Florida	145.88	170	PKPbc		PKPab	03 32 52.0	-0.1
CPUP	Villa Florida	145.88	170	PKPbc		PKPab	03 32 52.0	-0.1
	comp=Z,1.3nm,0.3s,baz=165,slow=3.1,SNR=8.3							
LPAZ	La Paz	150.88	144	*e*PKPbc		PKPbc	03 33 06.8	+1.0
LPAZ	La Paz	150.88	144	PKPbc		PKPbc	03 33 06.7	+1.0
	comp=Z,2.9nm,0.4s,baz=20,slow=2.0,SNR=35							

ISCJB ***10*** *03:24:49.5±0.5, 2°.25S±0°.07×102°.22E±0°.08, h200km, mb3.6/11, Error ellipse: s-maj=13.7km s-min=6.4km az=145.4*
IDC ***10*** *03:24:50.2±2.6, 2°.34S×102°.12E, h200km±24km, mb3.5/12, mb1 3.6/13, mb1mx3.4/26, mbtmp3.5/13, Error ellipse: s-maj=27.1km s-min=12.5km az=54.0*
DJA ***10*** *03:24:54.0±0.4, 3°.5S×3°×10°.2E±°, h10km, M4.5/8, mb4.7/3, mB5.8/2, MLv4.4/8, Mw(mB)5.3/2*

ISC 10 03:24:50.5±0.7, 2°.29S±0°.09×102°.2E±0°.1, h200km, n27, σ0°.74/27, mb3.8/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMBI	JAMBI	1.61	66	S	Sn	03 25 51.6	-0.4
LHSI	Lahat	2.04	139	P	Pn	03 25 30.1	+0.7
MNAI	Manna	2.20	159	P	Pn	03 25 31.7	+0.6
MNAI				S	Sn	03 26 02.6	-0.3
PPI	Padang Panjang	2.54	316	P	Pn	03 25 35.6	+0.8
BKNI	Bangkinang	2.83	336	P	Pn	03 25 39.0	+0.8
BKNI				S	Sn	03 26 33.1	+18
MNSI	Mandailing Nat	4.01	320	P	Pn	03 25 53.5	+1.1
PSI	Prapat	6.01	327	P	Pn	03 26 17.4	-0.6
	45nm,0.9s,0.1nm						
PSI	Prapat	6.01	327	P	Pn	03 26 17.3	-0.7
	3.5nm,0.3s,baz=149,slow=11,SNR=28						
KCSI	Kotacane, Aceh	7.26	323	P	Pn	03 26 33.5	-0.6
	43nm,0.6s,836nm0.2nm						
TPTI		7.44	318	P	Pn	03 26 36.6	+0.2
CMAR	Chiang Mai Arr	20.86	351	P	P	03 29 18.6	+1.5
	0.8nm,0.3s,baz=189,slow=9.8,SNR=3.6						
H08S2	Diego Garcia H	30.03	259	T	T	04 00 49.4	
	baz=82,slow=75,SNR=42						
H08S3	Diego Garcia H	30.04	259	T	T	04 00 43.6	
	baz=82,slow=75,SNR=40						
H08S1	Diego Carcia H	30.05	259	T	T	04 00 46.3	
	baz=82,slow=75,SNR=44						
WRA	Warramunga Arr	35.98	122	P	P	03 31 31.9	-0.6
	0.2nm,0.3s,baz=302,slow=9.6,SNR=11						
WRA				PcP	PcP	03 33 54.4	-0.3
	0.2nm,0.5s,baz=310,slow=2.2,SNR=3.6						
ASAR	Alice Springs	37.34	127	P	P	03 31 44.0	0.0
	0.3nm,0.3s,baz=303,slow=7.8,SNR=5.2						
ASAR				PcP	PcP	03 33 58.9	+0.1
	0.4nm,0.4s,baz=308,slow=2.6,SNR=3.8						
SONM	Songino Array	50.06	4	P	P	03 33 26.3	+1.4
	7.1nm,0.6s,baz=184,slow=9.3,SNR=44						
SONM				PcP	PcP	03 34 41.0	-0.7
	0.6nm,0.4s,baz=183,slow=4.7,SNR=3.3						
MJAR	Matsushiro Arr	51.16	37	P	P	03 33 32.8	-0.4
	1.5nm,0.7s,baz=211,slow=8.5,SNR=5.3						
MKAR	Makanchi Array	51.92	343	P	P	03 33 38.4	-0.3
	1.5nm,0.6s,baz=159,slow=8.3,SNR=19						
USRK	Ussuriysk Arra	53.42	26	P	P	03 33 50.2	+0.5
	4.9nm,0.7s,baz=210,slow=5.2,SNR=12						
KURBB	Kurchatov Arra	56.47	342	P	P	03 34 10.9	-0.5
	0.9nm,0.5s,baz=162,slow=6.6,SNR=6.7						
ZALV	Zalesovo Beam	57.88	348	P	P	03 34 20.7	-0.5
	1.6nm,0.3s,baz=164,slow=7.3,SNR=12						
BVAR	Borovoye Array	61.22	339	P	P	03 34 43.1	-1.0
	0.6nm,0.5s,baz=142,slow=7.2,SNR=4.5						
BRTR	Keskin Array B	75.12	312	P	P	03 36 10.1	-0.9
	0.7nm,0.6s,baz=138,slow=7.0,SNR=5.4						
ARCES	ARCESS Array B	87.48	340	P	P	03 37 14.7	-0.4
	1.3nm,0.7s,baz=79,slow=6.5,SNR=7.4						
TXAR	Lajitas Array	143.57	40	PKP	PKPbc	03 44 00.2	+0.1
	0.5nm,0.6s,baz=327,slow=1.0,SNR=16						
BDFB	Brasília	145.55	238	PKPbc	PKPab	03 44 07.7	+0.6
	0.9nm,0.6s,baz=207,slow=2.3,SNR=3.6						

IDC 10 03:30:45.1±10.0, 8°.77S×117°.63E, h210km±116km, mb2.8/2, mb1 3.1/4, mb1mx2.9/22, mbtmp2.9/4, Error ellipse: s-maj=171.8km s-min=40.7km az=45.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.11	141	P	Pn	03 33 31.0	-0.1
	0.1nm,0.3s,baz=333,slow=16,SNR=2.9						
FITZ				S	S	03 35 33.1	-12
	0.1nm,0.3s,baz=180,slow=12,SNR=2.8						
WRA	Warramunga Arr	19.61	126	P	P	03 34 58.0	+0.2
	0.3nm,0.3s,baz=300,slow=12,SNR=18						
ASAR	Alice Springs	21.50	135	P	P	03 35 17.4	-0.3
	0.2nm,0.4s,baz=315,slow=9.8,SNR=4.3						
MKAR	Makanchi Array	63.64	334	P	P	03 40 53.8	-0.1
	0.7nm,0.9s,baz=147,slow=6.6,SNR=3.0						

GUC 10 03:55:04.3±0.7, 32°.80S×71°.93W, h10km±2km, MD3.7, ML3.2, 1C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.33	133	↓*i*P	Pg	03 55 11.1	+0.2
IHA				*i* S	Sb	03 55 16.7	-1.0
ROCH	El Roble	0.79	103	↓*i*P	Pg	03 55 18.9	-1.0
ROCH				*i* S	Sg	03 55 30.1	-0.3
ROCH				AML	AML	03 55 31.9	
	comp=N,3μm,0.5s						
PEL	Peldehue	1.10	109	↓*i*P	Pb	03 55 24.3	-1.2
PEL				*i* S	Sg	03 55 39.6	-0.3
PEL				AML	AML	03 55 45.7	
	comp=E,2μm,0.4s						
JACH	Jahuel	1.13	84	*e*P	Pb	03 55 24.5	-1.7
JACH				*i* S	Sb	03 55 40.4	-0.6
TACH	Talagante	1.19	136	↓*i*P	Pb	03 55 25.2	-1.8
TACH				*i* S	Sb	03 55 41.4	-1.1
LNV	Longovilo	1.23	160	*e*P	Pn	03 55 26.6	-1.0
SAN	Santiago	1.25	122	↓*i*P	Pn	03 55 26.7	-1.2
SAN				*i* S	Sb	03 55 43.1	-1.1
SAN				AML	AML	03 55 50.6	
	comp=N,507nm,0.5s						
CLCH	Cerro Calan	1.31	117	↑*i*P	Pn	03 55 27.6	-1.2
CLCH				*i* S	Sb	03 55 45.5	-0.7
CLCH				AML	AML	03 55 52.5	
	comp=N,860nm,0.8s						
ANTU	Antumapu	1.33	126	↓*i*P	Pn	03 55 28.0	-1.0
ANTU				*i* S	Sb	03 55 46.0	-0.7
ANTU				AML	AML	03 55 54.0	
	comp=N,570nm,0.4s						
PCH	Pirque	1.44	125	*e*P	Pn	03 55 30.0	-0.6
CHCH	Chadas Angostu	1.56	137	*e*P	Pn	03 55 31.1	-1.0
CHCH				*e*S	Sn	03 55 52.1	-0.4
CACH	El Canelo	1.72	140	↓*i*P	Pn	03 55 34.9	+0.4
CACH				*e*S	Sb	03 55 58.0	-0.1
LMEL	Las Melosas	1.78	126	↓*i*P	Pn	03 55 35.4	0.0
LMEL				*i* S	Sb	03 55 59.3	-0.6
LMEL				AML	AML	03 56 04.3	
	comp=N,464nm,0.2s						

WEL 10 04:22:59.0±0.5, 38°.27S×175°.90E, h180km±3km, ML3.5/6, 5C-2D, Error ellipse: s-maj=3.3km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.95	90	↑PN	Pn	04 23 26.2	-0.1
URZ				SN	Sn	04 23 47.4	+0.1
BKZ	Black Stump Fm	1.01	153	↑PN	Pn	04 23 27.0	+0.2
WNVZ	Wahianoa	1.09	192	PN	Pn	04 23 27.8	+0.3
NMHZ	Naumai	1.10	140	PN	Pn	04 23 28.5	+1.1
MOVZ	Moawhango	1.15	186	PN	Pn	04 23 27.7	-0.1
BHHZ	Black Hill Sta	1.23	174	↑PN	Pn	04 23 28.4	-0.1
MWZ	Matawai	1.28	94	↑PN	Pn	04 23 28.9	-0.1
MWZ				SN	Sn	04 23 51.7	-0.5
MCHZ	McNeill Hill	1.33	152	PN	Pn	04 23 30.2	+0.8
RIGZ	Rimuhau	1.53	107	PN	Pn	04 23 31.4	+0.2
KNZ	Kokohu	1.58	119	↑PN	Pn	04 23 31.7	+0.1
KNZ				SN	Sn	04 23 56.9	-0.1
PNHZ	Pukenui	1.67	172	PN	Pn	04 23 32.2	-0.3
CKHZ	Cape Kidnapper	1.67	147	PN	Pn	04 23 32.7	+0.2
KAHZ	Kahuranaki	1.71	154	PN	Pn	04 23 33.1	+0.2
TSZ	Takapari Road	1.79	178	PN	Pn	04 23 33.2	-0.6
TSZ				SN	Sn	04 23 59.3	-1.7
MHGZ	Mahia Peninsul	1.81	120	PN	Pn	04 23 34.1	+0.2
WPHZ	Waipukurau	1.85	167	↓PN	Pn	04 23 33.9	-0.5
PUZ	Puketiti	1.87	85	PN	Pn	04 23 34.2	-0.4
PRHZ	Porangahau	2.08	164	PN	Pn	04 23 36.0	-0.8
ANWZ	Angora Road	2.24	169	PN	Pn	04 23 37.7	-0.9
MRZ	Mangatainoka R	2.41	186	PN	Pn	04 23 38.8	-1.7
OGWZ	Otaki Gorge	2.61	192	PN	Pn	04 23 41.1	-1.8
HOWZ	Holdsworth Sta	2.65	186	PN	Pn	04 23 41.2	-2.2
KIW	Kapiti Island	2.70	196	PN	Pn	04 23 41.8	-2.2
TCW	Tory Channel	3.20	202	PN	Pn	04 23 47.4	-2.5
KHZ	Kahutara	4.52	203	↓PN	Pn	04 24 03.5	-3.2

AUST ***10*** *04:34:17.2±0.0, 15°.38S×172°.11W, h70km, Error ellipse: s-maj=1.9km s-min=1.2km az=245.0*
IDC ***10*** *04:34:19.9±0.6, 16°.40S×173°.36W, h0km, mb4.3/12, mb1 4.6/12, mb1mx4.4/21, mbtmp4.3/12, MS3.9/8, Ms1 3.9/8, ms1mx3.6/30, Error ellipse: s-maj=27.6km s-min=16.5km az=128.0*
NEIC ***10*** *04:34:20.8±2.8, 16°.30S×173°.21W, h10km±3km, mb4.8/6, Error ellipse: s-maj=24.7km s-min=14.6km az=119.0*
ISCJB ***10*** *04:34:22.4±0.4, 16°.50S±0°.07×173°.13W±0°.07, h32km, mb4.4/17, MS3.9/7, Error ellipse: s-maj=11.1km s-min=8.6km az=143.7*

ISC 10 04:34:24.0±0.4, 16°.34S±0°.06×173°.03W±0°.08, h32km, n76, σ1°.61/63, mb4.4/17, MS4.0/7, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.70	27	*e*Pn	Pn	04 35 05.0	-0.3
AFI				*e*Sn	Sn	04 35 33.4	-3.5
AFI	Afiamalu	2.70	27	Pn	Pn	04 35 04.1	-1.2
	28nm,0.3s,baz=44,slow=6.2,SNR=14						
AFI				Sn	Sn	04 35 32.9	-4.1
	125nm,0.3s,baz=29,slow=24,SNR=18						
NIUE	Niue	4.02	133	P	Pn	04 35 22.0	-1.4
	baz=4.2,SNR=204						
MSVF	Nonsavu	8.65	259	*e*Pn	Pn	04 36 32.6	+5.6
RAR	Rarotonga	13.46	113	*e*Pn	Pn	04 37 31.9	-0.9
RAR	Rarotonga	13.46	113	Pn	Pn	04 37 31.6	-1.2
	6.1nm,0.3s,baz=270,slow=9.4,SNR=8.7						
RAR				LR	LR	04 41 22.3	
	comp=Z,444nm,20.1s,baz=268,slow=31						
DZM	Mont Dzumac	20.20	250	*e*LR	LR	04 43 58.7	
	437nm,24.1s						
OUZ	Omahuta	22.29	210	*e*P	P	04 39 18.6	-0.1
	98nm,2.3s						
PAE	Paea	22.46	97	*e*T	T	05 02 07.6	
	3.9nm,0.4s						
PPT2	Papeete2	22.46	97	*e*LR	LR	04 44 37.3	
	286nm,24.0s						
PPT2	Papeete2	22.46	97	*e*T	T	05 02 08.6	
	6.3nm,0.4s						
PPT	Papeete	22.47	97	LR	LR	04 45 48.3	
	comp=Z,186nm,21.6s,baz=74,slow=30						
TVO	Taravao	22.77	97	*e*T	T	05 02 31.3	
	1.5nm,0.3s						
TBI	Tubuai	23.22	111	*e*LR	LR	04 45 04.0	
	245nm,26.8s						
TBI	Tubuai	23.22	111	*e*T	T	05 03 15.1	
	13nm,0.3s						
URZ	Urewera	23.50	200	*e*P	P	04 39 29.4	-1.7
URZ	Urewera	23.50	200	P	P	04 39 29.4	-1.7
	5.5nm,0.4s,baz=38,slow=4.6,SNR=5.3						
VAH	Vaihoa	24.46	91	*e*T	T	05 04 33.9	
	7.9nm,0.3s						
HNR	Honiara	27.20	281	LR	LR	04 49 10.8	
	comp=Z,407nm,21.2s,baz=359,slow=33						
ARMA	Armidale	35.18	240	P	P	04 41 13.2	-2.2
	baz=36,SNR=5.9						
H11S2	WAKE ISLAND Hy	39.95	329	T	T	05 24 12.9	
	baz=147						
H11S3	WAKE ISLAND Hy	39.96	329	T	T	05 24 14.3	
	baz=147						
H11S1	WAKE ISLAND Hy	39.96	329	T	T	05 24 14.0	
	baz=147						
CMSA	Cobar Meteorol	40.40	240	P	P	04 41 56.9	-2.4
	baz=42,SNR=10						
H11N3	WAKE ISLAND Hy	40.90	330	T	T	05 25 35.2	
	baz=152,slow=77,SNR=7.2						
H11N1	WAKE ISLAND Hy	40.90	330	T	T	05 25 43.1	
	baz=152,slow=77,SNR=5.5						
H11N2	WAKE ISLAND Hy	40.91	330	T	T	05 25 35.8	
	baz=152,slow=77,SNR=4.8						
COEN	Coen	42.28	267	P	P	04 42 14.6	-0.4
	baz=43,SNR=4.3						
STKA	Stephens Creek	43.89	241	*e*P	P	04 42 25.9	-1.9
	3.0nm,1.1s						
STKA	Stephens Creek	43.89	241	P	P	04 42 24.5	-3.3
	12nm,1.0s,baz=63,slow=7.5,SNR=8.8						
STKA	Stephens Creek	43.89	241	P	P	04 42 25.9	-1.9
	baz=45,SNR=4.5						
WRA	Warramunga Arr	49.98	257	*e*P	P	04 43 12.7	-3.0
WRA				*e*PcP	PcP	04 44 35.1	-0.3
WRA	Warramunga Arr	49.98	257	P	P	04 43 12.7	-3.0
	1.3nm,0.4s,baz=92,slow=6.9,SNR=32						
WRA				PcP	PcP	04 44 35.1	-0.3
	2.3nm,1.0s,baz=86,slow=4.2,SNR=6.4			

MLR	**Muntele Rosu**	**146.86 335**	PKPbc	**PKPab**	**04 54 04.5**	**-0.2**
	baz=122,slow=9.5							
BR101	**Keskin Array S**	**147.10 320**	*e*PKPdf	**PKPbc**	**04 54 05.0**	**+0.7**
BRTR	**Keskin Array B**	**147.10 320**	PKPbc	**PKPbc**	**04 54 05.0**	**+0.7**
	4.0nm,0.8s,baz=117,slow=2.2,SNR=24							
GEC2	**GERESS Array S**	**147.12 352**	*e*PKPdf	**PKPbc**	**04 54 04.3**	**+0.4**
GERES	**GERESS Array B**	**147.12 352**	PKPbc	**PKPbc**	**04 54 04.3**	**+0.4**
	1.2nm,0.6s,baz=27,slow=3.3,SNR=11							
CSNA	**Conrad Observa**	**147.66 349**	⇑*i*PKiKP	**PKiKP**	**04 54 07.0**	**-0.5**
	1.7nm,0.5s							
WTTA	**Wattenberg**	**148.92 354**	⇑*i*PKiKP	**PKiKP**	**04 54 09.7**	**-0.6**
	4.4nm,0.6s							
TOA0	**Torodi Ar. Sit**	**173.99 121**	*e*PKPdf	**PKPdf**	**04 54 33.5**	**+2.2**
TORD	**Torodi Ar. Bea**	**173.99 121**	PKP	**PKPdf**	**04 54 33.5**	**+2.2**
	0.2nm,0.9s,baz=247,slow=1.1,SNR=2.7							
TORD			PKPab	**PKPab**	**04 56 03.0**	**+0.6**
	0.9nm,1.0s,baz=280,slow=4.2,SNR=3.4							

IDC ***10*** *05:05:54.4±2.4,2°.93N×95°.98E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=67.0km s-min=23.6km az=40.0*

ISCJB ***10*** *05:05:55.3±1.1,2°.75N±0°.07×95°.90E±0°.07, h25km, mb3.5/3, Error ellipse: s-maj=11.0km s-min=9.0km az=32.6*

DJA ***10*** *05:05:58.4±1.5,2°.N±9°×9°.7E±°, h10km, M3.3/3, MLv3.3/3*

ISC 10 05:05:57.6±1.4, 2.71N±0°.07×96.10E±0°.10, h25km, n13, σ1§68/11, mb3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNSI	**Sinabang, Aceh**	**0.38**	**143**	P		**Pb**	**05 06 04.8**	**-1.0**
SNSI				S		**Sn**	**05 06 13.3**	**-0.6**
TPTI		**1.21**	**63**	P		**Pb**	**05 06 19.4**	**-0.4**
TPTI				S		**Sb**	**05 06 35.8**	**+0.8**
KCSI	**Kotacane, Aceh**	**1.85**	**64**	P		**Pb**	**05 06 29.9**	**-0.9**
KCSI				S		**Sb**	**05 06 52.6**	**-0.9**
PSI	**Prapat**	**2.82**	**88**	Pn		**Pn**	**05 06 43.2**	**+2.0**
	2.6nm,0.3s,baz=287,slow=7.0,SNR=9.6							
PSI				Sn		**Sb**	**05 07 19.0**	**-2.6**
	1.5nm,0.3s,baz=285,slow=16,SNR=3.7							
H08S2	**Diego Garcia H**	**25.70**	**246**	T		T	05 37 39.8	
	baz=67,slow=75,SNR=70							
H08S3	**Diego Garcia H**	**25.70**	**246**	T		T	05 37 40.4	
	baz=67,slow=75,SNR=63							
H08S1	**Diego Garcia H**	**25.72**	**246**	T		T	05 37 42.6	
	baz=67,slow=75,SNR=34							
H01W3	**Cape Leeuwin H**	**41.05**	**157**	T		T	05 57 04.7	
	baz=333,slow=76,SNR=47							
H01W2	**Cape Leeuwin H**	**41.06**	**157**	T		T	05 57 10.5	
	baz=333,slow=76,SNR=70							
H01W1	**Cape Leeuwin H**	**41.07**	**157**	T		T	05 57 05.8	
	baz=333,slow=76,SNR=54							
WRA	**Warramunga Arr**	**43.77**	**123**	P		**P**	**05 14 03.7**	**+2.2**
	0.2nm,0.6s,baz=299,slow=9.5,SNR=3.1							
MKAR	**Makanchi Array**	**45.52**	**347**	P		**P**	**05 14 13.9**	**-1.2**
	0.4nm,0.5s,baz=153,slow=9.9,SNR=6.8							
ZALV	**Zalesovo Beam**	**51.91**	**352**	P		**P**	**05 15 02.6**	**-1.4**
	0.7nm,0.5s,baz=178,slow=7.4,SNR=4.1							

AUST ***10*** *05:07:35.0±0.0, 17°.45S×179°.88W, h314km, Error ellipse: s-maj=2.8km s-min=1.2km az=348.0*

ISCJB ***10*** *05:07:41.9±0.4, 17°.1S±0°.1×178°.93W±0°.07, h533km, mb3.8/9, Error ellipse: s-maj=15.8km s-min=7.3km az=158.0*

IDC ***10*** *05:07:42.4±1.3, 17°.26S×178°.81W, h529km±15km, mb3.2/8, mb1 3.5/9, mb1mx3.3/21, mbtmp4.1/9, Error ellipse: s-maj=22.0km s-min=12.4km az=147.0*

ISC 10 05:07:42.6±0.6, 17°.2S±0°.1×178°.81W±0°.10, h533km, n28, σ0§64/32, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.51**	**65**	P		**P**	**05 09 34.8**	**-0.3**
	7.9nm,0.3s,baz=111,slow=21,SNR=8.9							
AFI				S		**S**	**05 11 06.6**	**-0.7**
	1.4nm,0.3s,baz=350,slow=18,SNR=4.2							
NIUE	**Niue**	**8.65**	**104**	P		P	05 09 49.4	+2.9
	baz=9.6,SNR=4.2							
RAO	**Raoul Island**	**12.05**	**176**	P		**P**	**05 10 22.4**	**+1.0**
	149nm,0.3s,baz=88,slow=24,SNR=5.0							
ARMA	**Armidale**	**29.98**	**239**	P		**P**	**05 13 08.4**	**+0.4**
	baz=29,SNR=5.7							
RMQ	**Roma**	**31.43**	**247**	P		**P**	**05 13 20.9**	**+0.5**
	baz=30,SNR=6.5							
CNB	**Canberra Magne**	**33.58**	**231**	P		**P**	**05 13 38.7**	**+0.2**
	baz=33,SNR=6.8							
CMSA	**Cobar Meteorol**	**35.18**	**239**	P		**P**	**05 13 51.8**	**-0.2**
	baz=34,SNR=8.7							
QLP	**Quilpie**	**35.44**	**248**	P		**P**	**05 13 54.0**	**-0.2**
	baz=34,SNR=6.1							
COEN	**Coen**	**36.72**	**270**	P		**P**	**05 14 06.0**	**+1.1**
	baz=36,SNR=12							
STKA	**Stephens Creek**	**38.65**	**240**	P		**P**	**05 14 20.4**	**-0.1**
	4.4nm,0.5s,baz=84,slow=9.8,SNR=14							
STKA	**Stephens Creek**	**38.65**	**240**	P		**P**	**05 14 20.6**	**+0.1**
	baz=38,SNR=5.6							
HTT	**Hallett**	**41.19**	**239**	P		**P**	**05 14 40.8**	**0.0**
	baz=40,SNR=4.9							
BBOO	**Buckleboo**	**43.43**	**240**	P		**P**	**05 14 58.1**	**-0.3**
	baz=42,SNR=8.8							
WRA	**Warramunga Arr**	**44.39**	**259**	P		**P**	**05 15 05.0**	**-1.1**
	3.3nm,0.6s,baz=95,slow=7.1,SNR=57							
WRA				PcP		**PcP**	**05 16 38.3**	**-0.2**
	0.2nm,0.6s,baz=95,slow=3.3,SNR=4.5							
WRA				ScP		**ScP**	**05 19 39.4**	**-0.4**
	1.1nm,1.0s,baz=92,slow=4.1,SNR=4.9							
ASAR	**Alice Springs**	**44.63**	**254**	P		**P**	**05 15 07.4**	**-0.5**
	33nm,0.6s,baz=88,slow=8.1,SNR=275							
ASAR				PcP		**PcP**	**05 16 38.8**	**-0.5**
	0.4nm,0.7s,baz=94,slow=3.9,SNR=4.1							
ASAR				ScP		**ScP**	**05 19 39.9**	**-0.8**
	0.6nm,0.9s,baz=101,slow=4.8,SNR=4.1							
KDU	**Kakadu**	**47.19**	**268**	P		**P**	**05 15 27.6**	**+0.2**
	baz=46,SNR=7.7							
WRKA	**Warakurna**	**49.71**	**252**	P		**P**	**05 15 45.8**	**-0.3**
	baz=49,SNR=22							
KNRA	**Kununurra**	**50.19**	**264**	P		**P**	**05 15 49.6**	**0.0**
	baz=49,SNR=5.8							
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P		**P**	**05 16 08.7**	**+0.3**
	2.3nm,0.4s,baz=83,slow=4.4,SNR=14							
MEEK	**Meekatharra**	**58.34**	**249**	P		**P**	**05 16 46.0**	**-0.9**
	baz=57,SNR=5.2							
MJAR	**Matsushiro Arr**	**67.10**	**323**	P		**P**	**05 17 43.5**	**+0.4**
	1.2nm,0.5s,baz=175,slow=6.5,SNR=5.1							
QSPA	**South Pole Qui**	**72.87**	**180**	P		**P**	**05 18 16.2**	**-1.0**
	1.2nm,0.5s,baz=34,slow=1.5,SNR=10							
ILAR	**Eielson Array**	**85.27**	**13**	P		**P**	**05 19 22.5**	**0.0**
	0.3nm,0.4s,baz=224,slow=5.3,SNR=6.2							
TXAR	**Lajitas Array**	**85.93**	**58**	P		**P**	**05 19 28.4**	**+1.8**
	0.4nm,0.7s,baz=210,slow=7.2,SNR=6.3							
YKA	**Yellowknife Ar**	**93.83**	**25**	P		**P**	**05 20 01.9**	**-0.4**
	0.2nm,0.6s,baz=238,slow=4.8,SNR=3.4							
ARCES	**ARCESS Array B**	**125.53**	**350**	PKP		**PKPdf**	**05 25 42.3**	**-0.3**
	1.7nm,0.9s,baz=34,slow=3.4,SNR=4.2							
BRTR	**Keskin Array B**	**144.00**	**315**	PKP		**PKPdf**	**05 26 17.9**	**0.0**
	0.8nm,0.5s,baz=104,slow=3.2,SNR=6.7							
GERES	**GERESS Array B**	**146.81**	**345**	PKPbc		**PKPbc**	**05 26 25.6**	**+0.5**
	1.2nm,0.6s,baz=28,slow=3.2,SNR=11							

IDC 10 05:19:05.3±4.5, 30°.42S×138°.44E, h0km, mb1 2.9/3, mb1mx2.9/16, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=116.4km s-min=17.0km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**3.08**	**119**	Pn		Pn	05 19 55.0	-0.2
	0.2nm,0.3s,baz=311,slow=9.3,SNR=2.4							
STKA				Sn		Sn	05 20 32.8	+0.1
	1.3nm,0.3s,baz=292,slow=18,SNR=5.4							
STKA				Lg		Lg	05 20 43.3	
	1.4nm,0.3s,baz=355,slow=18,SNR=3.4							
ASAR	**Alice Springs**	**7.84**	**328**	Pn		Pn	05 21 01.9	+1.1
	0.0nm,0.3s,baz=152,slow=12,SNR=4.0							
ASAR				Sn		Sn	05 22 29.1	-1.3
	0.1nm,0.3s,baz=150,slow=20,SNR=3.4							
WRA	**Warramunga Arr**	**11.07**	**340**	Pn		Pn	05 21 44.8	-0.1
	0.1nm,0.3s,baz=163,slow=12,SNR=4.7							

IDC 10 05:21:49.5±7.6, 14°.48N×143°.28E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, Error ellipse: s-maj=290.3km s-min=29.9km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**35.31**	**195**	P		P	05 28 46.5	-0.1
	0.5nm,0.7s,baz=16,slow=9.3,SNR=6.0							
ASAR	**Alice Springs**	**39.00**	**194**	P		P	05 29 17.9	-0.1
	0.3nm,0.7s,baz=24,slow=12,SNR=4.3							
MKAR	**Makanchi Array**	**59.78**	**316**	P		P	05 31 56.5	-0.1
	0.6nm,0.9s,baz=94,slow=8.5,SNR=3.0							

GUC 10 05:38:37.9±1.1, 21°.83S×68°.54W, h138km±10km, ML3.8, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**Plate Boundary**	**0.65**	**273**	⇑*i*P		Pn	05 38 59.8	+0.8
PB09				*i* S		Sn	05 39 15.3	+0.3
PB09				AML		AML	05 39 18.3	
	comp=E,6µm,0.6s							
PB04	**Plate Boundary**	**0.98**	**243**	⇑*i*P		Pn	05 39 08.5	+7.2
PB04				*i* S		Sn	05 39 31.7	+13
PB04				AML		AML	05 39 32.9	
	comp=E,655nm,0.3s							
PB01	**Plate Boundary**	**1.18**	**311**	⇓*i*P		Pn	05 39 04.0	+0.6
PB01				*i* S		Sn	05 39 23.6	+0.9
PB01				AML		AML	05 39 26.3	
	comp=E,1µm,0.2s							
MACH	**Maria Elena**	**1.19**	**252**	⇑*i*P		Pn	05 39 04.5	+0.9
MACH				*i* S		Sn	05 39 24.2	+1.1
PATCX	**Punta Patache**	**1.81**	**303**	⇑*i*P		Pn	05 39 11.2	+1.1
PATCX				*i* S		Sn	05 39 36.0	+1.2
PATCX				AML		AML	05 39 38.5	
	comp=E,1µm,0.3s							
HMBC	**Humberstone**	**1.99**	**321**	⇑*i*P		Pn	05 39 12.9	+0.5
HMBC				*e*S		Sn	05 39 39.6	+0.8
HMBC				AML		AML	05 39 41.0	
	comp=E,1µm,0.2s							
CEN1	**Los Morros**	**2.18**	**224**	⇑*i*P		Pn	05 39 17.4	+2.7
CEN1				AML		AML	05 39 58.1	
	comp=E,138nm,0.2s							
PB10	**Plate Boundary**	**2.50**	**228**	AML		AML	05 40 06.1	
	comp=N,552nm,0.4s							

IDC 10 05:41:50.9±3.2, 15°.92S×174°.07W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.6/4, Error ellipse: s-maj=174.3km s-min=25.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.99**	**48**	Pn		Pn	05 42 31.4	-8.2
	3.1nm,0.3s,baz=174,slow=14,SNR=5.5							
AFI				Sn		Sn	05 43 03.2	-13
	14nm,0.3s,baz=244,slow=23,SNR=7.8							
WRA	**Warramunga Arr**	**49.10**	**257**	P		P	05 50 40.3	-0.2
	0.2nm,0.6s,baz=95,slow=7.1,SNR=3.6							
ASAR	**Alice Springs**	**49.34**	**252**	P		P	05 50 41.8	-0.6
	2.1nm,0.6s,baz=88,slow=8.5,SNR=31							
NVAR	**Mina Array Bea**	**75.15**	**42**	P		P	05 53 35.4	-0.1
	0.3nm,0.6s,baz=217,slow=6.5,SNR=2.6							
ILAR	**Eielson Array**	**83.08**	**11**	P		P	05 54 17.1	-0.8
	0.2nm,0.5s,baz=221,slow=5.7,SNR=11							
BRTR	**Keskin Array B**	**146.14**	**320**	PKPbc		PKPab	06 01 34.3	+0.1
	0.6nm,0.6s,baz=20,slow=4.6,SNR=3.2							
GERES	**GERESS Array B**	**146.55**	**351**	PKPbc		PKPbc	06 01 34.0	-0.4
	0.4nm,0.5s,baz=46,slow=4.2,SNR=3.5							

MEX 10 05:42:03.0±0.7, 17°.45N×94°.87W, h164km±22km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VHO	**Vista Hermosa**	**1.82**	**258**	*i* P		Pn	05 42 36.4	-0.9
VHO				*i* S		Sn	05 43 02.1	-1.6
HUIG	**Huatulco**	**2.05**	**216**	*i* P		Pn	05 42 37.8	-1.8
HUIG				*i* S		Sn	05 43 06.0	-2.0
PCIG		**2.35**	**137**	*i* P		Pn	05 42 42.1	-0.9
PCIG				*i* S		Sn	05 43 11.6	-2.4
TPIG	**Tehuac#an**	**2.56**	**293**	*i* P		Pn	05 42 44.6	-1.2
TPIG				*i* S		Sn	05 43 16.2	-2.8

ISCJB ***10*** *05:42:55.8±0.4, 26°.46S±0°.03×27°.56E±0°.03, h17km±3km, mb3.8/5, Error ellipse: s-maj=6.9km s-min=3.4km az=138.6*

PRE ***10*** *05:42:55.8±2.6, 26°.50S×27°.59E, h2km, ML3.7*

IDC ***10*** *05:42:56.2±1.2, 26°.38S×27°.60E, h0km, mb3.9/5, mb1 4.1/9, mb1mx3.8/28, mbtmp4.1/9, ML4.1/3, Error ellipse: s-maj=19.3km s-min=17.9km az=53.0*

ISC 10 05:42:56.2±0.8, 26°.45S±0°.03×27°.55E±0°.03, h13km±5km, n32, σ1§83/57, mb4.1/5, 4C-5D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KLOF	**Kloof**	**0.11**	**29**	⇓*i*P		**Pg**	**05 42 59.2**	**-0.2**
KLOF				*e*S		**Sg**	**05 43 00.7**	**-1.2**
KLOF				AML		AML	05 43 02.8	
	comp=Z,15µm,0.3s							
WDLM	**Western Deep L**	**0.12**	**281**	⇑*i*P		**Pb**	**05 43 00.1**	**-0.3**
WDLM				*e*S		**Sg**	**05 43 01.8**	**-0.2**
WDLM				AML		AML	05 43 02.6	
	comp=Z,7µm,0.2s							
OBSV	**Observatory**	**0.54**	**61**	⇑*i*P		**Pb**	**05 43 07.0**	**-0.6**
OBSV				*e*S		**Sg**	**05 43 13.1**	**-0.9**
OBSV				AML		AML	05 43 19.1	
	comp=Z,1µm,0.7s							
ERPM	**east rand prop**	**0.63**	**81**	⇑*i*P		**Pb**	**05 43 09.1**	**0.0**
ERPM				*e*S		**Sb**	**05 43 16.5**	**-1.5**
ERPM				AML		AML	05 43 17.7	
	comp=Z,775nm,0.2s							
MOAB	**Moab Khotsong**	**0.86**	**231**	*e*P		**Pg**	**05 43 12.0**	**-0.8**
MOAB				*e*S		**Sb**	**05 43 24.0**	**-0.5**
MOAB				AML		AML	05 43 26.5	
	comp=Z,548nm,0.7s							
TLEK	**Tau Lekoa**	**0.94**	**237**	*e*P		**Pb**	**05 43 13.5**	**-0.9**
TLEK				*e*S		**Sg**	**05 43 26.4**	**-0.2**
TLEK				AML		AML	05 43 32.8	
	comp=Z,641nm,0.2s							
SLR	**Silverton**	**0.97**	**43**	⇓*i*P		**Pg**	**05 43 14.7**	**-0.2**
SLR				*e*S		**Sb**	**05 43 26.4**	**-1.3**
SLR				AML		AML	05 43 34.9	
	comp=Z,491nm,1.0s							
SWZ	**Schweizer**	**2.11**	**249**	⇓*i*P		**Pb**	**05 43 33.6**	**-0.8**
SWZ				*e*S		**Sb**	**05 44 01.3**	**+0.7**
SWZ				AML		AML	05 44 03.7	
	comp=Z,736nm,0.2s							
LBTB	**Lobatse**	**2.27**	**309**	⇓*i*P		**Pb**	**05 43 36.5**	**-0.5**
LBTB				*e*S		**Sb**	**05 44 06.3**	**+1.3**
LBTB				AML		AML	05 44 07.6	
	comp=Z,628nm,0.3s							
LBTB	**Lobatse**	**2.27**	**309**	Pn		**Pb**	**05 43 36.5**	**-0.5**
	comp=Z,94nm,0.3s,baz=140,slow=14,SNR=663							
LBTB				Pg		**Pg**	**05 43 38.2**	**-1.5**
	comp=Z,94nm,0.3s,baz=137,slow=16,SNR=660							
LBTB				Lg		Lg	05 44 07.0	
	comp=Z,160nm,0.3s,baz=34,slow=15,SNR=41							
BOSA	**Boshof**	**2.97**	**223**	⇑*i*P		**Pn**	**05 43 45.1**	**+2.0**
BOSA				*e*S		**Sn**	**05 44 19.9**	**+1.2**
BOSA				AML		AML	05 44 30.5	
	comp=Z,94nm,0.4s							
BOSA	**Boshof**	**2.97**	**223**	Pn		**Pn**	**05 43 45.2**	**+2.0**
	comp=Z,12nm,0.3s,baz=46,slow=13,SNR=239							
BOSA				Pg		**Pg**	**05 43 52.7**	**-0.4**
	comp=Z,19nm,0.3s,baz=46,slow=16,SNR=35							
BOSA				Lg		Lg	05 44 27.8	
	comp=Z,31nm,0.3s,baz=324,slow=19,SNR=18							
KSD	**Kokstad**	**4.40**	**158**	*e*P		Pn	05 44 05.6	+2.8
KSD				*e*S		**Sn**	**05 44 50.9**	**-3.1**
KSD				AML		AML	05 45 19.0	
	comp=Z,47nm,0.6s							
HVD	**Gariep Dam**	**4.52**	**203**	⇓*i*P		**Pn**	**05 44 06.1**	**+1.6**
HVD				*e*S		**Sn**	**05 44 55.3**	**-1.6**
HVD				AML		AML	05 45 20.6	
	comp=Z,59nm,0.5s							
MSNA	**Messina**	**4.67**	**29**	*e*P		**Pn**	**05 44 07.8**	**+1.4**
MSNA				*e*S		**Sn**	**05 45 00.1**	**-0.3**
MSNA				AML		AML	05 45 34.1	
	comp=Z,58nm,0.5s							
UPI	**Upington**	**5.91**	**250**	*e*P		**Pn**	**05 44 23.6**	**+0.1**
UPI				*e*S		**Sn**	**05 45 29.2**	**-2.1**
UPI				AML		AML	05 46 03.1	
	comp=Z,55nm,0.5s							
SOE	**Somerset East**	**6.48**	**195**	*e*P		**Pn**	**05 44 33.3**	**+2.0**
SOE				*e*S		**Sn**	**05 45 44.7**	**-0.5**
SOE				AML		AML	05 46 20.4	
	comp=Z,33nm,0.8s							
GRM	**Grahamstown**	**6.90**	**187**	*e*P		**Pn**	**05 44 39.0**	**+1.9**
GRM				*e*S		**Sn**	**05 45 52.9**	**-2.7**
GRM				AML		AML	05 46 39.8	
	comp=Z,34nm,0.5s							
BUFB	**Buffelsbos**	**8.05**	**197**	*e*P		**Pn**	**05 44 53.8**	**+1.0**
BUFB				*e*S		**Sn**	**05 46 19.5**	**-4.3**
BUFB				AML		AML	05 46 42.8	
	comp=Z,5.5nm,0.2s							
SUR	**Sutherland**	**8.33**	**223**	*e*P		**Pn**	**05 44 58.7**	**+1.7**
SUR				*e*S		**Sn**	**05 46 28.4**	**-2.6**
SUR				AML		AML	05 47 18.2	
	comp=Z,14nm,0.6s							
SUR	**Sutherland**	**8.33**	**223**	Pn		**Pn**	**05 44 58.6**	**+1.7**
	comp=Z,3.3nm,0.3s,baz=52,slow=14,SNR=32							
SUR				Sn		**Sn**	**05 46 28.4**	**-2.6**
	comp=Z,3.1nm,0.3s,baz=19,slow=16,SNR=9.7							
SUR				Lg		Lg	05 47 16.4	
	comp=Z,5.2nm,0.3s,baz=131,slow=19,SNR=8.3							
CVNA	**Calvinia**	**8.47**	**232**	*e*P		**Pn**	**05 44 59.7**	**+1.1**
CVNA				*e*S		**Sn**	**05 46 32.2**	**-2.0**
CVNA				AML		AML	05 47 24.0	
	comp=Z,36nm,0.3s							
KOMG	**Komaggas**	**9.49**	**247**	*e*P		**Pn**	**05 45 14.1**	**+1.4**
KOMG				*e*S		**Sn**	**05 46 55.6**	**-3.6**
KOMG				AML		AML	05 47 53.9	
	comp=Z,23nm,0.5s							
WIN	**Windhoek**	**10.27**	**290**	*e*P		**Pn**	**05 45 25.9**	**+2.4**
WIN				*e*S		**Sn**	**05 47 15.4**	**-3.2**
WIN				AML		AML	05 48 36.3	
	comp=Z,4.6nm,0.6s							
ELIM	**Elim**	**10.54**	**218**	*e*P		**Pn**	**05 45 27.1**	**+0.1**
ELIM				*e*S		**Sn**	**05 47 22.6**	**-2.4**
ELIM				AML		AML	05 48 31.2	
	comp=Z,18nm,0.5s							
LSZ	**Lusaka**	**11.13**	**3**	Pn		**Pn**	**05 45 34.9**	**-0.3**
LSZ				Sn		**Sn**	**05 47 35.2**	**-4.5**
LSZ				Lg		Lg	05 48 41.4	
TSUM	**Tsumeb**	**11.68**	**306**	*e*P		**Pn**	**05 45 44.0**	**+1.3**
TSUM				*e*S		**Sn**	**05 47 50.8**	**-2.3**
TORD	**Torodi Ar. Bea**	**46.70**	**324**	P		**P**	**05 51 26.6**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=150,slow=7.5,SNR=14							
ESDC	**Sonseca Array**	**72.05**	**335**	P		**P**	**05 54 21.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=3.4,SNR=4.3							
AKASG	**Malin Array Be**	**76.82**	**1**	P		**P**	**05 54 48.7**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=178,slow=4.6,SNR=3.7							
FINES	**FINESS Array B**	**87.58**	**359**	P		P	05 55 46.6	+3.1
	comp=Z,0.8nm,0.5s,baz=134,slow=6.0,SNR=5.5							
MKAR	**Makanchi Array**	**88.07**	**34**	P		**P**	**05 55 47.9**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=236,slow=1.3,SNR=4.0							

NEIC ***10*** *06:13:03.2, 37°.33S×178°.97E, h18km, ML4.0(WEL), After WEL.*

WEL 10 06:13:02.2±0.4, 37°.31S×179°.01E, h12km, ML4.0/7, 2D, Error ellipse: s-maj=3.1km s-min=2.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.62**	**245**	⇓P*		Pg	06 13 14.3	0.0
MXZ				S*		Sg	06 13 22.2	-0.2
MXZ				AML		AML	06 13 23.8	
MXZ				AML		AML	06 13 23.8	
MXZ				AML		AML	06 13 23.9	
MXZ	**Matakaoa Point**	**0.62**	**245**	P*		Pg	06 13 14.3	0.0
MXZ				S*		Sg	06 13 22.2	-0.2
PUZ	**Puketiti**	**0.97**	**218**	P*		Pg	06 13 20.4	-0.6
PUZ				S*		Sg	06 13 33.0	-0.8
PUZ				AML		AML	06 13 33.6	
PUZ	**Puketiti**	**0.97**	**218**	P*		Pg	06 13 20.4	-0.6
PUZ				S*		Sg	06 13 33.0	-0.8
URZ	**Urewera**	**1.78**	**237**	Pn		Pn	06 13 32.3	-0.6
URZ				Sn		Sn	06 13 54.0	-1.4
URZ				AML		AML	06 13 55.2	
URZ	**Urewera**	**1.78**	**237**	Pn		Pn	06 13 32.3	-0.6
URZ				Sn		Sn	06 13 54.0	-1.4
URZ				eSn		Sb	06 13 54.1	-2.7
PRGZ	**Paritu Road**	**1.85**	**208**	PN		Pn	06 13 32.1	-1.7
PRGZ	**Paritu Road**	**1.85**	**208**	Pn		Pn	06 13 32.1	-1.7
EDRZ	**Edgecumbe**	**1.97**	**245**	⇓PN		Pn	06 13 35.3	-0.3
EDRZ				AML		AML	06 13 59.5	
EDRZ				AML		AML	06 14 02.9	
EDRZ	**Edgecumbe**	**1.97**	**245**	Pn		Pn	06 13 35.3	-0.3
SNGZ	**Shannon Statio**	**1.98**	**221**	PN		Pn	06 13 35.2	-0.4
KNZ	**Kokohu**	**2.01**	**211**	PN		Pn	06 13 34.0	-2.0
KNZ	**Kokohu**	**2.01**	**211**	Pn		Pn	06 13 34.0	-2.0
OPRZ	**Ohinepanea**	**2.02**	**254**	PN		Pn	06 13 35.3	-0.8
OPRZ	**Ohinepanea**	**2.02**	**254**	Pn		Pn

OUZ	**Omahuta**	**4.84**	**294**	*e*Pn	Pn	06 14 15.6	+0.7
QRZ	**Quartz Range**	**6.15**	**233**	*e*PN	Pn	06 14 29.0	-3.8
QRZ	**Quartz Range**	**6.15**	**233**	Pn	Pn	06 14 28.9	-4.0
THZ	**Tophouse**	**6.49**	**225**	PN	Pn	06 14 32.7	-4.9
THZ	**Tophouse**	**6.49**	**225**	Pn	Pn	06 14 32.7	-4.9
CTZ	**Chatham Island**	**7.23**	**154**	PN	Pn	06 14 46.8	-0.9
CTZ	**Chatham Island**	**7.23**	**154**	Pn	Pn	06 14 46.8	-0.9
LTZ	**Lake Taylor**	**7.53**	**221**	PN	Pn	06 14 46.8	-5.0
LTZ	**Lake Taylor**	**7.53**	**221**	Pn	Pn	06 14 46.8	-5.0
MQZ	**McQueen's Vall**	**8.02**	**215**	*e*PN	Pn	06 14 52.6	-5.9
MQZ	**McQueen's Vall**	**8.02**	**215**	Pn	Pn	06 14 52.8	-5.7

IDC 10 06:31:24.3±2.3, 7°49N×93°74E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/26, mbtmp3.7/6, Error ellipse: s-maj=136.5km s-min=22.1km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.97**	**235**	T	T	07 03 50.9	
	baz=54,slow=76,SNR=229						
H08S2	**Diego Garcia H**	**25.98**	**235**	T	T	07 03 57.9	
	baz=54,slow=76,SNR=245						
H08S1	**Diego Garcia H**	**25.99**	**235**	T	T	07 03 33.8	
	baz=54,slow=76,SNR=160						
MKAR	**Makanchi Array**	**40.37**	**348**	P	P	06 39 04.0	0.0
	0.2nm,0.5s,baz=175,slow=8.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.88**	**353**	P	P	06 39 56.0	-0.2
	0.7nm,0.3s,baz=177,slow=5.3,SNR=4.0						
WRA	**Warramunga Arr**	**48.37**	**125**	P	P	06 40 07.8	-0.5
	0.3nm,0.5s,baz=306,slow=8.5,SNR=4.6						
ASAR	**Alice Springs**	**49.98**	**129**	P	P	06 40 20.9	+0.2
	0.3nm,0.6s,baz=310,slow=7.5,SNR=5.7						
FINES	**FINESS Array B**	**72.86**	**332**	P	P	06 42 54.8	0.0
	0.7nm,0.5s,baz=114,slow=9.3,SNR=2.8						
ARCES	**ARCESS Array B**	**75.49**	**340**	P	P	06 43 10.2	+0.1
	1.0nm,0.8s,baz=95,slow=8.6,SNR=4.3						

IDC 10 07:08:27.8±1.9, 5°07S×128°21E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.4/21, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=130.4km s-min=28.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.94**	**159**	Pn	Pn	07 12 13.7	0.0
	0.1nm,0.3s,baz=337,slow=13,SNR=9.9						
WRA				Sn	Sn	07 14 58.7	-13
	0.1nm,0.3s,baz=348,slow=21,SNR=4.8						
ASAR	**Alice Springs**	**19.29**	**164**	P	P	07 12 54.4	-0.1
	0.1nm,0.3s,baz=346,slow=9.6,SNR=9.5						
MKAR	**Makanchi Array**	**65.65**	**327**	P	P	07 19 13.9	0.0
	0.4nm,0.9s,baz=125,slow=5.5,SNR=3.7						

MEX 10 07:30:52.8±0.6, 13°88N×92°80W, h28km±42km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.15**	**27**	*i* P	Pn	07 31 10.4	-2.6
THIG				*i* S	Sn	07 31 24.7	-3.1
PCIG		**1.86**	**348**	*e*P	Pn	07 31 21.3	-1.5
PCIG				*i* S	Sn	07 31 42.2	-3.2
HUIG	**Huatulco**	**3.71**	**301**	*i* P	Pn	07 31 46.2	-2.1
HUIG				*i* S	Sn	07 32 28.7	-2.3

IDC 10 07:44:11.9±2.1, 6°16S×130°13E, h0km, mb4.0/1, mb1 4.2/4, mb1mx3.8/20, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=92.0km s-min=26.8km az=77.0
AUST 10 07:44:23.2, 6°97S×130°54E, h20km
ISC 10 07:44:12.7±1.1, 6°16S±0°09×130°4E±0°1, h10km, n11, σ0§42/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.43**	**78**	P	Pg	07 45 08.2	+8.8
	baz=2.6,SNR=13						
FAKI	**Fak Fak**	**3.73**	**31**	P	**Pg**	**07 45 24.3**	**0.0**
	baz=4.4,SNR=59						
KNRA	**Kununurra**	**9.59**	**189**	P	Pn	07 46 34.2	+3.4
	baz=8.9,SNR=13						
FITZ	**Fitzroy Crossi**	**12.73**	**201**	Pn	**Pn**	**07 47 14.0**	**+0.1**
FITZ				Sn	Sn	07 49 19.5	-16
FITZ	**Fitzroy Crossi**	**12.73**	**201**	P	**Pn**	**07 47 14.0**	**+0.1**
	baz=12,SNR=18						
WRA	**Warramunga Arr**	**14.24**	**165**	Pn	**Pn**	**07 47 35.0**	**+0.4**
	0.6nm,0.3s,baz=346,slow=13,SNR=19						
WRA				Sn	Sn	07 49 58.8	-14
	2.1nm,0.3s,baz=342,slow=22,SNR=13						
COEN	**Coen**	**14.81**	**123**	P	**P**	**07 47 47.9**	**-0.4**
	baz=14,SNR=9.3						
QIS	**Mount Isa**	**16.90**	**149**	P	**P**	**07 48 12.0**	**+0.4**
	baz=16,SNR=4.6						
ASAR	**Alice Springs**	**17.74**	**169**	P	**P**	**07 48 20.8**	**-0.1**
	0.7nm,0.3s,baz=348,slow=10,SNR=47						
ASAR				S	Sn	07 51 22.1	-16
	0.3nm,0.3s,baz=352,slow=24,SNR=6.4						
WRKA	**Warakurna**	**18.88**	**186**	P	**Pn**	**07 48 33.2**	**-0.7**
	baz=18,SNR=9.6						
MKAR	**Makanchi Array**	**67.71**	**326**	P	**P**	**07 55 10.5**	**+0.1**
	0.6nm,0.4s,baz=116,slow=7.1,SNR=18						

IDC 10 07:48:11.7±2.7, 9°85S×34°21E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/27, mbtmp3.9/3, ML4.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/28, Error ellipse: s-maj=68.8km s-min=18.5km az=100.0
ISC 10 07:48:18.6±3.8, 9°3S±0°4×33°8E±0°3, h10km, n6, σ1§19/7, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**3.65**	**33**	*i* P	**Pn**	**07 49 14.9**	**-0.3**
DODT				*i* S	**Sg**	**07 50 16.6**	**+0.7**
MAUS	**Longido**	**7.12**	**24**	*i* P	**Pn**	**07 50 03.8**	**+0.7**
MAUS				*i* S	**Sn**	**07 51 25.0**	**+0.8**
KMBO	**Kilima Mbogo**	**8.81**	**23**	Pn	**Pn**	**07 50 25.7**	**-0.6**
	2.7nm,0.3s,baz=191,slow=15,SNR=35						
KMBO				Sn	**Sn**	**07 52 04.0**	**-1.9**
	5.0nm,0.3s,baz=55,slow=23,SNR=8.2						
KMBO				Lg	Lg	07 52 54.4	
	2.3nm,0.3s,baz=46,slow=22,SNR=11						
BOSA	**Boshof**	**20.84**	**201**	P	P	07 52 51.7	-9.0
	3.9nm,0.7s,baz=31,slow=14,SNR=4.3						
BOSA				S	S	07 56 42.6	-11
	5.2nm,0.9s,baz=308,slow=15,SNR=3.7						
BOSA				Lg	Lg	07 58 41.4	
	10.0nm,0.8s,baz=300,slow=20,SNR=2.0						
SUR	**Sutherland**	**25.93**	**206**	LR	LR	08 04 11.8	
	comp=Z,71nm,19.3s,baz=288,slow=38						
TORD	**Torodi Ar. Bea**	**38.85**	**304**	P	**P**	**07 55 44.6**	**+0.2**
	0.6nm,1.0s,baz=112,slow=7.3,SNR=3.3						

ISCJB 10 07:50:26.0±0.4, 47°47N±0°09×152°1E±0°1, h124km, mb3.8/14, Error ellipse: s-maj=16.2km s-min=3.7km az=139.7
SKHL 10 07:50:27.7±0.3, 47°26N×152°61E, h141km±5km, mb5.3/2, msh5.5/3
MOS 10 07:50:30.6±1.3, 47°62N×151°98E, h166km, mb4.0/5, Error ellipse: s-maj=25.4km s-min=11.7km az=63.6
JMA 10 07:50:33.1±0.4, 46°21N×152°61E, h160km, M4.0
IDC 10 07:50:33.2±1.9, 47°55N×152°03E, h177km±17km, mb3.4/14, mb1 3.6/17, mb1mx3.5/28, mbtmp3.4/17, Error ellipse: s-maj=17.4km s-min=12.1km az=138.0
ISC 10 07:50:27.4±0.6, 47°36N±0°10×152°09E±0°09, h124km, n57, σ2§05/53, mb3.6/14, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.62**	**236**	*e*P	Pn	07 51 26.7	+4.8
KUR				AMB	AMB	07 51 27.8	
	100nm,0.7s						
KUR				*e*S	Sn	07 52 13.8	+10
KUR				A	A	07 52 26.2	
	90nm,0.6s						
SKR	**Severo-Kuril's**	**4.25**	**37**	*e*PN	**Pn**	**07 51 30.3**	**0.0**
SKR				*e*S	**Sn**	**07 52 16.5**	**-2.6**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,180nm,0.3s						
SKR				smax	smax		
	comp=E,200nm,0.3s						
SKR	**Severo-Kuril's**	**4.25**	**37**	*e*P	**Pn**	**07 51 30.0**	**-0.3**
SKR				*e*S	**Sn**	**07 52 17.0**	**-2.1**
SKR				A	A	07 52 23.0	
	comp=E,180nm,0.3s						
SKR				A	A	07 52 23.0	
	comp=E,200nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.48**	**235**	*c i* PN	Pn	07 51 51.9	+5.1
YUK				*i* S	**Sn**	**07 52 54.7**	**+6.0**
YUK				pmax	pmax		
	comp=N,54nm,0.4s						
YUK				pmax	pmax		
	comp=E,100nm,0.4s						
YUK				pmax	pmax		
	comp=Z,363nm,0.4s						
YUK				smax	smax		
	comp=E,118nm,0.5s						
YUK				smax	smax		
	comp=N,99nm,0.8s						
NEM2	**Nemuro 2**	**5.99**	**231**	P	**Pn**	**07 51 56.0**	**+2.3**
NEM2				*e*S	**Sn**	**07 53 00.3**	**-0.7**
PETK	**Petropavlovsk-**	**6.79**	**30**	PN	Pn	**07 52 07.0**	**+2.7**
PETK				S	**Sn**	**07 53 25.5**	**+5.4**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.79**	**30**	P	**Pn**	**07 52 07.0**	**+2.7**
	comp=Z,2.9nm,0.3s,baz=205,slow=12,SNR=38						
PETK				S	**Sn**	**07 53 25.5**	**+5.4**
	baz=245,slow=20,SNR=2.3						
JAK	**Akkeshi**	**6.80**	**233**	P	**Pn**	**07 52 07.1**	**+2.5**
JAK				*e*S	**Sn**	**07 53 20.3**	**-0.3**
TYV	**Tymovskoe**	**7.12**	**303**	*e*P	Pn	07 52 13.1	+4.3
JAR	**Ashorobuto**	**7.13**	**238**	P	Pn	07 52 14.8	+5.8
JOB	**Onbets**	**7.34**	**236**	P	Pn	07 52 15.6	+3.7
JOB				*e*S	**Sn**	**07 53 34.9**	**+1.3**
JKA	**Kamikawa-asahi**	**7.39**	**247**	*e*P	Pn	07 52 19.2	+6.7
ASAJ	**Asahikawa**	**7.39**	**247**	P	Pn	07 52 19.2	+6.6
ASAJ	**Asahikawa**	**7.39**	**247**	P	Pn	07 52 19.1	+6.6
	comp=Z,1.9nm,0.3s,baz=56,slow=17,SNR=12						
JKK2	**Kamakawa 2**	**7.42**	**245**	P	Pn	07 52 18.8	+5.9
JCH	**Churui**	**7.79**	**236**	P	**Pn**	**07 52 20.9**	**+2.9**
JCH				*e*S	**Sn**	**07 53 44.0**	**-0.6**
MYR	**Moyori**	**8.05**	**234**	*e*P	**Pn**	**07 52 23.7**	**+2.3**
MYR				*e*S	**Sn**	**07 53 49.4**	**-1.4**
JNBK	**Urakawa-nobuka**	**8.35**	**236**	P	**Pn**	**07 52 27.3**	**+1.8**
JNBK				*e*S	**Sn**	**07 53 55.5**	**-2.6**
JNB	**Noboribetsu**	**9.24**	**242**	P	Pn	07 52 41.2	+3.8
JNB				*e*S	**Sn**	**07 54 20.0**	**+0.5**
JKB	**Kayabe**	**9.59**	**239**	P	**Pn**	**07 52 44.3**	**+2.1**
JKB				*e*S	**Sn**	**07 54 23.7**	**-4.4**
JSR	**Shiriuchi**	**10.17**	**239**	P	**Pn**	**07 52 51.9**	**+1.9**
JTM	**Tenmabayashi**	**10.29**	**234**	*e*S	Sn	07 54 38.2	-6.9
JANG	**Nango**	**10.34**	**231**	P	**Pn**	**07 52 51.2**	**-1.1**
JANG				*e*S	Sn	07 54 39.4	-6.9
JRG	**Rokugo**	**11.51**	**230**	P	**Pn**	**07 53 09.7**	**+1.7**
EKMR	**Ekimchan**	**13.51**	**302**	*e*P	**P**	**07 53 38.0**	**-0.6**
FX1	**Attu Island--F**	**14.58**	**60**	P	**P**	**07 53 50.9**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=225,slow=5.7,SNR=2.7						
FX1				S	Sn	07 56 22.8	-5.7
	comp=Z,3.2nm,0.3s,baz=38,slow=21,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**30.08**	**151**	T	T	08 27 56.1	
	baz=342,slow=77,SNR=59						
H11N1	**WAKE ISLAND Hy**	**30.10**	**151**	T	T	08 28 14.4	
	baz=342,slow=77,SNR=47						
H11N3	**WAKE ISLAND Hy**	**30.10**	**151**	T	T	08 28 21.0	
	baz=342,slow=77,SNR=45						
H11S1	**WAKE ISLAND Hy**	**31.16**	**152**	T	T	08 29 45.1	
	baz=344,slow=77,SNR=32						
H11S3	**WAKE ISLAND Hy**	**31.17**	**152**	T	T	08 29 30.6	
	baz=344,slow=77,SNR=30						
H11S2	**WAKE ISLAND Hy**	**31.18**	**152**	T	T	08 29 35.1	
	baz=344,slow=77,SNR=33						
ILAR	**Eielson Array**	**36.51**	**39**	*e*P	**P**	**07 57 20.0**	**-0.3**
ILAR	**Eielson Array**	**36.51**	**39**	P	**P**	**07 57 20.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=263,slow=7.9,SNR=16						
MKAR	**Makanchi Array**	**46.04**	**296**	P	**P**	**07 58 38.0**	**-0.4**
MKAR				*PP	pP	07 59 17.9	+11
MKAR	**Makanchi Array**	**46.04**	**296**	*e*P	**P**	**07 58 38.0**	**-0.4**
MKAR				*e*rx	rx	07 59 17.9	
MKAR	**Makanchi Array**	**46.04**	**296**	P	**P**	**07 58 38.0**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=66,slow=6.8,SNR=5.6						
MKAR				pP	pP	07 59 17.9	+11
	comp=Z,0.8nm,0.7s,baz=67,slow=9.3,SNR=4.8						
YKA	**Yellowknife Ar**	**50.85**	**37**	*e*P	**P**	**07 59 14.8**	**-0.1**
YKA	**Yellowknife Ar**	**50.85**	**37**	P	**P**	**07 59 14.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=300,slow=6.9,SNR=5.0						
ARCES	**ARCESS Array B**	**57.05**	**340**	*e*P	**P**	**07 59 58.8**	**-1.0**
ARCES	**ARCESS Array B**	**57.05**	**340**	P	**P**	**07 59 58.8**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=41,slow=8.0,SNR=5.1						
NVAR	**Mina Array Bea**	**62.77**	**62**	P	**P**	**08 00 39.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=294,slow=8.8,SNR=3.4						
FINES	**FINESS Array B**	**63.19**	**334**	P	**P**	**08 00 40.3**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=27,slow=8.0,SNR=19						
PDAR	**Pindale Array**	**64.95**	**54**	P	**P**	**08 00 53.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=298,slow=3.2,SNR=4.3						
NOA	**NORSAR Array B**	**67.42**	**341**	*e*P	**P**	**08 01 08.5**	**-0.6**
NOA	**NORSAR Array B**	**67.42**	**341**	P	**P**	**08 01 08.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=28,slow=6.7,SNR=7.4						
WRA	**Warramunga Arr**	**68.87**	**198**	*e*P	**P**	**08 01 18.7**	**+0.2**
WRA	**Warramunga Arr**	**68.87**	**198**	P	**P**	**08 01 18.7**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=16,slow=6.8,SNR=4.7						
AKASG	**Malin Array Be**	**70.65**	**326**	P	**P**	**08 01 27.9**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**70.65**	**326**	P	**P**	**08 01 27.9**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=32,slow=6.0,SNR=4.0						
ASAR	**Alice Springs**	**72.57**	**197**	*e*P	**P**	**08 01 42.7**	**+1.8**
ASAR	**Alice Springs**	**72.57**	**197**	P	**P**	**08 01 42.6**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=8.1,slow=5.5,SNR=10						
SCHQ	**Schefferville**	**73.02**	**22**	P	**P**	**08 01 41.8**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=5.9,slow=7.7,SNR=6.3						
GERES	**GERESS Array B**	**77.60**	**333**	*e*P	**P**	**08 02 09.0**	**-0.6**
GERES	**GERESS Array B**	**77.60**	**333**	P	**P**	**08 02 09.0**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=15,slow=5.8,SNR=4.2						
TXAR	**Lajitas Array**	**77.80**	**60**	*e*P	**P**	**08 02 10.6**	**-0.5**
TXAR	**Lajitas Array**	**77.80**	**60**	P	**P**	**08 02 10.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=293,slow=4.6,SNR=7.8						

KRSC 10 08:29:06.1±8.7, 54°62N×158°66E, h280km±100km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**1.02**	**205**	P	Pn	08 29 44.2	-0.4
KZV	**Kizimen**	**1.07**	**62**	P	Pn	08 29 45.3	+0.5
TUMR	**Tumrok**	**1.08**	**52**	P	Pn	08 29 45.5	+0.7
KRX	**Arik**	**1.26**	**180**	P	Pn	08 29 46.2	+0.2
ESO	**Esso**	**1.31**	**1**	P	Pn	08 29 44.9	-1.1
KRER	**Koryakskii**	**1.32**	**178**	P	Pn	08 29 46.9	+0.5
KOK	**Koryaka**	**1.33**	**181**	P	Pn	08 29 46.6	+0.2
SDLR	**Sedlovina**	**1.35**	**174**	P	Pn	08 29 46.8	+0.3
SDLR				S	S	08 30 18.3	-0.3
AVH	**Avacha**	**1.36**	**178**	P	Pn	08 29 47.5	+1.0
SMAR	**Somma**	**1.36**	**176**	P	Pn	08 29 47.3	+0.6
UGLR	**Uglovaya**	**1.42**	**176**	P	Pn	08 29 47.4	+0.5
KMNR	**Kamenistaya**	**1.45**	**38**	P	Pn	08 29 46.4	-0.6
NLC	**Nalytchevo**	**1.51**	**164**	P	Pn	08 29 47.0	-0.3
NLC				S	S	08 30 19.1	-1.0
SPN	**Mys Shipunski**	**1.73**	**152**	S	S	08 30 19.9	-3.0
MKZ	**Mys Kozlova**	**1.79**	**91**	P	Pn	08 29 49.2	-0.1
MKZ				S	S	08 30 22.4	-1.2
SRDR	**Sredinnyy**	**1.80**	**19**	P	Pn	08 29 48.7	-0.8
MTVR	**Mutnovka**	**2.16**	**188**	P	Pn	08 29 53.5	+0.8
MTVR				S	S	08 30 29.8	+0.1
RUS	**Russkaya**	**2.19**	**182**	P	Pn	08 29 51.8	-1.0
RUS				S	S	08 30 27.5	-2.4
KBTR	**Krutoberegovo**	**2.85**	**54**	P	Pn	08 30 00.2	+1.3
KBTR				S	S	08 30 41.9	+0.9
BKI	**Bering**	**4.26**	**79**	S	S	08 31 08.9	+0.4

IDC 10 08:38:25.7±2.2, 14°55N×92°89W, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.6/26, mbtmp3.6/7, ML3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=44.3km s-min=20.2km az=15.0

MEX 10 08:38:28.7±0.7, 14°39N×93°11W, h29km±64km, MD4.1
ISC 10 08:38:26.1±2.2, 14°59N±0°09×93°12W±0°05, h4km±14km, n14, σ1§95/17, mb3.8/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.88**	**69**	*i* P	**Pg**	**08 38 43.5**	**+0.4**
THIG				*i* S	**Sb**	**08 38 56.3**	**+0.1**
PCIG		**1.11**	**355**	*i* P	**Pn**	**08 38 49.4**	**+0.9**
PCIG				*i* S	**Sn**	**08 39 04.1**	**-0.3**
APG	**El Apazote**	**2.60**	**81**	Pn	Pn	08 39 05.9	-3.4
	21nm,0.3s,baz=260,slow=8.2,SNR=108						
APG				Sn	**Sn**	**08 39 39.0**	**-2.4**
	26nm,0.3s,baz=214,slow=20,SNR=12						
HUIG	**Huatulco**	**3.12**	**292**	*e*P	**Pn**	**08 39 15.3**	**-0.9**
HUIG				*i* S	**Sn**	**08 39 51.9**	**-2.0**
VHO	**Vista Hermosa**	**4.27**	**306**	*e*P	**Pn**	**08 39 32.4**	**+0.2**
VHO				*i* S	**Sn**	**08 40 21.8**	**-0.8**
TEIG	**Tepich**	**7.26**	**39**	Pn	**Pn**	**08 40 13.3**	**+0.1**
	17nm,0.3s,baz=238,slow=13,SNR=29						
TEIG				Sn	**Sn**	**08 41 33.5**	**-2.7**
	0.4nm,0.3s,baz=270,slow=20,SNR=3.8						
JTS	**JuntasAbangare**	**9.04**	**117**	Pn	**Pn**	**08 40 35.5**	**-2.1**
	0.2nm,0.3s,baz=299,slow=19,SNR=2.0						
JTS				Sn	**Sn**	**08 42 24.6**	**+4.5**
	0.2nm,0.3s,baz=311,slow=20,SNR=1.8						
TXAR	**Lajitas Array**	**17.62**	**328**	P	**P**	**08 42 35.6**	**+1.8**
	0.0nm,0.3s,baz=145,slow=13,SNR=5.5						
ANMO	**Albuquerque**	**23.57**	**332**	P	**P**	**08 43 39.5**	**+1.4**
	0.7nm,0.7s,baz=135,slow=17,SNR=5.2						
ATAH	**Atahualpa**	**26.06**	**145**	LR	LR	08 52 21.8	
	comp=Z,67nm,19.2s,baz=211,slow=32						
SJG	**San Juan**	**26.10**	**79**	LR	LR	08 53 06.8	
	comp=Z,48nm,20.2s,baz=238,slow=34						
NVAR	**Mina Array Bea**	**32.54**	**322**	P	P	08 45 01.9	+3.2
	baz=129,slow=8.3,SNR=6.6						
YKA	**Yellowknife Ar**	**50.21**	**347**	P	**P**	**08 47 22.9**	**-0.1**
	1.1nm,0.8s,baz=153,slow=7.3,SNR=9.3						
ILAR	**Eielson Array**	**61.88**	**337**	P	**P**	**08 48 46.2**	**-0.3**
	0.4nm,0.7s,baz=133,slow=4.9,SNR=5.3						

CSEM 10 08:58:49.7, 60°30N×25°18E, h0km, ML0.9, Mining explosion. After HEL
HEL 10 08:58:49.7±0.0, 60°30N×25°18E, h0km, ML0.9, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.40**	**258**	*e*P	Pg	08 58 56.8	-0.5
MEF				*e*S	Sg	08 59 02.0	-0.4
MEF	**Metsahovi**	**0.40**	**258**	P	Pg	08 58 56.7	-0.6
MEF				S	Sg	08 59 02.0	-0.4
PVF	**Pernaja**	**0.42**	**54**	*e*P	Pg	08 58 57.2	-0.5
PVF				*e*S	Sg	08 59 02.6	-0.6
PVF	**Pernaja**	**0.42**	**54**	P	Pg	08 58 57.2	-0.5
PVF				S	Sg	08 59 02.5	-0.6
FIA0	**FINESS Array S**	**1.23**	**21**	*e*P	Pg	08 59 11.7	-1.5
FIA0	**FINESS Array S**	**1.23**	**21**	P	Pg	08 59 11.7	-1.5
RAF	**Rauma**	**1.83**	**295**	*e*SN	Sn	08 59 46.1	-0.1
RAF				MSG		08 59 46.2	
	comp=Z,0.5nm,0.1s						
RAF	**Rauma**	**1.83**	**295**	Sn	Sn	08 59 46.0	-0.1

IDC 10 09:25:00.4±0.6, 12°27N×144°00E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.2/27, mbtmp4.1/18, MS3.9/9, Ms1 3.9/9, ms1mx3.5/40, Error ellipse: s-maj=21.7km s-min=13.5km az=86.0
ISCJB 10 09:25:03.3±0.3, 12°22N±0°06×143°80E±0°06, h26km, mb4.4/44, MS3.9/12, Error ellipse: s-maj=8.6km s-min=8.1km az=39.0
NEIC 10 09:25:04.6±3.9, 12°23N×143°85E, h24km±27km, mb4.7/17, Error ellipse: s-maj=11.2km s-min=8.1km az=112.0
BJI 10 09:25:12.2, 13°05N×143°34E, h42km, mB5.0/15, mb4.6/20, Ms4.6/8, Ms7 4.3/8
ISC 10 09:25:04.7±0.4, 12°25N±0°07×143°96E±0°07, h26km, n90, σ1§62/93, mb4.6/44, MS3.9/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.60**	**33**	*e*Pn	**Pn**	**09 25 32.5**	**+1.1**
GUMO				*e*Sn	**Sn**	**09 25 47.7**	**-3.5**
H11S3	**WAKE ISLAND Hy**	**22.76**	**71**	T	T	09 54 04.3	
	baz=260,slow=62,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**22.78**	**71**	T	T	09 53 57.1	
	baz=260,slow=62,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**22.78**	**71**	T	T	09 54 05.5	
	baz=260,slow=62,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**23.24**	**68**	T	T	09 54 13.1	
	baz=258,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**23.25**	**68**	T	T	09 54 33.3	
	baz=258,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**23.26**	**68**	T	T	09 54 27.4	
	baz=258,slow=75,SNR=19						
JNU	**Nakatsue**	**23.98**	**332**	LR	LR	09 38 31.7	
	comp=Z,71nm,19.2s,baz=227,slow=34						
MJAR	**Matsushiro Arr**	**24.74**	**349**	P	**P**	**09 30 22.9**	**-1.2**
MJAR	**Matsushiro Arr**	**24.74**	**349**	P	**P**	**09 30 22.9**	**-1.2**
	3.1nm,0.9s,baz=173,slow=10,SNR=5.4						
MJAR				LR	LR	09 39 40.6	
	comp=Z,139nm,18.1s,baz=165,slow=36						
MAJO	**Matsushiro**	**24.74**	**349**	*e*P	**P**	**09 30 23.2**	**-0.9**
MYLDM	**Lahad Datu**

	comp=N,340nm,14.8s							
HHC				LR	LR			
	comp=E,290nm,14.8s							
HHC				LR	LR			
	comp=Z,180nm,14.8s							
DZM	**Mont Dzumac**	**40.62**	**147**	P	**P**	**09 32 43.1**	**+0.3**	
DZM	**Mont Dzumac**	**40.62**	**147**	P	**P**	**09 32 43.1**	**+0.3**	
	7.4nm,0.9s,baz=245,slow=17,SNR=5.2							
KMI	**Kunming**	**40.93**	**294**	P	**P**	**09 32 46.3**	**+0.7**	
KMI				pmax	pmax			
	comp=Z,8.0nm,0.5s							
CD2	**Chengdu**	**41.46**	**303**	*eP*	**P**	**09 32 49.2**	**-0.5**	
CD2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
PETK	**Petropavlovsk-**	**42.21**	**12**	LR	LR	09 47 24.3		
	comp=Z,86nm,19.5s,baz=16,slow=32							
LZH	**Lanzhou**	**43.19**	**310**	*eP*	P	09 32 58.1	-5.7	
LZH				pP	pP	09 33 03.0	-8.7	
LZH				sP	sP	09 33 04.6	-10	
LZH				pmax	pmax			
	comp=Z,18nm,0.9s							
CMAR	**Chiang Mai Arr**	**43.76**	**284**	P	**P**	**09 33 08.8**	**+0.3**	
CMAR	**Chiang Mai Arr**	**43.76**	**284**	P	**P**	**09 33 08.8**	**+0.3**	
	comp=Z,1.7nm,0.3s,baz=88,slow=8.7,SNR=5.6							
CMAR				LR	LR	09 51 59.1		
	comp=Z,66nm,20.0s,baz=338,slow=37							
STKA	**Stephens Creek**	**43.93**	**183**	P	**P**	**09 33 08.0**	**-1.5**	
STKA	**Stephens Creek**	**43.93**	**183**	P	**P**	**09 33 08.0**	**-1.5**	
	comp=Z,3.4nm,0.9s,baz=143,slow=20,SNR=5.8							
PSI	**Prapat**	**45.56**	**262**	P	**P**	**09 33 23.1**	**0.0**	
PSI	**Prapat**	**45.56**	**262**	P	**P**	**09 33 23.1**	**0.0**	
	comp=Z,5.6nm,0.9s,baz=331,slow=10,SNR=3.7							
SONM	**Songino Array**	**47.33**	**326**	P	**P**	**09 33 36.7**	**+0.2**	
SONM				PcP	**PcP**	**09 35 07.6**	**+0.5**	
SONM	**Songino Array**	**47.33**	**326**	P	**P**	**09 33 36.7**	**+0.2**	
	comp=Z,0.6nm,0.6s,baz=134,slow=8.5,SNR=4.2							
SONM				PcP	**PcP**	**09 35 07.6**	**+0.5**	
	comp=Z,0.8nm,0.8s,baz=145,slow=5.3,SNR=3.7							
SONM				LR	LR	09 53 48.6		
	comp=Z,165nm,20.3s,baz=161,slow=36							
GTA	**Gaotai**	**47.41**	**313**	*eP*	**P**	**09 33 38.9**	**+1.6**	
GTA				pP	pP	09 33 51.2	+6.0	
GTA				sP	sP	09 33 56.6	+8.2	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
WMQ	**Urumqi**	**57.43**	**314**	*eP*	**P**	**09 34 52.0**	**+0.6**	
WMQ				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**09 35 22.0**	**+0.3**	
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**09 35 22.0**	**+0.3**	
	comp=Z,1.6nm,0.8s,baz=94,slow=7.9,SNR=9.7							
ZALV	**Zalesovo Beam**	**62.20**	**325**	P	**P**	**09 35 24.0**	**+0.1**	
ZALV				PcP	**PcP**	**09 36 03.6**	**-0.2**	
ZALV	**Zalesovo Beam**	**62.20**	**325**	P	**P**	**09 35 24.0**	**+0.1**	
	comp=Z,0.9nm,0.6s,baz=114,slow=3.7,SNR=5.0							
ZALV				PcP	**PcP**	**09 36 03.6**	**-0.2**	
	comp=Z,1.1nm,0.6s,baz=132,slow=4.4,SNR=4.5							
KURK	**Kurchatov**	**65.04**	**320**	*eP*	**P**	**09 35 42.5**	**-0.3**	
AAK	**Ala-Archa**	**66.72**	**311**	LR	LR	10 06 34.8		
	comp=Z,164nm,18.7s,baz=331,slow=37							
RC01	**Rabbit Creek A**	**67.97**	**29**	*eP*	**P**	**09 36 01.7**	**+0.4**	
	comp=Z,24nm,1.5s							
PMR	**Palmer**	**68.38**	**28**	*eP*	**P**	**09 36 03.9**	**+0.1**	
	comp=Z,5.8nm,0.9s							
ILAR	**Eielson Array**	**70.15**	**25**	P	**P**	**09 36 13.4**	**-1.4**	
ILAR	**Eielson Array**	**70.15**	**25**	P	**P**	**09 36 13.4**	**-1.4**	
	comp=Z,1.1nm,0.5s,baz=252,slow=6.0,SNR=27							
PAX	**Paxson**	**70.36**	**27**	*eP*	**P**	**09 36 16.1**	**-0.1**	
	comp=Z,5.0nm,1.2s							
BRVK	**Borovoye**	**70.50**	**322**	*eP*	**P**	**09 36 16.8**	**-0.3**	
	comp=Z,5.4nm,1.0s							
DAWY	**Dawson**	**73.23**	**27**	*eP*	**P**	**09 36 33.8**	**+0.5**	
INK	**Inuvik**	**75.94**	**22**	*eP*	**P**	**09 36 48.8**	**-0.1**	
	comp=Z,5.1nm,0.9s							
ABKAR	**Akbulak array**	**76.94**	**318**	*eP*	**P**	**09 36 54.6**	**-0.4**	
ARU	**Arti**	**77.36**	**325**	*eP*	**P**	**09 36 56.8**	**-0.4**	
	comp=Z,5.1nm,0.8s							
KHMM	**Horse Mountain**	**83.82**	**50**	*eP*	**P**	**09 37 35.2**	**+2.8**	
	comp=Z,21nm,1.3s							
YKA	**Yellowknife Ar**	**84.45**	**27**	P	**P**	**09 37 35.2**	**+0.3**	
YKA	**Yellowknife Ar**	**84.45**	**27**	P	**P**	**09 37 35.2**	**+0.3**	
	comp=Z,1.3nm,0.4s,baz=285,slow=5.0,SNR=19							
LTY	**Liberty**	**84.72**	**43**	*eP*	**P**	**09 37 39.3**	**+2.6**	
	comp=Z,4.7nm,1.0s							
B08A	**Colville Reser**	**85.36**	**42**	*eP*	**P**	**09 37 41.0**	**+1.2**	
	comp=Z,5.0nm,0.8s							
C09A	**Chrisman Ranch**	**86.18**	**42**	*eP*	**P**	**09 37 45.2**	**+1.3**	
	comp=Z,5.7nm,1.0s							
E09A	**Wood Farm, Sta**	**86.57**	**43**	*eP*	**P**	**09 37 47.8**	**+1.9**	
	comp=Z,9.2nm,1.3s							
NEW	**Newport**	**86.81**	**41**	*eP*	**P**	**09 37 48.6**	**+1.6**	
	comp=Z,8.8nm,0.9s							
J08A	**Circle Bar Ran**	**87.11**	**46**	*eP*	**P**	**09 37 50.9**	**+2.2**	
	comp=Z,4.9nm,1.1s							
BMO	**Blue Mountains**	**87.56**	**45**	*eP*	**P**	**09 37 51.9**	**+1.1**	
	comp=Z,5.2nm,1.1s							
ARCES	**ARCESS Array B**	**88.08**	**342**	P	**P**	**09 37 52.6**	**0.0**	
ARCES	**ARCESS Array B**	**88.08**	**342**	P	**P**	**09 37 52.6**	**0.0**	
	comp=Z,1.2nm,0.7s,baz=46,slow=8.7,SNR=4.4							
BSMT	**Bassoo Peak**	**88.43**	**41**	*eP*	**P**	**09 37 56.2**	**+1.2**	
	comp=Z,3.6nm,1.0s							
NVAR	**Mina Array Bea**	**88.44**	**51**	P	**P**	**09 37 55.4**	**+0.1**	
NVAR	**Mina Array Bea**	**88.44**	**51**	P	**P**	**09 37 55.4**	**+0.1**	
	baz=274,slow=5.5,SNR=18							
MFID	**Camas Ranch**	**88.96**	**46**	*eP*	**P**	**09 37 59.0**	**+1.5**	
	comp=Z,5.7nm,1.1s							
PFO	**Pinyon Flat Ob**	**91.13**	**55**	LR	LR	10 11 37.5		
	comp=Z,152nm,20.2s,baz=209,slow=31							
FINES	**FINESS Array B**	**92.00**	**335**	P	**P**	**09 38 09.1**	**-2.0**	
FINES	**FINESS Array B**	**92.00**	**335**	P	**P**	**09 38 09.1**	**-2.0**	
	comp=Z,1.4nm,0.6s,baz=70,slow=4.2,SNR=7.4							
AKASG	**Malin Array Be**	**95.59**	**325**	P	**P**	**09 38 26.2**	**-1.6**	
AKASG	**Malin Array Be**	**95.59**	**325**	P	**P**	**09 38 26.2**	**-1.6**	
	comp=Z,0.5nm,0.5s,baz=4.7,slow=13,SNR=5.6							
NOA	**NORSAR Array B**	**97.98**	**339**	P	**P**	**09 38 37.1**	**-1.3**	
NOA	**NORSAR Array B**	**97.98**	**339**	P	**P**	**09 38 37.1**	**-1.3**	
	comp=Z,0.5nm,0.8s,baz=65,slow=6.3,SNR=2.7							
LPIG	**La Paz**	**99.01**	**63**	LR	LR	10 12 00.5		
	comp=Z,109nm,21.9s,baz=272,slow=28							
TORD	**Torodi Ar. Bea**	**134.87**	**303**	PKP	**PKPdf**	**09 44 21.8**	**-0.6**	
TORD	**Torodi Ar. Bea**	**134.87**	**303**	PKP	**PKPdf**	**09 44 21.8**	**-0.6**	
	comp=Z,0.9nm,1.0s,baz=328,slow=0.9,SNR=3.2							
CFAA	**Coronel Fontan**	**144.66**	**128**	PKP	**PKPab**	**09 44 38.4**	**-0.1**	
CFAA	**Coronel Fontan**	**144.66**	**128**	PKP	**PKPab**	**09 44 38.4**	**-0.1**	
	comp=Z,0.1nm,0.4s,baz=225,slow=4.3,SNR=3.6							
LPAZ	**La Paz**	**148.66**	**101**	PKPbc	**PKPbc**	**09 44 52.8**	**+1.4**	
LPAZ	**La Paz**	**148.66**	**101**	PKPbc	**PKPbc**	**09 44 52.8**	**+1.4**	
	comp=Z,1.7nm,0.8s,baz=252,slow=1.6,SNR=5.7							

GUC 10 09:28:35.4±0.9, 32°.33S×71°.35W, h42km±3km, MD3.5, ML2.8, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.70**	**156**	⇑*iP*	Pn	09 28 49.6	+0.3
ROCH				*i* S	Sn	09 29 00.4	+1.2
ROCH				AML	AML	09 29 01.1	
	comp=E,761nm,0.3s						
JACH	**Jahuel**	**0.73**	**119**	⇓*iP*	Pn	09 28 50.0	+0.5
JACH				*i* S	Sn	09 29 01.1	+1.5
IHA	**Instituto Hidr**	**0.73**	**199**	⇓*iP*	Pn	09 28 49.5	+0.1
IHA				*i* S	Sn	09 29 00.6	+1.2
PEL	**Peldehue**	**0.99**	**145**	⇑*iP*	Pn	09 28 53.7	+0.8
PEL				*i* S	Sn	09 29 07.2	+1.5
PEL				AML	AML	09 29 07.7	
	comp=N,393nm,0.4s						
CMCH	**Combarbala**	**1.19**	**15**	⇑*iP*	Pn	09 28 55.4	-0.4
CMCH				*e*S	Sn	09 29 11.0	+0.2
CMCH				AML	AML	09 29 12.2	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**1.27**	**147**	⇑*iP*	Pn	09 28 57.7	+0.9
CLCH				*i* S	Sn	09 29 14.3	+1.7
CLCH				AML	AML	09 29 15.1	
	comp=N,294nm,0.5s						
ANTU	**Antumapu**	**1.38**	**154**	*i* S	Sn	09 29 17.0	+1.7
ANTU				AML	AML	09 29 17.4	
	comp=N,188nm,0.2s						
SJCH	**San Jose de Ma**	**1.55**	**148**	AML	AML	09 29 21.1	
	comp=N,90nm,0.1s						
LNV	**Longovilo**	**1.62**	**182**	*eP*	Pn	09 29 02.6	+1.1
LMEL	**Las Melosas**	**1.79**	**148**	⇓*iP*	Pn	09 29 05.8	+1.6
LMEL				*i* S	Sn	09 29 28.2	+2.4
LMEL				AML	AML	09 29 34.4	
	comp=N,235nm,0.1s						
TLL	**Tololo Astrono**	**2.21**	**12**	*eP*	Pn	09 29 10.7	+0.8
TLL				*e*S	Sn	09 29 38.3	+2.1
TLL				AML	AML	09 29 42.8	
	comp=E,88nm,0.5s						

*ISCJB **10** 09:42:36.2±0.9, 55°.9S×0°.1×27°.9W±0°.4, h121km, mb4.3/6, Error ellipse: s-maj=35.7km s-min=14.8km az=157.2*
*IDC **10** 09:42:40.2±6.6, 55°.92S×27°.95W, h143km±59km, mb4.0/6, mb1 4.1/7, mb1mx3.8/18, mbtmp4.0/7, Error ellipse: s-maj=30.1km s-min=20.2km az=72.0*

ISC 10 09:42:37.5±0.8, 55°.9S×0°.1×28°.0W±0°.3, h121km, n15, σ0.89/15, mb4.3/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.14**	**158**	*eP*	**Pn**	**09 46 29.9**	**+0.7**
VNA2	**Neumayer--Watz**	**17.54**	**157**	*eP*	**P**	**09 46 33.4**	**0.0**
SNAA	**Sanae**	**19.10**	**156**	*eP*	**P**	**09 46 50.2**	**-0.3**
SNAA	**Sanae**	**19.10**	**156**	P	**P**	**09 46 50.4**	**-0.1**
	0.6nm,0.3s,baz=315,slow=8.3,SNR=94						
QSPA	**South Pole Qui**	**34.40**	**180**	P	**P**	**09 49 12.9**	**+0.1**
	4.3nm,0.6s,baz=210,slow=3.3,SNR=19						
MAW	**Mawson**	**40.56**	**144**	P	**P**	**09 50 03.7**	**-0.7**
	6.7nm,1.0s,baz=183,slow=4.6,SNR=6.5						
VNDA	**Vanda**	**46.75**	**183**	P	**P**	**09 50 54.5**	**+0.7**
	4.1nm,0.7s,baz=183,slow=6.1,SNR=46						
LPAZ	**La Paz**	**49.91**	**306**	P	**P**	**09 51 19.6**	**+0.2**
	1.2nm,0.5s,baz=158,slow=6.9,SNR=6.7						
TORD	**Torodi Ar. Bea**	**73.10**	**30**	P	**P**	**09 53 55.5**	**+1.1**
	4.2nm,0.7s,baz=200,slow=6.6,SNR=24						
ASAR	**Alice Springs**	**99.30**	**163**	P	**Pdif**	**09 56 03.6**	**-2.2**
	0.5nm,0.8s,baz=173,slow=4.3,SNR=4.8						
FINES	**FINESS Array B**	**124.42**	**28**	PKP	**PKPdf**	**10 01 19.8**	**-0.9**
	1.6nm,0.6s,baz=270,slow=2.8,SNR=5.7						
ARCES	**ARCESS Array B**	**130.93**	**22**	PKP	**PKPdf**	**10 01 32.9**	**0.0**
	0.6nm,0.6s,baz=186,slow=2.4,SNR=6.3						
YKA	**Yellowknife Ar**	**135.74**	**318**	PKP	**PKPdf**	**10 01 41.0**	**-1.1**
	0.3nm,0.5s,baz=118,slow=2.1,SNR=4.8						
ILAR	**Eielson Array**	**149.66**	**312**	PKPbc	**PKPbc**	**10 02 11.2**	**-0.2**
	4.2nm,0.9s,baz=131,slow=1.6,SNR=45						
SONM	**Songino Array**	**151.15**	**87**	PKPbc	**PKPbc**	**10 02 15.4**	**-0.1**
	4.4nm,0.6s,baz=229,slow=3.2,SNR=28						

*ISK **10** 09:50:54.8, 38°.18N×26°.01E, h9km, MD3.3, ML3.4*
*CSEM **10** 09:50:54.7±0.1, 38°.19N×25°.92E, h2km, ML3.6, Error ellipse: s-maj=2.8km s-min=2.3km az=150.0*
*ISCJB **10** 09:50:54.8±0.6, 38°.20N±0°.01×25°.93E±0°.02, h8km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=43.7*
*ATH **10** 09:50:54.8, 38°.22N×25°.94E, h20km, MD3.4/25, ML2.9*
*DDA **10** 09:50:54.7, 38°.18N×25°.97E, h7km, MD3.2*
*THE **10** 09:50:56.2, 38°.22N×26°.05E, h13km, ML3.6/3, Error ellipse: s-maj=1.2km s-min=0.4km az=77.0*

ISC 10 09:50:55.4±0.9, 38°.19N±0°.02×25°.97E±0°.02, h11km±6km, n118, σ0.66/196, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.21**	**20**	*e*PG	**Pg**	**09 50 59.9**	**0.0**
CHOS				*e*SG	**Sg**	**09 51 03.0**	**+0.1**
CHOS	**Chios island**	**0.21**	**20**	P	**Pg**	**09 50 59.9**	**0.0**
CHOS				S	**Sg**	**09 51 03.3**	**+0.4**
CHOS	**Chios island**	**0.21**	**20**	*e*PB	**Pg**	**09 50 59.8**	**0.0**
CHOS				*e*SB	**Sg**	**09 51 03.1**	**+0.2**
CHOS	**Chios island**	**0.21**	**20**	*e*Pb	**Pg**	**09 50 59.8**	**0.0**
CHOS				*e*Sg	**Sg**	**09 51 03.0**	**+0.1**
SMG	**Samos**	**0.84**	**125**	P	**Pb**	**09 51 11.7**	**-0.3**
SMG				S	**Sb**	**09 51 23.1**	**-0.2**
SMG	**Samos**	**0.84**	**125**	*e*PN	**Pb**	**09 51 11.7**	**-0.3**
SMG				*e*SN	**Sb**	**09 51 23.9**	**+0.6**
SMG	**Samos**	**0.84**	**125**	P	**Pb**	**09 51 11.7**	**-0.3**
SMG				S	**Sb**	**09 51 23.1**	**-0.2**
SIGR	**SIGRI**	**1.02**	**355**	P	**Pg**	**09 51 14.7**	**-0.4**
SIGR				S	**Sb**	**09 51 29.0**	**+0.5**
SIGR	**SIGRI**	**1.02**	**355**	*e*PN	**Pg**	**09 51 14.7**	**-0.4**
SIGR				*e*SN	**Sg**	**09 51 27.6**	**-0.8**
SIGR	**SIGRI**	**1.02**	**355**	P	**Pg**	**09 51 14.7**	**-0.4**
SIGR				*e*Sn	**Sg**	**09 51 27.6**	**-0.8**
SIGR				S	**Sb**	**09 51 29.0**	**+0.5**
IZM	**Izmir**	**1.04**	**78**	*e*PG	**Pg**	**09 51 15.1**	**-0.3**
IZM				*e*SG	**Sg**	**09 51 28.9**	**-0.1**
IZM	**Izmir**	**1.04**	**78**	*e*Pg	**Pg**	**09 51 15.1**	**-0.3**
IZM				*e*Sg	**Sg**	**09 51 28.9**	**-0.1**
PRK	**Paraskevi**	**1.08**	**13**	P	**Pb**	**09 51 15.5**	**-0.6**
PRK				S	**Sg**	**09 51 29.7**	**-0.5**
PRK	**Paraskevi**	**1.08**	**13**	*e*PN	**Pb**	**09 51 15.5**	**-0.6**
PRK				*e*SN	**Sg**	**09 51 29.8**	**-0.5**
PRK	**Paraskevi**	**1.08**	**13**	P	**Pb**	**09 51 15.5**	**-0.6**
PRK				S	**Sg**	**09 51 29.7**	**-0.5**
GCAM	**G?zelcaml?**	**1.12**	**116**	*i* P	**Pb**	**09 51 15.5**	**-1.2**
GCAM				*i* S	**Sn**	**09 51 32.1**	**-0.2**
GCAM	**G?zelcaml?**	**1.12**	**116**	*i* P	**Pb**	**09 51 15.5**	**-1.2**
GCAM				*i* S	**Sn**	**09 51 32.1**	**-0.2**
APE	**Apeiranthos**	**1.17**	**197**	*e*PN	**Pb**	**09 51 17.4**	**-0.2**
APE				*e*SN	**Sn**	**09 51 34.3**	**+0.5**
APE	**Apeiranthos**	**1.17**	**197**	P	**Pg**	**09 51 17.8**	**-0.1**
APE				S	**Sn**	**09 51 34.7**	**+0.9**
APE	**Apeiranthos**	**1.17**	**197**	*e*PN	**Pn**	**09 51 17.6**	**-0.2**
APE				*e*SN	**Sn**	**09 51 34.5**	**+0.7**
APE	**Apeiranthos**	**1.17**	**197**	*e*Pn	**Pn**	**09 51 17.6**	**-0.2**
APE				*e*Sn	**Sn**	**09 51 34.3**	**+0.5**
AYVA	**Ayvalik**	**1.25**	**27**	*i* P	**Pn**	**09 51 18.7**	**-0.1**
AYVA				*i* S	**Sn**	**09 51 36.6**	**+1.0**
AYVA	**Ayvalik**	**1.25**	**27**	*i* P	**Pn**	**09 51 18.7**	**-0.1**
AYVA				*i* S	**Sn**	**09 51 36.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**99**	*e*PN	**Pn**	**09 51 22.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**99**	*e*Pn	**Pn**	**09 51 22.6**	**-0.3**
BODT	**Bodrum**	**1.55**	**136**	*e*PN	**Pn**	**09 51 22.7**	**-0.3**
BODT	**Bodrum**	**1.55**	**136**	*e*Pn	**Pn**	**09 51 22.7**	**-0.3**
AYDN	**Tasoluk**	**1.60**	**109**	*i* P	**Pb**	**09 51 24.8**	**-0.2**
AYDN				*i* S	**Sg**	**09 51 46.6**	**-0.4**
AYDN	**Tasoluk**	**1.60**	**109**	*i* P	**Pb**	**09 51 24.8**	**-0.2**
AYDN				*i* S	**Sg**	**09 51 46.6**	**-0.4**
AKHS	**Akhisar**	**1.60**	**64**	*i* P	**Pn**	**09 51 23.8**	**+0.1**
AKHS				*i* S	**Sg**	**09 51 46.6**	**-0.4**
AKHS	**Akhisar**	**1.60**	**64**	*i* P	**Pn**	**09 51 23.8**	**+0.1**
AKHS				*i* S	**Sg**	**09 51 46.6**	**-0.4**
PTL	**Penteli**	**1.66**	**266**	*e*PN	**Pn**	**09 51 23.9**	**-0.6**
PTL				*e*SN	**Sn**	**09 51 46.1**	**+0.2**
PTL	**Penteli**	**1.66**	**266**	*e*Pn	**Pn**	**09 51 23.9**	**-0.6**
PTL				*e*Sn	**Sn**	**09 51 46.1**	**+0.2**
ATH	**Athens Observa**	**1.79**	**264**	*e*PN	**Pn**	**09 51 26.6**	**+0.4**
ATH				*e*SN	**Sn**	**09 51 49.4**	**+0.5**
ATH	**Athens Observa**	**1.79**	**264**	*e*Pn	**Pn**	**09 51 26.6**	**+0.4**
ATH				*e*Sn	**Sn**	**09 51 49.4**	**+0.5**
LIA	**Limnos Island**	**1.81**	**341**	*e*PN	**Pn**	**09 51 26.1**	**-0.4**
LIA				*e*SN	**Sn**	**09 51 50.1**	**+0.7**
LIA	**Limnos Island**	**1.81**	**341**	*e*Pn	**Pn**	**09 51 26.1**	**-0.4**
LIA				*e*Sn	**Sn**	**09 51 50.1**	**+0.7**
SANT	**Santorini**	**1.86**	**193**	*e*PB	**Pn**	**09 51 27.4**	**+0.2**
SANT				*e*SN	**Sb**	**09 51 51.7**	**-1.0**
SANT	**Santorini**	**1.86**	**193**	*e*Pb	**Pn**	**09 51 27.4**	**+0.2**
SANT				*e*Sn	**Sb**	**09 51 51.7**	**-1.0**
AOS	**Alonnisos**	**1.90**	**302**	*e*PB	**Pn**	**09 51 27.5**	**-0.3**
AOS				*e*SN	**Sn**	**09 51 52.2**	**+0.5**
AOS	**Alonnisos**	**1.90**	**302**	*e*Pb	**Pn**	**09 51 27.5**	**-0.3**
AOS				*e*Sn	**Sn**	**09 51 52.2**	**+0.5**
MRKA	**Markates**	**1.94**	**286**	*e*PN	**Pn**	**09 51 28.1**	**-0.2**
MRKA				*e*SN	**Sn**	**09 51 53.4**	**+0.8**
MRKA	**Markates**	**1.94**	**286**	*e*Pn	**Pn**	**09 51 28.1**	**-0.2**
MRKA				*e*Sn	**Sn**	**09 51 53.4**	**+0.8**
NAIG	**Nisos Aigina**	**2.00**	**258**	*e*PB	**Pn**	**09 51 29.1**	**-0.1**
NAIG	**Nisos Aigina**	**2.00**	**258**	*e*Pb	**Pn**	**09 51 29.1**	**-0.1**
MANT	**Manisa**	**2.06**	**81**	*i* P	**Pb**	**09 51 32.8**	**-0.1**
MANT				*i* S	**Sg**	**09 52 00.0**	**-1.6**
MANT	**Manisa**	**2.06**	**81**	*i* P	**Pb**	**09 51 32.8**	**-0.1**
MANT				*i* S	**Sg**	**09 52 00.0**	**-1.6**
VILL	**Villia**	**2.09**	**270**	*e*Pn	**Pn**	**09 51 30.9**	**+0.5**
VILL				*e*Sn	**Sn**	**09 51 57.2**	**+0.7**
VIL2	**Platees**	**2.13**	**271**	*e*PN	**Pn**	**09 51 30.9**	**0.0**
VIL2				*e*SN	**Sn**	**09 51 57.2**	**-0.1**
KULA	**Kula-Manisa**	**2.14**	**81**	*e*PN	**Pn**	**09 51 31.7**	**+0.5**
KULA	**Kula-Manisa**	**2.14**	**81**	*e*Pn	**Pn**	**09 51 31.7**	**+0.5**
SKIA	**Skiathos**	**2.19**	**297**	*e*PB	**Pn**	**09 51 31.7**	**0.0**
SKIA	**Skiathos**	**2.19**	**297**	*e*Pb	**Pn**	**09 51 31.7**	**0.0**
GELI	**Tayfur-Gelibol**	**2.24**	**10**	*e*PN	**Pn**	**09 51 33.2**	**+0.8**
GELI	**Tayfur-Gelibol**	**2.24**	**10**	*e*Pn	**Pn**	**09 51 33.2**	**+0.8**
LPK	**Lapseki**	**2.26**	**16**	*e*PN	**Pn**	**09 51 33.6**	**+0.8**
LPK	**Lapseki**	**2.26**	**16**	*e*Pn	**Pn**	**09 51 33.6**	**+0.8**
DID	**Didima**	**2.27**	**253**	*e*PB	**Pn**	**09 51 33.8**	**+1.0**
DID				*e*SN	**Sn**	**09 52 00.8**	**0.0**
DID	**Didima**	**2.27**	**253**	*e*Pb	**Pn**	**09 51 33.8**	**+1.0**
DID				*e*Sn	**Sn**	**09 52 00.8**	**0.0**
GONE	**Gonen-Balikesi**	**2.29**	**35**	*e*PN	**Pn**	**09 51 33.4**	**+0.4**
GONE	**Gonen-Balikesi**	**2.29**	**35**	*e*Pn	**Pn**	**09 51 33.4**	**+0.4**
SMTH	**Samothraki Isl**	**2.30**	**352**	*e*PB	**Pn**	**09 51 34.0**	**+0.7**
SMTH				*e*SN	**Sn**	**09 52 02.0**	**+0.4**
SMTH	**Samothraki Isl**	**2.30**	**352**	*e*Pb	**Pn**	**09 51 34.0**	**+0.7**
SMTH				*e*Sn	**Sn**	**09 52 02.0**	**+0.4**
LTK	**Loutraki**	**2.37**	**267**	*e*PN	**Pn**	**09 51 34.2**	**0.0**
LTK				*e*SN	**Sn**	**09 52 03.5**	**+0.1**
LTK	**Loutraki**	**2.37**	**267**	*e*Pn	**Pn**	**09 51 34.2**	**0.0**
LTK				*e*Sn	**Sn**	**09 52 03.5**	**+0.1**
KRBG	**Karabiga-Canak**	**2.43**	**25**	*e*PN	**Pn**	**09 51 35.9**	**+0.9**
KRBG	**Karabiga-Canak**	**2.43**	**25**	*e*Pn	**Pn**	**09 51 35.9**	**+0.9**
ERIK	**Erikli-Kesan**	**2.51**	**10**	*e*PN	**Pn**	**09 51 36.7**	**+0.6**
ERIK	**Erikli-Kesan**	**2.51**	**10**	*e*Pn	**Pn**	**09 51 36.7**	**+0.6**
ENEZ	**Enez**	**2.55**	**3**	*e*PN	**Pn**	**09 51 37.5**	**+0.9**
ENEZ	**Enez**	**2.55**	**3**	*e*Pn	**Pn**	**09 51 37.5**	**+0.9**
EDC	**Edincik**	**2.61**	**34**	*e*PN	**Pn**	**09 51 37.5**	**0.0**
EDC	**Edincik**	**2.61**	**34**	*e*Pn	**Pn**	**09 51 37.5**	**0.0**
ALN	**Alexandroupoli**	**2.70**	**1**	*e*PN	**Pn**	**09 51 39.6**	**+0.8**
ALN	**Alexandroupoli**	**2.70**	**1**	*e*PN	**Pn**	**09 51 38.6**	**-0.2**
ALN				*e*SN	**Sn**	**09 52 10.9**	**-0.6**
ALN	**Alexandroupoli**	**2.70**	**1**	*e*Pn	**Pn**	**09 51 39.6**	**+0.8**
ALN				*e*Sn	**Sn**	**09 52 10.9**	**-0.6**
DESF	**Desfina**	**2.71**	**276**	*e*PB	**Pn**	**09 51 39.9**	**+1.0**
DESF				*e*SN	**Sn**	**09 52 12.1**	**+0.3**
DESF	**Desfina**	**2.71**	**276**	*e*Pn	**Pn**	**09 51 39.9**	**+1.0**
DESF				*e*Sn	**Sn**	**09 52 12.1**	**+0.3**
DSF	**Desfina**	**2.71**	**276**	*e*PN	**Pn**	**09 51 39.8**	**+0.8**
DSF				*e*SN	**Sn**	**09 52 12.2**	**+0.3**
DSF	**Desfina**	**2.71**	**276**	*e*Pn	**Pn**	**09 51 39.8**	**+0.8**
DSF				*e*Sn	**Sn**	**09 52 12.2**	**+0.3**
MRMT	**Marmara Adasi**	**2.72**	**27**	*e*PN	**Pn**	**09 51 40.0**	**+0.9**
MRMT	**Marmara Adasi**	**2.72**	**27**	*e*Pn	**Pn**	**09 51 40.0**	**+0.9**
KCTX	**Karacabey (Bur**	**2.78**	**41**	*e*PN	**Pn**	**09 51 40.8**	**+0.9**
KCTX	**Karacabey (Bur**	**2.78**	**41**	*e*Pn	**Pn**	**09 51 40.8**	**+0.9**
VLI	**Veliai**	**2.82**	**240**	*e*PN	**P

SNR=50
MTSE Sg Sn 10 26 28.2 +0.4
FIA0 FINESS Array S 2.24 341 *e*P **Pn 10 26 04.1 +0.2**
FIA0 *e*PB **Pb 10 26 05.5 -1.3**
FIA0 *e*SG **Sg 10 26 37.3 -0.1**
FIA0 MSG 10 26 37.5
comp=Z,1.5nm,0.1s
FIA0 FINESS Array S 2.24 341 Pn **Pn 10 26 04.0 +0.2**
FIA0 Sg **Sg 10 26 36.9 -0.5**
FINES FINESS Array B 2.24 341 Pn **Pn 10 26 04.2 +0.4**
comp=Z,0.8nm,0.3s,baz=161,slow=15,SNR=19
FINES Sn **Sn 10 26 32.8 +0.7**
comp=Z,1.6nm,0.3s,baz=161,slow=24,SNR=15
KAF Kangasniemi 2.85 347 *e*P **Pn 10 26 13.2 +1.0**
KAF *e*PB **Pb 10 26 15.3 -1.9**
KAF MSG **Sg 10 26 55.8 -1.2**
comp=Z,2.1nm,0.4s
KAF *e*SG **Sg 10 26 55.8 -1.2**
KAF Kangasniemi 2.85 347 Pn **Pn 10 26 14.4 +2.2**
KEF Keuruu 3.14 336 *e*P **Pn 10 26 17.7 +1.6**
KEF Keuruu 3.14 336 Pn **Pn 10 26 18.0 +1.9**
RAF Rauma 3.37 302 *e*P **Pn 10 26 20.5 +1.1**
RAF Rauma 3.37 302 *e*P **Pn 10 26 20.6 +1.3**
SNR=50
RAF Rauma 3.37 302 Pn **Pn 10 26 20.7 +1.4**
RAF *e*S **Sn 10 27 02.1 +2.1**
comp=Z,3.9nm,0.6s,SNR=50
SUF Sumiainen 3.46 349 *e*P **Pn 10 26 21.8 +1.3**
JOF Joensuu 4.01 25 *e*P **Pn 10 26 28.7 +0.7**
JOF Joensuu 4.01 25 Pn **Pn 10 26 29.3 +1.2**
VAF Ylistaro 4.41 329 *e*P **Pn 10 26 35.5 +1.8**
NOA NORSAR Array B 8.35 289 Pn **Pn 10 27 25.2 -2.4**
comp=Z,0.1nm,0.3s,baz=96,slow=12,SNR=2.9
ARCES ARCESS Array B 10.27 356 Pn **Pn 10 27 52.0 -2.0**
comp=Z,0.1nm,0.3s,baz=169,slow=14,SNR=5.5
ARCES Sn Sn 10 29 39.3 -10
comp=Z,0.1nm,0.3s,baz=170,slow=24,SNR=2.8

IDC ***10*** *10:29:13.4±0.5,5.°48N×126.°68E,h0km,mb4.2/21, mb1 4.3/21,mb1mx4.3/26,mbtmp4.2/21,MS4.0/21, Ms1 4.0/21,ms1mx3.9/34,Error ellipse: s-maj=22.8km s-min=12.7km az=78.0*
MAN ***10*** *10:29:17,5.°28N×126.°89E,h33km,mb5.1,ML4.0,MS4.2*
MOS ***10*** *10:29:18.3±1.2,5.°43N×126.°56E,h42km,mb4.8/30,Error ellipse: s-maj=16.4km s-min=7.0km az=117.6*
NEIC ***10*** *10:29:20.3±0.9,5.°49N×126.°70E,h48km±8km, mb4.9/21, Error ellipse: s-maj=7.2km s-min=4.4km az=69.0*
ISCJB ***10*** *10:29:21.6±0.5,5.°55N±0.°03×126.°67E±0.°05,h70km±4km, mb4.5/71,Error ellipse: s-maj=8.3km s-min=4.2km az=174.5*
AUST ***10*** *10:29:22.9±1.0,5.°56N×126.°88E,h58km,Error ellipse: s-maj=1.9km s-min=0.9km az=245.0*
DJA ***10*** *10:29:31.8±0.8,5.°N±7.°×12.°6E±.°,h66km±8km,M4.8/19, mb4.8/19,mB5.2/14,MLv5.1/10,Mw(mB)4.6/14*
ISC 10 10:29:21.9±0.8,5.°53N±0.°03×126.°60E±0.°06,h54km±6km, n202,σ1°69/188,mb4.7/71,MS3.7/22,9C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.45**	**346**	*e*P		**Pn**	**10 29 45.4**	**-0.5**
MATI				*e*S		**Sn**	**10 30 06.9**	**+3.1**
GSPH	**General Santos**	**1.74**	**289**	*e*P		Pn	10 29 46.5	-3.3
GSPH				*i* S		**Sn**	**10 30 09.7**	**-1.2**
DAV	**Davao City (W)**	**1.84**	**327**	*e*Pn		**Pn**	**10 29 50.3**	**-0.8**
DMPH	**Davao City--Mi**	**1.89**	**325**	*e*P		**Pn**	**10 29 52.8**	**+0.9**
DMPH				*e*S		**Sn**	**10 30 11.1**	**-3.4**
KCP	**Kidapawan**	**2.10**	**315**	*e*P		**Pn**	**10 29 55.4**	**+0.6**
KCP				*i* S		**Sn**	**10 30 25.1**	**+5.2**
SGSI	**Sangihe**	**2.12**	**210**	P		**Pn**	**10 29 53.9**	**-1.0**
SGSI				S		**Sn**	**10 30 21.5**	**+1.4**
BIPH	**Bislig**	**2.65**	**355**	*i*P		**Pn**	**10 30 03.7**	**+1.5**
BUKP	**Musuan**	**2.79**	**327**	*e*P		**Pn**	**10 30 05.2**	**+1.0**
CTBH	**Cotabato--PC H**	**2.88**	**306**	*i*P		**Pn**	**10 30 06.1**	**+0.7**
CTBH				*i* S		Sn	10 30 45.4	+6.5
CGP	**Cagayan de Oro**	**3.47**	**327**	*i*P		**Pn**	**10 30 16.0**	**+2.5**
CGP				*i* S		Sn	10 31 01.7	+8.3
BUTP	**Butuan**	**3.56**	**344**	*e*P		**Pn**	**10 30 17.2**	**+2.6**
PAGZ	**Pagadian**	**3.94**	**306**	*e*P		**Pn**	**10 30 22.1**	**+2.2**
SCPH	**Surigao**	**4.37**	**345**	*e*P		**Pn**	**10 30 28.1**	**+2.3**
DCPH	**Dipolog City**	**4.43**	**313**	*e*P		Pn	10 30 35.1	+8.5
TNTI	**Ternate**	**4.78**	**171**	P		**Pn**	**10 30 33.3**	**+1.8**
MSLP	**Maasin**	**4.89**	**339**	*e*P		**Pn**	**10 30 32.1**	**-0.8**
KMSI	**Cibinong** 334nm,0.8s,3.3nm	**5.57**	**208**	P		**Pn**	**10 30 44.1**	**+1.8**
GTOI	**Gorontalo** 237nm,0.7s,3μm1.0nm	**6.04**	**217**	P		**Pn**	**10 30 49.7**	**+1.0**
LBMI	**Labuha** 138nm,0.9s,2μm1.5nm	**6.19**	**172**	P		**Pn**	**10 30 53.7**	**+2.9**
GUIM	**Jordan**	**6.44**	**322**	*e*P		**Pn**	**10 30 53.2**	**-1.0**
MRSI	**Marisa** 170nm,0.5s,2μm0.9nm	**6.84**	**223**	P		**Pn**	**10 31 00.6**	**+0.9**
MRSI				S		**Sn**	**10 32 14.0**	**-2.3**
170nm,0.5s,2μm0.9nm								
LUWI	**Luwuk** 376nm,1.1s,3μm1.1nm	**7.56**	**210**	P		Pn	10 31 13.3	+3.7
LUWI	**Luwuk** baz=7.8,SNR=5.7	**7.56**	**210**	P		Pn	10 31 13.5	+3.9
SWI	**Sorong** 39nm,1.0s,0.1nm	**7.87**	**144**	P		Pn	10 31 20.5	+6.7
MYLDM	**Lahad Datu** 75nm,1.5s,1μm0.4nm	**8.07**	**268**	P		Pn	10 31 25.2	+8.6
APSI	**Ampana** 244nm,1.1s,2μm0.7nm	**8.08**	**218**	P		Pn	10 31 21.8	+5.1
TGY	**Tagaytay City** comp=Z,40nm,21.1s,baz=121,slow=44	**10.19**	**327**	LR		LR	10 36 43.7	
TTSI	**Tana Toraja** 63nm,1.4s,796nm	**10.88**	**219**	P		Pn	10 32 00.1	+5.1
MMSI	**Mamuju**	**11.21**	**223**	P		Pn	10 32 22.8	+23
SPSI	**Sidrap Palu**	**11.64**	**216**	P		Pn	10 32 18.1	+13
BNSI	**Bone**	**11.80**	**213**	P		Pn	10 32 26.0	+18
KAPI	**Kappang** 307nm,1.4s	**12.51**	**213**	*e*Pn		**Pn**	**10 32 16.0**	**-1.2**
SBUM	**Sibu** 43nm,1.3s,662nm	**14.67**	**259**	P		**P**	**10 32 50.4**	**-1.0**
BBKI	**Banjar Baru**	**14.76**	**233**	P		P	10 32 55.8	+3.4
STKI	**Sintang** 40nm,0.4s	**16.05**	**251**	P		**P**	**10 33 08.3**	**+1.6**
KSM	**Kuching**	**16.75**	**257**	P		P	10 33 24.5	+10
KSM	**Kuching** baz=17,SNR=4.1	**16.75**	**257**	P		**P**	**10 33 17.9**	**+3.4**
DLV	**T Lat**	**19.00**	**291**	*e*P		**Pn**	**10 33 40.9**	**+0.3**
KDU	**Kakadu** baz=19,SNR=6.9	**19.01**	**162**	P		**Pn**	**10 33 43.2**	**+2.6**
BJII	**Banjamegara** 41nm,1.7s,1μm	**21.15**	**233**	P		P	10 34 08.9	+6.2
KNRA	**Kununurra** baz=21,SNR=21	**21.18**	**174**	P		**P**	**10 34 05.1**	**+2.2**
TGJI	**Tegal**	**21.35**	**235**	P		P	10 34 13.7	+8.9
KPJI	**Karang Pucung**	**21.77**	**234**	P		P	10 34 29.1	+20
MYKOM	**Kota Tinggi** 52nm,1.7s,972nm	**23.00**	**262**	P		**P**	**10 34 25.6**	**+3.2**
FITZ	**Fitzroy Crossi**	**23.50**	**182**	P		**P**	**10 34 24.8**	**-2.3**
FITZ	**Fitzroy Crossi** 4.8nm,0.8s,baz=7.9,slow=13	**23.50**	**182**	P		**P**	**10 34 24.8**	**-2.3**
FITZ	**Fitzroy Crossi** baz=24,SNR=11	**23.50**	**182**	P		**P**	**10 34 30.0**	**+2.9**
KLSI	17nm,1.2s	**24.08**	**245**	P		P	10 34 39.8	+7.2
MDSI	**Maura Dua** 27nm,1.1s,1μm	**24.50**	**246**	P		**P**	**10 34 39.9**	**+3.5**
PMG	**Port Moresby** comp=Z,196nm,19.9s,baz=308,slow=40	**25.29**	**126**	LR		LR	10 46 08.0	
COEN	**Coen** baz=25,SNR=4.3	**25.40**	**140**	P		**P**	**10 34 46.9**	**+2.3**
IPM	**Ipoh** 28nm,1.5s,517nm	**25.50**	**269**	P		**P**	**10 34 49.7**	**+4.2**
IPM	**Ipoh** 70nm,1.5s	**25.50**	**269**	*e*P		**P**	**10 34 46.1**	**+0.6**
KULM	**Kulim** 41nm,1.2s,788nm	**25.84**	**271**	P		P	10 34 55.5	+6.9
KULM	**Kulim** 54nm,1.5s	**25.84**	**271**	*e*P		**P**	**10 34 48.2**	**-0.3**
JCJ	**Chichijima** 94nm,0.9s,baz=233,slow=15,SNR=3.0	**26.09**	**33**	P		**P**	**10 34 48.5**	**-2.2**
CBIJ	**Chichi jima**	**26.09**	**33**	P		**P**	**10 34 48.5**	**-2.2**
CHAI	**Chaiyaphum** 5.5nm,1.3s	**26.26**	**295**	P		P	10 34 59.5	+7.2
WRAB	**Tennant Creek**	**26.42**	**163**	*e*P		**P**	**10 34 53.3**	**-0.5**
WRAB	comp=Z,17nm,0.8s			pmax	pmax			
WRAB	**Tennant Creek** comp=Z,17nm,0.8s	**26.42**	**163**	*e*P		**P**	**10 34 53.3**	**-0.5**
WRA	**Warramunga Arr**	**26.43**	**163**	P		**P**	**10 34 52.4**	**-1.4**
WRA				ScP		**ScP**	**10 41 56.5**	**+2.7**
WRA	**Warramunga Arr** comp=Z,4.2nm,0.4s,baz=344,slow=10,SNR=16	**26.43**	**163**	P		**P**	**10 34 52.4**	**-1.4**
WRA				ScP		**ScP**	**10 41 56.5**	**+2.7**
comp=Z,0.8nm,1.0s,baz=343,slow=4.0,SNR=2.5								
WRA				LR		LR	10 46 37.3	
comp=Z,16nm,28.6s,baz=350,slow=40								
PPI	**Padang Panjang** comp=Z,46nm,1.1s,comp=Z,626nm	**26.83**	**258**	P		P	10 35 03.3	+5.8
MBWA	**Marble Bar** comp=Z,31nm,1.1s	**27.36**	**194**	*e*P		**P**	**10 34 59.8**	**-2.3**
PBKT	**Sadao Pong** comp=Z,13nm,1.0s,comp=Z,920nm	**27.41**	**296**	P		**P**	**10 35 05.5**	**+2.9**
PSI	**Prapat**	**27.73**	**266**	P		**P**	**10 35 10.1**	**+4.3**
PSI	**Prapat**	**27.73**	**266**	P		**P**	**10 35 06.0**	**+0.3**
PSI	**Prapat**	**27.73**	**266**	P		**P**	**10 35 06.0**	**+0.3**
comp=Z,5.1nm,0.8s,baz=139,slow=3.2,SNR=3.9								
PSI				LR		LR	10 48 41.0	
comp=Z,16nm,28.6s,baz=50,slow=42								
JNU	**Nakatsue** comp=Z,142nm,21.4s,baz=186,slow=35	**27.74**	**8**	LR		LR	10 45 26.9	
KCSI	**Kotacane, Aceh**	**28.81**	**267**	P		**P**	**10 35 15.9**	**+0.7**
QIS	**Mount Isa** baz=29,SNR=3.1	**28.90**	**154**	P		**P**	**10 35 15.4**	**-0.5**
KHLT	**Khaolaem Dam** comp=Z,9.7nm,1.5s	**29.04**	**291**	P		P	10 35 23.9	+6.7
CRAI	**Chiangrai** comp=Z,87nm,1.0s	**29.38**	**302**	P		P	10 35 26.6	+6.4
AS31	**Alice Springs**	**29.88**	**166**	*e*P		**P**	**10 35 24.1**	**-0.5**
ASAR	**Alice Springs**	**29.88**	**166**	P		**P**	**10 35 22.5**	**-2.1**
ASAR				PcP		**PcP**	**10 38 25.6**	**-1.1**
ASAR				ScP		**ScP**	**10 42 07.2**	**+2.7**
ASAR	**Alice Springs** comp=Z,1.0nm,0.5s,baz=355,slow=8.1,SNR=28	**29.88**	**166**	P		**P**	**10 35 22.5**	**-2.1**
ASAR				PcP		**PcP**	**10 38 25.6**	**-1.1**
comp=Z,0.7nm,0.7s,baz=359,slow=3.0,SNR=3.6								
ASAR				ScP		**ScP**	**10 42 07.2**	**+2.7**
comp=Z,0.6nm,0.9s,baz=358,slow=3.1,SNR=4.4								
CMAR	**Chiang Mai Arr**	**29.89**	**298**	P		**P**	**10 35 24.8**	**0.0**
CMAR				PcP		**PcP**	**10 38 26.9**	**+0.1**
CMAR				ScP		**ScP**	**10 42 07.8**	**+3.2**
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.3s,baz=121,slow=7.4,SNR=10	**29.89**	**298**	P		**P**	**10 35 24.8**	**0.0**
CMAR				PcP		**PcP**	**10 38 26.9**	**+0.1**
comp=Z,0.5nm,0.3s,baz=151,slow=2.1,SNR=2.9								
CMAR				ScP		**ScP**	**10 42 07.8**	**+3.2**
comp=Z,1.2nm,0.6s,baz=114,slow=1.1,SNR=11								
CMAR				LR		LR	10 47 48.8	
comp=Z,311nm,18.2s,baz=110,slow=37								
CMMT	**Chiang Mai** comp=Z,9.5nm,1.4s	**30.02**	**299**	P		P	10 35 32.1	+6.2
CHTO	**Chiang Mai** comp=Z,37nm,1.2s	**30.02**	**299**	P		P	10 35 32.2	+6.3
WRKA	**Warakurna** baz=31,SNR=7.5	**30.42**	**177**	P		**P**	**10 35 31.4**	**+2.0**
KSRS	**Korea Array** comp=Z,16nm,28.6s,baz=200,slow=38	**31.80**	**2**	LR		LR	10 49 16.0	
MJAR	**Matsushiro Arr** comp=Z,225nm,20.5s,baz=190,slow=35	**32.65**	**17**	LR		LR	10 48 13.6	
MEEK	**Meekatharra** baz=33,SNR=3.4	**32.90**	**193**	P		**P**	**10 35 50.3**	**-0.8**
BLDU	**Ballidu** baz=38,SNR=5.7	**37.16**	**194**	P		**P**	**10 36 28.2**	**+0.5**
USRK	**Ussuriysk Arra** comp=Z,0.6nm,0.5s,baz=164,slow=7.7,SNR=4.8	**38.81**	**6**	P		**P**	**10 36 41.8**	**+0.4**
STKA	**Stephens Creek** comp=Z,2.7nm,1.0s	**39.85**	**160**	*e*P		**P**	**10 36 48.6**	**-1.7**
STKA	**Stephens Creek** comp=Z,3.4nm,0.6s,baz=344,slow=15,SNR=2.9	**39.85**	**160**	P		**P**	**10 36 49.1**	**-1.2**
STKA				LR		LR	10 57 12.2	
comp=Z,16nm,28.6s,baz=343,slow=42								
ASAJ	**Asahikawa**	**40.93**	**18**	P		**P**	**10 36 58.5**	**-0.5**
ASAJ	**Asahikawa** comp=Z,4.0nm,0.8s,baz=297,slow=18,SNR=3.5	**40.93**	**18**	P		**P**	**10 36 58.5**	**-0.5**
ASAJ				LR		LR	10 53 15.9	
comp=Z,16nm,28.6s,baz=214,slow=35								
H11S3	**WAKE ISLAND Hy** baz=272	**41.16**	**68**	T		T	11 20 56.1	
H11S1	**WAKE ISLAND Hy** baz=272,slow=75	**41.17**	**68**	T		T	11 21 01.1	
H11S2	**WAKE ISLAND Hy** baz=272,slow=75	**41.17**	**68**	T		T	11 21 00.5	
H11N1	**WAKE ISLAND Hy** baz=258,slow=75,SNR=19	**41.63**	**66**	T		T	11 21 32.3	
H11N2	**WAKE ISLAND Hy** baz=258,slow=75,SNR=16	**41.64**	**66**	T		T	11 21 35.9	
H11N3	**WAKE ISLAND Hy** baz=258,slow=75,SNR=24	**41.65**	**66**	T		T	11 21 40.1	
TAPN	**Taplejung** comp=Z,6.5nm,0.2s	**42.87**	**305**	*e*P		**P**	**10 37 15.7**	**+0.1**
TAPN	**Taplejung** comp=Z,6.5nm,0.2s	**42.87**	**305**	*e*P		**P**	**10 37 15.7**	**+0.1**
ODAN	**Odare** comp=Z,29nm,0.9s	**42.95**	**304**	*e*P		**P**	**10 37 16.1**	**0.0**
ODAN	**Odare** comp=Z,29nm,0.9s	**42.95**	**304**	*e*P		**P**	**10 37 16.1**	**0.0**
HABR	**Khabarovsk**	**43.40**	**8**	P		**P**	**10 37 22.2**	**+3.1**
HABR				*e*			10 37 36.0	
HABR				*e*			10 39 04.6	
HABR				*e*			10 39 07.9	
HABR				*e*PPP		PPP	10 39 40.3	
HABR				*e*S		S	10 43 51.6	+8.4
HABR				*e*			10 44 08.0	
HABR				*e*SS		**ScS**	**10 47 09.8**	**-4.2**
HABR				MLR		MLR		
comp=Z,111nm,18.0s								
RAMN	**Ramite**	**43.63**	**304**	*e*P		**P**	**10 37 21.6**	**-0.1**
RAMN	**Ramite**	**43.63**	**304**	*e*P		**P**	**10 37 21.6**	**-0.1**
JIRN	**Jiri** comp=Z,41nm,0.9s	**44.24**	**304**	*e*P		**P**	**10 37 26.1**	**-0.6**
JIRN	**Jiri** comp=Z,41nm,0.9s	**44.24**	**304**	*e*P		**P**	**10 37 26.1**	**-0.6**
GUN	**Gumba** comp=Z,45nm,0.7s	**44.59**	**305**	*e*P		**P**	**10 37 29.1**	**-0.3**
GUN	**Gumba** comp=Z,45nm,0.7s	**44.59**	**305**	*e*P		**P**	**10 37 29.1**	**-0.3**
PKI	**Pulchoki** comp=Z,15nm,0.8s	**44.85**	**304**	*e*P		**P**	**10 37 31.2**	**-0.3**
PKI	**Pulchoki**	**44.85**	**304**	*e*P		**P**	**10 37 31.2**	**-0.3**
PKI				pmax	pmax			
comp=Z,15nm,0.8s								
PKI	**Pulchoki** comp=Z,15nm,0.8s	**44.85**	**304**	*e*P		**P**	**10 37 31.2**	**-0.3**
KKN	**Kakani**	**45.03**	**304**	*e*P		**P**	**10 37 32.4**	**-0.4**
KKN	**Kakani**	**45.03**	**304**	*e*P		**P**	**10 37 32.4**	**-0.4**
KKN	**Kakani**	**45.03**	**304**	*e*P		**P**	**10 37 32.4**	**-0.4**
DMN	**Daman** comp=Z,24nm,0.9s	**45.11**	**304**	*e*P		**P**	**10 37 33.4**	**-0.1**
DMN	**Daman** comp=Z,24nm,0.9s	**45.11**	**304**	*e*P		**P**	**10 37 33.4**	**-0.1**
ULN	**Ulaanbaatar** comp=Z,5.6nm,0.9s	**45.38**	**342**	*e*P		**P**	**10 37 35.7**	**+0.5**
SONM	**Songino Array**	**45.57**	**341**	P		**P**	**10 37 37.0**	**+0.4**
SONM				PcP		**PcP**	**10 39 14.5**	**0.0**
SONM	**Songino Array** comp=Z,0.9nm,0.7s,baz=162,slow=7.5,SNR=5.8	**45.57**	**341**	P		**P**	**10 37 37.0**	**+0.4**
SONM				PcP		**PcP**	**10 39 14.5**	**0.0**
comp=Z,0.5nm,0.8s,baz=172,slow=3.3,SNR=2.5								
SONM				LR		LR	10 59 25.5	
comp=Z,16nm,28.6s,baz=168,slow=40								
GKN	**Gorkha**	**45.64**	**304**	*e*P		**P**	**10 37 37.1**	**-0.5**
GKN	**Gorkha**	**45.64**	**304**	*e*P		**P**	**10 37 37.1**	**-0.5**
KOLN	**Koldanda** comp=Z,42nm,0.7s	**46.42**	**303**	*e*P		**P**	**10 37 43.7**	**0.0**
KOLN	**Koldanda** comp=Z,42nm,0.7s	**46.42**	**303**	*e*P		**P**	**10 37 43.7**	**0.0**
DANN	**Dangsing** comp=Z,29nm,0.6s	**46.49**	**304**	*e*P		**P**	**10 37 43.8**	**-0.6**
DANN	**Dangsing** comp=Z,29nm,0.6s	**46.49**	**304**	*e*P		**P**	**10 37 43.8**	**-0.6**
PYUN	**Piuthan** comp=Z,67nm,0.7s	**47.04**	**304**	*e*P		**P**	**10 37 48.4**	**-0.2**
PYUN	**Piuthan** comp=Z,67nm,0.7s	**47.04**	**304**	*e*P		**P**	**10 37 48.4**	**-0.2**
HVS	**Khovu-Aksy**	**53.07**	**335**	*e*P		**P**	**10 38 35.9**	**+2.1**
HVS	comp=Z,96nm,1.7s			pmax	pmax			
PETK	**Petropavlovsk-**	**53.83**	**23**	P		**P**	**10 38 37.4**	**-1.8**
PETK	comp=Z,6.0nm,1.1s			pmax	pmax			
PETK	**Petropavlovsk-**	**53.83**	**23**	P		**P**	**10 38 37.4**	**-1.8**
PETK	**Petropavlovsk-** comp=Z,6.1nm,1.1s,baz=189,slow=8.3,SNR=2.6	**53.83**	**23**	P		**P**	**10 38 37.4**	**-1.8**
PETK				LR		LR	11 00 07.1	
comp=Z,45nm,21.4s,baz=230,slow=34								
MK31	**Makanchi Array**	**56.02**	**325**	P		**P**	**10 38 54.2**	**-1.0**
MK31	comp=Z,2.0nm,0.4s			pmax	pmax			
MK31	**Makanchi Array**	**56.02**	**325**	*e*P		**P**	**10 38 54.5**	**-0.7**
MKAR	**Makanchi Array**	**56.02**	**325**	P		**P**	**10 38 54.6**	**-0.6**
MKAR							10 39 51.0	
MKAR				pmax	pmax			
comp=Z,4.0nm,0.5s								
MKAR				pmax	pmax			
comp=Z,4.0nm,0.8s								
MKAR				pmax	pmax			
comp=N,1.0nm,0.8s								
MKAR				MLR	MLR			
comp=Z,280nm,20.7s								
MKAR	**Makanchi Array**	**56.02**	**325**	P		**P**	**10 38 54.6**	**-0.6**
MKAR				PcP		**PcP**	**10 39 51.0**	**-2.0**
MKAR				ScP		**ScP**	**10 43 52.5**	**+4.7**
MKAR	**Makanchi Array** comp=Z,3.5nm,0.5s,baz=121,slow=6.8,SNR=48	**56.02**	**325**	P		**P**	**10 38 54.6**	**-0.6**
MKAR				PcP		**PcP**	**10 39 51.0**	**-2.0**
comp=Z,4.0nm,0.8s,baz=117,slow=5.8,SNR=3.8								
MKAR				ScP		**ScP**	**10 43 52.4**	**+4.7**
comp=Z,0.5nm,0.8s,baz=110,slow=3.1,SNR=3.5								
MKAR				LR		LR	11 03 52.4	
comp=Z,280nm,20.7s,baz=88,slow=37								
YAK	**Yakutsk**	**56.43**	**2**	*e*P		**pP**	**10 39 14.1**	**+1.7**
YAK	comp=Z,15nm,0.6s			pmax	pmax			
ZAA0	**Zalesovo Array**	**58.94**	**333**	*e*P		**P**	**10 39 15.6**	**0.0**
ZALV	**Zalesovo Beam**	**58.94**	**333**	*i* P		**P**	**10 39 16.2**	**+0.7**
ZALV	comp=Z,1.0nm,0.3s			pmax	pmax			
ZALV	**Zalesovo Beam**	**58.94**	**333**	P		**P**	**10 39 15.3**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.3s,baz=116,slow=6.8,SNR=12	**58.94**	**333**	P		**P**	**10 39 15.3**	**-0.2**
ZALV				LR		LR	11 05 29.6	
comp=Z,262nm,19.8s,baz=68,slow=37								
AAK	**Ala-Archa**	**58.95**	**317**	*e*P		**P**	**10 39 16.7**	**+0.6**
AAK	comp=Z,13nm,1.6s			pmax	pmax			
KURK	**Kurchatov**	**60.17**	**327**	*e*P		**P**	**10 39 23.3**	**-0.7**
KURK	comp=Z,35nm,1.4s			pmax	pmax			
KURK	**Kurchatov** comp=Z,35nm,1.4s	**60.17**	**327**	*e*P		**P**	**10 39 23.3**	**-0.7**
NVS	**Novosibirsk**	**60.22**	**333**	*e*P		**P**	**10 39 24.9**	**+0.6**
NVS				*e*S		**S**	**10 47 37.4**	**+3.2**
NVS	comp=E,12nm,1.4s			pmax	pmax			
NVS	comp=E,18nm,2.2s			smax	smax			
NVS	comp=N,16nm,2.7s			smax	smax			
KK31	**Karatay Array**	**61.84**	**316**	*i* P		**P**	**10 39 34.6**	**-1.0**
KK31	comp=Z,1.0nm,0.4s			pmax	pmax			
KKAR	**Karatay Array**	**61.84**	**316**	*e*P		**P**	**10 39 34.5**	**-1.1**
KKAR	comp=Z,3.0nm,0.7s			pmax	pmax			
KKAR	**Karatay Array** comp=Z,2.6nm,0.7s	**61.84**	**316**	*e*P		**P**	**10 39 34.5**	**-1.1**
BVA0	**Borovoye Array**	**65.76**	**327**	*i* P		**P**	**10 40 00.9**	**-0.3**
BVA0	comp=Z,11nm,0.8s			pmax	pmax			
BVAR	**Borovoye Array** comp=Z,209nm,19.3s,baz=68,slow=36	**65.76**	**327**	LR		LR	11 08 40.4	
BRVK	**Borovoye** comp=Z,13nm,1.2s	**65.83**	**327**	*ce*P		**P**	**10 40 02.5**	**+0.9**
BRVK	comp=Z,12nm,0.8s			pmax	pmax			
BRVK	**Borovoye**	**65.83**	**327**	*e*P		**P**	**10 40 01.5**	**-0.1**
TIXI	**Tiksi**	**66.06**	**1**	*e*P		**P**	**10 40 01.7**	**-1.0**
TIXI	comp=Z,9.0nm,0.9s			pmax	pmax			
TIXI	**Tiksi** comp=Z,9.0nm,0.9s	**66.06**	**1**	*e*P		**P**	**10 40 01.7**	**-1.0**
AB31	**Akbulak array**	**70.69**	**320**	*i* P		**P**	**10 40 30.2**	**-1.9**
AB31	comp=Z,1.0nm,0.3s			pmax	pmax			
ABKAR	**Akbulak array** comp=Z,3.3nm,0.8s	**70.69**	**320**	*e*P		**P**	**10 40 30.9**	**-1.2**
SVE	**Sverdlovsk**	**72.37**	**328**	*e*P		**P**	**10 40 43.4**	**+1.3**
SVE	comp=Z,17nm,0.7s			pmax	pmax			
ARU	**Arti**	**73.36**	**327**	*d* iP		**P**	**10 40 48.2**	**+0.3**
ARU				S		**SKiKP**	**10 50 15.4**	**+0.9**
ARU				SS		**SS**	**10 54 51.0**	**-4.6**
ARU	comp=Z,4.0nm,0.5s			pmax	pmax			
ZEI	**Tsey**	**80.92**	**312**	*e*P		**P**	**10 41 29.9**	**-1.0**
ZEI	comp=Z,14nm,1.5s			pmax	pmax			
ONI	**Oni**	**81.25**	**312**	P		**P**	**10 41 31.9**	**-0.6**
ONI				S		Px	10 41 34.0	
KBZ	**Khabaz**	**81.66**	**313**	P		**P**	**10 41 34.4**	**-0.1**
KBZ	comp=Z,2.0nm,0.8s			pmax	pmax			
KBZ	**Khabaz**	**81.66**	**313**	P		**P**	**10 41 34.4**	**-0.1**
KBZ	**Khabaz** comp=Z,1.7nm,0.8s,baz=349,slow=5.2,SNR=2.7	**81.66**	**313**	P		**P**	**10 41 34.4**	**-0.1**
KBZ				LR		LR	11 23 37.0	
comp=Z,16nm,28.6s,baz=10.0,slow=40								
KIV	**Kislovodsk**	**81.81**	**313**	*e*P		**P**	**10 41 36.8**	**+1.3**
KIV	comp=Z,9.0nm,0.8s			pmax	pmax			
COLD	**Coldfoot** comp=Z,3.8nm,0.9s	**82.30**	**23**	*e*P		**P**	**10 41 36.9**	**-0.5**
VRHR	**Novokhopersk**	**82.58**	**321**	*e*P		**P**	**10 41 38.2**	**-1.0**
VRHR	comp=Z,8.0nm,0.6s			pmax	pmax			
VRHR	comp=N,9.0nm,0.8s			pmax	pmax			
VRHR	comp=E,9.0nm,0.7s			pmax	pmax			
COLA	**College**	**83.14**	**25**	*e*P		P	10 41 47.8	+6.0
COLA	comp=Z,15nm,1.0s			pmax	pmax			
ILAR	**Eielson Array**	**83.55**	**26**	P		**P**	**10 41 43.2**	**-0.7**
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=234,slow=5.4,SNR=9.0	**83.55**	**26**	P		**P**	**10 41 43.2**	**-0.7**
KLMR	**Klimovskoe**	**83.79**	**331**	*e*P		**P**	**10

	comp=Z,16nm,28.6s,baz=305,slow=38								
KIEV	**Kiev**	**90.44**	**321**	⇓	*e*P		**P**	**10 42 17.7**	**0.0**
VSU	**Vasula**	**90.47**	**329**	⇓	*e*P		**P**	**10 42 18.9**	**+1.2**
VSU						pmax	pmax		
	comp=Z,23nm,1.7s								
NB2	**NORSAR Subarra**	**97.13**	**334**		P		**P**	**10 42 46.3**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=65,slow=4.6								
NB2	**NORSAR Subarra**	**97.13**	**334**		P		**P**	**10 42 46.3**	**-2.0**
	baz=65,slow=4.6								
NOA	**NORSAR Array B**	**97.13**	**334**		P		**P**	**10 42 46.5**	**-1.7**
NOA	**NORSAR Array B**	**97.13**	**334**		P		**P**	**10 42 46.6**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=65,slow=4.5,SNR=2.4								
NOA						LR	LR	11 31 43.6	
	comp=Z,196nm,18.2s,baz=300,slow=39								
YKA	**Yellowknife Ar**	**97.92**	**24**		P		**P**	**10 42 51.2**	**-0.5**
YKA	**Yellowknife Ar**	**97.92**	**24**		P		**P**	**10 42 51.2**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=293,slow=4.0,SNR=3.4								
VRAC	**Vranov**	**98.66**	**322**		LR		LR	11 30 33.8	
	comp=Z,161nm,18.0s,baz=352,slow=37								
TXAR	**Lajitas Array**	**120.59**	**51**		PKP		**PKPdf**	**10 48 09.0**	**+0.5**
TXAR	**Lajitas Array**	**120.59**	**51**		PKP		**PKPdf**	**10 48 09.0**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=174,slow=1.8,SNR=3.1								
TORD	**Torodi Ar. Bea**	**122.23**	**289**		PKP		**PKPdf**	**10 48 11.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.23**	**289**		PKP		**PKPdf**	**10 48 11.3**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=39,slow=3.3,SNR=7.5								
JTS	**JuntasAbangare**	**144.87**	**63**		*e*PKPdf		**PKPab**	**10 48 52.8**	**-0.4**
LCO	**Las Campanas**	**151.47**	**147**		*e*PKPdf		**PKPdf**	**10 49 05.0**	**+0.2**

TIR ***10*** *10:31:07.5±3.9, 40.53N×20.07E, h0km±45km, ML3.1*
ATH ***10*** *10:31:09.9, 40.53N×20.06E, h6km, MD3.3/24*
PDG ***10*** *10:31:09.0±0.3, 40.39N×19.94E, h11km±1km, ML3.2/11, Error ellipse: s-maj=2.3km s-min=1.0km az=90.0*
CSEM ***10*** *10:31:10.7±0.1, 40.52N×19.99E, h2km, ML3.1, Error ellipse: s-maj=4.1km s-min=2.4km az=67.0*
SKO ***10*** *10:31:10.4, 40.60N×19.90E, h0km, M2.4, ML2.8*
THE ***10*** *10:31:10.6, 40.52N×20.02E, h3km±25km, ML3.0/5, Error ellipse: s-maj=25.1km s-min=0.5km az=139.0*
BEO ***10*** *10:31:11.4±0.9, 40.56N×19.92E, h2km±5km, ML2.8/1*
ISC 10 10:31:10.1±1.1**, 40.52N**±0.01×**20.01E**±0.02**, h3km**±9km**,**
n124,σ1§23/211, 9C-17D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.60**	**80**	*i* PG	**Pg**	**10 31 21.3**	**-0.3**
KBN				*i* SG	**Sg**	**10 31 30.7**	**+1.3**
KBN	**Korca**	**0.60**	**80**	P	**Pg**	**10 31 21.5**	**-0.1**
KBN				S	**Sb**	**10 31 30.9**	**-1.4**
KBN	**Korca**	**0.60**	**80**	*i* Pg	**Pg**	**10 31 21.3**	**-0.3**
	SNR=91						
KBN				*i* Sg	**Sg**	**10 31 30.7**	**+1.3**
	SNR=91						
SRN	**Sarande**	**0.64**	**181**	*i* PG	**Pg**	**10 31 21.7**	**-0.6**
SRN				*i* SG	**Sb**	**10 31 34.2**	**+1.0**
SRN	**Sarande**	**0.64**	**181**	P	**Pg**	**10 31 22.9**	**+0.6**
SRN				S	**Sg**	**10 31 31.7**	**+1.2**
SRN	**Sarande**	**0.64**	**181**	*i* Pg	**Pg**	**10 31 21.7**	**-0.6**
	SNR=90						
SRN				S	**Sg**	**10 31 31.7**	**+1.2**
SRN				*i* Sg	**Sb**	**10 31 34.2**	**+1.0**
	SNR=90						
NEST	**Nestorio**	**0.80**	**97**	P	**Pg**	**10 31 25.3**	**-0.1**
NEST				S	**Sb**	**10 31 37.1**	**-0.9**
NEST	**Nestorio**	**0.80**	**97**	*e*PB	**Pg**	**10 31 25.0**	**-0.4**
NEST				*e*SB	**Sg**	**10 31 34.9**	**-0.9**
NEST	**Nestorio**	**0.80**	**97**	P	**Pg**	**10 31 25.3**	**-0.1**
NEST				S	**Sb**	**10 31 37.1**	**-0.9**
KEK	**Kerkira**	**0.82**	**191**	P	**Pg**	**10 31 25.9**	**+0.1**
KEK				S	**Sb**	**10 31 37.9**	**-0.5**
KEK	**Kerkira**	**0.82**	**191**	*e*PB	**Pg**	**10 31 25.9**	**+0.1**
KEK				*e*SB	**Sg**	**10 31 37.3**	**+0.9**
KEK	**Kerkira**	**0.82**	**191**	*e*Pb	**Pg**	**10 31 25.9**	**+0.1**
KEK				*e*Sb	**Sg**	**10 31 37.3**	**+0.9**
IGT	**Igoumenitsa**	**1.01**	**166**	P	**Pg**	**10 31 29.8**	**+0.3**
IGT				S	**Sb**	**10 31 44.4**	**+0.3**
IGT	**Igoumenitsa**	**1.01**	**166**	*e*PG	**Pg**	**10 31 29.1**	**-0.4**
IGT				*e*SB	**Sg**	**10 31 42.8**	**+0.1**
IGT	**Igoumenitsa**	**1.01**	**166**	*e*Sb	**Sg**	**10 31 42.8**	**+0.1**
IGT				S	**Sb**	**10 31 44.4**	**+0.3**
FNA	**Florina**	**1.07**	**75**	P	**Pg**	**10 31 29.9**	**-0.8**
FNA				S	**Sb**	**10 31 46.3**	**+0.5**
FNA	**Florina**	**1.07**	**75**	*e*PB	**Pg**	**10 31 29.8**	**-0.9**
FNA				*e*SB	**Sg**	**10 31 43.4**	**-1.2**
FNA	**Florina**	**1.07**	**75**	P	**Pg**	**10 31 29.9**	**-0.8**
FNA				S	**Sb**	**10 31 46.3**	**+0.5**
JAN	**Janina**	**1.07**	**143**	P	**Pg**	**10 31 30.4**	**-0.3**
JAN				S	**Sb**	**10 31 46.2**	**+0.4**
JAN	**Janina**	**1.07**	**143**	*e*PN	**Pg**	**10 31 30.4**	**-0.3**
JAN				*e*SB	**Sg**	**10 31 44.6**	**0.0**
JAN	**Janina**	**1.07**	**143**	*e*Pn	**Pg**	**10 31 30.4**	**-0.3**
JAN				*e*Sb	**Sg**	**10 31 44.6**	**0.0**
JAN				S	**Sb**	**10 31 46.2**	**+0.4**
BIA	**Bitola**	**1.12**	**63**	P	**Pg**	**10 31 30.8**	**-0.7**
BIA				S	**Sn**	**10 31 47.7**	**-1.0**
BIA	**Bitola**	**1.12**	**63**	*i* Pg	**Pg**	**10 31 30.7**	**-0.7**
BIA				*i* Sg	**Sn**	**10 31 47.6**	**-1.0**
PHP	**Peshkopia**	**1.21**	**15**	*i* PN	**Pb**	**10 31 33.6**	**-0.1**
PHP				*i* SN	**Sn**	**10 31 55.5**	**+4.5**
PHP	**Peshkopia**	**1.21**	**15**	P	**Pb**	**10 31 33.6**	**-0.1**
PHP	**Peshkopia**	**1.21**	**15**	P	**Pb**	**10 31 33.6**	**-0.1**
KZN	**Kozani**	**1.36**	**98**	*e*PB	**Pn**	**10 31 35.0**	**-1.1**
KZN				*e*SB	**Sg**	**10 31 53.7**	**-0.1**
KZN	**Kozani**	**1.36**	**98**	*e*Pb	**Pn**	**10 31 35.0**	**-1.1**
KZN				*e*Sb	**Sg**	**10 31 53.7**	**-0.1**
PUK	**Puka**	**1.53**	**357**	*i* PN	**Pg**	**10 31 39.7**	**+0.3**
PUK				*i* SN	**Sg**	**10 32 03.1**	**+3.9**
PUK	**Puka**	**1.53**	**357**	*i* Pn	**Pg**	**10 31 39.7**	**+0.3**
	SNR=40						
ULC	**Ulcinj**	**1.56**	**338**	⇓ *i* Pn	**Pn**	**10 31 39.1**	**+0.4**
ULC				*e*Sn	**Sg**	**10 32 03.0**	**+2.9**
ULC	**Ulcinj**	**1.56**	**338**	⇓ *i* Pn	**Pn**	**10 31 39.1**	**+0.4**
ULC				*e*Sn	**Sg**	**10 32 03.0**	**+2.9**
SKO	**Skopje**	**1.81**	**36**	*e*Pn	**Pn**	**10 31 42.8**	**+0.6**
SKO				*e*Sg	**Sg**	**10 32 08.3**	**+0.1**
SKO	**Skopje**	**1.81**	**36**	*i* Pn	**Pn**	**10 31 42.6**	**+0.4**
SKO				*e*Sn	**Sb**	**10 32 06.9**	**-0.1**
SKO				*i* Lg	Lg	10 32 10.4	
	comp=E,95nm,0.8s						
SKO				*i* Lg	Lg	10 32 13.8	
	comp=N,58nm,0.4s						
SKO	**Skopje**	**1.81**	**36**	*i* Pn	**Pb**	**10 31 43.0**	**-0.9**
SKO				*e*Sg	**Sg**	**10 32 08.3**	**+0.1**
SKO				*i* Lg	Lg	10 32 10.9	
	comp=N,95nm,0.8s						
THL	**Klokotos Trika**	**1.81**	**121**	*e*PN	**Pb**	**10 31 43.6**	**-0.3**
THL				*e*SN	**Sg**	**10 32 08.0**	**-0.2**
GRG	**Griva**	**1.87**	**76**	*e*PG	**Pb**	**10 31 44.2**	**-0.7**
GRG				*e*SN	**Sb**	**10 32 09.0**	**+0.3**
LIT	**Litokhoron**	**1.94**	**102**	*e*PG	**Pb**	**10 31 45.3**	**-0.8**
LIT				*e*SN	**Sb**	**10 32 10.6**	**-0.2**
BUM	**Brajici-Budva**	**1.97**	**335**	⇓ *i* Pn	**Pn**	**10 31 44.4**	**-0.1**
BUM				*e*Sn	**Sb**	**10 32 12.2**	**+0.5**
BUM	**Brajici-Budva**	**1.97**	**335**	⇓ *i* Pn	**Pn**	**10 31 44.4**	**-0.1**
BUM				*e*Sn	**Sb**	**10 32 12.2**	**+0.5**
PDG	**Podgorica**	**1.99**	**344**	*e*Pn	**Pn**	**10 31 45.6**	**+0.8**
PDG				*e*Sn	**Sb**	**10 32 11.2**	**-1.0**
PDG	**Podgorica**	**1.99**	**344**	⇓ *i* Pn	**Pn**	**10 31 45.5**	**+0.8**
PDG				*e*Sn	**Sb**	**10 32 11.2**	**-1.0**
TTG	**Podgorica**	**1.99**	**344**	⇓ *i* Pn	**Pn**	**10 31 45.5**	**+0.8**
TTG				*e*Sn	**Sg**	**10 32 14.4**	**+0.3**
PVY	**Plav**	**2.08**	**359**	⇑ *i* Pn	**Pn**	**10 31 47.0**	**+1.0**
PVY				*e*Sn	**Sg**	**10 32 16.6**	**-0.2**
PVY	**Plav**	**2.08**	**359**	⇑ *i* Pn	**Pn**	**10 31 47.0**	**+1.0**
PVY				*e*Sn	**Sg**	**10 32 16.6**	**-0.2**
VAY	**Valandovo**	**2.10**	**67**	*e*Pn	**Pb**	**10 31 47.3**	**-1.5**
VAY				*e*Sg	**Sg**	**10 32 19.3**	**+1.8**
VAY	**Valandovo**	**2.10**	**67**	*i* Pn	**Pn**	**10 31 46.8**	**+0.7**
VAY				*e*Sn	**Sb**	**10 32 15.1**	**-0.2**
VAY				*i* Lg	Lg	10 32 21.6	
	comp=N,366nm,2.5s						
VAY				*i* Lg	Lg	10 32 25.4	
	comp=E,33nm,0.9s						
VAY	**Valandovo**	**2.10**	**67**	*e*Pn	**Pb**	**10 31 47.3**	**-1.5**
VAY				*e*Sn	**Sb**	**10 32 15.6**	**+0.3**
VAY				*e*Sg	**Sg**	**10 32 19.3**	**+1.8**
VAY				*i* Lg	Lg	10 32 22.0	
	comp=E,366nm,2.5s						
EVR	**Evrytania**	**2.12**	**138**	*e*PN	**Pb**	**10 31 48.0**	**-1.2**
EVR				*e*SN	**Sb**	**10 32 15.4**	**-0.5**
EVR	**Evrytania**	**2.12**	**138**	*e*Pn	**Pb**	**10 31 48.0**	**-1.2**
EVR				*e*Sn	**Sb**	**10 32 15.4**	**-0.5**
PDO	**Prodromos**	**2.12**	**154**	*e*PN	**Pb**	**10 31 48.2**	**-1.0**
PDO				*e*SN	**Sb**	**10 32 16.1**	**+0.2**
PDO	**Prodromos**	**2.12**	**154**	*e*Pn	**Pb**	**10 31 48.2**	**-1.0**
PDO				*e*Sn	**Sb**	**10 32 16.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.22**	**132**	*e*PN	**Pb**	**10 31 49.3**	**-1.6**
MAKR				*e*SN	**Sb**	**10 32 17.8**	**-1.0**
HCY	**Herceg Novi**	**2.24**	**330**	⇓ *i* Pn	**Pn**	**10 31 47.8**	**-0.3**
HCY				*e*Sn	**Sb**	**10 32 19.4**	**0.0**
HCY	**Herceg Novi**	**2.24**	**330**	⇓ *i* Pn	**Pn**	**10 31 47.8**	**-0.3**
HCY				*e*Sn	**Sb**	**10 32 19.4**	**0.0**
KNT	**Kendrikon**	**2.28**	**73**	*e*PN	**Pn**	**10 31 49.5**	**+0.8**
KNT				*e*SN	**Sn**	**10 32 18.4**	**+1.0**
KNT	**Kendrikon**	**2.28**	**73**	*e*Pn	**Pn**	**10 31 49.5**	**+0.8**
KNT				*e*Sn	**Sn**	**10 32 18.4**	**+1.0**
AGG	**Agios Georgios**	**2.33**	**129**	*e*PB	**Pn**	**10 31 49.7**	**+0.3**
AGG				*e*SN	**Sb**	**10 32 20.8**	**-1.2**
AGG	**Agios Georgios**	**2.33**	**129**	*e*Pb	**Pn**	**10 31 49.7**	**+0.3**
AGG				*e*Sn	**Sb**	**10 32 20.8**	**-1.2**
BEY	**Berane**	**2.35**	**358**	⇓ *i* Pn	**Pn**	**10 31 51.2**	**+1.4**
IVA	**Berane**	**2.35**	**358**	⇓ *i* Pn	**Pn**	**10 31 51.2**	**+1.4**
IVA				*e*Sn	**Sb**	**10 32 22.8**	**+0.1**
HORT	**Hortiatis**	**2.35**	**87**	*e*PN	**Pn**	**10 31 50.8**	**+1.0**
VLS	**Valsamata**	**2.38**	**169**	*e*PN	**Pb**	**10 31 52.2**	**-1.4**
VLS				*e*SN	**Sb**	**10 32 22.7**	**-0.7**
VLS	**Valsamata**	**2.38**	**169**	*e*Pn	**Pb**	**10 31 52.2**	**-1.4**
VLS				*e*Sn	**Sb**	**10 32 22.7**	**-0.7**
NKME	**Niksic**	**2.38**	**341**	⇑ *i* Pn	**Pn**	**10 31 50.6**	**+0.5**
NKME				*e*Sn	**Sb**	**10 32 22.8**	**-0.7**
NKME	**Niksic**	**2.38**	**341**	⇑ *i* Pn	**Pn**	**10 31 50.6**	**+0.5**
NKME				*e*Sn	**Sb**	**10 32 22.8**	**-0.7**
NKY	**Niksic**	**2.42**	**342**	⇓ *i* Pn	**Pn**	**10 31 51.2**	**+0.5**
NKY				*e*Sn	**Sb**	**10 32 23.9**	**-0.7**
NKY	**Niksic**	**2.42**	**342**	⇓ *i* Pn	**Pn**	**10 31 51.2**	**+0.5**
NKY				*e*Sn	**Sb**	**10 32 23.9**	**-0.7**
TREB	**Trebinje**	**2.53**	**331**	*e*Pn	**Pn**	**10 31 51.5**	**-0.5**
TREB				*e*Sn	**Sn**	**10 32 22.9**	**-0.4**
TREB	**Trebinje**	**2.53**	**331**	*e*Pn	**Pn**	**10 31 51.5**	**-0.5**
TREB				*e*Sn	**Sn**	**10 32 22.9**	**-0.4**
EFP	**Efpalio**	**2.55**	**144**	*e*PN	**Pn**	**10 31 54.1**	**+1.7**
EFP	**Efpalio**	**2.55**	**144**	*e*Pn	**Pn**	**10 31 54.1**	**+1.7**
SOH	**Sokhos**	**2.56**	**82**	*e*PN	**Pn**	**10 31 54.1**	**+1.5**
SOH				*e*SN	**Sn**	**10 32 25.3**	**+1.0**
SOH	**Sokhos**	**2.56**	**82**	*e*Pn	**Pn**	**10 31 54.1**	**+1.5**
SOH				*e*Sn	**Sn**	**10 32 25.3**	**+1.0**
BRY	**Bratogost**	**2.62**	**336**	⇓ *i* Pn	**Pn**	**10 31 53.6**	**+0.1**
BRY				*e*Sn	**Sn**	**10 32 28.1**	**+2.1**
BRY	**Bratogost**	**2.62**	**336**	⇓ *i* Pn	**Pn**	**10 31 53.6**	**+0.1**
KALE	**Kalithea**	**2.69**	**141**	*e*PN	**Pn**	**10 31 55.8**	**+1.5**
KALE	**Kalithea**	**2.69**	**141**	*e*Pn	**Pn**	**10 31 55.8**	**+1.5**
RLS	**Riolos of Patr**	**2.70**	**155**	*e*PB	**Pn**	**10 31 55.7**	**+1.2**
RLS	**Riolos of Patr**	**2.70**	**155**	*e*Pb	**Pn**	**10 31 55.7**	**+1.2**
LAKA	**Lakka**	**2.74**	**146**	*e*PN	**Pn**	**10 31 56.8**	**+1.8**
LAKA	**Lakka**	**2.74**	**146**	*e*Pn	**Pn**	**10 31 56.8**	**+1.8**
SJES	**Sjenica**	**2.74**	**359**	⇓ *i* Pn	**Pn**	**10 31 55.6**	**+0.5**
UPM	**Unac-Piva**	**2.81**	**343**	⇓ *i* Pn	**Pn**	**10 31 56.7**	**+0.6**
UPM				*e*Sn	**Sb**	**10 32 33.6**	**-2.3**
UPM	**Unac-Piva**	**2.81**	**343**	⇓ *i* Pn	**Pn**	**10 31 56.7**	**+0.6**
UPM				*e*Sn	**Sb**	**10 32 33.6**	**-2.3**
SELS	**Selova**	**2.82**	**17**	*e*Pn	**Pn**	**10 31 57.2**	**+1.0**
PLE	**Pljevlja**	**2.85**	**351**	⇑ *i* Pn	**Pn**	**10 31 57.8**	**+1.2**
PLE				*e*Sn	**Sn**	**10 32 34.1**	**+2.6**
PLE	**Pljevlja**	**2.85**	**351**	⇑ *i* Pn	**Pn**	**10 31 57.8**	**+1.2**
PLE				*e*Sn	**Sn**	**10 32 34.1**	**+2.6**
DSF	**Desfina**	**2.87**	**136**	*e*PN	**Pn**	**10 31 58.2**	**+1.4**
DSF				*e*SN	**Sn**	**10 32 33.4**	**+1.6**
DSF	**Desfina**	**2.87**	**136**	*e*Pn	**Pn**	**10 31 58.2**	**+1.4**
DSF				*e*Sn	**Sn**	**10 32 33.4**	**+1.6**
DESF	**Desfina**	**2.87**	**136**	*e*PB	**Pn**	**10 31 57.8**	**+1.0**
DESF				*e*SN	**Sn**	**10 32 33.1**	**+1.2**
DESF	**Desfina**	**2.87**	**136**	*e*Pb	**Pn**	**10 31 57.8**	**+1.0**
DESF				*e*Sn	**Sn**	**10 32 33.1**	**+1.2**
DRO	**Drossia**	**2.88**	**152**	*e*PB	**Pn**	**10 31 58.1**	**+1.1**
DRO				*e*SN	**Sb**	**10 32 34.9**	**-2.9**
DRO	**Drossia**	**2.88**	**152**	*e*Pb	**Pn**	**10 31 58.1**	**+1.1**
DRO				*e*Sn	**Sb**	**10 32 34.9**	**-2.9**
STON	**Ston**	**2.92**	**324**	*i* Pn	**Pn**	**10 31 56.8**	**-0.7**
STON				Sn	**Sn**	**10 32 31.7**	**-1.4**
STON	**Ston**	**2.92**	**324**	⇑ *i* Pn	**Pn**	**10 31 56.6**	**-0.8**
STON				*e*Sn	**Sn**	**10 32 30.9**	**-2.1**
STON	**Ston**	**2.92**	**324**	⇑ *i* Pn	**Pn**	**10 31 56.6**	**-0.8**
STON				Sn	**Sn**	**10 32 31.6**	**-1.4**
LKR	**Lokris**	**2.97**	**128**	*e*PB	**Pn**	**10 31 59.6**	**+1.5**
LKR	**Lokris**	**2.97**	**128**	*e*Pb	**Pn**	**10 31 59.6**	**+1.5**
KLV	**Kalavryta, Ach**	**2.98**	**145**	*e*PN	**Pn**	**10 31 59.2**	**+0.9**
KLV	**Kalavryta, Ach**	**2.98**	**145**	*e*Pn	**Pn**	**10 31 59.2**	**+0.9**
NVR	**Nevrokopi**	**3.03**	**73**	*e*PB	**Pn**	**10 32 01.2**	**+2.1**
NVR	**Nevrokopi**	**3.03**	**73**	*e*Pb	**Pn**	**10 32 01.2**	**+2.1**
IVAS	**Ivanjica**	**3.06**	**2**	*e*Pn	**Pn**	**10 32 00.1**	**+0.7**
IVAS	**Ivanjica**	**3.06**	**2**	*e*Pn	**Pn**	**10 32 00.1**	**+0.7**
GUR	**Goura**	**3.15**	**144**	*e*PN	**Pn**	**10 32 02.0**	**+1.3**
GUR	**Goura**	**3.15**	**144**	*e*Pn	**Pn**	**10 32 02.0**	**+1.3**
VTS	**Vitosha**	**3.17**	**48**	*e*Pn	**Pb**	**10 32 04.3**	**-2.9**
VTS	**Vitosha**	**3.17**	**48**	*e*Pn	**Pb**	**10 32 04.3**	**-2.9**
BBLS	**Lazići**	**3.38**	**353**	*e*Pn	**Pn**	**10 32 05.1**	**+1.3**
BBLS	**Lazići**	**3.38**	**353**	*e*Pn	**Pn**	**10 32 05.1**	**+1.3**
ZAPS	**Zavoj**	**3.38**	**35**	⇑ *i* Pn	**Pn**	**10 32 05.7**	**+1.9**
ZAPS				*e*Sn	**Sn**	**10 32 43.7**	**-0.7**
GRUS	**Gruza**	**3.41**	**9**	*e*Pn	**Pn**	**10 32 05.8**	**+1.6**
GRUS	**Gruza**	**3.41**	**9**	*e*Pn	**Pn**	**10 32 05.8**	**+1.6**
VIL2	**Platees**	**3.42**	**131**	*e*PN	**Pn**	**10 32 06.8**	**+2.5**
VILL	**Villia**	**3.48**	**131**	*e*Pn	**Pn**	**10 32 06.8**	**+1.7**
DIVS	**Divibare**	**3.58**	**360**	*e*Pn	**Pn**	**10 32 07.0**	**+0.4**
DIVS				*e*Sn	**Sn**	**10 32 49.8**	**+0.4**
DIVS	**Divibare**	**3.58**	**360**	*e*Pn	**Pn**	**10 32 07.0**	**+0.4**
DIVS				*e*Sn	**Sn**	**10 32 49.8**	**+0.4**
ITM	**Ithomi**	**3.65**	**155**	*e*PN	**Pn**	**10 32 09.4**	**+1.8**
ITM	**Ithomi**	**3.65**	**155**	*e*Pn	**Pn**	**10 32 09.4**	**+1.8**
DID	**Didima**	**3.92**	**139**	*e*PB	Pn	10 32 14.4	+3.2
DID	**Didima**	**3.92**	**139**	*e*Pb	Pn	10 32 14.4	+3.2
NVLJ	**Novalja**	**5.54**	**318**	*e*Pn	**Pn**	**10 32 33.3**	**-0.3**
NVLJ				Sn	**Sn**	**10 33 35.0**	**-2.8**
NVLJ	**Novalja**	**5.54**	**318**	*e*Pn	**Pn**	**10 32 33.2**	**-0.3**
NVLJ				Sn	**Sn**	**10 33 34.9**	**-2.8**

KRSC 10 10:59:58.2±4.5**, 50.70N**×**157.70E, h11**km±10km**, ML3.9,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.95**	**324**	P	Pg	11 00 16.2	-0.3
PAU				S	Sg	11 00 27.5	-1.4
SKR	**Severo-Kuril's**	**1.01**	**270**	P	Pg	11 00 16.4	-1.2
SKR				S	Sg	11 00 28.5	-2.2
MIPR	**Malaya Ipel'ka**	**1.69**	**340**	P	Pn	11 00 26.5	-1.1
MIPR				S	Sn	11 00 45.7	-3.5
ASAK	**Asacha**	**1.69**	**4**	P	Pn	11 00 28.0	+0.2
ASAK				S	Sn	11 00 47.7	-1.8
RUS	**Russkaya**	**1.81**	**16**	P	Pn	11 00 29.3	0.0
RUS				S	Sn	11 00 50.4	-1.8
MTVR	**Mutnovka**	**1.81**	**9**	P	Pn	11 00 29.5	0.0
MTVR				S	Sn	11 00 50.9	-1.7
GRL	**Gorelyy**	**1.87**	**7**	P	Pn	11 00 30.9	+0.6
GRL				S	Sn	11 00 52.7	-1.3
APC	**Apacha**	**2.25**	**352**	P	Pn	11 00 35.0	-0.4
PET	**Petropavlovsk**	**2.40**	**14**	P	Pn	11 00 38.2	+0.8
PET				S	Sn	11 01 06.0	-0.8
UGLR	**Uglovaya**	**2.61**	**15**	P	Pn	11 00 41.9	+1.5
UGLR				S	Sn	11 01 11.5	-0.7
AVH	**Avacha**	**2.65**	**14**	P	Pn	11 00 42.4	+1.5
AVH				S	Sn	11 01 13.3	+0.2
SMAR	**Somma**	**2.66**	**14**	P	Pn	11 00 42.9	+1.7
SMAR				S	Sn	11 01 14.7	+1.1
KOK	**Koryaka**	**2.66**	**12**	P	Pn	11 00 43.0	+1.9
KOK				S	Sn	11 01 13.9	+0.5
NLC	**Nalytchevo**	**2.68**	**22**	P	Pn	11 00 40.8	-0.4
NLC				S	Sn	11 01 10.7	-2.8
SDLR	**Sedlovina**	**2.68**	**15**	P	Pn	11 00 42.1	+0.6
SDLR				S	Sn	11 01 11.9	-2.2
KRER	**Koryakskii**	**2.69**	**14**	P	Pn	11 00 43.3	+1.7
KRER				S	Sn	11 01 14.6	+0.3
KRX	**Arik**	**2.73**	**12**	P	Pn	11 00 43.5	+1.4
KRX				S	Sn	11 01 14.5	-0.7
SPN	**Mys Shipunski**	**2.80**	**30**	S	Sn	11 01 16.1	-0.5
GNL	**Ganaly**	**3.00**	**3**	P	Pn	11 00 46.5	+0.6
GNL				S	Sn	11 01 19.9	-2.0
MKZ	**Mys Kozlova**	**4.58**	**31**	P	Pn	11 01 07.8	+0.5
MKZ				S	Sn	11 01 57.7	-2.6
KZV	**Kizimen**	**4.69**	**19**	P	Pn	11 01 11.1	+2.0
KZV				S	Sn	11 02 02.8	-0.8
TUMR	**Tumrok**	**4.82**	**17**	P	Pn	11 01 12.8	+2.0
KBTR	**Krutoberegovo**	**6.31**	**27**	P	Pn	11 01 31.4	+0.4
KBTR				S	Sn	11 02 46.8	+3.8

ISCJB ***10*** *11:06:12.5±0.8, 23.80S±0.06×67.29W±0.10, h212km±12km, mb3.4/2, Error ellipse: s-maj=14.8km s-min=9.0km az=3.9*
GUC ***10*** *11:06:12.1±0.5, 23.79S×67.39W, h210km, ML4.3*
IDC ***10*** *11:06:15.0±2.1, 23.59S×66.94W, h223km±19km, mb3.3/2, mb1 3.3/7, mb1mx3.2/19, mbtmp3.7/7, Error ellipse: s-maj=24.2km s-min=18.9km az=76.0*
ISC 10 11:06:12.7±0.9**, 23.74S**±0.07×**67.23W**±0.09**,**
h213km±11km, n20,σ1§28/27, 7C-1D, Chile-Argentina
border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**2.54**	**305**	⇑ *i* P	Pn	11 07 03.4	+5.6
PB04				*i* S	S	11 07 42.8	+10
PB04				AML	AML	11 07 45.8	
	comp=N,362nm,0.3s						
PB09	**Plate Boundary**	**2.68**	**316**	⇑ *i* P	**Pn**	**11 07 00.3**	**+0.7**
PB09				AML	AML	11 07 40.4	
	comp=E,1μm,0.4s						
CEN1	**Los Morros**	**2.74**	**277**	⇓ *i* P	**Pn**	**11 07 01.1**	**+0.8**
CEN1				*i* S	**S**	**11 07 37.7**	**+0.7**
CEN1				AML	AML	11 07 41.2	
	comp=N,284nm,0.6s						
ANCH	**Antofagasta**	**2.91**	**270**	⇑ *i* P	**Pn**	**11 07 01.4**	**-0.6**
ANCH				*i* S	**S**	**11 07 38.6**	**-1.5**
ANCH				AML	AML	11 07 41.7	
	comp=E,550nm,0.2s						
PB10	**Plate Boundary**	**3.05**	**274**	⇑ *i* P	**Pn**	**11 07 02.8**	**-0.9**
PB10				*i* S	**S**	**11 07 41.5**	**-1.6**
PB10				AML	AML	11 07 45.8	
	comp=E,731nm,0.4s						
PB07	**Plate Boundary**	**3.16**	**309**	⇑ *i* P	**Pn**	**11 07 05.2**	**+0.1**
PB07				*i* S	**S**	**11 07 46.0**	**+0.2**
PB07				AML	AML	11 07 47.5	
	comp=E,486nm,0.5s						
PB01	**Plate Boundary**	**3.40**	**322**	⇑ *i* P	**Pn**	**11 07 07.8**	**0.0**
PB01				*i* S	**S**	**11 07 51.4**	**+0.7**
PB01				AML	AML	11 07 54.7	
	comp=E,252nm,0.

UPM	**Unac-Piva**	1.02	347	⇓*i*Pg	**Pg**	11 21 12.0	-1.1
UPM				*e*Sg	**Sb**	11 21 28.1	+0.7
PHP	**Peshkopia**	1.06	119	*i* Pg	**Pg**	11 21 12.8	-1.1
PHP				*i* SG	**Sn**	11 21 29.8	-0.3
PHP	**Peshkopia**	1.06	119	P	**Pg**	11 21 12.8	-1.1
PHP				S	**Sn**	11 21 30.4	+0.3
PHP	**Peshkopia**	1.06	119	P	**Pg**	11 21 12.8	-1.1
PHP				*i* Sg	**Sn**	11 21 29.8	-0.3
	SNR=90						
PHP				S	**Sn**	11 21 30.4	+0.3
PLE	**Pljevlja**	1.13	7	⇓*i*Pg	**Pg**	11 21 14.4	-0.8
PLE				*e*Sg	**Sn**	11 21 31.6	-0.3
PLE	**Pljevlja**	1.13	7	⇓Pg	**Pg**	11 21 14.4	-0.8
PLE				eSg	**Sn**	11 21 31.6	-0.3
SJES	**Sjenica**	1.19	28	⇓*i*Pg	**Pg**	11 21 13.8	-2.7
SJES				*e*Sg	**Sg**	11 21 30.9	-1.0
SJES	**Sjenica**	1.19	28	⇓*i*Pg	**Pg**	11 21 13.8	-2.7
SJES				*e*Sg	**Sg**	11 21 30.9	-1.0
STON	**Ston**	1.29	301	*i* Pn	**Pn**	11 21 16.2	-2.0
STON				Sn	**Sn**	11 21 36.4	+0.5
STON	**Ston**	1.29	301	*e*Pg	**Pn**	11 21 16.1	-2.1
STON				*e*Sn	**Sn**	11 21 35.9	+0.1
STON	**Ston**	1.29	301	ePg	**Pn**	11 21 16.1	-2.1
STON				eSn	**Sn**	11 21 35.9	+0.1
IVAS	**Ivanjica**	1.53	27	*e*Pg	**Pn**	11 21 21.6	+0.1
IVAS				*e*Sn	**Sg**	11 21 43.6	+0.8
IVAS	**Ivanjica**	1.53	27	ePg	**Pn**	11 21 21.6	+0.1
IVAS				eSn	**Sg**	11 21 43.6	+0.8
BBLS	**Lazići**	1.66	5	⇓*i*Pn	**Pn**	11 21 23.6	+0.3
BBLS				*e*Sn	**Sn**	11 21 45.4	+0.4
BBLS	**Lazići**	1.66	5	⇓*i*Pn	**Pn**	11 21 23.6	+0.3
BBLS				eSn	**Sn**	11 21 45.4	+0.4
SKO	**Skopje**	1.68	97	P	**Pn**	11 21 23.6	+0.1
SKO				S	**Sg**	11 21 48.5	+1.0
SKO	**Skopje**	1.68	97	⇑*i*Pn	**Pn**	11 21 23.4	-0.1
SKO				*e*Sg	**Sg**	11 21 47.7	+0.2
SKO	**Skopje**	1.68	97	*i* Pg	**Pn**	11 21 23.9	+0.4
SKO				*i* Sg	**Sg**	11 21 48.5	+1.0
SKO				*i* Lg	Lg	11 21 50.0	
	comp=E,517nm,0.6s						
SKO				*i* Lg	Lg	11 21 50.0	
	comp=N,548nm,0.5s						
SKO	**Skopje**	1.68	97	P	**Pn**	11 21 23.6	+0.1
SKO	**Skopje**	1.68	97	*i* Pg	**Pb**	11 21 24.3	-0.6
SKO				S	**Sg**	11 21 48.5	+1.0
SKO				*i* Sg	**Sb**	11 21 49.0	+2.7
SKO				*i* Lg	Lg	11 21 50.4	
	comp=N,517nm,0.6s						
SELS	**Selova**	1.73	54	⇓*i*Pg	**Pn**	11 21 23.8	-0.5
SELS				*e*Sn	**Sn**	11 21 46.2	-0.5
SELS	**Selova**	1.73	54	⇓*i*Pg	**Pn**	11 21 23.8	-0.5
SELS				eSn	**Sn**	11 21 46.2	-0.5
PE1	**Pezze di Greco**	1.94	224	*e*Pn	**Pn**	11 21 25.8	-1.3
DIVS	**Divibare**	1.97	17	P	**Pn**	11 21 27.8	+0.2
DIVS				S	**Sb**	11 21 54.0	-0.8
DIVS	**Divibare**	1.97	17	*e*Pn	**Pn**	11 21 27.5	-0.1
DIVS				*e*Sn	**Sn**	11 21 53.3	+0.6
DIVS	**Divibare**	1.97	17	ePn	**Pn**	11 21 27.5	-0.1
DIVS	**Divibare**	1.97	17	P	**Pn**	11 21 27.8	+0.2
DIVS				eSn	**Sn**	11 21 53.3	+0.6
DIVS				S	**Sb**	11 21 54.0	-0.8
KBN	**Korca**	1.98	143	*i* PN	**Pb**	11 21 29.4	-0.7
KBN	**Korca**	1.98	143	P	**Pn**	11 21 28.8	+1.1
KBN				S	**Sg**	11 21 57.2	0.0
KBN	**Korca**	1.98	143	P	**Pn**	11 21 28.8	+1.1
KBN	**Korca**	1.98	143	*i* Pn	**Pb**	11 21 29.4	-0.7
	SNR=40						
BIA	**Bitola**	1.98	126	P	**Pn**	11 21 28.9	+1.1
BIA				S	**Sn**	11 21 54.0	+1.1
BIA	**Bitola**	1.98	126	*i* Pn	**Pn**	11 21 28.8	+1.1
BIA				*i* Sn	**Sb**	11 21 56.1	+0.9
BIA	**Bitola**	1.98	126	*i* Pn	**Pn**	11 21 28.8	+1.1
BIA				S	**Sn**	11 21 54.0	+1.1
BIA				*i* Sn	**Sb**	11 21 56.0	+0.9
GRUS	**Gruza**	2.01	33	*e*Pn	**Pn**	11 21 28.0	0.0
GRUS				eSn	**Sn**	11 21 52.7	-0.8
GRUS	**Gruza**	2.01	33	ePn	**Pn**	11 21 28.0	0.0
GRUS				eSn	**Sn**	11 21 52.7	-0.8
BAI	**Bari**	2.06	238	*e*Pn	**Pn**	11 21 28.8	0.0
BAI				*e*Sn	**Sn**	11 21 51.9	-2.9
NOCI	**Noci**	2.15	229	Pn	**Pn**	11 21 28.6	-1.3
	comp=N,518nm,0.5s						
NOCI	**Noci**	2.15	229	Pn	**Pn**	11 21 28.6	-1.3
	comp=N,518nm,0.5s						
FNA	**Florina**	2.17	130	P	**Pn**	11 21 31.6	+1.4
FNA				S	**Sb**	11 22 00.2	-0.1
FNA	**Florina**	2.17	130	*e*P	**Pb**	11 21 32.0	-1.2
FNA	**Florina**	2.17	130	P	**Pn**	11 21 31.6	+1.4
FNA				S	**Sb**	11 22 00.2	-0.1
TRUS	**Trudelj**	2.19	23	⇑*i*Pn	**Pn**	11 21 29.7	-0.9
TRUS	**Trudelj**	2.19	23	⇑*i*Pn	**Pn**	11 21 29.7	-0.9
TAR1	**Taranto**	2.22	221	*e*Pn	**Pg**	11 21 35.2	-0.9
NEST	**Nestorio**	2.27	142	P	**Pn**	11 21 33.0	+1.3
NEST				S	**Sb**	11 22 03.1	-0.2
NEST	**Nestorio**	2.27	142	*e*P	**Pb**	11 21 33.5	-1.5
NEST	**Nestorio**	2.27	142	P	**Pn**	11 21 33.0	+1.3
NEST				S	**Sb**	11 22 03.1	-0.2
BOVS	**Bovan**	2.32	51	*e*Pg	**Pb**	11 21 34.6	-1.2
AMUR	**Altamura**	2.35	237	Pn	**Pn**	11 21 31.8	-0.9
	comp=N,313nm,0.6s						
AMUR	**Altamura**	2.35	237	Pn	**Pn**	11 21 31.8	-0.9
	comp=N,313nm,0.6s						
TEKS	**Tekeris**	2.35	6	*e*Pn	**Pn**	11 21 33.2	+0.5
TEKS	**Tekeris**	2.35	6	ePn	**Pn**	11 21 33.2	+0.5
CDT	**Castel del Mon**	2.47	244	ePn	**Pb**	11 21 38.4	0.0
MS1	**Monte Sant'Ang**	2.49	259	ePn	**Pb**	11 21 39.4	+0.7
MSAG	**Monte S. Angel**	2.51	260	Pn	**Pn**	11 21 34.5	-0.5
	comp=N,252nm,0.5s						
MSAG	**Monte S. Angel**	2.51	260	Pn	**Pn**	11 21 34.5	-0.5
	comp=N,252nm,0.5s						
KEK	**Kerkira**	2.54	170	*e*P	**Pn**	11 21 34.5	-0.8
KEK	**Kerkira**	2.54	170	Pn	**Pn**	11 21 34.2	-1.1
KEK	**Kerkira**	2.54	170	Pn	**Pn**	11 21 34.2	-1.1
VAY	**Valandovo**	2.67	108	P	**Pn**	11 21 37.6	+0.5
VAY	**Valandovo**	2.67	108	ePn	**Pn**	11 21 38.4	+1.3
VAY	**Valandovo**	2.67	108	*i* Pn	**Pn**	11 21 37.6	+0.5
VAY				*i* Sn	**Sn**	11 22 12.2	+2.5
VAY				*i* Lg	Lg	11 22 19.2	
	comp=N,331nm,0.9s						
VAY				*i* Lg	Lg	11 22 24.2	
	comp=E,1μm,2.5s						
VAY	**Valandovo**	2.67	108	P	**Pn**	11 21 37.6	+0.5
VAY	**Valandovo**	2.67	108	*i* Pn	**Pn**	11 21 38.0	+0.9
VAY				*i* Sn	**Sb**	11 22 12.6	-2.1
VAY				*i* Lg	Lg	11 22 19.7	
	comp=E,331nm,0.9s						
GRG	**Griva**	2.70	117	*e*P	**Pn**	11 21 39.0	+1.4
KZN	**Kozani**	2.71	134	P	**Pn**	11 21 38.5	+0.7
KZN				S	**Sn**	11 22 13.6	+2.7
KZN	**Kozani**	2.71	134	*e*P	**Pb**	11 21 41.0	-1.5
KZN	**Kozani**	2.71	134	P	**Pn**	11 21 38.5	+0.7
KZN				S	**Sn**	11 22 13.6	+2.7
ZAPS	**Zavoj**	2.74	66	*i* Pn	**Pn**	11 21 38.8	+0.7
ZAPS				*e*Sn	**Sn**	11 22 09.9	-1.6
ZAPS	**Zavoj**	2.74	66	*i* Pn	**Pn**	11 21 38.8	+0.7
ZAPS				eSn	**Sn**	11 22 09.9	-1.6
IGT	**Igoumenitsa**	2.81	162	*e*P	**Pn**	11 21 38.5	-0.5
JAN	**Janina**	2.84	153	*e*P	**Pn**	11 21 41.0	+1.5
BLY	**Banja Luka**	2.93	331	*e*Pn	**Pn**	11 21 42.7	+2.0
BLY				*e*Sn	**Sn**	11 22 18.8	+2.5
BLY	**Banja Luka**	2.93	331	Pn	**Pn**	11 21 42.9	+2.2
BLY	**Banja Luka**	2.93	331	ePn	**Pn**	11 21 42.7	+2.0
BLY				eSn	**Sn**	11 22 18.8	+2.5
KNT	**Kendrikon**	2.96	110	*e*P	**Pn**	11 21 42.0	+0.9
FGSL	**Fruska Gora**	2.98	8	*e*Pn	**Pn**	11 21 41.5	+0.1
FGSL				eSn	**Sn**	11 22 17.3	-0.1
FRGS	**Fruska Gora**	2.98	8	ePn	**Pn**	11 21 41.5	+0.1
FRGS				eSn	**Sn**	11 22 17.3	-0.1
VTS	**Vitosha**	2.99	81	P	**Pn**	11 21 42.4	+0.8
VTS	**Vitosha**	2.99	81	⇑*i*P	**Pn**	11 21 42.6	+1.0
VTS	**Vitosha**	2.99	81	P	**Pn**	11 21 42.4	+0.8
VTS				*e*Sn	**Sn**	11 22 16.4	-1.4
THE	**Thessaloniki**	3.24	118	*e*P	**Pn**	11 21 46.0	+1.1
LIT	**Litokhoron**	3.25	129	*e*P	**Pn**	11 21 47.5	+2.3
HORT	**Hortiatis**	3.34	118	*e*P	**Pn**	11 21 47.5	+1.1
MCRV	**Calabrutti - M**	3.35	246	Pn	**Pn**	11 21 46.8	+0.2
MCRV	**Calabrutti - M**	3.35	246	Pn	**Pn**	11 21 46.8	+0.2
THL	**Klokotos Trika**	3.39	140	*e*P	**Pn**	11 21 48.0	+1.0
CDRU	**Civita di Ruta**	3.40	241	Pn	**Pn**	11 21 46.3	-1.0
CDRU	**Civita di Ruta**	3.40	241	Pn	**Pn**	11 21 46.3	-1.0
SOH	**Sokhos**	3.41	113	*e*P	**Pn**	11 21 48.5	+1.2
UDBI	**Udbina**	3.42	314	*i* Pn	**Pn**	11 21 49.7	+2.2
UDBI				Sn	**Sn**	11 22 31.3	+3.0
UDBI	**Udbina**	3.42	314	*i* Pn	**Pn**	11 21 49.6	+2.2
UDBI				Sn	**Sn**	11 22 31.2	+3.0
MMB	**Musomiste**	3.43	99	⇓*i*P	**Pn**	11 21 48.7	+1.1
MMB	**Musomiste**	3.43	99	⇓*i*P	**Pn**	11 21 48.7	+1.1
MGR	**Morigerati**	3.45	234	Pn	**Pn**	11 21 47.3	-0.5
MGR	**Morigerati**	3.45	234	Pn	**Pn**	11 21 47.3	-0.5
SRS	**Serrai**	3.46	107	*e*P	**Pn**	11 21 50.0	+2.0
NVR	**Nevrokopi**	3.58	102	*e*P	**Pn**	11 21 51.0	+1.3
PTRJ	**Pietraroja**	3.60	258	Pn	**Pn**	11 21 49.9	-0.1
	comp=E,280nm,0.4s						
PTRJ	**Pietraroja**	3.60	258	Pn	**Pn**	11 21 49.9	-0.1
	comp=E,280nm,0.4s						
PLG	**Polygyros**	3.68	118	*e*P	**Pn**	11 21 51.0	-0.1
MIDA	**Miranda**	3.74	263	Pn	**Pn**	11 21 52.0	+0.1
	comp=E,109nm,0.5s						
MIDA	**Miranda**	3.74	263	Pn	**Pn**	11 21 52.0	+0.1
	comp=E,109nm,0.5s						
LPEL	**Lama dei Pelig**	3.74	269	Pn	**Pn**	11 21 52.8	+0.9
	comp=E,93nm,0.3s						
LPEL	**Lama dei Pelig**	3.74	269	Pn	**Pn**	11 21 52.8	+0.9
	comp=E,93nm,0.3s						
VAGA	**Valle Agricola**	3.80	260	Pn	**Pn**	11 21 52.9	+0.2
	comp=E,117nm,0.4s						
VAGA	**Valle Agricola**	3.80	260	Pn	**Pn**	11 21 52.9	+0.2
	comp=E,117nm,0.4s						
RNI2	**Rionero Sannit**	3.80	264	Pn	**Pn**	11 21 53.8	+1.0
RNI2	**Rionero Sannit**	3.80	264	Pn	**Pn**	11 21 53.8	+1.0
BZS	**Buzias**	3.82	26	⇓*i*P	**Pn**	11 21 53.8	+0.8
BZS	**Buzias**	3.82	26	⇓*i*P	**Pn**	11 21 53.8	+0.8
EVR	**Evrytania**	3.84	148	*e*P	**Pn**	11 21 55.0	+1.7
MAKR	**Makrakomi, Fth**	3.89	144	*e*P	**Pn**	11 21 56.0	+2.0
CERA	**Filignano**	3.92	263	Pn	**Pn**	11 21 55.3	+0.9
	comp=E,165nm,0.5s						
CERA	**Filignano**	3.92	263	Pn	**Pn**	11 21 55.3	+0.9
	comp=E,165nm,0.5s						
NVLJ	**Novalja**	3.94	308	*e*Pn	**Pn**	11 21 54.8	+0.3
NVLJ				Sn	**Sn**	11 22 41.1	0.0
NVLJ	**Novalja**	3.94	308	*e*Pn	**Pn**	11 21 54.8	+0.3
NVLJ				Sn	**Sn**	11 22 41.0	0.0
INTR	**Introdacqua**	3.95	269	Pn	**Pn**	11 21 54.8	0.0
	comp=E,129nm,0.6s						
INTR	**Introdacqua**	3.95	269	Pn	**Pn**	11 21 54.8	0.0
	comp=E,129nm,0.6s						
AGG	**Agios Georgios**	3.97	142	*e*P	**Pn**	11 21 55.5	+0.4
PKSM	**Moragy**	4.02	354	⇓*i*P	**Pn**	11 21 55.5	-0.2
PKSM	**Moragy**	4.02	354	⇓*i*P	**Pn**	11 21 55.5	-0.2
PKSM	**Moragy**	4.02	354	⇓*e*	**Pn**	11 21 56.2	+0.5
SDI	**San Donato**	4.06	265	Pn	**Pn**	11 21 55.9	-0.3
	comp=E,22nm,0.4s						
SDI	**San Donato**	4.06	265	Pn	**Pn**	11 21 55.9	-0.3
	comp=E,22nm,0.4s						
OUR	**Ouranopolis**	4.06	116	*e*P	**Pn**	11 21 57.5	+1.3
PAIG	**Paliouri**	4.08	123	*e*P	**Pn**	11 21 57.5	+1.0
GZR	**Gura Zlata**	4.10	38	⇑*i*P	**Pn**	11 21 59.0	+2.2
GZR	**Gura Zlata**	4.10	38	⇑*i*P	**Pn**	11 21 59.0	+2.2
POFI	**Posta Fibreno**	4.13	265	Pn	**Pn**	11 21 57.7	+0.5
	comp=E,82nm,0.7s						
POFI	**Posta Fibreno**	4.13	265	Pn	**Pn**	11 21 57.7	+0.5
	comp=E,82nm,0.7s						
KAVA	**Kavala**	4.16	105	*e*P	**Pn**	11 21 59.0	+1.4
FAGN	**Fagnano**	4.18	273	Pn	**Pn**	11 21 58.5	+0.6
	comp=E,210nm,0.6s						
FAGN	**Fagnano**	4.18	273	Pn	**Pn**	11 21 58.5	+0.6
	comp=E,210nm,0.6s						
EFP	**Efpalio**	4.31	150	*e*P	**Pn**	11 22 01.0	+1.4
PTQR	**Pietraquaria**	4.32	269	Pn	**Pn**	11 22 00.9	+1.0
	comp=E,11nm,0.3s						
PTQR	**Pietraquaria**	4.32	269	Pn	**Pn**	11 22 00.9	+1.0
	comp=E,11nm,0.3s						
BOJS	**Bojanci**	4.36	320	*i* Pn	**Pn**	11 22 01.5	+1.2
BOJS	**Bojanci**	4.36	320	Pn	**Pn**	11 22 01.5	+1.2
SMA1	**SAN MARTINO**	4.37	277	Pn	**Pn**	11 22 01.1	+0.5
	comp=E,181nm,0.8s						
PKS6	**Bocsa**	4.39	3	⇓epn	**Pn**	11 21 59.5	-1.3
PKS6				*e*sn	**Sn**	11 22 52.7	+0.4
SIRR	**Siria**	4.42	23	⇓*i*P	**Pn**	11 22 01.7	+0.5
SIRR	**Siria**	4.42	23	⇓*i*P	**Pn**	11 22 01.7	+0.5
KALE	**Kalithea**	4.42	149	*e*P	**Pn**	11 22 02.0	+0.7
PKS9	**Tamasi**	4.42	352	⇓epn	**Pn**	11 22 01.5	+0.3
PKS9				*e*sn	**Sn**	11 22 57.7	+4.7
CRES	**Cresnjev**	4.51	324	*i* Pn	**Pn**	11 22 03.7	+1.2
CRES				*i* Sn	**Sn**	11 22 56.5	+1.2
CRES	**Cresnjev**	4.51	324	*i* Pn	**Pn**	11 22 03.7	+1.2
CRES				*i* Sn	**Sn**	11 22 56.5	+1.2
FIAM	**Fiamignano**	4.52	273	Pn	**Pn**	11 22 04.0	+1.3
	comp=E,81nm,0.6s						
FIAM	**Fiamignano**	4.52	273	Pn	**Pn**	11 22 04.0	+1.3
	comp=E,81nm,0.6s						
DEV	**Deva**	4.54	35	⇑*i*P	**Pn**	11 22 06.6	+3.9
DEV	**Deva**	4.54	35	⇑*i*P	**Pn**	11 22 06.6	+3.9
NRCA	**Norcia**	4.55	280	Pn	**Pn**	11 22 03.2	+0.2
	comp=E,88nm,0.7s						
NRCA	**Norcia**	4.55	280	Pn	**Pn**	11 22 03.2	+0.2
	comp=E,88nm,0.7s						
DSF	**Desfina**	4.56	145	*e*P	**Pn**	11 22 03.0	-0.2
DESF	**Desfina**	4.57	145	*e*P	**Pn**	11 22 03.0	-0.2
CING	**Cingoli**	4.58	287	Pn	**Pn**	11 22 03.4	+0.1
CING	**Cingoli**	4.58	287	Pn	**Pn**	11 22 03.4	+0.1
LNSS	**Leonessa**	4.58	277	Pn	**Pn**	11 22 03.8	+0.3
	comp=E,106nm,0.5s						
LNSS	**Leonessa**	4.58	277	Pn	**Pn**	11 22 03.8	+0.3
	comp=E,106nm,0.5s						
FDMO	**Fiordimonte**	4.59	282	Pn	**Pn**	11 22 03.9	+0.3
	comp=E,39nm,0.8s						
FDMO	**Fiordimonte**	4.59	282	Pn	**Pn**	11 22 03.9	+0.3
	comp=E,39nm,0.8s						
BEHE	**Becsehely**	4.60	339	⇑epn	**Pn**	11 22 05.1	+1.4
BEHE				*e*sn	**Sn**	11 22 57.9	+0.5
LOT	**Lotru**	4.62	44	⇓*i*P	**Pn**	11 22 02.7	-1.3
LOT	**Lotru**	4.62	44	⇓*i*P	**Pn**	11 22 02.7	-1.3
CERT	**Cerreto**	4.64	269	Pn	**Pn**	11 22 04.5	+0.2
	comp=E,49nm,0.5s						
CERT	**Cerreto**	4.64	269	Pn	**Pn**	11 22 04.5	+0.2
	comp=E,49nm,0.5s						
KDZ	**Kurdzhali**	4.67	95	⇑*i*P	**Pn**	11 22 05.2	+0.6
KDZ	**Kurdzhali**	4.67	95	⇑*i*P	**Pn**	11 22 05.2	+0.6
CESI	**CESI - Serrava**	4.72	282	Pn	**Pn**	11 22 05.6	+0.3
	comp=E,59nm,0.9s						
CESI	**CESI - Serrava**	4.72	282	Pn	**Pn**	11 22 05.6	+0.3
	comp=E,59nm,0.9s						
VISS	**Visnje**	4.78	320	*i* Pn	**Pn**	11 22 07.8	+1.7
VISS	**Visnje**	4.78	320	*i* Pn	**Pn**	11 22 07.8	+1.7
MRKA	**Markates**	4.84	135	*e*P	**Pn**	11 22 07.5	+0.5
RDO	**Rodhopi**	4.86	101	*e*P	**Pn**	11 22 09.0	+1.8
PDKS	**Podkum**	4.90	323	*e*Pn	**Pn**	11 22 08.8	+1.0
PDKS	**Podkum**	4.90	323	*e*Pn	**Pn**	11 22 08.8	+1.0
GUR	**Goura**	4.90	150	*e*P	**Pn**	11 22 01.5	-6.4
FSSB	**Fossombrone**	4.95	290	Pn	**Pn**	11 22 08.8	+0.4
FSSB	**Fossombrone**	4.95	290	Pn	**Pn**	11 22 08.8	+0.4
MURB	**Monte Urbino**	5.03	284	Pn	**Pn**	11 22 10.0	+0.3
	comp=E,141nm,0.3s						
MURB	**Monte Urbino**	5.03	284	Pn	**Pn**	11 22 10.0	+0.3
	comp=E,141nm,0.3s						
VIL2	**Platees**	5.06	141	*e*P	**Pn**	11 22 11.5	+1.5
LTK_	**Loutraki**	5.08	144	*e*P	**Pn**	11 22 09.5	-0.8
PKST	**T``s**	5.12	351	⇓epn	**Pn**	11 22 11.7	+1.0
PKST				*e*sn	**Sn**	11 23 12.2	+2.1
CSKK	**Cs^‡kako**	5.20	353	epn	**Pn**	11 22 13.3	+1.5
CSKK				*e*sn	**Sn**	11 23 15.3	+3.3
PKSG		5.21	354	⇓*e*	**Pn**	11 22 12.9	+0.9
PKSG				*e*		11 23 15.3	
JAVS	**Javornik**	5.22	317	*i* Pn	**Pn**	11 22 10.9	+0.6
JAVS				*i* Sn	**Sn**	11 23 12.0	-0.9
JAVS	**Javornik**	5.22	317	*i* Pn	**Pn**	11 22 12.9	+0.6
JAVS				*i* Sn	**Sn**	11 23 12.0	-0.9
ALN	**Alexandroupoli**	5.30	102	*e*P	**Pn**	11 22 15.0	+1.8
PERS	**Pernice**	5.30	328	*i* Pn	**Pn**	11 22 14.8	+1.5
PERS				*i* Sn	**Sn**	11 23 17.5	+2.7
PERS	**Pernice**	5.30	328	*i* Pn	**Pn**	11 22 14.9	+1.5
PERS				*i* Sn	**Sn**	11 23 17.5	+2.7
VOIR		5.32	51	⇓*i*P	**Pn**	11 22 15.3	+1.8
VOIR		5.32	51	⇓*i*P	**Pn**	11 22 15.3	+1.8
SOKA	**Soboth**	5.37	328	⇑*i*Pn	**Pn**	11 22 14.7	+0.3
	SNR=8.3						
SOKA	**Soboth**	5.37	328	Pn	**Pn**	11 22 14.7	+0.3
	SNR=8.3						
VOY	**Vojsko**	5.41	317	*e*Pn	**Pn**	11 22 15.2	+0.4
VOY				*e*Sn	**Sn**	11 23 16.3	-1.0
VOY	**Vojsko**	5.41	317	*e*Pn	**Pn**	11 22 15.2	+0.4
VOY				*e*Sn	**Sn**	11 23 16.3	-1.0
OBKA	**Obir**	5.44	324	⇑*i*Pn	**Pn**	11 22 16.0	+0.7
OBKA	**Obir**	5.44	324	Pn	**Pn**	11 22 16.0	+0.7
JMB	**Yambol**	5.47	85	⇑*i*P	**Pn**	11 22 16.6	+1.0
JMB	**Yambol**	5.47	85	⇑*i*P	**Pn**	11 22 16.6	+1.0
SABO	**M.te Sabotino**	5.52	315	Pn	**Pn**	11 22 16.2	-0.1
SABO	**M.te Sabotino**	5.52	315	Pn	**Pn**	11 22 16.2	-0.1
DID	**Didima**	5.63	145	*e*P	**Pn**	11 22 18.5	+0.7
PYL	**PYLOS**	5.66	159	*e*P	**Pn**	11 22 16.5	-1.7
ARSA	**Arzberg**	5.68	334	⇑*i*Pn	**Pn**	11 22 20.1	+1.6
ARSA				⇓*i*Sn	**Sn**	11 23 24.6	+0.6
ARSA	**Arzberg**	5.68	334	Pn	**Pn**	11 22 20.1	+1.6
ARSA				Sn	**Sn**	11 23 24.6	+0.6
PSZ	**Piszkesteto**	5.73	5	⇓*i*P	**Pn**	11 22 19.6	+0.4
PSZ	**Piszkesteto**	5.73	5	⇓*i*P	**Pn**	11 22 19.6	+0.4
PSZ	**Piszkesteto**	5.73	5	⇓epn	**Pn**	11 22 19.7	+0.5
PSZ				*e*sn	**Sn**	11 23 23.6	-1.7
SOP	**Sopron**	5.79	342	*e*	**Sn**	11 23 25.5	-1.1
MLR	**Muntele Rosu**	5.87	54	⇑*i*P	**Pn**	11 22 23.2	+2.0
MLR	**Muntele Rosu**	5.87	54	⇑*i*P	**Pn**	11 22 23.2	+2.0
MLR	**Muntele Rosu**	5.87	54	Pn	**Pn**	11 22 22.8	+1.6
	comp=E,0.4nm,0.3s,baz=129,slow=8.5,SNR=6.7						
MLR				Sn	**Sn**	11 23 32.1	+3.3
	comp=E,0.2nm,0.3s,baz=268,slow=15,SNR=3.6						
PTCC	**Patocco-Chiusa**	5.93	317	Pn	**Pn**	11 22 22.1	+0.1
PTCC	**Patocco-Chiusa**	5.93	317	Pn	**Pn**	11 22 22.1	+0.1
CONA	**Conrad Observa**	6.19	339	⇓*i*Pn	**Pn**	11 22 25.7	+0.2
CONA				⇑*i*Sn	**Sn**	11 23 36

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.23**	**14**	P	**Pg**	**11 24 29.9**	**-0.7**
PDG				S	**Sg**	**11 24 33.7**	**-0.1**
PDG	**Podgorica**	**0.23**	**14**	⇓*i*Pg	**Pg**	**11 24 29.8**	**-0.8**
PDG				*e*Sg	**Sg**	**11 24 33.4**	**-0.4**
PDG	**Podgorica**	**0.23**	**14**	P	**Pg**	**11 24 29.9**	**-0.7**
PDG				*e*Sg	**Sg**	**11 24 33.4**	**-0.4**
TTG	**Podgorica**	**0.23**	**14**	⇓*i*Pg	**Pg**	**11 24 29.9**	**-0.7**
TTG				*e*Sg	**Sg**	**11 24 33.8**	**-0.1**
BUM	**Brajici-Budva**	**0.23**	**294**	⇑*i*Pg	**Pg**	**11 24 31.1**	**+0.5**
BUM				*e*Sg	**Sg**	**11 24 35.3**	**+1.3**
BUM	**Brajici-Budva**	**0.23**	**294**	⇑*i*Pg	**Pg**	**11 24 31.1**	**+0.5**
ULC	**Ulcinj**	**0.24**	**169**	⇓*i*Pg	**Pg**	**11 24 30.3**	**-0.5**
ULC				*e*Sg	**Sg**	**11 24 35.3**	**+1.1**
ULC	**Ulcinj**	**0.24**	**169**	⇓*i*Pg	**Pg**	**11 24 30.3**	**-0.5**
ULC				*e*Sg	**Sg**	**11 24 35.3**	**+1.1**
PUK	**Puka**	**0.55**	**107**	*i* PG	**Pg**	**11 24 36.3**	**-0.2**
PUK	**Puka** SNR=91	**0.55**	**107**	*i* Pg	**Pg**	**11 24 36.3**	**-0.2**
HCY	**Herceg Novi**	**0.56**	**296**	⇑*i*Pg	**Pg**	**11 24 36.4**	**-0.3**
HCY				*e*Sg	**Sb**	**11 24 45.6**	**-0.2**
HCY	**Herceg Novi**	**0.56**	**296**	⇑*i*Pg	**Pg**	**11 24 36.4**	**-0.3**
HCY				*e*Sg	**Sb**	**11 24 45.6**	**-0.2**
NKME	**Niksic**	**0.59**	**343**	⇓*i*Pg	**Pg**	**11 24 36.1**	**-1.1**
NKME				*e*Sg	**Sb**	**11 24 46.0**	**-0.5**
NKME	**Niksic**	**0.59**	**343**	⇓*i*Pg	**Pg**	**11 24 36.1**	**-1.1**
NKME				*e*Sg	**Sb**	**11 24 46.0**	**-0.5**
NKY	**Niksic**	**0.62**	**347**	⇓*i*Pg	**Pg**	**11 24 36.7**	**-1.2**
NKY				*e*Sg	**Sg**	**11 24 46.4**	**+0.3**
NKY	**Niksic**	**0.62**	**347**	⇓*i*Pg	**Pg**	**11 24 36.7**	**-1.2**
NKY				*e*Sg	**Sg**	**11 24 46.4**	**+0.3**
BCI	**Bajram Curri**	**0.68**	**76**	*i* PG	**Pg**	**11 24 37.8**	**-1.0**
BCI				*i* SG	**Sg**	**11 24 48.5**	**+0.8**
BCI	**Bajram Curri** SNR=91	**0.68**	**76**	*i* Pg	**Pg**	**11 24 37.8**	**-1.0**
BCI				*i* Sg	**Sg**	**11 24 48.5**	**+0.8**
	SNR=91						
PVY	**Plav**	**0.69**	**56**	⇑*i*Pg	**Pg**	**11 24 38.9**	**-0.3**
PVY				*e*Sg	**Sg**	**11 24 49.2**	**+0.8**
PVY	**Plav**	**0.69**	**56**	⇑*i*Pg	**Pg**	**11 24 38.9**	**-0.3**
PVY				*e*Sg	**Sg**	**11 24 49.2**	**+0.8**
TREB	**Trebinje**	**0.80**	**310**	⇑*i*Pg	**Pg**	**11 24 40.4**	**-0.8**
TREB				*e*Sg	**Sg**	**11 24 52.1**	**+0.4**
TREB	**Trebinje**	**0.80**	**310**	⇑*i*Pg	**Pg**	**11 24 40.4**	**-0.8**
TREB				*e*Sg	**Sg**	**11 24 52.1**	**+0.4**
BRY	**Bratogost**	**0.84**	**326**	⇑*i*Pg	**Pg**	**11 24 41.4**	**-0.6**
BRY				*e*Sg	**Sb**	**11 24 55.0**	**+1.0**
BRY	**Bratogost**	**0.84**	**326**	⇑*i*Pg	**Pg**	**11 24 41.4**	**-0.6**
BEY	**Berane**	**0.85**	**38**	⇑*i*PG	**Pg**	**11 24 40.6**	**-1.5**
BEY				*e*Sg	**Sb**	**11 24 54.4**	**+0.3**
IVA	**Berane**	**0.85**	**38**	⇑*i*Pg	**Pg**	**11 24 40.6**	**-1.5**
IVA				*e*Sg	**Sb**	**11 24 54.4**	**+0.3**
UPM	**Unac-Piva**	**1.02**	**349**	⇑*i*Pg	**Pg**	**11 24 44.5**	**-0.9**
UPM				*e*Sg	**Sb**	**11 24 59.9**	**+0.8**
UPM	**Unac-Piva**	**1.02**	**349**	⇑*i*Pg	**Pg**	**11 24 44.5**	**-0.9**
UPM				*e*Sg	**Sb**	**11 24 59.9**	**+0.8**
PHP	**Peshkopia**	**1.07**	**119**	*i* PG	**Pb**	**11 24 45.0**	**-1.5**
PHP	**Peshkopia**	**1.07**	**119**	P	**Pb**	**11 24 44.9**	**-1.5**
PHP	**Peshkopia** SNR=91	**1.07**	**119**	*i* Pg	**Pb**	**11 24 45.0**	**-1.5**
PLE	**Pljevlja**	**1.14**	**8**	⇑*i*Pg	**Pb**	**11 24 46.9**	**-0.6**
PLE				*e*Sg	**Sn**	**11 25 04.2**	**+0.7**
PLE	**Pljevlja**	**1.14**	**8**	⇑*i*Pg	**Pb**	**11 24 46.9**	**-0.6**
PLE				*e*Sg	**Sn**	**11 25 04.2**	**+0.7**
SJES	**Sjenica**	**1.21**	**29**	*e*Pg	**Pn**	**11 24 46.6**	**-2.2**
SJES				*e*Sg	**Sb**	**11 25 04.5**	**+0.1**
SJES	**Sjenica**	**1.21**	**29**	*e*Pg	**Pn**	**11 24 46.6**	**-2.2**
SJES				*e*Sg	**Sb**	**11 25 04.5**	**+0.1**
STON	**Ston**	**1.28**	**302**	*e*Pn	**Pn**	**11 24 48.3**	**-1.4**
STON				Sn	**Sg**	**11 25 08.7**	**+1.6**
STON	**Ston**	**1.28**	**302**	⇑*i*Pn	**Pn**	**11 24 48.2**	**-1.4**
STON				*e*Sg	**Sg**	**11 25 07.7**	**+0.7**
STON	**Ston**	**1.28**	**302**	*e*Pn	**Pn**	**11 24 48.2**	**-1.4**
STON				*e*Sg	**Sg**	**11 25 07.7**	**+0.7**
STON				Sn	**Sg**	**11 25 08.6**	**+1.6**
IVAS	**Ivanjica**	**1.54**	**27**	*e*Pn	**Pn**	**11 24 54.0**	**+0.6**
IVAS				*e*Sg	**Sg**	**11 25 10.6**	**+1.1**
IVAS	**Ivanjica**	**1.54**	**27**	*e*Pn	**Pn**	**11 24 54.0**	**+0.6**
IVAS				*e*Sg	**Sg**	**11 25 16.6**	**+1.1**
BBLS	**Lazići**	**1.67**	**6**	⇓*i*Pn	**Pb**	**11 24 56.4**	**-0.2**
BBLS				*e*Sn	**Sg**	**11 25 19.8**	**+0.4**
BBLS	**Lazići**	**1.67**	**6**	⇓*i*Pn	**Pb**	**11 24 56.4**	**-0.2**
BBLS				*e*Sn	**Sg**	**11 25 19.8**	**+0.4**
SKO	**Skopje**	**1.70**	**97**	P	**Pn**	**11 24 56.1**	**+0.7**
SKO	**Skopje**	**1.70**	**97**	⇑*i*Pn	**Pn**	**11 24 56.0**	**+0.7**
SKO				*e*Sg	**Sg**	**11 25 20.9**	**+0.6**
SKO	**Skopje**	**1.70**	**97**	*i* Pg	**Pn**	**11 24 56.5**	**+1.1**
SKO				*i* Sg	**Sg**	**11 25 20.9**	**+0.6**
SKO				*i* Lg	Lg	11 25 22.8	
	comp=E,979nm,1.3s						
SKO				*i* Lg	Lg	11 25 22.9	
	comp=N,506nm,0.5s						
SKO	**Skopje**	**1.70**	**97**	*e*Sg	**Sg**	**11 25 20.9**	**+0.6**
SKO				*i* Lg	Lg	11 25 23.3	
	comp=N,506nm,0.5s						
SELS	**Selova**	**1.75**	**54**	⇓*i*Pn	**Pn**	**11 24 56.1**	**-0.1**
SELS				*e*Sn	**Sb**	**11 25 21.3**	**+1.3**
PE1	**Pezze di Greco**	**1.92**	**224**	*e*Pn	**Pn**	**11 24 58.2**	**-0.3**
DIVS	**Divibare**	**1.98**	**17**	P	**Pn**	**11 24 59.8**	**+0.4**
DIVS				S	**Sb**	**11 25 26.7**	**0.0**
DIVS	**Divibare**	**1.98**	**17**	*e*Pn	**Pn**	**11 24 59.9**	**+0.5**
DIVS	**Divibare**	**1.98**	**17**	*e*Pn	**Pn**	**11 24 59.9**	**+0.5**
DIVS				S	**Sb**	**11 25 26.7**	**0.0**
KBN	**Korca**	**1.99**	**142**	*i* PN	**Pg**	**11 25 04.2**	**+0.4**
KBN				*i* SN	**Sg**	**11 25 30.4**	**+0.8**
KBN	**Korca**	**1.99**	**142**	P	**Pg**	**11 25 04.3**	**+0.4**
BIA	**Bitola**	**2.00**	**126**	P	**Pb**	**11 25 01.4**	**-0.7**
BIA				S	**Sg**	**11 25 29.6**	**-0.3**
BIA	**Bitola**	**2.00**	**126**	*i* Pn	**Pb**	**11 25 01.4**	**-0.7**
BIA				*i* Sn	**Sb**	**11 25 28.3**	**+1.3**
BIA	**Bitola**	**2.00**	**126**	*i* Pn	**Pb**	**11 25 01.4**	**-0.7**
BIA				*i* Sn	**Sb**	**11 25 28.3**	**+1.3**
BIA				S	**Sg**	**11 25 29.6**	**-0.3**
GRUS	**Gruza**	**2.02**	**33**	*e*Pn	**Pn**	**11 25 00.9**	**+1.0**
GRUS				*e*Sn	**Sb**	**11 25 27.5**	**-0.3**
BAI	**Bari**	**2.04**	**238**	*e*Pn	**Pn**	**11 24 58.8**	**-1.3**
BAI				*e*Sn	**Sn**	**11 25 26.0**	**+0.3**
NOCI	**Noci**	**2.13**	**229**	Pn	**Pn**	**11 25 00.5**	**-0.8**
NOCI	**Noci**	**2.13**	**229**	Pn	**Pn**	**11 25 00.5**	**-0.8**
FNA	**Florina**	**2.17**	**130**	P	**Pb**	**11 25 04.0**	**-1.2**
FNA				S	**Sb**	**11 25 33.5**	**+1.3**
FNA	**Florina**	**2.17**	**130**	*e*P	**Pb**	**11 25 04.0**	**-1.2**
FNA	**Florina**	**2.17**	**130**	P	**Pb**	**11 25 04.0**	**-1.2**
FNA				S	**Sb**	**11 25 33.5**	**+1.3**
TRUS	**Trudelj**	**2.21**	**24**	*e*Pn	**Pn**	**11 25 02.6**	**+0.2**
NEST	**Nestorio**	**2.27**	**141**	P	**Pn**	**11 25 05.4**	**+2.0**
NEST				S	**Sb**	**11 25 37.2**	**+2.1**
NEST	**Nestorio**	**2.27**	**141**	*e*P	**Pn**	**11 25 05.5**	**+2.0**
AMUR	**Altamura** comp=N,579nm,1.2s	**2.33**	**237**	Pn	**Pn**	**11 25 03.7**	**-0.4**
AMUR	**Altamura** comp=N,579nm,1.2s	**2.33**	**237**	Pn	**Pn**	**11 25 03.7**	**-0.4**
TEKS	**Tekeris**	**2.36**	**6**	*e*Pn	**Pb**	**11 25 06.6**	**-1.7**
TEKS				*e*Sn	**Sn**	**11 25 34.9**	**+1.4**
TEKS	**Tekeris**	**2.36**	**6**	*e*Pn	**Pb**	**11 25 06.6**	**-1.7**
TEKS				*e*Sn	**Sn**	**11 25 34.9**	**+1.4**
MSAG	**Monte S. Angel** comp=N,247nm,0.8s	**2.49**	**260**	Pn	**Pn**	**11 25 08.3**	**+1.9**
MSAG	**Monte S. Angel** comp=N,247nm,0.8s	**2.49**	**260**	Pn	**Pn**	**11 25 08.3**	**+1.9**
MRVN	**Minervino Murg**	**2.51**	**244**	Pn	**Pn**	**11 25 06.6**	**0.0**
MRVN	**Minervino Murg**	**2.51**	**244**	Pn	**Pn**	**11 25 06.6**	**0.0**
KEK	**Kerkira**	**2.53**	**169**	*e*P	**Pn**	**11 25 06.5**	**-0.4**
KEK	**Kerkira**	**2.53**	**169**	Pn	**Pn**	**11 25 06.5**	**-0.4**
KEK	**Kerkira**	**2.53**	**169**	Pn	**Pn**	**11 25 06.5**	**-0.4**
BOLS	**Boljevac**	**2.60**	**50**	*e*Pn	**Pn**	**11 25 09.1**	**+1.3**
BOLS				*e*Sn	**Sn**	**11 25 40.8**	**+1.4**
BOLS	**Boljevac**	**2.60**	**50**	*e*Pn	**Pn**	**11 25 09.1**	**+1.3**
BOLS				*e*Sn	**Sn**	**11 25 40.8**	**+1.4**
VAY	**Valandovo**	**2.68**	**108**	*e*Pn	**Pn**	**11 25 10.5**	**+1.6**
VAY	**Valandovo**	**2.68**	**108**	*i* Pn	**Pn**	**11 25 10.6**	**+1.6**
VAY				*i* Sn	**Sb**	**11 25 44.6**	**-2.1**
VAY				*i* Lg	Lg	11 25 53.6	
	comp=N,334nm,1.4s						
VAY				*i* Lg	Lg	11 25 56.9	
	comp=E,2μm,3.1s						
VAY	**Valandovo**	**2.68**	**108**	*e*Pn	**Pn**	**11 25 10.5**	**+1.6**
VAY				*e*Sn	**Sb**	**11 25 45.1**	**-1.7**
VAY				*i* Lg	Lg	11 25 57.4	
	comp=E,2μm,3.1s						
GRG	**Griva**	**2.72**	**116**	*e*P	**Pn**	**11 25 11.0**	**+1.5**
KZN	**Kozani**	**2.72**	**133**	*e*P	**Pn**	**11 25 12.0**	**+2.5**
ZAPS	**Zavoj**	**2.76**	**66**	⇓*i*Pn	**Pn**	**11 25 11.2**	**+1.2**
ZAPS				*e*Sn	**Sn**	**11 25 46.2**	**+2.8**
ZAPS	**Zavoj**	**2.76**	**66**	⇓*i*Pn	**Pn**	**11 25 11.2**	**+1.2**
ZAPS				*e*Sn	**Sn**	**11 25 46.2**	**+2.8**
IGT	**Igoumenitsa**	**2.81**	**162**	*e*P	**Sn**	**11 25 47.0**	**+2.4**
JAN	**Janina**	**2.84**	**153**	*e*P	**Pn**	**11 25 13.0**	**+1.8**
BLY	**Banja Luka**	**2.93**	**331**	*e*Pn	**Pn**	**11 25 13.4**	**+1.1**
BLY	**Banja Luka**	**2.93**	**331**	Pn	**Pb**	**11 25 15.7**	**-2.3**
BLY	**Banja Luka**	**2.93**	**331**	*e*Pn	**Pn**	**11 25 13.4**	**+1.1**
KNT	**Kendrikon**	**2.97**	**109**	*e*P	**Pn**	**11 25 14.0**	**+1.1**
FGSL	**Fruska Gora**	**2.99**	**9**	*e*Pn	**Pn**	**11 25 13.7**	**+0.6**
FGSL				*e*Sn	**Sn**	**11 25 50.5**	**+1.5**
FRGS	**Fruska Gora**	**2.99**	**9**	*e*Pn	**Pn**	**11 25 13.7**	**+0.6**
FRGS				*e*Sn	**Sn**	**11 25 50.5**	**+1.5**
VTS	**Vitosha**	**3.01**	**81**	P	**Pn**	**11 25 14.3**	**+0.8**
VTS	**Vitosha**	**3.01**	**81**	*e*Pn	**Pn**	**11 25 15.0**	**+1.5**
VTS				*e*Sn	**Sn**	**11 25 51.2**	**+1.5**
VTS	**Vitosha**	**3.01**	**81**	⇑*i*P	**Pn**	**11 25 15.3**	**+1.8**
VTS	**Vitosha**	**3.01**	**81**	P	**Pn**	**11 25 14.3**	**+0.8**
VTS	**Vitosha**	**3.01**	**81**	*e*Pn	**Pn**	**11 25 15.0**	**+1.5**
VTS				*e*Sn	**Sn**	**11 25 51.2**	**+1.5**
SIRI	**Monte Sirino -**	**3.21**	**232**	Pn	**Pn**	**11 25 18.3**	**+1.9**
SIRI	**Monte Sirino -**	**3.21**	**232**	Pn	**Pn**	**11 25 18.3**	**+1.9**
THE	**Thessaloniki**	**3.25**	**118**	*e*P	**Pn**	**11 25 18.0**	**+1.3**
LIT	**Litokhoron**	**3.26**	**129**	*e*P	Pn	11 25 20.5	+3.5
MCRV	**Calabrutti - M**	**3.33**	**246**	Pn	**Pn**	**11 25 18.9**	**+0.9**
MCRV	**Calabrutti - M**	**3.33**	**246**	Pn	**Pn**	**11 25 18.9**	**+0.9**
SGO	**Sicignano**	**3.35**	**242**	Pn	**Pn**	**11 25 17.7**	**-0.4**
SGO	**Sicignano**	**3.35**	**242**	Pn	**Pn**	**11 25 17.7**	**-0.4**
HORT	**Hortiatis**	**3.36**	**117**	*e*P	**Pn**	**11 25 19.5**	**+1.2**
CDRU	**Civita di Ruta**	**3.38**	**241**	Pn	**Pn**	**11 25 19.1**	**+0.4**
CDRU	**Civita di Ruta**	**3.38**	**241**	Pn	**Pn**	**11 25 19.1**	**+0.4**
THL	**Klokotos Trika**	**3.40**	**140**	*e*P	**Pn**	**11 25 20.5**	**+1.7**
UDBI	**Udbina**	**3.41**	**314**	*e*Pn	**Pn**	**11 25 21.4**	**+2.5**
UDBI				Sn	**Sn**	**11 26 02.5**	**+3.0**
UDBI	**Udbina**	**3.41**	**314**	*e*Pn	**Pn**	**11 25 21.4**	**+2.5**
UDBI				Sn	**Sn**	**11 26 02.4**	**+3.0**
SOH	**Sokhos**	**3.42**	**112**	*e*P	**Pn**	**11 25 21.0**	**+1.8**
MMB	**Musomiste**	**3.45**	**99**	⇑*i*P	**Pn**	**11 25 21.7**	**+2.2**
MMB	**Musomiste**	**3.45**	**99**	⇑*i*P	**Pn**	**11 25 21.7**	**+2.2**
SRS	**Serrai**	**3.48**	**107**	*e*P	**Pn**	**11 25 22.0**	**+2.1**
PTRJ	**Pietraroja** comp=E,195nm,0.4s	**3.58**	**258**	Pn	**Pn**	**11 25 22.0**	**+0.7**
PTRJ	**Pietraroja** comp=E,195nm,0.4s	**3.58**	**258**	Pn	**Pn**	**11 25 22.0**	**+0.7**
LKD2	**Lefkada island**	**3.59**	**161**	*e*P	**Pn**	**11 25 21.5**	**0.0**
NVR	**Nevrokopi**	**3.60**	**102**	*e*P	**Pn**	**11 25 23.5**	**+1.9**
PLG	**Polygyros**	**3.70**	**118**	*e*P	**Pn**	**11 25 24.5**	**+1.6**
MIDA	**Miranda**	**3.72**	**263**	Pn	**Pn**	**11 25 24.5**	**+1.2**
MIDA	**Miranda**	**3.72**	**263**	Pn	**Pn**	**11 25 24.5**	**+1.2**
LPEL	**Lama dei Pelig** comp=E,131nm,0.7s	**3.72**	**269**	Pn	**Pn**	**11 25 25.1**	**+1.8**
LPEL	**Lama dei Pelig** comp=E,131nm,0.7s	**3.72**	**269**	Pn	**Pn**	**11 25 25.1**	**+1.8**
VAGA	**Valle Agricola** comp=E,131nm,0.8s	**3.78**	**260**	Pn	**Pn**	**11 25 25.7**	**+1.6**
VAGA	**Valle Agricola** comp=E,131nm,0.8s	**3.78**	**260**	Pn	**Pn**	**11 25 25.7**	**+1.6**
BZS	**Buzias**	**3.84**	**26**	⇑*i*P	**Pn**	**11 25 25.9**	**+1.1**
BZS	**Buzias**	**3.84**	**26**	⇑*i*P	**Pn**	**11 25 25.9**	**+1.1**
EVR	**Evrytania**	**3.85**	**148**	*e*P	**Pn**	**11 25 27.5**	**+2.5**
CERA	**Filignano** comp=E,161nm,0.8s	**3.90**	**263**	Pn	**Pn**	**11 25 27.7**	**+1.9**
CERA	**Filignano** comp=E,161nm,0.8s	**3.90**	**263**	Pn	**Pn**	**11 25 27.7**	**+1.9**
NVLJ	**Novalja**	**3.93**	**308**	*e*Pn	**Pn**	**11 25 27.0**	**+1.0**
NVLJ				Sn	**Sn**	**11 26 13.5**	**+1.4**
NVLJ	**Novalja**	**3.93**	**308**	*e*Pn	**Pn**	**11 25 27.0**	**+1.0**
NVLJ				Sn	**Sn**	**11 26 13.5**	**+1.4**
INTR	**Introdacqua** comp=E,98nm,0.5s	**3.93**	**269**	Pn	**Pn**	**11 25 27.6**	**+1.4**
INTR	**Introdacqua** comp=E,98nm,0.5s	**3.93**	**269**	Pn	**Pn**	**11 25 27.6**	**+1.4**
AGG	**Agios Georgios**	**3.98**	**142**	*e*P	**Pn**	**11 25 28.0**	**+1.2**
PKSM	**Moragy**	**4.03**	**355**	⇑*i*P	**Pn**	**11 25 28.3**	**+0.9**
PKSM	**Moragy**	**4.03**	**355**	⇑*i*P	**Pn**	**11 25 28.3**	**+0.9**
PKSM	**Moragy**	**4.03**	**355**	⇑epn	**Pn**	**11 25 28.4**	**+1.0**
PKSM				*e*sn	**Sn**	**11 26 15.9**	**+1.4**
SDI	**San Donato** comp=E,19nm,0.4s	**4.04**	**265**	Pn	**Pn**	**11 25 29.3**	**+1.7**
SDI	**San Donato** comp=E,19nm,0.4s	**4.04**	**265**	Pn	**Pn**	**11 25 29.3**	**+1.7**
OUR	**Ouranopolis**	**4.07**	**116**	*e*P	**Pn**	**11 25 29.5**	**+1.5**
PAIG	**Paliouri**	**4.09**	**122**	*e*P	**Pn**	**11 25 30.0**	**+1.7**
POFI	**Posta Fibreno** comp=E,203nm,1.6s	**4.11**	**265**	Pn	**Pn**	**11 25 30.0**	**+1.4**
POFI	**Posta Fibreno** comp=E,203nm,1.6s	**4.11**	**265**	Pn	**Pn**	**11 25 30.0**	**+1.4**
GZR	**Gura Zlata**	**4.11**	**38**	⇑*i*P	**Pn**	**11 25 29.9**	**+1.2**
GZR	**Gura Zlata**	**4.11**	**38**	⇑*i*P	**Pn**	**11 25 29.9**	**+1.2**
FAGN	**Fagnano** comp=E,188nm,0.6s	**4.16**	**273**	Pn	**Pn**	**11 25 30.8**	**+1.5**
FAGN	**Fagnano** comp=E,188nm,0.6s	**4.16**	**273**	Pn	**Pn**	**11 25 30.8**	**+1.5**
VLS	**Valsamata**	**4.17**	**165**	*e*P	**Pn**	**11 25 28.0**	**-1.3**
KAVA	**Kavala**	**4.18**	**105**	*e*P	**Pn**	**11 25 31.5**	**+2.1**
PTQR	**Pietraquaria** comp=E,7.0nm,0.3s	**4.30**	**270**	Pn	**Pn**	**11 25 33.5**	**+2.2**
PTQR	**Pietraquaria** comp=E,7.0nm,0.3s	**4.30**	**270**	Pn	**Pn**	**11 25 33.5**	**+2.2**
EFP	**Efpalio**	**4.31**	**150**	*e*P	**Pn**	**11 25 32.0**	**+0.7**
SMA1	**SAN MARTINO** comp=E,168nm,0.8s	**4.35**	**278**	Pn	**Pn**	**11 25 33.2**	**+1.3**
BOJS	**Bojanci**	**4.35**	**321**	*e*Pn	**Pn**	**11 25 34.0**	**+2.1**
BOJS	**Bojanci**	**4.35**	**321**	*e*Pn	**Pn**	**11 25 34.0**	**+2.1**
PKS6	**Bocsa**	**4.40**	**3**	⇑epn	**Pn**	**11 25 33.4**	**+0.9**
PKS6				*e*sn	**Sn**	**11 26 25.7**	**+1.9**
PKS9	**Tamasi**	**4.43**	**352**	⇓epn	**Pn**	**11 25 33.8**	**+0.9**
PKS9				*e*sn	**Sn**	**11 26 27.8**	**+3.3**
SIRR	**Siria**	**4.43**	**23**	⇓*i*P	**Pn**	**11 25 33.4**	**+0.4**
SIRR	**Siria**	**4.43**	**23**	⇓*i*P	**Pn**	**11 25 33.4**	**+0.4**
RLS	**Riolos of Patr**	**4.50**	**156**	*e*P	**Pn**	**11 25 34.0**	**+0.1**
FIAM	**Fiamignano**	**4.50**	**273**	Pn	**Pn**	**11 25 36.0**	**+1.9**
FIAM	**Fiamignano**	**4.50**	**273**	Pn	**Pn**	**11 25 36.0**	**+1.9**
CRES	**Cresnjev**	**4.51**	**325**	*i* Pn	**Pn**	**11 25 36.6**	**+2.6**
CRES				*i* Sn	**Sn**	**11 26 28.8**	**+2.3**
CRES	**Cresnjev**	**4.51**	**325**	*i* Pn	**Pn**	**11 25 36.6**	**+2.6**
CRES				*i* Sn	**Sn**	**11 26 28.8**	**+2.3**
NRCA	**Norcia** comp=E,68nm,0.4s	**4.53**	**280**	Pn	**Pn**	**11 25 35.7**	**+1.3**
NRCA	**Norcia** comp=E,68nm,0.4s	**4.53**	**280**	Pn	**Pn**	**11 25 35.7**	**+1.3**
DEV	**Deva**	**4.55**	**35**	⇓*i*P	Pg	11 25 57.0	+4.1
LNSS	**Leonessa** comp=E,80nm,0.4s	**4.56**	**277**	Pn	**Pn**	**11 25 36.5**	**+1.6**
LNSS	**Leonessa** comp=E,80nm,0.4s	**4.56**	**277**	Pn	**Pn**	**11 25 36.5**	**+1.6**
LKR	**Lokris**	**4.59**	**139**	*e*P	Pb	11 25 42.0	-4.4
BEHE	**Becsehely**	**4.60**	**339**	epn	**Pn**	**11 25 37.6**	**+2.3**
BEHE				esn	**Sn**	**11 26 30.9**	**+2.2**
LOT	**Lotru**	**4.64**	**44**	⇓*i*P	Pn	11 25 39.1	+3.2
LOT	**Lotru**	**4.64**	**44**	⇓*i*P	Pn	11 25 39.1	+3.2
KDZ	**Kurdzhali**	**4.68**	**95**	⇓*i*P	**Pn**	**11 25 37.6**	**+1.1**
KDZ	**Kurdzhali**	**4.68**	**95**	⇓*i*P	**Pn**	**11 25 37.6**	**+1.1**
CESI	**CESI - Serrava** comp=E,53nm,0.8s	**4.70**	**282**	Pn	**Pn**	**11 25 38.0**	**+1.3**
CESI	**CESI - Serrava** comp=E,53nm,0.8s	**4.70**	**282**	Pn	**Pn**	**11 25 38.0**	**+1.3**
KLV	**Kalavryta, Ach**	**4.74**	**150**	*e*P	**Pn**	**11 25 39.0**	**+1.8**
VISS	**Visnje**	**4.77**	**320**	*i* Pn	**Pn**	**11 25 39.9**	**+2.3**
VISS				*i* Sn	**Sn**	**11 26 36.1**	**+3.2**
VISS	**Visnje**	**4.77**	**320**	*i* Pn	**Pn**	**11 25 39.9**	**+2.3**
VISS				*i* Sn	**Sn**	**11 26 36.1**	**+3.2**
RDO	**Rodhopi**	**4.88**	**100**	*e*P	**Pn**	**11 25 40.5**	**+1.4**
GUR	**Goura**	**4.90**	**149**	*e*P	**Pn**	**11 25 39.5**	**-0.1**
MURB	**Monte Urbino** comp=E,146nm,0.3s	**5.02**	**284**	Pn	**Pn**	**11 25 42.4**	**+1.3**
MURB	**Monte Urbino** comp=E,146nm,0.3s	**5.02**	**284**	Pn	**Pn**	**11 25 42.4**	**+1.3**
AMT	**Artemida-Makis**	**5.05**	**157**	*e*P	Pn	11 25 33.5	-8.1
PIEI	**Pieia**	**5.06**	**287**	Pn	**Pn**	**11 25 42.5**	**+0.8**
PIEI	**Pieia**	**5.06**	**287**	Pn	**Pn**	**11 25 42.5**	**+0.8**
LIA	**Limnos Island**	**5.09**	**115**	*e*P	**Pn**	**11 25 43.5**	**+1.5**
PKST	**T˜˜s**	**5.12**	**351**	⇑epn	**Pn**	**11 25 43.8**	**+1.4**
PKST				esn	**Sn**	**11 26 44.5**	**+3.0**
CSKK	**Cs˜‡kako**	**5.20**	**353**	epn	**Pn**	**11 25 41.6**	**-1.9**
CSKK				esn	**Sn**	**11 26 46.5**	**+3.0**
JAVS	**Javornik**	**5.21**	**317**	*i* Pn	**Pn**	**11 25 45.2**	**+1.4**
JAVS				*i* Sn	**Sn**	**11 26 45.1**	**+1.1**
JAVS	**Javornik**	**5.21**	**317**	*i* Pn	**Pn**	**11 25 45.2**	**+1.4**
JAVS				*i* Sn	**Sn**	**11 26 45.1**	**+1.1**
PKSG		**5.22**	**354**	⇑*e*	**Pn**	**11 25 45.0**	**+1.3**
PKSG				*e*		11 26 47.2	
PERS	**Pernice**	**5.30**	**328**	*i* Pn	**Pn**	**11 25 46.3**	**+1.3**
PERS				*i* Sn	**Sn**	**11 26 50.0**	**+4.0**
ALN	**Alexandroupoli**	**5.31**	**102**	*e*P	**Pn**	**11 25 47.0**	**+1.9**
VOIR		**5.33**	**51**	⇓*i*P	**Pn**	**11 25 47.3**	**+1.9**
VOIR		**5.33**	**51**	⇓*i*P	**Pn**	**11 25 47.3**	**+1.9**
SOKA	**Soboth** SNR=9.1	**5.37**	**328**	⇑*i*Pn	**Pn**	**11 25 46.5**	**+0.6**
SOKA				⇓*i*Sn	**Sn**	**11 26 48.0**	**+0.2**
VOY	**Vojsko**	**5.40**	**317**	*e*Pn	**Pn**	**11 25 47.7**	**+1.4**
VOY				*e*Sn	**Sn**	**11 26 50.3**	**+1.8**
VOY	**Vojsko**	**5.40**	**317**	*e*Pn	**Pn**	**11 25 47.7**	**+1.4**
VOY				*e*Sn	**Sn**	**11 26 50.3**	**+1.8**
OBKA	**Obir** SNR=4.5	**5.43**	**324**	⇓*i*Pn	**Pn**	**11 25 47.7**	**+0.9**
OBKA				⇑*i*Sn	**Sn**	**11 26 50.8**	**+1.4**
OBKA	**Obir** SNR=4.5	**5.43**	**324**	Pn	**Pn**	**11 25 47.7**	**+0.9**
OBKA				Sn	**Sn**	**11 26 50.8**	**+1.4**
ITM	**Ithomi**	**5.45**	**156**	*e*P	**Pn**	**11 25 47.0**	**+0.1**
SABO	**M.te Sabotino**	**5.51**	**315**	Pn	**Pn**	**11 25 48.8**	**+0.9**
SABO	**M.te Sabotino**	**5.51**	**315**	Pn	**Pn**	**11 25 48.8**	**+0.9**
PYL	**PYLOS**	**5.66**	**159**	*e*P	**Pn**	**11 25 48.0**	**-1.8**
ARSA	**Arzberg**	**5.68**	**334**	⇑*i*Pn	**Pn**	**11 25 50.7**	**+0.6**
ARSA	

NRTU	**Norrtaelje**	**0.68**	**23**	P		**Pg**	**11 31 17.3**	**+0.5**
ESKU	**Eskilstuna**	**0.90**	**282**	P		**Pg**	**11 31 21.7**	**+0.6**
VIKU	**Vikbolandet**	**0.92**	**234**	P		**Pg**	**11 31 21.3**	**-0.2**
BACU	**Backbrunna**	**0.95**	**328**	P		**Pg**	**11 31 23.0**	**+0.9**
FLYU	**Flymyra**	**1.08**	**354**	P		**Pg**	**11 31 25.5**	**+0.9**
OSTU	**Oestervaala**	**1.28**	**338**	P		**Pg**	**11 31 28.9**	**+0.6**
GRAU	**Graesoe**	**1.30**	**9**	P		**Pg**	**11 31 29.1**	**+0.3**
HFS	**Hagfors**	**2.49**	**298**	Pn		**Pb**	**11 31 48.5**	**-0.9**
	0.3nm,0.3s,baz=122,slow=15,SNR=15							
HFS				Lg	Lg		11 32 21.3	
	2.5nm,0.3s,baz=121,slow=32,SNR=31							
SLIT	**Slitere, Latvi**	**2.63**	**121**	*e*S		**Sb**	**11 32 23.7**	**-0.8**
	SNR=50							
RAF	**Rauma**	**2.69**	**41**	*e*P		**Pb**	**11 31 51.7**	**-1.2**
	SNR=50							
RAF				*e*S		**Sb**	**11 32 26.1**	**-0.3**
	3.9nm,0.3s,SNR=50							
MTSE	**Matsula**	**2.98**	**94**	*e*P		**Pn**	**11 31 52.6**	**+0.3**
	SNR=50							
MTSE				*e*S		**Sn**	**11 32 27.7**	**-1.0**
	SNR=50							
NOA	**NORSAR Array B**	**3.99**	**303**	Pn		**Pn**	**11 32 06.5**	**+0.2**
	0.1nm,0.3s,baz=110,slow=14,SNR=2.6							
NOA				Pg		**Pb**	**11 32 15.4**	**+0.5**
	0.2nm,0.3s,baz=124,slow=20,SNR=3.5							
NOA				Lg	Lg		11 33 10.7	
	0.5nm,0.3s,baz=333,slow=17,SNR=7.8							
FINES	**FINESS Array B**	**4.63**	**55**	Pn		**Pn**	**11 32 16.5**	**+1.5**
	0.2nm,0.3s,baz=248,slow=12,SNR=7.9							
FINES				Pg		**Pb**	**11 32 26.9**	**+1.0**
	0.2nm,0.3s,baz=248,slow=14,SNR=6.3							
FINES				Sn		**Sn**	**11 33 09.2**	**-0.3**
	0.5nm,0.3s,baz=243,slow=22,SNR=7.3							
FINES				Lg	Lg		11 33 27.8	
	0.6nm,0.3s,baz=247,slow=27,SNR=6.4							
ARCES	**ARCESS Array B**	**10.99**	**14**	Pn		**Pn**	**11 33 39.8**	**-2.3**
	0.1nm,0.3s,baz=198,slow=13,SNR=5.8							

*ISCJB **10** 11:34:00.5±0.9, 55.4S±0.1×27.5W±0.3, h10km, mb4.1/6, MS2.6/1, Error ellipse: s-maj=27.0km s-min=17.7km az=171.4*

*IDC **10** 11:34:00.7±0.8, 55.42S×27.63W, h0km, mb4.2/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, ML4.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.7/22, Error ellipse: s-maj=33.0km s-min=21.0km az=88.0*

ISC 10 11:34:02.1±0.8, 55.4S±0.1×27.6W±0.2, h10km, n12, σ0s77/11, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**19.41**	**157**	P		**Pn**	**11 38 29.1**	**0.0**
	0.6nm,0.3s,baz=292,slow=11,SNR=52							
SNAA				LR		LR	11 43 44.7	
	comp=Z,15nm,28.6s,baz=33,slow=30							
QSPA	**South Pole Qui**	**34.83**	**180**	P		**P**	**11 40 52.9**	**+0.1**
	3.1nm,0.5s,baz=231,slow=2.2,SNR=54							
CPUP	**Villa Florida**	**36.23**	**311**	LR		LR	11 57 02.4	
	comp=Z,15nm,28.6s,baz=115,slow=38							
BOSA	**Boshof**	**46.04**	**77**	P		**P**	**11 42 25.4**	**-0.4**
	1.4nm,0.7s,baz=169,slow=8.6,SNR=3.6							
VNDA	**Vanda**	**47.19**	**183**	P		**P**	**11 42 34.5**	**+0.4**
	1.8nm,0.7s,baz=208,slow=4.4,SNR=17							
LPAZ	**La Paz**	**49.83**	**305**	P		**P**	**11 42 55.9**	**+0.1**
	1.2nm,0.6s,baz=164,slow=8.4,SNR=3.9							
TORD	**Torodi Ar. Bea**	**72.62**	**30**	P		**P**	**11 45 30.4**	**+0.9**
	1.4nm,0.6s,baz=199,slow=6.9,SNR=11							
ASAR	**Alice Springs**	**99.65**	**163**	P		**Pdif**	**11 47 44.4**	**-1.5**
	0.3nm,0.6s,baz=190,slow=4.7,SNR=3.3							
WRA	**Warramunga Arr**	**103.37**	**163**	Pdiff		**Pdif**	**11 48 02.3**	**-0.2**
	0.3nm,0.8s,baz=178,slow=5.0,SNR=2.9							
YKA	**Yellowknife Ar**	**135.55**	**319**	PKP		**PKPdf**	**11 53 19.8**	**-1.1**
	0.4nm,0.6s,baz=136,slow=2.6,SNR=4.5							
ILAR	**Eielson Array**	**149.53**	**313**	PKPbc		**PKPbc**	**11 53 49.6**	**-0.4**
	2.4nm,0.8s,baz=128,slow=1.8,SNR=30							
SONM	**Songino Array**	**150.91**	**86**	PKPbc		**PKPbc**	**11 53 54.3**	**+0.2**
	1.3nm,0.5s,baz=216,slow=3.4,SNR=9.0							

*NIED **10** 11:38:00, 42.50N×145.00E, h32km, Mw3.7 Best double couple: M0=4.40000×10^14 NP1:ϕ0=8.00000°, δ79.00000°, λ56.00000°. NP2:ϕ0=263.00000°, δ36.00000°, λ161.00000°.*

*ISCJB **10** 11:38:36.0±1.2, 42.39N±0.04×145.17E±0.06, h29km±8km, mb3.7/5, Error ellipse: s-maj=9.3km s-min=4.9km az=36.1*

*MOS **10** 11:38:37.5±1.1, 42.40N×144.99E, h46km, mb4.2/4, Error ellipse: s-maj=22.2km s-min=17.2km az=84.7*

*JMA **10** 11:38:38.3, 42.51N×145.02E, h44km±1km, M3.7*

JMA Felt I J1.

*SKHL **10** 11:38:39.3±0.4, 42.48N×145.12E, h49km±4km, mb4.9/1*

*IDC **10** 11:38:40.8±3.3, 42.32N×144.92E, h59km±25km, mb3.5/5, mb1 3.6/8, mb1mx3.4/27, mbtmp3.6/8, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/42, Error ellipse: s-maj=26.7km s-min=21.3km az=85.0*

ISC 10 11:38:38.3±2.0, 42.55N±0.06×145.01E±0.07, h26km±14km, n33, σ0s89/36, mb3.9/5, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JAK	**Akkeshi**	**0.50**	**333**	P		**Pn**	**11 38 49.7**	**-0.1**
JAK				*e*S		**Sn**	**11 38 58.1**	**+0.4**
JOB	**Onbets**	**0.94**	**293**	P		**Pb**	**11 38 55.7**	**-0.2**
NEM2	**Nemuro 2**	**0.97**	**33**	P		**Pn**	**11 38 56.3**	**0.0**
NEM2				*e*S		**Sn**	**11 39 09.3**	**0.0**
JNK	**Nakash**	**1.06**	**348**	P		**Pn**	**11 38 57.1**	**-0.4**
JNK				*e*S		**Sb**	**11 39 10.9**	**-0.5**
JAR	**Ashorobuto**	**1.18**	**310**	P		**Pn**	**11 38 58.8**	**-0.4**
JCH	**Churui**	**1.22**	**274**	P		**Pn**	**11 38 59.8**	**+0.1**
JCH				*e*S		**Sb**	**11 39 16.7**	**+0.7**
MYR	**Moyori**	**1.31**	**259**	*e*P		**Pn**	**11 39 01.4**	**+0.5**
MYR				AMB		AMB	11 39 07.7	
	80nm,0.2s							
MYR				AMB		AMB	11 39 07.7	
	90nm,0.2s							
MYR				AMB		AMB	11 39 07.7	
	250nm,0.2s							
MYR				AMB		AMB	11 39 09.7	
	3μm,0.2s							
MYR				A		A	11 39 27.2	
	930nm,0.6s							
MYR				A		A	11 39 27.2	
	2μm,0.6s							
JRA	**Rausu**	**1.39**	**3**	P		**Pn**	**11 39 02.2**	**+0.2**
JRA				*e*S		**Sn**	**11 39 19.9**	**+0.4**
JEM	**Erimo**	**1.48**	**249**	P		**Pn**	**11 39 03.5**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.61**	**22**	*c i*PN		**Pn**	**11 39 05.4**	**+0.4**
YUK				*i* S		**Sn**	**11 39 24.8**	**-0.1**
YUK				pmax		pmax		
	comp=N,79nm,0.2s							
YUK				pmax		pmax		
	comp=E,86nm,0.2s							
YUK				pmax		pmax		
	comp=Z,250nm,0.2s							
YUK				smax		smax		
	comp=N,927nm,0.6s							
YUK				smax		smax		
	comp=E,2μm,0.6s							
JKA	**Kamikawa-asahi**	**2.35**	**312**	*e*P		**Pn**	**11 39 16.9**	**+1.6**
JKA				*e*S		**Sb**	**11 39 48.8**	**+0.1**
ASAJ	**Asahikawa**	**2.36**	**312**	P		**Pn**	**11 39 16.9**	**+1.5**
	comp=E,41nm,0.3s,baz=169,slow=11,SNR=167							
ASAJ				S		**Sb**	**11 39 48.8**	**0.0**
	comp=E,24nm,0.3s,baz=200,slow=29,SNR=15							
KUR	**Kuril'sk**	**3.38**	**37**	*e*P		Pb	11 39 34.3	-3.2
KUR				*e*S		**Sn**	**11 40 11.0**	**+2.3**
KUR				A		A	11 40 26.0	
	comp=E,150nm,0.5s							
KUR				A		A	11 40 26.0	
	comp=E,130nm,0.5s							
MAT	**Matsushiro**	**7.97**	**223**	P		**Pn**	**11 40 30.6**	**-2.0**
MAT				*e*S		**Sn**	**11 42 02.9**	**+1.0**
MJAR	**Matsushiro Arr**	**7.97**	**223**	*e*P		**Pn**	**11 40 31.7**	**-0.9**
MJAR	**Matsushiro Arr**	**7.97**	**223**	P		**Pn**	**11 40 31.7**	**-0.9**
	comp=E,0.9nm,0.3s,baz=30,slow=12,SNR=7.8							
KSRS	**Korea Array**	**14.05**	**254**	*e*P		**Pn**	**11 41 55.4**	**-0.2**
KSRS	**Korea Array**	**14.05**	**254**	P		**Pn**	**11 41 55.4**	**-0.2**
	baz=58,slow=14,SNR=3.2							
KSRS				LR		LR	11 47 16.1	
	comp=E,34nm,18.9s,baz=300,slow=37							
SONM	**Songino Array**	**27.52**	**294**	P		**P**	**11 44 22.4**	**-0.4**
	comp=E,2.1nm,0.7s,baz=87,slow=8.2,SNR=14							
H11N2	**WAKE ISLAND Hy**	**29.30**	**134**	T		T	12 15 44.1	
	baz=329,slow=76,SNR=219							
H11N1	**WAKE ISLAND Hy**	**29.31**	**134**	T		T	12 15 49.1	
	baz=329,slow=76,SNR=136							
H11N3	**WAKE ISLAND Hy**	**29.32**	**134**	T		T	12 15 48.0	
	baz=329,slow=76,SNR=157							
H11S1	**WAKE ISLAND Hy**	**30.21**	**136**	T		T	12 16 55.7	
	baz=331,slow=77,SNR=242							
H11S3	**WAKE ISLAND Hy**	**30.22**	**136**	T		T	12 16 56.4	
	baz=331,slow=77,SNR=166							
H11S2	**WAKE ISLAND Hy**	**30.23**	**136**	T		T	12 16 58.6	
	baz=331,slow=77,SNR=112							
ZALV	**Zalesovo Beam**	**40.48**	**308**	P		**P**	**11 46 14.1**	**-0.5**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**40.48**	**308**	P		**P**	**11 46 14.1**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=100,slow=7.7,SNR=5.1							
ILAR	**Eielson Array**	**43.38**	**35**	*e*P		**P**	**11 46 39.2**	**+1.1**
ILAR	**Eielson Array**	**43.38**	**35**	P		**P**	**11 46 39.2**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=254,slow=5.9,SNR=17							
MKAR	**Makanchi Array**	**43.76**	**298**	P		**P**	**11 46 40.6**	**-0.9**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**43.76**	**298**	*e*P		**P**	**11 46 40.6**	**-0.9**
MKAR	**Makanchi Array**	**43.76**	**298**	P		**P**	**11 46 40.6**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=85,slow=9.9,SNR=3.9							
FINES	**FINESS Array B**	**65.22**	**332**	P		**P**	**11 49 15.8**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=41,slow=11,SNR=6.2							

KRSC 10 11:40:11.1±7.0, 49.53N×156.94E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.27**	**336**	P		Pg	11 40 35.3	-0.1
SKR				S		Sb	11 40 52.4	+0.3
PAU	**Pauzhetka**	**1.94**	**358**	S		Sb	11 41 10.7	-0.7
ASAK	**Asacha**	**2.92**	**12**	P		Pb	11 41 01.2	-2.6
ASAK				S		Sn	11 41 36.7	+2.9
MTVR	**Mutnovka**	**3.06**	**14**	P		Pn	11 41 02.3	+2.0
MTVR				S		Sn	11 41 38.8	+1.4
RUS	**Russkaya**	**3.07**	**18**	P		Pn	11 41 02.0	+1.8
RUS				S		Sn	11 41 37.5	+0.2
PET	**Petropavlovsk**	**3.66**	**16**	P		Pn	11 41 10.8	+2.5
PET				S		Sn	11 41 53.8	+2.0
UGLR	**Uglovaya**	**3.87**	**17**	P		Pn	11 41 14.2	+2.8
AVH	**Avacha**	**3.91**	**16**	P		Pn	11 41 15.0	+3.2
KOK	**Koryaka**	**3.91**	**15**	P		Pn	11 41 15.4	+3.4
SMAR	**Somma**	**3.92**	**17**	P		Pn	11 41 15.3	+3.2
KRER	**Koryakskii**	**3.94**	**16**	P		Pn	11 41 15.5	+3.0
KRER				S		Sn	11 42 01.5	+2.1
SDLR	**Sedlovina**	**3.95**	**17**	P		Pn	11 41 14.7	+2.3
KRX	**Arik**	**3.98**	**15**	P		Pn	11 41 15.9	+3.0
SPN	**Mys Shipunski**	**4.06**	**27**	S		Sn	11 42 02.8	+1.0
GNL	**Ganaly**	**4.22**	**8**	P		Pn	11 41 19.0	+2.8
MKZ	**Mys Kozlova**	**5.84**	**29**	P		Pn	11 41 39.3	+1.1
MKZ				S		Sn	11 42 44.9	-0.5
KBTR	**Krutoberegovo**	**7.57**	**26**	P		Pn	11 42 03.7	+1.7

*IDC **10** 11:45:02.3±0.8, 17.81S×167.17E, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, ML4.2/3, MS3.7/8, Ms1 3.6/8, ms1mx3.4/28, Error ellipse: s-maj=22.7km s-min=16.5km az=97.0*

*ISCJB **10** 11:45:03.4±0.5, 17.84S±0.05×167.12E±0.09, h20km, mb4.4/19, MS3.7/6, Error ellipse: s-maj=12.1km s-min=6.8km az=178.9*

*NEIC **10** 11:45:07.7±0.5, 17.86S×167.06E, h35km, mb4.3/4, Error ellipse: s-maj=11.6km s-min=9.3km az=86.0*

ISC 10 11:45:05.2±0.6, 17.88S±0.06×167.1E±0.1, h20km, n70, σ1s21/71, mb4.4/18, MS3.6/6, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.22**	**189**	*e*Pn		**Pn**	**11 46 08.2**	**-0.4**
	25nm,0.3s							
DZM				*e*Sn		**Sn**	**11 46 56.0**	**-1.4**
	41nm,0.3s							
DZM				*e*LR		LR	11 47 02.9	
	252nm,24.1s							
DZM	**Mont Dzumac**	**4.22**	**189**	Pn		**Pn**	**11 46 08.4**	**-0.2**
DZM				Sn		**Sn**	**11 46 57.5**	**0.0**
DZM	**Mont Dzumac**	**4.22**	**189**	Pn		**Pn**	**11 46 08.4**	**-0.2**
	3.4nm,0.3s,baz=36,slow=18,SNR=37							
DZM				Sn		**Sn**	**11 46 57.5**	**0.0**
	6.0nm,0.3s,baz=306,slow=19,SNR=2.8							
DZM				LR		LR	11 47 29.0	
	comp=Z,298nm,21.2s,baz=146,slow=34							
NOUC	**Port Laguerre**	**4.28**	**190**	*e*P		**Pn**	**11 46 06.7**	**-2.5**
NOUC				*e*S		**Sn**	**11 46 53.3**	**-5.2**
HNR	**Honiara**	**10.92**	**319**	Pn		**Pn**	**11 47 39.6**	**-0.8**
HNR	**Honiara**	**10.92**	**319**	Pn		**Pn**	**11 47 39.6**	**-0.8**
	6.0nm,0.3s,baz=175,slow=23,SNR=3.8							
HNR				LR		LR	11 51 00.9	
	comp=Z,232nm,18.3s,baz=143,slow=33							
ARMA	**Armidale**	**18.85**	**226**	P		**P**	**11 49 23.6**	**-0.5**
RMQ	**Roma**	**19.04**	**240**	P		**Pn**	**11 49 30.1**	**+3.1**
	baz=15,SNR=7.4							
CTA	**Charters Tower**	**19.87**	**260**	P		**Pn**	**11 49 37.6**	**+0.6**
CTA	**Charters Tower**	**19.87**	**260**	P		**Pn**	**11 49 37.6**	**+0.6**
	0.5nm,0.3s,baz=84,slow=13,SNR=12							
CTAO	**Charters Tower**	**19.87**	**260**	*e*P		**P**	**11 49 35.7**	**+0.3**
	34nm,1.4s							
PMG	**Port Moresby**	**21.15**	**291**	P		**P**	**11 49 48.1**	**-1.1**
PMG	**Port Moresby**	**21.15**	**291**	P		**P**	**11 49 48.1**	**-1.1**
	10nm,0.8s,baz=81,slow=6.2,SNR=4.7							
PMG				LR		LR	11 55 56.2	
	comp=Z,173nm,20.0s,baz=343,slow=31							
URZ	**Urewera**	**22.10**	**159**	P		**P**	**11 50 00.5**	**+1.3**
URZ	**Urewera**	**22.10**	**159**	P		**P**	**11 50 00.5**	**+1.3**
	8.4nm,0.9s,baz=87,slow=13,SNR=3.1							
QLP	**Quilpie**	**22.88**	**244**	P		**P**	**11 50 08.9**	**+1.2**
	baz=19,SNR=6.8							
COEN	**Coen**	**23.37**	**276**	*e*P		**P**	**11 50 11.9**	**-0.8**
	32nm,0.8s							
CNB	**Canberra Magne**	**23.48**	**219**	P		**P**	**11 50 16.2**	**+2.5**
	baz=20,SNR=6.2							
CMSA	**Cobar Meteorol**	**23.70**	**231**	P		**P**	**11 50 17.5**	**+1.6**
	baz=20,SNR=8.3							
STKA	**Stephens Creek**	**26.96**	**234**	*e*P		**P**	**11 50 47.1**	**+1.6**
	4.5nm,0.7s							
STKA	**Stephens Creek**	**26.96**	**234**	P		**P**	**11 50 46.7**	**+1.2**
	25nm,0.9s,baz=63,slow=7.5,SNR=27							
STKA				LR		LR	12 02 15.6	
	comp=Z,161nm,18.1s,baz=30,slow=38							
STKA	**Stephens Creek**	**26.96**	**234**	P		**P**	**11 50 47.4**	**+1.9**
	baz=23,SNR=19							
WRAB	**Tennant Creek**	**31.06**	**261**	*e*P		**P**	**11 51 21.7**	**-0.5**
	2.4nm,0.9s							
WRA	**Warramunga Arr**	**31.07**	**261**	P		**P**	**11 51 21.3**	**-1.0**
WRA	**Warramunga Arr**	**31.07**	**261**	P		**P**	**11 51 21.3**	**-1.0**
	1.6nm,0.8s,baz=92,slow=9.2,SNR=16							
WRA				LR		LR	12 02 55.9	
	comp=Z,142nm,20.4s,baz=115,slow=34							
AS31	**Alice Springs**	**31.56**	**254**	*e*P		**P**	**11 51 25.8**	**-0.7**
ASAR	**Alice Springs**	**31.56**	**254**	P		**P**	**11 51 26.3**	**-0.3**
ASAR	**Alice Springs**	**31.56**	**254**	P		**P**	**11 51 26.3**	**-0.3**
	6.4nm,0.9s,baz=79,slow=8.4,SNR=55							
ASAR				LR		LR	12 03 37.4	
	comp=Z,239nm,20.5s,baz=102,slow=35							
BBOO	**Buckleboo**	**31.64**	**236**	P		**P**	**11 51 28.5**	**+1.4**
	baz=28,SNR=6.6							
KNRA	**Kununurra**	**36.77**	**268**	P		**P**	**11 52 11.4**	**-0.3**
	baz=33,SNR=6.1							
FITZ	**Fitzroy Crossi**	**39.41**	**263**	LR		LR	12 08 22.1	
	comp=Z,218nm,18.0s,baz=105,slow=36							
FITZ	**Fitzroy Crossi**	**39.41**	**263**	P		**P**	**11 52 34.8**	**+0.7**
	baz=36,SNR=9.6							
TBI	**Tubuai**	**40.87**	**105**	*e*LR		LR	12 04 37.8	
	207nm,27.0s							
PPT2	**Papeete2**	**41.16**	**96**	*e*LR		LR	12 04 47.9	
	282nm,25.2s							
PPT	**Papeete**	**41.16**	**96**	LR		LR	12 04 17.5	
	comp=Z,54nm,20.7s,baz=220,slow=28							
MEEK	**Meekatharra**	**45.53**	**250**	P		**P**	**11 53 24.3**	**+0.5**
	baz=42,SNR=4.6							
WSI	**Waingapu**	**46.12**	**274**	P		P	11 53 34.6	+6.1
	baz=43,SNR=3.2							
CBIJ	**Chichi jima**	**50.84**	**331**	P		**P**	**11 54 03.1**	**-1.5**
JCJ	**Chichijima**	**50.84**	**331**	P		**P**	**11 54 03.1**	**-1.5**
	77nm,0.8s,baz=290,slow=19,SNR=2.5							
VNDA	**Vanda**	**59.73**	**181**	P		**P**	**11 55 08.3**	**+0.2**
VNDA	**Vanda**	**59.73**	**181**	P		**P**	**11 55 08.3**	**+0.2**
	0.9nm,0.9s,baz=9.4,slow=10,SNR=4.0							
MJAR	**Matsushiro Arr**	**60.64**	**333**	P		**P**	**11 55 15.3**	**+0.5**
MJAR	**Matsushiro Arr**	**60.64**	**333**	P		**P**	**11 55 15.3**	**+0.5**
	1.0nm,0.7s,baz=134,slow=10,SNR=3.7							
USRK	**Ussuriysk Arra**	**69.63**	**334**	P		**P**	**11 56 12.7**	**-0.4**
	0.8nm,0.5s,baz=207,slow=3.8,SNR=4.0							
PETK	**Petropavlovsk-**	**71.16**	**354**	P		**P**	**11 56 22.0**	**-0.2**
PETK	**Petropavlovsk-**	**71.16**	**354**	P		**P**	**11 56 22.0**	**-0.2**
	6.9nm,0.9s,baz=217,slow=6.7,SNR=4.8							
CMAR	**Chiang Mai Arr**	**76.13**	**295**	P		**P**	**11 56 54.3**	**+2.1**
CMAR	**Chiang Mai Arr**	**76.13**	**295**	P		**P**	**11 56 54.3**	**+2.1**
	5.3nm,0.8s,baz=130,slow=4.3,SNR=39							
CHTO	**Chiang Mai**	**76.28**	**295**	*e*P		**P**	**11 56 53.2**	**+0.1**
	3.6nm,0.8s							
RSO	**Redoubt South**	**84.50**	**19**	*e*P		**P**	**11 57 36.4**	**-0.1**
	15nm,0.8s							
SONM	**Songino Array**	**84.94**	**324**	P		**P**	**11 57 39.4**	**+0.4**
SONM	**Songino Array**	**84.94**	**324**	P		**P**	**11 57 39.4**	**+0.4**
	1.6nm,0.9s,baz=141,slow=4.7,SNR=8.6							
ILAR	**Eielson Array**	**89.54**	**18**	P		**P**	**11 57 59.7**	**-1.0**
ILAR	**Eielson Array**	**89.54**	**18**	P		**P**	**11 57 59.7**	**-1.0**
	1.3nm,0.7s,baz=239,slow=4.8,SNR=24							
SNAA	**Sanae**	**90.42**	**183**	*e*P		**P**	**11 58 05.3**	**+0.3**
SNAA	**Sanae**	**90.42**	**183**	*e*P		**P**	**11 58 04.7**	**-0.3**
	13nm,1.5s							
VNA2	**Neumayer--Watz**	**91.35**	**182**	*e*P		**P**	**11 58 09.3**	**0.0**
MKAR	**Makanchi Array**	**99.38**	**316**	P		**Pdif**	**11 58 46.1**	**-0.2**
MKAR	**Makanchi Array**	**99.38**	**316**	P		**Pdif**	**11 58 46.1**	**-0.2**
	0.4nm,0.8s,baz=91,slow=8.0,SNR=2.6							
YKA	**Yellowknife Ar**	**100.38**	**28**	P		**Pdif**	**11 58 50.3**	**0.0**
YKA	**Yellowknife Ar**	**100.38**	**28**	P		**Pdif**	**11 58 50.3**	**0.0**
	0.2nm,0.6s,baz=243,slow=5.0,SNR=3.4							
FETA	**Feichten**	**145.05**	**331**	*i* PKPdf		**PKPdf**	**12 04 42.0**	**+0.7**
	12nm,0.9s							
BFO	**Black Forest**	**145.06**	**335**	*e*PKPbc		**PKPdf**	**12 04 41.1**	**-0.1**
DAVA	**Damuels**	**145.23**	**333**	*i* PKPdf		**PKPdf**	**12 04 42.5**	**+0.8**
	13nm,1.0s							
DAVOX	**Davos/Dischmat**	**145.61**	**332**	PKPbc		**PKPab**	**12 04 43.7**	**+0.8**
DAVOX	**Davos/Dischmat**	**145.61**	**332**	PKPbc		**PKPab**	**12 04 43.7**	**+0.8**
	8.3nm,0.8s,baz=51,slow=2.5,SNR=9.8							
TUE	**Stuetta**	**146.08**	**332**	*e*PKPdf		**PKPbc**	**12 04 44.1**	**0.0**
BNI	**Bardonecchia**	**148.36**	**333**	*e*PKPdf		**PKPbc**	**12 04 49.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**165.21**	**254**	PKP		**PKPdf**	**12 05 09.0**	**-0.1**
TORD				PKPab		**PKPab**	**12 06 06.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**165.21**	**254**	PKP		**PKPdf**	**12 05 09.0**	**-0.1**
	1.3nm,0.9s,baz=61,slow=1.3,SNR=7.8							
TORD				PKPab		**PKPab**	**12 06 06.2**	**-0.2**
	1.1nm,1.0s,baz=97,slow=3.2,SNR=4.4							

MEX 10 12:16:02.5±0.7, 16.99N×94.97W, h152km±23km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**1.64**	**222**	*i* P		Pn	12 16 31.7	-2.0
HUIG				*i* S		Sn	12 16 56.1	-1.4
VHO	**Vista Hermosa**	**1.69**	**273**	*i* P		Pn	12 16 33.4	-1.1
VHO				*i* S		Sn	12 16 56.6	-2.4
PCIG		**2.11**	**127**	*i* P		Pn	12 16 38.0	-1.1
PCIG				*i* S		Sn	12 17 05.0	-2.1

*NEIC **10** 12:17:31.1, 38.78S×175.70E, h119km, MG4.0(WEL), After WEL.*

WEL 10 12:17:31.4±0.1, 38.79S×175.74E, h116km±1km, ML4.0/18, 26C-15D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RATZ	**Rangitukua**	**0.08**	**162**	⇓P	N	Pn	12 17 47.2	-0.3
RATZ	**Rangitukua**	**0.08**	**162**	Pn		Pn	12 17 47.2	-0.3
WATZ	**Wairara**	**0.08**	**357**	⇓P	N	Pn	12 17 47.3	-0.1
WATZ				SN		Sn	12 17 59.8	+0.3
WATZ	**Wairara**	**0.08**	**357**	Pn		Pn	12 17 47.4	-0.1
WATZ				Sn		Sn	12 17 59.8	+0.3
KATZ	**Kakaramea**	**0.19**	**191**	Pn		Pn	12 17 47.5	-0.3
KATZ	**Kakaramea**	**0.19**	**191**	Pn		Pn	12 17 47.5	-0.3
RITZ	**Rihia Road**	**0.21**

TSZ	Takapari Road	1.28	172	⇑PN	Pn	12 17 55.9	-0.1
TSZ				AML	AML	12 17 58.5	
TSZ				SN	Sn	12 18 13.1	-1.7
TSZ	Takapari Road	1.28	172	Pn	Pn	12 17 55.9	-0.1
KAHZ	Kahuranaki	1.33	139	⇑PN	Pn	12 17 57.2	+0.5
KAHZ	Kahuranaki	1.33	139	Pn	Pn	12 17 57.2	+0.5
CKHZ	Cape Kidnapper	1.35	130	PN	Pn	12 17 57.5	+0.7
CKHZ	Cape Kidnapper	1.35	130	Pn	Pn	12 17 57.5	+0.7
WPHZ	Waipukurau	1.38	157	⇑PN	Pn	12 17 57.2	0.0
WPHZ	Waipukurau	1.38	157	Pn	Pn	12 17 57.2	0.0
KHEZ	Kahui Hut	1.43	249	PN	Pn	12 17 57.8	-0.1
MWZ	Matawai	1.48	72	⇓PN	Pn	12 17 57.8	-0.5
MWZ				AML	AML	12 18 18.6	
MWZ				AML	AML	12 18 18.8	
MWZ				AML	AML	12 18 23.5	
MWZ				AML	AML	12 18 23.5	
MWZ	Matawai	1.48	72	Pn	Pn	12 17 57.8	-0.5
PXZ	Pawanui	1.51	145	⇑PN	Pn	12 17 58.7	0.0
PXZ				AML	AML	12 18 20.9	
PXZ				AML	AML	12 18 20.9	
PXZ				AML	AML	12 18 22.0	
PXZ				AML	AML	12 18 22.0	
PXZ	Pawanui	1.51	145	Pn	Pn	12 17 58.7	0.0
KNZ	Kokohu	1.53	99	PN	Pn	12 17 58.9	+0.1
KNZ	Kokohu	1.53	99	Pn	Pn	12 17 58.9	+0.1
DVHZ	Dannevirke	1.54	168	⇑PN	Pn	12 17 58.6	-0.5
DVHZ	Dannevirke	1.54	168	Pn	Pn	12 17 58.6	-0.5
RIGZ	Rimuhau	1.58	87	PN	Pn	12 18 00.0	+0.4
POWZ	Post Office Ro	1.60	179	PN	Pn	12 17 59.0	-0.7
POWZ	Post Office Ro	1.60	179	Pn	Pn	12 17 59.0	-0.7
PRHZ	Porangahau	1.63	155	⇑PN	Pn	12 17 60.0	-0.1
PRHZ	Porangahau	1.63	155	Pn	Pn	12 17 60.0	-0.1
PRGZ	Paritu Road	1.68	95	PN	Pn	12 18 00.8	+0.1
PRGZ	Paritu Road	1.68	95	Pn	Pn	12 18 00.8	+0.1
MHGZ	Mahia Peninsul	1.73	103	PN	Pn	12 18 01.6	+0.3
MHGZ	Mahia Peninsul	1.73	103	Pn	Pn	12 18 01.6	+0.3
MKAZ	Moumakai	1.74	345	⇑PN	Pn	12 18 01.2	-0.3
MKAZ	Moumakai	1.74	345	Pn	Pn	12 18 01.2	-0.3
ANWZ	Angora Road	1.76	161	⇑PN	Pn	12 18 01.5	-0.2
PRWZ	Pori Road	1.77	174	PN	Pn	12 18 01.3	-0.5
KBAZ	Karaka Road Bo	1.82	338	PN	Pn	12 18 02.5	+0.1
MRZ	Mangatainoka R	1.87	184	PN	Pn	12 18 01.9	-1.1
MRZ				AML	AML	12 18 27.1	
MRZ				AML	AML	12 18 27.1	
MRZ	Mangatainoka R	1.87	184	Pn	Pn	12 18 01.9	-1.1
BFZ	Birch Farm	1.93	168	PN	Pn	12 18 02.9	-0.9
BFZ	Birch Farm	1.93	168	Pn	Pn	12 18 02.9	-0.9
CNGZ	Carnagh Statio	1.96	82	PN	Pn	12 18 04.5	+0.4
CNGZ	Carnagh Statio	1.96	82	Pn	Pn	12 18 04.5	+0.4
TIWZ	Tintock	1.98	177	PN	Pn	12 18 03.5	-1.0
TIWZ				AML	AML	12 18 30.6	
TIWZ				AML	AML	12 18 30.9	
TIWZ	Tintock	1.98	177	Pn	Pn	12 18 03.5	-1.0
KUZ	Kuaotunu	2.04	360	PN	Pn	12 18 04.8	-0.4
KUZ	Kuaotunu	2.04	360	Pn	Pn	12 18 04.8	-0.4
OGWZ	Otaki Gorge	2.07	192	⇑PN	Pn	12 18 04.4	-1.1
OGWZ	Otaki Gorge	2.07	192	Pn	Pn	12 18 04.4	-1.1
PUZ	Puketiti	2.10	71	PN	Pn	12 18 05.5	-0.5
PUZ				AML	AML	12 18 31.2	
PUZ				AML	AML	12 18 31.5	
PUZ	Puketiti	2.10	71	Pn	Pn	12 18 05.5	-0.5
HOWZ	Holdsworth Sta	2.11	185	⇑PN	Pn	12 18 04.6	-1.4
HOWZ	Holdsworth Sta	2.11	185	Pn	Pn	12 18 04.6	-1.4
CPWZ	Castlepoint	2.14	171	⇓PN	Pn	12 18 05.9	-0.6
KIW	Kapiti Island	2.16	197	⇑PN	Pn	12 18 05.1	-1.6
KIW				AML	AML	12 18 32.0	
KIW				AML	AML	12 18 33.4	
KIW	Kapiti Island	2.16	197	Pn	Pn	12 18 05.2	-1.6
TMWZ	Te Maipa	2.31	177	PN	Pn	12 18 07.1	-1.6
TMWZ	Te Maipa	2.31	177	Pn	Pn	12 18 07.1	-1.6
MXZ	Matakaoa Point	2.37	60	PN	Pn	12 18 09.2	-0.1
MXZ				AML	AML	12 18 38.9	
MXZ	Matakaoa Point	2.37	60	Pn	Pn	12 18 09.2	-0.1
CAW	Cannon Point	2.37	192	PN	Pn	12 18 07.5	-1.8
CAW				AML	AML	12 18 36.4	
CAW				AML	AML	12 18 37.1	
CAW	Cannon Point	2.37	192	Pn	Pn	12 18 07.5	-1.8
MTW	Mount Morrison	2.37	184	PN	Pn	12 18 07.5	-1.9
MTW				AML	AML	12 18 36.8	
MTW				AML	AML	12 18 36.9	
MTW	Mount Morrison	2.37	184	Pn	Pn	12 18 07.5	-1.9
DUWZ	D'Urville Isla	2.45	214	⇑PN	Pn	12 18 08.5	-1.9
DUWZ	D'Urville Isla	2.45	214	Pn	Pn	12 18 08.5	-1.9
PAWZ	Paruwai Farm	2.60	185	PN	Pn	12 18 10.1	-2.2
PAWZ	Paruwai Farm	2.60	185	Pn	Pn	12 18 10.1	-2.2
WELZ	Wellington	2.60	196	PN	Pn	12 18 10.1	-2.2
WELZ	Wellington	2.60	196	Pn	Pn	12 18 10.1	-2.2
TRWZ	Traveller	2.60	181	PN	Pn	12 18 10.3	-2.0
TRWZ				AML	AML	12 18 42.3	
TRWZ				AML	AML	12 18 42.5	
TRWZ	Traveller	2.60	181	Pn	Pn	12 18 10.3	-2.0
SNZO	South Karori	2.64	197	PN	Pn	12 18 10.4	-2.3
SNZO				AML	AML	12 18 42.8	
SNZO				AML	AML	12 18 43.4	
SNZO	South Karori	2.64	197	Pn	Pn	12 18 10.4	-2.3
MSWZ	Moikau Station	2.65	188	⇑PN	Pn	12 18 10.7	-2.3
MSWZ				AML	AML	12 18 42.4	
MSWZ				AML	AML	12 18 42.9	
MSWZ	Moikau Station	2.65	188	Pn	Pn	12 18 10.7	-2.3
TCW	Tory Channel	2.67	204	PN	Pn	12 18 10.9	-2.2
TCW				AML	AML	12 18 42.7	
TCW				AML	AML	12 18 45.0	
TCW	Tory Channel	2.67	204	Pn	Pn	12 18 10.9	-2.2
BHW	Baring Head	2.70	194	PN	Pn	12 18 11.2	-2.3
BHW				AML	AML	12 18 43.6	
BHW				AML	AML	12 18 43.7	
BHW	Baring Head	2.70	194	Pn	Pn	12 18 11.2	-2.3
PLWZ	Palliser	2.80	187	PN	Pn	12 18 12.4	-2.6
PLWZ	Palliser	2.80	187	Pn	Pn	12 18 12.4	-2.6
TUWZ	Tuamarina	2.97	207	PN	Pn	12 18 14.4	-2.7
TUWZ				AML	AML	12 18 48.7	
TUWZ				AML	AML	12 18 49.4	
TUWZ	Tuamarina	2.97	207	Pn	Pn	12 18 14.4	-2.7
NNZ	Nelson	3.02	216	PN	Pn	12 18 15.3	-2.5
NNZ	Nelson	3.02	216	Pn	Pn	12 18 15.3	-2.5
WCZ	Waipu Caves	3.06	338	ePN	Pn	12 18 18.4	+0.1
QRZ	Quartz Range	3.20	230	⇑PN	Pn	12 18 17.8	-2.4
QRZ	Quartz Range	3.20	230	Pn	Pn	12 18 17.8	-2.4
BSWZ	Blackbirch Sta	3.25	205	PN	Pn	12 18 18.0	-2.8
BSWZ	Blackbirch Sta	3.25	205	Pn	Pn	12 18 18.0	-2.8
THZ	Tophouse	3.67	215	⇓PN	Pn	12 18 23.6	-2.9
KHZ	Kahutara	3.99	204	⇑PN	Pn	12 18 27.3	-3.3
KHZ				eSN	Sn	12 19 12.0	-4.5
LTZ	Lake Taylor	4.78	212	PN	Pn	12 18 36.8	-4.5
OXZ	Oxford	5.32	211	PN	Pn	12 18 43.1	-5.5
MQZ	McQueen's Vall	5.43	204	PN	Pn	12 18 44.4	-5.6
RPZ	Rata Peaks	6.05	214	PN	Pn	12 18 54.5	-3.9
RPZ	Rata Peaks	6.05	214	Pn	Pn	12 18 54.8	-3.7
LBZ	Lake Benmore	6.97	215	PN	Pn	12 19 05.6	-5.2
ODZ	Otahua Downs	7.31	210	PN	Pn	12 19 10.5	-4.9
CTZ	Chatham Island	7.58	133	ePN	Pn	12 19 21.0	+2.0

*IDC **10** 12:44:41.6±3.2, 36.78S×178.24E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.6/2, Error ellipse: s-maj=125.8km s-min=47.8km az=31.0*

*ISCJB **10** 12:45:01.0±0.9, 37.62S±0.06×177.32E±0.08, h166km±5km, mb3.4/2, Error ellipse: s-maj=11.0km s-min=9.0km az=149.2*

*WEL **10** 12:45:03.6±0.2, 37.43S×177.29E, h128km±1km, ML4.0/14, Error ellipse: s-maj=1.5km s-min=1.2km az=0.0*

*NEIC **10** 12:45:03.5, 37.41S×177.26E, h128km, MG4.0(WEL), After WEL.*

ISC 10 12:45:01.4±1.0, 37.51S±0.06×177.29E±0.05, h152km±6km, n154, σ1.28/155, 5C-19D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	Ohinepanea	0.67	240	⇓PN	Pn	12 45 23.8	-0.1
OPRZ				SN	Sn	12 45 39.4	-1.8
OPRZ	Ohinepanea	0.67	240	Pn	Pn	12 45 23.8	-0.1
OPRZ				Sn	Sn	12 45 39.4	-1.8
MARZ	Manawahe	0.68	225	⇓PN	Pn	12 45 24.2	+0.2
MARZ	Manawahe	0.68	225	Pn	Pn	12 45 24.2	+0.2
URZ	Urewera	0.77	191	⇑PN	Pn	12 45 24.7	+0.2
URZ				SN	Sn	12 45 41.3	-1.0
URZ				AML	AML	12 45 42.4	
URZ	Urewera	0.77	191	Pn	Pn	12 45 24.7	+0.2
URZ				Sn	Sn	12 45 41.3	-1.0
MXZ	Matakaoa Point	0.81	94	PN	Pn	12 45 24.7	-0.2
MXZ				AML	AML	12 45 25.4	
MXZ				eSN	Sn	12 45 40.7	-2.1
MXZ	Matakaoa Point	0.81	94	Pn	Pn	12 45 24.7	-0.2
MWZ	Matawai	0.85	167	⇓PN	Pn	12 45 25.7	+0.4
MWZ				eSN	Sn	12 45 41.6	-2.0
MWZ				AML	AML	12 45 44.1	
MWZ				AML	AML	12 45 44.1	
MWZ				AML	AML	12 45 45.9	
MWZ	Matawai	0.85	167	Pn	Pn	12 45 25.7	+0.4
MWZ				Sn	Sn	12 45 41.9	-1.7
PUZ	Puketiti	0.95	127	PN	Pn	12 45 26.1	+0.1
PUZ				eSN	Sn	12 45 43.3	-1.6
PUZ				AML	AML	12 45 44.3	
PUZ	Puketiti	0.95	127	Pn	Pn	12 45 26.1	+0.1
TARZ	Mount Tarawera	0.95	220	⇓PN	Pn	12 45 27.0	+0.9
TARZ	Mount Tarawera	0.95	220	Pn	Pn	12 45 27.0	+0.9
KARZ	Kaharoa	0.97	238	⇓PN	Pn	12 45 26.6	+0.5
KARZ	Kaharoa	0.97	238	Pn	Pn	12 45 26.6	+0.5
RRRZ	Republican Roa	1.03	216	⇓PN	Pn	12 45 27.4	+0.7
RRRZ	Republican Roa	1.03	216	Pn	Pn	12 45 27.4	+0.7
PRRZ	Plateau Road	1.22	215	⇓PN	Pn	12 45 29.3	+1.0
CNGZ	Carnagh Statio	1.22	144	⇑PN	Pn	12 45 29.7	+1.4
CNGZ	Carnagh Statio	1.22	144	Pn	Pn	12 45 29.7	+1.4
RIGZ	Rimuhau	1.25	163	⇓PN	Pn	12 45 30.0	+1.3
SNGZ	Shannon Statio	1.27	178	⇓PN	Pn	12 45 29.7	+0.8
ALRZ	Allen Road	1.29	215	⇓PN	Pn	12 45 30.1	+1.1
ALRZ	Allen Road	1.29	215	Pn	Pn	12 45 30.1	+1.1
RAHZ	Arahi	1.42	186	PN	Pn	12 45 31.4	+1.1
RAHZ	Arahi	1.42	186	Pn	Pn	12 45 31.4	+1.1
TOZ	Tahuroa Road	1.44	260	⇓PN	Pn	12 45 31.3	+1.0
TOZ	Tahuroa Road	1.44	260	Pn	Pn	12 45 31.3	+0.6
KUZ	Kuaotunu	1.46	301	⇑PN	Pn	12 45 30.0	-0.7
KUZ	Kuaotunu	1.46	301	Pn	Pn	12 45 30.0	-0.7
PRGZ	Paritu Road	1.49	162	PN	Pn	12 45 32.4	+1.4
PRGZ	Paritu Road	1.49	162	Pn	Pn	12 45 32.4	+1.4
KNZ	Kokohu	1.54	169	PN	Pn	12 45 32.4	+0.9
KNZ	Kokohu	1.54	169	Pn	Pn	12 45 32.4	+0.9
WHHZ	Waihua	1.57	182	PN	Pn	12 45 32.9	+1.1
TLZ	Tolley Road	1.61	239	PN	Pn	12 45 33.3	+1.0
NMHZ	Naumai	1.63	193	PN	Pn	12 45 34.1	+1.5
NMHZ	Naumai	1.63	193	Pn	Pn	12 45 34.1	+1.5
MHGZ	Mahia Peninsul	1.72	164	⇓PN	Pn	12 45 34.9	+1.5
MHGZ	Mahia Peninsul	1.72	164	Pn	Pn	12 45 34.9	+1.5
MKAZ	Moumakai	1.74	282	PN	Pn	12 45 34.1	+0.5
MKAZ	Moumakai	1.74	282	Pn	Pn	12 45 34.1	+0.5
BKZ	Black Stump Fm	1.77	200	⇓PN	Pn	12 45 34.6	+0.5
BKZ				AML	AML	12 46 04.4	
BKZ				AML	AML	12 46 07.5	
BKZ	Black Stump Fm	1.77	200	Pn	Pn	12 45 34.6	+0.5
MCHZ	McNeill Hill	1.99	193	PN	Pn	12 45 37.8	+1.3
MCHZ	McNeill Hill	1.99	193	Pn	Pn	12 45 37.8	+1.3
KRVZ	Karewarewa	2.05	219	PN	Pn	12 45 38.7	+1.4
KRVZ	Karewarewa	2.05	219	Pn	Pn	12 45 38.7	+1.4
OTVZ	Oturere	2.09	217	PN	Pn	12 45 39.1	+1.3
OTVZ	Oturere	2.09	217	Pn	Pn	12 45 39.1	+1.3
WTVZ	West Tongariro	2.09	219	PN	Pn	12 45 38.9	+1.1
WTVZ	West Tongariro	2.09	219	Pn	Pn	12 45 38.9	+1.1
NGZ	Ngauruhoe	2.13	218	PN	Pn	12 45 39.7	+1.4
NGZ	Ngauruhoe	2.13	218	Pn	Pn	12 45 39.7	+1.4
TWVZ	Taurewa	2.14	222	PN	Pn	12 45 39.7	+1.4
TWVZ	Taurewa	2.14	222	Pn	Pn	12 45 39.7	+1.4
CKHZ	Cape Kidnapper	2.16	184	⇓PN	Pn	12 45 39.4	+1.0
CKHZ	Cape Kidnapper	2.16	184	Pn	Pn	12 45 39.5	+1.0
HIZ	Hauiti	2.17	242	PN	Pn	12 45 40.2	+1.7
HIZ	Hauiti	2.17	242	Pn	Pn	12 45 40.2	+1.7
COVZ	Chateau Observ	2.18	219	PN	Pn	12 45 40.2	+1.4
WPVZ	Whakapapa	2.18	218	PN	Pn	12 45 40.2	+1.4
WPVZ	Whakapapa	2.18	218	Pn	Pn	12 45 40.2	+1.4
BHHZ	Black Hill Sta	2.20	206	PN	Pn	12 45 39.6	+0.6
BHHZ	Black Hill Sta	2.20	206	Pn	Pn	12 45 39.6	+0.6
FWVZ	Far West T-bar	2.22	217	PN	Pn	12 45 40.5	+1.1
FWVZ	Far West T-bar	2.22	217	Pn	Pn	12 45 40.5	+1.1
MOVZ	Moawhango	2.25	212	PN	Pn	12 45 40.1	+0.5
MOVZ	Moawhango	2.25	212	Pn	Pn	12 45 40.1	+0.5
WNVZ	Wahianoa	2.25	216	PN	Pn	12 45 40.8	+1.0
WNVZ	Wahianoa	2.25	216	Pn	Pn	12 45 40.8	+1.0
TRVZ	Turoa	2.25	217	Pn	Pn	12 45 40.7	+0.9
KAHZ	Kahuranaki	2.31	188	PN	Pn	12 45 41.0	+0.7
KAHZ	Kahuranaki	2.31	188	Pn	Pn	12 45 41.0	+0.7
PKVZ	Pokaka	2.35	220	PN	Pn	12 45 42.1	+1.4
PKVZ	Pokaka	2.35	220	Pn	Pn	12 45 42.1	+1.4
MTVZ	Mangateitei	2.36	217	PN	Pn	12 45 42.2	+1.3
MTVZ	Mangateitei	2.36	217	Pn	Pn	12 45 42.2	+1.3
PXZ	Pawanui	2.54	187	⇓PN	Pn	12 45 43.4	+0.3
PXZ				AML	AML	12 46 16.9	
PXZ				AML	AML	12 46 16.9	
PXZ				AML	AML	12 46 17.1	
PXZ				AML	AML	12 46 17.1	
PXZ	Pawanui	2.54	187	Pn	Pn	12 45 43.4	+0.3
PNHZ	Pukenui	2.55	199	PN	Pn	12 45 43.5	+0.3
PNHZ	Pukenui	2.55	199	Pn	Pn	12 45 43.5	+0.3
WPHZ	Waipukurau	2.64	194	PN	Pn	12 45 44.5	+0.2
WPHZ	Waipukurau	2.64	194	Pn	Pn	12 45 44.5	+0.2
TSZ	Takapari Road	2.75	202	⇓PN	Pn	12 45 45.5	-0.2
TSZ				AML	AML	12 46 21.1	
TSZ				AML	AML	12 46 24.4	
TSZ	Takapari Road	2.75	202	Pn	Pn	12 45 45.5	-0.2
PRHZ	Porangahau	2.80	190	⇓PN	Pn	12 45 46.5	+0.2
PRHZ	Porangahau	2.80	190	Pn	Pn	12 45 46.5	+0.2
WAZ	Wanganui	2.88	218	PN	Pn	12 45 48.4	+1.1
WAZ	Wanganui	2.88	218	Pn	Pn	12 45 48.4	+1.1
DVHZ	Dannevirke	2.92	197	PN	Pn	12 45 47.5	-0.3
DVHZ	Dannevirke	2.92	197	Pn	Pn	12 45 47.5	-0.3
ANWZ	Angora Road	3.02	192	PN	Pn	12 45 49.1	+0.1
POWZ	Post Office Ro	3.12	202	PN	Pn	12 45 50.0	-0.3
POWZ	Post Office Ro	3.12	202	Pn	Pn	12 45 50.0	-0.3
PRWZ	Pori Road	3.21	198	PN	Pn	12 45 51.3	-0.2
BFZ	Birch Farm	3.27	194	⇑PN	Pn	12 45 51.7	-0.5
BFZ	Birch Farm	3.27	194	Pn	Pn	12 45 51.8	-0.5
MRZ	Mangatainoka R	3.42	202	PN	Pn	12 45 53.3	-0.8
MRZ				AML	AML	12 46 35.5	
MRZ				AML	AML	12 46 41.1	
MRZ	Mangatainoka R	3.42	202	Pn	Pn	12 45 53.3	-0.8
TIWZ	Tintock	3.44	198	PN	Pn	12 45 53.9	-0.5
TIWZ				AML	AML	12 46 36.0	
TIWZ				AML	AML	12 46 37.9	
TIWZ	Tintock	3.44	198	Pn	Pn	12 45 53.9	-0.5
HOWZ	Holdsworth Sta	3.66	202	PN	Pn	12 45 56.1	-1.1
HOWZ	Holdsworth Sta	3.66	202	Pn	Pn	12 45 56.1	-1.1
OGWZ	Otaki Gorge	3.69	206	⇑PN	Pn	12 45 56.9	-0.8
OGWZ	Otaki Gorge	3.69	206	Pn	Pn	12 45 56.9	-0.8
TMWZ	Te Maipa	3.76	196	⇓PN	Pn	12 45 57.6	-0.9
TMWZ	Te Maipa	3.76	196	Pn	Pn	12 45 57.6	-0.9
KIW	Kapiti Island	3.83	208	PN	Pn	12 45 58.3	-1.0
KIW	Kapiti Island	3.83	208	Pn	Pn	12 45 58.4	-1.0
MTW	Mount Morrison	3.90	200	PN	Pn	12 45 58.9	-1.5
MTW				AML	AML	12 46 45.3	
MTW				AML	AML	12 46 46.2	
MTW	Mount Morrison	3.90	200	Pn	Pn	12 45 58.9	-1.5
CAW	Cannon Point	3.99	205	PN	Pn	12 46 00.1	-1.4
CAW				AML	AML	12 46 47.1	
CAW				AML	AML	12 46 51.9	
CAW	Cannon Point	3.99	205	Pn	Pn	12 46 00.1	-1.4
TRWZ	Traveller	4.08	197	PN	Pn	12 46 01.4	-1.3
TRWZ	Traveller	4.08	197	Pn	Pn	12 46 01.4	-1.3
PAWZ	Paruwai Farm	4.13	200	PN	Pn	12 46 01.7	-1.6
PAWZ				AML	AML	12 46 51.6	
PAWZ				AML	AML	12 46 51.9	
PAWZ	Paruwai Farm	4.13	200	Pn	Pn	12 46 01.7	-1.6
MSWZ	Moikau Station	4.21	201	PN	Pn	12 46 02.6	-1.8
MSWZ	Moikau Station	4.21	201	Pn	Pn	12 46 02.6	-1.8
WELZ	Wellington	4.25	207	PN	Pn	12 46 03.6	-1.3
WELZ	Wellington	4.25	207	Pn	Pn	12 46 03.6	-1.3
BHWZ	Baring Head	4.32	205	PN	Pn	12 46 04.0	-1.8
BHWZ	Baring Head	4.32	205	Pn	Pn	12 46 04.0	-1.8
PLWZ	Palliser	4.35	201	PN	Pn	12 46 04.3	-2.0
PLWZ	Palliser	4.35	201	Pn	Pn	12 46 04.3	-2.0
TCW	Tory Channel	4.38	211	PN	Pn	12 46 04.9	-1.6
TCW				AML	AML	12 46 58.6	
TCW				AML	AML	12 47 00.4	
TCW	Tory Channel	4.38	211	Pn	Pn	12 46 04.9	-1.6
TUWZ	Tuamarina	4.70	212	PN	Pn	12 46 09.0	-1.8
TUWZ				AML	AML	12 47 02.9	
TUWZ				AML	AML	12 47 04.3	
TUWZ	Tuamarina	4.70	212	Pn	Pn	12 46 09.0	-1.8
BSWZ	Blackbirch Sta	4.96	211	PN	Pn	12 46 12.8	-1.4
BSWZ	Blackbirch Sta	4.96	211	Pn	Pn	12 46 12.8	-1.4
QRZ	Quartz Range	4.97	227	PN	Pn	12 46 13.1	-1.2
QRZ	Quartz Range	4.97	227	Pn	Pn	12 46 13.1	-1.2
THZ	Tophouse	5.43	217	PN	Pn	12 46 18.6	-1.9
THZ	Tophouse	5.43	217	Pn	Pn	12 46 18.6	-1.9
KHZ	Kahutara	5.69	209	⇓PN	Pn	12 46 21.6	-2.2
KHZ	Kahutara	5.69	209	Pn	Pn	12 46 21.6	-2.2
LTZ	Lake Taylor	6.52	215	PN	Pn	12 46 32.1	-2.9
LTZ	Lake Taylor	6.52	215	Pn	Pn	12 46 32.1	-2.9
CRLZ	Canterbury Las	7.03	209	PN	Pn	12 46 38.3	-3.3
CRLZ	Canterbury Las	7.03	209	Pn	Pn	12 46 38.3	-3.3
OXZ	Oxford	7.06	213	PN	Pn	12 46 38.3	-3.8
MQZ	McQueen's Vall	7.13	208	PN	Pn	12 46 39.1	-3.9
MQZ	McQueen's Vall	7.13	208	Pn	Pn	12 46 39.1	-3.9
CTZ	Chatham Island	7.76	145	PN	Pn	12 46 57.5	+6.1
CTZ	Chatham Island	7.76	145	Pn	Pn	12 46 57.5	+6.1
ODZ	Otahua Downs	9.04	211	PN	Pn	12 47 05.5	-2.9
ODZ	Otahua Downs	9.04	211	Pn	Pn	12 47 05.5	-2.9
ASAR	Alice Springs	39.47	278	P	P	12 52 19.2	+2.2
	0.3nm,0.5s,baz=120,slow=8.2,SNR=6.0						
WRA	Warramunga Arr	41.13	283	P	P	12 52 32.5	+1.9
	0.9nm,0.6s,baz=122,slow=7.8,SNR=4.9						
ARCES	ARCESS Array B	144.49	343	PKP	PKPdf	13 04 18.3	-0.1
	1.5nm,0.9s,baz=46,slow=3.9,SNR=4.2						
TORD	Torodi Ar. Bea	155.42	190	PKPab	PKPab	13 05 05.7	+2.5
	0.3nm,0.4s,baz=161,slow=3.5,SNR=4.9						

IDC 10 12:45:26.1±2.9, 0.68S×132.87E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=152.3km s-min=27.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.20	176	P	P	12 49 51.9	+0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=4.4						
ASAR	Alice Springs	22.88	178	P	P	12 50 31.4	0.0
	0.6nm,0.3s,baz=355,slow=10,SNR=20						
MKAR	Makanchi Array	64.67	324	P	P	12 56 05.9	-0.1
	1.5nm,1.2s,baz=116,slow=7.2,SNR=4.2						

*JMA **10** 12:48:21.9±0.1, 24.56N×121.79E, h67km±2km, M2.5*

*TAP **10** 12:48:22.4, 24.57N×121.78E, h66km, ML3.3, B*

ISC 10 12:48:23.0±1.3, 24.59N±0.03×121.82E±0.03, h66km±6km, n42, σ0.75/74, 2C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	Suao	0.04	57	⇓iP	Pn	12 48 32.8	+0.1
	baz=64						
TWC				S	Sn	12 48 40.3	+0.5
	baz=64						
ENA	Nanau	0.18	203	⇓iP	Pn	12 48 33.0	-0.2
	baz=190						
ENA				iS	Sn	12 48 40.8	+0.4
	baz=190						
ILA	Ilan	0.19	340	eP	Pn	12 48 33.6	+0.4
	baz=348						
ILA				eS	Sn	12 48 41.8	+1.3
	baz=348						
TWE	Neicheng	0.19	314	⇓iP	Pn	12 48 33.2	+0.1
	baz=323						
TWE				iS	Sn	12 48 41.0	+0.5
	baz=323						
ENTT	Nioudou	0.23	282	⇑iP

baz=207
WTP **Ta-pu** **1.73 220** *e*P **Pn** **12 48 51.6 +0.5**
baz=231
WTP *e*S **Sn** **12 49 14.6 +2.3**
baz=231
IRIF **Iriomote-Funau** **1.76 98** P **Pn** **12 48 50.7 -0.7**
IRIF S **Sn** **12 49 11.9 -1.0**
TWK **Hsinying** **1.79 223** *e*P **Pn** **12 48 52.0 +0.2**
baz=223
TWK *e*S **Sn** **12 49 14.8 +1.1**
baz=223
CHN1 **Nanshi** **1.83 220** *e*P **Pn** **12 48 53.3 +0.9**
baz=232
HATJ **Hateruma jima** **1.89 106** *e*S **Sn** **12 49 16.3 +0.4**
JKRS **Kuro-shima** **2.03 100** P **Pn** **12 48 54.9 -0.1**
JKRS *e*S **Sn** **12 49 19.3 0.0**
JIJ **Ishigaki jima** **2.13 96** P **Pn** **12 48 55.5 -0.9**
JIJ S **Sn** **12 49 20.6 -1.2**
JTJ **Tarama** **2.63 88** P **Pn** **12 49 03.5 +0.4**
JTJ *e*S **Sn** **12 49 34.2 +0.4**

IDC 10 13:02:04.4±51.0, 21°25S×177°33W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=946.8km s-min=166.3km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**38.04**	**245**	P		P	13 09 24.3	-0.4
	2.0nm,0.6s,baz=86,slow=9.4,SNR=6.5							
ASAR	**Alice Springs**	**44.97**	**257**	P		P	13 10 22.1	+0.3
	1.0nm,0.7s,baz=90,slow=8.6,SNR=12							
WRA	**Warramunga Arr**	**45.12**	**263**	P		P	13 10 22.6	-0.4
	0.8nm,0.7s,baz=101,slow=7.8,SNR=6.5							

*ISCJB **10** 13:03:12.9±0.9, 61°.74N±0°.04×5°.3E±0°.1, h6km±6km, Error ellipse: s-maj=8.9km s-min=5.6km az=27.5*
*CSEM **10** 13:03:13.2±0.1, 61°.72N×5°.30E, h2km, ML1.7, Error ellipse: s-maj=3.4km s-min=1.8km az=128.0*
*BER **10** 13:03:14.1±3.1, 61°.75N×5°.21E, h0km±12km, MD2.0, ML1.7, ML1.8(NAO)*
*IDC **10** 13:03:15.2±2.1, 61°.58N×5°.34E, h0km, mb1 3.3/4, mb1mx3.1/30, mbtmp3.3/4, ML3.0/4, Error ellipse: s-maj=21.1km s-min=14.2km az=13.0*
*NAO **10** 13:03:21.5±3.8, 61°.97N×6°.18E, ML1.8*
ISC 10 13:03:12.4±1.2, 61°.78N±0°.05×5°.23E±0°.06, h11km±9km, n31, σ1§68/41, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FOO	**Floro**	**0.21**	**205**	*e*P		**Pg**	**13 03 16.6**	**-0.1**
FOO				*e*S		**Sg**	**13 03 19.4**	**-0.2**
FOO	**Floro**	**0.21**	**205**	*e*P		**Pg**	**13 03 16.6**	**-0.1**
	SNR=90							
FOO				*e*S		**Sg**	**13 03 19.4**	**-0.2**
	SNR=90							
SUE	**Sulen**	**0.76**	**197**	*e*P		**Pg**	**13 03 26.7**	**-0.3**
SUE					AML	AML	13 03 42.2	
	comp=Z,18nm,0.5s							
SUE	**Sulen**	**0.76**	**197**	*e*P		**Pg**	**13 03 26.7**	**-0.3**
	SNR=90							
HYA	**Hoyanger**	**0.77**	**143**	*e*P		**Pg**	**13 03 27.3**	**+0.1**
HYA				*e*S		**Sb**	**13 03 38.2**	**-0.1**
HYA					AML	AML	13 03 41.1	
	comp=Z,35nm,0.4s							
ASK	**Askoy**	**1.30**	**181**	*e*P		**Pn**	**13 03 37.1**	**+0.5**
ASK				*e*S		**Sg**	**13 03 54.6**	**+0.3**
ASK					AML	AML	13 03 56.6	
	comp=Z,0.1nm,0.9s							
MOL	**Molde**	**1.34**	**53**	*e*P		**Pn**	**13 03 38.7**	**+1.6**
MOL				*e*S		**Sb**	**13 03 56.6**	**+1.8**
MOL					AML	AML	13 04 00.4	
	comp=Z,29nm,0.4s							
MOL	**Molde**	**1.34**	**53**	*e*P		**Pn**	**13 03 38.7**	**+1.6**
	SNR=50							
MOL				*e*S		**Sb**	**13 03 56.6**	**+1.8**
	comp=Z,22nm,0.3s,SNR=50							
RUND	**Rundenannen**	**1.38**	**177**	*e*P		**Pn**	**13 03 36.9**	**-0.7**
RUND				*e*S		**Sb**	**13 03 56.0**	**+0.3**
RUND					AML	AML	13 03 57.1	
	comp=Z,65nm,0.3s							
EGD	**Espegrend**	**1.52**	**180**	*e*P		**Pn**	**13 03 39.2**	**-0.2**
EGD					AML	AML	13 04 00.7	
	comp=Z,22nm,0.3s							
ODD1	**Odda**	**2.00**	**159**	*e*P		**Pn**	**13 03 47.2**	**+1.0**
ODD1				*e*Sg		**Sg**	**13 04 15.4**	**-1.1**
ODD1					AML	AML	13 04 15.9	
	comp=Z,33nm,0.2s							
ODD1	**Odda**	**2.00**	**159**	*e*P		**Pn**	**13 03 47.2**	**+1.0**
	SNR=50							
ODD1				*e*Sg		**Sg**	**13 04 15.4**	**-1.1**
	comp=Z,19nm,0.3s,SNR=90							
BLS5	**Blasjo**	**2.44**	**165**	*e*P		**Pn**	**13 03 53.2**	**+0.9**
BLS5					AML	AML	13 04 28.6	
	comp=Z,19nm,0.3s							
KMY	**Karmoy**	**2.58**	**180**	*e*Pg		**Pb**	**13 03 58.2**	**-0.4**
NB2	**NORSAR Subarra**	**2.97**	**102**	Pn		**Pb**	**13 04 04.1**	**-1.2**
NB2				Lg		Lg	13 04 44.9	
	baz=288,slow=37							
NB2	**NORSAR Subarra**	**2.97**	**102**	Pn		**Pb**	**13 04 04.1**	**-1.2**
NB2				Lg		Lg	13 04 44.9	
	baz=288,slow=37							
NB2	**NORSAR Subarra**	**2.97**	**102**	Pn		**Pb**	**13 04 04.1**	**-1.2**
NB2				Lg		Lg	13 04 44.8	
	SNR=5.6							
NOA	**NORSAR Array B**	**2.97**	**102**	Pn		**Pn**	**13 04 02.1**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=284,slow=17,SNR=8.1							
NOA				Lg		Lg	13 04 45.5	
	comp=Z,3.6nm,0.3s,baz=282,slow=18,SNR=13							
KON	**Kongsberg**	**3.03**	**133**	Sn		**Sb**	**13 04 44.8**	**+1.4**
KON				Lg		Lg	13 04 52.5	
KONO	**Kongsberg**	**3.03**	**133**	Lg		Lg	13 04 52.5	
SNART	**Snartemo**	**3.60**	**163**	AML		AML	13 05 05.3	
	comp=Z,14nm,0.4s							
HFS	**Hagfors**	**4.45**	**108**	Sn		**Sn**	**13 05 12.1**	**+0.7**
	baz=304,slow=22							
HFS				Lg		Lg	13 05 29.2	
	baz=299,slow=28							
HFS	**Hagfors**	**4.45**	**108**	Sn		**Sn**	**13 05 12.1**	**+0.7**
	baz=304,slow=22							
HFS				Lg		Lg	13 05 29.2	
	baz=299,slow=28							
HFS	**Hagfors**	**4.45**	**108**	Sn		**Sn**	**13 05 12.1**	**+0.7**
	SNR=50							
HFS				Lg		Lg	13 05 29.2	
	SNR=8.2							
HFS	**Hagfors**	**4.45**	**108**	Pn		**Pn**	**13 04 22.2**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=300,slow=14,SNR=3.4							
HFS				Sn		**Sn**	**13 05 12.6**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=296,slow=21,SNR=9.7							
HFS				Lg		Lg	13 05 31.2	
	comp=Z,2.0nm,0.3s,baz=298,slow=28,SNR=13							
EKA	**Eskdalemuir Ar**	**7.81**	**218**	Pn		**Pn**	**13 05 06.2**	**+0.4**
	baz=23,slow=12,SNR=6.0							
FIA0	**FINESS Array S**	**9.93**	**83**	Pn		**Pn**	**13 05 36.6**	**+1.8**
FIA0				Sn		**Sn**	**13 07 21.6**	**-4.5**
FIA0				Lg		Lg	13 08 15.7	
FIA0	**FINESS Array S**	**9.93**	**83**	Pn		**Pn**	**13 05 36.6**	**+1.8**
FIA0				Sn		**Sn**	**13 07 21.6**	**-4.5**
FIA0				Lg		Lg	13 08 15.7	
FIA0	**FINESS Array S**	**9.93**	**83**	Pn		**Pn**	**13 05 36.6**	**+1.8**
	SNR=50							
FIA0				Lg		Lg	13 08 15.7	
FINES	**FINESS Array B**	**9.93**	**83**	Pn		**Pn**	**13 05 35.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=280,slow=8.3,SNR=4.1							
FINES				Sn		**Sn**	**13 07 22.5**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=282,slow=21,SNR=3.2							
FINES				Lg		Lg	13 08 19.3	
	comp=Z,0.1nm,0.3s,baz=276,slow=25,SNR=3.3							
ARCES	**ARCESS Array B**	**11.36**	**38**	Pn		Pn	13 05 59.5	+5.1
	comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=2.5							

*ISCJB **10** 13:32:07.2±0.8, 36°.84N±0°.04×71°.4E±0°.1, h106km, mb3.4/2, Error ellipse: s-maj=13.2km s-min=4.5km az=162.1*
*IDC **10** 13:32:11.7±7.1, 37°.03N×71°.61E, h126km±64km, mb3.2/2, mb1 3.4/8, mb1mx3.1/32, mbtmp3.8/8, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=55.1km s-min=43.8km az=40.0*
*NNC **10** 13:32:14.3±4.2, 37°.35N×71°.12E, h113km±62km, mb3.6, mpv4.3, Error ellipse: s-maj=34.4km s-min=23.6km az=14.0*
ISC 10 13:32:07.7±1.1, 36°.86N±0°.07×71°.4E±0°.1, h106km, n36, σ1§51/40, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.56**	**18**	P		**Pn**	**13 33 29.4**	**+1.1**
	SNR=118							
UCH	**Uchtor**	**5.88**	**23**	P		**Pn**	**13 33 34.0**	**+1.2**
	SNR=19							
KZA	**Kyzart**	**6.00**	**29**	P		**Pn**	**13 33 35.6**	**+1.2**
	SNR=12							
EKS2	**Erkin-Say**	**6.08**	**17**	P		**Pn**	**13 33 36.7**	**+1.5**
	SNR=20							
AAK	**Ala-Archa**	**6.24**	**22**	P		**Pn**	**13 33 39.1**	**+1.7**
	SNR=48							
AAK	**Ala-Archa**	**6.24**	**22**	P		**Pn**	**13 33 39.0**	**+1.6**
	11nm,0.3s,baz=164,slow=6.0,SNR=214							
AAK					S	**Sn**	**13 34 45.8**	**-1.6**
	2.1nm,0.3s,baz=313,slow=22,SNR=8.5							
KK31	**Karatay Array**	**6.27**	**354**	P		**Pn**	**13 33 38.5**	**+0.9**
	12nm,0.3s,baz=182,slow=15,SNR=175							
KK31					⇑S	**Sn**	**13 34 43.2**	**-4.7**
	2.5nm,0.3s,baz=162,slow=18,SNR=5.5							
KBK	**Karagaybulak**	**6.40**	**24**	P		**Pn**	**13 33 41.2**	**+1.6**
	SNR=14							
ULHL	**Ulahol**	**6.55**	**33**	P		**Pn**	**13 33 44.8**	**+3.1**
	SNR=14							
CHMS	**Chumysh**	**6.65**	**22**	P		**Pn**	**13 33 44.0**	**+1.2**
	SNR=29							
USP	**Ospenovka**	**6.83**	**20**	P		**Pn**	**13 33 45.9**	**+0.7**
	SNR=24							
TKM2	**Tokmak 2**	**6.86**	**27**	P		**Pn**	**13 33 47.0**	**+1.1**
	SNR=27							
TKM2	**Tokmak 2**	**6.86**	**27**	⇓P		**Pn**	**13 33 47.0**	**+1.1**
	12nm,0.5s							
TKM2					⇑S	**Sn**	**13 35 01.9**	**-0.6**
	5.0nm,0.5s							
SMLA	**Simla**	**7.47**	**138**	*i* P		**Pn**	**13 33 56.5**	**+2.5**
SMLA				*i* S		**Sn**	**13 35 14.0**	**-3.0**
SMLA				*i* S		**Sn**	**13 35 15.6**	**-1.5**
SMLA					AML	AML	13 35 19.4	
	comp=N,1μm,0.3s							
SMLA					AML	AML	13 35 19.9	
	comp=E,799nm,0.2s							
MKAR	**Makanchi Array**	**12.82**	**36**	P		**Pn**	**13 35 06.5**	**+0.6**
	comp=E,0.1nm,0.3s,baz=220,slow=13,SNR=3.8							
PYUN	**Piuthan**	**13.12**	**128**	*e*P		**Pn**	**13 35 09.3**	**-0.9**
	comp=E,27nm,0.5s							
DANN	**Dangsing**	**13.44**	**126**	*e*P		**Pn**	**13 35 13.5**	**-0.9**
	comp=E,7.6nm,0.4s							
KOLN	**Koldanda**	**13.73**	**128**	*e*P		**Pn**	**13 35 18.1**	**-0.1**
	comp=E,6.6nm,0.3s							
GKN	**Gorkha**	**14.25**	**125**	*e*P		**Pn**	**13 35 24.1**	**-0.6**
KURBB	**Kurchatov Arra**	**14.68**	**18**	P		**Pn**	**13 35 31.1**	**+1.2**
	comp=E,0.3nm,0.3s,baz=207,slow=10,SNR=5.5							
KURBB	**Kurchatov Arra**	**14.68**	**18**	⇑P		**P**	**13 35 33.0**	**-0.3**
	comp=E,1.7nm,0.6s							
AB31	**Akbulak array**	**14.92**	**330**	⇓P		**Pn**	**13 35 32.2**	**-0.8**
	comp=E,0.8nm,0.3s,baz=154,slow=10,SNR=49							
AB31					⇓S	Sn	13 38 10.3	-7.3
	comp=E,1.2nm,0.5s,baz=158,slow=22,SNR=7.1							
PKIN	**Phulchoki**	**15.03**	**124**	*e*P		**Pn**	**13 35 34.4**	**-0.4**
PKI	**Pulchoki**	**15.04**	**124**	*e*P		**Pn**	**13 35 34.8**	**-0.2**
GUN	**Gumba**	**15.14**	**122**	*e*P		**Pn**	**13 35 35.2**	**-1.1**
JIRN	**Jiri**	**15.51**	**122**	*e*P		**Pn**	**13 35 40.7**	**-0.3**
BVAR	**Borovoye Array**	**16.18**	**358**	P		**Pn**	**13 35 49.1**	**+0.4**
	comp=E,0.4nm,0.3s,baz=160,slow=13,SNR=4.7							
RAMN	**Ramite**	**16.25**	**123**	*e*P		**Pn**	**13 35 49.1**	**-0.9**
	comp=E,4.4nm,0.5s							
AKTO	**Aktyubinsk**	**16.62**	**329**	P		**P**	**13 35 56.0**	**+1.2**
	comp=E,0.4nm,0.3s,baz=130,slow=15,SNR=8.0							
AKTO	**Aktyubinsk**	**16.62**	**329**	⇑P		**Pn**	**13 35 53.7**	**-0.5**
	comp=E,2.1nm,0.6s							
TAPN	**Taplejung**	**16.75**	**120**	*e*P		**Pn**	**13 35 56.0**	**-0.3**
	comp=E,6.6nm,0.5s							
ODAN	**Odare**	**16.84**	**122**	*e*P		**Pn**	**13 35 56.7**	**-0.6**
	comp=E,4.5nm,0.3s							
ZALV	**Zalesovo Beam**	**19.46**	**24**	P		**P**	**13 36 26.6**	**+0.8**
	comp=E,0.8nm,0.3s,baz=218,slow=9.4,SNR=9.8							
MMAI	**Mount Meron Ar**	**29.63**	**273**	LR		LR	13 53 06.7	
	comp=E,15nm,28.6s,baz=335,slow=42							
WRA	**Warramunga Arr**	**81.92**	**122**	P		**P**	**13 44 17.0**	**+1.3**
	comp=E,0.3nm,0.4s,baz=328,slow=4.9,SNR=2.3							
ASAR	**Alice Springs**	**84.21**	**125**	P		**P**	**13 44 28.6**	**+1.2**
	comp=E,0.3nm,0.6s,baz=305,slow=4.5,SNR=5.0							

*JMA **10** 13:43:01.6±0.1, 28°.37N×140°.72E, h376km, M3.8*
*IDC **10** 13:43:01.3±3.1, 28°.28N×140°.70E, h377km±34km, mb3.6/2, mb1 3.4/4, mb1mx2.8/25, mbtmp4.1/4, Error ellipse: s-maj=259.9km s-min=30.6km az=66.0*
ISC 10 13:43:01.9±1.2, 28°.4N±0°.1×140°.4E±0°.3, h350km, n18, σ1§59/20, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.03**	**129**	P		**Pn**	**13 43 54.2**	**+0.7**
JCJ	**Chichijima**	**2.03**	**129**	P		**Pn**	**13 43 54.3**	**+0.8**
	23nm,0.3s,baz=81,slow=18,SNR=59							
JCJ					S	**S**	**13 44 36.1**	**+1.2**
	112nm,0.3s,baz=295,slow=23,SNR=19							
JHHJ	**Haha-jima-NKT**	**2.35**	**137**	P		**Pn**	**13 43 56.6**	**+0.7**
JHHJ					S	**S**	**13 44 40.4**	**+1.2**
BSO3	**Boso 3**	**6.41**	**1**	S		**S**	**13 45 56.5**	**+2.2**
BSO4	**Boso 4**	**6.59**	**360**	P		Pn	13 44 42.7	+3.4
JOD2	**Odawara 2**	**6.96**	**351**	P		**Pn**	**13 44 45.0**	**+1.3**
JOD2					S	**S**	**13 46 08.5**	**+2.0**
JNY	**Yasuok**	**7.29**	**343**	P		**Pn**	**13 44 50.0**	**+2.4**
JHU	**Hanno**	**7.51**	**353**	P		**Pn**	**13 44 50.9**	**+0.7**
JRY	**Ryogami san**	**7.72**	**351**	P		**Pn**	**13 44 54.0**	**+1.3**
JYT	**Yasato**	**7.83**	**359**	P		**Pn**	**13 44 54.7**	**+0.8**
JAG	**Ashikaga**	**8.06**	**355**	P		**Pn**	**13 44 56.9**	**+0.2**
JHO	**Hitachi**	**8.21**	**1**	P		**P**	**13 45 00.0**	**-1.4**
JHO					S	**S**	**13 46 31.0**	**-2.5**
MJAR	**Matsushiro Arr**	**8.35**	**348**	P		**Pn**	**13 45 01.3**	**+1.2**
	0.6nm,0.3s,baz=164,slow=11,SNR=6.9							
JFK	**Kawauchi**	**8.97**	**2**	P		**P**	**13 45 10.1**	**+0.2**
JMK	**Ichinoseki**	**10.57**	**3**	P		**P**	13 45 29.9	+2.4
USRK	**Ussuriysk Arra**	**17.17**	**339**	P		**P**	**13 46 39.9**	**+0.1**
	0.6nm,0.3s,baz=136,slow=9.1,SNR=13							
ARCES	**ARCESS Array B**	**71.81**	**340**	P		**P**	**13 53 45.2**	**-1.6**
	5.1nm,1.1s,baz=58,slow=8.6,SNR=5.9							
FINES	**FINESS Array B**	**76.10**	**333**	P		**P**	**13 54 08.9**	**-2.6**
	0.6nm,0.3s,baz=69,slow=4.2,SNR=10.0							

*IDC **10** 14:03:53.7±1.2, 3°.25N×95°.88E, h37km±6km, mb3.7/10, mb1 3.8/12, mb1mx3.6/27, mbtmp3.9/12, ML3.7/2, MS2.9/2, Ms1 3.0/2, ms1mx2.7/48, Error ellipse: s-maj=41.1km s-min=15.4km az=51.0*
*DJA **10** 14:03:56.2±0.9, 3°.N±5°.9°E±5°, h56km±8km, M4.0/8, mb4.3/2, mB4.5/1, MLv3.9/8, Mw(mB)3.6/1*
ISC 10 14:03:53.5±0.8, 3°.30N±0°.06×95°.90E±0°.06, h33km±3km, n39, σ1§16/39, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.98**	**154**	P		**Pn**	**14 04 11.2**	**+0.3**
SNSI				S		**Sb**	**14 04 25.4**	**+0.8**
TPTI		**1.28**	**92**	P		**Pn**	**14 04 15.7**	**+0.7**
TPTI				S		**Sn**	**14 04 31.0**	**0.0**
KCSI	**Kotacane, Aceh**	**1.88**	**83**	P		**Pb**	**14 04 25.9**	**-1.3**
KCSI				S		**Sb**	**14 04 50.7**	**+0.3**
TSI	**Tuntungan**	**2.67**	**86**	P		**Pb**	**14 04 39.5**	**-1.1**
TSI				S		**Sb**	**14 05 13.5**	**+0.6**
PSI	**Prapat**	**3.06**	**99**	P		**Pn**	**14 04 42.4**	**+2.8**
PSI	**Prapat**	**3.06**	**99**	Pn		**Pn**	**14 04 41.5**	**+1.8**
	3.6nm,0.3s,baz=304,slow=10,SNR=14							
PSI				LR		LR	14 06 09.8	
	comp=Z,117nm,20.2s,baz=264,slow=44							
MNSI	**Mandailing Nat**	**4.44**	**124**	P		**Pn**	**14 05 00.2**	**+1.7**
MNSI				S		**Sn**	**14 05 47.6**	**-1.4**
KULM	**Kulim**	**5.13**	**67**	P		**Pn**	**14 05 10.5**	**+2.4**
	24nm,0.7s,0.1nm							
IPM	**Ipoh**	**5.25**	**77**	P		**Pn**	**14 05 09.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**15.36**	**11**	Pn		**P**	**14 07 30.4**	**-1.8**
	0.2nm,0.3s,baz=198,slow=12,SNR=18							
CMAR				LR		LR	14 12 47.6	
	comp=Z,15nm,28.6s,baz=204,slow=35							
RAMN	**Ramite**	**25.15**	**340**	*e*P		**P**	**14 09 16.7**	**+0.7**
	6.1nm,0.5s							
H08S2	**Diego Garcia H**	**25.76**	**245**	T		T	14 35 34.4	
	baz=66,slow=76,SNR=99							
H08S3	**Diego Garcia H**	**25.76**	**245**	T		T	14 35 34.2	
	baz=66,slow=76,SNR=68							
H08S1	**Diego Garcia H**	**25.78**	**245**	T		T	14 35 34.4	
	baz=66,slow=76,SNR=84							
JIRN	**Jiri**	**25.94**	**340**	*e*P		**P**	**14 09 22.0**	**-1.3**
PKI	**Pulchoki**	**26.14**	**338**	*e*P		**P**	**14 09 24.4**	**-0.7**
GUN	**Gumba**	**26.28**	**340**	*e*P		**P**	**14 09 24.9**	**-1.5**
DMN	**Daman**	**26.29**	**338**	*e*P		**P**	**14 09 26.9**	**+0.6**
H08N1	**Diego Garcia H**	**26.63**	**249**	T		T	14 36 33.4	
	baz=204,slow=76,SNR=8.1							
H08N2	**Diego Garcia H**	**26.64**	**249**	T		T	14 36 28.7	
	baz=204,slow=76,SNR=11							
H08N3	**Diego Garcia H**	**26.65**	**249**	T		T	14 36 32.5	
	baz=204,slow=76,SNR=12							
GKN	**Gorkha**	**26.82**	**337**	*e*P		**P**	**14 09 31.2**	**+0.2**
KOLN	**Koldanda**	**27.02**	**335**	*e*P		**P**	**14 09 33.6**	**+0.7**
DANN	**Dangsing**	**27.47**	**336**	*e*P		**P**	**14 09 36.9**	**-0.1**
	8.3nm,0.6s							
PYUN	**Piuthan**	**27.57**	**335**	*e*P		**P**	**14 09 37.9**	**+0.1**
H01W3	**Cape Leeuwin H**	**41.66**	**157**	T		T	14 55 19.1	
	baz=333,slow=76,SNR=12							
H01W2	**Cape Leeuwin H**	**41.68**	**157**	T		T	14 55 20.1	
	baz=333,slow=76,SNR=13							
H01W1	**Cape Leeuwin H**	**41.68**	**157**	T		T	14 55 20.3	
	baz=333,slow=76,SNR=11							
AAK	**Ala-Archa**	**43.58**	**337**	P		**P**	**14 11 56.3**	**+1.7**
	1.1nm,0.6s,baz=216,slow=4.5,SNR=4.9							
WRA	**Warramunga Arr**	**44.25**	**123**	P		**P**	**14 11 59.4**	**-0.8**
	1.4nm,0.7s,baz=300,slow=9.2,SNR=4.2							
MKAR	**Makanchi Array**	**44.91**	**347**	P		**P**	**14 12 05.0**	**-0.1**
	1.3nm,0.4s,baz=159,slow=7.9,SNR=25							
MKAR					pP	**pP**	**14 12 15.0**	**+0.1**
	0.5nm,0.4s,baz=166,slow=8.4,SNR=3.4							
SONM	**Songino Array**	**45.28**	**10**	P		**P**	**14 12 07.8**	**-0.3**
	1.0nm,0.6s,baz=191,slow=9.7,SNR=7.7							
SONM					PcP	**PcP**	**14 13 47.5**	**-0.1**
	0.4nm,0.4s,baz=198,slow=3.4,SNR=4.4							
ASAR	**Alice Springs**	**45.69**	**128**	P		**P**	**14 12 10.9**	**-0.7**
	0.4nm,0.7s,baz=300,slow=8.0,SNR=6.6							
ASAR					pP	**pP**	**14 12 22.4**	**+0.9**
	0.3nm,0.5s,baz=304,slow=7.7,SNR=2.5							
ZALV	**Zalesovo Beam**	**51.30**	**352**	P		**P**	**14 12 54.2**	**0.0**
	3.8nm,0.5s,baz=176,slow=7.0,SNR=23							
ZALV					pP	**pP**	**14 13 04.2**	**0.0**
	1.5nm,0.6s,baz=176,slow=6.5,SNR=4.6							
USRK	**Ussuriysk Arra**	**51.69**	**33**	P		**P**	**14 12 57.1**	**-0.2**
	0.9nm,0.5s,baz=229,slow=5.7,SNR=4.4							
AKASG	**Malin Array Be**	**72.82**	**322**	P		**P**	**14 15 18.1**	**-0.7**
	0.2nm,0.3s,baz=91,slow=5.3,SNR=2.7							
FINES	**FINESS Array B**	**77.55**	**332**	P		**P**	**14 15 45.8**	**-0.1**
	1.2nm,0.7s,baz=104,slow=8.0,SNR=4.8							
FINES					pP	**PcP**	**14 15 58.4**	**+2.4**
	1.1nm,0.8s,baz=97,slow=9.9,SNR=1.9							
ARCES	**ARCESS Array B**	**80.14**	**340**	P		**P**	**14 16 00.1**	**+0.2**
	2.2nm,0.9s,baz=101,slow=6.5,SNR=6.9							
GERES	**GERESS Array B**	**82.39**	**319**	pP		pP	14 16 25.7	+2.8
	0.3nm,0.3s,baz=158,slow=4.3,SNR=2.2							

*ISCJB **10** 14:12:25.9±0.8, 35°.69N±0°.06×43°.5E±0°.1, h10km, Error ellipse: s-maj=13.5km s-min=6.8km az=149.2*
*CSEM **10** 14:12:25.4±1.1, 35°.72N×43°.52E, h2km, MD3.8, Error ellipse: s-maj=24.7km s-min=12.4km az=147.0*
*ISK **10** 14:12:25.7, 35°.84N×43°.40E, h5km, MD3.8*
*ISN **10** 14:12:29.6±1.3, 33°.62N×42°.11E, h0km, ML2.6*
ISC 10 14:12:23.3±1.3, 35°.69N±0°.06×43°.26E±0°.07, h10km, n21, σ1§02/22, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CUKT	**Cukurca**	**1.58**	**10**	*e*PN		**Pg**	**14 12 53.5**	**-0.2**
CUKT				*e*SN		**Sg**	**14 13 13.8**	**-0.5**
CUKT	**Cukurca**	**1.58**	**10**	*e*Pn		**Pg**	**14 12 53.5**	**-0.2**
CUKT				*e*Sn		**Sg**	**14 13 13.8**	**-0.5**
HAKT	**HAKKARI**	**1.90**	**11**	*i* P		**Pg**	**14 12 59.1**	**-0.8**
HAKT	**HAKKARI**	**1.90**	**11**	*i* P		**Pg**	**14 12 59.1**	**-0.8**
SIRT	**Sirnak**	**1.93**	**340**	*e*PN		**Pb**	**14 12 59.3**	**+0.7**
SIRT	**Sirnak**	**1.93**	**340**	*e*Pn		**Pb**	**14 12 59.3**	**+0.7**
SIRN	**S¨–rnak**	**1.93**	**340**	*i* P		**Pb**	**14 12 59.4**	**+0.7**
SIRN				*i* S		**Sg**	**14 13 26.3**	**+0.9**
SIRN	**S¨–rnak**	**1.93**	**340**	*i* P		**Pb**	**14 12 59.4**	**+0.7**
SIRN				*i* S		**Sg**	**14 13 26.3**	**+0.9**
MARD	**Mardin**	**2.58**	**310**	*i* P		**Pb**	**14 13 10.5**	**+0.8**
BEST	**Besiri**	**2.72**	**325**	*i* P		**Pb**	**14 13 14.1**	**+1.9**
MAZI	**Mazidag**	**2.88**	**309**	*e*PN		**Pb**	**14 13 14.3**	**-0.5**
MAZI	**Mazidag**	**2.88**	**309**	*e*Pn		**Pb**	**14 13 14.3**	**-0.5**

	comp=Z,4μm,0.2s							
IANJ	**Anjilo**	**1.83**	**217**	*e*Pn		**Pn**	**14 29 54.4**	**-0.3**
BJRD	**Bojnurd**	**1.87**	**65**	*e*Pg		**Pg**	**14 30 00.3**	**+1.5**
ISHM	**Shahmirzad**	**1.95**	**235**	*e*Pn		**Pn**	**14 29 57.6**	**+1.2**
ISHM				*e*			14 30 05.2	
	comp=Z,8μm,0.2s							
ISHM	**Shahmirzad**	**1.95**	**235**	*e*Pn		**Pn**	**14 29 57.6**	**+1.2**
ISHV	**Shirvan**	**2.03**	**72**	*e*Pn		**Pn**	**14 29 57.7**	**+0.2**
ISHV				*e*Sg		**Sn**	**14 30 26.0**	**+3.0**
ISHV				*e*			14 30 31.0	
	comp=Z,16μm,0.4s							
ISHV	**Shirvan**	**2.03**	**72**	*e*Pn		**Pn**	**14 29 57.7**	**+0.2**
ISHV				*e*Sg		**Sn**	**14 30 26.0**	**+3.0**
IALA	**Alasht**	**2.16**	**248**	*e*Pn		**Pb**	**14 30 01.3**	**-1.0**
IALA				*e*			14 30 41.2	
	comp=Z,7μm,0.2s							
IALA	**Alasht**	**2.16**	**248**	*e*Pn		**Pb**	**14 30 01.3**	**-1.0**
ISFR	**Sfrayin**	**2.19**	**86**	*e*Pn		**Pn**	**14 29 59.4**	**-0.3**
ISFR				*e*			14 30 35.2	
	comp=Z,6μm,0.3s							
ISFR	**Sfrayin**	**2.19**	**86**	*e*Pn		**Pn**	**14 29 59.4**	**-0.3**
IFIR	**Firoozkooh**	**2.41**	**238**	*e*			14 30 07.0	
	comp=Z,3μm,0.1s							
IFIR				*e*Pn		**Pn**	**14 30 04.3**	**+1.6**
ILAS	**Lasjerd**	**2.43**	**231**	*e*			14 30 08.8	
	comp=Z,3μm,0.2s							
ILAS				*e*Pn		**Pn**	**14 30 04.3**	**+1.4**
IPRN	**Peran**	**2.46**	**255**	*e*			14 30 08.5	
	comp=Z,9μm,0.2s							
IPRN				*e*Pn		**Pn**	**14 30 05.6**	**+2.3**
IPRN				*e*Sg		**Sg**	**14 30 44.2**	**+2.2**
IKRD	**Kardeh**	**2.61**	**92**	*e*Pn		**Pg**	**14 30 15.7**	**+2.8**
IKRD				*e*			14 31 22.1	
	comp=Z,1μm,0.4s							
IKRD	**Kardeh**	**2.61**	**92**	*e*Pn		**Pg**	**14 30 15.7**	**+2.8**
IEMG	**Emamgholi**	**2.74**	**79**	*e*			14 30 56.0	
	comp=Z,3μm,0.3s							
IEMG				*e*Pn		**Pn**	**14 30 07.1**	**-0.2**
IAKL	**Akhelmad**	**2.82**	**96**	*e*Pn		**Pn**	**14 30 07.0**	**-1.3**
IAKL				*e*			14 31 01.4	
	comp=Z,968nm,0.4s							
IDMV	**Damavand**	**2.95**	**244**	*e*Pn		**Pn**	**14 30 12.2**	**+2.1**
IDMV				*e*			14 30 14.7	
	comp=Z,2μm,0.3s							
IDMV	**Damavand**	**2.95**	**244**	*e*Pn		**Pn**	**14 30 12.2**	**+2.1**
DAMV	**Damavand**	**2.97**	**245**	*e*Pn		**Pb**	**14 30 13.6**	**-2.5**
IPAY	**Payeh**	**3.03**	**98**	*e*Pn		**Pn**	**14 30 10.2**	**-1.0**
IPAY				*e*			14 30 59.4	
	comp=Z,1μm,0.3s							
IPAY	**Payeh**	**3.03**	**98**	*e*Pn		**Pn**	**14 30 10.2**	**-1.0**
ISRO	**Mashad**	**3.44**	**99**	*e*Pn		**Pn**	**14 30 15.8**	**-0.9**
ISRO	**Mashad**	**3.44**	**99**	*e*Pn		**Pn**	**14 30 15.8**	**-0.9**
IVRN	**Varamin**	**3.46**	**237**	*e*Pn		**Pn**	**14 30 18.5**	**+1.5**
IVRN				*e*			14 30 30.3	
	comp=Z,840nm,0.2s							
IVRN	**Varamin**	**3.46**	**237**	*e*Pn		**Pn**	**14 30 18.5**	**+1.5**
IMYA	**Miami**	**3.93**	**97**	*e*Pn		**Pn**	**14 30 22.9**	**-0.6**
IMYA				*e*			14 30 38.5	
	comp=Z,491nm,0.2s							
IMYA	**Miami**	**3.93**	**97**	*e*Pn		**Pn**	**14 30 22.9**	**-0.6**
IRAZ	**Razeghan**	**4.58**	**252**	*e*Pn		**Pn**	**14 30 34.3**	**+1.8**
IRAZ				*e*			14 31 00.3	
	comp=Z,514nm,0.4s							
IRAZ	**Razeghan**	**4.58**	**252**	*e*Pn		**Pn**	**14 30 34.3**	**+1.8**
IZEF	**Zefreh**	**4.70**	**212**	*e*Pn		**Pn**	**14 30 34.5**	**+0.3**
IZEF				*e*			14 31 58.9	
	comp=Z,265nm,0.2s							
IZEF	**Zefreh**	**4.70**	**212**	*e*Pn		**Pn**	**14 30 34.5**	**+0.3**
IKLH	**Kolahrood**	**4.71**	**221**	*e*Pn		**Pn**	**14 30 33.7**	**-0.6**
IKLH	**Kolahrood**	**4.71**	**221**	*e*Pn		**Pn**	**14 30 33.7**	**-0.6**
ICHK	**Chekchek**	**4.73**	**189**	*e*Pn		**Pn**	**14 30 33.4**	**-1.2**
ICHK				*e*			14 32 07.2	
	comp=Z,523nm,0.4s							
ICHK	**Chekchek**	**4.73**	**189**	*e*Pn		**Pn**	**14 30 33.4**	**-1.2**
ITEG	**Tejag**	**4.94**	**144**	*e*Pn		**Pn**	**14 30 35.8**	**-1.6**
ITEG				*e*			14 30 39.3	
	comp=Z,904nm,0.1s							
ITEG	**Tejag**	**4.94**	**144**	*e*Pn		**Pn**	**14 30 35.8**	**-1.6**
ISAD	**Sadrabad**	**5.17**	**195**	*e*Pn		**Pn**	**14 30 40.2**	**-0.5**
ISAD				*e*			14 32 17.2	
	comp=Z,710nm,0.5s							
ISAD	**Sadrabad**	**5.17**	**195**	*e*Pn		**Pn**	**14 30 40.2**	**-0.5**
IGAR	**Gharneh**	**5.24**	**211**	*e*Pn		**Pn**	**14 30 42.7**	**+1.1**
LKRN	**Lenkeran, Azer**	**5.44**	**291**	∥Pn		**Pn**	**14 30 42.1**	**-1.9**
LKRN				⇑S		**Sn**	**14 31 46.3**	**-0.3**
LKRN	**Lenkeran, Azer**	**5.44**	**291**	Pn		**Pn**	**14 30 42.1**	**-1.9**
LKRN				S		**Sn**	**14 31 46.3**	**-0.3**
IKOO	**Kooshah**	**5.45**	**145**	*e*Pn		**Pn**	**14 30 42.7**	**-1.8**
IKOO				*e*			14 30 47.1	
	comp=Z,167nm,0.1s							
IKOO	**Kooshah**	**5.45**	**145**	*e*Pn		**Pn**	**14 30 42.7**	**-1.8**
LRK	**Lerik**	**5.75**	**289**	⇑Pn		**Pn**	**14 30 46.9**	**-1.6**
LRK				⇓S		**Sn**	**14 31 53.3**	**-1.3**
LRK	**Lerik**	**5.75**	**289**	Pn		**Pn**	**14 30 46.9**	**-1.6**
LRK				S		**Sn**	**14 31 53.3**	**-1.3**
GLBA	**Clilabad**	**5.89**	**295**	⇑Pn		**Pn**	**14 30 49.3**	**-1.0**
GLBA				⇓S		**Sn**	**14 31 55.5**	**-2.4**
GLBA	**Clilabad**	**5.89**	**295**	Pn		**Pn**	**14 30 49.3**	**-1.0**
GLBA				S		**Sn**	**14 31 55.5**	**-2.4**
ATGJ	**Altiaghaj**	**6.31**	**310**	⇑S		**Sn**	**14 32 09.3**	**+1.0**
ATGJ	**Altiaghaj**	**6.31**	**310**	S		**Sn**	**14 32 09.3**	**+1.0**
SIZA	**Siyzn**	**6.46**	**312**	⇑S		**Sn**	**14 32 15.1**	**+3.1**
SIZA	**Siyzn**	**6.46**	**312**	S		**Sn**	**14 32 15.1**	**+3.1**
PQL	**Pirkuli**	**6.48**	**309**	⇑Pn		**Pn**	**14 30 59.2**	**+0.7**
PQL				⇑S		**Sn**	**14 32 13.7**	**+1.1**
PQL	**Pirkuli**	**6.48**	**309**	Pn		**Pn**	**14 30 59.2**	**+0.7**
PQL				S		**Sn**	**14 32 13.7**	**+1.1**
IML	**Ismayilli**	**6.74**	**307**	⇑Pn		**Pn**	**14 31 02.1**	**+0.1**
IML				⇓S		**Sn**	**14 32 18.6**	**-0.3**
IML	**Ismayilli**	**6.74**	**307**	Pn		**Pn**	**14 31 02.1**	**+0.1**
IML				S		**Sn**	**14 32 18.6**	**-0.3**
GANJ	**Ganja**	**7.91**	**301**	⇑S		**Sn**	**14 32 45.6**	**-2.0**
GANJ	**Ganja**	**7.91**	**301**	S		**Sn**	**14 32 45.6**	**-2.0**

*IGIL **10** 14:44:39.3, 37.°06N×13.°17W, h0km, ML2.4*
*MDD **10** 14:44:39.8±3.1, 37.°15N×13.°09W, h0km, mb3.8/4, Error ellipse: s-maj=33.6km s-min=25.4km az=7.0, PRXIMO*
*INMG **10** 14:44:40.2±0.7, 36.°95N×13.°56W, h10km, ML2.4, Error ellipse: s-maj=6.1km s-min=5.4km az=152.0*
*CSEM **10** 14:44:42.5±0.4, 37.°26N×12.°87W, h10km, ML3.1/8, Error ellipse: s-maj=9.4km s-min=7.2km az=175.0*

ISC 10 14:44:41.2±4.0, 37.°2N±0.°1×12.°9W±0.°2, h10km, n41, σ0s86/70, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.29**	**90**	P	**Pn**	**14 45 32.6**	**-0.2**
	5.3nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**14 46 11.7**	**-0.3**
	13nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.29**	**90**	*e*Pn	**Pn**	**14 45 32.7**	**-0.1**
PFVI				*e*Sn	**Sn**	**14 46 12.2**	**+0.2**
PFVI				A	A	14 46 44.8	
	20nm,0.6s						
PFVI	**Vila Bisbo**	**3.29**	**90**	*e*Pn	**Pn**	**14 45 32.7**	**-0.1**
PFVI				S	**Sn**	**14 46 11.7**	**-0.3**
	13nm,0.3s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**14 46 12.2**	**+0.2**
	20nm,0.6s						
MORF	**Marmelete**	**3.43**	**87**	P	**Pn**	**14 45 34.8**	**+0.1**
	SNR=7.9						
MORF				S	**Sn**	**14 46 15.9**	**+0.5**
	SNR=7.9						
MORF	**Marmelete**	**3.43**	**87**	*e*Pn	**Pn**	**14 45 34.8**	**+0.1**
MORF				*e*Sn	**Sn**	**14 46 15.6**	**+0.2**
MORF				A	A	14 46 21.0	
	7.5nm,0.6s						
MORF	**Marmelete**	**3.43**	**87**	P	**Pn**	**14 45 34.8**	**+0.1**
	SNR=7.9						
MORF				*e*Sn	**Sn**	**14 46 15.6**	**+0.2**
	7.5nm,0.6s						
MORF				S	**Sn**	**14 46 15.9**	**+0.5**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**3.61**	**75**	*e*Pn	**Pn**	**14 45 37.5**	**+0.3**
PNCL				*e*Sn	**Sn**	**14 46 21.2**	**+1.3**
PNCL				A	A	14 46 41.7	
	10.0nm,0.7s						
PNCL	**Nicolau / Gran**	**3.61**	**75**	*e*Pn	**Pn**	**14 45 37.5**	**+0.3**
PNCL				*e*Sn	**Sn**	**14 46 21.2**	**+1.3**
	10.0nm,0.7s						
MESJ	**Messejana**	**3.80**	**79**	*e*P	**Pn**	**14 45 40.1**	**+0.3**
MESJ				*e*S	**Sn**	**14 46 24.4**	**-0.2**
MESJ					AML	AML	14 46 28.8	
	comp=E,4.9nm,0.1s							
MESJ	**Messejana**	**3.80**	**79**	P	**Pn**	**14 45 40.7**	**+0.8**
	SNR=7.9							
MESJ				S	**Sn**	**14 46 24.1**	**-0.5**
	SNR=7.9							
MESJ	**Messejana**	**3.80**	**79**	P	**Pn**	**14 45 40.7**	**+0.8**
	SNR=7.9							
MESJ				S	**Sn**	**14 46 24.1**	**-0.5**
	SNR=7.9							
PCVE	**Castro Verde**	**3.92**	**83**	*e*Pn	**Pn**	**14 45 41.8**	**+0.3**
PCVE				*e*Sn	**Sn**	**14 46 27.7**	**+0.1**
PCVE				A	A	14 46 33.1	
	comp=E,2.2nm,0.2s							
PCVE	**Castro Verde**	**3.92**	**83**	*e*Pn	**Pn**	**14 45 41.8**	**+0.3**
PCVE				*e*Sn	**Sn**	**14 46 27.7**	**+0.1**
	comp=E,2.2nm,0.2s							
PBDV	**Barranco-do-Ve**	**4.00**	**88**	*e*Sn	**Sn**	**14 46 29.3**	**-0.3**
PBDV				A	A	14 46 33.6	
	comp=E,3.6nm,0.4s							
PBDV	**Barranco-do-Ve**	**4.00**	**88**	*e*Sn	**Sn**	**14 46 29.3**	**-0.3**
	comp=E,3.6nm,0.4s							
PMTG	**Montargil**	**4.15**	**62**	*e*Pn	**Pn**	**14 45 45.2**	**+0.6**
PMTG				*e*Sn	**Sn**	**14 46 34.4**	**+1.3**
PMTG				A	A	14 46 39.1	
	comp=E,1.2nm,0.2s							
PMTG	**Montargil**	**4.15**	**62**	*e*Pn	**Pn**	**14 45 45.2**	**+0.6**
PMTG				*e*Sn	**Sn**	**14 46 34.4**	**+1.3**
	comp=E,1.2nm,0.2s							
PVAQ	**Vaqueiros**	**4.17**	**86**	*e*Pn	**Pn**	**14 45 45.1**	**+0.2**
PVAQ				*e*Sn	**Sn**	**14 46 33.4**	**-0.3**
PVAQ				A	A	14 46 38.3	
	comp=E,5.6nm,0.2s							
PVAQ	**Vaqueiros**	**4.17**	**86**	*e*Pn	**Pn**	**14 45 45.1**	**+0.2**
PVAQ				*e*Sn	**Sn**	**14 46 33.4**	**-0.3**
	comp=E,5.6nm,0.2s							
PTOM	**Tomar**	**4.28**	**55**	*e*Sn	**Sn**	**14 46 36.5**	**0.0**
PTOM	**Tomar**	**4.28**	**55**	*e*Sn	**Sn**	**14 46 36.5**	**0.0**
EGRO	**El Granado**	**4.36**	**84**	P	**Pn**	**14 45 48.2**	**+0.7**
	comp=E,0.9nm,0.3s,SNR=7.9							
EGRO				S	**Sn**	**14 46 38.0**	**-0.3**
	comp=E,2.3nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**4.36**	**84**	P	**Pn**	**14 45 48.2**	**+0.7**
	comp=E,0.9nm,0.3s,SNR=7.9							
EGRO				S	**Sn**	**14 46 38.0**	**-0.3**
	comp=E,2.3nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**4.53**	**67**	*e*Sn	**Sn**	**14 46 43.5**	**+0.9**
PESTR	**Estremoz**	**4.53**	**67**	*e*Sn	**Sn**	**14 46 43.5**	**+0.9**
PBAR	**Barrancos**	**4.78**	**77**	*e*Pn	**Pn**	**14 45 55.2**	**+2.0**
PBAR				*e*Sn	**Sn**	**14 46 49.0**	**+0.4**
PBAR	**Barrancos**	**4.78**	**77**	*e*Pn	**Pn**	**14 45 55.2**	**+2.0**
PBAR				*e*Sn	**Sn**	**14 46 49.0**	**+0.4**
PMRV	**Marv??o**	**4.89**	**62**	*e*Sn	**Sn**	**14 46 50.5**	**-0.9**
PMRV				A	A	14 46 54.9	
	comp=E,1.1nm,0.1s							
PMRV	**Marv??o**	**4.89**	**62**	*e*Sn	**Sn**	**14 46 50.5**	**-0.9**
	comp=E,1.1nm,0.1s							
EBAD	**Badajoz**	**4.93**	**70**	P	**Pn**	**14 45 55.3**	**0.0**
	comp=E,0.7nm,0.3s,SNR=7.9							
EBAD				S	**Sn**	**14 46 51.5**	**-0.8**
	comp=E,3.8nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.93**	**70**	P	**Pn**	**14 45 55.3**	**0.0**
	comp=E,0.7nm,0.3s,SNR=7.9							
EBAD				S	**Sn**	**14 46 51.5**	**-0.8**
	comp=E,3.8nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.02**	**82**	P	**Pn**	**14 45 57.0**	**+0.5**
	comp=E,0.6nm,0.4s,SNR=7.9							
EMIN				S	**Sn**	**14 46 53.7**	**-0.9**
	comp=E,1.0nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.02**	**82**	P	**Pn**	**14 45 57.0**	**+0.5**
	comp=E,0.6nm,0.4s,SNR=7.9							
EMIN				S	**Sn**	**14 46 53.7**	**-0.9**
	comp=E,1.0nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.97**	**38**	S	**Sn**	**14 47 16.7**	**-1.5**
	comp=E,0.9nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.97**	**38**	S	**Sn**	**14 47 16.7**	**-1.5**
	comp=E,0.9nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**6.03**	**80**	P	**Pn**	**14 46 10.8**	**+0.4**
	comp=E,0.3nm,0.1s,SNR=4.0							
ECAB				S	**Sn**	**14 47 18.4**	**-1.2**
	comp=E,1.0nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**6.03**	**80**	P	**Pn**	**14 46 10.9**	**+0.4**
	comp=E,0.3nm,0.1s,SNR=4.0							
ECAB				S	**Sn**	**14 47 18.4**	**-1.2**
	comp=E,1.0nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**6.04**	**48**	P	**Pn**	**14 46 11.1**	**+0.4**
	comp=E,1.1nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.04**	**48**	P	**Pn**	**14 46 11.1**	**+0.4**
	comp=E,1.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.70**	**79**	S	**Sn**	**14 47 33.4**	**-2.7**
	comp=E,1.6nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.70**	**79**	S	**Sn**	**14 47 33.4**	**-2.7**
	comp=E,1.6nm,0.1s,SNR=7.9							

KRSC 10 14:54:41.0±6.0, 54.°13N×167.°06E, h10km±10km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.25**	**330**	P	**Pn**	14 55 02.4	-2.1
BKI				S	Sb	14 55 17.8	-2.9
MKZ	**Mys Kozlova**	**3.15**	**280**	P	Pn	14 55 32.8	+2.2
MKZ				S	Sn	14 56 08.5	+0.3
KBTR	**Krutoberegovo**	**3.20**	**312**	P	Pn	14 55 32.8	+1.5
KBTR				S	Sn	14 56 10.8	+1.3
KBG	**Krutoberegovo**	**3.28**	**312**	P	Pn	14 55 35.3	+2.9
KBG				S	Sn	14 56 14.7	+3.3
SMKR	**Semkarok**	**4.03**	**310**	S	Sn	14 56 34.0	+3.9
KZV	**Kizimen**	**4.05**	**287**	P	Pn	14 55 45.7	+2.4
KZV				S	Sn	14 56 31.4	+0.5
TUMR	**Tumrok**	**4.17**	**289**	P	Pn	14 55 48.4	+3.6
TUMR				S	Sn	14 56 36.8	+3.0
SRKR	**Sorokina**	**4.21**	**309**	S	Sn	14 56 36.9	+2.5
KMNR	**Kamenistaya**	**4.26**	**295**	P	Pn	14 55 50.1	+4.1
SPN	**Mys Shipunski**	**4.32**	**259**	S	Sn	14 56 37.5	+0.5
NLC	**Nalytchevo**	**4.69**	**261**	S	Sn	14 56 47.4	+1.3
SDLR	**Sedlovina**	**4.93**	**263**	P	Pn	14 55 58.4	+3.1
SDLR				S	Sn	14 56 53.9	+1.4
SMAR	**Somma**	**4.98**	**263**	P	Pn	14 56 00.5	+4.4
UGLR	**Uglovaya**	**4.98**	**263**	P	Pn	14 55 59.9	+3.9
KRER	**Koryakskii**	**5.01**	**264**	P	Pn	14 55 59.5	+3.1
KRER				S	Sn	14 56 55.8	+1.4
AVH	**Avacha**	**5.02**	**263**	P	Pn	14 56 00.2	+3.8
AVH				S	Sn	14 56 55.5	+1.0
KRX	**Arik**	**5.05**	**265**	P	Pn	14 56 00.1	+3.2
KRX				S	Sn	14 56 56.5	+1.0
KOK	**Koryaka**	**5.07**	**264**	P	Pn	14 56 00.2	+3.0
PET	**Petropavlovsk**	**5.13**	**261**	S	Sn	14 56 59.7	+2.7
GNL	**Ganaly**	**5.41**	**269**	P	Pn	14 56 05.0	+3.2
GNL				S	Sn	14 57 05.4	+1.2
MTVR	**Mutnovka**	**5.57**	**256**	P	Pn	14 56 07.6	+3.5
MTVR				S	Sn	14 57 08.9	+0.6
ASAK	**Asacha**	**5.77**	**256**	S	Sn	14 57 14.6	+1.6

*MOS **10** 15:06:40.9±1.2, 6.°68N×126.°29E, h45km, mb5.7/71, MS4.6/7, Error ellipse: s-maj=8.8km s-min=4.2km az=116.1*
*BJI **10** 15:06:42.5, 6.°70N×126.°30E, h53km, mB5.3/33, mb5.4/65, Ms4.6/61, Ms7 4.5/57*
*IDC **10** 15:06:42.9±1.1, 6.°61N×126.°28E, h50km±9km, mb5.0/41, mb1 5.0/41, mb1mx5.0/42, mbtmp5.2/41, MS4.3/23, Ms1 4.4/23, ms1mx4.2/38, Error ellipse: s-maj=13.6km s-min=6.7km az=69.0*
*MAN **10** 15:06:43, 6.°67N×126.°34E, h46km, mb5.7, ML4.8, MS5.2*
MAN Intensity III - Davao City; Digos City; Tagum City; Koronadal S. Cotabato; Mati; Intensity II - Matan-ao Davao del Sur; Matalam & Kidapawan N. Cotabato.
*AUST **10** 15:06:43.0±1.7, 6.°60N×126.°45E, h50km, Error ellipse: s-maj=28.9km s-min=14.4km az=1.0*
*ISCJB **10** 15:06:43.5±0.3, 6.°71N±0.°02×126.°39E±0.°02, h68km±2km, mb5.3/205, Error ellipse: s-maj=3.7km s-min=2.5km az=167.5*
*NEIC **10** 15:06:44.4±0.6, 6.°69N×126.°27E, h65km±5km, mb5.3/91, Error ellipse: s-maj=5.1km s-min=3.5km az=76.0*
NEIC Felt [III PIVS] at Davao, Digos, Koronadal and Tagum; [II PIVS] at Kidapawan, Matalam and Mantanao.
*GCMT **10** 15:06:45.6±0.2, 6.°51N×126.°53E, h56km±1km, MW5.2, Moment Tensor Solution. s58,c86; s89,c150; Moment tensor: Scale 10^16 Nm; Mrr4.33±.22; Mθθ0.56±.16; Mϕϕ-4.89±.19; Mrθ2.86±.12; Mrϕ-2.16±.14; Mθϕ4.53±.17; Best double couple: M0 7.30000×10^16 NP1:ϕ30.00000°, δ69.00000°, λ100.00000°. NP2:ϕ184.00000°, δ23.00000°, λ66.00000°. Principal axes: T 6.7900, Plg65.0000°, Azm317.0000°; N 1.1100, Plg9.0000°, Azm207.0000°; P -7.9000, Plg23.0000°, Azm112.0000°; Data Used: II IU IC G CN.*
*DJA **10** 15:06:47.4±0.6, 7.°N±4.°×12.°6E±.°, h74km±4km, M5.3/95, mb5.4/95, mB5.7/69, MLv6.1/10, Mw(mB)5.2/69*

ISC 10 15:06:44.5±0.3, 6.°65N±0.°03×126.°32E±0.°03, h63km±1km, h63km:pP-P, n734, σ1s43/873, mb5.4/202, 67C-38D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.30**	**348**	*e*P	**Pn**	**15 06 53.4**	**-1.5**
MATI				*e*S	**Sn**	**15 07 01.3**	**-1.2**
DAV	**Davao City (W)**	**0.84**	**299**	P	**Pn**	**15 07 00.5**	**-0.3**
	SNR=1092						
DAV	**Davao City (W)**	**0.84**	**299**	*e*Pn	**Pn**	**15 07 00.0**	**-0.7**
DMPH	**Davao City--Mi**	**0.91**	**298**	⇑*e*P	**Pn**	**15 07 01.5**	**-0.1**
DMPH				*e*S	**Sn**	**15 07 15.2**	**+1.0**
KCP	**Kidapawan**	**1.27**	**286**	⇑*i*P	**Pn**	**15 07 06.2**	**-0.1**
KCP				*i* S	**Sn**	**15 07 22.8**	**+0.2**
GSPH	**General Santos**	**1.48**	**248**	⇓*e*P	Pn	15 07 05.2	-3.9
GSPH				*i* S	**Sn**	**15 07 22.3**	**-5.3**
BIPH	**Bislig**	**1.52**	**1**	⇑*i*P	**Pn**	**15 07 10.6**	**+1.0**
BIPH				*i* S	**Sn**	**15 07 31.0**	**+2.6**
BUKP	**Musuan**	**1.74**	**314**	*e*P	**Pn**	**15 07 12.9**	**+0.2**
CTBH	**Cotabato--PC H**	**2.14**	**285**	⇑*i*P	**Pn**	**15 07 16.9**	**-1.0**
CTBH				*i* S	**Sn**	**15 07 42.0**	**-1.4**
BUTP	**Butuan**	**2.40**	**343**	*e*P	Pn	15 07 24.8	+3.2
CGP	**Cagayan de Oro**	**2.41**	**318**	*e*P	**Pn**	**15 07 21.7**	**+0.1**
CGP				*i* S	**Sn**	**15 07 50.0**	**-0.1**
SGSI	**Sangihe**	**3.05**	**195**	P	**Pn**	**15 07 29.5**	**-0.9**
PAGZ	**Lagadian**	**3.15**	**292**	*e*P	**Pn**	**15 07 31.6**	**-0.1**
SCPH	**Surigao**	**3.22**	**345**	⇑*e*P	**Pn**	**15 07 33.6**	**+0.9**
MSLP	**Maasin**	**3.75**	**337**	*e*P	**Pn**	**15 07 41.2**	**+1.3**
OCLP	**Ormoc**	**4.69**	**339**	*e*P	**Pn**	**15 07 54.1**	**+1.3**
GUIM	**Jordan**	**5.40**	**317**	*e*P	**Pn**	**15 08 04.7**	**+2.1**
TNTI	**Ternate**	**5.94**	**170**	P	**Pn**	**15 08 10.2**	**+0.3**
	4μm,1.3s,36μm16nm						
TNTI	**Ternate**	**5.94**	**170**	*e*Pn	**Pn**	**15 08 09.3**	**-0.6**
KMSI	**Cibinong**	**6.47**	**201**	P	**Pn**	**15 08 17.2**	**-0.1**
	2μm,1.1s,16μm7.8nm						
GTOI	**Gorontalo**	**6.83**	**209**	P	**Pn**	**15 08 20.2**	**-1.9**
	1μm,0.6s,11μm4.5nm						
PVCP	**Virac**	**7.22**	**343**	⇑*e*P	**Pn**	**15 08 29.1**	**+1.6**
LBMI	**Labuha**	**7.34**	**171**	P	**Pn**	**15 08 29.4**	**+0.3**
	970nm,0.9s,12μm5.7nm						
MRSI	**Marisa**	**7.53**	**216**	P	**Pn**	**15 08 30.1**	**-1.7**
	955nm,0.6s,8μm3.1nm						
AUQP	**San Andres**	**7.54**	**332**	*e*P	Pn	15 08 37.9	+6.1
TOLI	**Toli-Toli**	**7.78**	**225**	P	Pn	15 08 44.3	+9.1
MYLDM	**Lahad Datu**	**7.92**	**260**	P	**Pn**	**15 08 39.1**	**+2.1**
MYLDM	**Lahad Datu**	**7.92**	**260**	P	**Pn**	**15 08 39.4**	**+2.4**
	206nm,1.0s,3μm1.0nm						
MYLDM	**Lahad Datu**	**7.92**	**260**	*e*Pn	**Pn**	**15 08 38.4**	**+1.3**
GQP	**Guinayangan**	**8.15**	**332**	⇓*e*P	**Pn**	**15 08 43.2**	**+3.0**
LUWI	**Luwuk**	**8.43**	**205**	P	**Pn**	**15 08 46.2**	**+2.2**
	1μm,1.0s,11μm4.3nm						
TSM	**Tawau**	**8.73**	**255**	P	**Pn**	**15 08 48.4**	**+0.2**
LQP	**Lukban**	**8.78**	**328**	⇑*e*P	Pn	15 08 53.3	+4.4
APSI	**Ampana**	**8.84**	**212**	P	Pn	15 08 56.6	+6.9
	833nm,1.0s,7μm2.6nm						
SWI	**Sorong**	**8.95**	**146**	P	**Pn**	**15 08 51.7**	**+0.6**
	326nm,1.2s,4μm1.1nm						
TGY	**Tagaytay City**	**9.10**	**325**	P	Pn	15 08 59.3	+6.0
TGY	**Tagaytay City**	**9.10**	**325**	P	Pn	15 08 59.3	+6.0
	34nm,0.3s,baz=182,slow=14,SNR=26						
TGY				LR	LR	15 12 44.5	
	comp=Z,92nm,20.6s,baz=127,slow=40						
SDKM	**Sandakan**	**9.13**	**264**	P	**

BWJI **Bawean** 18.45 228 P Pn 15 11 01.6 +5.6
257nm,1.2s,2µm
YHNB **Yeheng** 18.53 346 *eP* **P** **15 10 55.2 -0.9**
44nm,0.9s
IGBI **Denpasar** 18.98 216 P Pn 15 11 08.2 +5.8
212nm,0.9s,2µm
BLJI **Banyuglugur** 19.12 222 P Pn 15 11 13.8 +10
GRJI **Gresik** 19.30 226 P **Pn** **15 11 09.1 +3.0**
157nm,1.1s,1µm
GUMO **Guam** 19.51 68 *eP* **Pn** **15 11 08.5 -0.1**
51nm,0.9s
GMJI **Gumukmas** 19.61 221 P **Pn** **15 11 12.1 +2.2**
112nm,1.1s,1µm
QZH **Quanzhou** 19.64 339⇑ *iP* **P** **15 11 07.2 -0.9**
QZH S **S** **15 14 42.0 -4.4**
QZH pmax pmax
comp=Z,500nm,1.1s
QZH LR LR
comp=N,2µm,17.8s
QZH LR LR
comp=E,450nm,9.0s
QZH LR LR
comp=Z,4µm,25.8s
UWJI **Ujung Watu** 20.10 230 P Pn 15 11 18.9 +3.3
370nm,1.2s,4µm
JOW **Kunigami** 20.15 5 *eP* **P** **15 11 14.5 +0.8**
181nm,0.9s
KDU **Kakadu** 20.16 162 ⇑P **P** **15 11 13.3 -0.6**
baz=20,SNR=152
KRKI **Karangkates** 20.19 223 P Pn 15 11 17.5 +0.8
315nm,1.3s,17µm
QIZ **Qiongzhong** 20.21 309 P **P** **15 11 14.2 -0.2**
QIZ pP **pP** **15 11 27.0 -0.9**
QIZ sP **sP** **15 11 35.2 -0.6**
QIZ S **S** **15 14 57.7 -0.2**
QIZ pmax pmax
comp=Z,120nm,1.2s
QIZ LR LR
comp=N,730nm,19.2s
QIZ LR LR
comp=E,400nm,23.4s
QIZ LR LR
comp=Z,2µm,22.0s
QIZ **Qiongzhong** 20.21 309 *eP* Pn 15 11 16.2 -0.6
275nm,1.3s
NGJI **Ngawi** 20.34 227 P Pn 15 11 19.7 +1.3
196nm,1.0s,3µm
SJI **Sawahan** 20.37 226 P Pn 15 11 18.8 -0.1
118nm,0.8s
PWJI **Pagerwojo** 20.55 225 P Pn 15 11 21.4 +0.6
79nm,1.0s
MMPI **Merauke** 20.55 137 P Pn 15 11 23.2 +2.3
1µm,0.6s,26µm
GZH **Guangzhou** 20.57 324 P Pn 15 11 23.4 +2.4
GZH LR LR
comp=N,1µm,29.1s
GZH LR LR
comp=E,2µm,26.8s
SMRI **Semarang** 20.89 230 P Pn 15 11 26.6 +1.7
290nm,1.0s
SMRI **Semarang** 20.89 230 *eP* **P** **15 11 18.7 -3.1**
259nm,1.0s
WOJI **Wonogiri, Jawa** 21.05 227 *eP* **P** **15 11 25.6 +2.1**
118nm,1.2s,13µm
PCJI **Pacitan** 21.11 226 P **P** **15 11 27.8 +3.6**
81nm,1.0s
UGM **Wanagama** 21.39 228 P P 15 11 37.9 +11
UGM **Wanagama** 21.39 228 *eP* **P** **15 11 28.1 +0.9**
309nm,1.3s
BJII **Banjamegara** 21.62 230 P **P** **15 11 31.8 +2.0**
272nm,1.2s,3µm
TGJI **Tegal** 21.79 232 P **P** **15 11 33.7 +2.2**
195nm,1.2s,3µm
KPJI **Karang Pucung** 22.23 232 P **P** **15 11 37.9 +1.8**
182nm,0.9s,2µm
MYKOM **Kota Tinggi** 22.92 259 P **P** **15 11 44.4 +0.9**
MYKOM **Kota Tinggi** 22.92 259 P **P** **15 11 45.0 +1.5**
87nm,1.4s,2µm
MYKOM **Kota Tinggi** 22.92 259 *eP* **P** **15 11 43.4 -0.1**
62nm,1.0s
LEM **Lembang** 22.97 235 P **P** **15 11 45.8 +1.6**
323nm,0.8s,4µm
LEM **Lembang** 22.97 235 P **P** **15 11 45.7 +1.6**
baz=23,SNR=6.4
KTGM **Kuala Trenggan** 23.10 268 P **P** **15 11 46.5 +1.2**
KTGM **Kuala Trenggan** 23.10 268 P **P** **15 11 46.7 +1.4**
CISI **Cisompet, Garu** 23.24 233 P **P** **15 11 46.3 -0.4**
208nm,1.1s,2µm
CISI **Cisompet, Garu** 23.24 233 *eP* **P** **15 11 45.0 -1.7**
246nm,1.1s
CISI *e*PcP **PcP** **15 15 32.7 -0.2**
CISI *e*ScP **ScP** **15 19 05.2 -0.5**
KGM **Kluang** 23.39 260 P **P** **15 11 49.0 +0.9**
KGM **Kluang** 23.39 260 P **P** **15 11 49.2 +1.1**
SKJI **Sukabumi** 23.94 236 P **P** **15 11 53.6 +0.5**
268nm,1.1s,3µm
BLSI **Bandar Lampung** 24.19 241 P **P** **15 11 59.1 +3.7**
164nm,0.6s
KLSI 24.32 243 P **P** **15 11 57.6 +1.0**
115nm,0.9s,2µm
FITZ **Fitzroy Crossi** 24.61 182 *eP* **P** **15 11 58.8 -0.2**
FITZ S **S** **15 16 15.1 -0.9**
FITZ *e*ScP **ScP** **15 19 10.4 +1.2**
FITZ **Fitzroy Crossi** 24.61 182 P **P** **15 11 58.9 -0.2**
49nm,0.8s,baz=13,slow=8.4,SNR=69
FITZ S **S** **15 16 15.1 -0.9**
5.0nm,0.7s,baz=18,slow=20,SNR=3.2
FITZ ScP **ScP** **15 19 10.0 +0.8**
14nm,0.8s,baz=228,slow=2.6,SNR=5.9
FITZ **Fitzroy Crossi** 24.61 182 ⇓P **P** **15 11 58.7 -0.4**
baz=25,SNR=168
MDSI **Maura Dua** 24.72 244 P **P** **15 12 01.1 +0.9**
93nm,1.0s,926nm
SSE **Sheshan** 24.79 349 P **P** **15 12 01.8 +1.2**
SSE S **S** **15 16 20.8 +2.1**
SSE pmax pmax
comp=Z,55nm,1.2s
SSE pmax pmax
comp=Z,160nm,5.1s
SSE LR LR
comp=N,380nm,20.1s
SSE LR LR
comp=E,230nm,20.2s
SSE LR LR
comp=Z,540nm,20.3s
FRIM **Kepong** 24.83 263 P **P** **15 12 02.5 +1.3**
FRIM **Kepong** 24.83 263 P **P** **15 12 02.9 +1.6**
KASI **Kota Agung** 24.92 241 P P 15 12 06.9 +4.9
151nm,0.9s,1µm
LHSI **Lahat** 25.03 246 P **P** **15 12 04.4 +1.4**
211nm,1.1s,2µm
LWLI **Liwa** 25.06 243 P **P** **15 12 05.0 +1.5**
301nm,0.8s
IPM **Ipoh** 25.27 266 P **P** **15 12 05.5 +0.3**
IPM **Ipoh** 25.27 266 P **P** **15 12 05.9 +0.7**
148nm,1.4s,2µm
IPM **Ipoh** 25.27 266⇑ *iP* **P** **15 12 04.8 -0.5**
405nm,1.6s
IPM *e*PcP **PcP** **15 15 37.0 -0.4**
CBIJ **Chichi jima** 25.31 35 *eP* **P** **15 12 03.5 -1.9**
230nm,0.5s
JCJ **Chichijima** 25.31 35 P **P** **15 12 04.4 -1.0**
536nm,0.4s,baz=247,slow=3.8,SNR=74
JCJ LR LR 15 21 04.5
comp=Z,295nm,20.4s,baz=332,slow=34
KULM **Kulim** 25.57 268 P **P** **15 12 08.8 +0.9**
KULM **Kulim** 25.57 268 P **P** **15 12 08.8 +0.9**
164nm,1.5s,2µm
KULM **Kulim** 25.57 268⇑ *iP* **P** **15 12 07.4 -0.5**
229nm,1.2s
KULM *e*PcP **PcP** **15 15 37.8 -0.1**
PATY **Pattaya** 25.83 286 P **P** **15 12 11.7 +1.4**
21nm,0.9s,867nm
BKNI **Bangkinang** 25.99 257 P **P** **15 12 14.2 +2.4**
115nm,1.0s
SLVN **Son La** 26.14 306 *eP* **P** **15 12 13.4 +0.3**
PMG **Port Moresby** 26.18 127 P **P** **15 12 14.5 +1.0**
36nm,0.9s
PMG **Port Moresby** 26.18 127 *eP* **P** **15 12 12.7 -0.8**
67nm,1.0s
PMG ScP **ScP** **15 19 16.4 +2.5**
PMG **Port Moresby** 26.18 127 P **P** **15 12 13.1 -0.4**
20nm,0.7s,baz=331,slow=7.0,SNR=14
PMG ScP **ScP** **15 19 16.4 +2.5**
11nm,0.8s,baz=291,slow=4.1,SNR=5.5
PMG LR LR 15 24 26.8
comp=Z,288nm,18.1s,baz=319,slow=41
PMG **Port Moresby** 26.18 127 ⇑P **P** **15 12 13.1 -0.4**
baz=26,SNR=7.3
PMG ⇑P **P** **15 12 13.1 -0.4**
baz=26,SNR=7.3
PMG ⇑P **P** **15 12 13.1 -0.4**
baz=26,SNR=7.3
NJ2 **Nanjing** 26.21 346 *eP* **P** **15 12 15.4 +1.9**
NJ2 pP **pP** **15 12 27.7 -1.0**
NJ2 sP **sP** **15 12 36.3 +0.1**
NJ2 S **S** **15 16 47.0 +5.7**
NJ2 sS sS 15 17 01.0 -6.4
NJ2 pmax pmax
comp=Z,110nm,1.1s
NJ2 pmax pmax
comp=Z,290nm,5.3s
NJ2 LR LR
comp=N,2µm,20.4s
NJ2 LR LR
comp=E,1µm,18.6s
NJ2 LR LR
comp=Z,680nm,24.7s
WHN **Wuhan** 26.29 336 ⇑P **P** **15 12 16.5 +2.3**
WHN pmax pmax
comp=Z,830nm,1.7s
WHN LR LR
comp=Z,1µm,14.8s
COEN **Coen** 26.44 141 ⇓ *iP* **P** **15 12 15.5 -0.3**
278nm,0.6s
COEN *e*ScP **ScP** **15 19 15.5 +0.9**
JNU **Nakatsue** 26.68 9 *eP* **P** **15 12 16.9 -0.8**
50nm,0.9s
JNU **Nakatsue** 26.68 9 P **P** **15 12 17.8 +0.1**
42nm,0.9s,baz=146,slow=3.5,SNR=16
JNU LR LR 15 22 23.3
comp=Z,306nm,21.7s,baz=187,slow=35
PBKT **Sadao Pong** 26.68 294 P **P** **15 12 18.6 +0.7**
163nm,0.8s,2µm
PPI **Padang Panjang** 26.82 256 P **P** **15 12 19.5 +0.3**
92nm,1.1s,1µm
GYA **Guiyang** 27.18 319 ⇓ *iP* **P** **15 12 23.5 +1.0**
GYA pP **pP** **15 12 38.7 +1.0**
GYA sP **sP** **15 12 46.0 +0.9**
GYA PP **PnPn** **15 13 11.2 +2.4**
GYA PcP **PcP** **15 15 42.9 +1.2**
GYA S **S** **15 16 56.0 -0.9**
GYA sS **sS** **15 17 23.5 +0.4**
GYA SS **SnSn** **15 18 16.8 +6.8**
GYA ScP **ScP** **15 19 16.7 -0.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,670nm,17.6s
GYA LR LR
comp=E,520nm,18.2s
GYA LR LR
comp=Z,740nm,17.9s
MNSI **Mandailing Nat** 27.30 259 P **P** **15 12 23.7 +0.1**
29nm,0.9s,1µm
SURT **Suratani** 27.36 277 P **P** **15 12 24.9 +0.8**
26nm,1.4s,320nm
WB0 **Warramunga Arr** 27.43 163 ⇑P **P** **15 12 23.3 -1.3**
baz=28
PSI **Prapat** 27.57 263 P **P** **15 12 26.7 +0.6**
79nm,1.9s,2µm
PSI **Prapat** 27.57 263 P **P** **15 12 26.2 +0.2**
PSI PcP **PcP** **15 15 41.6 -1.2**
PSI ScP **ScP** **15 19 18.9 +0.6**
PSI **Prapat** 27.57 263 P **P** **15 12 26.2 +0.2**
23nm,0.8s,baz=77,slow=3.4,SNR=41
PSI PcP **PcP** **15 15 41.6 -1.2**
26nm,1.0s,baz=53,slow=1.8,SNR=6.0
PSI ScP **ScP** **15 19 18.9 +0.6**
3.4nm,0.5s,baz=127,slow=12,SNR=4.1
PSI LR LR 15 25 18.4
comp=Z,325nm,20.7s,baz=242,slow=40
WRAB **Tennant Creek** 27.58 164 ⇓ *iP* **P** **15 12 24.7 -1.2**
WRAB pmax pmax
comp=Z,85nm,0.9s
WRAB **Tennant Creek** 27.58 164 ⇓ *iP* **P** **15 12 24.6 -1.2**
comp=Z,85nm,0.9s
WRAB *e*ScP **ScP** **15 19 18.6 +0.6**
WRAB **Tennant Creek** 27.58 164 P **P** **15 12 25.0 -0.9**
comp=Z,502nm,1.0s,SNR=80
WRA **Warramunga Arr** 27.58 164 P **P** **15 12 24.8 -1.2**
WRA S **S** **15 17 00.3 -2.8**
WRA ScP **ScP** **15 19 19.7 +1.7**
WRA *e* 15 44 53.7
WRA **Warramunga Arr** 27.58 164 P **P** **15 12 24.8 -1.2**
comp=Z,19nm,0.6s,baz=344,slow=9.9,SNR=60
WRA S **S** **15 17 00.3 -2.8**
comp=Z,11nm,1.1s,baz=337,slow=15,SNR=6.1
WRA ScP **ScP** **15 19 19.7 +1.7**
comp=Z,8.3nm,0.6s,baz=342,slow=3.2,SNR=12
WRA P3KPbc 15 44 53.7
comp=Z,2.6nm,0.9s,baz=169,slow=4.2,SNR=9.9
NANT **Nan** 27.70 298 P **P** **15 12 28.3 +1.2**
comp=Z,150nm,1.1s,comp=Z,1µm
PKDT **Phuket** 27.79 274 P **P** **15 12 28.7 +0.8**
comp=Z,85nm,1.1s
TSI **Tuntungan** 27.82 265 P **P** **15 12 31.0 +2.8**
comp=Z,156nm,1.7s,comp=Z,4µm
ENH **Enshi** 28.32 328 *eP* **P** **15 12 32.4 -0.1**
comp=Z,113nm,0.8s
ENH *e*PcP **PcP** **15 15 44.5 +0.3**
MBWA **Marble Bar** 28.39 193 P **P** **15 12 33.1 0.0**
SNR=5.6
MBWA **Marble Bar** 28.39 193 *eP* **P** **15 12 31.9 -1.2**
comp=Z,48nm,0.9s
KHLT **Khaolaem Dam** 28.40 289 P **P** **15 12 34.7 +1.4**
comp=Z,16nm,1.6s,comp=Z,395nm
LAMP **Lampang** 28.54 297 P **P** **15 12 36.3 +1.7**
comp=Z,19nm,1.0s,comp=Z,173nm
CRAI **Chiangrai** 28.55 301 P **P** **15 12 35.9 +1.2**
comp=Z,109nm,1.3s,comp=Z,7µm
KCSI **Kotacane, Aceh** 28.60 265 P **P** **15 12 34.4 -0.8**
comp=Z,174nm,1.3s,comp=Z,2µm
KMI **Kunming** 29.09 312 ⇑P **P** **15 12 40.9 +1.3**
KMI pP **pP** **15 12 56.9 +1.9**
KMI sP **sP** **15 13 04.2 +1.8**
KMI PP **PnPn** **15 13 37.0 +2.2**
KMI PcP **PcP** **15 15 48.0 +1.5**
KMI S **S** **15 17 26.7 -0.6**
KMI sS **sS** **15 17 54.3 +0.9**
KMI SS **SnSn** **15 19 01.5 +4.7**
KMI pmax pmax
comp=Z,44nm,1.1s
KMI pmax pmax
comp=Z,230nm,3.1s
KMI LR LR
comp=Z,740nm,16.3s
KMI LR LR
comp=Z,770nm,15.9s
KMI LR LR
comp=Z,1µm,14.3s
CM01 **Chiang Mai Arr** 29.11 296 *eP* **P** **15 12 39.6 0.0**
CM01 *e*ScS ScS 15 23 20.0 +2.8
CM31 **Chiang Mai Arr** 29.13 296 ⇓ *iP* **P** **15 12 41.0 +1.1**
comp=Z,53nm,1.3s
CMAR **Chiang Mai Arr** 29.13 296 P **P** **15 12 40.9 +1.0**
CMAR PcP **PcP** **15 15 47.1 +0.6**
CMAR ScP **ScP** **15 19 23.4 +0.5**
CMAR PKiKP **PKiKP** **15 23 19.4 -1.2**
CMAR **Chiang Mai Arr** 29.13 296 P **P** **15 12 40.9 +1.0**
comp=Z,6.0nm,0.7s,baz=121,slow=7.3,SNR=74
CMAR PcP **PcP** **15 15 47.1 +0.6**
comp=Z,4.4nm,0.9s,baz=118,slow=0.6,SNR=6.5
CMAR ScP **ScP** **15 19 23.4 +0.5**
comp=Z,7.5nm,1.0s,baz=113,slow=1.4,SNR=18
CMAR PKiKP **PKiKP** **15 23 19.4 -1.2**
comp=Z,0.4nm,0.4s,baz=300,slow=1.5,SNR=4.9
CMAR LR LR 15 24 09.1
comp=Z,1µm,20.7s,baz=110,slow=36
GSI **Gunungsitoli** 29.15 261 *eP* P 15 12 36.2 -3.9
comp=Z,76nm,0.8s
GSI *e*ScP **ScP** **15 19 23.3 +0.3**
TPTI 29.22 265 P **P** **15 12 43.4 +2.7**
comp=Z,225nm,1.1s,comp=Z,30µm
CMMT **Chiang Mai** 29.25 297 P **P** **15 12 41.5 +0.6**
comp=Z,33nm,1.4s,comp=Z,513nm
CHTO **Chiang Mai** 29.26 297 P **P** **15 12 41.7 +0.7**
SNR=13
CHTO **Chiang Mai** 29.26 297 ⇑ *iP* **P** **15 12 40.1 -0.8**
CHTO *e* 15 15 47.4
CHTO *e* 15 19 25.9
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO **Chiang Mai** 29.26 297 ⇑ *iP* **P** **15 12 40.1 -0.8**
comp=Z,4.9nm,0.8s
CHTO *e*PcP **PcP** **15 15 47.4 +0.6**
CHTO *e*ScP **ScP** **15 19 25.9 +2.6**
CHTO **Chiang Mai** 29.26 297 P **P** **15 12 41.6 +0.7**
comp=Z,149nm,1.0s,comp=Z,2µm
CMAI **Chiengmai2** 29.58 299 P **P** **15 12 45.3 +1.3**
comp=Z,52nm,1.2s,comp=Z,8µm
MHMT **Maesarieng** 29.95 295 P **P** **15 12 48.4 +1.4**
comp=Z,26nm,0.9s
SNSI **Sinabang, Aceh** 30.19 263 P **P** **15 12 50.7 +1.5**
comp=Z,110nm,0.7s,comp=Z,5µm
TIA **Tai'an** 30.60 345 ⇑P **P** **15 12 52.4 -0.2**
TIA pmax pmax
comp=Z,150nm,1.3s
KSAR **Wonju Array Be** 30.68 2 P **P** **15 12 53.8 +0.5**
KSAR PcP **PcP** **15 15 51.0 +0.9**
KSAR ScP **ScP** **15 19 28.9 +1.4**
KSRS **Korea Array** 30.69 2 P **P** **15 12 53.8 +0.4**
comp=Z,14nm,0.9s,baz=182,slow=10,SNR=27
KSRS PcP **PcP** **15 15 51.0 +0.9**
comp=Z,5.8nm,0.8s,baz=178,slow=2.3,SNR=10
KSRS ScP **ScP** **15 19 28.9 +1.4**
comp=Z,6.0nm,0.8s,baz=193,slow=3.6,SNR=12
KSRS LR LR 15 24 36.7
comp=Z,262nm,21.0s,baz=188,slow=35
KS01 **Wonju Array Si** 30.71 2 *eP* **P** **15 12 53.6 +0.1**
KS01 *e*PcP **PcP** **15 15 51.0 +0.8**
KS01 *e*ScP **ScP** **15 19 29.1 +1.5**
AS15 **Alice Springs** 31.00 166 ⇑P **P** **15 12 55.8 -0.6**
baz=31
AS31 **Alice Springs** 31.03 166 ⇓ *iP* **P** **15 12 55.7 -0.9**
AS31 *e*PcP **PcP** **15 15 52.9 +1.6**
ASAR **Alice Springs** 31.03 166 P **P** **15 12 55.9 -0.7**
ASAR PcP **PcP** **15 15 51.5 +0.1**
ASAR S **S** **15 17 56.7 -0.6**
ASAR ScP **ScP** **15 19 28.9 0.0**
ASAR PKiKP **PKiKP** **15 23 20.9 -0.9**
ASAR *e* 15 44 40.1
ASAR **Alice Springs** 31.03 166 P **P** **15 12 55.9 -0.7**
comp=Z,23nm,0.4s,baz=343,slow=7.2,SNR=704
ASAR PcP **PcP** **15 15 51.5 +0.1**
comp=Z,9.0nm,0.6s,baz=353,slow=2.6,SNR=6.4
ASAR S **S** **15 17 56.7 -0.6**
comp=Z,6.8nm,0.8s,baz=352,slow=20,SNR=6.2
ASAR ScP **ScP** **15 19 28.9 0.0**
comp=Z,9.4nm,0.8s,baz=341,slow=2.7,SNR=13
ASAR PKiKP **PKiKP** **15 23 20.9 -0.9**
comp=Z,1.6nm,1.0s,baz=330,slow=2.4,SNR=4.4
ASAR P3KPbc 15 44 40.1
comp=Z,2.1nm,0.8s,baz=162,slow=3.9,SNR=26
AS01 **Alice Springs** 31.04 166 *eP* **P** **15 12 55.3 -1.4**
WRKA **Warakurna** 31.56 177 ⇑P **P** **15 13 00.5 -0.6**
baz=32,SNR=109
MJAR **Matsushiro Arr** 31.67 18 P **P** **15 12 59.7 -2.3**
MJAR PcP **PcP** **15 15 53.0 +0.2**
MJAR ScP **ScP** **15 19 32.2 +1.3**
MJAR **Matsushiro Arr** 31.67 18 P **P** **15 12 59.7 -2.3**
comp=Z,3.9nm,0.8s,baz=195,slow=9.6,SNR=7.5
MJAR PcP **PcP** **15 15 53.0 +0.2**
comp=Z,5.0nm,0.9s,baz=167,slow=3.6,SNR=5.3
MJAR ScP **ScP** **15 19 32.2 +1.3**
comp=Z,6.4nm,0.9s,baz=194,slow=3.6,SNR=7.8
MJAR LR LR 15 25 25.3
comp=Z,356nm,19.0s,baz=190,slow=35
MAJO **Matsushiro** 31.67 18 *c iP* **P** **15 13 01.2 -0.9**
MAJO pmax pmax
comp=Z,127nm,1.7s
MAJO **Matsushiro** 31.67 18 P P 15 12 58.1 -4.0
MAT **Matsushiro** 31.67 18 P **P** **15 13 01.0 -1.1**
CTA **Charters Tower** 33.03 144 P **P** **15 13 13.9 -0.1**
CTA ScP **ScP** **15 19 36.9 +1.1**
CTA **Charters Tower** 33.03 144 P **P** **15 13 13.9 -0.1**
comp=Z,20nm,0.7s,baz=317,slow=11,SNR=17
CTA ScP **ScP** **15 19 36.9 +1.1**
comp=Z,14nm,1.1s,baz=291,slow=6.0,SNR=5.0
CTA **Charters Tower** 33.03 144 ⇑P **P** **15 13 14.7 +0.6**
baz=33
CTAO **Charters Tower** 33.03 144 *eP* **P** **15 13 14.7 +0.6**
CTAO pmax pmax
comp=Z,139nm,1.5s
CTAO **Charters Tower** 33.03 144 *eP* **P** **15 13 14.7 +0.6**
comp=Z,139nm,1.5s
CTAO *e*ScP **ScP** **15 19 38.4 +2.6**
BJT **Baijiatuau** 34.45 346 *eP* **P** **15 13 26.6 +0.5**
comp=Z,687nm,1.2s
BJT *e*PcP **PcP** **15 16 01.0 +0.6**
BJI **Beijing** 34.47 346 P **P** **15 13 26.9 +0.6**
BJI PcP **PcP** **15 16 01.8 +1.3**
BJI S **S** **15 18 50.6 +0.3**
BJI sS **sS** **15 19 15.2 -1.5**
BJI ScS **ScS** **15 23 43.4 +0.2**
BJI pmax pmax
comp=Z,470nm,1.1s
BJI LR LR
comp=Z,530nm,24.1s
BJI LR LR
comp=Z,300nm,20.4s
BJI LR LR
comp=Z,470nm,22.9s
SNY **Shenyang** 35.11 356 ⇓P **P** **15 13 32.3 +0.4**
SNY S **S** **15 19 01.4 +1.3**
SNY pmax pmax
comp=Z,38nm,1.0s
SNY LR LR
comp=Z,430nm,22.0s
SNY LR LR
comp=Z,320nm,19.2s
SNY LR LR
comp=Z,490nm,23.1s
LZH **Lanzhou** 35.81 328 *eP* **P** **15 13 39.6 +1.4**
LZH pP **pP** **15 13 55.9 +2.2**
LZH sP **sP** **15 14 03.4 +2.3**
LZH S **S** **15 19 14.0 +2.6**
LZH SS **SnSn** **15 21 39.0 -0.4**
LZH pmax pmax
comp=Z,63nm,1.1s
LZH pmax pmax
comp=Z,310nm,4.0s
LZH LR LR
comp=Z,810nm,16.6s
LZH LR LR
comp=Z,750nm,15.9s
LZH LR LR
comp=Z,3µm,17.0s
IMP **Imphal** 35.86 304 *ex* **P** **15 13 38.0 -0.7**
IMP *ex* x 15 16 05.0
HHC **Hu-ho-hao-te** 36.52 341 *eP* **P** **15 13 45.4 +1.3**
HHC pP **pP** **15 14 01.0 +1.3**
HHC sP **sP** **15 14 07.8 +0.8**
HHC PP **PnPn** **15 15 12.0 +3.5**
HHC S **S** **15 19 23.2 +1.2**
HHC SS **SnSn** **15 21 52.5 -3.9**
HHC pmax pmax
comp=Z,420nm,0.8s
HHC pmax pmax
comp=Z,1µm,5.4s
HHC LR LR
comp=Z,710nm,14.6s
HHC LR LR
comp=Z,710nm,14.1s
HHC LR LR
comp=Z,840nm,14.4s
VLA **Vladivostok** 36.65 7 *i P* **P** **15 13 45.3 +0.3**
VLA pmax pmax
comp=Z,35nm,0.9s
BTO **Baotou** 36.82 339 *eP* **P** **15 13 47.4 +0.7**
CN2 **Changchun** 37.01 359 *eP* **P** **15 13 48.8 +0.7**
CN2 *e*pP **pP** **15 14 04.0 +0.3**
CN2 *e*sP **sP** **15 14 11.0 0.0**
CN2 PcP **PcP** **15 16 08.6 +0.7**
CN2 sS **S** **15 19 30.6 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,17.0s
FORT **Forrest** 37.26 178 ⇓ *iP* **P** **15 13 50.0 -0.3**

comp=Z,184nm,0.7s
FORT eScP **ScP** **15 19 52.4 +1.6**
FORT Forrest 37.26 178 ⇓P **P** **15 13 50.4 +0.1**
baz=37,SNR=96
USRK Ussuriysk Arra 37.73 7 P **P** **15 13 54.0 -0.1**
comp=Z,16nm,0.6s,baz=186,slow=7.5,SNR=32
USRK LR LR 15 30 11.9
comp=Z,249nm,19.4s,baz=352,slow=37
SHL Shillong 37.87 304 *e*P **P** **15 13 55.5 -0.4**
SHL *e*S **S** **15 19 45.5 +2.3**
MDJ Mudanjiang 37.92 4 P **P** **15 13 57.7 +1.9**
MDJ pP **pP** **15 14 12.4 +1.0**
MDJ sP **sP** **15 14 20.0 +1.2**
MDJ PP **PnPn** **15 15 26.3 +0.9**
MDJ PcP **PcP** **15 16 09.9 -0.8**
MDJ S **S** **15 19 45.9 +2.9**
MDJ pmax pmax
comp=Z,31nm,0.9s
MDJ pmax pmax
comp=Z,130nm,6.2s
MDJ LR LR
comp=Z,84nm,18.4s
MDJ LR LR
comp=Z,290nm,20.9s
MDJ LR LR
comp=Z,390nm,17.2s
MDJ Mudanjiang 37.92 4⇓*e*P **P** **15 13 56.2 +0.4**
KLBR Kellerberrin 38.90 192 ⇑P **P** **15 14 03.5 -0.6**
baz=39,SNR=33
RMQ Roma 39.48 147 P **P** **15 14 08.8 -0.3**
baz=40,SNR=22
EIDS Eidsvold 39.91 144⇓*i*P **P** **15 14 12.3 -0.4**
comp=Z,42nm,0.7s
ASAJ Asahikawa 39.95 18⇑*i*P **P** **15 14 12.8 0.0**
comp=Z,95nm,1.6s
ASAJ Asahikawa 39.95 18 LR LR 15 29 40.1
comp=Z,273nm,19.7s,baz=346,slow=34
LSA Lhasa 40.25 309 *e*P **P** **15 14 13.8 -2.2**
LSA Lhasa 40.25 309⇑*i*P **P** **15 14 16.3 +0.2**
LSA Lhasa 40.25 309⇑*i*P **P** **15 14 16.2 +0.2**
NWAO Narrogin (SRO) 40.30 192 P **P** **15 14 15.8 0.0**
NWAO Narrogin (SRO) 40.30 192 P **P** **15 14 15.8 0.0**
comp=Z,97nm,0.6s,baz=21,slow=8.3,SNR=63
NWAO LR LR 15 33 09.7
comp=Z,266nm,19.2s,baz=288,slow=39
BBOO Buckleboo 40.32 167 *e*P **P** **15 14 16.0 0.0**
comp=Z,644nm,0.5s
BBOO *e*PP PP 15 15 43.2 -6.7
GTA Gaotai 40.41 328⇑P **P** **15 14 17.4 +0.6**
GTA pP **pP** **15 14 32.7 +0.1**
GTA sP **sP** **15 14 40.2 +0.3**
GTA PP **PnPn** **15 15 54.9 -0.2**
GTA PcP **PcP** **15 16 21.8 +2.9**
GTA ScP **ScP** **15 20 05.4 +2.4**
GTA S **S** **15 20 19.8 -1.0**
GTA sS **sS** **15 20 46.0 -1.6**
GTA SS SS 15 23 14.0 -8.0
GTA pmax pmax
comp=Z,290nm,1.1s
GTA pmax pmax
comp=Z,700nm,5.2s
GTA LR LR
comp=Z,800nm,21.4s
GTA LR LR
comp=Z,920nm,22.3s
GTA LR LR
comp=Z,2µm,23.8s
YUK Yuzh-Kuril'sk 40.98 22*c i*P **P** **15 14 21.1 -0.1**
YUK *i* 15 15 55.8
YUK *i* PPP PPP 15 16 24.9
YUK *i* S **S** **15 20 30.4 +1.6**
YUK *i* *SS **sS** **15 20 53.5 -2.1**
YUK *e*SS **SS** **15 23 31.5 -1.5**
YUK MLR MLR
comp=Z,305nm,19.0s
YUK MLR MLR
comp=N,588nm,20.0s
STKA Stephens Creek 40.99 160⇓*i*P **P** **15 14 21.3 -0.3**
comp=N,24nm,0.9s
STKA *e*PP **PP** **15 15 53.7 -3.5**
STKA ScP **ScP** **15 20 05.6 +0.4**
STKA Stephens Creek 40.99 160 P **P** **15 14 21.6 +0.1**
comp=N,78nm,0.6s,baz=335,slow=8.1,SNR=247
STKA ScP **ScP** **15 20 05.6 +0.4**
comp=N,6.1nm,0.7s,baz=346,slow=6.5,SNR=3.5
STKA Stephens Creek 40.99 160 P **P** **15 14 21.6 +0.1**
baz=41,SNR=163
H11S3 WAKE ISLAND Hy 41.02 69 T T 15 58 29.2
baz=251,slow=74,SNR=414
H11S1 WAKE ISLAND Hy 41.03 69 T T 15 58 25.4
baz=251,slow=74,SNR=256
H11S2 WAKE ISLAND Hy 41.03 69 T T 15 58 30.4
baz=251,slow=74,SNR=229
H11N1 WAKE ISLAND Hy 41.45 68 T T 15 59 21.4
baz=268,slow=75,SNR=287
H11N2 WAKE ISLAND Hy 41.46 68 T T 15 59 20.6
baz=268,slow=75,SNR=176
H11N3 WAKE ISLAND Hy 41.47 68 T T 15 59 20.0
baz=268,slow=75,SNR=158
HTT Hallett 41.62 164 P **P** **15 14 27.1 +0.4**
baz=42,SNR=77
RKGY Rocky Gully 41.98 192 P **P** **15 14 30.3 +0.8**
baz=42,SNR=47
TAPN Taplejung 42.01 304 *e*P **P** **15 14 30.0 -0.3**
comp=N,122nm,0.8s
ODAN Odare 42.09 303 *e*P **P** **15 14 30.4 -0.6**
HABR Khabarovsk 42.33 9*ce*P **P** **15 14 30.6 -1.6**
HABR *e**PP **pP** **15 14 45.3 -2.7**
HABR *e* 15 14 52.3
HABR *e* 15 16 08.8
HABR 15 16 22.4
HABR *e*PPP PPP 15 16 41.2
HABR *e*S **S** **15 20 48.1 -0.5**
HABR *e* 15 21 13.5
HABR *e*SS **SS** **15 23 58.4 -1.0**
HABR *e* 15 24 25.3
HABR *e*SSS SSS 15 24 34.6
HABR pmax pmax
comp=Z,14nm,2.2s
HABR pmax pmax
comp=N,15nm,2.2s
HABR pmax pmax
comp=E,25nm,2.2s
HABR MLR MLR
comp=Z,212nm,19.0s
YSS Yuzh-Sakhalins 42.56 17 *e*P **P** **15 14 31.5 -2.6**
YSS Yuzh-Sakhalins 42.56 17 *e*P **P** **15 14 32.6 -1.5**
KLR Kul'dur 42.68 5 *e*P P 15 14 30.8 -4.2
KLR pmax pmax
comp=Z,68nm,1.6s
RAMN Ramite 42.79 303 *e*P **P** **15 14 36.3 -0.3**
comp=Z,217nm,0.8s
HIA Hailar 42.83 354 *e*P **P** **15 14 36.0 -0.3**
comp=Z,87nm,1.6s
JIRN Jiri 43.38 304 *e*P **P** **15 14 41.5 0.0**
comp=Z,192nm,0.8s
GUN Gumba 43.73 304 *e*P **P** **15 14 44.0 -0.3**
comp=Z,201nm,0.7s
PKI Pulchoki 44.00 303 *e*P **P** **15 14 45.7 -0.7**
comp=Z,85nm,0.8s
PKIN Phulchoki 44.01 303 *e*P **P** **15 14 45.7 -0.8**
comp=Z,39nm,0.7s
ARMA Armidale 44.13 148 *e*P **P** **15 14 47.3 +0.2**
comp=Z,65nm,0.6s
ARMA *e*PP **PP** **15 16 31.0 -0.1**
KKN Kakani 44.18 303 *e*P **P** **15 14 47.3 -0.5**
comp=Z,156nm,1.0s
ULN Ulaanbaatar 44.23 341 P **P** **15 14 49.3 +1.6**
SNR=67
ULN Ulaanbaatar 44.23 341⇑*i*P **P** **15 14 48.1 +0.4**
comp=Z,324nm,1.2s
ULN *e*PP **PcP** **15 16 31.7 +0.3**
ULN *e*ScP **ScP** **15 20 20.9 +2.8**
DMN Daman 44.26 303 *e*P **P** **15 14 47.8 -0.7**
comp=Z,139nm,1.0s
SONM Songino Array 44.42 341 P **P** **15 14 50.8 +1.6**
SONM PcP **PcP** **15 16 32.6 +0.5**
SONM ScP **ScP** **15 20 20.1 +1.2**
SONM Songino Array 44.42 341 P **P** **15 14 50.8 +1.6**
comp=Z,116nm,1.1s,baz=158,slow=7.2,SNR=273
SONM PcP **PcP** **15 16 32.6 +0.5**
comp=Z,31nm,0.9s,baz=163,slow=5.6,SNR=12
SONM ScP **ScP** **15 20 20.1 +1.2**
comp=Z,1.1nm,0.9s,baz=184,slow=4.3,SNR=2.7
SONM LR LR 15 34 21.4
comp=Z,399nm,21.0s,baz=289,slow=37
GKN Gorkha 44.79 303 *e*P **P** **15 14 51.7 -0.8**
comp=Z,72nm,0.7s
PALK Pallekele 45.27 274 *e*P **P** **15 14 54.1 -2.3**
KOLN Koldanda 45.57 303 *e*P **P** **15 14 58.6 -0.2**
comp=Z,195nm,0.7s
DANN Dangsing 45.63 303 *e*P **P** **15 14 58.8 -0.6**
comp=Z,216nm,0.7s
YNG Young 45.77 154⇓P **P** **15 15 00.8 +0.8**
baz=46,SNR=14
PYUN Piuthan 46.19 303 *e*P **P** **15 15 03.3 -0.4**
comp=Z,292nm,0.8s
CIT Chita 46.44 349 *e*P **P** **15 15 07.1 +2.1**
CIT *e* 15 15 18.6
CIT *e* 15 16 39.9
CIT pmax pmax
comp=Z,258nm,1.1s
CAN Canberra 46.90 154 *e*P **P** **15 15 09.7 +0.8**
CAN *e* 15 16 53.3
CAN pmax pmax
comp=Z,173nm,1.4s
CAN Canberra 46.90 154 *e*P **P** **15 15 09.7 +0.8**
comp=Z,173nm,1.4s
CAN *e*PP PP 15 16 53.3 -6.7
JBP Jabalpur 47.45 295 *e*P **P** **15 15 11.8 -1.6**
ZAK Zakamensk 47.65 340 *e*P **P** **15 15 14.9 +0.3**
ZAK *e* 15 16 42.1
ZAK pmax pmax
comp=Z,38nm,1.4s
HYB Hyderabad 47.80 287 *i* P **P** **15 15 16.0 -0.2**
MILA Mila 48.44 155⇓P **P** **15 15 21.2 +0.4**
baz=48,SNR=5.2
DZM Mont Dzumac 48.58 127 *e*P **P** **15 15 23.3 +1.2**
comp=Z,72nm,1.1s
DZM *e*S **S** **15 22 22.8 +3.1**
comp=Z,230nm,34.6s
DZM *e*LR LR 15 29 04.1
comp=Z,2µm,33.5s
DZM Mont Dzumac 48.58 127 P **P** **15 15 22.5 +0.3**
DZM Mont Dzumac 48.58 127 P **P** **15 15 22.5 +0.3**
comp=Z,26nm,0.7s,baz=290,slow=7.5,SNR=16
TLY Talaya 48.65 341 P **P** **15 15 24.1 +2.0**
comp=Z,990nm,1.0s,SNR=18
TLY Talaya 48.65 341⇓*i*P **P** **15 15 24.4 +2.3**
TLY *e* 15 25 52.1
TLY pmax pmax
comp=Z,209nm,1.0s
TLY MLR MLR
comp=Z,363nm,23.0s
TLY Talaya 48.65 341 *e*P **P** **15 15 23.9 +1.8**
comp=Z,227nm,1.1s
LGTI Lohaghat 48.90 304 *e*P **P** **15 15 21.9 -2.5**
IRK Irkutsk 48.94 342 *e*P **P** **15 15 24.9 +0.6**
IRK pmax pmax
comp=Z,295nm,1.8s
MOY Mondy 49.52 339 *e*P **P** **15 15 31.2 +2.3**
MOY pmax pmax
comp=Z,212nm,1.8s
CLNS Chul'man 50.06 359 *e*P **P** **15 15 33.4 +0.5**
CLNS *e* 15 16 49.2
CLNS *e* 15 17 26.2
CLNS *e*PPP PPP 15 18 30.7
CLNS *e*S **S** **15 22 35.5 -3.9**
CLNS pmax pmax
comp=E,54nm,1.2s
CLNS pmax pmax
comp=Z,15nm,1.2s
CLNS pmax pmax
comp=N,30nm,1.2s
CLNS pmax pmax
comp=Z,8.0nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=N,15nm,1.4s
CLNS smax smax
comp=E,342nm,11.4s
CLNS smax smax
comp=N,176nm,12.0s
WMQ Urumqi 50.12 324 P **P** **15 15 34.0 +0.4**
WMQ pP **pP** **15 15 50.0 +0.2**
WMQ sP **sP** **15 15 57.0 0.0**
WMQ PcP **PcP** **15 16 53.0 +0.6**
WMQ PP **PP** **15 17 30.0 +0.7**
WMQ ScP **ScP** **15 20 42.0 -0.9**
WMQ S **S** **15 22 39.0 -1.7**
WMQ sS **sS** **15 23 06.0 -2.2**
WMQ ScS **ScS** **15 25 16.0 -3.3**
WMQ SS **SS** **15 26 10.0 -4.7**
WMQ pmax pmax
comp=N,56nm,1.0s
WMQ pmax pmax
comp=N,210nm,4.0s
WMQ LR LR
comp=N,900nm,16.0s
WMQ LR LR
comp=N,860nm,16.0s
WMQ LR LR
comp=N,1µm,16.0s
NDI New Delhi 51.22 302 *e*P **P** **15 15 39.0 -3.0**
AYAN Aya Nagar 51.24 301 *e*P **P** **15 15 42.1 -0.1**
KUDL Kundal 51.70 301 *e*P **P** **15 15 43.9 -1.6**
KUDL AMB AMB 15 15 45.3
comp=Z,31nm,1.1s
KKR Kurukshetra 51.90 303 *e*P **P** **15 15 46.0 -1.1**
KKR AMB AMB 15 15 50.0
comp=Z,85nm,0.7s
HVS Khovu-Aksy 51.94 334*ce*P **P** **15 15 47.8 +0.7**
HVS pmax pmax
comp=Z,835nm,1.2s
KHET Khetri 52.26 300 *e*P **P** **15 15 48.4 -1.5**
POO Poona 52.38 288⇑*i*P **P** **15 15 50.0 -0.8**
comp=Z,68nm,1.2s
TAU Tasmania Unive 52.90 161 *e*P **P** **15 15 54.5 +0.4**
TAU pmax pmax
comp=Z,51nm,1.1s
TAU Tasmania Unive 52.90 161 *e*P **P** **15 15 54.5 +0.4**
comp=Z,51nm,1.1s
PEA0 Petropavlovsk- 52.91 23 *e*P **P** **15 15 54.8 +0.6**
PEA0B Petropavlovsk- 52.91 23 *e*P **P** **15 15 54.5 +0.4**
PETK Petropavlovsk- 52.91 23 P **P** **15 15 54.6 +0.5**
PETK Petropavlovsk- 52.91 23 P **P** **15 15 54.6 +0.5**
PETK Petropavlovsk- 52.91 23 P **P** **15 15 54.6 +0.5**
comp=Z,16nm,0.5s,baz=189,slow=4.1,SNR=123
PET Petropavlovsk 53.22 24 *e*P **P** **15 15 56.4 0.0**
PET pmax pmax
comp=Z,25nm,0.5s
PET Petropavlovsk 53.22 24 *e*P **P** **15 15 56.4 0.0**
comp=Z,25nm,0.5s
MK01 Makanchi Array 54.93 324 *e*P **P** **15 16 08.7 -0.4**
MK31 Makanchi Array 54.95 324 *e*P **P** **15 16 08.8 -0.4**
MK31 pmax pmax
comp=Z,23nm,0.4s
MK31 Makanchi Array 54.95 324 *e*P **P** **15 16 08.7 -0.5**
MKAR Makanchi Array 54.95 324 P **P** **15 16 08.9 -0.3**
MKAR 15 17 10.8
MKAR pmax pmax
comp=Z,56nm,0.5s
MKAR pmax pmax
comp=Z,19nm,0.8s
MKAR pmax pmax
comp=N,4.0nm,0.9s
MKAR MLR MLR
comp=Z,729nm,20.0s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 54.95 324 *e*P **P** **15 16 09.0 -0.3**
MKAR PcP **PcP** **15 17 10.8 +0.4**
MKAR ScP **ScP** **15 21 05.9 +2.2**
MKAR ⇑*e* 15 46 31.8
MKAR Makanchi Array 54.95 324 P **P** **15 16 08.9 -0.3**
comp=Z,56nm,0.5s,baz=118,slow=7.6,SNR=381
MKAR PcP **PcP** **15 17 10.8 +0.4**
comp=Z,19nm,0.8s,baz=122,slow=4.4,SNR=4.4
MKAR ScP **ScP** **15 21 05.9 +2.2**
comp=Z,3.7nm,0.9s,baz=128,slow=4.9,SNR=6.0
MKAR LR LR 15 41 15.4
comp=Z,729nm,19.9s,baz=118,slow=38
MKAR PKP2bc 15 46 31.8
comp=Z,0.9nm,0.9s,baz=23,slow=2.3,SNR=3.6
YAK Yakutsk 55.32 2 *e*P **P** **15 16 10.4 -1.1**
YAK *e**PP **pP** **15 16 28.6 +0.7**
YAK *e* 15 17 06.0
YAK *e* 15 18 12.1
YAK *e*PPP PPP 15 19 27.4
YAK *e*S **S** **15 23 48.5 -2.2**
YAK *e* 15 25 47.7
YAK pmax pmax
comp=Z,72nm,1.3s
YAK pmax pmax
comp=N,35nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,18nm,1.8s
YAK pmax pmax
comp=N,99nm,3.5s
YAK pmax pmax
comp=E,101nm,2.9s
YAK smax smax
comp=E,60nm,2.5s
YAK smax smax
comp=N,73nm,3.5s
YAK Yakutsk 55.32 2 *e*P **P** **15 16 10.7 -0.8**
comp=N,93nm,0.9s
KSH Kashi 55.72 314 P **P** **15 16 15.6 +0.6**
KSH pP **pP** **15 16 32.1 +0.6**
KSH sP **sP** **15 16 39.6 +1.0**
KSH PP **PP** **15 18 23.3 +3.4**
KSH S **S** **15 23 53.1 -4.0**
KSH pmax pmax
comp=N,110nm,2.5s
KSH LR LR
comp=N,76nm,5.9s
KSH LR LR
comp=N,300nm,6.9s
KSH LR LR
comp=N,330nm,8.1s
MSVF Nonsavu 56.53 116 *e*P **P** **15 16 21.3 +0.3**
MSVF pmax pmax
comp=Z,58nm,1.1s
MSVF Nonsavu 56.53 116 *e*P **P** **15 16 21.3 +0.3**
comp=Z,58nm,1.1s
KZA Kyzart 57.21 316 *i* P **P** **15 16 26.1 +0.2**
KZA Kyzart 57.21 316 P **P** **15 16 26.1 +0.2**
SNR=14
TKM2 Tokmak 2 57.31 317 *e*P **P** **15 16 25.5 -0.9**
TKM2 pmax pmax
comp=Z,60nm,1.5s
TKM2 Tokmak 2 57.31 317 P **P** **15 16 25.9 -0.5**
SNR=20
TKM2 Tokmak 2 57.31 317 *e*P **P** **15 16 25.5 -0.9**
comp=Z,60nm,1.5s
KBK Karagaybulak 57.65 317 P **P** **15 16 28.5 -0.2**
SNR=19
UCH Uchtor 57.77 316 *i* P **P** **15 16 30.1 +0.2**
UCH Uchtor 57.77 316 P **P** **15 16 30.1 +0.2**
SNR=30
ZAA0 Zalesovo Array 57.82 332 *e*P **P** **15 16 27.8 -1.6**
ZALV Zalesovo Beam 57.82 332 P **P** **15 16 28.6 -0.8**
ZALV Zalesovo Beam 57.82 332 P **P** **15 16 28.6 -0.8**
ZALV ⇑*e* 15 46 23.5
ZALV Zalesovo Beam 57.82 332 P **P** **15 16 28.6 -0.8**
comp=Z,33nm,0.5s,baz=132,slow=6.5,SNR=76
ZALV LR LR 15 42 32.8
comp=Z,552nm,22.0s,baz=232,slow=37
ZALV PKP2bc 15 46 23.5
comp=Z,0.5nm,0.3s,baz=316,slow=4.0,SNR=5.9
CHMS Chumysh 57.91 317 *i* P **P** **15 16 29.5 -0.8**
CHMS Chumysh 57.91 317 P **P** **15 16 29.6 -0.8**
SNR=11
AAK Ala-Archa 57.95 317 P **P** **15 16 30.8 +0.1**
SNR=6.5
AAK Ala-Archa 57.95 317 *e*P **P** **15 16 30.5 -0.2**
AAK pmax pmax
comp=Z,72nm,1.7s
AAK Ala-Archa 57.95 317 P **P** **15 16 30.6 -0.2**
SNR=8.3
AAK Ala-Archa 57.95 317 *e*P **P** **15 16 30.5 -0.2**
comp=Z,72nm,1.7s
AAK Ala-Archa 57.95 317 P **P** **15 16 30.0 -0.8**
comp=Z,91nm,1.2s,SNR=7.6
AAK Ala-Archa 57.95 317 P **P** **15 16 30.3 -0.4**
comp=Z,6.8nm,0.6s,baz=101,slow=6.8,SNR=18
USP Ospenovka 58.19 317 *i* P **P** **15 16 31.7 -0.6**
USP Ospenovka 58.19 317 P **P** **15 16 31.8 -0.6**
SNR=20
AML Almayashu 58.30 316 *i* P **P** **15 16 33.5 0.0**
AML Almayashu 58.30 316 P **P** **15 16 33.5 0.0**
SNR=20
EKS2 Erkin-Say 58.44 317 *e*P **P** **15 16 33.8 -0.4**
EKS2 pmax pmax
comp=Z,47nm,1.1s
EKS2 Erkin-Say 58.44 317 P **P** **15 16 34.1 -0.1**
SNR=18
EKS2 Erkin-Say 58.44 317 *e*P **P** **15 16 33.8 -0.4**
comp=Z,47nm,1.1s
KURK Kurchatov 59.08 327 P **P** **15 16 38.0 -0.2**
SNR=57
KURK Kurchatov 59.08 327 P **P** **15 16 37.7 -0.6**
KURK 15 18 52.4
KURK pmax pmax
comp=Z,87nm,0.8s
KURK pmax pmax
comp=Z,12nm,1.1s
KURK Kurchatov 59.08 327 *e*P **P** **15 16 37.5 -0.7**
comp=Z,151nm,1.3s
KURK PP **PP** **15 18 52.4 +3.0**
KURK Kurchatov 59.08 327 P **P** **15 16 37.3 -1.0**
comp=Z,1µm,0.6s
KURBB Kurchatov Arra 59.08 327 P **P** **15 16 37.7 -0.6**
comp=Z,87nm,0.8s,baz=126,slow=6.3,SNR=468
KURBB PP **PP** **15 18 52.4 +3.0**
comp=Z,12nm,1.1s,baz=122,slow=10,SNR=6.4
NVS Novosibirsk 59.10 333⇑*i*P **P** **15 16 37.0 -1.3**
NVS *e**PP **pP** **15 16 57.2 +2.3**
NVS *e* 15 17 25.7
NVS *e*S **S** **15 24 38.3 -2.4**
NVS pmax pmax
comp=N,74nm,1.4s
NVS pmax pmax
comp=E,90nm,1.4s
NVS pmax pmax
comp=Z,143nm,1.4s
NVS smax smax
comp=N,35nm,3.0s
NVS smax smax
comp=E,40nm,3.0s
KBL Kabul 59.45 306 *e*P **P** **15 16 40.0 -1.4**
KBL pmax pmax
comp=Z,24nm,0.7s
KBL Kabul 59.45 306 *e*P **P** **15 16 40.0 -1.4**
comp=Z,24nm,0.7s
FX1 Attu Island--F 59.78 31 *e*P **P** **15 16 42.5 -0.5**
KK31 Karatay Array 60.84 316 *i* P **P** **15 16 48.9 -1.7**
KK31 pmax pmax
comp=Z,22nm,0.7s
KKAR Karatay Array 60.84 316 *e*P **P** **15 16 49.6 -1.0**
KKAR Karatay Array 60.84 316 *e*P **P** **15 16 49.6 -1.0**
DCZ Deep Cove 63.45 149 *e*P **P** **15 17 09.1 +1.4**
comp=Z,150nm,1.8s
RPZ Rata Peaks 64.38 146 *e*P **P** **15 17 14.8 +0.8**
comp=Z,340nm,2.4s
RPZ Rata Peaks 64.38 146 P **P** **15 17 13.1 -0.9**
comp=Z,14nm,0.5s,baz=336,slow=2.1,SNR=10.0
RPZ LR LR 15 44 25.1
comp=Z,456nm,20.3s,baz=107,slow=35
BVA0 Borovoye Array 64.67 326 *i* P **P** **15 17 14.5 -1.3**
BVA0 pmax pmax
comp=Z,60nm,0.8s
BVAR Borovoye Array 64.67 326 P **P** **15 17 15.0 -0.8**
BVAR Borovoye Array 64.67 326 P **P** **15 17 15.0 -0.8**
BVAR Borovoye Array 64.67 326 P **P** **15 17 15.0 -0.8**
comp=Z,31nm,0.5s,baz=133,slow=9.1,SNR=160
AFI Afiamalu 64.73 109 LR LR 15 40 36.6
comp=Z,402nm,20.0s,baz=334,slow=31
BRVK Borovoye 64.74 326 P **P** **15 17 15.9 -0.3**
SNR=58
BRVK Borovoye 64.74 326 *e*P **P** **15 17 15.3 -0.9**
BRVK pmax pmax
comp=Z,81nm,0.9s
BRVK Borovoye 64.74 326 *e*P **P** **15 17 15.3 -0.9**
comp=Z,81nm,0.9s
BRVK Borovoye 64.74 326 P **P** **15 17 15.1 -1.1**
comp=Z,596nm,0.6s,SNR=83
TIXI Tiksi 64.94 1 *e*P **P** **15 17 16.2 -1.0**
TIXI pmax pmax
comp=Z,18nm,0.5s
TIXI Tiksi 64.94 1 *e*P **P** **15 17 16.2 -1.0**
comp=Z,18nm,0.5s
URZ Urewera 64.95 138 *e*P **P** **15 17 17.8 0.0**

comp=Z,16nm,0.9s
URZ Urewera 64.95 138 P **P** **15 17 17.5 -0.3**
comp=Z,5.8nm,0.5s,baz=100,slow=7.3,SNR=7.4
BKZ Black Stump Fm 65.03 139 *eP* **P** **15 17 18.8 +0.4**
comp=Z,28nm,1.0s
HOQ Hoqain 68.15 293 P **P** **15 17 41.5 +3.0**
SNR=5.3
ABKT Aibek 68.77 308 P **P** **15 17 41.9 -0.4**
comp=Z,146nm,1.4s,SNR=9.9
AB31 Akbulak array 69.65 320 *i* P **P** **15 17 45.8 -1.6**
AB31 pmax pmax
comp=Z,13nm,0.5s
ABKAR Akbulak array 69.65 320 *e*P **P** **15 17 45.9 -1.5**
RBK Rabkut 71.00 286 P **P** **15 17 55.4 -1.0**
SNR=9.8
AKTO Aktyubinsk 71.14 321 P **P** **15 17 55.0 -1.5**
AKTO pmax pmax
comp=Z,22nm,0.7s
AKTO Aktyubinsk 71.14 321 P **P** **15 17 55.4 -1.1**
AKTO Aktyubinsk 71.14 321 P **P** **15 17 55.4 -1.1**
comp=Z,20nm,0.6s,baz=97,slow=8.3,SNR=129
UNV Unalaska Valle 71.28 35 *e*P **P** **15 17 56.8 -0.3**
SVE Sverdlovsk 71.28 328 *de*P **P** **15 17 56.5 -0.7**
SVE pmax pmax
comp=Z,176nm,1.1s
ABTO Aybut 71.87 286 P **P** **15 18 00.3 -1.3**
SNR=12
ARU Arti 72.27 327 P **P** **15 18 01.1 -2.1**
comp=Z,465nm,1.0s,SNR=29
ARU Arti 72.27 327 *d* *i*P **P** **15 18 01.0 -2.1**
ARU *PP **pP** **15 18 16.6 -3.6**
ARU 15 20 45.2
ARU S **S** **15 27 20.0 -1.2**
ARU pmax pmax
comp=Z,69nm,0.8s
ARU Arti 72.27 327 *e*P **P** **15 18 01.5 -1.6**
comp=Z,82nm,1.0s
CASY Casey 73.65 187 *e*P **P** **15 18 10.6 -0.4**
comp=Z,24nm,0.8s
DRV Dumont d'Urvil 73.81 174 PP PP 15 20 27.0 -30
DRV S S 15 27 51.0 +13
DRV SS SS 15 32 36.0 +13
DRV L L 15 37 00.0
DRV R 15 42 00.0
SOKR Solikamsk 73.99 330 *e*P **P** **15 18 12.3 -0.9**
SOKR pmax pmax
comp=Z,100nm,1.9s
SOKR MLR MLR
comp=Z,600nm,22.0s
KBD Kabd 76.87 298 *e*P **P** **15 18 29.0 -1.4**
KBD AMb AMB 15 18 32.1
comp=Z,23nm,1.1s
RDF Al-Radifah 77.00 298 *e*P **P** **15 18 29.5 -1.6**
RDF AMb AMB 15 18 30.3
comp=Z,48nm,1.3s
RST Umm Al-Ruwaisa 77.48 299 *e*P **P** **15 18 31.8 -2.0**
RST AMb AMB 15 18 41.7
comp=Z,436nm,1.0s
OHAK Old Harbor 79.23 33 *e*P **P** **15 18 41.5 -1.3**
comp=Z,22nm,0.9s
GNI Garni 79.31 310 P **P** **15 18 44.6 +0.7**
SNR=13
GNI Garni 79.31 310 *e*P **P** **15 18 43.5 -0.4**
comp=Z,49nm,1.0s
GNI Garni 79.31 310 P **P** **15 18 43.4 -0.5**
comp=Z,3.3nm,0.5s,baz=342,slow=14,SNR=7.0
TBLG Delisi 79.33 311 P **P** **15 18 43.2 -0.6**
DUS Dusheti 79.36 311 P **P** **15 18 44.5 +0.5**
GUDG Gudauri 79.53 312 P **P** **15 18 44.6 -0.5**
KZR Kazreti 79.57 311 P P 15 18 48.3 +3.2
KDAK Kodiak Island 79.66 33 *e*P **P** **15 18 45.2 0.0**
comp=Z,21nm,0.6s
KDAK Kodiak Island 79.66 33 P **P** **15 18 45.0 -0.1**
comp=Z,202nm,0.5s,SNR=21
IM04 Indian Mountai 79.84 24 *e*P **P** **15 18 45.1 -0.9**
ZEI Tsey 79.96 312 *e*P **P** **15 18 45.6 -1.8**
ZEI pmax pmax
comp=Z,60nm,1.3s
PPLA Purkeypile 80.23 27 *e*P **P** **15 18 48.0 -0.4**
comp=Z,30nm,1.3s
AKH Akhalkalaki 80.26 311 P **P** **15 18 49.3 +0.3**
ONI Oni 80.29 312 P **P** **15 18 48.2 -0.8**
CAST Castle Rocks 80.32 27 *e*P **P** **15 18 49.3 +0.6**
comp=Z,14nm,1.1s
DIGO Kars 80.36 310 *i* P **P** **15 18 52.3 +2.7**
DAMY Dhamar 80.57 284 *e*P **P** **15 18 51.2 -0.2**
GOF Gofitskoye 80.58 314 *e*P **P** **15 18 52.7 +2.3**
GOF pmax pmax
comp=Z,50nm,1.3s
KBZ Khabaz 80.69 313 P **P** **15 18 49.9 -1.1**
KBZ Khabaz 80.69 313 P **P** **15 18 49.9 -1.1**
KBZ Khabaz 80.69 313 P **P** **15 18 49.9 -1.1**
comp=Z,18nm,1.0s,baz=136,slow=4.1,SNR=14
KBZ LR LR 15 56 36.8
comp=Z,232nm,21.1s,baz=69,slow=37
TUTA Tutak 80.81 309 *i* P **P** **15 18 52.4 +0.3**
KIV Kislovodsk 80.84 313 P P **15 18 51.0 -1.0**
comp=Z,221nm,0.8s,SNR=5.9
KIV Kislovodsk 80.84 313 P P 15 18 55.3 +3.3
SNR=8.4
KIV Kislovodsk 80.84 313 *e*P **P** **15 18 51.3 -0.7**
KIV pmax pmax
comp=Z,28nm,0.8s
KIV Kislovodsk 80.84 313 *e*P **P** **15 18 51.3 -0.7**
comp=Z,28nm,0.8s
BPAW Bear Paw Mtn. 80.86 26 *e*P **P** **15 18 51.5 0.0**
comp=Z,23nm,0.8s
EATA Eleskirt 81.05 309 *i* P **P** **15 18 53.5 0.0**
TRF Thorofare Moun 81.13 27 *e*P **P** **15 18 52.7 -0.5**
comp=Z,18nm,0.9s
RC01 Rabbit Creek A 81.28 29 *e*P **P** **15 18 53.1 -0.7**
comp=Z,22nm,1.0s
CHVG Ch'k'valeri 81.30 312 P **P** **15 18 53.6 -0.7**
COLD Coldfoot 81.38 23 *e*P **P** **15 18 54.8 +0.6**
comp=Z,15nm,1.0s
EKAR Karacoban 81.39 309 *i* P P 15 18 59.4 +4.2
SEW Seward 81.39 30 *e*P **P** **15 18 53.9 -0.4**
comp=Z,36nm,1.2s
ARTV Artvin 81.44 311 *i* P **P** **15 18 52.9 -2.5**
DAGI Agillar 81.46 310 *i* P **P** **15 18 54.5 -0.9**
VRHR Novokhopersk 81.53 321 *e*P **P** **15 18 55.2 -0.1**
VRHR pmax pmax
comp=Z,60nm,0.8s
VRHR pmax pmax
comp=N,3.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
DDEM Demirkent 81.59 310 *i* P **P** **15 18 55.9 -0.1**
PMR Palmer 81.59 29 *e*P **P** **15 18 54.7 -0.7**
PMR pmax pmax
comp=Z,16nm,0.8s
PMR Palmer 81.59 29 *e*P **P** **15 18 54.7 -0.7**
comp=Z,16nm,0.8s
DBAD Bademkaya 81.63 310 *i* P **P** **15 18 55.3 -0.9**
DBOC Borcka 81.64 311 *i* P **P** **15 18 58.2 +2.0**
MCK McKinley 81.75 27 *e*P **P** **15 18 55.6 -0.7**
MCK pmax pmax
comp=Z,50nm,1.0s
MCK McKinley 81.75 27 *e*P **P** **15 18 55.5 -0.7**
comp=Z,50nm,1.0s
BNGL BINGOL 82.11 308 *i* P P 15 19 04.6 +5.6
COLA College 82.25 25 *c* *i*P **P** **15 18 59.0 +0.2**
COLA pmax pmax
comp=Z,32nm,0.5s
ILAR Eielson Array 82.66 26 P **P** **15 18 59.7 -1.3**
ILAR PKKPbc **PKKPbc** **15 37 25.4 -2.7**
ILAR Eielson Array 82.66 26 P **P** **15 18 59.7 -1.3**
comp=Z,5.5nm,0.6s,baz=230,slow=5.6,SNR=60
ILAR PKKPbc **PKKPbc** **15 37 25.4 -2.7**
comp=Z,0.9nm,1.0s,baz=39,slow=2.5,SNR=5.4
IL1 Eielson Array 82.66 26 *e*P **P** **15 18 59.4 -1.6**
KLMR Klimovskoe 82.68 330 *c* *i*P **P** **15 18 58.8 -2.3**
KLMR pmax pmax
comp=Z,218nm,1.5s
SOC Sochi 83.00 313 *e*P P 15 18 59.6 -3.6
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC MLR MLR
comp=Z,300nm,9.0s
VORD Divnogorie 83.01 320 *e*P **P** **15 19 03.4 +0.4**
VORD pmax pmax
comp=Z,40nm,0.9s
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,50nm,0.8s
VSR Storozhevoye 83.08 321 *e*P **P** **15 19 03.9 +0.5**
VSR pmax pmax
comp=Z,60nm,0.8s
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,40nm,0.8s
DIV Divide 83.21 29 *e*P **P** **15 19 04.0 0.0**
comp=E,42nm,1.1s
PAX Paxson 83.31 27 *e*P **P** **15 19 04.5 0.0**
PAX pmax pmax
comp=Z,37nm,1.4s
PAX Paxson 83.31 27 *e*P **P** **15 19 04.5 0.0**
comp=Z,37nm,1.4s
TMCR Tamitsa 83.31 334 *e*P **P** **15 19 04.8 +0.5**
TMCR pmax pmax
comp=Z,132nm,1.1s
KELT Kelkit 83.52 310 *i* P **P** **15 19 05.9 -0.3**
RAGM Ragged Mountai 83.77 30 *e*P **P** **15 19 10.0 +3.1**
comp=Z,26nm,0.8s
BMRM Bremner River 83.78 29 *e*P **P** **15 19 06.5 -0.4**
comp=Z,32nm,0.9s
MOS Moscow 83.82 325 *e*P **P** **15 19 05.8 -1.3**
MOS *e* 15 19 21.9
MOS *e* 15 22 16.8
MOS *e* 15 24 16.2
MOS pmax pmax
comp=Z,130nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.4s
MOS MLR MLR
comp=Z,1μm,22.0s
DOT Dot Lake 83.92 27 *e*P **P** **15 19 07.3 -0.2**
comp=Z,14nm,0.8s
MENT Mentasta 84.11 27 *e*P **P** **15 19 08.7 +0.2**
KEMA Kemaliye 84.16 309 *i* P **P** **15 19 09.4 0.0**
SUSE Susehri 84.32 310 *i* P **P** **15 19 10.2 -0.1**
OBN Obninsk 84.45 325 P **P** **15 19 09.3 -1.0**
comp=Z,829nm,1.3s,SNR=6.5
OBN Obninsk 84.45 325 ⇑*i*P **P** **15 19 08.8 -1.5**
OBN *e* 15 22 29.4
OBN pmax pmax
comp=Z,253nm,1.7s
OBN MLR MLR
comp=Z,446nm,22.0s
OBN Obninsk 84.45 325 *e*P **P** **15 19 08.9 -1.3**
comp=Z,152nm,1.0s
LVZ Lovozero 84.52 338 *ce*P **P** **15 19 09.8 -0.7**
LVZ pmax pmax
comp=Z,85nm,1.7s
LVZ Lovozero 84.52 338 *e*P **P** **15 19 10.3 -0.2**
comp=Z,79nm,1.3s
ANN Anapa 84.58 314 *e*P **P** **15 19 08.8 -2.4**
ANN *e*PP **pP** **15 19 25.2 -3.5**
ANN *e*S S 15 29 26.7 -6.7
ANN pmax pmax
comp=Z,151nm,1.0s
AKCD Akcadag 84.67 308 *i* P **P** **15 19 15.1 +3.1**
APA Apatity 85.02 337 ⇑*i*P **P** **15 19 13.4 +0.5**
APA *e*S **S** **15 29 34.0 -2.9**
APA pmax pmax
comp=Z,36nm,0.8s
APA MLR MLR
comp=Z,1μm,15.0s
GZT Gaziantep 85.03 307 *i* P **P** **15 19 16.9 +3.0**
DAWY Dawson 85.94 26 *e*P **P** **15 19 17.4 -0.3**
YAYL Yayladag 86.31 306 *i* P **P** **15 19 19.2 -1.0**
MAW Mawson 86.34 200 *e*P **P** **15 19 18.6 -0.7**
comp=Z,3.4nm,0.9s
MAW Mawson 86.34 200 P **P** **15 19 19.1 -0.3**
comp=Z,12nm,0.9s,baz=67,slow=5.6,SNR=15
MAW Mawson 86.34 200 ⇓P **P** **15 19 18.9 -0.5**
baz=86,SNR=10
VNDA Vanda 86.36 173 *e*P **P** **15 19 19.0 -0.3**
comp=Z,11nm,0.9s
VNDA PKKPbc **PKKPbc** **15 37 18.2 -2.0**
VNDA Vanda 86.36 173 P **P** **15 19 19.2 -0.1**
comp=Z,11nm,1.0s,baz=309,slow=5.9,SNR=29
VNDA PKKPbc **PKKPbc** **15 37 18.2 -2.0**
comp=Z,1.5nm,0.9s,baz=252,slow=3.1,SNR=5.7
VNDA LR LR 15 57 40.2
comp=Z,215nm,19.6s,baz=350,slow=35
PPT Papeete 86.40 108 LR LR 15 48 37.2
comp=Z,277nm,21.6s,baz=248,slow=29
PPT2 Papeete2 86.40 108 *e*S **S** **15 29 52.2 -0.2**
comp=Z,133nm,24.8s
PPT2 Papeete2 86.40 108 *e*LR LR 15 46 42.4
comp=Z,558nm,25.5s
JOF Joensuu 86.41 333 *e*P **P** **15 19 19.3 -0.6**
JOF pmax pmax
comp=Z,31nm,0.5s
JOF Joensuu 86.41 333 *ep* P **P** **15 19 19.3 -0.6**
comp=Z,31nm,0.5s
SIM Simferopol' 86.91 315 *e*P **P** **15 19 24.0 +1.2**
SIM pmax pmax
comp=Z,28nm,0.7s
AVNT Avonos 87.02 309 *i* P **P** **15 19 22.7 -1.0**
KEV Kevo 87.02 340 *e*P **P** **15 19 23.1 +0.3**
KEV pmax pmax
comp=Z,24nm,1.0s
KEV Kevo 87.02 340 *ep* P **P** **15 19 22.1 -0.7**
comp=Z,8.0nm,0.5s
KEV Kevo 87.02 340 *e*P **P** **15 19 23.1 +0.3**
comp=Z,24nm,1.0s
HYT Haines Junctio 87.25 29 *e*P **P** **15 19 23.7 -0.5**
SBA Scott Base 87.27 172 *e*P **P** **15 19 24.6 +0.9**
SBA pmax pmax
comp=Z,59nm,1.8s
SBA Scott Base 87.27 172 *e*P **P** **15 19 24.6 +0.9**
comp=Z,59nm,1.8s
PUL Pulkovo 87.32 330 ⇓*i*P **P** **15 19 25.1 +0.7**
PUL pmax pmax
comp=Z,179nm,0.8s
TBI Tubuai 87.33 114 *e*S **S** **15 30 02.6 +1.5**
comp=Z,136nm,27.8s
TBI *e*SS **SS** **15 35 48.0 +0.9**
comp=Z,152nm,30.5s
TBI Tubuai 87.33 114 *e*LR LR 15 47 05.2
comp=Z,488nm,27.5s
SPITS Spitsbergen Ar 87.55 349 P **P** **15 19 24.9 -0.3**
SPITS Spitsbergen Ar 87.55 349 P **P** **15 19 24.9 -0.3**
comp=Z,15nm,0.4s,baz=105,slow=9.1,SNR=64
ARA0 ARCESS Array S 87.58 340 *e*P **P** **15 19 24.8 -0.7**
ARCES ARCESS Array B 87.58 340 P **P** **15 19 24.9 -0.6**
ARCES PKKP **PKKPdf** **15 37 10.8 +1.0**
ARCES ARCESS Array B 87.58 340 P **P** **15 19 24.9 -0.6**
comp=Z,16nm,0.5s,baz=84,slow=6.1,SNR=96
ARCES PKKP **PKKPdf** **15 37 10.8 +1.0**
comp=Z,1.2nm,0.8s,baz=240,slow=3.9,SNR=6.7
ARCES LR LR 16 01 45.1
comp=Z,319nm,19.7s,baz=317,slow=38
ARE0 ARCESS Array S 87.58 340 *e*P **P** **15 19 25.0 -0.5**
INK Inuvik 87.61 21 *e*P **P** **15 19 24.8 -0.8**
comp=Z,7.1nm,0.8s
BR131 Keskin Array S 87.86 310 *e*P **P** **15 19 25.4 -2.2**
comp=Z,5.2nm,0.5s
BRTR Keskin Array B 87.86 310 P **P** **15 19 25.5 -2.2**
BRTR Keskin Array B 87.86 310 P **P** **15 19 25.5 -2.2**
comp=Z,8.0nm,0.6s,baz=138,slow=4.3,SNR=29
EIL Elat 87.94 299 P **P** **15 19 27.7 -0.3**
EIL Elat 87.94 299 P **P** **15 19 27.7 -0.3**
comp=Z,12nm,1.0s,baz=338,slow=2.0,SNR=5.9
KBS Kingsbay 88.07 350 *e*P **P** **15 19 25.8 -1.9**
KBS pmax pmax
comp=Z,46nm,1.1s
KBS Kingsbay 88.07 350 *e*P **P** **15 19 25.8 -1.9**
comp=Z,46nm,1.1s
BR231 Keskin MP Arra 88.50 310 *e*P P 15 19 26.3 -4.3
CSS Prodhromos 88.68 305 *e*P **P** **15 19 31.6 +0.2**
comp=Z,6.6nm,0.8s
ERMK Ermenek 88.80 307 *i* P **P** **15 19 33.4 +1.1**
KAF Kangasniemi 88.83 332 *e*P **P** **15 19 30.6 -0.9**
KAF pmax pmax
comp=Z,13nm,0.6s
KAF Kangasniemi 88.83 332 *ep* **P** **15 19 30.6 -0.9**
comp=Z,13nm,0.6s
FIA1 FINESS Array S 89.08 332 *e*P **P** **15 19 31.1 -1.6**
FINES FINESS Array B 89.08 332 P **P** **15 19 31.6 -1.1**
FINES FINESS Array B 89.08 332 P **P** **15 19 31.6 -1.1**
comp=Z,16nm,0.8s,baz=71,slow=4.6,SNR=66
KMBO Kilima Mbogo 89.20 269 P **P** **15 19 34.1 -0.6**
SNR=6.1
KMBO Kilima Mbogo 89.20 269 *e*P **P** **15 19 33.0 -1.6**
comp=Z,16nm,1.3s
KMBO Kilima Mbogo 89.20 269 P **P** **15 19 32.8 -1.8**
comp=Z,4.9nm,0.9s,baz=60,slow=16,SNR=12
KMBO LR LR 15 57 40.4
comp=Z,92nm,20.5s,baz=94,slow=34
KMBO Kilima Mbogo 89.20 269 ⇓P **P** **15 19 34.2 -0.4**
baz=89
VSU Vasula 89.37 329 ⇓*e*P **P** **15 19 33.0 -1.1**
VSU pmax pmax
comp=Z,233nm,1.2s
AKASG Malin Array Be 89.38 321 P **P** **15 19 34.8 +0.4**
AKASG 15 23 09.8
AKASG Malin Array Be 89.38 321 P **P** **15 19 34.8 +0.4**
AKASG PP **PP** **15 23 09.8 +4.0**
AKASG Malin Array Be 89.38 321 P **P** **15 19 34.8 +0.4**
comp=Z,31nm,1.0s,baz=66,slow=4.9,SNR=63
AKASG PP **PP** **15 23 09.8 +4.0**
comp=Z,1.4nm,0.7s,baz=66,slow=7.5,SNR=6.6
AKASG LR LR 16 05 08.3
comp=Z,250nm,20.0s,baz=310,slow=39
AKBB Malin Array Si 89.38 321 *e*P **P** **15 19 31.9 -2.4**
AKBB Malin Array Si 89.38 321 *e*P **P** **15 19 31.9 -2.4**
AK01 Malin Array Si 89.39 321 *e*P **P** **15 19 32.1 -2.3**
KIEV Kiev 89.39 321 *e*P **P** **15 19 31.8 -2.6**
KIEV *e* 15 23 10.0
KIEV pmax pmax
comp=Z,41nm,1.1s
KIEV Kiev 89.39 321 *e*P **P** **15 19 31.8 -2.6**
comp=Z,42nm,1.1s
KIEV *e*PP **PP** **15 23 10.0 +4.1**
AK02 Malin Array Si 89.40 321 *e*P **P** **15 19 32.5 -2.0**
AK02 *e*PP **PP** **15 23 07.5 +1.5**
AK11 Malin Array Si 89.42 321 *e*P **P** **15 19 32.3 -2.2**
MICGM Minsk 89.52 325 *e* **P** **15 19 32.0 -2.9**
MNIK Minsk 89.54 325 *e*P **P** **15 19 32.0 -3.0**
NACGM Naroch 90.07 325 *e* P 15 19 33.0 -4.5
TLCR 90.59 315 ⇑P **P** **15 19 38.4 -1.7**
TLCR 90.59 315 ⇑*i*P **P** **15 19 38.3 -1.8**
TIRR Tirgusor 91.00 315 ⇓P **P** **15 19 41.8 -0.3**
TIRR Tirgusor 91.00 315 ⇓*i*P **P** **15 19 41.8 -0.3**
CFR Carcaliu 91.07 316 ⇑P **P** **15 19 41.2 -1.1**
CFR Carcaliu 91.07 316 ⇑*i*P **P** **15 19 41.2 -1.1**
TLB Topalu 91.24 315 ⇑P **P** **15 19 41.8 -1.4**
TLB Topalu 91.24 315 ⇑*i*P **P** **15 19 41.8 -1.4**
TESR Tescani 91.83 317 ⇓*i*P **P** **15 19 44.6 -1.3**
VRI Vrincioaia 91.91 316 ⇓P **P** **15 19 46.3 0.0**
VRI Vrincioaia 91.91 316 ⇓*i*P **P** **15 19 46.3 0.0**
PLOR Plostina 91.97 316 ⇑P **P** **15 19 47.0 +0.4**
PLOR Plostina 91.97 316 ⇑*i*P **P** **15 19 47.0 +0.4**
SUW Suwalki 92.31 325 *e*P **P** **15 19 46.8 -1.2**
SUW Suwalki 92.31 325 *e*P **P** **15 19 46.7 -1.2**
SUW Suwalki 92.31 325 *e*P **P** **15 19 46.0 -1.9**
MLR Muntele Rosu 92.52 316 ⇑*i*P **P** **15 19 48.5 -0.8**
BURAR Bucovina Array 92.56 318 ⇓P **P** **15 19 48.5 -0.9**
BURAR Bucovina Array 92.56 318 ⇓*i*P **P** **15 19 48.5 -0.9**
BUR04 Bucovina Ar. S 92.56 318 *e*P **P** **15 19 48.0 -1.4**
BUR08 Bucovina Ar. S 92.57 318 *e*P **P** **15 19 48.7 -0.7**
JMB Yambol 92.69 313 ⇑P **P** **15 19 51.0 +1.1**
JMB Yambol 92.69 313 ⇑*i*P **P** **15 19 51.0 +1.1**
LVV L'vov 92.82 321 *e*P P 15 19 46.5 -3.9
VOIR 93.15 316 ⇑P **P** **15 19 52.9 +0.8**
VOIR 93.15 316 ⇑*i*P **P** **15 19 52.9 +0.8**
ARR Arges 93.45 316 ⇑*i*P **P** **15 19 53.5 0.0**
KWP Kalwaria Pacla 93.70 321 *e*P **P** **15 19 55.0 +0.6**
KWP pmax pmax
comp=Z,49nm,1.0s
KWP Kalwaria Pacla 93.70 321 *e*P **P** **15 19 56.5 +2.0**
KWP Kalwaria Pacla 93.70 321 ⇑*i*P **P** **15 19 55.1 +0.6**
KWP Kalwaria Pacla 93.70 321 *e*P **P** **15 19 55.0 +0.6**
comp=Z,49nm,1.0s
LOT Lotru 94.03 316 ⇓*i*P **P** **15 19 57.3 +1.1**
KOLS Kolonicke sedl 94.16 320 *e*P **P** **15 19 57.3 +0.7**
KOLS pmax pmax
comp=Z,72nm,3.4s
KOLS Kolonicke sedl 94.16 320 *e*P **P** **15 19 57.3 +0.7**
TRPA Tarpa 94.19 319 ⇑*i*P **P** **15 19 57.1 +0.4**
UZH Uzhgorod 94.22 320 *e*P **P** **15 19 55.5 -1.3**
UZH *e* 15 20 05.3
UZH *e* 15 20 13.1
STHS Stebnicka Huta 94.68 321 *e*P **P** **15 20 01.0 +2.0**
STHS pmax pmax
comp=Z,10.0nm,1.2s
STHS Stebnicka Huta 94.68 321 *e*P **P** **15 20 01.0 +2.0**
CRVS Cervenica-Dubn 94.68 320 *e*P **P** **15 19 58.2 -0.8**
CRVS pmax pmax
comp=Z,23nm,1.3s
CRVS Cervenica-Dubn 94.68 320 *e*P **P** **15 19 58.2 -0.8**
GZR Gura Zlata 94.72 317 ⇓P **P** **15 20 00.2 +0.9**
GZR Gura Zlata 94.72 317 ⇓*i*P **P** **15 20 00.2 +0.9**
MMB Musomiste 94.95 313 ⇓P **P** **15 20 00.2 -0.2**
MMB Musomiste 94.95 313 ⇓*i*P **P** **15 20 00.2 -0.2**
SYO Syowa Base 94.99 201 ⇓*e*P **P** **15 19 58.0 -1.8**
SYO Syowa Base 94.99 201 ⇑*e*P **P** **15 20 01.7 +1.9**
RES Resolute Bay 95.03 10 *e*P **P** **15 19 59.6 -0.4**
comp=Z,13nm,1.2s
SIRR Siria 95.25 318 ⇑*i*P **P** **15 20 02.0 +0.3**
HFS Hagfors 95.26 332 P **P** **15 19 60.0 -1.4**
HFS Hagfors 95.26 332 P **P** **15 19 60.0 -1.4**
comp=Z,24nm,1.0s,baz=58,slow=5.6,SNR=23
PSZ Piszkesteto 95.96 320 *e*P **P** **15 20 04.8 -0.1**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 95.96 320 *e*P **P** **15 20 04.8 -0.1**
comp=Z,11nm,1.0s
NB2 NORSAR Subarra 96.00 334 P **P** **15 20 03.0 -1.8**
comp=Z,7.9nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 96.00 334 P **P** **15 20 03.0 -1.8**
baz=66,slow=4.6
NOA NORSAR Array B 96.00 334 P **P** **15 20 03.4 -1.4**
NOA PP **PP** **15 24 01.6 +4.2**
NOA NORSAR Array B 96.00 334 P **P** **15 20 03.4 -1.4**
comp=Z,6.6nm,0.8s,baz=65,slow=4.6,SNR=20
NOA PP **PP** **15 24 01.6 +4.2**
comp=Z,0.8nm,0.7s,baz=57,slow=5.9,SNR=3.9
NOA LR LR 16 06 33.2
comp=Z,440nm,21.0s,baz=65,slow=37
NBO02 NORSAR Array S 96.16 334 *e*P **P** **15 20 04.3 -1.1**
NAO01 NORSAR Array S 96.23 334 *e*P **P** **15 20 03.8 -2.0**
comp=Z,11nm,0.8s
OKC Ostrava-Krasne 96.48 322 *e*P **P** **15 20 06.3 -0.8**
OKC Ostrava-Krasne 96.48 322 *e*P **P** **15 20 06.3 -0.8**
QSPA South Pole Qui 96.54 180 P **P** **15 20 07.3 +0.2**
QSPA South Pole Qui 96.54 180 P **P** **15 20 07.3 +0.2**
comp=Z,6.9nm,0.8s,baz=124,slow=0.9,SNR=10
MORC Moravsky Berou 96.87 322 *e*P **P** **15 20 08.0 -1.0**
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 96.87 322 ⇓*i*P **P** **15 20 09.5 +0.5**
MORC Moravsky Berou 96.87 322 *e*P **P** **15 20 08.0 -1.0**
comp=Z,12nm,1.1s
YKA Yellowknife Ar 97.02 24 P **P** **15 20 08.9 -0.3**
YKA PKiKP **PKiKP** **15 24 44.4 -0.5**
YKA PKKPbc **PKKPbc** **15 36 48.5 -3.6**
YKA Yellowknife Ar 97.02 24 P **P** **15 20 08.9 -0.3**
comp=Z,2.7nm,0.6s,baz=300,slow=4.4,SNR=22
YKA PKiKP **PKiKP** **15 24 44.4 -0.5**
comp=Z,0.4nm,0.5s,baz=301,slow=2.0,SNR=5.9
YKA PKPbc **PKKPbc** **15 36 48.5 -3.6**
comp=Z,0.7nm,0.5s,baz=122,slow=3.0,SNR=7.6
KRLC Kraliky 97.24 322 *e*P **P** **15 20 10.0 -0.6**
KRLC Kraliky 97.24 322 *e*P **P** **15 20 10.0 -0.6**
KSP Ksiaz 97.28 323 *e*P **P** **15 20 10.0 -0.7**
KSP Ksiaz 97.28 323 *e*P **P** **15 20 10.5 -0.2**
KONO Kongsberg 97.34 333 P P 15 20 06.6 -4.1
KONO pmax pmax
comp=Z,11nm,0.9s
KONO Kongsberg 97.34 333 P P 15 20 06.6 -4.1
comp=Z,11nm,0.9s
DPC Dobruska-Polom 97.43 323 *e*P **P** **15 20 11.4 -0.1**
DPC *e* 15 24 09.2
DPC pmax pmax
comp=Z,43nm,0.8s
DPC Dobruska-Polom 97.43 323 *e*P **P** **15 20 11.0 -0.5**
DPC Dobruska-Polom 97.43 323 *e*P **P** **15 20 11.4 -0.1**
comp=Z,43nm,0.8s
DPC *e*PP **PP** **15 24 09.2 +0.4**
UPC Upice 97.56 323 *e*P **P** **15 20 11.3 -0.7**
UPC Upice 97.56 323 *e*P **P** **15 20 11.3 -0.7**
VRAC Vranov 97.61 322 ⇑*i*P Pdif 15 20 13.7 +1.4
VRAC Vranov 97.61 322 P Pdif 15 20 12.8 +0.4
VRAC Vranov 97.61 322 P Pdif 15 20 12.8 +0.4
comp=Z,19nm,1.1s,baz=84,slow=2.7,SNR=13
TREC Trest 98.30 322 *e*P Pdif 15 20 16.7 +1.3
TREC Trest 98.30 322 *e*P Pdif 15 20 16.7 +1.3
PVCC Panska Ves 98.42 323 *e*P **P** **15 20 15.4 -0.4**

PVCC	Panska Ves	98.42	323	*e*P	P	15 20 15.4	-0.4	
PRU	Pruhonice	98.63	323	*e*P	P	15 20 16.8	0.0	
PRU	Pruhonice	98.63	323	*e*P	P	15 20 16.8	0.0	
BRG	Berggiesshubel	98.66	324	*e*P	P	15 20 16.4	-0.5	
	comp=Z,18nm,1.4s							
BRG				*e*PP	PP	15 24 11.2	-6.9	
	comp=Z,18nm,1.7s							
BRG				*e*		15 25 09.2		
	comp=Z,13nm,1.6s							
CLL	Collm	99.05	324	*i* P	Pdif	15 20 17.9	-0.7	
CLL				pmax	pmax			
	comp=Z,16nm,1.4s							
CLL	Collm	99.05	324	*i* Pdif	Pdif	15 20 17.9	-0.7	
	comp=Z,16nm,1.4s							
CLL				*e*PP	PP	15 24 20.0	-1.0	
KHC	Kasperske Hory	99.52	322	*e*P	Pdif	15 20 22.0	+1.1	
KHC				pmax	pmax			
	comp=Z,8.0nm,1.2s							
KHC	Kasperske Hory	99.52	322	*e*P	Pdif	15 20 21.3	+0.4	
KHC	Kasperske Hory	99.52	322	*e*Pdif	Pdif	15 20 22.0	+1.1	
	comp=Z,7.9nm,1.2s							
KHC				*e*		15 36 33.6		
GEC2	GERESS Array S	99.55	322	*e*P	Pdif	15 20 21.1	0.0	
GEC2	GERESS Array S	99.55	322	*e*Pdif	Pdif	15 20 21.1	0.0	
GERES	GERESS Array B	99.55	322	P	Pdif	15 20 20.6	-0.5	
GERES				PKiKP	PKiKP	15 24 50.5	+0.5	
GERES	GERESS Array B	99.55	322	P	Pdif	15 20 20.6	-0.5	
	comp=Z,5.3nm,0.9s,baz=124,slow=2.4,SNR=29							
GERES				PKiKP	PKiKP	15 24 50.5	+0.5	
	comp=Z,0.8nm,0.8s,baz=41,slow=9.1,SNR=2.0							
GERES				LR	LR	16 08 27.7		
	comp=Z,366nm,21.9s,baz=197,slow=37							
MOA	Molln	99.56	321	⇑*i* Pdiff	Pdif	15 20 20.7	-0.4	
	comp=Z,12nm,1.0s							
BOJS	Bojanci	99.75	318	*i* P	Pdif	15 20 24.8	+2.9	
NKC	Novy Kostel	99.78	323	*e*P	Pdif	15 20 21.4	-0.6	
NKC	Novy Kostel	99.78	323	*e*PDIFF	Pdif	15 20 21.4	-0.6	
VISS	Visnje	99.92	319	*i* P	Pdif	15 20 24.0	+1.3	
JAVS	Javornik	100.39	319	*i* P	Pdif	15 20 25.6	+0.7	
GRF	Grafenberg Arr	100.73	323	*e*Pdiff	Pdif	15 20 25.5	-0.7	
KIPM	Iron Peak	101.00	47	*e*Pdif	Pdif	15 20 28.2	+0.5	
FETA	Feichten	102.10	321	⇑*i* Pdiff	Pdif	15 20 32.2	-0.4	
	comp=Z,5.3nm,0.9s							
FUORN	Ofenpass-Fuorn	102.56	321	*e*Pdif	Pdif	15 20 36.8	+2.1	
DAVOX	Davos/Dischmat	102.73	321	PKiKP	PKiKP	15 24 56.5	+0.6	
DAVOX	Davos/Dischmat	102.73	321	PKiKP	PKiKP	15 24 56.5	+0.6	
	comp=Z,1.3nm,0.4s,baz=336,slow=14,SNR=3.4							
BOSA	Boshof	102.85	242	PKiKP	PKiKP	15 24 56.5	-0.1	
BOSA	Boshof	102.85	242	PKiKP	PKiKP	15 24 56.5	-0.1	
	comp=Z,2.6nm,0.8s,baz=309,slow=7.0,SNR=3.8							
LPL	La Plagne	105.25	321	*e*P	Pdif	15 20 46.8	+0.1	
	comp=Z,29nm,1.5s							
NVAR	Mina Array Bea	105.25	47	Pdif	Pdif	15 20 46.2	-0.6	
NVAR				PKiKP	PKiKP	15 25 01.4	+0.6	
NVAR				PKKPbc	PKKPbc	15 36 26.9	-1.0	
NVAR	Mina Array Bea	105.25	47	Pdiff	Pdif	15 20 46.2	-0.6	
	comp=Z,0.6nm,0.7s,baz=279,slow=7.9,SNR=2.7							
NVAR				PKiKP	PKiKP	15 25 01.4	+0.6	
	comp=Z,0.6nm,0.7s,baz=267,slow=3.0,SNR=3.8							
NVAR				PKKPbc	PKKPbc	15 36 26.9	-1.0	
	comp=Z,1.3nm,0.8s,baz=125,slow=3.9,SNR=7.2							
R11A	Troy Canyon, C	107.26	47	*e*PKiKP	PKiKP	15 25 06.8	+2.3	
GCMT	Greycliff	107.85	38	*e*Pdif	Pdif	15 20 58.0	-0.2	
SNAA	Sanae	107.92	195	*e*P	PP	15 25 23.1	-3.8	
SNAA	Sanae	107.92	195	*e*PKKPbc	PKKPbc	15 36 17.6	-2.9	
FRB	Frobisher Bay	108.90	7	PKiKP	PKiKP	15 25 06.4	-0.1	
FRB	Frobisher Bay	108.90	7	PKiKP	PKiKP	15 25 06.4	-0.1	
	comp=Z,2.3nm,0.7s,baz=346,slow=4.2,SNR=3.2							
PDAR	Pinedale Array	109.42	40	PKiKP	PKiKP	15 25 08.6	+0.1	
PDAR				PKKPbc	PKKPbc	15 36 12.4	-2.6	
PDAR	Pinedale Array	109.42	40	PKiKP	PKiKP	15 25 08.6	+0.1	
	comp=Z,1.5nm,0.9s,baz=61,slow=7.0,SNR=8.4							
PDAR				PKKPbc	PKKPbc	15 36 12.4	-2.6	
	comp=Z,1.0nm,0.9s,baz=126,slow=3.8,SNR=5.2							
VNA2	Neumayer--Watz	109.53	195	*e*P	PKiKP	15 25 05.4	-2.1	
O20A	White River Ci	111.57	42	*e*PKiKP	PKiKP	15 25 17.4	+4.8	
RSSD	Black Hills	112.12	37	*e*PKiKP	PKiKP	15 25 13.5	0.0	
RSSD	Black Hills	112.12	37	*e*PKPdf	PKiKP	15 25 13.5	0.0	
PV01	Paradox Valley	112.32	44	*e*PKPdf	PKiKP	15 25 15.0	+0.9	
SDCO	Great Sand Dun	114.62	43	*e*PKiKP	PKPdf	15 25 20.2	+1.6	
ESDC	Sonseca Array	114.99	319	PP	PP	15 26 21.5	+3.3	
ESDC	Sonseca Array	114.99	319	PP	PP	15 26 21.5	+3.3	
	comp=Z,0.3nm,0.3s,baz=48,slow=7.0,SNR=5.6							
ANMO	Albuquerque	115.34	46	*e*PKPdf	PKPdf	15 25 21.3	+1.4	
BNM	Barren Site	115.60	47	*e*PKPdf	PKPdf	15 25 19.1	-1.4	
ECSD	EROS Data Cent	116.61	34	*e*PKPdf	PKPdf	15 25 22.1	+0.2	
ECSD				*e*		15 35 52.0		
BGNE	Belgrade	117.22	36	*e*PKPdf	PKPdf	15 25 23.4	+0.3	
MNTX	Cornudas Mount	117.68	49	*e*PKPdf	PKPdf	15 25 24.9	+0.6	
MNTX				*e*		15 35 47.5		
SCHQ	Schefferville	117.76	9	PKP	PKPdf	15 25 24.0	+0.3	
SCHQ	Schefferville	117.76	9	PKP	PKPdf	15 25 24.0	+0.3	
	comp=Z,5.8nm,0.6s,baz=6.5,slow=2.2,SNR=13							
EVO	Evora	118.23	320	*e*PKIKP	PKPdf	15 25 23.6	-1.5	
	comp=Z,22nm,0.9s							
MSTX	Muleshoe	118.46	46	*e*PKPdf	PKPdf	15 25 26.5	+0.7	
MDT	Midelt	119.08	313	PKP	PKPdf	15 25 26.7	-0.4	
MDT	Midelt	119.08	313	PKP	PKPdf	15 25 26.7	-0.4	
	comp=Z,1.0nm,0.4s,baz=12,slow=1.1,SNR=5.0							
KSU1	Kansas State U	119.58	38	*e*PKPdf	PKPdf	15 25 28.2	+0.5	
TX31	Lajitas Ar. Si	120.10	51	*e*PKPdf	PKPdf	15 25 29.8	+0.7	
TXAR	Lajitas Array	120.10	51	PKP	PKPdf	15 25 29.4	+0.3	
TXAR				PKKPab	PKKPab	15 35 39.6	-0.1	
TXAR	Lajitas Array	120.10	51	PKP	PKPdf	15 25 29.4	+0.3	
	comp=Z,1.5nm,0.7s,baz=329,slow=1.7,SNR=18							
TXAR				PKKPab	PKKPab	15 35 39.6	-0.1	
	comp=Z,0.5nm,0.6s,baz=123,slow=6.1,SNR=5.0							
JFWS	Jewell Farm	120.53	31	*e*PKiKP	PKPdf	15 25 29.4	0.0	
JFWS	Jewell Farm	120.53	31	*e*PKPdf	PKPdf	15 25 29.4	0.0	
WMOK	Wichita Mounta	120.81	43	*e*PKiKP	PKPdf	15 25 30.7	+0.4	
WMOK	Wichita Mounta	120.81	43	*e*PKPdf	PKPdf	15 25 30.6	+0.4	
TOC2	Torodi Ar. Sit	121.56	290	⇑P	PKPdf	15 25 31.5	-0.6	
	baz=122							
TOA0	Torodi Ar. Sit	121.59	290	*e*PKPdf	PKPdf	15 25 31.2	-1.0	
TOA0				*e*		15 35 33.2		
TORD	Torodi Ar. Bea	121.59	290	PKP	PKPdf	15 25 31.3	-0.9	
TORD				PKKPab	PKKPab	15 35 33.1	+0.1	
TORD	Torodi Ar. Bea	121.59	290	PKP	PKPdf	15 25 31.3	-0.9	
	comp=Z,7.8nm,0.7s,baz=44,slow=2.2,SNR=49							
TORD				PKPbab	PKKPab	15 35 33.1	+0.1	
	comp=Z,1.3nm,0.8s,baz=272,slow=4.4,SNR=6.4							
JCT	Junction City	122.43	48	*e*PKiKP	PKPdf	15 25 34.2	+0.7	
JCT	Junction City	122.43	48	*e*PKPdf	PKPdf	15 25 34.2	+0.7	
MIAR	Mount Ida	124.34	40	*e*PKiKP	PKPdf	15 25 37.6	+0.6	
MIAR	Mount Ida	124.34	40	*e*PKPdf	PKPdf	15 25 37.6	+0.6	
OLIL	Olney	124.69	33	*e*PKPdf	PKPdf	15 25 37.5	0.0	
WCI	Wyandotte Cave	126.02	32	*e*PKiKP	PKPdf	15 25 40.0	-0.1	
WCI	Wyandotte Cave	126.02	32	*e*PKPdf	PKPdf	15 25 40.0	-0.1	
ACSO	Alum Creek Sta	126.09	28	*e*PKPdf	PKPdf	15 25 40.2	0.0	
WVT	Waverly	126.72	35	*e*PKiKP	PKPdf	15 25 42.0	+0.5	
WVT	Waverly	126.72	35	*e*PKPdf	PKPdf	15 25 42.0	+0.5	
TKL	Tuckaleechee C	129.28	32	*e*PKPdf	PKPdf	15 25 45.2	-1.2	
KIC	Kosan Boka	129.49	284	*e*PKiKP	PKPdf	15 25 47.4	+0.1	
	comp=Z,90nm,1.5s							
KIC	Kosan Boka	129.49	284	*e*PKP1	SKPbc	15 29 06.2	+2.2	
	comp=Z,61nm,1.0s							
DBIC	Dimbokro	129.52	284	*e*PKPdf	PKPdf	15 25 47.2	-0.2	
DBIC				SKPbc	SKPbc	15 29 06.2	+2.1	
DBIC	Dimbokro	129.52	284	PKP	PKPdf	15 25 46.9	-0.5	
	comp=Z,12nm,1.1s,baz=21,slow=2.8,SNR=9.0							
DBIC				SKPbc	SKPbc	15 29 06.2	+2.1	
	comp=Z,21nm,0.8s,baz=71,slow=3.9,SNR=22							
TIC	Toumodi	129.69	284	*e*PKiKP	PKPdf	15 25 47.7	0.0	
	comp=Z,41nm,0.9s							
LIC	Lamto	129.79	284	*e*PKiKP	PKPdf	15 25 47.7	-0.2	
	comp=Z,20nm,0.8s							
LIC	Lamto	129.79	284	*e*PKiKP	PKPdf	15 25 47.9	0.0	
	comp=Z,35nm,0.9s							
PLCA	Paso Flores	142.86	159	*e*PKPpre	PKPpre	15 26 08.3		
PLCA				SKPbc	SKiKP	15 29 46.1	+0.5	
PLCA	Paso Flores	142.86	159	PKP	PKPpre	15 26 08.4		
	comp=Z,8.6nm,0.8s,baz=176,slow=6.6,SNR=7.5							
PLCA				SKPbc	SKiKP	15 29 46.1	+0.5	
	comp=Z,3.3nm,0.7s,baz=157,slow=3.3,SNR=5.4							
JTS	JuntasAbangare	144.60	62	*e*PKPdf	PKPdf	15 26 14.8	-0.4	
GTBY	Guantanamo Bay	146.20	38	*e*PKPdf	PKPbc	15 26 18.4	-0.4	
TRQA	Tornquist	147.84	168	*e*PKPbc	PKPbc	15 26 23.1	+0.2	
BCIP	Isla Barro Col	149.56	59	*e*PKPbc	PKPbc	15 26 28.2	+0.2	
LRS	Lares	152.01	27	*e*PKPbc	PKPbc	15 26 32.8	-0.9	
LCO	Las Campanas	152.56	146	*e*PKPdf	PKPdf	15 26 29.2	+1.3	
LCO				*e*PKPbc	PKiKP	15 26 35.5	+0.3	
OTAV	Otavalo	154.35	75	*e*PKPdf	PKPbc	15 26 35.4	-4.1	
ROSC	El Rosal	156.43	61	PKP	PKPdf	15 26 34.4	+0.5	
	comp=Z,8.4nm,0.6s,baz=93,slow=19,SNR=3.3							
SDV	Santo Domingo	157.11	48	*e*PKPdf	PKPdf	15 26 34.5	0.0	
LVC	Limon Verde	158.38	139	*e*PKPdf	PKPdf	15 26 38.6	+2.7	
CPUP	Villa Florida	160.12	170	*e*PKPdf	PKPdf	15 26 37.9	+0.4	
CPUP				PKPab	PKPab	15 27 18.6	+1.1	
CPUP	Villa Florida	160.12	170	PKP	PKPdf	15 26 37.7	+0.2	
	comp=Z,5.8nm,0.8s,baz=60,slow=1.8,SNR=7.1							
CPUP				PKPab	PKPab	15 27 18.6	+1.1	
	comp=Z,11nm,0.9s,baz=166,slow=5.1,SNR=6.5							
LPAZ	La Paz	162.92	125	*e*PKPdf	PKPdf	15 26 42.8	+1.3	
LPAZ				*e*PKPab	PKPab	15 27 30.8	-0.1	
LPAZ	La Paz	162.92	125	PKP	PKPdf	15 26 43.2	+1.7	
	comp=Z,8.4nm,1.0s,baz=20,slow=2.4,SNR=16							
LPAZ				PKPab	PKPab	15 27 31.2	+0.2	
	comp=Z,3.2nm,0.4s,baz=240,slow=1.5,SNR=2.1							
BDFB	Brasilia	169.48	211	*e*PKPdf	PKPdf	15 26 46.1	+0.1	
BDFB				PKPab	PKPab	15 27 58.5	-0.6	
BDFB	Brasilia	169.48	211	PKP	PKPdf	15 26 45.4	-0.7	
	comp=Z,10nm,1.0s,baz=98,slow=2.7,SNR=8.5							
BDFB				PKPab	PKPab	15 27 58.5	-0.6	
	comp=Z,5.9nm,0.7s,baz=144,slow=4.2,SNR=5.1							
SAML	Samuel	170.31	104	*e*PKPdf	PKPdf	15 26 46.6	+0.2	

ISCJB ***10*** *15:08:14.5±0.6,22.2°±4.5°×0.09×179.5°±0.1°,h579km, mb4.0/10,Error ellipse: s-maj=15.5km s-min=11.2km az=20.8*

IDC ***10*** *15:08:14.1±2.1,21.94°S×179.48°W,h555km±25km, mb3.5/10,mb1 3.8/12,mb1mx3.6/23,mbtmp3.6/12,Error ellipse: s-maj=20.2km s-min=14.9km az=142.0*

ISC 10 15:08:15.6±0.7,22.2°S±0.1°×179.5°W±0.1°,h579km,n21, σ1°52/18,mb4.1/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.08**	**43**	P		P		15 10 40.0	-5.0
	5.2nm,0.3s,baz=81,slow=6.7,SNR=7.2								
AFI				S		S		15 12 36.5	-11
	0.9nm,0.3s,baz=107,slow=19,SNR=2.8								
DZM	**Mont Dzumac**	**13.01**	**268**	P		**P**		**15 11 04.0**	**-0.8**
	1.2nm,0.3s,baz=80,slow=19,SNR=10								
URZ	**Urewera**	**16.23**	**190**	P		**P**		**15 11 34.6**	**-1.2**
	3.3nm,0.3s,baz=2.6,slow=5.0,SNR=22								
URZ				S		**S**		**15 14 14.8**	**-4.1**
	0.2nm,0.3s,baz=24,slow=20,SNR=5.1								
RPZ	**Rata Peaks**	**22.80**	**198**	P		**P**		**15 12 36.6**	**+1.4**
	6.6nm,0.6s,baz=309,slow=4.8,SNR=6.6								
CTA	**Charters Tower**	**31.96**	**267**	P		**P**		**15 13 56.1**	**+0.8**
	9.3nm,0.4s,baz=87,slow=10.0,SNR=5.2								
ASAR	**Alice Springs**	**42.77**	**259**	P		**P**		**15 15 24.1**	**+0.7**
	14nm,0.8s,baz=89,slow=8.8,SNR=7.5								
WRA	**Warramunga Arr**	**42.99**	**264**	P		**P**		**15 15 25.0**	**-0.1**
	9.3nm,0.8s,baz=95,slow=7.7,SNR=5.1								
FITZ	**Fitzroy Crossi**	**51.42**	**264**	P		**P**		**15 16 29.0**	**+0.8**
	9.1nm,0.9s,baz=84,slow=9.2,SNR=3.4								
VNDA	**Vanda**	**56.06**	**185**	P		**P**		**15 17 02.9**	**+2.9**
	1.4nm,0.8s,baz=357,slow=8.1,SNR=8.9								
PETK	**Petropavlovsk-**	**77.60**	**346**	P		**P**		**15 19 11.8**	**-0.6**
	3.3nm,0.6s,baz=118,slow=8.7,SNR=5.0								
NVAR	**Mina Array Bea**	**83.25**	**44**	P		**P**		**15 19 42.7**	**+0.3**
	1.2nm,0.8s,baz=224,slow=9.2,SNR=7.2								
TXAR	**Lajitas Array**	**89.18**	**58**	P		**P**		**15 20 11.2**	**+0.6**
	1.1nm,0.9s,baz=205,slow=5.5,SNR=7.4								
PDAR	**Pinedale Array**	**91.19**	**44**	P		**P**		**15 20 18.7**	**-1.1**
	0.5nm,0.4s,baz=193,slow=2.6,SNR=4.4								
ARCES	**ARCESS Array B**	**130.36**	**349**	PKP		**PKPdf**		**15 26 19.2**	**-0.8**
	2.0nm,0.8s,baz=46,slow=3.5,SNR=4.1								
FINES	**FINESS Array B**	**137.02**	**342**	PKhKP		PKPpre		15 26 27.6	
	0.8nm,0.8s,baz=108,slow=3.1,SNR=3.0								
HFS	**Hagfors**	**141.01**	**350**	PKhKP		PKPpre		15 26 33.7	
	1.2nm,0.6s,baz=77,slow=2.6,SNR=5.6								
AKASG	**Malin Array Be**	**143.81**	**329**	PKP		PKPbc		15 26 43.1	-1.4
	1.7nm,0.5s,baz=42,slow=4.4,SNR=22								
BRTR	**Keskin Array B**	**146.91**	**309**	PKPbc		**PKPbc**		**15 26 53.6**	**-0.5**
	1.3nm,0.7s,baz=125,slow=3.6,SNR=5.5								
CLL	**Collm**	**149.40**	**345**	*i* PKP		**PKPbc**		**15 26 59.1**	**-0.6**
	comp=Z,9.0nm,0.9s								
BRG	**Berggiesshubel**	**149.55**	**343**	*i* PKP		**PKPbc**		**15 26 59.8**	**-0.3**
	comp=Z,5.1nm,0.7s								
GERES	**GERESS Array B**	**151.45**	**342**	PKPbc		**PKPbc**		**15 27 03.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=45,slow=2.3,SNR=4.0								

MAN ***10*** *15:17:35,5.19N×126.84E,h4km,mb5.2,ML4.2,MS4.4*

AUST ***10*** *15:17:37.8±9.8,5.48N×126.30E,h0km,Error ellipse: s-maj=161.0km s-min=115.8km az=25.0*

IDC ***10*** *15:17:41.2±2.5,5.59N×126.66E,h33km±18km,mb4.0/18, mb1 4.1/18,mb1mx3.9/28,mbtmp4.0/18,Error ellipse: s-maj=28.8km s-min=11.6km az=74.0*

ISCJB ***10*** *15:17:43.8±0.6,5.52N±0.03×126.60E±0.05,h73km±5km, mb4.3/37,Error ellipse: s-maj=9.1km s-min=4.6km az=171.9*

DJA ***10*** *15:17:47.9±2.5,5.1°N±6°×12.6°E±°,h15km±33km,M4.8/6, mB5.0/2,mb4.8/6,MLv4.8/5,Mw(mB)4.3/2*

NEIC ***10*** *15:17:48.1±2.9,5.51N×126.57E,h98km±27km,mb4.6/21, Error ellipse: s-maj=13.6km s-min=6.4km az=60.0*

ISC 10 15:17:44.0±1.0,5.50N±0.04×126.64E±0.07,h57km±8km, n100,σ1837/117,mb4.4/37,7C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.48**	**345**	*e*P		**Pn**		**15 18 07.2**	**-1.2**
MATI				*e*S		**Sn**		**15 18 32.7**	**+5.9**
GSPH	**General Santos**	**1.78**	**289**	⇓*i* P		Pn		15 18 09.0	-3.6
GSPH				*i* S		**Sn**		**15 18 31.7**	**-2.5**
DMPH	**Davao City--Mi**	**1.93**	**324**	⇑*e*P		**Pn**		**15 18 15.0**	**+0.5**
DMPH				*e*S		**Sn**		**15 18 36.1**	**-1.6**
SGSI	**Sangihe**	**2.12**	**212**	P		**Pn**		**15 18 16.1**	**-0.9**
SGSI				S		**Sn**		**15 18 43.1**	**+0.8**
KCP	**Kidapawan**	**2.15**	**314**	⇓*e*P		**Pn**		**15 18 17.5**	**0.0**
KCP				*i* S		Sn		15 18 50.5	+7.4
BIPH	**Bislig**	**2.68**	**354**	⇑*e*P		**Pn**		**15 18 24.6**	**-0.1**
BIPH				*e*S		Sn		15 19 03.8	+7.9
BUKP	**Musuan**	**2.83**	**326**	*e*P		**Pn**		**15 18 27.6**	**+0.8**
CTBH	**Cotabato--PC H**	**2.93**	**306**	⇑*e*P		**Pn**		**15 18 28.1**	**-0.1**
CTBH				*i* S		**Sn**		**15 19 05.3**	**+3.1**
CGP	**Cagayan de Oro**	**3.51**	**327**	*e*P		**Pn**		**15 18 38.2**	**+2.1**
CGP				*e*S		Sn		15 19 23.8	+7.3
BUTP	**Butuan**	**3.59**	**344**	*e*P		**Pn**		**15 18 40.0**	**+2.8**
PAGZ	**Pagadian**	**3.99**	**306**	*e*P		**Pn**		**15 18 44.3**	**+1.6**
IPIL	**Ipil**	**4.64**	**300**	*e*P		**Pn**		**15 18 53.7**	**+2.2**
TNTI	**Ternate**	**4.75**	**171**	P		Pn		15 18 57.4	+4.3
GTOI	**Gorontalo**	**6.04**	**217**	P		**Pn**		**15 19 11.2**	**+0.4**
	104nm,0.6s,0.3nm								
LBMI	**Labuha**	**6.16**	**172**	P		**Pn**		**15 19 13.0**	**+0.6**
	97nm,0.8s,948nm0.4nm								
MRSI	**Marisa**	**6.85**	**223**	P		**Pn**		**15 19 22.6**	**+0.7**
	172nm,0.6s,2μm0.6nm								
MRSI				S		**Sn**		**15 20 39.1**	**+0.5**
	172nm,0.6s,2μm0.6nm								
MYLDM	**Lahad Datu**	**8.12**	**268**	P		**Pn**		**15 19 42.3**	**+3.1**
	37nm,0.9s								
TTSI	**Tana Toraja**	**10.89**	**219**	P		**Pn**		**15 20 19.5**	**+2.3**
	22nm,1.0s								
SBUM	**Sibu**	**14.70**	**259**	P		**P**		**15 21 12.5**	**-1.2**
KSM	**Kuching**	**16.79**	**257**	*e*Pn		**P**		**15 21 37.5**	**+0.7**
	10nm,0.8s								
MTN	**Manton Dam**	**18.77**	**166**	⇑P		**Pn**		**15 22 00.9**	**+1.3**
	baz=19,SNR=3.6								
KDU	**Kakadu**	**18.98**	**162**	⇑P		**P**		**15 22 01.8**	**+0.9**
	baz=19,SNR=5.1								
FITZ	**Fitzroy Crossi**	**23.48**	**182**	P		**P**		**15 22 48.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**23.48**	**182**	P		**P**		**15 22 48.4**	**-0.3**
	2.6nm,0.6s,baz=40,slow=8.9,SNR=9.3								
FITZ	**Fitzroy Crossi**	**23.48**	**182**	⇑P		**P**		**15 22 49.0**	**+0.3**
	baz=24,SNR=7.3								
WRAB	**Tennant Creek**	**26.39**	**164**	*e*P		**P**		**15 23 17.3**	**+2.1**
	25nm,1.1s								
WRA	**Warramunga Arr**	**26.39**	**164**	P		**P**		**15 23 16.3**	**+1.0**
WRA				PcP		**PcP**		**15 26 39.6**	**-0.3**
WRA				ScP		**ScP**		**15 30 17.4**	**+2.2**
WRA	**Warramunga Arr**	**26.39**	**164**	P		**P**		**15 23 16.3**	**+1.0**
	2.7nm,0.6s,baz=343,slow=10,SNR=15								
WRA				PcP		**PcP**		**15 26 39.6**	**-0.3**
	0.3nm,0.8s,baz=334,slow=2.3,SNR=2.3								
WRA				ScP		**ScP**		**15 30 17.4**	**+2.2**
	0.2nm,0.6s,baz=344,slow=3.3,SNR=2.7								
AS31	**Alice Springs**	**29.84**	**167**	*e*P		**P**		**15 23 44.0**	**-2.1**
ASAR	**Alice Springs**	**29.85**	**167**	P		**P**		**15 23 47.1**	**+1.0**
ASAR				PcP		**PcP**		**15 26 48.5**	**+0.1**
ASAR				ScP		**ScP**		**15 30 28.4**	**+2.6**
ASAR	**Alice Springs**	**29.85**	**167**	P		**P**		**15 23 47.1**	**+1.0**
	0.6nm,0.5s,baz=354,slow=8.1,SNR=10								
ASAR				PcP		**PcP**		**15 26 48.5**	**+0.1**
	0.6nm,0.6s,baz=356,slow=1.9,SNR=4.6								
ASAR				ScP		**ScP**		**15 30 28.4**	**+2.6**
	0.5nm,0.7s,baz=336,slow=3.1,SNR=5.3								
CMAR	**Chiang Mai Arr**	**29.94**	**298**	P		**P**		**15 23 46.9**	**-0.1**
CMAR				ScP		**ScP**		**15 30 28.9**	**+2.6**
CMAR	**Chiang Mai Arr**	**29.94**	**298**	P		**P**		**15 23 46.9**	**-0.1**
	1.5nm,0.7s,baz=106,slow=6.9,SNR=9.8								
CMAR				ScP		**ScP**		**15 30 28.9**	**+2.6**
	0.4nm,0.6s,baz=142,slow=1.8,SNR=5.6								
WRKA	**Warakurna**	**30.40**	**177**	⇑P		**P**		**15 23 54.0**	**+3.1**
	baz=31,SNR=5.1								
NWAO	**Narrogin (SRO)**	**39.25**	**193**	P		**P**		**15 25 06.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**39.25**	**193**	P		**P**		**15 25 06.3**	**-0.7**
	3.3nm,0.5s,baz=241,slow=14,SNR=7.0								
STKA	**Stephens Creek**	**39.81**	**160**	*e*P		**P**		**15 25 11.7**	**-0.1**
	1.3nm,0.8s								
STKA	**Stephens Creek**	**39.81**	**160**	P		**P**		**15 25 11.8**	**0.0**
	1.8nm,0.6s,baz=309,slow=8.2,SNR=5.5								
ASAJ	**Asahikawa**	**40.93**	**18**	P		**P**		**15 25 20.5**	**-0.4**
ASAJ	**Asahikawa**	**40.93**	**18**	P		**P**		**15 25 20.5**	**-0.4**
	14nm,1.2s,baz=135,slow=4.3,SNR=4.4								
TAPN	**Taplejung**	**42.92**	**305**	*e*P		**P**		**15 25 37.3**	**-0.5**
	7.0nm,0.4s								
ODAN	**Odare**	**42.99**	**304**	*e*P		**P**		**15 25 37.3**	**-1.0**
	13nm,0.6s								
ODAN	**Odare**	**42.99**	**304**	*e*P		**P**		**15 25 37.3**	**-1.0**
	13nm,0.6s								
RAMN	**Ramite**	**43.68**	**304**	*e*P		**P**		**15 25 43.1**	**-0.7**
**R

Ms1 3.3/1,ms1mx2.7/30,Error ellipse: s-maj=118.2km s-min=19.8km az=51.0
*DJA **10** 15:54:21.8±0.7,9°S±7°×11°1E±°,h10km,M4.2/14, MLv4.2/14*
*ISCJB **10** 15:54:24.2±0.7,9.08S±0.07°×111.23E±0.05,h55km, mb3.6/5,MS3.1/1,Error ellipse: s-maj=10.5km s-min=6.3km az=32.6*

ISC 10 15:54:24.4±1.0,9.03S±0.09×111.24E±0.05,h55km,n25, σ1§42/22,mb3.7/5,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.83**	**356**	P	**Pn**	**15 54 39.6**	**-0.5**
PWJI	**Pagerwojo**	**1.15**	**29**	P	**Pn**	**15 54 44.9**	**+0.6**
WOJI	**Wonogiri, Jawa**	**1.23**	**345**	P	**Pn**	**15 54 45.6**	**+0.3**
WOJI				S	**Sn**	**15 55 01.8**	**+0.9**
UGM	**Wanagama**	**1.32**	**328**	P	**Pn**	**15 54 47.4**	**+0.8**
SJI	**Sawahan**	**1.39**	**22**	P	**Pn**	**15 54 48.4**	**+0.7**
KRKI	**Karangkates**	**1.48**	**54**	P	**Pn**	**15 54 49.5**	**+0.7**
NGJI	**Ngawi**	**1.67**	**8**	P	Pn	15 54 55.8	+4.5
SMRI	**Semarang**	**2.12**	**338**	P	**Pn**	**15 55 00.3**	**+2.8**
BJII	**Banjamegara**	**2.27**	**318**	P	**Pn**	**15 55 01.3**	**+1.8**
GMJI	**Gumukmas**	**2.31**	**71**	P	**Pn**	**15 55 00.5**	**+0.4**
BLJI	**Banyuglugur**	**2.66**	**61**	P	**Pn**	**15 55 07.1**	**+2.2**
KPJI	**Karang Pucung**	**2.84**	**306**	P	**Pn**	**15 55 09.8**	**+2.5**
CMJI	**Cimerak**	**3.02**	**294**	P	**Pn**	**15 55 09.7**	**-0.1**
CISI	**Cisompet, Garu**	**3.69**	**293**	P	**Pn**	**15 55 20.0**	**+1.0**
SRBI	**Singaraja**	**4.04**	**77**	P	Pn	15 55 25.2	+1.4
FITZ	**Fitzroy Crossi**	**16.64**	**124**	Pn	**P**	**15 58 15.7**	**-0.1**
	0.1nm,0.3s,baz=317,slow=12,SNR=2.7						
NWAO	**Narrogin (SRO)**	**24.42**	**168**	LR	LR	16 08 59.7	
	comp=Z,70nm,20.6s,baz=32,slow=36						
WRA	**Warramunga Arr**	**24.82**	**118**	P	**P**	**15 59 42.7**	**+1.0**
	1.0nm,0.8s,baz=293,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**26.11**	**127**	P	**P**	**15 59 54.4**	**+1.0**
	0.4nm,0.7s,baz=305,slow=9.1,SNR=14						
H08S2	**Diego Garcia H**	**38.34**	**269**	T	T	16 42 43.8	
	baz=94,slow=75,SNR=10.0						
H08S3	**Diego Garcia H**	**38.36**	**269**	T	T	16 42 47.0	
	baz=94,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**38.36**	**269**	T	T	16 42 47.6	
	baz=94,slow=75,SNR=9.9						
SONM	**Songino Array**	**56.78**	**356**	P	**P**	**16 04 01.8**	**-1.2**
	0.5nm,0.7s,baz=173,slow=8.4,SNR=4.4						
SONM				PcP	**PcP**	**16 04 58.6**	**+0.3**
	0.3nm,0.5s,baz=180,slow=5.1,SNR=3.8						
MKAR	**Makanchi Array**	**61.28**	**338**	P	**P**	**16 04 33.0**	**-1.1**
	0.5nm,0.5s,baz=151,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**66.60**	**343**	P	**P**	**16 05 06.5**	**-2.3**
	0.4nm,0.3s,baz=139,slow=7.7,SNR=2.9						

IDC 10 15:55:18.9±10.0,17.26S×178.64W,h395km±116km, mb3.3/7,mb1 3.5/7,mb1mx3.2/20,mbtmp3.3/7,Error ellipse: s-maj=43.2km s-min=27.5km az=36.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.25**	**189**	P	P	15 59 34.5	-0.4
	4.4nm,0.7s,baz=324,slow=18,SNR=3.4						
RPZ	**Rata Peaks**	**27.78**	**196**	P	P	16 00 33.3	-0.1
	3.6nm,0.5s,baz=13,slow=14						
STKA	**Stephens Creek**	**38.75**	**240**	P	P	16 02 07.8	+0.7
	2.3nm,0.5s,baz=92,slow=13,SNR=9.8						
WRA	**Warramunga Arr**	**44.53**	**259**	P	P	16 02 52.8	-0.8
	0.4nm,0.8s,baz=99,slow=7.9,SNR=4.7						
ASAR	**Alice Springs**	**44.75**	**254**	P	P	16 02 55.4	0.0
	2.6nm,0.5s,baz=90,slow=7.9,SNR=99						
ASAR				S	S	16 08 48.5	-14
	0.8nm,0.9s,baz=87,slow=17,SNR=5.8						
MJAR	**Matsushiro Arr**	**67.26**	**323**	P	P	16 05 31.7	-0.7
	1.5nm,0.6s,baz=122,slow=5.9,SNR=3.4						
ILAR	**Eielson Array**	**85.31**	**13**	P	P	16 07 13.2	+1.1
	0.4nm,0.9s,baz=224,slow=5.4,SNR=5.1						
BRTR	**Keskin Array B**	**144.17**	**315**	PKP	PKPbc	16 14 07.6	-0.3
	0.3nm,0.5s,baz=147,slow=4.7,SNR=4.0						
GERES	**GERESS Array B**	**146.93**	**345**	PKPbc	PKPbc	16 14 14.9	-0.8
	0.5nm,0.6s,baz=0.0,slow=4.0,SNR=4.4						

*IDC **10** 16:09:38.1±1.0,3.83N×126.28E,h0km,mb3.5/7, mb1 3.6/7,mb1mx3.5/25,mbtmp3.5/7,Error ellipse: s-maj=72.0km s-min=17.4km az=75.0*
*ISCJB **10** 16:09:42.2±0.8,3.9N±0.1×126.3E±0.4,h45km,mb3.5/7, Error ellipse: s-maj=65.2km s-min=13.9km az=166.5*

ISC 10 16:09:44.2±1.1,3.8N±0.2×126.4E±0.5,h45km,n7,σ0§65/7, mb3.4/7,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.80**	**182**	P	**P**	**16 14 33.3**	**+0.8**
	0.5nm,0.4s,baz=15,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**24.89**	**162**	P	**P**	**16 15 03.1**	**+0.2**
	0.3nm,0.3s,baz=343,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**28.30**	**165**	P	**P**	**16 15 33.1**	**-0.6**
	0.1nm,0.5s,baz=341,slow=6.9,SNR=5.6						
KSRS	**Korea Array**	**33.50**	**2**	P	**P**	**16 16 19.5**	**+0.1**
	0.8nm,0.6s,baz=183,slow=10,SNR=3.4						
SONM	**Songino Array**	**47.09**	**342**	P	**P**	**16 18 12.3**	**+0.5**
	0.3nm,0.6s,baz=160,slow=7.1,SNR=2.8						
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**16 19 26.8**	**-0.5**
	0.6nm,0.4s,baz=117,slow=7.6,SNR=12						
KURBB	**Kurchatov Arra**	**61.46**	**327**	P	**P**	**16 19 55.7**	**-0.4**
	0.5nm,0.6s,baz=125,slow=6.9,SNR=6.7						

MAN 10 16:10:58,7.80N×125.08E,h9km,mb4.7,ML3.6,MS3.6, 3C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.08**	**348**	*e*P	Pg	16 11 02.0	+1.6
BUKP				*e*S	Sg	16 11 05.1	+3.1
CGP	**Cagayan de Oro**	**0.76**	**330**	⇓*e*P	Pg	16 11 11.2	-1.4
CGP				*i* S	Sg	16 11 21.0	-1.4
KCP	**Kidapawan**	**0.79**	**179**	⇑*e*P	Pg	16 11 13.4	+0.1
KCP				*i* S	Sb	16 11 25.6	+0.8
DMPH	**Davao City--Mi**	**0.83**	**149**	⇑*e*P	Pb	16 11 15.0	+0.4
DMPH				*e*S	Sn	16 11 27.8	-0.5
CTBH	**Cotabato--PC H**	**1.01**	**235**	⇑*i*P	Pn	16 11 18.0	-0.3
CTBH				*i* S	Sn	16 11 32.9	+0.3
BUTP	**Butuan**	**1.28**	**25**	*e*P	Pn	16 11 21.6	-0.5
MATI	**Mati**	**1.44**	**126**	*e*P	Pn	16 11 24.1	-0.3
PAGZ	**Pagadian**	**1.68**	**272**	*e*P	Pb	16 11 28.8	-0.4

IDC 10 16:11:05.4±11.0,16.91S×178.90W,h439km±125km, mb2.7/4,mb1 3.1/4,mb1mx2.9/17,mbtmp2.7/4,Error ellipse: s-maj=112.1km s-min=40.9km az=158.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.36**	**259**	P	P	16 18 34.7	-0.7
	0.3nm,0.9s,baz=90,slow=8.3,SNR=2.5						
ASAR	**Alice Springs**	**44.62**	**253**	P	P	16 18 37.6	+0.2
	0.3nm,0.4s,baz=90,slow=8.2,SNR=15						
ILAR	**Eielson Array**	**85.02**	**13**	P	P	16 22 52.5	-0.3
	0.3nm,0.4s,baz=222,slow=5.4,SNR=6.0						
TXAR	**Lajitas Array**	**85.86**	**58**	P	P	16 22 58.0	+0.1
	0.2nm,0.6s,baz=225,slow=3.7,SNR=3.3						
ARCES	**ARCESS Array B**	**125.25**	**350**	PKP	PKPdf	16 29 13.2	-1.3
	0.8nm,0.7s,baz=289,slow=2.8,SNR=2.9						
GERES	**GERESS Array B**	**146.53**	**345**	PKPbc	PKPbc	16 29 56.6	+0.1
	0.3nm,0.6s,baz=203,slow=0.7,SNR=3.1						

*ISCJB **10** 16:18:58.6±1.6,35.48N±0.03×76.42E±0.04,h0km±11km, mb4.3/29,MS4.0/1,Error ellipse: s-maj=5.8km s-min=4.7km az=143.4*
*IDC **10** 16:18:58.6±0.8,35.34N×76.04E,h0km,mb4.0/13, mb1 4.1/19,mb1mx4.0/29,mbtmp4.0/19,ML3.9/6,MS3.6/2, Ms1 3.7/2,ms1mx3.0/31,Error ellipse: s-maj=19.4km s-min=14.5km az=49.0*
*LDG **10** 16:19:00.1±0.1,35.32N×76.41E,h10km,Mb4.6/10, Ms2.8/1,Error ellipse: s-maj=7.6km s-min=4.6km az=50.0*
*BJI **10** 16:19:02.0,35.35N×76.24E,h8km,mB4.3/5,mb4.4/12, ML4.4/4,Ms3.8/3,Ms7 3.6/2*
*NNC **10** 16:19:03.5±5.7,35.50N×75.89E,h13km±39km,mb4.4, mpv4.4,Error ellipse: s-maj=58.8km s-min=39.7km az=110.0*

*MOS **10** 16:19:04.6±1.5,35.58N×76.21E,h48km,mb4.2/17,Error ellipse: s-maj=14.1km s-min=6.6km az=98.8*

ISC 10 16:19:00.8±2.0,35.42N±0.04×76.32E±0.05,h10km±13km, n92,σ1§95/91,mb4.2/29,5C-5D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**3.08**	**236**	P	**Pn**	**16 19 51.9**	**+2.4**
DHRM	**DHARAMSHALA**	**3.17**	**180**	*e*P	**Pb**	**16 19 56.7**	**-0.6**
DHRM				*e*S	**Sb**	**16 20 39.4**	**+3.4**
DHRM				AML	AML	16 20 49.8	
	comp=N,2μm,0.0s						
DHRM				AML	AML	16 20 50.3	
	comp=E,1μm,0.8s						
SDNR	**Sundarnagar**	**3.95**	**172**	*e*P	Pn	16 20 06.0	+4.5
SDNR				*e*	**Sg**	**16 21 07.0**	**-0.7**
CEP	**Cherat**	**3.97**	**248**	P	**Pn**	**16 20 03.2**	**+1.3**
CEP				S	**Sb**	**16 21 01.0**	**+1.8**
BHK	**Bhakra**	**4.00**	**179**	*e*Pg	Pb	16 20 15.2	+3.9
BHK				*e*S	**Sg**	**16 21 06.8**	**-2.4**
KSH	**Kashi**	**4.09**	**356**	Pn	**Pn**	**16 20 06.3**	**+2.7**
KSH				Sn	**Sn**	**16 20 53.2**	**+1.6**
KSH				smax	smax		
	comp=E,720nm,1.1s						
KSH				smax	smax		
	comp=E,720nm,0.9s						
SMLA	**Simla**	**4.34**	**170**	*e*P	Pn	16 20 10.6	+3.8
SMLA				*i*	Sb	16 21 17.4	+7.8
SMLA				AML	AML	16 21 25.1	
	comp=E,648nm,0.6s						
SMLA				AML	AML	16 21 27.7	
	comp=N,603nm,0.8s						
THW	**Thamme Wali**	**4.62**	**237**	P	**Pn**	**16 20 11.5**	**+0.8**
DDI	**Dehra Dun**	**5.29**	**164**	*e*P	Pn	16 20 26.0	+6.0
DDI				*e*		16 21 43.4	
DDI				AML	AML	16 21 58.0	
	comp=E,482nm,0.1s						
DDI				AML	AML	16 21 58.1	
	comp=N,512nm,0.1s						
NDI	**New Delhi**	**6.76**	**173**	*ex*	**Sn**	**16 21 59.0**	**+1.8**
LGTI	**Lohaghat**	**6.82**	**150**	*ex*	Pn	16 20 47.5	+6.7
AAK	**Ala-Archa**	**7.34**	**349**	P	Pn	16 20 52.1	+3.9
AAK						16 22 07.9	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,195nm,19.8s						
AAK	**Ala-Archa**	**7.34**	**349**	Pn	Pn	16 20 52.1	+3.9
	comp=Z,0.5nm,0.3s,baz=160,slow=7.4,SNR=7.8						
AAK				Sn	**Sn**	**16 22 07.9**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=164,slow=18,SNR=2.3						
AAK				Lg	Lg	16 22 49.7	
	comp=Z,0.5nm,0.3s,baz=15,slow=20,SNR=2.7						
AAK				LR	LR	16 24 08.6	
	comp=Z,195nm,19.8s,baz=346,slow=42						
TKM2	**Tokmak 2**	**7.51**	**356**	Pn	Pn	16 20 54.0	+3.4
TKM2				⇑Pg	Pg	16 21 19.7	-4.8
	comp=Z,20nm,0.9s,baz=174						
TKM2				⇑Sn	**Sn**	**16 22 17.3**	**+1.5**
	comp=Z,44nm,1.1s,baz=160,slow=24						
TKM2				Lg	Lg	16 22 54.6	
KK31	**Karatay Array**	**8.89**	**331**	*e*P	**Pn**	**16 21 09.1**	**-0.2**
KK31				*i*		16 22 47.7	
KK31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KK31				smax	smax		
	comp=N,7.0nm,0.5s						
KK31	**Karatay Array**	**8.89**	**331**	Pn	**Pn**	**16 21 09.1**	**-0.2**
	comp=N,12nm,0.7s,baz=140,slow=13,SNR=103						
KK31				⇑Sn	**Sn**	**16 22 46.6**	**-2.9**
	comp=N,13nm,0.8s,baz=160,slow=24,SNR=4.9						
PYUN	**Piuthan**	**9.24**	**140**	*e*P	**Pn**	**16 21 15.9**	**+1.5**
	comp=N,103nm,0.4s						
DANN	**Dangsing**	**9.47**	**136**	*e*P	**Pn**	**16 21 19.8**	**+2.3**
KOLN	**Koldanda**	**9.83**	**139**	*e*P	**Pn**	**16 21 24.5**	**+2.1**
	comp=N,112nm,0.7s						
GKN	**Gorkha**	**10.24**	**134**	*e*P	**Pn**	**16 21 29.4**	**+1.5**
	comp=N,111nm,0.6s						
KKN	**Kakani**	**10.78**	**132**	*e*P	**Pn**	**16 21 36.1**	**+0.7**
	comp=N,86nm,0.6s						
DMN	**Daman**	**10.81**	**134**	*e*P	**Pn**	**16 21 37.2**	**+1.4**
	comp=N,117nm,0.6s						
PKIN	**Phulchoki**	**11.00**	**133**	*e*P	**Pn**	**16 21 39.9**	**+1.4**
	comp=N,57nm,0.5s						
PKI	**Pulchoki**	**11.01**	**133**	*e*P	**Pn**	**16 21 40.0**	**+1.3**
GUN	**Gumba**	**11.06**	**130**	*e*P	**Pn**	**16 21 40.8**	**+1.4**
	comp=N,134nm,0.6s						
JIRN	**Jiri**	**11.43**	**130**	*e*P	**Pn**	**16 21 45.8**	**+1.3**
	comp=N,216nm,0.4s						
WMQ	**Urumqi**	**12.12**	**43**	P	**Pn**	**16 21 54.9**	**+1.3**
WMQ				S	**Sn**	**16 24 08.8**	**-0.1**
BHPL	**Bhopal**	**12.18**	**175**	*e*		16 24 03.4	
RAMN	**Ramite**	**12.19**	**131**	*e*P	**Pn**	**16 21 54.5**	**-0.3**
	comp=N,56nm,0.5s						
MK31	**Makanchi Array**	**12.21**	**20**	*e*P	**Pn**	**16 21 56.7**	**+1.9**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	**Makanchi Array**	**12.21**	**20**	⇓P	**Pn**	**16 21 57.3**	**+2.5**
	comp=Z,2.6nm,0.5s,baz=188,slow=11,SNR=64						
MKAR	**Makanchi Array**	**12.21**	**20**	P	**Pn**	**16 21 57.6**	**+2.8**
MKAR						16 24 13.7	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**12.21**	**20**	Pn	**Pn**	**16 21 57.5**	**+2.8**
	comp=Z,1.6nm,0.3s,baz=192,slow=11,SNR=60						
MKAR				Sn	**Sn**	**16 24 13.7**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=196,slow=21,SNR=3.3						
TAPN	**Taplejung**	**12.62**	**126**	*e*P	**Pn**	**16 21 59.0**	**-1.7**
	comp=Z,47nm,0.6s						
JBP	**Jabalpur**	**12.62**	**164**	*i*	**Pn**	**16 22 00.1**	**-0.4**
JBP				*e*S	**Sn**	**16 24 19.4**	**-1.7**
ODAN	**Odare**	**12.75**	**129**	*e*P	**Pn**	**16 22 00.1**	**-2.3**
	comp=Z,28nm,0.6s						
BOK	**Bokaro**	**14.25**	**142**	*e*	**Pn**	**16 22 20.2**	**-2.5**
BOK				*e*S	**Sn**	**16 24 55.6**	**-5.4**
NGP	**Nagpur**	**14.42**	**170**	*e*Pg		16 22 24.1	
NGP				*e*S	Sn	16 24 58.6	-6.4
KURBB	**Kurchatov Arra**	**15.28**	**5**	Pn	**Pn**	**16 22 35.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=190,slow=12,SNR=21						
KURBB				Lg	Lg	16 26 55.1	
	baz=169,slow=30,SNR=4.0						
KURK	**Kurchatov**	**15.38**	**6**	P	**Pn**	**16 22 36.7**	**-1.0**
KURK				pmax	pmax		
	comp=Z,21nm,0.9s						
KURK	**Kurchatov**	**15.38**	**6**	⇓P	**Pn**	**16 22 35.9**	**-1.8**
	comp=Z,32nm,1.3s						
POO	**Poona**	**16.97**	**188**	*e*P	**P**	**16 23 02.0**	**+1.7**
BVA0	**Borovoye Array**	**18.09**	**348**	*i* P	**Pn**	**16 23 11.6**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,14nm,1.3s						
BVA0	**Borovoye Array**	**18.09**	**348**	⇓P	**Pn**	**16 23 12.3**	**+0.2**
	comp=Z,14nm,1.3s,baz=149,slow=9.7,SNR=31						
BVAR	**Borovoye Array**	**18.09**	**348**	P	**Pn**	**16 23 11.3**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**18.09**	**348**	P	**Pn**	**16 23 11.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=143,slow=9.7,SNR=15						
BVAR				Lg	Lg	16 28 34.4	
	comp=Z,0.1nm,0.3s,baz=147,slow=29,SNR=3.3						
BRVK	**Borovoye**	**18.14**	**348**	⇑*e*P	**Pn**	**16 23 11.2**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
AB31	**Akbulak array**	**18.32**	**324**	*i* P	**Pn**	**16 23 11.8**	**-3.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AB31	**Akbulak array**	**18.32**	**324**	⇑P	**Pn**	**16 23 11.7**	**-3.2**
	comp=Z,3.1nm,0.6s,baz=136,slow=12,SNR=57						
GTA	**Gaotai**	**19.07**	**71**	*e*P	Pn	16 23 32.4	+8.2
GTA				pP	pP	16 23 36.2	+10
GTA				sP	sP	16 23 38.5	+11
GTA				S	**Sn**	**16 26 54.0**	**-3.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,170nm,4.5s						
GTA				LR	LR		
	comp=Z,250nm,14.7s						
GTA				LR	LR		
	comp=Z,150nm,14.7s						
GTA				LR	LR		
	comp=Z,200nm,15.4s						
ZALV	**Zalesovo Beam**	**19.46**	**15**	P	**P**	**16 23 27.1**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.46**	**15**	P	**P**	**16 23 27.1**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=213,slow=11,SNR=11						
NVS	**Novosibirsk**	**20.00**	**12**	⇓*i*P	**P**	**16 23 32.6**	**-0.7**
NVS				*e*		16 27 12.4	
NVS				pmax	pmax		
	comp=N,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,15nm,1.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
AKTO	**Aktyubinsk**	**20.04**	**324**	P	**P**	**16 23 33.0**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**20.04**	**324**	P	**P**	**16 23 33.0**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=114,slow=12,SNR=14						
AKTO	**Aktyubinsk**	**20.04**	**324**	⇓P	**P**	**16 23 32.9**	**-0.8**
	comp=Z,8.7nm,0.6s						
ARU	**Arti**	**24.23**	**336**	P	**P**	**16 24 17.0**	**-0.6**
ZAK	**Zakamensk**	**24.59**	**44**	*e*P	P	16 24 10.5	-11
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
RDF	**Al-Radifah**	**25.15**	**263**	*e*P	**P**	**16 24 28.6**	**+2.4**
RDF				AMb	AMB	16 24 33.2	
	comp=Z,66nm,0.9s						
RST	**Umm Al-Ruwaisa**	**25.38**	**265**	*e*P	**P**	**16 24 28.3**	**0.0**
RST				AMb	AMB	16 24 34.8	
	comp=Z,801nm,0.8s						
SONM	**Songino Array**	**25.50**	**52**	P	**P**	**16 24 32.1**	**+2.8**
	comp=Z,2.6nm,0.7s,baz=252,slow=9.2,SNR=17						
CMAR	**Chiang Mai Arr**	**26.21**	**124**	P	**P**	**16 24 37.5**	**+1.6**
	comp=Z,8.6nm,0.7s,baz=309,slow=12,SNR=55						
KBZ	**Khabaz**	**26.92**	**298**	P	**P**	**16 24 43.3**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**26.92**	**298**	P	**P**	**16 24 43.3**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=135,slow=1.4,SNR=2.2						
GOF	**Gofitskoye**	**27.00**	**301**	*e*P	P	16 24 49.5	+6.7
OBN	**Obninsk**	**33.59**	**318**	*e*P	**P**	**16 25 43.8**	**+2.9**
OBN				*e*		16 26 55.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRTR	**Keskin Array B**	**33.87**	**290**	P	**P**	**16 25 45.6**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=96,slow=7.2,SNR=2.1						
AKASG	**Malin Array Be**	**36.98**	**309**	P	**P**	**16 26 09.9**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**36.98**	**309**	P	**P**	**16 26 09.9**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=78,slow=8.6,SNR=3.4						
FINES	**FINESS Array B**	**40.80**	**326**	P	**P**	**16 26 41.2**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=114,slow=9.6,SNR=24						
YAK	**Yakutsk**	**42.38**	**34**	*e*P	P	16 26 59.1	+4.2
YAK				*i* AP	pP	16 27 17.2	+19
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARCES	**ARCESS Array B**	**43.81**	**337**	P	**P**	**16 27 05.9**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=114,slow=8.9,SNR=14						
NB2	**NORSAR Subarra**	**47.83**	**323**	P	**P**	**16 27 36.7**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**47.83**	**323**	P	**P**	**16 27 36.9**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=91,slow=8.2,SNR=3.7						
NOA				LR	LR	16 48 37.2	
	comp=Z,150nm,19.9s,baz=10.0,slow=37						
MJAR	**Matsushiro Arr**	**49.31**	**70**	P	**P**	**16 27 50.9**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=287,slow=9.1,SNR=3.3						
KMBO	**Kilima Mbogo**	**51.49**	**234**	P	**P**	**16 28 07.9**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=41,slow=12,SNR=6.0						
SBF	**Sospel**	**52.32**	**302**	*e*P	**P**	**16 28 15.3**	**+2.6**
	comp=Z,29nm,0.9s						
LPG	**La Plagne**	**52.36**	**304**	*e*P	**P**	**16 28 16.2**	**+2.9**
	comp=Z,12nm,0.8s						
LPL	**La Plagne**	**52.37**	**304**	*e*P	**P**	**16 28 15.5**	**+2.3**
	comp=Z,29nm,1.1s						
MBDF	**Montbardon**	**52.55**	**303**	*e*P	**P**	**16 28 16.6**	**+2.1**
	comp=Z,13nm,1.0s						
FRF	**La Foret Royal**	**52.95**	**301**	*e*P	**P**	**16 28 19.6**	**+2.3**
	comp=Z,10nm,0.8s						
LOR	**Lormes**	**53.83**	**306**	*e*P	**P**	**16 28 26.3**	**+2.5**
VIVF	**Saint-Julien-l**	**53.95**	**303**	*e*P	**P**	**16 28 26.9**	**+2.2**
	comp=Z,3.4nm,0.6s						
SMF	**Signal de Mont**	**54.01**	**306**	*e*P	**P**	**16 28 27.4**	**+2.3**
	comp=Z,8.6nm,0.8s						
AVF	**Avril sur Loir**	**54.30**	**306**	*e*P	**P**	**16 28 29.4**	**+2.3**
	comp=Z,8.9nm,0.9s						
CAF	**Calviac**	**55.70**	**304**	*e*P	**P**	**16 28 40.3**	**+3.0**
ESDC	**Sonseca Array**	**61.75**	**300**	P	**P**	**16 29 18.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=51,slow=6.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**70.04**	**272**	P	**P**	**16 30 10.6**	**-2.6**
	comp=Z,5.7nm,0.9s,baz=47,slow=5.4,SNR=20						
ILAR	**Eielson Array**	**74.56**	**18**	P	**P**	**16 30 38.8**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=319,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**77.80**	**125**	P	**P**	**16 30 58.5**	**0.0**
	comp=Z,1.2nm,1.0s,baz=330,slow=4.7,SNR=3.8						
ASAR	**Alice Springs**	**80.15**	**128**	P	**P**	**16 31 11.0**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=317,slow=5.2,SNR=4.5						
YKA	**Yellowknife Ar**	**82.03**	**5**	P	**P**	**16 31 20.0**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=341,slow=5.1,SNR=5.1			

6.7nm,0.3s,baz=360,slow=7.3,SNR=42
ATAH S Sn 16 22 46.8 -2.5
5.4nm,0.3s,baz=332,slow=8.8,SNR=6.1
ROSC El Rosal 7.87 30 *e*Pn Pn 16 22 26.3 -1.3
ROSC *e* 16 22 39.3
ROSC El Rosal 7.87 30 P Pn 16 22 26.7 -1.0
3.5nm,0.3s,baz=95,slow=17,SNR=5.4
NNA Nana 10.03 172 *e*Pn Pn 16 22 45.6 -11
NNA eSn Sn 16 24 41.1 -6.1
NNA Nana 10.03 172 P Pn 16 22 54.7 -1.5
4.3nm,0.3s,baz=354,slow=10,SNR=4.8
NNA S Sn 16 24 37.4 -10
2.7nm,0.3s,baz=142,slow=22,SNR=4.4
BCIP Isla Barro Col 11.20 352 *e*Pn Pn 16 23 10.8 -0.8
SDV Santo Domingo 13.22 35 *e*Pn Pn 16 23 36.0 -2.2
JTS JuntasAbangare 13.89 332 *e*Pn P 16 23 48.8 -1.3
JTS JuntasAbangare 13.89 332 P Pn 16 23 46.6 +0.1
0.3nm,0.3s,baz=90,slow=20,SNR=1.9
SAML Samuel 16.53 115 *e*P Pn 16 24 16.6 -2.7
32nm,0.9s
SAML *e*S S 16 27 10.5 -13
LPAZ La Paz 17.37 145 *e*P Pn 16 24 31.0 +1.1
23nm,0.9s
LPAZ La Paz 17.37 145 P Pn 16 24 31.2 +1.3
1.7nm,0.3s,baz=330,slow=12,SNR=37
PTGA Pitinga 18.35 86 *e*P P 16 24 36.8 -2.4
24nm,0.7s
MTDJ Mount Denham 20.11 2 P P 16 24 57.1 -1.2
APG El Apazote 20.75 325 P P 16 25 04.2 -1.2
APG El Apazote 20.75 325 P P 16 25 04.2 -1.2
4.1nm,0.8s,baz=108,slow=17,SNR=4.1
SIV San Ignacio 21.93 130 P P 16 25 18.0 +0.3
SIV San Ignacio 21.93 130 P P 16 25 18.0 +0.3
5.7nm,0.6s,baz=324,slow=11,SNR=28
SDDR Presa de Saban 21.95 18 P P 16 25 18.2 +0.2
28nm,1.0s
GTBY Guantanamo Bay 22.00 8 *e*P P 16 25 18.7 +0.3
36nm,0.9s
LVC Limon Verde 22.43 157 *e*P P 16 25 25.7 +2.9
38nm,1.0s
SJG San Juan 23.28 30 P P 16 25 30.2 -0.3
SJG San Juan 23.28 30 P P 16 25 30.4 -0.1
18nm,0.7s,baz=30,slow=20,SNR=3.6
TEIG Tepich 24.16 337 P P 16 25 39.0 +0.5
TEIG Tepich 24.16 337 P P 16 25 39.0 +0.5
6.7nm,0.4s,baz=129,slow=3.0,SNR=4.0
LCO Las Campanas 27.82 166 P P 16 26 12.9 +1.2
8.9nm,1.1s
CPUP Villa Florida 31.48 142 *e*P P 16 26 42.7 -1.0
0.7nm,1.1s
CPUP PcP PcP 16 29 33.5 0.0
CPUP Villa Florida 31.48 142 P P 16 26 43.1 -0.6
0.8nm,0.5s,baz=318,slow=14,SNR=3.8
CPUP PcP PcP 16 29 33.5 0.0
1.6nm,0.6s,baz=270,slow=4.0,SNR=3.6
BDFB Brasilia 32.77 116 P P 16 26 55.5 +0.2
BDFB Brasilia 32.77 116 P P 16 26 55.5 +0.2
3.9nm,0.5s,baz=274,slow=12,SNR=5.3
732A Laxson Ranch, 36.96 327 ⇑P P 16 27 31.7 +0.7
baz=37
534A Blanco 37.23 330 ⇓P P 16 27 33.3 0.0
baz=37
434A Burnet 37.78 331 ⇓P P 16 27 38.2 +0.3
baz=38
631A Perdido Creek 37.82 327 ⇓P P 16 27 39.0 +0.7
baz=38,SNR=9.1
532A Rocksprings 38.03 329 ⇑P P 16 27 41.3 +1.2
baz=38,SNR=17
433A Art 38.13 330 ⇑P P 16 27 41.6 +0.7
baz=38,SNR=18
334A Lometa 38.19 332 ⇓P P 16 27 41.5 +0.2
baz=38,SNR=5.6
JCT Junction City 38.26 329 ⇓P P 16 27 42.7 +0.7
baz=38
WHTX Lake Whitney 38.38 333 ⇓P P 16 27 44.4 +1.4
baz=38
531A Rocksprings 38.40 328 ⇓P P 16 27 44.4 +1.2
baz=38,SNR=10
333A Richland Sprin 38.54 331 ⇓P P 16 27 44.5 +0.2
baz=39
432A Menard 38.58 330 ⇓P P 16 27 45.5 +0.8
baz=39
530A J-C Ranch, Com 38.81 327 ⇓P P 16 27 47.3 +0.7
baz=39,SNR=6.6
431A Sonora 38.84 329 ⇓P P 16 27 47.5 +0.7
baz=39,SNR=5.4
TRQA Tornquist 38.88 159 *e*P P 16 27 47.6 +0.6
15nm,1.0s
332A Millersview 38.96 330 ⇑P P 16 27 48.3 +0.5
baz=39,SNR=11
628A Black Gap, Mar 39.17 325 ⇓P P 16 27 50.6 +1.0
baz=39
PLCA Paso Flores 39.19 171 *e*P P 16 27 51.6 +1.9
35nm,0.8s
PLCA Paso Flores 39.19 171 P P 16 27 51.5 +1.9
25nm,0.7s,baz=344,slow=9.0,SNR=82
331A San Angelo 39.25 329 ⇑P P 16 27 50.8 +0.6
baz=39
430A Baggett Ranch, 39.25 328 ⇓P P 16 27 50.8 +0.5
baz=39
529A Stev Forest Ra 39.27 326 ⇑P P 16 27 51.1 +0.6
baz=39,SNR=6.6
232A Coleman 39.33 331 ⇑P P 16 27 51.3 +0.4
baz=39,SNR=7.3
627A Terlingua Ranc 39.43 324 ⇑P P 16 27 53.1 +1.3
baz=40,SNR=5.6
429A Davenport Ranc 39.48 327 ⇑P P 16 27 52.6 +0.4
baz=40,SNR=7.3
TXAR Lajitas Array 39.51 324 P P 16 27 53.0 +0.5
TXAR PcP PcP 16 29 58.2 +0.9
TXAR Lajitas Array 39.51 324 P P 16 27 53.0 +0.5
1.5nm,0.8s,baz=143,slow=7.8,SNR=11
TXAR PcP PcP 16 29 58.2 +0.9
2.7nm,0.7s,baz=154,slow=6.4,SNR=16
TX31 Lajitas Ar. Si 39.51 324 *e*P P 16 27 52.4 0.0
TX31 *e*PcP PcP 16 29 58.1 +0.8
133A Hamilton Ranch 39.57 332 ⇑P P 16 27 53.7 +0.9
baz=40
528A Cox Ranch, San 39.62 326 ⇑P P 16 27 54.1 +0.7
baz=40
231A Bronte 39.70 330 ⇓P P 16 27 54.0 +0.1
baz=40
330A Mertzon 39.71 329 ⇑P P 16 27 54.5 +0.4
baz=40
ABTX Abilene, Hawle 39.93 331 *e*P P 16 27 56.2 +0.4
ABTX Abilene, Hawle 39.93 331 ⇓P P 16 27 56.3 +0.5
baz=40
626A Big Bend Ranch 39.95 324 ⇓P P 16 27 57.0 +0.9
baz=40,SNR=11
428A Kincaid Ranch, 39.99 326 ⇓P P 16 27 57.3 +0.9
baz=40,SNR=5.4
230A Sterling City 40.06 329 ⇓P P 16 27 57.4 +0.5
baz=40
Z33A Whitaker Ranch 40.07 333 ⇑P P 16 27 57.6 +0.7
baz=40
527A Woodward Ranch 40.08 325 ⇓P P 16 27 57.7 +0.5
baz=40,SNR=14
Y34A Reagan Ranch, 40.19 335 ⇓P P 16 27 58.3 +0.5
baz=40
329A Wagon Wheel Ra 40.20 328 ⇑P P 16 27 59.0 +0.9
baz=40
526A Mary Lane Ranc 40.29 324 ⇓P P 16 27 59.6 +0.6
baz=40,SNR=8.3
131A Roby 40.33 331 ⇓P P 16 27 59.8 +0.7
baz=40
Z32A Haskell 40.41 332 ⇓P P 16 28 00.8 +1.1
baz=40,SNR=7.4
229A Bryant Ranch, 40.48 328 ⇓P P 16 28 01.0 +0.6
baz=41
427A Hayter Ranch, 40.49 326 ⇓P P 16 28 01.1 +0.6
baz=41
130A Snyder 40.55 330 ⇑P P 16 28 01.6 +0.6
baz=41,SNR=6.0
328A Wristen Ranch, 40.56 327 ⇓P P 16 28 01.7 +0.6
baz=41
Y33A Hilltop Ranch, 40.61 334 ⇓P P 16 28 01.5 +0.2
baz=41
426A McDonald Obser 40.71 325 ⇑P P 16 28 02.8 +0.4
baz=41
Z31A Sharp Cattle R 40.74 331 ⇓P P 16 28 03.1 +0.7
baz=41,SNR=5.3
X34A Smith Ranch, M 40.77 335 ⇑P P 16 28 04.0 +1.3
baz=41
Y32A R-V Farms, Ver 40.97 333 ⇑P P 16 28 05.0 +0.7
baz=41,SNR=5.9
X33A Lawton 41.01 334 ⇓P P 16 28 05.4 +0.8
baz=41

228A UT Block 9, Go 41.01 328 ⇓P P 16 28 05.0 +0.2
baz=41
326A Caldwell Ranch 41.16 326 ⇓P P 16 28 06.4 +0.4
baz=41,SNR=8.0
Z30A Sanderson Ranc 41.19 330 ⇑P P 16 28 07.1 +0.9
baz=41,SNR=6.8
X32A Elmer 41.25 333 ⇓P P 16 28 07.4 +0.8
baz=41
WMOK Wichita Mounta 41.30 334 *e*P P 16 28 06.6 -0.3
5.1nm,0.8s
227A Bennet, Jal 41.31 327 ⇑P P 16 28 07.9 +0.7
baz=41
Y31A Rekieta Farm, 41.32 332 ⇓P P 16 28 08.1 +0.9
baz=41
425A Indio Mountain 41.35 324 ⇓P P 16 28 08.1 +0.5
baz=42,SNR=9.3
W33A Caddo, Fort Co 41.51 335 ⇓P P 16 28 09.7 +1.0
baz=42
Y30A Stafford Cattl 41.55 331 ⇓P P 16 28 09.9 +0.8
baz=42,SNR=7.7
V34A Guthrie 41.70 336 ⇑P P 16 28 09.9 -0.4
baz=42
X31A McDonald Ranch 41.74 333 ⇑P P 16 28 11.4 +0.8
baz=42,SNR=5.3
325A Bean Ranch, Si 41.77 325 ⇓P P 16 28 11.5 +0.4
baz=42
W32A Sentinel 41.82 334 ⇑P P 16 28 11.7 +0.4
baz=42,SNR=9.6
226B Tecolote Peak, 41.84 326 ⇑P P 16 28 12.8 +1.2
baz=42,SNR=7.0
Y29A Porterfield Fa 41.92 330 ⇑P P 16 28 12.8 +0.7
baz=42
X30A Coker Ranch, T 42.01 332 ⇓P P 16 28 13.5 +0.7
baz=42
V33A Lossen Ranch, 42.01 335 ⇓P P 16 28 13.0 +0.3
baz=42
324A Moseley Ranch, 42.12 324 ⇑P P 16 28 14.0 +0.1
baz=42,SNR=9.5
W31A Holland Ranch, 42.19 333 ⇑P P 16 28 14.5 +0.2
baz=42
225A Deer Hill, Car 42.23 326 ⇓P P 16 28 15.3 +0.5
baz=42,SNR=6.6
U34A Anderson Ranch 42.23 337 ⇓P P 16 28 14.9 +0.3
baz=42
V32A Arapaho 42.24 335 ⇑P P 16 28 15.4 +0.8
baz=42,SNR=7.6
Y28A McKinney Farm, 42.24 330 ⇑P P 16 28 15.2 +0.4
baz=42
MNTX Cornudas Mount 42.25 325 *e*P P 16 28 15.2 +0.5
4.3nm,0.8s
Z27A Tatum 42.27 328 ⇓P P 16 28 15.4 +0.4
baz=42
X29A Tulia 42.40 331 ⇑P P 16 28 16.8 +0.8
baz=42
RCBR Riachuelo 42.44 96 P P 16 28 15.8 -0.8
9.1nm,0.9s
RCBR Riachuelo 42.44 96 P P 16 28 15.6 -1.0
6.2nm,0.8s,baz=243,slow=4.5,SNR=3.1
125A Gardner Draw, 42.55 326 ⇑P P 16 28 18.1 +0.7
baz=43
MSTX Muleshoe 42.56 329 *e*P P 16 28 17.6 +0.3
MSTX Muleshoe 42.56 329 ⇑P P 16 28 17.9 +0.6
baz=43,SNR=5.7
224A Cornudas Mount 42.60 325 ⇓P P 16 28 18.2 +0.4
baz=43
V31A Spring Creek L 42.63 334 ⇑P P 16 28 19.4 +1.5
baz=43
Z26A Caprock 42.65 328 ⇓P P 16 28 19.1 +1.1
baz=43,SNR=11
Y27A Causey 42.69 329 ⇑P P 16 28 19.4 +0.9
baz=43
X28A Dimmitt 42.70 330 ⇑P P 16 28 19.4 +0.8
baz=43
AMTX Amarillo 42.75 331 ⇓P P 16 28 19.4 +0.6
baz=43
U32A Winter Ranch, 42.78 335 ⇓P P 16 28 19.4 +0.4
baz=43
W29A Amraillo 42.92 331 ⇓P P 16 28 21.0 +0.7
baz=43
124A Stringfield Ra 43.03 326 ⇓P P 16 28 22.5 +1.2
baz=43
Z25A Roswell 43.05 327 ⇑P P 16 28 22.5 +1.2
baz=43,SNR=7.5
S33A Kaszmaul Farm, 43.42 337 ⇓P P 16 28 24.7 +0.5
baz=44
T32A Huddler Ranch, 43.44 336 ⇓P P 16 28 25.0 +0.8
baz=44
Z24A Sheeppen Canyo 43.44 326 ⇑P P 16 28 25.4 +0.8
baz=44,SNR=5.4
Y25A Mesa, Roswell 43.52 328 ⇓P P 16 28 25.6 +0.5
baz=44
X26A CR and CF Fran 43.54 329 ⇓P P 16 28 25.5 +0.2
baz=44
222A Williams Famil 43.55 324 ⇓P P 16 28 26.4 +1.1
baz=44
W27A Bowe Ranch, En 43.57 330 ⇓P P 16 28 26.3 +0.8
baz=44,SNR=6.1
U30A WK&E Inc. Balk 43.62 334 ⇑P P 16 28 26.2 +0.4
baz=44
T31A Randall Ranch, 43.68 335 ⇑P P 16 28 27.0 +0.8
baz=44
320A Kipp Ranch, An 43.88 322 ⇑P P 16 28 28.9 +0.9
baz=44
S31A Mullinville 44.04 336 ⇓P P 16 28 30.1 +1.0
baz=44
121A Cookes Peak, D 44.26 323 *e*P P 16 28 31.3 +0.3
121A *e*PcP PcP 16 30 13.4 +0.3
121A Cookes Peak, D 44.26 323 ⇑P P 16 28 32.2 +1.1
baz=44,SNR=6.6
220A Playas Peak, P 44.27 322 ⇑P P 16 28 32.4 +1.2
baz=44,SNR=6.0
Y23A Lovelace Mesa, 44.27 326 ⇑P P 16 28 32.1 +0.9
baz=44,SNR=6.0
Z22A Elephant Butte 44.29 325 ⇑P P 16 28 32.3 +1.0
baz=44
319A Douglas 44.37 321 ⇑P P 16 28 32.7 +0.7
baz=44
W25A X Bar L Ranch, 44.40 329 ⇑P P 16 28 32.6 +0.5
baz=44
R32A Long Quarter, 44.42 337 ⇓P P 16 28 32.6 +0.5
baz=44
T29A Hugoton 44.43 333 ⇓P P 16 28 33.4 +1.1
baz=45
S30A Montezuma 44.47 335 ⇓P P 16 28 33.7 +1.1
baz=45
V26A Tequesquite Ra 44.51 330 ⇑P P 16 28 34.1 +1.1
baz=45,SNR=13
U27A Thompson Grove 44.54 331 ⇓P P 16 28 34.0 +0.8
baz=45
R31A Burdett 44.63 336 ⇑P P 16 28 34.3 +0.5
baz=45
S29A Ulysses 44.74 334 ⇑P P 16 28 36.2 +1.5
baz=45,SNR=5.8
T28A Walsh 44.77 333 ⇑P P 16 28 35.9 +0.9
baz=45
120A U Bar Ranch, L 44.78 323 ⇓P P 16 28 36.3 +1.1
baz=45
W24A Lazy 6 Ranch, 44.89 328 ⇓P P 16 28 37.1 +1.0
baz=45
R30A Dighton 44.94 335 ⇓P P 16 28 37.2 +1.0
baz=45
U26A Atchley Ranch, 44.96 331 ⇑P P 16 28 37.5 +0.9
baz=45,SNR=6.2
V25A Rancho No Teng 44.96 329 ⇑P P 16 28 37.3 +0.6
baz=45,SNR=6.5
T27A Campo 45.00 332 ⇑P P 16 28 37.4 +0.5
baz=45
S28A Manter 45.06 333 ⇑P P 16 28 38.1 +0.9
baz=45
V24A Rampart Ranch, 45.21 329 ⇓P P 16 28 39.6 +0.9
baz=45
W23A Werner Place, 45.25 327 ⇑P P 16 28 40.0 +1.1
baz=45
ANMO Albuquerque 45.25 327 *e*P P 16 28 39.5 +0.5
9.9nm,0.9s
ANMO epP pP 16 29 11.9 +0.5
ANMO esP sP 16 29 29.6 +2.0
U25A Circle Dot Ran 45.29 330 ⇑P P 16 28 40.0 +0.8
baz=45
Q30A Quinter 45.50 336 ⇑P P 16 28 41.6 +1.0
baz=46
T26A Comanche Natio 45.51 331 ⇑P P 16 28 41.3 +0.4
baz=46
R28A Tribune 45.64 334 ⇓P P 16 28 42.6 +0.8
baz=46
Q29A Oakley 45.74 335 ⇑P P 16 28 43.4 +0.8
baz=46
S26A Kim 45.81 332 ⇓P P 16 28 44.6 +1.4
baz=46,SNR=6.6
T25A Trinidad 45.88 331 ⇓P P 16 28 44.3 +0.5
baz=46
TUC Tucson 45.95 321 *e*P P 16 28 45.1 +0.7
4.4nm,0.8s
P30A Selden 45.99 336 ⇓P P 16 28 45.0 +0.4
baz=46
R27A Eads 46.03 333 ⇓P P 16 28 45.5 +0.5
baz=46,SNR=6.8
U23A El Rito 46.15 328 ⇓P P 16 28 47.4 +1.4
baz=46
V22A San Miguel Ran 46.22 327 ⇓P P 16 28 47.6 +1.0
baz=46
Q28A Sharon Springs 46.25 334 ⇑P P 16 28 46.7 +0.2
baz=46
S25A Robets Cordova 46.30 331 ⇑P P 16 28 48.3 +1.2
baz=46
N32A Stulken Farm, 46.31 339 ⇑P P 16 28 47.6 +0.7
baz=46
R26A Arlington 46.34 332 ⇓P P 16 28 48.4 +1.1
baz=46,SNR=5.4
R25A Fountain Ranch 46.61 332 ⇑P P 16 28 50.2 +0.7
baz=47
Q26A Hugo 46.88 333 ⇑P P 16 28 52.2 +0.6
baz=47
SDCO Great Sand Dun 46.89 330 *e*P P 16 28 52.5 +0.6
7.1nm,0.7s
SDCO epP pP 16 29 26.0 +1.5
SDCO esP sP 16 29 43.7 +3.1
214A Organ Pipe Nat 47.03 319 ⇓P P 16 28 53.9 +1.2
baz=47
M31A Lambtecht Ranc 47.06 339 ⇑P P 16 28 53.1 +0.3
baz=47
W18A Petrified Fore 47.23 324 P P 16 28 53.9 -0.4
S22A 4UR Ranch, Cre 47.56 329 ⇓P P 16 28 58.2 +1.2
baz=48
Q24A Divide 47.67 332 ⇑P P 16 28 59.3 +1.4
baz=48
L31A Butterfield Fa 47.74 339 ⇑P P 16 28 58.1 0.0
baz=48
X16A Lo Mia Camp, P 47.76 322 ⇑P P 16 28 59.5 +1.0
baz=48,SNR=7.2
M28A Bar X Bar Ranc 48.02 337 ⇑P P 16 29 00.9 +0.7
baz=48
MVCO Mesa Verde 48.04 327 ⇓P P 16 29 01.0 +0.3
baz=48
113A Mohawk Valley, 48.16 319 ⇓P P 16 29 02.4 +1.0
baz=48
Y14A Wickenburg 48.42 321 ⇑P P 16 29 04.0 +0.6
baz=48
K30A Basset 48.46 339 ⇓P P 16 29 03.9 +0.4
baz=49
WUAZ Wupatki 48.47 323 *e*P P 16 29 04.0 +0.1
12nm,0.9s
WUAZ esP sP 16 29 55.7 +2.9
WUAZ *e*PcP PcP 16 30 28.7 +0.9
WUAZ Wupatki 48.47 323 ⇓P P 16 29 04.6 +0.7
baz=49,SNR=9.5
ISCO Idaho Springs 48.55 332 ⇓P P 16 29 05.7 +1.1
baz=49
O24A Longmont 48.56 333 ⇓P P 16 29 05.2 +0.7
baz=49
P22A Eagle 48.94 331 ⇓P P 16 29 07.9 +0.4
baz=49
J30A Dallas 48.98 340 ⇑P P 16 29 06.8 -0.8
baz=49
PV05 Paradox Valley 49.00 328 *e*P P 16 29 08.2 +0.3
O23A Lake Granby, G 49.02 332 ⇑P P 16 29 09.1 +0.9
baz=49,SNR=5.5
PV04 Paradox Valley 49.13 328 *e*P P 16 29 09.2 +0.3
PV10 Paradox Valley 49.18 328 *e*P P 16 29 09.4 0.0
O22A Kremmling 49.28 331 ⇓P P 16 29 10.6 +0.4
baz=49
U15A North Rim 49.63 324 ⇑P P 16 29 14.0 +1.2
baz=50
L25A Engebretsen Ra 49.72 335 ⇓P P 16 29 13.7 +0.4
baz=50
W13A Hualapai Mount 49.72 321 ⇓P P 16 29 14.7 +1.1
baz=50
K26A Motz Farm, Whi 49.84 336 ⇓P P 16 29 15.5 +1.3
baz=50
J27A Elkhorn Farm, 49.84 337 ⇓P P 16 29 14.6 +0.4
baz=50
M23A Laramie 49.93 333 ⇓P P 16 29 15.6 +0.6
baz=50
IRM Iron Mountain 49.94 319 ⇑P P 16 29 15.7 +0.8
baz=50
I28A Midland 50.17 339 ⇑P P 16 29 16.6 +0.1
baz=50
J26A Sides Ranch, S 50.31 337 ⇑P P 16 29 18.7 +1.0
baz=50
L23A Garrett 50.44 334 ⇓P P 16 29 20.1 +1.3
baz=51
SRU San Rafael 50.51 327 *e*P P 16 29 20.1 +0.7
8.3nm,1.1s
I27A Quinn 50.56 338 ⇓P P 16 29 19.9 +0.4
baz=51
GMRC Granite Mounta 50.65 320 ⇓P P 16 29 21.2 +0.8
baz=51
J25A Sunshine Ranch 50.67 336 ⇓P P 16 29 21.5 +1.2
baz=51
L22A Ellis Ranch, M 50.70 333 ⇑P P 16 29 21.3 +0.6
baz=51
MURC Murrieta 50.95 318 ⇑P P 16 29 23.1 +0.5
baz=51
MVU Marysvale 51.01 326 *e*P P 16 29 23.8 +0.6
MVU *e*PcP PcP 16 30 38.4 +1.2
CCUT Cedar City 51.02 324 *e*P P 16 29 24.6 +1.3
CCUT *e*PcP PcP 16 30 38.6 +1.3
H27A Howes 51.05 338 ⇑P P 16 29 23.0 -0.1
baz=51
HEC Hector,Ludlow 51.12 319 ⇑P P 16 29 25.4 +1.5
baz=51
I25A Rochford 51.16 337 ⇑P P 16 29 25.1 +0.9
baz=51
TUQ Turquoise Moun 51.23 320 ⇑P P 16 29 25.7 +1.0
baz=51
K22A Casper 51.23 333 ⇓P P 16 29 24.8 +0.1
baz=51
RSSD Black Hills 51.37 336 *e*P P 16 29 26.2 +0.5
1.9nm,0.9s
RSSD epP pP 16 30 00.0 +1.1
RSSD esP sP 16 30 19.7 +4.8
SHPR Sheep Range 51.42 322 *e*P P 16 29 26.1 -0.1
K21A Alcova 51.54 333 ⇓P P 16 29 27.8 +0.8
baz=52
BFSC Mount Baldy Ra 51.64 318 ⇑P P 16 29 28.5 +0.8
baz=52
GSC Goldstone 51.71 320 ⇑P P 16 29 29.6 +1.3
baz=52
SHOC Shoshone 51.74 320 ⇓P P 16 29 29.2 +0.8
baz=52
DAU Daniels Canyon 51.84 328 *e*P P 16 29 29.8 +0.4
JLU Jordanelle 52.08 328 *e*P P 16 29 31.5 +0.4
5.5nm,0.7s
H24A Dirks Ranch, A 52.10 336 ⇓P P 16 29 30.7 -0.2
baz=52
D30A Buchanan 52.10 342 ⇑P P 16 29 30.5 -0.4
baz=52
J21A Lysite 52.19 333 ⇓P P 16 29 32.4 +0.6
baz=52
I22A 9 Mile Ranch, 52.20 334 ⇑P P 16 29 31.9 +0.1
baz=52
EDW2 Edwards Air Fo 52.24 318 ⇑P P 16 29 32.7 +0.6
baz=52
E28A Huff 52.24 341 ⇓P P 16 29 31.9 0.0
baz=52
EFI East Falkland 52.34 164 *e*P P 16 29 33.4 +1.0
25nm,0.9s
TPNV Topopah Spring 52.38 322 *e*P P 16 29 34.3 +1.1
TPNV Topopah Spring 52.38 322 ⇑P P 16 29 34.8 +1.6
baz=52
AGMN Agassiz Nation 52.38 345 *e*P P 16 29 31.8 -1.1
40nm,1.8s
LRMC Laurel Mountai 52.39 319 ⇓P P 16 29 34.2 +0.8
baz=52
E27A Carson 52.41 340 ⇑P P 16 29 33.4 +0.3
baz=52
J20A Shoshoni 52.49 333 ⇑P P 16 29 34.7 +0.8
baz=53
I21A Big Trails, Te 52.49 334 ⇓P P 16 29 34.0 0.0
baz=53
DUG Dugway 52.52 327 *e*P P 16 29 35.2 +0.9
20nm,1.7s
DUG Dugway 52.52 327 ⇓P P 16 29 34.5 +0.2
baz=53
G24A Alzada 52.52 337 ⇑P P 16 29 34.8 +0.7
baz=53

C30A **Mose, Pekin** 52.55 343 ⇓P P 16 29 33.8 -0.4
baz=53
D28A **Regan** 52.74 341 ⇑P P 16 29 35.7 +0.1
baz=53
E26A **Carlson Angus** 52.76 339 ⇓P P 16 29 35.5 -0.2
baz=53
G23A **Biddle** 52.81 336 ⇑P P 16 29 36.0 -0.2
baz=53
R11A **Troy Canyon, C** 52.87 323 *e*P P 16 29 37.8 +1.0
2.6nm,0.8s
R11A **Troy Canyon, C** 52.87 323 ⇑P P 16 29 38.0 +1.1
baz=53,snr=5.9
J19A **Crowheart** 52.87 332 ⇑P P 16 29 37.0 +0.2
baz=53
F24A **Ekalaka** 52.97 337 ⇑P P 16 29 37.4 +0.1
baz=53
I20A **Worland** 52.97 333 ⇑P P 16 29 38.0 +0.6
baz=53
ISA **Isabella** 53.02 319 ⇓P P 16 29 38.8 +0.9
baz=53
MDND **Maddock** 53.02 342 ⇑P P 16 29 37.7 +0.1
baz=53
C28A **Hausauer Farms** 53.15 341 ⇓P P 16 29 38.4 -0.1
baz=53
B30A **Myrvik Farm, E** 53.18 343 ⇑P P 16 29 38.2 -0.5
baz=53
G22A **Birney** 53.19 336 ⇓P P 16 29 38.7 -0.3
baz=53
CWC **Cottonwood Cre** 53.22 320 ⇓P P 16 29 40.0 +0.5
baz=53
F23A **Volborg** 53.24 337 ⇑P P 16 29 39.3 -0.1
baz=53
H20A **Greybull** 53.34 334 ⇓P P 16 29 39.8 -0.3
baz=54
PKM **Peak Mountain** 53.47 317 ⇓P P 16 29 42.1 +0.7
baz=54
B29A **Wagenman Farm,** 53.49 343 ⇓P P 16 29 41.2 +0.2
baz=54
G21A **Lodge Grass** 53.58 335 ⇓P P 16 29 41.4 -0.5
baz=54
A30A **Hoffart Farm,** 53.62 344 ⇑P P 16 29 41.0 -0.9
baz=54
HVU **Hansel Valley** 53.62 328 *e*P P 16 29 42.3 0.0
110nm,2.9s
TPH **Tonopah** 53.69 322 *e*P P 16 29 43.7 +0.8
44nm,2.6s
LOHW **Long Hollow** 53.87 331 *e*P P 16 29 44.1 0.0
5.2nm,1.1s
A29A **Manning Farm,** 53.87 343 ⇑P P 16 29 43.7 0.0
baz=54
G20A **Bridger** 54.01 334 ⇓P P 16 29 44.8 -0.2
baz=54
RRI2 **Red Ridge** 54.02 331 *e*P P 16 29 45.3 +0.1
31nm,1.2s
I17A **Pilgrim Ck.** 54.09 332 ⇓P P 16 29 46.2 +0.5
baz=54
ULM **Lac du Bonnet** 54.19 346 P P 16 29 44.2 -1.8
ULM **Lac du Bonnet** 54.19 346 P P 16 29 44.2 -1.8
3.0nm,0.4s,baz=164,slow=8.3,snr=6.3
FLWY **Flagg Ranch** 54.27 332 *e*P P 16 29 47.1 +0.1
12nm,1.1s
RLMT **Red Lodge** 54.40 333 *e*P P 16 29 47.8 -0.1
6.0nm,0.6s
NV01 **Mina Array Sit** 54.57 322 *e*P P 16 29 50.0 +0.6
NVAR **Mina Array Bea** 54.57 322 P P 16 29 50.0 +0.7
NVAR pP pP 16 30 23.2 +0.4
NVAR PcP PcP 16 30 51.1 +0.4
NVAR **Mina Array Bea** 54.57 322 P P 16 29 50.0 +0.7
1.2nm,0.5s,baz=136,slow=6.7,snr=13
NVAR pP pP 16 30 23.2 +0.4
1.3nm,0.8s,baz=165,slow=3.7,snr=3.0
NVAR PcP PcP 16 30 51.1 +0.4
1.7nm,0.6s,baz=123,slow=3.7,snr=6.8
A26A **Wade Farm, Ken** 54.71 341 ⇓P P 16 29 49.5 -0.4
baz=55
D22A **Cohagen** 54.72 337 ⇓P P 16 29 50.3 +0.3
baz=55
F19A **Roth Farm, Mol** 54.82 334 ⇓P P 16 29 50.9 +0.1
baz=55
YMR **Madison River** 54.83 332 *e*P P 16 29 51.7 +0.6
7.4nm,0.9s
C23A **Lambert** 54.88 338 ⇓P P 16 29 51.7 +0.6
baz=55
D21A **La Casta Ranch** 54.97 336 ⇓P P 16 29 52.9 +1.1
baz=55
E20A **Meyer Farm, Mu** 54.99 335 ⇓P P 16 29 52.5 +0.5
baz=55
GCMT **Greycliff** 55.09 334 *e*P P 16 29 53.4 +0.5
C22A **Vida** 55.10 338 ⇑P P 16 29 53.3 +0.6
baz=55
A25A **Svangstu Ranch** 55.11 340 ⇑P P 16 29 53.1 +0.4
baz=55
B23A **Brockton** 55.36 339 ⇓P P 16 29 55.4 +0.9
baz=56
D20A **Manuel Ranch,** 55.46 336 ⇑P P 16 29 55.7 +0.4
baz=56
HLID **Hailey** 55.74 329 *e*P P 16 29 58.0 +0.5
5.5nm,1.3s
HLID **Hailey** 55.74 329 ⇓P P 16 29 58.0 +0.5
baz=56
D19A **Cripps Ranch,** 55.83 335 ⇑P P 16 29 58.9 +1.0
baz=56
C20A **Veseth Ranch,** 55.90 336 ⇓P P 16 29 58.3 -0.2
baz=56
C19A **Slack Wire Ran** 56.35 335 ⇓P P 16 30 02.0 +0.4
baz=56
MFID **Camas Ranch** 56.38 328 *e*P P 16 30 02.5 +0.5
13nm,1.2s
A21A **Bergtoll Ranch** 56.52 338 ⇓P P 16 30 02.8 +0.1
baz=57
B19A **Brinkman Farms** 56.87 336 ⇓P P 16 30 05.3 -0.1
baz=57
WVOR **Wild Horse Val** 57.28 325 *e*P P 16 30 08.6 +0.2
9.3nm,1.1s
SCHQ **Schefferville** 57.42 8 P P 16 30 09.9 +1.0
SCHQ **Schefferville** 57.42 8 P P 16 30 09.9 +1.0
4.5nm,0.8s,baz=240,slow=12,snr=5.9
J08A **Circle Bar Ran** 57.78 326 *e*P P 16 30 09.6 -2.2
5.4nm,0.6s
MSO **Missoula** 57.83 332 *e*P P 16 30 12.5 +0.3
16nm,1.5s
MSO **Missoula** 57.83 332 ⇓P P 16 30 12.5 +0.3
baz=58
MOD **Modoc** 57.91 324 *e*P P 16 30 12.5 -0.3
3.1nm,1.5s
WDC **Whiskeytown Da** 58.48 321 *e*P P 16 30 15.4 -1.3
4.4nm,0.7s
M04C **Macdoel** 58.76 323 ⇑P P 16 30 18.7 +0.1
baz=59
N02D **Trinity Center** 58.81 322 ⇓P P 16 30 18.4 -0.6
baz=59
I07A **Izee** 58.82 326 *e*P P 16 30 19.2 +0.2
13nm,1.5s
F10A **Beach Ranch, E** 58.85 329 *e*P P 16 30 19.4 +0.2
24nm,1.6s
BSMT **Bassoo Peak** 58.97 332 *e*P P 16 30 21.0 +0.9
M02C **Callahan** 59.14 322 ⇑P P 16 30 21.4 +0.1
baz=59
YBH **Yreka Blue Hor** 59.25 322 *e*P P 16 30 21.4 -0.7
4.1nm,0.8s
G08A **Pilot Rock** 59.30 328 *e*P P 16 30 23.1 +0.7
17nm,1.3s
J05D **Fort Rock, OR** 59.30 325 ⇑P P 16 30 22.6 +0.1
baz=59
PINOR **Pine Mountain** 59.42 325 *e*P P 16 30 24.6 +1.6
10nm,0.7s
J04D **Umpqua Nationa** 59.78 324 ⇑P P 16 30 26.3 +0.5
baz=60
I05D **Terrebonne, OR** 60.01 326 ⇑P P 16 30 27.8 +0.6
baz=60
L02D **Cave Junction,** 60.04 322 ⇑P P 16 30 28.0 +0.6
baz=60
G06A **Carlson Farm,** 60.17 327 *e*P P 16 30 29.4 +1.2
15nm,1.4s
I04A **Tendick Farm,** 60.29 325 ⇑P P 16 30 29.9 +0.9
baz=60
NEW **Newport** 60.37 331 *e*P P 16 30 29.0 -0.5
8.3nm,0.9s
NEW **Newport** 60.37 331 ⇓P P 16 30 29.8 +0.3
baz=60
G05D **Wamic, OR** 60.55 326 ⇓P P 16 30 31.4 +0.6
baz=61
I03D **Drain, OR** 60.78 324 ⇑P P 16 30 32.8 +0.5
baz=61
D05A **Enumclaw** 62.13 328 *e*P P 16 30 42.5 +1.2
13nm,0.8s
EDM **Edmonton** 62.34 337 *e*P P 16 30 41.5 -1.1
PMSA **Palmer Station** 63.49 173 P P 16 30 50.4 +0.5
41nm,1.0s
YKA **Yellowknife Ar** 69.93 343 P P 16 31 29.5 -1.3
YKA pP pP 16 32 05.6 -0.3
YKA **Yellowknife Ar** 69.93 343 P P 16 31 29.5 -1.3
1.6nm,0.6s,baz=141,slow=5.8,snr=19
YKA pP pP 16 32 05.6 -0.3
0.4nm,0.5s,baz=140,slow=5.3,snr=2.3
DLBC **Dease Lake** 72.78 334 *e*P P 16 31 48.8 +0.7
LIC **Lamto** 73.58 83 *e*P P 16 31 54.4 +0.7
28nm,1.2s
TIC **Toumodi** 73.62 83 *e*P P 16 31 54.1 +0.2
5.0nm,0.3s
DBIC **Dimbokro** 73.78 83 *e*P P 16 31 54.2 -0.6
4.9nm,0.6s
DBIC **Dimbokro** 73.78 83 P P 16 31 54.6 -0.3
2.1nm,0.3s,baz=253,slow=7.1,snr=8.0
KIC **Kosan Boka** 73.88 83 *e*P P 16 31 55.6 +0.2
19nm,0.6s
SUMG **Summit** 78.56 11 *i* P P 16 32 21.3 +0.1
6.6nm,0.7s
SUMG **Summit** 78.56 11 *e*P P 16 32 20.7 -0.5
6.9nm,0.6s
ESDC **Sonseca Array** 79.25 49 P P 16 32 24.9 -0.3
ESDC **Sonseca Array** 79.25 49 P P 16 32 24.9 -0.3
0.5nm,0.3s,baz=262,slow=5.8,snr=4.7
INK **Inuvik** 79.64 342 *e*P P 16 32 26.7 +0.1
14nm,0.8s
TOA0 **Torodi Ar. Sit** 80.70 76 *e*P P 16 32 33.0 -0.4
TORD **Torodi Ar. Bea** 80.70 76 P P 16 32 32.5 -0.8
TORD pP pP 16 33 06.4 -2.9
TORD **Torodi Ar. Bea** 80.70 76 P P 16 32 32.5 -0.8
0.7nm,0.3s,baz=287,slow=6.3,snr=14
TORD pP pP 16 33 06.4 -2.9
1.7nm,0.9s,baz=278,slow=5.7,snr=5.1
DOT **Dot Lake** 81.26 336 *e*P P 16 32 34.2 -1.2
4.6nm,1.0s
ROSF **Rostrenen** 81.56 41 *e*P P 16 32 36.8 -0.4
18nm,0.7s
ROSF **Rostrenen** 81.56 41 *e*P P 16 32 36.8 -0.4
18nm,0.7s
VNA1 **Neumayer--Stat** 81.58 162 *e*P P 16 32 38.2 +1.3
SJPF **Ste Jean** 81.93 46 *e*P P 16 32 39.5 +0.2
6.2nm,0.6s
SJPF **Ste Jean** 81.93 46 *e*P P 16 32 39.5 +0.2
6.2nm,0.6s
VNA2 **Neumayer--Watz** 81.94 162 *e*P P 16 32 39.7 +0.9
ETSF **Etsaut** 82.37 46 *e*P P 16 32 41.7 0.0
11nm,0.9s
ETSF **Etsaut** 82.37 46 *e*P P 16 32 41.7 0.0
11nm,0.9s
IL1 **Eielson Array** 82.82 336 *e*P P 16 32 42.6 -0.8
ILAR **Eielson Array** 82.82 336 P P 16 32 42.8 -0.7
ILAR **Eielson Array** 82.82 336 P P 16 32 42.8 -0.7
2.7nm,0.7s,baz=136,slow=3.9,snr=33
EPF **Esparros** 83.04 46 *e*P P 16 32 45.3 +0.1
EPF **Esparros** 83.04 46 *e*P P 16 32 45.3 +0.1
GRR **Gorron** 83.15 41 *e*P P 16 32 45.1 -0.4
GRR **Gorron** 83.15 41 *e*P P 16 32 45.1 -0.4
MFF **Saint Martin d** 83.30 43 *e*P P 16 32 46.0 -0.3
MFF **Saint Martin d** 83.30 43 *e*P P 16 32 46.0 -0.3
MCK **McKinley** 83.32 335 *e*P P 16 32 45.9 -0.2
106nm,9s
FLN **La Foliniere** 83.46 41 *e*P P 16 32 46.9 -0.2
12nm,0.8s
FLN **La Foliniere** 83.46 41 *e*P P 16 32 46.9 -0.2
12nm,0.8s
SNAA **Sanae** 83.55 162 *e*P P 16 32 47.6 +0.4
SNAA **Sanae** 83.55 162 *e*P P 16 32 47.9 +0.7
11nm,1.1s
LFF **La Frestale** 83.64 45 *e*P P 16 32 47.1 -1.0
12nm,0.6s
LFF **La Frestale** 83.64 45 *e*P P 16 32 47.1 -1.0
12nm,0.6s
LDF **La Druitiere** 83.67 41 *e*P P 16 32 47.9 -0.2
20nm,1.0s
LDF **La Druitiere** 83.67 41 *e*P P 16 32 47.9 -0.2
20nm,1.0s
RJF **Les Rejaudoux** 84.23 44 *e*P P 16 32 50.8 -0.3
18nm,0.8s
RJF **Les Rejaudoux** 84.23 44 *e*P P 16 32 50.8 -0.3
18nm,0.8s
BPAW **Bear Paw Mtn.** 84.29 335 *e*P P 16 32 50.4 -0.6
14nm,0.8s
BPAW *e*pP pP 16 33 26.9 -0.4
MTLF **Montolieu** 84.45 46 *e*P P 16 32 52.0 -0.2
20nm,1.1s
MTLF **Montolieu** 84.45 46 *e*P P 16 32 52.0 -0.2
20nm,1.1s
CAF **Calviac** 84.56 45 *e*P P 16 32 52.5 -0.3
16nm,1.1s
CAF **Calviac** 84.56 45 *e*P P 16 32 52.5 -0.3
16nm,1.1s
TCF **Toulx Ste Croi** 84.86 43 *e*P P 16 32 53.7 -0.6
4.5nm,0.5s
TCF **Toulx Ste Croi** 84.86 43 *e*P P 16 32 53.7 -0.6
4.5nm,0.5s
TAM **Tamanrasset** 85.05 67 *e*P P 16 32 57.4 +1.6
9.7nm,0.9s
BGF **Bois d'Agland** 85.33 43 *e*P P 16 32 55.3 -1.3
32nm,1.0s
BGF **Bois d'Agland** 85.33 43 *e*P P 16 32 55.3 -1.3
32nm,1.0s
AVF **Avril sur Loir** 85.71 43 *e*P P 16 32 57.7 -0.7
5.4nm,0.6s
AVF **Avril sur Loir** 85.71 43 *e*P P 16 32 57.7 -0.7
5.4nm,0.6s
LASF **Ste Croix** 85.72 46 *e*P P 16 32 58.9 +0.3
LASF **Ste Croix** 85.72 46 *e*P P 16 32 58.9 +0.3
SSF **Saint Saulge** 85.85 43 *e*P P 16 32 58.4 -0.7
7.5nm,0.8s
SSF **Saint Saulge** 85.85 43 *e*P P 16 32 58.4 -0.7
7.5nm,0.8s
SMF **Signal de Mont** 86.02 43 *e*P P 16 32 59.5 -0.5
8.4nm,0.8s
SMF **Signal de Mont** 86.02 43 *e*P P 16 32 59.5 -0.5
8.4nm,0.8s
LOR **Lormes** 86.11 43 *e*P P 16 32 59.8 -0.6
LOR **Lormes** 86.11 43 *e*P P 16 32 59.8 -0.6
QSPA **South Pole Qui** 88.07 180 *e*P P 16 33 11.0 +1.4
QSPA *e*pP pP 16 33 47.6 +1.4
NOA **NORSAR Array B** 91.48 29 P P 16 33 26.6 +1.1
NOA **NORSAR Array B** 91.48 29 P P 16 33 26.6 +1.1
0.5nm,0.7s,baz=272,slow=4.6,snr=3.5
SBA **Scott Base** 93.19 191 *e*P P 16 33 34.0 +1.0
5.7nm,1.0s
VNDA **Vanda** 94.27 191 *e*P P 16 33 38.5 +0.5
1.6nm,0.8s
VNDA **Vanda** 94.27 191 P P 16 33 40.0 +2.0
1.5nm,0.8s,baz=132,slow=3.8,snr=5.4
ARCES **ARCESS Array B** 96.67 20 P P 16 33 49.5 +0.4
ARCES **ARCESS Array B** 96.67 20 P P 16 33 49.5 +0.4
3.3nm,1.0s,baz=282,slow=4.5,snr=5.0
LBTB **Lobatse** 101.71 116 P Pdif P 16 34 13.5 +0.8
MCQ **Macquarie Isla** 106.70 211 *e*Pdif Pdif P 16 34 33.0 -1.1
5µm,0.8s
ABKAR **Akbulak array** 120.96 31 *e*P PKPdf P 16 39 11.6 +0.6
BVAR **Borovoye Array** 122.90 22 PKP PKPdf P 16 39 14.6 -0.1
BVAR **Borovoye Array** 122.90 22 PKP PKPdf P 16 39 14.6 -0.1
0.7nm,0.5s,baz=268,slow=2.5,snr=5.9
ZAA0 **Zalesovo Array** 126.38 12 *e*P PKPdf P 16 39 20.9 -0.4
ZALV **Zalesovo Beam** 126.38 12 PKP PKPdf P 16 39 21.2 -0.1
ZALV **Zalesovo Beam** 126.38 12 PKP PKPdf P 16 39 21.2 -0.1
2.1nm,0.6s,baz=298,slow=3.2,snr=14
KURK **Kurchatov** 127.67 18 PKP PKPdf P 16 39 23.9 0.0
KURBB **Kurchatov Arra** 127.72 18 PKP PKPdf P 16 39 23.9 -0.1
2.2nm,0.6s,baz=324,slow=2.2,snr=12
STKA **Stephens Creek** 129.37 225 PKP PKPdf P 16 39 27.5 -0.2
STKA **Stephens Creek** 129.37 225 PKP PKPdf P 16 39 27.5 -0.2
2.3nm,0.7s,baz=342,slow=6.4,snr=4.9
USRK **Ussuriysk Arra** 130.15 332 PKP PKPdf P 16 39 28.1 -0.7
2.3nm,0.8s,baz=319,slow=1.2,snr=6.0
MKAR **Makanchi Array** 132.27 18 PKP PKPdf P 16 39 32.5 -0.3
MKAR **Makanchi Array** 132.27 18 PKP PKPdf P 16 39 32.5 -0.3
0.9nm,0.4s,baz=311,slow=2.2,snr=11
AAK **Ala-Archa** 132.78 27 *e*PKPbc PKPdf P 16 39 39.9 +5.8
CN2 **Changchun** 133.34 336 *e*PKP PKPdf P 16 39 33.5 -1.3
SONM **Songino Array** 134.16 356 PKP PKPdf P 16 39 36.4 0.0
SONM SKPbc SKPbc P 16 42 53.3 +0.6
SONM **Songino Array** 134.16 356 PKP PKPdf P 16 39 36.4 0.0
2.3nm,0.8s,baz=320,slow=0.9,snr=17
SONM SKPbc SKPbc P 16 42 53.3 +0.6
1.0nm,0.9s,baz=321,slow=2.1,snr=5.0
WMQ **Urumqi** 136.53 15 PKP PKPdf P 16 39 38.7 -2.2
KSRS **Korea Array** 137.27 329 PKP PKPdf P 16 39 42.7 +0.4
3.5nm,0.7s,baz=32,slow=1.8,snr=9.3
KSRS pPKP pPKPdf P 16 40 19.6 -1.1
2.4nm,1.0s,baz=350,slow=3.8,snr=3.6
KSAR **Wonju Array Be** 137.30 329 PKP PKPdf P 16 39 42.7 +0.3
KSAR pPKP pPKPdf P 16 40 19.6 -1.2
ASAR **Alice Springs** 139.62 229 PKPpre PKPpre P 16 39 38.5
ASAR PKP PKPdf P 16 39 46.6 -0.6
ASAR **Alice Springs** 139.62 229 PKhKP PKPpre P 16 39 38.5
1.0nm,0.7s,baz=121,slow=3.7,snr=16
ASAR PKP PKPdf P 16 39 46.6 -0.6
1.5nm,0.6s,baz=121,slow=2.1,snr=19
HHC **Hu-ho-hao-te** 140.31 348 *e*PKP PKPdf P 16 39 45.3 -2.7
HHC sPKP 16 40 44.6
HHC PP PP P 16 42 47.6 +1.5
HHC SKS SKSdf P 16 46 36.8 -8.3
HHC SS SS P 17 00 54.3 -3.2
HHC AMB AMB
comp=Z,170nm,9.5s
WRAB **Tennant Creek** 141.27 234 *e*PKPpre PKPpre P 16 39 44.1
WRA **Warramunga Arr** 141.28 234 PKPpre PKPpre P 16 39 43.8
WRA PKP PKPdf P 16 39 49.5 -0.7
WRA **Warramunga Arr** 141.28 234 PKhKP PKPpre P 16 39 43.8
1.4nm,0.6s,baz=126,slow=2.8,snr=16
WRA PKP PKPdf P 16 39 49.5 -0.7
2.6nm,0.6s,baz=117,slow=2.1,snr=12
GTA **Gaotai** 142.72 2 *e*PKP PKPdf P 16 39 49.9 -2.5
GTA pPKP pPKPdf P 16 40 31.6 +0.8
GTA sPKP 16 40 49.1
LZH **Lanzhou** 146.02 357 *e*PKPbc PKPab P 16 40 00.0 0.0
LZH pPKP pPKPdf P 16 40 38.0 +1.3
LZH sPKP 16 40 52.5
NJ2 **Nanjing** 146.02 333 *e*PKPbc PKPdf P 16 39 57.3 -0.8
XAN **Xi'an** 147.42 349 PKPbc PKPdf P 16 40 00.9 +0.4
PYUN **Piuthan** 148.47 33 *e*P PKPdf P 16 40 02.5 -0.1
38nm,0.7s
DANN **Dangsing** 148.68 32 *e*P PKPdf P 16 40 04.1 +1.0
39nm,0.8s
KOLN **Koldanda** 149.06 32 *e*P PKPdf P 16 40 03.7 +0.1
13nm,0.9s
FITZ **Fitzroy Crossi** 149.12 229 *e*PKPbc PKPbc P 16 40 07.6 -0.3
FITZ *e*PKPab PKPab P 16 40 13.8 +1.2
FITZ **Fitzroy Crossi** 149.12 229 PKPbc PKPbc P 16 40 07.8 -0.1
10nm,0.8s,baz=176,slow=3.1,snr=17
WHN **Wuhan** 149.19 338 PKPbc PKPbc P 16 40 07.4 -0.3
GKN **Gorkha** 149.41 31 *e*P PKPdf P 16 40 04.5 +0.4
21nm,0.6s
KKN **Kakani** 149.91 30 *e*P PKPdf P 16 40 05.5 +0.6
21nm,0.6s
DMN **Daman** 149.97 30 *e*P PKPdf P 16 40 05.6 +0.5
15nm,0.6s
GUN **Gumba** 150.11 29 *e*P PKPdf P 16 40 05.7 +0.3
PKIN **Phulchoki** 150.14 30 *e*P PKPdf P 16 40 05.6 +0.2
5.6nm,0.6s
PKI **Pulchoki** 150.16 30 *e*P PKPdf P 16 40 05.5 0.0
17nm,0.8s
JIRN **Jiri** 150.47 29 *e*P PKPdf P 16 40 06.0 0.0
RAMN **Ramite** 151.26 29 *e*P PKPdf P 16 40 07.4 +0.3
19nm,0.6s
TAPN **Taplejung** 151.44 27 *e*P PKPdf P 16 40 08.1 +0.7
12nm,0.5s
ODAN **Odare** 151.71 28 *e*P PKPdf P 16 40 07.9 +0.1
13nm,0.7s
GYA **Guiyang** 155.22 349 PKP PKPdf P 16 40 10.7 -1.9
GYA pPKP pPKPdf P 16 40 49.8 -1.4
GYA PKS PKSdf P 16 43 42.0 -5.0
GYA PP PP P 16 44 15.4 +2.2
GYA AMB AMB
comp=Z,90nm,7.9s
KMI **Kunming** 156.98 358 PKP PKPdf P 16 40 13.0 -2.1
CMAR **Chiang Mai Arr** 163.41 9 PKP PKPdf P 16 40 22.3 +0.2
CMAR PKPab PKPab P 16 41 12.8 -0.8
CMAR **Chiang Mai Arr** 163.41 9 PKP PKPdf P 16 40 22.3 +0.2
0.8nm,0.5s,baz=295,slow=1.5,snr=12
CMAR PKPab PKPab P 16 41 12.8 -0.8
0.7nm,0.4s,baz=330,slow=5.7,snr=6.9

IDC 10 16:24:27.0±7.3, 5.82S×146.20E, h136km±75km, mb2.9/3, mb1 3.1/5, mb1mx2.9/19, mbtmp2.9/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/8, Error ellipse: s-maj=77.2km s-min=28.2km az=143.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.69**	**165**	P		Pn	16 25 23.6	+0.8
	3.5nm,0.3s,baz=350,slow=6.1,snr=14							
PMG				S		Sn	16 26 06.1	+0.1
	3.8nm,0.3s,baz=135,slow=19,snr=6.8							
WRA	**Warramunga Arr**	**18.17**	**218**	P		P	16 28 29.8	+0.5
	0.1nm,0.3s,baz=42,slow=12,snr=3.5							
ASAR	**Alice Springs**	**21.33**	**212**	P		P	16 29 04.4	+0.9
	0.3nm,0.9s,baz=42,slow=7.9,snr=5.3							
FITZ	**Fitzroy Crossi**	**23.49**	**237**	P		P	16 29 23.9	-0.9
	1.3nm,0.7s,baz=60,slow=12,snr=4.9							
FITZ				LR		LR	16 40 20.8	
	comp=Z,59nm,18.3s,baz=293,slow=41							
ILAR	**Eielson Array**	**85.63**	**23**	P		P	16 36 50.0	-0.1
	0.2nm,0.5s,baz=251,slow=5.5,snr=5.4							
TORD	**Torodi Ar. Bea**	**144.28**	**284**	PKP		PKPdf	16 43 47.6	-0.4
	0.2nm,0.4s,baz=80,slow=2.8,snr=3.0							

IDC 10 16:51:06.2±3.7, 19.93S×177.68W, h486km±49km, mb3.4/3, mb1 3.6/4, mb1mx3.1/18, mbtmp3.5/4, Error ellipse: s-maj=113.7km s-min=30.5km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.23**	**44**	P		P	16 53 05.7	+0.7
	2.5nm,0.3s,baz=232,slow=15,snr=5.0							
AFI				S		S	16 54 41.9	-0.5
	2.3nm,0.3s,baz=221,slow=20,snr=4.6							
STKA	**Stephens Creek**	**38.31**	**244**	P		P	16 57 43.9	-0.5
	1.8nm,0.5s,baz=80,slow=11,snr=6.6							
ASAR	**Alice Springs**	**44.94**	**256**	P		P	16 58 37.4	+0.1
	5.7nm,0.5s,baz=91,slow=7.8,snr=226							
ASAR				PcP		pP	17 00 08.3	-0.1
	0.3nm,0.5s,baz=97,slow=3.2,snr=3.5							
WRA	**Warramunga Arr**	**44.98**	**261**	P		P	16 58 37.4	-0.2
	1.8nm,0.6s,baz=98,slow=8.0,snr=15							

*IDC **10** 16:59:58.5±1.1, 17.07S×74.14W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.7/19, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=35.6km s-min=28.1km az=44.0*
*ISCJB **10** 17:00:00.7±1.0, 17.05S±0.2×74.1W±0.1, h26km, mb3.6/4, Error ellipse: s-maj=23.7km s-min=17.5km az=13.8*
ISC 10 17:00:02.5±1.0, 17.1S±0.2×74.1W±0.1, h26km, n12, σ1.902/9, mb3.6/4, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.76**	**83**	Pn		**Pn**	**17 01 28.3**	**+1.4**
	0.2nm,0.3s,baz=282,slow=9.0,snr=6.4							
SIV	**San Ignacio**	**12.53**	**87**	Pn		**Pn**	**17 02 57.9**	**-1.3**
	0.4nm,0.3s,baz=288,slow=12,snr=4.4							
H03N1	**Juan Fernandez**	**16.85**	**194**	T		T	17 22 47.4	
	baz=16,slow=75,snr=24							
H03N2	**Juan Fernandez**	**16.85**	**194**	T		T	17 22 47.2	
	baz=16,slow=75,snr=21							
H03N3	**Juan Fernandez**	**16.86**	**194**	T		T	17 22 48.1	
	baz=16,slow=75,snr=19							
PLCA	**Paso Flores**	**23.75**	**173**	P		**P**	**17 05 12.9**	**+0.1**
	1.9nm,0.9s,baz=344,slow=12,snr=4.9							
TXAR	**Lajitas Array**	**54.28**	**328**	P		**P**	**17 09 26.8**	**+0.1**
	0.2nm,0.4s,baz=163,slow=9.2,snr=3.7							
TORD	**Torodi Ar. Bea**	**80.63**	**73**	P		**P**	**17 12 13.1**	**-0.4**
	0.7nm,1.0s,baz=252,slow=5.3,snr=2.5							
YKA	**Yellowknife Ar**	**85.48**	**342**	P		**P**	**17 12 36.6**	**-0.9**
	0.6nm,0.8s,baz=146,slow=4.8,snr=5.6							
WRA	**Warramunga Arr**	**133.81**	**218**	PKP		**PKPdf**	**17 19 18.0**	**0.0**
	0.7nm,1.0s,baz=112,slow=1.8,snr=6.0							
ZALV	**Zalesovo Beam**	**139.74**	**19**	PKP		**PKPdf**	**17 19 29.1**	**+1.2**
	0.3nm,0.3s,baz=316,slow=4.0,snr=2.6							
SONM	**Songino Array**	**149.34**	**359**	PKPbc		**PKPbc**	**17 19 49.7**	**+0.5**
	0.7nm,0.5s,baz=333,slow=1.8,snr=8.1							

*IDC **10** 17:21:23.8±0.6, 2.92N×126.53E, h0km, mb3.9/14, mb1 4.1/14, mb1mx4.0/23, mbtmp3.9/14, MS3.6/2, Ms1 3.6/2, ms1mx3.0/38, Error ellipse: s-maj=37.2km s-min=13.3km az=76.0*
*ISCJB **10** 17:21:30.5±0.4, 2.98N±0.04×126.61E±0.05, h63km, mb3.9/13, Error ellipse: s-maj=7.6km s-min=4.9km az=138.1*

*DJA **10** 17:21:31.8±1.3,3°N±6°×12°7E±°, h20km±19km, M4.7/7, mb4.8/4, mB5.2/2, MLv4.6/7, Mw(mB)4.5/2*
*AUST **10** 17:21:32.9±0.6,2°93N×126°87E, h78km, Error ellipse: s-maj=1.6km s-min=0.9km az=240.0*
ISC 10 17:21:32.3±0.5,**3°03N**±0°06×**126°58E**±0°07,**h63km**,**n37**, σ1§**64**/39,**mb3.9**/14,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.23**	**302**	P	**Pn**	**17 21 52.0**	**-1.5**
SGSI				S	**Sn**	**17 22 10.6**	**+1.2**
TNTI	**Ternate**	**2.38**	**161**	P	**Pn**	**17 22 07.5**	**-1.5**
TNTI				S	**Sn**	**17 22 37.9**	**+0.9**
KMSI	**Cibinong**	**3.56**	**227**	P	**Pn**	**17 22 25.3**	**+0.2**
LBMI	**Labuha**	**3.76**	**166**	P	**Pn**	**17 22 27.7**	**-0.1**
GTOI	**Gorontalo**	**4.28**	**236**	P	**Pn**	**17 22 35.4**	**+0.4**
MRSI	**Marisa** 88nm,0.5s,1μm0.8nm	**5.28**	**241**	P	**Pn**	**17 22 50.2**	**+1.5**
MRSI				S	**Sn**	**17 23 47.2**	**-1.0**
LUWI	**Luwuk** baz=5.7,SNR=5.5 88nm,0.5s,1μm0.8nm	**5.55**	**223**	P	Pn	17 22 57.7	+5.3
SWI	**Sorong**	**6.07**	**129**	S	**Sn**	**17 24 10.3**	**+2.6**
TOLI	**Toli-Toli** 114nm,0.6s,3μm0.9nm	**6.08**	**252**	P	**Pn**	**17 22 59.8**	**+0.1**
FAKI	**Fak Fak** 21nm,1.4s	**8.19**	**136**	P	**Pn**	**17 23 28.4**	**-0.1**
FAKI	**Fak Fak** baz=7.9,SNR=4.9	**8.19**	**136**	P	**Pn**	**17 23 28.0**	**-0.5**
MYLDM	**Lahad Datu**	**8.33**	**285**	P	**Pn**	**17 23 32.3**	**+1.8**
KKM	**Kota Kinabalu** baz=11,SNR=3.8	**10.75**	**287**	P	Pn	17 24 07.6	+3.9
MTN	**Manton Dam** baz=16,SNR=7.4	**16.40**	**164**	P	**Pn**	**17 25 15.3**	**-3.3**
KDU	**Kakadu** baz=17,SNR=5.4	**16.67**	**160**	P	**Pn**	**17 25 20.5**	**-1.5**
KNRA	**Kununurra** baz=19,SNR=7.1	**18.71**	**173**	P	**P**	**17 25 44.3**	**-1.5**
FITZ	**Fitzroy Crossi** 1.8nm,0.5s,baz=6.0,slow=7.5,SNR=12	**21.02**	**182**	P	**P**	**17 26 08.7**	**-2.1**
FITZ	**Fitzroy Crossi** baz=21,SNR=12	**21.02**	**182**	P	**P**	**17 26 10.2**	**-0.7**
WRA	**Warramunga Arr** 2.0nm,0.5s,baz=342,slow=10,SNR=21	**24.07**	**162**	P	**P**	**17 26 39.7**	**-2.2**
WRA				S	**S**	**17 30 55.8**	**+0.7**
QIS	**Mount Isa** baz=27,SNR=6.6 1.0nm,0.8s,baz=335,slow=20,SNR=5.6	**26.70**	**152**	P	**P**	**17 27 06.1**	**+0.3**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=344,slow=7.8,SNR=30	**27.48**	**165**	P	**P**	**17 27 10.9**	**-1.8**
ASAR				S	**S**	**17 31 55.0**	**+5.8**
WRKA	**Warakurna** baz=28,SNR=13 1.0nm,0.9s,baz=349,slow=19,SNR=5.1	**27.95**	**177**	P	**P**	**17 27 16.1**	**-0.9**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=111,slow=8.1,SNR=4.9	**31.10**	**302**	P	**P**	**17 27 45.8**	**+0.8**
KSRS	**Korea Array** 1.1nm,0.8s,baz=177,slow=10.0,SNR=3.5	**34.28**	**2**	P	**P**	**17 28 13.5**	**+1.0**
KSRS				LR	LR	17 43 51.7	
STKA	**Stephens Creek** 1.3nm,0.4s,baz=333,slow=18,SNR=6.5 comp=Z,28nm,18.1s,baz=340,slow=39	**37.53**	**159**	P	**P**	**17 28 39.0**	**-1.5**
STKA	**Stephens Creek** baz=38,SNR=4.5	**37.53**	**159**	P	**P**	**17 28 40.9**	**+0.5**
USRK	**Ussuriysk Arra** 2.7nm,0.7s,baz=193,slow=5.4,SNR=8.1	**41.28**	**6**	P	**P**	**17 29 12.1**	**+0.7**
SONM	**Songino Array** 0.4nm,0.7s,baz=154,slow=8.9,SNR=3.2	**47.91**	**342**	P	**P**	**17 30 03.1**	**-1.4**
PETK	**Petropavlovsk-** 2.0nm,0.6s,baz=180,slow=4.7,SNR=5.1	**56.13**	**22**	P	**P**	**17 31 05.9**	**+0.6**
MKAR	**Makanchi Array** 1.1nm,0.4s,baz=120,slow=7.8,SNR=26	**58.04**	**326**	P	**P**	**17 31 19.0**	**0.0**
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=138,slow=5.4,SNR=3.6	**61.14**	**333**	P	**P**	**17 31 40.1**	**0.0**
RPZ	**Rata Peaks** comp=Z,131nm,18.3s,baz=124,slow=37	**61.28**	**145**	LR	LR	17 59 14.6	
VNDA	**Vanda** 0.5nm,0.5s,baz=271,slow=15,SNR=7.0	**82.75**	**173**	P	**P**	**17 33 49.0**	**+0.1**
ARCES	**ARCESS Array B** 1.0nm,0.8s,baz=81,slow=5.8,SNR=3.2	**91.05**	**340**	P	**P**	**17 34 31.1**	**+1.5**
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=68,slow=4.2,SNR=4.0	**92.34**	**321**	P	**P**	**17 34 34.4**	**-1.5**
TXAR	**Lajitas Array** 0.2nm,0.9s,baz=159,slow=2.8,SNR=2.9	**122.15**	**52**	PKP	**PKPdf**	**17 40 21.6**	**+0.8**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=63,slow=1.0,SNR=3.6	**122.99**	**288**	PKP	**PKPdf**	**17 40 22.3**	**-0.3**

*IDC **10** 17:30:23.0±2.7,9°42S×117°80E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, ML3.0/2, Error ellipse: s-maj=167.2km s-min=21.8km az=53.0*
*ISCJB **10** 17:30:31.7±0.6,9°52S±0°07×117°84E±0°03, h95km±9km, mb3.5/2, Error ellipse: s-maj=10.8km s-min=5.0km az=178.4*
*DJA **10** 17:30:32.4±0.6,10°S±8°×11°8E±°, h65km±21km, M4.0/11, mb4.1/1, MLv4.0/11*
*AUST **10** 17:30:59.9±5.3,11°87S×121°64E, h138km±1km, Error ellipse: s-maj=2.6km s-min=1.3km az=246.0*
ISC 10 17:30:32.8±1.0,**9°57S**±0°07×**117°84E**±0°04,**h84**km±13km, **n18**,σ1§**13**/24,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**1.89**	**299**	P	**Pn**	**17 31 04.6**	**+1.2**
LBFI	**Labuhan Bajo,**	**2.29**	**62**	P	**Pn**	**17 31 07.3**	**-1.4**
LBFI				S	**Sn**	**17 31 35.3**	**-1.0**
WSI	**Waingapu**	**2.42**	**93**	P	**Pn**	**17 31 10.3**	**-0.2**
KHKI	**Kahang-Kahang**	**2.51**	**298**	P	**Pn**	**17 31 11.9**	**+0.3**
DNP	**Denpasar**	**2.74**	**289**	P	**Pn**	**17 31 15.0**	**+0.2**
DNP				S	**Sn**	**17 31 47.3**	**+0.3**
IGBI	**Denpasar**	**2.76**	**285**	P	**Pn**	**17 31 13.6**	**-1.4**
IGBI				S	**Sn**	**17 31 45.9**	**-1.6**
SRBI	**Singaraja**	**2.99**	**299**	P	**Pn**	**17 31 18.1**	**+0.1**
MMRI	**Maumere**	**4.44**	**78**	P	**Pn**	**17 31 37.9**	**+0.1**
MMRI				S	**Sn**	**17 32 29.8**	**+1.5**
GMJI	**Gumukmas**	**4.53**	**286**	P	**Pn**	**17 31 38.3**	**-0.7**
GMJI				S	**Sn**	**17 32 30.2**	**-0.3**
BKSI	**Bulukumba**	**4.79**	**28**	P	**Pn**	**17 31 42.4**	**-0.1**
BKSI				S	**Sn**	**17 32 35.7**	**-1.0**
BNSI	**Bone**	**5.61**	**24**	P	**Pn**	**17 31 55.5**	**+1.8**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=333,slow=16,SNR=4.0	**11.37**	**139**	Pn	Pn	17 33 08.4	-3.9
FITZ				Sn	Sn	17 35 05.2	-12
MEEK	**Meekatharra** baz=15,SNR=7.2 0.4nm,0.3s,baz=196,slow=18,SNR=7.6	**16.99**	**178**	P	**P**	**17 34 26.4**	**+0.5**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=298,slow=12,SNR=3.2	**18.98**	**125**	P	**P**	**17 34 47.5**	**-0.2**
WRA				S	S	17 38 09.9	-9.1
MORW	**Morawa** baz=18,SNR=3.4 0.1nm,0.3s,baz=294,slow=22,SNR=2.9	**19.47**	**185**	P	**Pn**	**17 34 57.0**	**+2.0**
ASAR	**Alice Springs** 0.7nm,0.8s,baz=310,slow=10,SNR=9.5	**20.79**	**134**	P	**P**	**17 35 07.7**	**+0.3**
ASAR				S	**S**	**17 38 52.6**	**-2.1**
SONM	**Songino Array** 0.4nm,0.6s,baz=174,slow=7.7,SNR=3.8 0.1nm,0.3s,baz=306,slow=22,SNR=3.7	**58.05**	**351**	P	**P**	**17 40 16.7**	**-0.5**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=145,slow=6.8,SNR=7.6	**64.45**	**334**	P	**P**	**17 41 00.3**	**0.0**

*IDC **10** 17:46:25.1±2.9, 1°22S×99°35E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.4/25, mbtmp3.4/6, Error ellipse: s-maj=132.9km s-min=21.4km az=56.0*
*DJA **10** 17:46:37.1±0.9,0°S±8°×10°1E±°, h87km±8km, M3.2/3, MLv3.2/3*
*ISCJB **10** 17:46:38.4±0.7,0°38S±0°08×100°6E±0°1, h91km±5km, mb3.5/5, Error ellipse: s-maj=18.2km s-min=13.4km az=11.8*
ISC 10 17:46:39.2±0.9,**0°39S**±0°08×**100°6E**±0°1,**h87**km±7km,**n13**, σ1§**46**/12,**mb3.8**/5,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**0.21**	**252**	P	**Pn**	**17 46 51.9**	**0.0**
PPI				S	**Sn**	**17 47 02.3**	**+1.0**
PDSI	**Padang**	**0.53**	**194**	P	**Pn**	**17 46 52.6**	**-1.4**
BKNI	**Bangkinang**	**0.84**	**32**	P	**Pn**	**17 46 56.0**	**-1.0**
BKNI				S	**Sn**	**17 47 09.9**	**-0.4**
MNSI	**Mandailing Nat**	**1.56**	**319**	P	**Pn**	**17 47 04.7**	**-0.9**
CMAR	**Chiang Mai Arr** baz=184,slow=11,SNR=4.4	**18.80**	**355**	P	**Pn**	**17 50 55.7**	**+2.2**
H08S2	**Diego Garcia H** baz=77	**28.92**	**255**	T	T	18 20 37.5	
H08S3	**Diego Garcia H** baz=77	**28.93**	**255**	T	T	18 20 39.2	
H08S1	**Diego Carcia H** baz=77	**28.94**	**255**	T	T	18 20 37.1	
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=301,slow=9.6,SNR=2.9	**38.32**	**123**	P	**P**	**17 53 52.5**	**+0.6**
ASAR	**Alice Springs** 0.4nm,1.0s,baz=302,slow=7.8,SNR=2.8	**39.74**	**128**	P	**P**	**17 54 04.4**	**+0.7**
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=159,slow=9.0,SNR=10	**49.66**	**344**	P	**P**	**17 55 22.8**	**+0.7**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=167,slow=6.2,SNR=2.6	**55.71**	**349**	P	**P**	**17 56 07.2**	**+0.7**
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=134,slow=8.5,SNR=3.7	**58.90**	**339**	P	**P**	**17 56 26.7**	**-2.3**

*IDC **10** 17:50:55.6±0.9, 30°45N×142°17E, h0km, mb3.6/9, mb1 3.7/12, mb1mx3.6/28, mbtmp3.6/12, ML3.4/3, Error ellipse: s-maj=29.7km s-min=17.0km az=77.0*
*ISCJB **10** 17:50:57.0±0.6, 30°52N±0°04×142°1E±0°1, h24km, mb3.6/9, Error ellipse: s-maj=17.2km s-min=3.8km az=168.0*
*JMA **10** 17:50:57.6±0.2, 30°48N×142°30E, h59km, M3.8*
ISC 10 17:50:58.7±0.8,**30°58N**±0°06×**142°4E**±0°1,**h24**km,**n31**, σ1§**89**/40,**mb3.7**/9,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.30**	**320**	P	**Pn**	**17 51 48.9**	**0.0**
JHJ2	**Mitsune**	**3.32**	**320**	P	**Pn**	**17 51 49.0**	**-0.1**
CBIJ	**Chichi jima**	**3.47**	**182**	*e*S	**Sn**	**17 52 28.3**	**-3.3**
JCJ	**Chichijima** 5.0nm,0.3s,baz=276,slow=18,SNR=4.8	**3.47**	**182**	Pn	**Pn**	**17 51 51.0**	**-0.3**
JCJ	14nm,0.3s,baz=257,slow=22,SNR=4.6			Sn	**Sn**	**17 52 28.4**	**-3.2**
BSO1	**Boso 1**	**4.23**	**344**	P	**Pn**	**17 52 03.0**	**+1.9**
BSO1				S	**Sn**	**17 52 50.7**	**+1.3**
BSO2	**Boso 2**	**4.38**	**343**	S	**Sn**	**17 52 55.0**	**+1.6**
BSO3	**Boso 3**	**4.49**	**340**	S	**Sn**	**17 52 58.3**	**+2.0**
BSO4	**Boso 4**	**4.71**	**339**	S	**Sn**	**17 53 02.7**	**+0.6**
JOD2	**Odawara 2**	**5.42**	**330**	P	**Pn**	**17 52 18.2**	**+0.2**
JOD2				*e*S	**Sn**	**17 53 19.6**	**0.0**
JHU	**Hanno**	**5.86**	**335**	P	**Pn**	**17 52 25.0**	**+1.0**
JHU				S	**Sn**	**17 53 27.5**	**-2.8**
JYT	**Yasato**	**5.92**	**343**	S	**Sn**	**17 53 29.4**	**-2.4**
JRY	**Ryogami san**	**6.14**	**333**	P	**Pn**	**17 52 29.1**	**+1.1**
JRY				S	**Sn**	**17 53 37.3**	**-0.2**
JHO	**Hitachi**	**6.20**	**347**	P	**Pn**	**17 52 28.7**	**0.0**
JHO				S	**Sn**	**17 53 35.1**	**-3.7**
JAG	**Ashikaga**	**6.31**	**338**	P	**Pn**	**17 52 30.6**	**+0.3**
JAG				S	**Sn**	**17 53 39.5**	**-2.1**
ONAJ	**Iwakimizuishiy**	**6.63**	**349**	*e*S	**Sn**	**17 53 46.3**	**-3.3**
JNG	**Nsakai**	**6.81**	**330**	P	**Pn**	**17 52 38.7**	**+1.5**
MJAR	**Matsushiro Arr** 0.9nm,0.3s,baz=160,slow=11,SNR=7.2	**6.88**	**331**	Pn	**Pn**	**17 52 38.5**	**+0.4**
MJAR	0.4nm,0.3s,baz=157,slow=22,SNR=3.0			Sn	**Sn**	**17 53 55.7**	**+0.1**
MAT	**Matsushiro**	**6.88**	**331**	P	**Pn**	**17 52 39.3**	**+1.2**
MAT				S	**Sn**	**17 53 55.7**	**+0.1**
JFK	**Kawauchi**	**6.88**	**350**	*e*S	**Sn**	**17 53 50.1**	**-5.6**
JFT	**Otama**	**7.12**	**347**	*e*S	**Sn**	**17 53 59.0**	**-2.5**
JMM	**Marumori**	**7.38**	**350**	P	**Pn**	**17 52 44.8**	**-0.1**
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=252,slow=19,SNR=3.2	**13.52**	**1**	Pn	**Pn**	**17 54 09.1**	**+0.2**
SONM	**Songino Array** 0.5nm,0.7s,baz=91,slow=7.9,SNR=3.5	**32.39**	**312**	P	**P**	**17 57 27.2**	**+0.6**
CMAR	**Chiang Mai Arr** 0.2nm,0.5s,baz=54,slow=7.7,SNR=3.2	**41.06**	**263**	P	**P**	**17 58 38.7**	**-1.9**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=91,slow=10,SNR=4.3	**48.43**	**307**	P	**P**	**17 59 39.1**	**+0.1**
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=92,slow=6.8,SNR=4.7	**50.76**	**312**	P	**P**	**17 59 56.7**	**+0.1**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=5.5,slow=7.6,SNR=7.0	**50.81**	**190**	P	**P**	**17 59 55.9**	**-1.4**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=5.3,slow=6.5,SNR=13	**54.54**	**190**	P	**P**	**18 00 24.6**	**-0.2**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=82,slow=7.8,SNR=5.3	**55.62**	**316**	P	**P**	**18 00 33.8**	**+1.4**
FINES	**FINESS Array B** 1.0nm,0.9s,baz=85,slow=4.0,SNR=5.7	**74.90**	**333**	P	**P**	**18 02 38.5**	**+1.3**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=306,slow=9.6,SNR=2.9	**78.27**	**52**	P	**P**	**18 02 58.8**	**+1.8**

IDC 10 17:52:22.5±1.6,**13°65S×166°57E**,**h0**km,**mb3.4**/3, **mb1 3.7**/4,**mb1mx3.5**/20,**mbtmp3.5**/4,**ML3.0**/1,**Error ellipse: s-maj=52.1km s-min=30.4km az=130.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 0.2nm,0.3s,baz=335,slow=17,SNR=4.7	**8.38**	**181**	Pn	Pn	17 54 25.9	+0.4
DZM	baz=131,slow=19,SNR=1.6			Sn	Sn	17 55 56.4	-4.5
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=89,slow=9.6,SNR=5.4	**31.45**	**254**	P	P	17 58 45.8	-0.2
ASAR	**Alice Springs** 0.4nm,0.5s,baz=73,slow=9.4,SNR=18	**32.44**	**247**	P	P	17 58 55.0	+0.2
ILAR	**Eielson Array** 0.2nm,0.5s,baz=233,slow=4.9,SNR=5.4	**85.71**	**18**	P	P	18 05 03.5	+0.5
ARCES	**ARCESS Array B** 4.2nm,1.1s,baz=38,slow=1.6,SNR=2.9	**119.04**	**345**	PKP	PKPdf	18 11 11.7	-1.0

DJA 10 18:28:29.3±0.5,**1°S**±5°×**12°8E**±°,**h18**km±7km,**M4.0**/7, **mb5.0**/2,**mB5.0**/2,**MLv3.5**/7,**Mw(mB)4.3**/2,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.41**	**331**	P	Pb	18 28 38.3	+0.2
LBMI				S	Sb	18 28 45.4	+1.3
TNTI	**Ternate**	**1.79**	**349**	P	Pn	18 28 58.8	-0.6
NLAI	**Namlea**	**2.30**	**195**	P	Pn	18 29 05.3	-1.1
MSAI	**Masohi**	**2.63**	**152**	P	Pn	18 29 11.5	+0.5
LUWI	**Luwuk**	**4.93**	**269**	P	Pn	18 29 41.7	-0.8
APSI	**Ampana** 130nm,0.3s,3μm0.8nm	**6.05**	**271**	P	Pn	18 29 58.0	0.0
SPSI	**Sidrap Palu**	**8.45**	**249**	P	Pn	18 30 31.9	+0.9

*IDC **10** 18:37:54.8±3.4, 8°03S×117°26E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/22, mbtmp3.3/4, Error ellipse: s-maj=265.4km s-min=23.8km az=52.0*
*ISCJB **10** 18:37:58.3±0.8, 7°8S±0°1×117°59E±0°05, h33km, mb3.5/3, Error ellipse: s-maj=15.9km s-min=6.5km az=178.4*
*DJA **10** 18:37:59.1±4.1,8°S±14°×11°8E±°, h34km±49km, M3.5/5, MLv3.5/5*
ISC 10 18:38:00.1±1.1,**7°9S**±0°2×**117°58E**±0°05,**h35**km,**n9**, σ0§**70**/10,**mb3.7**/3,**Bali Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**1.60**	**241**	P	**Pn**	**18 38 25.3**	**-0.6**
MTNI				S	**Sn**	**18 38 45.7**	**+0.4**
KHKI	**Kahang-Kahang**	**2.02**	**255**	P	**Pn**	**18 38 30.5**	**-1.1**
SRBI	**Singaraja**	**2.36**	**264**	P	**Pn**	**18 38 35.6**	**-0.7**
LBFI	**Labuhan Bajo,**	**2.37**	**105**	P	**Pn**	**18 38 35.9**	**-0.6**
LBFI				S	**Sn**	**18 39 04.6**	**+0.2**
IGBI	**Denpasar**	**2.59**	**248**	P	**Pn**	**18 38 39.7**	**+0.2**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=303,slow=13,SNR=2.4	**20.20**	**128**	P	Pn	18 42 33.4	-0.7
ASAR	**Alice Springs** 0.3nm,0.5s,baz=311,slow=9.8,SNR=7.0	**22.19**	**137**	P	**P**	**18 42 53.6**	**+0.1**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=159,slow=6.5,SNR=5.0	**62.81**	**333**	P	**P**	**18 48 23.1**	**+0.9**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=145,slow=5.3,SNR=2.3	**67.48**	**340**	P	**P**	**18 48 52.2**	**-0.1**

IDC 10 18:39:18.5±3.7,**19°26S×178°20W**,**h474**km±42km, **mb3.0**/4,**mb1 3.3**/5,**mb1mx3.0**/20,**mbtmp3.1**/5,**Error ellipse: s-maj=124.7km s-min=20.5km az=155.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 2.4nm,0.3s,baz=134,slow=22,SNR=1.8	**8.13**	**50**	P	P	18 41 17.3	+1.3
AFI	2.2nm,0.3s,baz=289,slow=23,SNR=2.3			S	S	18 42 50.8	-1.5
STKA	**Stephens Creek** 1.5nm,0.8s,baz=90,slow=14,SNR=2.9	**38.18**	**243**	P	P	18 45 55.4	-1.0
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=96,slow=7.6,SNR=18	**44.60**	**261**	P	P	18 46 48.0	+0.2
ASAR	**Alice Springs** 1.7nm,0.5s,baz=87,slow=8.8,SNR=42	**44.64**	**256**	P	P	18 46 48.0	0.0
ASAR	0.2nm,0.6s,baz=110,slow=4.1,SNR=3.2			PcP	PcP	18 48 19.9	-1.1
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=199,slow=5.3,SNR=2.5	**86.55**	**57**	P	P	18 51 11.5	+0.5

IDC 10 18:56:25.7±20.0,**4°04N×126°67E**,**h0**km,**mb3.6**/4, **mb1 3.8**/4,**mb1mx3.5**/24,**mbtmp3.7**/4,**Error ellipse: s-maj=351.1km s-min=97.4km az=148.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 2.5nm,0.9s,baz=9.5,slow=12,SNR=3.5	**22.02**	**183**	P	P	19 01 22.0	+0.1
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=343,slow=10,SNR=6.1	**25.00**	**163**	P	P	19 01 51.4	0.0
ASAR	**Alice Springs** 0.2nm,0.4s,baz=342,slow=7.1,SNR=5.8	**28.43**	**166**	P	P	19 02 21.7	-0.6
STKA	**Stephens Creek** 2.6nm,1.0s,baz=342,slow=6.4,SNR=2.4	**38.44**	**159**	P	P	19 03 49.6	+0.3

*IDC **10** 18:58:29.3±9.5, 13°71N×92°10E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/27, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=195.5km s-min=49.1km az=111.0*
ISC 10 18:58:31.1±1.7,**13°9N**±0°2×**92°2E**±0°2,**h10**km,**n14**, σ2§**09**/10,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=240,slow=16,SNR=3.6	**7.92**	**54**	Pn	**Pn**	**19 00 27.4**	**+1.0**
ODAN	**Odare** 4.4nm,0.3s	**13.70**	**342**	*e*P	**P**	**19 01 52.1**	**-2.5**
RAMN	**Ramite** 2.0nm,0.2s	**14.04**	**339**	*e*P	**P**	**19 01 57.6**	**-0.8**
TAPN	**Taplejung** 2.8nm,0.3s	**14.06**	**343**	*e*P	**P**	**19 01 56.0**	**-2.7**
JIRN	**Jiri**	**14.84**	**339**	*e*P	**P**	**19 02 08.1**	**+0.8**
PKI	**Pulchoki**	**15.05**	**336**	*e*P	**P**	**19 02 10.8**	**+1.2**
DMN	**Daman**	**15.20**	**335**	*e*P	**P**	**19 02 13.5**	**+2.2**
GKN	**Gorkha**	**15.74**	**335**	*e*P	**P**	**19 02 20.1**	**+2.9**
KOLN	**Koldanda**	**16.00**	**331**	*e*P	P	19 02 24.0	+3.9
H08S3	**Diego Garcia H** baz=47	**28.96**	**224**	T	T	19 35 24.6	
H08S2	**Diego Garcia H** baz=47	**28.97**	**224**	T	T	19 35 26.8	
H08S1	**Diego Carcia H** baz=47	**28.98**	**224**	T	T	19 35 28.6	
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=300,slow=9.9,SNR=4.4	**53.35**	**128**	P	**P**	**19 07 50.6**	**-0.5**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=306,slow=6.9,SNR=6.7	**55.26**	**132**	P	**P**	**19 08 04.8**	**-0.2**

IDC 10 19:08:36.5±4.7,**17°99S×166°84E**,**h0**km,**mb3.7**/3, **mb1 3.8**/4,**mb1mx3.5**/19,**mbtmp3.6**/4,**ML2.7**/1,**Error ellipse: s-maj=98.8km s-min=33.0km az=80.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=339,slow=14,SNR=17	**4.08**	**185**	Pn	Pn	19 09 39.9	-0.4
DZM	0.7nm,0.3s,baz=138,slow=21,SNR=2.2			Sn	Sn	19 10 28.1	-0.7
STKA	**Stephens Creek** 2.9nm,0.8s,baz=90,slow=7.1,SNR=3.0	**26.66**	**234**	P	P	19 14 18.8	+1.6
ASAR	**Alice Springs** 0.4nm,0.7s,baz=79,slow=8.4,SNR=5.4	**31.25**	**254**	P	P	19 14 57.1	-1.1
CMAR	**Chiang Mai Arr** 0.3nm,0.6s,baz=126,slow=5.9,SNR=4.7	**75.92**	**295**	P	P	19 20 25.6	0.0

*ISCJB **10** 19:23:09.4±0.3,26°97N±0°04×100°71E±0°03, h10km, mb4.1/28, MS3.8/14, Error ellipse: s-maj=5.5km s-min=3.7km az=173.6*
*IDC **10** 19:23:10.4±0.6,27°15N×100°95E, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.0/32, mbtmp4.1/20, ML3.4/1, MS3.8/14, Ms1 3.8/4, ms1mx3.7/31, Error ellipse: s-maj=18.6km s-min=12.9km az=61.0*
*BJI **10** 19:23:12.0,27°08N×100°88E, h4km, mB4.6/9, mb4.3/22, ML4.3/17, Ms4.3/6, Ms7 4.2/12*
*MOS **10** 19:23:13.4±1.4,27°14N×100°79E, h33km, mb4.2/6, Error ellipse: s-maj=11.0km s-min=8.1km az=104.3*
*NEIC **10** 19:23:17.1±0.8,27°15N×100°90E, h48km±9km, mb4.5/6, Error ellipse: s-maj=8.6km s-min=6.6km az=75.0*
ISC 10 19:23:11.5±0.4,**27°03N**±0°04×**100°80E**±0°04,**h10**km,**n115**, σ1§**72**/107,**mb4.1**/29,**MS3.9**/14,**1C**,**Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.57**	**137**	Pn	**Pb**	**19 23 56.8**	**-1.2**
KMI				Pg	**Pg**	**19 23 59.4**	**-1.5**
KMI				Sg	**Sb**	**19 24 29.6**	**-0.1**
KMI	comp=N,2μm,1.0s			smax	smax		
KMI	comp=E,1μm,0.8s			smax	smax		
KMI	comp=N,7μm,3.8s			LR	LR		
KMI	comp=E,12μm,5.5s			LR	LR		
CD2	**Chengdu**	**4.66**	**33**	Pn	**Pn**	**19 24 24.0**	**+2.0**
CD2				Pg	**Pg**	**19 24 37.9**	**-2.9**
CD2				Sn	**Sn**	**19 25 20.7**	**+4.6**
CD2				Sg	**Sg**	**19 25 36.8**	**-4.3**
CD2	comp=N,1μm,0.9s			smax	smax		
CD2	comp=E,1μm,1.1s			smax	smax		
CD2	comp=Z,2μm,7.0s			LR	LR		
GYA	**Guiyang**	**5.27**	**95**	i*P*n	Pn	19 24 34.6	+4.1
GYA				Pg	Pb	19 24 47.7	+3.8
GYA				Sn	**Sn**	**19 25 32.9**	**+1.5**
GYA				Sg	**Sg**	**19 25 58.4**	**-2.5**
GYA	comp=N,160nm,1.0s			smax	smax		
GYA	comp=E,160nm,1.0s			smax	smax

	comp=Z,120nm,4.0s							
XAN	**Xi'an**	**9.89**	**43**	P		**Pn**	**19 25 33.6**	**-0.2**
XAN				pP			19 25 38.5	
XAN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
XAN				LR		LR		
	comp=Z,2μm,11.7s							
XAN				LR		LR		
	comp=Z,420nm,10.8s							
XAN				LR		LR		
	comp=Z,230nm,8.2s							
TAPN	**Taplejung**	**11.66**	**275**	*eP*		**Pn**	**19 25 57.8**	**-0.6**
	comp=Z,29nm,0.8s							
TAPN	**Taplejung**	**11.66**	**275**	*eP*		**Pn**	**19 25 57.8**	**-0.6**
	comp=Z,29nm,0.8s							
ODAN	**Odare**	**11.97**	**272**	*eP*		**Pn**	**19 26 01.4**	**-1.1**
	comp=Z,51nm,0.9s							
ODAN	**Odare**	**11.97**	**272**	*eP*		**Pn**	**19 26 01.4**	**-1.1**
	comp=Z,51nm,0.9s							
GTA	**Gaotai**	**12.38**	**356**	*eP*		**Pn**	**19 26 09.6**	**+1.6**
GTA				pP			19 26 13.1	
GTA				sP			19 26 15.9	
GTA				S		**Sn**	**19 28 29.5**	**+3.4**
GTA				sS			19 28 34.1	
GTA				SS		**SnSn**	**19 28 43.1**	**+4.6**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,74nm,5.0s							
GTA				LR		LR		
	comp=Z,1μm,10.2s							
RAMN	**Ramite**	**12.67**	**273**	*eP*		**Pn**	**19 26 10.6**	**-1.5**
	comp=Z,35nm,0.7s							
RAMN	**Ramite**	**12.67**	**273**	*eP*		**Pn**	**19 26 10.6**	**-1.5**
	comp=Z,35nm,0.7s							
JIRN	**Jiri**	**13.01**	**276**	*eP*		**Pn**	**19 26 15.5**	**-1.3**
JIRN	**Jiri**	**13.01**	**276**	*eP*		**Pn**	**19 26 15.5**	**-1.3**
GUN	**Gumba**	**13.28**	**277**	*eP*		**Pn**	**19 26 18.9**	**-1.6**
	comp=Z,46nm,0.8s							
GUN	**Gumba**	**13.28**	**277**	*eP*		**Pn**	**19 26 18.9**	**-1.6**
	comp=Z,46nm,0.8s							
PKI	**Pulchoki**	**13.70**	**276**	*eP*		**Pn**	**19 26 24.1**	**-2.2**
	comp=Z,35nm,0.8s							
PKI	**Pulchoki**	**13.70**	**276**	*eP*		**Pn**	**19 26 24.4**	**-1.9**
PKI				pmax		pmax		
	comp=Z,26nm,0.8s							
PKI	**Pulchoki**	**13.70**	**276**	*eP*		**Pn**	**19 26 24.4**	**-1.9**
	comp=Z,26nm,0.8s							
PKIN	**Phulchoki**	**13.71**	**276**	*eP*		**Pn**	**19 26 24.4**	**-2.0**
	comp=Z,26nm,0.8s							
KKN	**Kakani**	**13.81**	**277**	*eP*		**Pn**	**19 26 25.7**	**-2.0**
	comp=Z,53nm,0.8s							
KKN	**Kakani**	**13.81**	**277**	*eP*		**Pn**	**19 26 25.7**	**-2.0**
KKN				pmax		pmax		
	comp=Z,53nm,0.8s							
KKN	**Kakani**	**13.81**	**277**	*eP*		**Pn**	**19 26 25.7**	**-2.0**
	comp=Z,53nm,0.8s							
BOK	**Bokaro**	**13.86**	**260**	*eP*		**Pn**	**19 26 29.0**	**+0.9**
BOK				AMB		AMB	19 26 30.6	
	comp=Z,5.3nm,0.5s							
DMN	**Daman**	**13.97**	**276**	*eP*		**Pn**	**19 26 27.3**	**-2.6**
	comp=Z,30nm,0.6s							
DMN	**Daman**	**13.97**	**276**	*eP*		**Pn**	**19 26 27.3**	**-2.6**
	comp=Z,30nm,0.6s							
GKN	**Gorkha**	**14.38**	**278**	*eP*		Pn	19 26 32.3	-3.1
	comp=Z,14nm,0.5s							
GKN	**Gorkha**	**14.38**	**278**	*eP*		Pn	19 26 32.3	-3.1
	comp=Z,14nm,0.5s							
DANN	**Dangsing**	**15.16**	**279**	*eP*		**Pn**	**19 26 42.5**	**-3.6**
	comp=Z,38nm,0.6s							
DANN	**Dangsing**	**15.16**	**279**	*eP*		**Pn**	**19 26 42.5**	**-3.6**
	comp=Z,38nm,0.6s							
KOLN	**Koldanda**	**15.30**	**277**	*eP*		**Pn**	**19 26 44.1**	**-3.8**
KOLN	**Koldanda**	**15.30**	**277**	*eP*		**Pn**	**19 26 44.1**	**-3.8**
PYUN	**Piuthan**	**15.84**	**278**	*eP*		Pn	19 26 50.2	-4.7
	comp=Z,60nm,0.8s							
PYUN	**Piuthan**	**15.84**	**278**	*eP*		Pn	19 26 50.2	-4.7
	comp=Z,60nm,0.8s							
NJ2	**Nanjing**	**16.48**	**68**	*eP*		**P**	**19 27 06.0**	**+0.4**
NJ2				S		**Sn**	**19 30 06.0**	**0.0**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
NJ2				LR		LR		
	comp=Z,780nm,19.8s							
NJ2				LR		LR		
	comp=Z,550nm,22.6s							
NJ2				LR		LR		
	comp=Z,780nm,25.0s							
BJT	**Baijiatuan**	**18.19**	**41**	*eP*		**P**	**19 27 26.2**	**+1.8**
WMQ	**Urumqi**	**19.83**	**331**	P		**Pn**	**19 27 43.2**	**-0.8**
WMQ				pmax		pmax		
	comp=Z,12nm,1.0s							
NGP	**Nagpur**	**20.69**	**258**	*eP*		**P**	**19 27 50.8**	**-1.2**
SMLA	**Simla**	**21.05**	**287**	*eP*		**P**	**19 27 55.8**	**+0.1**
SMLA				AMB		AMB	19 27 59.1	
	comp=Z,34nm,0.5s							
SONM	**Songino Array**	**21.23**	**10**	P		**P**	**19 27 56.7**	**-1.0**
SONM	**Songino Array**	**21.23**	**10**	P		**P**	**19 27 56.7**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=191,slow=12,SNR=8.7							
SONM				LR		LR	19 36 32.0	
	comp=Z,102nm,21.0s,baz=161,slow=38							
ULN	**Ulaanbaatar**	**21.37**	**12**	*eP*		**P**	**19 27 58.5**	**-0.7**
	comp=Z,7.0nm,0.8s							
BHPL	**Bhopal**	**21.49**	**265**	*eP*		**P**	**19 28 01.1**	**+0.5**
BHPL				AMB		AMB	19 28 01.8	
	comp=Z,43nm,0.0s							
DHRM	**DHARAMSHALA**	**21.91**	**290**	*eP*		**P**	**19 28 02.9**	**-2.3**
DHRM				AMB		AMB	19 28 06.1	
	comp=Z,19nm,1.1s							
HYB	**Hyderabad**	**22.68**	**250**	*i P*		**P**	**19 28 15.0**	**+1.6**
HYB	**Hyderabad**	**22.68**	**250**	*eP*		**P**	**19 28 15.0**	**+1.6**
HYB				AMB		AMB	19 28 20.1	
	comp=Z,17nm,1.0s							
ZAK	**Zakamensk**	**23.40**	**4**	*eP*		P	19 28 10.0	-11
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.1s							
PSI	**Prapat**	**24.16**	**185**	P		**P**	**19 28 30.8**	**+2.7**
PSI	**Prapat**	**24.16**	**185**	P		**P**	**19 28 30.8**	**+2.7**
	comp=Z,4.6nm,0.4s,baz=308,slow=12,SNR=3.1							
MK31	**Makanchi Array**	**24.55**	**328**	*eP*		**P**	**19 28 31.9**	**+0.4**
MK31	**Makanchi Array**	**24.55**	**328**	*eP*		**P**	**19 28 31.9**	**+0.4**
MKAR	**Makanchi Array**	**24.55**	**328**	P		**P**	**19 28 32.1**	**+0.6**
MKAR	**Makanchi Array**	**24.55**	**328**	P		**P**	**19 28 32.1**	**+0.6**
MKAR	**Makanchi Array**	**24.55**	**328**	P		**P**	**19 28 32.1**	**+0.6**
	comp=Z,5.7nm,0.7s,baz=132,slow=10,SNR=27							
KSAR	**Wonju Array Be**	**25.07**	**59**	P		**P**	**19 28 34.4**	**-1.8**
KSRS	**Korea Array**	**25.11**	**59**	P		**P**	**19 28 34.4**	**-2.1**
	comp=Z,3.0nm,0.8s,baz=252,slow=10,SNR=6.3							
KSRS				LR		LR	19 38 07.3	
	comp=Z,137nm,18.4s,baz=104,slow=36							
CN2	**Changchun**	**26.00**	**44**	*eP*		**P**	**19 28 45.4**	**+0.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				LR		LR		
	comp=Z,500nm,11.0s							
AAK	**Ala-Archa**	**26.48**	**313**	P		**P**	**19 28 51.5**	**+2.4**
AAK	**Ala-Archa**	**26.48**	**313**	P		**P**	**19 28 51.5**	**+2.4**
AAK	**Ala-Archa**	**26.48**	**313**	P		**P**	**19 28 51.5**	**+2.4**
	comp=Z,1.6nm,0.7s,baz=106,slow=8.7,SNR=6.3							
AAK				LR		LR	19 40 25.2	
	comp=Z,306nm,18.8s,baz=105,slow=39							
JNU	**Nakatsue**	**26.67**	**70**	P		**P**	**19 28 51.8**	**+0.9**
JNU	**Nakatsue**	**26.67**	**70**	P		**P**	**19 28 51.8**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=326,slow=3.6,SNR=4.1							
JNU				LR		LR	19 38 45.1	
	comp=Z,155nm,18.4s,baz=117,slow=35							
KURBB	**Kurchatov Arra**	**29.05**	**330**	P		**P**	**19 29 12.1**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=144,slow=9.1,SNR=21							
KURK	**Kurchatov**	**29.07**	**330**	P		**P**	**19 29 12.1**	**+0.1**
KURK	**Kurchatov**	**29.07**	**330**	P		**P**	**19 29 12.1**	**+0.1**
ZAA0	**Zalesovo Array**	**29.37**	**341**	*eP*		**P**	**19 29 14.4**	**-0.2**
ZALV	**Zalesovo Beam**	**29.37**	**341**	P		**P**	**19 29 14.5**	**-0.1**
ZALV	**Zalesovo Beam**	**29.37**	**341**	P		**P**	**19 29 14.5**	**-0.1**
ZALV	**Zalesovo Beam**	**29.37**	**341**	P		**P**	**19 29 14.5**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=147,slow=8.5,SNR=17							
ZALV				LR		LR	19 43 17.0	
	comp=Z,44nm,22.0s,baz=127,slow=41							
USRK	**Ussuriysk Arra**	**30.36**	**47**	P		**P**	**19 29 21.6**	**-1.9**
	comp=Z,2.8nm,0.9s,baz=213,slow=6.6,SNR=5.4							
USRK				LR		LR	19 41 04.7	
	comp=Z,114nm,18.9s,baz=62,slow=36							
MJAR	**Matsushiro Arr**	**33.01**	**64**	LR		LR	19 44 13.7	
	comp=Z,99nm,18.9s,baz=270,slow=38							
ABKAR	**Akbulak array**	**38.42**	**316**	*eP*		P	19 30 38.7	+5.5
	comp=Z,1.7nm,0.7s							
ARU	**Arti**	**42.04**	**326**	*eP*		**P**	**19 31 03.7**	**+0.6**
ARU				pmax		pmax		
	comp=Z,7.0nm,0.9s							
ARU	**Arti**	**42.04**	**326**	*eP*		**P**	**19 31 03.7**	**+0.6**
	comp=Z,6.6nm,0.9s							
ZEI	**Tsey**	**48.36**	**304**	*eP*		P	19 31 58.3	+4.6
ZEI				pmax		pmax		
	comp=Z,4.0nm,1.0s							
PETK	**Petropavlovsk-**	**49.13**	**42**	LR		LR	19 52 36.1	
	comp=Z,118nm,18.8s,baz=79,slow=36							
WRAB	**Tennant Creek**	**56.89**	**142**	*eP*		**P**	**19 32 57.5**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,6.0nm,0.8s							
WRAB	**Tennant Creek**	**56.89**	**142**	*eP*		**P**	**19 32 57.5**	**+0.6**
	comp=Z,6.4nm,0.8s							
WRA	**Warramunga Arr**	**56.89**	**142**	P		**P**	**19 32 57.2**	**+0.4**
WRA	**Warramunga Arr**	**56.89**	**142**	P		**P**	**19 32 57.2**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=330,slow=7.8,SNR=22							
AKASG	**Malin Array Be**	**58.12**	**315**	P		**P**	**19 33 05.2**	**0.0**
AKASG	**Malin Array Be**	**58.12**	**315**	P		**P**	**19 33 05.2**	**0.0**
AKASG	**Malin Array Be**	**58.12**	**315**	P		**P**	**19 33 05.2**	**0.0**
	comp=Z,0.4nm,0.4s,baz=71,slow=6.3,SNR=3.1							
FINES	**FINESS Array B**	**59.38**	**327**	P		**P**	**19 33 13.6**	**-0.2**
FINES	**FINESS Array B**	**59.38**	**327**	P		**P**	**19 33 13.6**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=97,slow=12,SNR=3.0							
AS31	**Alice Springs**	**59.69**	**145**	*eP*		**P**	**19 33 17.1**	**+0.7**
ASAR	**Alice Springs**	**59.69**	**145**	P		**P**	**19 33 17.0**	**+0.6**
ASAR	**Alice Springs**	**59.69**	**145**	P		**P**	**19 33 17.0**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=325,slow=6.8,SNR=36							
NB2	**NORSAR Subarra**	**66.55**	**328**	P		**P**	**19 34 01.8**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=78,slow=6.5							
NOA	**NORSAR Array B**	**66.55**	**328**	P		**P**	**19 34 02.0**	**+0.5**
NOA	**NORSAR Array B**	**66.55**	**328**	P		**P**	**19 34 02.0**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=77,slow=6.5,SNR=8.5							
NOA				LR		LR	20 04 20.0	
	comp=Z,113nm,21.5s,baz=355,slow=37							
KMBO	**Kilima Mbogo**	**67.14**	**256**	P		**P**	**19 34 06.9**	**+0.6**
KMBO	**Kilima Mbogo**	**67.14**	**256**	P		**P**	**19 34 06.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=50,slow=14,SNR=5.1							
GERES	**GERESS Array B**	**68.34**	**315**	P		**P**	**19 34 13.4**	**+0.3**
GERES	**GERESS Array B**	**68.34**	**315**	P		**P**	**19 34 13.4**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=46,slow=2.8,SNR=3.3							
GERES				LR		LR	20 10 46.3	
	comp=Z,176nm,20.3s,baz=14,slow=42							
STKA	**Stephens Creek**	**70.30**	**144**	P		**P**	**19 34 26.0**	**+0.7**
STKA	**Stephens Creek**	**70.30**	**144**	P		**P**	**19 34 26.0**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=338,slow=6.2,SNR=4.9							
ILAR	**Eielson Array**	**74.74**	**24**	LR		LR	20 09 51.2	
	comp=Z,153nm,19.3s,baz=321,slow=38							
INK	**Inuvik**	**76.93**	**18**	P		**P**	**19 35 02.9**	**-0.9**
INK	**Inuvik**	**76.93**	**18**	P		**P**	**19 35 02.9**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=307,slow=5.4,SNR=5.4							
YKA	**Yellowknife Ar**	**86.40**	**16**	P		**P**	**19 35 53.0**	**-0.9**
YKA	**Yellowknife Ar**	**86.40**	**16**	P		**P**	**19 35 52.9**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=313,slow=4.1,SNR=4.6							
BOSA	**Boshof**	**91.12**	**238**	LR		LR	20 16 41.3	
	comp=Z,52nm,18.9s,baz=345,slow=35							
MAW	**Mawson**	**98.50**	**194**	LR		LR	20 16 31.7	
	comp=Z,70nm,18.4s,baz=80,slow=32							

*IDC **10** 19:33:08.0±1.4, 44.08N×129.06W, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.8/33, mbtmp3.8/13, ML3.4/4, MS3.4/7, Ms1 3.4/7, ms1mx3.2/43, Error ellipse: s-maj=35.4km s-min=14.6km az=40.0*

*ISCJB **10** 19:33:09.9±0.7, 44.16N±0.07×128.97W±0.07, h15km, mb4.0/11, MS3.2/4, Error ellipse: s-maj=10.9km s-min=5.9km az=32.5*

*NEIC **10** 19:33:10.3±0.7, 44.14N×129.07W, h10km, mb4.9/5, Error ellipse: s-maj=10.8km s-min=5.7km az=214.0*

ISC 10 19:33:11.2±1.0, 44.11N±0.10×128.99W±0.09, h15km, n59, σ1s20/52, mb3.9/11, MS3.2/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNO	**Roman Nose**	**3.79**	**91**	P	**Pn**	**19 34 08.3**	**-0.9**
COR	**Corvallis**	**4.11**	**81**	*eP*	**Pn**	**19 34 12.6**	**-0.9**
F03A	**Seaside**	**4.26**	**63**	P	**Pn**	**19 34 15.2**	**-0.4**
HUMO	**Hull Mountain**	**4.65**	**107**	*eP*	**Pn**	**19 34 20.1**	**-0.8**
BMW	**Boistfort Moun**	**4.70**	**58**	P	**Pn**	**19 34 21.6**	**-0.1**
BROR	**Big Rock Looko**	**4.71**	**86**	P	**Pn**	**19 34 21.6**	**0.0**
NLWA	**Neilton Lookou**	**4.86**	**46**	*eP*	**Pn**	**19 34 23.7**	**-0.1**
YBH	**Yreka Blue Hor**	**5.19**	**115**	Pn	**Pn**	**19 34 28.7**	**+0.3**
YBH				Sn	**Sn**	**19 35 25.7**	**-2.3**
YBH	**Yreka Blue Hor**	**5.19**	**115**	Pn	**Pn**	**19 34 28.7**	**+0.3**
	0.5nm,0.3s,baz=262,slow=6.2,SNR=15						
YBH				Sn	**Sn**	**19 35 25.7**	**-2.3**
	0.4nm,0.3s,baz=70,slow=16,SNR=2.6						
OBC	**Olympics--Boni**	**5.20**	**39**	P	**Pn**	**19 34 27.9**	**-0.6**
HDW	**Hoodsport**	**5.45**	**47**	P	**Pn**	**19 34 31.6**	**-0.4**
VFP	**Flag Point**	**5.50**	**75**	P	**Pn**	**19 34 32.7**	**0.0**
GSM	**Grass Mountain**	**5.92**	**56**	P	**Pn**	**19 34 39.6**	**+1.2**
PGC	**Sidney**	**5.94**	**38**	*eP*	**Pn**	**19 34 37.2**	**-1.3**
	0.8nm,0.5s						
HAWA	**Hanford**	**7.06**	**68**	*eP*	**Pn**	**19 34 54.9**	**+0.9**
	6.7nm,0.5s						
WVOR	**Wild Horse Val**	**7.74**	**99**	*eP*	**Pn**	**19 35 02.8**	**-0.7**
	3.2nm,0.8s						
BBB	**Bella Bella**	**8.10**	**4**	Pn	**Pn**	**19 35 08.3**	**+0.2**
BBB	**Bella Bella**	**8.10**	**4**	Pn	**Pn**	**19 35 08.3**	**+0.2**
	0.4nm,0.3s,baz=179,slow=11,SNR=4.7						
BBB				LR	LR	19 37 45.9	
	comp=Z,207nm,18.3s,baz=70,slow=34						
BMO	**Blue Mountains**	**8.39**	**81**	*eP*	**Pn**	**19 35 11.8**	**-0.6**
	2.2nm,0.6s						
NVAR	**Mina Array Bea**	**9.85**	**122**	Pn	**Pn**	**19 35 33.8**	**+1.4**
NVAR	**Mina Array Bea**	**9.85**	**122**	Pn	**Pn**	**19 35 33.8**	**+1.4**
	0.1nm,0.3s,baz=310,slow=15,SNR=2.8						
HLID	**Hailey**	**10.55**	**88**	*eP*	**Pn**	**19 35 44.9**	**+2.9**
	9.0nm,1.0s						
SWMT	**Swartz Lake**	**11.00**	**67**	*eP*	Pn	19 35 52.1	+3.9
	5.4nm,1.1s						
MCMT	**McKenzie Canyo**	**11.56**	**81**	*eP*	**Pn**	**19 35 58.8**	**+2.9**
	1.4nm,0.7s						
PDAR	**Pinedale Array**	**14.19**	**89**	Pn	**Pn**	**19 36 33.5**	**+1.7**
PDAR	**Pinedale Array**	**14.19**	**89**	Pn	**Pn**	**19 36 33.5**	**+1.7**
	0.0nm,0.3s,baz=289,slow=14,SNR=5.1						
PDAR				LR	LR	19 41 58.3	
	comp=Z,206nm,19.4s,baz=349,slow=37						
DLBC	**Dease Lake**	**14.36**	**358**	LR	LR	19 41 15.4	
	comp=Z,129nm,21.6s,baz=256,slow=34						
SRU	**San Rafael**	**14.69**	**104**	*eP*	**P**	**19 36 47.3**	**+2.6**
	26nm,1.1s						
PV01	**Paradox Valley**	**16.49**	**104**	*eP*	**Pn**	**19 37 03.4**	**+1.2**
	875nm,1.1s						
YKA	**Yellowknife Ar**	**20.23**	**19**	P	**P**	**19 37 45.2**	**-0.2**
YKA	**Yellowknife Ar**	**20.23**	**19**	P	**P**	**19 37 45.2**	**-0.2**
	6.5nm,1.0s,baz=210,slow=11,SNR=14						
FFC	**Flin Flon**	**20.40**	**49**	*eP*	**P**	**19 37 48.2**	**+0.8**
	12nm,1.1s						
MCK	**McKinley**	**22.71**	**337**	*eP*	**P**	**19 38 11.3**	**-0.8**
ILAR	**Eielson Array**	**23.00**	**340**	P	**P**	**19 38 14.3**	**-0.9**
ILAR	**Eielson Array**	**23.00**	**340**	P	**P**	**19 38 14.3**	**-0.9**
	2.7nm,1.0s,baz=163,slow=8.1,SNR=10						
ILAR				LR	LR	19 45 22.8	
	comp=Z,93nm,19.4s,baz=102,slow=32						
PPLA	**Purkeypile**	**23.09**	**333**	*eP*	**P**	**19 38 17.1**	**+0.9**
	22nm,1.5s						
ULM	**Lac du Bonnet**	**23.20**	**63**	P	**P**	**19 38 17.0**	**-0.3**
ULM	**Lac du Bonnet**	**23.20**	**63**	P	**P**	**19 38 17.0**	**-0.3**
	2.0nm,0.5s,baz=260,slow=5.7,SNR=4.2						
ULM				LR	LR	19 47 03.2	
	comp=Z,94nm,19.1s,baz=6.3,slow=36						
INK	**Inuvik**	**24.37**	**356**	P	**P**	**19 38 28.1**	**-0.2**
INK	**Inuvik**	**24.37**	**356**	P	**P**	**19 38 28.1**	**-0.2**
	3.4nm,1.0s,baz=171,slow=7.3,SNR=6.9						
INK				LR	LR	19 46 51.0	
	comp=Z,109nm,20.4s,baz=18,slow=34						
TXAR	**Lajitas Array**	**24.96**	**118**	P	**P**	**19 38 34.2**	**0.0**
TXAR	**Lajitas Array**	**24.96**	**118**	P	**P**	**19 38 34.2**	**0.0**
	0.5nm,0.8s,baz=298,slow=8.1,SNR=4.4						
TXAR				LR	LR	19 48 07.2	
	comp=Z,56nm,18.3s,baz=235,slow=36						
WMOK	**Wichita Mounta**	**25.03**	**102**	*eP*	**P**	**19 38 35.6**	**+0.9**
	21nm,1.3s						
IM04	**Indian Mountai**	**25.76**	**337**	*eP*	**P**	**19 38 41.5**	**+0.4**
MCWV	**Mont Chateau**	**36.42**	**80**	*eP*	P	19 40 21.5	+6.4
	112nm,1.3s						
H11N3	**WAKE ISLAND Hy**	**58.06**	**267**	T	T	20 45 43.7	
	baz=52,slow=75,SNR=922						
H11N2	**WAKE ISLAND Hy**	**58.06**	**267**	T	T	20 45 46.8	
	baz=52,slow=75,SNR=587						
H11N1	**WAKE ISLAND Hy**	**58.07**	**267**	T	T	20 45 46.1	
	baz=52,slow=75,SNR=445						
H11S1	**WAKE ISLAND Hy**	**58.99**	**266**	T	T	20 46 51.9	
	baz=48,slow=75,SNR=216						
H11S2	**WAKE ISLAND Hy**	**59.00**	**266**	T	T	20 46 51.9	
	baz=48,slow=75,SNR=116						
H11S3	**WAKE ISLAND Hy**	**59.01**	**266**	T	T	20 46 53.1	
	baz=48,slow=75,SNR=131						
SONM	**Songino Array**	**76.29**	**325**	P	**P**	**19 44 59.0**	**-0.3**
SONM	**Songino Array**	**76.29**	**325**	P	**P**	**19 44 59.0**	**-0.3**
	1.3nm,1.0s,baz=17,slow=1.4,SNR=6.9						
ZALV	**Zalesovo Beam**	**78.13**	**340**	P	**P**	**19 45 07.8**	**-1.5**
ZALV	**Zalesovo Beam**	**78.13**	**340**	P	**P**	**19 45 07.8**	**-1.5**
	0.7nm,0.7s,baz=46,slow=4.5,SNR=4.2						
KURK	**Kurchatov**	**82.55**	**343**	P	**P**	**19 45 32.9**	**-0.3**
KURBB	**Kurchatov Arra**	**82.65**	**343**	P	**P**	**19 45 32.9**	**-0.8**
	1.7nm,0.8s,baz=19,slow=4.9,SNR=5.1						
MKAR	**Makanchi Array**	**85.35**	**339**	P	**P**	**19 45 45.9**	**-1.7**
MKAR	**Makanchi Array**	**85.35**	**339**	P	**P**	**19 45 45.9**	**-1.7**
	0.4nm,0.8s,baz=44,slow=4.4,SNR=3.7						

CASC 10 19:50:50.8±1.5, 13.29N×90.25W, h28km±4km, MD3.5, ML4.3, 3C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONS	**Sonsonate**	**0.68**	**49**	*eP*	Pb	19 51 04.1	-0.1
SONS				*eS*	Sn	19 51 14.5	+0.1
SONS				AML	AML	19 51 15.3	
	comp=Z,9μm,0.5s						
SBLS	**San Blas**	**0.82**	**48**	*eP*	Pb	19 51 06.3	-0.5
RTR	**El Retiro**	**0.84**	**44**	*eP*	Pn	19 51 06.9	-0.1
SNJE	**San Jose**	**0.85**	**47**	↑*iP*	Pn	19 51 06.9	-0.3
IXG	**Ixpaco**	**0.90**	**347**	*eP*	Pn	19 51 06.7	-1.1
IXG				↑*eP*	Pb	19 51 07.6	-0.4
IXG				*eS*	Sn	19 51 20.6	+0.4
BOQS	**Boqueron**	**1.04**	**65**	*eP*	Pn	19 51 09.5	-0.3
BOQS				*eS*	Sb	19 51 24.6	+0.6
SNET	**Serv Nac Est T**	**1.06**	**68**	AML	AML	19 51 11.0	
	comp=Z,10μm,0.2s						
SNET				Sn4		19 52 05.2	
PCG	**Pacaya**	**1.15**	**342**	*eP*	Pn	19 51 11.3	-0.1
PCG				*eS*	Sn	19 51 26.2	-0.3
LFU	**La Fuente**	**1.19**	**68**	*eP*	Pn	19 51 11.8	0.0
LFRS	**El Faro**	**1.20**	**74**	*eP*	Pn	19 51 11.4	-0.5
LBRS	**Las Brisas**	**1.25**	**69**	*eP*	Pn	19 51 12.6	0.0
NBG	**Las Nubes**	**1.29**	**356**	↓*eP*	Pb	19 51 14.6	-0.3
NBG				*eS*	Sb	19 51 32.5	+1.2
SNVI	**San Vicente**	**1.41**	**77**	*eP*	Pn	19 51 14.6	-0.2
SNVI				*eS*	Sn	19 51 33.0	+0.4
JAT	**Jato**	**1.69**	**307**	↑*eP*	Pn	19 51 18.6	+0.1
MRL	**Marmol**	**1.84**	**17**	*eP*	Pn	19 51 21.3	+0.4
VSM	**San Miguel**	**1.93**	**86**	*eP*	Pn	19 51 21.9	-0.2
CAHU	**Cacacuatique**	**2.04**	**76**	*eP*	Pn	19 51 23.3	-0.3
CNCH	**Conchagua**	**2.35**	**90**	*eP*	Pn	19 51 27.4	-0.4
VCR	**Vista de Mar**	**5.51**	**124**	*eP*	Pn	19 52 12.0	+0.8
JCR	**Jicaral**	**6.08**	**124**	*eP*	Pn	19 52 19.5	+0.4
CGA2	**Cerro Gallo 2**	**6.53**	**119**	*eP*	Pn	19 52 26.9	+1.6
QCR	**Quepos**	**7.09**	**122**	*eP*	Pn	19 52 34.2	+1.4
URSC	**Urasca**	**7.21**	**118**	*eP*	Pn	19 52 36.2	+1.5
BUS	**Buena Vista**	**7.37**	**120**	*eP*	Pn	19 52 39.2	+2.0
BUS				*eS*	Sn	19 53 54.0	-6.3

*IDC **10** 20:11:25.2±15.0, 36.23N×71.30E, h203km±186km, mb3.1/5, mb1 3.1/6, mb1mx2.8/29, mbtmp3.0/6, ML3.0/1, Error ellipse: s-maj=99.0km s-min=53.1km az=89.0*

*ISCJB **10** 20:11:26.6±1.3, 36.6N±0.1×70.8E±0.1, h188

MKAR	**Makanchi Array**	**47.97**	**38**	P		**P**	**20 35 12.7**	**-0.7**	
	comp=E,0.4nm,0.7s,baz=241,slow=7.7,SNR=2.3								
ZALV	**Zalesovo Beam**	**52.95**	**31**	P		**P**	**20 35 50.5**	**-0.5**	
	comp=E,0.4nm,0.4s,baz=223,slow=5.9,SNR=2.6								

IDC 10 20:32:57.2±1.2, 5.59S×146.34E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.9/19, mbtmp3.8/10, ML3.3/2, MS3.2/4, Ms1 3.1/4, ms1mx3.0/34, Error ellipse: s-maj=39.1km s-min=19.2km az=95.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.88**	**168**	Pn	Pn	20 33 57.8	-0.3
	4.2nm,0.3s,baz=308,slow=5.8,SNR=11						
PMG				Sn	Sn	20 34 38.5	-5.9
	7.7nm,0.3s,baz=318,slow=21,SNR=2.6						
PMG				LR	LR	20 35 39.3	
	comp=Z,179nm,18.3s,baz=131,slow=42						
WRA	**Warramunga Arr**	**18.44**	**218**	P	Pn	20 37 14.3	-0.1
	0.2nm,0.3s,baz=41,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**21.60**	**212**	P	P	20 37 49.8	+0.9
	0.9nm,0.8s,baz=36,slow=8.4,SNR=10						
ASAR				LR	LR	20 46 29.2	
	comp=Z,79nm,19.0s,baz=107,slow=38						
FITZ	**Fitzroy Crossi**	**23.74**	**237**	P	P	20 38 11.2	-0.1
	2.2nm,0.8s,baz=41,slow=9.3,SNR=6.1						
STKA	**Stephens Creek**	**26.53**	**189**	P	P	20 38 36.3	-0.4
	2.8nm,0.9s,baz=72,slow=6.7,SNR=3.1						
STKA				LR	LR	20 49 32.5	
	comp=Z,46nm,18.7s,baz=25,slow=38						
KSRS	**Korea Array**	**46.14**	**340**	LR	LR	20 57 06.4	
	comp=Z,27nm,19.8s,baz=345,slow=31						
CMAR	**Chiang Mai Arr**	**52.48**	**298**	P	P	20 42 11.7	-0.7
	0.8nm,0.5s,baz=124,slow=6.0,SNR=7.5						
SONM	**Songino Array**	**63.73**	**331**	P	P	20 43 30.8	-0.1
	0.2nm,0.6s,baz=178,slow=6.9,SNR=2.9						
MKAR	**Makanchi Array**	**76.77**	**321**	P	P	20 44 51.1	+0.4
	0.8nm,0.9s,baz=86,slow=8.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**78.32**	**328**	P	P	20 44 59.6	+0.5
	0.5nm,0.5s,baz=142,slow=7.2,SNR=2.2						
ILAR	**Eielson Array**	**85.36**	**23**	P	P	20 45 36.1	0.0
	1.0nm,0.7s,baz=252,slow=5.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**144.36**	**285**	PKP	PKPbc	20 52 35.3	+0.4
	0.9nm,0.7s,baz=66,slow=3.0,SNR=7.6						

*ISCJB **10** 20:38:54.6±0.9, 21.7S±0.1×177.9W±0.2, h373km, mb3.4/7, Error ellipse: s-maj=20.4km s-min=13.7km az=15.4*
*IDC **10** 20:38:57.9±5.9, 21.60S×177.91W, h400km±61km, mb3.2/7, mb1 3.4/8, mb1mx3.2/21, mbtmp3.2/8, Error ellipse: s-maj=40.8km s-min=21.9km az=5.0*

ISC 10 20:38:55.0±0.8, 21.9S±0.1×177.8W±0.2, h373km, n13, σ1°29/15, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.94**	**194**	P	**Pn**	**20 42 32.4**	**-1.1**
	0.7nm,0.3s,baz=352,slow=15,SNR=3.0						
URZ				S	**S**	**20 45 26.3**	**-0.7**
	0.4nm,0.3s,baz=199,slow=18,SNR=2.0						
CTA	**Charters Tower**	**33.59**	**266**	P	**P**	**20 45 02.0**	**+0.1**
	1.8nm,0.6s,baz=79,slow=16,SNR=2.7						
STKA	**Stephens Creek**	**37.41**	**246**	P	**P**	**20 45 35.2**	**+1.3**
	2.7nm,0.5s,baz=98,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**44.43**	**258**	P	**P**	**20 46 30.8**	**+0.1**
	2.0nm,0.7s,baz=94,slow=8.0,SNR=20						
ASAR				PcP	**PcP**	**20 48 06.6**	**-0.5**
	0.5nm,0.8s,baz=109,slow=4.2,SNR=3.6						
WRA	**Warramunga Arr**	**44.63**	**263**	P	**P**	**20 46 31.5**	**-0.9**
	0.6nm,0.5s,baz=97,slow=7.2,SNR=4.7						
FITZ	**Fitzroy Crossi**	**53.07**	**263**	P	**P**	**20 47 35.7**	**0.0**
	1.4nm,0.8s,baz=90,slow=11,SNR=3.4						
TXAR	**Lajitas Array**	**87.61**	**57**	P	**P**	**20 51 03.7**	**+1.4**
	0.4nm,0.7s,baz=211,slow=7.1,SNR=5.1						
PDAR	**Pinedale Array**	**89.80**	**43**	P	**P**	**20 51 11.8**	**-0.6**
	0.7nm,0.9s,baz=214,slow=3.1,SNR=3.5						
ARCES	**ARCESS Array B**	**130.28**	**350**	PKP	**PKPdf**	**20 57 19.3**	**-1.4**
	1.5nm,0.9s,baz=17,slow=0.9,SNR=7.9						
AKASG	**Malin Array Be**	**144.28**	**330**	PKP	**PKPab**	**20 57 44.0**	**-2.1**
	1.5nm,0.4s,baz=42,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**147.88**	**311**	PKPbc	**PKPdf**	**20 57 55.5**	**+1.9**
	0.7nm,0.6s,baz=136,slow=6.9,SNR=4.1						
GERES	**GERESS Array B**	**151.54**	**344**	PKPbc	**PKPbc**	**20 58 04.4**	**-1.1**
	0.4nm,0.7s,baz=343,slow=4.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**171.34**	**177**	PKPab	**PKPab**	**20 59 43.9**	**+1.4**
	0.4nm,0.7s,baz=150,slow=3.7,SNR=3.1						

KRSC 10 20:56:18.3±2.8, 53.40N×160.58E, h40km±40km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.45**	**228**	*e*P	Pn	20 56 30.6	+2.2
SPN				*e*S	Sn	20 56 38.1	+2.6
NLC	**Nalytchevo**	**0.78**	**253**	*e*P	Pn	20 56 34.1	+1.4
NLC				*e*S	Sn	20 56 44.8	+1.6
KII	**Karymskiy**	**0.93**	**314**	*e*P	Pn	20 56 35.9	+0.9
KII				*e*S	Sn	20 56 47.2	+0.1
SDLR	**Sedlovina**	**1.02**	**264**	*e*P	Pn	20 56 37.8	+1.5
SDLR				*e*S	Sn	20 56 50.8	+1.2
UGLR	**Uglovaya**	**1.07**	**260**	*e*P	Pn	20 56 38.8	+1.8
UGLR				*e*S	Sn	20 56 52.7	+2.0
SMAR	**Somma**	**1.08**	**263**	*e*P	Pn	20 56 38.6	+1.4
SMAR				*e*S	Sn	20 56 52.3	+1.2
KRER	**Koryakskii**	**1.10**	**266**	*e*P	Pn	20 56 39.4	+1.9
KRER				*e*S	Sn	20 56 53.4	+1.7
AVH	**Avacha**	**1.11**	**264**	*e*P	Pn	20 56 39.4	+1.9
AVH				*e*S	Sn	20 56 53.4	+1.7
KRX	**Arik**	**1.16**	**269**	*e*P	Pn	20 56 39.7	+1.5
KRX				*e*S	Sn	20 56 53.7	+0.8
KOK	**Koryaka**	**1.17**	**265**	*e*P	Pn	20 56 40.0	+1.7
KOK				*e*S	Sn	20 56 54.2	+1.0
PET	**Petropavlovsk**	**1.22**	**253**	*e*P	Pn	20 56 40.5	+1.7
PET				*e*S	Sn	20 56 55.3	+1.2
MKZ	**Mys Kozlova**	**1.34**	**30**	*e*P	Pn	20 56 41.8	+1.3
MKZ				*e*S	Sn	20 56 58.2	+1.1
RUS	**Russkaya**	**1.58**	**233**	*e*P	Pn	20 56 45.8	+2.0
RUS				*e*S	Sn	20 57 04.2	+1.2
GNL	**Ganaly**	**1.60**	**282**	*e*P	Pn	20 56 46.0	+1.7
GNL				*e*S	Sn	20 57 06.2	+2.4
MTVR	**Mutnovka**	**1.72**	**239**	*e*P	Pn	20 56 48.0	+2.1
MTVR				*e*S	Sn	20 57 08.4	+1.7
KZV	**Kizimen**	**1.73**	**355**	*e*P	Pn	20 56 47.9	+1.9
KZV				*e*S	Sn	20 57 07.9	+1.0
GRL	**Gorelyy**	**1.74**	**242**	*e*P	Pn	20 56 48.6	+2.5
GRL				*e*S	Sn	20 57 09.7	+2.5
TUMR	**Tumrok**	**1.90**	**353**	*e*P	Pn	20 56 50.7	+2.3
TUMR				*e*S	Sn	20 57 13.3	+2.0
ASAK	**Asacha**	**1.92**	**239**	*e*P	Pn	20 56 51.4	+2.9
ASAK				*e*S	Sn	20 57 15.0	+3.5
APC	**Apacha**	**2.11**	**258**	*e*P	Pn	20 56 54.2	+3.1
APC				*e*S	Sn	20 57 20.2	+4.1
KMNR	**Kamenistaya**	**2.37**	**355**	*e*P	Pn	20 56 57.5	+2.7
BZMR	**Bezymyannaya**	**2.54**	**359**	*e*P	Pn	20 57 00.6	+3.4
BZGR	**Bezymyannyi-Gr**	**2.55**	**1**	*e*P	Pn	20 56 59.8	+2.6
KIRR	**Kirishev**	**2.56**	**357**	*e*P	Pn	20 57 00.1	+2.6
BZWR	**Bezymyannyi-We**	**2.57**	**359**	*e*P	Pn	20 57 01.4	+3.8
KPT	**Kopyto**	**2.58**	**356**	*e*P	Pn	20 57 01.1	+3.4
KOZ	**Kozyrevsk**	**2.69**	**352**	*e*P	Pn	20 57 01.2	+2.1
ESO	**Esso**	**2.76**	**337**	*e*P	Pn	20 57 01.6	+1.6
KRSR	**Krestovskiy**	**2.82**	**360**	*e*P	Pn	20 57 04.7	+3.7
KLY	**Klyuchi**	**2.92**	**1**	*e*P	Pn	20 57 04.3	+2.1
KLY				*e*S	Sn	20 57 38.9	+2.9
SRDR	**Sredinnyy**	**2.97**	**351**	*e*P	Pn	20 57 05.0	+2.1
PAU	**Pauzhetka**	**3.01**	**232**	*e*P	Pn	20 57 06.2	+2.8
KBTR	**Krutoberegovo**	**3.10**	**24**	*e*P	Pn	20 57 07.4	+2.8
KBTR				*e*S	Sn	20 57 42.8	+2.4
KBG	**Krutoberegovo**	**3.11**	**22**	S	Sn	20 57 45.8	+5.1
BDR	**Baidarnaya**	**3.20**	**6**	*e*P	Pn	20 57 10.1	+4.0
BDR				S	Sn	20 57 46.7	+3.7
SMKR	**Semkarok**	**3.23**	**9**	*e*P	Pn	20 57 09.9	+3.3
SMKR				*e*S	Sn	20 57 46.9	+3.1
SRKR	**Sorokina**	**3.28**	**6**	*e*P	Pn	20 57 11.1	+3.9
SRKR				S	Sn	20 57 48.8	+3.8
BKI	**Bering**	**3.64**	**58**	*e*P	Pn	20 57 14.3	+2.3
BKI				*e*S	Sn	20 57 52.6	-1.1

*TAP **10** 20:58:15.8, 21.99N×121.27E, h32km, ML3.4, C*
*JMA **10** 20:58:18.6±0.2, 22.46N×121.57E, h0km, M3.3*

ISC 10 20:58:15.3±1.3, 22.00N±0.04×121.32E±0.03, h30km±12km, n48, σ1°26/87, 4C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.22**	**80**	⇓*i*P	**Pn**	**20 58 23.1**	**+0.5**
	baz=80						
LAY				*i* S	Sn	20 58 28.1	+1.0
	baz=80						
TSEB	**Hengchuen, Pin**	**0.40**	**255**	⇓*i*P	**Pn**	**20 58 24.9**	**0.0**
	baz=266						
TSEB				*i* S	Sn	20 58 31.7	+0.3
	baz=266						
TWK1	**Hengchun**	**0.48**	**263**	⇓*i*P	**Pn**	**20 58 25.4**	**-0.7**
	baz=272						
TWK1				S	Sn	20 58 32.0	-1.4
	baz=272						
TAW	**Tawu**	**0.53**	**313**	⇑*i*P	**Pn**	**20 58 26.3**	**-0.5**
	baz=317						
TAW				*i* S	Sn	20 58 33.6	-1.0
	baz=317						
HEN	**Hengchun**	**0.54**	**271**	⇓*i*P	**Pn**	**20 58 26.5**	**-0.3**
	baz=275						
HEN				*i* S	Sn	20 58 34.2	-0.6
	baz=275						
ECL	**Taimali**	**0.68**	**331**	⇑*i*P	**Pb**	**20 58 28.1**	**-0.7**
	baz=334						
ECL				*e*S	Sb	20 58 37.1	-0.8
	baz=334						
SCZT	**Fangliau**	**0.74**	**300**	⇑*i*P	**Pb**	**20 58 29.8**	**+0.1**
	baz=310						
SCZT				S	Sn	20 58 39.5	-0.5
	baz=310						
TTN	**Taitung**	**0.77**	**348**	P	**Pb**	**20 58 30.4**	**+0.2**
	baz=352						
TTN				*e*S	Sn	20 58 40.9	+0.3
	baz=352						
TWG	**Pinlang**	**0.85**	**345**	*i* P	**Pn**	**20 58 30.5**	**-0.7**
	baz=348						
TWG				*e*S	Sn	20 58 41.0	-1.5
	baz=348						
TWP	**Hsiaoliuchiu**	**0.95**	**291**	*e*P	**Pb**	**20 58 34.1**	**+0.9**
	baz=294						
SSD	**Sandimen**	**0.97**	**320**	⇑*i*P	**Pb**	**20 58 33.1**	**-0.6**
	baz=327						
SSD				*e*S	Sb	20 58 45.8	-0.4
	baz=327						
SGLT	**Jiouru**	**1.05**	**314**	*e*P	**Pb**	**20 58 36.7**	**+1.8**
	baz=316						
SGLT				*e*S	Sb	20 58 50.5	+2.1
	baz=316						
KAU	**Kaohsiung**	**1.09**	**301**	*e*P	**Pb**	**20 58 36.0**	**+0.4**
	baz=303						
KAU				*e*S	Sb	20 58 50.6	+1.1
	baz=303						
CHKT	**Chengkung**	**1.09**	**2**	*e*P	**Pn**	**20 58 34.3**	**-0.3**
	baz=14						
CHKT				*e*S	Sn	20 58 48.9	+0.2
	baz=14						
ELDTW	**Lidau**	**1.21**	**347**	*e*P	**Pn**	**20 58 35.8**	**-0.6**
	baz=359						
STYT	**Tauyuan**	**1.27**	**336**	*e*P	**Pb**	**20 58 37.8**	**-0.9**
	baz=348						
STYT				*e*S	Sb	20 58 54.0	-0.5
	baz=348						
TWF1	**Yuli**	**1.34**	**359**	*e*P	**Pn**	**20 58 37.3**	**-0.7**
	baz=352						
CHN3	**Shinhua**	**1.38**	**321**	*e*P	**Pb**	**20 58 41.3**	**+0.8**
	baz=323						
CHN1	**Nanshi**	**1.39**	**328**	*e*P	**Pb**	**20 58 40.1**	**-0.5**
	baz=330						
CHN1				*e*S	Sb	20 58 57.7	-0.2
	baz=330						
WTP	**Ta-pu**	**1.40**	**333**	P	**Pb**	**20 58 40.6**	**-0.2**
	baz=334						
WTP				*e*S	Sb	20 58 58.5	+0.2
	baz=334						
TWK	**Hsinying**	**1.47**	**329**	*e*P	**Pb**	**20 58 41.5**	**-0.6**
	baz=331						
TWK				*e*S	Sb	20 58 59.8	-0.7
	baz=331						
EHY	**Hungye**	**1.50**	**0**	*e*P	**Pn**	**20 58 39.5**	**-0.6**
	baz=354						
EHY				*e*S	Sn	20 58 58.5	-0.1
	baz=354						
YUS	**Yu-Shan**	**1.52**	**347**	*e*P	**Pn**	**20 58 41.5**	**+0.6**
	baz=355						
YUS				*e*S	Sn	20 59 01.0	+1.1
	baz=355						
ALS	**Alishan**	**1.57**	**343**	P	**Pb**	**20 58 42.8**	**-1.2**
	baz=344						
ALS				*e*S	Sb	20 59 03.6	-0.1
	baz=344						
CHN5	**Tsauling**	**1.69**	**340**	⇓*i*P	**Pb**	**20 58 44.9**	**-1.0**
	baz=341						
CHN5				*e*S	Sb	20 59 05.8	-1.0
	baz=341						
CHY	**Chiayi**	**1.70**	**331**	*e*P	**Pn**	**20 58 43.7**	**+0.8**
	baz=334						
ESL	**Shilin**	**1.81**	**3**	*e*P	**Pn**	**20 58 45.8**	**+1.4**
	baz=5.0						
ESL				*e*S	Sn	20 59 07.2	+0.9
	baz=5.0						
WGK	**Gukeng**	**1.81**	**338**	*e*P	**Pb**	**20 58 45.8**	**-2.1**
	baz=339						
WGK				*e*S	Sb	20 59 08.8	-1.4
	baz=339						
SMLT	**Sun Moon Lake**	**1.91**	**349**	P	**Pb**	**20 58 48.1**	**-1.5**
	baz=350						
SMLT				*e*S	Sb	20 59 12.4	-0.8
	baz=350						
TYC	**Yuchr**	**1.94**	**348**	P	**Pb**	**20 58 48.5**	**-1.5**
	baz=349						
TYC				*e*S	Sb	20 59 12.2	-1.6
	baz=349						
WNT	**Mingjian**	**1.96**	**343**	*e*P	**Pb**	**20 58 48.7**	**-1.6**
	baz=345						
TWD	**Chiawan**	**2.09**	**7**	*e*P	**Pn**	**20 58 49.8**	**+1.6**
	baz=359						
TWD				*e*S	Sn	20 59 13.6	+0.4
	baz=359						
WHF	**Hehuan Shan**	**2.13**	**359**	*e*P	**Pn**	**20 58 50.0**	**+0.8**
	baz=10.0						
WHF				*e*S	Sn	20 59 16.1	+1.1
	baz=10.0						
TWT	**Tachien**	**2.25**	**357**	*e*P	**Pb**	**20 58 52.9**	**-2.4**
	baz=7.0						
TWT				*e*S	Sn	20 59 19.4	+2.1
	baz=7.0						
TWQ1	**Liyutan**	**2.39**	**348**	*e*P	**Pn**	**20 58 54.3**	**+1.9**
	baz=349						
TWQ1				*e*S	Sb	20 59 24.3	-2.5
	baz=349						
NNS	**Nan Shan**	**2.43**	**1**	*e*P	**Pb**	**20 58 56.0**	**-2.4**
	baz=10.0						
NNS				*e*S	Sn	20 59 23.9	+2.1
	baz=10.0						
ENA	**Nanau**	**2.45**	**9**	*e*P	**Pn**	**20 58 54.3**	**+1.1**
	baz=360						
ENA				*e*S	Sn	20 59 24.2	+2.1
	baz=360						
NSTT	**Nanjuang**	**2.63**	**354**	*e*P	**Pn**	**20 58 58.5**	**+2.7**
	baz=340						
NSTT				*e*S	Sn	20 59 29.0	+2.3
	baz=340						
ENTT	**Nioudou**	**2.64**	**5**	*e*P	**Pn**	**20 58 57.2**	**+1.4**
	baz=6.0						
ENTT				*e*S	Sn	20 59 27.5	+0.7
	baz=6.0						
TWC	**Suao**	**2.64**	**11**	*e*P	**Pn**	**20 58 58.1**	**+2.2**
	baz=1.0						
TWC				*e*S	Sn	20 59 28.5	+1.6
	baz=1.0						
NSK	**Sanguang**	**2.66**	**1**	*e*P	**Pn**	**20 58 57.9**	**+1.7**
	baz=8.0						
NSK				*e*S	Sn	20 59 30.5	+3.0
	baz=8.0						
YOJ	**Yonaguni jima**	**2.90**	**32**	S	**Sn**	**20 59 34.2**	**+0.9**
HATJ	**Hateruma jima**	**3.07**	**48**	*e*S	**Sn**	**20 59 36.9**	**-0.6**
IRIF	**Iriomote-Funau**	**3.21**	**43**	P	**Pn**	**20 59 04.9**	**+1.2**
IRIF				S	**Sn**	**20 59 40.8**	**-0.2**
JKRS	**Kuro-shima**	**3.33**	**48**	P	**Pn**	**20 59 06.6**	**+1.3**
JKRS				S	**Sn**	**20 59 43.4**	**-0.5**
JIJ	**Ishigaki jima**	**3.51**	**47**	P	**Pn**	**20 59 08.5**	**+0.7**
JIJ				S	**Sn**	**20 59 47.3**	**-0.9**
JTJ	**Tarama**	**4.07**	**49**	P	**Pn**	**20 59 16.5**	**+1.0**
JTJ				S	**Sn**	**21 00 02.0**	**-0.2**
JOGS	**Gusukube**	**4.66**	**53**	S	**Sn**	**21 00 17.2**	**+0.6**

*CSEM **10** 21:17:10.3±0.2, 43.62N×18.86E, h5km, ML2.5, Error ellipse: s-maj=4.0km s-min=3.2km az=118.0*
*PDG **10** 21:17:11.2±0.2, 43.61N×18.87E, h11km, MD2.5/1, ML2.5/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*BEO **10** 21:17:11.4±0.2, 43.60N×18.90E, h10km±2km, ML2.4/1*
*SKO **10** 21:17:12.4, 43.59N×19.17E, h49km, M1.7, ML2.6*

ISC 10 21:17:11.0±1.0, 43.61N±0.02×18.89E±0.02, h10km±8km, n61, σ1°20/108, 11C-19D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPM	**Unac-Piva**	**0.41**	**178**	⇓*i*Pg	**Pg**	**21 17 19.0**	**-0.1**
UPM				*e*Sg	Sg	21 17 24.9	+0.4
UPM	**Unac-Piva**	**0.41**	**178**	⇓*i*Pg	**Pg**	**21 17 19.0**	**-0.1**
UPM				*e*Sg	Sg	21 17 24.9	+0.4
BBLS	**Lazići**	**0.45**	**56**	⇓*i*Pg	**Pg**	**21 17 20.0**	**+0.1**
BBLS	**Lazići**	**0.45**	**56**	⇓*i*Pg	**Pg**	**21 17 20.0**	**+0.1**
PLE	**Pljevlja**	**0.46**	**128**	⇑*i*Pg	**Pg**	**21 17 20.2**	**+0.2**
PLE				*e*Sg	**Sb**	**21 17 27.6**	**-0.6**
PLE	**Pljevlja**	**0.46**	**128**	⇑*i*Pg	**Pg**	**21 17 20.2**	**+0.2**
PLE				*e*Sg	**Sb**	**21 17 27.6**	**-0.6**
BRY	**Bratogost**	**0.76**	**200**	⇑*i*Pg	**Pg**	**21 17 24.8**	**-0.8**
BRY				*e*Sg	**Sb**	**21 17 36.8**	**+0.1**
BRY	**Bratogost**	**0.76**	**200**	⇑*i*Pg	**Pg**	**21 17 24.8**	**-0.8**
BRY				*e*Sg	**Sb**	**21 17 36.8**	**+0.1**
NKY	**Niksic**	**0.80**	**175**	⇓*i*Pg	**Pg**	**21 17 26.2**	**-0.3**
NKY				*e*Sg	**Sb**	**21 17 38.7**	**+0.7**
NKY	**Niksic**	**0.80**	**175**	⇓*i*Pg	**Pg**	**21 17 26.2**	**-0.3**
NKY				*e*Sg	**Sb**	**21 17 38.7**	**+0.7**
NKME	**Niksic**	**0.85**	**177**	⇓*i*Pg	**Pg**	**21 17 26.8**	**-0.5**
NKME				*e*Sg	**Sb**	**21 17 40.0**	**+0.8**
NKME	**Niksic**	**0.85**	**177**	⇓*i*Pg	**Pg**	**21 17 26.8**	**-0.5**
NKME				*e*Sg	**Sb**	**21 17 40.0**	**+0.8**
SJES	**Sjenica**	**0.86**	**114**	*i* Pg	**Pg**	**21 17 25.6**	**-2.1**
SJES				*e*Sg	**Sg**	**21 17 37.8**	**-1.1**
IVAS	**Ivanjica**	**0.92**	**92**	⇓*i*Pg	**Pg**	**21 17 27.8**	**-0.9**
IVAS				*e*Sg	**Sg**	**21 17 40.8**	**+0.2**
IVAS	**Ivanjica**	**0.92**	**92**	⇓*i*Pg	**Pg**	**21 17 27.8**	**-0.9**
IVAS				*e*Sg	**Sg**	**21 17 40.8**	**+0.2**
DIVS	**Divibare**	**0.93**	**58**	⇓*e*Pg	**Pg**	**21 17 28.5**	**-0.5**
DIVS				*e*Sg	**Sg**	**21 17 40.3**	**-0.8**
DIVS	**Divibare**	**0.93**	**58**	⇓*e*Pg	**Pg**	**21 17 28.5**	**-0.5**
DIVS				*e*Sg	**Sg**	**21 17 40.3**	**-0.8**
TREB	**Trebinje**	**0.98**	**204**	⇓*i*Pg	**Pg**	**21 17 28.9**	**-0.9**
TREB				*e*Sg	**Sg**	**21 17 42.0**	**-0.5**
TREB	**Trebinje**	**0.98**	**204**	⇓*i*Pg	**Pg**	**21 17 28.9**	**-0.9**
TREB				*e*Sg	**Sg**	**21 17 42.0**	**-0.5**
BEY	**Berane**	**1.04**	**135**	⇓*i*Pg	**Pg**	**21 17 30.6**	**-0.4**
BEY				*e*Sg	**Sn**	**21 17 46.9**	**+0.5**
IVA	**Berane**	**1.04**	**135**	⇓*i*Pg	**Pg**	**21 17 30.6**	**-0.4**
IVA				*e*Sg	**Sn**	**21 17 46.9**	**+0.5**
TEKS	**Tekeris**	**1.04**	**26**	*i* Pg	**Pb**	**21 17 31.3**	**+0.1**
TEKS				*e*Sg	**Sn**	**21 17 46.3**	**0.0**
TEKS	**Tekeris**	**1.04**	**26**	*i* Pg	**Pb**	**21 17 31.3**	**+0.1**
TEKS				*e*Sg	**Sn**	**21 17 46.3**	**0.0**
STON	**Ston**	**1.14**	**230**	*e*Pg	**Pb**	**21 17 31.9**	**-0.9**
STON				Sg	**Sb**	**21 17 47.3**	**-0.4**
STON	**Ston**	**1.14**	**230**	*e*Pg	**Pb**	**21 17 31.6**	**-1.2**
STON				*e*Sg	**Sb**	**21 17 47.4**	**-0.3**
STON	**Ston**	**1.14**	**230**	*e*Pg	**Pb**	**21 17 31.6**	**-1.2**
STON				Sg	**Sb**	**21 17 47.2**	**-0.4**
HCY	**Herceg Novi**	**1.20**	**194**	⇑*i*Pg	**Pn**	**21 17 33.4**	**-0.4**
HCY				*e*Sg	**Sn**	**21 17 52.2**	**+2.0**
HCY	**Herceg Novi**	**1.20**	**194**	⇑*i*Pg	**Pn**	**21 17 33.4**	**-0.4**
HCY				*e*Sg	**Sn**	**21 17 52.2**	**+2.0**
PDG	**Podgorica**	**1.21**	**167**	*e*Pg	**Pn**	**21 17 33.3**	**-0.7**
PDG				*e*Sg	**Sb**	**21 17 49.8**	**+0.1**
PDG	**Podgorica**	**1.21**	**167**	*e*Pg	**Pn**	**21 17 33.3**	**-0.7**
PDG				*e*Sg	**Sb**	**21 17 49.8**	**+0.1**
TTG	**Podgorica**	**1.21**	**167**	⇑*i*Pg	**Pn**	**21 17 33.2**	**-0.7**
TTG				*e*Sg	**Sn**	**21 17 52.4**	**+2.0**
TRUS	**Trudelj**	**1.25**	**60**	*i* Pg	**Pn**	**21 17 34.9**	**+0.3**
TRUS	**Trudelj**	**1.25**	**60**	*i* Pg	**Pn**	**21 17 34.9**	**+0.3**
PVY	**Plav**	**1.28**	**142**	⇑*i*Pg	**Pn**	**21 17 35.0**	**-0.1**
PVY				*e*Sg	**Sg**	**21 17 55.4**	**+3.1**
PVY	**Plav**	**1.28**	**142**	⇑*i*Pg	**Pn**	**21 17 35.0**	**-0.1**
PVY				*e*Sg	**Sg**	**21 17 55.4**	**+3.1**
BUM	**Brajici-Budva**	**1.31**	**180**	*e*Pg	**Pn**	**21 17 35.4**	**0.0**
BUM				*e*Sg	**Sg**	**21 17 56.2**	**+3.0**
BUM	**Brajici-Budva**	**1.31**	**180**	*e*Pg	**Pn**	**21 17 35.4**	**0.0**
BUM				*e*Sg	**Sg**	**21 17 56.2**	**+3.0**
GRUS	**Gruza**	**1.35**	**78**	*e*Pg	**Pn**	**21 17 36.3**	**+0.4**
GRUS				*e*Sg	**Sg**	**21 17 54.9**	**+0.4**
GRUS	**Gruza**	**1.35**	**78**	*e*Pg	**Pn**	**21 17 36.3**	**+0.4**
GRUS				*e*Sg	**

coast of eastern Honshu, Japan

ISC 10 21:22:24.1±0.4,**37°34N**±0°04×**142°97E**±0°04,**h34**km,±1km,
h34km:**pP-P,n361**,σ1§**31**/455,**mb4.9**/114,**MS4.3**/36,
29C-11D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
JFK	**Kawauchi**	**1.67**	**272**	P	**Pn**	**21 22 49.5**	**-1.5**
JFK				S	**Sn**	**21 23 09.9**	**-1.3**
JIO	**Ouri**	**1.70**	**312**	⇑P	**Pn**	**21 22 49.9**	**-1.5**
JIO				*e*S	**Sn**	**21 23 10.8**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.75**	**263**	⇑P	**Pn**	**21 22 50.2**	**-1.9**
JMM	**Marumori**	**1.81**	**288**	⇑P	**Pn**	**21 22 51.2**	**-1.6**
JMM				*e*S	**Sn**	**21 23 14.8**	**+0.2**
JFT	**Otama**	**2.10**	**276**	⇑P	**Pn**	**21 22 56.5**	**-0.4**
JMK	**Ichinoseki**	**2.12**	**320**	⇑P	**Pn**	**21 22 55.7**	**-1.5**
JMK				*e*S	**Sn**	**21 23 21.0**	**-1.4**
JOM	**Ohasama**	**2.51**	**329**	⇑P	**Pn**	**21 23 01.1**	**-1.4**
JYK	**Kaneyama**	**2.59**	**308**	⇑P	**Pn**	**21 23 02.7**	**-1.0**
JNS	**Sasagawa**	**2.94**	**281**	P	**Pn**	**21 23 07.9**	**-0.5**
JAG	**Ashikaga**	**2.96**	**253**	⇑P	**Pn**	**21 23 07.5**	**-1.2**
JAG				*e*S	**Sn**	**21 23 41.5**	**-1.6**
BSO1	**Boso 1**	**3.12**	**212**	P	**Pn**	**21 23 08.9**	**-1.6**
BSO1				*e*S	**Sn**	**21 23 44.8**	**-1.5**
JAW	**Awa shima**	**3.15**	**292**	P	**Pn**	**21 23 11.3**	**0.0**
JANG	**Nango**	**3.24**	**340**	P	**Pn**	**21 23 10.2**	**-2.4**
JRY	**Ryogami san**	**3.52**	**249**	⇑P	**Pn**	**21 23 15.5**	**-1.0**
JRY				*e*S	**Sn**	**21 23 55.0**	**-2.0**
JOD2	**Odawara 2**	**3.75**	**238**	⇑P	**Pn**	**21 23 18.3**	**-1.4**
JSD	**Sado**	**3.80**	**282**	P	**Pn**	**21 23 19.6**	**-0.7**
MJAR	**Matsushiro Arr**	**3.89**	**260**	Pn	**Pn**	**21 23 21.6**	**0.0**
MJAR				Sn	**Sn**	**21 24 10.5**	**+4.4**
MJAR	**Matsushiro Arr**	**3.89**	**260**	Pn	**Pn**	**21 23 21.6**	**0.0**
	27nm,0.3s,baz=84,slow=15,SNR=136						
MJAR				Sn	**Sn**	**21 24 10.5**	**+4.4**
	9.8nm,0.3s,baz=74,slow=16,SNR=5.2						
MJAR				LR	LR	21 24 49.4	
	comp=Z,852nm,18.2s,baz=60,slow=39						
MAJO	**Matsushiro**	**3.89**	**260**	*c i*P	**Pn**	**21 23 21.7**	**+0.1**
MAJO	**Matsushiro**	**3.89**	**260**	*e*Pn	**Pn**	**21 23 21.6**	**0.0**
MAT	**Matsushiro**	**3.89**	**260**	P	**Pn**	**21 23 21.9**	**+0.3**
MAT				*e*S	**Sn**	**21 24 06.5**	**+0.3**
MAT	**Matsushiro**	**3.89**	**260**	P	**Pn**	**21 23 21.3**	**-0.3**
MAT				*e*S	**Sn**	**21 24 05.9**	**-0.3**
JYN	**Shimob**	**4.01**	**244**	P	**Pn**	**21 23 22.8**	**-0.4**
JYN				*e*S	**Sn**	**21 24 09.1**	**0.0**
JOT	**Ohata**	**4.31**	**340**	P	**Pn**	**21 23 28.0**	**+0.8**
ERM	**Erimo**	**4.68**	**2**	*e*P	**Pn**	**21 23 30.3**	**-2.0**
ERM	**Erimo**	**4.68**	**2**	*e*Pn	**Pn**	**21 23 30.3**	**-2.0**
ERM	**Erimo**	**4.68**	**2**	Pn	**Pn**	**21 23 30.7**	**-1.6**
	401nm,0.7s,SNR=22						
ASAJ	**Asahikawa**	**6.78**	**358**	*e*Pn	**Pn**	**21 24 00.2**	**-1.0**
ASAJ				*e*Sn	**Sn**	**21 25 15.7**	**-1.5**
ASAJ	**Asahikawa**	**6.78**	**358**	Pn	**Pn**	**21 24 00.9**	**-0.3**
	6.2nm,0.3s,baz=185,slow=14,SNR=69						
ASAJ				Sn	**Sn**	**21 25 14.1**	**-3.1**
	4.7nm,0.3s,baz=45,slow=18,SNR=3.7						
ASAJ				LR	LR	21 27 30.0	
	comp=Z,1μm,18.4s,baz=105,slow=46						
YUK	**Yuzh-Kuril'sk**	**7.04**	**17**	*e*P	Pn	21 23 59.1	-5.7
YUK				*i* S	Sn	21 25 16.7	-6.9
YUK				pmax	pmax		
	comp=N,102nm,0.5s						
YUK				pmax	pmax		
	comp=E,59nm,0.5s						
YUK				pmax	pmax		
	comp=Z,142nm,0.5s						
YUK				pmax	pmax		
	comp=Z,13μm,1.9s						
YUK				smax	smax		
	comp=N,1μm,0.6s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
KUR	**Kuril'sk**	**8.71**	**23**	P	Pn	21 24 40.2	+13
KUR				*e*S	Sn	21 25 58.0	-6.5
KUR				smax	smax		
	comp=N,430nm,0.7s						
KUR				smax	smax		
	comp=E,230nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.61**	**359**	⇑*e*P	**Pn**	**21 24 39.0**	**-1.0**
YSS				*e*S	**Sn**	**21 26 23.5**	**-3.3**
YSS				MLR	MLR		
	comp=Z,2μm,18.0s						
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
CBIJ	**Chichi jima**	**10.23**	**184**	Pn	Pn	21 24 44.5	-4.1
CBIJ				Sn	Sn	21 26 27.3	-15
JCJ	**Chichijima**	**10.23**	**184**	Pn	Pn	21 24 44.5	-4.1
	comp=E,16nm,0.3s,baz=78,slow=18,SNR=11						
JCJ				Sn	Sn	21 26 27.3	-15
	comp=E,12nm,0.3s,baz=41,slow=19,SNR=3.6						
JCJ				LR	LR	21 28 32.1	
	comp=E,300nm,20.4s,baz=39,slow=37						
VLA	**Vladivostok**	**10.25**	**308**	⇓*i*P	**Pn**	**21 24 46.8**	**-2.0**
VLA				*e*S	**Sn**	**21 26 44.2**	**+1.8**
VLA				pmax	pmax		
	comp=Z,24nm,0.8s						
JNU	**Nakatsue**	**10.74**	**251**	*e*Pn	**Pn**	**21 24 53.6**	**-2.0**
JNU	**Nakatsue**	**10.74**	**251**	Pn	**Pn**	**21 24 55.9**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=66,slow=10,SNR=12						
USRK	**Ussuriysk Arra**	**10.78**	**313**	Pn	**Pn**	**21 24 57.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=122,slow=14,SNR=5.4						
USRK				LR	LR	21 29 07.0	
	comp=Z,931nm,18.7s,baz=118,slow=38						
KSRS	**Korea Array**	**11.97**	**275**	Pn	**Pn**	**21 25 14.4**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=91,slow=13,SNR=26						
KSRS				LR	LR	21 29 33.3	
	comp=Z,1μm,18.4s,baz=88,slow=36						
KS01	**Wonju Array Si**	**11.99**	**275**	*e*Pn	**Pn**	**21 25 12.8**	**+0.1**
KSAR	**Wonju Array Be**	**12.00**	**275**	Pn	**Pn**	**21 25 14.4**	**+1.7**
MDJ	**Mudanjiang**	**12.44**	**310**	P	P	21 25 24.9	-5.3
MDJ				S	Sn	21 27 46.7	+11
MDJ				PcP	**PcP**	**21 30 57.3**	**-0.2**
MDJ				ScP	**ScP**	**21 34 31.4**	**+3.6**
MDJ				PcS	**PcS**	**21 34 34.2**	**+2.6**
MDJ	**Mudanjiang**	**12.44**	**310**	ScS	ScS	21 38 01.1	-2.7
MDJ				pmax	pmax		
	comp=Z,21nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,150nm,6.6s						
MDJ				LR	LR		
	comp=N,980nm,15.6s						
MDJ				LR	LR		
	comp=E,1μm,13.3s						
MDJ				LR	LR		
	comp=Z,2μm,14.1s						
MDJ	**Mudanjiang**	**12.44**	**310**	*e*Pn	**Pn**	**21 25 19.6**	**+0.9**
HABR	**Khabarovsk**	**12.54**	**335**	*d*P	Pn	21 25 16.6	-3.5
HABR				*e*		21 27 35.9	
HABR				MLR	MLR		
	comp=Z,1μm,17.0s						
KLR	**Kul'dur**	**14.40**	**329**	*e*P	Pn	21 25 38.8	-6.7
KLR				MLR	MLR		
	comp=N,2μm,12.0s						
KLR				MLR	MLR		
	comp=Z,5μm,12.0s						
CN2	**Changchun**	**14.79**	**301**	*e*P	**Pn**	**21 25 51.1**	**+0.4**
CN2				*e*pP	P	21 25 59.7	+3.5
CN2				*e*S	**Sn**	**21 28 32.0**	**-1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,800nm,12.0s						
CN2				LR	LR		
	comp=Z,1μm,12.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
SNY	**Shenyang**	**15.60**	**293**	⇑P	**P**	**21 26 04.0**	**-1.3**
SNY				pmax	pmax		
	comp=Z,16nm,1.2s						
SNY				pmax	pmax		
	comp=Z,360nm,3.5s						
SNY				LR	LR		
	comp=Z,580nm,12.4s						
SNY				LR	LR		
	comp=Z,2μm,13.7s						
SNY				LR	LR		
	comp=Z,2μm,14.7s						
PETK	**Petropavlovsk-**	**18.82**	**28**	P	**P**	**21 26 39.7**	**-1.1**
PETK	**Petropavlovsk-**	**18.82**	**28**	P	**P**	**21 26 39.7**	**-1.1**
PETK	**Petropavlovsk-**	**18.82**	**28**	P	**P**	**21 26 39.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=209,slow=8.3,SNR=2.8						
PETK				LR	LR	21 34 22.6	
	comp=Z,174nm,19.6s,baz=205,slow=38						
SSE	**Sheshan**	**19.04**	**257**	P	**P**	**21 26 42.0**	**-1.3**
SSE				sP	**sP**	**21 26 57.5**	**+1.0**
SSE				S	**Sn**	**21 30 12.8**	**-3.7**
SSE				pmax	pmax		
	comp=Z,31nm,1.0s						
SSE				pmax	pmax		
	comp=Z,140nm,7.6s						
SSE				LR	LR		
	comp=Z,850nm,14.5s						
SSE				LR	LR		
	comp=Z,510nm,14.5s						
SSE				LR	LR		
	comp=Z,980nm,13.2s						
NJ2	**Nanjing**	**20.49**	**262**	*e*P	**P**	**21 26 59.2**	**0.0**
NJ2				pP	**pP**	**21 27 07.2**	**-0.9**
NJ2				sP	**sP**	**21 27 13.6**	**+1.2**
NJ2				S	**S**	**21 30 42.0**	**-4.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,120nm,7.5s						
NJ2				LR	LR		
	comp=Z,790nm,14.2s						
NJ2				LR	LR		
	comp=Z,1μm,19.9s						
NJ2				LR	LR		
	comp=Z,660nm,15.9s						
HIA	**Hailar**	**20.59**	**313**	*e*P	**P**	**21 26 57.9**	**-2.3**
	comp=Z,20nm,1.0s						
BJI	**Beijing**	**21.06**	**286**	P	**P**	**21 27 03.5**	**-1.7**
BJI				pP	**pP**	**21 27 13.8**	**-0.4**
BJI				sP	**sP**	**21 27 19.4**	**+0.9**
BJI				S	**S**	**21 30 55.1**	**-2.7**
BJI				ScS	**ScS**	**21 38 28.7**	**0.0**
BJI				pmax	pmax		
	comp=Z,13nm,0.7s						
BJI				LR	LR		
	comp=Z,290nm,11.3s						
BJI				LR	LR		
	comp=Z,630nm,13.5s						
BJI				LR	LR		
	comp=Z,210nm,15.0s						
BJT	**Baijiatuau**	**21.07**	**286**	*e*P	**P**	**21 27 02.8**	**-2.6**
	comp=Z,22nm,0.6s						
CLNS	**Chul'man**	**22.93**	**334**	*e*P	**P**	**21 27 24.4**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,15nm,1.0s						
CLNS				pmax	pmax		
	comp=N,15nm,1.2s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
SSLB	**Suanglung**	**23.20**	**241**	*e*P	**P**	**21 27 25.9**	**-2.2**
	comp=E,17nm,0.7s						
YULB	**Yu-li**	**23.22**	**239**	*e*P	**P**	**21 27 26.1**	**-2.2**
	comp=E,13nm,0.8s						
TPUB	**Ta-pu**	**23.74**	**240**	*e*P	**P**	**21 27 31.1**	**-2.3**
	comp=E,47nm,0.8s						
TWG	**Pinlang**	**23.76**	**239**	*e*P	**P**	**21 27 31.6**	**-1.9**
	comp=E,82nm,0.9s						
HHC	**Hu-ho-hao-te**	**24.56**	**288**	*e*P	**P**	**21 27 38.5**	**-2.4**
HHC				pP	**pP**	**21 27 51.8**	**+1.3**
HHC				PP	**PnPn**	**21 28 17.1**	**+4.5**
HHC				S	S	21 31 51.5	-8.0
HHC				SS	**SnSn**	**21 32 49.1**	**+3.3**
HHC				pmax	pmax		
	comp=E,17nm,0.7s						
HHC				pmax	pmax		
	comp=E,430nm,4.7s						
HHC				LR	LR		
	comp=E,460nm,11.5s						
HHC				LR	LR		
	comp=E,2μm,12.2s						
HHC				LR	LR		
	comp=E,2μm,11.6s						
WHN	**Wuhan**	**24.63**	**263**	⇓*i*P	**P**	**21 27 41.5**	**+0.1**
WHN				sP	**sP**	**21 27 51.5**	**-3.7**
WHN				S	**S**	**21 32 00.0**	**-0.6**
WHN				pmax	pmax		
	comp=E,140nm,1.0s						
WHN				LR	LR		
	comp=E,1μm,10.7s						
WHN				LR	LR		
	comp=E,2μm,12.2s						
WHN				LR	LR		
	comp=E,2μm,14.3s						
CIT	**Chita**	**25.33**	**315**	*e*P	**P**	**21 27 46.9**	**-0.8**
CIT				*e*		21 27 57.5	
CIT				*e*		21 28 19.4	
CIT				*e*		21 28 33.6	
CIT				pmax	pmax		
	comp=Z,229nm,2.1s						
YAK	**Yakutsk**	**26.07**	**346**	*e*P	**P**	**21 27 53.7**	**-0.4**
YAK				*e**PP	**pP**	**21 28 02.8**	**-1.0**
YAK				*e*		21 31 28.6	
YAK				pmax	pmax		
	comp=Z,40nm,0.9s						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.5s						
FX1	**Attu Island--F**	**26.12**	**44**	LR	LR	21 36 30.6	
	comp=E,122nm,20.2s,baz=85,slow=33						
H11N2	**WAKE ISLAND Hy**	**27.26**	**123**	T	T	21 57 14.8	
	baz=317,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**27.27**	**123**	T	T	21 57 03.2	
	baz=317,slow=75,SNR=93						
H11N3	**WAKE ISLAND Hy**	**27.27**	**123**	T	T	21 57 03.2	
	baz=317,slow=75,SNR=67						
XAN	**Xi'an**	**27.76**	**274**	P	**P**	**21 28 09.0**	**-0.8**
XAN				pP	**pP**	**21 28 19.1**	**-0.4**
XAN				S	**S**	**21 32 51.8**	**+1.6**
XAN				pmax	pmax		
	comp=E,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=E,47nm,9.1s						
XAN				LR	LR		
	comp=E,420nm,15.3s						
XAN				LR	LR		
	comp=E,3μm,15.0s						
H11S1	**WAKE ISLAND Hy**	**28.00**	**126**	T	T	21 58 14.6	
	baz=320,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**28.00**	**126**	T	T	21 58 06.7	
	baz=320,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.02**	**126**	T	T	21 58 11.4	
	baz=320,slow=75,SNR=24						
ULN	**Ulaanbaatar**	**28.22**	**303**	*e*P	**P**	**21 28 14.8**	**+0.9**
	comp=E,22nm,0.9s						
ENH	**Enshi**	**28.59**	**266**	*e*P	**P**	**21 28 17.1**	**-0.1**
	comp=E,27nm,0.8s						
SONA1	**Songino Array**	**28.65**	**303**	*e*P	**P**	**21 28 18.6**	**+1.0**
SONM	**Songino Array**	**28.65**	**303**	P	**P**	**21 28 18.2**	**+0.6**
SONM				PcP	**PcP**	**21 31 28.2**	**+0.4**
SONM	**Songino Array**	**28.65**	**303**	P	**P**	**21 28 18.2**	**+0.6**
	comp=E,46nm,1.0s,baz=101,slow=8.6,SNR=108						
SONM				PcP	**PcP**	**21 31 28.2**	**+0.4**
	comp=E,0.4nm,0.6s,baz=121,slow=3.8,SNR=2.8						
SONM				LR	LR	21 40 19.3	
	comp=E,276nm,18.5s,baz=11,slow=38						
ZAK	**Zakamensk**	**31.06**	**308**	*e*P	**P**	**21 28 38.7**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TLY	**Talaya**	**31.08**	**310**	*e*P	**P**	**21 28 37.1**	**-1.9**
TLY				pmax	pmax		
	comp=Z,20nm,1.5s						
TLY				MLR	MLR		
	comp=Z,552nm,16.0s						
LZH	**Lanzhou**	**31.24**	**280**	⇑P	**P**	**21 28 41.0**	**+0.3**
LZH				pP	**pP**	**21 28 51.1**	**+0.6**
LZH				PP	**PnPn**	**21 29 45.1**	**+1.9**
LZH				S	**S**	**21 33 41.0**	**-4.1**
LZH				sS	**sS**	**21 33 59.3**	**-1.9**
LZH				SS	**SnSn**	**21 35 28.0**	**-1.0**
LZH				pmax	pmax		
	comp=Z,59nm,1.1s						
LZH				pmax	pmax		
	comp=Z,180nm,4.1s						
LZH				LR	LR		
	comp=Z,870nm,13.2s						
LZH				LR	LR		
	comp=Z,850nm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,16.0s						
GYA	**Guiyang**	**32.49**	**261**	⇑*i*P	**P**	**21 28 50.8**	**-1.0**
GYA				pP	**pP**	**21 29 01.0**	**-0.5**
GYA				sP	**sP**	**21 29 08.4**	**+2.8**
GYA				PP	**PnPn**	**21 30 00.5**	**+1.0**
GYA				PcP	**PcP**	**21 31 39.7**	**+1.5**
GYA				S	**S**	**21 34 02.8**	**-1.9**
GYA				sS	**sS**	**21 34 22.2**	**+1.4**
GYA				ScP	**ScP**	**21 35 19.0**	**-0.4**
GYA				ScS	**ScS**	**21 39 17.0**	**-2.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=Z,470nm,17.2s						
GYA				LR	LR		
	comp=Z,390nm,18.0s						
GYA				LR	LR		
	comp=Z,460nm,17.8s						
MOY	**Mondy**	**32.70**	**310**	*e*P	**P**	**21 28 54.2**	**+0.9**
GTA	**Gaotai**	**33.66**	**287**	⇓P	**P**	**21 29 03.3**	**+1.4**
GTA				pP	**pP**	**21 29 13.1**	**+1.4**
GTA				sP	**sP**	**21 29 17.1**	**+1.4**
GTA				PP	**PP**	**21 30 17.4**	**-0.8**
GTA				S	**S**	**21 34 25.6**	**+3.0**
GTA				pmax	pmax		
	comp=Z,31nm,1.2s						
GTA				pmax	pmax		
	comp=Z,250nm,6.2s						
GTA				LR	LR		
	comp=Z,370nm,15.2s						
GTA				LR	LR		
	comp=Z,600nm,15.9s						
GTA				LR	LR		
	comp=Z,640nm,15.0s						
QIZ	**Qiongzhong**	**34.19**	**247**	P	**P**	**21 29 06.3**	**-0.1**
QIZ				S	**S**	**21 34 28.5**	**-2.3**
QIZ				LR	LR		
	comp=Z,340nm,17.2s						
QIZ				LR	LR		
	comp=Z,140nm,17.0s						
QIZ				LR	LR		
	comp=Z,340nm,15.2s						
KMI	**Kunming**	**36.23**	**262**	P	**P**	**21 29 23.8**	**-0.5**
KMI				pP	**pP**	**21 29 36.4**	**+2.3**
KMI				PP	**PP**	**21 30 49.2**	**+2.3**
KMI				S	**S**	**21 34 59.4**	**-3.2**
KMI				sS	**sS**	**21 35 19.7**	**+0.9**
KMI				SS	**SnSn**	**21 37 23.8**	**-6.6**
KMI				pmax	pmax		
	comp=Z,14nm,1.1s						
KMI				pmax	pmax		
	comp=Z,110nm,3.7s						
KMI				LR	LR		
	comp=Z,440nm,10.7s						
KMI				LR	LR		
	comp=Z,530nm,14.7s						
KMI				LR	LR		
	comp=Z,510nm,15.3s						
HVS	**Khovu-Aksy**	**37.19**	**308**	*c i*P	**P**	**21 29 32.4**	**+0.4**
HVS				pmax	pmax		
	comp=Z,119nm,1.2s						
CRAI	**Chiangrai**	**40.66**	**257**	P	**P**	**21 30 03.3**	**+2.0**
	comp=Z,127nm,0.7s						
WMQ	**Urumqi**	**41.81**	**297**	P	**P**	**21 30 11.0**	**+0.4**
WMQ				pP	**pP**	**21 30 24.0**	**+3.5**
WMQ				PP	**PnPn**	**21 31 51.0**	**-1.6**
WMQ				ScP	**ScP**	**21 35 54.0**	**+0.2**
WMQ				S	**S**	**21 36 24.0**	**-1.9**
WMQ				ScS	**ScS**	**21 40 09.0**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,25nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.0s						
WMQ				LR	LR		
	comp=Z,510nm,14.0s						
WMQ				LR	LR		
	comp=Z,630nm,15.0s						
WMQ				LR	LR		
	comp=Z,550nm,15.0s						
CMAI	**Chiengmai2**	**41.86**	**258**	P	**P**	**21 30 13.4**	**+2.1**
	comp=Z,27nm,1.0s						
CHAI	**Chaiyaphum**	**41.98**	**251**	P	**P**	**21 30 12.5**	**+0.4**
	comp=Z,4.1nm,0.8s						
LAMP	**Lampang**	**42.20**	**256**	P	**P**	**21 30 15.5**	**+1.6**
	comp=Z,4.1nm,0.9s						
PBKT	**Sadao Pong**	**42.33**	**252**	P	**P**	**21 30 15.7**	**+0.7**
	comp=Z,9.0nm,1.6s,comp=Z,1μm						
CMMT	**Chiang Mai**	**42.56**	**257**	P	**P**	**21 30 17.5**	**+0.6**
	comp=Z,8.0nm,1.5s,comp=Z,199nm						
CHTO	**Chiang Mai**	**42.57**	**257**	*e*P	**P**	**21 30 16.3**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.9s						
CHTO	**Chiang Mai**	**42.57**	**257**	*e*P	**P**	**21 30 16.3**	**-0.6**
	comp=Z,8.2nm,1.9s						
CHTO	**Chiang Mai**	**42.57**	**257**	P	**P**	**21 30 17.6**	**+0.7**
	comp=Z,36nm,1.5s						
ZAA0	**Zalesovo Array**	**42.63**	**312**	*e*P	**P**	**21 30 16.6**	**-0.4**
ZALV	**Zalesovo Beam**	**42.63**	**312**	P	**P**	**21 30 17.4**	**+0.4**
ZALV						21 32 08.9	
ZALV	**Zalesovo Beam**	**42.63**	**312**	P	**P**	**21 30 17.4**	**+0.4**
ZALV				PcP	**PcP**	**21 32 08.9**	**+0.3**
ZALV	**Zalesovo Beam**	**42.63**	**312**	P	**P**	**21 30 17.4**	**+0.4**
	comp=Z,22nm,0.8s,baz=76,slow=6.3,SNR=23						
ZALV				PcP	**PcP**	**21 32 08.9**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=116,slow=3.4,SNR=2.4						
ZALV				LR	LR	21 48 58.8	
	comp=Z,297nm,19.7s,baz=251,slow=38						
CMAR	**Chiang Mai Arr**	**42.77**	**256**	P	**P**	**21 30 18.8**	**+0.2**
CMAR				PcP	**PcP**	**21 32 11.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**42.77**	**256**	P	**P**	**21 30 18.8**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=45,slow=6.8,SNR=43						
CMAR				PcP	**PcP**	**21 32 11.2**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=18,slow=3.1,SNR=4.4						
CMAR				LR	LR	21 49 55.2	
	comp=Z,165nm,19.7s,baz=241,slow=39						
CM01	**Chiang Mai Arr**	**42.78**	**256**	*e*P	**P**	**21 30 18.8**	**+0.1**
CM01				*e*PcP	**PcP**	**21 32 10.6**	**+0.9**
LSA	**Lhasa**	**43.41**	**276**	*e*P	**P**	**21 30 24.7**	**+0.5**
LSA				pmax	pmax		
	comp=Z,13nm,1.1s						
LSA	**Lhasa**	**43.41**	**276**	*e*P	**P**	**21 30 24.7**	**+0.5**
	comp=Z,13nm,1.1s						
NVS	**Novosibirsk**	**43.53**	**314**	⇑*i*P	**P**	**21 30 24.5**	**+0.3**
NVS				*i*		21 32 17.8	
NVS				*e*S	S	21 36 57.7	+7.0
NVS				pmax	pmax		
	comp=Z,36nm,1.1s						
NVS				pmax	pmax		
	comp=N,11nm,1.5s						
NVS				pmax	pmax		
	comp=E,45nm,1.7s						
NVS				smax	smax		
	comp=N,15nm,2.6s						
NVS				smax	smax		
	comp=E,46nm,3.7s						
MHMT	**Maesarieng**	**43.72**	**257**	P	**P**	**21 30 27.4**	**+1.2**
	comp=E,8.4nm,1.1s						
CHBT	**CHBT**	**43.73**	**247**	P	**P**	**21 30 27.4**	**+1.1**
	comp=E,19nm,1.0s						
MK01	**Makanchi Array**	**45.01**	**302**	*e*P	**P**	**21 30 36.2**	**-0.1**
MKAR	**Makanchi Array**	**45.01**	**302**	P	**P**	**21 30 36.7**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,19nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,142nm,18.1s						
MKAR	**Makanchi Array**	**45.01**	**302**	*e*P	**P**	**21 30 36.5**	**+0.3**
MKAR	**Makanchi Array**	**45.01**	**302**	P	**P**	**21 30 36.7**	**+0.4**
	comp=Z,19nm,0.8s,baz=86,slow=9.6,SNR=20						
MKAR				LR	LR	21 49 38.8	
	comp=Z,142nm,18.1s,baz=272,slow=36						
RSO	**Redoubt South**	**45.90**	**38**	*e*P	**P**	**21 30 45.0**	**+1.7**
KDAK	**Kodiak Island**	**46.05**	**42**	*e*P	**P**	**21 30 45.0**	**+0.8**
	comp=Z,40nm,1.4s						
PPLA	**Purkeypile**	**46.21**	**35**	*e*P	**P**	**21 30 46.9**	**+1.2**
	comp=Z,70nm,2.1s						
KURK	**Kurchatov**	**46.72**	**308**	P	**P**	**21 30 50.3**	**+0.6**
KURK				pmax	pmax		
	comp=Z

TAPN Taplejung 47.16 275 *e*P **P 21 30 54.1 +0.4**
comp=Z,55nm,1.2s
ODAN Odare 47.63 274 *e*P **P 21 30 57.7 +0.3**
comp=Z,63nm,1.2s
COLA College 48.16 32⇓*e*P **P 21 31 01.2 +0.6**
COLA pmax pmax
comp=Z,13nm,0.8s
RAMN Ramite 48.22 275 *e*P **P 21 31 02.2 +0.3**
comp=Z,52nm,0.8s
JIRN Jiri 48.22 276 *e*P **P 21 31 02.7 +0.6**
comp=Z,31nm,0.9s
GUN Gumba 48.36 276 *e*P **P 21 31 03.5 +0.4**
comp=Z,68nm,1.0s
ILAR Eielson Array 48.58 33 P **P 21 31 04.1 +0.3**
ILAR Eielson Array 48.58 33 P **P 21 31 04.1 +0.3**
comp=Z,1.9nm,0.7s,baz=269,slow=6.3,SNR=18
IL1 Eielson Array 48.58 33 *e*P **P 21 31 03.7 -0.2**
PKI Pulchoki 48.88 276 *e*P **P 21 31 07.0 -0.1**
comp=Z,26nm,0.9s
KKN Kakani 48.89 276 *e*P **P 21 31 07.2 +0.2**
comp=Z,28nm,0.7s
PKIN Phulchoki 48.89 276 *e*P **P 21 31 07.1 0.0**
DMN Daman 49.10 276 *e*P **P 21 31 09.0 +0.3**
GKN Gorkha 49.30 277 *e*P **P 21 31 10.4 +0.3**
comp=Z,77nm,1.0s
DANN Dangsing 49.84 278 *e*P **P 21 31 15.0 +0.6**
comp=Z,79nm,0.8s
PKDT Phuket 49.89 246 P P 21 31 26.0 +12
MENT Mentasta 50.08 35 *e*P **P 21 31 15.7 +0.3**
KOLN Koldanda 50.23 277 *e*P **P 21 31 17.6 +0.4**
comp=Z,57nm,1.3s
PYUN Piuthan 50.56 278 *e*P **P 21 31 20.0 +0.3**
comp=Z,83nm,0.9s
TKM2 Tokmak 2 50.58 299 *e*P **P 21 31 21.2 +1.5**
TKM2 pmax pmax
comp=Z,35nm,1.0s
TKM2 Tokmak 2 50.58 299 *e*P **P 21 31 21.2 +1.5**
comp=Z,35nm,1.0s
COEN Coen 51.02 180 *e*P **P 21 31 23.2 +0.4**
comp=Z,92nm,1.2s
BVAR Borovoye Array 51.29 312 P **P 21 31 24.8 +0.2**
BVAR Borovoye Array 51.29 312 P **P 21 31 24.8 +0.2**
BVAR Borovoye Array 51.29 312 P **P 21 31 24.8 +0.2**
comp=Z,13nm,0.9s,baz=87,slow=8.0,SNR=30
BVAR LR LR 21 56 09.2
comp=Z,246nm,18.3s,baz=69,slow=40
BRVK Borovoye 51.34 312 *e*P **P 21 31 23.8 -1.2**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 51.34 312 *e*P **P 21 31 23.8 -1.2**
comp=Z,24nm,1.0s
BRVK Borovoye 51.34 312 P **P 21 31 24.4 -0.6**
comp=Z,138nm,1.0s,SNR=5.5
KSH Kashi 51.41 294 P P 21 31 29.4 +3.5
KSH pP pP 21 31 41.5 +5.4
KSH sP sP 21 31 47.6 +7.5
KSH PcP **PcP 21 32 43.6 +3.5**
KSH S **S 21 38 45.6 +2.2**
KSH sS sS 21 39 08.6 +8.4
KSH ScS **ScS 21 41 13.0 -0.8**
KSH SS **SS 21 42 20.8 +1.6**
KSH pmax pmax
comp=Z,15nm,1.1s
KSH pmax pmax
comp=Z,430nm,7.3s
KSH LR LR
comp=Z,270nm,7.4s
KSH LR LR
comp=Z,280nm,6.6s
KSH LR LR
comp=Z,430nm,8.0s
AAK Ala-Archa 51.44 299 P **P 21 31 26.7 +0.6**
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK MLR MLR
comp=Z,318nm,21.4s
AAK Ala-Archa 51.44 299 *e*P **P 21 31 27.3 +1.2**
comp=Z,11nm,0.8s
AAK Ala-Archa 51.44 299 P **P 21 31 26.7 +0.6**
comp=Z,5.9nm,0.6s,baz=90,slow=7.1,SNR=5.9
AAK LR LR 21 54 16.7
comp=Z,318nm,21.4s,baz=55,slow=37
EKS2 Erkin-Say 51.93 299 *e*P **P 21 31 29.9 +0.2**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 51.93 299 *e*P **P 21 31 29.9 +0.2**
comp=Z,10nm,0.8s
PSI Prapat 53.02 240 LR LR 21 58 35.1
comp=Z,72nm,18.2s,baz=24,slow=41
HYT Haines Junctio 53.31 37 *e*P **P 21 31 41.1 +1.4**
INK Inuvik 53.55 27 *e*P **P 21 31 41.5 +0.3**
comp=Z,4.6nm,0.7s
INK Inuvik 53.55 27 P **P 21 31 41.2 +0.1**
comp=Z,1.1nm,0.6s,baz=293,slow=7.3,SNR=6.3
KKAR Karatay Array 54.05 300 *e*P **P 21 31 45.1 -0.1**
KKAR Karatay Array 54.05 300 *e*P **P 21 31 45.1 -0.1**
GSI Gunungsitoli 55.02 240 *e*P **P 21 31 51.7 -0.9**
comp=Z,51nm,0.8s
SVE Sverdlovsk 55.74 319⇓*e*P **P 21 31 58.0 +0.8**
SVE pmax pmax
comp=Z,53nm,0.9s
SVE MLR MLR
comp=Z,845nm,16.0s
SOKR Solikamsk 56.84 323⇑*i*P **P 21 32 05.7 +0.8**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,340nm,17.0s
ARU Arti 56.95 319 P **P 21 32 06.9 +1.1**
comp=Z,311nm,0.6s,SNR=11
ARU Arti 56.95 319*c i*P **P 21 32 06.3 +0.5**
ARU 21 32 56.4
ARU 21 34 09.2
ARU S **S 21 40 01.7 +4.3**
ARU SS **SS 21 43 45.8 +0.3**
ARU pmax pmax
comp=Z,43nm,1.7s
WRAB Tennant Creek 57.54 190*de*P **P 21 32 10.2 -0.1**
WRAB pmax pmax
comp=Z,41nm,1.7s
WRAB Tennant Creek 57.54 190 P **P 21 32 09.5 -0.8**
comp=Z,105nm,0.8s,SNR=7.4
WRA Warramunga Arr 57.55 190 P **P 21 32 09.6 -0.8**
WRA Warramunga Arr 57.55 190 P **P 21 32 09.6 -0.8**
comp=Z,9.3nm,0.8s,baz=10.0,slow=7.4,SNR=57
ABKAR Akbulak array 58.69 310 *e*P **P 21 32 18.6 +0.4**
AKTO Aktyubinsk 59.39 312 P **P 21 32 23.2 +0.2**
AKTO Aktyubinsk 59.39 312 P **P 21 32 23.2 +0.2**
AKTO Aktyubinsk 59.39 312 P **P 21 32 23.2 +0.2**
comp=Z,13nm,0.8s,baz=70,slow=10,SNR=20
AKTO LR LR 21 59 47.7
comp=Z,229nm,18.8s,baz=271,slow=38
HYB Hyderabad 59.45 269 *i* P **P 21 32 23.0 -0.9**
HYB *e*pP pP 21 32 27.0 -7.2
HYB *e*sP sP 21 32 31.0 -7.2
AS01 Alice Springs 61.27 189 *e*P **P 21 32 35.8 -0.2**
ASAR Alice Springs 61.27 189 P **P 21 32 35.3 -0.8**
ASAR Alice Springs 61.27 189 P **P 21 32 35.3 -0.8**
comp=Z,2.7nm,0.8s,baz=12,slow=7.1,SNR=26
RES Resolute Bay 62.00 15 *e*P **P 21 32 41.4 +1.1**
comp=Z,16nm,0.9s
RES Resolute Bay 62.00 15 P **P 21 32 40.8 +0.5**
comp=Z,4.5nm,0.8s,baz=297,slow=8.0,SNR=10
APA Apatity 62.92 336⇑*i*P P 21 32 56.2 +10
APA MLR MLR
comp=Z,700nm,11.0s
YKA Yellowknife Ar 62.92 31 P **P 21 32 46.0 -0.7**
YKA Yellowknife Ar 62.92 31 P **P 21 32 46.0 -0.7**
comp=Z,0.5nm,0.6s,baz=303,slow=6.7,SNR=5.7
TMCR Tamitsa 63.07 332 *e*P **P 21 32 48.6 +1.0**
TMCR pmax pmax
comp=Z,28nm,1.1s
DZM Mont Dzumac 63.09 156 LR LR 21 56 29.9
comp=Z,198nm,21.0s,baz=205,slow=32
KEV Kevo 63.60 340 *e*P **P 21 32 51.8 +0.8**
KEV pmax pmax
comp=Z,10.0nm,0.9s
KEV Kevo 63.60 340 *ep* **P 21 32 51.8 +0.8**
comp=Z,9.6nm,0.9s
ARCES ARCESS Array B 64.15 340 P **P 21 32 53.8 -0.9**
ARCES ARCESS Array B 64.15 340 P **P 21 32 53.8 -0.9**
comp=Z,3.9nm,0.8s,baz=60,slow=7.4,SNR=9.5
JOF Joensuu 66.28 332 *e*P **P 21 33 09.2 +0.6**
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 66.28 332 *ep* **P 21 33 09.2 +0.6**
comp=Z,3.9nm,0.5s
MOS Moscow 67.74 324 *e*P **P 21 33 16.6 -1.4**
MOS *e* 21 42 37.9
MOS pmax pmax
comp=Z,24nm,0.9s
MOS MLR MLR
comp=Z,900nm,15.0s
VRHR Novokhopersk 68.29 318 *e*P **P 21 33 19.7 -1.8**
VRHR *e**SP sP 21 33 30.2 -5.7
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,1.4s
OBN Obninsk 68.59 324*ce*P **P 21 33 23.6 +0.3**
OBN *i* 21 33 32.3
OBN *i* 21 33 49.0
OBN *i* S **S 21 42 28.9 +5.7**
OBN pmax pmax
comp=Z,16nm,1.0s
OBN MLR MLR
comp=Z,534nm,17.0s
KAF Kangasniemi 68.60 333 *e*P **P 21 33 23.9 +0.6**
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 68.60 333 *ep* **P 21 33 23.9 +0.6**
comp=Z,9.2nm,0.6s
FINES FINESS Array B 69.12 333 P **P 21 33 26.7 +0.2**
FINES FINESS Array B 69.12 333 P **P 21 33 26.7 +0.2**
comp=Z,10nm,0.7s,baz=48,slow=8.5,SNR=38
FINES LR LR 22 06 52.7
comp=Z,339nm,18.9s,baz=202,slow=39
VSR Storozhevoye 69.52 319 *e*P **P 21 33 29.0 -0.1**
VSR *e**SP **sP 21 33 39.1 -4.5**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 69.59 319 *e*P **P 21 33 28.6 -1.0**
VORD *e**SP **sP 21 33 39.1 -4.9**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.5s
SUMG Summit 70.38 0 *i* P **P 21 33 35.9 +1.3**
SUMG *i* 21 33 45.9
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 70.38 0 *i* P **P 21 33 35.9 +1.3**
comp=Z,7.1nm,0.8s
SUMG *i* 21 33 45.9
SUMG Summit 70.38 0 *e*P **P 21 33 35.7 +1.2**
comp=Z,403nm,2.9s
MOD Modoc 70.61 52 *e*P **P 21 33 36.3 +0.1**
comp=Z,3.9nm,0.6s
GOF Gofitskoye 70.81 312⇑*i*P **P 21 33 38.1 +0.9**
GOF pmax pmax
comp=Z,30nm,0.8s
VSU Vasula 70.82 330⇓*e*P **P 21 33 37.7 +0.8**
VSU pmax pmax
comp=Z,44nm,1.2s
ZEI Tsey 71.56 310 *e*P **P 21 33 41.3 -0.7**
ZEI pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 71.64 312 P **P 21 33 43.9 +1.5**
comp=Z,454nm,0.7s,SNR=11
KIV Kislovodsk 71.64 312 *e*P **P 21 33 43.6 +1.2**
KIV pmax pmax
comp=Z,81nm,1.1s
KIV MLR MLR
comp=Z,286nm,18.0s
KBZ Khabaz 71.64 311 P **P 21 33 43.3 +1.1**
KBZ Khabaz 71.64 311 P **P 21 33 43.3 +1.1**
KBZ Khabaz 71.64 311 P **P 21 33 43.3 +1.1**
comp=Z,18nm,0.8s,baz=32,slow=4.9,SNR=35
KBZ LR LR 22 09 40.9
comp=Z,175nm,19.9s,baz=7.1,slow=40
ISAL Salakas 72.98 328 *e*P **P 21 33 50.7 +0.7**
ISAL AMB AMB 21 34 02.7
comp=Z,9.7nm,1.1s
LRM Limekiln Ridge 73.06 45 *e*P **P 21 33 51.6 +0.6**
IIGN Ignalina 73.09 328 *e*P **P 21 33 51.4 +0.7**
IIGN AMB AMB 21 34 02.7
comp=Z,6.6nm,0.9s
SOC Sochi 73.61 312*c i*P **P 21 33 53.9 -0.1**
SOC *e* 21 34 04.4
SOC *e*PPP PPP 21 38 30.0
SOC *e*S **S 21 43 22.6 +0.8**
SOC *e*SS **SS 21 48 02.8 -1.7**
SOC pmax pmax
comp=Z,21nm,1.0s
NV01 Mina Array Sit 73.81 54 *e*P **P 21 33 56.5 +1.0**
NVAR Mina Array Bea 73.81 54 P **P 21 33 56.9 +1.4**
NVAR Mina Array Bea 73.81 54 P **P 21 33 56.9 +1.4**
comp=Z,1.6nm,0.7s,baz=287,slow=7.1,SNR=7.5
ANN Anapa 74.21 315 *e*P P 21 34 01.2 +3.8
ANN pmax pmax
comp=Z,41nm,1.3s
NB2 NORSAR Subarra 74.38 338 P **P 21 33 58.8 +0.6**
comp=Z,8.7nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 74.38 338 P **P 21 33 58.5 +0.3**
NOA NORSAR Array B 74.38 338 P **P 21 33 58.5 +0.3**
comp=Z,7.8nm,0.7s,baz=38,slow=5.9,SNR=38
NOA LR LR 22 09 58.4
comp=Z,275nm,18.4s,baz=355,slow=38
NBO02 NORSAR Array S 74.48 338 *e*P **P 21 33 58.7 0.0**
AKASG Malin Array Be 74.81 323 P **P 21 34 00.7 -0.1**
AKASG Malin Array Be 74.81 323 P **P 21 34 00.7 -0.1**
AKASG Malin Array Be 74.81 323 P **P 21 34 00.7 -0.1**
comp=Z,11nm,0.7s,baz=45,slow=5.8,SNR=58
AKASG LR LR 22 07 06.1
comp=Z,130nm,21.4s,baz=25,slow=36
KIEV Kiev 74.82 323 *e*P **P 21 34 00.2 -0.7**
KIEV pmax pmax
comp=Z,23nm,0.9s
KIEV Kiev 74.82 323 *e*P **P 21 34 00.2 -0.7**
comp=Z,23nm,0.9s
AK11 Malin Array Si 74.85 323 *e*P **P 21 34 00.6 -0.4**
SUW Suwalki 75.30 328 *e*P **P 21 34 04.4 +0.9**
SUW *e**PP **pP 21 34 12.8 -1.3**
SUW Suwalki 75.30 328 *e*P **P 21 34 04.4 +0.9**
SUW *e*pP **pP 21 34 12.8 -1.3**
FRB Frobisher Bay 76.19 14 P **P 21 34 08.9 +0.5**
FRB Frobisher Bay 76.19 14 P **P 21 34 08.9 +0.5**
comp=Z,4.3nm,0.7s,baz=327,slow=8.0,SNR=5.4
PDAR Pinedale Array 76.57 46 P **P 21 34 12.0 +0.7**
PDAR Pinedale Array 76.57 46 P **P 21 34 12.0 +0.7**
comp=Z,1.4nm,0.9s,baz=282,slow=4.2,SNR=8.1
RDF Al-Radifah 77.02 296 *e*P **P 21 34 14.1 +0.3**
RST Umm Al-Ruwaisa 77.08 297 *e*P **P 21 34 13.2 -0.9**
LVV L'vov 77.86 325 *e*P **P** 21 34 21.3 +3.2
KWP Kalwaria Pacla 78.60 325 *e*P **P 21 34 23.7 +1.4**
KWP *e**PP **PcP 21 34 31.3 +0.1**
KWP Kalwaria Pacla 78.60 325 *e*P **P 21 34 23.6 +1.3**
KWP *ep*P **PcP 21 34 31.2 +0.1**
BUR04 Bucovina Ar. S 78.84 322 *e*P **P 21 34 23.6 -0.1**
KOLS Kolonicke sedl 79.30 325 *e*P **P 21 34 26.7 +0.6**
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 79.30 325 *e*P **P 21 34 26.7 +0.6**
STHS Stebnicka Huta 79.42 326 *e*P **P 21 34 28.1 +1.3**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 79.42 326 *e*P **P 21 34 28.1 +1.3**
OJC Ojcow 79.47 327 *e*P **P 21 34 27.3 +0.3**
OJC pmax pmax
comp=Z,24nm,1.3s
OJC Ojcow 79.47 327 *e*P **P 21 34 26.7 -0.3**
OJC Ojcow 79.47 327 *e*P **P 21 34 27.3 +0.3**
comp=Z,24nm,1.3s
UZH Uzhgorod 79.51 325 *e*P **P 21 34 26.0 -1.2**
UZH *e* 21 34 36.3
BRTR Keskin Array B 79.57 312 P **P 21 34 28.6 +0.7**
BRTR Keskin Array B 79.57 312 P **P 21 34 28.6 +0.7**
comp=Z,3.2nm,1.0s,baz=46,slow=4.2,SNR=7.5
BRTR LR LR 22 18 05.1
comp=Z,95nm,18.7s,baz=227,slow=42
PV10 Paradox Valley 79.64 49 *e*P **P 21 34 29.3 +0.9**
CRVS Cervenica-Dubn 79.69 325 *e*P **P 21 34 28.1 -0.1**
CRVS pmax pmax
comp=Z,55nm,2.7s
CRVS Cervenica-Dubn 79.69 325 *e*P **P 21 34 28.1 -0.1**
PV05 Paradox Valley 79.79 50 *e*P **P 21 34 30.7 +1.4**
NIE Niedzica 79.83 326 *e*P **P 21 34 31.4 +2.4**
NIE Niedzica 79.83 326 *e*P **P 21 34 31.4 +2.4**
BR231 Keskin MP Arra 80.01 313 *e*P **P 21 34 29.1 -1.2**
OKC Ostrava-Krasne 80.47 327 *e*P **P 21 34 33.8 +1.4**
OKC Ostrava-Krasne 80.47 327 *e*P **P 21 34 33.8 +1.4**
KSP Ksiaz 80.49 329 *e*P **P 21 34 33.4 +0.9**
KSP *e**PP **pP 21 34 43.6 +0.5**
KSP Ksiaz 80.49 329 *e*P **P 21 34 33.9 +1.4**
KSP *ep*P **pP 21 34 43.7 +0.6**
DPC Dobruska-Polom 80.86 329 *e*P **P 21 34 35.6 +1.1**
DPC *e* 21 34 45.9
DPC Dobruska-Polom 80.86 329 *e*P **P 21 34 35.6 +1.1**
DPC *ex* x 21 34 45.9
UPC Upice 80.86 329 *e*P P 21 34 41.4 +6.9
KRLC Kraliky 80.87 328 *e*P **P 21 34 35.3 +0.7**
KRLC *e* 21 34 45.8
KRLC Kraliky 80.87 328 *e*P **P 21 34 35.3 +0.7**
KRLC *ex* x 21 34 45.8
BRG Berggiesshubel 81.42 330 *e*P **P 21 34 37.8 +0.3**
comp=Z,12nm,1.6s
CLL Collm 81.44 331⇑*i*P **P 21 34 38.0 +0.5**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 81.44 331⇑*i*P **P 21 34 38.0 +0.5**
comp=Z,8.0nm,1.0s
CLL *i* (sP) **sP 21 34 48.3 -3.8**
comp=Z,16nm,1.4s
PRU Pruhonice 81.87 329 *e*P **P 21 34 41.1 +1.3**
PRU *e* 21 34 48.6
PRU Pruhonice 81.87 329 *e*P **P 21 34 41.1 +1.3**
PRU *ex* x 21 34 48.6
CONA Conrad Observa 82.90 327⇓*i*P **P 21 34 45.9 +0.5**
comp=Z,5.4nm,1.0s
KHC Kasperske Hory 82.93 329 *e*P **P 21 34 46.0 +0.6**
KHC *e* 21 34 56.4
KHC Kasperske Hory 82.93 329 *e*P **P 21 34 46.0 +0.6**
KHC *ex* x 21 34 56.4
GERES GERESS Array B 83.10 329 P **P 21 34 46.6 +0.2**
GERES GERESS Array B 83.10 329 P **P 21 34 46.6 +0.2**
comp=Z,1.2nm,0.7s,baz=42,slow=6.2,SNR=8.0
GERES LR LR 22 14 05.6
comp=Z,223nm,20.3s,baz=279,slow=37
GRF Grafenberg Arr 83.42 331 *e*P **P 21 34 48.2 +0.3**
comp=Z,7.0nm,1.1s
GRF *ep*P **pP 21 34 59.1 +0.5**
PPT Papeete 83.67 118 LR LR 22 07 58.1
comp=Z,140nm,20.1s,baz=29,slow=33
SOKA Soboth 84.23 327⇑*i*P **P 21 34 52.8 +0.6**
comp=Z,12nm,1.6s
MEM Membach 84.59 334 P **P 21 34 54.6 +0.8**
comp=Z,7.2nm,1.1s
MOTA Moosalm 85.35 329⇑*i*PcP **P 21 34 59.0 +1.1**
comp=Z,3.9nm,0.9s
RETA Reutte 85.38 330⇓*i*PcP **P 21 34 58.5 +0.5**
comp=Z,7.3nm,0.9s
BFO Black Forest 85.64 332 *i* P **P 21 35 00.4 +1.2**
BAIF Baives 85.67 335 *e*P **P 21 34 59.4 +0.1**
comp=Z,6.6nm,0.7s
BAIF *ep*P **pP 21 35 09.9 -0.1**
BAIF Baives 85.67 335 *e*P **P 21 34 59.4 +0.1**
BAIF *e**PP **pP 21 35 09.9 -0.1**
BAIF pmax pmax
comp=Z,7.0nm,0.7s
BAIF Baives 85.67 335 *e*P **P 21 34 59.4 +0.1**
comp=Z,6.6nm,0.7s
BAIF *ep*P **pP 21 35 09.9 -0.1**
FETA Feichten 85.77 329⇓*i*PcP **P 21 35 01.0 +1.0**
comp=Z,3.5nm,0.8s
DAVA Damuels 85.89 330⇑*i*P **P 21 35 00.4 -0.2**
comp=Z,7.7nm,1.1s
CDF Champ du Feu 85.97 332 *e*P **P 21 35 01.0 +0.1**
comp=Z,16nm,1.0s
CDF *ep*P **pP 21 35 11.5 -0.1**
CDF Champ du Feu 85.97 332 *e*P **P 21 35 01.0 +0.1**
CDF *e**PP **pP 21 35 11.5 -0.1**
CDF pmax pmax
comp=Z,16nm,1.0s
CDF Champ du Feu 85.97 332 *e*P **P 21 35 01.0 +0.1**
comp=Z,16nm,1.0s
CDF *ep*P **pP 21 35 11.5 -0.1**
PAGF Fort de Pagny 86.42 333 *e*P **P 21 35 03.5 +0.5**
comp=Z,7.4nm,1.0s
PAGF *ep*P **pP 21 35 13.9 +0.2**
PAGF Fort de Pagny 86.42 333 *e*P **P 21 35 03.5 +0.5**
comp=Z,7.4nm,1.0s
PAGF *ep*P **pP 21 35 13.9 +0.2**
HINF Hinteralfeld 86.62 332 *e*P **P 21 35 03.9 -0.2**
HINF Hinteralfeld 86.62 332 *e*P **P 21 35 03.9 -0.2**
HINF Hinteralfeld 86.62 332 *e*P **P 21 35 03.9 -0.2**
HAU Haudompre 86.65 332 *e*P **P 21 35 04.1 -0.1**
comp=Z,6.6nm,0.7s
HAU *e*R
comp=Z,300nm,17.0s
HAU Haudompre 86.65 332 *e*P **P 21 35 04.1 -0.1**
HAU pmax pmax
comp=Z,7.0nm,0.7s
HAU Haudompre 86.65 332 *e*P **P 21 35 04.1 -0.1**
comp=Z,6.6nm,0.7s
MEZF Maizieres J'vi 86.70 333 *e*P **P 21 35 04.8 +0.4**
MEZF Maizieres J'vi 86.70 333 *e*P **P 21 35 04.8 +0.4**
SFTF Sexfontaines 86.96 333 *e*P **P 21 35 05.9 +0.3**
SFTF Sexfontaines 86.96 333 *e*P **P 21 35 05.9 +0.3**
LOR Lormes 88.17 334 *e*P **P 21 35 11.8 +0.3**
LOR *e*R
comp=Z,258nm,19.5s
LOR Lormes 88.17 334 *e*P **P 21 35 11.8 +0.3**
LPL La Plagne 88.58 331 *e*P **P 21 35 14.3 +0.5**
LPL La Plagne 88.58 331 *e*P **P 21 35 14.3 +0.5**
LPL La Plagne 88.58 331 *e*P **P 21 35 14.3 +0.5**
LPG La Plagne 88.59 331 *e*P **P 21 35 13.9 0.0**
LPG *ep*P **pP 21 35 24.4 -0.2**
LPG La Plagne 88.59 331 *e*P **P 21 35 13.9 0.0**
LPG *e**PP **pP 21 35 24.4 -0.2**
LPG La Plagne 88.59 331 *e*P **P 21 35 13.9 0.0**
LPG *ep*P **pP 21 35 24.4 -0.2**
SMF Signal de Mont 88.71 333 *e*P **P 21 35 14.2 +0.1**
SMF Signal de Mont 88.71 333 *e*P **P 21 35 14.2 +0.1**
SMF Signal de Mont 88.71 333 *e*P **P 21 35 14.2 +0.1**
AVF Avril sur Loir 88.76 334 *e*P **P 21 35 14.5 +0.2**
comp=Z,9.1nm,0.9s
AVF *ep*P **pP 21 35 25.0 0.0**
AVF Avril sur Loir 88.76 334 *e*P **P 21 35 14.5 +0.2**
AVF *e**PP **pP 21 35 25.0 0.0**
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 88.76 334 *e*P **P 21 35 14.5 +0.2**
comp=Z,9.1nm,0.9s
AVF *ep*P **pP 21 35 25.0 0.0**
GRR Gorron 88.78 337 *e*P **P 21 35 14.7 +0.4**
GRR *ep*P **pP 21 35 25.1 0.0**
GRR Gorron 88.78 337 *e*P **P 21 35 14.7 +0.4**
GRR *e**PP **pP 21 35 25.1 0.0**
GRR Gorron 88.78 337 *e*P **P 21 35 14.7 +0.4**
GRR *ep*P **pP 21 35 25.1 0.0**
TXAR Lajitas Array 88.95 53 P **P 21 35 16.0 +0.3**
TXAR Lajitas Array 88.95 53 P **P 21 35 16.0 +0.3**
comp=Z,0.8nm,0.8s,baz=298,slow=2.2,SNR=6.1
TCF Toulx Ste Croi 89.60 334 *e*P **P 21 35 18.6 +0.4**
TCF *ep*P **pP 21 35 29.0 0.0**
TCF Toulx Ste Croi 89.60 334 *e*P **P 21 35 18.6 +0.4**
TCF *e**PP **pP 21 35 29.0 0.0**
TCF Toulx Ste Croi 89.60 334 *e*P **P 21 35 18.6 +0.4**
TCF *ep*P **pP 21 35 29.0 0.0**
SBF Sospel 89.68 330 *e*P **P 21 35 18.7 0.0**
SBF *ep*P **pP 21 35 29.2 -0.3**
SBF Sospel 89.68 330 *e*P **P 21 35 18.7 0.0**
SBF *e**PP **pP 21 35 29.2 -0.3**
SBF Sospel 89.68 330 *e*P **P 21 35 18.7 0.0**
SBF *ep*P **pP 21 35 29.2 -0.3**
VIVF Saint-Julien-l 89.93 332 *e*P **P 21 35 19.8 0.0**
VIVF Saint-Julien-l 89.93 332 *e*P **P 21 35 19.8 0.0**
VIVF Saint-Julien-l 89.93 332 *e*P **P 21 35 19.8 0.0**
MFF Saint Martin d 90.12 336 *e*P **P 21 35 21.2 +0.6**
MFF Saint Martin d 90.12 336 *e*P **P 21 35 21.2 +0.6**
MFF Saint Martin d 90.12 336 *e*P **P 21 35 21.2 +0.6**
RJF Les Rejaudoux 90.69 334 *e*P **P 21 35 23.9 +0.6**
RJF *ep*P **pP 21 35 34.3 +0.2**
RJF *e*R
comp=Z,345nm,17.5s
RJF Les Rejaudoux 90.69 334 *e*P **P 21 35 23.9 +0.6**

RJF				*e**PP	**pP**		**21 35 34.3 +0.2**	
RJF	**Les Rejaudoux**	**90.69**	**334**	*e*P	**P**		**21 35 23.9 +0.6**	
RJF				*e*pP	**pP**		**21 35 34.3 +0.2**	
CAF	**Calviac**	**90.83**	**333**	*e*P	**P**		**21 35 24.9 +0.9**	
CAF	**Calviac**	**90.83**	**333**	*e*P	**P**		**21 35 24.9 +0.9**	
CAF	**Calviac**	**90.83**	**333**	*e*P	**P**		**21 35 24.9 +0.9**	
LFF	**La Frestale**	**91.28**	**334**	*e*P	**P**		**21 35 26.8 +0.8**	
	comp=Z,28nm,1.2s							
LFF	**La Frestale**	**91.28**	**334**	*e*P	**P**		**21 35 26.8 +0.8**	
LFF				pmax	pmax			
	comp=Z,28nm,1.2s							
LFF	**La Frestale**	**91.28**	**334**	*e*P	**P**		**21 35 26.8 +0.8**	
	comp=Z,28nm,1.2s							
MTLF	**Montolieu**	**92.14**	**332**	*e*P	**P**		**21 35 29.8 -0.3**	
MTLF	**Montolieu**	**92.14**	**332**	*e*P	**P**		**21 35 29.8 -0.3**	
MTLF	**Montolieu**	**92.14**	**332**	*e*P	**P**		**21 35 29.8 -0.3**	
SJPF	**Ste Jean**	**93.56**	**335**	*e*P	**P**		**21 35 36.2 -0.5**	
SJPF				*e*pP	**pP**		**21 35 46.6 -0.8**	
SJPF	**Ste Jean**	**93.56**	**335**	*e*P	**P**		**21 35 36.2 -0.5**	
SJPF				*e**PP	**pP**		**21 35 46.6 -0.8**	
SJPF	**Ste Jean**	**93.56**	**335**	*e*P	**P**		**21 35 36.2 -0.5**	
SJPF				*e*pP	**pP**		**21 35 46.6 -0.8**	
ESDC	**Sonseca Array**	**97.56**	**335**	P	**P**		**21 35 54.5 -0.5**	
ESDC	**Sonseca Array**	**97.56**	**335**	P	**P**		**21 35 54.5 -0.5**	
	comp=Z,0.2nm,0.6s,baz=219,slow=33,SNR=3.1							
ESDC				LR	LR		22 24 01.5	
	comp=Z,152nm,19.8s,baz=75,slow=38							
SYO	**Syowa Base**	**129.03**	**207⇑**	*e*Pdiff	**Pdif**		**21 38 15.9 +2.0**	
SNAA	**Sanae**	**141.39**	**197**	*e*PKPdf	PKPdf		21 41 44.9 -5.5	
VNA2	**Neumayer--Watz**	**142.95**	**196**	*e*PKPdf	**PKPdf**		**21 41 49.6 -3.5**	
VNA2	**Neumayer--Watz**	**142.95**	**196**	*e*	PKPdf		21 42 00.0 +6.9	
LPAZ	**La Paz**	**145.47**	**61**	PKPbc	**PKPdf**		**21 41 58.6 -1.2**	
LPAZ	**La Paz**	**145.47**	**61**	PKPbc	**PKPdf**		**21 41 58.6 -1.2**	
	comp=Z,1.3nm,0.7s,baz=289,slow=2.0,SNR=3.9							
SIV	**San Ignacio**	**149.94**	**51**	PKPab	**PKPab**		**21 42 18.3 +1.2**	
SIV	**San Ignacio**	**149.94**	**51**	PKPab	**PKPab**		**21 42 18.3 +1.2**	
	comp=Z,2.3nm,0.8s,baz=286,slow=3.9,SNR=3.7							

*ISCJB **10** 21:23:56.3±0.4, 42°.06N±0°.04×84°.52E±0°.05, h10km, mb4.0/12, Error ellipse: s-maj=5.7km s-min=5.0km az=152.6*
*IDC **10** 21:23:57.2±0.8, 42°.05N×84°.46E, h0km, mb3.9/8, mb1 4.0/14, mb1mx3.7/34, mbtmp3.8/14, ML3.6/6, Error ellipse: s-maj=24.1km s-min=13.1km az=59.0*
*NEIC **10** 21:23:58.3±0.5, 42°.02N×84°.54E, h10km, mb4.4/6, Error ellipse: s-maj=10.8km s-min=8.3km az=218.0*
*BJI **10** 21:23:58.5, 42°.04N×84°.40E, h4km, mb3.6/2, ML3.8/6*
*NNC **10** 21:24:03.1±3.3, 42°.25N×84°.36E, h15km±13km, mb3.8, mpv3.7, Error ellipse: s-maj=23.4km s-min=11.4km az=147.0*

ISC 10 21:23:58.0±0.6, 41°.92N±0°.05×84°.64E±0°.05, h10km, n57, σ1§68/61, mb4.0/12, 13C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.94**	**49**	Pn		**Pb**	**21 24 49.4**	**-1.1**
WMQ				Sg		**Sg**	**21 25 32.4**	**0.0**
WMQ				smax		smax		
	comp=N,500nm,0.7s							
WMQ				smax		smax		
	comp=E,510nm,0.5s							
MK31	**Makanchi Array**	**5.16**	**342**	*e*Pn		**Pn**	**21 25 15.4**	**+0.1**
MK31				*e*Pg		**Pb**	**21 25 30.2**	**+1.9**
MK31				*e*Sg		**Sb**	**21 26 35.3**	**+5.0**
MK31	**Makanchi Array**	**5.16**	**342**	⇑Pn		**Pn**	**21 25 15.4**	**+0.1**
	comp=E,1.0nm,0.3s,baz=155,slow=15,SNR=12							
MK31				⇑Pg		**Pb**	**21 25 30.5**	**+2.2**
	comp=E,9.4nm,0.3s,baz=166,slow=13,SNR=40							
MK31				⇓Lg		Lg	21 26 33.9	
	comp=E,85nm,0.6s,baz=163,slow=29,SNR=11							
MKAR	**Makanchi Array**	**5.16**	**342**	Pn		**Pn**	**21 25 15.5**	**+0.2**
MKAR				Pg		**Pb**	**21 25 30.3**	**+2.0**
MKAR				Sn		**Sn**	**21 26 13.4**	**-1.4**
MKAR				Lg		Lg	21 26 34.1	
MKAR	**Makanchi Array**	**5.16**	**342**	Pn		**Pn**	**21 25 15.5**	**+0.2**
	comp=E,1.1nm,0.3s,baz=162,slow=14,SNR=58							
MKAR				Pg		**Pb**	**21 25 30.3**	**+2.0**
	comp=E,11nm,0.3s,baz=158,slow=17,SNR=47							
MKAR				Sn		**Sn**	**21 26 13.4**	**-1.4**
	comp=E,7.2nm,0.3s,baz=161,slow=20,SNR=5.7							
MKAR				Lg		Lg	21 26 34.1	
	comp=E,22nm,0.3s,baz=157,slow=30,SNR=8.8							
KNDC	**Almaty**	**5.82**	**285**	⇑Pn		**Pn**	**21 25 25.9**	**+1.5**
KNDC				⇓Lg		Lg	21 26 58.8	
TKM2	**Tokmak 2**	**6.77**	**282**	*e*Pn		**Pn**	**21 25 38.5**	**+0.9**
	comp=E,24nm,0.9s							
TKM2	**Tokmak 2**	**6.77**	**282**	⇑Pn		**Pn**	**21 25 38.6**	**+0.9**
	comp=E,15nm,0.8s							
TKM2				⇑Sn		**Sn**	**21 26 53.8**	**-1.1**
	comp=E,15nm,0.6s							
TKM2				⇑Lg		Lg	21 27 27.2	
	comp=E,37nm,0.7s							
AAK	**Ala-Archa**	**7.56**	**279**	*e*Pn		**Pn**	**21 25 48.3**	**-0.2**
	comp=E,7.8nm,0.8s							
AAK				Lg		Lg	21 27 48.9	
AAK	**Ala-Archa**	**7.56**	**279**	Pn		**Pn**	**21 25 48.4**	**0.0**
	comp=E,0.6nm,0.3s,baz=108,slow=12,SNR=8.7							
AAK				Lg		Lg	21 27 48.9	
	comp=E,0.6nm,0.3s,baz=180,slow=20,SNR=2.8							
EKS2	**Erkin-Say**	**8.09**	**279**	*e*Pn		**Pn**	**21 25 54.0**	**-1.6**
EKS2				*e*Sg		Sg	21 28 10.7	-6.9
KURBB	**Kurchatov Arra**	**9.68**	**336**	Pn		**Pn**	**21 26 15.1**	**-2.2**
	comp=E,0.4nm,0.3s,baz=151,slow=13,SNR=3.1							
KURBB				Sn		**Sn**	**21 28 02.5**	**-3.4**
	comp=E,0.9nm,0.3s,baz=26,slow=24,SNR=4.4							
KURBB				Lg		Lg	21 28 51.9	
	comp=E,0.8nm,0.3s,baz=139,slow=33,SNR=3.5							
KURBB	**Kurchatov Arra**	**9.68**	**336**	⇓Pn		**Pn**	**21 26 15.8**	**-1.4**
	comp=E,1.4nm,0.5s							
KURBB				⇑Lg		Lg	21 28 59.3	
	comp=E,73nm,0.8s							
KURK	**Kurchatov**	**9.73**	**337**	*e*Pn		Pn	21 26 15.2	-2.8
KURK				Sn		**Sn**	**21 28 02.5**	**-4.8**
KURK				Lg		Lg	21 28 51.9	
KURK	**Kurchatov**	**9.73**	**337**	⇑Pn		**Pn**	**21 26 16.2**	**-1.8**
	comp=E,1.5nm,0.8s							
KURK				⇑Lg		Lg	21 28 60.0	
	comp=E,26nm,1.0s							
KK31	**Karatay Array**	**10.50**	**281**	⇑Pn		**Pn**	**21 26 29.6**	**+1.0**
	comp=E,0.5nm,0.5s,baz=73,slow=19,SNR=4.7							
KK31				⇑Pg			21 27 10.9	
	comp=E,3.7nm,1.0s,baz=95,slow=14,SNR=4.3							
KK31				⇑Lg		Lg	21 29 29.1	
	comp=E,9.8nm,0.8s							
ZAA0	**Zalesovo Array**	**12.04**	**0**	*e*Pn		**Pn**	**21 26 47.4**	**-2.1**
ZALV	**Zalesovo Beam**	**12.04**	**0**	Pn		Pn	21 26 46.7	-2.8
ZALV				Sn		Sn	21 28 57.5	-6.2
ZALV	**Zalesovo Beam**	**12.04**	**0**	Pn		Pn	21 26 46.7	-2.8
	comp=E,0.6nm,0.3s,baz=187,slow=14,SNR=11							
ZALV				Sn		Sn	21 28 57.5	-6.2
	comp=E,0.9nm,0.3s,baz=176,slow=24,SNR=6.4							
CHCP	**Chirah Chowk**	**12.20**	**231**	P		**Pn**	**21 26 51.9**	**+0.1**
CEP	**Cherat**	**12.89**	**235**	P		**Pn**	**21 27 00.1**	**-1.3**
THW	**Thamme Wali**	**13.71**	**233**	P		**Pn**	**21 27 11.0**	**-1.4**
BVA0	**Borovoye Array**	**14.68**	**324**	⇓P		**Pn**	**21 27 25.7**	**+0.1**
	comp=E,1.6nm,0.5s,baz=139,slow=14,SNR=12							
BVAR	**Borovoye Array**	**14.68**	**324**	Pn		Pn	21 27 22.9	-2.7
BVAR	**Borovoye Array**	**14.68**	**324**	Pn		Pn	21 27 22.9	-2.7
	comp=E,0.4nm,0.3s,baz=136,slow=13,SNR=9.2							
BRVK	**Borovoye**	**14.75**	**324**	*e*Pn		Pn	21 27 23.0	-3.5
	comp=E,3.4nm,0.6s							
SONM	**Songino Array**	**16.49**	**62**	Pn		**Pn**	**21 27 51.5**	**+2.1**
SONM	**Songino Array**	**16.49**	**62**	Pn		**Pn**	**21 27 51.5**	**+2.1**
	comp=E,0.1nm,0.3s,baz=262,slow=13,SNR=7.5							
ULN	**Ulaanbaatar**	**16.93**	**62**	*e*Pn		**Pn**	**21 27 56.8**	**+1.8**
	comp=E,23nm,0.9s							
AB31	**Akbulak array**	**18.73**	**301**	⇑P		**P**	**21 28 13.4**	**-3.2**
	comp=E,0.7nm,0.5s							
ABKAR	**Akbulak array**	**18.73**	**301**	*e*P		P	21 28 12.4	-4.2
	comp=E,1.2nm,0.6s							
AKTO	**Aktyubinsk**	**20.23**	**304**	P		**P**	**21 28 33.2**	**+0.2**
AKTO	**Aktyubinsk**	**20.23**	**304**	P		**P**	**21 28 33.2**	**+0.2**
	comp=E,2.2nm,0.7s,baz=100,slow=13,SNR=5.8							
ARU	**Arti**	**22.21**	**320**	*e*P		**P**	**21 28 52.5**	**-1.8**
	comp=E,2.8nm,0.5s							
CHTO	**Chiang Mai**	**26.05**	**148**	*e*P		**P**	**21 29 30.5**	**-1.0**
CM31	**Chiang Mai Arr**	**26.37**	**148**	*e*P		**P**	**21 29 34.3**	**-0.2**
	comp=E,4.3nm,1.0s							
CMAR	**Chiang Mai Arr**	**26.37**	**148**	P		**P**	**21 29 37.6**	**+3.1**
CMAR	**Chiang Mai Arr**	**26.37**	**148**	P		**P**	**21 29 37.6**	**+3.1**
	comp=E,2.1nm,0.8s,baz=334,slow=11,SNR=18							
FINES	**FINESS Array B**	**39.58**	**320**	P		**P**	**21 31 28.5**	**-0.5**
FINES	**FINESS Array B**	**39.58**	**320**	P		**P**	**21 31 28.5**	**-0.5**
	comp=E,0.6nm,0.4s,baz=106,slow=10,SNR=11							
ARCES	**ARCESS Array B**	**40.74**	**332**	P		**P**	**21 31 38.5**	**-0.1**
ARCES	**ARCESS Array B**	**40.74**	**332**	P		**P**	**21 31 38.5**	**-0.1**
	comp=E,2.4nm,0.7s,baz=95,slow=7.4,SNR=12							
NB2	**NORSAR Subarra**	**46.76**	**320**	P		**P**	**21 32 25.8**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=78,slow=7.9							
NOA	**NORSAR Array B**	**46.76**	**320**	P		**P**	**21 32 26.5**	**-0.6**
NOA	**NORSAR Array B**	**46.76**	**320**	P		**P**	**21 32 26.5**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=80,slow=7.9,SNR=9.1							
LPG	**La Plagne**	**54.32**	**302**	*e*P		**P**	**21 33 25.0**	**+0.2**
	comp=Z,2.9nm,0.6s							
LPG	**La Plagne**	**54.32**	**302**	*e*P		**P**	**21 33 25.0**	**+0.2**
	comp=Z,2.9nm,0.6s							
LPL	**La Plagne**	**54.33**	**302**	*e*P		**P**	**21 33 24.9**	**+0.1**
	comp=Z,7.8nm,0.6s							
LPL	**La Plagne**	**54.33**	**302**	*e*P		**P**	**21 33 24.9**	**+0.1**
	comp=Z,7.8nm,0.6s							
ORIF	**Oris-en-Rattie**	**55.13**	**302**	*e*P		**P**	**21 33 29.8**	**-0.7**
	comp=Z,6.9nm,0.9s							
ORIF	**Oris-en-Rattie**	**55.13**	**302**	*e*P		**P**	**21 33 29.8**	**-0.7**
	comp=Z,6.9nm,0.9s							
ILAR	**Eielson Array**	**66.27**	**22**	P		**P**	**21 34 45.8**	**-0.2**
ILAR	**Eielson Array**	**66.27**	**22**	P		**P**	**21 34 45.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=326,slow=5.4,SNR=4.8							
TORD	**Torodi Ar. Bea**	**76.13**	**275**	P		**P**	**21 35 45.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**76.13**	**275**	P		**P**	**21 35 45.5**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=45,slow=5.0,SNR=13							
WRA	**Warramunga Arr**	**76.79**	**133**	P		**P**	**21 35 51.2**	**+1.3**
WRA	**Warramunga Arr**	**76.79**	**133**	P		**P**	**21 35 51.2**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=328,slow=5.9,SNR=4.0							

*IDC **10** 21:27:10.4±2.4, 23°.16S×179°.53W, h506km±25km, mb3.7/9, mb1 3.7/11, mb1mx3.5/23, mbtmp3.7/11, Error ellipse: s-maj=19.9km s-min=14.9km az=63.0*
*ISCJB **10** 21:27:13.5±1.3, 23°.5S-0°.2×179°.9W±0°.2, h532km, mb4.2/9, Error ellipse: s-maj=26.8km s-min=12.1km az=41.6*
*AUST **10** 21:27:19.8±4.2, 23°.13S×179°.81E, h578km, Error ellipse: s-maj=3.7km s-min=1.8km az=3.0*

ISC 10 21:27:13.2±0.8, 23°.4S±0°.1×179°.8W±0°.1, h532km, n43, σ1§18/45, mb4.4/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.12**	**67**	P		P	21 29 43.5	+11
	baz=10,SNR=6.0							
AFI	**Afiamalu**	**12.06**	**40**	P		P	21 29 45.8	-6.8
	1.5nm,0.3s,baz=200,slow=12,SNR=2.7							
DZM	**Mont Dzumac**	**12.80**	**273**	P		**P**	**21 29 59.2**	**-1.0**
	0.3nm,0.3s,baz=53,slow=20,SNR=2.4							
URZ	**Urewera**	**15.09**	**189**	P		**P**	**21 30 20.4**	**-3.4**
	2.8nm,0.3s,baz=334,slow=1.7,SNR=16							
URZ				S		S	21 32 51.0	-10
	0.4nm,0.3s,baz=167,slow=19,SNR=4.3							
RPZ	**Rata Peaks**	**21.67**	**198**	P		**P**	**21 31 27.0**	**+1.9**
	17nm,0.6s,baz=14,slow=4.2,SNR=14							
EIDS	**Eidsvold**	**26.61**	**260**	P		**P**	**21 32 10.6**	**+1.4**
	baz=26,SNR=6.7							
RMQ	**Roma**	**28.68**	**257**	P		**P**	**21 32 29.8**	**+2.4**
	baz=28,SNR=4.6							
CMSA	**Cobar Meteorol**	**31.62**	**247**	P		**P**	**21 32 53.6**	**+1.0**
	baz=31,SNR=21							
QLP	**Quilpie**	**32.73**	**257**	P		**P**	**21 33 03.2**	**+1.1**
	baz=32,SNR=6.5							
PMG	**Port Moresby**	**34.53**	**288**	P		**P**	**21 33 18.2**	**+0.8**
	8.8nm,0.5s,baz=107,slow=11,SNR=5.1							
STKA	**Stephens Creek**	**35.13**	**247**	P		**P**	**21 33 22.9**	**+0.7**
	4.3nm,0.4s,baz=77,slow=9.8,SNR=21							
STKA	**Stephens Creek**	**35.13**	**247**	P		**P**	**21 33 23.2**	**+1.0**
	baz=35,SNR=8.7							
HTT	**Hallett**	**37.49**	**245**	P		**P**	**21 33 42.4**	**+0.6**
	baz=37,SNR=4.8							
BBOO	**Buckleboo**	**39.86**	**246**	P		**P**	**21 34 00.9**	**0.0**
	baz=40,SNR=9.8							
ASAR	**Alice Springs**	**42.34**	**260**	P		**P**	**21 34 21.1**	**+0.3**
	7.2nm,0.5s,baz=96,slow=7.4,SNR=58							
ASAR				S		**S**	**21 40 01.4**	**-2.2**
	0.5nm,0.7s,baz=96,slow=13,SNR=5.4							
WRA	**Warramunga Arr**	**42.66**	**265**	P		**P**	**21 34 23.3**	**0.0**
	12nm,0.6s,baz=92,slow=8.4,SNR=82							
KDU	**Kakadu**	**46.46**	**275**	P		**P**	**21 34 50.1**	**-2.5**
	baz=46,SNR=4.5							
FORT	**Forrest**	**46.70**	**249**	P		**P**	**21 34 54.0**	**-0.2**
	baz=46,SNR=14							
WRKA	**Warakurna**	**47.17**	**257**	P		**P**	**21 34 58.1**	**+0.2**
	baz=47,SNR=27							
MTN	**Manton Dam**	**47.63**	**274**	P		**P**	**21 35 01.4**	**-0.1**
	baz=47,SNR=9.7							
KNRA	**Kununurra**	**48.91**	**269**	P		**P**	**21 35 11.2**	**+0.3**
	baz=48,SNR=7.6							
FITZ	**Fitzroy Crossi**	**51.09**	**265**	P		**P**	**21 35 27.6**	**+0.7**
	baz=51,SNR=9.9							
VNDA	**Vanda**	**54.93**	**185**	P		**P**	**21 35 54.6**	**+1.3**
	0.8nm,0.5s,baz=3.9,slow=7.7,SNR=8.8							
VNDA				PcP		**PcP**	**21 36 47.2**	**+0.1**
	1.8nm,1.1s,baz=350,slow=6.1,SNR=5.4							
KLBR	**Kellerberrin**	**55.40**	**247**	P		**P**	**21 35 57.4**	**0.0**
	baz=55,SNR=13							
MEEK	**Meekatharra**	**55.48**	**253**	P		**P**	**21 35 57.6**	**-0.4**
	baz=55,SNR=9.6							
BLDU	**Ballidu**	**56.43**	**248**	P		**P**	**21 36 04.3**	**-0.2**
	baz=56,SNR=23							
MORW	**Morawa**	**57.26**	**250**	P		**P**	**21 36 10.3**	**0.0**
	baz=57,SNR=15							
QSPA	**South Pole Qui**	**66.72**	**180**	P		**P**	**21 37 11.8**	**+0.6**
	3.8nm,0.6s,baz=21,slow=1.3,SNR=15							
MAW	**Mawson**	**78.33**	**200**	P		**P**	**21 38 18.3**	**+0.3**
	2.0nm,0.6s,baz=125,slow=6.3,SNR=9.0							
MAW	**Mawson**	**78.33**	**200**	P		**P**	**21 38 18.6**	**+0.7**
	baz=78,SNR=7.3							
SNAA	**Sanae**	**85.20**	**179**	*e*P		**P**	**21 38 52.2**	**-0.9**
VNA2	**Neumayer--Watz**	**85.82**	**177**	*e*P		**P**	**21 38 55.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P		**P**	**21 39 16.4**	**+2.1**
	1.6nm,0.8s,baz=117,slow=3.2,SNR=15							
MKAR	**Makanchi Array**	**111.95**	**313**	PKiKP		**PKiKP**	**21 44 45.7**	**-2.1**
	0.4nm,0.6s,baz=108,slow=0.5,SNR=5.9							
BVAR	**Borovoye Array**	**120.18**	**319**	PKP		**PKPdf**	**21 45 02.7**	**-0.7**
	0.7nm,0.4s,baz=105,slow=1.5,SNR=7.0							
ARCES	**ARCESS Array B**	**131.41**	**348**	PKP		**PKPdf**	**21 45 23.6**	**-0.8**
	1.7nm,1.0s,baz=34,slow=5.2,SNR=2.4							
FINES	**FINESS Array B**	**138.01**	**342**	PKhKP		PKPpre	21 45 25.2	
	1.7nm,1.0s,baz=34,slow=5.2,SNR=2.4							
FINES				PKP		**PKPdf**	**21 45 37.4**	**+0.6**
	1.7nm,0.9s,baz=90,slow=2.8,SNR=5.5							
AKASG	**Malin Array Be**	**144.64**	**328**	PKP		**PKPdf**	**21 45 48.8**	**-0.2**
	1.6nm,0.4s,baz=44,slow=3.9,SNR=16							
BRTR	**Keskin Array B**	**147.43**	**308**	PKPbc		**PKPbc**	**21 45 57.5**	**-0.1**
	1.1nm,0.7s,baz=121,slow=3.3,SNR=4.6							
CLL	**Collm**	**150.40**	**344**	*i* PKPbc		**PKPbc**	**21 46 04.7**	**+0.4**
	comp=Z,4.0nm,0.7s							
CLL				*i* PKPab		**PKPab**	**21 46 13.5**	**+0.4**
BRG	**Berggiesshubel**	**150.54**	**342**	*i* PKP		**PKPbc**	**21 46 05.2**	**+0.6**
	comp=Z,3.4nm,0.8s							
GERES	**GERESS Array B**	**152.43**	**341**	PKPbc		**PKPbc**	**21 46 08.8**	**-0.3**
	baz=18,slow=6.5							
TORD	**Torodi Ar. Bea**	**169.75**	**188**	PKP		**PKPdf**	**21 46 18.8**	**-1.7**
	comp=Z,0.6nm,1.0s,baz=189,slow=3.6,SNR=2.9							
TORD				PKPab		**PKPab**	**21 47 37.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=172,slow=4.4,SNR=6.7							

*IDC **10** 21:42:29.0±1.4, 31°.98S×71°.79W, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, ML3.9/3, Error ellipse: s-maj=36.3km s-min=33.0km az=142.0*
*ISCJB **10** 21:42:34.5±0.5, 31°.99S±0°.03×71°.65W±0°.05, h54km±9km, mb3.5/2, Error ellipse: s-maj=7.1km s-min=4.6km az=1.7*
*GUC **10** 21:42:34.5±0.9, 31°.98S×71°.49W, h27km±4km, ML3.7*
*NEIC **10** 21:42:35.0, 32°.05S×71°.51W, h27km, ML3.6(GUC), After GUC.*
NEIC Felt [II] at Illapel, Los Vilos and Salamanca.

ISC 10 21:42:35.4±1.0, 32°.00S±0°.03×71°.60W±0°.06, h41km±12km, n33, σ1§31/48, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.97**	**32⇑**	*i* P		**Pn**	**21 42 50.9**	**-1.8**
CMCH				*i* S		**Sn**	**21 43 02.7**	**-2.5**
IHA	**Instituto Hidr**	**1.03**	**182**	*e*P		**Pn**	**21 42 53.7**	**+0.4**
IHA				*i* S		**Sn**	**21 43 07.8**	**+1.3**
JACH	**Jahuel**	**1.09**	**129**	*i* P		**Pn**	**21 42 53.8**	**-0.6**
JACH				*e*S		**Sn**	**21 43 07.4**	**-0.9**
ROCH	**El Roble**	**1.09**	**153**	⇓*i* P		**Pn**	**21 42 53.8**	**-0.7**
ROCH				*e*S		**Sn**	**21 43 07.6**	**-0.9**
ROCH				AML	AML		21 43 10.9	
	comp=N,4μm,0.4s							
PEL	**Peldehue**	**1.38**	**146**	⇓*i* P		**Pn**	**21 42 58.0**	**-0.2**
PEL				*i* S		**Sn**	**21 43 15.5**	**+0.1**
PEL				AML	AML		21 43 21.4	
	comp=E,2μm,0.3s							
LCCH	**Las Cruces**	**1.48**	**179⇑**	*i* P		**Pn**	**21 43 00.3**	**+0.8**
SAN	**Santiago**	**1.65**	**152⇑**	*i* P		**Pn**	**21 43 02.9**	**+0.8**
SAN				*i* S		**Sn**	**21 43 22.4**	**+0.3**
SAN				AML	AML		21 43 33.6	
	comp=N,776nm,0.5s							
CLCH	**Cerro Calan**	**1.66**	**148**	*e*P		**Pn**	**21 43 02.0**	**-0.1**
CLCH				AML	AML		21 43 25.2	
	comp=N,2μm,0.5s							
ANTU	**Antumapu**	**1.77**	**153**	*e*P		**Pn**	**21 43 04.0**	**+0.5**
ANTU				*e*S		**Sn**	**21 43 26.1**	**+1.2**
ANTU				AML	AML		21 43 33.1	
	comp=E,909nm,0.4s							
TLL	**Tololo Astrono**	**1.95**	**21**	*e*P		**Pn**	**21 43 07.0**	**+0.7**
TLL				*i* S		**Sn**	**21 43 31.3**	**+1.7**
TLL				AML	AML		21 43 36.6	
	comp=N,2μm,0.9s							
CHCH	**Chadas Angostu**	**2.09**	**158**	*e*P		**Pn**	**21 43 09.0**	**+1.0**
LMEL	**Las Melosas**	**2.19**	**148**	⇓*i* P		**Pn**	**21 43 10.4**	**+0.9**
LMEL				*i* S		**Sn**	**21 43 37.5**	**+2.1**
LMEL				AML	AML		21 43 42.7	
	comp=N,866nm,0.2s							
CFAA	**Coronel Fontan**	**2.89**	**83**	Pn		**Pn**	**21 43 20.3**	**+1.3**
CFAA				Sn		**Sn**	**21 43 55.5**	**+3.0**
CFAA	**Coronel Fontan**	**2.89**	**83**	Pn		**Pn**	**21 43 20.3**	**+1.3**
	comp=N,6.4nm,0.3s,baz=264,slow=11,SNR=75							
CFAA				Sn		**Sn**	**21 43 55.5**	**+3.0**
	comp=N,4.2nm,0.3s,baz=82,slow=13,SNR=7.2							
LCO	**Las Campanas**	**3.08**	**15**	⇓*i* P		**Pn**	**21 43 22.0**	**+0.2**
LCO				*i* S		**Sn**	**21 43 59.1**	**+1.6**
LCO				AML	AML		21 44 11.2	
	comp=N,519nm,0.3s							
LCO	**Las Campanas**	**3.08**	**15**	*e*Pn		**Pn**	**21 43 21.8**	**+0.1**
LCO				*e*Sn		**Sn**	**21 43 57.8**	**+0.4**
H03N1	**Juan Fernandez**	**6.33**	**255**	Pn		**Pn**	**21 44 07.1**	**+1.2**
	baz=164,slow=75,SNR=4.0							
H03N1				T		T	21 50 51.6	
	baz=76,slow=74,SNR=3545							
H03N3	**Juan Fernandez**	**6.34**	**255**	Pn		**Pn**	**21 44 06.0**	**-0.2**
H03N3				T		T	21 50 46.6	
	baz=76,slow=74,SNR=4027							
H03N2	**Juan Fernandez**	**6.35**	**255**	Pn		**Pn**	**21 44 07.1**	**+0.9**
	baz=25,slow=75,SNR=3.6							
H03N2				T		T	21 50 51.5	
	baz=76,slow=74,SNR=3506							
PLCA	**Paso Flores**	**8.76**	**175**	*e*Pn		**Pn**	**21 44 39.0**	**-0.6**
TRQA	**Tornquist**	**9.93**	**130**	*e*Pn		**Pn**	**21 44 56.7**	**+1.0**
CPUP	**Villa Florida**	**13.68**	**69**	*e*Pn		**Pn**	**21 45 46.5**	**-0.4**
CPUP	**Villa Florida**	**13.68**	**69**	Pn		**Pn**	**21 45 45.8**	**-1.1**
	comp=N,0.6nm,0.3s,baz=246,slow=18,SNR=3.1							
LPAZ	**La Paz**	**15.95**	**12**	*e*Pn		**Pn**	**21 46 18.2**

IDC 10 21:56:58.2±3.4, 5°92S×147°90E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=84.2km s-min=40.3km az=100.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.54**	**192**	Pn	Pn	21 57 55.2	+0.8
	2.5nm,0.3s,baz=1.4,slow=16,SNR=6.0						
PMG				Sn	Sn	21 58 34.4	-2.6
	1.7nm,0.3s,baz=256,slow=22,SNR=3.2						
WRA	**Warramunga Arr**	**19.18**	**222**	P	P	22 01 23.1	-0.6
	0.2nm,0.3s,baz=46,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**22.20**	**216**	P	P	22 01 55.8	-0.6
	0.7nm,0.5s,baz=53,slow=9.3,SNR=15						
FITZ	**Fitzroy Crossi**	**24.87**	**239**	P	P	22 02 23.2	+0.4
	3.4nm,0.6s,baz=65,slow=10,SNR=12						
TORD	**Torodi Ar. Bea**	**145.94**	**285**	PKPbc	PKPdf	22 16 40.0	-0.2
	0.2nm,0.6s,baz=70,slow=1.7,SNR=2.5						

*ISCJB **10** 22:12:15.8±0.9, 0.°8N±0.°2×67.°1E±0.°2, h10km, mb4.0/11, MS3.2/2, Error ellipse: s-maj=29.8km s-min=17.8km az=142.5*

*IDC **10** 22:12:16.2±0.9, 0.°78N×67.°11E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.8/28, mbtmp4.0/11, MS3.3/2, Ms1 3.4/2, ms1mx3.0/39, Error ellipse: s-maj=35.1km s-min=19.4km az=51.0*

ISC 10 22:12:17.7±1.0, 0.°8N±0.°2×67.°1E±0.°2, h10km, n20, σ0s74/12, mb4.2/11, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**8.07**	**151**	T	T	22 22 25.4	
	baz=331,slow=75,SNR=195						
H08N3	**Diego Garcia H**	**8.09**	**151**	T	T	22 22 26.3	
	baz=331,slow=75,SNR=208						
H08N1	**Diego Carcia H**	**8.10**	**151**	T	T	22 22 25.4	
	baz=331,slow=75,SNR=245						
PSI	**Prapat**	**31.88**	**86**	LR	LR	22 28 12.6	
	comp=Z,58nm,21.8s,baz=324,slow=30						
CMAR	**Chiang Mai Arr**	**35.85**	**59**	LR	LR	22 32 51.1	
	comp=Z,47nm,18.8s,baz=156,slow=34						
MKAR	**Makanchi Array**	**47.70**	**14**	P	**P**	**22 20 54.8**	**+0.1**
	0.9nm,0.9s,baz=208,slow=8.2,SNR=5.4						
AKTO	**Aktyubinsk**	**50.06**	**352**	P	**P**	**22 21 12.8**	**+0.2**
	1.9nm,0.7s,baz=173,slow=9.8,SNR=9.4						
ZALV	**Zalesovo Beam**	**54.97**	**13**	P	**P**	**22 21 48.5**	**-0.5**
	1.6nm,0.5s,baz=208,slow=8.2,SNR=11						
H01W3	**Cape Leeuwin H**	**56.47**	**134**	T	T	23 22 52.5	
	baz=299,slow=75,SNR=4.9						
H01W2	**Cape Leeuwin H**	**56.48**	**134**	T	T	23 22 53.9	
	baz=299,slow=75,SNR=5.3						
H01W1	**Cape Leeuwin H**	**56.49**	**134**	T	T	23 22 56.3	
	baz=299,slow=75,SNR=4.1						
SONM	**Songino Array**	**57.90**	**30**	P	**P**	**22 22 11.0**	**+0.9**
	0.7nm,0.7s,baz=223,slow=7.3,SNR=6.2						
AKASG	**Malin Array Be**	**59.17**	**333**	P	**P**	**22 22 17.3**	**-1.5**
	0.4nm,0.5s,baz=114,slow=6.2,SNR=3.1						
WRA	**Warramunga Arr**	**68.95**	**112**	P	**P**	**22 23 23.7**	**-0.1**
	1.2nm,0.7s,baz=285,slow=5.7,SNR=7.6						
ASAR	**Alice Springs**	**69.17**	**116**	P	**P**	**22 23 24.8**	**-0.3**
	1.0nm,0.7s,baz=289,slow=5.9,SNR=12						
HFS	**Hagfors**	**71.92**	**335**	P	**P**	**22 23 40.7**	**-0.4**
	0.8nm,0.5s,baz=128,slow=9.3,SNR=6.8						
DBIC	**Dimbokro**	**71.98**	**277**	P	**P**	**22 23 43.0**	**+0.7**
	1.5nm,0.6s,baz=56,slow=7.3,SNR=3.9						
ARCES	**ARCESS Array B**	**73.99**	**346**	P	**P**	**22 23 53.6**	**+0.4**
	2.4nm,0.9s,baz=129,slow=7.2,SNR=5.1						
STKA	**Stephens Creek**	**77.28**	**123**	P	**P**	**22 24 12.4**	**-0.4**
	1.9nm,0.7s,baz=284,slow=8.3,SNR=4.4						
TXAR	**Lajitas Array**	**148.77**	**344**	PKPbc	**PKPbc**	**22 32 07.2**	**+0.9**
	1.2nm,0.7s,baz=46,slow=2.6,SNR=13						

*ISCJB **10** 22:26:16.3±0.8, 10.°27S±0.°08×161.°2E±0.°1, h100km, mb3.7/7, Error ellipse: s-maj=15.6km s-min=10.0km az=149.2*

*IDC **10** 22:26:17.6±1.0, 10.°27S×161.°20E, h98km±6km, mb3.5/7, mb1 3.7/8, mb1mx3.6/20, mbtmp3.6/8, Error ellipse: s-maj=18.5km s-min=12.6km az=45.0*

*AUST **10** 22:26:30.5±7.0, 10.°59S×159.07E, h35km, Error ellipse: s-maj=1.5km s-min=1.2km az=329.0*

ISC 10 22:26:17.6±0.8, 10.°30S±0.°09×161.°2E±0.°1, h100km, n24, σ1s23/22, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.53**	**304**	P	**Pn**	**22 26 43.4**	**-0.8**
	185nm,0.3s,baz=170,slow=7.3,SNR=32						
HNR				S	**Sn**	**22 27 03.4**	**-1.0**
	218nm,0.3s,baz=125,slow=10,SNR=7.6						
DZM	**Mont Dzumac**	**12.73**	**158**	P	**Pn**	**22 29 17.4**	**+2.3**
	0.6nm,0.3s,baz=348,slow=14,SNR=12						
DZM				S	**Sn**	**22 31 31.7**	**-3.5**
	0.5nm,0.3s,baz=143,slow=20,SNR=3.6						
CTA	**Charters Tower**	**17.41**	**234**	P	Pn	22 30 19.0	+4.7
	0.4nm,0.3s,baz=55,slow=14,SNR=3.3						
RMQ	**Roma**	**19.96**	**215**	P	Pn	22 30 49.1	+4.6
	baz=19,SNR=4.3						
WRA	**Warramunga Arr**	**27.63**	**247**	P	**P**	**22 31 56.6**	**+0.5**
	1.5nm,0.5s,baz=75,slow=9.4,SNR=15						
WRA				pP	**pP**	**22 32 18.1**	**-0.2**
	1.4nm,0.6s,baz=75,slow=9.6,SNR=3.8						
KDU	**Kakadu**	**28.27**	**262**	P	**P**	**22 32 02.4**	**+0.6**
	baz=26,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**29.11**	**11**	T	T	23 01 03.4	
	baz=199						
H11S3	**WAKE ISLAND Hy**	**29.11**	**11**	T	T	23 01 16.6	
	baz=199						
H11S1	**WAKE ISLAND Hy**	**29.13**	**11**	T	T	23 01 06.4	
	baz=199						
ASAR	**Alice Springs**	**29.25**	**239**	P	**P**	**22 32 10.4**	**0.0**
	0.5nm,0.4s,baz=62,slow=10,SNR=18						
ASAR				pP	**pP**	**22 32 31.1**	**-1.7**
	1.0nm,0.9s,baz=66,slow=9.5,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**30.34**	**11**	T	T	23 02 59.5	
	baz=195,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**30.34**	**11**	T	T	23 03 03.0	
	baz=195,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**30.36**	**11**	T	T	23 03 00.9	
	baz=195,slow=75,SNR=16						
KNRA	**Kununurra**	**32.06**	**257**	P	**P**	**22 32 35.9**	**+0.7**
	baz=30,SNR=9.3						
WRKA	**Warakurna**	**34.51**	**241**	P	**P**	**22 32 56.5**	**0.0**
	baz=32,SNR=7.9						
FITZ	**Fitzroy Crossi**	**35.31**	**253**	P	**P**	**22 33 03.7**	**+0.3**
	baz=33,SNR=6.9						
MEEK	**Meekatharra**	**43.33**	**242**	P	**P**	**22 34 11.3**	**+1.2**
	baz=41,SNR=16						
BLDU	**Ballidu**	**45.98**	**237**	P	**P**	**22 34 32.0**	**+0.9**
	baz=44,SNR=4.9						
MJAR	**Matsushiro Arr**	**51.38**	**336**	P	**P**	**22 35 11.8**	**-0.3**
	1.3nm,0.6s,baz=164,slow=8.5,SNR=4.2						
USRK	**Ussuriysk Arra**	**60.38**	**336**	P	**P**	**22 36 17.2**	**+1.0**
	1.4nm,0.8s,baz=161,slow=9.2,SNR=3.9						
PPI	**Padang Panjang**	**61.25**	**275**	P	P	22 36 28.2	+5.5
	baz=59,SNR=3.7						
SONM	**Songino Array**	**75.48**	**325**	P	**P**	**22 37 51.2**	**+0.2**
	0.8nm,0.5s,baz=139,slow=6.8,SNR=8.8						
SONM				pP	**pP**	**22 38 17.0**	**+0.3**
	0.8nm,0.6s,baz=146,slow=6.1,SNR=3.8						
ILAR	**Eielson Array**	**84.27**	**20**	P	**P**	**22 38 37.9**	**0.0**
	0.2nm,0.4s,baz=245,slow=5.0,SNR=4.8						
ILAR				pP	**pP**	**22 39 02.9**	**-1.1**
	0.3nm,0.6s,baz=246,slow=5.2,SNR=3.0						
MKAR	**Makanchi Array**	**89.96**	**318**	P	**P**	**22 39 05.0**	**-0.8**
	0.2nm,0.4s,baz=94,slow=5.6,SNR=7.1						
MKAR				pP	**pP**	**22 39 32.1**	**-0.1**
	0.3nm,0.7s,baz=132,slow=2.1,SNR=1.3						

JMA 10 22:28:31.5±0.2, 36.°93N×143.°78E, h55km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.36**	**282**	P	Pn	22 29 09.0	+1.1
JFK				S	Sn	22 29 36.6	+0.9
ONAJ	**Iwakimizuishiy**	**2.39**	**275**	P	Pn	22 29 09.4	+1.1
ONAJ				S	Sn	22 29 37.2	+0.7
JIO	**Ouri**	**2.46**	**309**	P	Pn	22 29 10.2	+1.1
JIO				S	Sn	22 29 38.5	+0.6
JMM	**Marumori**	**2.56**	**292**	P	Pn	22 29 11.7	+1.2
JMM				eS	Sn	22 29 41.7	+1.3
JFT	**Otama**	**2.81**	**283**	P	Pn	22 29 15.9	+1.9
JFT				eS	Sn	22 29 48.8	+2.1
JMK	**Ichinoseki**	**2.86**	**316**	P	Pn	22 29 15.8	+1.2
JMK				eS	Sn	22 29 48.6	+0.8
JOM	**Ohasama**	**3.21**	**323**	P	Pn	22 29 20.4	+1.0
JOM				S	Sn	22 29 57.1	+0.7
JYK	**Kaneyama**	**3.35**	**307**	P	Pn	22 29 23.2	+1.8
JYK				S	Sn	22 30 01.4	+1.4
JAG	**Ashikaga**	**3.51**	**263**	P	Pn	22 29 24.9	+1.3
JAG				eS	Sn	22 30 03.7	-0.3
JRY	**Ryogami san**	**4.04**	**258**	P	Pn	22 29 31.8	+1.0
JRY				eS	Sn	22 30 17.0	+0.2
MAT	**Matsushiro**	**4.49**	**267**	P	Pn	22 29 39.9	+2.8
MAT				S	Sn	22 30 31.0	+2.9
JOT	**Ohata**	**4.93**	**335**	eS	Sn	22 30 37.4	-1.2
JKB	**Kayabe**	**5.39**	**338**	eS	Sn	22 30 48.5	-1.4
JCH	**Churui**	**5.69**	**357**	P	Pn	22 29 52.6	-0.7
JCH				eS	Sn	22 30 53.5	-3.7
NEM2	**Nemuro 2**	**6.60**	**13**	P	Pn	22 30 02.7	-3.1
NEM2				S	Sn	22 31 12.5	-7.2
JHR	**Hokuryu**	**6.98**	**348**	P	Pn	22 30 12.3	+1.2
JHR				eS	Sn	22 31 30.0	+0.9
JTKR	**Abashiri--Toko**	**7.03**	**1**	P	Pn	22 30 10.8	-1.0
JTKR				eS	Sn	22 31 26.0	-4.3

WEL 10 22:30:58.5±0.6, 36.°50S×177.°71E, h178km±5km, ML3.7/5, 2C-1D, Error ellipse: s-maj=7.6km s-min=5.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.16**	**156**	PN	Pn	22 31 27.2	0.0
MXZ				eSN	Sn	22 31 48.7	-0.9
PUZ	**Puketiti**	**1.63**	**165**	PN	Pn	22 31 31.6	+0.1
URZ	**Urewera**	**1.82**	**195**	⇑PN	Pn	22 31 33.8	+0.4
URZ				SN	Sn	22 32 00.7	0.0
URZ				AML	AML	22 32 02.2	
MWZ	**Matawai**	**1.83**	**184**	PN	Pn	22 31 33.9	+0.2
MWZ				SN	Sn	22 32 01.1	-0.1
CNGZ	**Carnagh Statio**	**2.02**	**169**	⇓PN	Pn	22 31 36.1	+0.5
RIGZ	**Rimuhau**	**2.20**	**179**	⇑PN	Pn	22 31 37.6	0.0
SNGZ	**Shannon Statio**	**2.29**	**187**	PN	Pn	22 31 38.9	+0.2
KNZ	**Kokohu**	**2.51**	**181**	PN	Pn	22 31 40.7	-0.4
KNZ				SN	Sn	22 32 13.6	-0.9
MHGZ	**Mahia Peninsul**	**2.65**	**177**	PN	Pn	22 31 42.5	-0.3
CKHZ	**Cape Kidnapper**	**3.19**	**189**	PN	Pn	22 31 48.3	-1.0
KAHZ	**Kahuranaki**	**3.35**	**191**	PN	Pn	22 31 50.6	-0.8
PXZ	**Pawanui**	**3.59**	**190**	PN	Pn	22 31 52.6	-1.6
PNHZ	**Pukenui**	**3.61**	**199**	PN	Pn	22 31 53.0	-1.6
MRZ	**Mangatainoka R**	**4.47**	**201**	PN	Pn	22 32 02.6	-2.9

ZUR 10 22:36:51.3, 46.°55N×8.°78E, h2km±1km, ML1.3/3, 2C, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUSIO	**Fusio**	**0.12**	**222**	*i*Pg	Pg	22 36 54.3	+0.4
	147nm,0.2s						
FUSIO				*i* Sg	Sg	22 36 56.2	+0.5
	147nm,0.2s						
LLS	**Linth-Limmern**	**0.34**	**27**	*i*Pg	Pg	22 36 58.4	+0.3
	8.9nm,0.4s						
LLS				*i* Sg	Sg	22 37 02.9	+0.2
	8.9nm,0.4s						
BNALP	**Bannalp**	**0.41**	**323**	⇑*i*Pg	Pg	22 36 59.8	+0.5
	8.9nm,0.2s						

*ISCJB **10** 22:37:30.1±0.2, 24.°50N±0.°02×122.°74E±0.°02, h99km±2km, mb3.7/12, Error ellipse: s-maj=4.0km s-min=2.5km az=165.4*

*IDC **10** 22:37:30.2±7.4, 24.°61N×122.°75E, h91km±71km, mb3.6/12, mb1 3.7/12, mb1mx3.5/27, mbtmp3.6/12, Error ellipse: s-maj=39.3km s-min=12.7km az=71.0*

*JMA **10** 22:37:31.6±0.1, 24.°38N×122.°70E, h85km±2km, M4.0*

*TAP **10** 22:37:31.4, 24.°41N×122.°79E, h65km±2km, ML4.2, D*

ISC 10 22:37:30.3±0.7, 24.°45N±0.°03×122.°74E±0.°02, h94km±5km, n77, σ1s29/123, mb3.8/12, 5C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.25**	**87**	P	**Pn**	**22 37 44.5**	**+0.6**
YOJ				S	**Sn**	**22 37 53.9**	**-0.2**
TWC	**Suao**	**0.82**	**281**	⇑*i*P	**Pn**	**22 37 48.9**	**+0.5**
	baz=283						
TWC				S	**Sn**	**22 38 01.5**	**-0.4**
	baz=283						
EGS		**0.83**	**299**	⇑P	**Pn**	**22 37 49.1**	**+0.6**
	baz=299						
EGS				*e*S	**Sn**	**22 38 01.3**	**-0.7**
	baz=299						
TWB1	**Santiao Chiao**	**0.88**	**310**	⇑*i*P	**Pn**	**22 37 49.4**	**+0.5**
	baz=309						
TWB1				S	**Sn**	**22 38 01.9**	**-1.0**
	baz=309						
ENA	**Nanau**	**0.91**	**269**	*e*P	**Pn**	**22 37 50.1**	**+0.8**
	baz=270						
ENA				*e*S	**Sn**	**22 38 03.1**	**-0.4**
	baz=270						
IRIF	**Iriomote-Funau**	**0.91**	**97**	P	**Pn**	**22 37 50.3**	**+1.0**
IRIF				eS	**Sn**	**22 38 03.9**	**+0.3**
ILA	**Ilan**	**0.95**	**290**	*e*P	**Pn**	**22 37 50.8**	**+1.1**
	baz=290						
ILA				*e*S	**Sn**	**22 38 04.7**	**+0.4**
	baz=290						
HATJ	**Hateruma jima**	**1.05**	**112**	P	**Pn**	**22 37 52.3**	**+1.5**
HATJ				eS	**Sn**	**22 38 06.9**	**+0.7**
ENTT	**Nioudou**	**1.08**	**280**	⇑P	**Pn**	**22 37 52.4**	**+1.2**
	baz=281						
ENTT				*e*S	**Sn**	**22 38 07.4**	**+0.5**
	baz=281						
TWD	**Chiawan**	**1.10**	**251**	⇓*i*P	**Pn**	**22 37 51.9**	**+0.5**
	baz=253						
TWD				S	**Sn**	**22 38 07.2**	**-0.1**
	baz=253						
HWA	**Hwalien**	**1.13**	**246**	P	**Pn**	**22 37 52.4**	**+0.6**
	baz=247						
HWA				*e*S	**Sn**	**22 38 08.1**	**+0.1**
	baz=247						
JKRS	**Kuro-shima**	**1.18**	**100**	P	**Pn**	**22 37 53.7**	**+1.4**
JKRS				eS	**Sn**	**22 38 09.9**	**+1.0**
NNS	**Nan Shan**	**1.24**	**270**	P	**Pn**	**22 37 54.2**	**+1.0**
	baz=271						
TAP1	**Taipei**	**1.25**	**298**	*e*P	**Pn**	**22 37 53.6**	**+0.5**
	baz=298						
TAP1				*e*S	**Sn**	**22 38 09.7**	**-0.7**
	baz=298						
ESF	**Shoufeng Towns**	**1.26**	**243**	*e*P	**Pn**	**22 37 54.4**	**+1.1**
	baz=245						
TAP	**Taipei**	**1.26**	**298**	*e*P	**Pn**	**22 37 54.4**	**+1.1**
	baz=298						
TAP				*e*S	**Sn**	**22 38 09.7**	**-1.0**
	baz=298						
NSK	**Sanguang**	**1.27**	**281**	P	**Pn**	**22 37 54.6**	**+1.1**
	baz=281						
NSK				*e*S	**Sn**	**22 38 11.1**	**0.0**
	baz=281						
JIJ	**Ishigaki jima**	**1.28**	**93**	P	**Pn**	**22 37 54.4**	**+0.8**
JIJ				eS	**Sn**	**22 38 11.1**	**-0.1**
TEGC	**Jichi Village**	**1.32**	**236**	*e*P	**Pn**	**22 37 55.0**	**+1.0**
	baz=238						
TEGC				*e*S	**Sn**	**22 38 12.3**	**+0.5**
	baz=238						
TWY	**Chenhua**	**1.32**	**309**	P	Pn	**22 37 55.1**	**+1.1**
	baz=308						
TWY				*e*S	**Sn**	**22 38 11.8**	**-0.1**
	baz=308						
PCYT	**Pengchaiyu**	**1.32**	**333**	⇑*i*P	**Pn**	**22 37 55.4**	**+1.4**
	baz=332						
PCYT				*e*S	**Sn**	**22 38 12.8**	**+0.9**
	baz=332						
ESL	**Shilin**	**1.35**	**242**	P	Pn	**22 37 54.7**	**+0.4**
	baz=244						
ESL				S	**Sn**	**22 38 12.2**	**-0.3**
	baz=244						
TWS1	**Kuangyinshan**	**1.36**	**299**	P	Pn	**22 37 55.6**	**+1.1**
	baz=299						
TWS1				S	**Sn**	**22 38 12.6**	**-0.3**
	baz=299						
WHF	**Hehuan Shan**	**1.38**	**258**	⇓P	Pn	**22 37 55.9**	**+0.8**
	baz=259						
WHF				*e*S	**Sn**	**22 38 13.2**	**-0.6**
	baz=259						
TWT	**Tachien**	**1.44**	**263**	P	Pn	**22 37 57.3**	**+1.8**
	baz=263						
TWT				*e*S	**Sn**	**22 38 15.2**	**+0.5**
	baz=263						
NCU	**National Centr**	**1.50**	**291**	*e*P	**Pn**	**22 37 57.6**	**+1.4**
	baz=290						
NCU				S	**Sn**	**22 38 16.6**	**+0.6**
	baz=290						
NSTT	**Nanjuang**	**1.59**	**277**	P	**Pn**	**22 37 58.8**	**+1.4**
	baz=277						
NSTT				*e*S	**Sn**	**22 38 18.5**	**+0.6**
	baz=277						
EHY	**Hungye**	**1.60**	**234**	P	**Pn**	**22 37 57.9**	**+0.5**
	baz=235						
HSN	**Hsinchu**	**1.65**	**283**	*e*P	**Pn**	**22 37 59.1**	**+1.1**
	baz=284						
TWF1	**Yuli**	**1.71**	**231**	⇓*i*P	**Pn**	**22 37 59.8**	**+0.9**
	baz=232						
TWF1				*e*S	**Sn**	**22 38 20.4**	**-0.2**
	baz=232						
SMLT	**Sun Moon Lake**	**1.77**	**252**	*e*P	**Pn**	**22 38 01.3**	**+1.6**
	baz=252						
SMLT				*e*S	**Sn**	**22 38 23.4**	**+1.2**
	baz=252						
TWQ1	**Liyutan**	**1.79**	**267**	*e*P	**Pn**	**22 38 02.3**	**+2.4**
	baz=268						
TYC	**Yuchr**	**1.80**	**253**	P	**Pn**	**22 38 01.6**	**+1.6**
	baz=253						
JTJ	**Tarama**	**1.80**	**83**	P	**Pn**	**22 38 01.3**	**+1.3**
JTJ				eS	**Sn**	**22 38 23.1**	**+0.4**
NSY	**Sanyi**	**1.80**	**269**	*e*P	**Pn**	**22 38 02.0**	**+2.0**
	baz=270						
NSY				*e*S	**Sn**	**22 38 23.8**	**+1.1**
	baz=270						
CHKT	**Chengkung**	**1.84**	**223**	⇓*i*P	**Pn**	**22 38 00.9**	**+0.4**
	baz=224						
CHKT				*e*S	**Sn**	**22 38 21.6**	**-1.9**
	baz=224						
YUS	**Yu-Shan**	**1.89**	**240**	⇓*i*P	**Pn**	**22 38 03.4**	**+1.7**
	baz=241						
YUS				*e*S	**Sn**	**22 38 25.7**	**+0.2**
	baz=241						
TCU	**Taichung**	**1.90**	**261**	*e*P	**Pn**	**22 38 03.2**	**+1.9**
	baz=262						
ALS	**Alishan**	**2.00**	**243**	P	**Pn**	**22 38 04.6**	**+1.8**
	baz=243						
ALS				*e*S	**Sn**	**22 38 28.1**	**+0.4**
	baz=243						
ELDTW	**Lidau**	**2.01**	**232**	⇓*i*P	**Pn**	**22 38 03.9**	**+1.0**
	baz=232						
ELDTW				*e*S	**Sn**	**22 38 27.6**	**-0.1**
	baz=232						
CHN5	**Tsauling**	**2.06**	**246**	*e*P	**Pn**	**22 38 05.7**	**+2.2**
	baz=247						
CHN5				*e*S	**Sn**	**22 38 30.8**	**+1.9**
	baz=247						
WGK	**Gukeng**	**2.13**	**250**	*e*P	**Pn**	**22 38 06.6**	**+2.3**
	baz=250						
WGK				*e*S	**Sn**	**22 38 32.1**	**+1.8**
	baz=250						
STYT	**Tauyuan**	**2.22**	**235**	⇓P	**Pn**	**22 38 07.7**	**+2.1**
	baz=236						
STYT				*e*S	**Sn**	**22 38 33.9**	**+1.4**
	baz=236						
TWG	**Pinlang**	**2.23**	**224**	*e*P	**Pn**	**22 38 06.0**	**+0.5**
	baz=224						
TWG				*e*S	**Sn**	**22 38 32.1**	**-0.5**
	baz=224						
TTN	**Taitung**	**2.23**	**221**	*e*P	**Pn**	**22 38 06.5**	**+0.9**
	baz=222						
CHN4	**Tsaushan**	**2.25**	**241**	*e*P	**Pn**	**22 38 07.7**	**+1.8**
	baz=242						
CHN4				*e*S	**Sn**	**22 38 34.6**	**+1.5**
	baz=242						
WTP	**Ta-pu**	**2.28**	**239**	*e*P	**Pn**	**22 38 08.5**	**+2.2**
	baz=239						
WTP				*e*S	**Sn**	**22 38 36.1**	**+2.1**
	baz=239						
CHY	**Chiayi**	**2.32**	**246**	*e*P	**Pn**	**22 38 07.9**	**+1.2**
	baz=247						
CHY				*e*S	**Sn**	**22 38 36.5**	**+1.8**
	baz=247						
JMJ	**Miyako jima 2**	**2.36**	**81**	*e*S	**Sn**	**22 38 35.9**	**+0.3**
TWK	**Hsinying**	**2.37**	**241**	*e*P	**Pn**	**22 38 10.0**	**+2.5**
	baz=241						
TWK				*e*S	**Sn**	**22 38 37.3**	**+1.2**
	baz=241						
CHN1	**Nanshi**	**2.38**	**239**	*e*P	**Pn**	**22 38 09.6**	**+2.0**
	baz=239						
CHN1				*e*S	**Sn**	**22 38 38.9**	**+2.6**
	baz=239						
JOGS	**Gusukube**	**2.45**	**82**	*e*S	**Sn**	**22 38 39.1**	**+1.2**
ECL	**Taimali**	**2.46**	**222**	*e*P	**Pn**	**22 38 09.2**	**+0.4**
	baz=222						
ECL				*e*S	**Sn**	**22 38 37.0**	**-1.2**
	baz=222						
SSD	**Sandimen**	**2.57**	**229**	*e*P	**Pn**	**22 38 11.8**	**+1.7**
	baz=229						
LAY	**Lan-yu**	**2.63**	**205**	⇓*i*P	**Pn**	**22 38 11.3**	**+0.2**
	baz=205						
LAY				*e*S	**Sn**	**22 38 39.0**	**-3.3**
	baz=205						
SCZT	**Fangliau**	**2.84**	**224**	*e*P	**Pn**	**22 38 15.8**	**+2.1**
	baz=224						
TWP	**Hsiaoliuchiu**	**3.02**	**227**	*e*P	Pn	22 38 20.9	+4.7
	baz=227						
HEN	**Hengchun**	**3.05**	**217**	*e*P	**Pn**	**22 38 18.2**	**+1.6**
	baz=218						
HEN				*e*S	**Sn**	**22 38 52.8**	**+0.7**
	baz=218						
TSEB	**Hengchuen, Pin**	**3.05**	**214**	*e*P	**Pn**	**22 38 18.2**	**+1.7**
	baz=215						
TWK1	**Hengchun**	**3.06**	**216**	*e*P	**Pn**	**22 38 17.6**	**+0.9**
	baz=216						
KNM	**Kinmen**	**3.92**	**270**	*e*P	**Pn**	**22 38 29.8**	**+1.5**
	baz=269						
JKE	**Kume jima 2**	**4.11**	**62**	P	**Pn**	**22 38 32.6**	**+1.7**
JKE				eS	**Sn**	**22 39 19.0**	**+1.1**
JOW	**Kunigami**	**5.53**	**63**	P	**Pn**	**22 38 49.9**	**-0.3**
JMZ	**Minamidaito 2**	**7.81**	**78**	P	**Pn**	**22 39 18.6**	**-2.5**
JMZ				eS	Sn	22 40 37.4	-11
KSRS	**Korea Array**	**13.70**	**18**	P	**P**	**22 40 44.0**	**-1.9**
	0.2nm,0.3s,baz=199,slow=12,SNR=16						
USRK	**Ussuriysk Arra**	**21.11**	**19**	P	**P**	**22 42 05.7**	**-1.5**
	0.8nm,0.7s,baz=217,slow=9.3,SNR=4.0						
SONM	**Songino Array**	**26.70**	**335**	P	**P**	**22 43 00.0**	**-0.6**

AFI	**Afiamalu**	**3.59**	**19**	*e*Pn	**Pn**	**23 04 07.8**	**-2.8**
AFI				*e*Sn	**Sn**	**23 04 54.0**	**+1.8**
AFI	**Afiamalu**	**3.59**	**19**	Pn	**Pn**	**23 04 08.1**	**-2.5**
	9.1nm,0.3s,baz=32,slow=16,SNR=7.4						
AFI				Sn	**Sn**	**23 04 49.1**	**-3.1**
	10.0nm,0.3s,baz=119,slow=19,SNR=4.2						
RAR	**Rarotonga**	**13.07**	**109**	LR	LR	23 10 29.3	
	comp=Z,350nm,19.0s,baz=268,slow=34						
DZM	**Mont Dzumac**	**19.92**	**253**	*e*LR	LR	23 12 49.5	
	371nm,25.8s						
DZM	**Mont Dzumac**	**19.92**	**253**	LR	LR	23 13 28.6	
	comp=Z,70nm,19.1s,baz=77,slow=31						
PPT2	**Papeete2**	**22.34**	**94**	*e*LR	LR	23 12 56.4	
	452nm,28.2s						
PPT	**Papeete**	**22.34**	**94**	LR	LR	23 14 45.8	
	comp=Z,279nm,19.2s,baz=206,slow=31						
URZ	**Urewera**	**22.59**	**201**	*e*P	**P**	**23 08 13.1**	**-2.0**
	28nm,0.9s						
URZ	**Urewera**	**22.59**	**201**	P	**P**	**23 08 13.0**	**-2.1**
	27nm,0.9s,baz=1.8,slow=6.2,SNR=15						
TBI	**Tubuai**	**22.85**	**109**	*e*LR	LR	23 13 14.4	
	471nm,31.0s						
HNR	**Honiara**	**27.44**	**283**	LR	LR	23 18 29.4	
	comp=Z,132nm,18.8s,baz=121,slow=33						
RPZ	**Rata Peaks**	**29.57**	**204**	P	**P**	**23 09 18.4**	**-0.8**
RPZ	**Rata Peaks**	**29.57**	**204**	P	**P**	**23 09 18.4**	**-0.8**
	8.6nm,0.9s,baz=50,slow=7.9,SNR=2.4						
RKT	**Rikitea**	**36.07**	**106**	*e*LR	LR	23 19 21.6	
	248nm,31.0s						
STKA	**Stephens Creek**	**43.45**	**242**	*e*P	**P**	**23 11 16.4**	**-1.1**
STKA	**Stephens Creek**	**43.45**	**242**	P	**P**	**23 11 16.1**	**-1.4**
	2.9nm,0.8s,baz=60,slow=9.1,SNR=5.0						
STKA				LR	LR	23 27 55.4	
	comp=Z,129nm,19.2s,baz=27,slow=34						
WRAB	**Tennant Creek**	**49.80**	**258**	*e*P	**P**	**23 12 06.4**	**-1.1**
WRA	**Warramunga Arr**	**49.81**	**258**	P	**P**	**23 12 06.6**	**-1.0**
WRA	**Warramunga Arr**	**49.81**	**258**	P	**P**	**23 12 06.6**	**-1.0**
	2.1nm,0.6s,baz=95,slow=8.5,SNR=8.4						
AS31	**Alice Springs**	**49.91**	**253**	*e*P	**P**	**23 12 07.7**	**-0.7**
ASAR	**Alice Springs**	**49.91**	**253**	P	**P**	**23 12 07.7**	**-0.7**
ASAR				PcP	**PcP**	**23 13 29.8**	**+1.3**
ASAR	**Alice Springs**	**49.91**	**253**	P	**P**	**23 12 07.7**	**-0.7**
	11nm,0.7s,baz=89,slow=8.8,SNR=98						
ASAR				PcP	**PcP**	**23 13 29.8**	**+1.3**
	1.0nm,0.8s,baz=103,slow=4.1,SNR=2.8						
FITZ	**Fitzroy Crossi**	**58.21**	**259**	*e*P	**P**	**23 13 09.1**	**+0.2**
FX1	**Attu Island--F**	**70.93**	**351**	LR	LR	23 42 04.8	
	comp=Z,184nm,19.0s,baz=347,slow=33						
NVAR	**Mina Array Bea**	**75.50**	**41**	P	**P**	**23 15 00.2**	**+1.4**
NVAR	**Mina Array Bea**	**75.50**	**41**	P	**P**	**23 15 00.2**	**+1.4**
	1.2nm,0.9s,baz=239,slow=8.1,SNR=5.0						
KSRS	**Korea Array**	**77.80**	**316**	LR	LR	23 46 21.9	
	comp=Z,84nm,19.5s,baz=176,slow=33						
ANMO	**Albuquerque**	**81.74**	**50**	P	**P**	**23 15 34.7**	**+1.4**
ANMO	**Albuquerque**	**81.74**	**50**	P	**P**	**23 15 34.7**	**+1.4**
	0.5nm,0.3s,baz=284,slow=4.2,SNR=3.6						
PDAR	**Pinedale Array**	**83.43**	**42**	P	**P**	**23 15 43.2**	**+1.3**
PDAR	**Pinedale Array**	**83.43**	**42**	P	**P**	**23 15 43.2**	**+1.3**
	0.3nm,0.5s,baz=224,slow=5.0,SNR=4.0						
COLA	**College**	**84.17**	**11**	*e*P	**P**	**23 15 44.1**	**-0.7**
	5.3nm,0.6s						
ILAR	**Eielson Array**	**84.25**	**11**	P	**P**	**23 15 46.6**	**+1.3**
ILAR	**Eielson Array**	**84.25**	**11**	P	**P**	**23 15 46.6**	**+1.3**
	0.6nm,0.7s,baz=224,slow=5.0,SNR=10						
PLCA	**Paso Flores**	**87.94**	**132**	LR	LR	23 47 31.0	
	comp=Z,96nm,18.0s,baz=270,slow=30						
CMAR	**Chiang Mai Arr**	**93.58**	**288**	P	**P**	**23 16 33.4**	**+2.5**
CMAR	**Chiang Mai Arr**	**93.58**	**288**	P	**P**	**23 16 33.4**	**+2.5**
	0.4nm,0.3s,baz=100,slow=2.3,SNR=4.2						
KMBO	**Kilima Mbogo**	**145.01**	**241**	*e*PKPdf	**PKPdf**	**23 22 53.0**	**+0.3**
KMBO				PKP	**PKPdf**	**23 22 53.8**	**+1.0**
KMBO	**Kilima Mbogo**	**145.01**	**241**	PKP	**PKPdf**	**23 22 53.8**	**+1.0**
	1.9nm,0.9s,baz=108,slow=4.5,SNR=7.0						
CLL	**Collm**	**145.76**	**353**	*i* PKPbc	**PKPab**	**23 22 54.7**	**+1.3**
	comp=Z,19nm,1.1s						
CLL				*i*		23 23 05.6	
BRG	**Berggiesshubel**	**146.07**	**352**	*e*P	**PKPab**	**23 22 56.3**	**+1.7**
	comp=Z,14nm,1.4s						
BRG				*e*		23 23 15.1	
	comp=Z,26nm,1.9s						
BRTR	**Keskin Array B**	**147.87**	**319**	PKPbc	**PKPab**	**23 23 02.2**	**0.0**
BRTR	**Keskin Array B**	**147.87**	**319**	PKPbc	**PKPab**	**23 23 02.2**	**0.0**
	comp=Z,1.3nm,0.9s,baz=56,slow=0.5,SNR=5.5						
GERES	**GERESS Array B**	**148.09**	**352**	PKPbc	**PKPab**	**23 23 02.2**	**-0.5**
GERES	**GERESS Array B**	**148.09**	**352**	PKPbc	**PKPab**	**23 23 02.2**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=358,slow=2.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**173.41**	**128**	PKPab	**PKPab**	**23 24 51.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**173.41**	**128**	PKPab	**PKPab**	**23 24 51.3**	**-1.7**
	comp=Z,1.0nm,1.0s,baz=258,slow=3.8,SNR=4.2						

KRSC 10 23:19:30.3±6.5, 49.82N×156.92E, h10km±10km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.01**	**329**	P	Pb	23 19 49.8	0.0
SKR				S	Sg	23 20 02.8	+0.1
PAU	**Pauzhetka**	**1.65**	**358**	P	Pn	23 20 00.0	+0.7
PAU				S	Sg	23 20 22.8	-0.6
MTVR	**Mutnovka**	**2.78**	**16**	P	Pn	23 20 16.2	+1.1
MTVR				S	Sb	23 20 51.8	-2.8
RUS	**Russkaya**	**2.80**	**20**	P	Pn	23 20 14.8	-0.3
RUS				S	Sn	23 20 50.9	+1.9
UGLR	**Uglovaya**	**3.60**	**19**	P	Pn	23 20 28.3	+2.1
AVH	**Avacha**	**3.63**	**18**	P	Pn	23 20 28.4	+1.7
KOK	**Koryaka**	**3.64**	**16**	P	Pn	23 20 28.8	+2.0
KRER	**Koryakskii**	**3.67**	**17**	P	Pn	23 20 28.5	+1.1
SDLR	**Sedlovina**	**3.67**	**19**	P	Pn	23 20 28.5	+1.2
NLC	**Nalytchevo**	**3.68**	**23**	S	Sn	23 21 11.2	+0.6
KRX	**Arik**	**3.71**	**16**	P	Pn	23 20 29.4	+1.6
GNL	**Ganaly**	**3.93**	**9**	P	Pn	23 20 32.4	+1.6
MKZ	**Mys Kozlova**	**5.59**	**30**	P	Pn	23 20 53.4	0.0
MKZ				S	Sn	23 21 57.5	-0.1

IDC 10 23:35:12.5±16.0, 12.67S×167.26E, h270km±142km, mb3.3/3, mb1 3.4/3, mb1mx3.0/19, mbtmp3.3/3, Error ellipse: s-maj=151.9km s-min=50.6km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.44**	**246**	P	P	23 41 26.4	-0.2
	0.1nm,0.3s,baz=70,slow=9.6,SNR=3.0						
ILAR	**Eielson Array**	**84.58**	**18**	P	P	23 47 15.2	-0.1
	1.0nm,0.6s,baz=234,slow=5.2,SNR=20						
MKAR	**Makanchi Array**	**95.71**	**317**	P	P	23 48 07.8	-0.1
	0.7nm,0.8s,baz=91,slow=6.3,SNR=4.0						
ARCES	**ARCESS Array B**	**118.27**	**346**	PKP	PKPdf	23 53 27.6	+0.5
	0.7nm,0.5s,baz=67,slow=2.1,SNR=12						
FINES	**FINESS Array B**	**123.81**	**339**	PKP	PKPdf	23 53 38.6	+0.7
	2.1nm,1.1s,baz=67,slow=4.7,SNR=4.3						
ESDC	**Sonseca Array**	**152.01**	**345**	PKPbc	PKPbc	23 54 34.0	-2.1
	0.3nm,0.5s,baz=352,slow=2.8,SNR=3.2						

MEX 10 23:38:09.3±0.6, 15.57N×95.96W, h5km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.24**	**325**	*i* P	Pg	23 38 13.3	-0.8
HUIG				*i* S	Sg	23 38 17.5	+0.1
VHO	**Vista Hermosa**	**1.67**	**334**	*i* P	Pn	23 38 36.0	-3.5
VHO				*i* S	Sn	23 38 56.8	-4.8
PNIG	**Pinotepa**	**2.24**	**292**	*i* P	Pn	23 38 44.2	-2.9
PNIG				*i* S	Sn	23 39 10.2	-4.9
PCIG		**2.65**	**87**	*i* P	Pn	23 38 44.3	-8.4
PCIG				*i* S	Sn	23 39 14.8	-10

ISCJB ***11*** *00:10:32.2±0.3, 17.98S±0.06×178.52W±0.06, h579km, mb4.5/38, Error ellipse: s-maj=9.1km s-min=5.9km az=143.9*
IDC ***11*** *00:10:32.4±1.7, 18.02S×178.49W, h568km±20km, mb3.6/13, mb1 3.8/15, mb1mx3.7/23, mbtmp4.5/15, Error ellipse: s-maj=19.6km s-min=11.8km az=146.0*
BJI ***11*** *00:10:32.5, 18.00S×178.40W, h594km, mB4.8/13, mb4.6/18*
NEIC ***11*** *00:10:33.8±1.2, 18.00S×178.40W, h595km±8km, mb4.8/23, Error ellipse: s-maj=25.2km s-min=17.1km az=132.0*
AUST ***11*** *00:10:33.8±0.2, 17.77S×178.46W, h590km±5km, Error ellipse: s-maj=7.1km s-min=5.6km az=153.0*
ISC 11 00:10:33.0±0.4, 18.03S±0.07×178.38W±0.07, h579km, n181,σ1s51/200, mb4.6/38, 34C-20D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**274**	*e*P	**P**	**00 11 54.8**	**+1.8**
AFI	**Afiamalu**	**7.56**	**58**	P	**P**	**00 12 25.8**	**-1.7**
	4.6nm,0.3s,baz=113,slow=15,SNR=2.9						
NIUE	**Niue**	**8.09**	**99**	⇑P	**P**	**00 12 34.7**	**+2.2**
	baz=8.2,SNR=4.8						
DZM	**Mont Dzumac**	**14.81**	**252**	P	**P**	**00 13 39.4**	**-0.8**
	1.3nm,0.3s,baz=88,slow=16,SNR=12						
KNTN	**Kanton**	**16.50**	**24**	*e*P	**P**	**00 13 54.1**	**-2.0**
	1um,2.8s						
OUZ	**Omahuta**	**18.55**	**201**	*e*P	**P**	**00 14 17.8**	**+3.4**
	28nm,0.7s						
URZ	**Urewera**	**20.54**	**190**	*e*P	**P**	**00 14 30.9**	**-1.5**
	13nm,0.9s						
URZ	**Urewera**	**20.54**	**190**	P	**P**	**00 14 31.4**	**-1.0**
	11nm,0.7s,baz=95,slow=3.0,SNR=9.1						
BKZ	**Black Stump Fm**	**21.53**	**191**	*e*P	**P**	**00 14 40.5**	**-0.9**
	39nm,1.7s						
KHZ	**Kahutara**	**25.27**	**194**	*e*P	**P**	**00 15 13.9**	**-0.5**
	202nm,2.2s						
EIDS	**Eidsvold**	**29.25**	**250**	*e*P	**P**	**00 15 48.7**	**-0.7**
	15nm,0.8s						
EIDS	**Eidsvold**	**29.25**	**250**	⇑P	**P**	**00 15 49.0**	**-0.5**
	baz=29,SNR=4.8						
ARMA	**Armidale**	**29.90**	**240**	*e*P	**P**	**00 15 56.0**	**+0.9**
	18nm,0.8s						
ARMA	**Armidale**	**29.90**	**240**	⇑P	**P**	**00 15 56.1**	**+1.0**
	baz=30,SNR=13						
WHZ	**Wether Hill Ro**	**30.02**	**199**	*e*P	**P**	**00 15 56.5**	**+0.7**
	179nm,2.2s						
RMQ	**Roma**	**31.48**	**249**	⇑P	**P**	**00 16 08.9**	**+0.3**
	baz=32,SNR=9.7						
CNB	**Canberra Magne**	**33.38**	**233**	P	**P**	**00 16 25.8**	**+1.2**
	baz=34,SNR=19						
CTA	**Charters Tower**	**33.45**	**261**	⇑P	**P**	**00 16 24.6**	**-0.7**
	baz=33						
CTAO	**Charters Tower**	**33.45**	**261**	*e*P	**P**	**00 16 24.4**	**-0.9**
	17nm,0.8s						
CAN	**Canberra**	**33.65**	**233**	⇑P	**P**	**00 16 27.9**	**+1.0**
	baz=34						
YNG	**Young**	**33.74**	**235**	⇓P	**P**	**00 16 28.5**	**+0.9**
	baz=34						
PMG	**Port Moresby**	**34.50**	**280**	*e*P	**P**	**00 16 34.1**	**-0.1**
	47nm,0.8s						
PMG	**Port Moresby**	**34.50**	**280**	⇓P	**P**	**00 16 34.1**	**-0.1**
	baz=34,SNR=4.5						
PMG				⇓P	**P**	**00 16 34.1**	**-0.1**
	baz=34,SNR=4.5						
PMG				⇓P	**P**	**00 16 34.1**	**-0.1**
	baz=34,SNR=4.5						
CMSA	**Cobar Meteorol**	**35.11**	**241**	P	**P**	**00 16 39.4**	**+0.4**
	baz=35,SNR=55						
QLP	**Quilpie**	**35.52**	**249**	P	**P**	**00 16 42.2**	**-0.3**
	baz=36,SNR=33						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**00 16 56.7**	**+1.3**
	baz=37,SNR=6.4						
COEN	**Coen**	**37.13**	**271**	*e*P	**P**	**00 16 55.3**	**-0.6**
	183nm,0.8s						
COEN	**Coen**	**37.13**	**271**	P	**P**	**00 16 55.7**	**-0.2**
	baz=37,SNR=41						
STKA	**Stephens Creek**	**38.59**	**241**	*e*P	**P**	**00 17 08.3**	**+0.8**
	5.0nm,0.6s						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**00 17 08.3**	**+0.8**
	23nm,0.5s,baz=94,slow=9.9,SNR=81						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**00 17 08.3**	**+0.8**
	baz=39,SNR=53						
ARPS	**Mount Arapiles**	**39.60**	**234**	⇓P	**P**	**00 17 16.2**	**+0.7**
	baz=40						
QIS	**Mount Isa**	**39.66**	**259**	P	**P**	**00 17 15.2**	**-1.1**
	baz=40,SNR=4.1						
HTT	**Hallett**	**41.11**	**240**	P	**P**	**00 17 28.2**	**+0.6**
	baz=41,SNR=14						
JAY	**Jayapura**	**42.96**	**286**	P	**P**	**00 17 42.2**	**-0.2**
	baz=43,SNR=6.2						
BBOO	**Buckleboo**	**43.37**	**241**	*e*P	**P**	**00 17 45.4**	**+0.1**
	194nm,0.5s						
BBOO	**Buckleboo**	**43.37**	**241**	P	**P**	**00 17 45.5**	**+0.2**
	baz=43,SNR=45						
WR9	**Warramunga Arr**	**44.47**	**260**	⇓P	**P**	**00 17 52.7**	**-1.3**
	baz=44						
WR6	**Warramunga Arr**	**44.53**	**260**	⇑P	**P**	**00 17 53.0**	**-1.4**
	baz=44						
WR5	**Warramunga Arr**	**44.55**	**260**	⇓P	**P**	**00 17 53.3**	**-1.3**
	baz=44						
WRAB	**Tennant Creek**	**44.62**	**260**	*e*P	**P**	**00 17 52.7**	**-2.5**
	21nm,0.6s						
WC4	**Warramunga Arr**	**44.63**	**260**	⇑P	**P**	**00 17 54.0**	**-1.2**
	baz=45						
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**00 17 53.9**	**-1.4**
	17nm,0.7s,baz=95,slow=7.0,SNR=95						
WRA				PcP	**PcP**	**00 19 25.3**	**0.0**
	2.6nm,0.5s,baz=93,slow=2.8,SNR=6.0						
AS08	**Alice Springs**	**44.73**	**254**	⇑P	**P**	**00 17 55.6**	**-0.4**
	baz=45						
AS01	**Alice Springs**	**44.74**	**254**	*e*P	**P**	**00 17 55.4**	**-0.6**
AS09	**Alice Springs**	**44.75**	**254**	⇑P	**P**	**00 17 55.7**	**-0.4**
	baz=45						
AS16	**Alice Springs**	**44.76**	**254**	⇓P	**P**	**00 17 55.8**	**-0.4**
	baz=45						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**00 17 55.9**	**-0.5**
	114nm,0.6s,baz=88,slow=8.4,SNR=1351						
ASAR				PcP	**PcP**	**00 19 25.6**	**-0.2**
	3.9nm,0.6s,baz=103,slow=3.1,SNR=6.2						
ASAR				S	**S**	**00 23 47.1**	**-5.2**
	1.0nm,1.0s,baz=87,slow=13,SNR=7.0						
KDU	**Kakadu**	**47.58**	**269**	⇑P	**P**	**00 18 16.6**	**-0.9**
	baz=48,SNR=25						
MTN	**Manton Dam**	**48.82**	**269**	P	**P**	**00 18 25.8**	**-0.9**
	baz=49,SNR=5.8						
WRKA	**Warakurna**	**49.83**	**252**	⇑P	**P**	**00 18 33.8**	**-0.3**
	baz=50,SNR=152						
FORT	**Forrest**	**49.98**	**245**	*e*P	**P**	**00 18 34.3**	**-0.8**
	34nm,0.6s						
FORT	**Forrest**	**49.98**	**245**	⇑P	**P**	**00 18 34.2**	**-0.8**
	baz=50,SNR=29						
KNRA	**Kununurra**	**50.50**	**264**	⇑P	**P**	**00 18 38.2**	**-0.8**
	baz=50,SNR=9.5						
SWI	**Sorong**	**52.29**	**283**	⇑P	**P**	**00 18 51.3**	**-0.7**
	baz=52						
FITZ	**Fitzroy Crossi**	**53.03**	**261**	*e*P	**P**	**00 18 56.6**	**-0.6**
	30nm,1.6s						
FITZ	**Fitzroy Crossi**	**53.03**	**261**	⇑P	**P**	**00 18 56.8**	**-0.5**
	baz=53,SNR=4.8						
KMBL	**Kambalda**	**55.28**	**244**	⇑P	**P**	**00 19 11.9**	**-1.0**
	baz=55						
MBWA	**Marble Bar**	**58.07**	**256**	*e*P	**P**	**00 19 31.1**	**-1.0**
	65nm,1.5s						
MEEK	**Meekatharra**	**58.41**	**249**	⇑P	**P**	**00 19 33.3**	**-1.0**
	baz=58,SNR=6.7						
KLBR	**Kalbarrin**	**58.80**	**244**	⇑P	**P**	**00 19 36.0**	**-0.8**
	baz=59,SNR=20						
BLDU	**Ballidu**	**59.75**	**245**	⇑P	**P**	**00 19 42.2**	**-1.0**
	baz=60,SNR=7.5						
MORW	**Morawa**	**60.46**	**246**	P	**P**	**00 19 47.1**	**-0.7**
	baz=60,SNR=7.9						
GIRL	**Giralia**	**62.88**	**253**	P	**P**	**00 20 04.5**	**+0.7**
	baz=63,SNR=3.7						
MJAR	**Matsushiro Arr**	**68.01**	**323**	P	**P**	**00 20 33.8**	**-1.7**
	4.3nm,0.7s,baz=165,slow=7.2,SNR=7.8						
UGM	**Wanagama**	**69.67**	**268**	P	**P**	**00 20 45.3**	**-0.6**
	baz=70,SNR=12						
KSM	**Kuching**	**72.72**	**277**	*e*P	**P**	**00 21 02.2**	**-1.5**
	25nm,0.8s						
KSRS	**Korea Array**	**74.80**	**318**	P	**P**	**00 21 15.1**	**+0.2**
	1.3nm,0.6s,baz=125,slow=6.9,SNR=3.2						
USRK	**Ussuriysk Arra**	**76.72**	**326**	P	**P**	**00 21 26.9**	**+1.6**
	1.0nm,0.5s,baz=122,slow=3.3,SNR=3.4						
MDJ	**Mudanjiang**	**78.30**	**325**	P	**P**	**00 21 34.7**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,19nm,2.8s						
YBH	**Yreka Blue Hor**	**78.60**	**39**	P	**P**	**00 21 36.9**	**+1.3**
	1.4nm,0.5s,baz=114,slow=2.3,SNR=7.7						
NV01	**Mina Array Sit**	**79.49**	**44**	*e*P	**P**	**00 21 41.1**	**+0.5**
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**00 21 42.0**	**+1.3**
	1.8nm,0.8s,baz=230,slow=8.9,SNR=14						
QIZ	**Qiongzhong**	**79.52**	**294**	P	**P**	**00 21 40.8**	**-0.1**
QIZ				pP	**pP**	**00 23 44.5**	**+1.6**
QIZ				sP	**sP**	**00 24 43.1**	**+1.2**
QIZ				S	**S**	**00 30 55.4**	**-0.6**
QIZ				ScS	**ScS**	**00 31 10.7**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,62nm,4.2s						
CN2	**Changchun**	**80.13**	**322**	*e*P	**P**	**00 21 44.3**	**+0.8**
MOD	**Modoc**	**80.16**	**40**	*e*P	**P**	**00 21 43.6**	**-0.4**
	38nm,2.2s						
I07A	**Izee**	**81.88**	**39**	*e*P	**P**	**00 21 52.8**	**+0.1**
	3.3nm,0.8s						
PSI	**Prapat**	**83.92**	**275**	P	**P**	**00 22 02.0**	**-1.5**
	5.3nm,0.6s,baz=133,slow=1.2,SNR=7.5						
PSI	**Prapat**	**83.92**	**275**	⇑P	**P**	**00 22 01.8**	**-1.8**
	baz=84						
GYA	**Guiyang**	**85.11**	**300**	*e*P	**P**	**00 22 09.3**	**+0.2**
GYA				pP	**pP**	**00 24 16.8**	**+3.4**
GYA				sP	**sP**	**00 25 15.0**	**+3.2**
GYA				PP	**PP**	**00 25 39.5**	**+1.9**
GYA				SKS	**SKSac**	**00 31 35.4**	**-4.0**
GYA				S	**S**	**00 31 49.9**	**-1.6**
GYA				sS	**sS**	**00 35 35.0**	**+1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
IL1	**Eielson Array**	**86.00**	**13**	*e*P	**P**	**00 22 11.0**	**-1.3**
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**00 22 15.8**	**+2.3**
	0.9nm,0.7s,baz=216,slow=6.5,SNR=12						
XAN	**Xi'an**	**86.35**	**307**	P	**P**	**00 22 15.0**	**+0.3**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,30nm,8.7s						
HHC	**Hu-ho-hao-te**	**87.37**	**314**	*e*P	P	00 22 16.2	-3.3
HHC				pP	pP	00 24 27.8	+3.1
HHC				sP	sP	00 25 26.7	+3.9
HHC				PP	**PP**	**00 25 57.5**	**+2.3**
HHC				S	**SKKSac**	**00 32 07.2**	**+3.0**
HHC				sS	sS	00 35 57.6	+2.3
HHC				SS	**SS**	**00 38 17.2**	**+1.8**
HHC				pmax	pmax		
	comp=Z,22nm,1.4s						
HHC				pmax	pmax		
	comp=Z,240nm,7.7s						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**00 22 20.4**	**+0.6**
	0.9nm,0.6s,baz=223,slow=4.3,SNR=8.6						
KMI	**Kunming**	**87.91**	**297**	P	**P**	**00 22 23.8**	**+1.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ISCO	**Idaho Springs**	**88.79**	**47**	*e*P	**P**	**00 22 23.9**	**-2.5**
	7.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**88.95**	**290**	P	**P**	**00 22 28.1**	**+1.0**
	1.4nm,0.4s,baz=106,slow=2.9,SNR=10						
SYO	**Syowa Base**	**89.05**	**193**	⇑*e*P	**P**	**00 22 25.9**	**-0.7**
CD2	**Chengdu**	**89.15**	**303**	*e*P	**P**	**00 22 28.8**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CD2				pmax	pmax		
	comp=Z,100nm,8.2s						
SNAA	**Sanae**	**90.48**	**179**	*e*P	**P**	**00 22 33.6**	**+0.3**
LZH	**Lanzhou**	**90.98**	**308**	*e*P	**P**	**00 22 36.9**	**+0.5**
LZH				pP	**pP**	**00 24 47.2**	**+4.7**
LZH				sP	sP	00 25 46.2	+6.0
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH				pmax	pmax		
	comp=Z,96nm,4.0s						
VNA2	**Neumayer--Watz**	**91.06**	**177**	*e*P	**P**	**00 22 37.8**	**+1.9**
VNA1	**Neumayer--Stat**	**91.29**	**177**	*e*P	**P**	**00 22 38.6**	**+1.6**
SONM	**Songino Array**	**93.66**	**319**	P	**P**	**00 22 47.6**	**-0.8**
	0.4nm,1.0s,baz=133,slow=5.2,SNR=4.0						
GTA	**Gaotai**	**95.13**	**310**	*e*P	**P**	**00 22 55.1**	**-0.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**108.34**	**322**	PKiKP	**PKiKP**	**00 27 53.6**	**-2.3**
	0.6nm,0.5s,baz=100,slow=3.2,SNR=3.4						
MK01	**Makanchi Array**	**109.22**	**314**	*e*PKiKP	**PKiKP**	**00 27 56.6**	**-1.3**
MKAR	**Makanchi Array**	**109.23**	**314**	PKiKP	**PKiKP**	**00 27 56.5**	**-1.3**
	0.8nm,0.5s,baz=200,slow=0.5,SNR=11						
KSH	**Kashi**	**113.17**	**306**	PKP	PKiKP	00 28 00.2	-5.5
KSH				PP	**PP**	**00 29 12.2**	**+5.2**
KSH				sPKP		00 31 20.3	
KSH				PKS	**PKSdf**	**00 31 40.1**	**-2.4**
KSH				SKS	**SKSdf**	**00 34 20.2**	**-3.3**
KSH				SKKS	**SKKSac**	**00 35 02.1**	**-6.5**
KSH				SS	**SS**	**00 44 12.4**	**+3.2**
KSH				AMB	AMB		
	comp=Z,240nm,6.7s						
BVAR	**Borovoye Array**	**116.95**	**321**	PKP	**PKPdf**	**00 28 11.4**	**-1.0**
	1.8nm,0.4s,baz=118,slow=2.8,SNR=7.7						
ARCES	**ARCESS Array B**	**126.43**	**350**	PKP	**PKPdf**	**00 28 29.0**	**-1.1**
	0.8nm,0.5s,baz=358,slow=0.4,SNR=9.4						
FINES	**FINESS Array B**	**133.31**	**344**	PKP	**PKPdf**	**00 28 43.0**	**-0.3**
	1.5nm,0.7s

NPS	Neapolis	152.64	314	*e*P		PKPbc	00 29 25.0	-0.1
LTK	Loutraki	152.69	321	*e*P		PKPbc	00 29 23.0	-2.1
DSF	Desfina	152.70	322	*e*P		PKPbc	00 29 23.0	-2.2
EVR	Evrytania	152.76	324	*e*P		PKPbc	00 29 25.0	-0.4
LAST	Lasithi	152.79	314	*e*P		PKPbc	00 29 25.0	-0.5
DID	Didima	152.87	320	*e*P		PKPbc	00 29 23.5	-2.0
EFP	Efpalio	153.04	323	*e*P		PKPbc	00 29 25.5	-0.3
IGT	Igoumenitsa	153.12	327	*e*P		PKPbc	00 29 25.0	-1.0
GUR	Goura	153.12	322	*e*P		PKPbc	00 29 25.0	-1.2
IDI	Anoyia	153.12	314	*e*P		PKPbc	00 29 26.0	-0.2
KEK	Kerkira	153.26	328	*e*P		PKPbc	00 29 24.0	-2.3
VAM	Vamos	153.52	315	*e*P		PKPbc	00 29 27.0	0.0
RLS	Riolos of Patr	153.55	323	*e*P		PKPbc	00 29 23.5	-3.4
KARN	Karanos	153.71	316	*e*P		PKPbc	00 29 26.0	-1.4
ANKY	Antikythira Is	153.84	317	*e*P		PKPbc	00 29 26.0	-1.6
ITM	Ithomi	153.87	321	*e*P		PKPbc	00 29 26.5	-1.2
VLS	Valsamata	153.96	324	*e*P		PKPdf	00 29 21.5	+2.2
PYL	PYLOS	154.17	321	*e*P		PKPbc	00 29 26.5	-1.8
TORD	Torodi Ar. Bea	175.15	181	PKPab		PKPab	00 31 17.6	-0.1
	comp=Z,0.6nm,0.9s,baz=184,slow=3.7,SNR=3.7							

BJI ***11*** *00:17:22.9, 60˚.68N× 167˚.13E, h10km, mB5.0/15, mb4.7/28, Ms4.6/12, Ms7 4.4/12*
MOS ***11*** *00:17:25.9± 0.8, 60˚.87N× 166˚.57E, h11km, mb4.8/30, Error ellipse: s-maj=12.9km s-min=5.6km az=85.2*
IDC ***11*** *00:17:26.0± 0.4, 60˚.81N× 166˚.61E, h0km, mb4.2/26, mb1 4.4/27, mb1mx4.4/34, mbtmp4.3/27, ML3.9/1, MS3.4/2, Ms1 3.5/2, ms1mx3.1/35, Error ellipse: s-maj=11.8km s-min=10.4km az=13.0*
KRSC ***11*** *00:17:26.2± 3.8, 60˚.74N× 167˚.09E, h6km± 8km, ML4.9*
NEIC ***11*** *00:17:27.2± 0.2, 60˚.79N× 166˚.61E, h10km, mb4.7/35, Error ellipse: s-maj=5.8km s-min=3.3km az=178.0*
ISCJB ***11*** *00:17:28.3± 0.8, 60˚.86N± 0˚.04× 166˚.63E± 0˚.04, h28km± 6km, mb4.5/67, MS4.1/5, Error ellipse: s-maj=6.4km s-min=3.2km az=164.4*

ISC 11 00:17:28.0±0.6**, 60˚.83N**±0˚.06×**166˚.72E**±0˚.04**, h14**km±3km**, n407,** σ0**93**/429**, mb4.6**/68**, MS4.2**/5**, 105C-101D, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TILK	**Tilichiki**	**0.48**	**216**	*e*P		**Pg**	**00 17 37.6**	**+0.2**
TILK				*i* S		**Sb**	**00 17 45.1**	**+0.2**
OSSR	**Ossora**	**2.42**	**231**	*e*P		**Pn**	**00 18 07.0**	**0.0**
OSSR				*i* S		**Sb**	**00 18 41.3**	**+0.4**
KBG	**Krutoberegovo**	**5.04**	**206**	PN		**Pn**	**00 18 44.3**	**+1.3**
KBG	**Krutoberegovo**	**5.04**	**206**	*e*P		**Pn**	**00 18 44.3**	**+1.3**
SMKR	**Semkarok**	**5.06**	**215**	*e*P		**Pn**	**00 18 45.7**	**+2.3**
KBTR	**Krutoberegovo**	**5.06**	**205**	PN		**Pn**	**00 18 44.4**	**+1.1**
KBTR	**Krutoberegovo**	**5.06**	**205**	*e*P		**Pn**	**00 18 44.4**	**+1.1**
SRKR	**Sorokina**	**5.09**	**217**	*e*P		**Pn**	**00 18 46.0**	**+2.3**
BDR	**Baidarnaya**	**5.15**	**216**	*e*P		**Pn**	**00 18 46.4**	**+1.8**
BKI	**Bering**	**5.66**	**184**	PN		**Pn**	**00 18 51.9**	**+0.5**
BKI	**Bering**	**5.66**	**184**	*e*P		**Pn**	**00 18 51.9**	**+0.5**
SRDR	**Sredinnyy**	**5.82**	**222**	*e*P		**Pn**	**00 18 56.4**	**+2.6**
KMNR	**Kamenistaya**	**6.12**	**217**	*e*P		**Pn**	**00 18 59.4**	**+1.4**
TUMR	**Tumrok**	**6.56**	**215**	*e*P		Pn	00 19 08.0	+4.0
KZV	**Kizimen**	**6.67**	**214**	*e*P		**Pn**	**00 19 08.7**	**+3.2**
MKZ	**Mys Kozlova**	**6.83**	**205**	PN		**Pn**	**00 19 08.9**	**+1.3**
MKZ	**Mys Kozlova**	**6.83**	**205**	*e*P		**Pn**	**00 19 08.9**	**+1.3**
SEY	**Seymchan**	**7.09**	**294**	*e*PN		**Pn**	**00 19 10.6**	**-0.6**
GNL	**Ganaly**	**8.58**	**217**	*e*P		Pn	00 19 35.4	+3.7
NLC	**Nalytchevo**	**8.66**	**211**	PN		**Pn**	**00 19 35.1**	**+2.5**
NLC	**Nalytchevo**	**8.66**	**211**	*e*P		**Pn**	**00 19 35.1**	**+2.5**
SDLR	**Sedlovina**	**8.68**	**213**	*e*P		**Pn**	**00 19 35.3**	**+2.2**
FX1	**Attu Island--F**	**8.71**	**153**	Pn		**Pn**	**00 19 31.7**	**-1.7**
FX1	**Attu Island--F**	**8.71**	**153**	Pn		**Pn**	**00 19 31.7**	**-1.7**
	5.1nm,0.3s,baz=336,slow=8.6,SNR=40							
PETK	**Petropavlovsk-**	**9.16**	**216**	LR		LR	00 23 33.0	
	comp=Z,201nm,18.2s,baz=38,slow=40							
YAK	**Yakutsk**	**17.60**	**290**	*e*P		**P**	**00 21 34.5**	**+1.1**
YAK				*e*S		**S**	**00 24 52.5**	**-3.0**
YAK				pmax		pmax		
	comp=N,8.0nm,1.6s							
YAK				pmax		pmax		
	comp=Z,29nm,0.8s							
YAK				pmax		pmax		
	comp=E,22nm,1.3s							
YAK				pmax		pmax		
	comp=Z,18nm,0.8s							
YAK				pmax		pmax		
	comp=E,16nm,0.9s							
YAK				smax		smax		
	comp=E,101nm,3.3s							
YAK				MLR		MLR		
	comp=Z,205nm,11.0s							
YAK				MLR		MLR		
	comp=E,176nm,12.0s							
PPLA	**Purkeypile**	**19.26**	**66**	*e*P		**Pn**	**00 21 53.9**	**+1.2**
	comp=E,30nm,1.6s							
BPAW	**Bear Paw Mtn.**	**19.55**	**62**	*e*P		**Pn**	**00 21 57.0**	**+0.8**
	comp=E,9.7nm,1.2s							
COLD	**Coldfoot**	**19.56**	**53**	*e*P		**Pn**	**00 21 56.4**	**+0.2**
	comp=E,9.4nm,0.8s							
YSS	**Yuzh-Sakhalins**	**19.65**	**236**	*e*P		**P**	**00 21 55.9**	**0.0**
YSS				pmax		pmax		
	comp=Z,35nm,2.5s							
TRF	**Thorofare Moun**	**19.98**	**64**	*e*P		**Pn**	**00 22 01.4**	**0.0**
	comp=Z,15nm,0.7s							
MCK	**McKinley**	**20.51**	**63**	*e*P		**P**	**00 22 06.1**	**+0.8**
MCK				pmax		pmax		
	comp=Z,29nm,0.9s							
MCK	**McKinley**	**20.51**	**63**	*e*P		Pn	00 22 06.5	-1.0
	comp=Z,29nm,0.9s							
MCK	**McKinley**	**20.51**	**63**	*e*P		**P**	**00 22 06.1**	**+0.8**
	comp=Z,29nm,0.9s							
COLA	**College**	**20.75**	**59**⇑	*e*P		Pn	00 22 09.2	-1.0
COLA				pmax		pmax		
	comp=Z,48nm,1.0s							
COLA	**College**	**20.75**	**59**	*e*P		**P**	**00 22 07.4**	**-0.4**
	comp=Z,3.5nm,0.8s							
KDAK	**Kodiak Island**	**20.76**	**80**	*e*P		**P**	**00 22 08.0**	**+0.1**
	comp=Z,35nm,1.4s							
IL1	**Eielson Array**	**21.18**	**59**	*e*P		**P**	**00 22 11.8**	**-0.7**
ILAR	**Eielson Array**	**21.18**	**59**	P		**P**	**00 22 13.7**	**+1.2**
ILAR	**Eielson Array**	**21.18**	**59**	P		**P**	**00 22 13.7**	**+1.2**
	comp=Z,9.4nm,0.6s,baz=276,slow=11,SNR=82							
ILAR				LR		LR	00 30 48.3	
	comp=Z,118nm,18.3s,baz=305,slow=38							
PAX	**Paxson**	**22.21**	**64**	*e*P		**P**	**00 22 24.9**	**+1.2**
PAX				pmax		pmax		
	comp=Z,14nm,1.3s							
PAX	**Paxson**	**22.21**	**64**	*e*P		**P**	**00 22 24.9**	**+1.2**
	comp=Z,14nm,1.3s							
DOT	**Dot Lake**	**22.64**	**61**	*e*P		**P**	**00 22 28.1**	**0.0**
	comp=Z,11nm,0.9s							
DIV	**Divide**	**22.66**	**68**	*e*P		**P**	**00 22 28.0**	**-0.4**
	comp=Z,14nm,0.9s							
BMRM	**Bremner River**	**23.25**	**68**	*e*P		**P**	**00 22 33.8**	**-0.6**
	comp=Z,16nm,1.0s							
DAWY	**Dawson**	**24.51**	**59**	*e*P		**P**	**00 22 46.3**	**-0.1**
INK	**Inuvik**	**25.71**	**48**	*e*P		**P**	**00 22 57.1**	**-0.1**
	comp=Z,8.5nm,0.6s							
INK	**Inuvik**	**25.71**	**48**	P		**P**	**00 22 57.8**	**+0.6**
	comp=Z,5.8nm,0.5s,baz=303,slow=9.9,SNR=39							
HYT	**Haines Junctio**	**26.50**	**65**	*e*P		**P**	**00 23 04.0**	**-0.6**
MDJ	**Mudanjiang**	**27.23**	**250**	P		**P**	**00 23 09.2**	**-1.9**
MDJ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,60nm,3.9s							
VLA	**Vladivostok**	**27.35**	**246**⇑	*i*P		**P**	**00 23 10.7**	**-1.5**
VLA				*e*			00 23 54.4	
VLA				*e*			00 26 29.6	
VLA				*e*S		**S**	**00 27 51.0**	**-0.3**
VLA				pmax		pmax		
	comp=Z,33nm,1.5s							
CN2	**Changchun**	**29.78**	**254**	*e*P		**P**	**00 23 32.3**	**-1.5**
MAJO	**Matsushiro**	**30.29**	**230**	*d* iP		**P**	**00 23 38.8**	**+0.4**
MJAR	**Matsushiro Arr**	**30.29**	**230**	P		**P**	**00 23 37.6**	**-0.7**
MJAR	**Matsushiro Arr**	**30.29**	**230**	P		**P**	**00 23 37.6**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=14,slow=8.2,SNR=5.6							
DLBC	**Dease Lake**	**30.98**	**66**	*e*P		**P**	**00 23 45.0**	**+0.7**
KSRS	**Korea Array**	**33.72**	**244**	P		**P**	**00 24 09.0**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=18,slow=13,SNR=4.0							
KSAR	**Wonju Array Be**	**33.74**	**244**	P		**P**	**00 24 09.0**	**+0.3**
YKA	**Yellowknife Ar**	**35.24**	**52**	P		**P**	**00 24 21.9**	**+0.5**
YKA				PcP		**PcP**	**00 26 51.8**	**+0.1**
YKA	**Yellowknife Ar**	**35.24**	**52**	P		**P**	**00 24 21.9**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=305,slow=8.1,SNR=34							
YKA				PcP		**PcP**	**00 26 51.8**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=315,slow=3.9,SNR=7.5							
YKB5	**Yellowknife Ar**	**35.24**	**52**	*e*P		**P**	**00 24 20.9**	**-0.4**
ZAK	**Zakamensk**	**35.91**	**282**	*e*P		**P**	**00 24 25.3**	**-2.1**
ZAK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SONM	**Songino Array**	**36.13**	**277**	P		**P**	**00 24 30.0**	**+0.6**
SONM				PcP		**PcP**	**00 26 55.3**	**+0.5**
SONM	**Songino Array**	**36.13**	**277**	P		**P**	**00 24 30.0**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=58,slow=6.9,SNR=9.3							
SONM				PcP		**PcP**	**00 26 55.3**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=14,slow=1.0,SNR=6.3							
HHC	**Hu-ho-hao-te**	**38.71**	**265**	*e*P		**P**	**00 24 48.2**	**-3.0**
HHC				sP		**sP**	**00 24 55.3**	**-2.1**
HHC				PP		**PP**	**00 26 20.3**	**+0.6**
HHC				PcP		**PcP**	**00 27 00.6**	**-2.1**
HHC				S		**S**	**00 30 43.8**	**-3.7**
HHC				pmax		pmax		
	comp=Z,39nm,0.9s							
HHC				pmax		pmax		
	comp=Z,240nm,5.6s							
HHC				LR		LR		
	comp=Z,340nm,14.7s							
HHC				LR		LR		
	comp=Z,310nm,15.1s							
HHC				LR		LR		
	comp=Z,190nm,14.8s							
EDM	**Edmonton**	**41.58**	**63**	*e*P		**P**	**00 25 15.4**	**+0.6**
EDM	**Edmonton**	**41.58**	**63**	*e*P		**P**	**00 25 15.4**	**+0.6**
ZALV	**Zalesovo Beam**	**41.93**	**299**	P		**P**	**00 25 17.7**	**+0.1**
ZALV							00 27 13.0	
ZALV	**Zalesovo Beam**	**41.93**	**299**	P		**P**	**00 25 17.7**	**+0.1**
ZALV				PcP		**PcP**	**00 27 13.0**	**+0.3**
ZALV	**Zalesovo Beam**	**41.93**	**299**	P		**P**	**00 25 17.7**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=23,slow=7.8,SNR=3.3							
ZALV				PcP		**PcP**	**00 27 13.0**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=28,slow=3.2,SNR=5.3							
NEW	**Newport**	**43.37**	**71**	⇑P		**P**	**00 25 29.6**	**+0.2**
	baz=43							
I04A	**Tendick Farm,**	**44.16**	**79**	⇓P		**P**	**00 25 36.5**	**+0.7**
	baz=44							
WALA	**Waterton Lakes**	**44.27**	**68**	*e*P		**P**	**00 25 37.8**	**+1.1**
J04D	**Umpqua Nationa**	**44.72**	**79**	⇑P		**P**	**00 25 40.9**	**+0.4**
	baz=45							
J05D	**Fort Rock, OR**	**45.10**	**79**	⇓P		**P**	**00 25 43.8**	**+0.3**
	baz=45							
FFC	**Flin Flon**	**45.28**	**55**	*i* P		**P**	**00 25 45.7**	**+1.1**
FCC	**Fort Churchill**	**45.31**	**46**	*e*P		**P**	**00 25 44.6**	**-0.1**
FCC	**Fort Churchill**	**45.31**	**46**	*e*P		**P**	**00 25 44.6**	**-0.1**
GTA	**Gaotai**	**45.56**	**274**	*e*P		**P**	**00 25 47.7**	**+0.6**
GTA				pP		**pP**	**00 25 52.0**	**+0.4**
GTA				sP		**sP**	**00 25 54.7**	**+1.3**
GTA				S		**S**	**00 32 29.4**	**+0.7**
GTA				sS		**sS**	**00 32 35.8**	**-0.3**
GTA				SS		**ScS**	**00 35 44.2**	**+1.4**
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,100nm,4.7s							
GTA				LR		LR		
	comp=Z,190nm,17.3s							
GTA				LR		LR		
	comp=Z,220nm,16.9s							
GTA				LR		LR		
	comp=Z,220nm,16.6s							
YBH	**Yreka Blue Hor**	**45.57**	**81**	P		**P**	**00 25 48.4**	**+1.2**
YBH	**Yreka Blue Hor**	**45.57**	**81**	P		**P**	**00 25 48.4**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=61,slow=2.5,SNR=4.9							
K05A	**Summer Lake**	**45.69**	**79**	*e*P		**P**	**00 25 49.6**	**+1.4**
	comp=Z,19nm,1.6s							
SUMG	**Summit**	**45.76**	**10**	*e*P		**P**	**00 25 49.3**	**+0.7**
SUMG				pmax		pmax		
	comp=Z,171nm,2.7s							
SUMG	**Summit**	**45.76**	**10**	*e*P		**P**	**00 25 49.3**	**+0.7**
	comp=Z,171nm,2.7s							
SLMT	**Seeley Lake**	**45.79**	**69**	*e*P		**P**	**00 25 48.6**	**-0.3**
MSO	**Missoula**	**45.89**	**70**	⇑P		**P**	**00 25 49.8**	**+0.2**
	baz=46							
LZH	**Lanzhou**	**46.20**	**267**	*e*P		**P**	**00 25 52.1**	**-0.1**
LZH				pP		**pP**	**00 25 55.8**	**-0.9**
LZH				sP		**sP**	**00 25 58.4**	**-0.1**
LZH				pmax		pmax		
	comp=Z,27nm,1.3s							
LZH				pmax		pmax		
	comp=Z,120nm,4.2s							
A19A	**Klindworth Far**	**46.68**	**64**	⇑P		**P**	**00 25 56.0**	**+0.2**
	baz=46							
KURK	**Kurchatov**	**46.90**	**300**	P		**P**	**00 25 58.4**	**+1.1**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KURK	**Kurchatov**	**46.90**	**300**	*e*P		**P**	**00 25 57.5**	**+0.2**
	comp=Z,15nm,1.5s							
EGMT	**Eagleton**	**46.91**	**66**	*e*P		**P**	**00 25 58.0**	**+0.4**
	comp=Z,11nm,0.8s							
EGMT	**Eagleton**	**46.91**	**66**	⇓P		**P**	**00 25 57.8**	**+0.2**
	baz=47							
B19A	**Brinkman Farms**	**46.95**	**65**	⇑P		**P**	**00 25 58.2**	**+0.4**
	baz=47							
KURBB	**Kurchatov Arra**	**47.01**	**299**	P		**P**	**00 25 58.4**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=43,slow=7.8,SNR=37							
ARA0	**ARCESS Array S**	**47.02**	**342**	*e*P		**P**	**00 25 57.8**	**-0.3**
ARA0				*e*PcP		**PcP**	**00 27 30.1**	**+0.2**
ARCES	**ARCESS Array B**	**47.02**	**342**	P		**P**	**00 25 57.7**	**-0.3**
ARCES				PcP		**PcP**	**00 27 30.2**	**+0.3**
ARCES	**ARCESS Array B**	**47.02**	**342**	P		**P**	**00 25 57.7**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=32,slow=8.4,SNR=31							
ARCES				PcP		**PcP**	**00 27 30.2**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=12,slow=6.2,SNR=4.4							
A20A	**Cobblestone Ra**	**47.08**	**64**	⇑P		**P**	**00 25 59.8**	**+1.0**
	baz=47,SNR=11							
B20A	**Solberg Farm,**	**47.37**	**64**	⇓P		**P**	**00 26 01.7**	**+0.6**
	baz=47							
A21A	**Bergtoll Ranch**	**47.43**	**63**	⇑P		**P**	**00 26 02.7**	**+1.1**
	baz=47,SNR=11							
C19A	**Slack Wire Ran**	**47.44**	**66**	⇑P		**P**	**00 26 02.4**	**+0.7**
	baz=47,SNR=12							
A22A	**Carney Farms,**	**47.87**	**63**	⇑P		**P**	**00 26 05.7**	**+0.7**
	baz=47							
C20A	**Veseth Ranch,**	**47.92**	**65**	⇑P		**P**	**00 26 06.4**	**+1.0**
	baz=48,SNR=6.2							
D19A	**Cripps Ranch,**	**47.94**	**66**	⇑P		**P**	**00 26 06.2**	**+0.6**
	baz=48							
WMQ	**Urumqi**	**48.01**	**287**	P		**P**	**00 26 09.0**	**+2.8**
WMQ				pmax		pmax		
	comp=Z,11nm,1.0s							
HLID	**Hailey**	**48.13**	**73**	⇓P		**P**	**00 26 07.8**	**+0.5**
	baz=48							
MKAR	**Makanchi Array**	**48.23**	**294**	P		**P**	**00 26 07.1**	**-0.7**
MKAR	**Makanchi Array**	**48.23**	**294**	P		**P**	**00 26 07.1**	**-0.7**
MKAR	**Makanchi Array**	**48.23**	**294**	P		**P**	**00 26 07.1**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=33,slow=6.2,SNR=23							
MK01	**Makanchi Array**	**48.24**	**294**	*e*P		**P**	**00 26 06.4**	**-1.5**
D20A	**Manuel Ranch,**	**48.33**	**66**	⇓P		**P**	**00 26 09.7**	**+1.1**
	baz=48,SNR=6.1							
B22A	**Reddig Ranch S**	**48.36**	**63**	⇓P		**P**	**00 26 09.7**	**+0.9**
	baz=48							
E19A	**Rath Farm, Rou**	**48.52**	**67**	⇑P		**P**	**00 26 10.8**	**+0.7**
	baz=48,SNR=5.0							
BVAR	**Borovoye Array**	**48.54**	**307**	P		**P**	**00 26 10.6**	**+0.6**
BVAR	**Borovoye Array**	**48.54**	**307**	P		**P**	**00 26 10.6**	**+0.6**
BVAR	**Borovoye Array**	**48.54**	**307**	P		**P**	**00 26 10.6**	**+0.6**
	comp=Z,6.3nm,0.6s,baz=52,slow=7.9,SNR=32							
BRVK	**Borovoye**	**48.55**	**307**	*ce*P		**P**	**00 26 10.5**	**+0.4**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
B23A	**Brockton**	**48.67**	**62**	⇑P		**P**	**00 26 11.6**	**+0.4**
	baz=48							
A24A	**Westby**	**48.75**	**61**	⇑P		**P**	**00 26 12.2**	**+0.4**
	baz=49							
E20A	**Meyer Farm, Mu**	**48.78**	**66**	⇑P		**P**	**00 26 12.6**	**+0.5**
	baz=49							
C22A	**Vida**	**48.83**	**64**	⇓P		**P**	**00 26 13.0**	**+0.6**
	baz=49							
D21A	**La Casta Ranch**	**48.86**	**65**	⇑P		**P**	**00 26 13.5**	**+0.8**
	baz=49							
DGMT	**Dagmar**	**49.01**	**62**	⇓P		**P**	**00 26 14.2**	**+0.4**
	baz=49							
C23A	**Lambert**	**49.09**	**63**	⇓P		**P**	**00 26 15.6**	**+1.2**
	baz=49,SNR=21							
A25A	**Svangstu Ranch**	**49.12**	**61**	⇓P		**P**	**00 26 15.9**	**+1.3**
	baz=49							
D22A	**Cohagen**	**49.15**	**64**	⇓P		**P**	**00 26 16.1**	**+1.2**
	baz=49,SNR=7.4							
F20A	**Billings**	**49.31**	**67**	⇑P		**P**	**00 26 17.2**	**+1.1**
	baz=49							
H18A	**Shoshone NF, C**	**49.48**	**69**	⇑P		**P**	**00 26 18.8**	**+1.1**
	baz=49							
B25A	**Knox Farm, Ray**	**49.61**	**61**	⇑P		**P**	**00 26 19.5**	**+1.2**
	baz=50							
A26A	**Wade Farm, Ken**	**49.61**	**60**	⇓P		**P**	**00 26 19.0**	**+0.7**
	baz=50							
C24A	**Savage**	**49.63**	**63**	⇓P		**P**	**00 26 19.9**	**+1.3**
	baz=50							
G20A	**Bridger**	**49.72**	**67**	⇓P		**P**	**00 26 20.3**	**+0.9**
	baz=50							
H19A	**Powell**	**49.80**	**68**	⇓P		**P**	**00 26 21.1**	**+1.2**
	baz=50,SNR=5.1							
B26A	**Jensen Ranch,**	**49.93**	**61**	⇑P		**P**	**00 26 21.6**	**+0.8**
	baz=50							
D24A	**Glendive**	**49.99**	**63**	⇑P		**P**	**00 26 22.7**	**+1.4**
	baz=50							
C25A	**Freed Ranch, W**	**50.00**	**62**	⇓P		**P**	**00 26 22.3**	**+0.9**
	baz=50							
F22A	**Rosebud**	**50.17**	**66**	⇑P		**P**	**00 26 23.5**	**+0.9**
	baz=50							
G21A	**Lodge Grass**	**50.17**	**67**	⇑P		**P**	**00 26 23.6**	**+0.8**
	baz=50							
NVAR	**Mina Array Bea**	**50.26**	**81**	P		**P**	**00 26 24.9**	**+1.2**
NVAR	**Mina Array Bea**	**50.26**	**81**	P		**P**	**00 26 24.9**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=316,slow=8.4,SNR=6.0							
I19A	**Meeteetse**	**50.28**	**69**	⇑P		**P**	**00 26 24.7**	**+1.0**
	baz=50							
A28A	**Rude Farm, Bot**	**50.35**	**59**	⇑P		**P**	**00 26 25.1**	**+1.1**
	baz=50							
H20A	**Greybull**	**50.38**	**68**	⇑P		**P**	**00 26 25.4**	**+1.0**
	baz=50							
D25A	**Fairfield**	**50.41**	**62**	⇑P		**P**	**00 26 25.8**	**+1.4**
	baz=50							
C26A	**Wahner Farm, P**	**50.41**	**61**	⇓P		**P**	**00 26 25.5**	**+1.0**
	baz=50							
CD2	**Chengdu**	**50.43**	**263**	*e*P		**P**	**00 26 26.2**	**+1.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.4s							
E24A	**Baker**	**50.43**	**64**	⇑P		**P**	**00 26 25.7**	**+1.1**
	baz=50							
G22A	**Birney**	**50.59**	**66**	⇓P		**P**	**00 26 26.7**	**+0.8**
	baz=50							
F23A	**Volborg**	**50.59**	**65**	⇓P		**P**	**00 26 26.5**	**+0.6**
	baz=50							
B28A	**Dugan Ranch, T**	**50.67**	**59**	⇑P		**P**	**00 26 27.5**	**+1.2**
	baz=50							
H21A	**Big Horn, Sher**	**50.71**	**67**	⇓P		**P**	**00 26 27.7**	**+0.8**
	baz=51							
C27A	**Sayler Ranch,**	**50.75**	**61**	⇑P		**P**	**00 26 27.4**	**+0.4**
	baz=51							
A29A	**Manning Farm,**	**50.77**	**58**	⇓P		**P**	**00 26 28.2**	**+1.1**
	baz=51							
J19A	**Crowheart**	**50.85**	**70**	⇓P		**P**	**00 26 28.7**	**+0.7**
	baz=51							
E25A	**Miller Ranch,**	**50.87**	**63**	⇓P		**P**	**00 26 29.1**	**+1.2**
	baz=51							
D26A	**Manning**	**50.88**	**62**	⇓P		**P**	**00 26 29.3**	**+1.3**
	baz=51							
F24A	**Ekalaka**	**50.92**	**64**	⇑P		**P**	**00 26 29.1**	**+0.7**
	baz=51							
G23A	**Biddle**	**51.00**	**65**	⇓P		**P**	**00 26 29.7**	**+0.7**
	baz=51							
BW06	**Boulder Array**	**51.01**	**70**	*e*P		**P**	**00 26 28.7**	**-0.6**
PDAR	**Pinedale Array**	**51.01**	**70**	P		**P**	**00 26 30.1**	**+0.9**
PDAR	**Pinedale Array**	**51.01**	**70**	P		**P**	**00 26 30.1**	**+0.9**
	comp=Z,3.9nm,0.9s,baz=325,slow=3.8,SNR=17							
B29A	**Wagenman Farm,**	**51.08**	**59**	⇑P		**P**	**00 26 30.4**	**+1.0**
	baz=51							
ULM	**Lac du Bonnet**	**51.11**	**55**	*e*P		**P**	**00 26 30.0**	**+0.4**
	comp=Z,203nm,2.9s							
ULM	**Lac du Bonnet**	**51.11**	**55**	P		**P**	**00 26 30.5**	**+0.9**
	comp=Z,5.4nm,0.6s,baz=314,slow=6.0,SNR=11							
A30A	**Hoffart Farm,**	**51.14**	**58**	⇓P		**P**	**00 26 30.9**	**+1.0**
	baz=51							
D27A	**Center**	**51.21**	**61**	⇑P		**P**	**00 26 31.2**	**+0.7**
	baz=51							
J20A	**Shoshoni**	**51.23**	**69**	⇑P		**P**	**00 26 32.0**	**+1.2**
	baz=51							
I21A	**Big Trails, Te**	**51.23**	**68**	⇓P		**P**	**00 26 31.5

	baz=54									
J28A	Allard Ranch,	54.24	64	⇓	P		P	00 26 53.7	+0.7	
	baz=54									
FINES	FINESS Array B	54.37	338		P		P	00 26 53.2	-0.3	
FINES	FINESS Array B	54.37	338		P		P	00 26 53.2	-0.3	
	comp=Z,3.0nm,0.8s,baz=16,slow=9.0,SNR=14									
GMRC	Granite Mounta	54.45	81	⇓	P		P	00 26 55.2	+0.5	
	baz=54									
I30A	Oacoma	54.64	62	⇑	P		P	00 26 56.3	+0.5	
	baz=54									
J29A	Okreek	54.66	63	⇓	P		P	00 26 56.5	+0.6	
	baz=54									
N24A	Carr	54.68	68	⇑	P		P	00 26 55.9	-0.4	
	baz=54									
EYMN	Ely	54.69	54		eP		P	00 26 56.5	+0.4	
	comp=Z,236nm,3.0s									
U15A	North Rim	54.74	77	⇑	P		P	00 26 56.8	-0.1	
	baz=55									
K28A	Ten Mile Ranch	54.75	64	⇓	P		P	00 26 56.5	-0.2	
	baz=55									
PV04	Paradox Valley	54.77	73		eP		P	00 26 57.8	+0.8	
AAK	Ala-Archa	54.95	296		ceP		P	00 26 58.8	+0.6	
AAK					pmax		pmax			
	comp=Z,8.0nm,1.3s									
AAK	Ala-Archa	54.95	296		P		P	00 26 58.9	+0.6	
AAK	Ala-Archa	54.95	296		P		P	00 26 58.9	+0.6	
	comp=Z,3.7nm,0.7s,baz=163,slow=3.8,SNR=12									
IRM	Iron Mountain	55.20	81	⇓	P		P	00 27 01.3	+1.3	
	baz=55									
ABKAR	Akbulak array	55.53	310		eP		P	00 27 02.5	+0.4	
K30A	Basset	55.55	63	⇑	P		P	00 27 03.4	+1.0	
	baz=55									
KMI	Kunming	55.74	260		P		P	00 27 04.5	+0.3	
KMI					pmax		pmax			
	comp=Z,9.0nm,0.9s									
Y12C	Blythe	55.83	81	⇓	P		P	00 27 05.8	+1.4	
	baz=56									
ECSD	EROS Data Cent	55.99	60		eP		P	00 27 05.7	+0.1	
	comp=Z,27nm,1.4s									
Q24A	Divide	56.05	70	⇓	P		P	00 27 07.2	+0.8	
	baz=56									
S22A	4UR Ranch, Cre	56.26	72	⇓	P		P	00 27 09.5	+1.6	
	baz=56									
L31A	Butterfield Fa	56.29	63	⇓	P		P	00 27 09.0	+1.2	
	baz=56									
KKAR	Karatay Array	56.30	299		eP		P	00 27 05.8	-2.0	
KKAR	Karatay Array	56.30	299		eP		P	00 27 05.8	-2.0	
SPMN	St. Paul	56.37	57	⇑	P		P	00 27 08.9	+0.8	
	baz=56									
N29A	Votaw Ranch, W	56.60	65	⇑	P		P	00 27 11.0	+1.0	
	baz=56									
R24A	Sanders Place,	56.66	70	⇑	P		P	00 27 12.0	+1.3	
	baz=56									
KSH	Kashi	56.80	292		P		P	00 27 15.3	+3.8	
KSH					pP		pP	00 27 22.6	+6.6	
KSH					sP		sP	00 27 24.5	+6.7	
KSH					PP		PP	00 29 23.7	+6.3	
KSH					S		S	00 35 05.9	+1.9	
KSH					pmax		pmax			
	comp=Z,3.0nm,0.9s									
KSH					pmax		pmax			
	comp=Z,220nm,6.5s									
KSH					LR		LR			
	comp=Z,160nm,9.1s									
KSH					LR		LR			
	comp=Z,270nm,8.8s									
KSH					LR		LR			
	comp=Z,250nm,10.8s									
NB2	NORSAR Subarra	57.00	346		P		P	00 27 12.2	-0.3	
	comp=Z,10nm,1.1s,baz=15,slow=7.4									
NOA	NORSAR Array B	57.00	346		P		P	00 27 12.6	+0.1	
NOA					PcP		PcP	00 28 08.2	+0.8	
NOA	NORSAR Array B	57.00	346		P		P	00 27 12.6	+0.1	
	comp=Z,5.8nm,0.8s,baz=14,slow=7.3,SNR=18									
NOA					PcP		PcP	00 28 08.2	+0.8	
	comp=Z,1.0nm,0.8s,baz=16,slow=3.0,SNR=4.1									
R25A	Fountain Ranch	57.11	70	⇑	P		P	00 27 15.5	+1.8	
	baz=57									
SCHQ	Schefferville	57.14	34		eP		P	00 27 13.0	-0.5	
	comp=Z,616nm,3.0s									
SCHQ	Schefferville	57.14	34		P		P	00 27 12.7	-0.8	
	comp=Z,13nm,0.6s,baz=339,slow=7.3,SNR=28									
R26A	Arlington	57.37	69	⇓	P		P	00 27 16.8	+1.3	
	baz=57,SNR=8.5									
O30A	MW Ranch, Wils	57.38	65	⇓	P		P	00 27 16.2	+0.8	
	baz=57									
X18A	Snowflake	57.40	77	⇑	P		P	00 27 17.4	+1.5	
	baz=57									
S25A	Robets Cordova	57.44	70	⇑	P		P	00 27 17.6	+1.5	
	baz=57									
P29A	Atwood	57.45	66	⇓	P		P	00 27 16.0	-0.1	
	baz=57									
Q28A	Sharon Springs	57.49	67	⇑	P		P	00 27 17.0	+0.6	
	baz=57									
QIZ	Qiongzhong	57.60	250		P		P	00 27 15.8	-1.4	
QIZ					S		S	00 35 13.6	-1.0	
R27A	Eads	57.68	69	⇓	P		P	00 27 18.9	+1.2	
	baz=58									
U23A	El Rito	57.70	73	⇓	P		P	00 27 19.8	+1.7	
	baz=58									
V22A	San Miguel Ran	57.71	73	⇓	P		P	00 27 19.5	+1.4	
	baz=58									
P30A	Selden	57.81	66	⇓	P		P	00 27 19.2	+0.7	
	baz=58									
OBN	Obninsk	57.86	329	⇓	eP		P	00 27 18.5	0.0	
OBN					pmax		pmax			
	comp=Z,11nm,1.7s									
T25A	Trinidad	57.87	71	⇑	P		P	00 27 20.3	+1.1	
	baz=58									
S26A	Kim	57.91	70	⇓	P		P	00 27 20.3	+0.9	
	baz=58									
Q29A	Oakley	58.01	67	⇑	P		P	00 27 19.9	-0.1	
	baz=58									
U24A	Moreno Valley	58.07	72	⇓	P		P	00 27 21.4	+0.8	
	baz=58									
R28A	Tribune	58.09	68	⇓	P		P	00 27 21.3	+0.8	
	baz=58									
O32A	Brockman Farm,	58.10	64	⇑	P		P	00 27 20.7	+0.1	
	baz=58									
V23A	Ortiz Mt. (NFS	58.19	73	⇓	P		P	00 27 22.4	+1.0	
	baz=58									
P31A	Stockton	58.22	65	⇑	P		P	00 27 22.1	+0.8	
	baz=58									
Q30A	Quinter	58.28	66	⇓	P		P	00 27 22.4	+0.5	
	baz=58									
P32A	Huiting Farm,	58.48	65	⇓	P		P	00 27 23.6	+0.4	
	baz=58									
U25A	Circle Dot Ran	58.48	71	⇑	P		P	00 27 24.8	+1.4	
	baz=58									
Q31A	Ellis	58.63	66	⇓	P		P	00 27 24.8	+0.5	
	baz=58									
S28A	Manter	58.66	68	⇓	P		P	00 27 25.5	+0.9	
	baz=58									
U26A	Atchley Ranch,	58.79	71	⇑	P		P	00 27 25.6	0.0	
	baz=59									
R30A	Dighton	58.83	67	⇓	P		P	00 27 26.1	+0.4	
	baz=59									
V25A	Rancho No Teng	58.84	72	⇑	P		P	00 27 27.1	+1.1	
	baz=59									
R31A	Burdett	59.16	66	⇓	P		P	00 27 28.1	+0.2	
	baz=59									
U27A	Thompson Grove	59.19	70	⇓	P		P	00 27 29.0	+0.7	
	baz=59									
V26A	Tequesquite Ra	59.26	71	⇓	P		P	00 27 29.7	+1.0	
	baz=59									
S30A	Montezuma	59.27	67	⇑	P		P	00 27 28.9	+0.2	
	baz=59									
T29A	Hugoton	59.29	68	⇑	P		P	00 27 29.1	+0.2	
	baz=59									
Y22A	Socorro	59.30	75	⇑	P		P	00 27 29.8	+0.6	
	baz=59									
Q33A	Connelly Farm,	59.33	64	⇓	P		P	00 27 29.0	-0.1	
	baz=59									
R32A	Long Q Quarter,	59.41	65	⇓	P		P	00 27 30.5	+0.8	
	baz=59									
W25A	X Bar L Ranch,	59.42	72	⇑	P		P	00 27 30.6	+0.7	
	baz=59									
U28A	Mallet	59.50	69	⇓	P		P	00 27 30.8	+0.3	
	baz=59									
R33A	Olander Ranch,	59.83	65	⇓	P		P	00 27 33.1	+0.6	
	baz=60									
V31A	Spring Creek L	61.09	68	⇑	P		P	00 27 42.3	+1.1	
	baz=61									
Y27A	Causey	61.12	72	⇓	P		P	00 27 42.5	+0.9	
	baz=61									
Z26A	Caprock	61.25	73	⇓	P		P	00 27 43.5	+1.1	
	baz=61									
125A	Gardner Draw,	61.44	74	⇑	P		P	00 27 44.5	+0.8	
	baz=61									
Z27A	Tatum	61.57	72	⇑	P		P	00 27 44.9	+0.3	
	baz=61									
U34A	Anderson Ranch	61.58	66	⇓	P		P	00 27 44.4	-0.1	
	baz=61									
W32A	Sentinel	61.90	68	⇓	P		P	00 27 47.0	+0.3	
	baz=62									
Z29A	Hungry Hill Ra	62.32	71	⇑	P		P	00 27 49.9	+0.3	
	baz=62									
128A	Castleberry Fa	62.49	72	⇓	P		P	00 27 50.8	+0.1	
	baz=62									
Z30A	Sanderson Ranc	62.56	71	⇑	P		P	00 27 51.0	-0.1	
	baz=62									
TUL1	Tulsa	62.79	65	⇑	P		P	00 27 52.6	0.0	
	baz=63									
425A	Indio Mountain	62.84	75	⇓	P		P	00 27 53.0	-0.1	
	baz=63									
Z31A	Sharp Cattle R	62.99	70	⇑	P		P	00 27 53.5	-0.5	
	baz=63									
CMAR	Chiang Mai Arr	63.24	260		P		P	00 27 55.5	-0.3	
CMAR	Chiang Mai Arr	63.24	260		P		P	00 27 55.5	-0.3	
	comp=Z,1.6nm,0.6s,baz=4.4,slow=6.2,SNR=12									
Y34A	Reagan Ranch,	63.55	68	⇓	P		P	00 27 58.0	+0.4	
	baz=63									
Z33A	Whitaker Ranch	63.65	69	⇓	P		P	00 27 58.3	0.0	
	baz=64									
AKASG	Malin Array Be	63.70	331		ceP		P	00 27 58.0	-0.3	
AKASG					pmax		pmax			
	comp=Z,3.0nm,0.6s									
AKASG	Malin Array Be	63.70	331		P		P	00 27 58.0	-0.3	
AKASG	Malin Array Be	63.70	331		P		P	00 27 58.0	-0.3	
	comp=Z,2.6nm,0.6s,baz=24,slow=6.4,SNR=8.2									
ABTX	Abilene, Hawle	63.80	70	⇓	P		P	00 27 59.5	+0.2	
	baz=64									
526A	Mary Lane Ranc	63.87	75	⇓	P		P	00 27 60.0	0.0	
	baz=64									
KBL	Kabul	64.02	294		eP		P	00 27 59.2	-1.8	
KBL					pmax		pmax			
	comp=Z,4.0nm,0.6s									
KBL	Kabul	64.02	294		eP		P	00 27 59.2	-1.8	
	comp=Z,4.3nm,0.6s									
527A	Woodward Ranch	64.02	74	⇓	P		P	00 28 00.9	-0.1	
	baz=64									
231A	Bronte	64.07	71	⇑	P		P	00 28 01.3	+0.2	
	baz=64									
330A	Mertzon	64.11	72	⇓	P		P	00 28 01.4	-0.1	
	baz=64									
133A	Hamilton Ranch	64.15	69	⇑	P		P	00 28 01.6	0.0	
	baz=64									
626A	Big Bend Ranch	64.27	75	⇑	P		P	00 28 02.5	0.0	
	baz=64									
Z35A	Perchaven, San	64.30	68	⇓	P		P	00 28 02.6	0.0	
	baz=64									
232A	Coleman	64.42	70	⇑	P		P	00 28 03.8	+0.4	
	baz=64									
331A	San Angelo	64.54	71	⇑	P		P	00 28 04.4	+0.2	
	baz=64									
TXAR	Lajitas Array	64.67	75		P		P	00 28 06.7	+1.5	
TXAR	Lajitas Array	64.67	75		P		P	00 28 06.7	+1.5	
	comp=Z,0.7nm,0.9s,baz=303,slow=7.3,SNR=3.9									
529A	Stev Forest Ra	64.69	73	⇑	P		P	00 28 05.4	+0.1	
	baz=65									
627A	Terlingua Ranc	64.71	75	⇑	P		P	00 28 05.4	0.0	
	baz=65									
332A	Millersview	64.79	71	⇑	P		P	00 28 06.1	+0.2	
	baz=65									
628A	Black Gap, Mar	64.92	74	⇓	P		P	00 28 06.4	-0.3	
	baz=65									
530A	J-C Ranch, Com	65.09	73	⇑	P		P	00 28 08.1	+0.2	
	baz=65									
333A	Richland Sprin	65.19	70	⇑	P		P	00 28 08.6	+0.2	
	baz=65									
432A	Menard	65.20	71	⇑	P		P	00 28 08.7	+0.2	
	baz=65									
JCT	Junction City	65.53	71	⇑	P		P	00 28 10.5	-0.2	
	baz=65									
334A	Lometa	65.53	69	⇑	P		P	00 28 10.3	-0.3	
	baz=65									
433A	Art	65.62	70	⇓	P		P	00 28 11.1	-0.2	
	baz=66									
WVT	Waverly	66.04	59		eP		P	00 28 13.7	-0.1	
WVT					pmax		pmax			
	comp=Z,10.0nm,0.8s									
WVT	Waverly	66.04	59		eP		P	00 28 13.7	-0.1	
	comp=Z,9.9nm,0.8s									
631A	Perdido Creek	66.06	72	⇓	P		P	00 28 14.3	+0.2	
	baz=66									
KIV	Kislovodsk	66.11	319	⇑	eP		P	00 28 15.6	+1.3	
KIV					pmax		pmax			
	comp=Z,10.0nm,2.5s									
KIV					MLR		MLR			
	comp=Z,100nm,12.0s									
KWP	Kalwaria Pacla	66.14	335		eP		P	00 28 14.8	+0.5	
KWP	Kalwaria Pacla	66.14	335		eP		P	00 28 14.8	+0.5	
CLL	Collm	66.24	342		eP		P	00 28 15.0	+0.1	
632A	Uvalde	66.35	72	⇓	P		P	00 28 15.6	-0.4	
	baz=66									
534A	Blanco	66.52	70	⇑	P		P	00 28 16.9	-0.1	
	baz=66									
732A	Laxson Ranch,	66.92	72	⇑	P		P	00 28 19.1	-0.4	
	baz=67									
BUR04	Bucovina Ar. S	67.51	333		eP		P	00 28 22.4	-0.7	
GIVF	Givet	68.46	348		eP		P	00 28 29.0	0.0	
GIVF	Givet	68.46	348		eP		P	00 28 29.0	0.0	
GERES	GERESS Array B	68.53	341		P		P	00 28 29.6	+0.1	
GERES	GERESS Array B	68.53	341		P		P	00 28 29.6	+0.1	
	comp=Z,0.2nm,0.4s,baz=15,slow=6.9,SNR=7.0									
BAIF	Baives	68.57	348		eP		P	00 28 30.0	+0.4	
BAIF	Baives	68.57	348		eP		P	00 28 30.0	+0.4	
KMSC	Kings Mountain	69.55	54	⇓	P		P	00 28 35.2	-0.7	
	baz=69									
CDF	Champ du Feu	69.85	346		eP		P	00 28 37.9	+0.2	
CDF	Champ du Feu	69.85	346		eP		P	00 28 37.9	+0.2	
PAGF	Fort de Pagny	69.89	347		eP		P	00 28 38.4	+0.5	
	comp=Z,3.3nm,0.8s									
MEZF	Maizieres J'vi	70.02	347		eP		P	00 28 39.0	+0.4	
FLN	La Foliniere	70.27	351		eP		P	00 28 40.0	-0.2	
FLN	La Foliniere	70.27	351		eP		P	00 28 40.0	-0.2	
HAU	Haudompre	70.36	346		eP		P	00 28 40.7	-0.1	
HAU					pmax		pmax			
	comp=Z,6.0nm,0.8s									
HAU	Haudompre	70.36	346		eP		P	00 28 40.7	-0.1	
	comp=Z,5.8nm,0.8s									
LDF	La Druitiere	70.41	351		eP		P	00 28 41.0	0.0	
LDF	La Druitiere	70.41	351		eP		P	00 28 41.0	0.0	
HINF	Hinteralfeld	70.49	346		eP		P	00 28 42.2	+0.6	
HINF	Hinteralfeld	70.49	346		eP		P	00 28 42.2	+0.6	
GRR	Gorron	70.67	351		eP		P	00 28 42.7	+0.1	
GRR					pmax		pmax			
	comp=Z,12nm,0.7s									
GRR	Gorron	70.67	351		eP		P	00 28 42.7	+0.1	
	comp=Z,12nm,0.7s									
ROSF	Rostrenen	70.89	353		eP		P	00 28 43.5	-0.4	
ROSF	Rostrenen	70.89	353		eP		P	00 28 43.5	-0.4	
SGMF	Saint Gilles	70.93	352		eP		P	00 28 44.3	+0.1	
SGMF	Saint Gilles	70.93	352		eP		P	00 28 44.3	+0.1	
LOR	Lormes	71.36	348	⇑	iP		P	00 28 46.8	-0.1	
	comp=Z,13nm,0.9s									
SSF	Saint Saulge	71.61	348	⇑	iP		P	00 28 48.3	0.0	
SSF					pmax		pmax			
	comp=Z,3.0nm,0.6s									
SSF	Saint Saulge	71.61	348	⇑	iP		P	00 28 48.3	0.0	
	comp=Z,3.0nm,0.6s									
CABF	La Chapelle	71.77	346		eP		P	00 28 49.6	+0.2	
CABF	La Chapelle	71.77	346		eP		P	00 28 49.6	+0.2	
AVF	Avril sur Loir	71.89	348		eP		P	00 28 50.0	0.0	
AVF					pmax		pmax			
	comp=Z,19nm,1.0s									
AVF	Avril sur Loir	71.89	348		eP		P	00 28 50.0	0.0	
	comp=Z,19nm,1.0s									
SMF	Signal de Mont	71.98	348		eP		P	00 28 50.3	-0.3	
SMF					pmax		pmax			
	comp=Z,8.0nm,0.9s									
SMF	Signal de Mont	71.98	348		eP		P	00 28 50.3	-0.3	
	comp=Z,7.6nm,0.9s									
BGF	Bois d'Agland	72.17	348		eP		P	00 28 51.7	0.0	
BGF	Bois d'Agland	72.17	348		eP		P	00 28 51.7	0.0	
TCF	Toulx Ste Croi	72.50	349		eP		P	00 28 53.8	+0.1	
TCF					pmax		pmax			
	comp=Z,4.0nm,0.7s									
TCF	Toulx Ste Croi	72.50	349		eP		P	00 28 53.8	+0.1	
	comp=Z,4.4nm,0.7s									
LPL	La Plagne	72.77	345		eP		P	00 28 56.2	+0.6	
LPL					pmax		pmax			
	comp=Z,5.0nm,0.7s									
LPL	La Plagne	72.77	345		eP		P	00 28 56.2	+0.6	
	comp=Z,4.9nm,0.7s									
LPG	La Plagne	72.78	345		eP		P	00 28 56.5	+0.8	
LPG					pmax		pmax			
	comp=Z,6.0nm,0.9s									
LPG	La Plagne	72.78	345		eP		P	00 28 56.5	+0.8	
	comp=Z,6.1nm,0.9s									
ORIF	Oris-en-Rattie	73.46	346		eP		P	00 29 00.0	+0.5	
ORIF					pmax		pmax			
	comp=Z,6.0nm,0.9s									
ORIF	Oris-en-Rattie	73.46	346		eP		P	00 29 00.0	+0.5	
	comp=Z,5.6nm,0.9s									
CAF	Calviac	73.86	349		eP		P	00 29 02.4	+0.6	
CAF					pmax		pmax			
	comp=Z,23nm,1.3s									
CAF	Calviac	73.86	349		eP		P	00 29 02.4	+0.6	
	comp=Z,23nm,1.3s									
LFF	La Frestale	73.97	350		eP		P	00 29 02.9	+0.5	
LFF	La Frestale	73.97	350		eP		P	00 29 02.9	+0.5	
SBF	Sospel	74.31	345		eP		P	00 29 04.5	+0.1	
SBF					pmax		pmax			
	comp=Z,23nm,0.8s									
SBF	Sospel	74.31	345		eP		P	00 29 04.5	+0.1	
	comp=Z,23nm,0.8s									
EPF	Esparros	75.90	350		eP		P	00 29 13.3	-0.3	
EPF	Esparros	75.90	350		eP		P	00 29 13.3	-0.3	
ETSF	Etsaut	76.11	350		eP		P	00 29 14.7	-0.1	
ETSF	Etsaut	76.11	350		eP		P	00 29 14.7	-0.1	
ESDC	Sonseca Array	79.56	353		P		P	00 29 34.4	+0.3	
ESDC	Sonseca Array	79.56	353		P		P	00 29 34.4	+0.3	
	comp=Z,2.6nm,0.8s,baz=0.1,slow=6.0,SNR=16									
EVOP	Sao Brissos	80.90	356		eP		P	00 29 40.1	-1.1	
EVOP					pmax		pmax			
	comp=Z,8.0nm,0.7s									
EVOP	Sao Brissos	80.90	356		eP		P	00 29 40.1	-1.1	
	comp=Z,7.9nm,0.7s									
WRA	Warramunga Arr	84.62	210		P		P	00 30 00.4	-0.2	
WRA	Warramunga Arr	84.62	210		P		P	00 30 00.4	-0.2	
	comp=Z,1.6nm,0.7s,baz=17,slow=5.3,SNR=4.8									
ASAR	Alice Springs	88.31	210		P		P	00 30 18.4	-0.2	
ASAR	Alice Springs	88.31	210		P		P	00 30 18.4	-0.2	
	comp=Z,0.6nm,0.6s,baz=11,slow=4.1,SNR=6.7									
MAW	Mawson	148.23	225		PKPbc		PKPbc	00 37 11.2	-0.4	
MAW	Mawson	148.23	225		PKPbc		PKPbc	00 37 11.2	-0.4	
	comp=Z,2.2nm,0.9s,baz=108,slow=9.1,SNR=3.9									
QSPA	South Pole Qui	150.60	180		PKPbc		PKPbc	00 37 17.3	-0.4	
QSPA	South Pole Qui	150.60	180		PKPbc		PKPbc	00 37 17.3	-0.4	
	comp=Z,3.5nm,0.8s,baz=299,slow=0.9,SNR=12									

NIED ***11*** *00:22:00,43˚.00N×146˚.90E,h23km,Mw4.2 Best double couple: M₀2.50000×10¹⁵ NP1:φs242.00000°,δ87.00000°, λ-104.00000°. NP2:φs141.00000°,δ15.00000°, λ-12.00000°.*

BJI ***11*** *00:22:13.1,43˚.79N×147˚.33E,h35km,mB5.0/3,mb4.7/5*

MOS ***11*** *00:22:13.7±0.9,42˚.99N×146˚.87E,h41km,mb4.8/20,Error ellipse: s-maj=10.5km s-min=6.6km az=101.5*

JMA ***11*** *00:22:13.9±0.2,42˚.98N×146˚.93E,h52km±4km,M4.2 JMA Felt I J1.*

SKHL ***11*** *00:22:13.6±0.1,42˚.94N×147˚.04E,h49km±5km,mb4.7/5, Ms3.9/2*

ISCJB ***11*** *00:22:14.3±0.7,42˚.99N±0˚.04×146˚.89E±0˚.05,h46km±5km, mb4.4/46,MS4.0/3,Error ellipse: s-maj=8.1km s-min=5.2km az=147.0*

IDC ***11*** *00:22:16.1±0.7,42˚.99N×146˚.79E,h44km±5km,mb3.9/24, mb1 4.0/28,mb1mx4.0/34,mbtmp3.9/28,ML3.6/3,MS3.7/4, Ms1 3.7/4,ms1mx3.1/34,Error ellipse: s-maj=14.6km s-min=11.2km az=166.0*

NEIC ***11*** *00:22:16.0±0.7,43˚.02N×146˚.87E,h44km±6km,mb4.7/7, Error ellipse: s-maj=8.3km s-min=5.0km az=153.0*

NEIC Recorded [1 JMA] in eastern Hokkaido.

ISC 11 00:22:15.9±0.6, 43˚.02N±0˚.05×146˚.86E±0˚.05, h43km±4km, n175, σ0°.95/188, mb4.5/46, MS4.1/3, 8C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	0.89	294	P	Pn	00 22 31.2	-0.8
NEM2				eS	Sn	00 22 44.4	+0.7
YUK	Yuzh-Kuril'sk	1.25	325	iPN	Pn	00 22 36.2	-0.7
YUK				i S	Sn	00 22 53.1	+0.5
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK				pmax	pmax		
	comp=E,340nm,0.2s						
YUK				smax	smax		
	comp=N,3709μm,0.5s						
YUK				smax	smax		
	comp=E,8μm,0.5s						
YUK	Yuzh-Kuril'sk	1.25	325	iP	Pn	00 22 36.2	-0.7
YUK				AMB	AMB	00 22 36.8	
	comp=E,200nm,0.4s						
YUK				AMB	AMB	00 22 36.8	
	comp=E,340nm,0.4s						
YUK				AMB	AMB	00 22 36.8	
	comp=E,3μm,0.4s						
YUK				AMB	AMB	00 22 36.8	
	comp=E,26μm,0.4s						
YUK				i S	Sn	00 22 53.2	+0.6
YUK				A	A	00 22 53.9	
	comp=E,4μm,0.5s						
YUK				A	A	00 22 53.9	
	comp=E,8μm,0.5s						
JRA	Rausu	1.57	307	P	Pn	00 22 40.8	-0.4
JAK	Akkeshi	1.59	270	P	Pn	00 22 40.9	-0.6
JAK				e

HABR pmax pmax
comp=Z,14nm,0.8s
HABR MLR MLR
comp=Z,221nm,18.0s
HABR Khabarovsk 9.89 308 *e*P **Pn 00 24 32.7 -2.7**
HABR AMB AMB 00 24 33.2
comp=Z,10.0nm,0.8s
HABR AMS AMS 00 28 41.0
comp=Z,200nm,18.0s
SKR Severo-Kuril's 9.94 36 *e*P Pn 00 24 32.6 -3.5
USRK Ussuriysk Arra 10.85 281 P **Pn 00 24 48.0 -0.5**
comp=Z,0.2nm,0.3s,baz=73,slow=24,SNR=3.8
USRK LR LR 00 28 50.2
comp=Z,147nm,20.2s,baz=93,slow=36
KLR Kul'dur 12.18 306 *e*PN Pn 00 25 12.2 +5.6
KLR MLR MLR
comp=Z,700nm,11.0s
KLR Kul'dur 12.18 306 *e*P Pn 00 25 12.2 +5.6
KLR AMS AMS 00 31 13.5
comp=Z,700nm,11.0s
PEA0 Petropavlovsk- 12.41 32 *e*Pn **Pn 00 25 08.6 -1.3**
PETK Petropavlovsk- 12.41 32 PN **Pn 00 25 09.6 -0.3**
PETK Petropavlovsk- 12.41 32 P **Pn 00 25 09.6 -0.3**
PETK Petropavlovsk- 12.41 32 P **Pn 00 25 09.6 -0.3**
comp=Z,0.3nm,0.3s,baz=196,slow=15,SNR=4.9
PET Petropavlovsk 12.73 34 AMS AMS 00 23 53.0
comp=Z,300nm,15.0s
EKMR Ekimchan 13.68 322 *e*P **Pn 00 25 27.1 0.0**
EKMR AMB AMB 00 25 37.3
comp=Z,4.0nm,0.6s
BMKR Bomnak 16.60 321 *e*P **Pn 00 26 03.7 -1.6**
ZEA Zeya 16.82 316 AMS AMS 00 33 30.0
comp=Z,300nm,14.0s
ZEA AMS AMS 00 33 30.0
comp=Z,400nm,14.0s
KROS Kirovskiy 17.33 318 *e*P **Pn 00 26 11.4 -3.0**
FX1 Attu Island--F 20.09 51 *e*P **P 00 26 41.3 -4.3**
FX1 Attu Island--F 20.09 51 P **P 00 26 45.9 +0.3**
comp=Z,9.0nm,0.6s,baz=21,slow=3.6,SNR=6.4
SEY Seymchan 20.21 7 *e*P **P 00 26 47.2 +0.4**
SEY Seymchan 20.21 *e*P **P 00 26 47.2 +0.4**
YAK Yakutsk 21.59 338 *e*P **P 00 27 02.2 +0.5**
YAK Yakutsk 21.59 338 *e*P **P 00 27 02.2 +0.5**
ULN Ulaanbaatar 28.12 294 *e*P **P 00 28 03.0 -0.8**
ULN Ulaanbaatar 28.12 294 *e*P **P 00 28 03.0 -0.8**
comp=Z,5.1nm,0.8s
SONA1 Songino Array 28.56 294 *e*P **P 00 28 07.3 -0.4**
SONM Songino Array 28.57 294 P **P 00 28 08.5 +0.8**
SONM Songino Array 28.57 294 P **P 00 28 08.5 +0.8**
comp=Z,5.3nm,0.7s,baz=86,slow=8.1,SNR=31
SONM LR LR 00 40 48.7
comp=Z,164nm,18.1s,baz=46,slow=39
H11N2 WAKE ISLAND Hy 28.69 138 T T 00 59 01.9
baz=331,slow=76,SNR=510
H11N1 WAKE ISLAND Hy 28.70 138 T T 00 59 09.1
baz=331,slow=76,SNR=342
H11N3 WAKE ISLAND Hy 28.71 138 T T 00 59 06.3
baz=331,slow=76,SNR=356
H11S1 WAKE ISLAND Hy 29.64 139 T T 01 00 13.8
baz=333,slow=77,SNR=816
H11S3 WAKE ISLAND Hy 29.64 139 T T 01 00 12.4
baz=333,slow=77,SNR=827
H11S2 WAKE ISLAND Hy 29.66 139 T T 01 00 13.3
baz=333,slow=77,SNR=482
TNA Tin City 33.58 32 *e*P **P 00 28 52.4 +0.9**
comp=Z,7.6nm,1.0s
KDAK Kodiak Island 39.90 47 *e*P **P 00 29 44.7 -0.6**
comp=Z,109nm,2.1s
TRF Thorofare Moun 40.74 38 *e*P **P 00 29 52.3 -0.1**
comp=Z,73nm,2.5s
ZALV Zalesovo Beam 41.28 308 P **P 00 29 55.7 -1.0**
ZALV 00 31 55.3
ZALV 00 32 09.6
ZALV Zalesovo Beam 41.28 308 P **P 00 29 55.7 -1.0**
ZALV PcP **PcP 00 31 55.3 +0.7**
ZALV pPcP 00 32 09.6
ZALV Zalesovo Beam 41.28 308 P **P 00 29 55.7 -1.0**
comp=Z,0.8nm,0.4s,baz=83,slow=7.2,SNR=6.3
ZALV PcP **PcP 00 31 55.3 +0.7**
comp=Z,0.3nm,0.3s,baz=108,slow=4.7,SNR=3.2
ZALV pPcP 00 32 09.6
comp=Z,1.7nm,0.6s,baz=66,slow=2.8,SNR=7.8
COLA College 41.79 36⇑ *e*P **P 00 30 01.3 +0.6**
COLA pmax pmax
comp=Z,19nm,0.8s
COLA College 41.79 36 *e*P **P 00 30 01.3 +0.6**
IL1 Eielson Array 42.21 36 *e*P **P 00 30 03.5 -0.6**
ILAR Eielson Array 42.21 36 *e*P P 00 30 08.5 +4.3
ILAR *e*rx rx 00 30 17.3
ILAR Eielson Array 42.21 36 P **P 00 30 04.5 +0.3**
ILAR pP **pP 00 30 17.4 +1.3**
ILAR Eielson Array 42.21 36 P **P 00 30 04.5 +0.3**
comp=Z,0.9nm,0.7s,baz=282,slow=9.8,SNR=16
ILAR pP **pP 00 30 17.4 +1.3**
comp=Z,1.8nm,0.9s,baz=255,slow=4.8,SNR=8.0
MKAR Makanchi Array 44.74 298 *e*P **P 00 30 25.4 +0.6**
MKAR Makanchi Array 44.74 298 *e*P **P 00 30 25.4 +0.6**
MKAR Makanchi Array 44.74 298 *e*P **P 00 30 25.4 +0.6**
MKAR Makanchi Array 44.74 298 P **P 00 30 25.1 +0.3**
comp=Z,4.9nm,0.6s,baz=81,slow=9.0,SNR=61
MK01 Makanchi Array 44.74 298 *e*P **P 00 30 25.2 +0.4**
KURK Kurchatov 45.77 305 P **P 00 30 33.8 +0.9**
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 45.77 305 *e*P **P 00 30 32.6 -0.3**
KURK Kurchatov 45.77 305 *e*P **P 00 30 32.6 -0.3**
comp=Z,4.5nm,1.1s
KURBB Kurchatov Arra 45.85 304 P **P 00 30 33.8 +0.2**
comp=Z,2.3nm,0.4s,baz=62,slow=9.5,SNR=13
HYT Haines Junctio 47.02 40 *e*P **P 00 30 43.6 +0.9**
INK Inuvik 47.14 30 *e*P **P 00 30 44.5 +1.1**
INK Inuvik 47.14 30 *e*P **P 00 30 44.5 +1.1**
comp=Z,4.4nm,0.8s
INK Inuvik 47.14 30 P **P 00 30 44.6 +1.1**
comp=Z,4.3nm,0.7s,baz=306,slow=7.2,SNR=38
BVAR Borovoye Array 49.81 310 P **P 00 31 04.3 +0.2**
BVAR Borovoye Array 49.81 310 P **P 00 31 04.3 +0.2**
BVAR Borovoye Array 49.81 310 P **P 00 31 04.3 +0.2**
comp=Z,0.8nm,0.4s,baz=76,slow=8.9,SNR=6.2
BRVK Borovoye 49.86 310⇓ *e*P **P 00 31 04.2 -0.3**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
TKM2 Tokmak 2 50.63 296 *e*P **P 00 31 11.8 +1.0**
TKM2 pmax pmax
comp=Z,58nm,2.5s
TKM2 Tokmak 2 50.63 296 *e*P **P 00 31 11.8 +1.0**
comp=Z,58nm,2.5s
AAK Ala-Archa 51.49 296 P **P 00 31 17.2 +0.1**
AAK Ala-Archa 51.49 296 *e*P **P 00 31 17.2 +0.1**
AAK Ala-Archa 51.49 296 P **P 00 31 17.2 +0.1**
AAK Ala-Archa 51.49 296 P **P 00 31 17.2 +0.1**
comp=Z,0.6nm,0.3s,baz=117,slow=6.8,SNR=3.3
SVE Sverdlovsk 53.53 317 *e*P **P 00 31 31.9 +0.1**
SVE pmax pmax
comp=Z,8.0nm,0.8s
SVE Sverdlovsk 53.53 317 *e*P **P 00 31 31.9 +0.1**
ARU Arti 54.74 317*c i*P **P 00 31 40.0 -0.6**
ARU 00 33 40.4
ARU S **S 00 39 18.3 +0.5**
ARU SS **SS 00 42 58.0 -2.5**
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 54.74 317⇑ *i*P **P 00 31 40.0 -0.6**
YKA Yellowknife Ar 56.53 33 *e*P **P 00 31 53.9 +0.5**
YKA *e*rx rx 00 32 06.5
YKA Yellowknife Ar 56.53 33 P **P 00 31 53.9 +0.5**
YKA pP **pP 00 32 06.5 +0.9**
YKA Yellowknife Ar 56.53 33 P **P 00 31 53.9 +0.5**
comp=Z,0.7nm,0.6s,baz=300,slow=6.7,SNR=6.2
YKA pP **pP 00 32 06.5 +0.9**
comp=Z,1.2nm,0.6s,baz=300,slow=6.9,SNR=7.4
ABKAR Akbulak array 57.36 309 *e*P **P 00 31 59.5 +0.1**
ARCES ARCESS Array B 59.86 340 *e*P **P 00 32 15.2 -1.3**
ARCES ARCESS Array B 59.86 340 P **P 00 32 15.2 -1.3**
ARCES ARCESS Array B 59.86 340 P **P 00 32 15.2 -1.3**
comp=Z,1.2nm,0.8s,baz=43,slow=7.0,SNR=7.6
JOF Joensuu 62.64 332 *e*P **P 00 32 33.9 -1.5**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 62.64 332 *e*p **P 00 32 33.9 -1.5**
comp=Z,2.8nm,0.6s
YBH Yreka Blue Hor 63.47 57 P **P 00 32 41.8 +0.3**
YBH Yreka Blue Hor 63.47 57 P **P 00 32 41.8 +0.3**
comp=Z,1.0nm,0.6s,baz=8.6,slow=7.8,SNR=4.2
WRA Warramunga Arr 63.70 193 *e*P **P 00 32 41.7 -1.2**
WRA Warramunga Arr 63.70 193 P **P 00 32 41.7 -1.2**
comp=Z,2.2nm,0.7s,baz=15,slow=6.9,SNR=7.9
SUMG Summit 64.65 2 *e*P **P 00 32 50.9 +1.9**
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 64.65 2 *i* P **P 00 32 50.9 +1.9**
comp=Z,4.7nm,0.9s
KAF Kangasniemi 64.88 333 *e*P **P 00 32 48.6 -1.5**
KAF Kangasniemi 64.88 333 *e*p **P 00 32 48.6 -1.5**
FINES FINESS Array B 65.43 333 P **P 00 32 53.5 -0.2**
FINES pP **pP 00 33 06.7 +0.4**
FINES FINESS Array B 65.43 333 P **P 00 32 53.5 -0.2**
comp=Z,2.9nm,0.6s,baz=45,slow=7.0,SNR=21
FINES pP **pP 00 33 06.7 +0.4**
comp=Z,2.5nm,0.5s,baz=42,slow=7.9,SNR=4.8
OBN Obninsk 65.78 324⇓ *e*P **P 00 32 56.0 -0.1**
OBN pmax pmax
comp=Z,10.0nm,1.2s
OBN Obninsk 65.78 324 *e*P **P 00 32 56.0 -0.1**
VRHR Novokhopersk 66.05 318 *e*P **P 00 32 55.5 -2.4**
VRHR pmax pmax
comp=Z,7.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,1.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VSR Storozhevoye 67.15 319 *e*P **P 00 33 03.8 -1.2**
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=Z,8.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,1.2s
VORD Divnogorie 67.26 319 *e*P **P 00 33 04.7 -0.9**
VORD pmax pmax
comp=Z,6.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSU Vasula 67.37 330⇑ *i*P **P 00 33 05.6 -0.6**
VSU pmax pmax
comp=Z,35nm,1.3s
ASAR Alice Springs 67.42 193 *e*P **P 00 33 06.7 -0.1**
ASAR Alice Springs 67.42 193 P **P 00 33 06.8 -0.1**
ASAR Alice Springs 67.42 193 P **P 00 33 06.8 -0.1**
comp=Z,0.8nm,0.6s,baz=12,slow=5.8,SNR=13
NV01 Mina Array Sit 68.15 57 *e*P **P 00 33 12.1 +0.3**
NVAR Mina Array Bea 68.15 57 *e*P **P 00 33 13.0 +1.3**
NVAR Mina Array Bea 68.15 57 P **P 00 33 13.1 +1.3**
NVAR Mina Array Bea 68.15 57 P **P 00 33 13.1 +1.3**
comp=Z,1.6nm,0.7s,baz=289,slow=6.9,SNR=14
GOF Gofitskoye 69.18 313 *e*P pP 00 33 30.6 +0.2
KIV Kislovodsk 70.10 312⇑ *e*P **P 00 33 24.3 +0.7**
KIV *e**PP **pP 00 33 37.6 +1.4**
KIV pmax pmax
comp=Z,12nm,1.2s
KIV MLR MLR
comp=Z,100nm,19.0s
KIV Kislovodsk 70.10 312 *e*P **P 00 33 24.3 +0.7**
KIV *e*rx rx 00 33 35.9
KBZ Khabaz 70.13 312 P **P 00 33 24.4 +0.8**
KBZ Khabaz 70.13 312 P **P 00 33 24.4 +0.8**
KBZ Khabaz 70.13 312 P **P 00 33 24.4 +0.8**
comp=Z,1.7nm,0.7s,baz=45,slow=7.1,SNR=6.8
ZEI Tsey 70.19 310 *e*P **pP 00 33 34.1 -2.8**
ZEI pmax pmax
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 70.21 339 P **P 00 33 23.7 -0.2**
comp=Z,1.7nm,0.5s,baz=32,slow=6.5
NOA NORSAR Array B 70.21 339 *e*P **P 00 33 23.7 -0.2**
NOA *e*rx rx 00 33 35.9
NOA NORSAR Array B 70.21 339 P **P 00 33 23.7 -0.2**
NOA pP **pP 00 33 36.0 -0.6**
NOA NORSAR Array B 70.21 339 P **P 00 33 23.7 -0.2**
comp=Z,2.4nm,0.6s,baz=32,slow=6.3,SNR=24
NOA pP **pP 00 33 36.0 -0.6**
comp=Z,2.4nm,0.7s,baz=32,slow=6.1,SNR=6.3
NBO02 NORSAR Array S 70.30 339 *e*P **P 00 33 23.9 -0.5**
PDAR Pinedale Array 70.55 49 *e*P **P 00 33 27.0 +0.5**
PDAR Pinedale Array 70.55 49 P **P 00 33 27.1 +0.5**
PDAR Pinedale Array 70.55 49 P **P 00 33 27.1 +0.5**
comp=Z,1.1nm,0.6s,baz=288,slow=2.3,SNR=9.9
AKASG Malin Array Be 72.05 324 *e*P **P 00 33 35.0 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 72.05 324 P **P 00 33 34.1 -1.0**
AKASG Malin Array Be 72.05 324 P **P 00 33 34.1 -1.0**
comp=Z,2.2nm,0.5s,baz=39,slow=6.1,SNR=13
KIEV Kiev 72.06 324⇓ *e*P **P 00 33 35.2 0.0**
STKA Stephens Creek 74.68 185 *e*P **P 00 33 51.2 +0.5**
STKA Stephens Creek 74.68 185 P **P 00 33 51.2 +0.5**
STKA Stephens Creek 74.68 185 P **P 00 33 51.2 +0.5**
comp=Z,2.8nm,0.9s,baz=339,slow=11,SNR=3.9
BUR04 Bucovina Ar. S 76.10 324 *e*P **P 00 33 59.0 0.0**
CLL Collm 77.87 332 *i* P **P 00 34 08.8 +0.1**
CLL *i* 00 34 21.4
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 77.87 332 *i* P **P 00 34 08.8 +0.1**
comp=Z,7.0nm,1.0s
CLL *i* pP **pP 00 34 21.4 -0.1**
comp=Z,6.0nm,0.8s
CLL Collm 77.87 332 *i* P **P 00 34 08.8 +0.1**
BRTR Keskin Array B 77.90 314 P **P 00 34 09.2 -0.1**
BRTR pP **pP 00 34 22.2 +0.1**
BRTR Keskin Array B 77.90 314 P **P 00 34 09.2 -0.1**
comp=Z,0.7nm,0.6s,baz=113,slow=2.6,SNR=3.7
BRTR pP **pP 00 34 22.2 +0.1**
comp=Z,1.2nm,0.7s,baz=62,slow=5.1,SNR=3.7
BRTR LR LR 01 14 38.5
comp=Z,84nm,18.5s,baz=195,slow=40
KHC Kasperske Hory 79.50 331⇓ *e*P **P 00 34 18.7 +0.9**
KHC pmax pmax
comp=Z,11nm,0.8s
KHC Kasperske Hory 79.50 331 *e*P **P 00 34 18.7 +0.9**
GERES GERESS Array B 79.69 331 *e*P **P 00 34 20.3 +1.4**
GERES GERESS Array B 79.69 331 P **P 00 34 18.5 -0.5**
GERES GERESS Array B 79.69 331 P **P 00 34 18.5 -0.5**
comp=Z,0.3nm,0.7s,baz=45,slow=5.8,SNR=4.9
TXAR Lajitas Array 83.23 56 *e*P **P 00 34 38.0 0.0**
TXAR Lajitas Array 83.23 56 P **P 00 34 38.0 0.0**
TXAR Lajitas Array 83.23 56 P **P 00 34 38.0 0.0**
comp=Z,0.7nm,0.8s,baz=294,slow=4.3,SNR=9.2
SMF Signal de Mont 84.89 335 *e*P **P 00 34 46.0 0.0**
comp=Z,9.6nm,1.0s
AVF Avril sur Loir 84.91 336 *e*P **P 00 34 46.1 0.0**
comp=Z,8.1nm,1.0s
ORIF Oris-en-Rattie 85.79 333 *e*P **P 00 34 50.8 +0.2**
PGF Pioggiola 86.79 330 *e*P **P 00 34 56.4 +0.8**
LMR La Mourre 86.98 332 *e*P **P 00 34 56.8 +0.5**
PLCA Paso Flores 152.20 98 PKPbc **PKPbc 00 42 05.9 -0.6**
PLCA Paso Flores 152.20 98 PKPbc **PKPbc 00 42 05.9 -0.6**
comp=Z,1.7nm,0.8s,baz=287,slow=6.2,SNR=3.2

IDC 11 00:32:43.5±10.0, 15.78°S×175.52°W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/23, Error ellipse: s-maj=476.8km s-min=36.9km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**13.59**	**189**	LR	LR	00 40 23.8	
	comp=Z,213nm,21.9s,baz=172,slow=34						
WRA	**Warramunga Arr**	**47.77**	**257**	P	P	00 41 22.4	-0.6
	0.5nm,0.8s,baz=84,slow=7.6,SNR=2.6						
ASAR	**Alice Springs**	**48.05**	**252**	P	P	00 41 25.4	+0.3
	1.8nm,0.6s,baz=87,slow=8.1,SNR=5.1						
ILAR	**Eielson Array**	**83.22**	**12**	P	P	00 45 11.4	0.0
	0.2nm,0.4s,baz=217,slow=5.6,SNR=6.5						

*JMA **11** 00:52:40.4±0.1, 24.°06N×122.°30E, h45km±4km, M2.3*
*TAP **11** 00:52:41.0, 24.°11N×122.°29E, h49km, ML3.0, C*
ISC 11 00:52:40.6±1.1, 24.°08N±0.°04×122.°33E±0.°03, h28km±11km, n31, σ0.°96/61, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**		**0.64**	**303**	*i* P	**Pb**	**00 52 53.7 +0.5**
	baz=307						
ENA				S	**Sb**	**00 53 02.9 +1.2**
	baz=307						
HWA	**Hwalien**		**0.67**	**261**	*e*P	**Pb**	**00 52 54.4 +0.7**
	baz=258						
HWA				*e*S	**Sb**	**00 53 03.9 +1.2**	
	baz=258						
TWD	**Chiawan**		**0.67**	**270**	*i* P	**Pb**	**00 52 53.7 0.0**
	baz=259						
TWD				S	**Sb**	**00 53 02.9 +0.2**	
	baz=259						
TWC	**Suao**		**0.68**	**320**	*i* P	**Pb**	**00 52 54.0 0.0**
	baz=321						
TWC				S	**Sb**	**00 53 02.5 -0.5**	
	baz=321						
YOJ	**Yonaguni jima**		**0.73**	**59**	P	**Pb**	**00 52 55.1 +0.4**
YOJ					*e*S	**Sb**	**00 53 05.2 +0.9**
EGS			**0.84**	**335**	*e*P	**Pb**	**00 52 56.5 0.0**
	baz=336						
EGS				*e*S	**Sb**	**00 53 07.4 -0.1**	
	baz=336						
ESL	**Shilin**		**0.86**	**252**	*e*P	**Pb**	**00 52 56.1 -0.9**
	baz=242						
ESL				*e*S	**Sb**	**00 53 07.8 -0.4**	
	baz=242						
ENTT	**Nioudou**		**0.89**	**309**	P	**Pb**	**00 52 57.3 -0.1**
	baz=300						
ENTT				*e*S	**Sb**	**00 53 09.2 +0.3**	
	baz=300						
NNS	**Nan Shan**		**0.94**	**292**	P	**Pb**	**00 52 57.8 -0.6**
	baz=291						
NNS				*e*S	**Sb**	**00 53 10.0 -0.6**	
	baz=291						
TWB1	**Santiao Chiao**		**0.97**	**341**	*e*P	**Pb**	**00 52 57.4 -1.4**
	baz=343						
TWB1				*e*S	**Sb**	**00 53 09.2 -2.1**	
	baz=343						
WHF	**Hehuan Shan**		**0.97**	**274**	P	**Pb**	**00 52 58.1 -1.0**
	baz=272						
WHF				*e*S	**Sb**	**00 53 11.0 -0.7**	
	baz=272						
NSK	**Sanguang**		**1.06**	**304**	*i* P	**Pn**	**00 52 59.6 -0.1**
	baz=303						
NSK				*e*S	**Sb**	**00 53 12.9 -1.1**	
	baz=303						
TWT	**Tachien**		**1.07**	**279**	*e*P	**Pn**	**00 53 00.1 +0.3**
	baz=268						
TWT				*e*S	**Sb**	**00 53 13.5 -0.6**	
	baz=268						
EHY	**Hungye**		**1.09**	**238**	*e*P	**Pn**	**00 52 59.5 -0.4**
	baz=245						
EHY				*e*S	**Sb**	**00 53 12.4 -2.2**	
	baz=245						
TWF1	**Yuli**		**1.19**	**233**	*e*P	**Pn**	**00 53 01.0 -0.4**
	baz=243						
TWF1				*e*S	**Sn**	**00 53 15.5 -1.1**	
	baz=243						
TWS1	**Kuangyinshan**		**1.31**	**321**	*e*P	**Pn**	**00 53 02.7 -0.3**
	baz=332						
TWS1				*e*S	**Sn**	**00 53 20.0 +0.5**	
	baz=332						
CHKT	**Chengkung**		**1.32**	**222**	*e*P	**Pn**	**00 53 04.1 +1.0**
	baz=213						
CHKT				*e*S	**Sn**	**00 53 17.1 -2.7**	
	baz=213						
SMLT	**Sun Moon Lake**		**1.32**	**262**	*e*P	**Pn**	**00 53 03.7 +0.4**
	baz=260						
SMLT				*e*S	**Sn**	**00 53 20.1 0.0**	
	baz=260						
NSTT	**Nanjuang**		**1.33**	**295**	P	**Pn**	**00 53 04.2 +1.0**
	baz=293						
NSTT				*e*S	**Sn**	**00 53 20.1 0.0**	
	baz=293						
TYC	**Yuchr**		**1.36**	**263**	P	**Pn**	**00 53 04.1 +0.4**
	baz=261						
TYC				*e*S	**Sn**	**00 53 20.7 0.0**	
	baz=261						
YUS	**Yu-Shan**		**1.39**	**245**	P	**Pn**	**00 53 04.9 +0.3**
	baz=243						
YUS				*e*S	**Sn**	**00 53 21.1 -1.1**	
	baz=243						
TWQ1	**Liyutan**		**1.45**	**281**	*e*P	**Pn**	**00 53 06.2 +1.4**
	baz=279						
ALS	**Alishan**		**1.51**	**248**	P	**Pn**	**00 53 06.7 +0.7**
	baz=246						
ALS				*e*S	**Sn**	**00 53 25.4 +0.6**	
	baz=246						
JKRS	**Kuro-shima**		**1.54**	**84**	P	**Pn**	**00 53 06.7 +0.5**
JKRS					*e*S	**Sn**	**00 53 26.0 +0.7**
CHN5	**Tsauling**		**1.59**	**253**	P	**Pn**	**00 53 07.8 +0.9**
	baz=251						
CHN5				*e*S	**Sn**	**00 53 27.6 +1.0**	
	baz=251						
JIJ	**Ishigaki jima**		**1.68**	**80**	P	**Pn**	**00 53 07.9 -0.2**
JIJ					*e*S	**Sn**	**00 53 27.6 -1.1**
STYT	**Tauyuan**		**1.71**	**238**	*e*P	**Pn**	**00 53 08.9 +0.4**
	baz=236						
STYT				*e*S	**Sn**	**00 53 30.4 +0.9**	
	baz=236						
CHN4	**Tsaushan**		**1.75**	**246**	*e*P	**Pn**	**00 53 10.6 +1.5**
	baz=244						
CHN4				*e*S	**Sn**	**00 53 32.2 +1.8**	
	baz=244						
WTP	**Ta-pu**		**1.78**	**242**	*e*P	**Pn**	**00 53 10.3 +0.8**
	baz=240						
WTP				*e*S	**Sn**	**00 53 32.6 +1.4**	
	baz=240						
TWK	**Hsinying**		**1.87**	**245**	*e*P	**Pn**	**00 53 10.6 -0.2**
	baz=243						
TWK				*e*S	**Sn**	**00 53 34.4 +0.8**	
	baz=243						
CHN1	**Nanshi**		**1.88**	**242**	*e*P	**Pn**	**00 53 11.8 +1.0**
	baz=240						
CHN1				*e*S	**Sn**	**00 53 34.8 +1.2**	
	baz=240						

WEL 11 00:59:05.0±0.2, 40.°60S×174.°34E, h85km±2km, ML3.5/16, 3C-1D, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**		**0.37**	**237**	PN	Pn	00 59 17.7 -0.6
DUWZ					SN	Sn	00 59 27.1 -1.1
KIW	**Kapiti Island**		**0.51**	**121**	⇑PN	Pn	00 59 19.2 -0.1
KIW					SN	Sn	00 59 29.1 -0.9
KIW					AML	AML	00 59 31.0
TCW	**Tory Channel**		**0.61**	**184**	PN	Pn	00 59 20.4 +0.2
TCW					SN	Sn	00 59 31.1 -0.4
TCW					AML	AML	00 59 32.4
OGWZ	**Otaki Gorge**		**0.67**	**109**	PN	Pn	00 59 20.9 +0.1
OGWZ					SN	Sn	00 59 31.9 -0.6
CAW	**Cannon Point**		**0.75**	**133**	PN	Pn	00 59 21.7 +0.1
CAW					SN	Sn	00 59 34.0 0.0
CAW					AML	AML	00 59 34.9
WEL	**Wellington**		**0.76**	**155**	PN	Pn	00 59 24.2 +2.6
SNZO	**South Karori**		**0.76**	**159**	PN	Pn	00 59 22.0 +0.4
SNZO					AML	AML	00 59 34.6
SNZO					AML	AML	00 59 34.7
TUWZ	**Tuamarina**		**0.88**	**200**	PN	Pn	00 59 22.9 -0.1
TUWZ					AML	AML	00 59 36.6
TUWZ					AML	AML	00 59 37.1
BHW	**Baring Head**		**0.90**	**153**	PN	Pn	00 59 27.3 +4.1
BHW					AML	AML	00 59 36.9
HOWZ	**Holdsworth Sta**		**0.94**	**109**	PN	Pn	00 59 23.5 -0.2
MRZ	**Mangatainoka R**		**0.95**	**94**	PN	Pn	00 59 23.5 -0.2
MRZ					AML	AML	00 59 38.0
MRZ					AML	AML	00 59 40.7
NNZ	**Nelson**		**0.95**	**229**	PN	Pn	00 59 23.3 -0.5
NNZ					SN	Sn	00 59 37.1 -0.8
WAZ	**Wanganui**		**0.98**	**31**	PN	Pn	00 59 24.6 +0.4
MTW	**Mount Morrison**		**1.04**	**123**	PN	Pn	00 59 24.7 -0.1
MTW					AML	AML	00 59 40.3
MTW					AML	AML	00 59 40.3
MSWZ	**Moikau Station**		**1.07**	**140**	PN	Pn	00 59 25.0 -0.1
MSWZ					AML	AML	00 59 41.2
MSWZ					AML	AML	00 59 47.3
POWZ	**Post Office Ro**		**1.11**	**80**	PN	Pn	00 59 25.2 -0.5
PAWZ	**Paruwai Farm**		**1.13**	**134**	PN	Pn	00 59 25.3 -0.6
PAWZ					AML	AML	00 59 41.1
PAWZ					AML	AML	00 59 41.3
BSWZ	**Blackbirch Sta**		**1.16**	**197**	PN	Pn	00 59 26.4 +0.1
BSWZ					AML	AML	00 59 44.5
BSWZ					AML	AML	00 59 45.4
PLWZ	**Palliser**		**1.19**	**145**	PN	Pn	00 59 26.7 0.0
NMEZ	**Namu Road**		**1.24**	**343**	PN	Pn	00 59 27.0 -0.2
PRWZ	**Pori Road**		**1.25**	**88**	PN	Pn	00 59 29.7 +2.4

TMWZ	Te Maipa	1.28	114	PN	Pn	00 59 27.7	-0.1
DFE	Dawson Falls	1.29	352	PN	Pn	00 59 28.0	+0.1
TRWZ	Traveller	1.30	128	PN	Pn	00 59 28.2	+0.3
TRWZ				AML	AML	00 59 44.9	
TRWZ				AML	AML	00 59 45.7	
KHEZ	Kahui Hut	1.33	349	PN	Pn	00 59 28.3	-0.2
NEZ	North Egmont	1.34	352	PN	Pn	00 59 28.4	-0.3
TSZ	Takapari Road	1.35	67	PN	Pn	00 59 28.1	-0.6
TSZ				SN	Sn	00 59 45.9	-0.7
TSZ				AML	AML	00 59 52.2	
NWEZ	Newall Road	1.38	345	PN	Pn	00 59 28.9	-0.1
QRZ	Quartz Range	1.39	260	PN	Pn	00 59 27.9	-1.2
DREZ	Durham Road	1.42	356	PN	Pn	00 59 29.5	+0.1
DVHZ	Dannevirke	1.43	78	PN	Pn	00 59 28.5	-1.1
PKE	Pukeiti	1.43	349	PN	Pn	00 59 29.5	-0.2
BFZ	Birch Farm	1.46	94	PN	Pn	00 59 29.4	-0.5
VRZ	Vera Road	1.51	13	PN	Pn	00 59 30.7	+0.1
PKVZ	Pokaka	1.52	31	PN	Pn	00 59 31.4	+0.5
MHEZ	Mangahewa	1.52	360	⇓PN	Pn	00 59 31.2	+0.4
PNHZ	Pukenui	1.58	65	PN	Pn	00 59 30.7	-0.9
THZ	Tophouse	1.58	223	PN	Pn	00 59 31.7	0.0
WNVZ	Wahianoa	1.60	38	PN	Pn	00 59 31.6	-0.4
MOVZ	Moawhango	1.61	43	PN	Pn	00 59 31.4	-0.7
WHVZ	Whangaehu Hut	1.63	37	PN	Pn	00 59 32.3	-0.2
ANWZ	Angora Road	1.64	86	PN	Pn	00 59 31.5	-0.7
FWVZ	Far West T-bar	1.64	35	PN	Pn	00 59 32.1	-0.5
WPVZ	Whakapapa	1.68	34	PN	Pn	00 59 32.6	-0.3
COVZ	Chateau Observ	1.68	34	⇑PN	Pn	00 59 32.6	-0.4
WPHZ	Waipukurau	1.69	72	PN	Pn	00 59 32.2	-0.8
NGZ	Ngauruhoe	1.73	35	PN	Pn	00 59 33.2	-0.4
BHHZ	Black Hill Sta	1.73	51	PN	Pn	00 59 32.7	-0.9
TWVZ	Taurewa	1.75	29	PN	Pn	00 59 32.9	-1.0
OTVZ	Oturere	1.76	36	PN	Pn	00 59 33.8	-0.3
WTVZ	West Tongariro	1.77	33	PN	Pn	00 59 33.5	-0.6
PRHZ	Porangahau	1.79	80	PN	Pn	00 59 33.4	-0.8
KRVZ	Karewarewa	1.81	34	PN	Pn	00 59 34.0	-0.7
KHZ	Kahutara	1.91	198	PN	Pn	00 59 35.7	-0.1
KHZ				AML	AML	00 59 59.3	
KATZ	Kakaramea	1.93	33	PN	Pn	00 59 35.7	-0.6
PXZ	Pawanui	2.01	74	PN	Pn	00 59 36.0	-1.1
PXZ				AML	AML	01 00 02.6	
PXZ				AML	AML	01 00 02.7	
RATZ	Rangitukua	2.06	33	PN	Pn	00 59 38.6	+0.8
KAHZ	Kahuranaki	2.11	68	PN	Pn	00 59 37.3	-1.2
HIZ	Hauiti	2.12	11	⇑PN	Pn	00 59 38.4	-0.3
MCHZ	McNeill Hill	2.15	58	PN	Pn	00 59 37.9	-1.1
WATZ	Wairara	2.18	30	PN	Pn	00 59 39.3	-0.1
BKZ	Black Stump Fm	2.19	50	PN	Pn	00 59 38.2	-1.4
BKZ				AML	AML	01 00 05.9	
BKZ				AML	AML	01 00 06.4	
DSZ	Denniston Nort	2.23	238	PN	Pn	00 59 39.0	-1.1
TLZ	Tolley Road	2.45	23	PN	Pn	00 59 42.2	-1.0
LTZ	Lake Taylor	2.67	215	PN	Pn	00 59 44.8	-1.2
TOZ	Tahuroa Road	3.01	18	PN	Pn	00 59 49.6	-0.9
KNZ	Kokohu	3.02	59	PN	Pn	00 59 48.0	-2.6
MHGZ	Mahia Peninsul	3.10	63	PN	Pn	00 59 49.7	-2.1
OXZ	Oxford	3.21	211	PN	Pn	00 59 50.9	-2.4
MQZ	McQueen's Vall	3.34	201	PN	Pn	00 59 52.3	-2.7
MKAZ	Moumakai	3.55	11	PN	Pn	00 59 57.2	-0.6
ODZ	Otahua Downs	5.20	210	PN	Pn	01 00 17.7	-2.6
CTZ	Chatham Island	7.41	118	PN	Pn	01 00 50.0	-0.4

IDC ***11*** *01:01:40.7±4.9,36°.46N×71°.03E,h178km±45km,mb3.2/7, mb1 3.3/13,mb1mx3.1/32,mbtmp3.2/13,Error ellipse: s-maj=36.6km s-min=17.2km az=30.0*

ISCJB ***11*** *01:01:41.2±0.5,36°.59N±0°.05×70°.95E±0°.08,h188km, mb3.5/8,Error ellipse: s-maj=9.4km s-min=5.0km az=149.1*

NNC ***11*** *01:01:47.9±15.0,37°.08N×70°.70E,h148km±236km,mb3.1, mpv3.7,Error ellipse: s-maj=134.5km s-min=85.3km az=21.0*

ISC 11 01:01:42.1±0.7,36°.67N±0°.07×70°.97E±0°.09,h188km,n28, σ1§71/32,mb3.5/8,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.44	357	⇑P	Pn	01 03 17.2	+2.4
	2.2nm,0.2s,baz=183,slow=12,SNR=154						
KK31				⇑S	Sn	01 04 23.0	-5.2
	25nm,0.6s,baz=181,slow=16,SNR=32						
AAK	Ala-Archa	6.55	23	P	Pn	01 03 18.8	+2.3
	0.9nm,0.3s,baz=173,slow=4.6,SNR=20						
AAK				S	Sn	01 04 31.5	+0.6
	2.1nm,0.3s,baz=298,slow=23,SNR=15						
TKM2	Tokmak 2	7.19	28	⇑P	Pn	01 03 26.6	+1.7
	4.6nm,0.9s						
TKM2				⇓S	Sn	01 04 44.2	-2.0
	6.7nm,1.0s						
MKAR	Makanchi Array	13.17	36	P	Pn	01 04 43.4	+1.4
	0.1nm,0.3s,baz=208,slow=9.6,SNR=4.7						
PYUN	Piuthan	13.26	127	*eP*	Pn	01 04 42.8	-0.7
	25nm,0.6s						
DANN	Dangsing	13.60	124	*eP*	Pn	01 04 47.0	-0.9
	13nm,0.3s						
KOLN	Koldanda	13.88	126	*eP*	Pn	01 04 51.1	-0.2
	5.6nm,0.2s						
GKN	Gorkha	14.41	123	*eP*	Pn	01 04 56.8	-1.0
	8.5nm,0.3s						
AB31	Akbulak array	14.93	331	⇑P	P	01 05 05.1	+0.4
	0.8nm,0.4s,baz=145,slow=12						
AB31				⇓S	Sn	01 07 46.5	-3.9
	0.9nm,0.6s,baz=154,slow=23						
KURBB	Kurchatov Arra	14.97	19	P	P	01 05 04.8	-0.4
	0.2nm,0.3s,baz=204,slow=11,SNR=3.8						
KKN	Kakani	14.99	122	*eP*	P	01 05 04.6	-1.3
	14nm,0.6s						
PKIN	Phulchoki	15.20	123	*eP*	P	01 05 08.1	-0.2
	8.3nm,0.4s						
PKI	Pulchoki	15.21	123	*eP*	P	01 05 08.7	+0.2
	11nm,0.4s						
GUN	Gumba	15.32	121	*eP*	Pn	01 05 08.5	-0.7
	8.5nm,0.3s						
JIRN	Jiri	15.69	121	*eP*	P	01 05 13.9	0.0
	20nm,0.3s						
BVAR	Borovoye Array	16.36	359	P	Pn	01 05 22.1	+1.0
	0.8nm,0.3s,baz=158,slow=10,SNR=16						
AKTO	Aktyubinsk	16.62	330	P	Pn	01 05 25.1	+0.8
	1.2nm,0.3s,baz=140,slow=9.6,SNR=14						
AKTO	Aktyubinsk	16.62	330	⇓P	Pn	01 05 26.1	+1.8
	3.1nm,0.5s						
ZALV	Zalesovo Beam	19.77	25	P	P	01 05 58.6	+1.0
	0.4nm,0.3s,baz=214,slow=11,SNR=7.3						
AKASG	Malin Array Be	32.82	309	P	P	01 07 58.4	+0.8
	0.6nm,0.4s,baz=81,slow=7.2,SNR=5.7						
JOF	Joensuu	35.71	330	*ep*	P	01 08 23.6	+1.3
	1.5nm,0.5s						
FINES	FINESS Array B	37.33	326	P	P	01 08 36.9	+0.9
	0.6nm,0.4s,baz=120,slow=11,SNR=8.1						
ARCES	ARCESS Array B	40.98	338	P	P	01 09 07.2	+1.1
	1.0nm,0.5s,baz=114,slow=8.1,SNR=12						
NB2	NORSAR Subarra	44.23	323	P	P	01 09 33.7	+1.3
	comp=Z,0.7nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.23	323	P	P	01 09 33.7	+1.3
	comp=Z,0.9nm,0.5s,baz=96,slow=7.7,SNR=7.2						
TORD	Torodi Ar. Bea	65.70	269	P	P	01 12 06.0	-0.8
	comp=Z,0.3nm,0.5s,baz=47,slow=5.8,SNR=5.3						
WRA	Warramunga Arr	82.10	122	P	P	01 13 40.9	-0.9
	comp=Z,0.3nm,0.5s,baz=321,slow=4.3,SNR=2.6						
ASAR	Alice Springs	84.37	125	P	P	01 13 51.8	-1.6
	comp=Z,0.5nm,0.7s,baz=320,slow=6.3,SNR=5.7						

MEX 11 01:14:19.1±0.4,18°.13N×100°.38W,h55km±5km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	Puente Sto Nin	0.15	12	*i* P	Pn	01 14 26.2	-1.6
ARIG				*i* S	Sn	01 14 32.2	-1.9
MEIG	Mezcala	0.75	106	*i* P	Pn	01 14 32.4	-1.5
MEIG				*i* S	Sn	01 14 43.1	-1.6
PLIG	Platanillo	0.87	72	*i* P	Pn	01 14 33.9	-1.5
PLIG				*i* S	Sn	01 14 45.8	-1.7
CAIG	El Cayaco	1.08	174	*i* P	Pn	01 14 36.9	-1.2
CAIG				*i* S	Sn	01 14 49.8	-2.3
YAIG	Yautepec	1.44	59	*eP*	Pn	01 14 41.9	-1.2
YAIG				*i* S	Sn	01 14 58.4	-2.8
TLIG	Tlapa	1.82	108	*i* P	Pn	01 14 46.0	-2.2
TLIG				*i* S	Sn	01 15 07.8	-2.5
PNIG	Pinotepa	2.76	128	*i* P	Pn	01 14 59.3	-1.7
PNIG				*i* S	Sn	01 15 30.6	-2.5

BJI ***11*** *01:16:48.2,54°.09N×160°.88E,h45km,mB5.0/32,mb4.9/43, Ms4.6/36,Ms7 4.3/35*

KRSC ***11*** *01:16:48.9±3.4,53°.60N×160°.88E,h57km±63km,ML5.1, FELT [II-III] at Petropavlovsk.*

MOS ***11*** *01:16:51.2±1.0,53°.76N×160°.56E,h54km,mb5.2/100, Error ellipse: s-maj=6.7km s-min=3.9km az=83.1*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

ISCJB ***11*** *01:16:52.7±0.2,53°.71N±0°.02×160°.60E±0°.02,h69km±1km, mb4.9/290,Error ellipse: s-maj=2.8km s-min=1.8km az=154.9*

NEIC ***11*** *01:16:52.4±0.1,53°.79N×160°.47E,mb5.0/183,Error ellipse: s-maj=3.9km s-min=2.0km az=167.0*

NEIC Felt [III] at Petropavlovsk-Kamchatskiy.

SZGRF ***11*** *01:16:53.3,53°.83N×161°.62E,h33km,mb5.0,Off east coast of Kamchatka Peninsula, Russia*

IDC ***11*** *01:16:54.2±1.5,53°.85N×160°.49E,h64km±13km,mb4.5/28, mb1 4.7/29,mb1mx4.7/31,mbtmp4.6/29,MS3.9/19, Ms1 3.9/19,ms1mx3.8/35,Error ellipse: s-maj=14.1km s-min=9.2km az=147.0*

BGS ***11*** *01:16:59.8±2.1,54°.96N×158°.95E,h40km,mb4.8*

ISC 11 01:16:51.6±0.3,53°.68N±0°.02×160°.64E±0°.03,h48km±1km, h47km:pP-P,n1244,σ1§24/1358,mb5.0/290,MS4.0/34, 254C-230D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.69	212	PN	Pn	01 17 05.7	+0.6
SPN	Mys Shipunski	0.69	212	P	Pn	01 17 05.7	+0.6
KII	Karymskiy	0.79	297	*eP*	Pn	01 17 07.8	+1.3
NLC	Nalytchevo	0.93	237	PN	Pn	01 17 09.3	+1.1
NLC	Nalytchevo	0.93	237	*eP*	Pn	01 17 09.3	+1.1
MKZ	Mys Kozlova	1.09	36	PN	Pn	01 17 09.6	-0.8
MKZ	Mys Kozlova	1.09	36	P	Pn	01 17 09.6	-0.8
SDLR	Sedlovina	1.12	250	P	Pn	01 17 12.8	+1.8
SMAR	Somma	1.17	250	P	Pn	01 17 13.5	+1.7
SMAR				*i* S	Sn	01 17 29.2	+2.4
UGLR	Uglovaya	1.18	247	P	Pn	01 17 13.7	+1.9
KRER	Koryakskii	1.19	252	P	Pn	01 17 14.1	+2.1
AVH	Avacha	1.21	250	P	Pn	01 17 14.3	+2.1
KRX	Arik	1.23	255	P	Pn	01 17 14.4	+1.9
KOK	Koryaka	1.26	253	P	Pn	01 17 14.8	+2.0
KOK				*i* S	Sn	01 17 32.5	+3.9
PET	Petropavlovsk	1.36	242	α *i* PN	Pn	01 17 15.6	+1.5
PET				*eS*	Sn	01 17 33.4	+2.5
PET				pmax	pmax		
	comp=Z,2μm,1.4s						
PET				pmax	pmax		
	comp=Z,2μm,0.4s						
PET				pmax	pmax		
	comp=Z,600nm,5.5s						
PET				smax	smax		
	comp=E,4μm,1.2s						
PET				smax	smax		
	comp=E,42μm,0.5s						
PET				smax	smax		
	comp=N,32μm,0.4s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET				smax	smax		
	comp=E,46μm,0.6s						
PET				smax	smax		
	comp=N,41μm,0.5s						
PET	Petropavlovsk	1.36	242	*eP*	Pn	01 17 15.7	+1.6
PET				*i* S	Sn	01 17 33.2	+2.3
PET	Petropavlovsk	1.36	242	*ePn*	Pn	01 17 15.3	+1.2
PET				*eSn*	Sn	01 17 27.6	-3.3
INSR	Institute	1.36	244	*eP*	Pn	01 17 14.5	+0.3
INSR				*i* S	Sn	01 17 34.2	+3.1
KZV	Kizimen	1.45	352	P	Pn	01 17 16.6	+1.1
GNL	Ganaly	1.60	272	P	Pn	01 17 20.0	+2.4
TUMR	Tumrok	1.63	350	P	Pn	01 17 19.6	+1.7
RUS	Russkaya	1.79	227	PN	Pn	01 17 21.0	+1.0
RUS				S	Sn	01 17 42.9	+1.4
RUS	Russkaya	1.79	227	P	Pn	01 17 21.0	+1.0
RUS				*i* S	Sn	01 17 42.9	+1.4
PEA0B	Petropavlovsk-	1.85	253	*ePn*	Pn	01 17 23.0	+2.1
PEA0B				*eSn*	Sn	01 17 28	-5.3
PETK	Petropavlovsk-	1.85	253	PN	Pn	01 17 22.4	+1.6
PETK				S	Sn	01 17 46.4	+3.3
PETK	Petropavlovsk-	1.85	253	P	Pn	01 17 22.4	+1.6
PETK				S	Sn	01 17 46.4	+3.3
PETK	Petropavlovsk-	1.85	253	P	Pn	01 17 22.4	+1.6
	comp=N,501nm,0.3s,baz=82,slow=20,SNR=2159						
PETK				S	Sn	01 17 46.4	+3.3
	comp=N,1μm,0.3s,baz=86,slow=23,SNR=36						
PETK				LR	LR	01 18 08.2	
	comp=N,2μm,19.0s,baz=92,slow=40						
MTVR	Mutnovka	1.91	232	*eP*	Pn	01 17 23.3	+1.6
GRL	Gorelyy	1.92	235	P	Pn	01 17 24.1	+2.2
GRL				*i* S	Sn	01 17 47.8	+3.0
KMNR	Kamenistaya	2.09	354	P	Pn	01 17 26.4	+2.2
ASAK	Asacha	2.10	233	*eP*	Pn	01 17 26.6	+2.2
ASAK				*i* S	Sn	01 17 52.5	+3.1
APC	Apacha	2.22	251	*eP*	Pn	01 17 29.0	+3.1
APC				*i* S	Sn	01 17 56.9	+4.8
BZMR	Bezymyannaya	2.26	358	*eP*	Pn	01 17 28.9	+2.3
BZMR				*i* S	Sn	01 17 55.5	+2.2
BZGR	Bezymyannyi-Gr	2.26	1	*eP*	Pn	01 17 28.3	+1.7
BZGR				*i* S	Sn	01 17 55.2	+1.9
KIRR	Kirishev	2.28	356	*eP*	Pn	01 17 29.1	+2.2
KIRR				*i* S	Sn	01 17 56.9	+3.1
BZWR	Bezymyannyi-We	2.29	358	*eP*	Pn	01 17 29.3	+2.3
BZWR				*i* S	Sn	01 17 58.7	+4.7
KPT	Kopyto	2.30	354	*eP*	Pn	01 17 29.0	+1.9
ZLN	Zelenaya	2.34	2	*eP*	Pn	01 17 29.9	+2.2
KOZ	Kozyrevsk	2.42	350	*eP*	Pn	01 17 30.8	+2.1
KOZ				*i* S	Sn	01 18 00.8	+3.7
KOZR	Kozyr	2.43	350	PN	Pn	01 17 30.8	+2.0
KOZR				S	Sn	01 18 00.8	+3.6
CIRR	Tsirk	2.44	1	*eP*	Pn	01 17 31.3	+2.3
ESO	Esso	2.51	334	PN	Pn	01 17 31.7	+1.8
ESO				S	Sn	01 18 00.1	+0.8
ESO	Esso	2.51	334	*eP*	Pn	01 17 31.7	+1.8
ESO				*i* S	Sn	01 18 00.1	+0.8
KRSR	Krestovskiy	2.54	359	*eP*	Pn	01 17 32.4	+2.0
KRSR				*i* S	Sn	01 18 05.4	+5.3
KLY	Klyuchi	2.64	0	PN	Pn	01 17 33.5	+1.9
KLY				S	Sn	01 18 05.1	+2.8
KLY	Klyuchi	2.64	0	*eP*	Pn	01 17 33.5	+1.9
KLY				*i* S	Sn	01 18 05.1	+2.8
SRDR	Sredinnyy	2.69	349	*eP*	Pn	01 17 34.2	+1.8
MIPR	Malaya Ipel'ka	2.73	241	P	Pn	01 17 35.9	+2.9
KBTR	Krutoberegovo	2.83	26	PN	Pn	01 17 35.3	+1.1
KBTR				S	Sn	01 18 09.9	+2.9
KBTR	Krutoberegovo	2.83	26	P	Pn	01 17 35.3	+1.1
KBTR				*i* S	Sn	01 18 09.9	+2.9
KBG	Krutoberegovo	2.84	24	PN	Pn	01 17 35.3	+0.9
KBG				S	Sn	01 18 08.4	+1.1
KBG	Krutoberegovo	2.84	24	*eP*	Pn	01 17 35.3	+0.9
KBG				*i* S	Sn	01 18 08.4	+1.1
BDR	Baidarnaya	2.91	6	*eP*	Pn	01 17 37.5	+2.1
BDR				*i* S	Sn	01 18 14.0	+4.8
SMKR	Semkarok	2.94	9	*eP*	Pn	01 17 37.2	+1.3
SMKR				*i* S	Sn	01 18 12.1	+2.1
SRKR	Sorokina	2.99	6	*eP*	Pn	01 17 38.9	+2.3
PAU	Pauzhetka	3.22	228	PN	Pn	01 17 42.7	+3.1
PAU				S	Sn	01 18 24.1	+7.4
PAU	Pauzhetka	3.22	228	*eP*	Pn	01 17 42.7	+3.1
PAU				*i* S	Sn	01 18 24.1	+7.4
BKI	Bering	3.47	62	PN	Pn	01 17 42.6	-0.4
BKI	Bering	3.47	62	*eP*	Pn	01 17 42.6	-0.4
BKI				*i* S	Sn	01 18 18.7	-4.0
SKR	Severo-Kuril's	4.09	225	*ePN*	Pn	01 17 51.5	-0.1
SKR				*i* S	Sn	01 18 38.1	0.0
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,250nm,0.5s						
SKR				smax	smax		
	comp=N,1μm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR	Severo-Kuril's	4.09	225	*eP*	Pn	01 17 54.3	+2.7
SKR				*i* S	Sn	01 18 41.2	+3.1
OSSR	Ossora	5.74	13	*eP*	Pn	01 18 18.2	+4.1
OSSR				*i* S	Sn	01 19 21.6	+3.0
TILK	Tilichiki	7.41	22	*eP*	Pn	01 18 41.2	+4.2
FX1	Attu Island--F	7.56	91	*ePn*	Pn	01 18 38.2	-0.8
FX1				*eSn*	Sn	01 19 57.5	-5.7
FX1				S	Sn	01 19 57.9	-5.4
FX1	Attu Island--F	7.56	91	P	Pn	01 18 38.2	-0.8
	comp=E,50nm,0.3s,baz=313,slow=2.3,SNR=108						
FX1				S	Sn	01 19 57.9	-5.4
	comp=E,88nm,0.3s,baz=132,slow=22,SNR=19						
SMY	Shemya	8.14	91	*ePN*	Pn	01 18 47.8	+0.7
SMY	Shemya	8.14	91	*ePn*	Pn	01 18 47.8	+0.7
YSS	Yuzh-Sakhalins	13.24	247	*ePN*	P	01 20 02.0	-3.4
YSS				*eS*	Sn	01 22 33.0	+11
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS				MLR	MLR		
	comp=Z,800nm,16.0s						
YSS	Yuzh-Sakhalins	13.24	247	*ePn*	Pn	01 19 57.1	+0.3
SHO	Shikotan	13.37	228	*eP*	Pn	01 19 56.5	-1.9
YUK	Yuzh-Kuril'sk	13.68	231	*c iP*	Pn	01 20 05.7	+3.0
YUK				*i* S	Sn	01 22 38.0	+5.1
YUK				pmax	pmax		
	comp=Z,597nm,0.5s						
YUK				pmax	pmax		
	comp=N,54nm,0.3s						
YUK				pmax	pmax		
	comp=E,202nm,0.3s						
YUK				smax	smax		
	comp=N,180nm,2.7s						
YUK				smax	smax		
	comp=E,665nm,2.7s						
ASAJ	Asahikawa	15.20	238	*ePn*	Pn	01 20 24.7	+1.7
	comp=E,18nm,0.7s						
ASAJ	Asahikawa	15.20	238	P	Pn	01 20 24.2	+1.2
	comp=E,7.0nm,0.3s,baz=79,slow=12,SNR=20						
ASAJ				LR	LR	01 26 01.5	
	comp=E,449nm,20.6s,baz=28,slow=36						
ERM	Erimo	16.50	232	‖*eP*	Pn	01 20 38.3	-1.1
ERM				pmax	pmax		
	comp=Z,45nm,0.5s						
ERM	Erimo	16.50	232	*ePn*	Pn	01 20 37.4	-2.0
	comp=Z,127nm,0.4s						
ERM	Erimo	16.50	232	Pn	Pn	01 20 38.6	-0.8
	comp=Z,1μm,0.4s,SNR=13						
HABR	Khabarovsk	16.85	262	P	Pn	01 20 43.8	-0.1
HABR				*eS*	Sn	01 23 48.9	-1.1
HABR				pmax	pmax		
	comp=Z,34nm,1.5s						
HABR				MLR	MLR		
	comp=Z,358nm,18.0s						
YAK	Yakutsk	18.30	309	*eP*	P	01 21 00.3	-1.0
YAK				*eS*	Sn	01 24 23.7	-1.2
YAK				pmax	pmax		
	comp=N,37nm,1.8s						
YAK				pmax	pmax		
	comp=Z,82nm,1.0s						
YAK				pmax	pmax		
	comp=E,57nm,1.1s						
YAK				pmax	pmax		
	comp=N,33nm,1.5s						
YAK				pmax	pmax		
	comp=E,95nm,0.9s						
YAK				pmax	pmax		
	comp=Z,123nm,1.3s						
YAK				smax	smax		
	comp=E,164nm,2.8s						
YAK				smax	smax		
	comp=N,171nm,5.2s						
YAK				MLR	MLR		
	comp=E,380nm,17.0s						
YAK				MLR	MLR		
	comp=Z,517nm,15.0s						
YAK				MLR	MLR		
	comp=N,209nm,13.0s						
YAK	Yakutsk	18.30	309	*eP*	P	01 21 01.1	-0.2
	comp=N,95nm,0.6s						
KLR	Kul'dur	18.48	268	*eP*	P	01 21 03.0	-0.3
KLR				pmax	pmax		
	comp=E,100nm,1.8s						
KLR				pmax	pmax		
	comp=Z,150nm,1.8s						
UNV	Unalaska Valle	19.34	76	*eP*	Pn	01 21 14.1	0.0
	comp=Z,106nm,1.3s						
TNA	Tin City	19.59	40	*eP*	Pn	01 21 16.7	-0.3
	comp=Z,19nm,0.9s						
CLNS	Chul'man	20.46	293	*eP*	Pn	01 21 26.5	-1.0
CLNS				*eS*	S	01 25 13.4	+2.3
CLNS				*e*		01 25 36.1	
CLNS				pmax	pmax		
	comp=Z,35nm,0.9s						
CLNS				pmax	pmax		
	comp=N,21nm,1.0s						
CLNS				pmax	pmax		
	comp=E,25nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,27nm,0.8s						
CLNS				pmax	pmax		
	comp=N,35nm,1.0s						
CLNS				pmax	pmax		
	comp=E,53nm,1.3s						
CLNS				smax	smax		
	comp=N,11nm,0.8s						
CLNS				smax	smax		
	comp=E,8.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,604nm,13.0s						
CLNS				MLR	MLR		
	comp=E,515nm,15.0s						
CLNS				MLR	MLR		
	comp=N,145nm,15.0s						
USRK	Ussuriysk Arra	20.94	255	P	P	01 21 30.9	+0.8
	comp=N,9.1nm,0.7s,baz=53,slow=9.5,SNR=21						
USRK				LR	LR	01 30 24.0	
	comp=N,286nm,19.4s,baz=53,slow=39						
VLA	Vladivostok	21.67	253	‖*eP*	P	01 21 38.0	+0.1
VLA				pmax	pmax		
	comp=Z,54nm,0.6s						
MDJ	Mudanjiang	22.08	258	P	P	01 21 41.8	-0.6
MDJ				pP	pP	01 21 51.8	-1.9
MDJ				sP	sP	01 21 57.2	-2.4
MDJ				S	S	01 25 41.9	-1.0
MDJ				sS	sS	01 25 58.7	-2.7
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,67nm,3.6s						
MDJ				LR	LR		
	comp=Z,170nm,15.1s						
MDJ				LR	LR		
	comp=Z,220nm,20.6s						
MDJ				LR	LR		
	comp

COLD	**Coldfoot**	**26.89**	**41**	*e*P	**P**	**01 22 27.4**	**-0.2**
	comp=Z,12nm,0.8s							
MCK	**McKinley**	**27.32**	**48**	*e*P	**P**	**01 22 31.0**	**-0.4**
MCK				*e*		01 25 50.4		
MCK				pmax	pmax			
	comp=Z,18nm,1.0s							
MCK	**McKinley**	**27.32**	**48**	*e*P	**P**	**01 22 31.0**	**-0.4**
	comp=Z,18nm,1.0s							
MCK				*e*PcP	**PcP**	**01 25 50.4**	**+0.9**
SEW	**Seward**	**27.43**	**56**	*e*P	**P**	**01 22 31.4**	**-1.0**
	comp=Z,30nm,1.1s							
KSRS	**Korea Array**	**27.74**	**248**	P	P	**01 22 37.6**	**+2.2**
	comp=Z,7.8nm,0.7s,baz=43,slow=9.1,SNR=18							
KSRS				LR	LR	01 32 55.8		
	comp=Z,170nm,18.7s,baz=61,slow=35							
COLA	**College**	**27.75**	**46**	*c* *i*P	**P**	**01 22 35.7**	**+0.4**
COLA				pmax	pmax			
	comp=Z,77nm,1.0s							
COLA	**College**	**27.75**	**46**	*e*P	**P**	**01 22 35.4**	**+0.1**
	comp=Z,6.0nm,1.1s							
KSAR	**Wonju Array Be**	**27.77**	**248**	P	P	**01 22 37.6**	**+2.0**
ILAR	**Eielson Array**	**28.17**	**46**	P	P	**01 22 38.6**	**-0.4**
ILAR				PcP	**PcP**	**01 25 50.6**	**-0.9**
ILAR	**Eielson Array**	**28.17**	**46**	P	**P**	**01 22 38.6**	**-0.4**
	comp=Z,12nm,0.8s,baz=264,slow=8.2,SNR=154							
ILAR				PcP	**PcP**	**01 25 50.6**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=282,slow=3.6,SNR=5.5							
ILAR				LR	LR	01 33 53.1		
	comp=Z,129nm,21.0s,baz=268,slow=36							
PAX	**Paxson**	**28.93**	**50**	*e*P	**P**	**01 22 45.7**	**-0.2**
PAX				pmax	pmax			
	comp=Z,8.0nm,1.2s							
PAX	**Paxson**	**28.93**	**50**	*e*P	**P**	**01 22 45.7**	**-0.2**
	comp=Z,8.2nm,1.2s							
JNU	**Nakatsue**	**29.48**	**238**	P	**P**	**01 22 52.1**	**+1.1**
JNU	**Nakatsue**	**29.48**	**238**	P	**P**	**01 22 52.1**	**+1.1**
	comp=Z,15nm,0.8s,baz=81,slow=5.6,SNR=6.8							
JNU				LR	LR	01 33 48.8		
	comp=Z,121nm,20.9s,baz=154,slow=34							
DOT	**Dot Lake**	**29.49**	**48**	*e*P	**P**	**01 22 50.1**	**-0.7**
	comp=Z,45nm,2.0s							
DOT				*e*PcP	**PcP**	**01 25 56.3**	**+1.3**
BMRM	**Bremner River**	**29.64**	**54**	*e*P	**P**	**01 22 52.8**	**+0.6**
	comp=Z,14nm,0.9s							
JCJ	**Chichijima**	**29.86**	**215**	LR	LR	01 32 19.7		
	comp=Z,92nm,20.4s,baz=118,slow=31							
BJI	**Beijing**	**32.75**	**264**	P	**P**	**01 23 19.2**	**-0.4**
BJI				S	**S**	**01 28 34.7**	**+1.9**
BJI				ScS	**ScS**	**01 33 45.0**	**+1.5**
BJI				pmax	pmax			
	comp=Z,11nm,1.1s							
BJI				pmax	pmax			
	comp=Z,170nm,7.9s							
BJI				LR	LR			
	comp=Z,170nm,13.4s							
BJI				LR	LR			
	comp=Z,370nm,16.3s							
BJI				LR	LR			
	comp=Z,170nm,20.6s							
HYT	**Haines Junctio**	**33.05**	**52**	*e*P	**P**	**01 23 23.6**	**+1.4**
INK	**Inuvik**	**33.20**	**38**	*e*P	**P**	**01 23 23.8**	**+0.5**
	comp=Z,9.1nm,0.7s							
INK				*e*PcP	**PcP**	**01 26 04.8**	**+0.1**
ULN	**Ulaanbaatar**	**33.69**	**282**	*e*P	**P**	**01 23 26.5**	**-1.5**
	comp=Z,8.3nm,1.3s							
TLY	**Talaya**	**33.82**	**290**	*e*S	**S**	**01 28 49.9**	**+0.6**
TLY				pmax	pmax			
	comp=Z,9.0nm,1.2s							
TLY				MLR	MLR			
	comp=Z,261nm,17.0s							
SONM	**Songino Array**	**34.08**	**283**	P	**P**	**01 23 30.7**	**-0.6**
SONM				PcP	**PcP**	**01 26 08.3**	**+0.5**
SONM				ScP	**ScP**	**01 29 48.1**	**-0.3**
SONM	**Songino Array**	**34.08**	**283**	P	**P**	**01 23 30.7**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=58,slow=8.4,SNR=20							
SONM				PcP	**PcP**	**01 26 08.3**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=82,slow=1.4,SNR=14							
SONM				ScP	**ScP**	**01 29 48.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=201,slow=0.3,SNR=5.8							
SONM				LR	LR	01 39 09.2		
	comp=Z,356nm,18.1s,baz=38,slow=39							
H11N2	**WAKE ISLAND Hy**	**34.23**	**169**	T	T	01 59 59.9		
	baz=284,slow=75,SNR=1810							
H11N3	**WAKE ISLAND Hy**	**34.25**	**169**	T	T	01 59 50.5		
	baz=355,slow=75,SNR=1947							
H11N1	**WAKE ISLAND Hy**	**34.25**	**169**	T	T	02 00 28.7		
	SNR=1273							
HHC	**Hu-ho-hao-te**	**34.98**	**269**	*e*P	**P**	**01 23 40.6**	**+1.5**
HHC				pP	**pP**	**01 23 50.5**	**-1.2**
HHC				sP	**sP**	**01 23 56.1**	**-1.2**
HHC				PP	**PnPn**	**01 24 56.7**	**-0.3**
HHC				S	**S**	**01 29 06.4**	**-1.1**
HHC				sS	**sS**	**01 29 25.1**	**-3.6**
HHC				pmax	pmax			
	comp=Z,40nm,0.7s							
HHC				pmax	pmax			
	comp=Z,210nm,5.3s							
HHC				LR	LR			
	comp=Z,290nm,13.3s							
HHC				LR	LR			
	comp=Z,650nm,13.0s							
HHC				LR	LR			
	comp=Z,250nm,13.6s							
MOY	**Mondy**	**35.30**	**292**	*e*P	**P**	**01 23 44.5**	**+2.7**
H11S1	**WAKE ISLAND Hy**	**35.42**	**170**	T	T	02 01 21.8		
	baz=355,slow=78,SNR=86							
H11S3	**WAKE ISLAND Hy**	**35.43**	**170**	T	T	02 01 25.8		
	baz=355,slow=78,SNR=190							
H11S2	**WAKE ISLAND Hy**	**35.44**	**170**	T	T	02 01 24.3		
	baz=355,slow=78,SNR=48							
JOW	**Kunigami**	**35.92**	**235**	*e*P	**P**	**01 23 47.9**	**+0.8**
	comp=Z,80nm,1.6s							
NJ2	**Nanjing**	**36.76**	**251**	*e*P	**P**	**01 23 55.1**	**+0.8**
NJ2				pP	**pP**	**01 24 05.4**	**-1.5**
NJ2				S	**S**	**01 29 35.0**	**+0.4**
NJ2				sS	**sS**	**01 29 55.0**	**-0.8**
NJ2				pmax	pmax			
	comp=Z,20nm,0.6s							
NJ2				LR	LR			
	comp=Z,130nm,16.6s							
NJ2				LR	LR			
	comp=Z,200nm,17.0s							
NJ2				LR	LR			
	comp=Z,160nm,16.2s							
HVS	**Khovu-Aksy**	**39.55**	**294**	⇓*e*P	**P**	**01 24 17.1**	**-0.6**
HVS				pmax	pmax			
	comp=Z,82nm,1.7s							
WHN	**Wuhan**	**40.44**	**254**	⇓P	**P**	**01 24 26.1**	**+1.0**
ALE	**Alert**	**42.29**	**8**	P	**P**	**01 24 39.9**	**+0.1**
	comp=Z,66nm,0.7s,SNR=5.2							
YKW3	**Yellowknife Ar**	**42.47**	**43**	*e*P	**P**	**01 24 42.0**	**+0.6**
	comp=Z,0.2nm,0.6s							
YKA	**Yellowknife Ar**	**42.51**	**43**	P	**P**	**01 24 42.4**	**+0.6**
YKA				PcP	**PcP**	**01 26 33.7**	**+0.2**
YKA	**Yellowknife Ar**	**42.51**	**43**	P	**P**	**01 24 42.3**	**+0.6**
	comp=Z,11nm,0.7s,baz=299,slow=8.1,SNR=79							
YKA				PcP	**PcP**	**01 26 33.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=302,slow=3.7,SNR=5.0							
LZH	**Lanzhou**	**42.67**	**269**	*e*P	**P**	**01 24 43.8**	**+0.2**
LZH				pP	**pP**	**01 24 56.8**	**+0.4**
LZH				sP	**sP**	**01 25 02.5**	**+0.5**
LZH				SS	SS	01 34 07.0	-7.7
LZH				pmax	pmax			
	comp=Z,35nm,1.1s							
LZH				pmax	pmax			
	comp=Z,240nm,5.9s							
LZH				LR	LR			
	comp=Z,480nm,18.8s							
LZH				LR	LR			
	comp=Z,360nm,18.6s							
LZH				LR	LR			
	comp=Z,520nm,16.3s							
ZAA0	**Zalesovo Array**	**42.73**	**302**	*e*P	**P**	**01 24 42.1**	**-1.5**
ZAA0				*e*PcP	**PcP**	**01 26 32.2**	**-2.2**
ZALV	**Zalesovo Beam**	**42.73**	**302**	P	**P**	**01 24 42.3**	**-1.4**
ZALV						01 26 28.4		
ZALV	**Zalesovo Beam**	**42.73**	**302**	P	**P**	**01 24 42.2**	**-1.4**
ZALV				PP	PP	01 26 28.4	+5.3
ZALV	**Zalesovo Beam**	**42.73**	**302**	P	**P**	**01 24 42.2**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=52,slow=7.8,SNR=17							
ZALV				PP	PP	01 26 28.4	+5.3
	comp=Z,4.8nm,0.8s,baz=57,slow=11,SNR=7.0							
ZALV				LR	LR	01 43 22.2		
	comp=Z,260nm,19.0s,baz=247,slow=37							
GTA	**Gaotai**	**42.87**	**276**	*e*P	**P**	**01 24 45.0**	**-0.1**
GTA				pP	**pP**	**01 24 57.6**	**-0.3**
GTA				sP	**sP**	**01 25 02.4**	**-1.1**
GTA				PcP	**PcP**	**01 26 35.9**	**+0.6**
GTA				S	**S**	**01 31 04.5**	**-1.7**
GTA				sS	**sS**	**01 31 25.4**	**-2.3**
GTA				SS	SS	01 34 09.3	-9.1
GTA				pmax	pmax			
	comp=Z,26nm,1.0s							
GTA				pmax	pmax			
	comp=Z,110nm,5.7s							
GTA				LR	LR			
	comp=Z,230nm,13.8s							
GTA				LR	LR			
	comp=Z,170nm,14.3s							
GTA				LR	LR			
	comp=Z,290nm,13.3s							
NVS	**Novosibirsk**	**43.05**	**304**	⇑*i*P	**P**	**01 24 44.7**	**-1.5**
NVS				*i*		01 24 57.2		
NVS				*i*		01 26 24.9		
NVS				*i* S	S	01 30 58.2	-10
NVS				pmax	pmax			
	comp=Z,31nm,1.2s							
NVS				pmax	pmax			
	comp=N,8.0nm,1.3s							
NVS				pmax	pmax			
	comp=E,28nm,1.3s							
NVS				pmax	pmax			
	comp=Z,8.0nm,1.3s							
NVS				pmax	pmax			
	comp=N,5.0nm,1.0s							
NVS				pmax	pmax			
	comp=E,7.0nm,1.2s							
NVS				smax	smax			
	comp=N,23nm,2.2s							
NVS				smax	smax			
	comp=E,16nm,2.0s							
ENH	**Enshi**	**43.45**	**258**	*e*P	**P**	**01 24 49.3**	**-0.5**
	comp=E,16nm,0.5s							
ENH				*e*PcP	**PcP**	**01 26 37.6**	**+0.3**
VDB	**Vedder Mountai**	**46.25**	**63**	P	**P**	**01 25 12.6**	**+0.7**
A05A	**Maple Falls**	**46.28**	**63**	*e*P	**P**	**01 25 13.1**	**+1.1**
	comp=E,13nm,1.1s							
NLWA	**Neilton Lookou**	**46.29**	**66**	*e*P	**P**	**01 25 13.6**	**+1.4**
	comp=E,16nm,0.9s							
KBS	**Kingsbay**	**46.34**	**352**	*e*P	**P**	**01 25 09.1**	**-3.0**
CD2	**Chengdu**	**46.35**	**264**	P	**P**	**01 25 12.8**	**0.0**
CD2				pP	**pP**	**01 25 26.4**	**+0.6**
CD2				sP	**sP**	**01 25 32.5**	**+1.2**
CD2				PcP	**PcP**	**01 26 48.6**	**+1.3**
CD2				PP	**PP**	**01 27 01.5**	**-0.6**
CD2				S	**S**	**01 31 54.2**	**-2.5**
CD2				sS	**sS**	**01 32 17.5**	**-0.9**
CD2				SS	ScS	01 35 12.1	+8.4
CD2				pmax	pmax			
	comp=E,10.0nm,1.4s							
CD2				pmax	pmax			
	comp=E,80nm,8.2s							
CD2				LR	LR			
	comp=E,230nm,16.6s							
CD2				LR	LR			
	comp=E,370nm,16.4s							
CD2				LR	LR			
	comp=E,320nm,14.2s							
MBW	**Mount Baker**	**46.50**	**63**	P	**P**	**01 25 14.8**	**+0.8**
CMW	**Cultus Mountai**	**46.60**	**63**	P	**P**	**01 25 16.1**	**+1.4**
JCW	**Jim Creek**	**46.84**	**64**	P	**P**	**01 25 17.4**	**+0.9**
B06A	**Marblemount**	**46.88**	**63**	*e*P	**P**	**01 25 17.6**	**+0.9**
	comp=E,22nm,1.1s							
E03A	**Lebam**	**46.97**	**66**	*e*P	**P**	**01 25 19.0**	**+1.6**
	comp=E,28nm,1.0s							
WMQ	**Urumqi**	**47.08**	**289**	P	**P**	**01 25 20.0**	**+1.5**
WMQ				pP	**pP**	**01 25 32.0**	**+0.6**
WMQ				sP	**sP**	**01 25 38.0**	**+1.0**
WMQ				PcP	**PcP**	**01 26 52.0**	**+2.3**
WMQ				PP	**PP**	**01 27 11.0**	**+1.7**
WMQ				ScP	**ScP**	**01 30 41.0**	**+1.7**
WMQ				S	**S**	**01 32 07.0**	**+0.1**
WMQ				sS	**sS**	**01 32 28.0**	**-0.6**
WMQ				ScS	**ScS**	**01 35 07.0**	**-1.2**
WMQ				SS	**SS**	**01 35 28.0**	**-5.9**
WMQ				pmax	pmax			
	comp=E,58nm,1.0s							
WMQ				pmax	pmax			
	comp=E,170nm,4.0s							
WMQ				LR	LR			
	comp=E,390nm,17.0s							
WMQ				LR	LR			
	comp=E,370nm,17.0s							
WMQ				LR	LR			
	comp=E,290nm,18.0s							
D05A	**Enumclaw**	**47.43**	**65**	*e*P	**P**	**01 25 22.6**	**+1.6**
	comp=E,23nm,0.9s							
KURK	**Kurchatov**	**47.70**	**302**	*e*P	**P**	**01 25 21.0**	**-2.0**
KURK				pmax	pmax			
	comp=Z,7.0nm,0.5s							
KURK	**Kurchatov**	**47.70**	**302**	*e*P	**P**	**01 25 21.0**	**-2.0**
	comp=Z,7.3nm,0.5s							
KURK	**Kurchatov**	**47.70**	**302**	P	**P**	**01 25 20.7**	**-2.3**
	comp=Z,188nm,0.4s,SNR=23							
LON	**Longmire**	**47.79**	**65**	*e*P	**P**	**01 25 24.8**	**+0.9**
LON				pmax	pmax			
	comp=Z,4.0nm,1.0s							
LON	**Longmire**	**47.79**	**65**	*e*P	**P**	**01 25 24.8**	**+0.9**
	comp=Z,4.1nm,1.0s							
GYA	**Guiyang**	**47.94**	**258**	⇑*i*P	**P**	**01 25 27.3**	**+1.9**
GYA				pP	**pP**	**01 25 38.6**	**+0.2**
GYA				sP	**sP**	**01 25 45.0**	**+1.1**
GYA				PP	**PP**	**01 27 17.2**	**-0.3**
GYA				ScP	**ScP**	**01 30 43.6**	**+0.4**
GYA				S	**S**	**01 32 18.4**	**-1.2**
GYA				sS	**sS**	**01 32 40.9**	**-0.5**
GYA				ScS	**ScS**	**01 35 11.2**	**-3.2**
GYA				SS	**SS**	**01 35 41.5**	**-7.0**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,4.9s							
GYA				LR	LR			
	comp=Z,680nm,17.8s							
GYA				LR	LR			
	comp=Z,540nm,18.2s							
GYA				LR	LR			
	comp=Z,610nm,17.7s							
WPW	**White Pass**	**47.97**	**65**	P	**P**	**01 25 26.4**	**+1.0**
F04A	**Amboy**	**47.97**	**66**	*e*P	**P**	**01 25 26.1**	**+0.9**
	comp=Z,14nm,0.9s							
ETW	**Entiat**	**48.06**	**63**	P	**P**	**01 25 26.7**	**+0.6**
LTY	**Liberty**	**48.09**	**64**	*e*P	**P**	**01 25 26.8**	**+0.6**
	comp=Z,13nm,1.2s							
B08A	**Colville Reser**	**48.12**	**62**	*e*P	**P**	**01 25 27.1**	**+0.7**
	comp=Z,18nm,0.9s							
EDM	**Edmonton**	**48.15**	**54**	*e*P	**P**	**01 25 27.4**	**+0.8**
EDM	**Edmonton**	**48.15**	**54**	*e*P	**P**	**01 25 27.4**	**+0.8**
MK31	**Makanchi Array**	**48.19**	**295**	*e*P	**P**	**01 25 24.9**	**-2.1**
MK31	**Makanchi Array**	**48.19**	**295**	*e*P	**P**	**01 25 24.9**	**-2.1**
MKAR	**Makanchi Array**	**48.19**	**295**	P	**P**	**01 25 24.9**	**-2.1**
MKAR	**Makanchi Array**	**48.19**	**295**	P	**P**	**01 25 24.9**	**-2.1**
MKAR	**Makanchi Array**	**48.19**	**295**	P	**P**	**01 25 24.9**	**-2.1**
	comp=Z,8.1nm,0.6s,baz=54,slow=5.3,SNR=86							
MKAR				LR	LR	01 47 05.5		
	comp=Z,106nm,18.0s,baz=12,slow=38							
WTV	**Waterville**	**48.20**	**63**	P	**P**	**01 25 27.4**	**+0.4**
COR	**Corvallis**	**48.34**	**68**	*e*P	**P**	**01 25 29.8**	**+1.7**
COR				pmax	pmax			
	comp=Z,18nm,0.8s							
COR	**Corvallis**	**48.34**	**68**	*e*P	**P**	**01 25 29.8**	**+1.7**
	comp=Z,18nm,0.8s							
RNO	**Roman Nose**	**48.52**	**69**	P	**P**	**01 25 31.4**	**+1.8**
TRW	**Toppenish Ridg**	**48.76**	**65**	P	**P**	**01 25 32.5**	**+1.2**
I03D	**Drain, OR**	**48.88**	**69**	⇑P	**P**	**01 25 33.4**	**+1.1**
	baz=49							
VFP	**Flag Point**	**48.88**	**66**	P	**P**	**01 25 33.2**	**+0.8**
H04A	**Detroit Lake**	**48.89**	**67**	*e*P	**P**	**01 25 33.1**	**+0.8**
	comp=Z,15nm,1.0s							
E07A	**Sunnyside**	**48.96**	**64**	*e*P	**P**	**01 25 33.7**	**+0.8**
	comp=Z,16nm,1.0s							
G05D	**Wamic, OR**	**49.01**	**66**	⇓P	**P**	**01 25 34.1**	**+0.8**
	baz=49							
C09A	**Chrisman Ranch**	**49.02**	**62**	*e*P	**P**	**01 25 34.0**	**+0.8**
	comp=Z,9.6nm,0.8s							
D08A	**Wollman Farm,**	**49.15**	**63**	*e*P	**P**	**01 25 35.0**	**+0.7**
	comp=Z,14nm,1.3s							
HAWA	**Hanford**	**49.24**	**64**	*e*P	**P**	**01 25 35.7**	**+0.7**
	comp=Z,20nm,1.3s							
NEW	**Newport**	**49.33**	**61**	*e*P	**P**	**01 25 36.5**	**+0.8**
	comp=Z,14nm,1.2s							
NEW	**Newport**	**49.33**	**61**	⇑P	**P**	**01 25 36.1**	**+0.4**
	baz=49							
I04A	**Tendick Farm,**	**49.34**	**68**	⇑P	**P**	**01 25 36.6**	**+0.8**
	baz=49							
I05D	**Terrebonne, OR**	**49.58**	**67**	⇓P	**P**	**01 25 38.7**	**+1.1**
	baz=49							
L02D	**Cave Junction,**	**49.74**	**71**	⇑P	**P**	**01 25 40.5**	**+1.6**
	baz=50							
HUMO	**Hull Mountain**	**49.80**	**70**	*e*P	**P**	**01 25 40.9**	**+1.6**
	comp=Z,8.2nm,1.0s							
J04D	**Umpqua Nationa**	**49.86**	**69**	⇑P	**P**	**01 25 41.3**	**+1.3**
	baz=50							
E09A	**Wood Farm, Sta**	**49.90**	**63**	*e*P	**P**	**01 25 40.5**	**+0.5**
	comp=Z,23nm,0.8s							
G08A	**Pilot Rock**	**50.26**	**65**	*e*P	**P**	**01 25 43.2**	**+0.4**
	comp=Z,8.6nm,1.2s							
BVA0	**Borovoye Array**	**50.28**	**308**	*i* P	**P**	**01 25 40.7**	**-2.1**
BVA0				pmax	pmax			
	comp=Z,5.0nm,0.6s							
BRVK	**Borovoye**	**50.30**	**308**	*c* *e*P	**P**	**01 25 41.6**	**-1.4**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
BRVK	**Borovoye**	**50.30**	**308**	*e*P	**P**	**01 25 41.5**	**-1.4**
	comp=Z,7.5nm,0.7s							
BRVK	**Borovoye**	**50.30**	**308**	P	**P**	**01 25 41.1**	**-1.9**
	comp=Z,76nm,0.5s,SNR=8.8							
J05D	**Fort Rock, OR**	**50.32**	**68**	⇑P	**P**	**01 25 44.9**	**+1.5**
	baz=50							
K04D	**Chiloquin, OR**	**50.46**	**69**	⇓P	**P**	**01 25 45.4**	**+0.9**
	baz=50							
WALA	**Waterton Lakes**	**50.47**	**58**	*e*P	**P**	**01 25 45.1**	**+0.7**
	comp=Z,0.7nm,0.9s							
WALA				*e*PcP	**PcP**	**01 27 02.5**	**+0.5**
KHMM	**Horse Mountain**	**50.51**	**72**	*e*P	**P**	**01 25 47.2**	**+2.3**
	comp=Z,16nm,1.2s							
YBH	**Yreka Blue Hor**	**50.52**	**71**	*e*P	**P**	**01 25 46.8**	**+1.9**
	comp=Z,9.9nm,0.9s							
M02C	**Callahan**	**50.66**	**71**	⇓P	**P**	**01 25 47.5**	**+1.6**
	baz=50							
F10A	**Beach Ranch, E**	**50.74**	**63**	*e*P	**P**	**01 25 47.1**	**+0.6**
	comp=Z,8.1nm,0.9s							
I07A	**Izee**	**50.75**	**66**	*e*P	**P**	**01 25 47.7**	**+1.1**
	comp=Z,7.3nm,1.4s							
BSMT	**Bassoo Peak**	**50.80**	**60**	*e*P	**P**	**01 25 48.0**	**+1.0**
	comp=Z,36nm,0.8s							
K05A	**Summer Lake**	**50.87**	**69**	*e*P	**P**	**01 25 49.2**	**+1.5**
	comp=Z,23nm,1.1s							
BLMT	**Blacktail Moun**	**50.91**	**60**	*e*P	**P**	**01 25 49.1**	**+1.2**
M04C	**Macdoel**	**50.97**	**70**	⇑P	**P**	**01 25 49.6**	**+1.3**
	baz=51							
N02D	**Trinity Center**	**51.02**	**71**	⇑P	**P**	**01 25 50.0**	**+1.3**
	baz=51							
JTMT	**Jette**	**51.13**	**60**	*e*P	**P**	**01 25 50.4**	**+0.9**
YBMT	**Yellow Bay**	**51.19**	**59**	*e*P	**P**	**01 25 50.7**	**+0.8**
KMI	**Kunming**	**51.24**	**260**	P	**P**	**01 25 51.4**	**+0.7**
KMI				pP	**pP**	**01 26 05.0**	**+1.2**
KMI				PP	**PP**	**01 27 49.2**	**+1.5**
KMI				S	**S**	**01 33 03.7**	**-2.3**
KMI				SS	**SS**	**01 36 35.7**	**-5.9**
KMI				pmax	pmax			
	comp=Z,11nm,0.5s							
KMI				pmax	pmax			
	comp=Z,61nm,4.1s							
KMI				LR	LR			
	comp=Z,170nm,18.7s							
KMI				LR	LR			
	comp=Z,140nm,14.2s							
KMI				LR	LR			
	comp=Z,120nm,18.1s							
WDC	**Whiskeytown Da**	**51.38**	**72**	*e*P	**P**	**01 25 52.7**	**+1.5**
WDC				pmax	pmax			
	comp=Z,8.0nm,0.9s							
WDC	**Whiskeytown Da**	**51.38**	**72**	*e*P	**P**	**01 25 52.7**	**+1.5**
	comp=Z,8.0nm,0.9s							
SWMT	**Swartz Lake**	**51.43**	**60**	*e*P	**P**	**01 25 52.3**	**+0.6**
BMO	**Blue Mountains**	**51.43**	**64**	*e*P	**P**	**01 25 52.4**	**+0.8**
	comp=Z,8.0nm,0.8s							
MOD	**Modoc**	**51.75**	**69**	*e*P	**P**	**01 25 55.5**	**+1.3**
	comp=Z,4.0nm,0.8s							
MOD				*e*PcP	**PcP**	**01 27 08.0**	**+1.1**
J08A	**Circle Bar Ran**	**51.78**	**66**	*e*P	**P**	**01 25 55.2**	**+0.9**
	comp=Z,12nm,1.3s							
SLMT	**Seeley Lake**	**51.86**	**60**	*e*P	**P**	**01 25 55.5**	**+0.6**
MSO	**Missoula**	**51.90**	**60**	*e*P	**P**	**01 25 55.8**	**+0.6**
	comp=Z,46nm,1.6s							
MSO	**Missoula**	**51.90**	**60**	⇑P	**P**	**01 25 55.4**	**+0.3**
	baz=52,SNR=11							
QIZ	**Qiongzhong**	**51.96**	**249**	P	**P**	**01 25 56.2**	**+0.5**
QIZ				S	**S**	**01 33 16.3**	**+0.9**
QIZ				LR	LR			
	comp=Z,110nm,18.0s							
QIZ				LR	LR			
	comp=Z,50nm,16.2s							
QIZ				LR	LR			
	comp=Z,120nm,19.4s							
CHMT	**Chamberlain Mo**	**52.20**	**60**	*e*P	**P**	**01 25 58.0**	**+0.4**
LVZ	**Lovozero**	**52.28**	**337**	⇑*e*P	**P**	**01 25 56.2**	**-1.4**
LVZ				pmax	pmax			
	comp=Z,29nm,1.7s							
LVZ	**Lovozero**	**52.28**	**337**	*e*P	**P**	**01 25 56.7**	**-0.8**
	comp=Z,18nm,0.8s							
WVOR	**Wild Horse Val**	**52.31**	**67**	*e*P	**P**	**01 25 59.6**	**+1.3**
WVOR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
WVOR	**Wild Horse Val**	**52.31**	**67**	*e*P	**P**	**01 25 59.6**	**+1.3**
	comp=Z,10nm,1.0s							
KEV	**Kevo**	**52.36**	**341**	*e*P	**P**	**01 25 56.3**	**-1.8**
KEV				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KEV	**Kevo**	**52.36**	**341**	*e*p	**P**	**01 25 56.3**	**-1.8**
	comp=Z,8.0nm,0.8s							
FFC	**Flin Flon**	**52.38**	**47**	*e*P	**P**	**01 25 59.4**	**+1.0**
FFC				pmax	pmax			
	comp=Z,11nm,0.9s							
FFC	**Flin Flon**	**52.38**	**47**	*e*P	**P**	**01 25 59.4**	**+1.0**
	comp=Z,11nm,0.9s							
FCC	**Fort Churchill**	**52.82**	**39**	*e*P	**P**	**01 26 01.8**	**+0.2**
FCC				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FCC	**Fort Churchill**	**52.82**	**39**	*e*P	**P**	**01 26 01.8**	**+0.2**
	comp=Z,0.9nm,0.6s							
OHCM	**Honcut**	**52.82**	**72**	*e*P	**P**	**01 26 03.1**	**+1.2**
ARCES	**ARCESS Array B**	**52.83**	**342**	P	**P**	**01 26 00.9**	**-0.6**
ARCES	**ARCESS Array B**	**52.83**	**342**	P	**P**	**01 26 00.9**	**-

B20A Solberg Farm, 53.81 56 ⇓P P 01 26 09.7 +0.5
baz=54,SNR=6.0
HLID Hailey 53.84 64 eP P 01 26 10.7 +1.1
comp=Z,6.1nm,1.0s
HLID Hailey 53.84 64 ⇑P P 01 26 10.4 +0.8
baz=54,SNR=8.4
A21A Bergtoll Ranch 53.97 54 ⇓P P 01 26 11.2 +0.9
baz=54,SNR=11
D19A Cripps Ranch, 54.25 57 ⇓P P 01 26 13.1 +0.7
baz=54,SNR=9.9
B21A Ellsworth Farm 54.31 55 ⇑P P 01 26 13.1 +0.3
baz=54
C20A Veseth Ranch, 54.31 56 ⇑P P 01 26 13.5 +0.7
baz=54,SNR=19
TKM2 Tokmak 2 54.32 296 eP P
TKM2 pmax pmax
comp=Z,7.0nm,1.0s
TKM2 Tokmak 2 54.32 296 eP P 01 26 12.2 -1.0
comp=Z,7.0nm,1.0s
CMB Columbia Colle 54.34 73 eP P 01 26 14.9 +1.8
CMB pmax pmax
comp=Z,12nm,1.3s
CMB Columbia Colle 54.34 73 eP P 01 26 14.9 +1.8
comp=Z,12nm,1.3s
BMN Battle Mountai 54.45 68 eP P 01 26 15.6 +1.5
BMN pmax pmax
comp=Z,24nm,0.9s
BMN Battle Mountai 54.45 68 eP P 01 26 15.6 +1.5
comp=Z,24nm,0.9s
A22A Carney Farms, 54.46 54 ⇑P P 01 26 14.6 +0.7
baz=54,SNR=12
QLMT Earthquake Lak 54.55 61 eP P 01 26 16.0 +1.2
WAKR Walker 54.55 71 eP P 01 26 16.6 +1.8
D20A Manuel Ranch, 54.67 57 ⇓P P 01 26 16.5 +1.0
baz=54,SNR=9.0
LSA Lhasa 54.72 273 eP P 01 26 16.9 +0.4
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 54.72 273 eP P 01 26 16.9 +0.4
comp=Z,6.5nm,0.6s
E19A Rath Farm, Rou 54.78 58 ⇑P P 01 26 17.2 +0.9
baz=55,SNR=8.0
B22A Reddig Ranch S 54.90 55 ⇓P P 01 26 17.8 +0.7
baz=55,SNR=7.9
YMR Madison River 54.90 61 eP P 01 26 19.1 +1.8
comp=Z,24nm,1.0s
A23A Redstone 54.98 53 ⇓P P 01 26 18.2 +0.6
baz=55
E20A Meyer Farm, Mu 55.08 57 ⇓P P 01 26 19.4 +0.9
baz=55,SNR=14
AAK Ala-Archa 55.11 296 *d i* **P P 01 26 19.0 +0.2**
AAK pmax pmax
comp=Z,21nm,0.8s
AAK Ala-Archa 55.11 296 eP P 01 26 18.2 -0.6
comp=Z,12nm,1.1s
AAK Ala-Archa 55.11 296 P P 01 26 19.9 +1.1
comp=Z,65nm,1.1s,SNR=5.2
YFT Old Faithful 55.11 61 eP P 01 26 21.7 +2.8
comp=Z,22nm,0.7s
F19A Roth Farm, Mol 55.12 58 ⇑P P 01 26 19.9 +1.2
baz=55,SNR=7.7
NVAR Mina Array Bea 55.24 71 P P 01 26 21.5 +1.7
NVAR Mina Array Bea 55.24 71 P P 01 26 21.5 +1.7
comp=Z,16nm,0.7s,baz=301,slow=7.9,SNR=109
NVAR LR LR 01 48 48.2
comp=Z,70nm,21.1s,baz=119,slow=35
D21A La Casta Ranch 55.26 56 ⇑P P 01 26 20.6 +0.9
baz=55,SNR=11
B23A Brockton 55.27 54 ⇑P P 01 26 20.1 +0.4
baz=55,SNR=7.2
H17A Grant Village 55.29 61 eP P 01 26 22.9 +2.8
H17A Grant Village 55.29 61 ⇑P P 01 26 22.6 +2.4
baz=55,SNR=9.2
NV11 Mina Array Sit 55.32 71 eP P 01 26 22.0 +1.6
ELK Elko 55.33 67 eP P 01 26 22.3 +1.8
comp=Z,14nm,0.8s
C22A Vida 55.33 55 ⇑P P 01 26 20.3 +0.1
baz=55,SNR=5.9
A24A Westby 55.42 53 ⇓P P 01 26 21.9 +1.1
baz=55
FLWY Flagg Ranch 55.44 61 eP P 01 26 23.3 +2.0
comp=Z,16nm,0.7s
IMW Indian Meadow 55.44 61 eP P 01 26 23.0 +1.6
comp=Z,13nm,0.8s
RLMT Red Lodge 55.46 59 eP P 01 26 22.4 +1.1
comp=Z,27nm,0.8s
EKS2 Erkin-Say 55.47 297 eP P 01 26 20.9 -0.4
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 55.47 297 eP P 01 26 20.9 -0.4
comp=Z,11nm,0.8s
F20A Billings 55.56 58 ⇑P P 01 26 23.1 +1.2
baz=55
H18A Shoshone NF, C 55.56 60 ⇑P P 01 26 23.2 +1.1
baz=55,SNR=8.2
E21A Keefer Ranch, 55.58 57 ⇑P P 01 26 23.9 +1.9
baz=55
D22A Cohagen 55.60 56 ⇑P P 01 26 23.2 +1.0
baz=55,SNR=11
I17A Pilgrim Ck. 55.62 61 ⇑P P 01 26 24.5 +2.0
baz=55
C23A Lambert 55.63 55 ⇓P P 01 26 23.2 +0.9
baz=55,SNR=13
DGMT Dagmar 55.65 53 eP P 01 26 23.6 +1.2
comp=Z,26nm,1.1s
DGMT Dagmar 55.65 53 ⇑P P 01 26 23.4 +1.0
baz=55
TPAW Teton Pass 55.72 62 eP P 01 26 25.4 +2.1
comp=Z,37nm,1.7s
LOHW Long Hollow 55.81 61 eP P 01 26 25.7 +1.7
comp=Z,18nm,1.1s
A25A Svangstu Ranch 55.83 52 ⇓P P 01 26 24.5 +0.8
baz=56,SNR=5.7
MTUM Tungsten Hills 55.85 72 eP P 01 26 26.2 +2.0
REDW Red Top Meadow 55.86 62 eP P 01 26 26.3 +2.0
comp=Z,8.1nm,0.8s
LAO LASA Array 55.90 56 eP P 01 26 25.7 +1.4
comp=Z,35nm,0.9s
LAO epP **pP 01 26 39.6 +2.0**
H19A Powell 55.92 59 ⇓P P 01 26 26.1 +1.5
baz=56,SNR=9.1
G20A Bridger 55.93 59 ⇑P P 01 26 25.5 +0.9
baz=56,SNR=15
HVU Hansel Valley 55.94 64 eP P 01 26 26.4 +1.6
HVU pmax pmax
comp=Z,20nm,0.9s
HVU Hansel Valley 55.94 64 eP P 01 26 26.4 +1.6
comp=Z,20nm,0.9s
F21A Absaloka Mine, 56.06 57 ⇑P P 01 26 26.7 +1.3
baz=56
TPH Tonopah 56.09 70 eP P 01 26 27.2 +1.2
TPH pmax pmax
comp=Z,34nm,1.1s
TPH Tonopah 56.09 70 eP P 01 26 27.2 +1.2
comp=Z,34nm,1.1s
SCO Scoresbysund 56.12 1 *i* P P 01 26 31.1 +5.7
SCO Scoresbysund 56.12 1 *i* P P 01 26 31.1 +5.7
comp=Z,0.6nm,0.5s
C24A Savage 56.19 54 ⇑P P 01 26 27.4 +1.1
baz=56
RCTC Rector, Farmer 56.20 73 ⇓P P 01 26 28.1 +1.7
baz=56
E22A Miles City 56.21 56 ⇓P P 01 26 27.3 +0.8
baz=56,SNR=10
TIN Tinemaha 56.25 72 ⇓P P 01 26 28.8 +1.8
baz=56
B25A Knox Farm, Ray 56.28 53 ⇑P P 01 26 28.1 +1.2
baz=56
I19A Meeteetse 56.35 60 ⇑P P 01 26 28.9 +1.1
baz=56
A26A Wade Farm, Ken 56.37 52 ⇓P P 01 26 28.3 +0.8
baz=56
CRAI Chiangrai 56.40 258 P P 01 26 32.5 +4.4
comp=Z,70nm,0.9s,comp=Z,14µm
BGU Big Grassy Mou 56.40 65 eP P 01 26 29.7 +1.6
comp=Z,4.3nm,0.7s
G21A Lodge Grass 56.43 58 ⇓P P 01 26 28.8 +0.7
baz=56,SNR=5.5
SPUT South Promonto 56.45 65 eP P 01 26 29.9 +1.5
comp=Z,20nm,1.0s
SMMC Simmler 56.47 75 ⇓P P 01 26 30.6 +2.1
baz=56
KSH Kashi 56.48 293 P P 01 26 31.7 +3.1
KSH pP **pP 01 26 44.2 +2.3**
KSH sP **sP 01 26 50.1 +2.8**
KSH PP PP 01 28 40.0 +5.7
KSH S **S 01 34 15.6 -0.6**
KSH sS **sS 01 34 42.1 +3.7**
KSH ScS **ScS 01 36 15.1 +1.5**
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH pmax pmax
comp=Z,150nm,5.6s
KSH LR LR
comp=Z,230nm,7.1s
KSH LR LR
comp=Z,240nm,7.2s
KSH LR LR
comp=Z,310nm,7.5s
E23A Ismay 56.49 56 ⇓P P 01 26 29.6 +1.2
baz=56
F22A Rosebud 56.52 57 ⇑P P 01 26 29.9 +1.2
baz=56
D24A Glendive 56.53 55 ⇓P P 01 26 30.1 +1.4
baz=56,SNR=7.0
H20A Greybull 56.55 59 ⇓P P 01 26 29.8 +0.8
baz=56
C25A Freed Ranch, W 56.63 54 ⇑P P 01 26 30.8 +1.3
baz=56
B26A Jensen Ranch, 56.64 52 ⇓P P 01 26 30.7 +1.2
baz=56
CWC Cottonwood Cre 56.77 72 ⇓P P 01 26 32.1 +1.4
baz=57,SNR=9.7
GRAC Grapevine Rang 56.77 71 ⇓P P 01 26 32.4 +1.8
baz=57,SNR=11
R11A Troy Canyon, C 56.81 69 eP P 01 26 32.0 +1.0
R11A ePcP **PcP 01 27 25.6 -0.7**
R11A Troy Canyon, C 56.81 69 ⇑P P 01 26 32.2 +1.1
baz=57,SNR=16
I20A Worland 56.86 60 ⇑P P 01 26 32.4 +1.2
baz=57,SNR=5.4
J19A Crowheart 56.87 61 ⇓P P 01 26 32.8 +1.4
baz=57,SNR=8.6
PKM Peak Mountain 56.87 75 ⇑P P 01 26 33.0 +1.5
baz=57
KKAR Karatay Array 56.88 299 eP P 01 26 29.3 -2.0
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 56.88 299 eP P 01 26 29.3 -2.0
comp=Z,4.3nm,0.6s
G22A Birney 56.90 57 ⇑P P 01 26 32.5 +1.0
baz=57,SNR=6.4
E24A Baker 56.93 55 ⇓P P 01 26 32.4 +0.7
baz=57
H21A Big Horn, Sher 56.94 58 ⇑P P 01 26 32.8 +1.0
baz=57,SNR=6.4
BW06 Boulder Array 56.95 61 eP P 01 26 33.3 +1.2
comp=Z,23nm,1.0s
PDAR Pinedale Array 56.95 61 P P 01 26 33.2 +1.2
PDAR Pinedale Array 56.95 61 P P 01 26 33.2 +1.2
comp=Z,16nm,0.8s,baz=316,slow=2.7,SNR=122
F23A Volborg 56.98 56 ⇓P P 01 26 33.2 +1.1
baz=57,SNR=9.7
D25A Fairfield 56.99 54 ⇑P P 01 26 32.8 +0.7
baz=57
DUG Dugway 57.03 66 eP P 01 26 34.2 +1.7
DUG pmax pmax
comp=Z,26nm,0.9s
DUG Dugway 57.03 66 eP P 01 26 34.2 +1.7
comp=Z,26nm,0.9s
DUG Dugway 57.03 66 ⇓P P 01 26 33.9 +1.4
baz=57,SNR=26
ISA Isabella 57.09 73 eP P 01 26 32.8 -0.1
ISA pmax pmax
comp=Z,2.0nm,1.1s
ISA Isabella 57.09 73 eP P 01 26 32.8 -0.1
comp=Z,2.3nm,1.1s
ISA Isabella 57.09 73 ⇓P P 01 26 33.4 +0.4
baz=57,SNR=7.7
C26A Wahner Farm, P 57.10 53 ⇓P P 01 26 33.8 +1.1
baz=57
JOF Joensuu 57.17 335 eP P 01 26 31.8 -1.1
JOF pmax pmax
comp=Z,20nm,0.6s
JOF Joensuu 57.17 335 ep P 01 26 31.8 -1.1
comp=Z,20nm,0.6s
A28A Rude Farm, Bot 57.18 51 ⇑P P 01 26 34.4 +1.1
baz=57
J20A Shoshoni 57.30 60 ⇓P P 01 26 35.8 +1.4
baz=57,SNR=15
G23A Biddle 57.36 57 ⇑P P 01 26 35.5 +0.8
baz=57
MPMC Manual Prospec 57.37 72 ⇓P P 01 26 35.9 +0.9
baz=57,SNR=13
F24A Ekalaka 57.37 56 ⇓P P 01 26 35.6 +0.9
baz=57,SNR=7.0
I21A Big Trails, Te 57.39 59 ⇓P P 01 26 35.8 +0.8
baz=57,SNR=5.7
E25A Miller Ranch, 57.41 55 ⇑P P 01 26 36.0 +1.0
baz=57,SNR=7.9
UBPT Khong Chiam 57.42 250 P P 01 26 37.2 +1.9
comp=Z,16nm,1.0s
FURC Furnace Creek, 57.43 71 ⇑P P 01 26 36.7 +1.5
baz=57,SNR=27
TPNV Topopah Spring 57.44 71 eP P 01 26 36.9 +1.4
TPNV pmax pmax
comp=Z,21nm,1.0s
TPNV Topopah Spring 57.44 71 eP P 01 26 36.9 +1.4
comp=Z,21nm,1.0s
TPNV Topopah Spring 57.44 71 ⇓P P 01 26 36.6 +1.2
baz=57,SNR=18
B28A Dugan Ranch, T 57.47 51 ⇑P P 01 26 36.2 +0.9
baz=57,SNR=9.8
D26A Manning 57.50 54 ⇓P P 01 26 36.8 +1.2
baz=57
NLU North Lily Min 57.60 65 eP P 01 26 38.5 +1.9
comp=Z,15nm,0.9s
J21A Lysite 57.64 60 ⇑P P 01 26 37.8 +1.0
baz=57
A29A Manning Farm, 57.64 50 ⇓P P 01 26 37.4 +0.9
baz=57,SNR=8.9
AB31 Akbulak array 57.66 310 *i* **P P 01 26 34.8 -1.8**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 57.66 310 eP P 01 26 35.0 -1.6
comp=Z,3.3nm,0.7s
AKTO Aktyubinsk 57.66 312 P P 01 26 34.3 -2.3
AKTO pmax pmax
comp=Z,4.0nm,0.8s
LRMC Laurel Mountai 57.67 73 ⇓P P 01 26 37.9 +0.9
baz=58,SNR=9.8
DAU Daniels Canyon 57.72 65 eP P 01 26 39.4 +1.8
DAU Daniels Canyon 57.72 65 eP P 01 26 39.4 +1.8
I22A 9 Mile Ranch, 57.74 59 ⇑P P 01 26 38.6 +1.1
baz=58,SNR=5.8
G24A Alzada 57.75 56 ⇑P P 01 26 38.0 +0.5
baz=58,SNR=8.2
MPU Maple Canyon 57.80 65 eP P 01 26 39.3 +1.3
comp=Z,16nm,1.0s
F25A Bowman 57.80 55 ⇓P P 01 26 38.6 +0.9
baz=58,SNR=5.3
H23A Clabaugh Cattl 57.81 57 ⇑P P 01 26 38.9 +1.0
baz=58
D27A Center 57.88 53 ⇑P P 01 26 39.2 +1.0
baz=58
E26A Carlson Angus 57.89 54 ⇑P P 01 26 39.1 +0.7
baz=58,SNR=7.1
B29A Wagenman Farm, 57.92 51 ⇓P P 01 26 39.5 +1.0
baz=58
EDW2 Edwards Air Fo 57.93 74 ⇑P P 01 26 39.9 +1.0
baz=58,SNR=13
C28A Hausauer Farms 57.98 52 ⇓P P 01 26 40.0 +1.1
baz=58,SNR=6.5
A30A Hoffart Farm, 58.06 50 ⇑P P 01 26 40.2 +0.8
baz=58
H24A Dirks Ranch, A 58.10 57 ⇓P P 01 26 40.3 +0.4
baz=58,SNR=10
LAMP Lampang 58.17 258 P P 01 26 45.0 +4.4
comp=Z,62nm,0.7s,comp=Z,66nm
ULM Lac du Bonnet 58.18 47 eP P 01 26 40.2 -0.1
comp=Z,20nm,1.1s
ULM Lac du Bonnet 58.18 47 P P 01 26 40.9 +0.6
comp=Z,11nm,0.5s,baz=318,slow=8.2,SNR=25
DECC Green Verdugo 58.19 74 ⇑P P 01 26 41.6 +1.0
baz=58
F26A Lodgepole 58.23 55 ⇓P P 01 26 41.9 +1.1
baz=58,SNR=10
K21A Alcova 58.25 60 ⇓P P 01 26 41.7 +0.6
baz=58,SNR=15
MDND Maddock 58.25 51 ⇓P P 01 26 42.0 +1.2
baz=58,SNR=6.9
D28A Regan 58.27 52 ⇓P P 01 26 42.4 +1.4
baz=58,SNR=7.8
GSC Goldstone 58.30 72 eP P 01 26 42.5 +1.1
GSC pmax pmax
comp=Z,3.0nm,0.8s
GSC Goldstone 58.30 72 eP P 01 26 42.5 +1.1
comp=Z,3.5nm,0.8s
GSC Goldstone 58.30 72 ⇓P P 01 26 42.6 +1.1
baz=58,SNR=18
CMMT Chiang Mai 58.34 258 P P 01 26 44.1 +2.3
comp=Z,14nm,1.1s,comp=Z,342nm
CHTO Chiang Mai 58.34 258 eP P 01 26 42.1 +0.3
CHTO pmax pmax
comp=Z,8.0nm,0.6s
CHTO Chiang Mai 58.34 258 eP P 01 26 42.1 +0.3
comp=Z,8.2nm,0.6s
CHTO Chiang Mai 58.34 258 P P 01 26 44.3 +2.5
comp=Z,56nm,0.8s
G25A Newell 58.34 56 ⇓P P 01 26 42.7 +1.1
baz=58
E27A Carson 58.35 54 ⇓P P 01 26 42.8 +1.2
baz=58
MWC Mount Wilson 58.36 74 eP P 01 26 43.1 +1.1
MWC pmax pmax
comp=Z,27nm,1.3s
MWC Mount Wilson 58.36 74 eP P 01 26 43.1 +1.1
comp=Z,27nm,1.3s
SHPR Sheep Range 58.36 70 eP P 01 26 43.0 +1.1
comp=Z,5.2nm,1.0s
SHPR ePcP **PcP 01 27 33.3 +0.9**
B30A Myrvik Farm, E 58.40 50 ⇑P P 01 26 43.0 +1.1
baz=58,SNR=8.4
ARUT Antelope Range 58.40 68 eP P 01 26 43.5 +1.3
ARUT Antelope Range 58.40 68 eP P 01 26 43.5 +1.3
comp=Z,248nm,1.0s
TAPN Taplejung 58.49 274 eP P 01 26 42.7 -0.4
comp=Z,41nm,0.7s
TAPN Taplejung 58.49 274 eP P 01 26 42.7 -0.4
F27A Lemmon 58.53 54 ⇑P P 01 26 43.6 +0.7
baz=58,SNR=7.3
TMUT Trail Mountain 58.54 65 eP P 01 26 44.5 +1.1
comp=Z,20nm,0.8s
BFSC Mount Baldy Ra 58.58 74 ⇓P P 01 26 44.5 +1.0
baz=58,SNR=7.7
K22A Casper 58.61 60 ⇑P P 01 26 45.0 +1.4
baz=58
CCUT Cedar City 58.61 68 eP P 01 26 45.0 +1.2
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 58.62 258 P P 01 26 45.0 +1.2
CMAR Chiang Mai Arr 58.62 258 P P 01 26 45.0 +1.2
comp=Z,3.6nm,0.5s,baz=23,slow=6.9,SNR=14
CMAR LR LR 01 52 37.5
comp=Z,101nm,18.2s,baz=162,slow=37
E28A Huff 58.66 53 ⇑P P 01 26 44.6 +0.8
baz=58
H25A Fruitdale 58.67 56 ⇓P P 01 26 44.7 +0.9
baz=58
G26A Maurine 58.67 55 ⇑P P 01 26 44.6 +0.8
baz=58,SNR=12
I24A Kuemmerle Ranc 58.70 58 ⇑P P 01 26 44.7 +0.5
baz=58,SNR=5.0
TUQ Turquoise Moun 58.70 72 ⇓P P 01 26 45.3 +1.0
baz=59,SNR=18
CIS Catalina Islan 58.76 75 ⇓P P 01 26 45.6 +1.0
baz=59
RSSD Black Hills 58.81 57 eP P 01 26 46.0 +1.0
RSSD pmax pmax
comp=Z,49nm,0.8s
RSSD Black Hills 58.81 57 eP P 01 26 46.0 +1.0
comp=Z,49nm,0.8s
D29A Pettibone, Tap 58.83 52 ⇓P P 01 26 45.7 +0.8
baz=59
C30A Mose, Pekin 58.88 51 ⇓P P 01 26 46.1 +0.9
baz=59
HEC Hector,Ludlow 58.91 72 ⇑P P 01 26 46.8 +1.1
baz=59,SNR=18
G27A Dupree 58.94 55 ⇓P P 01 26 46.3 +0.6
baz=59,SNR=16
PBKT Sadao Pong 58.94 255 P P 01 26 47.5 +1.6
comp=Z,11nm,0.6s,comp=Z,1µm
K23A Bowen Ranch, D 58.99 59 ⇓P P 01 26 46.8 +0.5
baz=59
I25A Rochford 59.03 57 ⇑P P 01 26 47.3 +0.8
baz=59,SNR=20
ODAN Odare 59.04 274 eP P 01 26 47.0 +0.1
ODAN Odare 59.04 274 eP P 01 26 47.0 +0.1
SRU San Rafael 59.04 65 eP P 01 26 47.8 +1.1
SRU pmax pmax
comp=Z,30nm,0.8s
SRU San Rafael 59.04 65 eP P 01 26 47.8 +1.1
comp=Z,30nm,0.8s
J24A Dixon Ranch, L 59.07 58 ⇑P P 01 26 47.5 +0.8
baz=59,SNR=7.0
KAF Kangasniemi 59.07 337 eP P 01 26 45.4 -0.8
KAF pmax pmax
comp=Z,25nm,0.5s
KAF Kangasniemi 59.07 337 ep P 01 26 45.4 -0.8
comp=Z,25nm,0.5s,baz=29,slow=6.5
H26A Fairpoint 59.08 56 ⇓P P 01 26 47.2 +0.5
baz=59
L22A Ellis Ranch, M 59.10 60 ⇓P P 01 26 48.8 +1.7
baz=59,SNR=8.5
F28A McLaughlin 59.14 54 ⇓P P 01 26 48.0 +1.0
baz=59
GUN Gumba 59.16 276 eP P 01 26 47.7 -0.1
comp=Z,19nm,0.5s
GUN Gumba 59.16 276 eP P 01 26 47.7 -0.1
JIRN Jiri 59.16 276 eP P 01 26 48.3 +0.5
comp=Z,13nm,0.4s
E29A Napoleon 59.16 52 ⇓P P 01 26 48.5 +1.3
baz=59
D30A Buchanan 59.18 51 ⇑P P 01 26 48.4 +1.1
baz=59
MURC Murrieta 59.31 74 ⇑P P 01 26 49.2 +0.8
baz=59,SNR=6.2
GMRC Granite Mounta 59.33 72 ⇑P P 01 26 49.8 +1.2
baz=59,SNR=17
L23A Garrett 59.42 60 ⇑P P 01 26 49.8 +0.6
baz=59,SNR=8.2
LDFC Landfair 59.42 71 eP P 01 26 50.1 +0.8
comp=Z,31nm,0.8s
K24A Anderson Ranch 59.43 59 ⇑P P 01 26 50.0 +0.8
baz=59
RAMN Ramite 59.44 275 eP P 01 26 49.1 -0.5
comp=Z,50nm,0.5s
RAMN Ramite 59.44 275 eP P 01 26 49.1 -0.5
J25A Sunshine Ranch 59.45 57 ⇑P P 01 26 49.9 +0.5
baz=59,SNR=22
I26A New Underwood 59.46 56 ⇓P P 01 26 50.6 +1.3
baz=59
M22A Cedar Creek Ra 59.47 61 ⇑P P 01 26 50.8 +1.1
baz=59
O20A White River Ci 59.52 63 eP P 01 26 51.1 +1.1
O20A White River Ci 59.52 63 ⇓P P 01 26 51.2 +1.2
baz=59,SNR=12
E30A Jud 59.56 52 ⇓P P 01 26 50.6 +0.7
baz=59
KKN Kakani 59.60 276 eP P 01 26 51.0 +0.3
comp=Z,41nm,0.5s
KKN Kakani 59.60 276 eP P 01 26 51.0 +0.3
KKN Kakani 59.60 276 eP P 01 26 51.0 +0.3
F29A Eureka 59.61 53 ⇑P P 01 26 51.5 +1.2
baz=59
AGMN Agassiz Nation 59.63 49 eP P 01 26 49.9 -0.4
AGMN epP **pP 01 27 04.2 +0.5**
comp=Z,15nm,0.8s
G28A Parade 59.65 54 ⇓P P 01 26 51.7 +1.1
baz=59
PKI Pulchoki 59.69 276 eP P 01 26 51.6 +0.2
comp=Z,32nm,0.9s
PKI Pulchoki 59.69 276 eP P 01 26 51.6 +0.2
PKI Pulchoki 59.69 276 eP P 01 26 51.6 +0.2
PKIN Phulchoki 59.69 276 eP P 01 26 51.5 +0.1
comp=Z,22nm,0.7s
FIA1 FINESS Array S 59.70 337 eP P 01 26 50.2 -0.4
FINES FINESS Array B 59.71 337 P P 01 26 50.5 -0.2
FINES FINESS Array B 59.71 337 P P 01 26 50.5 -0.2
comp=Z,23nm,0.5s,baz=35,slow=8.2,SNR=195
PFO Pinyon Flat Ob 59.73 74 ⇓P P 01 26 52.3 +1.0
baz=60,SNR=5.1
GKN Gorkha 59.82 277 eP P 01 26 51.8 -0.3
comp=Z,15nm,0.4s
I27A Quinn 59.83 56 ⇓P P 01 26 53.0 +1.1
baz=60,SNR=13
DMN Daman 59.84 276 eP P 01 26 52.0 -0.4
comp=Z,12nm,0.4s
L24A Wheatland 59.86 59 ⇑P P 01 26 53.8 +1.5
baz=60
M23A Laramie 59.87 60 ⇓P P 01 26 53.4 +1.0
baz=60
J26A Sides Ranch, S 59.88 57 ⇓P P 01 26 53.1 +0.9

baz=60,SNR=6.2
109C Camp Elliot, M 59.88 75 ⇑P P 01 26 53.9 +1.6
baz=60
H28A Mission Ridge 59.89 55 ⇑P P 01 26 53.1 +0.9
baz=60,SNR=12
N22A Wattenberg Ran 59.98 61 ⇑P P 01 26 54.9 +1.7
baz=60,SNR=7.7
K25A Mack Ranch, Ha 59.99 58 ⇓P P 01 26 54.2 +1.1
baz=60
U15A North Rim 60.02 68 ⇑P P 01 26 55.0 +1.5
baz=60,SNR=9.0
G29A Hoven 60.04 54 ⇑P P 01 26 54.1 +0.9
baz=60
IRM Iron Mountain 60.07 72 ⇓P P 01 26 54.9 +1.3
baz=60,SNR=16
DANN Dangsing 60.08 278 *eP* P 01 26 53.8 -0.3
comp=Z,19nm,0.5s
DANN Dangsing 60.08 278 *eP* P 01 26 53.8 -0.3
W13A Hualapai Mount 60.09 71 ⇓P P 01 26 55.4 +1.4
baz=60
N23A Red Feather La 60.18 61 ⇓P P 01 26 55.9 +1.3
baz=60,SNR=11
MONP Monument Peak 60.27 74 ⇓P P 01 26 56.4 +1.2
baz=60
L25A Engebretsen Ra 60.27 58 ⇓P P 01 26 55.8 +0.8
baz=60
I28A Midland 60.31 55 ⇑P P 01 26 55.8 +0.7
baz=60,SNR=11
H29A Onida 60.32 54 ⇓P P 01 26 56.0 +0.9
baz=60
M24A Cheyenne 60.34 60 ⇑P P 01 26 57.4 +1.9
baz=60
O22A Kremmling 60.40 62 ⇑P P 01 26 57.4 +1.3
baz=60
PV04 Paradox Valley 60.43 65 *eP* P 01 26 57.5 +1.2
J27A Elkhorn Farm, 60.45 56 ⇑P P 01 26 57.2 +1.0
baz=60,SNR=6.0
G30A Faulkton 60.46 53 ⇑P P 01 26 56.3 +0.3
baz=60,SNR=7.2
PDMCI Parker Dam,Lak 60.53 71 ⇑P P 01 26 57.8 +1.1
baz=60
SWSC Sam W. Stewart 60.59 74 ⇓P P 01 26 58.2 +1.1
baz=60
KOLN Koldanda 60.61 278 *eP* P 01 26 57.3 -0.3
comp=Z,15nm,0.7s
KOLN Koldanda 60.61 278 *eP* P 01 26 57.3 -0.3
DVTC Desert V Tower 60.62 74 ⇑P P 01 26 58.7 +1.2
baz=60
O23A Lake Granby, G 60.69 61 ⇑P P 01 27 00.0 +1.9
baz=60,SNR=10.0
P22A Eagle 60.70 62 ⇓P P 01 26 59.5 +1.4
baz=60,SNR=9.6
J28A Allard Ranch, 60.70 56 ⇑P P 01 26 59.0 +1.2
baz=60,SNR=7.0
I29A Vivian Onida 60.72 55 ⇓P P 01 26 58.3 +0.4
baz=60,SNR=5.2
Y12C Blythe 60.72 72 ⇓P P 01 26 59.1 +1.1
baz=61,SNR=8.3
PYUN Piuthan 60.72 278 *eP* P 01 26 58.4 +0.1
comp=Z,109nm,1.0s
PYUN Piuthan 60.72 278 *eP* P 01 26 58.4 +0.1
K27A Flueckinger Fa 60.74 57 ⇑P P 01 26 59.0 +0.9
baz=60
M25A Palm-Egli Farm 60.75 59 ⇓P P 01 27 00.1 +1.8
baz=60
PV01 Paradox Valley 60.80 65 *eP* P 01 26 59.9 +1.1
comp=Z,361nm,0.6s
L26A Underwood Farm 60.81 58 ⇓P P 01 26 59.4 +0.8
baz=61
BRSD Miller 61.06 54 ⇑P P 01 27 00.4 +0.3
baz=61
GLA Glamis 61.06 73 *eP* P 01 27 01.5 +1.1
GLA pmax pmax
comp=Z,7.0nm,1.1s
GLA Glamis 61.06 73 *eP* P 01 27 01.4 +1.1
comp=Z,7.1nm,1.1s
GLA Glamis 61.06 73 ⇓P P 01 27 01.6 +1.2
baz=61,SNR=8.3
ISCO Idaho Springs 61.15 61 *eP* P 01 27 02.9 +1.7
ISCO pmax pmax
comp=Z,27nm,1.1s
ISCO Idaho Springs 61.15 61 *eP* P 01 27 02.9 +1.7
comp=Z,27nm,1.1s
ISCO Idaho Springs 61.15 61 ⇑P P 01 27 02.9 +1.7
baz=61,SNR=20
J29A Okreek 61.16 55 ⇓P P 01 27 01.5 +0.6
baz=61,SNR=13
K28A Ten Mile Ranch 61.16 56 ⇓P P 01 27 02.0 +1.0
baz=61,SNR=5.4
WUAZ Wupatki 61.19 69 *eP* P 01 27 02.8 +1.5
comp=Z,23nm,1.3s
WUAZ Wupatki 61.19 69 ⇑P P 01 27 02.5 +1.1
baz=61,SNR=12
N25A Grover 61.19 60 ⇑P P 01 27 03.1 +1.8
baz=61
O24A Longmont 61.19 61 ⇓P P 01 27 03.2 +1.8
baz=61
M26A McRoberts Ranc 61.20 58 ⇑P P 01 27 02.8 +1.5
baz=61,SNR=5.9
I30A Oacoma 61.22 54 ⇑P P 01 27 01.9 +0.5
baz=61,SNR=13
CHBT CHBT 61.23 251 P P 01 27 03.5 +1.9
comp=Z,48nm,0.9s
MOS Moscow 61.34 327 *eP* P 01 27 02.0 +0.2
MOS pmax pmax
comp=Z,44nm,0.9s
P23A Jefferson 61.34 62 ⇓P P 01 27 04.0 +1.4
baz=61,SNR=5.2
Y14A Wickenburg 61.44 71 ⇑P P 01 27 04.3 +1.4
baz=61,SNR=5.7
MVCO Mesa Verde 61.52 65 *eP* P 01 27 04.6 +0.9
comp=Z,27nm,1.4s
MVCO Mesa Verde 61.52 65 ⇓P P 01 27 04.6 +0.9
baz=61,SNR=8.1
M27A Reverse DX Ran 61.53 58 ⇑P P 01 27 04.8 +1.3
baz=61
L28A Connealy Angus 61.61 57 ⇓P P 01 27 05.3 +1.3
baz=61
N26A Koester Ranch, 61.62 59 ⇑P P 01 27 05.8 +1.6
baz=61
J30A Dallas 61.63 55 ⇑P P 01 27 04.3 +0.2
baz=61,SNR=9.0
K29A Lazy Trails An 61.65 56 ⇑P P 01 27 05.2 +0.9
baz=61,SNR=6.8
Q23A Hartsel 61.69 62 ⇓P P 01 27 06.8 +1.8
baz=62
O25A Wiggins 61.69 60 ⇑P P 01 27 06.3 +1.6
baz=62
KHLT Khaolaem Dam 61.72 256 P P 01 27 07.7 +2.7
comp=Z,9.7nm,1.4s,comp=Z,677nm
P24A Kohler Place, 61.73 61 ⇑P P 01 27 05.8 +0.8
baz=62
SRDT SRDT 61.77 255 P P 01 27 08.4 +3.1
comp=Z,52nm,1.4s,comp=Z,4μm
113A Mohawk Valley, 61.87 72 ⇓P P 01 27 06.9 +1.2
baz=62
Z14A Wintersburg 61.90 71 ⇑P P 01 27 07.3 +1.3
baz=62
PATY Pattaya 61.92 253 P P 01 27 08.4 +2.1
comp=Z,9.7nm,0.5s
X16A Lo Mia Camp, P 61.96 69 ⇓P P 01 27 08.4 +1.8
baz=62,SNR=16
N27A Anderson Farm, 61.99 59 ⇑P P 01 27 08.0 +1.3
baz=62
Q24A Divide 62.01 62 ⇓P P 01 27 08.2 +1.2
baz=62,SNR=5.3
O26A Horse Wrangler 62.01 60 ⇓P P 01 27 08.2 +1.3
baz=62
S22A 4UR Ranch, Cre 62.02 64 ⇓P P 01 27 08.7 +1.5
baz=62,SNR=19
K30A Basset 62.06 55 ⇑P P 01 27 08.0 +1.0
baz=62,SNR=8.2
L29A Maesberg Ranch 62.09 56 ⇓P P 01 27 08.1 +0.9
baz=62
M28A Bar X Bar Ranc 62.14 57 ⇑P P 01 27 08.7 +1.1
baz=62
OGNE Ogallala 62.14 58 ⇑P P 01 27 09.0 +1.3
baz=62
VSU Vasula 62.16 335 *ce*P P 01 27 07.2 -0.1
OBN Obninsk 62.19 327 *ce*P P 01 27 07.8 +0.2
OBN *i* *PP pP 01 27 20.1 -0.9
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,300nm,16.0s
W18A Petrified Fore 62.39 68 ⇑P P 01 27 10.8 +1.3
baz=62
M29A Burnside Ranch 62.45 57 ⇑P P 01 27 10.8 +1.2
baz=62
O27A Beecher Island 62.48 59 ⇑P P 01 27 11.0 +1.1
baz=62,SNR=8.9
S23A Nye Farm, Mont 62.49 63 ⇑P P 01 27 12.2 +1.9
baz=62
P26A Davis Ranch, A 62.50 60 ⇓P P 01 27 11.5 +1.3
baz=62
Q25A Bedland, Calha 62.52 61 ⇑P P 01 27 11.6 +1.3
baz=62
L30A Spencer Herefo 62.55 56 ⇑P P 01 27 10.8 +0.6
baz=62,SNR=7.3
R24A Sanders Place, 62.57 62 ⇑P P 01 27 11.9 +1.2
baz=62,SNR=8.2
N28A Pribbeno Ranch 62.58 58 ⇓P P 01 27 11.3 +0.7
baz=62,SNR=5.2
ECSD EROS Data Cent 62.70 53 *eP* P 01 27 10.8 -0.5
comp=Z,17nm,0.8s
X18A Snowflake 62.70 68 ⇑P P 01 27 13.2 +1.6
baz=63,SNR=8.4
L31A Butterfield Fa 62.81 55 ⇓P P 01 27 12.7 +0.7
baz=63,SNR=11
HNR Honiara 62.87 181 LR LR 01 51 42.3
comp=Z,124nm,18.7s,baz=330,slow=33
O28A Krutsinger Ran 62.89 59 ⇑P P 01 27 13.5 +0.9
baz=63,SNR=10
Q26A Hugo 62.89 61 ⇑P P 01 27 13.8 +1.1
baz=63
P27A Ficken Ranch, 62.90 60 ⇓P P 01 27 13.6 +0.9
baz=63
N29A Votaw Ranch, W 62.95 57 ⇓P P 01 27 14.1 +1.1
baz=63
S24A Houchin Ranch, 62.96 63 ⇓P P 01 27 14.9 +1.5
baz=63,SNR=6.1
T23A Casias Ranch, 62.97 64 ⇓P P 01 27 14.5 +1.1
baz=63
214A Organ Pipe Nat 63.01 72 *eP* P 01 27 14.3 +0.9
214A Organ Pipe Nat 63.01 72 ⇓P P 01 27 14.6 +1.1
baz=63,SNR=8.7
U22A Llaves 63.02 65 ⇑P P 01 27 15.0 +1.3
baz=63,SNR=6.9
NB2 NORSAR Subarra 63.06 344 P P 01 27 13.0 -0.4
comp=Z,11nm,0.5s,baz=24,slow=6.9
NB2 NORSAR Subarra 63.06 344 P P 01 27 13.0 -0.4
baz=24,slow=6.9
NOA NORSAR Array B 63.06 344 P P 01 27 13.1 -0.3
NOA NORSAR Array B 63.06 344 P P 01 27 13.1 -0.3
comp=Z,16nm,0.6s,baz=21,slow=6.6,SNR=101
R25A Fountain Ranch 63.07 62 ⇓P P 01 27 14.8 +0.9
baz=63
N30A Hueftle Ranch, 63.23 57 ⇓P P 01 27 15.0 +0.2
baz=63
KSCO Kaye Shedlock' 63.28 60 ⇑P P 01 27 16.1 +0.7
baz=63
NAO01 NORSAR Array S 63.30 344 *eP* P 01 27 14.4 -0.5
comp=Z,5.1nm,0.6s
P28A Saint Francis 63.31 59 ⇑P P 01 27 16.3 +0.9
baz=63
SPMN St. Paul 63.33 49 ⇓P P 01 27 15.7 +0.4
baz=63
V22A San Miguel Ran 63.34 65 ⇑P P 01 27 17.0 +1.2
baz=63,SNR=9.3
S25A Robets Cordova 63.35 62 ⇑P P 01 27 17.1 +1.3
baz=63,SNR=7.0
M31A Lascht Ranc 63.37 56 ⇑P P 01 27 16.1 +0.3
baz=63,SNR=5.8
O29A 4D Ranch, Culb 63.38 58 ⇑P P 01 27 16.6 +0.8
baz=63,SNR=5.9
R26A Arlington 63.39 61 ⇓P P 01 27 16.8 +0.8
baz=63,SNR=22
U23A El Rito 63.41 64 ⇑P P 01 27 17.6 +1.3
baz=63,SNR=20
Q28A Sharon Springs 63.65 59 ⇓P P 01 27 18.1 +0.4
baz=63
O30A MW Ranch, Wils 63.71 57 ⇓P P 01 27 18.4 +0.4
baz=64,SNR=6.3
BGNE Belgrade 63.73 55 *eP* P 01 27 18.4 +0.4
BGNE *epP* pP 01 27 32.9 +1.4
BGNE Belgrade 63.73 55 ⇑P P 01 27 18.4 +0.4
baz=64,SNR=5.4
R27A Eads 63.74 61 ⇓P P 01 27 19.1 +0.8
baz=64,SNR=6.0
T25A Trinidad 63.76 63 ⇓P P 01 27 19.5 +1.0
baz=64,SNR=6.9
VRHR Novokhopersk 63.77 322 *eP* P 01 27 14.9 -3.2
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.9s
N31A Bailey Ranch, 63.77 56 ⇓P P 01 27 18.9 +0.5
baz=64
U24A Moeno Valley 63.84 64 ⇓P P 01 27 20.7 +1.4
baz=64
V23A Ortiz Mt. (NFS 63.85 65 ⇓P P 01 27 21.0 +1.8
baz=64,SNR=17
PMG Port Moresby 63.88 195 *eP* P 01 27 19.5 +0.3
comp=N,6.1nm,0.6s
S26A Kim 63.89 62 ⇑P P 01 27 20.0 +0.7
baz=64,SNR=5.6
TUC Tucson 63.89 71 *eP* P 01 27 20.8 +1.4
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC Tucson 63.89 71 *eP* P 01 27 20.8 +1.4
comp=Z,8.3nm,1.3s
KBL Kabul 63.89 293 *eP* P 01 27 16.6 -2.9
KBL pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul 63.89 293 *eP* P 01 27 16.6 -2.9
comp=Z,9.0nm,0.7s
P30A Selden 64.10 58 ⇑P P 01 27 21.0 +0.4
baz=64,SNR=8.9
O31A Woodin Ranch, 64.10 57 ⇓P P 01 27 20.9 +0.4
baz=64
N32A Stulken Farm, 64.14 56 ⇓P P 01 27 21.4 +0.6
baz=64
T26A Comanche Natio 64.16 62 ⇓P P 01 27 21.6 +0.4
baz=64,SNR=5.5
R28A Tribune 64.21 60 ⇑P P 01 27 21.9 +0.5
baz=64,SNR=6.2
Q29A Oakley 64.22 59 ⇑P P 01 27 21.7 +0.3
baz=64,SNR=7.0
ANMO Albuquerque 64.31 66 *eP* P 01 27 23.1 +1.0
comp=Z,10nm,0.9s
W23A Werner Place, 64.31 65 ⇓P P 01 27 23.7 +1.5
baz=64,SNR=5.5
U25A Circle Dot Ran 64.31 63 ⇓P P 01 27 23.1 +0.9
baz=64,SNR=14
LAZ Ladron 64.34 66 *eP* P 01 27 23.9 +1.4
comp=Z,7.6nm,1.0s
V24A Rampart Ranch, 64.36 64 ⇑P P 01 27 24.1 +1.5
baz=64,SNR=14
R29A Marienthal 64.49 59 ⇓P P 01 27 23.9 +0.7
baz=64
O32A Brockman Farm, 64.54 56 ⇑P P 01 27 23.4 0.0
baz=64
Q30A Quinter 64.54 58 ⇑P P 01 27 23.6 +0.2
baz=64,SNR=6.8
P31A Stockton 64.55 58 ⇓P P 01 27 23.4 -0.1
baz=64,SNR=6.3
VSR Storozhevoye 64.55 324 *eP* P 01 27 21.8 -1.5
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.9s
V25A Rancho No Teng 64.62 64 ⇓P P 01 27 25.2 +0.9
baz=64,SNR=8.2
U26A Atchley Ranch, 64.67 63 ⇑P P 01 27 25.2 +0.7
baz=64,SNR=6.2
W24A Lazy 6 Ranch, 64.67 65 ⇑P P 01 27 26.2 +1.6
baz=64,SNR=11
T27A Campo 64.70 62 ⇓P P 01 27 25.2 +0.6
baz=64,SNR=8.2
S28A Manter 64.73 61 ⇑P P 01 27 25.2 +0.5
baz=64,SNR=7.4
Y22A Socorro 64.79 67 ⇑P P 01 27 26.9 +1.6
baz=65,SNR=12
BNM Barren Site 64.81 66 *eP* P 01 27 26.8 +1.3
comp=E,47nm,2.0s
P32A Huiting Farm, 64.86 57 ⇓P P 01 27 25.2 -0.3
baz=65,SNR=10
ISAL Salakas 64.86 333 *eP* P 01 27 24.6 -0.6
ISAL AMB AMB 01 27 26.5
comp=Z,6.3nm,1.1s
IDID Didziasalis 64.93 333 *eP* P 01 27 25.0 -0.6
Q31A Ellis 64.94 58 ⇓P P 01 27 25.8 -0.2
baz=65
T28A Walsh 64.97 61 ⇓P P 01 27 26.7 +0.3
baz=65,SNR=8.9
SCHQ Schefferville 64.98 28 P P 01 27 25.4 -0.5
SCHQ Schefferville 64.98 28 P P 01 27 25.4 -0.5
comp=Z,13nm,0.6s,baz=340,slow=7.1,SNR=19
IIGN Ignalina 65.03 333 *eP* P 01 27 25.7 -0.6
IIGN AMB AMB 01 27 27.1
comp=Z,14nm,0.5s
R30A Dighton 65.04 59 ⇑P P 01 27 26.9 +0.2
baz=65,SNR=6.5
V26A Tequesquite Ra 65.10 63 ⇑P P 01 27 27.9 +0.6
baz=65,SNR=14
S29A Ulysses 65.11 60 ⇑P P 01 27 27.7 +0.5
baz=65
U27A Thompson Grove 65.13 62 ⇑P P 01 27 27.8 +0.3
baz=65,SNR=16
W25A X Bar L Ranch, 65.17 64 ⇓P P 01 27 28.8 +1.0
baz=65,SNR=14
Y23A Lovelace Mesa, 65.29 66 ⇓P P 01 27 30.2 +1.7
baz=65,SNR=22
Z22A Elephant Butte 65.30 67 ⇓P P 01 27 30.1 +1.5
baz=65,SNR=8.9
Q32A Meitler Ranch, 65.37 57 ⇓P P 01 27 28.6 -0.2
baz=65
T29A Hugoton 65.37 60 ⇑P P 01 27 29.4 +0.5
baz=65
121A Cookes Peak, D 65.39 68 ⇓P P 01 27 31.0 +1.8
baz=65,SNR=5.8
R31A Burdett 65.42 58 ⇑P P 01 27 29.2 +0.1
baz=65
S30A Montezuma 65.43 60 ⇓P P 01 27 29.5 +0.2
baz=65
319A Douglas 65.44 70 ⇓P P 01 27 30.5 +1.1
baz=65,SNR=9.7
P33A Williams Farm, 65.46 56 ⇓P P 01 27 29.4 0.0
baz=65
U28A Mallet 65.48 62 ⇑P P 01 27 29.9 +0.2
baz=65,SNR=12
X25A Clemmons Ranch 65.59 65 ⇑P P 01 27 32.0 +1.5
baz=65
V27A Dan Oppiter Fa 65.63 63 ⇓P P 01 27 31.0 +0.4
baz=65,SNR=5.3
W26A Owens Ranch, T 65.64 64 ⇑P P 01 27 31.9 +1.2
baz=66
Z23A Rita Site, Whi 65.70 67 ⇑P P 01 27 32.5 +1.4
baz=66
SCIA State Center 65.71 52 *eP* P 01 27 31.4 +0.5
comp=Z,126nm,0.7s
SCIA *epP* pP 01 27 45.5 +1.1
Q33A Connelly Farm, 65.72 57 ⇑P P 01 27 30.9 -0.2
baz=66
R32A Long Quarter, 65.72 58 ⇑P P 01 27 31.0 -0.2
baz=66
221A Mesquite Ranch 65.79 69 ⇑P P 01 27 33.3 +1.5
baz=66,SNR=5.1
320A Kipp Ranch, An 65.88 70 ⇓P P 01 27 33.5 +1.1
baz=66
S31A Mullinville 65.95 59 ⇑P P 01 27 32.4 -0.2
baz=66
V28A Channing 65.96 62 ⇑P P 01 27 33.3 +0.5
baz=66
X26A CR and CF Fran 66.03 64 ⇑P P 01 27 34.2 +0.9
baz=66,SNR=11
Y25A Mesa, Roswell 66.03 65 ⇓P P 01 27 34.3 +1.0
baz=66,SNR=33
W27A Bowe Ranch, En 66.04 63 ⇑P P 01 27 33.8 +0.5
baz=66
222A Williams Famil 66.09 68 ⇑P P 01 27 35.1 +1.3
baz=66,SNR=10
Z24A Sheeppen Canyo 66.12 66 ⇓P P 01 27 35.2 +1.3
baz=66,SNR=11
S32A Newby Ranch, P 66.17 59 ⇓P P 01 27 33.8 -0.1
baz=66
R33A Olander Ranch, 66.18 57 ⇓P P 01 27 34.4 +0.3
baz=66,SNR=5.3
T31A Randall Ranch, 66.25 59 ⇑P P 01 27 34.7 +0.1
baz=66
KSU1 Kansas State U 66.25 56 *eP* P 01 27 33.2 -1.2
comp=Z,19nm,0.6s
X27A F and S Farms, 66.33 63 ⇓P P 01 27 36.0 +0.8
baz=66,SNR=9.2
W28A Vega 66.34 62 ⇓P P 01 27 35.9 +0.7
baz=66
Y26A Elida 66.50 64 ⇑P P 01 27 37.1 +0.8
baz=66,SNR=8.6
Z25A Roswell 66.51 66 ⇓P P 01 27 37.3 +1.0
baz=66
124A Stringfield Ra 66.55 66 ⇑P P 01 27 37.8 +1.0
baz=66,SNR=7.5
T32A Huddler Ranch, 66.57 59 ⇓P P 01 27 36.9 +0.4
baz=66,SNR=6.0
U31A Nine Bar Ranch 66.72 60 ⇑P P 01 27 37.7 +0.1
baz=66
Y27A Causey 66.88 64 ⇓P P 01 27 39.4 +0.7
baz=67,SNR=22
AMTX Amarillo 66.90 62 ⇓P P 01 27 39.7 +0.9
baz=67
X28A Dimmitt 66.91 63 ⇑P P 01 27 39.5 +0.7
baz=67
Z26A Caprock 66.91 65 ⇓P P 01 27 39.6 +0.8
baz=67,SNR=25
224A Cornudas Mount 66.98 67 ⇑P P 01 27 40.3 +0.9
baz=67,SNR=16
125A Gardner Draw, 67.01 66 ⇑P P 01 27 40.6 +1.0
baz=67,SNR=18
MSTX Muleshoe 67.03 64 *eP* P 01 27 40.0 +0.4
MSTX *epP* pP 01 27 55.4 +2.2
MSTX Muleshoe 67.03 64 ⇓P P 01 27 40.1 +0.4
baz=67,SNR=14
SUW Suwalki 67.03 334 *eP* P 01 27 38.9 -0.2
SUW Suwalki 67.03 334 *eP* P 01 27 38.8 -0.3
U32A Winter Ranch, 67.15 59 ⇑P P 01 27 40.3 0.0
baz=67,SNR=6.7
V31A Spring Creek L 67.18 60 ⇓P P 01 27 40.9 +0.4
baz=67
X29A Tulia 67.23 63 ⇑P P 01 27 41.3 +0.4
baz=67,SNR=5.5
Z27A Tatum 67.29 64 ⇓P P 01 27 41.9 +0.6
baz=67,SNR=13
225A Deer Hill, Car 67.34 66 ⇑P P 01 27 42.4 +0.7
baz=67,SNR=12
MNTX Cornudas Mount 67.35 67 *eP* P 01 27 42.5 +0.9
comp=Z,14nm,0.9s
Y28A McKinney Farm, 67.35 63 ⇓P P 01 27 42.2 +0.6
baz=67
126A Clayton Basin, 67.37 66 ⇑P P 01 27 42.6 +0.8
baz=67,SNR=6.7
324A Moseley Ranch, 67.49 67 ⇓P P 01 27 43.3 +0.7
baz=67,SNR=5.4
GDL2 Guadalupe Moun 67.52 66 *eP* P 01 27 43.6 +0.8
comp=Z,8.0nm,0.9s
W31A Holland Ranch, 67.58 61 ⇑P P 01 27 43.6 +0.6
baz=67
X30A Coker Ranch, T 67.67 62 ⇓P P 01 27 43.9 +0.4
baz=68,SNR=6.1
Y29A Porterfield Fa 67.69 63 ⇓P P 01 27 44.2 +0.3
baz=68,SNR=7.0
127A Arkansas Junct 67.70 65 ⇓P P 01 27 44.7 +0.8
baz=68
226B Tecolote Peak, 67.72 66 ⇑P P 01 27 44.9 +0.8
baz=68,SNR=17
Z28A Tucker Farm, M 67.75 64 ⇓P P 01 27 44.6 +0.4
baz=68,SNR=6.0
MUD Monsted U'grnd 67.76 343 *eP* P 01 27 44.4 +0.7
MUD Monsted U'grnd 67.76 343 *i* P P 01 27 44.4 +0.7
KAPI Kappang 67.78 225 *eP* P 01 27 45.3 +1.0
comp=Z,200nm,1.3s
325A Bean Ranch, Si 67.83 67 ⇑P P 01 27 45.5 +0.8
baz=68,SNR=13
U34A Anderson Ranch 67.85 58 ⇑P P 01 27 44.3 -0.3
baz=68
BSD Bornholm Skovb 67.94 340 *i* P P 01 27 45.0 +0.1
BSD pmax pmax
comp=Z,8.0nm,0.4s
BSD Bornholm Skovb 67.94 340 *i* P P 01 27 45.0 +0.1
comp=Z,8.2nm,0.3s
V33A Lossen Ranch, 67.95 59 ⇓P P 01 27 45.4 +0.2
baz=68
X31A McDonald Ranch 67.99 61 ⇑P P 01 27 46.3 +0.7
baz=68,SNR=16
W32A Sentinel 67.99 61 ⇑P P 01 27 46.5 +0.9
baz=68,SNR=19
Y30A Stafford Cattl 68.09 62 ⇑P P 01 27 46.8 +0.5
baz=68,SNR=7.3
Z29A Hungry Hill Ra 68.14 63 ⇓P P 01 27 47.2 +0.6
baz=68,SNR=11
128A Castleberry Fa 68.21 64 ⇑P P 01 27 47.6 +0.5

baz=68,SNR=13
425A Indio Mountain 68.27 67 ⇓P P 01 27 48.6 +1.1
baz=68,SNR=18
AKASG **Malin Array Be** 68.27 329 *ce*P P 01 27 45.7 -1.3
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG **Malin Array Be** 68.27 329 P P 01 27 45.8 -1.2
AKASG **Malin Array Be** 68.27 329 P P 01 27 45.8 -1.2
comp=Z,11nm,0.5s,baz=28,slow=6.1,SNR=36
AKASG LR LR 02 01 15.1
comp=Z,275nm,18.1s,baz=355,slow=39
AKBB Malin Array Si 68.27 329 *eP* P 01 27 45.9 -1.1
AKBB Malin Array Si 68.27 329 *eP* P 01 27 45.9 -1.1
KIEV Kiev 68.28 329 *eP* P 01 27 46.0 -1.1
KIEV pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 68.28 329 *eP* P 01 27 46.0 -1.1
comp=Z,14nm,0.8s
AK01 Malin Array Si 68.29 329 *eP* P 01 27 46.0 -1.2
AK02 Malin Array Si 68.32 329 *eP* P 01 27 46.0 -1.3
MCD Coleburn Disti 68.32 351 *eP* P 01 27 47.1 -0.1
V34A Guthrie 68.33 59 ⇑P P 01 27 47.9 +0.3
baz=68
Y31A Rekieta Farm, 68.36 62 ⇓P P 01 27 48.3 +0.4
baz=68
W33A Caddo, Fort Co 68.37 60 ⇑P P 01 27 48.6 +0.7
baz=68,SNR=6.3
326A Caldwell Ranch 68.41 66 ⇑P P 01 27 49.3 +1.0
baz=68,SNR=13
Z30A Sanderson Ranc 68.42 63 ⇑P P 01 27 48.6 +0.3
baz=68,SNR=20
X32A Elmer 68.52 61 ⇓P P 01 27 49.2 +0.4
baz=68,SNR=7.4
WMOK Wichita Mounta 68.53 60 *eP* P 01 27 49.3 +0.3
WMOK *e**PP pP 01 28 03.2 +0.7
WMOK pmax pmax
comp=Z,35nm,0.7s
WMOK Wichita Mounta 68.53 60 *eP* P 01 27 49.3 +0.3
comp=Z,35nm,0.7s
WMOK *ep*P pP 01 28 03.2 +0.7
129A Stewart Farms, 68.54 64 ⇓P P 01 27 49.5 +0.4
baz=68
228A UT Block 9, Go 68.54 65 ⇓P P 01 27 49.7 +0.6
baz=68,SNR=6.7
MDO Dochfour 68.56 351 *eP* P 01 27 48.7 0.0
W34A Bridge Creek, 68.66 59 ⇑P P 01 27 50.2 +0.4
baz=68,SNR=5.1
IPM Ipoh 68.75 247 *eP* P 01 27 50.7 +0.2
comp=Z,21nm,0.8s
Y32A R-V Farms, Ver 68.76 61 ⇑P P 01 27 50.6 +0.3
baz=69,SNR=8.5
X33A Lawton 68.83 60 ⇑P P 01 27 51.0 +0.2
baz=69,SNR=11
426A McDonald Obser 68.88 67 ⇑P P 01 27 51.9 +0.5
baz=69,SNR=9.0
DRUM Mains of Drumt 68.90 350 *eP* P 01 27 50.6 -0.3
DRUM AMB AMB 01 28 04.6
comp=Z,55nm,3.4s
Z31A Sharp Cattle R 68.92 62 ⇓P P 01 27 51.6 +0.2
baz=69,SNR=17
328A Wristen Ranch, 68.99 66 ⇑P P 01 27 52.7 +0.7
baz=69,SNR=30
COEN Coen 69.01 198 *eP* P 01 27 52.4 +0.5
comp=Z,110nm,0.9s
130A Snyder 69.05 63 ⇑P P 01 27 52.8 +0.5
baz=69,SNR=6.7
229A Bryant Ranch, 69.08 64 ⇑P P 01 27 53.0 +0.6
baz=69
427A Hayter Ranch, 69.08 66 ⇓P P 01 27 53.4 +0.9
baz=69,SNR=11
X34A Smith Ranch, M 69.13 60 ⇓P P 01 27 53.7 +1.1
baz=69
TUL1 Tulsa 69.14 58 *eP* P 01 27 52.7 0.0
TUL1 Tulsa 69.14 58 ⇓P P 01 27 52.7 0.0
baz=69,SNR=8.7
GKP Gorka Klasztor 69.15 337 *eP* P 01 27 52.8 +0.4
GKP Gorka Klasztor 69.15 337 *eP* P 01 27 52.8 +0.4
Y33A Hilltop Ranch, 69.18 61 ⇓P P 01 27 53.1 +0.1
baz=69,SNR=7.0
KIV Kislovodsk 69.23 317 P P 01 27 53.0 -0.2
KIV *PP pP 01 28 03.0 -3.8
KIV *SP sP 01 28 11.0 -1.2
KIV 01 28 16.0
KIV pmax pmax
comp=Z,7.0nm,0.6s
KIV MLR MLR
comp=Z,200nm,20.0s
KIV Kislovodsk 69.23 317 *eP* P 01 27 53.7 +0.5
comp=Z,8.5nm,0.6s
Z32A Haskell 69.28 62 ⇓P P 01 27 53.7 0.0
baz=69,SNR=11
131A Roby 69.29 63 ⇑P P 01 27 54.3 +0.5
baz=69,SNR=5.8
526A Mary Lane Ranc 69.31 67 ⇑P P 01 27 55.1 +1.1
baz=69,SNR=13
KBZ Khabaz 69.33 317 LR LR 02 03 33.8
comp=Z,214nm,18.6s,baz=5.4,slow=40
329A Wagon Wheel Ra 69.36 65 ⇓P P 01 27 54.9 +0.7
baz=69,SNR=23
527A Woodward Ranch 69.51 67 ⇓P P 01 27 56.1 +0.8
baz=69,SNR=10
230A Sterling City 69.52 64 ⇓P P 01 27 55.6 +0.4
baz=69,SNR=6.5
428A Kincaid Ranch, 69.57 66 ⇑P P 01 27 57.0 +1.5
baz=69,SNR=29
BEL Belsk 69.61 335 *eP* P 01 27 56.2 +0.9
BEL Belsk 69.61 335 *eP* P 01 27 56.1 +0.8
Y34A Reagan Ranch, 69.67 60 ⇓P P 01 27 56.2 +0.3
baz=70,SNR=5.7
Z33A Whitaker Ranch 69.67 61 ⇑P P 01 27 56.0 0.0
baz=70,SNR=7.3
626A Big Bend Ranch 69.68 68 ⇓P P 01 27 57.1 +0.8
baz=70,SNR=14
ZEI Tsey 69.69 315 *eP* P 01 27 54.0 -2.2
ZEI pmax pmax
comp=Z,6.0nm,0.9s
ABTX Abilene, Hawle 69.72 62 *eP* P 01 27 56.5 +0.2
ABTX Abilene, Hawle 69.72 62 ⇑P P 01 27 56.7 +0.3
baz=70,SNR=11
SFIN Scholer Farm 69.72 49 ⇑P P 01 27 56.2 0.0
baz=70
EAB Aberfoyle 69.80 351 *eP* P 01 27 56.2 -0.1
330A Mertzon 69.86 64 ⇑P P 01 27 57.6 +0.3
baz=70,SNR=6.5
ESY Stoneypath 69.90 350 *eP* P 01 27 56.9 -0.1
231A Bronte 69.90 63 ⇓P P 01 27 58.0 +0.4
baz=70
528A Cox Ranch, San 69.95 66 ⇓P P 01 27 59.1 +1.2
baz=70,SNR=20
BSEG Bad Segeberg 69.96 342 *eP* P 01 27 58.0 +0.6
comp=Z,16nm,0.9s
Z34A Collier Ranch, 70.05 61 ⇓P P 01 27 58.3 0.0
baz=70,SNR=7.8
429A Davenport Ranc 70.08 65 ⇑P P 01 27 59.1 +0.5
baz=70,SNR=13
TXAR Lajitas Array 70.11 68 P P 01 27 59.9 +1.0
TXAR Lajitas Array 70.11 68 P P 01 27 59.9 +1.0
comp=Z,18nm,0.6s,baz=295,slow=3.6,SNR=270
TXAR LR LR 01 54 23.1
comp=Z,51nm,21.7s,baz=180,slow=32
133A Hamilton Ranch 70.12 62 ⇑P P 01 27 59.0 +0.2
baz=70,SNR=7.3
627A Terlingua Ranc 70.17 67 ⇓P P 01 28 00.4 +1.1
baz=70,SNR=18
PGBU Glenifferbraes 70.18 351 *eP* P 01 27 58.8 0.0
PGBU AMB AMB 01 28 00.3
comp=Z,92nm,4.0s
529A Stev Forest Ra 70.29 66 ⇑P P 01 28 00.8 +0.9
baz=70,SNR=11
232A Coleman 70.30 63 ⇓P P 01 28 00.1 +0.2
baz=70,SNR=16
430A Baggett Ranch, 70.30 65 ⇑P P 01 28 00.2 +0.2
baz=70,SNR=16
331A San Angelo 70.33 64 ⇑P P 01 28 00.4 +0.2
baz=70,SNR=19
628A Black Gap, Mar 70.42 67 ⇑P P 01 28 01.5 +0.8
baz=70,SNR=15
ESK Eskdalemuir 70.55 350 *eP* P 01 27 59.9 -1.2
ESK Eskdalemuir 70.55 350 *eP* P 01 28 00.7 -0.3
ESK pmax pmax
comp=Z,8.0nm,0.8s
ESK Eskdalemuir 70.55 350 *eP* P 01 28 00.7 -0.3
comp=Z,8.3nm,0.8s
134A White-Moore Ra 70.58 61 ⇑P P 01 28 01.5 -0.1
baz=70,SNR=9.1
332A Millersview 70.64 63 ⇓P P 01 28 02.3 +0.3
baz=70,SNR=22

431A Sonora 70.72 64 ⇓P P 01 28 03.0 +0.5
baz=71,SNR=17
530A J-C Ranch, Com 70.75 65 ⇑P P 01 28 03.5 +0.8
baz=71,SNR=20
SIUC Southern Illin 70.90 52 *eP* P 01 28 03.2 -0.3
comp=Z,42nm,1.0s
SIUC *ep*P pP 01 28 17.2 +0.1
135A Vickery Place, 70.95 61 ⇓P P 01 28 04.2 +0.4
baz=71
432A Menard 71.01 64 ⇑P P 01 28 04.5 +0.2
baz=71,SNR=10.0
333A Richland Sprin 71.09 63 ⇓P P 01 28 05.0 +0.3
baz=71,SNR=11
KWP Kalwaria Pacla 71.12 333 *eP* P 01 28 04.5 -0.1
KWP pmax pmax
comp=Z,35nm,1.0s
KWP Kalwaria Pacla 71.12 333 *eP* P 01 28 05.2 +0.6
KWP Kalwaria Pacla 71.12 333 ⇑*iP* P 01 28 05.1 +0.5
KWP Kalwaria Pacla 71.12 333 *eP* P 01 28 04.5 -0.1
comp=Z,35nm,1.0s
531A Rocksprings 71.16 65 ⇑P P 01 28 05.3 +0.1
baz=71,SNR=10
KESW Keswick, Cumbr 71.26 350 *eP* P 01 28 05.5 +0.2
KESW AMB AMB 01 28 06.9
comp=Z,50nm,3.6s
PSI Prapat 71.30 248 LR LR 01 56 56.0
comp=Z,70nm,21.9s,baz=19,slow=34
JCT Junction City 71.31 64 *eP* P 01 28 06.3 +0.2
JCT pmax pmax
comp=Z,28nm,1.0s
JCT Junction City 71.31 64 *eP* P 01 28 06.3 +0.2
comp=Z,28nm,1.0s
JCT Junction City 71.31 64 ⇓P P 01 28 06.5 +0.4
baz=71
MIAR Mount Ida 71.33 57 *eP* P 01 28 06.1 0.0
MIAR pmax pmax
comp=Z,28nm,1.0s
MIAR Mount Ida 71.33 57 *eP* P 01 28 06.1 0.0
comp=Z,28nm,1.0s
OJC Ojcow 71.35 335 *eP* P 01 28 06.5 +0.5
OJC Ojcow 71.35 335 *eP* P 01 28 06.5 +0.5
WHTX Lake Whitney 71.37 61 ⇑P P 01 28 06.2 -0.2
baz=71,SNR=5.2
NRDL Niedersach Rie 71.37 341 *eP* P 01 28 06.3 +0.4
comp=Z,8.0nm,0.9s
334A Lometa 71.47 62 ⇑P P 01 28 07.3 +0.2
baz=71,SNR=17
433A Art 71.48 63 ⇓P P 01 28 07.2 +0.1
baz=71,SNR=20
PARMO Parma 71.50 53 *eP* P 01 28 07.6 +0.6
PARMO *ep*P pP 01 28 21.4 +0.7
GNI Garni 71.51 313 *eP* P 01 28 08.7 +1.4
comp=Z,6.5nm,0.6s
532A Rocksprings 71.53 64 ⇑P P 01 28 07.6 +0.1
baz=71,SNR=7.7
KSP Ksiaz 71.63 337 *eP* P 01 28 07.8 +0.2
KSP Ksiaz 71.63 337 *eP* P 01 28 08.0 +0.4
STHS Stebnicka Huta 71.71 333 *eP* P 01 28 09.4 +1.2
STHS pmax pmax
comp=Z,11nm,0.7s
STHS Stebnicka Huta 71.71 333 *eP* P 01 28 09.4 +1.2
HPK Haverah Park 71.72 349 *eP* P 01 28 08.2 +0.1
HPK AMB AMB 01 28 17.0
comp=Z,66nm,3.9s
631A Perdido Creek 71.73 65 ⇑P P 01 28 08.7 +0.1
baz=72,SNR=9.8
WCI Wyandotte Cave 71.83 50 *eP* P 01 28 08.9 -0.2
WCI *e**PP pP 01 28 22.6 -0.2
WCI pmax pmax
comp=Z,11nm,0.8s
WCI Wyandotte Cave 71.83 50 *eP* P 01 28 08.9 -0.2
comp=Z,11nm,0.8s
WCI *ep*P pP 01 28 22.6 -0.2
434A Burnet 71.87 63 ⇑P P 01 28 09.3 -0.2
baz=72,SNR=17
KOLS Kolonicke sedl 71.87 333 *eP* P 01 28 09.4 +0.3
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 71.87 333 *eP* P 01 28 09.4 +0.3
CLL Collm 71.92 339 ⇓*iP* P 01 28 09.2 -0.1
CLL pmax pmax
comp=Z,36nm,1.1s
CLL Collm 71.92 339 *eP* P 01 28 09.4 +0.1
comp=Z,36nm,1.1s
CLL Collm 71.92 339 ⇓*iP* P 01 28 09.2 -0.1
comp=Z,36nm,1.1s
335A Moody 71.94 62 ⇑P P 01 28 10.0 +0.2
baz=72,SNR=6.0
CLZ Clausthal 71.94 341 *eP* P 01 28 10.4 +0.9
comp=Z,28nm,1.0s
NIE Niedzica 71.95 334 *eP* P 01 28 10.5 +0.8
NIE Niedzica 71.95 334 *eP* P 01 28 10.5 +0.8
UPC Upice 72.00 337 *eP* P 01 28 10.6 +0.7
UPC Upice 72.00 337 *eP* P 01 28 10.6 +0.7
533A Kerrville 72.04 64 ⇓P P 01 28 10.6 +0.1
baz=72,SNR=9.6
DPC Dobruska-Polom 72.08 337 *eP* P 01 28 10.4 0.0
DPC Dobruska-Polom 72.08 337 *eP* P 01 28 10.4 0.0
632A Uvalde 72.08 65 ⇑P P 01 28 10.9 +0.2
baz=72,SNR=10
OKC Ostrava-Krasne 72.12 336 *eP* P 01 28 10.9 +0.3
OKC Ostrava-Krasne 72.12 336 *eP* P 01 28 10.9 +0.3
CRVS Cervenica-Dubn 72.12 333 *eP* P 01 28 11.2 +0.6
CRVS pmax pmax
comp=Z,4.0nm,0.8s
CRVS Cervenica-Dubn 72.12 333 *eP* P 01 28 11.2 +0.6
UZH Uzhgorod 72.14 332 *eP* P 01 28 11.9 +1.2
UZH *e* 01 28 29.1
BUR08 Bucovina Ar. S 72.20 330 *eP* P 01 28 10.7 -0.6
BURAR Bucovina Array 72.22 330 ⇓*iP* P 01 28 11.2 -0.2
KRLC Kraliky 72.23 336 *eP* P 01 28 11.4 +0.1
KRLC Kraliky 72.23 336 *eP* P 01 28 11.4 +0.1
PVCC Panska Ves 72.31 338 *iP* P 01 28 10.3 -1.4
PVCC Panska Ves 72.31 338 *iP* P 01 28 10.3 -1.4
LEOM Leova 72.31 328 ⇓*iP* P 01 28 10.7 -1.1
MORC Moravsky Berou 72.32 336 *eP* P 01 28 12.1 +0.3
MORC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 72.32 336 ⇓*iP* P 01 28 12.8 +0.9
MORC Moravsky Berou 72.32 336 *eP* P 01 28 12.1 +0.3
comp=Z,11nm,0.9s
534A Blanco 72.38 63 ⇓P P 01 28 12.5 0.0
baz=72,SNR=11
WTSB Winterswijk 72.47 343 *eP* P 01 28 10.8 -1.8
TRPA Tarpa 72.53 332 ⇑*iP* P 01 28 13.7 +0.7
TRPA Tarpa 72.53 332 ⇓*eP* P 01 28 13.7 +0.7
732A Laxson Ranch, 72.59 65 ⇓P P 01 28 14.9 +1.1
baz=72,SNR=23
TESR Tescani 72.78 329 ⇑*iP* P 01 28 14.1 -0.5
PRU Pruhonice 72.82 338 *eP* P 01 28 15.3 +0.5
PRU Pruhonice 72.82 338 *eP* P 01 28 15.3 +0.5
PRU *ex* x 01 28 20.1
WVT Waverly 72.83 52 *eP* P 01 28 15.3 +0.2
WVT *e**PP pP 01 28 28.8 0.0
WVT pmax pmax
comp=Z,19nm,0.8s
WVT Waverly 72.83 52 *eP* P 01 28 15.3 +0.2
comp=Z,19nm,0.8s
WVT *ep*P pP 01 28 28.8 0.0
TANN Tannenbergstha 72.87 339 *eP* P 01 28 15.5 +0.4
comp=Z,8.0nm,1.0s
GHRR 72.95 328 ⇑*iP* P 01 28 16.2 +0.6
VRAC Vranov 72.98 336 ⇑*iP* P 01 28 17.0 +1.2
NKC Novy Kostel 73.05 339 *eP* P 01 28 16.5 +0.4
NKC Novy Kostel 73.05 339 *eP* P 01 28 16.5 +0.4
TREC Trest 73.26 337 *eP* P 01 28 18.1 +0.7
TREC Trest 73.26 337 *eP* P 01 28 18.1 +0.7
VRI Vrincioaia 73.33 328 ⇓*iP* P 01 28 17.9 0.0
OXF Oxford 73.40 54 *eP* P 01 28 18.5 +0.1
OXF *e**PP pP 01 28 32.2 0.0
OXF pmax pmax
comp=Z,52nm,1.0s
OXF Oxford 73.40 54 *eP* P 01 28 18.4 +0.1
comp=Z,52nm,1.0s
OXF *ep*P pP 01 28 32.1 0.0
PSZ Piszkesteto 73.44 334 *eP* P 01 28 19.3 +0.8
PSZ pmax pmax
comp=Z,5.0nm,0.8s
PSZ Piszkesteto 73.44 334 *eP* P 01 28 19.3 +0.8
comp=Z,4.7nm,0.8s
CFR Carcaliu 73.50 327 ⇑*iP* P 01 28 18.4 -0.4
ROTZ Rotzenmuhle 73.54 339 *eP* P 01 28 19.8 +0.8
comp=Z,14nm,1.1s
DOPR Dopca 73.66 329 ⇓*iP* P 01 28 18.9 -0.9
GRER 73.69 328 ⇑*iP* P 01 28 20.7 +0.7

DRGR 73.70 331 ⇑*iP* P 01 28 20.1 0.0
HGN Heimansgroeve 73.78 344 *eP* P 01 28 19.7 -0.6
GRF Grafenberg Arr 73.82 340 *eP* P 01 28 21.5 +0.8
comp=Z,22nm,0.9s
KHC Kasperske Hory 73.84 338 *de*P P 01 28 21.3 +0.4
KHC pmax pmax
comp=Z,93nm,1.0s
KHC Kasperske Hory 73.84 338 *i* P P 01 28 21.5 +0.6
KHC *ex* x 01 28 28.2
KHC Kasperske Hory 73.84 338 *eP* P 01 28 21.4 +0.6
comp=Z,18nm,1.1s
MEM Membach 73.91 343 P P 01 28 21.4 +0.3
comp=Z,18nm,0.9s
MLR Muntele Rosu 73.91 329 ⇓*iP* P 01 28 22.4 +1.0
WET Wettzell 73.99 339 *eP* P 01 28 21.8 +0.1
comp=Z,16nm,0.9s
TLB Topalu 74.06 327 ⇓*iP* P 01 28 22.0 -0.1
ISR Istrita 74.06 328 ⇓*iP* P 01 28 20.1 -2.1
GEC2 GERESS Array S 74.09 338 *eP* P 01 28 22.6 +0.2
comp=Z,10.0nm,0.8s
GERES GERESS Array B 74.09 338 P P 01 28 22.9 +0.6
GERES GERESS Array B 74.09 338 P P 01 28 22.9 +0.6
comp=Z,6.3nm,0.6s,baz=34,slow=5.2,SNR=65
GERES LR LR 02 02 40.6
comp=Z,183nm,21.7s,baz=191,slow=37
BCLA Clavier 74.21 344 P P 01 28 24.9 +2.0
VOIR 74.24 329 ⇑*iP* P 01 28 24.0 +0.7
PKSG 74.32 334 ⇑*eP* P 01 28 24.9 +1.3
CSKK Cs˙‡kako 74.38 334 ⇑*eP* P 01 28 25.1 +1.1
MTUR Matau 74.42 329 ⇑*iP* P 01 28 25.3 +0.9
ARR Arges 74.42 329 ⇑*iP* P 01 28 25.1 +0.8
CONA Conrad Observa 74.45 336 ⇓*iP* P 01 28 25.6 +1.1
comp=Z,8.8nm,0.6s,SNR=5.0
SWET Sewanee 74.47 51 *eP* P 01 28 24.4 -0.3
comp=Z,56nm,1.1s
SIRR Siria 74.47 332 ⇓*iP* P 01 28 24.5 -0.1
CTAO Charters Tower 74.51 194 *eP* P 01 28 25.4 +0.5
CTAO *e**PP pP 01 28 38.4 -0.2
CTAO pmax pmax
comp=Z,20nm,0.9s
CTAO Charters Tower 74.51 194 *eP* P 01 28 25.4 +0.5
comp=Z,20nm,0.9s
CTAO *ep*P pP 01 28 38.4 -0.2
PKST T˜'s 74.53 335 ⇑*eP* P 01 28 25.8 +0.9
SULR 74.55 329 ⇑*iP* P 01 28 24.0 -0.9
MSAB Monastry St. A 74.57 327 ⇑*iP* P 01 28 25.5 +0.4
GIVF Givet 74.60 344 *eP* P 01 28 25.0 -0.2
GIVF Givet 74.60 344 *eP* P 01 28 25.0 -0.2
GIVF Givet 74.60 344 *eP* P 01 28 25.0 -0.2
DOU Dourbes 74.64 344 P P 01 28 25.7 +0.3
BAIF Baives 74.74 345 *eP* P 01 28 26.0 0.0
comp=Z,32nm,1.1s
BAIF Baives 74.74 345 *eP* P 01 28 26.0 0.0
BAIF pmax pmax
comp=Z,32nm,1.1s
BAIF Baives 74.74 345 *eP* P 01 28 26.0 0.0
comp=Z,32nm,1.1s
WLF Walferdange 74.80 343 *eP* P 01 28 26.9 +0.5
WLF pmax pmax
comp=Z,8.0nm,0.8s
WLF Walferdange 74.80 343 *eP* P 01 28 26.9 +0.5
comp=Z,7.8nm,0.8s
MOA Molin 74.90 337 ⇓*iP* P 01 28 27.6 +0.6
comp=Z,5.3nm,0.8s
GZR Gura Zlata 74.95 331 ⇑*iP* P 01 28 27.4 0.0
BZS Buzias 75.08 332 ⇑*iP* P 01 28 28.7 +0.7
PKS9 Tamasi 75.09 334 ⇑*eP* P 01 28 28.8 +0.7
STU Stuttgart 75.10 341 *eP* P 01 28 28.0 -0.1
STU pmax pmax
comp=Z,15nm,1.1s
STU Stuttgart 75.10 341 *eP* P 01 28 28.3 +0.2
comp=Z,9.0nm,0.9s
STU Stuttgart 75.10 341 *eP* P 01 28 27.9 -0.1
comp=Z,15nm,1.1s
LANF Langenberg 75.16 342 *eP* P 01 28 29.1 +0.6
ARSA Arzberg 75.16 336 ⇓*iP* P 01 28 29.7 +1.1
comp=Z,6.9nm,0.6s
FUR Furstenfeldbru 75.25 339 *eP* P 01 28 29.6 +0.6
comp=Z,16nm,0.9s
PKSM Moragy 75.35 334 ⇑*iP* P 01 28 29.3 -0.2
DZM Mont Dzumac 75.60 174 *e*LR LR 01 52 00.0
comp=Z,166nm,27.8s
BFO Black Forest 75.69 341 *i* P P 01 28 32.2 +0.7
BFO Black Forest 75.69 341 *eP* P 01 28 31.6 +0.1
comp=Z,7.0nm,0.9s
MALT Malatya 75.71 317 ⇓*iP* P 01 28 32.5 +0.6
CDF Champ du Feu 75.81 342 *eP* P 01 28 32.3 0.0
comp=Z,25nm,1.0s
CDF Champ du Feu 75.81 342 *eP* P 01 28 32.3 0.0
CDF pmax pmax
comp=Z,25nm,1.0s
CDF Champ du Feu 75.81 342 *eP* P 01 28 32.3 0.0
comp=Z,25nm,1.0s
SOKA Soboth 75.82 336 *iP* P 01 28 33.0 +0.7
comp=Z,9.9nm,0.6s,SNR=6.5
KBA Koelnbreinsper 75.83 338 ⇓*iP* P 01 28 34.1 +1.5
comp=Z,39nm,0.7s
GROS Grobnik 75.91 336 *iP* P 01 28 33.5 +0.6
PAGF Fort de Pagny 75.94 343 *eP* P 01 28 33.5 +0.6
comp=Z,12nm,1.0s
PAGF Fort de Pagny 75.94 343 *eP* P 01 28 33.5 +0.6
comp=Z,12nm,1.0s
WATA Walderalm 75.98 339 ⇓*iP* P 01 28 33.8 +0.5
comp=Z,16nm,1.0s,SNR=8.1
RETA Reutte 76.01 339 ⇓*iP* P 01 28 34.0 +0.6
comp=Z,9.0nm,0.8s
WTTA Wattenberg 76.03 339 ⇓*iP* P 01 28 34.6 +0.9
comp=Z,14nm,0.7s,SNR=7.6
MOTA Mosalm 76.07 339 ⇓*iP* P 01 28 34.4 +0.5
comp=Z,16nm,0.8s,SNR=14
OBKA Obir 76.09 337 ⇑*iP* P 01 28 34.9 +1.0
comp=Z,32nm,1.4s
MEZF Maizieres J'vi 76.11 344 *eP* P 01 28 33.5 -0.4
MEZF Maizieres J'vi 76.11 344 *eP* P 01 28 33.5 -0.4
FELD Feldberg im Sc 76.19 341 ⇑*eP* P 01 28 34.8 +0.3
MYKA Terra Mystica 76.19 337 ⇓*iP* P 01 28 35.0 +0.5
comp=Z,9.0nm,0.7s
THEF They Montfort 76.22 343 *eP* P 01 28 35.2 +0.7
ABTA Abfaltersbach 76.33 338 ⇓*iP* P 01 28 35.9 +0.6
comp=Z,21nm,0.8s,SNR=6.7
HAU Haudompre 76.37 343 *eP* P 01 28 35.3 -0.1
comp=Z,14nm,0.8s
HAU *eR*
comp=Z,172nm,20.5s
HAU Haudompre 76.37 343 *eP* P 01 28 35.3 -0.1
HAU pmax pmax
comp=Z,15nm,0.8s
HAU Haudompre 76.37 343 *eP* P 01 28 35.3 -0.1
comp=Z,14nm,0.8s
BR131 Keskin Array S 76.37 321 *eP* P 01 28 35.1 -0.6
comp=Z,3.3nm,0.7s
BRTR Keskin Array B 76.37 321 P P 01 28 35.2 -0.4
BRTR Keskin Array B 76.37 321 P P 01 28 35.2 -0.4
comp=Z,2.7nm,0.7s,baz=65,slow=3.3,SNR=12
BRTR LR LR 02 05 47.6
comp=Z,71nm,18.8s,baz=12,slow=38
MOF Molkenrain 76.37 342 ⇑*eP* P 01 28 35.9 +0.4
DAVA Damuels 76.38 340 ⇓*iP* P 01 28 36.0 +0.4
comp=Z,6.1nm,0.8s
SFTF Sexfontaines 76.40 343 *eP* P 01 28 35.7 +0.2
comp=Z,32nm,0.9s
SFTF Sexfontaines 76.40 343 *eP* P 01 28 35.7 +0.2
comp=Z,32nm,0.9s
HINF Hinteralfeld 76.46 342 *eP* P 01 28 35.7 -0.2
comp=Z,7.4nm,0.8s
HINF Hinteralfeld 76.46 342 *eP* P 01 28 35.7 -0.2
HINF pmax pmax
comp=Z,7.0nm,0.8s
HINF Hinteralfeld 76.46 342 *eP* P 01 28 35.7 -0.2
comp=Z,7.4nm,0.8s
FETA Feichten 76.46 339 *iP* P 01 28 36.9 +0.8
comp=Z,19nm,0.9s,SNR=6.6
LJU Ljubljana 76.53 336 *iP* P 01 28 36.6 +0.3
CADS Cadrg 76.55 337 *iP* P 01 28 36.7 +0.3
KMSC Kings Mountain 76.61 48 ⇓P P 01 28 37.0 0.0
baz=76
SISC Sisak 76.62 335 P P 01 28 36.6 -0.2
WRAB Tennant Creek 76.74 205 ⇓*eP* P 01 28 38.0 +0.4
WRAB pmax pmax
comp=Z,60nm,1.3s
WRAB Tennant Creek 76.74 205 *eP* P 01 28 37.8 +0.2
comp=Z,34nm,1.3s
WRAB Tennant Creek 76.74 205 P P 01 28 38.6 +1.0
comp=Z,90nm,1.3s,SNR=14
WRA Warramunga Arr 76.75 205 P P 01 28 38.3 +0.6

WRA	**Warramunga Arr**	**76.75**	**205**	P	**P**	**01 28 38.3**	**+0.6**
	comp=Z,12nm,1.0s,baz=19,slow=5.9,SNR=28						
LDF	**La Druitiere**	**76.80**	**347**	*e*P	**P**	**01 28 38.2**	**+0.4**
LDF	**La Druitiere**	**76.80**	**347**	*e*P	**P**	**01 28 38.2**	**+0.4**
LDF	**La Druitiere**	**76.80**	**347**	*e*P	**P**	**01 28 38.2**	**+0.4**
GRR	**Gorron**	**77.10**	**347**	*e*P	**P**	**01 28 39.2**	**-0.3**
GRR	**Gorron**	**77.10**	**347**	*e*P	**P**	**01 28 39.2**	**-0.3**
GRR	**Gorron**	**77.10**	**347**	*e*P	**P**	**01 28 39.2**	**-0.3**
TUE	**Stuetta**	**77.27**	**340**	*e*P	**P**	**01 28 41.1**	**+0.4**
	comp=Z,20nm,0.7s						
SGMF	**Saint Gilles**	**77.44**	**349**	*e*P	**P**	**01 28 41.6**	**+0.2**
	comp=Z,28nm,0.8s						
SGMF	**Saint Gilles**	**77.44**	**349**	*e*P	**P**	**01 28 41.6**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,28nm,0.8s						
SGMF	**Saint Gilles**	**77.44**	**349**	*e*P	**P**	**01 28 41.6**	**+0.2**
	comp=Z,28nm,0.8s						
ROSF	**Rostrenen**	**77.44**	**349**	*e*P	**P**	**01 28 41.1**	**-0.3**
	comp=Z,34nm,1.0s						
ROSF	**Rostrenen**	**77.44**	**349**	*e*P	**P**	**01 28 41.1**	**-0.3**
ROSF				pmax	pmax		
	comp=Z,34nm,1.0s						
ROSF	**Rostrenen**	**77.44**	**349**	*e*P	**P**	**01 28 41.1**	**-0.3**
	comp=Z,34nm,1.0s						
LOR	**Lormes**	**77.50**	**344**	*e*P	**P**	**01 28 41.7**	**-0.1**
	comp=Z,30nm,1.1s						
LOR				*e*R			
	comp=Z,182nm,18.5s						
LOR	**Lormes**	**77.50**	**344**	*e*P	**P**	**01 28 41.7**	**-0.1**
	comp=Z,30nm,1.1s						
UDBI	**Udbina**	**77.65**	**335**	P	**P**	**01 28 42.7**	**0.0**
CABF	**La Chapelle**	**77.76**	**342**	*e*P	**P**	**01 28 43.7**	**+0.4**
	comp=Z,26nm,1.0s						
CABF	**La Chapelle**	**77.76**	**342**	*e*P	**P**	**01 28 43.7**	**+0.4**
CABF				pmax	pmax		
	comp=Z,26nm,1.0s						
CABF	**La Chapelle**	**77.76**	**342**	*e*P	**P**	**01 28 43.7**	**+0.4**
	comp=Z,26nm,1.0s						
SSF	**Saint Saulge**	**77.76**	**344**	*e*P	**P**	**01 28 43.1**	**-0.1**
	comp=Z,14nm,1.0s						
SSF	**Saint Saulge**	**77.76**	**344**	*e*P	**P**	**01 28 43.1**	**-0.1**
SSF				pmax	pmax		
	comp=Z,14nm,1.0s						
SSF	**Saint Saulge**	**77.76**	**344**	*e*P	**P**	**01 28 43.1**	**-0.1**
	comp=Z,14nm,1.0s						
NVLJ	**Novalja**	**77.84**	**336**	P	**P**	**01 28 43.1**	**-0.5**
QUIF	**Quistinic**	**77.85**	**349**	*e*P	**P**	**01 28 43.2**	**-0.4**
QUIF	**Quistinic**	**77.85**	**349**	*e*P	**P**	**01 28 43.2**	**-0.4**
QUIF	**Quistinic**	**77.85**	**349**	*e*P	**P**	**01 28 43.2**	**-0.4**
RDO	**Rodhopi**	**77.95**	**327**	*e*P	**P**	**01 28 45.0**	**+0.7**
AVF	**Avril sur Loir**	**78.05**	**344**	*e*P	**P**	**01 28 44.8**	**0.0**
	comp=Z,18nm,0.9s						
AVF	**Avril sur Loir**	**78.05**	**344**	*e*P	**P**	**01 28 44.8**	**0.0**
AVF				pmax	pmax		
	comp=Z,18nm,0.9s						
AVF	**Avril sur Loir**	**78.05**	**344**	*e*P	**P**	**01 28 44.8**	**0.0**
	comp=Z,18nm,0.9s						
SMF	**Signal de Mont**	**78.11**	**344**	*e*P	**P**	**01 28 45.1**	**-0.1**
	comp=Z,16nm,1.0s						
SMF	**Signal de Mont**	**78.11**	**344**	*e*P	**P**	**01 28 45.1**	**-0.1**
SMF				pmax	pmax		
	comp=Z,17nm,1.0s						
SMF	**Signal de Mont**	**78.11**	**344**	*e*P	**P**	**01 28 45.1**	**-0.1**
	comp=Z,16nm,1.0s						
MMB	**Musomiste**	**78.13**	**328**	⇓*i*P	**P**	**01 28 45.9**	**+0.5**
PALK	**Pallekele**	**78.22**	**266**	*e*P	**P**	**01 28 46.2**	**0.0**
	comp=Z,58nm,1.1s						
NVR	**Nevrokopi**	**78.30**	**328**	*e*P	**P**	**01 28 46.0**	**-0.3**
BGF	**Bois d'Agland**	**78.36**	**345**	*e*P	**P**	**01 28 47.5**	**+1.0**
	comp=Z,7.1nm,0.7s						
BGF	**Bois d'Agland**	**78.36**	**345**	*e*P	**P**	**01 28 47.5**	**+1.0**
BGF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BGF	**Bois d'Agland**	**78.36**	**345**	*e*P	**P**	**01 28 47.5**	**+1.0**
	comp=Z,7.1nm,0.7s						
RSL	**Roselend**	**78.55**	**342**	*e*P	**P**	**01 28 48.9**	**+1.1**
SRS	**Serrai**	**78.60**	**328**	*e*P	**P**	**01 28 48.0**	**+0.1**
TIGA	**Tifton**	**78.69**	**52**	⇓P	**P**	**01 28 49.0**	**+0.5**
	baz=78						
LPL	**La Plagne**	**78.70**	**342**	*e*P	**P**	**01 28 49.8**	**+1.1**
	comp=Z,41nm,0.8s						
LPL	**La Plagne**	**78.70**	**342**	*e*P	**P**	**01 28 49.8**	**+1.1**
LPL				pmax	pmax		
	comp=Z,41nm,0.8s						
LPL	**La Plagne**	**78.70**	**342**	*e*P	**P**	**01 28 49.8**	**+1.1**
	comp=Z,41nm,0.8s						
STON	**Ston**	**78.70**	**333**	P	**P**	**01 28 46.8**	**-1.6**
LPG	**La Plagne**	**78.71**	**342**	*e*P	**P**	**01 28 50.0**	**+1.2**
	comp=Z,56nm,0.9s						
LPG	**La Plagne**	**78.71**	**342**	*e*P	**P**	**01 28 50.0**	**+1.2**
LPG				pmax	pmax		
	comp=Z,56nm,0.9s						
LPG	**La Plagne**	**78.71**	**342**	*e*P	**P**	**01 28 50.0**	**+1.2**
	comp=Z,56nm,0.9s						
TCF	**Toulx Ste Croi**	**78.72**	**345**	*e*P	**P**	**01 28 49.7**	**+1.2**
	comp=Z,7.4nm,0.8s						
TCF	**Toulx Ste Croi**	**78.72**	**345**	*e*P	**P**	**01 28 49.7**	**+1.2**
TCF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TCF	**Toulx Ste Croi**	**78.72**	**345**	*e*P	**P**	**01 28 49.7**	**+1.2**
	comp=Z,7.4nm,0.8s						
VAY	**Valandovo**	**78.73**	**329**	*i* P	**P**	**01 28 48.3**	**-0.3**
MFF	**Saint Martin d**	**78.76**	**347**	*e*P	**P**	**01 28 49.1**	**+0.4**
MFF	**Saint Martin d**	**78.76**	**347**	*e*P	**P**	**01 28 49.1**	**+0.4**
MFF	**Saint Martin d**	**78.76**	**347**	*e*P	**P**	**01 28 49.1**	**+0.4**
KNT	**Kendrikon**	**78.77**	**329**	*e*P	**P**	**01 28 49.0**	**+0.1**
AGO	**Saint Agoulin**	**78.81**	**344**	⇑*e*P	**P**	**01 28 51.2**	**+2.2**
UMR	**Umm Al-Rimmam**	**78.89**	**305**	*e*P	**P**	**01 28 48.3**	**-1.4**
UMR				AMb	AMB	01 28 51.1	
	comp=Z,18nm,0.7s						
PYM	**Petit Puy Mans**	**79.12**	**344**	⇑*e*P	**P**	**01 28 52.9**	**+2.1**
BNI	**Bardonecchia**	**79.15**	**342**	*e*P	**P**	**01 28 52.1**	**+1.0**
BNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BNI	**Bardonecchia**	**79.15**	**342**	*e*P	**P**	**01 28 52.1**	**+1.0**
	comp=Z,8.4nm,0.8s						
EIDS	**Eidsvold**	**79.16**	**189**	*e*P	**P**	**01 28 51.8**	**+0.9**
	comp=Z,7.2nm,0.7s						
OUR	**Ouranopolis**	**79.19**	**328**	*e*P	**P**	**01 28 52.0**	**+0.9**
LIA	**Limnos Island**	**79.20**	**327**	*e*P	**P**	**01 28 51.0**	**-0.2**
HORT	**Hortiatis**	**79.23**	**328**	*e*P	**P**	**01 28 51.0**	**-0.5**
THE	**Thessaloniki**	**79.24**	**329**	*e*P	**P**	**01 28 49.0**	**-2.4**
RST	**Umm Al-Ruwaisa**	**79.29**	**306**	*e*P	**P**	**01 28 50.1**	**-1.8**
RST				AMb	AMB	01 28 54.0	
	comp=Z,285nm,0.8s						
PLG	**Polygyros**	**79.32**	**328**	*e*P	**P**	**01 28 51.5**	**-0.4**
PRK	**Paraskevi**	**79.42**	**326**	*e*P	P	01 28 45.5	-6.9
ORIF	**Oris-en-Rattie**	**79.43**	**342**	*e*P	**P**	**01 28 53.5**	**+1.0**
	comp=Z,30nm,1.0s						
ORIF				*e*R			
	comp=Z,189nm,18.2s						
ORIF	**Oris-en-Rattie**	**79.43**	**342**	*e*P	**P**	**01 28 53.5**	**+1.0**
ORIF				pmax	pmax		
	comp=Z,30nm,1.0s						
ORIF	**Oris-en-Rattie**	**79.43**	**342**	*e*P	**P**	**01 28 53.5**	**+1.0**
	comp=Z,30nm,1.0s						
MBDF	**Montbardon**	**79.45**	**341**	*e*P	**P**	**01 28 53.5**	**+0.8**
	comp=Z,26nm,0.9s						
MBDF	**Montbardon**	**79.45**	**341**	*e*P	**P**	**01 28 53.5**	**+0.8**
MBDF				pmax	pmax		
	comp=Z,26nm,0.9s						
MBDF	**Montbardon**	**79.45**	**341**	*e*P	**P**	**01 28 53.5**	**+0.8**
	comp=Z,26nm,0.9s						
RDF	**Al-Radifah**	**79.49**	**305**	*e*P	**P**	**01 28 51.6**	**-1.4**
RDF				AMb	AMB	01 28 55.6	
	comp=Z,68nm,0.9s						
FNA	**Florina**	**79.58**	**330**	*e*P	**P**	**01 28 53.0**	**-0.4**
VIVF	**Saint-Julien-l**	**79.71**	**343**	*e*P	**P**	**01 28 54.9**	**+0.9**
	comp=Z,46nm,1.4s						
VIVF	**Saint-Julien-l**	**79.71**	**343**	*e*P	**P**	**01 28 54.9**	**+0.9**
VIVF				pmax	pmax		
	comp=Z,46nm,1.4s						
VIVF	**Saint-Julien-l**	**79.71**	**343**	*e*P	**P**	**01 28 54.9**	**+0.9**
	comp=Z,46nm,1.4s						
RJF	**Les Rejaudoux**	**79.79**	**345**	*e*P	**P**	**01 28 54.7**	**+0.3**
RJF				*e*R			
	comp=Z,162nm,19.2s						
RJF	**Les Rejaudoux**	**79.79**	**345**	*e*P	**P**	**01 28 54.7**	**+0.3**
RJF	**Les Rejaudoux**	**79.79**	**345**	*e*P	**P**	**01 28 54.7**	**+0.3**
SAOF	**Saorge**	**80.01**	**341**	⇑*e*P	**P**	**01 28 56.2**	**+0.6**
NEST	**Nestorio**	**80.02**	**330**	*e*P	**P**	**01 28 55.5**	**-0.3**
TOUF	**Mont Tournerai**	**80.04**	**341**	⇑*e*P	**P**	**01 28 56.6**	**+0.6**
CAF	**Calviac**	**80.07**	**345**	*e*P	**P**	**01 28 57.0**	**+1.1**
	comp=Z,15nm,0.9s						
CAF	**Calviac**	**80.07**	**345**	*e*P	**P**	**01 28 57.0**	**+1.1**
CAF				pmax	pmax		
	comp=Z,15nm,0.9s						
CAF	**Calviac**	**80.07**	**345**	*e*P	**P**	**01 28 57.0**	**+1.1**
	comp=Z,15nm,0.9s						
LUCF	**Luceram**	**80.14**	**341**	⇑*e*P	**P**	**01 28 56.9**	**+0.5**
SBF	**Sospel**	**80.15**	**341**	*e*P	**P**	**01 28 56.5**	**+0.1**
	comp=Z,32nm,0.8s						
SBF	**Sospel**	**80.15**	**341**	*e*P	**P**	**01 28 56.5**	**+0.1**
SBF				pmax	pmax		
	comp=Z,32nm,0.8s						
SBF	**Sospel**	**80.15**	**341**	*e*P	**P**	**01 28 56.5**	**+0.1**
	comp=Z,32nm,0.8s						
MVIF	**Mont Vial**	**80.18**	**341**	⇑*e*P	**P**	**01 28 57.3**	**+0.6**
LFF	**La Frestale**	**80.26**	**346**	*e*P	**P**	**01 28 57.7**	**+0.8**
	comp=Z,17nm,0.7s						
LFF	**La Frestale**	**80.26**	**346**	*e*P	**P**	**01 28 57.7**	**+0.8**
LFF				pmax	pmax		
	comp=Z,17nm,0.7s						
LFF	**La Frestale**	**80.26**	**346**	*e*P	**P**	**01 28 57.7**	**+0.8**
	comp=Z,17nm,0.7s						
REVF	**Revere**	**80.28**	**341**	⇑*e*P	**P**	**01 28 58.3**	**+1.2**
XOR	**Xorichti**	**80.32**	**328**	*e*P	P	01 28 51.0	-6.3
CALN	**Calern**	**80.37**	**341**	*e*P	**P**	**01 29 00.1**	**+2.4**
SMRF	**Simiane la Rot**	**80.40**	**342**	*e*P	**P**	**01 28 57.9**	**+0.2**
	comp=Z,34nm,1.2s						
SMRF	**Simiane la Rot**	**80.40**	**342**	*e*P	**P**	**01 28 57.9**	**+0.2**
	comp=Z,34nm,1.2s						
AS31	**Alice Springs**	**80.43**	**205**	*e*P	**P**	**01 28 59.2**	**+1.3**
ASAR	**Alice Springs**	**80.43**	**205**	P	**P**	**01 28 59.1**	**+1.2**
ASAR	**Alice Springs**	**80.43**	**205**	P	**P**	**01 28 59.1**	**+1.2**
	comp=Z,12nm,0.9s,baz=13,slow=5.1,SNR=88						
THL	**Klkotos Trika**	**80.51**	**329**	*e*P	**P**	**01 28 56.5**	**-1.8**
FRF	**La Foret Royal**	**80.60**	**341**	*e*P	**P**	**01 28 59.0**	**+0.3**
	comp=Z,19nm,0.9s						
FRF	**La Foret Royal**	**80.60**	**341**	*e*P	**P**	**01 28 59.0**	**+0.3**
FRF				pmax	pmax		
	comp=Z,19nm,0.9s						
FRF	**La Foret Royal**	**80.60**	**341**	*e*P	**P**	**01 28 59.0**	**+0.3**
	comp=Z,19nm,0.9s						
LASF	**Ste Croix**	**80.61**	**343**	*e*P	**P**	**01 28 59.2**	**+0.4**
	comp=Z,17nm,1.0s						
LASF	**Ste Croix**	**80.61**	**343**	*e*P	**P**	**01 28 59.2**	**+0.4**
	comp=Z,17nm,1.0s						
CSS	**Prodhromos**	**80.65**	**319**	*e*P	**P**	**01 28 58.9**	**-0.3**
	comp=Z,6.3nm,0.9s						
JAN	**Janina**	**80.78**	**330**	*e*P	**P**	**01 29 00.5**	**+0.7**
MRKA	**Markates**	**80.80**	**327**	*e*P	**P**	**01 28 59.0**	**-0.9**
LMR	**La Mourre**	**80.84**	**341**	*e*P	**P**	**01 29 00.5**	**+0.5**
	comp=Z,49nm,1.1s						
LMR	**La Mourre**	**80.84**	**341**	*e*P	**P**	**01 29 00.5**	**+0.5**
LMR				pmax	pmax		
	comp=Z,49nm,1.1s						
LMR	**La Mourre**	**80.84**	**341**	*e*P	**P**	**01 29 00.5**	**+0.5**
	comp=Z,49nm,1.1s						
AGG	**Agios Georgios**	**80.91**	**328**	*e*P	**P**	**01 28 59.0**	**-1.5**
MAKR	**Makrakomi, Fth**	**80.97**	**328**	*e*P	**P**	**01 29 00.0**	**-0.9**
LKR	**Lokris**	**81.03**	**328**	*e*P	**P**	**01 28 59.5**	**-1.6**
KEK	**Kerkira**	**81.04**	**330**	*e*P	**P**	**01 29 01.0**	**-0.1**
IGT	**Igoumenitsa**	**81.05**	**330**	*e*P	**P**	**01 29 01.0**	**-0.2**
PGF	**Pioggiola**	**81.09**	**339**	*e*P	**P**	**01 29 01.6**	**+0.1**
	comp=Z,41nm,1.1s						
PGF	**Pioggiola**	**81.09**	**339**	*e*P	**P**	**01 29 01.6**	**+0.1**
PGF				pmax	pmax		
	comp=Z,41nm,1.1s						
PGF	**Pioggiola**	**81.09**	**339**	*e*P	**P**	**01 29 01.6**	**+0.1**
	comp=Z,41nm,1.1s						
EVR	**Evrytania**	**81.16**	**329**	*e*P	**P**	**01 29 01.5**	**-0.5**
PMOR	**Pomariorio Ree**	**81.30**	**130**	*e*T	T	02 58 46.6	
	comp=Z,7.6nm,0.2s						
PTL	**Penteli**	**81.30**	**327**	*e*P	**P**	**01 29 01.5**	**-1.1**
DESF	**Desfina**	**81.40**	**328**	*e*P	**P**	**01 29 01.5**	**-1.7**
DSF	**Desfina**	**81.40**	**328**	*e*P	**P**	**01 29 01.0**	**-2.2**
ARG	**Arkhangelos**	**81.50**	**323**	*e*P	**P**	**01 29 03.0**	**-0.6**
MMAI	**Mount Meron Ar**	**81.51**	**316**	P	**P**	**01 29 04.2**	**+0.3**
MMAI	**Mount Meron Ar**	**81.51**	**316**	P	**P**	**01 29 04.2**	**+0.3**
	comp=Z,6.5nm,0.6s,baz=31,slow=6.8,SNR=15						
KALE	**Kalithea**	**81.54**	**328**	*e*P	**P**	**01 29 02.5**	**-1.4**
EFP	**Efpalio**	**81.58**	**328**	*e*P	**P**	**01 29 04.0**	**0.0**
MTLF	**Montolieu**	**81.59**	**344**	*e*P	**P**	**01 29 04.8**	**+0.8**
	comp=Z,12nm,0.9s						
MTLF	**Montolieu**	**81.59**	**344**	*e*P	**P**	**01 29 04.8**	**+0.8**
MTLF				pmax	pmax		
	comp=Z,12nm,0.9s						
MTLF	**Montolieu**	**81.59**	**344**	*e*P	**P**	**01 29 04.8**	**+0.8**
	comp=Z,12nm,0.9s						
ASF	**Jabal al Asfar**	**81.62**	**315**	P	**P**	**01 29 04.3**	**-0.1**
ASF	**Jabal al Asfar**	**81.62**	**315**	P	**P**	**01 29 04.3**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=124,slow=2.2,SNR=8.9						
APE	**Apeiranthos**	**81.64**	**325**	*e*P	**P**	**01 29 02.0**	**-2.4**
LAKA	**Lakka**	**81.73**	**328**	*e*P	**P**	**01 29 04.5**	**-0.4**
KLV	**Kalavryta, Ach**	**81.86**	**328**	*e*P	**P**	**01 29 04.5**	**-1.1**
DID	**Didima**	**82.00**	**327**	*e*P	**P**	**01 29 03.5**	**-2.8**
RLS	**Riolos of Patr**	**82.06**	**329**	*e*P	**P**	**01 29 06.5**	**0.0**
EPF	**Esparros**	**82.19**	**346**	*e*P	**P**	**01 29 07.3**	**+0.1**
	comp=Z,9.1nm,0.8s						
EPF	**Esparros**	**82.19**	**346**	*e*P	**P**	**01 29 07.3**	**+0.1**
EPF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EPF	**Esparros**	**82.19**	**346**	*e*P	**P**	**01 29 07.3**	**+0.1**
	comp=Z,9.1nm,0.8s						
VLS	**Valsamata**	**82.22**	**329**	*e*P	**P**	**01 29 07.0**	**-0.4**
SJPF	**Ste Jean**	**82.33**	**347**	*e*P	**P**	**01 29 08.6**	**+0.7**
SJPF	**Ste Jean**	**82.33**	**347**	*e*P	**P**	**01 29 08.6**	**+0.7**
SJPF	**Ste Jean**	**82.33**	**347**	*e*P	**P**	**01 29 08.6**	**+0.7**
TIP	**Timpagrande**	**82.40**	**332**	*e*P	**P**	**01 29 08.4**	**0.0**
	comp=Z,9.0nm,0.8s						
TIP				*e*pP	**pP**	**01 29 21.7**	**-0.6**
KARP	**Karpathos**	**82.44**	**323**	*e*P	**P**	**01 29 06.5**	**-2.2**
ETSF	**Etsaut**	**82.45**	**346**	*e*P	**P**	**01 29 09.4**	**+0.8**
	comp=Z,16nm,0.7s						
ETSF	**Etsaut**	**82.45**	**346**	*e*P	**P**	**01 29 09.4**	**+0.8**
ETSF				pmax	pmax		
	comp=Z,16nm,0.7s						
ETSF	**Etsaut**	**82.45**	**346**	*e*P	**P**	**01 29 09.4**	**+0.8**
	comp=Z,16nm,0.7s						
MBWA	**Marble Bar**	**82.46**	**218**	*e*P	**P**	**01 29 08.8**	**+0.2**
	comp=Z,21nm,1.0s						
AMT	**Artemida-Makis**	**82.46**	**328**	*e*P	**P**	**01 29 08.0**	**-0.7**
ITM	**Ithomi**	**82.72**	**328**	*e*P	**P**	**01 29 09.0**	**-1.0**
VLI	**Veliai**	**82.82**	**327**	*e*P	**P**	**01 29 08.5**	**-2.0**
PPT2	**Papeete2**	**82.83**	**133**	*e*LR	LR	01 54 57.6	
	comp=Z,245nm,27.0s						
PYL	**PYLOS**	**83.04**	**328**	*e*P	**P**	**01 29 10.0**	**-1.7**
ZKR	**Zakros**	**83.17**	**324**	*e*P	**P**	**01 29 11.0**	**-1.4**
NPS	**Neapolis**	**83.24**	**324**	*e*P	**P**	**01 29 11.0**	**-1.8**
LAST	**Lasithi**	**83.38**	**324**	*e*P	**P**	**01 29 12.5**	**-1.1**
IDI	**Anoyia**	**83.47**	**325**	*e*P	**P**	**01 29 12.0**	**-2.0**
VAM	**Vamos**	**83.59**	**325**	*e*P	**P**	**01 29 14.0**	**-0.6**
KARN	**Karanos**	**83.69**	**326**	*e*P	**P**	**01 29 14.0**	**-1.1**
PBRG	**Braganca**	**84.27**	**351**	*e*P	**P**	**01 29 17.8**	**-0.2**
	comp=Z,17nm,1.7s						
PBRG				*e*pP	**pP**	**01 29 32.5**	**+0.6**
POLO	**Lamas de Olo**	**84.80**	**351**	*e*P	**P**	**01 29 21.3**	**+0.6**
	comp=Z,17nm,2.0s						
POLO				*e*pP	**pP**	**01 29 35.1**	**+0.4**
PVRL	**Vila Real**	**84.89**	**351**	*e*P	**P**	**01 29 21.8**	**+0.7**
	comp=Z,32nm,1.7s						
PVRL				*e*pP	**pP**	**01 29 35.6**	**+0.5**
MVO	**Moncorvo**	**84.93**	**351**	*e*P	**P**	**01 29 21.9**	**+0.6**
	comp=Z,38nm,1.6s						
MVO				*e*pP	**pP**	**01 29 35.6**	**+0.3**
PVIS	**Viseu**	**85.46**	**351**	*e*P	P	01 29 27.6	+3.6
	comp=Z,23nm,1.2s						
PVIS				*e*pP	pP	01 29 38.2	+0.3
MTE	**Manteigas**	**85.74**	**351**	*e*P	**P**	**01 29 26.9**	**+1.5**
MTE				*e*pP	**pP**	**01 29 39.6**	**+0.2**
ESDC	**Sonseca Array**	**86.07**	**348**	P	**P**	**01 29 27.3**	**+0.3**
ESDC	**Sonseca Array**	**86.07**	**348**	P	**P**	**01 29 27.3**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=2.8,slow=5.0,SNR=22						
PCAS	**Casmilo, Conde**	**86.17**	**352**	*e*P	**P**	**01 29 27.4**	**0.0**
	comp=Z,66nm,1.6s						
PCAS				*e*pP	**pP**	**01 29 41.5**	**+0.1**
PCBR	**Castelo Branco**	**86.29**	**351**	*e*P	**P**	**01 29 31.1**	**+3.1**
	comp=Z,22nm,1.8s						
STKA	**Stephens Creek**	**86.79**	**196**	P	**P**	**01 29 31.5**	**+1.2**
STKA	**Stephens Creek**	**86.79**	**196**	P	**P**	**01 29 31.5**	**+1.2**
	comp=Z,9.3nm,0.8s,baz=348,slow=9.1,SNR=13						
KEST	**Kesra**	**87.54**	**337**	*e*P	**P**	**01 29 34.1**	**-0.2**
KEST				*e*pP	**pP**	**01 29 47.0**	**-1.4**
KEST	**Kesra**	**87.54**	**337**	P	**P**	**01 29 33.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=141,slow=5.2,SNR=9.8						
EVO	**Evora**	**87.63**	**351**	⇑*i*P	**P**	**01 29 34.6**	**0.0**
	comp=Z,23nm,1.0s						
EVOP	**Sao Brissos**	**87.65**	**351**	⇑*i*P	**P**	**01 29 34.6**	**0.0**
EVOP				pmax	pmax		
	comp=Z,23nm,1.0s						
EVOP	**Sao Brissos**	**87.65**	**351**	⇑*i*P	**P**	**01 29 34.6**	**0.0**
	comp=Z,23nm,1.0s						
TBI	**Tubuai**	**87.98**	**135**	*e*LR	LR	01 57 46.5	
	comp=Z,190nm,27.0s						
FORT	**Forrest**	**88.73**	**208**	*e*P	**P**	**01 29 40.0**	**+0.5**
	comp=Z,22nm,0.9s						
TOA0	**Torodi Ar. Sit**	**111.04**	**338**	*e*PKP	**PKiKP**	**01 35 19.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**111.04**	**338**	PKiKP	**PKiKP**	**01 35 19.1**	**-0.6**
TORD				PP	**PP**	**01 35 57.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**111.04**	**338**	PKiKP	**PKiKP**	**01 35 19.1**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=360,slow=2.3,SNR=13						
TORD				PP	**PP**	**01 35 57.1**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=11,slow=7.4,SNR=7.5						
DBIC	**Dimbokro**	**118.64**	**344**	*e*PKPdf	**PKPdf**	**01 35 33.6**	**-0.8**
DBIC	**Dimbokro**	**118.64**	**344**	PKP	**PKPdf**	**01 35 34.2**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=326,slow=4.6,SNR=10						
LIC	**Lamto**	**119.10**	**344**	*e*PKIKP	**PKPdf**	**01 35 34.9**	**-0.4**
LIC	**Lamto**	**119.10**	**344**	*e*PKPdf	**PKPdf**	**01 35 34.9**	**-0.4**
SAML	**Samuel**	**123.25**	**55**	*e*PKPdf	**PKPdf**	**01 35 42.4**	**-0.7**
LSZ	**Lusaka**	**126.72**	**297**	*e*PKPdf	**PKPdf**	**01 35 50.4**	**+0.5**
LPAZ	**La Paz**	**126.91**	**65**	*e*PKPdf	**PKPdf**	**01 35 50.8**	**0.0**
LPAZ	**La Paz**	**126.91**	**65**	PKP	**PKPdf**	**01 35 51.0**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=10,slow=6.9,SNR=9.1						
VNDA	**Vanda**	**130.94**	**180**	*e*PKPdf	**PKPdf**	**01 35 56.7**	**+0.8**
VNDA	**Vanda**	**130.94**	**180**	PKP	**PKPdf**	**01 35 56.3**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=319,slow=3.1,SNR=19						
LCO	**Las Campanas**	**135.51**	**77**	*e*PKPdf	**PKPdf**	**01 36 07.2**	**+0.8**
BDFB	**Brasilia**	**135.91**	**42**	PKP	**PKPdf**	**01 36 07.4**	**+0.2**
BDFB	**Brasilia**	**135.91**	**42**	PKP	**PKPdf**	**01 36 07.4**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=167,slow=2.2,SNR=4.9						
LBTB	**Lobatse**	**136.05**	**293**	*e*PKPdf	**PKPdf**	**01 36 09.2**	**+1.9**
BOSA	**Boshof**	**139.04**	**290**	*e*PKPdf	**PKPdf**	**01 36 13.0**	**+0.3**
BOSA	**Boshof**	**139.04**	**290**	PKP	**PKPdf**	**01 36 10.4**	**-2.3**
	comp=Z,3.9nm,0.9s,baz=333,slow=10,SNR=4.5						
MAW	**Mawson**	**140.65**	**217**	PKP	**PKPdf**	**01 36 12.7**	**-1.5**
MAW	**Mawson**	**140.65**	**217**	PKP	**PKPdf**	**01 36 12.7**	**-1.5**
	comp=Z,3.1nm,0.7s,baz=233,slow=5.1,SNR=4.0						
CPUP	**Villa Florida**	**140.85**	**61**	*e*PKPdf	**PKPdf**	**01 36 16.5**	**+0.6**
QSPA	**South Pole Qui**	**143.43**	**180**	*e*PKPdf	PKPab	01 36 15.8	+0.2
PLCA	**Paso Flores**	**143.69**	**90**	*e*PKPdf	PKPbc	01 36 18.4	+0.2
PLCA	**Paso Flores**	**143.69**	**90**	PKP	PKPbc	01 36 18.6	+0.4
	comp=Z,3.6nm,0.7s,baz=290,slow=5.0,SNR=16						
SUR	**Sutherland**	**144.39**	**290**	*e*PKPdf	**PKPdf**	**01 36 21.8**	**-0.4**
TRQA	**Tornquist**	**147.04**	**79**	*e*PKPbc	**PKPbc**	**01 36 28.7**	**+0.3**
SYO	**Syowa Base**	**149.36**	**217**	⇑*e*PKPdf	**PKPbc**	**01 36 32.4**	**-1.1**
**S

SMOL			*e*SG		**Sn**	**01 43 58.6**	**+0.1**
SMOL	**Smolenice**	**1.50**	**207**	*e*Pg	**Pn**	**01 43 38.3**	**-0.1**
SMOL				*e*Sg	**Sn**	**01 43 58.7**	**+0.2**
KRUC	**Moravsky**	**1.55**	**240**	*e*Pg	**Pn**	**01 43 38.8**	**-0.3**
KRUC				*e*Sg	**Sn**	**01 43 59.5**	**-0.4**
	42nm,0.4s						
UPC	**Upice**	**1.69**	**294**	*e*PG	**Pn**	**01 43 41.9**	**+0.8**
UPC				*e*SG	**Sb**	**01 44 04.3**	**+0.2**
	28nm,0.9s						
UPC	**Upice**	**1.69**	**294**	Pg	**Pn**	**01 43 41.9**	**+0.8**
UPC				Sg	**Sb**	**01 44 04.3**	**+0.2**
	28nm,0.9s						
KSP	**Ksiaz**	**1.70**	**307**	*e*Pn	**Pn**	**01 43 40.2**	**-0.9**
KSP				*e*Pg	**Pb**	**01 43 42.1**	**-0.2**
KSP				*e*Sg	**Sb**	**01 44 04.6**	**+0.4**
KSP	**Ksiaz**	**1.70**	**307**	*e*Pn	**Pn**	**01 43 40.4**	**-0.7**
STHS	**Stebnicka Huta**	**1.87**	**102**	*e*PN	**Pb**	**01 43 45.6**	**+0.3**
STHS				*e*SG	**Sg**	**01 44 13.6**	**+3.2**
STHS	**Stebnicka Huta**	**1.87**	**102**	*e*Pn	**Pb**	**01 43 45.6**	**+0.3**
STHS				*e*Sg	**Sg**	**01 44 13.6**	**+3.2**
TREC	**Trest**	**2.00**	**255**	*e*SG	**Sb**	**01 44 13.2**	**+0.2**
	24nm,0.6s						
TREC	**Trest**	**2.00**	**255**	Sg	**Sb**	**01 44 13.2**	**+0.2**
	24nm,0.6s						
CRVS	**Cervenica-Dubn**	**2.19**	**115**	*e*PN	**Pb**	**01 43 51.3**	**+0.6**
CRVS				*e*SN	**Sb**	**01 44 19.2**	**+0.8**
CRVS	**Cervenica-Dubn**	**2.19**	**115**	*e*Pn	**Pb**	**01 43 51.3**	**+0.6**
CRVS				*e*Sn	**Sb**	**01 44 19.2**	**+0.8**
PRU	**Pruhonice**	**2.52**	**275**	*e*PG	**Pb**	**01 43 56.9**	**+0.5**
PRU				*e*SG	**Sb**	**01 44 28.7**	**+0.8**
	13nm,0.5s						
PRU	**Pruhonice**	**2.52**	**275**	Pg	**Pb**	**01 43 56.9**	**+0.5**
PRU				Sg	**Sb**	**01 44 28.7**	**+0.8**
	13nm,0.5s						
CONA	**Conrad Observa**	**2.57**	**222**	⇓*i*Pn	**Pn**	**01 43 52.2**	**-1.0**
CONA				⇑*i*Pg	**Pb**	**01 43 57.6**	**+0.4**
CONA				⇓*i*Sn	**Sn**	**01 44 23.5**	**-1.6**
CONA				⇓*i*Sg	**Sg**	**01 44 31.3**	**-1.4**
	6.9nm,0.4s						
CONA	**Conrad Observa**	**2.57**	**222**	Pn	**Pn**	**01 43 52.2**	**-1.0**
PVCC	**Panska Ves**	**2.58**	**287**	*e*PG	**Pb**	**01 43 58.0**	**+0.7**
PVCC				*e*SG	**Sb**	**01 44 31.4**	**+1.9**
	37nm,0.4s						
PVCC	**Panska Ves**	**2.58**	**287**	Pg	**Pb**	**01 43 58.0**	**+0.7**
PVCC				Sg	**Sb**	**01 44 31.4**	**+1.9**
	37nm,0.4s						
PRA	**Prague**	**2.60**	**276**	PG	**Pb**	**01 43 57.0**	**-0.6**
PRA				SG	**Sb**	**01 44 29.0**	**-1.0**
KOLS	**Kolonicke sedl**	**2.67**	**109**	*e*PG	**Pg**	**01 44 02.1**	**+0.8**
KOLS	**Kolonicke sedl**	**2.67**	**109**	*e*Pg	**Pg**	**01 44 02.1**	**+0.8**
ARSA	**Arzberg**	**3.25**	**218**	⇑*i*Pn	**Pn**	**01 44 01.2**	**-1.2**
ARSA				⇑*i*Sn	**Sn**	**01 44 39.2**	**-2.5**
ARSA				⇑*i*Sg	**Sg**	**01 44 53.4**	**-1.0**
	3.1nm,0.5s						
ARSA	**Arzberg**	**3.25**	**218**	Pn	**Pn**	**01 44 01.2**	**-1.2**
ARSA				Sn	**Sn**	**01 44 39.2**	**-2.5**
ARSA				Sg	**Sg**	**01 44 53.4**	**-1.0**
	3.1nm,0.5s						
KHC	**Kasperske Hory**	**3.25**	**259**	*e*PN	**Pn**	**01 44 03.2**	**+0.7**
KHC				*e*PG	**Pb**	**01 44 09.5**	**+0.7**
KHC				*e*SN	**Sn**	**01 44 40.5**	**-1.4**
KHC				*e*SG	**Sg**	**01 44 52.2**	**-2.4**
	13nm,0.4s						
KHC	**Kasperske Hory**	**3.25**	**259**	Pn	**Pn**	**01 44 03.2**	**+0.7**
KHC	**Kasperske Hory**	**3.25**	**259**	Pg	**Pb**	**01 44 09.5**	**+0.7**
KHC				Sn	**Sn**	**01 44 40.5**	**-1.4**
KHC				Sg	**Sg**	**01 44 52.2**	**-2.4**
	13nm,0.4s						
MOA	**Molln**	**3.41**	**236**	⇑*i*Pn	**Pn**	**01 44 04.0**	**-0.7**
MOA				⇑*i*Sg	**Sg**	**01 44 58.9**	**-0.8**
	6.7nm,0.3s						
MOA	**Molln**	**3.41**	**236**	Pn	**Pn**	**01 44 04.0**	**-0.7**
MOA				Sg	**Sg**	**01 44 58.9**	**-0.8**
	6.7nm,0.3s						
CLL	**Collm**	**3.76**	**295**	*i* Pg	**Pg**	**01 44 22.0**	**-0.2**
CLL				*i* Sg	**Sg**	**01 45 09.1**	**-1.8**
	comp=Z,19nm,1.2s						
WTTA	**Wattenberg**	**5.21**	**243**	⇑*i*Sg	**Sg**	**01 45 59.0**	**+1.6**
	comp=Z,8.5nm,0.7s						
WTTA	**Wattenberg**	**5.21**	**243**	Sg	**Sg**	**01 45 59.0**	**+1.6**
	comp=Z,8.5nm,0.7s						
MOTA	**Moosalm**	**5.47**	**246**	⇑*i*Sg	**Sg**	**01 46 07.2**	**+1.2**
	comp=Z,7.8nm,0.8s						
MOTA	**Moosalm**	**5.47**	**246**	Sg	**Sg**	**01 46 07.2**	**+1.2**
	comp=Z,7.8nm,0.8s						
DAVA	**Damuels**	**6.23**	**249**	⇑*i*Sn	**Sn**	**01 45 54.5**	**-1.1**
DAVA				⇑*i*Sg	**Sg**	**01 46 33.8**	**+3.4**
	comp=Z,6.6nm,0.8s						
DAVA	**Damuels**	**6.23**	**249**	Sn	**Sn**	**01 45 54.5**	**-1.1**

IDC 11 02:18:14.2±3.0, 15°48S×173°18W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/21, mbtmp3.8/4, MS3.7/7, Ms1 3.7/7, ms1mx3.4/30, Error ellipse: s-maj=166.2km s-min=25.9km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.06**	**41**	Pn	Pn	02 18 44.5	-5.8
	89nm,0.3s,baz=113,slow=1.0,SNR=46						
AFI				Sn	Sn	02 19 02.5	-14
	274nm,0.3s,baz=94,slow=19,SNR=21						
DZM	**Mont Dzumac**	**20.37**	**248**	*e*LR	LR	02 27 53.5	
	236nm,28.0s						
PPT	**Papeete**	**22.72**	**99**	LR	LR	02 30 30.3	
	comp=Z,11nm,19.1s,baz=336,slow=32						
PPT2	**Papeete2**	**22.72**	**99**	*e*LR	LR	02 28 49.5	
	233nm,25.0s						
TBI	**Tubuai**	**23.67**	**113**	*e*LR	LR	02 29 22.8	
	221nm,24.5s						
HNR	**Honiara**	**26.91**	**280**	LR	LR	02 32 22.6	
	comp=Z,142nm,21.5s,baz=69,slow=32						
WRA	**Warramunga Arr**	**50.04**	**257**	P	P	02 27 10.8	-0.3
	0.6nm,0.6s,baz=90,slow=6.9,SNR=2.7						
ASAR	**Alice Springs**	**50.29**	**252**	P	P	02 27 12.4	-0.6
	1.7nm,0.6s,baz=85,slow=8.1,SNR=18						
ASAR				LR	LR	02 46 17.2	
	comp=Z,105nm,18.4s,baz=7.3,slow=34						
MJAR	**Matsushiro Arr**	**69.14**	**320**	LR	LR	02 53 48.9	
	comp=Z,52nm,19.4s,baz=115,slow=31						
PETK	**Petropavlovsk-**	**72.77**	**342**	LR	LR	02 59 07.3	
	comp=Z,38nm,20.0s,baz=282,slow=34						
NVAR	**Mina Array Bea**	**74.24**	**42**	P	P	02 29 53.2	-0.3
	0.4nm,0.7s,baz=233,slow=8.9,SNR=2.9						
KSRS	**Korea Array**	**76.37**	**315**	LR	LR	03 00 19.8	
	comp=Z,38nm,20.2s,baz=48,slow=33						
ILAR	**Eielson Array**	**82.48**	**11**	P	P	02 30 37.9	-0.3
	0.6nm,0.8s,baz=202,slow=4.8,SNR=7.0						
MAW	**Mawson**	**87.79**	**199**	LR	LR	03 09 15.3	
	comp=Z,46nm,18.6s,baz=180,slow=35						
PLCA	**Paso Flores**	**89.30**	**132**	LR	LR	03 01 41.7	
	comp=Z,59nm,18.2s,baz=266,slow=29						
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc	PKPab	02 37 58.4	0.0
	1.8nm,0.8s,baz=41,slow=0.7,SNR=8.1						

IDC 11 03:00:36.0±49.0, 16°80S×176°67W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/19, mbtmp4.2/3, Error ellipse: s-maj=908.9km s-min=163.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.62**	**240**	P	P	03 08 17.8	-0.1
	1.1nm,0.4s,baz=95,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**46.47**	**258**	P	P	03 09 05.3	0.0
	0.9nm,0.4s,baz=92,slow=8.2,SNR=7.7						
ASAR	**Alice Springs**	**46.69**	**253**	P	P	03 09 06.8	-0.3
	7.7nm,0.6s,baz=89,slow=8.4,SNR=104						

*ISCJB **11** 03:04:51.4±0.2, 60°51N±0°02×152°87W±0°05, h136km±2km, mb3.8/12, Error ellipse: s-maj=4.4km s-min=3.1km az=37.8*
*NEIC **11** 03:04:53.6, 60°46N×152°80W, h126km, MG3.7(AEIC), After AEIC.*
*IDC **11** 03:04:53.4±2.1, 60°76N×152°97W, h129km±18km, mb3.4/11, mb1 3.7/16, mb1mx3.5/30, mbtmp3.9/16, Error ellipse: s-maj=17.9km s-min=12.2km az=35.0*
ISC 11 03:04:52.9±0.6, 60°51N±0°03×152°87W±0°03, h134km±5km, n135, σ1§30/150, mb3.6/12, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDN	**Redoubt North**	**0.06**	**81**	P	**Pn**	**03 05 10.0**	**-1.2**
NCT	**North Crescent**	**0.06**	**333**	P	**Pn**	**03 05 10.1**	**-1.1**
RSO	**Redoubt South**	**0.07**	**126**	P	**Pn**	**03 05 10.2**	**-1.1**
DFR	**Drift River**	**0.13**	**47**	P	**Pn**	**03 05 10.1**	**-1.1**
INE	**Iliamna NE**	**0.46**	**192**	P	**Pn**	**03 05 11.4**	**-1.0**
ILW	**Iliamna West**	**0.47**	**196**	P	**Pn**	**03 05 11.4**	**-1.1**
ILS	**Iliamna Low So**	**0.56**	**190**	P	**Pn**	**03 05 11.7**	**-1.2**
CKL	**Chakachamna La**	**0.74**	**20**	P	**Pn**	**03 05 13.7**	**-0.4**
BGL	**Barrier Glacie**	**0.80**	**17**	P	**Pn**	**03 05 14.4**	**-0.1**
SPBG	**Spurr Blockage**	**0.80**	**18**	P	**Pn**	**03 05 14.3**	**-0.2**
SPBG				S	**Sn**	**03 05 30.6**	**-0.4**
NKA	**Nikishka**	**0.84**	**73**	P	**Pn**	**03 05 15.7**	**+1.0**
OPT	**Oil Point**	**0.87**	**192**	P	**Pn**	**03 05 14.4**	**-0.7**
CGLM	**Capps Glacier**	**0.91**	**27**	P	**Pn**	**03 05 15.0**	**-0.5**
NNL	**Ninilchik**	**0.91**	**120**	P	**Pn**	**03 05 15.3**	**-0.1**
HOM	**Homer**	**1.05**	**144**	P	**Pn**	**03 05 16.2**	**-0.4**
HOM				S	**Sn**	**03 05 34.1**	**-0.5**
STLK	**Strandline Lak**	**1.12**	**26**	P	**Pn**	**03 05 17.0**	**-0.3**
AUL	**Augustine Lava**	**1.16**	**194**	P	**Pn**	**03 05 17.1**	**-0.6**
AUP	**Augustine Pinn**	**1.18**	**194**	P	**Pn**	**03 05 17.3**	**-0.7**
AUH	**Augustine H**	**1.18**	**194**	P	**Pn**	**03 05 17.3**	**-0.7**
BRLK	**Bradley Lake**	**1.24**	**126**	P	**Pn**	**03 05 17.2**	**-1.3**
BRLK				S	**Sn**	**03 05 35.8**	**-2.2**
SLKM	**Skilak Lake**	**1.31**	**89**	P	**Pn**	**03 05 18.2**	**-1.0**
SUA	**Susitna One**	**1.42**	**46**	P	**Pn**	**03 05 20.2**	**-0.2**
SUA				S	**Sn**	**03 05 41.5**	**+0.1**
SVW2	**Sparrevohn**	**1.46**	**295**	P	**Pn**	**03 05 19.7**	**-1.0**
SVW2				S	**Sn**	**03 05 39.9**	**-2.1**
FIB	**Fire Island**	**1.48**	**62**	P	**Pn**	**03 05 21.3**	**+0.4**
FIB				S	**Sn**	**03 05 43.9**	**+1.6**
MCNL	**McNeil River**	**1.52**	**210**	P	**Pn**	**03 05 20.7**	**-0.8**
SKT	**Skwentna**	**1.62**	**23**	P	**Pn**	**03 05 24.7**	**-0.5**
SKT				S	**Sn**	**03 05 44.7**	**-0.5**
RC01	**Rabbit Creek A**	**1.65**	**68**	P	**Pn**	**03 05 21.9**	**-1.0**
RC01				S	**Sn**	**03 05 44.8**	**-1.0**
SEW	**Seward**	**1.75**	**102**	P	**Pn**	**03 05 22.8**	**-1.2**
SEW				S	**Sn**	**03 05 45.5**	**-2.3**
KAPH	**Katmai Pasha**	**2.06**	**202**	P	**Pn**	**03 05 27.2**	**-0.6**
PMR	**Palmer**	**2.12**	**57**	P	**Pn**	**03 05 27.0**	**-1.4**
PMR				S	**Sn**	**03 05 54.1**	**-1.7**
PWL	**Port Wells**	**2.26**	**79**	P	**Pn**	**03 05 28.3**	**-1.9**
PPLA	**Purkeypile**	**2.42**	**7**	P	**Pn**	**03 05 32.9**	**+0.5**
PPLA				S	**Sn**	**03 06 03.3**	**+0.6**
KAKN	**Katmai Knife C**	**2.48**	**208**	P	**Pn**	**03 05 32.3**	**-0.8**
KELA	**Mount Kelaz**	**2.54**	**216**	P	**Pn**	**03 05 32.9**	**-0.9**
KABU	**Katmai Buttres**	**2.56**	**210**	P	**Pn**	**03 05 33.5**	**-0.5**
KABR	**Katmai Barrier**	**2.61**	**205**	P	**Pn**	**03 05 33.9**	**-0.9**
MGLS	**Mageik Landsli**	**2.65**	**207**	P	**Pn**	**03 05 34.7**	**-0.5**
KDAK	**Kodiak Island**	**2.73**	**177**	P	**Pn**	**03 05 33.9**	**-2.3**
CAHL	**Cahill**	**2.76**	**208**	P	**Pn**	**03 05 36.2**	**-0.3**
KJL	**Kejulik**	**2.82**	**211**	P	**Pn**	**03 05 37.0**	**-0.3**
TT01	**Tatalina**	**2.84**	**329**	P	**Pn**	**03 05 36.9**	**-0.6**
GLI	**Glacier Island**	**2.87**	**80**	P	**Pn**	**03 05 35.4**	**-2.4**
CAST	**Castle Rocks**	**2.95**	**7**	P	**Pn**	**03 05 38.8**	**-0.1**
SCM	**Sheep Creek Mo**	**3.00**	**61**	P	**Pn**	**03 05 38.4**	**-1.2**
JPK	**Jack Peak**	**3.13**	**77**	P	**Pn**	**03 05 40.1**	**-1.1**
HIN	**Hinchinbrook I**	**3.16**	**89**	P	**Pn**	**03 05 39.5**	**-2.2**
FID	**Port Fidalgo**	**3.16**	**83**	P	**Pn**	**03 05 40.7**	**-1.0**
KTH	**Kantishna Hill**	**3.19**	**16**	P	**Pn**	**03 05 41.4**	**-0.7**
TRF	**Thorofare Moun**	**3.20**	**21**	P	**Pn**	**03 05 41.5**	**-0.7**
VLZ	**Valdez**	**3.27**	**76**	P	**Pn**	**03 05 41.4**	**-1.5**
OHAK	**Old Harbor**	**3.30**	**184**	P	**Pn**	**03 05 40.7**	**-2.7**
PLK3	**Peulik 3**	**3.32**	**213**	P	**Pn**	**03 05 43.8**	**0.0**
PLK4	**Peulik 4**	**3.40**	**213**	P	**Pn**	**03 05 44.7**	**-0.2**
RND	**Reindeer**	**3.48**	**31**	P	**Pn**	**03 05 45.0**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.52**	**86**	P	**Pn**	**03 05 45.6**	**-0.7**
DIV	**Divide**	**3.53**	**77**	P	**Pn**	**03 05 44.7**	**-1.9**
DHY	**Denali Highway**	**3.67**	**43**	P	**Pn**	**03 05 47.9**	**-0.5**
BPAW	**Bear Paw Mtn.**	**3.71**	**13**	*e*Pn	**Pn**	**03 05 47.9**	**-1.0**
BPAW				*e*Sn	Sn	03 06 25.1	-7.2
MCK	**McKinley**	**3.73**	**28**	P	**Pn**	**03 05 48.6**	**-0.4**
SGAM	**Sherman Glacie**	**3.79**	**87**	P	**Pn**	**03 05 49.3**	**-0.6**
SII	**Sitkinak Islan**	**4.02**	**190**	P	**Pn**	**03 05 50.2**	**-2.7**
GOAT	**Goat Mountain**	**4.02**	**85**	P	**Pn**	**03 05 52.8**	**-0.2**
RAGM	**Ragged Mountai**	**4.06**	**88**	P	**Pn**	**03 05 52.8**	**-0.7**
BMRM	**Bremner River**	**4.09**	**80**	P	**Pn**	**03 05 53.5**	**-0.3**
HARP	**HAARP**	**4.17**	**59**	P	**Pn**	**03 05 54.4**	**-0.4**
PAX	**Paxson**	**4.30**	**52**	P	**Pn**	**03 05 56.3**	**-0.4**
GLB	**Gilahina Butte**	**4.51**	**74**	P	**Pn**	**03 05 59.4**	**-0.1**
BERG	**Berg Lake**	**4.54**	**87**	P	**Pn**	**03 05 59.0**	**-0.9**
WRH	**Wood River Hil**	**4.56**	**27**	P	**Pn**	**03 05 59.1**	**-0.8**
ANPK	**Aniakchak Peak**	**4.58**	**219**	P	**Pn**	**03 06 00.1**	**-0.4**
MLY	**Manley**	**4.65**	**11**	P	**Pn**	**03 06 00.4**	**-0.8**
DDM	**Donnelly Dome**	**4.65**	**42**	P	**Pn**	**03 06 02.5**	**+1.2**
VRDI	**Verde Repeater**	**4.66**	**77**	P	**Pn**	**03 06 01.0**	**-0.6**
KHIT	**Khitrov Hills**	**4.76**	**87**	P	**Pn**	**03 06 02.0**	**-0.8**
CCB	**Clear Creek Bu**	**4.77**	**27**	P	**Pn**	**03 06 02.1**	**-0.7**
MCARA	**McCarthy VSAT**	**4.88**	**75**	P	**Pn**	**03 06 04.1**	**-0.3**
MDM	**Murphy Dome**	**4.95**	**24**	P	**Pn**	**03 06 04.1**	**-1.1**
COLA	**College**	**4.96**	**26**	P	**Pn**	**03 06 04.9**	**-0.4**
MENT	**Mentasta**	**4.99**	**57**	*e*Pn	**Pn**	**03 06 05.1**	**-0.7**
IL1	**Eielson Array**	**5.09**	**30**	P	**Pn**	**03 06 06.4**	**-0.7**
ILAR	**Eielson Array**	**5.09**	**30**	P	**Pn**	**03 06 05.9**	**-1.2**
ILAR				S	**Sn**	**03 06 59.5**	**-5.5**
ILAR	**Eielson Array**	**5.09**	**30**	P	**Pn**	**03 06 05.9**	**-1.2**
	16nm,0.3s,baz=212,slow=13,SNR=719						
ILAR				S	**Sn**	**03 06 59.5**	**-5.5**
	6.3nm,0.3s,baz=221,slow=18,SNR=5.9						
PTPK	**Patty Peak**	**5.14**	**77**	P	**Pn**	**03 06 06.9**	**-1.0**
BARK	**Barkley Ridge**	**5.14**	**87**	P	**Pn**	**03 06 07.7**	**-0.2**
GLM	**Gilmore Dome**	**5.16**	**27**	P	**Pn**	**03 06 07.3**	**-0.7**
KIAG	**Kiagna River**	**5.18**	**81**	P	**Pn**	**03 06 07.7**	**-0.7**
BALM	**Baldy**	**5.19**	**80**	P	**Pn**	**03 06 08.1**	**-0.4**
ISLE	**Juniper Island**	**5.20**	**84**	P	**Pn**	**03 06 08.3**	**-0.4**
DOT	**Dot Lake**	**5.20**	**49**	P	**Pn**	**03 06 08.2**	**-0.4**
SCRK	**Sand Creek**	**5.42**	**46**	P	**Pn**	**03 06 10.7**	**-0.9**
VNHG	**Veniaminof 1**	**5.42**	**220**	P	**Pn**	**03 06 11.8**	**+0.1**
GRNC	**Granite Creek**	**5.48**	**83**	P	**Pn**	**03 06 12.5**	**0.0**
IM04	**Indian Mountai**	**5.51**	**356**	*e*Pn	**Pn**	**03 06 12.2**	**-0.5**
IM3	**Indian Mountai**	**5.51**	**356**	P	**Pn**	**03 06 12.4**	**-0.3**
YAH	**Yahtse**	**5.51**	**87**	P	**Pn**	**03 06 12.9**	**-0.1**
BARN	**Barnard Glacie**	**5.52**	**79**	P	**Pn**	**03 06 13.0**	**-0.1**
LOGN	**Logan Glacier**	**5.85**	**82**	P	**Pn**	**03 06 17.2**	**-0.1**
BCA3	**Beaver Creek A**	**5.85**	**59**	P	**Pn**	**03 06 17.1**	**-0.2**
CHX	**Chaix Hills**	**5.87**	**89**	P	**Pn**	**03 06 18.1**	**+0.5**
COLD	**Coldfoot**	**6.85**	**7**	P	**Pn**	**03 06 32.0**	**-0.9**
DAWY	**Dawson**	**7.22**	**55**	P	**Pn**	**03 06 35.0**	**-0.7**
BM3	**Burnt Mountain**	**7.83**	**24**	P	**Pn**	**03 06 42.0**	**-1.8**
INK	**Inuvik**	**11.40**	**39**	*e*Pn	**Pn**	**03 07 30.6**	**-0.7**
	9.1nm,0.7s						
INK	**Inuvik**	**11.40**	**39**	P	**Pn**	**03 07 30.9**	**-0.5**
	0.9nm,0.3s,baz=244,slow=16,SNR=32						
DLBC	**Dease Lake**	**11.78**	**90**	P	**Pn**	**03 07 39.3**	**+2.7**
DLBC	**Dease Lake**	**11.78**	**90**	P	**Pn**	**03 07 39.3**	**+2.7**
	0.2nm,0.3s,baz=241,slow=13,SNR=3.2						
YKW3	**Yellowknife Ar**	**18.17**	**67**	*e*Pn	**Pn**	**03 08 55.9**	**-0.3**
	0.2nm,1.0s						
YKA	**Yellowknife Ar**	**18.19**	**67**	P	**Pn**	**03 08 56.2**	**-0.2**
YKA				ScP	**ScP**	**03 16 43.6**	**-0.2**
YKA	**Yellowknife Ar**	**18.19**	**67**	P	**Pn**	**03 08 56.2**	**-0.2**
	0.9nm,0.3s,baz=279,slow=9.8,SNR=65						
YKA				ScP	**ScP**	**03 16 43.6**	**-0.2**
	0.1nm,0.3s,baz=282,slow=1.7,SNR=4.2						
FX1	**Attu Island--F**	**19.96**	**263**	P	**P**	**03 09 13.7**	**-0.4**
FX1	**Attu Island--F**	**19.96**	**263**	P	**P**	**03 09 13.7**	**-0.4**
	2.6nm,0.3s,baz=339,slow=3.6,SNR=9.7						
YBH	**Yreka Blue Hor**	**26.30**	**122**	P	**P**	**03 10 17.5**	**+1.8**
YBH	**Yreka Blue Hor**	**26.30**	**122**	P	**P**	**03 10 17.5**	**+1.8**
	0.5nm,0.5s,baz=326,slow=7.3,SNR=3.2						
NVAR	**Mina Array Bea**	**30.92**	**120**	P	**P**	**03 10 58.8**	**+1.9**
NVAR	**Mina Array Bea**	**30.92**	**120**	P	**P**	**03 10 58.8**	**+1.9**
	0.7nm,0.7s,baz=320,slow=10,SNR=6.0						
PDAR	**Pinedale Array**	**31.45**	**105**	P	**P**	**03 11 03.7**	**+2.2**
PDAR	**Pinedale Array**	**31.45**	**105**	P	**P**	**03 11 03.7**	**+2.2**
	378nm,0.4s,baz=352,slow=1.8,SNR=2.3						
SCHQ	**Schefferville**	**43.23**	**57**	P	**P**	**03 12 40.6**	**+0.3**
SCHQ	**Schefferville**	**43.23**	**57**	P	**P**	**03 12 40.6**	**+0.3**
	4.1nm,0.9s,baz=236,slow=7.3,SNR=2.5						
TXAR	**Lajitas Array**	**45.10**	**111**	P	**P**	**03 12 58.0**	**+2.4**
TXAR	**Lajitas Array**	**45.10**	**111**	P	**P**	**03 12 58.0**	**+2.4**
	0.5nm,0.7s,baz=331,slow=6.9,SNR=6.7						
ARCES	**ARCESS Array B**	**50.25**	**1**	P	**P**	**03 13 34.3**	**-0.3**
ARCES	**ARCESS Array B**	**50.25**	**1**	P	**P**	**03 13 34.3**	**-0.3**
	0.5nm,0.6s,baz=342,slow=7.6,SNR=4.7						
SONM	**Songino Array**	**54.55**	**306**	P	**P**	**03 14 07.9**	**+1.2**
SONM	**Songino Array**	**54.55**	**306**	P	**P**	**03 14 07.9**	**+1.2**
	1.8nm,0.7s,baz=50,slow=6.6,SNR=11						
ZALV	**Zalesovo Beam**	**57.00**	**323**	P	**P**	**03 14 21.6**	**-2.3**
ZALV	**Zalesovo Beam**	**57.00**	**323**	P	**P**	**03 14 21.6**	**-2.3**
	0.6nm,0.4s,baz=31,slow=9.1,SNR=3.6						
NOA	**NORSAR Array B**	**58.16**	**9**	P	**P**	**03 14 30.0**	**-2.0**
	0.7nm,0.7s,baz=352,slow=7.0,SNR=4.5						
FINES	**FINESS Array B**	**58.38**	**1**	P	**P**	**03 14 32.9**	**-0.5**
FINES	**FINESS Array B**	**58.38**	**1**	P	**P**	**03 14 32.9**	**-0.5**
	0.8nm,0.6s,baz=32,slow=5.0,SNR=5.4						
MKAR	**Makanchi Array**	**64.08**	**321**	P	**P**	**03 15 11.2**	**-0.8**
MKAR	**Makanchi Array**	**64.08**	**321**	P	**P**	**03 15 11.2**	**-0.8**
	0.3nm,0.6s,baz=33,slow=5.4,SNR=7.0						
GERES	**GERESS Array B**	**70.46**	**9**	P	**P**	**03 15 52.8**	**+0.5**
GERES	**GERESS Array B**	**70.46**	**9**	P	**P**	**03 15 52.8**	**+0.5**
	0.3nm,0.7s,baz=330,slow=5.7,SNR=2.9						

*NNC **11** 03:14:58.1±9.3, 37°19N×71°00E, h194km±136km, mb2.5, mpv3.6, Error ellipse: s-maj=92.3km s-min=50.2km az=24.0*
ISC 11 03:14:54.4±3.8, 37°0N±0°2×70°8E±0°1, h88km, n4, σ2§51/6, 5C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.81**	**57**	Pn	Pn	03 15 57.4	-7.2
KSH				Sn	Sn	03 16 44.9	-14
KSH				smax	smax		
	comp=N,35nm,0.3s						
KSH				smax	smax		
	comp=E,28nm,0.2s						
KK31	**Karatay Array**	**6.12**	**358**	P	**Pn**	**03 16 23.9**	**+1.6**
	comp=E,1.6nm,0.3s,baz=193,slow=16,SNR=12						
KK31				⇑S	**Sn**	**03 17 33.3**	**+2.5**
	comp=E,1.7nm,0.3s,baz=185,slow=24,SNR=11						
TKM2	**Tokmak 2**	**7.00**	**30**	⇑P	**Pn**	**03 16 34.7**	**+0.4**
	comp=E,2.5nm,0.6s						
TKM2				⇑S	**Sn**	**03 17 51.1**	**-1.3**
AB31	**Akbulak array**	**14.58**	**331**	⇑P	**Pn**	**03 18 15.7**	**-0.4**
	comp=E,0.5nm,0.7s,baz=153,slow=12,SNR=8.4						
AB31				⇑S	**Sn**	**03 20 53.7**	**-2.8**
	comp=E,1.0nm,1.1s						

KRSC 11 03:27:25.6±1.6, 54°74N×165°89E, h5km±5km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.47**	**6**	*e*P	Pg	03 27 35.1	+0.5
BKI				*i* S	Sg	03 27 40.6	-0.1
KBTR	**Krutoberegovo**	**2.29**	**311**	*e*P	Pb	03 28 06.6	-0.7
MKZ	**Mys Kozlova**	**2.42**	**267**	*e*P	Pn	03 28 06.3	+0.5
MKZ				*i* S	Sn	03 28 34.4	-1.4
TUMR	**Tumrok**	**3.35**	**282**	*e*P	Pn	03 28 21.2	+2.4
SDLR	**Sedlovina**	**4.38**	**253**	*e*P	Pn	03 28 34.5	+1.5
SDLR				*i* S	Sn	03

comp=Z,17nm,0.8s
CTAO Charters Tower 21.07 246 *e*P P **03 41 34.9 +0.4**
comp=Z,17nm,0.8s
RMQ Roma 21.95 228 P P **03 41 44.8 +0.9**
baz=22,SNR=12
ARMA Armidale 22.74 216 *e*P P **03 41 52.8 +0.2**
comp=Z,39nm,0.9s
ARMA Armidale 22.74 216 P P **03 41 52.7 +0.2**
baz=23,SNR=12
COEN Coen 22.97 263 *e*P P **03 41 54.7 -0.2**
COEN Coen 22.97 263 ⇑P P **03 41 54.0 -0.9**
baz=23,SNR=6.5
QLP Quilpie 25.41 233 P P **03 42 17.2 -0.3**
baz=25,SNR=17
CMSA Cobar Meteorol 27.17 222 ⇓P P **03 42 33.0 -0.4**
baz=27,SNR=11
QIS Mount Isa 27.21 249 ⇓P P **03 42 33.4 -0.5**
baz=27
URZ Urewera 27.38 162 *e*P P **03 42 34.1 -1.1**
comp=Z,40nm,1.5s
URZ Urewera 27.38 162 P P **03 42 36.2 +1.0**
comp=Z,5.3nm,0.3s,baz=115,slow=1.6,SNR=9.0
URZ LR LR 03 51 39.2
comp=Z,394nm,21.5s,baz=161,slow=32
YNG Young 27.45 214 ⇑P P **03 42 36.3 +0.4**
baz=27,SNR=5.1
CNB Canberra Magne 27.71 212 ⇓P P **03 42 38.6 +0.3**
baz=28,SNR=5.2
BKZ Black Stump Fm 28.05 164 *e*P P **03 42 40.6 -0.6**
comp=Z,79nm,2.0s
STKA Stephens Creek 30.16 226 *e*P P **03 43 00.0 -0.1**
comp=Z,3.6nm,0.8s
STKA Stephens Creek 30.16 226 P P **03 42 59.9 -0.1**
comp=Z,12nm,0.6s,baz=43,slow=8.2,SNR=29
STKA LR LR 03 54 13.2
comp=Z,541nm,19.9s,baz=33,slow=34
STKA Stephens Creek 30.16 226 ⇓P P **03 42 60.0 -0.1**
baz=30,SNR=22
RPZ Rata Peaks 31.44 174 *e*P P **03 43 10.5 -0.7**
comp=Z,31nm,0.6s
RPZ Rata Peaks 31.44 174 P P **03 43 10.5 -0.7**
comp=Z,31nm,0.6s,baz=336,slow=2.5,SNR=10
TOO Toolangi 31.45 213 ⇓P P **03 43 11.5 +0.1**
baz=31,SNR=3.8
WR9 Warramunga Arr 31.79 252 ⇑P P **03 43 13.0 -1.5**
baz=32
WB0 Warramunga Arr 31.87 252 ⇑P P **03 43 13.9 -1.4**
baz=32
WR2 Warramunga Arr 31.93 252 ⇓P P **03 43 13.9 -1.9**
baz=32
WRAB Tennant Creek 31.94 252 *d i*P P **03 43 13.8 -2.0**
WRAB pmax pmax
comp=Z,36nm,1.7s
WRAB Tennant Creek 31.94 252 *e*P P **03 43 13.9 -1.9**
comp=Z,5.0nm,0.7s
WRAB Tennant Creek 31.94 252 P P **03 43 13.9 -1.9**
comp=Z,36nm,0.7s,SNR=13
WB1 Warramunga Ar. 31.94 252 ⇑P P **03 43 14.2 -1.7**
baz=32
WR1 Warramunga Arr 31.95 252 ⇓P P **03 43 14.4 -1.5**
baz=32
WRA Warramunga Arr 31.95 252 P P **03 43 14.2 -1.7**
WRA ScP **ScP 03 49 46.1 -0.1**
WRA Warramunga Arr 31.95 252 P P **03 43 14.2 -1.7**
comp=Z,5.2nm,0.8s,baz=82,slow=8.7,SNR=19
WRA ScP **ScP 03 49 46.1 -0.1**
comp=Z,2.2nm,0.9s,baz=79,slow=3.7,SNR=9.1
WRA LR LR 03 54 47.8
comp=Z,269nm,20.4s,baz=80,slow=34
DCZ Deep Cove 32.98 179 *e*P P **03 43 25.0 +0.4**
comp=Z,27nm,0.9s
AS07 Alice Springs 33.02 246 ⇓P P **03 43 23.6 -1.7**
baz=33
AS19 Alice Springs 33.03 245 ⇓P P **03 43 23.8 -1.6**
baz=33
AS16 Alice Springs 33.04 246 ⇓P P **03 43 23.9 -1.6**
baz=33
AS10 Alice Springs 33.07 246 ⇑P P **03 43 24.2 -1.6**
baz=33
AS31 Alice Springs 33.07 246 *e*P P **03 43 23.7 -2.1**
ASAR Alice Springs 33.07 246 P P **03 43 23.8 -2.0**
ASAR ScP **ScP 03 49 49.5 -0.6**
ASAR Alice Springs 33.07 246 P P **03 43 23.8 -2.0**
comp=Z,12nm,0.7s,baz=70,slow=9.6,SNR=135
ASAR ScP **ScP 03 49 49.5 -0.6**
comp=Z,2.1nm,0.8s,baz=82,slow=3.0,SNR=9.6
ASAR LR LR 03 55 41.9
comp=Z,492nm,21.9s,baz=76,slow=34
ASPA Alice Springs 33.08 246 ⇓P P **03 43 24.3 -1.5**
baz=33
KDU Kakadu 33.41 266 ⇑P P **03 43 28.1 -0.6**
baz=33,SNR=4.7
MOO Moorlands 34.42 206 ⇓P P **03 43 38.1 +0.9**
baz=34,SNR=3.3
BBOO Buckleboo 34.64 229 *e*P P **03 43 38.4 -0.9**
comp=Z,356nm,0.8s
BBOO Buckleboo 34.64 229 ⇑P P **03 43 38.7 -0.6**
baz=34,SNR=17
MTN Manton Dam 34.71 265 ⇓P P **03 43 39.2 -0.8**
baz=34
SWI Sorong 36.97 285 P P **03 43 59.7 +0.3**
comp=Z,80nm,1.0s,comp=Z,5μm
WRKA Warakurna 38.36 245 ⇓P P **03 44 09.6 -1.6**
baz=38,SNR=13
FITZ Fitzroy Crossi 39.97 257 *e*P P **03 44 22.9 -1.8**
comp=Z,38nm,1.3s
FITZ Fitzroy Crossi 39.97 257 LR LR 04 00 12.9
comp=Z,229nm,20.3s,baz=93,slow=35
FITZ Fitzroy Crossi 39.97 257 ⇓P P **03 44 23.8 -0.9**
baz=40,SNR=17
FORT Forrest 40.08 237 *e*P P **03 44 24.5 -0.9**
comp=Z,33nm,0.8s
FORT Forrest 40.08 237 ⇓P P **03 44 24.8 -0.6**
baz=40,SNR=16
NLAI Namlea 40.23 280 P P **03 44 28.8 +2.0**
comp=Z,96nm,1.1s,comp=Z,3μm
PPT Papeete 42.47 103 LR LR 03 58 13.5
comp=Z,273nm,20.0s,baz=248,slow=30
PPT2 Papeete2 42.47 103 *e*LR LR 03 56 39.9
comp=Z,983nm,28.8s
TBI Tubuai 42.96 111 *e*LR LR 03 56 54.6
comp=Z,474nm,32.8s
LUWI Luwuk 44.99 281 P P 03 45 09.7 +4.2
comp=Z,39nm,1.1s
KMBL Kambalda 45.33 238 ⇑P P **03 45 07.4 -0.6**
baz=45,SNR=13
MBWA Marble Bar 45.68 253 *e*P P **03 45 10.5 -0.4**
comp=Z,63nm,1.0s
CBIJ Chichi jima 45.91 329 P P **03 45 13.1 +0.6**
JCJ Chichijima 45.91 329 P P **03 45 13.1 +0.6**
comp=Z,77nm,0.9s,baz=305,slow=14,SNR=5.6
JCJ LR LR 04 01 24.6
comp=Z,167nm,19.6s,baz=129,slow=32
LBFI Labuhan Bajo, 46.17 270 P P **03 45 16.0 +1.2**
comp=Z,61nm,1.2s,comp=Z,1μm
BNSI Bone 46.73 276 P P **03 45 19.6 +0.4**
comp=Z,97nm,0.9s,comp=Z,812nm
KAPI Kappang 46.94 275 *e*P P **03 45 21.1 +0.3**
comp=Z,142nm,0.8s
SPSI Sidrap Palu 47.15 276 P P **03 45 21.6 -0.9**
comp=Z,30nm,0.8s
MEEK Meekatharra 47.23 245 P P **03 45 22.7 -0.3**
baz=47,SNR=55
KLBR Kellerberrin 48.81 239 P P **03 45 34.1 -1.0**
baz=48,SNR=8.0
BLDU Ballidu 49.51 240 ⇓P P **03 45 39.6 -0.9**
baz=49,SNR=6.3
NWAO Narrogin (SRO) 49.52 237 LR LR 04 06 55.2
comp=Z,404nm,18.4s,baz=57,slow=36
MTNI Mataram 49.78 269 P P **03 45 42.8 0.0**
comp=Z,37nm,0.8s
MORW Morawa 49.83 242 ⇑P P **03 45 42.4 -0.5**
baz=50,SNR=21
RKGY Rocky Gully 50.11 235 ⇓P P **03 45 44.5 -0.4**
baz=50
KHKI Kahang-Kahang 50.37 269 P P **03 45 45.7 -1.5**
comp=Z,62nm,0.8s
MYLDM Lahad Datu 51.00 287 P P **03 45 53.7 +1.7**
MYLDM Lahad Datu 51.00 287 P P **03 45 54.5 +2.5**
comp=Z,35nm,1.3s
MYLDM Lahad Datu 51.00 287 *e*P P **03 45 53.2 +1.2**
TSM Tawau 51.29 286 P P **03 45 54.4 +0.3**
ABJI Asem Bagus 51.81 270 P P **03 45 58.5 +0.5**
comp=Z,105nm,0.9s
BLJI Banyuglugur 52.44 270 P P **03 46 02.2 -0.5**
comp=Z,117nm,0.7s,comp=Z,3μm
GMJI Gumukmas 52.50 269 P P 03 46 09.5 +6.3
comp=Z,57nm,0.8s

KKM Kota Kinabalu 53.43 287 P P **03 46 10.4 +0.2**
KKM Kota Kinabalu 53.43 287 P P **03 46 10.6 +0.5**
KKM Kota Kinabalu 53.43 287 P P **03 46 10.4 +0.2**
comp=Z,83nm,1.0s,comp=Z,715nm
KKM Kota Kinabalu 53.43 287 *e*P P **03 46 09.7 -0.5**
KRKI Karangkates 53.49 269 P P **03 46 10.9 +0.4**
comp=Z,170nm,0.6s,comp=Z,30μm
JOW Kunigami 53.98 317 *e*P P **03 46 14.9 +1.1**
comp=Z,25nm,0.7s
PWJI Pagerwojo 54.14 269 P P **03 46 14.9 -0.4**
comp=Z,40nm,1.0s
SJI Sawahan 54.23 269 P P **03 46 16.1 +0.1**
comp=Z,55nm,1.0s,comp=Z,4μm
PCJI Pacitan 54.73 269 P P **03 46 19.6 +0.1**
comp=Z,124nm,1.3s
UGM Wanagama 55.41 269 ⇑P P **03 46 24.2 -0.3**
baz=55,SNR=5.0
BTM Bintulu 55.48 283 P P **03 46 25.6 +0.6**
MJAR Matsushiro Arr 55.59 332 P P **03 46 24.3 -1.0**
MJAR Matsushiro Arr 55.59 332 P P **03 46 24.3 -1.0**
comp=Z,2.4nm,0.9s,baz=168,slow=9.4,SNR=5.5
MAJO Matsushiro 55.59 332 *e*P P **03 46 25.0 -0.3**
MAJO pmax pmax
comp=Z,5.0nm,0.4s
MAJO Matsushiro 55.59 332 *e*P P **03 46 25.0 -0.3**
comp=Z,5.5nm,0.4s
SBUM Sibu 56.09 281 P P **03 46 29.6 +0.3**
SBUM Sibu 56.09 281 P P **03 46 29.6 +0.3**
SBUM Sibu 56.09 281 P P **03 46 29.9 +0.6**
comp=Z,18nm,1.0s
RKT Rikitea 56.24 110 *e*LR LR 04 03 05.1
comp=Z,403nm,30.2s
JNU Nakatsue 56.72 324 *e*P P **03 46 33.2 -0.2**
comp=Z,11nm,0.8s
JNU Nakatsue 56.72 324 LR LR 04 07 48.7
comp=Z,64nm,20.6s,baz=353,slow=33
TGJI Tegal 56.96 270 P P **03 46 37.0 +1.5**
comp=Z,37nm,1.3s
KPJI Karang Pucung 57.07 269 P P **03 46 36.7 +0.4**
comp=Z,58nm,0.8s,comp=Z,1μm
YHNB Yeheng 57.57 310 *e*P P **03 46 39.6 0.0**
comp=Z,31nm,0.8s
KSM Kuching 57.66 280 P P **03 46 40.5 0.0**
LEM Lembang 58.44 270 P P **03 46 46.7 +0.6**
comp=Z,121nm,0.9s,comp=Z,1μm
KSRS Korea Array 61.51 325 P P **03 47 07.0 +0.5**
comp=Z,5.3nm,0.7s,baz=137,slow=7.4,SNR=12
KSRS pP **pP 03 47 18.4 +0.1**
comp=Z,1.7nm,0.4s,baz=143,slow=7.1,SNR=4.0
KSRS LR LR 04 08 31.7
comp=Z,65nm,20.5s,baz=150,slow=31
KSAR Wonju Array Be 61.53 325 P P **03 47 07.0 +0.4**
KSAR pP **pP 03 47 18.4 0.0**
KASI Kota Agung 61.73 270 P P **03 47 07.3 -1.2**
comp=Z,79nm,1.0s
MDSI Maura Dua 62.24 271 P P **03 47 11.1 -0.8**
comp=Z,16nm,1.2s
NJ2 Nanjing 63.64 315 *e*P P **03 47 21.7 +0.9**
NJ2 pP **pP 03 47 31.4 -1.2**
NJ2 sP **sP 03 47 40.1 +2.9**
QIZ Qiongzhong 64.15 298 P P **03 47 25.1 +0.6**
QIZ sP **sP 03 47 38.9 -2.0**
QIZ S **S 03 56 01.9 +2.8**
QIZ ScS **ScS 03 57 17.1 +1.3**
QIZ pmax pmax
comp=Z,22nm,0.9s
QIZ Qiongzhong 64.15 298 *e*P P **03 47 25.0 +0.6**
comp=Z,17nm,0.9s
KGM Kluang 64.54 278 P P **03 47 28.2 +1.0**
USRK Ussuriysk Arra 64.56 333 P P **03 47 27.0 +0.4**
comp=Z,5.4nm,0.9s,baz=142,slow=7.3,SNR=8.2
USRK LR LR 04 13 26.1
comp=Z,99nm,19.3s,baz=251,slow=34
VNDA Vanda 65.18 181 *e*P P **03 47 29.5 -0.7**
comp=Z,14nm,1.3s
VNDA Vanda 65.18 181 P P **03 47 28.8 -1.4**
comp=Z,4.8nm,0.8s,baz=344,slow=6.0,SNR=18
VNDA LR LR 04 13 04.3
comp=Z,139nm,19.1s,baz=3.6,slow=33
SBA Scott Base 65.47 180 *e*P P **03 47 31.9 -0.2**
SBA *e**PP **pP 03 47 44.4 +0.5**
SBA pmax pmax
comp=Z,16nm,0.9s
SBA Scott Base 65.47 180 *e*P P **03 47 31.9 -0.2**
comp=Z,16nm,0.9s
SBA *ep*P **pP 03 47 44.4 +0.5**
KTGM Kuala Trenggan 65.59 282 P P **03 47 34.9 +0.9**
PETK Petropavlovsk- 65.69 354 P P **03 47 34.8 +1.0**
PETK Petropavlovsk- 65.69 354 P P **03 47 34.8 +1.0**
PETK Petropavlovsk- 65.69 354 P P **03 47 34.8 +1.0**
comp=Z,13nm,1.2s,baz=198,slow=4.1,SNR=3.5
PETK LR LR 04 13 15.1
comp=Z,58nm,20.1s,baz=221,slow=33
MDJ Mudanjiang 65.97 332 P P 03 47 39.0 +3.2
MDJ pP pP 03 47 48.3 +0.7
MDJ sP sP 03 47 52.2 0.0
MDJ pmax pmax
comp=Z,5.0nm,1.3s
MDJ pmax pmax
comp=Z,71nm,4.5s
WHN Wuhan 65.99 312 ⇓P P **03 47 36.5 +0.3**
BKNI Bangkinang 66.34 276 P P **03 47 39.8 +1.0**
comp=Z,135nm,0.9s
FRIM Kepong 66.49 279 P P **03 47 38.7 -1.1**
UBPT Khong Chiam 66.56 293 P P **03 47 40.4 +0.3**
comp=Z,27nm,1.1s
PPI Padang Panjang 66.79 275 P P **03 47 41.9 +0.2**
CN2 Changchun 67.37 329 *e*P P **03 47 45.2 +0.5**
CN2 *ep*P **pP 03 47 55.6 -1.0**
CN2 *e*S **S 03 56 38.3 +0.8**
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 LR LR
comp=Z,200nm,20.0s
IPM Ipoh 67.39 280 P P **03 47 43.1 -2.4**
CHBT CHBT 68.57 289 P P **03 47 54.1 +1.3**
comp=Z,15nm,0.2s,comp=Z,3μm
KLR Kul'dur 68.66 336 *e*P P 03 47 49.4 -3.3
PSI Prapat 68.99 278 ⇑P P **03 47 54.5 -1.1**
baz=69,SNR=8.1
ENH Enshi 69.47 309 *e*P P **03 47 57.6 -0.6**
comp=Z,61nm,0.8s
CHAI Chaiyaphum 69.92 292 P P **03 48 01.1 -0.1**
comp=Z,9.4nm,0.8s,comp=Z,178nm
GYA Guiyang 69.95 304 *i*P P **03 48 01.6 +0.2**
GYA pP **pP 03 48 14.7 +1.4**
GYA sP **sP 03 48 22.2 +4.3**
GYA PP **PP 03 50 40.4 +3.8**
GYA S **S 03 57 10.2 +1.1**
GYA sS **sS 03 57 27.6 -1.4**
GYA SKS **SKSac 03 57 58.0 -1.8**
GYA SS **SS 04 01 41.3 +2.1**
GYA pmax pmax
comp=Z,30nm,0.7s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,490nm,20.5s
GYA LR LR
comp=Z,380nm,21.0s
GYA LR LR
comp=Z,450nm,20.2s
SLVN Son La 70.18 298 *e*P P **03 48 02.6 -0.1**
SURT Suratani 70.74 284 P P **03 48 08.3 +2.1**
comp=Z,10.0nm,1.2s
PBKT Sadao Pong 71.07 292 P P **03 48 08.7 +0.6**
comp=Z,23nm,0.9s
XAN Xi'an 71.72 312 P P **03 48 12.1 +0.2**
XAN sP sP 03 48 23.6 -4.8
XAN pmax pmax
comp=Z,18nm,0.8s
NANT Nan 72.06 295 P P **03 48 14.7 +0.5**
comp=Z,74nm,0.7s
KMI Kunming 72.63 301 ⇑P P **03 48 18.7 +1.0**
KMI pP **pP 03 48 30.2 +0.5**
KMI sP **sP 03 48 34.6 +0.3**
KMI PP **PP 03 51 03.9 +4.1**
KMI S **S 03 57 40.9 +0.6**
KMI pmax pmax
comp=Z,64nm,1.1s
KMI pmax pmax
comp=Z,100nm,3.1s
CRAI Chiangrai 72.85 296 P P **03 48 19.3 +0.5**
comp=Z,31nm,1.0s,comp=Z,4μm
LAMP Lampang 72.92 294 P P **03 48 19.9 +0.6**

comp=Z,22nm,0.8s,comp=Z,162nm
HHC Hu-ho-hao-te 73.46 320 *e*P P **03 48 22.9 +0.8**
HHC pP **pP 03 48 33.2 -1.0**
HHC sP **sP 03 48 37.1 -1.6**
HHC PP **PP 03 51 08.8 +2.3**
HHC S **SKiKP 03 57 49.4 -0.5**
HHC sS **sS 03 58 06.4 -2.6**
HHC SS **SS 04 02 35.3 +2.8**
HHC pmax pmax
comp=Z,43nm,1.2s
HHC pmax pmax
comp=Z,180nm,7.0s
HHC LR LR
comp=Z,290nm,17.2s
HHC LR LR
comp=Z,500nm,17.6s
HHC LR LR
comp=Z,290nm,17.1s
CM31 Chiang Mai Arr 73.52 294 *e*P P **03 48 23.1 +0.3**
comp=Z,18nm,0.7s
CMAR Chiang Mai Arr 73.52 294 P P **03 48 23.1 +0.3**
CMAR Chiang Mai Arr 73.52 294 P P **03 48 23.1 +0.3**
comp=Z,26nm,0.8s,baz=123,slow=4.5,SNR=78
CMAR LR LR 04 19 51.4
comp=Z,34nm,18.5s,baz=340,slow=35
CMMT Chiang Mai 73.63 294 P P **03 48 23.8 +0.3**
comp=Z,30nm,1.1s,comp=Z,536nm
CHTO Chiang Mai 73.63 294 *e*P P **03 48 23.5 0.0**
CHTO pmax pmax
comp=Z,52nm,1.4s
CHTO Chiang Mai 73.63 294 *e*P P **03 48 23.5 0.0**
comp=Z,52nm,1.4s
CHTO Chiang Mai 73.63 294 P P **03 48 23.8 +0.3**
comp=Z,136nm,1.1s,comp=Z,1μm
CMAI Chiengmai2 73.92 295 P P **03 48 25.9 +0.6**
comp=Z,30nm,0.9s,comp=Z,2μm
CD2 Chengdu 74.17 307 *e*P P **03 48 27.1 +0.7**
CD2 pP **pP 03 48 37.9 -0.6**
CD2 sP **sP 03 48 42.8 -0.2**
CD2 PP **PP 03 51 15.5 +2.9**
CD2 S **S 03 57 57.8 +0.6**
CD2 sS **sS 03 58 15.8 -1.4**
CD2 SS **SS 04 02 45.7 +2.3**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,100nm,8.2s
CD2 LR LR
comp=Z,240nm,16.7s
MHMT Maesarieng 74.33 293 P P **03 48 28.4 +0.9**
comp=Z,12nm,0.9s,comp=Z,772nm
LZH Lanzhou 76.36 312 ⇑P P **03 48 40.6 +1.5**
LZH pP **PcP 03 48 50.7 -0.1**
LZH sP **sP 03 48 53.4 -2.3**
LZH PP PP 03 51 37.3 +6.1
LZH S **S 03 58 20.1 -1.4**
LZH SS **SS 04 03 21.0 +4.2**
LZH pmax pmax
comp=Z,35nm,1.5s
LZH pmax pmax
comp=Z,140nm,4.4s
LZH LR LR
comp=Z,560nm,16.3s
LZH LR LR
comp=Z,230nm,13.1s
LZH LR LR
comp=Z,730nm,17.9s
QSPA South Pole Qui 77.63 180 *e*P P **03 48 44.5 -1.1**
comp=Z,28nm,1.0s
QSPA *e* 03 48 57.1
ULN Ulaanbaatar 79.94 324 *e*P P **03 48 58.8 +0.1**
comp=Z,19nm,0.6s
SONM Songino Array 80.30 324 P P **03 49 00.7 +0.2**
SONM Songino Array 80.30 324 P P **03 49 00.7 +0.2**
comp=Z,3.7nm,0.4s,baz=139,slow=5.6,SNR=81
GTA Gaotai 80.67 314 ⇑P P **03 49 03.6 +0.9**
GTA pP **pP 03 49 13.1 -1.8**
GTA sP **sP 03 49 16.7 -2.7**
GTA S **S 03 59 09.6 +2.1**
GTA SKS **SKSac 03 59 14.8 -3.4**
GTA sS **ScS 03 59 25.7 -0.9**
GTA SS SS 04 04 28.8 +7.4
GTA pmax pmax
comp=Z,24nm,1.2s
GTA pmax pmax
comp=Z,80nm,5.7s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,160nm,17.1s
GTA LR LR
comp=Z,190nm,17.6s
SHL Shillong 81.99 298 *e*P P **03 49 10.5 +0.4**
TRF Thorofare Moun 82.49 18 *e*P P **03 49 11.8 -0.1**
comp=Z,4.6nm,0.8s
ZAK Zakamensk 83.34 325 *e*P P **03 49 14.5 -1.9**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
MAW Mawson 83.84 202 *e*P P **03 49 17.5 -1.1**
comp=Z,2.8nm,1.0s
MAW Mawson 83.84 202 P P **03 49 17.9 -0.7**
comp=Z,13nm,0.9s,baz=105,slow=7.3,SNR=21
MAW LR LR 04 21 19.6
comp=Z,60nm,18.9s,baz=225,slow=32
MAW Mawson 83.84 202 ⇑P P **03 49 17.9 -0.7**
baz=84,SNR=15
LSA Lhasa 83.87 302 *e*P P **03 49 20.5 +0.4**
LSA pmax pmax
comp=Z,22nm,0.7s
LSA Lhasa 83.87 302 *e*P P **03 49 20.5 +0.4**
comp=Z,22nm,0.7s
YBH Yreka Blue Hor 84.15 45 *e*P P **03 49 23.2 +2.4**
comp=Z,6.2nm,0.8s
YBH Yreka Blue Hor 84.15 45 LR LR 04 22 38.7
comp=Z,78nm,19.5s,baz=239,slow=33
COLA College 84.26 18 ⇑*e*P P **03 49 21.9 +1.3**
COLA pmax pmax
comp=Z,23nm,0.8s
ILAR Eielson Array 84.48 18 P P **03 49 20.8 -1.1**
ILAR Eielson Array 84.48 18 P P **03 49 20.8 -1.1**
comp=Z,4.6nm,0.6s,baz=243,slow=5.1,SNR=56
ILAR LR LR 04 19 18.5
comp=Z,144nm,21.7s,baz=268,slow=30
CMB Columbia Colle 84.48 49 *e*P P **03 49 23.7 +1.2**
CMB pmax pmax
comp=Z,6.0nm,0.7s
CMB Columbia Colle 84.48 49 *e*P P **03 49 23.7 +1.2**
comp=Z,5.8nm,0.7s
ISA Isabella 85.14 52 P P **03 49 27.2 +1.3**
baz=85
BEKR Beckworth 85.14 48 *e*P P **03 49 27.4 +1.4**
comp=Z,2.2nm,0.6s
BBB Bella Bella 85.14 34 LR LR 04 18 09.0
comp=Z,146nm,20.6s,baz=97,slow=29
EDW2 Edwards Air Fo 85.26 53 P P **03 49 27.8 +1.3**
baz=85
BFSC Mount Baldy Ra 85.32 54 P P **03 49 27.8 +0.8**
baz=86
COLD Coldfoot 85.33 15 *e*P P **03 49 26.8 +0.8**
comp=Z,3.0nm,0.8s
LRMC Laurel Mountai 85.69 52 P P **03 49 29.5 +0.8**
baz=86
CWC Cottonwood Cre 85.69 51 P P **03 49 29.5 +0.8**
baz=86
MOD Modoc 85.89 46 *e*P P **03 49 30.7 +1.1**
comp=Z,5.0nm,0.7s
MONP Monument Peak 85.89 55 P P **03 49 30.8 +0.9**
baz=86
MPMC Manual Prospec 86.02 52 P P **03 49 31.2 +0.7**
baz=86
PFO Pinyon Flat Ob 86.08 55 LR LR 04 19 01.1
comp=Z,160nm,21.6s,baz=88,slow=29
TAPN Taplejung 86.08 299 *e*P P **03 49 31.0 -0.1**
comp=Z,5.3nm,0.9s
TAPN Taplejung 86.08 299 *e*P P **03 49 31.0 -0.1**
comp=Z,5.3nm,0.9s
NVAR Mina Array Bea 86.16 49 P P **03 49 31.4 +0.3**
NVAR Mina Array Bea 86.16 49 P P **03 49 31.4 +0.3**
comp=Z,4.1nm,0.7s,baz=244,slow=7.2,SNR=31
NVAR LR LR 04 18 42.9
comp=Z,188nm,20.7s,baz=112,slow=29
ODAN Odare 86.22 298 *e*P P **03 49 31.6 -0.1**
comp=Z,123nm,0.8s
ODAN Odare 86.22 298 *e*P P **03 49 31.6 -0.1**
comp=Z,123nm,0.8s
GSC Goldstone 86.32 53 P P **03 49 32.1 +0.3**

baz=86
GRAC Grapevine Rang 86.41 51 P P 03 49 33.5 +1.3
baz=87
HEC Hector,Ludlow 86.55 53 P P 03 49 34.4 +1.5
baz=87
BELC Belle Mtn. Jos 86.56 54 P P 03 49 32.8 -0.3
baz=87
FURC Furnace Creek, 86.63 52 P P 03 49 33.6 +0.5
baz=87
BC3 Big Chuckawall 86.89 55 P P 03 49 34.4 -0.3
baz=87
RAMN Ramite 86.93 298 *e*P P 03 49 34.8 -0.3
comp=Z,41nm,0.7s
RAMN Ramite 86.93 298 *e*P P 03 49 34.8 -0.3
comp=Z,41nm,0.7s
TUQ Turquoise Moun 87.05 53 P P 03 49 35.1 -0.3
baz=87
GMRC Granite Mounta 87.06 54 P P 03 49 35.7 +0.2
baz=87
DLBC Dease Lake 87.14 28 LR LR 04 20 58.9
comp=Z,57nm,21.8s,baz=318,slow=30
GLA Glamis 87.22 55 P P 03 49 36.6 +0.4
baz=87
WVOR Wild Horse Val 87.24 46 *e*P P 03 49 36.2 0.0
WVOR pmax pmax
comp=Z,2.0nm,0.8s
WVOR Wild Horse Val 87.24 46 *e*P P 03 49 36.2 0.0
comp=Z,1.9nm,0.8s
TPNV Topopah Spring 87.25 51 P P 03 49 37.1 +0.7
baz=87
IRM Iron Mountain 87.28 54 P P 03 49 37.2 +0.8
baz=87
JIRN Jiri 87.47 299 *e*P P 03 49 37.7 -0.2
JIRN Jiri 87.47 299 *e*P P 03 49 37.7 -0.2
LDFC Landfair 87.58 53 *e*P P 03 49 40.1 +2.1
comp=Z,11nm,0.8s
Y12C Blythe 87.66 55 P P 03 49 38.8 +0.6
baz=88
GUN Gumba 87.80 299 *e*P P 03 49 39.2 -0.3
comp=Z,78nm,0.7s
GUN Gumba 87.80 299 *e*P P 03 49 39.2 -0.3
comp=Z,78nm,0.7s
PKI Pulchoki 88.11 299 *e*P P 03 49 40.4 -0.5
comp=Z,78nm,0.6s
PKI Pulchoki 88.11 299 *e*P P 03 49 40.4 -0.5
PKI pmax pmax
comp=Z,78nm,0.6s
PKI Pulchoki 88.11 299 *e*P P 03 49 40.4 -0.5
comp=Z,78nm,0.6s
PKIN Phulchoki 88.12 299 *e*P P 03 49 40.4 -0.5
comp=Z,60nm,0.6s
R11A Troy Canyon, C 88.17 50 P P 03 49 42.0 +1.2
baz=88
KKN Kakani 88.28 299 *e*P P 03 49 41.1 -0.5
comp=Z,85nm,0.7s
KKN Kakani 88.28 299 *e*P P 03 49 41.1 -0.5
KKN pmax pmax
comp=Z,85nm,0.7s
KKN Kakani 88.28 299 *e*P P 03 49 41.1 -0.5
comp=Z,85nm,0.7s
DMN Daman 88.38 299 *e*P P 03 49 41.9 -0.2
comp=Z,189nm,0.7s
DMN Daman 88.38 299 *e*P P 03 49 41.9 -0.2
comp=Z,189nm,0.7s
GKN Gorkha 88.88 299 *e*P P 03 49 43.5 -0.9
comp=Z,131nm,0.7s
GKN Gorkha 88.88 299 *e*P P 03 49 43.5 -0.9
comp=Z,131nm,0.7s
HVS Khovu-Aksy 89.18 323 ⇓*i*P P 03 49 44.7 -0.4
HVS pmax pmax
comp=Z,44nm,1.3s
ARUT Antelope Range 89.63 51 *e*P P 03 49 49.7 +2.1
ARUT pmax pmax
comp=Z,41nm,0.7s
ARUT Antelope Range 89.63 51 *e*P P 03 49 49.7 +2.1
comp=Z,41nm,0.7s
KOLN Koldanda 89.71 298 *e*P P 03 49 47.2 -1.1
KOLN Koldanda 89.71 298 *e*P P 03 49 47.2 -1.1
DANN Dangsing 89.72 299 *e*P P 03 49 47.3 -1.1
comp=Z,94nm,0.6s
DANN Dangsing 89.72 299 *e*P P 03 49 47.3 -1.1
comp=Z,94nm,0.6s
NEW Newport 90.14 40 P P 03 49 51.4 +1.8
baz=90
TUC Tucson 90.31 57 *e*P P 03 49 52.8 +2.0
TUC pmax pmax
comp=Z,1.0nm,0.7s
TUC Tucson 90.31 57 *e*P P 03 49 52.8 +2.0
comp=Z,1.4nm,0.7s
PYUN Piuthan 90.32 299 *e*P P 03 49 49.8 -1.3
comp=Z,106nm,0.9s
PYUN Piuthan 90.32 299 *e*P P 03 49 49.8 -1.3
comp=Z,106nm,0.9s
HLID Hailey 90.53 46 P P 03 49 53.2 +1.4
baz=91
WMQ Urumqi 90.71 315 P P 03 49 52.0 -0.4
WMQ sP **sP** 03 50 07.0 -2.2
WMQ S **S** 04 00 43.0 -2.8
WMQ SS **SS** 04 06 50.0 +1.3
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,130nm,7.0s
WMQ LR LR
comp=Z,120nm,20.0s
WMQ LR LR
comp=Z,92nm,18.0s
DUG Dugway 90.75 49 P P 03 49 54.2 +1.4
baz=91
SYO Syowa Base 90.78 197⇑*e*P P 03 49 49.4 -2.8
SYO Syowa Base 90.78 197⇑*e*PcP P 03 49 52.4 +0.2
INK Inuvik 90.86 19 LR LR 04 23 53.8
comp=Z,128nm,20.4s,baz=345,slow=31
TMUT Trail Mountain 91.72 50 *e*P P 03 49 58.1 +0.6
HYB Hyderabad 91.92 287 *i* P P 03 49 57.0 -1.6
320A Kipp Ranch, An 91.94 58 P P 03 49 59.7 +1.1
baz=92
PDAR Pinedale Array 93.76 47 P P 03 50 08.2 +1.5
PDAR Pinedale Array 93.76 47 P P 03 50 08.2 +1.5
comp=Z,1μm,0.4s,baz=174,slow=1.8,SNR=4.3
ANMO Albuquerque 94.42 55 LR LR 04 25 35.7
comp=Z,98nm,18.5s,baz=301,slow=31
MKAR Makanchi Array 95.14 317 P P 03 50 12.4 -0.4
MKAR Makanchi Array 95.14 317 P P 03 50 12.4 -0.4
MKAR PKKPbc **PKKPbc** 04 07 07.4 -1.2
MKAR Makanchi Array 95.14 317 P P 03 50 12.4 -0.4
comp=Z,17nm,0.7s,baz=96,slow=6.5,SNR=135
MKAR PKKPbc **PKKPbc** 04 07 07.4 -1.2
comp=Z,0.3nm,0.5s,baz=267,slow=4.5,SNR=4.0
MKAR LR LR 04 30 12.7
comp=Z,76nm,19.6s,baz=155,slow=34
MKAR Makanchi Array 95.14 317 ⇓P P 03 50 12.7 0.0
baz=95
ZAA0 Zalesovo Array 95.19 324 *e*P P 03 50 11.5 -1.2
ZALV Zalesovo Beam 95.19 324 P P 03 50 11.6 -1.1
ZALV *PP **pP** 03 50 25.5 +0.4
ZALV Zalesovo Beam 95.19 324 P P 03 50 11.6 -1.1
ZALV pP **pP** 03 50 25.5 +0.4
ZALV Zalesovo Beam 95.19 324 P P 03 50 11.6 -1.1
comp=Z,4.2nm,0.7s,baz=109,slow=3.9,SNR=19
ZALV pP **pP** 03 50 25.5 +0.4
comp=Z,2.2nm,0.7s,baz=73,slow=5.0,SNR=3.5
ZALV LR LR 04 30 48.9
comp=Z,115nm,19.1s,baz=76,slow=34
TXAR Lajitas Array 95.64 61 P P 03 50 15.4 -0.1
TXAR Lajitas Array 95.64 61 P P 03 50 15.4 -0.1
comp=Z,1.1nm,0.7s,baz=213,slow=5.4,SNR=13
TXAR LR LR 04 23 22.7
comp=Z,116nm,20.9s,baz=260,slow=29
YKA Yellowknife Ar 95.72 27 P P 03 50 13.7 -1.3
YKA Yellowknife Ar 95.72 27 P P 03 50 13.6 -1.3
comp=Z,0.5nm,0.4s,baz=258,slow=4.7,SNR=6.7
SNAA Sanae 95.84 183 *e*P P 03 50 13.5 -2.1
SNAA Sanae 95.84 183 *e*P P 03 50 13.3 -2.3
comp=Z,7.3nm,1.3s
NVS Novosibirsk 96.30 325 *e*P P 03 50 15.1 -2.6
VNA2 Neumayer--Watz 96.79 182 *e*P P 03 50 18.2 -1.6
KURK Kurchatov 98.27 320 P P 03 50 25.5 -1.3
KURK Kurchatov 98.27 320 P P 03 50 25.5 -1.3
KURK PP PP 03 54 16.2 -11
KURBB Kurchatov Arra 98.31 320 P P 03 50 25.5 -1.5
comp=Z,1.0nm,0.6s,baz=100,slow=3.3,SNR=12
KURBB PP PP 03 54 16.2 -11
comp=Z,0.7nm,0.9s,baz=100,slow=6.8,SNR=4.3
KSH Kashi 98.33 309 P Pdif 03 50 28.1 +0.6
KSH pP pP 03 50 38.1 -1.7
KSH sP sP 03 50 42.1 -2.2
KSH PP **PP** 03 54 31.0 +3.1
KSH SKS **SKSac** 04 01 02.1 -0.4
KSH S **ScS** 04 01 54.1 +1.1
KSH sS sS 04 02 09.1 -4.5
KSH SS **SS** 04 08 43.1 +5.5
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH pmax pmax
comp=Z,130nm,6.9s
KSH LR LR
comp=Z,190nm,6.1s
KSH LR LR
comp=Z,250nm,7.7s
KSH LR LR
comp=Z,230nm,8.0s
TKM2 Tokmak 2 99.13 312 *e*P Pdif 03 50 30.6 -0.5
TKM2 pmax pmax
comp=Z,3.0nm,0.9s
TKM2 Tokmak 2 99.13 312 *e*P Pdif 03 50 30.6 -0.5
comp=Z,2.7nm,0.9s
AAK Ala-Archa 99.89 312⇑*e*P Pdif 03 50 31.5 -2.9
AAK pmax pmax
comp=Z,9.0nm,1.3s
BVAR Borovoye Array 103.58 322 P Pdif 03 50 48.7 -1.7
BVAR Borovoye Array 103.58 322 Pdif Pdif 03 50 48.7 -1.7
BVAR PP PP 03 55 01.2 -5.8
BVAR Borovoye Array 103.58 322 Pdiff Pdif 03 50 48.7 -1.7
comp=Z,1.0nm,0.7s,baz=84,slow=6.1,SNR=6.5
BVAR PP PP 03 55 01.2 -5.8
comp=Z,0.8nm,0.8s,baz=89,slow=6.4,SNR=3.9
ARCES ARCESS Array B 117.86 346 PKP **PKPdf** 03 55 34.0 -1.2
ARCES PKKPbc **PKKPbc** 04 05 53.7 -4.8
ARCES ARCESS Array B 117.86 346 PKP **PKPdf** 03 55 34.0 -1.2
comp=Z,2.1nm,0.3s,baz=73,slow=1.9,SNR=101
ARCES PKKPbc **PKKPbc** 04 05 53.7 -4.8
comp=Z,2.1nm,0.7s,baz=209,slow=2.1,SNR=19
LPAZ La Paz 118.74 116 PKKPbc PKKPbc 04 05 52.1 -2.7
LPAZ La Paz 118.74 116 PKKPbc PKKPbc 04 05 52.1 -2.7
comp=Z,1.0nm,0.7s,baz=116,slow=3.3,SNR=5.9
JOF Joensuu 120.53 338 *e*PKIKP **PKPdf** 03 55 37.7 -2.8
JOF Joensuu 120.53 338 *ep* **PKPdf** 03 55 37.7 -2.8
SCHQ Schefferville 120.64 33 PKP **PKPdf** 03 55 39.5 -1.5
SCHQ Schefferville 120.64 33 PKP **PKPdf** 03 55 39.5 -1.5
comp=Z,3.7nm,0.9s,baz=222,slow=14,SNR=3.7
ZEI Tsey 122.28 313 *i* PKIKP **PKPdf** 03 55 43.7 -1.1
ZEI pmax pmax
comp=Z,4.0nm,1.0s
CPUP Villa Florida 122.43 132 PKP **PKPdf** 03 55 44.6 -0.7
CPUP Villa Florida 122.43 132 PKP **PKPdf** 03 55 44.6 -0.7
comp=Z,0.5nm,0.3s,baz=233,slow=12,SNR=3.3
KBZ Khabaz 122.75 314 PKIKP **PKPdf** 03 55 45.1 -0.3
KBZ Khabaz 122.75 314 PKP **PKPdf** 03 55 45.0 -0.3
KBZ Khabaz 122.75 314 PKP **PKPdf** 03 55 45.0 -0.3
comp=Z,3nm,0.9s,baz=146,slow=7.3,SNR=3.4
KAF Kangasniemi 122.83 339 *e*PKIKP **PKPdf** 03 55 42.2 -2.7
KAF Kangasniemi 122.83 339 *ep* **PKPdf** 03 55 42.2 -2.7
FINES FINESS Array B 123.36 339 PKP **PKPdf** 03 55 45.0 -1.0
FINES FINESS Array B 123.36 339 PKP **PKPdf** 03 55 45.0 -1.0
comp=Z,3.6nm,0.8s,baz=23,slow=3.9,SNR=12
NB2 NORSAR Subarra 128.24 345 PKPdf **PKPdf** 03 55 54.4 -1.0
comp=Z,2.5nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B 128.24 345 PKP **PKPdf** 03 55 55.0 -0.5
NOA pPKP **pPKPdf** 03 56 10.1 +2.0
NOA NORSAR Array B 128.24 345 PKP **PKPdf** 03 55 55.0 -0.5
comp=Z,1.1nm,0.6s,baz=32,slow=2.0,SNR=8.6
NOA pPKP **pPKPdf** 03 56 10.1 +2.0
comp=Z,1.5nm,0.9s,baz=32,slow=1.9,SNR=4.3
HFS Hagfors 128.34 343 PKP **PKPdf** 03 55 54.7 -0.9
HFS pPKP **pPKPdf** 03 56 10.3 +2.1
HFS Hagfors 128.34 343 PKP **PKPdf** 03 55 54.7 -0.9
comp=Z,1.0nm,0.6s,baz=48,slow=4.4,SNR=3.6
HFS pPKP **pPKPdf** 03 56 10.3 +2.1
comp=Z,2.9nm,0.9s,baz=270,slow=3.0,SNR=3.7
AKASG Malin Array Be 128.50 327 PKIKP **PKPdf** 03 55 55.4 -0.7
AKASG 03 56 10.3
AKASG Malin Array Be 128.50 327 PKP **PKPdf** 03 55 55.4 -0.7
AKASG pPKP **pPKPdf** 03 56 10.3 +1.5
AKASG Malin Array Be 128.50 327 PKP **PKPdf** 03 55 55.4 -0.7
comp=Z,0.4nm,0.4s,baz=57,slow=1.8,SNR=7.4
AKASG pPKP **pPKPdf** 03 56 10.3 +1.5
comp=Z,2.3nm,0.9s,baz=51,slow=2.3,SNR=3.4
BRTR Keskin Array B 130.56 312 PKP **PKPdf** 03 55 59.5 -1.1
BRTR PP **PP** 03 58 14.6 -0.9
BRTR Keskin Array B 130.56 312 PKP **PKPdf** 03 55 59.5 -1.1
comp=Z,0.7nm,0.7s,baz=126,slow=4.1,SNR=4.7
BRTR PP **PP** 03 58 14.6 -0.9
comp=Z,0.9nm,0.9s,baz=105,slow=9.1,SNR=3.9
BUR08 Bucovina Ar. S 132.39 325 *e*PKPdf **PKPdf** 03 56 04.7 +0.9
BDFB Brasilia 135.77 128 PKP **PKPdf** 03 56 09.9 -1.1
BDFB Brasilia 135.77 128 PKP **PKPdf** 03 56 09.9 -1.1
comp=Z,1.4nm,0.5s,baz=295,slow=7.3,SNR=4.4
GERES GERESS Array B 137.32 334 PKP **PKPdf** 03 56 12.4 -0.6
GERES GERESS Array B 137.32 334 PKP **PKPdf** 03 56 12.4 -0.6
comp=Z,1.2nm,0.9s,baz=350,slow=1.6,SNR=6.3
SOKA Soboth 138.31 331⇑*i* PKiKP **PKPdf** 03 56 15.9 +1.0
comp=Z,4.3nm,1.1s
FETA Feichten 140.00 334⇑*i* PKPdf **PKPdf** 03 56 14.1 -3.9
comp=Z,3.4nm,1.1s
ECH Echery 140.42 338 *e*PKIKP **PKPdf** 03 56 19.9 +1.3
ECH Echery 140.42 338 *e*PKPdf **PKPdf** 03 56 19.9 +1.3
DAVOX Davos/Dischmat 140.55 335 PKP **PKPdf** 03 56 19.8 +0.8
DAVOX Davos/Dischmat 140.55 335 PKP **PKPdf** 03 56 19.8 +0.8
comp=Z,4.0nm,0.9s,baz=208,slow=3.1,SNR=5.8
TUE Stuetta 141.01 335 *e*PKPpre PKPpre 03 56 12.7
TUE *e*PKPdf **PKPdf** 03 56 20.2 +0.3
BNI Bardonecchia 143.25 336 *e*PKIKP **PKPdf** 03 56 24.3 +0.4
BNI Bardonecchia 143.25 336 *e*PKPdf **PKPdf** 03 56 24.3 +0.4
CEL Celeste 143.41 320 *e*PKPdf **PKPdf** 03 56 24.5 +0.3
SAOF Saorge 143.77 334 PKP PKPab 03 56 21.5 -0.1
AUTN L'Aution 143.81 334 PKP PKPab 03 56 19.7 -2.3
SSB Saint Sauveur 143.87 338 *e*PKIKP PKPbc 03 56 22.6 +0.1
SSB Saint Sauveur 143.87 338 *e*PKPdf PKPbc 03 56 22.6 0.0
TOUF Mont Tournerai 143.87 335 PKP PKPab 03 56 21.7 -0.5
LUCF Luceram 143.93 334 PKP PKPab 03 56 21.9 -0.4
REVF Revere 144.04 334 PKP **PKPab** 03 56 22.1 -0.5
OG26 St.-Nazaire-De 144.18 337 PKP PKPbc 03 56 23.9 +0.3
LBL Lubilhac 144.36 340 PKP PKPbc 03 56 24.3 +0.2
KEST Kesra 149.05 322 *e*PKPbc **PKPbc** 03 56 37.8 -0.2
KEST Kesra 149.05 322 PKPbc **PKPbc** 03 56 38.0 0.0
comp=Z,7.7nm,0.7s,baz=335,slow=1.0,SNR=22
POLO Lamas de Olo 150.72 352 *e*PKPdf **PKPbc** 03 56 41.6 -0.3
MVO Moncorvo 150.81 350 *e*PKPdf **PKPbc** 03 56 42.5 +0.4
ESDC Sonseca Array 151.60 345 PKPbc **PKPbc** 03 56 43.5 -0.5
ESDC Sonseca Array 151.60 345 PKPbc **PKPbc** 03 56 43.5 -0.5
comp=Z,2.8nm,0.7s,baz=13,slow=2.3,SNR=16
MTE Manteigas 151.64 351 *e*PKPdf **PKPbc** 03 56 44.1 0.0
MTE Manteigas 151.64 351 *e*PKPdf **PKPdf** 03 56 37.2 -0.6
MTE *e*PKPbc **PKPbc** 03 56 43.5 -0.6
PMRV Marv??o 152.56 350 *e*PKPdf **PKPbc** 03 56 45.9 -0.2
PMTG Montargil 153.05 351 *e*PKPdf **PKPbc** 03 56 48.8 +1.6
TORD Torodi Ar. Bea 165.37 275 PKP **PKPdf** 03 56 53.4 -1.4
TORD PKPab **PKPab** 03 57 52.5 -0.4
TORD PP **PP** 04 01 42.9 +2.9
TORD Torodi Ar. Bea 165.37 275 PKP **PKPdf** 03 56 53.4 -1.4
comp=Z,0.6nm,0.9s,baz=322,slow=2.2,SNR=3.7
TORD PKPab **PKPab** 03 57 52.5 -0.4
comp=Z,14nm,0.9s,baz=76,slow=4.2,SNR=55
TORD PP **PP** 04 01 42.9 +2.9
comp=Z,1.0nm,0.9s,baz=51,slow=3.3,SNR=4.0

IDC ***11*** *03:38:09.1±2.1, 43.37N×46.05E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.1/26, mbtmp3.2/4, ML0.6/1, Error ellipse: s-maj=26.4km s-min=14.7km az=65.0*
ISCJB ***11*** *03:38:10.6±0.5, 43.32N±0.02×46.28E±0.02, h1km±3km, mb3.5/2, Error ellipse: s-maj=4.2km s-min=2.6km az=26.6*
AZER ***11*** *03:38:13.0±0.1, 42.92N×45.85E, h6km, Error ellipse: s-maj=3.6km s-min=1.8km az=247.0*
MOS ***11*** *03:38:12.1±1.4, 43.32N×46.18E, h13km, mb4.0/1, Error ellipse: s-maj=8.7km s-min=6.5km az=11.3*
CSEM ***11*** *03:38:12.5±0.2, 43.28N×46.22E, h5km, mb4.0, Error ellipse: s-maj=4.3km s-min=2.7km az=24.0*
TIF ***11*** *03:38:13.2, 43.37N×45.95E, h18km±4km*
ISC 11 03:38:12.9±1.0, 43.23N±0.03×46.16E±0.02, h10km±8km, n88, σ1.9 12/139, 24C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GRO	**Groznyy**	**0.31**	**288**	⇑*i*PG	**Pg**	**03 38 19.5**	**+0.4**
GRO				*i* S	**Sb**	**03 38 25.0**	**-0.6**
GRO	**Groznyy**	**0.31**	**288**	*i* Pg	**Pg**	**03 38 19.5**	**+0.4**
GRO				*i* Sg	**Sb**	**03 38 25.0**	**-0.6**
BTLR	**Botlikh**	**0.56**	**175**	⇑*i*PG	**Pg**	**03 38 22.2**	**-1.6**
BTLR				*i* S	**Sg**	**03 38 30.8**	**-0.5**
BTLR	**Botlikh**	**0.56**	**175**	*i* Pg	**Pg**	**03 38 22.2**	**-1.6**
BTLR				*i* Sg	**Sg**	**03 38 30.8**	**-0.5**
SNJR	**Sundja**	**1.00**	**261**	*e*PG	**Pn**	**03 38 33.2**	**+0.3**
SNJR				*e*S	**Sn**	**03 38 48.3**	**+1.2**
SNJR	**Sundja**	**1.00**	**261**	*e*Pg	**Pn**	**03 38 33.2**	**+0.3**
SNJR				*e*Sg	**Sn**	**03 38 48.3**	**+1.2**
MAK	**Makhachkala**	**1.02**	**105**	*e*PG	**Pg**	**03 38 33.0**	**+0.5**
MAK				*e*		03 38 48.3	
MAK	comp=Z,56nm,0.3s			pmax	pmax		
MAK	comp=E,306nm,0.4s			smax	smax		
MAK	comp=N,371nm,0.5s			smax	smax		
MAK	**Makhachkala**	**1.02**	**105**	*e*Pg	**Pg**	**03 38 33.0**	**+0.5**
	comp=N,56nm,0.3s						
GNBR	**Gunib**	**1.03**	**144**	*i* PG	**Pg**	**03 38 32.1**	**-0.5**
GNBR				*i* S	**Sg**	**03 38 46.7**	**+0.7**
GNBR	**Gunib**	**1.03**	**144**	*i* Pg	**Pg**	**03 38 32.1**	**-0.5**
GNBR				*i* Sg	**Sg**	**03 38 46.7**	**+0.7**
VLKR	**Vladikavkaz**	**1.10**	**261**	*e*PG	**Pb**	**03 38 34.0**	**0.0**
VLKR				*e*S	**Sn**	**03 38 50.5**	**+0.9**
VLKR	**Vladikavkaz**	**1.10**	**261**	*e*Pg	**Pb**	**03 38 34.0**	**0.0**
VLKR				*e*Sg	**Sn**	**03 38 50.5**	**+0.9**
TRKR	**Terskaya**	**1.15**	**296**	⇑*i*PG	**Pb**	**03 38 35.0**	**+0.2**
TRKR				*e*S	**Sn**	**03 38 51.9**	**+1.1**
TRKR	**Terskaya**	**1.15**	**296**	*i* Pg	**Pb**	**03 38 35.0**	**+0.2**
TRKR				*e*Sg	**Sn**	**03 38 51.9**	**+1.1**
ARNR	**Ardon**	**1.37**	**269**	*e*PG	**Pn**	**03 38 38.2**	**+0.2**
ARNR				*e*S	**Sn**	**03 38 58.1**	**+1.9**
ARNR	**Ardon**	**1.37**	**269**	*e*Pg	**Pn**	**03 38 38.2**	**+0.2**
ARNR				*e*Sg	**Sn**	**03 38 58.1**	**+1.9**
LACR	**Lac**	**1.42**	**254**	*i* PG	**Pn**	**03 38 38.0**	**-0.8**
LACR				*i* S	**Sb**	**03 38 57.5**	**-0.2**
LACR	comp=Z,61nm,0.2s			pmax	pmax		
LACR	comp=N,531nm,0.4s			smax	smax		
GUDG	**Gudauri**	**1.45**	**239**	P	**Pn**	**03 38 39.8**	**+0.5**
GUDG				S	**Sn**	**03 38 58.6**	**+0.1**
GUDG	**Gudauri**	**1.45**	**239**	P	**Pn**	**03 38 39.8**	**+0.5**
GUDG				S	**Sn**	**03 38 58.6**	**+0.1**
PRTR	**Priterechnaya**	**1.46**	**292**	⇑*i*PG	**Pb**	**03 38 40.4**	**+0.3**
PRTR				*e*S	**Sg**	**03 39 01.6**	**+1.7**
PRTR	**Priterechnaya**	**1.46**	**292**	*i* Pg	**Pb**	**03 38 40.4**	**+0.3**
PRTR				*e*Sg	**Sg**	**03 39 01.6**	**+1.7**
URKR	**Urkarakh**	**1.52**	**134**	*e*PG	**Pb**	**03 38 42.0**	**+0.8**
URKR				*e*S	**Sn**	**03 39 01.2**	**+1.1**
URKR	**Urkarakh**	**1.52**	**134**	*e*Pg	**Pb**	**03 38 42.0**	**+0.8**
URKR				*e*Sg	**Sn**	**03 39 01.2**	**+1.1**
KORR	**Kora**	**1.54**	**265**	*e*PG	**Pn**	**03 38 40.2**	**-0.1**
KORR				*e*S	**Sg**	**03 39 01.8**	**-0.4**
KORR	comp=Z,22nm,0.2s			pmax	pmax		
KORR	comp=E,205nm,0.3s			smax	smax		
KORR	**Kora**	**1.54**	**265**	*e*Sg	**Sg**	**03 39 01.8**	**-0.4**
STDR	**Stavd-Durt**	**1.54**	**276**	⇑*i*PG	**Pb**	**03 38 41.7**	**+0.3**
STDR				*e*S	**Sg**	**03 39 03.7**	**+1.5**
STDR	**Stavd-Durt**	**1.54**	**276**	*i* Pg	**Pb**	**03 38 41.7**	**+0.3**
STDR				*e*Sg	**Sg**	**03 39 03.7**	**+1.5**
DUS	**Dusheti**	**1.56**	**224**	P	**Pn**	**03 38 41.6**	**+0.8**
DUS				S	**Sg**	**03 39 03.8**	**+0.7**
DUS	**Dusheti**	**1.56**	**224**	P	**Pn**	**03 38 41.6**	**+0.8**
DUS				S	**Sg**	**03 39 03.8**	**+0.7**
ZKTA	**Zakatala**	**1.62**	**168**	⇑P	**Pn**	**03 38 42.6**	**+1.1**
ZKTA				⇑S	**Sn**	**03 39 03.4**	**+0.8**
LSNR	**Lesken**	**1.70**	**273**	⇑*i*PN	**Pb**	**03 38 44.1**	**-0.2**
LSNR				*e*S	**Sg**	**03 39 08.2**	**+0.6**
ZEI	**Tsey**	**1.71**	**256**	*i* PN	**Pn**	**03 38 41.5**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,53nm,0.2s						
SEAG	**Tbilisi Sea**	**1.77**	**215**	P	**Pb**	**03 38 45.8**	**+0.4**
SEAG				S	**Sg**	**03 39 11.7**	**+1.9**
TBLG	**Delisi**	**1.83**	**216**	P	**Pn**	**03 38 45.8**	**+1.5**
TBLG				S	**Sb**	**03 39 10.1**	**+0.8**
TBLG	**Delisi**	**1.83**	**216**	P	**Pn**	**03 38 45.8**	**+1.5**
TBLG				S	**Sb**	**03 39 10.1**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.92**	**261**	⇑*i*PN	**Pn**	**03 38 45.8**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.92**	**261**	*i* Pn	**Pn**	**03 38 45.8**	**+0.1**
ONI	**Oni**	**2.09**	**253**	P	**Pn**	**03 38 48.6**	**+0.7**
ONI				S	**Sb**	**03 39 17.7**	**+0.9**
ONI	**Oni**	**2.09**	**253**	P	**Pn**	**03 38 48.6**	**+0.7**
ONI				S	**Sb**	**03 39 17.7**	**+0.9**
AKT	**Akhty**	**2.10**	**146**	*e*PN	**Pb**	**03 38 51.0**	**-0.1**
AKT				*e*S	**Sg**	**03 39 20.0**	**-0.3**
AKT	comp=Z,24nm,0.2s			pmax	pmax		
SEKA	**Sheki**	**2.16**	**159**	⇑Pn	**Pn**	**03 38 50.3**	**+1.3**
SEKA				⇑S	**Sn**	**03 39 18.2**	**+2.4**
SEKA	**Sheki**	**2.16**	**159**	Pn	**Pn**	**03 38 50.3**	**+1.3**
SEKA				S	**Sn**	**03 39 18.2**	**+2.4**
KZR	**Kazreti**	**2.25**	**216**	P	**Pb**	**03 38 52.9**	**-0.7**
KZR				S	**Sb**	**03 39 22.1**	**+0.6**
KZR	**Kazreti**	**2.25**	**216**	P	**Pb**	**03 38 52.9**	**-0.7**
KZR				S	**Sb**	**03 39 22.1**	**+0.6**
KBZ	**Khabaz**	**2.42**	**283**	PN	**Pn**	**03 38 50.3**	**-2.2**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**2.42**	**283**	Pn	**Pn**	**03 38 50.2**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=101,slow=16,SNR=33						
KBZ				Lg	Lg	03 39 25.7	
	comp=Z,3.4nm,0.3s,baz=282,slow=19,SNR=5.2						
QUBA	**Quba, Azerbaij**	**2.55**	**136**	⇓Pn	**Pb**	**03 38 58.5**	**-0.2**
QUBA				⇓S	**Sb**	**03 39 31.2**	**+1.1**
QUBA	**Quba, Azerbaij**	**2.55**	**136**	Pn	**Pb**	**03 38 58.5**	**-0.2**
GANJ	**Ganja**	**2.58**	**177**	⇑Pn	**Pn**	**03 38 55.0**	**+0.3**
GANJ				⇓S	**Sn**	**03 39 27.2**	**+1.0**
GANJ	**Ganja**	**2.58**	**177**	Pn	**Pn**	**03 38 55.0**	**+0.3**
GANJ				S	**Sn**	**03 39 27.2**	**+1.0**
KIV	**Kislovodsk**	**2.62**	**287**	*i* PN	**Pn**	**03 39 00.5**	**-2.0**
KIV				*e*		03 39 00.5	
KIV				*e*		03 39 04.6	
KIV				*e*		03 39 32.8	
KIV	comp=Z,4.0nm,0.5s			pmax	pmax		
KIV	comp=Z,4.0nm,0.5s			pmax	pmax		
KIV	**Kislovodsk**	**2.62**	**287**	*e*Pg	**Pg**	**03 39 04.6**	**+1.5**
AKH	**Akhalkalaki**	**2.68**	**228**	P	**Pb**	**03 38 59.7**	**-1.4**
AKH				S	**Sb**	**03 39 34.5**	**+0.4**
AKH	**Akhalkalaki**	**2.68**	**228**	P	**Pb**	**03 38 59.7**	**-1.4**
AKH				S	**Sb**	**03 39 34.5**	**+0.4**
IML	**Ismayilli**	**2.86**	**147**	⇑Pn	**Pn**	**03 38 59.8**	**+1.2**
IML	**Ismayilli**	**2.86**	**147**	Pn	**Pn**	**03 38 59.8**	**+1.2**
GOF	**Gofitskoye**	**2.89**	**310**	*e*PN	**Pg**	**03 39 09.3**	**+1.0**
GOF				*e*S	**Sn**	**03 39 34.7**	**+0.9**
GOF	comp=Z,20nm,1.0s			pmax	pmax		
GOF	comp=N,20nm,0.9s			smax	smax		
GOF	comp=E,20nm,0.9s			smax	smax		
GOF	**Gofitskoye**	**2.89**	**310**	*e*Sn	**Sn**	**03 39 34.7**	**+0.9**
SIZA	**Siyzn**	**2.96**	**136**	⇑Pn	**Pb**	**03 39 04.6**	**-1.2**
SIZA				⇓S	**Sb**	**03 39 45.2**	**+3.2**
SIZA	**Siyzn**	**2.96**	**136**	Pn	**Pb**	**03 39 04.6**	**-1.2**
PQL	**Pirkuli**	**3.04**	**142**	⇓Pn	**Pn**	**03 39 03.1**	**+2.0**
PQL				⇑S	**Sb**	**03 39 44.3**	**+0.1**
PQL	**Pirkuli**	**3.04**	**142**	Pn	**Pn**	**03 39 03.1**	**+2.0**
BRDA	**Brd**	**3.06**	**165**	⇓Pn	**Pn**	**03 39 01.7**	**+0.5**
BRDA				⇑S	**Sn**	**03 39 38.9**	**+1.1**
BRDA	**Brd**	**3.06**	**165**	Pn	**Pn**	**03 39 01.7**	**+0.5**
BRDA				S	**Sn**	**03 39 38.9**	**+1.1**
ATGJ	**Altiaghaj**	**3.14**	**138**	⇑Pn	**Pn**	**03 39

LRK				⇓Sn		**Sn**	**03 40 22.1**	**-0.7**	
LRK	**Lerik**	**4.87**	**159**	Pn		**Pn**	**03 39 26.6**	**+0.3**	
LRK				Sn		**Sn**	**03 40 22.1**	**-0.7**	
AKTO	**Aktyubinsk**	**10.85**	**44**	Pn		**Pn**	**03 40 47.0**	**-1.2**	
	comp=E,1.2nm,0.5s								
AKTO	**Aktyubinsk**	**10.85**	**44**	⇑Pn		**Pn**	**03 40 47.0**	**-1.2**	
	comp=E,1.2nm,0.5s								
AKTO				⇑Sn		Sn	03 42 37.6	-12	
	comp=E,1.6nm,0.5s								
AB31	**Akbulak array**	**11.28**	**53**	Pn		**Pn**	**03 40 53.2**	**-0.8**	
	comp=E,0.1nm,0.3s,SNR=7.8								
AB31	**Akbulak array**	**11.28**	**53**	Pn		**Pn**	**03 40 53.2**	**-0.8**	
	comp=E,0.1nm,0.3s,baz=245,slow=11,SNR=7.8								
AB31				⇑Sn		Sn	03 42 49.7	-10	
	comp=E,0.3nm,0.3s,baz=248,slow=22,SNR=4.8								
KIEV	**Kiev**	**13.76**	**309**	*i* P		**Pn**	**03 41 27.8**	**0.0**	
KIEV	**Kiev**	**13.76**	**309**	*i* P		**Pn**	**03 41 27.8**	**0.0**	
BRVK	**Borovoye**	**18.78**	**50**	*i* P		**P**	**03 42 31.1**	**-0.9**	
BRVK	**Borovoye**	**18.78**	**50**	*i* P		**P**	**03 42 31.1**	**-0.9**	
AAK	**Ala-Archa**	**20.72**	**82**	*i* P		**P**	**03 42 52.3**	**-1.2**	
AAK	**Ala-Archa**	**20.72**	**82**	*i* P		**P**	**03 42 52.3**	**-1.2**	
FINES	**FINESS Array B**	**21.82**	**334**	*e*P		**P**	**03 43 05.6**	**+0.7**	
FINES	**FINESS Array B**	**21.82**	**334**	P		**P**	**03 43 02.1**	**-2.8**	
	comp=E,1.9nm,0.6s,baz=140,slow=11,SNR=12								
KURK	**Kurchatov**	**23.24**	**60**	*e*P		**P**	**03 43 20.5**	**+0.4**	
KURK	**Kurchatov**	**23.24**	**60**	*e*P		**P**	**03 43 20.5**	**+0.4**	
TORD	**Torodi Ar. Bea**	**48.52**	**246**	P		P	03 46 52.9	-3.2	
	comp=E,0.1nm,0.3s,baz=44,slow=6.0,SNR=2.9								

*ISCJB **11** 03:52:31.1±0.9,31°.78S±0°.03×70°.4W±0°.1,h134km±9km, Error ellipse: s-maj=21.0km s-min=5.2km az=175.4*
*GUC **11** 03:52:31.1±0.7,31°.78S×70°.41W,h138km±4km,MD3.5, ML3.6*
*NEIC **11** 03:52:31.1,31°.78S×70°.41W,h138km,MD3.3(SJA), MD3.5(GUC),After GUC.*
NEIC Felt [III] at San Juan.

ISC 11 03:52:31.5±1.8,31°.77S±0°.03×70°.4W±0°.1,h132km±14km, n33,σ0s27/59,18C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.80**	**319**	⇓*i*P	**Pn**	**03 52 53.0**	**+0.1**
CMCH				*i* S	**Sn**	**03 53 09.2**	**+0.1**
CMCH				AML	AML	03 53 09.7	
	comp=N,5μm,0.1s						
CMCH	**Combarbala**	**0.80**	**319**	⇓*i*P	**Pn**	**03 52 53.0**	**+0.1**
CMCH				*i* S	**Sn**	**03 53 09.2**	**+0.1**
JACH	**Jahuel**	**0.92**	**191**	⇑*i*P	**Pn**	**03 52 53.9**	**-0.1**
JACH				*i* S	**Sn**	**03 53 11.0**	**-0.1**
JACH	**Jahuel**	**0.92**	**191**	⇑*i*P	**Pn**	**03 52 53.9**	**-0.1**
JACH				*i* S	**Sn**	**03 53 11.0**	**-0.1**
ROCH	**El Roble**	**1.30**	**204**	⇓*i*P	**Pn**	**03 52 57.8**	**-0.1**
ROCH				*i* S	**Sn**	**03 53 18.1**	**+0.2**
ROCH				AML	AML	03 53 19.9	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**1.39**	**190**	⇑*i*P	**Pn**	**03 52 58.3**	**-0.2**
PEL				*i* S	**Sn**	**03 53 19.2**	**0.0**
PEL				AML	AML	03 53 19.7	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**1.62**	**184**	⇓*i*P	**Pn**	**03 53 01.2**	**+0.1**
CLCH				*i* S	**Sn**	**03 53 24.1**	**+0.2**
IHA	**Instituto Hidr**	**1.64**	**220**	⇑*i*P	**Pn**	**03 53 01.2**	**0.0**
IHA				*e*S	**Sn**	**03 53 23.9**	**-0.1**
IHA	**Instituto Hidr**	**1.64**	**220**	⇑*i*P	**Pn**	**03 53 01.2**	**0.0**
IHA				*e*S	**Sn**	**03 53 23.9**	**-0.1**
TLL	**Tololo Astrono**	**1.64**	**347**	*e*P	**Pn**	**03 53 01.7**	**+0.1**
TLL				*e*S	**Sn**	**03 53 24.3**	**-0.3**
TLL				AML	AML	03 53 27.3	
	comp=E,636nm,0.6s						
TLL	**Tololo Astrono**	**1.64**	**347**	*e*P	**Pn**	**03 53 01.7**	**+0.1**
TLL				S	**Sn**	**03 53 24.3**	**-0.3**
STL	**Santa Lucia**	**1.67**	**187**	⇑*i*P	**Pn**	**03 53 01.9**	**+0.2**
STL				*i* S	**Sn**	**03 53 25.0**	**+0.2**
SAN	**Santiago**	**1.69**	**188**	*e*P	**Pn**	**03 53 01.9**	**0.0**
SAN				*i* S	**Sn**	**03 53 25.6**	**+0.4**
SAN				AML	AML	03 53 26.1	
	comp=N,257nm,0.3s						
SAN	**Santiago**	**1.69**	**188**	*e*P	**Pn**	**03 53 01.9**	**0.0**
SAN				*i* S	**Sn**	**03 53 25.6**	**+0.4**
ANTU	**Antumapu**	**1.80**	**187**	⇑*i*P	**Pn**	**03 53 03.3**	**+0.1**
ANTU				*i* S	**Sn**	**03 53 27.4**	**-0.2**
ANTU				AML	AML	03 53 28.5	
	comp=E,445nm,0.4s						
ANTU	**Antumapu**	**1.80**	**187**	⇑*i*P	**Pn**	**03 53 03.3**	**+0.1**
ANTU				*i* S	**Sn**	**03 53 27.4**	**-0.2**
PCH	**Pirque**	**1.84**	**183**	⇑*i*P	**Pn**	**03 53 03.8**	**+0.1**
PCH				*i* S	**Sn**	**03 53 28.9**	**+0.4**
PCH	**Pirque**	**1.84**	**183**	⇑*i*P	**Pn**	**03 53 03.8**	**+0.1**
PCH				*i* S	**Sn**	**03 53 28.9**	**+0.4**
SJCH	**San Jose de Ma**	**1.86**	**179**	*e*P	**Pn**	**03 53 03.4**	**-0.6**
SJCH				*i* S	**Sn**	**03 53 28.4**	**-0.5**
SJCH				AML	AML	03 53 29.5	
	comp=N,206nm,0.3s						
SJCH	**San Jose de Ma**	**1.86**	**179**	*e*P	**Pn**	**03 53 03.4**	**-0.6**
SJCH				*i* S	**Sn**	**03 53 28.4**	**-0.5**
TACH	**Talagante**	**1.93**	**194**	⇑*i*P	**Pn**	**03 53 04.4**	**-0.3**
TACH				*i* S	**Sn**	**03 53 29.8**	**-0.4**
TACH	**Talagante**	**1.93**	**194**	⇑*i*P	**Pn**	**03 53 04.4**	**-0.3**
TACH				*i* S	**Sn**	**03 53 29.8**	**-0.4**
LCCH	**Las Cruces**	**1.97**	**210**	*e*P	**Pn**	**03 53 05.5**	**+0.4**
LCCH	**Las Cruces**	**1.97**	**210**	*e*P	**Pn**	**03 53 05.5**	**+0.4**
LMEL	**Las Melosas**	**2.07**	**176**	⇑*i*P	**Pn**	**03 53 06.9**	**+0.3**
LMEL				*e*S	**Sn**	**03 53 33.9**	**+0.4**
LMEL				AML	AML	03 53 39.2	
	comp=N,326nm,0.3s						
LMEL	**Las Melosas**	**2.07**	**176**	⇑*i*P	**Pn**	**03 53 06.9**	**+0.3**
LMEL				*e*S	**Sn**	**03 53 33.9**	**+0.4**
CHCH	**Chadas Angostu**	**2.16**	**186**	⇑*i*P	**Pn**	**03 53 07.4**	**-0.2**
CHCH				*i* S	**Sn**	**03 53 35.3**	**0.0**
CHCH	**Chadas Angostu**	**2.16**	**186**	⇑*i*P	**Pn**	**03 53 07.4**	**-0.2**
CHCH				*i* S	**Sn**	**03 53 35.3**	**0.0**
LNV	**Longovilo**	**2.34**	**201**	⇑*i*P	**Pn**	**03 53 09.4**	**-0.3**
LNV	**Longovilo**	**2.34**	**201**	⇑*i*P	**Pn**	**03 53 09.4**	**-0.3**
CACH	**El Canelo**	**2.34**	**184**	⇓*i*P	**Pn**	**03 53 10.1**	**+0.2**
CACH	**El Canelo**	**2.34**	**184**	⇓*i*P	**Pn**	**03 53 10.1**	**+0.2**
LCO	**Las Campanas**	**2.77**	**354**	P	**Pn**	**03 53 15.5**	**+0.1**

IDC 11 03:57:47.1±4.5,17°.51S×175°.00W,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.7/20,mbtmp3.9/4,ML2.1/1,Error ellipse: s-maj=221.0km s-min=32.0km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.73**	**41**	Pn	Pn	03 58 59.9	0.0
	4.7nm,0.3s,baz=344,slow=20,SNR=5.3						
AFI				Sn	Sn	03 59 42.7	-13
	21nm,0.3s,baz=44,slow=23,SNR=9.7						
STKA	**Stephens Creek**	**41.68**	**242**	P	P	04 05 38.1	+0.4
	2.6nm,1.0s,baz=90,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**47.90**	**259**	P	P	04 06 27.2	-0.4
	0.2nm,0.4s,baz=98,slow=7.7,SNR=2.7						
ASAR	**Alice Springs**	**48.03**	**254**	P	P	04 06 28.3	-0.2
	1.3nm,0.6s,baz=90,slow=8.1,SNR=19						

*BYKL **11** 04:10:27.7±0.3,56°.14N×111°.72E,h24km±3km,FELT I=II MSK at Uoyan*
*MOS **11** 04:10:27.0±0.8,56°.18N×111°.64E,h15km,mb4.3/1,Error ellipse: s-maj=21.0km s-min=13.8km az=69.8*

ISC 11 04:10:27.0±0.7,56°.24N±0°.03×111°.69E±0°.02,h13km,n35, σ1s70/56,6C-8D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOA	**Uoyan**	**0.11**	**171**	⇓*i*PG	**Pg**	**04 10 31.6**	**+1.4**
YOA				*i*		04 10 35.0	
YOA				pmax	pmax		
	comp=Z,6μm,0.2s						
YOA				smax	smax		
	comp=N,34μm,0.4s						
YOA	**Uoyan**	**0.11**	**171**	⇓*i*Pg	**Pg**	**04 10 31.6**	**+1.4**
YOA				*i* Sg	**Sg**	**04 10 35.0**	**+2.6**
KMO	**Kumora**	**0.45**	**218**	*e*PG	**Pb**	**04 10 35.7**	**-1.1**
KMO				*e*		04 10 41.5	
KMO				pmax	pmax		
	comp=Z,449nm,0.1s						
KMO				smax	smax		
	comp=N,2μm,0.3s						
KMO	**Kumora**	**0.45**	**218**	⇓*i*Pg	**Pb**	**04 10 35.7**	**-1.1**
KMO				*e*Sg	**Sb**	**04 10 42.0**	**-1.5**
KMO				Pmax			
	comp=N,449nm,0.1s						
KMO				Smax			
	comp=N,2μm,0.5s						
SVKR	**Severomuysk**	**1.05**	**96**	*e*PG	**Pb**	**04 10 47.0**	**-0.1**
SVKR				*e*		04 11 00.9	
SVKR				pmax	pmax		
	comp=Z,298nm,0.4s						
SVKR				smax	smax		
	comp=N,2μm,0.6s						
SVKR	**Severomuysk**	**1.05**	**96**	⇓*i*Pg	**Pb**	**04 10 47.0**	**-0.1**
SVKR				*e*		04 10 50.6	
SVKR				*e*Sg	**Sb**	**04 11 01.0**	**+0.2**
SVKR				*e*Sb	**Sn**	**04 11 04.4**	**+2.4**
SVKR				Pmax			
	comp=N,299nm,0.4s						
SVKR				Smax			
	comp=N,2μm,0.7s						
NIZ	**Nizh Angarsk**	**1.30**	**250**	*e*PG	**Pg**	**04 10 51.4**	**-0.5**
NIZ				*e*		04 11 09.1	
NIZ				pmax	pmax		
	comp=Z,82nm,0.4s						
NIZ				smax	smax		
	comp=N,533nm,0.4s						
NIZ	**Nizh Angarsk**	**1.30**	**250**	⇓*i*Pg	**Pg**	**04 10 51.2**	**-0.7**
NIZ				*e*Pb	**Pb**	**04 10 52.5**	**+1.3**
NIZ				*e*		04 10 57.9	
NIZ				*e*Sg	**Sg**	**04 11 09.4**	**+0.7**
NIZ				Pmax			
	comp=N,108nm,0.4s						
NIZ				Smax			
	comp=N,532nm,0.4s						
UKT	**Uakit**	**1.33**	**124**	⇑*i*PG	**Pn**	**04 10 50.8**	**-0.5**
UKT				*e*		04 11 07.4	
UKT				pmax	pmax		
	comp=Z,59nm,0.2s						
UKT				smax	smax		
	comp=E,354nm,0.4s						
UKT	**Uakit**	**1.33**	**124**	⇓*i*Pg	**Pn**	**04 10 50.8**	**-0.5**
	comp=E,37nm,0.6s						
UKT				⇑*i*Pg	**Pn**	**04 10 50.8**	**-0.5**
	comp=E,37nm,0.6s						
UKT				⇑*i*Pg	**Pn**	**04 10 50.8**	**-0.5**
	comp=E,38nm,0.6s						
UKT				*e*Sg	**Sb**	**04 11 07.6**	**-1.2**
UKT				*e*Sb	**Sg**	**04 11 09.7**	**-0.1**
UKT				Pmax			
	comp=E,82nm,0.4s						
UKT				max			
	comp=E,391nm,0.8s						
YLYR	**Ulyunkhan**	**1.40**	**193**	⇑*i*PG	**Pn**	**04 10 51.6**	**-0.7**
YLYR				*e*		04 11 09.1	
YLYR				pmax	pmax		
	comp=Z,80nm,0.2s						
YLYR				smax	smax		
	comp=E,643nm,0.3s						
YLYR	**Ulyunkhan**	**1.40**	**193**	⇑*i*Pg	**Pn**	**04 10 51.6**	**-0.7**
YLYR				*e*Pb	**Pg**	**04 10 52.6**	**-1.4**
YLYR				*e*Sg	**Sn**	**04 11 09.4**	**-1.3**
YLYR				*e*Sb	**Sg**	**04 11 11.7**	**-0.5**
YLYR				Pmax			
	comp=E,80nm,0.2s						
YLYR				Smax			
	comp=E,642nm,0.3s						
BOD	**Bodaibo**	**2.02**	**38**	⇓*i*Pg	**Pb**	**04 11 03.7**	**+0.1**
BOD				*e*		04 11 29.1	
BOD				*e*Sg	**Sb**	**04 11 32.2**	**+3.6**
BOD				Pmax			
	comp=E,41nm,0.3s						
BOD				Smax			
	comp=E,243nm,0.3s						
SYVR	**Suvo**	**2.77**	**201**	*e*Pn	**Pn**	**04 11 10.6**	**-0.5**
SYVR				*e*Pg	**Pb**	**04 11 15.8**	**-0.5**
SYVR				*e*		04 11 16.8	
SYVR				*e*Sn	**Sn**	**04 11 43.1**	**-1.2**
SYVR				*i* Sg	**Sb**	**04 11 50.8**	**+0.7**
SYVR				max			
	comp=E,19nm,0.6s						
SYVR				Smax			
	comp=E,122nm,0.7s						
VTMR	**Vitim**	**3.24**	**8**	*e*Pn	**Pn**	**04 11 18.8**	**+1.4**
VTMR				*e*Pg	**Pg**	**04 11 28.5**	**-0.5**
VTMR				*e*		04 11 40.5	
VTMR				*e*Sg	**Sg**	**04 12 10.9**	**0.0**
MXMB	**Maximikha**	**3.44**	**211**	*e*Pg	**Pb**	**04 11 28.4**	**+0.6**
MXMB				*i* Sg	**Sg**	**04 12 12.6**	**-4.8**
MXMB				Pmax			
	comp=E,12nm,0.3s						
MXMB				Smax			
	comp=E,263nm,0.8s						
CRS	**Chara**	**3.70**	**77**	*e*PN	**Pg**	**04 11 35.9**	**-1.9**
CRS				*e*		04 12 22.7	
CRS				pmax	pmax		
	comp=Z,70nm,0.9s						
CRS				smax	smax		
	comp=E,87nm,1.0s						
CRS	**Chara**	**3.70**	**77**	*e*Pg	**Pb**	**04 11 34.1**	**+2.0**
CRS				*i* Sg	**Sg**	**04 12 22.9**	**-2.7**
CRS				Pmax			
	comp=E,51nm,1.0s						
CRS				Smax			
	comp=E,90nm,0.9s						
CIT	**Chita**	**4.37**	**165**	*e*	**Pn**	**04 11 33.8**	**+0.7**
CIT				*e*Sg	**Sb**	**04 12 39.6**	**+3.4**
CIT				Smax			
	comp=E,100nm,0.6s						
KHNR	**Khani**	**4.63**	**78**	*e*Pg	**Pb**	**04 11 50.1**	**+2.0**
KHNR				*e*		04 11 52.5	
KHNR				*e*		04 11 54.8	
KHNR				*e*Sg	**Sg**	**04 12 51.8**	**-3.8**
TRG	**Tyrgan**	**4.68**	**224**	*e*Pn	**Pn**	**04 11 37.7**	**+0.4**
TRG				*e*Pg	**Pb**	**04 11 49.7**	**+0.9**
TRG				*e*Sg	**Sb**	**04 12 48.3**	**+3.3**
TRG				*e*		04 12 52.9	
TRG				Pmax			
	comp=E,5.0nm,0.4s						
TRG				max			
	comp=E,70nm,0.4s						
UUDB	**Ulan-Yde**	**4.99**	**210**	*e*	Pn	04 11 45.5	+4.0
UUDB				*e*Pg	**Pb**	**04 11 55.7**	**+1.6**
UUDB				*e*		04 12 33.7	
UUDB				*i* Sg	Sg	04 12 59.7	-7.2
UUDB				Pmax			
	comp=E,19nm,0.7s						
UUDB				Smax			
	comp=E,78nm,1.3s						
TUP	**Tupik**	**5.06**	**108**	⇑*i*	**Pn**	**04 11 41.4**	**-1.1**
TUP				*e*Pg	**Pb**	**04 11 57.1**	**+1.8**
TUP				*e*		04 12 44.9	
TUP				*e*Sg	Sb	04 13 02.8	+6.9
TUP				Pmax			
	comp=E,5.0nm,0.5s						
TUP				Smax			
	comp=E,50nm,1.1s						
KAB	**Kabansk**	**5.14**	**217**	*e*Sg	Sg	04 13 04.6	-7.3
KAB				Smax			
	comp=E,224nm,0.7s						
LSTR	**Listvyanka**	**5.96**	**225**	*e*Sg	Sg	04 13 29.1	-9.0
KPC	**Khapcheranga**	**6.56**	**176**	*e*PG	Pb	04 12 23.9	+2.9
KPC				*e*		04 13 46.0	
KPC				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KPC				smax	smax		
	comp=E,76nm,1.2s						
KPC	**Khapcheranga**	**6.56**	**176**	*e*Pn	**Pn**	**04 12 04.4**	**+1.2**
KPC				*e*Pg	Pb	04 12 24.4	+3.4
KPC				*e*Sg	Sg	04 13 47.3	-10
KPC				Pmax			
	comp=E,2.0nm,0.5s						
KPC				Smax			
	comp=E,75nm,1.1s						
TLY	**Talaya**	**6.59**	**229**	*e*PN	**Pn**	**04 12 04.9**	**+1.4**
TLY				*e*		04 12 24.5	
TLY				*e*		04 13 47.8	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.2s						
TLY				smax	smax		
	comp=E,33nm,1.6s						
TLY	**Talaya**	**6.59**	**229**	*e*	Sn	04 13 29.7	+11
TLY				*e*Sg	Sg	04 13 47.8	-11
TLY				*e*		04 13 54.6	
TLY				Smax			
	comp=E,33nm,2.0s						
ARS	**Arshan**	**6.96**	**235**	*e*Pg	Pb	04 12 31.1	+3.4
ARS				*e*		04 12 37.0	
ARS				*e*		04 13 35.3	
ARS				*e*Sg	Sg	04 14 02.0	-8.2
ARS				*e*		04 14 07.3	
ARS				max			
	comp=E,8.0nm,0.4s						
ARS				max			
	comp=E,96nm,0.6s						
ZAK	**Zakamensk**	**7.73**	**224**	*e*Sg	Sg	04 14 25.9	-9.0
ZAK				Smax			
	comp=E,12nm,1.3s						
MOY	**Mondy**	**7.80**	**238**	*e*PN	**Pn**	**04 12 21.3**	**+1.1**
MOY				*e*		04 12 45.9	
MOY				*e*		04 14 27.2	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MOY				smax	smax		
	comp=E,35nm,1.2s						
MOY	**Mondy**	**7.80**	**238**	*e*Pn	**Pn**	**04 12 20.9**	**+0.7**
MOY				*e*		04 12 30.1	
MOY				*e*Pg	Pb	04 12 46.0	+4.0
MOY				*e*Sn	**Sn**	**04 13 45.1**	**-3.2**
MOY				*e*Sg	Sg	04 14 26.7	-10
MOY				Pmax			
	comp=E,2.0nm,0.7s						
MOY				Smax			
	comp=E,36nm,1.5s						
ORL	**Orlik**	**7.86**	**247**	*e*PN	**Pn**	**04 12 22.2**	**+1.1**
ORL				*e*		04 12 47.9	
ORL				*e*		04 14 27.7	
ORL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ORL				smax	smax		
	comp=N,26nm,0.6s						
ORL	**Orlik**	**7.86**	**247**	⇓*i*Pn	**Pn**	**04 12 22.4**	**+1.3**
ORL				Pg	Pb	04 12 48.6	+5.5
ORL				*e*		04 13 47.9	
ORL				*e*Sg	Sg	04 14 30.1	-9.0
ORL				Pmax			
	comp=N,2.0nm,0.7s						
ORL				Smax			
	comp=N,26nm,0.8s						

MAN 11 04:16:48,8°.48N×122°.93E,h35km,mb4.3,ML3.1,MS2.9, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.43**	**76**	⇓*e*P	Pn	04 17 00.5	+2.9
DCPH				*e*S	Sn	04 17 06.9	+2.6
PAGZ	**Pagadian**	**0.77**	**145**	*e*P	Pn	04 17 04.4	+2.1
PAGZ				*e*S	Sn	04 17 14.9	+2.2
IPIL	**Ipil**	**0.77**	**208**	*e*P	Pn	04 17 04.5	+2.1
IPIL				*e*S	Sn	04 17 14.9	+2.1

*IDC **11** 04:17:56.2±1.4,39°.33N×72°.46E,h0km,mb3.8/7, mb1 4.0/12,mb1mx3.7/32,mbtmp3.9/12,ML3.6/5,Error ellipse: s-maj=25.6km s-min=14.6km az=149.0*
*NNC **11** 04:17:59.0±2.8,38°.98N×72°.37E,h95km±39km,mb3.8, mpv3.7,Error ellipse: s-maj=24.3km s-min=11.9km az=10.0*

ISC 11 04:17:57.8±1.4,39°.0N±0°.1×72°.27E±0°.08,h31km,n32, σ1s36/34,mb3.6/7,5C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.32**	**19**	P	**Pn**	**04 18 48.2**	**+0.2**
	SNR=51						
UCH	**Uchtor**	**3.66**	**27**	P	**Pn**	**04 18 52.2**	**-0.5**
	SNR=14						
KZA	**Kyzart**	**3.83**	**35**	P	**Pn**	**04 18 54.6**	**-0.5**
	SNR=9.7						
EKS2	**Erkin-Say**	**3.84**	**17**	P	**Pn**	**04 18 54.9**	**-0.1**
	SNR=24						
AAK	**Ala-Archa**	**4.01**	**24**	P	**Pn**	**04 18 57.5**	**+0.2**
	SNR=68						
AAK	**Ala-Archa**	**4.01**	**24**	Pn	**Pn**	**04 18 57.5**	**+0.2**
	8.9nm,0.3s,baz=189,slow=6.7,SNR=177						
AAK				Sn	**Sn**	**04 19 43.9**	**+0.5**
	3.2nm,0.3s,baz=328,slow=18,SNR=9.2						
KBK	**Karagaybulak**	**4.19**	**28**	P	**Pn**	**04 18 59.9**	**+0.1**
	SNR=20						
KK31	**Karatay Array**	**4.32**	**343**	P	**Pn**	**04 19 03.3**	**+0.1**
	4.2nm,0.3s,baz=153,slow=12,SNR=171						
KK31				⇑S	**Sn**	**04 19 53.5**	**+2.7**
	14nm,0.5s,baz=151,slow=23,SNR=5.1						
CHMS	**Chumysh**	**4.42**	**24**	P	**Pn**	**04 19 03.0**	**+0.1**
	SNR=7.8						
ULHL	**Ulahol**	**4.44**	**42**	P	**Pn**	**04 19 02.7**	**-0.5**
	SNR=8.7						
USP	**Ospenovka**	**4.59**	**21**	P	**Pn**	**04 19 05.5**	**+0.3**
	SNR=25						
TKM2	**Tokmak 2**	**4.67**	**32**	P	**Pn**	**04 19 06.0**	**-0.3**
	SNR=19						
TKM2	**Tokmak 2**	**4.67**	**32**	⇑P	**Pn**	**04 19 06.0**	**-0.3**
	20nm,1.1s						
TKM2				⇓S	**Sn**	**04 20 00.4**	**+0.9**
	42nm,1.4s						
MK31	**Makanchi Array**	**10.71**	**40**	⇑P	**Pn**	**04 20 28.5**	**-0.6**
	5.2nm,1.1s,baz=222,slow=14,SNR=10						
MKAR	**Makanchi Array**	**10.71**	**40**	Pn	**Pn**	**04 20 28.7**	**-0.3**
	0.2nm,0.3s,baz=222,slow=14,SNR=12						
KURBB	**Kurchatov Arra**	**12.45**	**19**	Pn	Pn	04 20 44.2	-8.4
	0.2nm,0.3s,baz=210,slow=12,SNR=3.8						
KURBB				Lg	Lg	04 24 16.3	
	0.2nm,0.3s,baz=200,slow=29,SNR=4.4						
AB31	**Akbulak array**	**13.54**	**323**	⇑P	**Pn**	**04 21 07.7**	**+0.1**
	5.2nm,0.7s						
AB31				⇓S	**Sn**	**04 23 34.1**	**-2.7**
	2.3nm,0.8s,baz=133,slow=26,SNR=3.9						
VOSK	**Vostochnaya**	**13.77**	**357**	⇓P	**Pn**	**04 21 10.7**	**0.0**
	1.8nm,0.8s						
BVA0	**Borovoye Array**	**14.10**	**355**	⇓P	**Pn**	**04 21 15.6**	**+0.4**
	3.3nm,0.6s,baz=159,slow=8.9,SNR=8.4						
BVAR	**Borovoye Array**	**14.10**	**355**	Pn	Pn	04 21 10.9	-4.4
	0.1nm,0.3s,baz=172,slow=14,SNR=4.6						
BRVK	**Borovoye**	**14.14**	**355**	⇑P	**Pn**	**04 21 15.9**	**+0.1**
	7.6nm,0.9s						
AKTO	**Aktyubinsk**	**15.25**	**323**	Pn	**Pn**	**04 21 29.0**	**-1.8**
	0.3nm,0.3s,baz=130,slow=14,SNR=13						
AKTO	**Aktyubinsk**	**15.25**	**323**	⇓P	**Pn**	**04 21 30.6**	**-0.2**
	21nm,0.7s						
AKTO				⇓S	**Sn**	**04 24 16.2**	**-2.5**
	3.2nm,1.1s						
ZALV	**Zalesovo Beam**	**17.24**	**26**	Pn	**Pn**	**04 21 52.0**	**-4.0**
	0.7nm,0.3s,baz=225,slow=9.9,SNR=28						
SONM	**Songino Array**	**26.14**	**59**	P	**P**	**04 23 29.3**	**+0.1**
	1.0nm,0.5s,baz=266,slow=9.1,SNR=12						
FINES	**FINESS Array B**	**36.03**	**324**	P	**P**	**04 24 55.8**	**-0.1**
	1.7nm,0.7s,baz=159,slow=5.9,SNR=6.0						
ARCES	**ARCESS Array B**	**39.26**	**336**	P	**P**	**04 25 22.4**	**-0.7**
	1.2nm,0.8s,baz=76,slow=8.5,SNR=5.8						
NB2	**NORSAR Subarra**	**43.03**	**321

Ms4.9/17,Ms7 4.5/17

ISCJB ***11*** *04:49:07.6±0.2, 10˚.03S±0˚.03×33˚.80E±0˚.04, h10km, mb4.9/120,MS4.3/27, Error ellipse: s-maj=5.4km s-min=3.7km az=17.4*

IDC ***11*** *04:49:08.2±0.5, 9˚.94S×33˚.87E, h0km, mb4.6/19, mb1 4.7/22, mb1mx4.6/29, mbtmp4.6/22, ML5.0/2, MS4.2/23, Ms1 4.2/23, ms1mx4.0/40, Error ellipse: s-maj=17.5km s-min=14.2km az=91.0*

MOS ***11*** *04:49:08.0±1.0, 9˚.95S×33˚.89E, h10km, mb5.2/53, Error ellipse: s-maj=9.1km s-min=4.7km az=89.7*

NEIC ***11*** *04:49:09.4±0.2, 10˚.09S×33˚.86E, h10km, mb5.0/49, Error ellipse: s-maj=6.1km s-min=4.2km az=100.0*

GCMT ***11*** *04:49:10.9±0.3, 10˚.08S×33˚.94E, h17km±1km, MW4.9, Moment Tensor Solution. s28,c33; s61,c84; Moment tensor: Scale 10^16Nm; Mrr-2.89±.18; Mθθ1.11±.11; Mϕϕ1.78±.13; Mrθ0.01±.27; Mθϕ-1.01±.07; Mϕr0.41±.33; Best double couple: M0 2.70000×10^16 NP1:ϕs149.00000°, δ49.00000°, λ-84.00000°. NP2:ϕs320.00000°, δ42.00000°, λ-96.00000°. Principal axes: T 2.5300, Plg3.0000°, Azm235.0000°; N 0.4000, Plg4.0000°, Azm325.0000°; P -2.9300, Plg85.0000°, Azm105.0000°; Data Used: II IU IC CU G CN.*

DJA ***11*** *04:49:12.0±0.4, 10˚.5S±5˚×3˚.3E±˚, h10km, M4.9/8, mb4.9/8, mB5.7/2, Mw(mB)5.2/2*

ISC 11 04:49:09.5±0.4, 10.17S±0˚.04×33.84E±0˚.04, h14km±2km, h14km:pP-P, n381, σ1§40/412, mb5.0/120, MS4.3/28, 20C-8D, Malawi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**4.38**	**26**	*i* P			**Pn**	**04 50 12.9**	**-2.9**
DODT				*i* S			**Sb**	**04 51 18.1**	**-1.2**
LSZ	**Lusaka** SNR=34	**7.49**	**227**	Pn			**Pn**	**04 51 00.9**	**+2.3**
LSZ	**Lusaka** 214nm,0.6s	**7.49**	**227**	*e*Pn			**Pn**	**04 51 00.2**	**+1.7**
LSZ				*e*Sn			**Sn**	**04 52 24.3**	**+0.9**
LSZ				*e*Sg			**Sg**	**04 53 08.6**	**-1.5**
LSZ	**Lusaka**	**7.49**	**227**	Pn			**Pn**	**04 51 00.6**	**+2.0**
LSZ				Sn			**Sn**	**04 52 23.0**	**-0.5**
LSZ				Lg			Lg	04 53 06.1	
MAUS	**Longido**	**7.91**	**21**	*i* P			**Pn**	**04 51 02.7**	**-1.6**
MAUS				*i* S			**Sb**	**04 53 04.6**	**+3.8**
KMBO	**Kilima Mbogo** SNR=59	**9.60**	**21**	P			Pn	04 51 24.1	-3.5
KMBO	**Kilima Mbogo**	**9.60**	**21**	*e*Pn			Pn	04 51 22.9	-4.8
KMBO				*e*Sn			Sn	04 53 02.5	-13
KMBO				*e*Lg			Lg	04 54 04.2	
KMBO	**Kilima Mbogo** 13nm,0.3s,baz=198,slow=14,SNR=82	**9.60**	**21**	Pn			Pn	04 51 22.8	-4.8
KMBO				Sn			Sn	04 53 04.8	-11
	25nm,0.3s,baz=112,slow=22,SNR=15								
KMBO				Lg			Lg	04 53 56.6	
	18nm,0.3s,baz=62,slow=23,SNR=5.6								
KMBO				LR			LR	04 55 09.0	
	comp=Z,1μm,21.4s,baz=275,slow=38								
MBAR	**Mbarara**	**9.99**	**342**	Pn			Pn	04 51 27.4	-5.5
MBAR				Sn			Sn	04 53 17.6	-7.4
MBAR				Lg			Lg	04 54 09.7	
MBAR	**Mbarara** 561nm,0.6s,SNR=45	**9.99**	**342**	Pn			Pn	04 51 28.4	-4.5
MBAR	**Mbarara** 21nm,0.3s,baz=159,slow=16,SNR=37	**9.99**	**342**	Pn			Pn	04 51 27.4	-5.5
MBAR				Sn			Sn	04 53 17.6	-7.4
	43nm,0.3s,baz=134,slow=22,SNR=5.1								
MBAR				Lg			Lg	04 54 09.7	
	66nm,0.3s,baz=86,slow=22,SNR=5.2								
MBAR				LR			LR	04 55 26.4	
	comp=Z,286nm,19.7s,baz=162,slow=39								
MSNA	**Messina**	**12.65**	**196**	*e*P			**Pn**	**04 52 10.2**	**+1.0**
MSNA					AMB	AMB	AMB	04 52 11.0	
	comp=Z,109nm,0.9s								
MSNA	**Messina**	**12.65**	**196**	P			**Pn**	**04 52 10.2**	**+1.0**
	comp=Z,109nm,0.9s								
OPO	**Ambohidratompo**	**15.38**	**124**	Pn			**Pn**	**04 52 46.3**	**-0.1**
OPO				Sn			**Sn**	**04 55 32.1**	**-4.8**
OPO	**Ambohidratompo**	**15.38**	**124**	Pn			**Pn**	**04 52 46.3**	**-0.1**
	comp=Z,5.7nm,0.3s,baz=293,slow=12,SNR=39								
OPO				Sn			**Sn**	**04 55 32.1**	**-4.8**
	comp=Z,1.6nm,0.3s,baz=198,slow=22,SNR=6.2								
OPO				LR			LR	04 58 39.8	
	comp=Z,375nm,19.6s,baz=302,slow=37								
ABPO	**Ambohimpanom**	**15.65**	**126**	Pn			**Pn**	**04 52 50.8**	**+0.9**
	comp=Z,460nm,1.4s,SNR=8.7								
ABPO	**Ambohimpanom**	**15.65**	**126**	*e*P			**Pn**	**04 52 50.2**	**+0.3**
ABPO				*e*				04 55 42.5	
ABPO					pmax		pmax		
	comp=Z,166nm,1.1s								
ABPO	**Ambohimpanom**	**15.65**	**126**	*e*Pn			**Pn**	**04 52 50.2**	**+0.3**
	comp=Z,166nm,1.1s								
ABPO				*e*P			**pP**	**04 52 57.4**	**-0.6**
ABPO				*e*Sn			**Sn**	**04 55 42.5**	**-0.9**
RUDU	**RUNDU**	**15.70**	**239**	*e*P			**Pn**	**04 52 49.0**	**-1.6**
RUDU					AMB	AMB	AMB	04 53 12.2	
	comp=Z,89nm,1.3s								
RUDU	**RUNDU**	**15.70**	**239**	P			**Pn**	**04 52 49.0**	**-1.6**
	comp=Z,89nm,1.3s								
SLR	**Silverton**	**16.35**	**198**	*e*P			**Pn**	**04 52 58.6**	**-0.3**
SLR					AMB	AMB	AMB	04 53 09.6	
	comp=Z,91nm,0.9s								
SLR	**Silverton**	**16.35**	**198**	P			**Pn**	**04 52 58.6**	**-0.3**
SLR					pmax		pmax		
	comp=Z,91nm,0.9s								
SLR	**Silverton**	**16.35**	**198**	P			**Pn**	**04 52 58.6**	**-0.3**
	comp=Z,91nm,0.9s								
LBTB	**Lobatse**	**16.71**	**207**	*e*P			**Pn**	**04 53 00.7**	**-2.8**
LBTB					AMB		AMB	04 53 09.0	
	comp=Z,103nm,1.0s								
LBTB	**Lobatse**	**16.71**	**207**	*e*Pn			**Pn**	**04 53 00.1**	**-3.4**
	comp=Z,25nm,1.5s								
LBTB				*e*Sn			**Sn**	**04 56 07.3**	**-1.7**
LBTB				*e*Lg			Lg	04 57 46.6	
LBTB	**Lobatse**	**16.71**	**207**	Pn			**Pn**	**04 53 00.4**	**-3.1**
	comp=Z,9.1nm,0.3s,baz=36,slow=14,SNR=55								
LBTB				Sn			**Sn**	**04 56 05.2**	**-3.8**
	comp=Z,5.0nm,0.3s,baz=305,slow=14,SNR=3.7								
LBTB				Lg			Lg	04 57 49.7	
	comp=Z,4.0nm,0.3s,baz=320,slow=16,SNR=5.5								
LBTB				LR			LR	04 59 46.4	
	comp=Z,900nm,20.0s,baz=44,slow=38								
OBSV	**Observatory**	**16.84**	**198**	*e*P			**Pn**	**04 53 06.0**	**+0.8**
OBSV					AMB		AMB	04 53 15.0	
	comp=Z,33nm,0.7s								
ERPM	**east rand prop**	**16.94**	**197**	*e*P			**Pn**	**04 53 03.5**	**-2.8**
ERPM					AMB		AMB	04 53 24.8	
	comp=Z,35nm,1.1s								
ERPM	**east rand prop**	**16.94**	**197**	P			**Pn**	**04 53 03.5**	**-2.8**
	comp=Z,35nm,1.1s								
WDLM	**Western Deep L**	**17.27**	**200**	*e*P			**P**	**04 53 14.0**	**+2.1**
WDLM					AMB		AMB	04 53 29.2	
	comp=Z,13nm,0.6s								
TSUM	**Tsumeb**	**18.09**	**238**	*e*P			**Pn**	**04 53 19.2**	**-1.5**
TSUM	**Tsumeb**	**18.09**	**238**	*e*Pn			**Pn**	**04 53 19.6**	**-1.1**
	comp=Z,78nm,0.8s								
TSUM				*e*Sn			Sn	04 56 31.0	-12
TSUM				Lg			Lg	04 58 41.0	
TSUM	**Tsumeb**	**18.09**	**238**	P			**Pn**	**04 53 19.2**	**-1.5**
	comp=Z,5.4nm,0.3s,baz=36,slow=12,SNR=56								
TSUM				S			Sn	04 56 30.8	-12
	comp=Z,1.3nm,0.3s,baz=134,slow=19,SNR=7.4								
TSUM				Lg			Lg	04 58 41.0	
	comp=Z,2.4nm,0.3s,baz=273,slow=21,SNR=3.4								
TSUM				LR			LR	05 00 43.2	
	comp=Z,2μm,18.3s,baz=31,slow=38								
SWZ	**Schweizer**	**18.73**	**204**	*e*P			**P**	**04 53 25.2**	**-2.9**
SWZ					AMB		AMB	04 53 37.6	
	comp=Z,82nm,1.4s								
SWZ	**Schweizer**	**18.73**	**204**	P			**P**	**04 53 25.2**	**-2.9**
	comp=Z,82nm,1.4s								
BOSA	**Boshof**	**20.04**	**203**	*e*P			**P**	**04 53 41.9**	**-0.5**
BOSA					AMB		AMB	04 53 51.4	
	comp=Z,40nm,1.5s								
BOSA	**Boshof**	**20.04**	**203**	*e*P			**P**	**04 53 43.1**	**+0.8**
	comp=Z,2.6nm,0.6s								
BOSA				*e*S			**S**	**04 57 21.6**	**-5.8**
BOSA				*e*Lg			Lg	04 59 30.2	
BOSA	**Boshof**	**20.04**	**203**	P			**P**	**04 53 42.1**	**-0.2**
	comp=Z,20nm,0.6s,baz=26,slow=12,SNR=28								
BOSA				S			S	04 57 20.7	-6.7
	comp=Z,23nm,0.7s,baz=152,slow=9.6,SNR=4.5								
BOSA				Lg			Lg	04 59 34.0	
	comp=Z,136nm,0.8s,baz=123,slow=20,SNR=4.1								
BOSA				LR			LR	05 01 47.3	
	comp=Z,725nm,20.3s,baz=28,slow=38								
WIN	**Windhoek**	**20.22**	**230**	*e*P			Pn	04 53 46.5	+0.1
WIN					AMB		AMB	04 53 48.6	
	comp=Z,58nm,0.8s								
WIN	**Windhoek**	**20.22**	**230**	P			Pn	04 53 46.5	+0.1
WIN					pmax		pmax		
	comp=Z,59nm,0.8s								
WIN	**Windhoek**	**20.22**	**230**	P			Pn	04 53 46.5	+0.1
	comp=Z,58nm,0.8s								
KSD	**Kokstad**	**20.68**	**191**	*e*P			Pn	04 53 57.8	+6.0
KSD					AMB		AMB	04 53 59.4	
	comp=Z,20nm,2.5s								
KSD	**Kokstad**	**20.68**	**191**	P			Pn	04 53 57.8	+6.0
	comp=Z,60nm,2.7s								
UPI	**Upington**	**21.61**	**211**	⇑*i* P			**P**	**04 54 00.1**	**+0.7**
UPI					AMB		AMB	04 54 01.2	
	comp=Z,99nm,0.9s								
UPI	**Upington**	**21.61**	**211**	P			**P**	**04 54 00.1**	**+0.7**
	comp=Z,99nm,0.9s								
HVD	**Gariep Dam**	**21.77**	**200**	*e*P			**P**	**04 54 02.6**	**+1.6**
HVD					AMB		AMB	04 54 09.0	
	comp=Z,91nm,1.2s								
HVD	**Gariep Dam**	**21.77**	**200**	P			**P**	**04 54 02.6**	**+1.6**
HVD					pmax		pmax		
	comp=Z,91nm,1.2s								
HVD	**Gariep Dam**	**21.77**	**200**	P			**P**	**04 54 02.6**	**+1.6**
	comp=Z,91nm,1.2s								
MSKU	**Masuku**	**21.81**	**292**	Lg			Lg	05 00 20.2	
	comp=Z,0.3nm,0.4s,baz=48,slow=15,SNR=4.7								
SOE	**Somerset East**	**23.70**	**198**	*e*P			**P**	**04 54 22.8**	**+1.8**
SOE					AMB		AMB	04 54 46.3	
	comp=Z,49nm,0.8s								
SOE	**Somerset East**	**23.70**	**198**	P			**P**	**04 54 22.8**	**+1.8**
	comp=Z,49nm,0.8s								
GRM	**Grahamstown**	**24.00**	**195**	*e*P			**P**	**04 54 25.1**	**+1.2**
GRM					AMB		AMB	04 54 47.3	
	comp=Z,30nm,1.2s								
GRM	**Grahamstown**	**24.00**	**195**	P			**P**	**04 54 25.1**	**+1.2**
GRM					pmax		pmax		
	comp=Z,30nm,1.2s								
GRM	**Grahamstown**	**24.00**	**195**	P			**P**	**04 54 25.1**	**+1.2**
	comp=Z,30nm,1.2s								
KOMG	**Komaggas**	**24.79**	**216**	*e*P			**P**	**04 54 32.0**	**+0.9**
KOMG					AMB		AMB	04 54 39.9	
	comp=Z,43nm,1.1s								
KOMG	**Komaggas**	**24.79**	**216**	P			**P**	**04 54 32.0**	**+0.9**
	comp=Z,43nm,1.1s								
CVNA	**Calvinia**	**24.90**	**210**	*e*P			**P**	**04 54 35.5**	**+3.3**
CVNA					AMB		AMB	04 54 41.0	
	comp=Z,74nm,1.3s								
CVNA	**Calvinia**	**24.90**	**210**	P			**P**	**04 54 35.5**	**+3.3**
	comp=Z,74nm,1.3s								
SUR	**Sutherland**	**25.17**	**207**	*e*P			**P**	**04 54 36.3**	**+1.6**
SUR					AMB		AMB	04 55 22.4	
	comp=Z,38nm,4.5s								
SUR	**Sutherland**	**25.17**	**207**	*e*P			**P**	**04 54 38.3**	**+3.6**
	comp=Z,49nm,1.1s								
SUR				*e*Lg			Lg	05 02 10.0	
SUR	**Sutherland**	**25.17**	**207**	P			**P**	**04 54 38.0**	**+3.3**
	comp=Z,14nm,0.8s,baz=23,slow=7.3,SNR=5.0								
SUR				Lg			Lg	05 02 14.7	
	comp=Z,153nm,1.0s,baz=140,slow=19,SNR=5.6								
SUR				LR			LR	05 04 46.2	
	comp=Z,424nm,19.5s,baz=32,slow=37								
BUFB	**Buffelsbos**	**25.28**	**198**	*e*P			**PnPn**	**04 55 06.3**	**-3.9**
BUFB	**Buffelsbos**	**25.28**	**198**	P			**PnPn**	**04 55 06.3**	**-3.9**
ELIM	**Elim**	**27.52**	**206**	*e*P			P	04 55 01.7	+6.0
ELIM					AMB		AMB	04 55 02.4	
	comp=Z,49nm,1.7s								
ELIM	**Elim**	**27.52**	**206**	P			P	04 55 01.7	+6.0
	comp=Z,49nm,1.7s								
TOA0	**Torodi Ar. Sit**	**39.43**	**305**	*e*P			**P**	**04 56 38.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**39.43**	**305**	P			**P**	**04 56 38.2**	**-1.3**
TORD					PP		**PnPn**	**04 58 12.7**	**-0.3**
TORD					PcP		**PcP**	**04 58 48.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**39.43**	**305**	P			**P**	**04 56 38.2**	**-1.3**
	comp=Z,4.8nm,1.1s,baz=112,slow=7.0,SNR=17								
TORD					PP		**PnPn**	**04 58 12.7**	**-0.3**
	comp=Z,2.7nm,1.0s,baz=109,slow=7.3,SNR=5.0								
TORD					PcP		**PcP**	**04 58 48.1**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=123,slow=5.3,SNR=3.7								
TORD					LR		LR	05 12 06.5	
	comp=Z,311nm,18.3s,baz=55,slow=35								
BSY	**Bisya** SNR=7.2	**39.92**	**35**	P			**P**	**04 56 43.9**	**+0.5**
HOQ	**Hoqain** SNR=5.0	**40.65**	**34**	P			**P**	**04 56 49.9**	**+0.5**
SMDO	**Samad** SNR=6.9	**40.65**	**35**	P			**P**	**04 56 49.8**	**+0.2**
WBK	**Wadi Bani Khal** SNR=6.4	**40.84**	**37**	P			**P**	**04 56 52.9**	**+1.9**
KIC	**Kosan Boka**	**41.79**	**292**	*e*P			**P**	**04 56 59.0**	**0.0**
	comp=Z,136nm,1.6s								
LIC	**Lamto**	**42.00**	**291**	⇑*i* P			**P**	**04 56 59.7**	**-1.0**
	comp=Z,33nm,1.2s,baz=93								
LIC				*e*R					
	comp=Z,559nm,23.0s								
LIC	**Lamto**	**42.00**	**291**	*e*P			**P**	**04 56 59.6**	**-1.1**
	comp=Z,50nm,1.5s								
LIC	**Lamto**	**42.00**	**291**	⇑*i* P			**P**	**04 56 59.7**	**-1.0**
	comp=Z,33nm,1.2s								
DBIC	**Dimbokro**	**42.01**	**292**	*e*P			**P**	**04 57 00.7**	**-0.2**
	comp=Z,25nm,1.1s								
DBIC	**Dimbokro**	**42.01**	**292**	P			**P**	**04 57 00.6**	**-0.2**
	comp=Z,8.4nm,0.9s,baz=73,slow=7.0,SNR=7.1								
DBIC				LR			LR	05 13 23.5	
	comp=Z,324nm,20.8s,baz=95,slow=35								
TIC	**Toumodi**	**42.15**	**292**	*e*P			**P**	**04 57 01.9**	**-0.1**
	comp=Z,39nm,0.8s								
TAM	**Tamanrasset**	**42.92**	**320**	*e*P			**P**	**04 57 09.0**	**+0.7**
TAM					pmax		pmax		
	comp=Z,5.0nm,1.2s								
TAM	**Tamanrasset**	**42.92**	**320**	*e*P			**P**	**04 57 08.9**	**+0.7**
	comp=Z,4.6nm,1.2s								
GVD	**Gavdhos**	**45.71**	**349**	*e*P			**P**	**04 57 27.9**	**-2.2**
	comp=Z,195nm,1.0s								
APE	**Apeiranthos**	**47.63**	**351**	⇓*e*P			**P**	**04 57 44.6**	**-0.7**
APE					pmax		pmax		
	comp=Z,73nm,2.3s								
BR131	**Keskin Array S**	**49.64**	**360**	*e*P			**P**	**04 58 00.8**	**0.0**
	comp=Z,2.1nm,0.7s								
BRTR	**Keskin Array B**	**49.64**	**360**	P			**P**	**04 58 01.2**	**+0.4**
BRTR	**Keskin Array B**	**49.64**	**360**	P			**P**	**04 58 01.2**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=180,slow=9.8,SNR=20								
ZEI	**Tsey**	**53.50**	**9**	*e*P			**P**	**04 58 29.9**	**+0.2**
ZEI					pmax		pmax		
	comp=Z,19nm,1.5s								
KIV	**Kislovodsk**	**54.46**	**8**	⇑*e*P			**P**	**04 58 35.8**	**-0.8**
KIV					*PP		**pP**	**04 58 39.0**	**-2.1**
KIV					pmax		pmax		
	comp=Z,10.0nm,1.2s								
KIV					MLR		MLR		
	comp=Z,200nm,15.0s								
KBL	**Kabul**	**55.59**	**35**	*e*P			**P**	**04 58 43.5**	**-1.6**
KBL					pmax		pmax		
	comp=Z,2.0nm,0.5s								
KBL	**Kabul**	**55.59**	**35**	*e*P			**P**	**04 58 43.5**	**-1.6**
	comp=Z,1.9nm,0.5s								
PGF	**Pioggiola**	**57.18**	**338**	*e*P			**P**	**04 58 56.4**	**+0.3**
	comp=Z,47nm,1.2s								
PGF	**Pioggiola**	**57.18**	**338**	*e*P			**P**	**04 58 56.4**	**+0.3**
PGF					pmax		pmax		
	comp=Z,47nm,1.2s								
PGF	**Pioggiola**	**57.18**	**338**	*e*P			**P**	**04 58 56.4**	**+0.3**
	comp=Z,47nm,1.2s								
BUR08	**Bucovina Ar. S**	**58.07**	**353**	*e*P			**P**	**04 59 02.7**	**+0.4**
LMR	**La Mourre**	**58.79**	**337**	*e*P			**P**	**04 59 08.2**	**+0.9**
LMR	**La Mourre**	**58.79**	**337**	*e*P			**P**	**04 59 08.2**	**+0.9**
LMR	**La Mourre**	**58.79**	**337**	*e*P			**P**	**04 59 08.2**	**+0.9**
SYO	**Syowa Base**	**58.90**	**178**	⇑*e*P			**P**	**04 59 10.0**	**+2.4**
SOKA	**Soboth**	**59.04**	**345**	⇑*i* P			**P**	**04 59 09.8**	**+0.7**
	comp=Z,18nm,1.4s								
PSZ	**Piszkesteto**	**59.14**	**349**	*e*P			**P**	**04 59 09.2**	**-0.6**
PSZ					pmax		pmax		
	comp=Z,17nm,1.0s								
PSZ	**Piszkesteto**	**59.14**	**349**	*e*P			**P**	**04 59 09.2**	**-0.6**
	comp=Z,17nm,1.0s								
UZH	**Uzhgorod**	**59.43**	**351**	*e*P			**P**	**04 59 11.9**	**+0.3**
ARSA	**Arzberg**	**59.45**	**346**	⇑*i* P			**P**	**04 59 11.5**	**-0.3**
	comp=Z,17nm,1.6s								
SMRF	**Simiane la Rot**	**59.69**	**337**	*e*P			**P**	**04 59 15.5**	**+1.9**
	comp=Z,45nm,1.3s								
SMRF	**Simiane la Rot**	**59.69**	**337**	*e*P			**P**	**04 59 15.5**	**+1.9**
	comp=Z,45nm,1.3s								
KOLS	**Kolonicke sedl**	**59.72**	**351**	*e*P			**P**	**04 59 14.3**	**+0.6**
KOLS					pmax		pmax		
	comp=Z,18nm,1.8s								
KOLS	**Kolonicke sedl**	**59.72**	**351**	*e*P			**P**	**04 59 14.2**	**+0.6**
KOLS				*e*PP			**PP**	**05 01 27.8**	**+2.1**
CRVS	**Cervenica-Dubn**	**59.82**	**351**	*e*P			**P**	**04 59 14.5**	**+0.2**
CRVS					pmax		pmax		
	comp=Z,23nm,1.3s								
CRVS	**Cervenica-Dubn**	**59.82**	**351**	*e*P			**P**	**04 59 14.5**	**+0.2**
CRVS				*e*PP			**PP**	**05 01 27.9**	**+1.3**
MBDF	**Montbardon**	**59.88**	**338**	*e*P			**P**	**04 59 16.2**	**+1.2**
	comp=Z,21nm,1.1s								
MBDF	**Montbardon**	**59.88**	**338**	*e*P			**P**	**04 59 16.2**	**+1.2**
MBDF					pmax		pmax		
	comp=Z,21nm,1.1s								
MBDF	**Montbardon**	**59.88**	**338**	*e*P			**P**	**04 59 16.2**	**+1.2**
	comp=Z,21nm,1.1s								
CONA	**Conrad Observa**	**60.00**	**346**	⇑*i* P			**P**	**04 59 16.0**	**+0.3**
	comp=Z,20nm,1.4s								
BNI	**Bardonecchia**	**60.19**	**338**	*e*P			**P**	**04 59 16.4**	**-0.7**
BNI					pmax		pmax		
	comp=Z,14nm,1.3s								
BNI	**Bardonecchia**	**60.19**	**338**	*e*P			**P**	**04 59 16.4**	**-0.7**
	comp=Z,14nm,1.3s								
MOA	**Molln**	**60.32**	**345**	⇑*i* P			**P**	**04 59 16.4**	**-1.4**
	comp=Z,22nm,1.4s								
KWP	**Kalwaria Pacla**	**60.34**	**352**	*e*P			**P**	**04 59 17.9**	**0.0**
KWP	**Kalwaria Pacla**	**60.34**	**352**	*e*P			**P**	**04 59 17.9**	**0.0**
STHS	**Stebnicka Huta**	**60.35**	**351**	*e*P			**P**	**04 59 19.7**	**+1.7**
STHS					pmax		pmax		
	comp=Z,4.0nm,1.3s								
STHS	**Stebnicka Huta**	**60.35**	**351**	*e*P			**P**	**04 59 19.7**	**+1.7**
ORIF	**Oris-en-Rattie**	**60.37**	**337**	*e*P			**P**	**04 59 19.6**	**+1.3**
	comp=Z,37nm,1.4s								
ORIF				*e*R					
	comp=Z,192nm,20.0s								
ORIF	**Oris-en-Rattie**	**60.37**	**337**	*e*P			**P**	**04 59 19.6**	**+1.3**
ORIF					pmax		pmax		
	comp=Z,37nm,1.4s								
ORIF	**Oris-en-Rattie**	**60.37**	**337**	*e*P			**P**	**04 59 19.6**	**+1.3**
	comp=Z,37nm,1.4s								
TUE	**Stuetta**	**60.50**	**341**	*e*P			**P**	**04 59 20.2**	**+0.9**
	comp=Z,12nm,1.2s								
MAW	**Mawson**	**60.53**	**168**	*e*P			**P**	**04 59 21.9**	**+3.0**
	comp=Z,0.6nm,0.8s								
MAW	**Mawson**	**60.53**	**168**	P			**P**	**04 59 22.0**	**+3.0**
	comp=Z,2.5nm,0.7s,baz=313,slow=9.3,SNR=6.6								
MAW					LR		LR	05 22 53.8	
	comp=Z,89nm,19.4s,baz=116,slow=33								
LPG	**La Plagne**	**60.54**	**338**	*e*P			**P**	**04 59 19.9**	**+0.2**
	comp=Z,33nm,1.4s								
LPG	**La Plagne**	**60.54**	**338**	*e*P			**P**	**04 59 19.9**	**+0.2**
LPG					pmax		pmax		
	comp=Z,33nm,1.4s								
LPG	**La Plagne**	**60.54**	**338**	*e*P			**P**	**04 59 19.9**	**+0.2**
	comp=Z,33nm,1.4s								
MTLF	**Montolieu**	**60.55**	**334**	*e*P			**P**	**04 59 20.5**	**+1.1**
MTLF	**Montolieu**	**60.55**	**334**	*e*P			**P**	**04 59 20.5**	**+1.1**
MTLF	**Montolieu**	**60.55**	**334**	*e*P			**P**	**04 59 20.5**	**+1.1**
FETA	**Feichten**	**60.56**	**342**	⇑*i* P			**P**	**04 59 19.4**	**-0.1**
	comp=Z,7.6nm,1.1s								
AK02	**Malin Array Si**	**60.71**	**357**	*e*P			**P**	**04 59 18.2**	**-2.1**
MOTA	**Moosalm**	**60.73**	**342**	⇓*i* P			**P**	**04 59 20.4**	**-0.4**
	comp=Z,6.8nm,0.8s								
ESDC	**Sonseca Array**	**60.74**	**327**	P			**P**	**04 59 20.7**	**-0.2**
ESDC	**Sonseca Array**	**60.74**	**327**	P			**P**	**04 59 20.7**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=138,slow=6.9,SNR=12								
KIEV	**Kiev**	**60.74**	**357**	*e*P			**P**	**04 59 20.1**	**-0.4**
KIEV					pmax		pmax		
	comp=Z,14nm,1.1s								
KIEV	**Kiev**	**60.74**	**357**	*e*P			**P**	**04 59 20.1**	**-0.4**
	comp=Z,14nm,1.1s								
AKASG	**Malin Array Be**	**60.75**	**357**	*c*e*P*			**P**	**04 59 20.2**	**-0.4**
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**60.75**	**357**	P			**P**	**04 59 19.5**	**-1.1**
AKASG	**Malin Array Be**	**60.75**	**357**	P			**P**	**04 59 19.5**	**-1.1**
	comp=Z,6.1nm,1.0s,baz=187,slow=6.4,SNR=26								
AKBB	**Malin Array Si**	**60.75**	**357**	*e*P			P	04 59 16.7	-3.9
AKBB	**Malin Array Si**	**60.75**

HAU	**Haudompre**	62.84	340	*e*P		**P**		**04 59 35.5**	**+0.7**
CDF	**Champ du Feu**	62.88	340	*e*P		**P**		**04 59 35.4**	**+0.3**
	comp=Z,16nm,1.1s								
CDF	**Champ du Feu**	62.88	340	*e*P		**P**		**04 59 35.4**	**+0.3**
CDF				pmax	pmax				
	comp=Z,16nm,1.0s								
CDF	**Champ du Feu**	62.88	340	*e*P		**P**		**04 59 35.4**	**+0.3**
	comp=Z,16nm,1.0s								
AVF	**Avril sur Loir**	62.90	337	*e*P		**P**		**04 59 35.9**	**+0.7**
	comp=Z,45nm,1.3s								
AVF	**Avril sur Loir**	62.90	337	*e*P		**P**		**04 59 35.9**	**+0.7**
AVF				pmax	pmax				
	comp=Z,45nm,1.3s								
AVF	**Avril sur Loir**	62.90	337	*e*P		**P**		**04 59 35.9**	**+0.7**
	comp=Z,45nm,1.3s								
BGF	**Bois d'Agland**	62.91	336	*e*P		**P**		**04 59 36.2**	**+0.9**
	comp=Z,14nm,0.9s								
BGF	**Bois d'Agland**	62.91	336	*e*P		**P**		**04 59 36.2**	**+0.9**
BGF				pmax	pmax				
	comp=Z,14nm,0.9s								
BGF	**Bois d'Agland**	62.91	336	*e*P		**P**		**04 59 36.2**	**+0.9**
	comp=Z,14nm,0.9s								
TCF	**Toulx Ste Croi**	62.94	336	*e*P		**P**		**04 59 36.8**	**+1.3**
	comp=Z,32nm,1.1s								
TCF	**Toulx Ste Croi**	62.94	336	*e*P		**P**		**04 59 36.8**	**+1.3**
TCF				pmax	pmax				
	comp=Z,32nm,1.1s								
TCF	**Toulx Ste Croi**	62.94	336	*e*P		**P**		**04 59 36.8**	**+1.3**
	comp=Z,32nm,1.1s								
NKC	**Novy Kostel**	62.98	345	*e*P		**P**		**04 59 34.9**	**-0.8**
NKC	**Novy Kostel**	62.98	345	*e*P		**P**		**04 59 34.9**	**-0.8**
KSH	**Kashi**	63.03	36	P		P		04 59 33.1	-3.3
KSH				pP		pP		04 59 40.2	-0.7
KSH				sP		sP		04 59 44.8	+2.2
KSH				PcP		**PcP**		**05 00 12.9**	**-1.3**
KSH				S		S		05 07 56.3	-10
KSH				sS		sS		05 08 10.6	-3.6
KSH				SS		**SS**		**05 12 10.7**	**-2.1**
KSH				pmax	pmax				
	comp=Z,2.0nm,0.4s								
KSH				pmax	pmax				
	comp=Z,130nm,4.7s								
KSH				LR	LR				
	comp=Z,240nm,6.3s								
KSH				LR	LR				
	comp=Z,220nm,7.7s								
KSH				LR	LR				
	comp=Z,200nm,7.4s								
SSF	**Saint Saulge**	63.07	337	*e*P		**P**		**04 59 37.0**	**+0.7**
	comp=Z,5.9nm,0.9s								
SSF	**Saint Saulge**	63.07	337	*e*P		**P**		**04 59 37.0**	**+0.7**
SSF				pmax	pmax				
	comp=Z,6.0nm,0.9s								
SSF	**Saint Saulge**	63.07	337	*e*P		**P**		**04 59 37.0**	**+0.7**
	comp=Z,5.9nm,0.9s								
LOR	**Lormes**	63.11	338	*e*P		**P**		**04 59 37.0**	**+0.4**
LOR				*e*R					
	comp=Z,189nm,19.2s								
LOR	**Lormes**	63.11	338	*e*P		**P**		**04 59 37.0**	**+0.4**
BRG	**Berggiesshubel**	63.20	346	*e*P		**P**		**04 59 36.6**	**-0.5**
	comp=Z,13nm,1.8s								
BRG	**Berggiesshubel**	63.20	346	*e*P		**P**		**04 59 36.6**	**-0.5**
BRG				pmax	pmax				
	comp=Z,13nm,1.8s								
SFTF	**Sexfontaines**	63.47	339	*e*P		**P**		**04 59 40.1**	**+1.2**
SFTF	**Sexfontaines**	63.47	339	*e*P		**P**		**04 59 40.1**	**+1.2**
AB31	**Akbulak array**	63.47	19	*i* P		**P**		**04 59 37.8**	**-1.1**
AB31				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ABKAR	**Akbulak array**	63.47	19	*e*P		**P**		**04 59 38.2**	**-0.7**
AML	**Almayashu**	63.58	32	*i* P		**P**		**04 59 40.6**	**+0.3**
AML	**Almayashu**	63.58	32	P		**P**		**04 59 40.6**	**+0.3**
	SNR=7.0								
MEZF	**Maizieres J'vi**	63.71	339	*e*P		**P**		**04 59 41.8**	**+1.3**
MEZF	**Maizieres J'vi**	63.71	339	*e*P		**P**		**04 59 41.8**	**+1.3**
CLL	**Collm**	63.83	346	*i* P		**P**		**04 59 40.7**	**-0.6**
CLL	**Collm**	63.83	346	*i* P		**P**		**04 59 40.7**	**-0.6**
	comp=Z,14nm,1.4s								
EKS2	**Erkin-Say**	64.00	32	*e*P		**P**		**04 59 42.6**	**-0.2**
EKS2				pmax	pmax				
	comp=Z,11nm,1.3s								
EKS2	**Erkin-Say**	64.00	32	*e*P		**P**		**04 59 42.6**	**-0.2**
	comp=Z,11nm,1.3s								
UCH	**Uchtor**	64.08	33	*i* P		**P**		**04 59 43.9**	**+0.2**
UCH	**Uchtor**	64.08	33	P		**P**		**04 59 44.0**	**+0.2**
	SNR=8.3								
AAK	**Ala-Archa**	64.36	32⇑	*e*P		**P**		**04 59 45.3**	**+0.2**
AAK				pmax	pmax				
	comp=Z,27nm,1.7s								
AAK	**Ala-Archa**	64.36	32	*e*P		**P**		**04 59 45.5**	**+0.3**
AAK	**Ala-Archa**	64.36	32	LR	LR	LR		05 30 52.5	
	comp=Z,122nm,18.1s,baz=235,slow=39								
KZA	**Kyzart**	64.37	33	*i* P		**P**		**04 59 46.0**	**+0.5**
KZA	**Kyzart**	64.37	33	P		**P**		**04 59 46.0**	**+0.5**
	SNR=5.2								
SUW	**Suwalki**	64.57	353	*e*P		**P**		**04 59 46.1**	**+0.1**
SUW	**Suwalki**	64.57	353	*e*P		**P**		**04 59 46.1**	**+0.1**
SUW	**Suwalki**	64.57	353	*e*P		**P**		**04 59 46.1**	**+0.1**
KBK	**Karagaybulak**	64.61	32	*i* P		**P**		**04 59 47.4**	**+0.6**
KBK	**Karagaybulak**	64.61	32	P		**P**		**04 59 47.4**	**+0.6**
	SNR=7.2								
CHMS	**Chumysh**	64.75	32	*i* P		**P**		**04 59 46.7**	**-0.8**
CHMS	**Chumysh**	64.75	32	P		**P**		**04 59 46.7**	**-0.8**
	SNR=5.1								
USP	**Ospenovka**	64.80	32	*i* P		**P**		**04 59 47.7**	**-0.2**
USP	**Ospenovka**	64.80	32	P		**P**		**04 59 47.8**	**-0.2**
	SNR=7.3								
OBN	**Obninsk**	65.08	2	*c i* P		**P**		**04 59 48.9**	**-0.4**
OBN				pmax	pmax				
	comp=Z,42nm,1.7s								
TKM2	**Tokmak 2**	65.14	33	*e*P		**P**		**04 59 49.8**	**-0.5**
TKM2				pmax	pmax				
	comp=Z,24nm,1.4s								
TKM2	**Tokmak 2**	65.14	33	P		**P**		**04 59 49.9**	**-0.4**
	SNR=11								
TKM2	**Tokmak 2**	65.14	33	*e*P		**P**		**04 59 49.8**	**-0.5**
	comp=Z,24nm,1.4s								
SNAA	**Sanae**	65.40	192	*e*P		P		04 59 55.3	+3.9
SNAA	**Sanae**	65.40	192	*e*P		**P**		**04 59 54.6**	**+3.2**
	comp=Z,16nm,1.4s								
MOS	**Moscow**	65.74	2	*e*P		**P**		**04 59 51.6**	**-2.0**
VNA2	**Neumayer--Watz**	65.85	194	*e*P		**P**		**04 59 55.9**	**+1.7**
VNA1	**Neumayer--Stat**	65.87	194	*e*P		P		04 59 58.9	+4.6
SGMF	**Saint Gilles**	66.48	334	*e*P		**P**		**05 00 00.5**	**+2.0**
SGMF	**Saint Gilles**	66.48	334	*e*P		**P**		**05 00 00.5**	**+2.0**
SGMF	**Saint Gilles**	66.48	334	*e*P		**P**		**05 00 00.5**	**+2.0**
QUIF	**Quistinic**	66.48	334	*e*P		**P**		**04 59 59.2**	**+0.7**
	comp=Z,43nm,1.2s								
QUIF	**Quistinic**	66.48	334	*e*P		**P**		**04 59 59.2**	**+0.7**
QUIF				pmax	pmax				
	comp=Z,43nm,1.2s								
QUIF	**Quistinic**	66.48	334	*e*P		**P**		**04 59 59.2**	**+0.7**
	comp=Z,43nm,1.2s								
ROSF	**Rostrenen**	66.85	334	*e*P		**P**		**05 00 00.9**	**0.0**
ROSF	**Rostrenen**	66.85	334	*e*P		**P**		**05 00 00.9**	**0.0**
ROSF	**Rostrenen**	66.85	334	*e*P		**P**		**05 00 00.9**	**0.0**
LSA	**Lhasa**	67.91	52	*e*P		**P**		**05 00 09.0**	**+0.4**
LSA				pmax	pmax				
	comp=Z,14nm,1.0s								
LSA	**Lhasa**	67.91	52	*e*P		**P**		**05 00 09.0**	**+0.4**
	comp=Z,14nm,1.0s								
IPM	**Ipoh**	68.47	81	*e*P		**P**		**05 00 12.4**	**+0.5**
	comp=Z,13nm,0.9s								
VSU	**Vasula**	68.64	356⇑	*e*P		**P**		**05 00 09.7**	**-2.2**
VSU				pmax	pmax				
	comp=Z,57nm,1.7s								
ARU	**Arti**	69.45	14	P		**P**		**05 00 16.8**	**-0.3**
	comp=Z,136nm,0.9s,SNR=7.1								
ARU	**Arti**	69.45	14	*d i* P		**P**		**05 00 16.8**	**-0.3**
ARU				S		**S**		**05 09 25.1**	**+1.2**
ARU				pmax	pmax				
	comp=Z,32nm,1.7s								
CMAR	**Chiang Mai Arr**	70.23	66	P		**P**		**05 00 23.3**	**+0.6**
CMAR	**Chiang Mai Arr**	70.23	66	P		**P**		**05 00 23.3**	**+0.6**
	comp=Z,8.8nm,0.8s,baz=260,slow=7.2,SNR=29								
BRVK	**Borovoye**	70.24	22	*de* P		**P**		**05 00 21.3**	**-0.7**
BRVK				pmax	pmax				
	comp=Z,13nm,1.3s								
BRVK	**Borovoye**	70.24	22	*e*P		**P**		**05 00 21.6**	**-0.4**
	comp=Z,3.1nm,0.7s								
BVA0	**Borovoye Array**	70.25	22	*i* P		**P**		**05 00 21.2**	**-0.9**
BVA0				pmax	pmax				
	comp=Z,8.0nm,0.9s								
SVE	**Sverdlovsk**	70.33	15	*e*P		**P**		**05 00 22.5**	**0.0**
SVE				pmax	pmax				
	comp=Z,23nm,1.2s								
CHTO	**Chiang Mai**	70.35	66	*e*P		**P**		**05 00 23.7**	**+0.3**
CHTO				pmax	pmax				
	comp=Z,15nm,1.0s								
CHTO	**Chiang Mai**	70.35	66	P		**P**		**05 00 23.7**	**+0.3**
	SNR=6.5								
CHTO	**Chiang Mai**	70.35	66	*e*P		**P**		**05 00 23.7**	**+0.3**
	comp=Z,15nm,1.0s								
CHTO	**Chiang Mai**	70.35	66	P		**P**		**05 00 23.6**	**+0.2**
	comp=Z,101nm,1.0s,comp=Z,1μm								
CMMT	**Chiang Mai**	70.35	66	P		**P**		**05 00 23.5**	**+0.1**
	comp=Z,22nm,1.0s								
CMAI	**Chiengmai2**	70.79	65	P		**P**		**05 00 27.2**	**+0.9**
	comp=Z,8.4nm,1.5s,comp=Z,2μm								
LAMP	**Lampang**	70.88	66	P		**P**		**05 00 27.4**	**+0.8**
	comp=Z,9.0nm,0.9s,comp=Z,203nm								
MK31	**Makanchi Array**	71.27	33	*i* P		**P**		**05 00 27.6**	**-0.8**
MK31				pmax	pmax				
	comp=Z,23nm,0.9s								
MK31	**Makanchi Array**	71.27	33	*e*P		**P**		**05 00 28.2**	**-0.2**
MKAR	**Makanchi Array**	71.27	33	*ce*P		**P**		**05 00 28.3**	**-0.1**
MKAR				pmax	pmax				
	comp=Z,15nm,0.8s								
MKAR	**Makanchi Array**	71.27	33	P		**P**		**05 00 28.4**	**-0.1**
MKAR	**Makanchi Array**	71.27	33	P		**P**		**05 00 28.4**	**-0.1**
	comp=Z,15nm,0.8s,baz=227,slow=5.9,SNR=94								
MKAR				LR		LR		05 36 18.6	
	comp=Z,84nm,18.6s,baz=54,slow=40								
PBKT	**Sadao Pong**	71.51	69	P		**P**		**05 00 31.0**	**+0.6**
	comp=Z,21nm,1.1s,comp=Z,5μm								
FINES	**FINESS Array B**	71.65	356	P		**P**		**05 00 30.1**	**-0.3**
FINES	**FINESS Array B**	71.65	356	P		**P**		**05 00 30.1**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=123,slow=7.0,SNR=9.3								
SOKR	**Solikamsk**	71.94	12	*e*P		**P**		**05 00 32.3**	**+0.2**
SOKR				pmax	pmax				
	comp=Z,30nm,1.3s								
KURK	**Kurchatov**	72.01	28	*e*P		**P**		**05 00 32.6**	**-0.2**
KURK				pmax	pmax				
	comp=Z,18nm,1.2s								
KURK	**Kurchatov**	72.01	28	P		**P**		**05 00 33.0**	**+0.2**
	SNR=13								
KURK	**Kurchatov**	72.01	28	*e*P		**P**		**05 00 32.6**	**-0.2**
	comp=Z,18nm,1.2s								
KURK	**Kurchatov**	72.01	28	P		**P**		**05 00 32.6**	**-0.2**
	comp=Z,160nm,0.9s,SNR=18								
CRAI	**Chiangrai**	72.07	65	P		**P**		**05 00 34.5**	**+0.7**
	comp=Z,11nm,1.2s,comp=Z,732nm								
KAF	**Kangasniemi**	72.30	356	*e*P		**P**		**05 00 33.0**	**-1.2**
KAF	**Kangasniemi**	72.30	356	*e*p		**P**		**05 00 33.0**	**-1.2**
WMQ	**Urumqi**	72.59	38	P		**P**		**05 00 37.0**	**+0.5**
WMQ				sP		**sP**		**05 00 44.0**	**+1.2**
WMQ				PP		**PP**		**05 03 20.0**	**+1.8**
WMQ				S		**S**		**05 10 00.0**	**-1.0**
WMQ				SS		**SS**		**05 14 39.0**	**-1.5**
WMQ				pmax	pmax				
	comp=Z,12nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,57nm,6.0s								
WMQ				LR	LR				
	comp=Z,110nm,18.0s								
WMQ				LR	LR				
	comp=Z,130nm,17.0s								
JOF	**Joensuu**	72.89	359	*e*P		**P**		**05 00 35.7**	**-2.0**
JOF	**Joensuu**	72.89	359	*e*p		**P**		**05 00 35.7**	**-2.0**
NAO01	**NORSAR Array S**	73.08	348	*e*P		**P**		**05 00 37.4**	**-1.6**
	comp=Z,9.4nm,1.0s								
NB2	**NORSAR Subarra**	73.20	349	P		**P**		**05 00 39.4**	**-0.3**
	comp=Z,10nm,1.0s,baz=157,slow=5.6								
NOA	**NORSAR Array B**	73.20	349	P		**P**		**05 00 39.9**	**+0.2**
NOA	**NORSAR Array B**	73.20	349	P		**P**		**05 00 39.9**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=158,slow=5.4,SNR=13								
NOA				LR		LR		05 33 10.6	
	comp=Z,77nm,19.1s,baz=355,slow=36								
TMCR	**Tamitsa**	74.19	2	*e*P		**P**		**05 00 45.0**	**-0.3**
TMCR				pmax	pmax				
	comp=Z,25nm,1.4s								
KMI	**Kunming**	75.69	61	P		**P**		**05 00 56.0**	**+0.8**
KMI				pP		**pP**		**05 00 58.7**	**-1.1**
KMI				sP		**sP**		**05 01 00.2**	**-1.3**
KMI				S		**S**		**05 10 36.5**	**-0.4**
KMI				pmax	pmax				
	comp=Z,18nm,1.0s								
KMI				pmax	pmax				
	comp=Z,130nm,4.4s								
KMI				LR	LR				
	comp=Z,140nm,11.0s								
KMI				LR	LR				
	comp=Z,220nm,16.2s								
NVS	**Novosibirsk**	76.85	27⇓	*i* P		**P**		**05 01 00.4**	**-0.4**
NVS				*e*				05 03 48.6	
NVS				pmax	pmax				
	comp=Z,38nm,1.0s								
NVS				pmax	pmax				
	comp=N,8.0nm,0.0s								
ZAA0	**Zalesovo Array**	77.00	28	*e*P		**P**		**05 01 00.8**	**-0.9**
ZALV	**Zalesovo Beam**	77.00	28	P		**P**		**05 01 00.5**	**-1.2**
ZALV								05 03 52.0	
ZALV	**Zalesovo Beam**	77.00	28	P		**P**		**05 01 00.5**	**-1.2**
ZALV				PP		**PP**		**05 03 52.0**	**-3.3**
ZALV	**Zalesovo Beam**	77.00	28	P		**P**		**05 01 00.5**	**-1.2**
	comp=N,3.2nm,0.5s,baz=247,slow=5.9,SNR=17								
ZALV				PP		**PP**		**05 03 52.0**	**-3.3**
	comp=N,1.4nm,0.6s,baz=250,slow=7.5,SNR=3.8								
ZALV				LR		LR		05 37 59.8	
	comp=N,133nm,20.6s,baz=224,slow=38								
APA	**Apatity**	77.54	360⇑	*i* P		**P**		**05 01 05.0**	**+0.6**
APA				MLR		MLR			
	comp=Z,800nm,14.0s								
LVZ	**Lovozero**	77.87	0⇓	*e*P		**P**		**05 01 05.8**	**-0.5**
LVZ				pmax	pmax				
	comp=Z,26nm,1.7s								
CD2	**Chengdu**	78.41	55	*e*P		**P**		**05 01 10.8**	**+0.6**
CD2				sP		**sP**		**05 01 18.5**	**+2.0**
CD2				PcP		**PcP**		**05 01 20.8**	**+1.4**
CD2				PP		**PP**		**05 04 10.6**	**+2.9**
CD2				S		**S**		**05 11 05.6**	**-0.4**
CD2				SS		**SS**		**05 16 11.5**	**+2.1**
CD2				pmax	pmax				
	comp=Z,20nm,1.2s								
CD2				pmax	pmax				
	comp=Z,120nm,11.2s								
CD2				LR	LR				
	comp=Z,160nm,14.3s								
GTA	**Gaotai**	78.49	46	*e*P		**P**		**05 01 10.9**	**+0.4**
GTA				pP		**pP**		**05 01 13.9**	**-1.3**
GTA				sP		**sP**		**05 01 17.0**	**+0.2**
GTA				S		**S**		**05 11 06.0**	**-0.7**
GTA				sS		**sS**		**05 11 14.1**	**-0.2**
GTA				SKS		**SKSac**		**05 11 20.3**	**-5.1**
GTA				SS		**SS**		**05 16 12.4**	**+2.1**
GTA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,56nm,5.7s								
GTA				LR	LR				
	comp=Z,160nm,18.5s								
GTA				LR	LR				
	comp=Z,150nm,18.0s								
GTA				LR	LR				
	comp=Z,160nm,17.6s								
GYA	**Guiyang**	79.46	61⇑	*i* P		**P**		**05 01 16.5**	**+0.3**
GYA				PP		**PP**		**05 04 18.7**	**+2.0**
GYA				S		**S**		**05 11 17.0**	**-0.5**
GYA				SKS		**SKSac**		**05 11 28.4**	**-4.4**
GYA				SS		**SS**		**05 16 27.6**	**+2.1**
GYA				pmax	pmax				
	comp=Z,20nm,0.9s								
GYA				pmax	pmax				
	comp=Z,120nm,5.2s								
GYA				LR	LR				
	comp=Z,450nm,19.8s								
GYA				LR	LR				
	comp=Z,370nm,20.2s								
GYA				LR	LR				
	comp=Z,420nm,19.8s								
BDFB	**Brasilia**	79.55	256	P		**P**		**05 01 18.3**	**+1.5**
BDFB	**Brasilia**	79.55	256	P		**P**		**05 01 18.3**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=85,slow=8.5,SNR=6.2								
BDFB				LR		LR		05 34 58.4	
	comp=Z,153nm,18.7s,baz=210,slow=34								
ARCES	**ARCESS Array B**	79.72	357	P		**P**		**05 01 16.6**	**+0.2**
ARCES	**ARCESS Array B**	79.72	357	P		**P**		**05 01 16.6**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=180,slow=2.4,SNR=14								
HVS	**Khovu-Aksy**	79.91	34	*d i* P		**P**		**05 01 18.6**	**+0.6**
QSPA	**South Pole Qui**	79.92	180	*e*P		**P**		**05 01 20.5**	**+2.6**
	comp=Z,23nm,1.5s								
LZH	**Lanzhou**	80.22	51	*e*P		**P**		**05 01 21.2**	**+1.1**
LZH				pP		**pP**		**05 01 24.5**	**-0.3**
LZH				sP		**sP**		**05 01 26.4**	**-0.1**
LZH				PP		**PP**		**05 04 26.0**	**+3.1**
LZH				pmax	pmax				
	comp=Z,34nm,1.4s								
LZH				pmax	pmax				
	comp=Z,110nm,4.0s								
QIZ	**Qiongzhong**	80.31	69	P		**P**		**05 01 20.5**	**-0.2**
QIZ				S		**S**		**05 11 26.2**	**-0.2**
QIZ				pmax	pmax				
	comp=Z,9.0nm,1.8s								
QIZ				LR	LR				
	comp=Z,140nm,20.0s								
QIZ				LR	LR				
	comp=Z,42nm,15.7s								
QIZ				LR	LR				
	comp=Z,140nm,17.7s								
MBWA	**Marble Bar**	82.60	110	*e*P		**P**		**05 01 33.6**	**+0.7**
	comp=Z,16nm,0.9s								
XAN	**Xi'an**	83.53	54	P		**P**		**05 01 37.5**	**+0.1**
XAN				sP		sP		05 01 50.2	+6.4
XAN				pmax	pmax				
	comp=Z,3.0nm,1.1s								
XAN				pmax	pmax				
	comp=Z,39nm,8.3s								
ZAK	**Zakamensk**	85.03	37	*e*P		**P**		**05 01 43.2**	**-1.6**
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.5s								
KAPI	**Kappang**	85.12	94	*e*P		**P**		**05 01 46.6**	**+0.7**
	comp=Z,74nm,1.0s								
SONM	**Songino Array**	86.03	40	P		**P**		**05 01 50.4**	**+0.5**
SONM	**Songino Array**	86.03	40	P		**P**		**05 01 50.4**	**+0.5**
	comp=Z,5.4nm,0.8s,baz=243,slow=5.3,SNR=36								
SONM				LR		LR		05 44 05.1	
	comp=Z,106nm,18.2s,baz=253,slow=38								
ULN	**Ulaanbaatar**	86.46	40	*e*P		**P**		**05 01 52.5**	**+0.5**
	comp=Z,6.2nm,0.9s								
CPUP	**Villa Florida**	86.60	244	*e*P		**P**		**05 01 54.0**	**+1.1**
	comp=Z,2.5nm,1.4s								
CPUP	**Villa Florida**	86.60	244	LR		LR		05 38 09.6	
	comp=Z,179nm,18.1s,baz=248,slow=34								
HHC	**Hu-ho-hao-te**	87.45	48	*e*P		**P**		**05 01 58.0**	**+1.1**
HHC				SKS		**SKSac**		**05 12 21.6**	**-3.0**
HHC				S		**S**		**05 12 36.6**	**-1.2**
HHC				SS		**SS**		**05 18 22.4**	**-0.8**
HHC				pmax	pmax				
	comp=Z,25nm,1.2s								
HHC				pmax	pmax				
	comp=Z,280nm,7.1s								
HHC				LR	LR				
	comp=Z,250nm,17.3s								
HHC				LR	LR				
	comp=Z,320nm,17.1s								
HHC				LR	LR				
	comp=Z,220nm,17.4s								
VNDA	**Vanda**	87.75	170	*e*P		**P**		**05 01 59.2**	**+1.6**
	comp=Z,2.1nm,1.0s								
VNDA	**Vanda**	87.75	170	P		**P**		**05 01 59.6**	**+2.0**
	comp=Z,1.2nm,0.9s,baz=271,slow=4.4,SNR=6.2								
VNDA				LR		LR		05 39 57.4	
	comp=Z,112nm,18.6s,baz=208,slow=35								
TRQA	**Tornquist**	88.34	232	*e*P		**P**		**05 02 03.5**	**+2.2**
	comp=Z,9.5nm,1.0s								
FORT	**Forrest**	88.45	121	*e*P		**P**		**05 02 01.9**	**+0.1**
	comp=Z,19nm,0.9s								
FITZ	**Fitzroy Crossi**	88.58	108	LR		LR		05 35 15.4	
	comp=Z,150nm,21.2s,baz=318,slow=31								
NJ2	**Nanjing**	91.15	58	*e*P		**P**		**05 02 14.6**	**+0.3**
NJ2				pP		pP		05 02 25.0	+6.0
NJ2				S		**S**		**05 13 12.0**	**-0.4**
NJ2				pmax	pmax				
	comp=Z,20nm,1.1s								
NJ2				LR	LR				
	comp=Z,140nm,25.0s								
PLCA	**Paso Flores**	94.12	228	LR		LR		05 37 58.3	
	comp=Z,166nm,20.7s,baz=270,slow=31								
ASAR	**Alice Springs**	95.03	115	P		**P**		**05 02 33.1**	**+0.5**
ASAR	**Alice Springs**	95.03	115	P		**P**		**05 02 33.1**	**+0.5**
	comp=Z,5.4nm,0.8s,baz=260,slow=4.6,SNR=53								
ASAR				LR		LR		05 40 38.4	
	comp=Z,209nm,18.8s,baz=351,slow=32								
AS31	**Alice Springs**	95.03	115	*e*P		**P**		**05 02 33.0**	**+0.4**
SAML	**Samuel**	95.27	260	*e*P		**P**		**05 02 33.2**	**-0.6**
	comp=Z,7.3nm,1.5s								
WRA	**Warramunga Arr**	96.28	111	P		**P**		**05 02 39.0**	**+0.7**
WRA	**Warramunga Arr**	96.28	111	P		**P**		**05 02 39.0**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=256,slow=2.9,SNR=21								
WRAB	**Tennant Creek**	96.29	111	*c i* P		**P**		**05 02 39.3**	**+1.0**
WRAB				pmax	pmax				
	comp=Z,36nm,2.5s								
WRAB	**Tennant Creek**	96.29	111	*e*P		**P**		**05 02 38.6**	**+0.3**
	comp=Z,5.5nm,0.8s								
CN2	**Changchun**	98.11	47	*e*P		Pdif		05 02 46.5	+0.5
LPAZ	**La Paz**	98.46	252	LR		LR		05 45 58.1	
	comp=Z,198nm,18.7s,baz=97,slow=35								
COEN	**Coen**	105.93	108	*e*PKP		**PKiKP**		**05 07 33.5**	**-0.5**
COEN				*e*PP		**PP**

CEN1				*i* S	S	05 02 00.6	+5.0	
CEN1				AML	AML	05 02 03.6		
	comp=N,46nm,0.8s							
PB01	**Plate Boundary**	**2.92**	**310**	⇑*i* P	Pn	05 01 17.1	+1.8	
PB01				*i* S	S	05 01 58.4	+2.1	
PB01				AML	AML	05 02 02.2		
	comp=E,38nm,0.1s							
ANCH	**Antofagasta**	**3.12**	**256**	⇑*i* P	Pn	05 01 20.1	+2.7	
ANCH				*i* S	S	05 02 02.2	+2.3	
ANCH				*e*		05 02 11.1		
PB10	**Plate Boundary**	**3.22**	**259**	⇑*i* P	Pn	05 01 20.6	+2.1	
PB10				*i* S	S	05 02 04.2	+2.3	
PB10				AML	AML	05 02 05.8		
	comp=E,135nm,0.4s							
PATCX	**Punta Patache**	**3.54**	**306**	*e*P	Pn	05 01 24.1	+1.8	
PATCX				*i* S	S	05 02 10.9	+2.2	
HMBC	**Humberstone**	**3.71**	**315**	⇑*i* P	Pn	05 01 25.5	+1.2	
HMBC				*i* S	S	05 02 14.0	+1.5	
MNMC	**Minimini**	**4.46**	**328**	⇓*i* P	Pn	05 01 34.9	+1.6	
MNMC				*i* S	S	05 02 30.8	+2.0	

DJA ***11*** *05:18:06.7±0.7, 1°S±4″×9°8E±°, h10km, M5.0/7, mb5.4/4, mB5.5/5, MLv4.8/7, Mw(mB)4.9/5*

IDC ***11*** *05:18:06.4±1.8, 1°10S×97°47E, h0km, mb4.1/7, mb1 4.2/9, mb1mx3.9/26, mbtmp4.1/9, ML4.3/2, MS3.8/2, Ms1 3.8/2, ms1mx3.1/25, Error ellipse: s-maj=61.7km s-min=17.5km az=64.0*

NEIC ***11*** *05:18:11.5±0.6, 1°07S×97°53E, h35km, mb4.4/4, Error ellipse: s-maj=14.5km s-min=7.5km az=72.0*

ISC 11 05:18:10.5±0.8,**1°01S**±0°07×**97°70E**±0°10,**h23**km,**n54,** σ1$**50**/48,**mb4.2**/10,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNSI	**Mandailing Nat**	**2.59**	**46**	P		**Pn**	**05 18 53.0**	**+1.9**
MNSI				S		**Sb**	**05 19 26.4**	**-1.5**
PPI	**Padang Panjang**	**2.75**	**79**	P		**Pn**	**05 18 54.0**	**+0.7**
BKNI	**Bangkinang**	**3.59**	**68**	P		**Pn**	**05 19 07.3**	**+2.4**
PSI	**Prapat**	**3.97**	**18**	P		**Pn**	**05 19 09.3**	**-0.9**
PSI	**Prapat**	**3.97**	**18**	Pn		**Pn**	**05 19 10.0**	**-0.3**
PSI				Sn		**Sn**	**05 19 53.8**	**-2.5**
PSI	**Prapat**	**3.97**	**18**	Pn		**Pn**	**05 19 10.0**	**-0.3**
	7.4nm,0.3s,baz=218,slow=7.7,SNR=12							
PSI				Sn		**Sn**	**05 19 53.8**	**-2.5**
	4.4nm,0.3s,baz=190,slow=18,SNR=6.6							
TPTI		**4.27**	**353**	P		**Pn**	**05 19 12.5**	**-1.7**
KCSI	**Kotacane, Aceh**	**4.50**	**1**	P		**Pn**	**05 19 17.0**	**-0.4**
MNAI	**Manna**	**6.22**	**123**	P		**Pn**	**05 19 39.0**	**-2.0**
	488nm,0.7s,14μm3.0nm							
IPM	**Ipoh**	**6.38**	**31**	*e*Pn		**Pn**	**05 19 46.4**	**+3.2**
	16nm,0.5s							
LHSI	**Lahat**	**6.46**	**116**	P		**Pn**	**05 19 41.6**	**-2.7**
	204nm,0.7s,2μm							
KULM	**Kulim**	**6.91**	**25**	*e*Pn		**Pn**	**05 19 51.4**	**+0.9**
	15nm,0.8s							
MDSI	**Maura Dua**	**7.33**	**118**	P		**Pn**	**05 19 55.7**	**-0.6**
	55nm,0.9s,1μm							
LWLI	**Liwa**	**7.50**	**122**	P		**Pn**	**05 19 56.0**	**-2.6**
	235nm,0.7s,10μm							
KLSI		**7.92**	**118**	P		**Pn**	**05 20 03.2**	**-1.1**
KASI	**Kota Agung**	**8.13**	**124**	P		**Pn**	**05 20 06.0**	**-1.3**
UMPA	**Umpang Tak**	**17.14**	**4**	P		P	05 22 23.3	+13
PBKT	**Sadao Pong**	**17.76**	**10**	P		**P**	**05 22 19.4**	**+2.3**
	26nm,1.1s							
MHMT	**Maesarieng**	**19.06**	**1**	P		Pn	05 22 45.7	+13
CMAR	**Chiang Mai Arr**	**19.38**	**4**	P		**P**	**05 22 35.0**	**0.0**
CMAR	**Chiang Mai Arr**	**19.38**	**4**	P		**P**	**05 22 35.0**	**0.0**
	0.8nm,0.3s,baz=194,slow=12,SNR=18							
LAMP	**Lampang**	**19.50**	**5**	P		**Pn**	**05 22 40.7**	**+3.1**
	3.9nm,0.9s							
CHTO	**Chiang Mai**	**19.73**	**3**	*e*P		**Pn**	**05 22 39.7**	**-0.7**
	4.4nm,0.8s							
CHTO	**Chiang Mai**	**19.73**	**3**	P		**Pn**	**05 22 42.5**	**+2.1**
	32nm,0.9s							
CMMT	**Chiang Mai**	**19.73**	**4**	P		**Pn**	**05 22 42.4**	**+2.0**
	10nm,1.3s							
CRAI	**Chiangrai**	**21.27**	**7**	P		**P**	**05 22 57.1**	**+1.7**
SLVN	**Son La**	**23.02**	**15**	*e*P		**P**	**05 23 15.8**	**+1.6**
H08S2	**Diego Garcia H**	**25.97**	**255**	T		T	05 51 13.9	
	baz=75,slow=75,SNR=64							
H08S3	**Diego Garcia H**	**25.98**	**255**	T		T	05 51 12.4	
	baz=75,slow=75,SNR=13							
H08S1	**Diego Carcia H**	**25.99**	**255**	T		T	05 51 04.6	
	baz=75,slow=75,SNR=15							
H01W3	**Cape Leeuwin H**	**37.03**	**157**	T		T	06 04 47.9	
	baz=334,slow=76,SNR=21							
H01W2	**Cape Leeuwin H**	**37.04**	**157**	T		T	06 04 27.8	
	baz=334,slow=76,SNR=26							
H01W1	**Cape Leeuwin H**	**37.05**	**157**	T		T	06 04 33.3	
	baz=334,slow=76,SNR=22							
WRA	**Warramunga Arr**	**40.48**	**120**	P		**P**	**05 25 47.6**	**-0.3**
WRA	**Warramunga Arr**	**40.48**	**120**	P		**P**	**05 25 47.6**	**-0.3**
	0.8nm,0.6s,baz=304,slow=9.5,SNR=3.4							
WRAB	**Tennant Creek**	**40.48**	**120**	*e*P		**P**	**05 25 47.5**	**-0.5**
	7.7nm,1.1s							
ASAR	**Alice Springs**	**41.69**	**125**	P		**P**	**05 25 59.0**	**+1.0**
ASAR	**Alice Springs**	**41.69**	**125**	P		**P**	**05 25 59.0**	**+1.0**
	0.6nm,0.6s,baz=298,slow=6.7,SNR=3.3							
SONM	**Songino Array**	**49.23**	**8**	P		**P**	**05 26 58.0**	**+0.6**
SONM	**Songino Array**	**49.23**	**8**	P		**P**	**05 26 58.0**	**+0.6**
	1.0nm,0.7s,baz=182,slow=8.6,SNR=5.6							
MK31	**Makanchi Array**	**49.49**	**346**	*e*P		**P**	**05 26 58.9**	**-0.3**
MKAR	**Makanchi Array**	**49.49**	**346**	P		**P**	**05 26 58.8**	**-0.4**
MKAR	**Makanchi Array**	**49.49**	**346**	P		**P**	**05 26 58.8**	**-0.4**
	2.6nm,0.6s,baz=155,slow=8.4,SNR=26							
MKAR				LR		LR	05 49 54.4	
	comp=Z,49nm,18.0s,baz=256,slow=38							
STKA	**Stephens Creek**	**51.53**	**131**	P		**P**	**05 27 15.2**	**+0.4**
STKA	**Stephens Creek**	**51.53**	**131**	P		**P**	**05 27 15.2**	**+0.4**
	0.7nm,0.7s,baz=335,slow=14,SNR=2.0							
KURK	**Kurchatov**	**54.04**	**345**	*e*P		**P**	**05 27 32.4**	**-0.6**
	1.4nm,0.9s							
USRK	**Ussuriysk Arra**	**54.41**	**30**	P		**P**	**05 27 36.6**	**+0.7**
	2.5nm,0.6s,baz=216,slow=7.1,SNR=8.6							
ZAA0	**Zalesovo Array**	**55.80**	**351**	*e*P		**P**	**05 27 45.2**	**-0.5**
ZALV	**Zalesovo Beam**	**55.80**	**351**	P		**P**	**05 27 45.3**	**-0.4**
ZALV	**Zalesovo Beam**	**55.80**	**351**	P		**P**	**05 27 45.3**	**-0.4**
	7.0nm,0.3s,baz=190,slow=6.4,SNR=9.8							
ABKAR	**Akbulak array**	**59.69**	**332**	*e*P		**P**	**05 28 11.0**	**-2.1**
	2.0nm,0.7s							
PETK	**Petropavlovsk-**	**73.29**	**33**	LR		LR	06 02 00.3	
	comp=Z,90nm,18.2s,baz=125,slow=36							
TXAR	**Lajitas Array**	**145.24**	**34**	PKPbc		**PKPbc**	**05 37 46.4**	**-0.6**
TXAR	**Lajitas Array**	**145.24**	**34**	PKPbc		**PKPbc**	**05 37 46.4**	**-0.6**
	0.2nm,0.5s,baz=318,slow=0.9,SNR=5.0							

ISCJB ***11*** *05:28:18.0±0.8, 73°42N±0°04×6°3E±0°2, h10km, mb3.4/4, Error ellipse: s-maj=10.6km s-min=5.6km az=159.8*

IDC ***11*** *05:28:18.7±1.0, 73°31N×5°26E, h0km, mb3.5/4, mb1 3.7/8, mb1mx3.5/29, mbtmp3.6/8, ML2.9/3, Error ellipse: s-maj=21.7km s-min=15.8km az=59.0*

NAO ***11*** *05:28:19.0±2.7, 73°35N×5°75E, ML3.1*

CSEM ***11*** *05:28:19.0±0.7, 73°39N×5°49E, h10km, ML3.1, Error ellipse: s-maj=22.6km s-min=6.7km az=81.0*

BER ***11*** *05:28:20.2±3.2, 73°29N×4°93E, h10km, MD2.1, ML1.7, ML3.1(NAO)*

ISC 11 05:28:20.1±0.9,**73°40N**±0°06×**6°00E**±0°09,**h10**km,**n25,** σ1$**44**/37,**mb3.5**/4,**Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPA0	**Spitsbergen Ar**	**5.43**	**23**	P		**Pn**	**05 29 42.2**	**+1.4**
	baz=212,slow=16							
SPA0				Sn		**Sn**	**05 30 41.7**	**-1.5**
	baz=201,slow=18							
SPA0	**Spitsbergen Ar**	**5.43**	**23**	*e*P		**Pn**	**05 29 42.3**	**+1.4**
SPA0				*e*S		**Sn**	**05 30 43.6**	**+0.3**
SPA0	**Spitsbergen Ar**	**5.43**	**23**	Pn		**Pn**	**05 29 42.2**	**+1.4**
	baz=212,slow=14,SNR=328							
SPA0				Sn		**Sn**	**05 30 41.7**	**-1.5**
	baz=201,slow=17							
SPA0				*e*S		**Sn**	**05 30 43.6**	**+0.3**
	SNR=49							
SPITS	**Spitsbergen Ar**	**5.43**	**23**	Pn		**Pn**	**05 29 42.2**	**+1.4**
	baz=204,slow=17,SNR=86							
SPITS				Sn		**Sn**	**05 30 41.9**	**-1.3**
	baz=238,slow=37,SNR=1.1							
TRO	**Tromso**	**5.58**	**126**	*e*P		**Pn**	**05 29 45.3**	**+2.3**
TRO				*e*S		**Sn**	**05 30 46.4**	**-0.6**
TRO				IAML			05 30 48.8	
	comp=Z,2.3nm,0.3s							
TRO	**Tromso**	**5.58**	**126**	*e*P		**Pn**	**05 29 45.3**	**+2.3**
	SNR=49							
TRO				*e*S		**Sn**	**05 30 46.4**	**-0.6**
	SNR=49							
KBS	**Kingsbay**	**5.73**	**12**	Pn		**Pn**	**05 29 44.7**	**-0.3**
KBS				Sn		**Sn**	**05 30 49.7**	**-1.0**
KBS	**Kingsbay**	**5.73**	**12**	Pn		**Pn**	**05 29 44.7**	**-0.3**
KBS				IAML			05 30 54.5	
	comp=Z,1.3nm,0.6s							
KBS	**Kingsbay**	**5.73**	**12**	Pn		**Pn**	**05 29 44.7**	**-0.3**
KBS				Sn		**Sn**	**05 30 49.7**	**-1.0**
ARA0	**ARCESS Array S**	**7.30**	**112**	Pn		**Pn**	**05 30 07.9**	**+1.3**
	baz=317,slow=14							
ARA0				Sn		**Sn**	**05 31 27.1**	**-2.2**
	baz=310,slow=22							
ARA0	**ARCESS Array S**	**7.30**	**112**	Pn		**Pn**	**05 30 07.9**	**+1.3**
	baz=317,slow=14							
ARA0				Sn		**Sn**	**05 31 27.1**	**-2.2**
	baz=310,slow=22							
ARA0	**ARCESS Array S**	**7.30**	**112**	Pn		**Pn**	**05 30 07.9**	**+1.3**
	baz=317,slow=13,SNR=0.9							
ARCES	**ARCESS Array B**	**7.30**	**112**	Pn		**Pn**	**05 30 08.2**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=327,slow=11,SNR=25							
ARCES				Sn		**Sn**	**05 31 26.1**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=319,slow=18,SNR=3.0							
HFS	**Hagfors**	**13.65**	**164**	Pn		**Pn**	**05 31 32.0**	**-1.4**
	baz=327,slow=12							
HFS	**Hagfors**	**13.65**	**164**	Pn		**Pn**	**05 31 32.0**	**-1.4**
	baz=327,slow=12							
HFS	**Hagfors**	**13.65**	**164**	Pn		**Pn**	**05 31 32.0**	**-1.4**
	baz=327,slow=12,SNR=4.5							
HFS	**Hagfors**	**13.65**	**164**	Pn		**Pn**	**05 31 31.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=347,slow=6.1,SNR=4.4							
FIA0	**FINESS Array S**	**14.14**	**138**	Pn		**Pn**	**05 31 39.8**	**-0.3**
	baz=346,slow=18							
FIA0	**FINESS Array S**	**14.14**	**138**	Pn		**Pn**	**05 31 39.8**	**-0.3**
	baz=346,slow=18							
FIA0	**FINESS Array S**	**14.14**	**138**	Pn		**Pn**	**05 31 39.8**	**-0.3**
	baz=346,slow=17							
FINES	**FINESS Array B**	**14.14**	**138**	Pn		**Pn**	**05 31 39.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=346,slow=17,SNR=3.4							
ILAR	**Eielson Array**	**40.91**	**343**	P		**P**	**05 36 01.9**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=15,slow=5.9,SNR=4.2							
MKAR	**Makanchi Array**	**42.03**	**85**	P		**P**	**05 36 13.6**	**+2.4**
	comp=Z,0.5nm,0.9s,baz=322,slow=6.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**60.29**	**185**	P		**P**	**05 38 28.7**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=360,slow=6.6,SNR=4.3							
TXAR	**Lajitas Array**	**67.52**	**297**	P		**P**	**05 39 15.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=48,slow=4.0,SNR=2.9							

IDC ***11*** *05:31:50.4±4.7, 12°81N×90°93W, h0km, mb3.6/7, mb1 4.0/9, mb1mx3.8/26, mbtmp3.7/9, ML4.0/2, Error ellipse: s-maj=83.6km s-min=42.3km az=148.0*

ISCJB ***11*** *05:32:01.8±1.0, 13°59N±0°09×91°70W±0°05, h28km, mb3.7/6, Error ellipse: s-maj=12.6km s-min=7.1km az=8.4*

CASC ***11*** *05:32:04.0±1.8, 13°62N×91°43W, h7km±21km, MD3.8*

ISC 11 05:32:01.5±1.2,**13°54N**±0°09×**91°48W**±0°07,**h28**km,**n18,** σ1$**47**/22,**mb3.7**/6,**1D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAT	**Jato**	**0.79**	**349**	⇓*e*P		**Pn**	**05 32 16.7**	**-0.1**
NBG	**Las Nubes**	**1.52**	**46**	*e*P		**Pb**	**05 32 30.9**	**+1.8**
NBG				*e*S		**Sb**	**05 32 50.7**	**+2.7**
APG	**El Apazote**	**1.76**	**34**	Pn		**Pn**	**05 32 29.4**	**-1.0**
	31nm,0.3s,baz=197,slow=13,SNR=108							
APG				Sn		**Sb**	**05 32 53.5**	**-1.5**
	44nm,0.3s,baz=87,slow=16,SNR=14							
RTR	**El Retiro**	**1.82**	**78**	*e*P		**Pb**	**05 32 35.2**	**+1.0**
SBLS	**San Blas**	**1.83**	**80**	*e*P		**Pb**	**05 32 35.7**	**+1.3**
RBDL	**Robledal**	**1.83**	**72**	*e*P		**Pb**	**05 32 34.8**	**+0.4**
SNJE	**San Jose**	**1.85**	**80**	*e*P		**Pb**	**05 32 34.8**	**0.0**
SNJE				*e*S		**Sb**	**05 32 59.6**	**+2.1**
BOQS	**Boqueron**	**2.15**	**84**	*e*P		**Pb**	**05 32 39.1**	**-0.7**
MRL	**Marmol**	**2.30**	**49**	*e*P		**Pb**	**05 32 41.6**	**-0.9**
LFRS	**El Faro**	**2.35**	**88**	*e*P		**Pb**	**05 32 42.0**	**-1.2**
TEIG	**Tepich**	**7.32**	**24**	Pn		**Pn**	**05 33 45.0**	**-1.6**
	3.7nm,0.3s,baz=80,slow=2.8,SNR=16							
TEIG				Sn		**Sn**	**05 35 08.2**	**-0.7**
	1.3nm,0.3s,baz=45,slow=20,SNR=3.7							
TXAR	**Lajitas Array**	**19.36**	**326**	P		**Pn**	**05 36 26.4**	**+0.1**
	1.0nm,0.8s,baz=156,slow=13,SNR=14							
ANMO	**Albuquerque**	**25.25**	**330**	P		**P**	**05 37 26.7**	**+1.2**
	0.4nm,0.5s,baz=158,slow=12,SNR=4.5							
NVAR	**Mina Array Bea**	**34.35**	**321**	P		**P**	**05 38 48.2**	**+2.0**
	0.7nm,0.6s,baz=126,slow=7.8,SNR=6.5							
YKA	**Yellowknife Ar**	**51.59**	**347**	P		**P**	**05 41 02.9**	**-2.1**
	0.3nm,0.6s,baz=144,slow=6.4,SNR=3.9							
DLBC	**Dease Lake**	**53.28**	**336**	P		**P**	**05 41 18.8**	**+1.1**
	2.2nm,1.0s,baz=150,slow=10,SNR=3.9							
INK	**Inuvik**	**61.02**	**343**	P		**P**	**05 42 10.8**	**-1.3**
	0.8nm,0.9s,baz=144,slow=6.0,SNR=3.1							
ILAR	**Eielson Array**	**63.46**	**337**	P		**P**	**05 42 27.4**	**-1.3**
	0.2nm,0.4s,baz=115,slow=5.6,SNR=5.9							

KRSC 11 05:34:58.1±3.9,**50°90N**×**158°15E**,**h11**km±10km,**ML3.9,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PAU	**Pauzhetka**	**1.02**	**304**	*e*P		Pg	05 35 17.5	-0.2
PAU				*i* S		Sg	05 35 29.1	-1.8
SKR	**Severo-Kuril's**	**1.31**	**261**	*e*P		Pn	05 35 21.8	-0.5
SKR				*i* S		Sb	05 35 37.3	-2.1
ASAK	**Asacha**	**1.49**	**354**	*e*P		Pn	05 35 24.5	-0.5
ASAK				*i* S		Sn	05 35 41.3	-3.2
RUS	**Russkaya**	**1.55**	**8**	*e*P		Pn	05 35 25.1	-0.5
RUS				*i* S		Sn	05 35 42.6	-3.1
MTVR	**Mutnovka**	**1.59**	**1**	*e*P		Pn	05 35 26.1	-0.2
MTVR				*i* S		Sn	05 35 44.3	-2.7
GRL	**Gorelyy**	**1.66**	**358**	*e*P		Pn	05 35 26.8	-0.5
GRL				*i* S		Sn	05 35 46.3	-2.3
APC	**Apacha**	**2.12**	**344**	*e*P		Pn	05 35 33.7	+0.3
PET	**Petropavlovsk**	**2.15**	**8**	*e*P		Pn	05 35 34.7	+0.9
PET				*i* S		Sn	05 35 58.8	-1.7
UGLR	**Uglovaya**	**2.35**	**10**	*e*P		Pn	05 35 38.3	+1.5
UGLR				*i* S		Sn	05 36 05.7	0.0
NLC	**Nalytchevo**	**2.39**	**18**	*e*P		Pn	05 35 37.2	0.0
NLC				*i* S		Sn	05 36 04.0	-2.4
AVH	**Avacha**	**2.40**	**8**	*e*P		Pn	05 35 39.2	+1.8
AVH				*i* S		Sn	05 36 07.2	+0.4
SMAR	**Somma**	**2.40**	**9**	*e*P		Pn	05 35 38.9	+1.3
KOK	**Koryaka**	**2.42**	**7**	*e*P		Pn	05 35 38.9	+1.2
KOK				*i* S		Sn	05 36 07.0	-0.3
SDLR	**Sedlovina**	**2.42**	**10**	*e*P		Pn	05 35 38.1	+0.3
SDLR				*i* S		Sn	05 36 05.8	-1.8
KRER	**Koryakskii**	**2.44**	**8**	*e*P		Pn	05 35 39.4	+1.3
KRER				*i* S		Sn	05 36 07.7	-0.3
KRX	**Arik**	**2.48**	**7**	*e*P		Pn	05 35 40.5	+1.9
KRX				*i* S		Sn	05 36 09.8	+0.7
SPN	**Mys Shipunski**	**2.49**	**27**	*e*P		Pn	05 35 40.6	+2.1
SPN				*i* S		Sn	05 36 10.2	+1.4
GNL	**Ganaly**	**2.80**	**357**	*e*P		Pn	05 35 43.8	+0.8
GNL				*i* S		Sn	05 36 16.1	-0.8
MKZ	**Mys Kozlova**	**4.26**	**29**	*e*P		Pn	05 36 03.5	+0.7
MKZ				*i* S		Sn	05 36 49.7	-2.7
KZV	**Kizimen**	**4.42**	**16**	*e*P		Pn	05 36 07.5	+2.3
KZV				*i* S		Sn	05 36 57.2	+0.5
TUMR	**Tumrok**	**4.55**	**15**	*e*P		Pn	05 36 10.1	+3.1
KBTR	**Krutoberegovo**	**6.00**	**26**	*e*P		Pn	05 36 28.2	+1.5

NIED ***11*** *05:41:00.47°10N×141°70E, h5km, Mw3.9 Best double couple: M0 8.69000×10^14 NP1:φs334.00000°, δ72.00000°, λ87.00000°. NP2:φs164.00000°, δ18.00000°, λ100.00000°.*

MOS ***11*** *05:41:23.9±1.4, 46°63N×141°67E, h11km, mb4.0/6, Error ellipse: s-maj=19.3km s-min=15.2km az=83.6*

MOS Felt (II-III) at Kholmsk, Nevel'sk.

JMA ***11*** *05:41:24.1±0.5, 47°07N×141°74E, h12km, M3.9*

IDC ***11*** *05:41:25.1±1.0, 46°93N×141°74E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.7/24, mbtmp3.6/9, MS3.3/1, Ms1 3.3/1, ms1mx2.6/32, Error ellipse: s-maj=29.2km s-min=22.0km az=154.0*

SKHL ***11*** *05:41:26.0±0.5, 46°87N×141°75E, h10km, mb4.4/4*

SKHL Felt (II-III) at Navel'sk, Kholmsk.

ISCJB ***11*** *05:41:26.0±0.6, 46°96N±0°03×141°75E±0°05, h14km±5km, mb3.5/10, MS3.2/1, Error ellipse: s-maj=5.3km s-min=4.5km az=172.7*

ISC 11 05:41:27.6±1.1,**46°84N**±0°03×**141°83E**±0°04,**h18**km±6km,
n33,σ1$**51**/38,**mb3.6**/10,**3D,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YSS	**Yuzh-Sakhalins**	**0.64**	**80**	*i*PN		**Pg**	**05 41 39.4**	**-0.9**
YSS				*e*			05 41 49.2	
YSS				pmax		pmax		
	comp=Z,260nm,0.3s							
YSS				smax		smax		
	comp=N,2μm,0.3s							
YSS	**Yuzh-Sakhalins**	**0.64**	**80**	⇓*i*Pg		**Pg**	**05 41 39.4**	**-0.9**
YSS				AMB		AMB	05 41 39.8	
	comp=N,260nm,0.3s							
YSS				*e*Sg		**Sb**	**05 41 49.2**	**+0.3**
YSS				A		A	05 41 52.2	
	comp=N,2μm,0.3s							
YSS				AMS		AMS	05 42 11.0	
	comp=N,2μm,8.0s							
YSS				AMS		AMS	05 42 11.0	
	comp=N,2μm,8.0s							
JWK2	**Keihoku**	**1.53**	**178**	P		**Pn**	**05 41 54.7**	**+0.7**
JWK2				*e*S		**Sg**	**05 42 16.8**	**-0.1**
JRR	**Rishiri**	**1.74**	**192**	*e*S		**Sg**	**05 42 22.8**	**-1.0**
JSE	**Soyaes**	**1.96**	**164**	P		**Pn**	**05 42 00.5**	**+0.6**
JSE				*e*S		**Sn**	**05 42 25.9**	**+1.9**
UGL	**Uglegorsk**	**2.24**	**4**	*e*PN		**Pg**	**05 42 10.0**	**-0.6**
UGL				*e*S		**Sb**	**05 42 36.0**	**+1.0**
UGL				pmax		pmax		
	comp=Z,164nm,0.9s							
UGL				smax		smax		
	comp=N,175nm,0.6s							
UGL				smax		smax		
	comp=E,461nm,0.6s							
UGL	**Uglegorsk**	**2.24**	**4**	*e*Pg		**Pg**	**05 42 10.0**	**-0.6**
UGL				AMB		AMB	05 42 12.0	
	comp=E,164nm,0.9s							
UGL				*e*Sg		**Sb**	**05 42 36.0**	**+1.0**
UGL				A		A	05 42 38.5	
	comp=E,175nm,0.6s							
UGL				A		A	05 42 38.5	
	comp=E,461nm,0.6s							
JYG	**Yagishiri**	**2.43**	**187**	P		**Pn**	**05 42 08.1**	**+1.6**
JSS	**Shosan**	**2.44**	**180**	P		**Pn**	**05 42 08.8**	**+2.2**
JSS				*e*S		**Sb**	**05 42 41.5**	**+0.7**
JTKR	**Abashiri--Toko**	**3.22**	**152**	P		**Pn**	**05 42 18.0**	**+0.7**
JAR	**Ashorobuto**	**3.80**	**158**	P		**Pn**	**05 42 26.8**	**+1.5**
TYV	**Tymovskoe**	**4.06**	**7**	*e*Pb		**Pb**	**05 42 37.0**	**-1.5**
TYV				*e*Pg		**Pg**	**05 42 45.0**	**-0.3**
TYV				AMB		AMB	05 42 46.0	
	comp=E,9.0nm,0.8s							
TYV				AMB		AMB	05 42 46.0	
	comp=E,13nm,0.8s							
TYV				*e*Sg		**Sg**	**05 43 42.0**	**+4.1**
TYV				A		A	05 43 45.2	
	comp=E,40nm,1.0s							
TEY	**Ternei**	**4.07**	**246**	*e*P		**Pn**	**05 42 29.0**	**0.0**
TEY				*e*Pg		**Pg**	**05 42 45.5**	**-0.1**
TEY				*e*Sg		**Sg**	**05 43 41.5**	**+3.2**
TEY				A		A	05 43 47.5	
	comp=E,28nm,0.5s							
HABR	**Khabarovsk**	**4.86**	**292**	*e*PN		**Pn**	**05 42 38.5**	**-1.3**
HABR				pmax		pmax		
	comp=E,39nm,0.2s							
HABR				pmax		pmax		
	comp=N,21nm,0.2s							
HABR				pmax		pmax		
	comp=Z,31nm,0.3s							
HABR				pmax		pmax		
	comp=N,39nm,0.3s							
HABR				MLR		MLR		
	comp=Z,103nm,18.0s							
GRNR	**Gornyy**	**5.31**	**320**	*e*Sg		**Sg**	**05 44 19.0**	**+1.0**
GRNR				A		A	05 44 21.0	
	comp=Z,34nm,0.8s							
GRNR				A		A	05 44 21.0	
	comp=Z,28nm,0.8s							
NKL	**Nikolayevsk**	**6.36**	**354**	*e*Pg		**Pg**	**05 43 31.0**	**+1.8**
OKH	**Okha**	**6.75**	**6**	*e*Pg		Pg	05 43 41.3	+4.5
OKH				AMB		AMB	05 43 42.0	
	comp=Z,184nm,0.4s							
OKH				*e*Sg		Sg	05 45 16.2	+12
OKH				A		A	05 45 17.5	
	comp=Z,142nm,0.4s							
USRK	**Ussuriysk Arra**	**7.40**	**253**	Pg		Pg	05 43 43.5	-5.7

BJII	**Banjamegara**	**2.52**	**319**	P		**Pn**	**05 45 48.5**	**+2.4**
GRJI	**Gresik**	**2.55**	**25**	P		**Pn**	**05 45 48.7**	**+2.1**
BLJI	**Banyuglugur**	**2.65**	**56**	P		**Pn**	**05 45 49.5**	**+1.7**
KPJI	**Karang Pucung**	**3.08**	**308**	P		**Pn**	**05 45 56.0**	**+2.2**
ABJI	**Asem Bagus**	**3.17**	**63**	P		**Pn**	**05 45 57.2**	**+2.2**
CMJI	**Cimerak**	**3.24**	**296**	P		**Pn**	**05 45 57.1**	**+1.1**
CMJI				S		**Sn**	**05 46 35.7**	**+2.3**
TGJI	**Tegal**	**3.25**	**316**	P		**Pn**	**05 45 57.8**	**+1.6**
CISI	**Cisompet, Garu**	**3.91**	**295**	P		**Pn**	**05 46 07.0**	**+1.8**
CISI				S		**Sn**	**05 46 52.6**	**+2.7**
CISI	**Cisompet, Garu** baz=4.0,SNR=11	**3.91**	**295**	P		**Pn**	**05 46 07.0**	**+1.8**
LEM	**Lembang**	**4.43**	**302**	P		Pn	05 46 17.1	+4.6
XMIS	**Christmas Isla** baz=5.7,SNR=5.5	**5.78**	**257**	P		**Pn**	**05 46 30.1**	**-0.8**
GIRL	**Giralia** baz=14,SNR=6.0	**13.61**	**169**	P		**Pn**	**05 48 16.8**	**-1.3**
LUWI	**Luwuk** baz=14,SNR=3.7	**13.96**	**55**	P		Pn	05 48 17.8	-5.2
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=348,slow=18,SNR=8.7	**16.41**	**124**	P		**Pn**	**05 48 53.7**	**-1.3**
FITZ	**Fitzroy Crossi** baz=16,SNR=4.4	**16.41**	**124**	P		**Pn**	**05 48 53.8**	**-1.2**
MEEK	**Meekatharra** baz=18,SNR=4.9	**18.61**	**159**	P		**Pn**	**05 49 23.3**	**+1.1**
MTN	**Manton Dam** baz=20,SNR=4.5	**19.71**	**102**	P		**Pn**	**05 49 38.3**	**+2.9**
WRKA	**Warakurna** baz=22,SNR=4.2	**22.50**	**136**	P		**P**	**05 50 04.2**	**+0.5**
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=290,slow=12,SNR=5.2	**24.60**	**118**	P		**P**	**05 50 23.4**	**-0.6**
WRA				pP		**pP**	**05 50 36.2**	**+0.7**
	2.3nm,0.7s,baz=291,slow=12,SNR=6.7							
ASAR	**Alice Springs** 0.9nm,0.4s,baz=303,slow=9.4,SNR=24	**25.87**	**126**	P		**P**	**05 50 36.0**	**+0.4**
ASAR				pP		**pP**	**05 50 48.0**	**+0.9**
	1.3nm,0.8s,baz=303,slow=8.6,SNR=6.2							
STKA	**Stephens Creek** 1.3nm,0.7s,baz=295,slow=16,SNR=4.2	**35.94**	**133**	P		**P**	**05 52 04.9**	**+0.7**
H08S2	**Diego Garcia H** baz=95,slow=76,SNR=9.9	**38.49**	**269**	T		T	06 33 15.7	
H08S3	**Diego Garcia H** baz=95,slow=76,SNR=7.4	**38.50**	**269**	T		T	06 33 29.1	
H08S1	**Diego Carcia H** baz=95,slow=76,SNR=7.9	**38.51**	**269**	T		T	06 33 30.3	
MJAR	**Matsushiro Arr** 0.9nm,0.3s,baz=170,slow=8.6,SNR=3.1	**52.06**	**27**	P		**P**	**05 54 12.0**	**-1.2**
USRK	**Ussuriysk Arra** 3.4nm,0.9s,baz=119,slow=11,SNR=4.7	**56.37**	**18**	P		**P**	**05 54 43.3**	**-1.2**
SONM	**Songino Array** 0.3nm,0.4s,baz=166,slow=8.4,SNR=3.7	**56.99**	**356**	P		**P**	**05 54 48.6**	**-0.5**
SONM				pP		**pP**	**05 55 00.4**	**-0.9**
	0.5nm,0.5s,baz=171,slow=8.7,SNR=4.6							
MKAR	**Makanchi Array** 0.9nm,0.5s,baz=151,slow=8.0,SNR=17	**61.52**	**338**	P		**P**	**05 55 20.7**	**+0.4**
MKAR				pP		**pP**	**05 55 32.1**	**-0.5**
	1.5nm,0.4s,baz=151,slow=7.6,SNR=11							
MAW	**Mawson** baz=66,SNR=10.0	**66.55**	**198**	P		P	05 55 56.6	+3.7
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=159,slow=4.6,SNR=3.8	**66.84**	**343**	P		**P**	**05 55 53.4**	**-1.5**
ZALV				pP		**pP**	**05 56 06.1**	**-1.3**
	1.3nm,0.4s,baz=164,slow=5.2,SNR=4.6							
BRTR	**Keskin Array B** 1.4nm,1.0s,baz=318,slow=1.7,SNR=3.7	**86.56**	**311**	P		**P**	**05 57 46.6**	**-0.1**
BRTR				pP		**pP**	**05 57 59.4**	**-0.3**
	2.2nm,1.0s,baz=186,slow=3.6,SNR=4.1							

IDC 11 05:56:04.2±2.0, 1°79.N × 126°28.E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=131.8km s-min=23.9km az=69.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=352,slow=19,SNR=4.7	**19.78**	**182**	P	P	06 00 35.4	-0.8
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=341,slow=12,SNR=4.9	**23.00**		P	P	06 01 11.4	+0.4
ASAR	**Alice Springs** 0.2nm,0.4s,baz=344,slow=7.4,SNR=5.0	**26.37**	**164**	P	P	06 01 42.7	+0.2
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=118,slow=8.0,SNR=3.6	**58.89**	**326**	P	P	06 06 04.9	-0.2

IDC 11 05:56:39.5±2.2, 43°.01N × 126°.51W, h0km, mb3.4/4, mb1 3.7/10, mb1mx3.6/33, mbtmp3.5/10, ML3.2/6, MS3.3/5, Ms1 3.3/5, ms1mx3.1/18, Error ellipse: s-maj=45.2km s-min=12.2km az=49.0

NEIC 11 05:56:42.0±1.2, 43°.18N × 126°.35W, h10km, ML3.2, Error ellipse: s-maj=15.2km s-min=6.7km az=65.0

ISC 11 05:56:42.2±2.2, 43°.13N±0°.05 × 126°.46W±0°.08, h18km±11km, n81, σ1°61/85, mb3.3/3, MS3.2/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.58**	**99**	*e*Pn	Pn	05 57 05.5	-3.9
KEBM				*e*Sn	**Sb**	**05 57 29.5**	**-1.0**
KBO	**Bosley Butte**	**1.89**	**118**	*e*Pn	Pn	05 57 10.1	-3.5
KBO				*e*Sn	**Sb**	**05 57 40.7**	**+1.3**
RNO	**Roman Nose**	**2.12**	**68**	P	**Pn**	**05 57 14.4**	**-2.5**
DBO	**Dodson Butte**	**2.35**	**89**	P	**Pn**	**05 57 17.2**	**-2.8**
KRMB	**Red Mountain**	**2.48**	**130**	*e*Pn	Pn	05 57 17.7	-4.2
KRMB				*e*Sn	**Sn**	**05 57 49.2**	**-2.5**
EUO	**Eugene**	**2.62**	**69**	P	**Pn**	**05 57 21.6**	**-2.0**
HUMO	**Hull Mountain**	**2.63**	**100**	*e*Pn	**Pn**	**05 57 20.9**	**-2.8**
HUMO				*e*Sn	**Sn**	**05 57 55.1**	**0.0**
COR	**Corvallis**	**2.70**	**56**	*e*Pn	**Pn**	**05 57 22.8**	**-1.9**
COR				*e*Sn	**Sn**	**05 57 57.1**	**+0.2**
BBOR	**Butler Butte**	**2.78**	**94**	P	**Pn**	**05 57 23.8**	**-2.2**
KHMM	**Horse Mountain**	**3.04**	**137**	*e*Pn	**Pn**	**05 57 27.1**	**-2.4**
KHMM				*e*Sn	**Sn**	**05 58 01.6**	**-3.9**
YBH	**Yreka Blue Hor**	**3.11**	**116**	*e*Pn	**Pn**	**05 57 29.3**	**-1.1**
YBH				*e*Sn	**Sn**	**05 58 07.3**	**+0.2**
YBH	**Yreka Blue Hor** 1.2nm,0.3s,baz=293,slow=12,SNR=44	**3.11**	**116**	Pn	**Pn**	**05 57 28.7**	**-1.7**
YBH				Sn	**Sn**	**05 58 07.2**	**+0.2**
	0.6nm,0.3s,baz=107,slow=17,SNR=4.9						
H04A	**Detroit Lake**	**3.45**	**62**	*e*Pn	**Pn**	**05 57 33.5**	**-1.7**
F03A	**Seaside**	**3.48**	**36**	*e*Pn	**Pn**	**05 57 33.4**	**-2.0**
F03A				*e*Sn	**Sn**	**05 58 16.4**	**+0.3**
HUOR	**Husband**	**3.49**	**72**	P	**Pn**	**05 57 34.4**	**-1.4**
G04A	**Mulino**	**3.53**	**53**	P	**Pn**	**05 57 35.4**	**-0.8**
E03A	**Lebam**	**3.98**	**30**	*e*Pn	**Pn**	**05 57 40.6**	**-1.7**
E03A				*e*Sn	**Sn**	**05 58 25.3**	**-3.2**
F04A	**Amboy**	**4.02**	**45**	*e*Pn	**Pn**	**05 57 41.8**	**-1.0**
K05A	**Summer Lake**	**4.11**	**94**	*e*Pn	**Pn**	**05 57 42.6**	**-1.6**
NLWA	**Neilton Lookou**	**4.63**	**22**	*e*Pn	**Pn**	**05 57 50.2**	**-1.1**
NLWA				*e*Sn	**Sn**	**05 58 42.6**	**-2.0**
G06A	**Carlson Farm,**	**4.69**	**61**	*e*Pn	**Pn**	**05 57 50.7**	**-1.4**
G06A				*e*Sn	**Sn**	**05 58 47.0**	**+1.0**
MOD	**Modoc**	**4.71**	**103**	*e*Pn	**Pn**	**05 57 51.6**	**-0.9**
LON	**Longmire**	**4.89**	**41**	*e*Pn	**Pn**	**05 57 54.4**	**-0.5**
LON				*e*Sn	**Sn**	**05 58 51.1**	**+0.1**
I07A	**Izee**	**5.14**	**77**	*e*Pn	**Pn**	**05 57 57.4**	**-0.9**
D05A	**Enumclaw**	**5.14**	**36**	*e*Pn	**Pn**	**05 57 57.8**	**-0.4**
D05A				*e*Sn	**Sn**	**05 58 57.9**	**+0.9**
WVOR	**Wild Horse Val**	**5.80**	**94**	*e*Pn	**Pn**	**05 58 06.6**	**-0.8**
G08A	**Pilot Rock**	**5.80**	**66**	*e*Pn	**Pn**	**05 58 06.3**	**-1.2**
LTY	**Liberty**	**5.81**	**43**	*e*Pn	**Pn**	**05 58 07.1**	**-0.4**
E07A	**Sunnyside**	**5.81**	**52**	*e*Pn	**Pn**	**05 58 06.4**	**-1.0**
J08A	**Circle Bar Ran**	**5.84**	**85**	*e*Pn	**Pn**	**05 58 08.8**	**+0.9**
PGC	**Sidney** 0.5nm,0.3s	**5.90**	**20**	*e*Pn	**Pn**	**05 58 06.7**	**-2.0**
PGC				*e*Sn	**Sn**	**05 59 12.7**	**-3.1**
HAWA	**Hanford**	**5.91**	**54**	*e*Pn	**Pn**	**05 58 07.5**	**-1.2**
WCN	**Washoe City**	**6.34**	**125**	*e*Pn	**Pn**	**05 58 13.6**	**-1.3**
WCN				*e*Sg	**Sg**	**06 00 04.0**	**-1.6**
B06A	**Marblemount**	**6.41**	**31**	*e*Pn	**Pn**	**05 58 15.4**	**-0.1**
A05A	**Maple Falls**	**6.61**	**26**	*e*Pn	**Pn**	**05 58 18.9**	**+0.6**
D08A	**Wollman Farm,**	**6.62**	**51**	*e*Pn	**Pn**	**05 58 17.8**	**-0.8**
E09A	**Wood Farm, Sta**	**6.81**	**57**	*e*Pn	**Pn**	**05 58 19.1**	**-2.1**
BMO	**Blue Mountains**	**6.82**	**72**	*e*Pn	**Pn**	**05 58 19.6**	**-1.8**
F10A	**Beach Ranch, E**	**7.18**	**64**	*e*Pn	**Pn**	**05 58 24.8**	**-1.5**
B08A	**Colville Reser**	**7.22**	**41**	*e*Pn	**Pn**	**05 58 26.0**	**-0.8**
C09A	**Chrisman Ranch**	**7.41**	**48**	*e*Pn	**Pn**	**05 58 28.6**	**-0.7**
NVAR	**Mina Array Bea**	**7.77**	**124**	Pn	**Pn**	**05 58 36.5**	**+2.0**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=299,slow=14,SNR=6.4	**7.77**	**124**	Pn	**Pn**	**05 58 36.5**	**+2.0**
NEW	**Newport**	**8.30**	**49**	*e*Pn	**Pn**	**05 58 43.0**	**+1.3**
ELK	**Elko**	**8.70**	**102**	Pn	**Pn**	**05 58 49.2**	**+1.9**
ELK	**Elko** 0.0nm,0.3s,baz=280,slow=23,SNR=3.3	**8.70**	**102**	Pn	**Pn**	**05 58 49.2**	**+1.9**
ELK				LR	LR	06 01 59.1	
	comp=Z,129nm,19.7s,baz=180,slow=37						
HLID	**Hailey** 1.7nm,0.5s	**8.79**	**83**	*e*Pn	**Pn**	**05 58 50.0**	**+1.5**
BBB	**Bella Bella**	**9.12**	**354**	Pn	**Pn**	**05 58 53.9**	**+1.1**
BBB	**Bella Bella** 0.6nm,0.3s,baz=216,slow=6.9,SNR=4.1	**9.12**	**354**	Pn	**Pn**	**05 58 53.9**	**+1.1**
BBB				LR	LR	06 01 42.8	
	comp=Z,162nm,18.4s,baz=179,slow=33						
BSMT	**Bassoo Peak**	**9.45**	**56**	*e*Pn	**Pn**	**05 58 57.5**	**-0.1**
MCMT	**McKenzie Canyo** 1.0nm,0.7s	**9.96**	**76**	*e*Pn	**Pn**	**05 59 05.8**	**+1.3**
CHMT	**Chamberlain Mo** 4.4nm,1.4s	**10.08**	**63**	*e*Pn	**Pn**	**05 59 05.2**	**-1.0**
DLMT	**Dillon**	**10.19**	**73**	*e*Pn	**Pn**	**05 59 08.5**	**+0.8**
BGU	**Big Grassy Mou** 2.5nm,1.4s	**10.23**	**98**	*e*Pn	**Pn**	**05 59 08.8**	**+0.5**
DUG	**Dugway**	**10.62**	**101**	*e*Pn	**Pn**	**05 59 12.8**	**-0.7**
ARUT	**Antelope Range** 37nm,0.8s	**11.26**	**114**	*e*Pn	**Pn**	**05 59 23.6**	**+1.3**
YMR	**Madison River** 21nm,1.3s	**11.29**	**77**	*e*Pn	**Pn**	**05 59 24.4**	**+1.6**
TPAW	**Teton Pass**	**11.31**	**83**	*e*Pn	**Pn**	**05 59 25.1**	**+2.1**
REDW	**Red Top Meadow**	**11.39**	**84**	*e*Pn	**Pn**	**05 59 26.4**	**+2.2**
MOOW	**Moose Ponds**	**11.44**	**82**	*e*Pn	**Pn**	**05 59 27.0**	**+2.1**
LOHW	**Long Hollow**	**11.55**	**82**	*e*Pn	**Pn**	**05 59 28.1**	**+1.8**
MVU	**Marysvale** 1.8nm,0.9s	**11.74**	**108**	*e*Pn	**Pn**	**05 59 30.7**	**+1.7**
DLBC	**Dease Lake**	**15.48**	**353**	Pn	**P**	**06 00 21.9**	**-2.0**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=158,slow=14,SNR=5.6	**15.48**	**353**	Pn	**P**	**06 00 21.9**	**-2.0**
ANMO	**Albuquerque**	**17.53**	**111**	P	**Pn**	**06 00 45.2**	**-0.5**
ANMO	**Albuquerque** 0.0nm,0.3s,baz=315,slow=10,SNR=5.8	**17.53**	**111**	P	**Pn**	**06 00 45.2**	**-0.5**
YKA	**Yellowknife Ar**	**20.61**	**16**	P	Pn	06 01 22.1	-0.3
YKA	**Yellowknife Ar** 0.8nm,0.7s,baz=206,slow=10,SNR=4.1	**20.61**	**16**	P	Pn	06 01 22.0	-0.3
ULM	**Lac du Bonnet**	**22.04**	**61**	P	**P**	**06 01 37.8**	**+2.1**
ULM	**Lac du Bonnet** 4.9nm,0.9s,baz=281,slow=13,SNR=4.5	**22.04**	**61**	P	**P**	**06 01 37.8**	**+2.1**
ULM				LR	LR	06 11 30.8	
	comp=Z,107nm,18.9s,baz=81,slow=40						
TXAR	**Lajitas Array**	**22.88**	**120**	P	**P**	**06 01 45.7**	**+0.9**
TXAR	**Lajitas Array** 0.7nm,0.9s,baz=292,slow=6.6,SNR=5.6	**22.88**	**120**	P	**P**	**06 01 45.7**	**+0.9**
ILAR	**Eielson Array**	**24.56**	**339**	P	**P**	**06 02 00.2**	**-0.4**
ILAR	**Eielson Array** 0.7nm,0.9s,baz=151,slow=8.9,SNR=8.1	**24.56**	**339**	P	**P**	**06 02 00.2**	**-0.4**
ILAR				LR	LR	06 10 07.9	
	comp=Z,74nm,19.3s,baz=280,slow=33						
INK	**Inuvik** comp=Z,78nm,18.6s,baz=74,slow=33	**25.51**	**354**	LR	LR	06 10 51.0	
H11N3	**WAKE ISLAND Hy** baz=53,slow=75,SNR=93	**59.87**	**269**	T	T	07 11 24.5	
H11N2	**WAKE ISLAND Hy** baz=53,slow=75,SNR=131	**59.87**	**269**	T	T	07 11 15.2	
H11N1	**WAKE ISLAND Hy** baz=53,slow=75,SNR=88	**59.88**	**269**	T	T	07 11 16.3	
H11S1	**WAKE ISLAND Hy** baz=50,slow=75,SNR=1123	**60.78**	**268**	T	T	07 12 32.9	
H11S2	**WAKE ISLAND Hy** baz=50,slow=75,SNR=568	**60.79**	**268**	T	T	07 12 33.8	
H11S3	**WAKE ISLAND Hy** baz=50,slow=75,SNR=389	**60.80**	**268**	T	T	07 12 34.9	

IDC 11 05:59:51.6±0.8, 24°.87N × 46°.03W, h0km, mb3.7/10, mb1 4.0/10, mb1mx3.8/27, mbtmp3.7/10, MS3.7/10, Ms1 3.7/10, ms1mx3.4/32, Error ellipse: s-maj=26.6km s-min=20.4km az=135.0

ISCJB 11 05:59:52.1±0.7, 24°.9N±0°.1 × 46°.0W±0°.1, h15km, mb3.7/10, MS3.7/9, Error ellipse: s-maj=21.8km s-min=16.4km az=43.8

ISC 11 05:59:54.0±0.8, 24°.9N±0°.2 × 46°.0W±0°.2, h15km, n23, σ1°00/10, mb3.8/10, MS3.7/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan** comp=Z,88nm,18.7s,baz=273,slow=29	**19.90**	**254**	LR	LR	06 09 37.1	
BBTS	**Babate** comp=Z,121nm,21.9s,baz=210,slow=28	**29.47**	**105**	LR	LR	06 13 51.5	
BDFB	**Brasilia** comp=Z,61nm,21.7s,baz=215,slow=32	**40.30**	**183**	LR	LR	06 21 29.6	
DBIC	**Dimbokro** comp=Z,93nm,20.8s,baz=258,slow=31	**43.31**	**108**	LR	LR	06 22 22.4	
H10N2	**ASCENSION HYDR** baz=318,slow=75,SNR=34	**44.71**	**133**	T	T	06 55 47.6	
H10N3	**ASCENSION HYDR** baz=318,slow=75,SNR=25	**44.71**	**133**	T	T	06 55 47.6	
H10N1	**ASCENSION HYDR** baz=318,slow=75,SNR=25	**44.73**	**133**	T	T	06 55 48.9	
H10S3	**ASCENSION HYDR** baz=318,slow=75,SNR=16	**45.42**	**134**	T	T	06 56 34.7	
H10S1	**ASCENSION HYDR** baz=318,slow=75,SNR=52	**45.42**	**134**	T	T	06 56 43.2	
H10S2	**ASCENSION HYDR** baz=318,slow=75,SNR=48	**45.44**	**134**	T	T	06 56 44.4	
ULM	**Lac du Bonnet** comp=Z,114nm,18.9s,baz=1.1,slow=33	**45.86**	**317**	LR	LR	06 25 19.5	
LPAZ	**La Paz** 2.5nm,0.9s,baz=20,slow=8.2,SNR=6.0	**46.24**	**210**	P	**P**	**06 08 19.8**	**+0.3**
TORD	**Torodi Ar. Bea** 1.1nm,0.8s,baz=296,slow=7.4,SNR=5.5	**46.37**	**95**	P	**P**	**06 08 18.6**	**-1.4**
TORD				LR	LR	06 25 33.5	
	comp=Z,79nm,20.2s,baz=340,slow=33						
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=99,slow=9.3,SNR=6.5	**51.09**	**289**	P	**P**	**06 08 56.6**	**+0.4**
TXAR				LR	LR	06 30 41.4	
	comp=Z,48nm,21.7s,baz=5.0,slow=36						
GERES	**GERESS Array B** 0.2nm,0.2s,baz=214,slow=9.2,SNR=4.1	**51.93**	**46**	P	**P**	**06 09 02.5**	**+0.2**
NOA	**NORSAR Array B** 0.2nm,0.1s,baz=253,slow=7.6,SNR=2.7	**52.80**	**31**	P	**P**	**06 09 09.9**	**+1.4**
YKA	**Yellowknife Ar** 0.5nm,0.5s,baz=98,slow=7.4,SNR=6.5	**58.38**	**329**	P	**P**	**06 09 47.8**	**-0.7**
ARCES	**ARCESS Array B** 1.8nm,0.9s,baz=298,slow=2.6,SNR=4.2	**60.48**	**23**	P	**P**	**06 10 03.2**	**+0.3**
NVAR	**Mina Array Bea** comp=Z,143nm,20.4s,baz=284,slow=33	**61.59**	**302**	LR	LR	06 33 41.6	
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=274,slow=5.9,SNR=2.9	**61.97**	**44**	P	**P**	**06 10 13.7**	**+0.4**
PLCA	**Paso Flores** 2.0nm,1.0s,baz=359,slow=7.5,SNR=3.4	**69.14**	**200**	P	**P**	**06 11 00.1**	**+0.4**
ILAR	**Eielson Array** 0.8nm,0.9s,baz=74,slow=4.8,SNR=5.4	**72.28**	**334**	P	**P**	**06 11 17.2**	**-1.3**
ILAR				LR	LR	06 43 30.5	
	comp=Z,84nm,18.6s,baz=224,slow=36						
BOSA	**Boshof** comp=Z,54nm,18.7s,baz=169,slow=32	**86.71**	**123**	LR	LR	06 46 19.7	

GUC 11 06:24:42.1±0.5, 34°.70S × 72°.46W, h39km±2km, MD3.7, ML3.2, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.98**	**136**	*i*P	Pn	06 25 00.1	+0.8
TALC				*i* S	Sn	06 25 13.2	+1.3
TALC				AML	AML	06 25 15.2	
	comp=E,3μm,0.4s						
NICH	**Los Niches**	**1.06**	**107**	*i*P	Pn	06 25 01.0	+0.6
NICH				*i* S	Sn	06 25 15.5	+1.6
NICH				AML	AML	06 25 15.9	
	comp=N,2μm,0.4s						
COCH	**Cobquecura**	**1.46**	**190**	*e*P	Pn	06 25 06.9	+1.0
COCH				*i* S	Sn	06 25 25.9	+2.2
COCH				AML	AML	06 25 30.9	
	comp=N,147nm,0.4s						
TACH	**Talagante**	**1.64**	**51**	*i*P	Pn	06 25 08.9	+0.5
CACH	**El Canelo**	**1.64**	**70**	*e*P	Pn	06 25 10.3	+1.7
CACH				*i* S	Sn	06 25 31.4	+2.8
CHCH	**Chadas Angostu**	**1.68**	**64**	*e*P	Pn	06 25 10.5	+1.4
CHCH				*i* S	Sn	06 25 32.0	+2.6
ANTU	**Antumapu**	**1.89**	**54**	*e*P	Pn	06 25 13.2	+1.4
ANTU				*i* S	Sn	06 25 36.5	+2.0
ANTU				AML	AML	06 25 41.4	
	comp=E,236nm,0.3s						
PCH	**Pirque**	**1.94**	**57**	*e*P	Pn	06 25 13.8	+1.1
PCH				*e*S	Sn	06 25 38.1	+2.2
SJCH	**San Jose de Ma**	**2.04**	**60**	*e*P	Pn	06 25 14.7	+0.6
SJCH				*i* S	Sn	06 25 40.1	+1.8
SJCH				AML	AML	06 25 47.7	
	comp=N,176nm,0.5s						
CLCH	**Cerro Calan**	**2.06**	**51**	*e*P	Pn	06 25 15.6	+1.4
CLCH				*i* S	Sn	06 25 40.9	+2.2
CLCH				AML	AML	06 25 50.1	
	comp=E,202nm,0.8s						
ROCH	**El Roble**	**2.10**	**35**	*e*P	Pn	06 25 15.9	+0.9
ROCH				*i* S	Sn	06 25 42.4	+2.3
PEL	**Peldehue**	**2.14**	**44**	*i*P	Pn	06 25 16.7	+1.3
PEL				*i* S	Sn	06 25 42.8	+2.1
PEL				AML	AML	06 25 50.3	
	comp=N,362nm,0.2s						

ISCJB 11 06:36:05.1±0.7, 24°.12S±0°.05 × 67°.0W±0°.1, h181km, mb3.7/3, Error ellipse: s-maj=15.8km s-min=7.2km az=1.2

IDC 11 06:36:08.0±1.6, 24°.00S × 66°.93W, h197km±15km, mb3.6/3, mb1 3.5/8, mb1mx3.3/18, mbtmp3.9/8, Error ellipse: s-maj=21.7km s-min=15.1km az=87.0

ISC 11 06:36:05.9±0.8, 24°.10S±0°.07 × 67°.1W±0°.1, h181km, n12, σ1°36/13, mb3.9/3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan** 0.1nm,0.3s,baz=18,slow=12,SNR=13	**7.54**	**188**	P	Pn	06 37 56.8	+3.6
CFAA				S	**Sn**	**06 39 16.5**	**-1.6**
	0.4nm,0.3s,baz=268,slow=17,SNR=15						
LPAZ	**La Paz** 0.9nm,0.3s,baz=155,slow=6.5,SNR=21	**7.84**	**352**	P	**Pn**	**06 37 59.6**	**+1.8**
LPAZ				S	**Sn**	**06 39 24.2**	**-2.0**
	0.2nm,0.3s,baz=60,slow=20,SNR=4.1						
CPUP	**Villa Florida** 0.4nm,0.3s,baz=274,slow=13,SNR=3.8	**9.08**	**106**	P	**Pn**	**06 38 13.7**	**+0.3**
SIV	**San Ignacio** 0.3nm,0.3s,baz=230,slow=11,SNR=3.8	**9.83**	**36**	P	**Pn**	**06 38 24.6**	**+1.2**
PLCA	**Paso Flores** 0.1nm,0.3s,baz=3.3,slow=16,SNR=3.1	**16.84**	**189**	P	**Pn**	**06 39 53.3**	**+2.1**
BDFB	**Brasilia** 0.8nm,0.3s,baz=238,slow=12,SNR=11	**19.77**	**68**	P	**P**	**06 40 22.1**	**-0.3**
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=259,slow=5.4,SNR=7.8	**76.65**	**69**	P	**P**	**06 47 36.0**	**-1.1**
ULM	**Lac du Bonnet** 1.2nm,0.5s,baz=170,slow=11,SNR=5.2	**78.31**	**342**	P	**P**	**06 47 46.0**	**+0.5**
YKA	**Yellowknife Ar** 0.4nm,0.5s,baz=134,slow=4.7,SNR=6.5	**94.20**	**340**	P	**P**	**06 49 03.1**	**-0.6**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=142,slow=2.3,SNR=6.3	**128.34**	**205**	PKP	**PKPdf**	**06 54 51.2**	**-0.4**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=168,slow=1.5,SNR=2.6	**131.51**	**207**	PKP	**PKPdf**	**06 54 57.3**	**-0.4**
MKAR	**Makanchi Array** 1.7nm,0.6s,baz=294,slow=3.6,SNR=7.7	**146.64**	**40**	PKPbc	**PKPbc**	**06 55 26.0**	**-0.1**

WEL 11 06:37:15.0±0.5, 38°.19S × 175°.69E, h206km±5km, ML3.5/5, Error ellipse: s-maj=5.5km s-min=5.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	**1.16**	**148**	PN	Pn	06 37 46.5	0.0
BHHZ	**Black Hill Sta**	**1.33**	**168**	PN	Pn	06 37 47.8	-0.1
BHHZ				SN	S	06 38 13.0	-0.3
MCHZ	**McNeill Hill**	**1.48**	**148**	PN	Pn	06 37 49.9	+0.8
RIGZ	**Rimuhau**	**1.70**	**108**	PN	Pn	06 37 51.2	+0.1
RIGZ				SN	S	06 38 18.4	-0.4
KNZ	**Kokohu**	**1.76**	**119**	PN	Pn	06 37 51.1	-0.4
PNHZ	**Pukenui**	**1.77**	**167**	PN	Pn	06 37 51.5	-0.2
PNHZ				SN	S	06 38 19.8	-0.2
KAHZ	**Kahuranaki**	**1.85**	**150**	PN	Pn	06 37 52.7	+0.2
MRZ	**Mangatainoka R**	**2.47**	**182**	PN	Pn	06 37 57.6	-1.3
MRZ				SN	S	06 38 31.7	-1.2
BFZ	**Birch Farm**	**2.52**	**170**	PN	Pn	06 37 58.4	-1.1
OGWZ	**Otaki Gorge**	**2.66**	**189**	PN	Pn	06 37 59.7	-1.2
HOWZ	**Holdsworth Sta**	**2.71**	**183**	PN	Pn	06 37 59.8	-1.7
KIW	**Kapiti Island**	**2.74**	**193**	PN	Pn	06 38 00.3	-1.6
TCW	**Tory Channel**	**3.21**	**199**	PN	Pn	06 38 05.5	-1.9
TUWZ	**Tuamarina**	**3.51**	**202**	PN	Pn	06 38 08.6	-2.2
NNZ	**Nelson**	**3.51**	**210**	PN	Pn	06 38 08.1	-2.8
QRZ	**Quartz Range**	**3.60**	**222**	PN	Pn	06 38 09.0	-3.0
THZ	**Tophouse**	**4.16**	**210**	PN	Pn	06 38 16.9	-2.1
THZ				SN	S	06 39 07.0	-2.0

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FITZ S **Sn** **07 14 59.5 -3.4**
7.9nm,0.3s,baz=338,slow=12,SNR=5.8
FITZ **Fitzroy Crossi** **10.41 190** P **Pn** **07 13 08.5 +0.9**
baz=12,SNR=64
WRA **Warramunga Arr** **13.74 152** P **Pn** **07 13 49.3 -1.6**
3.2nm,0.3s,baz=326,slow=13,SNR=76
WRA S Sn 07 16 14.7 -8.4
6.8nm,0.3s,baz=327,slow=24,SNR=16
COEN **Coen** **16.49 113** P **Pn** **07 14 25.3 +0.3**
baz=17,SNR=4.6
ASAR **Alice Springs** **16.90 160** P **Pn** **07 14 31.4 +1.4**
0.7nm,0.3s,baz=338,slow=11,SNR=78
ASAR S **S** **07 17 35.8 -2.2**
2.1nm,0.3s,baz=345,slow=22,SNR=6.2
WRKA **Warakurna** **17.16 178** P **Pn** **07 14 37.0 +4.0**
baz=18,SNR=70
QIS **Mount Isa** **17.21 139** P **Pn** **07 14 35.2 +1.4**
baz=18,SNR=7.7
MEEK **Meekatharra** **20.58 203** P Pn 07 15 16.7 +3.3
baz=22,SNR=5.9
STKA **Stephens Creek** **27.28 153** P **P** **07 16 15.4 +2.8**
1.2nm,0.6s,baz=308,slow=15,SNR=4.2
STKA pP **pP** **07 16 41.7 -2.5**
5.1nm,0.6s,baz=324,slow=11,SNR=6.3
PSI **Prapat** **30.46 289** P P 07 16 43.0 +1.8
7.4nm,0.8s,baz=149,slow=7.1,SNR=5.2
SONM **Songino Array** **58.48 343** P **P** **07 20 23.1 +0.6**
0.4nm,0.4s,baz=165,slow=7.5,SNR=4.2
SONM pP **pP** **07 20 55.1 -2.6**
1.1nm,0.9s,baz=165,slow=6.6,SNR=5.2
MKAR **Makanchi Array** **67.60 328** P **P** **07 21 23.1 +0.4**
0.4nm,0.5s,baz=118,slow=8.9,SNR=8.5
MKAR pP **pP** **07 21 54.6 -4.2**
0.6nm,0.7s,baz=120,slow=7.2,SNR=3.3
ZALV **Zalesovo Beam** **71.26 335** P **P** **07 21 44.2 -0.7**
0.6nm,0.4s,baz=140,slow=5.6,SNR=3.5
TORD **Torodi Ar. Bea** **126.60 281** PKP **PKPdf** **07 29 29.7 +1.1**
0.3nm,0.6s,baz=114,slow=1.7,SNR=2.4
LPAZ **La Paz** **151.46 147** PKPbc **PKPbc** **07 30 23.0 +2.8**
0.6nm,0.5s,baz=138,slow=3.6,SNR=3.8
LPAZ PKPab **PKPab** **07 30 31.9 +3.0**
1.6nm,0.6s,baz=240,slow=4.2,SNR=8.3

ISCJB ***11*** *07:37:50.1±0.6,33.84N±0.08×137.02E±0.09, h360km±4km, mb3.1/5, Error ellipse: s-maj=14.7km s-min=9.6km az=136.1*
JMA ***11*** *07:37:50.8±0.2,33.82N×137.02E, h356km±2km, M3.4*
IDC ***11*** *07:37:50.1±1.0,33.75N×137.07E, h344km±11km, mb3.0/5, mb1 3.3/10, mb1mx3.1/30, mbtmp3.1/10, Error ellipse: s-maj=20.3km s-min=15.3km az=117.0*
ISC 11 07:37:50.9±0.9, 33.87N±0.10×136.96E±0.08, h354km±7km, n25, σ0.73/29, mb3.3/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO4	**TONANKAI O.B.S**	**0.50**	**74**	P	**Pn**	**07 38 36.2**	**+0.9**
TK02	**Tokai 2**	**0.67**	**83**	P	**Pn**	**07 38 36.5**	**+0.8**
JKN2	**Miekihoku**	**0.68**	**303**	P	**Pn**	**07 38 36.5**	**+0.5**
JKN2				S	**S**	**07 39 11.6**	**-0.6**
TTO5	**TONANKAI O.B.S**	**0.73**	**59**	P	**Pn**	**07 38 37.0**	**+1.0**
JWZ	**Kozaga**	**1.09**	**252**	P	**Pn**	**07 38 37.6**	**+0.1**
JHMK	**Hamakita**	**1.15**	**35**	P	**Pn**	**07 38 38.0**	**+0.5**
HMMJ	**Hamamatsu 2**	**1.17**	**32**	P	**Pn**	**07 38 38.2**	**+0.5**
JWY	**Kouya**	**1.19**	**287**	P	**Pn**	**07 38 38.8**	**+0.8**
JNY	**Yasuok**	**1.66**	**26**	P	**Pn**	**07 38 40.8**	**+0.4**
JWT	**Wachi**	**1.91**	**318**	P	**Pn**	**07 38 42.7**	**+0.8**
JWT				S	**S**	**07 39 22.5**	**-0.4**
JAI	**Aioi**	**2.09**	**269**	P	**Pn**	**07 38 43.8**	**+0.6**
JMN	**Monobe**	**2.57**	**268**	P	**Pn**	**07 38 47.8**	**+0.9**
JRY	**Ryogami san**	**2.67**	**36**	P	**Pn**	**07 38 48.1**	**+0.4**
JRY				S	**S**	**07 39 32.7**	**-0.7**
MJAR	**Matsushiro Arr**	**2.85**	**21**	P	**Pn**	**07 38 49.3**	**0.0**
	6.3nm,0.3s,baz=195,slow=9.9,SNR=56						
MJAR				S	**S**	**07 39 35.0**	**-1.2**
	baz=183,slow=12,SNR=2.8						
MAT	**Matsushiro**	**2.85**	**21**	P	**Pn**	**07 38 49.2**	**0.0**
MAT				S	**S**	**07 39 35.4**	**-0.8**
JNU	**Nakatsue**	**5.13**	**263**	P	**Pn**	**07 39 12.3**	**+0.1**
	1.2nm,0.3s,baz=88,slow=8.6,SNR=9.0						
JCJ	**Chichijima**	**8.12**	**145**	S	S	07 41 10.1	-11
	6.4nm,0.3s,baz=299,slow=23,SNR=5.4						
KSRS	**Korea Array**	**8.18**	**298**	P	**P**	**07 39 49.1**	**-0.7**
	1.2nm,0.3s,baz=114,slow=12,SNR=21						
USRK	**Ussuriysk Arra**	**11.01**	**341**	P	**P**	**07 40 21.6**	**+0.4**
	0.2nm,0.3s,baz=148,slow=17,SNR=5.6						
ASAJ	**Asahikawa**	**11.13**	**22**	P	**P**	**07 40 22.6**	**+0.1**
	1.4nm,0.3s,baz=217,slow=7.8,SNR=7.9						
SONM	**Songino Array**	**26.80**	**311**	P	**P**	**07 43 00.5**	**+0.7**
	1.3nm,0.8s,baz=119,slow=7.0,SNR=8.6						
WRA	**Warramunga Arr**	**53.57**	**183**	P	**P**	**07 46 35.8**	**-0.9**
	0.8nm,0.3s,baz=359,slow=7.7,SNR=6.7						
ILAR	**Eielson Array**	**54.09**	**31**	P	**P**	**07 46 40.1**	**+0.3**
	0.3nm,0.8s,baz=293,slow=6.9,SNR=5.4						
ASAR	**Alice Springs**	**57.29**	**183**	P	**P**	**07 47 01.7**	**-1.2**
	0.2nm,0.3s,baz=13,slow=13,SNR=6.9						
NVAR	**Mina Array Bea**	**79.80**	**51**	P	**P**	**07 49 21.9**	**+1.0**
	0.5nm,0.7s,baz=293,slow=4.3,SNR=3.7						

NIED ***11*** *07:55:00,40.20N×142.50E, h32km, Mw4.1 Best double couple: M0 1.56000×10^15 NP1:φ=26.00000°, δ73.00000°, λ102.00000°. NP2:φ=169.00000°, δ21.00000°, λ55.00000°.*
MOS ***11*** *07:55:39.9±1.3,40.14N×142.45E, h33km, mb4.4/17, Error ellipse: s-maj=11.2km s-min=6.4km az=88.2*
BJI ***11*** *07:55:40.6,40.18N×143.01E, h56km, mB4.9/16, mb4.6/24, Ms4.3/14, Ms7 4.1/11*
ISCJB ***11*** *07:55:41.6±0.5,40.17N±0.03×142.51E±0.05, h47km±3km, mb4.4/37, MS3.8/8, Error ellipse: s-maj=7.2km s-min=4.2km az=30.3*
JMA ***11*** *07:55:42.1±0.1,40.16N×142.48E, h34km±1km, M4.0*
JMA Felt I J1.
IDC ***11*** *07:55:42.7±0.7,40.11N×142.36E, h48km±6km, mb3.7/16, mb1 3.9/20, mb1mx3.8/29, mbtmp3.7/20, MS3.4/9, Ms1 3.4/9, ms1mx3.1/49, Error ellipse: s-maj=16.8km s-min=10.5km az=106.0*
NEIC ***11*** *07:55:44.7±0.9,40.22N×142.48E, h55km±6km, mb4.7/11, MW4.1(NIED), Error ellipse: s-maj=17.6km s-min=7.3km az=126.0*
NEIC Recorded [1 JMA] in Iwate.
ISC 11 07:55:43.8±0.5, 40.17N±0.04×142.49E±0.05, h52km±3km, h52km: pP-P, n104, σ1.972/135, mb4.5/37, MS3.6/8, 5C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.54**	**244**	⇓P	**Pn**	**07 55 52.9**	**-2.7**
JTH				*e*S	**Sn**	**07 56 00.8**	**-3.3**
JANG	**Nango**	**0.77**	**285**	⇓P	**Pn**	**07 55 56.4**	**-2.2**
JANG				S	**Sn**	**07 56 06.4**	**-2.9**
MIYJ	**Miyakonagasawa**	**0.79**	**221**	⇓P	**Pn**	**07 55 56.3**	**-2.5**
MIYJ				S	**Sn**	**07 56 06.5**	**-3.2**
JKZ	**Kuzumaki**	**0.91**	**258**	⇓P	**Pn**	**07 55 58.7**	**-1.7**
JKZ				S	**Sn**	**07 56 10.4**	**-2.2**
JOM	**Ohasama**	**1.16**	**233**	⇓P	**Pn**	**07 56 02.5**	**-1.2**
JOM				*e*S	**Sn**	**07 56 17.5**	**-1.0**
JTM	**Tenmabayashi**	**1.25**	**300**	⇓P	**Pn**	**07 56 03.8**	**-1.1**
JTM				S	**Sn**	**07 56 19.9**	**-0.7**
OFUJ	**Ofunato**	**1.26**	**210**	⇓P	**Pn**	**07 56 03.6**	**-1.5**
OFUJ				*e*S	**Sn**	**07 56 19.9**	**-1.1**
JAH	**Hinai**	**1.42**	**271**	⇓P	**Pn**	**07 56 06.5**	**-0.7**
JAH				S	**Sn**	**07 56 24.5**	**-0.3**
JMK	**Ichinoseki**	**1.57**	**219**	P	**Pn**	**07 56 08.4**	**-0.8**
JMK				S	**Sn**	**07 56 28.4**	**0.0**
ERM	**Erimo**	**1.91**	**15**	*c*eP	**Pn**	**07 56 14.6**	**+0.7**
ERM				pmax	pmax		
	comp=Z,80nm,0.8s						
ERM	**Erimo**	**1.91**	**15**	*e*Pn	**Pn**	**07 56 13.8**	**0.0**
ERM				*e*Sn	**Sn**	**07 56 37.5**	**+0.8**
ASAJ	**Asahikawa**	**3.94**	**1**	*e*Pn	**Pn**	**07 56 42.3**	**+0.6**
ASAJ				*e*Sn	Sn	07 57 37.6	+11
ASAJ	**Asahikawa**	**3.94**	**1**	P	**Pn**	**07 56 41.5**	**-0.3**
	comp=Z,5.3nm,0.3s,baz=194,slow=10,SNR=16						
ASAJ				S	**Sn**	**07 57 28.1**	**+1.5**
	comp=Z,2.3nm,0.3s,baz=90,slow=20,SNR=3.1						
ASAJ				LR	LR	07 58 52.3	
	comp=Z,328nm,21.1s,baz=195,slow=47						
YUK	**Yuzh-Kuril'sk**	**4.60**	**32**	*c* iP	**Pn**	**07 56 50.2**	**-0.5**
YUK				*i* S	**Sn**	**07 57 37.8**	**-5.0**
YUK				pmax	pmax		
	comp=N,60nm,0.5s						
YUK				pmax	pmax		
	comp=E,204nm,0.5s						
YUK				pmax	pmax		
	comp=Z,240nm,0.5s						
YUK				smax	smax		
	comp=N,236nm,0.3s						
YUK				smax	smax		
	comp=E,588nm,0.7s						
YUK				MLR	MLR		
	comp=Z,430nm,16.0s						
MAJO	**Matsushiro**	**4.95**	**224**	⇓*i*P	**Pn**	**07 56 57.5**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,256nm,0.8s						
MAJO	**Matsushiro**	**4.95**	**224**	*e*Pn	**Pn**	**07 56 57.0**	**+1.4**
MAT	**Matsushiro**	**4.95**	**224**	P	**Pn**	**07 56 56.9**	**+1.3**
MAT				*e*S	**Sn**	**07 57 49.3**	**-2.2**
MJAR	**Matsushiro Arr**	**4.95**	**224**	P	**Pn**	**07 56 53.8**	**-1.8**
	comp=Z,3.1nm,0.3s,baz=34,slow=12,SNR=45						
KUR	**Kuril'sk**	**6.42**	**36**	P	**Pn**	**07 57 14.5**	**-1.2**
KUR				*e*S	**Sn**	**07 58 23.0**	**-4.6**
KUR				pmax	pmax		
	comp=Z,230nm,1.0s						
KUR				smax	smax		
	comp=N,150nm,0.6s						
KUR				smax	smax		
	comp=E,380nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.78**	**2**	*e*P	**Pn**	**07 57 20.0**	**-0.6**
YSS	**Yuzh-Sakhalins**	**6.78**	**2**	*e*Pn	**Pn**	**07 57 20.9**	**+0.3**
USRK	**Ussuriysk Arra**	**8.77**	**301**	P	**Pn**	**07 57 47.4**	**-0.5**
	comp=E,0.4nm,0.3s,baz=113,slow=12,SNR=14						
USRK				LR	LR	08 01 06.6	
	comp=E,191nm,18.4s,baz=274,slow=37						
HABR	**Khabarovsk**	**9.86**	**330**	*e*P	**Pn**	**07 58 01.1**	**-1.6**
HABR				S	Sn	07 59 45.3	-6.5
HABR				pmax	pmax		
	comp=E,34nm,2.0s						
HABR				pmax	pmax		
	comp=N,17nm,1.3s						
HABR				pmax	pmax		
	comp=Z,38nm,2.0s						
HABR				MLR	MLR		
	comp=Z,186nm,19.0s						
MDJ	**Mudanjiang**	**10.52**	**299**	P	Pn	07 58 15.4	+3.6
MDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,61nm,2.7s						
MDJ	**Mudanjiang**	**10.52**	**299**	*e*Pn	Pn	07 58 16.3	+4.5
JNU	**Nakatsue**	**11.68**	**237**	LR	LR	08 01 42.8	
	comp=Z,26nm,21.0s,baz=81,slow=31						
KSRS	**Korea Array**	**11.69**	**261**	P	**Pn**	**07 58 26.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=78,slow=18,SNR=2.8						
KSRS				LR	LR	08 02 32.7	
	comp=Z,116nm,21.1s,baz=1.6,slow=35						
KLR	**Kul'dur**	**11.84**	**323**	*e*P	**Pn**	**07 58 29.7**	**-0.1**
PETK	**Petropavlovsk-**	**16.58**	**34**	LR	LR	08 05 24.4	
	comp=Z,80nm,21.1s,baz=69,slow=35						
NJ2	**Nanjing**	**20.70**	**254**	*e*P	**P**	**08 00 20.0**	**+0.4**
NJ2				pP	**pP**	**08 00 30.2**	**-1.3**
NJ2				sP	**sP**	**08 00 37.6**	**-0.4**
NJ2				S	**S**	**08 04 10.0**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=Z,140nm,15.3s						
NJ2				LR	LR		
	comp=Z,160nm,13.5s						
YAK	**Yakutsk**	**23.23**	**345**	*e*P	**P**	**08 00 43.1**	**-3.0**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC	**Hu-ho-hao-te**	**23.47**	**282**	*e*P	**P**	**08 00 46.2**	**-2.5**
HHC				pP	**pP**	**08 00 58.4**	**-2.9**
HHC				sP	**sP**	**08 01 07.9**	**+0.3**
HHC				PP	**PnPn**	**08 01 20.0**	**+3.0**
HHC				S	**S**	**08 04 52.2**	**-6.3**
HHC				pmax	pmax		
	comp=Z,38nm,0.6s						
HHC				pmax	pmax		
	comp=Z,260nm,5.0s						
HHC				LR	LR		
	comp=Z,200nm,11.3s						
HHC				LR	LR		
	comp=Z,330nm,12.0s						
HHC				LR	LR		
	comp=Z,190nm,12.2s						
SEY	**Seymchan**	**23.55**	**11**	P	**P**	**08 00 48.8**	**-0.3**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SEY	**Seymchan**	**23.55**	**11**	P	**P**	**08 00 48.8**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=180,slow=14,SNR=7.8						
SONM	**Songino Array**	**26.88**	**299**	P	**P**	**08 01 19.3**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=97,slow=8.3,SNR=14						
SONM				LR	LR	08 12 29.5	
	comp=Z,135nm,18.6s,baz=15,slow=38						
H11N2	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	08 32 22.9	
	baz=321,slow=76,SNR=395						
H11N1	**WAKE ISLAND Hy**	**29.21**	**127**	T	T	08 32 20.6	
	baz=321,slow=76,SNR=256						
H11N3	**WAKE ISLAND Hy**	**29.22**	**127**	T	T	08 32 22.6	
	baz=321,slow=76,SNR=288						
H11S1	**WAKE ISLAND Hy**	**30.02**	**129**	T	T	08 33 38.1	
	baz=324,slow=75,SNR=53						
H11S3	**WAKE ISLAND Hy**	**30.02**	**129**	T	T	08 33 21.7	
	baz=324,slow=75,SNR=47						
H11S2	**WAKE ISLAND Hy**	**30.03**	**129**	T	T	08 33 38.6	
	baz=324,slow=75,SNR=42						
LZH	**Lanzhou**	**30.51**	**275**	*e*P	**P**	**08 01 54.9**	**+2.8**
LZH				pP	pP	08 02 11.4	+6.0
LZH				sP	sP	08 02 18.4	+6.8
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
LZH				pmax	pmax		
	comp=Z,89nm,4.3s						
GTA	**Gaotai**	**32.57**	**283**	*e*P	**P**	**08 02 10.4**	**+0.2**
GTA				pP	**pP**	**08 02 25.3**	**+1.8**
GTA				sP	**sP**	**08 02 32.7**	**+3.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CD2	**Chengdu**	**32.63**	**266**	*e*P	**P**	**08 02 11.8**	**+1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,40nm,5.2s						
GYA	**Guiyang**	**32.68**	**256**	*e*P	**P**	**08 02 12.6**	**+1.3**
GYA				pP	**pP**	**08 02 27.0**	**+2.4**
GYA				sP	**sP**	**08 02 34.4**	**+3.6**
GYA				PP	**PnPn**	**08 03 23.1**	**+2.5**
GYA				PcP	**PcP**	**08 04 58.7**	**+2.6**
GYA				S	**S**	**08 07 23.6**	**-0.4**
GYA				sS	**sS**	**08 07 49.8**	**+3.2**
GYA				ScP	**ScP**	**08 08 35.0**	**-0.6**
GYA				ScS	**ScS**	**08 12 33.3**	**-2.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIZ	**Qiongzhong**	**35.06**	**243**	P	**P**	**08 02 32.7**	**+0.9**
QIZ				sP	**sP**	**08 02 52.3**	**+1.0**
QIZ				S	**S**	**08 08 02.5**	**+1.9**
QIZ				sS	**sS**	**08 08 24.3**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.7s						
QIZ				LR	LR		
	comp=Z,54nm,5.3s						
QIZ				LR	LR		
	comp=Z,35nm,10.1s						
QIZ				LR	LR		
	comp=Z,68nm,11.1s						
KMI	**Kunming**	**36.36**	**258**	P	**P**	**08 02 44.2**	**+1.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WMQ	**Urumqi**	**40.26**	**294**	P	**P**	**08 03 18.0**	**+2.4**
WMQ				sP	sP	08 03 41.0	+5.7
WMQ				PP	**PnPn**	**08 04 55.0**	**+2.2**
WMQ				ScP	**ScP**	**08 09 03.0**	**-0.2**
WMQ				S	**S**	**08 09 22.0**	**+2.8**
WMQ				SS	**SS**	**08 12 21.0**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,11nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,44nm,3.0s						
WMQ				LR	LR		
	comp=Z,110nm,16.0s						
WMQ				LR	LR		
	comp=Z,91nm,16.0s						
WMQ				LR	LR		
	comp=Z,77nm,16.0s						
ZALV	**Zalesovo Beam**	**40.49**	**310**	P	**P**	**08 03 17.3**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**40.49**	**310**	P	**P**	**08 03 17.3**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=88,slow=7.9,SNR=6.0						
CMAR	**Chiang Mai Arr**	**43.17**	**253**	P	P	08 03 36.1	-3.4
	comp=Z,1.1nm,0.3s,baz=46,slow=6.8,SNR=3.8						
MKAR	**Makanchi Array**	**43.24**	**300**	P	**P**	**08 03 36.7**	**-3.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,69nm,18.5s						
MKAR	**Makanchi Array**	**43.24**	**300**	P	**P**	**08 03 36.7**	**-3.1**
	comp=Z,1.1nm,0.6s,baz=82,slow=10,SNR=2.2						
MKAR				LR	LR	08 24 21.4	
	comp=Z,69nm,18.5s,baz=230,slow=40						
KURK	**Kurchatov**	**44.72**	**306**	*e*P	**P**	**08 03 51.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK	**Kurchatov**	**44.72**	**306**	*e*P	**P**	**08 03 51.3**	**-0.3**
	comp=Z,8.3nm,0.9s						
COLA	**College**	**45.99**	**34**	*e*P	**P**	**08 04 00.8**	**-0.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
COLA	**College**	**45.99**	**34**	*e*P	**P**	**08 04 00.8**	**-0.6**
	comp=Z,2.8nm,0.5s						
ILAR	**Eielson Array**	**46.41**	**34**	P	**P**	**08 04 03.2**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=271,slow=6.1,SNR=12						
TKM2	**Tokmak 2**	**48.94**	**296**	*e*P	**P**	**08 04 25.5**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TKM2	**Tokmak 2**	**48.94**	**296**	*e*P	**P**	**08 04 25.5**	**+0.6**
	comp=Z,5.3nm,0.9s						
BRVK	**Borovoye**	**49.18**	**311**	⇑*i*P	**P**	**08 04 26.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**49.18**	**311**	*e*P	**P**	**08 04 26.9**	**+0.5**
	comp=Z,4.9nm,0.8s						
AAK	**Ala-Archa**	**49.80**	**296**	LR	LR	08 27 30.3	
	comp=Z,60nm,18.6s,baz=166,slow=38						
KSH	**Kashi**	**49.95**	**292**	P	P	08 04 37.1	+4.5
KSH				pmax	pmax		
	comp=Z,77nm,5.1s						
INK	**Inuvik**	**51.22**	**28**	*e*P	**P**	**08 04 42.2**	**+0.7**
	comp=Z,2.8nm,0.9s						
INK	**Inuvik**	**51.22**	**28**	P	**P**	**08 04 42.7**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=285,slow=5.8,SNR=12						
KKAR	**Karatay Array**	**52.33**	**298**	*e*P	**P**	**08 04 50.0**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**52.33**	**298**	*e*P	**P**	**08 04 50.0**	**-0.2**
	comp=Z,2.7nm,0.7s						
ARU	**Arti**	**54.60**	**317**	*c i*P	**P**	**08 05 06.9**	**+0.3**
ARU				*PP	**pP**	**08 05 20.4**	**-0.3**
ARU						08 07 05.6	
ARU				S	**S**	**08 12 43.2**	**+1.1**
ARU				SS	**SS**	**08 16 22.2**	**-2.6**
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
ARU	**Arti**	**54.60**	**317**	*e*P	**P**	**08 05 07.0**	**+0.3**
	comp=Z,8.0nm,0.7s						
ABKAR	**Akbulak array**	**56.59**	**309**	*e*P	**P**	**08 05 21.1**	**+0.1**
	comp=Z,5.8nm,0.8s						
KBL	**Kabul**	**57.12**	**290**	*e*P	**P**	**08 05 25.1**	**-0.2**
KBL				pmax	pmax		
	comp=Z,11nm,0.9s						
KBL	**Kabul**	**57.12**	**290**	*e*P	**P**	**08 05 25.1**	**-0.2**
	comp=Z,11nm,0.9s						
WRA	**Warramunga Ar**	**60.29**	**189**	P	**P**	**08 05 45.2**	**-1.7**
	comp=Z,1.3nm,1.0s,baz=7.3,slow=6.9,SNR=4.7						
WRA				pP	**pP**	**08 05 59.4**	**-2.0**
	comp=Z,2.3nm,0.7s,baz=4.6,slow=7.0,SNR=6.4						
YKA	**Yellowknife Ar**	**60.68**	**31**	P	**P**	**08 05 49.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=302,slow=6.3,SNR=2.6						
YKA				pP	**pP**	**08 06 02.2**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=297,slow=6.2,SNR=3.3						
ARCES	**ARCESS Array B**	**61.36**	**339**	P	**P**	**08 05 52.5**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=37,slow=9.1,SNR=5.5						
JOF	**Joensuu**	**63.60**	**332**	*e*P	**P**	**08 06 07.3**	**-1.4**
JOF	**Joensuu**	**63.60**	**332**	ep	**P**	**08 06 07.3**	**-1.4**
ASAR	**Alice Springs**	**64.01**	**189**	P	**P**	**08 06 11.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=16,slow=4.7,SNR=5.6						
FINES	**FINESS Array B**	**66.44**	**332**	P	**P**	**08 06 27.4**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=74,slow=6.9,SNR=10.0						
FINES				pP	**pP**	**08 06 40.0**	**-1.7**
	comp=Z,3.7nm,0.7s,baz=47,slow=9.2,SNR=6.7						
KIV	**Kislovodsk**	**69.50**	**311**	*e*P	**P**	**08 06 48.2**	**+1.4**
KIV				pmax	pmax		
	comp=Z,11nm,0.8s						
KBZ	**Khabaz**	**69.51**	**310**	P	**P**	**08 06 46.2**	**-0.5**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**69.51**	**310**	P	**P**	**08 06 46.2**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=28,slow=9.1,SNR=6.2						
NB2	**NORSAR Subarra**	**71.62**	**337**	P	**P**	**08 06 59.4**	**0.0**
	comp=Z,1.8nm,0.8s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.62**	**337**	P	**P**	**08 06 59.7**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=39,slow=6.1,SNR=12						
AKASG	**Malin Array Be**	**72.33**	**322**	P	**P**	**08 07 01.8**	**-2.0**
AKASG				*PP	**pP**	**08 07 16.9**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**72.33**	**322**	P	**P**	**08 07 01.8**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=43,slow=6.3,SNR=5.8						
AKASG				pP	**pP**	**08 07 16.9**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=42,slow=5.0,SNR=3.4						
BUR08	**Bucovina Ar. S**	**76.36**	**322**	*e*P	**P**	**08 07 27.8**	**+0.4**
VRAC	**Vranov**	**78.94**	**327**	LR	LR	08 48 36.5	
	comp=Z,108nm,18.3s,baz=254,slow=40						
KHC	**Kasperske Hory**	**80.31**	**329**	*c*eP	**P**	**08 07 50.0**	**+0.9**
KHC				pmax	pmax		
	comp=Z,57nm,2.5s						
LPL	**La Plagne**	**85.93**	**331**	*e*P	**P**	**08 08 18.9**	**+0.5**
LPL	**La Plagne**	**85.93**	**331**	*e*P	**P**	**08 08 18.9**	**+0.5**
LPL	**La Plagne**	**85.93**	**331**	*e*P	**P**	**08 08 18.9**	**+0.5**
LPG	**La Plagne**	**85.94**	**331**	*e*P	**P**	**08 08 19.1**	**+0.6**
	comp=Z,19nm,1.2s						
LPG	**La Plagne**	**85.94**	**331**	*e*P	**P**	**08 08 19.1**	**+0.6**
LPG				pmax	pmax		
	comp=Z,19nm,1.2s						
LPG	**La Plagne**	**85.94**	**331**	*e*P	**P**	**08 08 19.1**	**+0.6**
	comp=Z,19nm

2.8nm,1.0s

*ISCJB **11** 08:02:54.2±0.4,38°.55N±0°.02×23°.56E±0°.03,h12km±3km, Error ellipse: s-maj=3.4km s-min=2.7km az=177.8*
*CSEM **11** 08:02:54.1±0.2,38°.55N×23°.57E,h15km,ML3.8, Error ellipse: s-maj=4.2km s-min=3.2km az=70.0*
*THE **11** 08:02:54.7,38°.54N×23°.51E,h7km±1km,ML3.6/12, Error ellipse: s-maj=1.1km s-min=0.3km az=43.0*
*ATH **11** 08:02:54.1,38°.55N×23°.54E,h20km±1km, ML3.8*

ISC 11 08:02:54.5±0.8,38°.54N±0°.01×23°.52E±0°.02,h14km±6km, n85,σ0°.64/134,5C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.18**	**18**	P	**Pg**	**08 02 58.7**	**0.0**
MRKA				S	**Sg**	**08 03 01.6**	**0.0**
MRKA	**Markates**	**0.18**	**18**	i↑P	**Pg**	**08 02 58.7**	**0.0**
MRKA				eSB	**Sg**	**08 03 01.7**	**+0.1**
MRKA	**Markates**	**0.18**	**18**	P	**Pg**	**08 02 58.7**	**0.0**
MRKA				eSb	**Sg**	**08 03 01.7**	**+0.1**
ERET	**Eretria**	**0.24**	**113**	P	**Pg**	**08 02 59.8**	**0.0**
ERET				S	**Sg**	**08 03 03.7**	**+0.2**
ERET	**Eretria**	**0.24**	**113**	P	**Pg**	**08 02 59.8**	**0.0**
ERET				S	**Sg**	**08 03 03.7**	**+0.2**
SMIA	**Simia**	**0.42**	**325**	P	**Pb**	**08 03 02.9**	**-0.8**
SMIA				S	**Sb**	**08 03 09.1**	**-0.8**
SMIA	**Simia**	**0.42**	**325**	i↑PB	**Pb**	**08 03 02.9**	**-0.8**
SMIA				eSB	**Sb**	**08 03 09.4**	**-0.5**
SMIA	**Simia**	**0.42**	**325**	P	**Pb**	**08 03 02.9**	**-0.8**
SMIA				S	**Sb**	**08 03 09.1**	**-0.8**
LKR	**Lokris**	**0.42**	**286**	P	**Pg**	**08 03 02.3**	**-0.6**
LKR				S	**Sg**	**08 03 08.5**	**-0.1**
LKR	**Lokris**	**0.42**	**286**	i↑PB	**Pg**	**08 03 02.3**	**-0.6**
LKR	**Lokris**	**0.42**	**286**	P	**Pg**	**08 03 02.3**	**-0.6**
LKR				S	**Sg**	**08 03 08.5**	**-0.1**
PTL	**Penteli**	**0.56**	**151**	ePN	**Pg**	**08 03 05.4**	**-0.1**
PTL				eSN	**Sg**	**08 03 12.6**	**-0.3**
PTL	**Penteli**	**0.56**	**151**	ePn	**Pg**	**08 03 05.4**	**-0.1**
PTL				eSn	**Sg**	**08 03 12.6**	**-0.3**
ATH	**Athens Observa**	**0.58**	**164**	P	**Pg**	**08 03 06.0**	**0.0**
ATH				S	**Sb**	**08 03 14.3**	**-0.3**
ATH	**Athens Observa**	**0.58**	**164**	i↑iPN	**Pg**	**08 03 06.0**	**0.0**
ATH	**Athens Observa**	**0.58**	**164**	P	**Pg**	**08 03 06.0**	**0.0**
ATH				S	**Sb**	**08 03 14.3**	**-0.3**
ATHU	**Athens Univers**	**0.61**	**160**	P	**Pg**	**08 03 06.2**	**-0.2**
ATHU				S	**Sb**	**08 03 15.7**	**+0.4**
ATHU	**Athens Univers**	**0.61**	**160**	P	**Pg**	**08 03 06.2**	**-0.2**
ATHU				S	**Sb**	**08 03 15.7**	**+0.4**
SKIA	**Skiathos**	**0.63**	**356**	P	**Pg**	**08 03 06.7**	**-0.1**
SKIA				S	**Sb**	**08 03 15.9**	**-0.1**
SKIA	**Skiathos**	**0.63**	**356**	i↑iPN	**Pg**	**08 03 06.8**	**-0.1**
SKIA				eSN	**Sb**	**08 03 15.9**	**-0.1**
SKIA	**Skiathos**	**0.63**	**356**	P	**Pg**	**08 03 06.7**	**-0.1**
SKIA				S	**Sb**	**08 03 15.9**	**-0.1**
LTK	**Loutraki**	**0.67**	**220**	P	**Pg**	**08 03 07.2**	**-0.4**
LTK				S	**Sb**	**08 03 17.6**	**+0.4**
LTK	**Loutraki**	**0.67**	**220**	ePB	**Pg**	**08 03 07.0**	**-0.6**
LTK				eSN	**Sb**	**08 03 17.6**	**+0.4**
LTK	**Loutraki**	**0.67**	**220**	P	**Pg**	**08 03 07.2**	**-0.4**
LTK				S	**Sb**	**08 03 17.6**	**+0.4**
AOS	**Alonnisos**	**0.69**	**24**	P	**Pg**	**08 03 07.4**	**-0.6**
AOS				S	**Sb**	**08 03 17.4**	**-0.4**
AOS	**Alonnisos**	**0.69**	**24**	ePN	**Pg**	**08 03 07.3**	**-0.7**
AOS				eSN	**Sg**	**08 03 17.2**	**0.0**
AOS	**Alonnisos**	**0.69**	**24**	P	**Pg**	**08 03 07.4**	**-0.6**
AOS				eSn	**Sg**	**08 03 17.2**	**0.0**
AXAR	**Agios Charalam**	**0.71**	**289**	P	**Pg**	**08 03 07.4**	**-0.9**
AXAR				S	**Sb**	**08 03 17.7**	**+0.4**
AXAR	**Agios Charalam**	**0.71**	**289**	P	**Pg**	**08 03 07.4**	**-0.9**
AXAR				S	**Sb**	**08 03 18.7**	**+0.4**
DESF	**Desfina**	**0.78**	**261**	ePB	**Pg**	**08 03 09.1**	**-0.6**
DESF				eSN	**Sb**	**08 03 21.8**	**+1.4**
DESF	**Desfina**	**0.78**	**261**	ePb	**Pg**	**08 03 09.1**	**-0.6**
DESF				eSn	**Sb**	**08 03 21.8**	**+1.4**
DSF	**Desfina**	**0.79**	**261**	P	**Pg**	**08 03 09.0**	**-0.8**
DSF				S	**Sb**	**08 03 21.2**	**+0.7**
DSF	**Desfina**	**0.79**	**261**	ePN	**Pb**	**08 03 09.6**	**-0.4**
DSF	**Desfina**	**0.79**	**261**	P	**Pg**	**08 03 09.0**	**-0.8**
DSF	**Desfina**	**0.79**	**261**	ePn	**Pb**	**08 03 09.6**	**-0.4**
DSF				S	**Sb**	**08 03 21.2**	**+0.7**
XOR	**Xorichti**	**0.87**	**343**	P	**Pg**	**08 03 10.7**	**-0.6**
XOR				S	**Sb**	**08 03 22.8**	**0.0**
XOR	**Xorichti**	**0.87**	**343**	P	**Pg**	**08 03 10.7**	**-0.6**
XOR				S	**Sb**	**08 03 22.8**	**0.0**
FYTO	**Fytoko, Volos**	**0.98**	**333**	P	**Pg**	**08 03 12.8**	**-0.6**
FYTO				S	**Sb**	**08 03 26.7**	**+0.7**
FYTO	**Fytoko, Volos**	**0.98**	**333**	P	**Pg**	**08 03 12.8**	**-0.6**
FYTO				S	**Sb**	**08 03 26.7**	**+0.7**
AGG	**Agios Georgios**	**1.05**	**298**	P	**Pb**	**08 03 14.5**	**+0.1**
AGG	**Agios Georgios**	**1.05**	**298**	ePN	**Pn**	**08 03 14.9**	**+0.1**
AGG				eSN	**Sn**	**08 03 31.6**	**+2.4**
AGG	**Agios Georgios**	**1.05**	**298**	P	**Pb**	**08 03 14.5**	**+0.1**
AGG	**Agios Georgios**	**1.05**	**298**	ePn	**Pn**	**08 03 14.9**	**+0.1**
AGG				eSn	**Sn**	**08 03 31.6**	**+2.4**
DID	**Didima**	**1.05**	**192**	P	**Pg**	**08 03 14.1**	**-0.7**
DID				S	**Sn**	**08 03 29.6**	**+0.3**
DID	**Didima**	**1.05**	**192**	ePN	**Pg**	**08 03 14.2**	**-0.6**
DID				eSN	**Sn**	**08 03 29.6**	**+0.3**
DID	**Didima**	**1.05**	**192**	ePn	**Pg**	**08 03 14.2**	**-0.6**
DID				S	**Sn**	**08 03 29.6**	**+0.3**
KALE	**Kalithea**	**1.09**	**263**	P	**Pg**	**08 03 15.0**	**-0.5**
KALE				S	**Sn**	**08 03 31.2**	**+0.9**
KALE	**Kalithea**	**1.09**	**263**	ePN	**Pg**	**08 03 15.1**	**-0.5**
KALE	**Kalithea**	**1.09**	**263**	ePn	**Pg**	**08 03 15.1**	**-0.5**
KALE				S	**Sn**	**08 03 31.2**	**+0.9**
GUR	**Goura**	**1.10**	**237**	P	**Pg**	**08 03 15.2**	**-0.5**
GUR				S	**Sn**	**08 03 30.9**	**+0.2**
GUR	**Goura**	**1.10**	**237**	ePN	**Pg**	**08 03 15.3**	**-0.5**
GUR	**Goura**	**1.10**	**237**	ePn	**Pg**	**08 03 15.3**	**-0.5**
GUR				S	**Sn**	**08 03 30.9**	**+0.2**
KLV	**Kalavryta, Ach**	**1.18**	**246**	P	**Pg**	**08 03 16.6**	**-0.7**
KLV	**Kalavryta, Ach**	**1.18**	**246**	P	**Pg**	**08 03 16.6**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.18**	**294**	ePN	**Pn**	**08 03 17.6**	**+1.0**
MAKR				eSN	**Sn**	**08 03 33.3**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.18**	**294**	ePn	**Pn**	**08 03 17.6**	**+1.0**
MAKR				eSn	**Sn**	**08 03 33.3**	**+0.7**
LAKA	**Lakka**	**1.25**	**257**	P	**Pn**	**08 03 17.6**	**+0.1**
LAKA	**Lakka**	**1.25**	**257**	i↓iPN	**Pn**	**08 03 17.7**	**+0.2**
LAKA	**Lakka**	**1.25**	**257**	P	**Pn**	**08 03 17.6**	**+0.1**
EFP	**Efpalio**	**1.27**	**266**	P	**Pg**	**08 03 18.2**	**-0.7**
EFP	**Efpalio**	**1.27**	**266**	ePN	**Pb**	**08 03 18.1**	**-0.1**
EFP	**Efpalio**	**1.27**	**266**	ePn	**Pb**	**08 03 18.1**	**-0.1**
EVR	**Evrytania**	**1.39**	**286**	ePN	**Pb**	**08 03 20.2**	**-0.1**
EVR	**Evrytania**	**1.39**	**286**	ePn	**Pb**	**08 03 20.2**	**-0.1**
VLX	**Vlachokerasia**	**1.47**	**218**	P	**Pn**	**08 03 21.2**	**+0.5**
VLX				S	**Sb**	**08 03 40.9**	**+0.7**
VLX	**Vlachokerasia**	**1.47**	**218**	ePN	**Pg**	**08 03 22.3**	**-0.5**
VLX				eSN	**Sb**	**08 03 41.0**	**+0.7**
VLX	**Vlachokerasia**	**1.47**	**218**	P	**Pn**	**08 03 21.2**	**+0.5**
VLX	**Vlachokerasia**	**1.47**	**218**	ePn	**Pg**	**08 03 22.3**	**-0.5**
VLX				eSn	**Sb**	**08 03 41.0**	**+0.7**
DRO	**Drossia**	**1.54**	**248**	ePB	**Pn**	**08 03 21.9**	**+0.4**
DRO	**Drossia**	**1.54**	**248**	ePb	**Pn**	**08 03 21.9**	**+0.4**
THL	**Klokotos Trika**	**1.56**	**312**	ePB	**Pn**	**08 03 21.8**	**+0.1**
THL	**Klokotos Trika**	**1.56**	**312**	ePb	**Pn**	**08 03 21.8**	**+0.1**
PDO	**Prodromos**	**1.83**	**273**	ePN	**Pb**	**08 03 27.6**	**-0.1**
PDO	**Prodromos**	**1.83**	**273**	ePn	**Pb**	**08 03 27.6**	**-0.1**
PLG	**Polygyros**	**1.83**	**358**	ePB	**Pn**	**08 03 25.4**	**-0.2**
PLG	**Polygyros**	**1.83**	**358**	ePb	**Pn**	**08 03 25.4**	**-0.2**
LIA	**Limnos Island**	**1.88**	**43**	ePN	**Pb**	**08 03 28.4**	**-0.1**
CHOS	**Chios island**	**2.00**	**94**	P	**Pn**	**08 03 28.1**	**+0.2**
CHOS	**Chios island**	**2.00**	**94**	P	**Pn**	**08 03 28.1**	**+0.2**
PYL	**PYLOS**	**2.16**	**221**	ePN	**Pb**	**08 03 32.0**	**-1.4**
PYL	**PYLOS**	**2.16**	**221**	ePn	**Pb**	**08 03 32.0**	**-1.4**
APE	**Apeiranthos**	**2.17**	**132**	ePB	**Pn**	**08 03 29.9**	**-0.3**
APE	**Apeiranthos**	**2.17**	**132**	ePb	**Pn**	**08 03 29.9**	**-0.3**
VLS	**Valsamata**	**2.33**	**262**	ePN	**Pb**	**08 03 34.6**	**-1.7**
VLS	**Valsamata**	**2.33**	**262**	ePn	**Pb**	**08 03 34.6**	**-1.7**

NNC 11 08:25:19.7±3.2,54°.32N×86°.43E,h0km,mb3.6,mpv3.1, 5C-7D,Error ellipse: s-maj=23.8km s-min=20.3km az=38.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.98**	**236**	i↓Pn	Pn	08 26 49.8	+0.5
	1.5nm,1.2s						
KURK				i↑Sn	Sn	08 28 00.4	+2.0
	1.2nm,1.2s						
KURK				i↓Lg	Lg	08 28 29.6	
	2.5nm,1.4s						
KURBB	**Kurchatov Arra**	**6.08**	**236**	i↑Pn	Pn	08 26 51.7	+0.9
	1.6nm,0.3s						
KURBB				i↓Sn	Sn	08 28 02.5	+1.5
	1.2nm,0.3s						
KURBB				i↑Lg	Lg	08 28 33.1	
	3.0nm,0.8s						
MK31	**Makanchi Array**	**7.98**	**201**	i↓Pn	Pn	08 27 16.7	-0.2
	0.8nm,0.9s,baz=24,slow=12,SNR=7.1						
MK31				i↓Sn	Sn	08 28 47.5	-0.4
	0.4nm,0.6s,baz=18,slow=25						
MK31				i↓Lg	Lg	08 29 34.8	
	1.5nm,1.0s,baz=147,slow=33,SNR=3.0						
VOSK	**Vostochnaya**	**9.34**	**266**	i↓Pn	Pn	08 27 35.8	+0.3
	0.7nm,0.3s						
VOSK				i↑Sn	Sn	08 29 18.9	-2.3
	3.6nm,1.0s						
VOSK				i↑Lg	Lg	08 30 16.4	
	3.7nm,0.8s						

*IDC **11** 08:30:50.5±2.1,7°.50S×126°.94E,h0km,mb3.4/1, mb1 4.4/3,mb1mx3.8/19,mbtmp4.2/3,ML4.5/2, Error ellipse: s-maj=277.6km s-min=31.4km az=63.0*
*AUST **11** 08:31:11.6±1.6,7°.95S×128°.12E,h178km, Error ellipse: s-maj=2.3km s-min=1.0km az=13.0*

ISC 11 08:31:05.8±1.2,7°.77S±0°.08×127°.8E±0°.1,h150km,n12, σ2$97/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**6.00**	**147**	P	**Pn**	**08 32 35.4**	**+2.9**
	baz=5.7,SNR=114						
FAKI	**Fak Fak**	**6.53**	**43**	P	**Pn**	**08 32 38.6**	**-1.1**
	baz=6.5,SNR=3.9						
KDU	**Kakadu**	**6.69**	**137**	P	**Pn**	**08 32 44.1**	**+2.3**
	baz=6.4,SNR=212						
WSI	**Waingapu**	**7.67**	**255**	P	Pn	08 33 03.9	+9.0
	baz=7.9,SNR=5.0						
FITZ	**Fitzroy Crossi**	**10.48**	**191**	P	**Pn**	**08 33 33.6**	**+1.4**
	baz=10,SNR=14						
WRA	**Warramunga Arr**	**13.65**	**153**	Pn	**Pn**	**08 34 14.1**	**+0.8**
	2.1nm,0.3s,baz=327,slow=13,SNR=20						
WRA				Sn	**Sn**	**08 36 40.8**	**-3.7**
	1.8nm,0.3s,baz=324,slow=24,SNR=15						
COEN	**Coen**	**16.28**	**113**	P	**P**	**08 34 48.3**	**+2.0**
	baz=16,SNR=7.9						
ASAR	**Alice Springs**	**16.84**	**160**	P	**Pn**	**08 34 55.2**	**+2.3**
	1.4nm,0.3s,baz=339,slow=12,SNR=65						
ASAR				S	**S**	**08 37 56.1**	**-4.2**
	0.3nm,0.3s,baz=318,slow=17,SNR=4.0						
QIS	**Mount Isa**	**17.07**	**139**	P	**Pn**	**08 34 58.3**	**+2.6**
	baz=17,SNR=8.1						
WRKA	**Warakurna**	**17.17**	**179**	P	**Pn**	**08 35 00.4**	**+3.5**
	baz=17,SNR=19						
MNAI	**Manna**	**24.95**	**276**	P	P	08 36 22.8	+7.2
	baz=25,SNR=9.4						
MKAR	**Makanchi Array**	**67.71**	**328**	P	**P**	**08 41 45.4**	**-1.6**
	0.2nm,0.5s,baz=111,slow=6.6,SNR=5.9						

*IDC **11** 08:31:48.5±1.4,1°.67S×81°.41W,h0km,mb3.9/6,mb1 4.1/8, mb1mx3.9/23,mbtmp3.9/8,ML3.7/2,Error ellipse: s-maj=104.5km s-min=17.1km az=56.0*
*ISCJB **11** 08:31:51.6±0.8,1°.7S±0°.2×81°.4W±0°.4,h33km,mb3.7/6, Error ellipse: s-maj=64.7km s-min=8.4km az=150.2*

ISC 11 08:31:53.8±0.9,1°.7S±0°.3×81°.4W±0°.5,h35km,n11,σ0$79/9, mb3.8/6,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**6.21**	**151**	Pn	**Pn**	**08 33 23.8**	**+0.3**
	1.1nm,0.3s,baz=3.1,slow=5.7,SNR=8.8						
ATAH				Sn	**Sn**	**08 34 33.6**	**+0.2**
	0.7nm,0.3s,baz=108,slow=20,SNR=2.5						
LPAZ	**La Paz**	**19.55**	**139**	P	**P**	**08 36 19.1**	**-0.2**
	0.1nm,0.3s,baz=309,slow=8.2,SNR=12						
SIV	**San Ignacio**	**24.59**	**127**	P	**P**	**08 37 10.1**	**-0.8**
	2.1nm,0.7s,baz=319,slow=8.0,SNR=7.3						
H03N2	**Juan Fernandez**	**31.70**	**176**	T	T	09 12 12.9	
	baz=354,slow=75,SNR=5.0						
H03N1	**Juan Fernandez**	**31.70**	**176**	T	T	09 12 17.9	
	baz=354,slow=75,SNR=6.0						
H03N3	**Juan Fernandez**	**31.71**	**176**	T	T	09 11 59.6	
	baz=354,slow=75,SNR=7.0						
ANMO	**Albuquerque**	**43.32**	**330**	P	**P**	**08 39 53.5**	**+0.8**
	1.2nm,0.6s,baz=154,slow=13,SNR=5.8						
NVAR	**Mina Array Bea**	**52.41**	**323**	P	**P**	**08 41 02.4**	**-0.8**
	0.6nm,0.7s,baz=140,slow=9.0,SNR=4.3						
ULM	**Lac du Bonnet**	**53.18**	**348**	P	**P**	**08 41 08.8**	**+0.5**
	0.3nm,0.8s,baz=175,slow=8.8,SNR=4.3						
YKA	**Yellowknife Ar**	**68.73**	**344**	P	**P**	**08 42 54.3**	**+0.6**
	0.3nm,0.6s,baz=137,slow=5.5,SNR=4.5						
ILAR	**Eielson Array**	**81.27**	**337**	P	**P**	**08 44 05.0**	**-1.0**
	0.3nm,0.9s,baz=174,slow=4.3,SNR=4.2						

*AUST **11** 08:48:04.7±1.1,2°.97N×122°.82E,h455km, Error ellipse: s-maj=2.0km s-min=1.4km az=287.0*
*DJA **11** 08:48:07.9±1.1,2°.1N±15°×12°.3E±°,h529km±11km,M4.3/5, mb4.9/1,mB4.9/1,MLv4.1/5,Mw(mB)4.2/1*
*ISCJB **11** 08:48:08.0±0.3,2°.88N±0°.05×123°.08E±0°.07,h489km, mb3.9/15, Error ellipse: s-maj=9.9km s-min=4.6km az=150.5*
*IDC **11** 08:48:09.6±1.4,2°.84N×122°.97E,h496km±17km,mb3.4/16, mb1 3.5/16,mb1mx3.3/30,mbtmp3.4/16, Error ellipse: s-maj=25.7km s-min=8.0km az=74.0*

ISC 11 08:48:09.0±0.5,2°.88N±0°.07×123°.11E±0°.09,h489km,n59, σ1$04/66,mb3.9/15,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**2.23**	**183**	P	**P**	**08 49 12.7**	**-1.6**
GTOI	**Gorontalo**	**2.23**	**183**	P	**P**	**08 49 12.6**	**-1.7**
	226nm,0.6s,2μm						
KMSI	**Cibinong**	**2.45**	**159**	P	**P**	**08 49 15.4**	**-0.2**
KMSI				S	**S**	**08 50 11.5**	**+1.9**
KMSI	**Cibinong**	**2.45**	**159**	P	**P**	**08 49 15.6**	**0.0**
	709nm,0.7s						
MRSI	**Marisa**	**2.66**	**206**	P	**P**	**08 49 16.2**	**-0.6**
MRSI	**Marisa**	**2.66**	**206**	P	**P**	**08 49 16.3**	**-0.6**
	91nm,0.8s,1μm						
LUWI	**Luwuk**	**3.91**	**185**	P	**P**	**08 49 24.9**	**-1.1**
LUWI				S	**S**	**08 50 25.4**	**-3.2**
LUWI	**Luwuk**	**3.91**	**185**	P	**P**	**08 49 24.7**	**-1.3**
	272nm,0.8s,9μm						
APSI	**Ampana**	**4.04**	**201**	P	**P**	**08 49 27.1**	**+0.1**
APSI	**Ampana**	**4.04**	**201**	P	**P**	**08 49 27.9**	**+0.9**
	132nm,0.5s,2μm						
LBMI	**Labuha**	**5.61**	**128**	P	**P**	**08 49 39.6**	**-1.5**
LBMI				S	**S**	**08 50 54.5**	**-1.8**
LBMI	**Labuha**	**5.61**	**128**	P	**P**	**08 49 42.8**	**+1.7**
	131nm,0.5s,3μm						
BNDI	**Bandanaira**	**10.01**	**137**	P	**P**	**08 50 29.3**	**+2.9**
FAKI	**Fak Fak**	**10.80**	**122**	P	**P**	**08 50 35.9**	**+1.0**
	baz=11,SNR=3.6						
PALU	**Palau**	**12.15**	**68**	P	**P**	**08 50 47.6**	**-1.7**
	baz=12,SNR=3.6						
MTN	**Manton Dam**	**17.53**	**153**	P	**P**	**08 51 44.9**	**-0.7**
	baz=18,SNR=23						
KDU	**Kakadu**	**18.04**	**149**	P	**P**	**08 51 49.9**	**-0.5**
	baz=18,SNR=17						
FITZ	**Fitzroy Crossi**	**21.00**	**173**	P	**P**	**08 52 17.5**	**+0.2**
	2.9nm,0.4s,baz=359,slow=9.1,SNR=19						
FITZ	**Fitzroy Crossi**	**21.00**	**173**	P	**P**	**08 52 17.4**	**+0.1**
	baz=21,SNR=13						
WRA	**Warramunga Arr**	**25.22**	**155**	P	**P**	**08 52 54.4**	**-0.7**
	5.4nm,0.3s,baz=337,slow=9.6,SNR=30						
WRA				ScP	**ScP**	**08 59 04.1**	**-1.4**
	0.7nm,0.5s,baz=350,slow=3.3,SNR=5.8						
WRKA	**Warakurna**	**28.20**	**170**	P	**P**	**08 53 21.7**	**+0.2**
	baz=28,SNR=5.2						
QIS	**Mount Isa**	**28.36**	**146**	P	**P**	**08 53 23.2**	**+0.4**
	baz=29,SNR=13						
ASAR	**Alice Springs**	**28.40**	**159**	P	**P**	**08 53 23.2**	**0.0**
	2.4nm,0.4s,baz=336,slow=7.3,SNR=95						
ASAR				ScP	**ScP**	**08 59 14.5**	**-0.5**
	0.9nm,0.4s,baz=338,slow=3.2,SNR=14						
MEEK	**Meekatharra**	**29.66**	**188**	P	**P**	**08 53 33.7**	**-0.5**
	baz=30,SNR=9.8						
MORW	**Morawa**	**32.48**	**192**	P	**P**	**08 53 58.1**	**-0.2**
	baz=33,SNR=5.6						
FORT	**Forrest**	**33.80**	**172**	P	**P**	**08 54 09.8**	**+0.3**
	baz=34,SNR=13						
BLDU	**Ballidu**	**33.86**	**190**	P	**P**	**08 54 09.6**	**-0.4**
	baz=34,SNR=6.4						
KLBR	**Kellerberrin**	**34.66**	**188**	P	**P**	**08 54 16.5**	**-0.2**
	baz=35,SNR=10.0						
KSRS	**Korea Array**	**34.69**	**7**	P	**P**	**08 54 18.1**	**+1.2**
	1.4nm,0.5s,baz=181,slow=9.5,SNR=4.9						
NWAO	**Narrogin (SRO)**	**36.04**	**188**	P	**P**	**08 54 28.4**	**+0.1**
	5.7nm,0.5s,baz=27,slow=6.3,SNR=3.3						
BBOO	**Buckleboo**	**37.55**	**162**	P	**P**	**08 54 41.2**	**+0.4**
	baz=38,SNR=14						
STKA	**Stephens Creek**	**38.77**	**154**	P	**P**	**08 54 51.6**	**+1.0**
	4.5nm,0.3s,baz=328,slow=7.9,SNR=36						
STKA	**Stephens Creek**	**38.77**	**154**	P	**P**	**08 54 51.7**	**+1.0**
	baz=39,SNR=30						
EIDS	**Eidsvold**	**39.04**	**138**	P	**P**	**08 54 53.3**	**+0.3**
	baz=39,SNR=3.1						
HTT	**Hallett**	**39.08**	**159**	P	**P**	**08 54 54.4**	**+1.2**
	baz=40,SNR=7.8						
CMSA	**Cobar Meteorol**	**40.41**	**150**	P	**P**	**08 55 05.6**	**+1.7**
	baz=41,SNR=17						
TAPN	**Taplejung**	**41.68**	**309**	eP	**P**	**08 55 14.5**	**0.0**
	14nm,0.3s						
ODAN	**Odare**	**41.69**	**308**	eP	**P**	**08 55 15.0**	**+0.5**
USRK	**Ussuriysk Arra**	**41.89**	**10**	P	**P**	**08 55 16.6**	**+1.1**
	3.5nm,0.6s,baz=210,slow=7.4,SNR=10						
RAMN	**Ramite**	**42.35**	**308**	eP	**P**	**08 55 20.5**	**+0.7**
JIRN	**Jiri**	**43.01**	**309**	eP	**P**	**08 55 25.2**	**+0.1**
	18nm,0.4s						
ARPS	**Mount Arapiles**	**43.13**	**158**	P	**P**	**08 55 26.5**	**+1.1**
	baz=44,SNR=8.6						
GUN	**Gumba**	**43.37**	**309**	eP	**P**	**08 55 28.3**	**+0.4**
	20nm,0.4s						
PKIN	**Phulchoki**	**43.59**	**308**	eP	**P**	**08 55 29.6**	**+0.1**
KKN	**Kakani**	**43.78**	**308**	eP	**P**	**08 55 31.1**	**+0.2**
DMN	**Daman**	**43.83**	**308**	eP	**P**	**08 55 31.6**	**+0.2**
GKN	**Gorkha**	**44.38**	**308**	eP	**P**	**08 55 35.7**	**+0.1**
ASAJ	**Asahikawa**	**44.54**	**20**	P	**P**	**08 55 36.6**	**+0.4**
	11nm,1.2s,baz=254,slow=7.4,SNR=5.2						
KOLN	**Koldanda**	**45.10**	**307**	eP	**P**	**08 55 41.7**	**+0.6**
	44nm,0.7s						
DANN	**Dangsing**	**45.23**	**308**	eP	**P**	**08 55 42.6**	**+0.3**
	53nm,0.7s						
PYUN	**Piuthan**	**45.73**	**307**	eP	**P**	**08 55 46.7**	**+0.7**
	82nm,0.7s						
SONM	**Songino Array**	**47.05**	**345**	P	**P**	**08 55 56.0**	**+0.4**
	2.9nm,0.7s,baz=158,slow=9.0,SNR=26						
MKAR	**Makanchi Array**	**56.25**	**327**	P	**P**	**08 57 02.2**	**0.0**
	2.3nm,0.4s,baz=128,slow=7.9,SNR=62						
MKAR				PcP	**PcP**	**08 57 51.4**	**-1.4**
	0.6nm,0.8s,baz=134,slow=3.8,SNR=2.7						
MKAR				ScP	**ScP**	**09 01 04.0**	**-0.9**
	0.4nm,0.6s,baz=116,slow=4.3,SNR=2.7						
AAK	**Ala-Archa**	**58.61**	**320**	P	**P**	**08 57 19.4**	**+0.8**
	1.0nm,0.4s,baz=135,slow=8.6,SNR=5.6						
ZALV	**Zalesovo Beam**	**59.76**	**335**	P	**P**	**08 57 24.6**	**-1.3**
	1.9nm,0.7s,baz=111,slow=8.2,SNR=4.5						
KURBB	**Kurchatov Arra**	**60.56**	**329**	P	**P**	**08 57 30.8**	**-0.4**
	3.5nm,0.9s,baz=129,slow=6.2,SNR=30						
BVAR	**Borovoye Array**	**66.10**	**328**	P	**P**	**08 58 05.8**	**-1.0**
	0.7nm,0.4s,baz=130,slow=8.0,SNR=8.1						
AKTO	**Aktyubinsk**	**72.10**	**322**	P	**P**	**08 58 42.8**	**-0.3**
	1.2nm,0.4s,baz=113,slow=6.8,SNR=4.3						
VNDA	**Vanda**	**83.06**	**172**	P	**P**	**08 59 42.2**	**+0.2**
	0.5nm,0.6s,baz=298,slow=4.3,SNR=5.4						

GUC 11 08:50:38.4±0.5,29°.65S×71°.31W,h44km±3km,ML3.5, 3C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.68**	**140**	i↑iP	Pn	08 50 53.9	+1.8
TLL				*i* S	Sn	08 51 04.8	+2.9
TLL				AML	AML	08 51 06.0	
	comp=E,2μm,0.3s						
LCO	**Las Campanas**	**0.83**	**40**	i↓iP	Pn	08 50 55.0	+0.9
LCO				*i* S	Sn	08 51 07.0	+1.6
LCO				AML	AML	08

2µm,27.9s
DZM Mont Dzumac 10.67 236 LR LR 09 23 47.9
comp=Z,449nm,20.2s,baz=178,slow=33
RAO Raoul Island 14.10 157 LR LR 09 24 41.5
comp=Z,383nm,20.1s,baz=92,slow=28
URZ Urewera 21.93 178 LR LR 09 29 42.8
comp=Z,173nm,21.2s,baz=192,slow=32
RPZ Rata Peaks 27.67 188 LR LR 09 33 33.5
comp=Z,138nm,18.7s,baz=101,slow=34
PMG Port Moresby 28.86 280 LR LR 09 33 16.6
comp=Z,101nm,19.9s,baz=97,slow=32
PPT2 Papeete2 32.98 97 *e*LQ LQ 09 31 47.8
1µm,25.5s
PPT2 *e*LR LR 09 32 56.5
388nm,30.2s
PPT Papeete 32.98 97 LR LR 09 33 24.5
comp=Z,161nm,21.1s,baz=246,slow=28
TBI Tubuai 33.23 108 *e*S **S 09 29 52.8 -0.1**
94nm,25.2s
TBI *e*LQ LQ 09 31 55.9
934nm,25.8s
TBI *e*LR LR 09 33 09.8
382nm,33.0s
STKA Stephens Creek 34.82 237 P **P 09 24 50.0 +0.7**
3.9nm,0.7s,baz=72,slow=9.6,SNR=6.6
STKA LR LR 09 38 07.8
comp=Z,214nm,18.3s,baz=38,slow=35
H11S2 WAKE ISLAND Hy 35.72 345 T T 10 03 08.0
baz=175,SNR=17
H11S3 WAKE ISLAND Hy 35.73 345 T T 10 03 07.2
baz=175,SNR=15
H11S1 WAKE ISLAND Hy 35.74 345 T T 10 03 08.6
baz=175,SNR=12
H11N1 WAKE ISLAND Hy 36.85 346 T T 10 04 26.6
baz=166,slow=77,SNR=3.3
H11N3 WAKE ISLAND Hy 36.85 346 T T 10 04 26.6
baz=166,slow=77,SNR=9.2
H11N2 WAKE ISLAND Hy 36.87 346 T T 10 04 28.2
baz=166,slow=77,SNR=11
WRA Warramunga Arr 39.65 258 P **P 09 25 30.0 -0.5**
0.9nm,0.6s,baz=91,slow=8.7,SNR=6.6
WRA LR LR 09 40 00.9
comp=Z,134nm,21.6s,baz=115,slow=34
ASAR Alice Springs 40.08 252 P **P 09 25 33.8 -0.3**
2.1nm,0.9s,baz=83,slow=9.3,SNR=13
ASAR LR LR 09 41 46.7
comp=Z,152nm,18.8s,baz=87,slow=36
RKT Rikitea 46.53 107 *e*LR LR 09 39 14.1
350nm,33.5s
VNDA Vanda 61.67 183 LR LR 09 51 16.1
comp=Z,76nm,19.8s,baz=212,slow=32
TGY Tagaytay City 62.17 296 LR LR 09 54 32.9
comp=Z,101nm,19.4s,baz=335,slow=35
MJAR Matsushiro Arr 63.48 327 LR LR 09 50 12.6
comp=Z,62nm,21.2s,baz=310,slow=31
KSRS Korea Array 69.97 321 LR LR 09 53 14.1
comp=Z,69nm,21.1s,baz=26,slow=30
USRK Ussuriysk Arra 72.32 328 LR LR 09 55 15.2
comp=Z,47nm,21.6s,baz=340,slow=31
CMAR Chiang Mai Arr 83.26 291 LR LR 10 03 52.7
comp=Z,45nm,19.4s,baz=348,slow=33
MAW Mawson 83.51 201 LR LR 10 01 02.3
comp=Z,78nm,18.2s,baz=28,slow=31
ILAR Eielson Array 85.62 15 P **P 09 30 36.6 +0.7**
0.7nm,1.0s,baz=198,slow=5.7,SNR=4.4
ILAR LR LR 10 11 36.3
comp=Z,45nm,18.1s,baz=354,slow=38
SONM Songino Array 88.84 321 LR LR 10 04 38.5
comp=Z,67nm,19.9s,baz=278,slow=32
TXAR Lajitas Array 89.75 59 LR LR 10 02 35.2
comp=Z,120nm,19.4s,baz=10.0,slow=30
PLCA Paso Flores 96.32 135 LR LR 10 05 28.6
comp=Z,66nm,18.1s,baz=236,slow=30
GERES GERESS Array B 144.42 340 PKP **PKPdf 09 37 32.8 -1.3**
0.5nm,0.5s,baz=52,slow=2.2,SNR=5.8

*IDC **11** 09:27:40.7±9.7, 14°.56N×92°.24E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.4/27, mbtmp2.6/3, ML4.1/1, Error ellipse: s-maj=197.7km s-min=50.6km az=115.0*

ISC 11 09:27:45.9±1.4, 14°.3N±0°.2×92°.8E±0°.1, h10km, n19, σ1°74/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.24**	**54**		Op **Pn**		**09 29 31.6**	**-0.3**
	0.8nm,0.3s,baz=243,slow=15,SNR=7.2							
VIS	**Vishakhapatnam**	**9.68**	**292**	*i*	P	Pn	09 30 11.8	+6.5
VIS				*i*	S	**Sn**	**09 31 53.6**	**-0.6**
VIS				*ex*	x	x	09 31 56.0	
	comp=N,36nm,0.6s							
VIS				*ex*	x	x	09 31 59.0	
	comp=E,19nm,0.2s							
ODAN	**Odare**	**13.47**	**339**	*e*P		**Pn**	**09 30 58.8**	**+1.4**
TAPN	**Taplejung**	**13.81**	**341**	*e*P		**Pn**	**09 31 03.5**	**+1.3**
RAMN	**Ramite**	**13.84**	**336**	*e*P		**Pn**	**09 31 04.5**	**+2.0**
JIRN	**Jiri**	**14.64**	**336**	*e*P		**Pn**	**09 31 15.6**	**+2.1**
	comp=E,14nm,0.4s							
PKI	**Pulchoki**	**14.88**	**334**	*e*P		**P**	**09 31 19.7**	**-2.9**
	comp=E,17nm,0.3s							
PKIN	**Phulchoki**	**14.89**	**334**	*e*P		**P**	**09 31 19.7**	**-2.9**
	comp=E,24nm,0.3s							
GUN	**Gumba**	**14.98**	**336**	*e*P		**Pn**	**09 31 19.6**	**+1.4**
	comp=E,22nm,0.7s							
DMN	**Daman**	**15.04**	**333**	*e*P		**P**	**09 31 22.0**	**-2.3**
	comp=E,13nm,0.3s							
GKN	**Gorkha**	**15.59**	**332**	*e*P		**P**	**09 31 29.2**	**-1.1**
	comp=E,20nm,0.3s							
KOLN	**Koldanda**	**15.89**	**329**	*e*P		**P**	**09 31 33.2**	**-0.5**
	comp=E,21nm,0.5s							
DANN	**Dangsing**	**16.29**	**331**	*e*P		**P**	**09 31 38.5**	**+0.3**
	comp=E,14nm,0.4s							
PYUN	**Piuthan**	**16.46**	**328**	*e*P		**P**	**09 31 41.0**	**+0.9**
H08S3	**Diego Garcia H**	**29.65**	**224**	T		T	10 05 20.4	
	baz=42,slow=76,SNR=6.9							
H08S2	**Diego Garcia H**	**29.65**	**224**	T		T	10 05 21.0	
	baz=42,slow=76,SNR=7.2							
H08S1	**Diego Carcia H**	**29.66**	**224**	T		T	10 05 22.3	
	baz=42,slow=76,SNR=5.3							
WRA	**Warramunga Arr**	**53.20**	**129**	P		**P**	**09 37 05.0**	**+0.2**
	comp=E,0.5nm,0.8s,baz=314,slow=8.0,SNR=5.0							
ASAR	**Alice Springs**	**55.16**	**133**	P		**P**	**09 37 19.4**	**+0.4**
	comp=E,0.5nm,0.4s,baz=306,slow=6.5,SNR=11							

WEL 11 09:53:24.3±0.1, 41°.08S×174°.32E, h67km±1km, ML3.7/16, 8C-3D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.13**	**194**	⇑PN	Op	Pn	09 53 33.9	-0.4
TCW				SN		Sn	09 53 40.8	-0.8
TCW				AML		AML	09 53 41.5	
SNZO	**South Karori**	**0.37**	**128**	⇑PN		Pn	09 53 35.3	-0.3
SNZO				AML		AML	09 53 44.6	
SNZO				AML		AML	09 53 44.6	
SNZO				AML		AML	09 53 44.7	
SNZO				AML		AML	09 53 44.8	
WEL	**Wellington**	**0.40**	**121**	⇑PN		Pn	09 53 35.6	-0.3
WEL				SN		Sn	09 53 43.9	-0.5
DUWZ	**D'Urville Isla**	**0.41**	**313**	⇓PN		Pn	09 53 35.1	-0.9
DUWZ				SN		Sn	09 53 45.0	+0.3
TUWZ	**Tuamarina**	**0.45**	**219**	⇑PN		Pn	09 53 35.9	-0.5
TUWZ				AML		AML	09 53 44.8	
TUWZ				AML		AML	09 53 44.9	
KIW	**Kapiti Island**	**0.50**	**64**	⇓PN		Pn	09 53 36.5	-0.4
KIW				SN		Sn	09 53 45.5	-0.6
KIW				AML		AML	09 53 46.8	
BHW	**Baring Head**	**0.53**	**128**	⇑PN		Pn	09 53 36.7	-0.5
BHW				AML		AML	09 53 47.3	
BHW				AML		AML	09 53 47.3	
CAW	**Cannon Point**	**0.57**	**93**	PN		Pn	09 53 37.1	-0.5
CAW				SN		Sn	09 53 46.6	-0.7
CAW				AML		AML	09 53 47.0	
CMWZ	**Cape Campbell**	**0.67**	**187**	PN		Pn	09 53 39.0	+0.4
CMWZ				AML		AML	09 53 52.1	
CMWZ				AML		AML	09 53 56.3	
OGWZ	**Otaki Gorge**	**0.70**	**68**	PN		Pn	09 53 38.6	-0.4
OGWZ				SN		Sn	09 53 49.5	-0.3
BSWZ	**Blackbirch Sta**	**0.71**	**208**	PN		Pn	09 53 38.8	-0.4
BSWZ				AML		AML	09 53 51.1	
BSWZ				AML		AML	09 53 51.5	
NNZ	**Nelson**	**0.72**	**259**	⇓PN		Pn	09 53 38.5	-0.7
MSWZ	**Moikau Station**	**0.78**	**116**	PN		Pn	09 53 39.4	-0.6
MSWZ				AML		AML	09 53 50.8	
MSWZ				AML		AML	09 53 51.0	
PLWZ	**Palliser**	**0.86**	**125**	⇑PN		Pn	09 53 40.4	-0.6
PAWZ	**Paruwai Farm**	**0.89**	**110**	⇑PN		Pn	09 53 40.6	-0.6
PAWZ				AML		AML	09 53 52.9	
PAWZ				AML		AML	09 53 54.1	
MTW	**Mount Morrison**	**0.90**	**95**	PN		Pn	09 53 40.6	-0.8
MTW				AML		AML	09 53 53.3	
MTW				AML		AML	09 53 53.4	
HOWZ	**Holdsworth Sta**	**0.92**	**79**	PN		Pn	09 53 41.0	-0.8
MRZ	**Mangatainoka R**	**1.04**	**67**	PN		Pn	09 53 42.3	-1.0
MRZ				AML		AML	09 53 57.8	
MRZ				AML		AML	09 53 59.3	
TRWZ	**Traveller**	**1.08**	**107**	PN		Pn	09 53 42.9	-0.8
TRWZ				AML		AML	09 53 57.6	
TRWZ				AML		AML	09 53 58.7	
TMWZ	**Te Maipa**	**1.19**	**92**	PN		Pn	09 53 44.2	-1.0
TIWZ	**Tintock**	**1.23**	**76**	PN		Pn	09 53 44.3	-1.3
TIWZ				AML		AML	09 54 02.1	
TIWZ				AML		AML	09 54 02.2	
THZ	**Tophouse**	**1.26**	**237**	PN		Pn	09 53 45.4	-0.7
POWZ	**Post Office Ro**	**1.30**	**58**	PN		Pn	09 53 45.2	-1.3
PRWZ	**Pori Road**	**1.36**	**68**	PN		Pn	09 53 46.3	-1.0
QRZ	**Quartz Range**	**1.38**	**280**	PN		Pn	09 53 46.4	-1.1
WAZ	**Wanganui**	**1.42**	**21**	PN		Pn	09 53 48.3	+0.2
DVHZ	**Dannevirke**	**1.61**	**62**	PN		Pn	09 53 48.8	-1.8
TSZ	**Takapari Road**	**1.61**	**51**	PN		Pn	09 53 49.3	-1.5
TSZ				AML		AML	09 54 11.8	
NMEZ	**Namu Road**	**1.70**	**348**	PN		Pn	09 53 51.7	-0.1
ANWZ	**Angora Road**	**1.75**	**70**	PN		Pn	09 53 50.9	-1.6
DFE	**Dawson Falls**	**1.76**	**355**	PN		Pn	09 53 53.1	+0.3
KHEZ	**Kahui Hut**	**1.80**	**352**	PN		Pn	09 53 53.3	0.0
NEZ	**North Egmont**	**1.82**	**355**	PN		Pn	09 53 53.9	+0.4
PNHZ	**Pukenui**	**1.85**	**52**	PN		Pn	09 53 52.1	-1.8
DREZ	**Durham Road**	**1.89**	**357**	PN		Pn	09 53 54.6	+0.2
PKE	**Pukeiti**	**1.90**	**352**	PN		Pn	09 53 54.5	-0.1
PRHZ	**Porangahau**	**1.94**	**66**	PN		Pn	09 53 53.5	-1.6
VRZ	**Vera Road**	**1.98**	**10**	⇑PN		Pn	09 53 55.7	0.0
MOVZ	**Moawhango**	**2.00**	**34**	PN		Pn	09 53 54.8	-1.2
MHEZ	**Mangahewa**	**2.00**	**0**	PN		Pn	09 53 56.2	+0.3
DSZ	**Denniston Nort**	**2.00**	**250**	PN		Pn	09 53 55.0	-1.0
BHHZ	**Black Hill Sta**	**2.08**	**41**	PN		Pn	09 53 55.8	-1.3
WPVZ	**Whakapapa**	**2.10**	**27**	PN		Pn	09 53 57.3	-0.1
OTVZ	**Oturere**	**2.18**	**29**	PN		Pn	09 53 58.0	-0.5
WTVZ	**West Tongariro**	**2.19**	**27**	PN		Pn	09 53 58.2	-0.4
PXZ	**Pawanui**	**2.20**	**62**	PN		Pn	09 53 56.4	-2.2
KRVZ	**Karewarewa**	**2.23**	**28**	PN		Pn	09 53 58.6	-0.6
LTZ	**Lake Taylor**	**2.29**	**221**	PN		Pn	09 53 58.6	-1.2
KAHZ	**Kahuranaki**	**2.34**	**57**	PN		Pn	09 53 58.3	-2.2
BKZ	**Black Stump Fm**	**2.54**	**42**	PN		Pn	09 54 01.1	-2.2
BKZ				AML		AML	09 55 02.3	
HIZ	**Hauiti**	**2.60**	**9**	PN		Pn	09 54 03.7	-0.3
OXZ	**Oxford**	**2.81**	**216**	PN		Pn	09 54 04.4	-2.5
MQZ	**McQueen's Vall**	**2.90**	**205**	PN		Pn	09 54 05.3	-2.7
KNZ	**Kokohu**	**3.30**	**52**	PN		Pn	09 54 09.9	-3.6
TOZ	**Tahuroa Road**	**3.47**	**16**	PN		Pn	09 54 14.8	-1.0
MWZ	**Matawai**	**3.69**	**43**	PN		Pn	09 54 15.4	-3.6
MKAZ	**Moumakai**	**4.02**	**10**	PN		Pn	09 54 22.7	-0.7
FOZ	**Fox Glacier**	**4.24**	**233**	PN		Pn	09 54 22.5	-3.7
RVAZ	**Riverhead Bore**	**4.31**	**3**	PN		Pn	09 54 27.0	-0.4
KUZ	**Kuaotunu**	**4.46**	**15**	PN		Pn	09 54 28.2	-1.3
ODZ	**Otahua Downs**	**4.79**	**213**	PN		Pn	09 54 30.8	-3.1
OUZ	**Omahuta**	**5.88**	**354**	PN		Pn	09 54 48.2	-0.6
CTZ	**Chatham Island**	**7.21**	**115**	PN		Pn	09 55 05.2	-1.8

*UPP **11** 10:08:02.6, 59°.91N×22°.49E, h0km, ML1.9, Suspected Mining explosion.*
*ISCJB **11** 10:08:03.4±0.4, 59°.76N±0°.03×22°.32E±0°.05, h0km, Error ellipse: s-maj=4.6km s-min=3.3km az=17.8*
*IDC **11** 10:08:03.2±3.2, 59°.54N×22°.42E, h0km, mb1 2.8/3, mb1mx2.7/27, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=42.2km s-min=10.1km az=169.0*
*CSEM **11** 10:08:04.1±0.2, 59°.79N×22°.34E, h2km, ML2.1, Error ellipse: s-maj=6.6km s-min=4.8km az=9.0, Mining explosion.*
*HEL **11** 10:08:04.2±0.1, 59°.77N×22°.24E, h0km, ML2.0, ML1.9(UPP), Explosion*
*NAO **11** 10:08:07.5±2.1, 59°.95N×22°.31E, ML2.1*
*BER **11** 10:08:09.3±3.4, 60°.01N×22°.27E, h0km, ML2.1(NAO), Suspected explosion*

ISC 11 10:08:03.9±0.7, 59°.77N±0°.03×22°.31E±0°.02, h0km, n49, σ1°18/65, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**1.10**	**106**	*e*PB		**Pg**	**10 08 25.0**	**+0.1**
SRPE	**Suurupi**	**1.10**	**106**		Pb	**Pg**	**10 08 25.0**	**+0.1**
SRPE				*e*S		**Sg**	**10 08 38.6**	**-0.6**
	85nm,0.5s,SNR=90							
MEF	**Metsahovi**	**1.14**	**66**	*e*P		**Pg**	**10 08 24.7**	**-1.0**
MEF	**Metsahovi**	**1.14**	**66**	*e*P		**Pb**	**10 08 26.1**	**-0.4**
	SNR=90							
MEF				*e*S		**Sb**	**10 08 41.9**	**+0.1**
	16nm,0.8s,SNR=90							
AAL	**Aland**	**1.23**	**290**	*e*P		**Pg**	**10 08 26.1**	**-1.4**
AAL				*e*S		**Sg**	**10 08 44.3**	**+0.9**
AAL	**Aland**	**1.23**	**290**	P		**Pg**	**10 08 26.1**	**-1.4**
AAL				S		**Sg**	**10 08 44.3**	**+0.9**
RAF	**Rauma**	**1.28**	**348**	*e*P		**Pg**	**10 08 27.7**	**-0.7**
RAF	**Rauma**	**1.28**	**348**	P		**Pg**	**10 08 27.7**	**-0.7**
RAF				*e*S		**Sb**	**10 08 46.1**	**+0.2**
	11nm,0.1s,SNR=70							
MTSE	**Matsula**	**1.32**	**143**	*e*P		**Pg**	**10 08 28.1**	**-1.0**
MTSE				*e*S		**Sg**	**10 08 44.7**	**-1.4**
MTSE	**Matsula**	**1.32**	**143**	P		**Pg**	**10 08 28.1**	**-1.0**
MTSE				*e*S		**Sg**	**10 08 44.9**	**-1.2**
	SNR=70							
PVF	**Pernaja**	**1.94**	**65**	*e*P		**Pn**	**10 08 38.5**	**+0.4**
PVF				MSG			10 09 10.2	
	comp=Z,11nm,0.1s							
PVF	**Pernaja**	**1.94**	**65**	P		**Pn**	**10 08 38.4**	**+0.4**
GRAU	**Graesoe**	**1.97**	**288**	*e*P		**Pn**	**10 08 37.7**	**-0.8**
GRAU				*e*S		**Sb**	**10 09 06.5**	**+0.8**
GRAU	**Graesoe**	**1.97**	**288**	P		**Pn**	**10 08 37.7**	**-0.8**
GRAU				S		**Sb**	**10 09 06.5**	**+0.8**
SLIT	**Slitere, Latvi**	**2.15**	**180**	*e*P		**Pn**	**10 08 41.3**	**+0.3**
SLIT				*e*SG		**Sn**	**10 09 09.7**	**+1.4**
SLIT	**Slitere, Latvi**	**2.15**	**180**	P		**Pn**	**10 08 41.3**	**+0.3**
SLIT				*e*S		**Sn**	**10 09 09.6**	**+1.3**
	comp=Z,69nm,0.1s,SNR=50							
FORU	**Forsmark**	**2.16**	**288**	*e*P		**Pn**	**10 08 40.8**	**-0.2**
FORU	**Forsmark**	**2.16**	**288**	P		**Pn**	**10 08 40.8**	**-0.2**
FLYU	**Flymyra**	**2.25**	**281**	*e*P		**Pn**	**10 08 41.7**	**-0.7**
FLYU	**Flymyra**	**2.25**	**281**	P		**Pn**	**10 08 41.7**	**-0.7**
NYNU	**Nynaeshamn**	**2.33**	**253**	*e*P		**Pn**	**10 08 43.3**	**-0.1**
NYNU	**Nynaeshamn**	**2.33**	**253**	P		**Pn**	**10 08 43.3**	**-0.1**
FIA0	**FINESS Array S**	**2.50**	**46**	Pn		**Pb**	**10 08 48.8**	**-0.9**
	baz=230,slow=14							
FIA0				Lg		Lg	10 09 22.3	
	baz=220,slow=22							
FIA0	**FINESS Array S**	**2.50**	**46**	Pn		**Pb**	**10 08 48.8**	**-0.9**
	baz=230,slow=14							
FIA0				Lg		Lg	10 09 22.3	
	baz=220,slow=22							
FIA0	**FINESS Array S**	**2.50**	**46**	*e*PB		**Pb**	**10 08 48.0**	**-1.7**
FIA0				MSG			10 09 27.2	
	comp=Z,7.1nm,0.1s							
FIA0	**FINESS Array S**	**2.50**	**46**	Pb		**Pb**	**10 08 47.9**	**-1.7**
FIA0	**FINESS Array S**	**2.50**	**46**	Pn		**Pb**	**10 08 48.8**	**-0.9**
	SNR=50							
FIA0				Lg		Lg	10 09 22.3	
	SNR=49							
FINES	**FINESS Array B**	**2.50**	**46**	Pn		**Pn**	**10 08 47.1**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=226,slow=13,SNR=16							
FINES				Sn		**Sb**	**10 09 21.8**	**+0.8**
	comp=Z,4.0nm,0.3s,baz=236,slow=24,SNR=36							
BACU	**Backbrunna**	**2.63**	**274**	*e*P		**Pn**	**10 08 49.2**	**+1.7**
BACU	**Backbrunna**	**2.63**	**274**	P		**Pn**	**10 08 49.2**	**+1.7**
VSU	**Vasula**	**2.64**	**118**	*e*P		**Pn**	**10 08 48.7**	**+1.0**
VSU	**Vasula**	**2.64**	**118**	P		**Pn**	**10 08 48.6**	**+1.0**
KEF	**Keuruu**	**2.71**	**26**	*e*PB		**Pb**	**10 08 51.7**	**-1.4**
KEF	**Keuruu**	**2.71**	**26**	Pb		**Pb**	**10 08 51.7**	**-1.4**
KAF	**Kangasniemi**	**3.05**	**38**	*e*P		**Pn**	**10 08 55.6**	**+2.3**
KAF	**Kangasniemi**	**3.05**	**38**	P		**Pn**	**10 08 55.6**	**+2.3**
VAF	**Ylistaro**	**3.28**	**3**	*e*SG		**Sb**	**10 09 45.1**	**+1.6**
VAF				MSG			10 09 51.8	
	comp=Z,2.0nm,0.1s							
VAF	**Ylistaro**	**3.28**	**3**	Sg		**Sb**	**10 09 45.0**	**+1.6**
HFS	**Hagfors**	**4.34**	**278**	Pn		**Pn**	**10 09 13.4**	**+2.3**
	baz=92,slow=14							
HFS				Sn		**Sn**	**10 10 03.9**	**+1.5**
	baz=81,slow=37							
HFS				Lg		Lg	10 10 22.4	
	baz=85,slow=37							
HFS	**Hagfors**	**4.34**	**278**	Pn		**Pn**	**10 09 13.4**	**+2.3**
	baz=92,slow=14							
HFS				Sn		**Sn**	**10 10 03.9**	**+1.5**
	baz=81,slow=37							
HFS				Lg		Lg	10 10 22.4	
	baz=85,slow=37							
HFS	**Hagfors**	**4.34**	**278**	Pn		**Pn**	**10 09 13.4**	**+2.3**
	SNR=50							
HFS				Sn		**Sn**	**10 10 03.9**	**+1.5**
	SNR=50							
HFS				Lg		Lg	10 10 22.4	
	SNR=90							
NB2	**NORSAR Subarra**	**5.64**	**288**	Pn		**Pn**	**10 09 29.3**	**+0.3**
	baz=86,slow=14							
NB2	**NORSAR Subarra**	**5.64**	**288**	Pn		**Pn**	**10 09 29.3**	**+0.3**
	baz=86,slow=14							
NB2	**NORSAR Subarra**	**5.64**	**288**	Pn		**Pn**	**10 09 29.3**	**+0.3**
	SNR=50							
NOA	**NORSAR Array B**	**5.64**	**288**	Pn		**Pn**	**10 09 28.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=129,slow=14,SNR=6.0							
NOA				Sn		**Sn**	**10 10 32.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=112,slow=18,SNR=2.8							
NOA				Lg		Lg	10 11 02.3	
	comp=Z,0.4nm,0.3s,baz=105,slow=12,SNR=5.3							
ARA0	**ARCESS Array S**	**9.89**	**7**	Pn		**Pn**	**10 10 26.6**	**-0.5**
	baz=183,slow=16							
ARA0	**ARCESS Array S**	**9.89**	**7**	Pn		**Pn**	**10 10 26.6**	**-0.5**
	baz=183,slow=16							
ARA0	**ARCESS Array S**	**9.89**	**7**	Pn		**Pn**	**10 10 26.6**	**-0.5**
	SNR=50							
ARCES	**ARCESS Array B**	**9.89**	**7**	Pn		**Pn**	**10 10 26.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=185,slow=13,SNR=8.5							

*ISCJB **11** 10:11:10.9±0.4, 59°.74N±0°.03×22°.23E±0°.04, h0km, Error ellipse: s-maj=4.1km s-min=3.0km az=167.4*
*HEL **11** 10:11:11.6±0.1, 59°.68N×22°.26E, h0km, ML1.9, ML2.1(UPP), Explosion*
*HEL **11** 10:11:11.4, 59°.64N×22°.27E, h0km, ML1.9, Explosion*
*CSEM **11** 10:11:12.0±0.2, 59°.69N×22°.20E, h2km, ML2.4, Error ellipse: s-maj=6.4km s-min=5.1km az=169.0, Suspected Mining explosion.*
*IDC **11** 10:11:12.2±2.3, 59°.72N×22°.54E, h0km, mb1 3.1/3, mb1mx2.9/27, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=27.7km s-min=8.9km az=158.0*
*NAO **11** 10:11:12.5±1.5, 59°.80N×22°.31E, ML2.3*
*UPP **11** 10:11:13.1, 59°.74N×22°.04E, h0km, ML2.1, Suspected Mining explosion.*
*BER **11** 10:11:14.0±3.1, 59°.87N×22°.22E, h0km, ML2.3(NAO), Suspected explosion*

ISC 11 10:11:10.8±0.8, 59°.69N±0°.03×22°.19E±0°.02, h0km, n59, σ1°52/72, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAL	**Aland**	**1.21**	**295**	*e*P		**Pg**	**10 11 34.0**	**0.0**
AAL	**Aland**	**1.21**	**295**	P		**Pg**	**10 11 34.0**	**0.0**
MEF	**Metsahovi**	**1.23**	**63**	*e*P		**Pg**	**10 11 33.1**	**-1.3**
MEF				*e*S		**Sg**	**10 11 48.9**	**-1.5**
MEF				*e*RG		Rg	10 11 56.4	
MEF	**Metsahovi**	**1.23**	**63**	Pg		**Pg**	**10 11 33.1**	**-1.3**
MEF				Sg		**Sg**	**10 11 48.8**	**-1.5**
MTSE	**Matsula**	**1.29**	**139**	*e*P		**Pg**	**10 11 34.9**	**-0.5**
	SNR=70							
RAF	**Rauma**	**1.36**	**351**	*e*P		**Pg**	**10 11 36.1**	**-0.7**
	baz=168							
RAF				*e*S		**Sg**	**10 11 54.4**	**0.0**
RAF	**Rauma**	**1.36**	**351**	*e*P		**Pg**	**10 11 36.1**	**-0.7**
	SNR=70							
RAF				*e*S		**Sg**	**10 11 53.9**	**-0.5**
	30nm,0.1s,SNR=70							
RAF				Sg		**Sg**	**10 11 54.3**	**0.0**
GRAU	**Graesoe**	**1.94**	**291**	*e*P		**Pn**	**10 11 45.9**	**+0.9**
GRAU	**Graesoe**	**1.94**	**291**	P		**Pn**	**10 11 45.9**	**+0.9**
PVF	**Pernaja**	**2.03**	**63**	*e*PB		**Pn**	**10 11 46.9**	**+0.7**
PVF				MSG		**Sn**	**10 12 12.5**	**+0.2**
	comp=Z,4.3nm,0.4s							
PVF				*e*S		**Sn**	**10 12 12.5**	**+0.2**
PVF	**Pernaja**	**2.03**	**63**	Pn		**Pn**	**10 11 46.9**	**+0.7**
SLIT	**Slitere, Latvi**	**2.07**	**178**	*e*P		**Pn**	**10 11 47.9**	**+1.2**
	SNR=50							
SLIT				*e*S		**Sb**	**10 12 17.0**	**+1.7**
	comp=Z,141nm,0.1s,SNR=50							
FORU	**Forsmark**	**2.13**	**291**	*e*P		**Pn**	**10 11 49.0**	**+1.4**
FORU	**Forsmark**	**2.13**	**291**	P		**Pn**	**10 11 49.0**	**+1.4**
NYNU	**Nynaeshamn**	**2.25**	**254**	*e*P		**Pn**	**10 11 51.2**	**+2.0**
NYNU	**Nynaeshamn**	**2.25**	**254**	P		**Pn**	**10 11 51.2**	**+2.0**
FIA0	**FINESS Array S**	**2.61**	**46**	Pn		**Pn**	**10 11 55.6**	**+1.5**
	baz=230,slow=14							
FIA0				Lg		Lg	10 12 29.1	
	baz=221,slow=22							
FIA0	**FINESS Array S**	**2.61**	**46**	Pn		**Pn**	**10 11 55.6**	**+1.5**
	baz=230,slow=14							
FIA0				Lg		Lg	10 12 29.1	
	baz=221,slow=22							
FIA0	**FINESS Array S**	**2.61**	**46**	*e*PB		**Pn**	**10 11 55.8**	**+1.6**
	baz=232							
FIA0				*e*			10 12 36.7	
FIA0				MSG			10 12 36.7	
	comp=Z,6.3nm,0.6s							
FIA0	**FINESS Array S**	**2.61**	**46**	Pn		**Pn**	**10 11 55.7**	**+1.5**
	SNR=50							
FIA0				Lg		Lg	10 12 29.1	

	comp=Z,0.2nm,0.3s,baz=90,slow=12,SNR=6.2									
NOA					Sn	Sn	10 13 42.5	+1.9		
	comp=Z,0.2nm,0.3s,baz=52,slow=23,SNR=2.4									
NOA					Lg	Lg	10 14 06.8			
	comp=Z,0.8nm,0.3s,baz=94,slow=12,SNR=6.6									
BSD	**Bornholm Skovb**	**6.04**	**224**	*i* P	**Pn**	**10 12 40.8**	**-0.5**			
BSD				*i* S	**Sn**	**10 13 49.9**	**-1.1**			
APA0	**Apatity Array**	**9.27**	**26**	Pn	**Pn**	**10 13 26.6**	**+1.1**			
	baz=217,slow=12									
APA0	**Apatity Array**	**9.27**	**26**	Pn	**Pn**	**10 13 26.6**	**+1.1**			
	baz=217,slow=12									
APA0	**Apatity Array**	**9.27**	**26**	Pn	**Pn**	**10 13 26.6**	**+1.1**			
	SNR=50									
ARA0	**ARCESS Array S**	**9.99**	**7**	Pn	**Pn**	**10 13 33.5**	**-1.8**			
	baz=185,slow=12									
ARA0	**ARCESS Array S**	**9.99**	**7**	Pn	**Pn**	**10 13 33.5**	**-1.8**			
	baz=185,slow=12									
ARCES	**ARCESS Array B**	**9.99**	**7**	Pn	**Pn**	**10 13 33.6**	**-1.8**			
	comp=Z,0.2nm,0.3s,baz=183,slow=13,SNR=9.9									
ARCES					Sn	Sn	10 15 20.7	-7.3		
	comp=Z,0.1nm,0.3s,baz=190,slow=24,SNR=3.1									

IDC ***11*** *10:11:55.5±1.1, 19.09N×121.43E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/27, mbtmp3.7/8, MS3.4/2, Ms1 3.5/2, ms1mx2.6/47, Error ellipse: s-maj=53.5km s-min=17.5km az=63.0*

ISCJB ***11*** *10:12:01.3±0.6, 19.23N±0.05×121.09E±0.07, h39km, mb3.6/7, MS3.3/2, Error ellipse: s-maj=10.5km s-min=6.6km az=158.4*

MAN ***11*** *10:12:03, 18.85N×121.18E, h1km, mb4.6, ML3.5, MS3.4*

ISC 11 10:12:02.7±0.8, 19.19N±0.08×121.11E±0.07, h39km, n22, σ1=65/17, mb3.7/7, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.98**	**208**	⇓*iP*	**Pn**	**10 12 17.3**	**-2.6**
PIP				*eS*	**Sn**	**10 12 31.5**	**-1.1**
SGCP	**Mt. Cagua**	**1.30**	**137**	*eP*	**Pn**	**10 12 23.3**	**-1.0**
SGCP				*eS*	**Sn**	**10 12 40.0**	**-0.4**
APYP	**Conner**	**1.33**	**174**	*eP*	**Pn**	**10 12 23.9**	**-0.8**
SIPP	**Brgy, Tapao**	**1.40**	**206**	⇑*eP*	**Pn**	**10 12 25.7**	**0.0**
SIPP				*eS*	**Sn**	**10 12 46.7**	**+3.6**
ABRA	**Dolores**	**1.58**	**194**	*eP*	**Pn**	**10 12 28.1**	**-0.1**
CAUP	**Cauayan**	**2.34**	**163**	*eP*	**Pn**	**10 12 40.9**	**+2.3**
PALP	**Palanan**	**2.46**	**149**	*eP*	**Pn**	**10 12 41.3**	**+1.0**
BALP	**Baler**	**3.46**	**172**	*eP*	Pn	10 12 58.1	+4.1
CMAR	**Chiang Mai Arr**	**20.99**	**272**	P	**P**	**10 16 43.9**	**+1.0**
	1.0nm,0.3s,baz=92,slow=7.8,SNR=7.1						
CMAR				LR	LR	10 25 37.1	
	comp=Z,47nm,18.0s,baz=340,slow=39						
SONM	**Songino Array**	**30.98**	**341**	P	**P**	**10 18 16.7**	**+0.3**
	0.8nm,0.9s,baz=184,slow=6.7,SNR=4.8						
WRA	**Warramunga Arr**	**41.00**	**161**	P	P	10 19 37.9	-4.2
	0.3nm,0.4s,baz=344,slow=8.9,SNR=3.8						
MKAR	**Makanchi Array**	**41.98**	**320**	P	**P**	**10 19 51.1**	**+1.1**
	1.3nm,0.8s,baz=115,slow=9.4,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**43.05**	**83**	T	T	11 05 33.2	
	baz=278,slow=73,SNR=16						
H11S1	**WAKE ISLAND Hy**	**43.06**	**83**	T	T	11 05 52.6	
	baz=278,slow=73,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**43.07**	**83**	T	T	11 05 39.5	
	baz=278,slow=73,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**43.07**	**81**	T	T	11 05 54.4	
	baz=280,slow=75,SNR=54						
H11N2	**WAKE ISLAND Hy**	**43.08**	**81**	T	T	11 05 54.0	
	baz=280,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**43.09**	**81**	T	T	11 05 36.5	
	baz=280,slow=75,SNR=35						
ASAR	**Alice Springs**	**44.39**	**163**	P	**P**	**10 20 07.3**	**-2.3**
	0.3nm,0.3s,baz=344,slow=6.9,SNR=13						
ZALV	**Zalesovo Beam**	**44.45**	**330**	P	**P**	**10 20 09.1**	**-0.7**
	0.6nm,0.5s,baz=116,slow=6.8,SNR=4.2						
ZALV				LR	LR	10 41 46.5	
	comp=Z,74nm,18.2s,baz=289,slow=40						
KURBB	**Kurchatov Arra**	**45.96**	**323**	P	**P**	**10 20 22.2**	**+0.5**
	1.2nm,0.7s,baz=122,slow=8.0,SNR=12						
AKTO	**Aktyubinsk**	**58.35**	**318**	P	**P**	**10 21 54.3**	**+0.4**
	1.2nm,0.8s,baz=143,slow=5.1,SNR=5.2						

IDC ***11*** *10:20:18.3±1.0, 2.65S×126.79E, h0km, mb4.3/6, mb1 4.4/8, mb1mx4.1/24, mbtmp4.3/8, ML4.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/33, Error ellipse: s-maj=71.1km s-min=19.8km az=63.0*

ISCJB ***11*** *10:20:21.3±0.3, 2.51S±0.04×126.94E±0.04, h33km, mb4.2/10, MS3.2/1, Error ellipse: s-maj=6.9km s-min=4.9km az=38.9*

DJA ***11*** *10:20:21.9±0.9, 2.2S±4.4×12.7E±°, h13km±7km, M4.8/15, mb5.0/9, mB5.3/9, MLv4.8/15, Mw(mB)4.7/9*

NEIC ***11*** *10:20:23.8±0.5, 2.61S×127.00E, h35km, mb4.3/4, Error ellipse: s-maj=15.6km s-min=8.8km az=63.0*

AUST ***11*** *10:20:24.1, 2.50S×127.00E, h60km*

ISC 11 10:20:23.5±0.5, 2.53S±0.05×126.84E±0.06, h35km, n65, σ1=33/66, mb4.3/10, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.75**	**160**	P	**Pn**	**10 20 37.0**	**-0.7**
NLAI				S	**Sn**	**10 20 48.1**	**+0.3**
LBMI	**Labuha**	**1.99**	**19**	P	**Pn**	**10 20 53.5**	**-1.2**
MSAI	**Masohi**	**2.24**	**111**	P	**Pn**	**10 20 59.1**	**+1.0**
MSAI				S	**Sn**	**10 21 26.6**	**+2.0**
BNDI	**Bandanaira**	**3.64**	**123**	P	**Pn**	**10 21 18.7**	**+1.2**
BNDI				S	**Sn**	**10 22 02.2**	**+2.9**
LUWI	**Luwuk**	**4.33**	**290**	P	**Pn**	**10 21 27.1**	**+0.2**
LUWI	**Luwuk**	**4.33**	**290**	P	**Pn**	**10 21 27.1**	**+0.2**
	baz=4.5,SNR=15						
SWI	**Sorong**	**4.72**	**70**	P	**Pn**	**10 21 30.5**	**-1.7**
GTOI	**Gorontalo**	**4.95**	**309**	P	**Pn**	**10 21 36.9**	**+1.4**
	137nm,0.4s,3μm1.5nm						
BBSI	**Bau Bau**	**5.18**	**235**	P	**Pn**	**10 21 40.7**	**+2.1**
	58nm,0.8s,1μm0.3nm						
FAKI	**Fak Fak**	**5.42**	**94**	P	**Pn**	**10 21 39.7**	**-2.2**
	42nm,0.6s,7μm0.7nm						
FAKI	**Fak Fak**	**5.42**	**94**	P	**Pn**	**10 21 39.5**	**-2.4**
	baz=5.3,SNR=48						
APSI	**Ampana**	**5.43**	**287**	P	**Pn**	**10 21 43.0**	**+0.9**
	505nm,0.9s,5μm1.7nm						
MRSI	**Marisa**	**5.74**	**301**	P	**Pn**	**10 21 46.2**	**-0.1**
	62nm,0.5s,4μm1.2nm						
BNSI	**Bone**	**6.97**	**254**	P	**Pn**	**10 22 04.6**	**+1.3**
	36nm,0.6s,819nm0.1nm						
TTSI	**Tana Toraja**	**7.03**	**266**	P	**Pn**	**10 22 05.2**	**+1.1**
	22nm,0.7s,3μm0.2nm						
SPSI	**Sidrap Palu**	**7.20**	**258**	P	**Pn**	**10 22 09.4**	**+3.0**
	133nm,0.6s,1μm0.5nm						
BKSI	**Bulukumba**	**7.25**	**247**	P	Pn	10 22 11.5	+4.4
KAPI	**Kappang**	**7.49**	**251**	*e*Pn	Pn	10 22 13.9	+3.5
	405nm,0.8s						
KAPI				*e*Sn	**Sn**	**10 23 31.9**	**-2.3**
KDU	**Kakadu**	**11.53**	**151**	P	**Pn**	**10 23 08.2**	**+2.4**
	baz=12,SNR=12						
FITZ	**Fitzroy Crossi**	**15.52**	**184**	Pn	**Pn**	**10 23 58.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**15.52**	**184**	Pn	**Pn**	**10 23 58.9**	**-1.0**
	0.1nm,0.3s,baz=2.9,slow=18,SNR=3.4						
FITZ				LR	LR	10 30 33.7	
	comp=Z,64nm,18.2s,baz=16,slow=40						
FITZ	**Fitzroy Crossi**	**15.52**	**184**	P	**P**	**10 24 04.5**	**+0.6**
	baz=16,SNR=10						
WRAB	**Tennant Creek**	**18.79**	**158**	*e*P	**P**	**10 24 38.6**	**-1.4**
	9.8nm,0.5s						
WRA	**Warramunga Arr**	**18.79**	**158**	P	**P**	**10 24 38.7**	**-1.4**
WRA	**Warramunga Arr**	**18.79**	**158**	P	**P**	**10 24 38.7**	**-1.4**
	3.0nm,0.3s,baz=340,slow=12,SNR=37						
COEN	**Coen**	**19.73**	**126**	*e*P	**P**	**10 24 49.0**	**-1.4**
	161nm,0.6s						
COEN	**Coen**	**19.73**	**126**	P	**P**	**10 24 48.8**	**-1.6**
	baz=20,SNR=66						
QIS	**Mount Isa**	**21.82**	**146**	P	**P**	**10 25 11.9**	**-1.0**
	baz=22,SNR=33						
AS31	**Alice Springs**	**22.10**	**163**	*e*P	**P**	**10 25 14.6**	**-1.4**
ASAR	**Alice Springs**	**22.10**	**163**	P	**P**	**10 25 14.6**	**-1.4**
ASAR				PcP	**PcP**	**10 29 13.6**	**+0.7**
ASAR	**Alice Springs**	**22.10**	**163**	P	**P**	**10 25 14.6**	**-1.4**
	6.8nm,0.4s,baz=346,slow=12,SNR=112						
ASAR				PcP	**PcP**	**10 29 13.6**	**+0.7**
	0.8nm,0.7s,baz=346,slow=2.1,SNR=4.6						
WRKA	**Warakurna**	**22.42**	**177**	P	**P**	**10 25 18.8**	**-0.6**
	baz=23,SNR=61						
GIRL	**Giralia**	**23.44**	**210**	P	**P**	**10 25 29.7**	**-0.1**
	baz=24,SNR=4.0						
MEEK	**Meekatharra**	**25.24**	**197**	P	**P**	**10 25 45.6**	**-0.8**
	baz=25,SNR=13						

CTA	**Charters Tower**	**25.77**	**134**	P	**P**	**10 25 50.7**	**-0.6**
CTA	**Charters Tower**	**25.77**	**134**	P	**P**	**10 25 50.7**	**-0.6**
	5.1nm,0.7s,baz=324,slow=8.9,SNR=6.6						
FORT	**Forrest**	**28.12**	**178**	P	**P**	**10 26 10.9**	**-1.4**
	baz=28,SNR=13						
BBOO	**Buckleboo**	**31.34**	**165**	P	**P**	**10 26 40.4**	**-0.4**
	baz=32,SNR=14						
STKA	**Stephens Creek**	**32.33**	**156**	*e*P	**P**	**10 26 48.3**	**-1.2**
STKA				PcP	**PcP**	**10 29 36.9**	**-0.2**
STKA	**Stephens Creek**	**32.33**	**156**	P	**P**	**10 26 48.0**	**-1.6**
	4.2nm,0.7s,baz=330,slow=8.8,SNR=16						
STKA				PcP	**PcP**	**10 29 36.9**	**-0.2**
	2.5nm,0.7s,baz=20,slow=6.7,SNR=4.3						
STKA	**Stephens Creek**	**32.33**	**156**	P	**P**	**10 26 48.1**	**-1.4**
	baz=32,SNR=15						
HTT	**Hallett**	**32.76**	**161**	P	**P**	**10 26 53.0**	**-0.3**
	baz=33,SNR=10						
CMSA	**Cobar Meteorol**	**33.89**	**150**	P	**P**	**10 27 02.3**	**-0.9**
	baz=34,SNR=7.6						
ARMA	**Armidale**	**36.34**	**142**	P	**P**	**10 27 24.1**	**-0.3**
	baz=36,SNR=4.9						
ARPS	**Mount Arapiles**	**36.77**	**160**	P	**P**	**10 27 27.7**	**-0.2**
	baz=37,SNR=9.6						
MJAR	**Matsushiro Arr**	**40.29**	**14**	LR	LR	10 43 05.2	
	comp=Z,35nm,19.0s,baz=45,slow=34						
ULN	**Ulaanbaatar**	**53.09**	**343**	*e*P	**P**	**10 29 39.2**	**+1.6**
	1.1nm,0.4s						
SONM	**Songino Array**	**53.25**	**343**	P	P	10 29 44.2	+5.4
SONM	**Songino Array**	**53.25**	**343**	P	P	10 29 44.2	+5.4
	1.7nm,1.0s,baz=151,slow=8.0,SNR=6.8						
MK31	**Makanchi Array**	**62.79**	**327**	*e*P	**P**	**10 30 45.6**	**+0.1**
MKAR	**Makanchi Array**	**62.79**	**327**	P	**P**	**10 30 45.8**	**+0.3**
MKAR	**Makanchi Array**	**62.79**	**327**	P	**P**	**10 30 45.8**	**+0.3**
	0.9nm,0.7s,baz=123,slow=8.3,SNR=12						
KURK	**Kurchatov**	**67.09**	**329**	*e*P	**P**	**10 31 13.3**	**-0.1**
	2.8nm,1.0s						
VNDA	**Vanda**	**77.25**	**173**	P	**P**	**10 32 12.7**	**-1.0**
VNDA	**Vanda**	**77.25**	**173**	P	**P**	**10 32 12.7**	**-1.0**
	1.1nm,0.7s,baz=317,slow=5.6,SNR=6.8						
MAW	**Mawson**	**77.97**	**201**	*e*P	P	10 32 10.5	-7.3
	1.6nm,0.4s						
MAW	**Mawson**	**77.97**	**201**	P	P	10 32 10.7	-7.2
	baz=78,SNR=17						
TNA	**Tin City**	**82.28**	**22**	*e*P	**P**	**10 32 42.8**	**+1.7**
QSPA	**South Pole Qui**	**87.42**	**180**	P	**P**	**10 33 05.9**	**-1.3**
QSPA	**South Pole Qui**	**87.42**	**180**	P	**P**	**10 33 05.9**	**-1.3**
	1.3nm,0.3s,baz=9.3,slow=0.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**124.76**	**284**	PKP	**PKPdf**	**10 39 21.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**124.76**	**284**	PKP	**PKPdf**	**10 39 21.4**	**+0.7**
	0.7nm,0.7s,baz=63,slow=0.7,SNR=3.9						
LVC	**Limon Verde**	**150.66**	**149**	*e*PKPbc	**PKPbc**	**10 40 15.4**	**+2.2**
CPUP	**Villa Florida**	**151.03**	**172**	*e*PKPbc	**PKPbc**	**10 40 14.8**	**+1.2**
CPUP	**Villa Florida**	**151.03**	**172**	PKPbc	**PKPbc**	**10 40 14.6**	**+1.0**
	6.6nm,0.8s,baz=154,slow=2.5,SNR=10						

IDC ***11*** *10:23:07.8±2.4, 22.30S×68.77W, h99km±20km, mb4.1/6, mb1 4.0/9, mb1mx3.8/19, mbtmp4.3/9, MS2.8/2, Ms1 2.8/2, ms1mx2.3/31, Error ellipse: s-maj=25.7km s-min=23.0km az=47.0*

ISCJB ***11*** *10:23:08.5±0.3, 22.13S±0.03×68.82W±0.06, h115km±4km, mb4.3/5, Error ellipse: s-maj=8.9km s-min=5.3km az=164.4*

GUC ***11*** *10:23:09.0±0.8, 22.16S×68.91W, h111km±4km, ML4.4*

NEIC ***11*** *10:23:09.0, 22.16S×68.91W, h111km, mb4.3/6, After GUC.*

ISC 11 10:23:09.2±0.6, 22.11S±0.03×68.80W±0.05, h108km±6km, n54, σ1=54/62, mb4.3/5, 17C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.51**	**307**	⇑*iP*	**Pn**	**10 23 26.5**	**+0.5**
PB09				*i* S	**Sn**	**10 23 39.5**	**+0.8**
PB09				AML	AML	10 23 40.7	
	comp=N,51μm,0.8s						
PB09	**Plate Boundary**	**0.51**	**307**	⇑*iP*	**Pn**	**10 23 26.5**	**+0.5**
PB09				*i* S	**Sn**	**10 23 39.5**	**+0.8**
LVC	**Limon Verde**	**0.51**	**192**	*e*Pn	**Pn**	**10 23 26.0**	**-0.2**
LVC				*e*Sn	**Sn**	**10 23 38.2**	**-0.7**
PB04	**Plate Boundary**	**0.66**	**256**	⇑*iP*	Pn	10 23 32.9	+6.0
PB04				*i* S	Sn	10 23 50.6	+10
PB04				AML	AML	10 23 52.6	
	comp=N,8μm,0.5s						
PB04	**Plate Boundary**	**0.66**	**256**	⇑*iP*	Pn	10 23 32.9	+6.0
PB04				*i* S	Sn	10 23 50.6	+10
SPCH	**San Pedro de A**	**0.97**	**145**	⇑*iP*	**Pn**	**10 23 31.0**	**+0.8**
SPCH				*i* S	**Sn**	**10 23 47.8**	**+1.7**
SPCH				AML	AML	10 23 48.5	
	comp=E,9μm,0.6s						
SPCH	**San Pedro de A**	**0.97**	**145**	⇑*iP*	**Pn**	**10 23 31.0**	**+0.8**
SPCH				*i* S	**Sn**	**10 23 47.8**	**+1.7**
PB07	**Plate Boundary**	**1.08**	**290**	⇑*iP*	**Pn**	**10 23 31.3**	**+0.2**
PB07				*i* S	**Sn**	**10 23 47.6**	**-0.1**
PB07				AML	AML	10 23 48.5	
	comp=N,12μm,0.2s						
PB07	**Plate Boundary**	**1.08**	**290**	⇑*iP*	**Pn**	**10 23 31.3**	**+0.2**
PB07				*i* S	**Sn**	**10 23 47.6**	**-0.1**
PB01	**Plate Boundary**	**1.24**	**329**	⇑*iP*	**Pn**	**10 23 33.4**	**+0.5**
PB01				*i* S	**Sn**	**10 23 51.6**	**+0.8**
PB01				AML	AML	10 23 52.2	
	comp=E,17μm,0.2s						
PB01	**Plate Boundary**	**1.24**	**329**	⇑*iP*	**Pn**	**10 23 33.4**	**+0.5**
PB01				*i* S	**Sn**	**10 23 51.6**	**+0.8**
PATCX	**Punta Patache**	**1.80**	**315**	⇑*iP*	**Pn**	**10 23 39.5**	**0.0**
PATCX				*i* S	**Sn**	**10 24 03.4**	**+0.6**
PATCX				AML	AML	10 24 08.3	
	comp=E,4μm,0.3s						
CEN1	**Los Morros**	**1.82**	**225**	⇑*iP*	**Pn**	**10 23 42.0**	**+2.2**
CEN1				*i* S	**Sn**	**10 24 06.8**	**+3.6**
CEN1				AML	AML	10 24 12.5	
	comp=E,1μm,0.8s						
CEN1	**Los Morros**	**1.82**	**225**	⇑*iP*	**Pn**	**10 23 42.0**	**+2.2**
CEN1				*i* S	**Sn**	**10 24 06.8**	**+3.6**
HMBC	**Humberstone**	**2.08**	**331**	⇑*iP*	**Pn**	**10 23 43.2**	**-0.1**
HMBC				*i* S	**Sn**	**10 24 09.8**	**+0.5**
HMBC				AML	AML	10 24 14.4	
	comp=E,4μm,0.4s						
HMBC	**Humberstone**	**2.08**	**331**	⇑*iP*	**Pn**	**10 23 43.2**	**-0.1**
HMBC				*i* S	**Sn**	**10 24 09.8**	**+0.5**
PB10	**Plate Boundary**	**2.14**	**229**	⇓*iP*	**Pn**	**10 23 42.7**	**-1.1**
PB10				AML	AML	10 24 23.1	
	comp=N,3μm,0.8s						
ANCH	**Antofagasta**	**2.16**	**223**	⇑*iP*	**Pn**	**10 23 43.4**	**-0.7**
ANCH				*i* S	**Sn**	**10 24 08.8**	**-2.0**
ANCH				AML	AML	10 24 15.9	
	comp=E,2μm,0.6s						
ANCH	**Antofagasta**	**2.16**	**223**	⇑*iP*	**Pn**	**10 23 43.4**	**-0.7**
ANCH				*i* S	**Sn**	**10 24 08.8**	**-2.0**
LPAZ	**La Paz**	**5.82**	**6**	P	**Pn**	**10 24 36.4**	**+2.7**
LPAZ	**La Paz**	**5.82**	**6**	P	**Pn**	**10 24 36.4**	**+2.7**
	comp=E,2.3nm,0.3s,baz=192,slow=7.2,SNR=36						
ARE	**Arequipa**	**6.16**	**335**	*e*P	Pn	10 24 48.0	+10
ARE				*e*S	**Sn**	**10 25 43.0**	**-4.3**
LCO	**Las Campanas**	**7.09**	**194**	*e*Pn	Pn	10 24 45.6	-4.8
	comp=E,26nm,0.7s						
LCO				*e*Sn	**Sn**	**10 26 06.6**	**-3.1**
CFAA	**Coronel Fontan**	**9.47**	**177**	P	Pn	10 25 18.8	-3.9
CFAA				S	Sn	10 26 57.5	-10
CFAA	**Coronel Fontan**	**9.47**	**177**	P	Pn	10 25 18.8	-3.9
	comp=E,0.1nm,0.3s,baz=359,slow=14,SNR=23						
CFAA				S	Sn	10 26 57.5	-10
	comp=E,0.2nm,0.3s,baz=246,slow=18,SNR=3.3						
SIV	**San Ignacio**	**9.51**	**52**	P	**Pn**	**10 25 21.4**	**-1.8**
SIV				S	Sn	10 27 00.6	-7.7
SIV	**San Ignacio**	**9.51**	**52**	P	**Pn**	**10 25 21.4**	**-1.8**
	comp=E,2.3nm,0.3s,baz=246,slow=12,SNR=23						
SIV				S	Sn	10 27 00.6	-7.7
	baz=300,slow=20,SNR=2.9						
SIV				LR	LR	10 28 53.9	
	comp=E,38nm,18.9s,slow=36						
CPUP	**Villa Florida**	**11.28**	**114**	*e*Pn	**Pn**	**10 25 45.1**	**-2.0**
CPUP	**Villa Florida**	**11.28**	**114**	P	**Pn**	**10 25 45.2**	**-2.0**
	comp=E,0.4nm,0.3s,baz=278,slow=10,SNR=3.7						
CPUP				LR	LR	10 30 43.3	
	comp=E,66nm,20.4s,baz=344,slow=41						
H03N1	**Juan Fernandez**	**14.40**	**216**	T	T	10 41 19.3	
	baz=35,slow=75,SNR=2.9						
H03N2	**Juan Fernandez**	**14.41**	**216**	T	T	10 41 09.6	
	baz=35,SNR=3.6						
H03N3	**Juan Fernandez**	**14.41**	**216**	T	T	10 41 23.4	
	baz=35,slow=75,SNR=1.9						
TRQA	**Tornquist**	**16.95**	**161**	*e*Pn	**Pn**	**10 26 59.6**	**0.0**
	comp=E,6.4nm,0.6s						

TRQA				*e*Sn	**Sn**	**10 30 04.7**	**-3.5**
PLCA	**Paso Flores**	**18.63**	**184**	*e*P	**Pn**	**10 27 19.9**	**0.0**
	comp=E,7.1nm,1.3s						
SPB	**Sao Paulo**	**19.75**	**98**	*e*P	**P**	**10 27 30.8**	**+0.2**
	comp=E,8.5nm,0.5s						
BDFB	**Brasilia**	**20.68**	**75**	P	**P**	**10 27 39.9**	**-1.0**
BDFB	**Brasilia**	**20.68**	**75**	P	**P**	**10 27 39.9**	**-1.0**
	comp=E,5.5nm,0.5s,baz=242,slow=14,SNR=7.9						
RCBR	**Riachuelo**	**35.67**	**68**	*e*P	**P**	**10 29 58.0**	**+0.7**
	comp=E,6.6nm,0.8s						
RCBR	**Riachuelo**	**35.67**	**68**	P	**P**	**10 29 57.7**	**+0.4**
	comp=E,11nm,1.0s,baz=194,slow=7.5,SNR=3.2						
VNA2	**Neumayer--Watz**	**60.05**	**161**	*e*P	**P**	**10 33 05.8**	**+1.4**
SNAA	**Sanae**	**61.68**	**161**	*e*P	**P**	**10 33 16.3**	**+0.8**
DBIC	**Dimbokro**	**68.81**	**73**	*e*P	**P**	**10 34 03.0**	**+0.6**
	comp=E,2.8nm,0.9s						
DBIC	**Dimbokro**	**68.81**	**73**	P	**P**	**10 34 01.6**	**-0.7**
	comp=E,1.7nm,0.5s,baz=211,slow=4.9,SNR=3.0						
PPT	**Papeete**	**75.28**	**257**	LR	LR	10 59 06.7	
	comp=E,159nm,18.3s,baz=143,slow=29						
ULM	**Lac du Bonnet**	**75.92**	**342**	P	**P**	**10 34 43.8**	**0.0**
ULM	**Lac du Bonnet**	**75.92**	**342**	P	**P**	**10 34 43.8**	**0.0**
	comp=E,1.6nm,0.5s,baz=154,slow=5.9,SNR=6.8						
TORD	**Torodi Ar. Bea**	**77.46**	**70**	P	**P**	**10 34 53.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**77.46**	**70**	P	**P**	**10 34 53.5**	**+0.2**
	comp=E,1.8nm,0.4s,baz=256,slow=5.7,SNR=30						
YKA	**Yellowknife Ar**	**91.79**	**341**	P	**P**	**10 36 05.7**	**+1.4**
YKA	**Yellowknife Ar**	**91.79**	**341**	P	**P**	**10 36 05.7**	**+1.4**
	comp=E,1.3nm,0.6s,baz=133,slow=4.6,SNR=6.3						
WRAB	**Tennant Creek**	**132.49**	**210**	*e*PKPdf	PKPdf	10 42 05.4	-6.4
MKAR	**Makanchi Array**	**146.06**	**37**	PKPbc	**PKPab**	**10 42 37.4**	**0.0**
MKAR	**Makanchi Array**	**146.06**	**37**	PKPbc	**PKPab**	**10 42 37.4**	**0.0**
	comp=E,0.6nm,0.7s,baz=336,slow=3.2,SNR=3.4						
USRK	**Ussuriysk Arra**	**152.07**	**327**	PKPbc	**PKPbc**	**10 42 50.9**	**-1.0**
	comp=E,0.6nm,0.5s,baz=48,slow=3.9,SNR=4.9						

NIED ***11*** *10:32:00, 36.10N×137.60E, h240km, Mw3.9 Best double couple: M0 9.40000×10^14 NP1:φs140.00000°, δ67.00000°, λ-71.00000°. NP2:φs279.00000°, δ29.00000°, λ-127.00000°.*

ISCJB ***11*** *10:32:51.5±0.4, 36.20N±0.08×137.6E±0.1, h239km±3km, mb3.6/11, Error ellipse: s-maj=16.6km s-min=11.6km az=32.3*

IDC ***11*** *10:32:52.3±0.5, 36.25N×137.52E, h232km±4km, mb3.4/11, mb1 3.6/13, mb1mx3.4/27, mbtmp3.4/13, Error ellipse: s-maj=17.9km s-min=12.3km az=115.0*

JMA ***11*** *10:32:52.3±0.1, 36.11N×137.62E, h237km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs164.00000°, δ67.00000°, λ-73.00000°. NP2: φs305.00000°, δ29.00000°, λ-125.00000°. Principal axes: T Plg20.0000°, Azm241.0000°; N Plg16.0000°, Azm337.0000°; P Plg64.0000°, Azm103.0000°;*

ISC 11 10:32:52.3±0.7, 36.17N±0.10×137.60E±0.10, h235km±5km, n23, σ1=95/29, mb3.6/11, 4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.47**	**59**	⇓*iP*	**Pn**	**10 33 23.8**	**+0.3**
JNG				S	**S**	**10 33 48.3**	**+0.4**
JTT	**Ttatey**	**0.49**	**334**	P	**Pn**	**10 33 23.8**	**+0.4**
JTT				*e*S	**S**	**10 33 48.1**	**+0.3**
MAT	**Matsushiro**	**0.62**	**52**	P	**Pn**	**10 33 24.2**	**+0.3**
MAT				S	**S**	**10 33 48.6**	**0.0**
MAT	**Matsushiro**	**0.62**	**52**	P	**Pn**	**10 33 24.1**	**+0.2**
MAT				S	**S**	**10 33 48.6**	**0.0**
MJAR	**Matsushiro Arr**	**0.62**	**52**	P	**Pn**	**10 33 24.1**	**+0.2**
	29nm,0.3s,baz=272,slow=6.3,SNR=272						
MJAR				S	**S**	**10 33 49.0**	**+0.4**
	10nm,0.3s,baz=224,slow=5.2,SNR=7.5						
**JNY

$M_{\phi\phi}$-0.07±.09; $M_{\theta\theta}$-0.10±.20; $M_{\theta\phi}$1.96±.09; $M_{\theta\theta}$0.32±.21; Best double couple: $M_0$2.00000×10^{16} NP1:ϕ_s183.00000°, δ85.00000°, λ-170.00000°. NP2:ϕ_s92.00000°, δ80.00000°, λ-5.00000°. Principal axes: T 2.1000, Plg4.0000°, Azm317.0000°; N -0.2000, Plg79.0000°, Azm209.0000°; P -1.9000, Plg10.0000°, Azm48.0000°; Data Used: IU II IC CN G CU.

ISC 11 11:21:59.5±0.8,**1°83N**±0°.08×**85°.1W**±0°.1,**h35**km,**n41,** σ1§**34**/24,**mb3.8**/6,**MS4.0**/16,**Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.85**	**103**	P	**Pn**	**11 23 38.0**	**0.0**
	16nm,0.9s						
JTS	**JuntasAbangare**	**8.41**	**1**	Pn	**Pn**	**11 23 58.5**	**-0.5**
JTS				Sn	**Sn**	**11 25 30.9**	**-1.9**
JTS	**JuntasAbangare**	**8.41**	**1**	Pn	**Pn**	**11 23 58.5**	**-0.5**
	0.9nm,0.3s,baz=159,slow=8.6,SNR=4.5						
JTS				Sn	**Sn**	**11 25 30.9**	**-1.9**
	0.4nm,0.3s,baz=258,slow=9.3,SNR=1.9						
JTS				LR	LR	11 26 45.9	
	comp=Z,652nm,18.2s,baz=186,slow=34						
ATAH	**Atahualpa**	**11.15**	**143**	Pn	**Pn**	**11 24 36.3**	**-0.6**
ATAH	**Atahualpa**	**11.15**	**143**	Pn	**Pn**	**11 24 36.3**	**-0.6**
	0.7nm,0.3s,baz=321,slow=10,SNR=4.6						
ROSC	**El Rosal**	**11.18**	**74**	LR	LR	11 28 37.8	
	comp=Z,511nm,20.5s,baz=201,slow=35						
APG	**El Apazote**	**14.12**	**338**	LR	LR	11 29 47.7	
	comp=Z,1μm,19.1s,baz=128,slow=33						
NNA	**Nana**	**16.00**	**149**	LR	LR	11 30 53.7	
	comp=Z,646nm,21.2s,baz=337,slow=34						
SDV	**Santo Domingo**	**16.03**	**64**	P	**P**	**11 25 47.4**	**+1.7**
	11nm,1.6s						
TEIG	**Tepich**	**18.55**	**351**	LR	LR	11 32 53.4	
	comp=Z,447nm,18.1s,baz=176,slow=35						
SAML	**Samuel**	**24.34**	**116**	P	**P**	**11 27 14.7**	**+0.4**
	39nm,1.6s						
LPAZ	**La Paz**	**24.61**	**138**	P	**P**	**11 27 17.3**	**-0.2**
	13nm,1.2s						
LPAZ	**La Paz**	**24.61**	**138**	P	**P**	**11 27 17.4**	**0.0**
	3.3nm,0.6s,baz=337,slow=13,SNR=14						
LPAZ				LR	LR	11 37 49.3	
	comp=Z,438nm,19.8s,baz=275,slow=39						
SJG	**San Juan**	**24.67**	**48**	LR	LR	11 37 41.8	
	comp=Z,130nm,18.0s,baz=272,slow=38						
SIV	**San Ignacio**	**29.63**	**128**	LR	LR	11 40 28.1	
	comp=Z,439nm,20.1s,slow=38						
TXAR	**Lajitas Array**	**32.56**	**329**	P	**P**	**11 28 27.5**	**-0.2**
TXAR	**Lajitas Array**	**32.56**	**329**	P	**P**	**11 28 27.5**	**-0.2**
	0.1nm,0.6s,baz=155,slow=11,SNR=3.1						
TXAR				LR	LR	11 41 01.4	
	comp=Z,108nm,20.8s,baz=180,slow=35						
LPIG	**La Paz**	**32.92**	**314**	LR	LR	11 38 49.3	
	comp=Z,78nm,21.9s,baz=162,slow=31						
H03N2	**Juan Fernandez**	**35.56**	**171**	T	T	12 06 20.1	
	baz=349,slow=76,SNR=72						
H03N1	**Juan Fernandez**	**35.56**	**171**	T	T	12 06 20.6	
	baz=349,slow=76,SNR=59						
H03N3	**Juan Fernandez**	**35.58**	**171**	T	T	12 06 22.4	
	baz=349,slow=76,SNR=56						
ANMO	**Albuquerque**	**38.48**	**331**	P	**P**	**11 29 19.3**	**+0.8**
ANMO	**Albuquerque**	**38.48**	**331**	P	**P**	**11 29 19.3**	**+0.8**
	0.7nm,0.9s,baz=145,slow=16,SNR=2.9						
CPUP	**Villa Florida**	**38.78**	**138**	LR	LR	11 47 50.7	
	comp=Z,241nm,18.6s,baz=301,slow=40						
BDFB	**Brasilia**	**40.58**	**117**	LR	LR	11 47 49.7	
	comp=Z,419nm,18.6s,baz=134,slow=38						
PLCA	**Paso Flores**	**44.40**	**164**	LR	LR	11 45 55.6	
	comp=Z,161nm,18.5s,baz=49,slow=32						
NVAR	**Mina Array Bea**	**47.42**	**324**	P	**P**	**11 30 32.4**	**+1.4**
NVAR	**Mina Array Bea**	**47.42**	**324**	P	**P**	**11 30 32.4**	**+1.4**
	0.7nm,0.9s,baz=132,slow=9.1,SNR=3.5						
NVAR				LR	LR	11 50 20.7	
	comp=Z,253nm,20.4s,baz=232,slow=36						
ULM	**Lac du Bonnet**	**49.10**	**351**	LR	LR	11 50 38.6	
	comp=Z,95nm,19.6s,baz=159,slow=35						
SCHQ	**Schefferville**	**54.91**	**13**	LR	LR	11 55 44.9	
	comp=Z,110nm,18.5s,baz=286,slow=37						
USHA	**Ushuaia**	**58.12**	**169**	LR	LR	11 51 02.8	
	comp=Z,227nm,18.7s,baz=3.4,slow=30						
ILAR	**Eielson Array**	**76.63**	**337**	P	**P**	**11 33 48.2**	**+1.8**
ILAR	**Eielson Array**	**76.63**	**337**	P	**P**	**11 33 48.2**	**+1.8**
	1.4nm,1.1s,baz=145,slow=3.3,SNR=4.5						
ILAR				LR	LR	12 09 16.0	
	comp=Z,139nm,18.4s,baz=130,slow=37						
ESDC	**Sonseca Array**	**82.03**	**50**	LR	LR	12 02 13.8	
	comp=Z,94nm,21.8s,baz=180,slow=29						
TORD	**Torodi Ar. Bea**	**86.49**	**77**	LR	LR	12 09 40.0	
	comp=Z,64nm,19.1s,baz=20,slow=33						
NOA	**NORSAR Array B**	**91.49**	**29**	LR	LR	12 11 10.5	
	comp=Z,85nm,18.9s,baz=5.0,slow=32						
MAW	**Mawson**	**110.73**	**167**	eP	**PKiKP**	**11 40 27.1**	**-1.2**
ASAR	**Alice Springs**	**136.44**	**237**	PKP	**PKPdf**	**11 41 17.0**	**-1.7**
ASAR	**Alice Springs**	**136.44**	**237**	PKP	**PKPdf**	**11 41 17.0**	**-1.7**
	0.3nm,0.7s,baz=106,slow=2.0,SNR=3.5						
WRA	**Warramunga Arr**	**137.45**	**242**	PKP	**PKPdf**	**11 41 18.6**	**-1.9**
WRA	**Warramunga Arr**	**137.45**	**242**	PKP	**PKPdf**	**11 41 18.6**	**-1.9**
	1.1nm,1.0s,baz=97,slow=4.6,SNR=4.6						

*ISCJB **11** 11:22:07.3±0.4,59°.73N±0°.04×22°.35E±0°.07,h0km, Error ellipse: s-maj=5.6km s-min=4.2km az=36.6*
*CSEM **11** 11:22:07.7±0.3,59°.75N×22°.43E,h2km,ML1.8, Error ellipse: s-maj=8.0km s-min=5.7km az=21.0,Mining explosion.*
*HEL **11** 11:22:08.5±0.0,59°.71N×22°.29E,h0km,ML1.8, ML2.2(UPP), Explosion*
*UPP **11** 11:22:09.6,59°.75N×22°.12E,h0km,ML2.2,Suspected Mining explosion.*

ISC 11 11:22:07.7±0.9,**59°.74N**±0°.04×**22°.32E**±0°.03,**h0**km,**n27,** σ0§**74**/32,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**1.09**	**104**	*e*P	**Pg**	**11 22 28.1**	**-0.4**
SRPE				*e*S	**Sg**	**11 22 42.4**	**-0.2**
SRPE	**Suurupi**	**1.09**	**104**	P	**Pg**	**11 22 28.1**	**-0.4**
SRPE				S	**Sg**	**11 22 42.3**	**-0.2**
MEF	**Metsahovi**	**1.15**	**65**	*e*P	**Pg**	**11 22 29.6**	**-0.2**
MEF	**Metsahovi**	**1.15**	**65**	P	**Pg**	**11 22 29.5**	**-0.2**
AAL	**Aland**	**1.25**	**292**	*e*P	**Pg**	**11 22 30.9**	**-0.7**
AAL				*e*S	**Sg**	**11 22 46.9**	**-0.9**
AAL	**Aland**	**1.25**	**292**	P	**Pg**	**11 22 30.9**	**-0.7**
MTSE	**Matsula**	**1.29**	**143**	*e*P	**Pg**	**11 22 31.7**	**-0.6**
	SNR=70						
RAF	**Rauma**	**1.32**	**348**	*e*P	**Pg**	**11 22 32.6**	**-0.3**
RAF				*e*S	**Sg**	**11 22 50.4**	**+0.4**
RAF				MSG		11 22 51.9	
	comp=Z,11nm,0.2s						
RAF	**Rauma**	**1.32**	**348**	*e*P	**Pg**	**11 22 32.8**	**-0.1**
	SNR=70						
RAF				S	**Sg**	**11 22 50.3**	**+0.4**
NRTU	**Norrtaelje**	**1.87**	**270**	*e*P	**Pn**	**11 22 41.1**	**+0.2**
NRTU	**Norrtaelje**	**1.87**	**270**	P	**Pn**	**11 22 41.1**	**+0.2**
GRAU	**Graesoe**	**1.99**	**289**	*e*P	**Pn**	**11 22 42.9**	**+0.4**
SLIT	**Slitere, Latvi**	**2.12**	**180**	*e*PB	**Pn**	**11 22 44.9**	**+0.5**
SLIT	**Slitere, Latvi**	**2.12**	**180**	*e*P	**Pn**	**11 22 44.8**	**+0.5**
	SNR=50						
SLIT				*e*S	**Sn**	**11 23 12.6**	**+1.3**
	comp=Z,142nm,0.2s,SNR=50						
FORU	**Forsmark**	**2.17**	**289**	*e*P	**Pn**	**11 22 46.0**	**+1.0**
FLYU	**Flymyra**	**2.26**	**282**	*e*P	**Pn**	**11 22 46.9**	**+0.6**
FLYU	**Flymyra**	**2.26**	**282**	P	**Pn**	**11 22 46.9**	**+0.6**
NYNU	**Nynaeshamn**	**2.33**	**253**	*e*P	**Pn**	**11 22 47.9**	**+0.8**
NYNU	**Nynaeshamn**	**2.33**	**253**	P	**Pn**	**11 22 47.9**	**+0.8**
BACU	**Backbrunna**	**2.63**	**275**	*e*P	**Pn**	**11 22 52.9**	**+1.5**
BACU	**Backbrunna**	**2.63**	**275**	P	**Pn**	**11 22 52.9**	**+1.5**
OSTU	**Oestervaala**	**2.65**	**283**	*e*P	**Pn**	**11 22 52.3**	**+0.7**
OSTU	**Oestervaala**	**2.65**	**283**	P	**Pn**	**11 22 52.3**	**+0.7**
IGGU	**Iggoen**	**2.73**	**297**	*e*P	**Pn**	**11 22 53.6**	**+0.8**
KEF	**Keuruu**	**2.74**	**26**	*e*PB	**Pb**	**11 22 56.5**	**-0.9**
KEF	**Keuruu**	**2.74**	**26**	Pb	**Pb**	**11 22 56.5**	**-0.9**
VAF	**Ylistaro**	**3.32**	**3**	*e*P	Pn	11 23 04.4	+3.6

*ISCJB **11** 11:22:23.2±0.8,60°.20N±0°.05×27°.1E±0°.1,h0km, Error ellipse: s-maj=10.3km s-min=4.5km az=41.1*
*NAO **11** 11:22:23.2±1.4,60°.13N×27°.20E, ML2.2*
*BER **11** 11:22:24.0±1.1,60°.15N×27°.25E,h0km,ML2.2(NAO), Suspected explosion*
*CSEM **11** 11:22:24.3±0.3,60°.21N×27°.03E,h2km,ML2.3, Error ellipse: s-maj=8.2km s-min=5.7km az=134.0,Mining explosion.*
*HEL **11** 11:22:24.9±0.2,60°.19N×27°.13E,h0km,ML2.3,Explosion*
*IDC **11** 11:22:25.9±1.2,60°.23N×27°.17E,h0km,mb1 3.3/4, mb1mx3.1/27,mbtmp3.3/4,ML3.3/4, Error ellipse: s-maj=16.4km s-min=8.2km az=82.0*

ISC 11 11:22:23.2±0.9,**60°.13N**±0°.04×**27°.21E**±0°.05,**h0**km,**n31,** σ0§**98**/35,**Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.45**	**22**	*e*P	**Pg**	**11 22 31.9**	**0.0**
VJF				*e*S	**Sg**	**11 22 37.9**	**+0.3**
VJF	**Virojoki**	**0.45**	**22**	P	**Pg**	**11 22 31.8**	**0.0**
VJF				S	**Sg**	**11 22 37.9**	**+0.3**
PVF	**Pernaja**	**0.79**	**303**	*e*P	**Pg**	**11 22 38.1**	**-0.3**
PVF	**Pernaja**	**0.79**	**303**	P	**Pg**	**11 22 38.1**	**-0.3**
MEF	**Metsahovi**	**1.41**	**275**	*e*SN	**Sn**	**11 23 11.4**	**+2.0**
FIA0	**FINESS Array S**	**1.44**	**338**	Pg	**Pn**	**11 22 49.0**	**-1.6**
	baz=156,slow=18						
FIA0				Lg	Lg	11 23 08.4	
	baz=159,slow=37						
FIA0				Rg	Rg	11 23 16.1	
	baz=156,slow=37						
FIA0	**FINESS Array S**	**1.44**	**338**	Pg	**Pn**	**11 22 49.0**	**-1.6**
	baz=156,slow=18						
FIA0				Lg	Lg	11 23 08.4	
	baz=159,slow=37						
FIA0				Rg	Rg	11 23 16.1	
	baz=156,slow=37						
FIA0	**FINESS Array S**	**1.44**	**338**	*e*P	**Pn**	**11 22 48.9**	**-1.6**
FIA0	**FINESS Array S**	**1.44**	**338**	P	**Pn**	**11 22 48.9**	**-1.6**
FIA0				Lg	Lg	11 23 08.4	
	SNR=49						
FINES	**FINESS Array B**	**1.44**	**338**	Pg	**Pn**	**11 22 48.9**	**-1.6**
	7.8nm,0.3s,baz=159,slow=16,SNR=188						
FINES				Lg	Lg	11 23 08.4	
	6.9nm,0.3s,baz=159,slow=24,SNR=32						
FINES				Rg	Rg	11 23 16.2	
	17nm,0.5s,baz=163,slow=26,SNR=24						
SRPE	**Suurupi**	**1.58**	**246**	*e*P	**Pn**	**11 22 52.3**	**-0.1**
SRPE				*e*S	**Sn**	**11 23 13.4**	**-0.2**
SRPE	**Suurupi**	**1.58**	**246**	P	**Pn**	**11 22 52.3**	**-0.1**
SRPE				S	**Sn**	**11 23 13.3**	**-0.2**
VSU	**Vasula**	**1.69**	**189**	Pg	**Pn**	**11 22 54.2**	**+0.3**
VSU				Lg	Lg	11 23 17.1	
VSU	**Vasula**	**1.69**	**189**	Pg	**Pn**	**11 22 54.2**	**+0.3**
VSU				Lg	Lg	11 23 17.1	
VSU	**Vasula**	**1.69**	**189**	Pg	**Pn**	**11 22 54.2**	**+0.3**
	SNR=90						
VSU	**Vasula**	**1.69**	**189**	*e*P	**Pb**	**11 22 55.0**	**-0.1**
	SNR=50						
VSU				Lg	Lg	11 23 17.1	
MTSE	**Matsula**	**2.24**	**232**	*e*SB	**Sb**	**11 23 33.2**	**+0.5**
MTSE	**Matsula**	**2.24**	**232**	Sb	**Sb**	**11 23 33.2**	**+0.5**
RAF	**Rauma**	**2.84**	**291**	*e*SG	**Sb**	**11 23 50.2**	**+0.3**
RAF				MSG		11 23 51.8	
	comp=Z,12nm,0.2s						
RAF	**Rauma**	**2.84**	**291**	Sg	**Sb**	**11 23 50.2**	**+0.3**
JOF	**Joensuu**	**3.42**	**33**	*e*P	**Pn**	**11 23 19.3**	**+1.6**
JOF	**Joensuu**	**3.42**	**33**	P	**Pn**	**11 23 19.3**	**+1.6**
VAF	**Ylistaro**	**3.64**	**325**	*e*SG	**Sb**	**11 24 14.6**	**+1.5**
VAF				MSG		11 24 23.6	
	comp=Z,7.9nm,0.2s						
VAF	**Ylistaro**	**3.64**	**325**	Sg	**Sb**	**11 24 14.6**	**+1.5**
HFS	**Hagfors**	**6.75**	**276**	Pn	**Pn**	**11 24 03.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=90,slow=16,SNR=4.1						
NB2	**NORSAR Subarra**	**7.93**	**284**	Pn	**Pn**	**11 24 19.8**	**+0.1**
	baz=86,slow=14						
NB2	**NORSAR Subarra**	**7.93**	**284**	Pn	**Pn**	**11 24 19.8**	**+0.1**
	baz=86,slow=14						
NB2	**NORSAR Subarra**	**7.93**	**284**	Pn	**Pn**	**11 24 19.8**	**+0.1**
	SNR=50						
NOA	**NORSAR Array B**	**7.93**	**284**	Pn	**Pn**	**11 24 19.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=95,slow=9.4,SNR=9.7						
ARCES	**ARCESS Array B**	**9.48**	**356**	Pn	**Pn**	**11 24 39.0**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=169,slow=15,SNR=11						
AKASG	**Malin Array Be**	**9.51**	**172**	Pn	**Pn**	**11 24 40.7**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=348,slow=13,SNR=4.4						

*ISCJB **11** 11:45:05.6±0.7,21°.72S±0°.04×68°.7W±0°.1,h112km±7km, mb3.4/2, Error ellipse: s-maj=15.4km s-min=6.2km az=175.7*
*IDC **11** 11:45:05.5±2.5,21°.85S×68°.47W,h87km±22km,mb3.2/2, mb1 3.4/5,mb1mx3.3/18,mbtmp3.2/5, Error ellipse: s-maj=33.0km s-min=25.2km az=89.0*
*GUC **11** 11:45:06.1±0.6,21°.71S×68°.80W,h109km±4km,ML4.2*
*NEIC **11** 11:45:06.1,21°.71S×68°.80W,h109km,MG4.2(GUC), After GUC.*

ISC 11 11:45:06.2±0.9,**21°.67S**±0°.04×**68°.59W**±0°.09,**h100**km±8km, **n30,**σ1§**47**/26,**7C-2D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.62**	**258**	↑*i*P	**Pn**	**11 45 23.1**	**0.0**
PB09				*i* S	**Sn**	**11 45 35.5**	**-0.3**
PB09				AML	AML	11 45 36.2	
	comp=N,12μm,0.5s						
PB09	**Plate Boundary**	**0.62**	**258**	↑*i*P	**Pn**	**11 45 23.1**	**0.0**
PB09				*i* S	**Sn**	**11 45 35.5**	**-0.3**
LVC	**Limon Verde**	**0.98**	**198**	*e*Pn	**Pn**	**11 45 27.4**	**+0.6**
LVC				*e*Sn	**Sn**	**11 45 42.2**	**+0.1**
PB04	**Plate Boundary**	**1.02**	**234**	↑*i*P	Pn	11 45 32.6	+5.8
PB04				*i* S	Sn	11 45 52.4	+10
PB04				AML	AML	11 45 54.8	
	comp=N,4μm,0.1s						
PB04	**Plate Boundary**	**1.02**	**234**	↑*i*P	Pn	11 45 32.6	+5.8
PB04				*i* S	Sn	11 45 52.4	+10
PB01	**Plate Boundary**	**1.04**	**306**	↑*i*P	**Pn**	**11 45 26.7**	**-0.5**
PB01				*i* S	**Sn**	**11 45 42.6**	**-0.4**
PB01				AML	AML	11 45 46.0	
	comp=N,3μm,0.3s						
PB01	**Plate Boundary**	**1.04**	**306**	↑*i*P	**Pn**	**11 45 26.7**	**-0.5**
PB01				*i* S	**Sn**	**11 45 42.6**	**-0.4**
PATCX	**Punta Patache**	**1.69**	**300**	↑*i*P	**Pn**	**11 45 34.2**	**-0.6**
PATCX				*i* S	**Sn**	**11 45 55.4**	**-1.3**
PATCX				AML	AML	11 45 60.0	
	comp=N,3μm,0.4s						
PB10	**Plate Boundary**	**2.58**	**224**	*e*P	**Pn**	**11 45 45.4**	**-1.0**
PB10				*e*S	**Sn**	**11 46 15.1**	**-2.1**
PB10				AML	AML	11 46 25.6	
	comp=E,3μm,0.5s						
MNMC	**Minimini**	**2.70**	**339**	↓*i*P	**Pn**	**11 45 48.7**	**+0.6**
MNMC				AML	AML	11 46 35.1	
	comp=N,886nm,0.4s						
MNMC	**Minimini**	**2.70**	**339**	↓*i*P	**Pn**	**11 45 48.7**	**+0.6**
LPAZ	**La Paz**	**5.37**	**5**	*e*Pn	**Pn**	**11 46 27.7**	**+3.2**
	comp=N,7.1nm,0.4s						
LPAZ				*e*Sn	**Sn**	**11 47 21.0**	**-4.4**
LPAZ	**La Paz**	**5.37**	**5**	P	Pn	11 46 28.0	+3.5
	comp=N,3.1nm,0.3s,baz=204,slow=5.7,SNR=57						
ARE	**Arequipa**	**5.86**	**332**	*e*P	Pn	11 46 38.0	+7.1
ARE				*e*S	**Sn**	**11 47 38.0**	**+1.0**
LCO	**Las Campanas**	**7.56**	**194**	*e*Pn	**Pn**	**11 46 53.9**	**0.0**
	comp=N,25nm,0.7s						
LCO				*e*Sn	**Sn**	**11 48 16.8**	**-1.2**
SIV	**San Ignacio**	**9.08**	**53**	P	**Pn**	**11 47 13.1**	**-1.4**
	comp=N,0.9nm,0.3s,baz=247,slow=13,SNR=12						
CFAA	**Coronel Fontan**	**9.90**	**178**	P	Pn	11 47 21.9	-3.6
	comp=N,0.2nm,0.3s,baz=341,slow=11,SNR=10						
H03N1	**Juan Fernandez**	**14.86**	**216**	T	T	12 03 07.1	
	baz=36,slow=75,SNR=9.9						
H03N2	**Juan Fernandez**	**14.88**	**216**	T	T	12 03 05.4	
	baz=36,slow=75,SNR=3.0						
H03N3	**Juan Fernandez**	**14.88**	**216**	T	T	12 03 05.5	
	baz=36,slow=75,SNR=10						
TXAR	**Lajitas Array**	**60.94**	**325**	P	**P**	**11 55 09.9**	**+1.0**
	comp=N,0.2nm,0.8s,baz=148,slow=8.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P	**P**	**11 56 49.1**	**-0.1**
	comp=N,1.0nm,0.8s,baz=255,slow=6.0,SNR=12						
H11S2	**WAKE ISLAND Hyd**	**28.20**	**277**	T	T	14 24 18.1	
	baz=107,slow=73,SNR=5.6						
H11S1	**WAKE ISLAND Hyd**	**28.21**	**277**	T	T	14 24 22.6	
	baz=107,slow=73,SNR=8.8						
H11S3	**WAKE ISLAND Hyd**	**28.21**	**277**	T	T	14 24 21.3	
	baz=107,slow=73,SNR=5.0						
H11N3	**WAKE ISLAND Hyd**	**28.28**	**279**	T	T	14 24 25.6	
	baz=107,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hyd**	**28.29**	**279**	T	T	14 24 31.6	
	baz=107,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hyd**	**28.30**	**278**	T	T	14 24 27.7	
	baz=107,slow=75,SNR=8.6						
ASAR	**Alice Springs**	**129.90**	**207**	PKP	**PKPdf**	**12 04 06.2**	**+1.4**
	comp=N,0.2nm,0.6s,baz=132,slow=1.4,SNR=2.6						
MKAR	**Makanchi Array**	**145.59**	**36**	PKPbc	**PKPab**	**12 04 34.6**	**+1.1**
	comp=N,0.6nm,0.6s,baz=336,slow=3.8,SNR=9.2						

*ISCJB **11** 11:53:50.9±0.4,64°.00N±0°.02×28°.02E±0°.08,h0km, Error ellipse: s-maj=5.1km s-min=3.0km az=7.3*
*IDC **11** 11:53:51.0±1.8,63°.94N×28°.68E,h0km,mb1 2.8/3, mb1mx2.7/27,mbtmp2.6/3,ML2.2/3, Error ellipse: s-maj=30.5km s-min=9.7km az=99.0*
*CSEM **11** 11:53:52.2±0.2,63°.99N×28°.23E,h1km,ML1.7, Error ellipse: s-maj=6.2km s-min=4.1km az=80.0,Mining explosion.*
*UPP **11** 11:53:52.7,63°.78N×27°.51E,h0km,ML1.0,Suspected Mining explosion.*
*HEL **11** 11:53:52.0±0.1,63°.98N×28°.09E,h0km,ML1.7, ML1.0(UPP), Explosion*

ISC 11 11:53:51.8±0.9,**64°.00N**±0°.02×**28°.18E**±0°.04,**h0**km,**n35,** σ1§**26**/58,**Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**1.47**	**319**	*e*P	**Pn**	**11 54 18.1**	**-1.4**
OUL				*e*SB	**Sg**	**11 54 37.4**	**-1.5**
SUF	**Sumiainen**	**1.58**	**216**	*e*P	**Pn**	**11 54 18.8**	**-2.2**
SUF				*e*S	**Sn**	**11 54 39.3**	**-2.8**
JOF	**Joensuu**	**1.78**	**126**	*e*P	**Pn**	**11 54 23.7**	**-0.1**
JOF				*e*SN	**Sb**	**11 54 47.9**	**-0.2**
JOF				MSG		11 54 47.9	
	comp=Z,5.2nm,0.1s						
JOF	**Joensuu**	**1.78**	**126**	Pn	**Pn**	**11 54 23.7**	**-0.1**
JOF				Sg	**Sb**	**11 54 47.9**	**-0.2**
MSF	**Maaselka**	**1.95**	**10**	*e*P	**Pn**	**11 54 25.9**	**-0.3**
MSF				*e*S	**Sn**	**11 54 50.6**	**-0.7**
MSF				MSG		11 54 50.6	
	comp=Z,1.3nm,0.4s						
MSF	**Maaselka**	**1.95**	**10**	Pn	**Pn**	**11 54 25.8**	**-0.3**
MSF				Sg	**Sn**	**11 54 50.6**	**-0.7**
KAF	**Kangasniemi**	**2.08**	**205**	*e*P	**Pn**	**11 54 27.5**	**-0.5**
KAF				*e*SB	**Sn**	**11 54 54.2**	**-0.3**
KAF				MSG		11 54 54.2	
	comp=Z,3.2nm,0.2s						
KAF	**Kangasniemi**	**2.08**	**205**	Pn	**Pn**	**11 54 27.4**	**-0.5**
KAF				Sg	**Sn**	**11 54 54.2**	**-0.3**
KU6	**Riekki**	**2.16**	**19**	*e*P	**Pn**	**11 54 29.8**	**+0.8**
	baz=202						
KU6				*e*SB	**Sn**	**11 54 58.0**	**+1.6**
KU6				MSG		11 54 58.0	
	comp=Z,1.8nm,0.2s						
KU6	**Riekki**	**2.16**	**19**	Pn	**Pn**	**11 54 29.8**	**+0.8**
KU6				Sg	**Sn**	**11 54 58.0**	**+1.6**
KEF	**Keuruu**	**2.38**	**221**	*e*PB	**Pn**	**11 54 32.6**	**+0.6**
KEF				*e*SG	**Sn**	**11 55 03.3**	**+1.4**
KEF				MSG		11 55 03.3	
	comp=Z,4.6nm,0.2s						
KEF	**Keuruu**	**2.38**	**221**	Pn	**Pn**	**11 54 32.6**	**+0.6**
KEF				Sg	**Sn**	**11 55 03.2**	**+1.4**
VAF	**Ylistaro**	**2.65**	**251**	*e*PB	**Pn**	**11 54 36.6**	**+0.9**
VAF				*e*SB	**Sn**	**11 55 10.4**	**+1.9**
VAF				MSG		11 55 10.4	
	comp=Z,2.4nm,0.2s						
VAF	**Ylistaro**	**2.65**	**251**	Pn	**Pn**	**11 54 36.6**	**+0.9**
VAF				Sg	**Sn**	**11 55 10.3**	**+1.9**
FIA0	**FINESS Array S**	**2.75**	**202**	*e*PB	**Pn**	**11 54 38.0**	**+1.0**
	baz=20						
FIA0				*e*S	**Sn**	**11 55 11.3**	**+0.4**
FIA0				MSG		11 55 11.3	
	comp=Z,13nm,0.7s						
FIA0	**FINESS Array S**	**2.75**	**202**	Pn	**Pn**	**11 54 38.0**	**+1.0**
FIA0				Sg	**Sn**	**11 55 11.3**	**+0.4**
FINES	**FINESS Array B**	**2.75**	**202**	Pn	**Pn**	**11 54 38.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=26,slow=15,SNR=13						
FINES				Sn	**Sn**	**11 55 12.7**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=21,slow=27,SNR=36						
RNF	**Rovaniemi**	**2.77**	**342**	*e*SB	**Sb**	**11 55 14.9**	**-1.7**
RNF				MSG		11 55 14.9	
	comp=Z,2.1nm,0.4s						
RNF	**Rovaniemi**	**2.77**	**342**	Sg	**Sb**	**11 55 14.9**	**-1.7**
SGF	**Sodankyl**	**3.52**	**350**	*e*P	**Pn**	**11 54 48.6**	**+0.9**
	baz=162						
SGF	**Sodankyl**	**3.52**	**350**	Pn	**Pn**	**11 54 48.6**	**+0.9**
ERTU	**Ertsjaerv**	**3.59**	**318**	*e*P	**Pn**	**11 54 48.7**	**+0.1**
ERTU				*e*S	**Sn**	**11 55 32.5**	**+0.8**
ERTU	**Ertsjaerv**	**3.59**	**318**	P	**Pn**	**11 54 48.7**	**+0.1**
ERTU				S	**Sn**	**11 55 32.5**	**+0.8**
VRF	**Varrio**	**3.81**	**8**	*e*P	**Pn**	**11 54 53.4**	**+1.8**
VRF				*e

0.9nm,0.7s,baz=274,slow=6.1,SNR=8.7
TORD Torodi Ar. Bea 132.14 309 PKP **PKPdf 12 16 56.4 -0.4**
0.3nm,0.9s,baz=50,slow=1.7,SNR=3.6

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*IDC **11** 12:00:36.5±0.6,56˙.19S×26˚.62W,h0km,mb4.4/9, mb1 4.4/10,mb1mx4.3/18,mbtmp4.3/10,ML3.6/1,MS3.6/8, Ms1 3.6/8,ms1mx3.5/21,Error ellipse: s-maj=27.8km s-min=17.1km az=77.0*
*NEIC **11** 12:00:37.8±0.4,56˙.26S×26˙.71W,h10km,mb4.7/4,Error ellipse: s-maj=18.5km s-min=10.5km az=64.0*
*ISCJB **11** 12:00:40.3±0.6,56˙.3S±0˙.1×26˙.9W±0˙.3,h35km,mb4.4/11, MS3.9/7,Error ellipse: s-maj=23.1km s-min=11.7km az=154.2*
ISC 11 12:00:41.8±0.5,56˙.24S±0˙.1×26˙.8W±0˙.2,h35km,n51, σ1=02/46,mb4.5/10,MS3.5/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.48**	**156**	*eP*		**Pn**	**12 04 53.7**	**-1.0**
	3.8nm,0.6s							
SNAA				*eS*		**S**	**12 08 25.2**	**+2.0**
SNAA	**Sanae**	**18.48**	**156**	P		**Pn**	**12 04 53.9**	**-0.8**
	0.2nm,0.3s,baz=310,slow=11,SNR=17							
SNAA				LR		LR	12 10 28.3	
	comp=Z,45nm,20.1s,baz=27,slow=32							
PMSA	**Palmer Station**	**19.94**	**230**	LR		LR	12 11 26.7	
	comp=Z,206nm,19.7s,baz=330,slow=32							
PLCA	**Paso Flores**	**32.24**	**280**	*eP*		**P**	**12 07 05.9**	**-0.8**
PLCA	**Paso Flores**	**32.24**	**280**	P		**P**	**12 07 05.8**	**-0.9**
	1.8nm,1.0s,baz=132,slow=8.4,SNR=3.2							
PLCA				LR		LR	12 18 26.2	
	comp=Z,94nm,19.6s,baz=124,slow=33							
QSPA	**South Pole Qui**	**34.01**	**180**	*eP*		**P**	**12 07 21.6**	**-0.4**
QSPA	**South Pole Qui**	**34.01**	**180**	P		**P**	**12 07 21.4**	**-0.6**
	7.1nm,0.5s,baz=208,slow=2.9,SNR=22							
CPUP	**Villa Florida**	**37.09**	**311**	LR		LR	12 22 53.7	
	comp=Z,57nm,18.7s,baz=303,slow=36							
BDFB	**Brasilia**	**43.63**	**330**	P		**P**	**12 08 44.4**	**+1.6**
BDFB	**Brasilia**	**43.63**	**330**	P		**P**	**12 08 44.4**	**+1.6**
	3.3nm,0.7s,baz=158,slow=3.5,SNR=5.1							
BDFB				LR		LR	12 23 51.2	
	comp=Z,56nm,20.4s,baz=156,slow=32							
LVC	**Limon Verde**	**45.58**	**300**	*eP*		**P**	**12 08 58.6**	**+0.2**
	6.4nm,0.6s							
BOSA	**Boshof**	**45.81**	**75**	LR		LR	12 24 20.8	
	comp=Z,265nm,18.4s,baz=166,slow=31							
VNDA	**Vanda**	**46.40**	**183**	*eP*		**P**	**12 09 03.1**	**-0.9**
	3.6nm,0.6s							
VNDA	**Vanda**	**46.40**	**183**	P		**P**	**12 09 05.8**	**+1.9**
	3.6nm,0.6s,baz=187,slow=5.7,SNR=31							
VNDA				LR		LR	12 25 39.4	
	comp=Z,68nm,19.2s,baz=160,slow=32							
H10S2	**ASCENSION HYDR**	**48.12**	**16**	T		T	13 02 00.4	
	baz=189,slow=75,SNR=26							
H10S3	**ASCENSION HYDR**	**48.12**	**16**	T		T	13 01 55.2	
	baz=189,slow=75,SNR=20							
H10S1	**ASCENSION HYDR**	**48.14**	**16**	T		T	13 02 02.4	
	baz=189,slow=75,SNR=27							
H10N1	**ASCENSION HYDR**	**49.24**	**16**	T		T	13 03 19.2	
	baz=188,slow=75,SNR=12							
H10N3	**ASCENSION HYDR**	**49.24**	**16**	T		T	13 03 26.0	
	baz=188,slow=75,SNR=81							
H10N2	**ASCENSION HYDR**	**49.25**	**16**	T		T	13 03 26.3	
	baz=188,slow=75,SNR=26							
LPAZ	**La Paz**	**50.66**	**305**	*eP*		**P**	**12 09 39.1**	**+0.9**
LPAZ				*ePcP*		**PcP**	**12 10 55.6**	**+0.3**
LPAZ	**La Paz**	**50.66**	**305**	P		**P**	**12 09 38.9**	**+0.7**
	6.1nm,0.6s,baz=127,slow=6.4,SNR=18							
LPAZ				LR		LR	12 29 09.1	
	comp=Z,43nm,18.9s,baz=133,slow=34							
SAML	**Samuel**	**55.09**	**314**	*eP*		**P**	**12 10 10.2**	**+0.1**
	5.8nm,1.1s							
DBIC	**Dimbokro**	**65.25**	**24**	*eP*		**P**	**12 11 20.5**	**+0.9**
DBIC	**Dimbokro**	**65.25**	**24**	P		**P**	**12 11 20.4**	**+0.7**
	2.2nm,0.6s,baz=188,slow=13,SNR=3.7							
TORD	**Torodi Ar. Bea**	**73.11**	**29**	P		**P**	**12 12 08.4**	**0.0**
TORD	**Torodi Ar. Bea**	**73.11**	**29**	P		**P**	**12 12 08.4**	**0.0**
	1.8nm,0.4s,baz=200,slow=6.3,SNR=47							
URZ	**Urewera**	**83.69**	**199**	LR		LR	12 44 30.3	
	comp=Z,5μm,19.9s,baz=15,slow=31							
STKA	**Stephens Creek**	**91.68**	**170**	P		**P**	**12 13 47.0**	**+1.7**
STKA	**Stephens Creek**	**91.68**	**170**	P		**P**	**12 13 47.0**	**+1.7**
	1.3nm,0.5s,baz=151,slow=5.2,SNR=6.5							
ASAR	**Alice Springs**	**98.75**	**162**	P		Pdif	12 14 17.9	+0.2
ASAR	**Alice Springs**	**98.75**	**162**	P		Pdif	12 14 17.9	+0.2
	0.6nm,0.7s,baz=191,slow=3.2,SNR=8.3							
NVAR	**Mina Array Bea**	**121.67**	**293**	PKP		**PKPdf**	**12 19 32.3**	**+1.0**
NVAR	**Mina Array Bea**	**121.67**	**293**	PKP		**PKPdf**	**12 19 32.3**	**+1.0**
	0.2nm,0.6s,baz=93,slow=3.6,SNR=2.7							
FINES	**FINESS Array B**	**124.45**	**28**	PKP		**PKPdf**	**12 19 34.5**	**-1.1**
FINES	**FINESS Array B**	**124.45**	**28**	PKP		**PKPdf**	**12 19 34.5**	**-1.1**
	0.9nm,0.7s,baz=181,slow=8.3,SNR=3.3							
CMAR	**Chiang Mai Arr**	**124.80**	**110**	PKP		**PKPdf**	**12 19 36.3**	**-1.3**
CMAR	**Chiang Mai Arr**	**124.80**	**110**	PKP		**PKPdf**	**12 19 36.3**	**-1.3**
	0.3nm,0.4s,baz=224,slow=3.8,SNR=4.0							
ARCES	**ARCESS Array B**	**131.04**	**22**	PKP		**PKPdf**	**12 19 47.1**	**-0.8**
ARCES	**ARCESS Array B**	**131.04**	**22**	PKP		**PKPdf**	**12 19 47.1**	**-0.8**
	1.2nm,0.7s,baz=225,slow=2.7,SNR=5.3							
YKA	**Yellowknife Ar**	**136.45**	**318**	PKP		**PKPdf**	**12 19 57.1**	**-1.1**
YKA	**Yellowknife Ar**	**136.45**	**318**	PKP		**PKPdf**	**12 19 57.1**	**-1.1**
	0.6nm,0.4s,baz=124,slow=1.7,SNR=4.6							
INK	**Inuvik**	**146.08**	**320**	*ePKPdf*		**PKPbc**	**12 20 15.6**	**-0.7**
DOT	**Dot Lake**	**148.93**	**310**	*ePKPbc*		**PKPbc**	**12 20 24.1**	**-0.2**
DOT				*ePKPab*		**PKPab**	**12 20 28.7**	**+0.1**
ILAR	**Eielson Array**	**150.40**	**311**	PKPbc		**PKPbc**	**12 20 26.9**	**-1.0**
ILAR	**Eielson Array**	**150.40**	**311**	PKPbc		**PKPbc**	**12 20 26.9**	**-1.0**
	3.5nm,0.9s,baz=113,slow=1.4,SNR=23							
SONM	**Songino Array**	**150.53**	**87**	PKPbc		**PKPbc**	**12 20 27.5**	**-1.3**
SONM	**Songino Array**	**150.53**	**87**	PKPbc		**PKPbc**	**12 20 27.5**	**-1.3**
	1.8nm,0.8s,baz=213,slow=3.4,SNR=13							
RSO	**Redoubt South**	**152.01**	**301**	*ePKPdf*		**PKPdf**	**12 20 25.7**	**+0.4**
RSO				*ePKPbc*		**PKiKP**	**12 20 32.1**	**-0.2**
COLD	**Coldfoot**	**152.10**	**316**	*ePKPdf*		**PKPdf**	**12 20 25.4**	**+0.3**
COLD				*ePKPbc*		**PKiKP**	**12 20 31.8**	**-0.2**
COLD				*ePKPab*		**PKPab**	**12 20 41.4**	**-0.1**
PPLA	**Purkeypile**	**152.32**	**306**	*ePKPbc*		**PKPbc**	**12 20 31.6**	**-0.9**
PPLA				*ePKPab*		**PKPab**	**12 20 42.8**	**+0.1**

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*IDC **11** 12:02:25.8±2.0,5˙.72N×126˚.55E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/24,mbtmp3.7/4,Error ellipse: s-maj=117.1km s-min=23.1km az=69.0*
*MAN **11** 12:02:25,5˙.57N×127˚.16E,h119km,mb4.5,ML3.4, MS3.3*
ISC 11 12:02:37.6±1.2,5˙.85N±0˙.1×125˚.8E±0˙.2,h127km,n8, σ2=17/7,mb3.5/4,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.91**	**285**	⇓*iP*		**Pn**	**12 02 59.5**	**-0.1**
MATI	**Mati**	**1.17**	**21**	*eP*		Pn	12 02 55.1	-6.8
MATI				*eS*		**Sn**	**12 03 17.4**	**-3.0**
BUKP	**Musuan**	**2.16**	**339**	*eP*		**Pn**	**12 03 13.7**	**+0.3**
BUTP	**Butuan**	**3.11**	**356**	*eP*		**Pn**	**12 03 27.8**	**+2.2**
FITZ	**Fitzroy Crossi**	**23.80**	**180**	P		**P**	**12 07 38.5**	**-0.3**
	2.1nm,0.8s,baz=29,slow=10,SNR=2.5							
WRA	**Warramunga Arr**	**26.96**	**162**	P		**P**	**12 08 05.5**	**-2.0**
	0.6nm,0.5s,baz=344,slow=10,SNR=3.5							
ASAR	**Alice Springs**	**30.37**	**165**	P		**P**	**12 08 38.8**	**+1.0**
	0.3nm,0.6s,baz=354,slow=6.5,SNR=4.2							
MKAR	**Makanchi Array**	**55.32**	**325**	P		P	12 12 05.0	+6.9
	1.0nm,0.6s,baz=122,slow=8.1,SNR=15							

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*ISCJB **11** 12:33:37.5±0.1,21˙.15S±0˙.04×174˚.38W±0˙.03,h10km, mb5.4/186,MS5.2/193,Error ellipse: s-maj=6.1km s-min=3.1km az=153.2*
*BJI **11** 12:33:37.6,20˚.79S×174˚.34W,h6km,mB5.9/47,mb5.5/48, Ms5.4/55,Ms7 5.1/52*
*IDC **11** 12:33:37.5±0.4,21˙.12S×174˚.47W,h0km,mb5.2/23, mb1 5.3/24,mb1mx5.3/24,mbtmp5.1/24,ML5.0/1,MS5.0/22, Ms1 5.0/22,ms1mx5.0/24,Error ellipse: s-maj=16.6km s-min=13.4km az=110.0*
*NEIC **11** 12:33:39.0±0.1,21˙.06S×174˚.45W,h10km,mb5.5/119, MS5.3/148,MW5.6,MW5.6,Error ellipse: s-maj=5.7km s-min=3.3km az=139.0,Moment Tensor Solution. s15 Moment tensor: Scale 10¹⁷Nm; Mrr2.17; Mθθ-0.08; Mφφ-2.08; Mrθ0.04; Mθφ-1.73; Mφr-0.32; Best double couple: M□2.80000×10¹⁷ NP1:φs202.00000°,δ48.00000°, λ78.00000°. NP2:φs39.00000°,δ43.00000°,λ103.00000°. Principal axes: T 2.2100, Plg80.0000°, Azm47.0000°; N 0.8900, Plg8.0000°, Azm209.0000°; P -3.0900, Plg2.0000°, Azm299.0000°;*
*AUST **11** 12:33:39.5±4.5,20˚.92S×174˚.44W,h14km±27km Error ellipse: s-maj=9.0km s-min=7.5km az=137.0*
*BGS **11** 12:33:39.2±4.6,21˚.06S×174˚.45W,h10km,mb5.5(NEIC)*
*SZGRF **11** 12:33:41.6,21˚.57S×174˚.39W,h33km,mb5.4,Tonga Islands*
*MOS **11** 12:33:42.1±1.0,20˚.95S×174˚.27W,h33km,mb5.6/54, MS5.2/37,Error ellipse: s-maj=11.9km s-min=8.0km az=76.1*
*GCMT **11** 12:33:44.2±0.1,21˚.25S×173˚.81W,h17km,MW5.6, Moment Tensor Solution. s99,c181; s59,c61; Moment tensor: Scale 10¹⁷Nm; Mrr2.69±.04; Mθθ-0.40±.03; Mφφ-2.29±.03; Mrθ0.93±.08; Mθφ-1.29±.02; Mφr1.95±.08; Best double couple: Mo3.60000×10¹⁷ NP1:φs26.00000°, δ64.00000°,λ89.00000°. NP2:φs208.00000°,δ26.00000°, λ92.00000°. Principal axes: T 3.4200, Plg71.0000°, Azm294.0000°; N 0.2600, Plg1.0000°, Azm26.0000°; P -3.6800, Plg19.0000°, Azm117.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=126, comp=253, per=50.*
*NEIC **11** 12:33:53.2±0.0,21˚.10S×173˚.79W,h10km,Moment Tensor Solution. s118 Moment tensor: Scale 10¹⁷Nm; Mrr2.37; Mθθ-0.22; Mφφ-2.15; Mrθ0.71; Mθφ-1.17; Mφr0.95; Best double couple: Mo2.80000×10¹⁷ NP1:φs199.00000°, δ33.00000°,λ80.00000°. NP2:φs31.00000°,δ58.00000°, λ96.00000°. Principal axes: T 2.6500, Plg76.0000°, Azm320.0000°; N 0.3100, Plg5.0000°, Azm207.0000°; P -2.9600, Plg12.0000°, Azm116.0000°;*
ISC 11 12:33:39.5±0.3,21˙.05S±0˙.05×174˚.44W±0˙.05,h14km±1km, h14km:pP-P,n1169,σ1=05/1201,mb5.5/184,MS5.2/193, 230C-246D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**20**	*ePn*		Pn	12 35 23.5	-5.6
AFI				Sn		Sn	12 36 43.3	-11
AFI				*eSn*		**Sn**	**12 36 56.4**	**+1.8**
AFI	**Afiamalu**	**7.54**	**20**	Pn		Pn	12 35 23.6	-5.6
	28nm,0.3s,baz=23,slow=21,SNR=29							
AFI				Sn		Sn	12 36 43.3	-11
	29nm,0.3s,baz=229,slow=19,SNR=4.0							
AFI				LR		LR	12 38 05.8	
	comp=Z,8μm,20.0s,baz=191,slow=35							
MSVF	**Nonsavu**	**7.82**	**294**	*eP*		Pn	12 35 41.7	+8.6
MSVF				*e*			12 37 12.9	
MSVF				pmax		pmax		
	comp=Z,2μm,1.4s							
MSVF	**Nonsavu**	**7.82**	**294**	*ePn*		Pn	12 35 41.7	+8.6
	comp=Z,2μm,1.4s							
MSVF				*eSn*		Sn	12 37 12.9	+11
RAO	**Raoul Island**	**8.75**	**200**	*ePn*		**Pn**	**12 35 44.8**	**-0.8**
	comp=Z,337nm,0.3s							
RAO				Sn		Sn	12 37 16.3	-7.9
RAO	**Raoul Island**	**8.75**	**200**	Pn		Pn	12 35 39.7	-6.0
	comp=Z,58nm,0.3s,baz=15,slow=20,SNR=2.3							
RAO				Sn		Sn	12 37 16.3	-7.9
	comp=Z,78nm,0.3s,baz=270,slow=20,SNR=3.6							
RAO				LR		LR	12 38 34.2	
	comp=Z,3μm,19.4s,baz=215,slow=34							
RAR	**Rarotonga**	**13.68**	**93**	*ePn*		Pn	12 36 43.5	-10
RAR	**Rarotonga**	**13.68**	**93**	Pn		Pn	12 36 43.3	-10
	comp=Z,48nm,0.3s,baz=270,slow=7.5,SNR=61							
RAR				Sn		Sn	12 39 02.4	-23
	comp=Z,8.8nm,0.3s,baz=90,slow=19,SNR=6.2							
DZM	**Mont Dzumac**	**17.82**	**263**	*eP*		**P**	**12 37 50.8**	**+2.8**
	comp=Z,425nm,1.4s							
DZM				*e*	LR	LR	12 42 04.7	
	comp=Z,9μm,22.0s							
DZM	**Mont Dzumac**	**17.82**	**263**	P		**P**	**12 37 50.7**	**+2.8**
DZM	**Mont Dzumac**	**17.82**	**263**	P		**P**	**12 37 50.7**	**+2.8**
	comp=Z,1.6nm,0.3s,baz=270,slow=24,SNR=13							
NOUC	**Port Laguerre**	**17.95**	**263**	*eP*		**P**	**12 37 51.4**	**+2.1**
URZ	**Urewera**	**18.64**	**201**	*eP*		**P**	**12 37 56.1**	**-0.7**
	comp=Z,65nm,0.9s							
URZ				*eSn*		Sn	12 41 08.1	-17
URZ	**Urewera**	**18.64**	**201**	P		P	**12 37 55.0**	**-1.8**
	comp=Z,5.1nm,0.3s,baz=280,slow=2.3,SNR=39							
URZ				S		Sn	12 41 06.8	-19
	comp=Z,0.8nm,0.3s,baz=198,slow=20,SNR=3.9							
BKZ	**Black Stump Fm**	**19.67**	**201**	*eP*		**P**	**12 38 07.5**	**-0.7**
	comp=Z,66nm,1.1s							
BFZ	**Birch Farm**	**21.11**	**200**	*eP*		**P**	**12 38 26.1**	**+2.3**
	comp=Z,156nm,1.2s							
SNZO	**South Karori**	**22.19**	**202**	*eP*		**P**	**12 38 37.3**	**+2.0**
SNZO				LR		LR		
	comp=Z,5μm,19.0s							
TBI	**Tubuai**	**23.23**	**100**	*eP*		P	12 38 40.0	-6.4
	comp=Z,497nm,1.2s							
TBI				*eS*		S	12 42 42.9	-15
	comp=Z,2μm,26.5s							
TBI				*eLQ*		LQ	12 43 08.9	
	comp=Z,10μm,25.8s							
TBI				*eLR*		LR	12 44 11.3	
	comp=Z,10μm,29.0s,baz=276							
PAE	**Paea**	**23.68**	**86**	*eP*		**P**	**12 38 46.4**	**-4.6**
	comp=Z,54nm,1.4s							
PPT2	**Papeete2**	**23.70**	**86**	*eP*		**P**	**12 38 47.0**	**-4.2**
	comp=Z,120nm,1.2s							
PPT2				*eS*		S	12 42 56.5	-10
	comp=Z,12μm,26.8s							
PPT2				*eLR*		LR	12 44 22.0	
	comp=Z,11μm,27.2s,baz=254							
PPT	**Papeete**	**23.71**	**86**	P		**P**	**12 38 48.2**	**-3.0**
PPT	**Papeete**	**23.71**	**86**	P		**P**	**12 38 48.2**	**-3.0**
	comp=Z,102nm,1.1s,baz=53,slow=22,SNR=4.8							
TIAR	**Tiarei**	**23.92**	**86**	*eP*		**P**	**12 38 48.8**	**-4.5**
	comp=Z,62nm,1.0s							
TVO	**Taravao**	**23.96**	**87**	*eP*		**P**	**12 38 49.3**	**-4.4**
	comp=Z,88nm,1.2s							
MEH	**Mehetia**	**25.05**	**87**	*eP*		**P**	**12 38 59.8**	**-3.8**
	comp=Z,89nm,1.2s							
TARA	**Tarawa**	**25.48**	**329**	PFAKE			12 39 20.0	+13
TARA				LR		LR		
	comp=Z,8μm,19.0s							
RPZ	**Rata Peaks**	**25.63**	**205**	*eP*		**P**	**12 39 07.1**	**-1.5**
	comp=Z,276nm,1.6s							
RPZ	**Rata Peaks**	**25.63**	**205**	P		**P**	**12 39 08.2**	**-0.4**
	comp=Z,21nm,0.9s,baz=274,slow=0.6,SNR=10							
RPZ				LR		LR	12 49 03.0	
	comp=Z,8μm,18.6s,baz=22,slow=36							
PMOR	**Pomariorio Ree**	**25.93**	**81**	*eP*		**P**	**12 39 08.3**	**-3.2**
	comp=Z,218nm,1.2s							
ODZ	**Otahua Downs**	**26.91**	**204**	*eP*		**P**	**12 39 19.9**	**-0.3**
	comp=Z,357nm,2.3s							
HNR	**Honiara**	**27.23**	**291**	LR		LR	12 48 36.9	
	comp=Z,3μm,19.0s,baz=111,slow=33							
XMAS	**Kiritimati**	**28.35**	**38**	PFAKE			12 39 50.0	+17
XMAS				LR		LR		
	comp=Z,6μm,19.0s							
WHZ	**Wether Hill Ro**	**28.68**	**206**	*eP*		**P**	**12 39 37.6**	**+1.6**
DCZ	**Deep Cove**	**28.68**	**208**	*eP*		**P**	**12 39 38.7**	**+2.8**
	comp=Z,511nm,2.3s							
EIDS	**Eidsvold**	**31.93**	**256**	*eP*		**P**	**12 40 05.0**	**0.0**
	comp=Z,99nm,2.1s							
EIDS	**Eidsvold**	**31.93**	**256**	P		**P**	**12 40 05.0**	**0.0**
	baz=32,SNR=4.6							
RMQ	**Roma**	**34.04**	**254**	P		**P**	**12 40 23.4**	**0.0**
	baz=34,SNR=7.4							
CAN	**Canberra**	**35.01**	**238**	PFAKE			12 40 40.0	+8.2
CAN				LR		LR		
	comp=Z,2μm,19.0s							
RKT	**Rikitea**	**36.55**	**101**	*eS*		S	12 46 16.2	-11
	comp=Z,882nm,28.0s							
RKT				*eLQ*		LQ	12 48 53.0	
	comp=Z,2μm,27.2s							
RKT				*eLR*		LR	12 50 03.4	
	comp=Z,7μm,31.8s,baz=268							
CTAO	**Charters Tower**	**36.76**	**264**	*eP*		**P**	**12 40 46.7**	**-0.1**
CTAO				pmax		pmax		
	comp=Z,36nm,1.2s							
CTAO				MLR		MLR		
	comp=Z,3μm,19.0s							
CTAO	**Charters Tower**	**36.76**	**264**	*eP*		**P**	**12 40 46.7**	**-0.1**
	comp=Z,36nm,1.2s							
CTAO				LR		LR		
	comp=Z,3μm,19.0s							
CMSA	**Cobar Meteorol**	**37.06**	**245**	P		**P**	**12 40 48.5**	**-0.8**
	baz=37,SNR=16							
TOO	**Toolangi**	**38.30**	**236**	⇓P		**P**	**12 41 01.0**	**+1.2**
	baz=38,SNR=6.0							
TAU	**Tasmania Unive**	**38.63**	**227**	PFAKE			12 41 10.0	+7.6
TAU				LR		LR		
	comp=Z,2μm,19.0s							
PMG	**Port Moresby**	**38.72**	**281**	LR		LR	12 55 20.9	
	comp=Z,3μm,18.2s,baz=117,slow=34							
PMG	**Port Moresby**	**38.72**	**281**	P		**P**	**12 41 03.3**	**-0.2**
	baz=39,SNR=5.7							
PMG				P		**P**	**12 41 03.3**	**-0.2**
	baz=39,SNR=5.7							
PMG				P		**P**	**12 41 03.3**	**-0.2**
	baz=39,SNR=5.7							
STKA	**Stephens Creek**	**40.57**	**245**	*eP*		**P**	**12 41 18.1**	**-0.7**
	comp=Z,13nm,1.4s							
STKA	**Stephens Creek**	**40.57**	**245**	P		**P**	**12 41 17.8**	**-0.9**
	comp=Z,13nm,0.9s,baz=98,slow=7.9,SNR=19							
STKA				LR		LR	12 57 00.8	
	comp=Z,2μm,18.4s,baz=76,slow=35							
STKA	**Stephens Creek**	**40.57**	**245**	⇓P		**P**	**12 41 18.1**	**-0.7**
	baz=41,SNR=14							
PTCN	**Pitcairn Islan**	**40.86**	**104**	PFAKE			12 41 30.0	+8.8
PTCN				LR		LR		
	comp=Z,3μm,19.0s							
COEN	**Coen**	**40.94**	**273**	*eP*		**P**	**12 41 21.9**	**-0.1**
	comp=Z,154nm,0.9s							
COEN	**Coen**	**40.94**	**273**	P		**P**	**12 41 22.0**	**-0.1**
	baz=41,SNR=12							
QIS	**Mount Isa**	**42.85**	**262**	P		**P**	**12 41 37.7**	**+0.1**
	baz=43,SNR=3.7							
HTT	**Hallett**	**42.94**	**243**	P		**P**	**12 41 36.9**	**-1.3**
	baz=43,SNR=8.9							
WAKE	**Wake Island**	**44.16**	**334**	PFAKE			12 42 00.0	+12
WAKE				LR		LR		
	comp=Z,4μm,20.0s							
KIP	**Kipapa**	**45.16**	**22**	⇑*iP*		**P**	**12 41 56.3**	**+0.4**
KIP				pmax		pmax		
	comp=Z,152nm,1.7s							
BBOO	**Buckleboo**	**45.30**	**244**	⇓P		**P**	**12 41 55.1**	**-2.0**
	baz=45,SNR=13							
AS31	**Alice Springs**	**47.64**	**257**	*eP*		**P**	**12 42 14.7**	**-1.0**
AS31				*ePcP*		**PcP**	**12 43 45.5**	**+0.3**
ASAR	**Alice Springs**	**47.64**	**257**	P		**P**	**12 42 13.9**	**-1.7**
ASAR				PcP		**PcP**	**12 43 46.0**	**+0.8**
ASAR				ScP		**ScP**	**12 47 40.8**	**+1.5**
ASAR				S		**S**	**12 49 05.8**	**-5.4**
ASAR				PKiKP		**PKiKP**	**12 50 36.1**	**-1.4**
ASAR	**Alice Springs**	**47.64**	**257**	P		**P**	**12 42 13.9**	**-1.7**
	comp=Z,25nm,0.9s,baz=100,slow=8.0,SNR=246							
ASAR				PcP		**PcP**	**12 43 46.0**	**+0.8**
	comp=Z,7.2nm,0.9s,baz=100,slow=4.2,SNR=4.5							
ASAR				ScP		**ScP**	**12 47 40.8**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=111,slow=5.1,SNR=3.2							
ASAR				S		**S**	**12 49 05.8**	**-5.4**
	comp=Z,1.7nm,1.0s,baz=95,slow=15,SNR=4.3							
ASAR				PKiKP		**PKiKP**	**12 50 36.1**	**-1.4**
	comp=Z,0.7nm,1.1s,baz=73,slow=1.9,SNR=4.5							
ASAR				LR		LR	13 01 36.1	
	comp=Z,2μm,18.5s,baz=98,slow=35							
WRAB	**Tennant Creek**	**47.82**	**262**	*c iP*		**P**	**12 42 15.1**	**-1.9**
WRAB				pmax		pmax		
	comp=Z,111nm,1.3s							
WRAB	**Tennant Creek**	**47.82**	**262**	*eP*		**P**	**12 42 15.6**	**-1.4**
	comp=Z,28nm,0.9s							
WRAB				*ePcP*		**PcP**	**12 43 47.4**	**+1.5**
WRAB				LR		LR		
	comp=Z,3μm,19.0s							
WRA	**Warramunga Arr**	**47.83**	**262**	P		**P**	**12 42 14.9**	**-2.1**
WRA				PcP		**PcP**	**12 43 46.5**	**+0.6**
WRA	**Warramunga Arr**	**47.83**	**262**	P		**P**	**12 42 14.9**	**-2.1**
	comp=Z,18nm,1.0s,baz=97,slow=7.9,SNR=62							
WRA				PcP		**PcP**	**12 43 46.5**	**+0.6**
	comp=Z,19nm,1.1s,baz=93,slow=4.5,SNR=6.3							
WRA				LR		LR	13 02 16.1	
	comp=Z,3μm,18.4s,baz=90,slow=36							
MIDW	**Midway**	**49.06**	**357**	PFAKE			12 42 40.0	+14
MIDW				LR		LR		
	comp=Z,3μm,20.0s							
KDU	**Kakadu**	**51.29**	**270**	P		**P**	**12 42 42.9**	**-0.7**
	baz=51,SNR=7.7							
FORT	**Forrest**	**52.14**	**247**	*eP*		**P**	**12 42 49.2**	**-0.5**
	comp=Z,31nm,0.6s							
FORT	**Forrest**	**52.14**	**247**	P		**P**	**12 42 49.0**	**-0.7**
	baz=52,SNR=15							
MTN	**Manton Dam**	**52.50**	**270**	⇓P		**P**	**12 42 51.3**	**-1.3**
	baz=52,SNR=8.0							
WRKA	**Warakurna**	**52.52**	**254**	⇓P		**P**	**12 42 51.6**	**-1.1**
	baz=52,SNR=54							
GUMO	**Guam**	**52.75**	**307**	PFAKE			12 43 10.0	+16
GUMO				LR		LR		
	comp=Z,1μm,21.0s							
DRV	**Dumont d'Urvil**	**53.98**	**201**	P		P	12 42 53.0	-10
DRV				S		S	12 50 20.0	-18
DRV				SS		SS	12 54 29.0	+10
DRV				L		L	12 56 00.0	
DRV				R			13 00 00.0	
FAKI	**Fak Fak**	**54.88**	**282**

KKM LR LR
comp=Z,450nm,20.0s
KKM Kota Kinabalu 73.13 283 ⇑P **P 12 45 10.7 +0.4**
baz=73,SNR=4.4
ERM Erimo 73.99 328 PFAKE 12 45 30.0 +15
ERM LR LR
comp=Z,2μm,20.0s
YUK Yuzh-Kuril'sk 74.28 331 *d iP* **P 12 45 14.8 -1.4**
YUK *i* 12 45 33.6
YUK *i* PPP PPP
YUK *i* S **S 12 54 50.0 +0.4**
YUK *i* 12 55 35.4
YUK *i* SSS SSS 13 02 46.7
YUK MLR MLR
comp=N,175nm,17.0s
YUK MLR MLR
comp=Z,500nm,17.0s
BTM Bintulu 74.87 279 P P 12 45 16.0 -4.4
JNU Nakatsue 75.00 315 P **P 12 45 21.1 +0.4**
JNU Nakatsue 75.00 315 P **P 12 45 21.1 +0.4**
comp=Z,35nm,1.1s,baz=98,slow=2.1,SNR=5.1
SBUM Sibu 75.39 278 P P 12 45 15.1 -8.2
BSC Santa Cruz Isl 75.61 45 ⇓P **P 12 45 25.0 +0.8**
baz=76
SCI San Clemente I 75.71 46 ⇓P **P 12 45 25.3 +0.6**
baz=76
SBC Santa Barbara 75.83 44 ⇑P **P 12 45 26.4 +1.0**
baz=76
ASAJ Asahikawa 75.84 330 *eP* **P 12 45 27.9 +2.7**
comp=Z,44nm,1.5s
ASAJ Asahikawa 75.84 330 P **P 12 45 26.6 +1.4**
comp=Z,18nm,1.0s,baz=235,slow=16,SNR=8.9
PKM Peak Mountain 76.04 44 ⇓P **P 12 45 27.4 +0.5**
baz=76
CIS Catalina Islan 76.06 46 ⇑P **P 12 45 27.6 +0.8**
baz=76
SMMC Simmler 76.18 43 ⇓P **P 12 45 28.2 +0.8**
baz=76,SNR=8.0
SAO San Andreas Ge 76.19 41 *eP* **P 12 45 28.5 +1.1**
SAO pmax pmax
comp=Z,69nm,1.0s
SAO San Andreas Ge 76.19 41 *eP* **P 12 45 28.5 +1.1**
comp=Z,69nm,1.0s
OSI Osito Adit 76.58 44 ⇓P **P 12 45 29.6 -0.1**
baz=77
DECC Green Verdugo 76.62 45 ⇑P **P 12 45 30.3 +0.3**
baz=77
109C Camp Elliot, M 76.63 47 ⇑P **P 12 45 30.3 +0.3**
baz=77
PASC Pasadena Art C 76.67 45 *eP* **P 12 45 30.9 +0.8**
comp=Z,48nm,1.3s
NACB Ninganchiao 76.77 303 *eP* **P 12 45 30.8 -0.1**
comp=Z,31nm,0.9s
MWC Mount Wilson 76.78 45 *eP* **P 12 45 31.4 +0.3**
MWC pmax pmax
comp=Z,31nm,1.0s
MWC Mount Wilson 76.78 45 *eP* **P 12 45 31.4 +0.3**
comp=Z,31nm,1.0s
KSM Kuching 76.79 277 P P 12 45 23.2 -8.2
KSM Kuching 76.79 277 *eP* **P 12 45 31.9 +0.6**
comp=Z,44nm,1.1s
KSM LR LR
comp=Z,928nm,19.0s
BAR Barrett 76.80 47 *eP* **P 12 45 31.2 +0.2**
comp=Z,30nm,1.4s
KIPM Iron Peak 76.97 38 *eP* **P 12 45 33.5 +1.6**
comp=Z,31nm,1.1s
MURC Murrieta 76.98 46 ⇓P **P 12 45 32.0 0.0**
baz=77,SNR=18
BFSC Mount Baldy Ra 77.06 45 ⇑P **P 12 45 32.4 -0.2**
baz=77,SNR=9.0
SSLB Suanglung 77.08 302 *eP* **P 12 45 32.3 -0.4**
comp=Z,21nm,0.9s
TPUB Ta-pu 77.09 301 *eP* **P 12 45 31.9 -0.9**
comp=Z,35nm,0.8s
MONP Monument Peak 77.10 47 ⇑P **P 12 45 33.0 +0.1**
baz=77,SNR=23
DVTC Desert V Tower 77.18 47 ⇑P **P 12 45 33.4 +0.2**
baz=77,SNR=14
YHNB Yeheng 77.19 303 *eP* **P 12 45 34.7 +1.3**
comp=Z,11nm,0.8s
YHNB LR LR
comp=Z,1μm,20.0s
EDW2 Edwards Air Fo 77.22 45 ⇑P **P 12 45 33.4 0.0**
baz=77,SNR=27
TATO Taipei 77.25 303 PFAKE 12 45 50.0 +16
TATO LR LR
comp=Z,1μm,20.0s
RCTC Rector, Farmer 77.29 43 ⇑P **P 12 45 33.7 +0.1**
baz=78,SNR=5.4
PET Petropavlovsk 77.38 344 *c iP* **P 12 45 33.6 -0.1**
PET *e* 12 48 31.6
PET *eS* **S 12 55 24.2 +0.8**
PET *ePS* **PnS 12 55 58.9 -4.8**
PET *ePPS* PPS 12 56 27.1
PET *eSS* **SS 13 00 29.0 +6.3**
PET pmax pmax
comp=Z,500nm,12.1s
PET pmax pmax
comp=Z,700nm,11.9s
PET pmax pmax
comp=Z,300nm,12.1s
PET MLR MLR
comp=Z,1μm,20.0s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 77.38 344 PFAKE 12 45 50.0 +16
PET LR LR
comp=Z,1μm,20.0s
ISA Isabella 77.38 44 *eP* **P 12 45 35.1 +0.8**
ISA pmax pmax
comp=Z,15nm,1.1s
ISA Isabella 77.38 44 *eP* **P 12 45 35.1 +0.8**
comp=Z,15nm,1.1s
ISA Isabella 77.38 44 ⇓P **P 12 45 34.6 +0.3**
baz=78,SNR=35
PFO Pinyon Flat Ob 77.49 46 *eP* **P 12 45 34.9 -0.1**
comp=Z,51nm,1.3s
PFO *ePcP* **PcP 12 45 45.8 +0.5**
PFO LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flat Ob 77.49 46 ⇓P **P 12 45 35.0 -0.1**
baz=78,SNR=19
SWSC Sam W. Stewart 77.56 47 ⇓P **P 12 45 35.1 0.0**
baz=78,SNR=9.1
CMB Columbia Colle 77.65 41 *eP* **P 12 45 35.7 +0.1**
CMB pmax pmax
comp=Z,59nm,1.1s
CMB Columbia Colle 77.65 41 *eP* **P 12 45 35.7 +0.1**
comp=Z,59nm,1.1s
PETK Petropavlovsk- 77.71 343 P **P 12 45 35.9 +0.3**
PETK Petropavlovsk- 77.71 343 P **P 12 45 35.9 +0.3**
PETK Petropavlovsk- 77.71 343 P **P 12 45 35.9 +0.3**
comp=Z,46nm,1.2s,baz=120,slow=4.4,SNR=16
PETK LR LR 13 18 45.7
comp=Z,552nm,19.0s,baz=159,slow=35
LRMC Laurel Mountai 77.78 44 ⇑P **P 12 45 36.7 +0.2**
baz=78,SNR=26
RRX Edison Barstow 77.88 45 ⇑P **P 12 45 36.9 -0.1**
baz=78
KRMB Red Mountain 77.88 36 *eP* **P 12 45 38.3 +1.4**
comp=Z,75nm,1.5s
YSS Yuzh-Sakhalins 77.92 332 *eP* **P 12 45 35.0 -1.9**
YSS *e* 12 45 46.0
YSS *eS* **S 12 55 29.0 -0.6**
YSS *ePS* **PnS 12 56 08.0 -2.9**
YSS *ePPS* PPS 12 56 28.0
YSS pmax pmax
comp=Z,100nm,1.2s
YSS pmax pmax
comp=Z,800nm,3.0s
YSS MLR MLR
comp=E,700nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS Yuzh-Sakhalins 77.92 332 *eP* **P 12 45 38.1 +1.2**
comp=Z,102nm,1.3s
YSS LR LR
comp=Z,375nm,20.0s
WDC Whiskeytown Da 78.02 38 *eP* **P 12 45 37.9 +0.3**
WDC pmax pmax
comp=Z,82nm,1.4s
WDC Whiskeytown Da 78.02 38 *eP* **P 12 45 37.9 +0.3**
comp=Z,82nm,1.4s
BELC Belle Mtn. Jos 78.03 46 ⇓P **P 12 45 38.0 0.0**
baz=78,SNR=27
N02D Trinity Center 78.18 37 ⇑P **P 12 45 39.6 +1.0**
baz=78
BC3 Big Chuckawall 78.20 47 ⇓P **P 12 45 39.1 +0.2**
baz=78,SNR=24
GSC Goldstone 78.25 45 *eP* **P 12 45 39.4 +0.3**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone 78.25 45 *eP* **P 12 45 39.4 +0.3**
comp=Z,9.1nm,1.1s
GSC Goldstone 78.25 45 ⇓P **P 12 45 39.2 0.0**
baz=78,SNR=14
MPMC Manual Prospec 78.26 44 ⇓P **P 12 45 39.5 +0.2**
baz=78,SNR=46
GLA Glamis 78.29 48 *eP* **P 12 45 40.1 +0.8**
GLA pmax pmax
comp=Z,19nm,1.4s
GLA Glamis 78.29 48 *eP* **P 12 45 40.1 +0.8**
comp=Z,18nm,1.4s
GLA Glamis 78.29 48 ⇓P **P 12 45 39.6 +0.3**
baz=78,SNR=17
HEC Hector,Ludlow 78.29 46 ⇑P **P 12 45 39.3 0.0**
baz=78,SNR=19
MLAC Mammoth Lakes 78.35 42 ⇑P **P 12 45 40.1 +0.3**
baz=79,SNR=14
M02C Callahan 78.38 37 ⇓P **P 12 45 40.6 +1.0**
baz=79
TIN Tinemaha 78.39 43 ⇑P **P 12 45 40.3 +0.4**
baz=79,SNR=16
L02D Cave Junction, 78.47 36 ⇓P **P 12 45 41.0 +0.9**
baz=79
WAKR Walker 78.52 41 *eP* **P 12 45 41.2 +0.5**
comp=Z,97nm,1.1s
KEBM Edson Butte 78.56 35 *eP* **P 12 45 41.7 +1.0**
comp=Z,96nm,1.4s
YBH Yreka Blue Hor 78.68 37 *eP* **P 12 45 41.9 +0.5**
comp=Z,44nm,1.2s
IRM Iron Mountain 78.70 47 ⇓P **P 12 45 41.9 +0.3**
baz=79,SNR=48
GMRC Granite Mounta 78.71 46 ⇓P **P 12 45 41.8 0.0**
baz=79,SNR=16
BEKR Beckworth 78.83 39 *eP* **P 12 45 42.5 +0.1**
comp=Z,27nm,1.1s
113A Mohawk Valley, 78.86 48 ⇑P **P 12 45 42.5 +0.1**
baz=79,SNR=11
Y12C Blythe 78.89 47 ⇑P **P 12 45 42.8 +0.2**
baz=79,SNR=24
GRAC Grapevine Rang 78.90 43 ⇓P **P 12 45 43.2 +0.6**
baz=79,SNR=42
FURC Furnace Creek, 78.91 44 ⇓P **P 12 45 43.0 +0.4**
baz=79,SNR=12
TUQ Turquoise Moun 78.91 45 ⇓P **P 12 45 42.9 0.0**
baz=79,SNR=16
214A Organ Pipe Nat 79.09 50 *eP* **P 12 45 43.7 -0.1**
214A Organ Pipe Nat 79.09 50 ⇓P **P 12 45 43.8 +0.1**
baz=79,SNR=17
HUMO Hull Mountain 79.13 36 *eP* **P 12 45 44.3 +0.6**
comp=Z,41nm,1.2s
NVAR Mina Array Bea 79.18 42 P P 12 45 44.6 +0.3
NVAR Mina Array Bea 79.18 42 P **P 12 45 44.6 +0.3**
comp=Z,64nm,0.9s,baz=227,slow=8.1,SNR=204
NVAR LR LR 13 16 52.9
comp=Z,2μm,18.3s,baz=130,slow=33
M04C Macdoel 79.21 37 ⇑P **P 12 45 44.8 +0.6**
baz=79
LDFC Landfair 79.25 46 *eP* **P 12 45 45.4 +0.7**
comp=Z,73nm,1.0s
NV11 Mina Array Sit 79.27 42 *eP* **P 12 45 44.9 +0.2**
PAHR Pah Rah Range 79.31 40 *eP* **P 12 45 45.4 +0.5**
comp=Z,73nm,1.1s
NEE2 Needles Airpor 79.40 46 ⇑P **P 12 45 46.1 +0.7**
baz=80
PMSA Palmer Station 79.44 156 PFAKE 12 46 00.0 +15
PMSA LR LR
comp=Z,484nm,20.0s
PDMCI Parker Dam,Lak 79.46 47 ⇑P **P 12 45 46.1 +0.4**
baz=80,SNR=16
QZH Quanzhou 79.52 302 *i iP* **P 12 45 43.0 -3.2**
QZH *eS* **S 12 55 43.1 -4.5**
QZH pmax pmax
comp=Z,810nm,3.9s
QZH LR LR
comp=Z,2μm,25.4s
QZH LR LR
comp=Z,2μm,21.0s
QZH LR LR
comp=Z,2μm,21.6s
KSRS Korea Array 79.54 317 P **P 12 45 47.4 +1.4**
comp=Z,53nm,1.2s,baz=137,slow=5.5,SNR=52
KSRS LR LR 13 15 42.0
comp=Z,589nm,21.4s,baz=131,slow=32
KSAR Wonju Array Be 79.56 317 P **P 12 45 47.4 +1.3**
TPNV Topopah Spring 79.59 44 ⇑P **P 12 45 46.9 +0.3**
baz=80,SNR=44
TPH Tonopah 79.64 42 *eP* **P 12 45 47.0 +0.2**
TPH pmax pmax
comp=Z,67nm,1.1s
TPH Tonopah 79.64 42 *eP* **P 12 45 47.0 +0.2**
comp=Z,67nm,1.1s
I03D Drain, OR 79.65 35 ⇓P **P 12 45 47.4 +0.9**
baz=80
Z14A Wintersburg 79.77 48 ⇑P **P 12 45 47.7 +0.3**
baz=80,SNR=11
K04D Chiloquin, OR 79.81 37 ⇓P **P 12 45 48.3 +0.8**
baz=80
J04D Umpqua Nationa 80.01 36 ⇑P **P 12 45 49.3 +0.6**
baz=80
SHPR Sheep Range 80.04 45 *eP* **P 12 45 49.3 +0.3**
comp=Z,44nm,1.1s
Y14A Wickenburg 80.04 48 ⇓P **P 12 45 49.0 +0.1**
baz=80,SNR=35
W13A Hualapai Mount 80.09 46 ⇑P **P 12 45 49.6 +0.2**
baz=80,SNR=24
MOD Modoc 80.16 38 *eP* **P 12 45 49.5 +0.1**
comp=Z,54nm,1.0s
I04A Tendick Farm, 80.22 35 ⇓P **P 12 45 50.1 +0.5**
baz=80
INCN Inchon 80.38 316 *eP* **P 12 45 52.5 +1.8**
comp=Z,78nm,1.1s
INCN LR LR
comp=Z,528nm,19.0s
J05D Fort Rock, OR 80.53 36 ⇑P **P 12 45 52.3 +0.9**
baz=81
SSE Sheshan 80.62 308 *eP* **P 12 45 53.0 +1.0**
SSE S **S 12 55 57.4 -1.6**
SSE sS **sS 12 56 03.7 -3.0**
SSE pmax pmax
comp=Z,38nm,0.7s
SSE pmax pmax
comp=Z,380nm,9.8s
SSE LR LR
comp=Z,370nm,19.1s
SSE LR LR
comp=Z,310nm,19.1s
SSE LR LR
comp=Z,640nm,17.3s
KDAK Kodiak Island 80.63 12 *eP* **P 12 45 51.8 +0.4**
comp=Z,93nm,1.4s
KDAK LR LR
comp=Z,1μm,20.0s
VLA Vladivostok 80.69 323 *c eP* **P 12 45 51.9 -0.1**
VLA *eS* **S 12 55 57.4 -1.7**
VLA pmax pmax
comp=Z,54nm,1.5s
G03D McMinnville, O 80.71 34 ⇓P **P 12 45 53.4 +1.2**
baz=81
TUC Tucson 80.73 50 *eP* **P 12 45 52.9 +0.2**
TUC pmax pmax
comp=Z,22nm,1.0s
TUC MLR MLR
comp=Z,1μm,19.0s
TUC Tucson 80.73 50 *eP* **P 12 45 52.9 +0.2**
comp=Z,22nm,1.0s
TUC LR LR
comp=Z,1μm,19.0s
R11A Troy Canyon, C 80.84 43 *eP* **P 12 45 53.1 -0.1**
R11A Troy Canyon, C 80.84 43 ⇓P **P 12 45 53.4 +0.2**
baz=81
BMN Battle Mountai 81.06 41 *eP* **P 12 45 54.7 +0.3**
BMN pmax pmax
comp=Z,40nm,1.1s
BMN Battle Mountai 81.06 41 *eP* **P 12 45 54.7 +0.3**
comp=Z,40nm,1.1s
PINOR Pine Mountain 81.07 36 *eP* **P 12 45 54.9 +0.9**
USRK Ussuriysk Arra 81.33 324 P **P 12 45 56.6 +1.2**
comp=Z,6.4nm,0.9s,baz=128,slow=5.3,SNR=17
USRK LR LR 13 17 59.1
comp=Z,602nm,19.6s,baz=119,slow=33
319A Douglas 81.33 52 ⇓P **P 12 45 56.8 +0.8**
baz=82
X16A Lo Mia Camp, P 81.39 48 ⇑P **P 12 45 56.9 +0.6**
baz=82
F04D Rainier, OR 81.43 33 ⇑P **P 12 45 57.0 +1.0**
baz=82
WVOR Wild Horse Val 81.45 38 *eP* **P 12 45 55.3 -1.1**
WVOR pmax pmax
comp=Z,50nm,1.0s
WVOR MLR MLR
comp=Z,2μm,19.0s
WVOR Wild Horse Val 81.45 38 *eP* **P 12 45 55.3 -1.1**
comp=Z,50nm,1.0s
WVOR LR LR
comp=Z,2μm,19.0s
BMW Boistfort Moun 81.59 33 P **P 12 45 57.4 +0.5**
BMW Boistfort Moun 81.59 33 P **P 12 45 57.4 +0.5**
G05D Wamic, OR 81.76 35 ⇑P **P 12 45 58.6 +0.8**
baz=82
CCUT Cedar City 81.82 45 *eP* **P 12 45 59.2 +0.6**
comp=Z,28nm,1.1s
320A Kipp Ranch, An 81.87 52 ⇑P **P 12 45 59.7 +0.8**
baz=82
NLWA Neilton Lookou 81.89 32 *eP* **P 12 45 59.4 +1.0**
comp=Z,43nm,1.3s
NLWA LR LR
comp=Z,1μm,19.0s
ARUT Antelope Range 81.90 44 *eP* **P 12 45 58.6 -0.3**
ARUT pmax pmax
comp=Z,551nm,1.0s
ARUT Antelope Range 81.90 44 *eP* **P 12 45 58.6 -0.3**
comp=Z,551nm,1.0s
U15A North Rim 81.90 46 ⇓P **P 12 45 59.9 +0.8**
baz=82
TDL Tradedollar La 82.02 34 P **P 12 45 59.3 +0.1**
WUAZ Wupatki 82.03 47 *eP* **P 12 46 00.4 +0.8**
comp=Z,24nm,1.0s
WUAZ LR LR
comp=Z,887nm,21.0s
WUAZ Wupatki 82.03 47 ⇑P **P 12 46 00.5 +0.8**
baz=82
MAW Mawson 82.15 199 *eP* **P 12 45 59.8 +0.2**
comp=Z,7.8nm,1.1s
MAW *e* PP **PP 12 49 07.2 0.0**
MAW Mawson 82.15 199 P **P 12 45 59.6 +0.1**
comp=Z,10nm,0.9s,baz=136,slow=7.4,SNR=11
MAW LR LR 13 21 32.0
comp=Z,1μm,18.7s,baz=205,slow=35
ELK Elko 82.46 41 *eP* **P 12 46 01.4 -0.5**
comp=Z,22nm,1.1s
DLV T Lat 82.47 286 *eP* **P 12 46 03.1 +0.7**
X18A Snowflake 82.49 49 ⇓P **P 12 46 02.9 +0.8**
baz=83
LON Longmire 82.50 33 *eP* **P 12 46 01.3 -0.3**
LON pmax pmax
comp=Z,41nm,1.2s
LON Longmire 82.50 33 *eP* **P 12 46 01.3 -0.3**
comp=Z,41nm,1.2s
WPW White Pass 82.60 34 P **P 12 46 02.4 +0.1**
HABR Khabarovsk 82.61 329 *eP* **P 12 46 02.1 0.0**
HABR *e* PP **PcP 12 46 11.4 +4.4**
HABR *e* SP sP 12 46 15.5 +7.1
HABR 12 49 10.5
HABR *eS* **S 12 56 17.7 -1.1**
HABR *eSS* **SS 13 01 39.6 -1.6**
HABR *eSSS* SSS 13 05 06.4
HABR pmax pmax
comp=E,34nm,1.6s
HABR pmax pmax
comp=N,20nm,1.6s
HABR pmax pmax
comp=Z,104nm,1.6s
HABR MLR MLR
comp=Z,1μm,17.0s
221A Mesquite Ranch 82.76 52 ⇑P **P 12 46 04.3 +0.9**
baz=83
NJ2 Nanjing 82.82 308 *eP* **P 12 46 05.0 +1.4**
NJ2 pP PcP 12 46 13.7 +5.3
NJ2 S **S 12 56 23.0 +1.3**
NJ2 pmax pmax
comp=Z,100nm,1.3s
NJ2 LR LR
comp=Z,2μm,25.1s
NJ2 LR LR
comp=Z,2μm,22.0s
NJ2 LR LR
comp=Z,500nm,22.6s
GZH Guangzhou 82.91 298 P **P 12 46 05.8 +1.5**
GZH S S 12 56 29.6 +6.6
GZH pmax pmax
comp=Z,1μm,7.1s
GZH LR LR
comp=Z,680nm,18.9s
GZH LR LR
comp=Z,650nm,20.3s
MDJ Mudanjiang 82.92 323 P **P 12 46 04.8 +1.0**
MDJ pP **pP 12 46 08.2 -0.3**
MDJ sP **sP 12 46 09.4 -0.7**
MDJ PP **PP 12 49 13.4 -1.3**
MDJ S **SKSac 12 56 25.1 +0.1**
MDJ sS **sS 12 56 30.4 +0.6**
MDJ SS **SS 13 01 46.2 +0.2**
MDJ pmax pmax
comp=Z,48nm,1.5s
MDJ pmax pmax
comp=Z,440nm,4.1s
MDJ LR LR
comp=Z,320nm,18.6s
MDJ LR LR
comp=Z,580nm,19.6s
MDJ LR LR
comp=Z,790nm,20.7s
MDJ Mudanjiang 82.92 323 *eP* **P 12 46 06.0 +2.2**
comp=Z,62nm,1.1s
MDJ LR LR
comp=Z,844nm,20.0s
W18A Petrified Fore 82.95 48 ⇓P **P 12 46 05.2 +0.7**
baz=83
PGC Sidney 82.95 31 *eP* **P 12 46 04.7 +0.9**
comp=Z,3.3nm,1.3s
NAC Naches 83.00 34 P **P 12 46 04.7 +0.4**
121A Cookes Peak, D 83.02 51 *eP* **P 12 46 05.3 +0.4**
H03N2 Juan Fernandez 83.05 123 T T 14 17 45.7
SNR=22
H03N3 Juan Fernandez 83.05 123 T T 14 18 30.5
baz=162,slow=75,SNR=19
H03N1 Juan Fernandez 83.07 123 T T 14 18 20.7
baz=269,slow=75,SNR=18
MVU Marysvale 83.10 44 *eP* **P 12 46 06.0 +0.8**
comp=Z,48nm,1.0s
RSO Redoubt South 83.11 11 *eP* **P 12 46 04.2 -0.6**
comp=Z,82nm,1.2s
222A Williams Famil 83.30 52 ⇑P **P 12 46 06.4 +0.1**
baz=84
SEW Seward 83.39 12 *eP* **P 12 46 05.6 -0.2**
comp=Z,76nm,1.2s
SNIWA Snively Ranch 83.44 35 P **P 12 46 07.4 +1.0**
HAWA Hanford 83.46 35 *eP* **P 12 46 06.6 0.0**
comp=Z,104nm,1.1s
HAWA LR LR
comp=Z,2μm,19.0s
H2OWA Water 83.52 35 P **P 12 46 07.8 +0.9**
DUG Dugway 83.66 43 *eP* **P 12 46 07.7 -0.3**
DUG pmax pmax
comp=Z,20nm,1.1s
DUG MLR MLR
comp=Z,1μm,20.0s
DUG Dugway 83.66 43 *eP* **P 12 46 07.7 -0.3**
comp=Z,20nm,1.1s
DUG LR LR
comp=Z,1μm,20.0s
DUG Dugway 83.66 43 ⇓P **P 12 46 08.0 0.0**
baz=84
MFID Camas Ranch 83.69 39 *eP* **P 12 46 07.9 -0.1**
comp=Z,72nm,1.0s
BMO Blue Mountains 83.71 37 *eP* **P 12 46 07.9 -0.2**
BMO pmax pmax
comp=Z,46nm,1.1s
BMO MLR MLR
comp=Z,1μm,19.0s
BMO Blue Mountains 83.71 37 *eP* **P 12 46 07.8 -0.2**
comp=Z,46nm,1.1s
BMO LR LR
comp=Z,1μm,19.0s
223A Chaparral, Ant 83.75 52 ⇓P **P 12 46 09.2 +0.6**
baz=84
ETW Entiat 83.82 33 P **P 12 46 08.6 +0.1**

BGU **Big Grassy Mou** 83.93 42 *e*P P 12 46 09.6 +0.3
comp=Z,13nm,1.2s
Z22A **Elephant Butte** 83.97 51 ⇑P P 12 46 10.4 +0.6
baz=84
NLU **North Lily Min** 83.99 43 *e*P P 12 46 10.3 +0.5
comp=Z,49nm,1.6s
WTV **Waterville** 84.07 34 P P 12 46 09.7 0.0
QIZ **Qiongzhong** 84.13 293 P P 12 46 10.1 -0.6
QIZ S S 12 56 32.3 -3.2
QIZ pmax pmax
comp=Z,420nm,9.7s
QIZ LR LR
comp=Z,270nm,15.6s
QIZ LR LR
comp=Z,140nm,16.6s
QIZ LR LR
comp=Z,520nm,24.7s
QIZ **Qiongzhong** 84.13 293 PFAKE 12 46 20.0 +9.3
QIZ LR LR
comp=Z,411nm,22.0s
123A **Bell Site, Whi** 84.18 52 ⇓P P 12 46 11.5 +0.7
baz=84
TMUT **Trail Mountain** 84.19 44 *e*P P 12 46 12.7 +1.8
comp=Z,67nm,0.4s
425A **Indio Mountain** 84.24 54 ⇑P P 12 46 11.0 -0.1
baz=84,SNR=18
RC01 **Rabbit Creek A** 84.25 12 *e*P P 12 46 10.8 +0.5
comp=Z,111nm,1.3s
PAYG **Puerto Ayora** 84.30 89 PFAKE 12 46 20.0 +8.3
PAYG LR LR
comp=Z,1μm,19.0s
MPU **Maple Canyon** 84.31 43 *e*P P 12 46 11.9 +0.5
comp=Z,36nm,1.0s
Y22A **Socorro** 84.31 51 ⇑P P 12 46 11.9 +0.4
baz=84
626A **Big Bend Ranch** 84.31 56 ⇑P P 12 46 11.2 -0.2
baz=84,SNR=19
SAW **Saint Andrews** 84.36 34 P P 12 46 11.3 +0.1
MNTX **Cornudas Mount** 84.38 53 *e*P P 12 46 11.4 -0.2
comp=Z,36nm,1.4s
MNTX LR LR
comp=Z,721nm,19.0s
LAZ **Ladron** 84.42 50 *e*P P 12 46 13.1 +1.0
comp=Z,16nm,1.1s
LENM **Lemitar** 84.42 50 *e*P P 12 46 13.1 +1.1
comp=Z,24nm,0.9s
224A **Cornudas Mount** 84.46 53 ⇓P P 12 46 12.2 0.0
baz=85,SNR=14
SPUT **South Promonto** 84.51 42 *e*P P 12 46 12.8 +0.5
comp=Z,48nm,1.1s
Z23A **Rita Site, Whi** 84.51 51 ⇓P P 12 46 12.7 +0.3
baz=85
325A **Bean Ranch, Si** 84.53 54 ⇑P P 12 46 12.1 -0.6
baz=85,SNR=18
SRU **San Rafael** 84.54 45 *e*P P 12 46 08.8 -3.7
SRU pmax pmax
comp=Z,96nm,1.1s
SRU **San Rafael** 84.54 45 *e*P P 12 46 08.8 -3.7
comp=Z,96nm,1.1s
COCO **West Island** 84.54 259 PFAKE 12 46 20.0 +7.2
COCO LR LR
comp=Z,1μm,20.0s
TXAR **Lajitas Array** 84.57 56 P P 12 46 12.6 -0.2
TXAR **Lajitas Array** 84.57 56 P P 12 46 12.6 -0.2
comp=Z,14nm,1.0s,baz=224,slow=6.1,SNR=77
TXAR LR LR 13 18 21.7
comp=Z,753nm,18.3s,baz=135,slow=32
HVU **Hansel Valley** 84.57 41 *e*P P 12 46 12.5 -0.1
HVU pmax pmax
comp=Z,51nm,1.0s
HVU **Hansel Valley** 84.57 41 *e*P P 12 46 12.5 -0.1
comp=Z,51nm,1.0s
GAMB **Gambell** 84.57 1 *e*P P 12 46 12.6 +0.8
comp=Z,105nm,1.4s
526A **Mary Lane Ranc** 84.58 55 ⇓P P 12 46 12.6 -0.3
baz=85,SNR=24
HLID **Hailey** 84.60 39 *e*P P 12 46 12.9 +0.1
comp=Z,59nm,0.9s
HLID LR LR
comp=Z,779nm,19.0s
HLID **Hailey** 84.60 39 ⇑P P 12 46 13.4 +0.6
baz=85
BNM **Barren Site** 84.66 50 *e*P P 12 46 13.5 +0.2
comp=Z,19nm,1.0s
KLR **Kul'dur** 84.73 328 *e*P P 12 46 10.4 -2.6
KLR *e*S S 12 56 33.5 -6.7
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s
KLR pmax pmax
comp=Z,1μm,11.0s
LPM **Los Pinos Moun** 84.74 50 *e*P P 12 46 14.2 +0.6
comp=Z,34nm,1.1s
JLU **Jordanelle** 84.75 43 *e*P P 12 46 11.8 -1.8
comp=Z,32nm,1.1s
DAU **Daniels Canyon** 84.77 43 *e*P P 12 46 14.4 +0.6
DAU pmax pmax
comp=Z,38nm,1.2s
DAU **Daniels Canyon** 84.77 43 *e*P P 12 46 14.4 +0.6
comp=Z,38nm,1.2s
CN2 **Changchun** 84.80 321 *e*P P 12 46 14.5 +1.0
CN2 *es*P **sP** 12 46 22.3 +2.5
CN2 *e*S **S** 12 56 41.5 +0.4
CN2 pmax pmax
comp=Z,80nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
SNY **Shenyang** 84.80 319 ⇑P P 12 46 13.6 +0.1
SNY S S 12 56 42.8 +1.6
SNY pmax pmax
comp=Z,51nm,2.7s
SNY pmax pmax
comp=Z,570nm,7.0s
SNY LR LR
comp=Z,470nm,16.5s
SNY LR LR
comp=Z,600nm,18.2s
SNY LR LR
comp=Z,870nm,17.8s
124A **Stringfield Ra** 84.81 52 ⇓P P 12 46 14.3 +0.2
baz=85,SNR=17
PMR **Palmer** 84.83 12 *e*P P 12 46 13.0 -0.1
PMR pmax pmax
comp=Z,86nm,1.3s
PMR **Palmer** 84.83 12 *e*P P 12 46 13.0 -0.1
comp=Z,86nm,1.3s
627A **Terlingua Ranc** 84.84 56 ⇑P P 12 46 14.0 -0.2
baz=85,SNR=24
KTGM **Kuala Trenggan** 84.86 278 P P 12 46 05.1 -9.4
MVCO **Mesa Verde** 84.89 47 *e*P P 12 46 14.2 -0.2
comp=Z,72nm,1.8s
MVCO LR LR
comp=Z,1μm,19.0s
MVCO **Mesa Verde** 84.89 47 ⇓P P 12 46 14.3 -0.1
baz=85
426A **McDonald Obser** 84.92 55 ⇑P P 12 46 14.3 -0.3
baz=85,SNR=32
WRAK **Wrangell Islan** 84.94 22 *e*P P 12 46 15.2 +1.4
comp=Z,41nm,1.3s
WRAK LR LR
comp=Z,673nm,20.0s
Y23A **Lovelace Mesa,** 84.97 51 ⇓P P 12 46 14.9 +0.1
baz=85,SNR=17
527A **Woodward Ranch** 84.99 55 ⇓P P 12 46 14.6 -0.3
baz=85,SNR=19
225A **Deer Hill, Car** 85.00 53 ⇑P P 12 46 14.9 -0.1
baz=85,SNR=21
DIV **Divide** 85.09 14 *e*P P 12 46 15.0 +0.4
comp=Z,121nm,1.2s
ANMO **Albuquerque** 85.18 50 *e*P P 12 46 16.1 +0.2
comp=Z,53nm,1.0s
ANMO LR LR
comp=Z,982nm,20.0s
Z24A **Sheeppen Canyo** 85.18 52 ⇑P P 12 46 15.9 0.0
baz=85,SNR=26
X23A **Hourglass Bar** 85.19 50 ⇑P P 12 46 16.3 +0.3
baz=85
PV04 **Paradox Valley** 85.23 46 *e*P P 12 46 15.9 -0.1
628A **Black Gap, Mar** 85.25 56 ⇑P P 12 46 16.0 -0.2
baz=85,SNR=23

326A **Caldwell Ranch** 85.26 54 ⇑P P 12 46 16.0 -0.2
baz=85
PV01 **Paradox Valley** 85.32 46 *e*P P 12 46 16.8 +0.2
comp=Z,2μm,1.2s
V22A **San Miguel Ran** 85.34 49 ⇓P P 12 46 16.8 +0.1
baz=86
125A **Gardner Draw,** 85.38 53 ⇓P P 12 46 16.9 0.0
baz=86,SNR=11
GDL2 **Guadalupe Moun** 85.38 53 *e*P P 12 46 17.4 +0.6
comp=Z,28nm,1.1s
226B **Tecolote Peak,** 85.47 53 ⇓P P 12 46 17.1 -0.2
baz=86,SNR=25
WHN **Wuhan** 85.47 305 ⇓P P 12 46 18.9 +1.8
WHN S S 12 56 50.3 +1.9
WHN pmax pmax
comp=Z,170nm,1.3s
WHN LR LR
comp=Z,1μm,15.6s
WHN LR LR
comp=Z,1μm,17.5s
WHN LR LR
comp=Z,2μm,18.8s
427A **Hayter Ranch,** 85.48 55 ⇓P P 12 46 17.2 -0.1
baz=86,SNR=38
PPLA **Purkeypile** 85.50 10 *e*P P 12 46 15.5 -1.2
comp=Z,33nm,1.2s
FRIM **Kepong** 85.50 275 P P 12 46 11.3 -6.4
W23A **Werner Place,** 85.50 50 ⇑P P 12 46 17.6 +0.1
baz=86,SNR=30
U22A **Llaves** 85.61 48 ⇓P P 12 46 18.2 +0.2
baz=86,SNR=14
528A **Cox Ranch, San** 85.63 56 ⇑P P 12 46 18.0 -0.2
baz=86,SNR=14
Z25A **Roswell** 85.63 52 ⇑P P 12 46 18.3 +0.3
baz=86,SNR=27
X24A **Lazy VL Ranch,** 85.72 51 ⇑P P 12 46 18.8 +0.2
baz=86
V23A **Ortiz Mt. (NFS** 85.77 49 ⇑P P 12 46 19.0 +0.2
baz=86,SNR=30
126A **Clayton Basin,** 85.85 53 ⇑P P 12 46 18.9 -0.2
baz=86,SNR=9.3
NEW **Newport** 85.91 34 *e*P P 12 46 18.9 0.0
comp=Z,20nm,1.1s
NEW LR LR
comp=Z,2μm,19.0s
NEW **Newport** 85.91 34 ⇑P P 12 46 19.2 +0.3
baz=86
Y25A **Mesa, Roswell** 85.95 51 ⇑P P 12 46 19.6 -0.1
baz=86,SNR=46
428A **Kincaid Ranch,** 85.97 55 ⇑P P 12 46 19.8 +0.1
baz=86,SNR=8.5
529A **Stev Forest Ra** 86.05 56 ⇑P P 12 46 19.6 -0.5
baz=86,SNR=16
W24A **Lazy 6 Ranch,** 86.06 50 ⇓P P 12 46 20.1 -0.1
baz=86,SNR=24
227A **Bennet, Jal** 86.10 54 ⇓P P 12 46 20.0 -0.3
baz=86
Z26A **Caprock** 86.17 52 ⇑P P 12 46 20.3 -0.4
baz=86,SNR=41
328A **Wristen Ranch,** 86.17 54 ⇑P P 12 46 20.1 -0.6
baz=86,SNR=13
MCMT **McKenzie Canyo** 86.25 39 *e*P P 12 46 21.1 +0.1
comp=Z,12nm,1.0s
X25A **Clemmons Ranch** 86.27 51 ⇓P P 12 46 20.8 -0.4
baz=86,SNR=9.6
S22A **4UR Ranch, Cre** 86.31 47 ⇓P P 12 46 21.7 +0.1
baz=86,SNR=29
TRF **Thorofare Moun** 86.33 11 *e*P P 12 46 19.6 -1.3
comp=Z,70nm,1.0s
V24A **Rampart Ranch,** 86.40 50 ⇑P P 12 46 22.1 +0.2
baz=87,SNR=18
PLCA **Paso Flores** 86.46 132 *e*P P 12 46 22.2 +0.1
comp=Z,82nm,1.7s
PLCA **Paso Flores** 86.46 132 P P 12 46 22.2 +0.1
comp=Z,18nm,1.1s,baz=250,slow=5.6,SNR=19
PLCA LR LR 13 20 56.8
comp=Z,668nm,18.1s,baz=60,slow=33
UBPT **Khong Chiam** 86.47 288 P P 12 46 23.5 +1.1
comp=Z,71nm,1.2s
TNA **Tin City** 86.48 3 *e*P P 12 46 22.1 +0.8
comp=Z,29nm,1.0s
T23A **Casias Ranch,** 86.50 48 ⇓P P 12 46 22.4 0.0
baz=87,SNR=7.3
IPM **Ipoh** 86.51 276 P P 12 46 18.3 -4.4
IPM **Ipoh** 86.51 276 *e*P P 12 46 23.2 +0.5
comp=Z,52nm,1.0s
429A **Davenport Ranc** 86.53 55 ⇓P P 12 46 21.9 -0.6
baz=87,SNR=45
O20A **White River Ci** 86.57 45 *e*P P 12 46 21.9 -0.7
O20A **White River Ci** 86.57 45 ⇓P P 12 46 22.4 -0.3
baz=87,SNR=6.1
Y26A **Elida** 86.59 52 ⇓P P 12 46 22.4 -0.4
baz=87,SNR=18
228A **UT Block 9, Go** 86.67 54 ⇓P P 12 46 22.5 -0.7
baz=87,SNR=13
U24A **Moreno Valley** 86.73 49 ⇓P P 12 46 23.7 +0.1
baz=87
W25A **X Bar L Ranch,** 86.74 50 ⇑P P 12 46 23.0 -0.5
baz=87,SNR=32
530A **J-C Ranch, Com** 86.75 56 ⇑P P 12 46 23.0 -0.5
baz=87,SNR=14
Z27A **Tatum** 86.76 53 ⇓P P 12 46 22.9 -0.7
baz=87,SNR=15
MSO **Missoula** 86.78 37 ⇑P P 12 46 23.0 -0.3
baz=87
PAX **Paxson** 86.81 13 *e*P P 12 46 22.8 -0.3
PAX pmax pmax
comp=Z,55nm,1.3s
PAX **Paxson** 86.81 13 *e*P P 12 46 22.8 -0.3
comp=Z,55nm,1.3s
MCK **McKinley** 86.83 11 *e*P P 12 46 23.0 -0.1
MCK pmax pmax
comp=Z,147nm,1.2s
MCK **McKinley** 86.83 11 *e*P P 12 46 23.0 -0.1
comp=Z,147nm,1.2s
329A **Wagon Wheel Ra** 86.85 55 ⇓P P 12 46 23.4 -0.6
baz=87,SNR=16
HYT **Haines Junctio** 86.87 17 *e*P P 12 46 24.3 +0.8
X26A **CR and CF Fran** 86.90 51 ⇓P P 12 46 23.8 -0.5
baz=87,SNR=16
BSMT **Bassoo Peak** 86.91 36 *e*P P 12 46 23.8 -0.3
comp=Z,19nm,1.2s
V25A **Rancho No Teng** 86.92 50 ⇑P P 12 46 24.3 -0.2
baz=87,SNR=22
T24B **San Luis** 86.97 48 ⇓P P 12 46 24.9 +0.1
baz=87
128A **Castleberry Fa** 86.98 53 ⇓P P 12 46 24.4 -0.3
baz=87,SNR=20
631A **Perdido Creek** 87.02 57 ⇓P P 12 46 24.0 -0.8
baz=87,SNR=30
LRM **Limekiln Ridge** 87.05 38 *e*P P 12 46 25.1 +0.2
comp=Z,134nm,1.2s
Y27A **Causey** 87.06 52 ⇓P P 12 46 24.7 -0.4
baz=87,SNR=27
QLMT **Earthquake Lak** 87.09 39 *e*P P 12 46 26.1 +1.1
comp=Z,2.5nm,1.0s
I17A **Pilgrim Ck.** 87.10 41 ⇑P P 12 46 25.2 0.0
baz=87
430A **Baggett Ranch,** 87.11 56 ⇑P P 12 46 24.7 -0.6
baz=87,SNR=7.0
BW06 **Boulder Array** 87.11 42 *e*P P 12 46 24.3 -0.9
comp=Z,26nm,1.1s
BW06 LR LR
comp=Z,1μm,19.0s
SWMT **Swartz Lake** 87.14 36 *e*P P 12 46 24.4 -0.7
comp=Z,14nm,1.5s
MENT **Mentasta** 87.15 14 *e*P P 12 46 25.3 +0.6
W26A **Owens Ranch, T** 87.18 51 ⇑P P 12 46 25.5 -0.2
baz=87
732A **Laxson Ranch,** 87.19 58 ⇑P P 12 46 24.9 -0.8
baz=87,SNR=8.7
229A **Bryant Ranch,** 87.20 54 ⇓P P 12 46 25.6 -0.1
baz=87,SNR=6.9
CHMT **Chamberlain Mo** 87.21 37 *e*P P 12 46 25.0 -0.7
comp=Z,10nm,1.1s
R23A **Moffat** 87.22 47 ⇑P P 12 46 25.8 -0.2
baz=87
SDCO **Great Sand Dun** 87.22 48 PFAKE 12 46 40.0 +14
SDCO LR LR
comp=Z,796nm,19.0s
SLMT **Seeley Lake** 87.27 37 *e*P P 12 46 25.1 -0.7
comp=Z,13nm,1.2s
YMR **Madison River** 87.28 40 *e*P P 12 46 25.8 -0.2
comp=Z,39nm,1.3s
P22A **Eagle** 87.28 46 ⇑P P 12 46 25.9 -0.3
baz=88,SNR=7.5
DLBC **Dease Lake** 87.29 22 *e*P P 12 46 26.2 +0.7
SNAA **Sanae** 87.34 177 *e*P P 12 46 25.2 -0.6

SNAA **Sanae** 87.34 177 *e* P 12 46 30.2 +4.4
SNAA **Sanae** 87.34 177 *e*P P 12 46 25.2 -0.6
comp=Z,28nm,1.1s
Z28A **Tucker Farm, M** 87.36 53 ⇓P P 12 46 26.2 -0.3
baz=88,SNR=12
H17A **Grant Village** 87.36 40 *e*P P 12 46 26.7 +0.3
H17A **Grant Village** 87.36 40 ⇑P P 12 46 26.8 +0.3
baz=88,SNR=5.2
531A **Rocksprings** 87.37 56 ⇑P P 12 46 26.2 -0.3
baz=88,SNR=31
S24A **Houchin Ranch,** 87.37 48 ⇑P P 12 46 26.4 -0.3
baz=88
MSTX **Muleshoe** 87.39 52 *e*P P 12 46 26.1 -0.6
MSTX **Muleshoe** 87.39 52 ⇑P P 12 46 26.4 -0.3
baz=88,SNR=24
BOZ **Bozeman (W)** 87.42 39 PFAKE 12 46 40.0 +13
BOZ LR LR
comp=Z,2μm,20.0s
330A **Mertzon** 87.43 55 ⇑P P 12 46 26.1 -0.7
baz=88,SNR=6.1
129A **Stewart Farms,** 87.45 54 ⇓P P 12 46 26.7 -0.2
baz=88
X27A **F and S Farms,** 87.46 51 ⇑P P 12 46 26.9 -0.2
baz=88,SNR=16
V26A **Tequesquite Ra** 87.50 50 ⇓P P 12 46 26.9 -0.3
baz=88,SNR=16
431A **Sonora** 87.55 56 ⇓P P 12 46 27.0 -0.4
baz=88
W27A **Bowe Ranch, En** 87.68 51 ⇑P P 12 46 27.7 -0.3
baz=88,SNR=6.5
J19A **Crowheart** 87.69 42 ⇓P P 12 46 27.9 0.0
baz=88,SNR=17
T25A **Trinidad** 87.69 49 ⇓P P 12 46 28.0 -0.1
baz=88
230A **Sterling City** 87.69 55 ⇓P P 12 46 28.0 -0.1
baz=88
SEY **Seymchan** 87.70 345 P P 12 46 28.0 +0.7
SEY **Seymchan** 87.70 345 P P 12 46 28.0 +0.7
SEY **Seymchan** 87.70 345 P P 12 46 28.0 +0.7
comp=Z,20nm,1.1s,baz=184,slow=23,SNR=20
DOT **Dot Lake** 87.70 13 *e*P P 12 46 27.8 +0.4
comp=Z,83nm,1.2s
O22A **Kremmling** 87.71 45 ⇓P P 12 46 28.0 -0.3
baz=88,SNR=22
R24A **Sanders Place,** 87.73 48 ⇓P P 12 46 28.0 -0.3
baz=88
Y28A **McKinney Farm,** 87.75 52 ⇑P P 12 46 28.0 -0.3
baz=88,SNR=7.4
P23A **Jefferson** 87.79 46 ⇑P P 12 46 28.2 -0.6
baz=88
U26A **Atchley Ranch,** 87.81 50 ⇑P P 12 46 28.4 -0.3
baz=88,SNR=7.6
VNA2 **Neumayer--Watz** 87.82 176 *e*P P 12 46 27.6 -0.4
532A **Rocksprings** 87.85 57 ⇓P P 12 46 28.6 -0.3
baz=88,SNR=30
Z29A **Hungry Hill Ra** 87.86 53 ⇓P P 12 46 28.1 -0.8
baz=88,SNR=16
PSI **Prapat** 87.86 274 P P 12 46 29.0 -0.4
PSI **Prapat** 87.86 274 P P 12 46 29.0 -0.4
comp=Z,34nm,1.1s,baz=196,slow=6.9,SNR=20
S25A **Robets Cordova** 87.92 48 ⇑P P 12 46 28.9 -0.4
baz=88,SNR=8.9
331A **San Angelo** 87.96 55 ⇓P P 12 46 28.5 -0.9
baz=88
VNA1 **Neumayer--Stat** 88.03 175 *e*P P 12 46 28.9 -0.1
Q24A **Divide** 88.06 47 ⇑P P 12 46 29.6 -0.4
baz=88
X28A **Dimmitt** 88.06 52 ⇑P P 12 46 29.7 -0.1
baz=88
COLA **College** 88.07 11 *c i*P P 12 46 28.6 -0.4
COLA pmax pmax
comp=Z,335nm,1.2s
COLA **College** 88.07 11 *e*P P 12 46 29.0 0.0
comp=Z,145nm,1.4s
COLA LR LR
comp=Z,1μm,20.0s
JCT **Junction City** 88.08 56 PFAKE 12 46 40.0 +10
JCT LR LR
comp=Z,846nm,19.0s
JCT **Junction City** 88.08 56 ⇓P P 12 46 29.8 -0.2
baz=88
N22A **Wattenberg Ran** 88.09 45 ⇑P P 12 46 30.0 -0.1
baz=88,SNR=11
WALA **Waterton Lakes** 88.09 35 *e*P P 12 46 29.9 +0.2
comp=Z,1.4nm,1.1s
130A **Snyder** 88.12 54 ⇑P P 12 46 29.4 -0.7
baz=88
I19A **Meeteetse** 88.13 41 ⇓P P 12 46 29.9 -0.2
baz=88,SNR=10.0
O23A **Lake Granby, G** 88.15 45 ⇑P P 12 46 30.3 0.0
baz=88
ISCO **Idaho Springs** 88.15 46 PFAKE 12 46 40.0 +10
ISCO LR LR
comp=Z,972nm,21.0s
ISCO **Idaho Springs** 88.15 46 ⇑P P 12 46 30.8 +0.4
baz=88
ILAR **Eielson Array** 88.15 11 P P 12 46 29.2 -0.2
ILAR PP PP 12 49 54.0 -2.8
ILAR **Eielson Array** 88.15 11 P P 12 46 29.2 -0.2
comp=Z,53nm,1.2s,baz=216,slow=4.2,SNR=89
ILAR PP PP 12 49 54.0 -2.8
comp=Z,0.7nm,0.9s,baz=226,slow=6.7,SNR=5.1
ILAR LR LR 13 25 38.1
comp=Z,589nm,18.6s,baz=340,slow=35
Y29A **Porterfied Fa** 88.15 53 ⇓P P 12 46 29.9 -0.4
baz=88,SNR=9.4
V27A **Dan Oppiter Fa** 88.16 51 ⇑P P 12 46 29.9 -0.4
baz=88
IM04 **Indian Mountai** 88.16 8 *e*P P 12 46 30.1 +0.6
R25A **Fountain Ranch** 88.26 48 ⇑P P 12 46 30.3 -0.5
baz=88
432A **Menard** 88.26 56 ⇓P P 12 46 30.1 -0.7
baz=88,SNR=11
T26A **Comanche Natio** 88.28 49 ⇓P P 12 46 30.2 -0.8
baz=88
M22A **Cedar Creek Ra** 88.30 44 ⇑P P 12 46 30.5 -0.5
baz=88
Z30A **Sanderson Ranc** 88.30 53 ⇑P P 12 46 30.3 -0.7
baz=88,SNR=8.7
231A **Bronte** 88.32 55 ⇑P P 12 46 30.3 -0.7
baz=88,SNR=15
NVL **N'lazarevskaya** 88.32 182 *e*P P 12 46 35.2 +4.8
NVL *i* S S 12 57 06.3 -8.4
NVL pmax pmax
comp=Z,6.0nm,0.9s
CHBT **CHBT** 88.34 284 P P 12 46 33.0 +1.6
comp=Z,55nm,1.1s
J20A **Shoshoni** 88.34 42 ⇓P P 12 46 31.0 0.0
baz=88,SNR=14
KVTX **Kingsville** 88.35 60 PFAKE 12 46 40.0 +8.8
KVTX LR LR
comp=Z,2μm,19.0s
X29A **Tulia** 88.39 52 ⇑P P 12 46 31.1 -0.3
baz=89
N23A **Red Feather La** 88.47 45 ⇑P P 12 46 31.7 -0.1
baz=89
H19A **Powell** 88.47 40 ⇓P P 12 46 31.8 +0.2
baz=89
U27A **Thompson Grove** 88.48 50 ⇑P P 12 46 31.4 -0.4
baz=89
K21A **Alcova** 88.49 43 ⇓P P 12 46 31.3 -0.5
baz=89,SNR=9.9
533A **Kerrville** 88.51 57 ⇑P P 12 46 31.6 -0.4
baz=89,SNR=7.3
332A **Millersview** 88.52 56 ⇑P P 12 46 31.2 -0.8
baz=89,SNR=11
RLMT **Red Lodge** 88.54 40 PFAKE 12 46 40.0 +8.0
RLMT LR LR
comp=Z,2μm,19.0s
S26A **Kim** 88.58 49 ⇑P P 12 46 31.8 -0.4
baz=89,SNR=12
131A **Roby** 88.59 54 ⇓P P 12 46 31.6 -0.7
baz=89
V28A **Channing** 88.60 51 ⇓P P 12 46 32.2 -0.2
baz=89
AMTX **Amarillo** 88.61 52 ⇑P P 12 46 32.1 -0.3
baz=89
I20A **Worland** 88.62 41 ⇓P P 12 46 32.0 -0.3
baz=89,SNR=10
BJT **Baijiatuau** 88.64 314 PFAKE 12 46 40.0 +7.7
BJT LR LR
comp=Z,650nm,19.0s
BJI **Beijing** 88.65 314 P P 12 46 32.4 +0.1
BJI PP PP 12 50 00.6 -0.7
BJI SS SS 13 03 10.1 -0.4
BJI pmax pmax
comp=Z,37nm,1.6s

BJI pmax pmax
comp=Z,690nm,4.6s
BJI LR LR
comp=Z,370nm,17.3s
BJI LR LR
comp=Z,730nm,20.3s
BJI LR LR
comp=Z,430nm,18.3s
Q25A Bedland, Calha 88.65 47 ⇓P P 12 46 32.5 -0.2
baz=89
O24A Longmont 88.67 46 ⇑P P 12 46 32.6 -0.1
baz=89
L22A Ellis Ranch, M 88.71 44 ⇑P P 12 46 32.6 -0.3
baz=89,SNR=7.6
J21A Lysite 88.73 42 ⇑P P 12 46 32.6 -0.3
baz=89,SNR=18
Y30A Stafford Cattl 88.73 53 ⇓P P 12 46 33.4 +0.4
baz=89
W29A Amraillo 88.74 52 ⇑P P 12 46 32.5 -0.5
baz=89
433A Art 88.75 56 ⇑P P 12 46 32.1 -1.0
baz=89,SNR=18
EFI East Falkland 88.79 146 *e*P P 12 46 32.8 -0.1
EFI pmax pmax
comp=Z,180nm,1.3s
EFI East Falkland 88.79 146 PFAKE 12 46 40.0 +7.1
EFI LR LR
comp=Z,967nm,22.0s
232A Coleman 88.81 55 ⇑P P 12 46 32.6 -0.8
baz=89,SNR=14
T27A Campo 88.85 49 ⇓P P 12 46 32.9 -0.6
baz=89
U28A Mallet 88.89 50 ⇓P P 12 46 33.2 -0.5
baz=89,SNR=6.1
M23A Laramie 88.90 44 ⇑P P 12 46 33.5 -0.3
baz=89
R26A Arlington 88.91 48 ⇓P P 12 46 33.5 -0.4
baz=89,SNR=13
534A Blanco 88.93 57 ⇓P P 12 46 33.4 -0.6
baz=89,SNR=7.9
K22A Casper 88.97 43 ⇓P P 12 46 34.0 0.0
baz=89
H20A Greybull 88.98 41 ⇑P P 12 46 33.9 0.0
baz=89
X30A Coker Ranch, T 89.00 52 ⇓P P 12 46 34.1 -0.2
baz=89
Z31A Sharp Cattle R 89.05 54 ⇓P P 12 46 33.6 -0.9
baz=89,SNR=9.8
I21A Big Trails, Te 89.07 42 ⇓P P 12 46 34.3 -0.2
baz=89,SNR=17
333A Richland Sprin 89.08 56 ⇓P P 12 46 34.0 -0.6
baz=89
F19A Roth Farm, Mol 89.12 39 ⇓P P 12 46 34.8 +0.2
baz=89,SNR=6.9
ENH Enshi 89.12 303 *e*P P 12 46 36.6 +1.7
comp=Z,124nm,1.3s
ABTX Abilene, Hawle 89.13 55 *e*P P 12 46 34.5 -0.4
ABTX Abilene, Hawle 89.13 55 ⇓P P 12 46 34.1 -0.8
baz=89,SNR=5.8
Q26A Hugo 89.15 47 ⇓P P 12 46 35.0 +0.1
baz=89
V29A Stinnett 89.17 51 ⇓P P 12 46 34.6 -0.4
baz=89
G20A Bridger 89.22 40 ⇓P P 12 46 35.0 -0.1
baz=89
L23A Garrett 89.23 44 ⇑P P 12 46 35.1 -0.3
baz=89,SNR=8.2
Y31A Rekieta Farm, 89.25 53 ⇓P P 12 46 35.0 -0.4
baz=89
T28A Walsh 89.31 50 ⇑P P 12 46 35.3 -0.4
baz=90
R27A Eads 89.36 48 ⇓P P 12 46 35.6 -0.3
baz=90,SNR=9.6
434A Burnet 89.42 57 ⇑P P 12 46 36.0 -0.2
baz=90,SNR=6.8
E19A Rath Farm, Rou 89.53 39 ⇑P P 12 46 37.0 +0.5
baz=90,SNR=6.0
Z32A Haskell 89.55 54 ⇓P P 12 46 36.5 -0.3
baz=90,SNR=18
F20A Billings 89.56 40 ⇓P P 12 46 37.1 +0.5
baz=90
K23A Bowen Ranch, D 89.59 43 ⇑P P 12 46 37.0 +0.1
baz=90
I22A 9 Mile Ranch, 89.61 42 ⇓P P 12 46 37.0 0.0
baz=90
H21A Big Horn, Sher 89.64 41 ⇓P P 12 46 37.3 +0.3
baz=90
334A Lometa 89.66 56 ⇓P P 12 46 37.0 -0.4
baz=90,SNR=10
S28A Manter 89.67 49 ⇓P P 12 46 37.3 0.0
baz=90
133A Hamilton Ranch 89.68 55 ⇓P P 12 46 37.8 +0.4
baz=90,SNR=6.0
V30A Spur Ranch, Mi 89.72 51 ⇓P P 12 46 37.9 +0.3
baz=90,SNR=6.4
PATY Pattaya 89.73 284 P P 12 46 40.7 +2.8
comp=Z,20nm,1.2s
X31A McDonald Ranch 89.75 53 ⇑P P 12 46 38.0 +0.3
baz=90
EGMT Eagleton 89.80 37 PFAKE 12 46 50.0 +12
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 89.80 37 ⇓P P 12 46 38.7 +1.0
baz=90
KSCO Kaye Shedlock' 89.81 48 ⇑P P 12 46 38.2 +0.2
baz=90
CHAI Chaiyaphum 89.81 287 P P 12 46 39.9 +1.6
comp=Z,8.7nm,1.3s,comp=Z,106nm
GYA Guiyang 89.83 298 ⇑*i*P P 12 46 39.2 +0.8
GYA PP **PP** 12 50 14.6 +3.4
GYA SKS **SKSac** 12 57 07.0 -2.2
GYA S **S** 12 57 28.9 -1.7
GYA SS **SS** 13 03 29.5 +1.0
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,180nm,5.7s
GYA LR LR
comp=Z,950nm,20.5s
GYA LR LR
comp=Z,770nm,21.0s
GYA LR LR
comp=Z,820nm,20.4s
D19A Cripps Ranch, 89.85 38 ⇓P P 12 46 38.4 +0.5
baz=90,SNR=8.8
COLD Coldfoot 89.85 9 *e*P P 12 46 38.2 +0.9
comp=Z,18nm,1.2s
Y32A R-V Farms, Ver 89.88 53 ⇓P P 12 46 38.5 +0.2
baz=90,SNR=17
E20A Meyer Farm, Mu 89.94 39 ⇓P P 12 46 38.8 +0.5
baz=90,SNR=6.8
W31A Holland Ranch, 90.02 52 ⇓P P 12 46 39.1 +0.1
baz=90
H22A Clearmont 90.05 42 ⇑P P 12 46 38.8 -0.1
baz=90
C19A Slack Wire Ran 90.05 38 ⇓P P 12 46 39.0 +0.1
baz=90,SNR=16
R28A Tribune 90.07 49 ⇑P P 12 46 39.2 0.0
baz=90,SNR=13
Z33A Whitaker Ranch 90.08 54 ⇓P P 12 46 38.7 -0.5
baz=90,SNR=9.5
U30A WK&E Inc. Balk 90.09 51 ⇑P P 12 46 39.6 +0.3
baz=90
K24A Anderson Ranch 90.10 44 ⇑P P 12 46 39.0 -0.3
baz=90
SLVN Son La 90.16 293 *e*P P 12 46 41.5 +1.5
X32A Elmer 90.17 53 ⇑P P 12 46 39.7 0.0
baz=90,SNR=10
SURT Suratani 90.19 279 P P 12 46 42.8 +2.7
comp=Z,20nm,1.4s,comp=Z,381nm
F21A Absaloka Mine, 90.19 40 ⇑P P 12 46 39.7 +0.2
baz=90
S29A Ulysses 90.24 50 ⇓P P 12 46 39.8 -0.1
baz=90
D20A Manuel Ranch, 90.24 39 ⇑P P 12 46 40.3 +0.6
baz=90,SNR=13
N26A Koester Ranch, 90.25 46 ⇑P P 12 46 40.5 +0.5
baz=90
335A Moody 90.27 57 ⇓P P 12 46 39.8 -0.4
baz=90
V31A Spring Creek L 90.35 52 ⇓P P 12 46 40.4 -0.1
baz=90,SNR=13
G22A Birney 90.39 41 ⇑P P 12 46 40.9 +0.3
baz=91
B19A Brinkman Farms 90.49 37 ⇓P P 12 46 41.3 +0.5
baz=91,SNR=12
J24A Dixon Ranch, L 90.49 43 ⇑P P 12 46 40.9 -0.2
baz=91
Y33A Hilltop Ranch, 90.49 54 ⇑P P 12 46 40.8 -0.4
baz=91
W32A Sentinel 90.50 52 ⇑P P 12 46 40.6 -0.6
baz=91,SNR=12
WHTX Lake Whitney 90.54 56 ⇓P P 12 46 41.4 0.0
baz=91
R29A Marienthal 90.58 49 ⇑P P 12 46 40.9 -0.7
baz=91
E21A Keefer Ranch, 90.58 40 ⇑P P 12 46 41.6 +0.3
baz=91
U31A Nine Bar Ranch 90.60 51 ⇑P P 12 46 41.3 -0.4
baz=91
C20A Veseth Ranch, 90.64 38 ⇓P P 12 46 42.1 +0.5
baz=91,SNR=14
K25A Mack Ranch, Ha 90.66 44 ⇑P P 12 46 42.2 +0.3
baz=91
P28A Saint Francis 90.67 48 ⇑P P 12 46 42.4 +0.4
baz=91
WMOK Wichita Mounta 90.69 53 PFAKE 12 46 50.0 +7.9
WMOK LR LR
comp=Z,880nm,19.0s
F22A Rosebud 90.69 41 ⇓P P 12 46 42.0 +0.2
baz=91
N27A Anderson Farm, 90.70 46 ⇓P P 12 46 42.5 +0.5
baz=91
S30A Montezuma 90.71 50 ⇓P P 12 46 42.4 +0.2
baz=91
EDM Edmonton 90.79 32 *e*P P 12 46 41.9 -0.2
EDM Edmonton 90.79 32 *e*P P 12 46 41.9 -0.2
X33A Lawton 90.81 53 ⇑P P 12 46 42.5 -0.2
baz=91
A19A Klindworth Far 90.85 37 ⇓P P 12 46 42.9 +0.3
baz=91,SNR=16
Q29A Oakley 90.90 48 ⇑P P 12 46 42.6 -0.4
baz=91,SNR=6.3
O28A Krutsinger Ran 90.91 47 ⇑P P 12 46 43.0 -0.1
baz=91
V32A Arapaho 90.91 52 ⇓P P 12 46 42.7 -0.4
baz=91,SNR=7.4
G23A Biddle 90.94 41 ⇓P P 12 46 43.0 0.0
baz=91,SNR=6.3
PBKT Sadao Pong 90.97 287 P P 12 46 45.6 +1.9
comp=Z,73nm,1.3s,comp=Z,2µm
T31A Randall Ranch, 91.04 50 ⇑P P 12 46 43.1 -0.6
baz=91,SNR=5.8
J25A Sunshine Ranch 91.07 43 ⇑P P 12 46 43.4 -0.3
baz=91
W33A Caddo, Fort Co 91.09 53 ⇑P P 12 46 44.0 +0.1
baz=91,SNR=7.1
OGNE Ogallala 91.10 46 PFAKE 12 47 00.0 +16
OGNE LR LR
comp=Z,1µm,19.0s
HIA Hailar 91.10 323 PFAKE 12 47 00.0 +16
HIA LR LR
comp=Z,929nm,21.0s
Y34A Reagan Ranch, 91.13 54 ⇑P P 12 46 44.0 -0.1
baz=91
R30A Dighton 91.13 49 ⇓P P 12 46 43.8 -0.3
baz=91,SNR=10.0
XAN Xi'an 91.13 306 P P 12 46 45.8 +1.6
XAN sP **sP** 12 46 52.3 +1.8
XAN PP **PP** 12 50 25.5 +4.2
XAN SKS **SKSac** 12 57 15.9 -0.3
XAN S **S** 12 57 40.3 -1.8
XAN SS **SS** 13 03 47.1 +0.2
XAN pmax pmax
comp=Z,27nm,1.4s
XAN pmax pmax
comp=Z,100nm,9.0s
XAN LR LR
comp=Z,240nm,19.5s
XAN LR LR
comp=Z,37nm,16.2s
XAN LR LR
comp=Z,140nm,20.6s
K26A Motz Farm, Whi 91.15 44 ⇑P P 12 46 44.0 -0.1
baz=91
LAO LASA Array 91.17 40 *e*P P 12 46 45.2 +1.1
comp=Z,46nm,1.1s
LAO LR LR
comp=Z,810nm,20.0s
F23A Volborg 91.18 41 ⇓P P 12 46 44.3 +0.1
baz=91,SNR=8.2
U32A Winter Ranch, 91.22 51 ⇓P P 12 46 44.2 -0.4
baz=91,SNR=5.6
H24A Dirks Ranch, A 91.24 42 ⇑P P 12 46 44.0 -0.5
baz=91,SNR=13
Z35A Perchaven, San 91.25 55 ⇑P P 12 46 44.6 -0.1
baz=91
P29A Atwood 91.25 48 ⇑P P 12 46 44.4 -0.2
baz=91
LCO Las Campanas 91.26 122 *e*P P 12 46 45.5 +0.2
comp=Z,52nm,1.3s
LCO LR LR
comp=Z,1µm,19.0s
RSSD Black Hills 91.27 43 *e*P P 12 46 43.9 -0.9
RSSD pmax pmax
comp=Z,20nm,1.0s
RSSD Black Hills 91.27 43 *e*P P 12 46 43.9 -0.9
comp=Z,20nm,1.0s
A20A Cobblestone Ra 91.29 37 ⇑P P 12 46 44.5 -0.1
baz=92,SNR=19
N28A Pribbeno Ranch 91.32 47 ⇓P P 12 46 44.5 -0.4
baz=92
X34A Smith Ranch, M 91.34 53 ⇓P P 12 46 45.2 +0.1
baz=92,SNR=8.3
S31A Mullinville 91.40 50 ⇓P P 12 46 45.1 -0.2
baz=92,SNR=7.5
D22A Cohagen 91.42 39 ⇑P P 12 46 45.4 +0.2
baz=92,SNR=7.4
Q30A Quinter 91.47 49 ⇑P P 12 46 45.7 0.0
baz=92,SNR=13
J26A Sides Ranch, S 91.50 44 ⇓P P 12 46 45.7 0.0
baz=92
V33A Lossen Ranch, 91.51 52 ⇑P P 12 46 45.8 -0.1
baz=92,SNR=6.8
B21A Ellsworth Farm 91.58 38 ⇑P P 12 46 46.4 +0.6
baz=92,SNR=14
O29A 4D Ranch, Culb 91.58 47 ⇓P P 12 46 45.5 -0.6
baz=92
G24A Alzada 91.60 42 ⇓P P 12 46 45.8 -0.4
baz=92
T32A Huddler Ranch, 91.62 51 ⇑P P 12 46 45.9 -0.5
baz=92,SNR=7.1
E23A Ismay 91.62 40 ⇓P P 12 46 46.4 +0.3
baz=92,SNR=6.8
W34A Bridge Creek, 91.65 53 ⇓P P 12 46 46.4 -0.1
baz=92
R31A Burdett 91.66 49 ⇑P P 12 46 46.0 -0.5
baz=92,SNR=5.5
P30A Selden 91.70 48 ⇓P P 12 46 46.5 -0.2
baz=92,SNR=8.7
K27A Flueckinger Fa 91.77 45 ⇓P P 12 46 46.8 -0.1
baz=92,SNR=5.9
H25A Fruitdale 91.78 42 ⇑P P 12 46 47.0 +0.1
baz=92
SRDT SRDT 91.82 285 P P 12 46 50.4 +2.7
comp=Z,114nm,1.4s
S32A Newby Ranch, P 91.83 50 ⇑P P 12 46 46.8 -0.6
baz=92,SNR=8.5
F24A Ekalaka 91.83 41 ⇓P P 12 46 47.1 -0.1
baz=92,SNR=9.8
C22A Vida 91.89 39 ⇑P P 12 46 47.5 +0.1
baz=92,SNR=6.3
A21A Bergtoll Ranch 91.91 38 ⇑P P 12 46 47.7 +0.2
baz=92,SNR=15
D23A Lindsay 92.01 40 ⇑P P 12 46 48.2 +0.3
baz=92,SNR=12
NANT Nan 92.02 289 P P 12 46 49.9 +1.3
comp=Z,133nm,1.0s,comp=Z,1µm
Q31A Ellis 92.06 49 ⇓P P 12 46 48.0 -0.4
baz=92
V34A Guthrie 92.08 52 ⇑P P 12 46 48.4 -0.1
baz=92
B22A Reddig Ranch S 92.10 38 ⇓P P 12 46 48.4 +0.1
baz=92,SNR=15
O30A MW Ranch, Wils 92.11 48 ⇓P P 12 46 49.0 +0.5
baz=92
HHC Hu-ho-hao-te 92.14 313 *e*P P 12 46 49.3 +0.5
HHC pP **pP** 12 46 52.7 -0.8
HHC PP **PP** 12 50 26.6 -2.6
HHC SKS **SKSac** 12 57 19.9 -1.8
HHC S **S** 12 57 48.8 -2.3
HHC SS **SS** 13 03 56.6 -4.7
HHC pmax pmax
comp=Z,70nm,1.4s
HHC pmax pmax
comp=Z,760nm,8.7s
HHC LR LR
comp=Z,500nm,17.7s
HHC LR LR
comp=Z,960nm,17.6s
HHC LR LR
comp=Z,830nm,17.7s
G25A Newell 92.16 42 ⇑P P 12 46 49.0 +0.3
baz=92
J27A Elkhorn Farm, 92.17 44 ⇓P P 12 46 49.1 +0.3
baz=92,SNR=11
E24A Baker 92.26 40 ⇓P P 12 46 49.4 +0.2
baz=92
P31A Stockton 92.30 48 ⇓P P 12 46 49.3 -0.1
baz=92,SNR=6.0
H26A Fairpoint 92.30 43 ⇓P P 12 46 49.4 +0.1
baz=92
R32A Long Quarter, 92.30 50 ⇓P P 12 46 49.1 -0.3
baz=92,SNR=17
U34A Anderson Ranch 92.32 52 ⇑P P 12 46 49.5 0.0
baz=92
C23A Lambert 92.33 39 ⇓P P 12 46 49.9 +0.5
baz=92,SNR=22
K28A Ten Mile Ranch 92.34 45 ⇑P P 12 46 50.2 +0.6
baz=92
TGUH Tegucigalpa,Un 92.37 76 PFAKE 12 47 00.0 +10
TGUH LR LR
comp=Z,468nm,20.0s
S33A Kaszmaul Farm, 92.46 51 ⇑P P 12 46 50.4 +0.2
baz=93
KHLT Khaolaem Dam 92.46 285 P P 12 46 52.7 +2.0
comp=Z,18nm,1.2s,comp=Z,317nm
F25A Bowman 92.48 41 ⇑P P 12 46 50.6 +0.4
baz=93,SNR=7.7
A22A Carney Farms, 92.49 38 ⇓P P 12 46 50.5 +0.4
baz=93,SNR=6.0
D24A Glendive 92.51 40 ⇑P P 12 46 50.3 0.0
baz=93,SNR=16
KMI Kunming 92.58 296 P P 12 46 53.1 +1.8
KMI pP **pP** 12 46 55.6 -0.4
KMI sP **sP** 12 46 58.0 +0.3
KMI PP **PP** 12 50 32.2 -0.9
KMI SKS **SKSac** 12 57 24.3 -0.8
KMI S **S** 12 57 54.1 -1.8
KMI sS **ScS** 12 57 59.3 +1.3
KMI SS **SS** 13 04 10.7 +2.3
KMI pmax pmax
comp=Z,62nm,1.2s
KMI pmax pmax
comp=Z,350nm,3.1s
KMI LR LR
comp=Z,650nm,18.4s
KMI LR LR
comp=Z,1µm,15.9s
KMI LR LR
comp=Z,1µm,16.5s
O31A Woolen Ranch, 92.60 48 ⇑P P 12 46 50.2 -0.6
baz=93
Q32A Meitler Ranch, 92.64 49 ⇓P P 12 46 50.8 -0.2
baz=93,SNR=11
L29A Maesberg Ranch 92.65 46 ⇓P P 12 46 51.1 +0.1
baz=93,SNR=5.8
C24A Savage 92.65 40 ⇓P P 12 46 51.3 +0.4
baz=93,SNR=7.6
NNA Nana 92.70 104 PFAKE 12 47 00.0 +8.1
NNA LR LR
comp=Z,524nm,22.0s
G26A Maurine 92.72 42 ⇑P P 12 46 51.2 0.0
baz=93
J28A Allard Ranch, 92.75 44 ⇑P P 12 46 51.6 +0.1
baz=93,SNR=6.4
H27A Howes 92.75 43 ⇓P P 12 46 51.1 -0.3
baz=93
B23A Brockton 92.77 39 ⇓P P 12 46 51.9 +0.5
baz=93,SNR=24
R33A Olander Ranch, 92.77 50 ⇓P P 12 46 51.5 -0.1
baz=93,SNR=11
E25A Miller Ranch, 92.78 41 ⇑P P 12 46 51.6 +0.1
baz=93,SNR=6.1
CRAI Chiangrai 92.82 290 P P 12 46 53.8 +1.5
comp=Z,98nm,0.9s
M30A Dale-Ortello V 92.82 46 ⇓P P 12 46 51.8 -0.1
baz=93
LAMP Lampang 92.86 289 P P 12 46 54.4 +1.9
comp=Z,20nm,1.2s,comp=Z,218nm
P32A Huiting Farm, 92.88 49 ⇑P P 12 46 51.8 -0.3
baz=93,SNR=6.7
F26A Lodgepole 92.93 42 ⇓P P 12 46 52.1 -0.1
baz=93,SNR=8.0
I28A Midland 93.05 44 ⇑P P 12 46 52.7 -0.1
baz=93
K29A Lazy Trails An 93.06 45 ⇓P P 12 46 53.0 +0.1
baz=93,SNR=12
L30A Spencer Herefo 93.11 46 ⇑P P 12 46 53.0 -0.2
baz=93
D25A Fairfield 93.13 40 ⇑P P 12 46 53.8 +0.7
baz=93,SNR=9.3
JTS JuntasAbangare 93.16 80 *e*P P 12 46 54.7 +0.7
comp=Z,46nm,1.4s
JTS LR LR
comp=Z,567nm,19.0s
Q33A Connelly Farm, 93.16 49 ⇑P P 12 46 53.3 -0.1
baz=93,SNR=6.5
G27A Dupree 93.18 42 ⇓P P 12 46 53.2 -0.1
baz=93,SNR=8.1
DGMT Dagmar 93.23 39 *e*P P 12 46 54.2 +0.7
comp=Z,122nm,1.0s
DGMT LR LR
comp=Z,2µm,21.0s
DGMT Dagmar 93.23 39 ⇑P P 12 46 54.0 +0.5
baz=93,SNR=23
J29A Okreek 93.33 45 ⇑P P 12 46 54.0 -0.1
baz=94,SNR=9.3
E26A Carlson Angus 93.34 41 ⇓P P 12 46 54.1 0.0
baz=94,SNR=10.0
F27A Lemmon 93.34 42 ⇓P P 12 46 54.1 -0.1
baz=94,SNR=8.0
M31A Lambtecht Ranc 93.35 47 ⇑P P 12 46 54.4 +0.1
baz=94,SNR=6.7
O32A Brockman Farm, 93.38 48 ⇓P P 12 46 54.1 -0.3
baz=94,SNR=7.4
TUL1 Tulsa 93.39 53 ⇓P P 12 46 54.4 -0.2
baz=94
C25A Freed Ranch, W 93.43 40 ⇑P P 12 46 54.6 +0.2
baz=94
H28A Mission Ridge 93.44 43 ⇑P P 12 46 54.3 -0.3
baz=94
P33A Williams Farm, 93.44 49 ⇓P P 12 46 54.5 -0.2
baz=94
CM31 Chiang Mai Arr 93.45 288 *e*P P 12 46 57.4 +2.2
comp=Z,19nm,0.8s
CMAR Chiang Mai Arr 93.45 288 P P 12 46 56.5 +1.4
CMAR PKKP **PKKPbc** 13 04 02.4 +0.9
CMAR Chiang Mai Arr 93.45 288 P P 12 46 56.5 +1.4
comp=Z,31nm,1.1s,baz=113,slow=2.9,SNR=98
CMAR PKKP **PKKPbc** 13 04 02.4 +0.9
comp=Z,0.4nm,0.5s,baz=286,slow=4.8,SNR=5.4
CMAR LR LR 13 31 04.6
comp=Z,329nm,18.8s,baz=163,slow=37
K30A Basset 93.49 45 ⇓P P 12 46 54.6 -0.2
baz=94,SNR=19
A24A Westby 93.56 39 ⇑P P 12 46 55.2 +0.2
baz=94,SNR=9.8
CMMT Chiang Mai 93.57 289 P P 12 46 57.2 +1.5
comp=Z,39nm,1.4s,comp=Z,660nm
CHTO Chiang Mai 93.57 289 *e*P P 12 46 57.1 +1.3
CHTO pmax pmax
comp=Z,105nm,1.6s
CHTO MLR MLR
comp=Z,410nm,20.0s
CHTO Chiang Mai 93.57 289 *e*P P 12 46 57.1 +1.3
comp=Z,106nm,1.6s
CHTO LR LR
comp=Z,410nm,20.0s
CHTO Chiang Mai 93.57 289 P P 12 46 57.3 +1.5
comp=Z,178nm,1.5s,comp=Z,3µm
TRQA Tornquist 93.58 133 PFAKE 12 47 10.0 +14
TRQA LR LR
comp=Z,686nm,20.0s
D26A Manning 93.61 41 ⇓P P 12 46 55.6 +0.2
baz=94,SNR=10
I29A Vivian Onida 93.62 44 ⇑P P 12 46 55.4 0.0
baz=94,SNR=5.3
TEIG Tepich 93.67 70 PFAKE 12 47 10.0 +14
TEIG LR LR
comp=Z,586nm,19.0s
G28A Parade 93.68 43 ⇓P P 12 46 56.0 +0.3
baz=94

B25A Knox Farm, Ray 93.75 39 ⇓P **P 12 46 56.4 +0.5**
baz=94,SNR=11
L31A Butterfield Fa 93.80 46 ⇓P **P 12 46 55.7 -0.6**
baz=94,SNR=6.8
J30A Dallas 93.85 45 ⇑P **P 12 46 55.9 -0.5**
baz=94,SNR=8.9
E27A Carson 93.88 41 ⇑P **P 12 46 56.5 0.0**
baz=94,SNR=12
CMAI Chiengmai2 93.88 290 P **P 12 46 58.9 +1.6**
comp=Z,33nm,1.4s,comp=Z,5μm
YAK Yakutsk 93.90 337 *e*P **P 12 46 54.9 -1.3**
YAK pmax pmax
comp=Z,12nm,1.3s
YAK Yakutsk 93.90 337 PFAKE 12 47 10.0 +14
YAK LR LR
comp=Z,580nm,19.0s
CD2 Chengdu 93.91 301 P **P 12 46 58.2 +1.1**
CD2 pP **pP 12 47 02.9 +1.1**
CD2 sP **sP 12 47 05.1 +1.7**
CD2 PP **PP 12 50 47.0 +3.8**
CD2 SKS **SKSac 12 57 31.5 -0.3**
CD2 S **S 12 58 05.5 -1.5**
CD2 sS **sS 12 58 13.2 -1.6**
CD2 SS **SS 13 04 28.8 +1.9**
CD2 pmax pmax
comp=Z,30nm,1.6s
CD2 pmax pmax
comp=Z,360nm,8.4s
CD2 LR LR
comp=Z,630nm,19.0s
CD2 LR LR
comp=Z,600nm,17.8s
CD2 LR LR
comp=Z,650nm,20.2s
H29A Onida 93.94 44 ⇑P **P 12 46 56.6 -0.3**
baz=94,SNR=6.1
BGNE Belgrade 93.94 47 *e*P **P 12 46 57.0 0.0**
BGNE Belgrade 93.94 47 ⇓P **P 12 46 56.9 0.0**
baz=94,SNR=6.0
INK Inuvik 93.96 14 *e*P **P 12 46 55.8 -0.5**
comp=Z,40nm,1.2s
KSU1 Kansas State U 94.07 50 *e*P **P 12 46 57.5 -0.1**
comp=Z,26nm,0.9s
KSU1 LR LR
comp=Z,2μm,20.0s
A25A Svangstu Ranch 94.09 39 ⇓P **P 12 46 57.6 +0.2**
baz=94
F28A McLaughlin 94.10 42 ⇓P **P 12 46 57.1 -0.5**
baz=94
I30A Oacoma 94.14 44 ⇓P **P 12 46 57.9 +0.1**
baz=94
C26A Wahner Farm, P 94.18 40 ⇓P **P 12 46 58.4 +0.5**
baz=94
D27A Center 94.20 41 ⇓P **P 12 46 58.2 +0.2**
baz=94,SNR=5.9
MHMT Maesarieng 94.25 288 P **P 12 47 00.9 +2.1**
comp=Z,15nm,1.4s,comp=Z,1μm
B26A Jensen Ranch, 94.35 40 ⇓P **P 12 46 59.2 +0.6**
baz=94
G29A Hoven 94.37 43 ⇓P **P 12 46 59.3 +0.5**
baz=95
E28A Huff 94.48 42 ⇓P **P 12 46 59.3 0.0**
baz=95
C27A Sayler Ranch, 94.49 40 ⇓P **P 12 46 59.9 +0.6**
baz=95
MIAR Mount Ida 94.54 55 PFAKE 12 47 10.0 +10
MIAR LR LR
comp=Z,1μm,20.0s
BRSD Miller 94.67 44 ⇑P **P 12 47 00.4 +0.1**
baz=95
A26A Wade Farm, Ken 94.70 39 ⇓P **P 12 47 00.6 +0.4**
baz=95
F29A Eureka 94.70 43 ⇑P **P 12 47 00.2 -0.2**
baz=95
D28A Regan 94.83 41 ⇓P **P 12 47 01.0 +0.1**
baz=95
G30A Faulkton 94.84 43 ⇓P **P 12 47 01.1 +0.1**
baz=95
B27A Peters Farms, 94.94 40 ⇓P **P 12 47 02.0 +0.7**
baz=95
E29A Napoleon 95.13 42 ⇓P **P 12 47 02.4 0.0**
baz=95
C28A Hausauer Farms 95.17 41 ⇓P **P 12 47 02.6 +0.2**
baz=95
D29A Pettibone, Tap 95.37 42 ⇓P **P 12 47 02.6 -0.8**
baz=96
LVC Limon Verde 95.42 117 *e*P **P 12 47 06.3 +1.7**
comp=Z,28nm,1.3s
LVC LR LR
comp=Z,632nm,19.0s
B28A Dugan Ranch, T 95.50 40 ⇑P **P 12 47 03.4 -0.5**
baz=96
E30A Jud 95.56 42 ⇑P **P 12 47 03.7 -0.6**
baz=96
YKA Yellowknife Ar 95.64 24 P **P 12 47 04.4 +0.2**
YKA Yellowknife Ar 95.64 24 P **P 12 47 04.4 +0.2**
comp=Z,12nm,0.9s,baz=238,slow=4.1,SNR=34
OTAV Otavalo 95.67 92 PFAKE 12 47 20.0 +14
OTAV LR LR
comp=Z,734nm,22.0s
YKW3 Yellowknife Ar 95.68 24 *e*P **P 12 47 03.6 -0.8**
comp=Z,0.3nm,1.0s
MDND Maddock 95.70 41 *e*P **P 12 47 04.6 -0.3**
MDND Maddock 95.70 41 ⇑P **P 12 47 04.7 -0.1**
baz=96
A28A Rude Farm, Bot 95.75 40 ⇓P **P 12 47 05.1 0.0**
baz=96
LZH Lanzhou 95.77 306 *e*P **P 12 47 07.4 +1.8**
LZH pP **pP 12 47 11.1 +0.8**
LZH sP **sP 12 47 12.7 +0.7**
LZH PP **PP 12 51 02.0 +4.3**
LZH SKS **SKSac 12 57 40.5 -1.3**
LZH S **S 12 58 21.7 -1.5**
LZH sS **sS 12 58 28.5 -2.6**
LZH SS **SS 13 04 51.5 -1.9**
LZH pmax pmax
comp=Z,40nm,1.0s
LZH pmax pmax
comp=Z,280nm,4.6s
LZH LR LR
comp=Z,410nm,14.7s
LZH LR LR
comp=Z,530nm,15.8s
LZH LR LR
comp=Z,640nm,17.0s
D30A Buchanan 95.91 42 ⇑P **P 12 47 05.8 -0.1**
baz=96
ECSD EROS Data Cent 95.92 45 *e*P **P 12 47 05.5 -0.5**
comp=Z,41nm,1.0s
ECSD LR LR
comp=Z,956nm,20.0s
B29A Wagenman Farm, 96.11 40 ⇓P **P 12 47 06.5 -0.2**
baz=96
C30A Mose, Pekin 96.33 41 ⇑P **P 12 47 07.0 -0.7**
baz=96
A29A Manning Farm, 96.38 40 ⇑P **P 12 47 07.8 -0.1**
baz=97
B30A Myrvik Farm, E 96.73 41 ⇓P **P 12 47 09.3 -0.2**
baz=97
A30A Hoffart Farm, 96.94 40 ⇓P **P 12 47 10.1 -0.4**
baz=97
FFC Flin Flon 97.33 34 PFAKE 12 47 20.0 +7.9
FFC LR LR
comp=Z,1μm,19.0s
BCIP Isla Barro Col 97.50 83 PFAKE 12 47 30.0 +16
BCIP LR LR
comp=Z,515nm,19.0s
SCIA State Center 97.54 48 PFAKE 12 47 20.0 +6.6
SCIA LR LR
comp=Z,841nm,19.0s
ULN Ulaanbaatar 97.98 318 *e*P Pdif 12 47 15.6 +0.2
comp=Z,14nm,1.4s
ULN LR LR
comp=Z,425nm,19.0s
SONM Songino Array 98.38 318 P Pdif 12 47 18.6 +1.4
SONM Songino Array 98.38 318 P Pdif 12 47 18.6 +1.4
comp=Z,2.0nm,1.1s,baz=103,slow=3.3,SNR=8.0
SONM LR LR 13 31 13.5
comp=Z,567nm,19.0s,baz=135,slow=35
BRAL Brewton 98.42 60 PFAKE 12 47 30.0 +12
BRAL LR LR
comp=Z,754nm,20.0s
LPAZ La Paz 98.76 111 *e*P Pdif 12 47 20.8 +0.6
comp=Z,5.9nm,1.2s
LPAZ La Paz 98.76 111 P Pdif 12 47 20.7 +0.5
comp=Z,3.1nm,1.0s,baz=298,slow=2.1,SNR=7.4
LPAZ LR LR 13 25 13.0
comp=Z,1μm,18.1s,baz=318,slow=31
ULM Lac du Bonnet 98.91 40 P **P 12 47 19.1 -0.1**
ULM Lac du Bonnet 98.91 40 P **P 12 47 19.1 -0.1**
comp=Z,2.0nm,0.7s,baz=280,slow=6.1,SNR=5.7
ULM LR LR 13 28 18.2
comp=Z,2μm,18.1s,baz=51,slow=33
GTA Gaotai 99.92 308 *e*P **Pdif 12 47 25.0 +0.8**
GTA pP **pP 12 47 28.8 -0.1**
GTA sP **sP 12 47 31.3 +0.7**
GTA PP **PP 12 51 32.6 +3.1**
GTA SKS **SKSac 12 58 01.2 -1.6**
GTA S **ScS 12 58 56.0 -2.4**
GTA sS **sS 12 59 03.5 -2.7**
GTA SS **SS 13 05 51.5 -0.1**
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,250nm,20.4s
GTA LR LR
comp=Z,390nm,20.9s
GTA LR LR
comp=Z,450nm,21.8s
JFWS Jewell Farm 99.95 48 PFAKE 12 47 40.0 +16
JFWS LR LR
comp=Z,1μm,19.0s
TIXI Tiksi 100.15 344 PFAKE 12 47 40.0 +16
TIXI LR LR
comp=Z,687nm,20.0s
EYMN Ely 100.79 43 PFAKE 12 47 40.0 +12
EYMN LR LR
comp=Z,1μm,20.0s
TLY Talaya 101.40 321 PFAKE 12 47 40.0 +10
TLY LR LR
comp=Z,564nm,20.0s
MTDJ Mount Denham 102.57 75 PFAKE 12 47 50.0 +14
MTDJ LR LR
comp=Z,329nm,20.0s
LSA Lhasa 103.80 297 PFAKE 12 47 50.0 +7.8
LSA LR LR
comp=Z,436nm,22.0s
ACSO Alum Creek Sta 104.35 52 PFAKE 12 48 00.0 +16
ACSO LR LR
comp=Z,1μm,21.0s
AAM Ann Arbor 104.41 50 PFAKE 12 48 00.0 +16
AAM LR LR
comp=Z,1μm,19.0s
GTBY Guantanamo Bay 105.27 74 PFAKE 12 52 10.0
GTBY LR LR
comp=Z,235nm,20.0s
BLA Blacksburg 105.50 56 PFAKE 12 52 10.0
BLA LR LR
comp=Z,1μm,19.0s
SDV Santo Domingo 105.96 86 PFAKE 12 52 20.0
SDV LR LR
comp=Z,230nm,19.0s
SAML Samuel 106.22 106 PFAKE 12 52 20.0
SAML LR LR
comp=Z,838nm,20.0s
MCWV Mont Chateau 106.54 53 PFAKE 12 52 20.0
MCWV LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 107.00 58 PFAKE 12 52 20.0
CNNC LR LR
comp=Z,764nm,19.0s
ERPA Erie 107.01 51 PFAKE 12 52 20.0
ERPA LR LR
comp=Z,2μm,19.0s
CBN Corbin 108.08 55 PFAKE 12 52 20.0
CBN LR LR
comp=Z,1μm,20.0s
SDDR Presa de Saban 108.45 76 PFAKE 12 52 20.0
SDDR LR LR
comp=Z,558nm,22.0s
DGAR Diego Garcia 108.53 254 PFAKE 12 52 20.0
DGAR LR LR
comp=Z,2μm,19.0s
GRTK Grand Turk 109.29 74 PFAKE 12 52 20.0
GRTK LR LR
comp=Z,573nm,19.0s
WMQ Urumqi 109.81 310 Pdif **Pdif 12 48 08.0 0.0**
WMQ PP **PP 12 52 46.0 +3.2**
WMQ S **Sdif 13 00 18.0 -2.6**
WMQ SS **SS 13 08 07.0 +0.1**
WMQ AMB AMB
comp=Z,48nm,8.0s
WMQ LR LR
comp=Z,320nm,22.0s
WMQ LR LR
comp=Z,460nm,24.0s
WMQ LR LR
comp=Z,620nm,25.0s
BINY Binghamton 109.94 51 PFAKE 12 52 20.0
BINY LR LR
comp=Z,2μm,19.0s
LONY Lake Ozonia 111.35 49 PFAKE 12 52 30.0
LONY LR LR
comp=Z,1μm,19.0s
NCB Newcomb 111.51 50 PFAKE 12 52 30.0
NCB LR LR
comp=Z,2μm,19.0s
SPB Sao Paulo 111.94 128 PFAKE 12 52 30.0
SPB LR LR
comp=Z,947nm,20.0s
PTGA Pitinga 112.48 100 PFAKE 12 52 30.0
PTGA LR LR
comp=Z,644nm,19.0s
SJG San Juan 112.90 79 PFAKE 12 52 30.0
SJG LR LR
comp=Z,361nm,20.0s
ZAA0 Zalesovo Array 113.02 321 *e*PKPdf **PKiKP 12 52 15.2 -0.8**
ZALV Zalesovo Beam 113.02 321 PKiKP **PKiKP 12 52 15.4 -0.6**
ZALV Zalesovo Beam 113.02 321 PKiKP **PKiKP 12 52 15.4 -0.6**
ZALV Zalesovo Beam 113.02 321 PKiKP **PKiKP 12 52 15.4 -0.6**
comp=Z,1.3nm,0.5s,baz=56,slow=0.5,SNR=10
LBNH Lisbon 113.19 50 PFAKE 12 52 30.0
LBNH LR LR
comp=Z,2μm,19.0s
NVS Novosibirsk 114.00 322 *e*PKIKP **PKiKP 12 52 16.5 -1.3**
NVS *e* 12 59 03.6
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,4.0nm,1.3s
NVS pmax pmax
comp=Z,11nm,1.3s
MK31 Makanchi Array 114.01 313 *e*PKIKP PKPdf 12 52 17.5 -0.7
MK31 Makanchi Array 114.01 313 *e*PKPdf PKPdf 12 52 17.5 -0.7
MKAR Makanchi Array 114.01 313 PKIKP PKPdf 12 52 17.4 -0.8
MKAR 13 02 59.1
MKAR Makanchi Array 114.01 313 PKP PKPdf 12 52 17.4 -0.8
MKAR PKKPbc **PKKPbc 13 02 59.1 -1.6**
MKAR Makanchi Array 114.01 313 PKP PKPdf 12 52 17.4 -0.8
comp=Z,1.7nm,0.8s,baz=179,slow=0.5,SNR=20
MKAR PKKPbc **PKKPbc 13 02 59.1 -1.6**
comp=Z,0.6nm,0.8s,baz=264,slow=3.7,SNR=4.9
FDF Fort de France 116.58 84 PFAKE 12 52 40.0 +16
FDF LR LR
comp=Z,433nm,20.0s
KURK Kurchatov 116.66 317 PKIKP **PKPdf 12 52 22.7 -0.4**
KURK MLR MLR
comp=Z,372nm,20.0s
KURK Kurchatov 116.66 317 PKP **PKPdf 12 52 22.6 -0.4**
KURK PKKPbc **PKKPbc 13 02 50.3 -1.2**
KURK LR LR
comp=Z,372nm,20.0s
KURBB Kurchatov Arra 116.72 317 PKP **PKPdf 12 52 22.6 -0.6**
comp=Z,7.0nm,1.2s,baz=90,slow=2.1,SNR=15
KURBB PKKPbc **PKKPbc 13 02 50.3 -1.0**
comp=Z,1.8nm,1.0s,baz=282,slow=4.6,SNR=5.8
KSH Kashi 117.94 304 PKP **PKPdf 12 52 27.3 +1.2**
KSH PP PP 12 53 47.7 +7.1
KSH PKS **PKSdf 12 56 05.0 +2.1**
KSH SKS **SKSdf 12 59 39.1 +1.0**
KSH SKKS **SKKSac 13 00 40.5 -0.3**
KSH SS **SS 13 10 01.1 +6.5**
KSH AMB AMB
comp=Z,200nm,6.1s
KSH LR LR
comp=Z,130nm,7.4s
KSH LR LR
comp=Z,190nm,5.9s
KSH LR LR
comp=Z,550nm,16.3s
TKM2 Tokmak 2 118.47 308 *e*PKIKP **PKPdf 12 52 26.6 -0.5**
TKM2 MLR MLR
comp=Z,480nm,20.0s
TKM2 Tokmak 2 118.47 308 *e*PKPdf **PKPdf 12 52 26.6 -0.5**
TKM2 LR LR
comp=Z,480nm,20.0s
AAK Ala-Archa 119.26 308 PKIKP **PKPdf 12 52 28.4 -0.2**
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 119.26 308 *e*PKPdf **PKPdf 12 52 28.5 -0.2**
AAK LR LR
comp=Z,408nm,21.0s
AAK Ala-Archa 119.26 308 PKP **PKPdf 12 52 28.4 -0.2**
comp=Z,3.5nm,1.0s,baz=220,slow=3.2,SNR=5.9
EKS2 Erkin-Say 119.79 308 *e*PKIKP **PKPdf 12 52 29.6 0.0**
EKS2 MLR MLR
comp=Z,433nm,19.0s
EKS2 Erkin-Say 119.79 308 *e*PKPdf **PKPdf 12 52 29.6 0.0**
EKS2 LR LR
comp=Z,433nm,19.0s
BVAR Borovoye Array 121.64 320 PKIKP **PKPdf 12 52 32.1 -0.6**
BVAR Borovoye Array 121.64 320 PKP **PKPdf 12 52 32.1 -0.6**
BVAR Borovoye Array 121.64 320 PKP **PKPdf 12 52 32.1 -0.6**
comp=Z,8.9nm,0.9s,baz=103,slow=3.2,SNR=36
BRVK Borovoye 121.70 320 *c i*PKIKP **PKPdf 12 52 32.0 -0.8**
BRVK Borovoye 121.70 320 *e*PKPdf **PKPdf 12 52 32.5 -0.2**
BRVK LR LR
comp=Z,661nm,20.0s
KKAR Karatay Array 122.20 308 *e*PKIKP **PKPdf 12 52 34.1 0.0**
KKAR Karatay Array 122.20 308 *e*PKPdf **PKPdf 12 52 34.1 0.0**
SUMG Summit 122.88 14 *e*PKIKP **PKPdf 12 52 35.3 +0.3**
SUMG pmax pmax
comp=Z,5.0nm,1.1s
SUMG Summit 122.88 14 *i* P **PKPdf 12 52 35.3 +0.3**
comp=Z,4.7nm,1.1s
ABPO Ambohimpanom 122.99 229 PFAKE 12 52 50.0 +13
ABPO LR LR
comp=Z,739nm,19.0s
KBL Kabul 123.08 298 *e*PKIKP **PKPdf 12 52 36.6 +0.3**
KBL Kabul 123.08 298 *e*PKPdf **PKPdf 12 52 36.6 +0.3**
MSEY Mahe Island 124.79 248 PFAKE 12 52 50.0 +10
MSEY LR LR
comp=Z,766nm,19.0s
SUR Sutherland 124.90 196 PFAKE 12 52 50.0 +10
SUR LR LR
comp=Z,919nm,20.0s
SVE Sverdlovsk 126.32 326 *e*PKIKP **PKPdf 12 52 41.2 -0.3**
SVE pmax pmax
comp=Z,32nm,1.3s
BOSA Boshof 127.09 202 PKP **PKPdf 12 52 44.1 -0.1**
BOSA *e*PKPdf **PKiKP 12 52 44.9 +0.2**
BOSA Boshof 127.09 202 PKP **PKPdf 12 52 44.1 -0.1**
comp=Z,17nm,1.1s,baz=107,slow=3.6,SNR=7.8
SOKR Solikamsk 127.23 330 *e*PKIKP **PKPdf 12 52 43.5 +0.4**
SOKR pmax pmax
comp=Z,30nm,1.1s
ARU Arti 127.53 326 *i* PKIKP **PKPdf 12 52 43.8 0.0**
ARU 12 54 43.9
ARU Arti 127.53 326 *e*PKPdf **PKPdf 12 52 43.6 -0.2**
ARU LR LR
comp=Z,794nm,22.0s
SCO Scoresbysund 127.93 11 *i* PKIKP **PKPdf 12 52 44.9 +0.7**
SCO pmax pmax
comp=Z,7.0nm,1.0s
SCO Scoresbysund 127.93 11 *i* P **PKPdf 12 52 44.9 +0.7**
comp=Z,6.8nm,1.0s
ABKAR Akbulak array 128.77 317 *e*PKPdf **PKPdf 12 52 46.5 +0.1**
KEV Kevo 129.60 350 PFAKE 12 53 00.0 +13
KEV LR LR
comp=Z,588nm,20.0s
AKTO Aktyubinsk 129.69 319 PKIKP **PKPdf 12 52 48.3 +0.2**
AKTO Aktyubinsk 129.69 319 PKP **PKPdf 12 52 48.3 +0.2**
AKTO Aktyubinsk 129.69 319 PKP **PKPdf 12 52 48.3 +0.2**
comp=Z,6.2nm,1.1s,baz=80,slow=3.3,SNR=10
LVZ Lovozero 129.75 346 PFAKE 12 53 00.0 +12
LVZ LR LR
comp=Z,742nm,20.0s
ARCES ARCESS Array B 130.03 351 PKP **PKPdf 12 52 48.8 +0.6**
ARCES ARCESS Array B 130.03 351 PKP **PKPdf 12 52 48.8 +0.6**
comp=Z,13nm,1.1s,baz=21,slow=1.0,SNR=14
APA Apatity 130.30 346 ⇑ *i*PKIKP **PKPdf 12 52 49.0 +0.2**
PRGR Permogore 130.93 336 PKIKP **PKPdf 12 52 48.5 -1.6**
PRGR pmax pmax
comp=Z,12nm,0.3s
RCBR Riachuelo 131.33 119 PFAKE 12 53 00.0 +7.6
RCBR LR LR
comp=Z,630nm,20.0s
JOF Joensuu 134.63 344 *e*PKIKP **PKPdf 12 52 56.5 -0.6**
JOF Joensuu 134.63 344 *ep* **PKPdf 12 52 56.5 -0.6**
KAF Kangasniemi 136.54 346 *e*PKIKP **PKPdf 12 52 59.3 -1.3**
KAF Kangasniemi 136.54 346 *ep* **PKPdf 12 52 59.3 -1.3**
FINES FINESS Array B 137.19 346 PKP **PKPdf 12 53 02.0 +0.2**
FINES FINESS Array B 137.19 346 PKhKP PKPpre 12 52 51.0
comp=Z,1.5nm,0.8s,baz=39,slow=9.0,SNR=3.2
FINES PKP **PKPdf 12 53 02.0 +0.2**
comp=Z,12nm,1.1s,baz=64,slow=4.4,SNR=5.9
LSZ Lusaka 137.61 213 *e*PKPdf **PKPdf 12 53 04.7 +0.5**
LSZ LR LR
comp=Z,644nm,19.0s
MOS Moscow 137.92 333 *e*PKIKP **PKPdf 12 53 02.8 -0.6**
MOS *e* 12 55 54.1
TSUM Tsumeb 138.30 197 *e*PKPdf **PKPdf 12 53 06.3 +0.8**
TSUM LR LR
comp=Z,713nm,19.0s
OBN Obninsk 138.79 333 ⇓ *i*PKIKP **PKPdf 12 53 05.1 +0.1**
OBN *e* 12 53 13.8
OBN 12 56 02.0
OBN pmax pmax
comp=Z,26nm,1.0s
OBN MLR MLR
comp=Z,600nm,19.0s
OBN Obninsk 138.79 333 PFAKE 12 53 20.0 +15
OBN LR LR
comp=Z,760nm,19.0s
MAK Makhachkala 138.81 312 *i* PKIKP **PKPdf 12 53 05.1 -0.3**
MAK pmax pmax
comp=Z,305nm,1.3s
VRHR Novokhopersk 138.88 326 *e*PKIKP **PKPdf 12 53 04.1 -1.2**
VRHR pmax pmax
comp=Z,7.0nm,0.9s
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VSU Vasula 139.61 343 *e*PKIKP **PKPdf 12 53 05.7 -0.7**
NB2 NORSAR Subarra 139.85 356 PKP PKPpre 12 52 58.0
comp=Z,14nm,1.4s,baz=17,slow=2.6
NOA NORSAR Array B 139.85 356 PKhKP PKPpre 12 52 57.9
comp=Z,4.5nm,1.1s,baz=16,slow=4.6,SNR=5.6
VSR Storozhevoye 140.08 327 *i* PKIKP **PKPdf 12 53 06.3 -1.2**
VORD Divnogorie 140.16 327 *e*PKIKP **PKPdf 12 53 06.1 -1.5**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
HFS Hagfors 140.53 354 PKPpre PKPpre 12 53 00.1
HFS Hagfors 140.53 354 PKhKP PKPpre 12 53 00.1
comp=E,7.4nm,0.9s,baz=73,slow=5.0,SNR=12
ZEI Tsey 141.36 313 *e*PKIKP **PKPdf 12 53 09.4 -1.0**
ZEI pmax pmax
comp=Z,7.0nm,1.3s
SHEL Horse Pasture 141.58 162 PFAKE 12 53 20.0 +8.7
SHEL LR LR
comp=Z,798nm,19.0s
GNI Garni 141.66 309 PFAKE 12 53 20.0 +9.1
GNI LR LR
comp=Z,420nm,21.0s
KBZ Khabaz 141.66 315 PKIKP **PKPdf 12 53 10.1 -0.4**
KBZ Khabaz 141.66 315 PKP **PKPdf 12 53 10.1 -0.4**
KBZ Khabaz 141.66 315 PKP **PKPdf 12 53 10.1 -0.4**
comp=Z,3.1nm,0.9s,baz=170,slow=6.1,SNR=4.1
KIV Kislovodsk 141.71 315 *i* PKIKP **PKPdf 12 53 10.5 -0.3**
KIV *e*SS SS 13 14 42.7 -3.5
KIV *e*SSS SSS 13 20 00.5
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 141.71 315 PFAKE 12 53 20.0 +9.2
KIV LR LR
comp=Z,443nm,20.0s
KMBO Kilima Mbogo 141.97 238 *e*PKPdf PKPpre 12 53 07.8
KMBO PKPpre PKPpre 12 53 08.2
KMBO LR LR
comp=Z,575nm,21.0s

KMBO Kilima Mbogo 141.97 238 PKhKP PKPpre 12 53 08.2
comp=Z,3.0nm,0.8s,baz=35,slow=22,SNR=6.3
MVH1 Achvaich 142.49 9 *e*P **PKPdf** **12 53 09.1 -2.5**
HAKT HAKKARI 143.19 305 *i* P PKPbc 12 53 10.9 +0.2
BCA Borcka 143.43 312 *e*P PKPab 12 53 09.7 -0.4
DRUM Mains of Drumt 143.69 7 *e*P PKPab 12 53 09.7 -0.8
SOC Sochi 143.81 316 *i* PKHKP PKPpre 12 53 01.8
EKAR Karacoban 143.90 308 *i* P **PKPdf** **12 53 14.3 -0.7**
EAB Aberfoyle 144.15 9⇑*e*P **PKPab** **12 53 12.2 +0.1**
ERZM Erzurum 144.19 310 *i* P **PKPdf** **12 53 15.4 -0.1**
EZM Erzurum 144.19 310 *e*P **PKPdf** **12 53 14.6 -0.9**
SUW Suwalki 144.46 342 *e*PKIKP **PKPab** **12 53 13.5 0.0**
SUW Suwalki 144.46 342 *e*PKP **PKPab** 12 53 13.4 0.0
SUW Suwalki 144.46 342 *e*PKPdf PKPbc 12 53 14.4 +0.7
PGBU Glenifferbraes 144.49 10 *e*P PKPbc 12 53 13.7 0.0
MUD Monsted U'grnd 144.54 357⇑*i*PKIKP PKPbc 12 53 14.1 +0.3
MUD pmax pmax
comp=Z,130nm,1.1s
MUD Monsted U'grnd 144.54 357⇑*i*P PKPbc 12 53 14.1 +0.3
comp=Z,134nm,1.0s
ANN Anapa 144.64 319 *i* PKIKP PKPbc 12 53 14.7 +0.2
ANN pmax pmax
comp=Z,135nm,1.2s
ESY Stoneypath 144.65 8⇑*e*P **PKPab** **12 53 13.8 -0.3**
BNGL BINGOL 144.68 308 *i* P **PKPdf** **12 53 17.0 +0.6**
EBL Broad Law 144.74 8⇑*e*P **PKPab** **12 53 14.2 -0.3**
BAYT Ayd¨–ntepe-Bay 144.88 311 *e*P PKPbc 12 53 16.1 +0.4
KTUT Trabzon 144.90 312 *e*P PKPbc 12 53 15.7 +0.2
BNGB Bing¨‖ 145.01 309 *e*P **PKPbc** **12 53 14.8 -1.4**
COP Copenhagen 145.04 353⇑*i*PKIKP **PKPab** **12 53 15.6 +0.1**
COP pmax pmax
comp=Z,69nm,1.0s
COP Copenhagen 145.04 353⇑*i*P **PKPab** **12 53 15.6 +0.1**
comp=Z,69nm,1.0s
AKASG Malin Array Be 145.05 334 PKP2 **PKPbc** **12 53 15.2 -0.5**
AKASG Malin Array Be 145.05 334 PKPbc **PKPbc** **12 53 15.2 -0.5**
AKASG Malin Array Be 145.05 334 PKPbc **PKPbc** **12 53 15.2 -0.5**
comp=Z,17nm,0.5s,baz=37,slow=3.7,SNR=201
AKBB Malin Array Si 145.05 334 *e*PKP2 **PKPbc** **12 53 15.2 -0.5**
AKBB Malin Array Si 145.05 334 *e*PKPbc **PKPbc** **12 53 15.2 -0.5**
AK01 Malin Array Si 145.06 334 *e*PKPbc **PKPbc** **12 53 15.5 -0.2**
KIEV Kiev 145.06 334 *e*PKP2 PKPbc **12 53 14.9 -0.8**
KIEV MLR MLR
comp=Z,740nm,21.0s
KIEV Kiev 145.06 334 *e*PKPbc **PKPbc** **12 53 14.9 -0.8**
KIEV LR LR
comp=Z,740nm,21.0s
AK02 Malin Array Si 145.09 334 *e*PKPbc **PKPbc** **12 53 15.8 0.0**
EKA Eskdalemuir Ar 145.15 9 PKPbc **PKPbc** **12 53 15.3 -0.5**
EKA Eskdalemuir Ar 145.15 9 PKPbc **PKPbc** **12 53 15.3 -0.5**
comp=Z,35nm,0.8s,baz=350,slow=3.0,SNR=51
ESK Eskdalemuir 145.16 9 *e*PKIKP **PKPab** **12 53 16.1 +0.2**
ESK MLR MLR
comp=Z,604nm,20.0s
ESK Eskdalemuir 145.16 9 *e*PKPbc **PKPab** **12 53 16.1 +0.2**
ESK LR LR
comp=Z,604nm,20.0s
ASCN Ascension 145.17 144 PFAKE 12 53 30.0 +12
ASCN LR LR
comp=Z,845nm,22.0s
BSD Bornholm Skovb 145.27 351⇑*i*PKIKP **PKPbc** **12 53 16.0 -0.2**
BSD pmax pmax
comp=Z,140nm,1.0s
BSD Bornholm Skovb 145.27 351⇑*i*P **PKPbc** **12 53 16.0 -0.2**
comp=Z,141nm,1.0s
GUMT Gumushane 145.31 312 *e*P **PKPdf** **12 53 18.0 +0.7**
GAL1 Galloway 145.35 10 *e*P **PKPbc** **12 53 14.3 -2.2**
LLD Lille Linde 145.41 353 *i* PKIKP **PKPab** **12 53 17.3 +0.5**
LLD pmax pmax
comp=Z,18nm,1.1s
LLD Lille Linde 145.41 353 *i* P **PKPab** **12 53 17.3 +0.5**
comp=Z,18nm,1.0s
ERZN Erzincan 145.48 310 *e*P **PKPab** **12 53 18.1 +0.2**
MARD Mardin 145.49 306 *i* P **PKPab** **12 53 18.9 +0.9**
KELT Kelkit 145.59 311 *i* P **PKPab** **12 53 19.4 +1.0**
EZC Erzincan 145.68 310 *e*P **PKPab** **12 53 19.3 +0.7**
MAZI Mazidag 145.69 306 *e*P **PKPdf** **12 53 17.2 -0.8**
DYBB Diyarbakir 145.76 307 *e*P **PKPab** **12 53 19.1 +0.2**
DESE Dese 145.88 259 *e*P **PKPab** **12 53 21.7 +1.5**
KESW Keswick, Cumbr 145.88 9 *e*P **PKPdf** **12 53 17.6 0.0**
GRSN GIRESUNGRSN 145.96 313 *i* P **PKPab** **12 53 19.3 -0.2**
SVRC Sivrice-ELAZID 146.23 308 *e*P **PKPdf** **12 53 17.7 -1.3**
ILIC ilic-Erzincan 146.36 310 *e*P **PKPab** **12 53 22.0 +0.8**
ELZG Elazig 146.42 309 *i* P **PKPab** **12 53 23.1 +1.6**
KEMA Kemaliye 146.48 310 *i* P **PKPab** **12 53 23.1 +1.4**
SIM Simferopol' 146.52 322 PKP2 **PKPab** **12 53 21.2 -0.2**
SIM pmax pmax
comp=Z,37nm,0.9s
GKP Gorka Klasztor 146.61 347 *e*PKP2 **PKPbc** **12 53 20.9 +0.5**
GKP Gorka Klasztor 146.61 347 *e*PKP **PKPbc** **12 53 20.8 +0.4**
HPK Haverah Park 146.69 8 *e*P **PKPbc** **12 53 20.8 +0.1**
RSDY Resadiye-TOKAT 146.83 313 *e*P **PKPab** **12 53 22.5 -0.4**
WME Myndd Eilian 146.83 11 *e*P **PKPdf** **12 53 19.6 +0.3**
MALT Malatya 146.90 309 *e*P **PKPab** **12 53 23.0 -0.3**
MALT Malatya 146.90 309 ⇓*i*PKIKP **PKPbc** **12 53 21.1 -0.8**
MALT Malatya 146.90 309⇓*i*P **PKPbc** **12 53 21.1 -0.8**
WLF1 Llynfaes 146.92 11 *e*P **PKPdf** **12 53 19.1 -0.2**
BSEG Bad Segeberg 146.97 355 *e*PKPdf **PKPdf** **12 53 20.3 +0.9**
BSEG *e*PKPbc **PKPbc** **12 53 22.1 +0.7**
WPM1 Penmaenmawr 147.04 10 *e*P **PKPdf** **12 53 18.8 -0.8**
BEL Belsk 147.06 343 *e*PKP2 **PKPab** **12 53 22.6 -0.7**
BEL Belsk 147.06 343 *e*PKP **PKPab** **12 53 22.6 -0.7**
LHO Holmfirth 147.07 8 *e*P **PKPbc** **12 53 21.4 -0.4**
YLL Llanberis 147.10 11 *e*P **PKPbc** **12 53 21.6 -0.3**
SCER sogukcermik 147.20 312 *i* P **PKPab** **12 53 24.4 0.0**
SVSK Karacayir 147.27 312 *e*P **PKPbc** **12 53 23.3 +0.6**
MBAR Mbarara 147.31 232 PFAKE 12 53 30.0 +4.4
MBAR LR LR
comp=Z,657nm,22.0s
SORM Soroca 147.35 331⇑*i*P **PKPdf** **12 53 16.9 -3.4**
KBI1 Birley Grange 147.39 8 *e*P **PKPbc** **12 53 21.8 -0.8**
DARE Darende-Malaty 147.48 310 *e*P **PKPbc** **12 53 23.5 -0.1**
LVV L'vov 147.77 337 *e*PKP2 **PKPbc** **12 53 23.9 +0.1**
GZT Gaziantep 147.88 307 *i* P **PKPbc** **12 53 23.7 -1.0**
HLM1 Long Mynd 147.92 10 *e*P **PKPbc** **12 53 23.8 -0.4**
KIS Kishinev 147.97 329⇑*i*PKP **PKPbc** **12 53 25.0 +0.6**
KIS M 12 53 25.5
comp=Z,300nm,1.0s
KIS Kishinev 147.97 329 *e*PP PP 12 57 10.0 +18
KIS LRM MLR 13 57 44.0
comp=Z,700nm,22.0s
KIS Kishinev 147.97 329⇓*i*PKP2 **PKPbc** **12 53 25.0 +0.6**
KIS pmax pmax
comp=Z,300nm,1.0s
KIS MLR MLR
comp=Z,900nm,20.0s
KIS MLR MLR
comp=Z,700nm,22.0s
RUE Ruedersdorf 147.99 351 *e*PKPbc **PKPbc** **12 53 25.1 +0.9**
KWP Kalwaria Pacla 148.40 339 *e*PKIKP **PKPdf** **12 53 22.6 +0.6**
KWP *e* 12 53 26.1
KWP *e* 12 53 29.0
KWP MLR MLR
comp=Z,967nm,19.0s
KWP Kalwaria Pacla 148.40 339 *e*PKP **PKPbc** **12 53 25.7 +0.2**
KWP Kalwaria Pacla 148.40 339⇓*i*P **PKPbc** **12 53 25.0 -0.5**
KWP Kalwaria Pacla 148.40 339 *e*PKPdf **PKPdf** **12 53 22.6 +0.6**
KWP *e*PKPbc **PKPbc** **12 53 26.1 +0.6**
KWP *e*PKPab **PKPab** **12 53 29.0 +0.3**
KWP LR LR
comp=Z,967nm,19.0s
MCH1 Michaelchurch 148.40 10 *e*P **PKPbc** **12 53 24.0 -1.4**
NRDL Niedersach Rie 148.42 355 *e*PKPdf **PKPdf** **12 53 22.3 +0.5**
NRDL *e*PKPbc **PKPbc** **12 53 25.7 +0.4**
CTKT Corum 148.44 315 *i* P **PKPab** **12 53 27.8 -1.6**
IBBN Ibbenburen 148.76 357 *e*PKPdf **PKPdf** **12 53 23.5 +1.0**
IBBN *e*PKPbc **PKPbc** **12 53 26.7 +0.4**
OJC Ojcow 148.79 342 *e*PKIKP **PKPdf** **12 53 22.6 0.0**
OJC Ojcow 148.79 342 *e*PKP **PKPdf** **12 53 22.6 0.0**
CLZ Clausthal 149.04 354 *e*PKPdf **PKPdf** **12 53 24.0 +1.0**
CLZ *e*PKPbc **PKPbc** **12 53 27.7 +0.6**
STHS Stebnicka Huta 149.06 340 *e*PKP2 **PKPbc** **12 53 28.2 +1.0**
STHS Stebnicka Huta 149.06 340 *e*PKP **PKPbc** **12 53 28.2 +1.0**
BUR08 Bucovina Ar. S 149.09 334 *e*PKPdf **PKPdf** **12 53 24.6 +1.3**
BUR08 *e*PKPbc **PKPbc** **12 53 27.2 -0.2**
BUR08 *e*PKPab **PKPab** **12 53 30.7 -1.0**
KSP Ksiaz 149.09 347 *e*PKIKP **PKPdf** **12 53 23.9 +0.8**
KSP *e* 12 53 28.0
KSP Ksiaz 149.09 347 *e*PKP **PKPbc** **12 53 28.1 +0.9**
BURAR Bucovina Array 149.11 334 ⇓PKIKP **PKPdf** **12 53 24.9 +1.5**
BURAR Bucovina Array 149.11 334 ⇓*i*P **PKPdf** **12 53 24.9 +1.5**
WTSB Winterswijk 149.13 359 *e*PKP **PKPbc** **12 53 27.4 +0.2**

KOLS Kolonicke sedl 149.14 338 *e*PKIKP **PKPdf** **12 53 24.1 +0.8**
KOLS *e* 12 53 28.8
KOLS Kolonicke sedl 149.14 338 *e*PKP **PKPdf** **12 53 24.1 +0.8**
KOLS *e* 12 53 28.8
CDAG Cicekdag 149.20 313 *i* P **PKPbc** **12 53 28.6 +0.6**
CLL Collm 149.25 351 *i* PKHKP **PKPdf** **12 53 23.3 0.0**
CLL pmax pmax
comp=Z,22nm,1.6s
CLL pmax pmax
comp=Z,135nm,1.3s
CLL MLR MLR
comp=Z,600nm,21.1s
CLL Collm 149.25 351 *e*PKPdf **PKPdf** **12 53 23.9 +0.6**
CLL Collm 149.25 351 *i* PKPdf **PKPdf** **12 53 23.3 0.0**
comp=Z,22nm,1.6s
CLL *i* PKPbc **PKPbc** **12 53 27.8 +0.2**
comp=Z,135nm,1.3s
CLL *i* PKPab **PKPab** **12 53 32.5 +0.5**
comp=Z,103nm,1.3s
CLL *e*PKPlp 12 53 50.0
CLL *e*PP **PP** **12 57 01.0 +2.5**
CLL *e*PPP PPP 13 00 21.0
CLL *e*PSKS 13 07 21.0
CLL *e*SS SS 13 16 12.0 +2.0
CLL LmV 14 02 00.0
comp=Z,600nm,21.1s
UZH Uzhgorod 149.39 338*d* PKP2 **PKPbc** **12 53 27.5 -0.5**
UZH *e* 13 00 18.7
CRVS Cervenica-Dubn 149.44 339 *e*PKHKP **PKPdf** **12 53 24.1 +0.4**
CRVS *e* 12 53 29.4
CRVS Cervenica-Dubn 149.44 339 *e*PKP **PKPdf** **12 53 24.1 +0.4**
CRVS *e* 12 53 29.4
UPC Upice 149.47 347 *e*PKHKP **PKPdf** **12 53 24.4 +0.7**
UPC *e* 12 53 29.6
UPC Upice 149.47 347 *e*PKPDF **PKPdf** **12 53 24.4 +0.7**
UPC ⇑*e*PKP **PKiKP** **12 53 29.6 +0.3**
BRG Berggiesshubel 149.52 350 *i* PKP **PKPdf** **12 53 24.2 +0.4**
comp=Z,16nm,1.3s
BRG *i* 12 53 29.0
comp=Z,107nm,1.4s
BRG Berggiesshubel 149.52 350 *i* PKHKP **PKPdf** **12 53 24.2 +0.4**
BRG pmax pmax
comp=Z,16nm,1.3s
BRG pmax pmax
comp=Z,107nm,1.3s
BRG Berggiesshubel 149.52 350 *e*PKPdf **PKPdf** **12 53 24.7 +0.9**
BRG *e*PKPbc **PKiKP** **12 53 28.9 -0.5**
DPC Dobruska-Polom 149.55 346 *e*PKHKP **PKPdf** **12 53 24.8 +0.9**
DPC *e* 12 53 29.6
DPC Dobruska-Polom 149.55 346 *e*PKPDF **PKPdf** **12 53 24.8 +0.9**
DPC ⇑*e*PKP **PKiKP** **12 53 29.6 +0.1**
DPC *e*PKPAB **PKPab** **12 53 34.2 +0.8**
OKC Ostrava-Krasne 149.59 344 *e*PKP2 **PKPbc** **12 53 29.6 +1.1**
OKC Ostrava-Krasne 149.59 344⇑*e*PKP **PKPbc** **12 53 29.6 +1.1**
OKC *e*PKPAB **PKPab** **12 53 34.5 +1.0**
OKC *ex* x 12 53 42.5
CFR Carcaliu 149.60 328 ⇓PKHKP **PKPdf** **12 53 25.0 +1.0**
CFR Carcaliu 149.60 328⇓*i*P **PKPdf** **12 53 25.0 +1.0**
BUG Bochum--Univer 149.64 358 *e*PKPdf **PKPdf** **12 53 24.7 +0.8**
BUG *e*PKPbc **PKPbc** **12 53 28.9 +0.4**
BUG *e*PKPab **PKPab** **12 53 34.2 +0.6**
BR131 Keskin Array S 149.65 314 *e*PKPdf **PKPdf** **12 53 24.9 +0.3**
BR131 *e*PKPbc **PKPbc** **12 53 29.1 -0.1**
BR131 *e*PKPab **PKPab** **12 53 33.8 -0.5**
BRTR Keskin Array B 149.65 314 PKP **PKPdf** **12 53 24.9 +0.3**
BRTR PKPbc **PKPbc** **12 53 29.4 +0.2**
BRTR Keskin Array B 149.65 314 PKP **PKPdf** **12 53 24.9 +0.3**
comp=Z,33nm,1.2s,baz=173,slow=2.1,SNR=30
BRTR PKPbc **PKPbc** **12 53 29.4 +0.2**
comp=Z,34nm,1.2s,baz=130,slow=2.1,SNR=40
KRLC Kraliky 149.71 346 *e*PKHKP **PKPdf** **12 53 24.9 +0.7**
KRLC *e* 12 53 34.8
KRLC Kraliky 149.71 346 *e*PKPDF **PKPdf** **12 53 24.9 +0.7**
KRLC ⇑*e*PKP **PKiKP** **12 53 29.5 -0.4**
KRLC *e*PKPAB **PKPab** **12 53 34.8 +0.8**
KRLC *ex* x 12 53 43.0
TRPA Tarpa 149.73 337⇓*i*P **PKPdf** **12 53 24.2 0.0**
TRPA Tarpa 149.73 337⇓*e* PKPbc **12 53 29.2 +0.4**
PVCC Panska Ves 149.74 349 *e*PKHKP **PKPdf** **12 53 24.8 +0.7**
PVCC *e* 12 53 30.1
PVCC MLR MLR
comp=Z,800nm,16.6s
PVCC Panska Ves 149.74 349 *e*PKPDF **PKPdf** **12 53 24.8 +0.7**
PVCC ⇑*e*PKP **PKiKP** **12 53 30.1 +0.3**
PVCC *e*PKPAB **PKPab** **12 53 35.5 +1.4**
PVCC AMS AMS 14 10 20.0
comp=Z,800nm,16.6s
VRI Vrincioaia 149.78 330 ⇓PKIKP **PKPdf** **12 53 23.5 -0.9**
VRI Vrincioaia 149.78 330⇓*i*P **PKPdf** **12 53 23.5 -0.9**
MORC Moravsky Berou 149.80 344 *e*PKHKP **PKPdf** **12 53 24.5 +0.2**
MORC Moravsky Berou 149.80 344⇓*i*P **PKPdf** **12 53 25.3 +1.0**
MORC Moravsky Berou 149.80 344 *e*PKPdf **PKPdf** **12 53 24.5 +0.2**
MORC *e*PKPbc **PKPbc** **12 53 29.4 +0.3**
GULE Gulek 149.96 309 *i* P **PKPbc** **12 53 31.1 +1.1**
ASF Jabal al Asfar 149.98 298 PKPbc **PKPbc** **12 53 31.3 +1.2**
ASF Jabal al Asfar 149.98 298 PKPbc **PKPbc** **12 53 31.3 +1.2**
comp=Z,20nm,1.2s,baz=259,slow=2.0,SNR=8.9
TLB Topalu 150.06 327 ⇓PKIKP **PKPdf** **12 53 23.5 -1.3**
TLB Topalu 150.06 327⇓*i*P **PKPdf** **12 53 23.5 -1.3**
UBBA Unterbreizbach 150.09 354 *e*PKPdf **PKPdf** **12 53 25.0 +0.5**
UBBA *e*PKPbc **PKPbc** **12 53 29.7 +0.2**
ANTO Ankara 150.14 315 *e*PKIKP **PKPdf** **12 53 25.6 +0.4**
ANTO *e* 12 53 30.9
ANTO *e* 12 53 35.6
ANTO MLR MLR
comp=Z,520nm,21.0s
ANTO Ankara 150.14 315⇓*i*P **PKPdf** **12 53 26.0 +0.8**
ANTO Ankara 150.14 315 *e*PKPdf **PKPdf** **12 53 25.6 +0.4**
ANTO *e*PKPbc **PKiKP** **12 53 30.9 -0.3**
ANTO *e*PKPab **PKPab** **12 53 35.6 -0.6**
ANTO LR LR
comp=Z,520nm,21.0s
TANN Tannenbergstha 150.19 351 *e*PKPdf **PKPdf** **12 53 25.7 +0.8**
TANN *e*PKPbc **PKiKP** **12 53 30.5 -0.4**
PRA Prague 150.20 348 PKPDF **PKPdf** **12 53 26.0 +1.1**
PRA ⇑PKP **PKiKP** **12 53 31.0 +0.2**
PRA PKPAB **PKPab** **12 53 39.0 +3.0**
PRU Pruhonice 150.26 348 *e*PKIKP **PKPdf** **12 53 25.4 +0.4**
PRU *e* 12 53 30.6
PRU *e* 12 53 38.1
PRU MLR MLR
comp=Z,800nm,21.5s
PRU Pruhonice 150.26 348 *e*PKPDF **PKPdf** **12 53 25.4 +0.4**
PRU ⇑*e*PKP **PKiKP** **12 53 30.6 -0.3**
PRU *e*PKPAB **PKPab** **12 53 38.1 +1.9**
PRU AMS AMS 14 11 30.0
comp=Z,800nm,21.5s
BEBN Eben Emael 150.31 360 PKPbc **PKPbc** **12 53 30.8 +0.6**
BEBN PKPab **PKPab** **12 53 37.8 +1.4**
HGN Heimansgroeve 150.35 360 *e*PKP **PKPbc** **12 53 30.2 0.0**
NKC Novy Kostel 150.37 351 *e*PKIKP **PKPbc** **12 53 31.0 +0.6**
NKC *e* 12 53 38.4
NKC *e* 12 53 43.9
NKC Novy Kostel 150.37 351⇑*e*PKP **PKPbc** **12 53 31.0 +0.6**
NKC *e*PKPAB **PKPab** **12 53 38.4 +1.7**
NKC *ex* x 12 53 43.9
ISR Istrita 150.42 329 ⇓PKIKP **PKPdf** **12 53 27.9 +2.4**
ISR Istrita 150.42 329⇓*i*P **PKPdf** **12 53 27.9 +2.4**
MLR Muntele Rosu 150.43 330⇓*i*P **PKPdf** **12 53 26.4 +0.8**
MLR Muntele Rosu 150.43 330 PKP **PKPdf** **12 53 26.0 +0.5**
MLR PKPbc **PKiKP** **12 53 32.0 +0.4**
MLR Muntele Rosu 150.43 330 PKP **PKPdf** **12 53 26.0 +0.5**
comp=Z,1.1nm,0.9s,baz=283,slow=16,SNR=3.6
MLR PKPbc **PKiKP** **12 53 32.0 +0.4**
comp=Z,11nm,1.1s,baz=56,slow=2.1,SNR=17
VRAC Vranov 150.47 345⇓*i*P **PKPdf** **12 53 26.5 +1.2**
VRAC Vranov 150.47 345 PKPbc **PKPbc** **12 53 31.2 +0.5**
VRAC Vranov 150.47 345 PKPbc **PKPbc** **12 53 31.2 +0.5**
comp=Z,24nm,1.1s,baz=39,slow=0.8,SNR=22
MEM Membach 150.50 359 PKPbc **PKPbc** **12 53 30.9 +0.3**
MEM PKPab **PKPab** **12 53 36.6 -0.5**
BCLA Clavier 150.69 0 PKPbc **PKPbc** **12 53 31.2 +0.1**
BCLA PKPab **PKPab** **12 53 38.3 +0.4**
TREC Trest 150.73 347 *e*PKIKP **PKPbc** **12 53 32.2 +0.9**
TREC Trest 150.73 347⇑*e*PKP **PKPbc** **12 53 32.2 +0.9**
DRGR 150.78 335 ⇓PKIKP **PKPbc** **12 53 29.7 -1.9**
DRGR 150.78 335⇓*i*P **PKPbc** **12 53 29.7 -1.9**
PSZ Piszkesteto 150.81 340 *e*PKIKP **PKPdf** **12 53 26.2 +0.2**
PSZ *e* 12 53 31.8
PSZ *e* 12 53 38.6
PSZ MLR MLR
comp=Z,913nm,21.0s

PSZ Piszkesteto 150.81 340⇓*i*P **PKPdf** **12 53 26.8 +0.8**
PSZ Piszkesteto 150.81 340 *e*PKPdf **PKPdf** **12 53 26.1 +0.2**
PSZ *e*PKPbc **PKPbc** **12 53 31.8 +0.2**
PSZ *e*PKPab **PKPab** **12 53 38.6 -0.1**
PSZ LR LR
comp=Z,913nm,21.0s
PSZ Piszkesteto 150.81 340⇑*e* **PKPbc** **12 53 32.0 +0.4**
ROTZ Rotzenmuhle 150.86 351 *e*PKPbc **PKPbc** **12 53 32.2 +0.6**
ROTZ *e*PKPab **PKPab** **12 53 39.7 +1.0**
VOIR 150.88 331 ⇓PKIKP **PKPdf** **12 53 27.1 +0.9**
VOIR 150.88 331⇓*i*P **PKPdf** **12 53 27.0 +0.9**
MMAI Mount Meron Ar 150.97 301 PKPbc **PKPbc** **12 53 33.7 +1.3**
MMAI Mount Meron Ar 150.97 301 PKPbc **PKPbc** **12 53 33.7 +1.3**
comp=Z,10nm,0.7s,baz=76,slow=7.8,SNR=11
SMOL Smolenice 150.99 344 *e*PKIKP **PKPbc** **12 53 33.4 +1.5**
SMOL Smolenice 150.99 344 *e*PKP **PKPbc** **12 53 33.4 +1.5**
DOU Dourbes 151.01 1 PKPbc **PKPbc** **12 53 32.4 +0.5**
DOU PKPab **PKPab** **12 53 40.1 +0.9**
GRF Grafenberg Arr 151.07 352 *e*PKPdf **PKPdf** **12 53 27.2 +0.9**
GRF *e*PKPbc **PKiKP** **12 53 32.7 +0.1**
GRF *e*L L 14 12 43.9
comp=Z,540nm,19.4s
GRFO Grafenberg 151.07 352 *e*PKIKP **PKPdf** **12 53 27.0 +0.7**
GRFO *e* 12 53 32.9
GRFO *e* 12 53 40.3
GRFO Grafenberg 151.07 352 *e*PKPdf **PKPdf** **12 53 27.0 +0.7**
GRFO *e*PKPbc **PKiKP** **12 53 32.9 +0.3**
GRFO *e*PKPab **PKPab** **12 53 40.3 +0.7**
ARR Arges 151.12 332⇓*i*P **PKPdf** **12 53 27.6 +1.0**
KHC Kasperske Hory 151.26 349 *e*PKIKP **PKPdf** **12 53 26.9 +0.3**
KHC *e* 12 53 33.5
KHC *e* 12 53 41.5
KHC MLR MLR
comp=Z,900nm,19.3s
KHC Kasperske Hory 151.26 349 *e*PKPDF **PKPdf** **12 53 26.9 +0.3**
KHC ⇑*e*PKP **PKiKP** **12 53 33.5 +0.4**
KHC *e*PKPAB **PKPab** **12 53 41.5 +1.1**
KHC *e*pPKP **pPKPab** **12 53 46.4 +1.2**
KHC AMS AMS 14 13 50.0
comp=Z,900nm,19.3s
KHC Kasperske Hory 151.26 349 *e*PKPdf **PKPdf** **12 53 26.9 +0.3**
KHC *e*PKPbc **PKiKP** **12 53 33.2 +0.1**
KHC *e*PKPab **PKPab** **12 53 41.6 +1.2**
WET Wettzell 151.37 350 *e*PKPdf **PKPdf** **12 53 26.4 -0.4**
WET *e*PKPbc **PKPbc** **12 53 32.1 -0.7**
WLF Walferdange 151.44 359 PKPbc **PKPbc** **12 53 34.4 +1.5**
WLF PKPab **PKPab** **12 53 42.1 +1.0**
WLF Walferdange 151.44 359 *e*PKIKP **PKPbc** **12 53 33.6 +0.7**
WLF *e* 12 53 41.4
WLF MLR MLR
comp=Z,863nm,21.0s
WLF Walferdange 151.44 359 *e*PKPdf **PKPdf** **12 53 27.9 +1.1**
WLF *e*PKPbc **PKiKP** **12 53 33.8 +0.4**
WLF Walferdange 151.44 359 *e*PKPbc **PKPbc** **12 53 33.6 +0.7**
WLF *e*PKPab **PKPab** **12 53 41.4 +0.3**
WLF LR LR
comp=Z,863nm,21.0s
GEC2 GERESS Array S 151.51 349 *e*PKPdf **PKPdf** **12 53 27.6 +0.5**
GEC2 *e*PKPbc **PKiKP** **12 53 33.5 -0.2**
GERES GERESS Array B 151.51 349 PKP **PKPdf** **12 53 27.9 +0.9**
GERES PKPbc **PKPbc** **12 53 33.4 +0.1**
GERES GERESS Array B 151.51 349 PKP **PKPdf** **12 53 27.9 +0.9**
comp=Z,2.1nm,1.0s,baz=108,slow=3.0,SNR=5.7
GERES PKPbc **PKPbc** **12 53 33.4 +0.1**
comp=Z,5.9nm,0.6s,baz=48,slow=2.0,SNR=28
ERMK Ermenek 151.58 309 *i* P **PKPbc** **12 53 35.1 +1.1**
SEYT Eskypehyr 151.60 316 *i* P **PKPbc** **12 53 34.2 +0.5**
SIRR Siria 151.62 336⇓*i*P **PKPdf** **12 53 28.1 +0.9**
SACV Santiago Islan 151.63 97 PFAKE 12 53 40.0 -3.0
SACV LR LR
comp=Z,423nm,19.0s
BORA Eskisehir 151.65 317 *i* P **PKPbc** **12 53 34.1 +0.2**
PKSG 151.74 341⇓*e* **PKPbc** **12 53 34.1 +0.5**
CSKK Cs¨‡kako 151.81 342⇑*e*PKPdf **PKPbc** **12 53 36.6 +2.8**
GZR Gura Zlata 151.90 334 ⇓PKIKP **PKPdf** **12 53 28.0 +0.3**
GZR Gura Zlata 151.90 334⇓*i*P **PKPdf** **12 53 28.0 +0.3**
CSS Prodhromos 151.95 306 PFAKE 12 53 40.0 -3.8
CSS LR LR
comp=Z,142nm,21.0s
BOLV Bolvadin 151.96 314 *i* P **PKPbc** **12 53 35.4 +0.8**
PKST T¨s 151.97 342⇓*e* **PKPbc** **12 53 34.6 +0.4**
SOP Sopron 151.98 344⇑*e* **PKPbc** **12 53 34.6 +0.4**
LANF Langenberg 152.08 357 PKP **PKPbc** **12 53 34.9 +0.5**
EIL Elat 152.15 294 PKPbc **PKPbc** **12 53 35.8 +0.6**
EIL Elat 152.15 294 PKPbc **PKPbc** **12 53 35.8 +0.6**
comp=Z,13nm,0.9s,baz=303,slow=5.9,SNR=10
BZS Buzias 152.18 335 ⇓PKIKP **PKPdf** **12 53 28.8 +0.8**
BZS Buzias 152.18 335⇓*i*P **PKPdf** **12 53 28.8 +0.8**
GAZI Gazipasa 152.19 309 *i* P **PKPab** **12 53 45.3 +0.5**
FUR Furstenfeldbru 152.56 352 *e*PKPbc **PKPbc** **12 53 35.9 +0.4**
BFO Black Forest 152.69 356 *e*PKIKP **PKPdf** **12 53 28.5 -0.3**
BFO *e* 12 53 35.9
BFO *e* 12 53 46.6
BFO MLR MLR
comp=Z,671nm,20.0s
BFO Black Forest 152.69 356 *e*PKPdf **PKPdf** **12 53 29.0 +0.2**
BFO *e*PKPbc **PKiKP** **12 53 36.0 0.0**
BFO *e*PKPab **PKPab** **12 53 47.0 +0.6**
BFO Black Forest 152.69 356 *e*PKPdf **PKPdf** **12 53 28.5 -0.3**
BFO *e*PKPbc **PKPbc** **12 53 35.9 0.0**
BFO *e*PKPab **PKPab** **12 53 46.6 +0.2**
BFO LR LR
comp=Z,671nm,20.0s
ISP Isparta 152.71 313 PFAKE 12 53 40.0 +3.7
ISP LR LR
comp=Z,637nm,20.0s
GDZ Gediz 152.72 317 *i* P **PKPbc** **12 53 36.5 +0.2**
PKSM Moragy 152.72 340 ⇓PKIKP **PKPdf** **12 53 29.3 +0.5**
PKSM Moragy 152.72 340⇓*i*P **PKPdf** **12 53 29.3 +0.5**
PKSM Moragy 152.72 340⇓*e* PKPdf **PKPdf** **12 53 28.8 0.0**
RJOB Jochberg 152.74 349 *e*PKPdf **PKPdf** **12 53 29.0 +0.1**
ECH Echery 152.87 358 PKP **PKPbc** **12 53 34.9 -1.3**
ECH Echery 152.87 358 *e*PKIKP **PKPdf** **12 53 28.0 -1.0**
ECH *e* 12 53 36.3
ECH *e* 12 53 47.4
ECH MLR MLR
comp=Z,745nm,19.0s
ECH Echery 152.87 358 *e*PKPdf **PKPdf** **12 53 28.0 -1.0**
ECH *e*PKPbc **PKiKP** **12 53 36.3 -0.1**
ECH *e*PKPab **PKPab** **12 53 47.4 +0.2**
ECH LR LR
comp=Z,745nm,19.0s
THEF They Montfort 152.89 359 PKP **PKPbc** **12 53 36.7 +0.5**
FELD Feldberg im Sc 153.17 356 PKP **PKPbc** **12 53 34.0 -3.0**
MOF Molkenrain 153.23 358 PKP **PKPbc** **12 53 35.3 -1.8**
RETA Reutte 153.29 352⇓*i*PKIKP **PKiKP** **12 53 37.7 +0.3**
comp=Z,18nm,1.1s
MOTA Moosalm 153.39 352⇑*i*PKPdf **PKPdf** **12 53 30.3 +0.4**
comp=Z,16nm,1.5s
MOTA ⇑*i*PKiKP **PKiKP** **12 53 38.2 +0.5**
comp=Z,39nm,1.3s,SNR=6.9
WTTA Wattenberg 153.39 351⇓*i*PKPdf **PKPdf** **12 53 30.2 +0.1**
comp=Z,14nm,1.5s
WTTA *i* PKiKP **PKiKP** **12 53 38.2 +0.5**
comp=Z,29nm,0.9s,SNR=6.6
DAVA Damuels 153.59 353 *i* PKiKP **PKiKP** **12 53 38.6 +0.5**
comp=Z,28nm,1.2s,SNR=6.7
LOMF Lomont 153.74 358 PKP **PKPbc** **12 53 35.1 -3.1**
ABTA Abfaltersbach 153.75 349⇓*i*PKPdf **PKPdf** **12 53 29.6 -0.8**
comp=Z,18nm,1.3s
ABTA ⇑*i*PKiKP **PKiKP** **12 53 38.8 +0.5**
comp=Z,38nm,1.2s
FETA Feichten 153.76 352⇑*i*PKPdf **PKPdf** **12 53 30.3 -0.3**
comp=Z,11nm,1.3s
FETA ⇑*i*PKiKP **PKiKP** **12 53 39.6 +1.1**
comp=Z,19nm,1.1s
LJU Ljubljana 154.01 346 *e*PKPdf **PK

SSB	**Saint Sauveur**	**155.82**	**2**	*e*PKPdf	**PKPdf**	**12 53 33.0**	**-0.3**
SSB				*e*PKPab	**PKPab**	**12 54 00.5**	**+0.6**
SSB				LR	LR		
	comp=Z,642nm,19.0s						
BNI	**Bardonecchia**	**156.05**	**358**	*e*PKIKP	**PKPdf**	**12 53 33.6**	**-0.1**
BNI				MLR	MLR		
	comp=Z,1µm,19.0s						
BNI	**Bardonecchia**	**156.05**	**358**	*e*PKPdf	**PKPdf**	**12 53 33.6**	**-0.1**
BNI				*e*PKPab	**PKPab**	**12 54 02.2**	**+1.3**
BNI				LR	LR		
	comp=Z,1µm,19.0s						
MSKU	**Masuku**	**156.10**	**200**	PFAKE		12 53 50.0	-12
MSKU				LR	LR		
	comp=Z,2.0nm,19.0s						
PGAV	**Gavieira, Arco**	**156.11**	**26**	*e*LR	LR	13 55 47.1	
	comp=Z,750nm,18.0s						
VLC	**Villacollemand**	**156.61**	**351**	PFAKE		12 53 50.0	-13
VLC				LR	LR		
	comp=Z,733nm,20.0s						
POLO	**Lamas de Olo**	**156.80**	**26**	*e*PKPab	**PKPab**	**12 54 04.7**	**+0.5**
PBRG	**Braganca**	**156.85**	**24**	*e*PKPab	**PKPab**	**12 54 04.9**	**+0.5**
SANT	**Santorini**	**156.89**	**316**	PFAKE		12 53 50.0	-15
SANT				LR	LR		
	comp=Z,300nm,21.0s						
PVRL	**Vila Real**	**156.91**	**26**	*e*PKPab	**PKPab**	**12 54 05.1**	**+0.4**
FUL	**Funchal**	**156.93**	**55**	*e*PKPab	PKPab	12 53 53.2	-12
MVO	**Moncorvo**	**157.28**	**25**	*e*PKPab	**PKPab**	**12 54 06.7**	**+0.4**
MVO	**Moncorvo**	**157.28**	**25**	*e*LR	LR	13 56 33.0	
	comp=Z,639nm,16.0s						
PVIS	**Viseu**	**157.30**	**27**	*e*PKPab	**PKPab**	**12 54 06.8**	**+0.4**
MTE	**Manteigas**	**157.71**	**27**	*e*PKPab	**PKPab**	**12 54 08.1**	**-0.1**
MTE	**Manteigas**	**157.71**	**27**	*e*LR	LR	14 01 52.3	
	comp=Z,661nm,20.0s						
MTE	**Manteigas**	**157.71**	**27**	PFAKE		12 53 50.0	+14
MTE				LR	LR		
	comp=Z,780nm,20.0s						
PTOM	**Tomar**	**157.96**	**30**	*e*PKPab	**PKPab**	**12 54 09.5**	**+0.3**
PMRV	**Marv??o**	**158.58**	**28**	*e*PKPab	**PKPab**	**12 54 12.6**	**+0.7**
EVO	**Evora**	**159.01**	**31**	*e*PKPab	**PKPab**	**12 54 14.9**	**+1.1**
CUC	**Castrocucco**	**159.19**	**337**	PFAKE		12 53 50.0	+12
CUC				LR	LR		
	comp=Z,596nm,19.0s						
PTEO	**Sao Teotonio**	**159.42**	**34**	*e*PKPab	PKPab	12 54 05.8	-10
TIP	**Timpagrande**	**159.53**	**334**	PFAKE		12 53 50.0	+12
TIP				LR	LR		
	comp=Z,432nm,19.0s						
PCVE	**Castro Verde**	**159.70**	**33**	*e*PKPab	**PKPab**	**12 54 13.2**	**-3.6**
PAB	**San Pablo**	**159.70**	**23**	PFAKE		12 53 50.0	+12
PAB				LR	LR		
	comp=Z,791nm,19.0s						
ESDC	**Sonseca Array**	**159.72**	**22**	PKP	**PKPdf**	**12 53 38.6**	**+0.3**
ESDC				PKPab	**PKPab**	**12 54 17.0**	**+0.1**
ESDC	**Sonseca Array**	**159.72**	**22**	PKP	**PKPdf**	**12 53 38.6**	**+0.3**
	comp=Z,0.2nm,0.2s,baz=92,slow=21,SNR=4.2						
ESDC				PKPab	**PKPab**	**12 54 17.0**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=316,slow=3.9,SNR=13						
PBAR	**Barrancos**	**159.76**	**30**	*e*PKPab	PKPab	12 54 03.9	-13
PVAQ	**Vaqueiros**	**160.04**	**32**	*e*LR	LR	13 56 21.2	
	comp=Z,672nm,20.0s						
CEL	**Celeste**	**160.67**	**335**	PFAKE		12 53 50.0	+11
CEL				LR	LR		
	comp=Z,737nm,21.0s						
VSL	**Villasalto**	**161.33**	**351**	PFAKE		12 53 50.0	+10
VSL				LR	LR		
	comp=Z,592nm,19.0s						
LIC	**Lamto**	**162.04**	**144**	*e*PKIKP	**PKPdf**	**12 53 40.4**	**-1.1**
	comp=Z,56nm,1.2s						
LIC	**Lamto**	**162.04**	**144**	*e*PKP2	**PKPab**	**12 54 26.6**	**-1.0**
KIC	**Kosan Boka**	**162.31**	**144**	*e*PKIKP	**PKPdf**	**12 53 40.8**	**-1.0**
	comp=Z,70nm,1.2s						
KIC	**Kosan Boka**	**162.31**	**144**	*e*PKP2	**PKPab**	**12 54 28.0**	**-0.8**
TIC	**Toumodi**	**162.39**	**143**	*e*PKIKP	**PKPdf**	**12 53 41.1**	**-0.8**
	comp=Z,48nm,1.1s						
TIC	**Toumodi**	**162.39**	**143**	*e*PKP2	**PKPab**	**12 54 28.3**	**-0.8**
DBIC	**Dimbokro**	**162.50**	**143**	*e*PKPdf	**PKPdf**	**12 53 40.9**	**-1.1**
DBIC				PKP	**PKPdf**	**12 53 41.2**	**-0.8**
DBIC				PKPab	**PKPab**	**12 54 28.8**	**-0.8**
DBIC	**Dimbokro**	**162.50**	**143**	PKP	**PKPdf**	**12 53 41.2**	**-0.8**
	comp=Z,13nm,1.1s,baz=213,slow=1.9,SNR=6.9						
DBIC				PKPab	**PKPab**	**12 54 28.8**	**-0.8**
	comp=Z,19nm,1.1s,baz=196,slow=6.9,SNR=7.3						
RTC	**Rabat Centre**	**163.07**	**38**	PFAKE		12 53 50.0	+8.1
RTC				LR	LR		
	comp=Z,735nm,19.0s						
WDD	**Wield Dalam**	**163.28**	**334**	PFAKE		12 53 50.0	+8.0
WDD				LR	LR		
	comp=Z,855nm,19.0s						
MDT	**Midelt**	**165.19**	**36**	PKP	**PKPdf**	**12 53 45.2**	**+1.2**
MDT				PKPab	**PKPab**	**12 54 41.6**	**+0.4**
MDT	**Midelt**	**165.19**	**36**	PKP	**PKPdf**	**12 53 45.2**	**+1.2**
	comp=Z,6.9nm,1.1s,baz=291,slow=0.9,SNR=6.2						
MDT				PKPab	**PKPab**	**12 54 41.6**	**+0.4**
	comp=Z,16nm,1.2s,baz=332,slow=4.8,SNR=7.6						
TOA0	**Torodi Ar. Sit**	**171.31**	**154**	*e*PKPdf	**PKPdf**	**12 53 47.5**	**-1.0**
TOA0				*e*PKPab	**PKPab**	**12 55 08.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**171.31**	**154**	PKP	**PKPdf**	**12 53 47.1**	**-1.4**
TORD				PKPab	**PKPab**	**12 55 08.0**	**-0.3**
TORD				PP	PP	12 58 50.5	-7.3
TORD	**Torodi Ar. Bea**	**171.31**	**154**	PKP	**PKPdf**	**12 53 47.1**	**-1.4**
	comp=Z,7.6nm,1.1s,baz=323,slow=1.8,SNR=24						
TORD				PKPab	**PKPab**	**12 55 08.0**	**-0.3**
	comp=Z,5.8nm,0.9s,baz=232,slow=4.1,SNR=9.2						
TORD				PP	PP	12 58 50.5	-7.3
	comp=Z,2.7nm,1.3s,baz=217,slow=0.7,SNR=3.9						
TAM	**Tamanrasset**	**178.27**	**1**	*e*PKIKP	**PKPdf**	**12 53 51.5**	**+0.9**
TAM				MLR	MLR		
	comp=Z,634nm,19.0s						
TAM	**Tamanrasset**	**178.27**	**1**	*e*PKPdf	**PKPdf**	**12 53 51.5**	**+0.9**
TAM				LR	LR		
	comp=Z,634nm,19.0s						

*IDC **11** 12:49:02.9±0.7,21°.02S×174°.41W,h0km,mb4.0/8, mb1 4.3/9,mb1mx4.1/20,mbtmp4.0/9,ML4.4/1,Error ellipse: s-maj=31.9km s-min=19.8km az=140.0*
*NEIC **11** 12:49:04.2±0.6,20°.96S×174°.40W,h10km,mb4.1/2,Error ellipse: s-maj=21.4km s-min=11.5km az=124.0*
*ISCJB **11** 12:49:05.2±0.7,20°.9S±0°.1×174°.5W±0°.2,h27km,mb4.0/9, Error ellipse: s-maj=25.0km s-min=10.4km az=32.0*

ISC 11 12:49:06.9±0.6,21°.0S±0°.1×174°.4W±0°.2,h27km,n27, σ1§12/29,mb4.1/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.46**	**20**	*e*Pn	**Pn**	**12 50 52.3**	**-1.7**
AFI				*e*Sn	**Sn**	**12 52 18.3**	**+0.4**
AFI	**Afiamalu**	**7.46**	**20**	Pn	Pn	12 50 49.2	-4.8
	5.0nm,0.3s,baz=132,slow=10,SNR=5.9						
AFI				Sn	Sn	12 52 09.7	-8.1
	3.3nm,0.3s,baz=119,slow=18,SNR=2.1						
URZ	**Urewera**	**18.73**	**201**	*e*P	**P**	**12 53 22.8**	**-0.7**
URZ	**Urewera**	**18.73**	**201**	P	**P**	**12 53 21.8**	**-1.7**
	1.2nm,0.3s,baz=358,slow=5.5,SNR=10						
STKA	**Stephens Creek**	**40.66**	**245**	P	**P**	**12 56 45.8**	**+0.8**
STKA	**Stephens Creek**	**40.66**	**245**	P	**P**	**12 56 45.8**	**+0.8**
	2.7nm,1.0s,baz=63,slow=4.5,SNR=2.4						
ASAR	**Alice Springs**	**47.72**	**257**	P	**P**	**12 57 40.1**	**-1.6**
ASAR	**Alice Springs**	**47.72**	**257**	P	**P**	**12 57 40.1**	**-1.6**
	1.9nm,0.8s,baz=98,slow=7.9,SNR=24						
WRAB	**Tennant Creek**	**47.89**	**262**	*e*P	**P**	**12 57 42.6**	**-0.5**
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**47.90**	**262**	P	**P**	**12 57 42.0**	**-1.2**
WRA				PcP	**PcP**	**12 59 12.0**	**+0.5**
WRA	**Warramunga Arr**	**47.90**	**262**	P	**P**	**12 57 42.0**	**-1.2**
	1.2nm,0.6s,baz=95,slow=8.3,SNR=6.5						
WRA				PcP	**PcP**	**12 59 12.0**	**+0.5**
	0.4nm,0.5s,baz=95,slow=3.9,SNR=2.8						
VNDA	**Vanda**	**57.76**	**186**	*e*P	**P**	**12 58 55.8**	**+0.7**
	1.1nm,0.9s						
VNDA	**Vanda**	**57.76**	**186**	P	**P**	**12 58 55.9**	**+0.9**
	0.8nm,0.7s,baz=349,slow=7.5,SNR=4.9						
NVAR	**Mina Array Bea**	**79.08**	**42**	P	**P**	**13 01 10.3**	**+1.1**
NVAR	**Mina Array Bea**	**79.08**	**42**	P	**P**	**13 01 10.3**	**+1.1**
	2.7nm,0.8s,baz=227,slow=8.9,SNR=22						
TXAR	**Lajitas Array**	**84.48**	**56**	P	**P**	**13 01 38.0**	**+0.3**
TXAR	**Lajitas Array**	**84.48**	**56**	P	**P**	**13 01 38.0**	**+0.3**
	0.5nm,0.9s,baz=231,slow=6.0,SNR=4.7						
ILAR	**Eielson Array**	**88.07**	**11**	P	**P**	**13 01 54.5**	**+0.1**
ILAR	**Eielson Array**	**88.07**	**11**	P	**P**	**13 01 54.5**	**+0.1**
	0.5nm,0.9s,baz=223,slow=5.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P	**P**	**13 02 22.7**	**+2.0**
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P	**P**	**13 02 22.7**	**+2.0**
	0.8nm,0.8s,baz=133,slow=2.7,SNR=6.9						
AKASG	**Malin Array Be**	**145.02**	**334**	PKPbc	**PKPbc**	**13 08 40.8**	**-0.1**
	1.0nm,0.4s,baz=37,slow=3.8,SNR=6.3						
BRTR	**Keskin Array B**	**149.65**	**314**	PKPbc	**PKPbc**	**13 08 53.5**	**-1.0**
BRTR	**Keskin Array B**	**149.65**	**314**	PKPbc	**PKPbc**	**13 08 53.5**	**-1.0**
	0.9nm,0.6s,baz=239,slow=4.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**171.34**	**154**	PKPab	**PKPab**	**13 10 32.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**171.34**	**154**	PKPab	**PKPab**	**13 10 32.8**	**-1.0**
	0.5nm,0.9s,baz=204,slow=3.2,SNR=2.4						

*ISN **11** 13:03:48.0±8.8,36°.46N×40°.57E,h0km,ML3.5*
*ISCJB **11** 13:03:50.0±0.6,38°.42N±0°.03×43°.05E±0°.05,h11km±5km, Error ellipse: s-maj=7.2km s-min=5.3km az=8.8*
*CSEM **11** 13:03:49.4±0.2,38°.44N×43°.04E,h5km,ML3.6,Error ellipse: s-maj=5.8km s-min=4.7km az=70.0*
*DDA **11** 13:03:49.2,38°.44N×43°.04E,h13km,ML3.6*
*ISK **11** 13:03:50.4,38°.44N×42°.93E,h5km,MD3.2*

ISC 11 13:03:49.7±1.0,38°.45N±0°.02×43°.03E±0°.03,h6km±9km, n38,σ0§77/50,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.14**	**171**	*i* P	**Pg**	**13 03 52.2**	**-0.4**
GEVA				*i* S	**Sg**	**13 03 55.5**	**+0.8**
GEVA	**Gevas**	**0.14**	**171**	*i* P	**Pg**	**13 03 52.2**	**-0.4**
GEVA				*i* S	**Sg**	**13 03 55.5**	**+0.8**
TVAN	**Van**	**0.30**	**75**	*i* P	**Pg**	**13 03 56.0**	**+0.3**
TVAN	**Van**	**0.30**	**75**	*i* P	**Pg**	**13 03 56.0**	**+0.3**
TATV	**Tatvan**	**0.60**	**276**	*i* P	**Pg**	**13 04 00.3**	**-0.9**
TATV				*i* S	**Sg**	**13 04 08.4**	**-0.9**
TATV	**Tatvan**	**0.60**	**276**	*i* P	**Pg**	**13 04 00.3**	**-0.9**
TATV				*i* S	**Sg**	**13 04 08.4**	**-0.7**
TUTA	**Tutak**	**0.96**	**350**	*i* P	**Pg**	**13 04 07.7**	**-0.5**
TUTA	**Tutak**	**0.96**	**350**	*i* P	**Pg**	**13 04 07.7**	**-0.5**
HAKT	**HAKKARI**	**1.04**	**149**	*i* P	**Pg**	**13 04 08.6**	**-1.1**
HAKT	**HAKKARI**	**1.04**	**149**	*i* P	**Pg**	**13 04 08.6**	**-1.1**
SIRT	**Sirnak**	**1.06**	**206**	*e*PG	**Pg**	**13 04 09.9**	**-0.1**
SIRT				*e*SG	**Sb**	**13 04 25.1**	**+0.5**
SIRT	**Sirnak**	**1.06**	**206**	*e*Pg	**Pg**	**13 04 09.9**	**-0.1**
SIRT				*e*Sg	**Sb**	**13 04 25.1**	**+0.5**
EKAR	**Karacoban**	**1.10**	**317**	*i* P	**Pg**	**13 04 10.6**	**-0.2**
EKAR	**Karacoban**	**1.10**	**317**	*i* P	**Pg**	**13 04 10.6**	**-0.2**
BTMT	**Batman**	**1.24**	**258**	*e*PN	**Pg**	**13 04 12.6**	**-0.8**
BTMT				*e*SN	**Sb**	**13 04 29.9**	**+0.1**
BTMT	**Batman**	**1.24**	**258**	*e*Pn	**Pg**	**13 04 12.6**	**-0.8**
BTMT				*e*Sn	**Sb**	**13 04 29.9**	**+0.1**
VRTB	**Varto-Mus**	**1.42**	**300**	*e*PN	**Pb**	**13 04 16.8**	**+0.1**
VRTB				*e*SN	**Sb**	**13 04 35.4**	**+0.3**
VRTB	**Varto-Mus**	**1.42**	**300**	*e*Pn	**Pb**	**13 04 16.8**	**+0.1**
VRTB				*e*Sn	**Sb**	**13 04 35.4**	**+0.3**
EATA	**Eleskirt**	**1.47**	**344**	*i* P	**Pn**	**13 04 17.0**	**-0.1**
EATA	**Eleskirt**	**1.47**	**344**	*i* P	**Pn**	**13 04 17.0**	**-0.1**
BEST	**Besiri**	**1.50**	**249**	*i* P	**Pn**	**13 04 17.3**	**+0.1**
BEST				*i* S	**Sn**	**13 04 38.9**	**+1.8**
BNGL	**BINGOL**	**1.55**	**289**	*i* P	**Pn**	**13 04 18.5**	**+0.4**
HOMI	**Horasan**	**1.81**	**332**	*i* P	**Pb**	**13 04 23.5**	**0.0**
BNGB	**Bing¶ll**	**1.92**	**287**	*e*PN	**Pn**	**13 04 23.6**	**+0.6**
EZM	**Erzurum**	**1.94**	**319**	*e*PN	**Pn**	**13 04 24.7**	**+1.2**
DIGO	**Kars**	**1.98**	**8**	*e*P	**Pb**	**13 04 25.5**	**-0.8**
DIGO	**Kars**	**1.98**	**8**	*e*P	**Pb**	**13 04 25.5**	**-0.8**
BINT	**Bingol**	**2.03**	**283**	*e*Pn	**Pn**	**13 04 23.6**	**-1.0**
MSL	**Mosul**	**2.05**	**178**	*i*Pn	**Pn**	**13 04 24.0**	**-0.7**
	baz=272						
MSL				*i* Sn	**Sn**	**13 04 49.0**	**-1.6**
MARD	**Mardin**	**2.11**	**238**	*e*P	**Pn**	**13 04 27.0**	**+1.3**
MAZI	**Mazidag**	**2.27**	**245**	*e*PN	**Pn**	**13 04 28.5**	**+0.6**
MAZI	**Mazidag**	**2.27**	**245**	*e*Pn	**Pn**	**13 04 28.5**	**+0.6**
DIY	**Diyarbakir**	**2.28**	**257**	*e*Pn	**Pn**	**13 04 29.2**	**+1.3**
DYBB	**Diyarbakir**	**2.33**	**259**	*e*PN	**Pn**	**13 04 29.2**	**+0.6**
PTK	**Pertek**	**2.88**	**280**	*e*PN	**Pn**	**13 04 37.2**	**+0.9**
PTK	**Pertek**	**2.88**	**280**	*e*Pn	**Pn**	**13 04 37.2**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.93**	**270**	*e*PN	**Pn**	**13 04 37.7**	**+0.8**
SVRC	**Sivrice-ELAZID**	**2.93**	**270**	*e*Pn	**Pn**	**13 04 37.7**	**+0.8**

*IDC **11** 13:44:23.1±1.9,17°.82S×178°.78W,h539km±23km,mb3.0/7, mb1 3.3/8,mb1mx3.1/19,mbtmp4.0/8,Error ellipse: s-maj=23.6km s-min=14.2km az=149.0*
*ISCJB **11** 13:44:24.5±0.6,18°.0S±0°.2×178°.63W±0°.10,h579km, mb3.6/7,Error ellipse: s-maj=21.2km s-min=11.3km az=167.6*
*AUST **11** 13:44:26.5±0.0,17°.99S×178°.65W,h577km,Error ellipse: s-maj=2.5km s-min=1.7km az=24.0*

ISC 11 13:44:25.8±0.7,18°.0S±0°.2×178°.60W±0°.10,h579km,n23, σ1§21/22,mb3.6/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.71**	**59**	P	P	13 46 16.8	-5.0
	2.7nm,0.3s,baz=125,slow=12,SNR=3.6						
NIUE	**Niue**	**8.30**	**99**	P	**P**	**13 46 25.4**	**-2.0**
	baz=8.3,SNR=4.1						
DZM	**Mont Dzumac**	**14.63**	**251**	P	**P**	**13 47 32.4**	**+1.1**
	0.6nm,0.3s,baz=36,slow=17,SNR=4.8						
URZ	**Urewera**	**20.56**	**190**	P	**P**	**13 48 24.2**	**-1.1**
	1.5nm,0.3s,baz=329,slow=14,SNR=5.9						
RMQ	**Roma**	**31.31**	**248**	P	**P**	**13 50 00.1**	**+0.2**
	baz=31,SNR=6.6						
CMSA	**Cobar Meteorol**	**34.96**	**240**	P	**P**	**13 50 30.7**	**+0.2**
	baz=35,SNR=8.8						
COEN	**Coen**	**36.92**	**271**	P	**P**	**13 50 46.2**	**-0.8**
	baz=37,SNR=8.6						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**13 50 59.9**	**+0.8**
	2.9nm,0.5s,baz=91,slow=10,SNR=5.8						
HTT	**Hallett**	**40.95**	**239**	P	**P**	**13 51 19.9**	**+0.7**
	baz=41,SNR=7.8						
BBOO	**Buckleboo**	**43.21**	**241**	P	**P**	**13 51 37.1**	**+0.2**
	baz=43,SNR=12						
WRA	**Warramunga Arr**	**44.44**	**260**	P	**P**	**13 51 44.8**	**-1.8**
	2.2nm,0.6s,baz=95,slow=7.1,SNR=23						
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**13 51 47.2**	**-0.5**
	21nm,0.6s,baz=88,slow=8.1,SNR=463						
ASAR				S	**S**	**13 57 40.2**	**-2.3**
	0.6nm,0.9s,baz=84,slow=17,SNR=5.1						
KDU	**Kakadu**	**47.37**	**269**	P	**P**	**13 52 07.6**	**-1.2**
	baz=47,SNR=4.1						
WRKA	**Warakurna**	**49.65**	**252**	P	**P**	**13 52 25.1**	**-0.5**
	baz=50,SNR=17						
FORT	**Forrest**	**49.81**	**245**	P	**P**	**13 52 26.2**	**-0.4**
	baz=50,SNR=8.3						
FITZ	**Fitzroy Crossi**	**52.84**	**261**	P	**P**	**13 52 48.1**	**-0.6**
	baz=53,SNR=5.0						
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**13 53 41.5**	**+2.3**
	0.4nm,0.7s,baz=17,slow=6.5,SNR=3.8						
PMBI	**Palembang**	**76.38**	**271**	P	P	13 55 12.7	-4.3
	baz=76,SNR=6.0						
NVAR	**Mina Array Bea**	**79.60**	**44**	P	**P**	**13 55 34.2**	**+0.2**
	0.7nm,0.7s,baz=224,slow=8.7,SNR=6.4						
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**13 56 07.8**	**+0.9**
	0.4nm,0.8s,baz=215,slow=6.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**88.73**	**290**	P	**P**	**13 56 20.5**	**+1.5**
	0.5nm,0.6s,baz=104,slow=2.2,SNR=6.0						
BRTR	**Keskin Array B**	**144.70**	**315**	PKP	**PKPdf**	**14 02 57.5**	**-0.2**
	0.9nm,0.8s,baz=354,slow=2.5,SNR=4.0						
MMAI	**Mount Meron Ar**	**146.03**	**303**	PKPbc	**PKPbc**	**14 03 02.5**	**+0.4**
	2.2nm,0.6s,baz=46,slow=6.2,SNR=2.8						

*CRAAG **11** 13:45:31.4,36°.49N×3°.43E,Ml4.0*
*CSEM **11** 13:45:32.6±0.2,36°.51N×3°.39E,h5km,ML4.0,Error ellipse: s-maj=5.2km s-min=4.3km az=24.0*
*MDD **11** 13:45:33.0±0.4,36°.50N×3°.43E,h0km,mb4.3/12,Error ellipse: s-maj=6.0km s-min=4.3km az=56.0,PRXIMO*
*ISCJB **11** 13:45:33.4±0.9,36°.61N±0°.04×3°.36E±0°.04,h19km±10km, Error ellipse: s-maj=6.8km s-min=5.3km az=13.5*

ISC 11 13:45:32.1±1.2,36°.51N±0°.03×3°.45E±0°.03,h16km±10km, n70,σ1§58/79,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADJB	**Djebel Djouab**	**0.36**	**182**	P	**Pg**	**13 45 39.2**	**-0.3**
ADJB	**Djebel Djouab**	**0.36**	**182**	P	**Pg**	**13 45 39.2**	**-0.3**
ADJB	**Djebel Djouab**	**0.36**	**182**	P	**Pg**	**13 45 39.2**	**-0.3**
ABA	**Alger-Bouzarea**	**0.44**	**311**	P	**Pg**	**13 45 41.0**	**0.0**
ABA	**Alger-Bouzarea**	**0.44**	**311**	P	**Pg**	**13 45 41.0**	**0.0**
ABA	**Alger-Bouzarea**	**0.44**	**311**	P	**Pg**	**13 45 41.0**	**0.0**
EMHD	**Djebel Mahouad**	**0.51**	**232**	P	**Pg**	**13 45 42.0**	**-0.3**
EMHD	**Djebel Mahouad**	**0.51**	**232**	P	**Pg**	**13 45 42.0**	**-0.3**
EMHD	**Djebel Mahouad**	**0.51**	**232**	P	**Pg**	**13 45 42.0**	**-0.3**
AKET	**Djebel Ketaf**	**0.58**	**143**	P	**Pg**	**13 45 43.4**	**-0.2**
AKET	**Djebel Ketaf**	**0.58**	**143**	P	**Pg**	**13 45 43.4**	**-0.2**
AKET	**Djebel Ketaf**	**0.58**	**143**	P	**Pg**	**13 45 43.4**	**-0.2**
EBNR	**Beni Rached**	**1.56**	**262**	P	**Pn**	**13 46 01.0**	**+1.8**
EBNR	**Beni Rached**	**1.56**	**262**	P	**Pn**	**13 46 01.0**	**+1.8**
SET	**Setif**	**1.60**	**101**	P	Pn	13 45 56.0	-3.8
SET	**Setif**	**1.60**	**101**	P	Pn	13 45 56.0	-3.8
ECHA	**Ech Chlef**	**1.72**	**258**	P	**Pn**	**13 46 02.0**	**+0.7**
ECHA	**Ech Chlef**	**1.72**	**258**	P	**Pn**	**13 46 02.0**	**+0.7**
CKHR	**Kef el Ahmar**	**1.74**	**106**	P	**Pn**	**13 46 03.0**	**+1.3**
CKHR	**Kef el Ahmar**	**1.74**	**106**	P	**Pn**	**13 46 03.0**	**+1.3**
CKHR	**Kef el Ahmar**	**1.74**	**106**	P	**Pn**	**13 46 03.0**	**+1.3**
ECHF	**Ech Chlef**	**1.74**	**259**	P	**Pn**	**13 46 02.0**	**+0.4**
ECHF	**Ech Chlef**	**1.74**	**259**	P	**Pn**	**13 46 02.0**	**+0.4**
DFRA	**Djebel Bou Aff**	**1.95**	**88**	P	**Pn**	**13 46 06.8**	**+2.2**
DFRA	**Djebel Bou Aff**	**1.95**	**88**	P	**Pn**	**13 46 06.8**	**+2.2**
DFRA	**Djebel Bou Aff**	**1.95**	**88**	P	**Pn**	**13 46 06.8**	**+2.2**
EANR	**'Ain N'Sour**	**1.98**	**254**	P	**Pn**	**13 46 06.0**	**+1.0**
EANR	**'Ain N'Sour**	**1.98**	**254**	P	**Pn**	**13 46 06.0**	**+1.0**
EANR	**'Ain N'Sour**	**1.98**	**254**	P	**Pn**	**13 46 06.0**	**+1.0**
ETRT	**Tiaret**	**2.08**	**238**	P	**Pn**	**13 46 07.0**	**+0.7**
ETRT	**Tiaret**	**2.08**	**238**	P	**Pn**	**13 46 07.0**	**+0.7**
ETRT	**Tiaret**	**2.08**	**238**	P	**Pn**	**13 46 07.0**	**+0.7**
OKGL	**Djebel Kef Gue**	**2.32**	**259**	P	**Pn**	**13 46 12.1**	**+2.5**
	28nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.32**	**259**	P	**Pn**	**13 46 12.1**	**+2.5**
	28nm,0.3s,SNR=7.9						
CASM	**Ain Smara**	**2.46**	**95**	P	**Pn**	**13 46 14.3**	**+2.7**
CASM	**Ain Smara**	**2.46**	**95**	P	**Pn**	**13 46 14.3**	**+2.7**
CASM	**Ain Smara**	**2.46**	**95**	P	**Pn**	**13 46 14.3**	**+2.7**
CKFL	**Kef-Lekhel**	**2.64**	**92**	P	**Pb**	**13 46 18.1**	**-0.9**
CKFL	**Kef-Lekhel**	**2.64**	**92**	P	**Pb**	**13 46 18.1**	**-0.9**
CKFL	**Kef-Lekhel**	**2.64**	**92**	P	**Pb**	**13 46 18.1**	**-0.9**
CAEH	**'Ain El Ouahch**	**2.75**	**83**	P	**Pb**	**13 46 19.7**	**-1.1**
CAEH	**'Ain El Ouahch**	**2.75**	**83**	P	**Pb**	**13 46 19.7**	**-1.1**
CAEH	**'Ain El Ouahch**	**2.75**	**83**	P	**Pb**	**13 46 19.7**	**-1.1**
EIBI	**Ibiza**	**3.01**	**327**	P	**Pn**	**13 46 20.3**	**+1.2**
	3.2nm,0.1s,SNR=32						
EIBI				S	**Sn**	**13 46 53.0**	**-1.8**
	18nm,0.3s,SNR=13						
EIBI	**Ibiza**	**3.01**	**327**	P	**Pn**	**13 46 20.3**	**+1.2**
	3.2nm,0.1s,SNR=32						
EIBI				S	**Sn**	**13 46 53.0**	**-1.8**
	18nm,0.3s,SNR=13						
ETOS	**Mallorca**	**3.29**	**351**	P	**Pn**	**13 46 23.6**	**+0.7**
	2.3nm,0.1s,SNR=19						
ETOS				S	**Sn**	**13 47 00.1**	**-1.5**
	2.0nm,0.5s,SNR=4.5						
ETOS	**Mallorca**	**3.29**	**351**	P	**Pn**	**13 46 23.6**	**+0.7**
	2.3nm,0.1s,SNR=19						
ETOS				S	**Sn**	**13 47 00.1**	**-1.5**
	2.0nm,0.5s,SNR=4.5						
EBEN	**Beniarda**	**3.65**	**308**	P	**Pn**	**13 46 29.7**	**+1.9**
	0.1nm,0

VSU	**Vasula**	**1.80**	**188**	Pg	**Pn**	**13 47 05.1**	**+0.9**
	SNR=90							
VSU				S	**Sn**	**13 47 26.7**	**-1.0**
KEF	**Keuruu**	**2.24**	**331**	MSG		13 47 47.5	
	comp=Z,19nm,0.2s							
MTSE	**Matsula**	**2.31**	**230**	*e*PB	**Pb**	**13 47 13.8**	**-0.6**
MTSE				*e*SG	**Sb**	**13 47 43.3**	**-0.1**
JOF	**Joensuu**	**3.33**	**34**	*e*P	Pn	13 47 28.7	+3.5
JOF	**Joensuu**	**3.33**	**34**	P	Pn	13 47 28.6	+3.5
VAF	**Ylistaro**	**3.54**	**324**	*e*SG	**Sg**	**13 48 25.0**	**-0.8**
VAF				MSG		13 48 32.1	
	comp=Z,8.4nm,0.2s							
VAF	**Ylistaro**	**3.54**	**324**	Sg	**Sg**	**13 48 24.9**	**-0.8**
AAL	**Aland**	**3.60**	**272**	*e*P	**Pn**	**13 47 30.2**	**+1.4**
AAL	**Aland**	**3.60**	**272**	P	**Pn**	**13 47 30.2**	**+1.4**
GRAU	**Graesoe**	**4.31**	**275**	*e*P	**Pn**	**13 47 39.5**	**+0.8**
GRAU	**Graesoe**	**4.31**	**275**	P	**Pn**	**13 47 39.5**	**+0.8**
NRTU	**Norrtaelje**	**4.35**	**266**	*e*P	**Pn**	**13 47 40.5**	**+1.4**
NRTU	**Norrtaelje**	**4.35**	**266**	P	**Pn**	**13 47 40.5**	**+1.4**
VIKU	**Vikbolandet**	**5.65**	**257**	*e*P	**Pn**	**13 47 58.1**	**+1.2**
VIKU				*e*S	**Sn**	**13 49 00.8**	**-1.6**
VIKU	**Vikbolandet**	**5.65**	**257**	P	**Pn**	**13 47 58.1**	**+1.2**
VIKU				S	**Sn**	**13 49 00.8**	**-1.6**
BYXU	**Byxelkrok**	**6.07**	**245**	*e*P	**Pn**	**13 48 03.6**	**+0.8**
BYXU	**Byxelkrok**	**6.07**	**245**	P	**Pn**	**13 48 03.6**	**+0.8**
VSTU	**Vaestervik**	**6.10**	**250**	*e*P	**Pn**	**13 48 04.3**	**+1.2**
VSTU	**Vaestervik**	**6.10**	**250**	P	**Pn**	**13 48 04.3**	**+1.2**
LNKU	**Linkoeping**	**6.33**	**256**	*e*P	**Pn**	**13 48 08.5**	**+2.1**
LNKU	**Linkoeping**	**6.33**	**256**	P	**Pn**	**13 48 08.5**	**+2.1**
OSKU	**Oskarshamn**	**6.54**	**247**	*e*P	**Pn**	**13 48 09.7**	**+0.5**
OSKU	**Oskarshamn**	**6.54**	**247**	P	**Pn**	**13 48 09.7**	**+0.5**
HFS	**Hagfors**	**6.74**	**275**	Pn	**Pn**	**13 48 12.6**	**+0.6**
	baz=101,slow=12							
HFS				Sn	**Sn**	**13 49 27.5**	**-1.8**
	baz=92,slow=28							
HFS				Lg	Lg	13 50 00.2		
	baz=89,slow=37							
HFS	**Hagfors**	**6.74**	**275**	Pn	**Pn**	**13 48 12.6**	**+0.6**
	baz=101,slow=12							
HFS				Sn	**Sn**	**13 49 27.5**	**-1.8**
	baz=92,slow=28							
HFS				Lg	Lg	13 50 00.2		
	baz=89,slow=37							
HFS	**Hagfors**	**6.74**	**275**	Pn	**Pn**	**13 48 12.6**	**+0.6**
	SNR=50							
HFS				Sn	**Sn**	**13 49 27.5**	**-1.8**
	SNR=50							
HFS				Lg	Lg	13 50 00.2		
HFS	**Hagfors**	**6.74**	**275**	Pn	**Pn**	**13 48 13.7**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=107,slow=13,SNR=12							
HFS				Sn	**Sn**	**13 49 28.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=93,slow=28,SNR=5.2							
HFS				Lg	Lg	13 50 02.0		
	comp=Z,0.9nm,0.3s,baz=86,slow=30,SNR=7.1							
VXJU	**Vaexsjoe**	**7.22**	**248**	*e*P	**Pn**	**13 48 19.6**	**+1.0**
VXJU	**Vaexsjoe**	**7.22**	**248**	P	**Pn**	**13 48 19.5**	**+1.0**
NB2	**NORSAR Subarra**	**7.90**	**283**	Pn	**Pn**	**13 48 28.8**	**+0.9**
	baz=87,slow=14							
NB2	**NORSAR Subarra**	**7.90**	**283**	Pn	**Pn**	**13 48 28.8**	**+0.9**
	baz=87,slow=14							
NB2	**NORSAR Subarra**	**7.90**	**283**	Pn	**Pn**	**13 48 28.8**	**+0.9**
	SNR=50							
NOA	**NORSAR Array B**	**7.90**	**283**	Pn	**Pn**	**13 48 29.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=94,slow=11,SNR=18							
NOA				Sn	**Sn**	**13 49 56.1**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=116,slow=13,SNR=3.0							
NOA				Lg	Lg	13 50 41.5		
	comp=Z,0.5nm,0.3s,baz=125,slow=20,SNR=3.4							
ARA0	**ARCESS Array S**	**9.36**	**356**	Pn	**Pn**	**13 48 49.1**	**+1.3**
	baz=172,slow=16							
ARA0				Sn	**Sn**	**13 50 29.8**	**-3.9**
	baz=180,slow=22							
ARA0	**ARCESS Array S**	**9.36**	**356**	Pn	**Pn**	**13 48 49.1**	**+1.3**
	baz=172,slow=16							
ARA0				Sn	**Sn**	**13 50 29.8**	**-3.9**
	baz=180,slow=22							
ARA0	**ARCESS Array S**	**9.36**	**356**	Pn	**Pn**	**13 48 49.2**	**+1.3**
	SNR=50							
ARCES	**ARCESS Array B**	**9.36**	**356**	Pn	**Pn**	**13 48 49.1**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=170,slow=15,SNR=93							
ARCES				Sn	**Sn**	**13 50 33.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=177,slow=22,SNR=4.4							
AKASG	**Malin Array Be**	**9.63**	**172**	Pn	**Pn**	**13 48 50.0**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=350,slow=13,SNR=4.6							

*IDC **11** 13:54:17.9±1.7, 4.˚98S×102.˚59E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/26, mbtmp4.0/10, MS3.6/1, Ms1 3.6/1, ms1mx3.1/29, Error ellipse: s-maj=87.3km s-min=14.2km az=55.0*

*ISCJB **11** 13:54:23.9±0.7, 4.˚95S±0.˚07×102.˚70E±0.˚07, h59km, mb4.0/10, MS3.5/1, Error ellipse: s-maj=10.8km s-min=7.9km az=136.0*

*DJA **11** 13:54:26.4±0.9, 5.˚5S×6.˚3E±*, h22km±8km, M4.0/8, mb4.2/1, MLv3.9/8*

ISC 11 13:54:26.6±0.9, **4.˚85S**±0.˚09×**102.˚86E**±0.˚09, **h59**km, **n23,** σ0**86**/23, **mb4.0**/10, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MNAI	**Manna**	**0.50**	**12**	P		**Pn**	**13 54 37.3**	**-1.2**
MNAI				S		**Sn**	**13 54 47.9**	**+0.8**
LWLI	**Liwa**	**1.21**	**98**	P		**Pn**	**13 54 46.9**	**-0.6**
LHSI	**Lahat**	**1.22**	**33**	P		**Pn**	**13 54 47.7**	**+0.3**
MDSI	**Maura Dua**	**1.37**	**75**	P		**Pn**	**13 54 49.1**	**-0.3**
MDSI				S		**Sn**	**13 55 07.7**	**+1.1**
KASI	**Kota Agung**	**1.77**	**112**	P		**Pn**	**13 54 54.4**	**-0.4**
MASI	**Maura Aman, Be**	**1.81**	**340**	P		**Pn**	**13 54 57.1**	**+1.7**
KLSI		**1.88**	**85**	P		**Pn**	**13 54 56.8**	**+0.5**
LEM	**Lembang**	**5.13**	**113**	P		**Pn**	**13 55 42.9**	**+1.9**
CMAR	**Chiang Mai Arr**	**23.48**	**351**	P		**P**	**13 59 30.8**	**-0.4**
	0.9nm,0.5s,baz=180,slow=8.7,SNR=8.8							
FITZ	**Fitzroy Crossi**	**25.88**	**122**	P		**P**	**13 59 52.8**	**-0.3**
	3.4nm,1.0s,baz=256,slow=8.6,SNR=8.6							
TGY	**Tagaytay City**	**26.01**	**43**	LR		LR	14 10 47.6	
	comp=Z,140nm,21.4s,baz=339,slow=38							
H08S2	**Diego Garcia H**	**30.30**	**263**	T		T	14 32 36.5	
	baz=86,slow=76,SNR=4.7							
H08S3	**Diego Garcia H**	**30.31**	**263**	T		T	14 32 43.4	
	baz=86,slow=76,SNR=4.5							
H08S1	**Diego Garcia H**	**30.32**	**263**	T		T	14 32 38.0	
	baz=86,slow=76,SNR=4.3							
WRA	**Warramunga Arr**	**34.11**	**119**	P		**P**	**14 01 05.5**	**-0.5**
	0.8nm,0.6s,baz=294,slow=12,SNR=8.2							
WRA				PcP		**PcP**	**14 03 42.5**	**+0.1**
	0.5nm,0.7s,baz=307,slow=1.9,SNR=3.8							
ASAR	**Alice Springs**	**35.29**	**125**	P		**P**	**14 01 16.1**	**0.0**
	0.4nm,0.4s,baz=308,slow=8.3,SNR=12							
ASAR				PcP		**PcP**	**14 03 46.5**	**+0.8**
	0.6nm,0.7s,baz=305,slow=2.6,SNR=6.1							
STKA	**Stephens Creek**	**45.14**	**131**	P		**P**	**14 02 37.5**	**0.0**
	3.6nm,0.8s,baz=279,slow=7.2,SNR=7.5							
SONM	**Songino Array**	**52.55**	**3**	P		**P**	**14 03 34.4**	**+0.2**
	1.0nm,0.6s,baz=182,slow=8.4,SNR=9.0							
MKAR	**Makanchi Array**	**54.55**	**343**	P		**P**	**14 03 48.4**	**-0.3**
	2.2nm,0.5s,baz=151,slow=9.0,SNR=33							
KURBB	**Kurchatov Arra**	**59.09**	**342**	P		**P**	**14 04 19.5**	**-1.2**
	0.9nm,0.7s,baz=160,slow=6.4,SNR=11							
ZALV	**Zalesovo Beam**	**60.51**	**348**	P		**P**	**14 04 29.7**	**-0.6**
	1.9nm,0.5s,baz=165,slow=4.4,SNR=12							
BVAR	**Borovoye Array**	**63.84**	**339**	P		**P**	**14 04 51.8**	**-1.0**
	0.8nm,0.6s,baz=133,slow=6.3,SNR=4.3							
TXAR	**Lajitas Array**	**145.03**	**43**	PKPbc		**PKPdf**	**14 13 57.9**	**-0.2**
	0.7nm,0.7s,baz=240,slow=0.9,SNR=5.9							

*IDC **11** 14:01:49.9±0.5, 11.˚91N×86.˚64W, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.6/25, mbtmp4.5/19, ML3.5/1, MS4.2/25, Ms1 4.2/25, ms1mx4.1/41, Error ellipse: s-maj=24.2km s-min=11.7km az=62.0*

*ISCJB **11** 14:01:56.5±0.3, 11.˚82N±0.˚05×86.˚83W±0.˚04, h68km, mb4.8/128, Error ellipse: s-maj=7.6km s-min=4.8km az=42.2*

*NEIC **11** 14:01:58.8±0.7, 11.˚88N×86.˚83W, h69km±6km, mb4.9/109, Error ellipse: s-maj=7.1km s-min=3.7km az=51.0*

NEIC Felt at Managua.

*GCMT **11** 14:01:58.3±0.4, 11.˚53N×87.˚44W, h38km±1km, MW5.0, Moment Tensor Solution. s41,c49; s54,c67; Moment tensor: Scale 10^16^Nm; Mrr3.72±.22; Mθθ-2.67±.14; Mφφ-1.05±.17; Mrθ1.58±.14; Mθφ1.56±.12; Mφr-0.28±.17; Best double couple: M0:4.00000×10^16^ NP1:φs113.00000°, δ57.00000°, λ81.00000°. NP2:φs309.00000°, δ34.00000°, λ103.00000°. Principal axes: T 4.0900, Plg77.0000°, Azm356.0000°; N -0.1800, Plg7.0000°, Azm118.0000°; P -3.9200, Plg11.0000°, Azm210.0000°; Data Used: ll IU G CN IC CU.*

*BJI **11** 14:01:59.5, 12.˚00N×86.˚90W, h76km, mB5.2/6, Ms5.2/2, Ms7 5.0/3*

ISC 11 14:01:58.7±0.3, **11.˚87N**±0.˚06×**86.˚83W**±0.˚08, **h68**km, **n535,** σ0**92**/560, **mb4.9**/128, **127C-145D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
TGUH	**Tegucigalpa,Un**	**2.22**	**349**	*e*Pn		**Pn**	**14 02 33.2**	**0.0**
JTS	**JuntasÂbangare**	**2.42**	**130**	*e*Pn		**Pn**	**14 02 35.1**	**-0.9**
JTS				Lg		Lg	14 03 10.2	
JTS	**JuntasAbangare**	**2.42**	**130**	Pn		**Pn**	**14 02 35.7**	**-0.3**
	52nm,0.3s,baz=322,slow=9.7,SNR=87							
JTS				Lg		Lg	14 03 10.2	
	317nm,0.3s,baz=91,slow=22,SNR=8.2							
APG	**El Apazote**	**4.71**	**312**	Pn		Pn	14 03 03.5	-4.0
APG	**El Apazote**	**4.71**	**312**	Pn		Pn	14 03 03.5	-4.0
	2.2nm,0.3s,baz=121,slow=6.7,SNR=9.8							
BCIP	**Isla Barro Col**	**7.38**	**111**	*e*Pn		Pn	14 03 48.4	+4.6
TEIG	**Tepich**	**8.43**	**351**	Pn		**Pn**	**14 03 59.8**	**+1.7**
TEIG	**Tepich**	**8.43**	**351**	Pn		**Pn**	**14 03 59.8**	**+1.7**
	baz=151,slow=3.5,SNR=6.7							
TEIG				LR		LR	14 07 33.9	
	comp=Z,2μm,19.9s,baz=23,slow=41							
MTDJ	**Mount Denham**	**10.98**	**54**	*e*Pn		**Pn**	**14 04 33.1**	**0.0**
	117nm,1.0s							
GTBY	**Guantanamo Bay**	**13.82**	**53**	*e*Pn		**P**	**14 05 19.3**	**+1.6**
ROSC	**El Rosal**	**14.19**	**118**	*e*Pn		P	14 05 26.5	+4.3
ROSC	**El Rosal**	**14.19**	**118**	Pn		P	14 05 26.4	+4.2
	2.1nm,0.3s,baz=265,slow=8.7,SNR=15							
ROSC				LR		LR	14 10 40.1	
	comp=Z,848nm,21.4s,baz=215,slow=38							
OTAV	**Otavalo**	**14.24**	**144**	*e*P		**P**	**14 05 25.1**	**+2.3**
SDV	**Santo Domingo**	**16.20**	**99**	*e*Pn		**Pn**	**14 05 43.2**	**+0.8**
	9.0nm,1.0s							
TIGA	**Tifton**	**19.71**	**8**	*e*Pn		**Pn**	**14 06 25.2**	**+0.6**
TIGA	**Tifton**	**19.71**	**8**	⇓P		**Pn**	**14 06 24.6**	**0.0**
	baz=20,SNR=8.2							
HKT	**Hockley**	**19.84**	**336**	*e*Pn		**P**	**14 06 23.9**	**-0.2**
	86nm,1.1s							
CRPR	**Cabo Rojo, PR**	**20.00**	**70**	*e*P		**P**	**14 06 24.6**	**-1.2**
ATAH	**Atahualpa**	**20.66**	**156**	P		**P**	**14 06 31.7**	**-1.7**
ATAH	**Atahualpa**	**20.66**	**156**	P		**P**	**14 06 31.7**	**-1.7**
	12nm,1.0s,baz=53,slow=10,SNR=3.0							
ATAH				LR		LR	14 13 40.2	
	comp=Z,1μm,20.7s,baz=347,slow=34							
SJG	**San Juan**	**20.91**	**70**	LR		LR	14 13 43.3	
	comp=Z,768nm,21.9s,baz=267,slow=34							
LRAL	**Lakeview Retre**	**21.07**	**360**	*e*P		**P**	**14 06 39.4**	**+2.1**
	41nm,0.7s							
JCT	**Junction City**	**22.08**	**329**	*e*P		**P**	**14 06 47.1**	**-1.2**
	57nm,0.9s							
JCT	**Junction City**	**22.08**	**329**	⇑P		**P**	**14 06 46.9**	**-1.3**
	baz=22,SNR=16							
WHTX	**Lake Whitney**	**22.29**	**336**	*e*P		**P**	**14 06 50.1**	**-0.3**
WHTX	**Lake Whitney**	**22.29**	**336**	⇑P		**P**	**14 06 50.3**	**-0.1**
	baz=22,SNR=29							
OXF	**Oxford**	**22.66**	**354**	*e*P		**P**	**14 06 52.6**	**-1.8**
	70nm,0.6s							
JSC	**Jenkinsville**	**22.88**	**12**	*e*P		**P**	**14 06 58.4**	**+1.8**
SWET	**Sewanee**	**23.26**	**2**	*e*P		**P**	**14 07 01.4**	**+1.0**
	44nm,0.5s							
UALR	**University of**	**23.35**	**348**	*e*P		**P**	**14 07 01.2**	**0.0**
	35nm,0.8s							
MIAR	**Mount Ida**	**23.40**	**346**	*e*P		**P**	**14 07 01.6**	**0.0**
	79nm,0.6s							
TXAR	**Lajitas Array**	**23.41**	**320**	P		**P**	**14 07 01.7**	**-0.2**
TXAR				PcP		**PcP**	**14 10 48.6**	**+2.1**
TXAR				ScP		ScP	14 14 30.8	+12
TXAR	**Lajitas Array**	**23.41**	**320**	P		**P**	**14 07 01.7**	**-0.2**
	53nm,0.8s,baz=140,slow=9.9,SNR=216							
TXAR				PcP		**PcP**	**14 10 48.6**	**+2.1**
	2.6nm,0.6s,baz=160,slow=4.1,SNR=17							
TXAR				ScP		ScP	14 14 30.8	+12
	0.7nm,0.7s,baz=134,slow=5.4,SNR=4.8							
TXAR				LR		LR	14 16 24.3	
	comp=Z,296nm,19.5s,baz=320,slow=37							
CPCT	**Cooper Cave**	**23.57**	**5**	*e*P		**P**	**14 07 05.2**	**+2.0**
KMSC	**Kings Mountain**	**23.70**	**11**	*e*P		**P**	**14 07 04.7**	**+0.2**
KMSC	**Kings Mountain**	**23.70**	**11**	⇓P		**P**	**14 07 05.3**	**+0.9**
	baz=24,SNR=10							
ABTX	**Abilene, Hawle**	**23.78**	**332**	*e*P		**P**	**14 07 05.0**	**-0.2**
ABTX	**Abilene, Hawle**	**23.78**	**332**	⇑P		**P**	**14 07 04.9**	**-0.2**
	baz=24,SNR=19							
HBAR	**Harrisburg**	**23.84**	**352**	*e*P		**P**	**14 07 05.0**	**-0.6**
TKL	**Tuckaleechee C**	**23.85**	**6**	*e*P		**P**	**14 07 07.8**	**+2.0**
TKL	**Tuckaleechee C**	**23.85**	**6**	P		**P**	**14 07 07.5**	**+1.8**
	59nm,0.8s,baz=167,slow=10,SNR=30							
TKL				LR		LR	14 16 39.5	
	comp=Z,316nm,19.9s,baz=312,slow=37							
WVT	**Waverly**	**24.18**	**358**	*e*P		**P**	**14 07 08.7**	**+0.1**
	19nm,0.7s							
TZTN	**Tazewell**	**24.75**	**6**	*e*P		**P**	**14 07 15.7**	**+1.8**
	49nm,0.9s							
WMOK	**Wichita Mounta**	**25.23**	**336**	*e*P		**P**	**14 07 17.7**	**-0.6**
	163nm,0.9s							
TUL1	**Tulsa**	**25.27**	**343**	*e*P		**P**	**14 07 17.6**	**-1.0**
TUL1	**Tulsa**	**25.27**	**343**	⇓P		**P**	**14 07 18.2**	**-0.4**
	baz=25,SNR=24							
W34A	**Bridge Creek,**	**25.30**	**339**	⇓P		**P**	**14 07 18.8**	**-0.1**
	baz=25,SNR=45							
LPIG	**La Paz**	**25.38**	**302**	LR		LR	14 18 51.8	
	comp=Z,254nm,19.2s,baz=356,slow=40							
W33A	**Caddo, Fort Co**	**25.48**	**337**	⇑P		**P**	**14 07 21.2**	**+0.7**
	baz=26,SNR=61							
NNA	**Nana**	**25.69**	**157**	LR		LR	14 16 03.9	
	comp=Z,242nm,21.9s,baz=91,slow=33							
V34A	**Guthrie**	**25.75**	**340**	⇑P		**P**	**14 07 22.3**	**-0.6**
	baz=26,SNR=21							
W32A	**Sentinel**	**25.75**	**336**	⇓P		**P**	**14 07 23.3**	**+0.3**
	baz=26,SNR=73							
SIUC	**Southern Illin**	**25.83**	**356**	*e*P		**P**	**14 07 24.0**	**+0.3**
	33nm,1.3s							
GDL2	**Guadalupe Moun**	**25.88**	**324**	*e*P		**P**	**14 07 22.5**	**-1.9**
BLA	**Blacksburg**	**25.89**	**12**	*e*P		**P**	**14 07 24.4**	**+0.1**
	63nm,1.3s							
V33A	**Lossen Ranch,**	**26.00**	**338**	⇑P		**P**	**14 07 24.9**	**-0.4**
	baz=26,SNR=18							
W31A	**Holland Ranch,**	**26.09**	**335**	⇑P		**P**	**14 07 25.8**	**-0.3**
	baz=26,SNR=17							
MNTX	**Cornudas Mount**	**26.12**	**322**	*e*P		**P**	**14 07 26.1**	**-0.3**
	34nm,1.3s							
MNTX				*e*PcP		**PcP**	**14 10 52.1**	**-0.3**
V32A	**Arapaho**	**26.20**	**337**	⇑P		**P**	**14 07 27.1**	**0.0**
	baz=26,SNR=41							
WCI	**Wyandotte Cave**	**26.26**	**1**	*e*P		**P**	**14 07 28.3**	**+0.7**
	29nm,0.7s							
U34A	**Anderson Ranch**	**26.30**	**340**	⇓P		**P**	**14 07 27.1**	**-0.9**
	baz=26,SNR=19							
W30A	**Crocket Farms**	**26.35**	**334**	⇑P		**P**	**14 07 28.6**	**+0.1**
	baz=26							
MSTX	**Muleshoe**	**26.38**	**329**	*e*P		**P**	**14 07 28.0**	**-0.8**
MSTX	**Muleshoe**	**26.38**	**329**	⇓P		**P**	**14 07 28.3**	**-0.5**
	baz=26,SNR=41							
V31A	**Spring Creek L**	**26.56**	**336**	⇓P		**P**	**14 07 30.8**	**+0.5**
	baz=27,SNR=46							
AMTX	**Amarillo**	**26.59**	**332**	*e*P		**P**	**14 07 28.8**	**-1.9**
	69nm,0.8s							
AMTX	**Amarillo**	**26.59**	**332**	⇓P		**P**	**14 07 30.6**	**-0.2**
	baz=27							
U32A	**Winter Ranch,**	**26.76**	**338**	⇑P		**P**	**14 07 32.0**	**-0.2**
	baz=27,SNR=17							
W29A	**Amraillo**	**26.77**	**332**	⇓P		**P**	**14 07 32.2**	**-0.2**
	baz=27,SNR=8.4							
OLIL	**Olney**	**26.78**	**358**	*e*P		**P**	**14 07 32.8**	**+0.6**
	22nm,0.7s							
U31A	**Nine Bar Ranch**	**27.08**	**336**	⇓P		**P**	**14 07 35.3**	**+0.3**
	baz=27,SNR=6.5							
T33A	**Patterson Ranc**	**27.12**	**340**	⇑P		**P**	**14 07 34.4**	**-1.0**
	baz=27,SNR=10							
W28A	**Vega**	**27.14**	**332**	⇑P		**P**	**14 07 35.2**	**-0.5**
	baz=27							
V29A	**Stinnett**	**27.35**	**333**	⇑P		**P**	**14 07 37.0**	**-0.4**
	baz=27							
W27A	**Bowe Ranch, En**	**27.40**	**330**	⇑P		**P**	**14 07 38.0**	**0.0**
	baz=28,SNR=26							
T32A	**Huddler Ranch,**	**27.45**	**339**	⇓P		**P**	**14 07 38.0**	**-0.3**
	baz=28,SNR=13							
S33A	**Kaszmaul Farm,**	**27.51**	**341**	⇑P		**P**	**14 07 37.8**	**-1.0**
	baz=28							
U30A	**WK&E Inc. Balk**	**27.54**	**335**	⇓P		**P**	**14 07 39.6**	**+0.5**
	baz=28,SNR=23							
V28A	**Channing**	**27.56**	**332**	⇑P		**P**	**14 07 39.3**	**-0.1**
	baz=28							
T31A	**Randall Ranch,**	**27.65**	**337**	⇓P		**P**	**14 07 40.2**	**+0.1**
	baz=28,SNR=22							
U29A	**Oasis Ranch, S**	**27.73**	**334**	⇑P		**P**	**14 07 41.0**	**+0.1**
	baz=28							
W26A	**Owens Ranch, T**	**27.76**	**329**	⇓P		**P**	**14 07 40.9**	**-0.4**
	baz=28,SNR=7.6							
V27A	**Dan Oppiter Fa**	**27.85**	**331**	⇑P		**P**	**14 07 41.8**	**-0.2**
	baz=28,SNR=6.0							
S32A	**Newby Ranch, P**	**27.92**	**339**	⇓P		**P**	**14 07 42.3**	**-0.2**
	baz=28							
T30A	**Plains**	**27.94**	**336**	⇓P		**P**	**14 07 41.9**	**-0.8**
	baz=28							
S31A	**Mullinville**	**28.04**	**338**	⇓P		**P**	**14 07 43.4**	**-0.2**
	baz=28,SNR=6.6							
U28A	**Mallet**	**28.08**	**333**	⇓P		**P**	**14 07 43.7**	**-0.3**
	baz=28							
R33A	**Olander Ranch,**	**28.15**	**341**	⇓P		**P**	**14 07 44.1**	**-0.5**
	baz=28,SNR=15							
121A	**Cookes Peak, D**	**28.17**	**320**	*e*P		**P**	**14 07 44.3**	**-0.6**
W25A	**X Bar L Ranch,**	**28.22**	**328**	⇓P		**P**	**14 07 45.3**	**0.0**
	baz=28,SNR=19							
V26A	**Tequesquite Ra**	**28.34**	**330**	⇑P		**P**	**14 07 46.8**	**+0.5**
	baz=28,SNR=23							
T29A	**Hugoton**	**28.34**	**335**	⇑P		**P**	**14 07 46.6**	**+0.3**
	baz=28							
U27A	**Thompson Grove**	**28.39**	**332**	⇑P		**P**	**14 07 47.0**	**+0.2**
	baz=28,SNR=9.0							
SFIN	**Scholer Farm**	**28.40**	**360**	*e*P		**P**	**14 07 46.8**	**+0.1**
SFIN	**Scholer Farm**	**28.40**	**360**	⇓P		**P**	**14 07 47.0**	**+0.3**
	baz=28							
S30A	**Montezuma**	**28.43**	**337**	⇓P		**P**	**14 07 47.2**	**+0.1**
	baz=28,SNR=8.2							
ACSO	**Alum Creek Sta**	**28.46**	**6**	*e*P		**P**	**14 07 48.4**	**+1.2**
	32nm,0.7s							
KSU1	**Kansas State U**	**28.48**	**344**	*e*P		**P**	**14 07 47.3**	**-0.2**
	80nm,0.8s							
R32A	**Long Quarter,**	**28.49**	**340**	⇓P		**P**	**14 07 47.1**	**-0.5**
	baz=29,SNR=7.5							
T28A	**Walsh**	**28.65**	**334**	⇓P		**P**	**14 07 47.8**	**-1.3**
	baz=29							
R31A	**Burdett**	**28.65**	**339**	⇑P		**P**	**14 07 48.7**	**-0.3**
	baz=29,SNR=8.9							
S29A	**Ulysses**	**28.66**	**336**	⇑P		**P**	**14 07 49.4**	**+0.2**
	baz=29							
W24A	**Lazy 6 Ranch,**	**28.71**	**327**	⇑P		**P**	**14 07 49.3**	**-0.4**
	baz=29							
Q33A	**Connelly Farm,**	**28.74**	**342**	⇓P		**P**	**14 07 50.0**	**+0.2**
	baz=29,SNR=14							
V25A	**Rancho No Teng**	**28.78**	**329**	⇑P		**P**	**14 07 50.3**	**-0.1**
	baz=29,SNR=16							
U26A	**Atchley Ranch,**	**28.79**	**331**	⇑P		**P**	**14 07 50.4**	**0.0**
	baz=29,SNR=9.8							
SDMD	**Soldier's Deli**	**28.83**	**16**	*e*P		**P**	**14 07 50.7**	**+0.2**
	26nm,0.9s							
T27A	**Campo**	**28.87**	**333**	⇑P		**P**	**14 07 50.4**	**-0.7**
	baz=29							
R30A	**Dighton**	**28.92**	**338**	⇓P		**P**	**14 07 51.5**	**+0.1**
	baz=29,SNR=13							
S28A	**Manter**	**28.96**	**335**	⇑P		**P**	**14 07 51.2**	**-0.6**
	baz=29							
Q32A	**Meitler Ranch,**	**28.96**	**341**	⇓P		**P**	**14 07 51.5**	**-0.2**
	baz=29,SNR=16							
V24A	**Rampart Ranch,**	**29.03**	**328**	⇓P		**P**	**14 07 52.6**	**0.0**
	baz=29,SNR=6.4							
W23A	**Werner Place,**	**29.07**	**326**	⇓P		**P**	**14 07 53.4**	**+0.4**
	baz=29,SNR=15							
ANMO	**Albuquerque**	**29.08**	**325**	*e*P		**P**	**14 07 53.2**	**+0.2**
	6.1nm,0.8s							
ANMO				PcP		**PcP**	**14 11 00.7**	**+0.9**
**

N28A **Pribbeno Ranch** 31.50 338 ⇓P P 14 08 15.0 +0.8
baz=32,SNR=6.1
Q24A **Divide** 31.52 332 ⇑P P 14 08 14.5 -0.2
baz=32
BINY **Binghamton** 31.67 15 eP P 14 08 15.5 -0.1
59nm,1.3s
O26A **Horse Wrangler** 31.79 336 ⇑P P 14 08 16.8 0.0
baz=32
MVCO **Mesa Verde** 31.86 326 eP P 14 08 17.0 -0.7
11nm,0.8s
MVCO **Mesa Verde** 31.86 326 ⇓P P 14 08 17.8 +0.2
baz=32,SNR=11
M29A **Burnside Ranch** 31.87 340 ⇓P P 14 08 17.9 +0.4
baz=32
OGNE **Ogallala** 31.90 338 ⇓P P 14 08 18.0 +0.2
baz=32
L31A **Butterfield Fa** 31.96 343 ⇓P P 14 08 18.3 +0.1
baz=32,SNR=14
N27A **Anderson Farm,** 31.97 337 ⇑P P 14 08 18.5 +0.2
baz=32
L30A **Spencer Herefo** 32.02 342 ⇓P P 14 08 18.9 +0.2
baz=32
M28A **Bar X Bar Ranc** 32.06 339 ⇑P P 14 08 18.9 -0.2
baz=32
P23A **Jefferson** 32.17 332 ⇓P P 14 08 21.7 +1.3
baz=32,SNR=7.3
N26A **Koester Ranch,** 32.25 336 ⇑P P 14 08 20.6 -0.2
baz=32
L29A **Maesberg Ranch** 32.36 341 ⇓P P 14 08 22.0 +0.3
baz=32
WUAZ **Wupatki** 32.37 321 eP P 14 08 22.4 +0.4
15nm,0.9s
WUAZ **Wupatki** 32.37 321 ⇑P P 14 08 22.8 +0.7
baz=32,SNR=14
ISCO **Idaho Springs** 32.41 332 eP P 14 08 22.3 -0.2
11nm,1.3s
ISCO **Idaho Springs** 32.41 332 ⇑P P 14 08 22.7 +0.2
baz=32
O24A **Longmont** 32.43 333 ⇓P P 14 08 22.6 +0.1
baz=32
M27A **Reverse DX Ran** 32.54 338 ⇓P P 14 08 23.8 +0.5
baz=33
SMCO **Snowmass** 32.55 330 eP P 14 08 24.6 +0.7
19nm,1.1s
PV01 **Paradox Valley** 32.58 327 eP P 14 08 24.0 +0.1
319nm,0.6s
K30A **Basset** 32.65 342 ⇑P P 14 08 24.7 +0.6
baz=33,SNR=34
L28A **Connealy Angus** 32.65 339 ⇑P P 14 08 24.5 +0.1
baz=33
P22A **Eagle** 32.78 331 ⇓P P 14 08 25.8 +0.2
baz=33,SNR=8.2
ECSD **EROS Data Cent** 32.86 347 eP P 14 08 24.8 -1.2
72nm,0.9s
O23A **Lake Granby, G** 32.88 333 ⇓P P 14 08 26.9 +0.3
baz=33
K29A **Lazy Trails An** 32.94 342 ⇑P P 14 08 27.0 +0.3
baz=33,SNR=18
PV04 **Paradox Valley** 32.95 327 eP P 14 08 27.2 +0.2
O22A **Kremmling** 33.13 332 ⇑P P 14 08 28.8 +0.1
baz=33,SNR=9.2
GLA **Glamis** 33.19 314 eP P 14 08 30.9 +1.8
7.9nm,0.8s
GLA **Glamis** 33.19 314 ⇑P P 14 08 28.5 -0.6
baz=33,SNR=5.6
J30A **Dallas** 33.21 343 ⇓P P 14 08 29.3 +0.2
baz=33,SNR=25
K28A **Ten Mile Ranch** 33.23 340 ⇓P P 14 08 29.5 +0.2
baz=33
PDMCI **Parker Dam,Lak** 33.42 316 ⇓P P 14 08 31.4 +0.5
baz=34,SNR=5.1
N23A **Red Feather La** 33.44 333 ⇓P P 14 08 31.4 0.0
baz=34
SADO **Sadowa** 33.45 10 P P 14 08 30.9 -0.2
SADO **Sadowa** 33.45 10 P P 14 08 30.9 -0.2
13nm,0.6s,baz=243,slow=4.8,SNR=9.0
J29A **Okreek** 33.53 342 ⇓P P 14 08 32.0 +0.2
baz=34,SNR=55
U15A **North Rim** 33.53 321 ⇓P P 14 08 33.3 +1.1
baz=34,SNR=10
LPAZ **La Paz** 33.54 146 eP P 14 08 34.0 +1.2
6.8nm,1.2s
LPAZ PcP PcP 14 11 13.1 +0.7
LPAZ **La Paz** 33.54 146 P P 14 08 31.5 -1.3
0.8nm,0.5s,baz=299,slow=8.2,SNR=4.4
LPAZ PcP PcP 14 11 13.1 +0.7
1.0nm,0.4s,baz=255,slow=2.8,SNR=3.8
LPAZ LR LR 14 22 31.1
comp=Z,411nm,19.8s,baz=43,slow=37
PHWY **Pilot Hill** 33.57 334 eP P 14 08 33.1 +0.6
10nm,0.9s
N22A **Wattenberg Ran** 33.60 333 ⇑P P 14 08 32.5 -0.3
baz=34
SPMN **St. Paul** 33.63 352 eP P 14 08 31.8 -0.9
SPMN **St. Paul** 33.63 352 ⇑P P 14 08 32.3 -0.4
baz=34,SNR=27
L25A **Engebretsen Ra** 33.68 337 ⇑P P 14 08 33.6 +0.4
baz=34
W13A **Hualapai Mount** 33.72 318 ⇑P P 14 08 34.6 +0.8
baz=34,SNR=11
I30A **Oacoma** 33.73 344 ⇓P P 14 08 33.6 0.0
baz=34,SNR=52
M23A **Laramie** 33.82 334 ⇑P P 14 08 34.3 -0.3
baz=34
J28A **Allard Ranch,** 33.83 341 ⇓P P 14 08 34.7 +0.2
baz=34,SNR=15
K26A **Motz Farm, Whi** 33.85 338 ⇑P P 14 08 35.2 +0.4
baz=34
O20A **White River Ci** 33.91 330 eP P 14 08 36.5 +1.0
O20A **White River Ci** 33.91 330 ⇑P P 14 08 36.0 +0.5
baz=34,SNR=17
J27A **Elkhorn Farm,** 33.92 340 ⇑P P 14 08 35.5 +0.2
baz=34,SNR=6.0
BC3 **Big Chuckawall** 33.96 314 ⇑P P 14 08 36.3 +0.5
baz=34,SNR=10
I29A **Vivian Onida** 34.08 343 ⇓P P 14 08 37.1 +0.4
baz=34,SNR=33
BRSD **Miller** 34.09 344 eP P 14 08 35.8 -1.0
268nm,0.8s
BRSD **Miller** 34.09 344 ⇑P P 14 08 36.1 -0.6
baz=34,SNR=10
M22A **Cedar Creek Ra** 34.14 333 ⇓P P 14 08 36.9 -0.6
baz=34
LONY **Lake Ozonia** 34.29 16 eP P 14 08 37.5 -0.9
22nm,1.0s
I28A **Midland** 34.32 342 ⇑P P 14 08 39.4 +0.6
baz=34,SNR=30
SRU **San Rafael** 34.34 326 eP P 14 08 39.1 0.0
19nm,0.5s
L23A **Garrett** 34.34 335 ⇑P P 14 08 39.4 +0.2
baz=34,SNR=5.1
J26A **Sides Ranch, S** 34.35 339 ⇓P P 14 08 39.7 +0.7
baz=34,SNR=8.2
LDFC **Landfair** 34.52 317 eP P 14 08 42.5 +1.9
12nm,0.8s
BELC **Belle Mtn. Jos** 34.53 314 ⇓P P 14 08 40.8 0.0
baz=35
L22A **Ellis Ranch, M** 34.58 334 ⇑P P 14 08 42.3 +1.1
baz=35,SNR=6.9
H29A **Onida** 34.61 343 ⇓P P 14 08 40.5 -0.7
baz=35,SNR=8.4
I27A **Quinn** 34.67 341 ⇑P P 14 08 42.1 +0.3
baz=35,SNR=18
J25A **Sunshine Ranch** 34.68 338 ⇓P P 14 08 41.6 -0.3
baz=35,SNR=8.8
G30A **Faulkton** 34.78 345 ⇑P P 14 08 41.7 -1.0
baz=35,SNR=13
K23A **Bowen Ranch, D** 34.84 335 ⇓P P 14 08 42.1 -1.3
baz=35
TMUT **Trail Mountain** 34.84 326 eP P 14 08 43.7 +0.1
22nm,1.3s
H28A **Mission Ridge** 34.89 342 ⇑P P 14 08 43.7 0.0
baz=35,SNR=17
CCUT **Cedar City** 34.91 322 eP P 14 08 44.3 +0.2
7.8nm,0.9s
J24A **Dixon Ranch, L** 34.95 337 ⇓P P 14 08 43.6 -0.6
baz=35
G29A **Hoven** 35.05 344 ⇑P P 14 08 44.3 -0.7
baz=35,SNR=6.8
ARUT **Antelope Range** 35.11 322 eP P 14 08 46.3 +0.5
234nm,0.9s
K22A **Casper** 35.13 334 ⇑P P 14 08 45.6 -0.3
baz=35
H27A **Howes** 35.18 341 ⇑P P 14 08 46.6 +0.5
baz=35,SNR=45
G28A **Parade** 35.22 343 ⇑P P 14 08 46.2 -0.3
baz=35
TUQ **Turquoise Moun** 35.27 317 ⇑P P 14 08 46.8 -0.3
baz=35
J23A **Dilts Ranch, B** 35.35 336 ⇑P P 14 08 47.1 -0.7
baz=35
I24A **Kuemmerle Ranc** 35.38 338 ⇑P P 14 08 48.3 +0.3
baz=36,SNR=9.7
H26A **Fairpoint** 35.39 340 ⇑P P 14 08 48.7 +0.7
baz=36,SNR=8.4
RSSD **Black Hills** 35.39 338 eP P 14 08 48.6 +0.4
3.2nm,0.8s
F30A **Leola** 35.41 345 ⇑P P 14 08 46.9 -1.2
baz=36
K21A **Alcova** 35.42 334 ⇓P P 14 08 48.6 +0.1
baz=36,SNR=7.1
MPU **Maple Canyon** 35.58 326 eP P 14 08 49.2 -0.7
26nm,0.9s
MPU ePcP PcP 14 11 19.0 +1.4
F29A **Eureka** 35.62 344 ⇓P P 14 08 49.1 -0.8
baz=36,SNR=12
DAU **Daniels Canyon** 35.66 327 eP P 14 08 50.9 +0.3
DAU ePcP PcP 14 11 19.2 +1.3
NLU **North Lily Min** 35.78 326 eP P 14 08 51.9 +0.3
14nm,1.3s
NLU ePcP PcP 14 11 19.4 +1.3
GSC **Goldstone** 35.79 316 ePcP PcP 14 11 19.9 +1.8
G27A **Dupree** 35.80 342 ⇓P P 14 08 51.2 -0.2
baz=36,SNR=5.0
F28A **McLaughlin** 35.90 343 ⇓P P 14 08 52.1 -0.2
baz=36,SNR=18
JLU **Jordanelle** 35.90 327 eP P 14 08 52.0 -0.6
10nm,0.7s
JLU ePcP PcP 14 11 19.6 +1.0
G26A **Maurine** 35.94 341 ⇓P P 14 08 52.7 +0.1
baz=36,SNR=29
E30A **Jud** 36.01 346 ⇑P P 14 08 52.8 -0.4
baz=36,SNR=22
FMP **Fort Macarthur** 36.02 312 ⇓P P 14 08 52.6 -0.7
baz=36
J21A **Lysite** 36.09 334 ⇓P P 14 08 54.5 +0.4
baz=36,SNR=13
G25A **Newell** 36.11 340 ⇓P P 14 08 54.5 +0.3
baz=36,SNR=5.8
H24A **Dirks Ranch, A** 36.12 338 ⇑P P 14 08 54.6 +0.4
baz=36,SNR=14
I22A **9 Mile Ranch,** 36.13 336 ⇓P P 14 08 54.4 0.0
baz=36,SNR=5.0
EYMN **Ely** 36.18 355 eP P 14 08 52.1 -2.5
40nm,1.4s
E29A **Napoleon** 36.25 345 ⇓P P 14 08 54.7 -0.5
baz=36,SNR=14
F27A **Lemmon** 36.27 342 ⇓P P 14 08 56.0 +0.5
baz=36,SNR=15
DUG **Dugway** 36.35 326 eP P 14 08 57.1 +0.8
13nm,1.1s
DUG **Dugway** 36.35 326 ⇑P P 14 08 56.9 +0.6
baz=36,SNR=14
TPNV **Topopah Spring** 36.35 318 eP P 14 08 57.7 +1.3
9.8nm,0.9s
TPNV ePcP PcP 14 11 21.9 +2.0
TPNV **Topopah Spring** 36.35 318 ⇓P P 14 08 57.3 +0.8
baz=36,SNR=8.9
J20A **Shoshoni** 36.37 334 ⇓P P 14 08 56.9 +0.4
baz=36,SNR=7.3
I21A **Big Trails, Te** 36.40 335 ⇑P P 14 08 56.7 -0.1
baz=36,SNR=9.8
F26A **Lodgepole** 36.45 341 ⇑P P 14 08 57.0 0.0
baz=36,SNR=13
FURC **Furnace Creek,** 36.48 317 ⇑P P 14 08 57.3 0.0
baz=36
LRMC **Laurel Mountai** 36.49 315 ⇓P P 14 08 57.4 -0.3
baz=36
E28A **Huff** 36.53 344 ⇑P P 14 08 57.3 -0.3
baz=37
D30A **Buchanan** 36.54 346 ⇑P P 14 08 57.1 -0.6
baz=37,SNR=26
BW06 **Boulder Array** 36.57 331 eP P 14 08 58.1 -0.2
9.6nm,0.7s
G24A **Alzada** 36.57 339 ⇓P P 14 08 58.1 -0.1
baz=37
E27A **Carson** 36.64 343 ⇓P P 14 08 59.0 +0.4
baz=37,SNR=27
H22A **Clearmont** 36.67 336 ⇑P P 14 08 58.7 -0.3
baz=37
MPMC **Manual Prospec** 36.67 316 ⇓P P 14 08 60.0 +0.7
baz=37,SNR=5.1
D29A **Pettibone, Tap** 36.70 345 ⇓P P 14 08 58.3 -0.7
baz=37,SNR=12
J19A **Crowheart** 36.73 332 ⇓P P 14 08 59.3 -0.3
baz=37,SNR=14
F25A **Bowman** 36.77 341 ⇓P P 14 08 59.8 0.0
baz=37
R11A **Troy Canyon, C** 36.77 321 eP P 14 09 01.1 +1.0
7.9nm,1.1s
R11A **Troy Canyon, C** 36.77 321 ⇓P P 14 09 01.3 +1.3
baz=37,SNR=9.0
G23A **Biddle** 36.81 338 ⇑P P 14 09 00.6 +0.5
baz=37,SNR=5.6
I20A **Worland** 36.87 334 ⇑P P 14 09 01.1 +0.5
baz=37,SNR=8.4
SPUT **South Promonto** 36.94 327 eP P 14 09 01.5 +0.2
13nm,0.8s
SPUT ePcP PcP 14 11 21.3 -0.2
E26A **Carlson Angus** 36.95 342 ⇑P P 14 09 01.1 -0.1
baz=37,SNR=5.7
H21A **Big Horn, Sher** 36.97 336 ⇑P P 14 09 01.6 +0.1
baz=37,SNR=10
BGU **Big Grassy Mou** 36.98 326 eP P 14 09 02.3 +0.6
11nm,1.2s
F24A **Ekalaka** 37.03 339 ⇑P P 14 09 02.0 0.0
baz=37,SNR=11
C30A **Mose, Pekin** 37.04 347 ⇓P P 14 09 01.6 -0.3
baz=37,SNR=20
D28A **Regan** 37.07 344 ⇓P P 14 09 02.3 +0.1
baz=37,SNR=7.0
AGMN **Agassiz Nation** 37.09 350 eP P 14 09 01.4 -1.0
59nm,1.0s
GRAC **Grapevine Rang** 37.12 318 ⇑P P 14 09 03.5 +0.7
baz=37,SNR=7.5
G22A **Birney** 37.17 337 ⇑P P 14 09 03.4 +0.2
baz=37,SNR=5.3
H20A **Greybull** 37.24 335 ⇑P P 14 09 03.5 -0.4
baz=37,SNR=6.1
D27A **Center** 37.25 343 ⇓P P 14 09 03.9 +0.2
baz=37,SNR=10
E25A **Miller Ranch,** 37.27 341 ⇓P P 14 09 04.0 +0.1
baz=37,SNR=12
F23A **Volborg** 37.27 338 ⇑P P 14 09 04.1 +0.1
baz=37,SNR=10
I19A **Meeteetse** 37.31 333 ⇑P P 14 09 05.0 +0.5
baz=37,SNR=7.2
MDND **Maddock** 37.43 346 eP P 14 09 04.9 -0.4
MDND **Maddock** 37.43 346 ⇓P P 14 09 05.2 -0.1
baz=38,SNR=36
D26A **Manning** 37.44 342 ⇑P P 14 09 05.4 0.0
baz=38,SNR=12
HVU **Hansel Valley** 37.44 327 eP P 14 09 05.9 +0.3
15nm,0.9s
HVU ePcP PcP 14 11 24.2 +1.2
C28A **Hausauer Farms** 37.50 345 ⇓P P 14 09 05.6 -0.3
baz=38,SNR=13
G21A **Lodge Grass** 37.53 336 ⇓P P 14 09 05.6 -0.6
baz=38,SNR=5.7
E24A **Baker** 37.61 340 ⇑P P 14 09 06.9 +0.1
baz=38,SNR=7.1
F22A **Rosebud** 37.63 338 ⇑P P 14 09 06.5 -0.5
baz=38,SNR=6.5
REDW **Red Top Meadow** 37.64 331 eP P 14 09 07.4 0.0
60nm,0.8s
TPH **Tonopah** 37.64 319 eP P 14 09 07.0 -0.4
4.6nm,0.9s
LOHW **Long Hollow** 37.71 331 eP P 14 09 07.9 0.0
20nm,0.6s
B30A **Myrvik Farm, E** 37.71 347 ⇓P P 14 09 07.1 -0.6
baz=38,SNR=25
TPAW **Teton Pass** 37.78 331 eP P 14 09 08.7 +0.1
64nm,1.3s
C27A **Sayler Ranch,** 37.80 344 ⇑P P 14 09 08.7 +0.3
baz=38,SNR=8.9
H19A **Powell** 37.81 334 ⇓P P 14 09 08.3 -0.4
baz=38
D25A **Fairfield** 37.82 342 ⇓P P 14 09 08.9 +0.4
baz=38,SNR=8.8
MOOW **Moose Ponds** 37.88 331 eP P 14 09 09.0 -0.3
18nm,0.8s
E23A **Ismay** 37.90 339 ⇓P P 14 09 09.1 -0.2
baz=38,SNR=7.9
G20A **Bridger** 37.93 335 ⇓P P 14 09 09.2 -0.4
baz=38,SNR=5.2
I17A **Pilgrim Ck.** 37.93 332 ⇑P P 14 09 10.9 +1.1
baz=38,SNR=8.8
B29A **Wagenman Farm,** 37.95 346 ⇑P P 14 09 09.7 0.0
baz=38,SNR=18
F21A **Absaloka Mine,** 37.99 337 ⇓P P 14 09 09.5 -0.6
baz=38
C26A **Wahner Farm, P** 38.06 343 ⇑P P 14 09 10.9 +0.3
baz=38,SNR=14
ELK **Elko** 38.09 324 eP P 14 09 12.0 +0.8
15nm,1.1s
D24A **Glendive** 38.11 341 ⇑P P 14 09 11.3 +0.3
baz=38,SNR=7.5
FLWY **Flagg Ranch** 38.12 332 eP P 14 09 11.9 +0.6
26nm,0.9s
A30A **Hoffart Farm,** 38.17 348 ⇓P P 14 09 10.9 -0.6
baz=38,SNR=28
B28A **Dugan Ranch, T** 38.18 345 ⇓P P 14 09 11.4 -0.1
baz=38,SNR=21
RLMT **Red Lodge** 38.29 334 eP P 14 09 12.2 -0.6
12nm,0.7s
H17A **Grant Village** 38.30 332 ⇓P P 14 09 12.1 -0.8
baz=38
C25A **Freed Ranch, W** 38.30 342 ⇑P P 14 09 12.2 -0.4
baz=38,SNR=7.7
A29A **Manning Farm,** 38.36 347 ⇓P P 14 09 12.4 -0.6
baz=38,SNR=50
B27A **Peters Farms,** 38.37 344 ⇓P P 14 09 13.0 -0.1
baz=38,SNR=5.1
F20A **Billings** 38.38 336 ⇑P P 14 09 13.0 -0.3
baz=38,SNR=9.5
LAO **LASA Array** 38.39 338 eP P 14 09 13.1 -0.3
22nm,0.8s
NV11 **Mina Array Sit** 38.45 319 eP P 14 09 13.8 -0.3
D23A **Lindsay** 38.45 340 ⇓P P 14 09 14.1 +0.2
baz=38,SNR=7.4
YFT **Old Faithful** 38.46 332 eP P 14 09 14.1 -0.2
16nm,0.8s
C24A **Savage** 38.50 341 ⇓P P 14 09 14.5 +0.2
baz=39,SNR=13
LVC **Limon Verde** 38.50 153 eP P 14 09 17.8 +3.0
NVAR **Mina Array Bea** 38.54 319 P P 14 09 15.8 +0.8
NVAR PcP PcP 14 11 28.1 +1.6
NVAR ScP ScP 14 15 18.2 +9.4
NVAR **Mina Array Bea** 38.54 319 P P 14 09 15.8 +0.8
4.2nm,0.7s,baz=126,slow=6.6,SNR=29
NVAR PcP PcP 14 11 28.1 +1.6
9.5nm,0.7s,baz=126,slow=3.2,SNR=22
NVAR ScP ScP 14 15 18.2 +9.4
0.7nm,0.8s,baz=140,slow=5.9,SNR=3.7
E21A **Keefer Ranch,** 38.58 337 ⇓P P 14 09 15.0 0.0
baz=39,SNR=5.7
A28A **Rude Farm, Bot** 38.58 346 ⇓P P 14 09 14.5 -0.5
baz=39,SNR=9.0
YNR **Norris Junctio** 38.59 332 eP P 14 09 16.1 +0.7
18nm,1.4s
B26A **Jensen Ranch,** 38.60 344 ⇓P P 14 09 14.4 -0.7
baz=39
YMR **Madison River** 38.69 332 eP P 14 09 15.8 -0.4
24nm,0.9s
F19A **Roth Farm, Mol** 38.74 335 ⇓P P 14 09 16.3 -0.1
baz=39,SNR=12
D22A **Cohagen** 38.77 339 ⇑P P 14 09 17.1 +0.5
baz=39,SNR=15
B25A **Knox Farm, Ray** 38.77 343 ⇓P P 14 09 17.1 +0.5
baz=39,SNR=15
E20A **Meyer Farm, Mu** 38.95 336 ⇓P P 14 09 18.4 +0.3
baz=39,SNR=28
D21A **La Casta Ranch** 38.99 338 ⇓P P 14 09 18.8 +0.4
baz=39,SNR=6.9
C23A **Lambert** 38.99 340 ⇑P P 14 09 18.7 +0.3
baz=39,SNR=14
ULM **Lac du Bonnet** 38.99 351 eP P 14 09 16.8 -1.5
49nm,0.9s
ULM PcP PcP 14 11 27.8 +0.4
ULM **Lac du Bonnet** 38.99 351 P P 14 09 16.9 -1.4
61nm,0.9s,baz=169,slow=8.6,SNR=51
ULM PcP PcP 14 11 27.8 +0.4
5.3nm,0.7s,baz=143,slow=5.1,SNR=3.7
ULM LR LR 14 26 22.1
comp=Z,204nm,19.5s,baz=167,slow=38
GCMT **Greycliff** 38.99 334 eP P 14 09 18.7 +0.1
8.5nm,0.7s
A26A **Wade Farm, Ken** 39.02 344 ⇓P P 14 09 18.8 +0.2
baz=39,SNR=9.5
QLMT **Earthquake Lak** 39.02 332 eP P 14 09 18.7 -0.2
BMN **Battle Mountai** 39.06 322 eP P 14 09 17.9 -1.3
28nm,1.3s
E19A **Rath Farm, Rou** 39.17 336 ⇑P P 14 09 19.8 -0.2
baz=39,SNR=5.7
C22A **Vida** 39.17 340 ⇓P P 14 09 20.1 +0.2
baz=39,SNR=17
DGMT **Dagmar** 39.26 342 eP P 14 09 20.5 -0.1
66nm,0.6s
DGMT **Dagmar** 39.26 342 ⇓P P 14 09 20.9 +0.3
baz=39,SNR=14
WAKR **Walker** 39.32 318 eP P 14 09 21.9 +0.4
A25A **Svangstu Ranch** 39.36 343 ⇓P P 14 09 21.6 +0.2
baz=39,SNR=8.5
D20A **Manuel Ranch,** 39.44 337 ⇓P P 14 09 22.7 +0.6
baz=40,SNR=14
B23A **Brockton** 39.51 341 ⇓P P 14 09 23.5 +0.9
baz=40,SNR=19
HLID **Hailey** 39.55 328 eP P 14 09 23.2 -0.1
7.6nm,0.8s
HLID ePcP PcP 14 11 31.5 +1.9
HLID **Hailey** 39.55 328 ⇑P P 14 09 23.8 +0.5
baz=40,SNR=17
A24A **Westby** 39.61 342 ⇓P P 14 09 23.9 +0.4
baz=40,SNR=8.9
MCMT **McKenzie Canyo** 39.69 331 eP P 14 09 25.1 +0.6
22nm,1.0s
B22A **Reddig Ranch S** 39.69 340 ⇓P P 14 09 24.6 +0.3
baz=40,SNR=8.3
D19A **Cripps Ranch,** 39.78 336 ⇑P P 14 09 25.3 +0.2
baz=40,SNR=8.2
C20A **Veseth Ranch,** 39.90 338 ⇑P P 14 09 26.1 +0.1
baz=40,SNR=9.1
PAHR **Pah Rah Range** 39.96 320 eP P 14 09 28.1 +1.4
5.0nm,0.9s
DLMT **Dillon** 39.97 332 eP P 14 09 27.6 +0.9
21nm,0.9s
MFID **Camas Ranch** 40.20 327 eP P 14 09 29.1 +0.5
7.8nm,1.1s
MFID ePcP PcP 14 11 31.8 +0.2
LRM **Limekiln Ridge** 40.25 332 eP P 14 09 28.9 -0.2
A22A **Carney Farms,** 40.27 341 ⇓P P 14 09 29.3 +0.3
baz=40,SNR=11
C19A **Slack Wire Ran** 40.32 337 ⇑P P 14 09 29.7 +0.2
baz=40,SNR=12
B20A **Solberg Farm,** 40.52 338 ⇓P P 14 09 31.3 +0.3
baz=41,SNR=6.9
A21A **Bergtoll Ranch** 40.60 340 ⇓P P 14 09 32.3 +0.6
baz=41,SNR=21
HRY **Holter Researc** 40.65 333 eP P 14 09 32.7 +0.5
BEKR **Beckworth** 40.67 319 eP P 14 09 31.2 -1.4
2.4nm,0.8s
EGMT **Eagleton** 40.83 336 eP P 14 09 33.9 +0.2
14nm,0.8s
EGMT **Eagleton** 40.83 336 ⇑P P 14 09 33.6 -0.1
baz=41,SNR=6.8
A20A **Cobblestone Ra** 40.85 339 ⇑P P 14 09 34.2 +0.4
baz=41,SNR=22
B19A **Brinkman Farms** 40.87 337 ⇑P P 14 09 34.1 +0.1
baz=41,SNR=9.2
WVOR **Wild Horse Val** 41.13 324 eP P 14 09 36.4 0.0
11nm,0.9s
WVOR ePcP PcP 14 11 36.0 +1.4
A19A **Klindworth Far** 41.19 338 ⇓P P 14 09 36.1 -0.6
baz=41
CHMT **Chamberlain Mo** 41.43 333 eP P 14 09 38.6 -0.2
J08A **Circle Bar Ran** 41.62 325 eP P 14 09 40.6 +0.4
7.1nm,0.8s
J08A ePcP PcP 14 11 37.9 +1.7
MSO **Missoula** 41.68 332 eP P 14 09 40.7 -0.1
14nm,0.9s
MSO **Missoula** 41.68 332 ⇓P P 14 09 40.6 -0.1
baz=42,SNR=10
MOD **Modoc** 41.80 322 eP P 14 09 42.0 +0.2
7.6nm,1.1s
BMO **Blue Mountains** 41.95 327 eP P 14 09 41.9 -1.1
11nm,0.8s
K05A **Summer Lake** 42.63 322 ePcP PcP 14 11 40.9 +1.2
I07A **Izee** 42.65 325 eP P 14 09 47.9 -0.8
56nm,2.4s
I07A ePcP PcP 14 11 41.6 +2.0
F10A **Beach Ranch, E** 42.67 329 eP P 14 09 48.4 -0.4
14nm,0.8s
M04C **Macdoel** 42.67 321 ⇓P P 14 09 47.9 -1.0
baz=43

N02D	**Trinity Center**	**42.77**	**319**	⇓P	**P**	**14 09 49.0**	**-0.6**
	baz=43						
BSMT	**Bassoo Peak**	**42.83**	**332**	*e*P	**P**	**14 09 50.1**	**0.0**
M02C	**Callahan**	**43.09**	**320**	⇓P	**P**	**14 09 51.0**	**-1.2**
	baz=43						
G08A	**Pilot Rock**	**43.12**	**327**	*e*PcP	**PcP**	**14 11 42.8**	**+1.6**
YBH	**Yreka Blue Hor**	**43.19**	**320**	LR	LR	14 33 01.3	
	comp=Z,266nm,18.1s,baz=146,slow=43						
WALA	**Waterton Lakes**	**43.35**	**334**	*e*P	**P**	**14 09 54.6**	**+0.4**
	0.3nm,0.8s						
KHMM	**Horse Mountain**	**43.38**	**318**	*e*P	**P**	**14 09 56.2**	**+1.6**
	172nm,2.8s						
E09A	**Wood Farm, Sta**	**43.51**	**329**	*e*P	**P**	**14 09 55.0**	**-0.4**
	20nm,1.0s						
J04D	**Umpqua Nationa**	**43.66**	**322**	⇑P	**P**	**14 09 56.3**	**-0.7**
	baz=44						
G06A	**Carlson Farm,**	**44.00**	**326**	*e*P	**P**	**14 10 00.8**	**+1.4**
	91nm,2.3s						
HAWA	**Hanford**	**44.14**	**328**	*e*P	**P**	**14 09 59.9**	**-0.6**
	12nm,0.8s						
I04A	**Tendick Farm,**	**44.16**	**323**	⇑P	**P**	**14 09 59.3**	**-1.5**
	baz=44						
NEW	**Newport**	**44.21**	**331**	*e*P	**P**	**14 10 00.5**	**-0.6**
	5.5nm,0.7s						
NEW	**Newport**	**44.21**	**331**	⇓P	**P**	**14 10 00.1**	**-1.0**
	baz=44,SNR=7.5						
D08A	**Wollman Farm,**	**44.27**	**329**	*e*P	**P**	**14 10 01.3**	**-0.2**
	20nm,0.8s						
BENWA	**Benson Ranch**	**44.32**	**328**	P	**P**	**14 10 02.2**	**+0.2**
G05D	**Wamic, OR**	**44.39**	**325**	⇑P	**P**	**14 10 01.9**	**-0.6**
	baz=44						
FFC	**Flin Flon**	**44.39**	**347**	*e*P	**P**	**14 10 01.7**	**-0.6**
	14nm,0.8s						
E07A	**Sunnyside**	**44.42**	**327**	*e*P	**P**	**14 10 02.6**	**-0.1**
	39nm,0.8s						
C09A	**Chrisman Ranch**	**44.44**	**330**	*e*P	**P**	**14 10 02.6**	**-0.3**
	14nm,0.8s						
H04A	**Detroit Lake**	**44.55**	**324**	*e*P	**P**	**14 10 03.7**	**-0.1**
	26nm,1.4s						
H04A				*e*PcP	**PcP**	**14 11 46.5**	**+0.6**
I03D	**Drain, OR**	**44.66**	**322**	⇓P	**P**	**14 10 04.4**	**-0.3**
	baz=45						
SAW	**Saint Andrews**	**44.94**	**329**	P	**P**	**14 10 06.8**	**0.0**
EBG	**Ellensburg**	**45.02**	**327**	P	**P**	**14 10 08.5**	**+0.9**
WTV	**Waterville**	**45.22**	**329**	P	**P**	**14 10 09.5**	**+0.4**
LTY	**Liberty**	**45.30**	**328**	*e*P	**P**	**14 10 09.5**	**-0.3**
	12nm,0.9s						
B08A	**Colville Reser**	**45.34**	**330**	*e*P	**P**	**14 10 09.5**	**-0.6**
	14nm,0.8s						
F04A	**Amboy**	**45.42**	**325**	*e*P	**P**	**14 10 10.5**	**-0.2**
	7.0nm,0.8s						
F04A				*e*PcP	**PcP**	**14 11 50.0**	**+1.2**
G03D	**McMinnville, O**	**45.47**	**324**	⇓P	**P**	**14 10 10.6**	**-0.5**
	baz=46						
LON	**Longmire**	**45.58**	**327**	*e*P	**P**	**14 10 11.7**	**-0.3**
	4.4nm,0.8s						
LON				*e*PcP	**PcP**	**14 11 50.2**	**+0.7**
SCHQ	**Schefferville**	**45.66**	**16**	P	**P**	**14 10 11.9**	**-0.6**
SCHQ	**Schefferville**	**45.66**	**16**	P	**P**	**14 10 11.9**	**-0.6**
	20nm,1.2s,baz=215,slow=7.3,SNR=18						
SCHQ				LR	LR	14 29 33.7	
	comp=Z,596nm,19.0s,baz=1.3,slow=36						
H03N2	**Juan Fernandez**	**45.68**	**171**	T	T	14 58 47.2	
	baz=343						
H03N1	**Juan Fernandez**	**45.68**	**171**	T	T	14 58 46.6	
	baz=343,slow=75,SNR=5.5						
H03N3	**Juan Fernandez**	**45.69**	**171**	T	T	14 58 47.5	
	baz=343,slow=75,SNR=5.0						
D05A	**Enumclaw**	**45.95**	**327**	*e*P	**P**	**14 10 14.8**	**0.0**
	19nm,1.0s						
EDM	**Edmonton**	**46.38**	**338**	*e*P	**P**	**14 10 17.4**	**-0.7**
E03A	**Lebam**	**46.42**	**325**	*e*PcP	**PcP**	**14 11 54.1**	**+1.7**
B06A	**Marblemount**	**46.53**	**329**	*e*P	**P**	**14 10 18.9**	**-0.3**
	29nm,0.8s						
JCW	**Jim Creek**	**46.55**	**328**	P	**P**	**14 10 18.6**	**-1.0**
NLWA	**Neilton Lookou**	**47.09**	**326**	*e*P	**P**	**14 10 23.2**	**-0.6**
	17nm,1.1s						
FCC	**Fort Churchill**	**47.12**	**355**	*e*P	**P**	**14 10 23.5**	**-0.2**
	1.0nm,0.8s						
A05A	**Maple Falls**	**47.14**	**329**	*e*P	**P**	**14 10 23.3**	**-0.8**
	7.4nm,0.6s						
BDFB	**Brasilia**	**47.15**	**125**	*e*P	**P**	**14 10 24.5**	**-0.2**
BDFB				PcP	**PcP**	**14 11 57.0**	**+1.4**
BDFB	**Brasilia**	**47.15**	**125**	P	**P**	**14 10 23.7**	**-1.0**
	4.6nm,0.4s,baz=273,slow=8.4,SNR=8.2						
BDFB				PcP	**PcP**	**14 11 57.0**	**+1.4**
	3.1nm,0.5s,baz=304,slow=3.6,SNR=3.2						
BDFB				LR	LR	14 31 33.8	
	comp=Z,515nm,18.9s,baz=118,slow=38						
CPUP	**Villa Florida**	**47.59**	**143**	P	**P**	**14 10 26.8**	**-1.0**
CPUP				PcP	**PcP**	**14 11 58.6**	**+1.9**
CPUP	**Villa Florida**	**47.59**	**143**	P	**P**	**14 10 26.8**	**-1.0**
	3.6nm,0.7s,baz=322,slow=6.2,SNR=8.0						
CPUP				PcP	**PcP**	**14 11 58.6**	**+1.9**
	0.4nm,0.3s,baz=338,slow=5.4,SNR=2.9						
CPUP				LR	LR	14 31 06.8	
	comp=Z,246nm,21.3s,baz=307,slow=37						
BBB	**Bella Bella**	**52.13**	**329**	LR	LR	14 35 42.0	
	comp=Z,230nm,19.3s,baz=325,slow=39						
FRB	**Frobisher Bay**	**53.39**	**10**	LR	LR	14 35 39.1	
	comp=Z,405nm,19.1s,baz=207,slow=38						
YKA	**Yellowknife Ar**	**54.33**	**345**	P	**P**	**14 11 17.1**	**-0.8**
YKA				PcP	**PcP**	**14 12 21.6**	**+0.4**
YKA	**Yellowknife Ar**	**54.33**	**345**	P	**P**	**14 11 17.1**	**-0.8**
	19nm,0.7s,baz=139,slow=7.4,SNR=92						
YKA				PcP	**PcP**	**14 12 21.5**	**+0.4**
	2.4nm,0.5s,baz=146,slow=3.7,SNR=7.7						
YKW3	**Yellowknife Ar**	**54.39**	**345**	*e*P	**P**	**14 11 17.3**	**-1.1**
	0.5nm,0.8s						
PLCA	**Paso Flores**	**54.46**	**165**	P	**P**	**14 11 18.0**	**-1.3**
PLCA	**Paso Flores**	**54.46**	**165**	P	**P**	**14 11 18.0**	**-1.3**
	6.7nm,0.9s,baz=348,slow=10,SNR=8.1						
PLCA				LR	LR	14 32 52.7	
	comp=Z,113nm,18.8s,baz=52,slow=34						
DLBC	**Dease Lake**	**56.69**	**334**	*e*P	**P**	**14 11 34.3**	**-0.8**
RKT	**Rikitea**	**58.56**	**233**	*e*LR	LR	14 29 07.8	
	360nm,28.5s						
HYT	**Haines Junctio**	**61.18**	**334**	*e*P	**P**	**14 12 06.5**	**+0.3**
RES	**Resolute Bay**	**62.97**	**358**	LR	LR	14 41 14.1	
	comp=Z,145nm,18.6s,baz=101,slow=38						
DAWY	**Dawson**	**63.57**	**337**	*e*P	**P**	**14 12 21.0**	**-1.0**
BMRM	**Bremner River**	**64.34**	**333**	*e*P	**P**	**14 12 24.2**	**-2.9**
	15nm,0.6s						
DIV	**Divide**	**64.93**	**333**	*e*P	**P**	**14 12 31.5**	**+0.5**
	16nm,1.1s						
DOT	**Dot Lake**	**65.21**	**336**	*e*P	**P**	**14 12 32.7**	**0.0**
	16nm,0.8s						
PAX	**Paxson**	**65.51**	**335**	*e*P	**P**	**14 12 34.4**	**-0.4**
	7.9nm,0.8s						
SEW	**Seward**	**66.28**	**331**	*e*P	**P**	**14 12 39.2**	**-0.3**
	16nm,1.0s						
RC01	**Rabbit Creek A**	**66.72**	**332**	*e*P	**P**	**14 12 42.0**	**-0.4**
	19nm,0.9s						
ILAR	**Eielson Array**	**66.80**	**336**	P	**P**	**14 12 41.9**	**-1.0**
ILAR				PP	**PP**	**14 15 09.7**	**-0.8**
ILAR	**Eielson Array**	**66.80**	**336**	P	**P**	**14 12 41.9**	**-1.0**
	8.4nm,0.8s,baz=145,slow=4.5,SNR=102						
ILAR				PP	**PP**	**14 15 09.7**	**-0.8**
	2.4nm,0.9s,baz=100,slow=6.2,SNR=4.5						
COLA	**College**	**67.22**	**336**	*e*P	**P**	**14 12 44.1**	**-1.3**
	2.2nm,0.8s						
MCK	**McKinley**	**67.25**	**335**	*e*P	P	14 12 42.5	-3.2
TRF	**Thorofare Moun**	**67.72**	**334**	*e*P	**P**	**14 12 48.5**	**-0.4**
	13nm,0.9s						
SPU	**Mount Spurr**	**67.82**	**332**	*e*P	**P**	**14 12 48.9**	**-0.5**
RSO	**Redoubt South**	**67.95**	**331**	*e*P	**P**	**14 12 50.0**	**-0.5**
PPT	**Papeete**	**68.51**	**246**	LR	LR	14 35 36.6	
	comp=Z,282nm,19.9s,baz=64,slow=30						
PPT2	**Papeete2**	**68.52**	**246**	*e*LR	LR	14 33 38.9	
	301nm,24.0s						
COLD	**Coldfoot**	**68.96**	**338**	*e*P	**P**	**14 12 57.0**	**+0.7**
	12nm,0.8s						
TBI	**Tubuai**	**70.54**	**240**	*e*LR	LR	14 34 37.9	
	276nm,24.2s						
ESDC	**Sonseca Array**	**77.07**	**52**	P	**P**	**14 13 43.6**	**-1.3**
ESDC	**Sonseca Array**	**77.07**	**52**	P	**P**	**14 13 43.6**	**-1.3**
	4.2nm,0.8s,baz=285,slow=5.8,SNR=12						
ESDC				LR	LR	14 44 16.6	
	comp=Z,206nm,18.7s,baz=150,slow=33						
SPITS	**Spitsbergen Ar**	**81.15**	**12**	LR	LR	14 51 02.9	
	comp=Z,386nm,18.2s,baz=245,slow=36						
NB2	**NORSAR Subarra**	**83.58**	**29**	P	**P**	**14 14 19.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=283,slow=5.1						
NOA	**NORSAR Array B**	**83.58**	**29**	P	**P**	**14 14 20.1**	**+0.8**
NOA	**NORSAR Array B**	**83.58**	**29**	P	**P**	**14 14 20.1**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=285,slow=5.1,SNR=5.9						
NOA				LR	LR	14 46 59.4	
	comp=Z,165nm,20.7s,baz=355,slow=32						
ARCES	**ARCESS Array B**	**86.54**	**19**	P	**P**	**14 14 34.1**	**+0.1**
ARCES	**ARCESS Array B**	**86.54**	**19**	P	**P**	**14 14 34.1**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=264,slow=4.8,SNR=9.2						
FX1	**Attu Island--F**	**86.59**	**323**	*e*P	**P**	**14 14 34.8**	**+0.2**
GERES	**GERESS Array B**	**87.98**	**41**	P	**P**	**14 14 40.5**	**-1.0**
GERES	**GERESS Array B**	**87.98**	**41**	P	**P**	**14 14 40.5**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=286,slow=5.0,SNR=3.5						
GERES				LR	LR	14 48 10.6	
	comp=Z,260nm,21.9s,baz=269,slow=32						
FINES	**FINESS Array B**	**90.22**	**26**	P	**P**	**14 14 51.3**	**-0.3**
FINES	**FINESS Array B**	**90.22**	**26**	P	**P**	**14 14 51.3**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=340,slow=7.7,SNR=3.1						
PETK	**Petropavlovsk-**	**95.21**	**327**	LR	LR	15 04 02.8	
	comp=Z,76nm,20.4s,baz=298,slow=39						
DZM	**Mont Dzumac**	**109.73**	**251**	*e*LR	LR	14 52 52.8	
	comp=Z,1μm,28.5s						
ZALV	**Zalesovo Beam**	**114.06**	**5**	PKP	PKPdf	14 20 29.4	-0.7
ZALV	**Zalesovo Beam**	**114.06**	**5**	PKP	PKPdf	14 20 29.4	-0.7
	comp=Z,1.5nm,0.5s,baz=300,slow=2.2,SNR=9.2						
BOSA	**Boshof**	**114.89**	**116**	PKP	PKPdf	14 20 33.0	+0.5
BOSA	**Boshof**	**114.89**	**116**	PKP	PKPdf	14 20 33.0	+0.5
	comp=Z,3.8nm,0.7s,baz=262,slow=1.9,SNR=9.9						
SONM	**Songino Array**	**119.41**	**350**	PKP	**PKPdf**	**14 20 41.0**	**+0.3**
SONM	**Songino Array**	**119.41**	**350**	PKP	**PKPdf**	**14 20 41.0**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=334,slow=1.2,SNR=32						
MKAR	**Makanchi Array**	**120.80**	**9**	PKP	**PKPdf**	**14 20 42.5**	**-0.8**
MKAR	**Makanchi Array**	**120.80**	**9**	PKP	**PKPdf**	**14 20 42.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=330,slow=2.6,SNR=12						
KSRS	**Korea Array**	**121.09**	**328**	PKP	**PKPdf**	**14 20 45.1**	**+1.1**
	comp=Z,10nm,0.8s,baz=8.7,slow=1.5,SNR=35						
KSAR	**Wonju Array Be**	**121.12**	**328**	PKP	**PKPdf**	**14 20 45.1**	**+1.0**
WMQ	**Urumqi**	**124.36**	**5**	PKP	**PKPdf**	**14 20 50.0**	**-0.3**
WMQ				PP	PP	14 22 41.0	+5.9
WMQ				PKS	**PKSdf**	**14 24 25.0**	**-1.9**
WMQ				SKS	**SKSdf**	**14 27 50.0**	**-6.5**
WMQ				SKKS	**SKKSac**	**14 29 22.0**	**-7.0**
WMQ				SS	**SS**	**14 39 22.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,35nm,10.0s						
WMQ				LR	LR		
	comp=Z,160nm,24.0s						
WMQ				LR	LR		
	comp=Z,120nm,23.0s						
WMQ				LR	LR		
	comp=Z,140nm,22.0s						
HHC	**Hu-ho-hao-te**	**124.86**	**343**	*e*PKP	**PKPdf**	**14 20 52.9**	**+1.5**
HHC				PP	PP	14 22 44.6	+5.9
HHC				SS	SS	14 39 27.0	-1.0
HHC				AMB	AMB		
	comp=Z,120nm,9.3s						
KSH	**Kashi**	**126.43**	**17**	PKP	**PKPdf**	**14 20 55.2**	**+0.7**
KSH				PP	**PP**	**14 22 52.1**	**+2.9**
KSH				PKS	**PKSdf**	**14 24 30.1**	**-1.1**
KSH				SKS	**SKSdf**	**14 27 55.2**	**-5.5**
KSH				SKKS	SKKSac	14 29 34.1	-8.4
KSH				SS	**SS**	**14 39 48.1**	**+0.4**
KSH				AMB	AMB		
	comp=Z,170nm,6.3s						
KSH				LR	LR		
	comp=Z,120nm,7.9s						
GTA	**Gaotai**	**128.62**	**353**	PKP	**PKPdf**	**14 20 59.5**	**+0.9**
LZH	**Lanzhou**	**131.25**	**348**	*e*PKP	**PKPdf**	**14 21 04.6**	**+0.8**
LZH				sPKP		14 21 31.6	
STKA	**Stephens Creek**	**131.30**	**238**	PKP	**PKPdf**	**14 21 04.3**	**+0.6**
STKA	**Stephens Creek**	**131.30**	**238**	PKP	**PKPdf**	**14 21 04.3**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=71,slow=2.7,SNR=7.5						
XAN	**Xi'an**	**131.95**	**342**	PKP	**PKPdf**	**14 21 05.6**	**+0.6**
ENH	**Enshi**	**135.26**	**340**	*e*PKPdf	**PKPdf**	**14 21 11.5**	**+0.2**
CD2	**Chengdu**	**136.27**	**347**	*e*PKP	**PKPdf**	**14 21 11.7**	**-1.5**
LSA	**Lhasa**	**138.63**	**3**	*e*PKPdf	**PKPdf**	**14 21 18.2**	**+0.1**
ASAR	**Alice Springs**	**139.61**	**247**	PKP	**PKPdf**	**14 21 19.2**	**-0.2**
ASAR				SKPbc	**SKPab**	**14 25 01.2**	**+1.1**
ASAR	**Alice Springs**	**139.61**	**247**	PKhKP	PKPpre	14 21 12.5	
	comp=Z,0.8nm,0.6s,baz=101,slow=3.4,SNR=14						
ASAR				PKP	**PKPdf**	**14 21 19.2**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=106,slow=2.1,SNR=20						
ASAR				SKPbc	**SKPab**	**14 25 01.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=98,slow=2.9,SNR=6.0						
WRAB	**Tennant Creek**	**139.68**	**253**	*e*PKPdf	**PKPdf**	**14 21 19.1**	**-0.6**
WRA	**Warramunga Arr**	**139.69**	**253**	PKP	**PKPdf**	**14 21 20.6**	**+0.9**
WRA				SKPbc	**SKPab**	**14 25 00.9**	**+0.4**
WRA	**Warramunga Arr**	**139.69**	**253**	PKhKP	PKPpre	14 21 11.8	
	comp=Z,0.9nm,0.6s,baz=91,slow=3.2,SNR=9.8						
WRA				PKP	**PKPdf**	**14 21 20.6**	**+0.9**
	comp=Z,4.2nm,0.8s,baz=92,slow=2.2,SNR=34						
WRA				SKPbc	**SKPab**	**14 25 00.9**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=92,slow=2.7,SNR=5.4						
GYA	**Guiyang**	**139.71**	**341**	*e*Pdif	**Pdif**	**14 18 31.7**	**-2.0**
GYA				PKP	**PKPdf**	**14 21 19.4**	**-0.3**
GYA				sPKP		14 21 47.0	
GYA				PP	**PP**	**14 24 16.8**	**+2.7**
GYA				AMB	AMB		
	comp=Z,110nm,7.6s						
KMI	**Kunming**	**142.07**	**346**	PKP	**PKPdf**	**14 21 23.9**	**-0.3**
SLVN	**Son La**	**145.36**	**342**	*e*PKPdf	**PKPbc**	**14 21 29.6**	**0.0**
FITZ	**Fitzroy Crossi**	**148.06**	**255**	PKPbc	**PKPbc**	**14 21 37.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**148.06**	**255**	PKPbc	**PKPbc**	**14 21 37.9**	**+0.4**
	comp=Z,11nm,0.8s,baz=210,slow=1.1,SNR=21						
CHTO	**Chiang Mai**	**148.99**	**349**	*e*PKPdf	**PKPdf**	**14 21 35.8**	**0.0**
CHTO				*e*PKPbc	**PKPbc**	**14 21 40.0**	**+0.2**
CM31	**Chiang Mai Arr**	**149.34**	**349**	*e*PKPdf	**PKPdf**	**14 21 36.7**	**+0.3**
CM31				*e*PKPbc	**PKPbc**	**14 21 40.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**149.34**	**349**	PKP	**PKPdf**	**14 21 37.5**	**+1.2**
CMAR				PKPbc	**PKiKP**	**14 21 42.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**149.34**	**349**	PKP	**PKPdf**	**14 21 37.5**	**+1.2**
	comp=Z,14nm,0.7s,baz=309,slow=2.3,SNR=60						
CMAR				PKPbc	**PKiKP**	**14 21 42.0**	**+0.1**
	comp=Z,14nm,0.7s,baz=334,slow=3.1,SNR=48						
KKM	**Kota Kinabalu**	**150.98**	**307**	*e*PKPbc	**PKPbc**	**14 21 45.0**	**0.0**

*ISCJB **11** 14:03:09.0±0.8, 14°.45N±0°.04×80°.45E±0°.09, h33km, Error ellipse: s-maj=11.9km s-min=6.2km az=3.3*
*NDI **11** 14:03:10.9±2.4, 14°.30N×80°.53E, h29km±20km, ML3.6*
ISC 11 14:03:09.5±1.2, 14°.40N±0°.05×80°.39E±0°.09, h35km, n7, σ2s67/12, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDRS	**Chennai**	**1.33**	**186**	*e*P	**Pn**	**14 03 31.3**	**-0.3**
MDRS				*e*S	**Sn**	**14 03 49.4**	**+1.3**
MDRS				AML	AML	14 03 55.8	
	comp=N,2μm,0.3s						
MDRS				AML	AML	14 03 56.7	
	comp=E,3μm,0.3s						
HYB	**Hyderabad**	**3.48**	**330**	*e*Pn	**Pn**	**14 04 04.0**	**+2.7**
HYB				*e*Sn	**Sn**	**14 04 41.0**	**-0.4**
VIS	**Vishakhapatnam**	**4.35**	**40**	*e*P	**Pn**	**14 04 15.1**	**+1.9**
VIS				*e*S	**Sn**	**14 05 01.1**	**-1.5**
TRD	**Trivandrum**	**6.75**	**210**	*e*S	**Sn**	**14 05 59.0**	**-2.8**
NGP	**Nagpur**	**6.84**	**349**	*e*P	**Pn**	**14 04 50.4**	**+3.0**
NGP				*e*S	**Sn**	**14 06 01.4**	**-2.6**
NGP				AML	AML	14 07 01.6	
	comp=N,27nm,0.0s						
NGP				AML	AML	14 07 01.6	
	comp=E,32nm,0.6s						
JBP	**Jabalpur**	**8.73**	**358**	*e*P	Pn	14 05 17.2	+3.9
JBP				*e*S	**Sn**	**14 06 48.7**	**-1.9**
BHPL	**Bhopal**	**9.23**	**343**	*e*P	**Pn**	**14 05 22.6**	**+2.3**
BHPL				*e*S	**Sn**	**14 06 59.0**	**-4.0**

IDC 11 14:12:34.5±5.5, 31°.10S×179°.71W, h304km±51km, mb2.8/3, mb1 3.1/4, mb1mx3.0/17, mbtmp3.0/4, Error ellipse: s-maj=55.3km s-min=31.0km az=17.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.61**	**199**	P	Pn	14 14 23.1	-0.1
	4.5nm,0.3s,baz=277,slow=3.2,SNR=82						
URZ				S	S	14 15 47.9	-3.3
	7.1nm,0.3s,baz=92,slow=22,SNR=14						
STKA	**Stephens Creek**	**32.89**	**258**	P	P	14 18 42.5	+1.8
	0.9nm,0.5s,baz=95,slow=16,SNR=3.6						
ASAR	**Alice Springs**	**41.61**	**269**	P	P	14 19 53.1	-0.6
	0.2nm,0.6s,baz=106,slow=7.0,SNR=5.4						
WRA	**Warramunga Arr**	**42.66**	**274**	P	P	14 20 01.3	-0.9
	0.2nm,0.3s,baz=111,slow=8.1,SNR=8.3						
FINES	**FINESS Array B**	**145.27**	**338**	PKPbc	PKPdf	14 31 35.0	-0.3
	1.4nm,0.4s,baz=60,slow=4.0,SNR=24						
NOA	**NORSAR Array B**	**149.19**	**350**	PKPbc	PKPbc	14 31 46.3	-0.2
	0.3nm,0.5s,baz=20,slow=4.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**162.09**	**184**	PKPab	PKPab	14 32 47.5	-0.8
	0.5nm,0.5s,baz=166,slow=4.5,SNR=4.2						

*IDC **11** 14:19:40.0±1.7, 34°.86N×138°.33E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=73.8km s-min=22.3km az=82.0*
*ISCJB **11** 14:19:41.5±0.7, 35°.60N±0°.04×140°.05E±0°.07, h76km±5km, mb3.3/3, Error ellipse: s-maj=10.2km s-min=6.6km az=155.7*
*JMA **11** 14:19:42.3±0.2, 35°.63N×140°.04E, h69km±2km, M2.7*
ISC 11 14:19:42.5±1.0, 35°.61N±0°.05×140°.04E±0°.06, h72km±8km, n14, σ1s01/20, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.23**	**145**	P	**Pn**	**14 19 53.7**	**+0.3**
JCN				S	**Sn**	**14 20 02.4**	**+1.0**
TOK	**Tokyo**	**0.25**	**290**	S	**Sn**	**14 20 02.3**	**+0.8**
JYT	**Yasato**	**0.63**	**11**	P	**Pn**	**14 19 56.0**	**-0.8**
JYT				S	**Sn**	**14 20 06.0**	**-1.3**
JOD2	**Odawara 2**	**0.85**	**247**	P	**Pn**	**14 19 58.7**	**-0.6**
JOD2				S	**Sn**	**14 20 10.5**	**-1.2**
BSO3	**Boso 3**	**0.89**	**154**	P	**Pn**	**14 19 58.9**	**-0.5**
BSO3				S	**Sn**	**14 20 12.3**	**+0.3**
JAG	**Ashikaga**	**0.95**	**330**	P	**Pn**	**14 20 00.3**	**-0.1**
JAG				S	**Sn**	**14 20 13.2**	**-0.6**
JRY	**Ryogami san**	**1.01**	**294**	P	**Pn**	**14 20 01.6**	**+0.3**
JIM2	**Oshima 3**	**1.02**	**210**	S	**Sn**	**14 20 14.0**	**-1.3**
JYN	**Shimob**	**1.23**	**265**	P	**Pn**	**14 20 03.9**	**-0.1**
MJAR	**Matsushiro Arr**	**1.76**	**303**	Pn	**Pn**	**14 20 10.4**	**-0.5**
	5.8nm,0.3s,baz=186,slow=15,SNR=60						
MAT	**Matsushiro**	**1.76**	**303**	P	**Pn**	**14 20 11.4**	**+0.5**
MAT				S	**Sn**	**14 20 33.2**	**+0.7**
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**14 27 42.5**	**+0.2**
	0.4nm,0.8s,baz=91,slow=8.1,SNR=4.7						
WRA	**Warramunga Arr**	**55.51**	**187**	P	**P**	**14 29 08.6**	**-1.6**
	0.2nm,0.4s,baz=1.2,slow=7.7,SNR=5.1						
ASAR	**Alice Springs**	**59.23**	**187**	P	**P**	**14 29 38.5**	**+2.1**
	0.2nm,0.8s,baz=26,slow=8.7,SNR=3.6						

IDC 11 14:37:33.6±2.0, 24°.37S×67°.41W, h122km±19km, mb3.6/3, mb1 3.4/6, mb1mx3.3/19, mbtmp3.4/6, Error ellipse: s-maj=37.7km s-min=15.4km az=106.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.25**	**186**	P	Pn	14 39 18.5	+1.5
	0.2nm,0.3s,baz=359,slow=11,SNR=7.7						
CFAA				S	Sn	14 40 35.9	-1.9
	0.2nm,0.3s,baz=265,slow=23,SNR=10						
LPAZ	**La Paz**	**8.06**	**355**	P	Pn	14 39 29.2	+0.4
	0.7nm,0.3s,baz=150,slow=5.0,SNR=22						
CPUP	**Villa Florida**	**9.32**	**104**	P	Pn	14 39 50.2	+5.4
	0.9nm,0.3s,baz=290,slow=9.5,SNR=6.9						
SIV	**San Ignacio**	**10.23**	**37**	P	Pn	14 39 56.1	-1.2
	0.4nm,0.3s,baz=236,slow=11,SNR=5.1						
BDFB	**Brasilia**	**20.16**	**68**	P	P	14 41 59.1	+0.4
	9.9nm,0.6s,baz=242,slow=12,SNR=16						
SNAA	**Sanae**	**59.13**	**161**	P	P	14 47 22.0	+0.9
	0.3nm,0.8s,baz=282,slow=11,SNR=5.4						
TORD	**Torodi Ar. Bea**	**77.05**	**69**	P	P	14 49 13.3	-0.4
	1.0nm,0.5s,baz=259,slow=5.7,SNR=12						
ASAR	**Alice Springs**	**127.97**	**205**	PKP	PKPdf	14 56 25.1	-0.7
	0.4nm,0.8s,baz=138,slow=1.6,SNR=6.0						
WRA	**Warramunga Arr**	**131.13**	**208**	PKP	PKPdf	14 56 31.4	-0.4
	0.2nm,0.5s,baz

MMRI	**Maumere**	**4.92**	**89**	P	**Pn**	15 20 43.5	**-0.5**
PWJI	**Pagerwojo**	**5.45**	**277**	P	**Pn**	15 20 51.7	**+0.6**
FITZ	**Fitzroy Crossi**	**12.34**	**140**	P	Pn	15 22 20.3	-3.1
	0.5nm,0.3s,baz=337,slow=10,SNR=18						
FITZ				S	Sn	15 24 29.2	-10
	1.6nm,0.3s,baz=178,slow=19,SNR=15						
FITZ	**Fitzroy Crossi**	**12.34**	**140**	P	**Pn**	15 22 21.2	**-2.2**
	baz=12,SNR=11						
MTN	**Manton Dam**	**14.21**	**108**	P	**Pn**	15 22 45.4	**-2.2**
	baz=14,SNR=44						
KDU	**Kakadu**	**15.44**	**106**	P	**Pn**	15 23 02.0	**-1.0**
	baz=15,SNR=18						
FAKI	**Fak Fak**	**16.00**	**70**	P	**Pn**	15 23 07.6	**-2.3**
	baz=16,SNR=8.5						
MEEK	**Meekatharra**	**17.82**	**176**	P	**Pn**	15 23 32.0	**+0.1**
	baz=18,SNR=4.7						
WRKA	**Warakurna**	**19.30**	**148**	P	**P**	15 23 48.5	**+1.5**
	baz=19,SNR=26						
WRA	**Warramunga Arr**	**19.91**	**126**	P	**P**	15 23 54.1	**+0.5**
	1.6nm,0.3s,baz=300,slow=12,SNR=111						
WRA				S	**S**	15 27 26.7	**-4.1**
	0.3nm,0.3s,baz=298,slow=23,SNR=5.1						
ASAR	**Alice Springs**	**21.75**	**135**	P	**P**	15 24 13.9	**+0.5**
	2.6nm,0.4s,baz=312,slow=9.4,SNR=210						
ASAR				S	**S**	15 28 08.0	**+1.9**
	0.6nm,0.8s,baz=327,slow=23,SNR=4.4						
QIS	**Mount Isa**	**24.55**	**121**	P	**P**	15 24 41.3	**+1.3**
	baz=24,SNR=4.4						
STKA	**Stephens Creek**	**32.24**	**139**	P	**P**	15 25 49.6	**+1.4**
	1.1nm,0.4s,baz=324,slow=14,SNR=7.9						
CMAR	**Chiang Mai Arr**	**32.54**	**326**	P	**P**	15 25 52.1	**+1.2**
	0.3nm,0.5s,baz=161,slow=6.2,SNR=4.2						
CMAR				ScP	**ScP**	15 32 07.8	**+0.9**
	0.3nm,0.5s,baz=166,slow=2.1,SNR=4.5						
USRK	**Ussuriysk Arra**	**54.38**	**13**	P	**P**	15 28 46.2	**+0.8**
	1.4nm,0.6s,baz=194,slow=5.7,SNR=4.2						
SONM	**Songino Array**	**57.17**	**351**	P	**P**	15 29 05.6	**+0.1**
	0.5nm,0.5s,baz=166,slow=7.7,SNR=6.0						
MKAR	**Makanchi Array**	**63.48**	**334**	P	**P**	15 29 48.1	**-0.1**
	0.6nm,0.3s,baz=149,slow=6.1,SNR=21						
ZALV	**Zalesovo Beam**	**68.23**	**340**	P	**P**	15 30 17.1	**-1.4**
	1.5nm,0.3s,baz=148,slow=3.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**116.73**	**280**	PKP	**PKPdf**	15 38 02.3	**+0.2**
	0.3nm,0.6s,baz=111,slow=1.6,SNR=2.6						
CPUP	**Villa Florida**	**144.72**	**188**	PKP	**PKPdf**	15 38 54.9	**+0.7**
	1.5nm,0.5s,baz=172,slow=1.4,SNR=4.9						

IDC 11 15:27:35.8±2.7, 15°11'S×70°09'W, h216km±27km, mb3.5/2, mb1 3.7/3, mb1mx3.2/20, mbtmp3.4/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/22, Error ellipse: s-maj=80.8km s-min=41.5km az=16.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.22**	**122**	P	Pn	15 28 18.1	-0.5
	2.8nm,0.3s,baz=301,slow=9.3,SNR=113						
LPAZ				S	S	15 28 52.2	+0.6
	3.7nm,0.3s,baz=15,slow=19,SNR=20						
SIV	**San Ignacio**	**8.74**	**97**	LR	LR	15 33 54.0	
	comp=Z,46nm,20.6s,slow=43						
JTS	**JuntasAbangare**	**29.22**	**329**	LR	LR	15 46 42.7	
	comp=Z,52nm,19.7s,baz=337,slow=39						
TORD	**Torodi Ar. Bea**	**76.38**	**72**	P	P	15 39 01.6	-0.2
	0.8nm,0.5s,baz=262,slow=4.9,SNR=11						
YKA	**Yellowknife Ar**	**84.82**	**341**	P	P	15 39 44.8	-0.7
	0.4nm,0.5s,baz=135,slow=5.0,SNR=4.1						
ASAR	**Alice Springs**	**134.88**	**212**	PKP	PKPdf	15 46 27.9	-1.8
	0.3nm,0.5s,baz=128,slow=1.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**136.55**	**21**	PKP	PKPdf	15 46 32.3	+0.5
	0.5nm,0.4s,baz=294,slow=1.5,SNR=4.0						
WRA	**Warramunga Arr**	**137.68**	**215**	PKP	PKPdf	15 46 34.9	-0.1
	0.9nm,0.5s,baz=145,slow=1.9,SNR=3.6						
SONM	**Songino Array**	**147.24**	**4**	PKPbc	PKPbc	15 46 54.2	+0.4
	0.5nm,0.5s,baz=342,slow=2.0,SNR=6.6						

GUC 11 15:32:06.5±0.6, 32°66'S×71°63'W, h13km±12km, MD3.6, ML2.9, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.36**	**181**	*i*P	Pb	15 32 14.4	-0.4
IHA				*i* S	Sb	15 32 20.1	-0.3
ROCH	**El Roble**	**0.61**	**121**	↓*i*P	Pg	15 32 18.5	-0.2
ROCH				*i* S	Sb	15 32 27.6	-0.4
ROCH				AML	AML	15 32 28.8	
	comp=N,658nm,0.3s						
JACH	**Jahuel**	**0.88**	**92**	↑*i*P	Pg	15 32 22.6	-1.0
PEL	**Peldehue**	**0.93**	**121**	↑*i*P	Pg	15 32 23.6	-1.0
PEL				*i* S	Sg	15 32 36.6	-0.2
PEL				AML	AML	15 32 38.1	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.08**	**140**	↓*i*P	Pb	15 32 24.9	-2.2
RCDM				*i* S	Sb	15 32 39.4	-1.8
RCDM				AML	AML	15 32 40.5	
	comp=E,480nm,0.4s						
SAN	**Santiago**	**1.14**	**134**	*e*P	Pb	15 32 26.6	-1.5
SAN				*e*S	Sb	15 32 42.1	-0.7
SAN				AML	AML	15 32 42.9	
	comp=N,445nm,0.2s						
CLCH	**Cerro Calan**	**1.18**	**129**	↓*i*P	Pn	15 32 27.4	-1.4
CLCH				*i* S	Sb	15 32 43.3	-0.8
CLCH				AML	AML	15 32 44.0	
	comp=N,654nm,0.5s						
ANTU	**Antumapu**	**1.23**	**137**	*i* S	Sb	15 32 44.3	-1.3
ANTU				AML	AML	15 32 47.2	
	comp=E,302nm,0.6s						
LNV	**Longovilo**	**1.30**	**172**	↑*i*P	Pn	15 32 29.0	-1.5
LNV				*i* S	Sb	15 32 46.3	-1.2
PCH	**Pirque**	**1.34**	**136**	↓*i*P	Pn	15 32 30.1	-1.0
CHCH	**Chadas Angostu**	**1.51**	**147**	↑*i*P	Pn	15 32 33.1	-0.3
CHCH				*i* S	Sn	15 32 52.6	-0.4
LMEL	**Las Melosas**	**1.68**	**135**	↑*i*P	Pn	15 32 35.4	-0.5
LMEL				*i* S	Sn	15 32 57.7	+0.2
LMEL				AML	AML	15 33 02.1	
	comp=N,292nm,0.2s						
CACH	**El Canelo**	**1.69**	**149**	↓*i*P	Pn	15 32 36.0	+0.1
CACH				*i* S	Sb	15 32 59.1	+0.1

*ISCJB **11** 15:33:44.7±0.5, 6°61S±0°09×124°9E±0°1, h600km, mb3.8/4, Error ellipse: s-maj=15.1km s-min=9.6km az=141.8*
*IDC **11** 15:33:45.6±2.1, 6°62S×124°81E, h588km±26km, mb3.2/4, mb1 3.1/7, mb1mx2.8/24, mbtmp2.9/7, Error ellipse: s-maj=52.6km s-min=13.9km az=54.0*
ISC 11 15:33:45.7±0.8, 6°6S±0°1×124°9E±0°1, h600km, n24, σ0°65/25, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**6.49**	**23**	P	**P**	15 35 31.4	**+0.3**
TNTI	**Ternate**	**7.75**	**18**	P	**P**	15 35 42.2	**-0.5**
FAKI	**Fak Fak**	**8.17**	**63**	P	**P**	15 35 45.7	**-1.0**
FITZ	**Fitzroy Crossi**	**11.41**	**177**	P	**P**	15 36 17.4	**-1.2**
	1.3nm,0.3s,baz=18,slow=10,SNR=56						
WRA	**Warramunga Arr**	**16.07**	**146**	P	**P**	15 37 03.9	**+0.2**
	0.2nm,0.3s,baz=237,slow=5.5,SNR=16						
ASAR	**Alice Springs**	**19.00**	**154**	P	**P**	15 37 32.1	**+1.7**
	0.1nm,0.3s,baz=346,slow=15,SNR=13						
ASAR				ScP	**ScP**	15 44 06.7	**+1.3**
	0.0nm,0.3s,baz=344,slow=1.9,SNR=5.4						
PSI	**Prapat**	**27.61**	**289**	P	**P**	15 38 46.1	**-1.0**
	5.4nm,0.4s,baz=147,slow=4.8,SNR=6.1						
CMAR	**Chiang Mai Arr**	**35.77**	**315**	P	**P**	15 39 56.0	**0.0**
	1.8nm,0.6s,baz=142,slow=6.6,SNR=22						
ODAN	**Odare**	**49.31**	**314**	*e*P	**P**	15 41 41.7	**0.0**
	9.1nm,0.7s						
TAPN	**Taplejung**	**49.38**	**315**	*e*P	**P**	15 41 42.5	**+0.2**
RAMN	**Ramite**	**49.93**	**314**	*e*P	**P**	15 41 46.6	**+0.3**
	16nm,0.7s						
JIRN	**Jiri**	**50.64**	**314**	*e*P	**P**	15 41 51.7	**+0.1**
GUN	**Gumba**	**51.01**	**314**	*e*P	**P**	15 41 54.4	**+0.2**
	7.9nm,0.5s						
PKI	**Pulchoki**	**51.15**	**313**	*e*P	**P**	15 41 54.9	**-0.3**
	4.8nm,0.5s						
PKIN	**Phulchoki**	**51.16**	**313**	*e*P	**P**	15 41 55.0	**-0.2**
	5.3nm,0.5s						
KKN	**Kakani**	**51.37**	**314**	*e*P	**P**	15 41 56.7	**0.0**
DMN	**Daman**	**51.39**	**313**	*e*P	**P**	15 41 56.8	**-0.1**
GKN	**Gorkha**	**51.96**	**313**	*e*P	**P**	15 42 00.9	**+0.1**
	5.9nm,0.4s						
KOLN	**Koldanda**	**52.58**	**313**	*e*P	**P**	15 42 05.5	**+0.2**
DANN	**Dangsing**	**52.79**	**313**	*e*P	**P**	15 42 07.0	**+0.1**
PYUN	**Piuthan**	**53.21**	**312**	*e*P	**P**	15 42 09.9	**+0.1**
MKAR	**Makanchi Array**	**65.26**	**329**	P	**P**	15 43 29.9	**+0.5**
	0.8nm,0.5s,baz=124,slow=7.3,SNR=16						
ZALV	**Zalesovo Beam**	**69.12**	**336**	P	**P**	15 43 52.5	**-0.2**
	0.7nm,0.4s,baz=149,slow=3.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.81**	**281**	PKP	**PKPdf**	15 51 38.1	**+0.7**
	0.2nm,0.6s,baz=66,slow=1.7,SNR=2.3						

*IDC **11** 15:52:38.8±1.6, 6°22S×130°25E, h0km, mb4.1/2, mb1 4.2/5, mb1mx3.7/19, mbtmp4.0/5, ML4.0/3, Error ellipse: s-maj=77.1km s-min=23.1km az=71.0*
*AUST **11** 15:52:52.0, 6°48S×130°03E, h100km*
ISC 11 15:52:56.3±1.3, 7°0S±0°1×129°8E±0°1, h146km, n12, σ2s38/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.99**	**167**	P	Pn	15 54 26.9	+4.1
	baz=6.5,SNR=27						
KDU	**Kakadu**	**6.28**	**155**	P	Pn	15 54 29.9	+3.2
	baz=6.7,SNR=45						
FITZ	**Fitzroy Crossi**	**11.77**	**200**	Pn	**Pn**	15 55 41.1	**+1.4**
	0.9nm,0.3s,baz=44,slow=8.7,SNR=24						
FITZ				Sn	**Sn**	15 57 49.8	**+0.1**
	0.5nm,0.3s,baz=131,slow=20,SNR=4.5						
FITZ	**Fitzroy Crossi**	**11.77**	**200**	P	**P**	15 55 43.8	**-3.1**
	baz=12,SNR=3.9						
WRA	**Warramunga Arr**	**13.64**	**161**	Pn	**Pn**	15 56 02.7	**-1.2**
	0.6nm,0.3s,baz=344,slow=13,SNR=8.3						
WRA				Sn	**Sn**	15 58 30.8	**-4.1**
	1.1nm,0.3s,baz=339,slow=22,SNR=10						
COEN	**Coen**	**14.90**	**119**	P	**P**	15 56 22.8	**+1.0**
	baz=15,SNR=6.1						
QIS	**Mount Isa**	**16.54**	**146**	P	**Pn**	15 56 42.1	**+2.2**
	baz=17,SNR=8.9						
ASAR	**Alice Springs**	**17.07**	**167**	P	**Pn**	15 56 48.2	**+1.9**
	0.6nm,0.3s,baz=344,slow=9.2,SNR=62						
ASAR				S	**S**	15 59 56.4	**+0.1**
	0.2nm,0.3s,baz=359,slow=25,SNR=6.7						
WRKA	**Warakurna**	**18.02**	**184**	P	**Pn**	15 57 00.4	**+2.8**
	baz=19,SNR=12						
QLP	**Quilpie**	**23.88**	**146**	P	**P**	15 57 58.6	**+2.1**
	baz=24,SNR=3.2						
STKA	**Stephens Creek**	**27.13**	**157**	P	**P**	15 58 27.0	**+1.2**
	0.5nm,0.3s,baz=345,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	16 03 38.2	**-2.0**
	1.0nm,0.4s,baz=124,slow=7.8,SNR=25						

MEX 11 15:54:53.7±0.7, 16°95N×95°07W, h160km±14km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.54**	**220**	*i* P	Pn	15 55 22.6	-1.8
HUIG				*e*S	Sn	15 55 46.1	-1.8
VHO	**Vista Hermosa**	**1.59**	**275**	*e*P	Pn	15 55 24.4	-0.8
VHO				*e*S	Sn	15 55 47.3	-2.1
PCIG		**2.17**	**124**	*i* P	Pn	15 55 30.5	-0.8
PCIG				*i* S	Sn	15 55 58.4	-2.0
PNIG	**Pinotepa**	**2.98**	**260**	*e*P	Pn	15 55 40.0	-1.3
PNIG				*i* S	Sn	15 56 16.4	-1.6

*IDC **11** 16:09:40.2±1.2, 38°59N×14°29E, h0km, mb3.5/5, mb1 3.5/8, mb1mx3.4/30, mbtmp3.4/8, ML3.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/36, Error ellipse: s-maj=34.8km s-min=18.8km az=109.0*
*ISCJB **11** 16:09:41.9±0.7, 38°72N±0°03×14°09E±0°05, h24km±5km, mb3.4/5, Error ellipse: s-maj=6.9km s-min=4.7km az=38.0*
*ROM **11** 16:09:41.2±0.2, 38°74N×14°07E, h24km±2km, MI3.4/24, Error ellipse: s-maj=3.9km s-min=2.3km az=150.0*
*CSEM **11** 16:09:41.2, 38°74N×14°07E, h24km, After ROM*
ISC 11 16:09:43.3±1.0, 38°65N±0°04×14°13E±0°04, h24km±7km, n72, σ1s06/81, mb3.6/5, 2D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IACL	**Alicudi**	**0.22**	**123**	↓*i*Pg	**Pb**	16 09 48.5	**-0.6**
IACL				Sg	**Sb**	16 09 53.8	**+0.8**
	12μm,0.3s						
IACL	**Alicudi**	**0.22**	**123**	↓*i*Pg	**Pb**	16 09 48.5	**-0.6**
IACL				Sg	**Sb**	16 09 53.8	**+0.8**
	12μm,0.3s						
PLLN	**Pollina**	**0.66**	**179**	Pg	**Pb**	16 09 55.4	**-0.8**
	826nm,0.2s						
PLLN	**Pollina**	**0.66**	**179**	Pg	**Pb**	16 09 55.4	**-0.8**
	826nm,0.2s						
GIB	**Gibilmanna**	**0.67**	**187**	Pg	**Pb**	16 09 55.2	**-1.2**
GIB				Sg	**Sn**	16 10 06.3	**-0.8**
	4μm,0.3s						
GIB	**Gibilmanna**	**0.67**	**187**	Pg	**Pb**	16 09 55.2	**-1.2**
GIB				Sg	**Sn**	16 10 06.3	**-0.8**
	4μm,0.3s						
LLI	**Lipari**	**0.68**	**107**	Pg	**Pb**	16 09 56.3	**-0.2**
	6μm,0.5s						
LLI	**Lipari**	**0.68**	**107**	Pg	**Pb**	16 09 56.3	**-0.2**
	6μm,0.5s						
CSLB	**Castelbuono**	**0.71**	**184**	Pg	**Pb**	16 09 56.1	**-1.1**
CSLB				Sg	**Sn**	16 10 07.5	**-0.8**
	471nm,0.3s						
CSLB	**Castelbuono**	**0.71**	**184**	Pg	**Pb**	16 09 56.1	**-1.1**
CSLB				Sg	**Sn**	16 10 07.5	**-0.8**
	471nm,0.3s						
VPL	**Vulcano Piano**	**0.73**	**112**	Pg	**Pb**	16 09 56.7	**-0.6**
	2μm,0.6s						
VPL	**Vulcano Piano**	**0.73**	**112**	Pg	**Pb**	16 09 56.7	**-0.6**
	2μm,0.6s						
STR4	**STROMBOLI 4**	**0.86**	**81**	Pg	**Pn**	16 09 58.0	**-1.9**
STR4	**STROMBOLI 4**	**0.86**	**81**	Pg	**Pn**	16 09 58.0	**-1.9**
MILZ	**Milazzo**	**0.95**	**113**	Pg	**Pn**	16 09 59.2	**-1.9**
	728nm,0.4s						
MILZ	**Milazzo**	**0.95**	**113**	Pg	**Pn**	16 09 59.2	**-1.9**
	728nm,0.4s						
ALJA	**Alia**	**0.95**	**198**	Pg	**Pn**	16 10 00.1	**-1.1**
	2μm,0.6s						
ALJA	**Alia**	**0.95**	**198**	Pg	**Pn**	16 10 00.1	**-1.1**
	2μm,0.6s						
CORL	**Corleone**	**0.99**	**221**	Pg	**Pn**	16 10 00.0	**-1.9**
	1μm,0.5s						
CORL	**Corleone**	**0.99**	**221**	Pg	**Pn**	16 10 00.0	**-1.9**
	1μm,0.5s						
GALF	**Gagliano Caste**	**1.00**	**160**	Pg	**Pb**	16 10 02.0	**0.0**
GALF	**Gagliano Caste**	**1.00**	**160**	Pg	**Pb**	16 10 02.0	**0.0**
RESU	**Resuttano**	**1.00**	**183**	Pg	**Pb**	16 10 02.0	**-0.1**
	2μm,0.6s						
RESU	**Resuttano**	**1.00**	**183**	Pg	**Pb**	16 10 02.0	**-0.1**
	2μm,0.6s						
MMME	**Mongiuffi-Meli**	**1.14**	**129**	Pg	**Pn**	16 10 03.1	**-0.8**
	688nm,0.8s						
MMME	**Mongiuffi-Meli**	**1.14**	**129**	Pg	**Pn**	16 10 03.1	**-0.8**
	688nm,0.8s						
ECNV	**Catenanuova**	**1.15**	**156**	Pg	**Pb**	16 10 05.7	**+1.1**
ECNV	**Catenanuova**	**1.15**	**156**	Pg	**Pb**	16 10 05.7	**+1.1**
MSRU	**Castanea**	**1.15**	**109**	Pg	**Pn**	16 10 02.5	**-1.5**
	445nm,0.4s						
MSRU	**Castanea**	**1.15**	**109**	Pg	**Pn**	16 10 02.5	**-1.5**
	445nm,0.4s						
CRJA	**Costa Raja**	**1.23**	**226**	Pg	**Pn**	16 10 04.1	**-0.9**
	549nm,0.6s						
CRJA	**Costa Raja**	**1.23**	**226**	Pg	**Pn**	16 10 04.1	**-0.9**
	549nm,0.6s						
MMGO	**Monte Magaggia**	**1.34**	**223**	Pg	**Pn**	16 10 05.6	**-1.0**
	64nm,0.3s						
MMGO	**Monte Magaggia**	**1.34**	**223**	Pg	**Pn**	16 10 05.6	**-1.0**
	64nm,0.3s						
MTTG	**Motta San Giov**	**1.39**	**117**	Pg	**Pn**	16 10 06.2	**-1.1**
	498nm,0.8s						
MTTG	**Motta San Giov**	**1.39**	**117**	Pg	**Pn**	16 10 06.2	**-1.1**
	498nm,0.8s						
RAFF	**Raffo Rosso**	**1.44**	**172**	Pg	**Pb**	16 10 08.8	**-0.7**
	563nm,0.7s						
RAFF	**Raffo Rosso**	**1.44**	**172**	Pg	**Pb**	16 10 08.8	**-0.7**
	563nm,0.7s						
CEL	**Celeste**	**1.44**	**105**	Pg	**Pn**	16 10 06.7	**-1.3**
	186nm,0.5s						
CEL	**Celeste**	**1.44**	**105**	Pg	**Pn**	16 10 06.7	**-1.3**
	186nm,0.5s						
HCRL	**Carlentini**	**1.54**	**152**	Pg	**Pn**	16 10 08.9	**-0.5**
HCRL				Sg	**Sb**	16 10 30.6	**+0.3**
	1μm,0.4s						
HCRL	**Carlentini**	**1.54**	**152**	Pg	**Pn**	16 10 08.9	**-0.5**
HCRL				Sg	**Sb**	16 10 30.6	**+0.3**
	1μm,0.4s						
HVZN	**Vizzini**	**1.54**	**162**	Pg	**Pn**	16 10 09.8	**+0.4**
	1μm,0.5s						
HVZN	**Vizzini**	**1.54**	**162**	Pg	**Pn**	16 10 09.8	**+0.4**
	1μm,0.5s						
SOI	**Samo**	**1.62**	**110**	Pg	**Pn**	16 10 09.5	**-1.0**
	250nm,0.6s						
SOI	**Samo**	**1.62**	**110**	Pg	**Pn**	16 10 09.5	**-1.0**
	250nm,0.6s						
MPAZ	**Palizzi**	**1.64**	**115**	Pg	**Pn**	16 10 10.0	**-0.7**
MPAZ	**Palizzi**	**1.64**	**115**	Pg	**Pn**	16 10 10.0	**-0.7**
SSY	**Sortino**	**1.67**	**153**	Pg	**Pn**	16 10 11.1	**-0.1**
	713nm,0.4s						
SSY	**Sortino**	**1.67**	**153**	Pg	**Pn**	16 10 11.1	**-0.1**
	713nm,0.4s						
BULG	**Bulgheria - Ca**	**1.72**	**34**	Pg	**Pn**	16 10 10.0	**-1.9**
	139nm,0.6s						
BULG	**Bulgheria - Ca**	**1.72**	**34**	Pg	**Pn**	16 10 10.0	**-1.9**
	139nm,0.6s						
HMDC	**Modica**	**1.77**	**163**	Pg	**Pn**	16 10 12.7	**+0.2**
	446nm,0.5s						
HMDC	**Modica**	**1.77**	**163**	Pg	**Pn**	16 10 12.7	**+0.2**
	446nm,0.5s						
PLAC	**Placanica**	**1.82**	**96**	Pg	**Pn**	16 10 12.7	**-0.6**
	142nm,0.5s						
PLAC	**Placanica**	**1.82**	**96**	Pg	**Pn**	16 10 12.7	**-0.6**
	142nm,0.5s						
HAVL	**Avola**	**1.86**	**155**	Pg	**Pn**	16 10 14.1	**+0.3**
	286nm,0.5s						
HAVL	**Avola**	**1.86**	**155**	Pg	**Pn**	16 10 14.1	**+0.3**
	286nm,0.5s						
SERS	**Sersale**	**2.04**	**78**	Pg	**Pn**	16 10 15.5	**-0.8**
	58nm,0.9s						
SERS	**Sersale**	**2.04**	**78**	Pg	**Pn**	16 10 15.5	**-0.8**
	58nm,0.9s						
SIRI	**Monte Sirino -**	**2.04**	**41**	Pg	**Pn**	16 10 15.4	**-0.9**
	53nm,0.5s						
SIRI	**Monte Sirino -**	**2.04**	**41**	Pg	**Pn**	16 10 15.4	**-0.9**
	53nm,0.5s						
TIP	**Timpagrande**	**2.12**	**75**	Pg	**Pn**	16 10 16.6	**-0.8**
	22nm,0.6s						
TIP	**Timpagrande**	**2.12**	**75**	Pg	**Pn**	16 10 16.6	**-0.8**
	22nm,0.6s						
KEST	**Kesra**	**4.80**	**234**	Pn	**Pn**	16 10 55.9	**+1.7**
	0.2nm,0.3s,baz=215,slow=20,SNR=4.3						
KEST				Sn	**Sn**	16 11 48.7	**-0.5**
	baz=323,slow=20,SNR=2.2						
DAVOX	**Davos/Dischmat**	**8.70**	**340**	Pn	**Pn**	16 11 50.8	**+2.9**
	0.4nm,0.3s,baz=169,slow=15,SNR=2.8						
DAVOX				LR	LR	16 14 58.8	
	comp=Z,86nm,19.6s,baz=264,slow=36						
GERES	**GERESS Array B**	**10.20**	**358**	Pn	**Pn**	16 12 07.9	**-0.3**
	0.1nm,0.3s,baz=175,slow=13,SNR=3.1						
HFS	**Hagfors**	**21.50**	**359**	P	**P**	16 14 31.7	**+1.5**
	1.0nm,0.6s,baz=203,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**23.99**	**14**	P	**P**	16 14 55.5	**-0.3**
	2.0nm,0.7s,baz=208,slow=7.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**27.69**	**207**	P	**P**	16 15 29.5	**-0.2**
	0.3nm,0.6s,baz=10,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**49.30**	**57**	P	**P**	16 18 30.8	**+0.5**
	0.4nm,0.5s,baz=290,slow=5.9,SNR=7.4						
SONM	**Songino Array**	**63.98**	**49**	P	**P**	16 20 15.2	**+0.5**
	0.6nm,1.1s,baz=284,slow=6.7,SNR=3.6						

IDC 11 16:15:30.3±11.0, 14°92S×172°53W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/20, Error ellipse: s-maj=522.3km s-min=21.6km az=139.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.25**	**36**	Pn	Pg	16 15 54.0	-0.3
	16nm,0.3s,baz=135,slow=20,SNR=10						
AFI				Sn	Sg	16 16 10.4	-0.1
	141nm,0.3s,baz=3.3,slow=19,SNR=26						
PPT	**Papeete**	**22.20**	**100**	LR	LR	16 25 55.6	
	comp=Z,24nm,20.2s,baz=258,slow=28						
H11S2	**WAKE ISLAND Hy**	**39.00**	**328**	T	T	17 03 43.6	
	baz=147,slow=75						
H11S3	**WAKE ISLAND Hy**	**39.01**	**328**	T	T	17 03 46.3	
	baz=147,slow=75						
H11S1	**WAKE ISLAND Hy**	**39.02**	**328**	T	T	17 03 46.6	
	baz=147						
WRA	**Warramunga Arr**	**50.77**	**256**	P	P	16 24 32.9	+0.2
	0.4nm,1.0s,baz=88,slow=7.8,SNR=2.8						
ASAR	**Alice Springs**	**51.05**	**252**	P	P	16 24 33.8	-1.0
	0.8nm,0.9s,baz=87,slow=8.3,SNR=9.3						
FITZ	**Fitzroy Crossi**	**59.13**	**258**	LR	LR	16 48 39.5	
	comp=Z,46nm,20.1s,baz=130,slow=34						
ILAR	**Eielson Array**	**81.82**	**11**	P	P	16 27 51.9	+1.0
	0.3nm,0.8s,baz=225,slow=5.6,SNR=3.4						
BRTR	**Keskin Array B**	**146.31**	**322**	PKPbc	PKPdf	16 35 12.9

IMP				*e*S	Sn	16 24 07.0	+5.5	
SHL	**Shillong**	**4.53**	**354**	*e*P	**Pn**	**16 23 25.2**	**+1.5**	
SHL				*e*S	**Sn**	**16 24 13.2**	**-2.0**	
CHTO	**Chiang Mai**	**6.53**	**109**	*e*Pn	**Pn**	**16 23 50.3**	**-0.8**	
	16nm,0.8s							
CHTO				*e*Sn	**Sn**	**16 25 02.4**	**-1.9**	
BOK	**Bokaro**	**6.63**	**296**	*e*P	**Pn**	**16 23 53.8**	**+1.4**	
BOK				AMB	AMB	16 24 04.1		
	comp=Z,35nm,0.3s							
BOK				*ex*	x	16 24 59.0		
CM31	**Chiang Mai Arr**	**6.67**	**112**	*e*Pn	**Pn**	**16 23 53.6**	**+0.8**	
	comp=Z,5.3nm,0.4s							
CM31				*e*Sn	**Sn**	**16 25 06.8**	**-0.9**	
CMAR	**Chiang Mai Arr**	**6.67**	**112**	Pn	**Pn**	**16 23 52.8**	**-0.1**	
CMAR				Sn	Sn	16 25 00.1	-7.6	
CMAR	**Chiang Mai Arr**	**6.67**	**112**	Pn	**Pn**	**16 23 52.8**	**-0.1**	
	comp=Z,0.5nm,0.3s,baz=287,slow=14,SNR=20							
CMAR				Sn	Sn	16 25 00.1	-7.6	
	comp=Z,0.4nm,0.3s,baz=303,slow=18,SNR=4.2							
ODAN	**Odare**	**7.39**	**323**	*e*Pn	**Pn**	**16 24 04.5**	**+1.5**	
ODAN				*e*Sn	**Sn**	**16 25 23.8**	**-2.0**	
	comp=Z,122nm,0.3s							
ODAN	**Odare**	**7.39**	**323**	*e*Pn	**Pn**	**16 24 04.5**	**+1.5**	
ODAN				*e*Sn	**Sn**	**16 25 23.8**	**-2.0**	
TAPN	**Taplejung**	**7.61**	**327**	*e*Pn	**Pn**	**16 24 07.7**	**+1.7**	
TAPN				*e*Sn	**Sn**	**16 25 29.3**	**-1.9**	
	comp=Z,134nm,0.5s							
TAPN	**Taplejung**	**7.61**	**327**	*e*Pn	**Pn**	**16 24 07.7**	**+1.7**	
TAPN				*e*Sn	**Sn**	**16 25 29.3**	**-1.9**	
RAMN	**Ramite**	**7.92**	**319**	*e*Pn	**Pn**	**16 24 11.8**	**+1.4**	
RAMN	**Ramite**	**7.92**	**319**	*e*Pn	**Pn**	**16 24 11.8**	**+1.4**	
JIRN	**Jiri**	**8.69**	**320**	*e*Pn	**Pn**	**16 24 23.0**	**+2.0**	
JIRN				*e*Sn	**Sn**	**16 25 55.6**	**-2.4**	
	comp=Z,190nm,0.5s							
JIRN	**Jiri**	**8.69**	**320**	*e*Pn	**Pn**	**16 24 23.0**	**+2.0**	
JIRN				*e*Sn	**Sn**	**16 25 55.6**	**-2.4**	
LSA	**Lhasa**	**8.70**	**353**	*e*Pn	**Pn**	**16 24 21.6**	**+0.5**	
LSA				*e*Sn	**Sn**	**16 25 57.6**	**-0.6**	
GUN	**Gumba**	**9.06**	**320**	*e*Pn	**Pn**	**16 24 27.7**	**+1.6**	
GUN	**Gumba**	**9.06**	**320**	*e*Pn	**Pn**	**16 24 27.7**	**+1.6**	
PKI	**Pulchoki**	**9.11**	**317**	*e*Pn	**Pn**	**16 24 28.0**	**+1.3**	
PKI	**Pulchoki**	**9.11**	**317**	*e*Pn	**Pn**	**16 24 28.3**	**+1.6**	
PKI				*e*Sn	**Sn**	**16 26 05.3**	**-2.9**	
PKIN	**Phulchoki**	**9.12**	**317**	*e*Pn	**Pn**	**16 24 28.3**	**+1.5**	
PKIN				*e*Sn	**Sn**	**16 26 05.3**	**-3.1**	
	comp=Z,66nm,0.3s							
VIS	**Vishakhapatnam**	**9.19**	**250**	*ex*	**Sn**	**16 26 05.8**	**-3.9**	
VIS				AMB	AMB	16 26 29.0		
	comp=Z,27nm,0.8s							
DMN	**Daman**	**9.33**	**316**	*e*Pn	**Pn**	**16 24 30.9**	**+1.2**	
DMN	**Daman**	**9.33**	**316**	*e*Pn	**Pn**	**16 24 30.9**	**+1.2**	
KKN	**Kakani**	**9.35**	**317**	*e*Pn	**Pn**	**16 24 30.7**	**+0.9**	
KKN	**Kakani**	**9.35**	**317**	*e*Pn	**Pn**	**16 24 30.7**	**+0.9**	
GKN	**Gorkha**	**9.90**	**316**	*e*Pn	**Pn**	**16 24 38.3**	**+0.9**	
GKN				*e*Sn	**Sn**	**16 26 23.6**	**-3.9**	
	comp=Z,65nm,0.3s							
GKN	**Gorkha**	**9.90**	**316**	*e*Pn	**Pn**	**16 24 38.3**	**+0.9**	
GKN				*e*Sn	**Sn**	**16 26 23.6**	**-3.9**	
KOLN	**Koldanda**	**10.45**	**312**	*e*Pn	**Pn**	**16 24 45.7**	**+0.7**	
KOLN				*e*Sn	**Sn**	**16 26 37.1**	**-3.9**	
	comp=Z,64nm,0.4s							
KOLN	**Koldanda**	**10.45**	**312**	*e*Pn	**Pn**	**16 24 45.7**	**+0.7**	
KOLN				*e*Sn	**Sn**	**16 26 37.1**	**-3.9**	
DANN	**Dangsing**	**10.71**	**314**	*e*Pn	**Pn**	**16 24 48.6**	**0.0**	
DANN				*e*Sn	**Sn**	**16 26 42.6**	**-4.9**	
	comp=Z,28nm,0.3s							
DANN	**Dangsing**	**10.71**	**314**	*e*Pn	**Pn**	**16 24 48.6**	**0.0**	
DANN				*e*Sn	**Sn**	**16 26 42.6**	**-4.9**	
PYUN	**Piuthan**	**11.08**	**311**	*e*Pn	**Pn**	**16 24 54.5**	**+0.9**	
PYUN	**Piuthan**	**11.08**	**311**	*e*Pn	**Pn**	**16 24 54.5**	**+0.9**	
JBP	**Jabalpur**	**11.71**	**283**	*e*P	**Pn**	**16 25 04.5**	**+2.4**	
JBP				*e*S	Sn	16 27 04.4	-7.2	
HYB	**Hyderabad**	**13.58**	**257**	*i* P	**Pn**	**16 25 30.0**	**+2.4**	
HYB				*e*PP	P	16 25 44.0	+7.8	
HYB	**Hyderabad**	**13.58**	**257**	*e*P	**P**	**16 25 36.0**	**-0.2**	
HYB				*e*		16 28 20.0		
HYB	**Hyderabad**	**13.58**	**257**	*e*P	**Pn**	**16 25 28.3**	**+0.7**	
HYB				AMB	AMB	16 25 48.7		
	comp=Z,23nm,1.1s							
BHPL	**Bhopal**	**14.06**	**282**	*e*P	**Pn**	**16 25 34.6**	**+0.4**	
SMLA	**Simla**	**16.97**	**309**	*e*P	**P**	**16 26 13.9**	**+0.2**	
SMLA				AMB	AMB	16 26 24.6		
	comp=Z,2.6nm,0.9s							
SMLA				*e*		16 29 04.7		
ENH	**Enshi**	**17.91**	**56**	*e*Pn	**Pn**	**16 26 22.0**	**-1.8**	
	comp=Z,6.3nm,0.8s							
ENH				*e*Sn	**Sn**	**16 29 40.9**	**-1.6**	
DHRM	**DHARAMSHALA**	**18.20**	**311**	*e*P	**P**	**16 26 29.0**	**+1.4**	
DHRM				AMB	AMB	16 26 41.7		
	comp=Z,10.0nm,1.4s							
AAK	**Ala-Archa**	**26.26**	**329**	P	**P**	**16 27 51.8**	**+2.2**	
AAK	**Ala-Archa**	**26.26**	**329**	P	**P**	**16 27 51.8**	**+2.2**	
	comp=Z,0.9nm,0.6s,baz=159,slow=14,SNR=4.0							
MK31	**Makanchi Array**	**26.98**	**345**	*e*P	**P**	**16 27 55.9**	**+0.1**	
MKAR	**Makanchi Array**	**26.98**	**345**	P	**P**	**16 27 57.2**	**+1.4**	
MKAR				pP	**pP**	**16 28 07.8**	**+2.0**	
MKAR	**Makanchi Array**	**26.98**	**345**	P	**P**	**16 27 57.2**	**+1.4**	
	comp=Z,3.0nm,0.5s,baz=161,slow=9.1,SNR=60							
MKAR				pP	**pP**	**16 28 07.8**	**+2.0**	
	comp=Z,2.1nm,0.7s,baz=160,slow=8.5,SNR=8.6							
SONM	**Songino Array**	**29.02**	**20**	P	**P**	**16 28 14.5**	**+0.4**	
SONM	**Songino Array**	**29.02**	**20**	P	**P**	**16 28 14.5**	**+0.4**	
	comp=Z,4.1nm,0.7s,baz=196,slow=8.9,SNR=42							
ZAA0	**Zalesovo Array**	**33.36**	**352**	*e*P	**P**	**16 28 51.0**	**-1.0**	
ZALV	**Zalesovo Beam**	**33.36**	**352**	P	**P**	**16 28 53.0**	**+0.9**	
ZALV	**Zalesovo Beam**	**33.36**	**352**	P	**P**	**16 28 53.0**	**+0.9**	
	comp=Z,2.5nm,0.6s,baz=176,slow=8.6,SNR=14							
ZALV				LR	LR	16 42 44.2		
	comp=Z,33nm,18.9s,baz=46,slow=37							
H08S3	**Diego Garcia H**	**34.57**	**217**	T	T	17 04 58.0		
	baz=33							
H08S2	**Diego Garcia H**	**34.58**	**217**	T	T	17 04 58.3		
	baz=33							
H08S1	**Diego Garcia H**	**34.59**	**217**	T	T	17 04 58.5		
	baz=33							
BVAR	**Borovoye Array**	**36.14**	**337**	P	**P**	**16 29 17.2**	**+1.1**	
BVAR				PcP	**PcP**	**16 31 42.1**	**+0.7**	
BVAR	**Borovoye Array**	**36.14**	**337**	P	**P**	**16 29 17.2**	**+1.1**	
	comp=Z,0.5nm,0.4s,baz=130,slow=10,SNR=5.7							
BVAR				PcP	**PcP**	**16 31 42.1**	**+0.7**	
	comp=Z,0.7nm,0.6s,baz=169,slow=3.0,SNR=4.3							
ABKAR	**Akbulak array**	**38.18**	**325**	*e*P	**P**	**16 29 34.3**	**+0.8**	
	comp=Z,1.4nm,0.8s							
AKTO	**Aktyubinsk**	**39.88**	**326**	P	**P**	**16 29 48.6**	**+0.8**	
AKTO	**Aktyubinsk**	**39.88**	**326**	P	**P**	**16 29 48.6**	**+0.8**	
	comp=Z,1.0nm,0.8s,baz=135,slow=8.8,SNR=5.6							
USRK	**Ussuriysk Arra**	**40.02**	**45**	P	**P**	**16 29 47.8**	**-1.1**	
	comp=Z,2.5nm,0.8s,baz=256,slow=8.1,SNR=9.3							
MJAR	**Matsushiro Arr**	**42.60**	**59**	P	**P**	**16 30 09.4**	**-0.9**	
MJAR				pP	**pP**	**16 30 19.8**	**-0.8**	
MJAR	**Matsushiro Arr**	**42.60**	**59**	P	**P**	**16 30 09.4**	**-0.9**	
	comp=Z,2.5nm,0.7s,baz=269,slow=9.6,SNR=7.3							
MJAR				pP	**pP**	**16 30 19.8**	**-0.8**	
	comp=Z,3.5nm,0.8s,baz=269,slow=11,SNR=5.6							
MJAR				LR	LR	16 49 39.0		
	comp=Z,49nm,21.0s,baz=175,slow=39							
TIXI	**Tiksi**	**54.79**	**13**	*e*P	**P**	**16 31 43.0**	**-0.3**	
	comp=Z,2.9nm,0.6s							
AKASG	**Malin Array Be**	**57.08**	**317**	P	**P**	**16 32 00.4**	**+0.3**	
AKASG	**Malin Array Be**	**57.08**	**317**	P	**P**	**16 32 00.4**	**+0.3**	
	comp=Z,0.3nm,0.5s,baz=78,slow=7.5,SNR=4.2							
WRA	**Warramunga Arr**	**57.81**	**132**	P	**P**	**16 32 05.9**	**+0.3**	
WRA				pP	**pP**	**16 32 16.0**	**-0.2**	
WRA	**Warramunga Arr**	**57.81**	**132**	P	**P**	**16 32 05.9**	**+0.3**	
	comp=Z,0.4nm,0.6s,baz=326,slow=7.1,SNR=3.3							
WRA				pP	**pP**	**16 32 16.0**	**-0.2**	
	comp=Z,1.4nm,0.6s,baz=324,slow=7.1,SNR=3.2							
WRAB	**Tennant Creek**	**57.81**	**132**	*e*P	**P**	**16 32 05.9**	**+0.3**	
	comp=Z,2.0nm,0.7s							
AS31	**Alice Springs**	**60.06**	**135**	*e*P	**P**	**16 32 21.7**	**+0.4**	
AS31				*e*pP	**pP**	**16 32 32.2**	**+0.3**	
ASAR	**Alice Springs**	**60.06**	**135**	P	**P**	**16 32 22.2**	**+1.0**	
ASAR				pP	**pP**	**16 32 31.3**	**-0.6**	
ASAR	**Alice Springs**	**60.06**	**135**	P	**P**	**16 32 22.2**	**+1.0**	
	comp=Z,1.2nm,0.6s,baz=313,slow=6.8,SNR=30							
ASAR				pP	**pP**	**16 32 31.3**	**-0.6**	
	comp=Z,1.2nm,0.6s,baz=315,slow=6.8,SNR=9.5							
FINES	**FINESS Array B**	**60.45**	**330**	P	**P**	**16 32 24.0**	**+0.7**	
FINES	**FINESS Array B**	**60.45**	**330**	P	**P**	**16 32 24.0**	**+0.7**	
	comp=Z,1.1nm,0.6s,baz=134,slow=5.5,SNR=7.4							
ARCES	**ARCESS Array B**	**62.42**	**339**	P	**P**	**16 32 37.2**	**+0.7**	
ARCES	**ARCESS Array B**	**62.42**	**339**	P	**P**	**16 32 37.2**	**+0.7**	
	comp=Z,1.9nm,0.9s,baz=86,slow=7.7,SNR=9.8							
HFS	**Hagfors**	**66.39**	**328**	P	**P**	**16 33 03.1**	**+0.5**	
	comp=Z,2.2nm,0.6s,baz=108,slow=4.8,SNR=11							
GERES	**GERESS Array B**	**67.12**	**315**	P	**P**	**16 33 08.3**	**+0.7**	
GERES	**GERESS Array B**	**67.12**	**315**	P	**P**	**16 33 08.3**	**+0.7**	
	comp=Z,0.8nm,0.8s,baz=94,slow=8.0,SNR=6.3							
NB2	**NORSAR Subarra**	**67.58**	**329**	P	**P**	**16 33 10.3**	**+0.1**	
	comp=Z,0.6nm,0.5s,baz=86,slow=6.5							
NOA	**NORSAR Array B**	**67.58**	**329**	P	**P**	**16 33 10.3**	**+0.1**	
NOA	**NORSAR Array B**	**67.58**	**329**	P	**P**	**16 33 10.3**	**+0.1**	
	comp=Z,0.6nm,0.5s,baz=86,slow=6.6,SNR=5.0							
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**16 34 38.9**	**-1.0**	
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**16 34 38.9**	**-1.0**	
	comp=Z,0.5nm,0.7s,baz=298,slow=5.0,SNR=8.2							
TXAR	**Lajitas Array**	**127.57**	**18**	PKP	**PKPdf**	**16 41 20.4**	**+0.8**	
TXAR	**Lajitas Array**	**127.57**	**18**	PKP	**PKPdf**	**16 41 20.4**	**+0.8**	
	comp=Z,0.4nm,0.8s,baz=17,slow=1.3,SNR=4.2							
CPUP	**Villa Florida**	**151.83**	**253**	PKPbc	**PKPbc**	**16 42 09.0**	**0.0**	
CPUP	**Villa Florida**	**151.83**	**253**	PKPbc	**PKPbc**	**16 42 09.0**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=127,slow=5.1,SNR=3.9							

*ISCJB **11** 16:41:48.8±0.4, 16°.00S±0°.10×174°.67W±0°.08, h175km, mb4.2/15, Error ellipse: s-maj=15.5km s-min=7.2km az=146.7*
*IDC **11** 16:41:52.9±1.8, 16°.03S×174°.56W, h206km±17km, mb3.9/15, mb1 4.1/17, mb1mx3.9/26, mbtmp3.9/17, Error ellipse: s-maj=18.0km s-min=10.5km az=136.0*
*AUST **11** 16:41:54.4±4.6, 15°.83S×174°.25W, h243km, Error ellipse: s-maj=3.5km s-min=1.8km az=257.0*

ISC 11 16:41:50.1±0.5, 15°.9S±0°.1×174°.69W±0°.08, h175km, n48, σ1§00/45, mb4.4/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.44**	**55**	P	Pn	16 42 47.9	+3.7
	229nm,0.3s,baz=134,slow=1.1,SNR=162						
AFI				S	**Sn**	**16 43 27.5**	**+1.2**
	133nm,0.3s,baz=51,slow=22,SNR=13						
NIUE	**Niue**	**5.53**	**125**	P	**Pn**	**16 43 12.5**	**+1.5**
	baz=5.3,SNR=25						
DZM	**Mont Dzumac**	**18.86**	**248**	P	**Pn**	**16 46 00.1**	**+0.4**
	0.4nm,0.3s,baz=58,slow=19,SNR=3.8						
URZ	**Urewera**	**23.41**	**196**	P	**P**	**16 46 41.5**	**-1.8**
	9.8nm,0.4s,baz=314,slow=2.2,SNR=6.8						
RPZ	**Rata Peaks**	**30.26**	**201**	P	**P**	**16 47 44.4**	**-0.2**
	13nm,0.9s,baz=28,slow=15,SNR=2.5						
ARMA	**Armidale**	**34.02**	**239**	P	**P**	**16 48 18.0**	**+0.3**
	baz=34,SNR=7.2						
RMQ	**Roma**	**35.56**	**247**	P	**P**	**16 48 31.6**	**+0.9**
	baz=36,SNR=4.0						
CTA	**Charters Tower**	**37.32**	**258**	P	**P**	**16 48 46.1**	**+0.3**
	2.5nm,0.2s,baz=104,slow=8.3,SNR=3.2						
PMG	**Port Moresby**	**37.73**	**275**	P	**P**	**16 48 50.8**	**+1.5**
	8.0nm,0.9s,baz=135,slow=2.9,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**38.78**	**331**	T	T	17 30 47.9	
	baz=151						
H11S3	**WAKE ISLAND Hy**	**38.79**	**331**	T	T	17 30 47.0	
	baz=151						
H11S1	**WAKE ISLAND Hy**	**38.79**	**331**	T	T	17 30 49.2	
	baz=151						
CMSA	**Cobar Meteorol**	**39.23**	**239**	P	**P**	**16 49 01.5**	**-0.1**
	baz=40,SNR=14						
QLP	**Quilpie**	**39.58**	**247**	P	**P**	**16 49 05.1**	**+0.5**
	baz=40,SNR=5.8						
COEN	**Coen**	**40.71**	**267**	P	**P**	**16 49 16.1**	**+2.2**
	baz=41,SNR=9.4						
TOO	**Toolangi**	**41.19**	**231**	P	**P**	**16 49 18.8**	**+1.2**
	baz=42,SNR=4.8						
STKA	**Stephens Creek**	**42.71**	**240**	P	**P**	**16 49 30.0**	**0.0**
	12nm,0.7s,baz=99,slow=7.2,SNR=25						
STKA	**Stephens Creek**	**42.71**	**240**	P	**P**	**16 49 30.4**	**+0.3**
	baz=43,SNR=15						
HTT	**Hallett**	**45.22**	**239**	P	**P**	**16 49 50.3**	**+0.2**
	baz=46,SNR=7.2						
BBOO	**Buckleboo**	**47.48**	**240**	P	**P**	**16 50 07.5**	**-0.2**
	baz=48,SNR=14						
WRA	**Warramunga Arr**	**48.52**	**257**	P	**P**	**16 50 16.0**	**+0.2**
	7.6nm,0.6s,baz=91,slow=7.5,SNR=63						
WRA				PcP	**PcP**	**16 51 38.3**	**-0.8**
	1.1nm,0.5s,baz=94,slow=3.6,SNR=4.6						
ASAR	**Alice Springs**	**48.77**	**252**	P	**P**	**16 50 17.4**	**-0.3**
	28nm,0.7s,baz=89,slow=7.5,SNR=326						
ASAR				PcP	**PcP**	**16 51 39.1**	**-0.8**
	0.9nm,0.5s,baz=105,slow=4.9,SNR=3.8						
KDU	**Kakadu**	**51.19**	**266**	P	**P**	**16 50 37.1**	**+1.1**
	baz=52,SNR=6.9						
MTN	**Manton Dam**	**52.45**	**266**	P	**P**	**16 50 46.1**	**+0.8**
	baz=53,SNR=6.6						
WRKA	**Warakurna**	**53.85**	**250**	P	**P**	**16 50 55.4**	**-0.1**
	baz=54,SNR=80						
FITZ	**Fitzroy Crossi**	**56.89**	**259**	P	**P**	**16 51 18.0**	**+0.8**
	baz=57,SNR=7.9						
MEEK	**Meekatharra**	**62.47**	**248**	P	**P**	**16 51 54.9**	**-0.4**
	baz=63,SNR=17						
VNDA	**Vanda**	**62.76**	**186**	P	**P**	**16 51 56.0**	**-0.2**
	2.3nm,0.9s,baz=12,slow=6.4,SNR=12						
KLBR	**Kellerberrin**	**62.91**	**242**	P	**P**	**16 51 57.6**	**-0.4**
	baz=63,SNR=21						
NWAO	**Narrogin (SRO)**	**63.29**	**241**	P	**P**	**16 52 00.2**	**-0.4**
	4.2nm,0.5s,baz=284,slow=7.9,SNR=9.8						
BLDU	**Ballidu**	**63.85**	**243**	P	**P**	**16 52 03.9**	**-0.4**
	baz=64,SNR=10						
MORW	**Morawa**	**64.55**	**245**	P	**P**	**16 52 08.3**	**-0.5**
	baz=65,SNR=4.2						
PETK	**Petropavlovsk-**	**72.73**	**343**	P	**P**	**16 52 59.3**	**+0.4**
	4.7nm,0.8s,baz=129,slow=8.3,SNR=6.7						
UGM	**Wanagama**	**73.30**	**266**	P	**P**	**16 53 03.3**	**+0.2**
	baz=74,SNR=3.1						
NVAR	**Mina Array Bea**	**75.53**	**42**	P	**P**	**16 53 15.5**	**-0.2**
	0.6nm,0.6s,baz=240,slow=7.8,SNR=4.7						
XMI	**Christmas Isla**	**77.31**	**263**	P	**P**	**16 53 23.0**	**-3.0**
	baz=78,SNR=6.2						
XMIS	**Christmas Isla**	**77.34**	**263**	P	P	16 53 20.5	-5.6
	baz=78,SNR=26						
TXAR	**Lajitas Array**	**81.92**	**57**	P	**P**	**16 53 49.8**	**-0.8**
	0.7nm,1.0s,baz=255,slow=8.9,SNR=5.0						
ILAR	**Eielson Array**	**83.18**	**12**	P	**P**	**16 53 55.2**	**-0.9**
	0.4nm,0.5s,baz=216,slow=5.6,SNR=7.9						
PDAR	**Pinedale Array**	**83.47**	**42**	P	**P**	**16 53 57.8**	**-0.7**
	0.4nm,0.5s,baz=180,slow=3.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**91.59**	**289**	P	**P**	**16 54 39.4**	**+1.6**
	1.1nm,0.8s,baz=91,slow=2.4,SNR=15						
MKAR	**Makanchi Array**	**110.29**	**314**	PKiKP	**PKiKP**	**16 59 59.5**	**-1.8**
	0.3nm,0.6s,baz=29,slow=2.8,SNR=3.7						
ARCES	**ARCESS Array B**	**124.92**	**351**	PKP	**PKPdf**	**17 00 27.2**	**-1.5**
	1.6nm,0.8s,baz=34,slow=3.4,SNR=6.7						
FINES	**FINESS Array B**	**132.15**	**347**	PKP	**PKPdf**	**17 00 42.0**	**-0.6**
	0.8nm,0.6s,baz=35,slow=4.7,SNR=5.5						
AKASG	**Malin Array Be**	**140.31**	**336**	PKhKP	PKPpre	17 00 49.1	
	0.4nm,0.5s,baz=39,slow=4.2,SNR=4.4						
KMBO	**Kilima Mbogo**	**144.20**	**245**	PKP	**PKPab**	**17 01 04.7**	**+0.1**
	3.2nm,0.8s,baz=40,slow=23,SNR=7.7						
BRTR	**Keskin Array B**	**145.75**	**319**	PKPbc	**PKPdf**	**17 01 08.6**	**+0.3**
	4.7nm,0.8s,baz=107,slow=2.3,SNR=18						
GERES	**GERESS Array B**	**146.44**	**350**	PKPbc	**PKPdf**	**17 01 09.4**	**+0.3**
	1.0nm,0.8s,baz=286,slow=2.4,SNR=5.1						

IDC 11 16:59:53.5±3.0, 5°.84N×126°.79E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=258.2km s-min=25.7km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.68**	**164**	P	P	17 05 34.8	+0.2
	0.4nm,0.6s,baz=344,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**30.14**	**167**	P	P	17 06 05.2	-0.3
	0.2nm,0.9s,baz=355,slow=6.6,SNR=2.7						
MKAR	**Makanchi Array**	**55.87**	**324**	P	P	17 09 33.0	-0.1
	0.6nm,0.8s,baz=126,slow=7.3,SNR=2.6						

*IDC **11** 17:05:12.4±1.2, 5°.55N×126°.48E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/24, mbtmp3.6/7, Error ellipse: s-maj=70.4km s-min=16.3km az=65.0*
*ISCJB **11** 17:05:19.0±1.2, 5°.5N±0°.2×126°.4E±0°.4, h66km, mb3.5/7, Error ellipse: s-maj=62.1km s-min=14.3km az=153.8*

ISC 11 17:05:21.0±1.3, 5°.4N±0°.2×126°.3E±0°.4, h66km, n7, σ0§50/9, mb3.6/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.41**	**182**	P	**P**	**17 10 24.1**	**-0.3**
	1.5nm,0.8s,baz=355,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**26.43**	**163**	P	**P**	**17 10 51.5**	**-0.4**
	0.9nm,0.5s,baz=343,slow=10,SNR=8.7						
CMAR	**Chiang Mai Arr**	**29.69**	**298**	P	**P**	**17 11 21.1**	**+0.2**
	0.2nm,0.3s,baz=118,slow=7.2,SNR=3.5						
ASAR	**Alice Springs**	**29.86**	**166**	P	**P**	**17 11 22.3**	**-0.2**
	0.1nm,0.5s,baz=349,slow=8.4,SNR=5.2						
ASAR				PcP	**PcP**	**17 14 23.6**	**-0.8**
	0.2nm,0.8s,baz=341,slow=2.4,SNR=4.1						
STKA	**Stephens Creek**	**39.87**	**160**	P	**P**	**17 12 49.1**	**+0.7**
	2.1nm,0.9s,baz=326,slow=7.3,SNR=2.8						
MKAR	**Makanchi Array**	**55.93**	**325**	P	**P**	**17 14 52.4**	**0.0**
	1.0nm,0.7s,baz=127,slow=9.6,SNR=10						
MKAR				PcP	**PcP**	**17 15 50.0**	**-0.3**
	0.5nm,0.7s,baz=120,slow=4.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**58.89**	**333**	P	**P**	**17 15 13.2**	**+0.2**
	0.3nm,0.3s,baz=114,slow=9.6,SNR=2.2						

*IDC **11** 17:30:04.5±4.6, 12°.40N×126°.19E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/24, mbtmp3.2/3, Error ellipse: s-maj=355.8km s-min=26.6km az=65.0*
*MAN **11** 17:30:13, 12°.18N×125°.21E, h26km, mb4.4, ML3.2, MS3.1*

ISC 11 17:30:10.4±1.5, 12°.28N±0°.06×125°.4E±0°.2, h33km, n13, σ1§80/11, mb3.4/3, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.67**	**178**	*e*P	Pb	17 30 26.2	+2.4
BESP				*e*S	**Sb**	**17 30 36.3**	**+3.4**
OCLP	**Ormoc**	**1.45**	**213**	*e*P	**Pn**	**17 30 35.3**	**+0.9**
OCLP				*e*S	**Sn**	**17 30 52.4**	**+0.1**
PVCP	**Virac**	**1.80**	**317**	*e*P	**Pb**	**17 30 42.3**	**-0.5**
PVCP	**Virac**	**1.80**	**317**	*i* P	**Pb**	**17 30 42.3**	**-0.5**
MSLP	**Maasin**	**2.20**	**194**	*e*P	**Pb**	**17 30 48.0**	**-1.5**
GUIM	**Jordan**	**3.22**	**240**	*e*P	**Pn**	**17 30 58.0**	**-0.7**
OTRP	**Odiongan**	**3.32**	**272**	*e*P	**Pn**	**17 30 59.6**	**-0.4**
WRA	**Warramunga Arr**	**33.20**	**165**	P	**P**	**17 36 41.9**	**-2.4**
	0.3nm,0.5s,baz=347,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**36.67**	**167**	P	**P**	**17 37 13.3**	**-1.0**
	0.2nm,0.8s,baz=353,slow=8.1,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**40.47**	**74**	T	T	18 21 06.6	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**40.47**	**74**	T	T	18 21 03.7	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**40.48**	**74**	T	T	18 21 14.7	
	baz=267						
MKAR	**Makanchi Array**	**49.94**	**322**	P	**P**	**17 39 02.9**	**+1.8**
	0.3nm,0.6s,baz=117,slow=9.4,SNR=3.1						

IDC 11 17:36:44.1±2.1, 25°.84N×143°.72E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/25, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=72.5km s-min=23.9km az=66.0, Volcano Islands region

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

ASAR	**Alice Springs**	**27.77 167**	P		P	18 23 55.2	+0.6
	0.2nm,0.3s,baz=346,slow=6.8,SNR=3.6						
STKA	**Stephens Creek**	**37.75 160**	P		P	18 25 20.7	-0.9
	3.5nm,1.2s,baz=325,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**57.99 325**	P		P	18 27 58.1	-0.2
	0.3nm,0.6s,baz=123,slow=7.2,SNR=7.2						

IDC 11 18:25:22.5±4.5, 3°41N×127°80E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=164.5km s-min=68.9km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.07 165**		P	P	18 30 39.8	0.0
	0.5nm,0.4s,baz=345,slow=10.0,SNR=5.8						
ASAR	**Alice Springs**	**27.56 168**		P	P	18 31 11.2	-0.1
	0.3nm,0.5s,baz=354,slow=7.5,SNR=16						
STKA	**Stephens Creek**	**37.46 161**		P	P	18 32 37.9	0.0
	3.3nm,1.1s,baz=333,slow=9.0,SNR=5.1						

*ISCJB **11** 18:26:45.1±0.4, 23°67S±0°06×179°98E±0°07, h532km, mb4.0/15, Error ellipse: s-maj=8.7km s-min=8.1km az=166.5*

*IDC **11** 18:26:47.5±1.7, 23°61S×179°98E, h547km±18km, mb3.5/15, mb1 3.7/16, mb1mx3.6/22, mbtmp4.4/16, Error ellipse: s-maj=16.0km s-min=14.1km az=8.0*

*AUST **11** 18:26:49.8, 24°12S×179°59W, h600km*

ISC 11 18:26:45.8±0.4, 23°76S±0°07×179°99W±0°08, h532km, n73, σ1§29/85, mb4.0/15, 9C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.77 162**		P	P	18 28 26.2	+4.8
	144nm,0.3s,baz=287,slow=19,SNR=5.6						
RAO				S	**S**	**18 29 40.5**	**+1.0**
	baz=90,slow=20,SNR=2.0						
NIUE	**Niue**	**10.46 65**		P	**P**	**18 29 08.1**	**-0.3**
	baz=10,SNR=5.2						
DZM	**Mont Dzumac**	**12.62 275**		P	**P**	**18 29 33.3**	**+2.3**
	0.4nm,0.3s,baz=110,slow=17,SNR=4.3						
URZ	**Urewera**	**14.66 189**		P	**P**	**18 29 50.4**	**-1.5**
	7.3nm,0.3s,baz=315,slow=4.0,SNR=19						
URZ				S	**S**	**18 32 22.4**	**-2.9**
	3.4nm,0.3s,baz=300,slow=22,SNR=8.5						
RPZ	**Rata Peaks**	**21.23 198**		P	**P**	**18 30 54.6**	**+0.9**
	25nm,0.5s,baz=32,slow=3.0,SNR=13						
EIDS	**Eidsvold**	**26.34 261**		P	**P**	**18 31 40.7**	**+1.2**
	baz=27,SNR=9.8						
CMSA	**Cobar Meteorol**	**31.28 248**		P	**P**	**18 32 23.6**	**+1.3**
	baz=31,SNR=17						
CTA	**Charters Tower**	**31.49 270**		P	**P**	**18 32 25.1**	**+0.8**
	14nm,0.3s,baz=95,slow=10,SNR=27						
QLP	**Quilpie**	**32.44 257**		P	**P**	**18 32 33.4**	**+1.1**
	baz=33,SNR=5.0						
TOO	**Toolangi**	**32.53 237**		P	**P**	**18 32 34.8**	**+1.8**
	baz=33,SNR=15						
PMG	**Port Moresby**	**34.46 289**		P	**P**	**18 32 49.5**	**0.0**
	12nm,0.7s,baz=112,slow=8.0,SNR=6.7						
STKA	**Stephens Creek**	**34.79 248**		P	**P**	**18 32 53.2**	**+1.3**
	5.5nm,0.4s,baz=95,slow=9.3,SNR=29						
STKA	**Stephens Creek**	**34.79 248**		P	**P**	**18 32 53.3**	**+1.3**
	baz=35,SNR=17						
ARPS	**Mount Arapiles**	**35.20 239**		P	**P**	**18 32 56.6**	**+1.3**
	baz=35,SNR=6.2						
COEN	**Coen**	**36.11 279**		P	**P**	**18 33 03.9**	**+0.8**
	baz=36,SNR=7.5						
HTT	**Hallett**	**37.14 246**		P	**P**	**18 33 12.3**	**+0.8**
	baz=37,SNR=7.6						
BBOO	**Buckleboo**	**39.51 247**		P	**P**	**18 33 31.0**	**+0.3**
	baz=40,SNR=15						
ASAR	**Alice Springs**	**42.07 260**		P	**P**	**18 33 51.6**	**+0.3**
	3.8nm,0.4s,baz=95,slow=7.4,SNR=214						
ASAR				pP	**PcP**	**18 35 32.0**	**-1.8**
	0.7nm,0.7s,baz=103,slow=6.1,SNR=2.7						
ASAR				ScP	**ScP**	**18 38 34.6**	**+0.9**
	1.2nm,0.8s,baz=109,slow=4.1,SNR=6.0						
ASAR				S	**S**	**18 39 29.9**	**-2.4**
	1.0nm,0.7s,baz=96,slow=15,SNR=8.9						
WRA	**Warramunga Arr**	**42.43 266**		P	**P**	**18 33 53.7**	**-0.4**
	3.7nm,0.3s,baz=91,slow=8.4,SNR=145						
WRA				PcP	**PcP**	**18 35 35.0**	**0.0**
	1.1nm,0.9s,baz=95,slow=3.7,SNR=4.9						
WRA				S	**S**	**18 39 32.8**	**-4.7**
	2.3nm,0.9s,baz=103,slow=13,SNR=10						
KDU	**Kakadu**	**46.29 275**		P	**P**	**18 34 23.4**	**-0.6**
	baz=47,SNR=7.2						
WRKA	**Warakurna**	**46.88 257**		P	**P**	**18 34 28.5**	**+0.1**
	baz=47,SNR=20						
MTN	**Manton Dam**	**47.46 274**		P	**P**	**18 34 32.3**	**-0.5**
	baz=48,SNR=4.9						
FITZ	**Fitzroy Crossi**	**50.85 265**		P	**P**	**18 34 57.8**	**0.0**
	3.5nm,0.5s,baz=118,slow=6.7,SNR=26						
FITZ	**Fitzroy Crossi**	**50.85 265**		P	**P**	**18 34 58.1**	**+0.3**
	baz=51,SNR=14						
VNDA	**Vanda**	**54.52 185**		P	**P**	**18 35 25.7**	**+2.7**
	0.6nm,0.7s,baz=335,slow=9.0,SNR=3.8						
VNDA				PcP	**PcP**	**18 36 19.4**	**+1.3**
	1.0nm,0.8s,baz=338,slow=4.7,SNR=5.5						
KLBR	**Kellerberrin**	**55.05 247**		P	**P**	**18 35 28.1**	**+0.5**
	baz=55,SNR=5.9						
MEEK	**Meekatharra**	**55.16 253**		P	**P**	**18 35 28.2**	**-0.3**
	baz=55,SNR=4.2						
BLDU	**Ballidu**	**56.09 248**		P	**P**	**18 35 34.9**	**+0.1**
	baz=56,SNR=12						
MORW	**Morawa**	**56.94 250**		P	**P**	**18 35 40.9**	**+0.2**
	baz=57,SNR=6.4						
MJAR	**Matsushiro Arr**	**71.79 326**		P	**P**	**18 37 13.9**	**-0.7**
	2.3nm,0.8s,baz=169,slow=3.5,SNR=4.6						
USRK	**Ussuriysk Arra**	**80.66 327**		P	**P**	**18 38 02.9**	**-0.3**
	2.3nm,0.9s,baz=132,slow=8.6,SNR=4.3						
SYO	**Syowa Base**	**83.15 193**		‖*eP*	**P**	**18 38 14.4**	**-1.1**
NVAR	**Mina Array Bea**	**84.64 44**		P	**P**	**18 38 24.0**	**+0.3**
	0.4nm,0.6s,baz=225,slow=9.7,SNR=6.1						
SNAA	**Sanae**	**84.80 179**		*eP*	**P**	**18 38 23.5**	**-0.3**
VNA2	**Neumayer--Watz**	**85.43 178**		*eP*	**P**	**18 38 27.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**89.49 290**		P	**P**	**18 38 47.8**	**+1.1**
	1.9nm,0.9s,baz=134,slow=3.2,SNR=18						
TXAR	**Lajitas Array**	**90.35 58**		P	**P**	**18 38 51.5**	**+0.9**
	1.1nm,0.8s,baz=201,slow=6.7,SNR=6.4						
ILAR	**Eielson Array**	**91.89 14**		P	**P**	**18 38 55.3**	**-1.4**
	0.3nm,0.7s,baz=222,slow=6.5,SNR=3.2						
PDAR	**Pinedale Array**	**92.58 44**		P	**P**	**18 39 00.5**	**-0.3**
	0.5nm,0.8s,baz=199,slow=3.1,SNR=4.2						
MKAR	**Makanchi Array**	**112.07 313**		PKiKP	**PKiKP**	**18 44 19.1**	**-1.5**
	0.5nm,0.7s,baz=63,slow=3.7,SNR=5.3						
ARCES	**ARCESS Array B**	**131.76 348**		PKP	**PKPdf**	**18 44 56.1**	**-1.6**
	3.6nm,1.0s,baz=50,slow=1.4,SNR=3.7						
FINES	**FINESS Array B**	**138.32 341**		PKP	**PKPdf**	**18 45 09.8**	**-0.3**
	1.8nm,0.8s,baz=72,slow=1.3,SNR=5.5						
NB2	**NORSAR Subarra**	**141.95 351**		PKP	PKPpre	18 45 11.2	
	comp=Z,1.3nm,0.7s,baz=14,slow=3.1						
NOA	**NORSAR Array B**	**141.95 351**		PKhKP	PKPpre	18 45 11.6	
	comp=Z,2.1nm,0.8s,baz=16,slow=4.7,SNR=8.6						
MALT	**Malatya**	**144.31 303**		‖*iP*	**PKPab**	**18 45 22.1**	**+0.3**
AKASG	**Malin Array Be**	**144.86 327**		PKP	**PKPdf**	**18 45 20.6**	**-1.4**
	comp=Z,4.4nm,0.7s,baz=43,slow=4.1,SNR=26						
AKASG				pPKP	**pPKPdf**	**18 47 31.5**	**+4.2**
	comp=Z,0.1nm,0.3s,baz=41,slow=2.7,SNR=1.8						
BRTR	**Keskin Array B**	**147.51 307**		PKPbc	**PKPbc**	**18 45 29.7**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=146,slow=5.5,SNR=5.9						
CFR	**Carcaliu**	**148.74 320**		⇑*iP*	**PKPbc**	**18 45 32.8**	**-0.3**
BURAR	**Bucovina Array**	**148.86 326**		⇑*iP*	**PKPbc**	**18 45 33.6**	**0.0**
TIRR	**Tirgusor**	**148.96 319**		⇑*iP*	**PKPdf**	**18 45 28.9**	**-0.1**
TLB	**Topalu**	**149.12 319**		⇑*iP*	**PKPbc**	**18 45 34.3**	**+0.2**
VRI	**Vrincioaia**	**149.15 322**		‖*iP*	**PKPbc**	**18 45 33.9**	**-0.3**
KOLS	**Kolonicke sedl**	**149.36 331**		*e*	**PKPbc**	**18 45 34.9**	**+0.3**
STHS	**Stebnicka Huta**	**149.45 332**		*e*	**PKPbc**	**18 45 35.0**	**+0.2**
CRVS	**Cervenica-Dubn**	**149.74 331**		*e*	**PKPbc**	**18 45 35.5**	**0.0**
MLR	**Muntele Rosu**	**149.81 322**		⇑*iP*	**PKPbc**	**18 45 35.2**	**-0.7**
TRPA	**Tarpa**	**149.82 329**		⇑*iP*	**PKPbc**	**18 45 35.3**	**-0.4**
OKC	**Ostrava-Krasne**	**150.36 336**		*e*PKPdf	**PKPbc**	**18 45 36.7**	**-0.2**
UPC	**Upice**	**150.54 339**		*e*PKPdf	**PKPbc**	**18 45 37.3**	**0.0**
UPC				*ex*	x	18 45 42.1	
DPC	**Dobruska-Polom**	**150.58 339**		*e*PKPdf	**PKPbc**	**18 45 37.5**	**+0.1**
DPC				*ep*PKP	**PKPab**	**18 45 47.3**	**+0.7**
ARR	**Arges**	**150.62 323**		⇑*iP*	**PKPbc**	**18 45 38.7**	**+1.0**
MORC	**Moravsky Berou**	**150.63 337**		‖*iP*	**PKPbc**	**18 45 37.8**	**+0.2**
CLL	**Collm**	**150.73 343**		‖*iP*KPbc	**PKPbc**	**18 45 37.5**	**-0.2**
	comp=Z,13nm,0.8s						
CLL				*e*PKPab	**PKPab**	**18 45 46.0**	**-1.1**
CLL				e(pPKPbc)		18 47 49.0	
BRG	**Berggiesshubel**	**150.86 342**		*i* PKP	**PKPbc**	**18 45 37.6**	**-0.4**
	comp=Z,13nm,1.1s						
PVCC	**Panska Ves**	**150.98 341**		*e*PKPdf	**PKPbc**	**18 45 38.5**	**+0.2**
PRU	**Pruhonice**	**151.47 340**		*e*PKPdf	**PKPbc**	**18 45 39.1**	**-0.3**
SIRR	**Siria**	**151.57 327**		‖*iP*	**PKPbc**	**18 45 39.7**	**-0.1**
GZR	**Gura Zlata**	**151.60 325**		⇑*iP*	**PKPbc**	**18 45 39.5**	**-0.5**
BZS	**Buzias**	**152.04 327**		⇑*iP*	**PKPbc**	**18 45 40.2**	**-0.6**
KHC	**Kasperske Hory**	**152.52 340**		*e*PKPdf	**PKPbc**	**18 45 41.2**	**-0.6**
KHC				*ep*PKP	PKPab	18 45 49.4	-5.4
GERES	**GERESS Array B**	**152.73 340**		PKP	**PKPdf**	**18 45 32.5**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=354,slow=2.0,SNR=2.8						
GERES				PKPbc	**PKPbc**	**18 45 41.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=0.0,slow=2.8,SNR=5.6						
GERES				PKPab	**PKPab**	**18 45 55.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=270,slow=1.0,SNR=3.1						
GERES				pPKPbc	**pPKPbc**	**18 47 51.2**	**+4.3**
	comp=Z,0.5nm,0.6s,baz=298,slow=2.1,SNR=2.9						
PKSM	**Moragy**	**153.03 331**		‖*iP*	**PKPbc**	**18 45 42.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**169.32 189**		PKP	**PKPdf**	**18 45 51.9**	**-1.0**
	comp=Z,1.6nm,1.1s,baz=278,slow=1.5,SNR=5.1						
TORD				PKPab	**PKPab**	**18 47 08.8**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=190,slow=3.8,SNR=5.6						

MEX 11 19:03:29.7±0.6, 16°69N×99°00W, h7km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.85 282**		*i* P	Pn	19 03 47.5	-0.6
ACX				*i* S	Sb	19 03 58.5	+0.1
PNIG	**Pinotepa**	**0.88 109**		*eP*	Pg	19 03 44.9	-1.8
PNIG				*i* S	Sg	19 03 56.1	-2.1
TLIG	**Tlapa**	**0.96 25**		*eP*	Pg	19 03 45.5	-2.8
TLIG				*i* S	Sg	19 03 57.7	-3.3
CAIG	**El Cayaco**	**1.27 287**		*eP*	Pn	19 03 49.6	-4.3
CAIG				*i* S	Sb	19 04 06.0	-4.5
MEIG	**Mezcala**	**1.37 334**		*eP*	Pn	19 03 51.6	-3.8
MEIG				*i* S	Sb	19 04 08.6	-5.0
PLIG	**Platanillo**	**1.76 344**		*i* P	Pn	19 03 58.0	-2.9
PLIG				*i* S	Sn	19 04 19.0	-4.7
ARIG	**Puente Sto Nin**	**2.04 321**		*i* P	Pn	19 04 01.8	-2.8
ARIG				*i* S	Sn	19 04 26.2	-4.2
YAIG	**Yautepec**	**2.16 358**		*i* P	Pn	19 04 03.1	-3.3
YAIG				*i* S	Sn	19 04 28.8	-4.9
VHO	**Vista Hermosa**	**2.20 80**		*i* P	Pn	19 04 02.9	-4.1
VHO				*i* S	Sn	19 04 30.5	-4.2
PPM	**Popocatepetl**	**2.39 8**		*i* P	Pn	19 04 07.3	-2.7
PPM				*i* S	Sn	19 04 35.1	-4.9
ZIIG	**Zihuatanejo**	**2.53 291**		*i* P	Pn	19 04 07.8	-3.4
ZIIG				*i* S	Sn	19 04 39.2	-3.2

IDC 11 19:40:23.8±12.0, 15°02S×173°49W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/19, mbtmp3.7/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/29, Error ellipse: s-maj=601.5km s-min=40.5km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.99 57**		Pn	Pn	19 40 51.2	-7.7
	32nm,0.3s,baz=243,slow=6.8,SNR=16						
AFI				Sn	Sn	19 41 09.7	-15
	213nm,0.3s,baz=168,slow=22,SNR=20						
PPT	**Papeete**	**23.09 100**		LR	LR	19 52 41.0	
	comp=Z,169nm,18.7s,baz=326,slow=32						
HNR	**Honiara**	**26.54 279**		LR	LR	19 55 06.1	
	comp=Z,109nm,18.4s,baz=143,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.59 329**		T	T	20 29 10.0	
	baz=152,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.61 329**		T	T	20 29 10.4	
	baz=152,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**38.61 329**		T	T	20 29 14.0	
	baz=152,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**39.54 330**		T	T	20 30 20.7	
	baz=151,slow=77,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**39.55 330**		T	T	20 30 24.8	
	baz=151,slow=77,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**39.56 330**		T	T	20 30 22.0	
	baz=151,slow=77,SNR=4.0						
ASAR	**Alice Springs**	**50.15 252**		P	P	19 49 20.9	-0.6
	0.9nm,0.4s,baz=87,slow=8.2,SNR=14						
ASAR				LR	LR	20 09 18.4	
	comp=Z,77nm,19.3s,baz=164,slow=35						
ILAR	**Eielson Array**	**82.09 11**		P	P	19 52 44.6	-1.2
	0.3nm,0.8s,baz=220,slow=5.0,SNR=5.1						
GERES	**GERESS Array B**	**145.75 352**		PKPbc	PKPdf	20 00 04.8	+0.2
	0.5nm,0.8s,baz=340,slow=5.5,SNR=2.1						
BRTR	**Keskin Array B**	**145.81 321**		PKPbc	PKPab	20 00 06.0	+0.1
	1.2nm,0.8s,baz=74,slow=1.5,SNR=5.6						

IDC 11 19:42:06.7±2.1, 6°98S×128°32E, h0km, mb3.2/1, mb1 4.0/4, mb1mx3.5/20, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=104.8km s-min=27.1km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.36 193**		Pn	Pn	19 44 50.7	+0.3
	0.7nm,0.3s,baz=20,slow=12,SNR=42						
FITZ				Sn	Sn	19 46 42.6	-15
	0.2nm,0.3s,baz=328,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**14.14 156**		Pn	Pn	19 45 28.1	-0.5
	0.6nm,0.3s,baz=332,slow=14,SNR=10						
WRA				Sn	Sn	19 47 49.7	-17
	1.0nm,0.3s,baz=332,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.43 163**		P	Pn	19 46 11.5	-0.1
	0.4nm,0.3s,baz=341,slow=11,SNR=57						
ASAR				S	Sn	19 49 11.3	-15
	0.2nm,0.3s,baz=342,slow=24,SNR=6.3						
MKAR	**Makanchi Array**	**67.31 328**		P	P	19 53 03.5	0.0
	0.1nm,0.5s,baz=134,slow=8.3,SNR=2.9						

WEL 11 20:04:43.0±0.6, 37°78S×176°38E, h172km±5km, ML3.8/10, 5C-1D, Error ellipse: s-maj=5.0km s-min=4.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.75 130**		⇑PN	Pn	20 05 08.1	-0.1
URZ				SN	Sn	20 05 26.3	-1.3
URZ				AML	AML	20 05 27.8	
MWZ	**Matawai**	**1.07 122**		PN	Pn	20 05 10.8	+0.3
MWZ				SN	Sn	20 05 31.3	-0.4
MWZ				AML	AML	20 05 31.4	
MWZ				AML	AML	20 05 33.1	
NMHZ	**Naumai**	**1.36 166**		PN	Pn	20 05 13.7	+0.7
NMHZ				SN	Sn	20 05 37.3	+0.9
BKZ	**Black Stump Fm**	**1.39 176**		PN	Pn	20 05 13.0	-0.3
BKZ				SN	Sn	20 05 35.4	-1.4
RIGZ	**Rimuhau**	**1.43 131**		PN	Pn	20 05 14.0	+0.4
RIGZ				SN	Sn	20 05 36.6	-0.8
WHHZ	**Waihua**	**1.46 153**		PN	Pn	20 05 14.1	+0.2
OTVZ	**Oturere**	**1.49 202**		PN	Pn	20 05 14.9	+0.5
PUZ	**Puketiti**	**1.52 102**		PN	Pn	20 05 15.0	+0.6
PUZ				SN	Sn	20 05 37.1	-1.7
KNZ	**Kokohu**	**1.61 141**		PN	Pn	20 05 15.2	-0.1
PRGZ	**Paritu Road**	**1.65 134**		PN	Pn	20 05 15.0	-0.8
MCHZ	**McNeill Hill**	**1.68 172**		PN	Pn	20 05 16.5	+0.4
MOVZ	**Moawhango**	**1.70 197**		PN	Pn	20 05 15.9	-0.4
BHHZ	**Black Hill Sta**	**1.73 188**		PN	Pn	20 05 16.2	-0.4
MHGZ	**Mahia Peninsul**	**1.82 139**		⇑PN	Pn	20 05 17.6	0.0
CKHZ	**Cape Kidnapper**	**1.96 164**		⇑PN	Pn	20 05 18.9	-0.1
KAHZ	**Kahuranaki**	**2.05 169**		⇑PN	Pn	20 05 19.9	-0.2
PXZ	**Pawanui**	**2.28 171**		⇑PN	Pn	20 05 21.8	-0.8
WPHZ	**Waipukurau**	**2.29 179**		PN	Pn	20 05 21.8	-0.9
TSZ	**Takapari Road**	**2.30 188**		PN	Pn	20 05 22.0	-1.0
TSZ				AML	AML	20 07 43.7	
TSZ				AML	AML	20 07 52.9	
PRHZ	**Porangahau**	**2.49 175**		PN	Pn	20 05 24.1	-1.1
POWZ	**Post Office Ro**	**2.65 190**		PN	Pn	20 05 25.6	-1.4
PRWZ	**Pori Road**	**2.79 186**		PN	Pn	20 05 27.4	-1.3
BFZ	**Birch Farm**	**2.90 182**		PN	Pn	20 05 28.2	-1.8
MRZ	**Mangatainoka R**	**2.95 192**		PN	Pn	20 05 28.6	-1.9
MRZ				AML	AML	20 06 05.8	
MRZ				AML	AML	20 06 06.8	
OGWZ	**Otaki Gorge**	**3.18 197**		PN	Pn	20 05 31.4	-2.0
KIW	**Kapiti Island**	**3.28 200**		PN	Pn	20 05 32.5	-2.3
KIW				AML	AML	20 06 12.3	
KIW				AML	AML	20 06 13.2	
TMWZ	**Te Maipa**	**3.35 186**		PN	Pn	20 05 33.2	-2.3
MTW	**Mount Morrison**	**3.44 191**		PN	Pn	20 05 34.0	-2.8
CAW	**Cannon Point**	**3.48 197**		‖PN	Pn	20 05 34.7	-2.5
CAW				AML	AML	20 06 16.7	
CAW				AML	AML	20 06 18.2	
MSWZ	**Moikau Station**	**3.73 193**		PN	Pn	20 05 37.3	-3.2
SNZO	**South Karori**	**3.76 200**		PN	Pn	20 05 37.8	-2.9
SNZO				AML	AML	20 06 21.5	
SNZO				AML	AML	20 06 23.0	
TCW	**Tory Channel**	**3.79 205**		PN	Pn	20 05 38.5	-2.7
TCW				AML	AML	20 06 23.1	
TCW				AML	AML	20 06 23.3	
PLWZ	**Palliser**	**3.88 193**		PN	Pn	20 05 39.1	-3.3
TUWZ	**Tuamarina**	**4.10 206**		PN	Pn	20 05 42.4	-2.7
TUWZ				AML	AML	20 06 30.9	
BSWZ	**Blackbirch Sta**	**4.38 205**		PN	Pn	20 05 45.8	-2.9
THZ	**Tophouse**	**4.79 213**		PN	Pn	20 05 52.2	-1.9

*ISCJB **11** 20:06:22.9±0.3, 10°02S±0°05×33°79E±0°05, h10km, mb4.5/35, MS4.1/19, Error ellipse: s-maj=7.9km s-min=5.7km az=37.9*

*BJI **11** 20:06:23.0, 10°00S×33°80E, h10km, mB4.9/6, mb4.7/14, Ms4.9/6, Ms7 4.5/6*

*IDC **11** 20:06:23.4±0.6, 10°01S×33°86E, h0km, mb4.2/17, mb1 4.4/20, mb1mx4.3/30, mbtmp4.3/20, ML3.0/1, MS4.0/21, Ms1 4.0/21, ms1mx3.9/34, Error ellipse: s-maj=18.5km s-min=14.6km az=118.0*

*NEIC **11** 20:06:24.6±0.3, 10°00S×33°85E, h10km, mb4.6/15, Error ellipse: s-maj=8.8km s-min=7.1km az=101.0*

ISC 11 20:06:24.9±0.3, 9°96S±0°05×33°72E±0°05, h10km, n107, σ1§60/120, mb4.5/35, MS4.1/19, 1D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**4.25 28**		*i* P	**Pn**	**20 07 28.4**	**-1.4**
DODT				*i* S	**Sb**	**20 08 32.5**	**+1.2**
LSZ	**Lusaka**	**7.56 225**		*e*Pn	**Pn**	**20 08 16.8**	**+1.4**
LSZ				*e*Sn	**Sn**	**20 09 39.5**	**-1.8**
LSZ				Lg	Lg	20 10 19.6	
LSZ	**Lusaka**	**7.56 225**		Pn	**Pn**	**20 08 16.4**	**+1.1**
	30nm,0.3s,baz=55,slow=12,SNR=83						
LSZ				Sn	**Sn**	**20 09 39.6**	**-1.6**
	10nm,0.3s,baz=85,slow=15,SNR=3.8						
LSZ				Lg	Lg	20 10 19.6	
	44nm,0.3s,baz=11,slow=10,SNR=3.8						
LSZ				LR	LR	20 11 24.3	
	comp=Z,2μm,19.2s,baz=329,slow=40						
MAUS	**Longido**	**7.75 23**		*i* P	**Pn**	**20 08 16.9**	**-1.2**
MAUS				*i* S	Sg	20 10 26.1	-7.9
KMBO	**Kilima Mbogo**	**9.45 22**		*e*Pn	**Pn**	**20 08 38.6**	**-2.8**
KMBO				*e*Sn	Sn	20 10 18.7	-9.2
KMBO				Lg	Lg	20 11 11.5	
KMBO				*e*Lg	Lg	20 11 17.4	
KMBO	**Kilima Mbogo**	**9.45 22**		Pn	**Pn**	**20 08 38.5**	**-3.0**
	4.4nm,0.3s,baz=197,slow=14,SNR=51						
KMBO				Sn	Sn	20 10 21.0	-6.9
	9.7nm,0.3s,baz=68,slow=23,SNR=12						
KMBO				Lg	Lg	20 11 11.5	
	3.3nm,0.3s,baz=51,slow=23,SNR=5.7						
MBAR	**Mbarara**	**9.75 342**		*e*Pn	**Pn**	**20 08 42.9**	**-2.7**
MBAR				*e*Sn	**Sn**	**20 10 31.5**	**-3.8**
MBAR				*e*Lg	Lg	20 11 23.9	
MBAR	**Mbarara**	**9.75 342**		Pn	**Pn**	**20 08 42.7**	**-2.9**
	9.0nm,0.3s,baz=159,slow=16,SNR=33						
MBAR				Sn	**Sn**	**20 10 34.3**	**-1.0**
	40nm,0.3s,baz=47,slow=22,SNR=5.2						
MBAR				Lg	Lg	20 11 20.9	
	49nm,0.3s,baz=290,slow=23,SNR=7.3						
MBAR				LR	LR	20 12 22.5	
	comp=Z,448nm,21.6s,baz=326,slow=36						
OPO	**Ambohidratompo**	**15.60 125**		Pn	**Pn**	**20 10 03.1**	**-2.2**
OPO				Sn	Sn	20 12 48.1	-10
OPO	**Ambohidratompo**	**15.60 125**		Pn	**Pn**	**20 10 03.1**	**-2.2**
	2.4nm,0.3s,baz=289,slow=13,SNR=15						
OPO				Sn	Sn	20 12 48.1	-10
	0.2nm,0.3s,baz=210,slow=16,SNR=4.2						
OPO				LR	LR	20 15 55.9	

comp=Z,51nm,18.7s,baz=256,slow=35
MORC Moravsky Berou 61.14 348 *e*P **P 20 16 39.3 -0.2**
50nm,2.5s
GEC2 GERESS Array S 61.15 345 *e*P **P 20 16 40.9 +1.3**
GERES GERESS Array B 61.15 345 P **P 20 16 39.6 0.0**
GERES GERESS Array B 61.15 345 P **P 20 16 39.6 0.0**
1.3nm,0.7s,baz=165,slow=5.5,SNR=10
GERES LR LR 20 45 03.5
comp=Z,111nm,18.7s,baz=360,slow=38
KHC Kasperske Hory 61.45 345 *e*P **P 20 16 40.0 -1.5**
KHC Kasperske Hory 61.45 345 *e*P **P 20 16 42.4 +0.8**
35nm,2.2s
KKAR Karatay Array 62.56 30 *e*P **P 20 16 49.0 -0.1**
KSH Kashi 62.92 36 P P 20 16 55.5 +3.7
KSH pP pP 20 17 00.1 +5.1
KSH sP sP 20 17 02.1 +5.9
KSH PP **PP 20 19 15.1 +4.7**
KSH S **S 20 25 21.0 -0.9**
KSH sS sS 20 25 29.2 +2.0
KSH ScS **SKSac 20 26 42.1 -2.8**
KSH pmax pmax
comp=Z,170nm,5.1s
KSH LR LR
comp=N,120nm,5.0s
KSH LR LR
comp=E,130nm,5.9s
KSH LR LR
comp=Z,110nm,6.6s
TKM2 Tokmak 2 65.02 33 *e*P **P 20 17 05.8 +0.1**
comp=Z,3.6nm,1.0s
SNAA Sanae 65.59 192 LR LR 20 43 30.5
comp=Z,33nm,19.0s,baz=28,slow=34
ARU Arti 69.28 14 *e*P **P 20 17 32.3 +0.2**
comp=Z,6.3nm,1.0s
CM31 Chiang Mai Arr 70.25 66 P **P 20 17 38.0 -0.9**
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 70.25 66 P **P 20 17 38.7 -0.2**
CMAR Chiang Mai Arr 70.25 66 P **P 20 17 38.7 -0.2**
comp=Z,2.6nm,0.9s,baz=258,slow=7.9,SNR=17
CMAR LR LR 20 45 36.5
comp=Z,78nm,18.9s,baz=159,slow=34
CM01 Chiang Mai Arr 70.26 66 *e*P **P 20 17 38.4 -0.5**
CHTO Chiang Mai 70.37 66 *e*P **P 20 17 39.0 -0.6**
comp=Z,0.8nm,0.8s
MK01 Makanchi Array 71.14 33 *e*P **P 20 17 43.4 -0.4**
MK31 Makanchi Array 71.15 33 *e*P **P 20 17 43.3 -0.5**
MKAR Makanchi Array 71.15 33 *e*P **P 20 17 43.8 -0.1**
MKAR Makanchi Array 71.15 33 P **P 20 17 43.8 -0.1**
comp=Z,3.5nm,0.8s,baz=230,slow=5.4,SNR=22
MKAR LR LR 20 50 50.4
comp=Z,111nm,18.6s,baz=68,slow=38
FINES FINESS Array B 71.42 356 P **P 20 17 45.8 +0.6**
FINES FINESS Array B 71.42 356 P **P 20 17 45.8 +0.6**
comp=Z,2.8nm,0.9s,baz=226,slow=5.0,SNR=5.1
KURK Kurchatov 71.88 28 *e*P **P 20 17 46.9 -1.2**
comp=Z,2.9nm,0.9s
WMQ Urumqi 72.49 38 P **P 20 17 54.0 +2.0**
WMQ sP **sP 20 18 01.0 +4.5**
WMQ PP **PP 20 20 37.0 +3.6**
WMQ S **S 20 27 17.0 +0.6**
WMQ SS **SS 20 31 56.0 +0.5**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,46nm,5.0s
WMQ LR LR
comp=Z,60nm,18.0s
WMQ LR LR
comp=Z,52nm,17.0s
WMQ LR LR
comp=Z,72nm,17.0s
NB2 NORSAR Subarra 72.97 349 P **P 20 17 54.8 +0.4**
comp=Z,4.2nm,1.0s,baz=159,slow=5.6
NOA NORSAR Array B 72.97 349 P **P 20 17 55.1 +0.7**
NOA NORSAR Array B 72.97 349 P **P 20 17 55.1 +0.7**
comp=Z,2.7nm,0.9s,baz=159,slow=5.2,SNR=6.2
NOA LR LR 20 55 55.9
comp=Z,57nm,19.6s,baz=225,slow=41
NBO02 NORSAR Array S 73.05 349 *e*P **P 20 17 54.7 -0.1**
KMI Kunming 75.69 61 P **P 20 18 11.6 +0.3**
KMI pmax pmax
comp=Z,7.0nm,0.8s
ZAA0 Zalesovo Array 76.87 28 *e*P **P 20 18 16.1 -1.0**
ZALV Zalesovo Beam 76.87 28 P **P 20 18 15.8 -1.3**
ZALV Zalesovo Beam 76.87 28 P **P 20 18 15.8 -1.3**
comp=Z,0.7nm,0.5s,baz=242,slow=6.2,SNR=6.1
ZALV LR LR 20 54 53.0
comp=Z,132nm,19.4s,baz=259,slow=38
CD2 Chengdu 78.39 56 *e*P **P 20 18 26.2 0.0**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
GTA Gaotai 78.42 46 *e*P **P 20 18 26.9 +0.6**
GTA pP **pP 20 18 31.7 +2.1**
GTA sP **sP 20 18 33.8 +3.0**
GTA pmax pmax
comp=Z,3.0nm,0.8s
GYA Guiyang 79.46 61 *e*P **P 20 18 32.0 -0.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
BDFB Brasilia 79.49 256 P **P 20 18 34.7 +2.1**
BDFB Brasilia 79.49 256 P **P 20 18 34.7 +2.1**
comp=Z,1.6nm,0.4s,baz=141,slow=6.3,SNR=4.2
BDFB LR LR 20 51 07.5
comp=Z,131nm,18.6s,baz=151,slow=34
QIZ Qiongzhong 80.34 69 P **P 20 18 35.3 -1.7**
QIZ S **S 20 28 40.6 -2.7**
QIZ pmax pmax
comp=Z,7.0nm,1.0s
QIZ LR LR
comp=Z,350nm,16.7s
QIZ LR LR
comp=Z,110nm,17.1s
QIZ LR LR
comp=Z,310nm,10.5s
SONM Songino Array 85.94 40 P **P 20 19 06.6 +1.0**
SONM Songino Array 85.94 40 P **P 20 19 06.6 +1.0**
comp=Z,1.6nm,0.8s,baz=262,slow=3.4,SNR=8.1
SONA1 Songino Array 85.95 40 *e*P **P 20 19 06.3 +0.7**
CPUP Villa Florida 86.58 244 LR LR 20 55 15.0
comp=Z,158nm,18.4s,baz=257,slow=34
HHC Hu-ho-hao-te 87.39 48 *e*P **P 20 19 10.5 -2.3**
HHC sP **sP 20 19 16.2 -1.1**
HHC PP **PP 20 22 36.4 -1.0**
HHC SKS SKSac 20 29 33.7 -7.2
HHC S **SKKSac 20 29 47.1 -3.0**
HHC SS **SS 20 35 35.6 -3.3**
HHC pmax pmax
comp=Z,33nm,1.1s
HHC pmax pmax
comp=Z,110nm,7.7s
HHC LR LR
comp=Z,190nm,17.2s
HHC LR LR
comp=Z,220nm,17.4s
HHC LR LR
comp=Z,180nm,17.8s
VNDA Vanda 87.98 170 P **P 20 19 14.8 0.0**
VNDA Vanda 87.98 170 LR LR 20 54 12.5
comp=Z,96nm,18.4s,baz=74,slow=33
PLCA Paso Flores 94.18 228 LR LR 20 57 06.9
comp=Z,149nm,19.7s,baz=97,slow=32
ASAR Alice Springs 95.23 115 P **P 20 19 49.1 -0.5**
ASAR Alice Springs 95.23 115 P **P 20 19 49.1 -0.5**
comp=Z,1.4nm,0.8s,baz=261,slow=4.6,SNR=24
AS01 Alice Springs 95.27 115 *e*P **P 20 19 48.9 -0.9**
WRA Warramunga Arr 96.46 111 P **P 20 19 54.1 -1.1**
WRA Warramunga Arr 96.46 111 P **P 20 19 54.1 -1.1**
comp=Z,1.0nm,0.8s,baz=256,slow=2.9,SNR=6.7
WRAB Tennant Creek 96.47 111 P **P 20 19 54.6 -0.7**
comp=Z,4.8nm,1.1s
CN2 Changchun 98.05 47 *e*P **P 20 20 01.5 -0.3**
LPAZ La Paz 98.42 252 LR LR 21 02 51.6
comp=Z,160nm,18.8s,baz=242,slow=34
YKA Yellowknife Ar 122.78 343 PKP **PKPdf 20 25 20.9 0.0**
YKA Yellowknife Ar 122.78 343 PKP **PKPdf 20 25 20.9 0.0**
comp=Z,0.7nm,0.8s,baz=39,slow=2.4,SNR=3.7
ILAR Eielson Array 125.27 0 PKP **PKPdf 20 25 25.1 -0.5**
ILAR Eielson Array 125.27 0 PKP **PKPdf 20 25 25.1 -0.5**
comp=Z,1.0nm,0.9s,baz=332,slow=3.4,SNR=10
PHWY Pilot Hill 132.42 318 *e*PKPpre PKPpre 20 25 31.4
PDAR Pinedale Array 134.24 322 PKP **PKPdf 20 25 44.0 +0.4**
PDAR Pinedale Array 134.24 322 PKP **PKPdf 20 25 44.0 +0.4**
comp=Z,0.7nm,0.8s,baz=45,slow=0.4,SNR=5.1
TXAR Lajitas Array 135.79 302 PKP **PKPdf 20 25 48.4 +1.6**
TXAR Lajitas Array 135.79 302 PKP **PKPdf 20 25 48.4 +1.6**
comp=Z,0.7nm,0.8s,baz=85,slow=1.5,SNR=5.4
MNTX Cornudas Mount 136.43 306 *e*PKPdf **PKPdf 20 25 49.2 +1.5**
NV01 Mina Array Sit 142.15 323 *e*PKPdf **PKPdf 20 25 55.7 -2.5**
NVAR Mina Array Bea 142.15 323 PKPpre PKPpre 20 25 55.2
NVAR PKP **PKPdf 20 25 58.5 +0.2**
NVAR Mina Array Bea 142.15 323 PKhKP PKPpre 20 25 55.2
comp=Z,0.7nm,0.8s,baz=64,slow=6.1,SNR=4.1
NVAR PKP **PKPdf 20 25 58.5 +0.2**
comp=Z,2.1nm,0.8s,baz=14,slow=2.8,SNR=12

NIED ***11*** *20:46:00, 23˚.50N×120˚.70E, h29km, Mw4.2 Best double couple: M₀2.64000×10¹⁵ NP1:φs260.00000°, δ83.00000°, λ-133.00000°. NP2:φs163.00000°, δ44.00000°, λ-11.00000°.*
IDC ***11*** *20:46:43.2±0.6, 23˚.43N×120˚.89E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.9/28, mbtmp3.9/14, MS3.8/7, Ms1 3.8/7, ms1mx3.3/43, Error ellipse: s-maj=30.4km s-min=12.6km az=68.0*
BJI ***11*** *20:46:43.0, 23˚.53N×120˚.72E, h5km, mB4.5/8, mb4.1/11, ML4.0/6, Ms4.3/8, Ms7 4.1/8*
JMA ***11*** *20:46:45.0, 23˚.53N×120˚.71E, h0km, M4.4*
TAP ***11*** *20:46:45.6, 23˚.51N×120˚.72E, h11km, ML4.6, B*
ISCJB ***11*** *20:46:46.7±0.2, 23˚.52N±0˚.01×120˚.71E±0˚.01, h11km±1km, mb3.8/14, MS3.8/8, Error ellipse: s-maj=2.2km s-min=1.6km az=18.7*
ISC 11 20:46:45.7±0.8, 23˚.53N±0˚.01×120˚.68E±0˚.02, h14km±5km, n108, σ1°21/161, mb3.9/14, MS3.8/8, 23C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling**	**0.07**	**1**	⇓*i*P	**Pg**	**20 46 48.4**	**-0.2**
	baz=337						
ALS	**Alishan**	**0.12**	**99**	⇑*i*P	**Pg**	**20 46 49.0**	**-0.4**
	baz=94						
ALS				*e*S	**Sg**	**20 46 52.0**	**+0.2**
	baz=94						
CHN2	**Minshiung**	**0.18**	**271**	⇑P	**Pb**	**20 46 51.4**	**+0.5**
	baz=274						
WGK	**Gukeng**	**0.19**	**326**	⇑*i*P	**Pb**	**20 46 51.4**	**+0.4**
	baz=322						
WGK				*e*S	**Sb**	**20 46 55.5**	**+1.0**
	baz=322						
CHN4	**Tsaushan**	**0.19**	**203**	⇓P	**Pg**	**20 46 50.6**	**+0.5**
	baz=207						
CHY	**Chiayi**	**0.23**	**262**	⇑*i*P	**Pb**	**20 46 52.2**	**+0.5**
	baz=265						
CHY				*i* S	**Sb**	**20 46 57.1**	**+1.3**
	baz=265						
YUS	**Yu-Shan**	**0.26**	**99**	⇑*i*P	**Pg**	**20 46 51.5**	**+0.1**
	baz=97						
WTP	**Ta-pu**	**0.29**	**191**	⇓*i*P	**Pg**	**20 46 52.1**	**+0.4**
	baz=192						
TWK	**Hsinying**	**0.31**	**213**	⇓*i*P	**Pg**	**20 46 53.0**	**+0.8**
	baz=218						
TWK				S	**Sb**	**20 46 58.4**	**+0.3**
	baz=218						
WNT	**Mingjian**	**0.35**	**1**	⇑*i*P	**Pb**	**20 46 54.1**	**+0.4**
	baz=357						
WNT				*e*S	**Sb**	**20 47 00.1**	**+1.0**
	baz=357						
CHN1	**Nanshi**	**0.37**	**202**	⇓*i*P	**Pg**	**20 46 53.8**	**+0.6**
	baz=207						
CHN1				*e*S	**Sb**	**20 47 00.1**	**+0.4**
	baz=207						
STYT	**Tauyuan**	**0.37**	**168**	⇑*i*P	**Pg**	**20 46 53.3**	**+0.1**
	baz=164						
STYT				*e*S	**Sg**	**20 46 58.9**	**+0.5**
	baz=164						
SMLT	**Sun Moon Lake**	**0.41**	**30**	⇓*i*P	**Pb**	**20 46 54.9**	**+0.1**
	baz=33						
SMLT				S	**Sb**	**20 47 02.5**	**+1.6**
	baz=33						
TYC	**Yuchr**	**0.41**	**24**	⇑*i*P	**Pb**	**20 46 55.0**	**+0.2**
	baz=31						
WSF	**Szhu**	**0.43**	**285**	⇑*i*P	**Pb**	**20 46 55.6**	**+0.5**
	baz=285						
WSF				S	**Sb**	**20 47 03.5**	**+2.1**
	baz=285						
SGST	**Jiashian**	**0.45**	**191**	⇓*i*P	**Pg**	**20 46 55.3**	**+0.6**
	baz=194						
SGST				S	**Sb**	**20 47 02.6**	**+0.5**
	baz=194						
ELDTW	**Lidau**	**0.46**	**137**	⇑*i*P	**Pg**	**20 46 54.9**	**0.0**
	baz=133						
ELDTW				S	**Sg**	**20 47 00.6**	**-0.5**
	baz=133						
CHN8	**Yiju**	**0.47**	**247**	*e*P	**Pb**	**20 46 56.3**	**+0.6**
	baz=249						
CHN8				*e*S	**Sb**	**20 47 04.1**	**+1.6**
	baz=249						
WTCT	**Ta-ch'eng**	**0.49**	**313**	P	**Pb**	**20 46 56.5**	**+0.3**
	baz=312						
WTCT				S	**Sb**	**20 47 05.0**	**+1.7**
	baz=312						
CHN3	**Shinhua**	**0.53**	**212**	⇓*i*P	**Pb**	**20 46 57.9**	**+1.0**
	baz=215						
CHN3				S	**Sn**	**20 47 07.5**	**-0.2**
	baz=215						
SCLT	**Jiali**	**0.57**	**232**	*e*P	**Pb**	**20 46 58.2**	**+0.8**
	baz=234						
SCLT				*e*S	**Sn**	**20 47 08.3**	**-0.2**
	baz=234						
EHY	**Hungye**	**0.59**	**92**	⇑*i*P	**Pg**	**20 46 57.4**	**+0.1**
	baz=94						
EHY				S	**Sg**	**20 47 05.0**	**-0.2**
	baz=94						
TWF1	**Yuli**	**0.60**	**107**	⇑*i*P	**Pg**	**20 46 57.5**	**+0.1**
	baz=112						
TWF1				*e*S	**Sb**	**20 47 06.2**	**-0.1**
	baz=112						
TCU	**Taichung**	**0.61**	**360**	⇑*i*P	**Pb**	**20 46 59.0**	**+0.7**
	baz=357						
TCU				*e*S	**Sb**	**20 47 07.4**	**+0.6**
	baz=357						
TAI1	**Yung-k'ang**	**0.64**	**220**	⇓*i*P	**Pn**	**20 46 59.9**	**-0.4**
	baz=234						
TAI1				*e*S	**Sn**	**20 47 10.4**	**+0.1**
	baz=234						
ESL	**Shilin**	**0.75**	**68**	⇓*i*P	**Pg**	**20 47 00.5**	**+0.2**
	baz=67						
ESL				*e*S	**Sg**	**20 47 09.7**	**-0.5**
	baz=67						
CHKT	**Chengkung**	**0.77**	**124**	⇑*i*P	**Pb**	**20 47 01.4**	**+0.6**
	baz=131						
CHKT				*e*S	**Sb**	**20 47 12.2**	**+1.1**
	baz=131						
SSD	**Sandimen**	**0.78**	**183**	⇓*i*P	**Pg**	**20 47 01.2**	**+0.3**
	baz=185						
SSD				*e*S	**Sb**	**20 47 12.5**	**+1.0**
	baz=185						
TWG	**Pinlang**	**0.79**	**153**	⇑*i*P	**Pg**	**20 47 01.0**	**-0.1**
	baz=146						
TWG				S	**Sg**	**20 47 11.8**	**+0.3**
	baz=146						
TEGC	**Jichi Village**	**0.81**	**77**	*e*P	**Pn**	**20 47 03.2**	**+0.4**
	baz=71						
TEGC				*e*S	**Sb**	**20 47 13.4**	**+0.9**
	baz=71						
WHF	**Hehuan Shan**	**0.82**	**41**	⇓P	**Pg**	**20 47 02.1**	**+0.4**
	baz=39						
WHF				S	**Sb**	**20 47 13.7**	**+0.7**
	baz=39						
SGLT	**Jiouru**	**0.82**	**192**	⇓P	**Pn**	**20 47 03.3**	**+0.5**
	baz=194						
TWQ1	**Liyutan**	**0.82**	**6**	⇑*i*P	**Pb**	**20 47 02.5**	**+0.8**
	baz=4.0						
TWQ1				S	**Sn**	**20 47 14.6**	**-0.3**
	baz=4.0						
ESF	**Shoufeng Towns**	**0.83**	**66**	*e*P	**Pb**	**20 47 02.1**	**+0.1**
	baz=64						
ESF				*e*S	**Sg**	**20 47 12.4**	**-0.4**
	baz=64						
TWT	**Tachien**	**0.85**	**32**	⇑P	**Pg**	**20 47 02.2**	**-0.1**
	baz=29						
TWT				S	**Sg**	**20 47 13.6**	**0.0**
	baz=29						
TTN	**Taitung**	**0.89**	**151**	*e*P	**Pg**	**20 47 03.4**	**+0.5**
	baz=152						
TTN				*e*S	**Sb**	**20 47 15.4**	**+0.8**
	baz=152						
NSY	**Sanyi**	**0.89**	**5**	⇑*i*P	**Pn**	**20 47 03.9**	**+0.1**
	baz=3.0						
NSY				S	**Sn**	**20 47 17.0**	**+0.5**
	baz=3.0						
HWA	**Hwalien**	**0.96**	**62**	*i* P	**Pg**	**20 47 04.6**	**+0.4**
	baz=62						
HWA				S	**Sg**	**20 47 17.2**	**+0.4**
	baz=62						
ECL	**Taimali**	**0.96**	**165**	⇓P	**Pb**	**20 47 04.2**	**0.0**
	baz=155						
ECL				*e*S	**Sg**	**20 47 17.2**	**+0.3**
	baz=155						
WDGT	**Dungji**	**0.97**	**254**	P	**Pb**	**20 47 04.2**	**-0.1**
	baz=254						
WDGT				S	**Sb**	**20 47 17.5**	**+0.5**
	baz=254						
TWD	**Chiawan**	**1.00**	**57**	⇑*i*P	**Pb**	**20 47 05.0**	**+0.1**
	baz=56						
TWD				S	**Sg**	**20 47 18.4**	**+0.2**
	baz=56						
NNS	**Nan Shan**	**1.11**	**35**	⇑*i*P	**Pb**	**20 47 06.7**	**-0.1**
	baz=43						
NNS				*e*S	**Sn**	**20 47 22.9**	**+0.8**
	baz=43						
NSTT	**Nanjuang**	**1.14**	**15**	⇑*i*P	**Pn**	**20 47 07.5**	**+0.3**
	baz=2.0						
NSTT				S	**Sg**	**20 47 22.7**	**+0.2**
	baz=2.0						
SCZT	**Fangliau**	**1.15**	**183**	⇓P	**Pb**	**20 47 07.8**	**+0.4**
	baz=183						
SCZT				*e*S	**Sg**	**20 47 24.0**	**+1.1**
	baz=183						
TAW	**Tawu**	**1.18**	**170**	⇓P	**Pb**	**20 47 08.4**	**+0.5**
	baz=162						
TAW				S	**Sg**	**20 47 24.8**	**+0.8**
	baz=162						
TWP	**Hsiaoliuchiu**	**1.21**	**194**	*e*P	**Pg**	**20 47 09.2**	**+0.2**
	baz=216						
HSN	**Hsinchu**	**1.29**	**12**	*e*P	**Pg**	**20 47 11.7**	**+1.1**
	baz=11						
HSN				*e*S	**Sg**	**20 47 28.7**	**+1.2**
	baz=11						
NSK	**Sanguang**	**1.30**	**28**	⇑P	**Pb**	**20 47 10.1**	**+0.1**
	baz=16						
NSK				*e*S	**Sn**	**20 47 27.2**	**+0.4**
	baz=16						
ENA	**Nanau**	**1.32**	**47**	⇑*i*P	**Pb**	**20 47 10.3**	**-0.1**
	baz=46						
ENA				S	**Sn**	**20 47 27.7**	**+0.4**
	baz=46						
ENTT	**Nioudou**	**1.37**	**36**	⇓*i*P	**Pb**	**20 47 11.5**	**+0.3**
	baz=25						
ENTT				S	**Sg**	**20 47 30.2**	**+0.2**
	baz=25						
NCU	**National Centr**	**1.51**	**18**	*e*P	**Pg**	**20 47 15.5**	**+0.8**
	baz=360						
HEN	**Hengchun**	**1.52**	**178**	⇓*e*P	**Pn**	**20 47 13.1**	**+0.6**
	baz=179						
HEN				*e*S	**Sg**	**20 47 35.2**	**+0.6**
	baz=179						
TWC	**Suao**	**1.52**	**45**	P	**Pb**	**20 47 13.7**	**0.0**
	baz=44						
TWC				S	**Sb**	**20 47 33.4**	**+0.6**
	baz=44						
ILA	**Ilan**	**1.57**	**38**	*e*P	**Pb**	**20 47 14.9**	**+0.3**
	baz=37						
ILA				*e*S	**Sg**	**20 47 36.0**	**-0.4**
	baz=37						
TWK1	**Hengchun**	**1.58**	**176**	*e*P	**Pn**	**20 47 13.7**	**+0.3**
	baz=177						
TWK1				*e*S	**Sg**	**20 47 36.3**	**-0.4**
	baz=177						
TSEB	**Hengchuen, Pin**	**1.64**	**173**	P	**Pn**	**20 47 14.9**	**+0.8**
	baz=191						
TAP	**Taipei**	**1.68**	**27**	*e*P	**Pn**	**20 47 15.6**	**+0.9**
	baz=24						
TAP				*e*S	**Sb**	**20 47 37.8**	**+0.2**
	baz=24						
LAY	**Lan-yu**	**1.69**	**151**	*e*P	**Pn**	**20 47 14.9**	**0.0**
	baz=152						
LAY				*e*S	**Sn**	**20 47 36.6**	**+0.3**
	baz=152						
TAP1	**Taipei**	**1.69**	**27**	*e*P	**Pn**	**20 47 15.7**	**+0.9**
	baz=24						
TAP1				*e*S	**Sg**	**20 47 39.1**	**-1.0**
	baz=24						
TWS1	**Kuangyinshan**	**1.70**	**23**	*e*P	**Pb**	**20 47 16.2**	**-0.6**
	baz=8.0						
TWS1				*e*S	**Sb**	**20 47 38.6**	**+0.5**
	baz=8.0						
EGS		**1.74**	**41**	P	**Pb**	**20 47 17.9**	**+0.5**
	baz=40						
EGS				*e*S	**Sg**	**20 47 41.4**	**-0.4**
	baz=40						
TWB1	**Santiao Chiao**	**1.90**	**39**	*e*P	**Pb**	**20 47 19.5**	**-0.6**
	baz=16						
TWB1				*e*S	**Sb**	**20 47 45.2**	**+1.5**
	baz=16						
TWY	**Chenhua**	**1.93**	**26**	*e*P	**Pb**	**20 47 20.0**	**-0.7**
	baz=7.0						
KNM	**Kinmen**	**2.23**	**294**	*e*P	**Pn**	**20 47 23.5**	**+1.2**
	baz=293						
YOJ	**Yonaguni jima**	**2.33**	**66**	P	**Pn**	**20 47 24.7**	**+1.1**
QZH	**Quanzhou**	**2.37**	**307**	⇓*i*Pn	Pn	20 47 19.6	-4.5
QZH				Sn	**Sn**	**20 47 48.9**	**-4.1**
QZH				smax	smax		
	comp=N,1μm,0.9s						
QZH				smax	smax		
	comp=E,1μm,1.0s						
PCYT	**Pengchaiyu**	**2.45**	**31**	*e*P	**Pn**	**20 47 26.2**	**+1.0**
	baz=12						
PCYT				*e*S	**Sn**	**20 47 56.7**	**+1.7**
	baz=12						
IRIF	**Iriomote-Funau**	**2.91**	**73**	P	**Pn**	**20 47 33.2**	**+1.6**
IRIF				*e*S	**Sn**	**20 48 09.1**	**+2.8**
HATJ	**Hateruma jima**	**2.91**	**79**	P	**Pn**	**20 47 33.5**	**+1.8**
HATJ				*e*S	**Sn**	**20 48 08.8**	**+2.3**
JKRS	**Kuro-shima**	**3.13**	**76**	P	**Pn**	**20 47 36.3**	**+1.6**
JKRS				*e*S	**Sn**	**20 48 14.5**	**+2.6**
JIJ	**Ishigaki jima**	**3.28**	**75**	P	**Pn**	**20 47 37.2**	**+0.5**
JIJ				*e*S	**Sn**	**20 48 16.5**	**+1.0**
JTJ	**Tarama**	**3.84**	**72**	P	**Pn**	**20 47 46.0**	**+1.6**
JTJ				*e*S	**Sn**	**20 48 31.6**	**+2.2**
JMJ	**Miyako jima 2**	**4.41**	**72**	*e*S	**Sn**	**20 48 46.5**	**+3.1**
JOGS	**Gusukube**	**4.49**	**73**	P	**Pn**	**20 47 56.2**	**+2.8**
JOGS				*e*S	**Sn**	**20 48 48.4**	**+2.9**
JKE	**Kume jima 2**	**6.21**	**62**	P	**Pn**	**20 48 18.4**	**+1.5**
JKE				*e*S	**Sn**	**20 49 31.3**	**+3.6**
JAGN	**Aguni-jima**	**6.69**	**62**	*e*S	**Sn**	**20 49 37.5**	**-2.1**
JIH	**Iheya**	**7.46**	**61**	P	**Pn**	**20 48 34.3**	**+0.1**
JOW	**Kunigami**	**7.63**	**63**	P	**Pn**	**20 48 36.8**	**+0.3**
JTK	**Tokunoshima**	**8.58**	**59**	P	**Pn**	**20 48 49.4**	**-0.2**
JTK				*e*S	**Sn**	**20 50 24.5**	**-1.8**
NJ2	**Nanjing**	**8.64**	**350**	*e*P	Pn	20 48 53.7	+3.3
NJ2				S	Sn	20 50 35.7	+8.0
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,80nm,7.5s						
NJ2				smax	smax		
	comp=N,120nm,0.8s						
NJ2				smax	smax		
	comp=E,80nm,0.8s						
NJ2				LR	LR		
	comp=N,1μm,9.6s						
NJ2				LR	LR		
	comp=E,750nm,9.9s						
NJ2				LR	LR		
	comp=Z,1μm,12.0s						
JAMN	**Amaminishikomi**	**8.98**	**57**	P	**Pn**	**20 48 54.7**	**-0.3**
JAM	**Amami Oshima**	**9.39**	**57**	P	**Pn**	**20 49 00.1**	**-0.5**
GYA	**Guiyang**	**13.04**	**286**	*e*P	**Pn**	**20 49 49.9**	**-0.8**
GYA				S	**Sn**	**20 52 10.9**	**-4.8**
GYA				LR	LR		
	comp=N,570nm,8.7s						
GYA				LR	LR		
	comp=E,450nm,9.6s						
GYA				LR	LR		
	comp=Z,490nm,9.5s						
KSRS	**Korea Array**	**15.21**	**22**	Pn	**P**	**20 50 23.6**	**-1.5**
	0.2nm,0.3s,baz=205,slow=12,SNR=4.5						
LZH	**Lanzhou**	**19.20**	**314**	⇓P	**Pn**	**20 51 13.5**	**+3.2**
LZH				S	**S**	**20 54 50.0**	**+3.2**
LZH				pmax	pmax		
	comp=Z,54nm,1.6s						
LZH				pmax	pmax		
	comp=Z,170nm,4.4s						
LZH				LR	LR		
	comp=N,300nm,13.8s						
LZH				LR	LR		
	comp=E,440nm,9.7s						
LZH				LR	LR		

comp=Z,580nm,11.2s
CMAR Chiang Mai Arr 20.90 260 P Pn 20 51 30.6 +0.2
0.9nm,0.7s,baz=58,slow=8.7,SNR=7.4
USRK Ussuriysk Arra 22.61 22 P **P** **20 51 46.5 +0.4**
1.5nm,0.7s,baz=191,slow=5.2,SNR=4.2
GTA Gaotai 23.73 317 *e*P P 20 52 06.3 +8.7
GTA pP pP 20 52 12.1 +10
GTA sP sP 20 52 14.9 +11
GTA S Sn 20 56 29.4 -4.8
GTA sS sS 20 56 38.8 +19
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=N,250nm,10.9s
GTA LR LR
comp=E,260nm,13.8s
GTA LR LR
comp=Z,310nm,13.3s
SONM Songino Array 26.80 338 P **P** **20 52 26.2 +0.7**
comp=Z,2.3nm,0.9s,baz=159,slow=10,SNR=14
SONM LR LR 21 04 19.5
comp=Z,282nm,18.6s,baz=225,slow=39
PSI Prapat 29.45 229 LR LR 21 05 38.6
comp=Z,78nm,18.4s,baz=50,slow=38
MKAR Makanchi Array 38.49 317 P **P** **20 54 08.5 +1.1**
comp=Z,1.4nm,0.7s,baz=106,slow=8.9,SNR=14
ZALV Zalesovo Beam 40.54 328 P **P** **20 54 24.8 +0.4**
comp=Z,2.4nm,0.6s,baz=111,slow=8.1,SNR=16
FITZ Fitzroy Crossi 41.66 173 P **P** **20 54 31.6 -2.3**
comp=Z,1.8nm,0.8s,baz=349,slow=6.5,SNR=6.6
PMG Port Moresby 41.74 139 LR LR 21 11 00.7
comp=Z,114nm,21.2s,baz=242,slow=35
KURBB Kurchatov Arra 42.31 321 P **P** **20 54 39.6 +0.6**
comp=Z,0.9nm,0.9s,baz=144,slow=7.2,SNR=8.8
H11N1 WAKE ISLAND Hy 42.99 86 T T 21 40 00.8
baz=286,slow=75,SNR=14
H11N2 WAKE ISLAND Hy 42.99 86 T T 21 40 01.2
baz=286,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 43.01 86 T T 21 40 02.3
baz=286,slow=75,SNR=18
H11S3 WAKE ISLAND Hy 43.10 88 T T 21 40 12.1
baz=286,slow=72,SNR=18
H11S1 WAKE ISLAND Hy 43.11 88 T T 21 40 12.5
baz=286,slow=72,SNR=11
H11S2 WAKE ISLAND Hy 43.12 88 T T 21 40 11.7
baz=286,slow=72,SNR=8.2
WRA Warramunga Arr 45.22 162 P **P** **20 54 59.9 -2.8**
comp=Z,1.9nm,0.6s,baz=344,slow=8.7,SNR=15
ASAR Alice Springs 48.64 164 P **P** **20 55 27.8 -1.7**
comp=Z,1.4nm,0.8s,baz=346,slow=8.5,SNR=18
ASAR PcP **PcP** **20 56 54.3 -0.5**
comp=Z,0.5nm,0.6s,baz=338,slow=3.3,SNR=4.7
ASAR LR LR 21 16 22.1
comp=Z,55nm,20.1s,baz=351,slow=37
CTA Charters Tower 50.02 148 P **P** **20 55 38.8 -1.1**
comp=Z,3.3nm,0.9s,baz=319,slow=10,SNR=4.2
STKA Stephens Creek 58.62 159 P **P** **20 56 41.1 -1.2**
comp=Z,2.1nm,0.5s,baz=338,slow=7.2,SNR=14
STKA LR LR 21 22 06.3
comp=Z,56nm,19.6s,baz=204,slow=36
FINES FINESS Array B 71.77 330 P **P** **20 58 07.8 +0.4**
comp=Z,1.1nm,0.8s,baz=143,slow=9.7,SNR=3.1
FINES LR LR 21 33 28.5
comp=Z,174nm,18.0s,baz=324,slow=39
NOA NORSAR Array B 78.58 332 P **P** **20 58 49.2 +2.4**
comp=Z,0.4nm,0.6s,baz=57,slow=5.8,SNR=3.1
NOA LR LR 21 36 38.4
comp=Z,66nm,19.9s,baz=305,slow=38
YKA Yellowknife Ar 83.75 23 P **P** **20 59 13.8 -0.3**
comp=Z,0.3nm,0.5s,baz=311,slow=5.6,SNR=4.3

IDC ***11*** *20:51:56.1±1.3,0.˚49S×135.˚05E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.5/22,mbtmp3.4/6,ML3.6/2,Error ellipse: s-maj=45.9km s-min=21.9km az=85.0*
ISCJB ***11*** *20:51:59.5±1.2,0.˚6S±0.˚1×134.˚9E±0.˚3,h34km,mb3.4/4, Error ellipse: s-maj=41.0km s-min=17.3km az=174.8*
ISC 11 20:52:00.6±1.4,**0.˚5S**±0.˚2×**134.˚9E**±0.˚3,**h34**km,**n6**,σ1§**16**/5, **mb3.4**/4,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.31**	**182**	P		**P**	**20 56 22.9**	**0.0**
0.2nm,0.3s,baz=359,slow=13,SNR=3.8								
FITZ	**Fitzroy Crossi**	**19.70**	**207**	P		**Pn**	**20 56 27.8**	**-0.9**
0.1nm,0.3s,baz=32,slow=12,SNR=3.7								
ASAR	**Alice Springs**	**23.03**	**182**	P		**P**	**20 57 04.2**	**+1.2**
0.4nm,0.6s,baz=1.9,slow=12,SNR=5.5								
CMAR	**Chiang Mai Arr**	**40.05**	**300**	P		**P**	**20 59 33.3**	**+0.3**
0.5nm,0.8s,baz=97,slow=5.7,SNR=3.2								
MKAR	**Makanchi Array**	**65.75**	**323**	P		P	21 02 44.7	+2.5
0.4nm,0.5s,baz=111,slow=8.0,SNR=6.3								
ILAR	**Eielson Array**	**85.45**	**25**	P		**P**	**21 04 34.2**	**-0.3**
0.1nm,0.4s,baz=249,slow=5.4,SNR=3.8								

MEX 11 20:53:55.3±1.0,**19.˚08N**×**105.˚25W**,**h10**km±25km,**MD3.7, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.46**	**25**	*e*P		Pg	20 54 03.6	-0.8
CJM				*e*S		Sg	20 54 10.8	+0.4
R15V		**1.20**	**86**	*e*P		Pb	20 54 13.8	-4.4
R15V				*i* S		Sb	20 54 29.0	-5.0
EZ5V		**1.61**	**76**	*e*P		Pn	20 54 21.2	-2.9
EZ5V				*i* S		Sn	20 54 40.4	-4.8
MMIG	**Aquila**	**1.97**	**113**	*e*P		Pn	20 54 25.8	-3.0
MMIG				*i* S		Sn	20 54 49.3	-4.3
ANIG	**Ahuacatlan**	**2.08**	**19**	*i* P		Pn	20 54 27.1	-3.3
ANIG				*i* S		Sn	20 54 51.5	-4.9
SFJM	**Santa Fe**	**2.51**	**56**	*i* P		Pg	20 54 42.4	-1.3
SFJM				*i* S		Sb	20 55 12.1	+0.2

BJI ***11*** *21:00:09.0,5.˚65S×131.˚68E,h86km,mB4.9/15,mb4.7/23, Ms4.6/8,Ms7 4.2/7*
ISCJB ***11*** *21:00:09.3±0.2,5.˚07S±0.˚03×131.˚57E±0.˚05,h47km, mb4.6/39,MS3.5/3,Error ellipse: s-maj=7.3km s-min=3.5km az=152.4*
NEIC ***11*** *21:00:10.5±1.2,5.˚18S×131.˚34E,h42km±12km,mb4.6/19, Error ellipse: s-maj=11.9km s-min=7.0km az=56.0*
IDC ***11*** *21:00:13.6±2.9,5.˚08S×131.˚37E,h69km±26km,mb4.1/15, mb1 4.3/17,mb1mx4.2/23,mbtmp4.2/17,MS3.3/3, Ms1 3.3/3,ms1mx3.0/27,Error ellipse: s-maj=22.3km s-min=11.6km az=74.0*
AUST ***11*** *21:00:14.9,5.˚48S×131.˚03E,h60km*
DJA ***11*** *21:00:17.1±0.3,5.˚5S±4.˚3×13.˚1E±.˚,h53km±7km,M5.0/25, mb5.1/25,mB5.4/17,MLv5.5/8,Mw(mB)4.9/17*
ISC 11 21:00:10.8±0.4,**5.˚03S**±0.˚05×**131.˚58E**±0.˚07,**h47**km,**n169,** σ1§**65**/163,**mb4.6**/39,**MS3.3**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.74**	**287**	P		Pn	21 00 42.4	+3.8
FAKI	**Fak Fak**	**2.20**	**18**	P		Pn	21 00 49.8	+4.9
MSAI	**Masohi**	**3.13**	**302**	P		**Pn**	**21 01 00.5**	**+2.9**
SWI	**Sorong**	**4.15**	**356**	P		Pn	21 01 15.1	+3.4
NLAI	**Namlea**	**4.81**	**292**	P		Pn	21 01 25.0	+4.3
SRPI	**Serui, Papua**	**5.61**	**56**	P		Pn	21 01 41.3	+10
167nm,0.5s,20µm6.9nm								
LBMI	**Labuha**	**5.97**	**317**	P		**Pn**	**21 01 39.3**	**+2.7**
531nm,0.9s,7µm4.5nm								
TNTI	**Ternate**	**7.14**	**324**	P		**Pn**	**21 01 55.1**	**+2.4**
87nm,0.6s,2µm								
TNTI	**Ternate**	**7.14**	**324**	*e*Pn		Pn	21 01 56.0	+3.3
TNTI				*e*Sn		**Sn**	**21 03 10.2**	**-2.3**
KDU	**Kakadu**	**7.66**	**173**	P		**Pn**	**21 02 01.2**	**+1.5**
baz=7.4,SNR=436								
MTN	**Manton Dam**	**7.78**	**183**	P		**Pn**	**21 02 03.0**	**+1.6**
baz=7.4,SNR=270								
GENI	**Genyem**	**8.90**	**75**	P		Pn	21 02 23.6	+6.7
92nm,0.7s								
BBSI	**Bau Bau**	**8.98**	**267**	P		Pn	21 02 23.7	+5.7
230nm,1.1s,2µm								
KMSI	**Cibinong**	**9.41**	**306**	P		**Pn**	**21 02 25.5**	**+1.6**
539nm,0.6s,5µm								
LUWI	**Luwuk**	**9.64**	**294**	P		**Pn**	**21 02 28.5**	**+1.4**
110nm,1.2s,9µm								
LUWI	**Luwuk**	**9.64**	**294**	P		**Pn**	**21 02 29.2**	**+2.2**
baz=9.4,SNR=9.7								
MMRI	**Maumere**	**9.94**	**248**	P		Pn	21 02 37.2	+6.1
63nm,1.2s								
MMRI	**Maumere**	**9.94**	**248**	*e*Pn		Pn	21 02 23.9	-7.2
GTOI	**Gorontalo**	**10.24**	**303**	P		Pn	21 02 39.3	+4.0
143nm,0.7s,2µm								
APSI	**Ampana**	**10.73**	**292**	P		**Pn**	**21 02 44.5**	**+2.6**
114nm,1.1s,2µm								
MRSI	**Marisa**	**11.07**	**299**	P		**Pn**	**21 02 48.1**	**+1.5**
124nm,0.9s,1µm								
MRSI				S		Sn	21 04 42.3	-6.8
124nm,0.9s,1µm								
BKSI	**Bulukumba**	**11.41**	**268**	P		Pn	21 02 55.3	+4.0
62nm,0.8s,515nm								
BNSI	**Bone**	**11.45**	**273**	P		Pn	21 02 59.9	+8.1
44nm,0.7s								
KAPI	**Kappang**	**11.78**	**270**	*e*Pn		Pn	21 03 00.1	+3.8
SPSI	**Sidrap Palu**	**11.82**	**275**	P		Pn	21 03 00.6	+3.8
74nm,0.8s,763nm								
FITZ	**Fitzroy Crossi**	**14.23**	**204**	P		Pn	21 03 25.4	-4.3
FITZ				S		Sn	21 05 50.9	-15
FITZ	**Fitzroy Crossi**	**14.23**	**204**	P		Pn	21 03 25.4	-4.3
5.1nm,0.3s,baz=30,slow=11,SNR=106								
FITZ				S		Sn	21 05 50.9	-15
12nm,0.3s,baz=228,slow=21,SNR=7.5								
FITZ				LR		LR	21 09 33.5	
comp=Z,79nm,18.6s,baz=23,slow=40								
COEN Coen		**14.46**	**129**	*e*Pn		**Pn**	**21 03 33.3**	**+0.5**
COEN Coen		**14.46**	**129**	P		**Pn**	**21 03 33.0**	**+0.2**
baz=15,SNR=57								
WRAB Tennant Creek		**15.06**	**170**	*e*Pn		**Pn**	**21 03 37.3**	**-3.3**
WRA Warramunga Arr		**15.06**	**170**	P		**Pn**	**21 03 37.1**	**-3.6**
WRA				S		Sn	21 06 14.2	-12
WRA Warramunga Arr		**15.06**	**170**	P		**Pn**	**21 03 37.1**	**-3.6**
2.5nm,0.3s,baz=348,slow=13,SNR=69								
WRA				S		Sn	21 06 14.2	-12
11nm,0.3s,baz=358,slow=22,SNR=20								
MTNI Mataram		**15.71**	**256**	P		**P**	**21 03 54.6**	**+2.2**
33nm,0.5s								
PMG Port Moresby		**16.05**	**107**	P		P	21 04 02.6	+6.4
41nm,0.8s								
PMG Port Moresby		**16.05**	**107**	*e*Pn		**Pn**	**21 03 55.0**	**+1.5**
27nm,0.6s								
PMG Port Moresby		**16.05**	**107**	P		**P**	**21 03 57.6**	**+1.4**
2.4nm,0.3s,baz=330,slow=5.1,SNR=7.1								
PMG Port Moresby		**16.05**	**107**	P		**P**	**21 03 58.5**	**+2.3**
baz=16,SNR=4.7								
PMG				P		**P**	**21 03 58.5**	**+2.3**
baz=16,SNR=4.7								
PMG				P		**P**	**21 03 58.5**	**+2.3**
baz=16,SNR=4.7								
TSM Tawau		**16.53**	**304**	P		**P**	**21 04 01.4**	**-0.1**
MYLDM Lahad Datu		**16.54**	**308**	P		**P**	**21 04 03.1**	**+1.5**
MYLDM Lahad Datu		**16.54**	**308**	P		**P**	**21 04 02.9**	**+1.4**
70nm,1.1s,991nm								
MYLDM Lahad Datu		**16.54**	**308**	*e*P		**P**	**21 04 02.5**	**+0.9**
78nm,1.1s								
BBKI Banjar Baru		**16.77**	**275**	P		**P**	**21 04 04.0**	**-0.1**
47nm,1.1s								
QIS Mount Isa		**17.29**	**154**	P		**Pn**	**21 04 08.8**	**-0.2**
baz=17,SNR=26								
KMMI Kalianget		**17.63**	**263**	P		**P**	**21 04 16.0**	**+2.4**
258nm,0.8s,2µm								
SDKM Sandakan		**17.85**	**306**	P		**P**	**21 04 18.9**	**+2.8**
BLJI Banyuglugur		**18.07**	**260**	P		**Pn**	**21 04 19.5**	**+0.9**
74nm,1.1s,2µm								
ASAR Alice Springs		**18.66**	**173**	P		**P**	**21 04 25.0**	**0.0**
ASAR				S		Sn	21 07 42.3	-11
ASAR Alice Springs		**18.66**	**173**	P		**P**	**21 04 25.0**	**0.0**
6.8nm,0.3s,baz=355,slow=8.2,SNR=292								
ASAR				S		Sn	21 07 42.3	-11
2.9nm,0.3s,baz=352,slow=25,SNR=6.4								
AS01 Alice Springs		**18.67**	**173**	*e*P		**P**	**21 04 24.3**	**-0.7**
KKM Kota Kinabalu		**18.88**	**305**	P		**Pn**	**21 04 29.2**	**+0.8**
KKM Kota Kinabalu		**18.88**	**305**	P		**Pn**	**21 04 29.9**	**+1.5**
87nm,0.8s,946nm								
KKM Kota Kinabalu		**18.88**	**305**	*e*P		**P**	**21 04 28.2**	**+0.7**
52nm,0.7s								
KKM Kota Kinabalu		**18.88**	**305**	P		**Pn**	**21 04 28.7**	**+0.2**
baz=19,SNR=14								
MBWA Marble Bar		**19.73**	**215**	*e*P		**P**	**21 04 36.0**	**-0.6**
21nm,0.4s								
SJI Sawahan		**19.87**	**261**	P		**Pn**	**21 04 42.6**	**+2.3**
33nm,0.7s								
WRKA Warakurna		**20.14**	**189**	P		**P**	**21 04 41.9**	**+0.8**
baz=20,SNR=193								
BTM Bintulu		**20.21**	**294**	P		Pn	21 04 43.3	-0.9
CTA Charters Tower		**20.68**	**138**	P		Pn	21 04 50.2	+0.4
CTA				S		**S**	**21 08 32.8**	**-2.9**
CTA Charters Tower		**20.68**	**138**	P		Pn	21 04 50.2	+0.4
11nm,0.8s,baz=321,slow=10,SNR=9.7								
CTA				S		**S**	**21 08 32.8**	**-2.9**
2.9nm,0.5s,baz=53,slow=18,SNR=3.2								
CTAO Charters Tower		**20.68**	**138**	*e*P		Pn	21 04 49.0	-0.8
14nm,0.8s								
STKI Sintang		**20.70**	**284**	P		**P**	**21 04 47.3**	**0.0**
SBUM Sibu		**20.72**	**291**	P		**P**	**21 04 48.2**	**+0.7**
SBUM Sibu		**20.72**	**291**	*e*P		**P**	**21 04 48.0**	**+0.6**
19nm,0.8s								
KSM Kuching		**22.21**	**286**	*e*P		**P**	**21 05 01.9**	**-1.6**
18nm,1.1s								
KSM Kuching		**22.21**	**286**	P		**P**	**21 05 04.6**	**+1.1**
baz=22,SNR=3.6								
CISI Cisompet, Garu		**23.75**	**263**	*e*P		**P**	**21 05 14.6**	**-4.5**
52nm,0.7s								
CISI Cisompet, Garu		**23.75**	**263**	P		**P**	**21 05 16.2**	**-3.0**
baz=23,SNR=6.7								
QLP Quilpie		**24.61**	**152**	P		**P**	**21 05 29.2**	**+2.5**
baz=25,SNR=25								
MEEK Meekatharra		**24.80**	**209**	P		**P**	**21 05 27.5**	**-1.0**
baz=24,SNR=20								
FORT Forrest		**25.82**	**187**	*e*P		**P**	**21 05 37.3**	**-0.4**
62nm,0.6s								
FORT Forrest		**25.82**	**187**	P		**P**	**21 05 38.0**	**+0.2**
baz=26,SNR=21								
KMBL Kambalda		**27.74**	**198**	P		**P**	**21 05 54.7**	**-0.3**
baz=27,SNR=30								
BBOO Buckleboo		**27.95**	**172**	*e*P		**P**	**21 05 56.8**	**-0.1**
177nm,0.9s								
BBOO Buckleboo		**27.95**	**172**	P		**P**	**21 05 57.0**	**+0.1**
baz=28,SNR=18								
MORW Morawa		**28.07**	**210**	P		**P**	**21 05 57.5**	**-0.5**
baz=28,SNR=7.6								
STKA Stephens Creek		**28.31**	**162**	*e*P		**P**	**21 06 01.0**	**+1.0**
4.3nm,0.9s								
STKA Stephens Creek		**28.31**	**162**	P		**P**	**21 06 00.8**	**+0.8**
12nm,0.5s,baz=337,slow=8.2,SNR=44								
STKA Stephens Creek		**28.31**	**162**	P		**P**	**21 06 01.1**	**+1.0**
baz=28,SNR=36								
BLDU Ballidu		**29.05**	**207**	P		**P**	**21 06 06.1**	**-0.6**
baz=28,SNR=13								
HTT Hallett		**29.07**	**167**	P		**P**	**21 06 07.7**	**+0.8**
baz=29,SNR=8.5								
KLBR Kellerberrin		**29.43**	**205**	P		**P**	**21 06 09.6**	**-0.5**
baz=29,SNR=7.1								
CMSA Cobar Meteorol		**29.51**	**155**	P		**P**	**21 06 12.2**	**+1.5**
baz=30,SNR=7.5								
NWAO Narrogin (SRO)		**30.81**	**204**	P		**P**	**21 06 21.7**	**-0.6**
NWAO Narrogin (SRO)		**30.81**	**204**	P		**P**	**21 06 21.7**	**-0.6**
3.0nm,0.4s,baz=53,slow=10.0,SNR=8.8								
NWAO				LR		LR	21 21 09.4	
comp=Z,64nm,18.1s,baz=289,slow=41								
IPM Ipoh		**31.95**	**287**	P		**P**	**21 06 32.7**	**+0.2**
IPM Ipoh		**31.95**	**287**	*e*P		**P**	**21 06 31.7**	**-0.8**
19nm,0.7s								
RKGY Rocky Gully		**32.39**	**203**	P		**P**	**21 06 37.0**	**+0.9**
baz=32,SNR=16								
ARPS Mount Arapiles		**32.96**	**165**	P		**P**	**21 06 42.8**	**+1.7**
baz=33,SNR=6.6								
YNG Young		**33.04**	**154**	P		**P**	**21 06 44.0**	**+2.2**
baz=33,SNR=6.5								
PSI Prapat		**33.54**	**283**	P		**P**	**21 06 44.0**	**-2.6**
PSI Prapat		**33.54**	**283**	P		**P**	**21 06 44.0**	**-2.6**
9.9nm,0.9s,baz=116,slow=8.5,SNR=9.9								
CHBT CHBT		**34.01**	**302**	P		**P**	**21 06 51.3**	**+0.8**
10.0nm,1.3s								
TOO Toolangi		**34.79**	**160**	P		**P**	**21 06 59.7**	**+2.7**
baz=35,SNR=5.3								
SRDT SRDT		**37.51**	**301**	P		**P**	**21 07 22.1**	**+1.6**
24nm,1.2s								
JNU Nakatsue		**37.95**	**359**	P		**P**	**21 07 24.9**	**+0.9**
JNU Nakatsue		**37.95**	**359**	P		**P**	**21 07 24.9**	**+0.9**
7.3nm,0.9s,baz=117,slow=4.5,SNR=3.4								
KHLT Khaolaem Dam		**38.18**	**302**	P		**P**	**21 07 27.5**	**+1.4**
5.3nm,1.3s								
WHN Wuhan		**39.03**	**336**	*e*P		**P**	**21 07 35.0**	**+2.0**
GYA Guiyang		**39.53**	**324**	*e*P		**P**	**21 07 38.7**	**+1.3**
GYA				pP		pP	21 08 01.2	+11
GYA				sP		sP	21 08 11.4	+16
GYA				PP		**PnPn**	**21 09 17.0**	**+4.8**
GYA				PcP		**PcP**	**21 09 43.6**	**-0.8**
GYA				ScP		**ScP**	**21 13 24.8**	**-4.7**
GYA				S		**S**	**21 13 35.5**	**-1.4**
GYA				sS		sS	21 14 11.0	+13
GYA				ScS		ScS	21 17 35.2	-6.8
GYA				pmax		pmax		
comp=Z,10.0nm,0.8s								
GYA				pmax		pmax		
comp=Z,90nm,4.8s								
CRAI Chiangrai		**39.63**	**310**	P		**P**	**21 07 39.1**	**+0.9**
293nm,2.7s								
CM01 Chiang Mai Arr		**39.72**	**307**	*e*P		**P**	**21 07 38.2**	**-0.7**
CMAR Chiang Mai Arr		**39.75**	**307**	P		**P**	**21 07 39.4**	**+0.2**
CMAR				ScP		**ScP**	**21 13 26.9**	**-3.4**
CMAR Chiang Mai Arr		**39.75**	**307**	P		**P**	**21 07 39.4**	**+0.2**
4.8nm,0.7s,baz=138,slow=7.7,SNR=62								
CMAR				ScP		**ScP**	**21 13 26.9**	**-3.4**
0.4nm,0.3s,baz=116,slow=2.1,SNR=4.1								
CHTO Chiang Mai		**39.94**	**307**	*e*P		**P**	**21 07 38.8**	**-2.1**
1.8nm,0.6s								
CMAI Chiengmai2		**40.48**	**309**	P		**P**	**21 07 45.1**	**-0.4**
MJAR Matsushiro Arr		**41.82**	**8**	P		**P**	**21 07 56.5**	**+0.5**
MJAR Matsushiro Arr		**41.82**	**8**	P		**P**	**21 07 56.5**	**+0.5**
0.9nm,0.6s,baz=210,slow=8.3,SNR=3.3								
KSRS Korea Array		**42.40**	**356**	LR		LR	21 24 11.1	
comp=Z,28nm,18.6s,baz=135,slow=34								
XAN Xi'an		**44.37**	**333**	P		**P**	**21 08 16.5**	**-0.2**
XAN				pmax		pmax		
comp=Z,4.0nm,0.8s								
CD2 Chengdu		**44.54**	**325**	*e*P		**P**	**21 08 20.4**	**+2.2**
CD2				pmax		pmax		
comp=Z,10.0nm,1.2s								
CD2				pmax		pmax		
comp=Z,40nm,5.8s								
LZH Lanzhou		**48.46**	**330**	*e*P		P	21 08 53.5	+4.5
LZH				pP		pP	21 09 13.4	+12
LZH				sP		sP	21 09 24.1	+17
LZH				pmax		pmax		
comp=Z,17nm,1.3s								
USRK Ussuriysk Arra		**49.01**	**0**	P		**P**	**21 08 53.8**	**+1.1**
0.8nm,0.5s,baz=178,slow=8.1,SNR=4.5								
HHC Hu-ho-hao-te		**49.21**	**340**	*e*P		**P**	**21 08 56.1**	**+1.6**
HHC				S		**S**	**21 15 55.8**	**-1.3**
HHC				pmax		pmax		
comp=Z,18nm,1.0s								
HHC				pmax		pmax		
comp=Z,230nm,6.3s								
LSA Lhasa		**51.91**	**314**	P		**P**	**21 09 15.7**	**+0.1**
LSA Lhasa		**51.91**	**314**	*e*P		**P**	**21 09 15.7**	**+0.1**
9.1nm,0.8s								
GTA Gaotai		**53.05**	**329**	*e*P		**P**	**21 09 24.1**	**+0.6**
GTA				pP		pP	21 09 43.4	+6.9
GTA				sP		sP	21 09 51.9	+10
GTA				S		**S**	**21 16 47.9**	**-2.4**
GTA				SS		**SS**	**21 20 27.8**	**-2.6**
GTA				pmax		pmax		
comp=Z,7.0nm,1.1s								
GTA				pmax		pmax		
comp=Z,51nm,4.3s								
GTA				LR		LR		
comp=N,74nm,16.1s								
GTA				LR		LR		
comp=E,120nm,16.2s								
GTA				LR		LR		
comp=Z,99nm,14.7s								
TAPN Taplejung		**53.20**	**310**	*e*P		**P**	**21 09 24.6**	**-0.4**
24nm,0.4s								
ODAN Odare		**53.20**	**309**	*e*P		**P**	**21 09 24.5**	**-0.4**
36nm,0.8s								
RAMN Ramite		**53.86**	**309**	*e*P		**P**	**21 09 29.5**	**-0.3**
62nm,0.6s								
JIRN Jiri		**54.53**	**309**	*e*P		**P**	**21 09 34.3**	**-0.4**
GUN Gumba		**54.89**	**309**	*e*P		**P**	**21 09 36.8**	**-0.5**
54nm,0.7s								
PKI Pulchoki		**55.09**	**309**	*e*P		**P**	**21 09 37.9**	**-0.9**
PKIN Phulchoki		**55.10**	**309**	*e*P		**P**	**21 09 37.9**	**-0.9**
9.7nm,0.5s								
KKN Kakani		**55.29**	**309**	*e*P		**P**	**21 09 39.5**	**-0.6**
DMN Daman		**55.34**	**309**	*e*P		**P**	**21 09 40.0**	**-0.5**
GKN Gorkha		**55.90**	**309**	*e*P		**P**	**21 09 43.6**	**-0.8**
KOLN Koldanda		**56.60**	**308**	*e*P		**P**	**21 09 49.1**	**-0.3**
55nm,0.8s								
DANN Dangsing		**56.74**	**309**	*e*P		**P**	**21 09 49.9**	**-0.6**
HYB Hyderabad		**56.90**	**294**	*i* P		**P**	**21 09 50.0**	**-1.5**
ULN Ulaanbaatar		**56.92**	**341**	*e*P		**P**	**21 09 52.2**	**+1.0**
6.5nm,1.7s								
SONM Songino Array		**57.11**	**340**	P		**P**	**21 09 53.6**	**+1.0**
SONM Songino Array		**57.11**	**340**	P		**P**	**21 09 53.6**	**+1.0**
1.5nm,0.6s,baz=162,slow=7.0,SNR=12								
SONA1 Songino Array		**57.12**	**340**	*e*P		**P**	**21 09 53.5**	**+0.9**
PYUN Piuthan		**57.23**	**308**	*e*P		**P**	**21 09 53.7**	**-0.2**
158nm,0.9s								
WMQ Urumqi		**62.64**	**326**	P		**P**	**21 10 31.0**	**+0.4**
WMQ				pP		pP	21 10 51.0	+7.1
WMQ				sP		sP	21 11 00.0	+11
WMQ				PP		**PP**	**21 12 51.0**	**+2.1**
WMQ				ScP		**ScP**	**21 15 02.0**	**-5.6**
WMQ				S		**S**	**21 18 51.0**	**-4.5**
WMQ				pmax		pmax		
comp=Z,21nm,1.0s								
WMQ				pmax		pmax		
comp=Z,58nm,5.0s								
MK01 Makanchi Array		**67.45**	**326**	*e*P		**P**	**21 11 02.5**	**+0.7**
MKAR Makanchi Array		**67.47**	**326**	*e*P		**P**	**21 11 02.6**	**+0.8**
MKAR Makanchi Array		**67.47**	**326**	P		**P**	**21 11 02.5**	**+0.7**
6.7nm,0.3s,baz=112,slow=8.0,SNR=192								
KSH Kashi		**67.66**	**316**	*e*P		**P**	**21 11 04.5**	**+1.2**
KSH				pP		**PcP**	**21 11 30.7**	**+0.7**
KSH				sP		sP	21 11 41.2	+19
KSH				PP		PP	21 13 40.5	+7.4
KSH				S		S	21 19 50.8	-6.6
KSH				sS		sS

3.6nm,1.0s,baz=72,slow=5.8,SNR=3.4
TORD Torodi Ar. Bea 129.94 283 PKP **PKPdf 21 19 16.4 0.0**
TORD SKPbc SKPab 21 22 30.1 -4.7
TORD Torodi Ar. Bea 129.94 283 PKP **PKPdf 21 19 16.4 0.0**
0.4nm,0.6s,baz=116,slow=3.4,SNR=3.9
TORD SKPbc SKPab 21 22 30.1 -4.7
2.5nm,1.0s,baz=71,slow=3.0,SNR=9.2
CPUP Villa Florida 147.65 165 PKPbc **PKPbc 21 19 51.6 +0.7**
CPUP Villa Florida 147.65 165 PKPbc **PKPbc 21 19 51.6 +0.7**
0.7nm,0.4s,baz=140,slow=0.6,SNR=3.4

IDC ***11*** *21:05:55.9±0.7,52°.28S×28°.27E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/24, mbtmp3.9/12, MS3.3/5, Ms1 3.3/5, ms1mx3.0/30, Error ellipse: s-maj=29.4km s-min=14.0km az=82.0*

ISCJB ***11*** *21:05:56.3±0.6, 52°.23S±0°.07×28°.4E±0°.3, h10km, mb3.8/11, MS3.2/5, Error ellipse: s-maj=23.8km s-min=10.2km az=174.4*

ISC 11 21:05:57.5±0.7, 52°.25S±0°.10×28°.3E±0°.2, h10km, n21, σ0s91/16, mb3.8/11, MS3.3/5, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.60**	**342**	P			Pn	21 10 38.1	-1.1
	11nm,0.9s,baz=179,slow=16,SNR=4.0								
SUR				LR			LR	21 17 33.6	
	comp=Z,67nm,21.3s,baz=176,slow=34								
MAW	**Mawson**	**22.70**	**146**	P			**P**	**21 10 59.8**	**+1.1**
	5.0nm,0.6s,baz=290,slow=11,SNR=15								
MAW				LR			LR	21 16 47.4	
	comp=Z,43nm,19.9s,baz=156,slow=29								
BOSA	**Boshof**	**23.73**	**353**	P			**P**	**21 11 09.5**	**-0.3**
	1.5nm,0.7s,baz=170,slow=12,SNR=4.0								
BOSA				LR			LR	21 18 38.9	
	comp=Z,98nm,20.8s,baz=160,slow=32								
SNAA	**Sanae**	**23.85**	**204**	*eP*			**P**	**21 11 11.2**	**+0.7**
SNAA	**Sanae**	**23.85**	**204**	*e*			P	21 11 22.2	+12
SNAA	**Sanae**	**23.85**	**204**	P			**P**	**21 11 10.7**	**+0.2**
	1.4nm,0.8s,baz=44,slow=8.6,SNR=13								
VNA2	**Neumayer--Watz**	**24.64**	**207**	*eP*			**P**	**21 11 17.8**	**+0.1**
VNA2	**Neumayer--Watz**	**24.64**	**207**	*e*			P	21 11 29.6	+12
VNA1	**Neumayer--Stat**	**24.75**	**208**	*eP*			**P**	**21 11 21.0**	**+2.3**
VNA1	**Neumayer--Stat**	**24.75**	**208**	*e*			P	21 11 31.4	+13
LBTB	**Lobatse**	**27.28**	**355**	P			**P**	**21 11 42.6**	**+0.5**
	1.8nm,0.9s,baz=135,slow=4.3,SNR=3.4								
LBTB				LR			LR	21 21 25.0	
	comp=Z,75nm,19.0s,baz=295,slow=34								
OPO	**Ambohidratompo**	**36.73**	**31**	P			**P**	**21 13 04.5**	**-0.4**
	3.5nm,0.9s,baz=259,slow=7.2,SNR=2.7								
LSZ	**Lusaka**	**36.89**	**360**	P			**P**	**21 13 06.3**	**0.0**
	0.7nm,0.4s,baz=196,slow=7.7,SNR=4.4								
QSPA	**South Pole Qui**	**37.97**	**180**	P			**P**	**21 13 14.0**	**-1.0**
	3.0nm,0.5s,baz=302,slow=1.6,SNR=5.5								
VNDA	**Vanda**	**47.33**	**168**	P			**P**	**21 14 29.8**	**-0.9**
	0.7nm,0.6s,baz=230,slow=8.7,SNR=5.0								
DBIC	**Dimbokro**	**65.17**	**323**	LR			LR	21 41 17.8	
	comp=Z,42nm,18.9s,baz=8.6,slow=33								
TORD	**Torodi Ar. Bea**	**69.08**	**332**	P			**P**	**21 17 03.9**	**+0.4**
	0.5nm,0.7s,baz=175,slow=5.5,SNR=5.1								
ASAR	**Alice Springs**	**80.59**	**116**	P			**P**	**21 18 11.1**	**+0.8**
	0.2nm,0.5s,baz=215,slow=4.9,SNR=5.7								
WRA	**Warramunga Arr**	**83.80**	**115**	P			**P**	**21 18 27.3**	**+0.2**
	0.5nm,0.9s,baz=211,slow=3.8,SNR=2.7								
PDAR	**Pinedale Array**	**150.40**	**268**	PKPab			**PKPab**	**21 25 55.0**	**-0.3**
	0.6nm,0.7s,baz=119,slow=5.2,SNR=4.7								
NVAR	**Mina Array Bea**	**153.06**	**252**	PKPbc			**PKPbc**	**21 25 54.2**	**-0.7**
	0.2nm,0.5s,baz=167,slow=4.5,SNR=2.4								

ISCJB ***11*** *21:27:47.1±0.8, 53°.69S±0°.10×140°.4E±0°.9, h10km, mb3.8/7, MS3.4/6, Error ellipse: s-maj=75.5km s-min=12.5km az=174.9*

IDC ***11*** *21:27:47.1±1.2, 53°.68S×140°.86E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, MS3.5/6, Ms1 3.5/6, ms1mx3.3/15, Error ellipse: s-maj=96.1km s-min=16.0km az=84.0*

ISC 11 21:27:48.8±1.1, 53°.7S±0°.1×140°.7E±0°.6, h10km, n18, σ0s62/7, mb3.7/7, MS3.5/6, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.82**	**2**	P			**P**	**21 32 41.7**	**+0.6**
	1.4nm,0.5s,baz=164,slow=11,SNR=6.3								
VNDA	**Vanda**	**25.13**	**169**	P			**P**	**21 33 13.2**	**-0.2**
	1.3nm,0.8s,baz=322,slow=8.9,SNR=7.3								
VNDA				LR			LR	21 40 49.2	
	comp=Z,17nm,21.3s,baz=164,slow=31								
H01W1	**Cape Leeuwin H**	**26.47**	**305**	T			T	22 01 09.1	
	baz=143,slow=75,SNR=17								
H01W2	**Cape Leeuwin H**	**26.47**	**305**	T			T	22 01 05.3	
	baz=143,slow=75,SNR=17								
H01W3	**Cape Leeuwin H**	**26.48**	**305**	T			T	22 01 09.9	
	baz=143,slow=75,SNR=13								
NWAO	**Narrogin (SRO)**	**26.65**	**312**	LR			LR	21 41 10.0	
	comp=Z,146nm,19.4s,baz=122,slow=30								
URZ	**Urewera**	**29.26**	**73**	LR			LR	21 44 51.8	
	comp=Z,107nm,18.1s,baz=115,slow=35								
ASAR	**Alice Springs**	**30.42**	**348**	P			**P**	**21 34 00.8**	**-0.5**
	0.8nm,0.7s,baz=165,slow=10,SNR=14								
WRA	**Warramunga Arr**	**34.05**	**349**	P			**P**	**21 34 32.2**	**-0.8**
	0.8nm,0.6s,baz=170,slow=7.7,SNR=7.3								
QSPA	**South Pole Qui**	**36.41**	**180**	P			**P**	**21 34 53.6**	**+0.4**
	1.5nm,0.2s,baz=354,slow=4.7,SNR=5.4								
FITZ	**Fitzroy Crossi**	**37.39**	**336**	P			**P**	**21 35 01.8**	**+0.1**
	1.3nm,0.6s,baz=180,slow=6.7,SNR=5.4								
MAW	**Mawson**	**37.74**	**218**	LR			LR	21 48 49.9	
	comp=Z,139nm,18.7s,baz=299,slow=33								
SNAA	**Sanae**	**52.31**	**194**	P			**P**	**21 36 59.7**	**-0.2**
	0.4nm,0.8s,baz=146,slow=3.6,SNR=3.7								
H08S2	**Diego Garcia H**	**71.02**	**283**	T			T	22 56 47.1	
	baz=144,slow=75,SNR=13								
H08S1	**Diego Carcia H**	**71.03**	**283**	T			T	22 56 45.7	
	baz=144,slow=75,SNR=6.7								
H08S3	**Diego Garcia H**	**71.04**	**283**	T			T	22 56 48.8	
	baz=144,slow=75,SNR=9.1								
CMAR	**Chiang Mai Arr**	**80.32**	**320**	LR			LR	22 15 43.9	
	comp=Z,18nm,18.9s,baz=165,slow=36								
BOSA	**Boshof**	**80.87**	**234**	LR			LR	22 10 42.4	
	comp=Z,37nm,19.3s,baz=344,slow=32								

ISCJB ***11*** *21:30:48.4±0.3, 13°.03N±0°.03×89°.74W±0°.03, h43km, mb4.4/22, MS3.8/19, Error ellipse: s-maj=5.3km s-min=3.2km az=26.2*

BJI ***11*** *21:30:51.7, 13°.10N×89°.30W, h85km, mB4.9/2*

IDC ***11*** *21:30:51.3±0.6, 13°.52N×88°.93W, h51km±4km, mb4.0/18, mb1 4.2/19, mb1mx4.0/28, mbtmp4.0/19, MS3.8/21, Ms1 3.8/21, ms1mx3.7/33, Error ellipse: s-maj=26.3km s-min=10.3km az=61.0*

CASC ***11*** *21:30:51.9±1.5, 13°.12N×89°.56W, h34km±3km, MD3.9, ML4.5, mb4.6(NEIC)*

NEIC ***11*** *21:30:54.0±1.3, 13°.29N×89°.36W, h83km±11km, mb4.6/8, MD4.6(SNET), Error ellipse: s-maj=18.9km s-min=7.7km az=52.0*

NEIC Felt [III] at San Salvador. Also felt at Antiguo Cuscatlan.

ISC 11 21:30:50.1±0.4, 13°.06N±0°.04×89°.60W±0°.04, h43km, n335, σ1s19/324, mb4.4/22, MS3.8/19, 115C-114D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.66**	**54**	*eP*			**Pn**	**21 31 03.8**	**+0.8**
AIES				*eS*			**Sn**	**21 31 13.3**	**+0.9**
AIES					AML		AML	21 31 13.5	
	comp=Z,34μm,0.5s								
SONS	**Sonsonate**	**0.68**	**350**	*eP*			**Pn**	**21 31 03.9**	**+0.6**
SONS				*eS*			**Sn**	**21 31 13.6**	**+0.7**
SONS					AML		AML	21 31 15.0	
	comp=Z,23μm,0.2s								
SNET	**Serv Nac Est T**	**0.72**	**30**	*eP*			**Pn**	**21 31 04.5**	**+0.6**
SNET					AML		AML	21 31 17.2	
	comp=Z,24μm,0.3s								
BOQS	**Boqueron**	**0.74**	**25**	↓*iP*			**Pn**	**21 31 05.1**	**+0.8**
LFRS	**El Faro**	**0.76**	**43**	↑*iP*			**Pn**	**21 31 05.2**	**+0.6**
SBLS	**San Blas**	**0.77**	**358**	↑*eP*			**Pn**	**21 31 05.5**	**+0.7**
SNJE	**San Jose**	**0.80**	**360**	↑*eP*			**Pn**	**21 31 05.9**	**+0.8**
LFU	**La Fuente**	**0.83**	**35**	↑*iP*			**Pn**	**21 31 06.4**	**+0.9**
RTR	**El Retiro**	**0.83**	**357**	*eP*			**Pn**	**21 31 06.2**	**+0.7**
LBRS	**Las Brisas**	**0.86**	**39**	↑*iP*			**Pn**	**21 31 06.9**	**+1.0**
SNVI	**San Vicente**	**0.92**	**53**	↑*iP*			**Pn**	**21 31 07.4**	**+0.7**
RBDL	**Robledal**	**1.05**	**355**	↑*eP*			**Pn**	**21 31 09.5**	**+1.0**
VSM	**San Miguel**	**1.34**	**74**	↑*iP*			**Pn**	**21 31 13.5**	**+0.9**
IXG	**Ixpaco**	**1.38**	**323**	*eP*			**Pn**	**21 31 14.6**	**+1.5**
CAHU	**Cacacuatique**	**1.52**	**62**	↑*eP*			**Pn**	**21 31 15.8**	**+0.8**
CAHU				*eS*			**Sn**	**21 31 35.8**	**+2.1**
PCG	**Pacaya**	**1.65**	**324**	*eP*			**Pn**	**21 31 19.4**	**+2.6**
NBG	**Las Nubes**	**1.68**	**334**	*eP*			**Pn**	**21 31 19.9**	**+2.7**
CNCH	**Conchagua**	**1.73**	**83**	↑*eP*			**Pn**	**21 31 18.8**	**+1.0**
MRL	**Marmol**	**1.99**	**357**	↓*eP*			**Pn**	**21 31 23.9**	**+2.4**
APG	**El Apazote**	**2.10**	**337**	P			**Pn**	**21 31 22.2**	**-0.8**
APG	**El Apazote**	**2.10**	**337**	P			**Pn**	**21 31 22.2**	**-0.8**
	comp=Z,18nm,0.3s,baz=141,slow=8.0,SNR=170								
APG						LR	LR	21 32 30.0	
	comp=Z,1μm,22.0s,baz=118,slow=47								
JAT	**Jato**	**2.34**	**302**	*eP*			**Pn**	**21 31 28.6**	**+2.5**
TGUH	**Tegucigalpa,Un**	**2.47**	**66**	↑*eP*			**Pn**	**21 31 28.6**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.47**	**66**	*ePn*			**Pn**	**21 31 28.6**	**+0.8**
VCR	**Vista de Mar**	**4.86**	**126**	*eP*			**Pn**	**21 32 03.1**	**+2.2**
JTS	**JuntasAbangare**	**5.32**	**121**	*ePn*			Pn	21 32 10.0	+2.9
JTS				*eSn*			**Sn**	**21 33 07.1**	**-0.1**
JTS	**JuntasAbangare**	**5.32**	**121**	P			**Pn**	**21 32 09.5**	**+2.4**
	comp=Z,9.4nm,0.3s,baz=344,slow=8.6,SNR=27								
JTS						S	**Sn**	**21 33 05.7**	**-1.4**
	comp=Z,7.1nm,0.3s,baz=260,slow=19,SNR=2.0								
JCR	**Jicaral**	**5.44**	**126**	*eP*			**Pn**	**21 32 11.2**	**+2.5**
CGA2	**Cerro Gallo 2**	**5.87**	**121**	*eP*			Pn	21 32 18.5	+3.7
SJS	**Escuela Geolog**	**6.26**	**119**	*eP*			Pn	21 32 25.9	+5.9
QCR	**Quepos**	**6.44**	**124**	↓*eP*			Pn	21 32 25.6	+3.2
QCR				*eS*			**Sn**	**21 33 32.2**	**-2.5**
BUS	**Buena Vista**	**6.71**	**121**	*eP*			Pn	21 32 30.2	+3.7
BUS				*eS*			**Sn**	**21 33 40.4**	**-1.5**
TEIG	**Tepich**	**7.24**	**10**	*ePn*			**Pn**	**21 32 33.5**	**+0.2**
TEIG	**Tepich**	**7.24**	**10**	P			**Pn**	**21 32 35.1**	**+1.8**
	comp=Z,10nm,0.3s,baz=171,slow=8.7,SNR=48								
TEIG						LR	LR	21 35 41.8	
	comp=Z,756nm,18.5s,baz=163,slow=43								
MTDJ	**Mount Denham**	**12.70**	**65**	*ePn*			**Pn**	**21 33 50.5**	**+2.2**
OTAV	**Otavalo**	**16.87**	**138**	*ePn*			Pn	21 34 39.5	-4.1
	comp=Z,7.1nm,0.9s								
534A	**Blanco**	**18.78**	**335**	↓P			**P**	**21 35 06.2**	**+0.4**
	baz=19								
632A	**Uvalde**	**18.90**	**332**	↑P			**P**	**21 35 07.7**	**+0.6**
	baz=19								
533A	**Kerrville**	**19.05**	**334**	↓P			**P**	**21 35 08.9**	**+0.1**
	baz=19								
SDV	**Santo Domingo**	**19.07**	**101**	*eP*			**P**	**21 35 07.5**	**-1.8**
	comp=Z,4.4nm,0.6s								
631A	**Perdido Creek**	**19.20**	**330**	↑P			**P**	**21 35 11.2**	**+0.9**
	baz=19								
434A	**Burnet**	**19.39**	**337**	↓P			**P**	**21 35 11.8**	**-0.7**
	baz=19,SNR=5.8								
532A	**Rocksprings**	**19.48**	**332**	↑P			**P**	**21 35 12.9**	**-0.6**
	baz=20,SNR=6.3								
335A	**Moody**	**19.51**	**340**	↑P			**P**	**21 35 13.4**	**-0.4**
	baz=20								
433A	**Art**	**19.67**	**335**	↓P			**P**	**21 35 14.9**	**-0.6**
	baz=20,SNR=7.9								
JCT	**Junction City**	**19.73**	**333**	*eP*			**P**	**21 35 15.8**	**-0.5**
	comp=Z,12nm,0.9s								
JCT	**Junction City**	**19.73**	**333**	↑P			**P**	**21 35 15.9**	**-0.4**
	baz=20								
531A	**Rocksprings**	**19.80**	**331**	↓P			**P**	**21 35 16.9**	**-0.2**
	baz=20								
334A	**Lometa**	**19.85**	**338**	↓P			**P**	**21 35 16.7**	**-0.8**
	baz=20,SNR=11								
432A	**Menard**	**20.07**	**334**	↓P			**P**	**21 35 19.6**	**-0.3**
	baz=20,SNR=6.5								
333A	**Richland Sprin**	**20.12**	**336**	↑P			**P**	**21 35 19.9**	**-0.6**
	baz=20,SNR=15								
WHTX	**Lake Whitney**	**20.17**	**340**	*eP*			**P**	**21 35 20.3**	**-0.7**
WHTX	**Lake Whitney**	**20.17**	**340**	↑P			**P**	**21 35 20.6**	**-0.3**
	baz=20,SNR=5.9								
530A	**J-C Ranch, Com**	**20.18**	**329**	↑P			**P**	**21 35 21.0**	**-0.1**
	baz=20								
431A	**Sonora**	**20.27**	**332**	↓P			**P**	**21 35 21.6**	**-0.5**
	baz=20,SNR=6.1								
628A	**Black Gap, Mar**	**20.47**	**325**	↓P			**P**	**21 35 24.5**	**+0.2**
	baz=20								
332A	**Millersview**	**20.48**	**335**	↑P			**P**	**21 35 24.5**	**0.0**
	baz=20,SNR=12								
529A	**Stev Forest Ra**	**20.61**	**327**	↑P			**P**	**21 35 25.4**	**-0.4**
	baz=21								
430A	**Baggett Ranch,**	**20.65**	**331**	↓P			**P**	**21 35 26.4**	**+0.1**
	baz=21								
135A	**Vickery Place,**	**20.68**	**341**	↓P			**P**	**21 35 25.7**	**-0.8**
	baz=21								
331A	**San Angelo**	**20.72**	**333**	↑P			**P**	**21 35 26.2**	**-0.7**
	baz=21								
627A	**Terlingua Ranc**	**20.73**	**324**	↓P			**P**	**21 35 28.1**	**+0.9**
	baz=21,SNR=10.0								
TXAR	**Lajitas Array**	**20.80**	**323**	P			**P**	**21 35 29.9**	**+1.9**
TXAR						pPcP		21 39 52.4	
TXAR	**Lajitas Array**	**20.80**	**323**	P			**P**	**21 35 29.9**	**+1.9**
	comp=Z,6.2nm,0.9s,baz=145,slow=8.7,SNR=42								
TXAR						pPcP		21 39 52.4	
	comp=Z,1.6nm,0.9s,baz=153,slow=2.4,SNR=8.7								
TX31	**Lajitas Ar. Si**	**20.80**	**323**	*eP*			**P**	**21 35 29.4**	**+1.5**
429A	**Davenport Ranc**	**20.84**	**329**	↑P			**P**	**21 35 28.3**	**0.0**
	baz=21								
232A	**Coleman**	**20.89**	**335**	↓P			**P**	**21 35 28.4**	**-0.4**
	baz=21								
134A	**White-Moore Ra**	**20.91**	**340**	↑P			**P**	**21 35 27.8**	**-1.2**
	baz=21								
528A	**Cox Ranch, San**	**20.94**	**326**	↓P			**P**	**21 35 28.8**	**-0.6**
	baz=21								
330A	**Mertzon**	**21.14**	**332**	↓P			**P**	**21 35 31.1**	**-0.4**
	baz=21								
231A	**Bronte**	**21.21**	**334**	↓P			**P**	**21 35 31.2**	**-1.0**
	baz=21								
626A	**Big Bend Ranch**	**21.24**	**323**	↓P			**P**	**21 35 34.1**	**+1.5**
	baz=21,SNR=6.7								
133A	**Hamilton Ranch**	**21.24**	**338**	↑P			**P**	**21 35 32.9**	**+0.3**
	baz=21,SNR=7.6								
428A	**Kincaid Ranch,**	**21.33**	**328**	↓P			**P**	**21 35 33.7**	**+0.2**
	baz=21								
Z35A	**Perchaven, San**	**21.35**	**342**	↑P			**P**	**21 35 33.1**	**-0.6**
	baz=21								
527A	**Woodward Ranch**	**21.38**	**325**	↓P			**P**	**21 35 34.2**	**0.0**
	baz=21								
ABTX	**Abilene, Hawle**	**21.53**	**336**	↑P			**P**	**21 35 35.3**	**-0.4**
	baz=22								
329A	**Wagon Wheel Ra**	**21.59**	**330**	↓P			**P**	**21 35 35.8**	**-0.5**
	baz=22								
526A	**Mary Lane Ranc**	**21.59**	**324**	↑P			**P**	**21 35 36.5**	**+0.1**
	baz=22								
Z34A	**Collier Ranch,**	**21.59**	**341**	↑P			**P**	**21 35 35.9**	**-0.4**
	baz=22								
MIAR	**Mount Ida**	**21.69**	**351**	*eP*			**P**	**21 35 39.0**	**+1.7**
	comp=Z,237nm,2.7s								
UALR	**University of**	**21.76**	**354**	*eP*			**P**	**21 35 39.0**	**+1.0**
	comp=Z,20nm,0.8s								
Z33A	**Whitaker Ranch**	**21.80**	**339**	↑P			**P**	**21 35 37.8**	**-0.7**
	baz=22,SNR=9.8								
427A	**Hayter Ranch,**	**21.80**	**326**	↓P			**P**	**21 35 38.0**	**-0.7**
	baz=22								
131A	**Roby**	**21.88**	**335**	↑P			**P**	**21 35 37.7**	**-1.7**
	baz=22								
328A	**Wristen Ranch,**	**21.91**	**328**	↑P			**P**	**21 35 39.3**	**-0.5**
	baz=22								
426A	**McDonald Obser**	**22.01**	**325**	↑P			**P**	**21 35 40.1**	**-1.0**
	baz=22								
Z32A	**Haskell**	**22.08**	**338**	↑P			**P**	**21 35 41.5**	**0.0**
	baz=22,SNR=7.2								
Y34A	**Reagan Ranch,**	**22.09**	**342**	↓P			**P**	**21 35 40.0**	**-1.6**
	baz=22								
Z31A	**Sharp Cattle R**	**22.34**	**336**	↓P			**P**	**21 35 43.0**	**-1.4**
	baz=22,SNR=5.1								
Y33A	**Hilltop Ranch,**	**22.41**	**340**	↓P			**P**	**21 35 43.3**	**-1.7**
	baz=22								
326A	**Caldwell Ranch**	**22.48**	**326**	↓P			**P**	**21 35 44.9**	**-1.0**
	baz=22								
129A	**Stewart Farms,**	**22.48**	**332**	↓P			**P**	**21 35 44.2**	**-1.7**
	baz=22								
425A	**Indio Mountain**	**22.64**	**324**	↓P			**P**	**21 35 46.1**	**-1.6**
	baz=23								
227A	**Bennet, Jal**	**22.66**	**329**	↓P			**P**	**21 35 47.1**	**-0.8**
	baz=23								
Y32A	**R-V Farms, Ver**	**22.69**	**338**	↑P			**P**	**21 35 46.4**	**-1.6**
	baz=23								
X34A	**Smith Ranch, M**	**22.71**	**342**	↑P			**P**	**21 35 47.4**	**-0.8**
	baz=23								
Z30A	**Sanderson Ranc**	**22.71**	**334**	↑P			**P**	**21 35 46.7**	**-1.7**
	baz=23								
128A	**Castleberry Fa**	**22.76**	**331**	↓P			**P**	**21 35 47.6**	**-1.3**
	baz=23								
X33A	**Lawton**	**22.86**	**341**	↓P			**P**	**21 35 47.9**	**-1.9**
	baz=23								
ATAH	**Atahualpa**	**22.95**	**150**	P			**P**	**21 35 54.0**	**+2.7**
ATAH	**Atahualpa**	**22.95**	**150**	P			**P**	**21 35 54.0**	**+2.7**
	comp=Z,11nm,0.9s,baz=95,slow=17,SNR=5.3								
ATAH						LR	LR	21 43 51.1	
	comp=Z,122nm,19.7s,baz=336,slow=34								
Y31A	**Rekieta Farm,**	**22.95**	**337**	↓P			**P**	**21 35 49.6**	**-1.3**
	baz=23								
X32A	**Elmer**	**23.01**	**339**	↓P			**P**	**21 35 50.0**	**-1.4**
	baz=23								
325A	**Bean Ranch, Si**	**23.07**	**325**	↑P			**P**	**21 35 51.1**	**-1.0**
	baz=23								
TKL	**Tuckaleechee C**	**23.10**	**12**	LR			LR	21 44 34.6	
	comp=Z,279nm,21.1s,baz=221,slow=36								
WMOK	**Wichita Mounta**	**23.13**	**340**	*eP*			**P**	**21 35 50.0**	**-2.6**
	comp=Z,14nm,1.0s								
Y30A	**Stafford Cattl**	**23.13**	**335**	↓P			**P**	**21 35 51.7**	**-0.9**
	baz=23								
226B	**Tecolote Peak,**	**23.17**	**327**	↓P			**P**	**21 35 52.0**	**-1.1**
	baz=23								
KMSC	**Kings Mountain**	**23.22**	**17**	↑P			**P**	**21 35 50.7**	**-2.7**
	baz=23								
127A	**Arkansas Junct**	**23.23**	**329**	↓P			**P**	**21 35 52.8**	**-0.9**
	baz=23								
Z28A	**Tucker Farm, M**	**23.27**	**332**	↑P			**P**	**21 35 53.1**	**-1.0**
	baz=23								
W34A	**Bridge Creek,**	**23.28**	**343**	↑P			**P**	**21 35 52.6**	**-1.4**
	baz=23								
W33A	**Caddo, Fort Co**	**23.41**	**341**	↑P			**P**	**21 35 53.6**	**-1.7**
	baz=23								
TUL1	**Tulsa**	**23.42**	**347**	↓P			**P**	**21 35 54.0**	**-1.4**
	baz=23								
X31A	**McDonald Ranch**	**23.45**	**338**	↑P			**P**	**21 35 54.3**	**-1.4**
	baz=23,SNR=5.5								
225A	**Deer Hill, Car**	**23.55**	**326**	↓P			**P**	**21 35 56.8**	**-0.1**
	baz=24								
X30A	**Coker Ranch, T**	**23.62**	**336**	↓P			**P**	**21 35 56.4**	**-0.9**
	baz=24,SNR=7.3								
W32A	**Sentinel**	**23.63**	**340**	↓P			**P**	**21 35 56.1**	**-1.4**
	baz=24,SNR=6.5								
Z27A	**Tatum**	**23.68**	**331**	↑P			**P**	**21 35 56.2**	**-1.8**
	baz=24								
Y28A	**McKinney Farm,**	**23.73**	**333**	↓P			**P**	**21 35 56.9**	**-1.6**
	baz=24								
V34A	**Guthrie**	**23.77**	**344**	↓P			**P**	**21 35 56.8**	**-1.9**
	baz=24								
125A	**Gardner Draw,**	**23.88**	**327**	↓P			**P**	**21 35 58.3**	**-1.6**
	baz=24								
224A	**Cornudas Mount**	**23.91**	**325**	↑P			**P**	**21 35 58.8**	**-1.4**
	baz=24								
W31A	**Holland Ranch,**	**23.93**	**339**	↑P			**P**	**21 35 57.7**	**-2.5**
	baz=24								
V33A	**Lossen Ranch,**	**23.98**	**342**	↑P			**P**	**21 35 58.4**	**-2.2**
	baz=24								
MSTX	**Muleshoe**	**24.02**	**332**	↓P			**P**	**21 35 59.0**	**-2.1**
	baz=24								
Z26A	**Caprock**	**24.02**	**329**	↓P			**P**	**21 35 59.5**	**-1.7**
	baz=24								
V32A	**Arapaho**	**24.11**	**341**	↓P			**P**	**21 35 59.5**	**-2.3**
	baz=24								
Y27A	**Causey**	**24.12**	**331**	↓P			**P**	**21 35 59.6**	**-2.5**
	baz=24								
AMTX	**Amarillo**	**24.32**	**335**	↑P			**P**	**21 36 02.4**	**-1.5**
	baz=24								
124A	**Stringfield Ra**	**24.34**	**326**	↓P			**P**	**21 36 02.5**	**-1.8**
	baz=24								
Z25A	**Roswell**	**24.40**	**328**	↑P			**P**	**21 36 03.3**	**-1.3**
	baz=24								
V31A	**Spring Creek L**	**24.43**	**340**	↑P			**P**	**21 36 04.4**	**-0.4**
	baz=24,SNR=5.6								
W28A	**Vega**	**24.86**	**335**	↑P			**P**	**21 36 08.8**	**-0.1**
	baz=25								
Y25A	**Mesa, Roswell**	**24.89**	**329**	↑P			**P**	**21 36 09.3**	**+0.2**
	baz=25								
W27A	**Bowe Ranch, En**	**25.06**	**333**	↑P		

I29A	Vivian Onida	32.19	345	⇓P		P	21 37 13.7 -0.3
	baz=32						
MURC	Murrieta	32.39	314	⇑P		P	21 37 17.3 +1.5
	baz=32						
I28A	Midland	32.39	344	⇓P		P	21 37 16.3 +0.6
	baz=32						
TUQ	Turquoise Moun	32.56	318	⇓P		P	21 37 18.7 +1.2
	baz=33						
J25A	Sunshine Ranch	32.61	341	⇓P		P	21 37 18.2 +0.5
	baz=33						
SADO	Sadowa	32.84	14	LR		LR	21 50 02.4
	comp=Z,213nm,21.0s,baz=179,slow=36						
G30A	Faulkton	32.98	348	⇓P		P	21 37 19.6 -1.3
	baz=33						
H28A	Mission Ridge	32.98	345	⇑P		P	21 37 19.8 -1.1
	baz=33						
H27A	Howes	33.22	344	⇓P		P	21 37 23.5 +0.5
	baz=33						
EDW2	Edwards Air Fo	33.63	315	⇑P		P	21 37 28.2 +1.4
	baz=34						
H25A	Fruitdale	33.65	342	⇓P		P	21 37 27.9 +1.2
	baz=34						
LRMC	Laurel Mountai	33.76	316	⇑P		P	21 37 29.2 +1.3
	baz=34						
FURC	Furnace Creek,	33.78	318	⇓P		P	21 37 28.8 +0.9
	baz=34						
J21A	Lysite	33.87	336	⇓P		P	21 37 29.2 +0.4
	baz=34						
G27A	Dupree	33.87	344	⇑P		P	21 37 28.2 -0.5
	baz=34						
MPMC	Manual Prospec	33.95	317	⇓P		P	21 37 30.5 +0.8
	baz=34						
I22A	9 Mile Ranch,	33.97	338	⇑P		P	21 37 30.3 +0.6
	baz=34						
G26A	Maurine	33.98	343	⇓P		P	21 37 29.7 +0.1
	baz=34						
H24A	Dirks Ranch, A	34.06	341	⇓P		P	21 37 30.1 -0.2
	baz=34						
SAML	Samuel	34.16	128	eP		P	21 37 29.8 -1.6
	comp=Z,156nm,1.1s						
R11A	Troy Canyon, C	34.16	322	eP		P	21 37 33.5 +2.1
I21A	Big Trails, Te	34.21	337	⇑P		P	21 37 32.5 +0.8
	baz=34						
PDAR	Pinedale Array	34.27	333	PcP		PcP	21 40 07.2 -0.9
PDAR				pPcP			21 40 23.1
PDAR	Pinedale Array	34.27	333	PcP		PcP	21 40 07.2 -0.9
	comp=Z,1.6nm,1.1s,baz=97,slow=4.9,SNR=4.1						
PDAR				pPcP			21 40 23.1
	comp=Z,1.3nm,0.8s,baz=131,slow=4.6,SNR=6.9						
F27A	Lemmon	34.35	345	⇑P		P	21 37 31.9 -0.9
	baz=34						
ISA	Isabella	34.39	316	⇓P		P	21 37 32.9 -0.4
	baz=34						
GRAC	Grapevine Rang	34.43	319	⇑P		P	21 37 34.8 +1.2
	baz=34						
J19A	Crowheart	34.46	335	⇓P		P	21 37 34.3 +0.4
	baz=34						
F26A	Lodgepole	34.51	344	⇑P		P	21 37 34.4 +0.2
	baz=34						
H22A	Clearmont	34.53	339	⇑P		P	21 37 34.8 +0.3
	baz=34						
I20A	Worland	34.65	336	⇓P		P	21 37 35.5 0.0
	baz=35						
G23A	Biddle	34.74	340	⇑P		P	21 37 36.0 -0.2
	baz=35						
F25A	Bowman	34.80	343	⇓P		P	21 37 36.6 0.0
	baz=35						
D30A	Buchanan	34.80	349	⇑P		P	21 37 35.2 -1.4
	baz=35						
H21A	Big Horn, Sher	34.81	338	⇑P		P	21 37 36.9 0.0
	baz=35						
F24A	Ekalaka	35.01	342	⇑P		P	21 37 38.5 0.0
	baz=35						
E26A	Carlson Angus	35.02	344	⇓P		P	21 37 38.2 -0.4
	baz=35						
H20A	Greybull	35.05	337	⇓P		P	21 37 39.2 +0.3
	baz=35						
G22A	Birney	35.06	339	⇓P		P	21 37 38.5 -0.5
	baz=35						
I19A	Meeteetse	35.07	335	⇑P		P	21 37 39.9 +0.7
	baz=35						
F23A	Volborg	35.20	341	⇑P		P	21 37 40.1 -0.1
	baz=35						
E25A	Miller Ranch,	35.30	343	⇑P		P	21 37 40.7 -0.3
	baz=35						
C30A	Mose, Pekin	35.32	350	⇑P		P	21 37 40.1 -1.0
	baz=35						
G21A	Lodge Grass	35.38	338	⇑P		P	21 37 41.1 -0.7
	baz=35						
D27A	Center	35.38	346	⇑P		P	21 37 41.7 0.0
	baz=35						
F22A	Rosebud	35.54	340	⇑P		P	21 37 42.7 -0.4
	baz=36						
E24A	Baker	35.62	342	⇑P		P	21 37 43.7 0.0
	baz=36						
MDND	Maddock	35.67	348	⇑P		P	21 37 43.6 -0.5
	baz=36						
C28A	Hausauer Farms	35.70	347	⇑P		P	21 37 44.2 -0.2
	baz=36						
G20A	Bridger	35.75	337	⇑P		P	21 37 44.1 -0.9
	baz=36						
E23A	Ismay	35.86	341	⇓P		P	21 37 45.6 -0.3
	baz=36						
H18A	Shoshone NF, C	35.87	335	⇑P		P	21 37 45.9 -0.2
	baz=36						
NV01	Mina Array Sit	35.88	320	eP		P	21 37 46.0 -0.2
NVAR	Mina Array Bea	35.88	320	P		P	21 37 47.5 +1.3
NVAR				pP		pP	21 38 02.0 +4.0
NVAR				PcP		PcP	21 40 13.4 +0.5
NVAR				pPcP			21 40 29.9
NVAR				ScP		ScP	21 43 54.8 -1.0
NVAR	Mina Array Bea	35.88	320	P		P	21 37 47.5 +1.3
	comp=Z,2.7nm,0.9s,baz=135,slow=6.7,SNR=13						
NVAR				pP		pP	21 38 02.0 +4.0
	comp=Z,6.1nm,0.9s,baz=136,slow=8.7,SNR=14						
NVAR				PcP		PcP	21 40 13.4 +0.5
	baz=134,slow=3.9						
NVAR				pPcP			21 40 29.9
	comp=Z,3.6nm,0.8s,baz=136,slow=3.6,SNR=8.9						
NVAR				ScP		ScP	21 43 54.8 -1.0
	comp=Z,0.8nm,0.7s,baz=120,slow=2.5,SNR=4.5						
NVAR				LR		LR	21 54 26.4
	comp=Z,152nm,18.9s,baz=96,slow=40						
B30A	Myrvik Farm, E	36.02	350	⇑P		P	21 37 45.7 -1.4
	baz=36						
LPAZ	La Paz	36.07	143	P		P	21 37 48.8 +0.3
LPAZ	La Paz	36.07	143	P		P	21 37 48.8 +0.3
	comp=Z,2.2nm,0.6s,baz=330,slow=7.0,SNR=7.9						
LPAZ				LR		LR	21 52 21.0
	comp=Z,119nm,20.8s,baz=235,slow=36						
D24A	Glendive	36.13	343	⇓P		P	21 37 48.3 +0.2
	baz=36						
C26A	Wahner Farm, P	36.19	346	⇓P		P	21 37 48.3 -0.3
	baz=36						
F20A	Billings	36.22	338	⇓P		P	21 37 49.1 +0.1
	baz=36						
B28A	Dugan Ranch, T	36.40	348	⇓P		P	21 37 49.7 -0.6
	baz=36						
D23A	Lindsay	36.44	342	⇓P		P	21 37 50.9 +0.2
	baz=36						
E21A	Keefer Ranch,	36.48	340	⇑P		P	21 37 50.8 -0.2
	baz=36						
A30A	Hoffart Farm,	36.49	350	⇓P		P	21 37 50.0 -1.1
	baz=36						
F19A	Roth Farm, Mol	36.56	337	⇓P		P	21 37 51.1 -0.8
	baz=36						
A29A	Manning Farm,	36.63	349	⇓P		P	21 37 51.3 -1.1
	baz=37						
D22A	Cohagen	36.72	341	⇑P		P	21 37 53.5 +0.3
	baz=37						
E20A	Meyer Farm, Mu	36.81	339	⇓P		P	21 37 54.3 +0.4
	baz=37						
B25A	Knox Farm, Ray	36.87	345	⇓P		P	21 37 54.0 -0.4
	baz=37						
D21A	La Casta Ranch	36.91	340	⇑P		P	21 37 55.2 +0.5
	baz=37						
C23A	Lambert	37.00	342	⇓P		P	21 37 55.5 +0.1
	baz=37						
E19A	Rath Farm, Rou	37.02	338	⇑P		P	21 37 56.2 +0.5
	baz=37						
HLID	Hailey	37.14	330	⇑P		P	21 37 57.4 +0.5
	baz=37						
C22A	Vida	37.16	342	⇑P		P	21 37 57.3 +0.4
	baz=37						
A26A	Wade Farm, Ken	37.18	346	⇑P		P	21 37 56.6 -0.4
	baz=37						
D20A	Manuel Ranch,	37.32	339	⇓P		P	21 37 58.8 +0.6
	baz=37						

DGMT	Dagmar	37.33	344	eP		P	21 37 57.1 -1.1
	comp=Z,30nm,0.9s						
DGMT	Dagmar	37.33	344	⇓P		P	21 37 58.3 0.0
	baz=37						
MCMT	McKenzie Canyo	37.35	332	eP		P	21 37 58.9 +0.1
ULM	Lac du Bonnet	37.44	353	P		P	21 37 56.0 -3.1
ULM	Lac du Bonnet	37.44	353	P		P	21 37 56.0 -3.1
	comp=Z,4.2nm,0.7s,baz=174,slow=8.4,SNR=6.2						
ULM				LR		LR	21 56 27.6
	comp=Z,136nm,19.2s,baz=235,slow=41						
B23A	Brockton	37.54	343	⇓P		P	21 38 00.3 +0.3
	baz=38						
D19A	Cripps Ranch,	37.65	338	⇑P		P	21 38 01.3 +0.3
	baz=38						
B22A	Reddig Ranch S	37.69	342	⇑P		P	21 38 01.5 +0.2
	baz=38						
A24A	Westby	37.69	344	⇑P		P	21 38 01.4 +0.1
	baz=38						
C20A	Veseth Ranch,	37.81	340	⇑P		P	21 38 02.6 +0.2
	baz=38						
LRM	Limekiln Ridge	37.96	334	eP		P	21 38 04.0 +0.1
C19A	Slack Wire Ran	38.19	339	⇓P		P	21 38 05.3 -0.3
	baz=38						
A22A	Carney Farms,	38.28	343	⇑P		P	21 38 06.4 +0.1
	baz=38						
A21A	Bergtoll Ranch	38.58	342	⇑P		P	21 38 09.1 +0.3
	baz=38						
EGMT	Eagleton	38.69	338	⇑P		P	21 38 10.1 +0.3
	baz=39						
B19A	Brinkman Farms	38.77	339	⇓P		P	21 38 10.7 +0.3
	baz=39						
A20A	Cobblestone Ra	38.80	341	⇑P		P	21 38 11.1 +0.4
	baz=39						
A19A	Klindworth Far	39.11	340	⇓P		P	21 38 13.4 +0.1
	baz=39						
SIV	San Ignacio	40.36	135	P		P	21 38 23.8 -0.2
SIV				PcP		PcP	21 40 26.6 -0.3
SIV	San Ignacio	40.36	135	P		P	21 38 23.8 -0.2
	comp=Z,5.1nm,0.7s,baz=320,slow=8.1,SNR=13						
SIV				PcP		PcP	21 40 26.6 -0.3
	comp=Z,2.0nm,0.7s,baz=346,slow=4.2,SNR=3.7						
YBH	Yreka Blue Hor	40.55	321	pPcP			21 40 42.6
YBH	Yreka Blue Hor	40.55	321	pPcP			21 40 42.7
	comp=Z,1.2nm,0.7s,baz=74,slow=2.2,SNR=3.8						
YBH				LR		LR	21 56 19.0
	comp=Z,131nm,19.8s,baz=137,slow=38						
SCHQ	Schefferville	45.33	18	P		P	21 38 59.8 -4.0
SCHQ	Schefferville	45.33	18	P		P	21 38 59.8 -4.0
	comp=Z,9.7nm,0.9s,baz=23,slow=12,SNR=9.4						
SCHQ				LR		LR	21 58 32.1
	comp=Z,155nm,18.2s,baz=237,slow=37						
H03N2	Juan Fernandez	47.35	168	T		T	22 30 06.8
	baz=346,slow=75,SNR=33						
H03N1	Juan Fernandez	47.37	168	T		T	22 30 13.0
	baz=346,slow=75,SNR=35						
H03N3	Juan Fernandez	47.37	168	T		T	22 30 13.6
	baz=346,slow=75,SNR=39						
BBB	Bella Bella	49.73	330	LR		LR	22 03 01.8
	comp=Z,74nm,18.1s,baz=236,slow=39						
BDFB	Brasilia	50.06	123	P		P	21 39 40.2 -0.8
BDFB	Brasilia	50.06	123	P		P	21 39 40.2 -0.8
	comp=Z,1.7nm,0.5s,baz=278,slow=15,SNR=3.1						
BDFB				LR		LR	22 02 51.8
	comp=Z,74nm,20.3s,baz=47,slow=39						
CPUP	Villa Florida	50.18	141	P		P	21 39 40.3 -1.4
CPUP	Villa Florida	50.18	141	P		P	21 39 40.3 -1.4
	comp=Z,6.1nm,1.0s,baz=325,slow=8.2,SNR=3.7						
CPUP				LR		LR	22 03 43.6
	comp=Z,49nm,18.8s,baz=177,slow=39						
YKA	Yellowknife Ar	52.49	346	P		P	21 39 56.5 -2.0
YKA				pP		pP	21 40 11.8 +1.1
YKA	Yellowknife Ar	52.49	346	P		P	21 39 56.4 -2.0
	comp=Z,4.0nm,0.8s,baz=144,slow=7.7,SNR=26						
YKA				pP		pP	21 40 11.8 +1.1
	comp=Z,1.9nm,0.8s,baz=145,slow=7.5,SNR=5.4						
FRB	Frobisher Bay	52.73	12	P		P	21 39 56.3 -3.9
FRB	Frobisher Bay	52.73	12	P		P	21 39 56.3 -3.9
	comp=Z,10nm,0.8s,baz=197,slow=6.6,SNR=9.5						
DLBC	Dease Lake	54.47	335	P		P	21 40 13.1 0.0
DLBC	Dease Lake	54.47	335	P		P	21 40 13.1 0.0
	comp=Z,2.7nm,0.9s,baz=147,slow=6.2,SNR=4.5						
PLCA	Paso Flores	56.36	163	P		P	21 40 27.2 +0.3
PLCA	Paso Flores	56.36	163	P		P	21 40 27.2 +0.3
	comp=Z,5.5nm,1.0s,baz=330,slow=6.8,SNR=6.5						
RES	Resolute Bay	61.68	358	P		P	21 41 00.2 -3.0
RES	Resolute Bay	61.68	358	P		P	21 41 00.2 -3.0
	comp=Z,1.7nm,0.4s,baz=199,slow=12,SNR=4.8						
RES				LR		LR	22 06 27.2
	comp=Z,102nm,21.0s,baz=168,slow=35						
INK	Inuvik	62.00	343	P		P	21 41 03.4 -2.1
INK	Inuvik	62.00	343	P		P	21 41 03.4 -2.1
	comp=Z,2.1nm,0.9s,baz=152,slow=10,SNR=6.0						
ILAR	Eielson Array	64.62	336	P		P	21 41 20.7 -2.3
ILAR				pP		pP	21 41 37.2 +1.7
ILAR	Eielson Array	64.62	336	P		P	21 41 20.7 -2.3
	comp=Z,1.0nm,1.0s,baz=126,slow=4.3,SNR=7.5						
ILAR				pP		pP	21 41 37.2 +1.7
	comp=Z,0.5nm,0.9s,baz=206,slow=7.4,SNR=3.0						
ILAR				LR		LR	22 13 38.7
	comp=Z,53nm,18.1s,baz=317,slow=40						
PPT	Papeete	66.56	244	LR		LR	22 03 23.7
	comp=Z,151nm,21.8s,baz=324,slow=29						
NOA	NORSAR Array B	83.84	29	LR		LR	22 19 42.3
	comp=Z,83nm,19.3s,baz=260,slow=35						
ARCES	ARCESS Array B	86.28	19	P		P	21 43 25.6 -1.4
ARCES	ARCESS Array B	86.28	19	P		P	21 43 25.6 -1.4
	comp=Z,2.0nm,0.8s,baz=280,slow=5.2,SNR=3.2						
CLL	Collm	87.63	38	ePP		pP	21 43 53.0 +6.1
TORD	Torodi Ar. Bea	88.32	77	P		P	21 43 33.2 -4.7
TORD	Torodi Ar. Bea	88.32	77	P		P	21 43 33.2 -4.7
	comp=Z,0.3nm,0.7s,baz=291,slow=6.3,SNR=3.7						
TORD				LR		LR	22 22 37.1
	comp=Z,34nm,18.1s,baz=355,slow=36						
GERES	GERESS Array B	88.83	40	LR		LR	22 22 48.5
	comp=Z,77nm,20.1s,baz=70,slow=35						
ZALV	Zalesovo Beam	113.09	4	PP		PP	21 50 07.5 -3.7
ZALV	Zalesovo Beam	113.09	4	PP		PP	21 50 07.5 -3.7
	comp=Z,0.8nm,0.7s,baz=353,slow=10,SNR=4.0						
SONM	Songino Array	117.72	348	PKP		PKPdf	21 49 30.3 -1.7
SONM				pPKP		pPKPdf	21 49 47.0 +1.6
SONM	Songino Array	117.72	348	PKP		PKPdf	21 49 30.3 -1.7
	comp=Z,0.4nm,0.8s,baz=169,slow=1.5,SNR=2.6						
SONM				pPKP		pPKPdf	21 49 47.0 +1.6
	comp=Z,0.7nm,0.6s,baz=8.4,slow=1.4,SNR=5.3						
MKAR	Makanchi Array	119.98	6	PKP		PKPdf	21 49 35.1 -1.1
MKAR				pPKP		pPKPdf	21 49 50.0 +0.3
MKAR	Makanchi Array	119.98	6	PKP		PKPdf	21 49 35.1 -1.1
	comp=Z,0.3nm,0.7s,baz=346,slow=2.4,SNR=3.5						
MKAR				pPKP		pPKPdf	21 49 50.0 +0.3
	comp=Z,0.5nm,0.8s,baz=335,slow=1.7,SNR=3.3						
HHC	Hu-ho-hao-te	122.89	341	PKP		PKPdf	21 49 35.9 -6.2
HHC				PP		PP	21 51 19.9 +0.3
HHC				AMB		AMB	
	comp=Z,93nm,9.3s						
WMQ	Urumqi	123.34	2	ePKP		PKPdf	21 49 38.8 -4.0
LZH	Lanzhou	129.49	346	ePKP		PKPdf	21 49 50.5 -4.4
LZH				sPKP			21 50 25.8
STKA	Stephens Creek	129.61	239	PKP		PKPdf	21 49 55.4 +0.4
STKA	Stephens Creek	129.61	239	PKP		PKPdf	21 49 55.4 +0.4
	comp=Z,3.0nm,1.0s,baz=300,slow=23,SNR=3.3						
CD2	Chengdu	134.43	344	ePKP		PKPdf	21 50 00.6 -3.7
WRA	Warramunga Arr	137.41	255	PKP		PKPdf	21 50 10.2 +0.2
WRA				SKP			21 53 43.4
WRA	Warramunga Arr	137.41	255	PKP		PKPdf	21 50 10.2 +0.2
	comp=Z,2.2nm,0.9s,baz=93,slow=1.9,SNR=10						
WRA				SKP			21 53 43.4
	comp=Z,1.5nm,0.9s,baz=88,slow=3.0,SNR=7.3						
ASAR	Alice Springs	137.54	249	PKP		PKPdf	21 50 10.1 0.0
ASAR				SKP			21 53 43.9
ASAR	Alice Springs	137.54	249	PKP		PKPdf	21 50 10.1 0.0
	comp=Z,2.2nm,1.1s,baz=104,slow=2.3,SNR=7.3						
ASAR				SKP			21 53 43.9
	comp=Z,0.7nm,0.8s,baz=104,slow=3.0,SNR=7.9						
GYA	Guiyang	137.65	338	ePdf		Pdif	21 47 14.2 -4.7
GYA				PKP		PKPdf	21 50 06.8 -3.6
GYA				sPKP			21 50 40.0
GYA				PP		PP	21 52 57.3 +1.7
GYA				AMB		AMB	
	comp=Z,80nm,7.8s						
CMAR	Chiang Mai Arr	147.57	345	PKPbc		PKPdf	21 50 27.3 -0.7
CMAR				pPKPbc		pPKPbc	21 50 44.4 +0.4
CMAR	Chiang Mai Arr	147.57	345	PKPbc		PKPdf	21 50 27.3 -0.7
	comp=Z,2.8nm,0.8s,baz=346,slow=3.6,SNR=20						
CMAR				pPKPbc		pPKPbc	21 50 44.4 +0.4
	comp=Z,7.2nm,0.9s,baz=335,slow=3.5,SNR=14						

MEX 11 21:55:57.5±1.2, 17.54N×99.40W, h15km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.43	332	i	P		Pg	21 56 04.5	-1.9
MEIG				i	S		Sg	21 56 10.3	-2.1
PLIG	Platanillo	0.85	354	i	P		Pb	21 56 11.6	-2.6
PLIG				i	S		Sb	21 56 22.8	-2.7
CAIG	El Cayaco	0.96	239	i	P		Pb	21 56 12.6	-3.3
CAIG				i	S		Sb	21 56 24.1	-4.3
ARIG	Puente Sto Nin	1.16	309	eP			Pn	21 56 16.4	-2.9
ARIG				eS			Sb	21 56 30.6	-3.7

IDC 11 22:37:50.7±0.6, 5.50N×126.74E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/25, mbtmp4.1/14, Error ellipse: s-maj=29.9km s-min=13.3km az=73.0
NEIC 11 22:37:58.1±1.2, 5.45N×126.65E, h58km±10km, mb4.6/13, Error ellipse: s-maj=14.2km s-min=5.7km az=62.0

ISC 11 22:37:51.7±2.0, 5.44N±0.06×126.67E±0.08, h8km±11km, n70, σ0 92/76, mb4.3/26, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	Mati	1.55	345	eP			Pg	22 38 23.2	+1.7
MATI				eS			Sn	22 38 29.4	-11
GSPH	General Santos	1.83	291	⇓i	P		Pn	22 38 23.6	0.0
DAV	Davao City (W)	1.95	326	eP	n		Pg	22 38 28.7	-0.4
DAV				eS	n		Sg	22 38 53.4	-1.0
BIPH	Bislig	2.74	354	⇑i	P		Pb	22 38 40.1	-0.9
BIPH				i	S		Sb	22 39 14.0	-0.8
BUKP	Musuan	2.90	327	eP			Pb	22 38 43.1	-0.6
BUKP				eS			Sn	22 39 15.1	+1.7
CGP	Cagayan de Oro	3.58	327	eP			Pb	22 38 52.3	-3.0
CGP				i	S		Sb	22 39 41.0	+2.0
PAOZ	Pagadian	4.05	306	eP			Pb	22 39 03.2	-0.1
SCPH	Surigao	4.47	345	⇓i	P		Pb	22 39 08.8	-1.7
MSLP	Maasin	5.00	339	eP			Pn	22 39 09.3	+2.3
FITZ	Fitzroy Crossi	23.42	182	eP		P	P	22 43 01.3	-0.1
FITZ	Fitzroy Crossi	23.42	182	P		P	P	22 43 02.7	+1.3
	3.1nm,1.0s,baz=350,slow=7.9,SNR=3.7								
WRAB	Tennant Creek	26.32	164	eP		P	P	22 43 29.0	+0.7
	5.2nm,0.8s								
WRA	Warramunga Arr	26.33	164	P		P	P	22 43 29.1	+0.8
WRA	Warramunga Arr	26.33	164	P		P	P	22 43 29.1	+0.8
	1.7nm,0.6s,baz=343,slow=10,SNR=9.3								
PSI	Prapat	27.80	266	P		P	P	22 43 42.9	+1.1
PSI	Prapat	27.80	266	P		P	P	22 43 42.9	+1.1
	5.5nm,0.6s,baz=146,slow=4.6,SNR=4.8								
ASAR	Alice Springs	29.78	167	P		P	P	22 44 00.0	+0.9
ASAR				PcP		PcP	P	22 47 02.7	-0.2
ASAR	Alice Springs	29.78	167	P		P	P	22 44 00.0	+0.9
	0.3nm,0.6s,baz=340,slow=7.1,SNR=3.8								
ASAR				PcP		PcP	P	22 47 02.7	-0.2
	0.3nm,0.5s,baz=334,slow=2.5,SNR=4.0								
CMAR	Chiang Mai Arr	29.99	298	P		P	P	22 44 02.2	+1.1
CMAR	Chiang Mai Arr	29.99	298	P		P	P	22 44 02.2	+1.1
	0.7nm,0.4s,baz=113,slow=7.5,SNR=4.4								
CHTO	Chiang Mai	30.13	299	eP		P	P	22 44 02.2	-0.1
	1.7nm,0.7s								
USRK	Ussuriysk Arra	38.88	6	P		P	P	22 45 17.4	-0.3
	1.2nm,0.7s,baz=177,slow=6.5,SNR=5.2								
STKA	Stephens Creek	39.74	160	eP		P	P	22 45 23.7	-1.3
	1.2nm,1.0s								
STKA	Stephens Creek	39.74	160	P		P	P	22 45 25.4	+0.4
	1.6nm,0.7s,baz=342,slow=9.6,SNR=4.0								
H11N1	WAKE ISLAND Hy	41.60	66	T		T		23 30 11.0	
	baz=258,slow=75,SNR=9.9								
H11N2	WAKE ISLAND Hy	41.61	66	T		T		23 30 17.6	
	baz=258,slow=75,SNR=7.1								
H11N3	WAKE ISLAND Hy	41.62	66	T		T		23 30 13.7	
	baz=258,slow=75,SNR=5.7								
TAPN	Taplejung	42.98	305	eP		P	P	22 45 51.1	-1.0
TAPN	Taplejung	42.98	305	eP		P	P	22 45 51.1	-1.0
ODAN	Odare	43.05	304	eP		P	P	22 45 52.8	+0.2
	7.9nm,0.7s								
ODAN	Odare	43.05	304	eP		P	P	22 45 52.8	+0.2
	7.9nm,0.7s								
RAMN	Ramite	43.74	304	eP		P	P	22 45 58.2	0.0
	6.2nm,0.5s								
RAMN	Ramite	43.74	304	eP		P	P	22 45 58.2	0.0
	6.2nm,0.5s								
JIRN	Jiri	44.34	305	eP		P	P	22 46 02.9	-0.3
JIRN	Jiri	44.34	305	eP		P	P	22 46 02.9	-0.3
GUN	Gumba	44.69	305	eP		P	P	22 46 05.1	-0.8
	12nm,0.8s								
GUN	Gumba	44.69	305	eP		P	P	22 46 05.1	-0.8
	12nm,0.8s								
SONM	Songino Array	45.67	341	P		P	P	22 46 13.7	+0.6
SONM				PcP		PcP	P	22 47 51.5	+0.3
SONM	Songino Array	45.67	341	P		P	P	22 46 13.7	+0.6
	1.1nm,0.9s,baz=149,slow=7.9,SNR=7.7								
SONM				PcP		PcP	P	22 47 51.5	+0.3
	0.2nm,0.5s,baz=145,slow=3.5,SNR=3.0								
GKN	Gorkha	45.75	304	eP		P	P	22 46 13.7	-0.4
GKN	Gorkha	45.75	304	eP		P	P	22 46 13.7	-0.4
KOLN	Koldanda	46.52	303	eP		P	P	22 46 20.5	+0.3
	12nm,0.6s								
KOLN	Koldanda	46.52	303	eP		P	P	22 46 20.5	+0.3
	12nm,0.6s								
DANN	Dangsing	46.59	304	eP		P	P	22 46 20.4	-0.5

1.3nm,0.8s,baz=73,slow=7.7,SNR=3.3

IDC ***11*** *22:52:29.0±0.9,2°.35N×126°.18E,h0km,mb4.0/9, mb1 4.1/9,mb1mx3.9/23,mbtmp4.0/9,Error ellipse: s-maj=107.3km s-min=15.8km az=71.0*
AUST ***11*** *22:52:31.4±1.7,2°.87N×126°.92E,h52km,Error ellipse: s-maj=1.9km s-min=1.6km az=33.0*
ISCJB ***11*** *22:52:35.0±0.6,2°.39N±0°.05×126°.47E±0°.06,h55km, mb4.0/8,Error ellipse: s-maj=8.1km s-min=6.8km az=0.7*
DJA ***11*** *22:52:38.6±1.1,2°.N±6°×12°.6E±°,h50km±29km,M4.6/8, mb5.1/1,mB4.9/1,MLv4.3/8,Mw(mB)4.2/1*

ISC 11 22:52:36.9±0.7,2°.43N±0°.05×126°.38E±0°.07,h55km,n25, σ1§28/28,mb4.1/8,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.51**	**326**	P	**Pn**	**22 53 03.5**	**+1.8**
SGSI				S	**Sn**	**22 53 21.2**	**+0.9**
TNTI	**Ternate**	**1.92**	**149**	P	**Pn**	**22 53 08.5**	**+1.3**
KMSI	**Cibinong**	**3.02**	**232**	P	**Pn**	**22 53 24.0**	**+1.7**
KMSI				S	**Sn**	**22 53 58.5**	**+1.1**
LBMI	**Labuha**	**3.25**	**160**	P	**Pn**	**22 53 26.7**	**+1.3**
GTOI	**Gorontalo**	**3.81**	**242**	P	**Pn**	**22 53 32.9**	**-0.2**
MRSI	**Marisa**	**4.84**	**246**	P	**Pn**	**22 53 47.2**	**-0.1**
LUWI	**Luwuk**	**4.99**	**226**	P	**Pn**	**22 53 49.5**	**+0.2**
LUWI				S	**Sn**	**22 54 46.2**	**+0.5**
LUWI	**Luwuk** baz=5.7,SNR=18	**4.99**	**226**	P	**Pn**	**22 53 51.4**	**+2.1**
APSI	**Ampana**	**5.78**	**235**	P	**Pn**	**22 54 01.2**	**+1.1**
MTN	**Manton Dam** baz=16,SNR=3.3	**15.89**	**163**	P	**P**	**22 56 22.8**	**+2.9**
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=26,slow=11,SNR=11	**20.41**	**182**	P	**P**	**22 57 07.7**	**-2.0**
FITZ	**Fitzroy Crossi** baz=21,SNR=6.0	**20.41**	**182**	P	**P**	**22 57 08.1**	**-1.6**
WRA	**Warramunga Arr** 5.3nm,0.8s,baz=340,slow=11,SNR=14	**23.57**	**161**	P	**P**	**22 57 40.9**	**-1.9**
ASAR	**Alice Springs** 0.9nm,0.3s,baz=341,slow=11,SNR=10	**26.95**	**165**	P	**P**	**22 58 12.8**	**-0.6**
ASAR				PcP	**PcP**	**23 01 34.9**	**+0.5**
WRKA	**Warakurna** baz=28,SNR=11	**27.37**	**176**	P	**P**	**22 58 16.9**	**-0.2**
MEEK	**Meekatharra** baz=31,SNR=3.1	**29.85**	**194**	P	**P**	**22 58 38.8**	**-0.5**
BBOO	**Buckleboo** baz=37,SNR=5.3	**36.23**	**166**	P	**P**	**22 59 34.5**	**-0.2**
STKA	**Stephens Creek** 1.9nm,0.7s,baz=348,slow=11,SNR=5.7	**37.05**	**158**	P	**P**	**22 59 40.8**	**-0.9**
STKA	**Stephens Creek** baz=37,SNR=4.1	**37.05**	**158**	P	**P**	**22 59 41.4**	**-0.3**
SONM	**Songino Array** 0.3nm,0.4s,baz=165,slow=7.7,SNR=4.6	**48.41**	**342**	P	**P**	**23 01 13.4**	**-0.3**
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=120,slow=7.6,SNR=22	**58.42**	**326**	P	**P**	**23 02 26.1**	**-1.0**
VNDA	**Vanda** 0.4nm,0.5s,baz=328,slow=6.0,SNR=3.7	**82.19**	**173**	P	**P**	**23 04 50.0**	**-1.5**
MAW	**Mawson** baz=83,SNR=6.7	**82.42**	**200**	P	P	23 04 47.4	-5.4
ARCES	**ARCESS Array B** 2.2nm,0.9s,baz=92,slow=6.3,SNR=3.0	**91.54**	**340**	P	**P**	**23 05 37.5**	**+0.2**
FINES	**FINESS Array B** 2.0nm,0.9s,baz=35,slow=5.8,SNR=4.8	**92.81**	**332**	P	**P**	**23 05 42.9**	**-0.4**

IDC 11 23:12:30.1±1.2,55°.44S×27°.47W,h0km,mb3.9/2, mb1 4.1/2,mb1mx3.6/16,mbtmp3.9/2,Error ellipse: s-maj=92.6km s-min=30.8km az=103.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda** 1.5nm,0.6s,baz=193,slow=7.3,SNR=17	**47.18**	**183**	P	P	23 21 03.6	0.0
TORD	**Torodi Ar. Bea** 0.6nm,0.6s,baz=198,slow=6.5,SNR=12	**72.60**	**30**	P	P	23 23 59.2	+0.2
ILAR	**Eielson Array** 0.8nm,0.6s,baz=96,slow=1.8,SNR=5.5	**149.59**	**312**	PKPbc	PKPbc	23 32 19.3	-0.6
SONM	**Songino Array** 0.9nm,0.6s,baz=212,slow=4.0,SNR=14	**150.84**	**86**	PKPbc	PKPbc	23 32 23.1	-0.5

IDC ***11*** *23:21:44.6±0.9,2°.89S×138°.47E,h0km,mb3.9/5, mb1 4.2/9,mb1mx4.1/16,mbtmp4.1/9,ML3.8/4,MS3.7/11, Ms1 3.7/11,ms1mx3.5/26,Error ellipse: s-maj=37.6km s-min=17.1km az=82.0*
AUST ***11*** *23:21:44.4,2°.44S×139°.01E,h100km*
ISCJB ***11*** *23:21:49.6±0.5,3°.04S±0°.06×138°.61E±0°.06,h62km, mb3.8/8,Error ellipse: s-maj=8.9km s-min=7.1km az=139.0*
DJA ***11*** *23:21:53.4±0.4,3°.S±3°×13°.9E±°,h10km,M4.5/4,mb4.9/3, mB6.5/1,MLv4.4/4,Mw(mB)6.2/1,Mwp7.0/1*

ISC 11 23:21:51.3±0.7,3°.00S±0°.08×138°.68E±0°.06,h62km,n30, σ1§29/21,mb3.8/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.54**	**75**	P	**Pn**	**23 22 15.2**	**-1.3**
GENI				S	**Sn**	**23 22 37.3**	**+1.7**
SRPI	**Serui, Papua**	**2.69**	**295**	P	Pn	23 22 39.5	+7.3
BAKI	**Biak**	**3.14**	**305**	P	Pn	23 22 44.1	+5.7
FAKI	**Fak Fak** baz=6.8,SNR=5.6	**6.43**	**271**	P	**Pn**	**23 23 23.9**	**+0.5**
PMG	**Port Moresby** 0.6nm,0.3s,baz=309,slow=12,SNR=7.1	**10.56**	**127**	Pn	**Pn**	**23 24 21.8**	**+1.8**
KDU	**Kakadu** baz=12,SNR=33	**11.42**	**212**	P	**Pn**	**23 24 29.9**	**-1.8**
COEN	**Coen** baz=12,SNR=4.4	**11.76**	**158**	P	**Pn**	**23 24 35.0**	**-1.3**
MTN	**Manton Dam** baz=13,SNR=26	**12.31**	**217**	P	**Pn**	**23 24 42.5**	**-1.4**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=15,slow=12,SNR=27	**17.37**	**194**	P	**Pn**	**23 25 48.2**	**-1.4**
WRA				S	Sn	23 28 51.2	-11
	0.3nm,0.3s,baz=8.3,slow=23,SNR=3.4						
WRA				Lg	Lg	23 30 57.2	
	baz=10,slow=29,SNR=3.2						
WRA				LR	LR	23 32 59.3	
	comp=Z,412nm,18.4s,baz=0.0,slow=39						
QIS	**Mount Isa** baz=18,SNR=8.4	**17.48**	**177**	P	**Pn**	**23 25 49.7**	**-1.2**
CTA	**Charters Tower** 0.3nm,0.3s,baz=350,slow=11,SNR=6.3	**18.52**	**157**	P	**Pn**	**23 26 05.1**	**+1.4**
CTA				Lg	Lg	23 31 39.7	
	0.1nm,0.3s,baz=246,slow=20,SNR=3.2						
WSI	**Waingapu** baz=20,SNR=4.7	**19.43**	**249**	P	P	23 26 07.7	-5.1
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=56,slow=14,SNR=3.1	**19.72**	**220**	P	**P**	**23 26 16.1**	**+0.2**
FITZ				S	S	23 29 43.5	-12
	0.1nm,0.3s,baz=235,slow=18,SNR=1.8						
FITZ				LR	LR	23 34 33.7	
	comp=Z,136nm,19.3s,baz=40,slow=39						
FITZ	**Fitzroy Crossi** baz=20,SNR=5.2	**19.72**	**220**	P	**Pn**	**23 26 17.2**	**-0.6**
ASAR	**Alice Springs** 9.9nm,0.8s,baz=20,slow=9.6,SNR=62	**21.06**	**192**	P	**P**	**23 26 30.2**	**-0.2**
ASAR				S	**S**	**23 30 24.1**	**+2.4**
	2.6nm,0.9s,baz=8.5,slow=16,SNR=4.4						
WRKA	**Warakurna** baz=25,SNR=13	**24.09**	**204**	P	**P**	**23 27 01.5**	**+0.3**
NGJI	**Ngawi**	**27.45**	**260**	P	P	23 27 43.7	+12
STKA	**Stephens Creek** 1.3nm,0.7s,baz=7.5,slow=14,SNR=2.8	**28.86**	**175**	P	P	23 27 50.4	+6.3
STKA				LR	LR	23 40 32.3	
	comp=Z,222nm,19.4s,baz=21,slow=39						
JCJ	**Chichijima** comp=Z,106nm,19.9s,baz=88,slow=31	**30.11**	**6**	LR	LR	23 37 21.6	
MJAR	**Matsushiro Arr** 1.7nm,0.7s,baz=177,slow=9.7,SNR=4.1	**39.34**	**359**	P	**P**	**23 29 13.6**	**-1.0**
KSRS	**Korea Array** 1.6nm,0.7s,baz=148,slow=9.6,SNR=4.7	**41.47**	**347**	P	**P**	**23 29 32.0**	**-0.1**
KSRS				LR	LR	23 45 23.5	
	comp=Z,38nm,19.5s,baz=258,slow=34						
CMAR	**Chiang Mai Arr** comp=Z,31nm,21.8s,baz=120,slow=34	**44.56**	**300**	LR	LR	23 46 50.7	
SONM	**Songino Array** 0.3nm,0.8s,baz=114,slow=3.6,SNR=2.5	**57.97**	**335**	P	**P**	**23 31 38.4**	**+0.8**
SONM				LR	LR	23 54 14.4	
	comp=Z,104nm,19.1s,baz=114,slow=34						
PETK	**Petropavlovsk-** comp=Z,49nm,20.4s,baz=18,slow=31	**58.15**	**13**	LR	LR	23 51 48.1	
MKAR	**Makanchi Array**	**70.00**	**322**	P	**P**	**23 32 57.1**	**+0.6**
	0.9nm,0.8s,baz=116,slow=8.5,SNR=7.9						
VNDA	**Vanda** 1.3nm,0.8s,baz=313,slow=2.6,SNR=2.7	**75.50**	**175**	P	P	23 33 34.1	+5.7
VNDA				LR	LR	00 07 32.4	
	comp=Z,102nm,18.3s,baz=85,slow=36						
MAW	**Mawson** comp=Z,52nm,18.7s,baz=240,slow=33	**81.85**	**202**	LR	LR	00 06 22.7	
ILAR	**Eielson Array** 0.4nm,0.5s,baz=266,slow=4.4,SNR=6.0	**86.11**	**24**	P	**P**	**23 34 24.4**	**-0.8**
YBH	**Yreka Blue Hor** comp=Z,68nm,18.1s,baz=0.1,slow=34	**98.41**	**48**	LR	LR	00 16 50.7	
LPAZ	**La Paz** 1.1nm,0.5s,baz=217,slow=4.3,SNR=4.3	**147.29**	**127**	PKPbc	**PKPab**	**23 41 31.8**	**+0.3**

MEX 11 23:45:36.2±0.5,16°.27N×94°.78W,h123km±16km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.37**	**249**	*e*P	Pn	23 46 01.0	-1.3
HUIG				*i* S	Sn	23 46 20.5	-1.6
PCIG		**1.60**	**110**	*e*P	Pn	23 46 03.6	-1.4
PCIG				*i* S	Sn	23 46 25.9	-1.1
VHO	**Vista Hermosa**	**2.03**	**294**	*e*P	Pn	23 46 09.2	-1.3
VHO				*i* S	Sn	23 46 35.1	-1.6
TPIG	**Tehuac#an**	**3.26**	**311**	*i* P	Pn	23 46 25.6	-0.7
TPIG				*i* S	Sn	23 47 03.8	-1.2
TEIG	**Tepich**	**7.33**	**57**	*i* P	Pn	23 47 15.8	-4.9

ISCJB ***12*** *00:19:04.2±0.5,67°.82N±0°.03×20°.18E±0°.10,h0km,Error ellipse: s-maj=5.6km s-min=4.0km az=21.0*
CSEM ***12*** *00:19:04.8±0.2,67°.83N×20°.15E,h2km,ML1.5,Error ellipse: s-maj=5.0km s-min=4.2km az=128.0,Mining explosion.*
UPP ***12*** *00:19:04.7,67°.83N×20°.19E,h0km,ML1.5,Mining explosion.*
HEL ***12*** *00:19:05.4±0.0,67°.83N×20°.18E,h0km,ML1.4, ML1.5(UPP),Explosion*
IDC ***12*** *00:19:05.3±1.4,67°.77N×20°.25E,h0km,mb1 2.8/3, mb1mx2.7/28,mbtmp2.7/3,ML2.3/3,Error ellipse: s-maj=19.7km s-min=9.9km az=120.0*

ISC 12 00:19:04.2±0.8,67°.80N±0°.03×20°.19E±0°.03,h0km,n32, σ1§24/49,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.16**	**20**	*i* P	**Pg**	**00 19 07.6**	**+0.3**
KUA				*i* S	**Sg**	**00 19 09.6**	**+0.2**
KUA	**Kurravaara**	**0.16**	**20**	P	**Pg**	**00 19 07.6**	**+0.3**
KUA				S	**Sg**	**00 19 09.6**	**+0.2**
NIKU	**Nikkaluokta**	**0.44**	**279**	*i* P	**Pg**	**00 19 13.2**	**+0.5**
NIKU	**Nikkaluokta**	**0.44**	**279**	P	**Pg**	**00 19 13.2**	**+0.5**
DUNU	**Dundret**	**0.70**	**168**	*i* P	**Pg**	**00 19 18.3**	**+0.7**
DUNU	**Dundret**	**0.70**	**168**	P	**Pg**	**00 19 18.3**	**+0.7**
LANU	**Lannavaara**	**0.72**	**69**	*i* P	**Pg**	**00 19 18.1**	**0.0**
LANU	**Lannavaara**	**0.72**	**69**	P	**Pg**	**00 19 18.1**	**0.0**
SALU	**Saltoluokta**	**0.77**	**237**	*i* P	**Pg**	**00 19 19.6**	**+0.6**
SALU	**Saltoluokta**	**0.77**	**237**	P	**Pg**	**00 19 19.5**	**+0.6**
MASU	**Masugnsbyn**	**0.78**	**116**	*i* P	**Pg**	**00 19 19.6**	**+0.6**
MASU	**Masugnsbyn**	**0.78**	**116**	P	**Pg**	**00 19 19.6**	**+0.6**
KIF	**Kilpisjarvi**	**1.23**	**10**	*e*P	**Pg**	**00 19 27.8**	**0.0**
KIF				*e*S	**Sg**	**00 19 43.6**	**-0.1**
KIF				MSG		00 19 47.7	
	comp=Z,4.2nm,0.1s						
KIF	**Kilpisjarvi**	**1.23**	**10**	P	**Pg**	**00 19 27.7**	**0.0**
KIF				S	**Sg**	**00 19 43.5**	**-0.1**
HEF	**Hetta**	**1.44**	**63**	*e*P	**Pn**	**00 19 31.1**	**-0.5**
HEF				*e*S	**Sg**	**00 19 49.4**	**-0.9**
HEF				MSG		00 19 54.8	
	comp=Z,3.1nm,0.1s						
HEF	**Hetta**	**1.44**	**63**	P	**Pn**	**00 19 31.0**	**-0.5**
HEF				S	**Sg**	**00 19 49.4**	**-0.9**
ERTU	**Ertsjaerv**	**1.48**	**147**	*e*P	**Pn**	**00 19 32.1**	**+0.1**
ERTU	**Ertsjaerv**	**1.48**	**147**	P	**Pn**	**00 19 32.1**	**+0.1**
HARU	**Harads**	**1.68**	**169**	*e*P	**Pb**	**00 19 35.7**	**-0.2**
HARU	**Harads**	**1.68**	**169**	P	**Pb**	**00 19 35.7**	**-0.2**
SGF	**Sodankyl**	**2.45**	**96**	*e*P	**Pn**	**00 19 46.6**	**+1.2**
SGF				*e*S	**Sn**	**00 20 17.5**	**+1.4**
SGF	**Sodankyl**	**2.45**	**96**	P	**Pn**	**00 19 46.6**	**+1.2**
SGF				S	**Sn**	**00 20 17.4**	**+1.4**
RNF	**Rovaniemi**	**2.57**	**115**	*e*P	**Pb**	**00 19 49.6**	**-1.5**
RNF				*e*S	**Sn**	**00 20 21.3**	**+2.5**
RNF	**Rovaniemi**	**2.57**	**115**	P	**Pb**	**00 19 49.5**	**-1.5**
RNF				S	**Sn**	**00 20 21.3**	**+2.5**
ARA0	**ARCESS Array S**	**2.61**	**46**	*e*P	**Pn**	**00 19 49.1**	**+1.4**
ARA0				*e*S	**Sn**	**00 20 20.3**	**+0.3**
ARA0	**ARCESS Array S**	**2.61**	**46**	P	**Pn**	**00 19 49.0**	**+1.4**
ARA0				S	**Sn**	**00 20 20.2**	**+0.3**
ARCES	**ARCESS Array B**	**2.61**	**46**	Pn	**Pn**	**00 19 49.1**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=227,slow=15,SNR=2.5						
ARCES				S	**Sn**	**00 20 21.6**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=221,slow=26,SNR=3.8						
KEV	**Kevo**	**3.16**	**49**	*e*P	**Pn**	**00 19 56.4**	**+1.3**
KEV				*e*S	**Sn**	**00 20 33.2**	**-0.3**
KEV	**Kevo**	**3.16**	**49**	P	**Pn**	**00 19 56.4**	**+1.3**
KEV				S	**Sn**	**00 20 33.2**	**-0.3**
FINES	**FINESS Array B**	**6.86**	**156**	Pn	**Pn**	**00 20 47.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=339,slow=10,SNR=1.9						
FINES				Sn	**Sn**	**00 22 02.9**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=354,slow=26,SNR=1.6						
FINES				Lg	Lg	00 22 39.6	
	comp=Z,0.4nm,0.3s,baz=342,slow=28,SNR=5.1						
NOA	**NORSAR Array B**	**7.81**	**214**	Pn	**Pn**	**00 20 58.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=19,slow=14,SNR=3.1						
NOA				Sn	**Sn**	**00 22 23.3**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=52,slow=24,SNR=1.1						
NOA				Lg	Lg	00 23 08.9	
	comp=Z,0.2nm,0.3s,baz=128,slow=23,SNR=2.7						
HFS	**Hagfors**	**8.21**	**203**	Sn	**Sn**	**00 22 36.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=40,slow=21,SNR=2.8						
HFS				Lg	Lg	00 23 23.2	
	comp=Z,0.3nm,0.3s,baz=25,slow=28,SNR=2.8						

IDC 12 00:37:55.0±1.2,5°.91N×127°.20E,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.7/23,mbtmp3.9/6,Error ellipse: s-maj=76.4km s-min=19.9km az=65.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=343,slow=10,SNR=3.3	**26.63**	**165**	P	P	00 43 33.6	-1.9
ASAR	**Alice Springs** 0.1nm,0.4s,baz=353,slow=7.4,SNR=3.1	**30.11**	**168**	P	P	00 44 08.6	+2.0
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=81,slow=7.4,SNR=4.4	**30.25**	**297**	P	P	00 44 07.7	-0.2
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=121,slow=7.2,SNR=4.5	**56.06**	**324**	P	P	00 47 35.8	-0.1
BVAR	**Borovoye Array** baz=94,slow=4.3	**65.77**	**326**	P	P	00 48 42.1	+0.2
ARCES	**ARCESS Array B** 3.5nm,1.0s,baz=88,slow=5.5,SNR=3.3	**88.58**	**340**	P	P	00 50 49.6	+0.1
FINES	**FINESS Array B** 1.1nm,0.8s,baz=81,slow=6.0,SNR=5.1	**90.15**	**332**	P	P	00 50 56.6	-0.4

IDC 12 00:41:28.4±3.0,4°.65N×93°.21E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.4/27,mbtmp3.6/4,ML4.5/1,Error ellipse: s-maj=110.9km s-min=28.7km az=60.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=215,slow=11,SNR=3.4	**14.82**	**22**	Pn	Pn	00 44 59.5	+0.1
H08S2	**Diego Garcia H** baz=59,slow=76,SNR=3.0	**24.01**	**240**	T	T	01 12 58.8	
H08S3	**Diego Garcia H** baz=59,slow=76,SNR=4.4	**24.01**	**240**	T	T	01 12 56.9	
H08S1	**Diego Carcia H** baz=59,slow=76,SNR=4.8	**24.03**	**240**	T	T	01 13 00.4	
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=168,slow=7.8,SNR=4.9	**43.03**	**349**	P	P	00 49 29.9	+0.2
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=302,slow=9.3,SNR=3.0	**47.23**	**123**	P	P	00 50 03.5	-0.1
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=177,slow=5.8,SNR=2.5	**49.62**	**353**	P	P	00 50 21.0	-0.4

IDC ***12*** *01:00:48.0±0.5,0°.33S×132°.34E,h0km,mb4.4/13, mb1 4.6/15,mb1mx4.4/25,mbtmp4.5/15,ML4.2/2,MS3.8/13, Ms1 3.8/13,ms1mx3.6/38,Error ellipse: s-maj=24.0km s-min=11.1km az=73.0*
ISCJB ***12*** *01:00:51.3±0.3,0°.39S±0°.03×132°.41E±0°.05,h33km, mb4.7/49,MS3.9/19,Error ellipse: s-maj=7.6km s-min=4.2km az=155.8*
BJI ***12*** *01:00:52.2,0°.40S×132°.40E,h35km,mB5.0/11,mb4.6/23, Ms4.6/12,Ms7 4.3/13*
NEIC ***12*** *01:00:54.9±1.1,0°.39S×132°.34E,h52km±9km,mb4.6/28, Error ellipse: s-maj=8.1km s-min=3.7km az=50.0*
AUST ***12*** *01:01:03.0,0°.99S×132°.00E,h100km*

ISC 12 01:00:53.3±0.3,0°.39S±0°.04×132°.42E±0°.06,h33km,n153, σ1§43/174,mb4.7/49,MS3.9/19,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak** baz=1.9,SNR=336	**2.52**	**184**	P	**Pn**	**01 01 31.9**	**0.0**
KDU	**Kakadu** baz=12,SNR=8.8	**12.22**	**180**	P	**Pn**	**01 03 44.6**	**-0.5**
KAPI	**Kappang**	**13.46**	**250**	*e*Pn	**Pn**	**01 04 02.9**	**+0.8**
KAPI				*e*Sn	**Sn**	**01 06 32.2**	**+1.6**
COEN	**Coen** 102nm,0.9s	**17.18**	**142**	*e*Pn	**Pn**	**01 04 50.9**	**-0.1**
COEN	**Coen** baz=17,SNR=6.4	**17.18**	**142**	P	**P**	**01 04 52.9**	**+0.6**
PMG	**Port Moresby**	**17.19**	**122**	*e*Pn	**P**	**01 04 53.6**	**+1.1**
PMG	**Port Moresby** 1.3nm,0.3s,baz=290,slow=5.9,SNR=14	**17.19**	**122**	Pn	**P**	**01 04 53.1**	**+0.6**
PMG	**Port Moresby** baz=17,SNR=3.1	**17.19**	**122**	P	**P**	**01 04 54.0**	**+1.5**
PMG				P	**P**	**01 04 54.0**	**+1.5**
	baz=17,SNR=3.1						
PMG				P	**P**	**01 04 54.0**	**+1.5**
	baz=17,SNR=3.1						
KKM	**Kota Kinabalu**	**17.39**	**292**	*e*Pn	**Pn**	**01 04 53.4**	**-0.4**
FITZ	**Fitzroy Crossi** 21nm,1.0s	**18.82**	**200**	*e*P	**P**	**01 05 07.2**	**-3.2**
FITZ				S	Sn	01 08 28.9	-12
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=48,slow=11,SNR=13	**18.82**	**200**	P	**P**	**01 05 07.1**	**-3.3**
FITZ				S	Sn	01 08 28.9	-12
	0.5nm,0.3s,baz=107,slow=21,SNR=3.5						
FITZ				LR	LR	01 12 25.1	
	comp=Z,228nm,21.6s,baz=26,slow=37						
FITZ	**Fitzroy Crossi** baz=18,SNR=4.4	**18.82**	**200**	P	**P**	**01 05 07.2**	**-3.2**
WRAB	**Tennant Creek** 37nm,1.0s	**19.51**	**175**	*e*P	**P**	**01 05 17.6**	**-0.4**
WRAB				*e*Sn	S	01 08 46.3	-11
WRA	**Warramunga Arr**	**19.52**	**175**	P	**P**	**01 05 17.6**	**-0.5**
WRA				S	S	01 08 45.6	-11
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=354,slow=11,SNR=50	**19.52**	**175**	P	**P**	**01 05 17.6**	**-0.5**
WRA				S	S	01 08 45.6	-11
	0.7nm,0.3s,baz=353,slow=23,SNR=8.1						
SBUM	**Sibu** 28nm,1.0s	**20.39**	**278**	*e*P	Pn	01 05 28.9	-1.0
QIS	**Mount Isa** baz=23,SNR=24	**21.24**	**161**	P	**P**	**01 05 36.8**	**0.0**
KSM	**Kuching** baz=22,SNR=4.4	**22.18**	**275**	P	**P**	**01 05 48.9**	**+2.0**
AS31	**Alice Springs**	**23.18**	**177**	*e*P	**P**	**01 05 56.9**	**-0.5**
ASAR	**Alice Springs**	**23.18**	**177**	P	**P**	**01 05 56.9**	**-0.5**
ASAR				S	**S**	**01 10 12.1**	**+5.1**
ASAR	**Alice Springs** 40nm,1.0s,baz=355,slow=10,SNR=195	**23.18**	**177**	P	**P**	**01 05 56.9**	**-0.5**
ASAR				S	**S**	**01 10 12.1**	**+5.1**
	10.0nm,1.1s,baz=0.8,slow=26,SNR=5.8						
CTA	**Charters Tower**	**23.81**	**146**	P	**P**	**01 06 03.6**	**+0.2**
CTA	**Charters Tower** 14nm,0.8s,baz=327,slow=11,SNR=13	**23.81**	**146**	P	**P**	**01 06 03.6**	**+0.2**
CTAO	**Charters Tower** 26nm,1.1s	**23.81**	**146**	*e*P	**P**	**01 06 03.8**	**+0.4**
MBWA	**Marble Bar** 88nm,1.6s	**24.07**	**210**	*e*P	**P**	**01 06 05.7**	**-0.2**
WRKA	**Warakurna** baz=24,SNR=25	**24.82**	**189**	P	**P**	**01 06 13.0**	**+0.3**
CISI	**Cisompet, Garu** 54nm,1.0s	**25.54**	**253**	*e*P	**P**	**01 06 17.3**	**-2.1**
QLP	**Quilpie** baz=28,SNR=7.0	**28.42**	**157**	P	**P**	**01 06 44.2**	**-0.8**
JCJ	**Chichijima** comp=Z,240nm,21.2s,baz=0.1,slow=31	**28.90**	**18**	LR	LR	01 15 52.0	
QIZ	**Qiongzhong**	**29.39**	**312**	P	**P**	**01 06 53.7**	**-0.1**
QIZ				S	**S**	**01 11 45.6**	**0.0**
QIZ				sS	**sS**	**01 12 01.1**	**-0.3**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
QIZ				LR	LR		
	comp=N,130nm,17.3s						
QIZ				LR	LR		
	comp=Z,110nm,17.1s						
FORT	**Forrest** 38nm,0.7s	**30.50**	**187**	*e*P	**P**	**01 07 03.5**	**0.0**
FORT	**Forrest** baz=30,SNR=7.9	**30.50**	**187**	P	**P**	**01 07 04.0**	**+0.5**
IPM	**Ipoh** 8.8nm,0.6s	**31.73**	**279**	*e*P	**P**	**01 07 14.5**	**-0.1**
BBOO	**Buckleboo** baz=32,SNR=5.2	**32.43**	**174**	P	**P**	**01 07 19.9**	**-0.5**
STKA	**Stephens Creek** 1.8nm,0.8s	**32.50**	**165**	*e*P	**P**	**01 07 20.5**	**-0.5**
STKA	**Stephens Creek** 6.1nm,0.7s,baz=352,slow=10,SNR=8.7	**32.50**	**165**	P	**P**	**01 07 19.7**	**-1.4**
STKA				LR	LR	01 21 48.9	
	comp=Z,261nm,20.5s,baz=360,slow=39						
STKA	**Stephens Creek** baz=32,SNR=7.0	**32.50**	**165**	P	**P**	**01 07 20.6**	**-0.4**
CMSA	**Cobar Meteorol** baz=33,SNR=13	**33.43**	**159**	P	**P**	**01 07 28.7**	**-0.5**
PSI	**Prapat**	**33.63**	**276**	P	**P**	**01 07 30.0**	**-1.4**
PSI	**Prapat** 23nm,0.9s,baz=75,slow=4.7,SNR=15	**33.63**	**276**	P	**P**	**01 07 30.0**	**-1.4**
KLBR	**Kellerberrin** baz=33,SNR=5.4	**33.99**	**203**	P	**P**	**01 07 34.9**	**+0.7**
NJ2	**Nanjing**	**34.73**	**340**	*e*P	**P**	**01 07 41.4**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ARMA	**Armidale** 13nm,0.7s	**35.00**	**150**	*e*P	**P**	**01 07 43.1**	**+0.1**
ARMA	**Armidale** baz=35,SNR=5.4	**35.00**	**150**	P	**P**

baz=254,slow=73,SNR=3.8
H11N1 WAKE ISLAND Hy 39.25 57 T T 01 49 55.8
baz=249,slow=75,SNR=102
H11N2 WAKE ISLAND Hy 39.27 57 T T 01 49 47.8
baz=249,slow=75,SNR=69
H11N3 WAKE ISLAND Hy 39.27 57 T T 01 49 57.2
baz=249,slow=75,SNR=89
CD2 Chengdu 41.35 321 *e*P **P 01 08 37.5 +1.1**
CD2 pP **pP 01 08 47.5 +1.4**
CD2 sP **sP 01 08 52.0 +1.9**
CD2 PP **PnPn 01 10 16.8 -0.2**
CD2 S **S 01 14 50.0 +1.0**
CD2 sS **sS 01 15 07.0 +2.0**
CD2 SS **SS 01 17 50.1 -3.5**
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,110nm,6.0s
CD2 LR LR
comp=N,140nm,15.5s
CD2 LR LR
comp=Z,150nm,14.3s
BJI Beijing 42.88 342 P P 01 08 52.4 +3.7
BJI S **S 01 15 13.7 +2.5**
BJI ScS **ScS 01 18 43.9 -3.3**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI pmax pmax
comp=Z,120nm,4.0s
BJI LR LR
comp=E,170nm,7.1s
BJI LR LR
comp=Z,83nm,25.2s
NFK Norfolk Island 44.28 133 P P 01 09 06.8 +6.7
baz=44,SNR=3.5
USRK Ussuriysk Arra 44.40 360 P **P 01 08 59.9 -0.9**
3.5nm,0.9s,baz=201,slow=7.3,SNR=4.4
LZH Lanzhou 44.98 327 *e*P **P 01 09 08.9 +3.1**
LZH pP **pP 01 09 12.1 -3.5**
LZH PP **PP 01 10 55.0 +3.7**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,78nm,6.2s
LZH LR LR
comp=N,380nm,14.3s
LZH LR LR
comp=E,390nm,14.6s
LZH LR LR
comp=Z,480nm,18.7s
HHC Hu-ho-hao-te 45.21 338 *e*P **P 01 09 08.5 +1.0**
HHC sP **sP 01 09 21.5 +0.2**
HHC PcP **PcP 01 10 47.6 +0.3**
HHC PP **PP 01 10 54.3 +0.6**
HHC S **S 01 15 45.4 0.0**
HHC sS **sS 01 16 01.7 +0.1**
HHC ScS **ScS 01 18 59.3 -2.8**
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,180nm,6.2s
HHC LR LR
comp=N,200nm,15.8s
HHC LR LR
comp=E,240nm,16.0s
HHC LR LR
comp=Z,130nm,16.0s
ASAJ Asahikawa 45.23 10 LR LR 01 26 21.0
comp=Z,86nm,19.1s,baz=353,slow=34
LSA Lhasa 49.41 311 *e*P **P 01 09 40.2 -0.6**
3.6nm,0.7s
GTA Gaotai 49.58 327 *e*P P 01 09 44.8 +3.2
GTA pP pP 01 09 56.9 +5.4
GTA sP sP 01 10 02.4 +7.0
GTA pmax pmax
comp=Z,2.0nm,0.9s
TAPN Taplejung 51.02 306 *e*P **P 01 09 51.3 -1.6**
TAPN Taplejung 51.02 306 *e*P **P 01 09 51.3 -1.6**
ODAN Odare 51.07 306 *e*P **P 01 09 52.0 -1.2**
ODAN Odare 51.07 306 *e*P **P 01 09 52.0 -1.2**
RAMN Ramite 51.75 305 *e*P **P 01 09 56.9 -1.4**
54nm,1.4s
RAMN Ramite 51.75 305 *e*P **P 01 09 56.9 -1.4**
54nm,1.4s
JIRN Jiri 52.38 306 *e*P **P 01 10 01.3 -1.8**
JIRN Jiri 52.38 306 *e*P **P 01 10 01.3 -1.8**
GUN Gumba 52.73 306 *e*P **P 01 10 04.3 -1.4**
51nm,1.3s
GUN Gumba 52.73 306 *e*P **P 01 10 04.3 -1.4**
51nm,1.3s
ULN Ulaanbaatar 52.88 339 *e*P **P 01 10 06.4 +0.1**
8.3nm,1.0s
PKI Pulchoki 52.97 306 *e*P **P 01 10 05.4 -2.1**
PKI Pulchoki 52.97 306 *e*P **P 01 10 05.4 -2.1**
PKIN Phulchoki 52.99 306 *e*P **P 01 10 05.4 -2.1**
SONM Songino Array 53.10 338 P **P 01 10 07.3 -0.4**
SONM PcP **PcP 01 11 15.4 -0.4**
SONM Songino Array 53.10 338 P **P 01 10 07.3 -0.4**
1.9nm,1.0s,baz=143,slow=5.6,SNR=7.9
SONM PcP **PcP 01 11 15.4 -0.4**
0.6nm,0.7s,baz=164,slow=5.8,SNR=2.7
SONM LR LR 01 32 09.3
comp=Z,89nm,18.6s,baz=308,slow=36
DMN Daman 53.23 305 *e*P **P 01 10 08.2 -1.1**
DMN Daman 53.23 305 *e*P **P 01 10 08.2 -1.1**
GKN Gorkha 53.77 306 *e*P **P 01 10 11.4 -1.7**
GKN Gorkha 53.77 306 *e*P **P 01 10 11.4 -1.7**
KOLN Koldanda 54.53 305 *e*P **P 01 10 17.6 -1.1**
43nm,0.8s
KOLN Koldanda 54.53 305 *e*P **P 01 10 17.6 -1.1**
43nm,0.8s
DANN Dangsing 54.62 306 *e*P **P 01 10 18.1 -1.4**
39nm,0.9s
DANN Dangsing 54.62 306 *e*P **P 01 10 18.1 -1.4**
39nm,0.9s
PYUN Piuthan 55.15 305 *e*P **P 01 10 22.0 -1.2**
74nm,0.9s
PYUN Piuthan 55.15 305 *e*P **P 01 10 22.0 -1.2**
74nm,0.9s
URZ Urewera 55.68 138 LR LR 01 33 15.9
comp=Z,122nm,19.1s,baz=307,slow=35
HYB Hyderabad 55.88 291 *i* P P 01 10 25.0 -3.4
PETK Petropavlovsk- 57.34 18 LR LR 01 33 00.8
comp=Z,49nm,20.8s,baz=249,slow=34
WMQ Urumqi 59.36 324 P **P 01 10 53.0 +0.5**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
NIUE Niue 59.46 112 P P 01 10 58.4 +4.9
baz=60,SNR=3.5
MK31 Makanchi Array 64.18 324 *e*P **P 01 11 24.4 -0.5**
MKAR Makanchi Array 64.18 324 P **P 01 11 24.4 -0.5**
MKAR Makanchi Array 64.18 324 P **P 01 11 24.4 -0.5**
4.4nm,0.7s,baz=115,slow=8.2,SNR=37
KSH Kashi 64.96 315 P **P 01 11 31.0 +0.8**
KSH pP **pP 01 11 40.3 -0.1**
KSH sP **sP 01 11 44.4 +0.1**
KSH PP **PP 01 13 55.8 +2.4**
KSH S **S 01 20 07.0 -3.0**
KSH sS **sS 01 20 30.4 +3.6**
KSH SS **SS 01 24 21.5 -0.9**
KSH pmax pmax
comp=Z,8.0nm,1.1s
KSH pmax pmax
comp=Z,120nm,4.4s
KSH LR LR
comp=N,62nm,5.1s
KSH LR LR
comp=E,80nm,5.4s
KSH LR LR
comp=Z,150nm,6.3s
KZA Kyzart 66.48 317 P **P 01 11 41.1 +0.8**
SNR=6.2
TKM2 Tokmak 2 66.58 318 P **P 01 11 40.5 -0.2**
SNR=5.2
TKM2 Tokmak 2 66.58 318 *e*P **P 01 11 39.9 -0.9**
6.2nm,0.8s
ZAA0 Zalesovo Array 66.85 332 *e*P **P 01 11 41.0 -0.9**
ZALV Zalesovo Beam 66.85 332 P **P 01 11 40.7 -1.1**
ZALV Zalesovo Beam 66.85 332 P **P 01 11 40.7 -1.1**
1.1nm,0.5s,baz=115,slow=6.7,SNR=7.7
UCH Uchtor 67.04 317 P **P 01 11 44.6 +0.7**
SNR=7.0
USP Ospenovka 67.46 318 P **P 01 11 45.7 -0.4**
SNR=7.5
AML Almayashu 67.56 317 P **P 01 11 47.4 +0.2**
SNR=5.9
EKS2 Erkin-Say 67.71 317 *e*P **P 01 11 47.6 -0.1**
5.4nm,0.8s
KURK Kurchatov 68.27 326 *e*P **P 01 11 50.2 -0.7**
3.9nm,0.9s
KBL Kabul 68.52 308 *e*P **P 01 11 51.8 -1.3**
4.2nm,0.8s
KKAR Karatay Array 70.11 317 *e*P **P 01 12 01.8 -0.7**
5.0nm,0.9s
TIXI Tiksi 71.96 359 *e*P **P 01 12 12.8 -0.3**
4.8nm,0.4s
BRVK Borovoye 73.94 326 *e*P **P 01 12 24.4 -0.8**
10.0nm,1.0s
IDAH Dahanechah 75.58 304 *e*P **P 01 12 35.5 0.0**
IMYA Miami 76.04 308 *e*P **P 01 12 37.5 -0.5**
ISRO Mashad 76.53 307 *e*P **P 01 12 40.2 -0.5**
IPAY Payeh 76.94 308 *e*P **P 01 12 42.8 -0.3**
IKRD Kardeh 77.37 308 *e*P P 01 12 41.0 -4.6
ISFR Sfrayin 77.83 308 *e*P **P 01 12 48.1 -0.1**
VNDA Vanda 78.69 174 *e*P **P 01 12 51.4 -0.4**
1.8nm,0.7s
VNDA Vanda 78.69 174 P **P 01 12 51.8 0.0**
2.7nm,0.8s,baz=315,slow=6.3,SNR=13
VNDA LR LR 01 48 31.7
comp=Z,117nm,18.1s,baz=345,slow=36
ABKAR Akbulak array 78.92 320 *e*P **P 01 12 52.4 -1.1**
5.6nm,0.8s
ISAD Sadrabad 80.64 302 *e*P **P 01 13 06.2 +2.5**
ISHM Shahmirzad 81.41 306 *e*P **P 01 13 07.0 -0.7**
ARU Arti 81.44 327 *e*P **P 01 13 05.7 -1.3**
6.8nm,0.8s
MAW Mawson 81.94 201 *e*P **P 01 13 09.7 +0.4**
0.9nm,1.0s
MAW Mawson 81.94 201 P **P 01 13 10.0 +0.7**
4.7nm,0.8s,baz=20,slow=6.1,SNR=2.8
MAW LR LR 01 44 54.5
comp=Z,68nm,19.3s,baz=329,slow=32
MCK McKinley 85.32 26 *e*P **P 01 13 25.7 -1.2**
20nm,1.4s
ILAR Eielson Array 86.38 25 P **P 01 13 30.2 -1.8**
ILAR Eielson Array 86.38 25 P **P 01 13 30.2 -1.8**
2.0nm,0.9s,baz=256,slow=4.8,SNR=18
ILAR LR LR 01 47 27.2
comp=Z,56nm,20.6s,baz=57,slow=32
QSPA South Pole Qui 89.54 180 *e*P **P 01 13 46.7 -0.6**
12nm,0.9s
H02S1 DAWSON INLET T 93.38 37 T T 02 57 57.0
SNR=6.2
KMBO Kilima Mbogo 95.16 269 *e*P **P 01 14 13.7 -0.8**
0.9nm,0.8s
TORD Torodi Ar. Bea 129.57 287 PKP **PKPdf 01 19 59.0 -0.9**
TORD Torodi Ar. Bea 129.57 287 PKP **PKPdf 01 19 59.1 -0.9**
0.2nm,0.7s,baz=58,slow=2.4,SNR=2.6
PLCA Paso Flores 134.05 156 *e*PKPdf **PKPdf 01 20 07.6 -0.3**
PLCA Paso Flores 134.05 156 PKP **PKPdf 01 20 09.0 +1.1**
1.3nm,0.8s,baz=185,slow=3.2,SNR=3.7
LCO Las Campanas 143.35 145 *e*PKPdf PKPbc 01 20 23.1 +0.5
ATAH Atahualpa 148.37 104 PKPbc **PKPbc 01 20 39.0 +1.0**
ATAH Atahualpa 148.37 104 PKPbc **PKPbc 01 20 39.0 +1.0**
baz=270,slow=2.0
NNA Nana 148.45 114 *e*PKPbc **PKPbc 01 20 38.0 +0.2**
LVC Limon Verde 149.11 139 *e*PKPbc **PKPbc 01 20 40.0 +0.5**
OTAV Otavalo 149.13 90 *e*PKPbc **PKPbc 01 20 39.7 -0.4**
CPUP Villa Florida 151.82 161 *e*PKPdf **PKPdf 01 20 39.0 -0.1**
CPUP *e*PKPbc **PKPbc 01 20 45.1 -0.4**
CPUP Villa Florida 151.82 161 PKPbc **PKPbc 01 20 45.1 -0.4**
6.1nm,0.8s,baz=134,slow=1.8,SNR=6.3
LPAZ La Paz 153.81 130 *e*PKPbc **PKPbc 01 20 50.9 0.0**
LPAZ *e*PKPab **PKPab 01 21 04.9 +1.0**
LPAZ La Paz 153.81 130 PKPbc **PKPbc 01 20 51.1 +0.1**
1.2nm,0.9s,baz=233,slow=3.3,SNR=4.5
LPAZ PKPab **PKPab 01 21 05.6 +1.7**
4.5nm,0.7s,baz=211,slow=3.0,SNR=17
SAML Samuel 161.90 121 *e*PKPdf **PKPdf 01 20 51.0 -1.3**
SAML *e*PKPab **PKPab 01 21 38.7 +0.5**

IDC **12** *01:07:53.8±9.6,22.62S×179.91W,h625km±99km,*
mb3.1/7,mb1 3.2/7,mb1mx3.0/21,mbtmp3.1/7,Error ellipse: s-maj=79.9km s-min=23.9km az=59.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.58**	**268**	P	P	01 13 28.1	+0.2
	3.3nm,0.3s,baz=124,slow=11,SNR=3.7						
PMG	**Port Moresby**	**34.18**	**287**	P	P	01 13 49.5	-0.2
	9.1nm,0.7s,baz=170,slow=4.7,SNR=4.9						
STKA	**Stephens Creek**	**35.29**	**246**	P	P	01 13 58.8	+0.1
	1.8nm,0.9s,baz=63,slow=4.5,SNR=3.6						
ASAR	**Alice Springs**	**42.34**	**259**	P	P	01 14 55.4	0.0
	1.8nm,0.7s,baz=92,slow=8.2,SNR=8.3						
WRA	**Warramunga Arr**	**42.59**	**265**	P	P	01 14 56.5	-0.8
	1.0nm,0.3s,baz=101,slow=8.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**51.02**	**265**	P	P	01 16 00.8	+0.4
	0.9nm,0.3s,baz=90,slow=5.1,SNR=5.4						
VNDA	**Vanda**	**55.66**	**185**	P	P	01 16 32.3	+0.2
	0.7nm,0.7s,baz=357,slow=3.4,SNR=4.8						
FINES	**FINESS Array B**	**137.26**	**342**	PKP	PKPdf	01 26 08.6	+1.7
	1.7nm,0.9s,baz=104,slow=3.4,SNR=3.7						
AKASG	**Malin Array Be**	**143.94**	**328**	PKP	PKPbc	01 26 17.5	-1.2
	0.6nm,0.5s,baz=41,slow=5.0,SNR=6.6						
BRTR	**Keskin Array B**	**146.86**	**309**	PKPbc	PKPbc	01 26 27.8	+0.1
	0.6nm,0.6s,baz=130,slow=4.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**170.46**	**189**	PKPab	PKPab	01 28 12.6	-0.8
	0.2nm,0.7s,baz=198,slow=4.2,SNR=2.3						

IDC **12** *01:09:27.7±2.9,0.13S×133.03E,h0km,mb3.4/2,*
mb1 3.7/4,mb1mx3.5/22,mbtmp3.5/4,ML3.8/2,Error ellipse: s-maj=122.8km s-min=26.5km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.28**	**202**	P	Pn	01 13 55.7	+0.5
	0.1nm,0.3s,baz=30,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**19.73**	**176**	P	P	01 13 58.5	-0.7
	0.4nm,0.3s,baz=352,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**23.41**	**178**	P	P	01 14 38.1	-0.5
	0.9nm,0.7s,baz=358,slow=9.7,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**38.59**	**57**	T	T	01 58 42.8	
	baz=246,slow=75,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**38.61**	**57**	T	T	01 58 39.9	
	baz=246						
H11N3	**WAKE ISLAND Hy**	**38.61**	**57**	T	T	01 58 40.8	
	baz=246,slow=75,SNR=3.8						
MKAR	**Makanchi Array**	**64.33**	**324**	P	P	01 20 05.3	-0.1
	0.3nm,0.6s,baz=111,slow=7.3,SNR=5.0						

IDC **12** *01:14:59.3±1.3,14.40S×166.64E,h0km,mb4.0/5, mb1 4.1/6,mb1mx3.9/21,mbtmp4.0/6,ML3.9/1,Error ellipse: s-maj=42.0km s-min=24.4km az=117.0*
ISCJB **12** *01:15:01.6±1.3,14.50S±0.08×166.6E±0.2,h28km, mb3.9/5,Error ellipse: s-maj=31.4km s-min=11.6km az=174.3*

ISC 12 01:15:03.6±1.2,14.4S±0.1×166.6E±0.2,h28km,n7, σ1ŝ02/8,mb3.9/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.60**	**181**	Pn	**Pn**	**01 16 53.0**	**+0.3**
	1.6nm,0.3s,baz=191,slow=21,SNR=17						
DZM				Sn	**Sn**	**01 18 17.6**	**-0.3**
	0.4nm,0.3s,baz=296,slow=21,SNR=1.5						
STKA	**Stephens Creek**	**28.70**	**229**	P	**P**	**01 20 58.7**	**+0.2**
	1.5nm,0.7s,baz=51,slow=6.5,SNR=2.8						
ASAR	**Alice Springs**	**32.18**	**248**	P	**P**	**01 21 28.2**	**-1.2**
	0.8nm,0.8s,baz=74,slow=9.1,SNR=6.4						
FITZ	**Fitzroy Crossi**	**39.44**	**259**	P	**P**	**01 22 32.4**	**+0.7**
	1.3nm,0.6s,baz=168,slow=9.3,SNR=3.1						
ILAR	**Eielson Array**	**86.44**	**18**	P	**P**	**01 27 42.3**	**-1.0**
	1.7nm,0.7s,baz=240,slow=5.2,SNR=22						
MKAR	**Makanchi Array**	**96.55**	**317**	P	**P**	**01 28 31.1**	**+0.3**
	0.2nm,0.6s,baz=144,slow=2.7,SNR=2.8						
ARCES	**ARCESS Array B**	**119.80**	**345**	PKP	**PKPdf**	**01 33 52.0**	**+1.4**
	1.7nm,0.8s,baz=64,slow=2.1,SNR=6.3						

CASC **12** *01:20:25.3±2.3,11.87N×89.34W,h34km±30km,MD4.1, ML3.9,mb4.4(NEIC)*
IDC **12** *01:20:29.7±0.8,12.91N×88.73W,h0km,mb4.0/13, mb1 4.3/14,mb1mx4.1/26,mbtmp4.0/14,ML3.1/1,MS3.3/6, Ms1 3.3/6,ms1mx3.1/30,Error ellipse: s-maj=33.1km s-min=15.9km az=55.0*

ISCJB **12** *01:20:34.6±0.6,12.58N±0.05×89.09W±0.04,h64km±4km, mb4.3/38,Error ellipse: s-maj=8.8km s-min=5.2km az=36.4*
NEIC **12** *01:20:35.8±1.2,12.60N×89.11W,h55km±10km,mb4.4/29, Error ellipse: s-maj=15.6km s-min=6.5km az=56.0*
NEIC Felt at San Salvador.
BJI **12** *01:20:37.0,12.60N×88.90W,h83km,mB4.9/1,Ms7 4.5/2*

ISC 12 01:20:35.4±1.2,12.61N±0.07×89.10W±0.07,h56km±10km, n530,σ0ŝ86/528,mb4.4/38,MS3.4/6,233C-204D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.01**	**2**	*e*P	**Pn**	**01 20 53.0**	**-0.6**
SNVI	**San Vicente**	**1.03**	**14**	*e*P	**Pn**	**01 20 55.0**	**+1.1**
SNVI				*e*S	Sn	01 21 17.8	+10
SNET	**Serv Nac Est T**	**1.08**	**353**	*e*P	**Pn**	**01 20 53.5**	**-1.0**
SNET				*e*S	Sn	01 21 16.4	+7.9
SNET				AML	AML	01 21 17.6	
	comp=Z,2μm,0.7s						
LBRS	**Las Brisas**	**1.12**	**3**	*e*P	**Pn**	**01 20 55.3**	**+0.2**
BOQS	**Boqueron**	**1.13**	**351**	*e*P	**Pn**	**01 20 54.4**	**-0.9**
LFU	**La Fuente**	**1.13**	**360**	*e*P	**Pn**	**01 20 55.1**	**-0.1**
VSM	**San Miguel**	**1.15**	**45**	*e*P	**Pn**	**01 20 55.5**	**-0.1**
BLLM	**Bellamira**	**1.18**	**45**	*e*P	**Pn**	**01 20 54.5**	**-1.3**
SBLS	**San Blas**	**1.32**	**338**	*e*P	**Pn**	**01 20 56.2**	**-1.7**
SNJE	**San Jose**	**1.34**	**339**	*e*P	**Pn**	**01 20 56.5**	**-1.6**
RTR	**El Retiro**	**1.39**	**338**	*e*P	**Pn**	**01 20 57.2**	**-1.4**
CNCH	**Conchagua**	**1.41**	**62**	*e*P	**Pn**	**01 20 59.3**	**+0.5**
CAHU	**Cacacuatique**	**1.45**	**37**	*e*P	**Pn**	**01 21 00.6**	**+1.1**
CAHU				*e*S	Sn	01 21 26.5	+8.9
RBDL	**Robledal**	**1.60**	**339**	*e*P	**Pn**	**01 21 00.5**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.29**	**51**	*e*Pn	**Pn**	**01 21 12.9**	**+2.1**
NBG	**Las Nubes**	**2.31**	**329**	*e*P	**Pn**	**01 21 13.7**	**+2.4**
COPN	**Copaltepe**	**2.49**	**100**	*e*P	Pn	01 21 05.9	-7.6
COPN				*e*S	**Sn**	**01 21 38.2**	**-4.6**
MRL	**Marmol**	**2.51**	**347**	*e*P	**Pn**	**01 21 14.3**	**+0.4**
MRL				*e*S	Sn	01 21 52.0	+8.5
APG	**El Apazote**	**2.72**	**331**	Pn	Pn	01 21 13.6	-3.4
APG	**El Apazote**	**2.72**	**331**	Pn	Pn	01 21 13.6	-3.4
	comp=Z,3.5nm,0.3s,baz=166,slow=10,SNR=26						
APG				LR	LR	01 22 31.2	
	comp=Z,336nm,21.7s,baz=150,slow=45						
JAT	**Jato**	**2.99**	**305**	*e*P	Pn	01 21 17.5	-2.9
JTS	**JuntasAbangare**	**4.68**	**119**	*e*Pn	**Pn**	**01 21 44.3**	**+0.7**
JTS				*e*Sn	**Sn**	**01 22 33.1**	**-3.4**
JTS	**JuntasAbangare**	**4.68**	**119**	Pn	**Pn**	**01 21 43.7**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=120,slow=24,SNR=14						
JTS				Sn	**Sn**	**01 22 38.1**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=294,slow=22,SNR=2.0						
TEIG	**Tepich**	**7.62**	**6**	*e*Pn	**Pn**	**01 22 26.7**	**+3.0**
TEIG	**Tepich**	**7.62**	**6**	Pn	**Pn**	**01 22 26.8**	**+3.0**
	comp=Z,0.7nm,0.3s,baz=12,slow=17,SNR=5.1						
TEIG				LR	LR	01 25 42.8	
	comp=Z,333nm,20.2s,baz=304,slow=43						
OTAV	**Otavalo**	**16.21**	**139**	*e*Pn	**Pn**	**01 24 19.3**	**-0.7**
HKT	**Hockley**	**18.35**	**341**	*e*P	**Pn**	**01 24 46.8**	**+0.9**
	comp=Z,13nm,1.2s						
732A	**Laxson Ranch,**	**18.97**	**329**	⇑P	**Pn**	**01 24 53.6**	**+0.2**
	baz=19						
534A	**Blanco**	**19.39**	**335**	⇓P	**P**	**01 24 57.8**	**+1.0**
	baz=20,SNR=5.8						
TIGA	**Tifton**	**19.42**	**14**	⇓P	**P**	**01 24 57.6**	**+0.6**
	baz=20						
632A	**Uvalde**	**19.52**	**331**	⇑P	**Pn**	**01 24 59.7**	**-0.3**
	baz=20						
533A	**Kerrville**	**19.67**	**334**	⇑P	**P**	**01 25 00.6**	**+0.8**
	baz=20,SNR=6.7						
631A	**Perdido Creek**	**19.83**	**329**	⇓P	**P**	**01 25 03.0**	**+1.4**
	baz=20						
434A	**Burnet**	**20.00**	**336**	⇑P	**P**	**01 25 04.0**	**+0.6**
	baz=20,SNR=18						
532A	**Rocksprings**	**20.10**	**332**	⇑P	**P**	**01 25 05.8**	**+1.2**
	baz=20,SNR=10.0						
335A	**Moody**	**20.11**	**339**	⇓P	**P**	**01 25 05.7**	**+1.1**
	baz=20,SNR=18						
433A	**Art**	**20.28**	**334**	⇑P	**P**	**01 25 07.4**	**+0.9**
	baz=20,SNR=9.7						
JCT	**Junction City**	**20.35**	**333**	*e*P	**P**	**01 25 07.6**	**+0.3**
	comp=Z,14nm,0.7s						
JCT	**Junction City**	**20.35**	**333**	⇑P	**P**	**01 25 07.8**	**+0.5**
	baz=20						
LRAL	**Lakeview Retre**	**20.42**	**5**	*e*Pn	Pn	01 25 10.7	+0.2
	comp=Z,8.6nm,0.8s						
531A	**Rocksprings**	**20.43**	**331**	⇓P	**P**	**01 25 08.9**	**+0.7**
	baz=20						
334A	**Lometa**	**20.45**	**337**	⇑P	**P**	**01 25 08.7**	**+0.4**
	baz=20,SNR=26						
432A	**Menard**	**20.69**	**333**	⇑P	**P**	**01 25 11.3**	**+0.4**
	baz=21,SNR=11						
333A	**Richland Sprin**	**20.73**	**335**	⇓P	**P**	**01 25 11.8**	**+0.4**
	baz=21,SNR=28						
WHTX	**Lake Whitney**	**20.76**	**340**	⇑P	**P**	**01 25 12.1**	**+0.4**
	baz=21						
530A	**J-C Ranch, Com**	**20.81**	**329**	⇑P	**P**	**01 25 13.4**	**+1.2**
	baz=21						
431A	**Sonora**	**20.90**	**331**	⇓P	**P**	**01 25 14.5**	**+1.3**
	baz=21,SNR=9.3						
332A	**Millersview**	**21.10**	**334**	⇑P	**P**	**01 25 16.2**	**+0.9**
	baz=21,SNR=9.2						
628A	**Black Gap, Mar**	**21.12**	**325**	⇓P	**P**	**01 25 17.1**	**+1.5**
	baz=21,SNR=6.5						
529A	**Stev Forest Ra**	**21.25**	**327**	⇑P	**P**	**01 25 17.2**	**+0.2**
	baz=21						
135A	**Vickery Place,**	**21.27**	**340**	⇑P	**P**	**01 25 17.5**	**+0.4**
	baz=21						
430A	**Baggett Ranch,**	**21.28**	**330**	⇓P	**P**	**01 25 17.3**	**0.0**
	baz=21						
331A	**San Angelo**	**21.34**	**332**	⇓P	**P**	**01 25 18.3**	**+0.4**
	baz=21,SNR=9.7						
627A	**Terlingua Ranc**	**21.38**	**324**	⇑P	**P**	**01 25 19.7**	**+1.3**
	baz=21,SNR=11						
TXAR	**Lajitas Array**	**21.45**	**323**	P	**P**	**01 25 20.5**	**+1.3**
TXAR	**Lajitas Array**	**21.45**	**323**	P	**P**	**01 25 20.5**	**+1.3**
	comp=Z,4.3nm,0.7s,baz=142,slow=11,SNR=52						
429A	**Davenport Ranc**	**21.48**	**329**	⇓P	**P**	**01 25 20.8**	**+1.3**
	baz=22						
232A	**Coleman**	**21.50**	**335**	⇑P	**P**	**01 25 20.1**	**+0.5**
	baz=22,SNR=9.4						
134A	**White-Moore Ra**	**21.51**	**339**	⇓P	**P**	**01 25 19.7**	**0.0**
	baz=22						
528A	**Cox Ranch, San**	**21.58**	**326**	⇑P	**P**	**01 25 21.3**	**+0.7**
	baz=22						
330A	**Mertzon**	**21.77**	**331**	⇑P	**P**	**01 25 22.4**	**0.0**
	baz=22						
OXF	**Oxford**	**21.81**	**359**	*e*P	**P**	**01 25 23.9**	**+1.1**
	comp=Z,46nm,0.9s						
231A	**Bronte**	**21.82**	**334**	⇑P	**P**	**01 25 23.3**	**+0.2**
	baz=22,SNR=8.6						
133A	**Hamilton Ranch**	**21.84**	**337**	⇑P	**P**	**01 25 23.4**	**+0.1**
	baz=22,SNR=9.3						
H06E1	**SOCORRO T-PHAS**	**21.87**	**289**	T	T	01 47 40.5	
	SNR=10						
626A	**Big Bend Ranch**	**21.89**	**323**	⇑P	**P**	**01 25 24.1**	**+0.3**
	baz=22,SNR=7.9						
Z35A	**Perchaven, San**	**21.93**	**341**	⇓P	**P**	**01 25 24.2**	**0.0**
	baz=22,SNR=6.0						
428A	**Kincaid Ranch,**	**21.97**	**327**	⇑P	**P**	**01 25 25.5**	**+0.8**
	baz=22						
527A	**Woodward Ranch**	**22.03**	**325**	⇑P	**P**	**01 25 26.3**	**+0.8**
	baz=22						
230A	**Sterling City**	**22.14**	**332**	⇑P	**P**	**01 25 28.3**	**+1.8**
	baz=22						
ABTX	**Abilene, Hawle**	**22.14**	**336**	⇓P	**P**	**01 25 27.8**	**+1.3**
	baz=22						
Z34A	**Collier Ranch,**	**22.18**	**340**	⇑P	**P**	**01 25 27.0**	**+0.2**
	baz=22						
MIAR	**Mount Ida**	**22.21**	**350**	*e*P	**P**	**01 25 28.5**	**+1.3**
	comp=Z,22nm,0.9s						
329A	**Wagon Wheel Ra**	**22.22**	**330**	⇑P	**P**	**01 25 27.5**	**+0.1**
	baz=22						
526A	**Mary Lane Ranc**	**22.24**	**324**	⇑P	**P**	**01 25 28.8**	**+1.2**
	baz=22,SNR=8.4						
UALR	**University of**	**22.26**	**353**	*e*P	**P**	**01 25 29.3**	**+1.5**
	comp=Z,15nm,0.8s						
ATAH	**Atahualpa**	**22.32**	**151**	LR	LR	01 32 38.0	
	comp=Z,85nm,22.0s,baz=99,slow=32						
Z33A	**Whitaker Ranch**	**22.40**	**338**	⇓P	**P**	**01 25 29.6**	**+0.4**
	baz=22,SNR=24						
427A	**Hayter Ranch,**	**22.45**	**326**	⇓P	**P**	**01 25 30.6**	**+0.7**
	baz=22						
131A	**Roby**	**22.49**	**334**	⇓P	**P**	**01 25 31.0**	**+0.7**
	baz=23						
229A	**Bryant Ranch,**	**22.53**	**331**	⇑P	**P**	**01 25 32.3**	**+1.6**
	baz=23						
328A	**Wristen Ranch,**	**22.55**	**328**	⇓P	**P**	**01 25 32.0**	**+1.1**

baz=23,SNR=7.6

426A McDonald Obser 22.66 325 ⇓P P 01 25 32.6 +0.4
baz=23
Y34A Reagan Ranch, 22.67 341 ⇓P P 01 25 32.9 +0.8
baz=23
130A Snyder 22.67 333 ⇑P P 01 25 33.4 +1.2
baz=23
Z32A Haskell 22.68 337 ⇓P P 01 25 32.7 +0.5
baz=23,SNR=16
327A Balmorhea Ranc 22.90 327 ⇓P P 01 25 35.4 +0.8
baz=23
Z31A Sharp Cattle R 22.95 336 ⇓P P 01 25 35.2 +0.2
baz=23,SNR=12
Y33A Hilltop Ranch, 23.00 339 ⇑P P 01 25 35.6 +0.1
baz=23,SNR=5.8
228A UT Block 9, Go 23.03 330 ⇑P P 01 25 36.0 0.0
baz=23
LPIG La Paz 23.11 303 LR LR 01 35 16.6
comp=Z,76nm,21.1s,baz=219,slow=38
129A Stewart Farms, 23.11 332 ⇓P P 01 25 36.2 -0.5
baz=23,SNR=5.8
326A Caldwell Ranch 23.12 326 ⇑P P 01 25 37.4 +0.5
baz=23
X34A Smith Ranch, M 23.29 342 ⇑P P 01 25 39.0 +0.7
baz=23,SNR=7.0
Y32A R-V Farms, Ver 23.29 338 ⇑P P 01 25 38.2 -0.2
baz=23,SNR=5.5
425A Indio Mountain 23.29 323 ⇑P P 01 25 38.8 +0.2
baz=23
227A Bennet, Jal 23.30 328 ⇓P P 01 25 39.5 +0.9
baz=23
Z30A Sanderson Ranc 23.33 334 ⇓P P 01 25 39.4 +0.6
baz=23,SNR=7.5
128A Castleberry Fa 23.39 331 ⇓P P 01 25 40.0 +0.5
baz=24
X33A Lawton 23.44 340 ⇑P P 01 25 39.7 -0.1
baz=24,SNR=14
WVT Waverly 23.45 3 eP P 01 25 40.2 +0.4
comp=Z,4.5nm,0.9s
TKL Tuckaleechee C 23.45 11 P P 01 25 40.8 +0.9
TKL Tuckaleechee C 23.45 11 P P 01 25 40.8 +0.9
comp=Z,9.5nm,0.9s,baz=186,slow=9.1,SNR=7.4
TKL LR LR 01 36 37.2
comp=Z,78nm,18.9s,baz=11,slow=42
KMSC Kings Mountain 23.51 16 ⇓P P 01 25 40.0 -0.4
baz=24
Y31A Rekieta Farm, 23.56 336 ⇑P P 01 25 41.5 +0.6
baz=24,SNR=14
Z29A Hungry Hill Ra 23.56 333 ⇓P P 01 25 41.9 +0.9
baz=24
X32A Elmer 23.61 339 ⇓P P 01 25 41.6 +0.3
baz=24,SNR=8.7
325A Bean Ranch, Si 23.72 324 ⇓P P 01 25 43.0 +0.4
baz=24
WMOK Wichita Mounta 23.72 340 eP P 01 25 41.5 -0.9
comp=Z,12nm,0.9s
Y30A Stafford Cattl 23.74 335 ⇓P P 01 25 43.5 +0.9
baz=24
226B Tecolote Peak, 23.81 327 ⇑P P 01 25 44.2 +0.9
baz=24
W34A Bridge Creek, 23.86 342 ⇓P P 01 25 43.9 +0.4
baz=24,SNR=8.6
127A Arkansas Junct 23.87 329 ⇑P P 01 25 44.4 +0.5
baz=24
Z28A Tucker Farm, M 23.90 332 ⇑P P 01 25 44.5 +0.4
baz=24
TUL1 Tulsa 23.97 347 ⇓P P 01 25 45.1 +0.5
baz=24
W33A Caddo, Fort Co 23.99 341 ⇓P P 01 25 45.5 +0.7
baz=24,SNR=7.8
X31A McDonald Ranch 24.05 338 ⇑P P 01 25 45.6 +0.2
baz=24,SNR=7.9
Y29A Porterfield Fa 24.06 334 ⇑P P 01 25 46.1 +0.6
baz=24
126A Clayton Basin, 24.18 328 ⇓P P 01 25 47.2 +0.5
baz=24
225A Deer Hill, Car 24.19 326 ⇑P P 01 25 47.2 +0.3
baz=24
MNTX Cornudas Mount 24.19 324 eP P 01 25 46.4 -0.4
comp=Z,14nm,1.8s
W32A Sentinel 24.23 339 ⇓P P 01 25 47.4 +0.4
baz=24,SNR=12
X30A Coker Ranch, T 24.23 336 ⇑P P 01 25 47.3 +0.3
baz=24,SNR=13
Z27A Tatum 24.31 330 ⇑P P 01 25 48.5 +0.6
baz=24
V34A Guthrie 24.34 343 ⇑P P 01 25 48.4 +0.4
baz=24,SNR=6.3
Y28A McKinney Farm, 24.35 333 ⇓P P 01 25 48.4 +0.2
baz=24
125A Gardner Draw, 24.52 327 ⇓P P 01 25 50.5 +0.7
baz=25
W31A Holland Ranch, 24.53 338 ⇑P P 01 25 50.1 +0.3
baz=25
V33A Lossen Ranch, 24.55 342 ⇓P P 01 25 50.5 +0.6
baz=25,SNR=6.6
224A Cornudas Mount 24.55 325 ⇓P P 01 25 50.6 +0.5
baz=25
X29A Tulia 24.57 334 ⇑P P 01 25 50.6 +0.4
baz=25,SNR=5.5
MSTX Muleshoe 24.64 332 ⇑P P 01 25 51.6 +0.7
baz=25
Z26A Caprock 24.65 329 ⇓P P 01 25 51.3 +0.3
baz=25
V32A Arapaho 24.70 340 ⇓P P 01 25 52.1 +0.8
baz=25,SNR=5.1
Y27A Causey 24.75 331 ⇑P P 01 25 52.5 +0.6
baz=25
X28A Dimmitt 24.84 334 ⇓P P 01 25 53.4 +0.7
baz=25
U34A Anderson Ranch 24.91 344 ⇑P P 01 25 53.6 +0.4
baz=25
AMTX Amarillo 24.94 335 eP P 01 25 54.5 +1.0
comp=Z,15nm,0.9s
AMTX Amarillo 24.94 335 ⇓P P 01 25 53.8 +0.3
baz=25
124A Stringfield Ra 24.99 326 ⇑P P 01 25 54.7 +0.5
baz=25
SIUC Southern Illin 25.00 360 eP P 01 25 54.9 +1.0
comp=Z,14nm,0.8s
V31A Spring Creek L 25.02 339 ⇓P P 01 25 54.9 +0.7
baz=25,SNR=7.0
223A Chaparral, Ant 25.02 323 ⇑P P 01 25 55.0 +0.6
baz=25
Z25A Roswell 25.04 328 ⇓P P 01 25 55.2 +0.7
baz=25
Y26A Elida 25.10 330 ⇑P P 01 25 55.6 +0.5
baz=25
W29A Amarillo 25.13 335 ⇑P P 01 25 55.9 +0.6
baz=25
U32A Winter Ranch, 25.29 341 ⇑P P 01 25 57.3 +0.6
baz=25
V30A Spur Ranch, Mi 25.32 338 ⇑P P 01 25 57.4 +0.4
baz=25
X27A F and S Farms, 25.35 332 ⇓P P 01 25 58.0 +0.6
baz=25
123A Bell Site, Whi 25.39 325 ⇓P P 01 25 58.4 +0.7
baz=26
Z24A Sheeppen Canyo 25.42 327 ⇑P P 01 25 58.5 +0.4
baz=26
W28A Vega 25.48 334 ⇓P P 01 25 59.1 +0.6
baz=26
Y25A Mesa, Roswell 25.53 329 ⇑P P 01 25 59.7 +0.7
baz=26
U31A Nine Bar Ranch 25.56 340 ⇑P P 01 25 59.3 +0.2
baz=26
X26A CR and CF Fran 25.60 331 ⇓P P 01 25 59.8 +0.2
baz=26
WCI Wyandotte Cave 25.64 5 eP P 01 25 60.0 +0.2
comp=Z,13nm,0.8s
W27A Bowe Ranch, En 25.68 333 ⇓P P 01 26 00.9 +0.5
baz=26
T33A Patterson Ranc 25.71 343 ⇑P P 01 26 00.9 +0.4
baz=26
V29A Stinnett 25.73 336 ⇓P P 01 26 01.0 +0.3
baz=26
221A Mesquite Ranch 25.83 321 ⇑P P 01 26 02.2 +0.5
baz=26
Z23A Rita Site, Whi 25.84 326 ⇑P P 01 26 02.3 +0.5
baz=26
320A Kipp Ranch, An 25.84 319 ⇓P P 01 26 02.1 +0.2
baz=26
V28A Channing 25.91 335 ⇑P P 01 26 02.7 +0.4
baz=26
U30A WK&E Inc. Balk 25.98 338 ⇑P P 01 26 03.4 +0.4
baz=26,SNR=5.1
X25A Clemmons Ranch 26.00 330 ⇑P P 01 26 03.4 +0.2
baz=26

T32A Huddler Ranch, 26.00 342 ⇓P P 01 26 03.8 +0.7
baz=26
W26A Owens Ranch, T 26.02 332 ⇓P P 01 26 03.7 +0.3
baz=26
S33A Kaszmaul Farm, 26.12 344 ⇑P P 01 26 04.8 +0.6
baz=26
U29A Oasis Ranch, S 26.14 337 ⇓P P 01 26 04.9 +0.5
baz=26
T31A Randall Ranch, 26.16 341 ⇑P P 01 26 05.1 +0.6
baz=26
V27A Dan Oppiter Fa 26.17 334 ⇑P P 01 26 05.5 +0.7
baz=26
Z22A Elephant Butte 26.24 324 ⇓P P 01 26 06.1 +0.6
baz=26
Y23A Lovelace Mesa, 26.25 327 ⇓P P 01 26 06.2 +0.6
baz=26
319A Douglas 26.35 318 ⇑P P 01 26 06.9 +0.5
baz=26
T30A Plains 26.41 339 ⇓P P 01 26 07.4 +0.6
baz=26
X24A Lazy VL Ranch, 26.41 329 ⇓P P 01 26 07.7 +0.6
baz=26
U28A Mallet 26.45 336 ⇑P P 01 26 07.5 +0.3
baz=26
W25A X Bar L Ranch, 26.46 331 ⇑P P 01 26 07.6 +0.2
baz=26
S32A Newby Ranch, P 26.49 342 ⇑P P 01 26 08.1 +0.6
baz=27
S31A Mullinville 26.58 341 ⇑P P 01 26 09.0 +0.6
baz=27
V26A Tequesquite Ra 26.62 333 ⇓P P 01 26 09.6 +0.7
baz=27,SNR=5.3
U27A Thompson Grove 26.73 335 ⇓P P 01 26 10.6 +0.7
baz=27
Y22A Socorro 26.75 325 ⇑P P 01 26 10.4 +0.4
baz=27
T29A Hugoton 26.78 338 ⇓P P 01 26 10.5 +0.4
baz=27
R33A Olander Ranch, 26.79 344 ⇓P P 01 26 10.7 +0.5
baz=27
X23A Hourglass Bar 26.82 328 ⇓P P 01 26 10.9 +0.2
baz=27
Y22D IRIS PASSCAL I 26.82 326 ⇑P P 01 26 10.9 +0.2
baz=27
W24A Lazy 6 Ranch, 26.91 329 ⇑P P 01 26 11.8 +0.2
baz=27
S30A Montezuma 26.92 340 ⇓P P 01 26 12.0 +0.6
baz=27
V25A Rancho No Teng 27.04 331 ⇓P P 01 26 13.1 +0.4
baz=27
T28A Walsh 27.05 337 ⇑P P 01 26 12.8 +0.1
baz=27
R32A Long Quarter, 27.09 343 ⇓P P 01 26 13.4 +0.5
baz=27
U26A Atchley Ranch, 27.10 333 ⇓P P 01 26 13.5 +0.3
baz=27,SNR=5.3
S29A Ulysses 27.12 339 ⇓P P 01 26 13.9 +0.6
baz=27
R31A Burdett 27.21 342 ⇑P P 01 26 14.7 +0.7
baz=27
KSU1 Kansas State U 27.21 347 eP P 01 26 14.2 +0.3
comp=Z,16nm,0.8s
T27A Campo 27.24 336 ⇓P P 01 26 14.7 +0.3
baz=27
W23A Werner Place, 27.25 328 ⇓P P 01 26 14.8 +0.2
baz=27
V24A Rampart Ranch, 27.25 330 ⇑P P 01 26 14.9 +0.3
baz=27
S28A Manter 27.38 338 ⇓P P 01 26 15.9 +0.3
baz=28
Q33A Connelly Farm, 27.40 345 ⇓P P 01 26 16.6 +1.0
baz=28
U25A Cimarron Dot Ran 27.40 332 ⇓P P 01 26 16.5 +0.6
baz=28
R30A Dighton 27.44 341 ⇓P P 01 26 16.9 +0.8
baz=28
Q32A Meitler Ranch, 27.58 344 ⇓P P 01 26 17.6 +0.3
baz=28
T26A Comanche Natio 27.70 335 ⇓P P 01 26 19.1 +0.6
baz=28
SFIN Scholer Farm 27.72 3 ⇑P P 01 26 18.8 +0.4
baz=28
V23A Ortiz Mt. (NFS 27.72 329 ⇓P P 01 26 19.0 +0.2
baz=28
P33A Williams Farm, 27.78 346 ⇓P P 01 26 19.5 +0.5
baz=28
U24A Moreno Valley 27.81 331 ⇓P P 01 26 19.8 +0.1
baz=28
Q31A Ellis 27.83 343 ⇑P P 01 26 19.9 +0.4
baz=28
S27A Las Animas 27.85 336 ⇓P P 01 26 20.3 +0.5
baz=28
R29A Marienthal 27.85 339 ⇓P P 01 26 20.2 +0.4
baz=28
TUC Tucson 27.93 318 eP P 01 26 22.3 +1.7
comp=Z,3.4nm,0.9s
R28A Tribune 28.02 338 ⇑P P 01 26 21.7 +0.5
baz=28
T25A Trinidad 28.02 333 ⇓P P 01 26 21.9 +0.5
baz=28
S26A Kim 28.03 335 ⇓P P 01 26 21.7 +0.3
baz=28
Q30A Quinter 28.05 341 ⇑P P 01 26 22.0 +0.4
baz=28
U23A El Rito 28.18 330 ⇓P P 01 26 23.2 +0.3
baz=28
P32A Huiting Farm, 28.19 344 ⇓P P 01 26 23.1 +0.4
baz=28
V22A San Miguel Ran 28.22 328 ⇑P P 01 26 23.6 +0.4
baz=28
Q29A Oakley 28.22 340 ⇑P P 01 26 23.4 +0.4
baz=28
P31A Stockton 28.30 343 ⇑P P 01 26 24.2 +0.5
baz=28
R27A Eads 28.33 337 ⇓P P 01 26 24.7 +0.6
baz=28
T24B San Luis 28.39 332 ⇑P P 01 26 25.2 +0.4
baz=28
S25A Robets Cordova 28.46 334 ⇑P P 01 26 25.6 +0.2
baz=29
U22A Llaves 28.55 329 ⇑P P 01 26 26.6 +0.4
baz=29
P30A Selden 28.58 342 ⇓P P 01 26 26.9 +0.7
baz=29
R26A Arlington 28.60 336 ⇑P P 01 26 27.0 +0.5
baz=29
Q28A Sharon Springs 28.66 339 ⇑P P 01 26 27.5 +0.5
baz=29
T23A Casias Ranch, 28.67 331 ⇑P P 01 26 27.9 +0.6
baz=29
O32A Brockman Farm, 28.71 345 ⇑P P 01 26 28.0 +0.7
baz=29
S24A Houchin Ranch, 28.79 333 ⇑P P 01 26 28.6 +0.3
baz=29
R25A Fountain Ranch 28.81 335 ⇓P P 01 26 29.2 +0.8
baz=29
P29A Atwood 28.85 341 ⇑P P 01 26 29.2 +0.6
baz=29
O31A Woolen Ranch, 28.88 344 ⇑P P 01 26 29.8 +1.0
baz=29
X18A Snowflake 28.89 323 ⇑P P 01 26 29.8 +0.6
baz=29
KSCO Kaye Shedlock' 28.90 338 ⇑P P 01 26 29.8 +0.6
baz=29
214A Organ Pipe Nat 29.07 315 ⇓P P 01 26 31.2 +0.5
baz=29
P28A Saint Francis 29.09 340 ⇑P P 01 26 31.5 +0.7
baz=29
O30A MW Ranch, Wils 29.11 343 ⇓P P 01 26 31.5 +0.6
baz=29
Q26A Hugo 29.16 337 ⇓P P 01 26 31.8 +0.3
baz=29
W18A Petrified Fore 29.17 324 ⇓P P 01 26 31.8 +0.1
baz=29
N32A Stulken Farm, 29.19 346 ⇑P P 01 26 32.1 +0.5
baz=29
S23A Nye Farm, Mont 29.20 332 ⇑P P 01 26 32.4 +0.4
baz=29
R24A Sanders Place, 29.23 334 ⇑P P 01 26 32.6 +0.5
baz=29
O29A 4D Ranch, Culb 29.28 341 ⇓P P 01 26 33.1 +0.6
baz=29
P27A Ficken Ranch, 29.37 338 ⇑P P 01 26 33.8 +0.5
baz=30
N31A Bailey Ranch, 29.41 345 ⇑P P 01 26 34.0 +0.5
baz=30
Q25A Bedland, Calha 29.45 336 ⇑P P 01 26 34.3 +0.2
baz=30

R23A Moffat 29.52 333 ⇓P P 01 26 35.0 +0.2
baz=30
O28A Krutsinger Ran 29.60 340 ⇓P P 01 26 35.2 -0.1
baz=30
S22A 4UR Ranch, Cre 29.62 331 ⇓P P 01 26 35.6 -0.2
baz=30
P26A Davis Ranch, A 29.65 337 ⇓P P 01 26 35.7 -0.1
baz=30
N30A Hueftle Ranch, 29.69 343 ⇓P P 01 26 36.0 0.0
baz=30
X16A Lo Mia Camp, P 29.71 321 ⇑P P 01 26 36.5 0.0
baz=30
BGNE Belgrade 29.76 346 ⇑P P 01 26 36.8 +0.1
baz=30
Q24A Divide 29.86 334 ⇓P P 01 26 38.1 +0.2
baz=30
N29A Votaw Ranch, W 29.87 342 ⇑P P 01 26 37.9 +0.3
baz=30
O27A Beecher Island 29.89 339 ⇓P P 01 26 38.4 +0.5
baz=30
M31A Lambtecht Ranc 29.90 345 ⇑P P 01 26 38.3 +0.4
baz=30
P25A Willow Gulch B 29.93 336 ⇓P P 01 26 38.7 +0.4
baz=30
Z14A Wintersburg 30.00 317 ⇓P P 01 26 39.2 +0.4
baz=30
N28A Pribbeno Ranch 30.03 341 ⇑P P 01 26 39.6 +0.5
baz=30
MVCO Mesa Verde 30.03 328 ⇑P P 01 26 39.7 +0.3
baz=30
Q23A Hartsel 30.11 333 ⇑P P 01 26 40.3 +0.2
baz=30
113A Mohawk Valley, 30.20 316 ⇓P P 01 26 41.3 +0.8
baz=30
O26A Horse Wrangler 30.24 338 ⇑P P 01 26 41.8 +0.8
baz=30
M30A Dale-Ortello V 30.32 344 ⇓P P 01 26 42.1 +0.5
baz=30
Y14A Wickenburg 30.40 318 ⇑P P 01 26 43.2 +0.8
baz=30
WUAZ Wupatki 30.41 322 ⇑P P 01 26 43.5 +0.9
baz=30
OGNE Ogallala 30.42 340 ⇑P P 01 26 43.5 +0.9
baz=30
O25A Wiggins 30.43 337 ⇑P P 01 26 43.4 +0.7
baz=30
M29A Burnside Ranch 30.46 343 ⇓P P 01 26 43.5 +0.6
baz=31
N27A Anderson Farm, 30.46 340 ⇑P P 01 26 43.8 +0.8
baz=31
P23A Jefferson 30.50 334 ⇓P P 01 26 43.9 +0.4
baz=31
M28A Bar X Bar Ranc 30.62 342 ⇑P P 01 26 44.4 +0.1
baz=31
L31A Butterfield Fa 30.65 346 ⇑P P 01 26 44.9 +0.4
baz=31
L30A Spencer Herefo 30.66 344 ⇓P P 01 26 45.3 +0.7
baz=31
N26A Koester Ranch, 30.72 339 ⇓P P 01 26 46.1 +0.9
baz=31
ISCO Idaho Springs 30.76 335 ⇑P P 01 26 46.9 +1.1
baz=31
O24A Longmont 30.81 336 ⇓P P 01 26 46.6 +0.6
baz=31
L29A Maesberg Ranch 30.97 343 ⇓P P 01 26 48.5 +1.1
baz=31
N25A Grover 31.02 338 ⇓P P 01 26 48.5 +0.6
baz=31
M27A Reverse DX Ran 31.06 340 ⇑P P 01 26 48.8 +0.6
baz=31
P22A Eagle 31.08 333 ⇑P P 01 26 49.6 +1.1
baz=31
GLA Glamis 31.09 315 ⇑P P 01 26 49.2 +0.7
baz=31
L28A Connealy Angus 31.22 342 ⇓P P 01 26 50.1 +0.5
baz=31
O23A Lake Granby, G 31.23 335 ⇑P P 01 26 50.7 +0.8
baz=31
M26A McRoberts Ranc 31.26 339 ⇑P P 01 26 50.7 +0.7
baz=31
Y12C Blythe 31.29 316 ⇑P P 01 26 50.9 +0.7
baz=31
K30A Basset 31.31 345 ⇑P P 01 26 50.6 +0.2
baz=31
N24A Carr 31.34 337 ⇓P P 01 26 51.2 +0.5
baz=31
PDMCI Parker Dam,Lak 31.36 318 ⇓P P 01 26 51.8 +1.0
baz=31
O22A Kremmling 31.45 334 ⇑P P 01 26 51.9 0.0
baz=32
M25A Palm-Egli Farm 31.55 338 ⇓P P 01 26 53.0 +0.4
baz=32
U15A North Rim 31.58 323 ⇑P P 01 26 53.1 +0.1
baz=32
K29A Lazy Trails An 31.58 344 ⇑P P 01 26 53.5 +0.8
baz=32
W13A Hualapai Mount 31.69 319 ⇓P P 01 26 54.2 +0.2
baz=32
SWSC Sam W. Stewart 31.70 314 ⇑P P 01 26 54.4 +0.6
baz=32
L26A Underwood Farm 31.75 340 ⇑P P 01 26 54.7 +0.4
baz=32
DVTC Desert V Tower 31.77 313 ⇑P P 01 26 54.9 +0.4
baz=32
N23A Red Feather La 31.82 335 ⇑P P 01 26 55.4 +0.3
baz=32
K28A Ten Mile Ranch 31.83 343 ⇑P P 01 26 55.4 +0.5
baz=32
BC3 Big Chuckawall 31.87 315 ⇓P P 01 26 56.1 +0.7
baz=32
M24A Cheyenne 31.87 337 ⇑P P 01 26 55.7 +0.3
baz=32
J30A Dallas 31.90 346 ⇓P P 01 26 55.9 +0.5
baz=32
N22A Wattenberg Ran 31.95 335 ⇑P P 01 26 56.5 +0.3
baz=32
IRM Iron Mountain 31.95 317 ⇓P P 01 26 56.7 +0.7
baz=32
NEE2 Needles Airpor 31.96 318 ⇓P P 01 26 56.8 +0.8
baz=32
K27A Flueckinger Fa 32.08 342 ⇓P P 01 26 57.7 +0.6
baz=32
MONP Monument Peak 32.12 313 ⇓P P 01 26 58.0 +0.2
baz=32
L25A Engebretsen Ra 32.15 339 ⇑P P 01 26 58.6 +0.8
baz=32
J29A Okreek 32.18 345 ⇑P P 01 26 58.4 +0.5
baz=32
O20A White River Ci 32.19 332 ⇑P P 01 26 58.7 +0.4
baz=32
M23A Laramie 32.21 336 ⇓P P 01 26 58.8 +0.3
baz=32
K26A Motz Farm, Whi 32.37 340 ⇑P P 01 26 60.0 +0.3
baz=32
L24A Wheatland 32.41 338 ⇓P P 01 27 00.3 +0.2
baz=32
BELC Belle Mtn. Jos 32.43 316 ⇑P P 01 27 00.6 +0.2
baz=32
I30A Oacoma 32.44 346 ⇑P P 01 27 00.8 +0.7
baz=32
J28A Allard Ranch, 32.44 343 ⇑P P 01 27 01.1 +0.8
baz=32
LDFC Landfair 32.47 318 eP P 01 27 02.9 +2.2
comp=Z,5.6nm,0.8s
J27A Elkhorn Farm, 32.51 342 ⇑P P 01 27 01.3 +0.4
baz=33
M22A Cedar Creek Ra 32.51 335 ⇑P P 01 27 01.3 +0.2
baz=33
K25A Mack Ranch, Ha 32.53 340 ⇓P P 01 27 01.6 +0.6
baz=33
PFO Pinyon Flat Ob 32.53 315 ⇑P P 01 27 02.2 +0.9
baz=33
109C Camp Elliot, M 32.60 313 ⇑P P 01 27 02.2 +0.5
baz=33
GMRC Granite Mounta 32.66 317 ⇓P P 01 27 02.7 +0.4
baz=33
SPMN St. Paul 32.66 355 eP P 01 27 01.8 -0.2
comp=Z,9.3nm,0.4s
SPMN St. Paul 32.66 355 ⇓P P 01 27 02.1 +0.1
baz=33
I29A Vivian Onida 32.75 345 ⇓P P 01 27 03.7 +0.8
baz=33
L23A Garrett 32.76 337 ⇑P P 01 27 03.3 +0.1
baz=33
N20A Spence Gulch, 32.76 333 ⇑P P 01 27 04.0 +0.8
baz=33
BRSD Miller 32.83 347 ⇑P P 01 27 04.6 +1.1
baz=33

J26A	Sides Ranch, S	32.89	341	⇑P	P	01 27 05.1 +0.9
	baz=33					
K24A	Anderson Ranch	32.95	338	⇑P	P	01 27 05.5 +0.7
	baz=33					
I28A	Midland	32.96	344	⇓P	P	01 27 05.4 +0.6
	baz=33					
L22A	Ellis Ranch, M	32.97	336	⇓P	P	01 27 05.1 0.0
	baz=33					
MURC	Murrieta	33.05	314	⇑P	P	01 27 06.1 +0.4
	baz=33					
HEC	Hector,Ludlow	33.13	316	⇓P	P	01 27 07.0 +0.5
	baz=33					
SADO	Sadowa	33.16	13	P	P	01 27 06.4 0.0
SADO	Sadowa	33.16	13	P	P	01 27 06.4 0.0
	comp=Z,6.1nm,0.6s,baz=256,slow=8.3,SNR=3.4					
J25A	Sunshine Ranch	33.19	340	⇑P	P	01 27 07.2 +0.3
	baz=33					
TUQ	Turquoise Moun	33.22	318	⇑P	P	01 27 07.7 +0.5
	baz=33					
I27A	Quinn	33.27	343	⇓P	P	01 27 08.2 +0.7
	baz=33					
H29A	Onida	33.30	345	⇑P	P	01 27 08.3 +0.6
	baz=33					
J24A	Dixon Ranch, L	33.43	339	⇓P	P	01 27 09.6 +0.6
	baz=34					
I26A	New Underwood	33.47	342	⇑P	P	01 27 09.5 +0.2
	baz=34					
SAML	Samuel	33.50	129	eP	P	01 27 09.9 +0.3
	comp=Z,1.7nm,0.7s					
G30A	Faulkton	33.52	347	⇓P	P	01 27 10.1 +0.4
	baz=34					
K22A	Casper	33.53	336	⇓P	P	01 27 10.2 +0.3
	baz=34					
H28A	Mission Ridge	33.55	345	⇑P	P	01 27 10.5 +0.6
	baz=34					
SCI	San Clemente I	33.69	312	⇑P	P	01 27 12.0 +0.8
	baz=34					
BFSC	Mount Baldy Ra	33.71	314	⇑P	P	01 27 11.7 +0.2
	baz=34					
I25A	Rochford	33.73	341	⇓P	P	01 27 12.1 +0.5
	baz=34					
G29A	Hoven	33.76	346	⇑P	P	01 27 12.4 +0.7
	baz=34					
H27A	Howes	33.79	343	⇓P	P	01 27 12.7 +0.7
	baz=34					
CIS	Catalina Islan	33.80	313	⇓P	P	01 27 12.3 +0.1
	baz=34					
K21A	Alcova	33.80	336	⇓P	P	01 27 13.0 +0.7
	baz=34					
J23A	Dilts Ranch, B	33.81	338	⇑P	P	01 27 12.9 +0.6
	baz=34					
I24A	Kuemmerle Ranc	33.89	340	⇑P	P	01 27 13.3 +0.4
	baz=34					
G28A	Parade	33.89	345	⇑P	P	01 27 13.3 +0.4
	baz=34					
H26A	Fairpoint	33.98	342	⇓P	P	01 27 14.0 +0.3
	baz=34					
J22A	Midwest	34.16	337	⇓P	P	01 27 15.8 +0.5
	baz=34					
F30A	Leola	34.17	348	⇓P	P	01 27 15.4 +0.2
	baz=34					
DECC	Green Verdugo	34.19	314	⇓P	P	01 27 15.7 +0.1
	baz=34					
H25A	Fruitdale	34.23	341	⇑P	P	01 27 16.2 +0.4
	baz=34					
I23A	Meade Ranch, G	34.26	339	⇑P	P	01 27 16.4 +0.2
	baz=34					
EDW2	Edwards Air Fo	34.29	315	⇑P	P	01 27 16.5 0.0
	baz=34					
TPNV	Topopah Spring	34.34	320	⇑P	P	01 27 17.0 0.0
	baz=34					
F29A	Eureka	34.34	347	⇑P	P	01 27 17.4 +0.7
	baz=34					
G27A	Dupree	34.44	344	⇓P	P	01 27 18.1 +0.5
	baz=34					
J21A	Lysite	34.48	336	⇑P	P	01 27 18.4 +0.3
	baz=35					
DUG	Dugway	34.51	327	eP	P	01 27 19.7 +1.4
	comp=Z,0.7nm,0.7s					
DUG	Dugway	34.51	327	⇑P	P	01 27 18.5 +0.1
	baz=35					
G26A	Maurine	34.55	343	⇑P	P	01 27 19.0 +0.5
	baz=35					
I22A	9 Mile Ranch,	34.58	338	⇑P	P	01 27 19.2 +0.3
	baz=35					
F28A	McLaughlin	34.59	346	⇓P	P	01 27 19.1 +0.2
	baz=35					
MPMC	Manual Prospec	34.61	317	⇑P	P	01 27 19.5 +0.1
	baz=35					
BLG	Laguna Peak	34.63	313	⇓P	P	01 27 19.4 0.0
	baz=35					
H24A	Dirks Ranch, A	34.65	340	⇓P	P	01 27 19.8 +0.4
	baz=35					
OSI	Osito Adit	34.66	314	⇓P	P	01 27 19.8 +0.1
	baz=35					
G25A	Newell	34.69	342	⇑P	P	01 27 20.0 +0.1
	baz=35					
J20A	Shoshoni	34.74	335	⇑P	P	01 27 20.6 +0.2
	baz=35					
H23A	Clabaugh Cattl	34.77	339	⇑P	P	01 27 21.2 +0.7
	baz=35					
E30A	Jud	34.78	348	⇑P	P	01 27 20.5 0.0
	baz=35					
R11A	Troy Canyon, C	34.81	322	⇑P	P	01 27 21.3 +0.2
	baz=35					
I21A	Big Trails, Te	34.81	337	⇑P	P	01 27 21.4 +0.4
	baz=35					
PDAR	Pinedale Array	34.89	333	P	P	01 27 22.5 +0.8
PDAR	Pinedale Array	34.89	333	P	P	01 27 22.5 +0.8
	comp=Z,0.7nm,1.0s,baz=131,slow=7.7,SNR=3.4					
F27A	Lemmon	34.92	344	⇑P	P	01 27 21.4 -0.4
	baz=35					
BSC	Santa Cruz Isl	34.98	313	⇑P	P	01 27 22.5 +0.1
	baz=35					
E29A	Napoleon	35.00	347	⇓P	P	01 27 21.9 -0.5
	baz=35					
ARVC	Arvin	35.00	315	⇓P	P	01 27 22.7 +0.2
	baz=35					
ISA	Isabella	35.05	316	⇑P	P	01 27 22.7 -0.3
	baz=35					
J19A	Crowheart	35.07	334	⇑P	P	01 27 23.4 +0.2
	baz=35					
F26A	Lodgepole	35.08	343	⇑P	P	01 27 23.3 +0.2
	baz=35					
GRAC	Grapevine Rang	35.09	319	⇑P	P	01 27 23.5 +0.2
	baz=35					
G24A	Alzada	35.12	341	⇑P	P	01 27 23.6 +0.1
	baz=35					
H22A	Clearmont	35.13	338	⇑P	P	01 27 23.7 +0.1
	baz=35					
E28A	Huff	35.24	346	⇓P	P	01 27 24.5 +0.1
	baz=35					
I20A	Worland	35.26	336	⇓P	P	01 27 25.2 +0.5
	baz=35					
SBC	Santa Barbara	35.27	313	⇑P	P	01 27 25.1 +0.3
	baz=35					
EYMN	Ely	35.28	357	eP	P	01 27 23.7 -1.1
	comp=Z,15nm,0.8s					
E27A	Carson	35.32	345	⇓P	P	01 27 25.6 +0.5
	baz=35					
G23A	Biddle	35.33	340	⇑P	P	01 27 25.2 -0.1
	baz=35					
D30A	Buchanan	35.34	349	⇑P	P	01 27 25.1 -0.2
	baz=35					
F25A	Bowman	35.37	343	⇓P	P	01 27 25.7 0.0
	baz=36					
H21A	Big Horn, Sher	35.41	338	⇓P	P	01 27 26.0 -0.1
	baz=36					
D29A	Pettibone, Tap	35.46	348	⇓P	P	01 27 26.5 +0.2
	baz=36					
PKM	Peak Mountain	35.57	314	⇓P	P	01 27 27.0 -0.6
	baz=36					
E26A	Carlson Angus	35.59	344	⇑P	P	01 27 27.9 +0.4
	baz=36					
F24A	Ekalaka	35.59	341	⇓P	P	01 27 27.9 +0.3
	baz=36					
G22A	Birney	35.65	339	⇑P	P	01 27 27.6 -0.5
	baz=36					
H20A	Greybull	35.66	337	⇓P	P	01 27 27.5 -0.7
	baz=36					
I19A	Meeteetse	35.68	335	⇓P	P	01 27 28.0 -0.5
	baz=36					
F23A	Volborg	35.79	340	⇓P	P	01 27 28.6 -0.7
	baz=36					
D28A	Regan	35.80	347	⇓P	P	01 27 29.1 -0.1
	baz=36					
C30A	Mose, Pekin	35.85	349	⇑P	P	01 27 29.5 -0.2
	baz=36					
E25A	Miller Ranch,	35.88	343	⇑P	P	01 27 29.5 -0.5
	baz=36					
SMMC	Simmler	35.91	314	⇑P	P	01 27 30.1 -0.3
	baz=36					
REDW	Red Top Meadow	35.94	333	eP	P	01 27 31.5 +0.8
	comp=Z,42nm,2.2s					
D27A	Center	35.94	346	⇓P	P	01 27 30.3 -0.2
	baz=36					
G21A	Lodge Grass	35.98	338	⇓P	P	01 27 30.9 0.0
	baz=36					
AGMN	Agassiz Nation	36.02	352	eP	P	01 27 30.9 -0.2
	comp=Z,8.0nm,0.7s					
D26A	Manning	36.10	344	⇓P	P	01 27 31.9 0.0
	baz=36					
F22A	Rosebud	36.13	340	⇑P	P	01 27 32.4 +0.3
	baz=36					
E24A	Baker	36.20	342	⇑P	P	01 27 33.0 +0.3
	baz=36					
H19A	Powell	36.20	336	⇑P	P	01 27 33.0 +0.2
	baz=36					
ELK	Elko	36.21	325	eP	P	01 27 34.9 +1.8
	comp=Z,1.9nm,0.9s					
MDND	Maddock	36.21	348	⇓P	P	01 27 32.9 +0.2
	baz=36					
C28A	Hausauer Farms	36.25	347	⇑P	P	01 27 33.2 +0.1
	baz=36					
I17A	Pilgrim Ck.	36.26	333	⇓P	P	01 27 33.4 0.0
	baz=36					
G20A	Bridger	36.35	337	⇑P	P	01 27 34.4 +0.2
	baz=36					
MLAC	Mammoth Lakes	36.40	318	⇓P	P	01 27 34.6 -0.2
	baz=36					
E23A	Ismay	36.45	341	⇑P	P	01 27 35.4 +0.5
	baz=36					
D25A	Fairfield	36.45	344	⇓P	P	01 27 35.3 +0.4
	baz=37					
F21A	Absaloka Mine,	36.47	339	⇑P	P	01 27 35.6 +0.6
	baz=37					
H18A	Shoshone NF, C	36.48	335	⇓P	P	01 27 35.3 0.0
	baz=37					
C27A	Sayler Ranch,	36.50	346	⇓P	P	01 27 35.3 0.0
	baz=37					
NVAR	Mina Array Bea	36.53	320	P	P	01 27 37.9 +2.1
NVAR				PcP	PcP	01 30 01.3 +2.8
NVAR	Mina Array Bea	36.53	320	P	P	01 27 37.9 +2.1
	comp=Z,2.1nm,0.9s,baz=138,slow=8.7,SNR=13					
NVAR				PcP	PcP	01 30 01.3 +2.8
	comp=Z,0.7nm,0.7s,baz=161,slow=2.4,SNR=4.1					
B30A	Myrvik Farm, E	36.55	350	⇑P	P	01 27 35.7 +0.1
	baz=37					
E22A	Miles City	36.60	340	⇓P	P	01 27 36.4 +0.3
	baz=37					
H17A	Grant Village	36.63	334	⇑P	P	01 27 36.6 -0.1
	baz=37					
D24A	Glendive	36.70	343	⇑P	P	01 27 37.6 +0.6
	baz=37					
B29A	Wagenman Farm,	36.75	349	⇑P	P	01 27 37.7 +0.3
	baz=37					
C26A	Wahner Farm, P	36.75	345	⇓P	P	01 27 37.6 +0.2
	baz=37					
F20A	Billings	36.82	338	⇓P	P	01 27 38.1 0.0
	baz=37					
B28A	Dugan Ranch, T	36.94	348	⇑P	P	01 27 39.5 +0.5
	baz=37					
C25A	Freed Ranch, W	36.95	344	⇑P	P	01 27 39.9 +0.8
	baz=37					
A30A	Hoffart Farm,	37.02	350	⇓P	P	01 27 40.4 +0.8
	baz=37					
D23A	Lindsay	37.02	342	⇑P	P	01 27 40.3 +0.6
	baz=37					
E21A	Keefer Ranch,	37.07	339	⇓P	P	01 27 40.9 +0.8
	baz=37					
B27A	Peters Farms,	37.09	347	⇓P	P	01 27 40.6 +0.4
	baz=37					
C24A	Savage	37.11	343	⇓P	P	01 27 40.9 +0.5
	baz=37					
F19A	Roth Farm, Mol	37.17	337	⇓P	P	01 27 41.4 +0.4
	baz=37					
A29A	Manning Farm,	37.17	349	⇑P	P	01 27 41.4 +0.5
	baz=37					
B26A	Jensen Ranch,	37.30	346	⇑P	P	01 27 42.3 +0.3
	baz=37					
D22A	Pohagen	37.30	341	⇑P	P	01 27 43.0 +0.9
	baz=37					
A28A	Rude Farm, Bot	37.36	348	⇑P	P	01 27 42.8 +0.3
	baz=38					
E20A	Meyer Farm, Mu	37.41	338	⇓P	P	01 27 43.5 +0.5
	baz=38					
B25A	Knox Farm, Ray	37.44	345	⇓P	P	01 27 43.7 +0.5
	baz=38					
D21A	La Casta Ranch	37.50	340	⇑P	P	01 27 44.2 +0.5
	baz=38					
C23A	Lambert	37.58	342	⇑P	P	01 27 45.2 +0.8
	baz=38					
E19A	Rath Farm, Rou	37.62	338	⇑P	P	01 27 45.2 +0.4
	baz=38					
A26A	Wade Farm, Ken	37.74	346	⇑P	P	01 27 46.2 +0.5
	baz=38					
C22A	Vida	37.74	341	⇑P	P	01 27 46.7 +0.9
	baz=38					
HLID	Hailey	37.77	330	⇑P	P	01 27 47.2 +0.9
	baz=38					
DGMT	Dagmar	37.90	344	eP	P	01 27 48.1 +1.0
	comp=Z,15nm,0.8s					
DGMT	Dagmar	37.90	344	⇓P	P	01 27 47.8 +0.8
	baz=38					
D20A	Manuel Ranch,	37.91	339	⇓P	P	01 27 47.7 +0.4
	baz=38					
ULM	Lac du Bonnet	37.94	353	eP	P	01 27 46.1 -1.3
	comp=Z,5.2nm,0.8s					
ULM	Lac du Bonnet	37.94	353	P	P	01 27 46.3 -1.0
	comp=Z,5.8nm,0.8s,baz=156,slow=8.6,SNR=5.8					
ULM				LR	LR	01 44 08.8
	comp=Z,102nm,20.4s,baz=40,slow=38					
A25A	Svangstu Ranch	38.04	345	⇓P	P	01 27 48.7 +0.4
	baz=38					
B23A	Brockton	38.11	343	⇓P	P	01 27 50.1 +1.2
	baz=38					
D19A	Cripps Ranch,	38.24	338	⇓P	P	01 27 50.6 +0.5
	baz=38					
A24A	Westby	38.26	344	⇑P	P	01 27 51.1 +1.0
	baz=38					
B22A	Reddig Ranch S	38.27	342	⇓P	P	01 27 50.7 +0.5
	baz=38					
C20A	Veseth Ranch,	38.40	339	⇑P	P	01 27 52.0 +0.6
	baz=38					
C19A	Slack Wire Ran	38.79	338	⇑P	P	01 27 55.3 +0.7
	baz=39					
A22A	Carney Farms,	38.86	342	⇓P	P	01 27 55.5 +0.4
	baz=39					
B20A	Solberg Farm,	39.03	340	⇓P	P	01 27 56.9 +0.2
	baz=39					
A21A	Bergtoll Ranch	39.16	341	⇓P	P	01 27 58.2 +0.5
	baz=39					
WVOR	Wild Horse Val	39.23	325	eP	P	01 27 59.3 +0.8
	comp=Z,1.6nm,0.7s					
EGMT	Eagleton	39.29	338	⇑P	P	01 27 59.4 +0.6
	baz=39					
B19A	Brinkman Farms	39.36	339	⇓P	P	01 28 00.3 +0.9
	baz=40					
A20A	Cobblestone Ra	39.39	340	⇑P	P	01 28 00.2 +0.6
	baz=40					
A19A	Klindworth Far	39.70	340	⇓P	P	01 28 02.6 +0.4
	baz=40					
SIV	San Ignacio	39.70	135	P	P	01 28 04.0 +1.5
SIV	San Ignacio	39.70	135	P	P	01 28 04.0 +1.5
	comp=Z,2.9nm,0.9s,baz=326,slow=6.7,SNR=4.1					
MSO	Missoula	40.01	333	⇑P	P	01 28 05.1 +0.3
	baz=40					
LVC	Limon Verde	40.21	150	eP	P	01 28 07.0 +0.1
	comp=Z,6.2nm,1.0s					
M04C	Macdoel	40.70	322	⇓P	P	01 28 11.0 +0.3
	baz=41					
N02D	Trinity Center	40.77	320	⇓P	P	01 28 11.1 -0.1
	baz=41					
F10A	Beach Ranch, E	40.90	330	eP	P	01 28 12.7 +0.5
	comp=Z,57nm,2.5s					
M02C	Callahan	41.10	321	⇓P	P	01 28 13.9 0.0
	baz=41					
K04D	Chiloquin, OR	41.15	323	⇓P	P	01 28 14.4 +0.1
	baz=41					
J05D	Fort Rock, OR	41.25	324	⇑P	P	01 28 15.0 -0.2
	baz=41					
J04D	Umpqua Nationa	41.73	323	⇑P	P	01 28 19.7 +0.5
	baz=42					
I05D	Terrebonne, OR	41.96	325	⇓P	P	01 28 20.7 -0.2
	baz=42					
L02D	Cave Junction,	41.99	321	⇓P	P	01 28 20.9 -0.2
	baz=42					
I04A	Tendick Farm,	42.24	324	⇑P	P	01 28 23.6 +0.5
	baz=42					
G05D	Wamic, OR	42.52	326	⇑P	P	01 28 25.6 +0.2
	baz=43					
I03D	Drain, OR	42.73	323	⇑P	P	01 28 27.7 +0.7
	baz=43					
G03D	McMinnville, O	43.58	325	⇓P	P	01 28 34.0 +0.1
	baz=44					
F04D	Rainier, OR	43.97	326	⇓P	P	01 28 36.8 -0.3
	baz=44					
SCHQ	Schefferville	45.61	18	P	P	01 28 49.3 -0.6
SCHQ	Schefferville	45.61	18	P	P	01 28 49.3 -0.6
	comp=Z,12nm,0.9s,baz=265,slow=6.6,SNR=7.1					
YKA	Yellowknife Ar	53.05	346	P	P	01 29 46.6 +0.1
YKA	Yellowknife Ar	53.05	346	P	P	01 29 46.6 +0.1
	comp=Z,3.2nm,0.8s,baz=144,slow=7.5,SNR=11					
PLCA	Paso Flores	55.78	163	eP	P	01 30 06.4 -0.4
	comp=Z,2.3nm,0.8s					
PLCA	Paso Flores	55.78	163	P	P	01 30 10.5 +3.7
	comp=Z,1.0nm,0.5s,baz=347,slow=18,SNR=3.7					
RCBR	Riachuelo	55.95	106	eP	P	01 30 10.6 +2.1
	comp=Z,14nm,1.1s					
INK	Inuvik	62.58	343	P	P	01 30 52.6 -0.6
INK	Inuvik	62.58	343	P	P	01 30 52.6 -0.6
	comp=Z,1.8nm,0.9s,baz=200,slow=11,SNR=3.4					
ILAR	Eielson Array	65.23	336	P	P	01 31 10.9 +0.2
ILAR	Eielson Array	65.23	336	P	P	01 31 11.0 +0.2
	comp=Z,1.1nm,1.0s,baz=132,slow=4.3,SNR=7.7					
ESDC	Sonseca Array	78.36	52	P	P	01 32 29.4 -0.7
ESDC	Sonseca Array	78.36	52	P	P	01 32 29.5 -0.7
	comp=Z,0.2nm,0.3s,baz=270,slow=5.3,SNR=3.2					
TOA0	Torodi Ar. Sit	87.95	77	eP	P	01 33 16.1 -3.8
TORD	Torodi Ar. Bea	87.95	77	P	P	01 33 18.6 -1.4
TORD	Torodi Ar. Bea	87.95	77	P	P	01 33 18.6 -1.4
	comp=Z,0.5nm,1.0s,baz=289,slow=5.0,SNR=2.8					
KURK	Kurchatov	116.04	9	PKP	PKPdf	01 39 14.2 +2.1
KURBB	Kurchatov Arra	116.11	9	PKP	PKPdf	01 39 14.2 +1.9
	comp=Z,0.2nm,0.6s,baz=356,slow=1.7,SNR=4.8					
HHC	Hu-ho-hao-te	123.47	341	ePKP	PKPdf	01 39 22.9 -4.0
HHC				sPKP		01 40 00.0
HHC				PP	PP	01 41 09.3 +1.9
HHC				PKS	PKSdf	01 42 59.1 -4.5
HHC				SKS	SKSdf	01 46 23.2 -11
HHC				SKKS	SKKSac	01 47 50.5 -12
HHC				SS	SS	01 57 43.6 -5.9
HHC				AMB	AMB	
	comp=Z,110nm,9.2s					
HHC				LR	LR	
	comp=Z,81nm,20.6s					
LZH	Lanzhou	130.05	346	ePKP	PKPdf	01 39 36.7 -3.0
LZH				sPKP		01 40 09.9
LZH				LR	LR	
	comp=Z,130nm,20.0s					
WRA	Warramunga Arr	137.76	254	PKP	PKPdf	01 39 56.1 +1.8
WRA	Warramunga Arr	137.76	254	PKP	PKPdf	01 39 56.1 +1.8
	comp=Z,0.4nm,0.6s,baz=88,slow=2.4,SNR=2.4					
CMAR	Chiang Mai Arr	148.13	345	PKPbc	PKPab	01 40 18.1 -0.6
CMAR	Chiang Mai Arr	148.13	345	PKPbc	PKPab	01 40 18.0 -0.6
	comp=Z,1.5nm,0.3s,baz=330,slow=4.1,SNR=13					

IDC ***12*** *01:23:05.5±7.8, 7.76S×116.29E, h316km±81km, mb3.4/10, mb1 3.5/11, mb1mx3.3/24, mbtmp3.4/11, Error ellipse: s-maj=42.1km s-min=15.5km az=73.0*

DJA ***12*** *01:23:07.4±0.6, 8.3S±10.1×11.6E±., h301km±5km, M3.7/13, MLv3.7/13*

ISC 12 01:23:05.3±0.7, **7.9S**±0.1×**116.35E**±0.07, **h311**km±7km, **n30**, σ1°**56**/38, **mb3.6**/10, **Bali Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTNI	Mataram	0.76	194	P		Pn		01 23 45.1	-0.8
MTNI				S		S		01 24 16.3	-2.0
KHKI	Kahang-Kahang	0.87	238	P		Pn		01 23 45.9	-0.4
KHKI				S		S		01 24 17.8	-1.2
SRBI	Singaraja	1.15	261	P		Pn		01 23 48.4	+0.8
SRBI				S		S		01 24 21.6	+0.4
DNP	Denpasar	1.37	236	P		Pn		01 23 48.7	-0.1
DNP				S		S		01 24 22.2	-1.2
IGBI	Denpasar	1.50	233	P		Pn		01 23 49.7	+0.1
IGBI				S		S		01 24 21.9	-3.0
BYJI	Banyuwangi	2.00	261	P		Pn		01 23 55.1	+2.0
ABJI	Asem Bagus	2.10	273	P		Pn		01 23 55.4	+1.5
KMMI	Kalianget	2.51	289	P		Pn		01 23 59.9	+2.6
KMMI				S		S		01 24 43.2	+4.3
BLJI	Banyuglugur	2.74	273	P		Pn		01 24 00.9	+1.5
GMJI	Gumukmas	2.91	262	P		Pn		01 24 01.8	+0.9
GMJI				S		S		01 24 45.1	-0.3
LBFI	Labuhan Bajo,	3.55	100	P		Pn		01 24 09.5	+2.1
PWJI	Pagerwojo	4.51	268	P		Pn		01 24 18.5	+0.8
PWJI				S		S		01 25 15.8	-0.1
SJI	Sawahan	4.55	272	P		Pn		01 24 19.8	+1.5
FITZ	Fitzroy Crossi	13.58	139	P		Pn		01 26 08.0	+1.3
	0.7nm,0.3s,baz=333,slow=8.3,SNR=10								
FITZ				S		S		01 28 43.3	+7.0
	0.3nm,0.3s,baz=309,slow=5.9,SNR=1.8								
MTN	Manton Dam	15.34	110	P		P		01 26 26.3	+0.6
	baz=30,SNR=5.2								
KDU	Kakadu	16.55	108	P		P		01 26 39.1	+0.2
	baz=31,SNR=5.9								
MEEK	Meekatharra	18.76	174	P		P		01 27 07.4	+4.9
	baz=35,SNR=4.7								
WRKA	Warakurna	20.51	148	P		P		01 27 22.0	+1.2
	baz=38,SNR=68								
WRA	Warramunga Arr	21.14	126	P		P		01 27 27.2	+0.3
	4.0nm,0.5s,baz=302,slow=11,SNR=16								
ASAR	Alice Springs	23.00	135	P		P		01 27 44.9	+1.1
	2.1nm,0.3s,baz=312,slow=8.5,SNR=46								
QIS	Mount Isa	25.77	122	P		P		01 28 09.6	+0.9
	baz=41,SNR=3.5								
STKA	Stephens Creek	33.48	139	P		P		01 29 17.9	+1.7
	1.4nm,0.5s,baz=305,slow=12,SNR=3.9								
KSRS	Korea Array	46.40	13	P		P		01 31 00.6	-0.8
	1.4nm,0.5s,baz=187,slow=8.3,SNR=3.7								
MJAR	Matsushiro Arr	48.74	24	P		P		01 31 17.5	-1.8
	2.2nm,0.8s,baz=198,slow=8.8,SNR=5.5								
USRK	Ussuriysk Arra	53.75	14	P		P		01 31 55.2	-1.0
	1.1nm,0.7s,baz=169,slow=8.5,SNR=4.0								
SONM	Songino Array	56.19	352	P		P		01 32 12.7	-0.9
	1.2nm,0.5s,baz=170,slow=8.2,SNR=12								
MKAR	Makanchi Array	62.31	334	P		P		01 32 54.1	-1.1
	0.9nm,0.5s,baz=151,slow=6.8,SNR=24								
MKAR				PcP		PcP		01 33 30.8	-0.9
	0.2nm,0.5s,baz=145,slow=5.3,SNR=2.9								
KURBB	Kurchatov Arra	66.85	335	P		P		01 33 22.8	-1.4
	0.5nm,0.5s,baz=146,slow=5.9,SNR=13								
ZALV	Zalesovo Beam	67.11	340	P		P		01 33 23.7	-2.1
	1.5nm,0.5s,baz=144,slow=4.4,SNR=7.1								
TORD	Torodi Ar. Bea	115.69	281	PKP		PKPdf		01 41 11.0	-0.9
	0.2nm,0.5s,baz=48,slow=2.3,SNR=4.9								

IDC ***12*** *01:29:21.6±10.0, 7.60S×128.94E, h154km±117km, mb3.3/4, mb1 3.6/7, mb1mx3.4/21, mbtmp3.4/7, ML4.1/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/14, Error ellipse: s-maj=81.4km s-min=54.9km az=40.0*

ISC 12 01:29:19.5±1.1, **7.71S**±0.09×**128.9E**±0.2, **h131**km, **n8**, σ2°**15**/9, **mb3.5**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.79	197	P		Pn		01 31 53.2	+2.8
	1.3nm,0.3s,baz=25,slow=13,SNR=16								
FITZ	

0.7nm,0.8s,baz=126,slow=4.8,SNR=7.6

MAN ***12*** *01:50:36,4˙.79N×127˙.05E,h33km,mb5.3,ML4.3,MS4.5*
IDC ***12*** *01:50:44.4±2.7,5˙.59N×126˙.72E,h24km±17km,mb4.1/21, mb1 4.2/21,mb1mx4.2/30,mbtmp4.1/21,MS3.7/5, Ms1 3.7/5,ms1mx3.4/39,Error ellipse: s-maj=26.5km s-min=11.0km az=73.0*
BJI ***12*** *01:50:47.2,5˙.42N×126˙.85E,h66km, mB4.9/20,mb4.7/25, Ms4.4/21,Ms7 4.1/21*
ISCJB ***12*** *01:50:47.4±0.7,5˙.49N±0˙.03×126˙.70E±0˙.06,h64km±5km, mb4.6/63, Error ellipse: s-maj=9.9km s-min=4.9km az=161.4*
NEIC ***12*** *01:50:49.6±0.7,5˙.55N×126˙.70E,h70km±6km,mb4.6/21, Error ellipse: s-maj=7.6km s-min=3.6km az=59.0*
AUST ***12*** *01:50:51.8±3.6,5˙.44N×126˙.36E,h86km,Error ellipse: s-maj=3.0km s-min=1.2km az=242.0*
DJA ***12*** *01:50:58.6±0.9,5˚N±9˚×12˚6E±˚,h10km,M4.7/13, mb4.8/13,mB5.1/8,MLv4.8/10,Mw(mB)4.5/8*

ISC 12 01:50:49.9±0.4,5˙.55N±0˙.04×126˙.79E±0˙.07,h68km±2km, n155,σ1§83/210,mb4.5/63,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.48**	**339**	*e*P	**Pn**	**01 51 11.8**	**-2.8**
MATI				*e*S	**Sn**	**01 51 39.0**	**+5.7**
DAV	**Davao City (W)**	**1.93**	**322**	*e*Pn	**Pn**	**01 51 18.7**	**-1.9**
SGSI	**Sangihe**	**2.24**	**214**	P	Pn	01 51 19.8	-5.0
BUKP	**Musuan**	**2.88**	**324**	*e*P	**Pn**	**01 51 32.1**	**-1.5**
BUTP	**Butuan**	**3.59**	**341**	*e*P	**Pn**	**01 51 43.2**	**0.0**
PAGZ	**Pagadian**	**4.08**	**304**	*e*P	**Pn**	**01 51 49.0**	**-0.9**
TNTI	**Ternate**	**4.78**	**173**	P	Pn	01 52 03.6	+4.1
TNTI	**Ternate**	**4.78**	**173**	*e*Pn	**Pn**	**01 51 58.8**	**-0.7**
GTOI	**Gorontalo**	**6.17**	**218**	P	**Pn**	**01 52 15.6**	**-2.9**
	115nm,0.7s,1μm0.4nm						
MRSI	**Marisa**	**6.99**	**224**	P	**Pn**	**01 52 26.6**	**-3.1**
	181nm,0.5s,2μm0.7nm						
LUWI	**Luwuk**	**7.68**	**212**	P	**Pn**	**01 52 40.5**	**+1.3**
	251nm,1.1s,4μm0.9nm						
LUWI	**Luwuk**	**7.68**	**212**	P	**Pn**	**01 52 40.4**	**+1.3**
	baz=7.4,SNR=8.3						
SWI	**Sorong**	**7.78**	**145**	P	Pn	01 52 47.9	+7.4
	40nm,1.0s,0.1nm						
APSI	**Ampana**	**8.22**	**219**	P	Pn	01 52 50.3	+3.8
	165nm,1.2s,2μm0.5nm						
MYLDM	**Lahad Datu**	**8.26**	**268**	P	Pn	01 52 51.2	+4.1
	53nm,1.1s,745nm0.2nm						
MYLDM	**Lahad Datu**	**8.26**	**268**	*e*Pn	**Pn**	**01 52 46.2**	**-1.0**
NLAI	**Namlea**	**8.74**	**178**	P	Pn	01 52 57.7	+4.1
	58nm,0.8s,0.3nm						
MSAI	**Masohi**	**9.09**	**166**	P	Pn	01 53 07.2	+8.7
	15nm,0.8s,315nm0.1nm						
KKM	**Kota Kinabalu**	**10.53**	**273**	*e*Pn	**Pn**	**01 53 17.9**	**-0.4**
KAPI	**Kappang**	**12.63**	**214**	*e*Pn	**Pn**	**01 53 45.5**	**-1.3**
SBUM	**Sibu**	**14.86**	**259**	P	**Pn**	**01 54 17.8**	**+1.5**
	36nm,1.1s,324nm						
SBUM	**Sibu**	**14.86**	**259**	*e*Pn	**Pn**	**01 54 17.1**	**+0.8**
MTN	**Manton Dam**	**18.78**	**167**	P	**P**	**01 55 02.6**	**-1.2**
	baz=19,SNR=5.5						
DLV	**T Lat**	**19.16**	**291**	*e*P	**P**	**01 55 06.6**	**-1.7**
SJI	**Sawahan**	**19.97**	**229**	P	**Pn**	**01 55 22.7**	**+3.5**
	36nm,0.2s,6μm						
QIZ	**Qiongzhong**	**21.27**	**311**	P	**P**	**01 55 30.3**	**-0.6**
QIZ				pP	**pP**	**01 55 42.3**	**-2.9**
QIZ				S	**S**	**01 59 22.7**	**-1.0**
QIZ				PcS	**PcS**	**02 03 11.9**	**-0.1**
QIZ				LR	LR		
	comp=N,170nm,19.5s						
QIZ				LR	LR		
	comp=E,80nm,20.4s						
QIZ				LR	LR		
	comp=Z,230nm,17.4s						
BJII	**Banjamegara**	**21.31**	**233**	P	**P**	**01 55 35.3**	**+3.8**
	34nm,1.4s						
LEM	**Lembang**	**22.74**	**238**	P	**P**	**01 55 49.7**	**+2.8**
	36nm,0.9s						
UBPT	**Khong Chiam**	**23.07**	**296**	P	**P**	**01 55 52.7**	**+2.7**
	16nm,1.4s,1μm						
FITZ	**Fitzroy Crossi**	**23.53**	**183**	*e*P	**P**	**01 55 53.1**	**-1.2**
	46nm,1.6s						
FITZ	**Fitzroy Crossi**	**23.53**	**183**	P	**P**	**01 55 52.8**	**-1.4**
	8.0nm,0.9s,baz=23,slow=8.6,SNR=13						
FITZ	**Fitzroy Crossi**	**23.53**	**183**	P	**P**	**01 55 53.1**	**-1.2**
	baz=24,SNR=5.9						
KLSI		**24.27**	**246**	P	P	01 56 06.1	+5.1
PMG	**Port Moresby**	**25.16**	**126**	LR	LR	02 04 43.5	
	comp=Z,200nm,21.6s,baz=25,slow=33						
CHBT	**CHBT**	**25.17**	**288**	P	**P**	**01 56 13.4**	**+4.2**
	19nm,1.4s,3μm						
COEN	**Coen**	**25.30**	**140**	*e*P	**P**	**01 56 10.2**	**-0.1**
COEN	**Coen**	**25.30**	**140**	P	**P**	**01 56 14.2**	**+3.8**
	baz=26,SNR=4.4						
IPM	**Ipoh**	**25.69**	**269**	*e*P	**P**	**01 56 13.2**	**-0.7**
	16nm,0.9s						
WRAB	**Tennant Creek**	**26.39**	**164**	*e*P	**P**	**01 56 20.4**	**+0.1**
	20nm,1.0s						
WRA	**Warramunga Arr**	**26.40**	**164**	P	**P**	**01 56 20.9**	**+0.6**
WRA				ScP	**ScP**	**02 03 22.6**	**+3.9**
WRA	**Warramunga Arr**	**26.40**	**164**	P	**P**	**01 56 20.9**	**+0.6**
	4.7nm,0.6s,baz=342,slow=10,SNR=20						
WRA				ScP	**ScP**	**02 03 22.6**	**+3.9**
	0.3nm,0.3s,baz=343,slow=3.5,SNR=3.0						
NJ2	**Nanjing**	**27.39**	**345**	*e*P	**P**	**01 56 30.0**	**+0.9**
NJ2				pP	**pP**	**01 56 44.0**	**-1.2**
NJ2				sP	**sP**	**01 56 52.4**	**-0.8**
NJ2				S	**S**	**02 01 06.0**	**+1.6**
NJ2				sS	**sS**	**02 01 33.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,340nm,11.0s						
NJ2				LR	LR		
	comp=N,250nm,18.6s						
NJ2				LR	LR		
	comp=E,230nm,24.0s						
NJ2				LR	LR		
	comp=Z,150nm,20.5s						
MBWA	**Marble Bar**	**27.43**	**194**	*e*P	**P**	**01 56 27.9**	**-1.6**
	10nm,0.8s						
PBKT	**Sadao Pong**	**27.56**	**295**	P	**P**	**01 56 32.3**	**+1.5**
	7.4nm,0.8s						
PSI	**Prapat**	**27.92**	**266**	P	**P**	**01 56 33.2**	**-1.0**
PSI	**Prapat**	**27.92**	**266**	P	**P**	**01 56 33.2**	**-1.0**
	3.7nm,0.7s,baz=89,slow=9.3,SNR=4.8						
PSI				LR	LR	02 08 30.7	
	comp=Z,91nm,20.6s,baz=185,slow=38						
GYA	**Guiyang**	**28.31**	**319**	*e*P	**P**	**01 56 37.6**	**+0.1**
GYA				pP	**pP**	**01 56 54.2**	**+0.5**
GYA				sP	**sP**	**01 57 03.8**	**+2.1**
GYA				PP	**PnPn**	**01 57 31.9**	**+2.3**
GYA				PcP	**PcP**	**01 59 50.0**	**+0.8**
GYA				S	**S**	**02 01 18.5**	**-0.8**
GYA				sS	**sS**	**02 01 46.2**	**-1.0**
GYA				ScP	**SS**	**02 03 22.4**	**+1.0**
GYA				ScS	**ScS**	**02 07 15.0**	**-2.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.7s						
GYA				LR	LR		
	comp=N,480nm,16.0s						
GYA				LR	LR		
	comp=E,410nm,17.4s						
GYA				LR	LR		
	comp=Z,460nm,15.0s						
AS31	**Alice Springs**	**29.86**	**167**	*e*P	**P**	**01 56 51.0**	**-0.1**
ASAR	**Alice Springs**	**29.86**	**167**	P	**P**	**01 56 50.6**	**-0.5**
ASAR				PcP	**PcP**	**01 59 53.6**	**+0.6**
ASAR				ScP	**ScP**	**02 03 33.1**	**+3.7**
ASAR	**Alice Springs**	**29.86**	**167**	P	**P**	**01 56 50.6**	**-0.5**
	1.0nm,0.6s,baz=354,slow=7.5,SNR=26						
ASAR				PcP	**PcP**	**01 59 53.6**	**+0.6**
	0.9nm,0.6s,baz=349,slow=2.4,SNR=3.9						
ASAR				ScP	**ScP**	**02 03 33.1**	**+3.7**
	0.5nm,0.6s,baz=334,slow=3.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**30.05**	**298**	P	**P**	**01 56 51.5**	**-1.3**
CMAR				ScP	**ScP**	**02 03 35.0**	**+4.9**
CMAR	**Chiang Mai Arr**	**30.05**	**298**	P	**P**	**01 56 51.5**	**-1.3**
	1.2nm,0.4s,baz=131,slow=6.3,SNR=6.7						
CMAR				ScP	**ScP**	**02 03 35.0**	**+4.9**
	0.7nm,0.3s,baz=70,slow=1.1,SNR=6.1						
CMAR				LR	LR	02 09 13.7	
	comp=Z,144nm,18.0s,baz=283,slow=37						
KMI	**Kunming**	**30.17**	**313**	P	**P**	**01 56 54.4**	**+0.3**
KMI				pP	**pP**	**01 57 11.2**	**+0.8**
KMI				sP	**sP**	**01 57 18.4**	**0.0**
KMI				PP	**PnPn**	**01 57 57.6**	**+3.4**
KMI				S	**S**	**02 01 49.2**	**+0.4**
KMI				sS	**sS**	**02 02 16.2**	**-0.5**
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				LR	LR		
	comp=N,170nm,17.3s						
KMI				LR	LR		
	comp=E,100nm,19.5s						
KMI				LR	LR		
	comp=Z,200nm,19.5s						
CHTO	**Chiang Mai**	**30.18**	**298**	*e*P	**P**	**01 56 53.0**	**-1.0**
WRKA	**Warakurna**	**30.44**	**177**	P	**P**	**01 56 56.2**	**-0.1**
	baz=30,SNR=9.1						
CMAI	**Chiengmai2**	**30.53**	**300**	P	**P**	**01 56 56.6**	**-0.7**
	18nm,0.9s,5μm						
CTAO	**Charters Tower**	**31.87**	**144**	*e*P	**P**	**01 57 07.9**	**-0.9**
	4.9nm,0.9s						
MJAR	**Matsushiro Arr**	**32.58**	**17**	LR	LR	02 09 40.0	
	comp=Z,106nm,19.0s,baz=185,slow=35						
MEEK	**Meekatharra**	**32.96**	**194**	P	**P**	**01 57 16.4**	**-2.0**
	baz=33,SNR=14						
CD2	**Chengdu**	**33.23**	**322**	*e*P	**P**	**01 57 21.8**	**+1.0**
CD2				pP	**pP**	**01 57 38.3**	**+1.1**
CD2				sP	**sP**	**01 57 46.2**	**+1.1**
CD2				PP	**PP**	**01 58 35.2**	**-1.9**
CD2				S	**S**	**02 02 36.4**	**+0.2**
CD2				sS	**sS**	**02 03 04.6**	**+0.4**
CD2				SS	**SnSn**	**02 04 42.1**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=N,260nm,15.5s						
CD2				LR	LR		
	comp=E,360nm,16.6s						
CD2				LR	LR		
	comp=Z,250nm,19.0s						
BJI	**Beijing**	**35.64**	**346**	P	**P**	**01 57 42.4**	**+1.0**
BJI				PP	**PnPn**	**01 58 59.0**	**-3.9**
BJI				S	**S**	**02 03 16.6**	**+3.7**
BJI				sS	**sS**	**02 03 39.5**	**-1.6**
BJI				ScS	**ScS**	**02 07 53.4**	**-0.4**
BJI				pmax	pmax		
	comp=Z,16nm,0.9s						
BJI				pmax	pmax		
	comp=Z,65nm,4.2s						
BJI				LR	LR		
	comp=N,190nm,4.1s						
BJI				LR	LR		
	comp=E,100nm,7.8s						
BJI				LR	LR		
	comp=Z,96nm,21.0s						
FORT	**Forrest**	**36.14**	**178**	*e*P	**P**	**01 57 45.1**	**-0.6**
	26nm,1.0s						
LZH	**Lanzhou**	**36.98**	**328**	*e*P	**P**	**01 57 55.0**	**+1.9**
LZH				pP	**pP**	**01 58 11.3**	**+1.6**
LZH				sP	**sP**	**01 58 18.9**	**+1.3**
LZH				PP	**PnPn**	**01 59 23.1**	**+3.6**
LZH				*e*S	**S**	**02 03 36.2**	**+2.3**
LZH				sS	**sS**	**02 04 02.1**	**0.0**
LZH				*e*SS	**SnSn**	**02 06 08.0**	**-5.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,110nm,5.2s						
LZH				LR	LR		
	comp=N,410nm,13.2s						
LZH				LR	LR		
	comp=E,260nm,12.3s						
LZH				LR	LR		
	comp=Z,530nm,17.0s						
HHC	**Hu-ho-hao-te**	**37.70**	**341**	*e*P	**P**	**01 58 00.0**	**+0.9**
HHC				pP	**pP**	**01 58 15.2**	**-0.5**
HHC				sP	**sP**	**01 58 22.4**	**-1.1**
HHC				PcP	**PcP**	**02 00 16.1**	**+1.0**
HHC				S	**S**	**02 03 46.4**	**+1.9**
HHC				sS	**sS**	**02 04 12.0**	**-0.9**
HHC				ScS	**ScS**	**02 08 04.6**	**-1.0**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
HHC				LR	LR		
	comp=N,230nm,14.7s						
HHC				LR	LR		
	comp=E,260nm,13.6s						
HHC				LR	LR		
	comp=Z,160nm,14.3s						
NWAO	**Narrogin (SRO)**	**39.33**	**193**	P	**P**	**01 58 11.6**	**-1.0**
NWAO	**Narrogin (SRO)**	**39.33**	**193**	P	**P**	**01 58 11.6**	**-1.0**
	4.5nm,0.5s,baz=359,slow=9.4,SNR=8.4						
STKA	**Stephens Creek**	**39.80**	**160**	*e*P	**P**	**01 58 15.1**	**-1.5**
	2.5nm,1.1s						
STKA	**Stephens Creek**	**39.80**	**160**	P	**P**	**01 58 15.4**	**-1.2**
	2.8nm,0.6s,baz=308,slow=7.9,SNR=12						
STKA				LR	LR	02 13 33.7	
	comp=Z,95nm,19.7s,baz=26,slow=34						
STKA	**Stephens Creek**	**39.80**	**160**	P	**P**	**01 58 16.5**	**-0.1**
	baz=40,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**40.98**	**68**	T	T	02 42 21.0	
	baz=256,slow=66,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**40.99**	**68**	T	T	02 42 22.9	
	baz=256,slow=66,SNR=14						
H11S2	**WAKE ISLAND Hy**	**40.99**	**68**	T	T	02 42 23.2	
	baz=256,slow=66,SNR=8.6						
RKGY	**Rocky Gully**	**41.00**	**192**	P	**P**	**01 58 26.6**	**+0.2**
	baz=41,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**41.45**	**66**	T	T	02 42 57.5	
	baz=258,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**41.46**	**66**	T	T	02 42 56.8	
	baz=258,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**41.47**	**66**	T	T	02 42 58.0	
	baz=258,slow=75,SNR=13						
GTA	**Gaotai**	**41.59**	**328**	P	**P**	**01 58 33.3**	**+1.9**
GTA				pP	**pP**	**01 58 51.9**	**+3.7**
GTA				sP	**sP**	**01 59 00.7**	**+4.7**
GTA				PcP	**PcP**	**02 00 28.3**	**+0.8**
GTA				S	**S**	**02 04 45.4**	**+2.6**
GTA				sS	sS	02 05 17.2	+5.8
GTA				SS	**SS**	**02 07 48.7**	**-1.4**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,80nm,4.5s						
GTA				LR	LR		
	comp=N,150nm,17.3s						
GTA				LR	LR		
	comp=E,190nm,18.6s						
GTA				LR	LR		
	comp=Z,260nm,20.1s						
ARMA	**Armidale**	**42.95**	**148**	P	P	01 58 50.4	+7.8
	baz=43,SNR=4.4						
TAPN	**Taplejung**	**43.02**	**305**	*e*P	**P**	**01 58 42.0**	**-1.4**
TAPN	**Taplejung**	**43.02**	**305**	*e*P	**P**	**01 58 42.0**	**-1.4**
ODAN	**Odare**	**43.09**	**304**	*e*P	**P**	**01 58 42.3**	**-1.6**
	16nm,0.7s						
ODAN	**Odare**	**43.09**	**304**	*e*P	**P**	**01 58 42.3**	**-1.6**
	16nm,0.7s						
RAMN	**Ramite**	**43.78**	**304**	*e*P	**P**	**01 58 47.8**	**-1.7**
	18nm,0.8s						
RAMN	**Ramite**	**43.78**	**304**	*e*P	**P**	**01 58 47.8**	**-1.7**
	18nm,0.8s						
JIRN	**Jiri**	**44.38**	**304**	*e*P	**P**	**01 58 52.9**	**-1.5**
	20nm,0.8s						
JIRN	**Jiri**	**44.38**	**304**	*e*P	**P**	**01 58 52.9**	**-1.5**
	20nm,0.8s						
GUN	**Gumba**	**44.73**	**305**	*e*P	**P**	**01 58 55.5**	**-1.7**
	26nm,0.8s						
GUN	**Gumba**	**44.73**	**305**	*e*P	**P**	**01 58 55.5**	**-1.7**
	26nm,0.8s						
PKI	**Pulchoki**	**44.99**	**304**	*e*P	**P**	**01 58 57.8**	**-1.5**
PKI	**Pulchoki**	**44.99**	**304**	*e*P	**P**	**01 58 57.8**	**-1.5**
PKIN	**Phulchoki**	**45.00**	**304**	*e*P	**P**	**01 58 57.8**	**-1.5**
KKN	**Kakani**	**45.18**	**304**	*e*P	**P**	**01 58 59.5**	**-1.1**
KKN	**Kakani**	**45.18**	**304**	*e*P	**P**	**01 58 59.5**	**-1.1**
DMN	**Daman**	**45.25**	**304**	*e*P	**P**	**01 59 00.2**	**-1.1**
	5.1nm,0.2s						
DMN	**Daman**	**45.25**	**304**	*e*P	**P**	**01 59 00.2**	**-1.1**
	5.1nm,0.2s						
ULN	**Ulaanbaatar**	**45.42**	**341**	*e*P	**P**	**01 59 03.4**	**+1.3**
	6.8nm,0.9s						
SONM	**Songino Array**	**45.61**	**341**	P	**P**	**01 59 03.5**	**-0.1**
SONM				PcP	**PcP**	**02 00 42.1**	**+1.2**
SONM	**Songino Array**	**45.61**	**341**	P	**P**	**01 59 03.5**	**-0.1**
	1.4nm,0.8s,baz=155,slow=7.5,SNR=6.5						
SONM				PcP	**PcP**	**02 00 42.1**	**+1.2**
	0.7nm,0.6s,baz=143,slow=4.5,SNR=2.9						
GKN	**Gorkha**	**45.78**	**304**	*e*P	**P**	**01 59 03.7**	**-1.6**
GKN	**Gorkha**	**45.78**	**304**	*e*P	**P**	**01 59 03.7**	**-1.6**
KOLN	**Koldanda**	**46.56**	**303**	*e*P	**P**	**01 59 09.6**	**-1.9**
	28nm,0.8s						
KOLN	**Koldanda**	**46.56**	**303**	*e*P	**P**	**01 59 09.6**	**-1.9**
	28nm,0.8s						
DANN	**Dangsing**	**46.63**	**304**	*e*P	**P**	**01 59 10.1**	**-2.0**
	29nm,0.7s						
DANN	**Dangsing**	**46.63**	**304**	*e*P	**P**	**01 59 10.1**	**-2.0**
	29nm,0.7s						
PYUN	**Piuthan**	**47.18**	**304**	*e*P	**P**	**01 59 14.9**	**-1.4**
	60nm,1.0s						
PYUN	**Piuthan**	**47.18**	**304**	*e*P	**P**	**01 59 14.9**	**-1.4**
	60nm,1.0s						
WMQ	**Urumqi**	**51.28**	**324**	P	**P**	**01 59 47.0**	**-0.2**
WMQ				pP	**pP**	**02 00 04.0**	**-0.5**
WMQ				sP	**sP**	**02 00 12.0**	**-0.2**
WMQ				PP	**PP**	**02 01 45.0**	**+0.2**
WMQ				ScP	**ScP**	**02 04 51.0**	**-1.2**
WMQ				S	**S**	**02 06 59.0**	**-2.3**
WMQ				ScS	**ScS**	**02 09 28.0**	**-3.6**
WMQ				SS	**SS**	**02 10 33.0**	**-4.7**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,44nm,4.0s						
WMQ				LR	LR		
	comp=N,140nm,18.0s						
WMQ				LR	LR		
	comp=E,120nm,17.0s						
WMQ				LR	LR		
	comp=Z,170nm,17.0s						
PETK	**Petropavlovsk-**	**53.73**	**23**	P	**P**	**02 00 03.9**	**-1.2**
PETK	**Petropavlovsk-**	**53.73**	**23**	P	**P**	**02 00 03.9**	**-1.2**
	1.9nm,0.6s,baz=254,slow=5.4,SNR=3.4						
MK31	**Makanchi Array**	**56.11**	**325**	*e*P	**P**	**02 00 20.9**	**-1.5**
MKAR	**Makanchi Array**	**56.11**	**325**	*e*P	**P**	**02 00 21.4**	**-1.0**
MKAR				PcP	**PcP**	**02 01 19.8**	**+0.1**
MKAR	**Makanchi Array**	**56.11**	**325**	P	**P**	**02 00 20.8**	**-1.6**
	3.6nm,0.6s,baz=120,slow=7.8,SNR=29						
MKAR				PcP	**PcP**	**02 01 19.8**	**+0.1**
	2.6nm,0.7s,baz=130,slow=3.9,SNR=4.8						
KSH	**Kashi**	**56.81**	**314**	P	**P**	**02 00 27.6**	**-0.1**
KSH				pP	**pP**	**02 00 43.2**	**-2.1**
KSH				sP	**sP**	**02 00 50.3**	**-2.6**
KSH				PP	**PP**	**02 02 36.7**	**+2.1**
KSH				S	**S**	**02 08 11.9**	**-4.2**
KSH				SS	**SS**	**02 12 09.2**	**+4.0**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,98nm,7.2s						
KSH				LR	LR		
	comp=N,140nm,6.9s						
KSH				LR	LR		
	comp=E,85nm,4.8s						
KSH				LR	LR		
	comp=Z,96nm,5.1s						
TKM2	**Tokmak 2**	**58.44**	**318**	*e*P	**P**	**02 00 37.7**	**-1.4**
	3.5nm,0.9s						
ZAA0	**Zalesovo Array**	**59.01**	**333**	*e*P	**P**	**02 00 42.9**	**+0.4**
ZALV	**Zalesovo Beam**	**59.01**	**333**	P	**P**	**02 00 42.6**	**+0.1**
ZALV	**Zalesovo Beam**	**59.01**	**333**	P	**P**	**02 00 42.7**	**+0.1**
	4.2nm,0.9s,baz=114,slow=6.6,SNR=11						
KURK	**Kurchatov**	**60.25**	**327**	*e*P	**P**	**02 00 49.9**	**-1.2**
	4.9nm,0.6s						
KURBB	**Kurchatov Arra**	**60.25**	**327**	P	**P**	**02 00 49.9**	**-1.3**
	4.6nm,0.7s,baz=121,slow=7.4,SNR=28						
KBL	**Kabul**	**60.48**	**307**	*e*P	**P**	**02 00 51.7**	**-1.6**
	5.5nm,0.8s						
KKAR	**Karatay Array**	**61.96**	**316**	*e*P	**P**	**02 01 01.4**	**-1.6**
	2.9nm,0.8s						
URZ	**Urewera**	**63.83**	**138**	*e*P	**P**	**02 01 15.3**	**-0.1**
	57nm,1.5s						
BVAR	**Borovoye Array**	**65.84**	**327**	P	**P**	**02 01 26.8**	**-1.4**
BVAR	**Borovoye Array**	**65.84**	**327**	P	**P**	**02 01 26.8**	**-1.4**
	5.5nm,0.7s,baz=135,slow=8.0,SNR=31						
BRVK	**Borovoye**	**65.91**	**327**	*e*P	**P**	**02 01 27.6**	**-1.1**
	11nm,0.8s						
TIXI	**Tiksi**	**66.03**	**1**	*e*P	**P**	**02 01 29.2**	**+0.1**
	12nm,1.4s						
ABKAR	**Akbulak array**	**70.79**	**320**	*e*P	**P**	**02 01 58.0**	**-1.3**
AKTO	**Aktyubinsk**	**72.28**	**321**	P	**P**	**02 02 07.2**	**-1.0**
AKTO	**Aktyubinsk**	**72.28**	**321**	P	**P**	**02 02 07.2**	**-1.0**
	2.5nm,0.5s,baz=101,slow=11,SNR=10						
ARU	**Arti**	**73.44**	**327**	*e*P	**P**	**02 02 13.5**	**-1.4**
	6.9nm,0.6s						
KIV	**Kislovodsk**	**81.94**	**313**	*e*P	**P**	**02 03 01.2**	**-1.4**
	14nm,0.9s						
MCK	**McKinley**	**82.52**	**27**	*e*P	**P**	**02 03 05.8**	**+0.6**
	7.0nm,1.0s						
ILAR	**Eielson Array**	**83.44**	**26**	P	**P**	**02 03 10.1**	**+0.2**
ILAR	**Eielson Array**	**83.44**	**26**	P	**P**	**02 03 10.1**	**+0.2**
	0.4nm,0.5s,baz=257,slow=5.3,SNR=7.4						
VNDA	**Vanda**	**85.21**	**173**	*e*P	**P**	**02 03 18.4**	**-0.1**
	0.9nm,0.7s						
VNDA	**Vanda**	**85.21**	**173**	P	**P**	**02 03 18.7**	**+0.2**
	0.6nm,0.6s,baz=304,slow=5.0,SNR=9.4						
INK	**Inuvik**	**88.46**	**22**	*e*P	**P**	**02 03 34.9**	**+0.5**
	6.7nm,1.4s						
ARCES	**ARCESS Array B**	**88.77**	**340**	P	**P**	**02 03 35.5**	**-0.5**
ARCES	**ARCESS Array B**	**88.77**	**340**	P	**P**	**02 03 35.5**	**-0.5**
	2.7nm,0.7s,baz=78,slow=6.0,SNR=7.9						
KMBO	**Kilima Mbogo**	**89.65**	**269**	*e*P	**P**	**02 03 41.2**	**-0.3**
	1.9nm,1.0s						
FINES	**FINESS Array B**	**90.27**	**332**	P	**P**	**02 03 41.9**	**-1.1**
FINES	**FINESS Array B**	**90.27**	**332**	P	**P**	**02 03 41.9**	**-1.1**
	1.0nm,0.6s,baz=48,slow=4.3,SNR=15						
AKASG	**Malin Array Be**	**90.53**	**321**	P	**P**	**02 03 43.4**	**-1.1**
AKASG	**Malin Array Be**	**90.53**	**321**	P	**P**	**02 03 43.4**	**-1.1**
	0.5nm,0.4s,baz=69,slow=5.1,SNR=3.5						
MLR	**Muntele Rosu**	**93.64**	**316**	P	**P**	**02 03 58.3**	**-0.9**
MLR	**Muntele Rosu**	**93.64**	**316**	P	**P**	**02 03 58.3**	**-0.9**
	0.3nm,0.6s,baz=0.0,slow=3.0,SNR=4.2						
NB2	**NORSAR Subarra**	**97.19**	**334**

GHIR eSg Sb 01 58 57.9 +0.7
IBND Bandar-abas 2.84 98 ePn Pn 01 59 22.0 -0.5
IBND eSg Sb 02 00 06.2 +3.2
IBND e 02 00 25.4
comp=Z,18µm,0.5s
IBND Bandar-abas 2.84 98 ePn Pn 01 59 22.0 -0.5
IBND eSg Sb 02 00 06.2 +3.2
BANOM Banah 3.25 126 ⇑P Pn 01 59 26.9 -1.3
SNR=12
BANOM ml 02 00 14.7
SNR=66
BANOM Banah 3.25 126 P Pn 01 59 26.9 -1.3
SNR=12
NAZ Nazwa, Dubai 3.52 144 ⇑P Pn 01 59 33.1 +1.2
SNR=24
NAZ ⇓S Sn 02 00 14.7 +2.0
NAZ ml 02 00 26.2
SNR=42
NAZ ml 02 00 34.7
SNR=42
NAZ ml 02 00 50.9
SNR=58
NAZ Nazwa, Dubai 3.52 144 P Pn 01 59 32.8 +0.9
NAZ S Sn 02 00 14.7 +2.0
KRBR Kerman 3.64 54 ePn Pn 01 59 34.4 +0.6
KRBR AML AML 02 00 20.7
comp=E,324nm,0.6s
KRBR AML AML 02 00 20.8
comp=N,482nm,0.6s
KRBR Kerman 3.64 54 ePn Pn 01 59 34.4 +0.6
ASUD Al Ashush, Dub 3.67 151 P Pn 01 59 35.6 +1.7
SNR=20
ASUD ⇑S Sn 02 00 18.0 +1.6
ASUD ml 02 00 21.7
SNR=86
ASUD ml 02 00 46.7
SNR=90
ASUD Al Ashush, Dub 3.67 151 P Pn 01 59 35.1 +1.2
ASUD S Sn 02 00 18.0 +1.6
IMEH Mehriz 3.68 17 ePn Pn 01 59 35.8 +1.6
IMEH e 02 00 38.3
comp=Z,2µm,0.3s
IMEH Mehriz 3.68 17 ePn Pn 01 59 35.8 +1.6
FAQ Al Faqa, Dubai 3.69 147 P Pn 01 59 34.7 +0.5
HATD Hatta, Dubai 3.91 140 ⇓P Pn 01 59 37.2 0.0
SNR=22
HATD ⇑S Sn 02 00 22.4 +0.1
HATD ml 02 00 40.7
SNR=100
HATD Hatta, Dubai 3.91 140 P Pn 01 59 37.2 0.0
SNR=22
HATD S Sn 02 00 22.4 +0.1
ASHO Ashiyiah 3.98 142 P Pn 01 59 38.1 -0.1
SNR=41
ASHO ml 02 00 29.2
SNR=92
ASHO ml 02 01 01.1
SNR=132
ASHO Ashiyiah 3.98 142 P Pn 01 59 38.1 -0.1
SNR=41
ISAD Sadrabad 4.05 4 ePn Pn 01 59 41.4 +2.0
ISAD e 02 00 31.1
comp=Z,2µm,0.3s
ISAD Sadrabad 4.05 4 ePn Pn 01 59 41.4 +2.0
IGAR Gharneh 4.67 346 ePn Pn 01 59 49.1 +1.2
IGAR e 02 00 13.3
comp=Z,1µm,0.3s
NASN Na'in 4.95 354 ePn Pn 01 59 52.8 +1.1
NASN AML AML 02 00 52.5
comp=N,138nm,0.6s
NASN Na'in 4.95 354 ePn Pn 01 59 52.8 +1.1
IZEF Zefreh 5.10 350 ePn Pn 01 59 54.6 +0.8
IZEF e 02 00 18.3
comp=Z,1µm,0.3s
IZEF Zefreh 5.10 350 ePn Pn 01 59 54.6 +0.8
ARQ Araqi 5.33 147 ⇑P Pn 01 59 56.6 -0.1
SNR=41
ARQ ml 02 00 59.5
SNR=41
ARQ Araqi 5.33 147 P Pn 01 59 56.6 -0.1
SNR=41
IKLH Kolahrood 5.66 345 ePn Pn 02 00 02.4 +1.0
IKLH e 02 01 26.7
comp=Z,655nm,0.3s
IKLH Kolahrood 5.66 345 ePn Pn 02 00 02.4 +1.0
BSY Bisya 6.16 145 ⇓P Pn 02 00 08.0 -0.2
SNR=32
BSYO Bisya 6.19 145 P Pn 02 00 08.0 -0.6
SNR=32
SMDO Samad 6.38 138 ⇑P Pn 02 00 11.0 -0.3
SNR=61
SMDO Samad 6.38 138 P Pn 02 00 11.0 -0.3
SNR=61
KHMZ Khomeyn 6.55 334 ePn Pn 02 00 14.0 +0.3
KHMZ Khomeyn 6.55 334 ePn Pn 02 00 14.0 +0.3
CHBR Chabahar 6.75 108 ePn Pn 02 00 14.1 -2.1
CHBR Chabahar 6.75 108 ePn Pn 02 00 14.1 -2.1
GHVR GHOM 6.83 345 ePn Pn 02 00 18.7 +1.2
GHVR GHOM 6.83 345 ePn Pn 02 00 18.7 +1.2
IVRN Varamin 7.25 349 ePn Pn 02 00 23.5 +0.4
IVRN e 02 01 02.9
comp=Z,471nm,0.4s
IVRN Varamin 7.25 349 ePn Pn 02 00 23.5 +0.4
ASAO Ashtian 7.25 338 ePn Pn 02 00 23.9 +0.5
ASAO Ashtian 7.25 338 ePn Pn 02 00 23.9 +0.5
WBK Wadi Bani Khal 7.28 135 ⇑P Pn 02 00 22.0 -1.5
SNR=11
IDAH Dahanechah 7.42 48 ePn Pn 02 00 25.8 +0.1
IDAH e 02 02 59.5
comp=Z,569nm,0.7s
IDAH Dahanechah 7.42 48 ePn Pn 02 00 25.8 +0.1
ILAS Lasjerd 7.51 357 ePn Pn 02 00 27.9 +1.1
ILAS e 02 00 51.1
comp=Z,168nm,0.3s
ILAS Lasjerd 7.51 357 ePn Pn 02 00 27.9 +1.1
IANJ Anjilo 7.60 3 ePn Pn 02 00 28.8 +0.7
IANJ Anjilo 7.60 3 ePn Pn 02 00 28.8 +0.7
IDMV Damavand 7.78 352 ePn Pn 02 00 31.3 +0.7
IDMV e 02 02 27.6
comp=Z,267nm,0.4s
IDMV Damavand 7.78 352 ePn Pn 02 00 31.3 +0.7
ISHM Shahmirzad 7.92 360 ePn Pn 02 00 33.4 +0.8
ISHM e 02 00 39.9
comp=Z,422nm,0.2s
ISHM Shahmirzad 7.92 360 ePn Pn 02 00 33.4 +0.8
IRAZ Razeghan 8.07 340 ePn Pn 02 00 34.5 -0.1
IRAZ e 02 02 22.1
comp=Z,381nm,0.4s
IRAZ Razeghan 8.07 340 ePn Pn 02 00 34.5 -0.1
IVIS Veis 8.68 322 ePn Pn 02 00 42.7 -0.1
IVIS e 02 02 24.2
comp=N,1µm,0.4s
IVIS Veis 8.68 322 ePn Pn 02 00 42.7 -0.1
ILIN Lien 8.91 324 ePn Pn 02 00 46.0 -0.2
ILIN e 02 02 33.6
comp=Z,341nm,0.2s
ILIN Lien 8.91 324 ePn Pn 02 00 46.0 -0.2
IDHR Dehrash 9.06 320 ePn Pn 02 00 47.9 -0.3
IDHR e 02 02 38.5
comp=Z,913nm,0.2s
IDHR Dehrash 9.06 320 ePn Pn 02 00 47.9 -0.3
RBK Rabkut 10.34 176 ⇓P Pn 02 01 04.7 -0.9
SNR=24
ABTO Aybut 10.46 180 ⇓P Pn 02 01 06.4 -0.8
SNR=44
HAKT HAKKARI 12.63 322 *i* P Pn 02 01 35.8 -1.2
HAKT HAKKARI 12.63 322 *i* P Pn 02 01 35.8 -1.2
GNI Garni 14.18 332 *i* P P 02 02 07.5 +2.1
comp=Z,26nm,0.9s
GNI Garni 14.18 332 Pn P 02 02 07.9 +2.5
comp=Z,2.0nm,0.3s,baz=65,slow=3.5,SNR=18
GNI LR LR 02 08 22.4
comp=Z,130nm,18.0s,baz=124,slow=41
ASF Jabal al Asfar 14.90 291 Pn P 02 02 11.4 -1.9
comp=Z,0.4nm,0.3s,baz=81,slow=11,SNR=3.6
EAK Akyaka 15.11 330 *i* P P 02 02 14.1 -1.6
ERZM Erzurum 15.59 323 *i* P P 02 02 20.6 -0.6
ERZM Erzurum 15.59 323 *i* P P 02 02 20.6 -0.6
EPOS Posof 16.16 330 *i* P Pn 02 02 18.9 -5.4
DAGI Agillar 16.20 327 *i* P P 02 02 28.7 +1.0
EIL Elat 16.26 281 Pn P 02 02 28.9 +0.6
comp=Z,0.2nm,0.3s,baz=62,slow=14,SNR=4.8
MMAI Mount Meron Ar 16.32 293 Pn P 02 02 28.7 -0.4
comp=Z,0.5nm,0.3s,baz=95,slow=18,SNR=4.0
ZEI Tsey 16.76 335 *eP* P 02 02 33.5 -0.5
ZEI pmax pmax
comp=Z,14nm,1.0s
KEMA Kemaliye 16.80 316 *i* P P 02 02 33.5 -0.9
KEMA Kemaliye 16.80 316 *i* P P 02 02 33.5 -0.9
KBZ Khabaz 17.94 335 P P 02 02 49.4 +2.6
KBZ Khabaz 17.94 335 P P 02 02 49.4 +2.6
KBZ Khabaz 17.94 335 P P 02 02 49.4 +2.6
comp=Z,0.1nm,0.3s,baz=149,slow=5.8,SNR=7.7
KIV Kislovodsk 18.22 335 *i* P P 02 02 54.0 +4.0
KIV pmax pmax
comp=Z,19nm,1.7s
KIV MLR MLR
comp=Z,100nm,16.0s
KIV Kislovodsk 18.22 335 *i* P P 02 02 54.0 +4.0
comp=Z,100nm,16.0s
BRTR Keskin Array B 20.17 311 P Pn 02 03 13.0 -0.5
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 20.17 311 PcP PcP 02 07 26.3 +0.7
comp=Z,4.0nm,1.3s
BRTR Keskin Array B 20.17 311 P Pn 02 03 13.0 -0.5
comp=Z,3.3nm,0.8s,baz=135,slow=12,SNR=18
BRTR PcP PcP 02 07 26.2 +0.7
comp=Z,3.9nm,1.3s,baz=108,slow=4.7,SNR=2.6
KDHN Kadinhani 20.68 306 *i* P Pn 02 03 19.7 +0.3
KDHN Kadinhani 20.68 306 *i* P Pn 02 03 19.7 +0.3
KSH Kashi 22.04 52 P P 02 03 24.1 -7.6
KSH pmax pmax
comp=Z,80nm,4.7s
KHAL Karahalli 22.52 304 *i* P P 02 03 39.0 +2.2
KHAL Karahalli 22.52 304 *i* P P 02 03 39.0 +2.2
AKTK Aktyubinsk 22.82 8 P P 02 03 40.6 +0.9
comp=Z,99nm,19.9s
AKTO Aktyubinsk 22.82 8 P P 02 03 40.6 +0.9
AKTO pmax pmax
comp=Z,3.0nm,0.8s
AKTO MLR MLR
comp=Z,99nm,19.9s
AKTO Aktyubinsk 22.82 8 P P 02 03 40.6 +0.9
comp=Z,3.3nm,0.8s,baz=172,slow=14,SNR=4.5
AKTO LR LR 02 14 46.4
comp=Z,98nm,19.9s,baz=210,slow=42
DEMI Demirci 23.33 305 *i* P P 02 03 48.0 +2.9
DEMI Demirci 23.33 305 *i* P P 02 03 48.0 +2.9
IDI Anoyia 25.31 294 P P 02 04 05.8 +2.3
comp=Z,5.6nm,0.5s,baz=78,slow=12,SNR=5.8
VSR Storozhevoye 25.68 339 *i* P P 02 04 07.7 +1.2
VSR pmax pmax
comp=Z,39nm,1.0s
VSR Storozhevoye 25.68 339 *i* P P 02 04 07.7 +1.2
comp=Z,39nm,1.0s
MLR Muntele Rosu 27.97 316 P P 02 04 29.9 +2.5
comp=Z,1.0nm,1.0s
MLR Muntele Rosu 27.97 316 P P 02 04 29.9 +2.5
comp=Z,1.3nm,1.0s,baz=87,slow=18,SNR=4.8
BRVK Borovoye 28.12 22 *i* P P 02 04 28.4 -0.1
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 28.12 22 *i* P P 02 04 28.4 -0.1
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 28.13 22 P P 02 04 28.6 0.0
BVAR 02 07 42.4
BVAR pmax pmax
comp=Z,9.0nm,0.9s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR pmax pmax
comp=N,1.0nm,0.7s
BVAR MLR MLR
comp=Z,78nm,20.5s
BVAR Borovoye Array 28.13 22 P P 02 04 28.6 0.0
comp=Z,9.0nm,0.9s
BVAR Borovoye Array 28.13 22 PcP PcP 02 07 42.4 +0.1
comp=Z,78nm,20.5s
BVAR Borovoye Array 28.13 22 P P 02 04 28.6 0.0
comp=Z,9.1nm,0.9s,baz=216,slow=7.5,SNR=19
BVAR PcP PcP 02 07 42.4 +0.1
comp=Z,1.5nm,0.7s,baz=214,slow=1.8,SNR=5.5
BVAR ScP ScP 02 11 21.9 +0.3
comp=Z,0.8nm,0.7s,baz=226,slow=6.0,SNR=5.1
BVAR LR LR 02 17 21.0
comp=Z,78nm,20.5s,baz=72,slow=40
ARR Arges 28.72 315 ⇓*i*P P 02 04 35.6 +1.6
ARU Arti 28.79 6*c i*P P 02 04 34.4 0.0
ARU 02 05 30.2
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 28.79 6 *i* P P 02 04 34.4 0.0
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 29.25 328 P P 02 04 38.1 -0.4
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 29.25 328 P P 02 04 38.1 -0.4
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 29.25 328 P P 02 04 38.1 -0.4
comp=Z,1.8nm,0.5s,baz=135,slow=8.1,SNR=12
KIEV Kiev 29.25 328 *i* P P 02 04 38.5 -0.1
KIEV Kiev 29.25 328 *i* P P 02 04 38.5 -0.1
BURAR Bucovina Array 29.49 320 ⇓P P 02 04 42.6 +1.7
BURAR Bucovina Array 29.49 320 ⇓*i*P P 02 04 42.6 +1.7
MKAR Makanchi Array 29.51 42 P P 02 04 40.5 -0.5
MKAR 02 07 45.1
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 29.51 42 P P 02 04 40.5 -0.5
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 29.51 42 PcP PcP 02 07 45.1 -0.8
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 29.51 42 P P 02 04 40.5 -0.5
comp=Z,1.4nm,0.7s,baz=239,slow=11,SNR=7.6
MKAR PcP PcP 02 07 45.0 -0.8
comp=Z,0.7nm,0.6s,baz=258,slow=2.6,SNR=4.7
KURBB Kurchatov Arra 29.68 33 P P 02 04 42.4 0.0
comp=Z,2.1nm,0.9s,baz=155,slow=9.0,SNR=6.0
KURK Kurchatov 29.78 33 P P 02 04 42.4 -0.9
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 29.78 33 P P 02 04 42.4 -0.9
comp=Z,2.0nm,0.9s
OBN Obninsk 29.84 340 *eP* P 02 04 45.2 +1.5
OBN *eSS* SS 02 11 32.3 -14
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,20.0s
OBN Obninsk 29.84 340 *eP* P 02 04 45.2 +1.5
comp=Z,100nm,20.0s
GZR Gura Zlata 29.90 314 ⇓*i*P P 02 04 45.8 +1.3
DRGR 30.57 316 ⇑P P 02 04 51.7 +1.3
DRGR 30.57 316 ⇑*i*P P 02 04 51.7 +1.3
DRGR 30.57 316 ⇑*i*P P 02 04 51.7 +1.3
BZS Buzias 30.74 314 ⇑P P 02 04 53.0 +1.2
BZS Buzias 30.74 314 ⇑*i*P P 02 04 53.0 +1.2
BZS Buzias 30.74 314 ⇑*i*P P 02 04 53.0 +1.2
SIRR Siria 30.98 315 ⇑*i*P P 02 04 56.0 +2.0
TRPA Tarpa 31.30 319 ⇓*i*P P 02 04 58.3 +1.6
KOLS Kolonicke sedl 31.85 320 *eP* P 02 05 03.2 +1.6
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 31.85 320 *eP* P 02 05 03.2 +1.6
KOLS Kolonicke sedl 31.85 320 *eP* P 02 05 03.2 +1.6
comp=Z,10.0nm,1.0s
CRVS Cervenica-Dubn 32.30 319 *eP* P 02 05 06.9 +1.3
CRVS pmax pmax
comp=Z,4.0nm,0.9s
CRVS Cervenica-Dubn 32.30 319 *eP* P 02 05 06.9 +1.3
CRVS Cervenica-Dubn 32.30 319 *eP* P 02 05 06.9 +1.3
comp=Z,4.1nm,0.9s
STHS Stebnicka Huta 32.68 320 *eP* P 02 05 09.9 +1.0
STHS pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 32.68 320 *eP* P 02 05 09.9 +1.0
STHS Stebnicka Huta 32.68 320 *eP* P 02 05 09.9 +1.0
comp=Z,1.4nm,0.8s
PKSM Moragy 32.88 313 ⇑P P 02 05 11.9 +1.3
PKSM Moragy 32.88 313 ⇑*i*P P 02 05 11.9 +1.3
PKSM Moragy 32.88 313 P P 02 05 11.9 +1.3
OJC Ojcow 33.89 320 *eP* P 02 05 20.3 +0.9
OJC Ojcow 33.89 320 *eP* P 02 05 20.3 +0.9
OKC Ostrava-Krasne 34.66 319 *eP* P 02 05 26.0 0.0
OKC Ostrava-Krasne 34.66 319 *eP* P 02 05 26.0 0.0
OKC Ostrava-Krasne 34.66 319 P P 02 05 26.0 0.0
ZALV Zalesovo Beam 34.77 33 *i* P P 02 05 26.2 -0.7
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 34.77 33 *i* P P 02 05 26.2 -0.7
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 34.77 33 P P 02 05 26.1 -0.9
comp=Z,6.0nm,0.8s,baz=245,slow=9.1,SNR=19
MORC Moravsky Berou 34.98 319 ⇑P P 02 05 29.7 +0.8
MORC Moravsky Berou 34.98 319 ⇑*i*P P 02 05 29.7 +0.8
MORC Moravsky Berou 34.98 319 P P 02 05 29.7 +0.8
VRAC Vranov 35.35 317 ⇓*i*P P 02 05 26.8 -5.3
VRAC Vranov 35.35 317 P P 02 05 26.8 -5.3
KRLC Kraliky 35.56 319 *eP* P 02 05 34.3 +0.5
KRLC Kraliky 35.56 319 *eP* P 02 05 34.3 +0.5
KRLC Kraliky 35.56 319 P P 02 05 34.3 +0.5
DPC Dobruska-Polom 35.94 319 *eP* P 02 05 37.6 +0.5
DPC Dobruska-Polom 35.94 319 *eP* P 02 05 37.6 +0.5
DPC Dobruska-Polom 35.94 319 P P 02 05 37.6 +0.5
TREC Trest 36.01 317 *eP* P 02 05 39.8 +2.0
TREC Trest 36.01 317 *eP* P 02 05 39.8 +2.0
TREC Trest 36.01 317 P P 02 05 39.8 +2.0
UPC Upice 36.19 319 *eP* P 02 05 39.8 +0.6
UPC Upice 36.19 319 *eP* P 02 05 39.8 +0.6
UPC Upice 36.19 319 P P 02 05 39.8 +0.6
PRU Pruhonice 36.85 318 *eP* P 02 05 45.6 +0.8
PRU Pruhonice 36.85 318 *eP* P 02 05 45.6 +0.8
PRU Pruhonice 36.85 318 P P 02 05 45.6 +0.8
GERES GERESS Array B 36.95 315 P P 02 05 46.0 +0.2
comp=Z,1.0nm,0.5s
GERES GERESS Array B 36.95 315 PcP PcP 02 08 06.7 -0.1
comp=Z,1.0nm,1.1s
GERES GERESS Array B 36.95 315 P P 02 05 46.0 +0.2
comp=Z,0.7nm,0.5s,baz=109,slow=7.4,SNR=10
GERES PcP PcP 02 08 06.7 -0.1
comp=Z,1.1nm,1.1s,baz=90,slow=4.0,SNR=3.6
ABTA Abfaltersbach 37.06 312 ⇑*i*P P 02 05 47.5 +0.7
comp=Z,9.8nm,1.0s,SNR=7.1
ABTA Abfaltersbach 37.06 312 P P 02 05 47.5 +0.7
comp=Z,9.8nm,1.0s,SNR=7.1
KHC Kasperske Hory 37.12 316 *eP* P 02 05 47.6 +0.4
KHC Kasperske Hory 37.12 316 *eP* P 02 05 47.6 +0.4
KHC Kasperske Hory 37.12 316 P P 02 05 47.6 +0.4
WTTA Wattenberg 37.78 312 ⇑*i*P P 02 05 53.3 +0.3
comp=Z,19nm,1.1s,SNR=8.1
WTTA Wattenberg 37.78 312 P P 02 05 53.3 +0.3
comp=Z,19nm,1.1s,SNR=8.1
WATA Walderalm 37.84 312 ⇑*i*P P 02 05 53.3 -0.2
comp=Z,24nm,1.2s
WATA Walderalm 37.84 312 P P 02 05 53.3 -0.2
comp=Z,24nm,1.2s
JOF Joensuu 37.92 344 *eP* P 02 05 53.8 +0.1
JOF Joensuu 37.92 344 *ep* P 02 05 53.8 +0.1
comp=Z,0.4nm,0.3s
JOF Joensuu 37.92 344 *eP* P 02 05 53.8 +0.1
MOTA Moosalm 38.15 312 ⇑*i*P P 02 05 55.9 -0.2
comp=Z,8.7nm,0.7s,SNR=10.0
MOTA Moosalm 38.15 312 P P 02 05 55.9 -0.2
comp=Z,8.7nm,0.7s,SNR=10.0
FINES FINESS Array B 38.21 339 *i* P P 02 05 56.2 0.0
comp=Z,3.0nm,0.6s
FINES FINESS Array B 38.21 339 P P 02 05 56.0 -0.2
comp=Z,3.0nm,0.6s,baz=145,slow=11,SNR=14
CLL Collm 38.25 319 *i* P P 02 05 57.1 +0.4
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 38.25 319 *i* P P 02 05 57.1 +0.4
comp=Z,8.0nm,1.1s
CLL Collm 38.25 319 *i* P P 02 05 57.1 +0.4
comp=Z,8.0nm,1.1s
RETA Reutte 38.41 312 ⇓*i*P P 02 05 58.0 -0.2
comp=Z,5.1nm,0.7s,SNR=5.6
RETA Reutte 38.41 312 P P 02 05 58.0 -0.2
comp=Z,5.1nm,0.7s,SNR=5.6
KAF Kangasniemi 38.65 340 *eP* P 02 06 00.3 +0.4
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 38.65 340 *ep* P 02 06 00.3 +0.4
comp=Z,0.6nm,0.4s
KAF Kangasniemi 38.65 340 *eP* P 02 06 00.3 +0.4
comp=Z,0.6nm,0.4s
PGF Pioggiola 38.66 304 *eP* P 02 06 00.1 -0.3
PGF Pioggiola 38.66 304 *eP* P 02 06 00.1 -0.3
DAVA Damuels 38.94 312 ⇑*i*P P 02 06 02.5 -0.3
comp=Z,25nm,0.5s,SNR=28
DAVA Damuels 38.94 312 P P 02 06 02.5 -0.3
comp=Z,25nm,0.5s,SNR=28
GTA Gaotai 39.95 61 P P 02 06 10.7 -0.5
GTA pmax pmax
comp=Z,5.0nm,0.9s
FRF La Foret Royal 40.50 305 *eP* P 02 06 15.6 0.0
FRF La Foret Royal 40.50 305 *eP* P 02 06 15.6 0.0
MBDF Montbardon 40.57 307 *eP* P 02 06 15.7 -0.6
comp=Z,10nm,0.7s
MBDF Montbardon 40.57 307 *eP* P 02 06 15.7 -0.6
comp=Z,5.2nm,0.7s
LPG La Plagne 40.70 308 *eP* P 02 06 17.4 -0.1
comp=Z,12nm,0.8s
LPG La Plagne 40.70 308 *eP* P 02 06 17.4 -0.1
comp=Z,5.9nm,0.8s
LPL La Plagne 40.72 308 *eP* P 02 06 16.9 -0.7
comp=Z,14nm,0.8s
LPL La Plagne 40.72 308 *eP* P 02 06 16.9 -0.7
comp=Z,7.0nm,0.8s
CDF Champ du Feu 40.91 313 *eP* P 02 06 18.4 -0.6
CDF Champ du Feu 40.91 313 *eP* P 02 06 18.4 -0.6
HINF Hinteralfeld 41.06 312 *eP* P 02 06 19.5 -0.7
comp=Z,12nm,0.9s
HINF Hinteralfeld 41.06 312 *eP* P 02 06 19.5 -0.7
comp=Z,6.2nm,0.9s
CABF La Chapelle 41.34 310 *eP* P 02 06 22.4 -0.2
CABF La Chapelle 41.34 310 *eP* P 02 06 22.4 -0.2
HAU Haudompre 41.43 312 *eP* P 02 06 22.3 -0.9
HAU *eR* 02 06 22.3 -0.9
comp=Z,72nm,19.5s
HAU Haudompre 41.43 312 *eP* P 02 06 22.3 -0.9
PAGF Fort de Pagny 41.95 313 *eP* P 02 06 27.1 -0.3
comp=Z,5.3nm,0.8s
PAGF Fort de Pagny 41.95 313 *eP* P 02 06 27.1 -0.3
comp=Z,7.7nm,0.8s
VIVF Saint-Julien-l 42.06 307 *eP* P 02 06 28.2 -0.2
VIVF Saint-Julien-l 42.06 307 *eP* P 02 06 28.2 -0.2
SFTF Sexfontaines 42.33 312 *eP* P 02 06 30.1 -0.4
comp=Z,56nm,1.2s
SFTF Sexfontaines 42.33 312 *eP* P 02 06 30.1 -0.4
comp=Z,28nm,1.2s
MEZF Maizieres J'vi 42.38 313 *eP* P 02 06 31.0 +0.1
comp=Z,28nm,1.0s
MEZF Maizieres J'vi 42.38 313 *eP* P 02 06 31.0 +0.1
comp=Z,14nm,1.0s
LASF Ste Croix 42.56 306 *eP* P 02 06 33.3 +0.8
comp=Z,69nm,1.4s
LASF Ste Croix 42.56 306 *eP* P 02 06 33.3 +0.8
comp=Z,34nm,1.4s
CMAR Chiang Mai Arr 42.73 93 P P 02 06 32.9 -1.2
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 42.73 93 P P 02 06 32.9 -1.2
comp=Z,1.5nm,0.4s,baz=281,slow=11,SNR=10
GIVF Givet 42.85 315 *eP* P 02 06 34.4 -0.3
GIVF Givet 42.85 315 *eP* P 02 06 34.4 -0.3
SMF Signal de Mont 42.88 310 *eP* P 02 06 34.3 -0.7
comp=Z,13nm,0.8s
SMF Signal de Mont 42.88 310 *eP* P 02 06 34.3 -0.7
comp=Z,6.6nm,0.8s
LOR Lormes 42.95 311 *eP* P 02 06 34.8 -0.8
LOR *eR* 02 06 34.8 -0.8
comp=Z,92nm,19.5s
LOR Lormes 42.95 311 *eP* P 02 06 34.8 -0.8
SSF Saint Saulge 43.16 310 *eP* P 02 06 36.6 -0.7
comp=Z,40nm,1.4s
SSF Saint Saulge 43.16 310 *eP* P 02 06 36.6 -0.7
comp=Z,20nm,1.4s
AVF Avril sur Loir 43.23 310 *eP* P 02 06 37.5 -0.3
AVF Avril sur Loir 43.23 310 *eP* P 02 06 37.5 -0.3
NB2 NORSAR Subarra 43.49 332 P P 02 06 38.8 -1.0
comp=Z,1.0nm,0.6s,baz=120,slow=8.6
NB2 NORSAR Subarra 43.49 332 P P 02 06 38.8 -1.0
comp=Z,1.0nm,0.6s,SNR=8.4
NOA NORSAR Array B 43.49 332 P P 02 06 39.1 -0.7
comp=Z,41nm,18.5s
NOA NORSAR Array B 43.49 332 P P 02 06 39.1 -0.7
comp=Z,1.3nm,0.6s,baz=120,slow=8.1,SNR=8.7
NOA LR LR 02 26 36.8
comp=Z,41nm,18.5s,baz=355,slow=38
BGF Bois d'Agland 43.54 309 *eP* P 02 06 40.1 -0.3
BGF Bois d'Agland 43.54 309 *eP* P 02 06 40.1 -0.3
MTLF Montolieu 43.69 305 *eP* P 02 06 41.5 -0.1
comp=Z,28nm,1.2s

MTLF	**Montolieu**	**43.69**	**305**	*e*P		**P**	**02 06 41.5**	**-0.1**
	comp=Z,14nm,1.2s								
CAF	**Calviac**	**43.91**	**307**	*e*P		**P**	**02 06 43.7**	**+0.3**
	comp=Z,16nm,1.0s								
CAF	**Calviac**	**43.91**	**307**	*e*P		**P**	**02 06 43.7**	**+0.3**
	comp=Z,8.2nm,1.0s								
TCF	**Toulx Ste Croi**	**43.95**	**309**	*e*P		**P**	**02 06 43.6**	**-0.1**
TCF	**Toulx Ste Croi**	**43.95**	**309**	*e*P		**P**	**02 06 43.6**	**-0.1**
RJF	**Les Rejaudoux**	**44.33**	**307**	*e*P		**P**	**02 06 47.0**	**+0.2**
RJF				*e*R					
	comp=Z,112nm,18.2s								
RJF	**Les Rejaudoux**	**44.33**	**307**	*e*P		**P**	**02 06 47.0**	**+0.2**
ARCES	**ARCESS Array B**	**44.73**	**346**	P		**P**	**02 06 49.5**	**-0.1**
	comp=Z,2.0nm,0.7s								
ARCES	**ARCESS Array B**	**44.73**	**346**	P		**P**	**02 06 49.5**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=148,slow=7.9,SNR=8.8								
LFF	**La Frestale**	**44.85**	**307**	*e*P		**P**	**02 06 51.7**	**+0.8**
	comp=Z,16nm,0.7s								
LFF	**La Frestale**	**44.85**	**307**	*e*P		**P**	**02 06 51.7**	**+0.8**
	comp=Z,7.9nm,0.7s								
EPF	**Esparros**	**45.05**	**304**	*e*P		**P**	**02 06 53.3**	**+0.7**
EPF	**Esparros**	**45.05**	**304**	*e*P		**P**	**02 06 53.3**	**+0.7**
SONM	**Songino Array**	**45.38**	**49**	P		**P**	**02 06 54.9**	**-0.4**
	comp=Z,2.0nm,0.9s								
SONM	**Songino Array**	**45.38**	**49**	P		**P**	**02 06 54.9**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=263,slow=7.7,SNR=8.3								
MFF	**Saint Martin d**	**45.60**	**309**	*e*P		**P**	**02 06 56.6**	**-0.2**
MFF	**Saint Martin d**	**45.60**	**309**	*e*P		**P**	**02 06 56.6**	**-0.2**
ETSF	**Etsaut**	**45.71**	**304**	*e*P		**P**	**02 06 57.9**	**+0.1**
	comp=Z,24nm,1.1s								
ETSF	**Etsaut**	**45.71**	**304**	*e*P		**P**	**02 06 57.9**	**+0.1**
	comp=Z,12nm,1.1s								
LDF	**La Druitiere**	**45.79**	**312**	*e*P		**P**	**02 06 57.2**	**-1.0**
LDF	**La Druitiere**	**45.79**	**312**	*e*P		**P**	**02 06 57.2**	**-1.0**
ULN	**Ulaanbaatar**	**45.83**	**49**	*i* P		**P**	**02 06 56.9**	**-1.9**
	comp=Z,2.0nm,0.6s								
FLN	**La Foliniere**	**46.04**	**312**	*e*P		**P**	**02 06 59.4**	**-0.9**
	comp=Z,95nm,1.4s								
FLN				*e*R					
	comp=Z,135nm,17.0s								
FLN	**La Foliniere**	**46.04**	**312**	*e*P		**P**	**02 06 59.4**	**-0.9**
	comp=Z,48nm,1.4s								
SJPF	**Ste Jean**	**46.20**	**304**	*e*P		**P**	**02 07 02.0**	**+0.4**
	comp=Z,41nm,1.2s								
SJPF	**Ste Jean**	**46.20**	**304**	*e*P		**P**	**02 07 02.0**	**+0.4**
	comp=Z,20nm,1.2s								
GRR	**Gorron**	**46.25**	**312**	*e*P		**P**	**02 07 02.0**	**+0.1**
GRR	**Gorron**	**46.25**	**312**	*e*P		**P**	**02 07 02.0**	**+0.1**
OPO	**Ambohidratompo**	**46.55**	**188**	P		**P**	**02 07 05.5**	**+0.9**
	comp=Z,4.4nm,0.9s,baz=330,slow=3.2,SNR=3.7								
SGMF	**Saint Gilles**	**47.37**	**311**	*e*P		**P**	**02 07 10.5**	**-0.1**
SGMF	**Saint Gilles**	**47.37**	**311**	*e*P		**P**	**02 07 10.5**	**-0.1**
QUIF	**Quistinic**	**47.75**	**311**	*e*P		**P**	**02 07 13.4**	**-0.2**
QUIF	**Quistinic**	**47.75**	**311**	*e*P		**P**	**02 07 13.4**	**-0.2**
ESDC	**Sonseca Array**	**48.36**	**300**	P		**P**	**02 07 19.2**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=66,slow=7.9,SNR=13								
HHC	**Hu-ho-hao-te**	**48.94**	**59**	*e*P		**P**	**02 07 22.6**	**-0.4**
HHC				S		**S**	**02 14 24.9**	**-0.7**
HHC				pmax	pmax				
	comp=Z,51nm,1.0s								
HHC				pmax	pmax				
	comp=Z,170nm,6.4s								
TORD	**Torodi Ar. Bea**	**50.22**	**264**	P		**P**	**02 07 33.2**	**+0.3**
	comp=Z,5.6nm,0.6s,baz=60,slow=7.9,SNR=53								
DBIC	**Dimbokro**	**58.89**	**261**	P		**P**	**02 08 36.3**	**+0.3**
	comp=Z,6.0nm,0.6s								
DBIC	**Dimbokro**	**58.89**	**261**	P		**P**	**02 08 36.3**	**+0.3**
	comp=Z,5.7nm,0.6s,baz=41,slow=9.6,SNR=12								
KIC	**Kosan Boka**	**58.94**	**260**	*e*P		**P**	**02 08 36.3**	**0.0**
	comp=Z,15nm,0.8s								
TIC	**Toumodi**	**59.05**	**261**	*e*P		**P**	**02 08 37.3**	**+0.2**
	comp=Z,3.5nm,0.2s								
LIC	**Lamto**	**59.25**	**260**	⇑*i*P		**P**	**02 08 38.7**	**+0.2**
	comp=Z,11nm,0.6s								
LIC	**Lamto**	**59.25**	**260**	*e*P		**P**	**02 08 38.7**	**+0.2**
	comp=Z,19nm,0.6s								
LIC	**Lamto**	**59.25**	**260**	⇑*i*P		**P**	**02 08 38.7**	**+0.2**
	comp=Z,5.6nm,0.6s								
KSRS	**Korea Array**	**62.02**	**60**	P		**P**	**02 08 56.0**	**-1.0**
	comp=Z,1.0nm,0.5s								
KSRS	**Korea Array**	**62.02**	**60**	P		**P**	**02 08 56.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=284,slow=6.1,SNR=4.2								
BOSA	**Boshof**	**62.28**	**208**	P		**P**	**02 08 59.7**	**+0.8**
	comp=Z,3.0nm,0.7s								
BOSA	**Boshof**	**62.28**	**208**	P		**P**	**02 08 59.6**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=37,slow=8.8,SNR=7.8								
FITZ	**Fitzroy Crossi**	**83.52**	**114**	P		**P**	**02 11 04.2**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=295,slow=4.6,SNR=8.8								
ILAR	**Eielson Array**	**86.33**	**9**	P		**P**	**02 11 17.5**	**-0.8**
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	**86.33**	**9**	P		**P**	**02 11 17.5**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=323,slow=4.3,SNR=17								
YKA	**Yellowknife Ar**	**89.44**	**354**	P		**P**	**02 11 32.9**	**-0.3**
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**89.44**	**354**	P		**P**	**02 11 32.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=6.8,slow=4.9,SNR=8.1								
WRA	**Warramunga Arr**	**91.54**	**112**	P		**P**	**02 11 42.3**	**-1.4**
	comp=Z,2.0nm,0.7s								
WRA	**Warramunga Arr**	**91.54**	**112**	P		**P**	**02 11 42.3**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=316,slow=3.7,SNR=8.1								
ASAR	**Alice Springs**	**92.98**	**115**	P		**P**	**02 11 49.1**	**-1.2**
	comp=Z,2.0nm,0.7s								
ASAR	**Alice Springs**	**92.98**	**115**	P		**P**	**02 11 49.0**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=302,slow=4.8,SNR=19								
TXAR	**Lajitas Array**	**119.03**	**337**	PKP		**PKPdf**	**02 17 24.3**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=122,slow=1.2,SNR=2.2								

IDC ***12*** *02:14:17.1±1.1, 3.°01N×126.°93E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/24, mbtmp3.9/7, Error ellipse: s-maj=106.2km s-min=15.8km az=70.0*

AUST ***12*** *02:14:39.7, 0.°50N×125.°50E, h35km*

ISC 12 02:14:23.2±1.0, 2.°9N±0.°2×126.°9E±0.°5, h44km, n14, σ1§20/14, mb3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**16.21**	**165**	P	**Pn**	**02 18 05.0**	**-3.0**
	baz=14,SNR=3.7						
KDU	**Kakadu**	**16.46**	**160**	P	**P**	**02 18 13.3**	**0.0**
	baz=15,SNR=4.6						
FITZ	**Fitzroy Crossi**	**20.92**	**183**	P	**P**	**02 19 03.6**	**+1.4**
	0.8nm,0.4s,baz=18,slow=9.6,SNR=3.3						
WRA	**Warramunga Arr**	**23.86**	**162**	P	**P**	**02 19 32.6**	**-0.1**
	4.9nm,0.7s,baz=340,slow=10,SNR=14						
QIS	**Mount Isa**	**26.45**	**152**	P	**P**	**02 19 57.8**	**+1.6**
	baz=25,SNR=3.9						
ASAR	**Alice Springs**	**27.29**	**166**	P	**P**	**02 20 04.0**	**+0.1**
	0.9nm,0.5s,baz=349,slow=7.2,SNR=22						
WRKA	**Warakurna**	**27.82**	**177**	P	**P**	**02 20 09.2**	**+0.7**
	baz=26,SNR=7.8						
BBOO	**Buckleboo**	**36.57**	**167**	P	**P**	**02 21 25.4**	**+0.3**
	baz=35,SNR=5.1						
STKA	**Stephens Creek**	**37.31**	**159**	P	**P**	**02 21 31.9**	**+0.6**
	7.9nm,0.7s,baz=338,slow=7.8,SNR=24						
STKA	**Stephens Creek**	**37.31**	**159**	P	**P**	**02 21 32.0**	**+0.6**
	baz=36,SNR=15						
SONM	**Songino Array**	**48.12**	**342**	P	**P**	**02 22 59.3**	**+0.3**
	0.2nm,0.5s,baz=154,slow=9.0,SNR=2.6						
MKAR	**Makanchi Array**	**58.32**	**325**	P	**P**	**02 24 13.1**	**-0.7**
	0.5nm,0.5s,baz=118,slow=7.7,SNR=10.0						
KURBB	**Kurchatov Arra**	**62.51**	**328**	P	**P**	**02 24 41.7**	**-0.6**
	0.3nm,0.4s,baz=127,slow=6.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**123.32**	**288**	PKP	**PKPdf**	**02 33 16.6**	**+0.1**
	0.2nm,0.7s,baz=162,slow=0.5,SNR=2.1						

BJI ***12*** *02:16:47.0, 53.°17N×158.°58E, h128km, mB5.1/31, mb5.0/48*

MOS ***12*** *02:16:50.8±1.0, 52.°93N×158.°04E, h131km, mb4.9/92, Error ellipse: s-maj=6.5km s-min=4.0km az=84.0*

MOS Felt (II) at Petropavlovsk-Kamchatskiy.

KRSC ***12*** *02:16:50.6±2.5, 52.°73N×158.°56E, h138km±22km, ML5.3, FELT [II] at Petropavlovsk.*

ISCJB ***12*** *02:16:51.4±0.2, 52.°86N±0.°02×158.°13E±0.°02, h139km±1km, mb4.9/296, Error ellipse: s-maj=3.3km s-min=2.0km az=161.7*

BGS ***12*** *02:16:51.8±1.5, 52.°98N×159.°12E, h128km, mb5.1*

NEIC ***12*** *02:16:52.3±0.1, 52.°99N×157.°97E, mb5.0/182, Error ellipse: s-maj=3.4km s-min=1.8km az=165.0*

NEIC Felt [II] at Petropavlovsk-Kamchatskiy.

IDC ***12*** *02:16:52.6±0.3, 52.°98N×158.°00E, h131km±2km, mb4.4/34, mb1 4.6/37, mb1mx4.6/38, mbtmp4.5/37, MS3.6/5, Ms1 3.6/5, ms1mx3.3/30, Error ellipse: s-maj=9.4km s-min=6.5km az=150.0*

SZGRF ***12*** *02:16:57.3, 53.°61N×158.°31E, h33km, mb5.2, MS4.8, Near east coast of Kamchatka Peninsula, Russia*

GCMT ***12*** *02:16:57.0±0.2, 52.°97N×158.°43E, h133km±2km, MW5.1, Moment Tensor Solution. s56,c67; s94,c147; Moment tensor: Scale 10¹⁶Nm; Mrr-1.43±.21; Mθθ-0.08±.26; Mφφ 1.51±.25; Mrθ-2.44±.15; Mrφ 0.95±.23; Mθφ-5.47±.13; Best double couple: M₀6.20000×10¹⁶ NP1:φ₁24.00000°, δ82.00000°, λ-90.00000°. NP2:φ₂207.00000°, δ8.00000°, λ-87.00000°. Principal axes: T 6.4900, Plg37.0000°, Azm114.0000°; N -0.5200, Plg0.0000°, Azm24.0000°; P -5.9600, Plg53.0000°, Azm294.0000°; Data Used: II IU IC G CN CU.*

ISC 12 02:16:51.9±0.2, 52.°87N±0.°03×158.°13E±0.°03, h130km±1km, h130km:pP-P, n1285, σ1§11/1512, mb5.0/297, 282C-234D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.32**	**186**	P	**Pn**	**02 17 11.1**	**+0.8**
GRL				*i* S	**Sn**	**02 17 25.1**	**+0.9**
INSR	**Institute**	**0.35**	**55**	*e*P	**Pn**	**02 17 10.5**	**+0.3**
INSR				*i* S	**Sn**	**02 17 24.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**0.35**	**313**	*e*Pn	**Pn**	**02 17 11.3**	**+1.0**
PETK	**Petropavlovsk-**	**0.35**	**313**	PN	**Pn**	**02 17 11.3**	**+1.0**
PETK	**Petropavlovsk-**	**0.35**	**313**	P	**Pn**	**02 17 11.3**	**+1.0**
PETK	**Petropavlovsk-**	**0.35**	**313**	P	**Pn**	**02 17 11.3**	**+1.0**
	4μm,0.3s,baz=108,slow=9.4						
PET	**Petropavlovsk**	**0.36**	**63**	*i*PN	**Pn**	**02 17 10.1**	**-0.1**
PET				*e*S	**Sn**	**02 17 23.8**	**-0.3**
PET				pmax	pmax		
	comp=Z,18μm,0.6s						
PET				pmax	pmax		
	comp=Z,28μm,0.6s						
PET				pmax	pmax		
	comp=Z,6μm,8.7s						
PET				smax	smax		
	comp=E,158μm,2.1s						
PET				smax	smax		
	comp=N,74μm,1.1s						
PET	**Petropavlovsk**	**0.36**	**63**	*e*P	**Pn**	**02 17 10.1**	**-0.1**
PET				*i* S	**Sn**	**02 17 24.4**	**+0.3**
PET	**Petropavlovsk**	**0.36**	**63**	*e*Pn	**Pn**	**02 17 10.0**	**-0.3**
PET				*e*Sn	**Sn**	**02 17 24.1**	**-0.1**
RUS	**Russkaya**	**0.49**	**151**	PN	**Pn**	**02 17 10.3**	**-0.6**
RUS	**Russkaya**	**0.49**	**151**	P	**Pn**	**02 17 10.3**	**-0.6**
ASAK	**Asacha**	**0.50**	**196**	P	**Pn**	**02 17 11.9**	**+0.8**
KOK	**Koryaka**	**0.53**	**36**	P	**Pn**	**02 17 11.8**	**+0.6**
AVH	**Avacha**	**0.54**	**42**	P	**Pn**	**02 17 11.8**	**+0.5**
UGLR	**Uglovaya**	**0.54**	**50**	P	**Pn**	**02 17 11.7**	**+0.3**
SMAR	**Somma**	**0.57**	**45**	P	**Pn**	**02 17 11.9**	**+0.2**
SMAR				*i* S	**Sn**	**02 17 27.5**	**+0.9**
KRER	**Koryakskii**	**0.58**	**40**	P	**Pn**	**02 17 12.1**	**+0.4**
KRX	**Arik**	**0.59**	**32**	P	**Pn**	**02 17 12.1**	**+0.4**
APC	**Apacha**	**0.59**	**276**	*e*P	**Pn**	**02 17 13.3**	**+1.8**
APC				*i* S	**Sn**	**02 17 28.7**	**+2.4**
SDLR	**Sedlovina**	**0.62**	**48**	P	**Pn**	**02 17 11.9**	**+0.1**
NLC	**Nalytchevo**	**0.80**	**67**	PN	**Pn**	**02 17 12.1**	**-0.9**
NLC	**Nalytchevo**	**0.80**	**67**	*e*P	**Pn**	**02 17 12.1**	**-0.9**
GNL	**Ganaly**	**0.84**	**352**	P	**Pn**	**02 17 14.4**	**+0.9**
MIPR	**Malaya Ipel'ka**	**1.02**	**235**	*e*P	**Pn**	**02 17 16.6**	**+1.6**
SPN	**Mys Shipunski**	**1.17**	**78**	PN	**Pn**	**02 17 15.3**	**-1.1**
SPN	**Mys Shipunski**	**1.17**	**78**	P	**Pn**	**02 17 15.3**	**-1.1**
KII	**Karymskiy**	**1.41**	**33**	*e*P	**Pn**	**02 17 19.6**	**+0.5**
KII				*i* S	**Sn**	**02 17 42.1**	**+2.2**
PAU	**Pauzhetka**	**1.62**	**211**	PN	**Pn**	**02 17 22.6**	**+1.3**
PAU				S	**Sn**	**02 17 46.8**	**+3.1**
PAU	**Pauzhetka**	**1.62**	**211**	*e*P	**Pn**	**02 17 22.6**	**+1.3**
PAU				*i* S	**Sn**	**02 17 46.8**	**+3.1**
SKR	**Severo-Kuril's**	**2.52**	**211**	*e*PN	**Pn**	**02 17 30.1**	**-2.2**
SKR				*i* S	**Sn**	**02 18 02.0**	**-1.3**
SKR				pmax	pmax		
	comp=N,310nm,0.5s						
SKR				pmax	pmax		
	comp=Z,540nm,0.5s						
SKR				pmax	pmax		
	comp=E,240nm,0.4s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				smax	smax		
	comp=N,3μm,0.4s						
SKR				smax	smax		
	comp=E,6μm,0.4s						
SKR				smax	smax		
	comp=N,20μm,2.0s						
SKR				smax	smax		
	comp=E,10μm,2.0s						
SKR	**Severo-Kuril's**	**2.52**	**211**	*e*P	**Pn**	**02 17 34.3**	**+2.0**
SKR				*i* S	**Sn**	**02 18 06.1**	**+2.8**
KZV	**Kizimen**	**2.59**	**29**	P	**Pn**	**02 17 34.4**	**+1.1**
KZV				*i* S	**Sn**	**02 18 07.8**	**+2.6**
TUMR	**Tumrok**	**2.70**	**25**	P	**Pn**	**02 17 36.4**	**+1.7**
TUMR				*i* S	**Sn**	**02 18 09.0**	**+1.4**
MKZ	**Mys Kozlova**	**2.73**	**50**	PN	**Pn**	**02 17 34.1**	**-0.8**
MKZ				S	**Sn**	**02 18 04.9**	**-3.2**
MKZ	**Mys Kozlova**	**2.73**	**50**	P	**Pn**	**02 17 34.1**	**-0.8**
MKZ				*i* S	**Sn**	**02 18 04.9**	**-3.2**
ESO	**Esso**	**3.08**	**6**	PN	**Pn**	**02 17 41.2**	**+1.7**
ESO				S	**Sn**	**02 18 19.9**	**+3.5**
ESO	**Esso**	**3.08**	**6**	*e*P	**Pn**	**02 17 41.2**	**+1.7**
ESO				*i* S	**Sn**	**02 18 19.9**	**+3.5**
KMNR	**Kamenistaya**	**3.15**	**22**	P	**Pn**	**02 17 42.6**	**+2.1**
KMNR				*i* S	**Sn**	**02 18 21.4**	**+3.4**
KPT	**Kopyto**	**3.34**	**21**	*e*P	**Pn**	**02 17 43.7**	**+0.8**
KIRR	**Kirishev**	**3.35**	**22**	*e*P	**Pn**	**02 17 44.8**	**+1.6**
KOZ	**Kozyrevsk**	**3.36**	**17**	*e*P	**Pn**	**02 17 44.5**	**+1.4**
KOZR	**Kozyr**	**3.37**	**17**	PN	**Pn**	**02 17 44.5**	**+1.3**
BZMR	**Bezymyannaya**	**3.37**	**23**	*e*P	**Pn**	**02 17 45.2**	**+1.8**
BZMR				*i* S	**Sn**	**02 18 27.7**	**+4.4**
BZWR	**Bezymyannyi-We**	**3.40**	**23**	*e*P	**Pn**	**02 17 45.9**	**+2.1**
BZWR				*i* S	**Sn**	**02 18 27.3**	**+3.4**
BZGR	**Bezymyannyi-Gr**	**3.43**	**25**	*e*P	**Pn**	**02 17 46.7**	**+2.6**
BZGR				*i* S	**Sn**	**02 18 28.9**	**+4.4**
ZLN	**Zelenaya**	**3.52**	**25**	*e*P	**Pn**	**02 17 48.3**	**+2.9**
LGNR	**Loginova**	**3.55**	**24**	*e*P	**Pn**	**02 17 48.1**	**+2.2**
SRDR	**Sredinnyy**	**3.58**	**14**	*e*P	**Pn**	**02 17 47.2**	**+1.1**
SRDR				*i* S	**Sn**	**02 18 30.8**	**+2.8**
CIRR	**Tsirk**	**3.60**	**24**	*e*P	**Pn**	**02 17 45.0**	**-1.4**
KRSR	**Krestovskiy**	**3.65**	**22**	*e*P	**Pn**	**02 17 47.8**	**+0.8**
KRSR				*i* S	**Sn**	**02 18 33.2**	**+3.6**
KLY	**Klyuchi**	**3.75**	**22**	PN	**Pn**	**02 17 50.0**	**+1.7**
KLY	**Klyuchi**	**3.75**	**22**	*e*P	**Pn**	**02 17 50.0**	**+1.7**
KLY				*i* S	**Sn**	**02 18 37.5**	**+5.5**
BDR	**Baidarnaya**	**4.12**	**24**	*e*P	**Pn**	**02 17 55.0**	**+1.8**
BDR				*i* S	**Sn**	**02 18 43.1**	**+2.3**
SRKR	**Sorokina**	**4.18**	**24**	*e*P	**Pn**	**02 17 55.6**	**+1.5**
SMKR	**Semkarok**	**4.20**	**26**	*e*P	**Pn**	**02 17 56.3**	**+2.1**
KBG	**Krutoberegovo**	**4.32**	**36**	PN	**Pn**	**02 17 55.3**	**-0.4**
KBG				S	**Sn**	**02 18 42.3**	**-3.0**
KBG	**Krutoberegovo**	**4.32**	**36**	*e*P	**Pn**	**02 17 55.3**	**-0.4**
KBG				*i* S	**Sn**	**02 18 42.3**	**-3.0**
KBTR	**Krutoberegovo**	**4.32**	**37**	PN	**Pn**	**02 17 55.7**	**-0.1**
KBTR				S	**Sn**	**02 18 42.2**	**-3.3**
KBTR	**Krutoberegovo**	**4.32**	**37**	*e*P	**Pn**	**02 17 55.7**	**-0.1**
KBTR				*i* S	**Sn**	**02 18 42.2**	**-3.3**
BKI	**Bering**	**5.18**	**60**	PN	**Pn**	**02 18 05.6**	**-1.7**
BKI	**Bering**	**5.18**	**60**	*e*P	**Pn**	**02 18 05.6**	**-1.7**
BKI				*i* S	Sn	02 18 58.2	-7.8
OSSR	**Ossora**	**6.97**	**21**	*e*P	**Pn**	**02 18 33.6**	**+2.4**
FX1	**Attu Island--F**	**9.10**	**84**	*e*Pn	**Pn**	**02 18 59.4**	**-0.6**
FX1				S	Sn	02 20 31.6	-8.9
FX1	**Attu Island--F**	**9.10**	**84**	P	**Pn**	**02 18 59.5**	**-0.4**
	comp=E,44nm,0.3s,baz=307,slow=7.1,SNR=269						
FX1				S	Sn	02 20 31.6	-8.9
	comp=E,444nm,0.3s,baz=160,slow=20,SNR=16						
SMY	**Shemya**	**9.68**	**84**	*e*PN	**Pn**	**02 19 07.6**	**-0.1**
SMY	**Shemya**	**9.68**	**84**	*e*Pn	**Pn**	**02 19 07.6**	**-0.1**
SMY				*e*Sn	**Sn**	**02 20 50.5**	**-4.0**
SEY	**Seymchan**	**10.54**	**346**	PN	**Pn**	**02 19 21.7**	**+2.5**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**10.54**	**346**	P	**Pn**	**02 19 21.7**	**+2.5**
SEY	**Seymchan**	**10.54**	**346**	P	**Pn**	**02 19 21.7**	**+2.5**
	comp=Z,0.8nm,0.3s,baz=146,slow=12,SNR=48						
UGL	**Uglegorsk**	**10.81**	**256**	*e*PN	Pn	02 19 27.5	+4.6
UGL				pmax	pmax		
	comp=Z,950nm,1.6s						
UGL				pmax	pmax		
	comp=Z,340nm,0.8s						
UGL				MLR	MLR		
	comp=Z,600nm,16.0s						
UGL				MLR	MLR		
	comp=N,500nm,14.0s						
UGL				MLR	MLR		
	comp=E,600nm,16.0s						
YSS	**Yuzh-Sakhalins**	**11.53**	**245**	*i*PN	Pn	02 19 36.0	+3.6
YSS				*i* S	Sn	02 21 46.0	+6.6
YSS				pmax	pmax		
	comp=N,110nm,1.0s						
YSS				pmax	pmax		
	comp=E,180nm,1.0s						
YSS				pmax	pmax		
	comp=Z,150nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=N,700nm,13.0s						
YSS	**Yuzh-Sakhalins**	**11.53**	**245**	*e*Pn	Pn	02 19 35.9	+3.4
YUK	**Yuzh-Kuril'sk**	**12.00**	**227**	*c i*PN	**Pn**	**02 19 38.2**	**-0.4**
YUK				S	**Sn**	**02 21 52.8**	**+2.0**
YUK				pmax	pmax		
	comp=N,222nm,0.6s						
YUK				pmax	pmax		
	comp=E,156nm,0.6s						
YUK				pmax	pmax		
	comp=Z,489nm,0.6s						
AMKA	**Amchitka**	**13.09**	**88**	*e*Pn	**P**	**02 19 57.3**	**-0.7**
AMKA				*e*Sn	Sn	02 22 09.4	-7.6
ASAJ	**Asahikawa**	**13.49**	**236**	*e*Pn	**Pn**	**02 19 59.9**	**+2.0**
ASAJ	**Asahikawa**	**13.49**	**236**	P	**Pn**	**02 19 60.0**	**+2.0**
	comp=Z,5.7nm,0.3s,baz=64,slow=10,SNR=38						
ASAJ				LR	LR	02 26 17.3	
	comp=Z,205nm,18.5s,baz=58,slow=42						
ERM	**Erimo**	**14.81**	**229**	*e*P	**Pn**	**02 20 14.0**	**-0.7**
ERM	**Erimo**	**14.81**	**229**	*e*Pn	**Pn**	**02 20 14.0**	**-0.7**
ERM	**Erimo**	**14.81**	**229**	Pn	**Pn**	**02 20 13.9**	**-0.7**
	comp=Z,1μm,0.7s,SNR=16						
HABR	**Khabarovsk**	**15.25**	**262**	*d e*P	**P**	**02 20 21.9**	**-0.1**
HABR				*e*S	**Sn**	**02 23 11.4**	**+2.4**
HABR				pmax	pmax		
	comp=N,50nm,2.0s						
HABR				pmax	pmax		
	comp=Z,178nm,2.0s						
HABR				pmax	pmax		
	comp=E,75nm,1.3s						
HABR				MLR	MLR		
	comp=Z,261nm,19.0s						
KLR	**Kul'dur**	**16.94**	**268**	*e*P	**P**	**02 20 40.0**	**-0.7**
KLR				*e*S	**S**	**02 23 50.5**	**+0.1**
KLR				pmax	pmax		
	comp=N,70nm,1.6s						
KLR				pmax	pmax		
	comp=E,230nm,1.6s						
KLR				pmax	pmax		
	comp=Z,360nm,1.6s						
KLR				pmax	pmax		
	comp=Z,1μm,7.5s						
KLR				MLR	MLR		
	comp=N,600nm,11.0s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s						
YAK	**Yakutsk**	**17.70**	**312**	*d i*P	**P**	**02 20 49.0**	**+0.1**
YAK				pmax	pmax		
	comp=Z,262nm,1.0s						
YAK				pmax	pmax		
	comp=E,152nm,1.1s						
YAK				pmax	pmax		
	comp=N,79nm,1.2s						
YAK	**Yakutsk**	**17.70**	**312**	*e*Pn	**P**	**02 20 48.4**	**-0.4**
	comp=N,364nm,1.1s						
GAMB	**Gambell**	**19.03**	**43**	*e*P	**P**	**02 21 03.8**	**+0.4**
	comp=N,24nm,0.7s						
USRK	**Ussuriysk Arra**	**19.27**	**254**	P	**P**	**02 21 06.8**	**+0.7**
	comp=N,2.8nm,0.3s,baz=57,slow=9.8,SNR=70						
USRK				ScP	**ScP**	**02 28 46.5**	**-0.1**
	comp=N,0.1nm,0.3s,baz=42,slow=3.1,SNR=4.7						
CLNS	**Chul'man**	**19.42**	**295**	*e*P	**P**	**02 21 08.4**	**+0.6**
CLNS				*e*S	**S**	**02 24 41.5**	**+1.4**
CLNS				pmax	pmax		
	comp=Z,159nm,1.2s						
CLNS				pmax	pmax		
	comp=E,128nm,1.1s						
CLNS				pmax	pmax		
	comp=N,91nm,1.1s						
CLNS				smax	smax		
	comp=N,12nm,1.1s						
CLNS				smax	smax		
	comp=E,13nm,1.1s						
MDJ	**Mudanjiang**	**20.44**	**258**	P	**P**	**02 21 19.1

RC01 **Rabbit Creek A** 28.85 53 *e*P P 02 22 36.3 -1.3
comp=Z,167nm,2.9s
RC01 *e*ScP **ScP** 02 29 12.9 +0.4
MCK **McKinley** 28.98 47 *e*P P 02 22 38.8 0.0
MCK pmax pmax
comp=Z,31nm,1.4s
MCK **McKinley** 28.98 47 *e*P P 02 22 38.8 0.0
comp=Z,30nm,1.4s
PMR **Palmer** 29.08 52 *e*P P 02 22 39.4 -0.2
PMR pmax pmax
comp=Z,9.0nm,0.6s
PMR **Palmer** 29.08 52 *e*P P 02 22 39.4 -0.2
comp=Z,9.4nm,0.6s
PMR *e*ScP **ScP** 02 29 13.4 +0.2
SEW **Seward** 29.13 55 *e*P P 02 22 39.4 -0.7
comp=Z,20nm,0.6s
COLA **College** 29.40 45 *c i*P P 02 22 42.6 +0.2
COLA pmax pmax
comp=Z,91nm,1.0s
COLA **College** 29.40 45 *e*P P 02 22 42.2 -0.1
comp=Z,10nm,1.3s
ILAR **Eielson Array** 29.82 45 P P 02 22 45.6 -0.5
ILAR pP **pP** 02 23 14.1 0.0
ILAR sP **sP** 02 23 31.5 +2.3
ILAR PcP **PcP** 02 25 45.6 -0.3
ILAR ScP **ScP** 02 29 14.3 -1.3
ILAR **Eielson Array** 29.82 45 P P 02 22 45.6 -0.5
comp=Z,12nm,0.7s,baz=262,slow=6.6,SNR=149
ILAR pP **pP** 02 23 14.1 0.0
comp=Z,7.6nm,0.8s,baz=269,slow=8.5,SNR=6.4
ILAR sP **sP** 02 23 31.5 +2.3
comp=Z,4.6nm,0.9s,baz=270,slow=9.1,SNR=2.8
ILAR PcP **PcP** 02 25 45.6 -0.3
comp=Z,1.1nm,0.5s,baz=288,slow=3.4,SNR=6.1
ILAR ScP **ScP** 02 29 14.3 -1.3
comp=Z,1.0nm,0.9s,baz=293,slow=3.9,SNR=4.9
PAX **Paxson** 30.61 48 *e*P P 02 22 52.8 -0.4
PAX pmax pmax
comp=Z,84nm,2.7s
PAX **Paxson** 30.61 48 *e*P P 02 22 52.8 -0.4
comp=Z,84nm,2.7s
DIV **Divide** 30.75 52 *e*P P 02 22 53.4 -1.0
comp=Z,11nm,0.6s
DOT **Dot Lake** 31.15 47 *e*P P 02 22 56.7 -1.2
comp=Z,12nm,0.6s
BJI **Beijing** 31.16 263 P P 02 22 58.0 -0.1
BJI sP **sP** 02 23 38.8 -2.4
BJI PcP **PcP** 02 25 50.7 +0.9
BJI S **S** 02 27 55.9 +1.7
BJI sS **sS** 02 28 40.5 -2.9
BJI ScS **ScS** 02 33 15.2 -2.6
BJI pmax pmax
comp=Z,14nm,1.0s
BJI pmax pmax
comp=Z,140nm,4.8s
BJI LR LR
comp=Z,270nm,14.6s
BJI LR LR
comp=Z,230nm,16.3s
BJI LR LR
comp=Z,120nm,19.2s
BMRM **Bremner River** 31.34 52 *e*P P 02 22 59.9 +0.4
comp=Z,22nm,0.8s
RAGM **Ragged Mountai** 31.42 53 *e*P P 02 23 00.9 +0.6
comp=Z,31nm,1.1s
ULN **Ulaanbaatar** 32.39 282 *e*P P 02 23 09.3 +0.3
comp=Z,22nm,1.3s
SONM **Songino Array** 32.79 282 P P 02 23 13.3 +0.7
SONM PcP **PcP** 02 25 55.0 +0.6
SONM ScP **ScP** 02 29 27.0 +0.9
SONM **Songino Array** 32.79 282 P P 02 23 13.3 +0.7
comp=Z,1.4nm,0.3s,baz=67,slow=8.2,SNR=35
SONM PcP **PcP** 02 25 55.0 +0.6
comp=Z,5.3nm,0.9s,baz=71,slow=2.0,SNR=9.4
SONM ScP **ScP** 02 29 27.0 +0.9
comp=Z,3.5nm,0.9s,baz=69,slow=2.2,SNR=11
DAWY **Dawson** 33.13 46 *e*P P 02 23 15.4 +0.3
ZAK **Zakamensk** 33.45 288 ⇓ *i*P P 02 23 18.4 +0.2
ZAK pmax pmax
comp=Z,12nm,1.2s
HHC **Hu-ho-hao-te** 33.45 268 *e*P P 02 23 17.8 -0.5
HHC pP **pP** 02 23 45.3 -1.3
HHC sP **sP** 02 24 00.1 -1.4
HHC S **S** 02 28 28.0 -2.0
HHC ScP **ScP** 02 29 28.6 +0.2
HHC PcS **PcS** 02 29 41.8 -0.4
HHC ScS **ScS** 02 33 28.1 -1.7
HHC pmax pmax
comp=Z,38nm,0.7s
HHC pmax pmax
comp=Z,240nm,5.0s
HHC LR LR
comp=Z,400nm,13.9s
HHC LR LR
comp=Z,450nm,13.2s
HHC LR LR
comp=Z,180nm,13.5s
H11N2 **WAKE ISLAND Hy** 33.77 165 T T 02 58 46.8
baz=353,slow=76,SNR=48
H11N3 **WAKE ISLAND Hy** 33.78 165 T T 02 58 47.9
baz=353,slow=76,SNR=128
H11N1 **WAKE ISLAND Hy** 33.78 165 T T 02 58 48.0
baz=353,slow=76,SNR=118
MOY **Mondy** 34.20 291 *e*P P 02 23 25.5 +0.9
MOY *e* 02 23 55.2
MOY *e* 02 24 51.1
JOW **Kunigami** 34.22 232 *e*P P 02 23 25.2 +0.3
comp=Z,135nm,1.3s
HYT **Haines Junctio** 34.74 51 *e*P P 02 23 30.3 +1.1
INK **Inuvik** 34.77 37 *e*P P 02 23 29.5 +0.2
comp=Z,21nm,0.7s
INK PcP **PcP** 02 26 00.4 +0.9
INK ScP **ScP** 02 29 32.3 -0.1
INK **Inuvik** 34.77 37 P P 02 23 29.9 +0.7
comp=Z,20nm,0.7s,baz=292,slow=6.6,SNR=15
INK PcP **PcP** 02 26 00.4 +0.9
comp=Z,1.8nm,0.5s,baz=317,slow=2.2,SNR=3.7
INK ScP **ScP** 02 29 32.3 -0.1
comp=Z,4.0nm,1.1s,baz=279,slow=6.9,SNR=3.6
H11S1 **WAKE ISLAND Hy** 34.94 166 T T 03 00 12.9
baz=354,slow=77,SNR=22
H11S3 **WAKE ISLAND Hy** 34.95 166 T T 03 00 12.2
baz=354,slow=77,SNR=75
H11S2 **WAKE ISLAND Hy** 34.95 166 T T 03 00 14.7
baz=354,slow=77,SNR=5.8
HVS **Khovu-Aksy** 38.51 294 *i* P P 02 24 00.8 -0.4
HVS pmax pmax
comp=Z,68nm,1.5s
DLBC **Dease Lake** 39.13 52 *e*P P 02 24 07.9 +1.6
DLBC ScP **ScP** 02 29 48.9 -0.1
DLBC **Dease Lake** 39.13 52 P P 02 24 08.1 +1.8
comp=Z,6.4nm,0.6s,baz=293,slow=7.3,SNR=25
DLBC ScP **ScP** 02 29 48.9 -0.1
comp=Z,1.1nm,0.4s,baz=210,slow=9.5,SNR=4.3
DLBC LR LR 02 41 02.3
comp=Z,96nm,18.1s,baz=355,slow=3.7
SSLB **Suanglung** 40.40 239 *e*P P 02 24 18.7 +1.5
YULB **Yu-li** 40.55 238 *e*P P 02 24 18.2 -0.1
comp=Z,12nm,0.6s
LZH **Lanzhou** 41.15 268 ⇓P P 02 24 23.5 +0.3
LZH pP **pP** 02 24 52.0 -0.4
LZH sP **sP** 02 25 06.6 -0.5
LZH PP **PP** 02 26 02.5 +1.9
LZH *e*S **S** 02 30 26.0 -0.6
LZH sS **sS** 02 31 15.7 -1.5
LZH SS **SS** 02 33 27.6 -6.6
LZH pmax pmax
comp=Z,72nm,1.2s
LZH pmax pmax
comp=Z,200nm,6.5s
LZH LR LR
comp=Z,330nm,14.0s
LZH LR LR
comp=Z,310nm,13.5s
LZH LR LR
comp=Z,410nm,17.4s
GTA **Gaotai** 41.45 275 P P 02 24 25.8 +0.2
GTA PcP **PcP** 02 26 21.7 +0.8
GTA ScP **ScP** 02 29 59.0 +0.5
GTA PcS **PcS** 02 30 12.5 0.0
GTA S **S** 02 30 31.4 +0.4
GTA SS **SS** 02 33 33.6 -6.4
GTA ScS **ScS** 02 34 12.9 -2.4
GTA pmax pmax
comp=Z,22nm,1.3s
GTA pmax pmax
comp=Z,180nm,5.5s
GTA LR LR
comp=Z,140nm,12.9s
GTA LR LR
comp=Z,180nm,17.1s
GTA LR LR
comp=Z,200nm,14.3s
ENH **Enshi** 41.80 257 *e*P P 02 24 27.9 -0.5
comp=Z,28nm,0.8s
ENH *e*PcP **PcP** 02 26 22.2 +0.1
ZAA0 **Zalesovo Array** 41.89 302 *e*P P 02 24 27.0 -1.9
ZAA0 *e*PcP **PcP** 02 26 21.7 -0.2
ZALV **Zalesovo Beam** 41.89 302 P P 02 24 27.6 -1.3
ZALV *PP **pP** 02 24 59.2 +1.1
ZALV 02 26 04.7
ZALV 02 26 18.9
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=Z,9.0nm,0.9s
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV **Zalesovo Beam** 41.89 302 P P 02 24 27.6 -1.3
ZALV pP **pP** 02 24 59.2 +1.1
ZALV PP **PP** 02 26 04.7 -3.4
ZALV PcP **PcP** 02 26 18.9 -3.0
ZALV ScP **ScP** 02 30 00.6 +0.8
ZALV **Zalesovo Beam** 41.89 302 P P 02 24 27.6 -1.3
comp=Z,0.9nm,0.3s,baz=47,slow=6.5,SNR=8.1
ZALV pP **pP** 02 24 59.2 +1.1
comp=Z,8.6nm,0.9s,baz=61,slow=7.0,SNR=7.5
ZALV PP **PP** 02 26 04.7 -3.4
comp=Z,3.2nm,0.9s,baz=60,slow=5.8,SNR=4.4
ZALV PcP **PcP** 02 26 18.9 -3.0
comp=Z,7.2nm,0.5s,baz=58,slow=9.1,SNR=9.5
ZALV ScP **ScP** 02 30 00.6 +0.8
comp=Z,0.4nm,0.3s,baz=43,slow=2.6,SNR=2.7
ZALV LR LR 02 40 53.2
comp=Z,110nm,20.9s,baz=36,slow=34
NVS **Novosibirsk** 42.26 304 *e*P P 02 24 30.2 -1.6
NVS *e* 02 25 02.1
NVS *e* 02 26 13.2
NVS *e* 02 34 14.9
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,39nm,1.3s
NVS pmax pmax
comp=Z,55nm,1.3s
NVS pmax pmax
comp=N,21nm,1.3s
NVS pmax pmax
comp=E,65nm,1.3s
NVS pmax pmax
comp=Z,106nm,1.3s
ALE **Alert** 43.30 7 P P 02 24 40.6 +0.7
comp=Z,57nm,0.5s,SNR=6.0
RES **Resolute Bay** 43.98 21 *e*P P 02 24 45.0 -0.4
comp=Z,21nm,0.6s
YKW3 **Yellowknife Ar** 44.09 42 *e*P P 02 24 46.6 +0.2
comp=Z,0.2nm,0.7s
YKA **Yellowknife Ar** 44.13 42 P P 02 24 47.3 +0.5
YKA pP **pP** 02 25 16.3 +0.1
YKA ScP **ScP** 02 30 06.2 -2.6
YKA **Yellowknife Ar** 44.13 42 P P 02 24 47.3 +0.5
comp=Z,9.1nm,0.6s,baz=295,slow=8.2,SNR=48
YKA pP **pP** 02 25 16.3 +0.1
comp=Z,6.0nm,0.8s,baz=298,slow=8.0,SNR=5.4
YKA ScP **ScP** 02 30 06.2 -2.6
comp=Z,1.5nm,0.9s,baz=301,slow=3.6,SNR=6.5
CD2 **Chengdu** 44.76 263 P P 02 24 52.7 +0.4
CD2 pP **pP** 02 25 21.7 -0.1
CD2 sP **sP** 02 25 36.3 -0.1
CD2 PP **PP** 02 26 39.7 +0.6
CD2 S **S** 02 31 18.3 -1.0
CD2 sS **sS** 02 32 09.0 -1.4
CD2 SS **ScS** 02 34 33.1 -2.9
CD2 pmax pmax
comp=Z,40nm,1.3s
CD2 pmax pmax
comp=Z,140nm,6.3s
SZP **Santa** 45.88 234 *e*P P 02 25 02.3 +1.2
KIP **Kipapa** 45.89 116 *ce*P P 02 25 03.3 +2.2
KIP pmax pmax
comp=Z,178nm,2.5s
WMQ **Urumqi** 45.92 288 P P 02 25 01.0 -0.2
WMQ pP **pP** 02 25 33.0 +2.1
WMQ sP **sP** 02 25 45.0 -0.5
WMQ PP **PP** 02 26 51.0 -0.1
WMQ S **S** 02 31 34.0 -1.7
WMQ sS **sS** 02 32 25.0 -2.0
WMQ ScS **ScS** 02 34 41.0 -2.2
WMQ SS **SS** 02 34 55.0 -6.6
WMQ pmax pmax
comp=Z,33nm,1.0s
WMQ pmax pmax
comp=Z,330nm,4.0s
WMQ LR LR
comp=Z,160nm,17.0s
WMQ LR LR
comp=Z,210nm,16.0s
WMQ LR LR
comp=Z,230nm,17.0s
GYA **Guiyang** 46.29 256 ⇑ *i*P P 02 25 04.3 -0.1
GYA sP **sP** 02 25 49.0 +0.3
GYA PcP **PcP** 02 26 38.7 +1.1
GYA PP **PP** 02 26 55.2 +0.1
GYA ScP **ScP** 02 30 18.9 +0.4
GYA PcS **PcS** 02 30 33.3 +0.7
GYA S **S** 02 31 40.6 -0.9
GYA sS **sS** 02 32 31.3 -1.6
GYA ScS **ScS** 02 34 44.0 -2.2
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
KURK **Kurchatov** 46.84 301 P P 02 25 07.8 -0.4
KURK *PP **pP** 02 25 40.4 +2.4
KURK 02 26 39.3
KURK 02 27 01.7
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK pmax pmax
comp=Z,17nm,1.1s
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK pmax pmax
comp=N,2.0nm,0.8s
KURK **Kurchatov** 46.84 301 *e*P P 02 25 06.7 -1.4
comp=N,76nm,1.3s
KURK pP **pP** 02 25 40.4 +2.4
KURK PcP **PcP** 02 26 39.3 +0.3
KURK PP **PP** 02 27 01.7 +2.2
KURK ScP **ScP** 02 30 20.8 +0.6
KURK **Kurchatov** 46.84 301 P P 02 25 06.8 -1.4
comp=N,233nm,0.4s,SNR=27
KURBB **Kurchatov Arra** 46.94 301 P P 02 25 07.8 -1.2
comp=N,3.4nm,0.4s,baz=63,slow=8.2,SNR=42
KURBB pP **pP** 02 25 40.4 +1.6
comp=N,17nm,1.1s,baz=61,slow=7.8,SNR=14
KURBB PcP **PcP** 02 26 39.3 -0.1
comp=N,5.1nm,0.9s,baz=52,slow=3.2,SNR=7.4
KURBB PP **PP** 02 27 01.7 +1.3
comp=N,8.5nm,1.0s,baz=81,slow=13,SNR=13
KURBB ScP **ScP** 02 30 20.8 +0.2
comp=N,1.6nm,0.8s,baz=55,slow=3.9,SNR=5.9
MK31 **Makanchi Array** 47.17 295 *e*P P 02 25 09.5 -1.5
MK31 *e*PP **pP** 02 25 42.2 +1.4
MK31 **Makanchi Array** 47.17 295 *e*P P 02 25 09.5 -1.5
MK31 *e*pP **pP** 02 25 42.2 +1.4
MKAR **Makanchi Array** 47.17 295 P P 02 25 09.8 -1.2
MKAR *PP **pP** 02 25 42.0 +1.2
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR pmax pmax
comp=Z,30nm,1.2s
MKAR pmax pmax
comp=N,1.0nm,0.7s
MKAR **Makanchi Array** 47.17 295 *e*P P 02 25 09.7 -1.2
MKAR pP **pP** 02 25 42.0 +1.2
MKAR ScP **ScP** 02 30 22.1 +0.4
MKAR **Makanchi Array** 47.17 295 P P 02 25 09.8 -1.2
comp=N,5.6nm,0.4s,baz=52,slow=6.5,SNR=128
MKAR pP **pP** 02 25 42.0 +1.2
comp=N,30nm,1.1s,baz=61,slow=8.5,SNR=9.2
MKAR ScP **ScP** 02 30 22.1 +0.4
comp=N,0.8nm,0.7s,baz=66,slow=4.9,SNR=3.2
A05A **Maple Falls** 47.99 61 *e*P P 02 25 17.9 +0.8
comp=N,30nm,1.5s
NLWA **Neilton Lookou** 48.00 63 *e*P P 02 25 18.8 +1.4
comp=N,11nm,0.8s
NLWA *epP **pP** 02 25 47.9 +0.7
E03A **Lebam** 48.68 64 *e*P P 02 25 23.8 +1.3
comp=N,26nm,1.1s
F03A **Seaside** 49.06 65 *e*P P 02 25 26.8 +1.3
comp=N,66nm,1.5s
D05A **Enumclaw** 49.14 63 *e*P P 02 25 26.7 +0.7
comp=N,62nm,1.6s
F04D **Rainier, OR** 49.27 64 ⇓P P 02 25 26.6 -0.3
baz=49
LON **Longmire** 49.51 63 *e*P P 02 25 29.5 +0.6
LON pmax pmax
comp=Z,16nm,1.8s
LON **Longmire** 49.51 63 *e*P P 02 25 29.5 +0.6
comp=Z,16nm,1.8s
BVAR **Borovoye Array** 49.59 308 P P 02 25 28.0 -1.3
BVAR *PP **pP** 02 26 00.9 +1.5
BVAR 02 26 48.5
BVAR pmax pmax
comp=Z,10.0nm,0.4s
BVAR pmax pmax
comp=Z,15nm,0.9s
BVAR pmax pmax
comp=Z,8.0nm,0.4s
BVAR pmax pmax
comp=N,2.0nm,0.9s
BVAR **Borovoye Array** 49.59 308 P P 02 25 28.0 -1.3
BVAR pP **pP** 02 26 00.9 +1.5
BVAR PcP **PcP** 02 26 48.5 -0.4
BVAR ScP **ScP** 02 30 31.5 -0.4
BVAR **Borovoye Array** 49.59 308 P P 02 25 28.0 -1.3
comp=N,9.5nm,0.3s,baz=54,slow=7.4,SNR=120
BVAR pP **pP** 02 26 00.9 +1.5
comp=N,15nm,0.9s,baz=55,slow=7.8,SNR=6.6
BVAR PcP **PcP** 02 26 48.5 -0.4
comp=N,7.5nm,0.4s,baz=77,slow=3.4,SNR=16
BVAR ScP **ScP** 02 30 31.5 -0.4
comp=N,2.3nm,0.9s,baz=64,slow=3.4,SNR=4.6
KMI **Kunming** 49.61 258 P P 02 25 30.8 +0.7
KMI pP **pP** 02 26 01.4 +1.2
KMI sP **sP** 02 26 15.2 +0.6
KMI S **S** 02 32 25.8 -2.7
KMI sS **sS** 02 33 21.1 +0.6
KMI pmax pmax
comp=N,27nm,1.3s
KMI pmax pmax
comp=N,44nm,3.7s
KMI LR LR
comp=N,160nm,19.1s
KMI LR LR
comp=N,120nm,15.6s
KMI LR LR
comp=N,110nm,15.4s
BRVK **Borovoye** 49.62 308 *e*P P 02 25 27.6 -1.9
BRVK *e*PP **pP** 02 26 01.1 +1.5
BRVK *e* 02 26 48.7
BRVK pmax pmax
comp=Z,47nm,1.1s
BRVK **Borovoye** 49.62 308 *e*P P 02 25 27.6 -1.9
comp=Z,47nm,1.1s
BRVK *epP **pP** 02 26 01.1 +1.5
BRVK *ePcP **PcP** 02 26 48.7 -0.3
BRVK **Borovoye** 49.62 308 P P 02 25 28.0 -1.6
comp=Z,159nm,0.5s,SNR=15
G03D **McMinnville, O** 49.67 65 ⇓P P 02 25 29.9 -0.1
baz=50
F04A **Amboy** 49.69 64 *e*P P 02 25 30.9 +0.8
comp=Z,13nm,0.8s
MTMW **Mount Mitchell** 49.74 64 P P 02 25 31.4 +0.8
ETW **Entiat** 49.77 61 P P 02 25 31.5 +0.6
B08A **Colville Reser** 49.83 60 *e*P P 02 25 31.8 +0.5
comp=Z,14nm,1.0s
EDM **Edmonton** 49.85 52 *e*P P 02 25 32.0 +0.7
EDM **Edmonton** 49.85 52 *e*P P 02 25 32.0 +0.7
EDM *e*ScP **ScP** 02 30 32.8 -0.2
WTV **Waterville** 49.91 61 P P 02 25 32.3 +0.4
NAC **Naches** 50.05 62 P P 02 25 33.8 +0.8
QIZ **Qiongzhong** 50.25 247 P P 02 25 35.5 +0.8
QIZ sP **sP** 02 26 17.0 -2.3
QIZ S **S** 02 32 38.4 +1.3
QIZ pmax pmax
comp=Z,21nm,1.9s
QIZ LR LR
comp=Z,230nm,13.7s
VLL **Laurance Lake** 50.38 64 P P 02 25 36.6 +1.1
TRW **Toppenish Ridg** 50.48 63 P P 02 25 37.0 +0.9
I03D **Drain, OR** 50.58 67 ⇓P P 02 25 37.0 0.0
baz=50
H04A **Detroit Lake** 50.60 65 *e*P P 02 25 37.6 +0.6
comp=Z,24nm,1.3s
H04A *epP **pP** 02 26 07.4 +0.1
KULLO **Kullorsuaq** 50.66 12 ⇑ *i*P P 02 25 37.1 +0.1
KULLO pmax pmax
comp=Z,43nm,0.6s
KULLO **Kullorsuaq** 50.66 12 ⇑ *i*P P 02 25 37.1 +0.1
comp=Z,43nm,0.6s
E07A **Sunnyside** 50.68 62 *e*P P 02 25 38.5 +0.9
comp=Z,12nm,0.9s
E07A *epP **pP** 02 26 07.3 -0.5
G05D **Wamic, OR** 50.72 64 ⇑P P 02 25 38.0 0.0
baz=50
C09A **Chrisman Ranch** 50.73 60 *e*P P 02 25 38.6 +0.6
comp=Z,32nm,1.6s
OD2 **Odessa Site #2** 50.76 61 P P 02 25 38.6 +0.3
D08A **Wollman Farm,** 50.86 61 *e*P P 02 25 39.5 +0.5
comp=Z,47nm,2.1s
BLTW **Bickleton** 50.91 63 P P 02 25 40.3 +0.9
HAWA **Hanford** 50.96 62 *e*P P 02 25 39.6 -0.1
comp=Z,29nm,1.6s
HAWA *epP **pP** 02 26 10.6 +0.7
I04A **Tendick Farm,** 51.04 66 ⇑P P 02 25 40.3 -0.1
baz=51
NEW **Newport** 51.04 59 *e*P P 02 25 40.9 +0.5
comp=Z,79nm,2.5s
NEW *epP **pP** 02 26 11.6 +1.0
NEW **Newport** 51.04 59 ⇓P P 02 25 40.5 +0.1
baz=51,SNR=5.7
I05D **Terrebonne, OR** 51.28 65 ⇑P P 02 25 42.3 +0.1
baz=51
L02D **Cave Junction,** 51.43 69 ⇑P P 02 25 43.4 0.0
baz=51
HUMO **Hull Mountain** 51.51 68 *e*P P 02 25 45.6 +1.8
comp=Z,14nm,1.3s
J04D **Umpqua Nationa** 51.57 67 ⇓P P 02 25 44.7 +0.2
baz=51
E09A **Wood Farm, Sta** 51.62 61 *e*P P 02 25 45.0 +0.4
comp=Z,63nm,1.6s
KTRM **Thompson Ridge** 51.72 69 P P 02 25 47.5 +1.9
SLVN **Son La** 51.82 254 *e*P P 02 25 46.7 +0.1
PINOR **Pine Mountain** 51.88 65 *e*P P 02 25 47.6 +1.0
PINOR *epP **pP** 02 26 17.9 +1.1
G08A **Pilot Rock** 51.97 63 *e*P P 02 25 47.0 -0.4
comp=Z,21nm,1.6s
J05D **Fort Rock, OR** 52.02 66 ⇑P P 02 25 48.4 +0.5
baz=52
K04D **Chiloquin, OR** 52.17 67 ⇓P P 02 25 47.9 -1.0
baz=52
WALA **Waterton Lakes** 52.18 56 *e*P P 02 25 49.5 +0.6
comp=Z,0.5nm,0.6s
KHMM **Horse Mountain** 52.20 70 *e*P P 02 25 50.6 +1.4
comp=Z,19nm,0.9s
YBH **Yreka Blue Hor** 52.22 68 *e*P P 02 25 51.0 +1.8
comp=Z,49nm,1.6s
YBH *epP **pP** 02 26 21.6 +2.0
M02C **Callahan** 52.36 69 ⇓P P 02 25 49.6 -0.7
baz=52
F10A **Beach Ranch, E** 52.45 61 *e*P P 02 25 51.4 +0.4
comp=Z,73nm,2.3s
I07A **Izee** 52.46 64 *e*P P 02 25 52.0 +1.0
comp=Z,11nm,1.4s
BSMT **Bassoo Peak** 52.51 58 *e*P P 02 25 52.1 +0.7
K05A **Summer Lake** 52.58 66 *e*P P 02 25 53.5 +1.5
comp=Z,72nm,1.9s
BLMT **Blacktail Moun** 52.63 58 *e*P P 02 25 53.5 +1.1
KEV **Kevo** 52.65 341 *e*P P 02 25 50.8 -1.0
KEV pmax pmax

comp=Z,2.0nm,0.3s
KEV Kevo 52.65 341 *e*p P 02 25 50.8 -1.0
comp=Z,1.7nm,0.3s
M04C Macdoel 52.67 68 ⇓P P 02 25 53.0 +0.4
baz=52
N02D Trinity Center 52.72 69 ⇓P P 02 25 52.0 -0.9
baz=53
ARU Arti 52.75 317 P P 02 25 51.3 -1.6
comp=Z,122nm,0.4s,SNR=7.4
ARU Arti 52.75 317 *c i*P P 02 25 51.1 -1.7
ARU *e**PP **pP** 02 26 23.3 +0.1
ARU *e* 02 26 59.2
ARU 02 27 48.7
ARU PPP PPP 02 28 58.6
ARU S **S** 02 33 08.4 -2.1
ARU SS **SS** 02 36 45.0 -5.0
ARU pmax pmax
comp=Z,39nm,1.7s
ARU Arti 52.75 317 *e*P P 02 25 51.2 -1.6
comp=Z,36nm,1.0s
ARU *e*pP **pP** 02 26 23.9 +0.7
ARU *e*PcP **PcP** 02 27 00.3 -0.3
JTMT Jette 52.84 58 *e*P P 02 25 54.9 +1.1
YBMT Yellow Bay 52.90 58 *e*P P 02 25 55.0 +0.7
WDC Whiskeytown Da 53.07 69 *e*P P 02 25 56.8 +1.3
WDC pmax pmax
comp=Z,44nm,1.6s
WDC Whiskeytown Da 53.07 69 *e*P P 02 25 56.8 +1.3
comp=Z,44nm,1.6s
ARCES ARCESS Array B 53.12 341 P P 02 25 54.5 -0.9
ARCES PcP **PcP** 02 27 01.6 -0.2
ARCES ARCESS Array B 53.12 341 P P 02 25 54.5 -0.9
comp=Z,1.7nm,0.3s,baz=37,slow=8.2,SNR=63
ARCES PcP **PcP** 02 27 01.6 -0.2
comp=Z,3.7nm,0.6s,baz=44,slow=3.7,SNR=6.7
SWMT Swartz Lake 53.14 58 *e*P P 02 25 56.6 +0.6
BMO Blue Mountains 53.14 62 *e*P P 02 25 56.5 +0.5
comp=Z,24nm,1.5s
BMO *e*pP **pP** 02 26 26.2 -0.2
LSA Lhasa 53.25 272 *e*P P 02 25 58.0 +0.6
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 53.25 272 *e*P P 02 25 58.0 +0.6
comp=Z,5.2nm,0.6s
TKM2 Tokmak 2 53.31 295 *e*P P 02 25 56.1 -1.3
TKM2 *e**PP **pP** 02 26 29.8 +2.0
TKM2 *e* 02 27 03.0
TKM2 pmax pmax
comp=Z,18nm,1.0s
TKM2 Tokmak 2 53.31 295 P P 02 25 56.7 -0.7
SNR=15
TKM2 Tokmak 2 53.31 295 P pP 02 26 29.6 +1.8
SNR=7.5
TKM2 Tokmak 2 53.31 295 *e*P P 02 25 56.1 -1.3
comp=Z,18nm,1.0s
TKM2 *e*pP **pP** 02 26 29.8 +2.0
TKM2 *e*PcP **PcP** 02 27 03.0 -0.3
TKM2 *e*ScP **ScP** 02 30 48.0 -0.5
ULHL Ulahol 53.40 294 P pP 02 26 31.5 +2.9
SNR=5.4
MOD Modoc 53.45 67 *e*P P 02 25 59.6 +1.2
comp=Z,22nm,1.5s
MOD *e*pP **pP** 02 26 30.2 +1.3
J08A Circle Bar Ran 53.50 64 *e*P P 02 25 57.8 -0.8
comp=Z,78nm,2.5s
SLMT Seeley Lake 53.58 58 *e*P P 02 25 59.1 -0.1
MSO Missoula 53.62 58 *e*P P 02 25 59.8 +0.3
comp=Z,31nm,1.4s
MSO Missoula 53.62 58 ⇓P P 02 25 59.2 -0.3
baz=53,SNR=11
USP Ospenovka 53.68 296 *i*P P 02 25 59.3 -0.6
USP Ospenovka 53.68 296 P P 02 25 59.3 -0.6
SNR=15
USP Ospenovka 53.68 296 P pP 02 26 32.3 +1.9
SNR=8.5
CHMS Chumysh 53.72 295 P pP 02 26 33.0 +2.3
SNR=5.8
KBK Karagaybulak 53.84 295 P P 02 26 00.6 -0.6
SNR=14
KBK Karagaybulak 53.84 295 P pP 02 26 34.6 +2.9
SNR=8.9
CHMT Chamberlain Mo 53.91 58 *e*P P 02 26 02.0 +0.2
PRGR Permogore 53.99 327 P P 02 26 00.8 -1.0
PRGR *e**PP **pP** 02 26 32.1 -0.2
PRGR *e* 02 27 03.3
PRGR pmax pmax
comp=Z,22nm,1.4s
WVOR Wild Horse Val 54.02 65 *e*P P 02 26 03.5 +1.0
WVOR pmax pmax
comp=Z,17nm,1.1s
WVOR Wild Horse Val 54.02 65 *e*P P 02 26 03.5 +1.0
comp=Z,17nm,1.1s
FFC Flin Flon 54.03 45 *e*P P 02 26 02.4 +0.2
FFC pmax pmax
comp=Z,5.0nm,0.7s
FFC Flin Flon 54.03 45 *e*P P 02 26 02.4 +0.2
comp=Z,5.0nm,0.7s
AAK Ala-Archa 54.10 295 *i*P P 02 26 02.6 -0.5
AAK Ala-Archa 54.10 295 P P 02 26 02.6 -0.5
SNR=17
AAK Ala-Archa 54.10 295 P pP 02 26 36.5 +2.9
SNR=9.0
SUMG Summit 54.32 6 *e*P P 02 26 05.1 +0.6
SUMG pmax pmax
comp=Z,158nm,1.6s
SUMG Summit 54.32 6 *i*P P 02 26 04.5 0.0
comp=Z,26nm,0.8s
SUMG Summit 54.32 6 *e*P P 02 26 05.1 +0.6
comp=Z,158nm,1.6s
UCH Uchtor 54.37 295 *i*P P 02 26 05.1 -0.3
UCH Uchtor 54.37 295 P P 02 26 05.1 -0.3
SNR=6.6
FCC Fort Churchill 54.39 38 *e*P P 02 26 05.0 +0.3
FCC pmax pmax
comp=Z,1.0nm,0.6s
FCC Fort Churchill 54.39 38 *e*P P 02 26 05.0 +0.3
comp=Z,6.6nm,0.6s
EKS2 Erkin-Say 54.48 296 *e*P P 02 26 05.2 -0.6
EKS2 *e**PP **pP** 02 26 36.9 +0.5
EKS2 *e* 02 27 07.5
EKS2 pmax pmax
comp=Z,30nm,1.1s
EKS2 Erkin-Say 54.48 296 P P 02 26 05.2 -0.6
SNR=18
EKS2 Erkin-Say 54.48 296 P pP 02 26 39.4 +3.0
SNR=5.8
EKS2 Erkin-Say 54.48 296 *e*P P 02 26 05.2 -0.6
comp=Z,30nm,1.1s
EKS2 *e*pP **pP** 02 26 36.9 +0.5
EKS2 *e*PcP **PcP** 02 27 07.5 -0.1
OHCM Honcut 54.51 70 *e*P P 02 26 06.6 +0.7
CRAI Chiangrai 54.75 257 P P 02 26 09.2 +1.3
comp=Z,20nm,1.0s
HRY Holter Researc 54.78 57 *e*P P 02 26 09.1 +1.2
BEKR Beckworth 54.79 69 *e*P P 02 26 08.9 +0.7
comp=Z,23nm,1.4s
BEKR *e*pP **pP** 02 26 39.0 +0.2
A19A Klindworth Far 54.83 54 ⇑P P 02 26 06.5 -1.7
baz=55
AML Almayashu 54.88 295 P P 02 26 08.6 -0.4
SNR=13
MFID Camas Ranch 54.89 63 *e*P P 02 26 09.9 +1.1
comp=Z,26nm,1.5s
EGMT Eagleton 54.94 55 *e*P P 02 26 09.6 +0.6
comp=Z,27nm,1.2s
EGMT Eagleton 54.94 55 ⇓P P 02 26 08.9 -0.1
baz=55,SNR=5.5
B19A Brinkman Farms 55.05 54 ⇑P P 02 26 09.5 -0.2
baz=55
LRM Limekiln Ridge 55.06 59 *e*P P 02 26 10.9 +0.8
A20A Cobblestone Ra 55.26 53 ⇑P P 02 26 10.6 -0.7
baz=55
KSH Kashi 55.39 291 *e*P P 02 26 15.6 +3.2
KSH pP pP 02 26 48.3 +5.3
KSH sP sP 02 26 58.3 +0.9
KSH PP **PP** 02 28 20.9 +3.8
KSH S **S** 02 33 47.8 +1.2
KSH sS sS 02 34 48.1 +8.6
KSH pmax pmax
comp=Z,31nm,1.5s
KSH pmax pmax
comp=Z,77nm,3.0s
KSH LR LR
comp=Z,130nm,5.8s
KSH LR LR
comp=Z,130nm,5.4s
KSH LR LR
comp=Z,190nm,6.9s
PAHR Pah Rah Range 55.45 68 *e*P P 02 26 14.0 +1.2
comp=Z,70nm,1.5s
PAHR *e*pP **pP** 02 26 43.5 0.0
C19A Slack Wire Ran 55.49 55 ⇑P P 02 26 13.9 +1.0
baz=55
B20A Solberg Farm, 55.52 54 ⇑P P 02 26 13.8 +0.7
baz=55
MCMT McKenzie Canyo 55.52 60 *e*P P 02 26 13.5 +0.1
comp=Z,2.7nm,0.7s
HLID Hailey 55.55 62 *e*P P 02 26 13.7 +0.1
comp=Z,8.9nm,1.3s
HLID *e*PcP **PcP** 02 27 12.8 +1.0
HLID Hailey 55.55 62 ⇓P P 02 26 14.8 +1.2
baz=55,SNR=7.5
A21A Bergtoll Ranch 55.67 53 ⇑P P 02 26 15.1 +1.0
baz=55
UBPT Khong Chiam 55.72 248 P P 02 26 16.3 +1.5
comp=Z,29nm,1.2s
CMAI Chiengmai2 55.77 257 P P 02 26 17.5 +2.2
comp=Z,23nm,0.8s
KKAR Karatay Array 55.95 298 *e*P P 02 26 15.2 -1.0
KKAR *e**PP **pP** 02 26 48.6 +1.7
KKAR pmax pmax
comp=Z,31nm,1.1s
KKAR Karatay Array 55.95 298 *e*P P 02 26 15.2 -1.0
comp=Z,31nm,1.1s
KKAR *e*pP **pP** 02 26 48.6 +1.7
D19A Cripps Ranch, 55.96 55 ⇑P P 02 26 16.3 0.0
baz=56
C20A Veseth Ranch, 56.02 54 ⇓P P 02 26 17.7 +1.0
baz=56
CMB Columbia Colle 56.03 70 *e*P P 02 26 17.1 +0.2
CMB *e* 02 27 13.6
CMB pmax pmax
comp=Z,42nm,1.5s
CMB Columbia Colle 56.03 70 *e*P P 02 26 17.1 +0.2
comp=Z,42nm,1.5s
CMB *e*PcP **PcP** 02 27 13.6 0.0
A22A Carney Farms, 56.16 52 ⇑P P 02 26 18.5 +0.9
baz=56
BMN Battle Mountai 56.16 66 *e*P P 02 26 19.7 +1.8
BMN *e**PP **pP** 02 26 49.5 +0.9
BMN pmax pmax
comp=Z,48nm,1.6s
BMN Battle Mountai 56.16 66 *e*P P 02 26 19.7 +1.8
comp=Z,48nm,1.6s
BMN *e*pP **pP** 02 26 49.5 +0.9
WAKR Walker 56.24 69 *e*P P 02 26 20.1 +1.5
WAKR *e*pP **pP** 02 26 50.9 +1.6
QLMT Earthquake Lak 56.26 59 *e*P P 02 26 20.0 +1.3
ILULI Ilulissat 56.36 12 *i*P P 02 26 18.3 -0.3
ILULI pmax pmax
comp=Z,40nm,0.6s
ILULI Ilulissat 56.36 12 *i*P P 02 26 18.3 -0.3
comp=Z,40nm,0.6s
D20A Manuel Ranch, 56.38 55 ⇓P P 02 26 20.6 +1.3
baz=56
E19A Rath Farm, Rou 56.49 56 ⇑P P 02 26 21.3 +1.3
baz=56
GCMT Greycliff 56.51 57 *e*P P 02 26 21.1 +0.8
comp=Z,4.8nm,0.5s
LAMP Lampang 56.51 256 P P 02 26 22.6 +2.1
comp=Z,10nm,0.9s,comp=Z,183nm
B22A Reddig Ranch S 56.59 53 ⇓P P 02 26 21.6 +0.8
baz=56
YMR Madison River 56.61 59 *e*P P 02 26 22.8 +1.6
comp=Z,13nm,0.8s
A23A Redstone 56.67 52 ⇑P P 02 26 20.7 -0.6
baz=56
CMMT Chiang Mai 56.69 257 P P 02 26 22.5 +0.8
comp=Z,24nm,0.9s,comp=Z,463nm
CHTO Chiang Mai 56.69 257 *e*P P 02 26 21.9 +0.2
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 56.69 257 *e*P P 02 26 21.9 +0.2
comp=Z,6.1nm,1.0s
CHTO Chiang Mai 56.69 257 P P 02 26 22.5 +0.8
comp=Z,107nm,1.0s,comp=Z,1µm
YNR Norris Junctio 56.73 58 *e*P P 02 26 24.2 +2.2
comp=Z,29nm,1.5s
E20A Meyer Farm, Mu 56.79 55 ⇓P P 02 26 22.3 +0.1
baz=57
YFT Old Faithful 56.83 59 *e*P P 02 26 25.4 +2.8
comp=Z,16nm,0.8s
F19A Roth Farm, Mol 56.83 56 ⇑P P 02 26 22.4 -0.1
baz=57
NVAR Mina Array Bea 56.94 69 P P 02 26 24.9 +1.4
NVAR pP **pP** 02 26 54.8 +0.5
NVAR PcP **PcP** 02 27 18.6 +1.3
NVAR Mina Array Bea 56.94 69 P P 02 26 24.9 +1.4
comp=Z,11nm,0.5s,baz=303,slow=7.8,SNR=99
NVAR pP **pP** 02 26 54.8 +0.5
comp=Z,6.6nm,0.7s,baz=297,slow=8.1,SNR=6.0
NVAR PcP **PcP** 02 27 18.6 +1.3
comp=Z,3.0nm,0.7s,baz=306,slow=7.7,SNR=2.5
B23A Brockton 56.96 52 ⇓P P 02 26 23.1 -0.2
baz=57
D21A La Casta Ranch 56.96 54 ⇑P P 02 26 22.8 -0.6
baz=57
CMAR Chiang Mai Arr 56.97 256 P P 02 26 24.5 +0.8
CMAR PcP **PcP** 02 27 18.3 +0.9
CMAR ScP **ScP** 02 31 05.5 +0.9
CMAR Chiang Mai Arr 56.97 256 P P 02 26 24.5 +0.8
comp=Z,11nm,0.9s,baz=24,slow=6.9,SNR=34
CMAR PcP **PcP** 02 27 18.3 +0.9
comp=Z,4.0nm,0.8s,baz=48,slow=2.6,SNR=6.4
CMAR ScP **ScP** 02 31 05.5 +0.9
comp=Z,1.4nm,0.5s,baz=18,slow=4.1,SNR=4.6
H17A Grant Village 57.00 59 ⇓P P 02 26 23.1 -0.8
baz=57,SNR=5.8
NV11 Mina Array Sit 57.02 69 *e*P P 02 26 25.1 +1.1
ABKAR Akbulak array 57.03 309 *e*P P 02 26 22.4 -1.3
TAPN Taplejung 57.03 273 *e*P P 02 26 23.8 -0.6
comp=Z,24nm,0.3s
TAPN Taplejung 57.03 273 *e*P P 02 26 23.8 -0.6
comp=Z,24nm,0.3s
C22A Vida 57.03 53 ⇓P P 02 26 23.5 -0.3
baz=57
ELK Elko 57.04 65 *e*P P 02 26 25.6 +1.4
comp=Z,26nm,1.7s
ELK *e*pP **pP** 02 26 55.7 +0.7
A24A Westby 57.11 51 ⇑P P 02 26 23.4 -0.9
baz=57
FLWY Flagg Ranch 57.15 59 *e*P P 02 26 27.1 +2.2
comp=Z,96nm,1.9s
MLAC Mammoth Lakes 57.19 70 ⇓P P 02 26 25.7 +0.4
baz=57
JOF Joensuu 57.26 334 *e*P P 02 26 24.1 -1.0
JOF pmax pmax
comp=Z,6.0nm,0.3s
JOF Joensuu 57.26 334 *e*p P 02 26 24.1 -1.0
comp=Z,5.9nm,0.3s
F20A Billings 57.27 56 ⇑P P 02 26 26.0 +0.4
baz=57
PBKT Sadao Pong 57.27 253 P P 02 26 28.2 +2.5
comp=Z,10nm,1.0s,comp=Z,2µm
H18A Shoshone NF, C 57.28 58 ⇑P P 02 26 25.4 -0.4
baz=57
E21A Keefer Ranch, 57.29 55 ⇑P P 02 26 25.5 -0.2
baz=57
FXWY Fox Creek 57.29 60 *e*P P 02 26 27.5 +1.6
comp=Z,8.1nm,0.8s
D22A Cohagen 57.30 54 ⇓P P 02 26 25.9 +0.2
baz=57
I17A Pilgrim Ck. 57.33 59 ⇑P P 02 26 26.5 +0.3
baz=57
C23A Lambert 57.33 53 ⇑P P 02 26 25.7 -0.3
baz=57
DGMT Dagmar 57.34 52 *e*P P 02 26 27.0 +1.1
comp=Z,15nm,0.9s
DGMT Dagmar 57.34 52 ⇑P P 02 26 25.8 -0.2
baz=57
MOOW Moose Ponds 57.36 59 *e*P P 02 26 27.7 +1.3
comp=Z,23nm,1.4s
TPAW Teton Pass 57.43 60 *e*P P 02 26 29.0 +2.0
comp=Z,43nm,1.5s
A25A Svngstu Ranch 57.52 51 ⇑P P 02 26 26.8 -0.4
baz=57
LOHW Long Hollow 57.53 59 *e*P P 02 26 29.2 +1.6
comp=Z,19nm,1.1s
MTUM Tungsten Hills 57.54 70 *e*P P 02 26 29.4 +1.7
REDW Red Top Meadow 57.57 60 *e*P P 02 26 29.6 +1.7
comp=Z,62nm,1.6s
LAO LASA Array 57.61 54 *e*P P 02 26 28.4 +0.6
comp=Z,23nm,1.0s
H19A Powell 57.63 58 ⇓P P 02 26 28.0 -0.2
baz=57
G20A Bridger 57.64 57 ⇓P P 02 26 28.1 -0.1
baz=57
HVU Hansel Valley 57.66 62 *e*P P 02 26 30.0 +1.6
HVU Hansel Valley 57.66 62 *e*P P 02 26 30.0 +1.6
JIRN Jiri 57.73 274 *e*P P 02 26 28.8 -0.5
JIRN Jiri 57.73 274 *e*P P 02 26 28.8 -0.5
GUN Gumba 57.73 275 *e*P P 02 26 28.3 -1.1
comp=Z,17nm,0.3s
GUN Gumba 57.73 275 *e*P P 02 26 28.3 -1.1
comp=Z,17nm,0.3s
D23A Lindsay 57.76 53 ⇓P P 02 26 28.6 -0.4
baz=58
F21A Absaloka Mine, 57.77 55 ⇓P P 02 26 28.5 -0.5
baz=58
PTRM Twissleman Ran 57.78 72 *e*P P 02 26 30.7 +1.5
MHMT Maesarieng 57.79 257 P P 02 26 31.9 +2.5
comp=Z,9.2nm,1.0s,comp=Z,4µm
TPH Tonopah 57.79 68 *e*P P 02 26 30.4 +0.9
TPH pmax pmax
comp=Z,18nm,0.8s
TPH Tonopah 57.79 68 *e*P P 02 26 30.4 +0.9
comp=Z,18nm,0.8s
KKM Kota Kinabalu 57.87 232 *e*P P 02 26 32.1 +2.0
comp=Z,111nm,1.7s
RCTC Rector, Farmer 57.88 71 ⇑P P 02 26 30.2 +0.4
baz=58
C24A Savage 57.89 52 ⇑P P 02 26 29.1 -0.7
baz=58
E22A Miles City 57.92 54 ⇑P P 02 26 29.3 -0.7
baz=58
TIN Tinemaha 57.94 70 ⇓P P 02 26 30.4 0.0
baz=58
B25A Knox Farm, Ray 57.97 51 ⇑P P 02 26 29.9 -0.5
baz=58
RAMN Ramite 58.00 273 *e*P P 02 26 30.1 -1.0
comp=Z,63nm,0.4s
RAMN Ramite 58.00 273 *e*P P 02 26 30.1 -1.0
comp=Z,63nm,0.4s
A26A Wade Farm, Ken 58.05 50 ⇑P P 02 26 30.2 -0.7
baz=58
I19A Meeteetse 58.07 58 ⇓P P 02 26 30.8 -0.5
baz=58
BGU Big Grassy Mou 58.11 63 *e*P P 02 26 33.2 +1.6
comp=Z,23nm,2.2s
G21A Lodge Grass 58.14 56 ⇑P P 02 26 31.3 -0.4
baz=58
SPUT South Promonto 58.16 62 *e*P P 02 26 32.7 +0.7
comp=Z,33nm,1.4s
SPUT *e*pP **pP** 02 27 04.5 +1.7
KKN Kakani 58.18 275 *e*P P 02 26 31.9 -0.4
comp=Z,15nm,0.3s
KKN Kakani 58.18 275 *e*P P 02 26 31.9 -0.4
KKN pmax pmax
comp=Z,15nm,0.3s
KKN Kakani 58.18 275 *e*P P 02 26 31.9 -0.4
comp=Z,15nm,0.3s
E23A Ismay 58.19 54 ⇓P P 02 26 31.7 -0.3
baz=58
F22A Rosebud 58.23 55 ⇓P P 02 26 31.9 -0.3
baz=58
D24A Glendive 58.23 53 ⇓P P 02 26 31.6 -0.6
baz=58
H20A Greybull 58.26 57 ⇑P P 02 26 32.5 -0.1
baz=58
PKI Pulchoki 58.26 275 *e*P P 02 26 32.2 -0.8
comp=Z,12nm,0.3s
PKI Pulchoki 58.26 275 *e*P P 02 26 32.3 -0.8
PKI pmax pmax
comp=Z,9.0nm,0.3s
PKI Pulchoki 58.26 275 *e*P P 02 26 32.3 -0.8
comp=Z,8.6nm,0.3s
PKIN Phulchoki 58.27 275 *e*P P 02 26 32.3 -0.7
comp=Z,8.6nm,0.3s
C25A Freed Ranch, W 58.32 52 ⇓P P 02 26 32.6 -0.2
baz=58
B26A Jensen Ranch, 58.33 51 ⇑P P 02 26 32.6 -0.3
baz=58
GKN Gorkha 58.41 276 *e*P P 02 26 33.0 -0.9
GKN Gorkha 58.41 276 *e*P P 02 26 33.0 -0.9
DMN Daman 58.42 275 *e*P P 02 26 33.6 -0.4
comp=Z,21nm,0.4s
DMN Daman 58.42 275 *e*P P 02 26 33.6 -0.4
comp=Z,21nm,0.4s
GRAC Grapevine Rang 58.46 69 ⇑P P 02 26 34.6 +0.6
baz=58,SNR=7.2
SFJD Kangerlussuaq 58.51 13 *i*P P 02 26 32.9 -0.9
comp=Z,16nm,0.5s
SFJD Kangerlussuaq 58.51 13 *e*P P 02 26 32.8 -0.9
comp=Z,47nm,0.4s
R11A Troy Canyon, C 58.52 67 ⇑P P 02 26 35.1 +0.6
baz=58,SNR=16
PKM Peak Mountain 58.55 73 ⇓P P 02 26 36.1 +1.3
baz=58
I20A Worland 58.57 58 ⇑P P 02 26 34.3 -0.4
baz=58
J19A Crowheart 58.58 59 ⇓P P 02 26 35.0 +0.1
baz=58
G22A Birney 58.61 55 ⇓P P 02 26 35.4 +0.4
baz=58
E24A Baker 58.63 53 ⇑P P 02 26 34.9 -0.2
baz=58
H21A Big Horn, Sher 58.65 56 ⇑P P 02 26 35.0 -0.2
baz=58
BW06 Boulder Array 58.67 59 *e*P P 02 26 36.5 +1.0
comp=Z,22nm,0.8s
BW06 *e*pP **pP** 02 27 06.7 +0.2
PDAR Pinedale Array 58.67 59 P P 02 26 36.5 +1.0
PDAR pP **pP** 02 27 07.4 +0.9
PDAR Pinedale Array 58.67 59 P P 02 26 36.5 +1.0
comp=Z,18nm,0.7s,baz=314,slow=2.5,SNR=159
PDAR pP **pP** 02 27 07.4 +0.9
comp=Z,9.1nm,0.9s,baz=306,slow=3.5,SNR=4.7
D25A Fairfield 58.69 52 ⇑P P 02 26 35.1 -0.3
baz=58
DANN Dangsing 58.69 277 *e*P P 02 26 35.3 -0.7
DANN Dangsing 58.69 277 *e*P P 02 26 35.3 -0.7
F23A Volborg 58.69 55 ⇑P P 02 26 35.8 +0.4
baz=58
DUG Dugway 58.74 64 *e*P P 02 26 37.3 +1.3
DUG pmax pmax
comp=Z,25nm,1.3s
DUG Dugway 58.74 64 *e*P P 02 26 37.3 +1.3
comp=Z,25nm,1.3s
DUG Dugway 58.74 64 ⇓P P 02 26 37.3 +1.3
baz=59,SNR=14
B27A Peters Farms, 58.76 50 ⇓P P 02 26 36.0 +0.1
baz=58
ISA Isabella 58.78 71 *e*P P 02 26 36.1 -0.1
ISA pmax pmax
comp=Z,4.0nm,1.3s
ISA Isabella 58.78 71 *e*P P 02 26 36.1 -0.1
comp=Z,4.0nm,1.3s
ISA Isabella 58.78 71 ⇑P P 02 26 36.4 +0.2
baz=59,SNR=9.4
C26A Wahner Farm, P 58.79 51 ⇓P P 02 26 36.2 +0.1
baz=58
A28A Rude Farm, Bot 58.86 49 ⇑P P 02 26 36.2 -0.4
baz=59
SBC Santa Barbara 58.93 73 ⇓P P 02 26 38.5 +1.4
baz=59
J20A Shoshoni 59.02 58 ⇑P P 02 26 37.2 -0.6
baz=59
H22A Clearmont 59.02 56 ⇑P P 02 26 37.5 -0.3
baz=59
MPMC Manual Prospec 59.06 70 ⇑P P 02 26 38.5 +0.2
baz=59,SNR=16
G23A Biddle 59.07 55 ⇓P P 02 26 38.5 +0.4
baz=59
F24A Ekalaka 59.08 54 ⇑P P 02 26 37.4 -0.7
baz=59
I21A Big Trails, Te 59.10 57 ⇑P P 02 26 38.0 -0.4
baz=59
E25A Miller Ranch, 59.11 53 ⇑P P 02 26 37.7 -0.7
baz=59
FURC Furnace Creek, 59.13 69 ⇑P P 02 26 38.9 +0.5
baz=59,SNR=16
TPNV Topopah Spring 59.13 69 *e*P P 02 26 39.8 +1.0
TPNV pmax pmax
comp=Z,19nm,1.0s
TPNV Topopah Spring 59.13 69 *e*P P 02 26 39.8 +1.0
comp=Z,19nm,1.0s
TPNV Topopah Spring 59.13 69 ⇑P P 02 26 39.0 +0.2
baz=59,SNR=21
B28A Dugan Ranch, T 59.15 49 ⇑P P 02 26 38.4 -0.1
baz=59

C27A	Sayler Ranch, baz=59	59.15	51	⇓P		P	02 26 37.7	-0.9
JLU	Jordanelle comp=Z,45nm,1.9s	59.19	62	eP		P	02 26 40.9	+1.7
D26A	Manning baz=59	59.20	52	⇑P		P	02 26 38.7	-0.2
KOLN	Koldanda comp=Z,8.8nm,0.3s	59.21	276	eP		P	02 26 38.2	-1.2
KOLN	Koldanda comp=Z,8.8nm,0.3s	59.21	276	eP		P	02 26 38.2	-1.2
KAF	Kangasniemi	59.22	336	eP		P	02 26 37.4	-1.3
KAF	comp=Z,2.0nm,0.3s			pmax		pmax		
KAF	Kangasniemi comp=Z,2.3nm,0.3s	59.22	336	ep		P	02 26 37.4	-1.3
BSC	Santa Cruz Isl baz=59	59.30	73	⇑P		P	02 26 40.2	+0.4
NLU	North Lily Min comp=Z,12nm,0.9s	59.31	63	eP		P	02 26 41.7	+1.7
NLU				epP		pP	02 27 11.4	+0.4
A29A	Manning Farm, baz=59	59.32	48	⇓P		P	02 26 39.3	-0.3
PYUN	Piuthan comp=Z,65nm,0.6s	59.34	277	eP		P	02 26 39.5	-0.8
PYUN	Piuthan comp=Z,65nm,0.6s	59.34	277	eP		P	02 26 39.5	-0.8
J21A	Lysite baz=59	59.35	58	⇑P		P	02 26 39.5	-0.7
LRMC	Laurel Mountai baz=59,SNR=5.8	59.36	71	⇓P		P	02 26 40.3	0.0
OSI	Osito Adit baz=59	59.38	72	⇑P		P	02 26 39.8	-0.5
DAU	Daniels Canyon	59.43	62	eP		P	02 26 42.8	+1.9
DAU	Daniels Canyon	59.43	62	eP		P	02 26 42.8	+1.9
I22A	9 Mile Ranch, baz=59	59.45	57	⇑P		P	02 26 40.3	-0.5
G24A	Alzada baz=59	59.46	54	⇓P		P	02 26 40.4	-0.4
F25A	Bowman baz=59	59.50	53	⇓P		P	02 26 40.7	-0.3
MPU	Maple Canyon comp=Z,17nm,0.8s	59.51	63	eP		P	02 26 42.4	+1.0
MPU				epP		pP	02 27 12.9	+0.5
H23A	Clabaugh Cattl baz=59	59.52	56	⇑P		P	02 26 40.9	-0.3
CHBT	CHBT comp=Z,43nm,1.1s	59.54	249	P		P	02 26 43.1	+1.6
BLG	Laguna Peak baz=59	59.54	73	⇓P		P	02 26 42.5	+1.1
D27A	Center baz=59	59.57	51	⇓P		P	02 26 41.3	-0.2
E26A	Carlson Angus baz=59	59.59	52	⇓P		P	02 26 42.2	+0.6
B29A	Wagenman Farm, baz=59	59.60	49	⇑P		P	02 26 41.5	-0.1
EDW2	Edwards Air Fo baz=60,SNR=16	59.61	71	⇑P		P	02 26 42.2	+0.2
C28A	Hausauer Farms baz=59	59.67	50	⇓P		P	02 26 42.1	0.0
A30A	Hoffart Farm, baz=59	59.73	48	⇑P		P	02 26 42.0	-0.4
J22A	Midwest baz=60	59.80	57	⇓P		P	02 26 43.5	+0.3
H24A	Dirks Ranch, A baz=60	59.81	55	⇓P		P	02 26 42.8	-0.3
ULM	Lac du Bonnet comp=Z,11nm,0.7s	59.84	46	eP		P	02 26 43.5	+0.3
ULM				pP		pP	02 27 15.2	+0.9
ULM				PcP		PcP	02 27 28.9	+0.6
ULM	Lac du Bonnet comp=Z,9.2nm,0.5s,baz=320,slow=7.7,SNR=24	59.84	46	P		P	02 26 43.5	+0.3
ULM	comp=Z,3.2nm,0.5s,baz=301,slow=5.9,SNR=2.7			pP		pP	02 27 15.2	+0.9
ULM	comp=Z,7.1nm,1.0s,baz=315,slow=4.3,SNR=3.8			PcP		PcP	02 27 28.9	+0.6
FIA1	FINESS Array S	59.84	336	eP		P	02 26 42.0	-1.0
FINES	FINESS Array B	59.85	336	P		P	02 26 42.1	-0.9
FINES				PcP		PcP	02 27 27.5	-0.6
FINES	FINESS Array B comp=Z,3.7nm,0.4s,baz=33,slow=7.7,SNR=48	59.85	336	P		P	02 26 42.1	-0.9
FINES	comp=Z,4.3nm,0.5s,baz=63,slow=3.1,SNR=11			PcP		PcP	02 27 27.5	-0.6
DECC	Green Verdugo baz=60	59.87	72	⇑P		P	02 26 44.8	+1.2
I23A	Meade Ranch, G baz=60	59.92	56	⇓P		P	02 26 43.7	-0.3
MDND	Maddock baz=60	59.93	50	⇑P		P	02 26 43.7	-0.2
F26A	Lodgepole baz=60	59.93	53	⇑P		P	02 26 44.9	+1.0
K21A	Alcova baz=60	59.96	58	⇓P		P	02 26 45.0	+0.6
D28A	Regan baz=60	59.96	51	⇑P		P	02 26 45.2	+1.1
GSC	Goldstone comp=Z,12nm,1.5s	59.99	70	eP		P	02 26 45.4	+0.8
GSC				pmax		pmax		
GSC	Goldstone comp=Z,12nm,1.5s	59.99	70	eP		P	02 26 45.4	+0.8
GSC	Goldstone baz=60,SNR=14	59.99	70	⇑P		P	02 26 45.6	+1.1
MWC	Mount Wilson comp=Z,78nm,1.5s	60.04	72	eP		P	02 26 46.1	+1.1
MWC				pmax		pmax		
MWC	Mount Wilson comp=Z,78nm,1.5s	60.04	72	eP		P	02 26 46.1	+1.1
E27A	Carson baz=60	60.05	52	⇓P		P	02 26 45.3	+0.6
G25A	Newell baz=60	60.05	54	⇓P		P	02 26 45.9	+1.1
SHPR	Sheep Range	60.06	68	eP		P	02 26 46.2	+1.1
B30A	Myrvik Farm, E baz=60	60.08	48	⇑P		P	02 26 46.1	+1.2
ARUT	Antelope Range comp=Z,92nm,0.8s	60.11	66	eP		P	02 26 46.0	+0.6
ARUT				pmax		pmax		
ARUT	Antelope Range comp=Z,92nm,0.8s	60.11	66	eP		P	02 26 46.0	+0.6
RRX	Edison Barstow baz=60	60.18	71	⇓P		P	02 26 47.2	+1.4
F27A	Lemmon baz=60	60.23	52	⇑P		P	02 26 47.0	+1.0
TMUT	Trail Mountain comp=Z,19nm,0.7s	60.25	63	eP		P	02 26 47.5	+0.9
TMUT				epP		pP	02 27 19.5	+1.8
BFSC	Mount Baldy Ra baz=60,SNR=7.8	60.26	72	⇓P		P	02 26 47.5	+1.0
MVU	Marysvale comp=Z,6.1nm,0.8s	60.27	65	eP		P	02 26 48.1	+1.5
J23A	Dilts Ranch, B baz=60	60.27	57	⇓P		P	02 26 46.9	+0.4
CCUT	Cedar City comp=Z,45nm,1.7s	60.32	66	eP		P	02 26 48.3	+1.3
CCUT				epP		pP	02 27 19.4	+1.3
K22A	Casper baz=60	60.32	58	⇓P		P	02 26 47.4	+0.6
E28A	Huff baz=60	60.35	51	⇑P		P	02 26 46.6	-0.2
H25A	Fruitdale baz=60	60.37	54	⇓P		P	02 26 47.8	+0.8
G26A	Maurine baz=60	60.37	53	⇑P		P	02 26 47.6	+0.6
TUQ	Turquoise Moun baz=60,SNR=15	60.40	70	⇑P		P	02 26 48.4	+1.0
I24A	Kuemmerle Ranc baz=60	60.41	56	⇑P		P	02 26 47.5	+0.2
CIS	Catalina Islan baz=60	60.43	73	⇑P		P	02 26 48.4	+0.9
D29A	Pettibone, Tap baz=60	60.51	50	⇓P		P	02 26 48.4	+0.6
RSSD	Black Hills comp=Z,12nm,0.8s	60.52	55	eP		P	02 26 49.1	+0.9
RSSD				e*PP		pP	02 27 20.0	+0.7
RSSD				pmax		pmax		
RSSD	Black Hills comp=Z,12nm,0.8s	60.52	55	eP		P	02 26 49.1	+0.9
RSSD				epP		pP	02 27 20.0	+0.7
C30A	Mose, Pekin baz=60	60.56	49	⇑P		P	02 26 49.0	+0.9
HEC	Hector,Ludlow baz=60,SNR=17	60.60	70	⇑P		P	02 26 49.8	+1.1
G27A	Dupree baz=60	60.63	53	⇑P		P	02 26 49.3	+0.6
SCI	San Clemente I baz=60	60.66	73	⇓P		P	02 26 50.1	+1.2
BBRC	Big Bear Solar baz=60	60.67	71	⇑P		P	02 26 49.8	+0.4
K23A	Bowen Ranch, D baz=60	60.70	57	⇑P		P	02 26 49.8	+0.4
N20A	Spence Gulch, baz=60	60.72	60	⇓P		P	02 26 50.5	+0.8
I25A	Rochford baz=60	60.74	55	⇑P		P	02 26 50.5	+0.9
SRU	San Rafael	60.76	63	eP		P	02 26 51.1	+1.2
SRU	comp=Z,28nm,0.8s			pmax		pmax		
SRU	San Rafael comp=Z,28nm,0.8s	60.76	63	eP		P	02 26 51.0	+1.2
J24A	Dixon Ranch, L baz=60	60.77	56	⇑P		P	02 26 50.6	+0.8
H26A	Fairpoint baz=60	60.78	54	⇑P		P	02 26 49.9	+0.2
L22A	Ellis Ranch, M baz=61	60.81	58	⇓P		P	02 26 51.0	+0.8
F28A	McLaughlin baz=61	60.83	52	⇑P		P	02 26 50.3	+0.3
E29A	Napoleon baz=61	60.85	51	⇑P		P	02 26 50.9	+0.7
D30A	Buchanan baz=61	60.87	50	⇓P		P	02 26 50.6	+0.4
MURC	Murrieta baz=61,SNR=10	60.99	72	⇑P		P	02 26 52.3	+1.1
GMRC	Granite Mounta baz=61,SNR=16	61.02	70	⇑P		P	02 26 52.8	+1.2
H27A	Howes baz=61	61.11	53	⇑P		P	02 26 52.6	+0.6
LDFC	Landfair comp=Z,31nm,0.9s	61.12	69	eP		P	02 26 53.1	+0.8
L23A	Garrett baz=61	61.13	58	⇑P		P	02 26 52.7	+0.4
J25A	Sunshine Ranch baz=61	61.16	55	⇑P		P	02 26 53.0	+0.6
I26A	New Underwood baz=61	61.16	54	⇑P		P	02 26 52.5	+0.1
M22A	Cedar Creek Ra baz=61	61.18	59	⇓P		P	02 26 52.5	-0.3
O20A	White River Ci baz=61,SNR=14	61.24	61	⇑P		P	02 26 54.4	+1.3
E30A	Jud baz=61	61.24	50	⇑P		P	02 26 52.6	-0.2
F29A	Eureka baz=61	61.31	51	⇑P		P	02 26 53.8	+0.6
G28A	Parade baz=61	61.34	52	⇑P		P	02 26 54.3	+0.8
BELC	Belle Mtn. Jos baz=61,SNR=11	61.39	71	⇑P		P	02 26 54.8	+0.7
PFO	Pinyon Flat Ob	61.41	71	eP		P	02 26 54.7	+0.5
PFO	Pinyon Flat Ob baz=61	61.41	71	⇓P		P	02 26 54.9	+0.7
I27A	Quinn baz=61	61.53	54	⇑P		P	02 26 55.8	+1.0
109C	Camp Elliot, M baz=61	61.56	72	⇑P		P	02 26 55.5	+0.5
L24A	Wheatland baz=61	61.57	57	⇓P		P	02 26 56.2	+0.9
J26A	Sides Ranch, S baz=61	61.58	55	⇓P		P	02 26 56.2	+1.0
M23A	Laramie baz=61	61.59	58	⇓P		P	02 26 55.5	0.0
H28A	Mission Ridge baz=61	61.59	53	⇓P		P	02 26 55.8	+0.6
NEE2	Needles Airpor baz=62	61.62	69	⇓P		P	02 26 56.3	+0.9
F30A	Leola baz=61	61.68	51	⇓P		P	02 26 55.7	-0.1
N22A	Wattenberg Ran baz=62	61.69	59	⇑P		P	02 26 56.0	-0.2
K25A	Mack Ranch, Ha baz=62	61.70	56	⇓P		P	02 26 55.9	-0.1
U15A	North Rim baz=62,SNR=7.5	61.72	66	⇑P		P	02 26 57.7	+1.3
G29A	Hoven baz=62	61.73	52	⇑P		P	02 26 56.5	+0.4
IRM	Iron Mountain baz=62,SNR=19	61.76	70	⇑P		P	02 26 57.8	+1.4
W13A	Hualapai Mount baz=62,SNR=10	61.79	68	⇓P		P	02 26 58.1	+1.2
N23A	Red Feather La baz=62	61.89	59	⇑P		P	02 26 58.3	+0.8
BC3	Big Chuckawall baz=62,SNR=8.6	61.95	71	⇑P		P	02 26 58.7	+0.9
MONP	Monument Peak baz=62	61.95	72	⇓P		P	02 26 58.4	+0.4
BAR	Barrett comp=Z,34nm,1.5s	61.96	72	eP		P	02 26 58.7	+1.0
K26A	Motz Farm, Whi baz=62	61.98	56	⇓P		P	02 26 58.5	+0.6
L25A	Engebretsen Ra baz=62	61.98	57	⇓P		P	02 26 58.4	+0.4
H29A	Onida baz=62	62.01	52	⇓P		P	02 26 59.0	+1.0
I28A	Midland baz=62	62.02	53	⇓P		P	02 26 58.9	+0.9
M24A	Cheyenne baz=62	62.05	58	⇑P		P	02 26 59.5	+1.0
OBN	Obninsk	62.06	326	⇓eP		P	02 26 57.0	-1.0
OBN				e*PP		pP	02 27 29.6	+0.3
OBN				e			02 27 36.5	
OBN				e			02 29 11.8	
OBN	comp=Z,35nm,1.9s			pmax		pmax		
OBN	Obninsk	62.06	326	epP		pP	02 27 32.1	+2.8
O22A	Kremmling baz=62	62.11	60	⇓P		P	02 27 00.4	+1.3
PV04	Paradox Valley	62.15	63	eP		P	02 27 00.6	+1.4
PV04				epP		pP	02 27 31.4	+1.0
G30A	Faulkton baz=62	62.15	51	⇓P		P	02 26 59.4	+0.5
J27A	Elkhorn Farm, baz=62	62.16	54	⇓P		P	02 26 59.7	+0.7
PDMCI	Parker Dam,Lak baz=62,SNR=6.7	62.23	69	⇑P		P	02 27 00.9	+1.4
SWSC	Sam W. Stewart baz=62	62.27	71	⇓P		P	02 27 02.2	+2.4
DVTC	Desert V Tower baz=62	62.30	72	⇑P		P	02 27 00.6	+0.5
O23A	Lake Granby, G baz=62,SNR=9.5	62.40	59	⇓P		P	02 27 02.9	+1.9
J28A	Allard Ranch, baz=62	62.41	54	⇑P		P	02 27 02.3	+1.6
Y12C	Blythe baz=62,SNR=7.8	62.41	70	⇓P		P	02 27 02.1	+1.4
P22A	Eagle baz=62,SNR=8.5	62.41	60	⇓P		P	02 27 00.7	-0.3
I29A	Vivian Onida baz=62	62.42	53	⇓P		P	02 27 01.2	+0.5
K27A	Flueckinger Fa baz=62	62.45	55	⇓P		P	02 27 00.9	-0.1
M25A	Palm-Egli Farm baz=62	62.47	57	⇓P		P	02 27 01.1	-0.1
N24A	Carr baz=62	62.49	58	⇑P		P	02 27 01.5	+0.1
L26A	Underwood Farm baz=62	62.52	56	⇓P		P	02 27 01.9	+0.4
PV01	Paradox Valley comp=Z,658nm,0.7s	62.52	63	eP		P	02 27 02.5	+0.8
SMCO	Snowmass comp=Z,14nm,0.8s	62.61	61	eP		P	02 27 03.4	+0.9
PMG	Port Moresby	62.73	192	eP		P	02 27 04.5	+1.6
GLA	Glamis	62.75	71	eP		P	02 27 04.2	+1.1
GLA				e*PP		pP	02 27 35.4	+1.0
GLA	comp=Z,21nm,1.5s			pmax		pmax		
GLA	Glamis comp=Z,21nm,1.5s	62.75	71	eP		P	02 27 04.2	+1.1
GLA				epP		pP	02 27 35.4	+1.0
GLA	Glamis baz=63,SNR=14	62.75	71	⇓P		P	02 27 04.1	+1.0
BRSD	Miller baz=62	62.75	52	⇑P		P	02 27 02.9	0.0
KBL	Kabul	62.81	292	eP		P	02 27 01.6	-2.1
KBL				e*PP		pP	02 27 34.5	-0.6
KBL	comp=Z,23nm,1.3s			pmax		pmax		
KBL	Kabul comp=Z,23nm,1.3s	62.81	292	eP		P	02 27 01.6	-2.1
KBL				epP		pP	02 27 34.5	-0.6
ISCO	Idaho Springs	62.86	59	eP		P	02 27 05.6	+1.5
ISCO				e*PP		pP	02 27 36.5	+1.1
ISCO	comp=Z,16nm,1.0s			pmax		pmax		
ISCO	Idaho Springs comp=Z,16nm,1.0s	62.86	59	eP		P	02 27 05.6	+1.5
ISCO				epP		pP	02 27 36.5	+1.1
ISCO	Idaho Springs baz=63,SNR=15	62.86	59	⇓P		P	02 27 05.7	+1.7
J29A	Okreek baz=63	62.87	53	⇑P		P	02 27 04.2	+0.5
L27A	T5 Ranch, Ells baz=63	62.87	56	⇓P		P	02 27 04.9	+1.1
K28A	Ten Mile Ranch baz=63	62.87	55	⇓P		P	02 27 04.5	+0.7
WUAZ	Wupatki comp=Z,48nm,1.4s	62.89	66	eP		P	02 27 05.7	+1.6
WUAZ	Wupatki baz=63,SNR=14	62.89	66	⇑P		P	02 27 05.7	+1.6
M26A	McRoberts Ranc baz=63	62.91	57	⇓P		P	02 27 05.0	+0.9
N25A	Grover baz=63	62.91	58	⇑P		P	02 27 05.4	+1.3
O24A	Longmont baz=63	62.91	59	⇓P		P	02 27 05.9	+1.7
SBUM	Sibu comp=Z,111nm,1.5s	62.92	234	eP		P	02 27 06.7	+2.4
I30A	Oacoma baz=63	62.92	52	⇓P		P	02 27 04.7	+0.7
P23A	Jefferson baz=63,SNR=5.3	63.06	60	⇓P		P	02 27 06.7	+1.3
Y14A	Wickenburg baz=63,SNR=14	63.13	69	⇑P		P	02 27 06.9	+1.3
MVCO	Mesa Verde comp=Z,100nm,2.0s	63.23	63	eP		P	02 27 07.7	+1.3
MVCO	Mesa Verde baz=63,SNR=12	63.23	63	⇓P		P	02 27 07.3	+0.8
M27A	Reverse DX Ran baz=63	63.24	56	⇓P		P	02 27 07.2	+0.9
L28A	Connealy Angus baz=63	63.32	55	⇑P		P	02 27 06.6	-0.2
J30A	Dallas baz=63	63.33	53	⇑P		P	02 27 07.0	+0.3
N26A	Koester Ranch, baz=63	63.34	57	⇑P		P	02 27 08.6	+1.6
K29A	Lazy Trails An baz=63	63.35	54	⇓P		P	02 27 07.7	+0.8
O25A	Wiggins baz=63	63.41	58	⇓P		P	02 27 09.1	+1.7
Q23A	Hartsel baz=63	63.41	60	⇓P		P	02 27 07.4	-0.2
NB2	NORSAR Subarra comp=Z,12nm,0.7s,baz=20,slow=6.9	63.42	343	P		P	02 27 06.4	-0.6
NB2	NORSAR Subarra baz=20,slow=6.9	63.42	343	P		P	02 27 06.4	-0.6
NOA	NORSAR Array B	63.42	343	P		P	02 27 06.6	-0.4
NOA				PcP		PcP	02 27 42.8	+0.1
NOA	NORSAR Array B comp=Z,5.8nm,0.5s,baz=20,slow=6.8,SNR=59	63.42	343	P		P	02 27 06.6	-0.4
NOA	comp=Z,1.9nm,0.5s,baz=26,slow=4.2,SNR=4.9			PcP		PcP	02 27 42.8	+0.1
P24A	Kohler Place, baz=63	63.44	59	⇑P		P	02 27 07.4	-0.4
113A	Mohawk Valley, baz=63	63.56	70	⇓P		P	02 27 09.1	+0.7
Z14A	Wintersburg baz=63	63.59	69	⇑P		P	02 27 09.3	+0.7
NAO01	NORSAR Array S comp=Z,6.8nm,0.7s	63.66	343	eP		P	02 27 07.7	-0.9
X16A	Lo Mia Camp, P baz=64,SNR=18	63.66	67	⇓P		P	02 27 10.0	+0.7
N27A	Anderson Farm, baz=64	63.70	57	⇑P		P	02 27 09.8	+0.5
Q24A	Divide baz=64,SNR=5.6	63.72	60	⇓P		P	02 27 10.1	+0.3
O26A	Horse Wrangler baz=64	63.73	58	⇓P		P	02 27 10.3	+0.8
S22A	4UR Ranch, Cre baz=64,SNR=17	63.73	62	⇓P		P	02 27 09.8	0.0
K30A	Basset baz=64	63.76	53	⇓P		P	02 27 09.9	+0.3
L29A	Maesberg Ranch baz=64	63.79	54	⇑P		P	02 27 09.8	-0.1
P25A	Willow Gulch B baz=64	63.83	59	⇓P		P	02 27 10.0	-0.2
M28A	Bar X Bar Ranc baz=64	63.85	55	⇑P		P	02 27 10.3	0.0
OGNE	Ogallala baz=64	63.85	56	⇑P		P	02 27 10.0	-0.3
R23A	Moffat baz=64	63.94	61	⇓P		P	02 27 10.7	-0.4
W18A	Petrified Fore baz=64	64.09	66	⇓P		P	02 27 13.4	+1.4
M29A	Burnside Ranch baz=64	64.15	55	⇑P		P	02 27 13.2	+1.0
O27A	Beecher Island baz=64	64.19	57	⇑P		P	02 27 12.3	-0.2
S23A	Nye Farm, Mont baz=64	64.20	61	⇑P		P	02 27 12.5	-0.3
P26A	Davis Ranch, A baz=64,SNR=5.9	64.22	58	⇑P		P	02 27 12.7	0.0
Q25A	Bedland, Calha baz=64,SNR=6.4	64.23	59	⇑P		P	02 27 13.3	+0.4
L30A	Spencer Herefo baz=64	64.25	54	⇑P		P	02 27 13.1	+0.2
R24A	Sanders Place, baz=64,SNR=8.5	64.29	60	⇑P		P	02 27 13.5	+0.2
N28A	Pribbeno Ranch baz=64	64.29	56	⇓P		P	02 27 13.8	+0.6
ECSD	EROS Data Cent comp=Z,28nm,1.0s	64.39	51	eP		P	02 27 13.9	+0.2
X18A	Snowflake baz=64,SNR=9.5	64.41	66	⇓P		P	02 27 14.7	+0.5
SDCO	Great Sand Dun comp=Z,15nm,1.4s	64.44	61	eP		P	02 27 15.3	+0.9
M30A	Dale-Ortello V baz=64	64.49	54	⇑P		P	02 27 13.8	-0.6
L31A	Butterfield Fa baz=64	64.51	53	⇑P		P	02 27 15.1	+0.6
O28A	Krutsinger Ran baz=64,SNR=7.4	64.60	57	⇑P		P	02 27 15.4	+0.3
Q26A	Hugo baz=64,SNR=5.7	64.60	59	⇓P		P	02 27 15.4	+0.1
P27A	Ficken Ranch, baz=64	64.61	58	⇓P		P	02 27 15.8	+0.5
N29A	Votaw Ranch, W baz=64	64.65	55	⇓P		P	02 27 15.6	+0.1
S24A	Houchin Ranch, baz=64,SNR=5.4	64.67	61	⇓P		P	02 27 15.9	0.0
T23A	Casias Ranch, baz=64	64.68	62	⇑P		P	02 27 16.3	+0.3
214A	Organ Pipe Nat baz=65,SNR=10	64.70	70	⇓P		P	02 27 16.7	+0.8
KSM	Kuching comp=Z,80nm,1.0s	64.70	235	eP		P	02 27 18.2	+2.2
U22A	Llaves baz=64,SNR=9.7	64.73	63	⇑P		P	02 27 16.4	+0.2
R25A	Fountain Ranch baz=65,SNR=9.3	64.78	60	⇓P		P	02 27 16.6	+0.2
N30A	Hueftle Ranch, baz=65	64.93	55	⇓P		P	02 27 17.2	-0.1
KSCO	Kaye Shedlock' baz=65	65.00	58	⇑P		P	02 27 18.0	+0.2
SPMN	St. Paul baz=65	65.00	47	⇓P		P	02 27 17.5	0.0
T24B	San Luis baz=65	65.01	61	⇓P		P	02 27 18.0	-0.1
P28A	Saint Francis baz=65	65.02	57	⇓P		P	02 27 17.9	0.0
V22A	San Miguel Ran baz=65,SNR=8.0	65.05	63	⇓P		P	02 27 18.7	+0.4
S25A	Robets Cordova baz=65,SNR=6.6	65.07	60	⇓P		P	02 27 18.1	-0.2
M31A	Lambtecht Ranc baz=65	65.07	54	⇑P		P	02 27 17.9	-0.3
O29A	4D Ranch, Culb baz=65	65.09	56	⇑P		P	02 27 17.8	-0.5
R26A	Arlington baz=65,SNR=17	65.11	59	⇓P		P	02 27 19.2	+0.7
U23A	El Rito baz=65	65.13	62	⇓P		P	02 27 19.0	+0.2
Q28A	Sharon Springs baz=65	65.37	57	⇑P		P	02 27 20.6	+0.4
P29A	Atwood baz=65	65.42	57	⇑P		P	02 27 20.7	+0.2
O30A	MW Ranch, Wils baz=65	65.42	56	⇑P		P	02 27 20.5	0.0
BGNE	Belgrade baz=65	65.43	53	⇓P		P	02 27 20.7	+0.3
R27A	Eads baz=65,SNR=6.8	65.45	59	⇓P		P	02 27 21.2	+0.4
T25A	Trinidad baz=65,SNR=6.0	65.47	61	⇓P		P	02 27 20.8	-0.2
N31A	Bailey Ranch, baz=65	65.48	54	⇓P		P	02 27 20.8	0.0

U24A	Moreno Valley	65.56	62	⇓P		P	02 27 21.5	-0.1	
	baz=65								
V23A	Ortiz Mt. (NFS	65.57	63	⇑P		P	02 27 21.7	0.0	
	baz=65,SNR=12								
TUC	Tucson	65.59	68	*eP*		P	02 27 22.6	+0.9	
TUC				pmax		pmax			
	comp=Z,27nm,1.6s								
TUC	Tucson	65.59	68	*eP*		P	02 27 22.6	+0.9	
	comp=Z,27nm,1.6s								
S26A	Kim	65.60	60	⇓P		P	02 27 21.6	-0.1	
	baz=65,SNR=6.2								
O31A	Woolen Ranch,	65.81	55	⇓P		P	02 27 22.4	-0.4	
	baz=66								
P30A	Selden	65.81	56	⇑P		P	02 27 22.5	-0.4	
	baz=66								
N32A	Stulken Farm,	65.85	54	⇑P		P	02 27 22.8	-0.4	
	baz=66								
T26A	Comanche Natio	65.87	60	⇑P		P	02 27 23.6	+0.1	
	baz=66,SNR=7.8								
R28A	Tribune	65.92	58	⇓P		P	02 27 23.9	+0.2	
	baz=66,SNR=6.8								
Q29A	Oakley	65.93	57	⇓P		P	02 27 23.9	+0.1	
	baz=66,SNR=5.7								
ANMO	Albuquerque	66.02	64	*eP*		P	02 27 25.6	+1.1	
	comp=Z,10nm,0.9s								
ANMO				*ep*P		pP	02 27 56.5	+0.3	
W23A	Werner Place,	66.02	63	⇑P		P	02 27 24.7	+0.1	
	baz=66,SNR=6.7								
U25A	Circle Dot Ran	66.03	61	⇑P		P	02 27 24.7	+0.1	
	baz=66								
LAZ	Ladron	66.05	64	*eP*		P	02 27 26.2	+1.4	
	comp=Z,17nm,1.3s								
LAZ				*ep*P		pP	02 27 57.8	+1.4	
V24A	Rampart Ranch,	66.07	62	⇓P		P	02 27 25.2	+0.3	
	baz=66,SNR=10								
KAPI	Kappang	66.14	223	*eP*		P	02 27 26.0	+0.8	
	comp=Z,156nm,1.4s								
ABKT	Ailbek	66.20	302	P		P	02 27 25.0	-0.5	
	comp=Z,72nm,0.6s,SNR=5.2								
R29A	Marienthal	66.20	58	⇑P		P	02 27 25.6	+0.1	
	baz=66								
O32A	Brockman Farm,	66.24	54	⇓P		P	02 27 25.2	-0.5	
	baz=66								
Q30A	Quinter	66.25	57	⇓P		P	02 27 25.2	-0.5	
	baz=66								
P31A	Stockton	66.26	56	⇑P		P	02 27 25.5	-0.3	
	baz=66								
LENM	Lemitar	66.32	64	*eP*		P	02 27 27.6	+1.2	
	comp=Z,4.2nm,0.7s								
V25A	Rancho No Teng	66.34	62	⇑P		P	02 27 27.4	+0.8	
	baz=66,SNR=6.8								
IMYA	Miami	66.37	299	*eP*		P	02 27 26.9	+0.2	
U26A	Atchley Ranch,	66.38	61	⇑P		P	02 27 27.3	+0.4	
	baz=66,SNR=5.4								
W24A	Lazy 6 Ranch,	66.39	63	⇑P		P	02 27 27.4	+0.5	
	baz=66,SNR=9.0								
SCHQ	Schefferville	66.39	26	*eP*		P	02 27 25.8	-0.6	
	comp=Z,14nm,0.5s								
SCHQ	Schefferville	66.39	26	P		P	02 27 26.2	-0.1	
	comp=Z,15nm,0.5s,baz=354,slow=5.9,SNR=52								
LPM	Los Pinos Moun	66.40	64	*eP*		P	02 27 28.6	+1.7	
T27A	Campo	66.42	60	⇓P		P	02 27 27.2	+0.3	
	baz=66								
S28A	Manter	66.44	59	⇓P		P	02 27 27.5	+0.5	
	baz=66								
Y22A	Socorro	66.50	65	⇑P		P	02 27 28.7	+1.2	
	baz=66								
BNM	Barren Site	66.52	64	*eP*		P	02 27 29.0	+1.3	
	comp=Z,30nm,1.6s								
P32A	Huiting Farm,	66.57	55	⇓P		P	02 27 27.3	-0.5	
	baz=66,SNR=6.9								
Q31A	Ellis	66.64	56	⇑P		P	02 27 28.0	-0.2	
	baz=66								
T28A	Walsh	66.69	59	⇓P		P	02 27 28.6	0.0	
	baz=66								
R30A	Dighton	66.75	57	⇑P		P	02 27 28.8	-0.1	
	baz=66,SNR=6.8								
V26A	Tequesquite Ra	66.81	61	⇓P		P	02 27 29.9	+0.4	
	baz=67,SNR=6.0								
S29A	Ulysses	66.82	58	⇑P		P	02 27 29.5	0.0	
	baz=67								
U27A	Thompson Grove	66.85	60	⇓P		P	02 27 29.6	0.0	
	baz=67,SNR=8.7								
X24A	Lazy VL Ranch,	66.86	63	⇓P		P	02 27 29.9	0.0	
	baz=67								
IPAY	Payeh	66.87	300	*eP*		P	02 27 30.2	+0.3	
IKRD	Kardeh	66.87	301	*eP*		P	02 27 27.0	-3.0	
W25A	X Bar L Ranch,	66.89	62	⇑P		P	02 27 30.9	+0.9	
	baz=67,SNR=10.0								
ISFR	Sfrayin	66.93	301	*eP*		P	02 27 29.6	-0.8	
Y23A	Lovelace Mesa,	67.00	64	⇑P		P	02 27 31.9	+1.1	
	baz=67,SNR=19								
Z22A	Elephant Butte	67.01	65	⇑P		P	02 27 32.0	+1.2	
	baz=67,SNR=12								
IPM	Ipoh	67.05	245	*eP*		P	02 27 31.7	+0.7	
Q32A	Meitler Ranch,	67.07	55	⇓P		P	02 27 30.7	-0.2	
	baz=67								
T29A	Hugoton	67.08	58	⇑P		P	02 27 31.1	0.0	
	baz=67								
R31A	Burdett	67.12	57	⇑P		P	02 27 31.3	0.0	
	baz=67								
319A	Douglas	67.13	68	⇓P		P	02 27 33.0	+1.4	
	baz=67,SNR=11								
S30A	Montezuma	67.14	58	⇓P		P	02 27 31.9	+0.4	
	baz=67								
P33A	Williams Farm,	67.16	55	⇓P		P	02 27 31.2	-0.3	
	baz=67								
U28A	Mallet	67.19	60	⇓P		P	02 27 31.3	-0.6	
	baz=67								
X25A	Clemmons Ranch	67.30	63	⇑P		P	02 27 33.8	+1.1	
	baz=67								
V27A	Dan Oppiter Fa	67.34	61	⇓P		P	02 27 32.9	+0.1	
	baz=67								
W26A	Owens Ranch, T	67.36	62	⇓P		P	02 27 33.6	+0.7	
	baz=67								
SCIA	State Center	67.39	50	*eP*		P	02 27 33.6	+0.7	
	comp=Z,55nm,0.6s								
SCIA				*ep*P		pP	02 28 04.9	+0.3	
Z23A	Rita Site, Whi	67.41	65	⇓P		P	02 27 33.7	+0.4	
	baz=67								
Q33A	Connelly Farm,	67.43	55	⇑P		P	02 27 32.1	-1.1	
	baz=67,SNR=5.1								
R32A	Long Quarter,	67.43	56	⇑P		P	02 27 34.1	+0.8	
	baz=67								
MAK	Makhachkala	67.46	312	*eP*		P	02 27 37.6	+4.3	
MAK				*e**PP		PcP	02 28 00.6	+0.9	
MAK				*e**SP		sP	02 28 08.2	-11	
MAK				*e*			02 30 05.4		
MAK				*ePPP		PPP	02 31 40.1		
MAK				*eS		S	02 36 21.5	+2.9	
MAK				*e**SS		sS	02 37 04.9	-8.4	
MAK				pmax		pmax			
	comp=Z,311nm,1.1s								
221A	Mesquite Ranch	67.50	67	⇑P		P	02 27 35.0	+1.1	
	baz=67,SNR=8.2								
T30A	Plains	67.56	58	⇑P		P	02 27 34.7	+0.6	
	baz=67								
320A	Kipp Ranch, An	67.59	68	⇑P		P	02 27 35.9	+1.4	
	baz=67,SNR=7.3								
U29A	Oasis Ranch, S	67.64	59	⇓P		P	02 27 34.5	-0.1	
	baz=67								
S31A	Mullinville	67.66	57	⇓P		P	02 27 34.9	+0.2	
	baz=67								
V28A	Channing	67.67	60	⇑P		P	02 27 35.1	+0.3	
	baz=68								
X26A	CR and CF Fran	67.74	62	⇑P		P	02 27 35.9	+0.5	
	baz=68,SNR=8.9								
Y25A	Mesa, Roswell	67.74	63	⇑P		P	02 27 36.4	+1.0	
	baz=68,SNR=20								
W27A	Bowe Ranch, En	67.75	61	⇑P		P	02 27 35.5	+0.1	
	baz=68								
COEN	Coen	67.79	196	*eP*		P	02 27 36.2	+0.7	
222A	Williams Famil	67.80	66	⇓P		P	02 27 37.1	+1.3	
	baz=68,SNR=8.6								
Z24A	Sheeppen Canyo	67.83	64	⇑P		P	02 27 36.4	+0.4	
	baz=68,SNR=17								
123A	Bell Site, Whi	67.86	65	⇑P		P	02 27 37.4	+1.3	
	baz=68								
S32A	Newby Ranch, P	67.88	57	⇑P		P	02 27 35.2	-0.8	
	baz=68								
R33A	Olander Ranch,	67.89	56	⇓P		P	02 27 36.3	+0.2	
	baz=68								
U30A	WK&E Inc. Balk	67.90	59	⇑P		P	02 27 37.3	+1.1	
	baz=68								
V29A	Stinnett	67.95	60	⇑P		P	02 27 37.0	+0.5	
	baz=68								
T31A	Randall Ranch,	67.96	57	⇓P		P	02 27 37.0	+0.5	
	baz=68								
X27A	F and S Farms,	68.05	61	⇓P		P	02 27 38.2	+0.9	
	baz=68,SNR=12								
W28A	Vega	68.06	60	⇓P		P	02 27 38.2	+0.9	
	baz=68								
MUD	Monsted U'grnd	68.09	342	⇓*eP*		P	02 27 37.6	+0.6	
MUD	Monsted U'grnd	68.09	342	⇓*iP*		P	02 27 37.6	+0.6	
AKASG	Malin Array Be	68.18	328	P		P	02 27 36.0	-1.7	
AKASG							02 28 01.6		
AKASG				*PP		pP	02 28 08.6	-0.8	
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.4s								
AKASG				pmax		pmax			
	comp=Z,3.0nm,0.4s								
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	Malin Array Be	68.18	328	P		P	02 27 36.0	-1.7	
AKASG				PcP		PcP	02 28 01.6	-1.0	
AKASG				pP		pP	02 28 08.6	-0.8	
AKASG	Malin Array Be	68.18	328	P		P	02 27 36.0	-1.7	
	comp=Z,3.6nm,0.4s,baz=31,slow=6.2,SNR=24								
AKASG				PcP		PcP	02 28 01.6	-1.0	
	comp=Z,2.9nm,0.4s,baz=31,slow=5.4,SNR=7.7								
AKASG				pP		pP	02 28 08.6	-0.8	
	comp=Z,0.9nm,0.3s,baz=28,slow=6.2,SNR=1.4								
AKBB	Malin Array Si	68.18	328	*eP*		P	02 27 37.4	-0.2	
AKBB	Malin Array Si	68.18	328	*eP*		P	02 27 37.4	-0.2	
KIEV	Kiev	68.19	328	*eP*		P	02 27 36.9	-0.8	
KIEV	Kiev	68.19	328	*eP*		P	02 27 36.9	-0.8	
Y26A	Elida	68.21	62	⇓P		P	02 27 39.5	+1.2	
	baz=68								
Z25A	Roswell	68.22	64	⇑P		P	02 27 39.6	+1.2	
	baz=68,SNR=8.5								
223A	Chaparral, Ant	68.25	66	⇑P		P	02 27 39.9	+1.3	
	baz=68								
124A	Stringfield Ra	68.26	64	⇑P		P	02 27 39.6	+0.9	
	baz=68,SNR=8.5								
T32A	Huddler Ranch,	68.28	57	⇓P		P	02 27 38.4	-0.2	
	baz=68								
S33A	Kaszmaul Farm,	68.43	56	⇓P		P	02 27 39.9	+0.4	
	baz=68								
U31A	Nine Bar Ranch	68.43	58	⇑P		P	02 27 39.8	+0.3	
	baz=68								
W29A	Amraillo	68.45	60	⇓P		P	02 27 40.9	+1.1	
	baz=68								
V30A	Spur Ranch, Mi	68.47	59	⇓P		P	02 27 40.5	+0.7	
	baz=68								
Y27A	Causey	68.60	62	⇑P		P	02 27 41.4	+0.8	
	baz=68,SNR=7.6								
AMTX	Amarillo	68.62	60	*eP*		P	02 27 41.5	+0.7	
	comp=Z,38nm,1.3s								
AMTX	Amarillo	68.62	60	⇑P		P	02 27 42.1	+1.4	
	baz=68								
Z26A	Caprock	68.62	63	⇓P		P	02 27 41.5	+0.6	
	baz=68,SNR=21								
X28A	Dimmitt	68.63	61	⇓P		P	02 27 41.4	+0.5	
	baz=68								
224A	Cornudas Mount	68.69	65	⇑P		P	02 27 42.6	+1.3	
	baz=68,SNR=15								
T33A	Patterson Ranc	68.70	57	⇓P		P	02 27 41.4	+0.3	
	baz=68								
125A	Gardner Draw,	68.72	64	⇓P		P	02 27 42.5	+1.1	
	baz=68,SNR=16								
MSTX	Muleshoe	68.74	62	⇓P		P	02 27 42.3	+0.8	
	baz=68								
KIV	Kislovodsk	68.78	316	*eP*		P	02 27 41.7	+0.1	
KIV				*e*			02 28 02.7		
KIV				*eS		S	02 36 33.6	-0.9	
KIV				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KIV	Kislovodsk	68.78	316	*eP*		P	02 27 42.7	+1.1	
	comp=Z,5.9nm,0.7s								
U32A	Winter Ranch,	68.86	58	⇑P		P	02 27 42.9	+0.7	
	baz=69								
MCD	Coleburn Disti	68.86	349	*eP*		P	02 27 41.0	-0.7	
KBZ	Khabaz	68.87	315	P		P	02 27 41.2	-0.8	
KBZ				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KBZ	Khabaz	68.87	315	P		P	02 27 41.2	-0.8	
KBZ	Khabaz	68.87	315	P		P	02 27 41.2	-0.8	
	comp=Z,2.1nm,0.7s,baz=117,slow=9.0,SNR=8.3								
V31A	Spring Creek L	68.89	58	⇓P		P	02 27 42.7	+0.3	
	baz=69								
X29A	Tulia	68.94	61	⇑P		P	02 27 42.7	-0.1	
	baz=69,SNR=10.0								
W30A	Crocket Farms	68.97	59	⇓P		P	02 27 43.2	+0.3	
	baz=69								
Z27A	Tatum	69.00	62	⇓P		P	02 27 44.0	+0.8	
	baz=69,SNR=13								
225A	Deer Hill, Car	69.05	64	⇑P		P	02 27 45.0	+1.4	
	baz=69,SNR=13								
MNTX	Cornudas Mount	69.06	65	*eP*		P	02 27 44.4	+0.9	
	comp=Z,12nm,0.8s								
MNTX				*ep*P		pP	02 28 15.3	+0.1	
Y28A	McKinney Farm,	69.07	61	⇑P		P	02 27 43.7	+0.1	
	baz=69								
126A	Clayton Basin,	69.08	63	⇑P		P	02 27 44.7	+1.1	
	baz=69								
MDO	Dochfour	69.12	350	*eP*		P	02 27 43.3	-0.1	
KAC	Achnashellach	69.16	351	*eP*		P	02 27 44.4	+0.7	
IDAH	Dahanechah	69.23	297	*eP*		P	02 27 43.4	-1.4	
GDL2	Guadalupe Moun	69.23	64	*eP*		P	02 27 45.5	+0.9	
	comp=Z,14nm,1.2s								
W31A	Holland Ranch,	69.30	59	⇓P		P	02 27 45.8	+1.0	
	baz=69								
V32A	Arapaho	69.35	58	⇑P		P	02 27 46.1	+0.9	
	baz=69								
X30A	Coker Ranch, T	69.38	60	⇓P		P	02 27 46.2	+0.8	
	baz=69								
Y29A	Porterfield Fa	69.41	61	⇓P		P	02 27 46.6	+1.0	
	baz=69								
127A	Arkansas Junct	69.42	63	⇑P		P	02 27 46.6	+0.8	
	baz=69								
226B	Tecolote Peak,	69.44	64	⇑P		P	02 27 47.4	+1.5	
	baz=69,SNR=20								
Z28A	Tucker Farm, M	69.47	62	⇓P		P	02 27 47.0	+1.0	
	baz=69								
325A	Bean Ranch, Si	69.53	65	⇑P		P	02 27 47.2	+0.6	
	baz=69,SNR=12								
U34A	Anderson Ranch	69.56	56	⇑P		P	02 27 47.1	+0.7	
	baz=69								
PSI	Prapat	69.59	246	P		P	02 27 47.6	+0.6	
PSI	Prapat	69.59	246	P		P	02 27 47.6	+0.6	
	comp=Z,8.0nm,0.7s,baz=358,slow=10,SNR=8.6								
V33A	Lossen Ranch,	69.66	57	⇑P		P	02 27 47.8	+0.7	
	baz=69								
W32A	Sentinel	69.70	59	⇑P		P	02 27 48.1	+0.8	
	baz=70,SNR=11								
X31A	Mcdonald Ranch	69.70	59	⇓P		P	02 27 47.8	+0.4	
	baz=70,SNR=6.1								
Y30A	Stafford Cattl	69.81	60	⇓P		P	02 27 48.6	+0.6	
	baz=70								
Z29A	Hungry Hill Ra	69.85	61	⇑P		P	02 27 49.4	+1.0	
	baz=70,SNR=8.0								
128A	Castleberry Fa	69.93	62	⇑P		P	02 27 49.5	+0.6	
	baz=70,SNR=7.0								
227A	Bennet, Jal	69.96	63	⇑P		P	02 27 49.9	+0.9	
	baz=70								
425A	Indio Mountain	69.97	65	⇓P		P	02 27 50.5	+1.3	
	baz=70,SNR=18								
V34A	Guthrie	70.04	57	⇓P		P	02 27 50.5	+1.1	
	baz=70								
Y31A	Rekieta Farm,	70.08	60	⇓P		P	02 27 49.8	+0.2	
	baz=70								
W33A	Caddo, Fort Co	70.08	58	⇓P		P	02 27 50.0	+0.3	
	baz=70								
326A	Caldwell Ranch	70.12	64	⇑P		P	02 27 50.8	+0.7	
	baz=70,SNR=10								
Z30A	Sanderson Ranc	70.14	61	⇑P		P	02 27 50.7	+0.6	
	baz=70,SNR=9.6								
X32A	Elmer	70.23	59	⇓P		P	02 27 52.2	+1.6	
	baz=70								
WMOK	Wichita Mounta	70.25	58	*eP*		P	02 27 44.4	-6.3	
WMOK				pmax		pmax			
	comp=Z,25nm,1.2s								
WMOK	Wichita Mounta	70.25	58	*eP*		P	02 27 44.4	-6.3	
	comp=Z,25nm,1.2s								
BSEG	Bad Segeberg	70.25	340	*eP*		P	02 27 50.9	+0.6	
	comp=Z,26nm,1.3s								
129A	Stewart Farms,	70.25	62	⇓P		P	02 27 52.5	+1.7	
	baz=70								
228A	UT Block 9, Go	70.26	63	⇑P		P	02 27 52.1	+1.3	
	baz=70								
327A	Balmorhea Ranc	70.34	64	⇓P		P	02 27 52.9	+1.6	
	baz=70								
EAB	Aberfoyle	70.36	350	*eP*		P	02 27 51.0	0.0	
W34A	Bridge Creek,	70.38	57	⇓P		P	02 27 52.2	+0.7	
	baz=70								
ESY	Stoneypath	70.42	349	*eP*		P	02 27 51.1	-0.2	
Y32A	R-V Farms, Ver	70.47	59	⇑P		P	02 27 52.2	+0.2	
	baz=70,SNR=6.6								
X33A	Lawton	70.54	58	⇑P		P	02 27 52.6	+0.2	
	baz=70								
LVV	L'vov	70.57	330	*eP*		P	02 27 51.4	-1.0	
426A	McDonald Obser	70.59	65	⇑P		P	02 27 53.6	+0.6	
	baz=70,SNR=8.4								
Z31A	Sharp Cattle R	70.64	60	⇑P		P	02 27 53.7	+0.6	
	baz=70,SNR=6.1								
328A	Wristen Ranch,	70.71	63	⇓P		P	02 27 54.9	+1.3	
	baz=70,SNR=26								
PGBU	Glenifferbraes	70.74	350	*eP*		P	02 27 53.2	-0.1	
PGBU				AMB		AMB	02 27 53.4		
	comp=Z,124nm,2.3s								
130A	Snyder	70.76	61	⇑P		P	02 27 54.5	+0.7	
	baz=71								
229A	Bryant Ranch,	70.79	62	⇓P		P	02 27 54.8	+0.7	
	baz=71								
427A	Hayter Ranch,	70.79	64	⇑P		P	02 27 54.0	-0.1	
	baz=71,SNR=11								
X34A	Smith Ranch, M	70.84	58	⇑P		P	02 27 54.6	+0.4	
	baz=71								
TUL1	Tulsa	70.85	56	⇓P		P	02 27 54.4	+0.1	
	baz=71,SNR=6.2								
Y33A	Hilltop Ranch,	70.89	59	⇑P		P	02 27 55.0	+0.4	
	baz=71								
GNI	Garni	70.95	312	*eP*		P	02 27 55.4	+0.3	
	comp=Z,7.8nm,0.9s								
Z32A	Haskell	70.99	60	⇓P		P	02 27 56.1	+0.8	
	baz=71,SNR=6.3								
131A	Roby	71.00	61	⇑P		P	02 27 56.0	+0.6	
	baz=71								
526A	Mary Lane Ranc	71.02	65	⇑P		P	02 27 56.9	+1.3	
	baz=71,SNR=28								
329A	Wagon Wheel Ra	71.07	63	⇑P		P	02 27 56.7	+0.9	
	baz=71,SNR=12								
ESK	Eskdalemuir	71.08	349	*eP*		P	02 27 55.3	-0.1	
ESK	Eskdalemuir	71.08	349	*eP*		P	02 27 55.4	+0.1	
ESK				pmax		pmax			
	comp=Z,9.0nm,0.6s								
ESK	Eskdalemuir	71.08	349	*eP*		P	02 27 55.4	+0.1	
	comp=Z,9.4nm,0.6s								
KWP	Kalwaria Pacla	71.13	331	*eP*		P	02 27 55.5	-0.3	
KWP				pmax		pmax			
	comp=Z,150nm,1.6s								
KWP	Kalwaria Pacla	71.13	331	*eP*		P	02 27 55.4	-0.4	
KWP	Kalwaria Pacla	71.13	331	⇑*iP*		P	02 27 56.3	+0.5	
KWP	Kalwaria Pacla	71.13	331	*eP*		P	02 27 55.5	-0.3	
	comp=Z,150nm,1.6s								
527A	Woodward Ranch	71.22	65	⇑P		P	02 27 57.5	+0.7	
	baz=71,SNR=15								
230A	Sterling City	71.23	62	⇓P		P	02 27 57.2	+0.5	
	baz=71								
428A	Kincaid Ranch,	71.28	64	⇑P		P	02 27 58.4	+1.3	
	baz=71,SNR=22								
Y34A	Reagan Ranch,	71.38	58	⇑P		P	02 27 58.5	+1.0	
	baz=71								
Z33A	Whitaker Ranch	71.38	59	⇑P		P	02 27 57.8	+0.2	
	baz=71								
626A	Big Bend Ranch	71.39	66	⇓P		P	02 27 58.8	+1.0	
	baz=71,SNR=19								
SFIN	Scholer Farm	71.39	47	⇑P		P	02 27 57.3	-0.2	
	baz=71								
OJC	Ojcow	71.42	333	*eP*		P	02 27 56.9	-0.6	
OJC	Ojcow	71.42	333	*eP*		P	02 27 56.9	-0.6	
ABTX	Abilene, Hawle	71.44	60	⇓P		P	02 27 58.4	+0.4	
	baz=71								
330A	Mertzon	71.57	62	⇓P		P	02 27 59.2	+0.5	
	baz=71								
GSI	Gunungsitoli	71.58	247	*eP*		P	02 27 58.7	-0.2	
231A	Bronte	71.62	61	⇑P		P	02 27 59.5	+0.5	
	baz=71								
NRDL	Niedersach Rie	71.65	340	*eP*		P	02 27 59.0	+0.3	
	comp=Z,31nm,1.6s								
528A	Cox Ranch, San	71.66	64	⇓P		P	02 28 00.3	+0.9	
	baz=72,SNR=16								
GAL1	Galloway	71.69	350	*eP*		P	02 27 58.8	-0.2	
GAL1				AMB		AMB	02 28 00.6		
	comp=Z,83nm,1.4s								
STHS	Stebnicka Huta	71.75	332	*eP*		P	02 27 59.4	-0.1	
STHS				pmax		pmax			
	comp=Z,17nm,1.5s								
STHS	Stebnicka Huta	71.75	332	*eP*		P	02 27 59.4	-0.1	
STHS				*ePP		PP	02 30 37.1	-2.6	
Z34A	Collier Ranch,	71.76	59	⇑P		P	02 28 00.0	+0.2	
	baz=72								
KSP	Ksiaz	71.77	336	*eP*		P	02 27 59.8	+0.2	
KESW	Keswick, Cumbr	71.78	349	*eP*		P	02 27 59.5	-0.1	
429A	Davenport Ranc	71.79	63	⇑P		P	02 28 00.4	+0.3	
	baz=72,SNR=7.7								
TXAR	Lajitas Array	71.82	65	P		P	02 28 01.2	+0.9	
TXAR				pP		pP	02 28 33.1	+0.7	
TXAR	Lajitas Array	71.82	65	P		P	02 28 01.2	+0.9	
	comp=Z,15nm,0.5s,baz=300,slow=5.0,SNR=300								
TXAR				pP		pP	02 28 33.1	+0.7	
	comp=Z,8.6nm,0.8s,baz=290,slow=2.8,SNR=5.3								
133A	Hamilton Ranch	71.83	60	⇑P		P	02 28 00.7	+0.4	
	baz=72,SNR=7.4								
627A	Terlingua Ranc	71.88	65	⇑P		P	02 28 01.7	+1.0	
	baz=72,SNR=15								
KOLS

baz=72,SNR=10
530A J-C Ranch, Com 72.46 63 ⇓P P 02 28 04.8 +0.8
baz=72,SNR=13
TRPA Tarpa 72.52 331 ⇑*i*P P 02 28 04.8 +0.7
LHO Holmfirth 72.65 348 *e*P P 02 28 04.7 -0.1
135A Vickery Place, 72.66 59 ⇑P P 02 28 06.0 +0.9
baz=72
432A Menard 72.72 62 ⇓P P 02 28 06.1 +0.5
baz=72,SNR=9.7
333A Richland Sprin 72.80 61 ⇓P P 02 28 05.9 -0.1
baz=73,SNR=6.9
WTSB Winterswijk 72.80 342 *e*P P 02 28 05.4 -0.2
comp=Z,90nm,1.8s
531A Rocksprings 72.87 63 ⇑P P 02 28 07.3 +0.7
baz=73,SNR=6.9
KBI1 Birley Grange 72.89 347 *e*P P 02 28 06.2 0.0
PRU Pruhonice 72.99 336 *e*P P 02 28 06.0 -0.8
PRU Pruhonice 72.99 336 *e*P P 02 28 06.0 -0.8
JCT Junction City 73.03 62 *e*P P 02 28 07.9 +0.5
JCT pmax pmax
comp=Z,14nm,1.0s
JCT Junction City 73.03 62 *e*P P 02 28 07.9 +0.5
comp=Z,14nm,1.0s
JCT Junction City 73.03 62 ⇓P P 02 28 07.7 +0.3
baz=73,SNR=6.3
MIAR Mount Ida 73.04 55 *e*P P 02 28 07.5 +0.2
MIAR pmax pmax
comp=Z,17nm,1.2s
MIAR Mount Ida 73.04 55 *e*P P 02 28 07.5 +0.2
comp=Z,17nm,1.2s
IMEH Mehriz 73.08 300 *e*P P 02 28 06.0 -2.0
IZEF Zefreh 73.08 302 *e*P P 02 28 07.5 -0.5
WHTX Lake Whitney 73.08 59 ⇓P P 02 28 08.7 +1.1
baz=73
VRAC Vranov 73.11 335 ⇑*i*P P 02 28 07.8 +0.3
IKLH Kolahrood 73.13 303 *e*P P 02 28 07.8 -0.4
WPM1 Penmaenmawr 73.19 349 *e*P P 02 28 07.6 -0.3
334A Lometa 73.19 60 ⇑P P 02 28 08.8 +0.5
baz=73
433A Art 73.19 61 ⇑P P 02 28 08.7 +0.3
baz=73,SNR=6.7
BUG Bochum-Univer 73.21 341 *e*P P 02 28 08.6 +0.6
comp=Z,46nm,1.4s
VRI Vrincioaia 73.22 327 ⇑*i*P P 02 28 08.3 +0.1
532A Rocksprings 73.25 62 ⇑P P 02 28 09.0 +0.3
baz=73
UBBA Unterbreizbach 73.25 340 *e*P P 02 28 08.3 +0.1
comp=Z,29nm,1.7s
NKC Novy Kostel 73.26 338 *e*P P 02 28 08.5 +0.1
NKC Novy Kostel 73.26 338 *e*P P 02 28 08.5 +0.1
CTA Charters Tower 73.38 192 P P 02 28 09.7 +0.4
CTA pP pP 02 28 41.0 -0.6
CTA Charters Tower 73.38 192 P P 02 28 09.7 +0.4
comp=Z,2.1nm,0.7s,baz=6.0,slow=11,SNR=3.9
CTA pP pP 02 28 41.0 -0.6
comp=Z,3.1nm,0.8s,baz=43,slow=12,SNR=2.8
CTAO Charters Tower 73.38 192 *e*P P 02 28 09.8 +0.5
CTAO pmax pmax
comp=Z,5.0nm,0.9s
CTAO Charters Tower 73.38 192 *e*P P 02 28 09.8 +0.5
comp=Z,5.1nm,0.9s
TREC Trest 73.40 336 *e*P P 02 28 09.2 -0.1
TREC Trest 73.40 336 *e*P P 02 28 09.2 -0.1
631A Perdido Creek 73.44 63 ⇓P P 02 28 10.5 +0.6
baz=73,SNR=12
FOEL Foel Wylfa 73.46 348 *e*P P 02 28 09.5 0.0
CJR Cluj-Napoca 73.47 329 ⇓*i*P P 02 28 09.4 -0.3
PSZ Piszkesteto 73.48 332 *e*P P 02 28 10.3 +0.5
PSZ Piszkesteto 73.48 332 ⇑*i*P P 02 28 10.4 +0.6
PSZ Piszkesteto 73.48 332 *e*P P 02 28 10.3 +0.5
WCI Wyandotte Cave 73.51 48 *e*P P 02 28 10.2 +0.1
WCI pmax pmax
comp=Z,10.0nm,0.6s
WCI Wyandotte Cave 73.51 48 *e*P P 02 28 10.2 +0.1
comp=Z,9.8nm,0.6s
434A Burnet 73.58 61 ⇓P P 02 28 11.1 +0.5
baz=73,SNR=9.0
335A Moody 73.66 60 ⇓P P 02 28 11.5 +0.5
baz=73
DRGR 73.67 330 ⇑*i*P P 02 28 10.5 -0.5
ROTZ Rotzenmuhle 73.75 338 *e*P P 02 28 12.0 +0.7
comp=Z,22nm,1.5s
533A Kerrville 73.76 62 ⇓P P 02 28 12.4 +0.7
baz=74,SNR=6.5
HLM1 Long Mynd 73.79 348 *e*P P 02 28 11.2 -0.2
632A Uvalde 73.80 63 ⇓P P 02 28 12.7 +0.8
baz=74
MLR Muntele Rosu 73.81 327 ⇓*i*P P 02 28 13.0 +1.2
MLR Muntele Rosu 73.81 327 P P 02 28 12.4 +0.6
MLR Muntele Rosu 73.81 327 P P 02 28 12.4 +0.6
comp=Z,0.9nm,0.5s,baz=360,slow=3.6,SNR=20
KHC Kasperske Hory 74.02 337 *e*P P 02 28 12.6 -0.3
KHC Kasperske Hory 74.02 337 *e*P P 02 28 12.6 -0.3
KHC *ex* x 02 28 18.5
KHC Kasperske Hory 74.02 337 *e*P P 02 28 12.7 -0.2
comp=Z,30nm,1.4s
GRF Grafenberg Arr 74.04 338 *e*P P 02 28 13.9 +0.9
comp=Z,29nm,1.2s
534A Blanco 74.09 61 ⇑P P 02 28 13.5 -0.1
baz=74,SNR=7.4
HGN Heimansgroeve 74.11 342 *e*P P 02 28 13.2 -0.2
comp=Z,47nm,1.1s
BEBN Eben Emael 74.13 342 P P 02 28 13.3 -0.1
VOIR 74.14 328 ⇓*i*P P 02 28 13.9 +0.2
WET Wettzell 74.18 337 *e*P P 02 28 15.6 +1.8
comp=Z,35nm,1.5s
MEM Membach 74.25 342 P P 02 28 14.1 0.0
comp=Z,29nm,1.5s
MEM Membach 74.25 342 *e*P P 02 28 14.6 +0.5
MEM pmax pmax
comp=Z,63nm,1.2s
MEM Membach 74.25 342 *e*P P 02 28 14.6 +0.5
comp=Z,63nm,1.2s
GEC2 GERESS Array S 74.26 336 *e*P P 02 28 14.6 +0.2
GEC2 GERESS Array S 74.26 336 *e*P P 02 28 14.4 0.0
comp=Z,19nm,1.5s
GEC2 GERESS Array S 74.26 336 *e*P P 02 28 14.6 +0.2
GERES GERESS Array B 74.26 336 P P 02 28 14.2 -0.2
GERES GERESS Array B 74.26 336 P P 02 28 14.2 -0.2
comp=Z,2.3nm,0.4s,baz=34,slow=5.6,SNR=50
732A Laxson Ranch, 74.31 63 ⇑P P 02 28 15.9 +1.1
baz=74,SNR=12
MCH1 Michaelchurch 74.31 348 *e*P P 02 28 14.2 -0.2
MCH1 AMB AMB 02 28 23.4
comp=Z,76nm,2.6s
ARR Arges 74.34 328 ⇑*i*P P 02 28 16.1 +1.2
MSAB Monastry St. A 74.40 325 ⇑*i*P P 02 28 14.9 -0.2
MONM Monmouth 74.44 348 *e*P P 02 28 15.4 +0.2
MONM AMB AMB 02 28 17.8
comp=Z,65nm,3.9s
SIRR Siria 74.46 330 ⇓*i*P P 02 28 15.9 +0.4
WVT Waverly 74.52 50 *e*P P 02 28 16.1 +0.1
WVT pmax pmax
comp=Z,138nm,2.8s
WVT Waverly 74.52 50 *e*P P 02 28 16.1 +0.1
comp=Z,138nm,2.8s
BCLA Clavier 74.56 342 P P 02 28 16.3 +0.4
CONA Conrad Observa 74.57 335 ⇓*i*P P 02 28 16.4 +0.2
comp=Z,12nm,0.8s,SNR=6.9
IDHR Dehrash 74.59 307 *e*P P 02 28 15.2 -1.5
SWN1 Swindon 74.63 347 *e*P P 02 28 16.4 +0.1
SWN1 AMB AMB 02 28 17.9
comp=Z,124nm,1.1s
SNF Seneffe 74.66 343 P P 02 28 16.4 -0.1
WOL Wolverton 74.75 347 *e*P P 02 28 17.5 +0.5
WOL AMB AMB 02 28 17.9
comp=Z,73nm,1.2s
BATH Bath 74.77 347 *e*P P 02 28 16.8 -0.3
GZR Gura Zlata 74.91 329 ⇓*i*P P 02 28 17.9 -0.2
GIVF Givet 74.95 343 *e*P P 02 28 18.1 -0.1
GIVF Givet 74.95 343 *e*P P 02 28 18.1 -0.1
GIVF Givet 74.95 343 *e*P P 02 28 18.1 -0.1
MENF Mencas 74.97 344 ⇑*e*P P 02 28 18.6 +0.3
DOU Dourbes 75.00 343 P P 02 28 18.7 +0.3
comp=Z,13nm,1.4s
BZS Buzias 75.06 330 ⇓*i*P P 02 28 18.6 -0.3
WLF Walferdange 75.12 342 P P 02 28 18.8 -0.4
comp=Z,16nm,1.8s
WLF Walferdange 75.12 342 *e*P P 02 28 18.7 -0.4
WLF pmax pmax
comp=Z,14nm,1.0s
WLF Walferdange 75.12 342 *e*P P 02 28 18.7 -0.5
comp=Z,14nm,1.0s
MALT Malatya 75.24 315 ⇑*i*P P 02 28 22.3 +2.1
ARSA Arzberg 75.28 335 ⇓*i*P P 02 28 19.6 -0.6
comp=Z,18nm,1.3s,SNR=5.8
HEX Exmoor 75.33 348 *e*P P 02 28 20.2 -0.1
STU Stuttgart 75.36 339 *e*P P 02 28 20.8 +0.2
STU pmax pmax
comp=Z,18nm,1.1s
STU Stuttgart 75.36 339 *e*P P 02 28 20.8 +0.2
comp=Z,13nm,1.0s
STU Stuttgart 75.36 339 *e*P P 02 28 20.8 +0.2
comp=Z,18nm,1.1s
WRAB Tennant Creek 75.38 203 *ce*P P 02 28 21.1 +0.2
WRAB pmax pmax
comp=Z,62nm,0.9s
WRAB Tennant Creek 75.38 203 *e*P P 02 28 21.6 +0.7
comp=Z,22nm,0.9s
WRAB *ep*P pP 02 28 53.2 0.0
WRAB Tennant Creek 75.38 203 P P 02 28 21.6 +0.7
comp=Z,129nm,1.1s,SNR=6.5
WRA Warramunga Arr 75.39 203 P P 02 28 21.6 +0.6
WRA pP pP 02 28 52.9 -0.4
WRA Warramunga Arr 75.39 203 P P 02 28 21.6 +0.6
comp=Z,16nm,0.9s,baz=17,slow=6.0,SNR=39
WRA pP pP 02 28 52.9 -0.4
comp=Z,6.5nm,0.8s,baz=18,slow=6.1,SNR=4.8
PKSM Moragy 75.39 332 ⇑*i*P P 02 28 20.5 -0.3
LANF Langenberg 75.45 340 ⇑*e*P P 02 28 21.6 +0.5
FUR Furstenfeldbru 75.47 338 *e*P P 02 28 21.7 +0.5
comp=Z,80nm,1.7s
HKT Hockley 75.54 59 *e*P P 02 28 22.5 +0.7
HKT pmax pmax
comp=Z,11nm,1.1s
HKT Hockley 75.54 59 *e*P P 02 28 22.5 +0.7
comp=Z,11nm,1.1s
SOKA Soboth 75.94 335 ⇓*i*P P 02 28 24.2 +0.2
comp=Z,7.2nm,0.6s,SNR=7.1
PERS Pernice 75.96 335 *i* P P 02 28 24.4 +0.3
PERS Pernice 75.96 335 *i* P P 02 28 24.4 +0.3
BFO Black Forest 75.96 340 *i* P P 02 28 24.7 +0.7
BFO Black Forest 75.96 340 *e*P P 02 28 24.2 +0.2
comp=Z,10.0nm,1.1s
BFO Black Forest 75.96 340 *e*P P 02 28 24.0 0.0
comp=Z,46nm,1.9s
DYA Yadsworthy 75.96 348 *e*P P 02 28 24.1 +0.1
KBA Koelnbreinsper 75.99 336 ⇑*i*P P 02 28 25.4 +0.9
comp=Z,72nm,1.3s,SNR=7.7
BR131 Keskin Array S 76.03 319 *e*P P 02 28 23.4 -1.4
comp=Z,1.1nm,0.4s
BRTR Keskin Array B 76.03 319 P P 02 28 24.7 0.0
BRTR Keskin Array B 76.03 319 P P 02 28 24.7 0.0
comp=Z,1.8nm,0.5s,baz=19,slow=3.5,SNR=15
FITZ Fitzroy Crossi 76.07 212 *e*P P 02 28 26.3 +1.5
comp=Z,26nm,1.1s
FITZ *ep*P pP 02 28 57.8 +0.6
FITZ Fitzroy Crossi 76.07 212 P P 02 28 26.0 +1.2
comp=Z,14nm,0.9s,baz=35,slow=4.2,SNR=16
FITZ pP pP 02 28 58.1 +0.8
comp=Z,14nm,1.1s,baz=40,slow=5.2,SNR=3.4
CDF Champ du Feu 76.10 340 *e*P P 02 28 24.7 -0.2
CDF Champ du Feu 76.10 340 *e*P P 02 28 24.7 -0.2
CDF Champ du Feu 76.10 340 *e*P P 02 28 24.7 -0.2
SWET Sewanee 76.15 49 *e*P P 02 28 25.2 -0.2
comp=Z,22nm,0.7s
SWET *ep*P pP 02 28 56.9 -0.9
WATA Walderalm 76.18 337 ⇑*i*P P 02 28 26.1 +0.6
comp=Z,5.3nm,0.5s,SNR=5.5
WTTA Wattenberg 76.23 337 ⇑*i*P P 02 28 26.4 +0.6
comp=Z,18nm,0.8s,SNR=7.3
PAGF Fort de Pagny 76.27 342 *e*P P 02 28 26.2 +0.5
comp=Z,10.0nm,0.5s
PAGF Fort de Pagny 76.27 342 *e*P P 02 28 26.2 +0.5
comp=Z,10.0nm,0.5s
MOTA Moosalm 76.28 338 ⇑*i*P P 02 28 25.9 -0.1
comp=Z,26nm,1.1s,SNR=13
ECH Echry 76.31 340 ⇑*e*P P 02 28 26.4 +0.4
MYKA Terra Mystica 76.34 336 ⇑*i*P P 02 28 26.2 0.0
comp=Z,7.0nm,0.9s
MEZF Maizieres J'vi 76.45 342 *e*P P 02 28 27.1 +0.4
comp=Z,44nm,0.6s
MEZF Maizieres J'vi 76.45 342 *e*P P 02 28 27.1 +0.4
comp=Z,44nm,0.6s
FELD Feldberg im Sc 76.46 340 ⇑*e*P P 02 28 27.1 +0.1
ABTA Abfaltersbach 76.51 336 ⇓*i*P P 02 28 26.6 -0.6
comp=Z,35nm,1.2s,SNR=8.0
THEF They Montfort 76.53 341 ⇑*e*P P 02 28 27.7 +0.5
CPCT Cooper Cave 76.60 48 *e*P P 02 28 27.9 +0.1
DAVA Damuels 76.61 338 ⇑*i*P P 02 28 27.1 -0.8
comp=Z,20nm,1.3s
PALK Pallekele 76.65 264 *e*P P 02 28 27.7 -0.7
comp=Z,210nm,1.7s
MOF Molkenrain 76.66 340 ⇑*e*P P 02 28 28.1 0.0
FETA Feichten 76.67 338 ⇑*i*P P 02 28 28.8 +0.6
comp=Z,18nm,1.1s,SNR=7.0
HAU Haudompre 76.67 341 *e*P P 02 28 27.9 -0.2
HAU Haudompre 76.67 341 *e*P P 02 28 27.9 -0.2
HAU Haudompre 76.67 341 *e*P P 02 28 27.9 -0.2
SFTF Sexfontaines 76.73 342 *e*P P 02 28 28.5 +0.1
comp=Z,58nm,0.4s
SFTF Sexfontaines 76.73 342 *e*P P 02 28 28.5 +0.1
comp=Z,58nm,0.4s
HINF Hinteralfeld 76.75 341 *e*P P 02 28 28.4 -0.1
HINF Hinteralfeld 76.75 341 *e*P P 02 28 28.4 -0.1
HINF Hinteralfeld 76.75 341 *e*P P 02 28 28.4 -0.1
VISS Visnje 76.80 335 *i* P P 02 28 28.3 -0.5
VISS *i* 02 29 01.6
VISS Visnje 76.80 335 *i* P P 02 28 28.3 -0.5
JAVS Javornik 76.92 335 *i* P P 02 28 33.4 +3.8
JAVS Javornik 76.92 335 *i* P P 02 28 33.3 +3.7
BOJS Bojanci 76.97 334 *i* P P 02 28 29.9 +0.2
BOJS *i* 02 29 04.0
BOJS Bojanci 76.97 334 *i* P P 02 28 29.9 +0.2
FLN La Foliniere 77.13 346 *e*P P 02 28 30.2 -0.3
FLN La Foliniere 77.13 346 *e*P P 02 28 30.2 -0.3
FLN La Foliniere 77.13 346 *e*P P 02 28 30.2 -0.3
FUORN Ofenpass-Fuorn 77.15 338 *e*P P 02 28 31.9 +0.8
comp=Z,261nm,3.0s
LOMF Lomont 77.20 340 ⇑*e*P P 02 28 31.7 +0.6
LDF La Druitiere 77.24 345 *e*P P 02 28 30.8 -0.4
LDF La Druitiere 77.24 345 *e*P P 02 28 30.8 -0.4
LDF La Druitiere 77.24 345 *e*P P 02 28 30.8 -0.4
VTS Vitosha 77.28 328 ⇑*i*P P 02 28 31.5 -0.2
TUE Stuetta 77.50 338 *e*P P 02 28 33.1 +0.1
comp=Z,20nm,1.0s
GRR Gorron 77.55 346 *e*P P 02 28 32.8 -0.1
comp=Z,68nm,0.7s
GRR Gorron 77.55 346 *e*P P 02 28 32.8 -0.1
GRR pmax pmax
comp=Z,69nm,0.7s
GRR Gorron 77.55 346 *e*P P 02 28 32.8 -0.1
comp=Z,68nm,0.7s
LOR Lormes 77.85 342 *e*P P 02 28 34.6 0.0
comp=Z,36nm,0.6s
LOR Lormes 77.85 342 *e*P P 02 28 34.6 0.0
comp=Z,36nm,0.6s
SGMF Saint Gilles 77.92 347 *e*P P 02 28 35.0 0.0
comp=Z,46nm,0.6s
SGMF Saint Gilles 77.92 347 *e*P P 02 28 35.0 0.0
SGMF pmax pmax
comp=Z,46nm,0.6s
SGMF Saint Gilles 77.92 347 *e*P P 02 28 35.0 0.0
comp=Z,46nm,0.6s
ROSF Rostrenen 77.94 347 *e*P P 02 28 35.2 +0.1
comp=Z,53nm,0.6s
ROSF Rostrenen 77.94 347 *e*P P 02 28 35.2 +0.1
ROSF pmax pmax
comp=Z,53nm,0.6s
ROSF Rostrenen 77.94 347 *e*P P 02 28 35.2 +0.1
comp=Z,53nm,0.6s
CABF La Chapelle 78.06 341 *e*P P 02 28 37.0 +1.1
CABF La Chapelle 78.06 341 *e*P P 02 28 37.0 +1.1
CABF La Chapelle 78.06 341 *e*P P 02 28 37.0 +1.1
HYF Humbligny 78.07 343 *e*P P 02 28 36.3 +0.5
HYF Humbligny 78.07 343 *e*P P 02 28 36.3 +0.5
SSF Saint Saulge 78.12 343 *e*P P 02 28 36.0 -0.1
comp=Z,20nm,0.6s
SSF Saint Saulge 78.12 343 *e*P P 02 28 36.0 -0.1
SSF pmax pmax
comp=Z,21nm,0.6s
SSF Saint Saulge 78.12 343 *e*P P 02 28 36.0 -0.1
comp=Z,20nm,0.6s
KMSC Kings Mountain 78.27 46 ⇓P P 02 28 37.4 +0.3
baz=78
QUIF Quistinic 78.34 347 *e*P P 02 28 37.2 0.0
QUIF Quistinic 78.34 347 *e*P P 02 28 37.2 0.0
QUIF Quistinic 78.34 347 *e*P P 02 28 37.2 0.0
AVF Avril sur Loir 78.41 343 *e*P P 02 28 37.8 +0.1
AVF Avril sur Loir 78.41 343 *e*P P 02 28 37.8 +0.1
AVF Avril sur Loir 78.41 343 *e*P P 02 28 37.8 +0.1
SMF Signal de Mont 78.46 342 *e*P P 02 28 38.0 0.0
SMF Signal de Mont 78.46 342 *e*P P 02 28 38.0 0.0
SMF Signal de Mont 78.46 342 *e*P P 02 28 38.0 0.0
BGF Bois d'Agland 78.72 343 *e*P P 02 28 39.5 +0.1
comp=Z,27nm,0.7s
BGF Bois d'Agland 78.72 343 *e*P P 02 28 39.5 +0.1
BGF pmax pmax
comp=Z,27nm,0.7s
BGF Bois d'Agland 78.72 343 *e*P P 02 28 39.5 +0.1
comp=Z,27nm,0.7s
STON Ston 78.72 331 P P 02 28 38.1 -1.3
RSL Roselend 78.83 340 ⇑*e*P P 02 28 40.9 +0.7
LPL La Plagne 78.97 340 *e*P P 02 28 41.8 +0.7
comp=Z,16nm,0.5s
LPL La Plagne 78.97 340 *e*P P 02 28 41.8 +0.7
LPL pmax pmax
comp=Z,16nm,0.4s
LPL La Plagne 78.97 340 *e*P P 02 28 41.8 +0.7
comp=Z,16nm,0.4s
LPG La Plagne 78.99 340 *e*P P 02 28 42.0 +0.8
comp=Z,19nm,0.4s
LPG La Plagne 78.99 340 *e*P P 02 28 42.0 +0.8
LPG pmax pmax
comp=Z,19nm,0.4s
LPG La Plagne 78.99 340 *e*P P 02 28 42.0 +0.8
comp=Z,19nm,0.4s
AS31 Alice Springs 79.08 203 *e*P P 02 28 42.7 +1.2
AS31 *ep*P pP 02 29 14.5 +0.3
ASAR Alice Springs 79.08 203 P P 02 28 42.8 +1.3
ASAR pP pP 02 29 14.8 +0.6
ASAR PKKPbc PKKPbc 02 47 30.9 -0.9
ASAR Alice Springs 79.08 203 P P 02 28 42.8 +1.3
comp=Z,11nm,0.8s,baz=12,slow=5.3,SNR=76
ASAR pP pP 02 29 14.8 +0.6
comp=Z,3.5nm,0.7s,baz=15,slow=5.4,SNR=3.9
ASAR PKKPbc PKKPbc 02 47 30.9 -0.9
comp=Z,0.2nm,0.5s,baz=205,slow=1.8,SNR=4.2
TCF Toulx Ste Croi 79.10 343 *e*P P 02 28 41.7 +0.2
comp=Z,39nm,0.8s
TCF Toulx Ste Croi 79.10 343 *e*P P 02 28 41.7 +0.2
TCF pmax pmax
comp=Z,39nm,0.8s
TCF Toulx Ste Croi 79.10 343 *e*P P 02 28 41.7 +0.2
comp=Z,39nm,0.8s
PLDF La Plantade 79.15 342 ⇑*e*P P 02 28 42.9 +1.1
AGO Saint Agoulin 79.16 343 ⇑*e*P P 02 28 43.1 +1.3
MFF Saint Martin d 79.18 345 *e*P P 02 28 42.2 +0.3
MFF Saint Martin d 79.18 345 *e*P P 02 28 42.2 +0.3
MFF Saint Martin d 79.18 345 *e*P P 02 28 42.2 +0.3
LCHF La Chataignera 79.21 345 ⇑*e*P P 02 28 42.7 +0.7
BNI Bardonecchia 79.43 340 *e*P P 02 28 44.6 +1.1
BNI Bardonecchia 79.43 340 *e*P P 02 28 44.6 +1.1
PYM Petit Puy Mans 79.47 343 ⇑*e*P P 02 28 44.7 +1.1
SSB Saint Sauveur 79.64 341 ⇑*e*P P 02 28 45.3 +0.8
MBDF Montbardon 79.72 340 *e*P P 02 28 45.2 +0.1
comp=Z,8.7nm,0.4s
MBDF Montbardon 79.72 340 *e*P P 02 28 45.2 +0.1
MBDF pmax pmax
comp=Z,9.0nm,0.4s
MBDF Montbardon 79.72 340 *e*P P 02 28 45.2 +0.1
comp=Z,8.7nm,0.4s
ORIF Oris-en-Rattie 79.72 340 *e*P P 02 28 45.8 +0.8
comp=Z,7.1nm,0.5s
ORIF Oris-en-Rattie 79.72 340 *e*P P 02 28 45.8 +0.8
ORIF pmax pmax
comp=Z,7.0nm,0.5s
ORIF Oris-en-Rattie 79.72 340 *e*P P 02 28 45.8 +0.8
comp=Z,7.1nm,0.5s
LBL Lubilhac 79.93 342 ⇑*e*P P 02 28 47.3 +1.2
VIVF Saint-Julien-l 80.02 341 *e*P P 02 28 47.1 +0.6
VIVF Saint-Julien-l 80.02 341 *e*P P 02 28 47.1 +0.6
VIVF Saint-Julien-l 80.02 341 *e*P P 02 28 47.1 +0.6
RJF Les Rejaudoux 80.17 343 *e*P P 02 28 47.6 +0.3
RJF Les Rejaudoux 80.17 343 *e*P P 02 28 47.6 +0.3
RJF Les Rejaudoux 80.17 343 *e*P P 02 28 47.6 +0.3
CSS Prodhromos 80.24 317 *e*P P 02 28 47.0 -0.8
comp=Z,12nm,1.2s
SAOF Saorge 80.26 339 ⇑*e*P P 02 28 47.8 0.0
AUTN L'Aution 80.28 339 ⇑*e*P P 02 28 49.0 +0.8
TOUF Mont Tournerai 80.30 339 ⇑*e*P P 02 28 48.5 +0.3
LUCF Luceram 80.39 339 *e*P P 02 28 49.3 +0.7
SBF Sospel 80.40 339 *e*P P 02 28 49.7 +1.1
comp=Z,30nm,0.4s
SBF Sospel 80.40 339 *e*P P 02 28 49.7 +1.1
SBF pmax pmax
comp=Z,30nm,0.4s
SBF Sospel 80.40 339 *e*P P 02 28 49.7 +1.1
comp=Z,30nm,0.4s
MVIF Mont Vial 80.43 339 *e*P P 02 28 49.4 +0.5
CAF Calviac 80.44 343 *e*P P 02 28 49.6 +0.8
comp=Z,57nm,0.6s
CAF Calviac 80.44 343 *e*P P 02 28 49.6 +0.8
CAF pmax pmax
comp=Z,57nm,0.6s
CAF Calviac 80.44 343 *e*P P 02 28 49.6 +0.8
comp=Z,57nm,0.6s
REVF Revere 80.53 339 *e*P P 02 28 50.9 +1.6
LFF La Frestale 80.66 344 *e*P P 02 28 50.6 +0.8
comp=Z,42nm,0.6s
LFF La Frestale 80.66 344 *e*P P 02 28 50.6 +0.8
LFF pmax pmax
comp=Z,42nm,0.6s
LFF La Frestale 80.66 344 *e*P P 02 28 50.6 +0.8
comp=Z,42nm,0.6s
SMRF Simiane la Rot 80.69 340 *e*P P 02 28 50.6 +0.5
SMRF Simiane la Rot 80.69 340 *e*P P 02 28 50.6 +0.5
FRF La Foret Royal 80.86 339 *e*P P 02 28 51.6 +0.6
comp=Z,10nm,0.5s
FRF La Foret Royal 80.86 339 *e*P P 02 28 51.6 +0.6
FRF pmax pmax
comp=Z,10.0nm,0.5s
FRF La Foret Royal 80.86 339 *e*P P 02 28 51.6 +0.6
comp=Z,10nm,0.5s
MBWA Marble Bar 80.90 216 *e*P P 02 28 51.5 +0.2
comp=Z,30nm,1.0s
LASF Ste Croix 80.93 342 *e*P P 02 28 51.7 +0.3
LASF Ste Croix 80.93 342 *e*P P 02 28 51.7 +0.3
LMR La Mourre 81.11 339 *e*P P 02 28 53.3 +1.0
comp=Z,19nm,0.5s
LMR La Mourre 81.11 339 *e*P P 02 28 53.3 +1.0
LMR pmax pmax
comp=Z,19nm,0.5s
LMR La Mourre 81.11 339 *e*P P 02 28 53.3 +1.0
comp=Z,19nm,0.5s
PGF Pioggiola 81.30 337 *e*P P 02 28 53.7 +0.2
comp=Z,12nm,0.5s
PGF Pioggiola 81.30 337 *e*P P 02 28 53.7 +0.2
PGF pmax pmax
comp=Z,12nm,0.5s
PGF Pioggiola 81.30 337 *e*P P 02 28 53.7 +0.2
comp=Z,12nm,0.5s
MTLF Montolieu 81.95 342 *e*P P 02 28 57.5 +0.8
comp=Z,28nm,0.7s
MTLF Montolieu 81.95 342 *e*P P 02 28 57.5 +0.8
MTLF pmax pmax
comp=Z,28nm,0.7s
MTLF Montolieu 81.95 342 *e*P P 02 28 57.5 +0.8
comp=Z,28nm,0.7s
EPF Esparros 82.58 344 *e*P P 02 29 00.1 0.0
comp=Z,34nm,0.5s
EPF Esparros 82.58 344 *e*P P 02 29 00.1 0.0
EPF pmax pmax
comp=Z,35nm,0.5s
EPF Esparros 82.58 344 *e*P P 02 29 00.1 0.0
comp=Z,34nm,0.5s
SJPF Ste Jean 82.75 345 *e*P P 02 29 01.8 +0.9
comp=Z,50nm,0.5s
SJPF Ste Jean 82.75 345 *e*P P 02 29 01.8 +0.9
SJPF pmax pmax
comp=Z,50nm,0.5s
SJPF Ste Jean 82.75 345 *e*P P 02 29 01.8 +0.9
comp=Z,50nm,0.5s
ETSF Etsaut 82.86 344 *e*P P 02 29 02.1 +0.6
comp=Z,55nm,0.6s
ETSF Etsaut 82.86 344 *e*P P 02 29 02.1 +0.6
ETSF pmax pmax
comp=Z,55nm,0.6s
ETSF Etsaut 82.86 344 *e*P P 02 29 02.1 +0.6
comp=Z,55nm,0.6s
PBRG Braganca 84.80 349 *e*P P 02 29 12.2 +0.8
comp=Z,42nm,1.7s
PBRG Braganca 84.80 349 *e*LR LR 02 58 14.2
comp=Z,2µm,16.0s
PGAV Gavieira, Arco 84.82 350 *e*P P 02 29 12.8 +1.3

	comp=Z,80nm,1.8s								
PGAV	**Gavieira, Arco**	**84.82**	**350**	*e*LR		LR	02 58 12.9		
	comp=Z,1μm,16.0s								
PCAB	**Cabril**	**85.04**	**350**	*e*P		**P**	**02 29 14.4**	**+1.8**	
POLO	**Lamas de Olo**	**85.35**	**349**	*e*P		**P**	**02 29 15.0**	**+0.8**	
	comp=Z,42nm,1.5s								
POLO	**Lamas de Olo**	**85.35**	**349**	*e*LR		LR	02 57 12.8		
	comp=Z,654nm,16.0s								
PVRL	**Vila Real**	**85.44**	**349**	*e*P		**P**	**02 29 15.8**	**+1.2**	
	comp=Z,110nm,1.4s								
MVO	**Moncorvo**	**85.47**	**349**	*e*P		**P**	**02 29 15.7**	**+0.9**	
	comp=Z,35nm,1.1s								
MVO	**Moncorvo**	**85.47**	**349**	*e*LR		LR	02 58 00.4		
	comp=Z,2μm,16.0s								
STKA	**Stephens Creek**	**85.61**	**194**	P		**P**	**02 29 16.2**	**+1.0**	
STKA				pP		**pP**	**02 29 48.1**	**-0.2**	
STKA	**Stephens Creek**	**85.61**	**194**	P		**P**	**02 29 16.2**	**+1.0**	
	comp=Z,1.9nm,0.8s,baz=10,slow=12,SNR=4.0								
STKA				pP		**pP**	**02 29 48.1**	**-0.2**	
	comp=Z,2.4nm,0.7s,baz=347,slow=6.8,SNR=2.9								
PTO	**Porto**	**85.67**	**350**	*e*P		**P**	**02 29 16.7**	**+1.1**	
	comp=Z,83nm,1.5s								
PVIS	**Viseu**	**86.01**	**349**	*e*P		**P**	**02 29 18.2**	**+0.8**	
	comp=Z,29nm,1.4s								
MTE	**Manteigas**	**86.28**	**349**	*e*P		**P**	**02 29 20.0**	**+1.2**	
	comp=Z,74nm,2.0s								
MTE	**Manteigas**	**86.28**	**349**	*e*LR		LR	02 57 56.6		
	comp=Z,965nm,18.0s								
ESDC	**Sonseca Array**	**86.53**	**346**	P		**P**	**02 29 19.9**	**-0.2**	
ESDC				pP		**pP**	**02 29 53.8**	**+0.6**	
ESDC	**Sonseca Array**	**86.53**	**346**	P		**P**	**02 29 19.9**	**-0.2**	
	comp=Z,6.4nm,0.6s,baz=358,slow=4.5,SNR=46								
ESDC				pP		**pP**	**02 29 53.8**	**+0.6**	
	comp=Z,3.0nm,0.7s,baz=5.1,slow=4.6,SNR=3.9								
PCAS	**Casmilo, Conde**	**86.73**	**350**	*e*P		**P**	**02 29 22.0**	**+1.1**	
	comp=Z,66nm,1.7s								
PCAS	**Casmilo, Conde**	**86.73**	**350**	*e*LR		LR	02 57 56.7		
	comp=Z,952nm,22.0s								
PMRV	**Marv??o**	**87.22**	**349**	*e*LR		LR	02 57 08.9		
	comp=Z,796nm,18.0s								
FORT	**Forrest**	**87.33**	**206**	*e*P		**P**	**02 29 24.1**	**+0.6**	
	comp=Z,25nm,0.9s								
PMTG	**Montargil**	**87.67**	**349**	*e*LR		LR	02 57 40.1		
	comp=Z,886nm,16.0s								
KEST	**Kesra**	**87.68**	**335**	*e*P		**P**	**02 29 25.6**	**0.0**	
KEST	**Kesra**	**87.68**	**335**	P		**P**	**02 29 25.5**	**-0.1**	
	comp=Z,14nm,1.1s,baz=329,slow=3.7,SNR=10								
PESTR	**Estremoz**	**87.80**	**349**	*e*P		**P**	**02 29 27.7**	**+1.6**	
PESTR	**Estremoz**	**87.80**	**349**	*e*LR		LR	02 57 00.8		
	comp=Z,1μm,18.0s								
PMAFR	**Mafra**	**87.90**	**350**	*e*LR		LR	02 57 33.8		
	comp=Z,682nm,16.0s								
PBAR	**Barrancos**	**88.42**	**348**	*e*P		**P**	**02 29 29.4**	**+0.4**	
	comp=Z,30nm,1.6s								
PBAR	**Barrancos**	**88.42**	**348**	*e*LR		LR	02 56 47.5		
	comp=Z,1μm,20.0s								
PNCL	**Nicolau / Gran**	**88.66**	**350**	*e*LR		LR	02 56 44.0		
	comp=Z,834nm,18.0s								
PCVE	**Castro Verde**	**89.07**	**349**	*e*LR		LR	02 56 52.8		
	comp=Z,1μm,22.0s								
PVAQ	**Vaqueiros**	**89.26**	**349**	*e*LR		LR	02 56 50.7		
	comp=Z,958nm,22.0s								
PBDV	**Barranco-do-Ve**	**89.44**	**349**	*e*LR		LR	02 57 12.0		
	comp=Z,1μm,18.0s								
MORF	**Marmelete**	**89.46**	**349**	*e*LR		LR	02 57 16.2		
	comp=Z,898nm,16.0s								
TAM	**Tamanrasset**	**100.98**	**334**	*e*P		**Pdif**	**02 30 25.8**	**-0.9**	
TAM	**Tamanrasset**	**100.98**	**334**	*e*Pdif		**Pdif**	**02 30 25.8**	**-0.9**	
TORD	**Torodi Ar. Bea**	**111.20**	**335**	Pdif		**Pdif**	**02 31 11.3**	**-0.8**	
TORD	**Torodi Ar. Bea**	**111.20**	**335**	Pdiff		**Pdif**	**02 31 11.3**	**-0.8**	
	comp=Z,0.3nm,0.5s,baz=6.1,slow=4.3,SNR=7.4								
DBIC	**Dimbokro**	**118.95**	**341**	*e*PKPdf		**PKPdf**	**02 35 25.1**	**0.0**	
DBIC	**Dimbokro**	**118.95**	**341**	PKP		**PKPdf**	**02 35 25.1**	**0.0**	
	comp=Z,4.0nm,0.4s,baz=52,slow=2.3,SNR=18								
SAML	**Samuel**	**124.95**	**53**	*e*PKPdf		**PKPdf**	**02 35 36.6**	**+0.1**	
LSZ	**Lusaka**	**125.72**	**294**	*e*PKPdf		**PKPdf**	**02 35 37.6**	**-0.5**	
LPAZ	**La Paz**	**128.63**	**63**	*e*PKPdf		**PKPdf**	**02 35 44.5**	**+0.2**	
LPAZ	**La Paz**	**128.63**	**63**	PKP		**PKPdf**	**02 35 44.5**	**+0.2**	
	comp=Z,1.3nm,0.6s,baz=359,slow=7.1,SNR=8.5								
VNDA	**Vanda**	**130.14**	**179**	*e*PKPdf		**PKPdf**	**02 35 45.5**	**+1.0**	
H03N2	**Juan Fernandez**	**135.39**	**88**	T		T	05 06 42.1		
	baz=312,slow=75,SNR=84								
H03N1	**Juan Fernandez**	**135.40**	**88**	T		T	05 06 43.1		
	baz=312,slow=75,SNR=161								
H03N3	**Juan Fernandez**	**135.40**	**88**	T		T	05 06 43.3		
	baz=312,slow=75,SNR=154								
CPUP	**Villa Florida**	**142.56**	**59**	PKPpre		PKPpre	02 36 04.7		
CPUP				*e*PKPdf		**PKPdf**	**02 36 08.4**	**-0.6**	
CPUP	**Villa Florida**	**142.56**	**59**	PKHKP		PKPpre	02 36 04.7		
	comp=Z,1.5nm,0.6s,baz=14,slow=8.3,SNR=2.4								
CPUP				PKP		**PKPdf**	**02 36 08.3**	**-0.6**	
	comp=Z,0.7nm,0.5s,baz=350,slow=4.4,SNR=3.1								
PLCA	**Paso Flores**	**145.20**	**90**	*e*PKPbc		**PKPab**	**02 36 13.6**	**0.0**	
PLCA				*ep*PKPdf		**pPKPdf**	**02 36 47.1**	**-1.2**	
PLCA	**Paso Flores**	**145.20**	**90**	PKPbc		**PKPab**	**02 36 13.9**	**+0.4**	
	comp=Z,21nm,1.0s,baz=300,slow=4.3,SNR=37								
PLCA				pPKPbc		pPKPbc	02 36 47.2	-0.5	
	comp=Z,6.1nm,0.8s,baz=308,slow=2.6,SNR=3.4								
SYO	**Syowa Base**	**147.80**	**216**	*e*PKPdf		**PKPbc**	**02 36 18.4**	**-1.4**	
SYO	**Syowa Base**	**147.80**	**216**	*e*PKKP		**PKPab**	**02 36 23.0**	**+0.3**	
TRQA	**Tornquist**	**148.68**	**78**	*e*PKPbc		**PKPbc**	**02 36 22.7**	**-0.4**	
SNAA	**Sanae**	**159.35**	**197**	*e*PKPdf		**PKPdf**	**02 36 34.3**	**+1.2**	
SNAA				*e*PKPab		**PKPab**	**02 37 11.4**	**-0.1**	
VNA2	**Neumayer--Watz**	**160.74**	**194**	*e*PKPab		**PKPab**	**02 37 17.6**	**0.0**	

ISCJB ***12*** *02:23:29.2±0.5, 52.°51N±0.°07×169.°94W±0.°05, h66km±4km, mb4.0/39, Error ellipse: s-maj=12.0km s-min=4.2km az=165.4*

NEIC ***12*** *02:23:30.5±0.4, 52.°49N×169.°90W, h63km±3km, mb4.2/16, ML4.0(AEIC), Error ellipse: s-maj=9.4km s-min=3.3km az=168.0*

IDC ***12*** *02:23:31.5±3.2, 52.°63N×169.°86W, h69km±28km, mb3.8/20, mb1 3.9/23, mb1mx3.9/35, mbtmp3.8/23, Error ellipse: s-maj=22.8km s-min=12.0km az=3.0*

ISC 12 02:23:29.4±1.2, 52.°41N±0.°10×169.°87W±0.°05, h54km±10km, n115, σ1§07/122, mb4.2/39, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
NIKH	**Nikolski High**	**0.84**	**47**	P		**Pn**	**02 23 43.6**	**-1.5**	
NIKH				S		**Sn**	**02 23 56.4**	**-0.2**	
OKTU	**Okmok Mt. Tuli**	**1.48**	**48**	P		**Pn**	**02 23 53.9**	**+0.2**	
OKAK	**Okmok**	**1.49**	**37**	P		**Pn**	**02 23 52.5**	**-1.2**	
OKRE	**Okmok R'deer P**	**1.52**	**42**	P		**Pn**	**02 23 55.1**	**+0.9**	
OKFG	**Magazine Ridge**	**1.55**	**49**	P		**Pn**	**02 23 54.4**	**-0.3**	
OKFG				S		**Sn**	**02 24 14.2**	**+0.5**	
MSOM	**Makushin Julie**	**2.25**	**50**	P		**Pn**	**02 24 04.4**	**+0.2**	
MGOD	**Makushin Gods**	**2.28**	**51**	P		**Pn**	**02 24 04.8**	**+0.2**	
MREP	**Makushin Rep't**	**2.35**	**52**	P		**Pn**	**02 24 06.0**	**+0.5**	
MCIR	**Makushin Cirqu**	**2.37**	**48**	P		**Pn**	**02 24 06.7**	**+0.8**	
MSW	**Makushin Switc**	**2.39**	**50**	P		**Pn**	**02 24 06.5**	**+0.4**	
UNV	**Unalaska Valle**	**2.49**	**53**	P		**Pn**	**02 24 07.2**	**-0.2**	
UNV				S		**Sn**	**02 24 37.3**	**+0.8**	
AKRB	**Akutan Reef Bi**	**2.86**	**51**	P		**Pn**	**02 24 14.0**	**+1.5**	
ZRO	**Akutan Zero**	**2.88**	**53**	P		**Pn**	**02 24 13.9**	**+1.1**	
AKGG	**Akutan Green G**	**2.94**	**51**	P		**Pn**	**02 24 15.2**	**+1.6**	
AKGG				S		**Sn**	**02 24 47.3**	**-0.2**	
AKUT	**Akutan**	**3.01**	**53**	*e*Pn		**Pn**	**02 24 15.2**	**+0.7**	
AKUT				*e*Sn		**Sn**	**02 24 50.8**	**+1.6**	
WESE	**West Dahl East**	**3.77**	**55**	P		**Pn**	**02 24 27.0**	**+1.9**	
GSMY	**Great Sitkin M**	**3.83**	**267**	P		**Pn**	**02 24 26.3**	**+0.5**	
WESN	**West Dahl Nort**	**3.83**	**53**	P		**Pn**	**02 24 27.4**	**+1.6**	
GSTD	**Great Sitkin T**	**3.88**	**267**	P		**Pn**	**02 24 26.6**	**+0.1**	
GSCK	**Great Sitkin C**	**3.89**	**267**	P		**Pn**	**02 24 27.1**	**+0.5**	
ETKA	**Kagalaska Isla**	**4.07**	**265**	P		**Pn**	**02 24 29.2**	**+0.2**	
SSLW	**Shishaldin Wes**	**4.16**	**53**	P		**Pn**	**02 24 32.8**	**+2.4**	
ADAG	**Mount Adagdak**	**4.17**	**267**	P		**Pn**	**02 24 31.9**	**+1.5**	
ISNN	**Isanotski Nort**	**4.36**	**54**	P		**Pn**	**02 24 34.3**	**+1.2**	
FALS	**False Pass**	**4.56**	**55**	*e*Pn		**Pn**	**02 24 38.7**	**+3.0**	
SPIA	**Saint Paul Isl**	**4.79**	**358**	P		**Pn**	**02 24 41.0**	**+2.1**	
TAFP	**Tanaga Falls P**	**5.03**	**267**	P		**Pn**	**02 24 43.7**	**+1.5**	
DTNA	**Dutton South F**	**5.29**	**56**	P		**Pn**	**02 24 45.5**	**-0.2**	
SDPT	**Sand Point**	**6.29**	**58**	P		**Pn**	**02 24 58.9**	**-0.5**	
FX1	**Attu Island--F**	**10.33**	**279**	P		**Pn**	**02 25 56.5**	**+1.8**	
FX1	**Attu Island--F**	**10.33**	**279**	P		**Pn**	**02 25 56.5**	**+1.8**	
	2.7nm,0.3s,baz=48,slow=1.7,SNR=6.0								
RSO	**Redoubt South**	**12.41**	**43**	*e*Pn		Pn	02 26 27.3	+4.1	
	14nm,0.5s								
MCK	**McKinley**	**15.76**	**36**	*e*Pn		**Pn**	**02 27 07.0**	**-0.5**	
ILAR	**Eielson Array**	**17.09**	**35**	P		**Pn**	**02 27 22.4**	**-1.8**	
ILAR				PcP		**PcP**	**02 32 06.0**	**0.0**	
ILAR	**Eielson Array**	**17.09**	**35**	P		**Pn**	**02 27 22.4**	**-1.8**	
	0.1nm,0.3s,baz=225,slow=10.0,SNR=5.8								
ILAR				PcP		**PcP**	**02 32 06.0**	**0.0**	
	0.0nm,0.3s,baz=237,slow=2.6,SNR=4.2								
HYT	**Haines Junctio**	**19.52**	**52**	*e*P		**Pn**	**02 27 53.0**	**-0.7**	
PETK	**Petropavlovsk-**	**19.56**	**285**	P		**P**	**02 27 52.6**	**+0.2**	
PETK	**Petropavlovsk-**	**19.56**	**285**	P		**P**	**02 27 52.6**	**+0.2**	
	0.9nm,0.3s,baz=91,slow=13,SNR=8.7								
H02S1	**DAWSON INLET T**	**22.45**	**73**	T		T	02 51 42.3		
	SNR=36								
DLBC	**Dease Lake**	**23.13**	**59**	P		**P**	**02 28 32.1**	**+1.6**	
DLBC	**Dease Lake**	**23.13**	**59**	P		**P**	**02 28 32.1**	**+1.6**	
	1.9nm,0.6s,baz=257,slow=7.5,SNR=4.3								
INK	**Inuvik**	**23.48**	**34**	P		**P**	**02 28 31.3**	**-2.5**	
INK				PcP		**PcP**	**02 32 18.1**	**+0.4**	
INK	**Inuvik**	**23.48**	**34**	P		**P**	**02 28 31.3**	**-2.5**	
	1.6nm,0.5s,baz=230,slow=10,SNR=4.7								
INK				PcP		**PcP**	**02 32 18.1**	**+0.4**	
	1.2nm,0.7s,baz=53,slow=4.8,SNR=3.9								
YKA	**Yellowknife Ar**	**30.45**	**49**	P		**P**	**02 29 35.7**	**-0.6**	
YKA	**Yellowknife Ar**	**30.45**	**49**	P		**P**	**02 29 35.7**	**-0.6**	
	0.7nm,0.5s,baz=272,slow=7.8,SNR=7.7								
NEW	**Newport**	**33.30**	**76**	*e*P		**P**	**02 30 02.0**	**+0.4**	
	3.7nm,0.8s								
WVOR	**Wild Horse Val**	**35.38**	**85**	*e*P		**P**	**02 30 20.8**	**+1.0**	
	2.8nm,0.9s								
HRY	**Holter Researc**	**37.19**	**75**	*e*P		**P**	**02 30 35.1**	**0.0**	
	2.5nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**37.29**	**218**	T		T	03 10 34.5		
	baz=26,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy**	**37.30**	**218**	T		T	03 10 36.6		
	baz=26,slow=75,SNR=23								
H11N1	**WAKE ISLAND Hy**	**37.31**	**218**	T		T	03 10 37.3		
	baz=26,slow=75,SNR=20								
HLID	**Hailey**	**37.31**	**81**	*e*P		**P**	**02 30 36.5**	**+0.2**	
	1.3nm,0.9s								
MCMT	**McKenzie Canyo**	**37.57**	**78**	*e*P		**P**	**02 30 38.7**	**+0.2**	
	2.5nm,0.6s								
NVAR	**Mina Array Bea**	**37.97**	**91**	P		**P**	**02 30 43.2**	**+1.3**	
NVAR				PcP		**PcP**	**02 32 57.2**	**+0.6**	
NVAR	**Mina Array Bea**	**37.97**	**91**	P		**P**	**02 30 43.2**	**+1.3**	
	1.2nm,0.7s,baz=299,slow=9.1,SNR=5.4								
NVAR				PcP		**PcP**	**02 32 57.2**	**+0.6**	
	0.5nm,0.5s,baz=307,slow=3.0,SNR=3.9								
ELK	**Elko**	**38.43**	**85**	*e*P		**P**	**02 30 46.2**	**+0.4**	
	2.4nm,0.9s								
H11S1	**WAKE ISLAND Hy**	**38.48**	**217**	T		T	03 11 55.7		
	baz=24,slow=78,SNR=330								
H11S2	**WAKE ISLAND Hy**	**38.50**	**217**	T		T	03 12 01.8		
	baz=24,slow=78,SNR=251								
H11S3	**WAKE ISLAND Hy**	**38.50**	**217**	T		T	03 11 59.5		
	baz=24,slow=78,SNR=212								
FFC	**Flin Flon**	**38.96**	**59**	*e*P		**P**	**02 30 50.4**	**+0.7**	
DUG	**Dugway**	**40.24**	**84**	*e*P		**P**	**02 31 01.4**	**+0.6**	
BW06	**Boulder Array**	**40.69**	**79**	*e*P		**P**	**02 31 04.7**	**+0.1**	
	4.8nm,0.6s								
PDAR	**Pinedale Array**	**40.69**	**79**	P		**P**	**02 31 04.7**	**+0.1**	
PDAR	**Pinedale Array**	**40.69**	**79**	P		**P**	**02 31 04.7**	**+0.1**	
	6.5nm,0.8s,baz=284,slow=3.3,SNR=26								
PV01	**Paradox Valley**	**44.10**	**84**	*e*P		**P**	**02 31 32.2**	**-0.1**	
KSRS	**Korea Array**	**45.10**	**276**	P		**P**	**02 31 42.1**	**+2.2**	
	0.9nm,0.2s,baz=22,slow=24,SNR=5.8								
KSAR	**Wonju Array Be**	**45.13**	**276**	P		**P**	**02 31 42.1**	**+1.9**	
SDCO	**Great Sand Dun**	**46.22**	**82**	*e*P		**P**	**02 31 49.6**	**+0.4**	
	2.3nm,0.8s								
TUC	**Tucson**	**46.61**	**91**	*e*P		**P**	**02 31 52.4**	**+0.4**	
	2.3nm,0.8s								
ANMO	**Albuquerque**	**47.47**	**85**	*e*P		**P**	**02 31 59.6**	**+0.7**	
MNTX	**Cornudas Mount**	**50.34**	**88**	*e*P		**P**	**02 32 21.2**	**+0.6**	
	1.7nm,1.0s								
SONM	**Songino Array**	**51.02**	**301**	P		**P**	**02 32 26.2**	**+0.5**	
SONM				PcP		**PcP**	**02 33 40.7**	**-0.3**	
SONM	**Songino Array**	**51.02**	**301**	P		**P**	**02 32 26.2**	**+0.5**	
	0.2nm,0.5s,baz=70,slow=5.4,SNR=3.6								
SONM				PcP		**PcP**	**02 33 40.7**	**-0.3**	
	0.5nm,0.6s,baz=71,slow=1.3,SNR=4.2								
WMOK	**Wichita Mounta**	**52.27**	**80**	*e*P		**P**	**02 32 34.6**	**-0.5**	
	4.3nm,0.9s								
HHC	**Hu-ho-hao-te**	**52.62**	**291**	*e*P		P	02 32 40.8	+3.1	
HHC				S		**S**	**02 40 04.2**	**+3.3**	
HHC				pmax		pmax			
	comp=Z,34nm,1.0s								
HHC				pmax		pmax			
	comp=Z,260nm,7.1s								
TXAR	**Lajitas Array**	**53.05**	**89**	P		**P**	**02 32 41.0**	**+0.1**	
TXAR	**Lajitas Array**	**53.05**	**89**	P		**P**	**02 32 41.0**	**+0.1**	
	comp=Z,2.3nm,0.7s,baz=293,slow=4.3,SNR=12								
ZALV	**Zalesovo Beam**	**57.19**	**317**	PcP		**PcP**	**02 34 04.4**	**+0.1**	
ZALV	**Zalesovo Beam**	**57.19**	**317**	PcP		**PcP**	**02 34 04.4**	**+0.1**	
	comp=Z,0.8nm,0.5s,baz=102,slow=2.8,SNR=3.6								
ARCES	**ARCESS Array B**	**57.85**	**354**	P		**P**	**02 33 13.8**	**-1.0**	
ARCES				PcP		**PcP**	**02 34 06.5**	**-0.2**	
ARCES	**ARCESS Array B**	**57.85**	**354**	P		**P**	**02 33 13.8**	**-1.0**	
	comp=Z,2.7nm,0.7s,baz=22,slow=7.8,SNR=5.6								
ARCES				PcP		**PcP**	**02 34 06.5**	**-0.2**	
	comp=Z,1.9nm,0.6s,baz=350,slow=6.4,SNR=5.1								
KURK	**Kurchatov**	**62.14**	**318**	P		**P**	**02 33 44.6**	**+0.2**	
KURBB	**Kurchatov Arra**	**62.25**	**318**	P		**P**	**02 33 44.6**	**-0.5**	
	comp=Z,0.5nm,0.7s,baz=46,slow=6.9,SNR=5.5								
BVAR	**Borovoye Array**	**63.50**	**324**	P		**P**	**02 33 53.0**	**-0.5**	
BVAR				PcP		**PcP**	**02 34 29.6**	**0.0**	
BVAR	**Borovoye Array**	**63.50**	**324**	P		**P**	**02 33 53.0**	**-0.5**	
	comp=Z,3.3nm,0.5s,baz=52,slow=6.7,SNR=26								
BVAR				PcP		**PcP**	**02 34 29.6**	**0.0**	
	comp=Z,0.9nm,0.8s,baz=52,slow=4.6,SNR=4.8								
MKAR	**Makanchi Array**	**63.56**	**313**	P		**P**	**02 33 52.8**	**-1.2**	
MKAR	**Makanchi Array**	**63.56**	**313**	P		**P**	**02 33 52.8**	**-1.2**	
	comp=Z,0.4nm,0.5s,baz=16,slow=3.3,SNR=3.3								
JOF	**Joensuu**	**63.82**	**349**	*ep*		**P**	**02 33 54.0**	**-1.3**	
	comp=Z,0.8nm,0.4s								
KAF	**Kangasniemi**	**65.11**	**352**	*ep*		**P**	**02 34 02.5**	**-1.3**	
	comp=Z,0.9nm,0.4s								
FINES	**FINESS Array B**	**65.79**	**352**	P		**P**	**02 34 06.9**	**-1.2**	
FINES				PcP		**PcP**	**02 34 37.8**	**-1.1**	
FINES	**FINESS Array B**	**65.79**	**352**	P		**P**	**02 34 06.9**	**-1.2**	
	comp=Z,1.7nm,0.5s,baz=15,slow=9.2,SNR=16								
FINES				PcP		**PcP**	**02 34 37.8**	**-1.1**	
	comp=Z,2.6nm,0.9s,baz=342,slow=10.0,SNR=3.9								
NB2	**NORSAR Subarra**	**66.90**	**359**	P		**P**	**02 34 14.5**	**-0.9**	
	comp=Z,0.6nm,0.5s,baz=1.9,slow=6.5								
NOA	**NORSAR Array B**	**66.90**	**359**	P		**P**	**02 34 14.8**	**-0.6**	
NOA	**NORSAR Array B**	**66.90**	**359**	P		**P**	**02 34 14.8**	**-0.6**	
	comp=Z,0.8nm,0.5s,baz=0.2,slow=6.3,SNR=6.0								
NAO01	**NORSAR Array S**	**67.10**	**360**	*e*P		P	02 34 19.8	+3.2	
	comp=Z,2.7nm,0.8s								
TKM2	**Tokmak 2**	**69.55**	**315**	*e*P		**P**	**02 34 31.9**	**-0.5**	
	comp=Z,2.0nm,0.9s								
AKTO	**Aktyubinsk**	**69.83**	**330**	P		**P**	**02 34 32.9**	**-0.9**	
AKTO	**Aktyubinsk**	**69.83**	**330**	P		**P**	**02 34 32.9**	**-0.9**	
	comp=Z,1.4nm,0.5s,baz=65,slow=11,SNR=9.8								
ABKAR	**Akbulak array**	**70.24**	**328**	*e*P		**P**	**02 34 35.7**	**-0.6**	
EKS2	**Erkin-Say**	**70.55**	**315**	*e*P		**P**	**02 34 38.3**	**-0.1**	
	comp=Z,1.6nm,0.5s								
KKAR	**Karatay Array**	**71.56**	**318**	*e*P		**P**	**02 34 43.1**	**-1.3**	
	comp=Z,1.1nm,0.5s								
AKASG	**Malin Array Be**	**76.01**	**348**	P		**P**	**02 35 08.9**	**-1.4**	
AKASG	**Malin Array Be**	**76.01**	**348**	P		**P**	**02 35 08.9**	**-1.4**	
	comp=Z,1.0nm,0.4s,baz=16,slow=6.5,SNR=3.1								
MORC	**Moravsky Berou**	**78.00**	**355**	*e*P		**P**	**02 35 22.8**	**+1.2**	
	comp=Z,4.6nm,1.2s								
GERES	**GERESS Array B**	**79.08**	**358**	P		**P**	**02 35 27.9**	**+0.3**	
GERES	**GERESS Array B**	**79.08**	**358**	P		**P**	**02 35 27.9**	**+0.3**	
	comp=Z,0.6nm,0.6s,baz=20,slow=4.3,SNR=5.9								
ESDC	**Sonseca Array**	**87.48**	**11**	P		**P**	**02 36 10.4**	**-0.5**	
ESDC	**Sonseca Array**	**87.48**	**11**	P		**P**	**02 36 10.4**	**-0.5**	
	comp=Z,0.8nm,0.6s,baz=353,slow=4.4,SNR=8.3								
PSI	**Prapat**	**88.54**	**273**	P		**P**	**02 36 16.1**	**-0.3**	
PSI	**Prapat**	**88.54**	**273**	P		**P**	**02 36 16.1**	**-0.3**	
	comp=Z,3.5nm,0.6s,baz=340,slow=15,SNR=4.2								
ASAR	**Alice Springs**	**90.19**	**230**	P		**P**	**02 36 23.1**	**-0.5**	
ASAR	**Alice Springs**	**90.19**	**230**	P		**P**	**02 36 23.1**	**-0.5**	
	comp=Z,0.8nm,0.6s,baz=33,slow=4.6,SNR=7.0								
H03N2	**Juan Fernandez**	**116.22**	**111**	T		T	04 49 13.2		
	baz=325								
H03N1	**Juan Fernandez**	**116.23**	**111**	T		T	04 49 05.1		
	baz=325								
H03N3	**Juan Fernandez**	**116.24**	**111**	T		T	04 49 08.8		
	baz=325								

CSEM ***12*** *02:25:35.7, 41.°76N×13.°55E, h8km, MD1.8/4, After ROM*

ROM 12 02:25:35.7±0.3, 41.°76N×13.°55E, h8km±4km, Md1.8/4, Ml0.7/1, Error ellipse: s-maj=1.9km s-min=0.7km az=27.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
POFI	**Posta Fibreno**	**0.13**	**109**	Pg		Pg	02 25 39.2	+0.6	
POFI				Sg		Sg	02 25 41.6	+1.0	
	21nm,0.4s								
POFI	**Posta Fibreno**	**0.13**	**109**	Pg		Pg	02 25 39.2	+0.6	
POFI				Sg		Sg	02 25 41.6	+1.0	
	21nm,0.4s								
GUAR	**Guarcino**	**0.18**	**281**	Pg		Pg	02 25 40.1	+0.6	
GUAR				Sg		Sg	02 25 43.1	+1.0	
GUAR	**Guarcino**	**0.18**	**281**	Pg		Pg	02 25 40.1	+0.6	
GUAR				Sg		Sg	02 25 43.1	+1.0	
SDI	**San Donato**	**0.20**	**104**	Pg		Pg	02 25 40.5	+0.6	
SDI				Sg		Sg	02 25 43.6	+0.9	
	5.0nm,0.2s								
SDI	**San Donato**	**0.20**	**104**	Pg		Pg	02 25 40.5	+0.6	
SDI				Sg		Sg	02 25 43.6	+0.9	
	5.0nm,0.2s								
PTQR	**Pietraquaria**	**0.28**	**337**	Pg		Pg	02 25 42.3	+0.8	
PTQR				Sg		Sb	02 25 47.1	-1.2	
	1.0nm,0.2s								
PTQR	**Pietraquaria**	**0.28**	**337**	Pg		Pg	02 25 42.3	+0.8	
PTQR				Sg		Sb	02 25 47.1	-1.2	
	1.0nm,0.2s								

ISCJB ***12*** *02:27:01.9±0.1, 9.°95S±0.°02×33.°79E±0.°03, h10km, mb5.2/182, MS5.2/183, Error ellipse: s-maj=4.1km s-min=3.2km az=10.8*

IDC ***12*** *02:27:02.6±0.4, 9.°77S×33.°94E, h0km, mb4.9/29, mb1 5.0/31, mb1mx5.0/34, mbtmp4.9/31, ML4.9/2, MS5.1/27, Ms1 5.1/27, ms1mx5.0/32, Error ellipse: s-maj=14.4km s-min=10.8km az=99.0*

MOS ***12*** *02:27:02.5±0.9, 9.°75S×34.°00E, h10km, mb5.5/57, MS4.9/25, Error ellipse: s-maj=8.8km s-min=4.4km az=93.0*

BJI ***12*** *02:27:02.0,

TSUM Tsumeb 18.20 238 *e*Pn **Pn** **02 31 14.0 -2.9**
comp=Z,168nm,0.9s
TSUM *e*Sn Sn 02 34 25.7 -15
TSUM Lg Lg 02 36 33.5
TSUM Tsumeb 18.20 238 P **Pn** **02 31 14.5 -2.4**
comp=Z,4.4nm,0.3s,baz=59,slow=10,SNR=48
TSUM S Sn 02 34 24.4 -16
comp=Z,5.2nm,0.3s,baz=328,slow=15,SNR=6.3
TSUM Lg Lg 02 36 33.5
comp=Z,8.6nm,0.3s,baz=132,slow=22,SNR=1.8
TSUM LR LR 02 38 29.3
comp=Z,14µm,21.6s,baz=55,slow=37
SWZ Schweizer 18.91 204⇑ *i*P **P** **02 31 20.4 -4.4**
SWZ AMB AMB 02 31 27.8
comp=Z,676nm,1.6s
SWZ Schweizer 18.91 204⇑ *i*P **P** **02 31 20.4 -4.4**
BOSA Boshof 20.22 202 *e*P **P** **02 31 36.4 -2.8**
BOSA AML AML 02 31 42.9
comp=Z,331nm,1.6s
BOSA Boshof 20.22 202 *e*P **P** **02 31 36.6 -2.5**
comp=Z,350nm,1.1s
BOSA *e*Sn **S** **02 35 23.5 -2.2**
BOSA Lg Lg 02 37 27.6
BOSA *e*Lg Lg 02 37 34.3
BOSA Boshof 20.22 202 P **P** **02 31 36.3 -2.8**
comp=Z,234nm,0.9s,baz=26,slow=13,SNR=92
BOSA S **S** **02 35 21.6 -4.2**
comp=Z,50nm,0.7s,baz=87,slow=13,SNR=3.1
BOSA Lg Lg 02 37 27.6
comp=Z,226nm,0.8s,baz=289,slow=21,SNR=3.8
BOSA LR LR 02 39 06.8
comp=Z,7µm,19.7s,baz=30,slow=35
KSD Kokstad 20.88 191 *e*P **P** **02 31 46.4 +0.2**
KSD AMB AMB 02 31 54.4
comp=Z,105nm,1.0s
KSD Kokstad 20.88 191 *e*P **P** **02 31 46.4 +0.2**
DESE Dese 21.73 16 *i* P **P** **02 31 59.5 +3.9**
DESE *e*S Sn 02 36 13.7 +8.1
UPI Upington 21.79 211 *e*P **P** **02 31 54.6 -1.3**
UPI AMB AMB 02 31 59.7
comp=Z,580nm,1.4s
UPI Upington 21.79 211 *e*P **P** **02 31 54.6 -1.3**
HVD Gariep Dam 21.95 200 *e*P **P** **02 31 57.1 -0.7**
HVD AMB AMB 02 32 01.2
comp=Z,418nm,1.2s
HVD Gariep Dam 21.95 200 *e*P **P** **02 31 57.1 -0.7**
HVD Gariep Dam 21.95 200 *e*P **P** **02 31 57.1 -0.7**
MSEY Mahe Island 22.08 78 P **P** **02 32 00.6 +1.3**
comp=Z,232nm,1.3s,SNR=5.6
MSEY Mahe Island 22.08 78 P **P** **02 32 01.0 +1.7**
SNR=7.6
MSEY Mahe Island 22.08 78 *e*P **P** **02 32 00.8 +1.5**
comp=Z,123nm,1.4s
MSEY LR LR
comp=Z,4µm,22.0s
RER Riviere de l'E 23.81 120 PFAKE 02 32 30.0 +13
RER LR LR
comp=Z,5µm,22.0s
SOE Somerset East 23.89 197 *e*P **P** **02 32 17.6 0.0**
SOE AMB AMB 02 32 40.9
comp=Z,199nm,1.2s
SOE Somerset East 23.89 197 *e*P **P** **02 32 17.6 0.0**
GRM Grahamstown 24.19 195⇑ *i*P **P** **02 32 21.0 +0.5**
GRM AMB AMB 02 32 24.8
comp=Z,349nm,3.4s
GRM Grahamstown 24.19 195⇑ *i*P **P** **02 32 21.0 +0.5**
GRM Grahamstown 24.19 195⇑ *i*P **P** **02 32 21.0 +0.5**
KOMG Komaggas 24.95 215 *e*P **P** **02 32 26.4 -1.0**
KOMG AMB AMB 02 32 38.8
comp=Z,184nm,1.2s
KOMG Komaggas 24.95 215 *e*P **P** **02 32 26.4 -1.0**
SUR Sutherland 25.34 206 *e*P **P** **02 32 32.3 +1.2**
SUR AMB AMB 02 32 36.4
comp=Z,108nm,2.2s
SUR Sutherland 25.34 206 P **P** **02 32 34.6 +3.5**
SNR=9.6
SUR Sutherland 25.34 206 *e*P **P** **02 32 31.9 +0.8**
comp=Z,160nm,1.0s
SUR S S 02 37 07.1 +10
SUR *e*Lg Lg 02 40 14.9
SUR Sutherland 25.34 206 P **P** **02 32 32.1 +1.0**
comp=Z,661nm,0.8s,SNR=11
SUR Sutherland 25.34 206 P **P** **02 32 31.7 +0.6**
comp=Z,54nm,0.8s,baz=32,slow=11,SNR=36
SUR S S 02 37 07.1 +10
comp=Z,24nm,0.7s,baz=341,slow=21,SNR=1.8
SUR Lg Lg 02 40 05.3
comp=Z,104nm,0.8s,baz=285,slow=22,SNR=3.6
SUR LR LR 02 42 45.3
comp=Z,3µm,18.4s,baz=32,slow=37
BUFB Buffelsbos 25.47 198 *e*P **P** **02 32 32.7 +0.7**
BUFB AMB AMB 02 32 36.3
comp=Z,2.4nm,1.0s
ELIM Elim 27.70 206 *e*P **P** **02 32 51.5 -0.6**
ELIM AMB AMB 02 32 55.3
comp=Z,133nm,1.6s
ELIM Elim 27.70 206 *e*P **P** **02 32 51.5 -0.6**
ABTO Aybut 33.27 35 P **P** **02 33 43.5 +1.9**
SNR=5.3
DGAR Diego Garcia 38.23 89 PFAKE 02 34 40.0 +16
DGAR LR LR
comp=Z,4µm,20.0s
SHEL Horse Pasture 38.99 257 *i* P **P** **02 34 33.3 +2.6**
SHEL Horse Pasture 38.99 257 PFAKE 02 34 40.0 +9.3
SHEL LR LR
comp=Z,3µm,21.0s
TOA0 Torodi Ar. Sit 39.33 305 *e*P **P** **02 34 31.9 -1.4**
TORD Torodi Ar. Bea 39.33 305 P **P** **02 34 32.0 -1.4**
TORD PP PP 02 35 55.1 -8.6
TORD PcP **PcP** **02 36 43.3 +1.3**
TORD Lg Lg 02 47 33.3
TORD Torodi Ar. Bea 39.33 305 P **P** **02 34 32.0 -1.4**
comp=Z,8.6nm,0.9s,baz=112,slow=7.7,SNR=48
TORD PP PP 02 35 55.1 -8.6
comp=Z,4.5nm,0.9s,baz=126,slow=8.2,SNR=3.1
TORD PcP **PcP** **02 36 43.3 +1.3**
comp=Z,16nm,1.2s,baz=118,slow=6.7,SNR=4.5
TORD Lg Lg 02 47 33.3
comp=Z,2.8nm,1.2s,baz=130,slow=14,SNR=3.6
TORD LR LR 02 51 12.1
comp=Z,5µm,19.6s,baz=130,slow=37
BSY Bisya 39.76 35 P **P** **02 34 37.6 +0.8**
SNR=13
ARQ Araqi 39.85 34 P **P** **02 34 38.7 +1.1**
SNR=6.3
ASUD Al Ashush, Dub 40.27 31 P **P** **02 34 42.4 +1.3**
SNR=5.9
SMDO Samad 40.49 36 P **P** **02 34 43.0 +0.1**
SNR=10
ASHO Ashiyiah 40.70 32 P **P** **02 34 46.8 +2.2**
SNR=7.9
NAZ Nazwa, Dubai 40.74 31 P **P** **02 34 47.1 +2.1**
SNR=8.2
HATD Hatta, Dubai 40.85 32 P **P** **02 34 46.8 +1.0**
SNR=8.7
UOSS Wadi Hilu 40.99 32 P **P** **02 34 47.2 +0.2**
comp=Z,104nm,1.6s,SNR=12
KIC Kosan Boka 41.73 291 *e*P **P** **02 34 52.3 -1.0**
comp=Z,103nm,1.1s
BANOM Banah 41.84 31 P **P** **02 34 54.5 +0.6**
SNR=8.6
LIC Lamto 41.94 291 *e*P **P** **02 34 53.8 -1.2**
comp=Z,93nm,1.3s,baz=105
LIC *e*R
comp=Z,7µm,22.8s
LIC Lamto 41.94 291 *e*P **P** **02 34 53.9 -1.1**
comp=Z,89nm,1.3s
LIC Lamto 41.94 291 *e*P **P** **02 34 53.8 -1.2**
comp=Z,93nm,1.3s
DBIC Dimbokro 41.95 292 *e*P **P** **02 34 54.2 -0.9**
DBIC Dimbokro 41.95 292 *e*P **P** **02 34 54.5 -0.5**
comp=Z,29nm,1.2s
DBIC PP **PP** **02 36 30.0 -2.3**
DBIC Dimbokro 41.95 292 P **P** **02 34 54.5 -0.5**
comp=Z,15nm,1.0s,baz=100,slow=10,SNR=11
DBIC PP **PP** **02 36 30.0 -2.3**
comp=Z,21nm,1.1s,baz=93,slow=10,SNR=4.5
DBIC LR LR 02 52 29.0
comp=Z,2µm,18.5s,baz=95,slow=36
TIC Toumodi 42.09 292 *e*P **P** **02 34 55.2 -1.0**
comp=Z,115nm,1.1s
TAM Tamanrasset 42.78 320 *e*P **P** **02 35 02.4 +0.5**
TAM *e* 02 36 54.5
TAM pmax pmax
comp=Z,32nm,1.4s
TAM MLR MLR
comp=Z,2µm,20.0s
TAM Tamanrasset 42.78 320 *e*P **P** **02 35 02.4 +0.5**
comp=Z,32nm,1.4s
TAM *e*PcP **PcP** **02 36 54.5 +1.3**
TAM LR LR
comp=Z,2µm,20.0s
IBND Bandar-abas 43.22 30 *e*P **P** **02 35 04.4 -0.7**
CSS Prodhromos 44.69 359 PFAKE 02 35 30.0 +13
CSS LR LR
comp=Z,233nm,20.0s
IMEH Mehriz 45.69 25 *e*P **P** **02 35 25.0 -0.2**
ISAD Sadrabad 45.77 24 *e*P **P** **02 35 26.5 +0.6**
IDI Anoyia 45.81 350 *e*P **P** **02 35 26.4 +0.6**
comp=Z,78nm,1.2s
IDI Anoyia 45.81 350 P **P** **02 35 25.6 -0.2**
comp=Z,35nm,1.0s,baz=180,slow=11,SNR=4.7
IDHR Dehrash 45.99 14 *e*P **P** **02 35 28.1 +0.7**
IZEF Zefreh 46.13 22 *e*P **P** **02 35 28.5 -0.1**
IKLH Kolahrood 46.25 21 *e*P **P** **02 35 29.8 +0.3**
ILIN Lien 46.34 15 *e*P **P** **02 35 29.9 -0.4**
SANT Santorini 46.77 351 PFAKE 02 35 50.0 +17
SANT LR LR
comp=Z,678nm,19.0s
IRAZ Razeghan 47.62 18 *e*P **P** **02 35 41.2 +1.0**
ASCN Ascension 47.63 268 PFAKE 02 35 50.0 +10
ASCN LR LR
comp=Z,2µm,19.0s
ISP Isparta 47.65 356 PFAKE 02 35 50.0 +10
ISP LR LR
comp=Z,589nm,21.0s
IVRN Varamin 47.82 20 *e*P **P** **02 35 42.8 +1.2**
IMHD Mahdasht 48.11 18 *e*P **P** **02 35 45.8 +1.9**
MALT Malatya 48.23 5⇓ *i*P **P** **02 35 45.7 +1.0**
IDMV Damavand 48.45 20 *e*P **P** **02 35 48.1 +1.4**
ILAS Lasjerd 48.59 21 *e*P **P** **02 35 48.9 +1.1**
IANJ Anjilo 49.01 22 *e*P **P** **02 35 51.9 +0.9**
ISHM Shahmirzad 49.09 21 *e*P **P** **02 35 53.3 +1.6**
WDD Wield Dalam 49.11 339 PFAKE 02 36 00.0 +8.6
WDD LR LR
comp=Z,2µm,20.0s
IPRN Peran 49.16 20 *e*P **P** **02 35 54.3 +2.3**
IDAH Dahanechah 49.20 29 *e*P **P** **02 35 53.2 +0.7**
BR131 Keskin Array S 49.45 360 *e*P **P** **02 35 53.7 -0.4**
comp=Z,10nm,0.8s
BRTR Keskin Array B 49.45 360 P **P** **02 35 53.9 -0.2**
BRTR Keskin Array B 49.45 360 P **P** **02 35 53.9 -0.2**
comp=Z,13nm,0.8s,baz=178,slow=8.8,SNR=47
TRIS Tristan da Cun 49.53 229 PFAKE 02 36 10.0 +15
TRIS LR LR
comp=Z,5µm,19.0s
ANTO Ankara 49.60 359 PFAKE 02 36 10.0 +15
ANTO LR LR
comp=Z,598nm,19.0s
IMRD Marand 49.68 12 *e*P **P** **02 35 58.0 +2.0**
IGLO Ghaloghah 49.91 21 *e*P **P** **02 35 58.8 +1.0**
CEL Celeste 50.83 342 PFAKE 02 36 20.0 +15
CEL LR LR
comp=Z,695nm,19.0s
GNI Garni 50.88 11 *e*P **P** **02 36 06.8 +1.8**
comp=Z,34nm,1.3s
GNI LR LR
comp=Z,893nm,20.0s
GNI Garni 50.88 11 P **P** **02 36 06.6 +1.6**
comp=Z,1.6nm,0.4s,baz=167,slow=20,SNR=6.7
KEST Kesra 51.01 334 *e*P **P** **02 36 06.6 +0.6**
KEST Kesra 51.01 334 P **P** **02 36 05.5 -0.4**
comp=Z,7.6nm,0.9s,baz=9.4,slow=3.9,SNR=7.8
KEST LR LR 02 56 22.6
comp=Z,509nm,21.4s,baz=137,slow=35
CLTB Caltabellotta 51.10 339 PFAKE 02 36 20.0 +13
CLTB LR LR
comp=Z,923nm,19.0s
TIP Timpagrande 51.42 343 PFAKE 02 36 20.0 +11
TIP LR LR
comp=Z,459nm,19.0s
HYB Hyderabad 51.88 59 *i* P P 02 36 16.0 +3.2
IPAY Payeh 51.89 26 *e*P **P** **02 36 13.0 +0.3**
AKH Akhalkalaki 51.90 9 P **P** **02 36 14.3 +1.7**
KDZ Kurdzhali 51.95 352⇓ *i*P **P** **02 36 12.8 0.0**
IKRD Kardeh 51.96 25 *e*P P 02 36 16.6 +3.3
ISRO Mashad 51.98 26 *e*P **P** **02 36 13.5 +0.3**
ISFR Sfrayin 51.99 25 *e*P **P** **02 36 14.0 +0.5**
IMYA Miami 52.28 27 *e*P **P** **02 36 15.4 -0.2**
TBLG Delisi 52.42 10 P **P** **02 36 16.0 -0.3**
CUC Castrocucco 52.45 343 PFAKE 02 36 30.0 +13
CUC LR LR
comp=Z,469nm,19.0s
ONI Oni 53.04 9 P **P** **02 36 20.7 -0.3**
ZEI Tsey 53.30 9 *e*P **P** **02 36 23.8 +0.7**
ZEI pmax pmax
comp=Z,28nm,1.2s
SOC Sochi 53.57 5 *e*P P 02 36 19.4 -5.3
SOC *e* 02 38 29.2
SOC *e*S S 02 43 49.9 -7.4
SOC *e*SSS SSS 02 49 24.6
SOC MLR MLR
comp=Z,490nm,11.0s
KBZ Khabaz 54.08 8 P **P** **02 36 28.4 0.0**
KBZ 02 37 33.4
KBZ Khabaz 54.08 8 P **P** **02 36 28.4 0.0**
KBZ PcP **PcP** **02 37 33.4 +0.2**
KBZ Khabaz 54.08 8 P **P** **02 36 28.4 0.0**
comp=Z,5.6nm,1.1s,baz=181,slow=12,SNR=3.7
KBZ PcP **PcP** **02 37 33.4 +0.2**
comp=Z,3.6nm,1.1s,baz=207,slow=6.8,SNR=4.0
VSL Villasalto 54.22 337 PFAKE 02 36 40.0 +10
VSL LR LR
comp=Z,844nm,19.0s
KIV Kislovodsk 54.27 8 P **P** **02 36 29.2 -0.8**
KIV *e* 02 37 34.6
KIV *e* 02 38 34.0
KIV *e*SS SKiKP 02 47 48.7 +7.7
KIV pmax pmax
comp=Z,7.0nm,1.3s
KIV MLR MLR
comp=Z,800nm,18.0s
KIV Kislovodsk 54.27 8 *e*P **P** **02 36 29.3 -0.7**
comp=Z,17nm,1.2s
KIV LR LR
comp=Z,825nm,19.0s
SIM Simferopol' 54.67 0 *e*P P 02 36 27.8 -4.9
SIM *e*S S 02 44 21.0 +8.8
SIM pmax pmax
comp=Z,25nm,1.1s
SIM MLR MLR
comp=Z,500nm,20.0s
GOF Gofitskoye 55.40 8 *e*P **P** **02 36 38.6 +0.6**
GOF pmax pmax
comp=Z,50nm,1.3s
KBL Kabul 55.43 35 *e*P **P** **02 36 38.8 +0.1**
KBL pmax pmax
comp=Z,18nm,1.4s
KBL Kabul 55.43 35 *e*P **P** **02 36 38.8 +0.1**
comp=Z,18nm,1.4s
MLR Muntele Rosu 55.67 353⇓ *i*P **P** **02 36 40.3 +0.2**
ARR Arges 55.71 352⇑ *i*P **P** **02 36 40.0 -0.3**
VOIR 55.72 353⇓ *i*P **P** **02 36 40.3 -0.1**
PLOR Plostina 55.95 354⇑ *i*P **P** **02 36 40.3 -1.7**
VRI Vrincioaia 55.95 354⇓ *i*P **P** **02 36 43.5 +1.5**
GZR Gura Zlata 56.01 351⇑ *i*P **P** **02 36 42.5 0.0**
BZS Buzias 56.42 350⇓ *i*P **P** **02 36 44.8 -0.5**
SIRR Siria 57.04 350⇓ *i*P **P** **02 36 49.8 0.0**
CJR Cluj-Napoca 57.17 352⇑ *i*P **P** **02 36 51.4 +0.7**
DRGR 57.38 351⇑ *i*P **P** **02 36 53.1 +0.9**
BOJS Bojanci 57.71 345 *i* P P 02 36 58.1 +3.6
BOJS Bojanci 57.71 345 *i* P P 02 36 58.1 +3.7
BURAR Bucovina Array 57.84 353⇑ *i*P **P** **02 36 56.2 +0.7**
BUR08 Bucovina Ar. S 57.88 353 *e*P **P** **02 36 55.9 +0.2**
BUR08 *e*PcP **PcP** **02 37 48.5 +0.5**
VLC Villacollemand 57.93 340 PFAKE 02 37 10.0 +14
VLC LR LR
comp=Z,678nm,20.0s
VISS Visnje 58.09 344 *i* P P **02 36 58.5 +1.3**
VISS Visnje 58.09 344 *i* P P **02 36 58.5 +1.3**
DOBS Dobrina 58.25 345 *i* P P **02 37 00.1 +1.8**
DOBS Dobrina 58.25 345 *i* P P **02 37 00.1 +1.8**
RTC Rabat Centre 58.35 320 PFAKE 02 37 10.0 +11
RTC LR LR
comp=Z,3µm,19.0s
JAVS Javornik 58.39 344 *i* P P **02 37 00.2 +0.9**
JAVS Javornik 58.39 344 *i* P P **02 37 00.2 +0.9**
LMR La Mourre 58.61 337 *e*P **P** **02 37 01.0 +0.2**
comp=Z,92nm,1.6s
LMR La Mourre 58.61 337 *e*P **P** **02 37 01.0 +0.2**
comp=Z,92nm,1.6s
LMR pmax pmax
comp=Z,92nm,1.6s
LMR La Mourre 58.61 337 *e*P **P** **02 37 01.0 +0.2**
comp=Z,92nm,1.6s
REVF Revere 58.63 338 *e*P **P** **02 37 02.7 +1.7**
PKST T''s 58.70 347 *e*P **P** **02 37 01.1 -0.2**
TRPA Tarpa 58.71 351⇑ *i*P **P** **02 37 02.0 +0.6**
TRPA Tarpa 58.71 351⇑ *e*P **P** **02 37 03.0 +1.6**
SBF Sospel 58.71 338 *e*P **P** **02 37 01.9 +0.3**
comp=Z,102nm,1.3s
SBF Sospel 58.71 338 *e*P **P** **02 37 01.9 +0.3**
SBF pmax pmax
comp=Z,102nm,1.3s
SBF Sospel 58.71 338 *e*P **P** **02 37 01.9 +0.3**
comp=Z,102nm,1.3s
CSKK Cs˙‡kako 58.75 348⇑ *e*P **P** **02 37 01.8 +0.1**
PKSG 58.75 348⇓ *e*P **P** **02 37 03.6 +2.0**
FRF La Foret Royal 58.75 337 *e*P **P** **02 37 02.2 +0.4**
comp=Z,116nm,1.8s
FRF La Foret Royal 58.75 337 *e*P **P** **02 37 02.2 +0.4**
FRF pmax pmax
comp=Z,116nm,1.8s
FRF La Foret Royal 58.75 337 *e*P **P** **02 37 02.2 +0.4**
comp=Z,116nm,1.8s
PERS Pernice 58.79 345 *i* P **P** **02 37 02.9 +0.8**
PERS Pernice 58.79 345 *i* P **P** **02 37 02.9 +0.8**
AUTN L'Aution 58.83 338 *e*P **P** **02 37 03.5 +0.9**
MVIF Mont Vial 58.85 338 *e*P **P** **02 37 01.6 -1.0**
SOKA Soboth 58.85 345⇑ *i*P **P** **02 37 03.4 +0.8**
comp=Z,32nm,1.3s,SNR=6.8
PSZ Piszkesteto 58.95 349 *e*P **P** **02 37 02.5 -0.7**
PSZ pmax pmax
comp=Z,53nm,1.1s
PSZ MLR MLR
comp=Z,572nm,21.0s
PSZ Piszkesteto 58.95 349⇑ *i*P **P** **02 37 03.3 +0.1**
PSZ Piszkesteto 58.95 349 *e*P **P** **02 37 02.5 -0.7**
comp=Z,53nm,1.1s
PSZ LR LR
comp=Z,572nm,21.0s
PSZ Piszkesteto 58.95 349⇑ *e*P **P** **02 37 04.3 +1.1**
SYO Syowa Base 59.09 178⇑ *e*P **P** **02 37 03.8 +0.1**
UZH Uzhgorod 59.24 351 *e*P **P** **02 37 06.4 +1.4**
ARSA Arzberg 59.27 346⇓ *i*P **P** **02 37 06.4 +1.1**
comp=Z,31nm,1.7s,SNR=7.0
SOP Sopron 59.42 347⇑ *e* **P** **02 37 07.8 +1.4**
KOLS Kolonicke sedl 59.53 351 *e*P **P** **02 37 08.7 +1.6**
KOLS pmax pmax
comp=Z,22nm,1.4s
KOLS Kolonicke sedl 59.53 351 *e*P **P** **02 37 08.7 +1.6**
KOLS *e*PCP **PcP** **02 37 55.5 +1.1**
CRVS Cervenica-Dubn 59.63 351 *e*P **P** **02 37 09.0 +1.2**
CRVS pmax pmax
comp=Z,60nm,1.5s
CRVS Cervenica-Dubn 59.63 351 *e*P **P** **02 37 09.0 +1.2**
CRVS *e*PCP **PcP** **02 37 55.7 +0.9**
MBDF Montbardon 59.70 338 *e*P **P** **02 37 09.6 +1.1**
comp=Z,53nm,1.2s
MBDF Montbardon 59.70 338 *e*P **P** **02 37 09.6 +1.1**
MBDF pmax pmax
comp=Z,53nm,1.2s
MBDF Montbardon 59.70 338 *e*P **P** **02 37 09.6 +1.1**
comp=Z,53nm,1.2s
CONA Conrad Observa 59.82 346 *i* P **P** **02 37 09.7 +0.5**
comp=Z,35nm,1.3s,SNR=16
BNI Bardonecchia 60.01 338 *e*P **P** **02 37 11.7 +1.0**
BNI MLR MLR
comp=Z,751nm,19.0s
BNI Bardonecchia 60.01 338 *e*P **P** **02 37 11.7 +1.0**
BNI LR LR
comp=Z,751nm,19.0s
MOA Molln 60.14 345⇑ *i*P **P** **02 37 10.8 -0.5**
comp=Z,42nm,1.3s,SNR=11
KWP Kalwaria Pacla 60.15 352 *e*P **P** **02 37 11.7 +0.3**
KWP pmax pmax
comp=Z,67nm,1.2s
KWP MLR MLR
comp=Z,213nm,19.0s
KWP Kalwaria Pacla 60.15 352 *e*P **P** **02 37 12.9 +1.6**
KWP Kalwaria Pacla 60.15 352⇑ *i*P **P** **02 37 11.9 +0.6**
KWP Kalwaria Pacla 60.15 352 *e*P **P** **02 37 11.7 +0.3**
comp=Z,67nm,1.2s
KWP LR LR
comp=Z,213nm,19.0s
STHS Stebnicka Huta 60.17 351 *e*P **P** **02 37 12.0 +0.5**
STHS pmax pmax
comp=Z,9.0nm,1.3s
STHS Stebnicka Huta 60.17 351 *e*P **P** **02 37 12.0 +0.5**
STHS *e*PCP **PcP** **02 37 56.4 -0.6**
ORIF Oris-en-Rattie 60.20 337 *e*P **P** **02 37 12.5 +0.6**
comp=Z,69nm,1.7s
ORIF *e*R
comp=Z,1µm,17.2s
ORIF Oris-en-Rattie 60.20 337 *e*P **P** **02 37 12.5 +0.6**
ORIF pmax pmax
comp=Z,69nm,1.7s
ORIF Oris-en-Rattie 60.20 337 *e*P **P** **02 37 12.5 +0.6**
comp=Z,69nm,1.7s
LASF Ste Croix 60.29 335 *e*P **P** **02 37 12.7 +0.3**
comp=Z,115nm,1.7s
LASF Ste Croix 60.29 335 *e*P **P** **02 37 12.7 +0.3**
comp=Z,115nm,1.7s
TUE Stuetta 60.32 341 *e*P **P** **02 37 13.1 +0.2**
comp=Z,32nm,1.2s
TUE LR LR
comp=Z,683nm,20.0s
WTTA Wattenberg 60.32 343⇓ *i*P **P** **02 37 13.0 +0.2**
comp=Z,28nm,1.4s,SNR=7.0
LPG La Plagne 60.37 338 *e*P **P** **02 37 12.4 -0.9**
comp=Z,50nm,1.2s
LPG La Plagne 60.37 338 *e*P **P** **02 37 12.4 -0.9**
LPG pmax pmax
comp=Z,50nm,1.2s
LPG La Plagne 60.37 338 *e*P **P** **02 37 12.4 -0.9**
comp=Z,50nm,1.2s
FETA Feichten 60.38 342⇑ *i*P **P** **02 37 13.6 +0.5**
comp=Z,13nm,1.0s,SNR=6.5
LPL La Plagne 60.39 338 *e*P **P** **02 37 12.4 -0.9**
comp=Z,64nm,1.3s
LPL La Plagne 60.39 338 *e*P **P** **02 37 12.4 -0.9**
LPL pmax pmax
comp=Z,64nm,1.3s
LPL La Plagne 60.39 338 *e*P **P** **02 37 12.4 -0.9**
comp=Z,64nm,1.3s
RJOB Jochberg 60.42 344 *e*P **P** **02 37 13.0 -0.3**
comp=Z,26nm,1.2s
AK02 Malin Array Si 60.51 357 *e*P **P** **02 37 13.4 -0.4**
AK01 Malin Array Si 60.55 357 *e*P **P** **02 37 13.8 -0.2**
KIEV Kiev 60.55 357*d* *i*P **P** **02 37 13.3 -0.7**
KIEV Kiev 60.55 357 *e*P **P** **02 37 13.6 -0.4**
comp=Z,55nm,1.4s
KIEV LR LR
comp=Z,410nm,20.0s
MOTA Moosalm 60.55 342⇑ *i*P **P** **02 37 14.2 -0.1**
comp=Z,16nm,1.1s,SNR=7.1
AKASG Malin Array Be 60.56 357 P **P** **02 37 13.5 -0.5**
AKASG Malin Array Be 60.56 357 P **P** **02 37 13.5 -0.5**
AKASG Malin Array Be 60.56 357 P **P** **02 37 13.5 -0.5**
comp=Z,24nm,1.0s,baz=183,slow=6.3,SNR=50
AKASG LR LR 03 03 52.0
comp=Z,372nm,20.6s,baz=190,slow=37
AKBB Malin Array Si 60.56 357 *e*P **P** **02 37 13.5 -0.6**
AKBB Malin Array Si 60.56 357 *e*P **P** **02 37 13.5 -0.6**
ESDC Sonseca Array 60.58 327 P **P** **02 37 14.9 +0.3**
ESDC Sonseca Array 60.58 327 P **P** **02 37 14.9 +0.3**
comp=Z,10nm,1.0s,baz=139,slow=6.6,SNR=32
ESDC LR LR 03 02 04.1
comp=Z,938nm,18.7s,baz=140,slow=35
VIVF Saint-Julien-l 60.61 337 *e*P **P** **02 37 15.8 +1.2**
comp=Z,100nm,1.4s
VIVF Saint-Julien-l 60.61 337 *e*P **P** **02 37 15.8 +1.2**
VIVF pmax pmax
comp=Z,100nm,1.4s
VIVF Saint-Julien-l 60.61 337 *e*P **P** **02 37 15.8 +1.2**
comp=Z,100nm,1.4s
PAB San Pablo 60.70 327 *e*P **P** **02 37 16.6 +1.2**
PAB MLR MLR
comp=Z,2µm,20.0s
PAB San Pablo 60.70 327 *e*P **P** **02 37 16.6 +1.2**
PAB LR LR
comp=Z,2µm,20.0s
MAW Mawson 60.72 168 *e*P **P** **02 37 16.4 +1.4**
comp=Z,9.2nm,1.4s
MAW Mawson 60.72 168 P **P** **02 37 16.8 +1.9**
comp=Z,6.0nm,0.6s,baz=3.3,slow=4.3,SNR=10
MAW LR LR 02 59 04.1

comp=Z,653nm,21.4s,baz=333,slow=32
PYUN Piuthan 60.74 50 *e*P **P 02 37 15.2 -0.9**
comp=Z,158nm,1.1s
PYUN Piuthan 60.74 50 *e*P **P 02 37 15.2 -0.9**
comp=Z,158nm,1.1s
RETA Reutte 60.78 342⇓ *i*P **P 02 37 15.6 -0.2**
comp=Z,37nm,1.3s,SNR=9.2
DAVA Damuels 60.87 342 *i* P **P 02 37 16.6 +0.1**
comp=Z,48nm,1.2s,SNR=12
VRAC Vranov 60.95 347⇑ *i*P **P 02 37 16.6 -0.2**
EPF Esparros 60.97 332 *e*P **P 02 37 18.1 +1.0**
comp=Z,53nm,1.4s
EPF Esparros 60.97 332 *e*P **P 02 37 18.1 +1.0**
EPF pmax pmax
comp=Z,53nm,1.4s
EPF Esparros 60.97 332 *e*P **P 02 37 18.1 +1.0**
comp=Z,53nm,1.4s
SSB Saint Sauveur 61.01 337 PFAKE 02 37 30.0 +13
SSB LR LR
comp=Z,1µm,20.0s
KOLN Koldanda 61.04 51 *e*P **P 02 37 16.7 -1.4**
comp=Z,69nm,1.1s
KOLN Koldanda 61.04 51 *e*P **P 02 37 16.7 -1.4**
comp=Z,69nm,1.1s
OKC Ostrava-Krasne 61.13 348 *e*P **P 02 37 16.5 -1.5**
OKC smax smax
comp=N,11nm,0.5s
OKC Ostrava-Krasne 61.13 348 *e*P **P 02 37 16.5 -1.5**
TREC Trest 61.19 346 *e*P **P 02 37 17.6 -0.8**
TREC Trest 61.19 346 *e*P **P 02 37 17.6 -0.8**
MORC Moravsky Berou 61.19 348 *e*P **P 02 37 17.3 -1.2**
MORC pmax pmax
comp=Z,45nm,1.4s
MORC Moravsky Berou 61.19 348⇑ *i*P **P 02 37 18.4 -0.1**
MORC Moravsky Berou 61.19 348 *e*P **P 02 37 17.3 -1.2**
comp=Z,45nm,1.4s
GEC2 GERESS Array S 61.20 345 *e*P **P 02 37 18.8 +0.2**
comp=Z,59nm,1.4s
GERES GERESS Array B 61.20 345 P **P 02 37 18.5 -0.2**
GERES GERESS Array B 61.20 345 P **P 02 37 18.5 -0.2**
comp=Z,13nm,1.0s,baz=152,slow=6.0,SNR=39
FUR Furstenfeldbru 61.24 343 *e*P **P 02 37 19.0 +0.2**
comp=Z,116nm,1.8s
ETSF Etsaut 61.28 332 *e*P **P 02 37 20.3 +1.0**
comp=Z,108nm,1.8s
ETSF Etsaut 61.28 332 *e*P **P 02 37 20.3 +1.0**
ETSF pmax pmax
comp=Z,109nm,1.8s
ETSF Etsaut 61.28 332 *e*P **P 02 37 20.3 +1.0**
comp=Z,108nm,1.8s
DANN Dangsing 61.46 50 *e*P **P 02 37 20.3 -0.7**
comp=Z,84nm,1.0s
DANN Dangsing 61.46 50 *e*P **P 02 37 20.3 -0.7**
comp=Z,84nm,1.0s
LBL Lubilhac 61.49 336 *e*P **P 02 37 20.5 -0.1**
KHC Kasperske Hory 61.50 345 *e*P **P 02 37 19.7 -0.9**
KHC MLR MLR
comp=Z,800nm,13.2s
KHC Kasperske Hory 61.50 345 *e*P **P 02 37 19.7 -0.9**
KHC *ex* x 02 37 29.5
KHC AMS AMS 03 09 30.0
comp=Z,800nm,13.2s
KHC Kasperske Hory 61.50 345 *e*P **P 02 37 19.6 -1.0**
comp=Z,42nm,1.4s
CABF La Chapelle 61.56 339 *e*P **P 02 37 21.6 +0.5**
comp=Z,142nm,1.5s
CABF La Chapelle 61.56 339 *e*P **P 02 37 21.6 +0.5**
CABF pmax pmax
comp=Z,142nm,1.5s
CABF La Chapelle 61.56 339 *e*P **P 02 37 21.6 +0.5**
comp=Z,142nm,1.5s
KRLC Kraliky 61.63 348 *e*P **P 02 37 21.3 -0.2**
KRLC Kraliky 61.63 348 *e*P **P 02 37 21.3 -0.2**
WET Wettzell 61.69 345 *e*P **P 02 37 22.9 +1.1**
comp=Z,32nm,1.5s
COCO West Island 61.73 99 PFAKE 02 37 30.0 +7.2
COCO LR LR
comp=Z,851nm,22.0s
SJPF Ste Jean 61.76 331 *e*P **P 02 37 23.4 +1.0**
comp=Z,208nm,1.8s
SJPF Ste Jean 61.76 331 *e*P **P 02 37 23.4 +1.0**
SJPF pmax pmax
comp=Z,208nm,1.8s
SJPF Ste Jean 61.76 331 *e*P **P 02 37 23.4 +1.0**
comp=Z,208nm,1.8s
LOMF Lomont 61.93 340 *e*P **P 02 37 24.6 +1.0**
GKN Gorkha 61.95 51 *e*P **P 02 37 23.5 -0.7**
comp=Z,69nm,1.1s
GKN Gorkha 61.95 51 *e*P **P 02 37 23.5 -0.7**
comp=Z,69nm,1.1s
DPC Dobruska-Polom 61.99 347 *e*P **P 02 37 23.4 -0.5**
DPC Dobruska-Polom 61.99 347 *e*P **P 02 37 23.1 -0.8**
DPC AMS AMS 03 12 40.0
DPC Dobruska-Polom 61.99 347 *e*P **P 02 37 23.4 -0.5**
FELD Feldberg im Sc 61.99 341 *e*P **P 02 37 24.3 +0.2**
PYM Petit Puy Mans 62.01 336 *e*P **P 02 37 24.9 +0.8**
PESTR Estremoz 62.03 324 *e*P **P 02 37 24.6 +0.2**
comp=Z,56nm,1.5s
PRU Pruhonice 62.05 346 *e*P **P 02 37 24.2 0.0**
PRU MLR MLR
comp=Z,700nm,18.2s
PRU Pruhonice 62.05 346 *e*P **P 02 37 24.2 0.0**
PRU AMS AMS 03 09 30.0
comp=Z,700nm,18.2s
EVO Evora 62.05 324 *e*P **P 02 37 25.0 +0.5**
comp=Z,40nm,1.6s
SACV Santiago Islan 62.10 293 PFAKE 02 37 40.0 +15
SACV LR LR
comp=Z,2µm,19.0s
DMN Daman 62.11 52 *e*P **P 02 37 24.4 -1.0**
DMN Daman 62.11 52 *e*P **P 02 37 24.4 -1.0**
UPC Upice 62.20 347 *e*P **P 02 37 24.4 -0.8**
UPC Upice 62.20 347 *e*P **P 02 37 24.4 -0.8**
AGO Saint Agoulin 62.21 336 *e*P **P 02 37 25.7 +0.3**
MOF Molkenrain 62.26 340 *e*P **P 02 37 27.1 +1.3**
BFO Black Forest 62.29 341 *i* P **P 02 37 27.8 +1.9**
BFO Black Forest 62.29 341 *e*P **P 02 37 26.4 +0.5**
comp=Z,77nm,1.9s
NVL N'lazarevskaya 62.29 188 *e*P **P 02 37 27.4 +1.9**
NVL *e*S **S 02 45 52.1 +1.3**
NVL pmax pmax
comp=Z,32nm,0.9s
NVL MLR MLR
comp=Z,577nm,17.0s
LFF La Frestale 62.30 334 *e*P **P 02 37 27.0 +1.0**
comp=Z,143nm,1.6s
LFF La Frestale 62.30 334 *e*P **P 02 37 27.0 +1.0**
LFF pmax pmax
comp=Z,143nm,1.6s
LFF La Frestale 62.30 334 *e*P **P 02 37 27.0 +1.0**
comp=Z,143nm,1.6s
PMRV Marv??o 62.30 325 *e*P **P 02 37 27.2 +1.1**
comp=Z,46nm,1.4s
PKIN Phulchoki 62.32 52 *e*P **P 02 37 25.4 -1.4**
HINF Hinteralfeld 62.33 340 *e*P **P 02 37 26.4 +0.2**
comp=Z,61nm,1.4s
HINF Hinteralfeld 62.33 340 *e*P **P 02 37 26.4 +0.2**
HINF pmax pmax
comp=Z,61nm,1.4s
HINF Hinteralfeld 62.33 340 *e*P **P 02 37 26.4 +0.2**
comp=Z,61nm,1.4s
PKI Pulchoki 62.33 52 *e*P **P 02 37 25.5 -1.4**
PKI Pulchoki 62.33 52 *e*P **P 02 37 25.5 -1.4**
PKI Pulchoki 62.33 52 *e*P **P 02 37 25.5 -1.4**
KKN Kakani 62.34 51 *e*P **P 02 37 25.5 -1.4**
KKN Kakani 62.34 51 *e*P **P 02 37 25.5 -1.4**
KKN Kakani 62.34 51 *e*P **P 02 37 25.5 -1.4**
STU Stuttgart 62.40 342 *e*P **P 02 37 27.3 +0.7**
STU pmax pmax
comp=Z,52nm,1.4s
STU Stuttgart 62.40 342 *e*P **P 02 37 27.6 +1.0**
comp=Z,67nm,1.4s
STU Stuttgart 62.40 342 *e*P **P 02 37 27.3 +0.7**
comp=Z,52nm,1.4s
SMF Signal de Mont 62.42 337 *e*P **P 02 37 27.1 +0.3**
comp=Z,84nm,1.3s
SMF Signal de Mont 62.42 337 *e*P **P 02 37 27.1 +0.3**
SMF pmax pmax
comp=Z,85nm,1.3s
SMF Signal de Mont 62.42 337 *e*P **P 02 37 27.1 +0.3**
comp=Z,84nm,1.3s
ROTZ Rotzenmuhle 62.44 344 *e*P **P 02 37 27.0 +0.2**
comp=Z,52nm,1.6s
KSP Ksiaz 62.46 348 *e*P **P 02 37 26.7 -0.2**
KSP Ksiaz 62.46 348 *e*P **P 02 37 27.6 +0.7**

KK31 Karatay Array 62.51 30 *i* P **P 02 37 27.2 -0.3**
KKAR Karatay Array 62.51 30 *e*P **P 02 37 26.9 -0.6**
KKAR pmax pmax
comp=Z,25nm,0.9s
KKAR Karatay Array 62.51 30 *e*P **P 02 37 26.9 -0.6**
comp=Z,25nm,0.9s
ECH Echery 62.57 340 *e*P **P 02 37 30.5 +2.7**
ECH Echery 62.57 340 PFAKE 02 37 40.0 +12
ECH LR LR
comp=Z,256nm,20.0s
GRF Grafenberg Arr 62.64 344 *e*P **P 02 37 28.6 +0.4**
comp=Z,64nm,1.4s
GRF *e*L L 03 07 45.0
comp=Z,445nm,19.2s
HAU Haudompre 62.66 340 *e*P **P 02 37 28.8 +0.4**
comp=Z,83nm,1.4s
HAU *e*R
comp=Z,388nm,20.8s
HAU Haudompre 62.66 340 *e*P **P 02 37 28.8 +0.4**
HAU pmax pmax
comp=Z,83nm,1.4s
HAU Haudompre 62.66 340 *e*P **P 02 37 28.8 +0.4**
comp=Z,83nm,1.4s
CDF Champ du Feu 62.70 340 *e*P **P 02 37 28.9 +0.2**
comp=Z,93nm,1.5s
CDF Champ du Feu 62.70 340 *e*P **P 02 37 28.9 +0.2**
CDF pmax pmax
comp=Z,93nm,1.5s
CDF Champ du Feu 62.70 340 *e*P **P 02 37 28.9 +0.2**
comp=Z,93nm,1.5s
AVF Avril sur Loir 62.73 337 *e*P **P 02 37 28.3 -0.5**
comp=Z,64nm,1.3s
AVF Avril sur Loir 62.73 337 *e*P **P 02 37 28.3 -0.5**
AVF pmax pmax
comp=Z,64nm,1.3s
AVF Avril sur Loir 62.73 337 *e*P **P 02 37 28.3 -0.5**
comp=Z,64nm,1.3s
BGF Bois d'Agland 62.74 336 *e*P **P 02 37 28.6 -0.3**
comp=Z,34nm,1.0s
BGF Bois d'Agland 62.74 336 *e*P **P 02 37 28.6 -0.3**
BGF pmax pmax
comp=Z,34nm,1.0s
BGF Bois d'Agland 62.74 336 *e*P **P 02 37 28.6 -0.3**
comp=Z,34nm,1.0s
TCF Toulx Ste Croi 62.77 336 *e*P **P 02 37 30.4 +1.3**
comp=Z,108nm,1.3s
TCF Toulx Ste Croi 62.77 336 *e*P **P 02 37 30.4 +1.3**
TCF pmax pmax
comp=Z,109nm,1.3s
TCF Toulx Ste Croi 62.77 336 *e*P **P 02 37 30.4 +1.3**
comp=Z,108nm,1.3s
NKC Novy Kostel 62.80 345 *e*P **P 02 37 28.6 -0.7**
NKC MLR MLR
comp=Z,600nm,16.5s
NKC Novy Kostel 62.80 345 *e*P **P 02 37 28.6 -0.7**
NKC AMS AMS 03 09 30.0
comp=Z,600nm,16.5s
GUN Gumba 62.86 52 *e*P **P 02 37 29.6 -0.9**
comp=Z,64nm,1.0s
GUN Gumba 62.86 52 *e*P **P 02 37 29.6 -0.9**
comp=Z,64nm,1.0s
KSH Kashi 62.86 36 P P 02 37 25.9 -4.2
KSH pP pP 02 37 30.1 -5.0
KSH sP sP 02 37 32.7 -4.3
KSH PcP **PcP** **02 38 07.7 -0.6**
KSH S S 02 45 48.1 -11
KSH sS sS 02 46 04.1 -3.5
KSH pmax pmax
comp=Z,5.0nm,0.8s
KSH pmax pmax
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,410nm,12.6s
KSH LR LR
comp=Z,180nm,7.3s
KSH LR LR
comp=Z,690nm,20.3s
SSF Saint Saulge 62.90 337 *e*P **P 02 37 29.3 -0.6**
comp=Z,37nm,1.5s
SSF Saint Saulge 62.90 337 *e*P **P 02 37 29.3 -0.6**
SSF pmax pmax
comp=Z,37nm,1.5s
SSF Saint Saulge 62.90 337 *e*P **P 02 37 29.3 -0.6**
comp=Z,37nm,1.5s
LOR Lormes 62.93 338 *e*P **P 02 37 29.8 -0.4**
comp=Z,62nm,1.5s
LOR *e*R
comp=Z,1µm,18.2s
LOR Lormes 62.93 338 *e*P **P 02 37 29.8 -0.4**
comp=Z,62nm,1.5s
RAMN Ramite 62.96 53 *e*P **P 02 37 30.0 -1.1**
RAMN Ramite 62.96 53 *e*P **P 02 37 30.0 -1.1**
TANN Tannenbergstha 62.96 345 *e*P **P 02 37 30.6 +0.2**
comp=Z,46nm,1.6s
JIRN Jiri 62.98 52 *e*P **P 02 37 30.0 -1.3**
comp=Z,48nm,1.2s
JIRN Jiri 62.98 52 *e*P **P 02 37 30.0 -1.3**
comp=Z,48nm,1.2s
THEF They Montfort 62.98 339 *e*P **P 02 37 31.2 +0.7**
LANF Langenberg 63.02 341 *e*P **P 02 37 31.4 +0.6**
MTE Manteigas 63.05 325 PFAKE 02 37 40.0 +8.8
MTE LR LR
comp=Z,2µm,19.0s
AB31 Akbulak array 63.28 19 *i* P **P 02 37 31.4 -1.0**
ABKAR Akbulak array 63.28 19 *e*P **P 02 37 31.5 -0.9**
comp=Z,12nm,1.2s
MVO Moncorvo 63.29 326 *e*P **P 02 37 33.1 +0.3**
comp=Z,50nm,2.0s
SFTF Sexfontaines 63.29 339 *e*P **P 02 37 33.2 +0.7**
comp=Z,134nm,1.4s
SFTF Sexfontaines 63.29 339 *e*P **P 02 37 33.2 +0.7**
comp=Z,134nm,1.4s
PAGF Fort de Pagny 63.35 339 *e*P **P 02 37 33.6 +0.7**
comp=Z,35nm,1.6s
PAGF Fort de Pagny 63.35 339 *e*P **P 02 37 33.6 +0.7**
comp=Z,35nm,1.6s
PCAS Casmilo, Conde 63.35 325 *e*P **P 02 37 32.7 -0.4**
comp=Z,53nm,1.3s
AML Almayashu 63.41 32 *i* P **P 02 37 33.1 -0.9**
AML Almayashu 63.41 32 P **P 02 37 33.1 -0.9**
SNR=9.9
MEZF Maizieres J'vi 63.54 339 *e*P **P 02 37 35.2 +1.1**
comp=Z,130nm,1.5s
MEZF Maizieres J'vi 63.54 339 *e*P **P 02 37 35.2 +1.1**
comp=Z,130nm,1.5s
ODAN Odare 63.54 53 *e*P **P 02 37 34.0 -0.9**
ODAN Odare 63.54 53 *e*P **P 02 37 34.0 -0.9**
CLL Collm 63.65 346 *i* P **P 02 37 34.5 -0.3**
CLL pmax pmax
comp=Z,34nm,1.5s
CLL Collm 63.65 346 *e*P **P 02 37 34.7 -0.1**
comp=Z,34nm,1.5s
CLL Collm 63.65 346 *i* P **P 02 37 34.5 -0.3**
comp=Z,34nm,1.5s
CLL *i* PcP **PcP** **02 38 11.8 +0.8**
CLL *e*PP **PP** **02 39 52.0 -3.1**
CLL *e*PS **PnS** **02 46 18.0 -7.7**
CLL *e*SS SS 02 50 18.0 +1.7
CLL L L 03 11 00.0
comp=Z,200nm,21.7s
AKTO Aktyubinsk 63.74 17 P **P 02 37 34.4 -1.1**
AKTO Aktyubinsk 63.74 17 P **P 02 37 34.4 -1.1**
AKTO Aktyubinsk 63.74 17 P **P 02 37 34.4 -1.1**
comp=Z,9.2nm,1.0s,baz=214,slow=6.6,SNR=21
EKS2 Erkin-Say 63.83 32 *i* P **P 02 37 36.4 +0.1**
EKS2 Erkin-Say 63.83 32 P **P 02 37 36.5 +0.1**
SNR=7.3
EKS2 Erkin-Say 63.83 32 *e*P **P 02 37 35.9 -0.5**
comp=Z,14nm,1.3s
EKS2 LR LR
comp=Z,952nm,20.0s
UCH Uchtor 63.91 33 *i* P **P 02 37 37.2 -0.1**
UCH Uchtor 63.91 33 P **P 02 37 37.2 -0.1**
SNR=11
TAPN Taplejung 64.02 53 *e*P **P 02 37 37.5 -0.6**
comp=Z,106nm,1.5s
TAPN Taplejung 64.02 53 *e*P **P 02 37 37.5 -0.6**
comp=Z,106nm,1.5s
WLF Walferdange 64.16 340 *e*P **P 02 37 37.9 -0.3**
WLF pmax pmax
comp=Z,30nm,1.3s
WLF MLR MLR
comp=Z,655nm,20.0s
WLF Walferdange 64.16 340 *e*P **P 02 37 37.9 -0.3**
comp=Z,30nm,1.3s
WLF LR LR

comp=Z,655nm,20.0s
SUW Suwalki 64.38 353 *e*P **P 02 37 39.4 -0.1**
SUW Suwalki 64.38 353 *e*P **P 02 37 39.3 -0.2**
SUW Suwalki 64.38 353 *e*P **P 02 37 39.1 -0.5**
comp=Z,72nm,1.1s
MICGM Minsk 64.43 356 *e* **P 02 37 39.0 -0.8**
MNK Minsk 64.43 356 *e*P **P 02 37 39.0 -0.9**
KBK Karagaybulak 64.44 33 *i* P **P 02 37 40.5 0.0**
KBK Karagaybulak 64.44 33 P **P 02 37 40.5 0.0**
SNR=14
GKP Gorka Klasztor 64.57 349 *e*P **P 02 37 41.5 +0.7**
GKP Gorka Klasztor 64.57 349 *e*P **P 02 37 41.5 +0.7**
CHMS Chumysh 64.58 32 *i* P **P 02 37 40.6 -0.5**
CHMS Chumysh 64.58 32 P **P 02 37 40.7 -0.5**
SNR=8.6
USP Ospenovka 64.63 32 *i* P **P 02 37 41.5 0.0**
USP Ospenovka 64.63 32 P **P 02 37 41.5 0.0**
SNR=5.9
OBN Obninsk 64.88 2⇑ *i*P **P 02 37 42.5 -0.3**
OBN *e* 02 38 17.0
OBN *e*SS SS 02 50 27.2 -8.2
OBN pmax pmax
comp=Z,51nm,1.4s
OBN MLR MLR
comp=Z,500nm,20.0s
OBN Obninsk 64.88 2 *e*P **P 02 37 43.9 +1.1**
comp=Z,64nm,1.4s
OBN LR LR
comp=Z,706nm,21.0s
TKM2 Tokmak 2 64.97 33 *i* P **P 02 37 43.2 -0.7**
TKM2 Tokmak 2 64.97 33 P **P 02 37 43.2 -0.7**
SNR=14
TKM2 Tokmak 2 64.97 33 *e*P **P 02 37 43.0 -0.9**
comp=Z,15nm,1.0s
TKM2 LR LR
comp=Z,893nm,19.0s
GIVF Givet 64.97 340 *e*P **P 02 37 42.8 -0.7**
comp=Z,42nm,1.2s
GIVF Givet 64.97 340 *e*P **P 02 37 42.8 -0.7**
GIVF pmax pmax
comp=Z,43nm,1.2s
GIVF Givet 64.97 340 *e*P **P 02 37 42.8 -0.7**
comp=Z,42nm,1.2s
MEM Membach 65.02 341 P **P 02 37 45.5 +1.7**
comp=Z,27nm,3.5s
DOU Dourbes 65.05 340 P **P 02 37 45.8 +1.8**
comp=Z,36nm,3.7s
BCLA Clavier 65.08 340 P **P 02 37 44.9 +0.7**
comp=Z,31nm,1.8s
HGN Heimansgroeve 65.17 341 *e*P **P 02 37 45.5 +0.7**
comp=Z,39nm,1.5s
HGN *e*S S 02 46 45.3 +18
BUG Bochum--Univer 65.34 342 *e*P **P 02 37 46.9 +1.0**
comp=Z,84nm,1.6s
NRDL Niedersach Rie 65.47 344 *e*P **P 02 37 47.8 +1.2**
comp=Z,68nm,1.5s
SNF Seneffe 65.50 340 P **P 02 37 47.5 +0.6**
MOS Moscow 65.55 2 *e*P **P 02 37 44.1 -3.0**
MOS pmax pmax
comp=Z,57nm,1.3s
SNAA Sanae 65.59 192 *e*P **P 02 37 49.3 +1.9**
SNAA Sanae 65.59 192 *e*P **P 02 37 48.9 +1.5**
SNAA Sanae 65.59 192 *e*P **P 02 37 49.0 +1.6**
comp=Z,68nm,1.4s
ISAL Salakas 65.62 355 *e*P **P 02 37 45.7 -1.9**
ISAL AMB AMB 02 37 48.6
comp=Z,7.2nm,0.8s
WTSB Winterswijk 65.95 342 *e*P **P 02 37 48.6 -1.1**
PSI Prapat 66.03 82 P **P 02 37 53.0 +1.7**
comp=Z,25nm,1.5s,comp=Z,719nm
PSI Prapat 66.03 82 P **P 02 37 51.8 +0.5**
PSI Prapat 66.03 82 P **P 02 37 51.8 +0.5**
comp=Z,15nm,1.0s,baz=292,slow=9.1,SNR=7.2
VNA2 Neumayer--Watz 66.04 194 *e*P **P 02 37 52.4 +2.2**
VNA2 Neumayer--Watz 66.04 194 *e*sP sP 02 37 55.6 -1.6
VNA1 Neumayer--Stat 66.06 194 *e*P **P 02 37 53.2 +2.9**
MNSI Mandailing Nat 66.27 85 P **P 02 37 53.7 +1.0**
comp=Z,30nm,1.2s
BSEG Bad Segeberg 66.72 345 *e*P **P 02 37 55.1 +0.4**
comp=Z,61nm,1.5s
LSA Lhasa 67.78 52 *e*P **P 02 38 03.1 +0.5**
LSA pmax pmax
comp=Z,30nm,1.3s
LSA MLR MLR
comp=Z,1µm,19.0s
LSA Lhasa 67.78 52 *e*P **P 02 38 03.1 +0.5**
comp=Z,30nm,1.3s
LSA LR LR
comp=Z,1µm,19.0s
IPM Ipoh 68.43 81 P **P 02 38 05.8 -0.6**
IPM Ipoh 68.43 81 P **P 02 38 07.5 +1.1**
comp=Z,27nm,1.6s,comp=Z,736nm
IPM Ipoh 68.43 81 *e*P **P 02 38 05.5 -0.9**
comp=Z,18nm,0.8s
KHLT Khaolaem Dam 68.72 70 P P 02 38 11.8 +3.7
comp=Z,8.6nm,1.4s
RCBR Riachuelo 69.11 268 PFAKE 02 38 20.0 +9.3
RCBR LR LR
comp=Z,2µm,19.0s
MHMT Maesarieng 69.15 66 P P 02 38 14.6 +3.9
comp=Z,19nm,1.1s,comp=Z,621nm
ARU Arti 69.27 14 P **P 02 38 10.3 -0.4**
comp=Z,150nm,1.4s,SNR=9.7
ARU Arti 69.27 14*d* *i*P **P 02 38 09.6 -1.1**
ARU 02 40 38.4
ARU S **S** **02 47 15.8 -0.5**
ARU SS **SS** **02 51 41.2 -2.2**
ARU pmax pmax
comp=Z,64nm,2.5s
ARU MLR MLR
comp=Z,725nm,21.0s
ARU Arti 69.27 14 *e*P **P 02 38 09.9 -0.8**
comp=Z,56nm,1.4s
ARU LR LR
comp=Z,854nm,21.0s
UMPA Umpang Tak 69.39 68 P P 02 38 23.3 +11
BRVK Borovoye 70.05 22⇓ *e*P **P 02 38 14.3 -1.3**
BRVK pmax pmax
comp=Z,20nm,1.8s
BRVK Borovoye 70.05 22 P **P 02 38 17.2 +1.6**
SNR=7.4
BRVK Borovoye 70.05 22 *e*P **P 02 38 14.1 -1.5**
comp=Z,20nm,1.5s
BRVK LR LR
comp=Z,2µm,21.0s
BRVK Borovoye 70.05 22 P **P 02 38 15.5 -0.1**
comp=Z,41nm,1.6s,SNR=6.8
BVAR Borovoye Array 70.07 22 P **P 02 38 14.6 -1.1**
BVAR Borovoye Array 70.07 22 P **P 02 38 14.6 -1.1**
BVAR Borovoye Array 70.07 22 P **P 02 38 14.6 -1.1**
comp=Z,5.8nm,0.7s,baz=225,slow=5.6,SNR=26
SVE Sverdlovsk 70.14 15 *e*P **P 02 38 16.0 -0.1**
SVE pmax pmax
comp=Z,41nm,1.6s
CMAR Chiang Mai Arr 70.15 66 P **P 02 38 17.4 +0.5**
CMAR Chiang Mai Arr 70.15 66 P **P 02 38 17.4 +0.5**
comp=Z,8.2nm,0.7s,baz=260,slow=7.6,SNR=36
CMAR LR LR 03 06 25.6
comp=Z,874nm,19.7s,baz=262,slow=34
CHTO Chiang Mai 70.26 66 *e*P **P 02 38 17.5 -0.1**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO MLR MLR
comp=Z,876nm,20.0s
CHTO Chiang Mai 70.26 66 P **P 02 38 18.2 +0.6**
SNR=11
CHTO Chiang Mai 70.26 66 *e*P **P 02 38 17.5 -0.1**
comp=Z,17nm,0.9s
CHTO LR LR
comp=Z,876nm,20.0s
CHTO Chiang Mai 70.26 66 P **P 02 38 17.8 +0.2**
comp=Z,112nm,1.2s,comp=Z,3µm
CMMT Chiang Mai 70.26 66 P **P 02 38 17.7 +0.1**
comp=Z,29nm,1.3s,comp=Z,715nm
KTGM Kuala Trenggan 70.67 81 P P 02 38 16.6 -3.6
CMAI Chiengmai2 70.70 65 P **P 02 38 21.7 +1.2**
comp=Z,54nm,1.4s,comp=Z,1µm
LAMP Lampang 70.79 66 P **P 02 38 21.9 +1.1**
comp=Z,9.7nm,1.0s,comp=Z,86nm
MK31 Makanchi Array 71.10 33 *e*P **P 02 38 21.2 -1.0**
MK31 Makanchi Array 71.10 33 *e*P **P 02 38 21.2 -1.0**
MKAR Makanchi Array 71.10 33 P **P 02 38 21.3 -0.9**
MKAR 02 40 59.9
MKAR Makanchi Array 71.10 33 P **P 02 38 21.3 -0.9**
MKAR PP **PP** **02 40 59.9 -0.2**
MKAR Makanchi Array 71.10 33 P **P 02 38 21.3 -0.9**

comp=Z,24nm,0.9s,baz=226,slow=5.4,SNR=66
MKAR PP **PP** **02 40 59.9 -0.2**
comp=Z,4.6nm,1.1s,baz=238,slow=7.9,SNR=2.8
MKAR LR LR 03 12 15.5
comp=Z,808nm,19.0s,baz=241,slow=38
PBKT Sadao Pong 71.43 69 P **P** **02 38 25.1 +0.4**
comp=Z,33nm,0.7s,comp=Z,1µm
FINES FINESS Array B 71.45 356 P **P** **02 38 22.9 -1.0**
FINES FINESS Array B 71.45 356 P **P** **02 38 22.9 -1.0**
comp=Z,6.8nm,0.9s,baz=146,slow=3.7,SNR=13
KURBB Kurchatov Arra 71.73 28 P **P** **02 38 25.1 -0.7**
comp=Z,21nm,0.9s,baz=232,slow=6.4,SNR=84
SOKR Solikamsk 71.75 12⇑ *i* P **P** **02 38 26.2 +0.5**
SOKR pmax pmax
comp=Z,60nm,2.0s
SOKR MLR MLR
comp=Z,630nm,19.0s
KURK Kurchatov 71.84 28 *e*P **P** **02 38 25.7 -0.8**
KURK pmax pmax
comp=Z,13nm,1.0s
KURK MLR MLR
comp=Z,545nm,21.0s
KURK Kurchatov 71.84 28 P **P** **02 38 26.4 -0.1**
SNR=17
KURK Kurchatov 71.84 28 *e*P **P** **02 38 25.7 -0.8**
comp=Z,13nm,1.0s
KURK LR LR
comp=Z,545nm,21.0s
KURK Kurchatov 71.84 28 P **P** **02 38 25.0 -1.5**
comp=Z,149nm,1.1s,SNR=19
CRAI Chiangrai 71.98 65 P **P** **02 38 28.8 +0.8**
comp=Z,107nm,1.3s
PRGR Permogore 71.98 6 *e*P **P** **02 38 26.2 -0.9**
PRGR pmax pmax
comp=Z,79nm,1.4s
ESK Eskdalemuir 72.05 339 *i* P P 02 38 20.8 -6.9
ESK Eskdalemuir 72.05 339 PFAKE 02 38 40.0 +12
ESK LR LR
comp=Z,1µm,21.0s
KONO Kongsberg 72.07 347 PFAKE 02 38 40.0 +12
KONO LR LR
comp=Z,381nm,19.0s
KAF Kangasniemi 72.11 356 *e*P **P** **02 38 28.1 +0.3**
KAF pmax pmax
comp=Z,12nm,0.8s
KAF Kangasniemi 72.11 356 *e*p **P** **02 38 28.1 +0.3**
comp=Z,12nm,0.8s
WMQ Urumqi 72.43 38 P **P** **02 38 30.0 -0.3**
WMQ sP **sP** **02 38 37.0 -0.3**
WMQ PcP **PcP** **02 38 48.0 -0.1**
WMQ PP **PP** **02 41 13.0 +1.4**
WMQ S **S** **02 47 53.0 -0.7**
WMQ ScS **SKSac** **02 48 33.0 -1.6**
WMQ SS **SS** **02 52 32.0 -0.7**
WMQ pmax pmax
comp=Z,160nm,1.2s
WMQ pmax pmax
comp=Z,350nm,5.0s
WMQ LR LR
comp=Z,800nm,18.0s
WMQ LR LR
comp=Z,560nm,18.0s
WMQ LR LR
comp=Z,570nm,18.0s
JOF Joensuu 72.70 359 *e*P **P** **02 38 31.3 -0.1**
JOF pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 72.70 359 *e*p **P** **02 38 31.3 -0.1**
comp=Z,4.5nm,0.8s
NAO01 NORSAR Array S 72.90 348 *e*P **P** **02 38 31.5 -1.2**
comp=Z,9.9nm,0.9s
CMLA Cha da Macela 72.98 315 *i* P P 02 38 37.2 +3.6
NB2 NORSAR Subarra 73.01 349 P **P** **02 38 32.8 -0.5**
comp=Z,49nm,1.4s,baz=158,slow=5.6
NB2 NORSAR Subarra 73.01 349 P **P** **02 38 32.8 -0.5**
baz=158,slow=5.6
NOA NORSAR Array B 73.01 349 P **P** **02 38 32.9 -0.4**
NOA NORSAR Array B 73.01 349 P **P** **02 38 32.9 -0.4**
comp=Z,13nm,1.1s,baz=159,slow=5.4,SNR=15
TMCR Tamitsa 73.99 2 *e*P **P** **02 38 39.1 +0.2**
SLVN Son La 75.46 65 *e*P **P** **02 38 49.1 +0.6**
comp=Z,40nm,1.5s
CASY Casey 75.57 156 PFAKE 02 39 00.0 +12
CASY LR LR
comp=Z,591nm,19.0s
KMI Kunming 75.58 61 P **P** **02 38 49.7 +0.3**
KMI pP **pP** **02 38 54.9 +0.4**
KMI sP **sP** **02 38 57.0 +0.6**
KMI PP **PP** **02 41 39.9 +0.9**
KMI S **S** **02 48 33.2 +2.9**
KMI sS **sS** **02 48 40.8 +2.0**
KMI SKS **SKSac** **02 48 54.5 -5.0**
KMI pmax pmax
comp=Z,17nm,1.5s
KMI pmax pmax
comp=Z,320nm,3.2s
KMI LR LR
comp=Z,320nm,21.1s
KMI LR LR
comp=Z,480nm,22.9s
KMI LR LR
comp=Z,930nm,33.5s
NVS Novosibirsk 76.67 27 *e*P **P** **02 38 53.3 -1.3**
NVS *e* 02 41 44.6
NVS *e*S S 02 48 32.5 -8.1
NVS pmax pmax
comp=N,18nm,1.4s
NVS pmax pmax
comp=Z,56nm,1.4s
NVS pmax pmax
comp=E,21nm,1.7s
NVS pmax pmax
comp=N,15nm,2.4s
NVS pmax pmax
comp=E,28nm,2.4s
NVS pmax pmax
comp=Z,35nm,2.4s
NVS smax smax
comp=N,26nm,2.8s
ZAA0 Zalesovo Array 76.83 28 *e*P **P** **02 38 54.1 -1.4**
ZAA0 Zalesovo Array 76.83 28 *e*PP PP 02 41 47.0 -1.6
ZALV Zalesovo Beam 76.83 28 P **P** **02 38 54.0 -1.5**
ZALV 02 41 47.0
ZALV Zalesovo Beam 76.83 28 P **P** **02 38 54.0 -1.5**
ZALV PP **PP** **02 41 47.0 -1.6**
ZALV Zalesovo Beam 76.83 28 P **P** **02 38 54.0 -1.5**
comp=N,4.2nm,0.6s,baz=256,slow=5.9,SNR=17
ZALV PP **PP** **02 41 47.0 -1.6**
comp=N,3,7nm,0.8s,baz=243,slow=6.5,SNR=5.3
ZALV LR LR 03 15 53.4
comp=N,843nm,19.8s,baz=252,slow=38
KSM Kuching 76.93 86 P **P** **02 38 58.4 +1.4**
KSM Kuching 76.93 86 PFAKE 02 39 10.0 +13
KSM LR LR
comp=Z,2µm,21.0s
LVZ Lovozero 77.67 0 PFAKE 02 39 10.0 +10
LVZ LR LR
comp=Z,699nm,19.0s
STKI Sintang 77.83 88 P **P** **02 39 04.2 +2.2**
SPB Sao Paulo 78.14 248 PFAKE 02 39 20.0 +16
SPB LR LR
comp=Z,1µm,20.0s
CD2 Chengdu 78.29 56⇑ *i* P **P** **02 39 04.6 +0.3**
CD2 pP **pP** **02 39 09.3 -0.2**
CD2 sP **sP** **02 39 11.6 +0.3**
CD2 PcP **PcP** **02 39 14.3 +0.6**
CD2 PP **PP** **02 42 03.7 +2.2**
CD2 S **S** **02 48 58.9 -0.4**
CD2 sS **sS** **02 49 06.2 -1.6**
CD2 ScS **SKKSac** **02 49 21.8 +2.0**
CD2 SS **SS** **02 54 04.3 +2.1**
CD2 pmax pmax
comp=Z,20nm,1.6s
CD2 pmax pmax
comp=Z,320nm,6.2s
CD2 LR LR
comp=Z,730nm,22.6s
CD2 LR LR
comp=Z,500nm,22.6s
CD2 LR LR
comp=Z,470nm,16.6s
GTA Gaotai 78.35 46 P **P** **02 39 04.5 0.0**
GTA pP **pP** **02 39 09.3 -0.4**
GTA sP **sP** **02 39 11.5 0.0**
GTA S **S** **02 49 01.3 +1.6**
GTA sS **sS** **02 49 08.9 +0.7**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,160nm,5.1s
GTA LR LR
comp=Z,460nm,18.5s
GTA LR LR
comp=Z,370nm,23.3s
GTA LR LR
comp=Z,470nm,23.7s
SBUM Sibu 78.98 86 P **P** **02 39 09.4 +1.1**
SBUM Sibu 78.98 86 P **P** **02 39 10.9 +2.5**
comp=Z,18nm,2.2s,comp=Z,608nm
NWAO Narrogin (SRO) 79.13 122 P **P** **02 39 09.9 +1.1**
NWAO Narrogin (SRO) 79.13 122 P **P** **02 39 09.9 +1.1**
comp=Z,32nm,1.1s,baz=269,slow=8.2,SNR=9.8
GYA Guiyang 79.36 61⇑ *i* P **P** **02 39 10.2 -0.1**
GYA PP **PP** **02 42 12.3 +1.7**
GYA S **S** **02 49 11.0 0.0**
GYA SKS **SKSac** **02 49 22.6 -4.1**
GYA SS **SS** **02 54 21.0 +2.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.8s
GYA LR LR
comp=Z,840nm,20.4s
GYA LR LR
comp=Z,610nm,21.4s
GYA LR LR
comp=Z,780nm,20.0s
ARCES ARCESS Array B 79.53 357 P **P** **02 39 09.8 -0.4**
ARCES ARCESS Array B 79.53 357 P **P** **02 39 09.8 -0.4**
comp=Z,9.8nm,1.0s,baz=163,slow=4.6,SNR=10
BDFB Brasilia 79.61 256 P **P** **02 39 13.7 +1.8**
BDFB Brasilia 79.61 256 P **P** **02 39 13.7 +1.8**
comp=Z,30nm,1.0s,baz=76,slow=5.5,SNR=23
BDFB LR LR 03 12 05.0
comp=Z,2µm,18.4s,baz=272,slow=34
LZH Lanzhou 80.09 51 *e*P **P** **02 39 14.5 +0.3**
LZH pP **pP** **02 39 17.8 -1.5**
LZH sP **sP** **02 39 19.2 -2.0**
LZH PP **PP** **02 42 18.6 +2.1**
LZH *e*S **S** **02 49 18.0 -0.5**
LZH pmax pmax
comp=Z,49nm,1.3s
LZH pmax pmax
comp=Z,440nm,7.5s
LZH LR LR
comp=Z,700nm,16.0s
LZH LR LR
comp=Z,380nm,14.0s
LZH LR LR
comp=Z,950nm,18.3s
QSPA South Pole Qui 80.12 180 *e*P **P** **02 39 14.6 +0.9**
comp=Z,28nm,1.2s
QSPA LR LR
comp=Z,592nm,19.0s
QIZ Qiongzhong 80.22 69 P **P** **02 39 15.1 +0.1**
QIZ S **S** **02 49 18.9 -1.3**
QIZ pmax pmax
comp=Z,200nm,7.7s
QIZ LR LR
comp=Z,340nm,21.3s
QIZ LR LR
comp=Z,290nm,20.4s
QIZ LR LR
comp=Z,890nm,19.4s
QIZ Qiongzhong 80.22 69 PFAKE 02 39 30.0 +15
QIZ LR LR
comp=Z,945nm,20.0s
MBWA Marble Bar 82.66 110 *e*P **P** **02 39 27.6 -0.3**
comp=Z,48nm,1.3s
MBWA LR LR
comp=Z,753nm,20.0s
ENH Enshi 82.81 58 *e*P **P** **02 39 28.7 +0.1**
comp=Z,5.2nm,0.8s
ENH LR LR
comp=Z,15nm,20.0s
XAN Xi'an 83.41 54 P **P** **02 39 32.1 +0.5**
XAN pP pP 02 39 43.2 +6.5
XAN pmax pmax
comp=Z,3.0nm,1.1s
XAN pmax pmax
comp=Z,82nm,11.5s
EFI East Falkland 83.44 219 PFAKE 02 39 40.0 +8.7
EFI LR LR
comp=Z,3µm,22.0s
KKM Kota Kinabalu 83.56 83 *e*P **P** **02 39 33.6 +0.7**
comp=Z,20nm,1.0s
KKM LR LR
comp=Z,1µm,22.0s
MOY Mondy 84.05 35 *e*P P 02 39 37.7 +3.2
PMSA Palmer Station 84.41 205 *e*P **P** **02 39 37.5 +1.5**
comp=Z,70nm,1.4s
PMSA LR LR
comp=Z,1µm,20.0s
LBFI Labuhan Bajo, 84.69 98 P **P** **02 39 39.8 +1.3**
comp=Z,71nm,1.6s,comp=Z,2µm
ZAK Zakamensk 84.87 37 *e*P **P** **02 39 38.8 +0.1**
ZAK *e* 02 43 00.3
ZAK pmax pmax
comp=Z,8.0nm,1.7s
KAPI Kappang 85.12 94 *e*P **P** **02 39 40.4 -0.2**
comp=Z,125nm,1.2s
KAPI LR LR
comp=Z,1µm,21.0s
BKSI Bulukumba 85.43 95 P **P** **02 39 43.6 +1.4**
comp=Z,41nm,1.2s,comp=Z,848nm
BNSI Bone 85.57 94 P **P** **02 39 44.0 +1.1**
comp=Z,29nm,2.0s,comp=Z,1µm
TLY Talaya 85.57 36 PFAKE 02 39 50.0 +7.9
TLY LR LR
comp=Z,776nm,19.0s
MYLDM Lahad Datu 85.64 84 P **P** **02 39 42.5 -0.7**
SONM Songino Array 85.88 40 P **P** **02 39 44.7 +0.9**
SONM PP **PP** **02 42 59.8 -3.9**
SONM Songino Array 85.88 40 P **P** **02 39 44.7 +0.9**
comp=Z,7.8nm,1.0s,baz=248,slow=2.9,SNR=31
SONM PP **PP** **02 42 59.8 -3.9**
comp=Z,0.6nm,0.9s,baz=226,slow=9.4,SNR=3.0
SONM LR LR 03 21 47.2
comp=Z,540nm,19.8s,baz=12,slow=38
ULN Ulaanbaatar 86.31 40 P **P** **02 39 46.8 +0.8**
SNR=7.5
ULN Ulaanbaatar 86.31 40 *e*P **P** **02 39 46.5 +0.5**
comp=Z,20nm,1.3s
ULN LR LR
comp=Z,504nm,20.0s
CPUP Villa Florida 86.69 244 *e*P **P** **02 39 50.2 +2.0**
comp=Z,5.2nm,1.4s
CPUP Villa Florida 86.69 244 P **P** **02 39 50.5 +2.3**
comp=Z,13nm,1.1s,baz=87,slow=4.7,SNR=5.7
CPUP LR LR 03 15 54.3
comp=Z,2µm,18.4s,baz=96,slow=34
DRV Dumont d'Urvil 87.21 157 P P 02 40 04.0 +14
DRV Dumont d'Urvil 87.21 157 S **SKSac** **02 50 12.0 -4.6**
DRV SS **SS** **02 56 11.0 -1.1**
DRV L L 03 03 00.0
DRV R 03 08 00.0
HHC Hu-ho-hao-te 87.31 48 *e*P **P** **02 39 50.3 -0.7**
HHC pP **PcP** **02 39 53.0 -0.1**
HHC sP **sP** **02 39 55.2 -2.9**
HHC PP **PP** **02 43 15.2 -0.2**
HHC SKS **SKSac** **02 50 12.8 -5.5**
HHC S **SKKSac** **02 50 27.2 -0.3**
HHC pmax pmax
comp=Z,29nm,1.4s
HHC pmax pmax
comp=Z,540nm,7.4s
HHC LR LR
comp=Z,920nm,17.1s
HHC LR LR
comp=Z,570nm,17.5s
HHC LR LR
comp=Z,610nm,17.6s
VNDA Vanda 87.94 170 *e*P **P** **02 39 53.5 +0.3**
comp=Z,3.9nm,1.0s
VNDA Vanda 87.94 170 P **P** **02 39 54.1 +0.9**
comp=Z,2.7nm,0.9s,baz=275,slow=5.2,SNR=9.2
VNDA LR LR 03 17 33.3
comp=Z,718nm,19.2s,baz=226,slow=34
TRQA Tornquist 88.47 232 *e*P **P** **02 39 58.5 +1.9**
comp=Z,50nm,1.4s
TRQA LR LR
comp=Z,1µm,19.0s
SBA Scott Base 88.50 171 PFAKE 02 40 10.0 +14
SBA LR LR
comp=Z,581nm,22.0s
FORT Forrest 88.55 121 *e*P **P** **02 39 56.8 -0.2**
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 88.63 108 *e*P **P** **02 39 58.3 +0.7**
comp=Z,28nm,1.3s
FITZ Fitzroy Crossi 88.63 108 LR LR 03 13 34.3
comp=Z,2µm,21.7s,baz=271,slow=32
BJT Baijiatuan 90.52 50 PFAKE 02 40 20.0 +14
BJT LR LR
comp=Z,504nm,21.0s
BJI Beijing 90.53 50 P **P** **02 40 06.2 +0.2**
BJI PP **PP** **02 43 41.9 +0.9**
BJI S **S** **02 50 59.2 -1.8**
BJI SS **SS** **02 57 04.7 +2.3**
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJI pmax pmax
comp=Z,140nm,4.7s
BJI LR LR
comp=Z,540nm,19.2s
BJI LR LR
comp=Z,310nm,18.3s
BJI LR LR
comp=Z,430nm,33.6s
NJ2 Nanjing 91.03 58 *e*P **P** **02 40 09.1 +0.5**
NJ2 pmax pmax
comp=Z,20nm,0.8s
YHNB Yeheng 91.88 65 PFAKE 02 40 20.0 +7.2
YHNB LR LR
comp=Z,761nm,19.0s
TATO Taipei 92.03 65 PFAKE 02 40 20.0 +6.7
TATO LR LR
comp=Z,494nm,20.0s
DAV Davao City (W) 92.90 83 PFAKE 02 40 30.0 +12
DAV LR LR
comp=Z,1µm,22.0s
PTGA Pitinga 93.63 269 *e*P **P** **02 40 21.9 +0.8**
comp=Z,14nm,1.0s
PTGA LR LR
comp=Z,2µm,21.0s
PLCA Paso Flores 94.26 228 *e*P **P** **02 40 24.9 +1.4**
comp=Z,8.8nm,1.3s
PLCA Paso Flores 94.26 228 LR LR 03 17 36.0
comp=Z,2µm,21.6s,baz=100,slow=32
HIA Hailar 94.81 41 PFAKE 02 40 40.0 +14
HIA LR LR
comp=Z,628nm,19.0s
ASAR Alice Springs 95.11 115 P **P** **02 40 27.2 -0.5**
ASAR PP **PP** **02 44 16.3 -1.0**
ASAR Alice Springs 95.11 115 P **P** **02 40 27.2 -0.5**
comp=Z,9.8nm,0.8s,baz=261,slow=4.6,SNR=62
ASAR PP **PP** **02 44 16.3 -1.0**
comp=Z,0.6nm,0.8s,baz=255,slow=5.3,SNR=3.3
ASAR LR LR 03 18 35.3
comp=Z,3µm,20.0s,baz=273,slow=32
AS31 Alice Springs 95.11 115 *e*P **P** **02 40 27.1 -0.6**
SAML Samuel 95.31 260 *e*P **P** **02 40 29.9 +1.2**
comp=Z,17nm,1.4s
SAML LR LR
comp=Z,1µm,20.0s
WRA Warramunga Arr 96.34 111 P **P** **02 40 33.0 -0.3**
WRA PP **PP** **02 44 25.0 -1.9**
WRA Warramunga Arr 96.34 111 P **P** **02 40 33.0 -0.3**
comp=Z,5.0nm,0.8s,baz=255,slow=2.9,SNR=24
WRA PP **PP** **02 44 25.0 -1.9**
comp=Z,0.7nm,0.9s,baz=262,slow=6.7,SNR=4.2
WRA LR LR 03 18 44.1
comp=Z,1µm,21.4s,baz=265,slow=32
WRAB Tennant Creek 96.35 111 *i* P **P** **02 40 33.2 -0.2**
WRAB pmax pmax
comp=Z,68nm,2.3s
WRAB Tennant Creek 96.35 111 *e*P **P** **02 40 33.1 -0.3**
comp=Z,9.2nm,0.9s
WRAB LR LR
comp=Z,1µm,21.0s
FDF Fort de France 97.27 284 PFAKE 02 40 50.0 +12
FDF LR LR
comp=Z,540nm,22.0s
GRGR Grenville 97.37 281 PFAKE 02 40 50.0 +12
GRGR LR LR
comp=Z,503nm,21.0s
LCO Las Campanas 97.69 239 PFAKE 02 40 50.0 +10
LCO LR LR
comp=Z,2µm,21.0s
LVC Limon Verde 97.77 245 *e*P Pdif 02 40 41.5 +1.3
comp=Z,6.6nm,1.1s
LVC LR LR
comp=Z,819nm,19.0s
INCN Inchon 98.18 53 PFAKE 02 40 50.0 +8.7
INCN LR LR
comp=Z,441nm,19.0s
ANWB Willy Bob 98.29 286 PFAKE 02 40 50.0 +7.9
ANWB LR LR
comp=Z,726nm,22.0s
LPAZ La Paz 98.53 252 *e*P Pdif 02 40 45.2 +1.2
comp=Z,8.8nm,1.4s
LPAZ La Paz 98.53 252 P **P** **02 40 43.9 -0.1**
comp=Z,4.0nm,1.1s,baz=58,slow=5.9,SNR=6.8
LPAZ LR LR 03 23 50.5
comp=Z,2µm,19.5s,baz=98,slow=34
KSRS Korea Array 99.20 54 LR LR 03 28 49.8
comp=Z,266nm,18.3s,baz=285,slow=38
STKA Stephens Creek 99.50 125 LR LR 03 21 24.7
comp=Z,892nm,19.8s,baz=224,slow=33
TIXI Tiksi 100.98 19 PFAKE 02 41 00.0 +7.1
TIXI LR LR
comp=Z,527nm,20.0s
MDJ Mudanjiang 101.00 46 P **Pdif** **02 40 54.2 +0.6**
MDJ S **Sdif** **02 52 32.2 +0.4**
MDJ pmax pmax
comp=Z,12nm,1.4s
MDJ pmax pmax
comp=Z,100nm,3.9s
MDJ LR LR
comp=Z,270nm,6.8s
MDJ LR LR
comp=Z,110nm,8.8s
MDJ LR LR
comp=Z,360nm,8.8s
MDJ Mudanjiang 101.00 46 PFAKE 02 41 00.0 +6.4
MDJ LR LR
comp=Z,375nm,21.0s
YAK Yakutsk 101.48 29 PFAKE 02 41 10.0 +15
YAK LR LR
comp=Z,847nm,19.0s
SJG San Juan 102.47 286 PFAKE 02 41 10.0 +9.3
SJG LR LR
comp=Z,1µm,22.0s
CAN Canberra 104.08 130 PFAKE 02 41 20.0 +12
CAN LR LR
comp=Z,500nm,19.0s
HABR Khabarovsk 104.82 42 *e*P **Pdif** **02 41 08.0 -2.5**
HABR *e* 02 45 27.1
HABR *e*S **Sdif** **02 52 59.9 -3.5**
HABR *e*SS **SS** **03 00 19.2 -3.9**
HABR *e* 03 00 37.8
HABR *e* 03 04 13.5
HABR pmax pmax
comp=N,39nm,1.9s
HABR MLR MLR
comp=Z,559nm,21.0s
PKME Peaks-Kenny Pk 106.26 314 PFAKE 02 45 40.0
PKME LR LR
comp=Z,1µm,20.0s
CTAO Charters Tower 107.11 115 *e*PKP **PKiKP** **02 45 33.2 +2.3**
CTAO LR LR
comp=Z,918nm,19.0s
MAJO Matsushiro 107.38 55 *e*PKP **PKiKP** **02 45 31.4 +0.5**
MAJO LR LR
comp=Z,694nm,19.0s
SDDR Presa de Saban 107.40 287 PFAKE 02 45 40.0
SDDR LR LR
comp=Z,508nm,19.0s
GRTK Grand Turk 107.45 289 PFAKE 02 45 40.0
GRTK LR LR
comp=Z,707nm,21.0s
NNA Nana 107.76 254 PFAKE 02 45 40.0
NNA LR LR
comp=Z,875nm,20.0s
LBNH Lisbon 108.19 313 PFAKE 02 45 40.0
LBNH LR LR
comp=Z,701nm,20.0s
NCB Newcomb 109.86 313 PFAKE 02 45 50.0

NCB LR LR
comp=Z,2µm,20.0s
LONY **Lake Ozonia** **110.05 314** PFAKE 02 45 50.0
LONY LR LR
comp=Z,798nm,19.0s
YSS **Yuzh-Sakhalins** **110.12 44** PFAKE 02 45 50.0
YSS LR LR
comp=Z,176nm,20.0s
PMG **Port Moresby** **110.90 104** PFAKE 02 45 50.0
PMG LR LR
comp=Z,700nm,20.0s
ERM **Erimo** **110.94 49** PFAKE 02 45 50.0
ERM LR LR
comp=Z,335nm,19.0s
GTBY **Guantanamo Bay** **111.07 288** PFAKE 02 45 50.0
GTBY LR LR
comp=Z,937nm,20.0s
BINY **Binghamton** **111.32 311** PFAKE 02 45 50.0
BINY LR LR
comp=Z,3µm,22.0s
OTAV **Otavalo** **111.99 266** *e*PKP PKiKP 02 45 41.2 +0.4
OTAV LR LR
comp=Z,1µm,19.0s
CBN **Corbin** **112.76 307** PFAKE 02 45 50.0
CBN LR LR
comp=Z,2µm,21.0s
MTDJ **Mount Denham** **113.26 286** PFAKE 02 45 50.0
MTDJ LR LR
comp=Z,576nm,21.0s
CNNC **Cliffs of the** **113.42 304** PFAKE 02 45 50.0
CNNC LR LR
comp=Z,2µm,20.0s
ERPA **Erie** **114.28 312** PFAKE 02 46 00.0 +16
ERPA LR LR
comp=Z,2µm,21.0s
MCWV **Mont Chateau** **114.52 309** PFAKE 02 46 00.0 +16
MCWV LR LR
comp=Z,3µm,20.0s
BCIP **Isla Barro Col** **114.71 276** *e*PKP PKPdf 02 45 47.6 +2.3
BCIP LR LR
comp=Z,472nm,20.0s
BLA **Blacksburg** **115.27 306** PFAKE 02 46 00.0 +14
BLA LR LR
comp=Z,1µm,20.0s
ACSO **Alum Creek Sta** **116.81 310** PFAKE 02 46 00.0 +11
ACSO LR LR
comp=Z,2µm,20.0s
AAM **Ann Arbor** **116.93 312** PFAKE 02 46 00.0 +11
AAM LR LR
comp=Z,2µm,22.0s
PET **Petropavlovsk** **118.47 34** PFAKE 02 46 00.0 +8.6
PET LR LR
comp=Z,635nm,21.0s
JTS **JuntasAbangare** **119.84 276** *e*PKPdf **PKPdf** **02 45 55.9 +0.7**
JTS LR LR
comp=Z,754nm,22.0s
EYMN **Ely** **120.70 320** PFAKE 02 46 10.0 +14
EYMN LR LR
comp=Z,2µm,19.0s
INK **Inuvik** **121.14 355** *e*PKPdf **PKPdf** **02 45 55.9 -0.2**
INK PKP **PKPdf** **02 45 56.1 -0.1**
INK **Inuvik** **121.14 355** PKP **PKPdf** **02 45 56.1 -0.1**
comp=Z,6.1nm,1.1s,baz=18,slow=7.1,SNR=8.4
JFWS **Jewell Farm** **121.50 314** PFAKE 02 46 10.0 +12
JFWS LR LR
comp=Z,2µm,21.0s
BRAL **Brewton** **121.51 300** PFAKE 02 46 10.0 +12
BRAL LR LR
comp=Z,2µm,20.0s
TGUH **Tegucigalpa,Un** **122.39 280** PFAKE 02 46 10.0 +10
TGUH LR LR
comp=Z,749nm,21.0s
ULM **Lac du Bonnet** **122.42 324** PKP **PKPdf** **02 45 58.8 -0.4**
ULM **Lac du Bonnet** **122.42 324** PKP **PKPdf** **02 45 58.8 -0.4**
comp=Z,7.2nm,1.1s,baz=2.1,slow=7.0,SNR=3.9
YKW3 **Yellowknife Ar** **122.78 343** *e*PKPdf **PKPdf** **02 45 59.7 +0.2**
YKA **Yellowknife Ar** **122.83 343** PKP **PKPdf** **02 45 59.1 -0.4**
YKA PP PP 02 47 31.8 -5.6
YKA **Yellowknife Ar** **122.83 343** PKP **PKPdf** **02 45 59.1 -0.4**
comp=Z,4.6nm,1.1s,baz=35,slow=2.2,SNR=11
YKA PP PP 02 47 31.7 -5.6
comp=Z,0.5nm,0.8s,baz=57,slow=6.9,SNR=4.6
AGMN **Agassiz Nation** **123.26 322** PFAKE 02 46 10.0 +9.2
AGMN LR LR
comp=Z,1µm,19.0s
FFC **Flin Flon** **123.37 331** *e*PKIKP **PKPdf** **02 46 00.7 -0.2**
FFC MLR MLR
comp=Z,507nm,21.0s
FFC **Flin Flon** **123.37 331** *e*PKPdf **PKPdf** **02 46 00.7 -0.2**
FFC LR LR
comp=Z,507nm,21.0s
PAYG **Puerto Ayora** **123.42 263** PFAKE 02 46 10.0 +7.8
PAYG LR LR
comp=Z,1µm,19.0s
TEIG **Tepich** **123.44 288** PFAKE 02 46 10.0 +8.0
TEIG LR LR
comp=Z,855nm,19.0s
DZM **Mont Dzumac** **123.65 125** *e*LR LR 03 24 21.3
comp=Z,1µm,21.0s
IM04 **Indian Mountai** **123.83 4** *e*PKPdf **PKPdf** **02 46 01.5 0.0**
SCIA **State Center** **123.90 314** PFAKE 02 46 10.0 +7.7
SCIA LR LR
comp=Z,2µm,21.0s
B30A **Myrvik Farm, E** **124.66 323** P **PKPdf** **02 46 03.9 +0.4**
baz=125
A29A **Manning Farm,** **124.97 324** P **PKPdf** **02 46 04.5 +0.4**
baz=125
C30A **Mose, Pekin** **125.10 322** P **PKPdf** **02 46 04.6 +0.2**
baz=125
COLA **College** **125.17 1** *e*PKIKP **PKPdf** **02 46 04.0 0.0**
COLA *e* 02 47 53.5
COLA MLR MLR
comp=Z,509nm,20.0s
COLA **College** **125.17 1** *e*PKPdf **PKPdf** **02 46 04.0 0.0**
COLA *e*PP **PP** **02 47 53.5 +0.7**
COLA LR LR
comp=Z,509nm,20.0s
B29A **Wagenman Farm,** **125.26 324** P **PKPdf** **02 46 04.9 +0.2**
baz=125
ILAR **Eielson Array** **125.28 0** PKP **PKPdf** **02 46 03.7 -0.5**
ILAR PP **PP** **02 47 53.3 -0.4**
ILAR **Eielson Array** **125.28 0** PKP **PKPdf** **02 46 03.7 -0.5**
comp=Z,5.7nm,1.1s,baz=319,slow=3.4,SNR=28
ILAR PP **PP** **02 47 53.3 -0.4**
comp=Z,2.0nm,1.2s,baz=355,slow=7.4,SNR=5.2
D30A **Buchanan** **125.53 322** P **PKPdf** **02 46 04.9 -0.4**
baz=126
ECSD **EROS Data Cent** **125.59 317** PFAKE 02 46 20.0 +15
ECSD LR LR
comp=Z,2µm,21.0s
MIAR **Mount Ida** **126.25 306** PFAKE 02 46 20.0 +13
MIAR LR LR
comp=Z,2µm,20.0s
MCK **McKinley** **126.29 2** *e*PKIKP **PKPdf** **02 46 07.2 +1.0**
MCK **McKinley** **126.29 2** *e*PKPdf **PKPdf** **02 46 07.2 +1.0**
PPLA **Purkeypile** **126.99 3** *e*PKPdf **PKPdf** **02 46 08.4 +0.6**
KSU1 **Kansas State U** **127.26 312** *e*PKPdf **PKPdf** **02 46 09.4 +0.6**
KSU1 LR LR
comp=Z,2µm,22.0s
F28A **McLaughlin** **127.37 321** P **PKPdf** **02 46 09.4 +0.5**
baz=127
J30A **Dallas** **127.67 318** P **PKPdf** **02 46 10.1 +0.6**
baz=128
DGMT **Dagmar** **128.02 326** PFAKE 02 46 20.0 +10
DGMT LR LR
comp=Z,1µm,20.0s
H28A **Mission Ridge** **128.06 320** P **PKPdf** **02 46 10.4 +0.2**
baz=128
J29A **Okreek** **128.18 318** P **PKPdf** **02 46 10.7 +0.2**
baz=128
I28A **Midland** **128.46 319** P **PKPdf** **02 46 11.1 +0.1**
baz=128
P32A **Huiting Farm,** **128.52 313** P **PKPdf** **02 46 11.6 +0.4**
baz=128
H27A **Howes** **128.74 320** P **PKPdf** **02 46 11.4 -0.2**
baz=129
G26A **Maurine** **128.74 321** P **PKPdf** **02 46 11.4 -0.1**
baz=129
I27A **Quinn** **128.99 320** P **PKPdf** **02 46 12.7 +0.6**
baz=129
H26A **Fairpoint** **129.18 321** P **PKPdf** **02 46 12.8 +0.4**
baz=129
C22A **Vida** **129.37 326** P **PKPdf** **02 46 13.5 +0.9**
baz=129
F24A **Ekalaka** **129.58 323** P **PKPdf** **02 46 13.5 +0.4**
baz=130
E23A **Ismay** **129.73 324** P **PKPdf** **02 46 13.9 +0.5**
baz=130
Y34A **Reagan Ranch,** **129.75 306** P **PKPdf** **02 46 14.1 +0.4**
baz=130
D22A **Cohagen** **129.87 325** P **PKPdf** **02 46 14.6 +1.0**
baz=130
I25A **Rochford** **130.08 321** P **PKPdf** **02 46 14.2 -0.1**
baz=130
DLBC **Dease Lake** **130.10 349** PKP **PKPdf** **02 46 15.3 +1.6**
DLBC **Dease Lake** **130.10 349** PKP **PKPdf** **02 46 15.3 +1.6**
comp=Z,6.6nm,1.2s,baz=38,slow=4.0,SNR=4.4
LAO **LASA Array** **130.16 325** PFAKE 02 46 30.0 +16
LAO LR LR
comp=Z,2µm,20.0s
A19A **Klindworth Far** **130.20 328** P **PKPdf** **02 46 14.6 +0.4**
baz=130
F23A **Volborg** **130.21 323** P **PKPdf** **02 46 14.8 +0.5**
baz=130
H24A **Dirks Ranch, A** **130.22 322** P **PKPdf** **02 46 14.7 +0.3**
baz=130
R30A **Dighton** **130.24 312** P **PKPdf** **02 46 14.1 -0.4**
baz=130
WMOK **Wichita Mounta** **130.32 307** PFAKE 02 46 30.0 +15
WMOK LR LR
comp=Z,1µm,19.0s
K26A **Motz Farm, Whi** **130.36 319** P **PKPdf** **02 46 14.8 +0.1**
baz=130
D21A **La Casta Ranch** **130.37 325** P **PKPdf** **02 46 15.1 +0.5**
baz=130
M27A **Reverse DX Ran** **130.38 317** P **PKPdf** **02 46 15.1 +0.3**
baz=130
OGNE **Ogallala** **130.40 316** PFAKE 02 46 30.0 +15
OGNE LR LR
comp=Z,1µm,19.0s
RAO **Raoul Island** **130.41 143** PFAKE 02 46 30.0 +15
RAO LR LR
comp=Z,778nm,19.0s
J25A **Sunshine Ranch** **130.43 320** P **PKPdf** **02 46 14.8 -0.1**
baz=130
G23A **Biddle** **130.48 323** P **PKPdf** **02 46 14.8 -0.1**
baz=130
Q29A **Oakley** **130.51 313** P **PKPdf** **02 46 14.3 -0.7**
baz=130
C20A **Veseth Ranch,** **130.55 327** P **PKPdf** **02 46 15.1 +0.2**
baz=130
O28A **Krutsinger Ran** **130.57 315** P **PKPdf** **02 46 15.7 +0.6**
baz=131
B19A **Brinkman Farms** **130.60 328** P **PKPdf** **02 46 15.4 +0.5**
baz=130
F22A **Rosebud** **130.68 324** P **PKPdf** **02 46 16.0 +0.8**
baz=131
E21A **Keefer Ranch,** **130.72 325** P **PKPdf** **02 46 17.0 +1.7**
baz=131
P28A **Saint Francis** **130.78 314** P **PKPdf** **02 46 16.5 +0.9**
baz=131
N27A **Anderson Farm,** **130.80 316** P **PKPdf** **02 46 16.5 +0.9**
baz=131
X32A **Elmer** **130.81 307** P **PKPdf** **02 46 15.8 +0.1**
baz=131
334A **Lometa** **130.85 303** P **PKPdf** **02 46 15.7 -0.1**
baz=131
K25A **Mack Ranch, Ha** **130.85 319** P **PKPdf** **02 46 16.1 +0.4**
baz=131
D20A **Manuel Ranch,** **130.99 326** P **PKPdf** **02 46 16.1 +0.3**
baz=131
434A **Burnet** **131.00 302** ⇓P **PKPdf** **02 46 16.6 +0.4**
baz=131,SNR=6.4
J24A **Dixon Ranch, L** **131.00 320** P **PKPdf** **02 46 16.2 +0.3**
baz=131
G22A **Birney** **131.01 323** P **PKPdf** **02 46 16.1 +0.2**
baz=131
133A **Hamilton Ranch** **131.06 305** P **PKPdf** **02 46 16.7 +0.5**
baz=131
C19A **Slack Wire Ran** **131.10 327** P **PKPdf** **02 46 16.6 +0.6**
baz=131
EGMT **Eagleton** **131.29 328** *e*PKPdf **PKPdf** **02 46 18.5 +2.2**
EGMT LR LR
comp=Z,1µm,20.0s
EGMT **Eagleton** **131.29 328** P **PKPdf** **02 46 17.4 +1.1**
baz=131
X31A **McDonald Ranch** **131.29 308** P **PKPdf** **02 46 17.4 +0.7**
baz=131
Z32A **Haskell** **131.31 306** P **PKPdf** **02 46 17.3 +0.6**
baz=131
R28A **Tribune** **131.32 313** P **PKPdf** **02 46 17.2 +0.5**
baz=131
E20A **Meyer Farm, Mu** **131.34 325** P **PKPdf** **02 46 17.0 +0.5**
baz=131
D19A **Cripps Ranch,** **131.35 327** P **PKPdf** **02 46 17.1 +0.6**
baz=131
534A **Blanco** **131.37 301** ⇓P **PKPdf** **02 46 18.8 +1.9**
baz=131
H22A **Clearmont** **131.39 322** P **PKPdf** **02 46 17.4 +0.7**
baz=131
333A **Richland Sprin** **131.47 303** ⇑P **PKPdf** **02 46 17.7 +0.6**
baz=132,SNR=6.1
433A **Art** **131.70 302** ⇓P **PKPdf** **02 46 19.0 +1.5**
baz=132,SNR=6.6
E19A **Rath Farm, Rou** **131.73 326** P **PKPdf** **02 46 17.7 +0.5**
baz=132
H21A **Big Horn, Sher** **131.78 323** P **PKPdf** **02 46 18.4 +1.0**
baz=132
533A **Sterrville** **131.83 302** ⇑P **PKPdf** **02 46 19.1 +1.3**
baz=132
Z31A **Sharp Cattle R** **131.84 306** P **PKPdf** **02 46 18.5 +0.8**
baz=132
I22A **9 Mile Ranch,** **131.84 322** P **PKPdf** **02 46 17.9 +0.4**
baz=132
232A **Coleman** **131.86 304** P **PKPdf** **02 46 18.8 +0.9**
baz=132
P26A **Davis Ranch, A** **131.90 315** P **PKPdf** **02 46 18.9 +1.1**
baz=132
K23A **Bowen Ranch, D** **131.91 320** P **PKPdf** **02 46 18.7 +0.9**
baz=132
M24A **Cheyenne** **132.03 318** P **PKPdf** **02 46 18.5 +0.4**
baz=132
KDAK **Kodiak Island** **132.04 5** PFAKE 02 46 30.0 +13
KDAK LR LR
comp=Z,515nm,20.0s
R27A **Eads** **132.06 313** P **PKPdf** **02 46 18.8 +0.7**
baz=132
332A **Millersview** **132.07 303** ⇑P **PKPdf** **02 46 18.9 +0.7**
baz=132,SNR=6.0
J22A **Midwest** **132.10 321** P **PKPdf** **02 46 19.1 +1.0**
baz=132
G20A **Bridger** **132.13 324** P **PKPdf** **02 46 19.2 +1.2**
baz=132
432A **Menard** **132.25 303** ⇓P **PKPdf** **02 46 18.6 0.0**
baz=132
JCT **Junction City** **132.37 302** PFAKE 02 46 30.0 +11
JCT LR LR
comp=Z,1µm,19.0s
JCT **Junction City** **132.37 302** ⇓P **PKPdf** **02 46 19.4 +0.6**
baz=132,SNR=5.9
I21A **Big Trails, Te** **132.38 322** P **PKPdf** **02 46 19.3 +0.7**
baz=132
H20A **Greybull** **132.43 323** P **PKPdf** **02 46 19.4 +0.8**
baz=132
WRAK **Wrangell Islan** **132.43 350** PFAKE 02 46 30.0 +12
WRAK LR LR
comp=Z,846nm,19.0s
P25A **Willow Gulch B** **132.49 315** P **PKPdf** **02 46 19.5 +0.5**
baz=132
K22A **Casper** **132.53 320** P **PKPdf** **02 46 19.4 +0.5**
baz=132
532A **Rocksprings** **132.54 302** ⇓P **PKPdf** **02 46 20.1 +1.0**
baz=133,SNR=6.6
632A **Uvalde** **132.60 301** P **PKPdf** **02 46 20.1 +0.8**
baz=133
331A **San Angelo** **132.66 304** ⇓P **PKPdf** **02 46 19.9 +0.5**
baz=133
RLMT **Red Lodge** **132.79 325** PFAKE 02 46 30.0 +11
RLMT LR LR
comp=Z,1µm,19.0s
Q25A **Bedland, Calha** **132.81 315** P **PKPdf** **02 46 20.6 +0.9**
baz=133
S26A **Kim** **132.82 313** P **PKPdf** **02 46 20.2 +0.6**
baz=133
O24A **Longmont** **132.83 317** P **PKPdf** **02 46 20.4 +0.9**
baz=133
Y29A **Porterfield Fa** **132.87 307** P **PKPdf** **02 46 21.4 +1.7**
baz=133
732A **Laxson Ranch,** **132.95 300** P **PKPdf** **02 46 21.2 +1.3**
baz=133
431A **Sonora** **132.98 303** ⇑P **PKPdf** **02 46 21.7 +1.7**
baz=133,SNR=8.2
K21A **Alcova** **132.99 321** P **PKPdf** **02 46 21.5 +1.7**
baz=133
N23A **Red Feather La** **133.04 318** P **PKPdf** **02 46 21.0 +1.0**
baz=133
230A **Sterling City** **133.05 305** P **PKPdf** **02 46 21.4 +1.4**
baz=133
531A **Rocksprings** **133.07 302** P **PKPdf** **02 46 21.0 +0.9**
baz=133
T26A **Comanche Natio** **133.09 312** P **PKPdf** **02 46 21.7 +1.5**
baz=133
Z29A **Hungry Hill Ra** **133.09 307** P **PKPdf** **02 46 21.1 +0.9**
baz=133
J20A **Shoshoni** **133.11 322** P **PKPdf** **02 46 21.4 +1.5**
baz=133
R25A **Fountain Ranch** **133.18 314** P **PKPdf** **02 46 21.8 +1.6**
baz=133
330A **Mertzon** **133.24 304** ⇑P **PKPdf** **02 46 22.2 +1.7**
baz=133,SNR=7.7
631A **Perdido Creek** **133.29 301** P **PKPdf** **02 46 21.4 +0.8**
baz=133
Y28A **McKinney Farm,** **133.30 308** P **PKPdf** **02 46 21.9 +1.3**
baz=133
ISCO **Idaho Springs** **133.35 316** PFAKE 02 46 30.0 +9.2
ISCO LR LR
comp=Z,2µm,19.0s
ISCO **Idaho Springs** **133.35 316** P **PKPdf** **02 46 22.2 +1.4**
baz=133
129A **Stewart Farms,** **133.43 306** P **PKPdf** **02 46 21.7 +1.0**
baz=133
430A **Baggett Ranch,** **133.47 303** ⇑P **PKPdf** **02 46 22.7 +1.8**
baz=134,SNR=12
U26A **Atchley Ranch,** **133.51 311** P **PKPdf** **02 46 22.3 +1.2**
baz=134
YBMT **Yellow Bay** **133.54 330** *e*PKPdf **PKPdf** **02 46 23.1 +2.5**
X27A **F and S Farms,** **133.70 309** P **PKPdf** **02 46 22.2 +0.9**
baz=134
R24A **Sanders Place,** **133.72 314** P **PKPdf** **02 46 22.6 +1.3**
baz=134
530A **J-C Ranch, Com** **133.73 302** ⇓P **PKPdf** **02 46 22.2 +0.8**
baz=134
J19A **Crowheart** **133.75 322** P **PKPdf** **02 46 22.8 +1.6**
baz=134
JTMT **Jette** **133.76 330** *e*PKPdf **PKPdf** **02 46 23.4 +2.4**
SWMT **Swartz Lake** **133.78 330** *e*PKPdf **PKPdf** **02 46 23.7 +2.7**
BOZ **Bozeman (W)** **133.79 327** PFAKE 02 46 30.0 +8.8
BOZ LR LR
comp=Z,2µm,20.0s
CHMT **Chamberlain Mo** **133.81 329** *e*PKPdf **PKPdf** **02 46 21.8 +0.5**
329A **Wagon Wheel Ra** **133.88 304** ⇓P **PKPdf** **02 46 22.8 +1.1**
baz=134
BSMT **Bassoo Peak** **133.93 331** *e*PKPdf **PKPdf** **02 46 23.4 +2.0**
U25A **Circle Dot Ran** **134.00 312** P **PKPdf** **02 46 22.6 +0.6**
baz=134
Y27A **Causey** **134.02 308** P **PKPdf** **02 46 22.5 +0.6**
baz=134
429A **Davenport Ranc** **134.06 303** ⇓P **PKPdf** **02 46 22.5 +0.5**
baz=134,SNR=5.2
SDCO **Great Sand Dun** **134.22 314** PFAKE 02 46 30.0 +7.6
SDCO LR LR
comp=Z,1µm,20.0s
R23A **Moffat** **134.25 315** P **PKPdf** **02 46 22.9 +0.5**
baz=134
PDAR **Pinedale Array** **134.34 322** PKPpre PKPpre 02 46 16.2
PDAR PKP **PKiKP** **02 46 23.2 -0.6**
PDAR **Pinedale Array** **134.34 322** PKhKP PKPpre 02 46 16.2
comp=Z,0.5nm,0.7s,baz=88,slow=4.6,SNR=3.8
PDAR PKP **PKiKP** **02 46 23.2 -0.6**
comp=Z,2.6nm,1.0s,baz=134,slow=4.3,SNR=3.8
BW06 **Boulder Array** **134.34 322** PFAKE 02 46 30.0 +7.6
BW06 LR LR
comp=Z,2µm,20.0s
V25A **Rancho No Teng** **134.38 311** P **PKPdf** **02 46 23.0 +0.4**
baz=134
529A **Stev Forest Ra** **134.47 303** ⇑P **PKPdf** **02 46 23.4 +0.6**
baz=134,SNR=9.3
W25A **X Bar L Ranch,** **134.52 310** P **PKPdf** **02 46 23.1 +0.2**
baz=134
328A **Wristen Ranch,** **134.58 304** ⇑P **PKPdf** **02 46 23.8 +0.8**
baz=135
N20A **Spence Gulch,** **134.59 319** P **PKPdf** **02 46 23.7 +0.7**
baz=135
428A **Kincaid Ranch,** **134.68 304** ⇑P **PKPdf** **02 46 24.3 +1.0**
baz=135
NEW **Newport** **134.71 333** PFAKE 02 46 30.0 +7.3
NEW LR LR
comp=Z,797nm,21.0s
NEW **Newport** **134.71 333** P **PKPdf** **02 46 23.7 +1.0**
baz=135
227A **Bennet, Jal** **134.77 306** ⇑P **PKPdf** **02 46 24.5 +1.1**
baz=135
Z26A **Caprock** **134.88 307** P **PKPdf** **02 46 24.7 +1.1**
baz=135
528A **Cox Ranch, San** **134.93 303** ⇑P **PKPdf** **02 46 24.4 +0.7**
baz=135
O20A **White River Ci** **134.94 318** P **PKPdf** **02 46 24.7 +1.1**
baz=135
628A **Black Gap, Mar** **135.21 302** ⇓P **PKPdf** **02 46 25.0 +0.8**
baz=135
427A **Hayter Ranch,** **135.23 304** ⇑P **PKPdf** **02 46 25.8 +1.5**
baz=135
226B **Tecolote Peak,** **135.44 306** ⇓P **PKPdf** **02 46 25.3 +0.7**
baz=136
V23A **Ortiz Mt. (NFS** **135.58 312** P **PKPdf** **02 46 25.8 +0.9**
baz=136
527A **Woodward Ranch** **135.62 303** ⇑P **PKPdf** **02 46 27.0 +1.9**
baz=136,SNR=8.2
627A **Terlingua Ranc** **135.64 302** ⇑P **PKPdf** **02 46 27.0 +1.9**
baz=136,SNR=5.4
426A **McDonald Obser** **135.80 304** ⇑P **PKPdf** **02 46 27.4 +1.9**
baz=136,SNR=9.4
TXAR **Lajitas Array** **135.91 302** PKPpre PKPpre 02 46 15.2
TXAR PKP **PKiKP** **02 46 26.7 -0.5**
TXAR **Lajitas Array** **135.91 302** PKhKP PKPpre 02 46 15.2
comp=Z,0.3nm,0.9s,baz=122,slow=3.3,SNR=3.3
TXAR PKP **PKiKP** **02 46 26.7 -0.5**
comp=Z,2.9nm,0.9s,baz=48,slow=1.9,SNR=17
Z24A **Sheeppen Canyo** **135.94 308** P **PKPdf** **02 46 27.2 +1.6**
baz=136
225A **Deer Hill, Car** **135.96 306** P **PKPdf** **02 46 27.2 +1.5**
baz=136
526A **Mary Lane Ranc** **136.04 303** ⇓P **PKPdf** **02 46 27.6 +1.8**
baz=136,SNR=9.3
V22A **San Miguel Ran** **136.04 312** P **PKPdf** **02 46 27.0 +1.2**
baz=136
ANMO **Albuquerque** **136.12 311** PFAKE 02 46 40.0 +14
ANMO LR LR
comp=Z,2µm,20.0s
PV01 **Paradox Valley** **136.17 316** *e*PKPdf **PKPdf** **02 46 28.3 +2.4**
626A **Big Bend Ranch** **136.23 303** ⇓P **PKPdf** **02 46 26.5 +0.4**
baz=136,SNR=5.6
325A **Bean Ranch, Si** **136.33 305** ⇑P **PKPdf** **02 46 27.4 +1.0**
baz=136
224A **Cornudas Mount** **136.52 307** ⇑P **PKPdf** **02 46 27.7 +1.0**
baz=136
425A **Indio Mountain** **136.54 305** ⇑P **PKPdf** **02 46 28.0 +1.3**
baz=137
MNTX **Cornudas Mount** **136.55 306** *e*PKPdf **PKPdf** **02 46 27.2 +0.6**
MNTX LR LR
comp=Z,997nm,21.0s
MVCO **Mesa Verde** **136.58 315** PFAKE 02 46 40.0 +13
MVCO LR LR
comp=Z,1µm,21.0s
HLID **Hailey** **136.65 326** PFAKE 02 46 40.0 +13
HLID LR LR
comp=Z,987nm,20.0s
DAU **Daniels Canyon** **136.72 320** *e*PKIKP **PKPdf** **02 46 29.0 +2.0**
DAU **Daniels Canyon** **136.72 320** *e*PKPdf **PKPdf** **02 46 29.0 +2.0**
Z22A **Elephant Butte** **137.20 309** P **PKPdf** **02 46 29.1 +1.2**
baz=137
HAWA **Hanford** **137.20 333** PFAKE 02 46 40.0 +13
HAWA LR LR
comp=Z,980nm,19.0s
BMO **Blue Mountains** **137.28 330** PFAKE 02 46 40.0 +12
BMO LR LR
comp=Z,1µm,19.0s
222A **Williams Famil** **137.75 307** P **PKPdf** **02 46 30.2 +1.3**
baz=138
DUG **Dugway** **137.82 321** PFAKE 02 46 40.0 +11
DUG LR LR
comp=Z,1µm,22.0s
DUG **Dugway** **137.82 321** P **PKPdf** **02 46 30.1 +1.3**
baz=138
NLWA **Neilton Lookou** **138.21 337** *e*PKPdf **PKPdf** **02 46 30.7 +1.5**
NLWA LR LR
comp=Z,1µm,19.0s
MVU **Marysvale** **138.41 319** *e*PKPdf **PKPdf** **02 46 31.0 +0.9**
X18A **Snowflake** **138.88 312** P **PKPdf** **02 46 32.6 +1.5**
baz=139
320A **Kipp Ranch, An** **139.17 307** ⇑P **PKPdf** **02 46 32.8 +1.2**

baz=139,SNR=8.8
WUAZ Wupatki 139.43 314 *e*PKPdf **PKPdf 02 46 33.3 +1.3**
WUAZ LR LR
comp=Z,956nm,20.0s
WUAZ Wupatki 139.43 314 P **PKPdf 02 46 33.8 +1.8**
baz=139
U15A North Rim 139.59 316 P **PKPdf 02 46 33.8 +1.4**
baz=140
ARUT Antelope Range 139.61 319 *e*PKIKP **PKPdf 02 46 33.7 +1.5**
ARUT Antelope Range 139.61 319 *e*PKPdf **PKPdf 02 46 33.7 +1.5**
WVOR Wild Horse Val 139.68 328 PFAKE 02 46 40.0 +7.8
WVOR LR LR
comp=Z,1μm,20.0s
319A Douglas 139.75 307 ⇓P **PKPdf 02 46 35.1 +2.5**
baz=140,SNR=8.9
PINOR Pine Mountain 139.78 331 *e*PKPdf **PKPdf 02 46 33.8 +1.7**
X16A Lo Mia Camp, P 140.02 313 P **PKPdf 02 46 35.0 +1.9**
baz=140
TUC Tucson 140.51 310 *e*PKPpre PKPpre 02 46 29.8
TUC *e*PKPdf **PKiKP 02 46 35.3 -1.2**
TUC LR LR
comp=Z,1μm,19.0s
J04D Umpqua Nationa 140.80 332 P **PKPdf 02 46 36.0 +1.7**
baz=141
MOD Modoc 140.92 329 *e*PKPpre PKPpre 02 46 29.2
W13A Hualapai Mount 141.40 315 ⇑P **PKPdf 02 46 37.4 +1.8**
baz=141
SHPR Sheep Range 141.47 318 *e*PKPdf **PKPdf 02 46 36.9 +1.3**
TPH Tonopah 141.82 322 *e*PKIKP **PKPdf 02 46 38.5 +2.2**
TPH Tonopah 141.82 322 *e*PKPdf **PKPdf 02 46 38.5 +2.2**
TPNV Topopah Spring 141.92 320 ⇑P **PKPdf 02 46 38.6 +2.2**
baz=142
PAHR Pah Rah Range 142.00 326 *e*PKPdf **PKPdf 02 46 35.0 -1.5**
NVAR Mina Array Bea 142.24 323 PKPpre PKPpre 02 46 33.1
NVAR Mina Array Bea 142.24 323 PKhKP PKPpre 02 46 33.1
comp=Z,3.1nm,0.9s,baz=59,slow=3.9,SNR=15
LDFC Landfair 142.25 316 *e*PKPdf **PKPdf 02 46 37.2 +0.2**
IRM Iron Mountain 142.78 315 ⇑P **PKPdf 02 46 40.6 +2.7**
baz=143,SNR=9.3
WAKR Walker 142.85 324 *e*PKPdf **PKPdf 02 46 35.8 -2.3**
GLA Glamis 143.14 313 ⇓P **PKPdf 02 46 37.6 -0.9**
baz=143
GSC Goldstone 143.26 318 *e*PKIKP **PKPdf 02 46 38.7 0.0**
GSC Goldstone 143.26 318 *e*PKPdf **PKPdf 02 46 38.7 0.0**
CMB Columbia Colle 143.72 325 *e*PKIKP PKPbc 02 46 37.5 +0.6
CMB Columbia Colle 143.72 325 *e*PKPdf PKPbc 02 46 37.5 +0.6
PFO Pinyon Flat Ob 143.99 315 PFAKE 02 46 50.0 +10
PFO LR LR
comp=Z,1μm,22.0s
KIPM Iron Peak 144.09 330 *e*PKPdf **PKPdf 02 46 39.2 -0.9**
ISA Isabella 144.12 320 *e*PKIKP **PKPdf 02 46 39.4 -0.8**
ISA Isabella 144.12 320 *e*PKPdf **PKPdf 02 46 39.4 -0.8**
EDW2 Edwards Air Fo 144.29 318 ⇑P **PKPdf 02 46 43.6 +3.1**
baz=144,SNR=7.8
MONP Monument Peak 144.36 314 ⇑P **PKPdf 02 46 43.1 +2.2**
baz=144,SNR=10
MWC Mount Wilson 144.73 317 *e*PKIKP **PKPdf 02 46 41.6 +0.1**
MWC Mount Wilson 144.73 317 *e*PKPdf **PKPdf 02 46 41.6 +0.1**
109C Camp Elliot, M 144.84 315 ⇓P **PKPdf 02 46 44.0 +2.6**
baz=145
DECC Green Verdugo 144.89 318 ⇓P **PKPdf 02 46 43.9 +2.4**
baz=145
RKT Rikitea 145.34 198 *e*LR LR 03 34 22.4
comp=Z,502nm,28.2s
CIS Catalina Islan 145.44 317 ⇑P **PKPab 02 46 45.7 +3.1**
baz=145
PKM Peak Mountain 145.46 320 ⇓P **PKPab 02 46 45.3 +2.4**
baz=145,SNR=12
BLG Laguna Peak 145.46 318 ⇑P **PKPab 02 46 44.6 +1.9**
baz=145
BSC Santa Cruz Isl 145.91 319 ⇑P **PKPab 02 46 47.0 +2.6**
baz=146
TBI Tubuai 146.72 174 *e*LR LR 03 34 57.4
comp=Z,445nm,23.5s
PPT2 Papeete2 152.40 173 *e*PP PP 02 50 30.8 -11
comp=Z,113nm,23.8s
PPT2 Papeete2 152.40 173 *e*SS SS 03 10 03.3 -6.3
comp=Z,64nm,22.8s
PPT2 Papeete2 152.40 173 *e*LR LR 03 37 43.1
comp=Z,600nm,25.0s

IDC 12 02:54:53.6±1.4, 55°.41S×27°.35W, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.4/16, mbtmp3.5/2, Error ellipse: s-maj=99.1km s-min=36.2km az=102.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.21**	**183**	P		P	P	03 03 27.3	0.0
	0.4nm,0.6s,baz=185,slow=6.2,SNR=5.3								
TORD	**Torodi Ar. Bea**	**72.54**	**30**	P		P	P	03 06 22.4	+0.2
	0.2nm,0.7s,baz=196,slow=7.0,SNR=4.4								
ILAR	**Eielson Array**	**149.62**	**313**	PKPbc		PKPbc	PKPbc	03 14 42.9	-0.6
	0.2nm,0.8s,baz=77,slow=1.9,SNR=4.2								
SONM	**Songino Array**	**150.77**	**85**	PKPbc		PKPbc	PKPbc	03 14 46.5	-0.5
	0.3nm,0.5s,baz=212,slow=3.3,SNR=2.7								

ISCJB ***12*** *02:55:12.3±0.4, 25°.63N±0°.07×122°.65E±0°.07, h276km±5km, mb3.8/18, Error ellipse: s-maj=11.9km s-min=10.1km az=149.1*
JMA ***12*** *02:55:15.3±0.2, 25°.52N×122°.58E, h258km±3km, M4.6*
IDC ***12*** *02:55:16.0±2.7, 25°.67N×122°.52E, h299km±28km, mb3.5/17, mb1 3.7/19, mb1mx3.6/29, mbtmp3.5/19, Error ellipse: s-maj=19.8km s-min=9.2km az=71.0*
ISC 12 02:55:13.0±0.7, 25°.67N±0°.09×122°.65E±0°.08, h270km±8km, n33, σ1§18/43, mb3.9/18, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.25**	**165**	P		P	**Pn**	**02 55 52.0**	**+0.3**
YOJ				S		S	**S**	**02 56 21.0**	**-1.2**
IRIF	**Iriomote-Funau**	**1.65**	**144**	P		P	**Pn**	**02 55 54.9**	**+0.5**
IRIF				*e*S		S	**S**	**02 56 25.8**	**-1.4**
JIJ	**Ishigaki jima**	**1.88**	**134**	P		P	**Pn**	**02 55 56.8**	**+0.6**
JIJ				S		S	**S**	**02 56 28.2**	**-2.2**
JKRS	**Kuro-shima**	**1.89**	**139**	P		P	**Pn**	**02 55 57.4**	**+1.1**
JKRS				S		S	**S**	**02 56 29.4**	**-1.1**
HATJ	**Hateruma jima**	**1.92**	**147**	P		P	**Pn**	**02 55 57.5**	**+1.0**
HATJ				S		S	**S**	**02 56 29.4**	**-1.6**
JTJ	**Tarama**	**2.12**	**119**	P		P	**Pn**	**02 55 59.7**	**+1.5**
JTJ				*e*S		S	**S**	**02 56 33.5**	**-0.6**
JMJ	**Miyako jima 2**	**2.54**	**109**	P		P	**Pn**	**02 56 04.1**	**+2.0**
JMJ				*e*S		S	**S**	**02 56 40.9**	**-0.2**
JOGS	**Gusukube**	**2.65**	**109**	P		P	**Pn**	**02 56 05.4**	**+2.1**
JOGS				S		S	**S**	**02 56 43.0**	**-0.1**
JKE	**Kume jima 2**	**3.77**	**79**	P		P	**Pn**	**02 56 15.7**	**+0.5**
JKE				*e*S		S	**S**	**02 57 03.2**	**-1.5**
JMZ	**Minamidaito 2**	**7.73**	**87**	*e*S		S	**S**	**02 58 28.2**	**-3.6**
JNU	**Nakatsue**	**10.32**	**42**	P		P	**P**	**02 57 39.4**	**-0.4**
	0.4nm,0.3s,baz=187,slow=13,SNR=3.0								
KSRS	**Korea Array**	**12.57**	**20**	P		P	**P**	**02 58 06.8**	**+2.1**
	0.3nm,0.3s,baz=201,slow=11,SNR=6.5								
USRK	**Ussuriysk Arra**	**19.98**	**20**	P		P	**P**	**02 59 27.5**	**+2.1**
	2.8nm,0.7s,baz=216,slow=9.7,SNR=4.3								
SONM	**Songino Array**	**25.57**	**334**	P		P	**P**	**03 00 17.7**	**0.0**
	4.9nm,0.9s,baz=149,slow=9.6,SNR=32								
MKAR	**Makanchi Array**	**38.23**	**314**	P		P	**P**	**03 02 07.2**	**-0.2**
	6.3nm,0.4s,baz=100,slow=9.8,SNR=157								
MKAR				PcP		PcP	**PcP**	**03 04 15.7**	**+0.2**
	0.5nm,0.7s,baz=78,slow=9.9,SNR=2.8								
ZALV	**Zalesovo Beam**	**39.75**	**325**	P		P	**P**	**03 02 18.6**	**-1.1**
	3.5nm,0.5s,baz=102,slow=6.8,SNR=18								
FITZ	**Fitzroy Crossi**	**43.61**	**176**	P		P	**P**	**03 02 50.9**	**-0.3**
	1.1nm,0.3s,baz=30,slow=5.3,SNR=7.9								
WRA	**Warramunga Arr**	**46.74**	**165**	P		P	**P**	**03 03 15.8**	**+0.1**
	3.3nm,0.6s,baz=346,slow=8.3,SNR=8.6								
ASAR	**Alice Springs**	**50.24**	**167**	P		P	**P**	**03 03 43.0**	**+0.7**
	1.0nm,0.4s,baz=348,slow=6.7,SNR=26								
STKA	**Stephens Creek**	**60.02**	**161**	P		P	**P**	**03 04 52.4**	**+0.7**
	1.8nm,0.6s,baz=342,slow=6.4,SNR=5.6								
KBZ	**Khabaz**	**65.60**	**308**	P		P	**P**	**03 05 28.7**	**+0.5**
	3.5nm,0.9s,baz=45,slow=1.4,SNR=4.1								
ILAR	**Eielson Array**	**67.28**	**28**	P		P	**P**	**03 05 38.4**	**-0.2**
	0.4nm,0.5s,baz=291,slow=6.7,SNR=12								
JOF	**Joensuu**	**68.07**	**330**	*ep*		P	**P**	**03 05 43.1**	**-0.4**
	1.4nm,0.3s								
ARCES	**ARCESS Array B**	**68.66**	**338**	P		P	**P**	**03 05 46.8**	**-0.3**
	4.0nm,0.9s,baz=55,slow=4.6,SNR=3.6								
KAF	**Kangasniemi**	**70.53**	**330**	*ep*		P	**P**	**03 05 57.9**	**-0.6**
	0.4nm,0.3s								
FINES	**FINESS Array B**	**70.84**	**330**	P		P	**P**	**03 06 00.1**	**-0.2**
	1.1nm,0.4s,baz=60,slow=5.7,SNR=25								
AKASG	**Malin Array Be**	**72.65**	**318**	P		P	**P**	**03 06 10.5**	**-0.8**
	0.8nm,0.4s,baz=66,slow=6.0,SNR=3.8								
BRTR	**Keskin Array B**	**73.37**	**306**	P		P	**P**	**03 06 15.8**	**-0.2**
	1.2nm,0.6s,baz=108,slow=2.5,SNR=10.0								
NB2	**NORSAR Subarra**	**77.53**	**332**	P		P	**P**	**03 06 38.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=51,slow=5.9								
NOA	**NORSAR Array B**	**77.53**	**332**	P		P	**P**	**03 06 38.4**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=52,slow=5.8,SNR=11								
YKA	**Yellowknife Ar**	**81.08**	**23**	P		P	**P**	**03 06 58.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=312,slow=5.1,SNR=19								
CLL	**Collm**	**81.67**	**323**	*e*(P)		P	**P**	**03 07 01.0**	**-0.2**
GERES	**GERESS Array B**	**82.54**	**321**	P		P	**P**	**03 07 05.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=57,slow=4.9,SNR=7.0								

MAN 12 03:01:43, 17°.51N×119°.95E, h33km, mb4.2, ML3.0, MS2.7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.63**	**50**	⇑*eP*			Pb	03 01 56.3	+0.6
SIPP				*i* S			Sn	03 02 06.1	+1.5
ABRA	**Dolores**	**0.74**	**79**	*eP*			Pn	03 01 57.0	-0.1
ABRA				*e*S			Sn	03 02 01.2	-6.0
APYP	**Conner**	**1.28**	**74**	*eP*			Pn	03 02 04.6	0.0
APYP				*e*S			Sn	03 02 13.2	-7.4
CAUP	**Cauayan**	**1.87**	**107**	*eP*			Pn	03 02 13.7	+0.9
BALP	**Baler**	**2.35**	**138**	*eP*			Pn	03 02 20.2	+0.8

GUC 12 03:17:53.8±0.9, 33°.36S×72°.53W, h32km±4km, MD3.8, ML3.1, 5C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.81**	**99**	⇓*iP*			Pn	03 18 08.3	-0.7
IHA	**Instituto Hidr**	**0.81**	**66**	⇓*iP*			Pn	03 18 08.9	-0.1
IHA				*i* S			Sn	03 18 20.0	0.0
LNV	**Longovilo**	**1.11**	**123**	⇑*iP*			Pn	03 18 13.6	+0.5
LNV				*i* S			Sb	03 18 28.6	0.0
ROCH	**El Roble**	**1.33**	**74**	⇑*iP*			Pn	03 18 17.0	+0.5
ROCH				*i* S			Sn	03 18 32.8	-0.5
ROCH					AML	AML		03 18 36.7	
	comp=E,558nm,0.8s								
TACH	**Talagante**	**1.36**	**103**	⇑*iP*			Pn	03 18 17.3	+0.6
TACH				*i* S			Sn	03 18 34.5	+0.8
RCDM	**Rinconada Maip**	**1.45**	**96**	⇑*iP*			Pn	03 18 18.6	+0.8
RCDM				*i* S			Sb	03 18 37.1	-1.3
RCDM					AML	AML		03 18 38.6	
	comp=N,352nm,0.1s								
PEL	**Peldehue**	**1.56**	**83**	⇓*iP*			Pn	03 18 20.8	+1.4
PEL				*i* S			Sb	03 18 41.1	-0.5
PEL					AML	AML		03 18 46.7	
	comp=E,700nm,0.4s								
SAN	**Santiago**	**1.57**	**94**	*eP*			Pb	03 18 20.9	-1.3
SAN					AML	AML		03 18 49.0	
	comp=N,413nm,0.5s								
ANTU	**Antumapu**	**1.60**	**98**	*eP*			Pb	03 18 21.9	-1.0
ANTU					AML	AML		03 18 51.2	
	comp=E,286nm,0.6s								
CLCH	**Cerro Calan**	**1.67**	**92**	⇓*iP*			Pb	03 18 22.5	-1.5
CLCH				*e*S			Sb	03 18 44.6	-0.2
CLCH					AML	AML		03 18 50.8	
	comp=E,520nm,0.6s								
CHCH	**Chadas Angostu**	**1.67**	**111**	*eP*			Pn	03 18 21.9	+1.0
CHCH				*e*S			Sb	03 18 43.5	-1.3
CACH	**El Canelo**	**1.78**	**116**	⇓*iP*			Pb	03 18 24.6	-1.4
CACH				*i* S			Sb	03 18 47.5	-0.6
LMEL	**Las Melosas**	**2.00**	**105**	⇑*iP*			Pn	03 18 27.2	+1.6
LMEL				*i* S			Sb	03 18 52.9	-1.7
LMEL					AML	AML		03 19 02.5	
	comp=N,191nm,0.1s								

IDC 12 03:23:56.5±3.1, 14°.43S×178°.15W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=183.6km s-min=61.0km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.61**	**238**	P		P	P	03 31 39.1	+0.8
	0.5nm,0.4s,baz=77,slow=14,SNR=3.3								
WRA	**Warramunga Arr**	**45.60**	**256**	P		P	P	03 32 19.4	+0.4
	0.3nm,0.3s,baz=88,slow=7.0,SNR=2.7								
ASAR	**Alice Springs**	**46.06**	**251**	P		P	P	03 32 21.2	-1.3
	1.5nm,0.4s,baz=87,slow=8.0,SNR=38								
TORD	**Torodi Ar. Bea**	**178.72**	**173**	PKP		PKP	PKPdf	03 44 10.0	-0.2
	0.9nm,1.1s,baz=213,slow=3.3,SNR=2.5								

LJU ***12*** *03:27:57.8, 46°.39N×15°.07E, h0km Rockburst*
CSEM 12 03:27:57.8±99.0, 46°.39N×15°.07E, h0km, Suspected Mining induced. After LJU, Northwestern Balkan Peninsula

ISCJB ***12*** *03:34:38.5±0.3, 17°.62S±0°.06×13°.23W±0°.06, h10km, mb4.4/34, MS4.7/136, Error ellipse: s-maj=9.4km s-min=7.3km az=140.2*
IDC ***12*** *03:34:39.6±0.6, 17°.59S×13°.25W, h0km, mb3.9/16, mb1 4.0/16, mb1mx4.0/26, mbtmp3.9/16, MS4.6/22, Ms1 4.6/22, ms1mx4.5/29, Error ellipse: s-maj=20.2km s-min=15.5km az=143.0*
NEIC ***12*** *03:34:40.3±0.3, 17°.55S×13°.25W, h10km, mb4.8/25, MS4.9/114, Error ellipse: s-maj=9.9km s-min=7.3km az=153.0*
GCMT ***12*** *03:34:48.4, 17°.73S×13°.38W, h12km, MW5.4, Moment Tensor Solution. s87,c153; s45,c45; Moment tensor: Scale 10¹⁷Nm; Mrr=0.01±.02; Mθθ=0.39±.02; Mϕϕ=0.38±.02; Mrθ=0.19±.05; Mθϕ=-1.69±.02; Mϕr=0.37±.06; Best double couple: Mo=1.80000×10¹⁷ NP1:ϕ=173.00000°, δ=83.00000°, λ=-11.00000°. NP2:ϕ=264.00000°, δ=79.00000°, λ=-173.00000°. Principal axes: T 1.7400, Plg=3.0000°, Azm=219.0000°; N 0.0900, Plg=77.0000°, Azm=321.0000°; P -1.8200, Plg=13.0000°, Azm=128.0000°; Data Used: II IU GU IC G CN. Surface waves: sta=121, comp=235, per=50.*
ISC 12 03:34:40.6±0.4, 17°.60S±0°.08×13°.25W±0°.07, h10km, n203, σ1§37/77, mb4.5/34, MS4.8/137, 2C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**7.37**	**78**	*e*Pn			**Pn**	**03 36 26.2**	**-2.2**
SHEL				*e*TT				03 43 48.6	
H10S2	**ASCENSION HYDR**	**8.69**	**351**	T		T	T	03 45 58.6	
	baz=172,slow=74,SNR=2029								
H10S3	**ASCENSION HYDR**	**8.70**	**351**	T		T	T	03 45 58.0	
	baz=172,slow=74,SNR=1883								
H10S1	**ASCENSION HYDR**	**8.71**	**351**	T		T	T	03 45 59.3	
	baz=172,slow=74,SNR=1815								
H10N1	**ASCENSION HYDR**	**9.77**	**353**	T		T	T	03 47 20.8	
	baz=161,slow=75,SNR=18								
H10N3	**ASCENSION HYDR**	**9.77**	**353**	T		T	T	03 47 18.8	
	baz=161,slow=75,SNR=44								
H10N2	**ASCENSION HYDR**	**9.78**	**353**	T		T	T	03 47 20.3	
	baz=161,slow=75,SNR=21								
LIC	**Lamto**	**25.02**	**20**	*eP*			**P**	**03 40 04.5**	**-0.5**
	baz=210								
LIC	**Lamto**	**25.02**	**20**	*eP*		P		03 40 10.0	+5.0
	37nm,1.2s								
LIC	**Lamto**	**25.02**	**20**	*eP*		P	**P**	**03 40 04.5**	**-0.5**
RCBR	**Riachuelo**	**25.03**	**295**	*eP*		P	**P**	**03 40 03.4**	**-1.8**
	22nm,1.1s								
RCBR					LR	LR			
	comp=Z,2μm,22.0s								
RCBR	**Riachuelo**	**25.03**	**295**	P		P	**P**	**03 40 04.8**	**-0.4**
	comp=Z,21nm,1.1s,baz=100,slow=10,SNR=4.1								
RCBR					LR	LR		03 47 21.3	
	comp=Z,2μm,21.8s,baz=106,slow=30								
KIC	**Kosan Boka**	**25.25**	**20**	*eP*		P	**P**	**03 40 07.9**	**+0.9**
TIC	**Toumodi**	**25.42**	**19**	*eP*		P	**P**	**03 40 08.6**	**0.0**
DBIC	**Dimbokro**	**25.50**	**20**	*eP*		P	**P**	**03 40 08.5**	**-0.7**
	comp=Z,10nm,1.2s								
DBIC	**Dimbokro**	**25.50**	**20**	P		P	**P**	**03 40 10.3**	**+1.0**
	comp=Z,11nm,1.2s,baz=194,slow=9.8,SNR=3.7								
DBIC					LR	LR		03 47 49.3	
	comp=Z,2μm,20.5s,baz=168,slow=31								
TSUM	**Tsumeb**	**29.29**	**98**	*eP*		P	**P**	**03 40 46.7**	**+3.1**
	comp=Z,8.8nm,1.3s								
TSUM	**Tsumeb**	**29.29**	**98**	LR		LR	LR	03 50 09.6	
	comp=Z,1μm,21.8s,baz=266,slow=32								
SPB	**Sao Paulo**	**32.49**	**254**	PFAKE				03 41 20.0	+8.4
SPB				LR			LR		
	comp=Z,1μm,21.0s								
BDFB	**Brasilia**	**33.34**	**268**	P		P	**P**	**03 41 20.4**	**+1.2**
BDFB	**Brasilia**	**33.34**	**268**	P		P	**P**	**03 41 20.4**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=74,slow=7.4,SNR=2.8								
BDFB				LR			LR	03 52 09.5	
	comp=Z,2μm,20.7s,baz=83,slow=32								
TORD	**Torodi Ar. Bea**	**33.93**	**27**	P		P	**P**	**03 41 23.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**33.93**	**27**	P		P	**P**	**03 41 23.8**	**-0.3**
	comp=Z,8.6nm,0.8s,baz=203,slow=8.6,SNR=42								
TORD				LR			LR	03 52 43.4	
	comp=Z,17nm,28.6s,baz=210,slow=32								
SUR	**Sutherland**	**34.03**	**122**	PFAKE				03 41 40.0	+15
SUR				LR			LR		
	comp=Z,1μm,20.0s								
LBTB	**Lobatse**	**36.84**	**108**	*eP*			**P**	**03 41 48.5**	**-0.9**
	comp=Z,32nm,1.8s								
LBTB	**Lobatse**	**36.84**	**108**	P		P	**P**	**03 41 48.2**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=233,slow=5.1,SNR=3.2								
BOSA	**Boshof**	**36.93**	**114**	*eP*			**P**	**03 41 50.0**	**-0.2**
	comp=Z,45nm,1.9s								
BOSA	**Boshof**	**36.93**	**114**	LR		LR		03 54 19.4	
	comp=Z,1μm,20.5s,baz=284,slow=32								
LSZ	**Lusaka**	**39.76**	**93**	*eP*			**P**	**03 42 13.9**	**-0.1**
	comp=Z,7.0nm,0.9s								
LSZ				LR			LR		
	comp=Z,1μm,20.0s								
LSZ	**Lusaka**	**39.76**	**93**	P		P	**P**	**03 42 14.0**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=288,slow=3.2,SNR=4.4								
CPUP	**Villa Florida**	**41.63**	**250**	*eP*			**P**	**03 42 30.1**	**+0.9**
	comp=Z,0.3nm,0.6s								
CPUP	**Villa Florida**	**41.63**	**250**	P		P	**P**	**03 42 29.9**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=82,slow=3.6,SNR=3.3								
CPUP				LR			LR	03 57 24.2	
	comp=Z,16nm,28.6s,baz=78,slow=33								
TAM	**Tamanrasset**	**44.14**	**25**	*eP*			**P**	**03 42 49.2**	**-0.5**
TAM				LR			LR		
	comp=Z,1nm,21.0s								
TRQA	**Tornquist**	**47.07**	**234**	*eP*			**P**	**03 43 11.3**	**-1.4**
	comp=Z,16nm,1.1s								
TRQA				LR			LR		
	comp=Z,1μm,21.0s								
PTGA	**Pitinga**	**48.87**	**285**	PFAKE				03 43 40.0	+13
PTGA				LR			LR		
	comp=Z,1μm,21.0s								
EFI	**East Falkland**	**48.97**	**216**	PFAKE				03 43 40.0	+13
EFI				LR			LR		
	comp=Z,1μm,22.0s								
SAML	**Samuel**	**49.23**	**273**	*eP*			**P**	**03 43 29.4**	**-0.2**
	comp=Z,13nm,1.3s								
SAML				LR			LR		
	comp=Z,1μm,21.0s								
CFAA	**Coronel Fontan**	**51.42**	**243**	P		P	**P**	**03 43 46.1**	**+0.1**
CFAA	**Coronel Fontan**	**51.42**	**243**	P		P	**P**	**03 43 46.1**	**+0.1**
	comp=Z,0.3nm,1.0s,baz=122,slow=11,SNR=3.1								
RTC	**Rabat Centre**	**51.66**	**7**	PFAKE				03 44 00.0	+12
RTC				LR			LR		
	comp=Z,2μm,19.0s								
KMBO	**Kilima Mbogo**	**52.24**	**77**	*eP*			**P**	**03 43 52.5**	**-0.2**
	comp=Z,9.0nm,1.6s								
KMBO				LR			LR		
	comp=Z,553nm,19.0s								
LVC	**Limon Verde**	**52.26**	**255**	*eP*			**P**	**03 43 53.2**	**+0.5**
	comp=Z,21nm,1.5s								
LVC				LR			LR		
	comp=Z,542nm,19.0s								
LPAZ	**La Paz**	**52.36**	**263**	*eP*			**P**	**03 43 51.4**	**-2.6**
	comp=Z,3.9nm,1.2s								
LPAZ	**La Paz**	**52.36**	**263**	P		P	**P**	**03 43 54.2**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=50,slow=7.9,SNR=3.1								
LPAZ				LR			LR	04 05 21.2	
	comp=Z,730nm,18.1s,baz=101,slow=35								
VNA1	**Neumayer--Stat**	**53.13**	**178**	*eP*			**P**	**03 43 57.7**	**-0.4**
VNA2	**Neumayer--Watz**	**53.44**	**178**	*eP*			**P**	**03 43 58.7**	**-1.7**
LCO	**Las Campanas**	**53.52**	**247**	PFAKE				03 44 10.0	+7.9
LCO				LR			LR		
	comp=Z,945nm,19.0s								
PLCA	**Paso Flores**	**54.06**	**232**	*eP*			**P**	**03 44 04.6**	**-0.9**
	comp=Z,11nm,1.4s								
PLCA	**Paso Flores**	**54.06**	**232**	P		P	**P**	**03 44 05.3**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=59,slow=5.9,SNR=3.7								
PLCA				LR			LR	04 03 28.8	
	comp=Z,17nm,28.6s,baz=88,slow=32								
SNAA	**Sanae**	**54.42**	**176**	*eP*			**P**	**03 44 06.2**	**-1.5**
SNAA	**Sanae**	**54.42**	**176**	*eP*			**P**	**03 44 06.8**	**-0.9**
	comp=Z,6.2nm,1.0s								
SNAA	**Sanae**	**54.42**	**176**	P		P	**P**	**03 44 06.5**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=324,slow=9.0,SNR=3.7								
GRGR	**Grenville**	**56.18**	**298**	PFAKE				03 44 30.0	+8.9
GRGR				LR			LR		
	comp=Z,586nm,19.0s								
FDF	**Fort de France**	**57.13**	**301**	PFAKE				03 44 40.0	+12
FDF				LR			LR		
	comp=Z,646nm,20.0s								
ABPO	**Ambohimpanom**	**57.18**	**102**	PFAKE				03 44 40.0	+12
ABPO				LR			LR		
	comp=Z,788nm,20.0s								
KEST	**Kesra**	**57.20**	**22**	LR			LR	04 07 25.9	
	comp=Z,17nm,28.6s,baz=178,slow=34								
PAB	**San Pablo**	**57.45**	**8**	PFAKE				03 44 40.0	+10
PAB				LR			LR		
	comp=Z,903nm,20.0s								
ESDC	**Sonseca Array**	**57.63**	**8**	P		P	**P**	**03 44 31.5**	**+0.6**
ESDC	**Sonseca Array**	**57.63**	**8**	P		P	**P**	**03 44 31.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=198,slow=5.4,SNR=3.4								
ESDC				LR			LR	04 08 52.6	
	comp

comp=Z,28nm,1.3s
LPG La Plagne 65.37 15 *e*P **P 03 45 24.0 +0.5**
comp=Z,28nm,1.3s
LPL La Plagne 65.38 15 *e*P **P 03 45 23.7 +0.2**
comp=Z,48nm,1.6s
LPL La Plagne 65.38 15 *e*P **P 03 45 23.7 +0.2**
comp=Z,48nm,1.6s
OTAV Otavalo 66.49 278 PFAKE 03 45 40.0 +8.4
OTAV LR LR
comp=Z,2µm,20.0s
TUE Stuetta 66.96 17 PFAKE 03 45 50.0 +16
TUE LR LR
comp=Z,696nm,19.0s
SDDR Presa de Saban 67.62 300 PFAKE 03 45 50.0 +12
SDDR LR LR
comp=Z,541nm,20.0s
ECH Echery 68.01 15 PFAKE 03 45 50.0 +10
ECH LR LR
comp=Z,861nm,19.0s
MSEY Mahe Island 68.34 88 PFAKE 03 45 50.0 +7.2
MSEY LR LR
comp=Z,456nm,19.0s
BFO Black Forest 68.40 15 PFAKE 03 45 50.0 +7.6
BFO LR LR
comp=Z,639nm,19.0s
CSS Prodhromos 68.47 40 PFAKE 03 45 50.0 +6.9
CSS LR LR
comp=Z,118nm,19.0s
MAW Mawson 68.58 156 *e*P **P 03 45 45.3 +2.0**
comp=Z,2.3nm,1.1s
MAW Mawson 68.58 156 P **P 03 45 45.1 +1.8**
comp=Z,1.2nm,0.6s,baz=269,slow=5.5,SNR=3.6
MAW LR LR 04 11 02.8
comp=Z,566nm,18.1s,baz=288,slow=32
ISP Isparta 68.78 36 PFAKE 03 46 00.0 +15
ISP LR LR
comp=Z,222nm,19.0s
WLF Walferdange 69.14 13 PFAKE 03 46 00.0 +13
WLF LR LR
comp=Z,796nm,20.0s
GERES GERESS Array B 70.36 19 P P 03 45 58.8 +4.1
GERES GERESS Array B 70.36 19 P P 03 45 58.8 +4.1
comp=Z,0.7nm,0.8s,baz=241,slow=2.0,SNR=4.5
GERES LR LR 04 15 49.5
comp=Z,17nm,28.6s,baz=217,slow=35
BCIP Isla Barro Col 70.93 287 PFAKE 03 46 10.0 +11
BCIP LR LR
comp=Z,1µm,22.0s
GTBY Guantanamo Bay 71.25 299 PFAKE 03 46 10.0 +10
GTBY LR LR
comp=Z,481nm,19.0s
ANTO Ankara 71.48 36 PFAKE 03 46 10.0 +8.4
ANTO LR LR
comp=Z,359nm,22.0s
PSZ Piszkesteto 71.65 23 PFAKE 03 46 10.0 +7.6
PSZ LR LR
comp=Z,571nm,20.0s
BRTR Keskin Array B 71.86 36 P **P 03 46 05.0 +1.1**
BRTR Keskin Array B 71.86 36 P **P 03 46 05.0 +1.1**
comp=Z,0.8nm,0.7s,baz=191,slow=5.0,SNR=4.8
BRTR LR LR 04 17 50.3
comp=Z,16nm,28.6s,baz=228,slow=36
BR131 Keskin Array S 71.86 36 *e*P **P 03 46 02.3 -1.6**
comp=Z,13nm,1.3s
CLL Collm 72.36 17 *e*S **S 03 55 35.0 +5.1**
CLL *e*PPS PPS 03 56 13.0
CLL *e*SSP SSP 04 00 20.0
CLL *e*SSS SSS 04 03 36.0
CLL *e*SSSS 04 05 12.0
CLL Lm MLR 04 15 00.0
comp=Z,500nm,20.6s
MTDJ Mount Denham 72.54 296 PFAKE 03 46 20.0 +12
MTDJ LR LR
comp=Z,463nm,20.0s
QSPA South Pole Qui 72.58 180 *e*P **P 03 46 08.1 +0.1**
comp=Z,20nm,1.1s
QSPA LR LR
comp=Z,723nm,22.0s
KWP Kalwaria Pacla 74.11 23 PFAKE 03 46 30.0 +13
KWP LR LR
comp=Z,493nm,21.0s
JTS JuntasAbangare 76.03 286 *e*P **P 03 46 28.2 -0.5**
comp=Z,18nm,1.3s
JTS LR LR
comp=Z,1µm,22.0s
PAYG Puerto Ayora 77.44 273 PFAKE 03 46 50.0 +13
PAYG LR LR
comp=Z,672nm,20.0s
KIEV Kiev 77.55 26 PFAKE 03 46 50.0 +14
KIEV LR LR
comp=Z,375nm,20.0s
AKASG Malin Array Be 77.56 26 P **P 03 46 35.4 -1.1**
AKASG Malin Array Be 77.56 26 P **P 03 46 35.4 -1.1**
comp=Z,0.6nm,0.6s,baz=222,slow=5.3,SNR=4.0
AKASG LR LR 04 23 22.4
comp=Z,17nm,28.6s,baz=235,slow=38
GNI Garni 78.78 42 PFAKE 03 46 50.0 +6.1
GNI LR LR
comp=Z,241nm,20.0s
KONO Kongsberg 79.19 12 PFAKE 03 47 00.0 +15
KONO LR LR
comp=Z,563nm,19.0s
TGUH Tegucigalpa,Un 79.50 288 PFAKE 03 47 00.0 +12
TGUH LR LR
comp=Z,701nm,20.0s
KBZ Khabaz 79.74 38 LR LR 04 23 03.6
comp=Z,126nm,18.2s,baz=238,slow=36
KIV Kislovodsk 79.75 37 PFAKE 03 47 00.0 +11
KIV LR LR
comp=Z,155nm,19.0s
CNNC Cliffs of the 80.69 311 PFAKE 03 47 10.0 +16
CNNC LR LR
comp=Z,465nm,20.0s
NOA NORSAR Array B 80.79 12 LR LR 04 22 56.4
comp=Z,17nm,28.6s,baz=205,slow=36
TEIG Tepich 82.63 294 PFAKE 03 47 20.0 +15
TEIG LR LR
comp=Z,670nm,22.0s
BINY Binghamton 82.90 318 PFAKE 03 47 20.0 +14
BINY LR LR
comp=Z,2µm,20.0s
LONY Lake Ozonia 83.31 321 PFAKE 03 47 20.0 +12
LONY LR LR
comp=Z,468nm,21.0s
OBN Obninsk 83.82 26 PFAKE 03 47 20.0 +10
OBN LR LR
comp=Z,592nm,21.0s
SBA Scott Base 84.74 180 PFAKE 03 47 30.0 +15
SBA LR LR
comp=Z,373nm,19.0s
FINES FINESS Array B 84.78 18 P P 03 47 18.7 +4.0
FINES FINESS Array B 84.78 18 P P 03 47 18.7 +4.0
comp=Z,1.9nm,0.9s,baz=282,slow=7.0,SNR=2.4
FINES LR LR 04 24 40.2
comp=Z,492nm,21.0s,baz=217,slow=35
VNDA Vanda 85.03 179 *e*P **P 03 47 17.0 +1.0**
comp=Z,5.9nm,1.1s
VNDA Vanda 85.03 179 P **P 03 47 17.5 +1.5**
comp=Z,1.7nm,1.0s,baz=155,slow=4.4,SNR=3.3
VNDA LR LR 04 20 51.3
comp=Z,17nm,28.6s,baz=179,slow=33
SCHQ Schefferville 85.27 332 LR LR 04 18 16.4
comp=Z,17nm,28.6s,baz=134,slow=31
ERPA Erie 85.44 317 PFAKE 03 47 30.0 +11
ERPA LR LR
comp=Z,1µm,21.0s
CASY Casey 86.55 160 PFAKE 03 47 30.0 +6.3
CASY LR LR
comp=Z,476nm,19.0s
ACSO Alum Creek Sta 86.58 314 PFAKE 03 47 40.0 +16
ACSO LR LR
comp=Z,362nm,22.0s
AAM Ann Arbor 87.95 316 PFAKE 03 47 40.0 +9.2
AAM LR LR
comp=Z,797nm,21.0s
WCI Wyandotte Cave 88.05 311 *e*P **P 03 47 30.4 -1.0**
comp=Z,16nm,1.2s
WVT Waverly 88.34 309 *e*P **P 03 47 32.5 -0.3**
comp=Z,12nm,1.3s
ARCES ARCESS Array B 91.13 13 LR LR 04 28 14.1
comp=Z,17nm,28.6s,baz=228,slow=35
KEV Kevo 91.62 13 PFAKE 03 48 00.0 +13
KEV LR LR
comp=Z,579nm,22.0s
LVZ Lovozero 92.07 16 PFAKE 03 48 00.0 +10
LVZ LR LR
comp=Z,197nm,19.0s
ABKAR Akbulak array 92.66 39 *e*P **P 03 47 52.1 -0.4**
ARU Arti 94.84 32 PFAKE 03 48 10.0 +7.5
ARU LR LR
comp=Z,324nm,20.0s
EYMN Ely 95.27 319 PFAKE 03 48 20.0 +15
EYMN LR LR
comp=Z,629nm,22.0s
PALK Pallekele 95.92 84 *e*P **P 03 48 08.4 0.0**
WMOK Wichita Mounta 96.27 304 PFAKE 03 48 20.0 +10
WMOK LR LR
comp=Z,413nm,19.0s
ECSD EROS Data Cent 97.30 313 PFAKE 03 48 20.0 +5.9
ECSD LR LR
comp=Z,445nm,21.0s
AGMN Agassiz Nation 98.15 318 PFAKE 03 48 30.0 +12
AGMN LR LR
comp=Z,622nm,20.0s
ULM Lac du Bonnet 98.73 320 LR LR 04 25 46.7
comp=Z,248nm,18.2s,baz=113,slow=31
EKS2 Erkin-Say 99.58 48 PFAKE 03 48 40.0 +16
EKS2 LR LR
comp=Z,387nm,20.0s
BRVK Borovoye 100.06 38 PFAKE 03 48 40.0 +14
BRVK LR LR
comp=Z,453nm,22.0s
OGNE Ogallala 100.41 310 PFAKE 03 48 40.0 +12
OGNE LR LR
comp=Z,567nm,19.0s
TKM2 Tokmak 2 100.94 48 PFAKE 03 48 40.0 +9.4
TKM2 LR LR
comp=Z,373nm,22.0s
SDCO Great Sand Dun 102.29 306 PFAKE 03 48 50.0 +13
SDCO LR LR
comp=Z,425nm,22.0s
ISCO Idaho Springs 102.82 308 PFAKE 03 48 50.0 +11
ISCO LR LR
comp=Z,293nm,19.0s
MVCO Mesa Verde 104.51 305 PFAKE 03 49 00.0 +13
MVCO LR LR
comp=Z,248nm,20.0s
KURK Kurchatov 104.58 41 PFAKE 03 49 00.0 +14
KURK LR LR
comp=Z,131nm,19.0s
LAO LASA Array 104.59 315 PFAKE 03 49 00.0 +13
LAO LR LR
comp=Z,515nm,21.0s
COCO West Island 104.91 108 PFAKE 03 49 00.0 +11
COCO LR LR
comp=Z,326nm,19.0s
TUC Tucson 105.41 299 PFAKE 03 53 20.0
TUC LR LR
comp=Z,238nm,20.0s
BW06 Boulder Array 106.28 310 PFAKE 03 53 20.0
BW06 LR LR
comp=Z,542nm,20.0s
WUAZ Wupatki 106.48 303 PFAKE 03 53 20.0
WUAZ LR LR
comp=Z,450nm,20.0s
EGMT Eagleton 107.17 316 PFAKE 03 53 20.0
EGMT LR LR
comp=Z,354nm,20.0s
BOZ Bozeman (W) 108.16 313 PFAKE 03 53 20.0
BOZ LR LR
comp=Z,639nm,21.0s
DUG Dugway 108.33 307 PFAKE 03 53 20.0
DUG LR LR
comp=Z,351nm,21.0s
HLID Hailey 109.91 311 PFAKE 03 53 20.0
HLID LR LR
comp=Z,484nm,22.0s
RKT Rikitea 110.14 237 *e*LR LR 04 26 19.5
comp=Z,672nm,24.2s
LSA Lhasa 110.77 64 PFAKE 03 53 30.0
LSA LR LR
comp=Z,207nm,20.0s
BMO Blue Mountains 112.08 312 PFAKE 03 53 30.0
BMO LR LR
comp=Z,460nm,19.0s
NEW Newport 112.11 316 PFAKE 03 53 30.0
NEW LR LR
comp=Z,388nm,21.0s
WVOR Wild Horse Val 112.91 309 PFAKE 03 53 30.0
WVOR LR LR
comp=Z,293nm,20.0s
CHTO Chiang Mai 115.95 77 PFAKE 03 53 40.0 +15
CHTO LR LR
comp=Z,158nm,19.0s
MBWA Marble Bar 119.94 128 PFAKE 03 53 40.0 +7.8
MBWA LR LR
comp=Z,252nm,21.0s
TLY Talaya 120.25 40 PFAKE 03 53 40.0 +8.1
TLY LR LR
comp=Z,235nm,21.0s
KMI Kunming 120.38 71 PKP **PKPdf 03 53 32.1 -1.1**
KMI sPKP 03 53 38.5
KMI LR LR
comp=N,110nm,19.2s
KMI LR LR
comp=E,130nm,24.2s
KMI LR LR
comp=Z,170nm,26.2s
WRAK Wrangell Islan 120.50 326 PFAKE 03 53 40.0 +7.9
WRAK LR LR
comp=Z,279nm,19.0s
TBI Tubuai 120.95 228 *e*LR LR 04 31 20.1
comp=Z,542nm,34.2s
TIXI Tiksi 121.56 13 PFAKE 03 53 40.0 +6.2
TIXI LR LR
comp=Z,236nm,22.0s
SONM Songino Array 122.68 44 PKP **PKPdf 03 53 37.3 +0.5**
SONM Songino Array 122.68 44 PKP **PKPdf 03 53 37.3 +0.5**
comp=Z,0.3nm,0.8s,baz=212,slow=5.1,SNR=2.5
ULN Ulaanbaatar 123.11 44 PFAKE 03 53 50.0 +12
ULN LR LR
comp=Z,336nm,20.0s
COLA College 123.89 339 PFAKE 03 53 50.0 +12
COLA LR LR
comp=Z,245nm,20.0s
PPT2 Papeete2 124.59 233 *e*LR LR 04 32 52.3
comp=Z,557nm,24.0s
CAN Canberra 124.74 162 PFAKE 03 53 50.0 +8.8
CAN LR LR
comp=Z,375nm,20.0s
QIZ Qiongzhong 126.16 79 PFAKE 03 54 00.0 +16
QIZ LR LR
comp=Z,178nm,19.0s
ASAR Alice Springs 127.94 141 PKP **PKPdf 03 53 50.2 +2.6**
ASAR Alice Springs 127.94 141 PKP **PKPdf 03 53 50.2 +2.6**
comp=Z,1.2nm,1.0s,baz=193,slow=3.3,SNR=6.3
KAPI Kappang 128.46 112 PFAKE 03 54 00.0 +11
KAPI LR LR
comp=Z,175nm,19.0s
YAK Yakutsk 128.59 21 PFAKE 03 54 00.0 +13
YAK LR LR
comp=Z,261nm,20.0s
KDAK Kodiak Island 129.89 333 PFAKE 03 54 00.0 +10
KDAK LR LR
comp=Z,487nm,19.0s
HIA Hailar 130.78 39 PFAKE 03 54 00.0 +7.9
HIA LR LR
comp=Z,433nm,22.0s
WRAB Tennant Creek 130.98 138 PFAKE 03 54 00.0 +6.6
WRAB LR LR
comp=Z,259nm,20.0s
BJT Baijiatuau 131.12 52 PFAKE 03 54 00.0 +7.0
BJT LR LR
comp=Z,267nm,19.0s
RAO Raoul Island 131.13 198 PFAKE 03 54 00.0 +6.6
RAO LR LR
comp=Z,923nm,19.0s
YHNB Yeheng 137.25 73 PFAKE 03 54 20.0 +15
YHNB LR LR
comp=Z,191nm,19.0s
CTAO Charters Tower 137.49 151 *e*PKPdf **PKPdf 03 54 04.8 -0.8**
CTAO LR LR
comp=Z,518nm,19.0s
INCN Inchon 139.67 52 PFAKE 03 54 20.0 +11
INCN LR LR
comp=Z,336nm,20.0s
DZM Mont Dzumac 140.58 180 *e*LR LR 04 40 44.2
comp=Z,388nm,26.1s
COEN Coen 140.96 142 *e*PKPdf **PKPdf 03 54 11.6 -0.5**
PMG Port Moresby 146.92 143 PFAKE 03 54 30.0 +4.4
PMG LR LR
comp=Z,400nm,19.0s
ERM Erimo 148.40 35 PFAKE 03 54 40.0 +9.3
ERM LR LR
comp=Z,298nm,20.0s
MAJO Matsushiro 148.53 47 *e*PKPbc **PKPbc 03 54 27.0 -1.1**
MJAR Matsushiro Arr 148.53 47 PKPab **PKPab 03 54 34.3 +2.8**
MJAR Matsushiro Arr 148.53 47 PKPab **PKPab 03 54 34.3 +2.8**
comp=Z,2.0nm,0.9s,baz=296,slow=2.2,SNR=4.4

MEX 12 04:30:55.2±0.8, 16°66N×99°00W, h10km±13km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.85**	**284**	*i* P	Pg	04 31 07.1	-4.5
ACX				*i* S	Sg	04 31 20.0	-2.8
TLIG	**Tlapa**	**0.99**	**25**	*i* P	Pg	04 31 10.8	-3.5
TLIG				*i* S	Sg	04 31 23.1	-4.3
CAIG	**El Cayaco**	**1.27**	**288**	*e*P	Pn	04 31 15.2	-3.9
CAIG				*i* S	Sb	04 31 31.1	-4.7
MEIG	**Mezcala**	**1.39**	**335**	*e*P	Pn	04 31 17.3	-3.5
MEIG				*i* S	Sn	04 31 33.9	-5.4
PLIG	**Platanillo**	**1.79**	**344**	*e*P	Pn	04 31 23.3	-3.0
PLIG				*i* S	Sn	04 31 44.5	-4.7
ARIG	**Puente Sto Nin**	**2.06**	**322**	*i* P	Pn	04 31 27.4	-2.6
ARIG				*i* S	Sn	04 31 51.7	-4.1
YAIG	**Yautepec**	**2.19**	**358**	*i* P	Pn	04 31 29.4	-2.5
YAIG				*i* S	Sn	04 31 55.5	-3.7
VHO	**Vista Hermosa**	**2.21**	**79**	*i* P	Pn	04 31 29.4	-2.7
VHO				*i* S	Sn	04 31 54.7	-5.0
PPM	**Popocatepetl**	**2.42**	**8**	*e*P	Pn	04 31 32.0	-3.4
PPM				*i* S	Sn	04 32 01.1	-4.4
HUIG	**Huatulco**	**2.91**	**107**	*i* P	Pn	04 31 38.4	-3.2
MOIG	**Morelia**	**3.65**	**326**	*i* P	Pn	04 31 45.9	-6.3
MMIG	**Aquila**	**4.45**	**292**	*i* P	Pn	04 32 01.8	-1.1

ISCJB ***12*** *04:39:34.9±0.2, 51°.48N±0°.01×16°.12E±0°.02, h0km, mb3.5/6, Error ellipse: s-maj=2.2km s-min=1.7km az=17.3*
CSEM ***12*** *04:39:36.5±0.1, 51°.51N×16°.13E, h2km, ML3.8/8, Ms3.7, Error ellipse: s-maj=2.3km s-min=2.0km az=30.0*
IPEC ***12*** *04:39:36.2±0.4, 51°.52N×16°.21E, h0km±2km, ML3.0/3, Error ellipse: s-maj=3.9km s-min=1.8km az=60.0*
IDC ***12*** *04:39:37.4±0.5, 51°.47N×15°.98E, h0km, mb3.6/6, mb1 3.6/13, mb1mx3.6/32, mbtmp3.6/13, ML3.4/7, Error ellipse: s-maj=9.9km s-min=5.8km az=103.0*
BGR ***12*** *04:39:38.1±0.3, 51°.45N×16°.10E, h1km, ML3.4/30, Error ellipse: s-maj=3.3km s-min=2.2km az=31.0*
WAR ***12*** *04:39:38.0, 51°.47N×16°.10E*
PRU ***12*** *04:39:38.1, 51°.43N×16°.06E, h0km*
VIE ***12*** *04:39:39.5±0.4, 51°.27N×16°.09E, h0km, mb2.9/8, ML3.2/8, Ms3.7/1, Error ellipse: s-maj=2.4km s-min=2.1km az=170.0 67 km WNW of Wroclaw Suspected Mining induced.*
UPP ***12*** *04:39:46.2, 52°.15N×15°.41E, h0km, ML1.9, Suspected Mining explosion.*

ISC 12 04:39:35.7±0.5, 51°.51N±0°.02×16°.13E±0°.02, h0km, n174, σ1s27/259, mb3.7/6, 16C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**171**	*e*Pg	**Pb**	**04 39 50.0**	**-0.4**
KSP				*e*Sg	**Sg**	**04 39 58.5**	**+1.1**
KSP	**Ksiaz**	**0.68**	**171**	*e*Pg	**Pb**	**04 39 49.9**	**-0.4**
KSP				*e*Sg	**Sg**	**04 39 59.0**	**+1.6**
KSP	**Ksiaz**	**0.68**	**171**	*e*	**Sb**	**04 40 01.7**	**+1.4**
KSP	**Ksiaz**	**0.68**	**171**	Pg	**Pb**	**04 39 50.0**	**-0.4**
KSP				Sg	**Sg**	**04 39 58.5**	**+1.1**
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pb**	**04 39 55.8**	**-0.2**
UPC	**Upice**	**1.01**	**184**	Pg	**Pb**	**04 39 55.8**	**-0.2**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*Pg	**Pb**	**04 39 58.7**	**-0.1**
DPC				*e*Sg	**Sg**	**04 40 13.3**	**+0.1**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*PG	**Pg**	**04 39 58.6**	**+0.5**
DPC				*e*SG	**Sg**	**04 40 13.3**	**+0.1**
DPC	**Dobruska-Polom**	**1.17**	**174**	Pg	**Pb**	**04 39 58.7**	**-0.1**
DPC				Sg	**Sg**	**04 40 13.3**	**+0.1**
PVCC	**Panska Ves** SNR=66	**1.39**	**226**	*e*Pn	**Pb**	**04 40 03.1**	**+0.6**
PVCC				*e*Sg	**Sb**	**04 40 21.2**	**+0.4**
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pb**	**04 40 03.0**	**+0.5**
PVCC				*e*SG	**Sn**	**04 40 21.5**	**+0.1**
	400nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**226**	Pg	**Pb**	**04 40 03.0**	**+0.5**
PVCC				Sg	**Sb**	**04 40 21.2**	**+0.4**
BRG	**Berggiesshubel**	**1.51**	**246**	PN	**Pn**	**04 40 04.1**	**+0.1**
BRG				PG	**Pg**	**04 40 05.5**	**+0.8**
BRG				SG	**Sn**	**04 40 25.0**	**+0.5**
	184nm,0.4s						
BRG	**Berggiesshubel** SNR=33	**1.51**	**246**	*e*Pn	**Pn**	**04 40 04.1**	**+0.1**
BRG				*e*Pg	**Pg**	**04 40 05.7**	**+1.0**
	SNR=1.5						
BRG				*e*Sg	**Sg**	**04 40 23.6**	**-0.7**
BRG	**Berggiesshubel** SNR=33	**1.51**	**246**	Pn	**Pn**	**04 40 04.1**	**+0.1**
RUE	**Ruedersdorf** SNR=11	**1.75**	**305**	*e*Pn	**Pb**	**04 40 07.9**	**-0.7**
RUE				*e*Pg	**Pg**	**04 40 11.5**	**+2.3**
	SNR=6.8						
RUE	**Ruedersdorf** SNR=11	**1.75**	**305**	Pn	**Pb**	**04 40 07.9**	**-0.7**
PRA	**Prague**	**1.80**	**217**	PG	**Pb**	**04 40 09.0**	**-0.5**
PRA				SG	**Sn**	**04 40 30.0**	**-1.4**
PRU	**Pruhonice** SNR=59	**1.83**	**214**	*e*Pn	**Pn**	**04 40 08.6**	**+0.3**
PRU				*e*Pg	**Pg**	**04 40 10.6**	**-0.1**
	SNR=11						
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**04 40 08.6**	**+0.3**
PRU				*e*PG	**Pb**	**04 40 10.3**	**+0.3**
PRU				*e*SG	**Sn**	**04 40 32.4**	**+0.3**
	72nm,0.5s						
PRU	**Pruhonice** SNR=59	**1.83**	**214**	Pn	**Pn**	**04 40 08.6**	**+0.3**
FBE	**Freiberg** SNR=20	**1.84**	**252**	*e*Pn	**Pn**	**04 40 08.6**	**+0.1**
FBE				*e*Pg	**Pg**	**04 40 11.5**	**+0.6**
	SNR=2.2						
FBE				*e*Sg	**Sg**	**04 40 35.7**	**+0.9**
FBE	**Freiberg** SNR=20	**1.84**	**252**	Pn	**Pn**	**04 40 08.6**	**+0.1**
GKP	**Gorka Klasztor**	**1.89**	**21**	*e*Pb	**Pb**	**04 40 10.6**	**-0.4**
GKP				*e*Pg	**Pg**	**04 40 12.8**	**+0.9**
GKP	**Gorka Klasztor**	**1.89**	**21**	*e*Pb	**Pb**	**04 40 10.6**	**-0.4**
RAC	**Raciborz**	**1.94**	**137**	*e*Pg	**Pg**	**04 40 13.3**	**+0.4**
RAC				*e*Sg	**Sg**	**04 40 38.0**	**0.0**
MORC	**Moravsky Berou** SNR=93	**1.96**	**152**	*e*Pn	**Pn**	**04 40 10.2**	**0.0**
MORC				*e*Pg	**Pb**	**04 40 12.8**	**+0.6**
	SNR=41						
MORC				*e*Sg	**Sb**	**04 40 37.5**	**+0.4**
MORC	**Moravsky Berou**	**1.96**	**152**	*i* P	**Pn**	**04 40 10.6**	**+0.4**
MORC	**Moravsky Berou**	**1.96**	**152**	S	**Sn**	**04 40 35.8**	**+0.4**
MORC	**Moravsky Berou**	**1.96**	**152**	*i* P	**Pn**	**04 40 10.6**	**+0.4**
CLL	**Collm** SNR=51	**1.97**	**265**	*e*Pn	**Pn**	**04 40 10.6**	**+0.4**
CLL				*e*Pg	**Pg**	**04 40 13.1**	**-0.2**
	SNR=12						
CLL	**Collm**	**1.97**	**265**	*i* Pn	**Pn**	**04 40 10.5**	**+0.2**
	comp=Z,15nm,0.5s						
CLL				*i* Pg	**Pg**	**04 40 13.0**	**-0.4**
CLL				*i*		04 40 16.0	
CLL				*i* Sg	**Sg**	**04 40 40.0**	**+1.2**
	comp=Z,91nm,0.8s						
CLL	**Collm** SNR=51	**1.97**	**265**	Pn	**Pn**	**04 40 10.6**	**+0.4**
OKC	**Ostrava-Krasne** SNR=24	**2.11**	**142**	*e*Pn	**Pn**	**04 40 12.8**	**+0.6**
OKC				*e*Pg	**Pg**	**04 40 16.6**	**+0.4**
	SNR=3.2						
OKC				*e*Sg	**Sg**	**04 40 43.4**	**-0.1**
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*PN	**Pn**	**04 40 12.0**	**-0.3**
OKC				*e*PG	**Pg**	**04 40 16.4**	**+0.3**
OKC				*e*SG	**Sb**	**04 40 42.7**	**+1.1**
	comp=Z,156nm,0.5s						
OKC	**Ostrava-Krasne** SNR=24	**2.11**	**142**	Pn	**Pn**	**04 40 12.8**	**+0.6**
CHZP	**Chorzow**	**2.19**	**123**	*e*Pg	**Pg**	**04 40 18.9**	**+1.3**
CHZP				*e*Sg	**Sg**	**04 40 47.1**	**+1.2**
VRAC	**Vranov** SNR=21	**2.23**	**172**	*e*Pn	**Pn**	**04 40 15.1**	**+1.3**
VRAC				*e*Sg	**Sg**	**04 40 46.8**	**-0.3**
VRAC	**Vranov**	**2.23**	**172**	*i* P	**Pn**	**04 40 15.2**	**+1.3**

VRAC	**Vranov**	**2.23 172**	S	**Sb**	**04 40 46.0**	**+1.2**
VRAC	**Vranov**	**2.23 172**	*e*Pn	**Pn**	**04 40 14.4**	**+0.6**
VRAC	**Vranov**	**2.23 172**	⇓*i*P	**Pn**	**04 40 15.2**	**+1.3**
VRAC			Sg	**Sg**	**04 40 46.8**	**-0.3**
VRAC	**Vranov**	**2.23 172**	Pn	**Pn**	**04 40 14.7**	**+0.8**
	comp=Z,7.6nm,0.3s,baz=336,slow=13,SNR=34					
VRAC			Lg	Lg	04 40 46.1	
	comp=Z,12nm,0.3s,baz=261,slow=22,SNR=12					
VRAC			Rg	Rg	04 40 55.1	
	comp=Z,37nm,0.4s,baz=82,slow=14,SNR=3.1					
TREC	**Trest**	**2.25 191**	*e*PN	**Pn**	**04 40 14.7**	**+0.4**
TREC			*e*PG	**Pg**	**04 40 18.8**	**-0.1**
TREC			*e*SG	**Sg**	**04 40 47.6**	**-0.5**
	comp=Z,71nm,0.4s					
TREC	**Trest**	**2.25 191**	Pn	**Pn**	**04 40 14.7**	**+0.4**
TREC	**Trest**	**2.25 191**	Pg	**Pg**	**04 40 18.8**	**-0.1**
TREC			Sg	**Sg**	**04 40 47.6**	**-0.5**
	comp=Z,71nm,0.4s					
KRUC	**Moravsky**	**2.46 176**	*e*Pn	**Pn**	**04 40 18.0**	**+1.0**
	SNR=62					
KRUC			*e*Pg	**Pg**	**04 40 22.0**	**-0.8**
	SNR=8.3					
KRUC			*e*Sg	**Sg**	**04 40 54.4**	**-0.2**
KRUC	**Moravsky**	**2.46 176**	*e*Pn	**Pn**	**04 40 17.7**	**+0.7**
KRUC	**Moravsky**	**2.46 176**	Pg	**Pg**	**04 40 22.0**	**-0.8**
	SNR=8.3					
KRUC			Sg	**Sg**	**04 40 54.4**	**-0.2**
TANN	**Tannenbergstha**	**2.56 246**	*e*Pn	**Pn**	**04 40 19.6**	**+1.1**
	SNR=58					
TANN			*e*Pg	**Pg**	**04 40 25.5**	**+0.7**
	SNR=17					
TANN			*e*Sg	**Sb**	**04 40 56.6**	**+2.0**
TANN	**Tannenbergstha**	**2.56 246**	Pn	**Pn**	**04 40 19.6**	**+1.1**
	SNR=58					
WERD	**Werda**	**2.64 248**	*e*Pn	**Pn**	**04 40 20.5**	**+1.0**
	SNR=87					
WERD			*e*Pg	**Pg**	**04 40 27.2**	**+1.0**
	SNR=11					
WERD			*e*Sg	**Sg**	**04 41 00.9**	**+0.5**
WERD	**Werda**	**2.64 248**	Pn	**Pn**	**04 40 20.5**	**+1.0**
	SNR=87					
NKC	**Novy Kostel**	**2.66 243**	*e*Pn	**Pn**	**04 40 20.7**	**+0.8**
	SNR=60					
NKC			*e*Pg	**Pg**	**04 40 27.3**	**+0.7**
	SNR=26					
NKC			*e*Sg	**Sg**	**04 41 00.4**	**-0.6**
NKC	**Novy Kostel**	**2.66 243**	*e*PN	**Pn**	**04 40 20.6**	**+0.8**
NKC			*e*PG	**Pg**	**04 40 26.3**	**-0.3**
NKC			*e*SG	**Sg**	**04 41 02.0**	**+1.0**
	comp=Z,81nm,0.3s					
NKC	**Novy Kostel**	**2.66 243**	Pn	**Pn**	**04 40 20.6**	**+0.8**
NKC	**Novy Kostel**	**2.66 243**	Pg	**Pg**	**04 40 27.3**	**+0.7**
	SNR=26					
NKC			Sg	**Sg**	**04 41 02.0**	**+1.0**
	comp=Z,81nm,0.3s					
GUNZ	**Gunzen**	**2.66 246**	*e*Pn	**Pn**	**04 40 21.4**	**+1.5**
	SNR=43					
GUNZ			*e*Sg	**Sg**	**04 41 01.3**	**+0.2**
GUNZ	**Gunzen**	**2.66 246**	Pn	**Pn**	**04 40 21.4**	**+1.5**
	SNR=43					
GUNZ			Sg	**Sg**	**04 41 01.3**	**+0.2**
OJC	**Ojcow**	**2.66 118**	*e*Pn	**Pn**	**04 40 19.1**	**-0.7**
	SNR=7.5					
OJC	**Ojcow**	**2.66 118**	*e*Pn	**Pn**	**04 40 18.9**	**-0.9**
OJC			*e*Pg	**Pg**	**04 40 27.6**	**+0.9**
OJC			*e*Sg	**Sg**	**04 41 03.4**	**+2.2**
OJC	**Ojcow**	**2.66 118**	Pn	**Pn**	**04 40 19.1**	**-0.7**
	SNR=7.5					
PLN	**Plauen**	**2.71 249**	*e*Pn	**Pn**	**04 40 21.4**	**+0.9**
	SNR=18					
PLN	**Plauen**	**2.71 249**	Pn	**Pn**	**04 40 21.4**	**+0.9**
	SNR=18					
NEUB	**Neuenburg**	**2.74 265**	*e*Pg	**Pg**	**04 40 28.7**	**+0.4**
NEUB	**Neuenburg**	**2.74 265**	Pg	**Pg**	**04 40 28.7**	**+0.4**
JAVC	**Velka Javorina**	**2.83 159**	*e*Pn	**Pn**	**04 40 23.7**	**+1.5**
	SNR=40					
JAVC	**Velka Javorina**	**2.83 159**	Pn	**Pn**	**04 40 23.7**	**+1.5**
	SNR=40					
KHC	**Kasperske Hory**	**2.89 215**	*e*Pn	**Pn**	**04 40 23.4**	**+0.4**
	SNR=59					
KHC	**Kasperske Hory**	**2.89 215**	*e*PN	**Pn**	**04 40 23.3**	**+0.3**
KHC			*e*PG	**Pg**	**04 40 29.8**	**-1.2**
KHC			*e*SN	**Sn**	**04 40 57.0**	**-1.4**
KHC			*e*SG	**Sb**	**04 41 06.3**	**+2.4**
	comp=Z,42nm,0.5s					
KHC	**Kasperske Hory**	**2.89 215**	Pn	**Pn**	**04 40 23.4**	**+0.4**
	SNR=59					
BEL	**Belsk**	**2.92 82**	*e*Pn	**Pn**	**04 40 22.8**	**-0.6**
BEL			*e*Pb	**Pb**	**04 40 27.0**	**-1.7**
BEL			*e*Pg	Pg	04 40 36.6	+4.9
BEL	**Belsk**	**2.92 82**	*e*Pn	**Pn**	**04 40 22.9**	**-0.5**
MANZ	**Manzenberg**	**2.97 241**	*e*Pn	**Pn**	**04 40 25.2**	**+1.1**
	SNR=20					
MANZ	**Manzenberg**	**2.97 241**	Pn	**Pn**	**04 40 25.2**	**+1.1**
	SNR=20					
ROTZ	**Rotzenmuhle**	**3.04 237**	*e*Pn	**Pn**	**04 40 26.1**	**+1.0**
	SNR=26					
ROTZ	**Rotzenmuhle**	**3.04 237**	Pn	**Pn**	**04 40 26.1**	**+1.0**
	SNR=26					
GEC2	**GERESS Array S**	**3.09 211**	*e*Pn	**Pn**	**04 40 26.6**	**+0.8**
	SNR=41					
GEC2	**GERESS Array S**	**3.09 211**	Pn	**Pn**	**04 40 26.6**	**+0.8**
	SNR=41					
GERES	**GERESS Array B**	**3.09 211**	Pn	**Pn**	**04 40 26.2**	**+0.4**
	comp=Z,4.2nm,0.3s,baz=26,slow=12,SNR=119					
GERES			Pg	**Pb**	**04 40 33.1**	**+1.5**
	comp=Z,12nm,0.3s,baz=28,slow=17,SNR=80					
GERES			Sn	**Sn**	**04 40 59.3**	**-4.1**
	comp=Z,6.2nm,0.3s,baz=41,slow=20,SNR=3.4					
GERES			Lg	Lg	04 41 12.5	
	comp=Z,14nm,0.3s,baz=35,slow=33,SNR=11					
SMOL	**Smolenice**	**3.12 164**	*e*PG	**Pg**	**04 40 34.4**	**-1.0**
SMOL			*e*SG	**Sg**	**04 41 15.3**	**-0.4**
SMOL	**Smolenice**	**3.12 164**	*e*Pg	**Pg**	**04 40 34.4**	**-1.0**
SMOL			*e*Sg	**Sg**	**04 41 15.3**	**-0.4**
WET	**Wettzell**	**3.15 223**	*e*Pn	**Pn**	**04 40 28.4**	**+1.8**
	SNR=24					
WET	**Wettzell**	**3.15 223**	Pn	**Pn**	**04 40 28.4**	**+1.8**
	SNR=24					
NIE	**Niedzica**	**3.40 126**	*e*P	**Pg**	**04 40 40.1**	**-0.7**
NIE			*e*S	**Sg**	**04 41 24.2**	**-0.6**
ASSE	**Asse, Remlinge**	**3.44 283**	*e*Pg	**Pg**	**04 40 42.2**	**+0.6**
ASSE	**Asse, Remlinge**	**3.44 283**	Pg	**Pg**	**04 40 42.2**	**+0.6**
CONA	**Conrad Observa**	**3.59 183**	⇑*i*Pn	**Pn**	**04 40 33.6**	**+0.9**
CONA			⇑*i*Sg	**Sg**	**04 41 30.5**	**-0.4**
	comp=Z,45nm,0.4s					
CONA	**Conrad Observa**	**3.59 183**	Pn	**Pn**	**04 40 33.6**	**+0.9**
CONA			Sg	**Sg**	**04 41 30.5**	**-0.4**
	comp=Z,45nm,0.4s					
CLZ	**Clausthal**	**3.60 278**	*e*Pn	**Pn**	**04 40 34.3**	**+1.6**
	SNR=4.9					
CLZ	**Clausthal**	**3.60 278**	Pn	**Pn**	**04 40 34.3**	**+1.6**
	SNR=4.9					
GRA1	**Grafenberg Arr**	**3.62 242**	Pn	**Pn**	**04 40 34.2**	**+1.3**
	SNR=4.7					
GRF	**Grafenberg Arr**	**3.62 242**	*e*Pn	**Pn**	**04 40 34.2**	**+1.3**
	SNR=4.7					
SOP	**Sopron**	**3.84 176**	*e*pn	**Pn**	**04 40 37.2**	**+1.2**
SOP			*e*sn	**Sb**	**04 41 32.0**	**+0.7**
MOA	**Molln**	**3.86 199**	⇑*i*Pn	**Pn**	**04 40 37.1**	**+0.8**
MOA			⇑*i*Sg	**Sg**	**04 41 39.5**	**-0.1**
	comp=Z,70nm,0.5s					
MOA	**Molln**	**3.86 199**	Pn	**Pn**	**04 40 37.1**	**+0.8**
MOA			Sg	**Sg**	**04 41 39.5**	**-0.1**
	comp=Z,70nm,0.5s					
STHS	**Stebnicka Huta**	**3.88 121**	*e*PN	**Pn**	**04 40 37.6**	**+1.0**
STHS			*e*PG	**Pg**	**04 40 51.4**	**+1.3**
STHS			*e*SG	**Sg**	**04 41 44.5**	**+4.1**
STHS	**Stebnicka Huta**	**3.88 121**	*e*Pn	**Pn**	**04 40 37.6**	**+1.0**
UBBA	**Unterbreizbach**	**3.92 262**	*e*Pn	**Pn**	**04 40 38.3**	**+1.3**
	SNR=4.2					
UBBA	**Unterbreizbach**	**3.92 262**	Pn	**Pn**	**04 40 38.3**	**+1.3**
	SNR=4.2					
ARSA	**Arzberg**	**4.28 186**	⇓*i*Pn	**Pn**	**04 40 43.0**	**+0.9**
ARSA			⇑*i*Sg	**Sg**	**04 41 53.5**	**+0.3**
	comp=Z,34nm,0.6s					
ARSA	**Arzberg**	**4.28 186**	Pn	**Pn**	**04 40 43.0**	**+0.9**
ARSA			Sg	**Sg**	**04 41 53.5**	**+0.3**
	comp=Z,34nm,0.6s					
BSEG	**Bad Segeberg**	**4.29 307**	*e*Pn	**Pn**	**04 40 43.4**	**+1.3**
	SNR=8.5					
BSEG	**Bad Segeberg**	**4.29 307**	Pn	**Pn**	**04 40 43.4**	**+1.3**
	SNR=8.5					
CRVS	**Cervenica-Dubn**	**4.31 125**	*e*PN	**Pn**	**04 40 42.4**	**-0.1**
CRVS			*e*PG	**Pg**	**04 41 01.0**	**+2.8**
CRVS			*e*SG	**Sg**	**04 41 55.6**	**+1.6**
CRVS	**Cervenica-Dubn**	**4.31 125**	*e*Pn	**Pn**	**04 40 42.4**	**-0.1**
PSZ	**Piszkesteto**	**4.35 144**	⇑*i*P	**Pn**	**04 40 44.4**	**+1.3**
PSZ	**Piszkesteto**	**4.35 144**	⇑*i*P	**Pn**	**04 40 44.4**	**+1.3**
RJOB	**Jochberg**	**4.35 211**	*e*Pn	**Pn**	**04 40 45.0**	**+1.9**
	SNR=6.9					
RJOB	**Jochberg**	**4.35 211**	Pn	**Pn**	**04 40 45.0**	**+1.9**
	SNR=6.9					
CSKK	**Cs˙‡kako**	**4.38 161**	*e*	**Pn**	**04 40 44.7**	**+1.3**
PKSG		**4.38 159**	*e*	**Pn**	**04 40 43.8**	**+0.4**
LUNU	**Lund**	**4.43 340**	P	**Pn**	**04 40 43.8**	**-0.3**
PKST	**T˙˙s**	**4.43 163**	*e*pn	**Pn**	**04 40 46.1**	**+1.9**
PKST			*e*sn	**Sb**	**04 41 49.0**	**+0.6**
KWP	**Kalwaria Pacla**	**4.60 112**	*e*Pn	**Pn**	**04 40 47.2**	**+0.8**
KWP			*e*Pb	**Pg**	**04 41 01.4**	**-2.4**
KWP			*e*Pg	Pb	04 41 06.8	+10
KWP	**Kalwaria Pacla**	**4.60 112**	⇑*i*P	**Pn**	**04 40 47.2**	**+0.8**
KWP	**Kalwaria Pacla**	**4.60 112**	⇑*i*P	**Pn**	**04 40 47.2**	**+0.8**
KWP	**Kalwaria Pacla**	**4.60 112**	*e*Pn	**Pn**	**04 40 47.3**	**+0.8**
KOLS	**Kolonicke sedl**	**4.71 121**	*e*PN	**Pn**	**04 40 48.6**	**+0.6**
KOLS			*e*PG	**Pg**	**04 41 07.3**	**+1.3**
KOLS			*e*SG	**Sg**	**04 42 11.3**	**+4.2**
KOLS	**Kolonicke sedl**	**4.71 121**	*e*Pn	**Pn**	**04 40 48.7**	**+0.7**
BLEU	**Blekinge**	**4.81 358**	P	**Pn**	**04 40 50.1**	**+0.8**
PERS	**Pernice**	**4.92 188**	*i* Pn	**Pn**	**04 40 52.6**	**+1.6**
PERS	**Pernice**	**4.92 188**	*i* Pn	**Pn**	**04 40 52.6**	**+1.6**
BJUU	**Bjuv**	**4.93 339**	P	**Pn**	**04 40 50.4**	**-0.5**
KOGS	**Kog**	**5.07 179**	*i* Pn	**Pg**	**04 41 10.0**	**-2.8**
WATA	**Walderalm**	**5.12 217**	⇓*i*Pn	**Pn**	**04 40 54.6**	**+0.8**
	SNR=4.1					
WATA	**Walderalm**	**5.12 217**	Pn	**Pn**	**04 40 54.6**	**+0.8**
	SNR=4.1					
DEL	**Delary**	**5.14 346**	P	**Pn**	**04 40 54.0**	**+0.1**
WTTA	**Wattenberg**	**5.16 216**	⇑*i*Pn	**Pn**	**04 40 55.6**	**+1.2**
	SNR=5.0					
WTTA			⇑*i*Sg	**Sg**	**04 42 22.7**	**+1.3**
	comp=Z,18nm,0.4s					
WTTA	**Wattenberg**	**5.16 216**	Pn	**Pn**	**04 40 55.6**	**+1.2**
	SNR=5.0					
WTTA			Sg	**Sg**	**04 42 22.7**	**+1.3**
	comp=Z,18nm,0.4s					
RETA	**Reutte**	**5.33 223**	⇑*i*Pn	**Pn**	**04 40 57.1**	**+0.5**
	SNR=6.9					
RETA	**Reutte**	**5.33 223**	Pn	**Pn**	**04 40 57.1**	**+0.5**
	SNR=6.9					
TRPA	**Tarpa**	**5.35 127**	⇓*i*P	**Pn**	**04 40 57.2**	**+0.4**
TRPA	**Tarpa**	**5.35 127**	⇓*i*P	**Pn**	**04 40 57.2**	**+0.4**
VXJU	**Vaexsjoe**	**5.47 353**	P	**Pn**	**04 40 59.0**	**+0.7**
VNDS	**Vrh nad Dolski**	**5.49 190**	Pn	**Pn**	**04 41 00.2**	**+1.4**
VNDS			*i*		04 41 00.6	
PKSM	**Moragy**	**5.56 162**	⇓*i*P	**Pn**	**04 40 59.6**	**0.0**
PKSM	**Moragy**	**5.56 162**	⇓*i*P	**Pn**	**04 40 59.6**	**0.0**
VOY	**Vojsko**	**5.68 196**	*e*Pn	**Pn**	**04 41 02.8**	**+1.4**
VOY			*e*		04 41 27.3	
VOY			*e*Sn	**Sg**	**04 42 40.8**	**+2.8**
VOY	**Vojsko**	**5.68 196**	*e*Pn	**Pn**	**04 41 02.8**	**+1.4**
OSKU	**Oskarshamn**	**5.70 360**	P	**Pn**	**04 41 02.4**	**+0.9**
CRES	**Cresnjev**	**5.71 185**	*i* Pn	**Pn**	**04 41 03.3**	**+1.7**
CRES	**Cresnjev**	**5.71 185**	*i* Pn	**Pn**	**04 41 03.3**	**+1.7**
VISS	**Visnje**	**5.78 189**	*i* Pn	**Pn**	**04 41 03.9**	**+1.3**
VISS	**Visnje**	**5.78 189**	*i* Pn	**Pn**	**04 41 03.9**	**+1.3**
FABU	**Falkenberg**	**5.85 341**	P	**Pn**	**04 41 03.5**	**-0.1**
BOJS	**Bojanci**	**6.04 186**	*i* Pn	**Pn**	**04 41 08.2**	**+2.0**
BOJS	**Bojanci**	**6.04 186**	*i* Pn	**Pn**	**04 41 08.2**	**+2.0**
EKSU	**Eksjoe**	**6.09 356**	P	**Pn**	**04 41 07.8**	**+0.9**
DAVOX	**Davos/Dischmat**	**6.26 225**	Pn	**Pn**	**04 41 08.7**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=78,slow=13,SNR=6.2					
DAVOX			Sn	**Sn**	**04 42 17.3**	**-4.4**
	baz=152,slow=23,SNR=1.0					
DAVOX			Lg	Lg	04 42 53.5	
	comp=Z,0.6nm,0.3s,baz=177,slow=22,SNR=2.9					
SIRR	**Siria**	**6.39 143**	⇑*i*P	**Pn**	**04 41 12.4**	**+1.3**
SIRR	**Siria**	**6.39 143**	⇑*i*P	**Pn**	**04 41 12.4**	**+1.3**
DRGR		**6.40 135**	⇑*i*P	**Pn**	**04 41 11.2**	**0.0**
DRGR		**6.40 135**	⇑*i*P	**Pn**	**04 41 11.2**	**0.0**
MEM	**Membach**	**6.44 266**	PN	**Pn**	**04 41 12.8**	**+1.1**
MEM			PG	**Pg**	**04 41 41.5**	**+2.4**
MEM	**Membach**	**6.44 266**	Pn	**Pn**	**04 41 12.8**	**+1.1**
BURAR	**Bucovina Array**	**7.08 120**	⇓*i*P	**Pn**	**04 41 21.7**	**+1.1**
BURAR	**Bucovina Array**	**7.08 120**	⇓*i*P	**Pn**	**04 41 21.7**	**+1.1**
DOU	**Dourbes**	**7.44 264**	PN	**Pn**	**04 41 27.3**	**+1.8**
DOU	**Dourbes**	**7.44 264**	Pn	**Pn**	**04 41 27.2**	**+1.8**
AKASG	**Malin Array Be**	**8.29 90**	Pn	**Pn**	**04 41 36.8**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=279,slow=12,SNR=7.8					
AKASG			Sn	**Sn**	**04 43 07.6**	**-3.6**
	comp=Z,1.1nm,0.3s,baz=249,slow=38,SNR=1.7					
HFS	**Hagfors**	**8.75 352**	Pn	**Pn**	**04 41 43.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=172,slow=15,SNR=15					
HFS			Sn	**Sn**	**04 43 18.8**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=172,slow=6,SNR=1.9					
NB2	**NORSAR Subarra**	**9.93 346**	P	**Pn**	**04 41 58.3**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=166,slow=14					
NB2	**NORSAR Subarra**	**9.93 346**	P	**Pn**	**04 41 58.3**	**-1.3**
	comp=Z,0.7nm,0.5s,SNR=4.5					
NOA	**NORSAR Array B**	**9.93 346**	Pn	**Pn**	**04 41 58.2**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=167,slow=12,SNR=10					
NOA			Sn	**Sn**	**04 43 46.8**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=163,slow=20,SNR=2.2					
FINES	**FINESS Array B**	**11.36 25**	Pn	**Pn**	**04 42 17.9**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=206,slow=12,SNR=29					
FINES			Sn	Sn	04 44 19.2	-7.3
	comp=Z,0.6nm,0.3s,baz=208,slow=20,SNR=6.6					
EKA	**Eskdalemuir Ar**	**12.11 296**	Pn	**Pn**	**04 42 27.0**	**-2.4**
	baz=104,slow=14,SNR=9.8					
ARCES	**ARCESS Array B**	**18.62 10**	P	**P**	**04 43 51.6**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=191,slow=13,SNR=24					
AKTO	**Aktyubinsk**	**26.14 76**	P	**P**	**04 45 12.9**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=293,slow=7.7,SNR=3.3					
BVAR	**Borovoye Array**	**32.58 66**	P	**P**	**04 46 11.1**	**+2.7**
	comp=Z,0.4nm,0.5s,baz=302,slow=8.3,SNR=4.1					
KURBB	**Kurchatov Arra**	**38.17 66**	P	**P**	**04 46 58.2**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=307,slow=7.7,SNR=4.7					
TORD	**Torodi Ar. Bea**	**40.00 202**	P	**P**	**04 47 12.8**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=5.6,slow=9.2,SNR=6.2					
MKAR	**Makanchi Array**	**42.20 69**	P	**P**	**04 47 32.5**	**+2.5**
	comp=Z,0.2nm,0.7s,baz=314,slow=7.9,SNR=2.6					
YKA	**Yellowknife Ar**	**59.86 336**	P	**P**	**04 49 44.3**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.7,SNR=6.7					

IDC ***12*** *04:51:16.2±5.3,3.91S×25.10E,h0km,mb3.8/7,mb1 3.8/7, mb1mx3.6/24,mbtmp3.8/7,Error ellipse: s-maj=128.2km s-min=39.8km az=3.0*

ISC 12 04:51:17.8±5.4,3.9S±0.9×25.1E±0.3,h10km,n7,σ0s44/7, mb3.8/7,Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**28.76**	**306**	P	**P**	**04 57 16.1**	**+0.2**
	0.2nm,0.5s,baz=112,slow=8.0,SNR=6.7						
BRTR	**Keskin Array B**	**44.13**	**9**	P	**P**	**04 59 26.9**	**+0.2**
	0.7nm,0.6s,baz=182,slow=10,SNR=4.3						
FINES	**FINESS Array B**	**65.17**	**1**	P	**P**	**05 01 58.8**	**0.0**
	1.1nm,0.8s,baz=207,slow=4.5,SNR=3.2						
NOA	**NORSAR Array B**	**65.66**	**353**	P	**P**	**05 02 01.5**	**-0.5**
	0.5nm,0.7s,baz=150,slow=6.1,SNR=2.9						
MKAR	**Makanchi Array**	**71.21**	**38**	P	**P**	**05 02 37.6**	**+0.5**
	0.4nm,0.8s,baz=258,slow=5.4,SNR=3.7						
ARCES	**ARCESS Array B**	**73.30**	**0**	P	**P**	**05 02 49.2**	**+0.1**
	1.3nm,0.6s,baz=157,slow=4.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**75.96**	**32**	P	**P**	**05 03 04.4**	**-0.4**
	0.9nm,0.4s,baz=237,slow=2.7,SNR=3.8						

IDC ***12*** *05:04:47.5±1.2,52.52S×11.84E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.8/19,mbtmp3.9/5,MS3.2/3,Ms1 3.2/3, ms1mx3.0/21,Error ellipse: s-maj=49.0km s-min=25.9km az=71.0*

ISC 12 05:04:48.9±1.4,52.6S±0.2×10.9E±0.4,h10km,n15, σ0s95/6,mb3.9/4,MS3.2/3,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**20.07**	**193**	*e*P	Pn	05 09 24.8	+1.0
SNAA	**Sanae**	**20.07**	**193**	P	Pn	05 09 24.8	+1.0
	2.6nm,0.9s,baz=29,slow=9.6,SNR=16						
SNAA				LR	LR	05 15 18.2	
	comp=Z,34nm,21.3s,baz=25,slow=31						
VNA1	**Neumayer--Stat**	**20.07**	**199**	*e*P	Pn	05 09 27.2	+3.4
VNA2	**Neumayer--Watz**	**20.14**	**197**	*e*P	**P**	**05 09 23.0**	**+0.3**
BOSA	**Boshof**	**26.23**	**29**	LR	LR	05 18 34.2	
	comp=Z,64nm,19.2s,baz=60,slow=32						
MAW	**Mawson**	**28.81**	**141**	LR	LR	05 20 28.4	
	comp=Z,83nm,18.7s,baz=243,slow=33						

QSPA	**South Pole Qui**	**37.61**	**180**	P	**P**	**05 12 04.1**	**+0.6**
	0.8nm,0.5s,baz=284,slow=1.4,SNR=4.4						
VNDA	**Vanda**	**48.87**	**172**	P	**P**	**05 13 32.8**	**-1.2**
	0.9nm,0.9s,baz=180,slow=6.1,SNR=3.5						
H01W2	**Cape Leeuwin H**	**70.30**	**122**	T	T	06 32 26.4	
	baz=227						
H01W3	**Cape Leeuwin H**	**70.31**	**122**	T	T	06 32 30.7	
	baz=227						
H01W1	**Cape Leeuwin H**	**70.32**	**122**	T	T	06 32 26.4	
	baz=227						
LPAZ	**La Paz**	**70.61**	**268**	P	P	05 16 10.4	+5.3
	1.2nm,0.8s,baz=129,slow=4.6,SNR=4.9						
ASAR	**Alice Springs**	**89.30**	**130**	P	**P**	**05 17 45.9**	**+0.5**
	0.9nm,0.7s,baz=202,slow=5.1,SNR=9.2						
YKA	**Yellowknife Ar**	**150.07**	**311**	PKPbc	**PKPbc**	**05 24 37.6**	**-0.7**
	1.9nm,0.6s,baz=97,slow=2.1,SNR=32						
ILAR	**Eielson Array**	**163.36**	**226**	PKPab	**PKPab**	**05 25 41.8**	**+0.4**
	0.4nm,1.0s,baz=57,slow=3.3,SNR=3.6						

IDC ***12*** *05:11:08.0±1.1,35.92N×70.88E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.4/27,mbtmp3.6/6,MS3.3/1,Ms1 3.4/1, ms1mx2.5/42,Error ellipse: s-maj=37.6km s-min=25.2km az=49.0*

ISCJB ***12*** *05:11:29.1±0.7,36.54N±0.06×70.9E±0.1,h188km, mb3.3/5,Error ellipse: s-maj=12.5km s-min=6.4km az=155.1*

NNC ***12*** *05:11:37.5±8.2,37.03N×70.98E,h208km±107km,mb2.3, mpv3.2,Error ellipse: s-maj=81.7km s-min=45.6km az=13.0*

ISC 12 05:11:30.3±0.9,36.56N±0.08×71.1E±0.1,h188km,n19, σ1s71/20,mb3.4/5,5C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.55**	**356**	⇑P	**Pn**	**05 13 06.1**	**+1.6**
	0.4nm,0.2s,baz=182,slow=13,SNR=49						
KK31				⇓S	**Sn**	**05 14 15.9**	**-3.2**
	1.6nm,0.3s,baz=185,slow=24,SNR=6.1						
TKM2	**Tokmak 2**	**7.25**	**27**	⇑P	**Pn**	**05 13 15.4**	**+1.6**
	1.1nm,0.5s						
TKM2				⇑S	**Sn**	**05 14 35.4**	**-0.4**
	1.3nm,0.8s						
DANN	**Dangsing**	**13.47**	**124**	*e*P	**Pn**	**05 14 34.3**	**0.0**
	5.8nm,0.2s						
KOLN	**Koldanda**	**13.75**	**126**	*e*P	**Pn**	**05 14 36.7**	**-1.0**
	7.5nm,0.6s						
GKN	**Gorkha**	**14.28**	**123**	*e*P	**P**	**05 14 44.4**	**-1.8**
	9.8nm,0.3s						
AB31	**Akbulak array**	**15.06**	**331**	⇑P	**P**	**05 14 57.1**	**+2.7**
	0.4nm,0.4s,baz=160,slow=11,SNR=5.6						
PKI	**Pulchoki**	**15.08**	**122**	*e*P	**P**	**05 14 55.4**	**+0.2**
GUN	**Gumba**	**15.19**	**120**	*e*P	**P**	**05 14 57.2**	**+0.8**
	6.2nm,0.3s						
JIRN	**Jiri**	**15.56**	**120**	*e*P	**P**	**05 15 02.2**	**+1.6**
	22nm,0.4s						
RAMN	**Ramite**	**16.29**	**122**	*e*P	**Pn**	**05 15 10.1**	**+1.1**
AKTO	**Aktyubinsk**	**16.76**	**330**	⇑P	**P**	**05 15 12.1**	**-1.0**
	0.5nm,0.6s						
TAPN	**Taplejung**	**16.82**	**118**	*e*P	**Pn**	**05 15 17.7**	**+2.4**
	5.6nm,0.5s						
ZALV	**Zalesovo Beam**	**19.84**	**24**	P	**Pn**	**05 15 47.8**	**-2.6**
	0.9nm,0.3s,baz=247,slow=15,SNR=3.4						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**05 18 26.4**	**+1.1**
	0.7nm,0.8s,baz=128,slow=11,SNR=3.2						
ARCES	**ARCESS Array B**	**41.12**	**338**	P	**P**	**05 18 56.9**	**+1.5**
	3.7nm,1.1s,baz=112,slow=8.8,SNR=4.2		

BHHZ	**Black Hill Sta**	**0.79**	**161**	PN	Pn	05 36 41.1	-0.5
NMHZ	**Naumai**	**0.91**	**114**	PN	Pn	05 36 43.0	+0.5
NMHZ				SN	Sn	05 36 58.9	-1.1
MCHZ	**McNeill Hill**	**1.03**	**134**	⇑PN	Pn	05 36 44.1	+0.6
MCHZ				SN	Sn	05 37 01.5	-0.3
URZ	**Urewera**	**1.18**	**67**	PN	Pn	05 36 44.1	-0.7
URZ				AML	AML	05 37 02.9	
TSZ	**Takapari Road**	**1.33**	**172**	⇑PN	Pn	05 36 46.1	-0.3
TSZ				SN	Sn	05 37 06.2	-0.9
KAHZ	**Kahuranaki**	**1.38**	**140**	PN	Pn	05 36 47.0	0.0
CKHZ	**Cape Kidnapper**	**1.39**	**132**	PN	Pn	05 36 47.1	+0.1
WPHZ	**Waipukurau**	**1.44**	**158**	⇑PN	Pn	05 36 47.1	-0.3
MWZ	**Matawai**	**1.46**	**75**	PN	Pn	05 36 47.5	-0.3
KNZ	**Kokohu**	**1.54**	**101**	PN	Pn	05 36 48.4	-0.2
MKAZ	**Moumakai**	**1.68**	**344**	PN	Pn	05 36 51.4	+1.1
MHGZ	**Mahia Peninsul**	**1.75**	**104**	PN	Pn	05 36 50.9	-0.1
MRZ	**Mangatainoka R**	**1.93**	**183**	PN	Pn	05 36 52.1	-1.0
MRZ				AML	AML	05 37 17.5	
MRZ				AML	AML	05 37 17.5	
KIW	**Kapiti Island**	**2.21**	**196**	PN	Pn	05 36 55.1	-1.4
KIW				AML	AML	05 37 23.0	
KIW				AML	AML	05 37 27.8	
TMWZ	**Te Maipa**	**2.37**	**177**	PN	Pn	05 36 57.0	-1.4
MSWZ	**Moikau Station**	**2.70**	**188**	PN	Pn	05 37 00.6	-2.0
TCW	**Tory Channel**	**2.71**	**204**	PN	Pn	05 37 01.0	-1.7
PLWZ	**Palliser**	**2.85**	**187**	PN	Pn	05 37 02.3	-2.2
TUWZ	**Tuamarina**	**3.02**	**206**	PN	Pn	05 37 04.9	-1.7
BSWZ	**Blackbirch Sta**	**3.30**	**205**	AML	AML	05 37 47.0	
KHZ	**Kahutara**	**4.04**	**204**	AML	AML	05 38 18.9	

IDC 12 05:37:40.4±1.4, 20°.17N×120°.25E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/25, mbtmp3.7/5, Error ellipse: s-maj=166.4km s-min=19.6km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**29.80**	**341**	P	P	05 43 49.7	+0.6
	0.2nm,0.4s,baz=156,slow=8.6,SNR=2.4						
WRA	**Warramunga Arr**	**42.18**	**160**	P	P	05 45 33.5	-1.6
	1.2nm,0.8s,baz=341,slow=9.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**43.20**	**330**	P	P	05 45 42.0	-1.0
	0.7nm,0.4s,baz=127,slow=9.2,SNR=3.1						
KURBB	**Kurchatov Arra**	**44.69**	**323**	P	P	05 45 55.2	+0.2
	0.4nm,0.3s,baz=122,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**45.56**	**162**	P	P	05 46 03.9	+1.7
	0.5nm,0.7s,baz=338,slow=7.0,SNR=5.1						

*IDC **12** 06:05:17.9±3.1, 12°.12N×89°.12W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.6/25, mbtmp3.7/6, ML3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/23, Error ellipse: s-maj=78.6km s-min=22.8km az=43.0*

*ISCJB **12** 06:05:19.9±0.9, 11°.98N±0°.05×89°.21W±0°.06, h41km, mb3.6/3, Error ellipse: s-maj=10.3km s-min=5.5km az=139.3*

*CASC **12** 06:05:20.2±1.4, 12°.10N×89°.21W, h19km±43km, MD3.8, ML3.6*

ISC 12 06:05:22.5±1.4, 12°.05N±0°.09×89°.18W±0°.07, h41km, n22, σ1§33/29, mb3.6/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.56**	**4**	*eP*	**Pn**	**06 05 46.2**	**-1.8**
LFRS				*eS*	**Sn**	**06 06 07.6**	**+0.5**
SNVI	**San Vicente**	**1.59**	**12**	*eP*	**Pn**	**06 05 46.3**	**-1.9**
SNET	**Serv Nac Est T**	**1.62**	**358**	AML	AML	06 05 48.2	
	comp=Z,741nm,0.2s						
SNET				*eS*	**Sn**	**06 06 07.8**	**-0.7**
SNET				AML	AML	06 06 10.3	
	comp=Z,871nm,0.3s						
VSM	**San Miguel**	**1.63**	**33**	*eP*	**Pn**	**06 05 47.5**	**-1.4**
BOQS	**Boqueron**	**1.67**	**357**	*eP*	**Pn**	**06 05 48.1**	**-1.4**
BOQS				*eS*	**Sn**	**06 06 09.1**	**-0.8**
LBRS	**Las Brisas**	**1.68**	**5**	*eP*	**Pn**	**06 05 48.3**	**-1.2**
LFU	**La Fuente**	**1.69**	**2**	*eP*	**Pn**	**06 05 48.3**	**-1.3**
LFU				*eS*	**Sn**	**06 06 10.3**	**+0.3**
CNCH	**Conchagua**	**1.79**	**47**	*eP*	**Pn**	**06 05 49.3**	**-1.8**
SBLS	**San Blas**	**1.83**	**346**	*eP*	**Pn**	**06 05 49.8**	**-1.8**
SBLS				*eS*	**Sn**	**06 06 13.2**	**-0.5**
SNJE	**San Jose**	**1.85**	**347**	*eP*	**Pn**	**06 05 50.2**	**-1.7**
RTR	**El Retiro**	**1.89**	**346**	*eP*	**Pn**	**06 05 50.8**	**-1.6**
CAHU	**Cacacuatique**	**1.95**	**29**	*eP*	**Pn**	**06 05 52.5**	**-0.8**
RBDL	**Robledal**	**2.10**	**347**	*eP*	**Pn**	**06 05 54.4**	**-1.0**
TGUH	**Tegucigalpa,Un**	**2.73**	**43**	*eP*	**Pn**	**06 06 02.8**	**-0.9**
TGUH				*eS*	**Sn**	**06 06 36.7**	**+1.2**
NBG	**Las Nubes**	**2.76**	**336**	*eP*	**Pn**	**06 06 05.0**	**+0.4**
MRL	**Marmol**	**3.04**	**351**	*eP*	**Pn**	**06 06 07.6**	**-0.6**
APG	**El Apazote**	**3.19**	**337**	Pn	**Pn**	**06 06 07.2**	**-3.1**
	comp=Z,3.2nm,0.3s,baz=148,slow=15,SNR=32						
APG				Sn	**Sn**	**06 06 47.6**	**+0.4**
	comp=Z,7.8nm,0.3s,baz=204,slow=9.1,SNR=22						
JTS	**JuntasAbangare**	**4.50**	**112**	Pn	**Pn**	**06 06 27.5**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=314,slow=16,SNR=22						
JTS				Sn	**Sn**	**06 07 19.3**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=299,slow=19,SNR=2.9						
TEIG	**Tepich**	**8.17**	**6**	Pn	**Pn**	**06 07 19.0**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=155,slow=19,SNR=10						
TEIG				LR	LR	06 10 49.9	
	comp=Z,14nm,28.6s,baz=90,slow=41						
TXAR	**Lajitas Array**	**21.85**	**324**	P	**P**	**06 10 13.7**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=144,slow=11,SNR=7.9						
ULM	**Lac du Bonnet**	**38.48**	**353**	P	**P**	**06 12 40.8**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=153,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**53.56**	**346**	P	**P**	**06 14 39.3**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=145,slow=7.2,SNR=6.0						

*BKK **12** 06:17:33.4±3.5, 1°.S±32°.×9°.4E±1°.3, h10km, M5.1/14, mB5.5/3, mb4.5/14, MLv5.4/3, Mw(mB)5.0/3*

*BJI **12** 06:18:06.7, 2°.30N×95°.79E, h10km, mB4.8/25, mb4.7/36, Ms4.4/23, Ms7 4.0/17*

*IDC **12** 06:18:08.1±1.1, 2°.42N×95°.98E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.1/27, mbtmp4.2/13, ML4.8/1, MS3.5/5, Ms1 3.6/5, ms1mx3.2/40, Error ellipse: s-maj=40.4km s-min=18.9km az=52.0*

*ISCJB **12** 06:18:12.5±0.5, 2°.65N±0°.06×95°.81E±0°.04, h25km, mb4.6/45, MS3.8/10, Error ellipse: s-maj=8.8km s-min=4.5km az=23.6*

*DJA **12** 06:18:14.6±1.3, 3°.N±7°.×9°.6E±1°.0, h10km, M4.5/7, mb4.6/3, mB4.9/2, MLv4.5/7, Mw(mB)4.2/2*

*NEIC **12** 06:18:14.9±0.5, 2°.58N×95°.90E, h35km, mb4.5/15, Error ellipse: s-maj=12.2km s-min=6.5km az=213.0*

ISC 12 06:18:13.8±0.6, 2.73N±0.06×95.82E±0.05, h25km, n125, σ1§62/136, mb4.7/45, MS3.8/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.60**	**122**	P	**Pb**	**06 18 25.7**	**0.0**
TPTI		**1.46**	**69**	P	**Pn**	**06 18 38.3**	**-0.2**
TPTI				S	**Sb**	**06 18 58.8**	**+0.4**
KCSI	**Kotacane, Aceh**	**2.10**	**68**	P	**Pn**	**06 18 49.0**	**+1.6**
GSI	**Gunungsitoli**	**2.25**	**129**	*e*Pn	**Pn**	**06 18 48.9**	**-0.6**
TSI	**Tuntungan**	**2.84**	**74**	P	**Pb**	**06 19 02.0**	**-1.9**
PSI	**Prapat**	**3.10**	**89**	P	**Pn**	**06 19 02.1**	**+0.8**
PSI	**Prapat**	**3.10**	**89**	Pn	**Pn**	**06 19 00.4**	**-0.9**
PSI				Sn	**Sn**	**06 19 36.2**	**-1.5**
	6.9nm,0.3s,baz=311,slow=7.5,SNR=20						
PSI	**Prapat**	**3.10**	**89**	Pn	**Pn**	**06 19 00.4**	**-0.9**
	6.4nm,0.3s,baz=299,slow=19,SNR=4.2						
PSI				LR	LR	06 20 04.4	
	comp=Z,254nm,18.8s,baz=267,slow=39						
MNSI	**Mandailing Nat**	**4.22**	**117**	P	Pn	06 19 20.5	+3.9
KULM	**Kulim**	**5.45**	**62**	P	**Pn**	**06 19 34.4**	**+0.9**
KULM	**Kulim**	**5.45**	**62**	P	**Pn**	**06 19 34.8**	**+1.3**
	128nm,1.0s,1μm						
KULM	**Kulim**	**5.45**	**62**	*e*Pn	**Pn**	**06 19 34.1**	**+0.6**
IPM	**Ipoh**	**5.48**	**71**	P	**Pn**	**06 19 35.2**	**+1.2**
IPM	**Ipoh**	**5.48**	**71**	P	**Pn**	**06 19 35.9**	**+2.0**
	77nm,1.1s,942nm						
IPM	**Ipoh**	**5.48**	**71**	*e*Pn	**Pn**	**06 19 34.4**	**+0.5**
PPI	**Padang Panjang**	**5.56**	**125**	P	**Pn**	**06 19 37.1**	**+2.0**
FRIM	**Kepong**	**5.82**	**85**	P	**Pn**	**06 19 39.8**	**+1.2**
SURT	**Suratani**	**6.86**	**25**	P	Pb	06 20 03.1	-9.2
	19nm,0.9s						
KGM	**Kluang**	**7.53**	**95**	P	Pn	06 20 12.5	+10
KTGM	**Kuala Trenggan**	**7.74**	**70**	P	**Pn**	**06 20 05.8**	**+0.8**
MYKOM	**Kota Tinggi**	**8.08**	**96**	P	Pn	06 20 20.3	+11
CHBT	**CHBT**	**11.86**	**33**	P	Pn	06 21 10.9	+9.4
	23nm,0.9s						
CHAI	**Chaiyaphum**	**14.43**	**25**	P	P	06 21 47.4	+4.2
PBKT	**Sadao Pong**	**14.66**	**20**	P	**P**	**06 21 45.8**	**+0.1**
	16nm,0.8s						
MHMT	**Maesarieng**	**15.49**	**8**	P	**P**	**06 21 55.3**	**+0.3**
	9.8nm,1.0s						
UBPT	**Khong Chiam**	**15.68**	**37**	P	P	06 22 10.3	+13
CMAR	**Chiang Mai Arr**	**15.93**	**11**	Pn	**P**	**06 21 58.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**15.93**	**11**	Pn	**P**	**06 21 58.8**	**-1.1**
	1.2nm,0.3s,baz=196,slow=10,SNR=21						
LAMP	**Lampang**	**16.13**	**13**	P	**P**	**06 22 02.8**	**+0.6**
	5.0nm,1.0s						
CHTO	**Chiang Mai**	**16.27**	**11**	*e*P	**Pn**	**06 22 00.6**	**-0.3**
	2.1nm,0.8s						
CHTO	**Chiang Mai**	**16.27**	**11**	P	**Pn**	**06 22 01.2**	**+0.3**
	57nm,0.9s						
CMMT	**Chiang Mai**	**16.27**	**11**	P	**Pn**	**06 22 01.2**	**+0.3**
	12nm,0.9s						
CMAI	**Chiengmai2**	**17.39**	**10**	P	**Pn**	**06 22 15.4**	**+0.4**
SLVN	**Son La**	**20.10**	**22**	*e*P	**P**	**06 22 45.8**	**-0.1**
KKM	**Kota Kinabalu**	**20.60**	**80**	P	**P**	**06 22 49.7**	**-1.7**
QIZ	**Qiongzhong**	**21.23**	**39**	P	**P**	**06 22 59.5**	**+1.4**
QIZ				S	**S**	**06 26 55.2**	**+2.2**
QIZ				LR	LR		
	comp=N,260nm,15.4s						
QIZ				LR	LR		
	comp=E,180nm,16.6s						
SDKM	**Sandakan**	**21.51**	**82**	P	**P**	**06 23 01.5**	**+0.3**
TSM	**Tawau**	**22.06**	**85**	P	**P**	**06 23 08.0**	**+0.8**
MYLDM	**Lahad Datu**	**22.75**	**83**	P	**P**	**06 23 16.2**	**+1.7**
MYLDM	**Lahad Datu**	**22.75**	**83**	*e*P	**P**	**06 23 15.9**	**+1.4**
	28nm,1.1s						
KMI	**Kunming**	**23.24**	**16**	P	**P**	**06 23 21.9**	**+2.3**
KMI				pP	**pP**	**06 23 28.6**	**+1.9**
KMI				S	**S**	**06 27 32.2**	**+1.6**
KMI				sS	**sS**	**06 27 45.2**	**+2.4**
KMI				SS	SnSn	06 28 19.6	+14
KMI				pmax	pmax		
	comp=Z,18nm,0.7s						
KMI				pmax	pmax		
	comp=Z,89nm,5.0s						
KMI				LR	LR		
	comp=N,310nm,14.7s						
KMI				LR	LR		
	comp=E,110nm,22.6s						
KMI				LR	LR		
	comp=Z,270nm,14.4s						
ODAN	**Odare**	**25.32**	**342**	*e*P	**P**	**06 23 41.3**	**+2.3**
	51nm,0.9s						
ODAN	**Odare**	**25.32**	**342**	*e*P	**P**	**06 23 41.3**	**+2.3**
	51nm,0.9s						
H08S2	**Diego Garcia H**	**25.45**	**246**	T	T	06 49 52.1	
	baz=66,slow=76,SNR=3961						
H08S3	**Diego Garcia H**	**25.46**	**246**	T	T	06 49 53.3	
	baz=66,slow=76,SNR=3153						
H08S1	**Diego Garcia H**	**25.47**	**246**	T	T	06 49 25.0	
	baz=66,slow=76,SNR=14						
RAMN	**Ramite**	**25.65**	**341**	*e*P	**P**	**06 23 44.5**	**+2.5**
	72nm,0.9s						
RAMN	**Ramite**	**25.65**	**341**	*e*P	**P**	**06 23 44.5**	**+2.5**
	72nm,0.9s						
TAPN	**Taplejung**	**25.68**	**343**	*e*P	**P**	**06 23 44.6**	**+2.2**
	54nm,0.9s						
TAPN	**Taplejung**	**25.68**	**343**	*e*P	**P**	**06 23 44.6**	**+2.2**
	54nm,0.9s						
GYA	**Guiyang**	**25.79**	**23**	*e*P	**P**	**06 23 45.9**	**+2.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JIRN	**Jiri**	**26.45**	**341**	*e*P	**P**	**06 23 51.1**	**+1.8**
	94nm,0.9s						
JIRN	**Jiri**	**26.45**	**341**	*e*P	**P**	**06 23 51.1**	**+1.8**
	94nm,0.9s						
PKI	**Pulchoki**	**26.63**	**339**	*e*P	**P**	**06 23 52.2**	**+1.3**
	42nm,1.0s						
PKI	**Pulchoki**	**26.63**	**339**	*e*P	**P**	**06 23 52.3**	**+1.3**
	35nm,1.1s						
PKIN	**Phulchoki**	**26.64**	**339**	*e*P	**P**	**06 23 52.3**	**+1.3**
	35nm,1.1s						
DMN	**Daman**	**26.78**	**339**	*e*P	**P**	**06 23 53.8**	**+1.6**
	36nm,1.0s						
DMN	**Daman**	**26.78**	**339**	*e*P	**P**	**06 23 53.8**	**+1.6**
	36nm,1.0s						
GUN	**Gumba**	**26.78**	**340**	*e*P	**P**	**06 23 54.1**	**+1.8**
	61nm,0.8s						
GUN	**Gumba**	**26.78**	**340**	*e*P	**P**	**06 23 54.1**	**+1.8**
	61nm,0.8s						
KKN	**Kakani**	**26.88**	**339**	*e*P	**P**	**06 23 54.5**	**+1.4**
	61nm,0.9s						
KKN	**Kakani**	**26.88**	**339**	*e*P	**P**	**06 23 54.5**	**+1.4**
	61nm,0.9s						
LSA	**Lhasa**	**27.19**	**351**	P	**P**	**06 23 56.9**	**+0.8**
LSA	**Lhasa**	**27.19**	**351**	*e*P	**P**	**06 23 57.4**	**+1.3**
	5.4nm,0.4s						
GKN	**Gorkha**	**27.31**	**338**	*e*P	**P**	**06 23 58.7**	**+1.8**
	114nm,1.1s						
GKN	**Gorkha**	**27.31**	**338**	*e*P	**P**	**06 23 58.7**	**+1.8**
	114nm,1.1s						
KOLN	**Koldanda**	**27.50**	**336**	*e*P	**P**	**06 24 00.7**	**+2.0**
	31nm,0.7s						
KOLN	**Koldanda**	**27.50**	**336**	*e*P	**P**	**06 24 00.7**	**+2.0**
	31nm,0.7s						
DANN	**Dangsing**	**27.95**	**337**	*e*P	**P**	**06 24 04.1**	**+1.3**
	28nm,0.7s						
DANN	**Dangsing**	**27.95**	**337**	*e*P	**P**	**06 24 04.1**	**+1.3**
	28nm,0.7s						
PYUN	**Piuthan**	**28.05**	**335**	*e*P	**P**	**06 24 05.7**	**+2.2**
PYUN	**Piuthan**	**28.05**	**335**	*e*P	**P**	**06 24 05.7**	**+2.2**
CD2	**Chengdu**	**29.02**	**14**	*e*P	P	06 24 15.2	+3.3
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,30nm,5.4s						
ENH	**Enshi**	**30.30**	**24**	*e*P	**P**	**06 24 22.9**	**-0.4**
	6.3nm,0.8s						
XAN	**Xi'an**	**33.46**	**20**	P	**P**	**06 24 50.4**	**-0.7**
XAN				pP	**pP**	**06 24 59.3**	**+0.7**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LZH	**Lanzhou**	**34.01**	**12**	*e*P	**P**	**06 24 55.8**	**-0.2**
LZH				pP	**pP**	**06 24 59.0**	**-4.5**
LZH				sP	sP	06 25 00.5	-6.0
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,65nm,5.1s						
LZH				LR	LR		
	comp=N,350nm,12.7s						
LZH				LR	LR		
	comp=E,320nm,13.0s						
LZH				LR	LR		
	comp=Z,280nm,16.8s						
FITZ	**Fitzroy Crossi**	**35.94**	**126**	LR	LR	06 40 57.9	
	comp=Z,89nm,18.9s,baz=287,slow=38						
GTA	**Gaotai**	**36.69**	**5**	*e*P	**P**	**06 25 19.1**	**+0.2**
GTA				pP	**pP**	**06 25 23.4**	**-3.1**
GTA				sP	**sP**	**06 25 25.5**	**-4.0**
GTA				S	**S**	**06 31 02.0**	**+0.9**
GTA				SS	**SnSn**	**06 33 30.2**	**-2.4**
GTA				pmax	pmax		
	comp=Z,17nm,0.9s						
GTA				pmax	pmax		
	comp=Z,79nm,4.0s						
GTA				LR	LR		
	comp=N,100nm,12.1s						
GTA				LR	LR		
	comp=E,100nm,11.2s						
GTA				LR	LR		
	comp=Z,95nm,14.9s						
HHC	**Hu-ho-hao-te**	**40.52**	**18**	*e*P	**P**	**06 25 50.9**	**-0.2**
HHC				sP	**sP**	**06 25 57.9**	**-3.8**
HHC				PP	**PnPn**	**06 27 28.2**	**-0.5**
HHC				PcP	**PcP**	**06 27 53.5**	**+0.2**
HHC				PcS	**PcS**	**06 31 43.0**	**-1.0**
HHC				S	**S**	**06 31 59.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,5.3s						
HHC				LR	LR		
	comp=N,350nm,14.9s						
HHC				LR	LR		
	comp=E,230nm,15.0s						
HHC				LR	LR		
	comp=Z,330nm,14.5s						
KSH	**Kashi**	**40.82**	**336**	P	**P**	**06 25 53.7**	**+0.1**
KSH				pP	**pP**	**06 26 00.0**	**-1.2**
KSH				sP	**sP**	**06 26 02.0**	**-2.2**
KSH				PP	**PnPn**	**06 27 33.2**	**+1.0**
KSH				S	**S**	**06 32 01.9**	**-1.5**
KSH				sS	**sS**	**06 32 13.2**	**-2.7**
KSH				SS	**SS**	**06 35 02.0**	**-3.1**
KSH				pmax	pmax		
	comp=Z,37nm,3.4s						
KSH				LR	LR		
	comp=N,120nm,5.4s						
KSH				LR	LR		
	comp=E,140nm,5.2s						
KSH				LR	LR		
	comp=Z,150nm,6.7s						
NWAO	**Narrogin (SRO)**	**40.84**	**152**	LR	LR	06 42 09.7	
	comp=Z,61nm,18.9s,baz=257,slow=36						
H01W3	**Cape Leeuwin H**	**41.18**	**157**	T	T	07 09 30.1	
	baz=333,slow=76,SNR=232						
H01W2	**Cape Leeuwin H**	**41.19**	**157**	T	T	07 09 31.0	
	baz=333,slow=76,SNR=290						
H01W1	**Cape Leeuwin H**	**41.19**	**157**	T	T	07 09 31.2	
	baz=333,slow=76,SNR=207						
BJT	**Baijiatuau**	**41.45**	**24**	*e*P	**P**	**06 26 00.4**	**+1.8**
	45nm,0.9s						
BJI	**Beijing**	**41.47**	**24**	P	**P**	**06 26 00.4**	**+1.7**
BJI				PP	**PP**	**06 27 34.0**	**-0.8**
BJI				S	**S**	**06 32 17.6**	**+4.9**
BJI				ScS	**ScS**	**06 35 57.8**	**-3.3**
BJI				pmax	pmax		
	comp=Z,58nm,0.7s						
BJI				pmax	pmax		
	comp=Z,96nm,6.1s						
BJI				LR	LR		
	comp=N,68nm,6.1s						
BJI				LR	LR		
	comp=E,180nm,10.0s						
WMQ	**Urumqi**	**41.55**	**351**	P	**P**	**06 26 01.0**	**+1.6**
WMQ				sP	**sP**	**06 26 08.0**	**-2.1**
WMQ				PP	**PnPn**	**06 27 40.0**	**-0.6**
WMQ				ScP	**ScP**	**06 31 47.0**	**+1.7**
WMQ				S	**S**	**06 32 17.0**	**+3.1**
WMQ				SS	**SS**	**06 35 17.0**	**-2.3**
WMQ				pmax	pmax		
	comp=Z,14nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,61nm,4.0s						
WMQ				LR	LR		
	comp=N,60nm,18.0s						
WMQ				LR	LR		
	comp=E,52nm,17.0s						
TKM2	**Tokmak 2**	**43.90**	**339**	*e*P	**P**	**06 26 20.7**	**+2.0**
	3.4nm,0.9s						
WRA	**Warramunga Arr**	**44.01**	**123**	P	P	06 26 14.7	-5.0
WRA	**Warramunga Arr**	**44.01**	**123**	P	P	06 26 14.7	-5.0
	1.6nm,0.9s,baz=299,slow=9.7,SNR=6.6						
WRAB	**Tennant Creek**	**44.02**	**122**	*e*P	**P**	**06 26 19.3**	**-0.5**
	5.3nm,1.0s						
EKS2	**Erkin-Say**	**44.37**	**337**	*e*P	**P**	**06 26 24.2**	**+1.9**
	62nm,2.8s						
KSAR	**Wonju Array Be**	**45.38**	**36**	P	**P**	**06 26 29.3**	**-1.1**
KSRS	**Korea Array**	**45.41**	**36**	P	**P**	**06 26 29.3**	**-1.3**
	2.7nm,0.8s,baz=224,slow=7.6,SNR=5.1						
KSRS				LR	LR	06 48 08.7	
	comp=Z,113nm,18.3s,baz=188,slow=40						
ASAR	**Alice Springs**	**45.41**	**127**	P	P	06 26 27.1	-3.7
ASAR	**Alice Springs**	**45.41**	**127**	P	P	06 26 27.1	-3.7
	0.3nm,0.3s,baz=311,slow=8.5,SNR=8.3						
MK31	**Makanchi Array**	**45.44**	**347**	*e*P	**P**	**06 26 31.6**	**+0.8**
MKAR	**Makanchi Array**	**45.44**	**347**	*e*P	**P**	**06 26 31.8**	**+1.0**
MKAR	**Makanchi Array**	**45.44**	**347**	P	**P**	**06 26 31.7**	**+1.0**
	2.9nm,0.4s,baz=161,slow=8.5,SNR=68						
SONM	**Songino Array**	**45.85**	**10**	P	**P**	**06 26 34.3**	**+0.3**
SONM				PcP	**PcP**	**06 28 10.7**	**-0.5**
SONM	**Songino Array**	**45.85**	**10**	P	**P**	**06 26 34.3**	**+0.3**
	8.9nm,0.8s,baz=191,slow=8.1,SNR=58						
SONM				PcP	**PcP**	**06 28 10.7**	**-0.5**
	1.0nm,0.7s,baz=209,slow=3.1,SNR=3.4						
ULN	**Ulaanbaatar**	**46.00**	**11**	*e*P	**P**	**06 26 36.2**	**+1.0**
	7.1nm,1.1s						
KKAR	**Karatay Array**	**46.09**	**334**	*e*P	**P**	**06 26 37.5**	**+1.6**
	1.5nm,0.5s						
KURK	**Kurchatov**	**49.98**	**346**	*e*P	**P**	**06 27 07.2**	**+1.4**
	4.0nm,1.0s						
ZAA0	**Zalesovo Array**	**51.85**	**352**	*e*P	**P**	**06 27 20.1**	**+0.2**
ZALV	**Zalesovo Beam**	**51.85**	**352**	P	**P**	**06 27 20.2**	**+0.4**
ZALV	**Zalesovo Beam**	**51.85**	**352**	P	**P**	**06 27 20.2**	**+0.4**
	8.3nm,0.7s,baz=184,slow=6.2,SNR=31						
BVAR	**Borovoye Array**	**54.37**	**341**	P	**P**	**06 27 38.7**	**+0.3**
BVAR	**Borovoye Array**	**54.37**	**341**	P	**P**	**06 27 38.7**	**+0.3**
	3.0nm,0.7s,baz=138,slow=8.8,SNR=14						
BRVK	**Borovoye**	**54.43**	**341**	*e*P	**P**	**06 27 39.4**	**+0.5**
	3.7nm,0.7s						
ABKAR	**Akbulak array**	**55.53**	**332**	*e*P	**P**	**06 27 47.8**	**+0.9**
	15nm,1.1s						
ARU	**Arti**	**61.25**	**337**	*e*P	**P**	**06 28 26.9**	**+0.3**
	5.1nm,0.9s						
AKASG	**Malin Array Be**	**73.21**	**322**	P	**P**	**06 29 42.2**	**-0.5**
AKASG	**Malin Array Be**	**73.21**	**322**	P	**P**	**06 29 42.2**	**-0.5**
	0.3nm,0.2s,baz=92,slow=4.5,SNR=4.5						
FINES	**FINESS Array B**	**78.02**	**333**	P	**P**	**06 30 10.0**	**0.0**
FINES	**FINESS Array B**	**78.02**	**333**	P	**P**	**06 30 10.0**	**0.0**
	2.6nm,0.9s,baz=106,slow=4.9,SNR=5.0						
ARCES	**ARCESS Array B**	**80.64**	**340**	P	**P**	**06 30 24.8**	**+0.6**
ARCES	**ARCESS Array B**	**80.64**	**340**	P	**P**	**06 30 24.8**	**+0.6**
	3.5nm,1.0s,baz=99,slow=6.8,SNR=12						
GERES	**GERESS Array B**	**82.76**	**319**	P	**P**	**06 30 37.3**	**+1.4**
GERES	**GERESS Array B**	**82.76**	**319**	P	**P**	**06 30 37.3**	**+1.4**
	1.4nm,0.9s,baz=76,slow=

WRA	**Warramunga Arr**	**47.97**	**258**	P		P	06 55 34.1	0.0
	0.3nm,0.6s,baz=96,slow=7.3,SNR=3.1							
ASAR	**Alice Springs**	**48.14**	**253**	P		P	06 55 35.2	-0.3
	0.5nm,1.1s,baz=82,slow=8.7,SNR=5.2							
ILAR	**Eielson Array**	**84.30**	**12**	P		P	06 59 26.4	0.0
	0.2nm,0.6s,baz=229,slow=6.4,SNR=5.3							

JMA 12 07:20:30.1±0.2,23°.67N×126°.21E,h61km,M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.31**	**326**	P	Pn	07 20 52.7	+0.4
JOGS				*e*S	Sn	07 21 09.7	+0.8
JMJ	**Miyako jima 2**	**1.41**	**324**	P	Pn	07 20 54.1	+0.4
JMJ				*e*S	Sn	07 21 11.4	+0.1
JTJ	**Tarama**	**1.68**	**305**	P	Pn	07 20 57.8	+0.5
JTJ				S	Sn	07 21 18.8	+1.0
JIJ	**Ishigaki jima**	**2.01**	**290**	P	Pn	07 21 02.5	+0.8
JIJ				S	Sn	07 21 26.5	+0.7
JKRS	**Kuro-shima**	**2.09**	**286**	P	Pn	07 21 03.9	+1.1
JKRS				S	Sn	07 21 28.7	+1.0
HATJ	**Hateruma jima**	**2.23**	**280**	P	Pn	07 21 05.2	+0.4
HATJ				S	Sn	07 21 31.8	+0.5
IRIF	**Iriomote-Funau**	**2.36**	**287**	P	Pn	07 21 07.6	+1.1
IRIF				*e*S	Sn	07 21 35.1	+0.7
JKE	**Kume jima 2**	**2.70**	**11**	P	Pn	07 21 09.2	-1.9
YOJ	**Yonaguni jima**	**3.03**	**286**	P	Pn	07 21 16.5	+0.9
YOJ				*e*S	Sn	07 21 52.1	+1.4
JAGN	**Aguni-jima**	**3.05**	**18**	P	Pn	07 21 13.9	-2.0
JOW	**Kunigami**	**3.66**	**30**	P	Pn	07 21 21.6	-2.7
JTK	**Tokunoshima**	**4.79**	**31**	P	Pn	07 21 36.4	-3.3
JMZ	**Minamidaito 2**	**5.03**	**64**	P	Pn	07 21 36.5	-6.5
JAMN	**Amaminishikomi**	**5.28**	**30**	P	Pn	07 21 43.1	-3.3
JAM	**Amami Oshima**	**5.62**	**32**	P	Pn	07 21 47.7	-3.4

GUC 12 07:24:13.1±0.8,28°.53S×70°.48W,h42km±6km,ML3.7, 1C-2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.25**	**260**	↑*i*P	Pn	07 24 20.6	-0.4
VACH				*i* S	Sn	07 24 27.3	+0.7
VACH				AML	AML	07 24 27.5	
	comp=N,28μm,0.1s						
LCO	**Las Campanas**	**0.51**	**202**	↓*i*P	Pn	07 24 25.0	+0.5
LCO				*i* S	Sn	07 24 33.8	+1.2
LCO				AML	AML	07 24 35.8	
	comp=E,3μm,0.3s						
CPCH	**Copiapo**	**1.18**	**6**	↓*i*P	Pn	07 24 33.9	+0.7
CPCH				*i* S	Sn	07 24 50.4	+2.4
CPCH				AML	AML	07 24 52.5	
	comp=N,7μm,0.1s						
TLL	**Tololo Astrono**	**1.65**	**190**	*e*P	Pn	07 24 40.9	+0.8
TLL				*i* S	Sn	07 25 02.8	+2.5
TLL				AML	AML	07 25 05.3	
	comp=E,526nm,0.4s						

IDC 12 07:38:54.1±1.0,6°.72N×135°.40E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.6/24,mbtmp3.6/6,Error ellipse: s-maj=59.1km s-min=19.0km az=81.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.51**	**182**	P	P	07 44 34.7	+1.2
	1.0nm,0.8s,baz=0.7,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**30.23**	**183**	P	P	07 45 06.7	-0.1
	0.2nm,0.5s,baz=0.6,slow=8.3,SNR=4.4						
STKA	**Stephens Creek**	**38.83**	**172**	P	P	07 46 19.8	-1.2
	1.0nm,0.7s,baz=330,slow=8.1,SNR=2.5						
SONM	**Songino Array**	**47.85**	**334**	P	P	07 47 33.4	-0.5
	1.0nm,1.0s,baz=141,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**60.39**	**321**	P	P	07 49 05.4	0.0
	0.3nm,0.4s,baz=106,slow=7.8,SNR=2.9						
ILAR	**Eielson Array**	**78.72**	**25**	P	P	07 50 58.5	+0.3
	0.3nm,0.8s,baz=270,slow=5.4,SNR=3.2						

*ISCJB **12** 07:51:47.2±1.0,17°.88S×178°.64W,h634km,61km, mb3.9/13,Error ellipse: s-maj=40.1km s-min=13.4km az=151.3*

*IDC **12** 07:51:52.5±4.9,17°.88S×178°.64W,h634km,61km, mb3.4/13,mb1 3.6/13,mb1mx3.4/22,mbtmp4.4/13,Error ellipse: s-maj=37.5km s-min=23.7km az=148.0*

ISC 12 07:51:47.9±1.2,17°.8S±0°.3×178°.5W±0°.2,h579km,n15, σ0.93/15,mb3.9/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.38**	**260**	P	**P**	**07 57 39.9**	**+0.2**
	4.4nm,0.6s,baz=89,slow=10,SNR=12						
PMG	**Port Moresby**	**34.38**	**280**	P	**P**	**07 57 48.9**	**+0.9**
	18nm,0.8s,baz=96,slow=4.6,SNR=7.6						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**07 58 22.8**	**+0.3**
	4.1nm,0.6s,baz=100,slow=8.6,SNR=10						
WRA	**Warramunga Arr**	**44.57**	**259**	P	**P**	**07 59 09.0**	**-0.7**
	3.1nm,0.5s,baz=96,slow=7.1,SNR=45						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**07 59 10.8**	**-0.1**
	17nm,0.6s,baz=87,slow=8.7,SNR=414						
FITZ	**Fitzroy Crossi**	**52.97**	**261**	P	**P**	**08 00 11.7**	**0.0**
	1.2nm,0.5s,baz=130,slow=7.9,SNR=3.5						
MJAR	**Matsushiro Arr**	**67.81**	**323**	P	**P**	**08 01 49.0**	**-0.1**
	0.9nm,0.6s,baz=242,slow=30,SNR=3.0						
PETK	**Petropavlovsk-**	**73.60**	**345**	P	**P**	**08 02 23.2**	**+0.5**
	4.7nm,1.0s,baz=145,slow=10,SNR=3.8						
NVAR	**Mina Array Bea**	**79.43**	**44**	P	**P**	**08 02 55.8**	**+0.6**
	1.6nm,0.7s,baz=224,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**	**08 03 25.6**	**-0.8**
	0.7nm,0.4s,baz=220,slow=5.1,SNR=23						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**08 03 29.4**	**+1.2**
	1.7nm,0.8s,baz=205,slow=5.5,SNR=21						
PDAR	**Pinedale Array**	**87.36**	**43**	P	**P**	**08 03 34.6**	**+0.2**
	1.2nm,0.6s,baz=216,slow=3.3,SNR=12						
YKA	**Yellowknife Ar**	**94.30**	**25**	P	**P**	**08 04 05.3**	**-0.3**
	0.3nm,0.5s,baz=242,slow=4.7,SNR=6.2						
MKAR	**Makanchi Array**	**109.04**	**314**	PKiKP	**PKiKP**	**08 09 09.9**	**-2.4**
	0.6nm,0.7s,baz=116,slow=5.0,SNR=2.8						
GERES	**GERESS Array B**	**147.53**	**345**	PKPbc	**PKPbc**	**08 10 27.2**	**-0.5**
	1.4nm,0.6s,baz=13,slow=2.0,SNR=14						

MAN 12 07:56:21,7°.95N×126°.44E,h1km,mb4.6,ML3.4,MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.01**	**190**	*e*P	Pn	07 56 41.9	-0.5
MATI				*e*S	Sn	07 56 58.0	+0.7
BUTP	**Butuan**	**1.30**	**321**	*e*P	Pb	07 56 46.3	0.0
BUKP	**Musuan**	**1.37**	**267**	*e*P	Pn	07 56 45.9	-1.5
BUKP				*e*S	Sn	07 57 08.5	+2.3

IDC 12 07:58:30.8±1.3,5°.73N×126°.96E,h0km,mb4.0/7, mb1 4.2/7,mb1mx3.8/24,mbtmp4.0/7,Error ellipse: s-maj=113.8km s-min=19.0km az=71.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.72**	**183**	P	P	08 03 44.4	-0.2
	1.7nm,0.7s,baz=6.3,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**26.52**	**164**	P	P	08 04 11.1	+0.7
	1.5nm,0.6s,baz=344,slow=10.0,SNR=7.2						
ASAR	**Alice Springs**	**29.99**	**167**	P	P	08 04 41.8	+0.5
	0.3nm,0.5s,baz=350,slow=7.6,SNR=6.4						
ASAR				PcP	PcP	08 07 42.6	-1.3
	0.2nm,0.5s,baz=347,slow=2.6,SNR=4.8						
STKA	**Stephens Creek**	**39.92**	**160**	P	P	08 06 05.8	-0.9
	5.4nm,1.2s,baz=339,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**56.06**	**324**	P	P	08 08 11.6	-0.1
	1.0nm,0.6s,baz=109,slow=7.6,SNR=9.8						
ARCES	**ARCESS Array B**	**88.66**	**340**	P	P	08 11 26.6	+0.9
	5.0nm,1.1s,baz=93,slow=6.3,SNR=3.8						
FINES	**FINESS Array B**	**90.19**	**332**	P	P	08 11 32.4	-0.6
	0.8nm,0.6s,baz=71,slow=6.0,SNR=4.1						

WEL 12 08:32:24.1±0.3,36°.97S×177°.02E,h196km±5km,ML3.8/11, Error ellipse: s-maj=6.6km s-min=5.9km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**1.42**	**164**	PN	Pn	08 32 56.7	0.0
MWZ				SN	Sn	08 33 22.3	+0.1
PUZ	**Puketiti**	**1.48**	**139**	PN	Pn	08 32 57.0	-0.2
PUZ				SN	Sn	08 33 22.6	-0.5
CNGZ	**Carnagh Statio**	**1.79**	**148**	PN	Pn	08 33 00.2	+0.2
SNGZ	**Shannon Statio**	**1.83**	**172**	PN	Pn	08 33 00.7	+0.2
SNGZ				SN	Sn	08 33 28.6	-0.5
RIGZ	**Rimuhau**	**1.83**	**161**	PN	Pn	08 33 00.6	0.0
RAHZ	**Arahi**	**1.95**	**178**	PN	Pn	08 33 02.3	+0.6
RAHZ				SN	Sn	08 33 31.4	+0.2
KNZ	**Kokohu**	**2.11**	**166**	PN	Pn	08 33 02.9	-0.4
NMHZ	**Naumai**	**2.13**	**184**	PN	Pn	08 33 04.1	+0.4
BKZ	**Black Stump Fm**	**2.23**	**191**	PN	Pn	08 33 04.0	-0.8
MCHZ	**McNeill Hill**	**2.48**	**186**	PN	Pn	08 33 07.3	-0.1
CKHZ	**Cape Kidnapper**	**2.69**	**179**	PN	Pn	08 33 09.2	-0.6
KAHZ	**Kahuranaki**	**2.83**	**182**	PN	Pn	08 33 10.7	-0.7
PNHZ	**Pukenui**	**3.01**	**192**	PN	Pn	08 33 12.3	-1.3
PXZ	**Pawanui**	**3.06**	**182**	PN	Pn	08 33 13.0	-1.1
PXZ				AML	AML	08 33 21.6	
WPHZ	**Waipukurau**	**3.13**	**188**	PN	Pn	08 33 13.7	-1.2
PRHZ	**Porangahau**	**3.31**	**185**	*e*PN	Pn	08 33 15.4	-1.7
ANWZ	**Angora Road**	**3.51**	**187**	PN	Pn	08 33 18.1	-1.4
PRWZ	**Pori Road**	**3.67**	**193**	PN	Pn	08 33 20.0	-1.5
MRZ	**Mangatainoka R**	**3.86**	**196**	PN	Pn	08 33 21.5	-2.3
MRZ				AML	AML	08 34 34.3	
HOWZ	**Holdsworth Sta**	**4.10**	**196**	PN	Pn	08 33 24.0	-2.8
OGWZ	**Otaki Gorge**	**4.11**	**200**	PN	Pn	08 33 24.4	-2.5
KIW	**Kapiti Island**	**4.22**	**202**	PN	Pn	08 33 25.6	-2.8
KIW				AML	AML	08 34 41.4	
TMWZ	**Te Maipa**	**4.23**	**192**	PN	Pn	08 33 26.2	-2.3
MTW	**Mount Morrison**	**4.35**	**195**	PN	Pn	08 33 26.7	-3.3
CAW	**Cannon Point**	**4.40**	**200**	PN	Pn	08 33 27.6	-3.1
MSWZ	**Moikau Station**	**4.65**	**197**	PN	Pn	08 33 30.7	-3.1
TCW	**Tory Channel**	**4.74**	**206**	PN	Pn	08 33 31.7	-3.3
PLWZ	**Palliser**	**4.79**	**196**	PN	Pn	08 33 32.5	-3.3
TUWZ	**Tuamarina**	**5.05**	**207**	PN	Pn	08 33 35.7	-3.3
BSWZ	**Blackbirch Sta**	**5.33**	**206**	PN	Pn	08 33 39.1	-3.3
THZ	**Tophouse**	**5.75**	**212**	PN	Pn	08 33 45.5	-2.5
KHZ	**Kahutara**	**6.07**	**205**	PN	Pn	08 33 48.2	-3.8

*IDC **12** 08:49:12.7±3.1,4°.92S×133°.78E,h0km,mb3.5/1, mb1 4.0/4,mb1mx3.7/18,mbtmp3.8/4,ML4.0/3,MS4.5/1, Ms1 4.5/1,ms1mx2.8/24,Error ellipse: s-maj=129.4km s-min=28.9km az=82.0*

*AUST **12** 08:49:13.8,4°.96S×133°.53E,h0km*

*ISCJB **12** 08:49:14.1±0.9,5°.04S±0°.07×133°.5E±0°.1,h25km,mb3.4/1, MS4.5/1,Error ellipse: s-maj=16.0km s-min=9.5km az=169.5*

ISC 12 08:49:15.5±1.1,5°.13S±0°.08×133°.5E±0°.1,h25km,n11, σ2.92/11,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.51**	**331**	P	**Pn**	**08 49 53.3**	**-1.5**
	baz=2.4,SNR=7.9						
KDU	**Kakadu**	**7.57**	**187**	P	Pn	08 51 11.4	+7.1
	baz=7.8,SNR=26						
MTN	**Manton Dam**	**8.00**	**197**	P	Pn	08 51 17.7	+7.5
	baz=8.2,SNR=28						
LUWI	**Luwuk**	**11.43**	**290**	P	**Pn**	**08 51 56.5**	**-0.8**
	baz=11,SNR=4.7						
COEN	**Coen**	**12.97**	**133**	P	**Pn**	**08 52 18.9**	**+0.5**
	baz=13,SNR=3.7						
WRA	**Warramunga Arr**	**14.75**	**177**	Pn	**Pn**	**08 52 44.7**	**+2.2**
	0.4nm,0.3s,baz=360,slow=13,SNR=13						
WRA				Sn	**Sn**	**08 55 21.5**	**-3.8**
	0.2nm,0.3s,baz=359,slow=23,SNR=4.8						
FITZ	**Fitzroy Crossi**	**14.99**	**210**	Pn	**P**	**08 52 49.8**	**-1.3**
	1.0nm,0.3s,baz=40,slow=13,SNR=23						
FITZ				Sn	**Sn**	**08 55 33.8**	**+2.5**
	0.7nm,0.3s,baz=212,slow=19,SNR=14						
FITZ	**Fitzroy Crossi**	**14.99**	**210**	P	**P**	**08 52 51.2**	**+0.1**
	baz=15,SNR=4.3						
ASAR	**Alice Springs**	**18.43**	**179**	P	**Pn**	**08 53 32.6**	**+3.2**
	0.4nm,0.3s,baz=4.0,slow=11,SNR=34						
ASAR				S	**Sn**	**08 56 49.7**	**-5.1**
	0.1nm,0.3s,baz=359,slow=27,SNR=5.3						
RAO	**Raoul Island**	**51.78**	**123**	LR	LR	09 18 14.6	
	comp=Z,399nm,18.1s,baz=29,slow=34						
MKAR	**Makanchi Array**	**68.63**	**325**	P	**P**	**09 00 17.9**	**+1.3**
	0.3nm,0.5s,baz=120,slow=7.8,SNR=3.6						

*IDC **12** 08:52:39.5±0.7,2°.14S×127°.99E,h0km,mb4.2/15, mb1 4.3/16,mb1mx4.2/25,mbtmp4.2/16,ML3.9/1,Error ellipse: s-maj=33.1km s-min=14.8km az=75.0*

*ISCJB **12** 08:52:42.6±0.3,2°.16S±0°.04×128°.03E±0°.05,h33km, mb4.3/21,Error ellipse: s-maj=7.7km s-min=6.2km az=165.5*

*DJA **12** 08:52:42.9±0.6,2°S±6°×12°8E±°,h80km±24km,M4.2/5, mb4.5/1,mB4.6/1,MLv4.1/5,Mw(mB)3.8/1*

*NEIC **12** 08:52:46.2±2.1,2°.14S×128°.13E,h52km±21km,mb4.2/7, Error ellipse: s-maj=17.7km s-min=7.2km az=61.0*

ISC 12 08:52:44.3±0.5,2°.19S±0°.06×127°.97E±0°.06,h33km,n56, σ1.905/56,mb4.3/21,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.35**	**220**	S	**Sn**	**08 53 20.4**	**-3.4**
MSAI	**Masohi**	**1.50**	**140**	P	**Pb**	**08 53 12.4**	**+0.8**
LBMI	**Labuha**	**1.61**	**343**	P	**Pn**	**08 53 10.6**	**+0.1**
TNTI	**Ternate**	**3.00**	**349**	P	**Pn**	**08 53 30.3**	**+0.6**
SWI	**Sorong**	**3.55**	**68**	P	**Pn**	**08 53 35.3**	**-1.9**
SWI				S	**Sn**	**08 54 16.7**	**-1.3**
LUWI	**Luwuk**	**5.32**	**282**	P	**Sn**	**08 55 00.6**	**-1.0**
	baz=6.8,SNR=3.6						
KAPI	**Kappang**	**8.66**	**251**	*e*Pn	Pn	08 54 52.0	+4.5
WRAB	**Tennant Creek**	**18.70**	**161**	*e*P	**P**	**08 57 00.3**	**+0.1**
	5.5nm,1.0s						
WRA	**Warramunga Arr**	**18.71**	**161**	P	**P**	**08 56 59.4**	**-0.8**
WRA	**Warramunga Arr**	**18.71**	**161**	P	**P**	**08 56 59.4**	**-0.8**
	0.4nm,0.3s,baz=342,slow=12,SNR=4.6						
QIS	**Mount Isa**	**21.50**	**149**	P	**P**	**08 57 31.3**	**+0.7**
	baz=20,SNR=4.4						
AS31	**Alice Springs**	**22.11**	**165**	*e*P	**P**	**08 57 37.1**	**0.0**
ASAR	**Alice Springs**	**22.11**	**165**	P	**P**	**08 57 37.4**	**+0.3**
ASAR	**Alice Springs**	**22.11**	**165**	P	**P**	**08 57 37.4**	**+0.3**
	8.2nm,0.7s,baz=347,slow=11,SNR=34						
WRKA	**Warakurna**	**22.71**	**179**	P	**P**	**08 57 44.0**	**+0.4**
	baz=20,SNR=12						
STKA	**Stephens Creek**	**32.20**	**158**	*e*P	**P**	**08 59 10.0**	**+0.5**
	3.4nm,1.5s						
STKA	**Stephens Creek**	**32.20**	**158**	P	**P**	**08 59 09.9**	**+0.5**
	2.4nm,0.7s,baz=333,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**32.20**	**158**	P	**P**	**08 59 11.7**	**+2.2**
	baz=30,SNR=4.0						
CMAR	**Chiang Mai Arr**	**35.17**	**307**	P	**P**	**08 59 36.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**35.17**	**307**	P	**P**	**08 59 36.4**	**+0.9**
	1.4nm,0.4s,baz=133,slow=7.8,SNR=5.1						
KSAR	**Wonju Array Be**	**39.43**	**360**	P	**P**	**09 00 10.8**	**-0.6**
KSRS	**Korea Array**	**39.45**	**360**	P	**P**	**09 00 10.8**	**-0.7**
	1.0nm,0.6s,baz=175,slow=9.2,SNR=3.4						
MJAR	**Matsushiro Arr**	**39.70**	**13**	P	**P**	**09 00 12.3**	**-1.3**
MJAR	**Matsushiro Arr**	**39.70**	**13**	P	**P**	**09 00 12.3**	**-1.3**
	0.9nm,0.5s,baz=182,slow=8.7,SNR=4.8						
USRK	**Ussuriysk Arra**	**46.33**	**4**	P	**P**	**09 01 07.3**	**+0.3**
	2.3nm,0.6s,baz=176,slow=6.6,SNR=6.7						
NFK	**Norfolk Island**	**46.46**	**129**	P	**P**	**09 01 10.9**	**+2.5**
	baz=45,SNR=5.3						
ULN	**Ulaanbaatar**	**53.10**	**343**	*e*P	**P**	**09 01 57.1**	**-1.7**
	2.9nm,0.7s						
SONM	**Songino Array**	**53.27**	**342**	P	**P**	**09 01 59.8**	**-0.3**
SONM	**Songino Array**	**53.27**	**342**	P	**P**	**09 01 59.8**	**-0.3**
	2.2nm,0.8s,baz=154,slow=8.9,SNR=14						
PETK	**Petropavlovsk-**	**60.47**	**20**	P	**P**	**09 02 51.2**	**+0.3**
PETK	**Petropavlovsk-**	**60.47**	**20**	P	**P**	**09 02 51.2**	**+0.3**
	5.9nm,1.0s,baz=236,slow=4.7,SNR=3.5						
MK31	**Makanchi Array**	**63.12**	**327**	*e*P	**P**	**09 03 08.7**	**-0.1**
MKAR	**Makanchi Array**	**63.12**	**327**	P	**P**	**09 03 08.9**	**0.0**
MKAR	**Makanchi Array**	**63.12**	**327**	P	**P**	**09 03 08.9**	**0.0**
	5.1nm,0.7s,baz=126,slow=8.3,SNR=52						
YAK	**Yakutsk**	**64.06**	**1**	*e*P	**P**	**09 03 14.7**	**0.0**
	24nm,0.6s						
KZA	**Kyzart**	**64.83**	**319**	P	**P**	**09 03 22.0**	**+1.3**
	SNR=5.1						
TKM2	**Tokmak 2**	**65.01**	**320**	P	**P**	**09 03 22.1**	**+0.5**
	SNR=7.2						
UCH	**Uchtor**	**65.38**	**319**	P	**P**	**09 03 25.6**	**+1.2**
	SNR=7.2						
USP	**Ospenovka**	**65.88**	**320**	P	**P**	**09 03 27.4**	**+0.4**
	SNR=7.2						
EKS2	**Erkin-Say**	**66.07**	**319**	P	**P**	**09 03 29.1**	**+0.8**
	SNR=5.1						
EKS2	**Erkin-Say**	**66.07**	**319**	*e*P	**P**	**09 03 28.9**	**+0.6**
	2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**66.40**	**334**	P	**P**	**09 03 29.0**	**-1.0**
ZALV	**Zalesovo Beam**	**66.40**	**334**	P	**P**	**09 03 29.0**	**-1.0**
	0.9nm,0.5s,baz=111,slow=7.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**67.38**	**328**	P	**P**	**09 03 36.1**	**-0.2**
	5.5nm,0.7s,baz=125,slow=6.5,SNR=77						
KURK	**Kurchatov**	**67.38**	**329**	*e*P	**P**	**09 03 35.8**	**-0.5**
	6.7nm,0.9s						
SEY	**Seymchan**	**67.51**	**12**	P	**P**	**09 03 37.9**	**+1.0**
SEY	**Seymchan**	**67.51**	**12**	P	**P**	**09 03 37.9**	**+1.0**
	0.6nm,0.3s,baz=24,slow=22,SNR=5.1						
KKAR	**Karatay Array**	**68.42**	**318**	*e*P	**P**	**09 03 43.0**	**-0.1**
	1.6nm,0.8s						
BVAR	**Borovoye Array**	**72.94**	**328**	P	**P**	**09 04 10.0**	**-0.4**
BVAR	**Borovoye Array**	**72.94**	**328**	P	**P**	**09 04 10.0**	**-0.4**
	3.4nm,0.9s,baz=138,slow=7.6,SNR=14						
BRVK	**Borovoye**	**73.01**	**328**	*e*P	**P**	**09 04 10.7**	**-0.1**
	1.9nm,0.7s						
MAW	**Mawson**	**78.68**	**201**	P	**P**	**09 04 41.3**	**-1.6**
	baz=77,SNR=5.3						
QSPA	**South Pole Qui**	**87.75**	**180**	P	**P**	**09 05 30.9**	**+1.0**
QSPA	**South Pole Qui**	**87.75**	**180**	P	**P**	**09 05 30.8**	**+1.0**
	1.1nm,0.9s,baz=323,slow=3.9,SNR=4.6						
ILAR	**Eielson Array**	**89.89**	**25**	P	**P**	**09 05 38.3**	**-1.5**
ILAR	**Eielson Array**	**89.89**	**25**	P	**P**	**09 05 38.3**	**-1.5**
	0.5nm,1.0s,baz=256,slow=3.6,SNR=4.1						

IDC 12 09:06:47.4±1.9,34°.70S×179°.72W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.8/18,mbtmp3.9/4,ML3.9/1,Error ellipse: s-maj=47.0km s-min=32.3km az=60.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.38**	**215**	Pn	Pn	09 07 54.0	-1.2
	5.8nm,0.3s,baz=34,slow=6.9,SNR=28						
URZ				Sn	Sn	09 08 41.0	-5.9
	3.3nm,0.3s,baz=151,slow=19,SNR=3.8						
ASAR	**Alice Springs**	**41.63**	**273**	P	P	09 14 37.7	+0.1
	0.6nm,0.3s,baz=116,slow=7.6,SNR=32						
WRA	**Warramunga Arr**	**43.02**	**278**	P	P	09 14 48.8	-0.1
	0.9nm,0.5s,baz=117,slow=7.6,SNR=7.2						
QSPA	**South Pole Qui**	**55.42**	**180**	P	P	09 16 23.5	0.0
	0.8nm,0.7s,baz=340,slow=2.1,SNR=9.7						
H03N3	**Juan Fernandez**	**79.52**	**123**	T	T	10 47 19.9	
	baz=235,slow=74,SNR=4.6						
H03N2	**Juan Fernandez**	**79.52**	**123**	T	T	10 47 25.5	
	baz=235,slow=74,SNR=4.6						
H03N1	**Juan Fernandez**	**79.53**	**123**	T	T	10 47 22.6	
	baz=235,slow=74,SNR=4.4						
FINES	**FINESS Array B**	**148.59**	**336**	PKPbc	PKPbc	09 26 34.8	-0.7
	1.2nm,0.7s,baz=46,slow=4.0,SNR=6.0						

*AUST **12** 09:08:02.2±2.1,16°.27S×173°.02W,h0km,Error ellipse: s-maj=1.1km s-min=0.9km az=344.0*

*BJI **12** 09:08:03.6,16°.10S×173°.50W,h5km,mB5.3/12,mb5.2/17, Ms5.0/9,Ms7 4.7/12*

*IDC **12** 09:08:03.8±0.4,16°.18S×173°.40W,h0km,mb4.6/22, mb1 4.8/23,mb1mx4.6/29,mbtmp4.6/23,ML3.9/1,MS4.2/31, Ms1 4.2/31,ms1mx4.2/35,Error ellipse: s-maj=18.8km s-min=12.3km az=128.0*

*ISCJB **12** 09:08:04.0±0.2,16°.19S±0°.06×173°.50W±0°.04,h10km, mb4.9/124,MS4.4/38,Error ellipse: s-maj=9.2km s-min=3.8km az=148.1*

*NEIC **12** 09:08:05.5±0.1,16°.17S×173°.46W,h10km,mb5.1/92, Error ellipse: s-maj=7.1km s-min=2.9km az=143.0*

*MOS **12** 09:08:08.2±1.0,16°.07S×173°.47W,h33km,mb5.2/26, Error ellipse: s-maj=16.4km s-min=8.8km az=52.9*

*SZGRF **12** 09:08:09.3,16°.52S×173°.42W,h33km,mb4.6,Tonga Islands*

*GCMT **12** 09:08:15.3±0.2,16°.22S×173°.02W,h52km±2km,MW5.1, Moment Tensor Solution. s51,c67; s87,c124; Moment tensor: Scale 10^16^Nm; Mrr0.11±.22; Mθθ3.13±.20; Mφφ-3.24±.19; Mrθ-2.81±.17; Mrφ2.88±.15; Mθφ2.60±.15; Best double couple: M0:5.70000×10^16^ NP1:φs115.00000°, δ87.00000°, λ-40.00000°. NP2:φs208.00000°, δ50.00000°, λ-176.00000°. Principal axes: T 5.0200, Plg24.0000°, Azm169.0000°; N 1.2600, Plg50.0000°, Azm292.0000°; P -6.2800, Plg29.0000°, Azm64.0000°; Data Used: II IU IC G CN CU.*

ISC 12 09:08:05.5±0.5,16°.23S±0°.07×173°.37W±0°.06,h12km±2km, h12km:pP-P,n704,σ0.976/690,mb5.0/124,MS4.4/38, 189C-158D,Tonga Islands

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

comp=Z,158nm,19.9s,baz=335,slow=31
H11S2 WAKE ISLAND Hy 39.69 330 T T 09 57 17.6
baz=152,slow=76,SNR=64
H11S3 WAKE ISLAND Hy 39.70 330 T T 09 57 44.7
baz=152,slow=76,SNR=51
H11S1 WAKE ISLAND Hy 39.71 330 T T 09 57 45.1
baz=152,slow=76,SNR=42
CMSA Cobar Meteori 40.17 240 P **P 09 15 41.1 -0.7**
baz=40,SNR=10
QLP Quilpie 40.63 248 P **P 09 15 44.9 -0.9**
baz=41,SNR=7.9
H11N3 WAKE ISLAND Hy 40.65 331 T T 09 58 29.4
baz=152,slow=77,SNR=61
H11N1 WAKE ISLAND Hy 40.65 331 T T 09 58 30.4
baz=152,slow=77,SNR=52
H11N2 WAKE ISLAND Hy 40.66 331 T T 09 58 31.4
baz=152,slow=77,SNR=50
COEN Coen 41.97 267 *e*P **P 09 15 57.0 +0.1**
comp=Z,46nm,0.8s
COEN Coen 41.97 267 P **P 09 15 57.9 +1.0**
baz=42,SNR=4.7
TOO Toolangi 41.97 231 P **P 09 15 56.0 -0.7**
baz=42,SNR=8.8
STKA Stephens Creek 43.66 241 *e*P **P 09 16 09.7 -0.7**
STKA Stephens Creek 43.66 241 P **P 09 16 09.2 -1.2**
comp=Z,10nm,0.8s,baz=93,slow=10,SNR=20
STKA LR LR 09 31 50.4
comp=Z,462nm,21.9s,baz=45,slow=33
STKA Stephens Creek 43.66 241 P **P 09 16 10.0 -0.4**
baz=44,SNR=8.2
MCQ Macquarie Isla 43.79 203 P P 09 16 07.2 -3.9
baz=44,SNR=3.7
HTT Hallett 46.15 239 P **P 09 16 30.1 -0.2**
baz=46,SNR=5.5
BBOO Buckleboo 48.43 240 *e*P **P 09 16 47.0 -1.0**
comp=Z,415nm,1.3s
WRAB Tennant Creek 49.68 257⇑ *e*P **P 09 16 58.6 +0.8**
WRAB pmax pmax
comp=Z,24nm,1.1s
WRAB MLR MLR
comp=Z,313nm,17.0s
WRAB Tennant Creek 49.68 257 *e*P **P 09 16 58.4 +0.5**
comp=Z,65nm,2.4s
WRAB Tennant Creek 49.68 257 P **P 09 16 58.3 +0.5**
comp=Z,38nm,0.6s,SNR=8.0
WRA Warramunga Arr 49.69 257 P **P 09 16 56.7 -1.2**
WRA Warramunga Arr 49.69 257 P **P 09 16 56.7 -1.2**
comp=Z,2.9nm,0.5s,baz=93,slow=7.2,SNR=31
WRA LR LR 09 36 31.6
comp=Z,473nm,21.0s,baz=85,slow=34
AS31 Alice Springs 49.89 253 *e*P **P 09 16 58.5 -0.9**
ASAR Alice Springs 49.89 253 P **P 09 16 58.2 -1.2**
ASAR Alice Springs 49.89 253 P **P 09 16 58.2 -1.2**
comp=Z,14nm,0.6s,baz=89,slow=7.4,SNR=77
ASAR LR LR 09 37 04.0
comp=Z,625nm,19.8s,baz=97,slow=35
KDU Kakadu 52.45 266 P **P 09 17 18.8 +0.1**
baz=53,SNR=3.8
MTN Manton Dam 53.70 266 P **P 09 17 28.9 +1.0**
baz=54,SNR=7.4
WRKA Warakurna 54.95 251 P **P 09 17 36.0 -0.9**
baz=55,SNR=15
FORT Forrest 55.08 244 *e*P **P 09 17 36.6 -1.1**
comp=Z,23nm,0.7s
FITZ Fitzroy Crossi 58.08 259 P **P 09 17 58.3 -1.0**
FITZ Fitzroy Crossi 58.08 259 P **P 09 17 58.3 -1.0**
comp=Z,2.7nm,0.9s,baz=121,slow=5.9,SNR=4.1
FITZ LR LR 09 41 51.5
comp=Z,354nm,19.5s,baz=96,slow=35
FITZ Fitzroy Crossi 58.08 259 P P 09 18 03.0 +3.8
baz=58,SNR=4.7
VNDA Vanda 62.56 186 *e*P **P 09 18 30.8 +1.8**
comp=Z,15nm,1.5s
VNDA Vanda 62.56 186 P **P 09 18 30.8 +1.8**
comp=Z,3.0nm,0.7s,baz=11,slow=6.8,SNR=11
VNDA LR LR 09 41 13.8
comp=Z,101nm,21.0s,baz=9.7,slow=32
MBWA Marble Bar 63.17 254 *e*P **P 09 18 33.2 -0.8**
comp=Z,8.4nm,0.8s
MEEK Meekatharra 63.53 248 P **P 09 18 35.6 -0.8**
baz=64,SNR=4.4
KLBR Kellerberrin 63.88 242 P **P 09 18 38.0 -0.5**
baz=64,SNR=10
NWAO Narrogin (SHO) 64.25 241 LR LR 09 47 05.1
comp=Z,234nm,19.1s,baz=234,slow=36
BLDU Ballidu 64.85 243 P **P 09 18 44.3 -0.6**
baz=65,SNR=5.2
MJAR Matsushiro Arr 69.59 320 P **P 09 19 15.1 +0.4**
MJAR Matsushiro Arr 69.59 320 P **P 09 19 15.1 +0.4**
comp=Z,0.8nm,0.8s,baz=155,slow=6.2,SNR=3.4
MJAR LR LR 09 43 13.1
comp=Z,130nm,19.8s,baz=95,slow=30
CASY Casey 69.67 205 *e*P **P 09 19 15.4 +0.6**
comp=Z,11nm,0.8s
FX1 Attu Island--F 69.81 351 LR LR 09 42 23.8
comp=Z,323nm,22.0s,baz=160,slow=30
SMMC Simmler 72.00 44 ⇓P **P 09 19 30.2 +0.6**
baz=72
PTRM Twissleman Ran 72.06 43 *e*P **P 09 19 30.1 +0.2**
FMP Fort Macarthur 72.24 46 ⇓P **P 09 19 32.3 +1.4**
baz=72
ASAJ Asahikawa 72.26 328 P **P 09 19 31.7 +0.9**
ASAJ Asahikawa 72.26 328 P **P 09 19 31.7 +0.9**
comp=Z,7.5nm,0.8s,baz=172,slow=7.1,SNR=3.0
JNU Nakatsue 72.39 313 LR LR 09 45 03.5
comp=Z,57nm,19.5s,baz=248,slow=31
DECC Green Verdugo 72.52 45⇑ **P 09 19 33.1 +0.4**
baz=73
MWC Mount Wilson 72.69 46 *e*P **P 09 19 33.8 0.0**
MWC pmax pmax
comp=Z,22nm,1.1s
MWC Mount Wilson 72.69 46 *e*P **P 09 19 33.8 0.0**
comp=Z,22nm,1.1s
MURC Murrieta 72.94 46 ⇓P **P 09 19 35.7 +0.6**
baz=73
BFSC Mount Baldy Ra 72.97 46 ⇓P **P 09 19 35.7 +0.2**
baz=73
RCTC Rector, Farmer 73.08 43⇑ **P 09 19 36.2 +0.3**
baz=73
MONP Monument Peak 73.10 47 ⇓P **P 09 19 36.9 +0.6**
baz=73,SNR=6.4
KHMM Horse Mountain 73.10 37 *e*P **P 09 19 37.3 +1.2**
comp=Z,35nm,1.1s
EDW2 Edwards Air Fo 73.10 45⇑ **P 09 19 36.8 +0.7**
baz=73,SNR=12
DVTC Desert V Tower 73.20 48 ⇓P **P 09 19 37.3 +0.5**
baz=73
ISA Isabella 73.22 44 *e*P **P 09 19 36.7 -0.1**
ISA pmax pmax
comp=Z,6.0nm,1.2s
ISA Isabella 73.22 44 *e*P **P 09 19 36.7 -0.1**
comp=Z,6.4nm,1.2s
ISA Isabella 73.22 44 ⇓P **P 09 19 37.7 +0.9**
baz=73,SNR=15
CMB Columbia Colle 73.36 41 *e*P **P 09 19 37.8 +0.2**
CMB pmax pmax
comp=Z,14nm,0.9s
CMB Columbia Colle 73.36 41 *e*P **P 09 19 37.8 +0.2**
comp=Z,14nm,0.9s
KRMB Red Mountain 73.41 37 *e*P **P 09 19 38.6 +0.7**
comp=Z,103nm,1.6s
PEA0B Petropavlovsk- 73.43 342 *e*P P 09 19 32.4 -5.1
PETK Petropavlovsk- 73.43 342 P **P 09 19 37.6 0.0**
PETK Petropavlovsk- 73.43 342 P **P 09 19 37.5 0.0**
PETK Petropavlovsk- 73.43 342 P **P 09 19 37.5 0.0**
comp=Z,7.6nm,0.8s,baz=134,slow=8.3,SNR=5.2
PETK LR LR 09 43 43.5
comp=Z,72nm,21.5s,baz=323,slow=29
LPIG La Paz 73.44 58 LR LR 09 43 26.4
comp=Z,244nm,21.1s,baz=278,slow=29
PFO Pinyon Flat Ob 73.46 47 *e*P **P 09 19 38.7 +0.4**
comp=Z,16nm,1.2s
PFO Pinyon Flat Ob 73.46 47 ⇓P **P 09 19 38.9 +0.5**
baz=74,SNR=5.5
PFO Pinyon Flat Ob 73.46 47 LR LR 09 44 13.4
comp=Z,392nm,20.9s,baz=292,slow=30
OHCM Honcut 73.47 40 *e*P **P 09 19 37.4 -0.6**
SWSC Sam W. Stewart 73.57 48⇑ **P 09 19 39.1 +0.3**
baz=74
WDC Whiskeytown Da 73.61 38 *e*P **P 09 19 38.8 -0.1**
WDC Whiskeytown Da 73.61 38 *e*P **P 09 19 38.8 -0.1**
LRMC Laurel Mountai 73.64 45⇑ **P 09 19 40.2 +0.8**
baz=74,SNR=5.4
N02D Trinity Center 73.76 38⇑ **P 09 19 40.7 +0.8**
baz=74
QSPA South Pole Qui 73.82 180 P **P 09 19 41.0 +1.1**
QSPA South Pole Qui 73.82 180 P **P 09 19 41.0 +1.1**
comp=Z,12nm,0.9s,baz=45,slow=3.3,SNR=24
M02C Callahan 73.94 37 ⇓P **P 09 19 42.0 +1.1**
baz=74
BELC Belle Mtn. Jos 73.99 47⇑ **P 09 19 41.9 +0.4**
baz=74,SNR=7.1
L02D Cave Junction, 74.00 36⇑ **P 09 19 41.9 +0.7**
baz=74
MPMC Manual Prospec 74.10 44⇑ **P 09 19 43.0 +0.9**
baz=74,SNR=24
MLAC Mammoth Lakes 74.11 42 ⇓P **P 09 19 43.1 +0.9**
baz=74
MTUM Tungsten Hills 74.13 43 *e*P **P 09 19 42.8 +0.5**
GSC Goldstone 74.14 45 *e*P **P 09 19 42.4 +0.1**
GSC pmax pmax
comp=Z,7.0nm,1.3s
GSC Goldstone 74.14 45 *e*P **P 09 19 42.4 +0.1**
comp=Z,6.7nm,1.3s
GSC Goldstone 74.14 45⇑ **P 09 19 42.6 +0.3**
baz=74,SNR=14
TIN Tinemaha 74.18 43⇑ **P 09 19 43.2 +0.7**
baz=74
BC3 Big Chuckawall 74.19 47 ⇓P **P 09 19 43.3 +0.7**
baz=74,SNR=7.1
LAMM Antelope Mount 74.21 37 P **P 09 19 43.7 +1.0**
HEC Hector,Ludlow 74.21 46 ⇓P **P 09 19 43.3 +0.6**
baz=74
YBH Yreka Blue Hor 74.24 37 P **P 09 19 43.4 +0.8**
YBH Yreka Blue Hor 74.24 37 P **P 09 19 43.4 +0.8**
YBH comp=Z,22nm,1.0s,baz=185,slow=1.4,SNR=33 LR LR 09 45 02.6
comp=Z,409nm,20.3s,baz=251,slow=30
WAKR Walker 74.24 41 *e*P **P 09 19 43.5 +0.6**
GLA Glamis 74.32 48⇑ **P 09 19 44.0 +0.7**
baz=74
GMRC Granite Mounta 74.65 46 ⇓P **P 09 19 45.4 +0.2**
baz=75,SNR=14
HUMO Hull Mountain 74.65 36 *e*P **P 09 19 45.9 +0.9**
comp=Z,37nm,1.3s
IRM Iron Mountain 74.67 47 ⇓P **P 09 19 46.1 +0.8**
baz=75,SNR=13
GRAC Grapevine Rang 74.71 43 ⇓P **P 09 19 46.6 +1.1**
baz=75,SNR=9.5
FURC Furnace Creek, 74.75 44 ⇓P **P 09 19 46.5 +0.9**
baz=75,SNR=8.3
M04C Macdoel 74.77 37 ⇓P **P 09 19 46.7 +0.9**
baz=75
TUQ Turquoise Moun 74.82 45 ⇓P **P 09 19 46.9 +0.7**
baz=75,SNR=7.0
Y12C Blythe 74.90 48⇑ **P 09 19 47.5 +0.9**
baz=75,SNR=5.2
NVAR Mina Array Bea 74.92 42 P **P 09 19 47.1 +0.2**
NVAR Mina Array Bea 74.92 42 P **P 09 19 47.1 +0.2**
comp=Z,9.7nm,0.9s,baz=230,slow=8.0,SNR=45
113A Mohawk Valley, 74.93 49 ⇓P **P 09 19 47.2 +0.4**
baz=75
PAHR Pah Rah Range 74.99 40 *e*P **P 09 19 47.9 +0.8**
comp=Z,24nm,1.3s
NV11 Mina Array Sit 75.02 42 *e*P **P 09 19 47.9 +0.5**
I03D Drain, OR 75.14 35⇑ **P 09 19 48.6 +0.9**
baz=75
LDFC Landfair 75.19 46 *e*P **P 09 19 48.8 +0.4**
comp=Z,46nm,1.2s
214A Organ Pipe Nat 75.22 50 ⇓P **P 09 19 49.0 +0.5**
baz=75
K04D Chiloquin, OR 75.35 37 ⇓P **P 09 19 50.4 +1.3**
baz=76
TPH Tonopah 75.42 43 *e*P **P 09 19 50.0 +0.3**
TPH pmax pmax
comp=Z,30nm,1.1s
TPH Tonopah 75.42 43 *e*P **P 09 19 50.0 +0.3**
comp=Z,30nm,1.1s
TPNV Topopah Spring 75.43 44 *e*P **P 09 19 50.2 +0.4**
TPNV pmax pmax
comp=Z,15nm,1.0s
TPNV Topopah Spring 75.43 44 *e*P **P 09 19 50.1 +0.4**
comp=Z,15nm,1.0s
TPNV Topopah Spring 75.43 44 ⇓P **P 09 19 50.5 +0.7**
baz=76,SNR=9.5
PDMCI Parker Dam,Lak 75.46 47⇑ **P 09 19 50.5 +0.7**
baz=76,SNR=5.7
J04D Umpqua Nationa 75.54 36 ⇓P **P 09 19 51.5 +1.2**
baz=76
I04A Tendick Farm, 75.72 35⇑ **P 09 19 52.0 +0.8**
baz=76
MOD Modoc 75.75 38 *e*P **P 09 19 51.9 +0.4**
comp=Z,7.1nm,1.1s
Z14A Wintersburg 75.83 49 ⇓P **P 09 19 52.5 +0.6**
baz=76
K05A Summer Lake 75.91 37 *e*P **P 09 19 53.3 +0.9**
comp=Z,46nm,1.1s
SHPR Sheep Range 75.92 45 *e*P **P 09 19 53.0 +0.4**
W13A Hualapai Mount 76.05 47 ⇓P **P 09 19 54.1 +0.7**
baz=76,SNR=11
J05D Fort Rock, OR 76.06 36 ⇓P **P 09 19 54.3 +1.1**
baz=76
Y14A Wickenburg 76.08 48 ⇓P **P 09 19 53.7 +0.3**
baz=76,SNR=11
G03D McMinnville, O 76.17 34⇑ **P 09 19 54.4 +0.9**
baz=76
H04A Detroit Lake 76.41 35 *e*P **P 09 19 55.0 0.0**
comp=Z,44nm,1.4s
BKCOR Black Crater 76.44 35 P **P 09 19 56.2 +0.9**
PINOR Pine Mountain 76.60 36 *e*P **P 09 19 57.2 +1.2**
R11A Troy Canyon, C 76.64 43 *e*P **P 09 19 56.5 -0.1**
R11A Troy Canyon, C 76.64 43⇑ **P 09 19 56.6 -0.1**
baz=77,SNR=17
I05D Terrebonne, OR 76.66 36 ⇓P **P 09 19 57.2 +0.7**
baz=77
BMN Battle Mountai 76.76 41 *e*P **P 09 19 57.4 +0.1**
BMN pmax pmax
comp=Z,33nm,1.5s
BMN Battle Mountai 76.76 41 *e*P **P 09 19 57.4 +0.1**
comp=Z,33nm,1.5s
KSRS Korea Array 76.77 316 LR LR 09 51 45.3
comp=Z,56nm,18.3s,baz=355,slow=34
F04D Rainier, OR 76.87 33 ⇓P **P 09 19 58.4 +0.9**
baz=77
E03A Lebam 76.88 33 *e*P **P 09 19 58.2 +0.6**
comp=Z,31nm,1.1s
TUC Tucson 76.89 51 *e*P **P 09 19 58.6 +0.5**
TUC pmax pmax
comp=Z,24nm,1.4s
TUC Tucson 76.89 51 *e*P **P 09 19 58.5 +0.5**
comp=Z,24nm,1.4s
WVOR Wild Horse Val 77.06 38 *e*P **P 09 19 59.2 +0.3**
WVOR pmax pmax
comp=Z,26nm,1.3s
WVOR Wild Horse Val 77.06 38 *e*P **P 09 19 59.2 +0.3**
comp=Z,26nm,1.3s
F04A Amboy 77.09 34 *e*P **P 09 19 59.2 +0.5**
comp=Z,49nm,1.5s
VFP Flag Point 77.21 35 P **P 09 20 00.2 +0.5**
G05D Wamic, OR 77.24 35 ⇓P **P 09 20 00.6 +0.9**
baz=78
NLWA Newton Lookou 77.28 32 *e*P **P 09 20 00.8 +0.9**
comp=Z,19nm,1.3s
X16A Lo Mia Camp, P 77.44 48⇑ **P 09 20 01.8 +0.6**
baz=78,SNR=16
TDL Tradedollar La 77.46 34 P **P 09 20 01.6 +0.6**
319A Douglas 77.57 52⇑ **P 09 20 02.6 +0.6**
baz=78,SNR=10
G06A Carlson Farm, 77.61 35 *e*P **P 09 20 02.0 +0.2**
comp=Z,104nm,2.4s
ASR Mount Adams--S 77.67 34 P **P 09 20 02.7 +0.5**
CCUT Cedar City 77.69 45 *e*P **P 09 20 03.5 +0.8**
comp=Z,14nm,1.1s
J08A Circle Bar Ran 77.70 38 *e*P **P 09 20 03.1 +0.7**
comp=Z,31nm,1.3s
ARUT Antelope Range 77.77 45 *e*P **P 09 20 03.7 +0.7**
ARUT pmax pmax
comp=Z,381nm,1.2s
ARUT Antelope Range 77.77 45 *e*P **P 09 20 03.7 +0.7**
comp=Z,381nm,1.2s
U15A North Rim 77.85 46⇑ **P 09 20 04.3 +0.7**
baz=78,SNR=21
LON Longmire 77.93 33 *e*P **P 09 20 03.8 +0.2**
LON pmax pmax
comp=Z,12nm,1.4s
LON Longmire 77.93 33 *e*P **P 09 20 03.8 +0.2**
comp=Z,12nm,1.4s
WUAZ Wupatki 78.03 47 *e*P **P 09 20 05.2 +0.7**
comp=Z,21nm,1.4s
WUAZ Wupatki 78.03 47⇑ **P 09 20 05.0 +0.4**
baz=78,SNR=5.3
USRK Ussurivsk Arra 78.06 323 P **P 09 20 03.8 -0.5**
comp=Z,0.7nm,0.6s,baz=105,slow=6.8,SNR=3.1
USRK LR LR 09 47 25.4
comp=Z,190nm,21.9s,baz=62,slow=30
D05A Enumclaw 78.12 33 *e*P **P 09 20 04.7 +0.2**
comp=Z,56nm,1.4s
320A Kipp Ranch, An 78.13 52 ⇓P **P 09 20 06.0 +0.9**
baz=78
ELK Elko 78.18 41 *e*P **P 09 20 05.8 +0.5**
comp=Z,18nm,1.4s
RSO Redoubt South 78.21 10 *e*P **P 09 20 02.6 -2.4**
comp=Z,17nm,1.0s
TRW Toppenish Ridg 78.32 34 P **P 09 20 06.3 +0.6**
XMIS Christmas Isla 78.56 262 P P 09 20 11.2 +3.4
baz=79,SNR=9.8
X18A Snowflake 78.57 49⇑ **P 09 20 08.1 +0.5**
baz=79
G08A Pilot Rock 78.58 36 *e*P **P 09 20 07.5 +0.3**
comp=Z,28nm,1.3s
BBB Bella Bella 78.61 26 LR LR 09 45 58.8
comp=Z,186nm,21.1s,baz=259,slow=29
LTY Liberty 78.86 34 *e*P **P 09 20 08.4 -0.3**
comp=Z,65nm,2.4s
E07A Sunnyside 78.86 34 *e*P **P 09 20 09.0 +0.3**
comp=Z,30nm,1.3s
HAWA Hanford 78.94 35 *e*P **P 09 20 09.3 +0.3**
comp=Z,25nm,1.3s
MVU Marysvale 78.96 44 *e*P **P 09 20 11.1 +1.4**
comp=Z,19nm,1.1s
H2OWA Water 79.00 35 P **P 09 20 09.9 +0.5**
221A Mesquite Ranch 79.00 52 ⇓P **P 09 20 11.0 +1.1**
baz=79
SPU Mount Spurr 79.01 10 *e*P **P 09 20 08.4 -0.8**
121A Cookes Peak, D 79.23 52 *e*P **P 09 20 11.8 +0.5**
121A Cookes Peak, D 79.23 52⇑ **P 09 20 11.8 +0.5**
baz=79,SNR=8.5
BMO Blue Mountains 79.27 37 *e*P **P 09 20 11.2 +0.2**
BMO pmax pmax
comp=Z,14nm,1.2s
BMO Blue Mountains 79.27 37 *e*P **P 09 20 11.2 +0.2**
comp=Z,14nm,1.2s
MFID Camas Ranch 79.31 39 *e*P **P 09 20 11.0 -0.3**
comp=Z,18nm,1.4s
RC01 Rabbit Creek A 79.34 11 *e*P **P 09 20 10.9 -0.1**
comp=Z,12nm,1.0s
DUG Dugway 79.44 43 *e*P **P 09 20 12.0 -0.2**
DUG pmax pmax
comp=Z,17nm,1.3s
DUG Dugway 79.44 43 *e*P **P 09 20 12.0 -0.2**
comp=Z,17nm,1.3s
DUG Dugway 79.44 43⇑ **P 09 20 12.4 +0.2**
baz=80,SNR=12
WTV Waterville 79.51 33 P **P 09 20 12.3 0.0**
222A Williams Famil 79.56 52 ⇓P **P 09 20 13.6 +0.7**
baz=80
D08A Wollman Farm, 79.67 34 *e*P **P 09 20 13.1 0.0**
comp=Z,23nm,1.2s
BGU Big Grassy Mou 79.69 42 *e*P **P 09 20 13.8 +0.4**
comp=Z,20nm,2.5s
MDJ Mudanjiang 79.70 322 P **P 09 20 14.4 +1.2**
MDJ pP **pP 09 20 17.7 +0.6**
MDJ sP **sP 09 20 18.8 +0.3**
MDJ PP **PP 09 23 13.9 -0.6**
MDJ S **S 09 30 18.1 +2.5**
MDJ sS **sS 09 30 22.8 +0.8**
MDJ ScS **ScS 09 30 37.7 +0.5**
MDJ pmax pmax
comp=Z,15nm,1.4s
MDJ pmax pmax
comp=Z,99nm,3.4s
MDJ LR LR
comp=Z,86nm,5.0s
MDJ LR LR
comp=Z,150nm,4.5s
MDJ LR LR
comp=Z,140nm,5.0s
E09A Wood Farm, Sta 79.77 35 *e*P **P 09 20 13.5 -0.1**
comp=Z,23nm,1.3s
PMR Palmer 79.92 12 *e*P **P 09 20 13.4 -0.6**
PMR pmax pmax
comp=Z,11nm,0.9s
PMR Palmer 79.92 12 *e*P **P 09 20 13.4 -0.6**
comp=Z,11nm,0.9s
F10A Beach Ranch, E 79.97 36 *e*P **P 09 20 14.3 -0.4**
comp=Z,24nm,1.3s
OD2 Odessa Site #2 79.99 34 P **P 09 20 15.1 +0.3**
TMUT Trail Mountain 80.04 44 *e*P **P 09 20 16.4 +0.8**
comp=Z,32nm,1.2s
MPU Maple Canyon 80.12 43 *e*P **P 09 20 16.7 +0.8**
comp=Z,10nm,1.3s
Z22A Elephant Butte 80.17 51⇑ **P 09 20 16.8 +0.5**
baz=80,SNR=9.2
DIV Divide 80.19 13 *e*P **P 09 20 15.6 0.0**
comp=Z,23nm,0.8s
HLID Hailey 80.25 39 *e*P **P 09 20 16.9 +0.4**
comp=Z,16nm,1.2s
HLID Hailey 80.25 39⇑ **P 09 20 17.2 +0.8**
baz=80,SNR=14
B08A Colville Reser 80.25 33 *e*P **P 09 20 15.6 -0.6**
comp=Z,27nm,1.5s
HVU Hansel Valley 80.30 41 *e*P **P 09 20 16.8 0.0**
HVU pmax pmax
comp=Z,14nm,1.3s
HVU Hansel Valley 80.30 41 *e*P **P 09 20 16.8 0.0**
comp=Z,14nm,1.3s
BMRM Bremner River 80.31 14 *e*P **P 09 20 16.4 +0.1**
SRU San Rafael 80.41 45 *e*P **P 09 20 18.1 +0.6**
SRU pmax pmax
comp=Z,16nm,1.2s
SRU San Rafael 80.41 45 *e*P **P 09 20 18.1 +0.6**
comp=Z,16nm,1.2s
123A Bell Site, Whi 80.43 52⇑ **P 09 20 18.2 +0.6**
baz=81
C09A Chrisman Ranch 80.47 34 *e*P **P 09 20 17.7 +0.3**
comp=Z,33nm,1.6s
Y22A Socorro 80.48 51 ⇓P **P 09 20 18.4 +0.5**
baz=81,SNR=8.1
JLU Jordanelle 80.54 43 *e*P **P 09 20 18.7 +0.4**
comp=Z,64nm,2.5s
LAZ Ladron 80.56 50 *e*P **P 09 20 18.9 +0.5**
comp=Z,14nm,2.0s
425A Indio Mountain 80.61 54⇑ **P 09 20 19.3 +0.6**
baz=81,SNR=9.8
NJ2 Nanjing 80.69 307 *e*P **P 09 20 19.0 +0.1**
NJ2 pmax pmax
comp=Z,20nm,0.5s
Z23A Rita Site, Whi 80.73 51 ⇓P **P 09 20 20.2 +0.9**
baz=81
224A Cornudas Mount 80.75 53⇑ **P 09 20 20.1 +0.7**
baz=81,SNR=8.0
626A Big Bend Ranch 80.76 56⇑ **P 09 20 20.1 +0.6**
baz=81,SNR=6.2
BNM Barren Site 80.83 51 *e*P **P 09 20 20.1 +0.2**
comp=Z,5.7nm,1.1s
325A Bean Ranch, Si 80.87 54⇑ **P 09 20 20.3 +0.2**
baz=81,SNR=8.7
MVCO Mesa Verde 80.88 47 ⇓P **P 09 20 20.3 +0.2**
baz=81
LPM Los Pinos Moun 80.89 50 *e*P **P 09 20 20.7 +0.5**
comp=Z,1.6nm,0.5s
526A Mary Lane Ranc 81.01 55⇑ **P 09 20 21.8 +1.0**
baz=81,SNR=7.2
TXAR Lajitas Array 81.05 56 P **P 09 20 20.8 -0.2**
TXAR Lajitas Array 81.05 56 P **P 09 20 20.8 -0.2**
comp=Z,6.6nm,1.2s,baz=245,slow=5.9,SNR=26
TXAR LR LR 09 48 27.9
comp=Z,244nm,18.4s,baz=315,slow=30
124A Stringfield Ra 81.07 52 ⇓P **P 09 20 21.5 +0.3**
baz=81
Y23A Lovelace Mesa, 81.15 51⇑ **P 09 20 21.8 +0.2**
baz=81
PV04 Paradox Valley 81.16 46 *e*P **P 09 20 22.3 +0.8**
PV01 Paradox Valley 81.27 46 *e*P **P 09 20 22.2 +0.1**
comp=Z,2µm,1.4s
225A Deer Hill, Car 81.30 53⇑ **P 09 20 23.2 +0.8**
baz=82,SNR=7.8
ANMO Albuquerque 81.31 50 *e*P **P 09 20 22.6 +0.2**
ANMO Albuquerque 81.31 50 P **P 09 20 22.1 -0.3**
comp=Z,8.7nm,1.2s,baz=222,slow=6.1,SNR=11
426A McDonald Obser 81.31 55⇑ **P 09 20 23.2 +0.7**
baz=82,SNR=12
627A Terlingua Ranc 81.31 56 ⇓P **P 09 20 22.8 +0.4**
baz=82,SNR=8.0
NEW Newport 81.37 34 *e*P **P 09 20 22.0 -0.2**
comp=Z,57nm,2.5s
NEW Newport 81.37 34 ⇓P **P 09 20 23.0 +0.8**
baz=82
Z24A Sheeppen Canyo 81.41 52⇑ **P 09 20 23.3 +0.3**
baz=82
V22A San Miguel Ran 81.41 49⇑ **P 09 20 23.1 +0.1**

baz=82
527A **Woodward Ranch** 81.42 55 ⇑P P 09 20 23.3 +0.3
baz=82,SNR=8.2
TRF **Thorofare Moun** 81.43 10 eP P 09 20 21.5 -0.8
comp=Z,11nm,0.8s
326A **Caldwell Ranch** 81.62 54 ⇑P P 09 20 24.7 +0.7
baz=82
W23A **Werner Place,** 81.63 50 ⇑P P 09 20 24.9 +0.8
baz=82,SNR=9.2
TNA **Tin City** 81.65 2 eP P 09 20 23.8 +0.7
comp=Z,16nm,0.9s
125A **Gardner Draw,** 81.66 53 ⇓P P 09 20 24.6 +0.4
baz=82
U22A **Llaves** 81.66 48 ⇑P P 09 20 24.8 +0.5
baz=82
GDL2 **Guadalupe Moun** 81.69 53 eP P 09 20 25.4 +1.0
628A **Black Gap, Mar** 81.73 56 ⇓P P 09 20 25.1 +0.6
baz=82
CN2 **Changchun** 81.74 320 eP P 09 20 26.0 +1.8
226B **Tecolote Peak,** 81.79 53 ⇓P P 09 20 25.4 +0.5
baz=82,SNR=8.8
V23A **Ortiz Mt. (NFS** 81.86 49 ⇓P P 09 20 26.2 +0.8
baz=82,SNR=9.3
427A **Hayter Ranch,** 81.87 55 ⇓P P 09 20 26.0 +0.6
baz=82,SNR=7.4
MCMT **McKenzie Canyo** 81.88 39 eP P 09 20 25.7 +0.4
comp=Z,10nm,1.4s
Z25A **Roswell** 81.88 52 ⇑P P 09 20 25.4 +0.1
baz=82
MCK **McKinley** 81.93 11 eP P 09 20 24.3 -0.5
MCK pmax pmax
comp=Z,26nm,0.8s
MCK **McKinley** 81.93 11 eP P 09 20 24.3 -0.5
comp=Z,26nm,0.8s
HYT **Haines Junctio** 81.99 17 eP P 09 20 25.9 +0.6
327A **Balmorhea Ranc** 82.02 54 ⇑P P 09 20 26.6 +0.6
baz=82
528A **Cox Ranch, San** 82.08 56 ⇑P P 09 20 27.3 +0.8
baz=82,SNR=5.0
U23A **El Rito** 82.12 49 ⇓P P 09 20 27.4 +0.7
baz=82
126A **Clayton Basin,** 82.14 53 ⇑P P 09 20 27.1 +0.4
baz=82
Y25A **Mesa, Roswell** 82.17 51 ⇓P P 09 20 27.3 +0.4
baz=82
W24A **Lazy 6 Ranch,** 82.20 50 ⇓P P 09 20 27.7 +0.6
baz=82,SNR=7.4
S22A **4UR Ranch, Cre** 82.31 47 ⇑P P 09 20 28.6 +0.9
baz=82,SNR=18
DLMT **Dillon** 82.31 38 eP P 09 20 27.6 +0.2
comp=Z,27nm,1.4s
MSO **Missoula** 82.32 37 eP P 09 20 27.0 -0.4
comp=Z,27nm,1.5s
MSO **Missoula** 82.32 37 ⇑P P 09 20 27.4 +0.1
baz=82,SNR=8.6
REDW **Red Top Meadow** 82.34 41 eP P 09 20 28.1 +0.4
comp=Z,22nm,1.3s
TPAW **Teton Pass** 82.34 41 eP P 09 20 28.4 +0.6
comp=Z,22nm,1.3s
FXWY **Fox Creek** 82.37 40 eP P 09 20 28.4 +0.5
comp=Z,19nm,1.4s
428A **Kincaid Ranch,** 82.39 55 ⇓P P 09 20 28.6 +0.6
baz=83
BSMT **Bassoo Peak** 82.41 35 eP P 09 20 27.7 -0.2
Z26A **Caprock** 82.43 52 ⇑P P 09 20 29.0 +0.7
baz=83
O20A **White River Ci** 82.44 45 eP P 09 20 28.8 +0.6
comp=Z,49nm,1.8s
O20A **White River Ci** 82.44 45 ⇑P P 09 20 29.1 +0.8
baz=83
529A **Stev Forest Ra** 82.51 56 ⇑P P 09 20 29.2 +0.5
baz=83,SNR=5.6
V24A **Rampart Ranch,** 82.52 50 ⇑P P 09 20 29.1 +0.3
baz=83
T23A **Casias Ranch,** 82.55 48 ⇓P P 09 20 29.0 0.0
baz=83
328A **Wristen Ranch,** 82.56 54 ⇓P P 09 20 28.8 -0.1
baz=83
MOOW **Moose Ponds** 82.60 40 eP P 09 20 29.3 +0.3
comp=Z,17nm,1.5s
LOHW **Long Hollow** 82.62 41 eP P 09 20 29.6 +0.4
comp=Z,22nm,1.4s
LRM **Limekiln Ridge** 82.64 38 eP P 09 20 29.1 -0.2
127A **Arkansas Junct** 82.66 53 ⇑P P 09 20 29.6 +0.2
baz=83
QLMT **Earthquake Lak** 82.74 39 eP P 09 20 30.9 +1.2
N20A **Spence Gulch,** 82.76 44 ⇓P P 09 20 30.4 +0.4
baz=83
CHMT **Chamberlain Mo** 82.77 37 eP P 09 20 29.6 -0.2
I17A **Pilgrim Ck.** 82.79 40 ⇑P P 09 20 30.5 +0.4
baz=83,SNR=5.6
FLWY **Flagg Ranch** 82.80 40 eP P 09 20 31.0 +0.9
comp=Z,22nm,1.1s
DOT **Dot Lake** 82.80 13 eP P 09 20 29.4 +0.1
comp=Z,17nm,0.8s
Y26A **Elida** 82.82 52 ⇓P P 09 20 30.7 +0.4
baz=83
BW06 **Boulder Array** 82.86 42 eP P 09 20 30.3 -0.1
comp=Z,10nm,1.0s
PDAR **Pinedale Array** 82.86 42 P P 09 20 30.0 -0.4
PDAR **Pinedale Array** 82.86 42 P P 09 20 30.0 -0.4
comp=Z,6.4nm,0.9s,baz=219,slow=4.2,SNR=46
PDAR LR LR 09 51 40.6
comp=Z,352nm,18.8s,baz=250,slow=32
SMCO **Snowmass** 82.86 46 eP P 09 20 31.3 +0.6
comp=Z,24nm,1.3s
W25A **X Bar L Ranch,** 82.90 50 ⇓P P 09 20 31.2 +0.6
baz=83,SNR=7.4
YMR **Madison River** 82.94 40 eP P 09 20 32.0 +1.3
comp=Z,76nm,1.8s
429A **Davenport Ranc** 82.97 55 ⇓P P 09 20 31.3 +0.2
baz=83,SNR=5.9
228A **UT Block 9, Go** 83.02 54 ⇓P P 09 20 31.6 +0.3
baz=83
T24B **San Luis** 83.03 48 ⇓P P 09 20 32.3 +0.8
baz=83
Z27A **Tatum** 83.03 53 ⇑P P 09 20 31.5 +0.1
baz=83,SNR=6.0
H17A **Grant Village** 83.04 40 eP P 09 20 33.1 +1.8
comp=Z,11nm,1.1s
H17A **Grant Village** 83.04 40 ⇑P P 09 20 32.5 +1.2
baz=83
BOZ **Bozeman (W)** 83.04 38 eP P 09 20 31.7 +0.5
BOZ pmax pmax
comp=Z,9.0nm,0.7s
BOZ **Bozeman (W)** 83.04 38 eP P 09 20 31.7 +0.5
comp=Z,8.6nm,0.7s
V25A **Rancho No Teng** 83.05 50 ⇓P P 09 20 32.1 +0.6
baz=83,SNR=11
X26A **CR and CF Fran** 83.10 51 ⇑P P 09 20 31.8 +0.1
baz=83
COLA **College** 83.17 11*d* iP P 09 20 30.6 -0.5
COLA pmax pmax
comp=Z,105nm,0.9s
COLA **College** 83.17 11 eP P 09 20 30.6 -0.5
comp=Z,7.1nm,0.9s
P22A **Eagle** 83.20 46 ⇑P P 09 20 32.6 +0.4
baz=83,SNR=7.7
R23A **Moffat** 83.21 47 ⇓P P 09 20 32.9 +0.4
baz=83
530A **J-C Ranch, Com** 83.23 56 ⇑P P 09 20 33.1 +0.7
baz=83
329A **Wagon Wheel Ra** 83.25 55 ⇑P P 09 20 32.7 +0.3
baz=83
QIZ **Qiongzhong** 83.25 292 P P 09 20 32.7 +0.1
QIZ S S 09 30 52.9 -0.5
QIZ pmax pmax
comp=Z,10.0nm,1.5s
QIZ LR LR
comp=Z,100nm,24.7s
SDCO **Great Sand Dun** 83.25 48 eP P 09 20 33.0 +0.4
comp=Z,10nm,1.2s
ILAR **Eielson Array** 83.25 11 P P 09 20 30.8 -0.8
ILAR **Eielson Array** 83.25 11 P P 09 20 30.8 -0.8
comp=Z,4.5nm,0.7s,baz=230,slow=6.3,SNR=116
IM04 **Indian Mountai** 83.27 8 eP P 09 20 31.5 -0.2
Y27A **Causey** 83.31 52 ⇓P P 09 20 33.2 +0.4
baz=84,SNR=7.6
128A **Castleberry Fa** 83.31 53 ⇑P P 09 20 33.2 +0.5
baz=84
SEY **Seymchan** 83.33 345 P P 09 20 31.6 -0.4
SEY **Seymchan** 83.33 345 P P 09 20 31.6 -0.4
SEY **Seymchan** 83.33 345 P P 09 20 31.6 -0.4
comp=Z,3.7nm,0.8s,baz=124,slow=7.5,SNR=7.5
W26A **Owens Ranch, T** 83.36 51 ⇓P P 09 20 33.4 +0.4
baz=84
S24A **Houchin Ranch,** 83.40 48 ⇑P P 09 20 34.1 +0.7
baz=84,SNR=6.5
J19A **Crowheart** 83.43 42 ⇑P P 09 20 33.5 +0.2
baz=84,SNR=12
U25A **Circle Dot Ran** 83.44 49 ⇑P P 09 20 33.9 +0.4
baz=84,SNR=9.1
HRY **Holter Researc** 83.48 38 eP P 09 20 33.8 +0.4
631A **Perdido Creek** 83.55 57 ⇓P P 09 20 34.0 0.0
baz=84
O22A **Kremmling** 83.61 45 ⇓P P 09 20 34.8 +0.4
baz=84,SNR=12
MSTX **Muleshoe** 83.64 52 eP P 09 20 34.6 +0.2
comp=Z,33nm,1.3s
MSTX **Muleshoe** 83.64 52 ⇑P P 09 20 34.8 +0.4
baz=84,SNR=8.0
V26A **Tequesquite Ra** 83.64 50 ⇑P P 09 20 34.5 0.0
baz=84,SNR=5.0
Z28A **Tucker Farm, M** 83.66 53 ⇓P P 09 20 34.6 0.0
baz=84,SNR=5.4
X27A **F and S Farms,** 83.67 51 ⇑P P 09 20 34.7 0.0
baz=84
P23A **Jefferson** 83.73 46 ⇑P P 09 20 35.3 +0.1
baz=84
R24A **Sanders Place,** 83.74 47 ⇓P P 09 20 35.7 +0.7
baz=84,SNR=7.1
H18A **Shoshone NF, C** 83.74 40 ⇓P P 09 20 35.5 +0.6
baz=84
T25A **Trinidad** 83.76 49 ⇑P P 09 20 35.6 +0.5
baz=84
732A **Laxson Ranch,** 83.78 58 ⇑P P 09 20 35.9 +0.7
baz=84
129A **Stewart Farms,** 83.79 54 ⇓P P 09 20 35.7 +0.5
baz=84
I19A **Meeteetse** 83.84 41 ⇓P P 09 20 36.2 +0.8
baz=84,SNR=8.2
330A **Mertzon** 83.85 55 ⇑P P 09 20 35.5 -0.1
baz=84
531A **Rocksprings** 83.86 56 ⇑P P 09 20 35.7 +0.1
baz=84
RWWY **Rawlins** 83.87 44 eP P 09 20 42.5 +6.9
comp=Z,76nm,1.6s
W27A **Bowe Ranch, En** 83.87 51 ⇓P P 09 20 35.6 0.0
baz=84,SNR=7.5
U26A **Atchley Ranch,** 83.93 50 ⇓P P 09 20 36.2 +0.2
baz=84,SNR=5.7
N22A **Wattenberg Ran** 83.96 45 ⇑P P 09 20 36.3 +0.2
baz=84,SNR=6.4
S25A **Robets Cordova** 83.97 48 ⇑P P 09 20 36.2 0.0
baz=84,SNR=6.2
431A **Sonora** 84.01 56 ⇑P P 09 20 36.7 +0.3
baz=84
Q24A **Divide** 84.03 47 ⇑P P 09 20 37.0 +0.4
baz=84,SNR=9.2
O23A **Lake Granby, G** 84.06 45 ⇓P P 09 20 36.9 +0.2
baz=84
ISCO **Idaho Springs** 84.08 46 eP P 09 20 37.9 +1.0
ISCO pmax pmax
comp=Z,26nm,1.8s
ISCO **Idaho Springs** 84.08 46 eP P 09 20 37.9 +1.0
comp=Z,26nm,1.8s
ISCO **Idaho Springs** 84.08 46 ⇑P P 09 20 37.5 +0.7
baz=84
230A **Sterling City** 84.08 55 ⇓P P 09 20 36.8 +0.1
baz=84
J20A **Shoshoni** 84.09 42 ⇑P P 09 20 36.7 +0.1
baz=84,SNR=14
M22A **Cedar Creek Ra** 84.14 44 ⇑P P 09 20 37.3 +0.2
baz=84
H19A **Powell** 84.16 40 ⇓P P 09 20 37.3 +0.4
baz=84,SNR=6.5
Z29A **Hungry Hill Ra** 84.17 53 ⇑P P 09 20 37.2 0.0
baz=84
632A **Uvalde** 84.22 57 ⇓P P 09 20 37.6 +0.2
baz=84
K21A **Alcova** 84.28 43 ⇑P P 09 20 37.6 0.0
baz=84,SNR=8.5
R25A **Fountain Ranch** 84.29 48 ⇑P P 09 20 37.9 +0.2
baz=84
GCMT **Greycliff** 84.30 39 eP P 09 20 38.1 +0.5
comp=Z,4.5nm,1.2s
X28A **Dimmitt** 84.30 52 ⇑P P 09 20 38.1 +0.3
baz=84
V27A **Dan Oppiter Fa** 84.33 50 ⇑P P 09 20 38.3 +0.4
baz=84
I20A **Worland** 84.34 41 ⇓P P 09 20 38.0 +0.2
baz=84,SNR=8.9
N23A **Red Feather La** 84.35 45 ⇑P P 09 20 38.6 +0.4
baz=84
532A **Rocksprings** 84.36 57 ⇑P P 09 20 38.7 +0.5
baz=84
331A **San Angelo** 84.40 55 ⇑P P 09 20 38.2 -0.1
baz=85
Y29A **Porterfield Fa** 84.43 53 ⇓P P 09 20 38.7 +0.2
baz=85,SNR=5.3
P24A **Kohler Place,** 84.44 46 ⇓P P 09 20 38.5 0.0
baz=85
130A **Snyder** 84.47 54 ⇑P P 09 20 38.8 +0.1
baz=85
J21A **Lysite** 84.49 42 ⇑P P 09 20 39.2 +0.5
baz=85,SNR=15
L22A **Ellis Ranch, M** 84.54 44 ⇓P P 09 20 39.7 +0.7
baz=85
JCT **Junction City** 84.58 56 ⇑P P 09 20 39.6 +0.3
baz=85
O24A **Longmont** 84.60 46 ⇑P P 09 20 39.7 +0.4
baz=85
U27A **Thompson Grove** 84.61 50 ⇑P P 09 20 39.3 -0.1
baz=85
Z30A **Sanderson Ranc** 84.62 53 ⇓P P 09 20 39.1 -0.3
baz=85,SNR=5.1
S26A **Kim** 84.64 48 ⇓P P 09 20 39.3 -0.3
baz=85
Q25A **Bedland, Calha** 84.64 47 ⇓P P 09 20 39.8 +0.2
baz=85
X29A **Tulia** 84.64 52 ⇓P P 09 20 39.3 -0.3
baz=85
H20A **Greybull** 84.69 41 ⇑P P 09 20 39.5 0.0
baz=85,SNR=5.9
231A **Bronte** 84.73 55 ⇑P P 09 20 40.3 +0.3
baz=85
432A **Menard** 84.73 56 ⇓P P 09 20 40.6 +0.6
baz=85
M23A **Laramie** 84.76 44 ⇓P P 09 20 40.6 +0.5
baz=85
K22A **Casper** 84.77 43 ⇑P P 09 20 40.3 +0.2
baz=85
F19A **Roth Farm, Mol** 84.77 39 ⇑P P 09 20 40.3 +0.4
baz=85,SNR=8.5
V28A **Channing** 84.78 51 ⇓P P 09 20 40.4 +0.1
baz=85
I21A **Big Trails, Te** 84.81 42 ⇓P P 09 20 40.2 -0.1
baz=85,SNR=10.0
AMTX **Amarillo** 84.83 52 eP P 09 20 40.5 0.0
AMTX **Amarillo** 84.83 52 ⇓P P 09 20 40.5 0.0
baz=85
G20A **Bridger** 84.91 40 ⇓P P 09 20 40.9 +0.3
baz=85
R26A **Arlington** 84.95 48 ⇓P P 09 20 41.2 +0.2
baz=85,SNR=5.3
T27A **Campo** 84.95 49 ⇓P P 09 20 41.6 +0.5
baz=85
COLD **Coldfoot** 84.95 9 eP P 09 20 41.2 +1.0
comp=Z,11nm,1.0s
W29A **Amarillo** 84.95 51 ⇓P P 09 20 41.4 +0.3
baz=85
P25A **Willow Gulch B** 84.96 47 ⇓P P 09 20 41.8 +0.6
baz=85
332A **Millersview** 84.97 55 ⇓P P 09 20 41.4 +0.2
baz=85
Y30A **Stafford Cattl** 85.03 53 ⇑P P 09 20 41.8 +0.3
baz=85
U28A **Mallet** 85.03 50 ⇑P P 09 20 41.7 +0.2
baz=85
N24A **Carr** 85.04 45 ⇑P P 09 20 42.6 +1.1
baz=85
533A **Kerrville** 85.04 57 ⇑P P 09 20 41.6 +0.1
baz=85
L23A **Garrett** 85.06 44 ⇑P P 09 20 42.0 +0.4
baz=85
J22A **Midwest** 85.15 42 ⇓P P 09 20 41.9 -0.1
baz=85,SNR=5.4
Q26A **Hugo** 85.16 47 ⇓P P 09 20 42.6 +0.4
baz=85
E19A **Rath Farm, Rou** 85.16 39 ⇓P P 09 20 42.5 +0.6
baz=85
F20A **Billings** 85.23 40 ⇓P P 09 20 42.7 +0.5
baz=85
232A **Coleman** 85.23 55 ⇓P P 09 20 42.7 +0.1
baz=85,SNR=7.1
433A **Art** 85.25 56 ⇑P P 09 20 42.3 -0.3
baz=85
X30A **Coker Ranch, T** 85.27 52 ⇑P P 09 20 42.7 +0.1
baz=85
V29A **Stinnett** 85.35 51 ⇓P P 09 20 43.3 +0.3
baz=86
H21A **Big Horn, Sher** 85.35 41 ⇑P P 09 20 43.3 +0.4
baz=86
M24A **Cheyenne** 85.36 45 ⇓P P 09 20 43.7 +0.6
baz=86
I22A **9 Mile Ranch,** 85.37 42 ⇓P P 09 20 43.4 +0.4
baz=86
Z31A **Sharp Cattle R** 85.39 54 ⇑P P 09 20 43.1 -0.2
baz=86,SNR=5.6
K23A **Bowen Ranch, D** 85.40 43 ⇓P P 09 20 43.3 0.0
baz=86
R27A **Eads** 85.40 48 ⇑P P 09 20 43.3 0.0
baz=86
D19A **Cripps Ranch,** 85.45 38 ⇑P P 09 20 44.0 +0.7
baz=86
534A **Blanco** 85.48 57 ⇑P P 09 20 43.9 +0.1
baz=86
ABTX **Abilene, Hawle** 85.52 54 eP P 09 20 44.0 +0.1
ABTX **Abilene, Hawle** 85.52 54 ⇑P P 09 20 44.1 +0.2
baz=86,SNR=9.0
333A **Richland Sprin** 85.55 56 ⇑P P 09 20 44.0 0.0
baz=86
Y31A **Rekieta Farm,** 85.55 53 ⇓P P 09 20 43.8 -0.2
baz=86
N25A **Grover** 85.58 45 ⇓P P 09 20 44.4 +0.2
baz=86
E20A **Meyer Farm, Mu** 85.58 39 ⇓P P 09 20 44.6 +0.7
baz=86
C19A **Slack Wire Ran** 85.63 38 ⇑P P 09 20 44.9 +0.7
baz=86,SNR=7.1
J23A **Dilts Ranch, B** 85.74 43 ⇓P P 09 20 45.2 +0.3
baz=86
H22A **Clearmont** 85.77 41 ⇑P P 09 20 45.4 +0.4
baz=86
D20A **Manuel Ranch,** 85.86 38 ⇑P P 09 20 46.0 +0.7
baz=86
F21A **Absaloka Mine,** 85.87 40 ⇑P P 09 20 45.9 +0.5
baz=86
M25A **Palm-Egli Farm** 85.87 45 ⇓P P 09 20 46.1 +0.5
baz=86
Z32A **Haskell** 85.90 54 ⇑P P 09 20 45.8 0.0
baz=86,SNR=16
V30A **Spur Ranch, Mi** 85.93 51 ⇓P P 09 20 46.7 +0.8
baz=86
434A **Burnet** 85.93 56 ⇑P P 09 20 46.1 +0.1
baz=86,SNR=6.3
T29A **Hugoton** 86.03 50 ⇓P P 09 20 46.4 0.0
baz=86
B19A **Brinkman Farms** 86.05 37 ⇓P P 09 20 46.8 +0.6
baz=86
I23A **Meade Ranch, G** 86.05 42 ⇓P P 09 20 47.2 +0.8
baz=86
133A **Hamilton Ranch** 86.08 55 ⇓P P 09 20 47.1 +0.4
baz=86,SNR=6.3
P27A **Ficken Ranch,** 86.09 47 ⇑P P 09 20 46.7 0.0
baz=86
R28A **Tribune** 86.14 48 ⇓P P 09 20 47.7 +0.8
baz=86,SNR=5.2
334A **Lometa** 86.14 56 ⇑P P 09 20 47.2 +0.2
baz=86,SNR=6.8
EDM **Edmonton** 86.17 31 eP P 09 20 45.9 -0.8
EDM **Edmonton** 86.17 31 eP P 09 20 45.9 -0.8
Y32A **R-V Farms, Ver** 86.19 53 ⇑P P 09 20 47.7 +0.5
baz=86,SNR=6.4
C20A **Veseth Ranch,** 86.24 38 ⇑P P 09 20 47.7 +0.6
baz=86
W31A **Holland Ranch,** 86.26 52 ⇑P P 09 20 47.9 +0.4
baz=86
J24A **Dixon Ranch, L** 86.29 43 ⇓P P 09 20 48.2 +0.6
baz=86
Z33A **Whitaker Ranch** 86.45 54 ⇓P P 09 20 49.4 +0.9
baz=87,SNR=6.8
X32A **Elmer** 86.47 53 ⇑P P 09 20 48.6 +0.1
baz=87
B20A **Solberg Farm,** 86.58 37 ⇓P P 09 20 49.9 +1.1
baz=87
N27A **Anderson Farm,** 86.64 46 ⇑P P 09 20 50.0 +0.6
baz=87
R29A **Marienthal** 86.65 49 ⇑P P 09 20 49.4 0.0
baz=87
P28A **Saint Francis** 86.67 47 ⇓P P 09 20 49.7 +0.2
baz=87
134A **White-Moore Ra** 86.72 55 ⇓P P 09 20 50.2 +0.3
baz=87
W32A **Sentinel** 86.77 52 ⇓P P 09 20 50.6 +0.6
baz=87
335A **Moody** 86.77 56 ⇑P P 09 20 50.3 +0.2
baz=87
L26A **Underwood Farm** 86.78 45 ⇑P P 09 20 50.5 +0.4
baz=87
U31A **Nine Bar Ranch** 86.79 51 ⇓P P 09 20 50.2 0.0
baz=87
Y33A **Hilltop Ranch,** 86.82 53 ⇑P P 09 20 50.7 +0.4
baz=87
A20A **Cobblestone Ra** 86.85 37 ⇓P P 09 20 51.1 +1.0
baz=87
E22A **Miles City** 86.88 40 ⇑P P 09 20 50.8 +0.5
baz=87
J25A **Sunshine Ranch** 86.88 43 ⇓P P 09 20 50.5 0.0
baz=87
F23A **Volborg** 86.89 41 ⇑P P 09 20 50.4 0.0
baz=87
O28A **Krutsinger Ran** 86.89 47 ⇑P P 09 20 51.2 +0.6
baz=87
Q29A **Oakley** 86.95 48 ⇑P P 09 20 50.7 -0.1
baz=87
H24A **Dirks Ranch, A** 86.99 42 ⇑P P 09 20 51.5 +0.6
baz=87
K26A **Motz Farm, Whi** 87.00 44 ⇓P P 09 20 51.3 +0.2
baz=87
WHTX **Lake Whitney** 87.00 56 ⇑P P 09 20 51.4 +0.3
baz=87
MAW **Mawson** 87.02 199 eP P 09 20 51.5 +0.9
comp=Z,0.8nm,0.6s
MAW **Mawson** 87.02 199 P P 09 20 51.5 +0.9
comp=Z,3.8nm,0.8s,baz=153,slow=6.8,SNR=5.9
MAW LR LR 09 57 27.6
comp=Z,182nm,20.7s,baz=120,slow=34
MAW **Mawson** 87.02 199 P P 09 20 51.9 +1.3
baz=87,SNR=4.4
Z34A **Collier Ranch,** 87.14 54 ⇑P P 09 20 52.7 +0.9
baz=87
B21A **Ellsworth Farm** 87.16 38 ⇑P P 09 20 52.3 +0.7
I25A **Bochford** 87.20 43 ⇑P P 09 20 51.9 -0.2
baz=87
135A **Vickery Place,** 87.24 55 ⇓P P 09 20 52.5 +0.1
baz=87
P29A **Atwood** 87.27 48 ⇓P P 09 20 53.4 +0.9
baz=87
N28A **Pribbeno Ranch** 87.28 46 ⇓P P 09 20 52.9 +0.5
baz=88
E23A **Ismay** 87.30 40 ⇑P P 09 20 52.9 +0.6
baz=88
J26A **Sides Ranch, S** 87.33 43 ⇓P P 09 20 52.7 0.0
baz=88
G24A **Alzada** 87.33 41 ⇓P P 09 20 54.1 +1.5
baz=88
U32A **Winter Ranch,** 87.42 51 ⇑P P 09 20 53.7 +0.5
baz=88
Y34A **Reagan Ranch,** 87.48 54 ⇑P P 09 20 54.3 +0.8
baz=88
A21A **Bergtoll Ranch** 87.48 37 ⇑P P 09 20 53.4 +0.2
baz=88
C22A **Vida** 87.52 39 ⇑P P 09 20 53.5 +0.1
baz=88
Q30A **Quinter** 87.53 48 ⇓P P 09 20 53.7 +0.1
baz=88
S31A **Mullinville** 87.54 50 ⇑P P 09 20 54.0 +0.3
baz=88
F24A **Ekalaka** 87.54 41 ⇓P P 09 20 53.8 +0.2
baz=88
H25A **Fruitdale** 87.55 42 ⇑P P 09 20 53.6 0.0
baz=88
O29A **4D Ranch, Culb** 87.57 47 ⇓P P 09 20 54.1 +0.2
baz=88
K27A **Flueckinger Fa** 87.63 44 ⇑P P 09 20 54.5 +0.3
baz=88
Z35A **Perchaven, San** 87.64 54 ⇑P P 09 20 54.7 +0.5
baz=88
X34A **Smith Ranch, M** 87.65 53 ⇓P P 09 20 54.8 +0.5
baz=88
D23A **Lindsay** 87.66 39 ⇓P P 09 20 54.8 +0.6
baz=88

M28A	Bar X Bar Ranc	87.68	46	⇑P		P		09 20 54.3	0.0
	baz=88								
B22A	Reddig Ranch S	87.70	38	⇓P		P		09 20 54.5	+0.2
	baz=88								
P30A	Selden	87.73	48	⇓P		P		09 20 55.2	+0.5
	baz=88								
V33A	Lossen Ranch,	87.75	52	⇓P		P		09 20 54.5	-0.2
	baz=88								
R31A	Burdett	87.76	49	⇓P		P		09 20 55.1	+0.4
	baz=88								
I26A	New Underwood	87.77	43	⇓P		P		09 20 54.9	+0.2
	baz=88								
L28A	Connealy Angus	87.83	45	⇓P		P		09 20 55.0	0.0
	baz=88								
G25A	Newell	87.91	42	⇑P		P		09 20 55.8	+0.5
	baz=88								
E24A	Baker	87.94	40	⇑P		P		09 20 56.0	+0.5
	baz=88								
C23A	Lambert	87.96	39	⇓P		P		09 20 55.9	+0.4
	baz=88								
N29A	Votaw Ranch, W	87.97	46	⇑P		P		09 20 55.8	+0.1
	baz=88								
S32A	Newby Ranch, P	87.97	50	⇑P		P		09 20 56.5	+0.7
	baz=88								
J27A	Elkhorn Farm,	88.01	44	⇑P		P		09 20 56.0	+0.1
	baz=88								
A22A	Carney Farms,	88.07	37	⇑P		P		09 20 56.7	+0.7
	baz=88								
C24A	Savage	88.30	39	⇑P		P		09 20 57.8	+0.7
	baz=88								
I27A	Quinn	88.32	43	⇑P		P		09 20 58.5	+1.2
	baz=88								
B23A	Brockton	88.38	38	⇑P		P		09 20 57.9	+0.4
	baz=89								
R32A	Long Quarter,	88.41	49	⇓P		P		09 20 57.9	+0.1
	baz=89								
GYA	Guiyang	88.46	298	*e*P		P		09 20 58.4	-0.1
GYA					PP	PP		09 24 28.8	+2.1
GYA					SKS	SKSac		09 31 26.0	-1.9
GYA					S	S		09 31 42.6	-2.0
GYA					SS	SS		09 37 36.0	+0.8
GYA					pmax	pmax			
	comp=Z,20nm,1.0s								
GYA					pmax	pmax			
	comp=Z,130nm,5.5s								
GYA					LR	LR			
	comp=Z,580nm,19.5s								
GYA					LR	LR			
	comp=Z,470nm,20.8s								
GYA					LR	LR			
	comp=Z,560nm,19.0s								
J28A	Allard Ranch,	88.59	44	⇓P		P		09 20 59.5	+0.9
	baz=89								
DGMT	Dagmar	88.85	38	⇑P		P		09 21 00.2	+0.5
	baz=89								
I28A	Midland	88.87	43	⇓P		P		09 21 00.2	+0.3
	baz=89								
PLCA	Paso Flores	88.93	132	LR		LR		09 52 15.1	
	comp=Z,34nm,21.2s,baz=19,slow=30								
P32A	Huiting Farm,	88.94	48	⇓P		P		09 21 01.0	+0.7
	baz=89								
G27A	Dupree	88.94	42	⇑P		P		09 21 00.6	+0.4
	baz=89								
K29A	Lazy Trails An	88.95	45	⇑P		P		09 21 00.7	+0.4
	baz=89								
INK	Inuvik	89.06	14	P		P		09 20 59.7	-0.4
INK	Inuvik	89.06	14	P		P		09 20 59.7	-0.4
	comp=Z,3.4nm,0.9s,baz=202,slow=6.0,SNR=10								
INK					LR	LR		09 58 57.2	
	comp=Z,245nm,18.7s,baz=145,slow=34								
F27A	Lemmon	89.08	41	⇑P		P		09 21 01.7	+0.8
	baz=89								
A24A	Westby	89.17	38	⇑P		P		09 21 02.6	+1.4
	baz=89								
J29A	Okreek	89.19	44	⇓P		P		09 21 02.1	+0.7
	baz=89								
Q33A	Connelly Farm,	89.26	49	⇓P		P		09 21 02.5	+0.7
	baz=89								
K30A	Basset	89.39	45	⇓P		P		09 21 03.5	+1.1
	baz=90								
HHC	Hu-ho-hao-te	89.61	313	*e*P		P		09 21 02.1	-1.4
HHC					pP	pP		09 21 06.2	-1.2
HHC					sP	sP		09 21 08.4	-0.4
HHC					PP	PP		09 24 35.5	-0.1
HHC					SKS	SKSac		09 31 29.2	-4.9
HHC					S	SKSac		09 31 50.5	+3.8
HHC					sS	ScS		09 31 57.8	-1.5
HHC					pmax	pmax			
	comp=Z,41nm,1.2s								
HHC					pmax	pmax			
	comp=Z,190nm,7.7s								
HHC					LR	LR			
	comp=Z,230nm,17.4s								
HHC					LR	LR			
	comp=Z,220nm,17.9s								
HHC					LR	LR			
	comp=Z,120nm,18.1s								
F29A	Eureka	90.47	42	⇓P		P		09 21 08.9	+1.5
	baz=91								
G30A	Faulkton	90.64	43	⇓P		P		09 21 08.3	+0.2
	baz=91								
YKA	Yellowknife Ar	90.84	23	P		P		09 21 07.9	-0.7
YKA	Yellowknife Ar	90.84	23	P		P		09 21 07.9	-0.7
	comp=Z,2.6nm,1.0s,baz=238,slow=4.3,SNR=14								
KMI	Kunming	91.41	296	P		P		09 21 10.2	-2.2
KMI					pP	PcP		09 21 14.3	+0.9
KMI					pmax	pmax			
	comp=Z,23nm,0.5s								
SYO	Syowa Base	91.80	191	⇑*e*P		P		09 21 11.1	-2.0
SYO	Syowa Base	91.80	191	⇑*es*P		sP		09 21 17.3	-1.0
SNAA	Sanae	92.08	177	*e*P		P		09 21 15.0	+0.5
SNAA	Sanae	92.08	177	*e*P		P		09 21 15.0	+0.5
	comp=Z,4.9nm,1.0s								
CD2	Chengdu	92.27	301	*e*P		P		09 21 16.3	+0.2
CD2					sP	sP		09 21 23.1	+1.8
CD2					PP	PP		09 24 59.4	+2.6
CD2					SKS	SKSac		09 31 47.9	-1.7
CD2					S	S		09 32 16.7	-2.7
CD2					sS	sS		09 32 24.1	-1.7
CD2					SS	SS		09 38 30.6	+0.5
CD2					pmax	pmax			
	comp=Z,10.0nm,1.6s								
CD2					pmax	pmax			
	comp=Z,40nm,8.2s								
CD2					LR	LR			
	comp=Z,120nm,14.8s								
CD2					LR	LR			
	comp=Z,140nm,15.5s								
VNA2	Neumayer--Watz	92.53	175	*e*P		P		09 21 17.7	+1.2
VNA1	Neumayer--Stat	92.73	175	*e*P		P		09 21 18.8	+1.5
CMAR	Chiang Mai Arr	92.91	288	P		P		09 21 20.4	+1.2
CMAR	Chiang Mai Arr	92.91	288	P		P		09 21 20.4	+1.2
	comp=Z,0.8nm,0.3s,baz=91,slow=3.6,SNR=2.9								
CMAR					LR	LR		09 58 24.0	
	comp=Z,40nm,18.3s,baz=148,slow=32								
LZH	Lanzhou	93.74	306	*e*P		P		09 21 21.7	-1.2
LZH					pP	PcP		09 21 25.0	+1.6
LZH					sP	sP		09 21 26.5	-1.7
LZH					PP	PP		09 25 10.3	+1.9
LZH					SKS	SKSac		09 31 55.3	-2.5
LZH					*e*S	S		09 32 28.0	-4.4
LZH					sS	ScS		09 32 35.8	+1.9
LZH					pmax	pmax			
	comp=Z,18nm,1.5s								
LZH					pmax	pmax			
	comp=Z,100nm,9.0s								
LZH					LR	LR			
	comp=Z,170nm,17.0s								
LZH					LR	LR			
	comp=Z,150nm,16.8s								
LZH					LR	LR			
	comp=Z,220nm,19.6s								
ULM	Lac du Bonnet	94.55	39	LR		LR		09 56 14.0	
	comp=Z,516nm,21.4s,baz=237,slow=31								
SONM	Songino Array	95.48	318	LR		LR		10 02 17.9	
	comp=Z,55nm,19.8s,baz=108,slow=34								
TIXI	Tiksi	95.81	344	⇑*e*P		P		09 21 30.9	-0.4
TIXI				MLR		MLR			
	comp=Z,87μm,15.2s								
LPAZ	La Paz	99.50	110	LR		LR		09 57 02.3	
	comp=Z,68nm,18.9s,baz=69,slow=30								
MKAR	Makanchi Array	111.43	314	PKiKP		PKiKP		09 26 39.1	-0.8
MKAR	Makanchi Array	111.43	314	PKiKP		PKiKP		09 26 39.1	-0.8
	comp=Z,0.2nm,0.5s,baz=98,slow=1.4,SNR=3.0								
ARCES	ARCESS Array B	125.43	352	PKP		PKPdf		09 27 05.8	-0.2
ARCES	ARCESS Array B	125.43	352	PKP		PKPdf		09 27 05.8	-0.2
	comp=Z,4.9nm,0.8s,baz=11,slow=1.4,SNR=11								
FINES	FINESS Array B	132.76	347	PKP		PKPdf		09 27 19.9	-0.2
FINES	FINESS Array B	132.76	347	PKP		PKPdf		09 27 19.9	-0.2
	comp=Z,1.3nm,0.5s,baz=20,slow=1.6,SNR=10								
KWP	Kalwaria Pacla	144.22	342	⇑PKiKP		PKPbc		09 27 39.8	+0.2
KWP	Kalwaria Pacla	144.22	342	⇑*i*P		PKPbc		09 27 39.8	+0.2
OJC	Ojcow	144.47	345	*e*PKiKP		PKPab		09 27 40.3	+0.2
OJC	Ojcow	144.47	345	*e*PKPdf		PKPab		09 27 40.3	+0.2
KSP	Ksiaz	144.61	349	*e*PKiKP		PKPbc		09 27 41.2	+0.4
CLL	Collm	144.64	353	*i* PKiKP		PKPab		09 27 40.3	-0.4
CLL				pmax		pmax			
	comp=Z,7.0nm,0.9s								
CLL	Collm	144.64	353	*e*PKPbc		PKPbc		09 27 41.2	+0.3
CLL	Collm	144.64	353	*i* PKPdf		PKPab		09 27 40.3	-0.4
	comp=Z,7.0nm,0.9s								
CLL				*i* (pPKPdf)				09 27 46.4	
CLL				L		L		10 26 00.0	
	comp=Z,100nm,19.5s								
STHS	Stebnicka Huta	144.83	343	*e*PKiKP		PKPdf		09 27 42.2	-0.4
STHS	Stebnicka Huta	144.83	343	*e*PKP		PKPdf		09 27 42.2	-0.4
KOLS	Kolonicke sedl	144.97	342	*e*PKiKP		PKPbc		09 27 42.3	+0.2
KOLS	Kolonicke sedl	144.97	342	*e*PKP		PKPbc		09 27 42.3	+0.2
UPC	Upice	144.98	350	*e*PKiKP		PKPdf		09 27 42.5	-0.3
UPC	Upice	144.98	350	*e*PKP		PKPdf		09 27 42.5	-0.3
NIE	Niedzica	145.08	344	*e*PKiKP		PKPdf		09 27 43.0	0.0
NIE	Niedzica	145.08	344	*e*PKPdf		PKPdf		09 27 43.0	0.0
DPC	Dobruska-Polom	145.08	349	*e*PKiKP		PKPdf		09 27 43.0	0.0
DPC				*e*				09 27 53.3	
DPC	Dobruska-Polom	145.08	349	*e*PKP		PKPdf		09 27 43.0	0.0
DPC				*ex*		x		09 27 53.3	
BUR08	Bucovina Ar. S	145.13	338	*e*PKPbc		PKPdf		09 27 43.2	-0.1
BURAR	Bucovina Array	145.15	338	⇑PKiKP		PKPdf		09 27 43.4	+0.1
BURAR	Bucovina Array	145.15	338	⇑*i*P		PKPdf		09 27 43.3	0.0
PVCC	Panska Ves	145.19	351	*e*PKiKP		PKPdf		09 27 43.8	+0.7
PVCC	Panska Ves	145.19	351	*e*PKP		PKPdf		09 27 43.8	+0.7
KMBO	Kilima Mbogo	145.20	243	PKPbc		PKPdf		09 27 45.0	+0.4
KMBO	Kilima Mbogo	145.20	243	PKPbc		PKPdf		09 27 45.0	+0.4
	comp=Z,4.9nm,1.0s,baz=105,slow=5.0,SNR=13								
OKC	Ostrava-Krasne	145.20	347	*e*PKiKP		PKPab		09 27 42.9	+0.1
OKC				*e*				09 27 52.6	
OKC	Ostrava-Krasne	145.20	347	*e*PKP		PKPab		09 27 42.9	+0.1
OKC				*ex*		x		09 27 52.6	
CRVS	Cervenica-Dubn	145.23	343	*e*PKiKP		PKPdf		09 27 43.4	+0.1
CRVS	Cervenica-Dubn	145.23	343	*e*PKP		PKPdf		09 27 43.4	+0.1
UZH	Uzhgorod	145.23	342	*e*PKHKP		PKPpre		09 27 39.4	
UZH				*e*				09 27 43.0	
KRLC	Kraliky	145.26	349	*e*PKiKP		PKPab		09 27 43.2	+0.1
KRLC				*e*				09 27 54.0	
KRLC	Kraliky	145.26	349	*e*PKP		PKPab		09 27 43.2	+0.1
KRLC				*ex*		x		09 27 54.0	
MORC	Moravsky Berou	145.39	348	*e*PKiKP		PKPbc		09 27 42.9	-0.5
MORC	Moravsky Berou	145.39	348	⇑*i*P		PKPab		09 27 44.0	+0.4
MORC	Moravsky Berou	145.39	348	*e*PKPdf		PKPbc		09 27 42.9	-0.5
MORC				*e*PKPbc		PKPdf		09 27 43.5	-0.1
TANN	Tannenbergstha	145.58	353	*e*PKPbc		PKPbc		09 27 44.1	+0.1
TRPA	Turpa	145.60	341	⇑*i*P		PKPab		09 27 44.6	+0.3
MEM	Membach	145.70	1	PKP		PKPab		09 27 44.5	+0.2
PRU	Pruhonice	145.72	351	*e*PKP2		PKPbc		09 27 44.5	+0.1
PRU	Pruhonice	145.72	351	*e*PKP		PKPbc		09 27 44.5	+0.1
PRU				*ex*		x		09 27 54.8	
SNF	Seneffe	145.75	3	PKP		PKPab		09 27 44.7	-0.1
SNF				APKP		pPKPdf		09 27 46.5	-1.6
NKC	Novy Kostel	145.76	353	*e*PKP2		PKPbc		09 27 44.8	+0.2
NKC	Novy Kostel	145.76	353	*e*PKP		PKPbc		09 27 44.8	+0.2
BCLA	Clavier	145.88	2	PKP		PKPbc		09 27 45.1	+0.2
VRI	Vrincioaia	146.01	335	⇑PKP2		PKPbc		09 27 45.4	-0.1
VRI	Vrincioaia	146.01	335	⇑*i*P		PKPbc		09 27 45.4	-0.1
VRAC	Vranov	146.03	348	⇑*i*P		PKPbc		09 27 45.3	-0.1
DOU	Dourbes	146.18	2	PKP		PKPbc		09 27 46.0	+0.2
TREC	Trest	146.24	350	*e*PKP2		PKPbc		09 27 46.4	+0.3
TREC	Trest	146.24	350	*e*PKP		PKPbc		09 27 46.4	+0.3
ROTZ	Rotzenmuhle	146.25	353	*e*PKPbc		PKPab		09 27 46.7	0.0
GRF	Grafenberg Arr	146.42	355	*e*PKPbc		PKPbc		09 27 47.0	+0.4
GRF				*eL*		L		10 27 16.6	
	comp=Z,106nm,19.8s								
GRFO	Grafenberg	146.42	355	*e*PKP2		PKPab		09 27 47.2	-0.2
GRFO	Grafenberg	146.42	355	*e*PKPbc		PKPab		09 27 47.1	-0.2
PSZ	Piszkesteto	146.56	344	⇑PKP2		PKPab		09 27 48.7	+0.6
PSZ	Piszkesteto	146.56	344	⇑*i*P		PKPab		09 27 48.7	+0.6
SMOL	Smolenice	146.61	347	*e*PKiKP		PKPdf		09 27 44.9	-0.7
SMOL	Smolenice	146.61	347	*e*PKP		PKPdf		09 27 44.9	-0.7
MLR	Muntele Rosu	146.63	335	⇑*i*P		PKPbc		09 27 48.1	+0.6
WLF	Walferdange	146.65	1	PKP		PKPab		09 27 48.1	-0.1
WLF	Walferdange	146.65	1	*e*PKPbc		PKPab		09 27 48.0	-0.3
KHC	Kasperske Hory	146.70	352	*e*PKP2		PKPbc		09 27 47.7	+0.2
KHC	Kasperske Hory	146.70	352	*e*PKP		PKPbc		09 27 47.7	+0.2
KHC				*ex*		x		09 27 59.7	
KHC				*ex*		x		09 28 10.0	
KHC	Kasperske Hory	146.70	352	*e*PKPbc		PKPbc		09 27 47.7	+0.2
DRGR		146.73	340	⇑PKP2		PKPbc		09 27 47.9	+0.3
DRGR		146.73	340	⇑*i*P		PKPbc		09 27 47.9	+0.3
BR131	Keskin Array S	146.82	320	*e*PKPdf		PKPbc		09 27 48.2	0.0
BRTR	Keskin Array B	146.82	320	PKPbc		PKPab		09 27 49.0	-0.4
BRTR	Keskin Array B	146.82	320	PKPbc		PKPab		09 27 49.0	-0.4
	comp=Z,3.9nm,0.7s,baz=131,slow=2.3,SNR=11								
GEC2	GERESS Array S	146.96	351	*e*PKPbc		PKPbc		09 27 48.6	+0.3
GERES	GERESS Array B	146.96	351	PKPbc		PKPbc		09 27 48.1	-0.1
GERES	GERESS Array B	146.96	351	PKPbc		PKPbc		09 27 48.1	-0.1
	comp=Z,5.6nm,0.8s,baz=20,slow=3.1,SNR=40								
VOIR		147.03	336	⇑PKP2		PKPab		09 27 49.5	-0.5
VOIR		147.03	336	⇑*i*P		PKPab		09 27 49.5	-0.5
ARR	Arges	147.25	336	⇑*i*P		PKPab		09 27 50.8	-0.1
LANF	Langenberg	147.32	359	PKP		PKPbc		09 27 50.1	+0.9
STU	Stuttgart	147.48	357	*e*PKPbc		PKPbc		09 27 50.0	+0.4
CONA	Conrad Observa	147.49	348	⇓*i*PKPab		PKPbc		09 27 50.4	+0.6
	comp=Z,17nm,1.0s,SNR=7.5								
SIRR	Siria	147.53	340	⇑*i*P		PKPdf		09 27 46.2	-1.1
MOA	Molln	147.85	350	⇓*i*PKPdf		PKPbc		09 27 50.9	+0.2
	comp=Z,10nm,0.8s								
GZR	Gura Zlata	147.92	338	⇓PKP2		PKPbc		09 27 51.3	+0.3
GZR	Gura Zlata	147.92	338	⇓*i*P		PKPbc		09 27 51.3	+0.3
FUR	Furstenfeldbru	147.92	354	*e*PKPbc		PKPbc		09 27 51.4	+0.5
BFO	Black Forest	147.96	358	*e*PKP2		PKPbc		09 27 51.0	0.0
BFO	Black Forest	147.96	358	*e*PKPbc		PKPbc		09 27 51.2	+0.3
BFO	Black Forest	147.96	358	*e*PKPbc		PKPbc		09 27 51.0	0.0
THEF	They Montfort	148.09	1	PKP		PKPbc		09 27 51.9	+0.6
BZS	Buzias	148.12	340	⇑PKP2		PKPbc		09 27 51.7	+0.3
BZS	Buzias	148.12	340	⇑*i*P		PKPbc		09 27 51.7	+0.3
RJOB	Jochberg	148.17	352	*e*PKPbc		PKPbc		09 27 51.9	+0.3
FELD	Feldberg im Sc	148.42	358	PKP		PKPbc		09 27 52.5	+0.2
MOF	Molkenrain	148.46	359	PKP		PKPbc		09 27 52.3	-0.1
PKSM	Moragy	148.47	344	⇑PKP2		PKPbc		09 27 53.5	+1.2
PKSM	Moragy	148.47	344	⇑*i*P		PKPbc		09 27 53.5	+1.2
WTTA	Wattenberg	148.78	353	⇓*is*PKPdf		PKPbc		09 27 53.5	+0.2
	comp=Z,20nm,0.6s,SNR=6.5								
SOKA	Soboth	148.85	349	⇓*is*PKPdf		PKPbc		09 27 53.0	-0.4
	comp=Z,17nm,1.4s								
PERS	Pernice	148.87	349	*i* PKPbc		PKPbc		09 27 53.2	-0.2
DAVA	Damuels	148.91	356	*i* PKiKP		PKPbc		09 27 54.3	+0.6
	comp=Z,33nm,1.2s,SNR=6.1								
FETA	Feen	149.11	355	⇑*i*PKiKP		PKPbc		09 27 54.6	+0.5
	comp=Z,18nm,1.0s,SNR=6.7								
ABTA	Abfaltersbach	149.18	352	⇓*is*PKPdf		PKPbc		09 27 54.0	-0.2
	comp=Z,18nm,0.7s,SNR=6.2								
VISS	Visnje	149.72	349	*i* PKPbc		PKPbc		09 27 55.2	-0.3
TUE	Stuetta	149.76	356	*e*PKPbc		PKPbc		09 27 56.2	+0.4
JAVS	Javornik	149.78	350	*i* PKPbc		PKPbc		09 27 55.5	-0.3
BOJS	Bojanci	149.93	348	*i* PKPbc		PKPbc		09 27 56.5	+0.5
VTS	Vitosha	150.14	335	⇓PKP2		PKPbc		09 27 57.3	+0.5
VTS	Vitosha	150.14	335	⇓*i*P		PKPbc		09 27 57.3	+0.5
PLDF	La Plantade	150.24	4	PKP		PKPbc		09 27 57.7	+0.8
MMB	Musomiste	150.75	333	⇑PKiKP		PKPbc		09 27 58.4	+0.3
MMB	Musomiste	150.75	333	⇑*i*P		PKPbc		09 27 58.4	+0.3
LBL	Lubilhac	150.95	5	PKP		PKPbc		09 27 59.6	+1.0
SSB	Saint Sauveur	150.99	3	*e*PKiKP		PKPbc		09 27 59.3	+0.7
SSB	Saint Sauveur	150.99	3	*e*PKPbc		PKPbc		09 27 59.3	+0.7
BNI	Bardonecchia	151.27	360	*e*PKiKP		PKPbc		09 28 00.4	+1.0
BNI				*e*				09 28 08.9	
BNI	Bardonecchia	151.27	360	*e*PKPbc		PKPbc		09 28 00.4	+1.0
BNI				*e*PKPab		PKPab		09 28 08.9	+1.6
ESDC	Sonseca Array	154.88	20	PKPab		PKPab		09 28 22.0	-0.5
ESDC	Sonseca Array	154.88	20	PKPab		PKPab		09 28 22.0	-0.5
	comp=Z,0.4nm,0.5s,baz=332,slow=4.0,SNR=5.9								
TORD	Torodi Ar. Bea	174.32	122	PKP		PKPdf		09 28 15.5	-0.8
TORD				PKPab		PKPab		09 29 47.6	-0.9
TORD	Torodi Ar. Bea	174.32	122	PKP		PKPdf		09 28 15.5	-0.8
	comp=Z,0.1nm,0.3s,baz=312,slow=0.6,SNR=2.7								
TORD				PKPab		PKPab		09 29 47.6	-0.9
	comp=Z,0.4nm,0.7s,baz=227,slow=4.2,SNR=3.2								

NNC 12 09:11:48.7±8.2, 54.82N×86.26E, h0km, mb3.8, mpv3.5, 8C-5D, Error ellipse: s-maj=60.9km s-min=49.0km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KURK	Kurchatov	6.19	232	⇑Pn	Pn	Pn	09 13 26.7	+5.4
	1.0nm,0.5s							
KURK				⇓Sn	Sn	Sn	09 14 34.9	+2.1
	0.3nm,0.4s							
KURK				⇓Lg	Lg	Lg	09 15 03.6	
	1.2nm,0.7s							
KURBB	Kurchatov Arra	6.30	231	⇑Pn	Pn	Pn	09 13 27.8	+5.0
	3.4nm,0.5s							
KURBB				⇑Sn	Sn	Sn	09 14 36.1	+0.6
	3.8nm,0.7s							
KURBB				⇑Lg	Lg	Lg	09 15 06.4	
	7.7nm,0.7s							
MK31	Makanchi Array	8.42	199	⇑Pn	Pn	Pn	09 13 52.9	+1.0
	1.8nm,0.6s,baz=25,slow=13,SNR=43							
MK31				⇑Sn	Sn	Sn	09 15 23.3	-4.4
	0.4nm,0.5s,baz=20,slow=29							
MK31				⇓Lg	Lg	Lg	09 16 09.5	
	3.4nm,0.9s							
VOSK	Vostochnaya	9.29	263	⇓Pn	Pn	Pn	09 13 59.1	-4.7
	0.8nm,0.4s							
VOSK				⇑Sn	Sn	Sn	09 15 48.6	-0.4
	1.1nm,0.6s							
BVA0	Borovoye Array	9.54	266	⇑Pn	Pn	Pn	09 14 03.6	-3.6
	0.8nm,0.5s,baz=77,slow=15,SNR=4.7							
BVA0				⇓Sn	Sn	Sn	09 15 55.4	+0.3
	1.0nm,0.5s,baz=66,slow=26							

IDC 12 09:39:04.9±1.4, 5.41N×127.61E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/24, mbtmp4.1/6, Error ellipse: s-maj=92.3km s-min=19.7km az=70.0

ISCJB 12 09:39:10.2±1.3, 5.4N±0.2×127.7E±0.6, h53km, mb4.0/6, Error ellipse: s-maj=94.4km s-min=18.3km az=162.2

ISC 12 09:39:12.0±1.4, 5.4N±0.3×127.7E±0.7, h53km, n6, σ0.96/6, mb4.0/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.47	185	P	P	P	09 44 16.4	-0.6
	0.9nm,0.4s,baz=14,slow=8.3,SNR=6.7							
WRA	Warramunga Arr	26.03	166	P	P	P	09 44 38.9	-1.4
	2.5nm,0.5s,baz=345,slow=10,SNR=2.6							
ASAR	Alice Springs	29.53	168	P	P	P	09 45 12.2	+0.5
	0.8nm,0.5s,baz=354,slow=7.7,SNR=21							
STKA	Stephens Creek	39.37	161	P	P	P	09 46 36.7	+0.2
	2.5nm,0.5s,baz=343,slow=9.3,SNR=15							
MKAR	Makanchi Array	56.77	324	P	P	P	09 48 50.5	-0.2
	0.8nm,0.5s,baz=118,slow=7.4,SNR=11							
ARCES	ARCESS Array B	89.22	340	P	P	P	09 52 02.0	+0.2
	3.6nm,0.9s,baz=81,slow=5.6,SNR=3.9							

ISCJB 12 09:44:36.7±1.6, 52.57N±0.04×166.70W±0.06, h15km±10km, mb3.9/15, MS3.1/2, Error ellipse: s-maj=7.2km s-min=5.9km az=6.2

IDC 12 09:44:36.7±1.2, 52.92N×166.94W, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/31, mbtmp3.9/15, ML3.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/40, Error ellipse: s-maj=31.3km s-min=16.9km az=12.0

NEIC 12 09:44:39.4, 52.72N×166.70W, h5km, ML3.6(AEIC), After AEIC.

ISC 12 09:44:39.7±1.8, 52.75N±0.08×166.82W±0.05, h23km±12km, n62, σ1.918/64, mb3.9/15, Fox Islands

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

GERES	GERESS Array B	78.78	360	P		P	09 56 39.8	-0.4
GERES	GERESS Array B	78.78	360	P		P	09 56 39.8	-0.4
	comp=Z,0.5nm,0.7s,baz=13,slow=6.4,SNR=3.4							
BRTR	Keskin Array B	86.21	344	P		P	09 57 20.1	+1.0
BRTR	Keskin Array B	86.21	344	P		P	09 57 20.1	+1.0
	comp=Z,1.5nm,0.7s,baz=37,slow=3.6,SNR=4.8							

IDC 12 10:17:59.0±2.1, 0.81S×132.23E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/35, Error ellipse: s-maj=94.4km s-min=21.0km az=66.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.13	174	P	P	10 22 23.3	-0.6
	0.1nm,0.3s,baz=354,slow=11,SNR=7.3						
WRA				LR	LR	10 31 20.1	
	comp=Z,15nm,28.6s,baz=45,slow=42						
ASAR	Alice Springs	22.78	176	P	P	10 23 03.4	0.0
	2.4nm,0.9s,baz=357,slow=11,SNR=28						
STKA	Stephens Creek	32.15	165	P	P	10 24 28.9	+0.5
	1.8nm,0.8s,baz=344,slow=15,SNR=3.0						
CMAR	Chiang Mai Arr	37.91	302	P	P	10 25 17.5	-0.8
	0.5nm,0.4s,baz=112,slow=9.7,SNR=4.0						
H11N1	WAKE ISLAND Hy	39.63	57	T	T	11 06 38.2	
	baz=242						
H11N2	WAKE ISLAND Hy	39.65	57	T	T	11 06 38.8	
	baz=242						
H11N3	WAKE ISLAND Hy	39.65	57	T	T	11 06 39.8	
	baz=242						
MKAR	Makanchi Array	64.40	324	P	P	10 28 37.4	+0.3
	0.1nm,0.6s,baz=124,slow=7.7,SNR=3.2						
SPITS	Spitsbergen Ar	95.94	349	LR	LR	11 21 44.8	
	comp=Z,16nm,28.6s,baz=225,slow=40						

ISCJB 12 10:52:27.5±1.2, 18.7S×170.1E×0.2, h240km, mb4.0/8, Error ellipse: s-maj=25.0km s-min=13.9km az=33.2
IDC 12 10:52:30.9±2.3, 18.91S×169.44E, h265km±21km, mb3.6/8, mb1 3.7/10, mb1mx3.5/23, mbtmp3.7/10, Error ellipse: s-maj=32.9km s-min=21.2km az=151.0

ISC 12 10:52:29.0±1.3, 18.7S±0.1×169.5E±0.2, h240km, n11, σ0.94/12, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.39	219	P	Pn	10 53 37.8	+0.7
	3.8nm,0.3s,baz=56,slow=18,SNR=30						
DZM				S	S	10 54 31.7	+0.7
	3.6nm,0.3s,baz=338,slow=19,SNR=3.5						
DZM	Mont Dzumac	4.39	219	eP	Pn	10 53 37.1	0.0
DZM				eS	S	10 54 39.8	+8.8
HNR	Honiara	13.02	314	P	P	10 55 28.2	+0.6
	2.8nm,0.3s,baz=96,slow=2.9,SNR=3.7						
CTA	Charters Tower	21.92	263	P	P	10 57 03.6	+0.4
	1.9nm,0.5s,baz=80,slow=13,SNR=3.7						
PMG	Port Moresby	23.49	290	P	P	10 57 18.2	+0.7
	9.0nm,0.7s,baz=108,slow=13,SNR=3.2						
STKA	Stephens Creek	28.31	237	P	P	10 57 60.0	-0.6
	2.0nm,0.4s,baz=71,slow=15,SNR=5.1						
WRA	Warramunga Arr	33.12	262	P	P	10 58 41.5	-1.4
	1.9nm,0.6s,baz=97,slow=8.5,SNR=16						
ASAR	Alice Springs	33.46	255	P	P	10 58 45.0	-0.8
	12nm,0.5s,baz=83,slow=8.9,SNR=273						
FITZ	Fitzroy Crossi	41.50	264	P	P	10 59 52.5	-0.6
	4.0nm,0.6s,baz=104,slow=7.8,SNR=14						
YBH	Yreka Blue Hor	86.77	44	P	P	11 04 47.3	+1.1
	1.4nm,0.8s,baz=259,slow=5.2,SNR=5.3						
ILAR	Eielson Array	89.65	17	P	P	11 04 58.0	-1.1
	0.2nm,0.6s,baz=241,slow=3.7,SNR=4.4						

ISCJB 12 10:59:58.7±0.5, 59.90N±0.02×25.45E±0.06, h0km, Error ellipse: s-maj=4.5km s-min=3.3km az=29.2
CSEM 12 10:59:59.7±0.3, 59.91N×25.48E, h2km, ML1.1, Error ellipse: s-maj=7.6km s-min=5.2km az=118.0, Mining explosion.
HEL 12 11:00:00.5±0.1, 59.90N×25.47E, h0km, ML1.6, Explosion
IDC 12 11:00:00.8±2.4, 59.91N×25.71E, h0km, mb1 3.1/3, mb1mx2.9/27, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=25.2km s-min=8.6km az=129.0

ISC 12 10:59:59.1±0.8, 59.90N±0.02×25.49E±0.03, h0km, n24, σ0.69/45, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	Metsahovi	0.64	301	eP	Pg	11 00 11.4	0.0
MEF				eS	Sg	11 00 19.6	0.0
MEF	Metsahovi	0.64	301	P	Pg	11 00 11.3	0.0
MEF				S	Sg	11 00 19.5	0.0
PVF	Pernaja	0.68	16	eP	Pg	11 00 12.9	+0.9
PVF				eS	Sg	11 00 20.8	-0.1
PVF	Pernaja	0.68	16	P	Pg	11 00 12.9	+0.9
PVF				S	Sg	11 00 20.7	-0.1
SRPE	Suurupi	0.71	233	eP	Pg	11 00 12.9	+0.2
SRPE				eS	Sg	11 00 21.3	-0.7
SRPE	Suurupi	0.71	233	eP	Pg	11 00 12.7	0.0
	SNR=90						
SRPE				S	Sg	11 00 21.2	-0.7
VJF	Virojoki	1.21	57	eP	Pg	11 00 22.1	-0.2
VJF				eS	Sg	11 00 37.8	-0.3
VJF	Virojoki	1.21	57	P	Pg	11 00 22.1	-0.2
VJF				S	Sg	11 00 37.8	-0.3
MTSE	Matsula	1.47	217	eP	Pn	11 00 26.9	+0.2
MTSE				eS	Sg	11 00 45.3	-0.8
MTSE	Matsula	1.47	217	eP	Pn	11 00 26.9	+0.2
	SNR=70						
MTSE				eS	Sg	11 00 45.2	-0.8
	SNR=70						
VSU	Vasula	1.57	156	eP	Pb	11 00 29.1	+0.1
VSU				eS	Sn	11 00 48.6	-0.7
VSU	Vasula	1.57	156	P	Pb	11 00 29.1	+0.1
VSU				eS	Sg	11 00 50.6	+1.0
	SNR=50						
FIA0	FINESS Array S	1.58	10	eP	Pn	11 00 28.9	+0.5
FIA0				eS	Sn	11 00 48.4	-1.1
FIA0				MSG		11 00 49.4	
	comp=Z,3.2nm,0.2s						
FIA0	FINESS Array S	1.58	10	P	Pn	11 00 28.8	+0.5
FIA0				S	Sn	11 00 48.3	-1.1
FINES	FINESS Array B	1.58	10	Pg	Pn	11 00 28.8	+0.5
	comp=Z,0.5nm,0.3s,baz=183,slow=15,SNR=58						
FINES				Lg	Lg	11 00 48.9	
	comp=Z,0.6nm,0.3s,baz=186,slow=27,SNR=12						
RAF	Rauma	2.17	303	eP	Pb	11 00 38.5	-0.7
RAF				eS	Sn	11 01 05.3	+1.4
RAF				MSG		11 01 08.2	
	comp=Z,4.6nm,0.1s						
RAF	Rauma	2.17	303	eP	Pb	11 00 38.4	-0.7
	SNR=50						
RAF				S	Sn	11 01 05.2	+1.4
KAF	Kangasniemi	2.26	10	eP	Pb	11 00 39.6	-1.1
KAF				eS	Sn	11 01 07.3	+1.1
KAF				MSG		11 01 10.9	
	comp=Z,1.6nm,0.1s						
KAF	Kangasniemi	2.26	10	P	Pb	11 00 39.6	-1.1
KAF				S	Sn	11 01 07.3	+1.1
KEF	Keuruu	2.30	353	ePG	Pb	11 00 41.3	-0.2
KEF				eSB	Sb	11 01 10.1	-0.2
KEF	Keuruu	2.30	353	Pg	Pb	11 00 41.2	-0.2
KEF				Sb	Sb	11 01 10.1	-0.2
HFS	Hagfors	5.92	277	Pn	Pn	11 01 28.7	+0.7
	comp=Z,0.1nm,0.3s,baz=114,slow=12,SNR=7.0						
HFS				Sn	Sn	11 02 37.1	+0.7
	comp=Z,0.1nm,0.3s,baz=90,slow=32,SNR=2.8						
NOA	NORSAR Array B	7.15	285	Pn	Pn	11 01 44.7	-0.2
	comp=Z,0.1nm,0.3s,baz=258,slow=4.5,SNR=1.1						
ARCES	ARCESS Array B	9.68	0	Pn	Pn	11 02 18.7	-0.7
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=6.6						

IDC 12 11:00:23.8±1.0, 3.20N×104.03W, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/22, mbtmp4.3/13, ML3.9/1, MS3.9/16, Ms1 3.9/16, ms1mx3.7/30, Error ellipse: s-maj=30.7km s-min=16.2km az=62.0
ISCJB 12 11:00:25.5±0.6, 3.21N±0.07×103.77W±0.05, h10km, mb4.6/57, MS4.0/17, Error ellipse: s-maj=10.5km s-min=6.3km az=30.2
NEIC 12 11:00:26.6±0.5, 3.17N×103.81W, h10km, mb4.7/48, Error ellipse: s-maj=11.9km s-min=5.6km az=221.0
BJI 12 11:00:26.3, 3.20N×103.80W, h10km, mB5.2/2, Ms5.2/3, Ms7 4.8/3

ISC 12 11:00:26.4±0.6, 3.18N±0.10×103.8W±0.1, h10km, n522, σ0.83/509, mb4.7/57, MS3.8/17, 200C-209D, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	El Apazote	17.63	47	P	Pn	11 04 33.1	+0.5
APG	El Apazote	17.63	47	P	Pn	11 04 33.1	+0.5
	0.4nm,0.3s,baz=239,slow=12,SNR=5.7						
APG				LR	LR	11 09 41.2	
	comp=Z,475nm,21.4s,baz=99,slow=31						
TGUH	Tegucigalpa,Un	19.57	55	eP	Pn	11 04 55.5	-0.5
	174nm,1.4s						
JTS	JuntasAbangare	20.00	68	P	Pn	11 05 01.4	+0.2
JTS				ePn	pP	11 05 01.8	-0.5
JTS	JuntasAbangare	20.00	68	P	Pn	11 05 01.4	+0.2
	5.4nm,0.8s,baz=233,slow=10,SNR=4.6						
JTS				LR	LR	11 10 28.8	
	comp=Z,770nm,21.2s,baz=252,slow=30						
LPIG	La Paz	21.73	344	LR	LR	11 11 32.0	
	comp=Z,215nm,21.1s,baz=64,slow=31						
TEIG	Tepich	22.72	41	eP	P	11 05 28.4	-0.4
	62nm,1.3s						
TEIG	Tepich	22.72	41	P	P	11 05 28.3	-0.4
	18nm,0.9s,baz=212,slow=5.8,SNR=4.0						
TEIG				LR	LR	11 13 16.3	
	comp=Z,335nm,18.2s,baz=318,slow=34						
BCIP	Isla Barro Col	24.54	75	eP	P	11 05 47.0	+0.4
	39nm,1.1s						
OTAV	Otavalo	25.50	96	eP	P	11 05 56.4	+0.5
	46nm,2.0s						
732A	Laxson Ranch,	25.67	8	⇓P	P	11 05 56.8	+0.2
	baz=26						
TXAR	Lajitas Array	26.02	0	P	P	11 05 60.0	+0.1
TXAR	Lajitas Array	26.02	0	P	P	11 05 60.0	+0.1
	3.9nm,1.1s,baz=187,slow=8.8,SNR=16						
TXAR				LR	LR	11 15 14.4	
	comp=Z,245nm,18.4s,baz=280,slow=34						
627A	Terlingua Ranc	26.14	1	⇓P	P	11 06 01.3	+0.3
	baz=26						
628A	Black Gap, Mar	26.18	2	⇑P	P	11 06 02.0	+0.7
	baz=26						
626A	Big Bend Ranch	26.24	359	⇓P	P	11 06 02.5	+0.6
	baz=26						
631A	Perdido Creek	26.27	6	⇑P	P	11 06 02.5	+0.4
	baz=26						
632A	Uvalde	26.46	8	⇑P	P	11 06 04.0	+0.2
	baz=27						
526A	Mary Lane Ranc	26.74	359	⇑P	P	11 06 07.1	+0.6
	baz=27						
527A	Woodward Ranch	26.82	0	⇓P	P	11 06 07.8	+0.6
	baz=27						
529A	Stev Forest Ra	26.84	3	⇓P	P	11 06 07.7	+0.3
	baz=27						
528A	Cox Ranch, San	26.86	2	⇑P	P	11 06 07.5	0.0
	baz=27						
530A	J-C Ranch, Com	26.93	5	⇓P	P	11 06 08.1	+0.1
	baz=27,SNR=8.8						
531A	Rocksprings	27.02	6	⇓P	P	11 06 09.6	+0.7
	baz=27						
532A	Rocksprings	27.06	7	⇓P	P	11 06 09.2	0.0
	baz=27						
533A	Kenville	27.13	9	⇑P	P	11 06 10.8	+1.0
	baz=27						
534A	Blanco	27.18	10	⇑P	P	11 06 10.4	+0.1
	baz=27						
426A	McDonald Obser	27.35	360	⇑P	P	11 06 12.6	+0.6
	baz=28						
ATAH	Atahualpa	27.35	112	LR	LR	11 14 23.7	
	comp=Z,257nm,20.8s,baz=289,slow=30						
429A	Davenport Ranc	27.36	4	⇑P	P	11 06 12.6	+0.6
	baz=28						
JCT	Junction City	27.42	8	⇑P	P	11 06 12.8	+0.4
	baz=28						
428A	Kincaid Ranch,	27.42	2	⇑P	P	11 06 12.9	+0.3
	baz=28						
425A	Indio Mountain	27.48	358	⇓P	P	11 06 13.6	+0.4
	baz=28						
431A	Sonora	27.52	6	⇑P	P	11 06 13.9	+0.5
	baz=28						
427A	Hayter Ranch,	27.53	1	⇓P	P	11 06 14.2	+0.7
	baz=28,SNR=5.5						
430A	Baggett Ranch,	27.57	5	⇓P	P	11 06 14.1	+0.2
	baz=28						
433A	Art	27.79	9	⇑P	P	11 06 16.6	+0.8
	baz=28						
432A	Menard	27.81	7	⇑P	P	11 06 16.1	+0.1
	baz=28						
434A	Burnet	27.98	10	⇓P	P	11 06 17.4	0.0
	baz=28						
326A	Caldwell Ranch	27.99	360	⇑P	P	11 06 17.6	0.0
	baz=28						
327A	Balmorhea Ranc	28.05	1	⇓P	P	11 06 18.9	+0.8
	baz=28						
325A	Bean Ranch, Si	28.07	358	⇓P	P	11 06 18.4	0.0
	baz=28,SNR=5.5						
328A	Wristen Ranch,	28.07	2	⇓P	P	11 06 18.3	0.0
	baz=28						
331A	San Angelo	28.16	6	⇑P	P	11 06 19.7	+0.6
	baz=28						
330A	Mertzon	28.19	5	⇓P	P	11 06 19.4	0.0
	baz=28						
329A	Wagon Wheel Ra	28.21	3	⇓P	P	11 06 20.2	+0.6
	baz=28						
332A	Millersview	28.32	7	⇓P	P	11 06 21.3	+0.9
	baz=28						
320A	Kipp Ranch, An	28.36	351	⇑P	P	11 06 21.2	+0.2
	baz=28						
333A	Richland Sprin	28.36	9	⇓P	P	11 06 20.7	-0.2
	baz=28						
334A	Lometa	28.49	10	⇓P	P	11 06 22.9	+0.9
	baz=29						
319A	Douglas	28.52	350	⇑P	P	11 06 22.8	+0.4
	baz=29						
335A	Moody	28.59	11	⇑P	P	11 06 23.6	+0.7
	baz=29						
230A	Sterling City	28.67	5	⇑P	P	11 06 24.0	+0.4
	baz=29						
227A	Bennet, Jal	28.69	1	⇑P	P	11 06 24.8	+1.0
	baz=29						
229A	Bryant Ranch,	28.70	4	⇑P	P	11 06 24.7	+0.8
	baz=29						
226B	Tecolote Peak,	28.75	359	⇑P	P	11 06 25.4	+1.0
	baz=29,SNR=7.8						
223A	Chaparral, Ant	28.79	355	⇑P	P	11 06 25.2	+0.5
	baz=29						
224A	Comudas Mount	28.79	357	⇓P	P	11 06 25.5	+0.6
	baz=29						
231A	Bronte	28.80	6	⇓P	P	11 06 25.0	+0.3
	baz=29						
225A	Deer Hill, Car	28.80	358	⇓P	P	11 06 25.4	+0.4
	baz=29						
228A	UT Block 9, Go	28.81	2	⇓P	P	11 06 26.0	+1.0
	baz=29						
232A	Coleman	28.83	7	⇑P	P	11 06 25.9	+0.9
	baz=29						
GDL2	Guadalupe Moun	28.88	359	eP	P	11 06 25.4	-0.2
	0.6nm,0.2s						
221A	Mesquite Ranch	28.93	353	⇓P	P	11 06 26.7	+0.7
	baz=29						
222A	Williams Famil	28.94	354	⇑P	P	11 06 27.1	+0.9
	baz=29						
WHTX	Lake Whitney	29.28	11	⇓P	P	11 06 29.7	+0.8
	baz=29						
126A	Clayton Basin,	29.32	360	⇑P	P	11 06 29.7	+0.3
	baz=30						
128A	Castleberry Fa	29.32	2	⇑P	P	11 06 30.6	+1.1
	baz=30,SNR=11						
127A	Arkansas Junct	29.35	1	⇑P	P	11 06 29.9	+0.1
	baz=30						
129A	Stewart Farms,	29.36	3	⇑P	P	11 06 30.5	+0.7
	baz=30						
130A	Snyder	29.39	5	⇑P	P	11 06 30.8	+0.8
	baz=30						
123A	Bell Site, Whi	29.40	356	⇑P	P	11 06 30.8	+0.7
	baz=30						
124A	Stringfield Ra	29.41	357	⇑P	P	11 06 30.5	+0.1
	baz=30,SNR=20						
121A	Cookes Peak, D	29.44	353	eP	P	11 06 30.9	+0.3
121A	Cookes Peak, D	29.44	353	⇑P	P	11 06 31.1	+0.5
	baz=30						
ROSC	El Rosal	29.44	86	eP	P	11 06 32.9	+1.8
ROSC	El Rosal	29.44	86	LR	LR	11 16 15.1	
	comp=Z,180nm,18.9s,baz=18,slow=32						
131A	Roby	29.52	6	⇑P	P	11 06 31.4	+0.3
	baz=30						
ABTX	Abilene, Hawle	29.55	7	⇓P	P	11 06 31.7	+0.3
	baz=30,SNR=5.2						
133A	Hamilton Ranch	29.64	8	⇓P	P	11 06 32.4	+0.3
	baz=30						
TUC	Tucson	29.71	348	eP	P	11 06 32.5	-0.4
	79nm,2.9s						
134A	White-Moore Ra	29.73	10	⇑P	P	11 06 33.7	+0.7
	baz=30						
135A	Vickery Place,	29.84	11	⇓P	P	11 06 34.5	+0.6
	baz=30						
214A	Organ Pipe Nat	29.86	344	⇑P	P	11 06 34.6	+0.5
	baz=30						
Z26A	Caprock	29.94	360	⇑P	P	11 06 35.2	+0.2
	baz=30						
Z25A	Roswell	29.96	358	⇑P	P	11 06 35.8	+0.6
	baz=30,SNR=13						
Z28A	Tucker Farm, M	29.99	2	⇓P	P	11 06 35.6	+0.2
	baz=30						
Z27A	Tatum	29.99	1	⇓P	P	11 06 36.3	+0.9
	baz=30,SNR=13						
Z29A	Hungry Hill Ra	29.99	4	⇓P	P	11 06 37.3	+1.9
	baz=30						
Z23A	Rita Site, Whi	30.02	356	⇑P	P	11 06 36.3	+0.6
	baz=30,SNR=10						
Z24A	Sheeppen Canyo	30.03	357	⇑P	P	11 06 36.2	+0.3
	baz=30,SNR=12						
Z30A	Sanderson Ranc	30.06	4	⇓P	P	11 06 36.1	+0.2
	baz=30						
Z22A	Elephant Butte	30.07	355	⇑P	P	11 06 36.5	+0.3
	baz=30,SNR=7.0						
Z31A	Sharp Cattle R	30.18	6	⇓P	P	11 06 37.9	+0.9
	baz=30						
Z32A	Haskell	30.25	7	⇓P	P	11 06 38.2	+0.6
	baz=30						
Z33A	Whitaker Ranch	30.32	8	⇑P	P	11 06 38.9	+0.7
	baz=30						
Z34A	Collier Ranch,	30.54	10	⇑P	P	11 06 41.0	+0.9
	baz=31						
Y27A	Causey	30.56	1	⇑P	P	11 06 40.7	+0.3
	baz=31						
Y26A	Elida	30.59	360	⇓P	P	11 06 41.0	+0.2
	baz=31						
Y29A	Porterfield Fa	30.59	3	⇓P	P	11 06 41.3	+0.7
	baz=31						
Y25A	Mesa, Roswell	30.60	359	⇓P	P	11 06 40.9	+0.1
	baz=31,SNR=17						
Y28A	McKinney Farm,	30.61	3	⇑P	P	11 06 41.3	+0.4
	baz=31,SNR=6.4						
MSTX	Muleshoe	30.65	2	⇓P	P	11 06 41.7	+0.4
	baz=31						
Y23A	Lovelace Mesa,	30.67	356	⇑P	P	11 06 43.1	+1.6
	baz=31						
NNA	Nana	30.74	120	LR	LR	11 16 05.7	
	comp=Z,154nm,20.5s,baz=321,slow=30						
Y22A	Socorro	30.75	355	⇓P	P	11 06 42.7	+0.6
	baz=31						
Y31A	Rekieta Farm,	30.81	6	⇑P	P	11 06 43.4	+0.9
	baz=31						
Y22D	IRIS PASSCAL I	30.88	355	⇓P	P	11 06 43.5	+0.2
	baz=31						
113A	Mohawk Valley,	30.89	343	⇓P	P	11 06 43.9	+0.7
	baz=31,SNR=8.1						
BNM	Barren Site	30.93	355	eP	P	11 06 44.6	+0.7
Y32A	R-V Farms, Ver	30.94	7	⇑P	P	11 06 44.2	+0.5
	baz=31						
Y33A	Hilltop Ranch,	31.05	8	⇓P	P	11 06 45.4	+0.7
	baz=31						
Y34A	Reagan Ranch,	31.14	10	⇓P	P	11 06 45.9	+0.5
	baz=31						
X29A	Tulia	31.17	3	⇑P	P	11 06 46.9	+1.1
	baz=31						
X26A	CR and CF Fran	31.22	360	⇓P	P	11 06 46.9	+0.6
	baz=31						
X28A	Dimmitt	31.22	3	⇓P	P	11 06 46.9	+0.6
	baz=31						
LAZ	Ladron	31.22	355	eP	P	11 06 47.1	+0.7
	8.5nm,1.4s						
Z14A	Wintersburg	31.23	345	⇑P	P	11 06 47.2	+1.0
	baz=31						
X30A	Coker Ranch, T	31.23	5	⇑P	P	11 06 47.8	+1.5
	baz=31						
X27A	F and S Farms,	31.32	1	⇑P	P	11 06 47.7	+0.6
	baz=32						
X32A	Elmer	31.37	7	⇑P	P	11 06 48.0	+0.5
	baz=32						
GLA	Glamis	31.46	342	eP	P	11 06 49.1	+0.7
	28nm,1.6s						
GLA	Glamis	31.46	342	⇑P	P	11 06 49.2	+0.9
	baz=32						
X31A	McDonald Ranch	31.50	6	⇓P	P	11 06 49.5	+0.9
	baz=32						
DVTC	Desert V Tower	31.52	340	⇑P	P	11 06 50.3	+1.4
	baz=32						
X33A	Lawton	31.59	8	⇑P	P	11 06 51.0	+1.5
	baz=32						
AMTX	Amarillo	31.61	3	P	P	11 06 50.1	+0.5
	baz=32						
SWSC	Sam W. Stewart	31.67	341	⇑P	P	11 06 50.6	+0.5
	baz=32						
X18A	Snowflake	31.72	350	⇑P	P	11 06 52.5	+1.8
	baz=32						
W27A	Bowe Ranch, En	31.73	1	⇓P	P	11 06 51.5	+0.7
	baz=32						
W26A	Owens Ranch, T	31.75	0	⇑P	P	11 06 51.2	+0.3
	baz=32						
X34A	Smith Ranch, M	31.75	9	⇓P	P	11 06 51.2	+0.3
	baz=32						
Y14A	Wickenburg	31.79	345	⇓P	P	11 06 52.0	+0.8
	baz=32						
MONP	Monument Peak	31.84	340	⇑P	P	11 06 52.3	+0.5
	baz=32						
W29A	Amraillo	31.85	3	⇑P	P	11 06 52.9	+1.1
	baz=32						
W25A	X Bar L Ranch,	31.89	359	⇓P	P	11 06 53.0	+0.8
	baz=32						
X16A	Lo Mia Camp, P	31.89	348	⇑P	P	11 06 52.6	+0.3
	baz=32						
W23A	Werner Place,	31.90	356	⇓P	P	11 06 53.1	+0.7
	baz=32						
W24A	Lazy 6 Ranch,	31.91	358	⇑P	P	11 06 53.3	+0.9
	baz=32						
W28A	Vega	31.95	2	⇓P	P	11 06 53.4	+0.7
	baz=32						
W30A	Crocket Farms	31.99	5	⇓P	P	11 06 54.2	+1.3
	baz=32						
Y12C	Blythe	32.02	343	⇓P	P	11 06 53.9	+0.7
	baz=32						
W31A	Holland Ranch,	32.05	6	⇓P	P	11 06 54.2	+0.7
	baz=32						
W32A	Sentinel	32.07	7	⇑P	P	11 06 53.9	+0.3
	baz=32						
109C	Camp Elliot, M	32.08	339	⇑P	P	11 06 54.0	+0.3
	baz=32						
W33A	Caddo, Fort Co	32.20	8	⇑P	P	11 06 56.1	+1.3
	baz=32						
BC3	Big Chuckawall	32.22	342	⇓P	P	11 06 55.4	+0.4
	baz=32						
W18A	Petrified Fore	32.26	351	⇑P	P	11 06 56.2	+0.8
	baz=32						
W34A	Bridge Creek,	32.38	9	⇓P	P	11 06 57.4	+1.0
	baz=32						
V24A	Rampart Ranch,	32.42	358	⇓P	P	11 06 57.9	+0.9
	baz=33,SNR=5.9						
PDMCI	Parker Dam,Lak	32.43	344	⇓P	P	11 06 58.4	+1.6
	baz=33						
V28A	Channing	32.45	2	⇓P	P	11 06 57.7	+0.6

V22A San Miguel Ran 32.70 355 ⇑P P 11 06 59.7 +0.3
baz=33
SCI San Clemente I 32.71 337 ⇑P P 11 06 59.9 +0.6
baz=33
BELC Belle Mtn. Jos 32.71 341 ⇑P P 11 06 59.9 +0.5
baz=33
MURC Murrieta 32.76 339 ⇓P P 11 06 59.9 +0.2
baz=33
V33A Lossen Ranch, 32.88 8 ⇑P P 11 07 01.2 +0.5
baz=33
WUAZ Wupatki 32.94 349 eP P 11 07 01.9 +0.5
12nm,1.3s
WUAZ Wupatki 32.94 349 ⇓P P 11 07 02.3 +0.9
baz=33
V34A Guthrie 33.01 9 ⇑P P 11 07 02.8 +0.9
baz=33
CIS Catalina Islan 33.03 337 ⇓P P 11 07 02.6 +0.5
baz=33
U26A Atchley Ranch, 33.06 0 ⇓P P 11 07 02.7 +0.3
baz=33
U23A El Rito 33.06 356 ⇑P P 11 07 02.7 +0.1
baz=33
U25A Circle Dot Ran 33.07 359 ⇓P P 11 07 02.6 +0.1
baz=33,SNR=5.5
U28A Mallet 33.07 2 ⇓P P 11 07 02.8 +0.2
baz=33
U27A Thompson Grove 33.09 1 ⇓P P 11 07 03.0 +0.2
baz=33
U24A Moreno Valley 33.10 358 ⇑P P 11 07 03.4 +0.5
baz=33
W13A Hualapai Mount 33.12 345 ⇓P P 11 07 04.7 +1.7
baz=33
U22A Llaves 33.16 355 ⇓P P 11 07 04.5 +1.1
baz=33
U29A Oasis Ranch, S 33.20 4 ⇓P P 11 07 04.5 +1.0
baz=33
U31A Nine Bar Ranch 33.23 6 ⇑P P 11 07 04.8 +1.0
baz=33
U30A WK&E Inc. Balk 33.32 5 ⇑P P 11 07 05.2 +0.6
baz=34
GMRC Granite Mounta 33.32 342 ⇑P P 11 07 05.5 +0.8
baz=34
TUL1 Tulsa 33.40 12 ⇑P P 11 07 06.1 +0.8
baz=34
BFSC Mount Baldy Ra 33.49 339 ⇓P P 11 07 06.6 +0.4
baz=34
HEC Hector,Ludlow 33.58 341 ⇑P P 11 07 07.8 +0.9
baz=34
U34A Anderson Ranch 33.60 9 ⇑P P 11 07 07.6 +0.6
baz=34
T24B San Luis 33.75 358 ⇑P P 11 07 09.2 +0.5
baz=34
T23A Casias Ranch, 33.76 357 ⇓P P 11 07 09.6 +0.9
baz=34,SNR=5.1
T25A Trinidad 33.80 359 ⇓P P 11 07 09.5 +0.5
baz=34
T28A Walsh 33.82 2 ⇓P P 11 07 09.3 +0.3
baz=34
T26A Comanche Natio 33.84 0 ⇑P P 11 07 10.2 +1.0
baz=34
RRX Edison Barstow 33.85 340 ⇓P P 11 07 10.3 +1.1
baz=34
T30A Plains 33.85 5 ⇓P P 11 07 10.5 +1.3
baz=34
T29A Hugoton 33.90 4 ⇑P P 11 07 10.6 +1.0
baz=34
BLG Laguna Peak 33.91 337 ⇑P P 11 07 10.3 +0.6
baz=34
TIGA Tifton 33.95 32 ⇑P P 11 07 10.4 +0.3
baz=34
T31A Randall Ranch, 33.97 6 ⇓P P 11 07 11.2 +1.0
baz=34
U15A North Rim 34.01 348 ⇑P P 11 07 11.7 +0.8
baz=34
T33A Patterson Ranc 34.13 8 ⇓P P 11 07 12.4 +0.8
baz=34
T32A Huddler Ranch, 34.13 7 ⇓P P 11 07 12.3 +0.6
baz=34
MVCO Mesa Verde 34.15 353 eP P 11 07 12.2 +0.2
14nm,1.2s
MVCO Mesa Verde 34.15 353 ⇑P P 11 07 13.0 +1.0
baz=34
GSC Goldstone 34.17 341 eP P 11 07 12.4 +0.4
8.3nm,1.3s
GSC Goldstone 34.17 341 ⇓P P 11 07 12.6 +0.6
baz=34
EDW2 Edwards Air Fo 34.19 339 ⇑P P 11 07 13.0 +0.8
baz=34
S26A Kim 34.28 0 ⇓P P 11 07 13.7 +0.6
baz=34
S28A Manter 34.29 3 ⇓P P 11 07 14.4 +1.3
baz=34
S24A Houchin Ranch, 34.32 358 ⇑P P 11 07 14.2 +0.5
baz=34
S25A Robets Cordova 34.33 359 ⇓P P 11 07 14.3 +0.9
baz=34
S29A Ulysses 34.37 4 ⇓P P 11 07 14.5 +0.8
baz=34
S23A Nye Farm, Mont 34.42 357 ⇓P P 11 07 14.8 +0.4
baz=35
S30A Montezuma 34.44 5 ⇑P P 11 07 15.1 +0.8
baz=35
SBC Santa Barbara 34.45 336 ⇓P P 11 07 15.5 +1.1
baz=35
S22A 4UR Ranch, Cre 34.52 356 ⇓P P 11 07 16.3 +1.0
baz=35,SNR=6.5
S32A Newby Ranch, P 34.65 7 ⇓P P 11 07 17.0 +0.9
baz=35
S33A Kaszmaul Farm, 34.66 8 ⇑P P 11 07 16.9 +0.7
baz=35
R25A Fountain Ranch 34.81 359 ⇑P P 11 07 18.3 +0.7
baz=35
R23A Moffat 34.90 357 ⇓P P 11 07 19.1 +0.6
baz=35,SNR=6.4
R24A Sanders Place, 34.91 358 ⇓P P 11 07 19.2 +0.6
baz=35
R27A Eads 34.96 1 ⇓P P 11 07 19.4 +0.5
baz=35,SNR=12
R26A Arlington 34.96 0 ⇓P P 11 07 19.6 +0.7
baz=35,SNR=9.1
R28A Tribune 35.05 3 ⇓P P 11 07 20.2 +0.6
baz=35
ISA Isabella 35.06 339 ⇓P P 11 07 20.5 +0.8
baz=35
PV01 Paradox Valley 35.07 353 eP P 11 07 19.9 0.0
2um,1.6s
MPMC Manual Prospec 35.08 341 ⇓P P 11 07 21.1 +1.0
baz=35,SNR=6.8
R30A Dighton 35.09 5 ⇑P P 11 07 21.0 +1.1
baz=35
R31A Burdett 35.16 6 ⇑P P 11 07 21.7 +1.1
baz=35
R29A Marienthal 35.17 4 ⇓P P 11 07 21.7 +1.0
baz=35
PV04 Paradox Valley 35.36 353 eP P 11 07 22.3 -0.1
R33A Olander Ranch, 35.37 8 ⇑P P 11 07 23.3 +1.0
baz=36
TPNV Topopah Spring 35.51 343 eP P 11 07 25.3 +1.6
26nm,2.0s
TPNV Topopah Spring 35.51 343 ⇑P P 11 07 24.5 +0.8
baz=36
Q25A Bedland, Calha 35.57 359 ⇓P P 11 07 24.6 +0.3
baz=36
Q26A Hugo 35.58 0 ⇑P P 11 07 24.8 +0.5
baz=36
Q23A Hartsel 35.61 357 ⇓P P 11 07 24.9 +0.2
baz=36
Q29A Oakley 35.64 4 ⇓P P 11 07 25.4 +0.7
baz=36
Q24A Divide 35.64 358 ⇑P P 11 07 25.3 +0.3
baz=36
KSCO Kaye Shedlock' 35.68 2 eP P 11 07 25.4 +0.2
KSCO Kaye Shedlock' 35.68 2 ⇓P P 11 07 26.1 +0.9
baz=36,SNR=5.2
Q28A Sharon Springs 35.76 3 ⇑P P 11 07 26.2 +0.5
baz=36
Q30A Quinter 35.78 5 ⇑P P 11 07 26.2 +0.3
baz=36
Q31A Ellis 35.89 6 ⇑P P 11 07 27.4 +0.6
baz=36
Q32A Meitler Ranch, 35.97 7 ⇓P P 11 07 28.3 +0.9
baz=36
Q33A Connelly Farm, 36.07 8 ⇓P P 11 07 29.2 +0.9
baz=36
P23A Jefferson 36.08 357 ⇓P P 11 07 29.4 +0.7
baz=36
P25A Willow Gulch B 36.17 360 ⇓P P 11 07 29.9 +0.6
baz=36

P24A Kohler Place, 36.19 359 ⇓P P 11 07 30.1 +0.6
baz=36
P26A Davis Ranch, A 36.22 1 ⇑P P 11 07 30.2 +0.5
baz=36
P27A Ficken Ranch, 36.23 2 ⇑P P 11 07 30.5 +0.7
baz=36
P28A Saint Francis 36.28 3 ⇑P P 11 07 30.9 +0.8
baz=36
SRU San Rafael 36.29 351 eP P 11 07 30.3 0.0
8.9nm,1.2s
P30A Selden 36.34 5 ⇑P P 11 07 31.1 +0.4
baz=36
P22A Eagle 36.35 356 ⇓P P 11 07 31.3 +0.3
baz=36
P29A Atwood 36.35 4 ⇑P P 11 07 31.2 +0.4
baz=36
P31A Stockton 36.40 6 ⇑P P 11 07 31.9 +0.7
baz=37,SNR=5.2
ISCO Idaho Springs 36.49 358 ⇑P P 11 07 34.2 +1.9
baz=37
P33A Williams Farm, 36.52 8 ⇓P P 11 07 32.9 +0.8
baz=37
TMUT Trail Mountain 36.58 350 eP P 11 07 33.7 +0.7
13nm,1.2s
P32A Huiting Farm, 36.58 7 ⇓P P 11 07 33.4 +0.7
baz=37
R11A Troy Canyon, C 36.63 344 ⇑P P 11 07 35.3 +2.0
baz=37,SNR=6.7
O25A Wiggins 36.77 360 ⇓P P 11 07 35.0 +0.6
baz=37
O24A Longmont 36.80 358 ⇓P P 11 07 35.5 +0.8
baz=37
O28A Krutsinger Ran 36.83 3 ⇓P P 11 07 35.9 +1.1
baz=37
TPH Tonopah 36.84 342 eP P 11 07 36.2 +1.0
13nm,1.4s
O27A Beecher Island 36.87 2 ⇓P P 11 07 36.2 +1.0
baz=37
SIUC Southern Illin 36.88 19 eP P 11 07 34.8 -0.4
29nm,1.3s
O26A Horse Wrangler 36.90 1 ⇓P P 11 07 36.4 +0.9
baz=37
O22A Kremmling 36.90 356 ⇓P P 11 07 37.0 +1.2
baz=37,SNR=6.9
O23A Lake Granby, G 36.92 357 ⇓P P 11 07 36.9 +1.0
baz=37
MLAC Mammoth Lakes 36.96 340 ⇓P P 11 07 36.6 +0.4
baz=37
O30A MW Ranch, Wils 36.99 5 ⇓P P 11 07 37.1 +0.9
baz=37
O20A White River Ci 37.01 354 ⇑P P 11 07 37.5 +0.9
baz=37,SNR=7.9
O31A Woolen Ranch, 37.03 6 ⇑P P 11 07 37.3 +0.8
baz=37
O32A Brockman Farm, 37.25 7 ⇑P P 11 07 39.2 +0.8
baz=37
TKL Tuckaleechee C 37.26 27 LR LR 11 23 38.0
comp=Z,72nm,19.6s,baz=355,slow=37
MPU Maple Canyon 37.35 350 eP P 11 07 40.3 +0.9
16nm,1.3s
N28A Pribbeno Ranch 37.40 3 ⇓P P 11 07 40.6 +0.9
baz=38
N25A Grover 37.47 360 ⇓P P 11 07 41.4 +1.0
baz=38
N27A Anderson Farm, 37.48 2 ⇓P P 11 07 41.3 +0.9
baz=38
N26A Koester Ranch, 37.49 1 ⇓P P 11 07 40.9 +0.4
baz=38
N24A Carr 37.49 359 ⇑P P 11 07 41.4 +0.8
baz=38
NVAR Mina Array Bea 37.51 341 P P 11 07 40.0 -0.8
NVAR Mina Array Bea 37.51 341 P P 11 07 40.0 -0.8
2.2nm,0.9s,baz=165,slow=3.7,SNR=11
N22A Wattenberg Ran 37.53 357 ⇑P P 11 07 42.1 +1.1
baz=38
N29A Votaw Ranch, W 37.58 4 ⇓P P 11 07 42.2 +1.0
baz=38
N23A Red Feather La 37.60 357 ⇑P P 11 07 41.9 +0.3
baz=38
N20A Spence Gulch, 37.70 354 ⇑P P 11 07 43.4 +0.9
baz=38
N31A Bailey Ranch, 37.73 6 ⇓P P 11 07 43.3 +0.8
baz=38
DUG Dugway 37.74 349 eP P 11 07 43.6 +0.9
11nm,1.3s
DUG Dugway 37.74 349 ⇓P P 11 07 43.8 +1.1
baz=38
JLU Jordanelle 37.89 350 eP P 11 07 44.9 +0.8
8.3nm,1.4s
WAKR Walker 37.95 340 eP P 11 07 46.0 +1.5
KMSC Kings Mountain 38.03 31 ⇓P P 11 07 45.2 +0.2
baz=38
M25A Palm-Egli Farm 38.09 360 ⇓P P 11 07 46.9 +1.3
baz=38
M28A Bar X Bar Ranc 38.11 3 ⇓P P 11 07 46.6 +0.9
baz=38
M26A McRoberts Ranc 38.12 1 ⇓P P 11 07 46.7 +0.8
baz=38
M24A Cheyenne 38.13 359 ⇓P P 11 07 46.3 +0.3
baz=38
M22A Cedar Creek Ra 38.14 357 ⇑P P 11 07 46.8 +0.6
baz=38
M23A Laramie 38.16 358 ⇓P P 11 07 47.2 +0.9
baz=38
M29A Burnside Ranch 38.20 4 ⇓P P 11 07 47.2 +0.8
baz=38
M27A Reverse DX Ran 38.20 2 ⇓P P 11 07 47.3 +0.8
baz=38
M31A Lambtecht Ranc 38.24 6 ⇓P P 11 07 47.7 +0.9
baz=38
M30A Dale-Ortello V 38.35 5 ⇑P P 11 07 48.9 +1.2
baz=38
BGNE Belgrade 38.40 7 ⇑P P 11 07 49.6 +1.5
baz=39
BGU Big Grassy Mou 38.49 349 eP P 11 07 50.3 +1.3
6.4nm,1.6s
L26A Underwood Farm 38.70 1 ⇑P P 11 07 51.6 +0.9
baz=39
L30A Spencer Herefo 38.78 5 ⇑P P 11 07 52.4 +1.1
baz=39
L23A Garrett 38.80 358 ⇑P P 11 07 52.2 +0.5
baz=39
L25A Engebretsen Ra 38.81 360 ⇑P P 11 07 52.3 +0.6
baz=39
L29A Maesberg Ranch 38.83 4 ⇓P P 11 07 53.0 +1.3
baz=39
L31A Butterfield Fa 39.08 6 ⇑P P 11 07 54.6 +0.8
baz=39
K25A Mack Ranch, Ha 39.27 360 ⇓P P 11 07 56.9 +1.4
baz=39
HVU Hansel Valley 39.27 349 eP P 11 07 55.8 +0.3
46nm,2.3s
K26A Motz Farm, Whi 39.36 1 ⇓P P 11 07 57.0 +0.8
baz=40
K22A Casper 39.38 357 ⇓P P 11 07 57.6 +1.2
baz=40
K27A Flueckinger Fa 39.38 2 ⇑P P 11 07 57.4 +1.1
baz=40
K24A Anderson Ranch 39.39 359 ⇑P P 11 07 57.3 +0.8
baz=40
K21A Alcova 39.41 356 ⇓P P 11 07 57.7 +0.9
baz=40
OHCM Honcut 39.42 338 eP P 11 07 57.9 +1.3
K28A Ten Mile Ranch 39.43 3 ⇑P P 11 07 57.8 +1.1
baz=40
K30A Basset 39.51 5 ⇑P P 11 07 58.1 +0.8
baz=40
K29A Lazy Trails An 39.54 4 ⇑P P 11 07 58.6 +1.0
baz=40
SJG San Juan 39.75 65 LR LR 11 22 45.6
comp=Z,135nm,18.6s,baz=284,slow=34
BW06 Boulder Array 39.75 353 eP P 11 07 59.5 -0.2
14nm,1.3s
PDAR Pinedale Array 39.75 353 P P 11 07 58.8 -0.9
PDAR Pinedale Array 39.75 353 P P 11 07 58.8 -0.9
7.2nm,1.1s,baz=165,slow=6.2,SNR=24
J27A Elkhorn Farm, 39.94 2 ⇑P P 11 08 02.3 +1.3
baz=40
J26A Sides Ranch, S 39.97 1 ⇑P P 11 08 02.3 +1.1
baz=40
J24A Dixon Ranch, L 39.99 359 ⇓P P 11 08 02.5 +1.0
baz=40
SFIN Scholer Farm 39.99 20 ⇓P P 11 08 01.9 +0.5
baz=40
J25A Sunshine Ranch 40.04 360 ⇓P P 11 08 02.8 +1.0
baz=40,SNR=5.6
J23A Dilts Ranch, B 40.09 358 ⇑P P 11 08 02.8 +0.5
baz=40

RKT Rikitea 40.09 228 eLR LR 11 19 00.9
293nm,27.0s
J21A Lysite 40.13 356 ⇑P P 11 08 03.7 +1.0
baz=40,SNR=5.5
J22A Midwest 40.14 357 ⇑P P 11 08 03.5 +0.8
baz=40,SNR=7.7
J28A Allard Ranch, 40.14 3 ⇓P P 11 08 03.8 +1.2
baz=40,SNR=5.1
J30A Dallas 40.16 5 ⇓P P 11 08 03.4 +0.6
baz=40,SNR=5.5
J29A Okreek 40.18 4 ⇓P P 11 08 03.5 +0.6
baz=40
J20A Shoshoni 40.19 355 ⇓P P 11 08 03.6 +0.5
baz=40,SNR=5.9
J19A Crowheart 40.19 354 ⇓P P 11 08 03.5 +0.3
baz=40
LPAZ La Paz 40.21 120 eP P 11 08 04.5 +0.2
28nm,1.7s
LPAZ La Paz 40.21 120 P P 11 08 04.8 +0.6
4.3nm,1.0s,baz=301,slow=6.6,SNR=11
LPAZ LR LR 11 23 20.1
comp=Z,43nm,20.0s,baz=240,slow=34
REDW Red Top Meadow 40.50 352 eP P 11 08 05.8 -0.1
11nm,1.4s
I24A Kuemmerle Ranc 40.52 359 ⇑P P 11 08 06.7 +0.8
baz=41
I21A Big Trails, Te 40.58 356 ⇓P P 11 08 06.8 +0.4
baz=41
I22A 9 Mile Ranch, 40.62 357 ⇑P P 11 08 07.5 +0.8
baz=41
I23A Meade Ranch, G 40.64 358 ⇓P P 11 08 07.8 +0.9
baz=41
TPAW Teton Pass 40.64 352 eP P 11 08 08.2 +1.1
79nm,2.8s
I25A Rochford 40.67 0 ⇓P P 11 08 07.6 +0.5
baz=41
I26A New Underwood 40.69 1 ⇓P P 11 08 07.9 +0.7
baz=41
LOHW Long Hollow 40.72 352 eP P 11 08 07.4 -0.2
70nm,2.8s
I28A Midland 40.72 3 ⇑P P 11 08 08.4 +1.0
baz=41
I27A Quinn 40.75 2 ⇑P P 11 08 08.2 +0.5
baz=41
I30A Oacoma 40.75 5 ⇓P P 11 08 08.4 +0.7
baz=41
RSSD Black Hills 40.77 360 eP P 11 08 08.1 +0.1
11nm,1.1s
I20A Worland 40.78 355 ⇓P P 11 08 08.9 +0.8
baz=41,SNR=8.7
I29A Vivian Onida 40.79 4 ⇑P P 11 08 08.7 +0.7
baz=41,SNR=8.7
MOOW Moose Ponds 40.87 352 eP P 11 08 09.1 +0.2
25nm,1.1s
ECSD EROS Data Cent 40.89 8 eP P 11 08 07.8 -0.9
14nm,1.4s
I19A Meeteetse 40.95 354 ⇓P P 11 08 10.1 +0.6
baz=41
I17A Pilgrim Ck. 41.02 353 ⇑P P 11 08 11.2 +1.1
baz=41
FLWY Flagg Ranch 41.19 352 eP P 11 08 12.1 +0.6
29nm,1.4s
H23A Clabaugh Cattl 41.24 358 ⇓P P 11 08 12.7 +1.0
baz=41
H25A Fruitdale 41.27 0 ⇑P P 11 08 12.9 +0.9
baz=42
WVOR Wild Horse Val 41.28 343 eP P 11 08 12.8 +0.7
17nm,1.5s
H26A Fairpoint 41.28 1 ⇓P P 11 08 13.1 +1.1
baz=42
HLID Hailey 41.30 348 eP P 11 08 12.9 +0.5
9.2nm,1.4s
HLID Hailey 41.30 348 ⇓P P 11 08 13.1 +0.7
baz=42
H20A Greybull 41.31 355 ⇑P P 11 08 12.9 +0.6
baz=42,SNR=7.9
N02D Trinity Center 41.31 338 ⇑P P 11 08 13.0 +0.7
baz=42
H22A Clearmont 41.31 357 ⇑P P 11 08 12.8 +0.5
baz=42
H27A Howes 41.31 2 ⇑P P 11 08 13.0 +0.7
baz=42
BRSD Miller 41.32 5 ⇑P P 11 08 12.7 +0.4
baz=42
H28A Mission Ridge 41.40 3 ⇑P P 11 08 13.8 +0.8
baz=42
H29A Onida 41.40 4 ⇑P P 11 08 13.4 +0.4
baz=42
H24A Dirks Ranch, A 41.41 359 ⇑P P 11 08 13.6 +0.5
baz=42
MFID Camas Ranch 41.47 347 eP P 11 08 14.0 +0.3
11nm,1.4s
H17A Grant Village 41.48 353 ⇓P P 11 08 14.4 +0.5
baz=42
H19A Powell 41.58 354 ⇓P P 11 08 15.3 +0.7
baz=42
H18A Shoshone NF, C 41.65 354 ⇓P P 11 08 15.7 +0.4
baz=42
M04C Macdoel 41.70 340 ⇓P P 11 08 16.6 +1.0
baz=42
M02C Callahan 41.73 338 ⇓P P 11 08 16.7 +0.9
baz=42
G25A Newell 41.85 0 ⇑P P 11 08 17.7 +1.0
baz=42
G23A Biddle 41.88 358 ⇑P P 11 08 17.5 +0.6
baz=42
G22A Birney 41.93 357 ⇓P P 11 08 18.4 +1.0
baz=42
G26A Maurine 41.96 1 ⇑P P 11 08 18.0 +0.4
baz=42,SNR=7.3
G30A Faulkton 41.98 5 ⇑P P 11 08 18.6 +0.8
baz=42
G24A Alzada 41.98 359 ⇑P P 11 08 18.7 +0.9
baz=42
G29A Hoven 41.98 4 ⇓P P 11 08 18.6 +0.8
baz=42
G21A Lodge Grass 41.98 356 ⇓P P 11 08 18.4 +0.6
baz=42
QLMT Earthquake Lak 42.02 352 eP P 11 08 19.3 +1.0
G20A Bridger 42.05 355 ⇑P P 11 08 19.5 +1.0
baz=42
G27A Dupree 42.06 2 ⇑P P 11 08 19.6 +1.2
baz=42,SNR=5.3
J08A Circle Bar Ran 42.08 344 eP P 11 08 18.6 -0.1
8.4nm,1.3s
K05A Summer Lake 42.23 341 eP P 11 08 21.6 +1.5
23nm,1.3s
SAML Samuel 42.24 107 eP P 11 08 19.3 -0.9
18nm,1.5s
F23A Volborg 42.40 358 ⇑P P 11 08 22.7 +1.5
baz=43
K04D Chiloquin, OR 42.42 340 ⇑P P 11 08 22.4 +0.9
baz=43
F22A Rosebud 42.49 357 ⇓P P 11 08 23.2 +1.3
baz=43
F24A Ekalaka 42.50 359 ⇓P P 11 08 22.9 +0.8
baz=43
F26A Lodgepole 42.52 1 ⇑P P 11 08 23.0 +0.9
baz=43
F27A Lemmon 42.55 2 ⇑P P 11 08 23.3 +0.9
baz=43
F21A Absaloka Mine, 42.58 357 ⇓P P 11 08 23.1 +0.5
baz=43
F25A Bowman 42.58 0 ⇑P P 11 08 23.2 +0.6
baz=43
F28A McLaughlin 42.58 3 ⇑P P 11 08 23.4 +0.8
baz=43
F20A Billings 42.62 356 ⇑P P 11 08 23.4 +0.4
baz=43
L02D Cave Junction, 42.67 338 ⇑P P 11 08 24.0 +0.7
baz=43
F30A Leola 42.69 5 ⇑P P 11 08 23.9 +0.4
baz=43
F19A Roth Farm, Mol 42.74 355 ⇑P P 11 08 24.4 +0.4
baz=43,SNR=8.4
J05D Fort Rock, OR 42.84 341 ⇓P P 11 08 25.2 +0.3
baz=43
SPMN St. Paul 42.98 11 ⇓P P 11 08 26.8 +1.0
baz=43
I07A Izee 43.04 343 eP P 11 08 27.0 +0.5
56nm,2.8s
J04D Umpqua Nationa 43.09 340 ⇓P P 11 08 28.0 +1.0
baz=43
E27A Carson 43.13 2 ⇑P P 11 08 28.0 +0.9
baz=43
E22A Miles City 43.13 358 ⇓P P 11 08 27.9 +0.8
baz=43
E26A Carlson Angus 43.14 1 ⇑P P 11 08 28.1 +0.9

baz=43
E25A Miller Ranch, 43.16 0 ⇓P P 11 08 27.5 +0.2
baz=43
E23A Ismay 43.17 358 ⇓P P 11 08 27.9 +0.5
baz=43
E24A Baker 43.22 359 ⇑P P 11 08 28.5 +0.7
baz=43
E21A Keefer Ranch, 43.29 357 ⇑P P 11 08 28.9 +0.5
baz=44
E28A Huff 43.31 3 ⇑P P 11 08 28.7 +0.1
baz=44
E20A Meyer Farm, Mu 43.32 356 ⇑P P 11 08 29.1 +0.4
baz=44,SNR=6.0
E19A Rath Farm, Rou 43.33 355 ⇑P P 11 08 29.1 +0.4
baz=44,SNR=13
E30A Jud 43.37 5 ⇑P P 11 08 29.4 +0.4
baz=44
E29A Napoleon 43.37 4 ⇑P P 11 08 29.6 +0.6
baz=44
D26A Manning 43.70 1 ⇓P P 11 08 32.2 +0.5
baz=44
D24A Glendive 43.77 359 ⇓P P 11 08 32.7 +0.5
baz=44,SNR=5.9
D25A Fairfield 43.81 0 ⇓P P 11 08 33.3 +0.8
baz=44
D27A Center 43.81 2 ⇓P P 11 08 33.7 +1.2
baz=44
D21A La Casta Ranch 43.81 357 ⇑P P 11 08 33.2 +0.6
baz=44
I05D Terrebonne, OR 43.82 342 ⇑P P 11 08 33.9 +1.2
baz=44
D23A Lindsay 43.84 359 ⇑P P 11 08 34.0 +1.1
baz=44
D22A Cohagen 43.85 358 ⇓P P 11 08 34.2 +1.3
baz=44
D20A Manuel Ranch, 43.91 356 ⇓P P 11 08 34.2 +0.8
baz=44
I03D Drain, OR 43.92 340 ⇓P P 11 08 34.4 +1.1
baz=44
D30A Buchanan 43.98 5 ⇑P P 11 08 34.5 +0.6
baz=44
G08A Pilot Rock 44.01 345 *e*P P 11 08 34.2 -0.1
51nm,2.6s
D19A Cripps Ranch, 44.04 355 ⇓P P 11 08 35.1 +0.7
baz=44,SNR=8.4
C24A Savage 44.19 359 ⇓P P 11 08 36.3 +0.7
baz=44
C25A Freed Ranch, W 44.37 1 ⇓P P 11 08 37.6 +0.5
baz=44
H04A Detroit Lake 44.40 341 *e*P P 11 08 37.1 -0.2
22nm,1.5s
C27A Sayler Ranch, 44.41 2 ⇑P P 11 08 37.9 +0.5
baz=45
G06A Carlson Farm, 44.42 343 *e*P P 11 08 38.2 +0.7
134nm,2.8s
C22A Vida 44.44 358 ⇑P P 11 08 38.2 +0.6
baz=45
C28A Hausauer Farms 44.47 3 ⇑P P 11 08 38.6 +0.8
baz=45
C23A Lambert 44.47 359 ⇑P P 11 08 38.8 +0.9
baz=45,SNR=6.6
C26A Wahner Farm, P 44.50 2 ⇓P P 11 08 38.6 +0.5
baz=45
C20A Veseth Ranch, 44.52 356 ⇓P P 11 08 38.6 +0.4
baz=45
C30A Mose, Pekin 44.59 5 ⇓P P 11 08 39.4 +0.6
baz=45,SNR=5.5
C19A Slack Wire Ran 44.62 355 ⇑P P 11 08 39.3 +0.2
baz=45
G05D Wamic, OR 44.63 342 ⇑P P 11 08 39.3 +0.1
baz=45
MDND Maddock 44.65 4 ⇓P P 11 08 39.7 +0.5
baz=45
EGMT Eagleton 44.97 354 ⇓P P 11 08 42.4 +0.5
baz=45
B22A Reddig Ranch S 44.99 358 ⇑P P 11 08 42.9 +0.9
baz=45
B26A Jensen Ranch, 45.05 1 ⇑P P 11 08 43.9 +1.4
baz=45
B27A Peters Farms, 45.11 2 ⇓P P 11 08 43.8 +0.9
baz=45
DGMT Dagmar 45.12 360 *e*P P 11 08 42.5 -0.5
DGMT Dagmar 45.12 360 ⇑P P 11 08 43.8 +0.7
baz=45
B23A Brockton 45.13 359 ⇓P P 11 08 43.9 +0.8
baz=45
B21A Ellsworth Farm 45.17 357 ⇓P P 11 08 44.4 +1.0
baz=45
HAWA Hanford 45.18 345 *e*P P 11 08 43.9 +0.4
13nm,1.3s
B28A Dugan Ranch, T 45.20 3 ⇓P P 11 08 44.0 +0.4
baz=45
G03D McMinnville, O 45.22 341 ⇑P P 11 08 45.0 +1.3
baz=45
B20A Solberg Farm, 45.24 356 ⇓P P 11 08 44.0 0.0
baz=45
B29A Wagenman Farm, 45.28 4 ⇑P P 11 08 44.4 +0.1
baz=46
B19A Brinkman Farms 45.33 355 ⇓P P 11 08 45.0 +0.3
baz=46
B30A Myrvik Farm, E 45.35 5 ⇓P P 11 08 45.0 +0.2
baz=46
AGMN Agassiz Nation 45.47 7 *e*P P 11 08 44.4 -1.3
40nm,1.7s
A26A Wade Farm, Ken 45.58 2 ⇑P P 11 08 46.7 +0.1
baz=46
A24A Westby 45.58 360 ⇓P P 11 08 47.4 +0.7
baz=46
A25A Svangstu Ranch 45.60 1 ⇓P P 11 08 47.5 +0.7
baz=46
A23A Redstone 45.62 359 ⇑P P 11 08 47.9 +0.9
baz=46
A28A Rude Farm, Bot 45.66 3 ⇓P P 11 08 47.7 +0.4
baz=46
A20A Cobblestone Ra 45.67 356 ⇑P P 11 08 47.8 +0.4
baz=46
A22A Carney Farms, 45.68 358 ⇑P P 11 08 47.9 +0.4
baz=46
A21A Bergtoll Ranch 45.72 357 ⇑P P 11 08 48.1 +0.3
baz=46
A29A Manning Farm, 45.74 4 ⇑P P 11 08 47.6 -0.3
baz=46
A19A Klindworth Far 45.78 355 ⇓P P 11 08 48.5 +0.2
baz=46
A30A Hoffart Farm, 45.84 5 ⇓P P 11 08 48.3 -0.3
baz=46
F04D Rainier, OR 45.91 341 ⇓P P 11 08 50.3 +1.1
baz=46
LON Longmire 46.14 343 *e*P P 11 08 51.5 +0.4
8.1nm,1.2s
NEW Newport 46.36 348 *e*P P 11 08 52.2 -0.6
9.0nm,1.1s
NEW Newport 46.36 348 ⇑P P 11 08 52.9 +0.1
baz=46
D05A Enumclaw 46.59 343 *e*P P 11 08 55.0 +0.4
21nm,1.4s
ULM Lac du Bonnet 47.38 7 P P 11 08 59.1 -1.6
ULM Lac du Bonnet 47.38 7 P P 11 08 59.1 -1.6
8.4nm,1.2s,baz=179,slow=5.4,SNR=3.6
PPT Papeete 49.62 244 LR LR 11 24 07.1
comp=Z,270nm,21.1s,baz=62,slow=29
PPT2 Papeete2 49.63 244 *e*LR LR 11 23 15.2
412nm,25.2s,baz=65
TBI Tubuai 51.71 237 *e*LR LR 11 24 25.5
326nm,26.5s
PLCA Paso Flores 53.22 149 P P 11 09 46.4 +1.2
PLCA Paso Flores 53.22 149 P P 11 09 46.4 +1.2
0.5nm,0.7s,baz=293,slow=7.7,SNR=2.1
PLCA LR LR 11 27 22.3
comp=Z,266nm,18.7s,baz=198,slow=30
CPUP Villa Florida 53.64 126 P P 11 09 48.3 -0.1
CPUP Villa Florida 53.64 126 P P 11 09 48.3 -0.1
2.1nm,0.7s,baz=264,slow=6.4,SNR=3.7
BDFB Brasilia 58.25 110 LR LR 11 34 15.2
comp=Z,182nm,21.0s,baz=40,slow=35
DLBC Dease Lake 58.81 344 *e*P P 11 10 24.8 -0.2
SCHQ Schefferville 59.57 24 P P 11 10 28.5 -1.7
SCHQ Schefferville 59.57 24 P P 11 10 28.5 -1.7
18nm,1.2s,baz=243,slow=11,SNR=3.3
SCHQ LR LR 11 37 38.9
comp=Z,134nm,18.6s,baz=257,slow=38
YKA Yellowknife Ar 59.73 354 P P 11 10 29.5 -1.6
YKA Yellowknife Ar 59.73 354 P P 11 10 29.5 -1.6
3.7nm,1.0s,baz=164,slow=6.7,SNR=21
RAR Rarotonga 59.90 243 LR LR 11 29 43.0
comp=Z,289nm,21.7s,baz=86,slow=30
MCK McKinley 68.73 340 *e*P P 11 11 29.1 -1.1
10.0nm,1.4s

ILAR Eielson Array 68.76 342 P P 11 11 28.6 -1.8
ILAR Eielson Array 68.76 342 P P 11 11 28.6 -1.8
5.2nm,1.0s,baz=156,slow=5.6,SNR=34
H11N3 WAKE ISLAND Hy 88.28 290 T T 12 50 45.9
baz=88,slow=75,SNR=4.9
H11N2 WAKE ISLAND Hy 88.29 290 T T 12 50 48.5
baz=88,slow=75,SNR=5.5
H11N1 WAKE ISLAND Hy 88.29 290 T T 12 50 48.9
baz=88,slow=75,SNR=5.2
H11S2 WAKE ISLAND Hy 88.53 288 T T 12 51 05.3
baz=87,slow=72,SNR=24
H11S1 WAKE ISLAND Hy 88.53 288 T T 12 51 05.5
baz=87,slow=72,SNR=20
H11S3 WAKE ISLAND Hy 88.55 288 T T 12 51 08.8
baz=87,slow=72,SNR=13
DZM Mont Dzumac 90.95 248 *e*LR LR 11 42 46.2
111nm,23.4s
HHC Hu-ho-hao-te 125.58 327 *e*PKP PKPdf 11 19 27.8 -0.8
HHC PP **PP 11 21 22.5 +3.3**
HHC PKS **PKSdf 11 23 04.5 -0.8**
HHC SKS **SKSdf 11 26 39.8 -1.2**
HHC SKKS **SKKSac 11 28 15.8 -2.9**
HHC SS **SS 11 38 18.5 +0.2**
HHC AMB AMB
comp=Z,97nm,9.4s
HHC LR LR
comp=N,120nm,20.2s
HHC LR LR
comp=E,130nm,20.3s
HHC LR LR
comp=Z,140nm,20.5s
KURK Kurchatov 126.28 358 PKP PKPdf 11 19 28.5 -1.0
KURBB Kurchatov Arra 126.37 358 PKP PKPdf 11 19 28.5 -1.2
0.2nm,0.3s,baz=356,slow=2.9,SNR=4.2
WMQ Urumqi 132.09 349 *e*PKP PKPdf 11 19 40.5 -0.4
LZH Lanzhou 133.17 329 *e*PKP PKPdf 11 19 42.3 -1.0
LZH sPKP 11 19 46.8
LZH LR LR
comp=N,140nm,18.0s
LZH LR LR
comp=E,150nm,18.2s
LZH LR LR
comp=Z,170nm,20.3s
CD2 Chengdu 137.11 324 *e*PKP PKPdf 11 19 49.1 -1.6
GYA Guiyang 138.34 317 *e*Pdif Pdif 11 17 01.0 -2.2
GYA PKP **PKPdf 11 19 51.6 -1.5**
GYA PP **PP 11 22 44.8 +3.0**
GYA AMB AMB
comp=Z,70nm,7.8s
KMI Kunming 141.86 319 PKP PKPdf 11 19 59.4 -0.3
KMI pPKP **pPKPdf 11 20 03.0 -0.1**
KMI LR LR
comp=N,250nm,18.4s
KMI LR LR
comp=E,390nm,20.1s
KMI LR LR
comp=Z,600nm,19.3s
CMAR Chiang Mai Arr 148.95 315 PKPbc PKPdf 11 20 12.2 +0.5
CMAR Chiang Mai Arr 148.95 315 PKPbc PKPdf 11 20 12.2 +0.5
0.4nm,0.4s,baz=14,slow=4.0,SNR=7.9

MEX 12 11:09:56.8±0.9, 17.85N×100.50W, h44km±22km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.82**	**165**	*i* P	Pn	11 10 10.0	-2.0
CAIG				*i* S	Sn	11 10 21.3	-1.7
MEIG	**Mezcala**	**0.84**	**84**	*e*P	Pn	11 10 10.4	-1.9
MEIG				*i* S	Sn	11 10 22.1	-1.5
PLIG	**Platanillo**	**1.09**	**60**	*i* P	Pn	11 10 14.1	-1.7
PLIG				*i* S	Sn	11 10 27.0	-2.8
ACX	**Acapulco**	**1.15**	**148**	*i* P	Pn	11 10 18.5	+2.1
ACX				*i* S	Sn	11 10 33.2	+2.2
YAIG	**Yautepec**	**1.69**	**53**	*e*P	Pn	11 10 21.7	-2.4
YAIG				*i* S	Sn	11 10 43.0	-1.8
TLIG	**Tlapa**	**1.86**	**98**	*e*P	Pn	11 10 25.5	-0.9
TLIG				*i* S	Sn	11 10 47.1	-1.8
MOIG	**Morelia**	**1.94**	**340**	*i* P	Pn	11 10 26.3	-1.3
MOIG				*i* S	Sn	11 10 49.5	-1.4
PPM	**Popocatepetl**	**2.15**	**55**	*e*P	Pn	11 10 29.4	-1.5
PPM				*i* S	Sn	11 10 55.2	-1.6
VHO	**Vista Hermosa**	**3.67**	**102**	*i* P	Pn	11 10 50.2	-1.2
VHO				*i* S	Sn	11 11 31.1	-2.5

*IDC **12** 11:12:24.4±1.3, 16°.31N×86°.39W, h0km, mb3.7/7, mb1 4.1/9, mb1mx3.9/25, mbtmp3.8/9, ML4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/33, Error ellipse: s-maj=45.8km s-min=22.2km az=53.0*
*ISCJB **12** 11:12:27.2±0.8, 16°.19N±0°.06×86°.58W±0°.08, h33km, mb3.7/6, MS2.7/2, Error ellipse: s-maj=10.8km s-min=8.9km az=165.9*
ISC 12 11:12:29.2±0.8, 16°.21N±0°.08×86°.6W±0°.1, h35km, n15, σ2s09/13, mb3.7/6, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**3.88**	**253**	Pn	Pn	11 13 16.1	-10
2.8nm,0.3s,baz=103,slow=10,SNR=18							
APG				Sn	**Sn**	**11 14 12.3**	**+1.4**
19nm,0.3s,baz=65,slow=21,SNR=6.9							
TEIG	**Tepich**	**4.29**	**339**	Pn	**Pn**	**11 13 32.7**	**+0.8**
25nm,0.3s,baz=145,slow=1.1,SNR=31							
TEIG				Sn	**Sn**	**11 14 23.0**	**+2.2**
73nm,0.3s,baz=244,slow=23,SNR=29							
JTS	**JuntasAbangare**	**6.11**	**164**	Pn	**Pn**	**11 13 57.3**	**+0.3**
1.9nm,0.3s,baz=342,slow=13,SNR=10							
JTS				Sn	Sn	11 15 19.0	+13
1.8nm,0.3s,baz=289,slow=18,SNR=2.4							
TXAR	**Lajitas Array**	**20.39**	**313**	P	Pn	11 17 04.8	-0.7
3.5nm,0.9s,baz=129,slow=11,SNR=29							
TXAR				S	**S**	**11 20 44.4**	**-5.5**
0.1nm,0.4s,baz=252,slow=41,SNR=3.3							
LPIG	**La Paz**	**23.54**	**293**	LR	LR	11 26 40.0	
comp=Z,15nm,28.6s,baz=68,slow=36							
PDAR	**Pinedale Array**	**32.93**	**328**	P	**P**	**11 19 00.8**	**+0.2**
0.3nm,0.6s,baz=129,slow=7.1,SNR=2.8							
NVAR	**Mina Array Bea**	**35.52**	**315**	P	**P**	**11 19 24.9**	**+1.9**
0.8nm,0.8s,baz=126,slow=9.3,SNR=4.0							
YKA	**Yellowknife Ar**	**50.23**	**344**	P	**P**	**11 21 22.1**	**+0.6**
0.8nm,0.7s,baz=139,slow=7.4,SNR=14							
ILAR	**Eielson Array**	**62.94**	**335**	P	**P**	**11 22 50.7**	**-1.1**
0.5nm,1.0s,baz=144,slow=2.3,SNR=5.4							
EKA	**Eskdalemuir Ar**	**73.14**	**36**	P	**P**	**11 23 55.8**	**-0.3**
2.5nm,1.0s,baz=286,slow=5.1,SNR=3.4							
NOA	**NORSAR Array B**	**79.72**	**29**	LR	LR	11 59 39.0	
comp=Z,16nm,28.6s,baz=280,slow=36							
TORD	**Torodi Ar. Bea**	**84.84**	**78**	P	**P**	**11 25 00.6**	**-0.4**
0.3nm,0.5s,baz=291,slow=4.5,SNR=3.1							
WRA	**Warramunga Arr**	**140.93**	**258**	PKP	**PKPdf**	**11 31 55.6**	**-0.8**
0.9nm,1.1s,baz=88,slow=2.1,SNR=4.4							
ASAR	**Alice Springs**	**141.27**	**252**	PKhKP	PKPpre	11 31 54.0	
0.6nm,0.8s,baz=124,slow=1.9,SNR=5.6							
CMAR	**Chiang Mai Arr**	**145.12**	**351**	PKPbc	**PKPab**	**11 32 03.5**	**+0.1**
0.7nm,0.8s,baz=318,slow=3.6,SNR=4.3							

*ISCJB **12** 11:13:44.6±0.5, 60°.15N±0°.03×27°.18E±0°.07, h0km, Error ellipse: s-maj=5.1km s-min=3.5km az=17.0*
*BER **12** 11:13:45.7±2.6, 60°.16N×27°.33E, h0km, ML2.6(NAO), Suspected explosion*
*CSEM **12** 11:13:46.1±0.3, 60°.18N×27°.16E, h2km, ML2.3, Error ellipse: s-maj=6.1km s-min=4.1km az=123.0, Mining explosion.*
*HEL **12** 11:13:46.5±0.1, 60°.16N×27°.19E, h0km, ML2.3, Explosion*
*NAO **12** 11:13:46.3±1.1, 60°.15N×27°.12E, ML2.6*
*IDC **12** 11:13:48.3±0.9, 60°.23N×27°.05E, h0km, mb1 3.4/4, mb1mx3.1/28, mbtmp3.3/4, ML3.5/3, Error ellipse: s-maj=10.7km s-min=6.6km az=82.0*
ISC 12 11:13:44.5±0.7, 60°.15N±0°.02×27°.05E±0°.04, h0km, n40, σ1s28/67, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.47**	**33**	*e*P	**Pg**	**11 13 53.9**	**+0.4**
VJF				*e*S	**Sg**	**11 13 59.7**	**+0.2**
VJF	**Virojoki**	**0.47**	**33**	P	**Pg**	**11 13 53.8**	**+0.4**
VJF				S	**Sg**	**11 13 59.7**	**+0.2**
PVF	**Pernaja**	**0.71**	**305**	*e*P	**Pb**	**11 14 00.1**	**+0.4**
PVF				*e*S	**Sb**	**11 14 09.7**	**-0.3**
PVF	**Pernaja**	**0.71**	**305**	P	**Pb**	**11 14 00.1**	**+0.4**
PVF				S	**Sb**	**11 14 09.7**	**-0.3**
MEF	**Metsahovi**	**1.33**	**274**	*e*P	**Pb**	**11 14 11.4**	**+1.2**
MEF				*e*S	**Sn**	**11 14 29.4**	**+0.9**
MEF				MSG		11 14 34.7	
comp=Z,38nm,0.2s							
MEF	**Metsahovi**	**1.33**	**274**	P	**Pb**	**11 14 11.4**	**+1.2**
MEF				S	**Sn**	**11 14 29.4**	**+0.9**
FIA0	**FINESS Array S**	**1.38**	**340**	Pg	**Pn**	**11 14 11.0**	**-0.1**
baz=158,slow=18							
FIA0				Lg	Lg	11 14 30.2	
baz=165,slow=37							
FIA0				Rg	Rg	11 14 38.1	
baz=155,slow=37							
FIA0	**FINESS Array S**	**1.38**	**340**	Pg	**Pn**	**11 14 11.0**	**-0.1**
baz=158,slow=18							
FIA0				Lg	Lg	11 14 30.2	
baz=165,slow=37							
FIA0				Rg	Rg	11 14 38.1	
baz=155,slow=37							
FIA0	**FINESS Array S**	**1.38**	**340**	*e*P	**Pn**	**11 14 11.0**	**-0.1**
FIA0				*e*S	**Sb**	**11 14 29.8**	**+0.3**
FIA0				MSG		11 14 34.1	
comp=Z,38nm,0.2s							
FIA0	**FINESS Array S**	**1.38**	**340**	P	**Pn**	**11 14 10.9**	**-0.1**
FIA0				S	**Sb**	**11 14 29.7**	**+0.3**
FIA0				Lg	Lg	11 14 30.2	
baz=165,slow=33,SNR=4.4							
FINES	**FINESS Array B**	**1.38**	**340**	Pg	**Pn**	**11 14 10.9**	**-0.1**
comp=Z,8.5nm,0.3s,baz=159,slow=15,SNR=230							
FINES				Lg	Lg	11 14 30.2	
comp=Z,19nm,0.3s,baz=161,slow=26,SNR=29							
VSU	**Vasula**	**1.70**	**186**	Pg	**Pb**	**11 14 17.0**	**+0.4**
VSU				Lg	Lg	11 14 38.8	
VSU	**Vasula**	**1.70**	**186**	Pg	**Pb**	**11 14 17.0**	**+0.4**
VSU				Lg	Lg	11 14 38.8	
VSU	**Vasula**	**1.70**	**186**	*e*P	**Pg**	**11 14 17.2**	**+0.1**
VSU				*e*S	**Sb**	**11 14 38.8**	**+0.3**
VSU	**Vasula**	**1.70**	**186**	P	**Pg**	**11 14 17.1**	**+0.1**
VSU				S	**Sb**	**11 14 38.7**	**+0.3**
KAF	**Kangasniemi**	**2.00**	**350**	*e*P	**Pb**	**11 14 21.5**	**-0.3**
KAF				*e*S	**Sb**	**11 14 46.9**	**-0.3**
KAF				MSG		11 14 50.0	
comp=Z,17nm,0.2s							
KAF	**Kangasniemi**	**2.00**	**350**	P	**Pb**	**11 14 21.4**	**-0.3**
KAF				S	**Sb**	**11 14 46.9**	**-0.3**
MTSE	**Matsula**	**2.19**	**230**	*e*P	**Pb**	**11 14 25.6**	**+0.6**
MTSE				*e*S	**Sb**	**11 14 53.1**	**+0.6**
MTSE	**Matsula**	**2.19**	**230**	P	**Pb**	**11 14 25.5**	**+0.6**
MTSE				S	**Sb**	**11 14 53.1**	**+0.6**
KEF	**Keuruu**	**2.28**	**333**	*e*P	**Pb**	**11 14 26.4**	**-0.1**
KEF				*e*S	**Sb**	**11 14 54.7**	**-0.6**
KEF	**Keuruu**	**2.28**	**333**	P	**Pb**	**11 14 26.4**	**-0.1**
KEF				S	**Sb**	**11 14 54.7**	**-0.6**
SUF	**Sumiainen**	**2.62**	**351**	*e*P	**Pn**	**11 14 30.1**	**+2.1**
SUF				*e*S	**Sn**	**11 15 01.8**	**+1.4**
SUF	**Sumiainen**	**2.62**	**351**	P	**Pn**	**11 14 30.0**	**+2.1**
SUF				S	**Sn**	**11 15 01.7**	**+1.4**
RAF	**Rauma**	**2.75**	**291**	*e*P	**Pb**	**11 14 32.9**	**-1.6**
RAF				*e*S	**Sn**	**11 15 06.2**	**+2.6**
RAF	**Rauma**	**2.75**	**291**	P	**Pb**	**11 14 32.9**	**-1.6**
RAF				S	**Sn**	**11 15 06.2**	**+2.6**
JOF	**Joensuu**	**3.45**	**34**	*e*P	**Pn**	**11 14 40.7**	**+1.2**
JOF				*e*S	**Sn**	**11 15 20.0**	**-0.9**
JOF	**Joensuu**	**3.45**	**34**	P	**Pn**	**11 14 40.6**	**+1.2**
JOF				S	**Sn**	**11 15 20.0**	**-0.9**
HFS	**Hagfors**	**6.67**	**276**	Pn	**Pn**	**11 15 24.9**	**+1.3**
baz=84,slow=14							
HFS				Sn	**Sn**	**11 16 39.1**	**-1.1**
baz=94,slow=28							
HFS				Lg	Lg	11 17 16.3	
baz=69,slow=37							
HFS	**Hagfors**	**6.67**	**276**	Pn	**Pn**	**11 15 24.9**	**+1.3**
baz=84,slow=14							
HFS				Sn	**Sn**	**11 16 39.1**	**-1.1**
baz=94,slow=28							
HFS				Lg	Lg	11 17 16.3	
baz=69,slow=37							
HFS	**Hagfors**	**6.67**	**276**	Pn	**Pn**	**11 15 24.9**	**+1.3**
baz=84,slow=13,SNR=8.0							
HFS	**Hagfors**	**6.67**	**276**	Pn	**Pn**	**11 15 25.2**	**+1.6**
comp=Z,0.2nm,0.3s,baz=79,slow=15,SNR=14							
HFS				Sn	**Sn**	**11 16 38.0**	**-2.3**
comp=Z,0.2nm,0.3s,baz=76,slow=18,SNR=3.3							
HFS				Lg	Lg	11 17 16.3	
comp=Z,1.0nm,0.3s,baz=84,slow=28,SNR=7.4							
NB2	**NORSAR Subarra**	**7.84**	**283**	Pn	**Pn**	**11 15 41.4**	**+1.6**
baz=89,slow=14							
NB2	**NORSAR Subarra**	**7.84**	**283**	Pn	**Pn**	**11 15 41.4**	**+1.6**
baz=89,slow=14							
NB2	**NORSAR Subarra**	**7.84**	**283**	Pn	**Pn**	**11 15 41.3**	**+1.6**
baz=89,slow=14,SNR=7.9							
NOA	**NORSAR Array B**	**7.84**	**283**	Pn	**Pn**	**11 15 41.3**	**+1.6**
comp=Z,0.4nm,0.3s,baz=92,slow=17,SNR=25							
NOA				Sn	**Sn**	**11 17 05.9**	**-3.2**
comp=Z,0.2nm,0.3s,baz=140,slow=21,SNR=3.1							
NOA				Lg	Lg	11 17 51.5	
comp=Z,0.5nm,0.3s,baz=173,slow=19,SNR=3.1							
ARA0	**ARCESS Array S**	**9.45**	**357**	Pn	**Pn**	**11 16 00.8**	**-0.9**
baz=168,slow=16							
ARA0	**ARCESS Array S**	**9.45**	**357**	Pn	**Pn**	**11 16 00.8**	**-0.9**
baz=168,slow=16							
ARA0	**ARCESS Array S**	**9.45**	**357**	Pn	**Pn**	**11 16 00.8**	**-0.9**
baz=168,slow=14,SNR=1.2							
ARCES	**ARCESS Array B**	**9.45**	**357**	Pn	**Pn**	**11 16 01.1**	**-0.6**
comp=Z,0.3nm,0.3s,baz=172,slow=14,SNR=27							
AKASG	**Malin Array Be**	**9.55**	**172**	Pn	**Pn**	**11 16 02.8**	**-0.3**
comp=Z,1.4nm,0.3s,baz=350,slow=13,SNR=5.3							
AKASG				Sn	**Sn**	**11 17 46.2**	**-4.8**
comp=Z,0.7nm,0.3s,baz=168,slow=24,SNR=4.6							
AKASG				Lg	Lg	11 18 55.3	
comp=Z,0.3nm,0.3s,baz=236,slow=48,SNR=2.1							

*IDC **12** 11:33:23.0±1.1, 26°.05N×35°.48E, h0km, mb3.8/13, mb1 3.8/17, mb1mx3.7/30, mbtmp3.7/17, ML3.1/4, MS3.3/4, Ms1 3.3/4, ms1mx2.8/47, Error ellipse: s-maj=23.8km s-min=18.0km az=146.0*
*ISCJB **12** 11:33:23.2±0.7, 26°.08N±0°.06×35°.6E±0°.1, h10km, mb3.8/15, MS3.3/3, Error ellipse: s-maj=13.6km s-min=8.8km az=13.9*
ISC 12 11:33:24.4±1.0, 26°.04N±0°.10×35°.5E±0°.1, h10km, n26, σ1s39/26, mb3.8/15, MS3.3/3, 3C-2D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIL	**Elat**	**3.65**	**353**	Pn	**Pn**	**11 34 19.6**	**-1.4**
0.9nm,0.3s,baz=192,slow=13,SNR=10							
EIL				Sn	**Sn**	**11 35 04.0**	**-0.1**
1.7nm,0.3s,baz=203,slow=15,SNR=3.1							
ASF	**Jabal al Asfar**	**6.24**	**11**	Pn	**Pn**	**11 34 56.1**	**-0.5**
0.7nm,0.3s,baz=204,slow=16,SNR=4.5							
ASF				Sn	**Sn**	**11 36 07.6**	**-0.5**
0.5nm,0.3s,baz=194,slow=16,SNR=2.1							
MMAI	**Mount Meron Ar**	**6.95**	**360**	Pn	**Pn**	**11 35 06.6**	**+0.2**
1.3nm,0.3s,baz=160,slow=12,SNR=5.1							
BRTR	**Keskin Array B**	**13.74**	**354**	Pn	**Pn**	**11 36 39.0**	**-0.4**
0.0nm,0.3s,baz=178,slow=9.9,SNR=2.6							
GNI	**Garni**	**16.06**	**27**	LR	LR	11 43 24.9	
comp=Z,47nm,18.9s,baz=89,slow=38							
ARR	**Arges**	**21.16**	**338**	⇑*i*P	**P**	**11 38 11.4**	**+1.6**
GZR	**Gura Zlata**	**21.84**	**335**	⇑*i*P	**P**	**11 38 21.4**	**+4.3**
BZS	**Buzias**	**22.48**	**334**	⇓*i*P	**P**	**11 38 24.1**	**+0.3**
BURAR	**Bucovina Array**	**23.01**	**342**	⇑*i*P	**P**	**11 38 32.3**	**+2.8**
DRGR		**23.06**	**337**	⇓*i*P	**P**	**11 38 32.2**	**+2.1**
KEST	**Kesra**	**24.36**	**300**	P	**P**	**11 38 43.5**	**+0.8**
3.1nm,0.9s,baz=79,slow=7.4,SNR=4.7							
AKASG	**Malin Array Be**	**25.09**	**351**	P	**P**	**11 38 49.0**	**0.0**
1.7nm,0.5s,baz=173,slow=8.5,SNR=12							
GERES	**GERESS Array B**	**28.40**	**329**	P	**P**	**11 39 19.9**	**+0.8**
1.5nm,0.9s,baz=144,slow=9.8,SNR=7.5							
BRG	**Berggiesshubel**	**29.77**	**332**	*e*(P)	**P**	**11 39 32.6**	**+1.5**
6.8nm,0.9s							
AKTO	**Aktyubinsk**	**29.89**	**29**	LR	LR	11 53 09.8	
comp=Z,59nm,19.2s,baz=76,slow=40							
CLL	**Collm**	**30.49**	**332**	*i* (P)	**P**	**11 39 39.0**	**+1.5**
comp=Z,4.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**34.20**	**255**	P	**P**	**11 40 10.4**	**0.0**
comp=Z,0.8nm,1.1s,baz=60,slow=8.7,SNR=4.1							
TORD				LR	LR	11 55 50.2	
comp=Z,52nm,18.1s,baz=340,slow=39							
FINES	**FINESS Array B**	**35.97**	**352**	P	**P**	**11 40 25.4**	**+0.3**
comp=Z,1.0nm,0.7s,baz=163,slow=9.8,SNR=3.1							
FINES				LR	LR	11 57 40.1	
comp=Z,84nm,20.7s,baz=329,slow=40							
NOA	**NORSAR Array B**	**38.69**	**341**	P	**P**	**11 40 47.6**	**-0.6**

comp=Z,0.5nm,0.7s,baz=143,slow=8.2,SNR=4.3
KURBB Kurchatov Arra 40.95 42 P **P 11 41 07.8 +0.6**
comp=Z,0.9nm,0.7s,baz=254,slow=8.3,SNR=7.3
MKAR Makanchi Array 42.25 48 P **P 11 41 17.7 -0.2**
comp=Z,0.9nm,0.7s,baz=256,slow=7.9,SNR=7.8
DBIC Dimbokro 42.98 251 P **P 11 41 23.3 -0.8**
comp=Z,2.3nm,0.7s,baz=62,slow=11,SNR=3.0
ZALV Zalesovo Beam 45.68 39 P **P 11 41 44.5 -0.8**
comp=Z,0.4nm,0.3s,baz=258,slow=7.2,SNR=2.4
SONM Songino Array 58.62 48 P **P 11 43 21.8 0.0**
comp=Z,0.5nm,0.8s,baz=274,slow=10.0,SNR=4.3
MJAR Matsushiro Arr 84.31 52 P **P 11 45 57.5 +0.6**
comp=Z,0.4nm,0.5s,baz=297,slow=5.3,SNR=2.9
YKA Yellowknife Ar 88.59 347 P **P 11 46 17.3 0.0**
comp=Z,0.2nm,0.7s,baz=28,slow=5.3,SNR=4.2

IDC 12 11:35:15.5±7.2, 13°.97N×94°.28E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/27, mbtmp3.6/4, Error ellipse: s-maj=465.1km s-min=21.9km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**34.23**	**345**	P	P	11 42 03.5	+0.5
	0.3nm,0.5s,baz=161,slow=9.0,SNR=6.2						
KURBB	**Kurchatov Arra**	**38.73**	**344**	P	P	11 42 40.7	-0.6
	0.3nm,0.6s,baz=162,slow=8.2,SNR=3.3						
WRA	**Warramunga Arr**	**51.85**	**130**	P	P	11 44 25.9	0.0
	0.6nm,0.6s,baz=310,slow=7.9,SNR=6.1						
ASAR	**Alice Springs**	**53.85**	**134**	P	P	11 44 40.5	-0.2
	0.8nm,0.5s,baz=312,slow=6.8,SNR=16						

WBNET 12 11:44:45.7, 50°.22N×12°.41E, h12km, Ml0.4, 2C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAC	**Vackov**	**0.03**	**309**	⇓P	Pg	11 44 47.8	-0.2
VAC				S	Sg	11 44 49.3	-0.3
NKC	**Novy Kostel**	**0.03**	**63**	P	Pg	11 44 47.8	-0.2
NKC				S	Sg	11 44 49.4	-0.3
LBCW	**Luby**	**0.05**	**4**	⇓P	Pg	11 44 48.0	-0.2
LBCW				S	Sg	11 44 49.7	-0.2
SKC	**Skalna**	**0.06**	**210**	⇑P	Pg	11 44 48.0	-0.3
SKC				S	Sg	11 44 49.6	-0.4
KVC	**Kvetna**	**0.07**	**101**	P	Pg	11 44 48.0	-0.4
KVC				S	Sg	11 44 49.6	-0.7
STCW	**Studenec**	**0.08**	**62**	⇓P	Pg	11 44 48.2	-0.3
STCW				S	Sg	11 44 50.0	-0.6
POCW	**Po¯¡tky**	**0.10**	**7**	⇓P	Pg	11 44 48.6	-0.2
POCW				S	Sg	11 44 50.7	-0.3
KACW	**Kace¯ov**	**0.10**	**137**	S	Sg	11 44 50.5	-0.4
KOCW	**Kopaniny**	**0.12**	**292**	⇓P	Pg	11 44 48.8	-0.2
KOCW				S	Sg	11 44 50.9	-0.4
KRCW	**Kraslice**	**0.14**	**35**	⇓P	Pg	11 44 48.9	-0.3
KRCW				S	Sg	11 44 51.2	-0.5
ZHC	**Zelena Hora**	**0.16**	**203**	⇑P	Pg	11 44 49.3	-0.3
ZHC				S	Sg	11 44 51.8	-0.5
LACW	**Lazy**	**0.22**	**140**	S	Sg	11 44 53.4	-0.5

*BJI **12** 11:51:20.7, 16°.87N×73°.52E, h10km, mB5.0/35, mb5.0/50, Ms4.8/47, Ms7 4.5/43*
*IDC **12** 11:51:24.4±0.4, 17°.15N×73°.85E, h0km, mb4.6/42, mb1 4.7/42, mb1mx4.6/44, mbtmp4.6/42, MS4.0/28, Ms1 4.0/28, ms1mx3.9/44, Error ellipse: s-maj=10.8km s-min=9.4km az=14.0*
*ISCJB **12** 11:51:24.0±0.7, 17°.19N±0°.03×73°.79E±0°.02, h9km±4km, mb4.8/138, MS4.2/45, Error ellipse: s-maj=4.3km s-min=3.6km az=0.5*
*NDI **12** 11:51:25.4±2.9, 17°.14N×73°.81E, h10km, ML5.0, mb5.1(NEIC)*
*GCMT **12** 11:51:25.1±0.3, 17°.02N×73°.74E, h12km, MW4.8, Moment Tensor Solution. s21,c21; s69,c89; Moment tensor: Scale 10¹⁶Nm; Mrr=2.30±.07; Mθθ 0.46±.08; Mϕϕ 1.84±.08; Mrθ 0.38±.37; Mθϕ -0.78±.07; Mϕr -0.04±.31; Best double couple: M₀2.30000×10¹⁶ NP1:φs328.00000°, δ48.00000°, λ-100.00000°. NP2:φs163.00000°, δ43.00000°, λ-79.00000°. Principal axes: T 2.2000, Plg2.0000°, Azm65.0000°; N 0.1500, Plg8.0000°, Azm335.0000°; P -2.3500, Plg82.0000°, Azm173.0000°; Data Used: IU II G IC CN CU.*
*NEIC **12** 11:51:25.8±0.2, 17°.13N×73°.77E, h10km, mb5.1/45 Error ellipse: s-maj=5.4km s-min=4.4km az=202.0*
NEIC Several buildings damaged in the Satara area. Felt strongly at Kolhapur and [II] at Bombay and Pune.
*SZGRF **12** 11:51:26.5, 16°.64N×72°.82E, h33km, mb4.8, Arabian Sea*
*MOS **12** 11:51:27.3±0.9, 17°.12N×73°.71E, h33km, mb5.3/56, MS4.2/4, Error ellipse: s-maj=7.1km s-min=3.9km az=113.8*
*BKK **12** 11:51:29.1±0.3, 17°.N±10°×7°.4E±°, h10km, M4.8/18, mB5.4/13, mb4.7/18, Mw(mB)4.9/13*

ISC 12 11:51:27.0±0.4, 17°.21N±0°.03×73°.82E±0°.03, h16km±1km, n478, σ1¤46/524, mb5.0/138, MS4.2/46, 34C-7D, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAD	**Karad**	**0.36**	**75**	*i* P	**Pg**	**11 51 33.1**	**-1.4**
KAD				*i* S	**Sg**	**11 51 39.1**	**-0.5**
POO	**Poona**	**1.31**	**1**	⇓*i* Pg	**Pn**	**11 51 50.0**	**-0.7**
POO				*i* S*	**Sn**	**11 52 06.5**	**-1.4**
POO				*i* Sg	**Sb**	**11 52 07.0**	**-0.9**
POO				*i* Sn	**Sg**	**11 52 08.0**	**-1.4**
POO	**Poona**	**1.31**	**1**	*e*P	**Pn**	**11 51 50.9**	**+0.2**
POO				AML	AML	11 52 09.5	
	comp=E,36μm,0.6s						
POO				*e*S	**Sg**	**11 52 09.6**	**+0.2**
POO				AML	AML	11 52 10.8	
	comp=N,47μm,1.2s						
GOA	**Goa**	**1.71**	**180**	*e*P	**Pn**	**11 51 55.2**	**-1.0**
GOA				*e*S	**Sn**	**11 52 15.8**	**-1.9**
MNGI	**Mangalore**	**4.36**	**167**	*ex*	**Pb**	**11 52 43.8**	**+0.6**
HYB	**Hyderabad**	**4.53**	**87**	*i* Pn	**Pn**	**11 52 33.0**	**-1.9**
HYB				*e*Pg	**Pb**	**11 52 46.0**	**-0.1**
HYB				*e*Sn	**Sn**	**11 53 24.5**	**-2.8**
HYB				*e*Sg	**Sb**	**11 53 44.0**	**+3.5**
HYB	**Hyderabad**	**4.53**	**87**	⇑*i* P	**Pn**	**11 52 33.6**	**-1.3**
HYB				*ex*	**Sn**	**11 53 24.2**	**-3.0**
NGP	**Nagpur**	**6.30**	**51**	*e*P	**Pn**	**11 53 00.3**	**+0.9**
NGP				*ex*	**Sn**	**11 54 08.2**	**-3.0**
BHPL	**Bhopal**	**6.88**	**29**	*e*P	**Pn**	**11 53 08.2**	**+0.8**
BHPL				*ex*	**Sn**	**11 54 23.3**	**-2.1**
BHJ	**Bhuj**	**7.17**	**328**	*e*P	**Pn**	**11 53 11.6**	**+0.4**
BHJ				*e*S	**Sn**	**11 54 29.0**	**-3.4**
JBP	**Jabalpur**	**8.28**	**43**	*i* P	**Pn**	**11 53 26.1**	**-0.4**
JBP				*ex*	Sn	11 54 53.4	-6.3
VIS	**Vishakhapatnam**	**9.09**	**85**	*e*P	**Pn**	**11 53 36.6**	**-1.0**
VIS				*ex*	**Sn**	**11 55 16.9**	**-2.8**
TRD	**Trivandrum**	**9.18**	**160**	*ex*	**Pn**	**11 53 36.2**	**-2.6**
TRD				*ex*	**Sn**	**11 55 21.7**	**-0.2**
AJM	**Ajmer**	**9.25**	**5**	*e*	x	11 54 27.0	
BWNR	**Bhubaneshwar**	**11.76**	**73**	*e*	**Sn**	**11 56 25.0**	**-0.2**
NDI	**New Delhi**	**11.84**	**15**	*ex*	Pn	11 54 11.0	-4.2
NDI				*ex*	x	11 56 11.0	
NDI				*ex*	x	11 57 30.0	
PALK	**Pallekele**	**11.95**	**145**	Pn	**Pn**	**11 54 14.9**	**-1.9**
	comp=N,242nm,1.0s,SNR=6.3						
PALK	**Pallekele**	**11.95**	**145**	*e*Pn	Pn	11 54 13.3	-3.5
PALK				*e*Sn	Sn	11 56 22.9	-7.0
BOK	**Bokaro**	**13.06**	**58**	*e*P	**Pn**	**11 54 30.1**	**-1.8**
BOK				*ex*	x	11 56 47.4	
LGTI	**Lohaghat**	**13.53**	**25**	*e*P	**Pn**	**11 54 38.1**	**-0.2**
LGTI				*e*		11 58 26.2	
DDI	**Dehra Dun**	**13.61**	**16**	*e*P	**Pn**	**11 54 39.9**	**+0.4**
DDI				*ex*	x	11 57 01.8	
DDI				AML	AML	11 58 40.1	
	comp=E,1μm,2.1s						
DDI				AML	AML	11 58 47.2	
	comp=N,652nm,1.1s						
PYUN	**Piuthan**	**13.74**	**36**	*e*P	Pn	11 54 37.9	-3.5
	comp=N,181nm,0.7s						
PYUN	**Piuthan**	**13.74**	**36**	*e*P	Pn	11 54 37.9	-3.5
	comp=N,181nm,0.6s						
KOLN	**Koldanda**	**13.85**	**39**	*e*P	Pn	11 54 39.1	-3.8
	comp=N,107nm,0.3s						
KOLN	**Koldanda**	**13.85**	**39**	*e*P	Pn	11 54 39.1	-3.8
	comp=N,107nm,0.3s						
SMLA	**Simla**	**14.18**	**12**	*e*P	**Pn**	**11 54 45.5**	**-1.7**
SMLA				*i* x	x	11 57 15.6	
SMLA				AML	AML	11 58 57.1	
	comp=N,586nm,0.6s						
SMLA				AML	AML	11 58 57.1	
	comp=E,842nm,1.0s						
BHK	**Bhakra**	**14.34**	**9**	*ex*	Pn	11 54 46.2	-3.2
BHK				*e*	**S**	**11 57 44.8**	**-3.5**
DANN	**Dangsing**	**14.37**	**38**	*e*P	Pn	11 54 46.0	-4.2
	comp=E,49nm,0.3s						
DANN	**Dangsing**	**14.37**	**38**	*e*P	Pn	11 54 46.0	-4.2
	comp=E,49nm,0.3s						
SDNR	**Sundarnagar**	**14.51**	**11**	*e*P	**Pn**	**11 54 50.0**	**-1.8**
SDNR				*e*		11 58 58.0	
GKN	**Gorkha**	**14.65**	**41**	*e*P	Pn	11 54 49.9	-4.0
	comp=E,363nm,0.8s						
GKN	**Gorkha**	**14.65**	**41**	*e*P	Pn	11 54 49.9	-4.0
	comp=E,363nm,0.8s						
DMN	**Daman**	**14.68**	**43**	*e*P	Pn	11 54 50.5	-3.9
	comp=E,165nm,0.7s						
DMN	**Daman**	**14.68**	**43**	*e*P	Pn	11 54 50.5	-3.9
	comp=E,165nm,0.7s						
PKIN	**Phulchoki**	**14.85**	**44**	*e*P	Pn	11 54 52.2	-4.5
	comp=E,115nm,0.6s						
PKI	**Pulchoki**	**14.86**	**44**	*e*P	Pn	11 54 52.5	-4.3
	comp=E,180nm,0.6s						
PKI	**Pulchoki**	**14.86**	**44**	*e*P	Pn	11 54 52.5	-4.3
PKI				pmax	pmax		
	comp=Z,181nm,0.6s						
PKI	**Pulchoki**	**14.86**	**44**	*e*P	Pn	11 54 52.5	-4.3
	comp=Z,180nm,0.6s						
KKN	**Kakani**	**14.92**	**43**	*e*P	Pn	11 54 53.2	-4.4
	comp=Z,214nm,0.6s						
KKN	**Kakani**	**14.92**	**43**	*e*P	Pn	11 54 53.2	-4.4
KKN				pmax	pmax		
	comp=Z,214nm,0.6s						
KKN	**Kakani**	**14.92**	**43**	*e*P	Pn	11 54 53.2	-4.4
	comp=Z,214nm,0.6s						
DHRM	**DHARAMSHALA**	**15.14**	**8**	*e*P	**Pn**	**11 54 59.4**	**-1.1**
DHRM				*ex*	x	11 57 42.5	
DHRM				AML	AML	11 59 40.2	
	comp=E,1μm,0.5s						
DHRM				AML	AML	11 59 42.5	
	comp=N,1μm,0.5s						
RAMN	**Ramite**	**15.29**	**48**	*e*P	**Pn**	**11 54 58.8**	**-3.7**
	comp=N,107nm,0.5s						
RAMN	**Ramite**	**15.29**	**48**	*e*P	**Pn**	**11 54 58.8**	**-3.7**
	comp=N,107nm,0.5s						
GUN	**Gumba**	**15.39**	**44**	*e*P	**Pn**	**11 54 59.4**	**-4.6**
	comp=N,148nm,0.7s						
GUN	**Gumba**	**15.39**	**44**	*e*P	**Pn**	**11 54 59.4**	**-4.6**
	comp=N,148nm,0.7s						
JIRN	**Jiri**	**15.44**	**46**	*e*P	**Pn**	**11 55 00.5**	**-4.1**
	comp=N,126nm,0.4s						
THW	**Thamme Wali**	**15.63**	**353**	P	**Pn**	**11 55 03.7**	**-3.0**
ODAN	**Odare**	**15.81**	**50**	*e*P	**Pn**	**11 55 05.8**	**-3.5**
	comp=N,214nm,0.7s						
ODAN	**Odare**	**15.81**	**50**	*e*P	**Pn**	**11 55 05.8**	**-3.5**
	comp=N,214nm,0.7s						
TAPN	**Taplejung**	**16.32**	**49**	*e*P	**Pn**	**11 55 12.7**	**-3.3**
	comp=N,232nm,0.7s						
TAPN	**Taplejung**	**16.32**	**49**	*e*P	**Pn**	**11 55 12.7**	**-3.3**
	comp=N,232nm,0.7s						
CHCP	**Chirah Chowk**	**16.38**	**358**	P	**Pn**	**11 55 12.6**	**-3.8**
CEP	**Cherat**	**16.63**	**354**	P	**Pn**	**11 55 16.6**	**-3.0**
KBL	**Kabul**	**17.78**	**347**	*e*P	**P**	**11 55 35.6**	**+0.8**
KBL				pmax	pmax		
	comp=Z,100nm,1.5s						
KBL	**Kabul**	**17.78**	**347**	*e*P	**P**	**11 55 35.6**	**+0.8**
	comp=Z,100nm,1.5s						
UOSS	**Wadi Hilu**	**18.14**	**298**	P	**P**	**11 55 39.3**	**+0.7**
	comp=Z,58nm,1.4s,SNR=5.0						
HATD	**Hatta, Dubai**	**18.16**	**298**	P	**P**	**11 55 41.7**	**+2.8**
	SNR=8.3						
SHL	**Shillong**	**18.75**	**61**	*e*P	**P**	**11 55 45.0**	**-0.5**
SHL				*ex*	x	12 00 49.0	
IDAH	**Dahanechah**	**19.94**	**323**	*e*P	**Pn**	**11 56 00.2**	**-0.1**
LSA	**Lhasa**	**20.15**	**49**	P	Pn	11 56 02.7	-0.4
LSA	**Lhasa**	**20.15**	**49**	*e*P	Pn	11 56 03.4	+0.3
LSA				pmax	pmax		
	comp=Z,145nm,0.8s						
LSA	**Lhasa**	**20.15**	**49**	*e*P	Pn	11 56 03.4	+0.3
	comp=Z,144nm,0.8s						
IKOO	**Kooshah**	**20.22**	**321**	*e*P	Pn	11 56 02.9	-0.8
ITEG	**Tejag**	**20.70**	**322**	*e*P	Pn	11 56 08.7	-0.6
IBAF	**Bafgh**	**21.89**	**314**	*e*P	**P**	**11 56 21.6**	**+2.0**
KSH	**Kashi**	**22.30**	**4**	P	**P**	**11 56 20.6**	**-3.3**
KSH				pP	**pP**	**11 56 25.0**	**-3.5**
KSH				sP	**sP**	**11 56 27.1**	**-3.5**
KSH				PP	**PnPn**	**11 56 46.4**	**-0.3**
KSH				S	S	12 00 16.0	-13
KSH				sS	sS	12 00 25.1	-11
KSH				SS	**SnSn**	**12 00 56.5**	**-0.2**
KSH				pmax	pmax		
	comp=Z,84nm,0.9s						
KSH				LR	LR		
	comp=Z,540nm,6.8s						
KSH				LR	LR		
	comp=Z,1μm,8.7s						
KSH				LR	LR		
	comp=Z,890nm,11.9s						
IMEH	**Mehriz**	**22.43**	**313**	*e*P	**P**	**11 56 25.5**	**0.0**
ISRV	**Sarvestan**	**22.50**	**306**	*e*P	**P**	**11 56 26.1**	**-0.3**
IMYA	**Miami**	**22.60**	**330**	*e*P	**P**	**11 56 28.1**	**+0.9**
IPAR	**Pars**	**22.77**	**307**	*e*P	**P**	**11 56 29.7**	**+0.5**
ISRO	**Mashad**	**22.88**	**329**	*e*P	**P**	**11 56 31.5**	**+1.4**
MHMT	**Maesarieng**	**22.99**	**84**	P	**P**	**11 56 34.8**	**+3.6**
	comp=Z,25nm,1.2s,comp=Z,401nm						
IPAY	**Payeh**	**23.23**	**328**	*e*P	**P**	**11 56 35.4**	**+1.6**
ISAD	**Sadrabad**	**23.38**	**312**	*e*P	**P**	**11 56 34.6**	**-0.8**
IKRD	**Kardeh**	**23.72**	**328**	*e*P	**P**	**11 56 34.8**	**-3.9**
KHLT	**Khaolaem Dam**	**23.93**	**92**	P	**P**	**11 56 43.3**	**+2.8**
	comp=Z,11nm,1.9s,comp=Z,308nm						
CHTO	**Chiang Mai**	**23.94**	**82**	*e*P	**P**	**11 56 41.2**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**23.94**	**82**	P	**P**	**11 56 42.4**	**+1.7**
	SNR=16						
CHTO	**Chiang Mai**	**23.94**	**82**	*e*P	**P**	**11 56 41.2**	**+0.6**
	comp=Z,12nm,1.3s						
CHTO	**Chiang Mai**	**23.94**	**82**	P	**P**	**11 56 42.2**	**+1.6**
	comp=Z,128nm,2.1s,comp=Z,2μm						
CM31	**Chiang Mai Arr**	**23.94**	**83**	*e*P	**P**	**11 56 41.5**	**+0.8**
	comp=Z,19nm,0.9s						
CMAR	**Chiang Mai Arr**	**23.94**	**83**	P	**P**	**11 56 42.0**	**+1.3**
CMAR				S	Sn	12 01 08.9	-11
CMAR	**Chiang Mai Arr**	**23.94**	**83**	P	**P**	**11 56 42.0**	**+1.3**
	comp=Z,9.7nm,0.8s,baz=273,slow=9.2,SNR=48						
CMAR				S	Sn	12 01 08.9	-11
	comp=Z,0.8nm,0.4s,baz=282,slow=13,SNR=2.6						
CMAR				LR	LR	12 06 39.0	
	comp=Z,67nm,18.5s,baz=76,slow=38						
CMMT	**Chiang Mai**	**23.95**	**82**	P	**P**	**11 56 42.1**	**+1.4**
	comp=Z,28nm,1.9s,comp=Z,618nm						
CMAI	**Chiengmai2**	**24.06**	**80**	P	**P**	**11 56 43.5**	**+1.6**
	comp=Z,30nm,2.1s						
SRDT	**SRDT**	**24.51**	**93**	P	**P**	**11 56 50.0**	**+4.1**
	comp=Z,92nm,1.6s,comp=Z,14μm						
LAMP	**Lampang**	**24.60**	**83**	P	**P**	**11 56 49.3**	**+2.6**
	comp=Z,8.5nm,0.9s,comp=Z,86nm						
KZA	**Kyzart**	**24.81**	**3**	*i* P	**P**	**11 56 52.1**	**+3.3**
KZA	**Kyzart**	**24.81**	**3**	P	**P**	**11 56 52.2**	**+3.3**
	SNR=14						
ABKT	**Ailbek**	**24.82**	**329**	P	**P**	**11 56 50.4**	**+1.8**
	comp=Z,116nm,1.8s,SNR=6.7						
AML	**Almayashu**	**24.84**	**360**	*i* P	**P**	**11 56 50.9**	**+1.8**
AML	**Almayashu**	**24.84**	**360**	P	**P**	**11 56 50.9**	**+1.8**
	SNR=34						
UCH	**Uchtor**	**24.94**	**1**	*i* P	**P**	**11 56 51.7**	**+1.7**
UCH	**Uchtor**	**24.94**	**1**	P	**P**	**11 56 51.8**	**+1.7**
	SNR=60						
CRAI	**Chiangrai**	**25.32**	**79**	P	**P**	**11 56 55.1**	**+1.9**
	comp=Z,24nm,1.7s,comp=Z,8μm						
AAK	**Ala-Archa**	**25.34**	**1**	*i* P	**P**	**11 56 55.7**	**+2.3**
AAK	**Ala-Archa**	**25.34**	**1**	P	**P**	**11 56 55.7**	**+2.3**
	SNR=22						
EKS2	**Erkin-Say**	**25.36**	**360**	*e*P	**P**	**11 56 55.1**	**+1.6**
EKS2				pmax	pmax		
	comp=Z,114nm,0.9s						
EKS2	**Erkin-Say**	**25.36**	**360**	P	**P**	**11 56 55.4**	**+1.9**
	SNR=89						
EKS2	**Erkin-Say**	**25.36**	**360**	*e*P	**P**	**11 56 55.1**	**+1.6**
	comp=Z,114nm,0.9s						
KBK	**Karagaybulak**	**25.38**	**2**	*i* P	**P**	**11 56 56.1**	**+2.4**
KBK	**Karagaybulak**	**25.38**	**2**	P	**P**	**11 56 56.1**	**+2.4**
	SNR=70						
IANJ	**Anjilo**	**25.38**	**320**	*e*P	**P**	**11 56 51.8**	**-2.1**
FRU	**Bishkek**	**25.55**	**1**	⇑*i*P	**P**	**11 56 56.0**	**+0.9**
FRU				*e*		12 02 28.0	
FRU				pmax	pmax		
	comp=Z,160nm,1.6s						
TKM2	**Tokmak 2**	**25.67**	**3**	*i* P	**P**	**11 56 56.9**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,24nm,0.8s						
TKM2	**Tokmak 2**	**25.67**	**3**	P	**P**	**11 56 57.8**	**+1.4**
	SNR=24						
TKM2	**Tokmak 2**	**25.67**	**3**	*e*P	**P**	**11 56 57.2**	**+0.8**
	comp=Z,26nm,0.9s						
KK31	**Karatay Array**	**25.96**	**354**	*i* P	**P**	**11 56 58.1**	**-0.7**
KKAR	**Karatay Array**	**25.96**	**354**	*e*P	**P**	**11 56 58.8**	**0.0**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KKAR	**Karatay Array**	**25.96**	**354**	*e*P	**P**	**11 56 58.8**	**0.0**
	comp=Z,7.7nm,0.6s						
USP	**Ospenovka**	**25.98**	**1**	*i* P	**P**	**11 57 00.2**	**+1.2**
USP	**Ospenovka**	**25.98**	**1**	P	**P**	**11 57 00.2**	**+1.2**
	SNR=19						
PBKT	**Sadao Pong**	**25.98**	**87**	P	**P**	**11 57 01.0**	**+1.8**
	comp=Z,31nm,1.4s,comp=Z,1μm						
CHAI	**Chaiyaphum**	**27.02**	**89**	P	P	11 57 13.5	+4.9
	comp=Z,7.9nm,1.2s,comp=Z,233nm						
CHBT	**CHBT**	**27.88**	**95**	P	**P**	**11 57 20.3**	**+4.0**
	comp=Z,14nm,1.9s						
KMI	**Kunming**	**28.05**	**69**	P	**P**	**11 57 20.5**	**+2.4**
KMI				pmax	pmax		
	comp=Z,18nm,1.4s						
PSI	**Prapat**	**28.51**	**117**	LR	LR	12 07 51.3	
	comp=Z,355nm,21.7s,baz=295,slow=35						
SLVN	**Son La**	**28.67**	**77**	*e*P	**P**	**11 57 25.1**	**+1.7**
	comp=Z,24nm,1.6s						
WMQ	**Urumqi**	**29.01**	**21**	P	**P**	**11 57 28.0**	**+1.8**
WMQ				sP	**sP**	**11 57 35.0**	**+1.8**
WMQ				PP	**PnPn**	**11 58 22.0**	**+3.8**
WMQ				PcP	**PcP**	**12 00 36.0**	**+1.5**
WMQ				S	**S**	**12 02 18.0**	**+1.3**
WMQ				sS	**sS**	**12 02 26.0**	**+1.1**
WMQ				SS	**SnSn**	**12 03 47.0**	**+6.7**
WMQ				pmax	pmax		
	comp=Z,22nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,200nm,3.0s						
WMQ				LR	LR		
	comp=Z,810nm,6.0s						
WMQ				LR	LR		
	comp=Z,770nm,6.0s						
WMQ				LR	LR		
	comp=Z,550nm,7.0s						
MK31	**Makanchi Array**	**30.32**	**12**	*e*P	**P**	**11 57 38.0**	**+0.3**
MK31	**Makanchi Array**	**30.32**	**12**	*e*P	**P**	**11 57 38.0**	**+0.3**
MKAR	**Makanchi Array**	**30.32**	**12**	*ce*P	**P**	**11 57 38.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MKAR	**Makanchi Array**	**30.32**	**12**	P	**P**	**11 57 38.0**	**+0.3**
MKAR	**Makanchi Array**	**30.32**	**12**	P	**P**	**11 57 38.0**	**+0.3**
	comp=Z,6.0nm,0.5s,baz=201,slow=10,SNR=26						
MKAR				LR	LR	12 09 44.6	
	comp=Z,176nm,18.1s,baz=200,slow=36						
CD2	**Chengdu**	**30.43**	**58**	*e*P	**P**	**11 57 40.2**	**+1.2**
CD2				pP	**pP**	**11 57 45.2**	**+1.3**
CD2				sP	**sP**	**11 57 47.9**	**+1.9**
CD2				PP	**PnPn**	**11 58 39.9**	**+2.3**
CD2				PcP	**PcP**	**12 00 39.2**	**+0.8**
CD2				S	**S**	**12 02 40.4**	**+1.0**
CD2				SS	**ScP**	**12 04 20.1**	**-0.3**
CD2				ScS	**ScS**	**12 08 15.5**	**-1.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,100nm,6.0s						
CD2				LR	LR		
	comp=Z,280nm,14.3s						
CD2				LR	LR		
	comp=Z,320nm,10.8s						
CD2				LR	LR		
	comp=Z,430nm,10.6s						
GTA	**Gaotai**	**31.62**	**40**	P	**P**	**11 57 49.0**	**-0.4**
GTA				pP	**pP**	**11 57 56.3**	**+1.9**
GTA				sP	**sP**	**11 58 00.0**	**+3.5**
GTA				PcP	**PcP**	**12 00 42.3**	**+0.8**
GTA				S	**S**	**12 02 58.5**	**+0.5**
GTA				sS	**sS**	**12 03 10.1**	**+3.9**
GTA				SS	**SnSn**	**12 04 50.8**	**+6.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,99nm,4.0s						
GTA				LR	LR		
	comp=Z,760nm,13.1s						
GTA				LR	LR		
	comp=Z,950nm,15.0s						
GTA				LR	LR		
	comp=Z,2μm,14.3s						
GYA	**Guiyang**	**31.77**	**67**	⇑*i*P	**P**	**11 57 51.6**	**+0.7**
GYA				PP	**PnPn**	**11 58 56.8**	**+1.6**
GYA				PcP	**PcP**	**12 00 43.0**	**+0.8**
GYA				S	**S**	**12 03 01.6**	**+1.0**
GYA				ScP	**ScP**	**12 04 26.4**	**+1.4**
GYA				SS	**SnSn**	**12 04 51.0**	**+3.1**
GYA				ScS	**ScS**	**12 08 21.2**	**-2.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=Z,560nm,16.8s						
GYA				LR	LR		
	comp=Z,470nm,17.2s						
GYA				LR	LR		
	comp=Z,550nm,17.5s						
LZH	**Lanzhou**	**32.56**	**49**	*e*P	**P**	**11 57 59.0**	**+1.2**
LZH				pP	**pP**	**11 58 02.2**	**-0.6**
LZH				sP	**sP**	**11 58 03.7**	**-1.1**
LZH				PP	**PnPn**	**11 59 07.2**	**+1.8**
LZH				*e*S	**S**	**12 03 13.5**	**+0.6**
LZH				SS	**SnSn**	**12 05 10.2**	**+3.0**
LZH				pmax

XAN pmax pmax
comp=Z,5.0nm,0.3s
XAN LR LR
comp=Z,140nm,16.0s
BVAR Borovoye Array 35.84 356 P **P 11 58 26.5 +0.7**
BVAR Borovoye Array 35.84 356 P **P 11 58 26.5 +0.7**
BVAR Borovoye Array 35.84 356 P **P 11 58 26.5 +0.7**
comp=Z,11nm,0.5s,baz=167,slow=10.0,SNR=48
BVAR LR LR 12 13 50.7
comp=Z,232nm,19.5s,baz=183,slow=38
BRVK Borovoye 35.88 356⇓ *e*P **P 11 58 26.3 +0.2**
BRVK pmax pmax
comp=Z,36nm,1.7s
BRVK MLR MLR
comp=Z,340nm,20.0s
BRVK Borovoye 35.88 356 P **P 11 58 27.2 +1.2**
SNR=7.9
BRVK Borovoye 35.88 356 *e*P **P 11 58 26.5 +0.4**
comp=Z,78nm,1.9s
ZEI Tsey 36.01 321 *e*P **P 11 58 30.1 +2.4**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
ASF Jabal al Asfar 36.50 301 P **P 11 58 34.0 +2.1**
ASF Jabal al Asfar 36.50 301 P **P 11 58 34.0 +2.1**
comp=Z,4.6nm,0.9s,baz=107,slow=14,SNR=3.1
KBZ Khabaz 37.16 322 P **P 11 58 39.0 +1.9**
KBZ Khabaz 37.16 322 P **P 11 58 39.0 +1.9**
KBZ Khabaz 37.16 322 P **P 11 58 39.0 +1.9**
comp=Z,2.9nm,0.8s,baz=112,slow=7.0,SNR=6.1
HVS Khovu-Aksy 37.38 21 *ce*P **P 11 58 39.7 +0.7**
HVS pmax pmax
comp=Z,222nm,2.1s
KIV Kislovodsk 37.41 322 *de*P **P 11 58 41.8 +2.4**
KIV pmax pmax
comp=Z,38nm,1.3s
KIV MLR MLR
comp=Z,100nm,19.0s
KIV Kislovodsk 37.41 322 *e*P **P 11 58 40.8 +1.4**
comp=Z,33nm,1.2s
EIL Elat 37.58 296 P **P 11 58 43.2 +2.3**
EIL Elat 37.58 296 P **P 11 58 43.2 +2.3**
comp=Z,7.5nm,1.1s,baz=20,slow=5.8,SNR=4.4
EIL LR LR 12 15 02.3
comp=Z,150nm,20.1s,baz=209,slow=38
ZAA0 Zalesovo Array 37.64 11 *e*P **P 11 58 41.0 -0.1**
ZALV Zalesovo Beam 37.64 11 P **P 11 58 41.9 +0.8**
ZALV Zalesovo Beam 37.64 11 P **P 11 58 41.9 +0.8**
ZALV Zalesovo Beam 37.64 11 P **P 11 58 41.9 +0.8**
comp=Z,18nm,0.5s,baz=199,slow=8.0,SNR=69
ZALV LR LR 12 15 00.5
comp=Z,113nm,18.3s,baz=122,slow=38
NVS Novosibirsk 38.25 9 *e*P **P 11 58 45.1 -1.1**
NVS pmax pmax
comp=N,41nm,1.7s
NVS pmax pmax
comp=Z,50nm,1.7s
HHC Hu-ho-hao-te 40.09 46 *e*P **P 11 59 00.1 -1.9**
HHC sP **sP 11 59 06.0 -3.1**
HHC PP **PP 12 00 35.4 +1.1**
HHC PcP **PcP 12 01 04.1 -2.5**
HHC PcS **PcS 12 04 53.2 -3.7**
HHC S **S 12 05 04.6 -3.1**
HHC ScS **ScS 12 09 03.4 -5.2**
HHC pmax pmax
comp=Z,44nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.3s
HHC LR LR
comp=Z,900nm,13.7s
HHC LR LR
comp=Z,480nm,14.6s
HHC LR LR
comp=Z,150nm,13.2s
KMBO Kilima Mbogo 40.38 247 P **P 11 59 06.6 +1.7**
SNR=7.9
KMBO Kilima Mbogo 40.38 247 *e*P **P 11 59 04.8 -0.1**
KMBO Kilima Mbogo 40.38 247 P **P 11 59 06.0 +1.2**
comp=Z,0.5nm,0.2s,baz=47,slow=9.8,SNR=12
KMBO LR LR 12 12 31.6
comp=Z,158nm,20.0s,baz=280,slow=31
SONM Songino Array 40.54 34 P **P 11 59 07.3 +1.7**
SONM Songino Array 40.54 34 P **P 11 59 07.3 +1.7**
comp=Z,18nm,0.8s,baz=231,slow=7.2,SNR=99
SONM LR LR 12 17 19.6
comp=Z,475nm,21.7s,baz=227,slow=38
ZAK Zakamensk 40.65 29 *e*P **P 11 59 05.8 -0.6**
ZAK pmax pmax
comp=Z,9.0nm,1.5s
SVE Sverdlovsk 40.77 349 *e*P **P 11 59 08.3 +1.1**
SVE pmax pmax
comp=Z,21nm,1.0s
ARU Arti 40.82 347 P **P 11 59 08.8 +1.2**
comp=Z,169nm,0.7s,SNR=9.5
ARU Arti 40.82 347 *d i*P **P 11 59 08.3 +0.7**
ARU 12 00 45.5
ARU S **S 12 05 19.9 +2.1**
ARU SS **SS 12 08 13.3 -5.7**
ARU pmax pmax
comp=Z,54nm,1.7s
ARU Arti 40.82 347 *e*P **P 11 59 08.7 +1.2**
comp=Z,23nm,0.8s
ULN Ulaanbaatar 40.91 34 P **P 11 59 10.3 +1.7**
SNR=11
ULN Ulaanbaatar 40.91 34 *e*P **P 11 59 10.0 +1.3**
comp=Z,26nm,1.0s
BR131 Keskin Array S 41.38 311 *e*P **P 11 59 13.9 +1.3**
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 41.38 311 P **P 11 59 13.8 +1.1**
BRTR Keskin Array B 41.38 311 P **P 11 59 13.8 +1.1**
comp=Z,4.6nm,0.9s,baz=121,slow=8.1,SNR=15
BRTR LR LR 12 19 01.5
comp=Z,93nm,19.5s,baz=354,slow=40
TLY Talaya 41.72 28 *e*P **P 11 59 16.7 +1.6**
TLY pmax pmax
comp=Z,30nm,1.6s
TLY MLR MLR
comp=Z,349nm,21.0s
TLY Talaya 41.72 28 *e*P P 11 59 18.8 +3.7
comp=Z,37nm,1.5s
BJI Beijing 43.05 49 P **P 11 59 25.7 -0.4**
BJI pP **pP 11 59 28.9 -2.3**
BJI PP **PP 12 01 05.3 -0.8**
BJI S **S 12 05 50.9 -0.4**
BJI SS **SS 12 09 05.0 +1.3**
BJI ScS **ScS 12 09 25.9 -0.4**
BJI pmax pmax
comp=Z,17nm,0.4s
BJI pmax pmax
comp=Z,140nm,5.3s
BJI LR LR
comp=Z,470nm,13.4s
BJI LR LR
comp=Z,420nm,10.6s
BJI LR LR
comp=Z,150nm,14.1s
NJ2 Nanjing 43.21 61 *e*P **P 11 59 27.0 -0.5**
NJ2 pmax pmax
comp=Z,30nm,0.9s
SOKR Solikamsk 44.11 348 *e*P **P 11 59 35.7 +1.5**
SOKR pmax pmax
comp=Z,50nm,1.6s
SOKR MLR MLR
comp=Z,170nm,16.0s
OPO Ambohidratompo 44.17 218 P **P 11 59 36.4 +0.9**
OPO Ambohidratompo 44.17 218 P **P 11 59 36.4 +0.9**
comp=Z,3.3nm,1.0s,baz=67,slow=4.4,SNR=4.2
OPO LR LR 12 14 26.2
comp=Z,288nm,18.9s,baz=120,slow=31
MBAR Mbarara 45.98 252 P **P 11 59 50.9 +0.8**
MBAR Mbarara 45.98 252 P **P 11 59 50.9 +0.8**
comp=Z,2.5nm,0.2s,baz=80,slow=9.2,SNR=4.7
IDI Anoyia 46.93 302 P **P 11 59 58.5 +1.3**
IDI Anoyia 46.93 302 P **P 11 59 58.5 +1.3**
comp=Z,10nm,0.6s,baz=104,slow=5.9,SNR=10.0
MOS Moscow 47.25 333 *e*P **P 11 59 58.8 -0.4**
MOS pmax pmax
comp=Z,71nm,1.3s
OBN Obninsk 47.33 332 *ce*P **P 12 00 00.7 +0.9**
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,100nm,21.0s
VRI Vrincioaia 48.31 317⇑P **P 12 00 10.1 +2.4**
VRI Vrincioaia 48.31 317⇑ *i*P **P 12 00 10.1 +2.4**
TESR Tescani 48.59 318⇑ *i*P **P 12 00 10.7 +0.9**
PRGR Permogore 48.65 343 *e*P **P 12 00 09.3 -0.6**
PRGR pmax pmax
comp=Z,40nm,0.7s
MLR Muntele Rosu 48.70 316⇑ *i*P **P 12 00 12.9 +2.1**
MLR Muntele Rosu 48.70 316 P **P 12 00 11.8 +1.0**
MLR Muntele Rosu 48.70 316 P **P 12 00 11.8 +1.0**
comp=Z,4.7nm,1.1s,baz=86,slow=5.2,SNR=7.8
AKASG Malin Array Be 48.72 324 *i* P **P 12 00 10.1 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 48.72 324 P **P 12 00 10.6 -0.1**
AKASG Malin Array Be 48.72 324 P **P 12 00 10.6 -0.1**
comp=Z,3.9nm,0.9s,baz=118,slow=6.4,SNR=16
KIEV Kiev 48.72 324 *de*P **P 12 00 10.3 -0.4**
KIEV Kiev 48.72 324 *e*P **P 12 00 10.0 -0.7**
comp=Z,14nm,1.1s
HIA Hailar 48.87 39 *e*P **P 12 00 13.0 +1.1**
comp=Z,18nm,0.8s
VOIR 49.28 316⇑P **P 12 00 14.2 -1.0**
VOIR 49.28 316⇑ *i*P **P 12 00 14.2 -1.0**
ARR Arges 49.53 315⇑ *i*P **P 12 00 17.9 +0.8**
VTS Vitosha 49.74 312⇑P **P 12 00 19.3 +0.4**
VTS Vitosha 49.74 312⇑ *i*P **P 12 00 19.3 +0.4**
BURAR Bucovina Array 49.90 318⇑P **P 12 00 21.2 +1.3**
BURAR Bucovina Array 49.90 318⇑ *i*P **P 12 00 21.2 +1.3**
CN2 Changchun 50.77 47⇑P **P 12 00 27.3 +0.9**
CN2 *ep*P **pP 12 00 31.8 +0.2**
CN2 *es*P **sP 12 00 34.4 +0.8**
CN2 *eS* **S 12 07 41.4 -0.1**
CN2 pmax pmax
comp=Z,60nm,0.8s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,200nm,15.0s
DRGR 51.24 317⇑P **P 12 00 30.2 +0.2**
DRGR 51.24 317⇑ *i*P **P 12 00 30.1 +0.1**
KSAR Wonju Array Be 51.35 56 P **P 12 00 30.5 -0.4**
KSRS Korea Array 51.38 56 P **P 12 00 30.5 -0.6**
comp=Z,7.3nm,0.8s,baz=253,slow=8.2,SNR=14
BZS Buzias 51.64 315⇑P **P 12 00 33.4 +0.5**
BZS Buzias 51.64 315⇑ *i*P **P 12 00 33.4 +0.5**
TRPA Tarpa 51.77 318⇑ *i*P **P 12 00 34.4 +0.6**
SIRR Siria 51.79 316⇑ *i*P **P 12 00 35.1 +1.0**
UZH Uzhgorod 52.08 319 *d i*P **P 12 00 36.4 +0.3**
KWP Kalwaria Pacla 52.15 320 *e*P **P 12 00 37.2 +0.5**
KWP pmax pmax
comp=Z,16nm,0.9s
KWP Kalwaria Pacla 52.15 320 *e*P **P 12 00 37.2 +0.5**
KWP Kalwaria Pacla 52.15 320 *e*P **P 12 00 37.2 +0.5**
comp=Z,16nm,0.9s
KOLS Kolonicke sedl 52.19 319 *e*P **P 12 00 37.6 +0.6**
KOLS pmax pmax
comp=Z,11nm,1.2s
KOLS Kolonicke sedl 52.19 319 *e*P **P 12 00 37.6 +0.6**
KOLS *e*PCP **PcP 12 01 48.7 +0.2**
CRVS Cervenica-Dubn 52.69 319 *e*P **P 12 00 41.9 +1.2**
CRVS pmax pmax
comp=Z,36nm,2.1s
CRVS Cervenica-Dubn 52.69 319 *e*P **P 12 00 41.9 +1.2**
STHS Stebnicka Huta 52.98 319 *e*P **P 12 00 44.2 +1.3**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 52.98 319 *e*P **P 12 00 44.1 +1.2**
JNU Nakatsue 53.41 61 P **P 12 00 46.6 +0.3**
JNU Nakatsue 53.41 61 P **P 12 00 46.6 +0.3**
comp=Z,8.5nm,0.8s,baz=274,slow=7.9,SNR=5.7
SUW Suwalki 53.48 325 *e*P **P 12 00 46.0 -0.4**
SUW Suwalki 53.48 325 *e*P **P 12 00 45.9 -0.4**
VSU Vasula 53.68 331 *i*P **P 12 00 47.0 -0.8**
VSU pmax pmax
comp=Z,56nm,1.8s
PKSM Moragy 53.80 315⇑P P 12 00 44.2 -4.7
PKSM Moragy 53.80 315⇑ *i*P P 12 00 44.2 -4.7
MDJ Mudanjiang 53.85 47 P **P 12 00 50.5 +1.2**
MDJ pP **pP 12 00 53.0 -1.5**
MDJ sP **sP 12 00 54.7 -1.8**
MDJ PcP **PcP 12 01 55.9 +1.0**
MDJ PP **PP 12 02 51.4 +0.9**
MDJ ScP **ScP 12 05 52.7 +0.3**
MDJ PcS **PcS 12 05 54.7 +0.7**
MDJ S **S 12 08 25.1 +1.3**
MDJ sS **sS 12 08 32.7 +0.4**
MDJ ScS **ScS 12 10 39.6 +1.3**
MDJ pmax pmax
comp=Z,31nm,1.1s
MDJ pmax pmax
comp=Z,60nm,4.0s
MDJ LR LR
comp=Z,80nm,4.6s
MDJ LR LR
comp=Z,280nm,8.8s
MDJ LR LR
comp=Z,400nm,8.4s
MDJ Mudanjiang 53.85 47 *e*P **P 12 00 50.2 +0.9**
comp=Z,31nm,1.0s
OJC Ojcow 54.12 320 *e*P **P 12 00 51.5 +0.3**
OJC Ojcow 54.12 320 *e*P **P 12 00 51.5 +0.3**
JOF Joensuu 54.27 338 *e*P **P 12 00 52.3 +0.3**
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 54.27 338 *ep* **P 12 00 52.3 +0.3**
comp=Z,5.8nm,0.7s
LSZ Lusaka 55.39 237 *e*P **P 12 01 00.6 -0.4**
comp=Z,31nm,1.6s
LSZ Lusaka 55.39 237 P **P 12 01 00.5 -0.4**
comp=Z,4.8nm,0.9s,baz=54,slow=8.1,SNR=12
MORC Moravsky Berou 55.39 319 *e*P **P 12 00 59.6 -0.9**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 55.39 319⇑ *i*P **P 12 00 59.7 -0.8**
MORC Moravsky Berou 55.39 319 *e*P **P 12 00 59.6 -0.9**
comp=Z,5.4nm,0.9s
MORC *e*PcP PcP 12 01 51.5 -9.3
USRK Ussuriysk Arra 55.46 48 P **P 12 01 01.6 +0.6**
comp=Z,13nm,0.5s,baz=259,slow=6.8,SNR=44
USRK LR LR 12 26 47.2
comp=Z,220nm,20.7s,baz=314,slow=38
FINES FINESS Array B 55.48 334 P **P 12 01 00.6 -0.1**
FINES FINESS Array B 55.48 334 P **P 12 01 00.6 -0.1**
comp=Z,6.9nm,0.8s,baz=94,slow=8.0,SNR=17
KAF Kangasniemi 55.73 335 *e*P **P 12 01 02.9 +0.3**
KAF pmax pmax
comp=Z,7.0nm,0.5s
KAF Kangasniemi 55.73 335 *ep* **P 12 01 02.9 +0.3**
comp=Z,6.8nm,0.5s
KRLC Kraliky 55.95 319 *e*P **P 12 01 04.1 -0.3**
KRLC Kraliky 55.95 319 *e*P **P 12 01 04.1 -0.3**
BOJS Bojanci 55.97 314 *i*P **P 12 01 04.7 +0.1**
PERS Pernice 56.27 315 *i*P **P 12 01 06.5 -0.3**
DPC Dobruska-Polom 56.30 320 *e*P **P 12 01 06.0 -1.0**
DPC Dobruska-Polom 56.30 320 *e*P **P 12 01 06.0 -1.0**
KLR Kul'dur 56.30 42 *e*P P 12 01 03.3 -3.7
KLR MLR MLR
comp=E,700nm,12.0s
KLR MLR MLR
comp=Z,1μm,12.0s
VISS Visnje 56.31 314 *e*P **P 12 01 07.0 -0.1**
KSP Ksiaz 56.44 320⇓ *e*P **P 12 01 08.3 +0.3**
KSP Ksiaz 56.44 320 *e*P **P 12 01 08.2 +0.3**
UPC Upice 56.53 320 *e*P **P 12 01 08.8 +0.2**
UPC Upice 56.53 320 *e*P **P 12 01 08.8 +0.2**
APA Apatity 56.57 343⇑ *i*P **P 12 01 09.2 +0.7**
APA pmax pmax
comp=Z,3.0nm,0.8s
APA MLR MLR
comp=Z,900nm,10.0s
TREC Trest 56.58 318 *e*P **P 12 01 08.6 -0.3**
TREC Trest 56.58 318 *e*P **P 12 01 08.6 -0.3**
JAVS Javornik 56.86 314 *i*P **P 12 01 10.5 -0.6**
PRU Pruhonice 57.33 319 *e*P **P 12 01 13.5 -0.7**
PRU Pruhonice 57.33 319 *e*P **P 12 01 13.5 -0.7**
PVCC Panska Ves 57.43 319 *e*P P 12 01 05.9 -9.0
GEC2 GERESS Array S 57.63 317 *e*P **P 12 01 15.3 -1.2**
comp=Z,10.0nm,1.1s
GERES GERESS Array B 57.63 317 P **P 12 01 15.8 -0.8**
GERES GERESS Array B 57.63 317 P **P 12 01 15.8 -0.8**
comp=Z,3.3nm,0.7s,baz=101,slow=6.9,SNR=25
GERES LR LR 12 26 58.0
comp=Z,57nm,18.6s,baz=269,slow=37
KHC Kasperske Hory 57.77 318 *e*P **P 12 01 16.5 -0.9**
KHC Kasperske Hory 57.77 318 *e*P **P 12 01 16.5 -0.9**
BRG Berggiesshubel 57.90 320 *i*P **P 12 01 18.5 +0.3**
comp=Z,11nm,1.0s
BRG *i* 12 01 20.0
comp=Z,21nm,1.0s
BRG Berggiesshubel 57.90 320 *i*P **P 12 01 18.5 +0.3**
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,21nm,1.0s
BRG Berggiesshubel 57.90 320 *e*P **P 12 01 18.3 +0.1**
comp=Z,12nm,1.0s
HABR Khabarovsk 58.29 43 *e*P **P 12 01 19.8 -1.1**
HABR *e**SP sP 12 01 33.8 +5.7
HABR *eS* **S 12 09 21.9 -0.6**
HABR *e**SS sS 12 09 39.0 +7.9
HABR *e* 12 11 06.6
HABR pmax pmax
comp=Z,48nm,1.4s
HABR MLR MLR
comp=Z,379nm,19.0s
CLL Collm 58.57 320⇑ *i*P **P 12 01 22.9 0.0**
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 58.57 320 *e*P **P 12 01 22.7 -0.2**
comp=Z,15nm,1.1s
CLL Collm 58.57 320⇑ *i*P **P 12 01 22.9 0.0**
comp=Z,15nm,1.1s
CLL *e*PcP **PcP 12 02 11.0 -2.1**
CLL *e*PP **PP 12 03 32.0 -0.4**
NKC Novy Kostel 58.70 319 *e*P **P 12 01 23.7 -0.2**
NKC Novy Kostel 58.70 319 *e*P **P 12 01 23.7 -0.2**
ROTZ Rotzenmuhle 58.77 318 *e*P **P 12 01 24.3 0.0**
comp=Z,7.0nm,0.9s
GRF Grafenberg Arr 59.38 318 *e*P **P 12 01 28.6 0.0**
comp=Z,19nm,1.0s
MJAR Matsushiro Arr 59.53 57 P **P 12 01 29.5 -0.4**
MJAR Matsushiro Arr 59.53 57 P **P 12 01 29.5 -0.4**
comp=Z,1.8nm,0.6s,baz=272,slow=8.0,SNR=12
MJAR LR LR 12 30 13.1
comp=Z,213nm,18.8s,baz=265,slow=39
KEST Kesra 59.60 302 P **P 12 01 30.8 +0.4**
KEST Kesra 59.60 302 P **P 12 01 30.8 +0.4**
comp=Z,4.1nm,0.8s,baz=97,slow=3.6,SNR=8.4
KEST LR LR 12 30 29.4
comp=Z,33nm,20.0s,baz=214,slow=39
KEV Kevo 59.77 343 *e*P **P 12 01 32.9 +2.0**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 59.77 343 *ep* **P 12 01 32.9 +2.0**
comp=Z,0.6nm,0.3s
DAVOX Davos/Dischmat 59.85 314 P **P 12 01 31.4 -0.7**
DAVOX Davos/Dischmat 59.85 314 P **P 12 01 31.4 -0.7**
comp=Z,2.8nm,0.7s,baz=134,slow=7.7,SNR=4.6
ARCES ARCESS Array B 60.07 342 P **P 12 01 33.0 0.0**
ARCES ARCESS Array B 60.07 342 P **P 12 01 33.0 0.0**
comp=Z,17nm,0.8s,baz=119,slow=4.9,SNR=31
ARCES LR LR 12 29 43.2
comp=Z,132nm,18.6s,baz=120,slow=38
PGF Pioggiola 60.09 310 *e*P **P 12 01 33.3 -0.4**
PGF Pioggiola 60.09 310 *e*P **P 12 01 33.3 -0.4**
PGF Pioggiola 60.09 310 *e*P **P 12 01 33.3 -0.4**
CLZ Clausthal 60.28 320 *e*P **P 12 01 34.1 -0.7**
comp=Z,13nm,1.1s
BSEG Bad Segeberg 60.70 323 *e*P **P 12 01 37.4 -0.1**
comp=Z,11nm,0.9s
SBF Sospel 61.31 311 *e*P **P 12 01 41.8 -0.2**
comp=Z,37nm,0.8s
SBF Sospel 61.31 311 *e*P **P 12 01 41.8 -0.2**
SBF pmax pmax
comp=Z,37nm,0.8s
SBF Sospel 61.31 311 *e*P **P 12 01 41.8 -0.2**
comp=Z,37nm,0.8s
CDF Champ du Feu 61.78 316 *e*P **P 12 01 44.8 -0.3**
CDF Champ du Feu 61.78 316 *e*P **P 12 01 44.8 -0.3**
CDF Champ du Feu 61.78 316 *e*P **P 12 01 44.8 -0.3**
MBDF Montbardon 61.84 312 *e*P **P 12 01 44.3 -1.3**
comp=Z,28nm,0.7s
MBDF Montbardon 61.84 312 *e*P **P 12 01 44.3 -1.3**
MBDF pmax pmax
comp=Z,28nm,0.7s
MBDF Montbardon 61.84 312 *e*P **P 12 01 44.3 -1.3**
comp=Z,28nm,0.7s
FRF La Foret Royal 61.87 311 *e*P **P 12 01 45.7 +0.1**
FRF La Foret Royal 61.87 311 *e*P **P 12 01 45.7 +0.1**
FRF La Foret Royal 61.87 311 *e*P **P 12 01 45.7 +0.1**
FITZ Fitzroy Crossi 61.90 122 P **P 12 01 45.8 -0.3**
FITZ Fitzroy Crossi 61.90 122 P **P 12 01 45.8 -0.3**
comp=Z,6.6nm,0.8s,baz=292,slow=5.4,SNR=9.1
LPG La Plagne 61.90 313 *e*P **P 12 01 45.2 -1.0**
comp=Z,30nm,0.8s
LPG La Plagne 61.90 313 *e*P **P 12 01 45.2 -1.0**
LPG pmax pmax
comp=Z,30nm,0.8s
LPG La Plagne 61.90 313 *e*P **P 12 01 45.2 -1.0**
comp=Z,30nm,0.8s
NB2 NORSAR Subarra 61.90 331 P **P 12 01 44.1 -1.5**
comp=Z,7.0nm,1.0s,baz=105,slow=6.9
NOA NORSAR Array B 61.90 331 P **P 12 01 44.5 -1.1**
NOA NORSAR Array B 61.90 331 P **P 12 01 44.5 -1.1**
comp=Z,4.3nm,0.8s,baz=106,slow=7.0,SNR=19
NOA LR LR 12 33 41.6
comp=Z,96nm,18.6s,baz=90,slow=41
LPL La Plagne 61.92 313 *e*P **P 12 01 45.3 -0.9**
comp=Z,22nm,0.9s
LPL La Plagne 61.92 313 *e*P **P 12 01 45.3 -0.9**
LPL pmax pmax
comp=Z,22nm,0.9s
LPL La Plagne 61.92 313 *e*P **P 12 01 45.3 -0.9**
comp=Z,22nm,0.9s
BNI Bardonecchia 61.92 312 *e*P **P 12 01 44.4 -1.8**
BNI pmax pmax
comp=Z,13nm,0.9s
BNI Bardonecchia 61.92 312 *e*P **P 12 01 44.4 -1.8**
comp=Z,13nm,0.9s
LMR La Mourre 61.96 310 *e*P **P 12 01 46.0 -0.2**
LMR La Mourre 61.96 310 *e*P **P 12 01 46.0 -0.2**
LMR La Mourre 61.96 310 *e*P **P 12 01 46.0 -0.2**
HINF Hinteralfeld 62.01 315 *e*P **P 12 01 46.4 -0.2**
comp=Z,17nm,1.1s
HINF Hinteralfeld 62.01 315 *e*P **P 12 01 46.4 -0.2**
HINF pmax pmax
comp=Z,17nm,1.1s
HINF Hinteralfeld 62.01 315 *e*P **P 12 01 46.4 -0.2**
comp=Z,17nm,1.1s
HAU Haudompre 62.37 316 *e*P **P 12 01 48.9 0.0**
HAU *e*R
comp=Z,113nm,20.0s
HAU Haudompre 62.37 316 *e*P **P 12 01 48.9 0.0**
HAU Haudompre 62.37 316 *e*P **P 12 01 48.9 0.0**
CABF La Chapelle 62.44 314 *e*P **P 12 01 48.8 -0.7**
comp=Z,50nm,1.1s
CABF La Chapelle 62.44 314 *e*P **P 12 01 48.8 -0.7**
CABF pmax pmax
comp=Z,50nm,1.1s
CABF La Chapelle 62.44 314 *e*P **P 12 01 48.8 -0.7**
comp=Z,50nm,1.1s
ORIF Oris-en-Rattie 62.48 312 *e*P **P 12 01 48.2 -1.7**
comp=Z,23nm,1.0s
ORIF *e*R
comp=Z,74nm,17.0s
ORIF Oris-en-Rattie 62.48 312 *e*P **P 12 01 48.2 -1.7**
ORIF pmax pmax
comp=Z,23nm,1.0s
ORIF Oris-en-Rattie 62.48 312 *e*P **P 12 01 48.2 -1.7**
comp=Z,23nm,1.0s
SMRF Simiane la Rot 62.66 311 *e*P **P 12 01 50.8 -0.2**
SMRF Simiane la Rot 62.66 311 *e*P **P 12 01 50.8 -0.2**
PAGF Fort de Pagny 62.82 316 *e*P **P 12 01 51.6 -0.4**
PAGF Fort de Pagny 62.82 316 *e*P **P 12 01 51.6 -0.4**
LBTB Lobatse 63.00 229 P **P 12 01 52.9 -0.6**
LBTB Lobatse 63.00 229 P **P 12 01 52.9 -0.6**
comp=Z,5.6nm,0.5s,baz=63,slow=6.6,SNR=13
ASAJ Asahikawa 63.05 49 LR LR 12 31 22.4
comp=Z,156nm,21.1s,baz=174,slow=38
TIXI Tiksi 63.10 17 *e*P **P 12 01 53.3 0.0**
TIXI pmax pmax
comp=Z,18nm,0.9s
TIXI Tiksi 63.10 17 *e*P **P 12 01 53.3 0.0**
comp=Z,18nm,0.9s
SFTF Sexfontaines 63.26 316 *e*P **P 12 01 54.4 -0.4**
SFTF Sexfontaines 63.26 316 *e*P **P 12 01 54.4 -0.4**
MEZF Maizieres J'vi 63.27 316 *e*P **P 12 01 54.6 -0.3**
MEZF Maizieres J'vi 63.27 316 *e*P **P 12 01 54.6 -0.3**
VIVF Saint-Julien-l 63.34 312 *e*P **P 12 01 55.0 -0.5**
VIVF Saint-Julien-l 63.34 312 *e*P **P 12 01 55.0 -0.5**
VIVF Saint-Julien-l 63.34 312 *e*P **P 12 01 55.0 -0.5**

LASF	**Ste Croix**	**63.90**	**311**	*e*P	**P**	**12 01 59.2**	**0.0**
LASF	**Ste Croix**	**63.90**	**311**	*e*P	**P**	**12 01 59.2**	**0.0**
TAM	**Tamanrasset**	**63.93**	**287**	*e*P	**P**	**12 02 00.2**	**+0.3**
TAM				pmax	pmax		
	comp=Z,34nm,1.8s						
TAM	**Tamanrasset**	**63.93**	**287**	*e*P	**P**	**12 02 00.2**	**+0.3**
	comp=Z,34nm,1.8s						
SMF	**Signal de Mont**	**63.98**	**314**	*e*P	**P**	**12 01 59.5**	**-0.2**
	comp=Z,19nm,1.0s						
SMF	**Signal de Mont**	**63.98**	**314**	*e*P	**P**	**12 01 59.5**	**-0.2**
SMF				pmax	pmax		
	comp=Z,19nm,1.0s						
SMF	**Signal de Mont**	**63.98**	**314**	*e*P	**P**	**12 01 59.5**	**-0.2**
	comp=Z,19nm,1.0s						
LOR	**Lormes**	**64.00**	**315**	*e*P	**P**	**12 01 59.3**	**-0.5**
LOR				*e*R			
	comp=Z,87nm,17.5s						
LOR	**Lormes**	**64.00**	**315**	*e*P	**P**	**12 01 59.3**	**-0.5**
SSF	**Saint Saulge**	**64.23**	**314**	*e*P	**P**	**12 02 00.1**	**-1.2**
	comp=Z,17nm,1.0s						
SSF	**Saint Saulge**	**64.23**	**314**	*e*P	**P**	**12 02 00.1**	**-1.2**
SSF				pmax	pmax		
	comp=Z,17nm,1.0s						
SSF	**Saint Saulge**	**64.23**	**314**	*e*P	**P**	**12 02 00.1**	**-1.2**
	comp=Z,17nm,1.0s						
AVF	**Avril sur Loir**	**64.33**	**314**	*e*P	**P**	**12 02 01.2**	**-0.7**
	comp=Z,11nm,1.0s						
AVF	**Avril sur Loir**	**64.33**	**314**	*e*P	**P**	**12 02 01.2**	**-0.7**
AVF				pmax	pmax		
	comp=Z,11nm,1.0s						
AVF	**Avril sur Loir**	**64.33**	**314**	*e*P	**P**	**12 02 01.2**	**-0.7**
	comp=Z,11nm,1.0s						
NWAO	**Narrogin (SRO)**	**64.86**	**140**	P	**P**	**12 02 04.8**	**-0.7**
NWAO	**Narrogin (SRO)**	**64.86**	**140**	P	**P**	**12 02 04.8**	**-0.7**
	comp=Z,7.1nm,0.8s,baz=293,slow=8.5,SNR=5.2						
MTLF	**Montolieu**	**65.09**	**310**	*e*P	**P**	**12 02 06.7**	**-0.3**
MTLF	**Montolieu**	**65.09**	**310**	*e*P	**P**	**12 02 06.7**	**-0.3**
MTLF	**Montolieu**	**65.09**	**310**	*e*P	**P**	**12 02 06.7**	**-0.3**
TCF	**Toulx Ste Croi**	**65.10**	**313**	*e*P	**P**	**12 02 06.9**	**-0.1**
	comp=Z,21nm,1.0s						
TCF	**Toulx Ste Croi**	**65.10**	**313**	*e*P	**P**	**12 02 06.9**	**-0.1**
TCF				pmax	pmax		
	comp=Z,21nm,1.0s						
TCF	**Toulx Ste Croi**	**65.10**	**313**	*e*P	**P**	**12 02 06.9**	**-0.1**
	comp=Z,21nm,1.0s						
CAF	**Calviac**	**65.19**	**312**	*e*P	**P**	**12 02 07.1**	**-0.6**
	comp=Z,44nm,1.2s						
CAF	**Calviac**	**65.19**	**312**	*e*P	**P**	**12 02 07.1**	**-0.6**
CAF				pmax	pmax		
	comp=Z,44nm,1.3s						
CAF	**Calviac**	**65.19**	**312**	*e*P	**P**	**12 02 07.1**	**-0.6**
	comp=Z,44nm,1.3s						
BOSA	**Boshof**	**65.42**	**226**	*e*P	**P**	**12 02 08.3**	**-1.1**
	comp=Z,26nm,1.5s						
BOSA	**Boshof**	**65.42**	**226**	P	**P**	**12 02 08.7**	**-0.7**
	comp=Z,5.2nm,0.9s,baz=59,slow=8.4,SNR=8.1						
BOSA				LR	LR	12 27 19.7	
	comp=Z,203nm,19.2s,baz=25,slow=33						
RJF	**Les Rejaudoux**	**65.58**	**312**	*e*P	**P**	**12 02 09.5**	**-0.6**
	comp=Z,28nm,0.9s						
RJF				*e*R			
	comp=Z,82nm,19.2s						
RJF	**Les Rejaudoux**	**65.58**	**312**	*e*P	**P**	**12 02 09.5**	**-0.6**
RJF				pmax	pmax		
	comp=Z,28nm,0.9s						
RJF	**Les Rejaudoux**	**65.58**	**312**	*e*P	**P**	**12 02 09.5**	**-0.6**
	comp=Z,28nm,0.9s						
LFF	**La Frestale**	**66.13**	**312**	*e*P	**P**	**12 02 13.0**	**-0.7**
	comp=Z,16nm,0.8s						
LFF	**La Frestale**	**66.13**	**312**	*e*P	**P**	**12 02 13.0**	**-0.7**
LFF				pmax	pmax		
	comp=Z,16nm,0.8s						
LFF	**La Frestale**	**66.13**	**312**	*e*P	**P**	**12 02 13.0**	**-0.7**
	comp=Z,16nm,0.8s						
EPF	**Esparros**	**66.47**	**310**	*e*P	**P**	**12 02 15.5**	**-0.4**
	comp=Z,9.2nm,0.8s						
EPF	**Esparros**	**66.47**	**310**	*e*P	**P**	**12 02 15.5**	**-0.4**
EPF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EPF	**Esparros**	**66.47**	**310**	*e*P	**P**	**12 02 15.5**	**-0.4**
	comp=Z,9.2nm,0.8s						
LDF	**La Druitiere**	**66.70**	**316**	*e*P	**P**	**12 02 16.6**	**-0.7**
LDF	**La Druitiere**	**66.70**	**316**	*e*P	**P**	**12 02 16.6**	**-0.7**
LDF	**La Druitiere**	**66.70**	**316**	*e*P	**P**	**12 02 16.6**	**-0.7**
MFF	**Saint Martin d**	**66.73**	**314**	*e*P	**P**	**12 02 16.7**	**-0.8**
MFF	**Saint Martin d**	**66.73**	**314**	*e*P	**P**	**12 02 16.7**	**-0.8**
MFF	**Saint Martin d**	**66.73**	**314**	*e*P	**P**	**12 02 16.7**	**-0.8**
FLN	**La Foliniere**	**66.94**	**316**	*e*P	**P**	**12 02 17.7**	**-1.1**
FLN				*e*R			
	comp=Z,99nm,19.0s						
FLN	**La Foliniere**	**66.94**	**316**	*e*P	**P**	**12 02 17.7**	**-1.1**
FLN	**La Foliniere**	**66.94**	**316**	*e*P	**P**	**12 02 17.7**	**-1.1**
ETSF	**Etsaut**	**67.13**	**310**	*e*P	**P**	**12 02 20.7**	**+0.5**
	comp=Z,29nm,1.0s						
ETSF	**Etsaut**	**67.13**	**310**	*e*P	**P**	**12 02 20.7**	**+0.5**
ETSF				pmax	pmax		
	comp=Z,29nm,1.0s						
ETSF	**Etsaut**	**67.13**	**310**	*e*P	**P**	**12 02 20.7**	**+0.5**
	comp=Z,29nm,1.0s						
GRR	**Gorron**	**67.19**	**316**	*e*P	**P**	**12 02 19.9**	**-0.5**
GRR	**Gorron**	**67.19**	**316**	*e*P	**P**	**12 02 19.9**	**-0.5**
GRR	**Gorron**	**67.19**	**316**	*e*P	**P**	**12 02 19.9**	**-0.5**
SJPF	**Ste Jean**	**67.61**	**310**	*e*P	**P**	**12 02 22.8**	**-0.3**
	comp=Z,32nm,1.1s						
SJPF	**Ste Jean**	**67.61**	**310**	*e*P	**P**	**12 02 22.8**	**-0.3**
SJPF				pmax	pmax		
	comp=Z,32nm,1.1s						
SJPF	**Ste Jean**	**67.61**	**310**	*e*P	**P**	**12 02 22.8**	**-0.3**
	comp=Z,32nm,1.1s						
SGMF	**Saint Gilles**	**68.33**	**316**	*e*P	**P**	**12 02 26.8**	**-0.7**
SGMF	**Saint Gilles**	**68.33**	**316**	*e*P	**P**	**12 02 26.8**	**-0.7**
SGMF	**Saint Gilles**	**68.33**	**316**	*e*P	**P**	**12 02 26.8**	**-0.7**
QUIF	**Quistinic**	**68.75**	**315**	*e*P	**P**	**12 02 29.8**	**-0.4**
	comp=Z,20nm,0.6s						
QUIF	**Quistinic**	**68.75**	**315**	*e*P	**P**	**12 02 29.8**	**-0.4**
QUIF				pmax	pmax		
	comp=Z,20nm,0.6s						
QUIF	**Quistinic**	**68.75**	**315**	*e*P	**P**	**12 02 29.8**	**-0.4**
	comp=Z,20nm,0.6s						
TOA0	**Torodi Ar. Sit**	**69.38**	**278**	*e*P	**P**	**12 02 34.5**	**-0.2**
TOA0				*e*PcP	**PcP**	**12 02 58.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**69.38**	**278**	P	**P**	**12 02 34.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**69.38**	**278**	P	**P**	**12 02 34.5**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=80,slow=5.2,SNR=21						
TORD				LR	LR	12 33 50.7	
	comp=Z,164nm,19.0s,baz=95,slow=37						
SEY	**Seymchan**	**69.62**	**29**	P	**P**	**12 02 35.8**	**+0.5**
SEY	**Seymchan**	**69.62**	**29**	P	**P**	**12 02 35.8**	**+0.5**
SEY	**Seymchan**	**69.62**	**29**	P	**P**	**12 02 35.8**	**+0.5**
	comp=Z,16nm,0.5s,baz=249,slow=5.7,SNR=43						
ESDC	**Sonseca Array**	**69.93**	**307**	P	**P**	**12 02 37.0**	**-0.8**
ESDC	**Sonseca Array**	**69.93**	**307**	P	**P**	**12 02 37.0**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=70,slow=5.2,SNR=8.8						
WRA	**Warramunga Arr**	**69.95**	**119**	P	**P**	**12 02 37.6**	**-0.4**
WRA	**Warramunga Arr**	**69.95**	**119**	P	**P**	**12 02 37.6**	**-0.4**
	comp=Z,9.0nm,0.6s,baz=306,slow=5.8,SNR=76						
WRAB	**Tennant Creek**	**69.96**	**119**⇑	*e*P	**P**	**12 02 37.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,25nm,0.6s						
WRAB	**Tennant Creek**	**69.96**	**119**	*e*P	**P**	**12 02 38.0**	**0.0**
	comp=Z,12nm,0.5s						
WRAB	**Tennant Creek**	**69.96**	**119**	P	**P**	**12 02 38.5**	**+0.4**
	comp=Z,139nm,0.5s,SNR=14						
MDT	**Midelt**	**71.34**	**299**	P	**P**	**12 02 46.4**	**-0.1**
MDT	**Midelt**	**71.34**	**299**	P	**P**	**12 02 46.4**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=90,slow=8.8,SNR=6.6						
AS31	**Alice Springs**	**71.36**	**123**	*e*P	**P**	**12 02 46.5**	**0.0**
ASAR	**Alice Springs**	**71.36**	**123**	P	**P**	**12 02 46.0**	**-0.5**
ASAR	**Alice Springs**	**71.36**	**123**	P	**P**	**12 02 46.0**	**-0.5**
	comp=Z,10nm,0.7s,baz=302,slow=5.7,SNR=99						
PETK	**Petropavlovsk-**	**72.78**	**39**	LR	LR	12 37 52.1	
	comp=Z,258nm,18.9s,baz=278,slow=38						
KIC	**Kosan Boka**	**77.25**	**273**	*e*P	**P**	**12 03 21.3**	**+0.2**
	comp=Z,45nm,1.1s						
DBIC	**Dimbokro**	**77.27**	**273**	*e*P	**P**	**12 03 21.2**	**0.0**
	comp=Z,15nm,1.1s						
DBIC	**Dimbokro**	**77.27**	**273**	P	**P**	**12 03 21.4**	**+0.2**
	comp=Z,7.2nm,0.8s,baz=16,slow=6.0,SNR=6.8						
DBIC				LR	LR	12 37 40.3	
	comp=Z,111nm,18.2s,baz=41,slow=36						
TIC	**Toumodi**	**77.43**	**273**	*e*P	**P**	**12 03 22.1**	**-0.1**
	comp=Z,4.9nm,0.2s						
LIC	**Lamto**	**77.56**	**273**⇑	*i*P	**P**	**12 03 22.8**	**-0.1**
	comp=Z,47nm,1.2s						
LIC	**Lamto**	**77.56**	**273**	*e*P	**P**	**12 03 22.9**	**0.0**
	comp=Z,72nm,1.5s						
LIC	**Lamto**	**77.56**	**273**⇑	*i*P	**P**	**12 03 22.8**	**-0.1**
	comp=Z,47nm,1.2s						
CTA	**Charters Tower**	**80.17**	**115**	P	**P**	**12 03 37.5**	**+0.4**
CTA	**Charters Tower**	**80.17**	**115**	P	**P**	**12 03 37.5**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=297,slow=6.8,SNR=3.6						
STKA	**Stephens Creek**	**81.20**	**127**	P	**P**	**12 03 42.6**	**+0.3**
STKA	**Stephens Creek**	**81.20**	**127**	P	**P**	**12 03 42.6**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=349,slow=3.3,SNR=5.2						
STKA				LR	LR	12 35 28.7	
	comp=Z,132nm,20.8s,baz=115,slow=33						
FX1	**Attu Island--F**	**81.96**	**37**	LR	LR	12 41 53.9	
	comp=Z,178nm,18.9s,baz=296,slow=37						
MAW	**Mawson**	**84.96**	**184**	LR	LR	12 34 00.5	
	comp=Z,94nm,19.5s,baz=210,slow=30						
GAMB	**Gambell**	**84.98**	**24**	*e*P	**P**	**12 04 00.8**	**-0.4**
IM04	**Indian Mountai**	**89.74**	**18**	*e*P	**P**	**12 04 23.9**	**-0.5**
IM04				*e*PP	**PP**	**12 07 58.6**	**+2.7**
COLD	**Coldfoot**	**89.81**	**16**	*e*P	**P**	**12 04 25.2**	**+0.6**
	comp=Z,10nm,1.3s						
COLA	**College**	**92.23**	**17**⇑	*e*P	**P**	**12 04 35.8**	**0.0**
COLA				pmax	pmax		
	comp=Z,39nm,1.5s						
INK	**Inuvik**	**92.44**	**10**	LR	LR	12 50 43.0	
	comp=Z,69nm,21.3s,baz=39,slow=38						
ILAR	**Eielson Array**	**92.57**	**16**	P	**P**	**12 04 36.9**	**-0.6**
ILAR				PP	**PP**	**12 08 17.2**	**-1.0**
ILAR	**Eielson Array**	**92.57**	**16**	P	**P**	**12 04 36.9**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=310,slow=3.4,SNR=8.3						
ILAR				PP	**PP**	**12 08 17.2**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=319,slow=6.8,SNR=12						
ILAR				LR	LR	12 51 08.5	
	comp=Z,100nm,19.0s,baz=301,slow=39						
PAX	**Paxson**	**94.38**	**17**	*e*P	**P**	**12 04 47.2**	**+1.3**
PAX				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PAX	**Paxson**	**94.38**	**17**	*e*P	**P**	**12 04 47.2**	**+1.3**
	comp=Z,3.5nm,0.4s						
DZM	**Mont Dzumac**	**98.65**	**110**	LR	LR	12 52 25.7	
	comp=Z,137nm,18.4s,baz=183,slow=37						
YKA	**Yellowknife Ar**	**100.28**	**4**	P	**Pdif**	**12 05 12.7**	**+0.2**
YKA				PP	**PP**	**12 09 17.8**	**+0.2**
YKA	**Yellowknife Ar**	**100.28**	**4**	P	**Pdif**	**12 05 12.6**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=342,slow=4.9,SNR=4.9						
YKA				PP	**PP**	**12 09 17.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=355,slow=7.3,SNR=7.1						
AFI	**Afiamalu**	**116.98**	**97**	PKP	**PKPdf**	**12 10 10.6**	**-1.4**
AFI	**Afiamalu**	**116.98**	**97**	PKP	**PKPdf**	**12 10 10.6**	**-1.4**
	comp=Z,11nm,0.4s,baz=198,slow=22,SNR=2.9						
PDAR	**Pinedale Array**	**120.24**	**3**	PKP	**PKPdf**	**12 10 17.1**	**-0.9**
PDAR	**Pinedale Array**	**120.24**	**3**	PKP	**PKPdf**	**12 10 17.1**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=90,slow=2.4,SNR=18						
NVAR	**Mina Array Bea**	**123.49**	**11**	PKP	**PKPdf**	**12 10 25.2**	**+0.9**
NVAR	**Mina Array Bea**	**123.49**	**11**	PKP	**PKPdf**	**12 10 25.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=322,slow=2.0,SNR=5.4						
TXAR	**Lajitas Array**	**133.66**	**357**	PKPpre	PKPpre	12 10 36.8	
TXAR				PKP	**PKPdf**	**12 10 42.8**	**-0.9**
TXAR	**Lajitas Array**	**133.66**	**357**	PKhKP	PKPpre	12 10 36.8	
	comp=Z,0.2nm,0.7s,baz=107,slow=6.7,SNR=3.5						
TXAR				PKP	**PKPdf**	**12 10 42.8**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=96,slow=1.3,SNR=4.2						
LPAZ	**La Paz**	**143.59**	**266**	PKPpre	PKPpre	12 10 59.9	
LPAZ				*e*PKPdf	PKPbc	12 11 00.0	-0.1
LPAZ	**La Paz**	**143.59**	**266**	PKhKP	PKPpre	12 10 59.9	
	comp=Z,0.8nm,0.5s,baz=46,slow=2.6,SNR=3.0						
OTAV	**Otavalo**	**147.65**	**300**	*e*PKPbc	**PKPdf**	**12 11 10.8**	**+1.2**

IDC **12** *12:04:17.4±1.3,5.°03S×150.°07E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML2.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/24, Error ellipse: s-maj=63.9km s-min=23.8km az=121.0*

ISCJB **12** *12:04:21.4±1.4,5.°1S±0.°2×149.°8E±0.°4, h33km, mb3.5/5, Error ellipse: s-maj=58.0km s-min=14.9km az=29.1*

ISC 12 12:04:22.7±1.4,5.°0S±0.°2×149.°8E±0.°4,h35km,n7,σ1s43/9, mb3.6/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.09**	**211**	Pn	**Pn**	**12 05 36.7**	**+0.1**
	1.1nm,0.3s,baz=40,slow=12,SNR=5.0						
PMG				Sn	**Sn**	**12 06 32.0**	**-2.1**
	2.7nm,0.3s,baz=38,slow=19,SNR=3.3						
PMG				LR	LR	12 07 34.5	
	comp=Z,213nm,20.3s,baz=189,slow=38						
WRA	**Warramunga Arr**	**21.13**	**224**	P	**P**	**12 09 05.6**	**+0.8**
	0.8nm,0.3s,baz=50,slow=10,SNR=12						
WRA				PcP	**PcP**	**12 13 10.1**	**-0.1**
	0.4nm,0.4s,baz=44,slow=1.8,SNR=6.5						
ASAR	**Alice Springs**	**24.05**	**218**	P	**P**	**12 09 34.7**	**-0.2**
	1.0nm,0.8s,baz=57,slow=9.0,SNR=13						
FITZ	**Fitzroy Crossi**	**26.96**	**239**	P	**P**	**12 10 02.8**	**+1.5**
	0.6nm,0.4s,baz=54,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**27.81**	**195**	P	**P**	**12 10 10.6**	**+1.9**
	1.1nm,0.6s,baz=357,slow=13,SNR=3.9						
ILAR	**Eielson Array**	**83.50**	**23**	P	**P**	**12 16 45.5**	**-1.1**
	0.5nm,0.9s,baz=238,slow=5.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**147.51**	**287**	PKPbc	**PKPab**	**12 24 06.2**	**-0.2**
	2.7nm,0.7s,baz=69,slow=2.5,SNR=14						

MAN 12 12:05:21,12.°47N×125.°04E,h10km,mb4.4,ML3.2,MS3.1, 1D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.30**	**182**⇓	*e*P	Pn	12 05 43.6	-1.6
PLP				*e*S	Sb	12 05 59.4	-2.9
PVCP	**Virac**	**1.41**	**323**	*e*P	Pn	12 05 46.7	-0.1
PVCP				*e*S	Sb	12 06 05.5	0.0
MSLP	**Maasin**	**2.33**	**184**	*e*P	Pn	12 06 01.0	+1.6
MSLP				*e*S	Sb	12 06 30.6	-1.3

IDC **12** *12:27:00.4±2.0,6.°44S×129.°72E, h0km, mb3.8/1, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, ML3.8/3, Error ellipse: s-maj=79.2km s-min=26.9km az=77.0*

AUST **12** *12:27:14.8,6.°98S×130.°04E, h100km*

ISC 12 12:27:14.7±1.1,7.°06S±0.°08×129.°9E±0.°1,h146km,n10, σ3s04/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.76**	**30**	P	**Pn**	**12 28 22.9**	**-1.9**
	baz=4.6,SNR=9.0						
MTN	**Manton Dam**	**5.88**	**168**	P	Pn	12 28 43.3	+3.5
	baz=6.0,SNR=60						
KDU	**Kakadu**	**6.16**	**155**	P	Pn	12 28 46.9	+3.4
	baz=6.2,SNR=60						
FITZ	**Fitzroy Crossi**	**11.72**	**200**	Pn	**Pn**	**12 29 58.0**	**+0.6**
	0.4nm,0.3s,baz=20,slow=15,SNR=15						
FITZ				Sn	**Sn**	**12 32 01.7**	**-5.2**
	0.7nm,0.3s,baz=72,slow=19,SNR=6.1						
FITZ	**Fitzroy Crossi**	**11.72**	**200**	P	**Pn**	**12 29 59.5**	**+2.1**
	baz=12,SNR=14						
WRA	**Warramunga Arr**	**13.53**	**162**	Pn	**Pn**	**12 30 21.0**	**+0.2**
	0.5nm,0.3s,baz=339,slow=14,SNR=16						
WRA				Sn	**Sn**	**12 32 47.9**	**-2.7**
	1.4nm,0.3s,baz=333,slow=24,SNR=12						
QIS	**Mount Isa**	**16.41**	**146**	P	**P**	**12 31 00.5**	**+3.6**
	baz=16,SNR=3.3						
ASAR	**Alice Springs**	**16.97**	**167**	P	**Pn**	**12 31 06.5**	**+3.1**
	0.5nm,0.3s,baz=348,slow=11,SNR=51						
ASAR				S	**Sn**	**12 34 11.3**	**-1.8**
	0.2nm,0.3s,baz=351,slow=25,SNR=5.8						
WRKA	**Warakurna**	**17.94**	**185**	P	**Pn**	**12 31 17.3**	**+2.2**
	baz=18,SNR=6.7						
MKAR	**Makanchi Array**	**68.19**	**327**	P	**P**	**12 37 59.1**	**-0.2**
	0.4nm,0.4s,baz=127,slow=7.0,SNR=12						

GUC 12 12:31:12.5±0.8,31.°78S×70.°20W,h128km±8km,MD3.5, ML4.1,10C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.92**	**311**⇑	*i*P	Pn	12 31 35.2	+0.6
CMCH				*i* S	Sn	12 31 51.8	+0.5
CMCH				AML	AML	12 31 56.3	
	comp=E,6μm,0.6s						
JACH	**Jahuel**	**0.96**	**200**⇑	*i*P	Pn	12 31 35.5	+0.4
JACH				*i* S	Sn	12 31 52.5	+0.3
ROCH	**El Roble**	**1.37**	**210**⇓	*i*P	Pn	12 31 39.7	+0.4
ROCH				*i* S	Sn	12 32 00.1	+0.2
ROCH				AML	AML	12 32 01.6	
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**1.42**	**197**⇑	*i*P	Pn	12 31 39.8	+0.2
PEL				*i* S	Sn	12 32 00.4	0.0
PEL				AML	AML	12 32 02.6	
	comp=N,4μm,0.3s						
FCH	**Farellones**	**1.54**	**183**	AML	AML	12 32 13.2	
	comp=E,2μm,0.4s						
CLCH	**Cerro Calan**	**1.64**	**190**	*e*P	Pn	12 31 42.7	+0.5
CLCH				*i* S	Sn	12 32 05.4	+0.5
CLCH				AML	AML	12 32 06.5	
	comp=N,2μm,0.6s						
TLL	**Tololo Astrono**	**1.69**	**342**⇑	*i*P	Pn	12 31 44.1	+1.0
TLL				*i* S	Sn	12 32 06.9	+0.6
STL	**Santa Lucia**	**1.69**	**193**	*i* S	Sn	12 32 06.6	+0.7
SAN	**Santiago**	**1.71**	**193**	*i* S	Sn	12 32 07.1	+0.7
ANTU	**Antumapu**	**1.82**	**192**	*i* S	Sn	12 32 09.5	+0.9
ANTU				AML	AML	12 32 10.4	
	comp=E,2μm,0.4s						
PCH	**Pirque**	**1.85**	**188**⇑	*i*P	Pn	12 31 45.5	+0.7
PCH				*i* S	Sn	12 32 10.4	+0.9
SJCH	**San Jose de Ma**	**1.86**	**184**	*e*P	Pn	12 31 44.9	+0.1
TACH	**Talagante**	**1.97**	**198**⇑	*i*P	Pn	12 31 46.2	+0.2
TACH				*i* S	Sn	12 32 12.0	+0.3
LCCH	**Las Cruces**	**2.05**	**214**⇑	*i*P	Pn	12 31 47.8	+0.9
LMEL	**Las Melosas**	**2.06**	**180**	*e*P	Pn	12 31 48.2	+0.8
LMEL				*i* S	Sn	12 32 14.6	+0.5
LMEL				AML	AML	12 32 20.1	
	comp=N,1μm,0.2s						
CHCH	**Chadas Angostu**	**2.18**	**190**⇑	*i*P	Pn	12 31 49.4	+0.8
CHCH				*i* S	Sn	12 32 16.8	+0.3
CACH	**El Canelo**	**2.35**	**188**⇓	*i*P	Pn	12 31 51.6	+0.7
CACH				*i* S	Sn	12 32 21.9	+1.4
LNV	**Longovilo**	**2.40**	**205**⇓	*i*P	Pn	12 31 51.1	-0.2
LNV				*i* S	Sn	12 32 20.1	-1.0
LCO	**Las Campanas**	**2.79**	**351**⇑	*i*P	Pn	12 31 57.2	+0.5
LCO				*i* S	Sn	12 32 31.2	+0.4
LCO				AML	AML	12 32 33.1	
	comp=E,321nm,0.2s						
VACH	**Vallenar**	**3.23**	**351**⇑	*i*P	Pn	12 32 02.8	+0.6
VACH				*i* S	Sn	12 32 40.9	+0.5
VACH				AML	AML	12 32 43.2	
	comp=E,769nm,0.1s						

IDC **12** *12:38:40.3±0.6, 15.°39S×172.°17W, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.2/25, mbtmp4.1/13, MS3.7/4, Ms1 3.7/4, ms1mx3.2/37, Error ellipse: s-maj=30.7km s-min=12.1km az=121.0*

ISCJB **12** *12:38:44.2±0.6, 15.°3S±0.°1×172.°3W±0.°2, h35km, mb4.1/13, MS3.7/4, Error ellipse: s-maj=27.5km s-min=8.6km az=31.1*

ISC 12 12:38:45.8±0.7,15.°3S±0.°1×172.°3W±0.°2,h35km,n28, σ0s87/22,mb4.1/13,MS3.8/4,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.43**	**20**	Pn	**Pn**	**12 39 08.5**	**-0.8**
	44nm,0.3s,baz=197,slow=14,SNR=47						
AFI				Sn	**Sn**	**12 39 27.6**	**+0.8**
	baz=198,slow=20						
URZ	**Urewera**	**24.76**	**200**	P	**P**	**12 44 03.9**	**-0.2**
	11nm,0.4s,baz=68,slow=1.1,SNR=13						
URZ				S	**S**	**12 48 25.9**	**+1.9**
	9.3nm,1.1s,baz=82,slow=14,SNR=3.8						
RPZ	**Rata Peaks**	**31.73**	**203**	LR	LR	12 55 35.5	
	comp=Z,459nm,20.1s,baz=34,slow=32						
H11S2	**WAKE ISLAND Hy**	**39.41**	**328**	T	T	13 28 45.3	
	baz=148,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**39.42**	**328**	T	T	13 28 46.3	
	baz=148,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**39.43**	**328**	T	T	13 28 45.5	
	baz=148,slow=76,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**40.34**	**329**	T	T	13 29 50.6	
	baz=148,slow=77,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**40.34**	**329**	T	T	13 29 48.8	
	baz=148,slow=77,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**40.35**	**329**	T	T	13 29 50.8	
	baz=148,slow=77,SNR=3.9						
STKA	**Stephens Creek**	**45.04**	**240**	P	**P**	**12 46 58.0**	**-0.3**
	3.0nm,0.9s,baz=54,slow=9.4,SNR

TWB1				S		Sn	12 52 15.2	-0.9
	baz=342							
ESF	**Shoufeng Towns**	**0.82**	**243**	*eP*		**Pn**	**12 52 05.5**	**+0.2**
	baz=239							
ESF				*eS*		**Sn**	**12 52 17.4**	**+1.0**
	baz=239							
NNS	**Nan Shan**	**0.87**	**283**	*eP*		**Pn**	**12 52 06.2**	**+0.2**
	baz=281							
NNS				S		**Sn**	**12 52 17.6**	**-0.2**
	baz=281							
TEGC	**Jichi Village**	**0.88**	**232**	*eP*		**Pn**	**12 52 06.7**	**+0.6**
	baz=228							
TEGC				*eS*		**Sn**	**12 52 18.6**	**+0.7**
	baz=228							
ESL	**Shilin**	**0.91**	**241**	⇓*iP*		**Pn**	**12 52 06.2**	**-0.2**
	baz=238							
ESL				*eS*		**Sn**	**12 52 18.5**	**0.0**
	baz=238							
WHF	**Hehuan Shan**	**0.95**	**264**	⇓*iP*		**Pn**	**12 52 07.5**	**+0.1**
	baz=253							
WHF				S		**Sn**	**12 52 20.4**	**+0.2**
	baz=253							
NSK	**Sanguang**	**0.96**	**296**	*iP*		**Pn**	**12 52 07.8**	**+0.6**
	baz=288							
NSK				S		**Sn**	**12 52 19.5**	**-0.3**
	baz=288							
TWT	**Tachien**	**1.03**	**270**	⇓*iP*		**Pn**	**12 52 09.1**	**+0.8**
	baz=268							
TWT				S		**Sn**	**12 52 22.3**	**+0.6**
	baz=268							
TAP1	**Taipei**	**1.06**	**318**	*eP*		**Pn**	**12 52 09.4**	**+1.0**
	baz=331							
TAP1				*eS*		**Sn**	**12 52 22.3**	**+0.2**
	baz=331							
TAP	**Taipei**	**1.07**	**317**	*eP*		**Pn**	**12 52 09.8**	**+1.2**
	baz=331							
TAP				*eS*		**Sn**	**12 52 22.3**	**-0.1**
	baz=331							
EHY	**Hungye**	**1.16**	**231**	*eP*		**Pn**	**12 52 09.9**	**-0.1**
	baz=237							
TWS1	**Kuangyinshan**	**1.17**	**317**	*eP*		**Pn**	**12 52 10.4**	**+0.5**
	baz=328							
TWS1				*eS*		**Sn**	**12 52 25.8**	**+1.0**
	baz=328							
TWY	**Chenhua**	**1.20**	**328**	*eP*		**Pn**	**12 52 11.1**	**+0.6**
	baz=330							
NCU	**National Centr**	**1.24**	**305**	P		**Pn**	**12 52 11.6**	**+0.6**
	baz=306							
NCU				*eS*		**Sn**	**12 52 27.5**	**+0.9**
	baz=306							
NSTT	**Nanjuang**	**1.24**	**288**	⇑*iP*		**Pn**	**12 52 11.9**	**+0.9**
	baz=287							
NSTT				S		**Sn**	**12 52 27.6**	**+0.9**
	baz=287							
IRIF	**Iriomote-Funau**	**1.31**	**86**	P		**Pn**	**12 52 12.3**	**+0.5**
IRIF				S		**Sn**	**12 52 28.7**	**+0.5**
HSN	**Hsinchu**	**1.33**	**295**	*eP*		**Pn**	**12 52 12.9**	**+0.7**
	baz=296							
HSN				*eS*		**Sn**	**12 52 28.5**	**-0.2**
	baz=296							
SMLT	**Sun Moon Lake**	**1.33**	**254**	*eP*		**Pn**	**12 52 13.2**	**+0.8**
	baz=247							
SMLT				S		**Sn**	**12 52 28.9**	**-0.1**
	baz=247							
TYC	**Yuchr**	**1.36**	**256**	⇓P		**Pn**	**12 52 13.5**	**+0.9**
	baz=247							
TYC				*eS*		**Sn**	**12 52 29.6**	**0.0**
	baz=247							
HATJ	**Hateruma jima**	**1.39**	**98**	P		**Pn**	**12 52 14.2**	**+1.3**
HATJ				S		**Sn**	**12 52 32.3**	**+2.2**
PCYT	**Pengchaiyu**	**1.39**	**351**	*eP*		**Pn**	**12 52 13.4**	**+0.4**
	baz=344							
TWQ1	**Liyutan**	**1.40**	**274**	P		**Pn**	**12 52 14.2**	**+1.1**
	baz=273							
TWQ1				*eS*		**Sn**	**12 52 31.7**	**+1.2**
	baz=273							
NSY	**Sanyi**	**1.42**	**277**	*eP*		**Pn**	**12 52 14.6**	**+1.2**
	baz=276							
NSY				S		**Sn**	**12 52 32.0**	**+1.1**
	baz=276							
CHKT	**Chengkung**	**1.43**	**217**	*eP*		**Pn**	**12 52 13.0**	**-0.6**
	baz=207							
CHKT				*eS*		**Sn**	**12 52 29.2**	**-2.0**
	baz=207							
YUS	**Yu-Shan**	**1.45**	**239**	*eP*		**Pn**	**12 52 15.2**	**+0.9**
	baz=237							
YUS				*eS*		**Sn**	**12 52 31.5**	**-0.9**
	baz=237							
TCU	**Taichung**	**1.49**	**266**	*eP*		**Pn**	**12 52 15.6**	**+1.2**
	baz=277							
TCU				*eS*		**Sn**	**12 52 34.0**	**+1.4**
	baz=277							
WNT	**Mingjian**	**1.52**	**256**	*eP*		**Pn**	**12 52 16.5**	**+1.6**
	baz=255							
WNT				*eS*		**Sn**	**12 52 35.4**	**+1.9**
	baz=255							
ALS	**Alishan**	**1.56**	**242**	*eP*		**Pn**	**12 52 17.0**	**+1.4**
	baz=233							
ALS				*eS*		**Sn**	**12 52 35.3**	**+0.6**
	baz=233							
JKRS	**Kuro-shima**	**1.56**	**90**	P		**Pn**	**12 52 16.4**	**+1.1**
JKRS				S		**Sn**	**12 52 36.0**	**+1.7**
ELDTW	**Lidau**	**1.58**	**228**	*eP*		**Pn**	**12 52 15.7**	**0.0**
	baz=226							
ELDTW				*eS*		**Sn**	**12 52 34.6**	**-0.5**
	baz=226							
CHN5	**Tsauling**	**1.62**	**247**	*eP*		**Pn**	**12 52 17.5**	**+1.2**
	baz=236							
CHN5				*eS*		**Sn**	**12 52 37.6**	**+1.5**
	baz=236							
JIJ	**Ishigaki jima**	**1.68**	**86**	P		**Pn**	**12 52 17.2**	**+0.2**
JIJ				S		**Sn**	**12 52 37.0**	**-0.4**
WGK	**Gukeng**	**1.69**	**251**	*eP*		**Pn**	**12 52 18.4**	**+1.3**
	baz=239							
WGK				*eS*		**Sn**	**12 52 39.8**	**+2.2**
	baz=239							
STYT	**Tauyuan**	**1.78**	**233**	⇓P		**Pn**	**12 52 19.8**	**+1.4**
	baz=225							
STYT				*eS*		**Sn**	**12 52 41.2**	**+1.2**
	baz=225							
CHN4	**Tsaushan**	**1.80**	**241**	*eP*		**Pn**	**12 52 20.0**	**+1.3**
	baz=231							
CHN4				*eS*		**Sn**	**12 52 42.5**	**+2.2**
	baz=231							
TWG	**Pinlang**	**1.82**	**219**	*eP*		**Pn**	**12 52 18.4**	**-0.5**
	baz=224							
TWG				*eS*		**Sn**	**12 52 38.5**	**-2.2**
	baz=224							
TTN	**Taitung**	**1.83**	**216**	*eP*		**Pn**	**12 52 20.8**	**+1.8**
	baz=208							
TTN				*eS*		**Sn**	**12 52 42.0**	**+1.0**
	baz=208							
WTP	**Ta-pu**	**1.84**	**237**	P		**Pn**	**12 52 20.5**	**+1.3**
	baz=236							
WTP				*eS*		**Sn**	**12 52 43.0**	**+1.6**
	baz=236							
CHY	**Chiayi**	**1.88**	**247**	*eP*		**Pn**	**12 52 21.3**	**+1.7**
	baz=238							
CHY				*eS*		**Sn**	**12 52 44.1**	**+2.0**
	baz=238							
WTCT	**Ta-ch'eng**	**1.89**	**259**	*eP*		**Pn**	**12 52 20.6**	**+0.8**
	baz=257							
WTCT				*eS*		**Sn**	**12 52 43.5**	**+1.1**
	baz=257							
TWK	**Hsinying**	**1.93**	**240**	*eP*		**Pn**	**12 52 22.2**	**+1.7**
	baz=239							
TWK				*eS*		**Sn**	**12 52 44.9**	**+1.3**
	baz=239							
CHN1	**Nanshi**	**1.94**	**237**	*eP*		**Pn**	**12 52 22.2**	**+1.6**
	baz=236							
CHN1				*eS*		**Sn**	**12 52 45.4**	**+1.6**
	baz=236							
SGST	**Jiashian**	**1.96**	**234**	P		**Pn**	**12 52 22.7**	**+1.9**
	baz=233							
SGST				*eS*		**Sn**	**12 52 46.8**	**+2.6**
	baz=233							
WSF	**Szhu**	**2.00**	**253**	*eP*		**Pn**	**12 52 22.6**	**+1.3**
	baz=263							
WSF				*eS*		**Sn**	**12 52 46.8**	**+1.6**
	baz=263							
CHN8	**Yiju**	**2.12**	**245**	*eP*		**Pn**	**12 52 25.0**	**+2.1**
	baz=234							
CHN8				*eS*		**Sn**	**12 52 49.3**	**+1.3**
	baz=234							
SSD	**Sandimen**	**2.14**	**226**	*eP*		**Pn**	**12 52 24.9**	**+1.5**
	baz=225							
SSD				*eS*		**Sn**	**12 52 50.1**	**+1.3**
	baz=225							
SCLT	**Jiali**	**2.21**	**241**	*eP*		**Pn**	**12 52 25.6**	**+1.4**
	baz=241							
SCLT				*eS*		**Sn**	**12 52 52.2**	**+1.9**
	baz=241							
JTJ	**Tarama**	**2.22**	**79**	P		**Pn**	**12 52 25.2**	**+0.8**
JTJ				S		**Sn**	**12 52 51.1**	**+0.5**
LAY	**Lan-yu**	**2.31**	**198**	*eP*		**Pn**	**12 52 24.4**	**-1.2**
	baz=197							
LAY				*eS*		**Sn**	**12 52 50.3**	**-2.6**
	baz=197							
SCZT	**Fangliau**	**2.43**	**220**	*eP*		**Pn**	**12 52 29.0**	**+1.8**
	baz=216							
SCZT				*eS*		**Sn**	**12 52 57.2**	**+1.5**
	baz=216							
WDGT	**Dungji**	**2.61**	**248**	*eP*		**Pn**	**12 52 30.6**	**+0.9**
	baz=248							
HEN	**Hengchun**	**2.66**	**213**	*eP*		**Pn**	**12 52 31.3**	**+0.9**
	baz=213							
HEN				*eS*		**Sn**	**12 53 01.6**	**+0.2**
	baz=213							
TSEB	**Hengchuen, Pin**	**2.67**	**209**	*eP*		**Pn**	**12 52 32.4**	**+1.8**
	baz=210							
TSEB				*eS*		**Sn**	**12 53 02.8**	**+1.1**
	baz=210							
TWK1	**Hengchun**	**2.68**	**211**	*eP*		**Pn**	**12 52 29.6**	**-1.1**
	baz=211							
TWK1				*eS*		**Sn**	**12 53 02.9**	**+1.0**
	baz=211							
JMJ	**Miyako jima 2**	**2.78**	**78**	S		**Sn**	**12 53 05.4**	**+1.0**
JOGS	**Gusukube**	**2.87**	**79**	P		**Pn**	**12 52 34.9**	**+1.6**
JOGS				S		**Sn**	**12 53 08.0**	**+1.3**
KNM	**Kinmen**	**3.53**	**273**	*eP*		**Pn**	**12 52 43.4**	**+1.1**
	baz=272							
JKE	**Kume jima 2**	**4.55**	**62**	P		**Pn**	**12 52 57.3**	**+0.9**
WRA	**Warramunga Arr**	**45.47**	**164**	P		**P**	**13 00 03.8**	**-0.8**
	1.3nm,0.7s,baz=346,slow=8.8,SNR=15							
ASAR	**Alice Springs**	**48.95**	**166**	P		**P**	**13 00 31.4**	**-0.2**
	0.3nm,0.3s,baz=350,slow=6.6,SNR=22							
YKA	**Yellowknife Ar**	**82.51**	**23**	P		**P**	**13 04 05.2**	**-2.1**
	0.3nm,0.7s,baz=311,slow=5.0,SNR=4.1							

ISCJB ***12*** *12:58:22.8±0.6, 15°.5S±0°.1×178°.4W±0°.1, h400km, mb3.9/14, Error ellipse: s-maj=22.6km s-min=10.7km az=136.3*

IDC ***12*** *12:58:24.9±5.6, 15°.58S×178°.46W, h412km±61km, mb3.6/14, mb1 3.8/14, mb1mx3.7/21, mbtmp3.6/14, Error ellipse: s-maj=21.6km s-min=19.2km az=155.0*

AUST ***12*** *12:58:43.7±4.8, 16°.53S×179°.69E, h427km, Error ellipse: s-maj=5.0km s-min=2.4km az=237.0*

ISC 12 12:58:23.7±0.7, 15°.5S±0°.2×178°.4W±0°.2, h400km, n28, σ1§06/25, mb4.0/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.99**	**189**	P	**P**	**P**	**13 02 53.9**	**-1.3**
	8.2nm,0.7s,baz=54,slow=5.1,SNR=6.0							
RABL	**Rabaul**	**31.04**	**288**	P	P	P	13 04 13.2	+6.4
	baz=30,SNR=4.0							
ARMA	**Armidale**	**31.19**	**236**	P	**P**	**P**	**13 04 10.2**	**+2.2**
	baz=29,SNR=4.7							
RMQ	**Roma**	**32.44**	**245**	P	P	P	13 04 21.7	+3.0
	baz=30,SNR=4.7							
CTA	**Charters Tower**	**33.90**	**257**	P	**P**	**P**	**13 04 31.9**	**+0.6**
	2.9nm,0.5s,baz=88,slow=11,SNR=6.8							
CMSA	**Cobar Meteorol**	**36.37**	**238**	P	**P**	**P**	**13 04 53.6**	**+1.7**
	baz=34,SNR=9.2							
QLP	**Quilpie**	**36.43**	**246**	P	**P**	**P**	**13 04 52.5**	**0.0**
	baz=34,SNR=11							
STKA	**Stephens Creek**	**39.81**	**239**	P	**P**	**P**	**13 05 20.0**	**-0.3**
	1.9nm,0.7s,baz=98,slow=6.5,SNR=6.1							
STKA	**Stephens Creek**	**39.81**	**239**	P	**P**	**P**	**13 05 22.6**	**+2.2**
	baz=38,SNR=4.2							
HTT	**Hallett**	**42.38**	**237**	P	**P**	**P**	**13 05 41.0**	**0.0**
	baz=40,SNR=5.2							
WRA	**Warramunga Arr**	**45.10**	**257**	P	**P**	**P**	**13 06 02.0**	**-0.5**
	1.4nm,0.4s,baz=98,slow=6.6,SNR=46							
ASAR	**Alice Springs**	**45.47**	**252**	P	**P**	**P**	**13 06 05.3**	**-0.1**
	22nm,0.5s,baz=84,slow=8.4,SNR=573							
WRKA	**Warakurna**	**50.60**	**250**	P	**P**	**P**	**13 06 44.2**	**+0.1**
	baz=48,SNR=61							
FITZ	**Fitzroy Crossi**	**53.45**	**259**	P	P	P	13 07 08.8	+4.0
	baz=51,SNR=6.4							
MEEK	**Meekatharra**	**59.29**	**248**	P	**P**	**P**	**13 07 44.8**	**-0.7**
	baz=57,SNR=3.7							
KLBR	**Kellerberin**	**59.90**	**242**	P	**P**	**P**	**13 07 48.8**	**-0.7**
	baz=58,SNR=7.9							
MJAR	**Matsushiro Arr**	**66.00**	**323**	P	**P**	**P**	**13 08 28.7**	**-0.2**
	1.3nm,0.6s,baz=150,slow=6.7,SNR=7.9							
PETK	**Petropavlovsk-**	**71.38**	**345**	P	**P**	**P**	**13 09 01.8**	**+0.4**
	4.7nm,0.7s,baz=98,slow=9.1,SNR=11							
NVAR	**Mina Array Bea**	**77.72**	**44**	P	**P**	**P**	**13 09 39.1**	**+1.1**
	2.1nm,0.7s,baz=230,slow=8.1,SNR=12							
ILAR	**Eielson Array**	**83.58**	**13**	P	**P**	**P**	**13 10 07.0**	**-0.8**
	2.0nm,0.6s,baz=229,slow=5.3,SNR=53							
TXAR	**Lajitas Array**	**84.73**	**58**	P	**P**	**P**	**13 10 15.9**	**+1.4**
	0.9nm,0.7s,baz=224,slow=7.7,SNR=12							
PDAR	**Pinedale Array**	**85.64**	**44**	P	**P**	**P**	**13 10 19.1**	**+0.3**
	1.4nm,0.6s,baz=216,slow=3.0,SNR=16							
MAW	**Mawson**	**86.09**	**200**	P	**P**	**P**	**13 10 20.7**	**+0.4**
	2.9nm,0.8s,baz=119,slow=6.9,SNR=7.4							
SONM	**Songino Array**	**91.74**	**319**	P	**P**	**P**	**13 10 47.4**	**+0.2**
	0.2nm,0.6s,baz=134,slow=4.2,SNR=2.6							
YKA	**Yellowknife Ar**	**92.18**	**25**	P	**P**	**P**	**13 10 48.2**	**-0.4**
	0.3nm,0.6s,baz=241,slow=4.4,SNR=6.5							
ARCES	**ARCESS Array B**	**123.97**	**350**	PKP		**PKPdf**	**13 16 33.6**	**-0.9**
	3.2nm,0.8s,baz=28,slow=3.4,SNR=5.2							
BRTR	**Keskin Array B**	**143.07**	**317**	PKP		**PKPdf**	**13 17 09.4**	**-1.8**
	2.5nm,0.9s,baz=107,slow=1.3,SNR=6.0							
GERES	**GERESS Array B**	**145.31**	**346**	PKPbc		**PKPbc**	**13 17 14.9**	**-0.6**
	1.0nm,0.5s,baz=20,slow=4.3,SNR=11							

ISCJB ***12*** *13:12:27.3±0.6, 60°.15N±0°.03×27°.30E±0°.07, h0km, Error ellipse: s-maj=5.3km s-min=3.3km az=21.1*

CSEM ***12*** *13:12:28.6±0.3, 60°.16N×27°.27E, h2km, ML2.1, Error ellipse: s-maj=6.6km s-min=4.1km az=119.0, Mining explosion.*

BER ***12*** *13:12:28.6±2.8, 60°.15N×27°.35E, h0km, ML2.3(NAO), Suspected explosion*

IDC ***12*** *13:12:29.2±1.9, 60°.13N×27°.33E, h0km, mb1 3.3/2, mb1mx3.0/25, mbtmp3.2/2, ML3.1/2, Error ellipse: s-maj=18.6km s-min=12.9km az=92.0*

HEL ***12*** *13:12:29.1±0.2, 60°.16N×27°.31E, h0km, ML2.1, Explosion*

NAO ***12*** *13:12:29.1±1.2, 60°.15N×27°.24E, ML2.3*

ISC 12 13:12:27.6±0.8, 60°.15N±0°.03×27°.22E±0°.03, h0km, n39, σ1§22/64, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.42**	**23**	*eP*		**Pg**	**13 12 36.4**	**+0.7**
VJF				*eS*		**Sg**	**13 12 41.9**	**+0.8**
VJF	**Virojoki**	**0.42**	**23**	P		**Pg**	**13 12 36.3**	**+0.7**
VJF				S		**Sg**	**13 12 41.9**	**+0.8**
PVF	**Pernaja**	**0.78**	**301**	*eP*		**Pg**	**13 12 43.3**	**+0.7**
PVF				*eS*		**Sg**	**13 12 54.3**	**+1.7**
PVF	**Pernaja**	**0.78**	**301**	P		**Pg**	**13 12 43.2**	**+0.7**
PVF				S		**Sg**	**13 12 54.3**	**+1.7**
FIA0	**FINESS Array S**	**1.41**	**337**	Pg		**Pn**	**13 12 54.0**	**-0.5**
	baz=157,slow=18							
FIA0				Lg		Lg	13 13 13.7	
	baz=158,slow=37							
FIA0	**FINESS Array S**	**1.41**	**337**	Pg		**Pn**	**13 12 54.0**	**-0.5**
	baz=157,slow=18							
FIA0				Lg		Lg	13 13 13.7	
	baz=158,slow=37							
FIA0	**FINESS Array S**	**1.41**	**337**	*eP*		**Pn**	**13 12 53.8**	**-0.7**
FIA0				*eS*		**Sg**	**13 13 13.3**	**+0.4**
FIA0				MSG			13 13 16.6	
	comp=Z,28nm,0.2s							
FIA0	**FINESS Array S**	**1.41**	**337**	P		**Pn**	**13 12 53.8**	**-0.7**
FIA0				S		**Sg**	**13 13 13.2**	**+0.4**
FINES	**FINESS Array B**	**1.41**	**337**	Pg		**Pn**	**13 12 53.8**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=156,slow=14,SNR=170							
FINES				Lg		Lg	13 13 15.0	
	comp=Z,11nm,0.3s,baz=156,slow=27,SNR=58							
MEF	**Metsahovi**	**1.41**	**274**	*eP*		**Pn**	**13 12 54.5**	**+0.1**
MEF				*eS*		**Sb**	**13 13 13.9**	**+0.6**
MEF				MSG			13 13 19.4	
	comp=Z,19nm,0.2s							
MEF	**Metsahovi**	**1.41**	**274**	*eP*		**Pn**	**13 12 54.6**	**+0.1**
	SNR=50							
MEF				S		**Sb**	**13 13 13.8**	**+0.6**
SRPE	**Suurupi**	**1.59**	**245**	*eP*		**Pb**	**13 12 57.9**	**+0.1**
	SNR=50							
SRPE				*eS*		**Sn**	**13 13 17.9**	**-0.3**
	comp=Z,145nm,0.2s,SNR=50							
VSU	**Vasula**	**1.71**	**188**	Pg		**Pb**	**13 12 59.7**	**-0.2**
VSU				Lg		Lg	13 13 21.6	
VSU	**Vasula**	**1.71**	**188**	Pg		**Pb**	**13 12 59.7**	**-0.2**
VSU				Lg		Lg	13 13 21.6	
VSU	**Vasula**	**1.71**	**188**	*eP*		**Pb**	**13 12 59.9**	**0.0**
VSU				*eS*		**Sn**	**13 13 21.3**	**+0.1**
VSU	**Vasula**	**1.71**	**188**	*eP*		**Pn**	**13 12 59.6**	**+0.9**
	SNR=50							
VSU				*eS*		**Sn**	**13 13 21.3**	**+0.1**
	comp=Z,104nm,0.2s,SNR=50							
VSU				Lg		Lg	13 13 21.6	
KAF	**Kangasniemi**	**2.02**	**348**	*eP*		**Pb**	**13 13 04.2**	**-0.8**
KAF				*eS*		**Sn**	**13 13 29.6**	**+0.9**
KAF				MSG			13 13 32.9	
	comp=Z,9.5nm,0.2s							
KAF	**Kangasniemi**	**2.02**	**348**	P		**Pb**	**13 13 04.2**	**-0.8**
KAF				S		**Sn**	**13 13 29.5**	**+0.9**
MTSE	**Matsula**	**2.26**	**232**	*eP*		**Pb**	**13 13 08.6**	**-0.7**
MTSE				*eS*		**Sb**	**13 13 37.7**	**0.0**
MTSE	**Matsula**	**2.26**	**232**	P		**Pb**	**13 13 08.5**	**-0.7**
MTSE				S		**Sb**	**13 13 37.6**	**0.0**
KEF	**Keuruu**	**2.32**	**332**	*eP*		**Pb**	**13 13 09.3**	**-0.9**
KEF				*eS*		**Sb**	**13 13 38.5**	**-0.9**
KEF	**Keuruu**	**2.32**	**332**	P		**Pb**	**13 13 09.3**	**-0.9**
KEF				S		**Sb**	**13 13 38.5**	**-0.9**
SUF	**Sumiainen**	**2.62**	**349**	*eP*		**Pn**	**13 13 12.9**	**+1.7**
SUF				*eS*		**Sn**	**13 13 45.0**	**+1.3**
SUF	**Sumiainen**	**2.62**	**349**	P		**Pn**	**13 13 12.9**	**+1.7**
SUF				S		**Sn**	**13 13 45.0**	**+1.3**
RAF	**Rauma**	**2.83**	**290**	*eP*		**Pn**	**13 13 16.3**	**+2.4**
RAF				*eS*		**Sn**	**13 13 51.3**	**+2.6**
RAF	**Rauma**	**2.83**	**290**	*eP*		**Pn**	**13 13 16.0**	**+2.1**
	SNR=50							
RAF				S		**Sn**	**13 13 51.3**	**+2.6**
JOF	**Joensuu**	**3.40**	**33**	*eP*		**Pn**	**13 13 22.6**	**+0.9**
JOF				*eS*		**Sn**	**13 14 02.3**	**-0.4**
JOF	**Joensuu**	**3.40**	**33**	P		**Pn**	**13 13 22.6**	**+0.9**
JOF				S		**Sn**	**13 14 02.3**	**-0.4**
HFS	**Hagfors**	**6.75**	**276**	Pn		**Pn**	**13 14 08.7**	**+0.8**
	baz=105,slow=14							
HFS				Sn		**Sn**	**13 15 21.6**	**-3.8**
	baz=80,slow=22							
HFS	**Hagfors**	**6.75**	**276**	Pn		**Pn**	**13 14 08.7**	**+0.8**
	baz=105,slow=14							
HFS				Sn		**Sn**	**13 15 21.6**	**-3.8**
	baz=80,slow=22							
HFS	**Hagfors**	**6.75**	**276**	Pn		**Pn**	**13 14 08.7**	**+0.8**
	SNR=5.7							
NB2	**NORSAR Subarra**	**7.93**	**283**	Pn		**Pn**	**13 14 24.9**	**+0.9**
	baz=83,slow=14							
NB2	**NORSAR Subarra**	**7.93**	**283**	Pn		**Pn**	**13 14 24.9**	**+0.9**
	baz=83,slow=14							
NB2	**NORSAR Subarra**	**7.93**	**283**	Pn		**Pn**	**13 14 24.9**	**+0.9**
	SNR=2.6							
NOA	**NORSAR Array B**	**7.93**	**283**	Pn		**Pn**	**13 14 23.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=73,slow=10,SNR=18							
ARA0	**ARCESS Array S**	**9.45**	**356**	Pn		**Pn**	**13 14 44.0**	**-0.8**
	baz=169,slow=16							
ARA0				Sn		Sn	13 16 24.8	-6.7
	baz=176,slow=28							
ARA0	**ARCESS Array S**	**9.45**	**356**	Pn		**Pn**	**13 14 44.0**	**-0.8**
	baz=169,slow=16							
ARA0				Sn		Sn	13 16 24.8	-6.7
	baz=176,slow=28							
ARA0	**ARCESS Array S**	**9.45**	**356**	Pn		**Pn**	**13 14 44.0**	**-0.8**
	SNR=4.2							
ARCES	**ARCESS Array B**	**9.45**	**356**	Pn		**Pn**	**13 14 44.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=175,slow=13,SNR=38							

IDC 12 13:26:04.8±1.6, 3°.74S×140°.17E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/17, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=103.7km s-min=27.6km az=116.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.08**	**199**	P		Pn	13 30 05.7	+0.5
	0.2nm,0.3s,baz=19,slow=13,SNR=14							
WRA				S		Sn	13 33 05.8	-10
	0.2nm,0.3s,baz=16,slow=22,SNR=6.7							
FITZ	**Fitzroy Crossi**	**20.16**	**224**	P		P	13 30 40.9	0.0
	1.0nm,0.9s,baz=37,slow=10,SNR=2.8							
FITZ				S		S	13 34 13.7	-15
	2.5nm,0.9s,baz=218,slow=18,SNR=3.8							
ASAR	**Alice Springs**	**20.71**	**196**	P		P	13 30 46.6	-0.4
	0.6nm,0.7s,baz=29,slow=10.0,SNR=10							
ASAR				S		S	13 34 35.5	-3.8
	0.5nm,0.7s,baz=18,slow=26,SNR=4.8							
ILAR	**Eielson Array**	**86.16**	**24**	P		P	13 38 47.8	0.0
	0.3nm,0.5s,baz=235,slow=5.2,SNR=8.9							

AUST ***12*** *13:34:08.7±6.4, 18°.78S×177°.10W, h173km±5km, Error ellipse: s-maj=5.4km s-min=3.0km az=26.0*

ISCJB ***12*** *13:34:41.3±0.8, 21°.0S±0°.2×178°.0W±0°.1, h412km, mb3.6/6, Error ellipse: s-maj=24.7km s-min=14.0km az=167.6*

IDC ***12*** *13:34:44.4±4.3, 21°.19S×177°.95W, h442km±54km, mb3.3/6, mb1 3.5/8, mb1mx3.2/22, mbtmp3.4/8, Error ellipse: s-maj=48.9km s-min=19.0km az=167.0*

ISC 12 13:34:42.3±1.0, 21°.1S±0°.2×178°.0W±0°.1, h412km, n17, σ0§74/16, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**16.99**	**94**	P	**P**	**P**	**13 38 16.1**	**+0.3**
	5.5nm,0.3s,baz=270,slow=5.6,SNR=4.4							
URZ	**Urewera**	**17.67**	**193**	P	**P**	**P**	**13 38 22.4**	**-0.4**
	0.7nm,0.3s,baz=34,slow=3.6,SNR=8.5							
ARMA	**

0.3nm,0.3s,baz=329,slow=18,SNR=7.2
DZM S **Sn** **13 43 05.8 -0.4**
0.4nm,0.3s,baz=126,slow=19,SNR=3.5
WRA Warramunga Arr 27.87 246 P **P** **13 43 27.8 -0.8**
1.7nm,0.6s,baz=75,slow=9.3,SNR=13
WRA pP **pP** **13 43 51.0 +3.0**
1.4nm,0.7s,baz=73,slow=9.3,SNR=5.2
STKA Stephens Creek 28.37 217 LR LR 13 55 26.7
comp=Z,54nm,18.4s,baz=26,slow=38
H11S2 WAKE ISLAND Hy 28.93 10 T T 14 12 34.9
baz=195,slow=77,SNR=12
H11S3 WAKE ISLAND Hy 28.93 10 T T 14 12 34.2
baz=195,slow=77,SNR=8.6
H11S1 WAKE ISLAND Hy 28.94 10 T T 14 12 36.0
baz=195,slow=77,SNR=6.9
ASAR Alice Springs 29.49 239 P **P** **13 43 41.2 -1.7**
0.7nm,0.9s,baz=64,slow=10.0,SNR=5.2
ASAR pP **pP** **13 44 04.3 +1.9**
0.8nm,0.9s,baz=68,slow=10,SNR=4.1
H11N1 WAKE ISLAND Hy 30.15 10 T T 14 14 31.3
baz=195,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 30.16 10 T T 14 14 17.5
baz=195,slow=75,SNR=11
H11N2 WAKE ISLAND Hy 30.17 10 T T 14 14 41.1
baz=195,slow=75,SNR=12
SONM Songino Array 75.47 325 P **P** **13 49 22.2 +0.6**
1.6nm,0.7s,baz=141,slow=5.9,SNR=14
ILAR Eielson Array 84.06 20 P **P** **13 50 07.6 +0.1**
0.7nm,1.0s,baz=233,slow=5.0,SNR=4.5
MKAR Makanchi Array 89.98 318 P **P** **13 50 36.0 -0.6**
0.2nm,0.7s,baz=124,slow=3.0,SNR=2.6
YKA Yellowknife Ar 96.14 28 P **P** **13 51 04.4 -0.1**
0.2nm,0.5s,baz=259,slow=4.5,SNR=4.2

NIED ***12*** *13:50:00,28.˚20N×129.˚50E,h38km,Mw4.6 Best double couple: M₀8.97000×10¹⁵ NP1:φ₈114.00000°,δ83.00000°, λ-83.00000°. NP2:φ₈251.00000°,δ10.00000°, λ-132.00000°.*

BJI ***12*** *13:50:31.4,28.˚02N×129.˚39E,h11km,mB4.6/29,mb4.5/30, Ms4.1/38,Ms7 3.9/38*

NEIC ***12*** *13:50:31.8±0.2,28.˚19N×129.˚47E,h10km,mb5.0/30, MW4.6(NIED),Error ellipse: s-maj=5.9km s-min=4.1km az=142.0*

NEIC Recorded [3 JMA] on Amami-oshima and [2 JMA] on Kikaiga-shima and Tokuno-shima.

MOS ***12*** *13:50:33.0±1.1,28.˚13N×129.˚53E,h31km,mb4.6/33,Error ellipse: s-maj=10.0km s-min=6.4km az=101.0*

ISCJB ***12*** *13:50:34.3±0.4,28.˚16N±0.˚02×129.˚49E±0.˚03,h35km±3km, mb4.5/79,MS4.1/33,Error ellipse: s-maj=5.3km s-min=2.9km az=42.2*

JMA ***12*** *13:50:34.8±0.1,28.˚21N×129.˚53E,h35km±2km,M4.6*

JMA Felt III J1.

IDC ***12*** *13:50:37.9±2.5,28.˚20N×129.˚42E,h58km±23km,mb3.9/27, mb1 4.1/28,mb1mx4.1/34,mbtmp3.9/28,ML4.7/1,MS3.9/27, Ms1 4.0/27,ms1mx3.8/48,Error ellipse: s-maj=15.4km s-min=9.8km az=87.0*

ISC 12 13:50:32.8±0.5,28.˚12N±0.˚03×129.˚57E±0.˚03,h16km±2km, n254,σ1°68/295,mb4.6/80,MS4.1/33,4C-5D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.29**	**6**	P	**Pb**	**13 50 41.4**	**+1.8**
JAM				*e*S	**Sb**	**13 50 46.0**	**+1.9**
JAMN	**Amaminishikomi**	**0.37**	**289**	P	**Pn**	**13 50 42.7**	**-0.8**
JAMN				*e*S	**Sn**	**13 50 48.3**	**-2.0**
JZK	**Kikaishima**	**0.40**	**62**	P	**Pn**	**13 50 43.9**	**0.0**
JTK	**Tokunoshima**	**0.65**	**239**	P	**Pn**	**13 50 47.0**	**-0.2**
JTK				*e*S	**Sn**	**13 50 56.3**	**-0.8**
JOW	**Kunigami**	**1.73**	**222**	P	**Pn**	**13 51 03.3**	**+1.2**
JOW				*e*S	**Sn**	**13 51 25.2**	**+1.3**
JOW	**Kunigami**	**1.73**	**222**	*e*Pn	**Pn**	**13 51 03.4**	**+1.2**
JOW				*e*Sn	**Sn**	**13 51 22.6**	**-1.2**
JNN	**Nakanoshima**	**1.73**	**9**	P	**Pn**	**13 51 02.3**	**+0.1**
JNN				*e*S	**Sn**	**13 51 22.6**	**-1.4**
JIH	**Iheya**	**1.79**	**233**	P	**Pb**	**13 51 04.4**	**-0.8**
JKC	**Kuchinoerabu**	**2.39**	**13**	P	**Pn**	**13 51 11.8**	**+0.5**
JKC				*e*S	**Sn**	**13 51 39.2**	**-1.0**
JJT2	**Tamagusuku 2**	**2.56**	**220**	P	**Pn**	**13 51 14.8**	**+1.2**
JJT2				*e*S	**Sn**	**13 51 46.1**	**+1.7**
JAGN	**Aguni-jima**	**2.58**	**234**	P	**Pn**	**13 51 15.1**	**+1.3**
JMZ	**Minamidaito 2**	**2.73**	**147**	P	**Pn**	**13 51 15.2**	**-0.7**
JMZ				S	Sn	13 51 43.8	-4.7
JTN	**Tanegashima 3**	**2.80**	**26**	P	**Pn**	**13 51 17.3**	**+0.3**
JTN				*e*S	**Sn**	**13 51 50.3**	**-0.1**
JKE	**Kume jima 2**	**3.06**	**235**	P	**Pn**	**13 51 21.4**	**+0.9**
JKE				*e*S	**Sn**	**13 51 56.3**	**-0.4**
JNU	**Nakatsue**	**5.11**	**12**	P	**Pn**	**13 51 50.9**	**+2.3**
	16nm,0.8s						
JNU				S	**Sn**	**13 52 50.0**	**+2.7**
JNU	**Nakatsue**	**5.11**	**12**	P	**Pn**	**13 51 50.9**	**+2.3**
	30nm,0.3s,baz=186,slow=4.2,SNR=599						
JNU				S	**Sn**	**13 52 50.0**	**+2.7**
	3.0nm,0.3s,baz=108,slow=20,SNR=1.8						
JNU				LR	LR	13 54 09.3	
	comp=Z,1μm,20.9s,baz=18,slow=42						
SSE	**Sheshan**	**7.88**	**294**	*e*Pn	**Pn**	**13 52 23.7**	**-3.0**
SSE				Sn	**Sn**	**13 53 53.7**	**-1.8**
SSE				LR	LR		
	comp=N,410nm,24.2s						
SSE				LR	LR		
	comp=E,430nm,24.3s						
SSE				LR	LR		
	comp=Z,250nm,15.7s						
SSLB	**Suanglung**	**8.88**	**243**	*e*Pn	**Pn**	**13 52 38.7**	**-1.7**
	38nm,0.2s						
SSLB				*e*Sn	**Sn**	**13 54 18.8**	**-1.4**
TPUB	**Ta-pu**	**9.38**	**241**	*e*Pn	**Pn**	**13 52 46.1**	**-1.3**
	56nm,0.8s						
KSAR	**Wonju Array Be**	**9.40**	**352**	P	Pn	13 52 51.6	+4.1
KSRS	**Korea Array**	**9.41**	**352**	P	Pn	13 52 51.6	+4.0
	0.4nm,0.3s,baz=174,slow=14,SNR=16						
KSRS				LR	LR	13 56 38.3	
	comp=Z,746nm,20.1s,baz=162,slow=39						
NJ2	**Nanjing**	**10.07**	**295**	*e*P	**Pn**	**13 52 54.1**	**-2.7**
NJ2				S	**Sn**	**13 54 44.0**	**-5.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NJ2				LR	LR		
	comp=N,320nm,10.6s						
NJ2				LR	LR		
	comp=E,260nm,15.0s						
NJ2				LR	LR		
	comp=Z,220nm,16.4s						
QZH	**Quanzhou**	**10.33**	**255**	*e*P	**Pn**	**13 53 00.2**	**-0.1**
QZH				*e*S	**Sn**	**13 54 55.3**	**-0.5**
QZH				LR	LR		
	comp=N,1μm,8.9s						
QZH				LR	LR		
	comp=E,1μm,14.7s						
QZH				LR	LR		
	comp=Z,1μm,18.0s						
MAJO	**Matsushiro**	**11.12**	**39**	*e*P	**Pn**	**13 53 12.2**	**+1.1**
MAJO	**Matsushiro**	**11.12**	**39**	*e*Pn	**Pn**	**13 53 11.0**	**-0.1**
MJAR	**Matsushiro Arr**	**11.12**	**39**	P	**Pn**	**13 53 11.1**	**0.0**
MJAR	**Matsushiro Arr**	**11.12**	**39**	P	**Pn**	**13 53 11.1**	**0.0**
	0.6nm,0.3s,baz=247,slow=14,SNR=12						
MJAR				LR	LR	13 56 16.7	
	comp=Z,55nm,20.7s,baz=220,slow=39						
JCJ	**Chichijima**	**11.23**	**92**	LR	LR	13 57 07.4	
	comp=Z,217nm,18.3s,baz=288,slow=34						
SNY	**Shenyang**	**14.52**	**342**	P	P	13 54 00.7	-3.4
SNY				S	S	13 56 48.6	-8.9
SNY				LR	LR		
	comp=N,540nm,13.1s						
SNY				LR	LR		
	comp=E,280nm,15.7s						
SNY				LR	LR		
	comp=Z,670nm,12.3s						
CN2	**Changchun**	**15.99**	**349**	*e*P	**P**	**13 54 21.9**	**+1.5**
CN2				*e*S	**Sn**	**13 57 19.3**	**+5.4**
CN2				LR	LR		
	comp=N,500nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
USRK	**Ussuriysk Arra**	**16.16**	**6**	LR	LR	14 00 11.8	
	comp=Z,264nm,19.9s,baz=350,slow=36						
BJI	**Beijing**	**16.24**	**320**	P	**P**	**13 54 25.6**	**+2.4**
BJI				S	**S**	**13 57 26.5**	**-6.2**
BJI				pmax	pmax		
	comp=Z,14nm,0.5s						
BJI				pmax	pmax		
	comp=Z,120nm,3.5s						
BJI				LR	LR		
	comp=N,290nm,19.5s						
BJI				LR	LR		
	comp=E,270nm,18.6s						
BJI				LR	LR		
	comp=Z,190nm,25.1s						
MDJ	**Mudanjiang**	**16.46**	**0**	P	**Pn**	**13 54 22.2**	**-0.7**
MDJ				pP	**pP**	**13 54 27.8**	**-2.4**
MDJ				sP	**sP**	**13 54 29.4**	**-3.0**
MDJ				S	**Sn**	**13 57 25.8**	**+0.5**
MDJ				sS	**sS**	**13 57 42.0**	**-2.5**
MDJ				PcP	**PcP**	**13 59 14.1**	**-0.3**
MDJ				ScP	**ScP**	**14 02 48.4**	**0.0**
MDJ				PcS	**PcS**	**14 02 49.8**	**-0.3**
MDJ				ScS	**ScS**	**14 06 27.1**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,90nm,3.8s						
MDJ				LR	LR		
	comp=N,190nm,8.7s						
MDJ				LR	LR		
	comp=E,48nm,4.0s						
MDJ				LR	LR		
	comp=Z,200nm,8.7s						
ENH	**Enshi**	**17.67**	**282**	*e*Pn	**Pn**	**13 54 36.5**	**-1.8**
	5.9nm,0.6s						
XAN	**Xi'an**	**18.63**	**294**	P	**Pn**	**13 54 50.8**	**+0.7**
XAN				pP	**pP**	**13 54 57.7**	**+3.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,13nm,4.1s						
ASAJ	**Asahikawa**	**19.07**	**30**	P	**P**	**13 54 51.8**	**-2.7**
ASAJ	**Asahikawa**	**19.07**	**30**	P	**P**	**13 54 51.8**	**-2.7**
	0.6nm,0.3s,baz=251,slow=18,SNR=6.7						
ASAJ				LR	LR	14 02 25.6	
	comp=Z,430nm,20.6s,baz=80,slow=37						
HHC	**Hu-ho-hao-te**	**19.48**	**315**	*e*P	**P**	**13 54 56.8**	**-2.3**
HHC				PP	**PnPn**	**13 55 13.4**	**-0.3**
HHC				S	Sn	13 58 28.4	-10
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,4.2s						
HHC				LR	LR		
	comp=N,480nm,11.6s						
HHC				LR	LR		
	comp=E,490nm,11.6s						
HHC				LR	LR		
	comp=Z,370nm,11.2s						
QIZ	**Qiongzhong**	**20.20**	**248**	P	**P**	**13 55 06.0**	**-1.0**
QIZ				S	**S**	**13 58 52.7**	**-0.5**
QIZ				pmax	pmax		
	comp=Z,13nm,2.3s						
QIZ				LR	LR		
	comp=N,300nm,19.2s						
QIZ				LR	LR		
	comp=E,200nm,23.2s						
QIZ				LR	LR		
	comp=Z,510nm,22.1s						
GYA	**Guiyang**	**20.43**	**271**	*i*P	Pn	13 55 11.2	-0.5
GYA				PP	**PnPn**	**13 55 30.2**	**+3.5**
GYA				S	**S**	**13 58 51.7**	**-6.1**
GYA				SS	**SnSn**	**13 59 20.3**	**+4.1**
GYA				ScP	**ScP**	**14 02 58.7**	**+1.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,790nm,15.4s						
GYA				LR	LR		
	comp=E,640nm,16.0s						
GYA				LR	LR		
	comp=Z,820nm,15.6s						
HABR	**Khabarovsk**	**20.76**	**10**	*e*P	Pn	13 55 18.7	+3.6
HABR						13 55 29.1	
HABR				*e*S	**S**	**13 59 02.1**	**-1.7**
HABR				*e*SS	sS	13 59 11.4	+0.2
HABR				*e*SS	**SnSn**	**13 59 23.5**	**-0.4**
HABR				*e*SSS	SSS	13 59 36.4	
HABR				*e*		14 06 37.0	
HABR				pmax	pmax		
	comp=Z,37nm,1.7s						
HABR				MLR	MLR		
	comp=Z,363nm,19.0s						
YSS	**Yuzh-Sakhalins**	**21.45**	**25**	*e*P	**P**	**13 55 20.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**21.45**	**25**	*e*P	**P**	**13 55 20.6**	**+0.4**
	comp=Z,126nm,1.5s						
CD2	**Chengdu**	**22.62**	**283**	P	**P**	**13 55 32.1**	**-0.9**
CD2				sP	**sP**	**13 55 39.3**	**-0.5**
CD2				PP	**PnPn**	**13 55 59.5**	**+2.8**
CD2				PcP	**PcP**	**13 59 27.5**	**+1.7**
CD2				S	**S**	**13 59 34.1**	**-6.2**
CD2				sS	sS	13 59 39.9	-8.3
CD2				SS	**SnSn**	**14 00 14.6**	**+4.7**
CD2				pmax	pmax		
	comp=Z,30nm,1.4s						
CD2				pmax	pmax		
	comp=Z,100nm,5.9s						
CD2				LR	LR		
	comp=Z,560nm,14.2s						
CD2				LR	LR		
	comp=Z,500nm,13.2s						
CD2				LR	LR		
	comp=Z,400nm,14.2s						
LZH	**Lanzhou**	**23.15**	**297**	*e*P	**P**	**13 55 39.7**	**+1.1**
LZH				pP	**pP**	**13 55 42.5**	**-0.8**
LZH				sP	**sP**	**13 55 44.5**	**-0.9**
LZH				PP	**PnPn**	**13 56 09.6**	**+5.6**
LZH				S	**S**	**13 59 46.0**	**-3.6**
LZH				sS	sS	13 59 51.8	-6.0
LZH				SS	**SnSn**	**14 00 29.6**	**+6.7**
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
LZH				pmax	pmax		
	comp=Z,160nm,5.0s						
LZH				LR	LR		
	comp=Z,580nm,10.1s						
LZH				LR	LR		
	comp=Z,390nm,11.0s						
LZH				LR	LR		
	comp=Z,750nm,12.0s						
KMI	**Kunming**	**24.16**	**269**	P	**P**	**13 55 49.0**	**+0.5**
KMI				pP	**pP**	**13 55 51.1**	**-2.4**
KMI				sP	**sP**	**13 55 52.4**	**-3.2**
KMI				PP	PnPn	13 56 25.0	+7.1
KMI				S	**S**	**14 00 01.8**	**-4.4**
KMI				sS	sS	14 00 06.4	-7.9
KMI				SS	**SnSn**	**14 00 54.0**	**+6.1**
KMI				pmax	pmax		
	comp=Z,27nm,1.0s						
KMI				pmax	pmax		
	comp=Z,72nm,3.8s						
KMI				LR	LR		
	comp=Z,200nm,15.9s						
KMI				LR	LR		
	comp=Z,180nm,15.9s						
KMI				LR	LR		
	comp=Z,210nm,15.9s						
SLVN	**Son La**	**24.25**	**260**	*e*P	**P**	**13 55 47.0**	**-2.2**
SONM	**Songino Array**	**26.68**	**324**	P	**P**	**13 56 11.3**	**+0.3**
SONM	**Songino Array**	**26.68**	**324**	P	**P**	**13 56 11.3**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=138,slow=11,SNR=6.1						
SONM				LR	LR	14 08 07.9	
	comp=Z,144nm,19.9s,baz=50,slow=40						
GTA	**Gaotai**	**27.06**	**302**	P	**P**	**13 56 14.4**	**-0.2**
GTA				pP	**pP**	**13 56 18.9**	**-0.7**
GTA				sP	**sP**	**13 56 21.5**	**-0.2**
GTA				S	**S**	**14 00 54.0**	**+2.0**
GTA				sS	**sS**	**14 01 01.1**	**+0.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,54nm,4.8s						
GTA				LR	LR		
	comp=Z,340nm,17.1s						
GTA				LR	LR		
	comp=Z,270nm,13.5s						
GTA				LR	LR		
	comp=Z,280nm,13.5s						
CRAI	**Chiangrai**	**27.72**	**260**	P	**P**	**13 56 21.4**	**+0.8**
	comp=Z,77nm,1.3s						
CHAI	**Chaiyaphum**	**28.25**	**250**	P	**P**	**13 56 26.0**	**+0.7**
	comp=Z,8.8nm,1.0s						
PBKT	**Sadao Pong**	**28.77**	**253**	P	**P**	**13 56 30.8**	**+0.9**
	comp=Z,39nm,0.9s,comp=Z,717nm						
CMAI	**Chiengmai2**	**28.99**	**260**	P	**P**	**13 56 33.1**	**+1.0**
	comp=Z,176nm,0.8s,comp=Z,6μm						
LAMP	**Lampang**	**29.04**	**257**	P	**P**	**13 56 33.7**	**+1.4**
	comp=Z,4.6nm,1.0s						
CMMT	**Chiang Mai**	**29.51**	**258**	P	**P**	**13 56 36.7**	**+0.2**
	comp=Z,11nm,1.1s						
CHTO	**Chiang Mai**	**29.52**	**258**	*e*P	**P**	**13 56 36.5**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**29.52**	**258**	*e*P	**P**	**13 56 36.5**	**-0.1**
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**29.52**	**258**	P	**P**	**13 56 36.8**	**+0.2**
	comp=Z,51nm,1.1s						
CHBT	**CHBT**	**29.66**	**244**	P	**P**	**13 56 39.1**	**+1.3**
	comp=Z,22nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.66**	**258**	P	**P**	**13 56 38.5**	**+0.6**
CMAR				PcP	**PcP**	**13 59 43.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**29.66**	**258**	P	**P**	**13 56 38.5**	**+0.6**
	comp=Z,3.0nm,1.0s,baz=54,slow=7.4,SNR=17						
CMAR				PcP	**PcP**	**13 59 43.4**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=49,slow=1.9,SNR=8.8						
CMAR				LR	LR	14 09 40.0	
	comp=Z,239nm,19.4s,baz=216,slow=39						
MHMT	**Maesarieng**	**30.65**	**258**	P	**P**	**13 56 48.6**	**+2.0**
	comp=Z,3.9nm,1.3s						
KHLT	**Khaolaem Dam**	**31.63**	**252**	P	P	13 56 58.4	+3.1
	comp=Z,7.4nm,1.2s						
PETK	**Petropavlovsk-**	**32.46**	**32**	P	**P**	**13 57 03.2**	**+1.0**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PETK				MLR	MLR		
	comp=Z,195nm,21.5s						
PETK	**Petropavlovsk-**	**32.46**	**32**	P	**P**	**13 57 03.2**	**+1.0**
PETK	**Petropavlovsk-**	**32.46**	**32**	P	**P**	**13 57 03.2**	**+1.0**
	comp=Z,3.7nm,0.8s,baz=210,slow=8.3,SNR=2.5						
PETK				LR	LR	14 10 01.0	
	comp=Z,195nm,21.5s,baz=79,slow=36						
LSA	**Lhasa**	**33.57**	**282**	*e*P	**P**	**13 57 12.1**	**-0.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	**33.57**	**282**	*e*P	**P**	**13 57 12.1**	**-0.6**
	comp=Z,4.0nm,0.8s						
YAK	**Yakutsk**	**33.91**	**0**	*e*P	**P**	**13 57 13.3**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**35.01**	**95**	T	T	14 34 44.5	
	baz=293,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hy**	**35.02**	**96**	T	T	14 34 44.7	
	baz=293,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**35.03**	**96**	T	T	14 34 45.8	
	baz=293,slow=75,SNR=62						
H11S3	**WAKE ISLAND Hy**	**35.29**	**98**	T	T	14 35 07.8	
	baz=293,slow=73,SNR=37						
H11S1	**WAKE ISLAND Hy**	**35.30**	**98**	T	T	14 35 14.9	
	baz=293,slow=73,SNR=18						
H11S2	**WAKE ISLAND Hy**	**35.31**	**98**	T	T	14 35 12.7	
	baz=293,slow=73,SNR=15						
WMQ	**Urumqi**	**36.91**	**306**	P	**P**	**13 57 41.0**	**+0.2**
WMQ				sP	**sP**	**13 57 48.0**	**+0.1**
WMQ				PP	**PnPn**	**13 59 06.0**	**+1.0**
WMQ				PcP	**PcP**	**14 00 03.0**	**+0.8**
WMQ				S	**S**	**14 03 24.0**	**-1.1**
WMQ				ScP	**ScP**	**14 03 49.0**	**+0.6**
WMQ				SS	**SnSn**	**14 05 52.0**	**-5.7**
WMQ				ScS	**ScS**	**14 07 54.0**	**-1.6**
WMQ				pmax	pmax		
	comp=Z,11nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,65nm,3.0s						
WMQ				LR	LR		
	comp=Z,220nm,12.0s						
WMQ				LR	LR		
	comp=Z,97nm,10.0s						
WMQ				LR	LR		
	comp=Z,130nm,12.0s						
TAPN	**Taplejung**	**36.93**	**279**	*e*P	**P**	**13 57 41.3**	**-0.2**
TAPN	**Taplejung**	**36.93**	**279**	*e*P	**P**	**13 57 41.3**	**-0.2**
ODAN	**Odare**	**37.31**	**278**	*e*P	**P**	**13 57 44.4**	**-0.2**
	comp=Z,68nm,0.8s						
ODAN	**Odare**	**37.31**	**278**	*e*P	**P**	**13 57 44.4**	**-0.2**
	comp=Z,68nm,0.8s						
SEY	**Seymchan**	**37.87**	**17**	P	**P**	**13 57 48.4**	**-0.2**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**37.87**	**17**	P	**P**	**13 57 48.4**	**-0.2**
SEY	**Seymchan**	**37.87**	**17**	P	**P**	**13 57 48.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=225,slow=19,SNR=3.4						
RAMN	**Ramite**	**37.98**	**279**	*e*P	**P**	**13 57 49.9**	**-0.4**
RAMN	**Ramite**	**37.98**	**279**	*e*P	**P**	**13 57 49.9**	**-0.4**
JIRN	**Jiri**	**38.20**	**280**	*e*P	**P**	**13 57 52.2**	**-0.1**
JIRN	**Jiri**	**38.20**	**280**	*e*P	**P**	**13 57 52.2**	**-0.1**
GUN	**Gumba**	**38.42**	**280**	*e*P	**P**	**13 57 54.3**	**+0.2**
	comp=Z,37nm,0.9s						
GUN	**Gumba**	**38.42**	**280**	*e*P	**P**	**13 57 54.3**	**+0.2**
	comp=Z,37nm,0.9s						
PSI	**Prapat**	**38.58**	**235**	P	**P**	**13 57 55.5**	**+0.3**
PSI	**Prapat**	**38.58**	**235**	P	**P**	**13 57 55.5**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=336,slow=13,SNR=3.7						
PSI				LR	LR	14 12 27.5	
	comp=Z,119nm,20.5s,baz=21,slow=34						
PKI	**Pulchoki**	**38.89**	**280**	*e*P	**P**	**13 57 57.8**	**-0.3**
	comp=Z,36nm,0.9s						
PKI	**Pulchoki**	**38.89**	**280**	*e*P	**P**	**13 57 57.8**	**-0.3**
PKI				pmax	pmax		
	comp=Z,37nm,0.9s						
PKI	**Pulchoki**	**38.89**	**280**	*e*P	**P**	**13 57 57.8**	**-0.3**
	comp=Z,36nm,0.9s						
PKIN	**Phulchoki**	**38.90**	**280**	*e*P	**P**	**13 57 57.6**	**-0.5**
	comp=Z,20nm,0.8s						
KKN	**Kakani**	**38.96**	**280**	*e*P	**P**	**13 57 58.4**	**-0.1**
KKN	**Kakani**	**38.96**	**280**	*e*P	**P**	**13 57 58.4**	**-0.1**
KKN	**Kakani**	**38.96**	**280**	*e*P	**P**	**13 57 58.4**	**-0.1**
DMN	**Daman**	**39.15**	**280**	*e*P	**P**	**13 57 59.9**	**-0.2**
	comp=Z,30nm,0.9s						
DMN	**Daman**	**39.15**	**280**	*e*P	**P**	**13 57 59.9**	**-0.2**
	comp=Z,30nm,0.9s						
GKN	**Gorkha**	**39.48**	**281**	*e*P	**P**	**13 58 02.5**	**-0.3**
GKN	**Gorkha**	**39.48**	**281**	*e*P	**P**	**13 58 02.5**	**-0.3**
DANN	**Dangsing**	**40.17**	**282**	*e*P	**P**	**13 58 08.7**	**0.0**
	comp=Z,28nm,0.8s						
DANN	**Dangsing**	**40.17**	**282**	*e*P	**P**	**13 58 08.7**	**0.0**
	comp=Z,28nm,0.8s						
KOLN	**Koldanda**	**40.42**	**281**	*e*P	**P**	**13 58 10.3**	**-0.4**
	comp=Z,11nm,0.7s						
KOLN	**Koldanda**	**40.42**	**281**	*e*P	**P**	**13 58 10.3**	**-0.4**
	comp=Z,11nm,0.7s						
PMG	**Port Moresby**	**41.01**	**153**	LR	LR	14 12 33.5	
	comp=Z,260nm,19.2s,baz=309,slow=32						
MKAR	**Makanchi Array**	**41.20**	**310**	*ce*P	**P**	**13 58 16.1**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**41.20**	**310**	P	**P**	**13 58 15.6**	**-1.1**
MKAR	**Makanchi Array**	**41.20**	**310**	P	**P**	**13 58 15.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=96,slow=11,SNR=8.9						
MKAR				LR	LR	14 17 06.9	
	comp=Z,55nm,19.2s,baz=100,slow=39						
ZALV	**Zalesovo Beam**	**41.50**	**321**	*i*P	**P**	**13 58 19.7**	**+0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.50**	**321**	P	**P**	**13 58 17.0**	**-1.9**
ZALV				PcP	**PcP**	**14 00 15.8**	**-0.5**
ZALV	**Zalesovo Beam**	**41.50**	**321**	P	**P**	**13 58 17.0**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=123,slow=11,SNR=5.0						
ZALV				PcP	**PcP**	**14 00 15.8**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=132,slow=2.1,SNR=4.3						
TIXI	**Tiksi**	**43.57**	**360**	*e*P	**P**	**13 58 35.9**	**+0.4**
TIXI				pmax

KSH				SS	ScS			14 08 47.1	+0.3
KSH				pmax	pmax				
	comp=Z,110nm,4.5s								
KSH				LR	LR				
	comp=Z,110nm,5.0s								
KSH				LR	LR				
	comp=Z,130nm,5.8s								
KSH				LR	LR				
	comp=Z,160nm,5.6s								
TKM2	**Tokmak 2**	**45.59**	**304**	*eP*	**P**			**13 58 51.3**	**-1.1**
TKM2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
TKM2	**Tokmak 2**	**45.59**	**304**	*eP*	**P**			**13 58 51.3**	**-1.1**
	comp=Z,10nm,0.6s								
FITZ	**Fitzroy Crossi**	**46.11**	**185**	P	**P**			**13 58 56.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**46.11**	**185**	P	**P**			**13 58 56.5**	**+0.2**
	comp=Z,9.1nm,0.8s,baz=22,slow=5.1,SNR=13								
HNR	**Honiara**	**47.51**	**137**	LR	LR			14 15 49.1	
	comp=Z,126nm,19.0s,baz=351,slow=32								
WRAB	**Tennant Creek**	**48.00**	**174**	*eP*	**P**			**13 59 11.1**	**+0.1**
WRAB				pmax	pmax				
	comp=Z,6.0nm,0.8s								
WRAB	**Tennant Creek**	**48.00**	**174**	*eP*	**P**			**13 59 11.1**	**+0.1**
	comp=Z,6.4nm,0.8s								
WRA	**Warramunga Arr**	**48.01**	**174**	P	**P**			**13 59 10.9**	**-0.2**
WRA	**Warramunga Arr**	**48.01**	**174**	P	**P**			**13 59 10.9**	**-0.2**
	comp=Z,5.9nm,0.9s,baz=351,slow=8.4,SNR=24								
KKAR	**Karatay Array**	**49.32**	**304**	*eP*	**P**			**13 59 20.0**	**-1.1**
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KKAR	**Karatay Array**	**49.32**	**304**	*eP*	**P**			**13 59 20.0**	**-1.1**
	comp=Z,1.4nm,0.6s								
BVAR	**Borovoye Array**	**49.68**	**317**	P	**P**			**13 59 22.7**	**-1.0**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BVAR				MLR	MLR				
	comp=Z,192nm,19.7s								
BVAR	**Borovoye Array**	**49.68**	**317**	P	**P**			**13 59 22.7**	**-1.0**
BVAR	**Borovoye Array**	**49.68**	**317**	P	**P**			**13 59 22.7**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=81,slow=9.8,SNR=11								
BVAR				LR	LR			14 22 20.9	
	comp=Z,192nm,19.7s,baz=98,slow=38								
BRVK	**Borovoye**	**49.75**	**317**⇑	*eP*	**P**			**13 59 22.8**	**-1.4**
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BRVK				MLR	MLR				
	comp=Z,270nm,18.0s								
BRVK	**Borovoye**	**49.75**	**317**	*eP*	**P**			**13 59 22.4**	**-1.8**
	comp=Z,5.3nm,1.0s								
CTA	**Charters Tower**	**50.57**	**160**	P	**P**			**13 59 32.0**	**+1.3**
CTA	**Charters Tower**	**50.57**	**160**	P	**P**			**13 59 32.0**	**+1.3**
	comp=Z,11nm,0.8s,baz=340,slow=8.6,SNR=10.0								
CTAO	**Charters Tower**	**50.57**	**160**	*eP*	**P**			**13 59 32.0**	**+1.3**
CTAO				pmax	pmax				
	comp=Z,16nm,0.9s								
CTAO	**Charters Tower**	**50.57**	**160**	*eP*	**P**			**13 59 32.0**	**+1.3**
	comp=Z,16nm,0.9s								
AS31	**Alice Springs**	**51.66**	**175**	*eP*	**P**			**13 59 38.8**	**-0.1**
ASAR	**Alice Springs**	**51.66**	**175**	P	**P**			**13 59 39.3**	**+0.4**
ASAR				PcP	**PcP**			**14 00 52.9**	**+0.5**
ASAR	**Alice Springs**	**51.66**	**175**	P	**P**			**13 59 39.3**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=5.7,slow=13,SNR=42								
ASAR				PcP	**PcP**			**14 00 52.9**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=4.1,slow=4.4,SNR=4.4								
ASAR				LR	LR			14 19 27.2	
	comp=Z,66nm,19.5s,baz=12,slow=33								
ABKAR	**Akbulak array**	**56.24**	**312**	*eP*	**P**			**14 00 09.5**	**-2.7**
	comp=Z,0.8nm,0.6s								
ARU	**Arti**	**56.66**	**321**	*d iP*	**P**			**14 00 16.6**	**+1.6**
ARU								14 02 18.2	
ARU				S	**S**			**14 08 10.0**	**+3.5**
ARU				pmax	pmax				
	comp=Z,7.0nm,1.7s								
AKTO	**Aktyubinsk**	**57.37**	**314**	LR	LR			14 26 34.6	
	comp=Z,123nm,18.0s,baz=275,slow=38								
RSO	**Redoubt South**	**59.95**	**34**	*eP*	**P**			**14 00 37.2**	**-1.0**
SPU	**Mount Spurr**	**60.23**	**33**	*eP*	**P**			**14 00 40.3**	**+0.3**
STKA	**Stephens Creek**	**60.76**	**168**	P	**P**			**14 00 43.7**	**0.0**
STKA	**Stephens Creek**	**60.76**	**168**	P	**P**			**14 00 43.7**	**0.0**
	comp=Z,2.1nm,0.7s,baz=332,slow=4.3,SNR=4.2								
STKA				LR	LR			14 25 33.7	
	comp=Z,102nm,18.2s,baz=26,slow=34								
NWAO	**Narrogin (SRO)**	**61.84**	**192**	P	**P**			**14 00 51.2**	**+0.2**
NWAO	**Narrogin (SRO)**	**61.84**	**192**	P	**P**			**14 00 51.2**	**+0.2**
	comp=Z,9.8nm,0.9s,baz=12,slow=1.7,SNR=4.5								
ILAR	**Eielson Array**	**62.21**	**29**	P	**P**			**14 00 51.8**	**-1.4**
ILAR	**Eielson Array**	**62.21**	**29**	P	**P**			**14 00 51.8**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=287,slow=6.9,SNR=12								
ILAR				LR	LR			14 31 49.3	
	comp=Z,64nm,18.1s,baz=322,slow=40								
APA	**Apatity**	**66.63**	**335**	*eP*	P			14 01 18.0	-4.1
APA				MLR	MLR				
	comp=Z,800nm,11.0s								
INK	**Inuvik**	**66.68**	**24**	LR	LR			14 31 44.3	
	comp=Z,95nm,18.8s,baz=272,slow=37								
SPITS	**Spitsbergen Ar**	**67.23**	**348**	P	**P**			**14 01 25.2**	**-0.6**
SPITS	**Spitsbergen Ar**	**67.23**	**348**	P	**P**			**14 01 25.2**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=68,slow=8.0,SNR=3.6								
ARCES	**ARCESS Array B**	**68.69**	**339**	P	**P**			**14 01 33.5**	**-1.5**
ARCES	**ARCESS Array B**	**68.69**	**339**	P	**P**			**14 01 33.5**	**-1.5**
	comp=Z,3.5nm,0.9s,baz=66,slow=6.8,SNR=3.8								
ARCES				LR	LR			14 34 39.6	
	comp=Z,149nm,20.0s,baz=229,slow=38								
KBZ	**Khabaz**	**68.89**	**309**	P	**P**			**14 01 36.1**	**-0.7**
KBZ				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KBZ	**Khabaz**	**68.89**	**309**	P	**P**			**14 01 36.0**	**-0.7**
KBZ	**Khabaz**	**68.89**	**309**	P	**P**			**14 01 36.0**	**-0.7**
	comp=Z,5.9nm,0.9s,baz=190,slow=4.9,SNR=7.4								
KIV	**Kislovodsk**	**68.96**	**309**	*eP*	**P**			**14 01 38.4**	**+1.1**
KIV				pmax	pmax				
	comp=Z,7.0nm,1.0s								
JOF	**Joensuu**	**68.97**	**331**	*eP*	**P**			**14 01 35.5**	**-1.4**
JOF				pmax	pmax				
	comp=Z,2.0nm,0.4s								
JOF	**Joensuu**	**68.97**	**331**	*ep*	**P**			**14 01 35.5**	**-1.4**
	comp=Z,2.3nm,0.4s								
OBN	**Obninsk**	**69.07**	**322**	*eP*	**P**			**14 01 37.5**	**-0.1**
OBN				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KAF	**Kangasniemi**	**71.42**	**331**	*eP*	**P**			**14 01 49.6**	**-2.3**
KAF				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KAF	**Kangasniemi**	**71.42**	**331**	*ep*	**P**			**14 01 49.6**	**-2.3**
	comp=Z,0.7nm,0.4s								
FINES	**FINESS Array B**	**71.81**	**331**	P	**P**			**14 01 52.8**	**-1.4**
FINES	**FINESS Array B**	**71.81**	**331**	P	**P**			**14 01 52.8**	**-1.4**
	comp=Z,2.4nm,0.5s,baz=68,slow=5.7,SNR=34								
FINES				LR	LR			14 36 38.2	
	comp=Z,221nm,18.2s,baz=195,slow=38								
AKASG	**Malin Array Be**	**74.87**	**320**	*ceP*	**P**			**14 02 11.3**	**-1.2**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**74.87**	**320**	P	**P**			**14 02 10.9**	**-1.6**
AKASG	**Malin Array Be**	**74.87**	**320**	P	**P**			**14 02 10.9**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=53,slow=6.4,SNR=7.9								
AKASG				LR	LR			14 38 01.1	
	comp=Z,141nm,18.6s,baz=320,slow=38								
KIEV	**Kiev**	**74.88**	**320**	*i* P	**P**			**14 02 11.3**	**-1.3**
YKA	**Yellowknife Ar**	**76.31**	**25**	P	**P**			**14 02 20.2**	**-0.3**
YKA	**Yellowknife Ar**	**76.31**	**25**	P	**P**			**14 02 20.2**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=306,slow=5.5,SNR=11								
BRTR	**Keskin Array B**	**76.82**	**308**	P	**P**			**14 02 23.4**	**-0.7**
BRTR	**Keskin Array B**	**76.82**	**308**	P	**P**			**14 02 23.4**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=116,slow=2.9,SNR=5.1								
BRTR				LR	LR			14 39 36.7	
	comp=Z,42nm,18.2s,baz=264,slow=38								
NB2	**NORSAR Subarra**	**78.14**	**334**	P	**P**			**14 02 29.0**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=51,slow=5.3								
NOA	**NORSAR Array B**	**78.14**	**334**	P	**P**			**14 02 28.8**	**-2.1**
NOA	**NORSAR Array B**	**78.14**	**334**	P	**P**			**14 02 28.8**	**-2.1**
	comp=Z,1.9nm,0.8s,baz=50,slow=5.6,SNR=6.4								
NOA				LR	LR			14 39 58.0	
	comp=Z,106nm,19.4s,baz=15,slow=38								
SUMG	**Summit**	**79.23**	**356**	*eP*	P			14 02 44.2	+7.0
SUMG				pmax	pmax				
	comp=Z,7.0nm,1.0s								
SUMG	**Summit**	**79.23**	**356**	*i* P	P			14 02 44.2	+7.0
	comp=Z,6.9nm,1.0s								
STHS	**Stebnicka Huta**	**80.00**	**321**	*eP*	**P**			**14 02 40.9**	**-0.4**
STHS				pmax	pmax				
	comp=Z,2.0nm,1.0s								
STHS	**Stebnicka Huta**	**80.00**	**321**	*eP*	**P**			**14 02 40.9**	**-0.4**
CRVS	**Cervenica-Dubn**	**80.14**	**320**	*eP*	**P**			**14 02 41.9**	**-0.2**
CRVS				pmax	pmax				
	comp=Z,6.0nm,1.5s								
CRVS	**Cervenica-Dubn**	**80.14**	**320**	*eP*	**P**			**14 02 41.9**	**-0.2**
OKC	**Ostrava-Krasne**	**81.46**	**322**	*eP*	P			14 02 58.7	+10
B08A	**Colville Reser**	**82.10**	**39**	*eP*	**P**			**14 02 52.3**	**-0.3**
	comp=Z,5.6nm,1.0s								
DPC	**Dobruska-Polom**	**82.14**	**324**	*eP*	P			14 02 57.3	+4.6
DPC	**Dobruska-Polom**	**82.14**	**324**	*epP*	**P**			**14 02 57.3**	**+4.6**
I03D	**Drain, OR**	**82.26**	**44**	P	**P**			**14 02 53.0**	**-0.4**
	baz=82								
VRAC	**Vranov**	**82.60**	**323**	LR	LR			14 43 40.8	
	comp=Z,133nm,18.5s,baz=169,slow=39								
G05D	**Wamic, OR**	**82.67**	**42**	P	**P**			**14 02 55.3**	**-0.3**
	baz=82								
I04A	**Tendick Farm,**	**82.79**	**44**	P	**P**			**14 02 55.7**	**-0.5**
	baz=83								
E07A	**Sunnyside**	**82.81**	**41**	*eP*	**P**			**14 02 56.7**	**+0.5**
	comp=Z,5.7nm,1.0s								
D08A	**Wollman Farm,**	**83.06**	**40**	*eP*	**P**			**14 02 57.9**	**+0.4**
	comp=Z,64nm,2.5s								
I05D	**Terrebonne, OR**	**83.14**	**43**	P	**P**			**14 02 58.3**	**+0.2**
	baz=83								
CLL	**Collm**	**83.28**	**326**	*i* P	P			14 03 01.9	+3.4
CLL	**Collm**	**83.28**	**326**	*eP*	**P**			**14 02 58.0**	**-0.5**
CLL				*e*(pP)	**P**			**14 03 02.0**	**+3.4**
NEW	**Newport**	**83.37**	**38**	*eP*	**P**			**14 02 59.4**	**+0.2**
	comp=Z,74nm,2.8s								
NEW	**Newport**	**83.37**	**38**	P	**P**			**14 02 59.1**	**-0.1**
	baz=83								
J05D	**Fort Rock, OR**	**83.78**	**44**	P	**P**			**14 03 01.8**	**+0.3**
	baz=84								
N02D	**Trinity Center**	**84.10**	**46**	P	**P**			**14 03 04.4**	**+1.3**
	baz=84								
M04C	**Macdoel**	**84.22**	**45**	P	**P**			**14 03 04.0**	**+0.2**
	baz=84								
KHC	**Kasperske Hory**	**84.30**	**324**	*eP*	P			14 03 09.3	+5.4
KHC	**Kasperske Hory**	**84.30**	**324**	*epP*	P			14 03 09.3	+5.4
GERES	**GERESS Array B**	**84.41**	**323**	P	**P**			**14 03 03.6**	**-0.9**
GERES	**GERESS Array B**	**84.41**	**323**	P	**P**			**14 03 03.6**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=4.3,slow=27,SNR=3.0								
GERES				LR	LR			14 44 45.5	
	comp=Z,105nm,18.1s,baz=77,slow=38								
MOD	**Modoc**	**85.11**	**45**	*eP*	**P**			**14 03 08.1**	**-0.2**
	comp=Z,6.8nm,1.1s								
BMO	**Blue Mountains**	**85.24**	**41**	*eP*	**P**			**14 03 09.2**	**+0.4**
BMO				pmax	pmax				
	comp=Z,48nm,2.8s								
BMO	**Blue Mountains**	**85.24**	**41**	*eP*	**P**			**14 03 09.2**	**+0.4**
	comp=Z,48nm,2.8s								
J08A	**Circle Bar Ran**	**85.41**	**43**	*eP*	**P**			**14 03 09.9**	**+0.2**
	comp=Z,12nm,1.4s								
WVOR	**Wild Horse Val**	**85.84**	**44**	*eP*	**P**			**14 03 12.3**	**+0.4**
WVOR				pmax	pmax				
	comp=Z,23nm,1.9s								
WVOR	**Wild Horse Val**	**85.84**	**44**	*eP*	**P**			**14 03 12.2**	**+0.4**
	comp=Z,23nm,1.9s								
SLMT	**Seeley Lake**	**85.95**	**38**	*eP*	**P**			**14 03 11.1**	**-1.2**
PAHR	**Pah Rah Range**	**86.92**	**46**	*eP*	**P**			**14 03 17.0**	**-0.3**
	comp=Z,5.6nm,1.0s								
HRY	**Holter Researc**	**87.17**	**37**	*eP*	**P**			**14 03 18.4**	**0.0**
CMB	**Columbia Colle**	**87.21**	**48**	*eP*	**P**			**14 03 19.3**	**+0.7**
CMB				pmax	pmax				
	comp=Z,47nm,2.5s								
CMB	**Columbia Colle**	**87.21**	**48**	*eP*	**P**			**14 03 19.3**	**+0.7**
	comp=Z,47nm,2.5s								
A19A	**Klindworth Far**	**87.33**	**34**	P	**P**			**14 03 19.0**	**0.0**
	baz=87								
EGMT	**Eagleton**	**87.42**	**35**	*eP*	**P**			**14 03 19.9**	**+0.4**
	comp=Z,11nm,1.0s								
EGMT	**Eagleton**	**87.42**	**35**	P	**P**			**14 03 19.4**	**0.0**
	baz=87								
B19A	**Brinkman Farms**	**87.54**	**35**	P	**P**			**14 03 20.8**	**+0.8**
	baz=87								
DLMT	**Dillon**	**87.60**	**39**	*eP*	**P**			**14 03 21.3**	**+0.8**
	comp=Z,118nm,3.0s								
HLID	**Hailey**	**87.68**	**41**	*eP*	**P**			**14 03 22.1**	**+1.1**
	comp=Z,37nm,2.5s								
HLID	**Hailey**	**87.68**	**41**	P	**P**			**14 03 21.6**	**+0.7**
	baz=88								
C19A	**Slack Wire Ran**	**87.96**	**35**	P	**P**			**14 03 22.7**	**+0.7**
	baz=88								
B20A	**Solberg Farm,**	**88.02**	**34**	P	**P**			**14 03 22.2**	**-0.1**
	baz=88								
A21A	**Bergtoll Ranch**	**88.18**	**33**	P	**P**			**14 03 22.9**	**-0.1**
	baz=88								
NVAR	**Mina Array Bea**	**88.34**	**47**	P	**P**			**14 03 25.4**	**+1.2**
NVAR	**Mina Array Bea**	**88.34**	**47**	P	**P**			**14 03 25.4**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=292,slow=5.7,SNR=6.7								
D19A	**Cripps Ranch,**	**88.42**	**36**	P	**P**			**14 03 24.7**	**+0.4**
	baz=88								
C20A	**Veseth Ranch,**	**88.51**	**35**	P	**P**			**14 03 25.0**	**+0.4**
	baz=88								
A22A	**Carney Farms,**	**88.67**	**33**	P	**P**			**14 03 25.7**	**+0.3**
	baz=88								
D20A	**Manuel Ranch,**	**88.86**	**35**	P	**P**			**14 03 26.8**	**+0.6**
	baz=89								
E19A	**Rath Farm, Rou**	**88.94**	**36**	P	**P**			**14 03 27.1**	**+0.4**
	baz=89								
E20A	**Meyer Farm, Mu**	**89.25**	**36**	P	**P**			**14 03 29.0**	**+0.8**
	baz=89								
H17A	**Grant Village**	**89.33**	**38**	P	**P**			**14 03 30.7**	**+1.9**
	baz=89								
D21A	**La Casta Ranch**	**89.45**	**35**	P	**P**			**14 03 29.6**	**+0.6**
	baz=89								
D22A	**Cohagen**	**89.80**	**34**	P	**P**			**14 03 31.0**	**+0.3**
	baz=90								
R11A	**Troy Canyon, C**	**90.11**	**46**	P	**P**			**14 03 32.8**	**+0.3**
	baz=90								
D23A	**Lindsay**	**90.27**	**34**	P	**P**			**14 03 33.3**	**+0.5**
	baz=90								
TPNV	**Topopah Spring**	**90.52**	**47**	P	**P**			**14 03 35.0**	**+0.6**
	baz=90								
DUG	**Dugway**	**90.69**	**43**	*eP*	**P**			**14 03 36.3**	**+1.2**
DUG				pmax	pmax				
	comp=Z,39nm,2.6s								
DUG	**Dugway**	**90.69**	**43**	*eP*	**P**			**14 03 36.2**	**+1.2**
	comp=Z,39nm,2.6s								
DUG	**Dugway**	**90.69**	**43**	P	**P**			**14 03 36.1**	**+1.0**
	baz=90								
PDAR	**Pinedale Array**	**90.94**	**39**	P	**P**			**14 03 36.4**	**+0.1**
PDAR	**Pinedale Array**	**90.94**	**39**	P	**P**			**14 03 36.4**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=304,slow=3.4,SNR=8.9								
NLU	**North Lily Min**	**91.29**	**43**	*eP*	**P**			**14 03 39.6**	**+1.7**
	comp=Z,4.6nm,1.0s								
ULM	**Lac du Bonnet**	**92.19**	**27**	LR	LR			14 45 30.0	
	comp=Z,91nm,18.3s,baz=336,slow=36								
GLA	**Glamis**	**93.78**	**49**	*eP*	**P**			**14 03 50.9**	**+1.5**
GLA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
GLA	**Glamis**	**93.78**	**49**	*eP*	**P**			**14 03 50.9**	**+1.5**
	comp=Z,6.0nm,1.0s								
SCHQ	**Schefferville**	**96.18**	**9**	LR	LR			14 47 09.9	
	comp=Z,148nm,18.2s,baz=89,slow=35								

AZER ***12*** *14:41:27.9±1.4, 37°.39N×43°.02E, h2km, Error ellipse: s-maj=16.0km s-min=12.1km az=96.0*
NSSP ***12*** *14:41:44.2, 38°.78N×44°.12E, h3km, Ms3.5*
ISK ***12*** *14:41:48.2, 39°.13N×44°.06E, h12km, MD3.6, ML3.7*
DDA ***12*** *14:41:48.7, 39°.06N×43°.79E, h7km, MD3.3*
IDC ***12*** *14:41:48.8±1.8, 39°.02N×43°.88E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, ML3.2/1, MS3.1/4, Ms1 3.1/4, ms1mx2.6/38, Error ellipse: s-maj=25.8km s-min=18.0km az=144.0*
CSEM ***12*** *14:41:49.0±0.2, 39°.07N×43°.82E, h2km, MD3.6, Error ellipse: s-maj=6.5km s-min=4.2km az=135.0*

ISC 12 14:41:49.0±0.9, 39°.06N±0°.02×43°.88E±0°.02, h5km±7km, n103, σ1§47/127, 20C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CLDR	**Caldiran**	**0.09**	**21**	*e*PG		**Pg**	**14 41 51.0**	**-0.1**
CLDR				*e*SG		**Sg**	**14 41 54.0**	**+1.4**
CLDR	**Caldiran**	**0.09**	**21**	*e*Pg		**Pg**	**14 41 51.0**	**-0.1**
CLDR				*e*Sg		**Sg**	**14 41 54.0**	**+1.4**
DYDN	**Diyadin**	**0.51**	**343**	*i* P		**Pg**	**14 41 58.2**	**-0.6**
DYDN				*i* S		**Sg**	**14 42 06.3**	**+0.9**
DYDN	**Diyadin**	**0.51**	**343**	*i* P		**Pg**	**14 41 58.2**	**-0.6**
DYDN				*i* S		**Sg**	**14 42 06.3**	**+0.9**
TVAN	**Van**	**0.64**	**215**	*i* P		**Pg**	**14 42 00.4**	**-1.0**
TVAN				*i* S		**Sg**	**14 42 09.9**	**+0.1**
TVAN	**Van**	**0.64**	**215**	*i* P		**Pg**	**14 42 00.4**	**-1.0**
TVAN				*i* S		**Sg**	**14 42 09.9**	**+0.1**
TUTA	**Tutak**	**0.89**	**293**	*i* P		**Pg**	**14 42 04.5**	**-1.7**
TUTA				*i* S		**Sg**	**14 42 16.8**	**-1.0**
TUTA	**Tutak**	**0.89**	**293**	*i* P		**Pg**	**14 42 04.5**	**-1.7**
TUTA				*i* S		**Sg**	**14 42 16.8**	**-1.0**

GEVA	**Gevas**	**0.98**	**221**	*i* P		**Pg**		**14 42 05.8**	**-2.1**
GEVA				*i* S		**Sb**		**14 42 21.9**	**-0.1**
GEVA	**Gevas**	**0.98**	**221**	*i* P		**Pg**		**14 42 05.8**	**-2.1**
GEVA				*i* S		**Sb**		**14 42 21.9**	**-0.1**
ARRZ	**Ararat**	**1.02**	**38**	*eP*		**Pb**		**14 42 08.0**	**-1.2**
AKSZ	**Araks**	**1.13**	**0**	⇓*iP*		**Pg**		**14 42 09.4**	**-1.4**
AKSZ				⇑*iS*		**Sn**		**14 42 29.1**	**+1.4**
AKSZ	**Araks**	**1.13**	**0**	⇓P		**Pg**		**14 42 09.4**	**-1.4**
AKSZ				S		**Sn**		**14 42 29.1**	**+1.4**
PAAR	**P'arak'ar**	**1.16**	**20**⇑	*iP*		**Pg**		**14 42 09.4**	**-1.8**
PAAR				⇓*iS*		**Sn**		**14 42 29.4**	**+1.2**
PAAR	**P'arak'ar**	**1.16**	**20**⇑	P		**Pg**		**14 42 09.4**	**-1.8**
PAAR				S		**Sn**		**14 42 29.5**	**+1.2**
ERE	**Yerevan**	**1.20**	**22**	⇓*iP*		Pg		14 42 07.0	-5.1
NAX	**Nakhchivan**	**1.27**	**84**	⇑Pn		**Pn**		**14 42 12.5**	**-1.0**
NAX				⇓Sn		Sn		14 42 44.5	+14
NAX	**Nakhchivan**	**1.27**	**84**	Pn		**Pn**		**14 42 12.5**	**-1.0**
GNI	**Garni**	**1.28**	**31**⇑	*iP*		**Pn**		**14 42 13.0**	**-0.8**
GNI				⇑*iS*		**Sn**		**14 42 33.2**	**+1.8**
GNI	**Garni**	**1.28**	**31**	⇑P		**Pn**		**14 42 13.0**	**-0.8**
GNI				S		**Sn**		**14 42 33.2**	**+1.8**
GNI	**Garni**	**1.28**	**31**	Pg		**Pn**		**14 42 13.3**	**-0.4**
	97nm,0.3s,baz=247,slow=1.2,SNR=144								
GNI				Lg		Lg		14 42 33.5	
	90nm,0.3s,baz=5.3,slow=19,SNR=7.9								
EATA	**Eleskirt**	**1.34**	**307**	*i* P		**Pn**		**14 42 13.3**	**-1.4**
EATA	**Eleskirt**	**1.34**	**307**	*i* P		**Pn**		**14 42 13.3**	**-1.4**
AMBZ	**Amberd**	**1.36**	**12**	⇓*iP*		**Pg**		**14 42 14.1**	**-0.9**
AMBZ				⇓*iS*		**Sn**		**14 42 36.9**	**+3.4**
AMBZ	**Amberd**	**1.36**	**12**	⇓P		**Pn**		**14 42 14.1**	**-0.9**
TATV	**Tatvan**	**1.37**	**247**	*i* P		**Pn**		**14 42 13.0**	**-2.0**
TATV				*i* S		**Sb**		**14 42 30.4**	**-2.8**
TATV	**Tatvan**	**1.37**	**247**	*i* P		**Pn**		**14 42 13.0**	**-2.0**
TATV				*i* S		**Sb**		**14 42 30.4**	**-2.8**
DIGO	**Kars**	**1.41**	**344**	*i* P		**Pg**		**14 42 16.2**	**+0.1**
DIGO				*i* S		Sg		14 42 40.6	+6.2
DIGO	**Kars**	**1.41**	**344**	*i* P		**Pg**		**14 42 16.2**	**+0.1**
KAPZ	**Kaputan**	**1.41**	**26**	⇑*iP*		**Pn**		**14 42 14.1**	**-1.5**
KAPZ				⇓*iS*		**Sn**		**14 42 36.3**	**+1.6**
KAPZ	**Kaputan**	**1.41**	**26**	⇑P		**Pn**		**14 42 14.1**	**-1.5**
KAPZ				S		**Sn**		**14 42 36.3**	**+1.6**
EKAR	**Karacoban**	**1.42**	**279**	*i* P		**Pn**		**14 42 14.9**	**-0.8**
EKAR	**Karacoban**	**1.42**	**279**	*i* P		**Pn**		**14 42 15.0**	**-0.8**
HAKT	**HAKKARI**	**1.50**	**185**	*i* P		**Pn**		**14 42 14.9**	**-2.0**
HAKT				*i* S		**Sg**		**14 42 39.4**	**+2.0**
HAKT	**HAKKARI**	**1.50**	**185**	*i* P		**Pn**		**14 42 14.9**	**-2.0**
HAKT				*i* S		**Sg**		**14 42 39.4**	**+2.0**
EAK	**Akyaka**	**1.64**	**353**	*i* P		**Pg**		**14 42 21.0**	**+0.5**
EAK				*i* S		Sg		14 42 48.4	+6.7
EAK	**Akyaka**	**1.64**	**353**	*i* P		**Pg**		**14 42 21.0**	**+0.5**
KARS	**Kars**	**1.68**	**339**	*e*PN		**Pn**		**14 42 18.4**	**-0.9**
KARS				*e*SN		**Sn**		**14 42 38.7**	**-2.7**
KARS	**Kars**	**1.68**	**339**	*e*Pn		**Pn**		**14 42 18.4

AML	**Almayashu**	**4.88**	**52**	P	**Pn**	14 46 47.1	+1.7
	SNR=33						
EKS2	**Erkin-Say**	**5.24**	**48**	P	**Pn**	14 46 51.8	+1.5
	SNR=15						
UCH	**Uchtor**	**5.44**	**55**	P	**Pn**	14 46 54.4	+1.1
	SNR=8.8						
KSH	**Kashi**	**5.79**	**85**	Pn	**Pn**	14 46 55.3	-2.4
KSH				Sn	**Sn**	14 48 00.6	-3.6
KSH				smax	smax		
	comp=N,39nm,0.7s						
KSH				smax	smax		
	comp=E,33nm,0.7s						
KZA	**Kyzart**	**5.85**	**59**	P	**Pn**	14 47 00.6	+1.8
	SNR=11						
USP	**Ospenovka**	**6.04**	**46**	P	**Pn**	14 47 01.5	+0.4
	SNR=7.5						
TKM2	**Tokmak 2**	**6.49**	**53**	⇑Pn	**Pn**	14 47 08.3	+0.9
	comp=E,2.3nm,0.5s						
TKM2				⇑Pg	**Pb**	14 47 27.7	+2.9
	comp=E,8.4nm,0.5s						
TKM2				⇓Sn	**Sn**	14 48 21.4	-0.1
	comp=E,2.6nm,0.3s						
TKM2				⇑Lg	Lg	14 48 51.8	
	comp=E,30nm,0.6s						
AB31	**Akbulak array**	**11.73**	**331**	⇓Pn	**Pn**	14 48 18.3	-0.6
	comp=E,1.1nm,0.3s,baz=160,slow=12						
AB31				⇓Sn	**Sn**	14 50 25.1	-4.7
	comp=E,3.7nm,0.4s,baz=163,slow=23						
MK31	**Makanchi Array**	**12.58**	**49**	⇑Pn	**Pn**	14 48 30.7	+0.1
	comp=E,0.1nm,0.3s,baz=236,slow=14,SNR=7.9						
MKAR	**Makanchi Array**	**12.58**	**49**	Pn	Pn	14 48 27.5	-3.1
	comp=E,0.1nm,0.3s,baz=236,slow=14,SNR=8.5						
MKAR				Lg	Lg	14 52 08.2	
	comp=E,0.1nm,0.3s,baz=246,slow=21,SNR=2.6						
KURBB	**Kurchatov Arra**	**13.39**	**29**	Pn	**Pn**	14 48 39.9	-1.6
	comp=E,0.2nm,0.3s,baz=219,slow=13,SNR=4.3						
KURBB				Lg	Lg	14 52 36.1	
	comp=E,0.1nm,0.3s,baz=215,slow=32,SNR=5.7						
KURBB	**Kurchatov Arra**	**13.39**	**29**	⇑P	P	14 48 48.0	-3.1
	comp=E,0.7nm,0.5s						
AKTO	**Aktyubinsk**	**13.41**	**330**	Pn	**Pn**	14 48 42.8	+0.8
	comp=E,0.7nm,0.3s,baz=141,slow=16,SNR=13						
AKTO				Sn	**Sn**	14 51 07.8	-3.3
	comp=E,0.5nm,0.3s,baz=179,slow=21,SNR=7.2						
AKTO				Lg	Lg	14 52 43.3	
	baz=245,slow=20,SNR=4.0						
AKTO	**Aktyubinsk**	**13.41**	**330**	⇓Pn	**Pn**	14 48 42.8	+0.8
	comp=E,4.2nm,0.8s						
AKTO				⇑Sn	**Sn**	14 51 06.8	-4.3
	comp=E,7.4nm,0.8s						
KURK	**Kurchatov**	**13.50**	**29**	⇓P	Pn	14 48 46.4	+3.3
	comp=E,1.3nm,1.1s						
VOSK	**Vostochnaya**	**13.58**	**6**	⇓P	Pn	14 48 48.7	+4.4
	comp=E,1.5nm,0.8s						
BVA0	**Borovoye Array**	**13.84**	**5**	⇑Pn	**Pn**	14 48 50.2	+2.4
	comp=E,1.4nm,0.9s,baz=168,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**13.84**	**5**	Pn	**Pn**	14 48 45.6	-2.1
	comp=E,0.2nm,0.3s,baz=185,slow=11,SNR=4.2						
BVAR				Sn	**Sn**	14 51 16.6	-4.7
	comp=E,0.2nm,0.3s,baz=201,slow=15,SNR=2.7						
ZALV	**Zalesovo Beam**	**18.41**	**32**	P	**P**	14 49 46.1	-0.8
	comp=E,0.2nm,0.3s,baz=213,slow=13,SNR=4.0						
FINES	**FINESS Array B**	**34.10**	**325**	P	**P**	14 52 17.3	+1.2
	comp=E,0.6nm,0.5s,baz=122,slow=12,SNR=3.6						
ARCES	**ARCESS Array B**	**37.85**	**337**	P	**P**	14 52 49.7	+1.5
	comp=E,4.7nm,1.0s,baz=108,slow=8.0,SNR=6.0						
HFS	**Hagfors**	**39.69**	**320**	P	**P**	14 53 04.6	+1.0
	comp=E,0.9nm,0.6s,baz=89,slow=12,SNR=4.3						
NOA	**NORSAR Array B**	**41.00**	**321**	P	**P**	14 53 14.8	+0.2
	comp=E,0.3nm,0.6s,baz=96,slow=8.4,SNR=3.1						
WRA	**Warramunga Arr**	**85.10**	**121**	P	**P**	14 58 07.4	-0.6
	comp=E,0.1nm,0.4s,baz=326,slow=4.7,SNR=2.8						

*IDC **12** 14:54:35.7±1.6, 1.04N×97.04E, h0km, mb3.4/6, mb1 3.5/8, mb1mx3.4/28, mbtmp3.4/8, ML3.7/1, Error ellipse: s-maj=48.9km s-min=20.0km az=59.0*
*DJA **12** 14:54:47.7±0.5, 2.N±6.×9.8E±., h10km, M3.2/4, MLv3.2/4*
ISC 12 14:54:42.7±1.6, 1.5N±0.1×97.7E±0.2, h30km, n18, σ0§86/12, mb3.4/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.60**	**304**	P		P	Pb	14 55 18.9	+7.2
TPTI		**1.81**	**345**	P		**P**	**Pn**	**14 55 12.5**	**+0.6**
TPTI				S		S	**Sb**	**14 55 37.9**	**+0.3**
PSI	**Prapat**	**1.82**	**45**	Pn		Pb	Pb	14 55 18.5	+3.1
	1.7nm,0.3s,baz=216,slow=8.7,SNR=9.4								
KCSI	**Kotacane, Aceh**	**2.01**	**3**	P		**P**	**Pb**	**14 55 17.6**	**-1.1**
MNSI	**Mandailing Nat**	**2.05**	**110**	P		**P**	**Pb**	**14 55 18.9**	**-0.5**
MNSI				S		S	**Sb**	**14 55 45.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.90**	**4**	P		**P**	**P**	**14 58 38.4**	**-0.6**
	0.1nm,0.3s,baz=194,slow=12,SNR=2.6								
H08S2	**Diego Garcia H**	**26.69**	**250**	T		T	T	15 27 10.3	
	baz=70,slow=75,SNR=1154								
H08S3	**Diego Garcia H**	**26.69**	**250**	T		T	T	15 27 10.5	
	baz=70,slow=75,SNR=917								
H08S1	**Diego Carcia H**	**26.70**	**250**	T		T	T	15 27 11.5	
	baz=70,slow=75,SNR=587								
H01W3	**Cape Leeuwin H**	**39.35**	**158**	T		T	T	15 43 35.1	
	baz=334,slow=76,SNR=8.2								
H01W2	**Cape Leeuwin H**	**39.37**	**158**	T		T	T	15 43 40.2	
	baz=334,slow=76,SNR=9.1								
H01W1	**Cape Leeuwin H**	**39.37**	**158**	T		T	T	15 43 40.0	
	baz=334,slow=76,SNR=7.4								
WRA	**Warramunga Arr**	**41.81**	**123**	P		**P**	**P**	**15 02 29.6**	**-0.6**
	0.4nm,0.8s,baz=305,slow=8.5,SNR=3.5								
ASAR	**Alice Springs**	**43.22**	**128**	P		**P**	**P**	**15 02 40.6**	**-1.0**
	0.2nm,0.3s,baz=300,slow=7.8,SNR=4.1								
SONM	**Songino Array**	**46.77**	**8**	P		**P**	**P**	**15 03 11.2**	**+1.6**
	0.3nm,0.4s,baz=181,slow=8.6,SNR=3.1								
MKAR	**Makanchi Array**	**47.06**	**346**	P		**P**	**P**	**15 03 11.8**	**+0.1**
	0.2nm,0.4s,baz=159,slow=8.6,SNR=7.6								
KURBB	**Kurchatov Arra**	**51.56**	**345**	P		**P**	**P**	**15 03 45.6**	**-0.4**
	0.2nm,0.5s,baz=163,slow=6.8,SNR=4.8								
ZALV	**Zalesovo Beam**	**53.34**	**351**	P		**P**	**P**	**15 03 59.0**	**0.0**
	0.6nm,0.4s,baz=153,slow=7.2,SNR=4.5								

*ISCJB **12** 15:03:36.0±0.6, 19.2S±0.2×177.5W±0.1, h570km, mb3.3/5, Error ellipse: s-maj=24.5km s-min=9.0km az=144.2*
*IDC **12** 15:03:36.2±1.5, 19.21S×177.61W, h550km±19km, mb2.9/5, mb1 3.2/7, mb1mx3.0/21, mbtmp4.0/7, Error ellipse: s-maj=24.3km s-min=14.5km az=139.0*
ISC 12 15:03:37.2±0.7, 19.1S±0.2×177.5W±0.1, h570km, n18, σ1§24/21, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.55**	**48**	P		P	**P**	**15 05 31.2**	**-0.2**
	7.1nm,0.3s,baz=225,slow=8.6,SNR=9.5								
AFI				S			**S**	**15 07 02.0**	**-2.8**
	0.6nm,0.3s,baz=217,slow=20,SNR=2.4								
URZ	**Urewera**	**19.66**	**193**	P		P	**P**	**15 07 26.6**	**-2.5**
	2.7nm,0.3s,baz=264,slow=4.0,SNR=20								
STKA	**Stephens Creek**	**38.81**	**243**	P		P	**P**	**15 10 14.5**	**+0.4**
	2.1nm,0.7s,baz=84,slow=18,SNR=6.2								
MCQ	**Macquarie Isla**	**39.66**	**201**	P		P	P	15 10 14.4	-6.0
	baz=45,SNR=3.3								
HTT	**Hallett**	**41.28**	**241**	P		P	**P**	**15 10 34.5**	**+0.7**
	baz=48,SNR=6.2								
BBOO	**Buckleboo**	**43.58**	**242**	P		P	**P**	**15 10 52.1**	**+0.3**
	baz=50,SNR=9.5								
WRA	**Warramunga Arr**	**45.25**	**261**	P		P	**P**	**15 11 04.4**	**-0.4**
	0.2nm,0.4s,baz=97,slow=6.6,SNR=7.7								
WRA				PcP		PcP	**PcP**	**15 12 33.1**	**+0.5**
	0.8nm,1.1s,baz=90,slow=3.4,SNR=2.8								
ASAR	**Alice Springs**	**45.29**	**255**	P		P	**P**	**15 11 05.2**	**+0.1**
	1.7nm,0.8s,baz=90,slow=8.4,SNR=23								
ASAR				PcP		PcP	**PcP**	**15 12 32.8**	**+0.1**
	0.8nm,0.7s,baz=107,slow=4.1,SNR=9.6								
ASAR				S		S	**S**	**15 17 02.7**	**-2.0**
	0.7nm,0.7s,baz=93,slow=16,SNR=9.1								
WRKA	**Warakurna**	**50.29**	**253**	P		P	**P**	**15 11 42.5**	**+0.2**
	baz=56,SNR=17								
FITZ	**Fitzroy Crossi**	**53.67**	**261**	P		P	**P**	**15 12 07.2**	**+0.6**
	baz=60,SNR=3.1								
MEEK	**Meekatharra**	**58.81**	**250**	P		P	**P**	**15 12 41.5**	**-0.4**
	baz=65,SNR=3.3								
VNDA	**Vanda**	**59.35**	**185**	P		P	**P**	**15 12 45.3**	**+0.8**
	1.8nm,1.1s,baz=42,slow=8.3,SNR=2.4								
BLDU	**Ballidu**	**60.04**	**245**	P		P	**P**	**15 12 50.1**	**+0.1**
	baz=66,SNR=5.2								
TXAR	**Lajitas Array**	**85.92**	**57**	P		P	**P**	**15 15 20.4**	**+2.4**
	0.2nm,0.6s,baz=188,slow=7.6,SNR=3.6								
MKAR	**Makanchi Array**	**110.55**	**314**	PKiKP			**PKiKP**	**15 21 05.0**	**-0.5**
	0.1nm,0.5s,baz=42,slow=2.3,SNR=4.1								
ARCES	**ARCESS Array B**	**127.62**	**350**	PKP			**PKPdf**	**15 21 38.1**	**+0.6**
	2.7nm,0.9s,baz=352,slow=2.7,SNR=1.6								
BRTR	**Keskin Array B**	**146.20**	**314**	PKPbc			**PKPbc**	**15 22 14.9**	**+0.2**
	0.6nm,0.5s,baz=159,slow=4.5,SNR=3.4								
GERES	**GERESS Array B**	**148.96**	**346**	PKPbc			**PKPbc**	**15 22 21.8**	**+0.3**
	0.7nm,1.0s,baz=44,slow=4.4,SNR=3.6								

MAN 12 15:05:45.1, 18.1N×120.2E, h26km, mb4.2, ML3.0, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.35**	**65**	⇓P		*i*P	Pn	15 05 54.2	-0.2
PIP						*e*S	Sn	15 06 10.4	+10
ABRA	**Dolores**	**0.67**	**142**	*e*P		Pn	Pb	15 05 58.8	+0.1
ABRA						*e*S	Sn	15 06 08.1	-0.2
APYP	**Conner**	**0.96**	**109**	*e*P		Pb	Pb	15 06 04.2	+1.1
APYP						*e*S	Sn	15 06 16.8	+1.0
CAUP	**Cauayan**	**1.91**	**130**	*e*P		Pb	Pb	15 06 19.8	+0.6

*ISCJB **12** 15:09:46.5±0.5, 36.46N±0.03×26.85E±0.03, h136km±5km, Error ellipse: s-maj=5.8km s-min=4.3km az=163.6*
*ATH **12** 15:09:47.6, 36.52N×26.83E, h128km±3km*
*CSEM **12** 15:09:47.2±0.2, 36.46N×26.87E, h134km±3km, ML3.1, Error ellipse: s-maj=4.5km s-min=3.6km az=167.0*
*HLW **12** 15:09:49.2, 36.33N×26.96E, h25km±18km, Md0.0, Ml3.5*
*THE **12** 15:09:50.1, 36.47N×26.78E, h138km±4km, ML3.1/2, Error ellipse: s-maj=4.3km s-min=1.1km az=133.0*
*DDA **12** 15:09:53.1, 36.52N×27.27E, h15km, MD3.1*
ISC 12 15:09:46.6±1.2, 36.51N±0.04×26.85E±0.03, h138km±9km, n69, σ1§18/94, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.99**	**165**	P		P	**Pn**	**15 10 10.8**	**+0.5**
KARP				S		S	**Sn**	**15 10 27.1**	**-1.1**
KARP	**Karpathos**	**0.99**	**165**	*e*P		P	**Pn**	**15 10 10.9**	**+0.6**
KARP				*e*S		S	**Sn**	**15 10 27.6**	**-0.6**
KARP	**Karpathos**	**0.99**	**165**	P		P	**Pn**	**15 10 10.8**	**+0.5**
KARP				*e*S		S	**Sn**	**15 10 27.6**	**-0.6**
ARG	**Arkhangelos**	**1.07**	**105**	P		P	**Pn**	**15 10 12.1**	**+1.1**
ARG				S		S	**Sn**	**15 10 29.4**	**0.0**
ARG	**Arkhangelos**	**1.07**	**105**	*e*P		P	**Pn**	**15 10 12.0**	**+1.1**
ARG	**Arkhangelos**	**1.07**	**105**	*e*P		P	**Pn**	**15 10 12.0**	**+1.1**
ARG				S		S	**Sn**	**15 10 29.4**	**0.0**
SANT	**Santorini**	**1.13**	**263**	P		P	**Pn**	**15 10 12.2**	**+0.7**
SANT				S		S	**Sn**	**15 10 28.8**	**-1.6**
SANT	**Santorini**	**1.13**	**263**	*e*P		P	**Pn**	**15 10 12.4**	**+0.9**
SANT	**Santorini**	**1.13**	**263**	P		P	**Pn**	**15 10 12.2**	**+0.7**
APE	**Apeiranthos**	**1.20**	**298**	P		P	**Pn**	**15 10 13.0**	**+0.9**
APE				S		S	**Sn**	**15 10 31.0**	**-0.6**
APE	**Apeiranthos**	**1.20**	**298**	*e*P		P	**Pn**	**15 10 13.0**	**+0.9**
APE	**Apeiranthos**	**1.20**	**298**	P		P	**Pn**	**15 10 13.0**	**+0.9**
APE				S		S	**Sn**	**15 10 31.0**	**-0.6**
SMG	**Samos**	**1.20**	**360**	*e*P		P	**Pn**	**15 10 12.9**	**+0.8**
SMG	**Samos**	**1.20**	**360**	*e*P		P	**Pn**	**15 10 12.9**	**+0.8**
AYDN	**Tasoluk**	**1.42**	**35**	*i*P		P	**Pn**	**15 10 15.6**	**+1.2**
AYDN				*i*S		S	**Sn**	**15 10 35.2**	**-0.5**
AYDN	**Tasoluk**	**1.42**	**35**	*i*P		P	**Pn**	**15 10 15.6**	**+1.2**
AYDN				*i*S		S	**Sn**	**15 10 35.2**	**-0.5**
ZKR	**Zakros**	**1.48**	**200**	P		P	**Pn**	**15 10 16.6**	**+1.5**
ZKR	**Zakros**	**1.48**	**200**	*e*P		P	**Pn**	**15 10 16.7**	**+1.6**
ZKR				*e*S		S	**Sn**	**15 10 37.5**	**+0.7**
ZKR	**Zakros**	**1.48**	**200**	P		P	**Pn**	**15 10 16.6**	**+1.5**
ZKR				*e*S		S	**Sn**	**15 10 37.5**	**+0.7**
NPS	**Neapolis**	**1.60**	**219**	P		P	**Pn**	**15 10 17.0**	**+0.6**
NPS				S		S	**Sn**	**15 10 38.0**	**-1.1**
NPS	**Neapolis**	**1.60**	**219**	*e*P		P	**Pn**	**15 10 17.0**	**+0.6**
NPS	**Neapolis**	**1.60**	**219**	P		P	**Pn**	**15 10 17.0**	**+0.6**
NPS				S		S	**Sn**	**15 10 38.0**	**-1.1**
LAST	**Lasithi**	**1.74**	**220**	P		P	**Pn**	**15 10 18.6**	**+0.5**
LAST				S		S	**Sn**	**15 10 41.2**	**-1.0**
LAST	**Lasithi**	**1.74**	**220**	*e*P		P	**Pn**	**15 10 18.8**	**+0.7**
LAST	**Lasithi**	**1.74**	**220**	P		P	**Pn**	**15 10 18.6**	**+0.5**
LAST				S		S	**Sn**	**15 10 41.2**	**-1.0**
CHOS	**Chios island**	**1.98**	**342**	P		P	**Pn**	**15 10 21.9**	**+1.1**
CHOS	**Chios island**	**1.98**	**342**	P		P	**Pn**	**15 10 21.9**	**+1.1**
IDI	**Anoyia**	**2.00**	**233**	P		P	**Pn**	**15 10 21.6**	**+0.5**
IDI				S		S	**Sn**	**15 10 45.4**	**-2.1**
IDI	**Anoyia**	**2.00**	**233**	*e*P		P	**Pn**	**15 10 21.6**	**+0.5**
IDI	**Anoyia**	**2.00**	**233**	P		P	**Pn**	**15 10 21.6**	**+0.5**
SIVA	**Sivas**	**2.23**	**229**	*e*P		P	**Pn**	**15 10 25.4**	**+1.6**
SIVA	**Sivas**	**2.23**	**229**	*e*P		P	**Pn**	**15 10 25.4**	**+1.6**
AKAS	**Kas**	**2.24**	**96**	*i*P		P	**Pn**	**15 10 25.7**	**+1.6**
AKAS				*i*S		S	**Sn**	**15 10 52.3**	**-0.5**
AKAS	**Kas**	**2.24**	**96**	*i*P		P	**Pn**	**15 10 25.7**	**+1.6**
AKAS				*i*S		S	**Sn**	**15 10 52.3**	**-0.5**
GOLH	**Golhisar**	**2.29**	**71**	*i*P		P	**Pn**	**15 10 26.7**	**+2.0**
GOLH				*i*S		S	**Sn**	**15 10 50.1**	**-3.9**
GOLH	**Golhisar**	**2.29**	**71**	*i*P		P	**Pn**	**15 10 26.7**	**+2.0**
GOLH				*i*S		S	**Sn**	**15 10 50.1**	**-3.9**
VAM	**Vamos**	**2.41**	**244**	P		P	**Pn**	**15 10 27.1**	**+1.0**
VAM	**Vamos**	**2.41**	**244**	*e*P		P	**Pn**	**15 10 27.4**	**+1.3**
VAM	**Vamos**	**2.41**	**244**	P		P	**Pn**	**15 10 27.1**	**+1.0**
KARN	**Karanos**	**2.62**	**246**	P		P	**Pn**	**15 10 30.5**	**+1.8**
KARN				S		S	**Sn**	**15 11 00.3**	**-0.8**
KARN	**Karanos**	**2.62**	**246**	*e*P		P	**Pn**	**15 10 30.7**	**+2.0**
KARN	**Karanos**	**2.62**	**246**	P		P	**Pn**	**15 10 30.5**	**+1.8**
KARN				S		S	**Sn**	**15 11 00.3**	**-0.8**
KHAL	**Karahalli**	**2.81**	**48**	*i*P		P	**Pn**	**15 10 32.5**	**+1.4**
KHAL				*i*S		S	**Sn**	**15 11 05.0**	**-0.5**
KHAL	**Karahalli**	**2.81**	**48**	*i*P		P	**Pn**	**15 10 32.5**	**+1.4**
KHAL				*i*S		S	**Sn**	**15 11 05.0**	**-0.5**
DID	**Didima**	**3.06**	**290**	P		P	**Pn**	**15 10 35.9**	**+1.7**
DID	**Didima**	**3.06**	**290**	P		P	**Pn**	**15 10 35.9**	**+1.7**
KYTH	**Kithira**	**3.08**	**267**	P		P	**Pn**	**15 10 34.8**	**+0.2**
KYTH	**Kithira**	**3.08**	**267**	P		P	**Pn**	**15 10 34.8**	**+0.2**
VLI	**Veliai**	**3.15**	**275**	P		P	**Pn**	**15 10 35.9**	**+0.5**
VLI				S		S	**Sn**	**15 11 12.5**	**-0.7**
VLI	**Veliai**	**3.15**	**275**	*e*P		P	**Pn**	**15 10 36.9**	**+1.5**
VLI	**Veliai**	**3.15**	**275**	*e*P		P	**Pn**	**15 10 36.9**	**+1.5**
SWA2		**7.34**	**190**	AMP				15 12 00.0	
	comp=E,20μm,0.2s,logA/T=5.0,baz=191								
SWA2		**7.34**	**190**	P		P	**Pn**	**15 11 30.7**	**-0.4**
KOT	**Kottamia**	**7.78**	**146**	P		P	**Pn**	**15 11 36.4**	**-0.6**
	baz=146								
KOT	**Kottamia**	**7.78**	**146**	P		P	**Pn**	**15 11 36.4**	**-0.6**
HHAG	**Hagoal**	**7.88**	**145**	P		P	**Pn**	**15 11 38.3**	**-0.1**
	baz=144								
HHAG	**Hagoal**	**7.88**	**145**	P		P	**Pn**	**15 11 38.3**	**-0.1**
AMAG	**Maghara**	**7.90**	**136**	P		P	**Pn**	**15 11 38.1**	**-0.6**
	baz=135								
AMAG	**Maghara**	**7.90**	**136**	P		P	**Pn**	**15 11 38.1**	**-0.6**
RSH		**7.96**	**132**	P		P	**Pn**	**15 11 39.1**	**-0.4**
	baz=131								
RSH		**7.96**	**132**	P		P	**Pn**	**15 11 39.1**	**-0.4**
GLL	**Jalalah**	**8.02**	**148**	P		P	**Pn**	**15 11 39.4**	**-1.0**
	baz=148								
GLL	**Jalalah**	**8.02**	**148**	P		P	**Pn**	**15 11 39.4**	**-1.0**
SUZ		**8.33**	**141**	P		P	**Pn**	**15 11 44.1**	**-0.3**
	baz=141								
SUZ		**8.33**	**141**	P		P	**Pn**	**15 11 44.1**	**-0.3**
HFRF	**Wahat Farafira**	**9.41**	**172**	P		P	**Pn**	**15 11 58.9**	**-0.1**
	baz=172								
HFRF	**Wahat Farafira**	**9.41**	**172**	P		P	**Pn**	**15 11 58.9**	**-0.1**
HKAT	**Jabal Katrina**	**9.98**	**141**	P		P	**Pn**	**15 12 06.5**	**-0.2**
	baz=140								
HKAT	**Jabal Katrina**	**9.98**	**141**	P		P	**Pn**	**15 12 06.6**	**-0.2**

*MOS **12** 15:23:13.2±1.9, 36.40N×28.70E, h33km, mb4.7/28, Error ellipse: s-maj=5.3km s-min=3.0km az=116.9*
*BJI **12** 15:23:13.0, 36.68N×28.22E, h43km, mB4.9/2, mb4.6/7, Ms7 4.7/1*
*ISCJB **12** 15:23:15.4±0.1, 36.42N±0.01×28.69E±0.01, h65km±2km, mb4.3/51, Error ellipse: s-maj=2.2km s-min=1.6km az=34.9*
*ISK **12** 15:23:15.6, 36.52N×28.59E, h84km, ML4.5*
*CSEM **12** 15:23:16.9±0.1, 36.45N×28.69E, h55km, mb4.2/9, Ms3.3, Error ellipse: s-maj=2.7km s-min=1.8km az=44.0*
*NEIC **12** 15:23:16.6, 36.53N×28.59E, h57km, mb4.7/27, After ATH.*
*NIC **12** 15:23:17.9±0.2, 36.63N×29.01E, h66km, mb4.5, ML3.9*
*IDC **12** 15:23:17.2±0.6, 36.54N×28.61E, h52km±5km, mb4.0/25, mb1 4.1/33, mb1mx4.1/39, mbtmp4.2/33, MS3.8/25, Ms1 3.8/25, ms1mx3.6/53, Error ellipse: s-maj=10.6km s-min=6.8km az=153.0*
*DDA **12** 15:23:17.8, 36.48N×28.54E, h47km, MD4.1*
*ATH **12** 15:23:17.1, 36.53N×28.55E, h56km±2km, ML4.2*
*HLW **12** 15:23:18.9, 36.36N×28.73E, h32km±32km, Md0.0, Ml4.8*
*THE **12** 15:23:19.0, 36.52N×28.56E, h41km±2km, ML4.4/9, Error ellipse: s-maj=3.0km s-min=0.7km az=150.0*
ISC 12 15:23:17.0±0.4, 36.48N±0.02×28.62E±0.02, h56km±3km, h56km:pP-P, n878, σ1§56/958, mb4.4/51, MS3.8/20, 27C-11D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.39**	**358**	*i*P		P	**Pn**	**15 23 27.6**	**+0.1**
TURN				*i*S		S	**Sn**	**15 23 34.8**	**-0.3**
TURN	**Turunc**	**0.39**	**358**	*i*P		P	**Pn**	**15 23 27.6**	**+0.1**
TURN				*i*S		S	**Sn**	**15 23 34.8**	**-0.3**
ARG	**Arkhangelos**	**0.48**	**236**	P		P	**Pn**	**15 23 28.9**	**+0.5**
ARG				S		S	**Sn**	**15 23 37.5**	**+0.8**
ARG	**Arkhangelos**	**0.48**	**236**	P		P	**Pn**	**15 23 28.9**	**+0.5**
ARG				S		S	**Sn**	**15 23 37.5**	**+0.8**
ARG	**Arkhangelos**	**0.48**	**236**	*e*P		P	**Pn**	**15 23 29.1**	**+0.7**
ARG				*e*S		S	**Sn**	**15 23 37.7**	**+1.0**
ARG	**Arkhangelos**	**0.48**	**236**	P		P	**Pn**	**15 23 28.9**	**+0.5**
ARG				S		S	**Sn**	**15 23 37.5**	**+0.8**
ARG	**Arkhangelos**	**0.48**	**236**	*e*P		P	**Pn**	**15 23 29.1**	**+0.7**
ARG				S		S	**Sn**	**15 23 37.5**	**+0.8**
AKAS	**Kas**	**0.83**	**107**	*i*P		P	**Pn**	**15 23 33.4**	**+0.5**
AKAS				*i*S		S	**Sn**	**15 23 45.4**	**+0.9**
AKAS	**Kas**	**0.83**	**107**	*i*P		P	**Pn**	**15 23 33.4**	**+0.5**
AKAS				*i*S		S	**Sn**	**15 23 45.4**	**+0.9**
GOLH	**Golhisar**	**1.07**	**45**	*i*P		P	**Pn**	**15 23 37.3**	**+1.4**
GOLH				*i*S		S	**Sn**	**15 23 51.3**	**+1.4**
GOLH	**Golhisar**	**1.07**	**45**	*i*P		P	**Pn**	**15 23 37.3**	**+1.4**
GOLH				*i*S		S	**Sn**	**15 23 51.3**	**+1.4**
ELL	**Elmali**	**1.07**	**75**	*e*PN		P	**Pn**	**15 23 36.9**	**+0.9**
ELL				*e*SN		S	**Sn**	**15 23 51.9**	**+1.9**
ELL	**Elmali**	**1.07**	**75**	*e*Pn		P	**Pn**	**15 23 36.9**	**+0.9**
ELL				*e*Sn		S	**Sn**	**15 23 51.9**	**+1.9**
BDRM	**Kayabasi**	**1.11**	**302**	*i*P		P	**Pn**	**15 23 36.9**	**+0.6**
BDRM				*i*S		S	**Sn**	**15 23 50.1**	**-0.6**
BDRM	**Kayabasi**	**1.11**	**302**	*i*P		P	**Pn**	**15 23 36.9**	**+0.6**
BDRM				*i*S		S	**Sn**	**15 23 50.1**	**-0.6**
BODT	**Bodrum**	**1.20**	**299**	*e*PN		P	**Pn**	**15 23 38.1**	**+0.6**
BODT				*e*SN		S	**Sn**	**15 23 53.6**	**+0.7**
BODT	**Bodrum**	**1.20**	**299**	*e*Pn		P	**Pn**	**15 23 38.1**	**+0.6**
BODT				*e*Sn		S	**Sn**	**15 23 53.6**	**+0.7**
NISR	**Nisiros**	**1.21**	**277**	P		P	**Pn**	**15 23 38.1**	**+0.5**
NISR	**Nisiros**	**1.21**	**277**	P		P	**Pn**	**15 23 38.1**	**+0.5**
NISR	**Nisiros**	**1.21**	**277**	P		P	**Pn**	**15 23 38.1**	**+0.5**
AYDN	**Tasoluk**	**1.31**	**334**	*i*P		P	**Pn**	**15 23 39.4**	**+0.2**
AYDN				*i*S		S	**Sn**	**15 23 55.9**	**+0.2**
AYDN	**Tasoluk**	**1.31**	**334**	*i*P		P	**Pn**	**15 23 39.4**	**+0.2**
AYDN				*i*S		S	**Sn**	**15 23 55.9**	**+0.2**
KARP	**Karpathos**	**1

PRK Paraskevi 3.32 327 P Pn 15 24 06.9 +0.4
PRK S Sn 15 24 44.8 +0.1
PRK Paraskevi 3.32 327 P Pn 15 24 06.9 +0.4
PRK S Sn 15 24 44.8 +0.1
AKMC Akamas 3.35 115 P Pn 15 24 05.4 -1.5
baz=301
AKMC Akamas 3.35 115 P Pn 15 24 05.4 -1.5
PPCY Paphos 3.43 117 P Pn 15 24 07.0 -0.9
baz=303
PPCY Paphos 3.43 117 P Pn 15 24 07.0 -0.9
LADK Ladik-KONYA 3.44 59 ePN Pn 15 24 09.6 +1.4
LADK Ladik-KONYA 3.44 59 ePn Pn 15 24 09.6 +1.4
SIGR SIGRI 3.49 322 P Pn 15 24 09.6 +0.8
SIGR S Sn 15 24 48.6 -0.2
SIGR SIGRI 3.49 322 eP Pn 15 24 09.9 +1.1
SIGR eS Sn 15 24 48.3 -0.6
SIGR SIGRI 3.49 322 P Pn 15 24 09.6 +0.8
SIGR S Sn 15 24 48.6 -0.2
SIGR SIGRI 3.49 322 eP Pn 15 24 09.9 +1.1
SIGR S Sn 15 24 48.6 -0.2
ALFC Alevga 3.50 111 P Pn 15 24 07.3 -1.6
baz=297
ALFC S Sn 15 24 46.2 -2.8
ALFC Alevga 3.50 111 P Pn 15 24 07.3 -1.6
ALFC S Sn 15 24 46.2 -2.8
KIZT Kizilcal 3.52 46 ePN Pn 15 24 09.9 +0.5
KIZT Kizilcal 3.52 46 ePn Pn 15 24 09.9 +0.5
ORLT Orhaneli 3.56 3 ePN Pn 15 24 09.8 0.0
ORLT Orhaneli 3.56 3 ePn Pn 15 24 09.8 0.0
GONE Gonen-Balikesi 3.63 349 ePN Pn 15 24 10.2 -0.5
GONE Gonen-Balikesi 3.63 349 ePn Pn 15 24 10.2 -0.5
AKDN Akdeniz- K¯–br 3.73 107 ePN Pn 15 24 12.1 +0.1
AKDN Akdeniz- K¯–br 3.73 107 ePn Pn 15 24 12.1 +0.1
LEF Lefka 3.73 110 ePN Pn 15 24 10.9 -1.2
LEF Lefka 3.73 110 ePn Pn 15 24 10.9 -1.2
VAM Vamos 3.74 255 P Pn 15 24 13.3 +1.1
VAM Vamos 3.74 255 P Pn 15 24 13.3 +1.1
VAM Vamos 3.74 255 eP Pn 15 24 13.1 +0.9
VAM Vamos 3.74 255 P Pn 15 24 13.3 +1.1
VAM Vamos 3.74 255 eP Pn 15 24 13.1 +0.9
SVRH Sivrihisar-ESK 3.74 37 ePN Pn 15 24 12.8 +0.5
SVRH Sivrihisar-ESK 3.74 37 ePn Pn 15 24 12.8 +0.5
KCTX Karacabey (Bur 3.78 357 ePN Pn 15 24 12.5 -0.3
KCTX Karacabey (Bur 3.78 357 ePn Pn 15 24 12.5 -0.3
CAVI Cavuskoy 3.83 14 ePN Pn 15 24 13.3 -0.2
CAVI Cavuskoy 3.83 14 ePn Pn 15 24 13.3 -0.2
SZAC Souni-Zanaja 3.88 115 P Pn 15 24 13.0 -1.1
baz=301
SZAC S Sn 15 24 55.8 -2.7
SZAC Souni-Zanaja 3.88 115 P Pn 15 24 13.0 -1.1
SZAC S Sn 15 24 55.8 -2.7
MDNY Mudanya-Bursa 3.88 3 ePN Pn 15 24 14.2 0.0
MDNY Mudanya-Bursa 3.88 3 ePn Pn 15 24 14.2 0.0
EDC Edincik 3.90 351 ePN Pn 15 24 14.3 -0.1
EDC Edincik 3.90 351 ePn Pn 15 24 14.3 -0.1
BNT Bandirma 3.91 352 ePN Pn 15 24 14.4 0.0
BNT Bandirma 3.91 352 ePn Pn 15 24 14.5 0.0
MAMC Mammari 3.96 108 P Pn 15 24 13.7 -1.5
baz=294
MAMC Mammari 3.96 108 P Pn 15 24 13.7 -1.5
KARN Karanos 3.96 256 P Pn 15 24 16.4 +1.1
KARN Karanos 3.96 256 P Pn 15 24 16.4 +1.1
KARN Karanos 3.96 256 P Pn 15 24 16.4 +1.1
GEMT Gemlik 3.97 6 ePN Pn 15 24 15.5 +0.1
GEMT Gemlik 3.97 6 ePn Pn 15 24 15.5 +0.1
GPA Golpazari 4.03 19 ePN Pn 15 24 15.2 -0.9
GPA Golpazari 4.03 19 ePn Pn 15 24 15.2 -0.9
GVD Gavdhos 4.04 247 ePn Pn 15 24 16.6 +0.3
GVD eSn Sn 15 25 02.7 +0.4
GVD Gavdhos 4.04 247 ePn Pn 15 24 16.6 +0.3
GVD eSn Sn 15 25 02.7 +0.4
KRBG Karabiga-Canak 4.04 346 ePN Pn 15 24 15.8 -0.5
KRBG Karabiga-Canak 4.04 346 ePn Pn 15 24 15.8 -0.5
ADVT Abdulvahap 4.04 12 ePN Pn 15 24 16.5 +0.2
ADVT Abdulvahap 4.04 12 ePn Pn 15 24 16.5 +0.2
ARMT Armutlu 4.08 3 ePN Pn 15 24 16.5 -0.4
ARMT Armutlu 4.08 3 ePn Pn 15 24 16.5 -0.4
IKL Isikli 4.10 92 ePN Pn 15 24 17.7 +0.6
IKL Isikli 4.10 92 ePn Pn 15 24 17.7 +0.6
PTL Penteli 4.10 294 P Pn 15 24 18.9 +1.7
PTL Penteli 4.10 294 eP Pn 15 24 18.1 +0.9
PTL Penteli 4.10 294 P Pn 15 24 18.9 +1.7
PTL Penteli 4.10 294 eP Pn 15 24 18.1 +0.9
CSS Prodhromos 4.12 110 P Pn 15 24 15.9 -1.6
baz=296
CSS Prodhromos 4.12 110 P Pn 15 24 15.9 -1.6
ATHU Athens Univers 4.13 292 P Pn 15 24 19.2 +1.6
ATHU Athens Univers 4.13 292 P Pn 15 24 19.2 +1.6
ATHU Athens Univers 4.13 292 P Pn 15 24 19.2 +1.6
LPK Lapseki 4.15 340 ePN Pn 15 24 17.6 -0.2
LPK Lapseki 4.15 340 ePn Pn 15 24 17.6 -0.2
LFK Lefkose 4.17 105 ePN Pn 15 24 18.3 +0.2
LFK Lefkose 4.17 105 ePn Pn 15 24 18.3 +0.2
ATH Athens Observa 4.18 292 P Pn 15 24 20.5 +2.2
ATH Athens Observa 4.18 292 P Pn 15 24 20.5 +2.2
ATH Athens Observa 4.18 292 eP Pn 15 24 20.5 +2.2
ATH Athens Observa 4.18 292 P Pn 15 24 20.5 +2.2
ATH Athens Observa 4.18 292 P Pn 15 24 20.5 +2.2
GULT Gulveren 4.21 20 ePN Pn 15 24 18.1 -0.7
GULT Gulveren 4.21 20 ePn Pn 15 24 18.1 -0.7
GELI Tayfur-Gelibol 4.25 337 ePN Pn 15 24 19.0 -0.2
GELI Tayfur-Gelibol 4.25 337 ePn Pn 15 24 19.0 -0.2
SULT Sultanhani-AKS 4.26 65 ePN Pn 15 24 19.8 +0.4
SULT Sultanhani-AKS 4.26 65 ePn Pn 15 24 19.8 +0.4
NAIG Nisos Aigina 4.29 289 eP Pn 15 24 21.6 +1.8
NAIG Nisos Aigina 4.29 289 eP Pn 15 24 21.6 +1.8
ERET Eretria 4.30 298 P Pn 15 24 21.7 +1.8
ERET Eretria 4.30 298 P Pn 15 24 21.7 +1.8
ANKY Antikythira Is 4.34 263 P Pn 15 24 21.8 +1.3
ANKY Antikythira Is 4.34 263 eP Pn 15 24 21.9 +1.4
ANKY Antikythira Is 4.34 263 P Pn 15 24 21.8 +1.3
ANKY Antikythira Is 4.34 263 P Pn 15 24 21.8 +1.3
RKY Sarkoy-Tekirda 4.35 345 ePN Pn 15 24 19.9 -0.7
RKY Sarkoy-Tekirda 4.35 345 ePn Pn 15 24 19.9 -0.7
LIA Limnos Island 4.35 323 P Pn 15 24 21.7 +1.1
LIA S Sn 15 25 09.2 -0.8
LIA Limnos Island 4.35 323 eP Pn 15 24 21.9 +1.3
LIA Limnos Island 4.35 323 P Pn 15 24 21.7 +1.1
LIA Limnos Island 4.35 323 P Pn 15 24 21.7 +1.1
LIA S Sn 15 25 09.2 -0.8
SPNC Sapanca-Adapaz 4.40 17 ePN Pn 15 24 21.0 -0.2
SPNC Sapanca-Adapaz 4.40 17 ePn Pn 15 24 21.0 -0.2
HRT Hereke 4.41 10 ePN Pn 15 24 21.4 0.0
HRT Hereke 4.41 10 ePn Pn 15 24 21.4 0.0
DID Didima 4.43 285 P Pn 15 24 23.1 +1.5
DID Didima 4.43 285 P Pn 15 24 23.1 +1.5
DID Didima 4.43 285 P Pn 15 24 23.1 +1.5
MDUB Mudurnu 4.47 26 ePN Pn 15 24 22.2 0.0
MDUB Mudurnu 4.47 26 ePn Pn 15 24 22.2 0.0
ERIK Erikli-Kesan 4.49 339 ePN Pn 15 24 22.6 +0.1
ERIK Erikli-Kesan 4.49 339 ePn Pn 15 24 22.6 +0.1
KYTH Kithira 4.51 269 P Pn 15 24 24.1 +1.3
KYTH Kithira 4.51 269 eP Pn 15 24 25.0 +2.2
KYTH Kithira 4.51 269 P Pn 15 24 24.1 +1.3
KYTH Kithira 4.51 269 P Pn 15 24 24.1 +1.3
MRKA Markates 4.57 301 P Pn 15 24 25.4 +1.8
MRKA Markates 4.57 301 P Pn 15 24 25.4 +1.8
VLI Veliai 4.58 275 P Pn 15 24 25.7 +2.0
VLI Veliai 4.58 275 eP Pn 15 24 25.1 +1.4
VLI Veliai 4.58 275 P Pn 15 24 25.7 +2.0
VLI Veliai 4.58 275 eP Pn 15 24 25.1 +1.4
TKR Tekirdag 4.58 350 ePN Pn 15 24 23.5 -0.2
TKR Tekirdag 4.58 350 ePn Pn 15 24 23.5 -0.2
AFSR Af˘ar-Bala (A 4.60 49 ePN Pn 15 24 23.8 -0.2
AFSR Af˘ar-Bala (A 4.60 49 ePn Pn 15 24 23.8 -0.2
EREN Erenkoy 4.60 100 ePN Pn 15 24 23.9 -0.1
EREN Erenkoy 4.60 100 ePn Pn 15 24 23.9 -0.1
AOS Alonnisos 4.61 307 P Pn 15 24 25.9 +1.8
AOS Alonnisos 4.61 307 P Pn 15 24 25.9 +1.8
AOS Alonnisos 4.61 307 P Pn 15 24 25.9 +1.8
SMTH Samothraki Isl 4.66 330 P Pn 15 24 25.2 +0.4
SMTH S Sn 15 25 16.0 -1.6
SMTH Samothraki Isl 4.66 330 eP Pn 15 24 25.6 +0.8
SMTH Samothraki Isl 4.66 330 P Pn 15 24 25.2 +0.4
SMTH S Sn 15 25 16.0 -1.6
SMTH Samothraki Isl 4.66 330 eP Pn 15 24 25.6 +0.8
SMTH S Sn 15 25 16.0 -1.6
ENEZ Enez 4.66 336 ePN Pn 15 24 24.7 -0.2
ENEZ Enez 4.66 336 ePn Pn 15 24 24.7 -0.2
ANTO Ankara 4.72 43 eP Pn 15 24 26.0 +0.4
ANTO e 15 25 17.9
ANTO Ankara 4.72 43 ePn Pn 15 24 26.0 +0.4
ANTO eSn Sn 15 25 17.9 -1.1
ANTO Ankara 4.72 43 eP Pn 15 24 26.0 +0.4
ANTO eSn Sn 15 25 17.9 -1.1
SLVT Silivri 4.75 356 ePN Pn 15 24 26.1 +0.1
SLVT Silivri 4.75 356 ePn Pn 15 24 26.1 +0.1
MERS Mersin 4.76 84 ePN Pn 15 24 27.5 +1.2
MERS Mersin 4.76 84 ePn Pn 15 24 27.5 +1.2
LTK Loutraki 4.76 291 P Pn 15 24 28.0 +1.8
LTK Loutraki 4.76 291 P Pn 15 24 28.0 +1.8
LTK Loutraki 4.76 291 P Pn 15 24 28.0 +1.8
ALN Alexandroupoli 4.84 336 ePN Pn 15 24 27.7 +0.4
ALN Alexandroupoli 4.84 336 P Pn 15 24 27.6 +0.3
ALN Alexandroupoli 4.84 336 P Pn 15 24 27.6 +0.3
ALN Alexandroupoli 4.84 336 eP Pn 15 24 27.6 +0.3
ALN Alexandroupoli 4.84 336 P Pn 15 24 27.6 +0.3
ALN Alexandroupoli 4.84 336 ePn Pn 15 24 27.7 +0.4
SMIA Simia 4.91 301 P Pn 15 24 30.6 +2.3
SMIA Simia 4.91 301 P Pn 15 24 30.6 +2.3
KAMT Kaman 4.95 53 ePN Pn 15 24 29.2 +0.3
KAMT Kaman 4.95 53 ePn Pn 15 24 29.2 +0.3
LKR Lokris 4.96 298 P Pn 15 24 31.0 +2.1
LKR Lokris 4.96 298 eP Pn 15 24 31.6 +2.7
LKR Lokris 4.96 298 P Pn 15 24 31.0 +2.1
LKR Lokris 4.96 298 P Pn 15 24 31.0 +2.1
CTYL Yal??k??y-??at 4.99 357 ePN Pn 15 24 29.1 -0.1
CTYL Yal??k??y-??at 4.99 357 ePn Pn 15 24 29.2 -0.1
VLX Vlachokerasia 5.08 282 P Pn 15 24 33.5 +2.9
VLX Vlachokerasia 5.08 282 P Pn 15 24 33.5 +2.9
VLX Vlachokerasia 5.08 282 P Pn 15 24 33.5 +2.9
BR131 Keskin Array S 5.11 49 ePn Pn 15 24 31.3 +0.1
27nm,0.4s
BR131 eSn Sn 15 25 27.2 -1.7
BR131 Keskin Array S 5.11 49 ePn Pn 15 24 31.3 +0.1
27nm,0.4s
BR131 eSn Sn 15 25 27.2 -1.7
BRTR Keskin Array B 5.11 49 P Pn 15 24 30.0 -1.2
BRTR S Sn 15 25 28.8 -0.1
BRTR Keskin Array B 5.11 49 P Pn 15 24 30.0 -1.2
5.0nm,0.3s
BRTR S Sn 15 25 28.8 -0.1
1µm,19.3s
BRTR Keskin Array B 5.11 49 P Pn 15 24 30.0 -1.2
5.1nm,0.3s,baz=218,slow=15,SNR=79
BRTR S Sn 15 25 28.8 -0.1
3.9nm,0.3s,baz=213,slow=24,SNR=5.5
BRTR LR LR 15 27 02.0
comp=Z,1µm,19.3s,baz=52,slow=44
PAIG Paliouri 5.19 313 eP Pn 15 24 34.8 +2.7
PAIG Paliouri 5.19 313 eP Pn 15 24 34.8 +2.7
DSF Desfina 5.21 293 P Pn 15 24 34.6 +2.1
DSF S Sn 15 25 30.9 -0.4
DSF Desfina 5.21 293 P Pn 15 24 34.6 +2.1
DSF S Sn 15 25 30.9 -0.4
DSF Desfina 5.21 293 P Pn 15 24 34.6 +2.1
DSF S Sn 15 25 30.9 -0.4
GUR Goura 5.21 288 P Pn 15 24 35.0 +2.5
GUR Goura 5.21 288 P Pn 15 24 35.0 +2.5
GUR Goura 5.21 288 P Pn 15 24 35.0 +2.5
RDO Rodhopi 5.24 334 P Pn 15 24 33.3 +0.6
RDO Rodhopi 5.24 334 eP Pn 15 24 33.8 +1.1
RDO Rodhopi 5.24 334 P Pn 15 24 33.3 +0.6
RDO Rodhopi 5.24 334 eP Pn 15 24 33.8 +1.1
AXAR Agios Charalam 5.25 298 P Pn 15 24 35.6 +2.7
AXAR Agios Charalam 5.25 298 P Pn 15 24 35.6 +2.7
AXAR Agios Charalam 5.25 298 P Pn 15 24 35.6 +2.7
OUR Ouranopolis 5.29 318 P Pn 15 24 35.2 +1.7
OUR Ouranopolis 5.29 318 P Pn 15 24 35.2 +1.7
OUR Ouranopolis 5.29 318 eP Pn 15 24 35.4 +1.9
OUR Ouranopolis 5.29 318 P Pn 15 24 35.2 +1.7
OUR Ouranopolis 5.29 318 P Pn 15 24 35.2 +1.7
KLV Kalavryta, Ach 5.39 289 P Pn 15 24 37.4 +2.6
KLV Kalavryta, Ach 5.39 289 eP Pn 15 24 37.3 +2.5
KLV Kalavryta, Ach 5.39 289 P Pn 15 24 37.4 +2.6
KLV Kalavryta, Ach 5.39 289 eP Pn 15 24 37.3 +2.5
ITM Ithomi 5.41 279 P Pn 15 24 36.5 +1.4
ITM Ithomi 5.41 279 P Pn 15 24 36.5 +1.4
ITM Ithomi 5.41 279 P Pn 15 24 36.5 +1.4
KALE Kalithea 5.50 292 P Pn 15 24 39.1 +2.8
KALE Kalithea 5.50 292 P Pn 15 24 39.1 +2.8
KALE Kalithea 5.50 292 P Pn 15 24 39.1 +2.8
KAVA Kavala 5.53 326 P Pn 15 24 37.4 +0.7
KAVA Kavala 5.53 326 eP Pn 15 24 37.9 +1.2
KAVA Kavala 5.53 326 P Pn 15 24 37.4 +0.7
KAVA Kavala 5.53 326 eP Pn 15 24 37.9 +1.2
PYL PYLOS 5.54 276 P Pn 15 24 38.8 +1.9
PYL PYLOS 5.54 276 P Pn 15 24 38.8 +1.9
PYL PYLOS 5.54 276 P Pn 15 24 38.8 +1.9
LAKA Lakka 5.57 290 P Pn 15 24 40.0 +2.7
LAKA Lakka 5.57 290 P Pn 15 24 40.0 +2.7
LAKA Lakka 5.57 290 P Pn 15 24 40.0 +2.7
AGG Agios Georgios 5.59 299 P Pn 15 24 40.4 +2.8
AGG Agios Georgios 5.59 299 P Pn 15 24 40.4 +2.8
AGG Agios Georgios 5.59 299 eP Pn 15 24 40.7 +3.1
AGG Agios Georgios 5.59 299 P Pn 15 24 40.4 +2.8
AGG Agios Georgios 5.59 299 P Pn 15 24 40.4 +2.8
PLG Polygyros 5.62 315 P Pn 15 24 40.2 +2.2
PLG Polygyros 5.62 315 P Pn 15 24 40.2 +2.2
PLG Polygyros 5.62 315 eP Pn 15 24 40.3 +2.2
PLG Polygyros 5.62 315 P Pn 15 24 40.2 +2.2
PLG Polygyros 5.62 315 P Pn 15 24 40.2 +2.2
AMT Artemida-Makis 5.63 283 P Pn 15 24 42.2 +4.1
PSA1 Psathopyrgos 5.67 291 eP Pn 15 24 41.8 +3.2
EFP Efpalio 5.68 292 P Pn 15 24 41.7 +2.9
EFP Efpalio 5.68 292 P Pn 15 24 41.7 +2.9
DRO Drossia 5.70 287 P Pn 15 24 42.6 +3.5
MAKR Makrakomi, Fth 5.73 298 P Pn 15 24 42.7 +3.3
MAKR Makrakomi, Fth 5.73 298 P Pn 15 24 42.7 +3.3
MAKR Makrakomi, Fth 5.73 298 P Pn 15 24 42.7 +3.3
KDZ Kurdzhali 5.73 335⇑ iP Pn 15 24 40.0 +0.6
CEYT Ceyhan 5.75 83 ePN Pn 15 24 40.1 +0.4
CEYT Ceyhan 5.75 83 ePn Pn 15 24 40.1 +0.4
LTBQ Tobruq 5.88 223 i P Pn 15 24 40.4 -1.2
SNR=23
RLS Riolos of Patr 5.92 288 P Pn 15 24 46.0 +4.0
RLS Riolos of Patr 5.92 288 P Pn 15 24 46.0 +4.0
EVR Evrytania 5.92 296 P Pn 15 24 45.2 +3.1
EVR Evrytania 5.92 296 eP Pn 15 24 45.3 +3.1
EVR Evrytania 5.92 296 P Pn 15 24 45.2 +3.1
EVR Evrytania 5.92 296 P Pn 15 24 45.2 +3.1
HORT Hortiatis 5.96 315 eP Pn 15 24 45.3 +2.6
HORT Hortiatis 5.96 315 eP Pn 15 24 45.3 +2.6
SOH Sokhos 5.98 318 P Pn 15 24 45.2 +2.3
SOH Sokhos 5.98 318 P Pn 15 24 45.2 +2.3
SOH Sokhos 5.98 318 eP Pn 15 24 45.7 +2.8
SOH Sokhos 5.98 318 P Pn 15 24 45.2 +2.3
SOH Sokhos 5.98 318 P Pn 15 24 45.2 +2.3
HBRG Burj al 'Arab 5.98 170 P Pn 15 24 42.4 -0.5
baz=170
HBRG AMP 15 25 00.0
comp=E,1540µm,0.4s,logA/T=6.6,baz=170
HBRG Burj al 'Arab 5.98 170 P Pn 15 24 42.4 -0.5
LIT Litokhoron 6.02 309 P Pn 15 24 45.9 +2.4
LIT Litokhoron 6.02 309 P Pn 15 24 45.9 +2.4
LIT Litokhoron 6.02 309 P Pn 15 24 45.9 +2.4
LIT Litokhoron 6.02 309 P Pn 15 24 45.9 +2.4
THL Klokotos Trika 6.05 303 P Pn 15 24 46.4 +2.5
THL Klokotos Trika 6.05 303 eP Pn 15 24 46.8 +2.9
THL Klokotos Trika 6.05 303 P Pn 15 24 46.4 +2.5
THE Thessaloniki 6.06 315 eP Pn 15 24 47.1 +3.1
THE Thessaloniki 6.06 315 eP Pn 15 24 47.1 +3.1
SRS Serrai 6.07 321 eP Pn 15 24 46.1 +2.0
SRS Serrai 6.07 321 eP Pn 15 24 46.1 +2.0
NVR Nevrokopi 6.11 324 P Pn 15 24 46.0 +1.3
NVR Nevrokopi 6.11 324 eP Pn 15 24 46.6 +1.9
NVR Nevrokopi 6.11 324 P Pn 15 24 46.0 +1.3
NVR Nevrokopi 6.11 324 P Pn 15 24 46.0 +1.3
JMB Yambol 6.18 346 ⇓ iP Pn 15 24 47.3 +1.7
BHL Bhannes 6.31 112 eP Pn 15 24 45.5 -2.0
MMB Musomiste 6.36 325⇑ iP Pn 15 24 49.7 +1.6
HNTI Hanita 6.37 120 Pn Pn 15 24 47.2 -1.1
HWQ Hawqa 6.38 108 eP Pn 15 24 47.5 -1.0
PLD Plovdiv 6.38 333 P Pn 15 24 49.3 +0.9
PLD Plovdiv 6.38 333 P Pn 15 24 49.3 +0.9
PLD Plovdiv 6.38 333 P Pn 15 24 49.3 +0.9
PLD Plovdiv 6.38 333 P Pn 15 24 49.3 +0.9
KFL Anninata 6.45 287 P Pn 15 24 53.1 +3.8
KNT Kendrikon 6.46 318 P Pn 15 24 52.5 +3.0
KNT Kendrikon 6.46 318 P Pn 15 24 52.5 +3.0
KNT Kendrikon 6.46 318 eP Pn 15 24 52.5 +3.0
KNT Kendrikon 6.46 318 P Pn 15 24 52.5 +3.0
MMA0 Mount Meron ar 6.57 120 Pn Pn 15 24 50.0 -1.1
MMAI Mount Meron Ar 6.57 120 P Pn 15 24 50.0 -1.1
MMAI S Sn 15 25 59.4 -5.2
MMAI Mount Meron Ar 6.57 120 P Pn 15 24 50.0 -1.1
MMAI S Sn 15 25 59.4 -5.2
MMAI Mount Meron Ar 6.57 120 P Pn 15 24 50.0 -1.1
comp=E,50nm,0.3s,baz=310,slow=12,SNR=126
MMAI S Sn 15 25 59.4 -5.2
comp=E,188nm,0.3s,baz=314,slow=22,SNR=22
BLGI Bet Lehem HaGe 6.58 123 Pn Pn 15 24 49.1 -2.1
KZN Kozani 6.59 307 P Pn 15 24 54.4 +3.0
KZN Kozani 6.59 307 P Pn 15 24 54.4 +3.0
KZN Kozani 6.59 307 eP Pn 15 24 54.1 +2.7
KZN Kozani 6.59 307 P Pn 15 24 54.4 +3.0
KZN Kozani 6.59 307 eP Pn 15 24 54.1 +2.7
GRG Griva 6.60 314 P Pn 15 24 54.7 +3.3
GRG Griva 6.60 314 P Pn 15 24 54.7 +3.3
GRG Griva 6.60 314 eP Pn 15 24 54.8 +3.3
GRG Griva 6.60 314 P Pn 15 24 54.7 +3.3
GRG Griva 6.60 314 P Pn 15 24 54.7 +3.3
VLS Valsamata 6.62 287 P Pn 15 24 55.2 +3.6
VLS Valsamata 6.62 287 P Pn 15 24 55.2 +3.6
VLS Valsamata 6.62 287 eP Pn 15 24 56.3 +4.7
VLS Valsamata 6.62 287 P Pn 15 24 55.2 +3.6
RCY Rachaya 6.63 115 eP Pn 15 24 50.7 -1.3
KSDI Kefar Szold 6.66 118 Pn Pn 15 24 51.0 -1.2
MEV Metsovon 6.69 302 P Pn 15 24 56.9 +4.1
MEV Metsovon 6.69 302 P Pn 15 24 56.9 +4.1
LKD2 Lefkada island 6.72 292 P Pn 15 24 57.5 +4.4
LKD2 Lefkada island 6.72 292 P Pn 15 24 57.5 +4.4
VAY Valandovo 6.75 318 P Pn 15 24 56.3 +2.9
VAY Valandovo 6.75 318 P Pn 15 24 56.3 +2.9
VAY Valandovo 6.75 318 P Pn 15 24 56.3 +2.9
VAY Valandovo 6.75 318 i Pn Pn 15 24 56.3 +2.9
VAY Valandovo 6.75 318 P Pn 15 24 56.3 +2.9
SLTI Sal'it 6.79 127 Pn Pn 15 24 51.9 -2.1
HMYD Mayadein 6.92 164 P Pn 15 24 54.7 -1.1
baz=164
HMYD Mayadein 6.92 164 P Pn 15 24 54.7 -1.1
MMLI Mount Malkishu 6.92 124 Pn Pn 15 24 54.3 -1.5
SQR 6.93 161 P Pn 15 24 54.2 -1.8
baz=161
SQR 6.93 161 P Pn 15 24 54.2 -1.8
RSH 6.96 141 P Pn 15 24 55.5 -0.8
baz=140
RSH 6.96 141 P Pn 15 24 55.5 -0.8
AMAG Maghara 6.97 145 P Pn 15 24 54.9 -1.7
baz=145
AMAG Maghara 6.97 145 P Pn 15 24 54.9 -1.7
KOT Kottamia 7.07 157 P Pn 15 24 56.4 -1.5
baz=157
KOT Kottamia 7.07 157 P Pn 15 24 56.4 -1.5
AYT Al 'Ayyat 7.09 162 P Pn 15 24 56.6 -1.5
baz=162
AYT Al 'Ayyat 7.09 162 P Pn 15 24 56.6 -1.5
HMDT Nahal Hemdat 7.10 124 Pn Pn 15 24 57.4 -0.9
FNA Florina 7.11 309 P Pn 15 25 01.8 +3.4
FNA Florina 7.11 309 P Pn 15 25 01.8 +3.4
FNA Florina 7.11 309 eP Pn 15 25 02.0 +3.6
FNA Florina 7.11 309 P Pn 15 25 01.8 +3.4
FNA Florina 7.11 309 P Pn 15 25 01.8 +3.4
NEST Nestorio 7.12 306 P Pn 15 25 02.7 +4.1
HHAG Hagoal 7.14 155 P Pn 15 24 57.8 -1.0
baz=155
HHAG S Sn 15 26 11.4 -7.1
baz=155
HHAG Hagoal 7.14 155 P Pn 15 24 57.8 -1.0
PSN Preselentsi 7.20 357⇑ iP Pn 15 25 00.4 +0.9
IGT Igoumenitsa 7.21 297 P Pn 15 25 02.4 +2.6
IGT Igoumenitsa 7.21 297 P Pn 15 25 02.4 +2.6
IGT Igoumenitsa 7.21 297 P Pn 15 25 02.4 +2.6
IGT Igoumenitsa 7.21 297 P Pn 15 25 02.4 +2.6
HSAF As Saff 7.28 159 P Pn 15 24 59.5 -1.2
baz=159
HSAF As Saff 7.28 159 P Pn 15 24 59.5 -1.2
BIA Bitola 7.28 311 i Pn Pn 15 25 12.4 +12
KZIT Kziot 7.36 137 Pn Pn 15 25 00.8 -1.0
GLL Jalalah 7.36 158 P Pn 15 25 00.6 -1.3
baz=158
GLL Jalalah 7.36 158 P Pn 15 25 00.6 -1.3
VTS Vitosha 7.39 327⇑ iP Pn 15 25 04.0 +1.6
SUZ 7.51 151 P Pn 15 25 02.4 -1.4
baz=151
SUZ 7.51 151 P Pn 15 25 02.4 -1.4
MZDA Masada 7.62 131 Pn Pn 15 25 04.5 -0.8
KEK Kerkira 7.66 298 P Pn 15 25 09.8 +3.8
KEK Kerkira 7.66 298 eP Pn 15 25 10.7 +4.7
KEK Kerkira 7.66 298 P Pn 15 25 09.8 +3.8
SWA2 7.69 201 P Pn 15 25 06.1 -0.3
baz=203
SWA2 S Sn 15 26 26.6 -5.5
baz=203
SWA2 7.69 201 P Pn 15 25 06.1 -0.3
RMNI Mount Ramon 7.79 137 Pn Pn 15 25 06.8 -1.1
SKO Skopje 7.81 317 i Pn Pn 15 25 11.7 +3.7
ZAF 7.91 154 P Pn 15 25 08.0 -1.3
baz=154
ZAF 7.91 154 P Pn 15 25 08.0 -1.3
HNKL Nakhl 7.93 144 P Pn 15 25 08.9 -0.8
baz=144
HNKL Nakhl 7.93 144 P Pn 15 25 08.9 -0.8
ZNM 7.94 152 P Pn 15 25 08.6 -1.1
baz=152
ZNM 7.94 152 P Pn 15 25 08.6 -1.1
TIRR Tirgusor 7.97 359⇑ iP Pn 15 25 10.5 +0.4
MALT Malatya 8.02 74⇑ iP Pn 15 25 10.6 -0.3
MALT Malatya 8.02 74 Pn Pn 15 25 12.7 +1.8
ZFRI Zfri 8.06 135 Pn Pn 15 25 09.4 -2.0
ASF Jabal al Asfar 8.09 120 P Pn 15 25 11.6 -0.3
ASF S Sn 15 26 41.3 -0.6
ASF Jabal al Asfar 8.09 120 P Pn 15 25 11.6 -0.3
comp=E,3.6nm,0.3s,baz=267,slow=5.6,SNR=23
ASF S Sn 15 26 41.3 -0.6
comp=E,4.2nm,0.3s,baz=279,slow=23,SNR=6.8
TLB Topalu 8.11 357⇑ iP Pn 15 25 13.6 +1.7
TLB Topalu 8.11 357⇑ iP Pn 15 25 13.6 +1.7
PRNI Paran 8.12 137 Pn Pn 15 25 10.7 -1.5
AWBH 8.14 178 P Pn 15 25 11.2 -1.4
baz=178
AWBH 8.14 178 P Pn 15 25 11.2 -1.4
KRMI Paran Flat 8.15 139 Pn Pn 15 25 10.9 -1.8
HRFI Mount Harif 8.38 138 Pn Pn 15 25 14.5 -1.3
MBRI Mt Berech 8.51 140 Pn Pn 15 25 15.9 -1.7
EIL Elat 8.62 140 P Pn 15 25 17.5 -1.7
EIL S Sn 15 26 50.0 -4.9
EIL Elat 8.62 140 P Pn 15 25 17.5 -1.7
EIL S Sn 15 26 50.0 -4.9
EIL Elat 8.62 140 P Pn 15 25 17.5 -1.7
comp=E,25nm,0.3s,baz=340,slow=6.3,SNR=103
EIL S Sn 15 26 50.0 -4.9
comp=E,24nm,0.3s,baz=150,slow=24,SNR=7.7
CFR Carcaliu 8.69 358 ⇓ iP Pn 15 25 20.7 +0.7
CFR Carcaliu 8.69 358 ⇓ iP Pn 15 25 20.7 +0.7
HRDS Abu Rudays 8.70 152 P Pn 15 25 18.2 -1.9
baz=151
TLCR 8.70 1⇑ iP Pn 15 25 20.9 +0.9
TLCR 8.70 1⇑ iP Pn 15 25 20.9 +0.9
HBST Basata 8.88 143 P Pn 15 25 21.5 -1.2
baz=143
HBST Basata 8.88 143 P Pn 15 25 21.5 -1.2
BOLS Boljevac 8.93 327 ⇓ iPn Pn 15 25 24.8 +1.5
LJBD Adjabya 8.95 234 i P Pn 15 25 21.7 -1.8
SNR=29
HKAT Jabal Katrina 9.14 149 P Pn 15 25 24.9 -1.5
baz=148
HKAT Jabal Katrina 9.14 149 P Pn 15 25 24.9 -1.5
TR2 9.15 150 P Pn 15 25 24.9 -1.5
baz=150
TR2 9.15 150 P Pn 15 25 24.9 -1.5
MLR Muntele Rosu 9.22 348⇑ iP Pn 15 25 28.7 +1.3
MLR Muntele Rosu 9.22 348 P Pn 15 25 28.4 +1.0
MLR Muntele Rosu 9.22 348 P Pn 15 25 28.4 +1.0
MLR Muntele Rosu 9.22 348 P Pn 15 25 28.4 +1.0
comp=E,0.3nm,0.3s,baz=228,slow=1.6,SNR=19
HFRF Wahat Farafira 9.31 182 P Pn 15 25 27.2 -1.3
baz=183
HFRF Wahat Farafira 9.31 182 P Pn 15 25 27.2 -1.3
VOIR 9.34 344 ⇓ iP Pn 15 25 29.8 +0.8
VOIR 9.34 344 ⇓ iP Pn 15 25 29.8 +0.8

SIM Simferopol' 9.43 25 P Pn 15 25 19.8 -10
SIM S Sn 15 27 24.0 +10
SIM MLR MLR
comp=Z,200nm,9.0s
PLOR Plostina 9.47 352⇑ *i*P **Pn 15 25 33.5 +2.8**
PLOR Plostina 9.47 352⇑ *i*P **Pn 15 25 33.5 +2.8**
VRI Vrincioaia 9.48 352⇑ *i*P **Pn 15 25 32.9 +2.1**
VRI Vrincioaia 9.48 352⇑ *i*P **Pn 15 25 32.9 +2.1**
LUJL Ujela 9.58 222 *i* P **Pn 15 25 30.4 -1.8**
SNR=22
TR1 9.58 150 P **Pn 15 25 31.0 -1.2**
baz=150
TR1 9.58 150 P **Pn 15 25 31.0 -1.2**
SHRM 9.75 150 P **Pn 15 25 32.9 -1.7**
baz=150
SHRM 9.75 150 P **Pn 15 25 32.9 -1.7**
TIP Timpagrande 9.76 290 P **Pn 15 25 35.3 +0.6**
TIP Timpagrande 9.76 290 P **Pn 15 25 35.3 +0.6**
TIP Timpagrande 9.76 290 P **Pn 15 25 35.3 +0.6**
GZR Gura Zlata 9.93 335⇑ *i*P **Pn 15 25 38.8 +1.8**
GZR Gura Zlata 9.93 335⇑ *i*P **Pn 15 25 38.8 +1.8**
DIVS Divibare 10.06 322⇑ *i*Pn **Pn 15 25 41.5 +2.7**
TESR Tescani 10.13 352⇑ *i*P **Pn 15 25 41.1 +1.5**
TESR Tescani 10.13 352⇑ *i*P **Pn 15 25 41.1 +1.5**
HHRG Al Ghardaqah 10.15 154 P **Pn 15 25 39.4 -0.6**
baz=154
HHRG Al Ghardaqah 10.15 154 P **Pn 15 25 39.4 -0.6**
KIS Kishinev 10.51 1 *e*P **Pn 15 25 47.0 +2.2**
KIS Kishinev 10.51 1 *e*P **Pn 15 25 47.0 +2.2**
BZS Buzias 10.54 332⇓ *i*P **Pn 15 25 46.1 +0.9**
BZS Buzias 10.54 332⇓ *i*P **Pn 15 25 46.1 +0.9**
STON Ston 10.55 311 *i* Pn Pn 15 25 50.5 +5.0
STON Sn **Sn 15 27 46.8 +4.8**
HSFG 10.87 154 P **Pn 15 25 48.9 -1.0**
baz=154
HSFG 10.87 154 P **Pn 15 25 48.9 -1.0**
BURAR Bucovina Array 11.40 348⇑ *i*P **Pn 15 25 58.5 +1.4**
BURAR Bucovina Array 11.40 348⇑ *i*P **Pn 15 25 58.5 +1.4**
HADB 12.23 153 P **Pn 15 26 07.8 -0.7**
baz=153
HADB 12.23 153 P **Pn 15 26 07.8 -0.7**
UZH Uzhgorod 13.00 341 *e*P **Pn 15 26 21.4 +2.7**
UZH *i* S **Sn 15 28 45.6 +4.0**
UZH Uzhgorod 13.00 341 *e*P **Pn 15 26 21.4 +2.7**
KBZ Khabaz 13.10 52 P P 15 26 24.6 -4.0
KBZ MLR MLR
comp=Z,150nm,19.4s
KBZ Khabaz 13.10 52 P P 15 26 24.6 -4.0
KBZ Khabaz 13.10 52 P P 15 26 24.6 -4.0
KBZ Khabaz 13.10 52 P P 15 26 24.6 -4.0
comp=Z,0.1nm,0.3s,baz=139,slow=8.9,SNR=3.4
KBZ LR LR 15 32 48.5
comp=Z,150nm,19.4s,baz=242,slow=44
PSZ Piszkesteto 13.12 333 *e*P **Pn 15 26 18.6 -1.9**
PSZ pmax pmax
comp=Z,53nm,1.9s
PSZ Piszkesteto 13.12 333⇑ *i*P **Pn 15 26 21.4 +0.9**
PSZ Piszkesteto 13.12 333 *e*Pn **Pn 15 26 18.6 -1.9**
comp=Z,53nm,1.9s
PSZ Piszkesteto 13.12 333 *e*P **Pn 15 26 18.6 -1.9**
comp=Z,53nm,1.9s
GNI Garni 13.18 69 LR LR 15 32 32.5
comp=Z,852nm,19.9s,baz=267,slow=42
NVLJ Novalja 13.20 312 *e*Pn **P 15 26 26.8 -2.9**
HAGS Hagol 13.25 154 P **Pn 15 26 22.0 -0.4**
baz=154
HAGS Hagol 13.25 154 P **Pn 15 26 22.0 -0.4**
KOLS Kolonicke sedl 13.28 342 *e*P **Pn 15 26 25.1 +2.5**
KOLS pmax pmax
comp=Z,8.0nm,2.0s
KOLS Kolonicke sedl 13.28 342 *e* **Pn 15 26 25.1 +2.5**
KOLS Kolonicke sedl 13.28 342 *e*P **Pn 15 26 25.1 +2.5**
comp=Z,8.0nm,2.0s
ZEI Tsey 13.35 57 *e*P P 15 26 28.4 -3.3
ZEI pmax pmax
comp=Z,11nm,0.9s
CRVS Cervenica-Dubn 13.47 339 *e*P **Pn 15 26 25.9 +0.7**
CRVS pmax pmax
comp=Z,11nm,1.3s
CRVS Cervenica-Dubn 13.47 339 *e*PN **Pn 15 26 25.9 +0.7**
BOJS Bojanci 13.52 316 *i* Pn **P 15 26 32.2 -1.0**
CRES Cresnjev 13.60 317 *i* Pn **P 15 26 32.1 -2.1**
LVV L'vov 13.74 347 *e*P **Pn 15 26 30.2 +1.4**
VISS Visnje 13.93 316 *i* Pn **P 15 26 36.9 -1.0**
STHS Stebnicka Huta 14.00 340 *e*P **P 15 26 35.9 -2.7**
STHS pmax pmax
comp=Z,8.0nm,1.8s
STHS Stebnicka Huta 14.00 340 *e* **P 15 26 35.9 -2.7**
STHS Stebnicka Huta 14.00 340 *e*P **P 15 26 35.9 -2.7**
comp=Z,8.0nm,1.8s
AK02 Malin Array Si 14.18 2 *e*Pn **Pn 15 26 33.5 -1.1**
AK02 Malin Array Si 14.18 2 *e*Pn **Pn 15 26 33.5 -1.1**
KIEV Kiev 14.21 2⇑ *i*P **Pn 15 26 34.0 -1.1**
AKASG Malin Array Be 14.22 2 P **Pn 15 26 34.5 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 14.22 2 P **Pn 15 26 34.5 -0.8**
AKASG Malin Array Be 14.22 2 P **Pn 15 26 34.5 -0.8**
AKASG Malin Array Be 14.22 2 P **Pn 15 26 34.5 -0.8**
comp=Z,1.1nm,0.3s,baz=180,slow=12,SNR=11
JAVS Javornik 14.42 315 *i* Pn **Pn 15 26 40.7 +2.7**
OKC Ostrava-Krasne 15.36 334 *e*P **P 15 26 54.9 +1.2**
OKC Ostrava-Krasne 15.36 334 *e*P **P 15 26 54.9 +1.2**
OKC *ep*P **pP 15 27 05.1 -0.8**
OKC Ostrava-Krasne 15.36 334 *e*P **P 15 26 54.9 +1.2**
VRAC Vranov 15.53 329⇑ *i*P **Pn 15 26 53.1 +0.9**
VRAC Vranov 15.53 329 P **P 15 26 54.4 -1.2**
VRAC Vranov 15.53 329 P **P 15 26 54.4 -1.2**
comp=Z,223nm,18.0s
VRAC Vranov 15.53 329 P **P 15 26 54.4 -1.2**
comp=Z,0.3nm,0.3s,baz=144,slow=9.7,SNR=4.7
VRAC LR LR 15 33 44.3
comp=Z,223nm,18.0s,baz=257,slow=40
KEST Kesra 15.60 273 *e*Pn **Pn 15 26 51.9 -1.4**
KEST Kesra 15.60 273 *e*Pn **Pn 15 26 51.9 -1.4**
KEST Kesra 15.60 273 P **Pn 15 26 54.9 +1.6**
comp=Z,0.4nm,0.3s,baz=4.5,slow=2.3,SNR=18
TREC Trest 15.98 327 *e*P **P 15 27 01.9 +1.2**
TREC Trest 15.98 327 *e*P **P 15 27 01.9 +1.2**
TREC *ep*P **pP 15 27 14.5 +1.6**
TREC Trest 15.98 327 *e*P **P 15 27 01.9 +1.2**
KRLC Kraliky 16.06 331 *e*P **Pn 15 26 59.9 +0.9**
KRLC Kraliky 16.06 331 *e*P **Pn 15 26 59.9 +0.9**
KRLC Kraliky 16.06 331 *e*P **Pn 15 26 59.9 +0.9**
PGF Pioggiola 16.29 298 *e*P **Pn 15 26 58.2 -3.9**
comp=Z,81nm,1.5s
PGF Pioggiola 16.29 298 *e*P **Pn 15 26 58.2 -3.9**
PGF pmax pmax
comp=Z,81nm,1.5s
PGF Pioggiola 16.29 298 *e*P **Pn 15 26 58.2 -3.9**
comp=Z,81nm,1.5s
VORD Divnogorie 16.38 25 *e*P **Pn 15 27 01.4 -1.6**
VORD Divnogorie 16.38 25 *e*P **Pn 15 27 01.4 -1.6**
DPC Dobruska-Polom 16.46 331 *e*P **Pn 15 27 05.0 +1.0**
DPC Dobruska-Polom 16.46 331 *e*P **Pn 15 27 05.0 +1.0**
DPC *ep*P **pP 15 27 19.9 +1.7**
DPC Dobruska-Polom 16.46 331 *e*P **Pn 15 27 05.0 +1.0**
GEC2 GERESS Array S 16.48 323 *e*P **P 15 27 08.8 +2.5**
comp=Z,14nm,1.0s
GERES GERESS Array B 16.48 323 P **P 15 27 05.7 -0.6**
GERES GERESS Array B 16.48 323 P **P 15 27 05.7 -0.6**
comp=Z,276nm,20.2s
GERES GERESS Array B 16.48 323 P **P 15 27 05.7 -0.6**
comp=Z,0.4nm,0.3s,baz=134,slow=12,SNR=33
GERES LR LR 15 33 44.9
comp=Z,276nm,20.2s,baz=277,slow=38
VSR Storozhevoye 16.55 24 *e*P **Pn 15 27 02.3 -2.8**
UPC Upice 16.70 331 *e*P **P 15 27 08.6 0.0**
UPC Upice 16.70 331 *e*P **P 15 27 08.6 0.0**
UPC *ep*P **pP 15 27 19.4 -1.4**
UPC Upice 16.70 331 *e*P **P 15 27 08.6 0.0**
KHC Kasperske Hory 16.74 324 *e*P **P 15 27 11.0 +1.9**
KHC *e*S **S 15 30 19.0 -1.8**
KHC MLR MLR
comp=Z,300nm,17.9s
KHC Kasperske Hory 16.74 324 *e*P **P 15 27 11.0 +1.9**
KHC *ep*P **pP 15 27 23.6 +2.3**
KHC *e*S **S 15 30 19.0 -1.8**
KHC AMS AMS 15 33 20.0
comp=Z,300nm,17.9s
KHC Kasperske Hory 16.74 324 *e*Pn **Pn 15 27 06.3 -1.3**
comp=Z,28nm,1.3s
KHC Kasperske Hory 16.74 324 *e*Pn **Pn 15 27 06.3 -1.3**
comp=Z,28nm,1.3s
KHC *e*S **S 15 30 19.0 -1.8**
PRU Pruhonice 16.91 327 *e*P **Pn 15 27 09.4 -0.3**
PRU *e*S **S 15 30 22.7 -1.6**
PRU Pruhonice 16.91 327 *e*P **Pn 15 27 09.4 -0.3**
PRU *ep*P **pP 15 27 24.8 +1.6**
PRU *e*S **S 15 30 22.7 -1.6**
PRU Pruhonice 16.91 327 *e*P **Pn 15 27 09.4 -0.3**
PRU S **S 15 30 22.7 -1.6**
FETA Feichten 16.96 314⇑ *i*P **P 15 27 12.5 +0.8**
SNR=6.1
FETA Feichten 16.96 314 P **P 15 27 12.5 +0.8**
SNR=6.1
IRAZ Razeghan 17.29 87 *e*P **Pn 15 27 14.3 -0.4**
IRAZ Razeghan 17.29 87 *e*P **Pn 15 27 14.3 -0.4**
PVCC Panska Ves 17.30 329 *e*P **P 15 27 17.1 +1.9**
PVCC Panska Ves 17.30 329 *e*P **P 15 27 17.1 +1.9**
PVCC *ep*P **pP 15 27 30.0 +2.5**
VRHR Novokhopersk 17.32 28 *e*P **Pn 15 27 13.8 -0.9**
VRHR Novokhopersk 17.32 28 *e*P **Pn 15 27 13.8 -0.9**
DAVOX Davos/Dischmat 17.34 312 P **P 15 27 16.9 +1.0**
DAVOX Davos/Dischmat 17.34 312 P **P 15 27 16.9 +1.0**
comp=Z,302nm,20.3s
DAVOX Davos/Dischmat 17.34 312 P **P 15 27 16.9 +1.0**
comp=Z,0.3nm,0.3s,baz=147,slow=15,SNR=5.8
DAVOX LR LR 15 35 03.4
comp=Z,302nm,20.3s,baz=122,slow=41
TUE Stuetta 17.51 311 *e*Pn **Pn 15 27 15.4 -1.9**
comp=Z,14nm,1.0s
TUE Stuetta 17.51 311 *e*Pn **Pn 15 27 15.4 -1.9**
comp=Z,14nm,1.0s
SBF Sospel 17.76 301 *e*P **Pn 15 27 16.0 -4.2**
comp=Z,121nm,1.4s
SBF Sospel 17.76 301 *e*P **Pn 15 27 16.0 -4.2**
SBF pmax pmax
comp=Z,121nm,1.4s
SBF Sospel 17.76 301 *e*P **Pn 15 27 16.0 -4.2**
comp=Z,121nm,1.4s
BRG Berggiesshubel 17.83 328 *e*P **P 15 27 22.3 +1.3**
comp=Z,18nm,1.6s
BRG *e* 15 27 31.8
comp=Z,15nm,1.2s
BRG S **S 15 30 45.0 +2.4**
BRG
comp=N,279nm,13.9s
BRG
comp=E,312nm,19.9s
BRG
comp=Z,242nm,11.0s
BRG Berggiesshubel 17.83 328 *e*P **P 15 27 22.3 +1.3**
BRG S **S 15 30 45.0 +2.4**
BRG pmax pmax
comp=Z,18nm,1.6s
BRG pmax pmax
comp=Z,15nm,1.2s
BRG MLR MLR
comp=N,279nm,13.9s
BRG MLR MLR
comp=E,312nm,19.9s
BRG MLR MLR
comp=Z,242nm,11.0s
BRG Berggiesshubel 17.83 328 *e*P **P 15 27 22.3 +1.3**
comp=Z,15nm,1.2s
SUW Suwalki 17.93 350 *e*P **P 15 27 21.3 -0.8**
SUW Suwalki 17.93 350 *e*P **P 15 27 21.3 -0.8**
SUW Suwalki 17.93 350 *e*P **P 15 27 21.3 -0.8**
MICGM Minsk 18.02 359 *e* **P 15 27 19.0 -4.1**
MNK Minsk 18.03 359 *e*P **P 15 27 19.0 -4.1**
NKC Novy Kostel 18.03 325 *e*P **Pn 15 27 24.1 +0.7**
NKC Novy Kostel 18.03 325 *e*P **Pn 15 27 24.1 +0.7**
NKC *ep*P **pP 15 27 36.9 +1.3**
NKC Novy Kostel 18.03 325 *e*P **Pn 15 27 24.1 +0.7**
FRF La Foret Royal 18.22 300 *e*P **P 15 27 22.6 -2.8**
FRF La Foret Royal 18.22 300 *e*P **P 15 27 22.6 -2.8**
FRF La Foret Royal 18.22 300 *e*P **P 15 27 22.6 -2.8**
FRF La Foret Royal 18.22 300 *e*P **P 15 27 22.6 -2.8**
LMR La Mourre 18.26 299 *e*P **P 15 27 22.0 -3.8**
comp=Z,71nm,1.4s
LMR La Mourre 18.26 299 *e*P **P 15 27 22.0 -3.8**
LMR pmax pmax
comp=Z,71nm,1.4s
LMR La Mourre 18.26 299 *e*P **P 15 27 22.0 -3.8**
comp=Z,71nm,1.4s
GRF Grafenberg Arr 18.26 322 *e*P **Pn 15 27 27.4 +1.1**
comp=Z,33nm,1.4s
NACGM Naroch 18.46 357 *e* **P 15 27 25.0 -2.9**
MBDF Montbardon 18.48 303 *e*P **P 15 27 26.8 -1.6**
comp=Z,20nm,0.6s
MBDF Montbardon 18.48 303 *e*P **P 15 27 26.8 -1.6**
MBDF pmax pmax
comp=Z,20nm,0.6s
MBDF Montbardon 18.48 303 *e*P **P 15 27 26.8 -1.6**
comp=Z,20nm,0.6s
MBDF Montbardon 18.48 303 *e*P **P 15 27 26.8 -1.6**
comp=Z,9.8nm,0.6s
CLL Collm 18.55 328 *i* P **Pn 15 27 32.4 +2.8**
CLL pmax pmax
comp=Z,55nm,2.0s
CLL MLR MLR
comp=Z,200nm,20.5s
CLL Collm 18.55 328 *i* P **Pn 15 27 32.4 +2.8**
comp=Z,55nm,2.0s
CLL *e* 15 27 43.0
CLL *es*P **sP 15 27 49.0 +0.6**
CLL *e*(sPP) 15 27 57.0
CLL *e*S **S 15 30 57.0 -0.2**
CLL LmV 15 35 00.0
comp=Z,200nm,20.5s
LPG La Plagne 18.76 305 *e*P **P 15 27 30.3 -1.3**
comp=Z,44nm,1.0s
LPG La Plagne 18.76 305 *e*P **P 15 27 30.3 -1.3**
LPG pmax pmax
comp=Z,44nm,1.0s
LPG La Plagne 18.76 305 *e*P **P 15 27 30.3 -1.3**
comp=Z,44nm,1.0s
LPG La Plagne 18.76 305 *e*P **P 15 27 30.3 -1.3**
comp=Z,22nm,1.0s
LPL La Plagne 18.78 305 *e*P **P 15 27 31.3 -0.4**
LPL La Plagne 18.78 305 *e*P **P 15 27 31.3 -0.4**
LPL La Plagne 18.78 305 *e*P **P 15 27 31.3 -0.4**
LPL La Plagne 18.78 305 *e*P **P 15 27 31.3 -0.4**
IDMV Damavand 18.95 86 *e*P **Pn 15 27 36.0 +1.0**
BFO Black Forest 19.03 315 *i* P **Pn 15 27 36.7 +1.2**
BFO Black Forest 19.03 315 *e*P **P 15 27 31.9 -2.3**
comp=Z,17nm,1.4s
BFO Black Forest 19.03 315 *e*P **P 15 27 31.9 -2.3**
comp=Z,17nm,1.4s
IKLH Kolahrood 19.09 93 *e*P **Pn 15 27 36.6 0.0**
ORIF Oris-en-Rattie 19.14 303 *e*P **P 15 27 34.2 -1.4**
comp=Z,34nm,1.0s
ORIF *e*R
comp=Z,138nm,21.0s
ORIF Oris-en-Rattie 19.14 303 *e*P **P 15 27 34.2 -1.4**
ORIF pmax pmax
comp=Z,35nm,1.0s
ORIF Oris-en-Rattie 19.14 303 *e*P **P 15 27 34.2 -1.4**
comp=Z,34nm,1.0s
ORIF Oris-en-Rattie 19.14 303 *e*P **P 15 27 34.2 -1.4**
comp=Z,17nm,1.0s
OBN Obninsk 19.41 14⇓ *e*P **P 15 27 38.2 -0.1**
OBN pmax pmax
comp=Z,36nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 19.41 14 *e*P **P 15 27 38.2 -0.1**
comp=Z,100nm,16.0s
CABF La Chapelle 19.60 308 *e*P **P 15 27 40.2 -0.4**
comp=Z,82nm,1.1s
CABF La Chapelle 19.60 308 *e*P **P 15 27 40.2 -0.4**
CABF pmax pmax
comp=Z,82nm,1.1s
CABF La Chapelle 19.60 308 *e*P **P 15 27 40.2 -0.4**
comp=Z,82nm,1.1s
CABF La Chapelle 19.60 308 *e*P **P 15 27 40.2 -0.4**
comp=Z,41nm,1.1s
HINF Hinteralfeld 19.64 312 *e*P **P 15 27 40.0 -1.0**
HINF Hinteralfeld 19.64 312 *e*P **P 15 27 40.0 -1.0**
HINF Hinteralfeld 19.64 312 *e*P **P 15 27 40.0 -1.0**
HINF Hinteralfeld 19.64 312 *e*P **P 15 27 40.0 -1.0**
CDF Champ du Feu 19.68 314 *e*P **P 15 27 41.0 -0.4**
comp=Z,47nm,1.2s
CDF Champ du Feu 19.68 314 *e*P **P 15 27 41.0 -0.4**
CDF pmax pmax
comp=Z,47nm,1.2s
CDF Champ du Feu 19.68 314 *e*P **P 15 27 41.0 -0.4**
comp=Z,47nm,1.2s
CDF Champ du Feu 19.68 314 *e*P **P 15 27 41.0 -0.4**
comp=Z,24nm,1.2s
IZEF Zefreh 19.81 93 *e*P **P 15 27 44.2 +1.0**
VIVF Saint-Julien-l 19.94 302 *e*P **P 15 27 42.6 -1.7**
comp=Z,16nm,0.6s
VIVF Saint-Julien-l 19.94 302 *e*P **P 15 27 42.6 -1.7**
VIVF pmax pmax
comp=Z,16nm,0.6s
VIVF Saint-Julien-l 19.94 302 *e*P **P 15 27 42.6 -1.7**
comp=Z,16nm,0.6s
VIVF Saint-Julien-l 19.94 302 *e*P **P 15 27 42.6 -1.7**
comp=Z,8.1nm,0.6s
HAU Haudompre 20.03 312 *e*P **P 15 27 45.0 -0.2**
HAU *e*R
comp=Z,364nm,21.5s
HAU Haudompre 20.03 312 *e*P **P 15 27 45.0 -0.2**
HAU Haudompre 20.03 312 *e*P **P 15 27 45.0 -0.2**
HAU Haudompre 20.03 312 *e*P **P 15 27 45.0 -0.2**
MOS Moscow 20.21 15 *e*P **P 15 27 45.6 -1.4**
MOS *e* 15 28 00.4
MOS pmax pmax
comp=Z,82nm,1.5s
MOS Moscow 20.21 15 *e*P **P 15 27 45.6 -1.4**
comp=Z,82nm,1.5s
IGLO Ghaloghah 20.26 82 *e*P **P 15 27 47.7 -0.3**
LASF Ste Croix 20.31 300 *e*P **P 15 27 46.9 -1.3**
LASF Ste Croix 20.31 300 *e*P **P 15 27 46.9 -1.3**
LASF Ste Croix 20.31 300 *e*P **P 15 27 46.9 -1.3**
PAGF Fort de Pagny 20.65 313 *e*P **P 15 27 51.3 -0.6**
PAGF Fort de Pagny 20.65 313 *e*P **P 15 27 51.3 -0.6**
PAGF Fort de Pagny 20.65 313 *e*P **P 15 27 51.3 -0.6**
SFTF Sexfontaines 20.91 311 *e*P **P 15 27 55.2 +0.6**
comp=Z,62nm,1.2s
SFTF Sexfontaines 20.91 311 *e*P **P 15 27 55.2 +0.6**
comp=Z,62nm,1.2s
SFTF Sexfontaines 20.91 311 *e*P **P 15 27 55.2 +0.6**
comp=Z,31nm,1.2s
MEZF Maizieres J'vi 21.03 312 *e*P **P 15 27 54.9 -1.0**
MEZF Maizieres J'vi 21.03 312 *e*P **P 15 27 54.9 -1.0**
MEZF Maizieres J'vi 21.03 312 *e*P **P 15 27 54.9 -1.0**
SMF Signal de Mont 21.06 307 *e*P **P 15 27 55.4 -0.9**
comp=Z,47nm,1.0s
SMF Signal de Mont 21.06 307 *e*P **P 15 27 55.4 -0.9**
SMF pmax pmax
comp=Z,47nm,1.0s
SMF Signal de Mont 21.06 307 *e*P **P 15 27 55.4 -0.9**
comp=Z,47nm,1.0s
SMF Signal de Mont 21.06 307 *e*P **P 15 27 55.4 -0.9**
comp=Z,23nm,1.0s
ISAD Sadrabad 21.21 95 *e*P **P 15 28 02.6 +4.3**
LOR Lormes 21.27 308 *e*P **P 15 27 58.0 -0.5**
comp=Z,51nm,1.4s
LOR *e*R
comp=Z,214nm,20.8s
LOR Lormes 21.27 308 *e*P **P 15 27 58.0 -0.5**
comp=Z,51nm,1.4s
LOR Lormes 21.27 308 *e*P **P 15 27 58.0 -0.5**
comp=Z,25nm,1.4s
MTLF Montolieu 21.32 297 *e*P **P 15 27 57.6 -1.5**
comp=Z,98nm,1.7s
MTLF Montolieu 21.32 297 *e*P **P 15 27 57.6 -1.5**
MTLF pmax pmax
comp=Z,98nm,1.7s
MTLF Montolieu 21.32 297 *e*P **P 15 27 57.6 -1.5**
comp=Z,98nm,1.7s
MTLF Montolieu 21.32 297 *e*P **P 15 27 57.6 -1.5**
comp=Z,49nm,1.7s
SSF Saint Saulge 21.42 307 *e*P **P 15 27 59.4 -0.7**
comp=Z,22nm,0.9s
SSF Saint Saulge 21.42 307 *e*P **P 15 27 59.4 -0.7**
SSF pmax pmax
comp=Z,22nm,0.9s
SSF Saint Saulge 21.42 307 *e*P **P 15 27 59.4 -0.7**
comp=Z,22nm,0.9s
SSF Saint Saulge 21.42 307 *e*P **P 15 27 59.4 -0.7**
comp=Z,11nm,0.9s
AVF Avril sur Loir 21.42 307 *e*P **P 15 27 59.1 -1.0**
comp=Z,30nm,1.1s
AVF Avril sur Loir 21.42 307 *e*P **P 15 27 59.1 -1.0**
AVF pmax pmax
comp=Z,30nm,1.1s
AVF Avril sur Loir 21.42 307 *e*P **P 15 27 59.1 -1.0**
comp=Z,30nm,1.1s
AVF Avril sur Loir 21.42 307 *e*P **P 15 27 59.1 -1.0**
comp=Z,15nm,1.1s
IPAR Pars 21.47 101 *e*P **P 15 28 01.9 +0.8**
BGF Bois d'Agland 21.68 306 *e*P **P 15 28 01.8 -1.1**
BGF Bois d'Agland 21.68 306 *e*P **P 15 28 01.8 -1.1**
BGF Bois d'Agland 21.68 306 *e*P **P 15 28 01.8 -1.1**
ICHK Chekchek 21.68 94 *e*P P 15 28 09.8 +6.5
ISRV Sarvestan 21.71 102 *e*P **P 15 28 01.4 -2.3**
CAF Calviac 21.75 301 *e*P **P 15 28 01.8 -1.9**
comp=Z,30nm,1.2s
CAF Calviac 21.75 301 *e*P **P 15 28 01.8 -1.9**
CAF pmax pmax
comp=Z,30nm,1.2s
CAF Calviac 21.75 301 *e*P **P 15 28 01.8 -1.9**
comp=Z,30nm,1.2s
TCF Toulx Ste Croi 22.01 305 *e*P **P 15 28 05.6 -0.9**
TCF Toulx Ste Croi 22.01 305 *e*P **P 15 28 05.6 -0.9**
TCF Toulx Ste Croi 22.01 305 *e*P **P 15 28 05.6 -0.9**
VSU Vasula 22.02 357⇓ *e*P **P 15 28 07.0 +0.6**
VSU pmax pmax
comp=Z,127nm,1.3s
IMEH Mehriz 22.13 96 *e*P **P 15 28 08.5 +0.4**
RJF Les Rejaudoux 22.22 302 *e*P **P 15 28 07.4 -1.3**
comp=Z,61nm,1.4s
RJF *e*R
comp=Z,167nm,19.5s
RJF Les Rejaudoux 22.22 302 *e*P **P 15 28 07.4 -1.3**
RJF pmax pmax
comp=Z,61nm,1.4s
RJF Les Rejaudoux 22.22 302 *e*P **P 15 28 07.4 -1.3**
comp=Z,61nm,1.4s
EPF Esparros 22.64 295 *e*P **P 15 28 10.7 -2.6**
EPF Esparros 22.64 295 *e*P **P 15 28 10.7 -2.6**
EPF Esparros 22.64 295 *e*P **P 15 28 10.7 -2.6**
ETSF Etsaut 23.28 295 *e*P **P 15 28 16.6 -3.1**
comp=Z,22nm,1.1s
ETSF Etsaut 23.28 295 *e*P **P 15 28 16.6 -3.1**
ETSF pmax pmax
comp=Z,22nm,1.1s
ETSF Etsaut 23.28 295 *e*P **P 15 28 16.6 -3.1**
comp=Z,22nm,1.1s
MFF Saint Martin d 23.66 304 *e*P **P 15 28 21.5 -1.7**
MFF Saint Martin d 23.66 304 *e*P **P 15 28 21.5 -1.7**
MFF Saint Martin d 23.66 304 *e*P **P 15 28 21.5 -1.7**
SJPF Ste Jean 23.79 295 *e*P **P 15 28 21.1 -3.3**
comp=Z,64nm,1.2s
SJPF Ste Jean 23.79 295 *e*P **P 15 28 21.1 -3.3**
SJPF pmax pmax
comp=Z,65nm,1.2s
SJPF Ste Jean 23.79 295 *e*P **P 15 28 21.1 -3.3**
comp=Z,64nm,1.2s
IKRD Kardeh 23.95 80 *e*P P 15 28 35.3 +9.0
TAM Tamanrasset 24.19 242 *e*P **P 15 28 27.6 -0.8**
TAM pmax pmax
comp=Z,79nm,1.8s
TAM Tamanrasset 24.19 242 *e*P **P 15 28 27.6 -0.8**
comp=Z,78nm,1.8s
TAM Tamanrasset 24.19 242 *e*P **P 15 28 27.6 -0.8**
comp=Z,78nm,1.8s
LDF La Druitiere 24.24 309 *e*P **P 15 28 26.4 -2.0**
LDF La Druitiere 24.24 309 *e*P **P 15 28 26.4 -2.0**
LDF La Druitiere 24.24 309 *e*P **P 15 28 26.4 -2.0**
IPAY Payeh 24.39 81 *e*P **P 15 28 31.3 +1.1**
FLN La Foliniere 24.52 309 *e*P **P 15 28 29.3 -1.7**
FLN *e*R
comp=Z,215nm,20.5s
FLN La Foliniere 24.52 309 *e*P **P 15 28 29.3 -1.7**
FLN La Foliniere 24.52 309 *e*P **P 15 28 29.3 -1.7**
GRR Gorron 24.64 308 *e*P **P 15 28 30.6 -1.5**
comp=Z,64nm,1.0s
GRR Gorron 24.64 308 *e*P **P 15 28 30.6 -1.5**
GRR pmax pmax
comp=Z,64nm,1.0s
GRR Gorron 24.64 308 *e*P **P 15 28 30.6 -1.5**
comp=Z,64nm,1.0s
ITEG Tejag 24.98 89 *e*P **P 15 28 35.4 -0.2**
FINES FINESS Array B 25.03 357 P **P 15 28 36.2 +0.7**
FINES *ep* **pP 15 28 49.6 +0.1**
FINES FINESS Array B 25.03 357 P **P 15 28 36.2 +0.7**
FINES *ep* **pP 15 28 49.6 +0.1**
FINES FINESS Array B 25.03 357 P **P 15 28 36.2 +0.7**

comp=Z,16nm,0.5s,baz=161,slow=12,SNR=110
FINES pP **pP** **15 28 49.6 +0.1**
comp=Z,23nm,0.7s,baz=152,slow=12,SNR=12
FINES LR LR 15 39 19.0
comp=Z,199nm,19.6s,baz=191,slow=38
FIA1 FINESS Array S 25.03 357 *eP* **P** **15 28 34.4 -1.1**
FIA1 FINESS Array S 25.03 357 *eP* **P** **15 28 34.4 -1.1**
IMYA Miami 25.28 81 *eP* **P** **15 28 39.8 +1.5**
AKTO Aktyubinsk 25.29 47 P **P** **15 28 37.9 -0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO MLR MLR
comp=Z,135nm,20.6s
AKTO Aktyubinsk 25.29 47 P **P** **15 28 37.9 -0.1**
AKTO Aktyubinsk 25.29 47 P **P** **15 28 37.8 -0.2**
AKTO Aktyubinsk 25.29 47 P **P** **15 28 37.9 -0.2**
comp=Z,2.2nm,0.8s,baz=238,slow=7.6,SNR=5.0
AKTO LR LR 15 40 30.3
comp=Z,135nm,20.6s,baz=257,slow=41
HFS Hagfors 25.54 343 P **P** **15 28 39.8 -0.4**
HFS Hagfors 25.54 343 P **P** **15 28 39.8 -0.4**
HFS Hagfors 25.54 343 P **P** **15 28 39.8 -0.4**
comp=Z,3.4nm,0.8s,baz=134,slow=10,SNR=6.2
HFS LR LR 15 40 00.6
comp=Z,326nm,18.2s,baz=151,slow=39
SGMF Saint Gilles 25.68 307 *eP* **P** **15 28 40.3 -1.3**
SGMF Saint Gilles 25.68 307 *eP* **P** **15 28 40.3 -1.3**
SGMF Saint Gilles 25.68 307 *eP* **P** **15 28 40.3 -1.3**
KAF Kangasniemi 25.69 357 *eP* **P** **15 28 42.6 +1.1**
KAF pmax pmax
comp=Z,17nm,0.6s
KAF Kangasniemi 25.69 357 *ep* **P** **15 28 42.6 +1.1**
comp=Z,17nm,0.6s
ESDC Sonseca Array 25.77 287 P **P** **15 28 42.6 +0.1**
ESDC pP **pP** **15 28 57.0 +0.5**
ESDC Sonseca Array 25.77 287 P **P** **15 28 42.6 +0.1**
ESDC pP **pP** **15 28 57.0 +0.5**
ESDC Sonseca Array 25.77 287 P **P** **15 28 42.6 +0.1**
comp=Z,1.6nm,0.4s,baz=83,slow=9.4,SNR=18
ESDC pP **pP** **15 28 57.0 +0.5**
comp=Z,2.5nm,0.4s,baz=83,slow=9.4,SNR=10
ESDC LR LR 15 39 07.7
comp=Z,67nm,19.9s,baz=95,slow=37
QUIF Quistinic 25.99 306 *eP* **P** **15 28 42.5 -1.8**
QUIF Quistinic 25.99 306 *eP* **P** **15 28 42.5 -1.8**
QUIF Quistinic 25.99 306 *eP* **P** **15 28 42.5 -1.8**
ABKAR Akbulak array 26.06 51 *eP* **P** **15 28 43.6 -1.3**
comp=Z,2.9nm,1.1s
ABKAR Akbulak array 26.06 51 *eP* **P** **15 28 43.7 -1.3**
comp=Z,2.9nm,1.1s
JOF Joensuu 26.51 3 *eP* **P** **15 28 51.0 +2.1**
JOF pmax pmax
comp=Z,3.0nm,0.3s
JOF Joensuu 26.51 3 *ep* **P** **15 28 51.0 +2.1**
comp=Z,2.9nm,0.3s
NB2 NORSAR Subarra 26.94 341 P **P** **15 28 51.0 -1.9**
comp=Z,2.7nm,1.0s,baz=148,slow=9.3
NB2 NORSAR Subarra 26.94 341 P **P** **15 28 51.0 -1.9**
comp=Z,2.7nm,1.0s,SNR=4.8
NOA NORSAR Array B 26.94 341 P **P** **15 28 51.9 -1.0**
NOA NORSAR Array B 26.94 341 P **P** **15 28 51.9 -1.0**
NOA NORSAR Array B 26.94 341 P **P** **15 28 51.9 -1.0**
comp=Z,0.6nm,0.7s,baz=146,slow=8.6,SNR=3.7
NOA LR LR 15 41 33.6
comp=Z,122nm,18.3s,baz=150,slow=41
PRGR Permogore 27.36 18 P **P** **15 28 56.2 -0.2**
PRGR pmax pmax
comp=Z,13nm,0.8s
MDT Midelt 27.50 272 P **P** **15 28 58.3 0.0**
MDT Midelt 27.50 272 P **P** **15 28 58.3 0.0**
MDT Midelt 27.50 272 P **P** **15 28 58.3 0.0**
comp=Z,6.7nm,1.1s,baz=83,slow=13,SNR=7.1
MDT LR LR 15 41 16.8
comp=Z,87nm,18.6s,baz=229,slow=39
ARU Arti 28.33 36 P **P** **15 29 05.9 +0.7**
ARU 15 29 51.4
ARU S **S** **15 33 50.5 +2.9**
EKA Eskdalemuir Ar 28.68 321 P **P** **15 29 07.0 -1.3**
EKA Eskdalemuir Ar 28.68 321 P **P** **15 29 07.0 -1.3**
EKA Eskdalemuir Ar 28.68 321 P **P** **15 29 07.0 -1.3**
comp=Z,0.3nm,0.5s,baz=120,slow=9.4,SNR=3.5
EVO Evora 29.01 285 *eP* **P** **15 29 11.2 -0.3**
comp=Z,113nm,1.8s
EVO *eR*
comp=Z,126nm,20.8s
EVOP Sao Brissos 29.10 285 *eP* **P** **15 29 11.2 -1.0**
EVOP pmax pmax
comp=Z,113nm,1.8s
EVOP Sao Brissos 29.10 285 *eP* **P** **15 29 11.2 -1.0**
comp=Z,113nm,1.8s
ARCES ARCESS Array B 33.15 358 P **P** **15 29 47.4 -0.3**
ARCES ARCESS Array B 33.15 358 P **P** **15 29 47.3 -0.3**
ARCES ARCESS Array B 33.15 358 P **P** **15 29 47.4 -0.3**
comp=Z,2.3nm,0.7s,baz=172,slow=7.5,SNR=8.8
ARCES LR LR 15 45 12.0
comp=Z,99nm,19.3s,baz=318,slow=40
BRVK Borovoye 33.34 47⇑ *eP* **P** **15 29 50.1 +0.7**
BRVK pmax pmax
comp=Z,5.0nm,1.4s
BRVK MLR MLR
comp=Z,201nm,24.0s
BVAR Borovoye Array 33.40 47 P **P** **15 29 50.9 +1.0**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 33.40 47 P **P** **15 29 50.9 +1.0**
BVAR Borovoye Array 33.40 47 P **P** **15 29 50.9 +1.0**
BVAR Borovoye Array 33.40 47 P **P** **15 29 50.9 +1.0**
comp=Z,1.2nm,0.7s,baz=258,slow=7.2,SNR=5.5
TOA0 Torodi Ar. Sit 33.51 233 *eP* **P** **15 29 51.3 0.0**
TOA0 Torodi Ar. Sit 33.51 233 *eP* **P** **15 29 51.3 0.0**
TORD Torodi Ar. Bea 33.51 233 P **P** **15 29 51.6 +0.3**
TORD Torodi Ar. Bea 33.51 233 P **P** **15 29 51.6 +0.3**
TORD Torodi Ar. Bea 33.51 233 P **P** **15 29 51.6 +0.3**
comp=Z,12nm,0.3s,baz=33,slow=9.0,SNR=247
KURBB Kurchatov Arra 38.10 52 P **P** **15 30 30.2 0.0**
comp=Z,3.9nm,0.8s,baz=276,slow=8.8,SNR=24
KURBB ScP **ScP** **15 36 27.9 +0.9**
comp=Z,1.5nm,1.1s,baz=276,slow=4.5,SNR=6.5
KURK Kurchatov 38.16 52 P **P** **15 30 30.2 -0.5**
KURK 15 36 28.0
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK pmax pmax
comp=N,2.0nm,1.1s
KURK Kurchatov 38.16 52 P **P** **15 30 30.2 -0.5**
comp=N,0.4nm,1.0s
KURK ScP **ScP** **15 36 27.9 +0.7**
KURK Kurchatov 38.16 52 P **P** **15 30 30.2 -0.5**
comp=N,0.4nm,1.0s
KURK ScP **ScP** **15 36 28.0 +0.7**
MK31 Makanchi Array 40.70 58 *eP* **P** **15 30 50.9 -1.0**
MK31 Makanchi Array 40.70 58 *eP* **P** **15 30 50.9 -1.0**
MK31 Makanchi Array 40.70 58 *eP* **P** **15 30 50.8 -1.1**
MKAR Makanchi Array 40.70 58 *i P* **P** **15 30 52.7 +0.8**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 40.70 58 P **P** **15 30 52.3 +0.4**
MKAR Makanchi Array 40.70 58 P **P** **15 30 52.3 +0.4**
MKAR Makanchi Array 40.70 58 P **P** **15 30 52.3 +0.4**
comp=Z,6.4nm,0.9s,baz=278,slow=6.3,SNR=28
MKAR LR LR 15 52 03.8
comp=Z,64nm,18.4s,baz=275,slow=42
NVS Novosibirsk 41.16 46 *eP* **P** **15 30 54.6 -1.0**
ZALV Zalesovo Beam 42.05 47 P **P** **15 31 02.7 -0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV MLR MLR
comp=Z,95nm,18.3s
ZALV Zalesovo Beam 42.05 47 P **P** **15 31 02.7 -0.2**
ZALV Zalesovo Beam 42.05 47 P **P** **15 31 02.7 -0.2**
ZALV Zalesovo Beam 42.05 47 P **P** **15 31 02.7 -0.2**
comp=Z,1.8nm,0.7s,baz=261,slow=8.6,SNR=11
ZALV LR LR 15 52 26.6
comp=Z,95nm,18.3s,baz=64,slow=42
DBIC Dimbokro 42.60 234 P **P** **15 31 07.8 0.0**
DBIC Dimbokro 42.60 234 P **P** **15 31 07.8 0.0**
DBIC Dimbokro 42.60 234 P **P** **15 31 07.8 0.0**
comp=Z,8.8nm,0.4s,baz=20,slow=8.7,SNR=27
TIC Toumodi 42.73 234 *eP* **P** **15 31 08.7 -0.1**
comp=Z,26nm,0.6s
KIC Kosan Boka 42.76 234 *eP* **P** **15 31 09.0 -0.1**
comp=Z,78nm,1.0s
LIC Lamto 43.05 234 *eP* **P** **15 31 10.2 -1.2**
comp=Z,80nm,1.0s,baz=49
LIC *eR*
comp=Z,92nm,19.6s
LIC Lamto 43.05 234 *eP* **P** **15 31 11.4 0.0**
comp=Z,102nm,1.0s
LIC Lamto 43.05 234 *eP* **P** **15 31 10.2 -1.2**
comp=Z,80nm,1.0s
BBTS Babate 45.65 254 P **P** **15 31 33.4 +1.2**
BBTS Babate 45.65 254 P **P** **15 31 33.4 +1.2**
BBTS Babate 45.65 254 P **P** **15 31 33.4 +1.2**
comp=Z,18nm,0.6s,baz=60,slow=3.3,SNR=3.8
HVS Khovu-Aksy 47.65 51⇓ *eP* **P** **15 31 48.9 +1.4**
HVS pmax pmax
comp=Z,50nm,2.2s
LSZ Lusaka 51.48 181 P **P** **15 32 18.8 +1.8**
LSZ Lusaka 51.48 181 P **P** **15 32 18.8 +1.8**
LSZ Lusaka 51.48 181 P **P** **15 32 18.8 +1.8**
comp=Z,1.3nm,0.5s,baz=3.1,slow=7.5,SNR=4.5
TSUM Tsumeb 56.36 193 P **P** **15 32 54.0 +1.5**
TSUM Tsumeb 56.36 193 P **P** **15 32 54.0 +1.5**
TSUM Tsumeb 56.36 193 P **P** **15 32 54.0 +1.5**
comp=Z,4.7nm,0.9s,baz=355,slow=4.5,SNR=6.3
SONM Songino Array 56.47 52 P **P** **15 32 54.2 +1.1**
SONM Songino Array 56.47 52 P **P** **15 32 54.2 +1.1**
SONM Songino Array 56.47 52 P **P** **15 32 54.2 +1.1**
comp=Z,1.5nm,0.8s,baz=289,slow=7.8,SNR=11
SONM LR LR 16 01 25.5
comp=Z,79nm,19.3s,baz=233,slow=40
TIXI Tiksi 58.93 21 *i P* **P** **15 33 10.7 +0.9**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
FRB Frobisher Bay 60.95 330 LR LR 15 57 29.6
comp=Z,102nm,20.0s,baz=30,slow=34
RES Resolute Bay 63.10 346 LR LR 16 01 44.7
comp=Z,143nm,19.9s,baz=221,slow=37
CMAR Chiang Mai Arr 63.65 86 P **P** **15 33 43.2 +0.6**
CMAR pP **pP** **15 33 57.6 -0.3**
CMAR Chiang Mai Arr 63.65 86 P **P** **15 33 43.2 +0.6**
CMAR pP **pP** **15 33 57.7 -0.3**
CMAR Chiang Mai Arr 63.65 86 P **P** **15 33 43.2 +0.6**
comp=Z,2.0nm,1.0s,baz=301,slow=7.9,SNR=14
CMAR pP **pP** **15 33 57.6 -0.3**
comp=Z,2.0nm,0.9s,baz=298,slow=11,SNR=6.9
BOSA Boshof 64.83 183 P **P** **15 33 52.1 +2.0**
BOSA Boshof 64.83 183 P **P** **15 33 52.1 +2.0**
BOSA Boshof 64.83 183 P **P** **15 33 52.1 +2.0**
comp=Z,3.7nm,0.7s,baz=34,slow=9.5,SNR=6.6
BOSA LR LR 16 03 32.8
comp=Z,89nm,18.7s,baz=348,slow=37
USRK Ussuriysk Arra 73.90 47 P **P** **15 34 46.4 +0.4**
comp=Z,1.5nm,0.5s,baz=276,slow=5.3,SNR=8.4
KSAR Wonju Array Be 75.22 54 pP pP 15 35 07.7 -1.7
KSAR Wonju Array Be 75.22 54 pP pP 15 35 07.7 -1.7
KSRS Korea Array 75.24 54 pP **pP** **15 35 07.7 -1.9**
comp=Z,5.2nm,1.0s,baz=307,slow=5.1,SNR=7.4
KSRS LR LR 16 09 19.5
comp=Z,68nm,20.4s,baz=197,slow=37
SADO Sadowa 76.09 316 LR LR 16 07 51.6
comp=Z,79nm,21.6s,baz=353,slow=35
YKA Yellowknife Ar 77.02 343 P **P** **15 35 02.9 -0.6**
YKA Yellowknife Ar 77.02 343 P **P** **15 35 02.8 -0.6**
YKA Yellowknife Ar 77.02 343 P **P** **15 35 02.8 -0.6**
comp=Z,0.3nm,0.7s,baz=33,slow=5.7,SNR=5.0
ILAR Eielson Array 79.02 358 P **P** **15 35 15.4 +0.9**
ILAR pP **pP** **15 35 29.1 -1.3**
ILAR Eielson Array 79.02 358 P **P** **15 35 15.4 +0.9**
ILAR pP **pP** **15 35 29.0 -1.3**
ILAR Eielson Array 79.02 358 P **P** **15 35 15.4 +0.9**
comp=Z,0.5nm,0.9s,baz=335,slow=3.5,SNR=3.7
ILAR pP **pP** **15 35 29.1 -1.3**
comp=Z,0.4nm,0.7s,baz=348,slow=3.2,SNR=3.9
PETK Petropavlovsk- **80.44 28** LR LR 16 15 33.1
comp=Z,56nm,18.5s,baz=295,slow=39
MJAR Matsushiro Arr 82.34 50 P **P** **15 35 34.1 +1.3**
MJAR Matsushiro Arr 82.34 50 P **P** **15 35 34.2 +1.3**
MJAR Matsushiro Arr 82.34 50 P **P** **15 35 34.1 +1.3**
comp=Z,1.8nm,0.9s,baz=302,slow=2.8,SNR=4.6
MJAR LR LR 16 13 59.4
comp=Z,39nm,18.7s,baz=355,slow=37
FX1 Attu Island--F 85.81 21 LR LR 16 15 33.7
comp=Z,63nm,18.4s,baz=310,slow=37
BDFB Brasilia 88.80 250 P **P** **15 36 06.9 +1.7**
BDFB Brasilia 88.80 250 P **P** **15 36 06.9 +1.7**
BDFB Brasilia 88.80 250 P **P** **15 36 06.9 +1.7**
comp=Z,6.5nm,0.9s,baz=35,slow=1.6,SNR=6.4
PDAR Pinedale Array 92.39 331 P **P** **15 36 20.8 -1.0**
PDAR Pinedale Array 92.39 331 P **P** **15 36 20.8 -1.0**
PDAR Pinedale Array 92.39 331 P **P** **15 36 20.8 -1.0**
comp=Z,0.8nm,1.1s,baz=52,slow=4.9,SNR=3.4
PDAR LR LR 16 17 16.8
comp=Z,59nm,18.2s,baz=189,slow=35
ASAR Alice Springs 115.54 101 PKP **PKPdf** **15 41 53.2 +0.2**
ASAR pPKP **pPKiKP** **15 42 09.7 +0.1**
ASAR Alice Springs 115.54 101 PKP **PKPdf** **15 41 53.2 +0.2**
comp=Z,0.3nm,1.0s,baz=314,slow=1.4,SNR=4.1
ASAR pPKP **pPKiKP** **15 42 09.7 +0.1**
comp=Z,0.7nm,1.1s,baz=313,slow=1.6,SNR=3.3

IDC ***12*** *15:56:36.9±5.3, 6°.17N×126°.00E, h144km±50km, mb3.7/10, mb1 3.9/10, mb1mx3.5/25, mbtmp3.7/10, Error ellipse: s-maj=27.9km s-min=13.5km az=76.0*
ISCJB ***12*** *15:56:37.2±0.4, 6°.06N±0°.05×125°.97E±0°.09, h150km, mb3.8/10, Error ellipse: s-maj=13.4km s-min=6.4km az=171.8*
AUST ***12*** *15:56:37.7±6.0, 5°.75N×125°.51E, h124km±1km, Error ellipse: s-maj=3.9km s-min=2.8km az=14.0*
MAN ***12*** *15:56:38, 6°.04N×125°.88E, h152km, mb5.0, ML3.9, MS4.1*
DJA ***12*** *15:57:05.0±5.8, 2°N±23°×12°6E±1°4, h335km±68km, M3.6/4, MLv3.6/4*
ISC 12 15:56:38.0±0.5, **6°.07N**±0°.06×**125°.9E**±0°.1, **h150**km, **n32, σ1$44/31, mb4.0/10, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.93**	**21**	*eP*		**Pn**		**15 57 02.5**	**+0.2**
MATI				*eS*		**Sn**		**15 57 22.5**	**+1.7**
BUKP	**Musuan**	**1.98**	**335**	*eP*		**Pn**		**15 57 14.0**	**+0.9**
BUTP	**Butuan**	**2.89**	**354**	*eP*		**Pn**		**15 57 26.2**	**+2.1**
PAGZ	**Pagadian**	**3.07**	**305**	*eP*		**Pn**		**15 57 27.0**	**+0.7**
TNTI	**Ternate**	**5.46**	**165**	P		**Pn**		**15 57 57.3**	**-0.3**
GTOI	**Gorontalo**	**6.13**	**208**	P		Pn		15 58 07.4	+0.9
MRSI	**Marisa**	**6.83**	**216**	P		Pn		15 58 17.5	+1.6
LBMI	**Labuha**	**6.85**	**167**	P		Pn		15 58 08.0	-8.2
MTN	**Manton Dam** baz=19,SNR=13	**19.49**	**165**	P		**Pn**		**16 00 55.0**	**-1.5**
KDU	**Kakadu** baz=20,SNR=13	**19.74**	**161**	P		**Pn**		**16 00 57.6**	**-1.7**
FITZ	**Fitzroy Crossi** 4.9nm,0.4s,baz=358,slow=7.5,SNR=33	**24.02**	**181**	P		**P**		**16 01 39.7**	**+0.5**
FITZ	**Fitzroy Crossi** baz=24,SNR=24	**24.02**	**181**	P		**P**		**16 01 39.8**	**+0.6**
COEN	**Coen** baz=26,SNR=6.0	**26.26**	**139**	P		**P**		**16 02 03.9**	**+4.4**
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=333,slow=11,SNR=11	**27.15**	**162**	P		**P**		**16 02 06.9**	**-0.5**
WRA				PcP		**PcP**		**16 05 23.9**	**-0.4**
CMAR	**Chiang Mai Arr** 0.3nm,0.6s,baz=86,slow=6.5,SNR=6.1	**29.03**	**297**	P		**P**		**16 02 24.9**	**+0.6**
QIS	**Mount Isa** baz=30,SNR=4.7	**29.69**	**153**	P		**P**		**16 02 30.9**	**+0.9**
ASAR	**Alice Springs** 2.9nm,0.4s,baz=338,slow=7.2,SNR=111	**30.57**	**165**	P		**P**		**16 02 38.1**	**+0.4**
ASAR				PcP		**PcP**		**16 05 32.9**	**-0.1**
WRKA	**Warakurna** baz=31,SNR=8.6	**31.01**	**176**	P		**P**		**16 02 42.3**	**+0.7**
MJAR	**Matsushiro Arr** 0.9nm,0.8s,baz=189,slow=8.6,SNR=4.2	**32.35**	**19**	P		**P**		**16 02 51.5**	**-1.7**
MEEK	**Meekatharra** baz=33,SNR=4.3	**33.28**	**192**	P		**P**		**16 03 01.4**	**0.0**
BLDU	**Balliduu** baz=37,SNR=6.9	**37.53**	**193**	P		**P**		**16 03 37.9**	**+0.2**
KLBR	**Kellerberrin** baz=38,SNR=6.5	**38.25**	**191**	P		**P**		**16 03 44.1**	**+0.4**
BBOO	**Buckleboo** baz=40,SNR=56	**39.85**	**167**	P		**P**		**16 03 58.0**	**+1.1**
HTT	**Hallett** baz=41,SNR=5.1	**41.18**	**163**	P		**P**		**16 04 09.8**	**+1.9**
RKGY	**Rocky Gully** baz=41,SNR=7.1	**41.33**	**191**	P		P		16 04 10.9	+1.8
ARPS	**Mount Arapiles** baz=45,SNR=10	**45.15**	**162**	P		**P**		**16 04 41.4**	**+1.7**
PETK	**Petropavlovsk-** 3.3nm,0.8s,baz=285,slow=7.5,SNR=4.6	**53.60**	**23**	P		**P**		**16 05 41.9**	**-1.7**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=120,slow=7.5,SNR=14	**55.18**	**325**	P		**P**		**16 05 54.0**	**-1.2**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=249,slow=5.0,SNR=9.2	**83.35**	**26**	P		**P**		**16 08 47.7**	**-0.3**
ARCES	**ARCESS Array B** 3.3nm,0.9s,baz=94,slow=6.6,SNR=3.5	**87.98**	**340**	P		**P**		**16 09 11.1**	**+0.3**
FINES	**FINESS Array B** 4.7nm,1.2s,baz=57,slow=7.0,SNR=7.3	**89.40**	**332**	P		**P**		**16 09 15.2**	**-2.3**
TORD	**Torodi Ar. Bea** 0.8nm,0.6s,baz=92,slow=1.1,SNR=6.4	**121.40**	**289**	PKP		**PKPdf**		**16 15 13.4**	**-1.1**

CASC ***12*** *16:21:29.9±1.5, 12°.93N×88°.89W, h31km±4km, MD3.7, ML4.0*
IDC ***12*** *16:21:32.7±2.6, 13°.13N×89°.15W, h78km±22km, mb3.2/3, mb1 3.6/6, mb1mx3.4/25, mbtmp3.4/6, Error ellipse: s-maj=64.4km s-min=15.3km az=45.0*
ISC 12 16:21:25.4±2.0, **12°.83N**±0°.09×**88°.93W**±0°.05, **h10**km±14**km, n24,** σ1$**02/31, mb3.6/3, 5C-9D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.78**	**7**⇓	*iP*		**Pn**		**16 21 43.5**	**+0.8**
SNVI				*eS*		**Sn**		**16 21 54.1**	**-0.4**
LFRS	**El Faro**	**0.80**	**351**⇓	*iP*		**Pn**		**16 21 43.5**	**+0.7**
VSM	**San Miguel**	**0.87**	**47**⇓	*iP*		**Pn**		**16 21 44.8**	**+0.8**
SNET	**Serv Nac Est T**	**0.90**	**341**⇓	*iP*		**Pn**		**16 21 45.1**	**+0.9**
SNET				*eS*		**Sn**		**16 21 56.7**	**-0.6**
SNET	comp=Z,5μm,0.2s				AML	AML		16 21 57.5	
LBRS	**Las Brisas**	**0.91**	**353**⇓	*iP*		**Pn**		**16 21 45.5**	**+1.2**
BLLM	**Bellamira**	**0.91**	**48**	*eP*		**Pb**		**16 21 43.8**	**+0.5**
BLLM				*eS*		**Sn**		**16 21 56.8**	**-0.7**
LFU	**La Fuente**	**0.93**	**349**	*i P*		**Pn**		**16 21 45.6**	**+1.0**
LFU				*eS*		**Sn**		**16 21 58.0**	**0.0**
BOQS	**Boqueron**	**0.96**	**339**⇑	*iP*		**Pn**		**16 21 46.3**	**+1.1**
BOQS				*eS*		**Sn**		**16 21 59.5**	**+0.5**
CNCH	**Conchagua**	**1.16**	**67**⇑	*iP*		**Pn**		**16 21 48.5**	**+0.7**
CNCH				*eS*		**Sn**		**16 22 04.2**	**+0.4**
CAHU	**Cacacuatique**	**1.17**	**37**⇑	*iP*		**Pn**		**16 21 48.9**	**+0.8**
SBLS	**San Blas**	**1.21**	**326**	*i P*		**Pn**		**16 21 50.5**	**+1.9**
SNJE	**San Jose**	**1.22**	**328**⇓	*iP*		**Pn**		**16 21 50.2**	**+1.5**
SNJE				*eS*		**Sn**		**16 22 06.4**	**+1.0**
RTR	**El Retiro**	**1.27**	**327**⇓	*iP*		**Pn**		**16 21 51.1**	**+1.7**
RBDL	**Robledal**	**1.47**	**330**⇓	*iP*		**Pg**		**16 21 53.8**	**+0.1**
IXG	**Ixpaco**	**1.99**	**312**	*eP*		**Pb**		**16 22 01.7**	**-0.2**
IXG				*eS*		**Sn**		**16 22 24.6**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.02**	**53**⇓	*iP*		**Pn**		**16 22 00.4**	**+0.8**
NBG	**Las Nubes**	**2.22**	**322**	*eP*		**Pb**		**16 22 05.8**	**-0.1**
MRL	**Marmol**	**2.34**	**342**⇑	*iP*		**Pb**		**16 22 06.0**	**-1.8**
MRL				⇑*eP*		**Pb**		**16 22 06.9**	**-0.9**
APG	**El Apazote** comp=Z,3.2nm,0.3s,baz=138,slow=14,SNR=7.4	**2.62**	**326**	P		**Pn**		**16 22 07.3**	**-0.7**
JTS	**JuntasAbangare** comp=Z,1.8nm,0.3s,baz=310,slow=19,SNR=7.9	**4.65**	**122**	P		Pb		16 22 44.7	-2.4
JTS				S		**Sb**		**16 23 42.5**	**-0.6**
TEIG	**Tepich** comp=Z,1.4nm,0.3s,baz=120,slow=20,SNR=3.5	**7.38**	**5**	P		**Pn**		**16 23 14.7**	**+1.4**
TXAR	**Lajitas Array** comp=Z,1.8nm,0.3s,baz=4.0,slow=15,SNR=7.3	**21.38**	**322**	P		**P**		**16 26 12.1**	**-1.2**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.5s,baz=146,slow=12,SNR=7.5	**52.87**	**345**	P		P		16 30 37.6	-3.6
ILAR	**Eielson Array** comp=Z,0.2nm,0.5s,baz=176,slow=4.2,SNR=5.7	**65.09**	**336**	P		P		16 32 02.0	-4.0

IDC ***12*** *16:22:07.2±0.5, 28°.53N×66°.60E, h0km, mb4.5/33, mb1 4.6/33, mb1mx4.6/36, mbtmp4.5/33, MS4.0/22, Ms1 4.0/22, ms1mx3.9/38, Error ellipse: s-maj=12.8km s-min=10.4km az=176.0*
ISCJB ***12*** *16:22:07.2±0.2, 28°.38N±0°.03×66°.67E±0°.02, h20km, mb4.8/137, MS4.2/46, Error ellipse: s-maj=4.4km s-min=2.3km az=5.5*
MOS ***12*** *16:22:09.4±1.7, 28°.30N×66°.70E, h35km, mb5.0/63, MS4.0/22, Error ellipse: s-maj=6.2km s-min=3.9km az=124.8*
NEIC ***12*** *16:22:10.9±2.9, 28°.45N×66°.62E, h33km±20km, mb5.0/50, Error ellipse: s-maj=7.5km s-min=4.6km az=184.0*
NEIC Felt [II] at Sukkur. Also felt at Khuzdar.
GCMT ***12*** *16:22:10.5±0.4, 28°.28N×66°.56E, h18km±1km, MW4.8, Moment Tensor Solution. s19,c21; s60,c78; Moment tensor: Scale 10^16 Nm; Mrr=0.29±.10; Mθθ=1.11±.09; Mφφ=1.40±.10; Mrθ=0.88±.24; Mrφ=-1.46±.08; Mθφ=-0.01±.20; Best double couple: M0=2.10000×10^16 NP1:φ=292.00000°, δ=80.00000°, λ=-156.00000°. NP2:φ=198.00000°, δ=66.00000°, λ=-11.00000°. Principal axes: T 2.1300, Plg9.0000°, Azm63.0000°; N 0.0000, Plg64.0000°, Azm313.0000°; P -2.1300, Plg24.0000°, Azm158.0000°; Data Used: IU II IC G CN.*
BJI ***12*** *16:22:11.2, 28°.70N×66°.61E, h41km, mB4.9/34, mb4.8/47, Ms4.7/44, MS7 4.4/41*
SZGRF ***12*** *16:22:12.9, 26°.50N×65°.26E, h33km, mb5.1, MS3.9, Pakistan*
TEH ***12*** *16:22:12.0, 28°.41N×66°.61E, h42km, ML5.0*
ISC 12 16:22:10.0±0.2, **28°.42N**±0°.03×**66°.73E**±0°.02, **h20**km, **h20km:pP-P, n469,** σ1$**72/382, mb4.9/138, MS4.2/47, 45C-12D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**5.78**	**152**	*eP*		**Pn**		**16 23 35.0**	**+0.3**
THW	**Thamme Wali**	**6.14**	**44**	P		**Pn**		**16 23 40.6**	**+1.0**
KBL	**Kabul**	**6.41**	**17**	*eP*		**Pn**		**16 23 44.3**	**+0.7**
KBL	**Kabul**	**6.41**	**17**	*ePn*		**Pn**		**16 23 44.3**	**+0.7**
CEP	**Cherat**	**6.98**	**38**	P		**Pn**		**16 23 52.0**	**+0.7**
IDAH	**Dahanechah**	**7.31**	**308**	*eP*		**Pn**		**16 23 58.1**	**+2.1**
CHCP	**Chirah Chowk**	**7.66**	**45**	P		Pn		16 24 11.3	+11
IKOO	**Kooshah**	**7.77**	**303**	*eP*		Pn		16 23 59.6	-2.6
ITEG	**Tejag**	**8.19**	**305**	*eP*		**Pn**		**16 24 07.0**	**-1.0**
BHK	**Bhakra**	**8.92**	**68**	*eP*		**Pn**		**16 24 19.0**	**+1.2**
BHK				*e*		Sn		16 25 53.6	-4.2
IBND	**Bandar-abas**	**9.06**	**266**	*eP*		**Pn**		**16 24 18.0**	**-1.7**
IBND				*eP*		**Pn**		**16 24 18.3**	**-1.4**
DHRM	**DHARAMSHALA**	**9.11**	**63**	*eP*		**Pn**		**16 24 22.1**	**+1.6**
DHRM				*eS*		**Sn**		**16 26 01.3**	**-1.4**
NDI	**New Delhi**	**9.23**	**86**	*eP*		**Pn**		**16 24 21.5**	**-0.5**
NDI				*e*		Sn		16 26 02.0	-3.3
SDNR	**Sundarnagar**	**9.40**	**68**	*eP*		**Pn**		**16 24 25.0**	**+0.6**
SDNR				*ex*		**Sn**		**16 26 09.0**	**-0.5**
SMLA	**Simla**	**9.46**	**71**	*i P*		**Pn**		**16 24 26.3**	**+1.0**
SMDO	**Samad** SNR=9.2	**9.47**	**238**	⇓P		**Pn**		**16 24 23.8**	**-1.6**
IMYA	**Miami**	**9.68**	**326**	*eP*		Pn		16 24 26.4	-2.0
HOQ	**Hoqain** SNR=8.0	**9.74**	**242**	P		Pn		16 24 26.6	-2.5
JMDO	**Jabal Madar** SNR=11	**9.85**	**234**	⇓P		Pn		16 24 27.8	-2.8
ISRO	**Mashad**	**9.97**	**324**	*eP*		**Pn**		**16 24 31.0**	**-1.3**
UOSS	**Wadi Hilu** 525nm,0.6s,SNR=12	**10.03**	**252**	Pn		Pn		16 24 28.6	-4.4
DDI	**Dehra Dun**	**10.06**	**76**	*eP*		**Pn**		**16 24 34.3**	**+0.8**
DDI				*eS*		**Sn**		**16 26 23.3**	**-2.6**
DDI	comp=E,512nm,0.7s				AML	AML		16 26 43.8	
DDI	comp=N,493nm,0.3s				AML	AML		16 26 44.3	
HATD	**Hatta, Dubai** SNR=30	**10.13**	**252**	⇓P		**Pn**		**16 24 32.7**	**-1.7**
IBAF	**Bafgh**	**10.18**	**291**	*eP*		Pn		16 24 34.4	-0.8
IPAY	**Payeh**	**10.33**	**323**	*eP*	

ISRV Sarvestan 11.97 278 *e*P Pn 16 24 54.3 -5.6
IPAR Pars 12.04 280 *e*P Pn 16 24 57.4 -3.5
IANJ Anjilo 12.94 306 *e*P Pn 16 25 09.5 -3.6
JBP Jabalpur 13.03 111⇑*i*P **Pn 16 25 14.0 -0.1**
JBP *ex* x 16 27 34.4
KSH Kashi 13.46 32 P Pn 16 25 13.1 -6.8
KSH pP P 16 25 21.0 -8.2
KSH PP **PnPn 16 25 24.4 -3.5**
KSH sP 16 25 28.1
KSH S S 16 27 33.4 -39
KSH sS sS 16 27 50.1
KSH pmax pmax
comp=E,15nm,0.6s
KSH LR LR
comp=E,1μm,7.8s
KSH LR LR
comp=E,2μm,8.2s
IGLO Ghaloghah 13.54 310 *e*P Pn 16 25 18.9 -2.2
ISHM Shahmirzad 13.55 306 *e*P Pn 16 25 18.9 -2.5
IALA Alasht 14.03 307 *e*P Pn 16 25 32.4 +4.5
PYUN Piuthan 14.34 87 *e*P Pn 16 25 30.2 -2.0
comp=E,151nm,0.5s
PYUN Piuthan 14.34 87 *e*P Pn 16 25 30.2 -2.0
IVRN Varamin 14.35 301 *e*P Pn 16 25 29.5 -2.6
IDMV Damavand 14.36 303 *e*P **Pn 16 25 31.9 -0.6**
KOLN Koldanda 14.91 88 *e*P Pn 16 25 37.6 -2.3
comp=E,216nm,1.0s
KOLN Koldanda 14.91 88 *e*P Pn 16 25 37.6 -2.3
KKAR Karatay Array 14.97 11 *e*P Pn 16 25 37.4 -3.0
KKAR pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 14.97 11 *e*Pn Pn 16 25 37.4 -3.0
comp=Z,14nm,0.7s
DANN Dangsing 14.99 86 *e*P **Pn 16 25 39.3 -1.9**
DANN Dangsing 14.99 86 *e*P **Pn 16 25 39.3 -1.9**
IR3 Iran Long-Peri 15.06 302 *e*P **Pn 16 25 40.6 -1.2**
EKS2 Erkin-Say 15.31 20 *e*P **Pn 16 25 43.6 -1.6**
EKS2 pmax pmax
comp=Z,70nm,1.4s
EKS2 Erkin-Say 15.31 20 *e*Pn **Pn 16 25 43.6 -1.6**
comp=Z,70nm,1.4s
HYB Hyderabad 15.43 133 *i* P **Pn 16 25 46.0 -0.8**
HYB *eS* **S 16 28 52.0 -1.0**
FRU Bishkek 15.73 22 *e*P Pn 16 25 46.0 -4.5
FRU *e* 16 28 50.0
GKN Gorkha 15.80 87 *e*P Pn 16 25 48.4 -3.1
GKN Gorkha 15.80 87 *e*P Pn 16 25 48.4 -3.1
RBK Rabkut 15.83 229⇑P **Pn 16 25 53.2 +1.3**
SNR=8.8
IRAZ Razeghan 15.86 300 *e*P **Pn 16 25 50.2 -2.2**
TKM2 Tokmak 2 16.15 24 *i* P Pn 16 25 52.9 -3.1
TKM2 pmax pmax
comp=Z,28nm,1.0s
DMN Daman 16.25 89 *e*P Pn 16 25 54.8 -2.7
comp=Z,144nm,0.8s
DMN Daman 16.25 89 *e*P Pn 16 25 54.8 -2.7
KKN Kakani 16.39 88 *e*P **Pn 16 25 57.1 -2.0**
KKN Kakani 16.39 88 *e*P **Pn 16 25 57.1 -2.0**
KKN Kakani 16.39 88 *e*P **Pn 16 25 57.1 -2.0**
PKIN Phulchoki 16.51 88 *e*P **Pn 16 25 58.9 -1.9**
PKI Pulchoki 16.52 89 *e*P **Pn 16 25 58.8 -2.2**
comp=Z,104nm,0.7s
PKI Pulchoki 16.52 89 *e*P **Pn 16 25 58.9 -2.1**
PKI Pulchoki 16.52 89 *e*P **Pn 16 25 58.9 -2.1**
GUN Gumba 16.90 87 *e*P Pn 16 26 03.2 -2.6
GUN Gumba 16.90 87 *e*P Pn 16 26 03.2 -2.6
JIRN Jiri 17.20 88 *e*P Pn 16 26 06.9 -2.7
JIRN Jiri 17.20 88 *e*P Pn 16 26 06.9 -2.7
IKOM Komasi 17.39 294 *e*P Pn 16 26 07.8 -3.9
RAMN Ramite 17.66 90 *e*P **Pn 16 26 13.3 -1.9**
comp=Z,103nm,0.6s
RAMN Ramite 17.66 90 *e*P **Pn 16 26 13.3 -1.9**
ODAN Odare 18.37 90 *e*P **P 16 26 23.0 -0.9**
comp=Z,161nm,0.7s
ODAN Odare 18.37 90 *e*P **P 16 26 23.0 -0.9**
IDHR Dehrash 18.42 295 *e*P P 16 26 19.1 -5.2
TAPN Taplejung 18.58 88 *e*P **P 16 26 25.2 -1.0**
comp=Z,74nm,0.7s
TAPN Taplejung 18.58 88 *e*P **P 16 26 25.2 -1.0**
IMRD Marand 20.26 306 *e*P P 16 26 40.6 -3.8
MAK Makhachkala 21.24 318 *e*P **P 16 26 53.6 -1.1**
MAK *e* 16 27 09.2
MAK *eS* **S 16 30 49.5 -0.4**
MAK pmax pmax
comp=Z,564nm,1.5s
MAK MLR MLR
comp=Z,306nm,5.0s
LSA Lhasa 21.38 81 *e*P **P 16 26 57.0 +0.1**
LSA pmax pmax
comp=Z,55nm,1.1s
LSA Lhasa 21.38 81 *e*P **P 16 26 57.0 +0.1**
comp=Z,55nm,1.1s
ABKAR Akbulak array 21.45 348 *e*P **P 16 26 55.1 -1.8**
GNI Garni 21.55 309 P **P 16 26 58.6 +0.3**
comp=Z,3.1nm,0.8s
GNI Garni 21.55 309 P **P 16 26 58.6 +0.3**
comp=Z,18nm,0.9s,baz=27,slow=4.4,SNR=7.8
MK31 Makanchi Array 22.03 29 *e*P **P 16 27 01.8 -1.4**
MK31 Makanchi Array 22.03 29 *e*P **P 16 27 01.8 -1.4**
MKAR Makanchi Array 22.03 29 P **P 16 27 02.5 -0.7**
MKAR pmax pmax
comp=Z,18nm,0.8s
MKAR MLR MLR
comp=Z,1μm,20.8s
MKAR Makanchi Array 22.03 29 P **P 16 27 02.5 -0.7**
MKAR Makanchi Array 22.03 29 P **P 16 27 02.5 -0.7**
comp=Z,18nm,0.8s,baz=210,slow=10,SNR=59
MKAR LR LR 16 37 10.8
comp=Z,1μm,20.8s,baz=221,slow=41
SHL Shillong 22.59 91 *e*P **P 16 27 10.0 +0.5**
SHL *ex* x 16 34 35.0
WMQ Urumqi 22.78 42 P **P 16 27 12.0 +0.7**
WMQ pP pP 16 27 23.0 +6.0
WMQ sP sP 16 27 29.0 +9.4
WMQ PP PnPn 16 27 43.0 +7.5
WMQ PcP **PcP 16 31 02.0 -0.5**
WMQ S **S 16 31 15.0 -4.3**
WMQ pmax pmax
comp=Z,45nm,1.0s
WMQ pmax pmax
comp=Z,110nm,3.0s
WMQ LR LR
comp=Z,2μm,10.0s
WMQ LR LR
comp=Z,1μm,9.5s
WMQ LR LR
comp=Z,1μm,10.0s
AKTO Aktyubinsk 22.96 346 P **P 16 27 11.5 -1.6**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO MLR MLR
comp=Z,227nm,20.8s
AKTO Aktyubinsk 22.96 346 P **P 16 27 11.5 -1.6**
AKTO Aktyubinsk 22.96 346 P **P 16 27 11.5 -1.6**
comp=Z,2.4nm,0.7s,baz=166,slow=10,SNR=5.9
AKTO LR LR 16 37 27.8
comp=Z,227nm,20.8s,baz=37,slow=40
ZEI Tsey 23.35 314 *e*P **P 16 27 17.3 -0.1**
ZEI pmax pmax
comp=Z,23nm,0.8s
KURBB Kurchatov Arra 23.91 19 P **P 16 27 21.6 -0.8**
comp=Z,4.5nm,0.8s,baz=212,slow=9.5,SNR=15
KURK Kurchatov 24.02 19 *e*P **P 16 27 22.1 -1.3**
KURK Kurchatov 24.02 19 *e*P **P 16 27 22.1 -1.3**
KURK Kurchatov 24.02 19 P **P 16 27 22.3 -1.1**
comp=Z,124nm,1.4s,SNR=7.5
KBZ Khabaz 24.46 315 P **P 16 27 26.9 -0.7**
KBZ pmax pmax
comp=Z,20nm,0.9s
KBZ MLR MLR
comp=Z,180nm,18.4s
KBZ Khabaz 24.46 315 P **P 16 27 26.9 -0.7**
KBZ Khabaz 24.46 315 P **P 16 27 26.9 -0.7**
comp=Z,20nm,0.9s,baz=128,slow=8.6,SNR=18
KBZ LR LR 16 38 02.0
comp=Z,180nm,18.4s,baz=13,slow=39
VOSK Vostochnaya 24.48 6 *i* P **P 16 27 27.0 -0.7**
VOSK pmax pmax
comp=Z,25nm,1.3s
IMP Imphal 24.57 92 *ex* **P 16 27 32.0 +3.1**
IMP *ex* x 16 32 08.0
KIV Kislovodsk 24.71 315 P P 16 27 34.9 +4.9
comp=Z,251nm,0.8s,SNR=6.7
KIV Kislovodsk 24.71 315*c i*P **P 16 27 33.6 +3.6**
KIV pmax pmax
comp=Z,87nm,1.7s
KIV MLR MLR
comp=Z,200nm,15.0s
KIV Kislovodsk 24.71 315 *e*P **P 16 27 28.9 -1.0**
comp=Z,41nm,0.9s
BVAR Borovoye Array 24.73 5 P **P 16 27 30.1 +0.2**
BVAR pmax pmax
comp=Z,8.0nm,0.7s
BVAR MLR MLR
comp=Z,515nm,19.9s
BVAR Borovoye Array 24.73 5 P **P 16 27 30.1 +0.2**
BVAR Borovoye Array 24.73 5 P **P 16 27 30.1 +0.2**
comp=Z,7.7nm,0.7s,baz=175,slow=9.6,SNR=41
BVAR LR LR 16 38 47.9
comp=Z,515nm,19.9s,baz=192,slow=41
BRVK Borovoye 24.75 5⇑*e*P **P 16 27 30.9 +0.8**
BRVK pmax pmax
comp=Z,37nm,1.2s
BRVK MLR MLR
comp=Z,895nm,22.0s
BRVK Borovoye 24.75 5 *e*P **P 16 27 29.6 -0.6**
comp=Z,52nm,1.3s
BRVK Borovoye 24.75 5 P **P 16 27 30.2 +0.1**
comp=Z,191nm,1.3s,SNR=12
ASF Jabal al Asfar 25.99 286 P **P 16 27 42.3 +0.6**
ASF Jabal al Asfar 25.99 286 P **P 16 27 42.3 +0.6**
comp=Z,18nm,1.1s,baz=131,slow=4.0,SNR=3.1
MMAI Mount Meron Ar 27.26 288 P **P 16 27 53.7 +0.6**
MMAI Mount Meron Ar 27.26 288 P **P 16 27 53.7 +0.6**
comp=Z,4.7nm,0.8s,baz=72,slow=14,SNR=3.1
EIL Elat 27.77 280 P **P 16 27 58.4 +0.8**
EIL Elat 27.77 280 P **P 16 27 58.4 +0.8**
comp=Z,6.7nm,0.9s,baz=49,slow=9.3,SNR=3.8
ZAA0 Zalesovo Array 28.74 22 *e*P **P 16 28 05.1 -0.9**
ZALV Zalesovo Beam 28.74 22 P **P 16 28 06.0 0.0**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV MLR MLR
comp=Z,637nm,21.0s
ZALV Zalesovo Beam 28.74 22 P **P 16 28 06.0 0.0**
ZALV Zalesovo Beam 28.74 22 P **P 16 28 06.0 0.0**
comp=Z,2.8nm,0.5s,baz=236,slow=11,SNR=15
ZALV LR LR 16 40 55.1
comp=Z,637nm,21.0s,baz=53,slow=39
NVS Novosibirsk 28.99 20⇑*i*P **P 16 28 07.6 -0.6**
NVS *e* 16 29 21.8
NVS pmax pmax
comp=Z,8.0nm,0.9s
NVS pmax pmax
comp=N,9.0nm,1.0s
GTA Gaotai 29.41 59⇑P **P 16 28 14.4 +2.1**
GTA pP pP 16 28 24.8 +6.4
GTA sP sP 16 28 29.8 +8.9
GTA S **S 16 33 07.6 +2.2**
GTA pmax pmax
comp=N,8.0nm,1.0s
GTA pmax pmax
comp=N,77nm,4.1s
GTA LR LR
comp=N,690nm,17.3s
GTA LR LR
comp=N,400nm,17.3s
GTA LR LR
comp=N,470nm,17.7s
BRTR Keskin Array B 29.48 301 P **P 16 28 11.1 -1.8**
BRTR Keskin Array B 29.48 301 P **P 16 28 11.1 -1.8**
comp=N,2.1nm,0.9s,baz=108,slow=7.9,SNR=8.1
BRTR LR LR 16 41 18.2
comp=N,159nm,18.7s,baz=269,slow=39
HVS Khovu-Aksy 30.43 34⇑*e*P **P 16 28 23.3 +2.2**
HVS pmax pmax
comp=Z,37nm,1.8s
VSR Storozhevoye 30.77 325⇓*e*P **P 16 28 26.6 +2.6**
VSR pmax pmax
comp=Z,9.0nm,0.5s
VSR MLR MLR
comp=Z,3μm,18.0s
CHTO Chiang Mai 30.95 101 *e*P P 16 28 24.6 -1.3
CHTO pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 30.95 101 *e*P P 16 28 24.6 -1.3
comp=Z,2.3nm,0.9s
CMAR Chiang Mai Arr 31.09 102 P **P 16 28 29.4 +2.3**
CMAR Chiang Mai Arr 31.09 102 P **P 16 28 29.4 +2.3**
comp=Z,1.4nm,0.8s,baz=284,slow=8.3,SNR=13
CMAR LR LR 16 42 35.3
comp=Z,134nm,20.2s,baz=114,slow=39
SOKR Solikamsk 31.90 350 *e*P **P 16 28 34.2 +0.4**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,170nm,16.0s
LZH Lanzhou 32.16 67 *e*P **P 16 28 38.3 +1.7**
LZH pP pP 16 28 50.2 +7.4
LZH sP sP 16 28 55.6 +10
LZH PP **PnPn 16 29 47.5 +4.9**
LZH *eS* **S 16 33 47.0 -1.5**
LZH sS sS 16 34 07.0 +8.4
LZH SS **SnSn 16 35 44.8 +5.4**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,140nm,5.0s
LZH LR LR
comp=Z,690nm,13.2s
LZH LR LR
comp=Z,640nm,14.0s
LZH LR LR
comp=Z,900nm,16.0s
CD2 Chengdu 32.18 76 *e*P **P 16 28 36.8 +0.1**
CD2 pP pP 16 28 48.1 +5.2
CD2 sP sP 16 28 53.1 +7.7
CD2 PP **PnPn 16 29 45.2 +2.4**
CD2 S **S 16 33 46.2 -2.5**
CD2 sS sS 16 34 05.2 +6.4
CD2 SS **SnSn 16 35 42.0 +2.2**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,120nm,6.2s
CD2 LR LR
comp=Z,2μm,17.8s
CD2 LR LR
comp=Z,350nm,14.3s
CD2 LR LR
comp=Z,340nm,11.8s
KMI Kunming 32.25 87 P **P 16 28 37.8 +0.2**
KMI pP **pP 16 28 47.9 +4.2**
KMI sP sP 16 28 53.8 +7.6
KMI PP **PnPn 16 29 47.5 +3.6**
KMI S **S 16 33 47.7 -2.5**
KMI sS sS 16 34 11.4 +11
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,54nm,3.7s
KMI LR LR
comp=Z,290nm,19.7s
KMI LR LR
comp=Z,300nm,20.5s
KMI LR LR
comp=Z,420nm,17.2s
MOS Moscow 34.34 331 *e*P **P 16 28 54.2 -0.9**
TIRR Tirgusor 34.37 308⇑*i*P **P 16 28 55.7 +0.1**
OBN Obninsk 34.40 329⇑*e*P **P 16 28 58.4 +2.7**
OBN *e* 16 30 13.1
OBN *e*SS SS 16 36 27.1 -24
OBN pmax pmax
comp=Z,21nm,1.2s
OBN MLR MLR
comp=Z,200nm,16.0s
MOY Mondy 34.53 38 *e*P **P 16 28 58.7 +1.6**
TLB Topalu 34.66 308⇑*i*P **P 16 28 58.2 +0.1**
ZAK Zakamensk 35.24 41 *e*P **P 16 29 04.3 +1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
GYA Guiyang 35.39 84⇑*i*P **P 16 29 06.0 +1.2**
GYA pP pP 16 29 17.0 +6.1
GYA sP sP 16 29 23.4 +10
GYA PP **PnPn 16 30 25.6 +2.2**
GYA PcP **PcP 16 31 35.8 +1.2**
GYA S **S 16 34 37.0 -1.6**
GYA sS sS 16 34 55.6 +6.9
GYA ScP **ScP 16 35 16.5 -2.9**
GYA SS **SnSn 16 36 55.2 -2.7**
GYA ScS **ScS 16 39 19.7 -4.4**
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,690nm,17.3s
GYA LR LR
comp=Z,550nm,17.8s
GYA LR LR
comp=Z,630nm,17.0s
VRI Vrincioaia 35.89 310⇑P **P 16 29 10.9 +2.2**
VRI Vrincioaia 35.89 310⇑*i*P **P 16 29 10.9 +2.2**
AKASG Malin Array Be 35.93 319 P P 16 29 07.0 -2.0
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 35.93 319 P P 16 29 07.0 -2.0
AKASG Malin Array Be 35.93 319 P P 16 29 07.0 -2.0
comp=Z,9.6nm,0.9s,baz=115,slow=7.4,SNR=16
AKBB Malin Array Si 35.93 319 *e*P P 16 29 06.9 -2.0
AKBB Malin Array Si 35.93 319 *e*P P 16 29 06.9 -2.0
AK01 Malin Array Si 35.93 319 *e*P P 16 29 06.8 -2.2
KIEV Kiev 35.93 319*d i*P **P 16 29 10.5 +1.5**
KIEV Kiev 35.93 319 *e*P **P 16 29 07.3 -1.7**
comp=Z,36nm,1.2s
PLOR Plostina 35.94 310⇑P **P 16 29 10.5 +1.4**
PLOR Plostina 35.94 310⇑*i*P **P 16 29 10.5 +1.4**
TLY Talaya 36.01 40 *i* P **P 16 29 10.9 +1.3**
TLY pmax pmax
comp=Z,14nm,1.3s
TLY MLR MLR
comp=Z,384nm,17.0s
TESR Tescani 36.11 311⇑*i*P **P 16 29 12.1 +1.5**
SONM Songino Array 36.23 47 P **P 16 29 13.4 +1.6**
SONM Songino Array 36.23 47 P **P 16 29 13.4 +1.6**
comp=Z,5.6nm,0.9s,baz=251,slow=8.6,SNR=28
SONM LR LR 16 45 25.3
comp=Z,438nm,19.9s,baz=186,slow=39
XAN Xi'an 36.32 70 P **P 16 29 13.8 +1.2**
XAN pP **pP 16 29 20.2 +1.4**
XAN pmax pmax
comp=Z,24nm,0.8s
XAN LR LR
comp=Z,450nm,25.3s
XAN LR LR
comp=Z,120nm,18.8s
MLR Muntele Rosu 36.33 309⇑*i*P **P 16 29 13.3 +0.7**
ULN Ulaanbaatar 36.66 47 *e*P **P 16 29 14.3 -1.2**
comp=Z,7.2nm,0.9s
MTUR Matau 36.87 308⇑P **P 16 29 18.3 +1.1**
MTUR Matau 36.87 308⇑*i*P **P 16 29 18.3 +1.1**
VOIR 36.93 309⇑P **P 16 29 17.4 -0.2**
VOIR 36.93 309⇑*i*P **P 16 29 17.4 -0.2**
ENH Enshi 37.16 76 *e*P **P 16 29 18.9 -0.9**
comp=Z,6.4nm,0.6s
BURAR Bucovina Array 37.35 312⇑P **P 16 29 19.9 -1.4**
BURAR Bucovina Array 37.35 312⇑*i*P **P 16 29 19.9 -1.4**
BUR08 Bucovina Ar. S 37.37 312 *e*P **P 16 29 19.8 -1.6**
VTS Vitosha 37.73 304⇑P **P 16 29 24.1 -0.5**
VTS Vitosha 37.73 304⇑*i*P **P 16 29 24.1 -0.5**
CJR Cluj-Napoca 38.20 310⇑P P 16 29 32.0 +3.6
CJR Cluj-Napoca 38.20 310⇑*i*P P 16 29 32.0 +3.6
GZR Gura Zlata 38.48 308⇑P **P 16 29 33.6 +2.8**
GZR Gura Zlata 38.48 308⇑*i*P **P 16 29 33.6 +2.8**
HHC Hu-ho-hao-te 38.53 59 *e*P P 16 29 29.0 -2.3
HHC pP pP 16 29 41.2 +3.7
HHC sP sP 16 29 46.6 +6.6
HHC PP **PP 16 31 02.0 +2.5**
HHC S S 16 35 21.8 -4.3
HHC PcS PcS 16 35 29.4 -3.8
HHC sS sS 16 35 42.3 +6.0
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=Z,540nm,14.4s
HHC LR LR
comp=Z,460nm,14.2s
HHC LR LR
comp=Z,370nm,14.5s
LVV L'vov 38.74 315 *e*P **P 16 29 34.4 +1.6**
DRGR 38.81 310⇑P **P 16 29 36.0 +2.5**
DRGR 38.81 310⇑*i*P **P 16 29 36.0 +2.5**
TRPA Tarpa 39.23 312⇑*i*P **P 16 29 36.3 -0.6**
BZS Buzias 39.33 308⇑P **P 16 29 37.9 +0.1**
BZS Buzias 39.33 308⇑*i*P **P 16 29 37.9 +0.1**
SIRR Siria 39.41 309⇑*i*P **P 16 29 38.3 -0.2**
KWP Kalwaria Pacla 39.51 315 *e*P P 16 29 35.5 -3.8
KWP pmax pmax
comp=Z,56nm,1.2s
KWP Kalwaria Pacla 39.51 315 *e*P **P 16 29 41.8 +2.6**
KWP Kalwaria Pacla 39.51 315⇑*i*P **P 16 29 42.3 +3.1**
KWP Kalwaria Pacla 39.51 315 *e*P P 16 29 35.5 -3.8
comp=Z,56nm,1.2s
UZH Uzhgorod 39.51 313*d i*P **P 16 29 41.8 +2.6**
UZH *e* 16 29 50.0
UZH *e* 16 29 58.8
KOLS Kolonicke sedl 39.60 314 *e*P **P 16 29 43.1 +3.1**
KOLS pmax pmax
comp=Z,16nm,1.1s
KOLS Kolonicke sedl 39.60 314 *e* **P 16 29 43.1 +3.1**
PSI Prapat 39.87 124 P P 16 29 47.1 +4.3
PSI Prapat 39.87 124 P P 16 29 47.1 +4.3
comp=Z,4.6nm,0.7s,baz=212,slow=4.5,SNR=5.8
PSI LR LR 16 45 49.8
comp=Z,186nm,21.0s,baz=300,slow=36
CRVS Cervenica-Dubn 40.11 313 *e*P **P 16 29 46.9 +2.6**
CRVS pmax pmax
comp=Z,24nm,1.2s
CRVS Cervenica-Dubn 40.11 313 *e* **P 16 29 46.9 +2.6**
STHS Stebnicka Huta 40.37 314 *e*P **P 16 29 48.5 +2.1**
STHS pmax pmax
comp=Z,2.0nm,1.0s
STHS Stebnicka Huta 40.37 314 *e* **P 16 29 48.5 +2.1**
QIZ Qiongzhong 40.38 94 P **P 16 29 46.4 -0.5**
QIZ S **S 16 35 52.6 -1.6**
QIZ pmax pmax
comp=Z,8.0nm,1.6s
QIZ LR LR
comp=Z,260nm,15.8s
QIZ LR LR
comp=Z,72nm,21.0s
QIZ LR LR
comp=Z,200nm,16.0s
SUW Suwalki 40.62 321 *e*P **P 16 29 47.0 -1.4**
SUW pmax pmax
comp=Z,40nm,1.1s
SUW Suwalki 40.62 321 *e*P **P 16 29 47.7 -0.7**
SUW Suwalki 40.62 321 *e*P **P 16 29 47.0 -1.4**
comp=Z,40nm,1.1s
VSU Vasula 40.76 329 *i* P **P 16 29 52.4 +3.0**
VSU pmax pmax
comp=Z,64nm,0.9s
VSU MLR MLR
comp=Z,425nm,16.0s
KMBO Kilima Mbogo 40.76 229 *e*P **P 16 29 48.3 -2.0**
comp=Z,9.2nm,1.1s
KMBO Kilima Mbogo 40.76 229 P **P 16 29 50.5 +0.2**
comp=Z,6.0nm,1.0s,baz=41,slow=10,SNR=15
PSZ Piszkesteto 40.91 311 *e*P **P 16 29 49.5 -1.5**
PSZ pmax pmax
comp=Z,18nm,1.0s
PSZ Piszkesteto 40.91 311⇑*i*P P 16 29 54.5 +3.5
PSZ Piszkesteto 40.91 311 *e*P **P 16 29 49.5 -1.5**
comp=Z,18nm,1.0s
NIE Niedzica 40.96 314 *e*P P 16 29 54.9 +3.6
NIE Niedzica 40.96 314 *e*P P 16 29 54.9 +3.6
WHN Wuhan 41.27 75⇓P **P 16 29 56.0 +1.9**
JOF Joensuu 41.45 336 *e*P **P 16 29 55.2 +0.1**
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 41.45 336 *ep* **P 16 29 55.2 +0.1**
comp=Z,12nm,0.6s
PKSM Moragy 41.47 309⇑P **P 16 29 54.5 -1.0**
PKSM Moragy 41.47 309⇑*i*P **P 16 29 54.5 -1.0**
OJC Ojcow 41.47 315 *e*P **P 16 29 58.1 +2.6**
OJC Ojcow 41.47 315 *e*P **P 16 29 58.1 +2.6**
CIT Chita 41.87 42 *e*P **P 16 29 59.5 +0.7**
CIT *e* 16 30 07.7
CIT *e* 16 30 17.9
BJI Beijing 42.01 61 P **P 16 29 59.3 -0.7**
BJI PP **PP 16 31 41.4 +4.2**

BJI S **S** 16 36 15.4 -2.5
BJI SS **SS** 16 39 21.1 -4.0
BJI pmax pmax
comp=Z,9.0nm,0.6s
BJI pmax pmax
comp=Z,92nm,8.3s
BJI LR LR
comp=Z,610nm,16.8s
BJI LR LR
comp=Z,130nm,15.1s
BJI LR LR
comp=Z,200nm,22.0s
OKC Ostrava-Krasne 42.43 314 *e*P **P** **16 30 06.1 +2.8**
OKC Ostrava-Krasne 42.43 314 *e*P **P** **16 30 06.1 +2.8**
FIA1 FINESS Array S 42.58 332 *e*P P 16 30 02.6 -1.7
FINES FINESS Array B 42.58 332 P **P** **16 30 03.4 -0.9**
FINES FINESS Array B 42.58 332 P **P** **16 30 03.4 -0.9**
comp=Z,3.9nm,0.6s,baz=128,slow=7.9,SNR=30
FINES LR LR 16 51 26.8
comp=Z,278nm,18.8s,baz=247,slow=42
MORC Moravsky Berou 42.80 314 ⇑P P 16 30 09.7 +3.3
MORC Moravsky Berou 42.80 314 ⇑*i*P P 16 30 09.7 +3.3
MORC Moravsky Berou 42.80 314 *e*P **P** **16 30 04.7 -1.7**
comp=Z,9.7nm,0.9s
KAF Kangasniemi 42.85 333 *e*P **P** **16 30 05.8 -0.7**
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 42.85 333 *e*p **P** **16 30 05.8 -0.7**
comp=Z,8.4nm,0.6s
CUC Castrocucco 43.13 299 *e*P P 16 30 07.2 -2.1
comp=Z,27nm,0.8s
KRLC Kraliky 43.34 314 *e*P **P** **16 30 13.6 +2.9**
KRLC Kraliky 43.34 314 *e*P **P** **16 30 13.6 +2.9**
CONA Conrad Observa 43.59 311 ⇑*i*P **P** **16 30 15.1 +2.3**
comp=Z,13nm,1.2s,SNR=5.1
DPC Dobruska-Polom 43.68 314 *e*P P 16 30 11.4 -2.1
DPC Dobruska-Polom 43.68 314 *e*P **P** **16 30 14.9 +1.4**
DPC *epP* **pP** **16 30 20.4 +0.7**
DPC Dobruska-Polom 43.68 314 *e*P P 16 30 11.4 -2.1
ARSA Arzberg 43.73 310 ⇑*i*P **P** **16 30 16.2 +2.2**
comp=Z,23nm,1.1s,SNR=7.9
KSP Ksiaz 43.79 315 *e*P **P** **16 30 17.3 +3.0**
KSP Ksiaz 43.79 315 *e*P **P** **16 30 17.4 +3.1**
UPC Upice 43.91 315 *e*P **P** **16 30 18.1 +2.9**
UPC Upice 43.91 315 *e*P **P** **16 30 18.1 +2.9**
APA Apatity 43.97 342 *e*P P 16 30 24.0 +8.5
APA MLR MLR
comp=Z,900nm,22.0s
SOKA Soboth 44.01 309⇓ *i*pP **P** **16 30 18.6 +2.4**
comp=Z,17nm,1.2s
TREC Trest 44.03 313 *e*P **P** **16 30 18.8 +2.5**
TREC Trest 44.03 313 *e*P **P** **16 30 18.8 +2.5**
PRU Pruhonice 44.75 314 *e*P **P** **16 30 24.5 +2.5**
PRU Pruhonice 44.75 314 *e*P **P** **16 30 24.5 +2.5**
PVCC Panska Ves 44.82 314 *e*P **P** **16 30 24.7 +2.2**
PVCC Panska Ves 44.82 314 *e*P **P** **16 30 24.7 +2.2**
NJ2 Nanjing 44.83 72 *e*P **P** **16 30 21.8 -1.0**
NJ2 LR LR
comp=Z,200nm,16.5s
GEC2 GERESS Array S 45.14 312 *e*P **P** **16 30 23.4 -1.8**
GEC2 GERESS Array S 45.14 312 *e*P **P** **16 30 28.0 +2.8**
comp=Z,24nm,1.2s
GEC2 GERESS Array S 45.14 312 *e*P **P** **16 30 23.4 -1.8**
GERES GERESS Array B 45.14 312 P **P** **16 30 23.6 -1.6**
GERES GERESS Array B 45.14 312 P **P** **16 30 23.6 -1.6**
comp=Z,6.9nm,0.8s,baz=96,slow=8.2,SNR=36
GERES LR LR 16 50 38.5
comp=Z,151nm,18.6s,baz=98,slow=38
KBA Koelnbreinsper 45.20 309⇑ *i*P **P** **16 30 26.3 +0.5**
comp=Z,33nm,1.3s
KHC Kasperske Hory 45.25 312 *e*P P 16 30 24.0 -2.1
KHC pmax pmax
comp=Z,85nm,2.4s
KHC Kasperske Hory 45.25 312 *e*P **P** **16 30 27.5 +1.4**
KHC *epP* **pP** **16 30 33.8 +1.5**
KHC AMS AMS 16 49 10.0
comp=Z,300nm,21.7s
KHC Kasperske Hory 45.25 312 *e*P P 16 30 24.0 -2.1
comp=Z,85nm,2.4s
BRG Berggiesshubel 45.26 315 *e*P **P** **16 30 26.6 +0.5**
comp=Z,10nm,1.7s
BRG *e* 16 30 29.5
comp=Z,30nm,1.3s
BRG Berggiesshubel 45.26 315 *e*P **P** **16 30 26.6 +0.5**
BRG pmax pmax
comp=Z,11nm,1.7s
BRG pmax pmax
comp=Z,30nm,1.3s
BRG Berggiesshubel 45.26 315 *e*P P 16 30 30.0 +3.9
comp=Z,30nm,1.3s
ABTA Abfaltersbach 45.74 309⇑ *i*P **P** **16 30 32.1 +2.1**
comp=Z,26nm,0.9s,SNR=7.3
CLL Collm 45.92 315 *i* P **P** **16 30 33.5 +2.3**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 45.92 315 *e*P P 16 30 34.7 +3.5
comp=Z,10.0nm,1.3s
CLL Collm 45.92 315 *i* P **P** **16 30 33.5 +2.3**
comp=Z,8.0nm,1.1s
CLL L L 16 49 00.0
comp=Z,100nm,20.3s
NKC Novy Kostel 46.12 314 *e*P **P** **16 30 35.5 +2.6**
NKC Novy Kostel 46.12 314 *e*P **P** **16 30 35.5 +2.6**
ROTZ Rotzenmuhle 46.22 313 *e*P P 16 30 37.0 +3.4
comp=Z,18nm,1.3s
GRF Grafenberg Arr 46.84 313 *e*P P 16 30 42.3 +3.7
comp=Z,28nm,1.2s
GRF *e*L L 16 51 13.3
comp=Z,120nm,19.5s
GRFO Grafenberg 46.84 313 *e*P P 16 30 36.1 -2.5
GRFO pmax pmax
comp=Z,23nm,1.1s
GRFO Grafenberg 46.84 313 *e*P P 16 30 36.1 -2.5
comp=Z,23nm,1.1s
FETA Feichten 46.98 309⇓ *i*P **P** **16 30 40.5 +0.7**
comp=Z,26nm,1.0s,SNR=5.8
ARCES ARCESS Array B 47.45 342 P **P** **16 30 42.9 0.0**
ARCES ARCESS Array B 47.45 342 P **P** **16 30 42.9 0.0**
comp=Z,4.3nm,0.9s,baz=128,slow=6.8,SNR=13
ARCES LR LR 16 51 46.6
comp=Z,208nm,19.6s,baz=45,slow=38
CLZ Clausthal 47.62 316 *e*P P 16 30 48.2 +3.6
comp=Z,24nm,1.2s
UBBA Unterbreizbach 47.73 314 *e*P P 16 30 49.0 +3.7
comp=Z,24nm,1.8s
NRDL Niedersach Rie 47.86 316 *e*P P 16 30 50.2 +3.9
comp=Z,15nm,1.3s
TUE Stuetta 47.91 308 *e*P P 16 30 44.8 -2.3
comp=Z,10nm,0.7s
BSEG Bad Segeberg 47.94 318 *e*P P 16 30 51.1 +4.2
comp=Z,24nm,1.4s
STU Stuttgart 48.10 311 *e*P **P** **16 30 50.7 +2.4**
comp=Z,29nm,1.3s
PGF Pioggiola 48.20 303 *e*P P 16 30 46.4 -2.9
comp=Z,52nm,1.3s
PGF Pioggiola 48.20 303 *e*P P 16 30 46.4 -2.9
PGF pmax pmax
comp=Z,52nm,1.3s
PGF Pioggiola 48.20 303 *e*P P 16 30 46.4 -2.9
comp=Z,52nm,1.3s
KEST Kesra 48.58 294 P **P** **16 30 51.6 -0.7**
KEST Kesra 48.58 294 P **P** **16 30 51.6 -0.7**
comp=Z,8.2nm,0.9s,baz=351,slow=1.8,SNR=10
KEST LR LR 16 55 40.5
comp=Z,41nm,18.1s,baz=289,slow=42
CN2 Changchun 48.88 55 *e*P **P** **16 30 54.6 +0.2**
CN2 *e*S **S** **16 37 53.3 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
NB2 NORSAR Subarra 48.98 328 P **P** **16 30 53.2 -1.7**
comp=Z,7.5nm,0.8s,baz=109,slow=7.9
NOA NORSAR Array B 48.98 328 P **P** **16 30 53.3 -1.6**
NOA NORSAR Array B 48.98 328 P **P** **16 30 53.3 -1.6**
comp=Z,3.9nm,0.6s,baz=108,slow=7.5,SNR=22
NOA LR LR 16 54 23.4
comp=Z,166nm,18.4s,baz=125,slow=40
SBF Sospel 49.29 305 *e*P **P** **16 30 56.5 -1.1**
comp=Z,36nm,0.8s
SBF Sospel 49.29 305 *e*P P **16 30 56.5 -1.1**
SBF pmax pmax
comp=Z,36nm,0.8s
SBF Sospel 49.29 305 *e*P **P** **16 30 56.5 -1.1**
comp=Z,36nm,0.8s
CDF Champ du Feu 49.36 311 *e*P **P** **16 30 56.3 -1.8**
CDF Champ du Feu 49.36 311 *e*P **P** **16 30 56.3 -1.8**
CDF Champ du Feu 49.36 311 *e*P **P** **16 30 56.3 -1.8**
BUG Bochum–Univer 49.50 315 *e*P P 16 31 02.7 +3.7
comp=Z,36nm,1.3s
HINF Hinteralfeld 49.63 310 *e*P **P** **16 30 58.5 -1.6**
HINF Hinteralfeld 49.63 310 *e*P **P** **16 30 58.5 -1.6**
HINF Hinteralfeld 49.63 310 *e*P **P** **16 30 58.5 -1.6**
LPG La Plagne 49.72 307 *e*P P 16 30 58.4 -2.7
comp=Z,50nm,1.3s
LPG La Plagne 49.72 307 *e*P P 16 30 58.4 -2.7
LPG pmax pmax
comp=Z,51nm,1.3s
LPG La Plagne 49.72 307 *e*P P 16 30 58.4 -2.7
comp=Z,50nm,1.3s
MBDF Montbardon 49.73 306 *e*P **P** **16 30 59.2 -1.9**
comp=Z,25nm,0.9s
MBDF Montbardon 49.73 306 *e*P **P** **16 30 59.2 -1.9**
MBDF pmax pmax
comp=Z,25nm,0.9s
MBDF Montbardon 49.73 306 *e*P **P** **16 30 59.2 -1.9**
comp=Z,25nm,0.9s
LPL La Plagne 49.73 307 *e*P P 16 30 58.8 -2.4
comp=Z,26nm,1.1s
LPL La Plagne 49.73 307 *e*P P 16 30 58.8 -2.4
LPL pmax pmax
comp=Z,26nm,1.1s
LPL La Plagne 49.73 307 *e*P P 16 30 58.8 -2.4
comp=Z,26nm,1.1s
BNI Bardonecchia 49.78 306 *e*P P 16 30 59.5 -2.0
BNI pmax pmax
comp=Z,16nm,1.1s
BNI Bardonecchia 49.78 306 *e*P P 16 30 59.5 -2.0
comp=Z,16nm,1.1s
HAU Haudompre 49.97 310 *e*P **P** **16 31 00.9 -1.8**
HAU Haudompre 49.97 310 *e*P **P** **16 31 00.9 -1.8**
HAU Haudompre 49.97 310 *e*P **P** **16 31 00.9 -1.8**
WLF Walferdange 50.13 312 P P 16 31 07.7 +3.9
comp=Z,17nm,2.0s
CABF La Chapelle 50.16 309 *e*P **P** **16 31 03.5 -0.7**
comp=Z,86nm,1.5s
CABF La Chapelle 50.16 309 *e*P **P** **16 31 03.5 -0.7**
CABF pmax pmax
comp=Z,86nm,1.5s
CABF La Chapelle 50.16 309 *e*P **P** **16 31 03.5 -0.7**
comp=Z,86nm,1.5s
MEM Membach 50.25 314 P P 16 31 08.7 +4.0
comp=Z,6.1nm,1.0s
ORIF Oris-en-Rattie 50.35 306 *e*P P 16 31 03.8 -1.9
comp=Z,9.3nm,0.8s
ORIF Oris-en-Rattie 50.35 306 *e*P P 16 31 03.8 -1.9
ORIF pmax pmax
comp=Z,9.0nm,0.8s
ORIF Oris-en-Rattie 50.35 306 *e*P P 16 31 03.8 -1.9
comp=Z,9.3nm,0.8s
PAGF Fort de Pagny 50.39 311 *e*P **P** **16 31 04.3 -1.5**
PAGF Fort de Pagny 50.39 311 *e*P **P** **16 31 04.3 -1.5**
MEZF Maizieres J'vi 50.84 311 *e*P **P** **16 31 07.7 -1.5**
MEZF Maizieres J'vi 50.84 311 *e*P **P** **16 31 07.7 -1.5**
SFTF Sexfontaines 50.85 311 *e*P **P** **16 31 08.1 -1.2**
SFTF Sexfontaines 50.85 311 *e*P **P** **16 31 08.1 -1.2**
GIVF Givet 51.00 313 *e*P **P** **16 31 08.9 -1.5**
GIVF Givet 51.00 313 *e*P **P** **16 31 08.9 -1.5**
GIVF Givet 51.00 313 *e*P **P** **16 31 08.9 -1.5**
DOU Dourbes 51.14 313 P **P** **16 31 11.2 -0.3**
VIVF Saint-Julien-l 51.21 306 *e*P P 16 31 09.6 -2.5
VIVF Saint-Julien-l 51.21 306 *e*P P 16 31 09.6 -2.5
VIVF Saint-Julien-l 51.21 306 *e*P P 16 31 09.6 -2.5
KSAR Wonju Array Be 51.33 63 P **P** **16 31 14.1 +1.0**
KSRS Korea Array 51.36 63 P **P** **16 31 14.1 +0.8**
comp=Z,6.4nm,0.7s,baz=276,slow=7.9,SNR=20
KSRS LR LR 16 54 52.8
comp=Z,79nm,18.6s,baz=104,slow=38
LOR Lormes 51.66 309 *e*P **P** **16 31 13.9 -1.6**
comp=Z,12nm,0.8s
LOR Lormes 51.66 309 *e*P **P** **16 31 13.9 -1.6**
comp=Z,12nm,0.8s
SMF Signal de Mont 51.70 309 *e*P **P** **16 31 14.1 -1.6**
comp=Z,19nm,0.6s
SMF Signal de Mont 51.70 309 *e*P **P** **16 31 14.1 -1.6**
SMF pmax pmax
comp=Z,19nm,0.6s
SMF Signal de Mont 51.70 309 *e*P **P** **16 31 14.1 -1.6**
comp=Z,19nm,0.6s
MDJ Mudanjiang 51.81 54 P **P** **16 31 15.4 -1.1**
MDJ pP **pP** **16 31 26.9 +4.0**
MDJ sP sP 16 31 31.1 +5.8
MDJ PP **PP** **16 33 13.0 -1.2**
MDJ ScP **ScP** **16 36 21.1 -4.1**
MDJ PcS **PcS** **16 36 25.1 -2.3**
MDJ S **S** **16 38 35.5 -2.2**
MDJ sS sS 16 38 54.9 +6.8
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,90nm,3.6s
MDJ LR LR
comp=Z,440nm,13.5s
MDJ LR LR
comp=Z,100nm,10.1s
MDJ LR LR
comp=Z,260nm,10.1s
SSF Saint Saulge 51.91 309 *e*P P 16 31 15.3 -2.0
comp=Z,23nm,1.0s
SSF Saint Saulge 51.91 309 *e*P P 16 31 15.3 -2.0
SSF pmax pmax
comp=Z,23nm,1.0s
SSF Saint Saulge 51.91 309 *e*P P 16 31 15.3 -2.0
comp=Z,23nm,1.0s
AVF Avril sur Loir 52.03 309 *e*P **P** **16 31 16.6 -1.6**
AVF Avril sur Loir 52.03 309 *e*P **P** **16 31 16.6 -1.6**
AVF Avril sur Loir 52.03 309 *e*P **P** **16 31 16.6 -1.6**
BGF Bois d'Agland 52.39 309 *e*P **P** **16 31 19.4 -1.5**
BGF Bois d'Agland 52.39 309 *e*P **P** **16 31 19.4 -1.5**
BGF Bois d'Agland 52.39 309 *e*P **P** **16 31 19.4 -1.5**
YAK Yakutsk 52.67 32 *e*P **P** **16 31 22.1 -0.6**
YAK *e* 16 31 36.6
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK MLR MLR
comp=Z,491nm,19.0s
YAK MLR MLR
comp=E,367nm,23.0s
YAK MLR MLR
comp=N,232nm,21.0s
YAK Yakutsk 52.67 32 *e*P **P** **16 31 22.0 -0.6**
comp=N,15nm,0.7s
TCF Toulx Ste Croi 52.85 308 *e*P **P** **16 31 23.2 -1.1**
comp=N,46nm,1.3s
TCF Toulx Ste Croi 52.85 308 *e*P **P** **16 31 23.2 -1.1**
TCF pmax pmax
comp=Z,46nm,1.3s
TCF Toulx Ste Croi 52.85 308 *e*P **P** **16 31 23.2 -1.1**
comp=Z,46nm,1.3s
KLR Kul'dur 53.03 48 *e*P P 16 31 23.0 -2.5
KLR MLR MLR
comp=E,700nm,12.5s
KLR MLR MLR
comp=Z,1μm,12.5s
CAF Calviac 53.06 307 *e*P P 16 31 23.7 -2.2
CAF Calviac 53.06 307 *e*P P 16 31 23.7 -2.2
CAF Calviac 53.06 307 *e*P P 16 31 23.7 -2.2
RJF Les Rejaudoux 53.41 307 *e*P **P** **16 31 26.9 -1.5**
RJF Les Rejaudoux 53.41 307 *e*P **P** **16 31 26.9 -1.5**
RJF Les Rejaudoux 53.41 307 *e*P **P** **16 31 26.9 -1.5**
USRK Ussuriysk Arra 53.55 54 P **P** **16 31 29.8 +0.3**
comp=Z,1.6nm,0.7s,baz=263,slow=9.8,SNR=6.6
EMHD Djebel Mahouad 53.61 296 P P 16 31 35.2 +5.0
LFF La Frestale 53.99 307 *e*P **P** **16 31 30.8 -1.9**
LFF La Frestale 53.99 307 *e*P **P** **16 31 30.8 -1.9**
LFF La Frestale 53.99 307 *e*P **P** **16 31 30.8 -1.9**
LDF La Druitiere 54.27 311 *e*P **P** **16 31 33.0 -1.6**
comp=Z,28nm,1.0s
LDF La Druitiere 54.27 311 *e*P **P** **16 31 33.0 -1.6**
LDF pmax pmax
comp=Z,28nm,1.0s
LDF La Druitiere 54.27 311 *e*P **P** **16 31 33.0 -1.6**
comp=Z,28nm,1.0s
MFF Saint Martin d 54.45 309 *e*P **P** **16 31 34.4 -1.5**
comp=Z,58nm,1.4s
MFF Saint Martin d 54.45 309 *e*P **P** **16 31 34.4 -1.5**
MFF pmax pmax
comp=Z,58nm,1.4s
MFF Saint Martin d 54.45 309 *e*P **P** **16 31 34.4 -1.5**
comp=Z,58nm,1.4s
FLN La Foliniere 54.50 311 *e*P **P** **16 31 34.4 -1.9**
comp=Z,52nm,1.1s
FLN La Foliniere 54.50 311 *e*P **P** **16 31 34.4 -1.9**
FLN pmax pmax
comp=Z,52nm,1.1s
FLN La Foliniere 54.50 311 *e*P **P** **16 31 34.4 -1.9**
comp=Z,52nm,1.1s
TIXI Tiksi 54.59 20⇓ *e*P **P** **16 31 36.4 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI MLR MLR
comp=Z,235nm,17.0s
TIXI Tiksi 54.59 20 *e*P **P** **16 31 35.9 -0.7**
comp=Z,7.2nm,0.8s
EBNR Beni Rached 54.72 296 P P 16 31 28.5 -10
ECHA Ech Chlef 54.88 296 P **P** **16 31 39.7 +0.5**
ETRT Tiaret 55.09 295 P P 16 31 45.0 +4.0
EANR 'Ain N'Sour 55.13 296 P **P** **16 31 41.0 -0.2**
ETSF Etsaut 55.18 304 *e*P **P** **16 31 40.7 -0.7**
comp=Z,20nm,0.8s
ETSF Etsaut 55.18 304 *e*P **P** **16 31 40.7 -0.7**
ETSF pmax pmax
comp=Z,21nm,0.8s
ETSF Etsaut 55.18 304 *e*P **P** **16 31 40.7 -0.7**
comp=Z,20nm,0.8s
SGMF Saint Gilles 55.91 311 *e*P **P** **16 31 45.7 -0.8**
SGMF Saint Gilles 55.91 311 *e*P **P** **16 31 45.7 -0.8**
SGMF Saint Gilles 55.91 311 *e*P **P** **16 31 45.7 -0.8**
QUIF Quistinic 56.36 311 *e*P P 16 31 47.6 -2.1
QUIF Quistinic 56.36 311 *e*P P 16 31 47.6 -2.1
QUIF Quistinic 56.36 311 *e*P P 16 31 47.6 -2.1
ROSF Rostrenen 56.38 311 *e*P **P** **16 31 48.2 -1.6**
ROSF Rostrenen 56.38 311 *e*P **P** **16 31 48.2 -1.6**
ROSF Rostrenen 56.38 311 *e*P **P** **16 31 48.2 -1.6**
LSZ Lusaka 57.25 226 *e*P P 16 31 54.2 -2.3
comp=Z,6.4nm,1.0s
LSZ Lusaka 57.25 226 P **P** **16 31 56.1 -0.4**
comp=Z,3.3nm,0.9s,baz=36,slow=9.7,SNR=7.9
ESDC Sonseca Array 58.27 301 P P 16 32 01.3 -2.2
ESDC Sonseca Array 58.27 301 P P 16 32 01.3 -2.2
comp=Z,3.8nm,0.7s,baz=64,slow=7.1,SNR=10
PAB San Pablo 58.59 301 *e*P P 16 32 03.2 -2.5
PAB pmax pmax
comp=Z,3.0nm,1.0s
PAB San Pablo 58.59 301 *e*P P 16 32 03.2 -2.5
comp=Z,3.0nm,1.0s
MJAR Matsushiro Arr 59.60 62 P **P** **16 32 12.4 -0.3**
MJAR Matsushiro Arr 59.60 62 P **P** **16 32 12.4 -0.3**
comp=Z,2.9nm,1.0s,baz=303,slow=8.3,SNR=4.5
MJAR LR LR 17 01 39.6
comp=Z,93nm,18.2s,baz=170,slow=40
MVO Moncorvo 60.23 303 *e*P **P** **16 32 18.1 +1.1**
comp=Z,42nm,2.1s
YSS Yuzh-Sakhalins 60.62 50 P **P** **16 32 20.0 +0.6**
YSS MLR MLR
comp=Z,800nm,15.0s
MTE Manteigas 60.79 303 *e*P **P** **16 32 21.3 +0.5**
comp=Z,54nm,1.7s
PCBR Castelo Branco 60.87 302 *e*P **P** **16 32 20.7 -0.6**
comp=Z,61nm,1.3s
PMRV Marv??o 60.91 302 *e*P **P** **16 32 24.3 +2.7**
comp=Z,25nm,1.4s
PBAR Barrancos 60.96 300 *e*P **P** **16 32 20.5 -1.4**
comp=Z,67nm,1.7s
PESTR Estremz 61.20 301 *e*P **P** **16 32 23.4 -0.1**
comp=Z,28nm,1.7s
EVO Evora 61.60 301 *e*P **P** **16 32 25.5 -0.8**
comp=Z,23nm,0.9s
EVO Evora 61.60 301 *e*P **P** **16 32 24.6 -1.7**
comp=Z,37nm,1.4s
PMTG Montargil 61.63 301 *e*P **P** **16 32 25.0 -1.4**
comp=Z,33nm,1.7s
EVOP Sao Brissos 61.69 301 *e*P **P** **16 32 25.5 -1.3**
EVOP pmax pmax
comp=Z,23nm,0.9s
EVOP Sao Brissos 61.69 301 *e*P **P** **16 32 25.5 -1.3**
comp=Z,23nm,0.9s
PCVE Castro Verde 61.86 300 *e*P **P** **16 32 29.6 +1.6**
comp=Z,43nm,1.6s
TOA0 Torodi Ar. Sit 62.02 270 *e*P P 16 32 27.2 -2.2
TORD Torodi Ar. Bea 62.02 270 P **P** **16 32 27.4 -2.0**
TORD Torodi Ar. Bea 62.02 270 P **P** **16 32 27.4 -2.0**
comp=Z,24nm,0.9s,baz=58,slow=6.2,SNR=50
TORD LR LR 17 02 34.5
comp=Z,219nm,18.3s,baz=85,slow=39
PNCL Nicolau / Gran 62.11 300 *e*P **P** **16 32 32.7 +3.1**
comp=Z,87nm,1.8s
SEY Seymchan 63.16 31 *e*P **P** **16 32 36.8 +0.6**
LBTB Lobatse 66.25 221 *e*P **P** **16 32 55.6 -1.4**
comp=Z,100nm,2.5s
TSUM Tsumeb 67.06 231 *e*P **P** **16 33 00.6 -1.8**
comp=Z,7.1nm,0.8s
SUMG Summit 67.54 342 *e*P **P** **16 33 03.8 -1.2**
SUMG pmax pmax
comp=Z,34nm,1.4s
SUMG Summit 67.54 342 *i* P P 16 33 08.8 +3.8
comp=Z,7.9nm,0.8s
SUMG Summit 67.54 342 *e*P **P** **16 33 03.8 -1.2**
comp=Z,34nm,1.4s
PETK Petropavlovsk- 68.36 40 LR LR 17 05 07.1
comp=Z,160nm,20.2s,baz=292,slow=38
BOSA Boshof 69.22 219 *e*P **P** **16 33 14.1 -1.6**
comp=Z,46nm,1.9s
BOSA Boshof 69.22 219 P **P** **16 33 17.1 +1.4**
comp=Z,3.1nm,0.6s,baz=31,slow=6.8,SNR=12
BOSA LR LR 17 02 56.1
comp=Z,87nm,19.1s,baz=130,slow=35
DBIC Dimbokro 70.67 267 *e*P **P** **16 33 22.8 -2.0**
comp=Z,18nm,0.8s
DBIC Dimbokro 70.67 267 P **P** **16 33 24.6 -0.2**
comp=Z,14nm,0.6s,baz=45,slow=7.2,SNR=18
DBIC LR LR 17 07 22.1
comp=Z,155nm,19.9s,baz=35,slow=38
KIC Kosan Boka 70.71 267 *e*P **P** **16 33 27.9 +2.8**
comp=Z,33nm,0.7s
TIC Toumodi 70.82 267 *e*P **P** **16 33 28.6 +2.8**
comp=Z,51nm,0.7s
LIC Lamto 71.03 267 *e*P P 16 33 24.2 -2.8
comp=Z,48nm,0.8s
LIC Lamto 71.03 267 *e*P **P** **16 33 29.7 +2.7**
comp=Z,72nm,0.8s
LIC Lamto 71.03 267 *e*P P 16 33 24.2 -2.8
comp=Z,48nm,0.8s
FITZ Fitzroy Crossi 73.36 122 P P 16 33 44.1 +3.3
FITZ Fitzroy Crossi 73.36 122 P P 16 33 44.1 +3.3
comp=Z,3.6nm,0.8s,baz=257,slow=7.5,SNR=5.5
NWAO Narrogin (SRO) 77.59 138 LR LR 17 05 17.2
comp=Z,106nm,19.7s,baz=202,slow=33
COLD Coldfoot 80.68 14 *e*P P 16 34 19.4 -1.9
comp=Z,6.0nm,0.9s
IM04 Indian Mountai 80.92 16 *e*P P 16 34 18.8 -3.8
WRA Warramunga Arr 81.08 118 P **P** **16 34 24.2 +0.1**
WRA Warramunga Arr 81.08 118 P **P** **16 34 24.2 +0.1**
comp=Z,4.9nm,1.0s,baz=316,slow=5.1,SNR=18
WRAB Tennant Creek 81.08 118 *e*P **P** **16 34 23.1 -1.0**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 81.08 118 *e*P **P** **16 34 23.1 -1.0**
comp=Z,7.3nm,0.9s
INK Inuvik 82.40 7 *e*P **P** **16 34 28.9 -1.4**
comp=Z,4.9nm,0.7s
AS31 Alice Springs 82.86 122 *e*P P 16 34 32.0 -1.5
ASAR Alice Springs 82.86 122 P **P** **16 34 33.7 +0.2**
ASAR Alice Springs 82.86 122 P **P** **16 34 33.7 +0.2**
comp=Z,4.2nm,0.7s,baz=297,slow=5.4,SNR=31
COLA College 83.19 14 *e*P **P** **16 34 34.4 -0.1**
COLA pmax pmax
comp=Z,2.0nm,0.9s
COLA College 83.19 14 *e*P **P** **16 34 34.4 -0.1**
comp=Z,1.8nm,0.9s
ILAR Eielson Array 83.49 14 P **P** **16 34 35.2 -0.8**
ILAR Eielson Array 83.49 14 P **P** **16 34 35.2 -0.8**
comp=Z,1.3nm,0.7s,baz=317,slow=4.4,SNR=16
MCK McKinley 83.94 15 *e*P **P** **16 34 37.7 -0.7**
MCK pmax pmax
comp=Z,12nm,1.4s
MCK McKinley 83.94 15 *e*P **P** **16 34 37.7 -0.7**

comp=Z,12nm,1.4s

DAWY	**Dawson**	**85.56**	**11**	*e*P	**P**	**16 34 46.6**	**0.0**
HYT	**Haines Junctio**	**88.90**	**12**	*e*P	**P**	**16 35 01.4**	**-1.5**
YKA	**Yellowknife Ar**	**89.40**	**1**	P	**P**	**16 35 04.8**	**-0.2**
YKA	**Yellowknife Ar**	**89.40**	**1**	P	**P**	**16 35 04.8**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=350,slow=5.1,SNR=28						
STKA	**Stephens Creek**	**93.05**	**125**	LR	LR	17 20 23.5	
	comp=Z,110nm,18.4s,baz=205,slow=38						
MAW	**Mawson**	**95.77**	**181**	P	P	16 35 38.5	+4.5
	comp=Z,7.8nm,0.9s,baz=358,slow=4.9,SNR=13						
TXAR	**Lajitas Array**	**121.84**	**350**	PKP	**PKPdf**	**16 41 04.9**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=0.0,SNR=7.3						

IDC ***12*** *16:25:40.1±0.8, 17°.04N×73°.59E, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.0/29, mbtmp4.0/15, Error ellipse: s-maj=23.1km s-min=15.8km az=53.0*

ISCJB ***12*** *16:25:42.0±0.5, 17°.15N±0°.04×73°.85E±0°.05, h17km, mb4.1/18, Error ellipse: s-maj=6.8km s-min=5.2km az=172.7*

NEIC ***12*** *16:25:41.8±0.5, 17°.11N×73°.69E, h10km, mb4.4/5, Error ellipse: s-maj=13.8km s-min=7.8km az=66.0*

NEIC Felt in the Warna area and at Pune.

NDI ***12*** *16:25:41.6±3.0, 17°.19N×73°.72E, h10km, ML4.4, mb4.4(NEIC)*

ISC 12 16:25:43.7±0.6, 17°.19N±0°.04×73°.86E±0°.05, h17km, n46, σ0.97/51, mb4.2/18, Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAD	**Karad**	**0.33**	**69**	*i* P	**Pg**	**16 25 49.8**	**-0.9**
KAD				*i* S	**Sb**	**16 25 55.6**	**-0.6**
POO	**Poona**	**1.33**	**359**	Pg	**Pg**	**16 26 08.0**	**-1.5**
POO				*i* S	**Sb**	**16 26 24.5**	**-0.7**
POO				*i* Sg	**Sn**	**16 26 25.0**	**0.0**
POO				*i* Sn	**Sg**	**16 26 26.0**	**-0.9**
POO	**Poona**	**1.33**	**359**	*e*P	**Pn**	**16 26 06.9**	**-0.7**
POO				*e*S	**Sb**	**16 26 24.4**	**-0.7**
POO				AML	AML	16 26 24.9	
	comp=E,3μm,0.4s						
POO				AML	AML	16 26 27.1	
	comp=N,3μm,0.0s						
GOA	**Goa**	**1.69**	**181**	*e*P	**Pn**	**16 26 11.6**	**-0.8**
GOA				*e*S	**Sb**	**16 26 34.0**	**-1.2**
GOA				AML	AML	16 26 38.1	
	comp=N,12μm,0.2s						
GOA				AML	AML	16 26 38.9	
	comp=E,27μm,0.3s						
LATR	**Latur**	**2.84**	**64**	*e*S	Sn	16 26 49.4	-13
LATR				*ex*	x	16 26 52.4	
	comp=E,2μm,0.7s						
LATR				*ex*	x	16 26 52.4	
	comp=N,3μm,0.5s						
MNGI	**Mangalore**	**4.32**	**167**	*e*	**Pn**	**16 26 48.9**	**+0.3**
HYB	**Hyderabad**	**4.49**	**86**	*e*P	**Pn**	**16 26 50.9**	**0.0**
HYB				*e*S	**Sn**	**16 27 42.4**	**-0.4**
HYB				AML	AML	16 28 18.8	
	comp=E,788nm,0.6s						
HYB				AML	AML	16 28 19.1	
	comp=N,4μm,0.1s						
NGP	**Nagpur**	**6.29**	**50**	*e*P	**Pn**	**16 27 16.9**	**+1.1**
NGP				*e*S	**Sn**	**16 28 24.8**	**-2.4**
NGP				*ex*	x	16 28 39.7	
	comp=E,144nm,0.2s						
NGP				*ex*	x	16 29 00.8	
	comp=E,1μm,0.6s						
PALK	**Pallekele**	**11.90**	**145**	*e*Pn	**Pn**	**16 28 30.9**	**-1.8**
KBL	**Kabul**	**17.81**	**347**	*e*Pn	**P**	**16 29 54.4**	**+2.6**
	comp=E,11nm,0.9s						
LSA	**Lhasa**	**20.13**	**49**	*e*P	**P**	**16 30 17.1**	**-0.3**
	comp=E,6.2nm,0.7s						
CHTO	**Chiang Mai**	**23.90**	**82**	*e*P	**P**	**16 30 57.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**23.91**	**83**	P	**P**	**16 30 58.8**	**+2.0**
CMAR	**Chiang Mai Arr**	**23.91**	**83**	P	**P**	**16 30 58.8**	**+2.0**
	comp=E,2.8nm,0.7s,baz=274,slow=9.6,SNR=6.1						
EKS2	**Erkin-Say**	**25.39**	**360**	*e*P	**P**	**16 31 09.5**	**-0.8**
	comp=E,20nm,1.1s						
MKAR	**Makanchi Array**	**30.34**	**11**	P	**P**	**16 31 54.3**	**-0.1**
MKAR	**Makanchi Array**	**30.34**	**11**	P	**P**	**16 31 54.3**	**-0.1**
	comp=E,0.7nm,0.6s,baz=200,slow=9.2,SNR=5.3						
KURBB	**Kurchatov Array**	**33.56**	**5**	P	**P**	**16 32 23.4**	**+0.8**
	comp=E,1.9nm,0.8s,baz=201,slow=8.7,SNR=4.7						
KURK	**Kurchatov**	**33.66**	**5**	P	**P**	**16 32 23.4**	**-0.1**
ABKAR	**Akbulak array**	**33.92**	**344**	*e*P	**P**	**16 32 25.8**	**0.0**
	comp=E,1.9nm,0.5s						
BVAR	**Borovoye Array**	**35.86**	**356**	P	**P**	**16 32 43.0**	**+0.5**
BVAR	**Borovoye Array**	**35.86**	**356**	P	**P**	**16 32 43.0**	**+0.5**
	comp=E,1.2nm,0.4s,baz=171,slow=11,SNR=9.5						
ZALV	**Zalesovo Beam**	**37.66**	**11**	P	**P**	**16 32 58.1**	**+0.3**
ZALV	**Zalesovo Beam**	**37.66**	**11**	P	**P**	**16 32 58.1**	**+0.3**
	comp=E,1.9nm,0.5s,baz=192,slow=8.8,SNR=6.8						
SONM	**Songino Array**	**40.53**	**34**	P	**P**	**16 33 23.5**	**+1.4**
SONM	**Songino Array**	**40.53**	**34**	P	**P**	**16 33 23.5**	**+1.4**
	comp=E,1.4nm,0.9s,baz=215,slow=7.2,SNR=5.0						
AKASG	**Malin Array Be**	**48.76**	**324**	P	**P**	**16 34 27.3**	**-0.2**
AKASG	**Malin Array Be**	**48.76**	**324**	P	**P**	**16 34 27.3**	**-0.2**
	comp=E,0.4nm,0.6s,baz=110,slow=6.6,SNR=4.2						
KSAR	**Wonju Array Be**	**51.33**	**56**	P	**P**	**16 34 47.2**	**-0.1**
KSRS	**Korea Array**	**51.37**	**56**	P	**P**	**16 34 47.2**	**-0.3**
	comp=E,0.7nm,0.5s,baz=256,slow=7.7,SNR=3.0						
USRK	**Ussuriysk Arra**	**55.45**	**48**	P	**P**	**16 35 17.8**	**+0.4**
	comp=E,1.5nm,0.4s,baz=263,slow=7.4,SNR=11						
ARCES	**ARCESS Array B**	**60.11**	**342**	P	**P**	**16 35 50.8**	**+1.0**
ARCES	**ARCESS Array B**	**60.11**	**342**	P	**P**	**16 35 50.8**	**+1.0**
	comp=E,1.3nm,0.5s,baz=121,slow=6.1,SNR=8.8						
NOA	**NORSAR Array B**	**61.95**	**331**	P	**P**	**16 36 01.6**	**-0.8**
NOA	**NORSAR Array B**	**61.95**	**331**	P	**P**	**16 36 01.6**	**-0.8**
	comp=E,1.1nm,0.8s,baz=107,slow=6.9,SNR=3.5						
NWAO	**Narrogin (SRO)**	**64.82**	**140**	P	**P**	**16 36 21.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**64.82**	**140**	P	**P**	**16 36 21.9**	**+0.2**
	comp=E,3.7nm,0.7s,baz=344,slow=7.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**69.42**	**278**	P	P	16 36 47.5	-3.9
TORD	**Torodi Ar. Bea**	**69.42**	**278**	P	P	16 36 47.5	-3.9
	comp=E,0.6nm,0.8s,baz=82,slow=4.5,SNR=2.7						
WRA	**Warramunga Arr**	**69.91**	**119**	P	**P**	**16 36 54.8**	**+0.5**
WRA	**Warramunga Arr**	**69.91**	**119**	P	**P**	**16 36 54.8**	**+0.5**
	comp=E,2.4nm,0.6s,baz=306,slow=5.7,SNR=20						
WRAB	**Tennant Creek**	**69.91**	**119**	*e*P	**P**	**16 36 54.2**	**-0.1**
	comp=E,3.3nm,0.5s						
ASAR	**Alice Springs**	**71.31**	**123**	P	**P**	**16 37 03.2**	**+0.4**
ASAR	**Alice Springs**	**71.31**	**123**	P	**P**	**16 37 03.2**	**+0.4**
	comp=E,2.4nm,0.5s,baz=202,slow=5.7,SNR=20						
PDAR	**Pinedale Array**	**120.26**	**3**	PKP	**PKPdf**	**16 44 33.7**	**-0.8**
PDAR	**Pinedale Array**	**120.26**	**3**	PKP	**PKPdf**	**16 44 33.7**	**-0.8**
	comp=E,0.5nm,0.6s,baz=73,slow=2.4,SNR=6.4						

IDC ***12*** *16:32:36.6±16.0, 23°.58S×179°.37W, h408km±137km, mb3.7/9, mb1 3.8/9, mb1mx3.5/21, mbtmp3.7/9, Error ellipse: s-maj=106.5km s-min=37.1km az=113.0*

ISC 12 16:32:37.2±2.1, 23°.6S±0°.4×179°.4W±0°.3, h417km, n13, σ0.98/12, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.07**	**270**	P	**P**	**16 38 28.9**	**+1.0**
	9.9nm,0.5s,baz=96,slow=11,SNR=23						
PMG	**Port Moresby**	**34.97**	**288**	P	**P**	**16 38 52.3**	**-0.3**
	13nm,0.8s,baz=175,slow=4.5,SNR=5.0						
STKA	**Stephens Creek**	**35.38**	**248**	P	**P**	**16 38 56.3**	**+0.4**
	0.9nm,0.5s,baz=80,slow=13,SNR=4.4						
ASAR	**Alice Springs**	**42.67**	**260**	P	**P**	**16 39 55.0**	**-0.5**
	3.9nm,0.7s,baz=96,slow=7.4,SNR=63						
WRA	**Warramunga Arr**	**43.02**	**266**	P	**P**	**16 39 57.5**	**-0.8**
	1.9nm,0.3s,baz=90,slow=5.9,SNR=120						
FITZ	**Fitzroy Crossi**	**51.45**	**265**	P	**P**	**16 41 01.5**	**-0.8**
	3.3nm,0.7s,baz=84,slow=6.7,SNR=16						
PETK	**Petropavlovsk-**	**78.96**	**346**	P	**P**	**16 43 56.2**	**+0.5**
	1.0nm,0.6s,baz=136,slow=5.2,SNR=5.5						
USRK	**Ussuriysk Arra**	**80.85**	**327**	P	**P**	**16 44 05.6**	**-0.3**
	3.2nm,0.9s,baz=129,slow=15,SNR=4.9						
CMAR	**Chiang Mai Arr**	**89.99**	**290**	P	**P**	**16 44 51.6**	**+0.4**
	1.1nm,0.9s,baz=142,slow=3.4,SNR=8.3						
ARCES	**ARCESS Array B**	**131.72**	**349**	PKP	**PKPdf**	**16 51 00.0**	**-0.7**
	3.5nm,0.8s,baz=48,slow=1.3,SNR=3.9						
AKASG	**Malin Array Be**	**145.05**	**328**	PKPbc	PKPbc	16 51 24.0	-2.0
	1.3nm,0.4s,baz=42,slow=4.3,SNR=15						
BRTR	**Keskin Array B**	**147.88**	**308**	PKPbc	**PKPbc**	**16 51 36.4**	**+1.9**
	1.9nm,0.7s,baz=100,slow=2.9,SNR=6.8						
CLL	**Collm**	**150.75**	**344**	*i* P	**PKPbc**	**16 51 39.7**	**-1.1**
	comp=Z,4.0nm,0.8s						

ISCJB ***12*** *16:38:04.2±0.3, 40°.60S±0°.02×174°.89E±0°.04, h77km±4km, mb3.7/3, Error ellipse: s-maj=5.0km s-min=2.9km az=29.7*

WEL ***12*** *16:38:06.5±0.1, 40°.56S×174°.84E, h49km±1km, ML4.2/22, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, MM 4.*

WEL Felt between Whanganui, Wellington and Manawatu, maximum reported intensity.

NEIC ***12*** *16:38:06.5, 40°.56S×174°.86E, h48km, ML4.2(WEL), After WEL.*

NEIC Felt at Raumati Beach.

IDC ***12*** *16:38:07.4±2.0, 40°.33S×174°.83E, h76km±21km, mb3.4/3, mb1 3.6/5, mb1mx3.5/18, mbtmp3.4/5, Error ellipse: s-maj=26.4km s-min=16.2km az=133.0*

ISC 12 16:38:05.4±0.9, 40°.58S±0°.03×174°.86E±0°.03, h62km±6km, n203, σ0.92/208, mb3.8/3, 11C-15D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.28**	**173**	⇑PN	**Pn**	**16 38 15.1**	**-0.6**
KIW				SN	**Sn**	**16 38 21.4**	**-1.6**
KIW				AML	AML	16 38 22.8	
KIW	**Kapiti Island**	**0.28**	**173**	Pn	**Pn**	**16 38 15.1**	**-0.6**
OGWZ	**Otaki Gorge**	**0.33**	**135**	⇑PN	**Pn**	**16 38 15.8**	**-0.2**
OGWZ				SN	**Sn**	**16 38 23.5**	**-0.2**
OGWZ	**Otaki Gorge**	**0.33**	**135**	Pn	**Pn**	**16 38 15.8**	**-0.2**
CAW	**Cannon Point**	**0.55**	**164**	⇑PN	**Pn**	**16 38 18.4**	**+0.4**
CAW				SN	**Sn**	**16 38 27.8**	**+0.5**
CAW				AML	AML	16 38 30.6	
CAW	**Cannon Point**	**0.55**	**164**	Pn	**Pn**	**16 38 18.4**	**+0.4**
MRZ	**Mangatainoka R**	**0.55**	**99**	⇓PN	**Pn**	**16 38 18.3**	**+0.2**
MRZ				SN	**Sn**	**16 38 28.0**	**+0.7**
MRZ				AML	AML	16 38 31.4	
MRZ	**Mangatainoka R**	**0.55**	**99**	Pn	**Pn**	**16 38 18.1**	**0.0**
HOWZ	**Holdsworth Sta**	**0.59**	**123**	⇑PN	**Pn**	**16 38 18.7**	**+0.2**
HOWZ	**Holdsworth Sta**	**0.59**	**123**	Pn	**Pn**	**16 38 18.7**	**+0.2**
WEL	**Wellington**	**0.71**	**186**	PN	**Pn**	**16 38 20.4**	**+0.5**
WEL	**Wellington**	**0.71**	**186**	Pn	**Pn**	**16 38 20.4**	**+0.5**
POWZ	**Post Office Ro**	**0.71**	**75**	⇓PN	**Pn**	**16 38 20.2**	**+0.3**
POWZ	**Post Office Ro**	**0.71**	**75**	Pn	**Pn**	**16 38 20.2**	**+0.3**
SNZO	**South Karori**	**0.74**	**189**	PN	**Pn**	**16 38 20.7**	**+0.5**
SNZO				AML	AML	16 38 32.3	
SNZO				AML	AML	16 38 33.9	
SNZO	**South Karori**	**0.74**	**189**	*e*Pn	**Pn**	**16 38 20.7**	**+0.5**
SNZO				*e*Sn	**Sn**	**16 38 30.8**	**-0.3**
DUWZ	**D'Urville Isla**	**0.75**	**252**	⇓PN	**Pn**	**16 38 19.5**	**-0.9**
DUWZ	**D'Urville Isla**	**0.75**	**252**	Pn	**Pn**	**16 38 19.5**	**-0.9**
MTW	**Mount Morrison**	**0.75**	**140**	⇑PN	**Pn**	**16 38 20.5**	**+0.1**
MTW				AML	AML	16 38 35.8	
MTW				AML	AML	16 38 36.5	
MTW	**Mount Morrison**	**0.75**	**140**	Pn	**Pn**	**16 38 20.5**	**+0.1**
TCW	**Tory Channel**	**0.77**	**215**	⇑PN	**Pn**	**16 38 20.8**	**+0.2**
TCW				AML	AML	16 38 33.9	
TCW				AML	AML	16 38 33.9	
TCW	**Tory Channel**	**0.77**	**215**	Pn	**Pn**	**16 38 20.8**	**+0.2**
TIWZ	**Tintock**	**0.80**	**104**	PN	**Pn**	**16 38 21.3**	**+0.3**
TIWZ				AML	AML	16 38 38.0	
TIWZ				AML	AML	16 38 38.3	
TIWZ	**Tintock**	**0.80**	**104**	Pn	**Pn**	**16 38 21.3**	**+0.3**
BHW	**Baring Head**	**0.83**	**180**	PN	**Pn**	**16 38 21.7**	**+0.4**
BHW				AML	AML	16 38 37.4	
BHW				AML	AML	16 38 37.7	
BHW	**Baring Head**	**0.83**	**180**	Pn	**Pn**	**16 38 21.7**	**+0.4**
PRWZ	**Pori Road**	**0.84**	**89**	PN	**Pn**	**16 38 21.8**	**+0.3**
MSWZ	**Moikau Station**	**0.88**	**161**	PN	**Pn**	**16 38 22.2**	**+0.2**
MSWZ				AML	AML	16 38 40.7	
MSWZ				AML	AML	16 38 40.9	
MSWZ	**Moikau Station**	**0.88**	**161**	Pn	**Pn**	**16 38 22.3**	**+0.2**
PAWZ	**Paruwai Farm**	**0.91**	**152**	PN	**Pn**	**16 38 23.7**	**+1.4**
PAWZ				AML	AML	16 38 39.3	
PAWZ				AML	AML	16 38 39.5	
PAWZ	**Paruwai Farm**	**0.91**	**152**	Pn	**Pn**	**16 38 22.5**	**+0.2**
TMWZ	**Te Maipa**	**0.94**	**124**	PN	**Pn**	**16 38 23.4**	**+0.7**
TMWZ	**Te Maipa**	**0.94**	**124**	Pn	**Pn**	**16 38 23.3**	**+0.6**
TSZ	**Takapari Road**	**0.99**	**59**	⇓PN	**Pn**	**16 38 23.4**	**+0.1**
TSZ				AML	AML	16 38 39.0	
TSZ				AML	AML	16 38 40.4	
TSZ	**Takapari Road**	**0.99**	**59**	Pn	**Pn**	**16 38 23.4**	**+0.1**
TRWZ	**Traveller**	**1.03**	**143**	PN	**Pn**	**16 38 25.3**	**+1.4**
TRWZ				AML	AML	16 38 44.9	
TRWZ				AML	AML	16 38 47.2	
TRWZ	**Traveller**	**1.03**	**143**	Pn	**Pn**	**16 38 25.4**	**+1.4**
PLWZ	**Palliser**	**1.03**	**163**	PN	**Pn**	**16 38 24.1**	**+0.1**
PLWZ	**Palliser**	**1.03**	**163**	Pn	**Pn**	**16 38 24.1**	**+0.1**
DVHZ	**Dannevirke**	**1.03**	**75**	PN	**Pn**	**16 38 24.2**	**+0.2**
DVHZ	**Dannevirke**	**1.03**	**75**	Pn	**Pn**	**16 38 23.9**	**-0.1**
BFZ	**Birch Farm**	**1.06**	**96**	Pn	**Pn**	**16 38 24.2**	**0.0**
CPWZ	**Castlepoint**	**1.07**	**108**	PN	**Pn**	**16 38 25.0**	**+0.6**
TUWZ	**Tuamarina**	**1.10**	**219**	⇓PN	**Pn**	**16 38 25.4**	**+0.7**
TUWZ				AML	AML	16 38 41.7	
TUWZ				AML	AML	16 38 45.0	
TUWZ	**Tuamarina**	**1.10**	**219**	Pn	**Pn**	**16 38 25.4**	**+0.7**
PNHZ	**Pukenui**	**1.22**	**57**	⇓PN	**Pn**	**16 38 26.2**	**-0.2**
PNHZ	**Pukenui**	**1.22**	**57**	Pn	**Pn**	**16 38 26.2**	**-0.2**
ANRZ	**Angora Road**	**1.23**	**85**	*e*Pn	**Pn**	**16 38 26.3**	**+0.3**
CMWZ	**Cape Campbell**	**1.27**	**203**	PN	**Pn**	**16 38 28.4**	**+1.4**
CMWZ				AML	AML	16 39 02.3	
CMWZ				AML	AML	16 39 02.6	
CMWZ	**Cape Campbell**	**1.27**	**203**	Pn	**Pn**	**16 38 28.4**	**+1.4**
MTVZ	**Mangateitei**	**1.28**	**22**	PN	**Pn**	**16 38 27.7**	**+0.5**
MTVZ	**Mangateitei**	**1.28**	**22**	Pn	**Pn**	**16 38 27.8**	**+0.5**
NNZ	**Nelson**	**1.29**	**240**	⇓PN	**Pn**	**16 38 27.3**	**0.0**
NNZ	**Nelson**	**1.29**	**240**	Pn	**Pn**	**16 38 27.3**	**0.0**
WPHZ	**Waipukurau**	**1.31**	**67**	⇓PN	**Pn**	**16 38 27.4**	**-0.2**
WPHZ	**Waipukurau**	**1.31**	**67**	Pn	**Pn**	**16 38 27.4**	**-0.2**
PKVZ	**Pokaka**	**1.34**	**16**	PN	**Pn**	**16 38 28.2**	**+0.2**
PKVZ	**Pokaka**	**1.34**	**16**	Pn	**Pn**	**16 38 28.3**	**+0.2**
RAEZ	**Rainy Point**	**1.34**	**344**	PN	**Pn**	**16 38 28.7**	**+0.7**
RAEZ	**Rainy Point**	**1.34**	**344**	Pn	**Pn**	**16 38 28.7**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.36**	**213**	PN	**Pn**	**16 38 28.8**	**+0.6**
BSWZ				AML	AML	16 38 52.3	
BSWZ				AML	AML	16 38 52.9	
BSWZ	**Blackbirch Sta**	**1.36**	**213**	Pn	**Pn**	**16 38 28.8**	**+0.6**
MOVZ	**Moawhango**	**1.36**	**31**	⇓PN	**Pn**	**16 38 28.2**	**0.0**
MOVZ	**Moawhango**	**1.36**	**31**	Pn	**Pn**	**16 38 28.2**	**0.0**
WNVZ	**Wahianoa**	**1.37**	**25**	PN	**Pn**	**16 38 29.2**	**+0.6**
WNVZ	**Wahianoa**	**1.37**	**25**	Pn	**Pn**	**16 38 29.2**	**+0.6**
DFE	**Dawson Falls**	**1.38**	**335**	⇓PN	**Pn**	**16 38 28.9**	**+0.3**
DFE	**Dawson Falls**	**1.38**	**335**	Pn	**Pn**	**16 38 28.9**	**+0.3**
TRVZ	**Turoa**	**1.38**	**23**	PN	**Pn**	**16 38 29.3**	**+0.5**
TRVZ	**Turoa**	**1.38**	**23**	Pn	**Pn**	**16 38 29.3**	**+0.5**
PRHZ	**Porangahau**	**1.39**	**78**	PN	**Pn**	**16 38 28.9**	**+0.3**
PRHZ	**Porangahau**	**1.39**	**78**	Pn	**Pn**	**16 38 28.9**	**+0.3**
NMEZ	**Namu Road**	**1.39**	**327**	PN	**Pn**	**16 38 28.9**	**+0.2**
DRZ	**Dome Shelter**	**1.41**	**23**	PN	**Pn**	**16 38 29.8**	**+0.6**
DRZ	**Dome Shelter**	**1.41**	**23**	Pn	**Pn**	**16 38 29.8**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.41**	**23**	PN	**Pn**	**16 38 29.7**	**+0.5**
FWVZ	**Far West T-bar**	**1.43**	**22**	PN	**Pn**	**16 38 29.8**	**+0.5**
FWVZ	**Far West T-bar**	**1.43**	**22**	Pn	**Pn**	**16 38 29.6**	**+0.3**
BHHZ	**Black Hill Sta**	**1.43**	**41**	⇓PN	**Pn**	**16 38 29.4**	**+0.2**
BHHZ	**Black Hill Sta**	**1.43**	**41**	Pn	**Pn**	**16 38 29.4**	**+0.2**
NEZ	**North Egmont**	**1.44**	**335**	⇑PN	**Pn**	**16 38 29.7**	**+0.4**
NEZ	**North Egmont**	**1.44**	**335**	Pn	**Pn**	**16 38 29.7**	**+0.4**
KHEZ	**Kahui Hut**	**1.44**	**333**	PN	**Pn**	**16 38 29.6**	**+0.1**
TUVZ	**Tukino**	**1.45**	**25**	PN	**Pn**	**16 38 30.1**	**+0.6**
TUVZ	**Tukino**	**1.45**	**25**	Pn	**Pn**	**16 38 30.2**	**+0.7**
VRZ	**Vera Road**	**1.46**	**357**	PN	**Pn**	**16 38 29.4**	**-0.1**
VRZ	**Vera Road**	**1.46**	**357**	Pn	**Pn**	**16 38 29.4**	**-0.1**
WPVZ	**Whakapapa**	**1.47**	**21**	PN	**Pn**	**16 38 30.3**	**+0.4**
WPVZ	**Whakapapa**	**1.47**	**21**	Pn	**Pn**	**16 38 30.3**	**+0.4**
COVZ	**Chateau Observ**	**1.48**	**21**	⇑PN	**Pn**	**16 38 30.3**	**+0.3**
DREZ	**Durham Road**	**1.48**	**340**	PN	**Pn**	**16 38 30.3**	**+0.4**
DREZ	**Durham Road**	**1.48**	**340**	Pn	**Pn**	**16 38 30.5**	**+0.7**
NWEZ	**Newall Road**	**1.51**	**329**	PN	**Pn**	**16 38 30.3**	**+0.1**
NWEZ	**Newall Road**	**1.51**	**329**	Pn	**Pn**	**16 38 30.5**	**+0.2**
NGZ	**Ngauruhoe**	**1.51**	**22**	PN	**Pn**	**16 38 31.0**	**+0.5**
NGZ	**Ngauruhoe**	**1.51**	**22**	Pn	**Pn**	**16 38 31.1**	**+0.7**
PKE	**Pukeiti**	**1.54**	**334**	PN	**Pn**	**16 38 30.7**	**+0.1**
PKE	**Pukeiti**	**1.54**	**334**	Pn	**Pn**	**16 38 31.0**	**+0.3**
OTVZ	**Oturere**	**1.54**	**24**	⇓PN	**Pn**	**16 38 31.6**	**+0.8**
OTVZ	**Oturere**	**1.54**	**24**	Pn	**Pn**	**16 38 31.6**	**+0.8**
MHEZ	**Mangahewa**	**1.56**	**344**	PN	**Pn**	**16 38 31.5**	**+0.6**
MHEZ	**Mangahewa**	**1.56**	**344**	Pn	**Pn**	**16 38 31.7**	**+0.8**
WTVZ	**West Tongariro**	**1.57**	**21**	PN	**Pn**	**16 38 31.5**	**+0.4**
WTVZ	**West Tongariro**	**1.57**	**21**	Pn	**Pn**	**16 38 31.6**	**+0.5**
TWVZ	**Taurewa**	**1.57**	**17**	PN	**Pn**	**16 38 31.2**	**0.0**
TWVZ	**Taurewa**	**1.57**	**17**	Pn	**Pn**	**16 38 31.2**	**0.0**
KRVZ	**Karewarewa**	**1.60**	**22**	⇓PN	**Pn**	**16 38 32.2**	**+0.6**
KRVZ	**Karewarewa**	**1.60**	**22**	Pn	**Pn**	**16 38 32.2**	**+0.6**
PXZ	**Pawanui**	**1.62**	**71**	PN	**Pn**	**16 38 31.5**	**-0.3**
PXZ				AML	AML	16 39 04.3	
PXZ				AML	AML	16 39 04.3	
PXZ				AML	AML	16 39 11.4	
PXZ				AML	AML	16 39 11.5	
PXZ	**Pawanui**	**1.62**	**71**	Pn	**Pn**	**16 38 31.5**	**-0.3**
KATZ	**Kakaramea**	**1.73**	**22**	*e*PN	**Pn**	**16 38 33.5**	**+0.2**
KATZ	**Kakaramea**	**1.73**	**22**	Pn	**Pn**	**16 38 34.1**	**+0.8**
KAHZ	**Kahuranaki**	**1.73**	**64**	⇑PN	**Pn**	**16 38 32.8**	**-0.5**
KAHZ	**Kahuranaki**	**1.73**	**64**	Pn	**Pn**	**16 38 32.7**	**-0.5**
RITZ	**Rihia Road**	**1.77**	**26**	*e*PN	**Pn**	**16 38 34.4**	**+0.4**
RITZ	**Rihia Road**	**1.77**	**26**	Pn	**Pn**	**16 38 34.3**	**+0.4**
QRZ	**Quartz Range**	**1.79**	**261**	PN	**Pn**	**16 38 33.6**	**-0.4**
QRZ	**Quartz Range**	**1.79**	**261**	Pn	**Pn**	**16 38 33.6**	**-0.4**
MCHZ	**McNeill Hill**	**1.81**	**52**	PN	**Pn**	**16 38 34.2**	**-0.1**
MCHZ	**McNeill Hill**	**1.81**	**52**	Pn	**Pn**	**16 38 34.2**	**-0.1**
RATZ	**Rangitukua**	**1.85**	**23**	PN	**Pn**	**16 38 36.2**	**+1.3**
RATZ	**Rangitukua**	**1.85**	**23**	Pn	**Pn**	**16 38 36.2**	**+1.3**
BKZ	**Black Stump Fm**	**1.89**	**42**	⇓PN	**Pn**	**16 38 34.9**	**-0.5**
BKZ				AML	AML	16 39 09.8	
BKZ				AML	AML	16 39 14.2	
BKZ	**Black Stump Fm**	**1.89**	**42**	Pn	**Pn**	**16 38 34.3**	**-1.1**
THZ	**Tophouse**	**1.89**	**231**	⇑PN	**Pn**	**16 38 35.8**	**+0.3**
THZ	**Tophouse**	**1.89**	**231**	Pn	**Pn**	**16 38 35.8**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.93**	**62**	PN	**Pn**	**16 38 35.3**	**-0.7**
CKHZ	**Cape Kidnapper**	**1.93**	**62**	Pn	**Pn**	**16 38 35.3**	**-0.7**
WATZ	**Wairara**	**1.99**	**20**	PN	**Pn**	**16 38 37.0**	**+0.3**
WATZ	**Wairara**	**1.99**	**20**	Pn	**Pn**	**16 38 37.0**	**+0.3**
HIZ	**Hauiti**	**2.06**	**360**	PN	**Pn**	**16 38 37.8**	**+0.1**
HIZ	**Hauiti**	**2.06**	**360**	Pn	**Pn**	**16 38 38.2**	**+0.4**
KHZ	**Kahutara**	**2.09**	**208**	⇓PN	**Pn**	**16 38 38.2**	**+0.1**
KHZ				AML	AML	16 39 20.0	
KHZ				AML	AML	16 39 25.3	
KHZ	**Kahutara**	**2.09**	**208**	*e*Pn	**Pn**	**16 38 37.4**	**-0.6**
KHZ				*e*Sn	**Sn**	**16 39 03.0**	**+0.1**
WHTZ	**Whakaora**	**2.09**	**24**	PN	**Pn**	**16 38 38.7**	**+0.5**
WHTZ	**Whakaora**	**2.09**	**24**	Pn	**Pn**	**16 38 38.7**	**+0.5**
NMHZ	**Naumai**	**2.

APZ				AML	AML	16 43 51.6		
APZ	**The Paps**	**1.36**	**124**	Pn	**Pn**	**16 43 30.5**	**-0.7**	
MLZ	**Mavora Lakes**	**1.47**	**61**	PN	**Pb**	**16 43 33.7**	**-0.8**	
MLZ				AML	AML	16 43 58.6		
MLZ				AML	AML	16 44 01.6		
MLZ	**Mavora Lakes**	**1.47**	**61**	Pn	**Pb**	**16 43 33.8**	**-0.8**	
MSZ	**Milford Sound**	**1.79**	**39**	PN	**Pn**	**16 43 37.6**	**+0.7**	
MSZ				AML	AML	16 44 18.7		
MSZ				AML	AML	16 44 18.7		
MSZ				AML	AML	16 44 21.6		
MSZ				AML	AML	16 44 21.6		
MSZ	**Milford Sound**	**1.79**	**39**	Pn	**Pn**	**16 43 37.9**	**+1.0**	
SYZ	**Scrubby Hill**	**1.99**	**105**	PN	**Pn**	**16 43 40.7**	**+1.0**	
SYZ				AML	AML	16 44 08.5		
SYZ				AML	AML	16 44 08.6		
SYZ				AML	AML	16 44 11.8		
SYZ				AML	AML	16 44 11.8		
SYZ	**Scrubby Hill**	**1.99**	**105**	Pn	**Pn**	**16 43 40.4**	**+0.7**	
EAZ	**Earnscleugh**	**2.24**	**69**	PN	**Pn**	**16 43 45.2**	**+2.1**	
EAZ				AML	AML	16 44 23.3		
EAZ				AML	AML	16 44 23.3		
EAZ				AML	AML	16 44 25.8		
EAZ				AML	AML	16 44 25.8		
EAZ	**Earnscleugh**	**2.24**	**69**	Pn	**Pb**	**16 43 45.9**	**-1.7**	
WKZ	**Wanaka**	**2.25**	**57**	PN	**Pb**	**16 43 46.3**	**-1.6**	
WKZ				AML	AML	16 44 21.3		
WKZ				AML	AML	16 44 23.6		
WKZ				AML	AML	16 44 23.6		
WKZ				AML	AML	16 44 37.2		
WKZ	**Wanaka**	**2.25**	**57**	Pn	**Pb**	**16 43 46.2**	**-1.6**	
TUZ	**Tuapeka**	**2.29**	**88**	PN	**Pn**	**16 43 45.5**	**+1.7**	
TUZ				AML	AML	16 44 16.8		
TUZ				AML	AML	16 44 19.8		
TUZ	**Tuapeka**	**2.29**	**88**	Pn	**Pn**	**16 43 45.5**	**+1.7**	
JCZ	**Jackson Bay**	**2.63**	**41**	PN	**Pn**	**16 43 50.9**	**+2.2**	
JCZ				AML	AML	16 44 40.1		
JCZ				AML	AML	16 44 41.2		
JCZ	**Jackson Bay**	**2.63**	**41**	Pn	**Pn**	**16 43 50.8**	**+2.2**	
HHSZ	**Highcliff Hill**	**2.97**	**88**	PN	**Pn**	**16 43 54.8**	**+1.7**	
ODZ	**Otahua Downs**	**3.19**	**73**	PN	**Pn**	**16 43 56.8**	**+0.6**	
ODZ	**Otahua Downs**	**3.19**	**73**	Pn	**Pn**	**16 43 56.9**	**+0.7**	
LBZ	**Lake Benmore**	**3.19**	**59**	PN	**Pn**	**16 43 57.5**	**+1.2**	
LBZ				AML	AML	16 44 57.8		
LBZ				AML	AML	16 44 57.8		
LBZ				AML	AML	16 45 00.6		
LBZ				AML	AML	16 45 00.6		
LBZ	**Lake Benmore**	**3.19**	**59**	Pn	**Pn**	**16 43 57.6**	**+1.3**	
FOZ	**Fox Glacier**	**3.45**	**45**	PN	**Pn**	**16 44 02.4**	**+2.6**	
FOZ				AML	AML	16 45 08.5		
FOZ				AML	AML	16 45 08.5		
FOZ				AML	AML	16 45 10.5		
FOZ				AML	AML	16 45 10.5		
FOZ	**Fox Glacier**	**3.45**	**45**	Pn	Pn	16 44 02.8	+3.0	
RPZ	**Rata Peaks**	**4.09**	**57**	PN	**Pn**	**16 44 09.4**	**+0.8**	
RPZ				AML	AML	16 45 01.4		
RPZ				AML	AML	16 45 29.6		
RPZ	**Rata Peaks**	**4.09**	**57**	Pn	**Pn**	**16 44 09.4**	**+0.8**	
RPZ				Sn	**Sn**	**16 44 57.0**	**+1.4**	
RPZ	**Rata Peaks**	**4.09**	**57**	Pn	**Pn**	**16 44 09.5**	**+0.9**	
	39nm,0.3s,baz=218,slow=6.5,SNR=35							
RPZ				Sn	**Sn**	**16 44 57.0**	**+1.4**	
	66nm,0.3s,baz=348,slow=20,SNR=3.6							
WVZ	**Waitaha Valley**	**4.33**	**48**	PN	**Pn**	**16 44 13.2**	**+1.2**	
WVZ				AML	AML	16 45 11.9		
WVZ				AML	AML	16 45 16.6		
WVZ	**Waitaha Valley**	**4.33**	**48**	Pn	**Pn**	**16 44 13.7**	**+1.7**	
OXZ	**Oxford**	**4.90**	**58**	PN	**Pn**	**16 44 19.7**	**0.0**	
MQZ	**McQueen's Vall**	**5.06**	**64**	PN	**Pn**	**16 44 22.8**	**+0.8**	
MQZ	**McQueen's Vall**	**5.06**	**64**	Pn	**Pn**	**16 44 22.8**	**+0.8**	
CRLZ	**Canterbury Las**	**5.11**	**63**	PN	**Pn**	**16 44 23.5**	**+0.9**	
CRLZ				AML	AML	16 46 04.4		
CRLZ				AML	AML	16 46 06.7		
CRLZ	**Canterbury Las**	**5.11**	**63**	Pn	**Pn**	**16 44 23.5**	**+0.9**	
LTZ	**Lake Taylor**	**5.37**	**54**	PN	**Pn**	**16 44 26.2**	**0.0**	
LTZ				AML	AML	16 45 33.5		
LTZ				AML	AML	16 45 39.2		
LTZ	**Lake Taylor**	**5.37**	**54**	Pn	**Pn**	**16 44 26.1**	**0.0**	
DSZ	**Denniston Nort**	**5.85**	**44**	PN	**Pn**	**16 44 33.2**	**+0.4**	
DSZ	**Denniston Nort**	**5.85**	**44**	Pn	**Pn**	**16 44 33.2**	**+0.4**	
KHZ	**Kahutara**	**6.33**	**57**	PN	**Pn**	**16 44 39.5**	**+0.2**	
KHZ	**Kahutara**	**6.33**	**57**	*e*Pn	**Pn**	**16 44 39.9**	**-0.4**	
KHZ				*e*Sn	**Sn**	**16 45 52.3**	**+1.7**	
THZ	**Tophouse**	**6.40**	**50**	PN	**Pn**	**16 44 39.8**	**-0.6**	
THZ				AML	AML	16 46 00.6		
THZ				AML	AML	16 46 13.3		
THZ	**Tophouse**	**6.40**	**50**	Pn	**Pn**	**16 44 40.0**	**-0.4**	
QRZ	**Quartz Range**	**6.91**	**43**	Pn	**Pn**	**16 44 48.2**	**+0.9**	
TCW	**Tory Channel**	**7.52**	**53**	Pn	**Pn**	**16 44 58.5**	**+2.8**	
NWEZ	**Newall Road**	**8.76**	**42**	Pn	**Pn**	**16 45 14.0**	**+1.3**	
MCQ	**Macquarie Isla**	**9.67**	**207**	P	Pn	16 45 31.6	+6.6	
	baz=9.8,SNR=3.6							
HIZ	**Hauiti**	**9.83**	**43**	Pn	**Pn**	**16 45 28.0**	**+0.6**	
MKAZ	**Moumakai**	**11.12**	**39**	Pn	**Pn**	**16 45 46.7**	**+1.7**	
URZ	**Urewera**	**11.16**	**49**	Pn	**Pn**	**16 45 45.7**	**+0.2**	
URZ				Sn	**Sn**	**16 47 46.2**	**-3.1**	
URZ	**Urewera**	**11.16**	**49**	Pn	**Pn**	**16 45 45.7**	**+0.2**	
	2.3nm,0.3s,baz=237,slow=8.0,SNR=9.5							
URZ				Sn	**Sn**	**16 47 46.3**	**-3.1**	
	1.5nm,0.3s,baz=345,slow=19,SNR=5.0							
OUZ	**Omahuta**	**12.15**	**29**	*e*Pn	**Pn**	**16 45 58.9**	**-0.2**	
	22nm,0.7s							
TAU	**Tasmania Unive**	**13.95**	**276**	*e*Pn	**Pn**	**16 46 22.0**	**-1.6**	
MOO	**Moorlands**	**14.20**	**278**	P	Pn	16 46 23.3	-3.8	
	baz=14,SNR=6.1							
MILA	**Mila**	**15.68**	**299**	P	**Pn**	**16 46 44.7**	**-2.3**	
	baz=16,SNR=20							
TOO	**Toolangi**	**17.68**	**291**	P	**Pn**	**16 47 11.4**	**-0.7**	
	baz=18,SNR=30							
CMSA	**Cobar Meteorol**	**21.59**	**305**	P	**P**	**16 47 56.9**	**+1.5**	
	baz=22,SNR=7.8							
STKA	**Stephens Creek**	**23.78**	**298**	P	**P**	**16 48 19.2**	**+1.1**	
	13nm,0.9s							
STKA	**Stephens Creek**	**23.78**	**298**	P	**P**	**16 48 19.2**	**+1.1**	
	7.1nm,0.9s,baz=146,slow=11,SNR=9.3							
STKA				LR	LR	16 56 27.1		
	comp=Z,160nm,18.1s,baz=202,slow=34							
STKA	**Stephens Creek**	**23.78**	**298**	P	**P**	**16 48 19.6**	**+1.5**	
	baz=24,SNR=6.5							
EIDS	**Eidsvold**	**24.01**	**324**	*e*P	**P**	**16 48 20.9**	**+0.5**	
	16nm,0.8s							
EIDS	**Eidsvold**	**24.01**	**324**	P	**P**	**16 48 21.8**	**+1.5**	
	baz=24,SNR=9.8							
RMQ	**Roma**	**24.05**	**318**	P	**P**	**16 48 21.6**	**+0.8**	
	baz=24,SNR=7.4							
QLP	**Quilpie**	**26.23**	**310**	P	**P**	**16 48 41.1**	**+0.7**	
	baz=26,SNR=14							
CTA	**Charters Tower**	**30.73**	**321**	P	**P**	**16 49 20.9**	**+0.2**	
CTA	**Charters Tower**	**30.73**	**321**	P	**P**	**16 49 20.9**	**+0.2**	
	3.5nm,0.8s,baz=7.1,slow=16,SNR=3.6							
VNDA	**Vanda**	**31.61**	**182**	LR	LR	16 59 51.6		
	comp=Z,117nm,18.8s,baz=176,slow=32							
QIS	**Mount Isa**	**33.57**	**310**	P	**P**	**16 49 45.6**	**0.0**	
	baz=34,SNR=7.2							
AS31	**Alice Springs**	**34.39**	**299**	*e*P	**P**	**16 49 50.6**	**-2.2**	
ASAR	**Alice Springs**	**34.39**	**299**	P	**P**	**16 49 51.9**	**-0.9**	
ASAR	**Alice Springs**	**34.39**	**299**	P	**P**	**16 49 51.9**	**-0.9**	
	6.6nm,0.7s,baz=132,slow=8.1,SNR=118							
WRKA	**Warakurna**	**36.93**	**291**	P	**P**	**16 50 14.0**	**-0.5**	
	baz=37,SNR=27							
WRA	**Warramunga Arr**	**36.99**	**304**	P	**P**	**16 50 13.8**	**-1.2**	
WRA	**Warramunga Arr**	**36.99**	**304**	P	**P**	**16 50 13.8**	**-1.2**	
	9.2nm,0.7s,baz=140,slow=7.8,SNR=71							
WRA				LR	LR	17 05 46.9		
	comp=Z,116nm,19.2s,baz=120,slow=37							
WRAB	**Tennant Creek**	**36.99**	**304**	*e*P	**P**	**16 50 13.6**	**-1.4**	
	9.5nm,0.6s							
H01W1	**Cape Leeuwin H**	**40.57**	**267**	T	T	17 33 37.4		
	baz=122,slow=75,SNR=202							
H01W2	**Cape Leeuwin H**	**40.58**	**267**	T	T	17 33 38.2		
	baz=122,slow=75,SNR=169							
H01W3	**Cape Leeuwin H**	**40.59**	**267**	T	T	17 33 38.2		
	baz=122,slow=75,SNR=214							
MEEK	**Meekatharra**	**42.34**	**280**	P	**P**	**16 50 59.6**	**0.0**	
	baz=42,SNR=3.3							
FITZ	**Fitzroy Crossi**	**43.65**	**296**	LR	LR	17 08 46.9		
	comp=Z,92nm,18.1s,baz=187,slow=35							
FITZ	**Fitzroy Crossi**	**43.65**	**296**	P	**P**	**16 51 09.7**	**-0.5**	
	baz=44,SNR=5.8							
QSPA	**South Pole Qui**	**44.05**	**180**	P	**P**	**16 51 14.2**	**+1.1**	
QSPA	**South Pole Qui**	**44.05**	**180**	P	**P**	**16 51 14.2**	**+1.1**	
	5.7nm,1.0s,baz=18,slow=3.7,SNR=12							
MTN	**Manton Dam**	**44.50**	**307**	P	**P**	**16 51 16.8**	**-0.2**	
	baz=44,SNR=10.0							
MAW	**Mawson**	**53.06**	**208**	P	P	16 52 07.9	-14	
	baz=53,SNR=9.2							
PATS	**Pohnpei**	**53.16**	**350**	P	P	16 52 31.4	+8.0	
	baz=53,SNR=3.8							
SYO	**Syowa Base**	**58.70**	**200**⇑	*e*P	**P**	**16 53 00.5**	**-1.9**	
SYO	**Syowa Base**	**58.70**	**200**⇑	*e*P	**P**	**16 53 02.7**	**+0.3**	
SNAA	**Sanae**	**62.31**	**184**	*e*P	**P**	**16 53 27.3**	**+0.1**	
SNAA	**Sanae**	**62.31**	**184**	*e*P	**P**	**16 53 26.2**	**-1.0**	
	6.3nm,1.3s							
VNA2	**Neumayer--Watz**	**63.23**	**182**	*e*P	**P**	**16 53 33.2**	**0.0**	
PSI	**Prapat**	**76.58**	**289**	LR	LR	17 25 31.7		
	comp=Z,68nm,21.8s,baz=155,slow=33							
H08S2	**Diego Garcia H**	**87.22**	**262**	T	T	18 31 50.8		
	baz=135,slow=76,SNR=382							
H08S1	**Diego Garcia H**	**87.23**	**262**	T	T	18 31 48.2		
	baz=135,slow=76,SNR=269							
H08S3	**Diego Garcia H**	**87.24**	**262**	T	T	18 31 48.7		
	baz=135,slow=76,SNR=425							
CMAR	**Chiang Mai Arr**	**88.40**	**299**	P	**P**	**16 55 58.4**	**+1.0**	
CMAR	**Chiang Mai Arr**	**88.40**	**299**	P	**P**	**16 55 58.4**	**+1.0**	
	0.8nm,0.3s,baz=150,slow=3.2,SNR=12							
CMAR				LR	LR	17 37 34.3		
	comp=Z,23nm,18.8s,baz=75,slow=37							
H08N1	**Diego Garcia H**	**89.17**	**262**	T	T	18 34 15.4		
	baz=145,SNR=22							
H08N3	**Diego Garcia H**	**89.19**	**262**	T	T	18 34 09.6		
	baz=145,SNR=26							
H08N2	**Diego Garcia H**	**89.19**	**262**	T	T	18 34 12.1		
	baz=145,SNR=19							
YKA	**Yellowknife Ar**	**125.06**	**34**	PKP	**PKPdf**	**17 02 04.8**	**+0.5**	
YKA	**Yellowknife Ar**	**125.06**	**34**	PKP	**PKPdf**	**17 02 04.8**	**+0.5**	
	0.2nm,0.5s,baz=246,slow=1.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**144.71**	**207**	PKP	**PKPab**	**17 02 40.5**	**-0.5**	
TORD	**Torodi Ar. Bea**	**144.71**	**207**	PKP	**PKPab**	**17 02 40.5**	**-0.5**	
	2.3nm,0.7s,baz=160,slow=2.1,SNR=16							
BRTR	**Keskin Array B**	**145.20**	**277**	PKPbc	**PKPbc**	**17 02 42.1**	**-0.2**	
BRTR	**Keskin Array B**	**145.20**	**277**	PKPbc	**PKPbc**	**17 02 42.1**	**-0.2**	
	3.6nm,0.8s,baz=139,slow=3.3,SNR=13							
SPITS	**Spitsbergen Ar**	**145.77**	**349**	PKPbc	**PKPdf**	**17 02 42.6**	**+0.3**	
SPITS	**Spitsbergen Ar**	**145.77**	**349**	PKPbc	**PKPdf**	**17 02 42.6**	**+0.3**	
	1.0nm,0.5s,baz=78,slow=7.7,SNR=3.9							
ARCES	**ARCESS Array B**	**149.53**	**334**	PKPbc	**PKPbc**	**17 02 53.7**	**+0.4**	
ARCES	**ARCESS Array B**	**149.53**	**334**	PKPbc	**PKPbc**	**17 02 53.7**	**+0.4**	
	4.2nm,0.9s,baz=82,slow=3.3,SNR=8.0							
AKASG	**Malin Array Be**	**151.46**	**295**	PKPbc	**PKPbc**	**17 02 58.2**	**-0.2**	
AKASG	**Malin Array Be**	**151.46**	**295**	PKPbc	**PKPbc**	**17 02 58.2**	**-0.2**	
	1.5nm,0.5s,baz=81,slow=2.3,SNR=15							
FINES	**FINESS Array B**	**152.48**	**318**	PKPbc	**PKPbc**	**17 03 00.5**	**+0.2**	
FINES	**FINESS Array B**	**152.48**	**318**	PKPbc	**PKPbc**	**17 03 00.5**	**+0.2**	
	1.3nm,0.7s,baz=104,slow=5.4,SNR=8.4							

IDC 12 16:48:03.1±1.0, 16°45S×174°.86W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/20, mbtmpg3.9/6, Error ellipse: s-maj=44.7km s-min=25.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.17**	**332**			T	T	17 37 33.0	
	baz=150								
H11S3	**WAKE ISLAND Hy**	**39.19**	**332**			T	T	17 37 29.9	
	baz=150								
H11S1	**WAKE ISLAND Hy**	**39.19**	**332**			T	T	17 37 29.8	
	baz=150								
H11N3	**WAKE ISLAND Hy**	**40.16**	**333**			T	T	17 38 38.3	
	baz=153,slow=77,SNR=11								
H11N1	**WAKE ISLAND Hy**	**40.16**	**333**			T	T	17 38 44.0	
	baz=153,slow=77,SNR=12								
H11N2	**WAKE ISLAND Hy**	**40.18**	**333**			T	T	17 38 41.9	
	baz=153,slow=77,SNR=11								
WRA	**Warramunga Arr**	**48.25**	**258**	P		P	P	16 56 45.8	-0.5
	0.6nm,1.0s,baz=94,slow=10,SNR=2.0								
ASAR	**Alice Springs**	**48.46**	**253**	P		P	P	16 56 48.1	+0.3
	2.4nm,0.8s,baz=89,slow=8.2,SNR=26								
QSPA	**South Pole Qui**	**73.60**	**180**	P		P	P	16 59 38.0	-0.2
	2.4nm,1.0s,baz=48,slow=5.9,SNR=5.1								
TXAR	**Lajitas Array**	**82.36**	**57**	P		P	P	17 00 27.9	+0.4
	0.8nm,1.1s,baz=236,slow=8.9,SNR=4.1								
ILAR	**Eielson Array**	**83.74**	**12**	P		P	P	17 00 33.0	-0.6
	1.2nm,0.9s,baz=223,slow=5.9,SNR=9.4								
YKA	**Yellowknife Ar**	**91.61**	**24**	P		P	P	17 01 11.7	+0.1
	0.8nm,1.0s,baz=234,slow=4.1,SNR=5.2								
BRTR	**Keskin Array B**	**146.05**	**319**	PKPbc		PKPdf		17 07 44.9	+0.1
	1.3nm,0.9s,baz=132,slow=3.1,SNR=4.7								
GERES	**GERESS Array B**	**146.94**	**350**	PKPbc		PKPbc		17 07 47.3	-0.5
	0.8nm,0.8s,baz=350,slow=1.5,SNR=6.1								

*CSEM **12** 16:54:44.5±0.2, 36°.83N×55°.61E, h10km, ML3.6, Error ellipse: s-maj=6.3km s-min=2.4km az=165.0*
*TEH **12** 16:54:45.4, 36°.95N×55°.57E, h22km, ML3.6*
ISC 12 16:54:45.4±1.2, 36°.82N±0°.05×55°.60E±0°.03, h17km±12km, n51, σ0°94/66, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHRO	**Shahrood**	**0.90**	**158**	*e*Pg		**Pb**	**Pb**	**16 55 01.0**	**-1.6**
IGLO	**Ghaloghah**	**1.46**	**258**	*e*Sg		**Sn**	**Sn**	**16 55 30.1**	**0.0**
IGLO				*e*Pn		**Pn**	**Pn**	**16 55 08.2**	**-3.1**
IGLO				*e*				16 55 44.1	
	comp=Z,11μm,0.3s								
IKIA	**Kiasar**	**1.66**	**249**	*e*Pn		**Pn**	**Pn**	**16 55 13.7**	**-0.4**
IKIA				*e*				16 55 16.4	
	comp=Z,5μm,0.2s								
IKIA				*e*Sg		**Sg**	**Sg**	**16 55 40.2**	**+1.1**
IKIA	**Kiasar**	**1.66**	**249**	*e*Pn		**Pn**	**Pn**	**16 55 13.7**	**-0.4**
IKIA				*e*Sg		**Sg**	**Sg**	**16 55 40.2**	**+1.1**
BJRD	**Bojnurd**	**1.69**	**58**	*e*Pg		**Pg**	**Pg**	**16 55 18.6**	**+0.8**
BJRD				*e*Sg		**Sg**	**Sg**	**16 55 41.8**	**+2.0**
ISHV	**Shirvan**	**1.82**	**66**	*e*Pn		**Pn**	**Pn**	**16 55 15.4**	**-0.8**
ISHV				*e*Sg		**Sb**	**Sb**	**16 55 42.4**	**+1.3**
ISHV				*e*				16 55 47.2	
	comp=Z,20μm,0.5s								
ISHV	**Shirvan**	**1.82**	**66**	*e*Pn		**Pn**	**Pn**	**16 55 15.4**	**-0.8**
ISHV				*e*Sg		**Sb**	**Sb**	**16 55 42.4**	**+1.3**
IANJ	**Anjilo**	**1.92**	**226**	*e*Pn		**Pn**	**Pn**	**16 55 17.7**	**+0.1**
IANJ				*e*				16 55 51.7	
	comp=Z,4μm,0.2s								
IANJ	**Anjilo**	**1.92**	**226**	*e*Pn		**Pn**	**Pn**	**16 55 17.7**	**+0.1**
ISFR	**Sfrayin**	**1.94**	**82**	*e*Pn		**Pn**	**Pn**	**16 55 17.4**	**-0.4**
ISFR				*e*Sg		**Sb**	**Sb**	**16 55 46.3**	**+1.9**
ISFR				*e*				16 56 00.6	
	comp=Z,5μm,0.4s								
ISFR	**Sfrayin**	**1.94**	**82**	*e*Pn		**Pn**	**Pn**	**16 55 17.4**	**-0.4**
ISFR				*e*Sg		**Sb**	**Sb**	**16 55 46.3**	**+1.9**
ISHM	**Shahmirzad**	**2.12**	**242**	*e*Pn		**Pn**	**Pn**	**16 55 20.6**	**+0.2**
ISHM				*e*Sg		**Sg**	**Sg**	**16 55 53.3**	**-0.5**
ISHM				*e*				16 55 59.9	
	comp=Z,7μm,0.2s								
ISHM	**Shahmirzad**	**2.12**	**242**	*e*Pn		**Pn**	**Pn**	**16 55 20.6**	**+0.2**
ISHM				*e*Sg		**Sg**	**Sg**	**16 55 53.3**	**-0.5**
IKRD	**Kardeh**	**2.34**	**90**	*e*Pn		Pg	Pn	16 55 34.1	+3.8
IKRD				*e*				16 56 34.2	
	comp=Z,779nm,0.4s								
IALA	**Alasht**	**2.37**	**253**	*e*Pn		**Pn**	**Pn**	**16 55 23.7**	**-0.1**
IALA				*e*				16 56 05.1	
	comp=Z,8μm,0.2s								
IALA	**Alasht**	**2.37**	**253**	*e*Pn		**Pn**	**Pn**	**16 55 23.7**	**-0.1**
IEMG	**Emamgholi**	**2.51**	**75**	*e*Pn		**Pn**	**Pn**	**16 55 25.2**	**-0.5**
IEMG				*e*				16 56 10.4	
	comp=Z,2μm,0.2s								
IEMG	**Emamgholi**	**2.51**	**75**	*e*Pn		**Pn**	**Pn**	**16 55 25.2**	**-0.5**
IAKL	**Akhelmad**	**2.54**	**94**	*e*Pn		**Pn**	**Pn**	**16 55 26.1**	**-0.1**
IAKL				*e*				16 55 40.9	
	comp=Z,982nm,0.2s								
ILAS	**Lasjerd**	**2.58**	**237**	*e*Pn		**Pn**	**Pn**	**16 55 26.9**	**+0.2**
ILAS				*e*Sg		**Sg**	**Sg**	**16 56 07.5**	**-0.9**
ILAS				*e*				16 56 10.8	
	comp=Z,2μm,0.2s								
ILAS	**Lasjerd**	**2.58**	**237**	*e*Pn		**Pn**	**Pn**	**16 55 26.9**	**+0.2**
ILAS				*e*Sg		**Sg**	**Sg**	**16 56 07.5**	**-0.9**
IFIR	**Firoozkooh**	**2.59**	**244**	*e*Pn		**Pn**	**Pn**	**16 55 26.8**	**0.0**
IFIR				*e*				16 56 13.4	
	comp=Z,3μm,0.2s								
IFIR	**Firoozkooh**	**2.59**	**244**	*e*Pn		**Pn**	**Pn**	**16 55 26.8**	**0.0**
IPRN	**Peran**	**2.69**	**259**	*e*Pn		**Pn**	**Pn**	**16 55 27.7**	**-0.4**
IPRN				*e*				16 56 12.7	
	comp=Z,7μm,0.3s								
IPAY	**Payeh**	**2.75**	**97**	*e*Pn		**Pn**	**Pn**	**16 55 29.0**	**-0.1**
IPAY				*e*				16 56 13.0	
	comp=Z,938nm,0.2s								
IPAY	**Payeh**	**2.75**	**97**	*e*Pn		**Pn**	**Pn**	**16 55 29.0**	**-0.1**
IDMV	**Damavand**	**3.14**	**248**	*e*Pn		**Pn**	**Pn**	**16 55 34.2**	**-0.3**
IDMV				*e*				16 55 44.4	
	comp=Z,1μm,0.2s								
IDMV	**Damavand**	**3.14**	**248**	*e*Pn		**Pn**	**Pn**	**16 55 34.2**	**-0.3**
ISRO	**Mashad**	**3.16**	**98**	*e*Pn		**Pn**	**Pn**	**16 55 34.5**	**0.0**
ISRO				*e*Sg		**Sg**	**Sg**	**16 56 25.5**	**-1.3**
ISRO	**Mashad**	**3.16**	**98**	*e*Pn		**Pn**	**Pn**	**16 55 34.5**	**0.0**
ISRO				*e*Sg		**Sg**	**Sg**	**16 56 25.5**	**-1.3**
DAMV	**Damavand**	**3.17**	**249**	*e*Pn		**Pn**	**Pn**	**16 55 36.2**	**+1.4**
IVRN	**Varamin**	**3.64**	**241**	*e*Pn		**Pn**	**Pn**	**16 55 40.9**	**-0.1**
IVRN				*e*				16 55 51.6	
	comp=Z,949nm,0.3s								
IVRN	**Varamin**	**3.64**	**241**	*e*Pn		**Pn**	**Pn**	**16 55 40.9**	**-0.1**
IMYA	**Miami**	**3.65**	**96**	*e*Pn		**Pn**	**Pn**	**16 55 41.1**	**-0.3**
IMYA				*e*Sg		**Sg**	**Sg**	**16 56 40.6**	**-2.2**
IMYA				*e*				16 57 07.5	
	comp=Z,539nm,0.5s								
IMYA	**Miami**	**3.65**	**96**	*e*Pn		**Pn**	**Pn**	**16 55 41.1**	**-0.3**
IMYA				*e*Sg		**Sg**	**Sg**	**16 56 40.6**	**-2.2**
IR3	**Iran Long-Peri**	**3.94**	**251**	*e*Pn		**Pn**	**Pn**	**16 55 45.2**	**-0.1**
IR3	**Iran Long-Peri**	**3.94**	**251**	*e*Pn		**Pn**	**Pn**	**16 55 45.2**	**-0.1**
ITEG	**Tejag**	**4.70**	**146**	*e*Pn		**Pn**	**Pn**	**16 55 56.3**	**+0.6**
ITEG				*e*				16 55 57.3	
	comp=Z,779nm,0.1s								
ITEG	**Tejag**	**4.70**	**146**	*e*Pn		**Pn**	**Pn**	**16 55 56.3**	**+0.6**
IZEF	**Zefreh**	**4.75**	**215**	*e*Pn		**Pn**	**Pn**	**16 55 56.8**	**+0.2**
IZEF				*e*				16 57 17.4	
	comp=Z,196nm,0.2s								
IZEF	**Zefreh**	**4.75**	**215**	*e*Pn		**Pn**	**Pn**	**16 55 56.8**	**+0.2**
IRAZ	**Razeghan**	**4.81**	**255**	*e*Pn		**Pn**	**Pn**	**16 55 56.6**	**-0.7**
IRAZ				*e*				16 56 19.3	
	comp=Z,412nm,0.3s								
IRAZ	**Razeghan**	**4.81**	**255**	*e*Pn		**Pn**	**Pn**	**16 55 56.6**	**-0.7**
IKLH	**Kolahrood**	**4.81**	**225**	*e*Pn		**Pn**	**Pn**	**16 55 56.6**	**-0.7**
IKLH				*e*				16 57 23.5	
	comp=Z,324nm,0.4s								
IKLH	**Kolahrood**	**4.81**	**225**	*e*Pn		**Pn**	**Pn**	**16 55 56.6**	**-0.7**
ISAD	**Sadrabad**	**5.15**	**198**	*e*Pn		**Pn**	**Pn**	**16 56 02.3**	**+0.3**
ISAD				*e*				16 57 45.8	
	comp=Z,292nm,0.4s								
ISAD	**Sadrabad**	**5.15**	**198**	*e*Pn		**Pn**	**Pn**	**16 56 02.3**	**+0.3**
IKOO	**Kooshah**	**5.21**	**146**	*e*				16 56 05.8	
	comp=N,158nm,0.1s								
IKOO				*e*Pn		**Pn**	**Pn**	**16 56 03.3**	**+0.5**
IBAF	**Bafgh**	**5.22**	**180**	*e*Pn		**Pn**	**Pn**	**16 56 03.6**	**+0.7**
IBAF				*e*				16 57 52.0	
	comp=Z

comp=Z,0.8nm,0.7s,baz=14,slow=2.4,SNR=7.5
AKASG **Malin Array Be 146.01 326** PKPbc **PKPbc 17 20 37.2 -0.6**
comp=Z,0.6nm,0.3s,baz=44,slow=4.3,SNR=5.9
BRTR **Keskin Array B 148.24 305** PKPbc **PKPbc 17 20 42.9 -1.5**
comp=Z,0.5nm,0.4s,baz=140,slow=4.1,SNR=7.1
BRTR PKPab **PKPab 17 20 49.6 +0.3**
comp=Z,2.8nm,0.8s,baz=95,slow=3.4,SNR=9.0

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*IDC **12** 17:05:14.8±0.6, 19°.19N×104°.97W, h0km, mb4.6/22, mb1 4.7/25, mb1mx4.7/31, mbtmp4.5/25, ML3.6/3, MS4.4/26, Ms1 4.4/26, ms1mx4.4/30, Error ellipse: s-maj=24.0km s-min=12.4km az=55.0*

*MEX **12** 17:05:15.8±0.6, 19°.02N×105°.34W, h5km, MD5.2*

*MOS **12** 17:05:19.0±1.1, 19°.27N×104°.93W, h33km, mb5.5/42, Error ellipse: s-maj=8.6km s-min=4.5km az=93.3*

*NEIC **12** 17:05:20.2±0.3, 19°.15N×104°.94W, h35km, mb5.2/144, MD5.2(MEX), Error ellipse: s-maj=5.6km s-min=3.1km az=222.0*

NEIC Felt [V] at La Huerta, [IV] at San Patricio, [III] at Cihuatlan and [II] at Manzanillo and Puerto Vallarta. Also felt at Guadalajara, La Penita de Jaltemba and Leon.

*GCMT **12** 17:05:21.3±0.3, 19°.04N×105°.15W, h12km, MW5.2, Moment Tensor Solution. s59,c76; s99,c151; Moment tensor: Scale 10^{16}Nm; M_{rr}4.60±.11; $M_{\theta\theta}$-3.78±.11; $M_{\phi\phi}$-0.82±.11; $M_{r\theta}$5.78±.34; $M_{\theta\phi}$2.38±.10; $M_{r\phi}$-2.84±.36; Best double couple: $M_0$8.10000×10^{16} NP1:$\phi_1$117.00000°, δ72.00000°, λ.88.00000°. NP2:$\phi_2$302.00000°, δ19.00000°, λ95.00000°. Principal axes: T 7.8200, Plg63.0000°, Azm24.0000°; N 0.4900, Plg2.0000°, Azm117.0000°; P -8.3100, Plg26.0000°, Azm208.0000°; Data Used: ll lU G CN IC CU. Surface waves from 104 sta.*

*ISCJB **12** 17:05:22.0±0.5, 19°.27N±0°.03×104°.87W±0°.02, h59km±3km, mb5.1/161, MS4.5/30 Error ellipse: s-maj=5.4km s-min=2.7km az=35.3*

*BJI **12** 17:05:24.9, 19°.40N×104°.80W, h73km, mB5.3/14, mb5.4/5, Ms5.3/10, Ms7 4.9/9*

*SZGRF **12** 17:05:34.8, 20°.84N×102°.06W, h33km, mb5.4, Jalisco, Mexico*

ISC 12 17:05:19.4±1.1, 19°.15N±0°.05×105°.13W±0°.05, h30km±7km, n912, σ1°23/905, mb5.2/160, MS4.5/30, 230C-220D, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.36**	**13**	*i* P			**Pb**	**17 05 25.8**	**-2.0**
CJM				*i* S			**Sb**	**17 05 34.0**	**+0.6**
CJM	**Chamela**	**0.36**	**13**	*i* P			**Pb**	**17 05 25.8**	**-2.0**
CJM				*i* S			**Sb**	**17 05 34.0**	**+0.6**
R15V		**1.08**	**89**	*i* P			Pn	17 05 35.9	-2.7
R15V				*i* S			**Sb**	**17 05 53.2**	**-0.2**
EZ5V		**1.48**	**77**	*i* P			**Pn**	**17 05 43.1**	**-1.1**
EZ5V				*i* S			**Sb**	**17 06 04.6**	**-0.3**
ANIG	**Ahuacatlan**	**1.98**	**17**	*i* P			**Pn**	**17 05 50.1**	**-0.9**
ANIG				*e*S			**Sn**	**17 06 16.4**	**+1.5**
ANIG	**Ahuacatlan**	**1.98**	**17**	*i* P			**Pn**	**17 05 50.1**	**-0.9**
ANIG				*e*S			**Sn**	**17 06 16.4**	**+1.5**
MOIG	**Morelia**	**3.75**	**81**	*e*P			**Pn**	**17 06 15.5**	**0.0**
MOIG				*i* S			**Sn**	**17 07 02.0**	**+3.2**
MOIG	**Morelia**	**3.75**	**81**	*e*P			**Pn**	**17 06 15.5**	**0.0**
MOIG				*i* S			**Sn**	**17 07 02.0**	**+3.2**
IGIG	**Irapuato, Guan**	**3.91**	**65**	*i* P			**Pn**	**17 06 18.2**	**+0.5**
IGIG				*i* S			**Sn**	**17 07 05.9**	**+3.1**
IGIG				*i* S			**Sn**	**17 07 05.9**	**+3.1**
MAIG	**Mazatlaan**	**4.20**	**343**	*i* P			**Pn**	**17 06 18.9**	**-2.5**
MAIG				*i* S			**Sn**	**17 07 08.0**	**-1.5**
MAIG	**Mazatlaan**	**4.20**	**343**	*i* P			**Pn**	**17 06 18.9**	**-2.5**
MAIG				*i* S			**Sn**	**17 07 08.0**	**-1.5**
ZAIG	**Zacatecas**	**4.33**	**33**	*e*P			**Pn**	**17 06 24.1**	**+0.7**
ZAIG				*i* S			**Sn**	**17 07 15.2**	**+2.2**
ZAIG	**Zacatecas**	**4.33**	**33**	*e*P			**Pn**	**17 06 24.1**	**+0.7**
ZAIG				*e*S			**Sn**	**17 07 15.2**	**+2.2**
CAIG	**El Cayaco**	**5.07**	**114**	*i* P			**Pn**	**17 06 32.3**	**-1.2**
CAIG				*i* S			**Sn**	**17 07 32.3**	**+1.3**
CAIG	**El Cayaco**	**5.07**	**114**	*i* P			**Pn**	**17 06 32.3**	**-1.2**
CAIG				*i* S			**Sn**	**17 07 32.3**	**+1.3**
MEIG	**Mezcala**	**5.36**	**102**	*i* P			**Pn**	**17 06 37.4**	**-0.1**
MEIG				*i* S			**Sn**	**17 07 39.8**	**+1.5**
MEIG	**Mezcala**	**5.36**	**102**	*i* P			**Pn**	**17 06 37.4**	**-0.1**
MEIG				*i* S			**Sn**	**17 07 39.8**	**+1.5**
H06E1	**SOCORRO T-PHAS** SNR=75	**5.50**	**267**	T			T	17 12 32.3	
H06S1	**SOCORRO T** SNR=46	**5.53**	**267**	T			T	17 12 30.8	
H06N1	**SOCORRO T-PHAS** SNR=6.8	**5.55**	**268**	T			T	17 12 32.3	
UNM	**Universidad Na**	**5.62**	**87**	*i* P			**Pn**	**17 06 41.7**	**+0.4**
UNM				*i* S			**Sn**	**17 07 48.3**	**+3.3**
DEIG	**Demacu**	**5.85**	**78**	*i* P			**Pn**	**17 06 45.1**	**+0.7**
DEIG				*i* S			**Sn**	**17 07 54.0**	**+3.4**
LPIG	**La Paz**	**6.89**	**317**	Pn			Pn	17 07 00.8	+2.4
LPIG	**La Paz** 19nm,0.3s,baz=162,slow=6.4,SNR=2.7	**6.89**	**317**	Pn			Pn	17 07 00.8	+2.4
HUIG	**Huatulco**	**9.24**	**110**	*i* P			**Pn**	**17 07 30.9**	**+0.2**
HUIG				*i* S			**Sn**	**17 09 15.6**	**+2.0**
HUIG	**Huatulco**	**9.24**	**110**	*i* P			**Pn**	**17 07 30.9**	**+0.2**
HUIG				*i* S			**Sn**	**17 09 15.6**	**+2.0**
TX31	**Lajitas Ar. Si**	**10.23**	**7**	*e*Pn			**Pn**	**17 07 46.6**	**+2.3**
TXAR	**Lajitas Array**	**10.23**	**7**	Pn			**Pn**	**17 07 46.2**	**+2.0**
TXAR				Lg			Lg	17 10 42.4	
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=197,slow=12,SNR=65	**10.23**	**7**	Pn			**Pn**	**17 07 46.2**	**+2.0**
TXAR				Lg			Lg	17 10 42.4	
627A	**Terlingua Ranc** 0.5nm,0.3s,baz=91,slow=30,SNR=5.1 baz=10,SNR=41	**10.38**	**8**	⇓P			**Pn**	**17 07 48.9**	**+2.5**
626A	**Big Bend Ranch** baz=10,SNR=19	**10.40**	**5**	⇓P			**Pn**	**17 07 48.1**	**+1.5**
628A	**Black Gap, Mar** baz=10,SNR=11	**10.49**	**11**	⇓P			**Pn**	**17 07 50.3**	**+2.4**
732A	**Laxson Ranch,** baz=11,SNR=18	**10.64**	**25**	⇓P			**Pn**	**17 07 51.5**	**+1.7**
526A	**Mary Lane Ranc** baz=11,SNR=24	**10.91**	**5**	⇓P			**Pn**	**17 07 56.0**	**+2.4**
631A	**Perdido Creek** baz=11	**11.03**	**21**	⇑P			**Pn**	**17 07 57.2**	**+2.1**
527A	**Woodward Ranch** baz=11,SNR=15	**11.04**	**7**	⇓P			Pn	17 07 58.4	+3.0
528A	**Cox Ranch, San** baz=11	**11.17**	**11**	⇓P			**Pn**	**17 07 58.7**	**+1.5**
529A	**Stev Forest Ra** baz=11	**11.24**	**13**	⇑P			**Pn**	**17 08 00.6**	**+2.4**
632A	**Uvalde** baz=11	**11.40**	**24**	⇑P			**Pn**	**17 08 01.1**	**+0.8**
530A	**J-C Ranch, Com** baz=12,SNR=17	**11.48**	**17**	⇑P			**Pn**	**17 08 01.7**	**+0.3**
426A	**McDonald Obser** baz=12,SNR=11	**11.52**	**5**	⇑P			**Pn**	**17 08 03.4**	**+1.4**
425A	**Indio Mountain** baz=12,SNR=10	**11.59**	**1**	⇑P			**Pn**	**17 08 04.4**	**+1.5**
531A	**Rocksprings** baz=12,SNR=15	**11.73**	**20**	⇑P			**Pn**	**17 08 06.4**	**+1.6**
428A	**Kincaid Ranch,** baz=12,SNR=13	**11.74**	**10**	⇑P			**Pn**	**17 08 07.3**	**+2.4**
427A	**Hayter Ranch,** baz=12,SNR=9.7	**11.76**	**7**	⇓P			**Pn**	**17 08 07.1**	**+1.9**
429A	**Davenport Ranc** baz=12	**11.80**	**14**	⇑P			**Pn**	**17 08 07.6**	**+1.8**
532A	**Rocksprings** baz=12,SNR=27	**11.92**	**22**	⇓P			**Pn**	**17 08 08.9**	**+1.5**
430A	**Baggett Ranch,** baz=12,SNR=27	**12.11**	**16**	⇑P			**Pn**	**17 08 11.5**	**+1.5**
326A	**Caldwell Ranch** baz=12	**12.16**	**5**	⇓P			**Pn**	**17 08 13.2**	**+2.4**
325A	**Bean Ranch, Si** baz=12,SNR=15	**12.17**	**1**	⇓P			**Pn**	**17 08 13.4**	**+2.4**
431A	**Sonora** baz=12, SNR=16	**12.19**	**19**	⇓P			**Pn**	**17 08 12.7**	**+1.6**
533A	**Kerrville** baz=12,SNR=7.2	**12.20**	**26**	⇑P			**Pn**	**17 08 12.1**	**+0.8**
327A	**Balmorhea Ranc** baz=12	**12.26**	**7**	⇑P			**Pn**	**17 08 14.3**	**+2.2**
JCT	**Junction City**	**12.27**	**22**	*e*P			**Pn**	**17 08 15.4**	**+3.2**
JCT	**Junction City**	**12.27**	**22**	*e*Pn			**Pn**	**17 08 15.4**	**+3.2**
JCT	**Junction City** baz=12	**12.27**	**22**	⇑P			**Pn**	**17 08 13.6**	**+1.4**
328A	**Wristen Ranch,** baz=12,SNR=14	**12.36**	**9**	⇑P			**Pn**	**17 08 15.6**	**+2.1**
534A	**Blanco** baz=12	**12.40**	**28**	⇑P			**Pn**	**17 08 15.2**	**+1.2**
MNTX	**Cornudas Mount**	**12.50**	**359**	*e*Pn			**Pn**	**17 08 17.1**	**+1.8**
320A	**Kipp Ranch, An** baz=13	**12.52**	**346**	⇑P			Pn	17 08 19.0	+3.3
329A	**Wagon Wheel Ra** baz=13,SNR=8.2	**12.61**	**12**	⇓P			**Pn**	**17 08 18.4**	**+1.6**
432A	**Menard** baz=13,SNR=36	**12.63**	**21**	⇓P			**Pn**	**17 08 18.6**	**+1.5**
330A	**Mertzon** baz=13,SNR=12	**12.72**	**16**	⇑P			**Pn**	**17 08 19.4**	**+1.1**
319A	**Douglas** baz=13,SNR=9.3	**12.74**	**344**	⇓P			Pn	17 08 21.7	+3.0
433A	**Art** baz=13,SNR=11	**12.78**	**24**	⇑P			**Pn**	**17 08 19.8**	**+0.6**
331A	**San Angelo** baz=13,SNR=15	**12.83**	**18**	⇓P			**Pn**	**17 08 20.1**	**+0.2**
223A	**Chaparral, Ant** baz=13	**12.86**	**355**	⇑P			**Pn**	**17 08 22.8**	**+2.5**
224A	**Cornudas Mount** baz=13	**12.88**	**358**	⇑P			**Pn**	**17 08 22.2**	**+1.5**
226B	**Tecolote Peak,** baz=13,SNR=8.3	**12.90**	**4**	⇑P			**Pn**	**17 08 22.6**	**+1.7**
225A	**Deer Hill, Car** baz=13	**12.91**	**1**	⇑P			**Pn**	**17 08 22.5**	**+1.5**
227A	**Bennet, Jal** baz=13	**12.92**	**7**	⇓P			**Pn**	**17 08 23.0**	**+2.0**
GDL2	**Guadalupe Moun** 55nm,1.3s	**13.02**	**3**	*e*Pn			Pn	17 08 25.6	+3.1
222A	**Williams Famil** baz=13	**13.03**	**353**	⇑P			**Pn**	**17 08 25.3**	**+2.7**
221A	**Mesquite Ranch** baz=13,SNR=5.6	**13.03**	**350**	⇓P			Pn	17 08 25.4	+2.7
229A	**Bryant Ranch,** baz=13,SNR=9.0	**13.11**	**13**	⇑P			**Pn**	**17 08 24.8**	**+1.1**
CLNB	**Carlsbad** 9.7nm,1.2s	**13.11**	**5**	Pn			**Pn**	**17 08 25.7**	**+2.0**
228A	**UT Buck 9, Go** baz=13,SNR=6.4	**13.12**	**10**	⇑P			**Pn**	**17 08 24.7**	**+0.9**
332A	**Millersview** baz=13,SNR=17	**13.12**	**21**	⇑P			**Pn**	**17 08 24.3**	**+0.6**
434A	**Burnet** baz=13,SNR=10	**13.17**	**27**	⇑P			**Pn**	**17 08 25.1**	**+0.6**
230A	**Sterling City** baz=13,SNR=11	**13.19**	**15**	⇑P			**Pn**	**17 08 25.4**	**+0.6**
333A	**Richland Sprin** baz=13,SNR=14	**13.33**	**23**	⇓P			**Pn**	**17 08 27.0**	**+0.3**
231A	**Bronte** baz=13	**13.45**	**18**	⇓P			**Pn**	**17 08 28.7**	**+0.4**
125A	**Gardner Draw,** baz=14,SNR=16	**13.46**	**2**	⇓P			**Pn**	**17 08 30.2**	**+1.7**
123A	**Bell Site, Whi** baz=14	**13.47**	**356**	⇓P			**Pn**	**17 08 30.5**	**+1.8**
126A	**Clayton Basin,** baz=14,SNR=9.7	**13.48**	**4**	⇑P			**Pn**	**17 08 30.1**	**+1.4**
124A	**Stringfield Ra** baz=14,SNR=26	**13.50**	**359**	⇓P			**Pn**	**17 08 31.0**	**+1.8**
121A	**Cookes Peak, D** 240nm,1.7s	**13.54**	**350**	*e*Pn			Pn	17 08 33.3	+3.7
121A	**Cookes Peak, D** baz=14,SNR=10	**13.54**	**350**	⇓P			**Pn**	**17 08 32.2**	**+2.5**
127A	**Arkansas Junct** baz=14,SNR=7.7	**13.57**	**6**	⇓P			**Pn**	**17 08 31.9**	**+2.0**
232A	**Coleman** baz=14,SNR=29	**13.61**	**20**	⇓P			**Pn**	**17 08 30.9**	**+0.3**
128A	**Castleberry Fa** baz=14	**13.63**	**10**	⇓P			**Pn**	**17 08 31.7**	**+1.0**
334A	**Lometa** baz=14	**13.63**	**26**	⇑P			**Pn**	**17 08 31.0**	**+0.2**
HKT	**Hockley**	**13.67**	**36**	*e*P			**Pn**	**17 08 31.4**	**+0.2**
HKT	**Hockley**	**13.67**	**36**	*e*Pn			**Pn**	**17 08 31.4**	**+0.2**
129A	**Stewart Farms,** baz=14	**13.74**	**12**	⇑P			**Pn**	**17 08 33.4**	**+1.1**
130A	**Snyder** baz=14,SNR=13	**13.90**	**15**	⇑P			**Pn**	**17 08 35.5**	**+1.0**
335A	**Moody** baz=14	**13.94**	**28**	⇓P			**Pn**	**17 08 34.9**	**0.0**
TUC	**Tucson**	**14.06**	**340**	*e*P			**Pn**	**17 08 38.9**	**+2.2**
TUC	**Tucson**	**14.06**	**340**	*e*Pn			**Pn**	**17 08 38.9**	**+2.2**
Z25A	**Roswell** baz=14,SNR=15	**14.08**	**1**	⇓P			**Pn**	**17 08 37.9**	**+1.0**
Z23A	**Rita Site, Whi** baz=14	**14.09**	**356**	⇑P			**Pn**	**17 08 39.4**	**+2.2**
Z26A	**Caprock** baz=14	**14.10**	**4**	⇓P			**Pn**	**17 08 38.6**	**+1.3**
131A	**Roby** baz=14,SNR=7.6	**14.12**	**17**	⇓P			**Pn**	**17 08 37.8**	**+0.3**
Z24A	**Sheeppen Canyo** baz=14	**14.13**	**359**	⇓P			**Pn**	**17 08 39.4**	**+1.7**
Z22A	**Elephant Butte** baz=14	**14.15**	**354**	⇑P			**Pn**	**17 08 40.6**	**+2.6**
Z27A	**Tatum** baz=14,SNR=14	**14.21**	**7**	⇓P			**Pn**	**17 08 40.3**	**+1.5**
ABTX	**Abilene, Hawle** 150nm,1.2s	**14.29**	**19**	*e*Pn			**Pn**	**17 08 41.0**	**+1.2**
ABTX	**Abilene, Hawle** baz=14,SNR=15	**14.29**	**19**	⇑P			**Pn**	**17 08 39.9**	**+0.1**
Z28A	**Tucker Farm, M** baz=14,SNR=5.4	**14.29**	**9**	⇑P			**Pn**	**17 08 40.9**	**+1.0**
Z29A	**Hungry Hill Ra** baz=14,SNR=17	**14.38**	**12**	⇓P			**Pn**	**17 08 41.5**	**+0.5**
214A	**Organ Pipe Nat** 192nm,1.5s	**14.51**	**333**	*e*Pn			**Pn**	**17 08 44.4**	**+1.6**
214A	**Organ Pipe Nat** baz=15,SNR=30	**14.51**	**333**	⇓P			**P**	**17 08 46.2**	**-2.8**
133A	**Hamilton Ranch** baz=14,SNR=13	**14.52**	**21**	⇓P			**Pn**	**17 08 43.0**	**+0.2**
Z30A	**Sanderson Ranc** baz=14,SNR=73	**14.53**	**13**	⇑P			**Pn**	**17 08 43.5**	**+0.5**
WHTX	**Lake Whitney** 114nm,1.0s	**14.53**	**27**	*e*Pn			**Pn**	**17 08 42.8**	**-0.3**
WHTX	**Lake Whitney** baz=14,SNR=23	**14.53**	**27**	⇓P			**Pn**	**17 08 42.8**	**-0.3**
APG	**El Apazote**	**14.61**	**104**	Pn			**Pn**	**17 08 42.7**	**-1.7**
APG				Lg			Lg	17 12 49.9	
APG	**El Apazote** baz=289,slow=9.8,SNR=4.0	**14.61**	**104**	Pn			**Pn**	**17 08 42.7**	**-1.7**
APG	0.1nm,0.3s,baz=41,slow=12,SNR=4.1			Lg			Lg	17 12 49.9	
APG	comp=Z,3μm,18.5s,baz=113,slow=37			LR			LR	17 14 11.4	
Y25A	**Mesa, Roswell** baz=15,SNR=26	**14.72**	**1**	⇓P			**Pn**	**17 08 47.3**	**+1.6**
Y24A	**Capitan** baz=15	**14.72**	**359**	⇓P			**Pn**	**17 08 47.2**	**+1.4**
Y23A	**Lovelace Mesa,** baz=15,SNR=7.8	**14.75**	**357**	⇓P			**Pn**	**17 08 47.5**	**+1.4**
Y26A	**Elida** baz=15	**14.76**	**4**	⇓P			**Pn**	**17 08 46.8**	**+0.6**
Y27A	**Causey** baz=15,SNR=41	**14.78**	**6**	⇓P			**Pn**	**17 08 47.3**	**+0.7**
134A	**White-Moore Ra** baz=15,SNR=6.5	**14.79**	**24**	⇓P			**Pn**	**17 08 46.6**	**+0.1**
Z31A	**Sharp Cattle R** baz=15	**14.80**	**17**	⇑P			**Pn**	**17 08 46.8**	**+0.1**
Y22A	**Socorro** baz=15,SNR=10	**14.82**	**354**	⇓P			**Pn**	**17 08 48.7**	**+1.6**
MSTX	**Muleshoe** 252nm,1.4s	**14.91**	**8**	*e*Pn			**Pn**	**17 08 47.1**	**-1.2**
MSTX	**Muleshoe** baz=15,SNR=27	**14.91**	**8**	⇓P			**Pn**	**17 08 49.0**	**+0.8**
Y28A	**McKinney Farm,** baz=15,SNR=19	**14.92**	**9**	⇓P			**Pn**	**17 08 48.7**	**+0.3**
Y22D	**IRIS PASSCAL I** baz=15	**14.95**	**354**	⇑P			**Pn**	**17 08 51.2**	**+2.3**
Y29A	**Porterfield Fa** baz=15,SNR=27	**14.97**	**11**	⇑P			**Pn**	**17 08 49.6**	**+0.5**
Z32A	**Haskell** baz=15,SNR=9.6	**14.98**	**19**	⇓P			**Pn**	**17 08 49.0**	**0.0**
BNM	**Barren Site**	**15.00**	**355**	*e*Pn			**Pn**	**17 08 51.3**	**+1.7**
135A	**Vickery Place,** baz=15	**15.04**	**26**	⇓P			**Pn**	**17 08 50.0**	**+0.1**
LENM	**Lemitar**	**15.05**	**354**	*e*Pn			**Pn**	**17 08 51.6**	**+1.5**
Y30A	**Stafford Cattl** baz=15,SNR=11	**15.15**	**14**	⇑P			**Pn**	**17 08 51.5**	**+0.2**
LPM	**Los Pinos Moun**	**15.16**	**355**	*e*Pn			**P**	**17 08 54.9**	**-1.6**
Z33A	**Whitaker Ranch** baz=15,SNR=30	**15.19**	**21**	⇓P			**Pn**	**17 08 52.3**	**+0.4**
LAZ	**Ladron**	**15.30**	**354**	*e*Pn			**Pn**	**17 08 54.8**	**+1.3**
X25A	**Clemmons Ranch** baz=15,SNR=7.1	**15.32**	**1**	⇑P			**Pn**	**17 08 54.3**	**+0.5**
Y31A	**Rekieta Farm,** baz=15	**15.38**	**15**	⇑P			**Pn**	**17 08 54.7**	**+0.4**
X26A	**CR and CF Fran** baz=15,SNR=5.2	**15.39**	**4**	⇓P			**Pn**	**17 08 55.2**	**+0.7**
X23A	**Hourglass Bar** baz=16,SNR=10	**15.40**	**357**	⇓P			**Pn**	**17 08 56.4**	**+1.6**
X28A	**Dimmitt** baz=16,SNR=6.7	**15.53**	**9**	⇑P			**Pn**	**17 08 56.9**	**+0.5**
X29A	**Tulia**	**15.54**	**11**	⇓P			**Pn**	**17 08 56.9**	**+0.4**
X27A	**F and S Farms,** baz=16	**15.54**	**6**	⇓P			**Pn**	**17 08 57.2**	**+0.7**
Z34A	**Collier Ranch,** baz=16	**15.56**	**23**	⇑P			**Pn**	**17 08 56.5**	**-0.2**
113A	**Mohawk Valley,** baz=16,SNR=34	**15.62**	**332**	⇓P			**P**	**17 09 00.4**	**-0.9**
Y32A	**R-V Farms, Ver** baz=16,SNR=5.5	**15.64**	**18**	⇓P			**Pn**	**17 08 57.6**	**-0.1**
X30A	**Coker Ranch, T** baz=16,SNR=15	**15.70**	**13**	⇑P			**Pn**	**17 08 58.5**	**-0.1**
ANMO	**Albuquerque** 56nm,1.4s	**15.78**	**356**	*e*Pn			**Pn**	**17 09 01.0**	**+1.3**
ANMO				Lg			Lg	17 13 48.3	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=184,slow=16,SNR=3.1	**15.78**	**356**	Pn			**Pn**	**17 08 59.4**	**-0.4**
ANMO				Lg			Lg	17 13 48.3	
ANMO	0.1nm,0.3s,baz=62,slow=16,SNR=3.5			LR			LR	17 14 25.2	
Z35A	comp=Z,3μm,20.7s,baz=17,slow=35 **Perchaven, San** baz=16,SNR=14	**15.78**	**25**	⇓P			**Pn**	**17 08 59.3**	**-0.2**
Z14A	**Wintersburg** baz=16,SNR=15	**15.79**	**335**	⇓P			**P**	**17 09 02.6**	**-0.6**
Y33A	**Hilltop Ranch,** baz=16,SNR=22	**15.89**	**20**	⇓P			**Pn**	**17 09 01.4**	**+0.4**
TEIG	**Tepich** 88nm,1.3s	**15.91**	**83**	*e*Pn			Pn	17 08 57.5	-3.8
TEIG	**Tepich** 1.1nm,0.3s,baz=297,slow=12,SNR=7.5	**15.91**	**83**	Pn			**Pn**	**17 08 58.1**	**-3.1**
TEIG	comp=Z,2μm,19.7s,baz=257,slow=40			LR			LR	17 15 41.4	
X18A	**Snowflake** baz=16,SNR=25	**15.91**	**345**	⇓P			**P**	**17 09 03.7**	**-1.1**
W26A	**Owens Ranch, T** baz=16	**15.93**	**4**	⇑P			**Pn**	**17 09 02.1**	**+0.6**
W27A	**Bowe Ranch, En** baz=16,SNR=17	**15.96**	**6**	⇑P			**Pn**	**17 09 02.5**	**+0.5**
AMTX	**Amarillo** baz=16	**15.97**	**10**	⇓P			**Pn**	**17 09 02.4**	**+0.3**
W23A	**Werner Place,** baz=16,SNR=12	**15.98**	**357**	⇓P			**Pn**	**17 09 03.7**	**+1.4**
W24A	**Lazy 6 Ranch,** baz=16,SNR=21	**16.00**	**359**	⇓P			**Pn**	**17 09 03.6**	**+1.0**
W25A	**X Bar L Ranch,** baz=16,SNR=15	**16.02**	**2**	⇑P			**Pn**	**17 09 03.7**	**+1.0**
X32A	**Elmer** baz=16,SNR=29	**16.08**	**18**	⇑P			**Pn**	**17 09 03.4**	**+0.1**
X31A	**McDonald Ranch** baz=16,SNR=8.4	**16.09**	**15**	⇓P			**Pn**	**17 09 03.6**	**+0.1**
Y34A	**Reagan Ranch,** baz=16,SNR=15	**16.15**	**23**	⇓P			**Pn**	**17 09 04.3**	**0.0**
W29A	**Amraillo** baz=16,SNR=10	**16.21**	**10**	⇑P			**Pn**	**17 09 05.7**	**+0.7**
X16A	**Lo Mia Camp, P** baz=16,SNR=70	**16.21**	**341**	⇓P			**P**	**17 09 07.8**	**-0.3**
W28A	**Vega** baz=16	**16.25**	**9**	⇓P			**Pn**	**17 09 06.2**	**+0.5**
Y14A	**Wickenburg** baz=16,SNR=30	**16.32**	**336**	⇓P			**P**	**17 09 09.2**	**0.0**
GLA	**Glamis**	**16.34**	**330**	*e*P			**P**	**17 09 08.4**	**-1.1**
GLA	comp=Z,127nm,1.8s			pmax			pmax		
GLA	**Glamis** comp=Z,127nm,1.8s	**16.34**	**330**	*e*Pn			**P**	**17 09 08.3**	**-1.1**
GLA	**Glamis** baz=16,SNR=17	**16.34**	**330**	⇓P			**P**	**17 09 10.2**	**+0.7**
W18A	**Petrified Fore** comp=Z,378nm,1.8s	**16.42**	**347**	*e*Pn			**Pn**	**17 09 06.8**	**-1.1**
W18A	**Petrified Fore** baz=16,SNR=12	**16.42**	**347**	⇓P			**P**	**17 09 10.1**	**-0.4**
X33A	**Lawton** baz=16,SNR=16	**16.42**	**20**	⇓P			**Pn**	**17 09 07.8**	**0.0**
W30A	**Crocket Farms** baz=16	**16.47**	**13**	⇑P			**Pn**	**17 09 08.6**	**+0.1**
V24A	**Rampart Ranch,** baz=17	**16.52**	**360**	⇓P			**Pn**	**17 09 10.1**	**+1.0**
WMOK	**Wichita Mounta**	**16.52**	**19**	*e*P			**Pn**	**17 09 06.6**	**-2.4**
WMOK	comp=Z,128nm,1.4s			pmax			pmax		
WMOK	**Wichita Mounta** comp=Z,128nm,1.4s	**16.52**	**19**	*e*Pn			**Pn**	**17 09 06.5**	**-2.4**
V23A	**Ortiz Mt. (NFS** baz=17	**16.56**	**357**	⇑P			**Pn**	**17 09 11.0**	**+1.3**
W31A	**Holland Ranch,** baz=17	**16.62**	**15**	⇓P			**Pn**	**17 09 10.3**	**0.0**
V26A	**Tequesquite Ra** baz=17,SNR=25	**16.63**	**4**	⇑P			**Pn**	**17 09 11.4**	**+0.9**
V25A	**Rancho No Teng** baz=17,SNR=37	**16.63**	**1**	⇓P			**P**	**17 09 12.1**	**-0.6**
V27A	**Dan Oppiter Fa** baz=17	**16.67**	**7**	⇑P			**Pn**	**17 09 11.7**	**+0.7**
DVTC	**Desert V Tower** baz=17,SNR=9.4	**16.67**	**326**	⇓P			**P**	**17 09 14.8**	**+1.7**
X34A	**Smith Ranch, M** baz=17,SNR=29	**16.70**	**21**	⇑P			**Pn**	**17 09 11.2**	**-0.1**
SWSC	**Sam W. Stewart**	**16.73**	**327**	*e*Pn			**P**	**17 09 13.1**	**-0.6**
SWSC				*e*Sn			**Sn**	**17 12 20.9**	**+4.3**
SWSC	**Sam W. Stewart** baz=17,SNR=12	**16.73**	**327**	⇑P			**P**	**17 09 15.4**	**+1.7**
V28A	**Channing** baz=17	**16.74**	**8**	⇓P			**Pn**	**17 09 12.1**	**+0.3**
W32A	**Sentinel** baz=17,SNR=15	**16.75**	**17**	⇓P			**Pn**	**17 09 12.0**	**+0.1**
V22A	**San Miguel Ran** baz=17,SNR=7.5	**16.78**	**355**	⇑P			**P**	**17 09 13.8**	**-0.6**
Y12C	**Blythe** baz=17,SNR=20	**16.79**	**332**	⇑P			**P**	**17 09 15.2**	**+1.0**
V29A	**Stinnett** baz=17	**16.96**	**10**	⇓P			**Pn**	**17 09 15.1**	**+0.5**
BAR	**Barrett** comp=Z,164nm,1.6s	**17.00**	**325**	*e*Pn			**P**	**17 09 16.5**	**-0.1**
W33A	**Caddo, Fort Co** baz=17,SNR=6.5	**17.00**	**19**	⇑P			**

baz=18,SNR=26
NEE2 **Needles Airpor** 17.69 333 ⇓P P 17 09 26.8 +2.5
baz=18
U30A **WK&E Inc. Balk** 17.76 12 ⇑P Pn 17 09 24.9 +0.4
baz=18
U31A **Nine Bar Ranch** 17.77 14 ⇓P Pn 17 09 24.8 +0.1
baz=18
TGUH **Tegucigalpa,Un** 17.84 104 *e*Pn Pn 17 09 24.3 -1.2
T23A **Casias Ranch,** 17.84 358 ⇑P P 17 09 27.0 +0.8
baz=18
T24B **San Luis** 17.85 359 ⇓P P 17 09 26.7 +0.4
baz=18,SNR=11
V34A **Guthrie** 17.93 20 ⇓P Pn 17 09 26.4 -0.1
baz=18,SNR=17
T25A **Trinidad** 17.94 2 ⇑P P 17 09 27.5 +0.3
baz=18,SNR=15
T27A **Campo** 17.97 6 ⇑P Pn 17 09 27.4 +0.3
baz=18,SNR=8.0
MURC **Murrieta** 17.98 326 ⇑P P 17 09 30.2 +2.7
baz=18
U32A **Winter Ranch,** 17.99 16 ⇑P Pn 17 09 27.5 +0.1
baz=18,SNR=11
T26A **Comanche Natio** 18.01 4 ⇓P P 17 09 28.4 +0.4
baz=18,SNR=9.5
T28A **Walsh** 18.10 8 ⇑P Pn 17 09 28.9 +0.1
baz=18
GMRC **Granite Mounta** 18.16 331 ⇑P P 17 09 32.1 +2.5
baz=18,SNR=66
LDFC **Landfair** 18.17 333 *e*P P 17 09 32.4 +2.7
comp=Z,449nm,1.4s
MVCO **Mesa Verde** 18.24 351 *e*Pn P 17 09 31.1 +0.5
comp=Z,162nm,1.6s
MVCO **Mesa Verde** 18.24 351 ⇑P P 17 09 31.8 +1.3
baz=18
T29A **Hugoton** 18.25 10 ⇑P P 17 09 30.4 -0.1
baz=18
SCI **San Clemente I** 18.28 322 ⇑P Pn 17 09 34.1 +3.3
baz=18
T30A **Plains** 18.29 12 ⇑P P 17 09 30.8 -0.1
baz=18,SNR=8.6
U33A **Lingo Farm, Me** 18.29 18 ⇑P P 17 09 30.8 -0.1
baz=18
U15A **North Rim** 18.33 341 ⇓P Pn 17 09 33.6 +1.8
baz=18,SNR=24
BBRC **Big Bear Solar** 18.35 327 ⇓P Pn 17 09 35.0 +3.1
baz=18
S24A **Houchin Ranch,** 18.43 360 ⇑P Pn 17 09 33.1 +0.2
baz=18,SNR=11
MIAR **Mount Ida** 18.45 31 *e*P P 17 09 31.2 -1.5
MIAR pmax pmax
comp=Z,39nm,1.2s
MIAR **Mount Ida** 18.45 31 *e*Pn P 17 09 31.1 -1.5
comp=Z,40nm,1.2s
S25A **Robets Cordova** 18.46 2 ⇑P P 17 09 33.3 +0.4
baz=18,SNR=8.4
S26A **Kim** 18.46 4 ⇓P P 17 09 33.2 +0.3
baz=18,SNR=15
U34A **Anderson Ranch** 18.47 20 ⇑P P 17 09 32.6 -0.3
baz=18,SNR=19
CIS **Catalina Islan** 18.50 323 ⇑P Pn 17 09 36.8 +3.2
baz=19
S23A **Nye Farm, Mont** 18.51 358 ⇑P Pn 17 09 34.2 +0.4
baz=19
T31A **Randall Ranch,** 18.51 14 ⇑P P 17 09 33.2 -0.1
baz=18,SNR=5.6
HEC **Hector,Ludlow** 18.52 330 ⇑P Pn 17 09 36.1 +2.4
baz=19,SNR=15
SDCO **Great Sand Dun** 18.53 359 *e*Pn Pn 17 09 34.9 +0.7
comp=Z,146nm,1.9s
S27A **Las Animas** 18.57 6 ⇓P P 17 09 34.5 +0.4
baz=19
S22A **4UR Ranch, Cre** 18.59 356 ⇓P Pn 17 09 36.4 +1.5
baz=19,SNR=33
S28A **Manter** 18.59 8 ⇓P P 17 09 34.5 +0.3
baz=19,SNR=7.9
TUL1 **Tulsa** 18.62 24 *e*P P 17 09 32.5 -1.9
comp=Z,94nm,0.9s
TUL1 **Tulsa** 18.62 24 ⇓P P 17 09 33.6 -0.8
baz=19,SNR=23
FMP **Fort Macarthur** 18.67 324 ⇑P Pn 17 09 38.4 +2.9
baz=19
BFSC **Mount Baldy Ra** 18.71 326 ⇑P Pn 17 09 38.8 +2.5
baz=19,SNR=6.5
S29A **Ulysses** 18.74 10 ⇓P Pn 17 09 36.4 0.0
baz=19,SNR=8.9
T32A **Huddler Ranch,** 18.77 16 ⇓P P 17 09 35.9 -0.2
baz=19,SNR=25
TUQ **Turquoise Moun** 18.83 332 ⇑P Pn 17 09 39.7 +2.1
baz=19,SNR=23
T33A **Patterson Ranc** 18.86 17 ⇓P P 17 09 36.8 -0.3
baz=19,SNR=7.8
S30A **Montezuma** 18.87 12 ⇓P P 17 09 37.5 +0.2
baz=19,SNR=10
RRX **Edison Barstow** 18.88 328 ⇓P Pn 17 09 40.8 +2.7
baz=19
MWC **Mount Wilson** 18.92 325 *e*P Pn 17 09 43.8 +5.0
MWC pmax pmax
comp=Z,158nm,1.4s
MWC **Mount Wilson** 18.92 325 *e*P Pn 17 09 43.8 +5.0
comp=Z,158nm,1.4s
R25A **Fountain Ranch** 18.95 2 ⇑P P 17 09 38.6 +0.4
baz=19,SNR=16
R23A **Moffat** 18.98 358 ⇑P Pn 17 09 40.8 +1.1
baz=19
R24A **Sanders Place,** 19.02 0 ⇑P Pn 17 09 40.7 +0.8
baz=19,SNR=23
DJJ **Donna J Jenkin** 19.05 324 *e*P Pn 17 09 42.0 +1.9
S31A **Mullinville** 19.05 14 ⇓P P 17 09 39.7 +0.4
baz=19,SNR=7.1
DECC **Green Verdugo** 19.09 325 ⇓P Pn 17 09 43.3 +2.7
baz=19
GSC **Goldstone** 19.12 330 *e*P Pn 17 09 41.5 +0.4
GSC pmax pmax
comp=Z,24nm,1.3s
GSC **Goldstone** 19.12 330 *e*P Pn 17 09 41.5 +0.4
comp=Z,24nm,1.3s
GSC **Goldstone** 19.12 330 ⇓P Pn 17 09 42.6 +1.5
baz=19,SNR=11
LRRC **Littlerock Res** 19.13 326 *e*PcP PcP 17 14 07.4 +3.9
R26A **Arlington** 19.14 4 ⇓P Pn 17 09 41.4 0.0
baz=19,SNR=17
R27A **Eads** 19.18 6 ⇓P P 17 09 41.2 +0.5
baz=19,SNR=14
S32A **Newby Ranch, P** 19.26 15 ⇑P P 17 09 41.7 +0.2
baz=19
UALR **University of** 19.26 34 *e*P P 17 09 40.3 -1.3
comp=Z,78nm,1.5s
R28A **Tribune** 19.34 8 ⇑P P 17 09 42.7 +0.1
baz=19,SNR=17
EDW2 **Edwards Air Fo** 19.38 327 ⇓P Pn 17 09 45.9 +1.6
baz=20,SNR=11
BLG **Laguna Peak** 19.39 323 ⇓P Pn 17 09 46.5 +2.3
baz=20
S33A **Kaszmaul Farm,** 19.41 17 ⇓P P 17 09 43.0 -0.1
baz=19,SNR=6.9
SHPR **Sheep Range** 19.41 335 *e*P Pn 17 09 45.4 +0.7
R29A **Marienthal** 19.52 9 ⇑P P 17 09 44.7 +0.2
baz=20,SNR=9.9
R30A **Dighton** 19.53 11 ⇓P P 17 09 45.4 +0.9
baz=20,SNR=8.1
OSI **Osito Adit** 19.57 325 *e*P Pn 17 09 48.7 +2.3
comp=Z,64nm,1.1s
OSI **Osito Adit** 19.57 325 ⇑P Pn 17 09 49.1 +2.6
baz=20
BSC **Santa Cruz Isl** 19.64 322 ⇓P Pn 17 09 50.0 +2.8
baz=20
R31A **Burdett** 19.69 13 ⇓P P 17 09 46.5 +0.3
baz=20,SNR=13
LRMC **Laurel Mountai** 19.70 328 ⇑P Pn 17 09 49.5 +1.5
baz=20
Q23A **Hartsel** 19.70 358 ⇑P Pn 17 09 48.2 0.0
baz=20
CCUT **Cedar City** 19.70 340 *e*P Pn 17 09 48.5 +0.4
comp=Z,113nm,1.4s
Q25A **Bedland, Calha** 19.71 2 ⇓P Pn 17 09 48.1 -0.1
baz=20,SNR=25
MMU **Miners Mountai** 19.73 345 *e*P Pn 17 09 48.2 -0.3
Q24A **Divide** 19.75 360 ⇓P Pn 17 09 48.6 -0.2
baz=20,SNR=7.7
Q26A **Hugo** 19.76 4 ⇑P P 17 09 47.6 +0.5
baz=20,SNR=12
KSCO **Kaye Shedlock'** 19.91 6 ⇑P P 17 09 49.4 +0.6
baz=20
ARUT **Antelope Range** 19.94 340 *e*P Pn 17 09 51.3 +0.4
ARUT **Antelope Range** 19.94 340 *e*P Pn 17 09 51.3 +0.4
Q29A **Oakley** 20.00 9 ⇑P P 17 09 49.7 +0.1
baz=20,SNR=32
R32A **Long Quarter,** 20.00 15 ⇓P P 17 09 49.3 -0.4
baz=20,SNR=9.9
SBC **Santa Barbara** 20.00 323 ⇓P Pn 17 09 52.9 +1.4
baz=20
ARVC **Arvin** 20.02 325 ⇑P Pn 17 09 53.0 +1.3
baz=20,SNR=6.0
SMCO **Snowmass** 20.02 356 *e*P P 17 09 50.8 +0.5
comp=Z,63nm,1.1s
Q28A **Sharon Springs** 20.05 8 ⇑P P 17 09 49.8 -0.4
baz=20,SNR=27
R33A **Olander Ranch,** 20.08 17 ⇑P P 17 09 50.2 -0.3
baz=20,SNR=35
FURC **Furnace Creek,** 20.11 332 ⇓P Pn 17 09 53.3 +0.7
baz=20,SNR=7.7
BRAL **Brewton** 20.15 51 *e*P P 17 09 51.0 -0.2
comp=Z,159nm,1.0s
P23A **Jefferson** 20.17 358 ⇑P P 17 09 52.7 +1.0
baz=20,SNR=15
Q30A **Quinter** 20.21 11 ⇑P P 17 09 51.8 -0.2
baz=20,SNR=25
ISA **Isabella** 20.24 327 *e*P Pn 17 09 53.8 -0.6
ISA pmax pmax
comp=Z,30nm,1.2s
ISA **Isabella** 20.24 327 *e*P Pn 17 09 53.8 -0.5
comp=Z,30nm,1.2s
ISA **Isabella** 20.24 327 ⇓P Pn 17 09 54.7 +0.3
baz=20,SNR=24
TPNV **Topopah Spring** 20.24 333 *e*P Pn 17 09 54.8 +0.3
TPNV **Topopah Spring** 20.24 333 *e*P Pn 17 09 54.8 +0.2
TPNV **Topopah Spring** 20.24 333 ⇓P Pn 17 09 54.5 0.0
baz=20
MVU **Marysvale** 20.25 344 *e*P Pn 17 09 54.6 -0.1
comp=Z,189nm,1.3s
P24A **Kohler Place,** 20.30 0 ⇓P P 17 09 54.0 +1.0
baz=20
P25A **Willow Gulch B** 20.31 2 ⇓P P 17 09 53.9 +0.7
baz=20
OWUT **Old Woman Plat** 20.31 346 *e*P Pn 17 09 55.2 -0.3
PKM **Peak Mountain** 20.39 323 ⇓P Pn 17 09 57.1 +0.8
baz=20
P26A **Davis Ranch, A** 20.40 4 ⇓P P 17 09 54.0 -0.1
baz=20,SNR=6.7
Q31A **Ellis** 20.40 13 ⇓P P 17 09 53.4 -0.6
baz=20,SNR=29
P22A **Eagle** 20.43 356 ⇓P P 17 09 55.5 +1.0
baz=20,SNR=28
SRU **San Rafael** 20.44 348 *e*P P 17 09 55.7 +1.2
SRU pmax pmax
comp=Z,126nm,1.3s
SRU **San Rafael** 20.44 348 *e*P P 17 09 55.7 +1.2
comp=Z,126nm,1.3s
P27A **Ficken Ranch,** 20.46 6 ⇓P P 17 09 55.6 +1.0
baz=20
P28A **Saint Francis** 20.56 7 ⇓P P 17 09 56.3 +0.5
baz=21
Q32A **Meitler Ranch,** 20.58 15 ⇓P P 17 09 55.5 -0.3
baz=21,SNR=7.3
ISCO **Idaho Springs** 20.59 359 *e*P P 17 09 57.1 +0.8
ISCO pmax pmax
comp=Z,357nm,2.8s
ISCO **Idaho Springs** 20.59 359 *e*P P 17 09 57.1 +0.8
comp=Z,357nm,2.8s
ISCO **Idaho Springs** 20.59 359 ⇑P P 17 09 57.3 +1.0
baz=21
P29A **Atwood** 20.70 9 ⇑P P 17 09 57.4 +0.1
baz=21,SNR=7.8
OXF **Oxford** 20.71 39 *e*P P 17 09 55.0 -2.4
OXF pmax pmax
comp=Z,87nm,1.0s
OXF **Oxford** 20.71 39 *e*P P 17 09 55.0 -2.4
comp=Z,87nm,1.0s
TMUT **Trail Mountain** 20.76 347 *e*P Pn 17 09 59.8 -0.9
comp=Z,142nm,1.1s
P30A **Selden** 20.76 11 ⇑P P 17 09 57.9 0.0
baz=21,SNR=43
Q33A **Connelly Farm,** 20.77 16 ⇑P P 17 09 57.5 -0.4
baz=21,SNR=14
GRAC **Grapevine Rang** 20.77 331 ⇑P Pn 17 10 00.4 -0.2
baz=21,SNR=37
SMMC **Simmler** 20.79 324 ⇑P Pn 17 10 01.2 +0.4
baz=21
P31A **Stockton** 20.90 13 ⇓P P 17 09 59.2 -0.2
baz=21,SNR=17
O24A **Longmont** 20.91 0 ⇑P P 17 10 00.6 +1.1
baz=21,SNR=10
O22A **Kremling** 20.98 357 ⇑P P 17 10 01.0 +0.5
baz=21,SNR=22
O23A **Lake Granby, G** 21.00 358 ⇑P P 17 10 01.6 +0.9
baz=21,SNR=21
O26A **Horse Wrangler** 21.08 4 ⇑P P 17 10 01.8 +0.3
baz=21,SNR=6.6
O20A **White River Ci** 21.09 353 *e*P P 17 10 03.0 +1.4
comp=Z,193nm,1.6s
O20A **White River Ci** 21.09 353 ⇓P P 17 10 02.3 +0.8
baz=21,SNR=16
O27A **Beecher Island** 21.09 6 ⇓P P 17 10 01.8 +0.3
baz=21,SNR=6.7
LEVU **Levan** 21.10 346 *e*P P 17 10 03.3 +1.6
O28A **Krutsinger Ran** 21.11 7 ⇑P P 17 10 02.0 +0.4
baz=21,SNR=5.3
RCTC **Rector, Farmer** 21.13 327 ⇑P P 17 10 04.2 +2.3
baz=21,SNR=11
PTRM **Twissleman Ran** 21.16 324 *e*P P 17 10 04.0 +1.8
P32A **Huiting Farm,** 21.17 14 ⇑P P 17 10 02.0 -0.2
baz=21,SNR=16
R11A **Troy Canyon, C** 21.19 337 *e*P P 17 10 03.6 +1.0
comp=Z,210nm,1.6s
R11A **Troy Canyon, C** 21.19 337 ⇑P P 17 10 04.5 +1.9
baz=21,SNR=48
KSU1 **Kansas State U** 21.21 19 *e*P P 17 10 02.1 -0.5
comp=Z,152nm,0.9s
P33A **Williams Farm,** 21.21 16 ⇑P P 17 10 02.3 -0.5
baz=21,SNR=5.1
TIN **Tinmaha** 21.22 330 ⇑P P 17 10 05.1 +2.2
baz=21,SNR=14
O29A **4D Ranch, Culb** 21.24 9 ⇑P P 17 10 02.9 -0.1
baz=21,SNR=8.9
LRAL **Lakeview Retre** 21.32 46 *e*P P 17 10 03.1 -0.8
comp=Z,63nm,1.2s
JTS **JuntasAbangare** 21.39 111 *e*P P 17 10 05.5 +0.7
comp=Z,18nm,1.4s
JTS **JuntasAbangare** 21.39 111 P P 17 10 06.0 +1.2
comp=Z,276nm,1.8s,SNR=7.3
JTS **JuntasAbangare** 21.39 111 P P 17 10 04.1 -0.7
comp=Z,18nm,1.0s,baz=318,slow=4.7,SNR=8.1
JTS LR LR 17 17 54.3
comp=Z,1µm,18.9s,baz=165,slow=36
GNAR **Gosnell** 21.40 35 *e*P P 17 10 04.2 -0.5
O30A **MW Ranch, Wils** 21.41 11 ⇓P P 17 10 04.2 -0.7
baz=21,SNR=18
O31A **Woolen Ranch,** 21.52 12 ⇑P P 17 10 05.5 -0.6
baz=22,SNR=22
MPU **Maple Canyon** 21.54 346 *e*P P 17 10 07.3 +0.8
comp=Z,230nm,1.3s
NLU **North Lily Min** 21.58 345 *e*P P 17 10 08.0 +1.0
comp=Z,106nm,1.7s
TPH **Tonopah** 21.60 333 *e*P P 17 10 07.4 +0.2
TPH pmax pmax
comp=Z,300nm,1.7s
TPH **Tonopah** 21.60 333 *e*P P 17 10 07.3 +0.2
comp=Z,300nm,1.7s
N24A **Carr** 21.61 1 ⇓P P 17 10 08.2 +1.0
baz=22,SNR=7.5
N22A **Wattenberg Ran** 21.61 357 ⇓P P 17 10 08.4 +1.1
baz=22,SNR=5.9
N25A **Grover** 21.61 2 ⇓P P 17 10 07.7 +0.6
baz=22
N26A **Koester Ranch,** 21.67 4 ⇓P P 17 10 07.9 +0.2
baz=22
N23A **Red Feather La** 21.69 358 ⇑P P 17 10 08.8 +0.7
baz=22
N28A **Pribeno Ranch** 21.69 7 ⇑P P 17 10 07.9 0.0
baz=22
N27A **Anderson Farm,** 21.70 5 ⇓P P 17 10 08.3 +0.3
baz=22
FSU **Fish Springs** 21.71 343 *e*P P 17 10 09.9 +1.7
N20A **Spence Gulch,** 21.78 354 ⇑P P 17 10 10.1 +1.0
baz=22
DAU **Daniels Canyon** 21.84 347 *e*P P 17 10 10.9 +1.2
DAU **Daniels Canyon** 21.84 347 *e*P P 17 10 10.9 +1.2
O32A **Brockman Farm,** 21.85 14 ⇑P P 17 10 09.1 -0.4
baz=22,SNR=8.6
OGNE **Ogallala** 21.89 6 *e*P P 17 10 08.4 -1.7
comp=Z,57nm,1.2s
OGNE **Ogallala** 21.89 6 ⇑P P 17 10 10.6 +0.6
baz=22
N29A **Votaw Ranch, W** 21.94 9 ⇓P P 17 10 10.9 +0.3
baz=22
MLAC **Mammoth Lakes** 21.97 330 ⇓P P 17 10 14.3 +3.3
baz=22
DUG **Dugway** 22.00 344 *e*P P 17 10 12.0 +0.8
DUG pmax pmax
comp=Z,193nm,1.4s
DUG **Dugway** 22.00 344 *e*P P 17 10 12.0 +0.8
comp=Z,193nm,1.4s
DUG **Dugway** 22.00 344 ⇓P P 17 10 13.5 +2.3
baz=22
N30A **Hueftle Ranch,** 22.00 10 ⇑P P 17 10 11.6 +0.4
baz=22
HLJ **Hailstone** 22.06 347 *e*P P 17 10 12.5 +0.5
JLU **Jordanelle** 22.06 347 *e*P P 17 10 12.8 +0.7
comp=Z,142nm,1.4s
PHWY **Pilot Hill** 22.08 359 *e*P P 17 10 12.0 -0.3
comp=Z,20nm,1.0s
PHWY *e*ScS ScS 17 21 36.0 +6.3
CTU **Camp Tracy** 22.21 347 *e*P P 17 10 13.8 +0.2
M22A **Cedar Creek Ra** 22.22 357 ⇑P P 17 10 14.7 +0.9
baz=22,SNR=5.4
M25A **Palm-Egli Farm** 22.23 2 ⇑P P 17 10 14.4 +0.6
baz=22
N31A **Bailey Ranch,** 22.24 12 ⇑P P 17 10 13.9 +0.1
baz=22
M24A **Cheyenne** 22.25 1 ⇓P P 17 10 14.3 +0.3
baz=22
M23A **Laramie** 22.25 359 ⇓P P 17 10 14.4 +0.3
baz=22,SNR=12
NV11 **Mina Array Sit** 22.31 332 *e*P P 17 10 16.0 +1.3
M26A **McRoberts Ranc** 22.31 4 ⇓P P 17 10 14.9 +0.3
baz=22
N32A **Stulken Farm,** 22.33 14 ⇑P P 17 10 14.3 -0.3
baz=22
NV01 **Mina Array Sit** 22.37 332 *e*P P 17 10 16.1 +0.8
NV01 *e*S S 17 14 16.3 -3.4
NVAR **Mina Array Bea** 22.37 332 P P 17 10 16.9 +1.6
NVAR **Mina Array Bea** 22.37 332 P P 17 10 16.9 +1.6
comp=Z,9.4nm,1.0s,baz=153,slow=9.9,SNR=21
NVAR LR LR 17 20 01.3
comp=Z,1µm,18.9s,baz=212,slow=40
M28A **Bar X Bar Ranc** 22.41 7 ⇑P P 17 10 15.0 -0.6
baz=22
M27A **Reverse DX Ran** 22.43 5 ⇑P P 17 10 15.6 -0.3
baz=22
SAIU **Southern Antel** 22.46 346 *e*P P 17 10 17.0 +0.7
RWWY **Rawlins** 22.54 356 *e*P P 17 10 20.0 +2.8
comp=Z,732nm,2.8s
M29A **Burnside Ranch** 22.55 9 ⇑P P 17 10 16.8 -0.3
baz=23
SAO **San Andreas Ge** 22.65 324 *e*P P 17 10 20.2 +2.0
SAO pmax pmax
comp=Z,54nm,1.4s
SAO **San Andreas Ge** 22.65 324 *e*P P 17 10 20.2 +2.0
comp=Z,54nm,1.4s
BGU **Big Grassy Mou** 22.74 344 *e*P P 17 10 19.5 +0.3
comp=Z,36nm,1.2s
M31A **Lambtecht Ranc** 22.74 12 ⇓P P 17 10 18.8 -0.3
baz=23,SNR=9.7
M30A **Dale-Ortello V** 22.76 10 ⇓P P 17 10 19.7 +0.3
baz=23
WVT **Waverly** 22.76 38 *e*P P 17 10 15.6 -3.7
WVT pmax pmax
comp=Z,125nm,2.1s
WVT **Waverly** 22.76 38 *e*P P 17 10 15.6 -3.7
comp=Z,125nm,2.1s
L24A **Wheatland** 22.82 0 ⇓P P 17 10 20.7 +0.7
baz=23
L26A **Underwood Farm** 22.88 4 ⇓P P 17 10 21.0 +0.3
baz=23
L23A **Garrett** 22.90 359 ⇓P P 17 10 21.1 +0.1
baz=23
TIGA **Tifton** 22.95 54 *e*P P 17 10 20.3 -1.0
comp=Z,77nm,1.1s
TIGA **Tifton** 22.95 54 ⇑P P 17 10 20.4 -0.9
baz=23
WAKR **Walker** 22.95 330 *e*P P 17 10 23.1 +1.6
L25A **Engebretsen Ra** 22.96 2 ⇓P P 17 10 21.6 +0.2
baz=23
SPUT **South Promonto** 22.96 346 *e*P P 17 10 21.9 +0.4
comp=Z,138nm,1.4s
BGNE **Belgrade** 22.97 14 ⇓P P 17 10 21.4 -0.1
baz=23
L27A **T5 Ranch, Ells** 22.99 5 ⇑P P 17 10 21.6 -0.1
baz=23
L28A **Connealy Angus** 22.99 7 ⇓P P 17 10 22.5 +0.7
baz=23
CMB **Columbia Colle** 23.04 328 *e*P P 17 10 22.1 -0.2
CMB pmax pmax
comp=Z,140nm,1.5s
CMB **Columbia Colle** 23.04 328 *e*P P 17 10 22.1 -0.2
comp=Z,140nm,1.5s
SIUC **Southern Illin** 23.13 34 *e*P P 17 10 22.1 -1.0
comp=Z,44nm,1.1s
LTU **Little Mountai** 23.18 346 *e*P P 17 10 24.2 +0.4
L29A **Maesberg Ranch** 23.18 9 ⇑P P 17 10 23.7 0.0
baz=23
L30A **Spencer Herefo** 23.19 10 ⇑P P 17 10 23.7 -0.1
baz=23
ELK **Elko** 23.21 340 *e*P P 17 10 25.0 +0.9
comp=Z,72nm,1.4s
ELK **Elko** 23.21 340 P P 17 10 25.1 +0.9
comp=Z,8.7nm,0.9s,baz=184,slow=7.1,SNR=26
ELK LR LR 17 20 08.6
comp=Z,896nm,21.6s,baz=180,slow=38
SWET **Sewanee** 23.34 43 *e*P P 17 10 22.1 -3.2
comp=Z,44nm,1.2s
K25A **Mack Ranch, Ha** 23.42 2 ⇓P P 17 10 25.9 -0.2
baz=24
K22A **Casper** 23.46 357 ⇑P P 17 10 26.6 +0.1
baz=24,SNR=8.9
K21A **Alcova** 23.48 356 ⇑P P 17 10 26.7 -0.1
baz=24,SNR=10
K24A **Anderson Ranch** 23.50 1 ⇑P P 17 10 26.5 -0.4
baz=24
PTU **Portage** 23.52 346 *e*P P 17 10 27.9 +0.7
K23A **Bowen Ranch, D** 23.54 359 ⇑P P 17 10 27.6 +0.3
baz=24
K26A **Motz Farm, Whi** 23.54 4 ⇓P P 17 10 26.8 -0.4
baz=24
L31A **Butterfield Fa** 23.57 12 ⇓P P 17 10 26.8 -0.6
baz=24
K27A **Flueckinger Fa** 23.61 5 ⇑P P 17 10 27.8 0.0
baz=24
BMN **Battle Mountai** 23.62 336 *e*P P 17 10 29.0 +0.9
BMN pmax pmax
comp=Z,373nm,1.8s
BMN **Battle Mountai** 23.62 336 *e*P P 17 10 29.0 +0.9
comp=Z,373nm,1.8s
K28A **Ten Mile Ranch** 23.71 7 ⇑P P 17 10 28.7 -0.1
baz=24
BW06 **Boulder Array** 23.84 352 *e*P P 17 10 29.0 -1.3
PDAR **Pinedale Array** 23.84 352 P P 17 10 29.8 -0.5
PDAR PcP PcP 17 14 14.7 +1.8
PDAR **Pinedale Array** 23.84 352 P P 17 10 29.8 -0.5
comp=Z,7.3nm,1.0s,baz=161,slow=9.4,SNR=38
PDAR PcP PcP 17 14 14.7 +1.8
comp=Z,1.9nm,1.0s,baz=152,slow=4.4,SNR=3.4
K29A **Lazy Trails An** 23.89 9 ⇑P P 17 10 30.3 -0.2
baz=24
PAHR **Pah Rah Range** 23.90 332 *e*P P 17 10 32.4 +1.7
comp=Z,341nm,1.8s
K30A **Basset** 23.91 10 ⇑P P 17 10 30.6 0.0
baz=24
J24A **Dixon Ranch, L** 24.11 1 ⇑P P 17 10 33.3 +0.7
baz=24
USIN **University of** 24.15 35 *e*P P 17 10 32.0 -0.8
comp=Z,283nm,1.1s
J26A **Sides Ranch, S** 24.15 4 ⇑P P 17 10 32.8 -0.2
baz=24
J27A **Elkhorn Farm,** 24.18 6 ⇑P P 17 10 33.6 +0.4
baz=24
J23A **Dilts Ranch, B** 24.19 359 ⇑P P 17 10 34.0 +0.7
baz=24
J25A **Sunshine Ranch** 24.20 2 ⇑P P 17 10 33.8 +0.4
baz=24,SNR=5.6
J21A **Lysite** 24.20 356 ⇓P P 17 10 34.2 +0.6
baz=24,SNR=6.9
J22A **Midwest** 24.22 358 ⇑P P 17 10 34.2 +0.6
baz=24,SNR=7.4
J20A **Shoshoni** 24.26 355 ⇓P P 17 10 35.0 +0.9
baz=24
J19A **Crowheart** 24.27 353 ⇑P P 17 10 35.1 +1.0
baz=24,SNR=24
CPCT **Cooper Cave** 24.39 44 *e*P P 17 10 33.3 -1.8
J28A **Allard Ranch,** 24.42 7 ⇑P P 17 10 35.9 +0.5
baz=24,SNR=10
OLIL **Olney** 24.48 34 *e*P P 17 10 34.9 -1.0
comp=Z,99nm,1.2s

J29A **Okreek** 24.52 8 ⇓P P 17 10 36.4 +0.2
baz=25,SNR=9.0
J30A **Dallas** 24.57 10 ⇑P P 17 10 36.6 -0.1
baz=25,SNR=12
REDW **Red Top Meadow** 24.62 350 eP P 17 10 37.8 +0.5
comp=Z,139nm,1.0s
I24A **Kuemmerle Ranc** 24.64 1 ⇑P P 17 10 37.4 -0.1
baz=25
I21A **Big Trails, Te** 24.66 356 ⇑P P 17 10 37.6 -0.1
baz=25,SNR=18
RRI2 **Red Ridge** 24.68 349 eP P 17 10 38.9 +0.9
comp=Z,112nm,1.0s
I22A **9 Mile Ranch,** 24.70 358 ⇓P P 17 10 38.8 +0.8
baz=25,SNR=10
SNOW **Snow King Moun** 24.70 350 eP P 17 10 38.9 +0.7
comp=Z,191nm,1.0s
I23A **Meade Ranch, G** 24.74 359 ⇓P P 17 10 38.7 +0.4
baz=25
TPAW **Teton Pass** 24.76 350 eP P 17 10 39.2 +0.5
comp=Z,173nm,1.1s
LOHW **Long Hollow** 24.82 350 eP P 17 10 39.5 +0.3
comp=Z,136nm,1.1s
I25A **Rochford** 24.83 2 ⇓P P 17 10 39.0 -0.2
baz=25,SNR=7.6
SCIA **State Center** 24.85 22 eP P 17 10 38.4 -0.7
comp=Z,81nm,1.2s
I20A **Worland** 24.86 355 ⇓P P 17 10 40.0 +0.6
baz=25,SNR=19
I26A **New Underwood** 24.88 4 ⇓P P 17 10 39.6 0.0
baz=25
FXWY **Fox Creek** 24.92 350 eP P 17 10 40.4 +0.3
comp=Z,128nm,1.4s
RSSD **Black Hills** 24.92 2 eP P 17 10 40.5 +0.4
RSSD e 17 14 18.5
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD **Black Hills** 24.92 2 eP P 17 10 40.5 +0.4
comp=Z,6.7nm,1.1s
RSSD ePcP PcP 17 14 18.5 +3.3
MOOW **Moose Ponds** 24.98 350 eP P 17 10 40.8 +0.2
comp=Z,58nm,1.1s
I27A **Quinn** 24.98 5 ⇑P P 17 10 41.2 +0.7
baz=25
I28A **Midland** 25.00 7 ⇑P P 17 10 41.4 +0.8
baz=25,SNR=12
TKL **Tuckaleechee C** 25.01 45 eP P 17 10 38.5 -2.2
TKL **Tuckaleechee C** 25.01 45 P P 17 10 37.5 -3.2
comp=Z,18nm,0.9s,baz=200,slow=10,SNR=12
TKL LR LR 17 23 14.8
comp=Z,807nm,19.5s,baz=259,slow=43
I19A **Meeteetse** 25.03 353 ⇑P P 17 10 42.0 +1.0
baz=25,SNR=12
WCI **Wyandotte Cave** 25.10 37 eP P 17 10 40.3 -1.2
WCI pmax pmax
comp=Z,48nm,0.9s
WCI **Wyandotte Cave** 25.10 37 eP P 17 10 40.3 -1.2
comp=Z,48nm,0.9s
I17A **Pilgrim Ck.** 25.12 351 ⇑P P 17 10 42.6 +0.7
baz=25,SNR=31
I29A **Vivian Onida** 25.13 8 ⇑P P 17 10 42.0 +0.2
baz=25,SNR=12
HOPS **Hopland** 25.15 326 P P 17 10 42.8 +0.8
comp=Z,207nm,1.7s
I30A **Oacoma** 25.15 10 ⇑P P 17 10 42.5 +0.5
baz=25
HDIL **Hopedale** 25.29 29 eP P 17 10 41.8 -1.4
comp=Z,118nm,1.0s
FLWY **Flagg Ranch** 25.30 351 eP P 17 10 44.3 +0.8
comp=Z,243nm,1.6s
H23A **Clabaugh Cattl** 25.34 360 ⇑P P 17 10 44.0 +0.2
baz=25
H20A **Greybull** 25.38 355 ⇑P P 17 10 44.2 +0.1
baz=26
H22A **Clearmont** 25.39 358 ⇑P P 17 10 44.2 0.0
baz=26,SNR=9.6
H25A **Fruitdale** 25.43 3 ⇑P P 17 10 45.0 +0.4
baz=26
H21A **Big Horn, Sher** 25.46 357 ⇑P P 17 10 45.2 +0.4
baz=26
H26A **Fairpoint** 25.47 4 ⇑P P 17 10 45.0 +0.1
baz=26
H24A **Dirks Ranch, A** 25.53 1 ⇓P P 17 10 45.6 +0.2
baz=26
ECSD **EROS Data Cent** 25.54 14 eP P 17 10 43.5 -1.9
comp=Z,58nm,1.6s
H27A **Howes** 25.54 5 ⇓P P 17 10 45.3 -0.2
baz=26
HLID **Hailey** 25.57 344 eP P 17 10 46.6 +0.7
comp=Z,58nm,1.3s
HLID **Hailey** 25.57 344 ⇑P P 17 10 47.4 +1.5
baz=26
H17A **Grant Village** 25.58 351 ⇑P P 17 10 47.4 +1.2
baz=26,SNR=9.6
H19A **Powell** 25.65 354 ⇓P P 17 10 47.7 +1.0
baz=26,SNR=16
TZTN **Tazewell** 25.68 43 eP P 17 10 45.5 -1.3
comp=Z,48nm,1.1s
YFT **Old Faithful** 25.68 351 eP P 17 10 48.7 +1.7
comp=Z,72nm,1.0s
H28A **Mission Ridge** 25.68 7 ⇓P P 17 10 47.1 +0.3
baz=26
H29A **Onida** 25.73 8 ⇓P P 17 10 47.1 -0.1
baz=26
H18A **Shoshone NF, C** 25.74 353 ⇑P P 17 10 47.9 +0.4
baz=26
BRSD **Miller** 25.74 10 ⇓P P 17 10 47.5 +0.2
baz=26
MFID **Camas Ranch** 25.82 342 eP P 17 10 49.3 +1.2
comp=Z,53nm,1.3s
WVOR **Wild Horse Val** 25.89 337 eP P 17 10 48.4 -0.4
WVOR pmax pmax
comp=Z,61nm,1.4s
WVOR **Wild Horse Val** 25.89 337 eP P 17 10 48.4 -0.4
comp=Z,61nm,1.4s
YNR **Norris Junctio** 25.91 351 eP P 17 10 49.3 +0.2
comp=Z,64nm,1.4s
KIPM **Iron Peak** 25.96 326 eP P 17 10 51.6 +2.1
G23A **Biddle** 25.98 360 ⇑P P 17 10 49.3 -0.3
baz=26
G25A **Newell** 26.01 3 ⇓P P 17 10 49.5 -0.2
baz=26
G22A **Birney** 26.02 358 ⇓P P 17 10 49.5 -0.4
baz=26,SNR=9.6
JSC **Jenkinsville** 26.02 50 eP P 17 10 49.5 -0.4
JSC **Jenkinsville** 26.02 50 eP P 17 10 49.5 -0.4
G21A **Lodge Grass** 26.06 357 ⇓P P 17 10 50.5 +0.2
baz=26
WDC **Whiskeytown Da** 26.07 329 eP P 17 10 48.7 -1.5
WDC pmax pmax
comp=Z,25nm,1.3s
WDC **Whiskeytown Da** 26.07 329 eP P 17 10 48.7 -1.5
comp=Z,25nm,1.3s
G28A **Parade** 26.09 7 ⇓P P 17 10 50.1 -0.4
baz=26
MOD **Modoc** 26.10 334 eP P 17 10 51.4 +0.7
comp=Z,36nm,1.5s
G24A **Alzada** 26.11 1 ⇓P P 17 10 50.7 0.0
baz=26
G20A **Bridger** 26.13 355 ⇑P P 17 10 51.2 +0.3
baz=26,SNR=11
RLMT **Red Lodge** 26.13 353 eP P 17 10 51.2 +0.2
comp=Z,141nm,2.3s
QLMT **Earthquake Lak** 26.14 350 eP P 17 10 51.7 +0.5
G26A **Maurine** 26.16 4 ⇓P P 17 10 50.4 -0.7
baz=26,SNR=11
SFIN **Scholer Farm** 26.22 32 ⇑P P 17 10 50.9 -0.7
baz=26
G27A **Dupree** 26.29 5 ⇑P P 17 10 52.5 +0.2
baz=26
G29A **Hoven** 26.33 8 ⇑P P 17 10 52.9 +0.2
baz=26
G30A **Faulkton** 26.38 10 ⇑P P 17 10 52.7 -0.3
baz=26
KMSC **Kings Mountain** 26.40 48 ⇑P P 17 10 52.3 -1.0
baz=26,SNR=6.7
MCMT **McKenzie Canyo** 26.40 348 eP P 17 10 54.8 +1.2
N02D **Trinity Center** 26.45 329 ⇑P P 17 10 56.0 +2.2
baz=27
F23A **Volborg** 26.50 360 ⇑P P 17 10 54.1 -0.1
baz=27
F22A **Rosebud** 26.57 358 ⇑P P 17 10 54.7 -0.2
baz=27
J08A **Circle Bar Ran** 26.63 338 eP P 17 10 56.6 +1.1
comp=Z,76nm,1.6s
F24A **Ekalaka** 26.63 1 ⇑P P 17 10 55.9 +0.5
baz=27
F21A **Absaloka Mine,** 26.65 357 ⇓P P 17 10 56.4 +0.8
baz=27
M04C **Macdoel** 26.67 331 ⇑P P 17 10 57.2 +1.3
baz=27
F20A **Billings** 26.70 355 ⇓P P 17 10 56.5 +0.5
baz=27,SNR=6.5
F25A **Bowman** 26.74 3 ⇓P P 17 10 56.7 +0.3
baz=27
F27A **Lemmon** 26.77 5 ⇓P P 17 10 56.9 +0.2
baz=27
F19A **Roth Farm, Mol** 26.82 354 ⇓P P 17 10 56.9 -0.2
baz=27,SNR=5.9
JFWS **Jewell Farm** 26.82 25 eP P 17 10 55.6 -1.5
JFWS pmax pmax
comp=Z,97nm,0.9s
JFWS **Jewell Farm** 26.82 25 eP P 17 10 55.6 -1.5
comp=Z,97nm,0.9s
GCMT **Greycliff** 26.84 353 eP P 17 10 56.6 -0.7
M02C **Callahan** 26.84 330 ⇓P P 17 10 58.3 +0.9
baz=27
F28A **McLaughlin** 26.87 7 ⇓P P 17 10 57.2 -0.2
baz=27
DLMT **Dillon** 26.87 348 eP P 17 10 59.2 +1.6
comp=Z,151nm,1.4s
KHMM **Horse Mountain** 26.88 328 eP P 17 10 59.7 +1.9
comp=Z,108nm,1.3s
BOZ **Bozeman (W)** 26.97 350 eP P 17 10 57.1 -1.5
BOZ pmax pmax
comp=Z,81nm,1.2s
BOZ **Bozeman (W)** 26.97 350 eP P 17 10 57.0 -1.5
comp=Z,81nm,1.2s
F29A **Eureka** 26.97 8 ⇑P P 17 10 58.1 -0.3
baz=27
K05A **Summer Lake** 27.02 334 eP P 17 11 00.6 +1.5
comp=Z,89nm,1.5s
YBH **Yreka Blue Hor** 27.03 330 P P 17 10 57.8 -1.3
YBH **Yreka Blue Hor** 27.03 330 P P 17 10 57.8 -1.3
comp=Z,3.5nm,1.0s,baz=184,slow=12,SNR=4.1
YBH LR LR 17 20 30.1
comp=Z,360nm,21.6s,baz=153,slow=34
F30A **Leola** 27.09 9 ⇓P P 17 10 59.3 -0.2
baz=27
E22A **Miles City** 27.23 359 ⇓P P 17 11 00.7 0.0
baz=27
E23A **Ismay** 27.28 360 ⇑P P 17 11 01.3 +0.2
baz=27
LRM **Limekiln Ridge** 27.28 349 eP P 17 11 02.3 +0.8
K04D **Chiloquin, OR** 27.31 333 ⇑P P 17 11 03.4 +1.8
baz=27
E25A **Miller Ranch,** 27.32 3 ⇑P P 17 11 01.7 +0.1
baz=27
E24A **Baker** 27.35 1 ⇓P P 17 11 01.5 -0.3
baz=27
E27A **Carson** 27.37 5 ⇑P P 17 11 01.7 -0.2
baz=27
E21A **Keefer Ranch,** 27.37 357 ⇑P P 17 11 02.0 +0.1
baz=27
E20A **Meyer Farm, Mu** 27.39 355 ⇓P P 17 11 02.7 +0.5
baz=28,SNR=8.1
E19A **Rath Farm, Rou** 27.41 354 ⇓P P 17 11 02.7 +0.3
baz=28,SNR=17
LAO **LASA Array** 27.48 358 eP P 17 11 02.7 -0.4
comp=Z,58nm,1.4s
BMO **Blue Mountains** 27.57 341 eP P 17 11 04.2 +0.4
comp=Z,104nm,1.9s
BMO ePcP PcP 17 14 27.7 +6.5
E28A **Huff** 27.60 7 ⇑P P 17 11 03.6 -0.4
baz=28
J05D **Fort Rock, OR** 27.63 334 ⇓P P 17 11 06.1 +1.7
baz=28
E29A **Napoleon** 27.72 8 ⇓P P 17 11 04.6 -0.5
baz=28
E30A **Jud** 27.76 9 ⇑P P 17 11 04.7 -0.7
baz=28
L02D **Cave Junction,** 27.79 330 ⇓P P 17 11 07.6 +1.8
baz=28
D21A **La Casta Ranch** 27.89 357 ⇑P P 17 11 07.4 +0.7
baz=28,SNR=6.9
D26A **Manning** 27.90 4 ⇑P P 17 11 06.8 +0.1
baz=28
D24A **Glendive** 27.90 1 ⇓P P 17 11 06.8 0.0
baz=28
D22A **Cohagen** 27.94 358 ⇑P P 17 11 07.3 +0.2
baz=28,SNR=6.4
D23A **Lindsay** 27.95 360 ⇓P P 17 11 07.5 +0.3
baz=28
J04D **Umpqua Nationa** 27.96 333 ⇓P P 17 11 09.0 +1.5
baz=28
D25A **Fairfield** 27.97 3 ⇑P P 17 11 07.1 -0.2
baz=28
D20A **Manuel Ranch,** 27.98 356 ⇑P P 17 11 07.6 +0.1
baz=28,SNR=17
HRY **Holter Researc** 28.04 350 eP P 17 11 08.4 +0.3
D27A **Center** 28.04 5 ⇑P P 17 11 08.0 0.0
baz=28
D19A **Cripps Ranch,** 28.11 355 ⇓P P 17 11 08.9 +0.2
baz=28,SNR=15
BLA **Blacksburg** 28.12 45 eP P 17 11 07.1 -1.7
BLA pmax pmax
comp=Z,40nm,1.0s
BLA **Blacksburg** 28.12 45 eP P 17 11 07.1 -1.7
comp=Z,40nm,1.0s
D29A **Pettibone, Tap** 28.21 8 ⇑P P 17 11 08.6 -0.8
baz=28
D28A **Regan** 28.22 7 ⇓P P 17 11 09.1 -0.5
baz=28
C24A **Savage** 28.32 1 ⇑P P 17 11 10.2 -0.3
baz=28
ACSO **Alum Creek Sta** 28.34 37 P P 17 11 09.2 -1.5
comp=Z,15nm,0.9s
D30A **Buchanan** 28.37 9 ⇑P P 17 11 10.2 -0.7
baz=28,SNR=6.4
CHMT **Chamberlain Mo** 28.48 348 eP P 17 11 12.5 +0.3
C22A **Vida** 28.53 359 ⇑P P 17 11 12.6 +0.2
baz=29
C25A **Freed Ranch, W** 28.53 3 ⇓P P 17 11 12.2 -0.1
baz=29
I04A **Tendick Farm,** 28.54 333 ⇑P P 17 11 13.9 +1.5
baz=29
MSO **Missoula** 28.54 347 eP P 17 11 13.2 +0.6
comp=Z,302nm,1.6s
MSO ePcP PcP 17 14 30.9 +7.3
MSO **Missoula** 28.54 347 ⇑P P 17 11 13.4 +0.8
baz=29
I05D **Tennonne, OR** 28.54 335 ⇑P P 17 11 13.9 +1.4
baz=29
F10A **Beach Ranch, E** 28.56 342 eP P 17 11 12.8 +0.1
comp=Z,180nm,1.8s
C23A **Lambert** 28.58 360 ⇓P P 17 11 12.8 0.0
baz=29
C20A **Veseth Ranch,** 28.59 356 ⇓P P 17 11 13.3 +0.4
baz=29,SNR=9.7
C27A **Sayler Ranch,** 28.65 5 ⇓P P 17 11 13.2 -0.2
baz=29
C19A **Slack Wire Ran** 28.69 354 ⇓P P 17 11 14.4 +0.6
baz=29,SNR=20
C26A **Wahner Farm, P** 28.71 4 ⇓P P 17 11 14.0 +0.1
baz=29
C28A **Hausauer Farms** 28.76 7 ⇑P P 17 11 14.2 -0.1
baz=29
SLMT **Seeley Lake** 28.85 348 eP P 17 11 15.5 +0.2
I03D **Drain, OR** 28.87 332 ⇓P P 17 11 17.0 +1.7
baz=29
MDND **Maddock** 28.98 8 ⇓P P 17 11 15.9 -0.4
baz=29
C30A **Mose, Pekin** 28.99 9 ⇑P P 17 11 15.9 -0.5
baz=29,SNR=6.3
G06A **Carlson Farm,** 29.03 337 eP P 17 11 18.9 +2.0
comp=Z,40nm,1.6s
EGMT **Eagleton** 29.05 354 eP P 17 11 17.5 +0.4
comp=Z,62nm,1.1s
EGMT **Eagleton** 29.05 354 ⇑P P 17 11 17.4 +0.4
baz=29
B22A **Reddig Ranch S** 29.09 359 ⇓P P 17 11 17.5 +0.1
baz=29
B25A **Knox Farm, Ray** 29.10 3 ⇑P P 17 11 17.3 0.0
baz=29
H04A **Detroit Lake** 29.17 335 eP P 17 11 18.6 +0.6
comp=Z,52nm,1.4s
SWMT **Swartz Lake** 29.20 348 eP P 17 11 18.4 0.0
B23A **Brockton** 29.25 0 ⇓P P 17 11 19.0 +0.3
baz=29
B21A **Ellsworth Farm** 29.25 357 ⇑P P 17 11 19.2 +0.5
baz=29
B26A **Jensen Ranch,** 29.25 4 ⇓P P 17 11 18.8 +0.1
baz=29
DGMT **Dagmar** 29.26 1 ⇓P P 17 11 19.1 +0.3
baz=29
G05D **Wamic, OR** 29.29 336 ⇓P P 17 11 20.5 +1.4
baz=29
B20A **Solberg Farm,** 29.31 356 ⇓P P 17 11 19.5 +0.2
baz=29,SNR=5.1
E09A **Wood Farm, Sta** 29.32 341 eP P 17 11 18.9 -0.4
comp=Z,41nm,1.4s
B27A **Peters Farms,** 29.35 5 ⇑P P 17 11 19.7 +0.1
baz=29
B19A **Brinkman Farms** 29.40 355 ⇑P P 17 11 20.6 +0.6
baz=30,SNR=16
B28A **Dugan Ranch, T** 29.48 6 ⇑P P 17 11 20.9 +0.1
baz=30
JTMT **Jette** 29.49 347 eP P 17 11 21.5 +0.5
YBMT **Yellow Bay** 29.54 348 eP P 17 11 20.5 -0.9
YBMT e 17 11 26.8
B29A **Wagenman Farm,** 29.62 8 ⇑P P 17 11 22.0 +0.1
baz=30
BSMT **Bassoo Peak** 29.69 347 eP P 17 11 23.0 +0.2
A24A **Westby** 29.72 1 ⇓P P 17 11 22.9 +0.1
baz=30
A23A **Redstone** 29.74 0 ⇓P P 17 11 23.4 +0.3
baz=30
B30A **Myrvik Farm, E** 29.75 9 ⇓P P 17 11 23.0 -0.1
baz=30
A20A **Cobblestone Ra** 29.75 356 ⇓P P 17 11 23.5 +0.4
baz=30
BLMT **Blacktail Moun** 29.75 347 eP P 17 11 24.1 +0.7
A25A **Svangstu Ranch** 29.76 3 ⇑P P 17 11 23.6 +0.3
baz=30
A22A **Carney Farms,** 29.78 359 ⇓P P 17 11 24.0 +0.5
baz=30
A26A **Wade Farm, Ken** 29.78 4 ⇑P P 17 11 23.8 +0.4
baz=30
A21A **Bergtoll Ranch** 29.81 358 ⇑P P 17 11 24.1 +0.5
baz=30
A19A **Klindworth Far** 29.85 355 ⇑P P 17 11 24.5 +0.5
baz=30,SNR=7.2
TRW **Toppenish Ridg** 29.91 338 P P 17 11 26.4 +1.9
COWI **Conover** 29.94 23 eP P 17 11 24.0 -0.9
comp=Z,23nm,1.0s
A28A **Rude Farm, Bot** 29.95 6 ⇓P P 17 11 24.8 -0.1
baz=30
AGMN **Agassiz Nation** 30.03 12 eP P 17 11 24.3 -1.3
comp=Z,31nm,0.9s
AGMN e 17 11 29.5
AGMN ePcP PcP 17 14 27.2 0.0
G03D **McMinnville, O** 30.04 334 ⇑P P 17 11 27.3 +1.6
baz=30
D08A **Wollman Farm,** 30.04 341 eP P 17 11 27.1 +1.3
comp=Z,43nm,1.8s
A29A **Manning Farm,** 30.08 8 ⇑P P 17 11 26.0 -0.1
baz=30
ASR **Mount Adams--S** 30.16 337 P P 17 11 28.9 +2.0
A30A **Hoffart Farm,** 30.23 9 ⇓P P 17 11 27.2 -0.1
baz=30
URVA **University of** 30.27 47 eP P 17 11 26.8 -1.0
EBG **Ellensburg** 30.45 339 P P 17 11 31.1 +1.7
C09A **Chrisman Ranch** 30.52 342 eP P 17 11 30.9 +1.0
comp=Z,69nm,1.6s
WPW **White Pass** 30.61 338 P P 17 11 31.9 +1.0
NEW **Newport** 30.63 344 eP P 17 11 31.5 +0.5
comp=Z,62nm,1.2s
NEW ePcP PcP 17 14 32.8 +4.0
NEW **Newport** 30.63 344 ⇓P P 17 11 32.4 +1.4
baz=31
F04D **Rainier, OR** 30.65 335 ⇓P P 17 11 33.0 +2.0
baz=31
WALA **Waterton Lakes** 30.67 349 eP P 17 11 31.9 +0.5
WALA e 17 11 37.0
TBM **Table Mountain** 30.68 339 P P 17 11 33.1 +1.6
LON **Longmire** 30.75 337 eP P 17 11 33.2 +1.2
LON pmax pmax
comp=Z,76nm,2.1s
LON **Longmire** 30.75 337 eP P 17 11 33.2 +1.2
comp=Z,76nm,2.1s
LTY **Liberty** 30.79 339 eP P 17 11 33.7 +1.3
comp=Z,112nm,1.4s
EYMN **Ely** 30.79 18 eP P 17 11 30.3 -2.0
comp=Z,42nm,1.0s
EYMN e 17 11 35.8
EYMN ePcP PcP 17 14 28.6 -0.5
WTV **Waterville** 30.94 340 P P 17 11 34.8 +1.2
ETW **Entiat** 30.98 340 P P 17 11 35.5 +1.3
D05A **Enumclaw** 31.19 338 eP P 17 11 39.3 +3.5
comp=Z,78nm,1.5s
E03A **Lebam** 31.25 335 epP pP 17 11 46.0 +0.9
B08A **Colville Reser** 31.33 342 eP P 17 11 37.7 +0.6
comp=Z,185nm,1.3s
NLW **Nelson Butte** 31.39 340 P P 17 11 39.4 +1.6
SDMD **Soldier's Deli** 31.67 44 eP P 17 11 38.9 -1.2
comp=Z,24nm,0.9s
ULM **Lac du Bonnet** 31.90 11 eP P 17 11 40.5 -1.6
comp=Z,151nm,2.5s
ULM **Lac du Bonnet** 31.90 11 P P 17 11 40.4 -1.6
comp=Z,7.7nm,1.1s,baz=190,slow=11,SNR=3.7
ULM LR LR 17 23 53.4
comp=Z,775nm,21.3s,baz=23,slow=35
NLWA **Neilton Lookou** 32.06 336 eP P 17 11 45.2 +1.7
comp=Z,72nm,1.6s
NLWA ePP PP 17 13 04.7 +8.5
B06A **Marblemount** 32.15 339 eP P 17 11 46.9 +2.7
comp=Z,46nm,1.1s
OTAV **Otavalo** 32.21 123 eP P 17 11 46.6 +0.9
comp=Z,96nm,1.5s
OTAV e 17 11 53.5
OSD **Olympics--Snow** 32.35 336 P P 17 11 47.9 +1.6
PGC **Sidney** 32.95 337 eP P 17 11 51.7 +0.5
ROSC **El Rosal** 33.22 111 P P 17 11 58.1 +3.6
EDM **Edmonton** 34.60 351 eP P 17 12 05.2 -0.5
EDM e 17 14 38.1
EDM **Edmonton** 34.60 351 eP P 17 12 05.2 -0.5
EDM ePcP PcP 17 14 38.1 -1.5
SDV **Santo Domingo** 34.92 102 eP P 17 12 09.4 +0.4
comp=Z,20nm,1.1s
SDV e 17 12 15.2
SDV ePcP PcP 17 14 41.5 +0.1
FFC **Flin Flon** 35.60 3 eP P 17 12 12.6 -1.5
FFC pmax pmax
comp=Z,24nm,1.4s
FFC **Flin Flon** 35.60 3 eP P 17 12 12.6 -1.5
comp=Z,24nm,1.4s
FFC **Flin Flon** 35.60 3 P P 17 12 12.8 -1.3
comp=Z,147nm,1.3s,SNR=5.9
DLBC **Dease Lake** 43.26 341 eP P 17 13 19.3 +1.3
DLBC ePcP PcP 17 15 10.0 +3.3
YKA **Yellowknife Ar** 43.80 354 P P 17 13 21.5 -0.8
YKA PcP PcP 17 15 08.1 -0.3
YKA **Yellowknife Ar** 43.80 354 P P 17 13 21.5 -0.8
comp=Z,18nm,0.9s,baz=166,slow=7.3,SNR=106
YKA PcP PcP 17 15 08.0 -0.3
comp=Z,1.8nm,1.0s,baz=159,slow=3.2,SNR=4.2
YKB5 **Yellowknife Ar** 43.80 354 eP P 17 13 19.7 -2.5
YKB5 ePP PcP 17 15 08.2 -0.2
YKW3 **Yellowknife Ar** 43.87 354 eP P 17 13 21.3 -1.5
comp=Z,0.6nm,1.0s
YKW3 e 17 13 27.4
TAOE **Nuku Hiva Isla** 44.34 234 eT T 18 00 55.9
comp=Z,156nm,0.3s
SCHQ **Schefferville** 45.96 30 LR LR 17 33 51.6
comp=Z,908nm,18.6s,baz=253,slow=37
HYT **Haines Junctio** 47.51 339 eP P 17 13 52.9 +1.1
PTGA **Pitinga** 48.52 109 eP P 17 14 00.0 0.0
comp=Z,49nm,1.4s
SAML **Samuel** 49.88 120 eP P 17 14 08.1 -2.4
comp=Z,84nm,1.7s
SAML ePcP PcP 17 15 29.3 -1.4
LPAZ **La Paz** 50.64 132 eP P 17 14 17.0 +0.2
comp=Z,23nm,1.3s
LPAZ ePcP PcP 17 15 38.7 +4.5
LPAZ **La Paz** 50.64 132 P P 17 14 17.2 +0.4
comp=Z,6.1nm,1.1s,baz=325,slow=6.3,SNR=12
LPAZ LR LR 17 34 00.6
comp=Z,279nm,18.2s,baz=82,slow=34
MENT **Mentasta** 51.10 338 eP P 17 14 18.0 -1.1
OHAK **Old Harbor** 51.93 329 eP P 17 14 25.5 +0.3
comp=Z,40nm,1.1s
OHAK e 17 14 31.3
INK **Inuvik** 52.28 347 eP P 17 14 27.6 0.0
comp=Z,194nm,1.4s
INK e 17 14 33.1
INK ePcP PcP 17 15 42.8 +4.2
PMR **Palmer** 52.30 335 eP P 17 14 27.8 -0.1
PMR e 17 14 34.0
PMR pmax pmax
comp=Z,64nm,1.6s
PMR **Palmer** 52.30 335 eP P 17 14 27.8 -0.1
comp=Z,64nm,1.6s

PMR e 17 14 34.0
RSO Redoubt South 53.21 333 *e*P **P 17 14 35.1 +0.2**
IL1 Eielson Array 53.36 339 *e*P **P 17 14 35.5 -0.3**
ILAR Eielson Array 53.36 339 P **P 17 14 35.7 0.0**
ILAR Eielson Array 53.36 339 P **P 17 14 35.7 0.0**
comp=Z,12nm,1.0s,baz=150,slow=5.7,SNR=54
ILAR LR LR 17 40 52.1
comp=Z,314nm,18.6s,baz=348,slow=40
COLA College 53.75 339 *e*P **P 17 14 38.2 -0.4**
COLA e 17 15 51.1
COLA pmax pmax
comp=Z,38nm,1.6s
COLA College 53.75 339 *e*P **P 17 14 38.2 -0.4**
comp=Z,38nm,1.6s
COLA *e*PcP PcP 17 15 51.1 +6.9
LVC Limon Verde 54.54 138 *e*P **P 17 14 43.3 -1.9**
comp=Z,31nm,1.4s
SVW2 Sparrevohn 54.73 333 *e*P P 17 14 51.3 +5.5
comp=Z,13nm,1.0s
RES Resolute Bay 55.84 3 *e*P **P 17 14 52.2 -1.3**
comp=Z,20nm,1.1s
IM04 Indian Mountai 56.42 338 *e*P **P 17 14 56.7 -1.2**
PPT Papeete 56.91 233 LR LR 17 31 30.5
comp=Z,250nm,21.8s,baz=157,slow=28
PPT2 Papeete2 56.92 233 *e*S S 17 22 38.2 -16
comp=Z,308nm,25.8s
PPT2 *e*LR LR 17 31 28.9
comp=Z,1μm,26.2s,baz=54
H03N2 Juan Fernandez 57.96 154 T T 18 17 52.3
baz=332,slow=75,SNR=62
H03N1 Juan Fernandez 57.97 154 T T 18 17 50.3
baz=332,slow=75,SNR=64
H03N3 Juan Fernandez 57.98 154 T T 18 17 53.8
baz=332,slow=75,SNR=74
TBI Tubuai 60.46 228 *e*S S 17 23 24.4 -16
comp=Z,438nm,25.0s
TBI *e*LR LR 17 33 02.6
comp=Z,1μm,27.5s
CPUP Villa Florida 64.78 133 P **P 17 15 55.4 0.0**
CPUP Villa Florida 64.78 133 P **P 17 15 55.4 0.0**
comp=Z,1.16nm,0.6s,baz=334,slow=6.8,SNR=3.0
SUMG Summit 64.93 18 *e*P **P 17 15 55.1 -1.1**
SUMG pmax pmax
comp=Z,29nm,1.2s
SUMG Summit 64.93 18 *i* P **P 17 15 55.4 -0.8**
comp=Z,12nm,1.0s
SUMG Summit 64.93 18 *e*P **P 17 15 55.1 -1.1**
comp=Z,29nm,1.2s
BDFB Brasilia 65.97 118 *e*P P 17 16 06.6 +3.2
BDFB Brasilia 65.97 118 P **P 17 16 03.1 -0.4**
comp=Z,9.0nm,0.8s,baz=299,slow=12,SNR=4.8
BDFB LR LR 17 45 56.5
comp=Z,255nm,18.3s,baz=346,slow=37
PLCA Paso Flores 67.69 152 *e*P **P 17 16 14.2 +0.3**
comp=Z,44nm,1.4s
PLCA *e* 17 16 20.2
PLCA Paso Flores 67.69 152 P **P 17 16 14.2 +0.3**
comp=Z,3.5nm,1.0s,baz=327,slow=10,SNR=4.6
PLCA LR LR 17 40 53.8
comp=Z,281nm,18.1s,baz=286,slow=32
TRQA Tornquist 69.86 145 *e*P **P 17 16 27.0 -0.4**
comp=Z,42nm,1.4s
SEY Seymchan 78.67 333 P **P 17 17 18.7 +0.3**
SEY Seymchan 78.67 333 P **P 17 17 18.7 +0.3**
SEY Seymchan 78.67 333 P **P 17 17 18.7 +0.3**
comp=Z,6.6nm,1.0s,baz=115,slow=4.9,SNR=9.0
PEA0 Petropavlovsk- 79.11 322 *e*P P 17 17 27.1 +6.1
PETK Petropavlovsk- 79.11 322 P **P 17 17 21.8 +0.7**
PETK Petropavlovsk- 79.11 322 P **P 17 17 21.8 +0.7**
PETK Petropavlovsk- 79.11 322 P **P 17 17 21.8 +0.7**
comp=Z,4.9nm,1.0s,baz=130,slow=13,SNR=2.8
PETK LR LR 17 52 46.8
comp=Z,48nm,19.1s,baz=287,slow=36
ESK Eskdalemuir 81.03 34 *i* P **P 17 17 32.3 +1.0**
TIXI Tiksi 82.34 345 *c i*P **P 17 17 37.1 -0.8**
TIXI pmax pmax
comp=Z,27nm,1.2s
TIXI MLR MLR
comp=Z,317nm,17.0s
TIXI Tiksi 82.34 345 *e*P **P 17 17 36.5 -1.5**
comp=Z,56nm,1.3s
TIXI *e* 17 17 43.0
TIXI *e*PP **PP 17 20 45.6 -0.7**
PMAFR Mafra 82.58 51 *e*P **P 17 17 40.3 +0.4**
comp=Z,142nm,1.8s
PCAS Casmilo, Conde 82.81 50 *e*P **P 17 17 42.0 +1.0**
comp=Z,64nm,1.6s
POLO Lamas de Olo 82.88 49 *e*P **P 17 17 41.6 +0.1**
comp=Z,28nm,1.5s
PACT Alcochete 82.97 52 *e*P **P 17 17 42.9 +1.0**
comp=Z,290nm,1.8s
PTOM Tomar 83.01 51 *e*P **P 17 17 42.7 +0.6**
comp=Z,55nm,1.3s
PVIS Viseu 83.03 49 *e*P **P 17 17 42.9 +0.7**
comp=Z,46nm,1.8s
PMTG Montargil 83.33 51 *e*P **P 17 17 44.1 +0.4**
comp=Z,42nm,1.6s
MTE Manteigas 83.38 50 *e*P **P 17 17 44.7 +0.6**
comp=Z,52nm,1.1s
MTE Manteigas 83.38 50 *e*P **P 17 17 44.0 0.0**
comp=Z,30nm,0.9s
PNCL Nicolau / Gran 83.41 52 *e*P **P 17 17 44.4 +0.2**
comp=Z,55nm,1.7s
PTEO Sao Teotonio 83.45 53 *e*P **P 17 17 44.4 0.0**
comp=Z,82nm,1.4s
ROSF Rostrenen 83.50 41 *e*P **P 17 17 44.3 -0.1**
comp=Z,146nm,1.4s
ROSF Rostrenen 83.50 41 *e*P **P 17 17 44.3 -0.1**
ROSF pmax pmax
comp=Z,147nm,1.4s
ROSF Rostrenen 83.50 41 *e*P **P 17 17 44.3 -0.1**
comp=Z,146nm,1.4s
MVO Moncorvo 83.50 49 *e*P **P 17 17 44.4 -0.2**
comp=Z,50nm,2.5s
EVOP Sao Brissos 83.58 52 *e*P **P 17 17 45.0 0.0**
EVOP pmax pmax
comp=Z,87nm,1.0s
EVOP Sao Brissos 83.58 52 *e*P **P 17 17 45.0 0.0**
comp=Z,87nm,1.0s
PCBR Castelo Branco 83.62 50 *e*P **P 17 17 45.9 +0.7**
comp=Z,36nm,1.5s
EVO Evora 83.66 52 *e*P **P 17 17 45.0 -0.4**
comp=Z,87nm,1.0s
EVO *e*R
comp=Z,238nm,22.8s
EVO Evora 83.66 52 *e*P **P 17 17 45.5 +0.1**
comp=Z,73nm,1.7s
QUIF Quistinic 83.72 41 *e*P **P 17 17 45.7 +0.2**
comp=Z,297nm,1.8s
QUIF Quistinic 83.72 41 *e*P **P 17 17 45.7 +0.2**
QUIF pmax pmax
comp=Z,297nm,1.8s
QUIF Quistinic 83.72 41 *e*P **P 17 17 45.7 +0.2**
comp=Z,297nm,1.8s
MESJ Messejana 83.73 52 *e*P **P 17 17 45.4 -0.4**
MESJ AMb AMB 17 17 59.4
comp=Z,43nm,2.2s
PMRV Marv??o 83.82 51 *e*P **P 17 17 45.3 -1.0**
comp=Z,66nm,1.5s
PESTR Estremoz 83.86 51 *e*P **P 17 17 47.1 +0.6**
comp=Z,42nm,1.5s
PCVE Castro Verde 83.94 52 *e*P **P 17 17 47.7 +0.8**
comp=Z,72nm,1.6s
SGMF Saint Gilles 83.97 41 *e*P **P 17 17 46.6 -0.2**
comp=Z,246nm,1.6s
SGMF Saint Gilles 83.97 41 *e*P **P 17 17 46.6 -0.2**
SGMF pmax pmax
comp=Z,246nm,1.6s
SGMF Saint Gilles 83.97 41 *e*P **P 17 17 46.6 -0.2**
comp=Z,246nm,1.6s
PBAR Barrancos 84.50 52 *e*P **P 17 17 50.0 +0.3**
comp=Z,86nm,1.7s
ARCES ARCESS Array B 84.91 16 P **P 17 17 51.1 -0.1**
ARCES ARCESS Array B 84.91 16 P **P 17 17 51.1 -0.1**
comp=Z,10nm,1.0s,baz=344,slow=18,SNR=6.1
ARCES LR LR 17 56 14.3
comp=Z,548nm,18.2s,baz=131,slow=36
GRR Gorron 84.97 40 *e*P **P 17 17 52.1 +0.3**
comp=Z,92nm,1.2s
GRR Gorron 84.97 40 *e*P **P 17 17 52.1 +0.3**
GRR pmax pmax
comp=Z,93nm,1.2s
GRR Gorron 84.97 40 *e*P **P 17 17 52.1 +0.3**
comp=Z,92nm,1.2s
FLN La Foliniere 85.05 40 *e*P **P 17 17 52.6 +0.4**
comp=Z,93nm,1.1s
FLN *e*R
comp=Z,361nm,18.5s
FLN La Foliniere 85.05 40 *e*P **P 17 17 52.6 +0.4**
FLN pmax pmax
comp=Z,93nm,1.1s
FLN La Foliniere 85.05 40 *e*P **P 17 17 52.6 +0.4**
comp=Z,93nm,1.1s
NBO02 NORSAR Array S 85.22 26 *e*P **P 17 17 51.5 -1.4**
LDF La Druitiere 85.33 40 *e*P **P 17 17 53.9 +0.2**
comp=Z,109nm,1.5s
LDF La Druitiere 85.33 40 *e*P **P 17 17 53.9 +0.2**
LDF pmax pmax
comp=Z,109nm,1.5s
LDF La Druitiere 85.33 40 *e*P **P 17 17 53.9 +0.2**
comp=Z,109nm,1.5s
NB2 NORSAR Subarra 85.37 26 P **P 17 17 53.0 -0.7**
comp=Z,13nm,1.1s,baz=302,slow=5.1
NOA NORSAR Array B 85.37 26 P **P 17 17 53.6 -0.1**
NOA NORSAR Array B 85.37 26 P **P 17 17 53.6 -0.1**
comp=Z,6.1nm,1.0s,baz=303,slow=4.9,SNR=14
NOA LR LR 17 54 42.1
comp=Z,233nm,20.3s,baz=300,slow=35
KONO Kongsberg 85.41 28 *e*P **P 17 17 54.2 +0.4**
KONO *e* 17 17 59.7
KONO pmax pmax
comp=Z,6.0nm,1.0s
KONO Kongsberg 85.41 28 *e*P **P 17 17 54.2 +0.4**
comp=Z,5.8nm,1.0s
KONO *e* 17 17 59.7
PAB San Pablo 85.98 50 *e*P **P 17 17 57.5 +0.3**
PAB pmax pmax
comp=Z,15nm,1.5s
PAB San Pablo 85.98 50 *e*P **P 17 17 57.5 +0.3**
comp=Z,16nm,1.5s
MFF Saint Martin d 86.12 42 *e*P **P 17 17 57.7 +0.1**
comp=Z,129nm,1.8s
MFF Saint Martin d 86.12 42 *e*P **P 17 17 57.7 +0.1**
MFF pmax pmax
comp=Z,129nm,1.8s
MFF Saint Martin d 86.12 42 *e*P **P 17 17 57.7 +0.1**
comp=Z,129nm,1.8s
ESDC Sonseca Array 86.21 49 P **P 17 17 58.7 +0.4**
ESDC Sonseca Array 86.21 49 P **P 17 17 58.7 +0.4**
comp=Z,5.7nm,0.9s,baz=308,slow=5.5,SNR=24
ESDC LR LR 17 55 36.5
comp=Z,155nm,19.1s,baz=315,slow=35
ES19 SONSECA Array 86.25 49 *e*P **P 17 17 58.8 +0.3**
ETSF Etsaut 87.34 45 *e*P **P 17 18 03.0 -0.8**
comp=Z,72nm,1.4s
ETSF Etsaut 87.34 45 *e*P **P 17 18 03.0 -0.8**
ETSF pmax pmax
comp=Z,72nm,1.4s
ETSF Etsaut 87.34 45 *e*P **P 17 18 03.0 -0.8**
comp=Z,72nm,1.4s
GIVF Givet 87.61 37 *e*P **P 17 18 04.1 -0.7**
GIVF Givet 87.61 37 *e*P **P 17 18 04.1 -0.7**
GIVF Givet 87.61 37 *e*P **P 17 18 04.1 -0.7**
RJF Les Rejaudoux 87.71 43 *e*P **P 17 18 04.0 -1.4**
comp=Z,48nm,1.4s
RJF *e*R
comp=Z,336nm,19.5s
RJF Les Rejaudoux 87.71 43 *e*P **P 17 18 04.0 -1.4**
RJF pmax pmax
comp=Z,48nm,1.4s
RJF Les Rejaudoux 87.71 43 *e*P **P 17 18 04.0 -1.4**
comp=Z,48nm,1.4s
TCF Toulx Ste Croi 87.73 41 *e*P **P 17 18 04.0 -1.5**
comp=Z,50nm,1.4s
TCF Toulx Ste Croi 87.73 41 *e*P **P 17 18 04.0 -1.5**
TCF pmax pmax
comp=Z,50nm,1.4s
TCF Toulx Ste Croi 87.73 41 *e*P **P 17 18 04.0 -1.5**
comp=Z,50nm,1.4s
BCLA Clavier 87.73 37 P **P 17 18 04.4 -1.0**
comp=Z,11nm,1.4s
EPF Esparros 87.89 45 *e*P **P 17 18 06.5 +0.1**
comp=Z,79nm,1.6s
EPF Esparros 87.89 45 *e*P **P 17 18 06.5 +0.1**
EPF pmax pmax
comp=Z,79nm,1.6s
EPF Esparros 87.89 45 *e*P **P 17 18 06.5 +0.1**
comp=Z,79nm,1.6s
BGF Bois d'Agland 88.01 41 *e*P **P 17 18 05.4 -1.4**
BGF Bois d'Agland 88.01 41 *e*P **P 17 18 05.4 -1.4**
BGF Bois d'Agland 88.01 41 *e*P **P 17 18 05.4 -1.4**
MEM Membach 88.04 36 P **P 17 18 07.4 +0.5**
comp=Z,9.8nm,1.2s
SSF Saint Saulge 88.20 40 *e*P **P 17 18 06.1 -1.6**
comp=Z,26nm,1.2s
SSF Saint Saulge 88.20 40 *e*P **P 17 18 06.1 -1.6**
SSF pmax pmax
comp=Z,26nm,1.2s
SSF Saint Saulge 88.20 40 *e*P **P 17 18 06.1 -1.6**
comp=Z,26nm,1.2s
YAK Yakutsk 88.24 337 *e*P **P 17 18 07.1 -0.4**
YAK *e* 17 18 12.7
YAK pmax pmax
comp=Z,23nm,1.2s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK Yakutsk 88.24 337 *e*P **P 17 18 07.5 0.0**
comp=E,88nm,1.1s
YAK *e* 17 18 13.5
LOR Lormes 88.32 40 *e*P **P 17 18 07.1 -1.2**
comp=E,69nm,1.4s
LOR *e*R
comp=E,137nm,18.2s
LOR Lormes 88.32 40 *e*P **P 17 18 07.1 -1.2**
comp=E,69nm,1.4s
WLF Walferdange 88.57 37 P **P 17 18 09.1 -0.3**
comp=Z,17nm,1.8s
SFTF Sexfontaines 88.61 39 *e*P **P 17 18 08.4 -1.2**
comp=Z,49nm,1.4s
SFTF Sexfontaines 88.61 39 *e*P **P 17 18 08.4 -1.2**
comp=Z,49nm,1.4s
PAGF Fort de Pagny 88.85 38 *e*P **P 17 18 09.8 -0.9**
comp=Z,36nm,1.8s
PAGF Fort de Pagny 88.85 38 *e*P **P 17 18 09.8 -0.9**
comp=Z,36nm,1.8s
HAU Haudompre 89.47 39 *e*P **P 17 18 12.6 -1.1**
comp=Z,40nm,1.3s
HAU *e*R
comp=Z,592nm,20.2s
HAU Haudompre 89.47 39 *e*P **P 17 18 12.6 -1.1**
HAU pmax pmax
comp=Z,40nm,1.3s
HAU Haudompre 89.47 39 *e*P **P 17 18 12.6 -1.1**
comp=Z,40nm,1.3s
CDF Champ du Feu 89.82 38 *e*P **P 17 18 14.2 -1.2**
comp=Z,54nm,1.7s
CDF Champ du Feu 89.82 38 *e*P **P 17 18 14.2 -1.2**
CDF pmax pmax
comp=Z,54nm,1.7s
CDF Champ du Feu 89.82 38 *e*P **P 17 18 14.2 -1.2**
comp=Z,54nm,1.7s
HINF Hinteralfeld 89.86 39 *e*P **P 17 18 14.1 -1.5**
HINF Hinteralfeld 89.86 39 *e*P **P 17 18 14.1 -1.5**
HINF Hinteralfeld 89.86 39 *e*P **P 17 18 14.1 -1.5**
CABF La Chapelle 89.98 40 *e*P **P 17 18 15.0 -1.2**
comp=Z,39nm,1.4s
CABF La Chapelle 89.98 40 *e*P **P 17 18 15.0 -1.2**
CABF pmax pmax
comp=Z,39nm,1.4s
CABF La Chapelle 89.98 40 *e*P **P 17 18 15.0 -1.2**
comp=Z,39nm,1.4s
FINES FINESS Array B 90.76 21 P **P 17 18 18.2 -1.2**
FINES FINESS Array B 90.76 21 P **P 17 18 18.2 -1.2**
comp=Z,2.3nm,0.9s,baz=330,slow=8.0,SNR=4.6
FINES LR LR 17 59 02.9
comp=Z,386nm,19.5s,baz=315,slow=36
GRF Grafenberg Arr 91.41 36 *e*P **P 17 18 22.7 0.0**
comp=Z,25nm,1.2s
CLL Collm 91.49 34 *e*P **P 17 18 22.0 -1.0**
CLL *e*SS SS 17 36 18.0 +52
CLL *e*SSS SSS 17 39 42.0
KHC Kasperske Hory 93.00 35 AMS AMS 17 59 20.0
comp=Z,500nm,20.4s
PRU Pruhonice 93.04 34 AMS AMS 17 59 00.0
comp=Z,300nm,24.8s
GEC2 GERESS Array S 93.23 35 *e*P **P 17 18 31.6 +0.3**
GEC2 GERESS Array S 93.23 35 *e*P **P 17 18 31.6 +0.3**
GERES GERESS Array B 93.23 35 P **P 17 18 29.9 -1.3**
GERES GERESS Array B 93.23 35 P **P 17 18 29.9 -1.3**
comp=Z,1.1nm,1.0s,baz=316,slow=7.5,SNR=6.7
GERES LR LR 18 00 07.3
comp=Z,394nm,20.7s,baz=286,slow=35
DPC Dobruska-Polom 93.76 33 AMS AMS 18 03 50.0
TREC Trest 93.94 34 AMS AMS 18 01 20.0
comp=Z,400nm,20.5s
OKC Ostrava-Krasne 95.01 33 AMS AMS 18 05 40.0
comp=Z,300nm,17.7s
DZM Mont Dzumac 95.61 249 *e*LR LR 17 49 40.6
comp=Z,606nm,26.8s
STHS Stebnicka Huta 96.85 32 *e*P **P 17 18 47.3 -0.3**
STHS pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 96.85 32 *e*P **P 17 18 47.3 -0.3**
KEST Kesra 97.42 48 P **P 17 18 49.0 -1.6**
KEST Kesra 97.42 48 P **P 17 18 49.0 -1.6**
comp=Z,3.6nm,1.1s,baz=203,slow=1.5,SNR=3.9
KEST LR LR 17 59 00.9
comp=Z,71nm,21.0s,baz=218,slow=33
DBIC Dimbokro 97.46 80 LR LR 18 00 00.1
comp=Z,137nm,21.4s,baz=270,slow=34
MJAR Matsushiro Arr 98.53 313 LR LR 17 53 47.7
comp=Z,70nm,20.3s,baz=10,slow=30
OBN Obninsk 99.17 21 *e*P **Pdif 17 18 54.5 -3.4**
OBN *e* 17 22 57.7
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,400nm,17.0s
MDJ Mudanjiang 99.31 324 P **Pdif 17 18 58.7 -0.1**
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,78nm,4.4s
AK11 Malin Array Si 99.70 28 *e*P **Pdif 17 18 59.0 -1.3**
AKASG Malin Array Be 99.71 27 P **Pdif 17 18 58.2 -2.2**
AKASG Malin Array Be 99.71 27 P **Pdif 17 18 58.1 -2.2**
AKASG Malin Array Be 99.71 27 P **Pdif 17 18 58.1 -2.2**
comp=Z,3.4nm,1.1s,baz=310,slow=3.8,SNR=7.2
AKASG LR LR 18 04 55.4
comp=Z,230nm,20.0s,baz=355,slow=36
CN2 Changchun 102.11 325 *e*P **Pdif 17 19 13.1 +1.8**
MCQ Macquarie Isla 108.76 218 *e*PKPdf **PKiKP 17 23 47.4 +2.1**
HHC Hu-ho-hao-te 111.26 331 *e*PKP **PKiKP 17 23 52.7 +1.9**
HHC PP PP 17 24 36.4 +6.7
HHC SS SS 17 39 57.3 -3.0
HHC AMB AMB
comp=Z,100nm,8.9s
MKAR Makanchi Array 114.03 354 PKIKP **PKiKP 17 23 57.5 +1.7**
MKAR Makanchi Array 114.03 354 PKP **PKiKP 17 23 57.5 +1.7**
MKAR Makanchi Array 114.03 354 PKP **PKiKP 17 23 57.5 +1.7**
comp=Z,0.8nm,0.9s,baz=8.7,slow=1.6,SNR=5.3
WMQ Urumqi 116.25 350 PKP **PKPdf 17 24 00.0 -0.2**
WMQ PP PP 17 25 10.0 +5.4
WMQ PKS **PKSdf 17 27 35.0 -1.9**
WMQ SKS SKSdf 17 31 01.0 -9.4
WMQ SKKS SKKSac 17 31 53.0 -12
WMQ SS SS 17 41 00.0 -5.3
WMQ AMB AMB
comp=Z,31nm,9.0s
WMQ LR LR
comp=Z,290nm,23.0s
WMQ LR LR
comp=Z,240nm,22.0s
WMQ LR LR
comp=Z,300nm,25.0s
DRV Dumont d'Urvil 117.22 204 SP SP 17 34 58.0 +6.7
DRV SS SS 17 41 36.0 +17
LZH Lanzhou 118.60 333 *e*PKP **PKPdf 17 24 05.0 -0.1**
LZH sPKP 17 24 34.8
LZH PP PP 17 25 28.0 +6.6
LZH SKKS 17 32 09.6
LZH *e*SS SS 17 41 31.5 -5.3
LZH AMB AMB
comp=Z,100nm,8.4s
LZH LR LR
comp=Z,200nm,18.0s
LZH LR LR
comp=Z,190nm,18.0s
LZH LR LR
comp=Z,240nm,20.1s
KSH Kashi 121.63 359 PKP **PKPdf 17 24 10.0 -0.7**
KSH PKS **PKSdf 17 27 45.1 -2.4**
KSH SKS SKSdf 17 31 10.1 -11
KSH SKKS SKKSac 17 32 27.1 -14
KSH AMB AMB
comp=Z,100nm,4.1s
KSH LR LR
comp=Z,140nm,5.7s
KSH LR LR
comp=Z,130nm,6.4s
KSH LR LR
comp=Z,200nm,16.0s
CD2 Chengdu 123.01 330 *e*PKP **PKPdf 17 24 13.1 -0.4**
CD2 sPKP 17 24 42.8
CD2 PP **PP 17 25 55.8 +4.3**
CD2 PKS **PKSdf 17 27 48.4 -1.9**
CD2 SKS SKSdf 17 31 15.8 -7.9
CD2 SKKS SKKSac 17 32 39.2 -11
CD2 SS SS 17 42 28.6 -4.6
CD2 AMB AMB
comp=Z,140nm,8.2s
CD2 LR LR
comp=Z,190nm,15.5s
CD2 LR LR
comp=Z,300nm,16.7s
CD2 LR LR
comp=Z,230nm,14.3s
WRAB Tennant Creek 124.21 259 *i* PKIKP **PKPdf 17 24 15.2 -0.7**
WRA Warramunga Arr 124.22 259 PKP **PKPdf 17 24 15.2 -0.8**
WRA Warramunga Arr 124.22 259 PKP **PKPdf 17 24 15.2 -0.8**
comp=Z,1.8nm,1.1s,baz=71,slow=2.0,SNR=5.5
GYA Guiyang 125.16 325 *e*Pdif **Pdif 17 20 54.0 -0.3**
GYA PKP **PKPdf 17 24 17.5 -0.3**
GYA sPKP 17 24 47.9
GYA PP PP 17 26 11.0 +4.7
GYA PKS **PKSdf 17 27 52.6 -2.1**
GYA SKKS 17 32 53.2
GYA SS **SS 17 42 56.5 -4.4**
GYA AMB AMB
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,130nm,21.5s
GYA LR LR
comp=Z,120nm,23.0s
ASAR Alice Springs 125.18 254 PKP **PKPdf 17 24 17.4 -0.3**
ASAR Alice Springs 125.18 254 PKP **PKPdf 17 24 17.4 -0.3**
comp=Z,1.1nm,1.0s,baz=122,slow=1.3,SNR=6.8
KMI Kunming 128.31 327 PKP **PKPdf 17 24 24.2 +0.2**
KMI sPKP 17 24 51.2
KMI PP **PP 17 26 29.4 +2.2**
KMI SS SS 17 43 36.0 -4.3
KMI AMB AMB
comp=Z,110nm,3.8s
KMI LR LR
comp=Z,140nm,17.3s
KMI LR LR
comp=Z,150nm,13.7s
KMI LR LR
comp=Z,170nm,16.0s
MAW Mawson 130.96 174 PKP **PKPdf 17 24 27.8 +0.4**
MAW Mawson 130.96 174 PKP **PKPdf 17 24 27.8 +0.4**
comp=Z,1.3nm,0.8s,baz=270,slow=3.0,SNR=2.2
BOSA Boshof 133.94 112 PKP **PKPdf 17 24 34.1 -0.2**
BOSA Boshof 133.94 112 PKP **PKPdf 17 24 34.1 -0.2**
comp=Z,3.8nm,1.0s,baz=174,slow=4.1,SNR=3.2
CHTO Chiang Mai 135.49 327 *e*PKIKP **PKPdf 17 24 37.9 +0.5**
CHTO Chiang Mai 135.49 327 *e*PKPdf **PKPdf 17 24 37.9 +0.5**
CMAR Chiang Mai Arr 135.78 326 PKP **PKPdf 17 24 37.6 -0.4**
CMAR Chiang Mai Arr 135.78 326 PKP **PKPdf 17 24 37.6 -0.4**
comp=Z,1.3nm,1.0s,baz=318,slow=1.8,SNR=7.1
PSI Prapat 147.83 310 PKPbc **PKPbc 17 25 01.2 -1.4**
PSI Prapat 147.83 310 PKPbc **PKPbc 17 25 01.2 -1.4**
comp=Z,3.7nm,0.4s,baz=184,slow=5.4,SNR=8.1

IDC ***12*** *17:11:45.4±0.9, 17.31S×173.24W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/22, mbtmp3.9/7, Error ellipse: s-maj=48.0km s-min=19.8km az=139.0*
ISCJB ***12*** *17:11:52.2±1.2, 16.6S±0.3×173.7W±0.3, h52km, mb3.9/7, Error ellipse: s-maj=60.0km s-min=10.2km az=135.3*
ISC 12 17:11:53.7±1.3, 16.7S±0.3×173.6W±0.3, h52km, n10, σ1§22/9, mb3.9/7, Tonga Islands

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

AFI	**Afiamalu**	**3.27 34**	Pn	Pn	17 12 37.9	-4.6		
	5.6nm,0.3s,baz=352,slow=2.4,SNR=7.7							
AFI			Sn	**Sn**	**17 13 18.9**	**-1.4**		
	17nm,0.3s,baz=358,slow=23,SNR=6.5							
URZ	**Urewera**	**23.01 199**	P	P	17 16 46.6	-7.5		
	13nm,0.8s,baz=140,slow=1.2,SNR=8.4							
STKA	**Stephens Creek**	**43.22 241**	P	**P**	**17 19 48.5**	**-1.5**		
	1.5nm,0.7s,baz=82,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**49.34 258**	P	**P**	**17 20 37.8**	**-0.4**		
	1.5nm,0.6s,baz=96,slow=7.3,SNR=39							
ASAR	**Alice Springs**	**49.51 253**	P	**P**	**17 20 40.1**	**+0.6**		
	4.4nm,0.6s,baz=89,slow=8.5,SNR=149							
TXAR	**Lajitas Array**	**81.50 56**	P	**P**	**17 24 05.8**	**-0.2**		
	0.2nm,0.7s,baz=164,slow=3.6,SNR=2.5							
PDAR	**Pinedale Array**	**83.35 42**	P	**P**	**17 24 15.6**	**+0.1**		
	0.3nm,0.8s,baz=196,slow=6.2,SNR=2.4							
ILAR	**Eielson Array**	**83.72 11**	P	**P**	**17 24 18.4**	**+1.9**		
	0.4nm,0.6s,baz=226,slow=6.1,SNR=13							
BRTR	**Keskin Array B**	**146.97 320**	PKPbc	**PKPab**	**17 31 33.2**	**+0.7**		
	1.7nm,1.0s,baz=48,slow=4.3,SNR=2.3							
GERES	**GERESS Array B**	**147.34 351**	PKPbc	**PKPbc**	**17 31 31.6**	**-0.1**		
	0.3nm,0.6s,baz=25,slow=3.5,SNR=4.7							

IDC ***12*** *17:28:22.3±2.0, 5.36N×125.24E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, Error ellipse: s-maj=135.2km s-min=23.1km az=68.0*

ISC 12 17:28:23.6±1.5, 5.4N±0.1×125.2E±0.1, h10km, n9, σ1s52/9, mb3.3/4, Mindanao

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
KMSI	**Cibinong**	**4.91 195**	P	**Pg**	**17 29 59.1**	**+1.3**
TNTI	**Ternate**	**5.04 155**	P	**Pg**	**17 29 58.8**	**-1.4**
GTOI	**Gorontalo**	**5.18 205**	P	**Pg**	**17 30 03.5**	**+0.5**
MRSI	**Marisa**	**5.85 214**	P	**Pg**	**17 30 12.9**	**-2.8**
LBMI	**Labuha**	**6.38 159**	P	**Pb**	**17 30 15.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.32 179**	P	**P**	**17 33 33.2**	**+1.2**
	1.3nm,0.8s,baz=4.1,slow=14,SNR=4.0					
WRA	**Warramunga Arr**	**26.70 161**	P	**P**	**17 34 02.7**	**-0.5**
	0.1nm,0.4s,baz=335,slow=10.0,SNR=3.1					
ASAR	**Alice Springs**	**30.07 164**	P	**P**	**17 34 33.3**	**0.0**
	0.2nm,0.8s,baz=349,slow=7.4,SNR=4.4					
MKAR	**Makanchi Array**	**55.36 325**	P	**P**	**17 37 58.2**	**+0.3**
	0.3nm,0.3s,baz=120,slow=7.2,SNR=12					

IDC 12 17:32:56.8±14.0, 12.23N×87.85W, h0km, mb3.6/3, mb1 4.1/3, mb1mx3.6/22, mbtmp3.6/3, Error ellipse: s-maj=531.8km s-min=107.0km az=32.0, Near coast of Nicaragua

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**22.50 322**	P	P	17 37 57.8	-0.4
	3.6nm,1.2s,baz=128,slow=10,SNR=10					
PDAR	**Pinedale Array**	**35.79 332**	P	P	17 39 58.4	+0.3
	0.5nm,0.9s,baz=132,slow=5.4,SNR=3.4					
ILAR	**Eielson Array**	**66.07 336**	P	P	17 43 45.1	-0.1
	0.7nm,1.0s,baz=138,slow=4.6,SNR=7.1					

IDC ***12*** *18:07:16.1±0.9, 15.36N×46.68W, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/28, mbtmp3.7/8, MS3.5/3, Ms1 3.6/3, ms1mx3.0/50, Error ellipse: s-maj=28.1km s-min=21.2km az=74.0*

ISC 12 18:07:17.7±1.4, 15.4N±0.2×46.4W±0.3, h17km, n12, σ0s82/7, mb3.8/8, MS3.5/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**23.50 153**	P	**P**	**18 12 27.8**	**+0.9**
	12nm,1.1s,baz=92,slow=7.5,SNR=3.5					
RCBR			LR	LR	18 21 04.6	
	comp=Z,53nm,19.4s,baz=65,slow=35					
LPAZ	**La Paz**	**38.10 215**	P	**P**	**18 14 36.8**	**+0.1**
	1.4nm,0.6s,baz=14,slow=9.3,SNR=4.4					
LPAZ			LR	LR	18 29 57.0	
	comp=Z,65nm,18.2s,baz=209,slow=36					
H10N3	**ASCENSION HYDR**	**39.12 124**	T	T	18 56 46.2	
	baz=306,slow=75,SNR=17					
H10N2	**ASCENSION HYDR**	**39.12 124**	T	T	18 56 46.7	
	baz=306,slow=75,SNR=14					
H10N1	**ASCENSION HYDR**	**39.14 124**	T	T	18 56 57.7	
	baz=306,slow=75,SNR=17					
CPUP	**Villa Florida**	**42.81 195**	P	**P**	**18 15 14.0**	**-0.8**
	2.0nm,0.7s,baz=41,slow=9.3,SNR=3.3					
TORD	**Torodi Ar. Bea**	**46.57 86**	P	P	18 15 49.6	+4.5
	0.5nm,0.8s,baz=302,slow=8.3,SNR=2.6					
CFAA	**Coronel Fontan**	**51.22 204**	P	**P**	**18 16 20.4**	**-0.1**
	0.1nm,0.4s,baz=30,slow=7.0,SNR=4.1					
TXAR	**Lajitas Array**	**54.29 295**	P	**P**	**18 16 44.4**	**+0.9**
	0.2nm,0.8s,baz=91,slow=12,SNR=2.4					
RES	**Resolute Bay**	**64.91 347**	LR	LR	18 44 45.7	
	comp=Z,78nm,18.5s,baz=68,slow=35					
YKA	**Yellowknife Ar**	**66.44 332**	P	**P**	**18 18 05.3**	**-0.5**
	0.4nm,0.6s,baz=100,slow=7.0,SNR=6.1					
ILAR	**Eielson Array**	**80.63 335**	P	**P**	**18 19 29.1**	**-0.2**
	1.0nm,0.8s,baz=71,slow=4.3,SNR=9.5					

IDC ***12*** *18:13:47.2±1.8, 5.47S×152.71E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/20, mbtmp3.8/6, ML2.1/1, Error ellipse: s-maj=70.0km s-min=20.4km az=125.0*

ISCJB ***12*** *18:13:52.0±1.6, 5.45S±0.3×152.5E±0.3, h40km, mb3.7/5, Error ellipse: s-maj=54.2km s-min=12.0km az=40.6*

ISC 12 18:13:52.9±1.8, 5.5S±0.3×152.7E±0.3, h40km, n7, σ0s85/8, mb3.7/5, New Britain region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.68 234**	Pn	**Pn**	**18 15 28.1**	**-0.5**
	0.2nm,0.3s,baz=8.1,slow=7.1,SNR=2.6					
PMG			Sn	**Sn**	**18 16 43.9**	**+0.4**
	0.9nm,0.3s,baz=284,slow=19,SNR=3.3					
WRA	**Warramunga Arr**	**22.87 230**	P	**P**	**18 18 53.3**	**+0.1**
	2.1nm,0.7s,baz=54,slow=9.9,SNR=2.0					
ASAR	**Alice Springs**	**25.53 223**	P	**P**	**18 19 19.5**	**+1.4**
	1.3nm,0.4s,baz=57,slow=9.5,SNR=61					
FITZ	**Fitzroy Crossi**	**29.20 242**	P	**P**	**18 19 50.1**	**-0.9**
	0.7nm,0.4s,baz=58,slow=8.1,SNR=6.3					
MJAR	**Matsushiro Arr**	**43.96 343**	P	**P**	**18 21 56.8**	**+0.5**
	1.9nm,1.1s,baz=153,slow=11,SNR=4.0					
ILAR	**Eielson Array**	**82.87 22**	P	**P**	**18 26 12.6**	**-0.4**
	0.4nm,0.7s,baz=250,slow=5.8,SNR=5.6					
TORD	**Torodi Ar. Bea**	**150.38 287**	PKPbc	**PKPbc**	**18 33 41.3**	**+0.2**
	1.2nm,0.7s,baz=74,slow=2.6,SNR=16					

IDC 12 18:21:36.3±2.1, 3.59N×127.32E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=178.9km s-min=23.6km az=66.0, Talaud Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.38 164**	P	P	18 26 56.4	-0.1
	0.7nm,0.5s,baz=343,slow=9.5,SNR=9.7					
ASAR	**Alice Springs**	**27.84 167**	P	P	18 27 27.0	-0.8
	0.2nm,0.8s,baz=353,slow=7.6,SNR=5.5					
STKA	**Stephens Creek**	**37.80 160**	P	P	18 28 55.0	+0.5
	1.6nm,0.8s,baz=321,slow=13,SNR=3.0					
MKAR	**Makanchi Array**	**58.00 325**	P	P	18 31 31.2	+0.2
	0.1nm,0.4s,baz=115,slow=6.9,SNR=2.7					

IDC ***12*** *18:31:19.1±0.7, 3.89N×126.63E, h0km, mb4.0/14, mb1 4.1/14, mb1mx3.9/28, mbtmp4.0/14, Error ellipse: s-maj=40.5km s-min=12.5km az=66.0*

ISCJB ***12*** *18:31:23.6±0.3, 3.98N±0.04×126.73E±0.05, h45km, mb4.0/14, Error ellipse: s-maj=7.0km s-min=4.7km az=154.3*

DJA ***12*** *18:31:28.6±1.0, 4.1N±8.1×12.7E±1.1, h10km, M4.6/4, mb4.8/4, mB5.1/3, MLv4.6/2, Mw(mB)4.4/3*

AUST ***12*** *18:31:32.9±0.6, 3.64N×126.82E, h113km, Error ellipse: s-maj=1.4km s-min=1.0km az=272.0*

MAN ***12*** *18:31:39, 4.65N×126.33E, h56km, mb4.9, ML3.8, MS3.9*

ISC 12 18:31:25.5±0.5, 3.93N±0.06×126.63E±0.09, h45km, n49, σ1s21/43, mb4.0/14, Talaud Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.12 258**	P	**Pn**	**18 31 46.3**	**+1.5**
SGSI			S	**Sn**	**18 32 00.4**	**+1.2**
MATI	**Mati**	**3.02 353**	*eP*	Pn	18 32 15.5	+4.6
MATI			*eS*	**Sn**	**18 32 43.5**	**-2.4**
TNTI	**Ternate**	**3.22 167**	P	**Pn**	**18 32 14.0**	**+0.4**
TNTI			S	**Sn**	**18 32 48.0**	**-2.8**
BUKP	**Musuan**	**4.22 338**	*eP*	Pn	18 32 33.6	+6.2
KMSI	**Cibinong**	**4.25 219**	P	Pn	18 32 32.1	+4.3
LBMI	**Labuha**	**4.62 169**	P	**Pn**	**18 32 34.5**	**+1.6**
GTOI	**Gorontalo**	**4.87 228**	P	**Pn**	**18 32 37.4**	**+1.0**
PAGZ	**Pagadian**	**5.06 320**	*eP*	Pn	18 32 44.4	+5.5
BUTP	**Butuan**	**5.11 349**	*eP*	Pn	18 32 45.8	+6.3
MRSI	**Marisa**	**5.80 234**	P	**Pn**	**18 32 51.6**	**+2.5**
	97nm,0.5s,2μm					
LUWI	**Luwuk**	**6.26 218**	P	Pn	18 33 02.1	+6.7
LUWI	**Luwuk**	**6.26 218**	P	Pn	18 33 02.9	+7.5
	baz=6.2,SNR=15					
TOLI	**Toli-Toli**	**6.46 245**	P	Pn	18 33 01.8	+3.6
	76nm,0.5s,2μm					
SWI	**Sorong**	**6.64 136**	P	**Pn**	**18 33 02.3**	**+1.7**
	36nm,0.8s					
NLAI	**Namlea**	**7.13 176**	P	**Pn**	**18 33 08.1**	**+0.7**
FAKI	**Fak Fak**	**8.82 140**	P	**Pn**	**18 33 32.0**	**+1.5**
	baz=8.5,SNR=8.2					
MTN	**Manton Dam**	**17.25 165**	P	**Pn**	**18 35 20.8**	**-2.5**
	baz=17,SNR=3.0					
KDU	**Kakadu**	**17.50 161**	P	**Pn**	**18 35 25.1**	**-1.3**
	baz=17,SNR=6.7					
MANU	**Manus Island**	**21.56 106**	P	**P**	**18 36 12.7**	**+1.3**
	baz=21,SNR=6.7					
FITZ	**Fitzroy Crossi**	**21.91 183**	P	**P**	**18 36 13.5**	**-1.6**
	1.4nm,0.5s,baz=21,slow=2.9,SNR=9.8					
FITZ	**Fitzroy Crossi**	**21.91 183**	P	**P**	**18 36 14.9**	**-0.2**
	baz=22,SNR=11					
WRA	**Warramunga Arr**	**24.90 163**	P	**P**	**18 36 42.8**	**-1.7**
	6.3nm,0.8s,baz=334,slow=11,SNR=37					
QIS	**Mount Isa**	**27.46 153**	P	P	18 37 02.1	-5.5
	baz=27,SNR=3.5					
ASAR	**Alice Springs**	**28.33 166**	P	**P**	**18 37 14.9**	**-0.4**
	0.4nm,0.4s,baz=354,slow=14,SNR=24					
WRKA	**Warakurna**	**28.84 177**	P	**P**	**18 37 19.7**	**-0.1**
	baz=29,SNR=15					
CMAR	**Chiang Mai Arr**	**30.68 300**	P	**P**	**18 37 36.9**	**+0.6**
	0.3nm,0.6s,baz=122,slow=6.7,SNR=4.2					
MEEK	**Meekatharra**	**31.36 194**	P	**P**	**18 37 42.2**	**+0.1**
	baz=31,SNR=4.3					
KSRS	**Korea Array**	**33.39 2**	P	**P**	**18 38 00.0**	**+0.3**
	1.2nm,0.7s,baz=174,slow=9.6,SNR=5.7					
MORW	**Morawa**	**34.35 197**	P	**P**	**18 38 08.3**	**+0.1**
	baz=34,SNR=4.4					
KLBR	**Kellerberrin**	**36.32 193**	P	**P**	**18 38 25.2**	**+0.1**
	baz=36,SNR=6.2					
BBOO	**Buckleboo**	**37.62 167**	P	**P**	**18 38 36.1**	**0.0**
	baz=38,SNR=8.8					
STKA	**Stephens Creek**	**38.35 159**	P	**P**	**18 38 42.0**	**-0.3**
	1.9nm,0.4s,baz=331,slow=5.2,SNR=12					
STKA	**Stephens Creek**	**38.35 159**	P	**P**	**18 38 43.0**	**+0.7**
	baz=38,SNR=8.5					
ARMA	**Armidale**	**41.69 147**	P	**P**	**18 39 11.8**	**+1.6**
	baz=42,SNR=6.4					
TAPN	**Taplejung**	**43.82 306**	*eP*	**P**	**18 39 26.8**	**-1.0**
ODAN	**Odare**	**43.87 305**	*eP*	**P**	**18 39 28.3**	**+0.2**
	7.3nm,0.5s					
JIRN	**Jiri**	**45.17 306**	*eP*	**P**	**18 39 38.3**	**-0.4**
	5.5nm,0.4s					
GUN	**Gumba**	**45.53 306**	*eP*	**P**	**18 39 41.4**	**0.0**
	19nm,0.5s					
KKN	**Kakani**	**45.97 305**	*eP*	**P**	**18 39 44.9**	**+0.2**
	6.6nm,0.5s					
DZM	**Mont Dzumac**	**46.73 125**	P	**P**	**18 39 50.3**	**-0.3**
	14nm,0.7s,baz=90,slow=23,SNR=6.6					
LHI	**Lord Howe Isla**	**46.87 141**	P	**P**	**18 39 50.9**	**-0.5**
	baz=47,SNR=4.2					
SONM	**Songino Array**	**47.08 341**	P	**P**	**18 39 52.6**	**-0.4**
	0.7nm,0.7s,baz=154,slow=8.5,SNR=6.7					
KOLN	**Koldanda**	**47.33 305**	*eP*	**P**	**18 39 56.6**	**+1.2**
	12nm,0.6s					
MKAR	**Makanchi Array**	**57.34 325**	P	**P**	**18 41 09.8**	**+0.7**
	1.1nm,0.4s,baz=121,slow=7.1,SNR=36					
ZALV	**Zalesovo Beam**	**60.37 333**	P	**P**	**18 41 30.1**	**+0.2**
	0.4nm,0.3s,baz=134,slow=6.2,SNR=3.4					
KURBB	**Kurtov Array**	**61.52 327**	P	**P**	**18 41 38.1**	**+0.3**
	0.5nm,0.4s,baz=130,slow=7.1,SNR=8.2					
BVAR	**Borovoye Array**	**67.10 327**	P	**P**	**18 42 13.4**	**-1.0**
	0.4nm,0.4s,baz=146,slow=8.8,SNR=5.3					
AKTO	**Aktyubinsk**	**73.44 322**	P	**P**	**18 42 53.0**	**-0.2**
	1.6nm,0.7s,baz=80,slow=8.7,SNR=5.5					
FINES	**FINESS Array B**	**91.61 332**	P	**P**	**18 44 29.1**	**+1.6**
	1.1nm,0.8s,baz=97,slow=7.7,SNR=4.1					

IDC ***12*** *18:34:02.5±0.5, 1.93N×99.33E, h161km±3km, mb3.9/17, mb1 4.0/18, mb1mx3.8/29, mbtmp4.4/18, Error ellipse: s-maj=20.3km s-min=9.2km az=54.0*

NEIC ***12*** *18:34:02.6±0.3, 1.96N×99.37E, mb4.5/12, Error ellipse: s-maj=10.4km s-min=5.3km az=52.0*

ISCJB ***12*** *18:34:02.2±0.3, 1.99N±0.04×99.25E±0.04, h173km±2km, mb4.2/28, Error ellipse: s-maj=8.5km s-min=4.1km az=138.1*

DJA ***12*** *18:34:03.9±0.6, 2.1N±6.1×9.9E±1.1, h149km±8km, M4.7/8, mb5.4/2, mB5.4/2, MLv4.4/8, Mw(mB)4.8/2*

BKK ***12*** *18:34:03.5±0.4, 2.1N±4.1×9.9E±1.1, h161km±7km, M4.5/7, mb4.4/7, mB4.8/2, MLv4.5/7, Mw(mB)4.0/2*

AUST ***12*** *18:34:14.9±0.0, 1.07N×100.21E, h184km, Error ellipse: s-maj=1.8km s-min=1.5km az=241.0*

ISC 12 18:34:02.9±0.5, 1.98N±0.05×99.27E±0.05, h165km±4km, n112, σ0s90/135, mb4.3/28, Northern Sumatera

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
PSI	**Prapat**	**0.88 337**	P	**Pn**	**18 34 28.6**	**+0.2**
PSI			S	**Sn**	**18 34 47.0**	**-0.9**
PSI	**Prapat**	**0.88 337**	P	**Pn**	**18 34 28.6**	**+0.2**
	140nm,0.3s,baz=95,slow=17,SNR=458					
PSI			S	**Sn**	**18 34 47.0**	**-0.9**
	56nm,0.3s,baz=8.7,slow=21,SNR=45					
MNSI	**Mandailing Nat**	**1.22 165**	P	**Pn**	**18 34 31.3**	**+0.4**
MNSI			S	**Sn**	**18 34 53.5**	**+0.9**
TSI	**Tuntungan**	**1.66 335**	P	**Pn**	**18 34 36.7**	**+1.4**
KCSI	**Kotacane, Aceh**	**2.14 316**	P	**Pn**	**18 34 40.9**	**+0.4**
KCSI			S	**Sn**	**18 35 09.4**	**-0.3**
BKNI	**Bangkinang**	**2.42 133**	P	**Pn**	**18 34 44.0**	**+0.3**
BKNI			S	**Sn**	**18 35 16.5**	**+1.1**
BKNI	**Bangkinang**	**2.42 133**	P	**Pn**	**18 34 44.4**	**+0.7**
	baz=1.1,SNR=39					
TPTI		**2.44 301**	P	**Pn**	**18 34 45.5**	**+1.5**
TPTI			S	**Sn**	**18 35 15.4**	**-0.5**
FRIM	**Kepong**	**2.66 62**	P	**Pn**	**18 34 47.7**	**+1.0**
FRIM	**Kepong**	**2.66 62**	P	**Pn**	**18 34 47.7**	**+1.0**
PPI	**Padang Panjang**	**2.67 155**	P	**Pn**	**18 34 47.6**	**+0.8**
PPI	**Padang Panjang**	**2.67 155**	P	**Pn**	**18 34 47.8**	**+1.0**
	baz=1.5,SNR=41					
SNSI	**Sinabang, Aceh**	**2.97 278**	P	**Pn**	**18 34 51.4**	**+0.9**
IPM	**Ipoh**	**3.04 35**	P	**Pn**	**18 34 53.1**	**+1.8**
IPM	**Ipoh**	**3.04 35**	P	**Pn**	**18 34 53.2**	**+1.8**
RGRI	**Rengat**	**3.84 127**	P	**Pn**	**18 35 02.2**	**+0.7**
KGM	**Kluang**	**4.04 89**	P	**Pn**	**18 35 04.5**	**+0.4**
MYKOM	**Kota Tinggi**	**4.58 92**	P	**Pn**	**18 35 11.2**	**+0.2**
KTGM	**Kuala Trenggan**	**5.09 49**	P	**Pn**	**18 35 17.9**	**+0.2**
JMBI	**JAMBI**	**5.66 129**	P	**Pn**	**18 35 27.0**	**+1.8**
	496nm,0.8s,5μm					
PKDT	**Phuket**	**5.94 351**	P	**Pn**	**18 35 28.5**	**-0.5**
	282nm,0.7s,3μm1.1nm					
SURT	**Suratani**	**6.94 356**	P	**Pn**	**18 35 42.8**	**+0.5**
	19nm,0.6s,0.1nm					
LHSI	**Lahat**	**7.17 144**	P	**Pn**	**18 35 45.2**	**0.0**
SBUM	**Sibu**	**12.95 88**	P	**P**	**18 37 03.7**	**-1.7**
XMIS	**Christmas Isla**	**13.92 153**	P	Pn	18 37 08.0	-5.3
	baz=13,SNR=3.7					
UGM	**Wanagama**	**14.92 131**	P	**Pn**	**18 37 25.2**	**-0.6**
	baz=14,SNR=3.8					
MHMT	**Maesarieng**	**16.15 355**	P	**P**	**18 37 42.3**	**+1.5**
	8.9nm,1.0s,218nm					
CMAR	**Chiang Mai Arr**	**16.38 359**	P	**P**	**18 37 42.9**	**-0.5**
CMAR			PcP	**PcP**	**18 42 26.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.38 359**	P	**P**	**18 37 42.9**	**-0.5**
	0.3nm,0.3s,baz=126,slow=7.6,SNR=7.7					
CMAR			PcP	**PcP**	**18 42 26.5**	**+0.4**
	0.1nm,0.3s,baz=219,slow=3.2,SNR=6.4					
CMMT	**Chiang Mai**	**16.73 359**	P	**P**	**18 37 45.1**	**-2.2**
	11nm,1.0s					
CHTO	**Chiang Mai**	**16.73 359**	*eP*	**Pn**	**18 37 48.1**	**+0.3**
	3.5nm,0.7s					
CHTO	**Chiang Mai**	**16.73 359**	P	**Pn**	**18 37 49.4**	**+1.6**
	28nm,0.8s					
KKM	**Kota Kinabalu**	**17.37 76**	*eP*	**P**	**18 37 54.1**	**-0.4**
	24nm,0.6s					
SDKM	**Sandakan**	**18.25 78**	P	**Pn**	**18 38 06.6**	**+0.7**
MYLDM	**Lahad Datu**	**19.45 80**	P	**Pn**	**18 38 20.7**	**+0.7**
LUWI	**Luwuk**	**23.69 97**	P	**P**	**18 39 01.0**	**+1.2**
	baz=23,SNR=5.4					
RAMN	**Ramite**	**27.64 335**	*eP*	**P**	**18 39 34.2**	**-1.3**
H08S2	**Diego Garcia H**	**28.38 250**	T	T	19 07 18.6	
	baz=70,slow=75,SNR=46					
H08S3	**Diego Garcia H**	**28.38 250**	T	T	19 07 16.7	
	baz=70,slow=75,SNR=37					
H08S1	**Diego Garcia H**	**28.39 250**	T	T	19 07 17.0	
	baz=70,slow=75,SNR=61					
LSA	**Lhasa**	**28.62 345**	*eP*	**P**	**18 39 45.2**	**+0.7**
	3.8nm,0.5s					
DMN	**Daman**	**28.86 333**	*eP*	**P**	**18 39 45.6**	**-0.8**
GKN	**Gorkha**	**29.41 333**	*eP*	**P**	**18 39 49.6**	**-1.5**
	4.2nm,0.3s					
ENH	**Enshi**	**29.76 18**	*eP*	**P**	**18 39 52.6**	**-1.4**
DANN	**Dangsing**	**30.11 332**	*eP*	**P**	**18 39 56.4**	**-1.1**
	7.5nm,0.4s					
FITZ	**Fitzroy Crossi**	**32.75 129**	P	**P**	**18 40 17.8**	**-2.6**
FITZ	**Fitzroy Crossi**	**32.75 129**	P	**P**	**18 40 17.8**	**-2.6**
	5.0nm,0.7s,baz=116,slow=1.7,SNR=9.2					
FITZ	**Fitzroy Crossi**	**32.75 129**	P	**P**	**18 40 19.9**	**-0.4**
	baz=32,SNR=6.4					
FAKI	**Fak Fak**	**33.32 98**	P	**P**	**18 40 25.3**	**-0.2**
	baz=32,SNR=3.2					
KDU	**Kakadu**	**36.04 115**	P	**P**	**18 40 47.6**	**-1.1**
	baz=35,SNR=3.1					
WRKA	**Warakurna**	**38.90 136**	P	**P**	**18 41 11.7**	**-1.0**
	baz=38,SNR=5.2					
HHC	**Hu-ho-hao-te**	**40.26 14**	*eP*	P	18 41 29.4	+5.7
HHC			S	S	18 47 25.6	+6.9
HHC			pmax	pmax		
	comp=Z,14nm,1.0s					
HHC			pmax	pmax		
	comp=Z,140nm,6.0s					
WRA	**Warramunga Arr**	**40.72 124**	P	**P**	**18 41 27.5**	**-0.3**
WRA			PcP	**PcP**	**18 43 25.8**	**-0.3**
WRA	**Warramunga Arr**	**40.72 124**	P	**P**	**18 41 27.5**	**-0.3**
	comp=Z,28nm,0.5s,baz=302,slow=9.1,SNR=96					
WRA			PcP	**PcP**	**18 43 25.8**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=316,slow=2.7,SNR=4.8					
WRAB	**Tennant Creek**	**40.73 124**	*eP*	**P**	**18 41 27.5**	**-0.3**
	comp=Z,27nm,0.5s					
AS31	**Alice Springs**	**42.25 129**	*eP*	**P**	**18 41 38.8**	**-1.4**
ASAR	**Alice Springs**	**42.25 129**	P	**P**	**18 41 39.4**	**-0.8**
ASAR			PcP	**PcP**	**18 43 31.1**	**0.0**
ASAR			ScP	**ScP**	**18 47 05.2**	**-1.2**
ASAR	**Alice Springs**	**42.25 129**	P	**P**	**18 41 39.4**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=297,slow=7.3,SNR=27					
ASAR			PcP	**PcP**	**18 43 31.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=304,slow=3.2,SNR=5.3					
ASAR			ScP	**ScP**	**18 47 05.2**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=300,slow=4.0,SNR=9.1					
KSAR	**Wonju Array Be**	**44.02 33**	P	**P**	**18 41 53.5**	**-0.6**
KSRS	**Korea Array**	**44.05 33**	P	**P**	**18 41 53.5**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=220,slow=8.4,SNR=12					
QIS	**Mount Isa**	**45.42 122**	P	**P**	**18 42 05.6**	**+0.1**
	baz=44,SNR=13					
TKM2	**Tokmak 2**	**45.92 336**	*eP*	**P**	**18 42 09.1**	**-0.2**
	comp=Z,7.2nm,1.2s					
SONM	**Songino Array**	**46.09 7**	P	**P**	**18 42 11.4**	**+1.0**
SONM			PcP	**PcP**	**18 43 44.9**	**+1.0**
SONM	**Songino Array**	**46.09 7**	P	**P**	**18 42 11.4**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=190,slow=9.6,SNR=20					
SONM			PcP	**PcP**	**18 43 44.9**	**+1.0**
	comp=Z,3.6nm,0.8s,baz=184,slow=3.9,SNR=15					
ULN	**Ulaanbaatar**	**46.20 7**	*eP*	**P**	**18 42 11.3**	**0.0**
	comp=Z,1.3nm,0.6s					
MK31	**Makanchi Array**	**47.02 344**	*eP*	**P**	**18 42 18.3**	**+0.7**
MKAR	**Makanchi Array**	**47.02 344**	P	**P**	**18 42 17.8**	**+0.2**
MKAR	**Makanchi Array**	**47.02 344**	P	**P**	**18 42 17.8**	**+0.2**
	comp=Z,3.4nm,0.3s,baz=158,slow=7.7,SNR=54					
MANU	**Manus Island**	**48.25 94**	P	**P**	**18 42 30.5**	**+2.9**
	baz=47,SNR=5.0					
PMG	**Port Moresby**	**49.03 104**	*eP*	**P**	**18 42 33.2**	**-0.3**
	comp=Z,9.6nm,0.6s					
PMG	**Port Moresby**	**49.03 104**	P	**P**	**18 42 33.5**	**0.0**
	comp=Z,9.9nm,0.6s,baz=35,slow=23,SNR=7.9					
PMG	**Port Moresby**	**49.03 104**	P	**P**	**18 42 33.6**	**+0.1**
	baz=48,SNR=4.4					
PMG			P	**P**	**18 42 33.6**	**+0.1**
	baz=48,SNR=4.4					
PMG			P	**P**	**18 42 33.6**	**+0.1**
	baz=48,SNR=4.4					
TLY	**Talaya**	**49.66 4**	*eP*	**P**	**18 42 36.3**	**-1.4**
HTT	**Hallett**	**51.34 137**	P	**P**	**18 42 50.9**	**+0.2**
	baz=50,SNR=4.0					
KURBB	**Kurchatov Arra

LPL	**La Plagne**	**90.38**	**315**	*e*P	**P**	**18 46 46.7**	**+0.8**
	comp=Z,6.9nm,0.8s						
LPL	**La Plagne**	**90.38**	**315**	*e*P	**P**	**18 46 46.7**	**+0.8**
	comp=Z,6.9nm,0.8s						

BJI ***12*** *18:38:40.6, 48˚.95N×156˚.46E, h5km, mB5.4/57, mb5.4/60, Ms5.8/74, Ms7 5.6/69*

ISCJB ***12*** *18:38:42.6±0.6, 48˚.78N±0˚.02×156˚.36E±0˚.02, h4km±3km, mb5.4/388, MS5.4/362, Error ellipse: s-maj=2.8km s-min=1.7km az=163.3*

KRSC ***12*** *18:38:42.0±5.5, 48˚.48N×157˚.06E, h44km±44km, ML5.6*

BGS ***12*** *18:38:43.9±1.7, 48˚.68N×157˚.56E, h10km, mb5.5, MS5.6*

IDC ***12*** *18:38:44.2±0.4, 48˚.90N×156˚.14E, h0km, mb5.2/42, mb1 5.3/48, mb1mx5.3/49, mbtmp5.2/48, ML4.4/6, MS5.4/26, Ms1 5.4/26, ms1mx5.2/45, Error ellipse: s-maj=11.2km s-min=8.4km az=139.0*

NEIC ***12*** *18:38:45.4±0.1, 48˚.83N×156˚.19E, h10km, mb5.3/178, MS5.3/279, MW5.6, Error ellipse: s-maj=3.7km s-min=2.2km az=162.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^{17}Nm; M_{rr}2.81; $M_{\theta\theta}$-0.97; $M_{\phi\phi}$-1.83; $M_{r\theta}$-0.50; $M_{\theta\phi}$-1.75; $M_{\phi r}$-0.78; Best double couple: $M_0$3.20000×10^{17} NP1:ϕ_s216.00000°, δ54.00000°, λ88.00000°. NP2:ϕ_s40.00000°, δ37.00000°, λ93.00000°. Principal axes: T 2.9500, Plg81.0000°, Azm114.0000°; N 0.4000, Plg1.0000°, Azm217.0000°; P -3.3400, Plg8.0000°, Azm307.0000°;*

SKHL ***12*** *18:38:47.0±0.0, 48˚.82N×156˚.50E, h45km±5km, mb6.2/10, mbh6.1/7, Ms5.9/10, msh6.0/7*

MOS ***12*** *18:38:47.8±1.1, 48˚.93N×156˚.17E, h40km, mb5.7/127, MS5.5/90, Error ellipse: s-maj=6.2km s-min=3.7km az=87.2*

GCMT ***12*** *18:38:51.9±0.1, 48˚.85N×156˚.58E, h17km, MW5.6, Moment Tensor Solution. s99,c187; s50,c53; Moment tensor: Scale 10^{17}Nm; M_{rr}2.37±.04; $M_{\theta\theta}$-0.50±.03; $M_{\phi\phi}$-1.87±.03; $M_{r\theta}$1.18±.08; $M_{\theta\phi}$-1.11±.02; $M_{\phi r}$1.51±.08; Best double couple: $M_0$3.10000×10^{17} NP1:ϕ_s35.00000°, δ64.00000°, λ95.00000°. NP2:ϕ_s203.00000°, δ26.00000°, λ80.00000°. Principal axes: T 3.0500, Plg70.0000°, Azm316.0000°; N 0.0900, Plg5.0000°, Azm213.0000°; P -3.1400, Plg19.0000°, Azm121.0000°; Data Used: ll IU CN IC G CU. Surface waves: sta=133, comp=277, per=50.*

SZGRF ***12*** *18:39:00.9, 50˚.62N×156˚.05E, h33km, mb5.8, MS5.8, Kuril Islands, Russia*

ISC 12 18:38:46.9±0.3, 48˚.81N±0˚.03×156˚.30E±0˚.03, h20km±1km, h20km:pP-P, n1721, σ1°18/1692, mb5.5/403, MS5.4/363, 391C-224D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.88**	**356**	*i*	PN		**Pn**	**18 39 15.0**	**-2.8**
SKR				*e*	S		**Sn**	**18 39 36.0**	**-5.0**
SKR					pmax	pmax			
	comp=N,26μm,4.0s								
SKR					pmax	pmax			
	comp=E,18μm,4.0s								
SKR					pmax	pmax			
	comp=Z,18μm,4.0s								
SKR					smax	smax			
	comp=N,124μm,10.0s								
SKR					smax	smax			
	comp=E,128μm,10.0s								
SKR	**Severo-Kuril's**	**1.88**	**356**	*e*	P		**Pn**	**18 39 17.9**	**+0.1**
SKR				*i*	S		**Sb**	**18 39 43.3**	**-0.2**
SKR	**Severo-Kuril's**	**1.88**	**356**	*i*	P		**Pn**	**18 39 15.0**	**-2.8**
SKR				*i*	P		**Pn**	**18 39 15.0**	**-2.8**
SKR					AMB	AMB		18 39 18.0	
	comp=E,26μm,4.0s								
SKR					AMB	AMB		18 39 18.0	
	comp=E,18μm,4.0s								
SKR					AMB	AMB		18 39 18.0	
	comp=E,26μm,4.0s								
SKR					AMB	AMB		18 39 18.0	
	comp=E,18μm,4.0s								
SKR				*e*	S		**Sn**	**18 39 36.0**	**-5.0**
SKR					A	A		18 39 48.0	
	comp=E,124μm,10.0s								
SKR					A	A		18 39 48.0	
	comp=E,128μm,10.0s								
SKR					A	A		18 39 48.0	
	comp=E,125μm,10.0s								
SKR					A	A		18 39 48.0	
	comp=E,127μm,10.0s								
SKR					AMS	AMS		18 40 10.0	
	comp=E,243μm,16.0s								
SKR					AMS	AMS		18 40 10.0	
	comp=E,236μm,16.0s								
SKR					AMS	AMS		18 40 10.0	
	comp=E,90μm,16.0s								
SKR					AMS	AMS		18 40 10.0	
	comp=E,242μm,16.0s								
SKR					AMS	AMS		18 40 10.0	
	comp=E,236μm,16.0s								
SKR					AMS	AMS		18 40 10.0	
	comp=E,90μm,16.0s								
PAU	**Pauzhetka**	**2.68**	**7**		PN		**Pn**	**18 39 29.4**	**+0.5**
PAU					S		**Sn**	**18 40 01.0**	**+0.3**
PAU	**Pauzhetka**	**2.68**	**7**	*e*	P		**Pn**	**18 39 29.4**	**+0.5**
PAU				*i*	S		**Sn**	**18 40 01.0**	**+0.3**
MIPR	**Malaya Ipel'ka**	**3.48**	**5**	*e*	P		**Pn**	**18 39 40.9**	**+1.0**
ASAK	**Asacha**	**3.72**	**15**	*e*	P		**Pn**	**18 39 44.0**	**+0.8**
ASAK				*i*	S		**Sn**	**18 40 28.1**	**+1.6**
MTVR	**Mutnovka**	**3.87**	**17**	*e*	P		**Pn**	**18 39 45.2**	**-0.1**
MTVR				*i*	S		**Sn**	**18 40 29.2**	**-1.0**
RUS	**Russkaya**	**3.89**	**20**		PN		**Pn**	**18 39 44.7**	**-0.8**
RUS					S		**Sn**	**18 40 28.8**	**-1.8**
RUS	**Russkaya**	**3.89**	**20**	*e*	P		**Pn**	**18 39 44.7**	**-0.8**
RUS				*i*	S		**Sn**	**18 40 28.8**	**-1.8**
GRL	**Gorelyy**	**3.91**	**16**	*e*	P		**Pn**	**18 39 46.4**	**+0.5**
GRL				*i*	S		**Sn**	**18 40 30.6**	**-0.7**
APC	**Apacha**	**4.16**	**7**	*e*	P		**Pn**	**18 39 49.8**	**+0.7**
APC				*i*	S		**Sn**	**18 40 38.0**	**+0.9**
PEA0B	**Petropavlovsk-**	**4.39**	**11**	*e*	Pn		**Pn**	**18 39 53.2**	**+0.8**
PETK	**Petropavlovsk-**	**4.39**	**11**		PN		**Pn**	**18 39 51.8**	**-0.6**
PETK					pmax	pmax			
	comp=Z,72nm,0.3s								
PETK					MLR	MLR			
	comp=Z,26μm,19.3s								
PETK	**Petropavlovsk-**	**4.39**	**11**		Pn		**Pn**	**18 39 51.8**	**-0.6**
PETK	**Petropavlovsk-**	**4.39**	**11**		Pn		**Pn**	**18 39 51.8**	**-0.6**
	comp=Z,72nm,0.3s,baz=178,slow=12,SNR=481								
PETK					LR		LR	18 41 56.5	
	comp=Z,26μm,19.3s,baz=40,slow=44								
PET	**Petropavlovsk**	**4.47**	**19**	α *i*	PN		**Pn**	**18 39 53.4**	**-0.1**
PET					pmax	pmax			
	comp=Z,2μm,2.0s								
PET					pmax	pmax			
	comp=Z,981nm,0.6s								
PET					MLR	MLR			
	comp=Z,17μm,9.0s								
PET					MLR	MLR			
	comp=Z,21μm,15.0s								
PET	**Petropavlovsk**	**4.47**	**19**	*e*	P		**Pn**	**18 39 53.2**	**-0.2**
PET				*i*	S		**Sn**	**18 40 42.8**	**-2.1**
PET	**Petropavlovsk**	**4.47**	**19**	⇑ *i*	P		**Pn**	**18 39 53.3**	**-0.2**
PET					AMB	AMB		18 39 54.6	
	comp=Z,3μm,8.0s								
PET					AMB	AMB		18 39 54.9	
	comp=Z,980nm,0.6s								
PET				*i*	S		**Sn**	**18 40 43.1**	**-1.8**
PET				*e*	S		**Sn**	**18 40 43.1**	**-1.8**
PET					A	A		18 40 44.4	
	comp=Z,14μm,3.0s								
PET					A	A		18 41 02.3	
	comp=Z,6μm,0.7s								
PET					AMS	AMS		18 42 16.0	
	comp=Z,26μm,13.0s								
PET	**Petropavlovsk**	**4.47**	**19**	*e*	Pn		**Pn**	**18 39 52.9**	**-0.6**
INSR	**Institute**	**4.50**	**18**	*e*	P		**Pn**	**18 39 53.5**	**-0.4**
INSR				*i*	S		**Sn**	**18 40 46.9**	**+1.2**
UGLR	**Uglovaya**	**4.69**	**19**	*e*	P		**Pn**	**18 39 57.3**	**+0.8**
AVH	**Avacha**	**4.72**	**18**	*e*	P		**Pn**	**18 39 58.1**	**+1.2**
KOK	**Koryaka**	**4.72**	**17**	*e*	P		**Pn**	**18 39 58.3**	**+1.3**
SMAR	**Somma**	**4.73**	**19**	*e*	P		**Pn**	**18 39 57.5**	**+0.3**
KRER	**Koryakskii**	**4.76**	**18**	*e*	P		**Pn**	**18 39 58.2**	**+0.6**
SDLR	**Sedlovina**	**4.76**	**19**	*e*	P		**Pn**	**18 39 57.3**	**-0.3**
NLC	**Nalytchevo**	**4.77**	**23**		PN		**Pn**	**18 39 55.8**	**-1.8**
NLC	**Nalytchevo**	**4.77**	**23**	*e*	P		**Pn**	**18 39 55.8**	**-1.8**
NLC				*i*	S		**Sn**	**18 40 47.5**	**-4.7**
KRX	**Arik**	**4.79**	**17**	*e*	P		**Pn**	**18 39 58.8**	**+0.8**
SPN	**Mys Shipunski**	**4.90**	**27**		PN		**Pn**	**18 39 58.6**	**-0.7**
SPN	**Mys Shipunski**	**4.90**	**27**	*e*	P		**Pn**	**18 39 58.6**	**-0.7**
SPN				*i*	S		**Sn**	**18 40 51.0**	**-4.3**
GNL	**Ganaly**	**5.00**	**11**	*e*	P		**Pn**	**18 40 01.9**	**+1.1**
KII	**Karymskiy**	**5.59**	**19**	*e*	P		**Pn**	**18 40 09.9**	**+1.0**
MKZ	**Mys Kozlova**	**6.67**	**28**		PN		**Pn**	**18 40 21.6**	**-2.0**
MKZ	**Mys Kozlova**	**6.67**	**28**	*e*	P		**Pn**	**18 40 21.6**	**-2.0**
MKZ				*i*	S		Sn	18 41 31.6	-7.3
KZV	**Kizimen**	**6.78**	**20**	*e*	P		**Pn**	**18 40 25.7**	**+0.5**
KZV				*i*	S		**Sn**	**18 41 39.5**	**-2.3**
KUR	**Kuril'sk**	**6.78**	**241**	⇑ *i*	PN		**Pn**	**18 40 27.2**	**+2.0**
KUR					pmax	pmax			
	comp=Z,1μm,0.9s								
KUR					pmax	pmax			
	comp=N,160nm,0.2s								
KUR					pmax	pmax			
	comp=E,380nm,1.0s								
KUR					pmax	pmax			
	comp=Z,10μm,5.0s								
KUR	**Kuril'sk**	**6.78**	**241**	*i*	P		**Pn**	**18 40 27.2**	**+2.0**
KUR					AMB	AMB		18 40 29.5	
	comp=Z,380nm,1.0s								
KUR					AMB	AMB		18 40 29.5	
	comp=Z,1μm,1.0s								
KUR					AMB	AMB		18 41 01.0	
	comp=Z,14μm,4.5s								
KUR					AMB	AMB		18 41 01.0	
	comp=Z,21μm,4.5s								
KUR					AMB	AMB		18 41 01.0	
	comp=Z,10μm,4.5s								
KUR				*i*	S		**Sn**	**18 41 44.2**	**+2.4**
KUR					A	A		18 41 48.5	
	comp=Z,840nm,1.0s								
KUR					A	A		18 41 48.5	
	comp=Z,2μm,1.0s								
KUR					A	A		18 41 53.0	
	comp=Z,5μm,3.0s								
KUR					A	A		18 41 53.0	
	comp=Z,14μm,9.0s								
KUR					AMS	AMS		18 43 20.0	
	comp=Z,72μm,15.0s								
KUR					AMS	AMS		18 43 20.0	
	comp=Z,32μm,15.0s								
KUR					AMS	AMS		18 43 20.0	
	comp=Z,27μm,15.0s								
KUR					AMS	AMS		18 43 20.0	
	comp=Z,95μm,15.0s								
KUR					AMS	AMS		18 43 20.0	
	comp=Z,128μm,15.0s								
KUR					AMS	AMS		18 43 20.0	
	comp=Z,83μm,15.0s								
TUMR	**Tumrok**	**6.90**	**19**	*e*	P		**Pn**	**18 40 27.6**	**+0.7**
ESO	**Esso**	**7.28**	**11**		PN		**Pn**	**18 40 32.6**	**+0.6**
ESO					S		**Sn**	**18 41 56.9**	**+3.0**
ESO	**Esso**	**7.28**	**11**	*e*	P		**Pn**	**18 40 32.6**	**+0.6**
ESO				*i*	S		**Sn**	**18 41 56.9**	**+3.0**
KMNR	**Kamenistaya**	**7.36**	**18**	*e*	P		**Pn**	**18 40 34.2**	**+1.0**
KPT	**Kopyto**	**7.56**	**17**	*e*	P		**Pn**	**18 40 36.2**	**+0.3**
KIRR	**Kirishev**	**7.57**	**18**	*e*	P		**Pn**	**18 40 37.1**	**+1.0**
KOZ	**Kozyrevsk**	**7.58**	**15**	*e*	P		**Pn**	**18 40 36.6**	**+0.5**
BZMR	**Bezymyannaya**	**7.58**	**18**	*e*	P		**Pn**	**18 40 36.9**	**+0.6**
KOZR	**Kozyr**	**7.59**	**15**		PN		**Pn**	**18 40 36.6**	**+0.3**
BZWR	**Bezymyannyi-We**	**7.61**	**18**	*e*	P		**Pn**	**18 40 37.6**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**7.63**	**19**	*e*	P		**Pn**	**18 40 37.9**	**+1.0**
SRDR	**Sredinnyy**	**7.80**	**14**	*e*	P		**Pn**	**18 40 40.0**	**+0.8**
KLY	**Klyuchi**	**7.97**	**18**		PN		**Pn**	**18 40 40.8**	**-0.6**
KLY	**Klyuchi**	**7.97**	**18**	*e*	P		**Pn**	**18 40 40.8**	**-0.6**
BDR	**Baidarnaya**	**8.32**	**19**	*e*	P		**Pn**	**18 40 46.5**	**+0.2**
SMKR	**Semkarok**	**8.39**	**20**	*e*	P		**Pn**	**18 40 46.9**	**-0.4**
SRKR	**Sorokina**	**8.39**	**19**	*e*	P		**Pn**	**18 40 47.5**	**+0.2**
KBTR	**Krutoberegovo**	**8.41**	**26**		PN		**Pn**	**18 40 46.2**	**-1.2**
KBTR	**Krutoberegovo**	**8.41**	**26**	*e*	P		**Pn**	**18 40 46.2**	**-1.2**
KBG	**Krutoberegovo**	**8.41**	**25**		PN		**Pn**	**18 40 46.9**	**-0.6**
KBG	**Krutoberegovo**	**8.41**	**25**	*e*	P		**Pn**	**18 40 46.9**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**8.65**	**240**	*d i*	PN		**Pn**	**18 40 51.0**	**+0.3**
YUK					pmax	pmax			
	comp=N,32nm,0.3s								
YUK					pmax	pmax			
	comp=E,283nm,0.3s								
YUK					pmax	pmax			
	comp=Z,500nm,0.3s								
YUK					MLR	MLR			
	comp=N,21μm,17.0s								
YUK					MLR	MLR			
	comp=E,53μm,17.0s								
YUK					MLR	MLR			
	comp=Z,43μm,17.0s								
YUK	**Yuzh-Kuril'sk**	**8.65**	**240**	⇓ *i*	P		**Pn**	**18 40 51.1**	**+0.3**
YUK					AMB	AMB		18 41 00.6	
	comp=Z,42μm,0.3s								
YUK					AMB	AMB		18 41 00.6	
	comp=Z,30nm,0.3s								
YUK					AMB	AMB		18 41 00.6	
	comp=Z,280nm,0.3s								
YUK					AMB	AMB		18 41 00.6	
	comp=Z,500nm,0.3s								
YUK				*i*	S		**Sn**	**18 42 26.3**	**-1.3**
YUK					A	A		18 43 19.0	
	comp=Z,73μm,3.0s								
YUK					A	A		18 43 19.0	
	comp=Z,55μm,3.0s								
YUK					AMS	AMS		18 44 16.0	
	comp=Z,21μm,17.0s								
YUK					AMS	AMS		18 44 16.0	
	comp=Z,53μm,17.0s								
YUK					AMS	AMS		18 44 16.0	
	comp=Z,43μm,17.0s								
BKI	**Bering**	**8.75**	**39**		PN		**Pn**	**18 40 50.1**	**-2.0**
BKI	**Bering**	**8.75**	**39**	*e*	P		**Pn**	**18 40 50.1**	**-2.0**
TYV	**Tymovskoe**	**9.06**	**288**	*e*	P		Pn	18 41 00.5	+4.1
TYV					AMB	AMB		18 41 02.0	
	comp=Z,160nm,1.2s								
TYV					AMB	AMB		18 41 02.0	
	comp=Z,240nm,1.2s								
TYV					AMB	AMB		18 41 10.0	
	comp=Z,2μm,7.5s								
TYV					AMB	AMB		18 41 10.0	
	comp=Z,4μm,7.5s								
TYV					AMB	AMB		18 41 10.0	
	comp=Z,6μm,7.5s								
TYV				*e*	S		**Sn**	**18 42 40.7**	**+3.0**
TYV					A	A		18 43 02.0	
	comp=Z,50nm,0.8s								
TYV					AMS	AMS		18 45 15.0	
	comp=Z,46μm,16.0s								
TYV					AMS	AMS		18 45 15.0	
	comp=Z,59μm,16.0s								
TYV					AMS	AMS		18 45 15.0	
	comp=Z,104μm,16.0s								
YSS	**Yuzh-Sakhalins**	**9.29**	**264**	α *i*	PN		Pn	18 41 04.0	+4.4
YSS				*e*	S		**Sn**	**18 42 48.0**	**+4.5**
YSS					pmax	pmax			
	comp=N,90nm,1.0s								
YSS					pmax	pmax			
	comp=E,160nm,1.0s								
YSS					pmax	pmax			
	comp=Z,110nm,1.0s								
YSS					pmax	pmax			
	comp=N,1μm,8.0s								
YSS					pmax	pmax			
	comp=E,2μm,8.0s								
YSS					pmax	pmax			
	comp=Z,3μm,8.0s								
YSS					MLR	MLR			
	comp=E,18μm,17.0s								
YSS					MLR	MLR			
	comp=Z,21μm,17.0s								
YSS					MLR	MLR			
	comp=N,10μm,15.0s								
YSS	**Yuzh-Sakhalins**	**9.29**	**264**	⇑ *i*	P		Pn	18 41 04.0	+4.4
YSS					AMB	AMB		18 41 05.0	
	comp=N,90nm,1.0s								
YSS					AMB	AMB		18 41 05.0	
	comp=N,160nm,1.0s								
YSS					AMB	AMB		18 41 05.0	
	comp=N,110nm,1.0s								
YSS					AMB	AMB		18 41 07.0	
	comp=N,1μm,8.0s								
YSS					AMB	AMB		18 41 07.0	
	comp=N,2μm,8.0s								
YSS					AMB	AMB		18 41 07.0	
	comp=N,3μm,8.0s								
YSS				*e*	S		**Sn**	**18 42 46.8**	**+3.3**
YSS					A	A		18 42 55.2	
	comp=N,100nm,0.8s								
YSS					AMS	AMS		18 44 35.0	
	comp=N,23μm,17.0s								
YSS					AMS	AMS		18 44 35.0	
	comp=N,10μm,17.0s								
YSS					AMS	AMS		18 44 35.0	
	comp=N,18μm,17.0s								
YSS					AMS	AMS		18 44 35.0	
	comp=N,21μm,17.0s								
YSS	**Yuzh-Sakhalins**	**9.29**	**264**	*e*	Pn		Pn	18 41 02.9	+3.3
	comp=N,239nm,1.0s								
UGL	**Uglegorsk**	**9.38**	**277**	*e*	PN		Pn	18 41 04.0	+3.3
UGL				*e*				18 42 55.0	
UGL					pmax	pmax			
	comp=Z,180nm,0.8s								
UGL					pmax	pmax			
	comp=Z,5μm,4.5s								
UGL					MLR	MLR			
	comp=E,70μm,16.0s								
UGL					MLR	MLR			
	comp=Z,65μm,16.0s								
UGL					MLR	MLR			
	comp=N,42μm,14.0s								
UGL	**Uglegorsk**	**9.38**	**277**	⇑ *e*	P		Pn	18 41 04.9	+4.2
UGL				⇑ *i*	P		Pn	18 41 04.9	+4.2
UGL					AMB	AMB		18 41 07.5	
	comp=N,180nm,0.8s								
UGL					AMB	AMB		18 41 08.0	
	comp=N,5μm,4.5s								
UGL				*e*	S		**Sn**	**18 42 46.2**	**+0.7**
UGL					A	A		18 43 07.3	
	comp=N,200nm,0.9s								
UGL					AMS	AMS		18 45 14.0	
	comp=N,42μm,15.0s								
UGL					AMS	AMS		18 45 14.0	
	comp=N,70μm,15.0s								
UGL					AMS	AMS		18 45 14.0	
	comp=N,65μm,15.0s								
OKH	**Okha**	**9.64**	**305**	*e*	PN		Pn	18 41 08.2	+3.9
OKH				*e*	S		**Sn**	**18 42 54.8**	**+2.9**
OKH					pmax	pmax			
	comp=Z,8μm,10.0s								
OKH					smax	smax			
	comp=Z,33μm,15.0s								
OKH	**Okha**	**9.64**	**305**	⇑ *i*	P		Pn	18 41 08.2	+3.9
OKH				*e*	P		Pn	18 41 09.0	+4.7
OKH					AMB	AMB		18 41 12.2	
	comp=Z,3μm,9.0s								
OKH					AMB	AMB		18 41 12.2	
	comp=Z,4μm,9.0s								
OKH					AMB	AMB		18 41 12.2	
	comp=Z,8μm,9.0s								
OKH					AMB	AMB		18 41 13.9	
	comp=Z,300nm,1.0s								
OKH				*e*	S		**Sn**	**18 42 54.8**	**+2.9**
OKH					A	A		18 43 33.0	
	comp=Z,4μm,7.0s								
OKH					AMS	AMS		18 46 06.5	
	comp=Z,26μm,15.0s								
OKH					AMS	AMS		18 46 06.5	
	comp=Z,50μm,15.0s								
OKH					AMS	AMS		18 46 06.5	
	comp=Z,33μm,15.0s								
PALN	**Palana**	**10.52**	**10**	*e*	P		**Pn**	**18 41 18.1**	**+1.7**
JKA	**Kamikawa-asahi**	**10.55**	**249**	*e*	P		**Pn**	**18 41 17.8**	**+1.0**
ASAJ	**Asahikawa**	**10.55**	**249**		Pn		**Pn**	**18 41 17.8**	**+0.9**
ASAJ	**Asahikawa**	**10.55**	**249**		Pn		**Pn**	**18 41 17.8**	**+0.9**
	comp=Z,9.0nm,0.3s,baz=72,slow=14,SNR=40								
ASAJ					LR		LR	18 45 16.4	
	comp=Z,22μm,19.0s,baz=64,slow=37								
NKL	**Nikolayevsk**	**10.76**	**300**	⇑ *e*	P		Pn	18 41 23.7	+4.0
NKL				*i*	P		Pn	18 41 24.0	+4.3
NKL					AMB	AMB		18 41 25.0	
	comp=Z,50nm,1.0s								
NKL					AMB	AMB		18 41 31.0	
	comp=Z,1μm,7.0s								
NKL					AMB	AMB		18 41 31.0	
	comp=Z,4μm,7.0s								
NKL					AMB	AMB		18 41 31.0	
	comp=Z,4μm,7.0s								
NKL				*e*	S		**Sn**	**18 43 19.0**	**-0.4**
NKL					A	A		18 43 49.0	
	comp=Z,1μm,11.0s								
NKL					A	A		18 43 49.0	
	comp=Z,2μm,11.0s								
NKL					AMS	AMS		18 46 11.0	
	comp=Z,10μm,18.0s								
NKL					AMS	AMS		18 46 11.0	
	comp=Z,19μm,18.0s								
NKL					AMS	AMS		18 46 11.0	
	comp=Z,32μm,18.0s								
FX1	**Attu Island--F**	**11.41**	**63**	*e*	P		**Pn**	**18 41 26.5**	**-2.1**
FX1					Sn		Sn	18 43 22.5	-13
FX1	**Attu Island--F**	**11.41**	**63**		Pn		**Pn**	**18 41 27.1**	**-1.4**
	comp=Z,14nm,0.3s,baz=26,slow=7.0,SNR=45								
FX1					Sn		Sn	18 43 22.5	-13
	comp=Z,84nm,0.3s,baz=225,slow=22,SNR=14								
ERM	**Erimo**	**11.46**	**239**	⇓ *i*	PN		**Pn**	**18 41 28.5**	**-0.8**
ERM	**Erimo**	**11.46**	**239**	*e*	P		**Pn**	**18 41 28.4**	**-0.9**
	comp=Z,289nm,1.0s								
ERM	**Erimo**	**11.46**	**239**		Pn		**Pn**	**18 41 28.1**	**-1.2**
	comp=Z,669nm,0.5s,SNR=8.3								
SMY	**Shemya**	**11.93**	**64**	*e*	PN		Pn	18 41 32.6	-3.0
SMY					pmax	pmax			
	comp=Z,228nm,0.6s								
SMY	**Shemya**	**11.93**	**64**	*e*	P		Pn	18 41 32.6	-3.0
	comp=Z,228nm,0.6s								
TILK	**Tlichiki**	**12.96**	**22**	*e*	P		**Pn**	**18 41 47.1**	**-2.5**
GRNR	**Gornyy**	**12.99**	**286**	*e*	P		Pn	18 41 55.4	+5.2
GRNR					AMB	AMB		18 41 55.7	
	comp=Z,60nm,1.0s								
TEY	**Ternei**	**13.97**	**262**	*e*	P		**Pn**	**18 42 05.0**	**+1.4**
TEY					AMB	AMB		18 42 10.0	
	comp=Z,6μm,10.0s								
TEY					AMB	AMB		18 42 10.0	
	comp=Z,40nm,0.8s								
TEY					AMB	AMB		18 42 10.0	
	comp=Z,30nm,0.8s								
TEY					AMS	AMS		18 47 36.0	
	comp=Z,14μm,17.0s								
TEY					AMS	AMS		18 47 36.0	
	comp=Z,12μm,17.0s								
TEY					AMS	AMS		18 47 36.0	
	comp=Z,21μm,17.0s								
HABR	**Khabarovsk**	**14.05**	**277**		P		Pn	18 42 01.7	-3.0
HABR				*e*	S		**Sn**	**18 44 36.5**	**-3.4**
HABR					MLR	MLR			
	comp=E,33μm,16.0s								
HABR					MLR	MLR			
	comp=Z,39μm,16.0s								
HABR					MLR	MLR			
	comp=N,15μm,14.0s								
HABR	**Khabarovsk**	**14.05**	**277**	*e*	P		Pn	18 42 01.7	-3.0
HABR				*e*	S		**Sn**	**18 44 36.5**	**-3.4**
HABR					AMS	AMS		18 48 10.5	
	comp=N,33μm,16.0s								
HABR					AMS	AMS	

KLR **Kul'dur** 16.10 281 *e*P **Pn** 18 42 30.5 -1.3
KLR *e*P **Pn** 18 42 30.6 -1.3
KLR AMB AMB 18 42 37.3
comp=Z,240nm,1.8s
KLR AMB AMB 18 42 37.3
comp=Z,300nm,1.8s
KLR AMB AMB 18 42 44.5
comp=Z,1μm,9.5s
KLR AMB AMB 18 42 44.5
comp=Z,4μm,9.5s
KLR AMB AMB 18 42 44.5
comp=Z,11μm,9.5s
KLR A A 18 46 01.0
comp=Z,4μm,11.0s
KLR A A 18 46 01.0
comp=Z,2μm,11.0s
KLR AMS AMS 18 51 00.0
comp=Z,77μm,12.0s
USRK Ussuriysk Arra 17.33 264 P **Pn** **18 42 47.9 +0.5**
comp=Z,1.9nm,0.3s,baz=70,slow=8.7,SNR=55
USRK LR LR 18 49 21.4
comp=Z,4μm,18.5s,baz=262,slow=37
VLA Vladivostok 17.86 261⇓ *i*P **Pn** **18 42 52.9 -1.1**
VLA *e*S **Sn** **18 46 10.8 -1.7**
VLA pmax pmax
comp=Z,41nm,0.9s
VLA Vladivostok 17.86 261⇓ *i*P **Pn** **18 42 52.9 -1.1**
VLA AMB AMB 18 42 57.0
comp=Z,40nm,0.9s
BMKR Bomnak 17.93 300 *e*P **Pn** **18 42 51.5 -3.2**
BMKR AMB AMB 18 42 55.1
comp=Z,210nm,1.0s
MAJO Matsushiro 18.04 234 *i* P **Pn** **18 42 53.9 -2.3**
MAJO Matsushiro 18.04 234 *e*P **Pn** **18 42 53.4 -2.8**
comp=Z,222nm,0.8s
MAT Matsushiro 18.04 234 P **Pn** **18 42 53.4 -2.8**
MAT S **Sn** **18 46 17.6 +0.8**
MJAR Matsushiro Arr 18.04 234 P **Pn** **18 42 53.8 -2.4**
MJAR Matsushiro Arr 18.04 234 P **Pn** **18 42 53.8 -2.4**
comp=Z,0.7nm,0.3s,baz=28,slow=13,SNR=30
MDJ Mudanjiang 18.75 267 P **P** **18 43 03.1 -1.2**
MDJ S **Sn** **18 46 31.9 -2.0**
MDJ PcP **PcP** **18 47 30.7 -0.6**
MDJ ScP **ScP** **18 51 07.8 +2.2**
MDJ ScS **ScS** **18 54 49.1 +2.4**
MDJ pmax pmax
comp=Z,67nm,0.9s
MDJ pmax pmax
comp=Z,2μm,11.5s
MDJ LR LR
comp=Z,12μm,16.7s
MDJ LR LR
comp=Z,5μm,15.7s
MDJ LR LR
comp=Z,13μm,13.6s
MDJ Mudanjiang 18.75 267 *e*P **P** **18 43 02.9 -1.5**
comp=Z,66nm,0.9s
ZEA Zeya 18.76 296⇑ *e*P **P** **18 43 03.7 -0.7**
ZEA *i* P **P** **18 43 03.7 -0.7**
ZEA AMB AMB 18 43 07.4
comp=Z,20nm,1.1s
ZEA AMB AMB 18 43 07.4
comp=Z,60nm,1.1s
ZEA AMB AMB 18 43 07.4
comp=Z,70nm,1.1s
ZEA AMB AMB 18 43 13.0
comp=Z,500nm,10.0s
ZEA AMB AMB 18 43 13.0
comp=Z,3μm,10.0s
ZEA AMB AMB 18 43 13.0
comp=Z,4μm,10.0s
ZEA A A 18 46 55.0
comp=Z,2μm,11.0s
ZEA AMS AMS 18 50 49.0
comp=Z,13μm,18.0s
ZEA AMS AMS 18 50 49.0
comp=Z,14μm,18.0s
KROS Kirovskiy 18.98 298 *e*P **P** **18 43 02.8 -4.0**
KROS AMB AMB 18 43 08.0
comp=Z,10.0nm,0.6s
KROS AMB AMB 18 43 08.0
comp=Z,20nm,0.6s
KROS AMB AMB 18 43 08.0
comp=Z,30nm,0.6s
YAK Yakutsk 19.89 322 *i* P **P** **18 43 15.1 -1.6**
YAK pmax pmax
comp=E,156nm,1.3s
YAK pmax pmax
comp=Z,392nm,1.0s
YAK pmax pmax
comp=N,71nm,1.0s
YAK pmax pmax
comp=Z,192nm,0.8s
YAK pmax pmax
comp=N,70nm,1.0s
YAK pmax pmax
comp=E,171nm,1.2s
YAK MLR MLR
comp=Z,18μm,16.0s
YAK MLR MLR
comp=E,13μm,15.0s
YAK MLR MLR
comp=N,8μm,14.0s
YAK Yakutsk 19.89 322 *e*P **P** **18 43 15.1 -1.6**
YAK Yakutsk 19.89 322 *e*P **P** **18 43 14.9 -1.7**
comp=N,545nm,0.7s
YAK *e*S **S** **18 46 55.7 -3.8**
CLNS Chul'man 20.46 305 *e*P **P** **18 43 22.5 -0.5**
CLNS *e* 18 43 37.6
CLNS *e*S S 18 47 01.2 -10
CLNS *e* 18 47 40.6
CLNS pmax pmax
comp=Z,131nm,1.0s
CLNS pmax pmax
comp=E,106nm,0.9s
CLNS pmax pmax
comp=N,119nm,0.8s
CLNS pmax pmax
comp=E,85nm,0.9s
CLNS pmax pmax
comp=Z,153nm,0.8s
CLNS pmax pmax
comp=N,110nm,0.9s
CLNS smax smax
comp=E,541nm,10.1s
CLNS smax smax
comp=N,2μm,11.5s
CLNS MLR MLR
comp=Z,10μm,15.0s
CLNS MLR MLR
comp=E,22μm,15.0s
CLNS MLR MLR
comp=N,23μm,13.0s
CLNS Chul'man 20.46 305 *e*P **P** **18 43 22.5 -0.5**
CN2 Changchun 21.81 268 *e*P **P** **18 43 34.1 -3.4**
CN2 *e*S S 18 47 29.3 -8.3
CN2 LR LR
comp=N,11μm,16.0s
CN2 LR LR
comp=N,9μm,16.0s
CN2 LR LR
comp=N,4μm,15.0s
KSRS Korea Array 23.48 252 P **P** **18 43 54.6 -0.4**
comp=N,131nm,1.0s,baz=49,slow=9.6,SNR=89
KSRS PcP **PcP** **18 47 42.1 +1.7**
comp=N,5.2nm,0.9s,baz=47,slow=0.5,SNR=6.4
KSRS LR LR 18 52 56.2
comp=N,14μm,18.3s,baz=170,slow=36
KSAR Wonju Array Be 23.51 252 *e*P **P** **18 43 54.7 -0.7**
KSAR Wonju Array Be 23.51 252 P **P** **18 43 54.6 -0.7**
KSAR PcP **PcP** **18 47 42.1 +1.6**
HIA Hailar 23.83 285 *e*P **P** **18 43 54.9 -3.6**
comp=N,40nm,0.7s
SNY Shenyang 23.91 265 ⇑P **P** **18 43 58.6 -0.6**
SNY S **S** **18 48 19.1 +4.7**
SNY pmax pmax
comp=N,54nm,1.0s
SNY pmax pmax
comp=N,290nm,4.9s
SNY LR LR
comp=N,7μm,13.5s
SNY LR LR
comp=N,5μm,14.9s
SNY LR LR
comp=N,6μm,15.5s
AKUT Akutan 24.00 63 PFAKE 18 44 10.0 +10
AKUT LR LR
comp=Z,4μm,19.8s
INCN Inchon 24.27 253 *e*P **P** **18 44 03.4 +0.7**
comp=Z,102nm,0.8s
JNU Nakatsue 24.62 240 P **P** **18 44 06.5 +0.7**
JNU Nakatsue 24.62 240 P **P** **18 44 06.5 +0.7**
comp=Z,103nm,1.0s,baz=44,slow=6.4,SNR=28
JNU LR LR 18 55 37.1
comp=Z,6μm,18.0s,baz=222,slow=41
FALS False Pass 25.34 61 PFAKE 18 44 20.0 +7.9
FALS LR LR
comp=Z,4μm,20.8s
TIXI Tiksi 26.16 341 *c i*P **P** **18 44 17.0 -2.4**
TIXI pmax pmax
comp=Z,153nm,0.8s
TIXI MLR MLR
comp=Z,9μm,15.0s
TIXI Tiksi 26.16 341⇑ *i*P **P** **18 44 17.0 -2.4**
TIXI Tiksi 26.16 341 *e*P **P** **18 44 16.6 -2.8**
comp=Z,134nm,0.6s
TIXI LR LR
comp=Z,10μm,18.0s
SDPT Sand Point 27.00 60 PFAKE 18 44 40.0 +13
SDPT LR LR
comp=Z,3μm,18.8s
CIT Chita 27.14 293 *e*P **P** **18 44 29.1 +0.6**
CIT *e* 18 44 39.4
SVW2 Sparrevohn 29.51 47 *e*P **P** **18 44 50.7 +1.2**
comp=Z,28nm,1.3s
SVW2 LR LR
comp=Z,1μm,18.7s
BJI Beijing 29.67 268 P **P** **18 44 50.8 -0.3**
BJI S **S** **18 49 50.1 +4.5**
BJI pmax pmax
comp=Z,15nm,0.7s
BJI pmax pmax
comp=Z,830nm,11.6s
BJI LR LR
comp=Z,12μm,17.1s
BJI LR LR
comp=Z,5μm,17.1s
BJI LR LR
comp=Z,5μm,15.5s
BJT Baijiatuan 29.69 268 *e*P **P** **18 44 50.7 -0.5**
comp=Z,10nm,0.4s
BJT LR LR
comp=Z,3μm,20.2s
H11N2 WAKE ISLAND Hy 30.24 160 T T 19 17 52.7
baz=349,slow=76,SNR=50
H11N1 WAKE ISLAND Hy 30.25 160 T T 19 17 50.0
baz=349,slow=76,SNR=66
H11N3 WAKE ISLAND Hy 30.25 160 T T 19 17 57.9
baz=349,slow=76,SNR=68
IM04 Indian Mountai 30.81 38 *e*P **P** **18 45 00.3 -0.6**
OHAK Old Harbor 30.82 55 *e*P **P** **18 45 00.6 -0.4**
comp=Z,31nm,0.8s
OHAK LR LR
comp=Z,6μm,20.3s
RSO Redoubt South 30.89 49 *e*P **P** **18 45 02.8 +0.9**
comp=Z,60nm,0.9s
KDAK Kodiak Island 31.14 54 *e*P **P** **18 45 04.7 +0.8**
comp=Z,64nm,1.0s
KDAK Kodiak Island 31.14 54 P **P** **18 45 04.7 +0.8**
comp=Z,150nm,0.9s,SNR=5.3
TIA Tai'an 31.16 261 P **P** **18 45 04.2 0.0**
TIA PP **PnPn** **18 46 08.8 +2.9**
TIA S **S** **18 50 13.9 +4.9**
TIA pmax pmax
comp=Z,60nm,0.6s
TIA LR LR
comp=Z,2μm,17.2s
TIA LR LR
comp=Z,5μm,20.8s
TIA LR LR
comp=Z,4μm,20.2s
H11S1 WAKE ISLAND Hy 31.38 161 T T 19 19 02.1
baz=347,slow=77,SNR=155
H11S3 WAKE ISLAND Hy 31.39 161 T T 19 18 44.5
baz=347,slow=77,SNR=526
H11S2 WAKE ISLAND Hy 31.40 161 T T 19 19 03.5
baz=347,slow=77,SNR=307
SSE Sheshan 31.84 249 ⇑P **P** **18 45 11.3 +1.0**
SSE pP **pP** **18 45 18.5 +2.1**
SSE S **S** **18 50 18.5 -1.2**
SSE sS **sS** **18 50 32.8 +3.1**
SSE pmax pmax
comp=Z,63nm,1.0s
SSE pmax pmax
comp=Z,630nm,7.2s
SSE LR LR
comp=Z,8μm,18.0s
SSE LR LR
comp=Z,3μm,17.9s
SSE LR LR
comp=Z,9μm,17.8s
ULN Ulaanbaatar 32.30 287 P **P** **18 45 13.2 -1.1**
SNR=10
ULN Ulaanbaatar 32.30 287 *e*P **P** **18 45 12.6 -1.8**
comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 32.32 273 *e*P **P** **18 45 13.4 -1.1**
HHC sP **sP** **18 45 24.0 +0.9**
HHC PP **PnPn** **18 46 20.2 -0.8**
HHC PcP **PcP** **18 48 02.2 +0.1**
HHC S **S** **18 50 23.0 -4.2**
HHC PcS **PcS** **18 51 45.9 -1.2**
HHC ScS **ScS** **18 55 40.3 -3.3**
HHC pmax pmax
comp=Z,95nm,0.9s
HHC pmax pmax
comp=Z,1μm,5.3s
HHC LR LR
comp=Z,21μm,13.6s
HHC LR LR
comp=Z,13μm,13.6s
HHC LR LR
comp=Z,7μm,13.7s
PMR Palmer 32.62 46 *e*P **P** **18 45 17.8 +1.0**
PMR pmax pmax
comp=Z,16nm,0.8s
PMR MLR MLR
comp=Z,5μm,19.4s
PMR Palmer 32.62 46 *e*P **P** **18 45 17.8 +1.0**
comp=Z,16nm,0.8s
PMR LR LR
comp=Z,5μm,19.4s
NJ2 Nanjing 32.66 253 *e*P **P** **18 45 16.4 -1.0**
NJ2 pP **pP** **18 45 19.4 -4.1**
NJ2 sP **sP** **18 45 22.8 -3.2**
NJ2 S **S** **18 50 33.0 +0.6**
NJ2 sS **sS** **18 50 46.0 +3.6**
NJ2 pmax pmax
comp=Z,60nm,1.0s
NJ2 pmax pmax
comp=Z,660nm,10.0s
NJ2 LR LR
comp=Z,16μm,20.0s
NJ2 LR LR
comp=Z,4μm,21.0s
NJ2 LR LR
comp=Z,11μm,19.0s
IRK Irkutsk 32.67 296 *e*P P 18 45 13.9 -3.5
IRK pmax pmax
comp=Z,59nm,1.3s
IRK Irkutsk 32.67 296 *e*P P 18 45 13.9 -3.5
SONM Songino Array 32.72 288 P **P** **18 45 16.9 -1.1**
SONM PcP **PcP** **18 48 04.1 +1.0**
SONM Songino Array 32.72 288 P **P** **18 45 16.9 -1.1**
comp=Z,6.8nm,0.7s,baz=61,slow=7.6,SNR=33
SONM PcP **PcP** **18 48 04.1 +1.0**
comp=Z,10.0nm,0.8s,baz=72,slow=2.4,SNR=10
SONM LR LR 19 00 00.0
comp=Z,25μm,18.2s,baz=79,slow=39
COLA College 33.18 40 *c i*P **P** **18 45 22.0 +0.3**
COLA pmax pmax
comp=Z,261nm,2.1s
COLA MLR MLR
comp=Z,19μm,17.0s
COLA College 33.18 40⇑ *i*P **P** **18 45 22.0 +0.3**
COLA College 33.18 40 *e*P **P** **18 45 21.9 +0.3**
comp=Z,98nm,1.0s
COLA LR LR
comp=Z,4μm,19.2s
TLY Talaya 33.20 295 P **P** **18 45 21.4 -0.6**
comp=Z,303nm,0.9s,SNR=8.8
TLY Talaya 33.20 295 *i* P **P** **18 45 20.6 -1.4**
TLY *e*PPP PPP 18 46 42.3
TLY *e* 18 48 03.1
TLY *e*S **S** **18 50 42.4 +1.9**
TLY *e*SS **SnSn** **18 52 41.1 +0.8**
TLY pmax pmax
comp=Z,53nm,1.0s
TLY MLR MLR
comp=Z,10μm,15.0s
TLY Talaya 33.20 295 P **P** **18 45 22.2 +0.2**
SNR=5.6
TLY Talaya 33.20 295 *e*P **P** **18 45 21.3 -0.6**
comp=Z,45nm,0.9s
TLY LR LR
comp=Z,8μm,19.3s
TIY Taiyuan 33.38 267 *e*P **P** **18 45 23.3 -0.5**
TIY PP **PnPn** **18 46 35.8 +1.2**
TIY S **S** **18 50 44.3 +0.5**
TIY SS **SnSn** **18 52 45.7 +0.5**
TIY pmax pmax
comp=Z,430nm,9.0s
TIY LR LR
comp=Z,3μm,10.4s
TIY LR LR
comp=Z,3μm,12.0s
TIY LR LR
comp=Z,4μm,11.7s
ILAR Eielson Array 33.59 40 *e*P **P** **18 45 24.9 -0.4**
ILAR Eielson Array 33.59 40 P **P** **18 45 24.9 -0.4**
ILAR Eielson Array 33.59 40 P **P** **18 45 24.9 -0.4**
comp=Z,5.6nm,0.7s,baz=247,slow=7.9,SNR=31
MID Middleton Isla 34.19 50 PFAKE 18 45 40.0 +9.5
MID LR LR
comp=Z,4μm,19.2s
MOY Mondy 34.78 296 *e*P **P** **18 45 34.5 -1.3**
MOY pmax pmax
comp=Z,36nm,2.9s
MENT Mentasta 35.06 44 *e*P **P** **18 45 38.0 -0.1**
TATO Taipei 36.13 241 P **P** **18 45 50.0 +2.4**
TATO LR LR
comp=Z,6μm,18.3s
GUMO Guam 36.37 199 P **P** **18 45 48.3 -1.4**
comp=Z,44nm,1.1s
WHN Wuhan 36.53 256⇑ *i*P **P** **18 45 51.0 +0.1**
WHN pP **pP** **18 45 53.4 -3.6**
WHN S **S** **18 51 34.4 +2.3**
WHN LR LR
comp=Z,4μm,12.6s
WHN LR LR
comp=Z,10μm,13.2s
WHN LR LR
comp=Z,11μm,16.2s
DAWY Dawson 36.88 41 *e*P **P** **18 45 53.5 -0.1**
YKU2 Yakutat 37.53 49 PFAKE 18 46 10.0 +11
YKU2 LR LR
comp=Z,4μm,18.8s
XAN Xi'an 37.84 265 P **P** **18 46 01.3 -0.8**
XAN pP **pP** **18 46 10.8 +2.6**
XAN PP **PnPn** **18 47 32.6 +2.9**
XAN S **S** **18 51 53.6 +1.5**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,160nm,10.0s
XAN LR LR
comp=Z,4μm,15.6s
XAN LR LR
comp=Z,820nm,17.0s
XAN LR LR
comp=Z,2μm,17.2s
QZH Quanzhou 37.87 245⇑ *i*P **P** **18 45 59.4 -2.9**
QZH S **S** **18 51 48.2 -4.3**
QZH pmax pmax
comp=Z,1μm,4.0s
QZH LR LR
comp=Z,3μm,13.2s
QZH LR LR
comp=Z,6μm,13.0s
QZH LR LR
comp=Z,6μm,18.1s
HYT Haines Junctio 38.30 46 *e*P **P** **18 46 06.6 +0.9**
INK Inuvik 38.75 34 *e*P **P** **18 46 10.1 +0.8**
INK Inuvik 38.75 34 *e*P **P** **18 46 10.1 +0.8**
comp=Z,35nm,0.8s
INK LR LR
comp=Z,4μm,20.8s
INK Inuvik 38.75 34 P **P** **18 46 10.3 +1.0**
comp=Z,21nm,0.7s,baz=283,slow=7.8,SNR=50
HVS Khovu-Aksy 39.25 298 *c i*P **P** **18 46 13.2 -0.6**
HVS pmax pmax
comp=Z,200nm,0.9s
HVS MLR MLR
comp=Z,54μm,17.0s
ENH Enshi 39.85 260 *e*P **P** **18 46 18.0 -0.9**
comp=Z,114nm,1.0s
ENH LR LR
comp=Z,3μm,18.8s
LZH Lanzhou 39.98 272 ⇑P **P** **18 46 20.3 +0.2**
LZH pP pP 18 46 21.8 -4.5
LZH PP **PnPn** **18 47 55.1 -0.3**
LZH S **S** **18 52 26.0 +1.5**
LZH SS **SS** **18 55 13.2 -8.2**
LZH pmax pmax
comp=Z,110nm,1.1s
LZH pmax pmax
comp=Z,470nm,4.6s
LZH LR LR
comp=Z,10μm,13.5s
LZH LR LR
comp=Z,7μm,13.6s
LZH LR LR
comp=Z,13μm,17.5s
SIT Sitka 40.40 52 *e*P **P** **18 46 24.7 +1.6**
SIT *e* 18 46 36.9
SIT pmax pmax
comp=Z,63nm,1.3s
SIT MLR MLR
comp=Z,3μm,19.4s
SIT Sitka 40.40 52 *e*P **P** **18 46 24.7 +1.6**
comp=Z,63nm,1.3s
SIT *e* 18 46 36.9
SIT LR LR
comp=Z,3μm,19.4s
GTA Gaotai 40.78 279 ⇑P **P** **18 46 26.6 -0.1**
GTA pP **pP** **18 46 29.8 -3.1**
GTA sP **sP** **18 46 32.6 -2.7**
GTA PcP **PcP** **18 48 28.6 +1.0**
GTA ScP **ScP** **18 52 16.1 +0.3**
GTA PcS **PcS** **18 52 18.7 +0.2**
GTA S **S** **18 52 39.2 +2.8**
GTA sS **sS** **18 52 46.9 +0.3**
GTA SS **SS** **18 55 37.9 +0.7**
GTA ScS **ScS** **18 56 30.2 -0.6**
GTA pmax pmax
comp=Z,62nm,1.2s
GTA pmax pmax
comp=Z,610nm,5.5s
GTA LR LR
comp=Z,9μm,15.5s
GTA LR LR
comp=Z,13μm,15.3s
GTA LR LR
comp=Z,16μm,14.9s
KWAJ Kwajalein Atol 40.99 163 PFAKE 18 46 40.0 +12
KWAJ LR LR
comp=Z,4μm,18.5s
WRAK Wrangell Islan 42.16 52 P **P** **18 46 39.1 +1.6**
comp=Z,48nm,1.2s
WRAK LR LR
comp=Z,4μm,19.0s
GZH Guangzhou 42.43 248 P P 18 46 35.5 -4.7
GZH S S 18 52 53.5 -7.3
GZH LR LR
comp=Z,11μm,16.5s
GZH LR LR
comp=Z,10μm,17.5s
GZH LR LR
comp=Z,19μm,17.3s
DLBC Dease Lake 42.62 48 *e*P **P** **18 46 43.1 +1.6**
DLBC Dease Lake 42.62 48 LR LR 19 05 31.6
comp=Z,4μm,20.7s,baz=309,slow=38
ZAA0 Zalesovo Array 43.17 305 *e*P **P** **18 46 43.7 -2.1**
ZALV Zalesovo Beam 43.17 305 P **P** **18 46 43.9 -1.9**
ZALV 18 48 35.9
ZALV pmax pmax
comp=Z,17nm,0.7s
ZALV MLR MLR

comp=Z,7µm,18.2s
ZALV Zalesovo Beam 43.17 305 P **P** **18 46 43.9 -1.9**
ZALV PcP **PcP** **18 48 35.9 +0.9**
ZALV ScP **ScP** **18 52 24.6 -0.4**
ZALV Zalesovo Beam 43.17 305 P **P** **18 46 43.9 -1.9**
comp=Z,16nm,0.7s,baz=59,slow=6.5,SNR=54
ZALV PcP **PcP** **18 48 35.9 +0.9**
comp=Z,20nm,0.9s,baz=46,slow=4.3,SNR=9.9
ZALV ScP **ScP** **18 52 24.6 -0.4**
comp=Z,1.3nm,0.8s,baz=111,slow=3.2,SNR=2.5
ZALV LR LR 19 05 52.9
comp=Z,7µm,18.2s,baz=59,slow=38
CD2 Chengdu 43.19 265⇑ *i*P **P** **18 46 46.5 +0.1**
CD2 pP **pP** **18 46 53.8 +1.2**
CD2 sP **sP** **18 46 57.0 +2.0**
CD2 PP **PP** **18 48 29.2 +2.5**
CD2 PcP **PcP** **18 48 37.4 +1.8**
CD2 S **S** **18 53 08.1 -3.9**
CD2 sS **sS** **18 53 22.1 -0.1**
CD2 SS SS 18 56 16.1 -8.8
CD2 ScS **ScS** **18 56 43.5 -2.1**
CD2 pmax pmax
comp=Z,150nm,0.8s
CD2 pmax pmax
comp=Z,820nm,9.8s
CD2 LR LR
comp=Z,5µm,14.2s
CD2 LR LR
comp=Z,5µm,15.5s
CD2 LR LR
comp=Z,7µm,15.4s
NVS Novosibirsk 43.66 307⇑ *i*P **P** **18 46 47.3 -2.5**
NVS *e* 18 48 30.7
NVS *e*S **S** **18 53 14.7 -3.5**
NVS *e* 18 56 48.4
NVS pmax pmax
comp=E,26nm,0.9s
NVS pmax pmax
comp=Z,32nm,0.9s
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS smax smax
comp=E,30nm,2.3s
NVS Novosibirsk 43.66 307⇑ *i*P **P** **18 46 47.3 -2.5**
GYA Guiyang 44.25 258⇑ *i*P **P** **18 46 55.0 0.0**
GYA PP **PP** **18 48 38.9 +0.7**
GYA ScP **ScP** **18 52 31.8 +1.9**
GYA S **S** **18 53 27.5 -0.2**
GYA SS SS 18 56 37.0 -8.9
GYA pmax pmax
comp=E,90nm,1.0s
GYA pmax pmax
comp=E,620nm,6.8s
GYA LR LR
comp=E,3µm,21.3s
GYA LR LR
comp=E,2µm,18.4s
GYA LR LR
comp=E,3µm,17.8s
TGY Tagaytay City 45.19 232 P **P** **18 47 02.9 +0.4**
TGY Tagaytay City 45.19 232 P **P** **18 47 02.9 +0.4**
comp=E,165nm,0.9s,baz=152,slow=5.2,SNR=7.4
KIP Kipapa 45.35 110 PFAKE 18 47 20.0 +16
KIP LR LR
comp=Z,5µm,18.3s
BBB Bella Bella 46.17 56 LR LR 19 07 20.1
comp=Z,2µm,18.4s,baz=71,slow=37
WMQ Urumqi 46.19 291 P **P** **18 47 10.0 -0.2**
WMQ sP **sP** **18 47 21.0 +2.1**
WMQ PP **PP** **18 48 58.0 -0.4**
WMQ ScP **ScP** **18 52 37.0 -0.7**
WMQ S **S** **18 53 53.0 -2.3**
WMQ sS **sS** **18 54 06.0 +0.4**
WMQ ScS **ScS** **18 57 00.0 -4.3**
WMQ SS SS 18 57 10.0 -10
WMQ pmax pmax
comp=Z,43nm,1.0s
WMQ pmax pmax
comp=Z,570nm,5.0s
WMQ LR LR
comp=Z,12µm,16.0s
WMQ LR LR
comp=Z,5µm,14.0s
WMQ LR LR
comp=Z,7µm,15.0s
ALE Alert 47.47 6 P **P** **18 47 20.3 +0.7**
comp=Z,864nm,0.7s,SNR=48
QIZ Qiongzhong 47.62 248 P **P** **18 47 20.6 -0.9**
QIZ S **S** **18 54 12.9 -3.2**
QIZ pmax pmax
comp=Z,610nm,9.3s
QIZ LR LR
comp=Z,3µm,15.4s
QIZ LR LR
comp=Z,3µm,16.3s
QIZ LR LR
comp=Z,6µm,16.3s
QIZ Qiongzhong 47.62 248 P **P** **18 47 23.2 +1.7**
comp=Z,55nm,1.0s
QIZ *e* 18 47 36.7
QIZ LR LR
comp=Z,5µm,18.4s
KMI Kunming 47.72 260 P **P** **18 47 22.9 +0.4**
KMI pP **pP** **18 47 27.9 -0.9**
KMI sP **sP** **18 47 30.0 -1.2**
KMI PP **PP** **18 49 13.7 -0.5**
KMI S **S** **18 54 16.1 -1.7**
KMI sS **sS** **18 54 24.6 -3.5**
KMI SS SS 18 57 37.2 -8.8
KMI pmax pmax
comp=Z,52nm,1.0s
KMI pmax pmax
comp=Z,690nm,4.6s
KMI LR LR
comp=Z,6µm,18.2s
KMI LR LR
comp=Z,2µm,16.6s
KMI LR LR
comp=Z,3µm,19.7s
MK31 Makanchi Array 47.91 297 *e*P **P** **18 47 22.1 -1.4**
MK31 Makanchi Array 47.91 297 *e*P **P** **18 47 22.1 -1.4**
MKAR Makanchi Array 47.91 297 P **P** **18 47 22.2 -1.3**
MKAR pmax pmax
comp=Z,54nm,0.8s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,14µm,18.5s
MKAR Makanchi Array 47.91 297 *e*P **P** **18 47 22.2 -1.3**
MKAR Makanchi Array 47.91 297 P **P** **18 47 22.2 -1.3**
MKAR ScP **ScP** **18 52 44.7 0.0**
MKAR Makanchi Array 47.91 297 P **P** **18 47 22.2 -1.3**
comp=Z,54nm,0.8s,baz=64,slow=6.5,SNR=185
MKAR ScP **ScP** **18 52 44.7 0.0**
comp=Z,0.9nm,0.9s,baz=28,slow=3.4,SNR=2.9
MKAR LR LR 19 09 01.5
comp=Z,14µm,18.5s,baz=44,slow=38
YKW3 Yellowknife Ar 47.94 39 *e*P **P** **18 47 23.4 -0.1**
comp=Z,0.5nm,1.0s
YKA Yellowknife Ar 47.98 39 P **P** **18 47 24.5 +0.7**
YKA Yellowknife Ar 47.98 39 P **P** **18 47 24.5 +0.7**
comp=Z,18nm,0.8s,baz=295,slow=7.3,SNR=87
KURK Kurchatov 48.02 303 P **P** **18 47 23.6 -0.6**
KURK 18 48 52.5
KURK pmax pmax
comp=Z,66nm,0.9s
KURK Kurchatov 48.02 303 P **P** **18 47 22.6 -1.7**
SNR=36
KURK Kurchatov 48.02 303 *e*P **P** **18 47 22.6 -1.7**
comp=Z,49nm,0.8s
KURK PcP **PcP** **18 48 52.5 +0.6**
KURK ScP **ScP** **18 52 45.2 +0.1**
KURK LR LR
comp=Z,2µm,18.1s
KURK Kurchatov 48.02 303 P **P** **18 47 22.5 -1.7**
comp=Z,714nm,0.8s,SNR=74
KURBB Kurchatov Arra 48.12 303 P **P** **18 47 23.6 -1.4**
comp=Z,66nm,0.9s,baz=65,slow=8.3,SNR=154
KURBB PcP **PcP** **18 48 52.5 +0.2**
comp=Z,7.5nm,0.8s,baz=59,slow=4.2,SNR=4.8
KURBB ScP **ScP** **18 52 45.2 -0.3**
comp=Z,1.1nm,1.0s,baz=54,slow=4.7,SNR=3.7
POHA Pohakuloa 48.13 110 *e*P **P** **18 47 26.2 +0.5**
RES Resolute Bay 48.19 20 PFAKE 18 47 40.0 +15
RES LR LR
comp=Z,3µm,19.6s
DAV Davao City (W) 49.02 222 PFAKE 18 47 40.0 +7.7
DAV LR LR
comp=Z,1µm,20.6s
TARA Tarawa 49.39 158 PFAKE 18 47 50.0 +15
TARA LR LR
comp=Z,4µm,20.0s
KBS Kingsbay 50.78 352 *e*P **P** **18 47 44.6 -0.4**
KBS pmax pmax
comp=Z,28nm,0.7s
KBS MLR MLR
comp=Z,4µm,19.5s
KBS Kingsbay 50.78 352 *e*P **P** **18 47 44.6 -0.4**
comp=Z,26nm,0.7s
KBS LR LR
comp=Z,4µm,19.5s
NLWA Neilton Lookou 50.96 59 *e*P **P** **18 47 47.5 +0.7**
comp=Z,33nm,1.3s
VOSK Vostochnaya 51.07 309 *i* P **P** **18 47 46.0 -1.5**
VOSK pmax pmax
comp=Z,20nm,0.7s
A05A Maple Falls 51.09 57 PFAKE 18 48 00.0 +12
A05A LR LR
comp=Z,1µm,18.9s
BVAR Borovoye Array 51.21 309 P **P** **18 47 47.3 -1.2**
BVAR 18 49 04.0
BVAR pmax pmax
comp=Z,21nm,0.7s
BVAR Borovoye Array 51.21 309 P **P** **18 47 47.3 -1.2**
BVAR PcP **PcP** **18 49 04.0 +0.4**
BVAR ScP **ScP** **18 53 00.7 +2.0**
BVAR Borovoye Array 51.21 309 P **P** **18 47 47.3 -1.2**
comp=Z,21nm,0.7s,baz=59,slow=7.7,SNR=97
BVAR PcP **PcP** **18 49 04.0 +0.4**
comp=Z,8.5nm,0.7s,baz=67,slow=3.9,SNR=3.6
BVAR ScP **ScP** **18 53 00.7 +2.0**
comp=Z,0.7nm,0.7s,baz=48,slow=2.1,SNR=2.6
BRVK Borovoye 51.25 309*c i*P **P** **18 47 47.5 -1.4**
BRVK pmax pmax
comp=Z,56nm,1.2s
BRVK MLR MLR
comp=Z,6µm,18.0s
BRVK Borovoye 51.25 309 P **P** **18 47 48.0 -0.8**
SNR=19
BRVK Borovoye 51.25 309 *e*P **P** **18 47 47.4 -1.4**
comp=Z,37nm,0.8s
BRVK *e*PcP **PcP** **18 49 07.1 +3.4**
BRVK LR LR
comp=Z,5µm,19.3s
BRVK Borovoye 51.25 309 P **P** **18 47 47.4 -1.4**
comp=Z,282nm,0.7s,SNR=35
E03A Lebam 51.60 60 *e*pP pP 18 48 03.3 +5.5
E03A LR LR
comp=Z,2µm,18.8s
B06A Marblemount 51.68 57 PFAKE 18 48 00.0 +7.9
B06A LR LR
comp=Z,2µm,19.4s
F03A Seaside 51.95 61 PFAKE 18 48 10.0 +16
F03A LR LR
comp=Z,2µm,18.4s
D05A Enumclaw 52.14 59 PFAKE 18 48 10.0 +14
D05A LR LR
comp=Z,2µm,18.5s
LSA Lhasa 52.30 274 *e*P **P** **18 47 58.4 +0.9**
LSA pmax pmax
comp=Z,114nm,0.9s
LSA MLR MLR
comp=Z,3µm,18.7s
LSA Lhasa 52.30 274 *e*P **P** **18 47 58.4 +0.9**
comp=Z,114nm,0.9s
LSA LR LR
comp=Z,3µm,18.7s
LON Longmire 52.49 59 P **P** **18 47 59.0 +0.8**
LON pmax pmax
comp=Z,7.0nm,0.9s
LON MLR MLR
comp=Z,1µm,18.8s
LON Longmire 52.49 59 P **P** **18 47 59.0 +0.8**
comp=Z,7.4nm,0.9s
LON LR LR
comp=Z,1µm,18.8s
G03D McMinnville, O 52.53 61⇓P **P** **18 47 56.6 -1.8**
baz=52
F04A Amboy 52.60 60 *e*pP pP 18 48 12.4 +7.1
F04A LR LR
comp=Z,1µm,18.7s
CRAI Chiangrai 52.72 258 P **P** **18 48 00.9 +0.7**
comp=Z,497nm,0.9s
LTY Liberty 52.84 58 *e*P P 18 48 05.9 +5.1
comp=Z,9.3nm,0.8s
LTY LR LR
comp=Z,1µm,18.2s
COR Corvallis 52.86 62 PFAKE 18 48 10.0 +9.1
COR LR LR
comp=Z,2µm,18.0s
B08A Colville Reser 52.96 56 *e*P **P** **18 48 02.1 +0.4**
comp=Z,17nm,1.0s
B08A LR LR
comp=Z,2µm,19.5s
AAA Alma-Ata 53.01 296 *e*P **P** **18 48 03.5 +1.4**
AAA pmax pmax
comp=Z,400nm,5.3s
AAA MLR MLR
comp=Z,23µm,16.0s
AAA Alma-Ata 53.01 296 *e*P **P** **18 48 03.5 +1.4**
UBPT Khong Chiam 53.17 249 P **P** **18 48 05.0 +1.5**
comp=Z,40nm,1.3s,comp=Z,1µm
KEBM Edson Butte 53.25 64 PFAKE 18 48 20.0 +16
KEBM LR LR
comp=Z,2µm,19.6s
EDM Edmonton 53.34 49 *e*P **P** **18 48 04.3 -0.1**
EDM Edmonton 53.34 49 *e*P **P** **18 48 04.3 -0.1**
I03D Drain, OR 53.35 63⇑P **P** **18 48 03.0 -1.6**
baz=53
H04A Detroit Lake 53.46 61 *e*P **P** **18 48 06.5 +1.1**
comp=Z,17nm,0.9s
H04A LR LR
comp=Z,2µm,21.6s
G05D Wamic, OR 53.63 60⇓P **P** **18 48 05.2 -1.5**
baz=54
KBO Bosley Butte 53.70 65 PFAKE 18 48 20.0 +13
KBO LR LR
comp=Z,2µm,18.3s
E07A Sunnyside 53.70 58 *e*P **P** **18 48 07.5 +0.4**
E07A LR LR
comp=Z,1µm,20.0s
IMP Imphal 53.74 267 *ex* P **18 48 07.0 -0.7**
IMP *ex* x 18 49 51.0
SVE Sverdlovsk 53.78 317 *de*P **P** **18 48 06.7 -0.8**
SVE *e* 18 50 15.6
SVE *e*S S 18 55 53.1 +12
SVE *e* 18 59 21.4
SVE pmax pmax
comp=Z,89nm,1.0s
SVE MLR MLR
comp=Z,5µm,15.0s
SVE Sverdlovsk 53.78 317 *e*P **P** **18 48 06.7 -0.8**
CMAI Chiengmai2 53.80 259 P **P** **18 48 09.3 +1.0**
comp=Z,143nm,0.7s,comp=Z,9µm
SOKR Solikamsk 53.81 322*c i*P **P** **18 48 06.1 -1.5**
SOKR pmax pmax
comp=Z,30nm,0.9s
I04A Tendick Farm, 53.84 62⇑P **P** **18 48 07.7 -0.5**
baz=54
C09A Chrisman Ranch 53.86 56 *e*P **P** **18 48 08.6 +0.3**
comp=Z,43nm,1.6s
C09A *e*pP pP 18 48 28.6 +14
C09A LR LR
comp=Z,2µm,19.4s
D08A Wollman Farm, 53.94 57 *e*P **P** **18 48 09.4 +0.6**
comp=Z,9.4nm,0.8s
D08A LR LR
comp=Z,1µm,19.8s
TNTI Ternate 53.95 217 PFAKE 18 48 20.0 +11
TNTI LR LR
comp=Z,2µm,18.0s
HAWA Hanford 53.98 58 *e*P **P** **18 48 09.3 +0.2**
comp=Z,10nm,0.9s
HAWA LR LR
comp=Z,1µm,20.9s
SWI Sorong 54.01 212 P **P** **18 48 08.4 -1.2**
comp=Z,62nm,1.3s,comp=Z,907nm
TKM2 Tokmak 2 54.02 296 *i* P **P** **18 48 08.6 -1.1**
TKM2 pmax pmax
comp=Z,21nm,0.9s
TKM2 Tokmak 2 54.02 296 P **P** **18 48 09.3 -0.4**
SNR=18
MYLDM Lahad Datu 54.02 229 P **P** **18 48 12.1 +2.4**
G06A Carlson Farm, 54.03 60 PFAKE 18 48 20.0 +10
G06A LR LR
comp=Z,1µm,18.3s
ULHL Ulahol 54.03 295 *i* P **P** **18 48 09.9 +0.1**
ULHL Ulahol 54.03 295 P **P** **18 48 10.0 +0.1**
SNR=5.8
L02D Cave Junction, 54.11 65⇓P **P** **18 48 09.6 -0.6**
baz=54
I05D Terrebonne, OR 54.15 61⇓P **P** **18 48 10.4 -0.1**
baz=54
HUMO Hull Mountain 54.22 64 P **P** **18 48 10.8 -0.2**
comp=Z,9.4nm,0.9s
HUMO LR LR
comp=Z,1µm,18.6s
NEW Newport 54.22 55 *e*P **P** **18 48 10.7 -0.3**
comp=Z,12nm,1.0s
NEW LR LR
comp=Z,2µm,18.8s
NEW Newport 54.22 55⇓P **P** **18 48 10.9 0.0**
baz=54
SDKM Sandakan 54.28 231 P **P** **18 48 12.8 +1.1**
KRMB Red Mountain 54.30 66 PFAKE 18 48 20.0 +8.3
KRMB LR LR
comp=Z,2µm,19.0s
J04D Umpqua Nationa 54.35 63⇓P **P** **18 48 12.0 -0.1**
baz=54
LAMP Lampang 54.44 257 P **P** **18 48 14.1 +1.3**
comp=Z,71nm,0.9s,comp=Z,493nm
USP Ospenovka 54.46 297 *i* P **P** **18 48 12.5 -0.2**
USP Ospenovka 54.46 297 P **P** **18 48 12.5 -0.2**
SNR=27
CHMS Chumysh 54.47 297 *i* P **P** **18 48 12.2 -0.6**
CHMS Chumysh 54.47 297 P **P** **18 48 12.2 -0.6**
SNR=27
KBK Karagaybulak 54.56 296 P **P** **18 48 13.2 -0.5**
SNR=19
SHL Shillong 54.56 269 *i* P **P** **18 48 16.0 +2.2**
SHL *ex* x 18 56 12.0
FRU Bishkek 54.65 297 *e*P **P** **18 48 12.0 -2.1**
FRU Bishkek 54.65 297 *e*P **P** **18 48 12.0 -2.1**
DAG Danmarks Havn 54.66 359⇑ *i*P **P** **18 48 13.1 -0.5**
DAG *i* S **S** **18 55 52.3 +0.4**
DAG pmax pmax
comp=Z,51nm,0.8s
DAG MLR MLR
comp=Z,3µm,20.0s
DAG Danmarks Havn 54.66 359⇑ *i*P **P** **18 48 13.1 -0.5**
comp=Z,68nm,0.8s
DAG *i* S **S** **18 55 52.3 +0.4**
DAG
comp=Z,2µm,20.0s
DAG Danmarks Havn 54.66 359⇑ *i*P **P** **18 48 13.1 -0.5**
CMMT Chiang Mai 54.67 258 P **P** **18 48 15.1 +0.6**
comp=Z,168nm,1.1s,comp=Z,2µm
CHTO Chiang Mai 54.67 258 *e*P **P** **18 48 15.1 +0.6**
CHTO pmax pmax
comp=Z,166nm,1.0s
CHTO MLR MLR
comp=Z,4µm,19.6s
CHTO Chiang Mai 54.67 258 P **P** **18 48 15.7 +1.2**
SNR=53
CHTO Chiang Mai 54.67 258 *e*P **P** **18 48 15.1 +0.6**
comp=Z,166nm,1.0s
CHTO LR LR
comp=Z,4µm,19.6s
CHTO Chiang Mai 54.67 258 P **P** **18 48 15.1 +0.6**
comp=Z,273nm,1.1s,comp=Z,7µm
E09A Wood Farm, Sta 54.69 58 *e*P **P** **18 48 15.0 +0.8**
comp=Z,17nm,0.8s
E09A LR LR
comp=Z,2µm,18.0s
KZA Kyzart 54.73 296 *i* P **P** **18 48 15.7 +0.6**
KZA Kyzart 54.73 296 P **P** **18 48 15.8 +0.6**
SNR=14
KHMM Horse Mountain 54.80 66 P **P** **18 48 17.0 +1.6**
comp=Z,35nm,1.0s
KHMM *e* 18 48 30.6
KHMM LR LR
comp=Z,2µm,19.2s
J05D Fort Rock, OR 54.84 62⇓P **P** **18 48 15.5 -0.1**
baz=55
AAK Ala-Archa 54.84 297 *i* P **P** **18 48 15.0 -0.6**
AAK Ala-Archa 54.84 297 P **P** **18 48 15.1 -0.6**
SNR=26
KULLO Kullorsuaq 54.86 10⇑ *i*P **P** **18 48 15.2 +0.1**
KULLO *i* S **S** **18 55 57.2 +2.4**
KULLO pmax pmax
comp=Z,100nm,0.8s
KULLO MLR MLR
comp=Z,4µm,17.0s
KULLO Kullorsuaq 54.86 10⇑ *i*P **P** **18 48 15.2 +0.1**
comp=Z,101nm,0.8s
KULLO *i* S **S** **18 55 57.2 +2.4**
KULLO
comp=Z,4µm,17.0s
CHAI Chaiyaphum 54.88 253 P **P** **18 48 16.5 +0.5**
comp=Z,46nm,0.8s,comp=Z,345nm
YBH Yreka Blue Hor 54.89 65 *e*P **P** **18 48 17.9 +1.9**
comp=Z,17nm,0.9s
YBH *e* 18 48 31.9
YBH Yreka Blue Hor 54.89 65 LR LR 19 07 51.4
comp=Z,1µm,20.8s,baz=308,slow=32
K04D Chiloquin, OR 54.93 63⇑P **P** **18 48 16.2 0.0**
baz=55
CM31 Chiang Mai Arr 54.93 258 *e*P **P** **18 48 17.2 +0.8**
comp=Z,90nm,0.9s
CMAR Chiang Mai Arr 54.93 258 *e*P **P** **18 48 15.9 -0.5**
CMAR Chiang Mai Arr 54.93 258 P **P** **18 48 15.9 -0.5**
CMAR Chiang Mai Arr 54.93 258 P **P** **18 48 15.9 -0.5**
comp=Z,19nm,0.8s,baz=32,slow=7.5,SNR=122
CMAR LR LR 19 13 05.3
comp=Z,5µm,19.4s,baz=51,slow=38
ARU Arti 54.94 318 P **P** **18 48 14.0 -1.9**
comp=Z,698nm,0.7s,SNR=47
ARU Arti 54.94 318*c i*P **P** **18 48 14.5 -1.4**
ARU 18 49 17.9
ARU 18 50 15.8
ARU S **S** **18 55 54.2 -2.1**
ARU 18 57 58.7
ARU SSS SSS 19 01 38.0
ARU pmax pmax
comp=Z,152nm,1.2s
ARU MLR MLR
comp=Z,5µm,16.0s
ARU Arti 54.94 318⇑ *i*P **P** **18 48 14.5 -1.4**
ARU Arti 54.94 318 *e*P **P** **18 48 14.2 -1.7**
comp=Z,157nm,1.0s
ARU LR LR
comp=Z,4µm,20.9s
M02C Callahan 55.01 65⇓P **P** **18 48 16.5 -0.3**
baz=55
PBKT Sadao Pong 55.02 254 P **P** **18 48 17.9 +0.9**
comp=Z,51nm,0.7s,comp=Z,2µm
LBMI Labuha 55.18 216 P **P** **18 48 17.2 -0.9**
comp=Z,30nm,1.1s,comp=Z,750nm
KMRM Mail Ridge 55.21 67 PFAKE 18 51 00.0
KMR LR LR
comp=Z,2µm,18.1s
EKS2 Erkin-Say 55.25 297 *i* P **P** **18 48 18.4 -0.1**
EKS2 Erkin-Say 55.25 297 P **P** **18 48 18.4 -0.1**
SNR=17
N02D Trinity Center 55.36 65⇑P **P** **18 48 19.4 +0.1**
baz=55
I07A Izee 55.36 61 *e*P **P** **18 48 21.2 +1.8**
comp=Z,15nm,1.2s
I07A LR LR
comp=Z,2µm,21.9s
K05A Summer Lake 55.37 63 *e*P **P** **18 48 22.1 +2.6**
comp=Z,47nm,1.1s
K05A LR LR
comp=Z,1µm,18.4s
M04C Macdoel 55.38 64⇑P **P** **18 48 19.5 0.0**
baz=55
WALA Waterton Lakes 55.48 53 *e*P **P** **18 48 20.4 +0.3**
comp=Z,0.5nm,0.8s
WALA LR LR
comp=Z,100nm,19.6s
F10A Beach Ranch, E 55.52 58 *e*P **P** **18 48 21.6 +1.2**
comp=Z,130nm,2.5s
F10A LR LR
comp=Z,2µm,18.8s
KMSI Cibinong 55.52 220 P **P** **18 48 19.0 -1.6**
comp=Z,135nm,0.9s
FAKI Fak Fak 55.60 210 P **P** **18 48 18.3 -2.8**
comp=Z,32nm,1.2s,comp=Z,558nm

KCPM Cahto Peak 55.61 67 PFAKE 18 48 30.0 +8.8
KCPM LR LR
comp=Z,800nm,20.7s
AML Almayashu 55.62 297 P **P** **18 48 21.3 -0.3**
SNR=12
WDC Whiskeytown Da 55.70 66 *e*P **P** **18 48 22.1 +0.5**
WDC pmax pmax
comp=Z,16nm,0.9s
WDC MLR MLR
comp=Z,1μm,19.1s
WDC Whiskeytown Da 55.70 66 *e*P **P** **18 48 22.1 +0.5**
comp=Z,16nm,0.9s
WDC LR LR
comp=Z,1μm,19.1s
LVZ Lovozero 55.72 337 *e*P **P** **18 48 20.4 -1.1**
LVZ pmax pmax
comp=Z,69nm,0.9s
LVZ Lovozero 55.72 337 *e*P **P** **18 48 20.4 -1.1**
comp=Z,69nm,0.9s
BSMT Bassoo Peak 55.73 55 *e*P **P** **18 48 22.7 +0.7**
comp=Z,22nm,1.0s
MHMT Maesarieng 55.79 258 P **P** **18 48 23.9 +1.4**
comp=Z,91nm,1.1s,comp=Z,804nm
KSH Kashi 55.85 293 P P 18 48 26.1 +3.2
KSH pP pP 18 48 36.1 +6.9
KSH PP **PP** **18 50 32.1 +4.9**
KSH S **S** **18 56 14.1 +5.0**
KSH sS sS 18 56 27.3 +7.8
KSH pmax pmax
comp=Z,18nm,1.1s
KSH pmax pmax
comp=Z,320nm,5.9s
KSH LR LR
comp=Z,8μm,15.8s
KSH LR LR
comp=Z,9μm,15.8s
KSH LR LR
comp=Z,13μm,16.8s
BLMT Blacktail Moun 55.86 54 *e*P **P** **18 48 23.2 +0.2**
comp=Z,50nm,0.9s
GTOI Gorontalo 55.89 222 P **P** **18 48 22.0 -1.2**
comp=Z,62nm,1.1s,comp=Z,728nm
JTMT Jette 56.07 54 *e*P **P** **18 48 24.8 +0.5**
comp=Z,9.0nm,0.9s
KEV Kevo 56.10 341 *e*P **P** **18 48 22.5 -1.6**
KEV pmax pmax
comp=Z,21nm,0.7s
KEV Kevo 56.10 341 *e*p **P** **18 48 22.5 -1.6**
comp=Z,21nm,0.7s
KEV Kevo 56.10 341 PFAKE 18 48 40.0 +16
KEV LR LR
comp=Z,4μm,20.0s
TAPN Taplejung 56.12 274 *e*P **P** **18 48 25.8 +0.6**
comp=Z,305nm,1.1s
TAPN Taplejung 56.12 274 *e*P **P** **18 48 25.8 +0.6**
comp=Z,305nm,1.1s
YBMT Yellow Bay 56.14 54 *e*P **P** **18 48 25.9 +1.0**
comp=Z,20nm,1.0s
BMO Blue Mountains 56.15 59 *e*P **P** **18 48 25.5 +0.5**
BMO pmax pmax
comp=Z,11nm,0.9s
BMO Blue Mountains 56.15 59 *e*P **P** **18 48 25.5 +0.5**
comp=Z,11nm,0.9s
MOD Modoc 56.22 63 *e*P **P** **18 48 26.3 +0.7**
comp=Z,18nm,0.9s
MOD LR LR
comp=Z,2μm,19.3s
APA Apatity 56.28 337 ⇓*i*P **P** **18 48 24.8 -0.6**
APA *i* S **S** **18 56 10.0 -3.9**
APA MLR MLR
comp=Z,7μm,18.0s
APA Apatity 56.28 337 ⇓*i*P **P** **18 48 24.8 -0.6**
HOPS Hopland 56.35 67 PFAKE 18 48 40.0 +14
HOPS LR LR
comp=Z,2μm,19.0s
SWMT Swartz Lake 56.36 55 *e*P **P** **18 48 27.1 +0.7**
comp=Z,8.4nm,0.9s
J08A Circle Bar Ran 56.40 61 *e*P **P** **18 48 28.4 +1.7**
comp=Z,24nm,1.1s
J08A LR LR
comp=Z,1μm,19.1s
TOLI Toli-Toli 56.45 224 PFAKE 18 48 40.0 +13
TOLI LR LR
comp=Z,700nm,20.3s
MRSI Marisa 56.50 223 P **P** **18 48 26.7 -0.9**
comp=Z,49nm,0.9s,comp=Z,700nm
ARCES ARCESS Array B 56.60 341 *e*P **P** **18 48 26.9 -0.8**
ARCES ARCESS Array B 56.60 341 P **P** **18 48 26.9 -0.8**
ARCES PcP **PcP** **18 49 25.1 +1.2**
ARCES ARCESS Array B 56.60 341 P **P** **18 48 26.9 -0.8**
comp=Z,20nm,0.8s,baz=43,slow=9.0,SNR=21
ARCES PcP **PcP** **18 49 25.1 +1.2**
comp=Z,13nm,0.8s,baz=62,slow=2.9,SNR=7.0
ARCES LR LR 19 18 00.6
comp=Z,7μm,18.1s,baz=31,slow=42
ARE0 ARCESS Array S 56.60 341 *e*P **P** **18 48 26.4 -1.2**
ODAN Odare 56.66 274 *e*P **P** **18 48 29.2 +0.3**
comp=Z,160nm,1.1s
ODAN Odare 56.66 274 *e*P **P** **18 48 29.2 +0.3**
comp=Z,160nm,1.1s
PRGR Permogore 56.78 328 ⇑*i*P **P** **18 48 28.1 -0.9**
PRGR S **S** **18 56 22.6 +2.0**
PRGR pmax pmax
comp=Z,78nm,0.9s
SLMT Seeley Lake 56.80 55 *e*P **P** **18 48 29.7 0.0**
comp=Z,20nm,0.7s
MSO Missoula 56.81 55 *e*P **P** **18 48 30.6 +1.0**
comp=Z,18nm,1.0s
MSO LR LR
comp=Z,2μm,20.0s
MSO Missoula 56.81 55 ⇑P **P** **18 48 29.1 -0.5**
baz=57
WVOR Wild Horse Val 56.87 62 *e*P **P** **18 48 30.8 +0.7**
WVOR pmax pmax
comp=Z,26nm,1.1s
WVOR Wild Horse Val 56.87 62 *e*P **P** **18 48 30.8 +0.7**
comp=Z,26nm,1.1s
JIRN Jiri 56.91 275 *e*P **P** **18 48 31.5 +0.6**
comp=Z,475nm,0.9s
JIRN Jiri 56.91 275 *e*P **P** **18 48 31.5 +0.6**
comp=Z,475nm,0.9s
GUN Gumba 56.95 276 *e*P **P** **18 48 31.6 +0.5**
comp=Z,257nm,0.8s
GUN Gumba 56.95 276 *e*P **P** **18 48 31.6 +0.5**
comp=Z,257nm,0.8s
MCCM Marconi Confer 57.00 68 PFAKE 18 48 40.0 +9.1
MCCM LR LR
comp=Z,1μm,18.6s
CHBT CHBT 57.05 250 P **P** **18 48 32.9 +1.4**
comp=Z,61nm,1.1s
OHCM Honcut 57.10 66 *e*pP pP 18 48 43.2 +5.2
RAMN Ramite 57.12 274 *e*P **P** **18 48 32.6 +0.4**
RAMN Ramite 57.12 274 *e*P **P** **18 48 32.6 +0.4**
CHMT Chamberlain Mo 57.13 55 *e*P **P** **18 48 32.2 +0.1**
comp=Z,9.3nm,0.9s
MSAI Masohi 57.14 213 P P 18 48 24.4 -7.7
KKN Kakani 57.42 276 *e*P **P** **18 48 34.9 +0.6**
comp=Z,318nm,0.9s
KKN Kakani 57.42 276 *e*P **P** **18 48 34.9 +0.6**
KKN pmax pmax
comp=Z,318nm,0.9s
KKN Kakani 57.42 276 *e*P **P** **18 48 34.9 +0.6**
comp=Z,318nm,0.9s
PKI Pulchoki 57.48 276 *e*P **P** **18 48 35.3 +0.4**
comp=Z,336nm,1.0s
PKI Pulchoki 57.48 276 *e*P **P** **18 48 35.3 +0.4**
PKI pmax pmax
comp=Z,336nm,1.0s
PKI Pulchoki 57.48 276 *e*P **P** **18 48 35.3 +0.4**
comp=Z,336nm,1.0s
PKIN Phulchoki 57.49 276 *e*P **P** **18 48 35.1 +0.2**
comp=Z,276nm,1.1s
LUWI Luwuk 57.49 221 P **P** **18 48 32.9 -1.7**
comp=Z,78nm,0.9s,comp=Z,871nm
TMCR Tamitsa 57.50 333 *e*P **P** **18 48 33.5 -0.6**
TMCR pmax pmax
comp=Z,68nm,0.8s
DMN Daman 57.66 276 *e*P **P** **18 48 36.9 +0.9**
comp=Z,669nm,0.9s
DMN Daman 57.66 276 *e*P **P** **18 48 36.9 +0.9**
comp=Z,669nm,0.9s
GKN Gorkha 57.70 277 *e*P **P** **18 48 36.8 +0.6**
comp=Z,605nm,1.0s
GKN Gorkha 57.70 277 *e*P **P** **18 48 36.8 +0.6**
comp=Z,605nm,1.0s
FFC Flin Flon 57.77 42 *e*P **P** **18 48 36.4 +0.3**
FFC pmax pmax
comp=Z,17nm,0.8s
FFC MLR MLR
comp=Z,2μm,19.9s
FFC Flin Flon 57.77 42 *e*P **P** **18 48 36.4 +0.3**
comp=Z,17nm,0.8s
FFC LR LR
comp=Z,2μm,19.9s
FFC Flin Flon 57.77 42 P **P** **18 48 37.6 +1.4**
comp=Z,161nm,0.8s,SNR=6.4
PATY Pattaya 57.83 252 P **P** **18 48 40.0 +3.0**
comp=Z,16nm,1.1s,comp=Z,640nm
SRDT SRDT 57.86 254 P **P** **18 48 38.4 +1.2**
comp=Z,98nm,1.0s,comp=Z,4μm
KHLT Khaolaem Dam 57.86 255 P **P** **18 48 39.3 +2.1**
comp=Z,22nm,1.1s,comp=Z,326nm
APSI Ampana 57.87 222 P **P** **18 48 35.5 -1.7**
comp=Z,74nm,1.0s
MFID Camas Ranch 57.88 59 *e*P **P** **18 48 37.9 +0.7**
comp=Z,9.8nm,0.9s
MFID LR LR
comp=Z,1μm,19.0s
HRY Holter Researc 58.02 54 *e*P **P** **18 48 38.8 +0.6**
comp=Z,9.6nm,0.7s
DANN Dangsing 58.05 278 *e*P **P** **18 48 39.6 +0.8**
comp=Z,238nm,0.8s
DANN Dangsing 58.05 278 *e*P **P** **18 48 39.6 +0.8**
comp=Z,238nm,0.8s
PAHR Pah Rah Range 58.13 65 *e*P **P** **18 48 39.0 -0.1**
comp=Z,12nm,0.9s
PAHR LR LR
comp=Z,2μm,19.4s
A19A Klindworth Far 58.24 51 ⇓P **P** **18 48 39.5 -0.1**
baz=58
LRM Limekiln Ridge 58.24 55 *e*P **P** **18 48 40.5 +0.6**
comp=Z,133nm,0.9s
EGMT Eagleton 58.29 52 *e*P **P** **18 48 40.8 +0.8**
comp=Z,23nm,1.0s
EGMT Eagleton 58.29 52 ⇑P **P** **18 48 39.3 -0.7**
baz=58
FCC Fort Churchill 58.35 35 *e*P **P** **18 48 40.1 0.0**
FCC Fort Churchill 58.35 35 *e*P **P** **18 48 40.1 0.0**
FCC Fort Churchill 58.35 35 *e*P **P** **18 48 40.1 0.0**
comp=Z,1.2nm,0.9s
FCC LR LR
comp=Z,100nm,18.3s
KNTN Kanton 58.40 142 PFAKE 18 48 50.0 +9.1
KNTN LR LR
comp=Z,2μm,20.0s
B19A Brinkman Farms 58.44 51 ⇓P **P** **18 48 41.0 0.0**
baz=58,SNR=7.6
DLMT Dillon 58.45 56 *e*P **P** **18 48 44.1 +2.8**
comp=Z,30nm,1.4s
DLMT LR LR
comp=Z,1μm,20.3s
SUMG Summit 58.48 5 ⇑*i*P **P** **18 48 42.1 +0.8**
SUMG pmax pmax
comp=Z,120nm,0.9s
SUMG Summit 58.48 5 ⇑*i*P **P** **18 48 42.1 +0.8**
comp=Z,125nm,0.9s
SUMG Summit 58.48 5 *e*P **P** **18 48 41.9 +0.6**
comp=Z,134nm,0.9s
PMG Port Moresby 58.52 191 P **P** **18 48 39.2 -2.5**
comp=Z,16nm,0.8s
PMG LR LR
comp=Z,800nm,18.6s
PMG Port Moresby 58.52 191 P **P** **18 48 42.2 +0.4**
comp=Z,14nm,0.8s,baz=45,slow=5.2,SNR=5.2
KOLN Koldanda 58.54 277 *e*P **P** **18 48 42.9 +0.7**
comp=Z,331nm,0.9s
KOLN Koldanda 58.54 277 *e*P **P** **18 48 42.9 +0.7**
comp=Z,331nm,0.9s
HLID Hailey 58.58 58 *e*P **P** **18 48 42.8 +0.6**
comp=Z,13nm,1.0s
HLID LR LR
comp=Z,1μm,20.9s
HLID Hailey 58.58 58 ⇓P **P** **18 48 41.7 -0.5**
baz=58
CMB Columbia Colle 58.59 67 *e*P **P** **18 48 43.9 +1.7**
CMB pmax pmax
comp=Z,7.0nm,1.3s
CMB MLR MLR
comp=Z,1μm,19.4s
CMB Columbia Colle 58.59 67 *e*P **P** **18 48 43.9 +1.7**
comp=Z,7.2nm,1.3s
CMB LR LR
comp=Z,1μm,19.4s
MCMT McKenzie Canyo 58.66 56 *e*P **P** **18 48 43.2 +0.4**
comp=Z,5.4nm,0.9s
A20A Cobblestone Ra 58.69 50 ⇑P **P** **18 48 42.2 -0.6**
baz=58
PYUN Piuthan 58.72 278 *e*P **P** **18 48 43.9 +0.5**
comp=Z,742nm,1.0s
PYUN Piuthan 58.72 278 *e*P **P** **18 48 43.9 +0.5**
comp=Z,742nm,1.0s
SAO San Andreas Ge 58.75 69 PFAKE 18 49 00.0 +17
SAO LR LR
comp=Z,1μm,18.4s
BOZ Bozeman (W) 58.80 55 *e*P **P** **18 48 45.3 +1.6**
BOZ pmax pmax
comp=Z,29nm,0.9s
BOZ MLR MLR
comp=Z,3μm,19.3s
BOZ Bozeman (W) 58.80 55 *e*P **P** **18 48 45.3 +1.6**
comp=Z,29nm,0.9s
BOZ LR LR
comp=Z,3μm,19.3s
C19A Slack Wire Ran 58.84 52 ⇑P **P** **18 48 43.3 -0.6**
baz=59,SNR=8.8
WAKR Walker 58.86 66 *e*P **P** **18 48 45.1 +0.9**
comp=Z,12nm,0.8s
B20A Solberg Farm, 58.92 51 ⇑P **P** **18 48 43.9 -0.4**
baz=59
AKTO Aktyubinsk 58.94 312 P **P** **18 48 43.2 -1.2**
AKTO pmax pmax
comp=Z,19nm,0.5s
AKTO Aktyubinsk 58.94 312 P **P** **18 48 43.2 -1.2**
AKTO Aktyubinsk 58.94 312 P **P** **18 48 43.2 -1.2**
comp=Z,19nm,0.5s,baz=68,slow=8.1,SNR=52
BMN Battle Mountai 58.95 63 *e*P **P** **18 48 45.6 +0.7**
BMN pmax pmax
comp=Z,9.0nm,0.8s
BMN MLR MLR
comp=Z,2μm,18.6s
BMN Battle Mountai 58.95 63 *e*P **P** **18 48 45.5 +0.7**
comp=Z,9.4nm,0.8s
BMN LR LR
comp=Z,2μm,18.6s
A21A Bergtoll Ranch 59.12 50 ⇓P **P** **18 48 44.8 -0.9**
baz=59
D19A Cripps Ranch, 59.30 52 ⇓P **P** **18 48 46.4 -0.6**
baz=59
C20A Veseth Ranch, 59.40 51 ⇓P **P** **18 48 46.4 -1.2**
baz=59
QLMT Earthquake Lak 59.43 56 *e*P **P** **18 48 49.0 +0.9**
comp=Z,4.0nm,0.8s
B21A Ellsworth Farm 59.44 50 ⇓P **P** **18 48 47.3 -0.6**
baz=59
SBUM Sibu 59.58 234 P **P** **18 48 50.8 +1.7**
NVAR Mina Array Bea 59.59 65 P **P** **18 48 49.9 +0.5**
NVAR Mina Array Bea 59.59 65 P **P** **18 48 49.9 +0.5**
comp=Z,5.2nm,0.8s,baz=298,slow=8.5,SNR=13
A22A Carney Farms, 59.63 49 ⇑P **P** **18 48 48.8 -0.5**
baz=59,SNR=6.0
NV11 Mina Array Sit 59.68 65 *e*P **P** **18 48 51.1 +1.2**
D20A Manuel Ranch, 59.73 52 ⇓P **P** **18 48 49.0 -1.0**
baz=60,SNR=7.5
GCMT Greycliff 59.76 54 *e*P **P** **18 48 51.6 +1.3**
comp=Z,19nm,1.0s
MLAC Mammoth Lakes 59.79 66 ⇓P **P** **18 48 50.2 -0.6**
baz=60
YMR Madison River 59.79 56 *e*P **P** **18 48 51.3 +0.7**
comp=Z,33nm,0.9s
YMR LR LR
comp=Z,3μm,18.8s
E19A Rath Farm, Rou 59.80 53 ⇓P **P** **18 48 50.1 -0.3**
baz=60
ELK Elko 59.91 61 *e*P **P** **18 48 52.3 +0.8**
comp=Z,10nm,0.9s
ELK LR LR
comp=Z,1μm,18.2s
YNR Norris Junctio 59.91 55 *e*pP **pP** **18 48 59.2 +1.3**
YNR LR LR
comp=Z,3μm,21.7s
YFT Old Faithful 60.00 56 *e*P **P** **18 48 54.7 +2.6**
comp=Z,43nm,0.9s
YFT LR LR
comp=Z,6μm,19.7s
B22A Reddig Ranch S 60.04 50 ⇑P **P** **18 48 52.1 +0.1**
baz=60
F19A Roth Farm, Mol 60.11 53 ⇓P **P** **18 48 52.5 -0.2**
baz=60,SNR=7.2
E20A Meyer Farm, Mu 60.12 52 ⇑P **P** **18 48 51.9 -0.7**
baz=60
A23A Redstone 60.17 49 ⇓P **P** **18 48 52.5 -0.4**
baz=60
H17A Grant Village 60.18 56 ⇓P **P** **18 48 53.0 -0.3**
baz=60
FLWY Flagg Ranch 60.31 56 *e*P **P** **18 48 56.9 +2.7**
comp=Z,27nm,0.9s
FLWY LR LR
comp=Z,1μm,19.7s
D21A La Casta Ranch 60.34 51 ⇓P **P** **18 48 53.8 -0.4**
baz=60,SNR=11
RLMT Red Lodge 60.41 54 *e*P **P** **18 48 55.9 +1.0**
comp=Z,41nm,1.1s
RLMT LR LR
comp=Z,3μm,18.6s
JOF Joensuu 60.42 334 *e*P **P** **18 48 54.3 0.0**
JOF pmax pmax
comp=Z,19nm,0.5s
JOF Joensuu 60.42 334 *e*p **P** **18 48 54.3 0.0**
comp=Z,19nm,0.5s
JOF Joensuu 60.42 334 *e*P **P** **18 48 54.3 0.0**
FXWY Fox Creek 60.42 57 *e*P **P** **18 48 56.3 +1.3**
comp=Z,10nm,0.9s
FXWY LR LR
comp=Z,1μm,19.3s
B23A Brockton 60.44 49 ⇑P **P** **18 48 54.6 -0.1**
baz=60,SNR=9.0
RRI2 Red Ridge 60.45 57 PFAKE 18 49 10.0 +15
RRI2 LR LR
comp=Z,1μm,20.3s
C22A Vida 60.46 50 ⇑P **P** **18 48 55.2 +0.3**
baz=60
TPH Tonopah 60.47 65 *e*P **P** **18 48 55.8 +0.4**
TPH pmax pmax
comp=Z,11nm,0.8s
TPH MLR MLR
comp=Z,1μm,20.3s
TPH Tonopah 60.47 65 *e*P **P** **18 48 55.8 +0.4**
comp=Z,11nm,0.8s
TPH LR LR
comp=Z,1μm,20.3s
SMLA Simla 60.47 285 *i* P **P** **18 48 54.9 -0.3**
SMLA *i* S **S** **18 57 08.8 -0.6**
I17A Pilgrim Ck. 60.49 56 ⇑P **P** **18 48 54.9 -0.6**
baz=60
H18A Shoshone NF, C 60.49 55 ⇓P **P** **18 48 54.5 -0.9**
baz=60
MOOW Moose Ponds 60.51 56 *e*P **P** **18 48 57.1 +1.5**
comp=Z,222nm,3.0s
MOOW LR LR
comp=Z,1μm,19.9s
TPAW Teton Pass 60.56 57 *e*P **P** **18 48 57.9 +1.9**
comp=Z,22nm,0.9s
TPAW LR LR
comp=Z,1μm,20.0s
F20A Billings 60.56 53 ⇑P **P** **18 48 55.5 -0.2**
baz=60
ILULI Ilulissat 60.57 11 *i* P **P** **18 48 55.3 0.0**
ILULI pmax pmax
comp=Z,66nm,0.9s
ILULI Ilulissat 60.57 11 *i* P **P** **18 48 55.3 0.0**
comp=Z,66nm,0.8s
SMMC Simmler 60.59 69 ⇓P **P** **18 48 55.9 -0.1**
baz=60
A24A Westby 60.62 48 ⇑P **P** **18 48 55.6 -0.4**
baz=60
E21A Keefer Ranch, 60.64 52 ⇑P **P** **18 48 56.2 0.0**
baz=60
HVU Hansel Valley 60.65 59 *e*P **P** **18 48 57.2 +0.7**
HVU pmax pmax
comp=Z,10.0nm,0.8s
HVU MLR MLR
comp=Z,3μm,20.7s
HVU Hansel Valley 60.65 59 *e*P **P** **18 48 57.2 +0.7**
comp=Z,10.0nm,0.8s
HVU LR LR
comp=Z,3μm,20.7s
LOHW Long Hollow 60.67 56 *e*P **P** **18 48 58.4 +1.7**
comp=Z,22nm,1.2s
LOHW LR LR
comp=Z,1μm,20.6s
MMSI Mamuju 60.68 224 P **P** **18 48 55.6 -1.1**
comp=Z,52nm,1.0s,comp=Z,618nm
SNOW Snow King Moun 60.69 57 PFAKE 18 49 10.0 +13
SNOW LR LR
comp=Z,1μm,20.4s
REDW Red Top Meadow 60.70 57 *e*P **P** **18 48 58.6 +1.8**
comp=Z,25nm,0.9s
REDW LR LR
comp=Z,2μm,20.5s
D22A Cohagen 60.70 51 ⇑P **P** **18 48 56.5 -0.1**
baz=60,SNR=6.6
C23A Lambert 60.78 50 ⇑P **P** **18 48 57.5 +0.4**
baz=61,SNR=5.6
DGMT Dagmar 60.83 49 *e*P **P** **18 48 57.9 +0.5**
comp=Z,59nm,1.1s
DGMT LR LR
comp=Z,2μm,18.0s
DGMT Dagmar 60.83 49 ⇑P **P** **18 48 56.9 -0.6**
baz=61
H19A Powell 60.86 55 ⇑P **P** **18 48 57.3 -0.5**
baz=61
G20A Bridger 60.91 54 ⇑P **P** **18 48 58.3 +0.1**
baz=61
PKM Peak Mountain 60.97 69 ⇑P **P** **18 48 58.8 0.0**
baz=61
LAO LASA Array 60.99 51 *e*P **P** **18 48 59.5 +0.9**
comp=Z,48nm,0.9s
LAO LR LR
comp=Z,4μm,19.0s
SCO Scoresbysund 61.01 359 *i* P **P** **18 48 59.3 +1.0**
SCO pmax pmax
comp=Z,46nm,0.8s
SCO Scoresbysund 61.01 359 *i* P **P** **18 48 59.3 +1.0**
comp=Z,46nm,0.8s
A25A Svangstu Ranch 61.05 48 ⇑P **P** **18 48 59.1 +0.1**
baz=61,SNR=8.3
BGU Big Grassy Mou 61.07 60 *e*P **P** **18 48 58.7 -0.6**
comp=Z,3.3nm,0.9s
BGU LR LR
comp=Z,700nm,18.0s
GRAC Grapevine Rang 61.09 66 ⇑P **P** **18 48 59.5 +0.2**
baz=61
F21A Absaloka Mine, 61.09 53 ⇑P **P** **18 48 58.3 -1.0**
baz=61
SPUT South Promonto 61.15 59 *e*P **P** **18 49 00.7 +0.8**
comp=Z,21nm,1.0s
SPUT LR LR
comp=Z,2μm,19.4s
D23A Lindsay 61.19 50 ⇑P **P** **18 48 59.9 0.0**
baz=61
R11A Troy Canyon, C 61.27 64 ⇓P **P** **18 49 01.3 +0.5**
baz=61,SNR=13
I19A Meeteetse 61.27 55 ⇑P **P** **18 49 00.9 +0.2**
baz=61
E22A Miles City 61.29 51 ⇓P **P** **18 49 00.1 -0.5**
baz=61
ISA Isabella 61.29 68 *e*P **P** **18 49 01.1 +0.3**
ISA MLR MLR
comp=Z,1μm,19.5s
ISA Isabella 61.29 68 *e*P **P** **18 49 01.1 +0.3**
comp=Z,1.4nm,0.8s
ISA LR LR
comp=Z,1μm,19.5s
ISA Isabella 61.29 68 ⇑P **P** **18 49 00.8 0.0**
baz=61
SBC Santa Barbara 61.34 70 ⇑P **P** **18 49 01.0 0.0**
baz=61
C24A Savage 61.34 50 ⇑P **P** **18 49 00.7 -0.2**
baz=61
SPSI Sidrap Palu 61.42 223 P **P** **18 49 01.7 0.0**
comp=Z,33nm,1.0s,comp=Z,384nm
KSM Kuching 61.43 235 P **P** **18 49 03.7 +1.9**
G21A Lodge Grass 61.44 53 ⇑P **P** **18 49 01.9 +0.1**
baz=61
B25A Knox Farm, Ray 61.48 48 ⇓P **P** **18 49 01.0 -0.8**
baz=61
H20A Greybull 61.51 54 ⇓P **P** **18 49 01.7 -0.5**
baz=61
F22A Rosebud 61.57 52 ⇑P **P** **18 49 03.0 +0.4**
baz=61
E23A Ismay 61.59 51 ⇓P **P** **18 49 01.9 -0.7**
baz=61
A26A Wade Farm, Ken 61.60 47 ⇓P **P** **18 49 02.2 -0.5**

baz=61
MPMC Manual Prospec 61.63 67 ⇑P P 18 49 02.7 -0.6
baz=62
BNSI Bone 61.66 222 P P 18 49 02.7 -0.6
comp=Z,49nm,1.0s,comp=Z,678nm
D24A Glendive 61.67 50 ⇑P P 18 49 03.0 -0.2
baz=62,SNR=12
DUG Dugway 61.67 60 eP P 18 49 03.9 +0.5
DUG pmax pmax
comp=Z,20nm,0.8s
DUG MLR MLR
comp=Z,1μm,19.1s
DUG Dugway 61.67 60 eP P 18 49 03.9 +0.5
comp=Z,20nm,0.8s
DUG LR LR
comp=Z,1μm,19.1s
DUG Dugway 61.67 60 ⇑P P 18 49 03.9 +0.5
baz=62
FURC Furnace Creek, 61.74 66 ⇓P P 18 49 04.3 +0.6
baz=62
J19A Crowheart 61.75 56 ⇓P P 18 49 03.7 -0.2
baz=62
TPNV Topopah Spring 61.79 65 eP P 18 49 05.0 +0.7
TPNV pmax pmax
comp=Z,18nm,0.9s
TPNV MLR MLR
comp=Z,2μm,18.1s
TPNV Topopah Spring 61.79 65 eP P 18 49 05.0 +0.7
comp=Z,18nm,0.9s
TPNV LR LR
comp=Z,2μm,18.1s
TPNV Topopah Spring 61.79 65 ⇓P P 18 49 03.9 -0.4
baz=62
I20A Worland 61.80 55 ⇑P P 18 49 03.8 -0.4
baz=62,SNR=6.2
BW06 Boulder Array 61.80 56 eP P 18 49 05.0 +0.6
comp=Z,26nm,1.0s
BW06 LR LR
comp=Z,2μm,18.6s
PDAR Pinedale Array 61.80 56 P P 18 49 05.2 +0.8
PDAR Pinedale Array 61.80 56 P P 18 49 05.2 +0.8
comp=Z,10.0nm,0.8s,baz=294,slow=2.1,SNR=60
C25A Freed Ranch, W 61.81 49 ⇑P P 18 49 03.7 -0.3
baz=62
OSI Osito Adit 61.83 69 eP P 18 49 05.3 +0.8
OSI comp=Z,28nm,0.9s
OSI LR LR
comp=Z,1μm,19.3s
OSI Osito Adit 61.83 69 ⇑P P 18 49 04.4 -0.1
baz=62
B26A Jensen Ranch, 61.86 48 ⇓P P 18 49 03.2 -1.2
baz=62
TCUT Toone Canyon 61.86 59 PFAKE 18 49 20.0 +15
TCUT LR LR
comp=Z,2μm,21.5s
H21A Big Horn, Sher 61.93 53 ⇓P P 18 49 04.2 -0.9
baz=62,SNR=10
G22A Birney 61.93 53 ⇑P P 18 49 04.6 -0.4
baz=62
A27A Ledoux Ranch, 61.95 47 ⇓P P 18 49 04.3 -0.7
baz=62
BLG Laguna Peak 61.96 69 ⇑P P 18 49 05.7 +0.5
baz=62
E24A Baker 62.05 50 ⇑P P 18 49 05.8 0.0
baz=62
F23A Volborg 62.05 52 ⇑P P 18 49 06.1 +0.3
baz=62,SNR=6.7
NDI New Delhi 62.08 282 eP P 18 49 06.0 -0.1
EDW2 Edwards Air Fo 62.11 68 ⇑P P 18 49 07.0 +0.7
baz=62
D25A Fairfield 62.15 49 ⇓P P 18 49 06.8 +0.4
baz=62
JLU Jordanelle 62.18 59 PFAKE 18 49 20.0 +13
JLU LR LR
comp=Z,2μm,19.2s
J20A Shoshoni 62.22 55 ⇓P P 18 49 07.0 0.0
baz=62,SNR=6.3
NLU North Lily Min 62.25 60 eP P 18 49 07.6 +0.2
NLU LR LR
comp=Z,2μm,19.5s
C26A Wahner Farm, P 62.30 48 ⇑P P 18 49 07.1 -0.3
baz=62
H22A Clearmont 62.32 53 ⇓P P 18 49 07.1 -0.5
baz=62
B27A Peters Farms, 62.32 47 ⇓P P 18 49 07.2 -0.3
baz=62
DECC Green Verdugo 62.32 69 ⇓P P 18 49 07.8 +0.1
baz=62
I21A Big Trails, Te 62.34 54 ⇓P P 18 49 07.3 -0.5
baz=62,SNR=8.0
KAPI Kappang 62.36 222 PFAKE 18 49 20.0 +12
KAPI LR LR
comp=Z,2μm,20.0s
G23A Biddle 62.41 52 ⇑P P 18 49 08.3 +0.1
baz=62
DAU Daniels Canyon 62.42 59 eP P 18 49 09.7 +1.1
DAU pmax pmax
comp=Z,21nm,1.1s
DAU Daniels Canyon 62.42 59 eP P 18 49 09.7 +1.1
comp=Z,21nm,1.1s
A28A Rude Farm, Bot 62.45 46 ⇓P P 18 49 07.2 -1.1
baz=62
KAF Kangasniemi 62.46 336 eP P 18 49 07.4 -0.7
KAF pmax pmax
comp=Z,19nm,0.7s
KAF Kangasniemi 62.46 336 ep P 18 49 07.4 -0.7
comp=Z,19nm,0.7s
F24A Ekalaka 62.47 51 ⇓P P 18 49 08.0 -0.6
baz=62
MPU Maple Canyon 62.47 60 eP P 18 49 10.0 +1.1
comp=Z,22nm,0.9s
MPU LR LR
comp=Z,3μm,20.1s
BKSI Bulukumba 62.47 222 P P 18 49 08.2 -0.6
comp=Z,20nm,0.8s,comp=Z,334nm
MWC Mount Wilson 62.50 69 PFAKE 18 49 20.0 +11
MWC LR LR
comp=Z,1μm,18.1s
GSC Goldstone 62.55 67 eP P 18 49 09.3 0.0
GSC pmax pmax
comp=Z,3.0nm,0.8s
GSC MLR MLR
comp=Z,1μm,18.5s
GSC Goldstone 62.55 67 eP P 18 49 09.2 0.0
comp=Z,3.5nm,0.8s
GSC LR LR
comp=Z,1μm,18.5s
GSC Goldstone 62.55 67 ⇓P P 18 49 09.6 +0.3
baz=62
E25A Miller Ranch, 62.55 50 ⇓P P 18 49 08.7 -0.4
baz=62
J21A Lysite 62.57 55 ⇓P P 18 49 09.0 -0.5
baz=62
C27A Sayler Ranch, 62.67 48 ⇑P P 18 49 10.0 +0.1
baz=62
D26A Manning 62.68 49 ⇓P P 18 49 10.4 +0.5
baz=62
I22A 9 Mile Ranch, 62.72 54 ⇑P P 18 49 10.6 +0.3
baz=62,SNR=6.7
B28A Dugan Ranch, T 62.72 47 ⇑P P 18 49 09.8 -0.3
baz=62
SFJD Kangerlussuaq 62.72 12 i P P 18 49 09.9 +0.1
comp=Z,36nm,0.9s
SFJD Kangerlussuaq 62.72 12 eP P 18 49 09.7 -0.1
comp=Z,63nm,1.0s
SFJD LR LR
comp=Z,4μm,20.2s
BFSC Mount Baldy Ra 62.74 68 ⇑P P 18 49 11.3 +0.7
baz=63
SHPR Sheep Range 62.74 65 eP P 18 49 12.0 +1.3
comp=Z,10.0nm,1.0s
G24A Alzada 62.83 51 ⇓P P 18 49 11.2 +0.1
baz=63
CIS Catalina Islan 62.84 70 ⇓P P 18 49 12.0 +0.9
baz=63
H23A Clabaugh Cattl 62.84 53 ⇓P P 18 49 11.6 +0.5
baz=63
ARUT Antelope Range 62.91 63 eP P 18 49 12.1 +0.4
ARUT pmax pmax
comp=Z,117nm,0.8s
ARUT Antelope Range 62.91 63 eP P 18 49 12.1 +0.4
comp=Z,117nm,0.8s
F25A Bowman 62.92 50 ⇑P P 18 49 12.0 +0.5
baz=63
A29A Manning Farm, 62.93 46 ⇓P P 18 49 12.0 +0.5
baz=63,SNR=7.3
TUQ Turquoise Moun 63.00 66 ⇑P P 18 49 12.5 +0.2
baz=63
SCI San Clemente I 63.03 70 ⇑P P 18 49 12.6 +0.1
baz=63
J22A Midwest 63.05 54 ⇑P P 18 49 12.2 -0.3
baz=63
E26A Carlson Angus 63.05 50 ⇑P P 18 49 12.9 +0.5
baz=63
FIA1 FINESS Array S 63.07 336 eP P 18 49 11.0 -1.2
FIA1 ePcP PcP 18 49 52.7 +2.9
FINES FINESS Array B 63.07 336 P P 18 49 11.5 -0.7
FINES FINESS Array B 63.07 336 P P 18 49 11.5 -0.7
comp=Z,20nm,0.7s,baz=38,slow=7.8,SNR=116
FINES LR LR 19 19 50.9
comp=Z,8μm,18.9s,baz=25,slow=39
D27A Center 63.08 48 ⇓P P 18 49 12.5 -0.1
baz=63
CCUT Cedar City 63.11 63 eP P 18 49 13.8 +0.7
comp=Z,14nm,0.9s
CCUT LR LR
comp=Z,600nm,19.5s
MVU Marysvale 63.14 62 eP P 18 49 14.4 +1.0
comp=Z,8.8nm,0.9s
MVU LR LR
comp=Z,1μm,19.0s
HEC Hector,Ludlow 63.16 67 ⇓P P 18 49 13.2 -0.1
baz=63
K21A Alcova 63.16 55 ⇓P P 18 49 13.4 0.0
baz=63,SNR=6.9
H24A Dirks Ranch, A 63.16 52 ⇑P P 18 49 12.8 -0.4
baz=63
TMUT Trail Mountain 63.19 60 eP P 18 49 14.3 +0.5
comp=Z,30nm,0.9s
TMUT LR LR
comp=Z,1μm,20.4s
B29A Wagenman Farm, 63.19 46 ⇑P P 18 49 13.7 +0.4
baz=63
I23A Meade Ranch, G 63.22 53 ⇓P P 18 49 13.8 +0.2
baz=63
C28A Hausauer Farms 63.22 47 ⇑P P 18 49 13.5 +0.1
baz=63
PUL Pulkovo 63.22 333 ⇓eP P 18 49 12.7 -0.5
PUL pmax pmax
comp=Z,90nm,0.8s
PUL MLR MLR
comp=Z,8μm,18.0s
KBL Kabul 63.28 293 eP P 18 49 12.6 -1.7
KBL pmax pmax
comp=Z,41nm,0.9s
KBL MLR MLR
comp=Z,6μm,18.3s
KBL Kabul 63.28 293 eP P 18 49 12.6 -1.7
comp=Z,41nm,0.9s
KBL LR LR
comp=Z,6μm,18.3s
BBKI Banjar Baru 63.29 228 P P 18 49 14.6 +0.4
comp=Z,140nm,1.0s,comp=Z,2μm
A30A Hoffart Farm, 63.36 45 ⇑P P 18 49 14.6 +0.2
baz=63
F26A Lodgepole 63.37 50 ⇓P P 18 49 15.1 +0.5
baz=63
G25A Newell 63.44 51 ⇓P P 18 49 15.6 +0.6
baz=63
MURC Murrieta 63.45 69 ⇑P P 18 49 15.6 +0.3
baz=63
D28A Regan 63.49 48 ⇓P P 18 49 14.7 -0.6
baz=63
MDND Maddock 63.50 47 ⇓P P 18 49 15.6 +0.2
baz=63
E27A Carson 63.53 49 ⇑P P 18 49 16.0 +0.5
baz=63
K22A Casper 63.54 55 ⇑P P 18 49 15.5 -0.3
baz=63
J23A Dilts Ranch, B 63.55 54 ⇓P P 18 49 15.5 -0.4
baz=63
ULM Lac du Bonnet 63.55 43 eP P 18 49 16.0 +0.4
ULM Lac du Bonnet 63.55 43 eP P 18 49 15.9 +0.4
comp=Z,93nm,2.1s
ULM Lac du Bonnet 63.55 43 P P 18 49 16.8 +1.2
comp=Z,6.5nm,0.6s,baz=310,slow=7.3,SNR=16
ULM LR LR 19 18 11.6
comp=Z,2μm,19.6s,baz=169,slow=37
COEN Coen 63.56 194 eP P 18 49 16.0 0.0
comp=Z,196nm,0.9s
COEN LR LR
comp=Z,5μm,19.0s
GMRC Granite Mounta 63.60 67 ⇑P P 18 49 16.7 +0.4
baz=64
F27A Lemmon 63.68 50 ⇓P P 18 49 17.0 +0.4
baz=64
B30A Myrvik Farm, E 63.69 46 ⇑P P 18 49 15.8 -0.7
baz=64,SNR=8.9
SRU San Rafael 63.71 60 eP P 18 49 17.6 +0.5
SRU pmax pmax
comp=Z,34nm,0.8s
SRU MLR MLR
comp=Z,2μm,19.6s
SRU San Rafael 63.71 60 eP P 18 49 17.6 +0.5
comp=Z,34nm,0.8s
SRU LR LR
comp=Z,2μm,19.6s
I24A Kuemmerle Ranc 63.73 53 ⇓P P 18 49 17.0 0.0
baz=64
LDFC Landfair 63.73 66 eP P 18 49 17.1 -0.1
comp=Z,38nm,0.8s
LDFC LR LR
comp=Z,1μm,18.1s
H25A Fruitdale 63.74 52 ⇑P P 18 49 17.2 +0.2
baz=64
G26A Maurine 63.79 51 ⇓P P 18 49 17.9 +0.6
baz=64,SNR=7.6
N20A Spence Gulch, 63.82 57 ⇓P P 18 49 18.2 +0.4
baz=64,SNR=8.9
RSSD Black Hills 63.86 52 eP P 18 49 18.4 +0.4
RSSD pmax pmax
comp=Z,29nm,0.7s
RSSD MLR MLR
comp=Z,2μm,19.0s
RSSD Black Hills 63.86 52 eP P 18 49 18.4 +0.4
comp=Z,28nm,0.7s
RSSD LR LR
comp=Z,2μm,19.0s
E28A Huff 63.86 48 ⇓P P 18 49 18.4 +0.6
baz=64
PFO Pinyon Flat Ob 63.90 68 PFAKE 18 49 30.0 +12
PFO LR LR
comp=Z,1μm,19.8s
PFO Pinyon Flat Ob 63.90 68 ⇓P P 18 49 18.9 +0.6
baz=64
BELC Belle Mtn. Jos 63.92 68 ⇑P P 18 49 17.5 -1.0
baz=64
MOS Moscow 63.94 326 eP P 18 49 13.1 -4.9
MOS e 18 49 28.3
MOS pmax pmax
comp=Z,63nm,0.7s
MOS MLR MLR
comp=N,6μm,16.0s
MOS MLR MLR
comp=Z,6μm,16.0s
109C Camp Elliot, M 63.99 69 ⇓P P 18 49 18.8 +0.1
baz=64
L22A Ellis Ranch, M 64.01 55 ⇑P P 18 49 17.9 -1.2
baz=64
D29A Pettibone, Tap 64.06 48 ⇑P P 18 49 18.4 -0.6
baz=64
JBP Jabalpur 64.06 276 ⇑iP P 18 49 20.4 +1.1
JBP ex x 18 57 52.3
J24A Dixon Ranch, L 64.07 53 ⇑P P 18 49 18.6 -0.7
baz=64
G27A Dupree 64.07 50 ⇓P P 18 49 18.6 -0.6
baz=64
I25A Rochford 64.08 52 ⇓P P 18 49 19.0 -0.5
baz=64,SNR=5.9
C30A Mose, Pekin 64.15 46 ⇑P P 18 49 19.1 -0.5
baz=64
H26A Fairpoint 64.17 51 ⇑P P 18 49 19.4 -0.4
baz=64
NEE2 Needles Airpor 64.23 66 ⇓P P 18 49 20.8 +0.5
baz=64
O20A White River Ci 64.31 58 ⇑P P 18 49 20.6 -0.4
baz=64
F28A McLaughlin 64.31 49 ⇓P P 18 49 20.0 -0.7
baz=64
IRM Iron Mountain 64.33 67 ⇑P P 18 49 21.6 +0.6
baz=64,SNR=6.3
L23A Garrett 64.35 55 ⇑P P 18 49 20.9 -0.4
baz=64
M22A Cedar Creek Ra 64.35 56 ⇓P P 18 49 21.0 -0.3
baz=64
E29A Napoleon 64.38 48 ⇑P P 18 49 20.9 -0.3
baz=64
BAR Barrett 64.40 69 P P 18 49 21.0 -0.4
comp=Z,11nm,0.9s
BAR LR LR
comp=Z,700nm,18.4s
K24A Anderson Ranch 64.41 54 ⇑P P 18 49 20.8 -0.7
baz=64
MONP Monument Peak 64.41 69 ⇓P P 18 49 21.5 -0.3
baz=64
D30A Buchanan 64.43 47 ⇑P P 18 49 20.9 -0.6
baz=64
W13A Hualapai Mount 64.45 65 ⇑P P 18 49 22.3 +0.3
baz=64
J25A Sunshine Ranch 64.48 53 ⇑P P 18 49 21.9 -0.1
baz=64
BC3 Big Chuckawall 64.48 67 ⇓P P 18 49 21.9 -0.2
baz=64
U15A North Rim 64.50 63 ⇓P P 18 49 22.5 0.0
baz=64,SNR=7.6
H27A Howes 64.52 51 ⇓P P 18 49 22.0 -0.1
baz=64
I26A New Underwood 64.53 52 ⇓P P 18 49 22.0 -0.2
baz=64
MMRI Maumere 64.56 218 PFAKE 18 49 30.0 +7.5
MMRI LR LR
comp=Z,400nm,22.0s
SWSC Sam W. Stewart 64.76 68 ⇑P P 18 49 23.6 -0.2
baz=65
DVTC Desert V Tower 64.76 69 ⇑P P 18 49 24.2 +0.3
baz=65
M23A Laramie 64.78 55 ⇑P P 18 49 23.2 -0.9
baz=65
E30A Jud 64.79 48 ⇑P P 18 49 23.1 -0.7
baz=65
G28A Parade 64.80 50 ⇑P P 18 49 23.2 -0.7
baz=65
OBN Obninsk 64.80 327 ci P P 18 49 22.2 -1.5
OBN e 18 49 32.4
OBN eSS SS 19 02 11.6 -1.8
OBN pmax pmax
comp=Z,49nm,0.7s
OBN MLR MLR
comp=Z,6μm,20.0s
OBN Obninsk 64.80 327 ⇑iP P 18 49 22.2 -1.5
OBN erx rx 18 49 32.4
OBN Obninsk 64.80 327 eP P 18 49 22.9 -0.7
comp=Z,49nm,0.8s
OBN LR LR
comp=Z,4μm,19.3s
F29A Eureka 64.81 49 ⇑P P 18 49 23.1 -0.9
baz=65
L24A Wheatland 64.81 54 ⇑P P 18 49 23.4 -0.8
baz=65
N22A Wattenberg Ran 64.84 56 ⇓P P 18 49 24.1 -0.5
baz=65
PDMCI Parker Dam,Lak 64.84 66 ⇓P P 18 49 24.5 +0.2
baz=65
J26A Sides Ranch, S 64.92 52 ⇓P P 18 49 24.6 -0.2
baz=65
I27A Quinn 64.92 51 ⇑P P 18 49 24.6 -0.2
baz=65
Y12C Blythe 64.98 67 ⇑P P 18 49 25.1 -0.1
baz=65
K25A Mack Ranch, Ha 64.99 53 ⇑P P 18 49 25.0 -0.3
baz=65
H28A Mission Ridge 65.02 50 ⇑P P 18 49 25.1 -0.3
baz=65,SNR=6.0
PHWY Pilot Hill 65.04 55 PFAKE 18 49 40.0 +14
PHWY LR LR
comp=Z,1μm,20.2s
N23A Red Feather La 65.06 56 ⇑P P 18 49 25.5 -0.5
baz=65
F30A Leola 65.20 48 ⇑P P 18 49 26.1 -0.4
baz=65
O22A Kremmling 65.23 57 ⇑P P 18 49 27.0 -0.2
baz=65
L25A Engebretsen Ra 65.25 54 ⇓P P 18 49 26.9 -0.1
baz=65
M24A Cheyenne 65.27 55 ⇓P P 18 49 26.7 -0.5
baz=65
GLA Glamis 65.28 68 P P 18 49 26.1 -1.1
GLA pmax pmax
comp=Z,4.0nm,0.9s
GLA MLR MLR
comp=Z,1μm,19.4s
GLA Glamis 65.28 68 P P 18 49 26.1 -1.1
comp=Z,4.0nm,0.9s
GLA LR LR
comp=Z,1μm,19.4s
GLA Glamis 65.28 68 ⇓P P 18 49 27.0 -0.3
baz=65
K26A Motz Farm, Whi 65.29 53 ⇑P P 18 49 27.1 -0.2
baz=65
VSU Vasula 65.36 334 ci P P 18 49 26.5 -0.7
VSU pmax pmax
comp=Z,168nm,0.7s
VSU MLR MLR
comp=Z,21μm,18.0s
LBFI Labuhan Bajo, 65.39 220 P P 18 49 23.5 -4.5
I28A Midland 65.42 51 ⇓P P 18 49 27.6 -0.4
baz=65
H29A Onida 65.47 50 ⇓P P 18 49 27.8 -0.4
baz=65
P22A Eagle 65.51 57 ⇓P P 18 49 29.0 +0.1
baz=65,SNR=5.7
J27A Elkhorn Farm, 65.52 52 ⇑P P 18 49 28.1 -0.6
baz=65
O23A Lake Granby, G 65.55 56 ⇓P P 18 49 28.5 -0.7
baz=65
G30A Faulkton 65.65 49 ⇓P P 18 49 28.8 -0.6
baz=65
WUAZ Wupatki 65.66 63 eP P 18 49 30.7 +0.8
comp=Z,17nm,1.1s
WUAZ LR LR
comp=Z,1μm,19.5s
WUAZ Wupatki 65.66 63 ⇓P P 18 49 29.8 0.0
baz=66
SMCO Snowmass 65.67 58 eP P 18 49 30.9 +0.7
comp=Z,18nm,0.8s
SMCO LR LR
comp=Z,1μm,19.8s
N24A Carr 65.68 55 ⇓P P 18 49 29.6 -0.3
baz=66
M25A Palm-Egli Farm 65.71 54 ⇑P P 18 49 29.7 -0.3
baz=66
Y14A Wickenburg 65.78 66 ⇓P P 18 49 30.0 -0.4
baz=66
K27A Flueckinger Fa 65.78 52 ⇑P P 18 49 29.8 -0.6
baz=66
J28A Allard Ranch, 65.80 51 ⇑P P 18 49 30.0 -0.5
baz=66
L26A Underwood Farm 65.81 53 ⇑P P 18 49 30.1 -0.5
baz=66
I29A Vivian Onida 65.85 50 ⇑P P 18 49 30.2 -0.5
baz=66
VRHR Novokhopersk 65.90 321 eP P 18 49 27.6 -3.3
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,110nm,0.7s
VRHR MLR MLR
comp=Z,4μm,15.0s
VRHR MLR MLR
comp=N,2μm,14.0s
VRHR MLR MLR
comp=E,2μm,13.0s
ISCO Idaho Springs 66.00 57 eP P 18 49 33.2 +1.1
ISCO pmax pmax
comp=Z,18nm,0.9s
ISCO MLR MLR
comp=Z,2μm,20.1s
ISCO Idaho Springs 66.00 57 eP P 18 49 33.2 +1.1
comp=Z,18nm,0.9s
ISCO LR LR
comp=Z,2μm,20.1s
ISCO Idaho Springs 66.00 57 ⇑P P 18 49 31.2 -0.9
baz=66
113A Mohawk Valley, 66.12 67 ⇑P P 18 49 32.1 -0.4
baz=66
N25A Grover 66.12 55 ⇑P P 18 49 32.1 -0.6
baz=66
P23A Jefferson 66.17 57 ⇑P P 18 49 32.6 -0.6
baz=66
MVCO Mesa Verde 66.17 60 eP P 18 49 32.9 -0.3
comp=Z,20nm,0.9s
MVCO LR LR

comp=Z,1µm,19.4s
MVCO Mesa Verde 66.17 60 ⇑P P 18 49 32.7 -0.5
baz=66
M26A McRoberts Ranc 66.17 54 ⇓P P 18 49 32.3 -0.7
baz=66
L27A T5 Ranch, Ells 66.18 53 ⇓P P 18 49 32.3 -0.7
baz=66
Z14A Wintersburg 66.21 66 ⇓P P 18 49 32.8 -0.4
baz=66
BRSD Miller 66.23 49 ⇓P P 18 49 32.8 -0.4
baz=66
K28A Ten Mile Ranch 66.23 52 ⇑P P 18 49 32.7 -0.6
baz=66
J29A Okreek 66.28 51 ⇑P P 18 49 32.9 -0.6
baz=66
I30A Oacoma 66.37 50 ⇓P P 18 49 33.2 -0.8
baz=66
X16A Lo Mia Camp, P 66.38 64 ⇑P P 18 49 35.6 +1.1
baz=66,SNR=7.3
O25A Wiggins 66.60 55 ⇓P P 18 49 35.3 -0.5
baz=66
L28A Connealy Angus 66.65 53 ⇓P P 18 49 35.5 -0.5
baz=66
K29A Lazy Trails An 66.74 51 ⇓P P 18 49 36.7 +0.2
baz=66
S22A 4UR Ranch, Cre 66.75 59 ⇓P P 18 49 37.0 0.0
baz=67,SNR=7.5
J30A Dallas 66.76 50 ⇑P P 18 49 36.4 -0.2
baz=66
BORG Borgarnes 66.77 359 P P 18 49 36.4 +0.2
BORG Borgarnes 66.77 359 P P 18 49 36.4 +0.2
comp=Z,76nm,0.9s,baz=351,slow=6.9,SNR=11
VSR Storozhevoye 66.81 322 *c i*P P 18 49 35.8 -0.9
VSR pmax pmax
comp=Z,77nm,0.8s
VSR MLR MLR
comp=Z,8µm,16.0s
PSI Prapat 66.90 246 P P 18 49 37.6 -0.2
PSI Prapat 66.90 246 P P 18 49 37.6 -0.2
comp=Z,6.6nm,0.9s,baz=29,slow=1.4,SNR=6.7
NB2 NORSAR Subarra 66.94 342 P P 18 49 37.2 -0.3
comp=Z,32nm,0.7s,baz=25,slow=6.5
NB2 NORSAR Subarra 66.94 342 P P 18 49 37.2 -0.3
baz=25,slow=6.5
NOA NORSAR Array B 66.94 342 P P 18 49 36.5 -1.0
NOA NORSAR Array B 66.94 342 P P 18 49 36.5 -1.0
comp=Z,27nm,0.7s,baz=25,slow=6.5,SNR=103
NOA LR LR 19 23 24.8
comp=Z,5µm,19.0s,baz=30,slow=40
O26A Horse Wrangler 66.95 55 ⇑P P 18 49 37.6 -0.3
baz=67
VORD Divnogorie 66.96 322 *eP* P 18 49 35.5 -2.1
VORD pmax pmax
comp=Z,30nm,0.7s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD MLR MLR
comp=N,4µm,16.0s
VORD MLR MLR
comp=Z,5µm,16.0s
VORD MLR MLR
comp=E,4µm,17.0s
N27A Anderson Farm, 66.96 54 ⇑P P 18 49 38.1 +0.1
baz=67,SNR=6.5
P25A Willow Gulch B 67.00 56 ⇑P P 18 49 38.6 +0.3
baz=67
R23A Moffat 67.01 58 ⇑P P 18 49 38.7 +0.2
baz=67
OGNE Ogallala 67.13 54 *eP* P 18 49 39.8 +0.8
comp=E,44nm,0.8s
OGNE Ogallala 67.13 54 ⇓P P 18 49 39.7 +0.6
baz=67
L29A Maesberg Ranch 67.16 52 ⇑P P 18 49 40.5 +1.3
baz=67
K30A Basset 67.16 51 ⇑P P 18 49 40.4 +1.2
baz=67
M28A Bar X Bar Ranc 67.16 53 ⇑P P 18 49 40.0 +0.8
baz=67
NAO01 NORSAR Array S 67.19 342 *eP* P 18 49 39.2 +0.2
comp=E,17nm,0.7s
X18A Snowflake 67.19 63 ⇓P P 18 49 40.1 +0.5
baz=67
EYMN Ely 67.20 42 *eP* P 18 49 38.7 -0.5
comp=E,33nm,1.0s
EYMN LR LR
comp=Z,2µm,19.8s
S23A Nye Farm, Mont 67.25 58 ⇑P P 18 49 40.3 +0.3
baz=67
HFS Hagfors 67.25 341 *eP* P 18 49 38.6 -0.7
HFS Hagfors 67.25 341 P P 18 49 38.6 -0.7
HFS Hagfors 67.25 341 P P 18 49 38.6 -0.7
comp=Z,25nm,0.7s,baz=36,slow=2.8,SNR=55
214A Organ Pipe Nat 67.26 67 ⇑P P 18 49 40.9 +1.0
baz=67
IMYA Miami 67.35 300 *eP* P 18 49 41.9 +1.3
ABKT Ailbek 67.36 302 P P 18 49 41.0 +0.5
comp=Z,434nm,0.6s,SNR=19
Q25A Bedland, Calha 67.37 56 ⇓P P 18 49 40.9 +0.1
baz=67
R24A Sanders Place, 67.38 58 ⇑P P 18 49 41.3 +0.5
baz=67
P26A Davis Ranch, A 67.41 55 ⇑P P 18 49 42.4 +1.5
baz=67
IEMG Emamgholi 67.42 301 *eP* P 18 49 41.8 +0.6
O27A Beecher Island 67.43 54 ⇓P P 18 49 42.0 +1.0
baz=67
M29A Burnside Ranch 67.49 52 ⇑P P 18 49 42.6 +1.4
baz=67
SDCO Great Sand Dun 67.50 58 *eP* P 18 49 43.3 +1.6
comp=Z,17nm,1.4s
SDCO LR LR
comp=Z,2µm,19.1s
N28A Pribbeno Ranch 67.58 54 ⇓P P 18 49 43.3 +1.4
baz=67
L30A Spencer Herefo 67.63 52 ⇓P P 18 49 41.6 -0.5
baz=67
U22A Llaves 67.70 60 ⇓P P 18 49 42.5 -0.4
baz=68
T23A Casias Ranch, 67.70 59 ⇑P P 18 49 42.5 -0.4
baz=68
S24A Houchin Ranch, 67.74 58 ⇓P P 18 49 42.5 -0.7
baz=68
ISRO Mashad 67.74 300 *eP* P 18 49 43.8 +0.8
Q26A Hugo 67.77 56 ⇓P P 18 49 42.7 -0.5
baz=68
P27A Ficken Ranch, 67.83 55 ⇓P P 18 49 43.5 -0.1
baz=68
M30A Dale-Ortello V 67.85 52 ⇓P P 18 49 43.6 0.0
baz=68
O28A Krutsinger Ran 67.86 54 ⇑P P 18 49 43.2 -0.5
baz=68
R25A Fountain Ranch 67.90 57 ⇓P P 18 49 43.3 -0.7
baz=68
ECSD EROS Data Cent 67.91 48 *eP* P 18 49 43.2 -0.6
comp=Z,20nm,0.8s
ECSD LR LR
comp=Z,3µm,19.9s
IPAY Payeh 67.91 300 *eP* P 18 49 45.2 +1.0
L31A Butterfield Fa 67.92 51 ⇓P P 18 49 44.4 +0.5
baz=68
IKRD Kardeh 67.95 301 *eP* P 18 49 42.6 -1.9
ISAL Salakas 67.96 332 *eP* P 18 49 43.1 -0.8
ISAL AMB AMB 18 49 46.9
comp=Z,23nm,1.2s
IDID Didziasalis 67.98 332 *eP* P 18 49 43.1 -0.9
IDID AMB AMB 18 49 47.0
comp=Z,19nm,1.1s
V22A San Miguel Ran 67.99 60 ⇑P P 18 49 44.8 0.0
baz=68
T24B San Luis 68.05 59 ⇓P P 18 49 44.8 -0.4
baz=68
U23A El Rito 68.11 60 ⇑P P 18 49 45.1 -0.4
baz=68
IIGN Ignalina 68.11 332 *eP* P 18 49 44.0 -0.8
IIGN AMB AMB 18 49 47.3
comp=Z,32nm,1.3s
PMBI Palembang 68.12 237 PFAKE 18 50 00.0 +15
PMBI LR LR
comp=Z,1µm,18.0s
S25A Robets Cordova 68.16 58 ⇑P P 18 49 45.2 -0.5
baz=68
KSCO Kaye Shedlock' 68.19 55 ⇓P P 18 49 45.4 -0.4
baz=68
TUC Tucson 68.24 66 *eP* P 18 49 46.4 +0.2
TUC pmax pmax
comp=Z,5.0nm,0.8s
TUC MLR MLR
comp=Z,800nm,18.8s
TUC Tucson 68.24 66 *eP* P 18 49 46.4 +0.2
comp=Z,4.8nm,0.8s
TUC LR LR
comp=Z,800nm,18.8s
R26A Arlington 68.25 56 ⇑P P 18 49 47.3 +1.1
baz=68,SNR=6.3
P28A Saint Francis 68.26 54 ⇓P P 18 49 46.6 +0.4
baz=68
MICGM Minsk 68.30 331 *eP* P 18 49 44.0 -2.0
MNK Minsk 68.31 331 *eP* P 18 49 44.0 -2.1
NACGM Naroch 68.31 331 *eP* P 18 49 42.0 -4.1
M31A Lambtecht Ranc 68.45 52 ⇓P P 18 49 46.8 -0.6
baz=68
V23A Ortiz Mt. (NFS 68.53 60 ⇑P P 18 49 48.3 +0.2
baz=68
T25A Trinidad 68.54 58 ⇓P P 18 49 49.2 +1.0
baz=68
KONO Kongsberg 68.55 343 *eP* P 18 49 47.4 -0.1
KONO pmax pmax
comp=Z,47nm,1.0s
KONO MLR MLR
comp=Z,5µm,19.4s
KONO Kongsberg 68.55 343 *eP* P 18 49 47.4 -0.1
comp=Z,47nm,1.0s
KONO LR LR
comp=Z,5µm,19.4s
AFI Afiamalu 68.55 147 PFAKE 18 50 00.0 +12
AFI LR LR
comp=Z,2µm,21.0s
SMRI Semarang 68.56 230 PFAKE 18 50 00.0 +12
SMRI LR LR
comp=Z,900nm,19.1s
R27A Eads 68.62 56 ⇓P P 18 49 48.9 +0.4
baz=68
SPMN St. Paul 68.64 45 ⇓P P 18 49 48.6 +0.2
baz=68
P29A Atwood 68.68 54 ⇑P P 18 49 49.5 +0.7
baz=68
S26A Kim 68.72 57 ⇓P P 18 49 49.6 +0.5
baz=68
O30A MW Ranch, Wils 68.73 53 ⇑P P 18 49 49.7 +0.6
baz=68
BGNE Belgrade 68.83 51 ⇑P P 18 49 49.7 +0.1
baz=69
N31A Bailey Ranch, 68.84 52 ⇓P P 18 49 49.6 -0.1
baz=69
GSI Gunungsitoli 68.90 246 PFAKE 18 50 00.0 +10
GSI LR LR
comp=Z,1µm,20.4s
LAZ Ladron 68.93 62 *eP* P 18 49 51.4 +0.9
comp=Z,1.4nm,0.7s
ANMO Albuquerque 68.94 61 *eP* P 18 49 48.5 -2.1
comp=Z,6.4nm,0.8s
ANMO LR LR
comp=Z,900nm,19.1s
W23A Werner Place, 68.96 60 ⇑P P 18 49 51.0 +0.2
baz=69
T26A Comanche Natio 68.97 57 ⇓P P 18 49 50.7 -0.1
baz=69
S27A Las Animas 68.99 57 ⇑P P 18 49 50.4 -0.5
baz=69
NRS Narsarsuaq 69.00 11 *eP* P 18 49 51.6 +1.4
NRS pmax pmax
comp=Z,30nm,1.0s
MSVF Nonsavu 69.02 158 PFAKE 18 50 00.0 +9.0
MSVF LR LR
comp=Z,1µm,18.0s
V24A Rampart Ranch, 69.06 60 ⇑P P 18 49 51.6 +0.2
baz=69
U25A Circle Dot Ran 69.07 58 ⇑P P 18 49 51.9 +0.4
baz=69,SNR=7.2
HYB Hyderabad 69.08 273 *i* P P 18 49 52.0 +0.5
HYB *es*P sP 18 49 56.0 -4.3
HYB *e*S S 18 59 02.0 +6.2
P30A Selden 69.09 54 ⇓P P 18 49 51.1 -0.2
baz=69
R28A Tribune 69.12 55 ⇓P P 18 49 51.5 0.0
baz=69
O31A Woolen Ranch, 69.14 53 ⇓P P 18 49 51.9 +0.3
baz=69
CTA Charters Tower 69.17 190 P P 18 49 51.4 -0.4
CTA Charters Tower 69.17 190 P P 18 49 51.4 -0.4
comp=Z,2.8nm,0.6s,baz=53,slow=4.4,SNR=3.8
CTAO Charters Tower 69.17 190 P P 18 49 51.3 -0.4
CTAO MLR MLR
comp=Z,1µm,19.0s
CTAO Charters Tower 69.17 190 P P 18 49 51.3 -0.4
CTAO LR LR
comp=Z,1µm,19.0s
Q29A Oakley 69.17 55 ⇓P P 18 49 51.6 -0.2
baz=69
LENM Lemitar 69.19 62 *eP* P 18 49 51.8 -0.4
comp=Z,7.3nm,0.9s
N32A Stulken Farm, 69.23 52 ⇓P P 18 49 51.7 -0.4
baz=69
UGM Wanagama 69.26 229 PFAKE 18 50 00.0 +7.5
UGM LR LR
comp=Z,1µm,20.0s
Y22D IRIS PASSCAL I 69.29 62 ⇑P P 18 49 52.2 -0.6
baz=69
MAK Makhachkala 69.32 312 P P 18 49 46.7 -5.9
MAK *e* 18 50 12.0
MAK *e*PPP PPP 18 54 05.3
MAK *e*S S 18 58 51.6 -6.3
MAK *e*SS **SS 19 03 20.0 -3.9**
MAK pmax pmax
comp=Z,246nm,1.2s
W24A Lazy 6 Ranch, 69.35 60 ⇓P P 18 49 53.4 +0.1
baz=69
X23A Hourglass Bar 69.35 61 ⇑P P 18 49 52.7 -0.6
baz=69
V25A Rancho No Teng 69.35 59 ⇑P P 18 49 53.7 +0.4
baz=69
Y22A Socorro 69.36 62 ⇓P P 18 49 54.0 +0.7
baz=69
BNM Barren Site 69.40 62 P P 18 49 52.3 -1.3
comp=Z,8.0nm,1.2s
R29A Marienthal 69.42 55 ⇓P P 18 49 53.9 +0.5
baz=69
U26A Atchley Ranch, 69.45 58 ⇑P P 18 49 54.7 +0.9
baz=69
Q30A Quinter 69.52 54 ⇓P P 18 49 54.7 +0.7
baz=69
T27A Campo 69.54 57 ⇑P P 18 49 55.3 +1.0
baz=69
P31A Stockton 69.57 53 ⇑P P 18 49 54.3 0.0
baz=69
O32A Brockman Farm, 69.61 52 ⇑P P 18 49 54.4 -0.1
baz=69
S28A Manter 69.61 56 ⇑P P 18 49 54.6 0.0
baz=69
COWI Conover 69.65 42 PFAKE 18 50 10.0 +15
COWI LR LR
comp=Z,2µm,20.1s
319A Douglas 69.81 65 ⇑P P 18 49 55.6 -0.3
baz=70,SNR=8.1
T28A Walsh 69.83 57 ⇓P P 18 49 56.0 0.0
baz=70
Z22A Elephant Butte 69.84 62 ⇓P P 18 49 56.7 +0.5
baz=70
V26A Tequesquite Ra 69.85 59 ⇑P P 18 49 55.9 -0.3
baz=70
GOF Gofitskoye 69.86 316 *eP* P 18 49 55.9 0.0
GOF pmax pmax
comp=Z,230nm,1.2s
121A Cookes Peak, D 69.88 63 ⇓P P 18 49 56.3 -0.1
baz=70
LRW Lerwick 69.88 348 *eP* P 18 49 56.7 +1.0
LRW AMB AMB 18 49 58.0
comp=Z,92nm,2.6s
W25A X Bar L Ranch, 69.89 59 ⇑P P 18 49 56.1 -0.3
baz=70
Y23A Lovelace Mesa, 69.89 61 ⇑P P 18 49 56.5 0.0
baz=70,SNR=5.5
P32A Huiting Farm, 69.90 53 ⇑P P 18 49 56.2 -0.1
baz=70
Q31A Ellis 69.94 53 ⇑P P 18 49 56.2 -0.3
baz=70
U27A Thompson Grove 69.94 57 ⇓P P 18 49 56.3 -0.4
baz=70
R30A Dighton 69.99 55 ⇑P P 18 49 56.2 -0.7
baz=70
S29A Ulysses 70.02 56 ⇓P P 18 49 56.6 -0.5
baz=70
IDAH Dahanechah 70.04 297 *eP* P 18 49 57.7 +0.2
SUW Suwalki 70.18 333 *eP* P 18 49 56.4 -1.3
SUW pmax pmax
comp=Z,125nm,1.3s
SUW MLR MLR
comp=Z,8µm,18.7s
SUW Suwalki 70.18 333 *eP* P 18 49 56.9 -0.8
SUW LMZ LR 19 23 13.0
SUW Suwalki 70.18 333 *eP* P 18 49 56.4 -1.3
comp=Z,125nm,1.3s
SUW LR LR
comp=Z,8µm,18.7s
221A Mesquite Ranch 70.25 64 ⇑P P 18 49 58.6 -0.1
baz=70
Y24A Capitan 70.25 61 ⇑P P 18 49 58.8 0.0
baz=70
T29A Hugoton 70.26 56 ⇓P P 18 49 58.4 -0.2
baz=70
X25A Clemmons Ranch 70.27 60 ⇓P P 18 49 58.6 -0.2
baz=70
Z23A Rita Site, Whi 70.27 62 ⇑P P 18 49 58.2 -0.5
baz=70
320A Kipp Ranch, An 70.28 65 ⇑P P 18 49 59.0 0.0
baz=70
U28A Mallet 70.31 57 ⇑P P 18 49 59.2 +0.2
baz=70
CISI Cisompet, Garu 70.34 232 PFAKE 18 50 10.0 +11
CISI LR LR
comp=Z,700nm,21.3s
S30A Montezuma 70.36 55 ⇓P P 18 49 59.2 0.0
baz=70
W26A Owens Ranch, T 70.38 59 ⇓P P 18 49 59.7 +0.3
baz=70
Q32A Meitler Ranch, 70.39 53 ⇑P P 18 49 59.6 +0.3
baz=70
R31A Burdett 70.39 54 ⇓P P 18 49 59.1 -0.2
baz=70
V27A Dan Oppiter Fa 70.42 58 ⇑P P 18 49 59.4 -0.2
baz=70
P33A Williams Farm, 70.52 52 ⇑P P 18 49 60.0 -0.1
baz=70
SCHQ Schefferville 70.56 25 P P 18 49 59.9 -0.2
SCHQ LR LR
comp=Z,4µm,20.9s
SCHQ Schefferville 70.56 25 P P 18 49 59.9 -0.2
comp=Z,30nm,0.8s,baz=356,slow=6.5,SNR=17
ITEG Tejag 70.58 298 *eP* P 18 50 01.5 +0.7
222A Williams Famil 70.59 63 ⇓P P 18 50 01.4 +0.6
baz=70
Y25A Mesa, Roswell 70.69 60 ⇓P P 18 50 02.1 +0.8
baz=70
123A Bell Site, Whi 70.70 62 ⇓P P 18 50 01.3 -0.1
baz=70
Z24A Sheeppen Canyo 70.72 61 ⇑P P 18 50 02.3 +0.6
baz=71
R32A Long Quarter, 70.73 53 ⇑P P 18 50 01.8 +0.4
baz=70
X26A CR and CF Fran 70.74 59 ⇓P P 18 50 01.6 -0.1
baz=71
T30A Plains 70.75 56 ⇓P P 18 50 01.3 -0.3
baz=71
V28A Channing 70.76 58 ⇑P P 18 50 01.9 +0.1
baz=71
Q33A Connelly Farm, 70.77 53 ⇓P P 18 50 01.4 -0.2
baz=71
IGLO Ghaloghah 70.77 304 *eP* P 18 50 02.6 +0.7
IKOO Kooshah 70.77 297 *eP* P 18 50 02.4 +0.4
U29A Oasis Ranch, S 70.78 56 ⇓P P 18 50 01.7 -0.1
baz=71
W27A Bowe Ranch, En 70.79 59 ⇑P P 18 50 02.0 0.0
baz=71
KIV Kislovodsk 70.87 316 P P 18 50 03.8 +1.6
comp=Z,588nm,0.8s,SNR=13
KIV Kislovodsk 70.87 316 *c i*P P 18 50 02.6 +0.4
KIV *e* 18 50 18.3
KIV *e* 18 52 35.9
KIV pmax pmax
comp=Z,100nm,1.0s
KIV MLR MLR
comp=Z,2µm,16.0s
KIV Kislovodsk 70.87 316 P P 18 50 03.8 +1.6
SNR=13
KIV Kislovodsk 70.87 316 ⇑*i*P P 18 50 02.6 +0.4
KIV Kislovodsk 70.87 316 *eP* P 18 50 02.8 +0.6
comp=Z,83nm,0.8s
KIV LR LR
comp=Z,2µm,18.6s
S31A Mullinville 70.90 55 ⇑P P 18 50 02.6 +0.1
baz=71
SCIA State Center 70.94 48 *eP* P 18 50 02.7 +0.1
comp=Z,64nm,0.8s
SCIA LR LR
comp=Z,3µm,18.9s
KBZ Khabaz 70.94 315 P P 18 50 03.2 +0.6
KBZ Khabaz 70.94 315 P P 18 50 03.1 +0.6
KBZ Khabaz 70.94 315 P P 18 50 03.1 +0.6
comp=Z,84nm,0.8s,baz=89,slow=3.5,SNR=87
KBZ LR LR 19 25 42.0
comp=Z,5µm,19.4s,baz=21,slow=40
AKASG Malin Array Be 71.00 328 *i* P P 18 50 01.7 -1.0
AKASG pmax pmax
comp=Z,30nm,0.6s
AKASG Malin Array Be 71.00 328 P P 18 50 01.8 -1.0
AKASG Malin Array Be 71.00 328 P P 18 50 01.8 -1.0
comp=Z,30nm,0.6s,baz=32,slow=6.1,SNR=113
AKASG LR LR 19 24 30.3
comp=Z,5µm,18.8s,baz=25,slow=39
AKBB Malin Array Si 71.00 328 *eP* P 18 50 01.6 -1.1
AKBB Malin Array Si 71.00 328 *eP* P 18 50 01.6 -1.1
KIEV Kiev 71.01 328 *c i*P P 18 50 01.7 -1.1
KIEV Kiev 71.01 328 *eP* P 18 50 01.6 -1.2
comp=Z,59nm,0.9s
KIEV LR LR
comp=Z,4µm,18.4s
AK01 Malin Array Si 71.01 328 *eP* P 18 50 01.8 -1.0
AK02 Malin Array Si 71.04 328 *eP* P 18 50 01.9 -1.1
223A Chaparral, Ant 71.05 63 ⇑P P 18 50 04.0 +0.4
baz=71
V29A Stinnett 71.06 57 ⇑P P 18 50 04.2 +0.7
baz=71
IKIA Kiasar 71.07 303 *eP* P 18 50 05.4 +1.7
U30A WK&E Inc. Balk 71.07 56 ⇓P P 18 50 03.3 -0.2
baz=71
X27A F and S Farms, 71.07 59 ⇓P P 18 50 03.9 +0.2
baz=71
124A Stringfield Ra 71.12 62 ⇓P P 18 50 04.3 +0.2
baz=71
W28A Vega 71.13 58 ⇑P P 18 50 04.0 0.0
baz=71
Z25A Roswell 71.14 61 ⇑P P 18 50 05.0 +0.9
baz=71
DZM Mont Dzumac 71.14 170 *e*S S 18 59 17.6 -1.9
comp=Z,1µm,26.6s
DZM Mont Dzumac 71.14 170 *e*LR LR 19 11 44.9
comp=Z,1µm,20.7s
S32A Newby Ranch, P 71.14 54 ⇑P P 18 50 03.6 -0.3
baz=71
T31A Randall Ranch, 71.18 55 ⇑P P 18 50 04.7 +0.6
baz=71
WRAB Tennant Creek 71.18 202 *c i*P P 18 50 04.2 +0.1
WRAB pmax pmax
comp=Z,74nm,0.9s
WRAB MLR MLR
comp=Z,2µm,19.0s
WRAB Tennant Creek 71.18 202 *eP* P 18 50 03.6 -0.5
comp=Z,31nm,0.9s
WRAB LR LR
comp=Z,900nm,18.0s
WRAB Tennant Creek 71.18 202 P P 18 50 04.2 +0.1
comp=Z,202nm,1.0s,SNR=7.8
Y26A Elida 71.18 60 ⇑P P 18 50 04.1 -0.3
baz=71
WRA Warramunga Arr 71.19 202 *i* P P 18 50 04.1 -0.1
WRA Warramunga Arr 71.19 202 P P 18 50 04.2 -0.1
WRA Warramunga Arr 71.19 202 P P 18 50 04.2 -0.1
comp=Z,24nm,0.9s,baz=19,slow=6.6,SNR=44
WRA LR LR 19 24 55.6
comp=Z,709nm,18.1s,baz=20,slow=39
ZEI Tsey 71.19 314 *eP* P 18 50 04.3 -0.1
ZEI pmax pmax
comp=Z,45nm,0.9s
R33A Olander Ranch, 71.20 53 ⇓P P 18 50 04.5 +0.2
baz=71
KSU1 Kansas State U 71.33 52 *eP* P 18 50 02.7 -2.2
comp=Z,14nm,0.8s
KSU1 LR LR
comp=Z,3µm,20.0s
POO Poona 71.37 277 ⇑*i*P P 18 50 07.0 +1.4

comp=Z,30nm,1.0s
IANJ Anjilo 71.48 303 *e*P P 18 50 07.6 +1.4
BSD Bornholm Skovb 71.50 338⇑*i*P P 18 50 05.4 -0.3
BSD pmax pmax
comp=Z,98nm,0.9s
BSD MLR MLR
comp=Z,6µm,18.0s
BSD Bornholm Skovb 71.50 338⇑*i*P P 18 50 05.4 -0.3
BSD
comp=Z,98nm,0.8s
comp=Z,6µm,17.0s
T32A Huddler Ranch, 71.53 55⇑P P 18 50 06.4 +0.2
baz=71
224A Cornudas Mount 71.53 62⇑P P 18 50 06.5 0.0
baz=71
W29A Amraillo 71.54 58⇑P P 18 50 06.8 +0.4
baz=71
ONI Oni 71.56 314 P P 18 50 07.2 +0.8
Z26A Caprock 71.57 61⇓P P 18 50 06.6 0.0
baz=71,SNR=10
ISHM Shahmirzad 71.58 303 *e*P P 18 50 08.5 +1.6
COP Copenhagen 71.58 339⇑*i*P P 18 50 06.5 +0.4
COP pmax pmax
comp=Z,59nm,0.9s
COP MLR MLR
comp=Z,2µm,17.0s
COP Copenhagen 71.58 339⇑*i*P P 18 50 06.5 +0.4
comp=Z,59nm,0.8s
COP *e*S SKiKP 18 59 39.1 -4.5
COP
comp=Z,2µm,16.0s
Y27A Causey 71.59 60⇑P P 18 50 07.5 +0.7
baz=71,SNR=6.3
MUD Monsted U'grnd 71.59 341⇑*i*P P 18 50 06.8 +0.6
MUD pmax pmax
comp=Z,50nm,0.8s
MUD MLR MLR
comp=Z,4µm,17.0s
MUD Monsted U'grnd 71.59 341⇑*i*P P 18 50 06.8 +0.6
comp=Z,50nm,0.8s
MUD *e*S SKiKP 18 59 34.2 -9.4
MUD
comp=Z,4µm,17.0s
JFWS Jewell Farm 71.59 45 PFAKE 18 50 20.0 +13
JFWS LR LR
comp=Z,3µm,18.0s
TBLG Delisi 71.60 313 P P 18 50 07.5 +0.9
V30A Spur Ranch, Mi 71.61 57⇑P P 18 50 06.5 -0.3
baz=71
125A Gardner Draw, 71.62 61⇑P P 18 50 07.0 0.0
baz=72
U31A Nine Bar Ranch 71.62 56⇑P P 18 50 06.7 -0.2
baz=71
IALA Alasht 71.64 304 *e*P P 18 50 08.2 +0.9
AMTX Amarillo 71.70 58 PFAKE 18 50 20.0 +13
AMTX LR LR
comp=Z,2µm,20.0s
AMTX Amarillo 71.70 58⇓P P 18 50 07.4 +0.1
baz=72
S33A Kaszmaul Farm, 71.72 54⇓P P 18 50 07.1 -0.3
baz=72
MSTX Muleshoe 71.75 59⇑P P 18 50 07.9 +0.2
baz=72
MNTX Cornudas Mount 71.89 63 PFAKE 18 50 20.0 +12
MNTX LR LR
comp=Z,900nm,19.9s
225A Deer Hill, Car 71.92 62⇑P P 18 50 09.2 +0.3
baz=72
LLD Lille Linde 71.95 339 *i*P P 18 50 08.3 -0.1
LLD pmax pmax
comp=Z,38nm,0.8s
LLD Lille Linde 71.95 339 *i*P P 18 50 08.3 -0.1
comp=Z,38nm,0.7s
T33A Patterson Ranc 71.96 54⇑P P 18 50 08.7 -0.1
baz=72
Z27A Tatum 71.97 60⇓P P 18 50 09.6 +0.5
baz=72,SNR=9.5
FITZ Fitzroy Crossi 71.99 211 *e*P P 18 50 09.3 +0.3
comp=Z,15nm,0.8s
FITZ LR LR
comp=Z,300nm,18.4s
FITZ Fitzroy Crossi 71.99 211 P P 18 50 10.4 +1.4
comp=Z,13nm,0.9s,baz=26,slow=6.3,SNR=7.8
IFIR Firoozkooh 71.99 304 *e*P P 18 50 10.8 +1.4
X29A Tulia 72.01 58⇑P P 18 50 09.5 +0.3
baz=72
KAD Karad 72.03 276 *i*P P 18 50 10.4 +0.9
V31A Spring Creek L 72.06 56⇓P P 18 50 10.2 +0.7
baz=72
ILAS Lasjerd 72.07 303 *e*P P 18 50 11.2 +1.4
U32A Winter Ranch, 72.08 55⇓P P 18 50 10.3 +0.7
baz=72
Y28A McKinney Farm, 72.09 59⇓P P 18 50 09.9 +0.2
baz=72
GDL2 Guadalupe Moun 72.12 62 *e*P P 18 50 07.8 -2.2
226B Tecolote Peak, 72.33 61⇓P P 18 50 11.0 -0.2
baz=72
127A Arkansas Junct 72.36 61⇓P P 18 50 11.3 -0.1
baz=72
325A Bean Ranch, Si 72.37 63⇑P P 18 50 11.5 0.0
baz=72
RGN Rugen 72.40 338 *e*P P 18 50 12.2 +1.1
comp=Z,355nm,1.0s
RGN Rugen 72.40 338 *e*P P 18 50 11.7 +0.6
comp=Z,259nm,0.6s
RGN LR LR
comp=Z,4µm,19.0s
MVH1 Achvaich 72.42 349⇑*e*P P 18 50 11.0 -0.1
IDMV Damavand 72.44 304 *e*P P 18 50 13.4 +1.3
W31A Holland Ranch, 72.44 57⇑P P 18 50 11.5 -0.3
baz=72
AKH Akhalkalaki 72.44 313 P P 18 50 13.2 +1.4
Y29A Porterfield Fa 72.45 59⇓P P 18 50 12.4 +0.5
baz=72
SOC Sochi 72.52 317*d i*P P 18 50 10.1 -1.9
SOC *e**SS 18 50 21.8
SOC *e* 18 52 46.9
SOC *e*S **S** 18 59 34.1 -0.9
SOC *e*SS **SS** 19 04 15.6 +2.7
SOC pmax pmax
comp=Z,90nm,0.9s
SOC Sochi 72.52 317⇓*i*P P 18 50 10.1 -1.9
SOC *er*x rx 18 50 21.8
U33A Lingo Farm, Me 72.52 55⇓P P 18 50 12.2 0.0
baz=72
V32A Arapaho 72.54 56⇓P P 18 50 13.0 +0.6
baz=72
GKP Gorka Klasztor 72.55 336 *e*P P 18 50 12.2 +0.2
GKP pmax pmax
comp=Z,200nm,0.7s
GKP MLR MLR
comp=Z,9µm,19.0s
GKP Gorka Klasztor 72.55 336 *e*P P 18 50 12.1 +0.1
GKP LMZ LR 19 25 30.7
ANN Anapa 72.56 319 *e*P P 18 50 07.9 -4.3
ANN *e**PP pP 18 50 16.1 -2.6
ANN *e* 18 50 22.9
ANN *e*S S 18 59 29.2 -6.3
ANN pmax pmax
comp=Z,196nm,1.9s
MCD Coleburn Disti 72.63 349⇑*e*P P 18 50 12.4 0.0
425A Indio Mountain 72.78 63⇓P P 18 50 14.6 +0.6
baz=73
BEL Belsk 72.79 333⇑*e*P P 18 50 13.9 +0.4
BEL pmax pmax
comp=Z,400nm,1.0s
BEL MLR MLR
comp=Z,8µm,19.5s
BEL Belsk 72.79 333 *e*P P 18 50 13.9 +0.4
BEL LMZ LR 19 25 06.9
GNI Garni 72.80 312 P P 18 50 16.2 +2.2
SNR=6.6
GNI Garni 72.80 312 P P 18 50 13.5 -0.5
GNI LR LR
comp=Z,4µm,18.1s
GNI Garni 72.80 312 P P 18 50 13.5 -0.5
comp=Z,80nm,0.8s,baz=348,slow=4.6,SNR=40
U34A Anderson Ranch 72.82 54⇑P P 18 50 15.3 +1.3
baz=73
X31A McDonald Ranch 72.83 57⇑P P 18 50 14.0 -0.1
baz=73
MME1 Meikle Cairn 72.85 348 *e*P P 18 50 13.1 -0.7
W32A Sentinel 72.87 56⇑P P 18 50 14.7 +0.4
baz=73
Z29A Hungry Hill Ra 72.87 59⇓P P 18 50 15.9 +1.5
baz=73

Y30A Stafford Cattl 72.88 58⇑P P 18 50 15.3 +0.9
baz=73
V33A Lossen Ranch, 72.88 55⇓P P 18 50 14.7 +0.4
baz=73
227A Bennet, Jal 72.88 61⇓P P 18 50 15.7 +1.2
baz=73
128A Castleberry Fa 72.90 60⇓P P 18 50 16.0 +1.4
baz=73
MDO Dochfour 72.91 349⇑*e*P P 18 50 14.2 +0.1
KAC Achnashellach 72.97 350⇑*e*P P 18 50 14.6 +0.2
326A Caldwell Ranch 72.99 62⇓P P 18 50 16.1 +1.0
baz=73
IVRN Varamin 73.03 304 *e*P P 18 50 16.6 +1.3
IHRS Heris 73.04 309 *e*P P 18 50 16.4 +0.9
IR3 Iran Long-Peri 73.06 305 *e*P P 18 50 16.9 +1.4
IMHD Mahdasht 73.10 305 *e*P P 18 50 17.1 +1.3
KPL Plockton 73.17 350 *e*P P 18 50 15.7 +0.1
KPL AMB AMB 18 50 19.8
comp=Z,82nm,2.5s
Y31A Rekieta Farm, 73.17 58⇑P P 18 50 17.4 +1.3
baz=73
DRUM Mains of Drumt 73.18 348 *e*P P 18 50 15.3 -0.4
DRUM AMB AMB 18 50 17.9
comp=Z,80nm,1.3s
Z30A Sanderson Ranc 73.18 59⇑P P 18 50 16.4 +0.2
baz=73,SNR=7.1
228A UT Block 9, Go 73.21 60⇑P P 18 50 16.5 +0.1
baz=73
327A Balmorhea Ranc 73.23 62⇑P P 18 50 16.9 +0.3
baz=73
129A Stewart Farms, 73.24 60⇑P P 18 50 16.9 +0.2
baz=73
W33A Caddo, Fort Co 73.28 56⇑P P 18 50 16.9 +0.2
baz=73
V34A Guthrie 73.28 55⇑P P 18 50 16.5 -0.2
baz=73
X32A Elmer 73.37 57⇑P P 18 50 17.5 +0.2
baz=73
IBAF Bafgh 73.38 299 *e*P P 18 50 17.9 +0.4
WMOK Wichita Mounta 73.41 56 *e*P P 18 50 17.0 -0.5
WMOK pmax pmax
comp=Z,28nm,1.0s
WMOK MLR MLR
comp=Z,1µm,20.4s
WMOK Wichita Mounta 73.41 56 *e*P P 18 50 16.9 -0.5
comp=Z,28nm,1.0s
WMOK LR LR
comp=Z,1µm,20.4s
IMRD Marand 73.42 310 *e*P P 18 50 18.0 +0.3
426A McDonald Obser 73.43 62⇑P P 18 50 17.2 -0.7
baz=73
SORM Soroca 73.45 327⇑*i*P P 18 50 17.2 -0.3
LVV L'vov 73.52 330 *i*P P 18 50 17.4 -0.5
LVV *e*S S 18 59 40.0 -6.3
LVV *e* 19 00 32.2
ITBZ Tabriz 73.56 310 *e*P P 18 50 19.4 +0.9
ICHK Chekchek 73.56 300 *e*P P 18 50 19.6 +0.9
IBST Bostanabad 73.58 309 *e*P P 18 50 18.9 +0.2
W34A Bridge Creek, 73.59 55⇑P P 18 50 18.1 -0.4
baz=73
Y32A R-V Farms, Ver 73.59 57⇓P P 18 50 18.1 -0.5
baz=73
328A Wixon Ranch, 73.62 61⇓P P 18 50 19.3 +0.5
baz=74,SNR=8.3
427A Hayter Ranch, 73.67 62⇑P P 18 50 19.7 +0.6
baz=74
BSEG Bad Segeberg 73.67 340 *e*P P 18 50 19.5 +0.9
comp=Z,95nm,0.9s
IRAZ Razeghan 73.71 305 *e*P P 18 50 20.6 +1.1
Z31A Sharp Cattle R 73.71 58⇑P P 18 50 20.3 +1.0
baz=74,SNR=7.2
X33A Lawton 73.71 56⇓P P 18 50 19.4 +0.1
baz=74
130A Snyder 73.78 59⇑P P 18 50 20.5 +0.8
baz=74
526A Mary Lane Ranc 73.84 63⇑P P 18 50 21.2 +1.0
baz=74
SIM Simferopol' 73.84 321 *e*P P 18 50 20.2 +0.4
SIM *e*S SKiKP 18 59 49.0 +1.6
SIM pmax pmax
comp=Z,91nm,0.9s
SIM MLR MLR
comp=Z,4µm,16.0s
HDIL Hopedale 73.87 46 *e*P P 18 50 19.1 -1.0
comp=Z,36nm,0.8s
HDIL LR LR
comp=Z,2µm,19.9s
EIDS Eidsvold 73.99 185 *e*P P 18 50 21.0 +0.3
comp=Z,8.4nm,0.9s
EIDS LR LR
comp=Z,700nm,18.2s
329A Wagon Wheel Ra 74.02 60⇓P P 18 50 21.7 +0.5
baz=74
X34A Smith Ranch, M 74.03 56⇓P P 18 50 21.8 +0.7
baz=74
Y33A Hilltop Ranch, 74.04 57⇓P P 18 50 21.8 +0.6
baz=74
131A Roby 74.05 59⇑P P 18 50 22.4 +1.1
baz=74
527A Woodward Ranch 74.06 62⇑P P 18 50 22.0 +0.4
baz=74
IMEH Mehriz 74.08 299 *e*P P 18 50 21.7 0.0
Z32A Haskell 74.09 58⇑P P 18 50 22.0 +0.5
baz=74
KWP Kalwaria Pacla 74.12 331⇑*e*P P 18 50 22.0 +0.6
KWP MLR MLR
comp=Z,5µm,18.0s
KWP Kalwaria Pacla 74.12 331 *e*P P 18 50 22.0 +0.6
KWP LMZ LR 19 27 16.3
KWP Kalwaria Pacla 74.12 331⇑*i*P P 18 50 22.2 +0.8
KWP Kalwaria Pacla 74.12 331 *e*P P 18 50 21.5 +0.1
comp=Z,422nm,0.9s
KWP LR LR
comp=Z,4µm,18.5s
EAB Aberfoyle 74.13 349⇑*e*P P 18 50 21.4 +0.1
TUL1 Tulsa 74.15 53⇓P P 18 50 22.2 +0.4
baz=74
ESY Stoneypath 74.16 348⇑*e*P P 18 50 21.6 0.0
RUE Ruedersdorf 74.17 337 *e*P P 18 50 22.1 +0.5
comp=Z,201nm,0.8s
RUE Ruedersdorf 74.17 337 *e*P P 18 50 21.9 +0.4
comp=Z,186nm,0.8s
428A Kincaid Ranch, 74.17 61⇓P P 18 50 22.9 +0.8
baz=74
626A Big Bend Ranch 74.19 63⇑P P 18 50 22.6 +0.4
baz=74
ISAD Sadrabad 74.22 300 *e*P P 18 50 23.3 +0.7
230A Sterling City 74.22 60⇓P P 18 50 23.4 +1.1
baz=74
KIS Kishinev 74.24 326⇑*i*P P 18 50 21.0 -1.1
comp=Z,300nm,1.0s
KIS *e*S SKiKP 18 59 42.0 -5.9
KIS LRM MLR 19 26 52.0
comp=Z,4µm,16.0s
KIS Kishinev 74.24 326⇑*i*P P 18 50 21.0 -1.1
KIS *e*S SKiKP 18 59 42.0 -5.9
KIS pmax pmax
comp=Z,300nm,1.0s
KIS MLR MLR
comp=N,2µm,16.0s
KIS MLR MLR
comp=Z,4µm,16.0s
KIS MLR MLR
comp=Z,4µm,16.0s
KIS Kishinev 74.24 326⇑*i*P P 18 50 22.0 -0.1
IZEF Zefreh 74.26 302 *e*P P 18 50 23.9 +1.1
IKLH Kolahrood 74.36 303 *e*P P 18 50 24.6 +1.2
EBL Broad Law 74.36 348⇑*e*P P 18 50 22.8 +0.1
Z33A Whitaker Ranch 74.50 57⇑P P 18 50 24.9 +1.0
baz=74
ABTX Abilene, Hawle 74.51 58⇓P P 18 50 25.1 +1.1
baz=74
OJC Ojcow 74.52 333⇑*i*P P 18 50 23.9 +0.2
OJC *e* 18 50 38.3
OJC MLR MLR
comp=Z,7µm,19.2s
OJC Ojcow 74.52 333 *i*P P 18 50 23.9 +0.2
OJC *e*PcP **PcP** 18 50 38.3 +0.2
OJC L L 19 26 23.0
comp=Z,7µm,19.2s
OJC Ojcow 74.52 333 PFAKE 18 50 40.0 +16
OJC LR LR
comp=Z,6µm,19.4s
PGBU Glenifferbraes 74.52 349 *e*P P 18 50 23.9 +0.4
PGBU AMB AMB 18 50 24.8
comp=Z,136nm,1.2s

528A Cox Ranch, San 74.53 62⇓P P 18 50 25.4 +1.2
baz=74
330A Mertzon 74.54 60⇑P P 18 50 23.6 -0.6
baz=74
Y34A Reagan Ranch, 74.56 56⇑P P 18 50 25.4 +1.2
baz=74
TXAR Lajitas Array 74.62 63 *e*P P 18 50 25.0 +0.2
TXAR Lajitas Array 74.62 63 P P 18 50 25.0 +0.2
TXAR Lajitas Array 74.62 63 P P 18 50 25.0 +0.2
comp=Z,5.1nm,0.7s,baz=291,slow=3.2,SNR=20
231A Bronte 74.64 59⇓P P 18 50 25.2 +0.5
baz=74
627A Terlingua Ranc 74.70 63⇓P P 18 50 26.1 +0.9
baz=74
429A Davenport Ranc 74.71 61⇓P P 18 50 25.7 +0.5
baz=74
STHS Stebnicka Huta 74.77 331 *e*P P 18 50 26.2 +1.0
STHS pmax pmax
comp=Z,117nm,0.7s
STHS Stebnicka Huta 74.77 331 *e*P P 18 50 26.2 +1.0
IGAR Gharneh 74.79 302 *e*P P 18 50 26.8 +1.0
ESK Eskdalemuir 74.83 348 *e*P P 18 50 25.6 +0.3
ESK AMS AMS 19 31 27.2
comp=Z,2µm,15.8s
ESK Eskdalemuir 74.83 348 *e*P P 18 50 25.7 +0.3
ESK pmax pmax
comp=Z,32nm,0.9s
ESK MLR MLR
comp=Z,2µm,19.5s
ESK Eskdalemuir 74.83 348 *e*P P 18 50 25.6 +0.3
comp=Z,32nm,0.9s
ESK LR LR
comp=Z,2µm,19.5s
ESK Eskdalemuir 74.83 348 P P 18 50 26.7 +1.3
comp=Z,240nm,1.0s,SNR=12
KOLS Kolonicke sedl 74.87 331 *e*P P 18 50 26.0 +0.3
KOLS pmax pmax
comp=Z,88nm,0.8s
KOLS Kolonicke sedl 74.87 331 *e*P P 18 50 26.0 +0.3
AS31 Alice Springs 74.87 201 *e*P P 18 50 26.4 +0.4
PRAR RASCA 74.87 327⇑*i*P P 18 50 25.6 -0.2
ASAR Alice Springs 74.88 201 *e*P P 18 50 26.8 +0.8
ASAR Alice Springs 74.88 201 P P 18 50 26.8 +0.8
ASAR Alice Springs 74.88 201 P P 18 50 26.8 +0.8
comp=Z,12nm,0.8s,baz=8.9,slow=5.2,SNR=53
ASAR LR LR 19 23 25.4
comp=Z,735nm,19.5s,baz=12,slow=36
529A Stev Forest Ra 74.89 62⇓P P 18 50 26.5 +0.2
baz=75
LEOM Leova 74.89 326⇑*i*P P 18 50 25.9 0.0
Z34A Collier Ranch, 74.91 57⇑P P 18 50 25.9 -0.4
baz=75
133A Hamilton Ranch 74.93 58⇑P P 18 50 26.4 +0.1
baz=75
430A Baggett Ranch, 74.97 60⇑P P 18 50 27.2 +0.5
baz=75
628A Black Gap, Mar 74.97 62⇓P P 18 50 26.7 0.0
baz=75
KSP Ksiaz 74.98 335⇑*e*P P 18 50 26.6 +0.3
KSP *e* 18 50 39.3
KSP *e*S **S** 19 00 04.0 +1.4
KSP MLR MLR
comp=Z,16µm,18.8s
KSP Ksiaz 74.98 335 *e*P P 18 50 26.7 +0.4
KSP LMZ LR 19 27 06.2
BUR08 Bucovina Ar. S 75.00 328 *e*P P 18 50 26.4 -0.2
BURAR Bucovina Array 75.01 328⇑*i*P P 18 50 27.1 +0.4
331A San Angelo 75.04 60⇓P P 18 50 27.0 -0.1
baz=75
SFIN Scholer Farm 75.05 45⇑P P 18 50 26.5 -0.3
baz=75
232A Coleman 75.05 59⇓P P 18 50 27.6 +0.5
baz=75
NRDL Niedersach Rie 75.06 339 *e*P P 18 50 27.2 +0.6
comp=Z,71nm,0.9s
NIE Niedzica 75.06 332⇑*i*P P 18 50 27.7 +0.8
NIE *e* 18 50 41.6
NIE MLR MLR
comp=Z,4µm,18.5s
NIE Niedzica 75.06 332 *i*P P 18 50 27.7 +0.8
NIE *e*PcP **PcP** 18 50 41.6 +1.1
NIE L L 19 28 01.0
comp=Z,4µm,18.5s
AAM Ann Arbor 75.07 42 PFAKE 18 50 40.0 +13
AAM LR LR
comp=Z,2µm,21.0s
PALK Pallekele 75.08 264 P P 18 50 29.2 +1.7
comp=Z,403nm,0.9s,SNR=5.6
PALK Pallekele 75.08 264 *e*P P 18 50 27.7 +0.2
comp=Z,125nm,0.9s
RAC Raciborz 75.12 334 *e*P P 18 50 28.1 +1.0
RAC MLR MLR
comp=Z,10µm,19.0s
UZH Uzhgorod 75.12 330 *e*P P 18 50 27.0 -0.2
UZH *e* 18 50 36.2
UZH *e* 18 50 46.0
UZH *e*S **S** 19 00 03.6 -0.6
UZH *e*PS PnS 19 00 27.2 -13
UZH MLR MLR
comp=N,3µm,17.5s
UZH MLR MLR
comp=E,3µm,17.5s
UZH MLR MLR
comp=Z,1µm,17.5s
UZH Uzhgorod 75.12 330 *e*P P 18 50 27.0 -0.2
UZH *er*x rx 18 50 46.0
CRVS Cervenica-Dubn 75.16 331 *e*P P 18 50 27.6 +0.2
CRVS pmax pmax
comp=Z,53nm,0.8s
CRVS Cervenica-Dubn 75.16 331 *e*P P 18 50 27.6 +0.2
Z35A Perchaven, San 75.31 56⇓P P 18 50 28.2 -0.3
baz=75
OKC Ostrava-Krasne 75.35 333⇑*i*P P 18 50 29.1 +0.6
OKC *e*S **S** 19 00 06.2 -0.5
OKC MLR MLR
comp=Z,6µm,19.8s
OKC Ostrava-Krasne 75.35 333⇑*i*P P 18 50 29.1 +0.6
OKC *e*S **S** 19 00 06.2 -0.5
OKC AMS AMS 19 26 50.0
comp=Z,6µm,19.8s
UPC Upice 75.36 335⇑*i*P P 18 50 29.1 +0.6
UPC Upice 75.36 335⇑*i*P P 18 50 29.1 +0.6
332A Millersview 75.38 59⇑P P 18 50 28.6 -0.4
baz=75,SNR=6.2
530A J-C Ranch, Com 75.38 61⇑P P 18 50 29.0 0.0
baz=75
431A Sonora 75.41 60⇓P P 18 50 29.2 -0.1
baz=75
DPC Dobruska-Polom 75.42 335⇑*i*P P 18 50 29.8 +0.9
DPC *e*S **S** 19 00 05.1 -2.5
DPC MLR MLR
comp=Z,33µm,18.0s
DPC Dobruska-Polom 75.42 335⇑*i*P P 18 50 29.8 +0.9
DPC *e*S **S** 19 00 05.1 -2.5
DPC AMS AMS 19 27 30.0
comp=Z,33µm,18.0s
DPC Dobruska-Polom 75.42 335 *e*P P 18 50 29.3 +0.3
DPC LR LR
comp=Z,53µm,18.6s
134A White-Moore Ra 75.42 57⇑P P 18 50 29.8 +0.6
baz=75
CLL Collm 75.44 337⇑*i*P P 18 50 28.9 -0.1
CLL *e*S **S** 19 00 08.0 +0.3
CLL pmax pmax
comp=Z,164nm,0.8s
CLL MLR MLR
comp=Z,4µm,19.1s
CLL Collm 75.44 337 *e*P P 18 50 29.2 +0.2
comp=Z,172nm,1.0s
CLL Collm 75.44 337⇑*i*P P 18 50 28.9 -0.1
comp=Z,164nm,0.8s
CLL *e*Plp 18 50 29.0
CLL *e*S **S** 19 00 08.0 +0.3
CLL *e*SKSac **ScS** 19 00 42.0 +1.1
CLL *e*PS **PnS** 19 00 46.0 +1.9
CLL *e*SS SS 19 05 06.0 +9.1
CLL LmV 19 27 00.0
comp=Z,4µm,19.1s
CLL Collm 75.44 337⇑*i*P P 18 50 28.9 -0.1
TESR Tescani 75.45 327⇑*i*P P 18 50 29.1 0.0
GAL1 Galloway 75.47 349 *e*P P 18 50 28.6 -0.4
TRPA Tarpa 75.48 330⇑*i*P P 18 50 30.0 +0.8
TRPA Tarpa 75.48 330⇑*e*P P 18 50 30.0 +0.8
KESW Keswick, Cumbr 75.53 348 *e*P P 18 50 29.9 +0.5
KESW AMB AMB 18 50 32.2

comp=Z,124nm,1.9s
KESW AMS AMS 19 29 15.3
comp=Z,2µm,17.7s
GHRR 75.55 326⇑*i*P **P** **18 50 30.6 +0.9**
BMR Baia Mare 75.56 329⇑*i*P **P** **18 50 30.6 +0.9**
MORC Moravsky Berou 75.58 334 *e*P **P** **18 50 29.7 -0.2**
MORC pmax pmax
comp=Z,197nm,0.8s
MORC MLR MLR
comp=Z,8µm,19.0s
MORC Moravsky Berou 75.58 334⇓*i*P **P** **18 50 30.6 +0.7**
MORC Moravsky Berou 75.58 334 *e*P **P** **18 50 29.7 -0.2**
comp=Z,197nm,0.8s
MORC LR LR
comp=Z,8µm,19.0s
BRG Berggiesshubel 75.59 336 *e*P **P** **18 50 30.0 +0.2**
comp=Z,64nm,1.1s
BRG S S 19 00 03.0 -6.4
BRG SS **SS** **19 05 02.0 +2.8**
BRG *e*PKPPKP P'P'df 19 18 49.3 +52
comp=Z,2.8nm,1.4s
BRG
comp=N,6µm,18.2s
BRG
comp=E,1µm,17.0s
BRG
comp=Z,7µm,17.9s
BRG Berggiesshubel 75.59 336 *e*P **P** **18 50 30.0 +0.2**
BRG S S 19 00 03.0 -6.4
BRG SS **SS** **19 05 02.0 +2.8**
BRG pmax pmax
comp=Z,64nm,1.1s
BRG MLR MLR
comp=N,6µm,18.2s
BRG MLR MLR
comp=E,1µm,17.0s
BRG MLR MLR
comp=Z,7µm,17.9s
BRG Berggiesshubel 75.59 336 *e*P **P** **18 50 30.2 +0.4**
comp=Z,64nm,1.1s
CLZ Clausthal 75.60 339 *e*P **P** **18 50 30.8 +0.9**
comp=Z,158nm,0.9s
FBE Freiberg 75.70 337 *e*P **P** **18 50 31.1 +0.6**
comp=Z,104nm,0.9s
432A Menard 75.73 59 ⇓P **P** **18 50 30.7 -0.3**
baz=76
PVCC Panska Ves 75.74 336⇑*i*P **P** **18 50 31.3 +0.6**
PVCC MLR MLR
comp=Z,8µm,18.6s
PVCC Panska Ves 75.74 336⇑*i*P **P** **18 50 31.3 +0.6**
PVCC AMS AMS 19 27 20.0
comp=Z,8µm,18.6s
IBBN Ibbenburen 75.76 341 *e*P **P** **18 50 31.4 +0.6**
comp=Z,100nm,0.8s
TLCR 75.76 325⇑*i*P **P** **18 50 30.9 0.0**
135A Vickery Place, 75.80 57 ⇑P **P** **18 50 31.2 -0.2**
baz=76
531A Rocksprings 75.83 60 ⇓P **P** **18 50 31.4 -0.2**
baz=76
NEUB Neuenburg 75.84 338 *e*P **P** **18 50 31.7 +0.5**
comp=Z,96nm,1.0s
333A Richland Sprin 75.85 59 ⇑P **P** **18 50 31.9 +0.2**
baz=76
IBND Bandar-abas 75.85 295 *e*P **P** **18 50 32.1 +0.4**
OLIL Olney 75.87 47 *e*P **P** **18 50 32.3 +0.7**
comp=Z,21nm,0.8s
OLIL LR LR
comp=Z,2µm,19.8s
PETR Petresti 75.90 326⇑*i*P **P** **18 50 32.4 +0.7**
HPK Haverah Park 75.92 347 *e*P **P** **18 50 31.9 +0.2**
HPK AMS AMS 19 30 21.6
comp=Z,3µm,17.9s
IKOM Komasi 75.94 306 *e*P **P** **18 50 32.7 +0.4**
VRI Vrincioaia 75.97 326⇓*i*P **P** **18 50 32.5 +0.4**
PLOR Plostina 76.01 326⇑*i*P **P** **18 50 32.8 +0.4**
JCT Junction City 76.02 60 P **P** **18 50 33.0 +0.3**
JCT pmax pmax
comp=Z,21nm,1.0s
JCT MLR MLR
comp=Z,1µm,19.3s
JCT Junction City 76.02 60 P **P** **18 50 33.0 +0.3**
comp=Z,21nm,1.0s
JCT LR LR
comp=Z,1µm,19.3s
JCT Junction City 76.02 60 ⇓P **P** **18 50 32.3 -0.4**
baz=76
IVIS Veis 76.02 307 *e*P **P** **18 50 32.9 +0.2**
CFR Carcaliu 76.03 325⇑*i*P **P** **18 50 32.4 0.0**
SIUC Southern Illin 76.12 48 *e*P **P** **18 50 32.5 -0.6**
comp=Z,21nm,0.8s
SIUC LR LR
comp=Z,2µm,18.4s
IPAR Pars 76.12 299 *e*P **P** **18 50 34.9 +1.3**
IDHR Dehrash 76.13 307 *e*P **P** **18 50 33.5 0.0**
PRA Prague 76.19 336 ⇑P **P** **18 50 35.0 +1.7**
WHTX Lake Whitney 76.20 57 ⇓P **P** **18 50 33.4 -0.3**
baz=76
433A Art 76.22 59 ⇑P **P** **18 50 33.7 -0.1**
baz=76
532A Rocksprings 76.22 60 ⇓P **P** **18 50 33.4 -0.5**
baz=76
PRU Pruhonice 76.23 336⇑*i*P **P** **18 50 34.2 +0.7**
PRU *e**PP **pP** **18 50 41.1 +1.0**
PRU *e*S **S** **19 00 18.8 +2.3**
PRU MLR MLR
comp=Z,8µm,18.8s
PRU Pruhonice 76.23 336⇑*i*P **P** **18 50 34.2 +0.7**
PRU *ex* x 18 50 41.1
PRU *e*S **S** **19 00 18.8 +2.3**
PRU AMS AMS 19 27 40.0
comp=Z,8µm,18.8s
PRU Pruhonice 76.23 336⇑*i*P **P** **18 50 34.2 +0.7**
334A Lometa 76.26 58 ⇓P **P** **18 50 34.0 0.0**
baz=76
VRAC Vranov 76.28 334⇑*i*P **P** **18 50 34.9 +1.1**
VRAC Vranov 76.28 334 P **P** **18 50 34.7 +0.9**
VRAC Vranov 76.28 334 P **P** **18 50 34.7 +0.9**
comp=Z,142nm,0.8s,baz=28,slow=6.1,SNR=144
WTSB Winterswijk 76.29 341 *e*P **P** **18 50 33.7 -0.1**
comp=Z,117nm,1.1s
GRER 76.29 326⇑*i*P **P** **18 50 34.0 +0.1**
CJR Cluj-Napoca 76.35 329⇑*i*P **P** **18 50 35.4 +1.1**
LHO Holmfirth 76.36 347 *e*P **P** **18 50 34.3 +0.1**
MIAR Mount Ida 76.36 53 *e*P **P** **18 50 34.4 -0.1**
MIAR pmax pmax
comp=Z,22nm,0.9s
MIAR MLR MLR
comp=Z,3µm,20.4s
MIAR Mount Ida 76.36 53 *e*P **P** **18 50 34.4 -0.1**
comp=Z,22nm,0.9s
MIAR LR LR
comp=Z,3µm,20.4s
631A Perdido Creek 76.37 61 ⇓P **P** **18 50 34.7 0.0**
baz=76
TANN Tannenbergstha 76.40 337 *e*P **P** **18 50 35.1 +0.6**
comp=Z,45nm,1.1s
WERD Werda 76.41 337 *e*P **P** **18 50 35.0 +0.5**
comp=Z,81nm,1.2s
PLN Plauen 76.41 337 *e*P **P** **18 50 35.3 +0.8**
comp=Z,420nm,1.1s
GUNZ Gunzen 76.48 337 *e*P **P** **18 50 35.6 +0.6**
comp=Z,76nm,1.1s
HARR Harsova 76.52 325⇓*i*P **P** **18 50 35.8 +0.6**
PSZ Piszkesteto 76.52 332 *e*P **P** **18 50 35.7 +0.4**
PSZ pmax pmax
comp=Z,56nm,0.8s
PSZ MLR MLR
comp=Z,4µm,18.1s
PSZ Piszkesteto 76.52 332⇑*i*P **P** **18 50 36.2 +0.9**
PSZ Piszkesteto 76.52 332 *e*P **P** **18 50 35.6 +0.4**
comp=Z,56nm,0.8s
PSZ LR LR
comp=Z,4µm,18.1s
PSZ Piszkesteto 76.52 332⇑*e*P **P** **18 50 36.1 +0.8**
TIRR Tirgusor 76.53 324 *e*P **P** **18 50 35.2 -0.1**
TIRR pmax pmax
comp=Z,99nm,0.8s
TIRR MLR MLR
comp=Z,4µm,21.2s
TIRR Tirgusor 76.53 324⇑*i*P **P** **18 50 35.6 +0.3**
TIRR Tirgusor 76.53 324 *e*P **P** **18 50 35.2 -0.1**
comp=Z,99nm,0.8s
TIRR LR LR
comp=Z,4µm,21.2s
WERN Wernitzgruen 76.53 337 *e*P **P** **18 50 36.0 +0.7**
comp=Z,96nm,0.9s

TLB Topalu 76.56 325⇑*i*P **P** **18 50 35.7 +0.3**
NKC Novy Kostel 76.57 337⇑*i*P **P** **18 50 35.9 +0.5**
NKC MLR MLR
comp=Z,3µm,18.2s
NKC Novy Kostel 76.57 337⇑*i*P **P** **18 50 35.9 +0.5**
NKC *e*S **S** **19 00 25.1 +4.9**
NKC AMS AMS 19 29 10.0
comp=Z,3µm,18.2s
MDB Medias 76.57 328⇑*i*P **P** **18 50 37.0 +1.5**
MLR Muntele Rosu 76.57 327⇑*i*P **P** **18 50 36.0 +0.3**
MLR Muntele Rosu 76.57 327 P **P** **18 50 36.5 +0.8**
MLR Muntele Rosu 76.57 327 P **P** **18 50 36.5 +0.8**
comp=Z,28nm,0.7s,baz=128,slow=2.2,SNR=118
DRGR 76.59 329⇑*i*P **P** **18 50 36.0 +0.3**
KBI1 Birley Grange 76.59 347⇑*e*P **P** **18 50 35.5 0.0**
TREC Trest 76.60 335⇑*i*P **P** **18 50 36.3 +0.6**
TREC MLR MLR
comp=Z,8µm,18.1s
TREC Trest 76.60 335⇑*i*P **P** **18 50 36.3 +0.6**
TREC AMS AMS 19 28 00.0
comp=Z,8µm,18.1s
UBBA Unterbreizbach 76.63 339 *e*P **P** **18 50 36.1 +0.5**
comp=Z,54nm,1.2s
434A Burnet 76.64 58 ⇓P **P** **18 50 35.9 -0.2**
baz=76
ISR Istrita 76.67 326⇑*i*P **P** **18 50 37.7 +1.5**
BUG Bochum--Univer 76.68 341 *e*P **P** **18 50 36.5 +0.5**
comp=Z,75nm,1.0s
USIN University of 76.68 47 P **P** **18 50 38.1 +1.8**
comp=Z,85nm,1.2s
USIN LR LR
comp=Z,2µm,20.3s
PGOR Pogoanele 76.69 326⇑*i*P **P** **18 50 37.7 +1.5**
SMOL Smolenice 76.74 333 *e*P **P** **18 50 38.2 +1.7**
SMOL Smolenice 76.74 333 *e*P **P** **18 50 38.2 +1.7**
PTN Potsdam (NY) 76.75 35 PFAKE 18 50 50.0 +13
PTN LR LR
comp=Z,4µm,18.2s
632A Uvalde 76.75 60 ⇑P **P** **18 50 36.9 0.0**
baz=77
335A Moody 76.75 58 ⇑P **P** **18 50 36.6 -0.2**
baz=77
533A Kerrville 76.76 59 ⇑P **P** **18 50 36.7 -0.2**
baz=77
AMRR Amara 76.81 325⇓*i*P **P** **18 50 38.2 +1.4**
UALR University of 76.83 52 PFAKE 18 50 50.0 +13
UALR LR LR
comp=Z,3µm,22.0s
LONY Lake Ozonia 76.86 35 PFAKE 18 50 50.0 +13
LONY LR LR
comp=Z,2µm,18.9s
MANZ Manzenberg 76.88 337 *e*P **P** **18 50 37.8 +0.6**
comp=Z,63nm,1.1s
PVMO Portageville 76.90 49 PFAKE 18 50 50.0 +12
PVMO LR LR
comp=Z,2µm,20.3s
SECR 76.92 326⇑*i*P **P** **18 50 39.4 +1.9**
MBWA Marble Bar 76.92 215 *e*P **P** **18 50 37.1 -0.5**
comp=Z,19nm,1.1s
MBWA LR LR
comp=Z,500nm,21.3s
VOIR 76.94 327⇑*i*P **P** **18 50 38.8 +1.1**
ACSO Alum Creek Sta 77.04 42 P **P** **18 50 39.6 +1.4**
comp=Z,18nm,0.8s
ACSO *e*pP PcP 18 50 54.8 +5.6
FRNY Flat Rock 77.04 34 PFAKE 18 50 50.0 +12
FRNY LR LR
comp=Z,3µm,18.1s
ROTZ Rotzenmuhle 77.06 337 *e*P **P** **18 50 39.2 +1.0**
comp=Z,73nm,0.9s
MSAB Monastry St. A 77.06 325⇑*i*P **P** **18 50 39.1 +0.8**
534A Blanco 77.11 59 ⇓P **P** **18 50 38.6 -0.2**
baz=77
MTUR Matau 77.12 327⇑*i*P **P** **18 50 39.9 +1.2**
BANOM Banah 77.12 295 P **P** **18 50 39.9 +0.8**
SNR=38
WCI Wyandotte Cave 77.13 46 *e*P **P** **18 50 38.8 0.0**
WCI pmax pmax
comp=Z,40nm,0.8s
WCI Wyandotte Cave 77.13 46 *e*P **P** **18 50 38.8 0.0**
comp=Z,40nm,0.8s
MMNY Mt. Morris Dam 77.15 38 *e*P **P** **18 50 39.1 +0.3**
comp=Z,52nm,0.7s
MMNY LR LR
comp=Z,4µm,20.5s
ARR Arges 77.15 327⇑*i*P **P** **18 50 40.1 +1.2**
SULR 77.15 326⇑*i*P **P** **18 50 39.4 +0.6**
BUD Budapest 77.18 332⇑*e*P **P** **18 50 39.9 +1.0**
732A Laxson Ranch, 77.23 61 ⇑P **P** **18 50 39.5 0.0**
baz=77
DSB Dublin 77.27 349 PFAKE 18 50 50.0 +11
DSB LR LR
comp=Z,900nm,19.0s
PSN Preselentsi 77.27 324 *i* P P 18 50 43.0 +3.5
PSN Preselentsi 77.27 324⇑*i*P **P** **18 50 40.4 +0.9**
KHC Kasperske Hory 77.28 336⇑*i*P **P** **18 50 40.3 +0.8**
KHC *e**PP **PcP** **18 50 48.3 -1.8**
KHC *e* 18 50 58.5
KHC *e*S **S** **19 00 31.4 +3.4**
KHC MLR MLR
comp=Z,9µm,18.6s
KHC Kasperske Hory 77.28 336⇑*i*P **P** **18 50 40.3 +0.8**
KHC *ex* x 18 50 48.3
KHC *ex* x 18 50 58.5
KHC *e*S **S** **19 00 31.4 +3.4**
KHC AMS AMS 19 28 20.0
comp=Z,9µm,18.6s
KHC Kasperske Hory 77.28 336⇑*i*P **P** **18 50 40.3 +0.8**
KHC *erx* rx 18 50 58.5
KHC Kasperske Hory 77.28 336 *e*P **P** **18 50 39.3 -0.2**
comp=Z,92nm,0.9s
KHC LR LR
comp=Z,9µm,18.8s
MALT Malatya 77.28 315⇑*i*P **P** **18 50 41.7 +1.9**
DEV Deva 77.31 329⇓*i*P **P** **18 50 40.1 +0.4**
GRF Grafenberg Arr 77.38 338 *e*P **P** **18 50 41.1 +1.1**
comp=Z,167nm,0.9s
GRF *e*L L 19 30 11.7
comp=Z,4µm,18.3s
GRFO Grafenberg 77.38 338 *e*P **P** **18 50 40.7 +0.7**
GRFO pmax pmax
comp=Z,139nm,0.8s
GRFO MLR MLR
comp=Z,4µm,18.0s
GRFO Grafenberg 77.38 338 *e*P **P** **18 50 40.7 +0.7**
comp=Z,138nm,0.8s
GRFO LR LR
comp=Z,4µm,18.0s
LOT Lotru 77.39 328⇑*i*P **P** **18 50 40.3 0.0**
SIRR Siria 77.40 330⇓*i*P **P** **18 50 41.0 +0.8**
PKSN Nyarlorinc 77.43 331⇓*e*P **P** **18 50 41.7 +1.4**
WET Wettzell 77.45 336 *e*P **P** **18 50 42.9 +2.4**
comp=Z,95nm,1.0s
PKSG 77.45 332⇑*e*P **P** **18 50 41.5 +1.1**
GOLR 77.49 327⇑*i*P **P** **18 50 41.6 +0.9**
CIOR Ciorogarla 77.49 326⇑*i*P **P** **18 50 41.2 +0.5**
GEC2 GERESS Array S 77.50 336 *e*P **P** **18 50 41.4 +0.5**
GEC2 GERESS Array S 77.50 336 *e*P **P** **18 50 41.2 +0.4**
comp=Z,54nm,1.1s
GEC2 GERESS Array S 77.50 336 *e*P **P** **18 50 41.4 +0.5**
GERES GERESS Array B 77.50 336 *e*P **P** **18 50 41.2 +0.4**
GERES GERESS Array B 77.50 336 P **P** **18 50 41.2 +0.4**
GERES GERESS Array B 77.50 336 P **P** **18 50 41.2 +0.4**
comp=Z,33nm,0.8s,baz=36,slow=4.0,SNR=160
GERES LR LR 19 29 11.0
comp=Z,10µm,18.9s,baz=16,slow=39
HLM1 Long Mynd 77.51 347 *e*P **P** **18 50 40.4 -0.2**
CSKK Cs˘ákako 77.52 332⇓*e*P **P** **18 50 42.2 +1.4**
HGN Heimansgroeve 77.60 341 *e*P **P** **18 50 41.5 +0.3**
comp=Z,132nm,1.2s
HGN *e*PP **PP** **18 53 36.7 +1.2**
HGN *e*S **S** **19 00 33.3 +2.0**
HGN *e*SS SS 19 05 49.4 +20
BEBN Eben Emael 77.63 341 P **P** **18 50 41.9 +0.6**
PKST T˘s 77.68 332⇓*e*P **P** **18 50 42.4 +0.6**
CONA Conrad Observa 77.73 334 *i* pP **P** **18 50 43.3 +1.1**
comp=Z,100nm,0.9s,SNR=42
MEM Membach 77.73 341 P **P** **18 50 42.6 +0.7**
comp=Z,60nm,1.1s
SOP Sopron 77.75 333⇑*e*P **P** **18 50 43.5 +1.4**
HUMR Humele 77.75 327⇓*i*P **P** **18 50 41.3 -0.9**
UOSS Wadi Hilu 77.91 294 P **P** **18 50 43.6 +0.2**
comp=Z,1µm,0.7s,SNR=30
WBK Wadi Bani Khal 77.94 290 P **P** **18 50 45.6 +2.0**
SNR=7.0

BZS Buzias 77.98 329⇑*i*P **P** **18 50 43.7 +0.3**
MCH1 Michaelchurch 78.03 347 *e*P **P** **18 50 44.4 +0.8**
MCH1 AMB AMB 18 50 44.5
comp=Z,73nm,3.0s
MCH1 AMS AMS 19 31 45.2
comp=Z,3µm,16.6s
WVT Waverly 78.06 48 *e*P P 18 50 48.0 +4.0
WVT pmax pmax
comp=Z,96nm,2.2s
WVT MLR MLR
comp=Z,2µm,19.4s
WVT Waverly 78.06 48 *e*P P 18 50 48.0 +4.0
comp=Z,96nm,2.2s
WVT LR LR
comp=Z,2µm,19.4s
BCLA Clavier 78.06 342 P **P** **18 50 44.1 +0.3**
comp=Z,35nm,1.4s
LBNH Lisbon 78.16 33 PFAKE 18 51 00.0 +16
LBNH LR LR
comp=Z,3µm,20.0s
SMDO Samad 78.18 291 P **P** **18 50 46.4 +1.4**
SNR=11
SNF Seneffe 78.19 342 P **P** **18 50 45.3 +0.9**
ASHO Ashiyiah 78.19 294 P **P** **18 50 45.7 +0.7**
SNR=21
PKME Peaks-Kenny Pk 78.20 31 PFAKE 18 51 00.0 +15
PKME LR LR
comp=Z,3µm,19.0s
PKS9 Tamasi 78.21 332⇓*e*P **P** **18 50 44.9 +0.2**
HOQ Hoqain 78.25 292 P **P** **18 50 45.9 +0.6**
SNR=14
ACCN Adirondack Com 78.25 35 PFAKE 18 51 00.0 +15
ACCN LR LR
comp=Z,2µm,19.6s
MOA Molin 78.26 335⇑*i*pP **P** **18 50 45.7 +0.7**
comp=Z,44nm,0.8s,SNR=22
SRE Strehaia 78.27 328⇓*i*P **P** **18 50 46.3 +1.2**
BR131 Keskin Array S 78.32 318 *e*P **P** **18 50 45.9 +0.3**
comp=Z,61nm,0.8s
BRTR Keskin Array B 78.32 318 P **P** **18 50 46.0 +0.4**
BRTR Keskin Array B 78.32 318 P **P** **18 50 46.0 +0.4**
comp=Z,78nm,0.9s,baz=57,slow=2.8,SNR=148
BRTR LR LR 19 31 49.9
comp=Z,2µm,19.0s,baz=167,slow=41
BANR Banloc 78.35 330⇑*i*P P 18 50 49.2 +3.8
BINY Binghamton 78.37 37 PFAKE 18 51 00.0 +14
BINY LR LR
comp=Z,2µm,20.1s
WOL Wolverton 78.42 346 *e*P **P** **18 50 46.0 +0.3**
WOL AMB AMB 18 50 46.6
comp=Z,138nm,2.1s
WOL AMS AMS 19 31 37.0
comp=Z,2µm,17.0s
PKSM Moragy 78.43 331⇑*i*P **P** **18 50 45.7 -0.2**
PKSM Moragy 78.43 331⇑*e*P **P** **18 50 45.6 -0.3**
ARSA Arzberg 78.44 334 *i* pP **P** **18 50 47.0 +1.1**
comp=Z,49nm,1.1s,SNR=21
GIVF Givet 78.46 342 *e*P **P** **18 50 46.1 +0.1**
comp=Z,64nm,1.1s
GIVF Givet 78.46 342 *e*P **P** **18 50 46.1 +0.1**
GIVF pmax pmax
comp=Z,65nm,1.1s
GIVF Givet 78.46 342 *e*P **P** **18 50 46.1 +0.1**
comp=Z,64nm,1.1s
DOU Dourbes 78.52 342 P **P** **18 50 46.6 +0.3**
OXF Oxford 78.54 50 PFAKE 18 51 00.0 +13
OXF LR LR
comp=Z,2µm,18.9s
MENF Mencas 78.56 344 *e*P **P** **18 50 47.2 +0.7**
ANTO Ankara 78.57 319 *e*P **P** **18 50 47.5 +0.6**
ANTO pmax pmax
comp=Z,39nm,0.6s
ANTO MLR MLR
comp=Z,2µm,18.8s
ANTO Ankara 78.57 319 *e*P **P** **18 50 47.5 +0.6**
comp=Z,39nm,0.6s
ANTO LR LR
comp=Z,2µm,18.8s
HMNX Herstmonceux 78.59 345 AMS AMS 19 31 08.2
comp=Z,2µm,16.9s
WLF Walferdange 78.59 341 P **P** **18 50 48.1 +1.4**
comp=Z,54nm,2.5s
WLF Walferdange 78.59 341 P **P** **18 50 46.5 -0.2**
WLF pmax pmax
comp=Z,21nm,0.9s
WLF MLR MLR
comp=Z,6µm,18.0s
WLF Walferdange 78.59 341 *e*P **P** **18 50 47.5 +0.8**
comp=Z,120nm,1.7s
WLF Walferdange 78.59 341 P **P** **18 50 46.5 -0.2**
comp=Z,21nm,0.9s
WLF LR LR
comp=Z,6µm,18.0s
HKT Hockley 78.66 57 PFAKE 18 51 00.0 +13
HKT LR LR
comp=Z,2µm,19.3s
JMDO Jabal Madar 78.66 291 P **P** **18 50 48.7 +1.2**
SNR=14
STU Stuttgart 78.73 339 *e*P **P** **18 50 48.0 +0.5**
STU pmax pmax
comp=Z,58nm,0.9s
STU MLR MLR
comp=Z,2µm,19.0s
STU Stuttgart 78.73 339 *e*P **P** **18 50 48.2 +0.7**
comp=Z,79nm,1.1s
STU Stuttgart 78.73 339 *e*P **P** **18 50 48.0 +0.5**
comp=Z,58nm,0.9s
STU LR LR
comp=Z,2µm,19.0s
RJOB Jochberg 78.76 336 *e*P **P** **18 50 48.9 +1.1**
comp=Z,45nm,1.2s
FUR Furstenfeldbru 78.77 337 *e*P **P** **18 50 48.7 +0.9**
comp=Z,93nm,1.2s
BEHE Becsehely 78.77 333⇑*e*P **P** **18 50 48.4 +0.6**
LANF Langenberg 78.86 339⇑*e*P **P** **18 50 48.6 +0.3**
MCWV Mont Chateau 78.89 41 PFAKE 18 51 00.0 +11
MCWV LR LR
comp=Z,3µm,18.5s
ARQ Araqi 78.91 293 P **P** **18 50 49.9 +0.9**
SNR=14
JMB Yambol 78.92 325⇑*i*P **P** **18 50 49.3 +0.6**
VAL Valentia 78.97 352 *e*P **P** **18 50 48.8 +0.1**
ARMA Armidale 78.98 184 *e*P **P** **18 50 50.4 +1.4**
comp=Z,15nm,0.8s
ARMA LR LR
comp=Z,900nm,18.2s
SOKA Soboth 79.10 334 *i* pP **P** **18 50 50.5 +0.8**
comp=Z,74nm,1.1s,SNR=12
MPEP Malo Peshtene 79.21 327 *e*P **P** **18 50 50.6 +0.3**
KBA Koelnbreinsper 79.22 335 *i* pP **P** **18 50 51.8 +1.3**
comp=Z,111nm,0.8s,SNR=25
BFO Black Forest 79.35 339 *e*P **P** **18 50 51.3 +0.3**
BFO pmax pmax
comp=Z,40nm,0.9s
BFO MLR MLR
comp=Z,2µm,19.0s
BFO Black Forest 79.35 339 *e*P **P** **18 50 51.4 +0.4**
comp=Z,48nm,1.0s
BFO Black Forest 79.35 339 *e*P **P** **18 50 51.3 +0.3**
comp=Z,40nm,0.9s
BFO LR LR
comp=Z,2µm,19.0s
BFO Black Forest 79.35 339 P **P** **18 50 51.1 +0.1**
comp=Z,261nm,1.0s,SNR=12
OBKA Obir 79.39 334⇑*i*pP **P** **18 50 51.9 +0.6**
comp=Z,29nm,0.7s
WATA Walderalm 79.46 336⇑*i*pP **P** **18 50 52.7 +1.0**
comp=Z,51nm,1.0s,SNR=25
WTTA Wattenberg 79.51 336 *i* pP **P** **18 50 53.2 +1.2**
comp=Z,98nm,1.1s,SNR=28
CDF Champ du Feu 79.52 340 *e*P **P** **18 50 51.9 -0.1**
comp=Z,104nm,0.9s
CDF Champ du Feu 79.52 340 *e*P **P** **18 50 51.9 -0.1**
CDF pmax pmax
comp=Z,104nm,0.9s
CDF Champ du Feu 79.52 340 *e*P **P** **18 50 51.9 -0.1**
comp=Z,104nm,0.9s
RETA Reutte 79.53 337⇑*i*pP **P** **18 50 52.8 +0.8**
comp=Z,28nm,1.0s,SNR=8.8
MYKA Terra Mystica 79.54 335⇑*i*pP **P** **18 50 52.4 +0.3**
comp=Z,18nm,0.7s
MOTA Moosalm 79.57 337⇓*i*pP **P** **18 50 53.1 +0.7**
comp=Z,64nm,0.9s,SNR=35
DIM Dimitrovgrad 79.68 325 *i* P **P** **18 50 53.2 +0.4**
ECH Echery 79.73 340 *e*P **P** **18 50 53.6 +0.6**
PAGF Fort de Pagny 79.73 341 *e*P **P** **18 50 53.6 +0.6**
comp=Z,40nm,0.9s

PAGF Fort de Pagny 79.73 341 *e*P P 18 50 53.6 +0.6
comp=Z,40nm,0.9s
ABTA Abfaltersbach 79.75 336⇑ *i*pP P 18 50 53.3 +0.1
comp=Z,27nm,1.0s,SNR=6.7
VBMS Vicksburg 79.77 52 PFAKE 18 51 10.0 +17
VBMS LR LR
comp=Z,3µm,19.0s
TZTN Tazewell 79.78 45 PFAKE 18 51 10.0 +17
TZTN LR LR
comp=Z,2µm,20.4s
HRV Adam Dziewonsk 79.80 34 PFAKE 18 51 10.0 +17
HRV LR LR
comp=Z,3µm,19.4s
FELD Feldberg im Sc 79.85 339⇑ *e*P P 18 50 54.0 +0.2
ODNJ Ogdensburg 79.86 37 PFAKE 18 51 10.0 +16
ODNJ LR LR
comp=Z,2µm,18.7s
DIVS Divibare 79.87 330 P P 18 50 52.1 -1.8
MEZF Maizieres J'vi 79.93 341 *e*P P 18 50 54.5 +0.4
comp=Z,77nm,0.9s
MEZF Maizieres J'vi 79.93 341 *e*P P 18 50 54.5 +0.4
comp=Z,77nm,0.9s
DAVA Damuels 79.94 338⇑ *i*pP P 18 50 54.9 +0.6
comp=Z,36nm,0.8s,SNR=11
VISS Visnje 79.95 334 *i* P P 18 50 54.4 +0.1
FETA Feichten 79.97 337 *i* pP P 18 50 55.6 +1.1
comp=Z,29nm,1.1s,SNR=8.7
THEF They Montfort 79.99 340⇑ *e*P P 18 50 55.1 +0.7
VOY Vojsko 80.02 334 *e*P P 18 50 54.8 +0.1
VOY *e* 18 51 10.0
KDZ Kurdzhali 80.07 325⇑ *i*P P 18 50 56.5 +1.6
VTS Vitosha 80.07 327 P P 18 50 55.3 +0.2
VTS Vitosha 80.07 327 *i* P P 18 50 55.3 +0.2
VTS Vitosha 80.07 327⇑ *i*P P 18 50 54.7 -0.4
MVL Millersville 80.08 38 PFAKE 18 51 10.0 +15
MVL LR LR
comp=Z,2µm,18.9s
MOF Molkenrain 80.08 339⇑ *e*P P 18 50 55.3 +0.3
JAVS Javornik 80.09 334 *e*P P 18 50 55.1 0.0
BOJS Bojanci 80.10 333 *e*P P 18 50 55.4 +0.3
HAU Haudompre 80.11 340 *e*P P 18 50 55.1 0.0
comp=Z,77nm,0.9s
HAU *e*R
comp=Z,3µm,18.2s
HAU Haudompre 80.11 340 *e*P P 18 50 55.1 0.0
HAU pmax pmax
comp=Z,77nm,0.9s
HAU Haudompre 80.11 340 *e*P P 18 50 55.1 0.0
comp=Z,77nm,0.9s
CEY Cerknica 80.13 334 *i* P P 18 50 55.7 +0.5
COCO West Island 80.16 239 PFAKE 18 51 10.0 +14
COCO LR LR
comp=Z,800nm,18.5s
HINF Hinteralfeld 80.18 340 *e*P P 18 50 55.3 -0.2
comp=Z,22nm,0.9s
HINF Hinteralfeld 80.18 340 *e*P P 18 50 55.3 -0.2
HINF pmax pmax
comp=Z,22nm,0.9s
HINF Hinteralfeld 80.18 340 *e*P P 18 50 55.3 -0.2
comp=Z,22nm,0.9s
PAL Palisades 80.20 36 PFAKE 18 51 10.0 +14
PAL LR LR
comp=Z,8µm,18.6s
SFTF Sexfontaines 80.22 341 *e*P P 18 50 55.9 +0.3
comp=Z,124nm,0.9s
SFTF Sexfontaines 80.22 341 *e*P P 18 50 55.9 +0.3
comp=Z,124nm,0.9s
BRNJ Basking Ridge 80.22 37 PFAKE 18 51 10.0 +14
BRNJ LR LR
comp=Z,538µm,19.9s
CPNY Central Park 80.36 36 PFAKE 18 51 10.0 +14
CPNY LR LR
comp=Z,2µm,20.7s
SDMD Soldier's Deli 80.37 39 PFAKE 18 51 10.0 +13
SDMD LR LR
comp=Z,2µm,19.8s
LOMF Lomont 80.62 340⇑ *e*P P 18 50 58.6 +0.7
BLA Blacksburg 80.66 43 *e*P P 18 50 58.0 -0.3
BLA pmax pmax
comp=Z,41nm,1.0s
BLA MLR MLR
comp=Z,2µm,21.0s
BLA Blacksburg 80.66 43 *e*P P 18 50 58.0 -0.3
comp=Z,41nm,1.0s
BLA LR LR
comp=Z,2µm,21.0s
MMB Musomiste 80.75 326 *i* P P 18 50 58.8 +0.1
MMB Musomiste 80.75 326⇑ *i*P P 18 50 59.2 +0.5
FLN La Foliniere 80.76 345 *e*P P 18 50 58.9 +0.4
comp=Z,108nm,0.9s
FLN *e*R
comp=Z,4µm,18.2s
FLN La Foliniere 80.76 345 *e*P P 18 50 58.9 +0.4
FLN pmax pmax
comp=Z,108nm,0.9s
FLN La Foliniere 80.76 345 *e*P P 18 50 58.9 +0.4
comp=Z,108nm,0.9s
UDBI Udbina 80.83 333 P P 18 50 59.0 -0.1
TUE Stuetta 80.83 338 *e*P P 18 50 59.5 +0.3
comp=Z,76nm,0.8s
TUE LR LR
comp=Z,4µm,18.0s
LDF La Druitiere 80.86 344 *e*P P 18 50 59.3 +0.3
comp=Z,90nm,1.0s
LDF La Druitiere 80.86 344 *e*P P 18 50 59.3 +0.3
LDF pmax pmax
comp=Z,90nm,1.0s
LDF La Druitiere 80.86 344 *e*P P 18 50 59.3 +0.3
comp=Z,90nm,1.0s
LRAL Lakeview Retre 80.93 49 PFAKE 18 51 10.0 +10
LRAL LR LR
comp=Z,2µm,20.0s
CBN Corbin 81.16 40 PFAKE 18 51 10.0 +9.2
CBN LR LR
comp=Z,2µm,18.7s
GRR Gorron 81.19 345 *e*P P 18 51 01.5 +0.7
comp=Z,165nm,0.9s
GRR Gorron 81.19 345 *e*P P 18 51 01.5 +0.7
GRR pmax pmax
comp=Z,165nm,0.9s
GRR Gorron 81.19 345 *e*P P 18 51 01.5 +0.7
comp=Z,165nm,0.9s
ISP Isparta 81.25 319⇑ *i*P P 18 51 00.7 -0.8
ISP Isparta 81.25 319 PFAKE 18 51 10.0 +8.5
ISP LR LR
comp=Z,1µm,19.4s
LOR Lormes 81.36 341 *e*P P 18 51 02.0 +0.2
comp=Z,104nm,0.9s
LOR *e*R
comp=Z,4µm,19.0s
LOR Lormes 81.36 341 *e*P P 18 51 02.0 +0.2
comp=Z,104nm,0.9s
STKA Stephens Creek 81.39 193 *e*P P 18 51 01.6 -0.3
STKA Stephens Creek 81.39 193 P P 18 51 03.8 +2.0
comp=Z,2.6nm,0.7s,baz=349,slow=12,SNR=4.1
STKA LR LR 19 30 43.9
comp=Z,1µm,18.1s,baz=112,slow=38
VAY Valandovo 81.41 327 *i* P P 18 51 01.6 -0.5
CABF La Chapelle 81.49 340 *e*P P 18 51 02.3 -0.3
comp=Z,56nm,1.0s
CABF La Chapelle 81.49 340 *e*P P 18 51 02.3 -0.3
CABF pmax pmax
comp=Z,56nm,1.0s
CABF La Chapelle 81.49 340 *e*P P 18 51 02.3 -0.3
comp=Z,56nm,1.0s
SGMF Saint Gilles 81.60 346 *e*P P 18 51 03.2 +0.2
comp=Z,111nm,0.9s
SGMF Saint Gilles 81.60 346 *e*P P 18 51 03.2 +0.2
SGMF pmax pmax
comp=Z,111nm,0.9s
SGMF Saint Gilles 81.60 346 *e*P P 18 51 03.2 +0.2
comp=Z,111nm,0.9s
OG01 Vacheresse 81.62 339 *e*P P 18 51 04.9 +1.7
SSF Saint Saulge 81.63 342 *e*P P 18 51 03.5 +0.3
comp=Z,49nm,0.8s
SSF Saint Saulge 81.63 342 *e*P P 18 51 03.5 +0.3
SSF pmax pmax
comp=Z,49nm,0.8s
SSF Saint Saulge 81.63 342 *e*P P 18 51 03.5 +0.3
comp=Z,49nm,0.8s
ROSF Rostrenen 81.63 346 *e*P P 18 51 03.6 +0.4
comp=Z,117nm,1.0s
ROSF Rostrenen 81.63 346 *e*P P 18 51 03.6 +0.4
ROSF pmax pmax
comp=Z,117nm,1.0s
ROSF Rostrenen 81.63 346 *e*P P 18 51 03.6 +0.4
comp=Z,117nm,1.0s
PPT Papeete 81.69 129 LR LR 19 27 05.7
comp=Z,1µm,18.1s,baz=337,slow=35
PPT2 Papeete2 81.71 129 *e*S S 19 01 08.4 -7.2
comp=Z,272nm,22.5s
PPT2 Papeete2 81.71 129 *e*LR LR 19 16 09.5
comp=Z,844nm,24.5s,baz=335
STON Ston 81.72 331 P P 18 51 03.6 0.0
PHP Peshkopia 81.85 328 P P 18 51 04.3 -0.2
AVF Avril sur Loir 81.92 342 *e*P P 18 51 05.2 +0.5
comp=Z,42nm,0.7s
AVF Avril sur Loir 81.92 342 *e*P P 18 51 05.2 +0.5
AVF pmax pmax
comp=Z,42nm,0.7s
AVF Avril sur Loir 81.92 342 *e*P P 18 51 05.2 +0.5
comp=Z,42nm,0.7s
SMF Signal de Mont 81.95 341 *e*P P 18 51 05.0 +0.1
comp=Z,28nm,0.6s
SMF Signal de Mont 81.95 341 *e*P P 18 51 05.0 +0.1
SMF pmax pmax
comp=Z,28nm,0.6s
SMF Signal de Mont 81.95 341 *e*P P 18 51 05.0 +0.1
comp=Z,28nm,0.6s
KMSC Kings Mountain 81.96 44 ⇑P P 18 51 04.8 -0.3
baz=82
QUIF Quistinic 82.03 346 *e*P P 18 51 05.4 +0.2
comp=Z,101nm,1.2s
QUIF Quistinic 82.03 346 *e*P P 18 51 05.4 +0.2
QUIF pmax pmax
comp=Z,101nm,1.2s
QUIF Quistinic 82.03 346 *e*P P 18 51 05.4 +0.2
comp=Z,101nm,1.2s
RSL Roselend 82.23 339 *e*P P 18 51 08.4 +1.8
BGF Bois d'Agland 82.24 342 *e*P P 18 51 06.5 +0.1
comp=Z,33nm,0.8s
BGF Bois d'Agland 82.24 342 *e*P P 18 51 06.5 +0.1
BGF pmax pmax
comp=Z,33nm,0.8s
BGF Bois d'Agland 82.24 342 *e*P P 18 51 06.5 +0.1
comp=Z,33nm,0.8s
FNA Florina 82.31 327 P P 18 51 06.7 -0.3
LPL La Plagne 82.37 339 *e*P P 18 51 07.7 +0.3
comp=Z,48nm,0.6s
LPL La Plagne 82.37 339 *e*P P 18 51 07.7 +0.3
LPL pmax pmax
comp=Z,48nm,0.6s
LPL La Plagne 82.37 339 *e*P P 18 51 07.7 +0.3
comp=Z,48nm,0.6s
LPG La Plagne 82.38 339 *e*P P 18 51 08.0 +0.5
comp=Z,58nm,0.7s
LPG La Plagne 82.38 339 *e*P P 18 51 08.0 +0.5
LPG pmax pmax
comp=Z,58nm,0.7s
LPG La Plagne 82.38 339 *e*P P 18 51 08.0 +0.5
comp=Z,58nm,0.7s
BRAL Brewton 82.52 51 PFAKE 18 51 20.0 +12
BRAL LR LR
comp=Z,2µm,20.0s
TCF Toulx Ste Croi 82.63 342 *e*P P 18 51 08.8 +0.3
comp=Z,63nm,1.0s
TCF Toulx Ste Croi 82.63 342 *e*P P 18 51 08.8 +0.3
TCF pmax pmax
comp=Z,63nm,1.0s
TCF Toulx Ste Croi 82.63 342 *e*P P 18 51 08.8 +0.3
comp=Z,63nm,1.0s
PLDF La Plantade 82.64 341⇑ *e*P P 18 51 10.6 +2.0
VLC Villacollemand 82.71 336 *e*P P 18 51 09.3 +0.4
comp=Z,57nm,0.9s
VLC LR LR
comp=Z,8µm,19.0s
NEST Nestorio 82.76 327 P P 18 51 09.2 -0.1
MFF Saint Martin d 82.78 344 *e*P P 18 51 09.6 +0.4
comp=Z,128nm,1.2s
MFF Saint Martin d 82.78 344 *e*P P 18 51 09.6 +0.4
MFF pmax pmax
comp=Z,129nm,1.2s
MFF Saint Martin d 82.78 344 *e*P P 18 51 09.6 +0.4
comp=Z,128nm,1.2s
BNI Bardonecchia 82.82 339 *e*P P 18 51 10.4 +0.8
BNI pmax pmax
comp=Z,31nm,0.8s
BNI MLR MLR
comp=Z,3µm,18.4s
BNI Bardonecchia 82.82 339 *e*P P 18 51 10.4 +0.8
comp=Z,31nm,0.8s
BNI LR LR
comp=Z,3µm,18.4s
LCHF La Chataignera 82.83 344 *e*P P 18 51 10.4 +1.0
OG22 Abries 82.97 339 *e*P P 18 51 12.7 +2.2
ASF Jabal al Asfar 82.97 312 P P 18 51 11.7 +1.1
ASF Jabal al Asfar 82.97 312 P P 18 51 11.7 +1.1
comp=Z,39nm,0.9s,baz=16,slow=2.3,SNR=18
MMAI Mount Meron Ar 83.01 313 P P 18 51 11.8 +1.1
MMAI Mount Meron Ar 83.01 313 P P 18 51 11.8 +1.1
comp=Z,85nm,0.7s,baz=40,slow=6.6,SNR=29
SSB Saint Sauveur 83.10 340 *e*P P 18 51 11.7 +0.8
MBDF Montbardon 83.10 339 *e*P P 18 51 11.5 +0.4
comp=Z,35nm,0.6s
MBDF Montbardon 83.10 339 *e*P P 18 51 11.5 +0.4
MBDF pmax pmax
comp=Z,35nm,0.6s
MBDF Montbardon 83.10 339 *e*P P 18 51 11.5 +0.4
comp=Z,35nm,0.6s
ORIF Oris-en-Rattie 83.14 339 *e*P P 18 51 12.0 +0.8
comp=Z,66nm,0.9s
ORIF *e*R
comp=Z,3µm,17.8s
ORIF Oris-en-Rattie 83.14 339 *e*P P 18 51 12.0 +0.8
ORIF pmax pmax
comp=Z,66nm,0.9s
ORIF Oris-en-Rattie 83.14 339 *e*P P 18 51 12.0 +0.8
comp=Z,66nm,0.9s
FORT Forrest 83.16 204 *e*P P 18 51 10.2 -0.9
comp=Z,40nm,0.7s
FORT LR LR
comp=Z,800nm,19.6s
BBOO Buckleboo 83.24 197 *e*P P 18 51 11.3 -0.2
comp=Z,250nm,1.1s
BBOO LR LR
comp=Z,9µm,19.3s
MEV Metsovon 83.25 327 P P 18 51 13.4 +1.4
LBL Lubilhac 83.42 341⇑ *e*P P 18 51 14.5 +1.8
CNNC Cliffs of the 83.43 42 PFAKE 18 51 20.0 +7.3
CNNC LR LR
comp=Z,2µm,19.5s
VIVF Saint-Julien-l 83.47 340 *e*P P 18 51 13.3 +0.4
comp=Z,37nm,0.9s
VIVF Saint-Julien-l 83.47 340 *e*P P 18 51 13.3 +0.4
VIVF pmax pmax
comp=Z,37nm,0.9s
VIVF Saint-Julien-l 83.47 340 *e*P P 18 51 13.3 +0.4
comp=Z,37nm,0.9s
JAN Janina 83.50 327 P P 18 51 13.6 +0.5
OG25 Le Caire 83.61 339 *e*P P 18 51 15.6 +2.0
SAOF Saorge 83.61 338⇑ *e*P P 18 51 13.8 +0.2
AUTN L'Aution 83.63 338⇑ *e*P P 18 51 15.4 +1.5
TOUF Mont Tournerai 83.66 338⇑ *e*P P 18 51 14.5 +0.5
RJF Les Rejaudoux 83.71 342 *e*P P 18 51 14.3 +0.2
comp=Z,24nm,0.8s
RJF *e*R
comp=Z,3µm,17.5s
RJF Les Rejaudoux 83.71 342 *e*P P 18 51 14.3 +0.2
RJF pmax pmax
comp=Z,24nm,0.8s
RJF Les Rejaudoux 83.71 342 *e*P P 18 51 14.3 +0.2
comp=Z,24nm,0.8s
LUCF Luceram 83.75 338 *e*P P 18 51 14.1 -0.3
SBF Sospel 83.75 338 *e*P P 18 51 14.2 -0.2
SBF Sospel 83.75 338 *e*P P 18 51 14.2 -0.2
SBF Sospel 83.75 338 *e*P P 18 51 14.2 -0.2
MVIF Mont Vial 83.79 338 *e*P P 18 51 15.0 +0.3
IGT Igoumenitsa 83.79 327 P P 18 51 15.4 +0.8
REVF Revere 83.89 338 *e*P P 18 51 16.1 +1.1
CAF Calviac 83.97 342 *e*P P 18 51 16.0 +0.6
comp=Z,28nm,0.8s
CAF Calviac 83.97 342 *e*P P 18 51 16.0 +0.6
CAF pmax pmax
comp=Z,28nm,0.8s
CAF Calviac 83.97 342 *e*P P 18 51 16.0 +0.6
comp=Z,28nm,0.8s
DSF Desfina 83.97 325 P P 18 51 14.6 -1.0
CALN Calern 83.99 338 *e*P P 18 51 16.1 +0.4
SMRF Simiane la Rot 84.10 339⇑ *i*P P 18 51 16.3 +0.2
comp=Z,17nm,0.7s
SMRF Simiane la Rot 84.10 339⇑ *i*P P 18 51 16.3 +0.2
comp=Z,17nm,0.7s
LFF La Frestale 84.22 343 *e*P P 18 51 17.2 +0.6
comp=Z,57nm,0.9s
LFF La Frestale 84.22 343 *e*P P 18 51 17.2 +0.6
LFF pmax pmax
comp=Z,57nm,0.9s
LFF La Frestale 84.22 343 *e*P P 18 51 17.2 +0.6
comp=Z,57nm,0.9s
FRF La Foret Royal 84.23 338 *e*P P 18 51 16.5 -0.2
comp=Z,44nm,1.2s
FRF La Foret Royal 84.23 338 *e*P P 18 51 16.5 -0.2
FRF pmax pmax
comp=Z,44nm,1.2s
FRF La Foret Royal 84.23 338 *e*P P 18 51 16.5 -0.2
comp=Z,44nm,1.2s
PDO Prodromos 84.31 326 P P 18 51 16.7 -0.5
TAVF Tavernes 84.32 339⇑ *e*P P 18 51 17.1 -0.1
LASF Ste Croix 84.39 340 *e*P P 18 51 16.9 -0.7
LASF Ste Croix 84.39 340 *e*P P 18 51 16.9 -0.7
GUR Goura 84.46 325 P P 18 51 18.1 0.0
LMR La Mourre 84.48 338 *e*P P 18 51 17.9 -0.1
LMR La Mourre 84.48 338 *e*P P 18 51 17.9 -0.1
LMR La Mourre 84.48 338 *e*P P 18 51 17.9 -0.1
LEPF PUYLOUBIER 84.50 339⇑ *e*P P 18 51 19.0 +0.9
PGF Pioggiola 84.58 336 *e*P P 18 51 18.4 -0.3
comp=Z,50nm,0.9s
PGF Pioggiola 84.58 336 *e*P P 18 51 18.4 -0.3
PGF pmax pmax
comp=Z,50nm,0.9s
PGF Pioggiola 84.58 336 *e*P P 18 51 18.4 -0.3
comp=Z,50nm,0.9s
SANT Santorini 84.60 322 PFAKE 18 51 30.0 +11
SANT LR LR
comp=Z,2µm,18.4s
DRO Drossia 84.69 326 P P 18 51 18.7 -0.4
GELF Grande-Etoile 84.69 339 *e*P P 18 51 19.8 +0.7
BERF Bertagne 84.70 339 *e*P P 18 51 20.6 +1.4
CUC Castrocucco 84.92 331 *e*P P 18 51 18.6 -1.7
comp=Z,15nm,0.9s
CUC LR LR
comp=Z,4µm,19.3s
OUZ Omahuta 85.07 166 PFAKE 18 51 30.0 +9.3
OUZ LR LR
comp=Z,2µm,18.0s
TIP Timpagrande 85.35 330 *e*P P 18 51 22.4 -0.1
comp=Z,35nm,1.1s
TIP LR LR
comp=Z,2µm,20.0s
ABTO Aybut 85.39 291 P P 18 51 23.6 +0.6
SNR=7.0
MTLF Montolieu 85.45 341 *e*P P 18 51 23.4 +0.5
comp=Z,37nm,0.9s
MTLF Montolieu 85.45 341 *e*P P 18 51 23.4 +0.5
MTLF pmax pmax
comp=Z,37nm,0.9s
MTLF Montolieu 85.45 341 *e*P P 18 51 23.4 +0.5
comp=Z,37nm,0.9s
LAST Lasithi 85.64 322 P P 18 51 23.0 -1.0
IDI Anoyia 85.77 322 *e*P P 18 51 24.4 -0.3
comp=Z,46nm,0.8s
IDI LR LR
comp=Z,2µm,19.1s
EIL Elat 85.97 312 P P 18 51 26.0 +0.3
EIL Elat 85.97 312 P P 18 51 26.0 +0.3
comp=Z,31nm,0.7s,baz=6.6,slow=4.7,SNR=34
MLS Moulis 86.05 342 *e*P P 18 51 26.6 +0.7
EPF Esparros 86.13 343 *e*P P 18 51 26.1 -0.2
comp=Z,19nm,0.6s
EPF Esparros 86.13 343 *e*P P 18 51 26.1 -0.2
EPF pmax pmax
comp=Z,19nm,0.6s
EPF Esparros 86.13 343 *e*P P 18 51 26.1 -0.2
comp=Z,19nm,0.6s
RESF Ens 86.35 343 *e*P P 18 51 29.0 +1.5
SJPF Ste Jean 86.35 344 *e*P P 18 51 27.0 -0.4
SJPF Ste Jean 86.35 344 *e*P P 18 51 27.0 -0.4
SJPF Ste Jean 86.35 344 *e*P P 18 51 27.0 -0.4
ETSF Etsaut 86.43 343 *e*P P 18 51 27.4 -0.4
comp=Z,29nm,0.6s
ETSF Etsaut 86.43 343 *e*P P 18 51 27.4 -0.4
ETSF pmax pmax
comp=Z,29nm,0.6s
ETSF Etsaut 86.43 343 *e*P P 18 51 27.4 -0.4
comp=Z,29nm,0.6s
CEL Celeste 86.47 330 PFAKE 18 51 40.0 +12
CEL LR LR
comp=Z,2µm,18.7s
GVD Gavdhos 86.48 322 PFAKE 18 51 40.0 +12
GVD LR LR
comp=Z,4µm,20.2s
TBI Tubuai 86.59 132 *e*S S 19 02 00.8 -3.4
comp=Z,702nm,26.5s
TBI *e*SS SS 19 07 44.2 -1.7
comp=Z,318nm,26.8s
TBI Tubuai 86.59 132 *e*LR LR 19 18 25.5
comp=Z,2µm,34.5s,baz=324
VSL Villasalto 87.32 335 *e*P P 18 51 32.7 +0.5
comp=Z,36nm,1.3s
VSL LR LR
comp=Z,6µm,19.0s
CLTB Caltabellotta 87.95 331 PFAKE 18 51 50.0 +15
CLTB LR LR
comp=Z,900nm,18.5s
PBRG Braganca 88.54 347 *e*S S 19 02 16.1 -6.7
PGAV Gavieira, Arco 88.59 349 *e*S S 19 02 13.4 -10
PGAV Gavieira, Arco 88.59 349 *e*LR LR 19 30 03.0
comp=Z,2µm,18.0s
URZ Urewera 88.64 164 PFAKE 18 51 50.0 +12
URZ LR LR
comp=Z,1µm,18.0s
PCAB Cabril 88.81 348 *e*P P 18 51 40.3 +1.1
comp=Z,55nm,1.8s
WDD Wield Dalam 89.09 330 PFAKE 18 51 50.0 +9.4
WDD LR LR
comp=Z,2µm,19.5s
POLO Lamas de Olo 89.11 348 *e*P P 18 51 40.7 0.0
comp=Z,2µm,1.0s
POLO Lamas de Olo 89.11 348 *e*S S 19 02 18.0 -10
PVRL Vila Real 89.19 348 *e*P P 18 51 41.1 +0.1
MVO Moncorvo 89.21 347 *e*P P 18 51 41.0 -0.1
comp=Z,45nm,1.4s
MVO Moncorvo 89.21 347 *e*S S 19 02 18.6 -11
MVO Moncorvo 89.21 347 *e*LR LR 19 32 27.1
comp=Z,2µm,18.0s
BKZ Black Stump Fm 89.41 164 PFAKE 18 51 50.0 +8.3
BKZ LR LR
comp=Z,2µm,18.3s
PVIS Viseu 89.77 348 *e*P P 18 51 43.7 -0.1
MTE Manteigas 90.03 348 *e*P P 18 51 45.4 +0.4
comp=Z,31nm,1.7s
MTE Manteigas 90.03 348 *e*S SKSac 19 02 21.8 +7.0
MTE Manteigas 90.03 348 *e*LR LR 19 30 53.7
comp=Z,2µm,16.0s
MTE Manteigas 90.03 348 *e*P P 18 51 45.0 0.0
comp=Z,14nm,0.9s
MTE LR LR
comp=Z,2µm,18.4s
ESDC Sonseca Array 90.18 345 P P 18 51 45.4 -0.3
ESDC Sonseca Array 90.18 345 P P 18 51 45.4 -0.3
comp=Z,4.3nm,0.5s,baz=6.4,slow=3.9,SNR=29
ESDC LR LR 19 38 31.6
comp=Z,2µm,18.6s,baz=10.0,slow=40
ESLA Sonseca Array 90.18 345 *e*P P 18 51 45.1 -0.6
comp=Z,2.9nm,0.8s
PAB San Pablo 90.37 345 *e*P P 18 51 46.1 -0.5
comp=Z,10.0nm,0.8s
PAB pmax pmax
comp=Z,4µm,18.6s
PAB MLR MLR
PAB San Pablo 90.37 345 *e*P P 18 51 46.1 -0.5
comp=Z,9.9nm,0.8s
PAB LR LR
comp=Z,4µm,18.6s
TEIG Tepich 90.49 58 PFAKE 18 52 00.0 +13
TEIG LR LR
comp=Z,1µm,20.9s
PCAS Casmilo, Conde 90.50 348 *e*P P 18 51 47.6 +0.5
comp=Z,78nm,1.9s
PCAS Casmilo, Conde 90.50 348 *e*S S 19 02 43.3 +2.2
BFZ Birch Farm 90.84 165 PFAKE 18 52 00.0 +12
BFZ LR LR
comp=Z,2µm,21.6s
KEST Kesra 90.84 334 *e*P P 18 51 50.1 +1.3
KEST Kesra 90.84 334 P P 18 51 50.8 +1.9
comp=Z,3.2nm,0.5s,baz=326,slow=3.1,SNR=15
KEST LR LR 19 36 58.2
comp=Z,2µm,20.0s,baz=136,slow=38

PMRV	**Marv??o**	**90.96**	**347**	*e*S		SKSac	19 02 28.7	+8.6
PMRV	**Marv??o**	**90.96**	**347**	*e*LR		LR	19 31 38.4	
	comp=Z,4µm,18.0s							
PMTG	**Montargil**	**91.43**	**348**	*e*P		**P**	**18 51 53.6**	**+2.2**
	comp=Z,25nm,1.6s							
PMTG	**Montargil**	**91.43**	**348**	*e*S		SKSac	19 02 30.2	+7.5
DGAR	**Diego Garcia**	**91.48**	**261**		PFAKE		18 52 00.0	+8.1
DGAR					LR	LR		
	comp=Z,1µm,19.3s							
PESTR	**Estremoz**	**91.54**	**347**	*e*P		**P**	**18 51 52.4**	**+0.4**
	comp=Z,31nm,1.7s							
PESTR	**Estremoz**	**91.54**	**347**	*e*S		SKSac	19 02 34.1	+11
TAU	**Tasmania Unive**	**91.68**	**187**		PFAKE		18 52 00.0	+8.0
TAU					LR	LR		
	comp=Z,1µm,18.0s							
PMAFR	**Mafra**	**91.68**	**349**	*e*S		**S**	**19 02 49.0**	**-2.9**
LIS	**Lisbon**	**91.90**	**349**	*e*P		**P**	**18 51 54.0**	**+0.4**
LIS					AMS	AMS	19 40 08.1	
	comp=N,2µm,18.4s							
EVO	**Evora**	**91.93**	**348**	*e*P		**P**	**18 51 56.1**	**+2.3**
	comp=N,28nm,1.7s							
KHZ	**Kahutara**	**92.11**	**167**		PFAKE		18 52 10.0	+16
KHZ					LR	LR		
	comp=Z,2µm,18.4s							
PBAR	**Barrancos**	**92.14**	**347**	*e*P		**P**	**18 51 56.7**	**+2.0**
	comp=Z,20nm,1.4s							
PNCL	**Nicolau / Gran**	**92.41**	**348**	*e*S		**SKSac**	**19 02 31.3**	**+3.0**
MESJ	**Messejana**	**92.64**	**348**	*e*P		**P**	**18 51 56.9**	**-0.1**
MESJ				*e*S		**SKSac**	**19 02 32.0**	**+2.5**
MESJ					AMS	AMS	19 41 23.4	
	comp=Z,3µm,16.5s							
PCVE	**Castro Verde**	**92.82**	**348**	*e*P		**P**	**18 52 00.4**	**+2.5**
	comp=Z,34nm,1.8s							
PVAQ	**Vaqueiros**	**93.00**	**347**	*e*P		**P**	**18 51 58.4**	**-0.3**
	comp=Z,46nm,1.8s							
PVAQ	**Vaqueiros**	**93.00**	**347**	*e*S		**SKSac**	**19 02 37.5**	**+6.0**
PVAQ	**Vaqueiros**	**93.00**	**347**	*e*LR		LR	19 37 36.5	
	comp=Z,3µm,18.0s							
RPZ	**Rata Peaks**	**93.05**	**169**		PFAKE		18 52 10.0	+12
RPZ					LR	LR		
	comp=Z,2µm,19.0s							
PBDV	**Barranco-do-Ve**	**93.18**	**347**	*e*S		SKSac	19 02 40.8	+8.1
MORF	**Marmelete**	**93.22**	**348**	*e*P		**P**	**18 52 00.4**	**+0.6**
MORF	**Marmelete**	**93.22**	**348**	*e*S		**SKSac**	**19 02 39.2**	**+6.3**
RKT	**Rikitea**	**94.14**	**121**	*e*PS		PS	19 04 29.8	-1.1
	comp=Z,696nm,28.8s							
RKT				*e*SS		SS	19 09 34.8	-0.2
	comp=Z,451nm,24.5s							
RKT	**Rikitea**	**94.14**	**121**	*e*LR		LR	19 22 08.1	
	comp=Z,1µm,35.5s,baz=320							
ODZ	**Otahua Downs**	**94.31**	**170**		PFAKE		18 52 20.0	+16
ODZ					LR	LR		
	comp=Z,2µm,18.0s							
DCZ	**Deep Cove**	**94.38**	**172**		PFAKE		18 52 20.0	+16
DCZ					LR	LR		
	comp=Z,1µm,19.8s							
TGUH	**Tegucigalpa,Un**	**95.99**	**61**		PFAKE		18 52 20.0	+7.3
TGUH					LR	LR		
	comp=Z,800nm,21.7s							
RTC	**Rabat Centre**	**96.21**	**346**		PFAKE		18 52 20.0	+6.5
RTC					LR	LR		
	comp=Z,2µm,20.2s							
GTBY	**Guantanamo Bay**	**97.69**	**48**		PFAKE		18 52 30.0	+10
GTBY					LR	LR		
	comp=Z,2µm,18.8s							
MTDJ	**Mount Denham**	**97.90**	**51**		PFAKE		18 52 30.0	+8.5
MTDJ					LR	LR		
	comp=Z,1µm,19.5s							
GRTK	**Grand Turk**	**98.21**	**44**		PFAKE		18 52 30.0	+7.3
GRTK					LR	LR		
	comp=Z,2µm,19.4s							
PTCN	**Pitcairn Islan**	**98.45**	**118**		PFAKE		18 52 40.0	+16
PTCN					LR	LR		
	comp=Z,2µm,20.0s							
SDDR	**Presa de Saban**	**100.33**	**45**		PFAKE		18 52 40.0	+7.7
SDDR					LR	LR		
	comp=Z,1µm,19.3s							
JTS	**JuntasAbangare**	**100.35**	**61**		PFAKE		18 52 40.0	+7.6
JTS					LR	LR		
	comp=Z,800nm,20.1s							
MSEY	**Mahe Island**	**100.63**	**275**		PFAKE		18 52 40.0	+6.4
MSEY					LR	LR		
	comp=Z,2µm,19.8s							
FURI	**Furi**	**100.81**	**297**		PFAKE		18 52 50.0	+15
FURI					LR	LR		
	comp=Z,900nm,18.6s							
AGP	**Aguadilla**	**102.72**	**42**		PFAKE		18 52 50.0	+7.2
AGP					LR	LR		
	comp=Z,1µm,21.0s							
AOPR	**Arecibo Observ**	**102.95**	**42**		PFAKE		18 53 00.0	+16
AOPR					LR	LR		
	comp=Z,1µm,20.9s							
CRPR	**Cabo Rojo, PR**	**103.09**	**42**		PFAKE		18 53 00.0	+16
CRPR					LR	LR		
	comp=Z,1µm,18.9s							
BCIP	**Isla Barro Col**	**104.18**	**58**		PFAKE		18 53 00.0	+11
BCIP					LR	LR		
	comp=Z,800nm,18.0s							
ANWB	**Willy Bob**	**105.65**	**38**		PFAKE		18 57 20.0	
ANWB					LR	LR		
	comp=Z,900nm,22.0s							
PAYG	**Puerto Ayora**	**105.75**	**72**		PFAKE		18 57 20.0	
PAYG					LR	LR		
	comp=Z,700nm,20.9s							
SDV	**Santo Domingo**	**109.32**	**50**		PFAKE		18 57 30.0	
SDV					LR	LR		
	comp=Z,400nm,20.9s							
KMBO	**Kilima Mbogo**	**109.61**	**292**		PFAKE		18 57 30.0	
KMBO					LR	LR		
	comp=Z,2µm,19.0s							
GRGR	**Grenville**	**110.67**	**40**		PFAKE		18 57 30.0	
GRGR					LR	LR		
	comp=Z,1µm,20.0s							
OTAV	**Otavalo**	**112.24**	**62**		PFAKE		18 57 30.0	
OTAV					LR	LR		
	comp=Z,500nm,19.4s							
MBAR	**Mbarara**	**113.10**	**298**		PFAKE		18 57 30.0	
MBAR					LR	LR		
	comp=Z,700nm,20.4s							
TORD	**Torodi Ar. Bea**	**114.34**	**333**		PKP	PKPdf	18 57 24.1	-1.2
TORD					PP	**PP**	**18 58 16.1**	**-4.1**
TORD	**Torodi Ar. Bea**	**114.34**	**333**		PKP	PKPdf	18 57 24.1	-1.2
	comp=Z,0.7nm,0.8s,baz=351,slow=3.6,SNR=3.3							
TORD					PP	**PP**	**18 58 16.1**	**-4.1**
	comp=Z,5.0nm,0.8s,baz=9.1,slow=7.9,SNR=10							
DRV	**Dumont d'Urvil**	**115.81**	**187**		SP	SP	19 08 08.0	-0.2
DRV					SS	SS	19 14 04.0	-27
SACV	**Santiago Islan**	**116.51**	**360**		PFAKE		18 57 40.0	+10
SACV					LR	LR		
	comp=Z,800nm,18.2s							
ABPO	**Ambohimpanom**	**116.58**	**271**		PFAKE		18 57 40.0	+10
ABPO					LR	LR		
	comp=Z,1µm,18.0s							
DBIC	**Dimbokro**	**122.34**	**338**		PFAKE		18 57 50.0	+9.3
DBIC					LR	LR		
	comp=Z,1µm,20.0s							
PTGA	**Pitinga**	**122.85**	**45**		PFAKE		18 57 50.0	+8.3
PTGA					LR	LR		
	comp=Z,2µm,21.6s							
NNA	**Nana**	**122.88**	**69**		PFAKE		18 57 50.0	+8.3
NNA					LR	LR		
	comp=Z,500nm,18.2s							
VNDA	**Vanda**	**126.10**	**179**		PKP	**PKPdf**	**18 57 47.6**	**+1.6**
VNDA					LR	LR		
	comp=Z,700nm,18.1s							
VNDA	**Vanda**	**126.10**	**179**		PKP	**PKPdf**	**18 57 47.6**	**+1.6**
	comp=Z,2.4nm,1.0s,baz=308,slow=6.2,SNR=4.3							
LSZ	**Lusaka**	**126.17**	**290**	*e*PKPdf		**PKPdf**	**18 57 48.9**	**+0.7**
LSZ					LR	LR		
	comp=Z,1µm,18.8s							
LSZ	**Lusaka**	**126.17**	**290**		PKP	**PKPdf**	**18 57 48.8**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=37,slow=7.5,SNR=15							
SBA	**Scott Base**	**126.56**	**177**		PFAKE		18 58 00.0	+13
SBA					LR	LR		
	comp=Z,600nm,21.4s							
LPAZ	**La Paz**	**131.49**	**64**		PKP	**PKPdf**	**18 57 59.8**	**+1.0**
LPAZ					LR	LR		
	comp=Z,700nm,20.4s							
LPAZ	**La Paz**	**131.49**	**64**		PKP	**PKPdf**	**18 57 59.8**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=42,slow=4.5,SNR=5.4							
LBTB	**Lobatse**	**134.97**	**284**	*e*PKPdf		**PKPdf**	**18 58 05.1**	**+0.6**
LBTB				*e*PP		**PP**	**19 00 37.1**	**-2.3**
LBTB					PP	PP	19 00 38.0	-1.5
LBTB					LR	LR		
	comp=Z,900nm,20.5s							
LBTB	**Lobatse**	**134.97**	**284**		PKP	**PKPdf**	**18 58 05.2**	**+0.6**
	comp=Z,8.8nm,0.8s,baz=355,slow=2.5,SNR=11							
LBTB					PP	**PP**	**19 00 38.0**	**-1.5**
	comp=Z,12nm,1.0s,baz=68,slow=4.3,SNR=7.8							
MAW	**Mawson**	**135.09**	**213**		PKP	**PKPdf**	**18 58 04.0**	**+0.8**
MAW	**Mawson**	**135.09**	**213**		PKP	**PKPdf**	**18 58 04.0**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=81,slow=17,SNR=9.4							
TSUM	**Tsumeb**	**135.63**	**297**		PKPpre	PKPpre	18 57 57.7	
TSUM				*e*PKPpre		PKPpre	18 57 59.2	
TSUM					PKP	**PKPdf**	**18 58 06.4**	**+0.4**
TSUM				*e*PKPdf		**PKiKP**	**18 58 06.7**	**-0.8**
TSUM	**Tsumeb**	**135.63**	**297**		PKhKP	PKPpre	18 57 57.7	
	comp=Z,3.1nm,0.8s,baz=34,slow=0.8,SNR=5.7							
TSUM					PKP	**PKPdf**	**18 58 06.4**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=178,slow=23,SNR=22							
LVC	**Limon Verde**	**135.82**	**70**		PFAKE		18 58 20.0	+14
LVC					LR	LR		
	comp=Z,600nm,19.2s							
RCBR	**Riachuelo**	**135.93**	**18**		PFAKE		18 58 20.0	+13
RCBR					LR	LR		
	comp=Z,1µm,18.8s							
H03N2	**Juan Fernandez**	**136.61**	**90**		T	T	21 30 35.3	
	baz=310,slow=75,SNR=52							
H03N1	**Juan Fernandez**	**136.63**	**90**		T	T	21 30 45.4	
	baz=310,slow=75,SNR=52							
H03N3	**Juan Fernandez**	**136.63**	**90**		T	T	21 30 53.2	
	baz=310,slow=75,SNR=44							
BOSA	**Boshof**	**137.66**	**280**		PKP	**PKPdf**	**18 58 09.9**	**+0.5**
BOSA					LR	LR		
	comp=Z,700nm,18.9s							
BOSA	**Boshof**	**137.66**	**280**		PKP	**PKPdf**	**18 58 09.9**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=117,slow=4.8,SNR=6.4							
ASCN	**Ascension**	**138.51**	**346**		PFAKE		18 58 20.0	+8.7
ASCN					LR	LR		
	comp=Z,800nm,19.9s							
QSPA	**South Pole Qui**	**138.55**	**180**		PFAKE		18 58 20.0	+10
QSPA					LR	LR		
	comp=Z,600nm,19.0s							
LCO	**Las Campanas**	**139.19**	**79**		PFAKE		18 58 20.0	+7.6
LCO					LR	LR		
	comp=Z,800nm,18.8s							
BDFB	**Brasilia**	**141.39**	**39**		PKP	**PKPdf**	**18 58 15.9**	**-0.7**
BDFB	**Brasilia**	**141.39**	**39**		PKP	**PKPdf**	**18 58 15.9**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=50,slow=16,SNR=3.8							
SUR	**Sutherland**	**143.01**	**280**		PFAKE		18 58 30.0	+11
SUR					LR	LR		
	comp=Z,900nm,18.9s							
SYO	**Syowa Base**	**143.80**	**213**	⇑	*i*X	PKPab	18 58 15.4	-0.7
SHEL	**Horse Pasture**	**144.09**	**330**		PFAKE		18 58 30.0	+8.8
SHEL					LR	LR		
	comp=Z,1µm,18.5s							
CPUP	**Villa Florida**	**145.59**	**62**		PKPbc	**PKPdf**	**18 58 23.5**	**0.0**
CPUP	**Villa Florida**	**145.59**	**62**		PKPbc	**PKPdf**	**18 58 23.5**	**0.0**
	comp=Z,7.0nm,0.8s,baz=307,slow=1.6,SNR=9.3							
PLCA	**Paso Flores**	**146.23**	**94**		PKPbc	**PKPbc**	**18 58 25.8**	**+0.4**
PLCA					LR	LR		
	comp=Z,800nm,18.0s							
PLCA	**Paso Flores**	**146.23**	**94**		PKPbc	**PKPbc**	**18 58 25.8**	**+0.4**
	comp=Z,5.4nm,0.7s,baz=278,slow=2.7,SNR=12							
TRQA	**Tornquist**	**150.49**	**83**	*e*PKPdf		**PKPbc**	**18 58 35.8**	**-0.8**
TRQA					LR	LR		
	comp=Z,800nm,18.4s							
NVL	**N'lazarevskaya**	**152.40**	**205**	*e*PKIKP		**PKPbc**	**18 58 39.9**	**0.0**
PMSA	**Palmer Station**	**153.36**	**142**		PFAKE		18 58 50.0	-4.4
PMSA					LR	LR		
	comp=Z,1µm,18.9s							
SNAA	**Sanae**	**155.12**	**196**	*e*PKPdf		**PKPdf**	**18 58 35.9**	**-1.1**
SNAA	**Sanae**	**155.12**	**196**	*e*PKP		PKPdf	18 58 45.9	+8.9
SNAA	**Sanae**	**155.12**	**196**	*e*PKPab		**PKPab**	**18 59 01.4**	**-0.5**
SNAA	**Sanae**	**155.12**	**196**	*e*PKPdf		**PKPdf**	**18 58 36.5**	**-0.5**
SNAA					LR	LR		
	comp=Z,800nm,20.0s							
VNA2	**Neumayer--Watz**	**156.52**	**193**	*e*PKPdf		**PKPdf**	**18 58 38.0**	**-0.8**
VNA2	**Neumayer--Watz**	**156.52**	**193**	*e*PKPab		**PKPab**	**18 59 06.2**	**-1.6**
VNA1	**Neumayer--Stat**	**156.90**	**193**	*e*PKPab		**PKPab**	**18 59 09.0**	**-0.4**
EFI	**East Falkland**	**157.96**	**111**		PFAKE		18 58 50.0	+8.9
EFI					LR	LR		
	comp=Z,2µm,18.0s							

*IDC **12** 18:50:56.6±12.0, 37.86N×74.15E, h147km±123km, mb3.2/2, mb1 3.4/6, mb1mx3.0/31, mbtmp3.3/6, ML3.8/4, Error ellipse: s-maj=89.6km s-min=33.3km az=13.0*
*NNC **12** 18:51:07.1±7.0, 38.90N×74.01E, h276km±76km, mb2.4, mpv3.7, Error ellipse: s-maj=86.1km s-min=38.4km az=175.0*

ISC 12 18:50:57.6±1.3, 38.0N±0.1×74.1E±0.1, h152km, n19, σ1$86/20, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.16**	**356**	P		**Pn**	**18 52 02.4**	**+2.1**
	SNR=84							
KZA	**Kyzart**	**4.20**	**12**	P		**Pn**	**18 52 02.7**	**+1.8**
	SNR=48							
UCH	**Uchtor**	**4.26**	**5**	P		**Pn**	**18 52 03.9**	**+2.1**
	SNR=40							
ULHL	**Ulahol**	**4.59**	**21**	P		**Pn**	**18 52 07.4**	**+1.7**
	SNR=6.3							
AAK	**Ala-Archa**	**4.67**	**4**	P		**Pn**	**18 52 08.8**	**+2.1**
	SNR=7.0							
EKS2	**Erkin-Say**	**4.69**	**357**	P		Pn	18 52 10.3	+3.3
	SNR=6.3							
KBK	**Karagaybulak**	**4.73**	**8**	P		**Pn**	**18 52 10.0**	**+2.4**
	SNR=35							
CHMS	**Chumysh**	**5.05**	**6**	P		**Pn**	**18 52 14.0**	**+2.3**
	SNR=26							
TKM2	**Tokmak 2**	**5.08**	**13**	P		**Pn**	**18 52 14.1**	**+1.8**
	SNR=32							
TKM2	**Tokmak 2**	**5.08**	**13**	⇑P		**Pn**	**18 52 14.0**	**+1.8**
	15nm,0.5s							
TKM2				⇑S		**Sn**	**18 53 08.9**	**-1.6**
	13nm,0.6s							
USP	**Ospenovka**	**5.30**	**4**	P		**Pn**	**18 52 16.9**	**+1.9**
	SNR=5.3							
KK31	**Karatay Array**	**5.79**	**333**	⇓P		**Pn**	**18 52 23.3**	**+1.8**
	2.0nm,0.3s,baz=142,slow=13,SNR=219							
KK31				⇓S		**Sn**	**18 53 24.4**	**-2.8**
	19nm,0.5s,baz=147,slow=26,SNR=14							
MKAR	**Makanchi Array**	**10.71**	**32**	P		**Pn**	**18 53 26.8**	**0.0**
	0.2nm,0.3s,baz=209,slow=14,SNR=9.1							
KURBB	**Kurchatov Arra**	**13.04**	**13**	P		**Pn**	**18 53 58.5**	**+1.4**
	0.3nm,0.3s,baz=200,slow=9.6,SNR=8.6							
AB31	**Akbulak array**	**15.19**	**322**	⇑P		**Pn**	**18 54 24.1**	**0.0**
	0.9nm,0.6s,baz=131,slow=12,SNR=12							
BVAR	**Borovoye Array**	**15.27**	**352**	P		**Pn**	**18 54 24.1**	**-0.9**
	0.2nm,0.3s,baz=153,slow=13,SNR=4.6							
ZALV	**Zalesovo Beam**	**17.61**	**21**	P		**P**	**18 54 52.2**	**+0.1**
	0.9nm,0.3s,baz=214,slow=11,SNR=19							
TORD	**Torodi Ar. Bea**	**68.17**	**270**	P		**P**	**19 01 41.9**	**+0.2**
	0.3nm,0.5s,baz=52,slow=5.6,SNR=4.2							
WRA	**Warramunga Arr**	**80.75**	**124**	P		**P**	**19 02 53.0**	**-1.1**
	0.5nm,0.7s,baz=320,slow=4.9,SNR=6.1							

*ROM **12** 18:51:20.9±0.2, 43.71N×13.24E, h5km±1km, Ml3.5/6, Error ellipse: s-maj=1.7km s-min=1.2km az=36.0*
*LDG **12** 18:51:20.7±0.1, 43.70N×13.18E, h10km, Ml3.2/6, Error ellipse: s-maj=3.9km s-min=2.8km az=79.0*
*CSEM **12** 18:51:22.8±0.1, 43.66N×13.20E, h20km, ML3.3, Error ellipse: s-maj=2.9km s-min=2.4km az=99.0*
*ISCJB **12** 18:51:22.0±0.5, 43.81N±0.02×13.23E±0.03, h15km±7km, Error ellipse: s-maj=4.4km s-min=3.1km az=34.2*
*VIE **12** 18:51:23.6±0.5, 43.81N×13.34E, h10km, mb3.0/1, ML3.3/10, Error ellipse: s-maj=3.9km s-min=2.9km az=12.0 71 km E of San Marino*
*PRU **12** 18:51:25.8, 44.00N×13.19E, h0km*

ISC 12 18:51:22.3±0.8, 43.68N±0.02×13.22E±0.02, h16km±6km, n127, σ1$22/164, 6C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARVD	**Arcevia**	**0.27**	**227**	Pg	**Pg**	**18 51 27.6**	**-0.7**
ARVD				Sg	**Sg**	**18 51 32.7**	**+0.4**
ARVD	**Arcevia**	**0.27**	**227**	Pg	**Pg**	**18 51 27.6**	**-0.7**
ARVD				Sg	**Sg**	**18 51 32.7**	**+0.4**
CING	**Cingoli**	**0.31**	**183**	⇓*i*Pg	**Pg**	**18 51 28.3**	**-0.6**
CING				Sg	**Sg**	**18 51 34.1**	**+0.7**
CING	**Cingoli**	**0.31**	**183**	⇓*i*Pg	**Pg**	**18 51 28.3**	**-0.6**
CING				Sg	**Sg**	**18 51 34.1**	**+0.7**
AOI	**Ancona**	**0.31**	**115**	Pg	**Pg**	**18 51 28.1**	**-0.8**
AOI				Sg	**Sg**	**18 51 33.6**	**+0.2**
AOI	**Ancona**	**0.31**	**115**	Pg	**Pg**	**18 51 28.1**	**-0.8**
AOI				Sg	**Sg**	**18 51 33.6**	**+0.2**
FSSB	**Fossombrone**	**0.32**	**272**	Pg	**Pg**	**18 51 28.4**	**-0.7**
FSSB				Sg	**Sg**	**18 51 34.1**	**+0.5**
FSSB	**Fossombrone**	**0.32**	**272**	Pg	**Pg**	**18 51 28.4**	**-0.7**
FSSB				Sg	**Sg**	**18 51 34.1**	**+0.5**
PIEI	**Pieia**	**0.52**	**254**	Pg	**Pg**	**18 51 31.8**	**-0.8**
PIEI				Sg	**Sg**	**18 51 40.3**	**+0.7**
	1µm,0.2s						
PIEI	**Pieia**	**0.52**	**254**	Pg	**Pg**	**18 51 31.8**	**-0.8**
PIEI				Sg	**Sg**	**18 51 40.3**	**+0.7**
	1µm,0.2s						
RSM	**Repubblica di**	**0.61**	**294**	Pg	**Pg**	**18 51 33.7**	**-0.6**
RSM	**Repubblica di**	**0.61**	**294**	Pg	**Pg**	**18 51 33.7**	**-0.6**
FDMO	**Fiordimonte**	**0.65**	**188**	Pg	**Pg**	**18 51 34.3**	**-0.9**
FDMO				Sg	**Sg**	**18 51 45.0**	**+1.1**
FDMO	**Fiordimonte**	**0.65**	**188**	Pg	**Pg**	**18 51 34.3**	**-0.9**
CESI	**CESI - Serrava**	**0.71**	**199**	Pg	**Pg**	**18 51 35.5**	**-0.8**
CESI				Sg	**Sb**	**18 51 47.6**	**+1.6**
CESI	**CESI - Serrava**	**0.71**	**199**	Pg	**Pg**	**18 51 35.5**	**-0.8**
BADI	**Badiali**	**0.73**	**256**	Pg	**Pg**	**18 51 35.9**	**-0.6**
BADI				Sg	**Sb**	**18 51 47.8**	**+1.5**
BADI	**Badiali**	**0.73**	**256**	Pg	**Pg**	**18 51 35.9**	**-0.6**
BADI				Sg	**Sb**	**18 51 47.8**	**+1.5**
CDCA	**Citt' di Caste**	**0.75**	**253**	Pg	**Pg**	**18 51 36.4**	**-0.5**
CDCA				Sg	**Sn**	**18 51 49.0**	**-0.2**
CDCA	**Citt' di Caste**	**0.75**	**253**	Pg	**Pg**	**18 51 36.4**	**-0.5**
GUMA	**Gualdo di Mace**	**0.81**	**140**	Pg	Pg	18 51 34.3	-3.9
GUMA				Sg	**Sg**	**18 51 45.2**	**-3.7**
OFFI	**Offida**	**0.82**	**155**	Pg	**Pg**	**18 51 38.8**	**+0.4**
OFFI	**Offida**	**0.82**	**155**	Pg	**Pg**	**18 51 38.8**	**+0.4**
NRCA	**Norcia**	**0.85**	**185**	Pg	**Pg**	**18 51 37.8**	**-1.1**
NRCA				Sg	**Sb**	**18 51 52.0**	**+2.0**
NRCA	**Norcia**	**0.85**	**185**	Pg	**Pg**	**18 51 37.8**	**-1.1**
CRE	**Caprese Michel**	**0.92**	**266**	Pg	**Pb**	**18 51 39.9**	**-0.1**
CRE	**Caprese Michel**	**0.92**	**266**	Pg	**Pb**	**18 51 39.9**	**-0.1**
CAFI	**Castiglion Fio**	**0.97**	**249**	Pg	**Pb**	**18 51 40.8**	**-0.1**
CAFI	**Castiglion Fio**	**0.97**	**249**	Pg	**Pb**	**18 51 40.8**	**-0.1**
SFI	**Santa Sofia**	**1.01**	**283**	Pg	**Pb**	**18 51 41.6**	**+0.1**
SFI	**Santa Sofia**	**1.01**	**283**	Pg	**Pb**	**18 51 41.6**	**+0.1**
ASQU	**Asqua**	**1.04**	**277**	Pg	**Pb**	**18 51 41.8**	**-0.2**
ASQU	**Asqua**	**1.04**	**277**	Pg	**Pb**	**18 51 41.8**	**-0.2**
SMA1	**SAN MARTINO**	**1.06**	**175**	Pg	**Pb**	**18 51 41.4**	**-0.9**
	1µm,0.4s						
TERO	**Teramo**	**1.10**	**165**	Pg	**Pb**	**18 51 42.1**	**-0.9**
TERO	**Teramo**	**1.10**	**165**	Pg	**Pb**	**18 51 42.1**	**-0.9**
MGAB	**Montegabbione**	**1.11**	**227**	Pg	**Pb**	**18 51 43.1**	**-0.1**
MGAB	**Montegabbione**	**1.11**	**227**	Pg	**Pb**	**18 51 43.1**	**-0.1**
RM29	**Verrico (Monte**	**1.12**	**180**	Pg	**Pb**	**18 51 42.8**	**-0.6**
	20372µm,52.0s						
FIAM	**Fiamignano**	**1.42**	**183**	Pg	**Pn**	**18 51 47.9**	**+0.4**
FIAM	**Fiamignano**	**1.42**	**183**	Pg	**Pn**	**18 51 47.9**	**+0.4**
NVLJ	**Novalja**	**1.48**	**53**	*i* Pn	**Pn**	**18 51 47.7**	**-0.6**
NVLJ	**Novalja**	**1.48**	**53**	*i* Pn	**Pn**	**18 51 47.7**	**-0.6**
PTQR	**Pietraquaria**	**1.67**	**175**	Pg	**Pn**	**18 51 51.3**	**+0.4**
PTQR	**Pietraquaria**	**1.67**	**175**	Pg	**Pn**	**18 51 51.3**	**+0.4**
MTCE	**Montecelio**	**1.70**	**192**	Pg	**Pn**	**18 51 52.5**	**+1.2**
MTCE	**Montecelio**	**1.70**	**192**	Pg	**Pn**	**18 51 52.5**	**+1.2**
CERT	**Cerreto**	**1.74**	**186**	Pg	**Pn**	**18 51 53.4**	**+1.4**
CERT	**Cerreto**	**1.74**	**186**	Pg	**Pn**	**18 51 53.4**	**+1.4**
INTR	**Introdacqua**	**1.75**	**163**	Pg	**Pn**	**18 51 53.2**	**+1.2**
INTR	**Introdacqua**	**1.75**	**163**	Pg	**Pn**	**18 51 53.2**	**+1.2**
SKDS	**Skadanscina**	**1.95**	**17**	*i* Pn	**Pn**	**18 51 54.2**	**-0.6**
SKDS				*i* Sn	**Sn**	**18 52 18.8**	**-0.1**
SKDS							
	comp=Z,172nm,0.3s						
SKDS	**Skadanscina**	**1.95**	**17**	*i* Pn	**Pn**	**18 51 54.2**	**-0.6**
SKDS				*i* Sn	**Sn**	**18 52 18.8**	**-0.1**
	comp=Z,172nm,0.3s						
TEOL	**Teolo**	**2.01**	**327**	Pg	**Pn**	**18 51 55.6**	**0.0**
	comp=Z,539nm,0.7s						
TEOL	**Teolo**	**2.01**	**327**	Pg	**Pn**	**18 51 55.6**	**0.0**
	comp=Z,539nm,0.7s						
UDBI	**Udbina**	**2.02**	**64**	*e*Pn	**Pn**	**18 51 56.2**	**+0.4**
UDBI				Sn	**Sn**	**18 52 22.1**	**+1.4**
UDBI	**Udbina**	**2.02**	**64**	*e*Pn	**Pn**	**18 51 56.2**	**+0.4**
UDBI				Sn	**Sn**	**18 52 22.1**	**+1.4**
CEY	**Cerknica**	**2.23**	**22**	*i* Pn	**Pn**	**18 51 58.3**	**-0.3**
CEY				*i* Sn	**Sn**	**18 52 26.6**	**+0.8**
CEY	**Cerknica**	**2.23**	**22**	*i* Pn	**Pn**	**18 51 58.3

LPL				*e*Sn	Sn	18 53 26.1	-7.8
	comp=Z,3.8nm,0.3s							
LPL	**La Plagne**	**4.98**	**294**	*e*P	**Pn**	**18 52 36.9**	**+0.3**
KHC	**Kasperske Hory**	**5.46**	**3**	*e*PN	**Pn**	**18 52 42.8**	**-0.1**
KHC				*ex*	x	18 52 51.1	
KHC				*e*SN	**Sn**	**18 53 41.7**	**-3.6**
KHC				*ex*	x	18 53 57.5	
KHC	**Kasperske Hory**	**5.46**	**3**	Pn	**Pn**	**18 52 42.8**	**-0.1**
CABF	**La Chapelle**	**5.83**	**303**	*e*P	**Pn**	**18 52 48.8**	**+0.7**
CABF	**La Chapelle**	**5.83**	**303**	*e*P	**Pn**	**18 52 48.8**	**+0.7**
HINF	**Hinteralfeld**	**6.07**	**315**	*e*P	**Pn**	**18 52 51.1**	**-0.3**
HINF				*e*Sn	Sn	18 53 53.6	-7.0
	comp=Z,12nm,0.5s							
HINF	**Hinteralfeld**	**6.07**	**315**	*e*P	**Pn**	**18 52 51.1**	**-0.3**
CDF	**Champ du Feu**	**6.28**	**321**	*e*P	**Pn**	**18 52 54.5**	**+0.2**
CDF	**Champ du Feu**	**6.28**	**321**	*e*P	**Pn**	**18 52 54.5**	**+0.2**
PRU	**Pruhonice**	**6.37**	**8**	*e*SN	**Sn**	**18 54 03.4**	**-4.5**
HAU	**Haudompre**	**6.46**	**314**	*e*Pn	Pn	18 52 53.4	-3.3
HAU	**Haudompre**	**6.46**	**314**	*e*P	**Pn**	**18 52 56.6**	**-0.1**
HAU				*e*Sn	Sn	18 54 02.6	-7.4
	comp=Z,14nm,0.4s							
HAU	**Haudompre**	**6.46**	**314**	*e*P	**Pn**	**18 52 56.6**	**-0.1**
NKC	**Novy Kostel**	**6.57**	**356**	*e*SN	**Sn**	**18 54 07.8**	**-5.0**
BRG	**Berggiesshubel**	**7.21**	**4**	SN	Sn	18 54 22.7	-5.8
BRG				SG	**Sg**	**18 55 12.2**	**-1.3**
	comp=Z,4.0nm,0.7s							
SMF	**Signal de Mont**	**7.26**	**297**	*e*P	**Pn**	**18 53 07.2**	**-0.5**
SMF				*e*Sn	Sn	18 54 21.9	-7.8
	comp=Z,5.8nm,0.5s							
SMF	**Signal de Mont**	**7.26**	**297**	*e*P	**Pn**	**18 53 07.2**	**-0.5**
LOR	**Lormes**	**7.49**	**302**	*e*Pn	Pn	18 53 07.0	-3.8
CLL	**Collm**	**7.63**	**359**	*e*Pn	**Pn**	**18 53 12.0**	**-0.7**
CLL				*e*Sn	Sn	18 54 32.0	-6.8
CLL				*e*Sg		18 55 29.0	

WEL 12 18:56:29.6±0.4, 37.90S×175.77E, h257km±4km, ML4.0/11, 9D, Error ellipse: s-maj=5.8km s-min=5.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.12**	**109**	↓P	Pn	18 57 05.7	-0.3
URZ				SN	S	18 57 33.8	-0.9
URZ				AML	AML	18 57 34.8	
TWVZ	**Taurewa**	**1.20**	**192**	PN	Pn	18 57 07.0	+0.4
WTVZ	**West Tongariro**	**1.23**	**187**	↓P	Pn	18 57 07.1	+0.3
NGZ	**Ngauruhoe**	**1.28**	**186**	PN	Pn	18 57 07.3	+0.1
COVZ	**Chateau Observ**	**1.31**	**188**	↓P	Pn	18 57 07.5	+0.1
WPVZ	**Whakapapa**	**1.32**	**188**	↓P	Pn	18 57 07.6	+0.2
FWVZ	**Far West T-bar**	**1.37**	**187**	PN	Pn	18 57 07.9	0.0
TUVZ	**Tukino**	**1.37**	**184**	PN	Pn	18 57 08.0	+0.2
BKZ	**Black Stump Fm**	**1.39**	**156**	PN	Pn	18 57 07.6	-0.2
BKZ				SN	S	18 57 37.0	-1.0
BKZ				AML	AML	18 57 39.3	
WNVZ	**Wahianoa**	**1.44**	**185**	↓P	Pn	18 57 08.4	+0.1
NMHZ	**Naumai**	**1.45**	**146**	PN	Pn	18 57 08.9	+0.6
NMHZ				*e*SN	S	18 57 38.0	-0.9
RAHZ	**Arahi**	**1.45**	**135**	PN	Pn	18 57 08.6	+0.4
RAHZ				SN	S	18 57 38.7	-0.1
MWZ	**Matawai**	**1.45**	**108**	PN	Pn	18 57 08.7	+0.4
MWZ				SN	S	18 57 38.8	0.0
MWZ				AML	AML	18 57 40.7	
MWZ				AML	AML	18 57 40.7	
MWZ				AML	AML	18 57 41.8	
MOVZ	**Moawhango**	**1.51**	**180**	↓P	Pn	18 57 08.3	-0.4
SNGZ	**Shannon Statio**	**1.52**	**126**	PN	Pn	18 57 08.6	-0.1
BHHZ	**Black Hill Sta**	**1.61**	**172**	↓P	Pn	18 57 09.1	-0.3
WHHZ	**Waihua**	**1.65**	**136**	PN	Pn	18 57 09.7	0.0
MCHZ	**McNeill Hill**	**1.71**	**155**	PN	Pn	18 57 10.3	+0.1
RIGZ	**Rimuhau**	**1.76**	**118**	PN	Pn	18 57 10.7	0.0
KNZ	**Kokohu**	**1.87**	**127**	PN	Pn	18 57 10.9	-0.5
PRGZ	**Paritu Road**	**1.95**	**122**	PN	Pn	18 57 12.9	+0.7
PUZ	**Puketiti**	**1.97**	**96**	PN	Pn	18 57 11.9	-0.5
PUZ				AML	AML	18 57 46.0	
PUZ				AML	AML	18 57 48.2	
CKHZ	**Cape Kidnapper**	**2.04**	**150**	PN	Pn	18 57 12.4	-0.5
MXZ	**Matakaoa Point**	**2.04**	**81**	↓P	Pn	18 57 12.7	-0.2
PNHZ	**Pukenui**	**2.04**	**171**	PN	Pn	18 57 12.0	-1.0
KAHZ	**Kahuranaki**	**2.08**	**156**	PN	Pn	18 57 12.9	-0.5
MHGZ	**Mahia Peninsul**	**2.09**	**127**	PN	Pn	18 57 13.0	-0.5
WPHZ	**Waipukurau**	**2.23**	**167**	PN	Pn	18 57 13.4	-1.3
PXZ	**Pawanui**	**2.30**	**159**	↓P	Pn	18 57 14.3	-1.0
POWZ	**Post Office Ro**	**2.49**	**180**	PN	Pn	18 57 15.9	-1.3
PRWZ	**Pori Road**	**2.66**	**177**	*e*Pn	Pn	18 57 17.7	-1.2
MRZ	**Mangatainoka R**	**2.77**	**183**	PN	Pn	18 57 17.9	-2.1
MRZ				AML	AML	18 57 57.8	
MRZ				AML	AML	18 57 58.5	
OGWZ	**Otaki Gorge**	**2.95**	**189**	PN	Pn	18 57 19.8	-2.1
HOWZ	**Holdsworth Sta**	**3.00**	**184**	PN	Pn	18 57 20.2	-2.3
KIW	**Kapiti Island**	**3.04**	**192**	PN	Pn	18 57 20.8	-2.0
KIW				AML	AML	18 58 00.9	
KIW				AML	AML	18 58 01.5	
DUWZ	**D'Urville Isla**	**3.24**	**206**	PN	Pn	18 57 22.8	-2.2
CAW	**Cannon Point**	**3.25**	**189**	PN	Pn	18 57 22.4	-2.8
CAW				AML	AML	18 58 06.7	
CAW				AML	AML	18 58 08.6	
MTW	**Mount Morrison**	**3.27**	**184**	PN	Pn	18 57 23.0	-2.3
MTW				AML	AML	18 58 06.6	
TCW	**Tory Channel**	**3.51**	**199**	PN	Pn	18 57 25.2	-2.8
TCW				AML	AML	18 58 10.1	
TCW				AML	AML	18 58 10.1	
MSWZ	**Moikau Station**	**3.54**	**186**	PN	Pn	18 57 25.8	-2.5
MSWZ				AML	AML	18 58 11.8	
PLWZ	**Palliser**	**3.69**	**186**	PN	Pn	18 57 26.9	-3.2
NNZ	**Nelson**	**3.80**	**208**	PN	Pn	18 57 27.9	-3.3
TUWZ	**Tuamarina**	**3.80**	**201**	PN	Pn	18 57 28.5	-2.8
TUWZ				AML	AML	18 58 15.6	
TUWZ				AML	AML	18 58 15.7	
QRZ	**Quartz Range**	**3.86**	**220**	PN	Pn	18 57 28.5	-3.4
BSWZ	**Blackbirch Sta**	**4.08**	**200**	PN	Pn	18 57 32.4	-2.2
THZ	**Tophouse**	**4.45**	**209**	PN	Pn	18 57 35.3	-3.7
KHZ	**Kahutara**	**4.83**	**200**	PN	Pn	18 57 40.0	-3.4
LTZ	**Lake Taylor**	**5.56**	**208**	PN	Pn	18 57 48.5	-3.9
MQZ	**McQueen's Vall**	**6.27**	**201**	PN	Pn	18 57 55.6	-5.4
LBZ	**Lake Benmore**	**7.73**	**211**	PN	Pn	18 58 14.0	-5.4
ODZ	**Otahua Downs**	**8.11**	**207**	PN	Pn	18 58 19.3	-4.8

KRSC 12 19:00:58.9±9.2, 49.02N×157.04E, h5km±5km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.77**	**341**	P	Pb	19 01 31.5	-0.3
SKR				*i* S	Sn	19 01 53.0	0.0
PAU	**Pauzhetka**	**2.45**	**357**	P	Pn	19 01 39.9	+0.3
PAU				*i* S	Sn	19 02 10.7	+0.8
ASAK	**Asacha**	**3.41**	**9**	P	Pn	19 01 53.9	+1.1
MTVR	**Mutnovka**	**3.54**	**11**	P	Pn	19 01 56.1	+1.4
MTVR				*i* S	Sn	19 02 38.0	+0.9
RUS	**Russkaya**	**3.54**	**15**	P	Pn	19 01 56.3	+1.8
RUS				*i* S	Sn	19 02 38.5	+1.8
PET	**Petropavlovsk**	**4.14**	**14**	P	Pn	19 02 04.4	+1.7
PET				*i* S	Sn	19 02 52.5	+1.1
UGLR	**Uglovaya**	**4.34**	**14**	P	Pn	19 02 07.8	+2.1
AVH	**Avacha**	**4.38**	**13**	P	Pn	19 02 08.7	+2.5
AVH				*i* S	Sn	19 03 00.3	+2.6
SMAR	**Somma**	**4.39**	**14**	P	Pn	19 02 08.9	+2.4
KOK	**Koryaka**	**4.39**	**13**	P	Pn	19 02 08.8	+2.4
KOK				*i* S	Sn	19 03 00.3	+2.3
SDLR	**Sedlovina**	**4.42**	**15**	P	Pn	19 02 08.2	+1.5
SDLR				*i* S	Sn	19 02 59.6	+0.9
KRER	**Koryakskii**	**4.42**	**13**	P	Pn	19 02 09.4	+2.5
KRX	**Arik**	**4.46**	**12**	P	Pn	19 02 09.7	+2.4
GNL	**Ganaly**	**4.72**	**7**	P	Pn	19 02 13.4	+2.6
MKZ	**Mys Kozlova**	**6.26**	**26**	P	Pn	19 02 33.1	+1.3
TUMR	**Tumrok**	**6.56**	**16**	P	Pn	19 02 38.7	+2.6

*IDC **12** 19:17:59.9±0.9, 48.83N×156.20E, h0km, mb3.5/9, mb1 3.7/11, mb1mx3.6/27, mbtmp3.6/11, ML3.4/2, Error ellipse: s-maj=26.1km s-min=15.5km az=146.0*
*MOS **12** 19:18:00.0±1.6, 48.85N×156.48E, h13km, mb4.1/5, Error ellipse: s-maj=23.0km s-min=7.2km az=78.8*
*ISCJB **12** 19:18:02.8±0.5, 48.85N±0.04×156.44E±0.0, h34km, mb3.7/10, Error ellipse: s-maj=9.8km s-min=3.6km az=29.1*
*KRSC **12** 19:18:02.6±7.9, 48.93N×157.29E, h5km±5km, ML4.1*

*SKHL **12** 19:18:04.5±0.2, 48.89N×156.48E, h56km±5km, mb4.3/4*
ISC 12 19:18:04.7±0.7, 48.86N±0.07×156.51E±0.08, h34km, n62, σ1°32/83, mb3.7/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.84**	**352**	*e*PN	**Pn**	**19 18 31.2**	**-2.7**
SKR				*e*S	**Sn**	**19 18 54.5**	**-1.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				smax	smax		
	comp=N,200nm,0.3s						
SKR				smax	smax		
	comp=E,330nm,0.3s						
SKR	**Severo-Kuril's**	**1.84**	**352**	P	**Pn**	**19 18 34.1**	**+0.2**
SKR				*i* S	**Sn**	**19 18 57.4**	**+1.4**
SKR	**Severo-Kuril's**	**1.84**	**352**	*e*P	**Pn**	**19 18 33.0**	**-0.9**
SKR				AMB	AMB	19 18 35.5	
	comp=E,50nm,0.5s						
SKR				AMB	AMB	19 18 35.5	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**19 18 54.5**	**-1.5**
SKR				A	A	19 18 58.3	
	comp=E,200nm,0.3s						
SKR				A	A	19 18 58.3	
	comp=E,330nm,0.3s						
PAU	**Pauzhetka**	**2.62**	**4**	PN	**Pn**	**19 18 45.2**	**+0.7**
PAU				S	**Sn**	**19 19 16.7**	**+1.6**
PAU	**Pauzhetka**	**2.62**	**4**	P	**Pn**	**19 18 45.2**	**+0.7**
PAU				*i* S	**Sn**	**19 19 16.7**	**+1.6**
MIPR	**Malaya Ipel'ka**	**3.42**	**3**	P	Pn	19 18 59.8	+4.1
ASAK	**Asacha**	**3.64**	**14**	P	**Pn**	**19 18 59.6**	**+1.0**
ASAK				*i* S	**Sn**	**19 19 41.6**	**+1.2**
MTVR	**Mutnovka**	**3.78**	**16**	P	**Pn**	**19 19 00.9**	**+0.2**
MTVR				*i* S	**Sn**	**19 19 43.8**	**-0.2**
RUS	**Russkaya**	**3.80**	**19**	PN	**Pn**	**19 19 01.1**	**+0.3**
RUS				S	**Sn**	**19 19 44.6**	**+0.4**
RUS	**Russkaya**	**3.80**	**19**	P	**Pn**	**19 19 01.1**	**+0.3**
RUS				*i* S	**Sn**	**19 19 44.6**	**+0.4**
RUS	**Russkaya**	**3.80**	**19**	*e*P	**Pn**	**19 19 01.1**	**+0.3**
APC	**Apacha**	**4.09**	**6**	P	**Pn**	**19 19 06.6**	**+1.8**
APC				*i* S	**Sn**	**19 19 53.8**	**+2.4**
PETK	**Petropavlovsk-**	**4.32**	**10**	PN	**Pn**	**19 19 09.3**	**+1.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.32**	**10**	Pn	**Pn**	**19 19 09.2**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=162,slow=16,SNR=27						
PET	**Petropavlovsk**	**4.39**	**17**	PN	**Pn**	**19 19 09.4**	**+0.6**
PET	**Petropavlovsk**	**4.39**	**17**	P	**Pn**	**19 19 09.4**	**+0.6**
PET				*i* S	**Sn**	**19 19 58.1**	**-0.5**
PET	**Petropavlovsk**	**4.39**	**17**	*e*P	**Pn**	**19 19 09.4**	**+0.6**
UGLR	**Uglovaya**	**4.59**	**18**	P	**Pn**	**19 19 12.8**	**+1.0**
UGLR				*i* S	**Sn**	**19 20 04.9**	**+0.9**
AVH	**Avacha**	**4.63**	**17**	P	**Pn**	**19 19 13.2**	**+0.9**
AVH				*i* S	**Sn**	**19 20 06.3**	**+1.5**
KOK	**Koryaka**	**4.64**	**16**	P	**Pn**	**19 19 14.0**	**+1.6**
KOK				*i* S	**Sn**	**19 20 06.4**	**+1.4**
SMAR	**Somma**	**4.64**	**17**	P	**Pn**	**19 19 13.9**	**+1.4**
KRER	**Koryakskii**	**4.67**	**17**	P	**Pn**	**19 19 14.4**	**+1.5**
KRER				*i* S	**Sn**	**19 20 06.7**	**+0.7**
SDLR	**Sedlovina**	**4.67**	**18**	P	**Pn**	**19 19 13.3**	**+0.4**
SDLR				*i* S	**Sn**	**19 20 05.3**	**-0.6**
NLC	**Nalytchevo**	**4.67**	**21**	PN	**Pn**	**19 19 11.7**	**-1.1**
NLC	**Nalytchevo**	**4.67**	**21**	P	**Pn**	**19 19 11.7**	**-1.1**
NLC				*i* S	**Sn**	**19 20 03.1**	**-2.7**
NLC	**Nalytchevo**	**4.67**	**21**	*e*P	**Pn**	**19 19 11.7**	**-1.1**
KRX	**Arik**	**4.70**	**16**	P	**Pn**	**19 19 14.8**	**+1.5**
KRX				*i* S	**Sn**	**19 20 06.7**	**0.0**
SPN	**Mys Shipunski**	**4.79**	**26**	PN	**Pn**	**19 19 14.1**	**-0.3**
SPN	**Mys Shipunski**	**4.79**	**26**	P	**Pn**	**19 19 14.1**	**-0.3**
SPN				*i* S	**Sn**	**19 20 07.0**	**-1.6**
SPN	**Mys Shipunski**	**4.79**	**26**	*e*P	**Pn**	**19 19 14.7**	**+0.3**
GNL	**Ganaly**	**4.93**	**10**	P	**Pn**	**19 19 18.1**	**+1.7**
GNL				*i* S	**Sn**	**19 20 13.1**	**+0.9**
KII	**Karymskiy**	**5.50**	**18**	P	**Pn**	**19 19 25.9**	**+1.7**
MKZ	**Mys Kozlova**	**6.56**	**28**	PN	**Pn**	**19 19 37.9**	**-0.8**
MKZ	**Mys Kozlova**	**6.56**	**28**	P	**Pn**	**19 19 37.9**	**-0.8**
MKZ				*i* S	**Sn**	**19 20 47.8**	**-4.4**
MKZ	**Mys Kozlova**	**6.56**	**28**	*e*P	**Pn**	**19 19 37.9**	**-0.8**
KZV	**Kizimen**	**6.69**	**19**	P	**Pn**	**19 19 41.5**	**+1.0**
TUMR	**Tumrok**	**6.81**	**18**	P	**Pn**	**19 19 43.6**	**+1.4**
KUR	**Kuril'sk**	**6.93**	**242**	*e*P	**Pn**	**19 19 44.0**	**+0.3**
KUR				AMB	AMB	19 19 44.3	
	comp=Z,50nm,0.4s						
KUR				*e*S	**Sn**	**19 20 59.8**	**-1.5**
KUR				A	A	19 21 07.0	
	comp=Z,60nm,0.6s						
KBTR	**Krutoberegovo**	**8.30**	**25**	PN	**Pn**	**19 20 02.8**	**+0.3**
KBTR	**Krutoberegovo**	**8.30**	**25**	P	**Pn**	**19 20 02.8**	**+0.3**
TYV	**Tymovskoe**	**9.17**	**288**	*e*P	**Pn**	**19 20 13.3**	**-1.2**
TYV				AMB	AMB	19 20 14.2	
	comp=Z,10.0nm,0.8s						
FX1	**Attu Island--F**	**11.27**	**63**	Pn	**Pn**	**19 20 42.7**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=261,slow=19,SNR=5.3						
FX1				Sn	Sn	19 22 40.6	-7.1
	comp=Z,1.9nm,0.3s,baz=109,slow=23,SNR=6.7						
EKMR	**Ekimchan**	**15.40**	**295**	*e*P	**Pn**	**19 21 38.0**	**-1.3**
EKMR				AMB	AMB	19 21 41.0	
	comp=Z,3.0nm,0.5s						
KSRS	**Korea Array**	**23.62**	**252**	*e*P	**P**	**19 23 14.4**	**+1.9**
KSRS	**Korea Array**	**23.62**	**252**	P	**P**	**19 23 11.5**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=52,slow=9.7,SNR=5.1						
YKA	**Yellowknife Ar**	**47.85**	**39**	*e*P	**P**	**19 26 41.1**	**+2.4**
YKA	**Yellowknife Ar**	**47.85**	**39**	P	**P**	**19 26 41.1**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=298,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**48.01**	**297**	*e*P	**P**	**19 26 39.5**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**48.01**	**297**	*e*P	**P**	**19 26 39.5**	**-0.7**
MKAR	**Makanchi Array**	**48.01**	**297**	P	**P**	**19 26 38.7**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=64,slow=5.6,SNR=5.7						
CMAR	**Chiang Mai Arr**	**55.07**	**258**	*e*P	**P**	**19 27 34.9**	**+1.6**
CMAR	**Chiang Mai Arr**	**55.07**	**258**	P	**P**	**19 27 32.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=38,slow=7.2,SNR=5.3						
FINES	**FINESS Array B**	**63.08**	**336**	P	**P**	**19 28 27.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=28,slow=9.5,SNR=5.0						
KIV	**Kislovodsk**	**70.93**	**316**	P	**P**	**19 29 15.5**	**-2.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
AKASG	**Malin Array Be**	**71.03**	**328**	P	**P**	**19 29 18.2**	**-0.5**
AKASG	**Malin Array Be**	**71.03**	**328**	P	**P**	**19 29 18.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=32,slow=6.7,SNR=3.0						
WRA	**Warramunga Arr**	**71.29**	**202**	*e*P	**P**	**19 29 19.6**	**-1.0**
WRA	**Warramunga Arr**	**71.29**	**202**	P	**P**	**19 29 19.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=23,slow=6.8,SNR=5.4						
ASAR	**Alice Springs**	**74.97**	**201**	*e*P	**P**	**19 29 42.7**	**+0.4**
ASAR	**Alice Springs**	**74.97**	**201**	P	**P**	**19 29 42.7**	**+0.4**
	comp=Z,0.2nm,0.9s,baz=19,slow=5.6,SNR=4.1						
BRTR	**Keskin Array B**	**78.37**	**319**	P	**P**	**19 30 01.6**	**0.0**
	comp=Z,1.6nm,1.0s,baz=4.0,slow=8.8,SNR=3.6						
STKA	**Stephens Creek**	**81.47**	**193**	*e*P	**P**	**19 30 19.3**	**+1.3**

*IDC **12** 19:27:45.5±1.3, 20.99S×174.55W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.0/20, mbtmp3.9/8, Error ellipse: s-maj=70.5km s-min=20.5km az=154.0*
*ISCJB **12** 19:27:49.8±1.0, 20.25S±0.2×175.0W±0.2, h27km, mb3.9/8, Error ellipse: s-maj=38.0km s-min=9.7km az=40.2*
ISC 12 19:27:50.9±1.1, 20.45S±0.2×174.9W±0.3, h27km, n12, σ0°99/12, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.05**	**25**	Pn	**Pn**	**19 29 32.2**	**-0.3**
	9.7nm,0.3s,baz=279,slow=21,SNR=9.1						
AFI				Sn	**Sn**	**19 30 51.7**	**-0.2**
	2.4nm,0.3s,baz=217,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**40.50**	**244**	P	**P**	**19 35 27.1**	**-0.6**
	1.1nm,0.5s,baz=83,slow=6.6,SNR=4.9						
ASAR	**Alice Springs**	**47.41**	**256**	P	**P**	**19 36 23.4**	**+0.1**
	2.3nm,0.7s,baz=101,slow=8.0,SNR=45						
WRA	**Warramunga Arr**	**47.53**	**261**	P	**P**	**19 36 23.2**	**-1.0**
	0.8nm,0.8s,baz=97,slow=8.4,SNR=14						
MJAR	**Matsushiro Arr**	**71.87**	**322**	P	P	19 39 14.8	+3.3
	1.1nm,0.5s,baz=161,slow=6.4,SNR=5.9						
NVAR	**Mina Array Bea**	**78.93**	**42**	P	**P**	**19 39 53.1**	**+0.7**
	1.1nm,0.7s,baz=233,slow=8.9,SNR=3.4						
TXAR	**Lajitas Array**	**84.52**	**56**	P	**P**	**19 40 21.8**	**-0.2**
	0.2nm,0.5s,baz=215,slow=11,SNR=2.9						
PDAR	**Pinedale Array**	**86.86**	**42**	P	**P**	**19 40 33.2**	**-0.2**
	1.4nm,1.1s,baz=250,slow=5.4,SNR=3.4						
CMAR	**Chiang Mai Arr**	**92.84**	**289**	P	**P**	**19 41 03.8**	**+2.0**
	0.8nm,0.8s,baz=125,slow=3.3,SNR=6.7						
AKASG	**Malin Array Be**	**144.24**	**334**	PKP	**PKPdf**	**19 47 23.1**	**-1.1**
	0.5nm,0.4s,baz=42,slow=4.1,SNR=4.9						
BRTR	**Keskin Array B**	**148.87**	**315**	PKPbc	**PKPbc**	**19 47 35.8**	**-0.8**
	0.6nm,0.8s,baz=20,slow=4.6,SNR=2.6						
GERES	**GERESS Array B**	**150.75**	**348**	PKPbc	**PKPbc**	**19 47 41.7**	**+0.9**
	0.4nm,0.7s,baz=355,slow=2.2,SNR=3.5						

*IDC **12** 19:35:42.1±2.1, 13.65N×93.71W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/23, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx3.1/29, Error ellipse: s-maj=51.6km s-min=43.8km az=149.0*
*CASC **12** 19:35:56.1±3.0, 13.36N×88.37W, h180km±17km, MD4.2*
ISC 12 19:35:55.5±0.9, 13.6N±0.1×88.3W±0.1, h181km±7km, n19, σ1°40/22, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLLM	**Bellamira**	**0.22**	**157**	*e*P	**Pn**	**19 36 20.4**	**+0.7**
VSM	**San Miguel**	**0.22**	**167**	*e*P	**Pn**	**19 36 20.3**	**+0.4**
SNVI	**San Vicente**	**0.50**	**267**	*e*P	**Pn**	**19 36 20.3**	**-0.3**
CNCH	**Conchagua**	**0.60**	**127**	*e*P	**Pn**	**19 36 21.1**	**+0.1**
CNCH				*e*S	**Sn**	**19 36 41.6**	**+1.0**
BQQS	**Boqueron**	**0.93**	**276**	*e*P	**Pn**	**19 36 23.4**	**+0.4**
MRL	**Marmol**	**1.94**	**317**	↓*e*P	Pn	19 36 35.2	+3.1
IXG	**Ixpaco**	**2.13**	**285**	*e*P	**Pn**	**19 36 35.6**	**+1.3**
IXG				*e*S	**Sn**	**19 37 03.9**	**-0.4**
COPN	**Copaltepe**	**2.23**	**131**	*e*P	Pn	19 36 28.8	-6.3
COPN				*e*S	Sn	19 36 58.6	-7.4
APG	**El Apazote**	**2.48**	**303**	Pn	**Pn**	**19 36 37.5**	**-0.6**
	baz=132,slow=11						
APG				LR	LR	19 37 38.2	
	comp=Z,490nm,19.8s,baz=292,slow=34						
JAT	**Jato**	**3.29**	**282**	*e*P	**Pn**	**19 36 49.4**	**+1.8**
VCR	**Vista de Mar**	**4.38**	**143**	*e*P	**Pn**	**19 37 02.4**	**+0.8**
VCR				*e*S	**Sn**	**19 37 50.1**	**-3.3**
JCR	**Jicaral**	**4.91**	**140**	*e*P	**Pn**	**19 37 09.9**	**+1.5**
JCR				*e*S	**Sn**	**19 38 02.9**	**-2.8**
CGA2	**Cerro Gallo 2**	**5.22**	**133**	*e*P	Pn	19 37 15.1	+2.6
CGA2				*e*S	**Sn**	**19 38 12.1**	**-0.9**
URSC	**Urasca**	**5.84**	**130**	*e*P	Pn	19 37 23.7	+3.1
URSC				*e*S	**Sn**	**19 38 29.1**	**+1.4**
BUS	**Buena Vista**	**6.04**	**132**	*e*P	**Pn**	**19 37 25.0**	**+1.4**
BUS				*e*S	**Sn**	**19 38 32.8**	**0.0**
ULM	**Lac du Bonnet**	**37.02**	**352**	P	**P**	**19 42 47.4**	**-0.2**
	1.8nm,0.5s,baz=164,slow=9.2,SNR=5.1						
YKA	**Yellowknife Ar**	**52.24**	**345**	P	**P**	**19 44 47.1**	**-0.6**
	0.3nm,0.5s,baz=150,slow=6.7,SNR=6.0						
WRA	**Warramunga Arr**	**138.76**	**255**	PKP	**PKPdf**	**19 55 02.0**	**+1.2**
	0.7nm,0.6s,baz=87,slow=2.1,SNR=16						
ASAR	**Alice Springs**	**138.90**	**250**	PKP	**PKPdf**	**19 55 00.6**	**-0.5**
	0.2nm,0.4s,baz=90,slow=2.2,SNR=4.2						

IDC 12 19:37:08.3±5.1, 18.12S×168.91E, h167km±62km, mb3.1/5, mb1 3.3/6, mb1mx3.2/19, mbtmp3.1/6, MS4.2/1, Ms1 4.2/1, ms1mx3.4/13, Error ellipse: s-maj=95.0km s-min=31.7km az=146.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.56**	**210**	P	Pn	19 38 17.2	+0.8
	1.8nm,0.3s,baz=139,slow=24,SNR=21						
DZM				S	Sn	19 39 09.4	-0.3
	1.9nm,0.

ellipse: s-maj=21.4km s-min=12.2km az=154.0
*MOS **12** 19:51:11.9±1.4,48°.93N×156°.36E,h40km,mb4.0/10,Error ellipse: s-maj=18.8km s-min=7.6km az=77.7*
*KRSC **12** 19:51:11.2±8.4,48°.96N×156°.94E,h5km±5km,ML4.5*
*SKHL **12** 19:51:12.6±1.1,48°.84N×156°.58E,h60km±5km,mb4.5/6*
*ISCJB **12** 19:51:13.0±0.8,48°.96N±0°.06×156°.24E±0°.08,h45km±7km, mb3.7/16,Error ellipse: s-maj=12.3km s-min=4.5km az=44.7*

ISC 12 19:51:14.3±0.7,48°.97N±0°.08×156°.28E±0°.07,h38km±2km, n79,σ1§42/92,mb3.8/16,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.72**	**357**	*e*PN	**Pn**	**19 51 39.9**	**-1.7**
SKR				*e*S	**Sn**	**19 52 01.2**	**-1.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,370nm,0.3s						
SKR				smax	smax		
	comp=E,250nm,0.5s						
SKR	**Severo-Kuril's**	**1.72**	**357**	P	**Pn**	**19 51 43.1**	**+1.5**
SKR				*i* S	**Sn**	**19 52 06.5**	**+4.2**
SKR	**Severo-Kuril's**	**1.72**	**357**	*e*P	**Pn**	**19 51 39.9**	**-1.7**
SKR				AMB	AMB	19 51 40.8	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**19 52 01.2**	**-1.1**
SKR				A	A	19 52 04.0	
	comp=E,370nm,0.3s						
SKR				A	A	19 52 04.0	
	comp=E,250nm,0.3s						
PAU	**Pauzhetka**	**2.53**	**8**	PN	**Pn**	**19 51 52.8**	**+0.1**
PAU				S	**Sn**	**19 52 24.1**	**+1.9**
PAU	**Pauzhetka**	**2.53**	**8**	P	**Pn**	**19 51 52.8**	**+0.1**
PAU				*i* S	**Sn**	**19 52 24.1**	**+1.9**
ASAK	**Asacha**	**3.57**	**16**	P	**Pn**	**19 52 08.9**	**+1.7**
MTVR	**Mutnovka**	**3.72**	**18**	P	**Pn**	**19 52 10.0**	**+0.7**
MTVR				*i* S	**Sn**	**19 52 52.3**	**+0.4**
RUS	**Russkaya**	**3.75**	**21**	PN	**Pn**	**19 52 09.0**	**-0.5**
RUS				S	**Sn**	**19 52 52.5**	**+0.1**
RUS	**Russkaya**	**3.75**	**21**	P	**Pn**	**19 52 09.0**	**-0.5**
RUS				*i* S	**Sn**	**19 52 52.5**	**+0.1**
RUS	**Russkaya**	**3.75**	**21**	*e*P	**Pn**	**19 52 09.0**	**-0.5**
GRL	**Gorelyy**	**3.77**	**17**	P	**Pn**	**19 52 10.8**	**+0.9**
APC	**Apacha**	**4.00**	**8**	P	**Pn**	**19 52 15.2**	**+2.2**
PETK	**Petropavlovsk-**	**4.24**	**12**	PN	**Pn**	**19 52 17.4**	**+1.1**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.24**	**12**	Pn	**Pn**	**19 52 17.4**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=166,slow=16,SNR=20						
PET	**Petropavlovsk**	**4.33**	**19**	*e*PN	**Pn**	**19 52 18.5**	**+1.0**
PET				*e*S	**Sn**	**19 53 08.7**	**+2.1**
PET				pmax	pmax		
	comp=Z,65nm,0.8s						
PET				smax	smax		
	comp=N,205nm,0.5s						
PET	**Petropavlovsk**	**4.33**	**19**	P	**Pn**	**19 52 17.9**	**+0.4**
PET				*i* S	**Sn**	**19 53 08.5**	**+1.9**
PET	**Petropavlovsk**	**4.33**	**19**	*e*P	**Pn**	**19 52 18.5**	**+1.0**
PET				AMB	AMB	19 52 19.5	
	comp=N,70nm,0.8s						
PET				*e*S	**Sn**	**19 53 08.7**	**+2.1**
PET				A	A	19 53 10.3	
	comp=N,210nm,0.5s						
UGLR	**Uglovaya**	**4.54**	**20**	P	**Pn**	**19 52 21.7**	**+1.2**
AVH	**Avacha**	**4.58**	**19**	P	**Pn**	**19 52 22.7**	**+1.8**
KOK	**Koryaka**	**4.58**	**18**	P	**Pn**	**19 52 22.7**	**+1.7**
SMAR	**Somma**	**4.59**	**19**	P	**Pn**	**19 52 22.4**	**+1.2**
KRER	**Koryakskii**	**4.62**	**19**	P	**Pn**	**19 52 23.1**	**+1.5**
KRER				*i* S	**Sn**	**19 53 15.8**	**+1.9**
SDLR	**Sedlovina**	**4.62**	**20**	P	**Pn**	**19 52 22.0**	**+0.4**
KRX	**Arik**	**4.65**	**18**	P	**Pn**	**19 52 23.6**	**+1.7**
KRX				*i* S	**Sn**	**19 53 16.8**	**+2.2**
SPN	**Mys Shipunski**	**4.76**	**28**	PN	**Pn**	**19 52 23.8**	**+0.4**
SPN	**Mys Shipunski**	**4.76**	**28**	P	**Pn**	**19 52 23.8**	**+0.4**
SPN				*i* S	**Sn**	**19 53 16.6**	**-0.7**
SPN	**Mys Shipunski**	**4.76**	**28**	*e*P	**Pn**	**19 52 23.8**	**+0.4**
GNL	**Ganaly**	**4.85**	**12**	P	**Pn**	**19 52 26.6**	**+1.9**
MKZ	**Mys Kozlova**	**6.54**	**29**	PN	**Pn**	**19 52 46.4**	**-1.4**
MKZ	**Mys Kozlova**	**6.54**	**29**	P	**Pn**	**19 52 46.4**	**-1.4**
MKZ				*i* S	**Sn**	**19 53 57.5**	**-3.5**
MKZ	**Mys Kozlova**	**6.54**	**29**	*e*P	**Pn**	**19 52 46.4**	**-1.4**
KZV	**Kizimen**	**6.64**	**20**	P	**Pn**	**19 52 48.9**	**-0.3**
KZV				*i* S	**Sn**	**19 54 03.8**	**+0.2**
TUMR	**Tumrok**	**6.76**	**19**	P	**Pn**	**19 52 52.4**	**+1.5**
KUR	**Kuril'sk**	**6.85**	**240**	*e*P	**Pn**	**19 52 53.0**	**+1.0**
KUR				AMB	AMB	19 52 53.8	
	comp=N,70nm,0.4s						
KUR				*e*S	**Sn**	**19 54 09.0**	**+0.4**
KUR				A	A	19 54 26.2	
	comp=N,90nm,0.7s						
TYV	**Tymovskoe**	**8.99**	**287**	*e*P	**Pn**	**19 53 23.5**	**+2.1**
YSS	**Yuzh-Sakhalins**	**9.29**	**263**	*e*P	Pn	19 53 29.0	+3.4
UGL	**Uglegorsk**	**9.34**	**276**	*e*P	Pn	19 53 30.1	+3.9
UGL				AMB	AMB	19 53 32.5	
	comp=N,40nm,0.6s						
JKA	**Kamikawa-asahi**	**10.59**	**248**	*e*P	**Pn**	**19 53 42.7**	**-0.6**
ASAJ	**Asahikawa**	**10.59**	**248**	Pn	**Pn**	**19 53 42.7**	**-0.7**
	comp=N,1.1nm,0.3s,baz=83,slow=14,SNR=3.6						
FX1	**Attu Island--F**	**11.35**	**63**	Pn	**Pn**	**19 53 51.5**	**-2.2**
	comp=N,2.7nm,0.3s,baz=247,slow=14,SNR=5.5						
FX1				Sn	Sn	19 55 49.4	-10
	comp=N,3.8nm,0.3s,baz=94,slow=21,SNR=9.5						
HABR	**Khabarovsk**	**14.02**	**276**	*e*P	**P**	**19 54 38.8**	**+1.5**
HABR				*e*S	**Sn**	**19 57 00.1**	**-4.1**
HABR				pmax	pmax		
	comp=Z,32nm,2.3s						
HABR				MLR	MLR		
	comp=Z,370nm,16.0s						
HABR	**Khabarovsk**	**14.02**	**276**	*e*P	**P**	**19 54 38.8**	**+1.5**
HABR				AMB	AMB	19 54 40.5	
	comp=Z,30nm,2.3s						
EKMR	**Ekimchan**	**15.22**	**294**	*e*P	**Pn**	**19 54 46.7**	**+0.5**
EKMR				AMB	AMB	19 54 50.0	
	comp=Z,4.0nm,0.6s						
USRK	**Ussuriysk Arra**	**17.33**	**263**	P	**Pn**	**19 55 12.2**	**-0.8**
	comp=Z,2.2nm,0.3s,baz=70,slow=13,SNR=6.4						
BMKR	**Bomnak**	**17.83**	**299**	*e*P	**Pn**	**19 55 17.0**	**-2.2**
BMKR				AMB	AMB	19 55 19.9	
	comp=Z,10.0nm,0.5s						
KROS	**Kirovskiy**	**18.89**	**298**	*e*P	**P**	**19 55 29.5**	**-1.7**
KSRS	**Korea Array**	**23.51**	**251**	*e*P	**P**	**19 56 21.3**	**+0.7**
KSRS	**Korea Array**	**23.51**	**251**	P	**P**	**19 56 21.2**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=48,slow=10,SNR=6.9						
TIXI	**Tiksi**	**26.01**	**341**	*i* P	**P**	**19 56 43.5**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**26.01**	**341**	*i* P	**P**	**19 56 43.5**	**+0.4**
H11S1	**WAKE ISLAND Hy**	**31.53**	**161**	T	T	20 31 58.0	
	baz=349,slow=77,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**31.54**	**161**	T	T	20 31 39.3	
	baz=349,slow=77,SNR=14						
H11S2	**WAKE ISLAND Hy**	**31.55**	**161**	T	T	20 31 58.7	
	baz=349,slow=77,SNR=9.9						
ILAR	**Eielson Array**	**33.48**	**41**	*e*P	**P**	**19 57 49.6**	**+0.2**
ILAR	**Eielson Array**	**33.48**	**41**	P	**P**	**19 57 49.6**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=257,slow=8.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**43.07**	**305**	P	**P**	**19 59 08.8**	**-1.2**
ZALV	**Zalesovo Beam**	**43.07**	**305**	P	**P**	**19 59 08.8**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=66,slow=7.0,SNR=2.9						
MKAR	**Makanchi Array**	**47.82**	**297**	P	**P**	**19 59 48.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**47.82**	**297**	*e*P	**P**	**19 59 48.0**	**+0.2**
MKAR	**Makanchi Array**	**47.82**	**297**	P	**P**	**19 59 48.0**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=65,slow=6.8,SNR=11						
YKA	**Yellowknife Ar**	**47.87**	**39**	*e*P	**P**	**19 59 48.2**	**+0.3**
YKA	**Yellowknife Ar**	**47.87**	**39**	P	**P**	**19 59 48.2**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=299,slow=7.7,SNR=4.8						
KURK	**Kurchatov**	**47.92**	**303**	*e*P	**P**	**19 59 47.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**54.95**	**257**	*e*P	**P**	**20 00 42.9**	**+1.5**
CMAR	**Chiang Mai Arr**	**54.95**	**257**	P	**P**	**20 00 42.9**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=32,slow=7.1,SNR=8.0						
NVAR	**Mina Array Bea**	**59.54**	**65**	P	**P**	**20 01 13.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=313,slow=3.2,SNR=2.3						
PDAR	**Pinedale Array**	**61.73**	**57**	P	**P**	**20 01 29.8**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=48,slow=1.3,SNR=2.7						
FINES	**FINESS Array B**	**62.92**	**336**	P	**P**	**20 01 36.6**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=15,slow=7.9,SNR=6.9						
NOA	**NORSAR Array B**	**66.79**	**342**	*e*P	**P**	**20 02 01.3**	**-0.1**
NOA	**NORSAR Array B**	**66.79**	**342**	P	**P**	**20 02 01.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=25,slow=6.4,SNR=2.8						
KIV	**Kislovodsk**	**70.75**	**315**	P	**P**	**20 02 23.7**	**-2.6**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**70.75**	**315**	*e*P	**P**	**20 02 23.7**	**-2.6**
WRA	**Warramunga Arr**	**71.33**	**202**	*e*P	**P**	**20 02 29.0**	**-0.9**
WRA	**Warramunga Arr**	**71.33**	**202**	P	**P**	**20 02 29.0**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=22,slow=6.8,SNR=13						
TXAR	**Lajitas Array**	**74.57**	**63**	*e*P	**P**	**20 02 49.5**	**+0.2**
TXAR	**Lajitas Array**	**74.57**	**63**	P	**P**	**20 02 49.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=300,slow=7.2,SNR=2.7						
ASAR	**Alice Springs**	**75.02**	**201**	*e*P	**P**	**20 02 51.9**	**+0.3**
ASAR	**Alice Springs**	**75.02**	**201**	P	**P**	**20 02 51.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=14,slow=4.8,SNR=5.1						
BRTR	**Keskin Array B**	**78.19**	**318**	P	**P**	**20 03 11.2**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=97,slow=4.8,SNR=3.1						

*IDC **12** 19:58:39.5±1.9,20°.60S×70°.84W,h0km,mb3.9/2, mb1 4.0/4,mb1mx3.7/19,mbtmp3.8/4,ML3.5/2,Error ellipse: s-maj=68.5km s-min=43.1km az=162.0*

ISC 12 19:58:45.1±1.6,20°.6S±0°.3×70°.6W±0°.2,h35km,n13, σ1§69/7,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.92**	**29**	Pn	**Pn**	**19 59 57.6**	**+0.5**
	1.1nm,0.3s,baz=194,slow=5.1,SNR=12						
SIV	**San Ignacio**	**10.16**	**65**	Pn	**Pn**	**20 01 07.9**	**-0.7**
	0.2nm,0.3s,baz=256,slow=4.2,SNR=2.9						
H03N1	**Juan Fernandez**	**14.74**	**208**	T	T	20 18 03.8	
	baz=32,slow=74,SNR=16						
H03N2	**Juan Fernandez**	**14.75**	**208**	T	T	20 18 01.9	
	baz=32,slow=74,SNR=30						
H03N3	**Juan Fernandez**	**14.76**	**208**	T	T	20 18 05.9	
	baz=32,slow=74,SNR=29						
TORD	**Torodi Ar. Bea**	**78.56**	**71**	P	**P**	**20 10 44.7**	**+1.1**
	1.5nm,0.6s,baz=251,slow=5.2,SNR=8.4						
YKA	**Yellowknife Ar**	**89.86**	**341**	P	**P**	**20 11 38.1**	**-1.7**
	0.4nm,0.7s,baz=135,slow=4.4,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**126.20**	**278**	T	T	22 37 09.0	
	baz=104,slow=72,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**126.21**	**278**	T	T	22 37 08.9	
	baz=104,slow=72,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**126.22**	**278**	T	T	22 37 12.5	
	baz=104,slow=72,SNR=4.1						
ZALV	**Zalesovo Beam**	**141.82**	**23**	PKP	**PKPdf**	**20 18 14.5**	**+1.7**
	0.3nm,0.4s,baz=339,slow=3.2,SNR=2.5						
MKAR	**Makanchi Array**	**145.83**	**34**	PKPbc	**PKPab**	**20 18 19.6**	**-1.6**
	0.3nm,0.7s,baz=330,slow=5.2,SNR=2.8						
SONM	**Songino Array**	**152.76**	**4**	PKPbc	**PKPbc**	**20 18 39.5**	**+1.0**
	0.5nm,0.8s,baz=331,slow=1.5,SNR=4.2						

JMA 12 20:04:29.1,34°.22N×135°.24E,h4km±1km,M1.4,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.29**	**90**	P	Pg	20 04 34.6	-0.3
JWY				S	Sg	20 04 38.9	+0.1
JAJ2	**Tsuna**	**0.35**	**304**	P	Pg	20 04 36.4	+0.4
JAJ2				S	Sg	20 04 41.9	+1.3
JWM	**Minabe**	**0.38**	**166**	P	Pg	20 04 36.7	+0.2
JWM				S	Sg	20 04 41.8	+0.3

IDC 12 20:30:13.2±6.5,19°.98S×176°.54W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.5/19,mbtmp3.6/2,Error ellipse: s-maj=323.2km s-min=99.2km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.97**	**256**	P	P	20 38 39.1	+0.6
	0.5nm,0.5s,baz=100,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**46.03**	**261**	P	P	20 38 38.1	-0.8
	0.6nm,0.9s,baz=97,slow=7.5,SNR=9.3						
AKASG	**Malin Array Be**	**143.20**	**333**	PKP	PKPdf	20 49 48.5	-0.8
	0.8nm,0.4s,baz=42,slow=4.1,SNR=5.5						

JMA 12 20:35:50.4±0.1,37°.91N×139°.25E,h154km±2km,M2.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.11**	**150**	P	Pn	20 36 10.8	-0.2
JIZZ	**Izumozaki**	**0.57**	**229**	P	Pn	20 36 13.1	+0.6
JFY	**Yanaizu**	**0.62**	**144**	P	Pn	20 36 12.9	0.0
JHK	**Hiroka**	**0.69**	**196**	P	Pn	20 36 13.2	-0.1
JHK				S	Sn	20 36 30.9	+0.2
JYS	**Shirataka**	**0.71**	**64**	P	Pn	20 36 13.7	+0.3
JYS				S	Sn	20 36 31.9	+0.9
JYA	**Atsumi**	**0.77**	**28**	P	Pn	20 36 14.0	+0.2
JYA				S	Sn	20 36 32.1	+0.3
JSD	**Sado**	**0.79**	**280**	P	Pn	20 36 13.7	-0.2
JSD				S	Sn	20 36 31.5	-0.4
JFT	**Otama**	**0.95**	**114**	P	Pn	20 36 15.2	+0.1
JYK	**Kaneyama**	**1.33**	**41**	P	Pn	20 36 18.4	-0.1
JAG	**Ashikaga**	**1.49**	**174**	P	Pn	20 36 20.4	+0.2
JSZ	**Suzu**	**1.57**	**253**	S	Sn	20 36 44.9	+0.6
MAT	**Matsushiro**	**1.60**	**212**	P	Pn	20 36 21.5	+0.1
MAT				S	Sn	20 36 45.8	+0.7
MAT	**Matsushiro**	**1.60**	**212**	P	Pn	20 36 21.5	+0.1
MAT				S	Sn	20 36 45.9	+0.8
JMK	**Ichinoseki**	**1.86**	**55**	P	Pn	20 36 24.6	+0.4
JRY	**Ryogami san**	**1.91**	**189**	P	Pn	20 36 25.1	+0.3
JRY				S	Sn	20 36 52.2	+1.0
JOM	**Ohasama**	**2.23**	**45**	P	Pn	20 36 29.2	+0.7
JOM				*e*S	Sn	20 36 58.3	+0.4

*SZGRF **12** 20:39:00.5,22°.06S×175°.09W,h33km,Tonga Islands region*
*AUST **12** 20:39:18.5±0.9,21°.49S×176°.32W,h173km,Error ellipse: s-maj=1.4km s-min=1.3km az=328.0*
*ISCJB **12** 20:39:19.2±0.3,21°.39S±0°.06×176°.71W±0°.06,h183km, mb4.5/43,Error ellipse: s-maj=10.2km s-min=6.0km az=146.6*
*IDC **12** 20:39:20.2±2.0,21°.29S×176°.67W,h182km±17km, mb4.0/15,mb1 4.2/18,mb1mx4.2/21,mbtmp4.5/18,Error ellipse: s-maj=16.0km s-min=12.2km az=118.0*
*NEIC **12** 20:39:20.8±1.4,21°.32S×176°.63W,h190km±13km, mb4.8/22,Error ellipse: s-maj=13.0km s-min=8.2km az=143.0*
*BJI **12** 20:39:34.5,21°.50S×177°.00W,h319km,mB4.7/6, mb4.3/15*

ISC 12 20:39:20.5±0.3,21°.35S±0°.08×176°.59W±0°.07,h183km, n212,σ1§33/229,mb4.6/43,31C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.20**	**305**	*e*Pn	Pn	20 40 55.6	+5.3
NIUE	**Niue**	**6.66**	**71**	P	**Pn**	**20 40 56.5**	**+0.3**
	baz=6.5,SNR=62						
AFI	**Afiamalu**	**8.71**	**33**	P	**Pn**	**20 41 21.9**	**-1.3**
AFI				S	Sn	20 42 48.2	-13
AFI	**Afiamalu**	**8.71**	**33**	P	**Pn**	**20 41 21.9**	**-1.3**
	4.7nm,0.3s,baz=355,slow=24,SNR=5.2						
AFI				S	Sn	20 42 48.2	-13
	5.1nm,0.3s,baz=240,slow=20,SNR=3.7						
RAR	**Rarotonga**	**15.68**	**93**	P	**P**	**20 42 53.4**	**+1.3**
RAR	**Rarotonga**	**15.68**	**93**	P	**P**	**20 42 53.4**	**+1.3**
	baz=272,slow=0.9,SNR=3.8						
DZM	**Mont Dzumac**	**15.78**	**264**	P	**P**	**20 42 57.3**	**+3.9**
DZM	**Mont Dzumac**	**15.78**	**264**	P	**P**	**20 42 57.3**	**+3.9**
	2.1nm,0.3s,baz=78,slow=18,SNR=29						
DZM	**Mont Dzumac**	**15.78**	**264**	*e*P	**P**	**20 42 57.7**	**+4.4**
NOUC	**Port Laguerre**	**15.91**	**264**	*e*P	Pn	20 42 59.5	+4.9
URZ	**Urewera**	**17.71**	**196**	*e*P	**P**	**20 43 12.4**	**-1.8**
	32nm,1.0s						
URZ				S	S	20 46 18.1	-10
URZ	**Urewera**	**17.71**	**196**	P	**P**	**20 43 12.8**	**-1.4**
	6.9nm,0.3s,baz=16,slow=5.6,SNR=44						
URZ				S	S	20 46 18.2	-10
	2.1nm,0.3s,baz=265,slow=23,SNR=11						
RPZ	**Rata Peaks**	**24.56**	**202**	*e*P	**P**	**20 44 24.2**	**+0.8**
	310nm,2.2s						
RPZ	**Rata Peaks**	**24.56**	**202**	P	**P**	**20 44 23.3**	**-0.1**
	22nm,0.4s,baz=32,slow=1.8,SNR=6.4						
HNR	**Honiara**	**25.49**	**294**	P	**P**	**20 44 32.0**	**-0.1**
HNR	**Honiara**	**25.49**	**294**	P	**P**	**20 44 32.0**	**-0.1**
	70nm,0.6s,baz=173,slow=4.6,SNR=6.8						
ARMA	**Armidale**	**29.90**	**246**	*e*P	**P**	**20 45 12.2**	**+0.8**
	24nm,1.0s						
ARMA	**Armidale**	**29.90**	**246**	P	**P**	**20 45 12.6**	**+1.2**
	baz=30,SNR=19						
EIDS	**Eidsvold**	**29.90**	**256**	*e*P	**P**	**20 45 11.6**	**+0.3**
	15nm,0.7s						
EIDS	**Eidsvold**	**29.90**	**256**	P	**P**	**20 45 11.9**	**+0.6**
	baz=30,SNR=9.7						
RMQ	**Roma**	**32.02**	**254**	P	**P**	**20 45 31.1**	**+1.1**
	baz=32,SNR=5.6						
CNB	**Canberra Magne**	**32.86**	**238**	P	**P**	**20 45 37.4**	**+0.2**
	baz=33,SNR=6.2						
CTAO	**Charters Tower**	**34.72**	**265**	*e*P	**P**	**20 45 53.2**	**-0.1**
	22nm,0.7s						
CMSA	**Cobar Meteorol**	**35.11**	**245**	P	**P**	**20 45 57.5**	**+1.0**
	baz=35,SNR=34						
QLP	**Quilpie**	**36.07**	**254**	P	**P**	**20 46 04.6**	**-0.2**
	baz=36,SNR=14						
TOO	**Toolangi**	**36.48**	**235**	P	**P**	**20 46 07.8**	**-0.3**
	baz=37,SNR=8.1						
PMG	**Port Moresby**	**36.81**	**283**	*e*P	**P**	**20 46 12.0**	**+0.9**
	39nm,0.9s						
PMG	**Port Moresby**	**36.81**	**283**	P	**P**	**20 46 12.0**	**+0.9**
	baz=37,SNR=5.2						
PMG				P	**P**	**20 46 12.0**	**+0.9**
	baz=37,SNR=5.2						
PMG				P	**P**	**20 46 12.0**	**+0.9**
	baz=37,SNR=5.2						
STKA	**Stephens Creek**	**38.62**	**245**	*e*P	**P**	**20 46 25.9**	**-0.3**
	3.8nm,1.0s						
STKA	**Stephens Creek**	**38.62**	**245**	P	**P**	**20 46 25.5**	**-0.7**
	8.4nm,0.4s,baz=95,slow=10,SNR=51						
STKA	**Stephens Creek**	**38.62**	**245**	P	**P**	**20 46 25.9**	**-0.3**
	baz=39,SNR=55						
COEN	**Coen**	**38.95**	**274**	*e*P	**P**	**20 46 29.6**	**+0.5**
	82nm,0.8s						
COEN	**Coen**	**38.95**	**274**	P	**P**	**20 46 29.9**	**+0.8**
	baz=39,SNR=15						
ARPS	**Mount Arapiles**	**39.13**	**238**	P	**P**	**20 46 29.5**	**-0.8**
	baz=39,SNR=5.0						
QIS	**Mount Isa**	**40.81**	**263**	P	**P**	**20 46 43.6**	**-0.8**
	baz=41,SNR=3.7						
HTT	**Hallett**	**41.01**	**243**	P	**P**	**20 46 45.0**	**-0.9**
	baz=41,SNR=18						
BBOO	**Buckleboo**	**43.36**	**244**	*e*P	**P**	**20 47 03.3**	**-1.6**
	287nm,0.8s						
BBOO	**Buckleboo**	**43.36**	**244**	P	**P**	**20 47 03.2**	**-1.6**
	baz=44,SNR=13						
AS31	**Alice Springs**	**45.61**	**257**	*e*P	**P**	**20 47 22.1**	**-0.7**
ASAR	**Alice Springs**	**45.61**	**257**	P	**P**	**20 47 22.2**	**-0.7**
ASAR				PcP	**PcP**	**20 48 56.9**	**-1.3**
ASAR	**Alice Springs**	**45.61**	**257**	P	**P**	**20 47 22.2**	**-0.7**
	25nm,0.8s,baz=97,slow=6.7,SNR=37						
ASAR				PcP	**PcP**	**20 48 56.9**	**-1.3**
	1.9nm,0.7s,baz=98,slow=4.2,SNR=4.4						
WRAB	**Tennant Creek**	**45.78**	**263**	*e*P	**P**	**20 47 22.9**	**-1.3**
	12nm,0.6s						
WRA	**Warramunga Arr**	**45.79**	**263**	P	**P**	**20 47 22.9**	**-1.3**
WRA	**Warramunga Arr**	**45.79**	**263**	P	**P**	**20 47 22.9**	**-1.3**
	11nm,0.7s,baz=97,slow=8.1,SNR=64						
KDU	**Kakadu**	**49.28**	**271**	P	**P**	**20 47 50.3**	**-0.9**
	baz=50,SNR=17						
FORT	**Forrest**	**50.17**	**247**	*e*P	**P**	**20 47 55.1**	**-2.6**
	32nm,0.7s						
FORT	**Forrest**	**50.17**	**247**	P	**P**	**20 47 56.3**	**-1.4**
	baz=50,SNR=14						
MTN	**Manton Dam**	**50.49**	**271**	P	**P**	**20 47 59.4**	**-0.9**
	baz=51,SNR=7.8						
WRKA	**Warakurna**	**50.50**	**255**	P	**P**	**20 47 59.3**	**-1.1**
	baz=51,SNR=116						
FITZ	**Fitzroy Crossi**	**54.22**	**263**	P	**P**	**20 48 27.0**	**-0.7**
	baz=54,SNR=11						
VNDA	**Vanda**	**57.19**	**185**	P	**P**	**20 48 49.0**	**+1.0**
VNDA	**Vanda**	**57.19**	**185**	P	**P**	**20 48 48.9**	**+0.9**
	3.0nm,0.8s,baz=34,slow=9.8,SNR=3.2						
MEEK	**Meekatharra**	**58.88**	**251**	P	**P**	**20 48 58.7**	**-1.8**
	baz=59,SNR=11						
KLBR	**Kellerberrin**	**58.89**	**245**	P	**P**	**20 48 59.1**	**-1.4**
	baz=59,SNR=12						
MBWA	**Marble Bar**	**58.95**	**258**	*e*P	**P**	**20 48 59.2**	**-1.9**
	13nm,0.6s						
BLDU	**Ballidu**	**59.91**	**246**	P	**P**	**20 49 06.0**	**-1.6**
	baz=60,SNR=13						
MORW	**Morawa**	**60.73**	**248**	P	**P**	**20 49 11.7**	**-1.3**
	baz=51,SNR=12						
GIRL	**Giralia**	**63.59**	**255**	P	**P**	**20 49 32.2**	**0.0**
	baz=64,SNR=4.7						
QSPA	**South Pole Qui**	**68.72**	**180**	*e*P	**P**	**20 50 05.0**	**+0.7**
	10nm,0.7s						
UGM	**Wanagama**	**71.26**	**269**	P	**P**	**20 50 21.8**	**+1.

HHC				LR	LR			
	comp=Z,95nm,17.6s							
KMI	**Kunming**	**90.90**	**297**	P	**P**	**20**	**52**	**03.8 -0.3**
KMI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**91.63**	**289**	P	**P**	**20**	**52**	**08.1 +0.7**
CMAR	**Chiang Mai Arr**	**91.63**	**289**	P	**P**	**20**	**52**	**08.1 +0.7**
	1.5nm,0.9s,baz=128,slow=3.2,SNR=14							
CHTO	**Chiang Mai**	**91.77**	**289**	*e*P	**P**	**20**	**52**	**08.3 +0.3**
	3.1nm,1.1s							
CD2	**Chengdu**	**92.35**	**302**	*e*P	**P**	**20**	**52**	**09.8 -0.7**
CD2				pmax	pmax			
	comp=Z,10.0nm,1.4s							
LZH	**Lanzhou**	**94.33**	**307**	*e*P	P	20	52	15.1 -4.5
LZH				pP	pP	20	53	31.2 +26
LZH				sP	sP	20	54	03.6 +39
LZH				PP	**PP**	**20**	**56**	**09.3 -0.3**
LZH				pmax	pmax			
	comp=Z,16nm,1.3s							
LZH				pmax	pmax			
	comp=Z,72nm,7.5s							
YKA	**Yellowknife Ar**	**96.73**	**24**	P	**P**	**20**	**52**	**28.4 -1.3**
YKA	**Yellowknife Ar**	**96.73**	**24**	P	**P**	**20**	**52**	**28.4 -1.3**
	0.3nm,0.7s,baz=234,slow=4.3,SNR=3.2							
SONM	**Songino Array**	**97.25**	**319**	P	**P**	**20**	**52**	**30.7 -1.9**
SONM	**Songino Array**	**97.25**	**319**	P	**P**	**20**	**52**	**30.7 -1.9**
	0.1nm,0.5s,baz=161,slow=4.6,SNR=2.7							
ZALV	**Zalesovo Beam**	**111.97**	**321**	PKiKP	**PKiKP**	**20**	**57**	**32.5 -1.1**
ZALV	**Zalesovo Beam**	**111.97**	**321**	PKiKP	**PKiKP**	**20**	**57**	**32.5 -1.1**
	1.9nm,0.6s,baz=186,slow=0.5,SNR=12							
MK31	**Makanchi Array**	**112.73**	**313**	*e*PKPdf	**PKiKP**	**20**	**57**	**33.6 -1.7**
MKAR	**Makanchi Array**	**112.73**	**313**	PKiKP	**PKiKP**	**20**	**57**	**34.3 -1.0**
MKAR	**Makanchi Array**	**112.73**	**313**	PKiKP	**PKiKP**	**20**	**57**	**34.3 -1.0**
	1.1nm,0.5s,baz=181,slow=0.7,SNR=22							
BRVK	**Borovoye**	**120.63**	**320**	*e*PKPdf	**PKPdf**	**20**	**57**	**49.1 -1.1**
KKAR	**Karatay Array**	**120.80**	**308**	*e*PKPdf	**PKPdf**	**20**	**57**	**49.6 -1.4**
ARU	**Arti**	**126.64**	**325**	*e*PKPdf	**PKPdf**	**20**	**58**	**01.2 -0.5**
ABKAR	**Akbulak array**	**127.60**	**316**	*e*PKPdf	**PKPdf**	**20**	**58**	**03.3 -0.4**
ARCES	**ARCESS Array B**	**129.98**	**350**	PKP	**PKPdf**	**20**	**58**	**06.4 -1.3**
ARCES	**ARCESS Array B**	**129.98**	**350**	PKP	**PKPdf**	**20**	**58**	**06.4 -1.3**
	2.2nm,0.5s,baz=116,slow=0.8,SNR=18							
JOF	**Joensuu**	**134.33**	**343**	*e*p	**PKPdf**	**20**	**58**	**16.6 +0.6**
	5.1nm,0.5s							
KAF	**Kangasniemi**	**136.32**	**345**	*e*p	**PKPdf**	**20**	**58**	**20.6 +0.8**
	1.5nm,0.4s							
FINES	**FINESS Array B**	**136.95**	**344**	PKPpre	PKPpre	20	58	08.6
FINES				PKP	**PKPdf**	**20**	**58**	**18.7 -2.3**
FINES				SKPbc	**SKPbc**	**21**	**01**	**35.2 -1.4**
FINES	**FINESS Array B**	**136.95**	**344**	PKhKP	PKPpre	20	58	08.6
	1.6nm,0.8s,baz=221,slow=1.8,SNR=3.7							
FINES				PKP	**PKPdf**	**20**	**58**	**18.7 -2.3**
	4.0nm,0.7s,baz=2.9,slow=3.8,SNR=6.7							
FINES				SKPbc	**SKPbc**	**21**	**01**	**35.2 -1.4**
	2.7nm,0.9s,baz=46,slow=5.5,SNR=4.8							
NB2	**NORSAR Subarra**	**139.97**	**354**	PKP	PKPpre	20	58	17.8
	comp=Z,0.6nm,0.6s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**139.97**	**354**	PKPpre	PKPpre	20	58	18.1
NOA				PKP	**PKiKP**	**20**	**58**	**28.1 -1.0**
NOA	**NORSAR Array B**	**139.97**	**354**	PKhKP	PKPpre	20	58	18.1
	comp=Z,0.9nm,0.7s,baz=3.9,slow=2.3,SNR=5.6							
NOA				PKP	**PKiKP**	**20**	**58**	**28.1 -1.0**
	comp=Z,0.8nm,0.7s,baz=26,slow=2.1,SNR=4.1							
KMBO	**Kilima Mbogo**	**140.09**	**240**	PKPpre	PKPpre	20	58	20.4
KMBO				PKP	**PKPdf**	**20**	**58**	**29.4 +0.9**
KMBO	**Kilima Mbogo**	**140.09**	**240**	PKhKP	PKPpre	20	58	20.4
	comp=Z,0.3nm,0.3s,baz=54,slow=11,SNR=3.9							
KMBO				PKP	**PKPdf**	**20**	**58**	**29.4 +0.9**
	comp=Z,0.9nm,0.7s,baz=58,slow=5.9,SNR=3.7							
SUW	**Suwalki**	**144.09**	**340**	*e*PKP	**PKPab**	**20**	**58**	**32.1 +0.1**
AKASG	**Malin Array Be**	**144.38**	**332**	PKP	**PKPab**	**20**	**58**	**32.3 -1.0**
AKASG				PP	**PP**	**21**	**01**	**55.4 +3.6**
AKASG	**Malin Array Be**	**144.38**	**332**	PKP	**PKPab**	**20**	**58**	**32.3 -1.0**
	comp=Z,5.8nm,0.5s,baz=42,slow=4.4,SNR=20							
AKASG				PP	**PP**	**21**	**01**	**55.4 +3.6**
	comp=Z,0.3nm,0.3s,baz=46,slow=1.1,SNR=5.3							
AK01	**Malin Array Si**	**144.40**	**332**	*e*PKPdf	**PKPab**	**20**	**58**	**32.2 -1.1**
AK02	**Malin Array Si**	**144.42**	**332**	*e*PKPdf	**PKPab**	**20**	**58**	**32.4 -1.1**
GKP	**Gorka Klasztor**	**146.41**	**345**	*e*PKP	**PKPbc**	**20**	**58**	**40.0 +0.3**
BEL	**Belsk**	**146.70**	**340**	*e*PKP	**PKPbc**	**20**	**58**	**41.2 +0.7**
BSEG	**Bad Segeberg**	**147.04**	**352**	*e*PKPbc	**PKPbc**	**20**	**58**	**41.9 +0.5**
KWP	**Kalwaria Pacla**	**147.89**	**336**	*e*PKP	**PKPbc**	**20**	**58**	**44.3 +0.4**
KWP	**Kalwaria Pacla**	**147.89**	**336**	*i*P	**PKPbc**	**20**	**58**	**44.3 +0.4**
KWP	**Kalwaria Pacla**	**147.89**	**336**	*e*PKPbc	**PKPbc**	**20**	**58**	**43.9 0.0**
BRTR	**Keskin Array B**	**148.38**	**312**	PKPbc	**PKPdf**	**20**	**58**	**42.7 +0.7**
BRTR	**Keskin Array B**	**148.38**	**312**	PKPbc	**PKPdf**	**20**	**58**	**42.7 +0.7**
	comp=Z,2.7nm,0.6s,baz=126,slow=3.3,SNR=16							
OJC	**Ojcow**	**148.41**	**340**	*e*PKP	**PKPbc**	**20**	**58**	**45.3 +0.1**
BUR08	**Bucovina Ar. S**	**148.42**	**331**	*e*PKPbc	**PKPbc**	**20**	**58**	**45.8 +0.3**
BURAR	**Bucovina Array**	**148.44**	**331**	*i*P	**PKPbc**	**20**	**58**	**46.2 +0.7**
NRDL	**Niedersach Rie**	**148.48**	**352**	*e*PKPbc	**PKPbc**	**20**	**58**	**45.7 +0.5**
GHRR		**148.51**	**327**	*i*P	**PKPbc**	**20**	**58**	**47.3 +1.7**
STHS	**Stebnicka Huta**	**148.61**	**337**	*e*PKP	**PKPbc**	**20**	**58**	**45.9 +0.1**
KOLS	**Kolonicke sedl**	**148.62**	**336**	*e*PKP	**PKPbc**	**20**	**58**	**46.3 +0.5**
KOLS				*e*		20	58	50.0
KSP	**Ksiaz**	**148.87**	**344**	*e*PKP	**PKPbc**	**20**	**58**	**47.1 +0.7**
IBBN	**Ibbenburen**	**148.91**	**355**	*e*PKPbc	**PKPbc**	**20**	**58**	**47.0 +0.6**
NIE	**Niedzica**	**148.93**	**338**	*e*PKP	**PKPbc**	**20**	**58**	**47.2 +0.6**
CRVS	**Cervenica-Dubn**	**148.96**	**337**	*e*PKP	**PKPbc**	**20**	**58**	**47.3 +0.6**
CLZ	**Clausthal**	**149.08**	**352**	*e*PKPbc	**PKPbc**	**20**	**58**	**47.8 +0.9**
CLL	**Collm**	**149.17**	**348**	*e*PKPbc	**PKPbc**	**20**	**58**	**47.7 +0.6**
CLL	**Collm**	**149.17**	**348**	*i* PKPbc	**PKPbc**	**20**	**58**	**47.4 +0.3**
	comp=Z,46nm,0.7s							
TRPA	**Tarpa**	**149.17**	**335**	*i*P	**PKPbc**	**20**	**58**	**47.5 +0.3**
UPC	**Upice**	**149.25**	**344**	*e*PKP	**PKPbc**	**20**	**58**	**48.0 +0.7**
UPC				*e*PKPAB	**PKPab**	**20**	**58**	**54.2 +1.8**
OKC	**Ostrava-Krasne**	**149.26**	**341**	*e*PKP	**PKPbc**	**20**	**58**	**47.7 +0.3**
DPC	**Dobruska-Polom**	**149.31**	**344**	*e*PKP	**PKPbc**	**20**	**58**	**48.4 +0.8**
DPC				*e*PKPAB	**PKPab**	**20**	**58**	**53.6 +0.9**
WTSB	**Winterswijk**	**149.32**	**356**	*e*PKP	**PKPbc**	**20**	**58**	**47.4 0.0**
	comp=Z,30nm,0.7s							
BRG	**Berggiesshubel**	**149.39**	**347**	*e*PKP	**PKPdf**	**20**	**58**	**43.8 +0.7**
	comp=Z,7.4nm,1.4s							
BRG				*i*		20	58	48.3
	comp=Z,22nm,0.6s							
BRG	**Berggiesshubel**	**149.39**	**347**	*e*PKPbc	**PKPbc**	**20**	**58**	**48.4 +0.8**
KRLC	**Kraliky**	**149.44**	**343**	*e*PKP	**PKPbc**	**20**	**58**	**48.5 +0.6**
MORC	**Moravsky Berou**	**149.50**	**342**	*i*P	**PKPbc**	**20**	**58**	**48.5 +0.5**
MORC	**Moravsky Berou**	**149.50**	**342**	*e*PKPbc	**PKPbc**	**20**	**58**	**47.6 -0.4**
PVCC	**Panska Ves**	**149.58**	**346**	*i*P	**PKPbc**	**20**	**58**	**49.0 +0.9**
PVCC				*e*PKPAB	**PKPab**	**20**	**58**	**51.8 -1.9**
MLR	**Muntele Rosu**	**149.64**	**328**	*i*P	**PKPbc**	**20**	**58**	**48.7 +0.1**
PRA	**Prague**	**150.04**	**346**	*i*PKP	**PKPbc**	**20**	**58**	**50.0 +0.8**
PRU	**Pruhonice**	**150.09**	**346**	*e*PKP	**PKPbc**	**20**	**58**	**49.9 +0.5**
PRU				*e*PKPAB	**PKPab**	**20**	**58**	**53.0 -2.8**
VOIR		**150.12**	**329**	*i*P	**PKPbc**	**20**	**58**	**49.9 +0.2**
TANN	**Tannenbergstha**	**150.12**	**348**	*e*PKPbc	**PKPbc**	**20**	**58**	**50.1 +0.6**
DRGR		**150.16**	**333**	*i*P	**PKPbc**	**20**	**58**	**50.1 +0.3**
VRAC	**Vranov**	**150.19**	**343**	*i*P	**PKPbc**	**20**	**58**	**50.4 +0.7**
NKC	**Novy Kostel**	**150.30**	**348**	*e*PKP	**PKPbc**	**20**	**58**	**50.5 +0.6**
NKC				*e*PKPAB	**PKiKP**	**20**	**58**	**53.5 +2.9**
PSZ	**Piszkesteto**	**150.35**	**337**	*i*P	**PKPbc**	**20**	**58**	**50.0 -0.2**
ARR	**Arges**	**150.37**	**329**	*i*P	**PKPbc**	**20**	**58**	**51.5 +1.2**
TREC	**Trest**	**150.50**	**344**	*e*PKP	**PKPbc**	**20**	**58**	**50.8 +0.4**
HGN	**Heimansgroeve**	**150.57**	**357**	*e*PKP	**PKPbc**	**20**	**58**	**50.6 +0.1**
	comp=Z,14nm,0.9s							
LOT	**Lotru**	**150.72**	**330**	*i*P	**PKPdf**	**20**	**58**	**44.7 -0.8**
MEM	**Membach**	**150.73**	**357**	PKPbc	**PKPbc**	**20**	**58**	**51.5 +0.6**
ROTZ	**Rotzenmuhle**	**150.79**	**348**	*e*PKPbc	**PKPbc**	**20**	**58**	**51.7 +0.6**
SNF	**Seneffe**	**150.89**	**359**	PKPbc	**PKPbc**	**20**	**58**	**52.3 +1.1**
BCLA	**Clavier**	**150.95**	**358**	PKPbc	**PKPbc**	**20**	**58**	**50.7 -0.7**
SIRR	**Siria**	**151.02**	**333**	*i*P	**PKPbc**	**20**	**58**	**52.3 +0.6**
GRF	**Grafenberg Arr**	**151.04**	**349**	*e*PKPbc	**PKPbc**	**20**	**58**	**52.3 +0.6**
KHC	**Kasperske Hory**	**151.11**	**346**	*e*PKP	**PKPbc**	**20**	**58**	**52.3 +0.4**
KHC				*e*PKPAB	**PKPbc**	**20**	**58**	**56.5 -3.7**
KHC	**Kasperske Hory**	**151.11**	**346**	*e*PKPbc	**PKPbc**	**20**	**58**	**51.9 0.0**
GZR	**Gura Zlata**	**151.22**	**331**	*i*P	**PKPbc**	**20**	**58**	**52.3 0.0**
WET	**Wettzell**	**151.25**	**347**	*e*PKPbc	**PKPbc**	**20**	**58**	**54.1 +1.9**
DOU	**Dourbes**	**151.30**	**358**	PKPbc	**PKPbc**	**20**	**58**	**52.9 +0.7**
GEC2	**GERESS Array S**	**151.35**	**346**	*e*PKPbc	**PKPbc**	**20**	**58**	**52.8 +0.3**
GERES	**GERESS Array B**	**151.35**	**346**	PKPbc	**PKPbc**	**20**	**58**	**52.6 +0.1**
GERES	**GERESS Array B**	**151.35**	**346**	PKPbc	**PKPbc**	**20**	**58**	**52.6 +0.1**
	comp=Z,6.2nm,0.8s,baz=31,slow=2.2,SNR=34							
BZS	**Buzias**	**151.56**	**333**	*i*P	**PKPbc**	**20**	**58**	**53.3 +0.4**
CONA	**Conrad Observa**	**151.65**	**342**	*i*PKiKP	**PKiKP**	**20**	**58**	**53.7 +0.2**
	comp=Z,12nm,0.6s							
WLF	**Walferdange**	**151.66**	**356**	PKPbc	**PKPbc**	**20**	**58**	**54.7 +1.7**
STU	**Stuttgart**	**152.25**	**352**	*e*PKPbc	**PKPbc**	**20**	**58**	**54.8 +0.4**
PKSM	**Moragy**	**152.25**	**337**	*i*P	**PKPbc**	**20**	**58**	**54.7 +0.2**
KULA	**Kula-Manisa**	**152.36**	**314**	*e*PG	**PKPbc**	**20**	**58**	**54.1 -1.0**
KULA	**Kula-Manisa**	**152.36**	**314**	*e*Pg	**PKPbc**	**20**	**58**	**54.1 -1.0**
FUR	**Furstenfeldbru**	**152.50**	**349**	*e*PKPbc	**PKPbc**	**20**	**58**	**55.4 +0.4**
KDZ	**Kurdzhali**	**152.54**	**322**	*i*P	**PKPbc**	**20**	**58**	**54.1 -1.2**
RJOB	**Jochberg**	**152.60**	**346**	*e*PKPbc	**PKPbc**	**20**	**58**	**55.2 -0.1**
AKS	**Akhisar**	**152.73**	**315**	*e*PG	**PKPbc**	**20**	**58**	**53.3 -2.5**
AKS	**Akhisar**	**152.73**	**315**	*e*Pg	**PKPbc**	**20**	**58**	**53.3 -2.5**
PERS	**Pernice**	**153.03**	**342**	*i* PKPbc	**PKPbc**	**20**	**58**	**55.8 -0.5**
VTS	**Vitosha**	**153.09**	**326**	*i*P	**PKPbc**	**20**	**58**	**56.4 -0.3**
IZM	**Izmir**	**153.35**	**315**	*e*PG	**PKPdf**	**20**	**58**	**47.1 -2.3**
IZM	**Izmir**	**153.35**	**315**	*e*Pg	**PKPdf**	**20**	**58**	**47.2 -2.3**
MMB	**Musomiste**	**153.52**	**324**	*i*P	**PKPbc**	**20**	**58**	**55.7 -1.8**
ABTA	**Abfaltersbach**	**153.60**	**346**	*i* PKiKP	**PKPbc**	**20**	**58**	**57.2 -0.3**
	comp=Z,7.3nm,0.5s							
CRNS	**Crni Vrh**	**153.78**	**343**	*e*PKPbc	**PKPbc**	**20**	**58**	**57.5 -0.4**
VISS	**Visnje**	**153.87**	**342**	*i* PKPbc	**PKPbc**	**20**	**58**	**57.9 -0.1**
JAVS	**Javornik**	**154.01**	**343**	*i* PKPbc	**PKPbc**	**20**	**58**	**58.3 -0.2**
BOJS	**Bojanci**	**154.02**	**341**	*i* PKPbc	**PKPbc**	**20**	**58**	**58.5 +0.8**
CHOS	**Chios island**	**154.15**	**316**	*e*PN	**PKPbc**	**20**	**58**	**59.8 +0.8**
CHOS				*e*SN	**PKPab**	**20**	**59**	**16.4 +3.0**
CHOS	**Chios island**	**154.15**	**316**	*e*Pn	**PKPbc**	**20**	**58**	**59.8 +0.8**
CHOS				*e*Sn	**PKPab**	**20**	**59**	**16.4 +3.0**
TORD	**Torodi Ar. Bea**	**171.68**	**168**	PKP	**PKPdf**	**20**	**59**	**06.8 -1.2**
TORD				PKPab	**PKPab**	**21**	**00**	**31.3 +0.9**
TORD	**Torodi Ar. Bea**	**171.68**	**168**	PKP	**PKPdf**	**20**	**59**	**06.8 -1.2**
	comp=Z,0.9nm,1.0s,baz=178,slow=1.1,SNR=4.6							
TORD				PKPab	**PKPab**	**21**	**00**	**31.3 +0.9**
	comp=Z,0.7nm,0.8s,baz=186,slow=3.2,SNR=4.2							

SKHL 12 20:42:41.2±2.3, 44°.24N×148°.76E, h40km±5km, mb4.1/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
				Op			h	m	s	ISC
KUR	**Kuril'sk**	**1.18**	**328**	*e*P		Pn	20	43	00.5	-0.7
KUR				AMB		AMB	20	43	05.0	
	110nm,0.5s									
KUR				*e*S		Sn	20	43	15.0	-1.0
KUR				A		A	20	43	17.5	
	360nm,0.7s									
KUR				A		A	20	43	17.5	
	150nm,0.7s									
MYR	**Moyori**	**4.45**	**246**	*e*P		Pn	20	43	46.1	0.0

MEX 12 20:46:43.2±0.9, 18°.93N×107°.19W, h16km±29km, MD3.9, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
				Op			h	m	s	ISC
CJM	**Chamela**	**2.10**	**74**	*i* P		Pn	20	47	14.7	-3.0
CJM				*e*S		Sn	20	47	39.0	-4.6
R15V		**3.04**	**85**	*e*P		Pn	20	47	27.2	-3.5
R15V				*i* S		Sn	20	48	03.2	-3.6
ANIG	**Ahuacatlan**	**3.28**	**49**	*i* P		Pn	20	47	31.5	-2.6
ANIG				*i* S		Sn	20	48	10.5	-2.4
EZ5V		**3.43**	**80**	*i* P		Pn	20	47	34.6	-1.7
EZ5V				*i* S		Sn	20	48	12.6	-4.4

KRSC 12 20:48:25.7±7.2, 48°.90N×157°.16E, h20km±19km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
				Op			h	m	s	ISC
SKR	**Severo-Kuril's**	**1.91**	**340**	*e*P		Pn	20	48	56.2	-0.8
SKR				*e*S		Sn	20	49	19.5	-1.0
PAU	**Pauzhetka**	**2.58**	**355**	*e*P		Pn	20	49	08.1	+1.8
PAU				*e*S		Sn	20	49	37.3	+0.3
ASAK	**Asacha**	**3.52**	**7**	*e*P		Pn	20	49	22.3	+3.0
RUS	**Russkaya**	**3.64**	**13**	*e*P		Pn	20	49	22.8	+2.0
RUS				*e*S		Sn	20	50	03.9	+0.7
MTVR	**Mutnovka**	**3.65**	**10**	*e*S		Sn	20	50	06.0	+2.3
APC	**Apacha**	**4.03**	**360**	*e*P		Pn	20	49	29.5	+3.3
PET	**Petropavlovsk**	**4.24**	**12**	*e*S		Sn	20	50	19.5	+1.7
UGLR	**Uglovaya**	**4.44**	**13**	*e*P		Pn	20	49	35.1	+3.1
AVH	**Avacha**	**4.48**	**12**	*e*P		Pn	20	49	35.6	+3.1
SMAR	**Somma**	**4.49**	**13**	*e*P		Pn	20	49	35.1	+2.3
NLC	**Nalytchevo**	**4.49**	**17**	*e*S		Sn	20	50	24.6	+0.4
KOK	**Koryaka**	**4.50**	**11**	*e*P		Pn	20	49	35.6	+2.9
SDLR	**Sedlovina**	**4.52**	**13**	*e*P		Pn	20	49	35.2	+2.1
KRER	**Koryakskii**	**4.52**	**12**	*e*P		Pn	20	49	36.4	+3.1
KRX	**Arik**	**4.56**	**11**	*e*P		Pn	20	49	36.0	+2.3
GNL	**Ganaly**	**4.83**	**6**	*e*P		Pn	20	49	41.3	+4.0
MKZ	**Mys Kozlova**	**6.33**	**25**	*e*S		Sn	20	51	11.4	+1.9
KZV	**Kizimen**	**6.52**	**16**	*e*P		Pn	20	50	05.5	+4.9
TUMR	**Tumrok**	**6.65**	**15**	*e*P		Pn	20	50	04.4	+2.0

IDC 12 20:51:42.4±3.3, 5°.96S×150°.88E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=129.2km s-min=42.1km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
				Op			h	m	s	ISC
PMG	**Port Moresby**	**5.03**	**227**	Pn		Pn	20	52	59.9	+0.7
	1.2nm,0.3s,baz=45,slow=8.6,SNR=4.0									
PMG				Sn		Sn	20	53	50.3	-7.8
	0.8nm,0.3s,baz=0.0,slow=20,SNR=2.5									
WRA	**Warramunga Arr**	**21.25**	**228**	P		P	20	56	31.7	+1.3
	1.3nm,0.6s,baz=54,slow=11,SNR=4.1									
ASAR	**Alice Springs**	**24.02**	**221**	P		P	20	56	58.0	-1.2
	0.1nm,0.3s,baz=54,slow=9.3,SNR=5.2									
TORD	**Torodi Ar. Bea**	**148.81**	**286**	PKPbc		PKPbc	21	11	32.4	-0.7
	0.4nm,0.8s,baz=79,slow=2.4,SNR=3.4									

*THR **12** 21:37:36.7±0.5, 27°.49N×53°.22E, h27km±8km, ML4.4*
*BJI **12** 21:37:37.9, 27°.88N×52°.84E, h35km, mB4.9/23, mb4.6/36, Ms4.4/16, Ms7 4.1/15*
*IDC **12** 21:37:38.4±0.5, 27°.82N×53°.56E, h0km, mb4.3/29, mb1 4.4/34, mb1mx4.4/38, mbtmp4.3/34, ML3.8/4, MS3.5/13, Ms1 3.5/13, ms1mx3.3/44, Error ellipse: s-maj=14.0km s-min=11.2km az=172.0*
*ISCJB **12** 21:37:38.7±0.2, 27°.82N±0°.02×53°.45E±0°.02, h10km, mb4.6/115, MS3.8/18, Error ellipse: s-maj=3.4km s-min=2.2km az=35.1*
*NEIC **12** 21:37:40.0, 27°.61N×53°.33E, h13km, mb4.9/37, MN4.3(TEH), After TEH.*
*MOS **12** 21:37:41.9±0.9, 27°.83N×53°.42E, h33km, mb5.0/36, Error ellipse: s-maj=7.3km s-min=4.2km az=119.5*
*CSEM **12** 21:37:41.6±0.1, 27°.85N×53°.42E, h15km, mb4.7/34, Ms4.0, Error ellipse: s-maj=4.8km s-min=3.4km az=43.0*
*TEH **12** 21:37:42.0, 27°.65N×53°.39E, h28km, ML4.3*
*OMAN **12** 21:37:42.9±0.2, 27°.93N×53°.77E, h8km±4km, Error ellipse: s-maj=6.0km s-min=2.1km az=256.0*
*SZGRF **12** 21:37:45.1, 26°.71N×51°.90E, h33km, mb4.5, Eastern Arabian Peninsula*

ISC 12 21:37:40.0±0.3, 27°.78N±0°.03×53°.46E±0°.03, h10km, n532, σ1s12/551, mb4.7/115, MS3.7/18, 103C-15D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time			Res
				Op			h	m	s	ISC
GHIR	**Ghir-Karzin**	**0.65**	**320**	*e*Pg		**Pg**	**21**	**37**	**52.3**	**-0.3**
GHIR				*e*Sg		**Sg**	**21**	**38**	**03.7**	**+2.5**
GHIR				AML		AML	21	38	09.0	
	comp=N,12μm,0.5s									
GHIR	**Ghir-Karzin**	**0.65**	**320**	*e*Pg		**Pg**	**21**	**37**	**52.3**	**-0.3**
GHIR				*e*Sg		**Sg**	**21**	**38**	**03.7**	**+2.5**
IPAR	**Pars**	**2.08**	**350**	*e*Pn		**Pn**	**21**	**38**	**17.0**	**+1.7**
IPAR				*e*			21	39	01.6	
	comp=Z,17μm,0.4s									
IPAR	**Pars**	**2.08**	**350**	Pn		**Pn**	**21**	**38**	**17.6**	**+2.3**
IPAR				Sn		**Sn**	**21**	**38**	**43.2**	**+1.8**
IPAR	**Pars**	**2.08**	**350**	*e*Pn		**Pn**	**21**	**38**	**17.0**	**+1.7**
IPAR				Sn		**Sn**	**21**	**38**	**43.2**	**+1.8**
IBND	**Bandar-abas**	**2.76**	**96**	*e*Pn		**Pn**	**21**	**38**	**24.7**	**+0.5**
IBND				*e*Sg		**Sg**	**21**	**39**	**09.6**	**+1.1**
IBND				*e*			21	39	41.7	
	comp=Z,44μm,0.3s									
IBND	**Bandar-abas**	**2.76**	**96**	Pn		**Pn**	**21**	**38**	**24.7**	**+0.5**
IBND	**Bandar-abas**	**2.76**	**96**	*e*Pn		**Pn**	**21**	**38**	**24.7**	**+0.5**
IBND				*e*Sg		**Sg**	**21**	**39**	**09.6**	**+1.1**
BANOM	**Banah**	**3.14**	**125**	⇓P		**Pn**	**21**	**38**	**31.0**	**+1.4**
	SNR=28									
BANOM				⇑S		**Sn**	**21**	**39**	**08.4**	**+1.2**
BANOM	**Banah**	**3.14**	**125**	P		**Pn**	**21**	**38**	**31.0**	**+1.4**
	SNR=28									
BANOM				Sn		**Sn**	**21**	**39**	**07.9**	**+0.7**
BANOM				S		**Sn**	**21**	**39**	**08.4**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.42**	**144**	Pn		Pb	21	38	36.8	-3.8
	SNR=11									
ASUD	**Al Ashush, Dub**	**3.57**	**151**	Pn		Pb	21	38	39.4	-3.8
	SNR=42									
FAQ	**Al Faqa, Dubai**	**3.58**	**147**	Pn		Pb	21	38	38.9	-4.5
	SNR=36									
KRBR	**Kerman**	**3.63**	**52**	*e*Pn		**Pn**	**21**	**38**	**38.6**	**+2.0**
KRBR				AML		AML	21	39	25.4	
	comp=E,784nm,0.3s									
KRBR				AML		AML	21	39	25.4	
	comp=N,1μm,0.7s									
KRBR	**Kerman**	**3.63**	**52**	*e*Pn		**Pn**	**21**	**38**	**38.6**	**+2.0**
IMEH	**Mehriz**	**3.73**	**15**	*e*Pn		**Pn**	**21**	**38**	**39.6**	**+1.7**
IMEH				*e*			21	39	49.0	
	comp=Z,3μm,0.4s									
IMEH	**Mehriz**	**3.73**	**15**	Pn		**Pn**	**21**	**38**	**39.7**	**+1.8**
IMEH	**Mehriz**	**3.73**	**15**	*e*Pn		**Pn**	**21**	**38**	**39.6**	**+1.7**
HATD	**Hatta, Dubai**	**3.80**	**140**	Pn		Pn	21	38	41.1	+2.5
	SNR=40									
ASHO	**Ashiyiah**	**3.87**	**142**	⇓P		Pn	21	38	42.3	+2.7
	SNR=57									
ASHO				⇑S		**Sn**	**21**	**39**	**28.6**	**+3.4**
ASHO	**Ashiyiah**	**3.87**	**142**	P		Pn	21	38	42.3	+2.7
	SNR=57									
ASHO				S		**Sn**	**21**	**39**	**28.6**	**+3.4**
ISAD	**Sadrabad**	**4.12**	**3**	*e*Pn		**Pn**	**21**	**38**	**45.0**	**+1.7**
ISAD				*e*			21	39	35.2	

EIL Elat 16.34 281 Pn **P** **21 41 31.6 -0.9**
EIL Elat 16.34 281 Pn **P** **21 41 31.6 -0.9**
comp=Z,0.4nm,0.3s,baz=132,slow=4.6,SNR=4.1
EIL LR LR 21 49 08.0
comp=Z,42nm,18.9s,baz=10,slow=42
DBAD Bademkaya 16.36 327 *i* P **P** **21 41 35.3 +2.5**
DBAD Bademkaya 16.36 327 *i* P **P** **21 41 35.3 +2.5**
MMAI Mount Meron Ar 16.42 293 Pn **Pn** **21 41 31.1 +0.5**
MMAI Mount Meron Ar 16.42 293 Pn **Pn** **21 41 31.1 +0.5**
MMAI Mount Meron Ar 16.42 293 Pn **Pn** **21 41 31.1 +0.5**
comp=Z,0.3nm,0.3s,baz=95,slow=18,SNR=3.2
GZT Gaziantep 16.43 310 *i* P **Pn** **21 41 31.6 +0.8**
AKCD Akcadag 16.70 313 *i* P **Pn** **21 41 34.8 +0.6**
AKCD Akcadag 16.70 313 *i* P **Pn** **21 41 34.8 +0.6**
ZEI Tsey 16.86 335 *eP* **P** **21 41 39.1 +0.7**
ZEI pmax pmax
comp=Z,35nm,1.6s
KEMA Kemaliye 16.91 316 *i* P **Pn** **21 41 37.6 +0.8**
KEMA Kemaliye 16.91 316 *i* P **Pn** **21 41 37.6 +0.8**
KBZ Khabaz 18.05 335 P **Pn** **21 41 50.8 0.0**
KBZ Khabaz 18.05 335 P **Pn** **21 41 50.8 0.0**
KBZ Khabaz 18.05 335 P **Pn** **21 41 50.8 0.0**
KBZ Khabaz 18.05 335 P **Pn** **21 41 50.8 0.0**
comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=6.9
KBZ LR LR 21 49 51.7
comp=Z,134nm,21.6s,baz=148,slow=41
KIV Kislovodsk 18.32 335⇓ *eP* **Pn** **21 41 57.7 +3.4**
KIV pmax pmax
comp=Z,24nm,1.2s
KIV MLR MLR
comp=Z,100nm,22.0s
BRTR Keskin Array B 20.28 311 P **P** **21 42 17.1 +1.2**
BRTR Keskin Array B 20.28 311 P **P** **21 42 17.1 +1.2**
BRTR Keskin Array B 20.28 311 P **P** **21 42 17.1 +1.2**
comp=Z,4.7nm,0.8s,baz=133,slow=13,SNR=15
BR231 Keskin MP Arra 20.92 310 *eP* P 21 42 17.8 -5.0
ANTO Ankara 20.92 310 *eP* **P** **21 42 22.8 0.0**
ANTO pmax pmax
comp=Z,141nm,2.2s
ANTO Ankara 20.92 310 *eP* **P** **21 42 22.8 0.0**
comp=Z,141nm,2.2s
ANTO Ankara 20.92 310 *eP* **P** **21 42 22.8 0.0**
comp=Z,141nm,2.2s
AML Almayashu 21.83 44 *i* P **P** **21 42 33.0 +0.1**
AML Almayashu 21.83 44 P **P** **21 42 33.0 +0.1**
SNR=6.7
AML Almayashu 21.83 44 *i* P **P** **21 42 33.0 +0.1**
KSH Kashi 22.03 52 P P 21 42 28.5 -6.3
KSH pP pP 21 42 37.5 -0.2
KSH sP sP 21 42 41.0 +2.0
KSH PP PnPn 21 42 51.2 -5.4
KSH pmax pmax
comp=Z,5.0nm,0.6s
KSH pmax pmax
comp=Z,62nm,3.1s
KSH LR LR
comp=Z,130nm,5.5s
KSH LR LR
comp=Z,100nm,4.9s
KSH LR LR
comp=Z,110nm,6.9s
GOLH Golhisar 22.20 301 *i* P **P** **21 42 39.3 +2.7**
KHAL Karahalli 22.63 304 *i* P **P** **21 42 39.5 -1.7**
KHAL Karahalli 22.63 304 *i* P **P** **21 42 39.5 -1.7**
KZA Kyzart 22.77 46 *i* P **P** **21 42 43.3 +0.3**
KZA Kyzart 22.77 46 P **P** **21 42 43.4 +0.3**
SNR=13
KZA Kyzart 22.77 46 *i* P **P** **21 42 43.3 +0.3**
AKTK Aktyubinsk 22.89 8 P **P** **21 42 43.9 +0.2**
AKTO Aktyubinsk 22.89 8 P **P** **21 42 43.9 +0.2**
AKTO Aktyubinsk 22.89 8 P **P** **21 42 43.9 +0.2**
AKTO Aktyubinsk 22.89 8 P **P** **21 42 43.9 +0.2**
AKTO Aktyubinsk 22.89 8 P **P** **21 42 43.9 +0.2**
comp=Z,4.7nm,0.8s,baz=234,slow=11,SNR=11
AKTO LR LR 21 53 41.3
comp=Z,207nm,19.3s,baz=181,slow=42
KBK Karagaybulak 22.90 44 *i* P **P** **21 42 45.6 +1.5**
KBK Karagaybulak 22.90 44 P **P** **21 42 45.6 +1.5**
SNR=9.0
KBK Karagaybulak 22.90 44 *i* P **P** **21 42 45.6 +1.5**
CHMS Chumysh 22.97 43 *i* P **P** **21 42 46.1 +1.5**
CHMS Chumysh 22.97 43 P **P** **21 42 46.1 +1.5**
SNR=10
CHMS Chumysh 22.97 43 *i* P **P** **21 42 46.1 +1.5**
USP Ospenovka 22.97 42 *i* P **P** **21 42 46.1 +1.4**
USP Ospenovka 22.97 42 P **P** **21 42 46.1 +1.4**
SNR=8.4
USP Ospenovka 22.97 42 *i* P **P** **21 42 46.1 +1.4**
SIM Simferopol' 23.06 323 *eP* **P** **21 42 48.3 +2.8**
SIM pmax pmax
comp=Z,31nm,0.9s
FURI Furi 23.40 219 *eP* **P** **21 42 50.1 +0.6**
comp=Z,13nm,0.8s
FURI Furi 23.40 219 *eP* **P** **21 42 50.1 +0.6**
comp=Z,13nm,0.8s
TKM2 Tokmak 2 23.44 44 *i* P **P** **21 42 49.9 +0.3**
TKM2 Tokmak 2 23.44 44 P **P** **21 42 49.9 +0.3**
SNR=9.9
TKM2 Tokmak 2 23.44 44 *i* P **P** **21 42 49.9 +0.3**
VRHR Novokhopersk 24.95 342 *eP* **P** **21 43 03.5 +0.2**
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR Novokhopersk 24.95 342 *eP* **P** **21 43 03.5 +0.2**
comp=E,20nm,0.6s
HYB Hyderabad 25.31 109 *i* P **P** **21 43 07.0 0.0**
IDI Anoyia 25.41 294 *eP* **P** **21 43 09.1 +1.3**
comp=E,323nm,2.2s
IDI Anoyia 25.41 294 *eP* **P** **21 43 09.1 +1.3**
comp=E,323nm,2.2s
IDI Anoyia 25.41 294 P **P** **21 43 08.9 +1.1**
comp=E,17nm,0.8s,baz=102,slow=9.3,SNR=6.4
VORD Divnogorie 25.52 339 *eP* **P** **21 43 08.6 +0.1**
VORD pmax pmax
comp=N,60nm,0.8s
VORD pmax pmax
comp=E,60nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VORD Divnogorie 25.52 339 *eP* **P** **21 43 08.6 +0.1**
VSR Storozhevoye 25.78 339 *eP* **P** **21 43 11.5 +0.6**
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,60nm,1.0s
VSR pmax pmax
comp=E,30nm,0.9s
VSR Storozhevoye 25.78 339 *eP* **P** **21 43 11.5 +0.6**
comp=E,60nm,1.0s
PYUN Piuthan 26.07 82 *eP* **P** **21 43 14.2 +0.2**
KOLN Koldanda 26.64 83 *eP* **P** **21 43 18.7 -0.5**
comp=E,29nm,1.2s
DANN Dangsing 26.71 82 *eP* **P** **21 43 19.6 -0.4**
comp=E,46nm,0.9s
GKN Gorkha 27.52 82 *eP* **P** **21 43 26.5 -0.6**
comp=E,21nm,1.0s
DMN Daman 27.99 83 *eP* **P** **21 43 30.9 -0.4**
comp=E,19nm,0.8s
MLR Muntele Rosu 28.08 316⇑ *iP* P 21 43 36.4 +4.6
MLR Muntele Rosu 28.08 316 P **P** **21 43 32.8 +1.0**
MLR Muntele Rosu 28.08 316 P **P** **21 43 32.8 +1.0**
MLR Muntele Rosu 28.08 316 P **P** **21 43 32.8 +1.0**
comp=E,0.3nm,0.4s,baz=345,slow=23,SNR=4.6
KKN Kakani 28.11 82 *eP* **P** **21 43 32.2 -0.2**
comp=E,17nm,0.9s
BRVK Borovoye 28.17 22⇑ *eP* **P** **21 43 32.6 +0.2**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK MLR MLR
comp=Z,116nm,16.0s
BRVK Borovoye 28.17 22 P **P** **21 43 32.8 +0.4**
SNR=9.7
BRVK Borovoye 28.17 22 *eP* **P** **21 43 31.9 -0.5**
comp=Z,6.6nm,0.8s
BRVK Borovoye 28.17 22 P **P** **21 43 32.8 +0.4**
SNR=9.7
BVAR Borovoye Array 28.17 22 P **P** **21 43 32.8 +0.4**
BVAR 21 46 46.6
BVAR Borovoye Array 28.17 22 P **P** **21 43 32.8 +0.4**
BVAR PcP **PcP** **21 46 46.6 +0.5**
BVAR ScP **ScP** **21 50 26.3 -0.9**
BVAR Borovoye Array 28.17 22 P **P** **21 43 32.8 +0.4**
comp=Z,12nm,0.9s,baz=217,slow=7.5,SNR=53
BVAR PcP **PcP** **21 46 46.6 +0.5**
comp=Z,2.0nm,0.7s,baz=216,slow=2.4,SNR=5.6
BVAR ScP **ScP** **21 50 26.3 -0.9**
comp=Z,2.0nm,0.9s,baz=204,slow=3.3,SNR=6.5
BVAR LR LR 21 56 16.8
comp=Z,136nm,19.1s,baz=242,slow=40
PKIN Phulchoki 28.25 83 *eP* **P** **21 43 33.4 -0.3**
comp=Z,26nm,1.2s
PKI Pulchoki 28.26 83 *eP* **P** **21 43 33.6 -0.2**
comp=Z,22nm,0.9s
VOIR 28.60 316⇑ P **P** **21 43 38.1 +1.7**
VOIR 28.60 316⇑ *iP* **P** **21 43 38.1 +1.7**
VOIR 28.60 316 P **P** **21 43 38.1 +1.7**
GUN Gumba 28.62 82 *eP* **P** **21 43 37.0 -0.1**
comp=Z,49nm,1.0s
ARR Arges 28.83 315⇓ *iP* **P** **21 43 40.1 +1.7**
ARR Arges 28.83 315⇓ *iP* **P** **21 43 40.1 +1.7**
ARU Arti 28.86 6 P **P** **21 43 37.3 -1.2**
ARU S S 21 48 25.2 -3.2
ARU SS **SnSn** **21 49 48.1 -2.1**
ARU Arti 28.86 6 P **P** **21 43 37.3 -1.2**
JIRN Jiri 28.93 82 *eP* **P** **21 43 40.2 +0.3**
comp=Z,17nm,0.7s
AKASG Malin Array Be 29.35 328 P **P** **21 43 42.5 -0.4**
AKASG Malin Array Be 29.35 328 P **P** **21 43 42.5 -0.4**
AKASG Malin Array Be 29.35 328 P **P** **21 43 42.5 -0.4**
AKASG Malin Array Be 29.35 328 P **P** **21 43 42.5 -0.4**
comp=Z,1.5nm,0.5s,baz=138,slow=8.0,SNR=12
KIEV Kiev 29.36 328⇓ *eP* **P** **21 43 42.8 -0.1**
KIEV Kiev 29.36 328 *eP* **P** **21 43 42.2 -0.7**
comp=Z,29nm,1.6s
KIEV Kiev 29.36 328 *eP* **P** **21 43 42.8 -0.1**
AK11 Malin Array Si 29.36 328 *eP* **P** **21 43 41.0 -2.0**
AK11 Malin Array Si 29.36 328 *eP* **P** **21 43 41.0 -2.0**
RAMN Ramite 29.40 84 *eP* **P** **21 43 43.2 -0.7**
comp=Z,15nm,0.9s
LOT Lotru 29.41 315⇑ *iP* **P** **21 43 44.9 +1.3**
LOT Lotru 29.41 315⇑ *iP* **P** **21 43 44.9 +1.3**
MK01 Makanchi Array 29.51 42 *eP* **P** **21 43 43.8 -0.7**
MK01 Makanchi Array 29.51 42 *eP* **P** **21 43 43.8 -0.7**
MKAR Makanchi Array 29.52 42 P **P** **21 43 44.6 +0.1**
MKAR 21 46 49.5
MKAR Makanchi Array 29.52 42 P **P** **21 43 44.6 +0.1**
MKAR PcP **PcP** **21 46 49.5 -0.1**
MKAR Makanchi Array 29.52 42 P **P** **21 43 44.6 +0.1**
MKAR Makanchi Array 29.52 42 P **P** **21 43 44.6 +0.1**
comp=Z,1.9nm,0.7s,baz=227,slow=8.3,SNR=19
MKAR PcP **PcP** **21 46 49.5 -0.1**
comp=Z,1.1nm,0.6s,baz=236,slow=3.4,SNR=5.8
MKAR LR LR 21 57 32.0
comp=Z,88nm,19.2s,baz=91,slow=41
BURAR Bucovina Array 29.59 320⇑ P **P** **21 43 46.2 +0.9**
BURAR Bucovina Array 29.59 320⇑ *iP* **P** **21 43 46.2 +0.9**
BURAR Bucovina Array 29.59 320⇑ *iP* **P** **21 43 46.2 +0.9**
BUR04 Bucovina Ar. S 29.60 320 *eP* **P** **21 43 46.2 +0.9**
BUR04 Bucovina Ar. S 29.60 320 *eP* **P** **21 43 46.2 +0.9**
KURBB Kurchatov Arra 29.70 33 P **P** **21 43 46.0 -0.1**
comp=Z,5.0nm,0.9s,baz=234,slow=9.1,SNR=32
KURBB PcP **PcP** **21 46 49.9 -0.1**
comp=Z,0.9nm,0.8s,baz=238,slow=2.8,SNR=5.3
KURK Kurchatov 29.80 33 P **P** **21 43 46.0 -0.9**
KURK 21 46 49.9
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 29.80 33 P **P** **21 43 47.6 +0.7**
SNR=7.3
KURK Kurchatov 29.80 33 *eP* **P** **21 43 46.1 -0.9**
comp=Z,2.9nm,0.9s
KURK PcP **PcP** **21 46 49.9 -0.4**
KURK Kurchatov 29.80 33 P **P** **21 43 47.6 +0.7**
SNR=7.3
OBN Obninsk 29.93 340 *i* P **P** **21 43 49.5 +1.5**
OBN *e* 21 44 46.3
OBN *e* 21 46 48.7
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 29.93 340 *i* P **P** **21 43 49.5 +1.5**
comp=Z,7.0nm,1.0s
GZR Gura Zlata 30.01 314⇓ P **P** **21 43 50.6 +1.6**
GZR Gura Zlata 30.01 314⇓ *iP* **P** **21 43 50.5 +1.6**
GZR Gura Zlata 30.01 314 P **P** **21 43 50.6 +1.6**
ODAN Odare 30.11 84 *eP* **P** **21 43 49.3 -0.9**
TAPN Taplejung 30.31 83 *eP* **P** **21 43 51.8 -0.3**
DRGR 30.67 316⇑ P **P** **21 43 53.0 -1.8**
DRGR 30.67 316⇑ *iP* **P** **21 43 53.0 -1.8**
DRGR 30.67 316 P **P** **21 43 53.0 -1.8**
SIRR Siria 31.09 315⇓ *iP* **P** **21 43 58.3 -0.1**
SIRR Siria 31.09 315⇓ *iP* **P** **21 43 58.3 -0.1**
WMQ Urumqi 31.78 51 P **P** **21 44 05.0 +0.5**
WMQ sP sP 21 44 19.0 +10
WMQ PP **PnPn** **21 45 10.0 +1.4**
WMQ PcP **PcP** **21 46 55.0 -0.7**
WMQ S S 21 49 11.0 -3.6
WMQ sS sS 21 49 28.0 +8.3
WMQ ScP **ScP** **21 50 35.0 -4.2**
WMQ pmax pmax
comp=Z,12nm,0.8s
WMQ pmax pmax
comp=Z,170nm,4.0s
WMQ LR LR
comp=Z,280nm,12.0s
WMQ LR LR
comp=Z,100nm,12.0s
WMQ LR LR
comp=Z,110nm,12.0s
UZH Uzhgorod 31.80 319 *eP* **P** **21 44 05.0 +0.5**
UZH Uzhgorod 31.80 319 *eP* **P** **21 44 05.0 +0.5**
KOLS Kolonicke sedl 31.96 320 *eP* **P** **21 44 07.8 +1.8**
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 31.96 320 *eP* **P** **21 44 07.8 +1.8**
KOLS Kolonicke sedl 31.96 320 *eP* **P** **21 44 07.8 +1.8**
comp=Z,14nm,1.1s
KWP Kalwaria Pacla 32.07 321⇓ P **P** **21 44 08.0 +1.0**
KWP Kalwaria Pacla 32.07 321⇓ *iP* **P** **21 44 08.0 +1.0**
KWP Kalwaria Pacla 32.07 321 *eP* **P** **21 44 06.9 -0.1**
comp=Z,204nm,2.7s
KWP Kalwaria Pacla 32.07 321 *eP* **P** **21 44 06.9 -0.1**
comp=Z,204nm,2.7s
CRVS Cervenica-Dubn 32.41 319 *eP* **P** **21 44 10.9 +0.9**
CRVS pmax pmax
comp=Z,4.0nm,0.9s
CRVS Cervenica-Dubn 32.41 319 *eP* **P** **21 44 10.9 +0.9**
CRVS Cervenica-Dubn 32.41 319 *eP* **P** **21 44 10.9 +0.9**
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 32.69 211 P P 21 44 15.1 +2.1
KMBO Kilima Mbogo 32.69 211 P P 21 44 15.1 +2.1
KMBO Kilima Mbogo 32.69 211 P P 21 44 15.1 +2.1
comp=Z,0.3nm,0.3s,baz=222,slow=23,SNR=3.6
STHS Stebnicka Huta 32.79 320 *eP* **P** **21 44 15.5 +2.2**
STHS pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 32.79 320 *eP* **P** **21 44 15.5 +2.2**
STHS Stebnicka Huta 32.79 320 *eP* **P** **21 44 15.5 +2.2**
comp=Z,1.0nm,0.8s
PKSM Moragy 32.99 313⇑ P **P** **21 44 16.1 +1.1**
PKSM Moragy 32.99 313⇑ *iP* **P** **21 44 16.1 +1.1**
PKSM Moragy 32.99 313 P **P** **21 44 16.1 +1.1**
PKSM Moragy 32.99 313⇑ *eP* **P** **21 44 15.8 +0.8**
PKST T"s 33.77 315⇓ *eP* **P** **21 44 22.7 +0.8**
OJC Ojcow 33.99 320 *eP* **P** **21 44 23.1 -0.7**
OJC pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 33.99 320 *eP* **P** **21 44 24.1 +0.3**
OJC Ojcow 33.99 320 *eP* **P** **21 44 23.1 -0.7**
comp=Z,8.9nm,0.9s
OJC Ojcow 33.99 320 *eP* **P** **21 44 23.1 -0.7**
comp=Z,8.9nm,0.9s
SUW Suwalki 34.32 328 *eP* **P** **21 44 25.8 -0.7**
SUW pmax pmax
comp=Z,22nm,1.1s
SUW Suwalki 34.32 328 *eP* **P** **21 44 26.5 0.0**
SUW Suwalki 34.32 328 *eP* **P** **21 44 25.8 -0.7**
comp=Z,22nm,1.1s
SUW Suwalki 34.32 328 *eP* **P** **21 44 25.8 -0.7**
comp=Z,22nm,1.1s
NVS Novosibirsk 34.61 30 *eP* **P** **21 44 28.2 -0.8**
NVS Novosibirsk 34.61 30 *eP* **P** **21 44 28.2 -0.8**
OKC Ostrava-Krasne 34.77 319 *eP* **P** **21 44 30.5 +0.1**
OKC *e* 21 44 39.2
OKC Ostrava-Krasne 34.77 319 *eP* **P** **21 44 30.5 +0.1**
OKC *ex* x 21 44 39.2
OKC Ostrava-Krasne 34.77 319 *eP* **P** **21 44 30.5 +0.1**
ZAA0 Zalesovo Array 34.79 33 *eP* **P** **21 44 29.8 -0.8**
ZAA0 Zalesovo Array 34.79 33 *eP* **P** **21 44 29.8 -0.8**
ZALV Zalesovo Beam 34.79 33 P **P** **21 44 30.2 -0.4**
ZALV Zalesovo Beam 34.79 33 P **P** **21 44 30.2 -0.4**
ZALV Zalesovo Beam 34.79 33 P **P** **21 44 30.2 -0.4**
ZALV Zalesovo Beam 34.79 33 P **P** **21 44 30.2 -0.4**
comp=Z,7.9nm,0.7s,baz=246,slow=8.6,SNR=34
ZALV LR LR 22 00 51.5
comp=Z,180nm,18.4s,baz=71,slow=40
MORC Moravsky Berou 35.09 319⇑ P **P** **21 44 33.9 +0.6**
MORC Moravsky Berou 35.09 319⇑ *iP* **P** **21 44 33.9 +0.6**
MORC Moravsky Berou 35.09 319 *eP* **P** **21 44 32.7 -0.6**
comp=Z,15nm,1.3s
MORC Moravsky Berou 35.09 319 P **P** **21 44 33.9 +0.6**
VRAC Vranov 35.46 317⇑ *iP* **P** **21 44 37.0 +0.5**
VRAC Vranov 35.46 317 P **P** **21 44 37.0 +0.5**
KRLC Kraliky 35.66 319 *eP* **P** **21 44 38.2 0.0**
KRLC Kraliky 35.66 319 *eP* **P** **21 44 38.2 0.0**
KRLC Kraliky 35.66 319 *eP* **P** **21 44 38.2 0.0**
VSU Vasula 35.86 336 *iP* **P** **21 44 39.7 0.0**
VSU pmax pmax
comp=Z,24nm,1.0s
DPC Dobruska-Polom 36.05 319 *eP* **P** **21 44 42.0 +0.5**
DPC *e* 21 44 53.1
DPC Dobruska-Polom 36.05 319 *eP* **P** **21 44 42.0 +0.5**
DPC *ex* x 21 44 53.1
DPC Dobruska-Polom 36.05 319 *eP* **P** **21 44 40.1 -1.4**
comp=Z,114nm,1.4s
DPC Dobruska-Polom 36.05 319 P **P** **21 44 42.0 +0.5**
TREC Trest 36.12 317 *eP* **P** **21 44 41.5 -0.6**
TREC Trest 36.12 317 *eP* **P** **21 44 41.5 -0.6**
TREC Trest 36.12 317 P **P** **21 44 41.5 -0.6**
KSP Ksiaz 36.27 320 *eP* **P** **21 44 43.9 +0.6**
KSP Ksiaz 36.27 320 *eP* **P** **21 44 44.0 +0.6**
KSP Ksiaz 36.27 320 *eP* **P** **21 44 43.9 +0.6**
UPC Upice 36.29 319 *eP* **P** **21 44 43.2 -0.4**
UPC Upice 36.29 319 *eP* **P** **21 44 43.2 -0.4**
UPC Upice 36.29 319 P **P** **21 44 43.2 -0.4**
PRU Pruhonice 36.95 318 *eP* **P** **21 44 49.6 +0.4**
PRU Pruhonice 36.95 318 *eP* **P** **21 44 49.6 +0.4**
PRU Pruhonice 36.95 318 P **P** **21 44 49.6 +0.4**
GERES GERESS Array B 37.05 315 P **P** **21 44 50.2 +0.1**
GERES PcP **PcP** **21 47 11.0 +0.2**
GERES GERESS Array B 37.05 315 P **P** **21 44 50.2 +0.1**
comp=Z,0.8nm,0.5s,baz=92,slow=7.8,SNR=10
GERES PcP **PcP** **21 47 11.0 +0.2**
comp=Z,0.7nm,0.8s,baz=107,slow=4.6,SNR=3.9
ABTA Abfaltersbach 37.17 312 *i* P **P** **21 44 51.4 +0.2**
comp=Z,11nm,1.0s,SNR=4.9
ABTA Abfaltersbach 37.17 312 P **P** **21 44 51.4 +0.2**
comp=Z,11nm,1.0s,SNR=4.9
KHC Kasperske Hory 37.23 316 *eP* **P** **21 44 51.9 +0.3**
KHC *e* 21 44 59.4
KHC Kasperske Hory 37.23 316 *eP* **P** **21 44 51.9 +0.3**
KHC *ex* x 21 44 59.4
KHC Kasperske Hory 37.23 316 *eP* **P** **21 44 52.1 +0.5**
comp=Z,7.2nm,0.9s
KHC Kasperske Hory 37.23 316 P **P** **21 44 51.9 +0.3**
BRG Berggiesshubel 37.65 319 *eP* **P** **21 44 55.5 +0.4**
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 37.65 319 *eP* **P** **21 44 55.5 +0.4**
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 37.65 319 *eP* **P** **21 44 56.0 +1.0**
comp=Z,13nm,1.5s
WTTA Wattenberg 37.89 312⇓ *iP* **P** **21 44 57.4 0.0**
comp=Z,24nm,1.0s,SNR=12
WTTA Wattenberg 37.89 312 P **P** **21 44 57.4 0.0**
comp=Z,24nm,1.0s,SNR=12
WATA Walderalm 37.95 312⇑ *iP* **P** **21 44 57.9 +0.1**
comp=Z,24nm,1.1s,SNR=6.8
WATA Walderalm 37.95 312 P **P** **21 44 57.9 +0.1**
comp=Z,24nm,1.1s,SNR=6.8
JOF Joensuu 38.01 344 *eP* **P** **21 44 58.6 +0.6**
JOF Joensuu 38.01 344 *ep* **P** **21 44 58.6 +0.6**
comp=Z,0.4nm,0.3s
JOF Joensuu 38.01 344 *eP* **P** **21 44 58.6 +0.6**
comp=Z,0.4nm,0.3s
KEST Kesra 38.08 293 P **P** **21 45 00.1 +1.0**
KEST Kesra 38.08 293 P **P** **21 45 00.1 +1.0**
comp=Z,2.2nm,0.9s,baz=334,slow=5.6,SNR=4.6
HVS Khovu-Aksy 38.17 41⇓ *eP* **P** **21 45 01.0 +1.4**
HVS pmax pmax
comp=Z,13nm,0.9s
MOTA Moosalm 38.26 312⇑ *iP* **P** **21 45 00.0 -0.5**
comp=Z,9.7nm,0.8s,SNR=8.5
MOTA Moosalm 38.26 312 P **P** **21 45 00.0 -0.5**
comp=Z,9.7nm,0.8s,SNR=8.5
ROTZ Rotzenmuhle 38.29 316 *eP* **P** **21 45 01.6 +1.1**
comp=Z,15.0nm,1.0s
FINES FINESS Array B 38.31 339 P **P** **21 45 00.6 +0.1**
FINES FINESS Array B 38.31 339 P **P** **21 45 00.6 +0.1**
comp=Z,3.6nm,0.6s,baz=144,slow=11,SNR=25
CLL Collm 38.36 319 *iP* **P** **21 45 01.3 +0.2**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 38.36 319 *eP* **P** **21 45 02.4 +1.3**
comp=Z,8.0nm,1.1s
CLL Collm 38.36 319 *iP* **P** **21 45 01.3 +0.2**
comp=Z,10.0nm,1.1s
FUR Furstenfeldbru 38.37 314 *eP* **P** **21 45 01.2 -0.1**
comp=Z,15nm,0.9s
FETA Feichten 38.42 312⇑ *iP* **P** **21 45 02.1 +0.2**
comp=Z,24nm,1.2s
FETA Feichten 38.42 312 P **P** **21 45 02.1 +0.2**
comp=Z,24nm,1.2s
KAF Kangasniemi 38.75 340 *eP* **P** **21 45 04.0 -0.2**
KAF Kangasniemi 38.75 340 *ep* **P** **21 45 04.0 -0.2**
comp=Z,0.4nm,0.3s
KAF Kangasniemi 38.75 340 *eP* **P** **21 45 04.0 -0.2**
comp=Z,0.4nm,0.3s
GRF Grafenberg Arr 38.87 316 *eP* **P** **21 45 05.7 +0.3**
comp=Z,22nm,1.3s
GRFO Grafenberg 38.87 316 *eP* **P** **21 45 05.3 -0.1**
GRFO pmax pmax
comp=Z,20nm,1.3s
GRFO Grafenberg 38.87 316 *eP* **P** **21 45 05.3 -0.1**
comp=Z,20nm,1.3s
DAVA Damuels 39.05 312 *iP* **P** **21 45 07.1 0.0**
comp=Z,28nm,0.6s,SNR=27
DAVA Damuels 39.05 312 P **P** **21 45 07.1 0.0**
comp=Z,28nm,0.6s,SNR=27
TUE Stuetta 39.21 310 *eP* **P** **21 45 09.3 +0.7**
comp=Z,8.5nm,1.0s
GTA Gaotai 39.92 61 P **P** **21 45 15.3 +0.8**
GTA pP pP 21 45 25.0 +7.4
GTA sP sP 21 45 29.2 +10
GTA pmax pmax
comp=Z,8.0nm,1.0s
CLZ Clausthal 40.08 319 *eP* **P** **21 45 16.4 +0.9**
comp=Z,10.0nm,1.0s
NRDL Niedersach Rie 40.46 320 *eP* **P** **21 45 20.2 +1.7**
comp=Z,17nm,1.0s
MBDF Montbardon 40.67 307⇑ *iP* **P** **21 45 21.1 +0.5**
MBDF Montbardon 40.67 307⇑ *iP* **P** **21 45 21.1 +0.5**
MBDF Montbardon 40.67 307⇑ *iP* **P** **21 45 21.1 +0.5**
MBDF Montbardon 40.67 307⇑ *iP* **P** **21 45 21.1 +0.5**
BNI Bardonecchia 40.79 308 *eP* **P** **21 45 20.7 -0.8**
BNI pmax pmax
comp=Z,24nm,1.4s
BNI Bardonecchia 40.79 308 *eP* **P** **21 45 20.7 -0.8**
comp=Z,24nm,1.4s
LPG La Plagne 40.80 308⇑ *iP* **P** **21 45 21.4 -0.5**
comp=Z,20nm,1.0s
LPG La Plagne 40.80 308⇑ *iP* **P** **21 45 21.4 -0.5**
LPG pmax pmax
comp=Z,20nm,1.0s
LPG La Plagne 40.80 308⇑ *iP* **P** **21 45 21.4 -0.5**
comp=Z,20nm,1.0s
LPG La Plagne 40.80 308⇑ *iP* **P** **21 45 21.4 -0.5**
comp=Z,9.9nm,1.0s
LPL La Plagne 40.82 308⇑ *iP* **P** **21 45 21.5 -0.5**
comp=Z,18nm,0.9s
LPL La Plagne 40.82 308⇑ *iP* **P** **21 45 21.5 -0.5**
LPL pmax pmax
comp=Z,18nm,0.9s
LPL La Plagne 40.82 308⇑ *iP* **P** **21 45 21.5 -0.5**
comp=Z,18nm,0.9s
LPL La Plagne 40.82 308⇑ *iP* **P** **21 45 21.5 -0.5**
comp=Z,9.0nm,0.9s

BSEG	**Bad Segeberg**	**40.87**	**322**	*e*P		**P**	**21 45 23.0**	**+1.1**
	comp=Z,14nm,1.1s								
HINF	**Hinteralfeld**	**41.17**	**312**	*e*P		**P**	**21 45 23.0**	**-1.5**
	comp=Z,33nm,1.2s								
HINF	**Hinteralfeld**	**41.17**	**312**	*e*P		**P**	**21 45 23.0**	**-1.5**
HINF					pmax	pmax			
	comp=Z,33nm,1.2s								
HINF	**Hinteralfeld**	**41.17**	**312**	*e*P		**P**	**21 45 23.0**	**-1.5**
	comp=Z,33nm,1.2s								
HINF	**Hinteralfeld**	**41.17**	**312**	*e*P		**P**	**21 45 23.0**	**-1.5**
	comp=Z,16nm,1.2s								
CABF	**La Chapelle**	**41.45**	**310**	*e*P		**P**	**21 45 25.9**	**-1.0**
	comp=Z,98nm,1.3s								
CABF	**La Chapelle**	**41.45**	**310**	*e*P		**P**	**21 45 25.9**	**-1.0**
CABF					pmax	pmax			
	comp=Z,98nm,1.3s								
CABF	**La Chapelle**	**41.45**	**310**	*e*P		**P**	**21 45 25.9**	**-1.0**
	comp=Z,98nm,1.3s								
CABF	**La Chapelle**	**41.45**	**310**	*e*P		**P**	**21 45 25.9**	**-1.0**
	comp=Z,49nm,1.3s								
HAU	**Haudompre**	**41.54**	**312**⇑	*i*P		**P**	**21 45 27.0**	**-0.6**
	comp=Z,8.9nm,0.8s								
HAU	**Haudompre**	**41.54**	**312**⇑	*i*P		**P**	**21 45 27.0**	**-0.6**
HAU					pmax	pmax			
	comp=Z,9.0nm,0.8s								
HAU	**Haudompre**	**41.54**	**312**⇑	*i*P		**P**	**21 45 27.0**	**-0.6**
	comp=Z,8.9nm,0.8s								
HAU	**Haudompre**	**41.54**	**312**⇑	*i*P		**P**	**21 45 27.0**	**-0.6**
	comp=Z,4.4nm,0.8s								
MHMT	**Maesarieng**	**41.85**	**93**	P		**P**	**21 45 31.7**	**+1.2**
	comp=Z,12nm,1.0s								
PAGF	**Fort de Pagny**	**42.06**	**313**⇑	*i*P		**P**	**21 45 31.2**	**-0.6**
PAGF	**Fort de Pagny**	**42.06**	**313**⇑	*i*P		**P**	**21 45 31.2**	**-0.6**
PAGF	**Fort de Pagny**	**42.06**	**313**⇑	*i*P		**P**	**21 45 31.2**	**-0.6**
VIVF	**Saint-Julien-l**	**42.17**	**307**⇑	*i*P		**P**	**21 45 32.2**	**-0.6**
VIVF	**Saint-Julien-l**	**42.17**	**307**⇑	*i*P		**P**	**21 45 32.2**	**-0.6**
VIVF	**Saint-Julien-l**	**42.17**	**307**⇑	*i*P		**P**	**21 45 32.2**	**-0.6**
VIVF	**Saint-Julien-l**	**42.17**	**307**⇑	*i*P		**P**	**21 45 32.2**	**-0.6**
CMAI	**Chiengmai2**	**42.23**	**90**	P		**P**	**21 45 33.8**	**+0.1**
	comp=Z,147nm,0.8s,comp=Z,6µm								
SFTF	**Sexfontaines**	**42.44**	**312**⇑	*i*P		**P**	**21 45 34.5**	**-0.4**
SFTF	**Sexfontaines**	**42.44**	**312**⇑	*i*P		**P**	**21 45 34.5**	**-0.4**
SFTF	**Sexfontaines**	**42.44**	**312**⇑	*i*P		**P**	**21 45 34.5**	**-0.4**
MEZF	**Maizieres J'vi**	**42.48**	**313**	*e*P		**P**	**21 45 35.1**	**-0.2**
	comp=Z,44nm,1.2s								
MEZF	**Maizieres J'vi**	**42.48**	**313**	*e*P		**P**	**21 45 35.1**	**-0.2**
	comp=Z,44nm,1.2s								
MEZF	**Maizieres J'vi**	**42.48**	**313**	*e*P		**P**	**21 45 35.1**	**-0.2**
	comp=Z,22nm,1.2s								
CHTO	**Chiang Mai**	**42.52**	**92**	*e*P		**P**	**21 45 36.6**	**+0.6**
CHTO					pmax	pmax			
	comp=Z,3.0nm,0.8s								
CHTO	**Chiang Mai**	**42.52**	**92**	P		**P**	**21 45 36.5**	**+0.5**
	SNR=24								
CHTO	**Chiang Mai**	**42.52**	**92**	*e*P		**P**	**21 45 36.6**	**+0.6**
	comp=Z,3.4nm,0.8s								
CHTO	**Chiang Mai**	**42.52**	**92**	P		**P**	**21 45 36.7**	**+0.8**
	comp=Z,84nm,1.0s								
CMMT	**Chiang Mai**	**42.53**	**92**	P		**P**	**21 45 36.7**	**+0.7**
	comp=Z,18nm,1.0s								
CMAR	**Chiang Mai Arr**	**42.65**	**93**	P		**P**	**21 45 37.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.65**	**93**	P		**P**	**21 45 37.3**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=285,slow=9.2,SNR=41								
CM01	**Chiang Mai Arr**	**42.68**	**93**	*e*P		**P**	**21 45 38.2**	**+1.0**
SMF	**Signal de Mont**	**42.98**	**310**	*e*P		**P**	**21 45 37.9**	**-1.5**
	comp=Z,31nm,1.2s								
SMF	**Signal de Mont**	**42.98**	**310**	*e*P		**P**	**21 45 37.9**	**-1.5**
SMF					pmax	pmax			
	comp=Z,31nm,1.2s								
SMF	**Signal de Mont**	**42.98**	**310**	*e*P		**P**	**21 45 37.9**	**-1.5**
	comp=Z,31nm,1.2s								
SMF	**Signal de Mont**	**42.98**	**310**	*e*P		**P**	**21 45 37.9**	**-1.5**
	comp=Z,16nm,1.2s								
LOR	**Lormes**	**43.06**	**311**⇑	*i*P		**P**	**21 45 39.5**	**-0.5**
LOR	**Lormes**	**43.06**	**311**⇑	*i*P		**P**	**21 45 39.5**	**-0.5**
LOR	**Lormes**	**43.06**	**311**⇑	*i*P		**P**	**21 45 39.5**	**-0.5**
LZH	**Lanzhou**	**43.16**	**66**	*e*P		**P**	**21 45 43.5**	**+2.4**
LZH					pP	pP	21 45 54.1	+10
LZH					sP	sP	21 45 58.0	+13
LZH					pmax	pmax			
	comp=Z,21nm,1.3s								
LZH					pmax	pmax			
	comp=Z,75nm,5.7s								
LZH					LR	LR			
	comp=Z,400nm,13.7s								
LZH					LR	LR			
	comp=Z,370nm,14.0s								
LZH					LR	LR			
	comp=Z,480nm,18.2s								
LAMP	**Lampang**	**43.24**	**92**	P		P	21 45 45.4	+3.7
	comp=Z,3.4nm,0.9s								
SSF	**Saint Saulge**	**43.27**	**310**	*e*P		**P**	**21 45 40.5**	**-1.2**
	comp=Z,46nm,1.3s								
SSF	**Saint Saulge**	**43.27**	**310**	*e*P		**P**	**21 45 40.5**	**-1.2**
SSF					pmax	pmax			
	comp=Z,46nm,1.3s								
SSF	**Saint Saulge**	**43.27**	**310**	*e*P		**P**	**21 45 40.5**	**-1.2**
	comp=Z,46nm,1.3s								
SSF	**Saint Saulge**	**43.27**	**310**	*e*P		**P**	**21 45 40.5**	**-1.2**
	comp=Z,23nm,1.3s								
CRAI	**Chiangrai**	**43.31**	**89**	P		**P**	**21 45 43.4**	**+1.1**
	comp=Z,235nm,1.2s								
NB2	**NORSAR Subarra**	**43.59**	**332**	P		**P**	**21 45 42.7**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=121,slow=8.6								
NB2	**NORSAR Subarra**	**43.59**	**332**	P		**P**	**21 45 42.7**	**-1.4**
	comp=Z,1.3nm,0.6s,SNR=2.5								
NOA	**NORSAR Array B**	**43.59**	**332**	P		**P**	**21 45 43.3**	**-0.8**
NOA	**NORSAR Array B**	**43.59**	**332**	P		**P**	**21 45 43.3**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=121,slow=8.2,SNR=12								
NOA					LR	LR	22 03 44.0		
	comp=Z,45nm,19.4s,baz=95,slow=36								
BGF	**Bois d'Agland**	**43.65**	**309**⇑	*i*P		**P**	**21 45 44.6**	**-0.1**
	comp=Z,30nm,1.1s								
BGF	**Bois d'Agland**	**43.65**	**309**⇑	*i*P		**P**	**21 45 44.6**	**-0.1**
BGF					pmax	pmax			
	comp=Z,30nm,1.1s								
BGF	**Bois d'Agland**	**43.65**	**309**⇑	*i*P		**P**	**21 45 44.6**	**-0.1**
	comp=Z,30nm,1.1s								
BGF	**Bois d'Agland**	**43.65**	**309**⇑	*i*P		**P**	**21 45 44.6**	**-0.1**
	comp=Z,15nm,1.1s								
CD2	**Chengdu**	**43.66**	**73**	*e*P		**P**	**21 45 46.1**	**+1.0**
CD2					sP	sP	21 46 00.8	+11
CD2					PP	**PP**	**21 47 29.5**	**+2.9**
CD2					S	**S**	**21 52 12.5**	**-2.6**
CD2					sS	sS	21 52 29.5	+9.3
CD2					SS	SS	21 55 20.4	-10
CD2					pmax	pmax			
	comp=Z,10.0nm,1.2s								
CD2					pmax	pmax			
	comp=Z,40nm,4.8s								
CD2					LR	LR			
	comp=Z,120nm,14.2s								
CD2					LR	LR			
	comp=Z,130nm,10.6s								
CD2					LR	LR			
	comp=Z,160nm,11.8s								
KHLT	**Khaolaem Dam**	**43.76**	**98**	P		P	21 45 50.4	+4.4
	comp=Z,5.8nm,1.0s								
KMI	**Kunming**	**43.97**	**82**	P		**P**	**21 45 48.9**	**+1.0**
KMI					pmax	pmax			
	comp=Z,5.0nm,0.7s								
CAF	**Calviac**	**44.02**	**307**⇑	*i*P		**P**	**21 45 47.7**	**-0.1**
	comp=Z,17nm,0.9s								
CAF	**Calviac**	**44.02**	**307**⇑	*i*P		**P**	**21 45 47.7**	**-0.1**
CAF					pmax	pmax			
	comp=Z,17nm,0.9s								
CAF	**Calviac**	**44.02**	**307**⇑	*i*P		**P**	**21 45 47.7**	**-0.1**
	comp=Z,17nm,0.9s								
CAF	**Calviac**	**44.02**	**307**⇑	*i*P		**P**	**21 45 47.7**	**-0.1**
	comp=Z,8.6nm,0.9s								
TCF	**Toulx Ste Croi**	**44.05**	**309**⇑	*i*P		**P**	**21 45 48.1**	**+0.1**
TCF	**Toulx Ste Croi**	**44.05**	**309**⇑	*i*P		**P**	**21 45 48.1**	**+0.1**
TCF	**Toulx Ste Croi**	**44.05**	**309**⇑	*i*P		**P**	**21 45 48.1**	**+0.1**
TCF	**Toulx Ste Croi**	**44.05**	**309**⇑	*i*P		**P**	**21 45 48.1**	**+0.1**
RJF	**Les Rejaudoux**	**44.44**	**307**⇑	*i*P		**P**	**21 45 51.4**	**+0.3**
	comp=Z,25nm,1.0s								
RJF	**Les Rejaudoux**	**44.44**	**307**⇑	*i*P		**P**	**21 45 51.4**	**+0.3**
RJF					pmax	pmax			
	comp=Z,25nm,1.0s								
RJF	**Les Rejaudoux**	**44.44**	**307**⇑	*i*P		**P**	**21 45 51.4**	**+0.3**
	comp=Z,25nm,1.0s								
RJF	**Les Rejaudoux**	**44.44**	**307**⇑	*i*P		**P**	**21 45 51.4**	**+0.3**
	comp=Z,12nm,1.0s								
KEV	**Kevo**	**44.70**	**347**	*e*P		**P**	**21 45 51.2**	**-1.6**
KEV					pmax	pmax			
	comp=Z,203nm,1.8s								
KEV	**Kevo**	**44.70**	**347**	*ep*		**P**	**21 45 51.4**	**-1.4**
	comp=Z,1.8nm,0.3s								
KEV	**Kevo**	**44.70**	**347**	*e*P		**P**	**21 45 51.2**	**-1.6**
	comp=Z,203nm,1.8s								
KEV	**Kevo**	**44.70**	**347**	*e*P		**P**	**21 45 51.4**	**-1.4**
	comp=Z,1.8nm,0.3s								
ARA0	**ARCESS Array S**	**44.82**	**346**	*e*P		**P**	**21 45 53.5**	**-0.3**
ARCES	**ARCESS Array B**	**44.82**	**346**	P		**P**	**21 45 53.1**	**-0.7**
ARCES	**ARCESS Array B**	**44.82**	**346**	P		**P**	**21 45 53.1**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=145,slow=8.5,SNR=11								
ARCES					LR	LR	22 07 34.0		
	comp=Z,73nm,20.0s,baz=270,slow=40								
LFF	**La Frestale**	**44.96**	**307**⇑	*i*P		**P**	**21 45 54.5**	**-0.7**
	comp=Z,26nm,0.8s								
LFF	**La Frestale**	**44.96**	**307**⇑	*i*P		**P**	**21 45 54.5**	**-0.7**
LFF					pmax	pmax			
	comp=Z,26nm,0.8s								
LFF	**La Frestale**	**44.96**	**307**⇑	*i*P		**P**	**21 45 54.5**	**-0.7**
	comp=Z,26nm,0.8s								
LFF	**La Frestale**	**44.96**	**307**⇑	*i*P		**P**	**21 45 54.5**	**-0.7**
	comp=Z,13nm,0.8s								
PBKT	**Sadao Pong**	**45.15**	**94**	P		**P**	**21 45 57.7**	**+0.7**
	comp=Z,17nm,0.9s								
EPF	**Esparros**	**45.15**	**304**⇑	*i*P		**P**	**21 45 56.4**	**-0.5**
	comp=Z,25nm,1.3s								
EPF	**Esparros**	**45.15**	**304**⇑	*i*P		**P**	**21 45 56.4**	**-0.5**
EPF					pmax	pmax			
	comp=Z,25nm,1.3s								
EPF	**Esparros**	**45.15**	**304**⇑	*i*P		**P**	**21 45 56.4**	**-0.5**
	comp=Z,25nm,1.3s								
EPF	**Esparros**	**45.15**	**304**⇑	*i*P		**P**	**21 45 56.4**	**-0.5**
	comp=Z,12nm,1.3s								
SONM	**Songino Array**	**45.38**	**49**	P		**P**	**21 45 59.1**	**+0.4**
SONM	**Songino Array**	**45.38**	**49**	P		**P**	**21 45 59.1**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=265,slow=9.0,SNR=30								
SONA1	**Songino Array**	**45.39**	**49**	*e*P		**P**	**21 45 59.2**	**+0.4**
ETSF	**Etsaut**	**45.81**	**304**⇑	*i*P		**P**	**21 46 01.9**	**-0.2**
	comp=Z,31nm,1.2s								
ETSF	**Etsaut**	**45.81**	**304**⇑	*i*P		**P**	**21 46 01.9**	**-0.2**
ETSF					pmax	pmax			
	comp=Z,31nm,1.2s								
ETSF	**Etsaut**	**45.81**	**304**⇑	*i*P		**P**	**21 46 01.9**	**-0.2**
	comp=Z,31nm,1.2s								
ETSF	**Etsaut**	**45.81**	**304**⇑	*i*P		**P**	**21 46 01.9**	**-0.2**
	comp=Z,16nm,1.2s								
ULN	**Ulaanbaatar**	**45.82**	**49**	P		**P**	**21 46 02.6**	**+0.3**
	SNR=7.4								
ULN	**Ulaanbaatar**	**45.82**	**49**	*e*P		**P**	**21 46 02.6**	**+0.3**
	comp=Z,4.6nm,0.7s								
LDF	**La Druitiere**	**45.90**	**312**⇑	*i*P		**P**	**21 46 01.9**	**-0.7**
LDF	**La Druitiere**	**45.90**	**312**⇑	*i*P		**P**	**21 46 01.9**	**-0.7**
LDF	**La Druitiere**	**45.90**	**312**⇑	*i*P		**P**	**21 46 01.9**	**-0.7**
LDF	**La Druitiere**	**45.90**	**312**⇑	*i*P		**P**	**21 46 01.9**	**-0.7**
FLN	**La Foliniere**	**46.15**	**312**⇑	*i*P		**P**	**21 46 04.1**	**-0.5**
FLN	**La Foliniere**	**46.15**	**312**⇑	*i*P		**P**	**21 46 04.1**	**-0.5**
FLN	**La Foliniere**	**46.15**	**312**⇑	*i*P		**P**	**21 46 04.1**	**-0.5**
FLN	**La Foliniere**	**46.15**	**312**⇑	*i*P		**P**	**21 46 04.1**	**-0.5**
SJPF	**Ste Jean**	**46.30**	**304**⇑	*i*P		**P**	**21 46 05.7**	**-0.2**
SJPF	**Ste Jean**	**46.30**	**304**⇑	*i*P		**P**	**21 46 05.7**	**-0.2**
SJPF	**Ste Jean**	**46.30**	**304**⇑	*i*P		**P**	**21 46 05.7**	**-0.2**
SJPF	**Ste Jean**	**46.30**	**304**⇑	*i*P		**P**	**21 46 05.7**	**-0.2**
GYA	**Guiyang**	**47.06**	**79**	P		**P**	**21 46 13.0**	**+0.8**
GYA					pP	pP	21 46 23.5	+8.1
GYA					PP	**PP**	**21 48 02.7**	**-0.1**
GYA					ScP	**ScP**	**21 51 34.0**	**-4.3**
GYA					S	**S**	**21 53 01.8**	**-2.7**
GYA					sS	sS	21 53 18.4	+8.8
GYA					ScS	**ScS**	**21 56 02.0**	**-5.3**
GYA					SS	SS	21 56 21.5	-10
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
GYA					pmax	pmax			
	comp=Z,110nm,5.8s								
GYA					LR	LR			
	comp=Z,490nm,21.0s								
GYA					LR	LR			
	comp=Z,370nm,18.9s								
GYA					LR	LR			
	comp=Z,450nm,18.2s								
XAN	**Xi'an**	**47.51**	**68**	P		**P**	**21 46 14.8**	**-0.7**
XAN					pmax	pmax			
	comp=Z,2.0nm,0.8s								
XAN					pmax	pmax			
	comp=Z,12nm,6.3s								
QUIF	**Quistinic**	**47.86**	**311**⇑	*i*P		**P**	**21 46 17.6**	**-0.3**
QUIF	**Quistinic**	**47.86**	**311**⇑	*i*P		**P**	**21 46 17.6**	**-0.3**
QUIF	**Quistinic**	**47.86**	**311**⇑	*i*P		**P**	**21 46 17.6**	**-0.3**
QUIF	**Quistinic**	**47.86**	**311**⇑	*i*P		**P**	**21 46 17.6**	**-0.3**
CHBT	**CHBT**	**47.91**	**98**	P		**P**	**21 46 20.8**	**+2.0**
	comp=Z,8.8nm,1.3s								
ESDC	**Sonseca Array**	**48.47**	**300**	P		**P**	**21 46 22.9**	**0.0**
ESDC	**Sonseca Array**	**48.47**	**300**	P		**P**	**21 46 22.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=62,slow=8.0,SNR=9.8								
PAB	**San Pablo**	**48.77**	**300**	*e*P		**P**	**21 46 26.0**	**+0.7**
PAB					pmax	pmax			
	comp=Z,149nm,2.5s								
PAB	**San Pablo**	**48.77**	**300**	*e*P		**P**	**21 46 26.0**	**+0.7**
	comp=Z,149nm,2.5s								
HHC	**Hu-ho-hao-te**	**48.91**	**59**	*e*P		**P**	**21 46 25.6**	**-0.7**
HHC					pP	pP	21 46 35.5	+6.0
HHC					sP	sP	21 46 39.4	+8.7
HHC					PP	**PP**	**21 48 18.5**	**-1.1**
HHC					S	S	21 53 24.7	-5.6
HHC					ScS	ScS	21 56 12.5	-6.6
HHC					pmax	pmax			
	comp=Z,18nm,0.9s								
HHC					pmax	pmax			
	comp=Z,150nm,6.6s								
HHC					LR	LR			
	comp=Z,210nm,15.4s								
HHC					LR	LR			
	comp=Z,240nm,15.4s								
HHC					LR	LR			
	comp=Z,120nm,15.5s								
TOA0	**Torodi Ar. Sit**	**50.28**	**264**	*e*P		**P**	**21 46 37.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**50.28**	**264**	P		**P**	**21 46 37.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**50.28**	**264**	P		**P**	**21 46 37.5**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=58,slow=7.8,SNR=49								
TORD					LR	LR	22 07 50.4		
	comp=Z,72nm,19.6s,baz=275,slow=36								
QIZ	**Qiongzhong**	**52.10**	**87**	P		**P**	**21 46 50.7**	**+0.1**
QIZ					S	S	21 54 10.5	-4.4
QIZ					pmax	pmax			
	comp=Z,13nm,1.9s								
NJ2	**Nanjing**	**56.08**	**69**	*e*P		**P**	**21 47 18.7**	**-0.7**
NJ2					pmax	pmax			
	comp=Z,20nm,1.0s								
TSUM	**Tsumeb**	**58.20**	**221**	*e*P		P	21 47 36.6	+1.9
	comp=Z,6.0nm,1.0s								
DBIC	**Dimbokro**	**58.95**	**261**	*e*P		**P**	**21 47 40.7**	**+0.7**
	comp=Z,7.0nm,0.8s								
DBIC	**Dimbokro**	**58.95**	**261**	P		**P**	**21 47 40.5**	**+0.5**
	comp=Z,7.1nm,0.7s,baz=56,slow=7.7,SNR=18								
LBTB	**Lobatse**	**58.96**	**210**	*e*P		P	21 47 42.2	+2.4
	comp=Z,35nm,1.5s								
KIC	**Kosan Boka**	**59.00**	**260**	*e*P		**P**	**21 47 40.7**	**+0.4**
	comp=Z,89nm,1.8s								
TIC	**Toumodi**	**59.10**	**261**	*e*P		**P**	**21 47 41.5**	**+0.5**
	comp=Z,5.7nm,0.2s								
TIXI	**Tiksi**	**59.30**	**21**⇑	*e*P		**P**	**21 47 42.1**	**+0.6**
TIXI					pmax	pmax			
	comp=Z,1.0nm,0.7s								
TIXI					MLR	MLR			
	comp=Z,64nm,16.0s								
LIC	**Lamto**	**59.31**	**260**	*e*P		**P**	**21 47 43.2**	**+0.8**
LIC	**Lamto**	**59.31**	**260**	*e*P		**P**	**21 47 43.1**	**+0.7**
	comp=Z,18nm,0.5s								
LIC	**Lamto**	**59.31**	**260**	*e*P		**P**	**21 47 43.2**	**+0.8**
LIC	**Lamto**	**59.31**	**260**	*e*P		**P**	**21 47 43.2**	**+0.8**
MDJ	**Mudanjiang**	**61.56**	**52**	P		**P**	**21 47 56.0**	**-1.4**
MDJ					pmax	pmax			
	comp=Z,3.0nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,53nm,4.0s								
KSAR	**Wonju Array Be**	**61.96**	**60**	P		**P**	**21 47 58.8**	**-1.4**
KSRS	**Korea Array**	**61.99**	**60**	P		**P**	**21 47 58.8**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=279,slow=6.4,SNR=5.5								
BOSA	**Boshof**	**62.25**	**208**	P		**P**	**21 48 03.6**	**+1.4**
BOSA	**Boshof**	**62.25**	**208**	P		**P**	**21 48 03.6**	**+1.4**
	comp=Z,6.6nm,0.8s,baz=51,slow=7.0,SNR=11								
BOSA					LR	LR	22 19 17.8		
	comp=Z,51nm,19.4s,baz=242,slow=40								
USRK	**Ussuriysk Arra**	**63.33**	**52**	P		**P**	**21 48 08.0**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=298,slow=6.4,SNR=4.3								
SUMG	**Summit**	**64.33**	**340**	*i* P		**P**	**21 48 16.2**	**+0.4**
SUMG					pmax	pmax			
	comp=Z,8.0nm,1.0s								
SUMG	**Summit**	**64.33**	**340**	*i* P		**P**	**21 48 16.2**	**+0.4**
	comp=Z,8.3nm,1.0s								
SUMG	**Summit**	**64.33**	**340**	*i* P		**P**	**21 48 16.2**	**+0.4**
	comp=Z,8.3nm,1.0s								
SEY	**Seymchan**	**69.55**	**29**	P		**P**	**21 48 47.9**	**-0.8**
SEY	**Seymchan**	**69.55**	**29**	P		**P**	**21 48 47.9**	**-0.8**
SEY	**Seymchan**	**69.55**	**29**	P		**P**	**21 48 47.9**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=284,slow=9.2,SNR=8.4								
KAPI	**Kappang**	**71.66**	**106**	*e*P		**P**	**21 49 02.1**	**-0.3**
	comp=Z,86nm,1.3s								
PETK	**Petropavlovsk-**	**76.20**	**37**	LR		LR	22 26 16.5		
	comp=Z,42nm,18.7s,baz=89,slow=38								
SCHQ	**Schefferville**	**83.13**	**330**	P		**P**	**21 50 04.6**	**-1.4**
SCHQ	**Schefferville**	**83.13**	**330**	P		**P**	**21 50 04.6**	**-1.4**
	comp=Z,5.2nm,0.8s,baz=31,slow=2.9,SNR=4.3								
COLA	**College**	**86.17**	**9**	*i* P		**P**	**21 50 22.7**	**+1.6**
COLA					pmax	pmax			
	comp=Z,25nm,1.1s								
IL1	**Eielson Array**	**86.39**	**9**	*e*P		**P**	**21 50 20.6**	**-1.7**
ILAR	**Eielson Array**	**86.39**	**9**	P		**P**	**21 50 21.1**	**-1.2**
ILAR	**Eielson Array**	**86.39**	**9**	P		**P**	**21 50 21.1**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=320,slow=4.2,SNR=29								
YKA	**Yellowknife Ar**	**89.53**	**354**	P		**P**	**21 50 36.6**	**-0.6**
YKA	**Yellowknife Ar**	**89.53**	**354**	P		**P**	**21 50 36.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=5.6,slow=5.1,SNR=21								
YKB5	**Yellowknife Ar**	**89.53**	**354**	*e*P		**P**	**21 50 36.6**	**-0.6**
WRA	**Warramunga Arr**	**91.44**	**112**	P		**P**	**21 50 44.9**	**-2.0**
WRA	**Warramunga Arr**	**91.44**	**112**	P		**P**	**21 50 44.9**	**-2.0**
	comp=Z,2.4nm,0.7s,baz=315,slow=3.9,SNR=21								
WRAB	**Tennant Creek**	**91.44**	**112**⇑	*e*P		**P**	**21 50 46.4**	**-0.5**
WRAB					pmax	pmax			
	comp=Z,11nm,0.7s								
ASAR	**Alice Springs**	**92.88**	**115**	P		**P**	**21 50 52.5**	**-1.1**
ASAR	**Alice Springs**	**92.88**	**115**	P		**P**	**21 50 52.5**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=305,slow=4.7,SNR=39								
AS01	**Alice Springs**	**92.92**	**115**	*e*P		**P**	**21 50 53.2**	**-0.4**
MAW	**Mawson**	**95.36**	**176**	LR		LR	22 26 37.1		
	comp=Z,51nm,20.0s,baz=243,slow=31								
TXAR	**Lajitas Array**	**119.13**	**337**	PKP		**PKPdf**	**21 56 29.8**	**-0.1**
TXAR	**Lajitas Array**	**119.13**	**337**	PKP		**PKPdf**	**21 56 29.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=61,slow=4.2,SNR=2.6								

IDC ***12*** *21:41:46.6±2.5, 27.°85N×53.°46E, h0km, mb3.5/6, mb1 3.5/6, mb1mx3.3/28, mbtmp3.5/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/34, Error ellipse: s-maj=59.7km s-min=26.7km az=160.0*

ISCJB ***12*** *21:41:48.4±2.0, 27.°9N±0.°3×53.°4E±0.°2, h23km, mb3.5/5, Error ellipse: s-maj=45.9km s-min=21.2km az=162.7*

ISC 12 21:41:50.0±2.1, 27.°8N±0.°3×53.°5E±0.°2, h23km, n7, σ1s10/6, mb3.5/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
ASF	**Jabal al Asfar**	**14.98**	**291**		LR	LR	21 52 31.5			
	comp=Z,17nm,18.8s,baz=234,slow=43									
BRTR	**Keskin Array B**	**20.24**	**311**	P		P				
	0.3nm,0.5s,baz=128,slow=13,SNR=3.4									
BVAR	**Borovoye Array**	**28.13**	**22**	P		**P**	**21 47 40.7**			**+0.5**
	0.7nm,0.6s,baz=225,slow=16,SNR=3.5									
ZALV	**Zalesovo Beam**	**34.76**	**33**	P		**P**	**21 48 36.8**			**-1.6**
	0.5nm,0.5s,baz=240,slow=11,SNR=2.8									
FINES	**FINESS Array B**	**38.26**	**339**	P		**P**	**21 49 08.3**			**+0.1**
	0.8nm,0.6s,baz=138,slow=12,SNR=3.4									
SONM	**Songino Array**	**45.35**	**49**	P						
	0.3nm,0.6s,baz=272,slow=8.8,SNR=4.2									
TORD	**Torodi Ar. Bea**	**50.28**	**264**	P		**P**	**21 50 45.0**			**0.0**
	0.5nm,0.9s,baz=57,slow=7.5,SNR=4.1									

KRSC 12 21:43:22.2±8.8, 48.°80N×156.°97E, h10km±10km, ML3.6, East of Kuril Islands

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | | | Res

	comp=E,8.5nm,0.3s								
JIRN	**Jiri**	**15.31**	**45**	*e*P		**Pn**	**21 58 39.1**	**-1.7**	
	comp=E,13nm,0.4s								
JIRN	**Jiri**	**15.31**	**45**	*e*P		**Pn**	**21 58 39.1**	**-1.7**	
	comp=E,13nm,0.4s								
ODAN	**Odare**	**15.68**	**50**	*e*P		**Pn**	**21 58 43.9**	**-1.5**	
	comp=E,11nm,0.5s								
ODAN	**Odare**	**15.68**	**50**	*e*P		**Pn**	**21 58 43.9**	**-1.5**	
	comp=E,11nm,0.5s								
TAPN	**Taplejung**	**16.19**	**49**	*e*P		**Pn**	**21 58 51.2**	**-0.9**	
	comp=E,14nm,0.6s								
TAPN	**Taplejung**	**16.19**	**49**	*e*P		**Pn**	**21 58 51.2**	**-0.9**	
	comp=E,14nm,0.6s								
LSA	**Lhasa**	**20.02**	**49**	*e*P		Pn	21 59 41.7	+2.3	
	comp=E,7.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**23.80**	**83**	P		**P**	**22 00 19.8**	**+2.6**	
CMAR	**Chiang Mai Arr**	**23.80**	**83**	P		**P**	**22 00 19.8**	**+2.6**	
	comp=E,0.8nm,0.8s,baz=277,slow=10,SNR=7.8								
MK31	**Makanchi Array**	**30.25**	**11**	*e*P		**P**	**22 01 15.3**	**+0.4**	
MKAR	**Makanchi Array**	**30.25**	**11**	P		**P**	**22 01 15.7**	**+0.8**	
MKAR	**Makanchi Array**	**30.25**	**11**	P		**P**	**22 01 15.7**	**+0.8**	
	comp=E,0.2nm,0.5s,baz=198,slow=8.5,SNR=5.5								
KURBB	**Kurchatov Arra**	**33.48**	**5**	P		**P**	**22 01 44.3**	**+1.1**	
	comp=E,0.8nm,0.6s,baz=199,slow=8.8,SNR=5.5								
KURK	**Kurchatov**	**33.58**	**5**	*e*P		**P**	**22 01 42.3**	**-1.8**	
	comp=E,0.9nm,0.7s								
BVAR	**Borovoye Array**	**35.80**	**356**	P		**P**	**22 02 03.3**	**0.0**	
BVAR	**Borovoye Array**	**35.80**	**356**	P		**P**	**22 02 03.3**	**0.0**	
	comp=E,0.7nm,0.4s,baz=149,slow=9.6,SNR=5.3								
ZALV	**Zalesovo Beam**	**37.57**	**11**	P		**P**	**22 02 19.3**	**+1.0**	
ZALV	**Zalesovo Beam**	**37.57**	**11**	P		**P**	**22 02 19.3**	**+1.0**	
	comp=E,1.1nm,0.5s,baz=194,slow=7.5,SNR=9.3								
SONM	**Songino Array**	**40.42**	**34**	P		**P**	**22 02 44.4**	**+1.9**	
SONM	**Songino Array**	**40.42**	**34**	P		**P**	**22 02 44.4**	**+1.9**	
	comp=E,0.8nm,0.8s,baz=230,slow=7.7,SNR=3.6								
USRK	**Ussuriysk Arra**	**55.33**	**48**	P		**P**	**22 04 39.1**	**+1.2**	
	comp=E,1.1nm,0.5s,baz=256,slow=6.9,SNR=8.2								
ARCES	**ARCESS Array B**	**60.07**	**342**	P		**P**	**22 05 09.3**	**-1.5**	
ARCES	**ARCESS Array B**	**60.07**	**342**	P		**P**	**22 05 09.3**	**-1.5**	
	comp=E,3.8nm,0.9s,baz=40,slow=9.6,SNR=6.2								
NOA	**NORSAR Array B**	**61.93**	**331**	P		**P**	**22 05 20.7**	**-2.9**	
NOA	**NORSAR Array B**	**61.93**	**331**	P		**P**	**22 05 20.7**	**-2.9**	
	comp=E,0.9nm,0.9s,baz=149,slow=11,SNR=3.2								
WRA	**Warramunga Arr**	**69.86**	**119**	P		**P**	**22 06 15.5**	**+0.2**	
WRA	**Warramunga Arr**	**69.86**	**119**	P		**P**	**22 06 15.5**	**+0.2**	
	comp=E,0.5nm,0.5s,baz=303,slow=5.6,SNR=4.7								
WRAB	**Tennant Creek**	**69.86**	**119**	*e*P		**P**	**22 06 15.2**	**-0.1**	
	comp=E,0.8nm,0.4s								
ASAR	**Alice Springs**	**71.27**	**123**	P		**P**	**22 06 24.3**	**+0.4**	
ASAR	**Alice Springs**	**71.27**	**123**	P		**P**	**22 06 24.3**	**+0.4**	
	comp=E,0.7nm,0.5s,baz=302,slow=5.7,SNR=21								

SKHL ***12*** *22:07:53.4±0.3, 48.87N×155.93E, h40km±4km, mb4.0/1*
KRSC ***12*** *22:07:53.2±8.6, 48.95N×157.17E, h5km±5km, ML3.9*
ISC 12 22:07:57.4±4.6**, 49.1N**±0.2×**156.6E**±0.1**, h14**km±19km**, n22,** σ1§**19**/29**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.61**	**348**	P	**Pn**	**22 08 25.5**	**+0.1**
SKR				S	**Sg**	**22 08 49.2**	**0.0**
SKR	**Severo-Kuril's**	**1.61**	**348**	*e*P	Pn	22 08 21.9	-3.5
SKR				AMB	AMB	22 08 29.0	
	60nm,0.5s						
SKR				AMB	AMB	22 08 29.0	
	80nm,0.5s						
SKR				*e*S	**Sn**	**22 08 43.5**	**-2.4**
SKR				A	A	22 08 46.6	
	200nm,0.3s						
SKR				A	A	22 08 46.6	
	90nm,0.3s						
PAU	**Pauzhetka**	**2.36**	**3**	P	**Pn**	**22 08 35.8**	**+0.1**
PAU				S	**Sb**	**22 09 08.0**	**-0.7**
ASAK	**Asacha**	**3.38**	**13**	P	**Pn**	**22 08 51.0**	**+1.3**
MTVR	**Mutnovka**	**3.52**	**16**	P	**Pn**	**22 08 52.0**	**+0.2**
MTVR				S	**Sn**	**22 09 34.6**	**+1.4**
RUS	**Russkaya**	**3.54**	**19**	P	**Pn**	**22 08 51.3**	**-0.5**
RUS				S	**Sn**	**22 09 34.2**	**+0.8**
APC	**Apacha**	**3.84**	**5**	P	**Pn**	**22 08 58.1**	**+2.2**
PET	**Petropavlovsk**	**4.12**	**17**	P	**Pn**	**22 09 00.2**	**+0.3**
PET	**Petropavlovsk**	**4.12**	**17**	*e*P	**Pn**	**22 09 00.0**	**+0.1**
PET				*e*S	**Sn**	**22 09 49.7**	**+1.9**
PET				A	A	22 09 53.1	
	30nm,0.5s						
UGLR	**Uglovaya**	**4.33**	**18**	P	**Pn**	**22 09 03.7**	**+0.8**
AVH	**Avacha**	**4.37**	**17**	P	**Pn**	**22 09 04.7**	**+1.3**
KOK	**Koryaka**	**4.38**	**16**	P	**Pn**	**22 09 05.1**	**+1.6**
SMAR	**Somma**	**4.38**	**17**	P	**Pn**	**22 09 04.3**	**+0.7**
KRER	**Koryakskii**	**4.41**	**17**	P	**Pn**	**22 09 04.5**	**+0.5**
KRER				S	**Sn**	**22 09 56.3**	**+1.1**
SDLR	**Sedlovina**	**4.41**	**18**	P	**Pn**	**22 09 04.4**	**+0.4**
NLC	**Nalytchevo**	**4.41**	**22**	P	**Pn**	**22 09 02.4**	**-1.5**
NLC				S	**Sn**	**22 09 53.0**	**-2.0**
KRX	**Arik**	**4.44**	**16**	P	**Pn**	**22 09 05.8**	**+1.4**
SPN	**Mys Shipunski**	**4.53**	**27**	S	**Sn**	**22 09 57.7**	**-0.2**
GNL	**Ganaly**	**4.67**	**10**	P	**Pn**	**22 09 07.7**	**+0.2**
MKZ	**Mys Kozlova**	**6.31**	**28**	P	**Pn**	**22 09 29.2**	**-0.6**
KZV	**Kizimen**	**6.42**	**19**	P	**Pn**	**22 09 30.7**	**-0.9**
TUMR	**Tumrok**	**6.55**	**18**	P	**Pn**	**22 09 33.7**	**+0.4**

AUST ***12*** *22:19:00.1, 12.46S×173.55E, h300km*
ISCJB ***12*** *22:19:46.2±0.9, 13.5S±0.1×170.5E±0.1, h635km, mb3.7/8, Error ellipse: s-maj=18.3km s-min=14.6km az=8.8*
IDC ***12*** *22:19:49.4±1.8, 13.59S×170.28E, h662km±23km, mb3.2/8, mb1 3.4/10, mb1mx3.2/21, mbtmp3.3/10, Error ellipse: s-maj=21.9km s-min=14.0km az=147.0*
ISC 12 22:19:47.7±0.9**, 13.5S**±0.1×**170.4E**±0.1**, h635**km**, n23,** σ1§**07**/24**, mb3.7/8, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.29**	**203**	P	**P**	**22 22 00.3**	**-0.1**
	0.7nm,0.3s,baz=70,slow=20,SNR=6.6						
HNR	**Honiara**	**10.98**	**291**	P	**P**	**22 22 16.6**	**-0.2**
	9.5nm,0.3s,baz=336,slow=22,SNR=4.0						
COEN	**Coen**	**26.40**	**266**	P	**P**	**22 24 37.9**	**+1.2**
	baz=30,SNR=5.6						
CNB	**Canberra Magne**	**28.80**	**217**	P	**P**	**22 24 58.5**	**+1.2**
	baz=32,SNR=10						
QIS	**Mount Isa**	**30.19**	**252**	P	**P**	**22 25 10.2**	**+0.8**
	baz=34,SNR=5.5						
STKA	**Stephens Creek**	**32.07**	**230**	P	**P**	**22 25 25.7**	**+0.6**
	1.4nm,0.4s,baz=53,slow=7.9,SNR=6.3						
TOO	**Toolangi**	**32.63**	**218**	P	**P**	**22 25 31.1**	**+1.3**
	baz=36,SNR=5.8						
WRA	**Warramunga Arr**	**35.03**	**255**	P	**P**	**22 25 49.9**	**-0.1**
	4.9nm,0.5s,baz=85,slow=8.7,SNR=81						
WRA				S	**S**	**22 30 36.5**	**-3.0**
	0.7nm,0.7s,baz=86,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**35.90**	**248**	P	**P**	**22 25 57.5**	**+0.2**
	4.3nm,0.3s,baz=75,slow=9.4,SNR=92						
ASAR				S	**S**	**22 30 50.8**	**-1.7**
	1.3nm,0.5s,baz=82,slow=15,SNR=14						
KDU	**Kakadu**	**36.88**	**267**	P	**P**	**22 26 05.8**	**+0.5**
	baz=40,SNR=7.1						
MTN	**Manton Dam**	**38.17**	**266**	P	**P**	**22 26 16.5**	**+0.8**
	baz=41,SNR=5.8						
FAKI	**Fak Fak**	**39.09**	**282**	P	**P**	**22 26 23.4**	**+0.3**
	baz=42,SNR=4.5						
WRKA	**Warakurna**	**41.17**	**247**	P	**P**	**22 26 40.3**	**+0.9**
	baz=44,SNR=16						
FITZ	**Fitzroy Crossi**	**43.19**	**258**	P	**P**	**22 26 56.1**	**+0.9**
	baz=46,SNR=9.3						
MEEK	**Meekatharra**	**50.01**	**247**	P	**P**	**22 27 46.5**	**+0.2**
	baz=53,SNR=6.0						
MJAR	**Matsushiro Arr**	**58.29**	**330**	P	**P**	**22 28 43.2**	**-0.5**
	0.7nm,0.5s,baz=157,slow=7.1,SNR=6.8						
VNDA	**Vanda**	**64.16**	**182**	P	**P**	**22 29 20.1**	**-1.1**
	0.8nm,0.6s,baz=357,slow=6.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**77.22**	**293**	P	**P**	**22 30 39.2**	**+0.6**
	0.9nm,0.4s,baz=118,slow=4.3,SNR=7.6						
MAW	**Mawson**	**84.12**	**202**	P	P	22 31 06.7	-6.5
	baz=86,SNR=40						
NVAR	**Mina Array Bea**	**84.22**	**48**	P	**P**	**22 31 14.2**	**-0.3**
	0.3nm,0.3s,baz=232,slow=5.6,SNR=2.2						
MKAR	**Makanchi Array**	**98.40**	**316**	P	**P**	**22 32 19.9**	**+0.6**
	0.4nm,0.8s,baz=91,slow=6.2,SNR=3.6						
ARCES	**ARCESS Array B**	**119.80**	**347**	PKP	**PKPdf**	**22 37 25.5**	**-1.2**
	1.4nm,0.7s,baz=69,slow=2.3,SNR=7.4						
FINES	**FINESS Array B**	**125.67**	**340**	PKP	**PKPdf**	**22 37 37.2**	**-0.9**
	1.0nm,0.7s,baz=18,slow=5.0,SNR=2.3						

IDC ***12*** *22:21:48.3±1.9, 22.19S×69.03W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.9/18, mbtmp4.0/6, ML4.2/2, MS2.7/1, Ms1 2.8/1, ms1mx2.5/24, Error ellipse: s-maj=51.4km s-min=38.5km az=13.0*
ISCJB ***12*** *22:22:05.8±0.5, 20.91S±0.04×68.7W±0.1, h119km±9km, mb3.8/3, Error ellipse: s-maj=15.6km s-min=6.6km az=175.1*
GUC ***12*** *22:22:07.2±0.9, 20.97S×68.89W, h122km±8km, ML3.9*
ISC 12 22:22:06.7±0.8**, 20.90S**±0.05×**68.7W**±0.1**, h112**km±10km**, n23,** σ0§**76**/27**, mb3.8**/3**, 7C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.76**	**259**	⇑*i*P	**Pn**	**22 22 26.1**	**+0.1**
PB01				*i* S	**Sn**	**22 22 40.5**	**0.0**
PB01				AML	AML	22 22 42.1	
	comp=N,3μm,0.1s						
PB09	**Plate Boundary**	**1.03**	**210**	⇑*i*P	**Pn**	**22 22 29.3**	**+0.6**
PB09				*i* S	**Sn**	**22 22 45.7**	**+0.5**
PB09				AML	AML	22 22 47.9	
	comp=E,9μm,0.3s						
HMBC	**Humberstone**	**1.28**	**299**	⇑*i*P	**Pn**	**22 22 31.5**	**+0.2**
HMBC				*i* S	**Sn**	**22 22 50.2**	**+0.3**
HMBC				AML	AML	22 22 50.5	
	comp=N,7μm,0.3s						
PATCX	**Punta Patache**	**1.37**	**273**	⇑*i*P	**Pn**	**22 22 32.3**	**0.0**
PATCX				*i* S	**Sn**	**22 22 51.3**	**-0.4**
PATCX				AML	AML	22 22 54.3	
	comp=N,3μm,0.3s						
PB07	**Plate Boundary**	**1.39**	**233**	⇑*i*P	**Pn**	**22 22 32.3**	**-0.2**
PB07				*i* S	**Sn**	**22 22 51.3**	**-0.8**
PB07				AML	AML	22 22 53.4	
	comp=E,2μm,0.3s						
PB11	**Plate Boundary**	**1.45**	**321**	⇓*i*P	**Pn**	**22 22 33.9**	**+0.6**
PB11				*i* S	**Sn**	**22 22 54.0**	**+0.6**
PB04	**Plate Boundary**	**1.55**	**209**	⇑*i*P	Pn	22 22 39.7	+5.5
PB04				*i* S	Sn	22 23 03.3	+8.1
PB04				AML	AML	22 23 11.8	
	comp=N,774nm,0.3s						
MACH	**Maria Elena**	**1.63**	**218**	*e*P	**Pn**	**22 22 35.4**	**-0.1**
MACH				*i* S	**Sn**	**22 22 56.3**	**-1.0**
PSGC	**Pisagua**	**1.87**	**314**	⇓*i*P	**Pn**	**22 22 38.1**	**-0.1**
PSGC				*i* S	**Sn**	**22 23 01.7**	**-0.7**
PSGC				AML	AML	22 23 03.4	
	comp=N,1μm,0.3s						
PB06	**Plate Boundary**	**1.98**	**204**	⇓*i*P	**Pn**	**22 22 39.8**	**+0.1**
PB06				*i* S	**Sn**	**22 23 04.4**	**-0.5**
PB06				AML	AML	22 23 05.3	
	comp=E,1μm,0.1s						
CEN1	**Los Morros**	**2.85**	**209**	⇑*i*P	**Pn**	**22 22 53.0**	**+2.1**
CEN1				AML	AML	22 23 26.6	
	comp=N,168nm,0.6s						
ANCH	**Antofagasta**	**3.20**	**210**	⇓*i*P	**Pn**	**22 22 54.9**	**-0.5**
LPAZ	**La Paz**	**4.62**	**7**	Pn	Pn	22 23 18.2	+3.2
	comp=N,4.7nm,0.3s,baz=185,slow=4.5,SNR=119						
LPAZ				LR	LR	22 25 55.2	
	comp=N,70nm,21.3s,baz=326,slow=42						
SIV	**San Ignacio**	**8.72**	**57**	Pn	**Pn**	**22 24 09.2**	**-0.8**
	comp=N,0.5nm,0.3s,baz=249,slow=10,SNR=7.9						
BDFB	**Brasilia**	**20.31**	**79**	P	**P**	**22 26 34.5**	**+0.5**
	comp=N,1.0nm,0.4s,baz=240,slow=12,SNR=4.7						
DBIC	**Dimbokro**	**68.36**	**74**	P	**P**	**22 32 55.4**	**-1.1**
	comp=N,3.7nm,0.8s,baz=220,slow=10,SNR=4.0						
TORD	**Torodi Ar. Bea**	**76.96**	**70**	P	**P**	**22 33 46.9**	**-0.6**
	comp=N,0.6nm,0.4s,baz=256,slow=5.6,SNR=25						
YKA	**Yellowknife Ar**	**90.69**	**341**	P	**P**	**22 34 57.0**	**+0.8**
	comp=N,0.2nm,0.5s,baz=140,slow=5.1,SNR=3.0						
H11S2	**WAKE ISLAND Hyl**	**28.01**	**278**	T	T	01 01 09.5	
	baz=104,slow=7.2,SNR=7.7						
H11S1	**WAKE ISLAND Hyl**	**28.02**	**278**	T	T	01 01 04.9	
	baz=104,slow=7.2,SNR=6.9						
H11S3	**WAKE ISLAND Hyl**	**28.03**	**278**	T	T	01 01 04.3	
	baz=104,slow=7.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**141.32**	**25**	PKP	**PKPdf**	**22 41 24.9**	**+1.0**
	comp=N,0.5nm,0.5s,baz=222,slow=1.9,SNR=3.5						
MKAR	**Makanchi Array**	**145.03**	**36**	PKPbc	**PKPdf**	**22 41 31.2**	**+0.4**
	comp=N,0.7nm,0.4s,baz=350,slow=2.6,SNR=27						

DJA 12 22:30:45.0±1.0**, 1°S**±6°×**12°1E**±°**, h18**km±12km**, M3.6**/8**, MLv3.6/8, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.93**	**73**	P	Pb	22 31 01.5	-1.1
LUWI	**Luwuk**	**2.02**	**86**	P	Pn	22 31 17.7	-0.4
MRSI	**Marisa**	**2.03**	**35**	P	Pn	22 31 18.4	0.0
MMSI	**Mamuju**	**2.38**	**231**	P	Pn	22 31 21.7	-1.4
MMSI				S	Sn	22 31 52.5	+0.7
GTOI	**Gorontalo**	**2.89**	**51**	P	Pn	22 31 30.2	0.0
SPSI	**Sidrap Palu**	**2.93**	**200**	P	Pn	22 31 30.2	-0.5
MJSI	**Majene**	**2.94**	**217**	P	Pn	22 31 33.3	+2.4
BNSI	**Bone**	**3.25**	**192**	P	Pn	22 31 35.3	+0.1
BKSI	**Bulukumba**	**4.15**	**189**	P	Pn	22 31 47.3	-0.3

IDC ***12*** *22:41:55.9±1.2, 35.14N×23.39E, h0km, mb3.7/5, mb1 3.6/9, mb1mx3.4/31, mbtmp3.5/9, ML3.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.1/42, Error ellipse: s-maj=23.2km s-min=19.7km az=178.0*
ISCJB ***12*** *22:42:00.5±0.9, 34.92N±0.04×23.29E±0.05, h24km±5km, mb3.6/5, MS3.0/1, Error ellipse: s-maj=8.3km s-min=4.9km az=38.4*
CSEM ***12*** *22:42:00.9±0.5, 34.96N×23.34E, h15km, MD2.8, Error ellipse: s-maj=10.8km s-min=4.5km az=35.0*
THE ***12*** *22:42:02.7, 35.03N×23.36E, h14km±1km, ML3.1/3, Error ellipse: s-maj=2.6km s-min=1.2km az=44.0*
ATH ***12*** *22:42:02.1, 34.99N×23.43E, h31km±1km, MD2.8/7*
ISC 12 22:42:00.1±1.6**, 34.93N**±0.06×**23.28E**±0.05**, h26**km±11km**, n45,** σ1§**28**/68**, mb3.7**/5**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.67**	**97**	P	**Pn**	**22 42 14.5**	**+0.6**
GVD				S	**Sn**	**22 42 25.0**	**+1.4**
GVD	**Gavdhos**	**0.67**	**97**	*e*PN	**Pn**	**22 42 14.4**	**+0.6**
GVD				*e*SN	**Sb**	**22 42 22.8**	**+0.6**
GVD	**Gavdhos**	**0.67**	**97**	P	**Pn**	**22 42 14.5**	**+0.6**
GVD				*e*Sn	**Sb**	**22 42 22.8**	**+0.6**
GVD				S	**Sn**	**22 42 25.0**	**+1.4**
KARN	**Karanos**	**0.71**	**48**	P	**Pb**	**22 42 13.6**	**-0.2**
KARN				S	**Sb**	**22 42 23.4**	**+0.2**
KARN	**Karanos**	**0.71**	**48**	*e*PN	**Pb**	**22 42 13.8**	**0.0**
KARN				*e*SN	**Sb**	**22 42 23.3**	**+0.1**
KARN	**Karanos**	**0.71**	**48**	P	**Pb**	**22 42 13.6**	**-0.2**
KARN				S	**Sb**	**22 42 23.4**	**+0.2**
VAM	**Vamos**	**0.90**	**57**	P	**Pb**	**22 42 16.5**	**-0.5**
VAM				S	**Sb**	**22 42 28.6**	**0.0**
VAM	**Vamos**	**0.90**	**57**	*e*PN	**Pb**	**22 42 16.8**	**-0.2**
VAM				*e*SN	**Sb**	**22 42 28.4**	**-0.2**
VAM	**Vamos**	**0.90**	**57**	P	**Pb**	**22 42 16.5**	**-0.5**
VAM	**Vamos**	**0.90**	**57**	*e*Pn	**Pb**	**22 42 16.8**	**-0.2**
VAM				S	**Sb**	**22 42 28.6**	**0.0**
ANKY	**Antikythira Is**	**0.94**	**1**	P	**Pn**	**22 42 19.4**	**+1.9**
ANKY				S	**Sb**	**22 42 30.4**	**+0.7**
ANKY	**Antikythira Is**	**0.94**	**1**	*e*PN	**Pn**	**22 42 19.4**	**+1.9**
ANKY				*e*SN	**Sn**	**22 42 31.7**	**+1.6**
ANKY	**Antikythira Is**	**0.94**	**1**	P	**Pn**	**22 42 19.4**	**+1.9**
ANKY				S	**Sb**	**22 42 30.4**	**+0.7**
ANKY				*e*Sn	**Sn**	**22 42 31.7**	**+1.6**
SIVA	**Sivas**	**1.26**	**85**	P	**Pb**	**22 42 23.1**	**-0.1**
SIVA				S	**Sb**	**22 42 41.0**	**+1.9**
SIVA	**Sivas**	**1.26**	**85**	*e*PN	**Pb**	**22 42 23.1**	**-0.1**
SIVA	**Sivas**	**1.26**	**85**	P	**Pb**	**22 42 23.1**	**-0.1**
SIVA				S	**Sb**	**22 42 41.0**	**+1.9**
KYTH	**Kithira**	**1.36**	**352**	P	**Pb**	**22 42 25.7**	**+0.7**
KYTH	**Kithira**	**1.36**	**352**	P	**Pb**	**22 42 25.7**	**+0.7**
IDI	**Anoyia**	**1.37**	**74**	P	**Pn**	**22 42 24.5**	**+0.9**
IDI				S	**Sn**	**22 42 42.4**	**+1.5**
IDI	**Anoyia**	**1.37**	**74**	*e*PB	**Pn**	**22 42 24.4**	**+0.9**
IDI	**Anoyia**	**1.37**	**74**	P	**Pn**	**22 42 24.5**	**+0.9**
IDI				S	**Sn**	**22 42 42.4**	**+1.5**
IDI	**Anoyia**	**1.37**	**74**	Pn	**Pn**	**22 42 22.5**	**-1.1**
	11nm,0.3s,baz=260,slow=17,SNR=44						
IDI				Sn	**Sb**	**22 42 43.5**	**+1.3**
	50nm,0.3s,baz=353,slow=16,SNR=14						
VLI	**Veliai**	**1.81**	**351**	P	**Pb**	**22 42 32.0**	**-0.5**
VLI				S	**Sb**	**22 42 54.6**	**-0.1**
VLI	**Veliai**	**1.81**	**351**	*e*PB	**Pb**	**22 42 32.8**	**+0.3**
VLI	**Veliai**	**1.81**	**351**	P	**Pb**	**22 42 32.0**	**-0.5**
VLI				S	**Sb**	**22 42 54.6**	**-0.1**
LAST	**Lasithi**	**1.82**	**82**	P	**Pn**	**22 42 31.1**	**+1.3**
LAST				S	**Sn**	**22 42 54.3**	**+2.2**
LAST	**Lasithi**	**1.82**	**82**	*e*PB	**Pn**	**22 42 31.4**	**+1.6**
LAST	**Lasithi**	**1.82**	**82**	P	**Pn**	**22 42 31.1**	**+1.3**
LAST	**Lasithi**	**1.82**	**82**	*e*Pb	**Pn**	**22 42 31.4**	**+1.6**
LAST				S	**Sn**	**22 42 54.3**	**+2.2**
NPS	**Neapolis**	**1.95**	**79**	P	**Pn**	**22 42 33.2**	**+1.8**
NPS				S	**Sn**	**22 42 56.6**	**+1.6**
NPS	**Neapolis**	**1.95**	**79**	*e*PB	**Pn**	**22 42 33.3**	**+1.8**
NPS	**Neapolis**	**1.95**	**79**	P	**Pn**	**22 42 33.2**	**+1.8**
NPS				S	**Sn**	**22 42 56.6**	**+1.6**
DID	**Didima**	**2.57**	**359**	P	**Pn**	**22 42 41.2**	**+1.1**
DID				S	**Sn**	**22 43 11.3**	**+0.8**
DID	**Didima**	**2.57**	**359**	P	**Pn**	**22 42 41.2**	**+1.1**
DID				S	**Sn**	**22 43 11.3**	**+0.8**
BRTR	**Keskin Array B**	**9.54**	**57**	Pn	**Pn**	**22 44 13.5**	**-2.3**
	0.0nm,0.3s,baz=225,slow=14,SNR=3.1						
MMAI	**Mount Meron Ar**	**10.25**	**97**	Pn	Pn	22 44 22.4	-3.1
	0.9nm,0.3s,baz=259,slow=12,SNR=8.3						
EIL	**Elat**	**11.18**	**115**	Pn	**Pn**	**22 44 35.7**	**-2.5**
	0.3nm,0.3s,baz=56,slow=16,SNR=6.5						
GERES	**GERESS Array B**	**15.61**	**336**	Pn	**Pn**	**22 45 36.0**	**-2.3**
	0.0nm,0.3s,baz=182,slow=23,SNR=2.1						
MDT	**Midelt**	**23.22**	**273**	LR	LR	22 57 22.7	
	comp=Z,52nm,18.3s,baz=307,slow=40						
HFS	**Hagfors**	**25.98**	**349**	P	**P**	**22 47 28.8**	**-1.5**
	0.9nm,0.5s,baz=151,slow=9.8,SNR=6.7						
TORD	**Torodi Ar. Bea**	**29.18**	**227**	P	**P**	**22 48 01.5**	**+2.2**
	0.3nm,0.8s,baz=35,slow=9.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**42.47**	**51**	P	P	22 49 49.2	-3.4
	0.8nm,0.2s,baz=270,slow=8.7,SNR=4.5						
MKAR	**Makanchi Array**	**45.19**	**56**	P	**P**	**22 50 13.1**	**-1.6**
	0.5nm,0.5s,baz=268,slow=8.0,SNR=9.6						
ZALV	**Zalesovo Beam**	**46.28**	**46**	P	P	22 50 19.9	-3.3
	0.5nm,0.5s,baz=267,slow=10,SNR=3.1						

CSEM ***12*** *22:42:35.9, 38.57N×21.94E, h23km, MD2.5, After ATH*
ATH 12 22:42:36.0, 38.58N×21.95E, h23km±1km**, MD2.5**/10**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.16**	**193**	*e*PB	Pb	22 42 40.8	-0.1
EFP				*e*SB	Sb	22 42 44.5	+0.3
EFP	**Efpalio**	**0.16**	**193**	*e*Pb	Pb	22 42 40.8	-0.1
EFP				*e*Sb	Sb	22 42 44.5	+0.3
KALE	**Kalithea**	**0.24**	**142**	*e*PB	Pb	22 42 42.0	-0.1
KALE	**Kalithea**	**0.24**	**142**	*e*Pb	Pb	22 42 42.0	-0.1
LAKA	**Lakka**	**0.34**	**176**	*e*PB	Pb	22 42 43.8	+0.2
LAKA	**Lakka**	**0.34**	**176**	*e*Pb	Pb	22 42 43.8	+0.2
EVR	**Evrytania**	**0.35**	**342**	*e*PB	Pb	22 42 43.6	-0.3
EVR				*e*SB	Sb	22 42 49.1	-0.2
EVR	**Evrytania**	**0.35**	**342**	*e*Pb	Pb	22 42 43.6	-0.3
EVR				*e*Sb	Sb	22 42 49.1	-0.2
MAKR	**Makrakomi, Fth**	**0.46**	**18**	*e*PB	Pb	22 42 45.8	+0.3
MAKR				*e*SB	Sb	22 42 52.8	+0.9
MAKR	**Makrakomi, Fth**	**0.46**	**18**	*e*Pb	Pb	22 42 45.8	+0.3
MAKR				*e*Sb	Sb	22 42 52.8	+0.9
DSF	**Desfina**	**0.48**	**110**	*e*PB	Pb	22 42 45.7	-0.3
DSF	**Desfina**	**0.48**	**110**	*e*Pb	Pb	22 42 45.7	-0.3
DESF	**Desfina**	**0.49**	**110**	*e*PB	Pb	22 42 45.7	-0.3
DESF	**Desfina**	**0.49**	**110**	*e*Pb	Pb	22 42 45.7	-0.3
KLV	**Kalavryta, Ach**	**0.56**	**164**	*e*PN	Pb	22 42 47.2	-0.1

ASAK	Asacha	3.61	11	P	Pn	23 13 31.8	-0.6
MTVR	Mutnovka	3.74	13	P	Pn	23 13 36.7	+2.3
MTVR				S	Sn	23 14 21.3	+2.3
RUS	Russkaya	3.75	16	P	Pn	23 13 36.0	+1.7
RUS				S	Sn	23 14 19.4	+0.6
UGLR	Uglovaya	4.55	16	P	Pn	23 13 48.7	+3.3
AVH	Avacha	4.59	15	P	Pn	23 13 49.5	+3.6
SMAR	Somma	4.60	15	P	Pn	23 13 49.1	+2.9
KOK	Koryaka	4.60	14	P	Pn	23 13 49.6	+3.5
KOK				S	Sn	23 14 43.4	+3.5
SDLR	Sedlovina	4.63	16	P	Pn	23 13 48.9	+2.4
KRER	Koryakskii	4.63	15	P	Pn	23 13 49.7	+3.1
KRER				S	Sn	23 14 43.7	+2.8
KRX	Arik	4.67	14	P	Pn	23 13 50.3	+3.3
KRX				S	Sn	23 14 44.7	+3.0
SPN	Mys Shipunski	4.72	24	S	Sn	23 14 44.3	+1.7
GNL	Ganaly	4.91	8	P	Pn	23 13 52.8	+2.5
MKZ	Mys Kozlova	6.49	26	P	Pn	23 14 13.8	+2.0
TUMR	Tumrok	6.77	17	P	Pn	23 14 19.1	+3.3

DDA **12** *23:30:14.6, 36.18N×31.11E, h10km, MD3.2*
ISK **12** *23:30:14.5, 36.09N×31.06E, h25km, MD3.5*
CSEM **12** *23:30:15.5±0.2, 36.06N×31.07E, h20km, MD3.5, Error ellipse: s-maj=6.1km s-min=3.1km az=23.0*

ISC 12 23:30:15.3±1.2, 36.05N±0.04×31.09E±0.02, h27km±13km, n103, σ1§30/140, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	Antalya	0.92	338	*e*PG	Pb	23 30 31.9	-0.7
ANTB				*e*SG	Sn	23 30 44.1	-0.7
ANTB	Antalya	0.92	338	*e*Pg	Pb	23 30 31.9	-0.7
ANTB				*e*Sg	Sn	23 30 44.1	-0.7
GAZI	Gazipasa	1.01	79	*i* P	Pn	23 30 33.9	+0.1
GAZI				*i* S	Sb	23 30 47.0	-0.1
GAZI	Gazipasa	1.01	79	*i* P	Pn	23 30 33.7	-0.1
GAZI				*i* S	Sb	23 30 47.1	+0.1
GAZI	Gazipasa	1.01	79	*i* P	Pn	23 30 33.7	-0.1
GAZI				*i* S	Sb	23 30 47.1	+0.1
ELL	Elmali	1.18	306	*e*PN	Pn	23 30 35.5	-0.7
ELL	Elmali	1.18	306	*e*Pn	Pn	23 30 35.5	-0.7
AKAS	Kas	1.22	279	*i* P	Pb	23 30 37.2	-0.6
AKAS	Kas	1.22	279	*i* P	Pb	23 30 37.2	-0.6
SUTC	Sutluce-Ispart	1.42	357	*e*PN	Pn	23 30 38.9	-0.7
SUTC				*e*SN	Sn	23 30 56.6	-1.0
SUTC	Sutluce-Ispart	1.42	357	*e*Pn	Pn	23 30 38.9	-0.7
SUTC				*e*Sn	Sn	23 30 56.6	-1.0
ERMK	Ermenek	1.58	68	*i* P	Pb	23 30 43.1	+1.2
ERMK				*i* S	Sb	23 31 10.1	+6.3
ERMK	Ermenek	1.58	68	*i* P	Pb	23 30 46.3	+2.2
ERMK				*i* S	Sb	23 31 10.1	+6.3
ERMK	Ermenek	1.58	68	*i* P	Pb	23 30 46.3	+2.2
AKDN	Akdeniz- K¯–br	1.70	116	*e*PN	Pn	23 30 44.0	+0.7
AKDN	Akdeniz- K¯–br	1.70	116	*e*Pn	Pn	23 30 44.0	+0.7
GOLH	Golhisar	1.71	314	*i* P	Pb	23 30 46.5	+0.4
GOLH				*i* S	Sb	23 31 07.1	-0.1
GOLH	Golhisar	1.71	314	*i* P	Pb	23 30 46.4	+0.4
GOLH				*i* S	Sb	23 31 12.5	+5.3
GOLH	Golhisar	1.71	314	*i* P	Pb	23 30 46.4	+0.4
LEF	Lefka	1.74	122	*e*PN	Pn	23 30 44.0	+0.2
LEF	Lefka	1.74	122	*e*Pn	Pn	23 30 44.0	+0.2
ISP	Isparta	1.82	346	*e*PN	Pn	23 30 44.8	-0.3
ISP	Isparta	1.82	346	*e*Pn	Pn	23 30 44.8	-0.3
DALY	Dalyan (Mu¯la	2.11	292	*e*PN	Pn	23 30 48.7	-0.2
DALY	Dalyan (Mu¯la	2.11	292	*e*Pn	Pn	23 30 48.7	-0.2
IKL	Isikli	2.11	84	*e*PN	Pn	23 30 49.7	+0.8
IKL	Isikli	2.11	84	*e*Pn	Pn	23 30 49.7	+0.8
LFK	Lefkose	2.13	110	*e*PN	Pn	23 30 49.8	+0.6
LFK	Lefkose	2.13	110	*e*Pn	Pn	23 30 49.8	+0.6
TURN	Turunc	2.17	293	*i* P	Pb	23 30 54.3	+0.4
TURN				*i* S	Sb	23 31 22.0	+1.8
TURN	Turunc	2.17	293	*i* P	Pb	23 30 54.4	+0.6
TURN				*i* S	Sb	23 31 22.2	+1.9
TURN	Turunc	2.17	293	*i* P	Pb	23 30 54.4	+0.6
LADK	Ladik-KONYA	2.37	25	*e*PN	Pn	23 30 52.9	+0.2
LADK	Ladik-KONYA	2.37	25	*e*Pn	Pn	23 30 52.9	+0.2
KIZK	Mersin	2.50	79	*i* P	Pb	23 30 58.0	-1.7
KIZK				*i* S	Sb	23 31 29.2	-0.8
KIZK	Mersin	2.50	79	*i* P	Pb	23 30 57.6	-2.0
KIZK				*i* S	Sb	23 31 32.0	+2.0
KIZK	Mersin	2.50	79	*i* P	Pb	23 30 57.6	-2.0
SHUT	Suhut-Afyon	2.53	350	*e*PN	Pn	23 30 54.7	-0.1
SHUT	Suhut-Afyon	2.53	350	*e*Pn	Pn	23 30 54.7	-0.1
EREN	Erenkoy	2.56	101	*e*PN	Pn	23 30 56.2	+1.1
EREN	Erenkoy	2.56	101	*e*Pn	Pn	23 30 56.2	+1.1
KHL	Karahalli	2.59	332	*e*PN	Pn	23 30 55.3	-0.3
KHL	Karahalli	2.59	332	*e*Pn	Pn	23 30 55.3	-0.3
KDHN	Kadinhani	2.60	18	*i* P	Pn	23 30 56.7	+1.0
KDHN				*i* S	Sn	23 31 26.8	+0.4
KDHN	Kadinhani	2.60	18	*i* P	Pn	23 30 56.5	+0.8
KDHN				*i* S	Sn	23 31 27.5	+1.0
KDHN	Kadinhani	2.60	18	*i* P	Pn	23 30 56.5	+0.8
KDHN				*i* S	Sn	23 31 27.5	+1.0
KHAL	Karahalli	2.64	332	*i* P	Pn	23 30 57.7	+1.4
KHAL				*i* S	Sn	23 31 29.4	+1.8
KHAL	Karahalli	2.64	332	*i* P	Pn	23 30 57.9	+1.5
KHAL				*i* S	Sn	23 31 29.4	+1.8
KHAL	Karahalli	2.64	332	*i* P	Pn	23 30 57.9	+1.5
KHAL				*i* S	Sn	23 31 29.4	+1.8
BOLV	Bolvadin	2.66	358	*i* P	Pn	23 30 57.8	+1.1
BOLV				*i* S	Sn	23 31 26.3	-1.9
BOLV	Bolvadin	2.66	358	*i* P	Pn	23 30 58.2	+1.6
BOLV				*i* S	Sn	23 31 29.9	+1.7
BOLV	Bolvadin	2.66	358	*i* P	Pn	23 30 58.2	+1.6
BOLV				*i* S	Sn	23 31 29.9	+1.7
MERS	Mersin	2.88	73	*e*PN	Pn	23 31 00.3	+0.7
MERS	Mersin	2.88	73	*e*Pn	Pn	23 31 00.3	+0.7
SULT	Sultanhani-AKS	2.89	41	*e*PN	Pn	23 31 00.1	+0.4
SULT	Sultanhani-AKS	2.89	41	*e*Pn	Pn	23 31 00.1	+0.4
KIZT	Kizilcal	2.89	12	*e*PN	Pn	23 30 59.7	-0.1
KIZT	Kizilcal	2.89	12	*e*Pn	Pn	23 30 59.7	-0.1
AYDN	Tasoluk	3.04	303	*i* P	Pn	23 31 02.7	+1.0
AYDN				*i* S	Sn	23 31 36.7	-0.4
AYDN	Tasoluk	3.04	303	*i* P	Pn	23 31 02.7	+1.0
AYDN				*i* S	Sn	23 31 36.8	-0.4
AYDN	Tasoluk	3.04	303	*i* P	Pn	23 31 02.7	+1.0
AYDN				*i* S	Sn	23 31 36.8	-0.4
BDRM	Kayabasi	3.10	290	*i* P	Pn	23 31 03.8	+1.2
BDRM				*i* S	Sn	23 31 35.4	-3.5
BDRM	Kayabasi	3.10	290	*i* P	Pn	23 31 03.7	+1.1
BDRM				*i* S	Sn	23 31 38.6	-0.2
BDRM	Kayabasi	3.10	290	*i* P	Pn	23 31 03.7	+1.1
BDRM				*i* S	Sn	23 31 38.6	-0.2
KULA	Kula-Manisa	3.13	322	*e*PN	Pn	23 31 03.1	+0.1
KULA	Kula-Manisa	3.13	322	*e*Pn	Pn	23 31 03.1	+0.1
MANT	Manisa	3.16	321	*i* P	Pn	23 31 04.9	+1.3
MANT				*i* S	Sn	23 31 40.1	-0.5
MANT	Manisa	3.16	321	*i* P	Pn	23 31 04.9	+1.3
MANT				*i* S	Sn	23 31 40.1	-0.5
BODT	Bodrum	3.21	289	*e*PN	Pn	23 31 04.3	+0.3
BODT	Bodrum	3.21	289	*e*Pn	Pn	23 31 04.3	+0.3
GULE	Gulek	3.21	66	*i* P	Pb	23 31 08.8	-2.9
GULE				*i* S	Sb	23 31 48.2	-2.2
GULE	Gulek	3.21	66	*i* P	Pb	23 31 08.3	-3.4
GULE				*i* S	Sb	23 31 48.7	-1.7
GULE	Gulek	3.21	66	*i* P	Pb	23 31 08.3	-3.4
SVRH	Sivrihisar-ESK	3.41	6	*e*PN	Pn	23 31 07.3	+0.5
SVRH	Sivrihisar-ESK	3.41	6	*e*Pn	Pn	23 31 07.3	+0.5
GCAM	G?zelcaml?	3.50	299	*i* P	Pn	23 31 08.7	+0.7
GCAM				*i* S	Sn	23 31 46.7	-1.9
GCAM	G?zelcaml?	3.50	299	*i* P	Pn	23 31 08.7	+0.7
GCAM				*i* S	Sn	23 31 46.7	-1.9
DEMI	Demirci	3.53	328	*i* P	Pn	23 31 09.8	+1.3
DEMI				*i* S	Sn	23 31 49.7	+0.2
DEMI	Demirci	3.53	328	*i* P	Pn	23 31 09.8	+1.3
DEMI				*i* S	Sn	23 31 49.7	+0.2
TVSB	Tavsanli	3.63	340	*e*PN	Pn	23 31 09.7	-0.2
TVSB	Tavsanli	3.63	340	*e*Pn	Pn	23 31 09.7	-0.2
AFSR	Af¯ar-Bala (A	3.73	24	*e*PN	Pn	23 31 12.0	+0.7
AFSR	Af¯ar-Bala (A	3.73	24	*e*Pn	Pn	23 31 12.0	+0.7
AKHS	Akhisar	3.84	318	*i* P	Pn	23 31 13.6	+0.9
AKHS				*i* S	Sn	23 31 52.9	-4.1
AKHS	Akhisar	3.84	318	*i* P	Pn	23 31 13.6	+0.9
AKHS				*i* S	Sn	23 31 52.9	-4.1
AKS	Akhisar	3.84	318	*e*PN	Pn	23 31 12.8	+0.1
AKS	Akhisar	3.84	318	*e*Pn	Pn	23 31 12.8	+0.1
BORA	Eskisehir	3.85	353	*i* P	Pn	23 31 13.7	+0.7
BORA				*i* S	Sn	23 31 53.7	-3.7
BORA	Eskisehir	3.85	353	*i* P	Pn	23 31 13.7	+0.7
BORA				*i* S	Sn	23 31 53.7	-3.7
ANTO	Ankara	4.04	19	*e*PN	Pn	23 31 17.3	+1.8
ANTO	Ankara	4.04	19	*e*Pn	Pn	23 31 17.3	+1.8
KOZT	Kozan	4.06	68	*e*PN	Pn	23 31 17.5	+1.8
KOZT	Kozan	4.06	68	*e*Pn	Pn	23 31 17.5	+1.8
YAYL	Yayladag	4.07	89	*i* P	Pn	23 31 17.2	+1.3
YAYL				*i* S	Sn	23 32 02.5	-0.2
YAYL	Yayladag	4.07	89	*i* P	Pn	23 31 17.2	+1.3
YAYL				*i* S	Sn	23 32 02.5	-0.2
DURS	Dursunbey	4.10	330	*i* P	Pn	23 31 18.2	+1.8
DURS				*i* S	Sn	23 32 03.2	-0.4
DURS	Dursunbey	4.10	330	*i* P	Pn	23 31 18.2	+1.8
DURS				*i* S	Sn	23 32 03.2	-0.4
TAHT	Tahtakopru-Hat	4.13	84	*e*PN	Pn	23 31 18.3	+1.6
TAHT	Tahtakopru-Hat	4.13	84	*e*Pn	Pn	23 31 18.3	+1.6
ULDT	Uludag	4.37	340	*i* P	Pn	23 31 21.7	+1.6
ULDT				*i* S	Sn	23 32 12.2	+2.1
ULDT	Uludag	4.37	340	*i* P	Pn	23 31 21.7	+1.6
ULDT				*i* S	Sn	23 32 12.2	+2.1
GULT	Gulveren	4.40	354	*e*PN	Pn	23 31 21.4	+1.0
GULT	Gulveren	4.40	354	*e*Pn	Pn	23 31 21.4	+1.0

KRSC 12 23:50:47.8±8.6, 48.83N×156.84E, h10km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.91	346	P	Pn	23 51 20.7	+0.3
SKR				*i* S	Sn	23 51 44.9	+0.4
PAU	Pauzhetka	2.64	360	P	Pn	23 51 31.9	+1.5
PAU				*i* S	Sn	23 52 03.6	+1.1
ASAK	Asacha	3.62	10	P	Pn	23 51 45.9	+1.9
MTVR	Mutnovka	3.76	13	P	Pn	23 51 47.3	+1.3
MTVR				*i* S	Sn	23 52 31.2	+0.9
RUS	Russkaya	3.76	16	P	Pn	23 51 47.5	+1.7
RUS				*i* S	Sn	23 52 30.9	+0.8
UGLR	Uglovaya	4.56	15	P	Pn	23 51 59.5	+2.5
AVH	Avacha	4.60	14	P	Pn	23 52 00.4	+2.9
SMAR	Somma	4.61	15	P	Pn	23 52 00.2	+2.4
KOK	Koryaka	4.61	14	P	Pn	23 52 00.7	+3.1
KOK				*i* S	Sn	23 52 52.3	+1.0
SDLR	Sedlovina	4.64	15	P	Pn	23 51 59.6	+1.6
KRER	Koryakskii	4.64	14	P	Pn	23 52 01.0	+2.8
KRX	Arik	4.68	13	P	Pn	23 52 01.4	+2.8
KRX				*i* S	Sn	23 52 54.3	+1.3
GNL	Ganaly	4.92	8	P	Pn	23 52 05.2	+3.3
MKZ	Mys Kozlova	6.49	26	P	Pn	23 52 24.3	+1.1

IDC 12 23:53:26.4±7.9, 17.79S×178.48W, h633km±94km, mb3.1/7, mb1 3.3/7, mb1mx3.1/20, mbtmp3.1/7, Error ellipse: s-maj=40.2km s-min=27.0km az=65.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	38.63	241	P	P	23 59 58.0	0.0
	2.7nm,0.6s,baz=86,slow=8.4,SNR=6.9						
WRA	Warramunga Arr	44.59	259	P	P	00 00 44.7	-0.1
	1.5nm,0.5s,baz=94,slow=7.3,SNR=34						
ASAR	Alice Springs	44.76	254	P	P	00 00 46.5	+0.3
	11nm,0.7s,baz=87,slow=8.6,SNR=127						
FITZ	Fitzroy Crossi	52.98	260	P	P	00 01 46.4	0.0
	4.3nm,1.2s,baz=90,slow=3.0,SNR=2.8						
QSPA	South Pole Qui	72.27	180	P	P	00 03 49.2	0.0
	1.8nm,0.7s,baz=13,slow=1.5,SNR=12						
ILAR	Eielson Array	85.78	13	P	P	00 04 58.9	-1.1
	0.1nm,0.4s,baz=225,slow=5.0,SNR=7.0						
TXAR	Lajitas Array	85.99	58	P	P	00 05 02.9	+1.0
	0.4nm,0.7s,baz=216,slow=6.2,SNR=5.9						
GERES	GERESS Array B	147.48	345	PKPbc	PKPbc	00 12 01.3	+0.4
	0.5nm,0.5s,baz=30,slow=2.7,SNR=10						
DAVOX	Davos/Dischmat	150.27	348	PKPbc	PKPbc	00 12 06.9	-1.0
	2.7nm,0.7s,baz=103,slow=2.4,SNR=6.5						

MEX 12 23:54:21.4±0.8, 18.55N×105.39W, h10km, MD3.8, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		1.46	65	*e*P	Pn	23 54 44.1	-3.9
R15V				*i* S	Sn	23 55 01.5	-5.8
EZ5V		1.92	61	*e*P	Pn	23 54 51.6	-3.0
EZ5V				*e*S	Sn	23 55 15.0	-4.1
ANIG	Ahuacatlan	2.62	18	*i* P	Pn	23 55 00.8	-3.2
ANIG				*i* S	Sn	23 55 32.2	-3.7
SFJM	Santa Fe	2.93	49	*i* P	Pn	23 55 09.3	+1.0
SFJM				*i* S	Sn	23 55 43.6	-0.3

IDC **12** *23:54:29.8±0.7, 11.21S×66.52E, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.0/30, mbtmp4.0/16, MS3.6/7, Ms1 3.6/7, ms1mx3.3/31, Error ellipse: s-maj=22.4km s-min=17.1km az=173.0*
ISCJB **12** *23:54:31.6±0.7, 11.1S±0.1×66.6E±0.1, h23km, mb4.0/17, MS3.6/7, Error ellipse: s-maj=19.8km s-min=13.9km az=162.7*
NEIC **12** *23:54:31.3±0.7, 11.16S×66.52E, h10km, mb4.4/2, Error ellipse: s-maj=20.7km s-min=14.8km az=162.0*

ISC 12 23:54:33.6±0.8, 11.2S±0.2×66.5E±0.1, h23km, n56, σ0§80/41, mb4.1/17, MS3.6/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	Diego Garcia H	6.57	43	T	T	00 03 00.2	
	baz=221,slow=76,SNR=1982						
H08N1	Diego Garcia H	6.58	43	T	T	00 03 01.6	
	baz=221,slow=76,SNR=1776						
H08N2	Diego Garcia H	6.59	43	T	T	00 03 01.4	
	baz=221,slow=76,SNR=2219						
H08S1	Diego Garcia H	6.88	59	T	T	00 03 22.2	
	baz=237,slow=75,SNR=281						
H08S2	Diego Garcia H	6.89	60	T	T	00 03 25.6	
	baz=237,slow=75,SNR=352						
H08S3	Diego Garcia H	6.90	59	T	T	00 03 21.7	
	baz=237,slow=75,SNR=219						
OPO	Ambohidratompo	20.03	246	LR	LR	00 04 49.2	
	comp=Z,196nm,19.9s,baz=352,slow=31						
KMBO	Kilima Mbogo	30.72	287	P	P	00 00 48.4	+0.8
KMBO	Kilima Mbogo	30.72	287	P	P	00 00 48.4	+0.8
	0.5nm,0.6s,baz=64,slow=19,SNR=3.8						
KMBO				LR	LR	00 11 32.6	
	comp=Z,107nm,18.0s,baz=103,slow=33						
LSZ	Lusaka	37.48	260	*e*P	P	00 01 45.5	-0.5
	14nm,1.4s						
LSZ	Lusaka	37.48	260	P	P	00 01 46.5	+0.6
	4.3nm,0.9s,baz=56,slow=13,SNR=10						
LBTB	Lobatse	41.05	245	P	P	00 02 15.1	-0.7
LBTB	Lobatse	41.05	245	P	P	00 02 15.1	-0.7
	2.7nm,0.8s,baz=121,slow=9.1,SNR=3.8						
BOSA	Boshof	42.21	240	LR	LR	00 17 45.1	
	comp=Z,84nm,19.7s,baz=169,slow=33						
CMAR	Chiang Mai Arr	43.52	48	P	P	00 02 36.1	+0.4
CMAR	Chiang Mai Arr	43.52	48	P	P	00 02 36.1	+0.4
	0.9nm,0.4s,baz=228,slow=8.2,SNR=5.1						
CMAR				LR	LR	00 19 01.4	
	comp=Z,43nm,19.2s,baz=344,slow=34						
H01W3	Cape Leeuwin H	49.19	127	T	T	00 55 48.9	
	baz=287,slow=75,SNR=39						
H01W2	Cape Leeuwin H	49.19	127	T	T	00 55 50.9	
	baz=287,slow=75,SNR=51						
H01W1	Cape Leeuwin H	49.20	127	T	T	00 55 50.2	
	baz=287,slow=75,SNR=33						
MK31	Makanchi Array	59.45	13	*e*P	P	00 04 31.2	-3.4
MKAR	Makanchi Array	59.45	13	P	P	00 04 33.5	-1.1
MKAR	Makanchi Array	59.45	13	P	P	00 04 33.5	-1.1
	0.2nm,0.5s,baz=202,slow=9.3,SNR=9.0						
AKTO	Aktyubinsk	61.84	354	P	P	00 04 50.5	-0.2
AKTO	Aktyubinsk	61.84	354	P	P	00 04 50.5	-0.2
	1.9nm,0.8s,baz=169,slow=7.1,SNR=5.8						
KURK	Kurchatov	62.57	9	*e*P	P	00 04 53.5	-2.1
	1.3nm,0.7s						
BVAR	Borovoye Array	64.07	3	P	P	00 05 05.9	+0.4
BVAR	Borovoye Array	64.07	3	P	P	00 05 05.9	+0.4
	1.7nm,0.7s,baz=167,slow=8.1,SNR=13						
ASAR	Alice Springs	64.99	111	P	P	00 05 12.0	-0.3
ASAR	Alice Springs	64.99	111	P	P	00 05 12.0	-0.3
	0.9nm,0.8s,baz=277,slow=5.9,SNR=9.1						
WRA	Warramunga Arr	65.56	107	P	P	00 05 16.1	+0.1
WRA	Warramunga Arr	65.56	107	P	P	00 05 16.1	+0.1
	2.0nm,0.7s,baz=275,slow=5.9,SNR=6.9						
ZALV	Zalesovo Beam	66.76	12	P	P	00 05 22.3	-0.6
ZALV	Zalesovo Beam	66.76	12	P	P	00 05 22.3	-0.6
	1.9nm,0.8s,baz=208,slow=6.0,SNR=9.8						
SONM	Songino Array	68.63	28	P	P	00 05 36.3	+1.2
SONM	Songino Array	68.63	28	P	P	00 05 36.3	+1.2
	2.7nm,0.7s,baz=215,slow=6.9,SNR=28						
SONM				LR	LR	00 34 46.7	
	comp=Z,52nm,19.5s,baz=205,slow=35						
TORD	Torodi Ar. Bea	68.71	289	P	P	00 05 37.2	+1.3
TORD	Torodi Ar. Bea	68.71	289	P	P	00 05 37.2	+1.3
	0.6nm,0.9s,baz=78,slow=3.3,SNR=3.6						
AKASG	Malin Array Be	69.68	336	P	P	00 05 41.0	-0.2
AKASG	Malin Array Be	69.68	336	P	P	00 05 41.0	-0.2
	1.8nm,0.7s,baz=141,slow=5.4,SNR=15						
DBIC	Dimbokro	73.19	281	LR	LR	00 35 56.9	
	comp=Z,75nm,19.1s,baz=71,slow=34						
KSRS	Korea Array	75.14	46	LR	LR	00 38 31.5	
	comp=Z,30nm,19.9s,baz=0.7,slow=35						
GERES	GERESS Array B	75.72	327	P	P	00 06 16.4	-0.9
GERES	GERESS Array B	75.72	327	P	P	00 06 16.4	-0.9
	0.6nm,0.8s,baz=105,slow=4.7,SNR=5.5						
FINES	FINESS Array B	79.08	341	P	P	00 06 36.1	+0.4
FINES	FINESS Array B	79.08	341	P	P	00 06 36.1	+0.4
	1.3nm,0.7s,baz=116,slow=4.4,SNR=3.8						
ESDC	Sonseca Array	82.51	313	P	P	00 06 53.8	-0.9
ESDC	Sonseca Array	82.51	313	P	P	00 06 53.8	-0.9
	1.1nm,0.8s,baz=101,slow=4.9,SNR=7.3						
ILAR	Eielson Array	121.72	16	PKP			
ILAR	Eielson Array	121.72	16	PKP	PKPdf	00 13 24.4	-0.9
	0.3nm,0.7s,baz=291,slow=2.5,SNR=3.6						
YKA	Yellowknife Ar	128.80	1	PKP	PKPdf	00 13 38.9	0.0
YKA	Yellowknife Ar	128.80	1	PKP	PKPdf	00 13 38.8	0.0
	0.7nm,0.7s,baz=358,slow=2.4,SNR=9.1						
TBI	Tubuai	130.82	135	*e*LR	LR	00 09 38.6	
	184nm,31.2s						
PPT2	Papeete2	134.29	128	*e*LR	LR	00 11 12.0	
	134nm,23.8s						
MFID	Camas Ranch	147.86	3	*e*PKPdf	PKPdf	00 14 15.3	+1.0
MFID				*e*PKPbc	PKPbc	00 14 17.7	+0.5
PDAR	Pinedale Array	148.38	354	PKPbc	PKPbc	00 14 15.8	+0.5
PDAR	Pinedale Array	148.38	354	PKPbc	PKPdf	00 14 15.8	+0.5
	2.8nm,0.7s,baz=89,slow=2.7,SNR=20						

IDC **12** *23:56:35.2±0.8, 33.62S×179.26W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.1/19, mbtmp4.3/8, ML4.3/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/26, Error ellipse: s-maj=28.6km s-min=23.5km az=88.0*
NEIC **12** *23:56:40.4±0.7, 33.69S×179.16W, h35km, mb4.6/2, Error ellipse: s-maj=20.5km s-min=16.0km az=128.0*
ISCJB **12** *23:56:41.3±0.9, 33.90S±0.08×179.4W±0.2, h50km, mb4.3/8, MS3.6/6, Error ellipse: s-maj=20.2km s-min=11.0km az=16.2*

ISC 12 23:56:42.3±0.7, 33.87S±0.09×179.2W±0.1, h50km, n53, σ1§19/43, mb4.3/8, MS3.5/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	5.30	213	*e*Pn	Pn	23 57 57.5	-1.4
URZ				*e*Sn	Sn	23 58 58.8	+0.1
URZ	Urewera	5.30	213	Pn	Pn	23 57 57.5	-1.4
	9.9nm,0.3s,baz=40,slow=5.1,SNR=45						
URZ				Sn	Sn	23 58 57.9	-0.8
	27nm,0.3s,baz=134,slow=16,SNR=6.7						
OUZ	Omahuta	6.09	255	*e*Pn	Pn	23 58 11.7	+1.9
ODZ	Otahua Downs	13.63	212	*e*Pn	Pn	23 59 48.9	-3.9
DZM	Mont Dzumac	17.26	309	LR	LR	00 05 42.1	
	comp=Z,279nm,19.1s,baz=208,slow=32						
RAR	Rarotonga	21.30	59	LR	LR	00 08 15.0	
	comp=Z,110nm,18.3s,baz=273,slow=33						
PPT	Papeete	31.09	66	LR	LR	00 12 37.4	
	comp=Z,75nm,21.9s,baz=359,slow=31						
STKA	Stephens Creek	32.85	262	LR	LR	00 15 35.6	
	comp=Z,117nm,18.1s,baz=26,slow=35						
ASAR	Alice Springs	42.03	271	P	P	00 04 28.6	-0.5
ASAR	Alice Springs	42.03	271	P	P	00 04 28.6	-0.5
	2.4nm,0.8s,baz=112,slow=7.6,SNR=25						
WRAB	Tennant Creek	43.33

AML	**Almayashu** SNR=24	**5.64**	**18**	P	**Pn**	**00 11 37.3**	**+2.3**
UCH	**Uchtor** SNR=8.1	**5.96**	**23**	P	**Pn**	**00 11 42.0**	**+2.6**
KZA	**Kyzart** SNR=5.9	**6.08**	**28**	P	Pn	00 11 44.2	+3.3
EKS2	**Erkin-Say** SNR=10	**6.16**	**17**	P	**Pn**	**00 11 44.5**	**+2.7**
AAK	**Ala-Archa** SNR=17	**6.33**	**21**	P	**Pn**	**00 11 46.8**	**+2.7**
KK31	**Karatay Array** 3.6nm,0.3s,baz=178,slow=12,SNR=193	**6.36**	**354**	⇑P	**Pn**	**00 11 45.7**	**+1.3**
KK31	3.4nm,0.3s,baz=183,slow=15,SNR=8.6			S	**Sn**	**00 12 50.9**	**-4.6**
CHMS	**Chumysh** SNR=8.6	**6.74**	**22**	P	**Pn**	**00 11 52.0**	**+2.5**
USP	**Ospenovka** SNR=16	**6.91**	**19**	P	**Pn**	**00 11 53.6**	**+1.7**
TKM2	**Tokmak 2** SNR=9.7	**6.94**	**27**	P	**Pn**	**00 11 55.0**	**+2.5**
TKM2	**Tokmak 2** 4.8nm,0.5s	**6.94**	**27**	⇑P	**Pn**	**00 11 54.5**	**+2.1**
TKM2	3.6nm,0.7s			⇓S	Sn	00 13 03.0	-7.0
MK31	**Makanchi Array** 1.4nm,0.7s,baz=222,slow=13,SNR=14	**12.89**	**36**	P	**Pn**	**00 13 14.0**	**+1.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=223,slow=13,SNR=15	**12.89**	**36**	Pn	**Pn**	**00 13 13.8**	**+1.4**
PYUN	**Piuthan**	**13.06**	**128**	*eP*	**Pn**	**00 13 14.6**	**-0.3**
DANN	**Dangsing** 4.3nm,0.4s	**13.39**	**125**	*eP*	**Pn**	**00 13 18.2**	**-1.0**
GKN	**Gorkha**	**14.20**	**124**	*eP*	**Pn**	**00 13 28.7**	**-0.9**
PKIN	**Phulchoki**	**14.98**	**124**	*eP*	**Pn**	**00 13 38.4**	**-1.3**
AB31	**Akbulak array** 0.6nm,0.4s,baz=138,slow=13,SNR=42	**15.00**	**330**	P	**Pn**	**00 13 38.9**	**-0.5**
AB31	1.0nm,0.6s,baz=151,slow=23,SNR=6.9			⇑S	Sn	00 16 14.5	-10
GUN	**Gumba**	**15.09**	**122**	*eP*	**Pn**	**00 13 40.4**	**-0.8**
JIRN	**Jiri**	**15.46**	**122**	*eP*	**Pn**	**00 13 45.1**	**-0.7**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=171,slow=13,SNR=5.7	**16.27**	**358**	Pn	**P**	**00 13 55.9**	**-0.4**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=142,slow=11,SNR=4.3	**16.70**	**329**	P	**P**	**00 14 02.6**	**+1.5**
AKTO	**Aktyubinsk** 4.0nm,1.1s	**16.70**	**329**	⇓P	**P**	**00 14 02.4**	**+1.3**
AKTO	4.7nm,1.4s			⇓S	Sn	00 16 55.2	-11
TAPN	**Taplejung**	**16.71**	**120**	*eP*	**P**	**00 14 01.2**	**-0.5**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=226,slow=10.0,SNR=7.9	**19.54**	**24**	P	**Pn**	**00 14 34.6**	**+0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=60,slow=5.9,SNR=5.7	**66.03**	**269**	P	P	00 20 52.1	+3.3

KRSC 13 00:18:21.3±8.2, 48°.91N×157°.17E, h15km±15km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.90**	**339**	P	Pn	00 18 52.9	-0.3
SKR				S	Sn	00 19 16.3	-0.5
PAU	**Pauzhetka**	**2.57**	**355**	P	Pn	00 19 03.4	+1.0
PAU				S	Sn	00 19 34.2	+0.9
ASAK	**Asacha**	**3.51**	**7**	P	Pn	00 19 19.1	+3.7
RUS	**Russkaya**	**3.63**	**13**	P	Pn	00 19 18.4	+1.5
RUS				S	Sn	00 20 00.6	+1.2
MTVR	**Mutnovka**	**3.63**	**10**	P	Pn	00 19 19.4	+2.2
MTVR				S	Sn	00 20 02.1	+2.2
PET	**Petropavlovsk**	**4.22**	**12**	P	Pn	00 19 27.4	+2.3
PET				S	Sn	00 20 16.4	+2.3
UGLR	**Uglovaya**	**4.43**	**13**	P	Pn	00 19 30.9	+2.8
UGLR				S	Sn	00 20 20.9	+1.5
AVH	**Avacha**	**4.47**	**12**	P	Pn	00 19 32.0	+3.4
SMAR	**Somma**	**4.48**	**13**	P	Pn	00 19 31.2	+2.3
NLC	**Nalytchevo**	**4.48**	**17**	P	Pn	00 19 30.4	+1.8
NLC				S	Sn	00 20 21.1	+0.7
KOK	**Koryaka**	**4.48**	**11**	P	Pn	00 19 32.0	+3.2
KOK				S	Sn	00 20 22.5	+1.7
SDLR	**Sedlovina**	**4.50**	**13**	P	Pn	00 19 31.3	+2.2
SDLR				S	Sn	00 20 22.4	+1.1
KRER	**Koryakskii**	**4.51**	**12**	P	Pn	00 19 32.6	+3.3
KRER				S	Sn	00 20 23.9	+2.3
KRX	**Arik**	**4.55**	**11**	P	Pn	00 19 32.9	+3.1
KRX				S	Sn	00 20 25.2	+2.7
SPN	**Mys Shipunski**	**4.56**	**22**	S	Sn	00 20 25.9	+3.4
GNL	**Ganaly**	**4.82**	**5**	P	Pn	00 19 36.1	+2.7
MKZ	**Mys Kozlova**	**6.32**	**25**	P	Pn	00 19 56.9	+3.1
TUMR	**Tumrok**	**6.64**	**15**	P	Pn	00 20 01.6	+3.2

*SKHL **13** 01:14:01.8±0.9, 48°.70N×156°.45E, h22km±4km, mb4.1/1*
*MOS **13** 01:14:02.0±1.5, 48°.88N×156°.30E, h10km, mb4.2/1, Error ellipse: s-maj=34.1km s-min=9.1km az=79.0*
*KRSC **13** 01:14:04.8±8.0, 48°.97N×157°.02E, h5km±5km, ML4.1*
*ISCJB **13** 01:14:06.0±1.1, 48°.86N±0°.08×156°.4E±0°.1, h57km±15km, mb3.7/2, Error ellipse: s-maj=19.2km s-min=8.4km az=35.4*
*IDC **13** 01:14:08.2±11.0, 48°.81N×156°.47E, h58km±32km, mb3.2/2, mb1 3.4/4, mb1mx3.1/26, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=237.4km s-min=33.1km az=132.0*

ISC 13 01:14:06.8±1.9, 48°.8N±0°.1×156°.5E±0°.1, h49km±19km, n43, σ1s33/50, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.88**	**352**	*e*PN	Pn	01 14 32.9	-3.5
SKR				*e*S	**Sn**	**01 14 56.9**	**-1.9**
SKR	comp=Z,80nm,0.4s			pmax	pmax		
SKR	comp=N,180nm,0.5s			smax	smax		
SKR	comp=E,120nm,0.5s			smax	smax		
SKR	**Severo-Kuril's**	**1.88**	**352**	P	**Pn**	**01 14 36.3**	**-0.1**
SKR				*i* S	**Sn**	**01 14 59.8**	**+1.0**
SKR	**Severo-Kuril's**	**1.88**	**352**	*e*P	Pn	01 14 32.9	-3.5
SKR	comp=E,80nm,0.4s			AMB	AMB	01 14 37.0	
SKR				*e*S	**Sn**	**01 14 56.9**	**-1.9**
SKR	comp=E,180nm,0.5s			A	A	01 15 02.0	
SKR	comp=E,120nm,0.5s			A	A	01 15 02.0	
PAU	**Pauzhetka**	**2.65**	**4**	PN	**Pn**	**01 14 46.7**	**-0.2**
PAU				S	**Sn**	**01 15 18.7**	**+0.9**
PAU	**Pauzhetka**	**2.65**	**4**	P	**Pn**	**01 14 46.7**	**-0.2**
PAU				*i* S	**Sn**	**01 15 18.7**	**+0.9**
ASAK	**Asacha**	**3.66**	**13**	P	**Pn**	**01 15 01.7**	**+0.8**
ASAK				*i* S	**Sn**	**01 15 44.1**	**+1.2**
MTVR	**Mutnovka**	**3.80**	**15**	P	**Pn**	**01 15 03.6**	**+0.6**
MTVR				*i* S	**Sn**	**01 15 47.4**	**+0.9**
RUS	**Russkaya**	**3.82**	**18**	PN	**Pn**	**01 15 03.3**	**+0.3**
RUS	**Russkaya**	**3.82**	**18**	P	**Pn**	**01 15 03.3**	**+0.3**
RUS				*i* S	**Sn**	**01 15 47.0**	**+0.4**
RUS	**Russkaya**	**3.82**	**18**	*e*P	**Pn**	**01 15 03.3**	**+0.3**
PETK	**Petropavlovsk-**	**4.35**	**9**	PN	**Pn**	**01 15 12.0**	**+1.7**
PETK				S	Sn	01 16 06.1	+6.5
PETK	comp=Z,1.0nm,0.3s			pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,0.6nm,0.3s,baz=184,slow=14,SNR=15	**4.35**	**9**	P	**Pn**	**01 15 12.0**	**+1.7**
PETK	comp=Z,0.3nm,0.3s,baz=188,slow=20,SNR=2.2			S	Sn	01 16 06.1	+6.5
PET	**Petropavlovsk**	**4.41**	**17**	PN	**Pn**	**01 15 11.0**	**-0.1**
PET	**Petropavlovsk**	**4.41**	**17**	P	**Pn**	**01 15 11.0**	**-0.1**
PET				*i* S	**Sn**	**01 16 00.6**	**-0.4**
PET	**Petropavlovsk**	**4.41**	**17**	*e*P	**Pn**	**01 15 11.0**	**-0.1**
PET				*e*S	**Sn**	**01 16 02.3**	**+1.3**
PET	comp=Z,50nm,0.6s			A	A	01 16 20.5	
PET	comp=Z,40nm,0.6s			A	A	01 16 22.1	
UGLR	**Uglovaya**	**4.62**	**17**	P	**Pn**	**01 15 15.6**	**+1.6**
AVH	**Avacha**	**4.65**	**16**	P	**Pn**	**01 15 15.8**	**+1.3**
KOK	**Koryaka**	**4.66**	**16**	P	**Pn**	**01 15 16.7**	**+2.1**
SMAR	**Somma**	**4.66**	**17**	P	**Pn**	**01 15 16.7**	**+1.9**
KRER	**Koryakskii**	**4.69**	**16**	P	**Pn**	**01 15 16.9**	**+1.7**
NLC	**Nalytchevo**	**4.69**	**21**	PN	**Pn**	**01 15 14.5**	**-0.5**
NLC	**Nalytchevo**	**4.69**	**21**	P	**Pn**	**01 15 14.5**	**-0.5**
NLC				*i* S	**Sn**	**01 16 06.1**	**-2.0**
NLC	**Nalytchevo**	**4.69**	**21**	*e*P	**Pn**	**01 15 14.5**	**-0.5**
SDLR	**Sedlovina**	**4.69**	**17**	P	**Pn**	**01 15 15.9**	**+0.8**
KRX	**Arik**	**4.73**	**16**	P	**Pn**	**01 15 17.2**	**+1.6**
GNL	**Ganaly**	**4.95**	**10**	P	**Pn**	**01 15 19.2**	**+0.6**
MKZ	**Mys Kozlova**	**6.58**	**27**	PN	**Pn**	**01 15 40.7**	**-0.1**
MKZ	**Mys Kozlova**	**6.58**	**27**	P	**Pn**	**01 15 40.7**	**-0.1**
MKZ				*i* S	**Sn**	**01 16 51.1**	**-3.2**
MKZ	**Mys Kozlova**	**6.58**	**27**	*e*P	**Pn**	**01 15 40.7**	**-0.1**
KZV	**Kizimen**	**6.71**	**19**	P	**Pn**	**01 15 45.3**	**+2.6**
TUMR	**Tumrok**	**6.83**	**18**	P	**Pn**	**01 15 47.0**	**+2.6**
KBTR	**Krutoberegovo**	**8.32**	**25**	PN	**Pn**	**01 16 05.2**	**+0.6**
KBTR	**Krutoberegovo**	**8.32**	**25**	P	**Pn**	**01 16 05.2**	**+0.6**
JKA	**Kamikawa-asahi**	**10.71**	**249**	*e*P	**Pn**	**01 16 38.2**	**+0.8**
ASAJ	**Asahikawa** comp=Z,0.6nm,0.3s,baz=80,slow=11,SNR=3.4	**10.71**	**249**	P	**Pn**	**01 16 38.2**	**+0.8**
EKMR	**Ekimchan**	**15.44**	**295**	*e*P	**Pn**	**01 17 38.0**	**-3.1**
H11S1	**WAKE ISLAND Hy** baz=349,slow=76,SNR=5.6	**31.34**	**161**	T	T	01 53 52.5	
H11S3	**WAKE ISLAND Hy** baz=349,slow=76,SNR=8.9	**31.36**	**161**	T	T	01 53 53.2	
H11S2	**WAKE ISLAND Hy** baz=349,slow=76,SNR=3.5	**31.36**	**161**	T	T	01 53 55.5	
MKAR	**Makanchi Array**	**48.04**	**297**	P	**P**	**01 22 40.9**	**-0.1**
MKAR	**Makanchi Array**	**48.04**	**297**	*e*P	**P**	**01 22 40.9**	**-0.1**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.6s,baz=68,slow=8.0,SNR=3.2	**48.04**	**297**	P	**P**	**01 22 40.9**	**-0.1**
FINES	**FINESS Array B** comp=Z,0.7nm,0.5s,baz=15,slow=5.9,SNR=5.3	**63.12**	**336**	P	**P**	**01 24 29.5**	**+0.7**

*IDC **13** 01:33:44.3±0.7, 8°.97N×125°.90E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.9/24, mbtmp3.8/13, Error ellipse: s-maj=39.5km s-min=16.5km az=77.0*
*NEIC **13** 01:33:49.4±0.3, 8°.98N×125°.94E, h35km, mb4.4/7, Error ellipse: s-maj=18.0km s-min=7.3km az=76.0*
*ISCJB **13** 01:33:50.7±0.4, 8°.92N±0°.07×125°.9E±0°.1, h66km, mb3.9/19, Error ellipse: s-maj=21.6km s-min=9.2km az=166.4*
*MAN **13** 01:33:53, 9°.06N×126°.34E, h35km, mb4.7, ML3.6, MS3.5*

ISC 13 01:33:52.9±0.5, 8°.99N±0°.09×126°.0E±0°.2, h66km, n46, σ0s82/43, mb4.0/19, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 14nm,1.4s	**26.92**	**181**	*e*P	**P**	**01 39 25.6**	**-2.4**
PMG	**Port Moresby** 9.9nm,0.9s	**27.91**	**130**	*e*P	**P**	**01 39 37.5**	**+0.4**
WRA	**Warramunga Arr**	**29.91**	**164**	P	**P**	**01 39 53.8**	**-0.9**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=347,slow=9.3,SNR=2.7	**29.91**	**164**	P	**P**	**01 39 53.8**	**-0.9**
MBWA	**Marble Bar** 3.8nm,1.1s	**30.58**	**191**	*e*P	**P**	**01 40 00.0**	**-0.5**
BJT	**Baijiatuau**	**32.11**	**346**	*e*P	**P**	**01 40 13.1**	**-0.7**
ASAR	**Alice Springs**	**33.37**	**167**	P	**P**	**01 40 24.5**	**-0.6**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=350,slow=6.5,SNR=4.4	**33.37**	**167**	P	**P**	**01 40 24.5**	**-0.6**
USRK	**Usurlysk Arra** 3.7nm,0.7s,baz=186,slow=9.0,SNR=7.8	**35.47**	**7**	P	**P**	**01 40 43.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**40.45**	**18**	*e*P	**P**	**01 41 23.0**	**-1.9**
H11S3	**WAKE ISLAND Hy** baz=263,slow=70,SNR=174	**40.58**	**72**	T	T	02 24 22.0	
H11S1	**WAKE ISLAND Hy** baz=263,slow=70,SNR=78	**40.60**	**72**	T	T	02 24 27.5	
H11S2	**WAKE ISLAND Hy** baz=263,slow=70,SNR=91	**40.60**	**72**	T	T	02 24 23.3	
H11N1	**WAKE ISLAND Hy** baz=268,slow=75,SNR=30	**40.95**	**70**	T	T	02 25 00.2	
H11N2	**WAKE ISLAND Hy** baz=268,slow=75,SNR=26	**40.96**	**70**	T	T	02 24 59.6	
H11N3	**WAKE ISLAND Hy** baz=268,slow=75,SNR=33	**40.97**	**70**	T	T	02 25 00.6	
ULN	**Ulaanbaatar** 1.2nm,0.6s	**41.92**	**341**	*e*P	**P**	**01 41 36.6**	**-0.6**
SONM	**Songino Array**	**42.11**	**340**	P	**P**	**01 41 38.1**	**-0.5**
SONM				PcP	**PcP**	**01 43 31.5**	**-0.7**
SONM	**Songino Array** 0.1nm,0.3s,baz=130,slow=7.8,SNR=3.0	**42.11**	**340**	P	**P**	**01 41 38.1**	**-0.5**
SONM	0.3nm,0.6s,baz=132,slow=2.1,SNR=3.6			PcP	**PcP**	**01 43 31.5**	**-0.7**
PETK	**Petropavlovsk-**	**50.92**	**24**	P	**P**	**01 42 48.1**	**+0.7**
PETK	**Petropavlovsk-** 0.5nm,0.3s,baz=202,slow=7.2,SNR=5.5	**50.92**	**24**	P	**P**	**01 42 48.1**	**+0.7**
MK31	**Makanchi Array**	**52.87**	**323**	*e*P	**P**	**01 43 03.0**	**+1.1**
MKAR	**Makanchi Array**	**52.87**	**323**	P	**P**	**01 43 03.1**	**+1.1**
MKAR				PcP	**PcP**	**01 44 11.2**	**+0.7**
MKAR	**Makanchi Array** 1.6nm,0.5s,baz=120,slow=7.7,SNR=26	**52.87**	**323**	P	**P**	**01 43 03.1**	**+1.1**
MKAR	0.4nm,0.6s,baz=126,slow=2.3,SNR=3.5			PcP	**PcP**	**01 44 11.2**	**+0.7**
ZALV	**Zalesovo Beam**	**55.60**	**332**	P	**P**	**01 43 21.3**	**-0.4**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=98,slow=9.1,SNR=4.2	**55.60**	**332**	P	**P**	**01 43 21.3**	**-0.4**
BRVK	**Borovoye** 1.7nm,0.8s	**62.62**	**326**	*e*P	**P**	**01 44 09.4**	**-0.9**
ILAR	**Eielson Array**	**80.72**	**26**	P	**P**	**01 45 58.7**	**0.0**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=234,slow=5.5,SNR=6.3	**80.72**	**26**	P	**P**	**01 45 58.7**	**0.0**
ARCES	**ARCESS Array B**	**85.28**	**340**	P	**P**	**01 46 22.4**	**+0.2**
ARCES	**ARCESS Array B** 2.3nm,0.7s,baz=84,slow=6.5,SNR=7.8	**85.28**	**340**	P	**P**	**01 46 22.4**	**+0.2**
BR131	**Keskin Array S** 4.3nm,1.0s	**86.11**	**309**	*e*P	P	01 46 23.5	-3.6
FINES	**FINESS Array B**	**86.87**	**332**	P	**P**	**01 46 30.2**	**0.0**
FINES	**FINESS Array B** 0.9nm,0.5s,baz=66,slow=4.5,SNR=11	**86.87**	**332**	P	**P**	**01 46 30.2**	**0.0**
AKASG	**Malin Array Be**	**87.36**	**321**	P	**P**	**01 46 32.3**	**-0.4**
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=66,slow=4.8,SNR=2.7	**87.36**	**321**	P	**P**	**01 46 32.3**	**-0.4**
VNDA	**Vanda** 4.4nm,1.4s	**88.70**	**173**	*e*P	**P**	**01 46 39.8**	**+1.3**
VNDA	**Vanda** 0.8nm,0.8s,baz=288,slow=4.4,SNR=3.4	**88.70**	**173**	P	**P**	**01 46 39.8**	**+1.3**
BUR08	**Bucovina Ar. S**	**90.60**	**318**	*e*P	**P**	**01 46 47.8**	**-0.4**
YKA	**Yellowknife Ar**	**95.04**	**24**	P	**P**	**01 47 08.6**	**+0.3**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=303,slow=4.4,SNR=5.1	**95.04**	**24**	P	**P**	**01 47 08.5**	**+0.3**
TOA0	**Torodi Ar. Sit**	**120.45**	**291**	*e*PKPdf	**PKPdf**	**01 52 38.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**120.45**	**291**	PKP	**PKPdf**	**01 52 37.9**	**0.0**
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=21,slow=2.8,SNR=4.6	**120.45**	**291**	PKP	**PKPdf**	**01 52 37.9**	**0.0**
PLCA	**Paso Flores**	**145.15**	**158**	PKPbc	**PKPdf**	**01 53 24.1**	**+0.7**
PLCA	**Paso Flores** 1.8nm,0.8s,baz=233,slow=5.1,SNR=3.8	**145.15**	**158**	PKPbc	**PKPdf**	**01 53 24.1**	**+0.7**

*IDC **13** 02:08:32.0±2.3, 5°.44S×130°.55E, h0km, mb3.9/1, mb1 4.1/3, mb1mx3.6/18, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=145.4km s-min=29.8km az=71.0*
*AUST **13** 02:08:49.9, 5°.98S×130°.03E, h200km*

ISC 13 02:08:48.5±1.9, 5°.9S±0°.1×129°.7E±0°.2, h209km, n11, σ2s46/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak** baz=3.8,SNR=131	**3.91**	**40**	P	**Pn**	**02 09 48.4**	**-1.2**
MTN	**Manton Dam** baz=6.9,SNR=35	**7.00**	**169**	P	**Pn**	**02 10 27.4**	**-1.5**
KDU	**Kakadu** baz=7.1,SNR=117	**7.23**	**158**	P	Pn	02 10 29.4	-2.5
FITZ	**Fitzroy Crossi** baz=13,SNR=5.2	**12.73**	**198**	P	**Pn**	**02 11 42.4**	**0.0**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=349,slow=14,SNR=15	**14.63**	**163**	Pn	**Pn**	**02 12 03.7**	**-2.2**
WRA	1.9nm,0.3s,baz=332,slow=22,SNR=9.0			Sn	S	02 14 34.1	-14
COEN	**Coen** baz=15,SNR=16	**15.45**	**122**	P	**Pn**	**02 12 19.9**	**+3.9**
QIS	**Mount Isa** baz=17,SNR=4.5	**17.41**	**148**	P	**Pn**	**02 12 41.1**	**+1.8**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=346,slow=11,SNR=36	**18.08**	**168**	P	**Pn**	**02 12 48.7**	**+1.5**
ASAR	0.5nm,0.3s,baz=350,slow=27,SNR=7.1			S	**S**	**02 15 58.6**	**-2.5**
WRKA	**Warakurna** baz=19,SNR=26	**19.04**	**184**	P	**Pn**	**02 12 59.2**	**+0.7**
MEEK	**Meekatharra** baz=23,SNR=5.5	**23.16**	**206**	P	P	02 13 41.9	+5.3
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=126,slow=8.0,SNR=11	**67.19**	**327**	P	P	02 19 28.4	+8.2

IDC 13 02:16:22.9±1.8, 1°.94N×127°.69E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=140.1km s-min=22.0km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=343,slow=11,SNR=6.9	**22.70**	**164**	P	P	02 21 26.7	+0.2
ASAR	**Alice Springs** 0.3nm,0.5s,baz=357,slow=6.5,SNR=3.8	**26.16**	**167**	P	P	02 21 58.6	-0.6
STKA	**Stephens Creek** 2.1nm,0.6s,baz=329,slow=8.9,SNR=5.8	**36.13**	**160**	P	P	02 23 27.0	+0.1
MKAR	**Makanchi Array** 0.9nm,0.5s,baz=117,slow=7.7,SNR=18	**59.56**	**325**	P	P	02 26 28.5	+0.1

*ISCJB **13** 02:18:10.8±0.3, 12°.46N±0°.08×86°.75W±0°.08, h153km±4km, mb3.7/8, Error ellipse: s-maj=17.6km s-min=4.0km az=43.4*
*IDC **13** 02:18:11.6±1.6, 12°.49N×86°.73W, h150km±16km, mb3.4/7, mb1 3.7/10, mb1mx3.4/24, mbtmp3.5/10, Error ellipse: s-maj=34.6km s-min=15.4km az=64.0*
*CASC **13** 02:18:13.4±1.5, 12°.06N×87°.11W, h117km±12km, MD4.3*

ISC 13 02:18:11.3±0.8, 12°.37N±0°.09×86°.86W±0°.09, h146km±6km, n37, σ1s39/46, mb3.8/8, 4C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.20**	**50**	⇑*i*P	**Pn**	**02 18 31.1**	**-0.1**
CNGN				*e*S	**Sn**	**02 18 46.1**	**-0.2**
CNCH	**Conchagua**	**1.31**	**314**	*e*P	**Pn**	**02 18 39.3**	**+0.5**
CNCH				*e*S	**Sn**	**02 19 01.1**	**+1.3**
GBS3	**Finca Las Im¯¡**	**2.09**	**139**	*i* P	**Pn**	**02 18 48.0**	**+0.7**
BUEV	**Buena Vista**	**2.11**	**138**	*i* P	**Pn**	**02 18 48.0**	**+0.3**
LAPC	**Finca la Perla**	**2.12**	**139**	*i* P	**Pn**	**02 18 47.9**	**+0.3**
LIM1	**Limonal**	**2.29**	**136**	*i* P	**Pn**	**02 18 50.2**	**+0.5**
LIM1				*i* S	**Sn**	**02 19 18.5**	**-0.7**
SNVI	**San Vicente**	**2.29**	**303**	⇑*e*P	**Pn**	**02 18 50.9**	**+1.0**
MESS	**Mesas**	**2.30**	**135**	*i* P	**Pn**	**02 18 49.7**	**-0.1**
HORNC	**Hornillas**	**2.33**	**135**	*i* P	**Pn**	**02 18 50.5**	**+0.3**
HORNC				*i* S	**Sn**	**02 19 19.3**	**-0.8**
LFRS	**El Faro**	**2.48**	**300**	*e*P	**Pn**	**02 18 53.0**	**+0.9**
VCR	**Vista de Mar**	**2.53**	**152**	⇑*i*P	**Pn**	**02 18 53.6**	**+0.8**
VCR				*e*S	**Sn**	**02 19 22.1**	**-2.6**
SNET	**Serv Nac Est T**	**2.66**	**300**	*e*P	**Pn**	**02 18 54.5**	**+0.2**
BOQS	**Boqueron**	**2.72**	**300**	*e*P	**Pn**	**02 18 56.6**	**+1.4**
BOQS				*e*S	**Sn**	**02 19 30.4**	**+1.2**
JTS	**JuntasAbangare** 25nm,0.3s,baz=301,slow=23,SNR=60	**2.78**	**138**	P	**Pn**	**02 18 56.3**	**+0.5**
JTS	64nm,0.3s,baz=307,slow=20,SNR=18			S	**Sn**	**02 19 28.6**	**-1.6**
JCR	**Jicaral**	**3.03**	**145**	*e*P	**Pn**	**02 19 00.1**	**+1.1**
SNJE	**San Jose**	**3.06**	**299**	*e*P	**Pn**	**02 19 00.7**	**+1.1**
SBLS	**San Blas**	**3.07**	**299**	*e*P	**Pn**	**02 19 00.5**	**+0.9**
RTR	**El Retiro**	**3.11**	**300**	*e*P	**Pn**	**02 19 01.5**	**+1.4**
RBDL	**Robledal**	**3.25**	**303**	*e*P	**Pn**	**02 19 02.9**	**+1.0**
CGA2	**Cerro Gallo 2**	**3.31**	**135**	*e*P	**Pn**	**02 19 05.1**	**+2.5**
CGA2				*e*S	**Sn**	**02 19 43.0**	**+0.6**
MRL	**Marmol**	**3.84**	**315**	⇑*i*P	**Pn**	**02 19 11.7**	**+2.2**
URSC	**Urasca**	**3.93**	**129**	*e*P	Pn	02 19 14.8	+4.1
URSC				*e*S	**Sn**	**02 20 00.5**	**+3.6**
QCR	**Quepos**	**3.94**	**138**	*e*P	**Pn**	**02 19 11.9**	**+1.2**
BUS	**Buena Vista**	**4.13**	**132**	*e*P	**Pn**	**02 19 16.0**	**+2.4**
APG	**El Apazote** 2.9nm,0.3s,baz=271,slow=23,SNR=9.1	**4.38**	**307**	P	**Pn**	**02 19 16.2**	**-0.4**
APG	0.7nm,0.3s,baz=117,slow=14,SNR=1.9			S	**Sn**	**02 20 04.7**	**-2.7**
TEIG	**Tepich** 0.5nm,0.3s,baz=190,slow=17,SNR=3.0	**7.93**	**350**	P	**Pn**	**02 20 04.6**	**+0.9**
TXAR	**Lajitas Array** 1.6nm,0.6s,baz=142,slow=9.7,SNR=25	**23.01**	**320**	P	**P**	**02 23 04.4**	**+0.8**
TKL	**Tuckaleechee C** 7.1nm,0.8s,baz=178,slow=12,SNR=9.3	**23.36**	**6**	P	**P**	**02 23 09.2**	**+2.6**
PDAR	**Pinedale Array** 0.5nm,0.6s,baz=132,slow=9.7,SNR=5.9	**36.12**	**331**	P	**P**	**02 24 59.4**	**-0.1**
ULM	**Lac du Bonnet** 2.3nm,0.5s,baz=171,slow=9.3,SNR=5.8	**38.49**	**351**	P	**P**	**02 25 17.4**	**-1.6**
SCHQ	**Schefferville** 4.3nm,0.9s,baz=238,slow=19,SNR=3.6	**45.19**	**16**	P	**P**	**02 26 12.3**	**-1.1**
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=142,slow=6.9,SNR=7.3	**53.84**	**344**	P	**P**	**02 27 17.6**	**-1.2**
PLCA	**Paso Flores** 1.0nm,0.5s,baz=341,slow=11,SNR=3.8	**54.95**	**165**	P	**P**	**02 27 27.8**	**+0.7**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=138,slow=5.4,SNR=7.5	**66.33**	**336**	P	**P**	**02 28 42.8**	**-1.1**
STKA	**Stephens Creek** 0.9nm,0.6s,baz=135,slow=1.4,SNR=3.9	**131.54**	**238**	PKP	**PKPdf**	**02 37 07.4**	**+0.3**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=106,slow=3.8,SNR=4.8	**139.78**	**248**	PKhKP	PKPpre	02 37 15.2	
ASAR	0.7nm,0.5s,baz=118,slow=1.4,SNR=11			PKP	**PKPdf**	**02 37 23.4**	**+0.6**
WRA	**Warramunga Arr** 1.8nm,0.4s,baz=92,slow=2.6,SNR=12	**139.80**	**254**	PKP	**PKPdf**	**02 37 23.7**	**+0.8**

**IDC 13 02:32:51.0±1.9, 2°.46N×127°.46E, h0km

KUR					smax	smax	
	comp=E,240nm,0.6s						
KUR	**Kuril'sk**	**1.69**	**11**	*e*P	**Pn**	**02 51 15.0**	**+0.9**
KUR				AMB	AMB	02 51 17.3	
	comp=E,80nm,0.5s						
KUR				*e*S	**Sn**	**02 51 34.7**	**+0.1**
KUR				A	A	02 51 35.2	
	comp=E,680nm,0.5s						
JRA	**Rausu**	**1.70**	**283**	P	**Pn**	**02 51 14.8**	**+0.6**
JRA				*e*S	**Sn**	**02 51 35.4**	**+0.6**
JNK	**Nakash**	**1.96**	**271**	P	**Pn**	**02 51 17.8**	**0.0**
JAK	**Akkeshi**	**2.07**	**255**	P	**Pn**	**02 51 19.1**	**-0.1**
JAK				*e*S	**Sn**	**02 51 42.8**	**-1.0**
JTKR	**Abashiri--Toko**	**2.57**	**280**	P	**Pn**	**02 51 27.5**	**+1.3**
JAR	**Ashorobuto**	**2.67**	**265**	P	**Pn**	**02 51 28.4**	**+0.9**
JAR				*e*S	**Sn**	**02 51 58.5**	**-0.1**
JOB	**Onbets**	**2.70**	**257**	P	**Pn**	**02 51 28.6**	**+0.7**
JOB				*e*S	**Sn**	**02 51 59.2**	**-0.2**
JMP	**Maruseppu**	**2.97**	**280**	P	**Pn**	**02 51 33.2**	**+1.5**
JCH	**Churui**	**3.12**	**254**	P	**Pn**	**02 51 33.8**	**+0.1**
JCH				*e*S	**Sn**	**02 52 08.9**	**-0.8**
HRK	**Horoka**	**3.12**	**270**	*e*P	**Pn**	**02 51 35.5**	**+1.7**
HRK				*e*S	**Sn**	**02 52 11.2**	**+1.4**
JKK2	**Kamakawa 2**	**3.40**	**277**	P	**Pn**	**02 51 39.4**	**+1.9**
ERM	**Erimo**	**3.50**	**245**⇑	*e*PN	**Pn**	**02 51 41.0**	**+2.1**
ERM	**Erimo**	**3.50**	**245**	*e*P	**Pn**	**02 51 41.0**	**+2.1**
JKA	**Kamikawa-asahi**	**3.53**	**281**	*e*P	**Pn**	**02 51 41.2**	**+1.9**
ASAJ	**Asahikawa**	**3.53**	**281**	P	**Pn**	**02 51 41.4**	**+2.1**
ASAJ	**Asahikawa**	**3.53**	**281**	P	**Pn**	**02 51 41.2**	**+1.9**
	comp=E,3.0nm,0.3s,baz=79,slow=13,SNR=16						
ASAJ				S	Sn	02 52 26.9	+7.1
	comp=E,5.7nm,0.3s,baz=30,slow=31,SNR=3.6						
ASAJ				LR	LR	02 53 22.6	
	comp=E,147nm,19.8s,baz=53,slow=44						
JFR	**Furan**	**3.54**	**265**	*e*S	**Sn**	**02 52 21.5**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.66**	**251**	*e*S	**Sn**	**02 52 21.4**	**-1.6**
JSE	**Soyaes**	**3.74**	**293**	P	**Pn**	**02 51 43.6**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.72**	**317**	*e*PN	**Pn**	**02 51 56.6**	**+1.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.72**	**317**	*e*P	**Pn**	**02 51 56.0**	**+0.4**
YSS				AMB	AMB	02 51 58.1	
	comp=Z,30nm,1.0s						
YSS				*e*S	**Sn**	**02 52 48.4**	**-0.6**
YSS				A	A	02 52 49.9	
	comp=Z,40nm,0.6s						
TYV	**Tymovskoe**	**7.98**	**338**	*e*P	**Pn**	**02 52 41.7**	**+1.4**
SKR	**Severo-Kuril's**	**9.26**	**37**	*e*P	**Pn**	**02 52 56.2**	**-1.5**
MJAR	**Matsushiro Arr**	**9.95**	**228**	*e*P	**Pn**	**02 53 09.0**	**+1.7**
MJAR	**Matsushiro Arr**	**9.95**	**228**	P	**Pn**	**02 53 09.0**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=16,slow=14,SNR=3.0						
MJAR				S	**Sn**	**02 54 59.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=3.0,slow=26,SNR=3.0						
PETK	**Petropavlovsk-**	**11.73**	**32**	PN	**Pn**	**02 53 30.8**	**-0.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.73**	**32**	P	**Pn**	**02 53 30.8**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=211,slow=16,SNR=7.2						
EKMR	**Ekimchan**	**13.50**	**320**	*e*P	**Pn**	**02 53 56.0**	**+0.3**
BMKR	**Bomnak**	**16.43**	**319**	*e*P	**Pn**	**02 54 33.5**	**-0.5**
KROS	**Kirovskiy**	**17.20**	**316**	*e*P	**Pn**	**02 54 42.0**	**-1.5**
FX1	**Attu Island--F**	**19.43**	**52**	P	**Pn**	**02 55 10.6**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=315,slow=7.1,SNR=4.0						
SEY	**Seymchan**	**19.61**	**7**	P	**P**	**02 55 10.9**	**0.0**
SEY	**Seymchan**	**19.61**	**7**	P	**P**	**02 55 10.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=144,slow=17,SNR=5.2						
YAK	**Yakutsk**	**21.24**	**337**	*e*P	**P**	**02 55 29.2**	**+0.7**
YAK	**Yakutsk**	**21.24**	**337**	*e*P	**P**	**02 55 29.2**	**+0.7**
ULN	**Ulaanbaatar**	**28.27**	**293**	*e*P	**P**	**02 56 36.4**	**+0.8**
SONM	**Songino Array**	**28.72**	**293**	P	**P**	**02 56 40.0**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=82,slow=8.8,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.84**	**139**	T	T	03 27 23.4	
	baz=332,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.85**	**139**	T	T	03 27 29.9	
	baz=332,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.86**	**139**	T	T	03 27 30.2	
	baz=332,slow=76,SNR=178						
H11S1	**WAKE ISLAND Hy**	**29.81**	**141**	T	T	03 28 37.9	
	baz=334,slow=77,SNR=417						
H11S3	**WAKE ISLAND Hy**	**29.81**	**141**	T	T	03 28 40.7	
	baz=334,slow=77,SNR=338						
H11S2	**WAKE ISLAND Hy**	**29.82**	**141**	T	T	03 28 39.2	
	baz=334,slow=77,SNR=313						
ZALV	**Zalesovo Beam**	**41.26**	**307**	PcP	**PcP**	**03 00 24.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=121,slow=2.5,SNR=3.8						
ILAR	**Eielson Array**	**41.52**	**36**	*e*P	**P**	**02 58 29.3**	**+0.3**
ILAR	**Eielson Array**	**41.52**	**36**	P	**P**	**02 58 29.3**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=268,slow=8.3,SNR=46						
MKAR	**Makanchi Array**	**44.84**	**298**	P	**P**	**02 58 56.0**	**-0.1**
MKAR				*PP	**pP**	**02 59 08.8**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.84**	**298**	*e*P	**P**	**02 58 56.0**	**-0.1**
MKAR				*e*rx	rx	02 59 08.8	
MKAR	**Makanchi Array**	**44.84**	**298**	P	**P**	**02 58 56.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=82,slow=8.5,SNR=13						
MKAR				pP	**pP**	**02 59 08.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=79,slow=6.9,SNR=3.2						
KURK	**Kurchatov**	**45.79**	**304**	*e*P	**P**	**02 59 03.8**	**+0.3**
INK	**Inuvik**	**46.46**	**30**	*e*P	**P**	**02 59 09.1**	**+0.6**
INK	**Inuvik**	**46.46**	**30**	P	**P**	**02 59 09.1**	**+0.6**
	comp=Z,2.5nm,0.3s,baz=315,slow=5.0,SNR=20						
YKA	**Yellowknife Ar**	**55.84**	**34**	*e*P	**P**	**03 00 19.2**	**+0.3**
YKA				*e*rx	rx	03 00 32.7	
YKA	**Yellowknife Ar**	**55.84**	**34**	P	**P**	**03 00 19.2**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=297,slow=6.8,SNR=11						
YKA				pP	**pP**	**03 00 32.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=300,slow=7.0,SNR=3.6						
ARCES	**ARCESS Array B**	**59.48**	**340**	*e*P	**P**	**03 00 44.3**	**-0.1**
ARCES	**ARCESS Array B**	**59.48**	**340**	P	**P**	**03 00 43.3**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=42,slow=6.5,SNR=11						
JOF	**Joensuu**	**62.34**	**332**	*e*P	**P**	**03 01 03.2**	**-0.6**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	**Joensuu**	**62.34**	**332**	*e*p	**P**	**03 01 03.2**	**-0.6**
	comp=Z,1.5nm,0.5s						
JOF	**Joensuu**	**62.34**	**332**	*e*P	**P**	**03 01 03.2**	**-0.6**
WRA	**Warramunga Arr**	**64.33**	**194**	*e*P	**P**	**03 01 16.8**	**-0.7**
WRA	**Warramunga Arr**	**64.33**	**194**	P	**P**	**03 01 16.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=7.0,slow=6.8,SNR=3.7						
KAF	**Kangasniemi**	**64.56**	**334**	*e*P	**P**	**03 01 17.6**	**-0.9**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	**Kangasniemi**	**64.56**	**334**	*e*p	**P**	**03 01 17.6**	**-0.9**
	comp=Z,1.2nm,0.6s						
KAF	**Kangasniemi**	**64.56**	**334**	*e*P	**P**	**03 01 17.6**	**-0.9**
FINES	**FINESS Array B**	**65.12**	**333**	P	**P**	**03 01 21.0**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=42,slow=7.1,SNR=21						
ASAR	**Alice Springs**	**68.05**	**193**	pP	pP	03 01 58.0	+2.7
	comp=Z,0.5nm,0.8s,baz=2.9,slow=5.4,SNR=4.7						
NB2	**NORSAR Subarra**	**69.84**	**339**	P	**P**	**03 01 51.4**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.84**	**339**	*e*P	**P**	**03 01 51.7**	**-0.3**
NOA	**NORSAR Array B**	**69.84**	**339**	P	**P**	**03 01 51.7**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=31,slow=6.3,SNR=10						
PDAR	**Pinedale Array**	**69.88**	**50**	P	**P**	**03 01 53.0**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=270,slow=2.3,SNR=6.7						
KBZ	**Khabaz**	**70.06**	**312**	P	**P**	**03 01 54.5**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	**Khabaz**	**70.06**	**312**	P	**P**	**03 01 54.5**	**+0.9**
	comp=Z,3.4nm,1.0s,baz=80,slow=7.3,SNR=4.3						
AKASG	**Malin Array Be**	**71.84**	**324**	*e*P	**P**	**03 02 03.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.84**	**324**	P	**P**	**03 02 03.6**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=38,slow=6.2,SNR=10						
BRTR	**Keskin Array B**	**77.81**	**314**	P	**P**	**03 02 39.6**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=66,slow=4.8,SNR=2.7						
GERES	**GERESS Array B**	**79.41**	**331**	*e*P	**P**	**03 02 47.5**	**-0.2**
GERES	**GERESS Array B**	**79.41**	**331**	P	**P**	**03 02 47.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=38,slow=6.8,SNR=4.8						
TXAR	**Lajitas Array**	**82.59**	**56**	*e*P	**P**	**03 03 05.2**	**+0.2**
TXAR				*e*rx	rx	03 03 20.5	
TXAR	**Lajitas Array**	**82.59**	**56**	P	**P**	**03 03 05.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=298,slow=4.2,SNR=9.2						
TXAR				pP	**pP**	**03 03 20.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=295,slow=3.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**115.46**	**323**	PKP	**PKPdf**	**03 09 22.4**	**-1.3**
	comp=Z,0.5nm,1.0s,baz=359,slow=1.3,SNR=5.7						
H03N2	**Juan Fernandez**	**142.77**	**90**	T	T	05 49 49.6	
	baz=302						
H03N3	**Juan Fernandez**	**142.78**	**90**	T	T	05 49 50.6	
	baz=302						
H03N1	**Juan Fernandez**	**142.79**	**90**	T	T	05 49 50.7	
	baz=302						

DJA 13 03:00:00.1±1.9, 8°S±10°×10°8E±°, h10km, M3.5/2, MLv3.5/2, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.71**	**292**	P	Pg	03 00 13.7	-0.2
CISI				S	Sg	03 00 23.6	+0.3
LEM	**Lembang**	**1.31**	**319**	P	Pn	03 00 22.4	-2.2
LEM				S	Sb	03 00 41.0	-1.0

MEX 13 03:01:30.4±0.8, 16°44N×94°45W, h140km±14km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.40**	**122**	*e*P	Pn	03 01 56.9	-1.2
PCIG				*i* S	Sn	03 02 17.1	-2.0
HUIG	**Huatulco**	**1.73**	**247**	*e*P	Pn	03 01 59.9	-1.9
HUIG				*i* S	Sn	03 02 24.5	-1.2
VHO	**Vista Hermosa**	**2.27**	**286**	*e*P	Pn	03 02 07.5	-1.0
VHO				*e*S	Sn	03 02 35.4	-2.4
PNIG	**Pinotepa**	**3.53**	**270**	*e*P	Pn	03 02 22.8	-1.4
PNIG				*i* S	Sn	03 03 03.9	-2.0

MEX 13 03:19:37.8±0.4, 19°02N×105°34W, h10km, MD3.7
ISCJB 13 03:19:38.2±1.3, 19°03N±0°08×105°21W±0°07, h27km, mb3.2/3, Error ellipse: s-maj=12.2km s-min=8.6km az=29.3
IDC 13 03:19:42.4±2.5, 19°58N×106°40W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.5/23, mbtmp3.2/4, ML2.8/1, Error ellipse: s-maj=136.6km s-min=31.6km az=99.0

ISC 13 03:19:41.9±1.3, 19°1N±0°1×105°04W±0°10, h27km, n14, σ2§12/12, mb3.4/3, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.36**	**0**	*e*P	Pb	03 19 47.6	-2.5
CJM				*i* S	**Sb**	**03 19 55.1**	**-0.6**
R15V		**1.00**	**88**	*e*P	**Pn**	**03 19 58.2**	**-2.1**
R15V				*i* S	**Sn**	**03 20 14.3**	**+0.6**
EZ5V		**1.41**	**76**	*i* P	**Pn**	**03 20 04.3**	**-1.7**
EZ5V				*i* S	**Sn**	**03 20 25.9**	**+2.1**
ANIG	**Ahuacatlan**	**1.97**	**14**	*e*P	Pn	03 20 11.6	-2.1
ANIG				*i* S	**Sn**	**03 20 38.0**	**+0.3**
H06E1	**SOCORRO T-PHAS**	**5.58**	**267**	T	T	03 26 45.9	
	SNR=7.8						
TXAR	**Lajitas Array**	**10.23**	**7**	Pn	**Pn**	**03 22 09.8**	**+2.7**
	0.0nm,0.3s,baz=200,slow=15,SNR=3.4						
TXAR				Lg	Lg	03 24 59.7	
	0.0nm,0.3s,baz=199,slow=35,SNR=2.9						
PDAR	**Pinedale Array**	**23.87**	**352**	P	**P**	**03 24 53.1**	**-0.4**
	0.6nm,0.8s,baz=169,slow=10,SNR=3.4						
YKA	**Yellowknife Ar**	**43.83**	**354**	P	**P**	**03 27 43.6**	**-1.7**
	0.6nm,0.8s,baz=166,slow=7.3,SNR=7.6						
ILAR	**Eielson Array**	**53.40**	**339**	P	**P**	**03 28 57.4**	**-1.6**
	0.4nm,1.0s,baz=143,slow=6.1,SNR=4.0						
H03N2	**Juan Fernandez**	**57.92**	**154**	T	T	04 32 17.1	
	baz=333,slow=75						
H03N1	**Juan Fernandez**	**57.92**	**154**	T	T	04 32 19.1	
	baz=333,slow=75						
H03N3	**Juan Fernandez**	**57.93**	**154**	T	T	04 32 19.5	
	baz=333						
WRA	**Warramunga Arr**	**124.30**	**259**	PKP	**PKPdf**	**03 38 42.0**	**+2.9**
	0.4nm,0.8s,baz=68,slow=2.0,SNR=4.9						
ASAR	**Alice Springs**	**125.25**	**254**	PKP	**PKPdf**	**03 38 43.4**	**+2.5**
	0.1nm,0.4s,baz=98,slow=2.8,SNR=3.9						

WEL 13 03:20:59.2±0.3, 37°00S×177°35E, h130km±3km, ML3.8/10, 1C-1D, Error ellipse: s-maj=3.7km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.95**	**127**	⇑P	Pn	03 21 21.7	+0.1
MXZ				SN	Sn	03 21 39.2	+0.6
URZ	**Urewera**	**1.28**	**188**	⇓P	Pn	03 21 25.2	+0.4
URZ				SN	Sn	03 21 44.5	+0.1
URZ				AML	AML	03 21 45.4	
PUZ	**Puketiti**	**1.29**	**146**	PN	Pn	03 21 24.8	-0.2
PUZ				SN	Sn	03 21 43.5	-1.3
CNGZ	**Carnagh Statio**	**1.64**	**156**	PN	Pn	03 21 28.9	0.0
CNGZ				SN	Sn	03 21 51.8	+0.3
RIGZ	**Rimuhau**	**1.74**	**169**	PN	Pn	03 21 29.8	-0.3
RIGZ				SN	Sn	03 21 52.7	-1.1
SNGZ	**Shannon Statio**	**1.78**	**180**	PN	Pn	03 21 30.7	+0.1
SNGZ				SN	Sn	03 21 53.8	-0.8
PRGZ	**Paritu Road**	**1.97**	**168**	PN	Pn	03 21 32.4	-0.4
KNZ	**Kokohu**	**2.04**	**173**	PN	Pn	03 21 32.9	-0.7
NMHZ	**Naumai**	**2.14**	**191**	PN	Pn	03 21 35.5	+0.5
MHGZ	**Mahia Peninsul**	**2.20**	**169**	PN	Pn	03 21 35.1	-0.5
MCHZ	**McNeill Hill**	**2.50**	**192**	PN	Pn	03 21 39.2	-0.2
CKHZ	**Cape Kidnapper**	**2.67**	**184**	PN	Pn	03 21 40.3	-1.2
BHHZ	**Black Hill Sta**	**2.69**	**202**	PN	Pn	03 21 41.0	-0.8
MOVZ	**Moawhango**	**2.72**	**207**	PN	Pn	03 21 41.5	-0.7
KAHZ	**Kahuranaki**	**2.82**	**187**	PN	Pn	03 21 42.3	-1.2
PNHZ	**Pukenui**	**3.05**	**197**	PN	Pn	03 21 44.6	-1.9
PXZ	**Pawanui**	**3.06**	**187**	PN	Pn	03 21 43.4	-3.1
PXZ				AML	AML	03 22 21.3	
PXZ				AML	AML	03 22 21.4	
PXZ				AML	AML	03 22 22.1	
PXZ				AML	AML	03 22 22.2	
WPHZ	**Waipukurau**	**3.15**	**193**	PN	Pn	03 21 45.6	-2.1
TSZ	**Takapari Road**	**3.25**	**199**	PN	Pn	03 21 46.6	-2.4
PRHZ	**Porangahau**	**3.31**	**189**	PN	Pn	03 21 47.6	-2.3
DVHZ	**Dannevirke**	**3.43**	**195**	PN	Pn	03 21 49.2	-2.2
POWZ	**Post Office Ro**	**3.61**	**200**	PN	Pn	03 21 51.5	-2.2
MRZ	**Mangatainoka R**	**3.91**	**200**	PN	Pn	03 21 54.7	-3.1
HOWZ	**Holdsworth Sta**	**4.15**	**200**	PN	Pn	03 21 57.3	-3.6
OGWZ	**Otaki Gorge**	**4.18**	**203**	PN	Pn	03 21 58.3	-3.0
TMWZ	**Te Maipa**	**4.26**	**195**	PN	Pn	03 21 58.8	-3.6
KIW	**Kapiti Island**	**4.30**	**205**	PN	Pn	03 21 59.7	-3.3
MTW	**Mount Morrison**	**4.40**	**198**	PN	Pn	03 21 58.6	-5.6
CAW	**Cannon Point**	**4.47**	**203**	PN	Pn	03 22 01.4	-3.8
TCW	**Tory Channel**	**4.84**	**209**	PN	Pn	03 22 06.2	-3.9
NNZ	**Nelson**	**5.22**	**215**	PN	Pn	03 22 12.2	-3.1
THZ	**Tophouse**	**5.87**	**214**	PN	Pn	03 22 20.5	-3.6
MQZ	**McQueen's Vall**	**7.60**	**207**	PN	Pn	03 22 40.7	-6.4
ODZ	**Otahua Downs**	**9.50**	**210**	PN	Pn	03 23 07.1	-5.6

IDC 13 03:22:16.9±6.2, 6°62N×94°12E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, MS3.7/2, Ms1 3.7/2, ms1mx2.9/37, Error ellipse: s-maj=317.0km s-min=21.0km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.30**	**348**	P	P	03 30 04.8	+0.5
	0.2nm,0.4s,baz=165,slow=9.1,SNR=8.4						
KURBB	**Kurchatov Arra**	**45.76**	**346**	P	P	03 30 39.9	-0.2
	0.2nm,0.4s,baz=178,slow=6.8,SNR=4.8						
WRA	**Warramunga Arr**	**47.56**	**125**	P	P	03 30 54.7	0.0
	1.0nm,0.9s,baz=303,slow=9.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**47.79**	**353**	P	P	03 30 55.1	-0.8
	0.3nm,0.4s,baz=166,slow=8.3,SNR=2.4						
ASAR	**Alice Springs**	**49.14**	**129**	P	P	03 31 06.7	-0.1
	0.8nm,0.6s,baz=298,slow=7.5,SNR=9.9						
MJAR	**Matsushiro Arr**	**50.03**	**47**	LR	LR	03 51 35.7	
	comp=Z,21nm,20.0s,baz=190,slow=35						
SUR	**Sutherland**	**79.60**	**235**	LR	LR	04 02 07.2	
	comp=Z,202nm,21.6s,baz=334,slow=30						

THR 13 03:29:08.1±0.3, 27°58N×53°21E, h30km±5km, ML3.8
IDC 13 03:29:08.3±1.3, 27°72N×53°49E, h0km, mb3.6/17, mb1 3.8/19, mb1mx3.7/33, mbtmp3.7/19, ML1.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/37, Error ellipse: s-maj=27.7km s-min=17.9km az=176.0
ISCJB 13 03:29:10.2±0.8, 27°71N±0°09×53°43E±0°08, h23km, mb3.5/16, MS2.9/2, Error ellipse: s-maj=13.9km s-min=8.5km az=31.7

ISC 13 03:29:12.4±1.0, 27°8N±0°1×53°38E±0°09, h23km, n23, σ0§96/21, mb3.5/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.60**	**324**	*e*Pg	**Pb**	**03 29 22.4**	**-1.9**
GHIR				*e*Sg	**Sb**	**03 29 32.8**	**+0.4**
GHIR				AML	AML	03 29 37.7	
	comp=E,5μm,0.2s						
GHIR				AML	AML	03 29 42.6	
	comp=N,6μm,0.3s						
KRBR	**Kerman**	**3.67**	**53**	*e*Pn	**Pn**	**03 30 08.9**	**+0.9**
KRBR				AML	AML	03 31 18.6	
	comp=E,74nm,0.3s						
NASN	**Na'in**	**5.01**	**354**	*e*Pn	**Pn**	**03 30 26.7**	**+0.3**
GNI	**Garni**	**14.24**	**332**	Pn	Pn	03 32 35.6	+2.9
	comp=E,0.4nm,0.3s,baz=139,slow=19,SNR=2.5						
EIL	**Elat**	**16.28**	**281**	LR	LR	03 40 40.8	
	comp=E,35nm,18.1s,baz=178,slow=42						
KBZ	**Khabaz**	**18.00**	**335**	P	**P**	**03 33 23.1**	**+1.8**
	comp=E,0.1nm,0.3s,baz=165,slow=2.7,SNR=5.1						
BRTR	**Keskin Array B**	**20.22**	**311**	P	Pn	03 33 46.9	-1.1
	comp=E,1.3nm,0.6s,baz=129,slow=11,SNR=9.8						
AKTO	**Aktyubinsk**	**22.88**	**8**	P	**P**	**03 34 15.7**	**+1.5**
	comp=E,1.3nm,0.8s,baz=188,slow=17,SNR=3.9						
AKTO				LR	LR	03 45 28.9	
	comp=E,43nm,18.9s,baz=354,slow=43						
MLR	**Muntele Rosu**	**28.02**	**316**	P	**P**	**03 35 03.4**	**+1.6**
	comp=E,0.6nm,0.9s,baz=142,slow=19,SNR=2.3						
BVAR	**Borovoye Array**	**28.18**	**22**	P	**P**	**03 35 03.1**	**+0.1**
	comp=E,1.4nm,0.6s,baz=210,slow=8.4,SNR=9.5						
BVAR				LR	LR	03 47 46.6	
	comp=E,28nm,20.2s,baz=89,slow=40						
AKASG	**Malin Array Be**	**29.30**	**328**	P	**P**	**03 35 12.2**	**-0.8**
	comp=E,0.6nm,0.6s,baz=134,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**29.55**	**42**	P	**P**	**03 35 15.0**	**-0.2**
	comp=E,0.2nm,0.5s,baz=234,slow=11,SNR=3.3						
KURBB	**Kurchatov Arra**	**29.72**	**33**	P	**P**	**03 35 16.4**	**-0.3**
	comp=E,0.9nm,1.1s,baz=233,slow=9.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**34.82**	**33**	P	**P**	**03 36 00.5**	**-0.8**
	comp=E,0.5nm,0.3s,baz=248,slow=7.8,SNR=6.6						
GERES	**GERESS Array B**	**36.99**	**315**	P	**P**	**03 36 19.9**	**-0.3**
	comp=E,0.2nm,0.4s,baz=156,slow=5.0,SNR=2.9						
FINES	**FINESS Array B**	**38.27**	**339**	P	**P**	**03 36 30.4**	**-0.2**
	comp=E,0.9nm,0.7s,baz=151,slow=8.3,SNR=3.5						
ARCES	**ARCESS Array B**	**44.79**	**347**	P	**P**	**03 37 23.2**	**-0.8**
	comp=E,3.1nm,0.9s,baz=156,slow=9.8,SNR=2.3						
SONM	**Songino Array**	**45.42**	**49**	P	**P**	**03 37 28.8**	**-0.6**
	comp=E,0.6nm,1.0s,baz=260,slow=7.8,SNR=4.1						
ESDC	**Sonseca Array**	**48.40**	**300**	P	**P**	**03 37 53.5**	**+0.7**
	comp=E,0.1nm,0.4s,baz=77,slow=7.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**50.22**	**264**	P	**P**	**03 38 07.3**	**+0.4**
	comp=E,0.9nm,0.8s,baz=54,slow=6.8,SNR=6.7						
ILAR	**Eielson Array**	**86.39**	**9**	P	**P**	**03 41 52.0**	**-0.5**
	comp=E,0.2nm,0.7s,baz=325,slow=4.3,SNR=3.9						
YKA	**Yellowknife Ar**	**89.51**	**354**	P	**P**	**03 42 07.4**	**0.0**
	comp=E,0.3nm,0.7s,baz=358,slow=5.1,SNR=5.8						
ASAR	**Alice Springs**	**92.95**	**115**	P	**P**	**03 42 23.4**	**-0.7**
	comp=E,0.3nm,0.7s,baz=311,slow=4.8,SNR=3.6						

IDC 13 03:31:58.9±3.5, 2°73N×96°07E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/26, mbtmp3.4/5, Error ellipse: s-maj=140.1km s-min=26.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**25.68**	**246**	T	T	04 03 40.0	
	baz=67,slow=76,SNR=145						
H08S3	**Diego Garcia H**	**25.68**	**246**	T	T	04 03 40.0	
	baz=67,slow=76,SNR=112						
H08S1	**Diego Garcia H**	**25.69**	**246**	T	T	04 03 41.3	
	baz=67,slow=76,SNR=134						
H01W3	**Cape Leeuwin

KURBB	**Kurchatov Arra**	**29.93**	**33**	P	**P**	**03 56 43.8**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=234,slow=8.9,SNR=7.0						
ZALV	**Zalesovo Beam**	**35.02**	**33**	P	**P**	**03 57 28.5**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=238,slow=8.5,SNR=6.7						
ZALV				LR	LR	04 12 25.3	
	comp=Z,34nm,19.6s,baz=76,slow=38						
GERES	**GERESS Array B**	**36.99**	**316**	P	**P**	**03 57 48.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=123,slow=4.8,SNR=3.1						
FINES	**FINESS Array B**	**38.35**	**339**	P	**P**	**03 57 58.1**	**-0.4**
	comp=Z,3.3nm,1.0s,baz=144,slow=11,SNR=4.9						
DAVOX	**Davos/Dischmat**	**38.84**	**311**	P	**P**	**03 58 04.3**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=175,slow=18						
HFS	**Hagfors**	**42.08**	**332**	P	**P**	**03 58 29.6**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=117,slow=15,SNR=3.2						
NOA	**NORSAR Array B**	**43.60**	**332**	P	**P**	**03 58 41.5**	**-0.3**
	comp=Z,0.8nm,1.0s,baz=122,slow=8.4,SNR=2.9						
SONM	**Songino Array**	**45.63**	**49**	P	**P**	**03 58 57.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=292,slow=12,SNR=4.9						
TORD	**Torodi Ar. Bea**	**50.05**	**264**	P	P	03 59 35.4	+2.5
	comp=Z,0.9nm,0.8s,baz=59,slow=8.0,SNR=7.7						
ILAR	**Eielson Array**	**86.55**	**8**	P	**P**	**04 03 19.5**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=318,slow=3.9,SNR=5.6						
YKA	**Yellowknife Ar**	**89.64**	**354**	P	**P**	**04 03 35.7**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=6.0,slow=5.1,SNR=5.0						

AUST ***13*** *04:08:08.5,26.06S×178.85W,h200km*
IDC ***13*** *04:08:25.0±8.5,24.86S×179.08W,h392km±76km,mb3.6/4, mb1 3.7/6,mb1mx3.3/19,mbtmp3.6/6,Error ellipse: s-maj=59.0km s-min=30.9km az=47.0*

ISC 13 04:08:23.8±1.5,24.9S±0.1×179.0W±0.2,h388km,n16, σ0§61/17,mb3.9/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.68**	**279**	P	**P**	**04 11 22.8**	**+0.4**
	0.3nm,0.3s,baz=89,slow=18,SNR=3.0						
URZ	**Urewera**	**13.74**	**193**	P	**P**	**04 11 23.2**	**+0.4**
	4.7nm,0.3s,baz=4.2,slow=1.8,SNR=26						
URZ				S	**S**	**04 13 50.3**	**-0.7**
	1.3nm,0.3s,baz=271,slow=23,SNR=15						
CTA	**Charters Tower**	**32.43**	**271**	P	**P**	**04 14 20.1**	**+0.4**
	7.6nm,0.4s,baz=102,slow=10,SNR=16						
STKA	**Stephens Creek**	**35.24**	**249**	P	**P**	**04 14 44.2**	**+0.7**
	1.4nm,0.8s,baz=101,slow=12,SNR=4.9						
HTT	**Hallett**	**37.54**	**247**	P	**P**	**04 15 03.2**	**+0.6**
	baz=37,SNR=5.2						
BBOO	**Buckleboo**	**39.93**	**248**	P	**P**	**04 15 22.1**	**-0.2**
	baz=40,SNR=5.8						
ASAR	**Alice Springs**	**42.81**	**261**	P	**P**	**04 15 45.3**	**-0.2**
	3.9nm,1.0s,baz=87,slow=5.9,SNR=24						
WRA	**Warramunga Arr**	**43.28**	**267**	P	**P**	**04 15 48.5**	**-0.8**
	3.6nm,0.4s,baz=103,slow=8.1,SNR=18						
KDU	**Kakadu**	**47.32**	**276**	P	**P**	**04 16 19.6**	**-0.9**
	baz=48,SNR=3.6						
WRKA	**Warakurna**	**47.55**	**258**	P	**P**	**04 16 21.6**	**-0.6**
	baz=47,SNR=5.4						
FITZ	**Fitzroy Crossi**	**51.70**	**266**	P	**P**	**04 16 53.6**	**+0.4**
	baz=52,SNR=3.9						
MORW	**Morawa**	**57.42**	**250**	P	**P**	**04 17 33.4**	**-0.4**
	baz=57,SNR=3.9						
HFS	**Hagfors**	**143.69**	**349**	PKP	**PKPdf**	**04 27 12.0**	**-0.7**
	1.2nm,0.7s,baz=74,slow=5.1,SNR=4.4						
AKASG	**Malin Array Be**	**146.31**	**327**	PKPbc	**PKPbc**	**04 27 19.5**	**+0.2**
	0.6nm,0.5s,baz=44,slow=3.8,SNR=4.8						
BRTR	**Keskin Array B**	**148.92**	**306**	PKPbc	**PKPbc**	**04 27 26.7**	**0.0**
	0.5nm,0.7s,baz=143,slow=4.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**168.30**	**183**	PKPab	**PKPab**	**04 28 57.0**	**+0.8**
	0.3nm,0.8s,baz=184,slow=4.6,SNR=2.5						

HEL ***13*** *04:20:45.2±0.9,67.53N×33.97E,h0km,ML2.5,Explosion*
IDC ***13*** *04:20:46.0±1.8,67.70N×34.09E,h0km,mb1 3.5/6, mb1mx3.2/30,mbtmp3.5/6,ML3.2/5,Error ellipse: s-maj=21.5km s-min=10.9km az=92.0*
NAO ***13*** *04:20:46.6±1.2,67.65N×33.80E,ML3.1*
ISCJB ***13*** *04:20:47.1±1.1,67.49N±0.04×32.9E±0.1,h0km,Error ellipse: s-maj=7.9km s-min=5.6km az=175.4*
CSEM ***13*** *04:20:50.3±0.6,67.57N×32.89E,h1km,ML3.1,Error ellipse: s-maj=11.3km s-min=9.0km az=94.0,Mining explosion.*

ISC 13 04:20:50.1±0.9,67.55N±0.03×32.86E±0.04,h0km,n36, σ1§81/58,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.07**	**43**	Pg	**Pg**	**04 20 52.7**	**+1.2**
	baz=81,slow=16						
APA0				Lg	Lg	04 20 57.0	
	baz=80,slow=37						
APA0				Rg	Rg	04 20 58.4	
	baz=94,slow=28						
APA0	**Apatity Array**	**0.07**	**43**	Pg	**Pg**	**04 20 52.7**	**+1.2**
	baz=81,slow=16						
APA0				Lg	Lg	04 20 57.0	
	baz=80,slow=37						
APA0				Rg	Rg	04 20 58.4	
	baz=94,slow=28						
APA0	**Apatity Array**	**0.07**	**43**	Pg	**Pg**	**04 20 52.7**	**+1.2**
	SNR=520						
APA0				Lg	Lg	04 20 57.0	
	SNR=94						
VRF	**Varrio**	**1.26**	**280**	PG	**Pg**	**04 21 14.7**	**+0.5**
	baz=86						
VRF				SG	**Sn**	**04 21 35.4**	**+2.9**
VRF	**Varrio**	**1.26**	**280**	Pg	**Pg**	**04 21 14.6**	**+0.5**
VRF				Sg	**Sn**	**04 21 35.4**	**+2.9**
KU6	**Riekki**	**1.93**	**219**	PN	**Pb**	**04 21 25.5**	**-0.6**
	baz=51						
KU6				SG	**Sg**	**04 21 54.9**	**+2.8**
KU6				MSG		04 21 54.9	
	comp=Z,16nm,0.4s						
KU6	**Riekki**	**1.93**	**219**	Pn	**Pb**	**04 21 25.5**	**-0.6**
KU6				Sg	**Sg**	**04 21 54.9**	**+2.8**
MSF	**Maaselka**	**2.24**	**224**	PN	**Pb**	**04 21 30.4**	**-1.0**
MSF				SG	**Sg**	**04 22 04.2**	**+2.2**
MSF	**Maaselka**	**2.24**	**224**	Pn	**Pb**	**04 21 30.4**	**-1.0**
MSF				Sg	**Sg**	**04 22 04.2**	**+2.2**
SGF	**Sodankyl**	**2.44**	**270**	PN	**Pn**	**04 21 32.5**	**+1.4**
SGF				SG	**Sg**	**04 22 10.3**	**+1.9**
SGF				MSG		04 22 10.3	
	comp=Z,11nm,0.4s						
SGF	**Sodankyl**	**2.44**	**270**	Pn	**Pn**	**04 21 32.5**	**+1.4**
SGF				Sg	**Sg**	**04 22 10.3**	**+1.9**
RNF	**Rovaniemi**	**2.84**	**254**	PN	**Pn**	**04 21 37.8**	**+1.2**
RNF				SG	**Sg**	**04 22 21.6**	**+0.3**
RNF				MSG		04 22 21.6	
	comp=Z,14nm,0.4s						
RNF	**Rovaniemi**	**2.84**	**254**	Pn	**Pn**	**04 21 37.8**	**+1.2**
RNF				Sg	**Sg**	**04 22 21.6**	**+0.3**
KEV	**Kevo**	**3.08**	**319**	PN	**Pn**	**04 21 39.0**	**-0.9**
KEV				SG	**Sg**	**04 22 31.0**	**+2.1**
KEV				MSG		04 22 31.0	
	comp=Z,27nm,0.4s						
KEV	**Kevo**	**3.08**	**319**	Pn	**Pn**	**04 21 39.0**	**-0.9**
KEV				Sg	**Sg**	**04 22 31.0**	**+2.1**
ARA0	**ARCESS Array S**	**3.36**	**310**	Pn	**Pn**	**04 21 42.5**	**-1.2**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**04 22 23.0**	**-1.2**
	baz=118,slow=22						
ARA0				Lg	Lg	04 22 38.8	
	baz=119,slow=28						
ARA0	**ARCESS Array S**	**3.36**	**310**	Pn	**Pn**	**04 21 42.5**	**-1.2**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**04 22 23.0**	**-1.2**
	baz=118,slow=22						
ARA0				Lg	Lg	04 22 38.8	
	baz=119,slow=28						
ARA0	**ARCESS Array S**	**3.36**	**310**	PN	**Pn**	**04 21 42.0**	**-1.7**
	baz=121						
ARA0	**ARCESS Array S**	**3.36**	**310**	Pn	**Pn**	**04 21 42.5**	**-1.2**
	SNR=337						
ARA0				Sn	**Sn**	**04 22 23.0**	**-1.2**
	SNR=0.7						
ARA0				Lg	Lg	04 22 38.8	
	SNR=50						
ARCES	**ARCESS Array B**	**3.36**	**310**	Pn	**Pn**	**04 21 42.5**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=116,slow=14,SNR=261						
ARCES				Pg	**Pb**	**04 21 50.9**	**+0.5**
	comp=Z,2.9nm,0.3s,baz=120,slow=14,SNR=12						
ARCES				Sn	**Sn**	**04 22 23.0**	**-1.2**
	comp=Z,2.7nm,0.3s,baz=115,slow=26,SNR=14						
ARCES				Lg	Lg	04 22 34.4	
	comp=Z,4.2nm,0.3s,baz=125,slow=29,SNR=12						
HEF	**Hetta**	**3.57**	**288**	PN	**Pn**	**04 21 46.6**	**-0.1**
HEF				SG	**Sg**	**04 22 45.3**	**+0.7**
HEF				MSG		04 22 45.3	
	comp=Z,8.2nm,0.4s						
HEF	**Hetta**	**3.57**	**288**	Pn	**Pn**	**04 21 46.5**	**-0.1**
HEF				Sg	**Sg**	**04 22 45.3**	**+0.7**
OUL	**Oulu**	**3.75**	**232**	SG	**Sb**	**04 22 46.1**	**+3.3**
FIA0	**FINESS Array S**	**6.79**	**209**	Pn	**Pn**	**04 22 29.9**	**-0.9**
	baz=18,slow=16						
FIA0				Sn	**Sn**	**04 23 46.7**	**-2.1**
	baz=20,slow=18						
FIA0				Lg	Lg	04 24 22.6	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**6.79**	**209**	Pn	**Pn**	**04 22 29.9**	**-0.9**
	baz=18,slow=16						
FIA0				Sn	**Sn**	**04 23 46.7**	**-2.1**
	baz=20,slow=18						
FIA0				Lg	Lg	04 24 22.6	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**6.79**	**209**	Pn	**Pn**	**04 22 30.0**	**-0.9**
	SNR=4.4						
FIA0				Sn	**Sn**	**04 23 46.7**	**-2.1**
FIA0				Lg	Lg	04 24 22.6	
	SNR=50						
FINES	**FINESS Array B**	**6.79**	**209**	Pn	**Pn**	**04 22 29.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=3.5						
FINES				Sn	Sn	04 23 41.3	-7.5
	comp=Z,0.1nm,0.3s,baz=44,slow=22,SNR=2.7						
FINES				Lg	Lg	04 24 19.1	
	comp=Z,1.6nm,0.3s,baz=30,slow=28,SNR=15						
HFS	**Hagfors**	**11.21**	**238**	Pn	**Pn**	**04 23 29.9**	**-1.5**
	baz=67,slow=16						
HFS				Sn	**Sn**	**04 25 33.0**	**-4.3**
	baz=66,slow=22						
HFS	**Hagfors**	**11.21**	**238**	Pn	**Pn**	**04 23 29.9**	**-1.5**
	baz=67,slow=16						
HFS				Sn	**Sn**	**04 25 33.0**	**-4.3**
	baz=66,slow=22						
HFS	**Hagfors**	**11.21**	**238**	Pn	**Pn**	**04 23 29.9**	**-1.5**
HFS	**Hagfors**	**11.21**	**238**	Pn	**Pn**	**04 23 29.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=50,slow=14,SNR=3.3						
HFS				Sn	**Sn**	**04 25 33.7**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=40,slow=23,SNR=5.4						
HFS				Lg	Lg	04 26 41.7	
	comp=Z,0.3nm,0.3s,baz=57,slow=21,SNR=4.1						
NOA	**NORSAR Array B**	**11.39**	**245**	Pn	**Pn**	**04 23 32.1**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=54,slow=9.8,SNR=3.5						
NOA				Sn	**Sn**	**04 25 41.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=40,slow=19,SNR=3.3						
NOA				Lg	Lg	04 26 50.7	
	comp=Z,0.3nm,0.3s,baz=48,slow=26,SNR=5.0						
SPA0	**Spitsbergen Ar**	**11.65**	**343**	Pn	Pn	04 23 30.4	-6.9
	baz=140,slow=16						
SPA0	**Spitsbergen Ar**	**11.65**	**343**	Pn	Pn	04 23 30.4	-6.9
	baz=140,slow=16						
SPITS	**Spitsbergen Ar**	**11.65**	**343**	Pn	Pn	04 23 30.1	-7.1
	baz=138,slow=20,SNR=4.5						
AKASG	**Malin Array Be**	**17.00**	**188**	Pn	Pn	04 24 40.0	-9.0
	comp=Z,0.2nm,0.3s,baz=8.4,slow=13,SNR=3.1						

IDC 13 04:27:10.4±2.3,51.58N×92.84E,h0km,mb1 2.9/3, mb1mx2.9/30,mbtmp2.9/3,ML2.3/3,Error ellipse: s-maj=30.8km s-min=19.7km az=16.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**5.42**	**299**	Pn	Pn	04 28 33.9	+1.5
	0.0nm,0.3s,baz=107,slow=15,SNR=2.3						
ZALV				Pg	Pg	04 28 50.0	-4.1
	0.1nm,0.3s,baz=111,slow=17,SNR=5.7						
ZALV				Lg	Lg	04 30 01.4	
	0.1nm,0.3s,baz=112,slow=21,SNR=3.1						
MKAR	**Makanchi Array**	**8.40**	**239**	Pn	Pn	04 29 13.3	-0.1
	0.1nm,0.3s,baz=54,slow=14,SNR=5.2						
MKAR				Lg	Lg	04 31 41.7	
	0.0nm,0.3s,baz=52,slow=35,SNR=2.5						
SONM	**Songino Array**	**9.55**	**108**	Pn	Pn	04 29 28.9	-0.3
	0.1nm,0.3s,baz=303,slow=18,SNR=3.0						
SONM				Sn	Sn	04 31 21.2	+3.9
	0.1nm,0.3s,baz=303,slow=27,SNR=4.3						

IDC ***13*** *04:29:45.9±1.8,6.87S×128.66E,h0km,mb3.6/2, mb1 4.0/5,mb1mx3.7/20,mbtmp3.8/5,ML3.9/3,Error ellipse: s-maj=102.2km s-min=25.0km az=76.0*
AUST ***13*** *04:29:55.2,7.49S×128.03E,h35km*

ISC 13 04:29:46.8±1.1,6.9S±0.1×128.8E±0.2,h10km,n10, σ0§59/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.20**	**41**	P	**Pg**	**04 31 26.2**	**-0.4**
	baz=6.2,SNR=3.8						
MTN	**Manton Dam**	**6.38**	**159**	P	Pn	04 31 28.2	+7.2
	baz=6.2,SNR=33						
KDU	**Kakadu**	**6.83**	**148**	P	Pn	04 31 35.3	+8.1
	baz=6.8,SNR=111						
FITZ	**Fitzroy Crossi**	**11.60**	**195**	Pn	**Pn**	**04 32 31.9**	**-0.7**
	0.9nm,0.3s,baz=12,slow=8.6,SNR=37						
FITZ				Sn	Sn	04 34 26.7	-16
	0.5nm,0.3s,baz=264,slow=18,SNR=3.2						
FITZ	**Fitzroy Crossi**	**11.60**	**195**	P	**Pn**	**04 32 32.0**	**-0.6**
	baz=11,SNR=25						
WRA	**Warramunga Arr**	**14.08**	**158**	Pn	**Pn**	**04 33 06.7**	**+0.1**
	0.6nm,0.3s,baz=336,slow=14,SNR=11						
WRA				Sn	Sn	04 35 29.4	-14
	0.3nm,0.3s,baz=328,slow=23,SNR=3.6						
ASAR	**Alice Springs**	**17.42**	**164**	P	**P**	**04 33 51.4**	**-0.1**
	0.3nm,0.3s,baz=342,slow=12,SNR=27						
ASAR				S	Sn	04 36 50.4	-14
	0.1nm,0.3s,baz=345,slow=26,SNR=2.6						
WRKA	**Warakurna**	**18.09**	**181**	P	**P**	**04 33 59.6**	**+0.7**
	baz=18,SNR=5.9						
MKAR	**Makanchi Array**	**67.46**	**327**	P	**P**	**04 40 43.4**	**+0.5**
	0.2nm,0.3s,baz=116,slow=6.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**70.93**	**334**	P	**P**	**04 41 04.4**	**+0.2**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.7						

IDC ***13*** *05:07:10.5±1.9,13.57N×92.26W,h0km,mb3.6/2, mb1 3.8/6,mb1mx3.6/24,mbtmp3.5/6,ML3.4/4,Error ellipse: s-maj=35.8km s-min=25.8km az=176.0*
ISCJB ***13*** *05:07:12.1±1.3,13.5N±0.1×92.2W±0.1,h37km,mb3.7/2, Error ellipse: s-maj=15.6km s-min=14.7km az=19.4*

ISC 13 05:07:14.5±1.3,13.5N±0.1×92.3W±0.1,h37km,n7,σ1§40/9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.33**	**49**	Pn	**Pn**	**05 07 49.0**	**-1.5**
	3.7nm,0.3s,baz=232,slow=8.5,SNR=47						
APG				Sn	**Sn**	**05 08 20.0**	**+2.1**
	8.1nm,0.3s,baz=206,slow=19,SNR=4.4						
TEIG	**Tepich**	**7.73**	**29**	Pn	**Pn**	**05 09 04.1**	**-0.5**
	1.6nm,0.3s,baz=225,slow=5.0,SNR=9.7						
TEIG				Sn	**Sn**	**05 10 31.3**	**+0.4**
	baz=151,slow=19,SNR=2.6						
JTS	**JuntasAbangare**	**7.83**	**113**	Pn	**Pn**	**05 09 05.4**	**-0.6**
	0.6nm,0.3s,baz=300,slow=20,SNR=6.9						
TXAR	**Lajitas Array**	**18.99**	**328**	P	**Pn**	**05 11 34.8**	**+0.7**
	0.0nm,0.3s,baz=151,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**51.48**	**347**	P	**P**	**05 16 15.5**	**-0.5**
	0.9nm,0.7s,baz=150,slow=7.4,SNR=9.8						
ILAR	**Eielson Array**	**63.22**	**337**	P	**P**	**05 17 38.5**	**-0.4**
	0.5nm,1.0s,baz=115,slow=8.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**146.40**	**341**	PKPbc	**PKPab**	**05 26 55.2**	**+1.9**
	0.7nm,0.3s,baz=344,slow=2.4,SNR=5.9						

IDC ***13*** *05:11:55.0±1.3,8.05S×154.46E,h0km,mb3.9/7, mb1 4.0/9,mb1mx3.9/19,mbtmp3.9/9,ML3.3/2,MS3.2/3, Ms1 3.2/3,ms1mx2.9/25,Error ellipse: s-maj=42.3km s-min=19.7km az=121.0*
ISCJB ***13*** *05:11:59.1±0.7,8.1S±0.1×154.34E±0.05,h33km,mb3.8/7, MS3.2/2,Error ellipse: s-maj=15.4km s-min=7.7km az=177.0*

ISC 13 05:12:00.2±1.1,8.1S±0.1×154.5E±0.1,h35km,n12, σ0§90/11,mb3.8/7,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.57**	**104**	Sn	Sn	05 14 29.6	+6.3
	20nm,0.3s,baz=164,slow=21,SNR=3.6						
PMG	**Port Moresby**	**7.35**	**259**	Pn	**Pn**	**05 13 44.4**	**-0.7**
	0.6nm,0.3s,baz=100,slow=12,SNR=2.7						
PMG				Sn	**Sn**	**05 15 08.3**	**+1.0**
	1.7nm,0.3s,baz=9.9,slow=4.7,SNR=3.4						
PMG				LR	LR	05 16 34.3	
	comp=Z,117nm,19.1s,baz=64,slow=38						
CTA	**Charters Tower**	**14.34**	**213**	Pn	**Pn**	**05 15 21.0**	**+0.2**
	0.4nm,0.3s,baz=35,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**22.78**	**237**	P	**P**	**05 16 58.5**	**-1.4**
	5.2nm,0.9s,baz=61,slow=10,SNR=11						
ASAR	**Alice Springs**	**25.07**	**229**	P	**P**	**05 17 20.8**	**-0.8**
	2.0nm,0.8s,baz=65,slow=9.4,SNR=18						
STKA	**Stephens Creek**	**26.53**	**205**	P	**P**	**05 17 35.8**	**+1.1**
	2.8nm,0.8s,baz=24,slow=11,SNR=5.6						
STKA				LR	LR	05 27 29.4	
	comp=Z,78nm,20.1s,baz=213,slow=35						
FITZ	**Fitzroy Crossi**	**29.76**	**248**	LR	LR	05 29 43.2	
	comp=Z,49nm,18.2s,baz=78,slow=36						
SONM	**Songino Array**	**59.98**	**328**	P	**P**	**05 23 08.2**	**-0.1**
	0.6nm,0.6s,baz=94,slow=4.3,SNR=3.2						
MKAR	**Makanchi Array**	**83.89**	**319**	P	**P**	**05 24 27.2**	**+0.8**
	0.5nm,0.8s,baz=96,slow=5.9,SNR=2.1						
ILAR	**Eielson Array**	**84.57**	**22**	P	**P**	**05 24 29.1**	**-0.4**
	0.4nm,0.7s,baz=259,slow=5.9,SNR=8.6						
ZALV	**Zalesovo Beam**	**84.80**	**326**	P	**P**	**05 24 31.5**	**+0.6**
	0.5nm,0.4s,baz=115,slow=5.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**152.79**	**283**	PKPbc	**PKPbc**	**05 31 54.5**	**0.0**
	0.4nm,0.8s,baz=31,slow=1.3,SNR=3.0						

IDC ***13*** *05:12:17.5±0.7,3.54N×126.11E,h0km,mb4.1/14, mb1 4.2/14,mb1mx4.1/24,mbtmp4.1/14,MS3.2/3, Ms1 3.2/3,ms1mx2.8/32,Error ellipse: s-maj=50.5km s-min=13.6km az=74.0*
ISCJB ***13*** *05:12:22.8±0.5,3.60N±0.09×126.4E±0.2,h53km, mb4.1/15,MS3.1/3,Error ellipse: s-maj=32.0km s-min=7.9km az=162.2*
AUST ***13*** *05:12:40.3±3.9,3.01N×126.29E,h207km,Error ellipse: s-maj=3.7km s-min=1.5km az=230.0*

ISC 13 05:12:24.5±0.7,3.6N±0.1×126.5E±0.3,h53km,n28, σ0§86/22,mb4.1/15,MS3.1/3,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**5.91**	**219**	P	Pn	05 13 59.4	+10
	baz=5.4,SNR=3.7						
MTN	**Manton Dam**	**17.00**	**164**	P	**Pn**	**05 16 17.7**	**-1.1**
	baz=17,SNR=5.1						
KDU	**Kakadu**	**17.27**	**160**	P	**Pn**	**05 16 22.8**	**+0.7**
	baz=17,SNR=6.7						
FITZ	**Fitzroy Crossi**	**21.59**	**182**	P	**P**	**05 17 09.1**	**-0.9**
	0.9nm,0.4s,baz=13,slow=9.7,SNR=9.1						
FITZ	**Fitzroy Crossi**	**21.59**	**182**	P	**P**	**05 17 10.1**	**+0.1**
	baz=21,SNR=5.5						
PMG	**Port Moresby**	**24.36**	**122**	LR	LR	05 27 10.8	
	comp=Z,58nm,19.6s,baz=247,slow=36						
WRA	**Warramunga Arr**	**24.66**	**162**	P	**P**	**05 17 39.4**	**-1.1**
	2.4nm,0.3s,baz=334,slow=11,SNR=18						
JCJ	**Chichijima**	**27.78**	**31**	LR	LR	05 27 37.4	
	comp=Z,57nm,18.4s,baz=266,slow=33						
ASAR	**Alice Springs**	**28.07**	**165**	P	**P**	**05 18 12.6**	**+1.3**
	0.6nm,0.3s,baz=342,slow=11,SNR=7.5						
WRKA	**Warakurna**	**28.54**	**176**	P	**P**	**05 18 16.0**	**+0.6**
	baz=28,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.69**	**301**	P	**P**	**05 18 36.0**	**+1.4**
	0.9nm,0.4s,baz=111,slow=6.9,SNR=7.5						
KSRS	**Korea Array**	**33.70**	**2**	P	**P**	**05 19 00.6**	**-0.1**
	2.3nm,0.6s,baz=184,slow=9.6,SNR=7.2						
MORW	**Morawa**	**34.00**	**196**	P	P	05 18 54.4	-9.0
	baz=34,SNR=3.6						
MJAR	**Matsushiro Ant**	**34.51**	**17**	LR	LR	05 31 24.9	
	comp=Z,28nm,18.1s,baz=130,slow=33						
BBOO	**Buckleboo**	**37.35**	**167**	P	**P**	**05 19 32.3**	**+0.2**
	baz=37,SNR=5.2						
STKA	**Stephens Creek**	**38.12**	**159**	P	**P**	**05 19 38.3**	**-0.3**
	3.3nm,0.8s,baz=348,slow=5.2,SNR=5.9						
STKA	**Stephens Creek**	**38.12**	**159**	P	**P**	**05 19 39.0**	**+0.4**
	baz=38,SNR=4.6						
USRK	**Ussuriysk Arra**	**40.71**	**6**	P	**P**	**05 20 01.6**	**+1.7**
	0.9nm,0.5s,baz=194,slow=12,SNR=3.2						
SONM	**Songino Array**	**47.32**	**342**	P	**P**	**05 20 52.7**	**-0.4**
	1.0nm,0.7s,baz=157,slow=8.0,SNR=9.1						
MKAR	**Makanchi Array**	**57.49**	**325**	P	**P**	**05 22 07.9**	**-0.4**
	1.4nm,0.5s,baz=120,slow=7.2,SNR=24						
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	**P**	**05 22 29.7**	**+0.3**
	0.4nm,0.3s,baz=117,slow=8.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.69**	**328**	P	**P**	**05 22 36.7**	**-0.4**
	2.5nm,0.6s,baz=129,slow=6.4,SNR=23						
MAW	**Mawson**	**83.55**	**200**	P	P	05 24 39.6	-6.9
	baz=83,SNR=10						
BRTR	**Keskin Array B**	**89.88**	**310**	P	**P**	**05 25 17.4**	**-0.9**
	0.9nm,0.9s,baz=35,slow=5.3,SNR=3.6						
ARCES	**ARCESS Array B**	**90.46**	**340**	P	**P**	**05 25 19.6**	**-0.6**
	6.9nm,1.0s,baz=72,slow=5.8,SNR=4.0						
FINES	**FINESS Array B**	**91.80**	**332**	P	**P**	**05 25 26.7**	**+0.2**
	1.2nm,0.8s,baz=23,slow=7.5,SNR=3.6						
AKASG	**Malin Array Be**	**91.81**	**321**	P	**P**	**05 25 25.6**	**-1.2**
	0.2nm,0.3s,baz=66,slow=5.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP	**PKPdf**	**05 31 15.7**	**+0.2**
	0.5nm,0.9s,baz=48,slow=2.1,SNR=3.7						

**IDC 13 05:30:57.7±51.0,19.25S×178.80W,h0km,mb4.0/3, mb1 4.1/3,mb1mx3.7/17,mbtmp4.0/3,Error ellipse: s-maj=923.3

1.9nm,0.8s,baz=20,slow=4.7,SNR=6.4
AKASG Malin Array Be 153.06 319 PKPbc **PKPbc 06 03 32.8 -0.9**
0.7nm,0.6s,baz=66,slow=0.8,SNR=5.0
AKASG PKPab **PKPab 06 03 44.6 -0.6**
0.6nm,0.5s,baz=60,slow=2.9,SNR=4.4
BRTR Keskin Array B 153.38 294 PKPbc **PKPbc 06 03 34.5 -0.5**
1.0nm,0.6s,baz=124,slow=4.0,SNR=5.7
BRTR PKPab **PKPab 06 03 46.2 -1.0**
1.9nm,0.8s,baz=144,slow=2.8,SNR=7.2
TORD Torodi Ar. Bea 160.24 180 PKPab **PKPab 06 04 16.4 -0.4**
0.4nm,0.6s,baz=194,slow=3.0,SNR=2.7
TORD pPKPab **pPKPab 06 04 28.0 +0.8**
0.9nm,0.8s,baz=189,slow=2.0,SNR=4.9
GERES GERESS Array B 161.73 334 PKPab **PKPab 06 04 21.3 -1.5**
0.5nm,0.7s,baz=127,slow=4.1,SNR=4.1
GERES pPKPab **pPKPab 06 04 33.3 +0.3**
0.3nm,0.6s,baz=70,slow=3.2,SNR=3.8

*SKHL **13** 05:44:12.5±0.5, 48.66°N×156.38°E, h43km±5km, mb4.6/2*
*MOS **13** 05:44:15.3±2.0, 48.97°N×157.09°E, h5km, mb4.2/1, Error ellipse: s-maj=63.1km s-min=12.1km az=84.2*
*KRSC **13** 05:44:15.3±8.4, 48.97°N×157.09°E, h5km±5km, ML4.1*
ISC 13 05:44:13.4±3.9, 48.6N±0.2°×156.6E±0.1°, h65km±52km, n34, σ1°93/47, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.08**	**352**	*e*PN	Pn	05 44 43.2	-2.7
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR	**Severo-Kuril's**	**2.08**	**352**	P	**Pn**	**05 44 46.7**	**+0.8**
SKR				S	**Sn**	**05 45 09.7**	**-1.0**
SKR	**Severo-Kuril's**	**2.08**	**352**	*e*P	Pn	05 44 43.2	-2.7
SKR				AMB	AMB	05 44 45.1	
	comp=Z,80nm,0.4s						
SKR				*e*S	**Sn**	**05 45 06.6**	**-4.1**
SKR				A	A	05 45 15.5	
	comp=Z,170nm,0.5s						
SKR				A	A	05 45 15.5	
	comp=Z,90nm,0.5s						
PAU	**Pauzhetka**	**2.84**	**3**	PN	**Pn**	**05 44 57.8**	**+1.5**
PAU				S	**Sn**	**05 45 29.4**	**+0.1**
PAU	**Pauzhetka**	**2.84**	**3**	P	**Pn**	**05 44 57.8**	**+1.5**
PAU				S	**Sn**	**05 45 29.4**	**+0.1**
MIPR	**Malaya Ipel'ka**	**3.65**	**2**	P	**Pn**	**05 45 08.7**	**+1.3**
MIPR				S	**Sn**	**05 45 48.4**	**-0.7**
ASAK	**Asacha**	**3.85**	**12**	P	**Pn**	**05 45 12.0**	**+1.9**
MTVR	**Mutnovka**	**3.99**	**14**	P	**Pn**	**05 45 13.5**	**+1.4**
MTVR				S	**Sn**	**05 45 56.8**	**-0.8**
RUS	**Russkaya**	**4.00**	**17**	PN	**Pn**	**05 45 13.1**	**+1.0**
RUS				S	**Sn**	**05 45 56.1**	**-1.5**
RUS	**Russkaya**	**4.00**	**17**	P	**Pn**	**05 45 13.1**	**+1.0**
RUS				S	**Sn**	**05 45 56.1**	**-1.5**
APC	**Apacha**	**4.31**	**5**	P	**Pn**	**05 45 18.9**	**+2.5**
PET	**Petropavlovsk**	**4.59**	**16**	*e*PN	**Pn**	**05 45 21.8**	**+1.7**
PET				*e*S	**Sn**	**05 46 13.4**	**+1.4**
PET				pmax	pmax		
	comp=Z,41nm,0.3s						
PET				smax	smax		
	comp=N,48nm,0.6s						
PET	**Petropavlovsk**	**4.59**	**16**	P	**Pn**	**05 45 22.2**	**+2.1**
PET				S	**Sn**	**05 46 12.1**	**+0.1**
PET	**Petropavlovsk**	**4.59**	**16**	*e*P	**Pn**	**05 45 21.8**	**+1.7**
PET				AMB	AMB	05 45 23.0	
	comp=N,40nm,0.3s						
PET				*e*S	**Sn**	**05 46 13.4**	**+1.4**
PET				A	A	05 46 32.1	
	comp=N,50nm,0.6s						
UGLR	**Uglovaya**	**4.79**	**16**	P	**Pn**	**05 45 25.6**	**+2.5**
UGLR				S	**Sn**	**05 46 17.9**	**+0.6**
AVH	**Avacha**	**4.83**	**15**	P	**Pn**	**05 45 26.5**	**+2.9**
KOK	**Koryaka**	**4.84**	**15**	P	**Pn**	**05 45 26.8**	**+3.1**
SMAR	**Somma**	**4.84**	**16**	P	**Pn**	**05 45 26.0**	**+2.2**
NLC	**Nalytchevo**	**4.87**	**20**	PN	**Pn**	**05 45 24.2**	**+0.3**
NLC	**Nalytchevo**	**4.87**	**20**	P	**Pn**	**05 45 24.2**	**+0.3**
NLC				S	**Sn**	**05 46 15.1**	**-3.8**
NLC	**Nalytchevo**	**4.87**	**20**	*e*P	**Pn**	**05 45 24.2**	**+0.3**
KRER	**Koryakskii**	**4.87**	**15**	P	**Pn**	**05 45 27.1**	**+2.9**
SDLR	**Sedlovina**	**4.87**	**16**	P	**Pn**	**05 45 25.9**	**+1.7**
KRX	**Arik**	**4.91**	**15**	P	**Pn**	**05 45 27.6**	**+2.9**
SPN	**Mys Shipunski**	**4.97**	**25**	S	**Sn**	**05 46 19.8**	**-1.6**
GNL	**Ganaly**	**5.14**	**9**	P	**Pn**	**05 45 30.7**	**+2.9**
MKZ	**Mys Kozlova**	**6.74**	**26**	PN	**Pn**	**05 45 50.5**	**+1.0**
MKZ	**Mys Kozlova**	**6.74**	**26**	P	**Pn**	**05 45 50.5**	**+1.0**
MKZ				S	**Sn**	**05 47 02.1**	**-2.6**
MKZ	**Mys Kozlova**	**6.74**	**26**	*e*P	**Pn**	**05 45 50.5**	**+1.0**
KZV	**Kizimen**	**6.88**	**18**	P	**Pn**	**05 45 53.5**	**+1.8**
KZV				S	**Sn**	**05 47 07.0**	**-1.5**
TUMR	**Tumrok**	**7.01**	**17**	P	**Pn**	**05 45 56.1**	**+2.7**
KBTR	**Krutoberegovo**	**8.48**	**24**	PN	**Pn**	**05 46 14.6**	**+1.2**
KBTR	**Krutoberegovo**	**8.48**	**24**	P	**Pn**	**05 46 14.6**	**+1.2**
EKMR	**Ekimchan**	**15.55**	**295**	*e*P	**Pn**	**05 47 47.0**	**-1.5**

IDC 13 06:16:26.3±4.6, 3.41°N×127.78°E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=180.0km s-min=70.6km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.08**	**165**	P	P	06 21 43.3	-0.4
	1.0nm,0.6s,baz=345,slow=10.0,SNR=5.0						
ASAR	**Alice Springs**	**27.56**	**168**	P	P	06 22 15.6	+0.3
	0.2nm,0.2s,baz=347,slow=7.9,SNR=3.2						
STKA	**Stephens Creek**	**37.47**	**160**	P	P	06 23 41.6	-0.2
	0.9nm,0.7s,baz=349,slow=10,SNR=3.1						

CASC 13 06:18:00.0±1.6, 12.91°N×90.21°W, h0km±9km, MD3.7, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.08**	**32**	*e*P	Pg	06 18 21.2	0.0
SBLS				*e*S	Sb	06 18 37.8	+0.9
SNJE	**San Jose**	**1.12**	**32**	*e*P	Pg	06 18 21.6	-0.1
RTR	**El Retiro**	**1.12**	**29**	*e*P	Pg	06 18 21.8	0.0
BOQS	**Boqueron**	**1.22**	**48**	*e*P	Pg	06 18 23.7	0.0
BOQS				*e*S	Sn	06 18 42.5	+0.5
RBDL	**Robledal**	**1.30**	**23**	*e*P	Pg	06 18 24.4	-0.8
LFRS	**El Faro**	**1.32**	**58**	*e*P	Pg	06 18 24.7	-0.8
LFRS				*e*S	Sb	06 18 43.8	+0.3
LFU	**La Fuente**	**1.35**	**52**	*e*P	Pg	06 18 25.1	-1.0
LBRS	**Las Brisas**	**1.40**	**54**	*e*P	Pn	06 18 25.7	-1.3
SNVI	**San Vicente**	**1.50**	**62**	*e*P	Pn	06 18 26.9	-1.5
NBG	**Las Nubes**	**1.67**	**355**	*e*P	Pn	06 18 31.1	+0.2
JAT	**Jato**	**1.97**	**315**	*e*P	Pn	06 18 35.1	+0.5
MRL	**Marmol**	**2.20**	**13**	*e*P	Pn	06 18 39.0	+1.0

MEX 13 06:23:24.4±1.1, 16.57°N×98.54°W, h7km±19km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.43**	**115**	*e*P	Pg	06 23 32.3	-0.6
PNIG				*i* S	Sg	06 23 38.7	+0.1
TLIG	**Tlapa**	**0.98**	**358**	*e*P	Pg	06 23 39.9	-3.6
TLIG				*i* S	Sg	06 23 52.5	-3.9
ACX	**Acapulco**	**1.30**	**283**	*i* P	Pn	06 23 46.1	-2.9
ACX				*i* S	Sb	06 24 03.1	-3.1
MEIG	**Mezcala**	**1.70**	**323**	*e*P	Pn	06 23 51.8	-2.8
MEIG				*i* S	Sn	06 24 12.3	-4.3
CAIG	**El Cayaco**	**1.73**	**286**	*i* P	Pn	06 23 50.9	-3.9
CAIG				*i* S	Sn	06 24 11.8	-5.3
PLIG	**Platanillo**	**2.03**	**333**	*e*P	Pn	06 23 56.7	-2.4
PLIG				*i* S	Sn	06 24 20.8	-4.1
TPIG	**Tehuac#an**	**2.15**	**31**	*i* P	Pn	06 23 56.9	-4.0
TPIG				*i* S	Sn	06 24 23.1	-4.9
YAIG	**Yautepec**	**2.33**	**348**	*e*P	Pn	06 24 00.5	-2.9
YAIG				*e*S	Sn	06 24 28.0	-4.4
ARIG	**Puente Sto Nin**	**2.42**	**315**	*i* P	Pn	06 24 01.6	-2.9
ARIG				*i* S	Sn	06 24 30.1	-4.3

*ISCJB **13** 08:08:26.7±0.7, 60.18°N×0.03°×27.21°E±0.09, h0km, Error ellipse: s-maj=6.4km s-min=3.8km az=18.3*
*CSEM **13** 08:08:27.3±0.4, 60.16°N×27.20°E, h2km, ML2.3, Error ellipse: s-maj=9.8km s-min=6.1km az=118.0, Mining explosion.*
*NAO **13** 08:08:27.7±0.9, 60.12°N×27.09°E, ML2.4*
*BER **13** 08:08:28.4±3.1, 60.14°N×27.07°E, h5km±15km, ML2.4(NAO)*
*HEL **13** 08:08:28.4±0.1, 60.15°N×27.21°E, h0km, ML2.3, Explosion*
*IDC **13** 08:08:29.8±0.9, 60.23°N×27.10°E, h0km, mb1 3.3/4, mb1mx3.1/27, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=10.0km s-min=6.4km az=83.0*
ISC 13 08:08:26.6±0.8, 60.18N±0.03°×26.99E±0.04°, h0km, n37, σ1°37/53, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.46**	**38**	*e*P	**Pg**	**08 08 35.9**	**+0.5**
VJF				*e*S	**Sg**	**08 08 41.8**	**+0.5**
VJF	**Virojoki**	**0.46**	**38**	P	**Pg**	**08 08 35.9**	**+0.5**
VJF				S	**Sg**	**08 08 41.8**	**+0.5**
PVF	**Pernaja**	**0.67**	**304**	*e*P	**Pb**	**08 08 42.2**	**+1.1**
PVF				*e*S	**Sb**	**08 08 52.6**	**+1.6**
PVF	**Pernaja**	**0.67**	**304**	P	**Pb**	**08 08 42.2**	**+1.1**
PVF				S	**Sb**	**08 08 52.6**	**+1.6**
MEF	**Metsahovi**	**1.29**	**273**	*e*P	**Pn**	**08 08 53.4**	**+1.4**
MEF				*e*S	**Sn**	**08 09 11.9**	**+2.0**
MEF	**Metsahovi**	**1.29**	**273**	*e*P	**Pn**	**08 08 53.5**	**+1.6**
	SNR=50						
MEF				S	**Sn**	**08 09 11.9**	**+2.0**
FIA0	**FINESS Array S**	**1.34**	**341**	Pg	**Pg**	**08 08 53.0**	**+0.7**
	baz=158,slow=18						
FIA0				Lg	Lg	08 09 12.3	
	baz=160,slow=37						
FIA0				Rg	Rg	08 09 20.1	
	baz=157,slow=37						
FIA0	**FINESS Array S**	**1.34**	**341**	Pg	**Pg**	**08 08 53.0**	**+0.7**
	baz=158,slow=18						
FIA0				Lg	Lg	08 09 12.3	
	baz=160,slow=37						
FIA0				Rg	Rg	08 09 20.1	
	baz=157,slow=37						
FIA0	**FINESS Array S**	**1.34**	**341**	*e*P	**Pg**	**08 08 53.0**	**+0.7**
FIA0				*e*S	**Sn**	**08 08 12.4**	**+1.3**
FIA0				MSG		08 09 15.9	
	comp=Z,30nm,0.2s						
FIA0	**FINESS Array S**	**1.34**	**341**	P	**Pg**	**08 08 52.9**	**+0.5**
FIA0				Lg	Lg	08 09 12.3	
FINES	**FINESS Array B**	**1.34**	**341**	Pg	**Pg**	**08 08 52.8**	**+0.4**
	comp=Z,8.1nm,0.3s,baz=159,slow=17,SNR=236						
FINES				Lg	Lg	08 09 12.0	
	comp=Z,7.5nm,0.3s,baz=155,slow=30,SNR=34						
SRPE	**Suurupi**	**1.50**	**243**	*e*P	**Pg**	**08 08 57.1**	**+1.7**
	SNR=50						
VSU	**Vasula**	**1.73**	**184**	Pg	**Pn**	**08 08 59.0**	**+1.1**
VSU				Lg	Lg	08 09 20.9	
VSU	**Vasula**	**1.73**	**184**	Pg	**Pn**	**08 08 59.0**	**+1.1**
VSU				Lg	Lg	08 09 20.9	
VSU	**Vasula**	**1.73**	**184**	*e*P	**Pn**	**08 08 59.0**	**+1.1**
VSU				*e*S	**Sn**	**08 09 20.8**	**+0.2**
VSU	**Vasula**	**1.73**	**184**	P	**Pn**	**08 08 58.9**	**+1.1**
VSU				S	**Sn**	**08 09 20.8**	**+0.2**
KAF	**Kangasniemi**	**1.97**	**351**	*e*P	**Pn**	**08 09 03.5**	**+2.2**
KAF				*e*SG	**Sg**	**08 09 30.5**	**+0.7**
KAF				MSG		08 09 33.0	
	comp=Z,20nm,0.2s						
KAF	**Kangasniemi**	**1.97**	**351**	P	**Pn**	**08 09 03.4**	**+2.2**
MTSE	**Matsula**	**2.19**	**229**	*e*PB	**Pb**	**08 09 07.6**	**+0.5**
MTSE				*e*SB	**Sg**	**08 09 37.2**	**+0.3**
MTSE	**Matsula**	**2.19**	**229**	Pb	**Pb**	**08 09 07.5**	**+0.5**
MTSE				*e*S	**Sg**	**08 09 36.8**	**0.0**
	SNR=50						
RAF	**Rauma**	**2.71**	**290**	*e*P	**Pb**	**08 09 15.1**	**-0.8**
	SNR=50						
HFS	**Hagfors**	**6.64**	**275**	Pn	**Pn**	**08 10 05.4**	**+0.1**
	baz=99,slow=12						
HFS				Sn	**Sn**	**08 11 17.5**	**-4.0**
	baz=90,slow=22						
HFS				Lg	Lg	08 11 53.5	
	baz=101,slow=28						
HFS	**Hagfors**	**6.64**	**275**	Pn	**Pn**	**08 10 05.4**	**+0.1**
	baz=99,slow=12						
HFS				Sn	**Sn**	**08 11 17.5**	**-4.0**
	baz=90,slow=22						
HFS				Lg	Lg	08 11 53.5	
	baz=101,slow=28						
HFS	**Hagfors**	**6.64**	**275**	Pn	**Pn**	**08 10 05.4**	**+0.1**
	SNR=50						
HFS				Lg	Lg	08 11 53.5	
	SNR=50						
HFS	**Hagfors**	**6.64**	**275**	Pn	**Pn**	**08 10 06.9**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=88,slow=14,SNR=20						
HFS				Sn	**Sn**	**08 11 20.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=89,slow=26,SNR=4.0						
HFS				Lg	Lg	08 11 57.7	
	comp=Z,0.6nm,0.3s,baz=82,slow=31,SNR=5.3						
NB2	**NORSAR Subarra**	**7.81**	**283**	Pn	**Pn**	**08 10 22.9**	**+1.5**
	baz=87,slow=14						
NB2	**NORSAR Subarra**	**7.81**	**283**	Pn	**Pn**	**08 10 22.9**	**+1.5**
	baz=87,slow=14						
NB2	**NORSAR Subarra**	**7.81**	**283**	Pn	**Pn**	**08 10 22.9**	**+1.5**
	SNR=50						
NOA	**NORSAR Array B**	**7.81**	**283**	Pn	**Pn**	**08 10 22.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=92,slow=11,SNR=24						
NOA				Sn	**Sn**	**08 11 48.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=111,slow=20,SNR=2.9						
NOA				Lg	Lg	08 12 34.4	
	comp=Z,0.4nm,0.3s,baz=116,slow=21,SNR=3.0						
APA0	**Apatity Array**	**7.91**	**17**	Pn	**Pn**	**08 10 22.2**	**-0.4**
	baz=202,slow=16						
APA0	**Apatity Array**	**7.91**	**17**	Pn	**Pn**	**08 10 22.2**	**-0.4**
	baz=202,slow=16						
APA0	**Apatity Array**	**7.91**	**17**	Pn	**Pn**	**08 10 22.2**	**-0.4**
	SNR=50						
ARA0	**ARCESS Array S**	**9.41**	**357**	Pn	**Pn**	**08 10 43.1**	**-0.3**
	baz=169,slow=16						
ARA0	**ARCESS Array S**	**9.41**	**357**	Pn	**Pn**	**08 10 43.1**	**-0.3**
	baz=169,slow=16						
ARA0	**ARCESS Array S**	**9.41**	**357**	Pn	**Pn**	**08 10 43.1**	**-0.3**
	SNR=50						
ARCES	**ARCESS Array B**	**9.41**	**357**	Pn	**Pn**	**08 10 42.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=168,slow=15,SNR=19						
ARCES				Sn	Sn	08 12 24.3	-5.4
	comp=Z,0.2nm,0.3s,baz=171,slow=24,SNR=3.5						
AKASG	**Malin Array Be**	**9.59**	**171**	Pn	**Pn**	**08 10 44.5**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=348,slow=13,SNR=9.0						
AKASG				Sn	Sn	08 12 28.4	-5.6
	comp=Z,0.4nm,0.3s,baz=358,slow=13,SNR=3.1						

*DJA **13** 08:10:12.6±1.3, 2.1°N±7.9°×96°E±1.1°, h23km±7km, M4.5/6, mb4.5/2, mB4.6/1, MLv4.6/6, Mw(mB)3.8/1*
*IDC **13** 08:10:14.8±1.3, 2.11°N×96.24°E, h0km, mb4.1/8, mb1 4.2/10, mb1mx3.9/28, mbtmp4.1/10, ML5.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=43.5km s-min=17.1km az=55.0*
*ISCJB **13** 08:10:16.3±0.7, 2.04°N±0.06°×96.17°E±0.07°, h27km, mb4.1/8, MS3.5/1, Error ellipse: s-maj=9.9km s-min=8.1km az=18.8*
ISC 13 08:10:18.8±0.9, 2.17°N±0.08°×96.25°E±0.08°, h27km, n28, σ0°93/24, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.25**	**18**	P	**Pb**	**08 10 25.1**	**-0.2**
TPTI		**1.43**	**41**	P	**Pn**	**08 10 41.9**	**-1.1**
TPTI				S	**Sb**	**08 11 03.5**	**+1.0**
KCSI	**Kotacane, Aceh**	**2.03**	**49**	P	**Pn**	**08 10 51.5**	**+0.2**
KCSI				S	**Sb**	**08 11 19.8**	**-0.1**
TSI	**Tuntungan**	**2.66**	**60**	P	**Pn**	**08 11 01.2**	**+1.2**
TSI				S	**Sb**	**08 11 40.5**	**+2.4**
PSI	**Prapat**	**2.75**	**77**	P	**Pn**	**08 11 00.8**	**-0.4**
PSI	**Prapat**	**2.75**	**77**	Pn	**Pn**	**08 11 01.1**	**-0.2**
	4.2nm,0.3s,baz=269,slow=5.3,SNR=24						
PSI				Sn	**Sn**	**08 11 31.7**	**-1.9**
	6.0nm,0.3s,baz=253,slow=6.4,SNR=6.4						
MNSI	**Mandailing Nat**	**3.60**	**112**	P	**Pn**	**08 11 13.0**	**+0.1**
PPI	**Padang Panjang**	**4.90**	**122**	P	Pb	08 11 48.6	+4.6
IPM	**Ipoh**	**5.29**	**64**	P	**Pn**	**08 11 36.7**	**+0.5**
IPM	**Ipoh**	**5.29**	**64**	P	**Pn**	**08 11 36.4**	**+0.2**
	56nm,0.8s,525nm						
KULM	**Kulim**	**5.37**	**55**	P	**Pn**	**08 11 37.5**	**+0.2**
MDSI	**Maura Dua**	**10.32**	**130**	P	**Pn**	**08 12 44.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.40**	**9**	Pn	**Pn**	**08 14 06.0**	**-1.3**
	2.2nm,0.3s,baz=198,slow=12,SNR=21						
H08S2	**Diego Garcia H**	**25.63**	**247**	T	T	08 42 22.5	
	baz=68,slow=75,SNR=1667						
H08S3	**Diego Garcia H**	**25.63**	**247**	T	T	08 42 20.2	
	baz=68,slow=75,SNR=1073						
H08S1	**Diego Carcia H**	**25.64**	**247**	T	T	08 42 21.3	
	baz=68,slow=75,SNR=1513						
H01W3	**Cape Leeuwin H**	**40.50**	**157**	T	T	09 01 04.0	
	baz=333,slow=76,SNR=76						
H01W2	**Cape Leeuwin H**	**40.52**	**157**	T	T	09 01 05.0	
	baz=333,slow=76,SNR=72						
H01W1	**Cape Leeuwin H**	**40.52**	**157**	T	T	09 01 02.6	
	baz=333,slow=76,SNR=70						
WRA	**Warramunga Arr**	**43.35**	**122**	P	**P**	**08 18 19.0**	**-0.1**
	0.9nm,0.8s,baz=304,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**44.74**	**127**	P	**P**	**08 18 29.2**	**-1.1**
	0.6nm,0.6s,baz=301,slow=8.1,SNR=14						
KSRS	**Korea Array**	**45.61**	**36**	LR	LR	08 38 26.6	
	comp=Z,51nm,18.2s,baz=195,slow=37						
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**08 18 41.1**	**+0.7**
	7.7nm,0.8s,baz=157,slow=6.4,SNR=13						
SONM	**Songino Array**	**46.33**	**9**	P	**P**	**08 18 42.8**	**+0.2**
	1.3nm,0.7s,baz=183,slow=9.7,SNR=6.1						
KURBB	**Kurchatov Arra**	**50.55**	**345**	P	**P**	**08 19 15.3**	**+0.4**
	1.2nm,0.3s,baz=170,slow=5.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**52.46**	**352**	P	**P**	**08 19 29.4**	**+0.3**
	6.4nm,0.7s,baz=165,slow=6.2,SNR=8.6						
STKA	**Stephens Creek**	**54.71**	**132**	P	**P**	**08 19 46.4**	**+0.4**
	1.4nm,0.7s,baz=300,slow=15,SNR=4.9						
GERES	**GERESS Array B**	**83.46**	**319**	P	**P**	**08 22 44.9**	**+0.7**
	0.5nm,0.8s,baz=72,slow=6.5,SNR=3.8						

*ISCJB **13** 08:12:02.6±0.4, 36.23°N±0.03°×71.24°E±0.06°, h102km, mb3.9/19, Error ellipse: s-maj=6.7km s-min=2.9km az=158.3*
*IDC **13** 08:12:02.8±4.6, 36.15°N×71.07°E, h96km±42km, mb3.7/15, mb1 3.9/18, mb1mx3.7/31, mbtmp3.8/18, MS3.2/3, Ms1 3.3/3, ms1mx2.7/41, Error ellipse: s-maj=20.6km s-min=13.4km az=33.0*
*MOS **13** 08:12:03.6±0.9, 36.22°N×71.20°E, h115km, mb4.1/16, Error ellipse: s-maj=12.4km s-min=5.4km az=79.4*
*NEIC **13** 08:12:04.3±0.7, 36.17°N×71.30°E, h112km±11km, mb4.4/6, Error ellipse: s-maj=11.2km s-min=5.7km az=60.0*
*NNC **13** 08:12:15.3±4.4, 37.11°N×70.84°E, h157km±42km, mb3.9, mpv4.7, Error ellipse: s-maj=35.2km s-min=23.7km az=25.0*
ISC 13 08:12:03.6±0.5, 36.26N±0.05°×71.21E±0.07°, h102km, n112, σ1°57/108, mb4.0/19, 8C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.46**	**226**	*e*PN	Pn	08 12 43.8	+1.3
KBL	**Kabul**	**2.46**	**226**	*e*Pn	Pn	08 12 43.8	+1.3
CEP	**Cherat**	**2.50**	**167**	P	Pn	08 12 46.9	+3.9
CEP				S	Sn	08 13 18.0	+4.9
CHCP	**Chirah Chowk**	**3.10**	**146**	P	Pn	08 12 55.1	+4.3
THW	**Thamme Wali**	**3.49**	**173**	P	Pn	08 12 59.7	+3.7
JMU	**Jammu**	**4.67**	**138**	*e*S	**Sn**	**08 14 03.5**	**-1.4**
DHRM	**DHARAMSHALA**	**5.81**	**132**	*e*P	Pn	08 13 30.1	+2.5
DHRM				*e*S	**Sn**	**08 14 33.1**	**+0.1**
AML	**Almayashu**	**6.17**	**17**	P	**Pn**	**08 13 34.6**	**+2.0**
	SNR=296						
UCH	**Uchtor**	**6.49**	**22**	*i* PN	**Pn**	**08 13 38.8**	**+1.9**
UCH	**Uchtor**	**6.49**	**22**	P	**Pn**	**08 13 38.9**	**+1.9**
	SNR=87						
BHK	**Bhakra**	**6.49**	**137**	*e*P	**Pn**	**08 13 37.2**	**+0.6**
BHK				*ex*	x	08 14 50.2	
KZA	**Kyzart**	**6.60**	**27**	*i* PN	**Pn**	**08 13 40.4**	**+2.0**
KZA	**Kyzart**	**6.60**	**27**	P	**Pn**	**08 13 40.5**	**+2.0**
	SNR=22						
EKS2	**Erkin-Say**	**6.69**	**16**	*i* PN	**Pn**	**08 13 41.5**	**+2.1**
EKS2	**Erkin-Say**	**6.69**	**16**	P	**Pn**	**08 13 41.5**	**+2.1**
	SNR=50						
SDNR	**Sundarnagar**	**6.75**	**133**	*e*P	Pn	08 13 42.0	+1.9
SDNR				*e*S	**Sn**	**08 14 54.0**	**-1.4**
AAK	**Ala-Archa**	**6.85**	**21**	*e*PN	**Pn**	**08 13 43.4**	**+1.8**
AAK	**Ala-Archa**	**6.85**	**21**	P	**Pn**	**08 13 44.0**	**+2.4**
	SNR=76						
AAK	**Ala-Archa**	**6.85**	**21**	*e*Pn	**Pn**	**08 13 43.4**	**+1.8**
AAK				*e*Sn	**Sn**	**08 14 58.0**	**-0.1**
KK31	**Karatay Array**	**6.85**	**356**	⇑P	**Pn**	**08 13 42.3**	**+0.8**
	12nm,0.4s,baz=176,slow=12,SNR=138						
KK31				⇓S	Sn	08 14 50.8	-7.1
	84nm,0.7s,baz=160,slow=22,SNR=4.0						
KBK	**Karagaybulak**	**7.01**	**23**	*i* PN	**Pn**	**08 13 46.6**	**+2.8**
KBK	**Karagaybulak**	**7.01**	**23**	P	**Pn**	**08 13 46.6**	**+2.8**
	SNR=38						
FRU	**Bishkek**	**7.07**	**21**	*e*PN	**Pn**	**08 13 46.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,120nm,1.6s						
SMLA	**Simla**	**7.13**	**134**	*e*P	**Pn**	**08 13 46.8**	**+1.5**
SMLA				⇓*i*P	Pn	08 13 47.1	+1.8
SMLA				*e*S	**Sn**	**08 15 03.6**	**-1.2**
SMLA				AML	AML	08 15 07.3	
	comp=N,523nm,0.4s						
SMLA				AML	AML	08 15 09.1	
	comp=E,504nm,0.6s						
ULHL	**Ulahol**	**7.14**	**32**	P	**Pn**	**08 13 47.8**	**+2.3**
	SNR=18						
CHMS	**Chumysh**	**7.26**	**21**	*i* PN	**Pn**	**08 13 49.0**	**+2.0**
CHMS	**Chumysh**	**7.26**	**21**	P	**Pn**	**08 13

comp=Z,45nm,0.5s
GUN Gumba 14.95 120 *e*P **Pn 08 15 29.0 -1.0**
comp=Z,45nm,0.5s
JBP Jabalpur 15.10 147 *e*P **P 08 15 35.7 +1.4**
JBP *ex* x 08 18 12.2
KURBB Kurchatov Arra 15.29 18 P **Pn 08 15 31.5 -2.3**
comp=Z,0.2nm,0.3s,baz=206,slow=10,SNR=7.7
KURBB Kurchatov Arra 15.29 18 ⇑P **P 08 15 35.6 -0.7**
comp=Z,32nm,1.2s
JIRN Jiri 15.32 120 *e*P **Pn 08 15 33.7 -1.0**
comp=Z,58nm,0.4s
JIRN Jiri 15.32 120 *e*P **Pn 08 15 33.7 -1.0**
comp=Z,58nm,0.4s
AB31 Akbulak array 15.37 331 P **Pn 08 15 33.6 -1.2**
comp=Z,2.6nm,0.2s,baz=151,slow=12,SNR=96
AB31 ⇓S Sn 08 18 10.2 -14
comp=Z,9.6nm,0.6s,baz=150,slow=20,SNR=15
KURK Kurchatov 15.40 18 *e*P **P 08 15 38.0 +0.5**
KURK pmax pmax
comp=Z,15nm,1.0s
KURK Kurchatov 15.40 18 *e*Pn **P 08 15 38.0 +0.5**
comp=Z,15nm,1.0s
KURK Kurchatov 15.40 18 ⇓P **P 08 15 38.0 +0.5**
comp=Z,14nm,1.0s
RAMN Ramite 16.05 121 *e*P **Pn 08 15 41.9 -1.8**
comp=Z,46nm,0.6s
RAMN Ramite 16.05 121 *e*P **Pn 08 15 41.9 -1.8**
comp=Z,46nm,0.6s
VOSK Vostochnaya 16.46 360 ⇑P **Pn 08 15 46.5 -1.8**
comp=Z,15nm,0.8s
VOSK ⇓S Sn 08 18 40.2 -11
comp=Z,9.8nm,1.4s
TAPN Taplejung 16.59 118 *e*P **P 08 15 50.6 -0.5**
comp=Z,114nm,0.7s
ODAN Odare 16.66 120 *e*P **P 08 15 51.3 -0.5**
comp=Z,32nm,0.5s
BVA0 Borovoye Array 16.77 358 ⇑P **Pn 08 15 51.8 -0.3**
comp=Z,23nm,1.3s,baz=173,slow=11,SNR=4.1
BVA0 ⇓S Sn 08 18 46.8 -11
comp=Z,8.2nm,0.9s,baz=167,slow=23,SNR=4.8
BVAR Borovoye Array 16.77 358 P **Pn 08 15 51.3 -0.8**
BVAR S **Sn 08 18 52.2 -6.0**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,70nm,18.9s
BVAR Borovoye Array 16.77 358 P **Pn 08 15 51.3 -0.8**
comp=Z,0.8nm,0.3s,baz=170,slow=9.0,SNR=30
BVAR S **Sn 08 18 52.2 -6.0**
comp=Z,0.2nm,0.3s,baz=163,slow=23,SNR=5.6
BVAR LR LR 08 22 36.3
comp=Z,70nm,18.9s,baz=227,slow=38
BRVK Borovoye 16.81 358 *d* iP **Pn 08 15 51.9 -0.6**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 16.81 358 *e*Pn **Pn 08 15 52.1 -0.4**
comp=Z,52nm,1.3s
BRVK Borovoye 16.81 358 ⇓P **Pn 08 15 52.2 -0.4**
comp=Z,62nm,1.6s
AKTO Aktyubinsk 17.07 330 P **P 08 15 55.7 -0.2**
AKTO S Sn 08 18 53.7 -12
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO Aktyubinsk 17.07 330 P **P 08 15 55.7 -0.2**
comp=N,0.7nm,0.3s,baz=150,slow=7.8,SNR=51
AKTO S Sn 08 18 53.7 -12
comp=N,0.6nm,0.3s,baz=94,slow=23,SNR=7.0
AKTO Aktyubinsk 17.07 330 ⇑P **P 08 15 56.0 0.0**
comp=N,9.7nm,0.8s
AKTO ⇓S Sn 08 18 52.7 -13
comp=N,12nm,0.8s
POO Poona 17.82 172 *e* 08 19 17.0
HYB Hyderabad 19.87 159 *i* P **Pn 08 16 27.0 -2.3**
ZAA0 Zalesovo Array 20.06 24 *e*P **P 08 16 29.5 +0.9**
ZALV Zalesovo Beam 20.06 24 P **P 08 16 29.6 +1.0**
ZALV pmax pmax
comp=Z,17nm,0.5s
ZALV MLR MLR
comp=Z,43nm,18.2s
ZALV Zalesovo Beam 20.06 24 P **P 08 16 29.6 +1.0**
comp=Z,17nm,0.5s,baz=219,slow=10,SNR=73
ZALV LR LR 08 24 57.6
comp=Z,43nm,18.2s,baz=40,slow=38
NVS Novosibirsk 20.34 20 *e*P **P 08 16 32.0 +0.4**
NVS pmax pmax
comp=N,19nm,1.2s
NVS pmax pmax
comp=Z,23nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS pmax pmax
comp=Z,14nm,1.5s
SVE Sverdlovsk 21.77 344 *e*P **P 08 16 47.8 +1.0**
SVE pmax pmax
comp=Z,32nm,1.2s
ARU Arti 21.91 341 *d* iP **P 08 16 49.7 +1.4**
ARU pmax pmax
comp=Z,32nm,1.7s
ARU Arti 21.91 341 *e*P **P 08 16 48.5 +0.2**
comp=Z,40nm,1.5s
KIV Kislovodsk 23.05 298 *e*P P 08 17 09.2 +9.0
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,27nm,14.0s
SONM Songino Array 28.33 55 P **P 08 17 49.8 +1.9**
comp=Z,1.2nm,0.9s,baz=254,slow=8.9,SNR=8.2
CMAR Chiang Mai Arr 30.19 119 P **P 08 18 04.8 +0.3**
comp=Z,0.9nm,0.3s,baz=304,slow=8.6,SNR=5.9
AKASG Malin Array Be 33.23 309 *ce*P P 08 18 36.4 +5.7
AKASG Malin Array Be 33.23 309 P **P 08 18 31.3 +0.6**
comp=Z,0.1nm,0.3s,baz=87,slow=6.1,SNR=3.4
FINES FINESS Array B 37.77 326 P **P 08 19 10.1 +0.6**
comp=Z,1.4nm,0.7s,baz=115,slow=7.2,SNR=8.2
ARCES ARCESS Array B 41.43 338 P **P 08 19 40.4 +0.7**
comp=Z,1.1nm,0.7s,baz=118,slow=8.2,SNR=10.0
ARCES LR LR 08 37 10.7
comp=Z,70nm,21.7s,baz=341,slow=36
PSI Prapat 41.99 136 P **P 08 19 45.8 +0.8**
comp=Z,2.9nm,0.3s,baz=342,slow=5.2,SNR=4.3
NB2 NORSAR Subarra 44.67 323 P **P 08 20 05.6 -0.4**
comp=Z,0.7nm,0.6s,baz=97,slow=8.6
NOA NORSAR Array B 44.67 323 P **P 08 20 05.6 -0.4**
comp=Z,1.2nm,0.7s,baz=96,slow=7.8,SNR=5.6
TIXI Tiksi 45.93 22 *e*P **P 08 20 16.2 +0.5**
TIXI pmax pmax
comp=Z,2.0nm,0.5s
TIXI Tiksi 45.93 22 *e*P **P 08 20 16.2 +0.5**
comp=Z,2.1nm,0.5s
MJAR Matsushiro Arr 52.88 68 P **P 08 21 10.3 +1.3**
comp=Z,1.9nm,1.0s,baz=276,slow=11,SNR=4.0
TORD Torodi Ar. Bea 65.88 269 P **P 08 22 36.3 -2.5**
comp=Z,1.6nm,0.8s,baz=45,slow=6.0,SNR=9.9
INK Inuvik 74.11 9 *e*P **P 08 23 28.8 +0.6**
comp=Z,2.9nm,0.8s
ILAR Eielson Array 74.96 16 P **P 08 23 33.1 -0.1**
comp=Z,0.7nm,0.9s,baz=319,slow=4.7,SNR=11
BOSA Boshof 77.67 220 P **P 08 23 49.4 +0.3**
comp=Z,4.3nm,0.8s,baz=33,slow=5.8,SNR=4.8
YKA Yellowknife Ar 81.47 3 P **P 08 24 09.7 +0.6**
comp=Z,1.1nm,0.8s,baz=349,slow=5.4,SNR=10
WRA Warramunga Arr 81.72 122 P **P 08 24 10.8 -0.3**
comp=Z,0.7nm,0.8s,baz=324,slow=5.0,SNR=4.5
ASAR Alice Springs 83.98 125 P **P 08 24 22.5 -0.2**
comp=Z,0.6nm,0.7s,baz=324,slow=5.5,SNR=5.2

NIED ***13*** *08:13:00,23.˚80N×121.˚50E,h26km,Mw4.3 Best double couple: M₀2.76000×10¹⁵ NP1:φ₀83.00000°, δ83.00000°, λ115.00000°. NP2:φ₀188.00000°, δ26.00000°, λ17.00000°.*
BJI ***13*** *08:13:22.4,23.˚84N×121.˚47E,h5km,mB4.3/4,mb4.1/4, ML4.4/6,Ms4.1/4,Ms7 4.0/4*
NEIC ***13*** *08:13:23.6±0.6,23.˚71N×121.˚59E,h10km,mb4.5/2, ML4.7(TAP),Error ellipse: s-maj=13.3km s-min=10.8km az=121.0*
NEIC Recorded [4 TAP] in Hua-lien, [2 TAP] in Nan-t'ou and [1 TAP] in Chang-hua, I-lan, T'ai-chung, T'ai-tung and Yun-lin.
JMA ***13*** *08:13:24.2±0.1,23.˚79N×121.˚54E,h11km±4km,M4.1*
ISCJB ***13*** *08:13:25.3±0.2,23.˚81N±0.˚01×121.˚54E±0.˚02,h22km±2km, mb3.9/19,MS3.6/4,Error ellipse: s-maj=2.9km s-min=1.7km az=36.5*

TAP ***13*** *08:13:25.1,23.˚83N×121.˚46E,h19km,ML4.6,B*
IDC ***13*** *08:13:29.6±3.6,23.˚78N×121.˚73E,h59km±34km,mb3.7/17, mb1 3.8/20,mb1mx3.8/30,mbtmp3.7/20,ML3.8/3,MS3.4/7, Ms1 3.4/7,ms1mx3.1/35,Error ellipse: s-maj=20.3km s-min=13.6km az=67.0*
ISC 13 08:13:25.1±0.7,23.˚81N±0.˚01×121.˚52E±0.˚02,h18km±3km, n133,σ1♀12/175,mb4.0/19,MS3.6/4,21C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ESF	**Shoufeng Towns**	**0.06**	**349**	⇓*i*P		**Pg**	**08 13 28.8**	**+0.3**
ESF	baz=46			*i* S		**Sg**	**08 13 31.0**	**+0.3**
ESL	baz=46 **Shilin**	**0.08**	**273**	⇓*i*P		**Pg**	**08 13 28.4**	**-0.2**
TEGC	baz=226 **Jichi Village**	**0.10**	**169**	*e*P		**Pg**	**08 13 30.1**	**+1.3**
TEGC	baz=154			S		**Sg**	**08 13 33.6**	**+2.4**
HWA	**Hwalien**	**0.18**	**25**	⇓*i*P		**Pb**	**08 13 30.6**	**+0.9**
TWD	baz=38 **Chiawan**	**0.28**	**15**	⇓*i*P		**Pb**	**08 13 31.5**	**-0.1**
TWD	baz=24			S		**Sb**	**08 13 35.5**	**-0.4**
EHY	baz=24 **Hungye**	**0.35**	**211**	⇑*i*P		**Pb**	**08 13 32.3**	**-0.6**
EHY	baz=200			S		**Sb**	**08 13 37.4**	**-0.7**
WHF	baz=200 **Hehuan Shan**	**0.41**	**325**	⇑*i*P		**Pg**	**08 13 32.9**	**-0.8**
TWF1	baz=331 **Yuli**	**0.50**	**204**	⇑*i*P		**Pg**	**08 13 34.5**	**-0.7**
TWF1	baz=199			*e*S		**Sb**	**08 13 41.7**	**-0.6**
EHP	baz=199 **Heping Village**	**0.54**	**22**	*e*P		**Pb**	**08 13 35.7**	**-0.3**
EHP	baz=21			*e*S		**Sb**	**08 13 43.4**	**0.0**
TWT	baz=21 **Tachien**	**0.54**	**325**	⇑*i*P		**Pg**	**08 13 35.7**	**-0.3**
TWT	baz=322			S		**Sg**	**08 13 41.8**	**-1.5**
SMLT	baz=322 **Sun Moon Lake**	**0.57**	**277**	⇑*i*P		**Pg**	**08 13 35.9**	**-0.7**
SMLT	baz=275			*e*S		**Sg**	**08 13 42.4**	**-1.8**
YUS	baz=275 **Yu-Shan**	**0.61**	**239**	⇓*i*P		**Pb**	**08 13 37.4**	**-0.1**
YUS	baz=233			*e*S		**Sg**	**08 13 45.2**	**-0.4**
TYC	baz=233 **Yuchr**	**0.61**	**279**	⇑*i*P		**Pg**	**08 13 36.4**	**-0.9**
TYC	baz=277			S		**Sg**	**08 13 43.7**	**-1.8**
NNS	baz=277 **Nan Shan**	**0.64**	**348**	⇑*i*P		**Pg**	**08 13 37.5**	**-0.3**
NNS	baz=3.0			*e*S		**Sg**	**08 13 45.4**	**-1.1**
ENA	baz=3.0 **Nanau**	**0.65**	**18**	⇓*i*P		**Pg**	**08 13 37.3**	**-0.6**
ENA	baz=25			*e*S		**Sg**	**08 13 46.1**	**-0.5**
ALS	baz=25 **Alishan**	**0.72**	**246**	⇓*i*P		**Pb**	**08 13 39.2**	**-0.1**
ALS	baz=241			*e*S		**Sg**	**08 13 47.9**	**-1.1**
CHKT	baz=241 **Chengkung**	**0.72**	**191**	*e*P		**Pb**	**08 13 38.9**	**-0.3**
WNT	baz=186 **Mingjian**	**0.77**	**275**	⇑*i*P		**Pb**	**08 13 40.5**	**+0.6**
WNT	baz=274			S		**Sb**	**08 13 50.8**	**+0.7**
ELDTW	**Lidau**	**0.77**	**217**	⇑*e*P		**Pg**	**08 13 38.8**	**-1.4**
ELDTW	baz=204			*e*S		**Sg**	**08 13 49.8**	**-0.7**
CHN5	baz=204 **Tsauling**	**0.80**	**255**	⇑*i*P		**Pb**	**08 13 40.9**	**+0.4**
ENTT	baz=242 **Nioudou**	**0.83**	**3**	⇓*i*P		**Pg**	**08 13 40.4**	**-0.9**
ENTT	baz=8.0			*e*S		**Sg**	**08 13 51.1**	**-1.1**
TCU	baz=8.0 **Taichung**	**0.84**	**294**	⇑*i*P		**Pn**	**08 13 41.8**	**-0.3**
TCU	baz=292			*e*S		**Sb**	**08 13 53.0**	**+0.8**
TWC	baz=292 **Suao**	**0.85**	**21**	⇓*i*P		**Pg**	**08 13 40.7**	**-1.0**
TWC	baz=19			S		**Sb**	**08 13 52.5**	**0.0**
TWQ1	baz=19 **Liyutan**	**0.87**	**308**	⇑P		**Pb**	**08 13 41.9**	**+0.2**
TWQ1	baz=316			*e*S		**Sb**	**08 13 53.6**	**+0.6**
NSK	baz=316 **Sanguang**	**0.88**	**350**	⇓*i*P		**Pg**	**08 13 41.4**	**-0.8**
NSK	baz=355			*i* S		**Sg**	**08 13 52.1**	**-1.7**
WGK	baz=355 **Gukeng**	**0.89**	**262**	⇑*e*P		**Pn**	**08 13 42.5**	**-0.1**
WGK	baz=259			*e*S		**Sn**	**08 13 55.1**	**0.0**
NSY	baz=259 **Sanyi**	**0.92**	**311**	*e*P		**Pn**	**08 13 43.2**	**0.0**
NSY	baz=313			*e*S		**Sb**	**08 13 55.6**	**+1.2**
NSTT	baz=313 **Nanjuang**	**0.94**	**330**	⇑*i*P		**Pg**	**08 13 43.1**	**-0.4**
NSTT	baz=334			S		**Sb**	**08 13 54.0**	**-1.2**
STYT	baz=334 **Tauyuan**	**0.95**	**228**	*i* P		**Pg**	**08 13 43.0**	**-0.6**
STYT	baz=223			*e*S		**Sg**	**08 13 56.1**	**-0.1**
ILA	baz=223 **Ilan**	**0.97**	**12**	*e*P		**Pg**	**08 13 43.4**	**-0.6**
ILA	baz=17			*e*S		**Sb**	**08 13 56.2**	**+0.2**
WTP	baz=17 **Ta-pu**	**1.00**	**236**	⇑*e*P		**Pn**	**08 13 44.5**	**+0.1**
WTP	baz=232			S		**Sb**	**08 13 57.1**	**+0.2**
CHY	baz=232 **Chiayi**	**1.05**	**253**	⇑P		**Pn**	**08 13 45.2**	**+0.2**
CHY	baz=250			*e*S		**Sg**	**08 13 58.9**	**-0.5**
TWG	baz=250 **Pinlang**	**1.07**	**203**	*e*P		**Pb**	**08 13 43.9**	**-1.1**
TWK	baz=186 **Hsinying**	**1.09**	**240**	⇑P		**Pg**	**08 13 46.0**	**-0.3**
TWK	baz=237			*e*S		**Sn**	**08 14 00.4**	**+0.2**
EGS	baz=237	**1.10**	**20**	*e*P		**Pb**	**08 13 45.2**	**-0.3**
EGS	baz=25			*e*S		**Sn**	**08 14 00.6**	**+0.3**
CHN1	baz=25 **Nanshi**	**1.10**	**236**	⇑P		**Pg**	**08 13 46.2**	**-0.2**
CHN1	baz=233			S		**Sn**	**08 14 01.2**	**+0.7**
TTN	baz=233 **Taitung**	**1.11**	**198**	*e*P		**Pg**	**08 13 46.4**	**-0.1**
HSN	baz=178 **Hsinchu**	**1.11**	**333**	*e*P		**Pg**	**08 13 47.0**	**+0.4**
HSN	baz=321			*e*S		**Sn**	**08 14 01.2**	**+0.6**
SGST	baz=321 **Jiashian**	**1.12**	**230**	*e*P		**Pg**	**08 13 47.2**	**+0.3**
SGST	baz=226			S		**Sn**	**08 14 02.9**	**+1.9**
WTCT	baz=226 **Ta-ch'eng**	**1.14**	**273**	*e*P		**Pb**	**08 13 46.0**	**-0.2**
WTCT	baz=271			*e*S		**Sb**	**08 14 01.3**	**+0.7**
TATO	baz=271 **Taipei**	**1.16**	**359**	*e*Pn		**Pn**	**08 13 46.0**	**-0.4**
TATO				*e*Sn		**Sn**	**08 14 03.3**	**+1.4**
NCU	**National Centr**	**1.19**	**345**	*e*P		**Pg**	**08 13 47.6**	**-0.6**
NCU	baz=350			*e*S		**Sg**	**08 14 04.6**	**+0.8**
WSF	baz=350 **Szhu**	**1.20**	**262**	*e*P		**Pb**	**08 13 47.3**	**-0.1**
WSF	baz=260			*e*S		**Sn**	**08 14 03.5**	**+0.6**
TAP1	baz=260 **Taipei** baz=20	**1.22**	**0**	*e*P		**Pn**	**08 13 46.6**	**-0.7**
TAP1				*e*S		**Sn**	**08 14 03.9**	**+0.5**
TAP	baz=20 **Taipei** baz=20	**1.22**	**359**	*e*P		**Pb**	**08 13 47.9**	**+0.2**
TAP				*e*S		**Sn**	**08 14 03.9**	**+0.5**
TWB1	baz=20 **Santiao Chiao** baz=24	**1.27**	**20**	*e*P		**Pn**	**08 13 47.5**	**-0.4**
CHN8	**Yiju** baz=246	**1.29**	**249**	*e*P		**Pb**	**08 13 49.1**	**+0.3**
CHN8	baz=246			*e*S		**Sg**	**08 14 06.3**	**-0.4**
CHN3	**Shinhua** baz=233	**1.29**	**236**	*e*P		**Pg**	**08 13 50.0**	**0.0**
CHN3	baz=233			*e*S		**Sg**	**08 14 08.3**	**+1.4**
TWS1	baz=14 **Kuangyinshan** baz=14	**1.29**	**356**	*e*P		**Pn**	**08 13 48.4**	**+0.2**
TWS1	baz=14			*e*S		**Sg**	**08 14 07.0**	**+0.1**
ECL	**Taimali** baz=186	**1.31**	**203**	*e*P		**Pg**	**08 13 49.5**	**-1.0**
SSD	**Sandimen** baz=214	**1.34**	**218**	*e*P		**Pg**	**08 13 49.8**	**-1.1**
SSD	baz=214			*e*S		**Sg**	**08 14 08.0**	**-0.4**
SCLT	**Jiali** baz=240	**1.37**	**243**	*e*P		**Pg**	**08 13 50.9**	**-0.7**
SCLT	baz=240			*e*S		**Sg**	**08 14 08.8**	**-0.6**
TAI1	**Yung-k'ang** baz=233	**1.41**	**237**	*e*P		**Pg**	**08 13 51.8**	**-0.5**
SGLT	**Jiouru** baz=208	**1.44**	**221**	*e*P		**Pg**	**08 13 53.5**	**+0.7**
SGLT	baz=208			*e*S		**Sg**	**08 14 13.9**	**+2.4**
TWY	**Chenhua** baz=7.0	**1.46**	**3**	*e*P		**Pb**	**08 13 51.3**	**-0.5**
YOJ	**Yonaguni jima**	**1.51**	**64**	P		**Pn**	**08 13 51.5**	**+0.3**
YOJ				*e*S		**Sb**	**08 14 11.7**	**+0.3**
YOJ	**Yonaguni jima** baz=64	**1.51**	**64**	⇑*i*P		**Pb**	**08 13 51.7**	**-0.9**
YOJ	baz=64			*e*S		**Sb**	**08 14 11.4**	**0.0**
TAW	**Tawu** baz=186	**1.56**	**202**	*e*P		**Pb**	**08 13 53.0**	**-0.3**
SCZT	**Fangliau** baz=187	**1.65**	**210**	*e*P		**Pb**	**08 13 54.6**	**-0.4**
LAY	**Lan-yu** baz=168	**1.76**	**179**	*e*P		**Pn**	**08 13 53.3**	**-1.5**
WDGT	**Dungji** baz=250	**1.79**	**253**	*e*P		**Pn**	**08 13 55.9**	**+0.8**
TWP	**Hsiaoliuchiu** baz=229	**1.81**	**216**	*e*P		**Pg**	**08 13 58.8**	**-1.0**
PCYT	**Pengchaiyu** baz=19	**1.88**	**15**	*e*P		**Pn**	**08 13 56.1**	**-0.3**
HEN	**Hengchun** baz=188	**1.94**	**202**	*e*P		**Pb**	**08 14 00.2**	**+0.4**
TWK1	**Hengchun** baz=187	**1.97**	**200**	*e*P		**Pn**	**08 13 58.3**	**+0.7**
TSEB	**Hengchuen, Pin** baz=182	**1.98**	**197**	*e*P		**Pg**	**08 14 01.6**	**-1.7**
IRIF	**Iriomote-Funau**	**2.09**	**75**	*e*S		**Sb**	**08 14 26.2**	**-1.8**
HATJ	**Hateruma jima**	**2.10**	**83**	P		**Pn**	**08 14 00.1**	**+0.7**
HATJ				*e*S		**Sn**	**08 14 26.0**	**+0.8**
JKRS	**Kuro-shima**	**2.32**	**79**	P		**Pn**	**08 14 03.2**	**+0.9**
JKRS				*e*S		**Sn**	**08 14 32.1**	**+1.7**
JIJ	**Ishigaki jima**	**2.46**	**77**	P		**Pn**	**08 14 04.5**	**+0.2**
JIJ				*e*S		**Sn**	**08 14 33.7**	**-0.3**
KNM	**Kinmen** baz=282	**2.88**	**283**	⇑*e*P		**Pn**	**08 14 11.4**	**+1.2**
QZH	**Quanzhou**	**2.90**	**294**	⇑*i*Pn		Pn	08 14 06.1	-4.3
QZH						Sn	**08 14 40.3**	**-4.5**
QZH	comp=N,1μm,0.7s					smax	smax	
QZH	comp=E,850nm,0.9s					smax	smax	
QZH	comp=N,4μm,11.1s					LR	LR	
QZH	comp=E,3μm,8.2s					LR	LR	
QZH	comp=Z,4μm,11.2s					LR	LR	
JTJ	**Tarama**	**3.02**	**73**	P		**Pn**	**08 14 12.5**	**+0.5**
JTJ				*e*S		**Sn**	**08 14 48.2**	**+0.4**
JMJ	**Miyako jima 2**	**3.58**	**73**	*e*S		**Sn**	**08 15 03.9**	**+2.2**
JKE	**Kume jima 2**	**5.39**	**61**	P		**Pn**	**08 14 45.0**	**+0.3**
JIH	**Iheya**	**6.65**	**60**	P		**Pn**	**08 15 01.8**	**-0.2**
JOW	**Kunigami**	**6.81**	**62**	P		**Pn**	**08 15 02.7**	**-1.5**
JOW	**Kunigami** baz=59	**6.81**	**62**	*e*P		**Pn**	**08 15 03.5**	**-0.7**
JTK	**Tokunoshima**	**7.78**	**58**	P		**Pn**	**08 15 15.9**	**-1.5**
JAMN	**Amaminishikomi**	**8.18**	**56**	P		**Pn**	**08 15 21.3**	**-1.6**
NJ2	**Nanjing**	**8.54**	**345**	*e*P		Pn	08 15 32.3	+4.4
NJ2				pP			08 15 36.8	
NJ2				sP			08 15 38.9	
NJ2				S		**Sn**	**08 17 01.1**	**-2.7**
NJ2	comp=N,150nm,0.8s					smax	smax	
NJ2	comp=E,210nm,0.9s					smax	smax	
NJ2	comp=N,240nm,8.2s					LR	LR	
NJ2	comp=E,740nm,8.0s					LR	LR	
NJ2	comp=Z,5μm,10.7s					LR	LR	
JAM	**Amami Oshima**	**8.59**	**56**	P		**Pn**	**08 15 27.1**	**-1.5**
JNU	**Nakatsue**	**12.40**	**39**	P		**Pn**	**08 16 23.1**	**+2.3**
JNU	**Nakatsue** 0.3nm,0.3s,baz=91,slow=6.7,SNR=4.1	**12.40**	**39**	P		**Pn**	**08 16 23.1**	**+2.3**
JNU						LR	LR	08 20 44.9
	comp=Z,81nm,21.3s,baz=240,slow=35							
KSAR	**Wonju Array Be**	**14.64**	**20**	P		**Pn**	**08 16 54.0**	**+2.6**
KSRS	**Korea Array** 0.8nm,0.3s,baz=203,slow=12,SNR=16	**14.67**	**21**	P		**Pn**	**08 16 54.0**	**+2.3**
KSRS						LR	LR	08 23 18.6
	comp=Z,83nm,21.1s,baz=343,slow=40							
XAN	**Xi'an**	**15.00**	**316**	P		**Pn**	**08 16 58.3**	**+2.0**
XAN						pP	**pP**	**08 17 03.9**	**-2.8**
XAN	comp=Z,3.0nm,1.1s					pmax	pmax	
XAN	comp=Z,13nm,5.8s					pmax	pmax	
MJAR	**Matsushiro Arr**	**19.18**	**45**	P		**P**	**08 17 47.7**	**-0.1**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=237,slow=16,SNR=4.3	**19.18**	**45**	P		**P**	**08 17 47.7**	**-0.1**
MJAR						LR	LR	08 25 13.1
	comp=Z,64nm,19.1s,baz=245,slow=37							
CHTO	**Chiang Mai** 3.7nm,0.8s	**21.60**	**261**	*e*P		**P**	**08 18 14.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**21.71**	**260**	P		**P**	**08 18 17.5**	**+2.1**
CMAR	**Chiang Mai Arr** 1.5nm,0.3s,baz=55,slow=8.6,SNR=7.5	**21.71**	**260**	P		**P**	**08 18 17.5**	**+2.1**
USRK	**Ussuriysk Arra** 1.6nm,0.6s,baz=212,slow=8.2,SNR=5.2	**22.08**	**20**	P		**P**	**08 18 20.1**	**+1.1**
SONM	**Songino Array**	**26.83**	**337**	P		**P**	**08 19 04.6**	**+0.1**
SONM	**Songino Array** 4.1nm,0.9s,baz=162,slow=8.6,SNR=8.9	**26.83**	**337**	P		**P**	**08 19 04.6**	**+0.1**
LSA	**Lhasa** 6.1nm,0.6s	**27.70**	**289**	*e*P		**P**	**08 19 13.7**	**+0.8**
PSI	**Prapat** comp=Z,83nm,20.1s,baz=32,slow=36	**30.22**	**230**	LR		LR	08 31 37.3	
MKAR	**Makanchi Array**	**38.82**	**316**	P		**P**	**08 20 49.7**	**+0.7**
MKAR	**Makanchi Array** 5.7nm,0.8s,baz=102,slow=11,SNR=8.5	**38.82**	**316**	P		**P**	**08 20 49.7**	**+0.7**
PETK	**Petropavlovsk-** comp=Z,31nm,21.3s,baz=101,slow=35	**40.01**	**34**	LR		LR	08 36 39.1	
ZALV	**Zalesovo Beam**	**40.72**	**327**	P		**P**	**08 21 03.8**	**-0.8**
ZALV	**Zalesovo Beam** 3.0nm,0.6s,baz=108,slow=7.7,SNR=5.6	**40.72**	**327**	P		**P**	**08 21 03.8**	**-0.8**
H11N1	**WAKE ISLAND Hy** baz=286,slow=75,SNR=94	**42.20**	**86**	T		T	09 06 17.4	
H11N2	**WAKE ISLAND Hy** baz=286,slow=75,SNR=87	**42.20**	**86**	T		T	09 06 23.2	
H11N3	**WAKE ISLAND Hy** baz=286,slow=75,SNR=116	**42.22**	**86**	T		T	09 06 23.9	
H11S3	**WAKE ISLAND Hy** baz=286,slow=73,SNR=534	**42.32**	**88**	T		T	09 06 28.7	
H11S1	**WAKE ISLAND Hy** baz=286,slow=73,SNR=8.7	**42.33**	**88**	T		T	09 06 29.0	
H11S2	**WAKE ISLAND Hy** baz=286,slow=73,SNR=161	**42.34**	**88**	T		T	09 06 31.2	
KURK	**Kurchatov**	**42.57**	**320**	P		**P**	**08 21 20.4**	**+0.6**
KURBB	**Kurchatov Arra** 1.6nm,0.4s,baz=108,slow=8.9,SNR=3.5	**42.59**	**320**	P		**P**	**08 21 20.4**	**+0.4**

WRA	Warramunga Arr	45.25	163	P	P	08 21 39.6	-2.0
WRA	Warramunga Arr	45.25	163	P	P	08 21 39.6	-2.0
	1.4nm,0.7s,baz=345,slow=8.7,SNR=7.6						
BVAR	Borovoye Array	48.16	321	P	P	08 22 04.3	+0.2
BVAR	Borovoye Array	48.16	321	P	P	08 22 04.3	+0.2
	1.4nm,0.6s,baz=107,slow=7.7,SNR=3.9						
ASAR	Alice Springs	48.70	165	P	P	08 22 07.7	-1.0
ASAR	Alice Springs	48.70	165	P	P	08 22 07.7	-1.0
	0.4nm,0.4s,baz=340,slow=6.8,SNR=9.2						
STKA	Stephens Creek	58.61	160	P	P	08 23 20.4	-0.7
STKA	Stephens Creek	58.61	160	P	P	08 23 20.4	-0.7
	1.2nm,0.6s,baz=338,slow=9.0,SNR=4.4						
ILAR	Eielson Array	69.40	27	P	P	08 24 30.4	-1.3
ILAR	Eielson Array	69.40	27	P	P	08 24 30.4	-1.3
	0.4nm,0.7s,baz=294,slow=7.6,SNR=5.9						
FINES	FINESS Array B	71.92	330	P	P	08 24 48.2	+1.2
FINES	FINESS Array B	71.92	330	P	P	08 24 48.2	+1.2
	1.0nm,0.7s,baz=41,slow=6.1,SNR=3.7						
FINES				LR	LR	08 57 43.7	
	comp=Z,61nm,18.5s,baz=333,slow=37						
AKASG	Malin Array Be	73.35	318	P	P	08 24 56.1	+0.4
AKASG	Malin Array Be	73.35	318	P	P	08 24 56.1	+0.4
	0.3nm,0.5s,baz=58,slow=6.4,SNR=3.3						
BRTR	Keskin Array B	73.64	307	P	P	08 24 59.2	+1.4
BRTR	Keskin Array B	73.64	307	P	P	08 24 59.2	+1.4
	0.9nm,0.5s,baz=120,slow=2.4,SNR=4.7						
MLR	Muntele Rosu	77.13	314	P	P	08 25 19.8	+2.0
MLR	Muntele Rosu	77.13	314	P	P	08 25 19.8	+2.0
	0.3nm,0.7s,baz=121,slow=18,SNR=3.2						
NOA	NORSAR Array B	78.70	332	LR	LR	09 04 09.2	
	comp=Z,48nm,18.9s,baz=0.0,slow=39						
YKA	Yellowknife Ar	83.19	23	P	P	08 25 47.7	-2.3
YKA	Yellowknife Ar	83.19	23	P	P	08 25 47.7	-2.3
	1.8nm,0.8s,baz=314,slow=4.9,SNR=11						
GERES	GERESS Array B	83.33	321	P	P	08 25 51.0	-0.1
GERES	GERESS Array B	83.33	321	P	P	08 25 51.0	-0.1
	0.3nm,0.6s,baz=66,slow=5.5,SNR=2.9						

GUC 13 08:27:57.4±0.8, 32°.37S×71°.53W, h37km±3km, MD3.8, ML3.2, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	0.67	188	⇑*i*	P	08 28 10.4	0.0
IHA				*i*	S	08 28 20.2	+0.7
ROCH	El Roble	0.75	144	⇑*i*	P	08 28 11.9	+0.2
ROCH				*i*	S	08 28 22.9	+0.8
ROCH				AML	AML	08 28 24.4	
	comp=N,811nm,0.2s						
JACH	Jahuel	0.85	112	⇑*i*	P	08 28 13.8	+0.7
JACH				*i*	S	08 28 26.2	+1.7
PEL	Peldehue	1.05	138	⇓*i*	P	08 28 16.5	+0.8
PEL				*i*	S	08 28 31.0	+1.8
PEL				AML	AML	08 28 31.5	
	comp=N,1μm,0.4s						
LCCH	Las Cruces	1.11	182	*e*	P	08 28 16.8	+0.4
LCCH				*i*	S	08 28 31.4	+1.0
CMCH	Combarbala	1.27	21	*i*	P	08 28 19.6	+0.8
CMCH				*i*	S	08 28 36.4	+1.8
CMCH				AML	AML	08 28 38.5	
	comp=E,4μm,0.6s						
STL	Santa Lucia	1.30	145	⇓*i*	P	08 28 20.4	+1.2
CLCH	Cerro Calan	1.33	141	⇑*i*	P	08 28 20.5	+1.0
CLCH				*i*	S	08 28 38.4	+2.4
CLCH				AML	AML	08 28 39.9	
	comp=N,553nm,0.3s						
LACH	Col Las Americ	1.37	142	*i*	S	08 28 39.3	+2.2
LACH				AML	AML	08 28 43.5	
	comp=N,270nm,0.3s						
TACH	Talagante	1.38	159	⇑*i*	P	08 28 21.4	+1.2
TACH				*i*	S	08 28 39.5	+2.3
FSR	Penalolen	1.40	143	*e*	P	08 28 22.7	+2.2
FSR				*i*	S	08 28 40.5	+2.8
ANTU	Antumapu	1.42	148	AML	AML	08 28 42.0	
	comp=E,503nm,0.2s						
PCH	Pirque	1.52	146	*i*	S	08 28 43.2	+2.4
SJCH	San Jose de Ma	1.61	142	*e*	P	08 28 23.2	-0.3
SJCH				*i*	S	08 28 44.0	+0.9
CHCH	Chadas Angostu	1.73	155	*e*	P	08 28 26.6	+1.6
CHCH				*i*	S	08 28 48.9	+3.0
LMEL	Las Melosas	1.85	143	⇑*i*	P	08 28 28.7	+1.9
LMEL				*i*	S	08 28 51.4	+2.2
LMEL				AML	AML	08 28 55.6	
	comp=N,436nm,0.1s						
CACH	El Canelo	1.91	156	*e*	P	08 28 29.7	+2.1
TLL	Tololo Astrono	2.28	16	AML	AML	08 29 11.7	
	comp=E,194nm,0.6s						

KRSC 13 08:33:17.6±10.0, 48°.46N×155°.50E, h164km±113km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.26	10	P	Pn	08 33 58.6	+2.1
SKR				*e*S	Sn	08 34 28.1	+1.4
PAU	Pauzhetka	3.13	15	*e*P	Pn	08 34 08.9	+1.9
PAU				*e*S	Sn	08 34 49.3	+3.8
MIPR	Malaya Ipel'ka	3.91	11	*e*P	Pn	08 34 17.7	+0.8
ASAK	Asacha	4.22	20	P	Pn	08 34 23.8	+2.8
MTVR	Mutnovka	4.38	22	*e*P	Pn	08 34 26.7	+3.5
MTVR				*e*S	Sn	08 35 17.0	+2.5
RUS	Russkaya	4.42	25	*i* P	Pn	08 34 26.5	+3.0
RUS				*e*S	Sn	08 35 17.4	+2.3
UGLR	Uglovaya	5.20	23	P	Pn	08 34 37.4	+3.5
AVH	Avacha	5.23	22	P	Pn	08 34 38.6	+4.4
KOK	Koryaka	5.23	21	P	Pn	08 34 37.9	+3.6
SMAR	Somma	5.24	22	P	Pn	08 34 37.9	+3.3
KRER	Koryakskii	5.27	22	P	Pn	08 34 37.9	+3.0
SDLR	Sedlovina	5.28	23	*e*P	Pn	08 34 37.4	+2.5
KRX	Arik	5.29	21	P	Pn	08 34 38.1	+2.9
GNL	Ganaly	5.46	15	P	Pn	08 34 40.1	+2.7
MKZ	Mys Kozlova	7.24	30	*e*P	Pn	08 35 02.9	+2.3
TUMR	Tumrok	7.41	21	P	Pn	08 35 06.9	+3.8
KBTR	Krutoberegovo	8.96	27	P	Pn	08 35 25.4	+2.0
BKI	Bering	9.35	40	S	Sn	08 37 11.9	-0.5

*IDC **13** 08:38:21.7±1.4, 35°.64N×96°.94W, h0km, mb3.8/1, mb1 3.7/5, mb1mx3.4/31, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=20.6km s-min=12.6km az=109.0*
*NEIC **13** 08:38:25.9±0.3, 35°.59N×97°.29W, h5km, MN3.6, Error ellipse: s-maj=4.3km s-min=4.0km az=154.0*
NEIC Felt [III] at Choctaw, Jones and Spencer; [II] at Edmond and Oklahoma City. Also felt at Harrah and Norman.

ISC 13 08:38:24.4±0.8, 35°.58N±0°.02×97°.25W±0°.02, h4km±6km, n228, σ1°90°/258°, 100C-106D, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
V34A	Guthrie	0.33	320	⇑P	Pb	08 38 33.0	0.0
	baz=0.3,SNR=673						
V34A				⇓S	Sb	08 38 38.0	-0.6
	baz=0.3						
W34A	Bridge Creek,	0.55	231	⇑P	Pb	08 38 36.3	-0.3
	baz=0.5,SNR=108						
W34A				⇓S	Sb	08 38 44.0	-0.8
	baz=0.5						
V33A	Lossen Ranch,	0.88	286	⇑P	Pb	08 38 42.3	+0.1
	baz=0.8,SNR=182						
V33A				⇑S	Sb	08 38 54.6	+0.4
	baz=0.8						
U34A	Anderson Ranch	0.88	345	⇓P	Pn	08 38 43.5	-0.2
	baz=0.9,SNR=331						
U34A				⇓S	Sb	08 38 55.7	+1.2
	baz=0.9						
W33A	Caddo, Fort Co	1.08	247	⇑P	Pn	08 38 46.4	0.0
	baz=1.1,SNR=189						
W33A				⇓S	Sn	08 39 01.3	-0.5
	baz=1.1						
X34A	Smith Ranch, M	1.09	206	⇓P	Pn	08 38 46.7	+0.3
	baz=1.1,SNR=484						
X34A				⇓S	Sn	08 39 01.9	0.0
	baz=1.1						
TUL1	Tulsa	1.23	74	*e*Pn	Pg	08 38 49.1	+1.0
TUL1				*e*S	Sn	08 39 06.5	+1.1
TUL1	Tulsa	1.23	74	⇓P	Pn	08 38 49.6	+1.2
	baz=1.3,SNR=251						
TUL1				⇓S	Sn	08 39 06.9	+1.4
	baz=1.3						
X33A	Lawton	1.46	225	⇓P	Pb	08 38 52.2	+0.1
	baz=1.4,SNR=47						
X33A				⇓S	Sg	08 39 11.9	+0.7
	baz=1.4						
V32A	Arapaho	1.47	276	⇓P	Pg	08 38 52.9	+0.4
	baz=1.4,SNR=64						
V32A				⇑S	Sg	08 39 14.0	+2.4
	baz=1.4						
WMOK	Wichita Mounta	1.51	237	*e*Pn	Pb	08 38 52.9	-0.1
WMOK				*e*Sn	Sn	08 39 12.3	0.0
U32A	Winter Ranch,	1.63	300	⇓P	Pg	08 38 55.5	-0.1
	baz=1.6,SNR=88						
U32A				⇓S	Sg	08 39 18.1	+1.4
	baz=1.6						
Y34A	Reagan Ranch,	1.67	195	⇑P	Pb	08 38 55.7	-0.1
	baz=1.7,SNR=161						
Y34A				⇓S	Sg	08 39 19.0	+0.9
	baz=1.7						
W32A	Sentinel	1.69	255	⇑P	Pb	08 38 56.3	+0.2
	baz=1.7,SNR=379						
W32A				⇓S	Sg	08 39 19.4	+0.6
	baz=1.7						
T33A	Patterson Ranc	1.70	332	⇓P	Pg	08 38 57.3	+0.3
	baz=1.7,SNR=44						
T33A				⇓S	Sg	08 39 20.6	+1.5
	baz=1.7						
Y33A	Hilltop Ranch,	1.93	216	⇑P	Pb	08 39 00.2	0.0
	baz=1.9,SNR=22						
Y33A				⇑S	Sb	08 39 25.7	+1.0
	baz=1.9						
X32A	Elmer	2.03	236	⇓P	Pb	08 39 02.1	+0.2
	baz=2.0,SNR=101						
X32A				⇓S	Sg	08 39 29.6	0.0
	baz=2.0						
T32A	Huddler Ranch,	2.09	320	⇓P	Pb	08 39 03.2	+0.3
	baz=2.1,SNR=14						
T32A				⇓S	Sg	08 39 31.7	+0.1
	baz=2.1						
S33A	Kaszmaul Farm,	2.10	344	⇓P	Pb	08 39 02.2	-0.8
	baz=2.1,SNR=21						
S33A				⇓S	Sg	08 39 32.1	+0.3
	baz=2.1						
V31A	Spring Creek L	2.12	276	⇓P	Pb	08 39 03.6	+0.2
	baz=2.1,SNR=160						
V31A				⇓S	Sg	08 39 32.7	+0.2
	baz=2.1						
W31A	Holland Ranch,	2.23	261	⇓P	Pb	08 39 04.6	-0.8
	baz=2.2,SNR=41						
W31A				⇑S	Sb	08 39 34.5	+1.1
	baz=2.2						
Z35A	Perchaven, San	2.25	180	⇑P	Pb	08 39 04.8	-0.7
	baz=2.3						
U31A	Nine Bar Ranch	2.25	291	⇑P	Pb	08 39 05.0	-0.7
	baz=2.2,SNR=77						
U31A				⇓S	Sg	08 39 35.4	-1.3
	baz=2.2						
Z34A	Collier Ranch,	2.27	194	⇓P	Pb	08 39 05.4	-0.6
	baz=2.3,SNR=57						
Y32A	R-V Farms, Ver	2.39	229	⇑P	Pb	08 39 07.2	-0.9
	baz=2.4,SNR=97						
X31A	McDonald Ranch	2.43	248	⇑P	Pb	08 39 07.5	-1.2
	baz=2.4,SNR=368						
T31A	Randall Ranch,	2.47	308	⇑P	Pb	08 39 07.9	-1.5
	baz=2.4,SNR=22						
S32A	Newby Ranch, P	2.51	328	⇓P	Pb	08 39 08.6	-1.5
	baz=2.5,SNR=6.8						
Z33A	Whitaker Ranch	2.61	209	⇓P	Pb	08 39 10.4	-1.3
	baz=2.6,SNR=134						
W30A	Crocket Farms	2.75	263	⇑P	Pn	08 39 11.4	+2.1
	baz=2.7,SNR=14						
R33A	Olander Ranch,	2.78	348	⇑P	Pb	08 39 13.5	-1.3
	baz=2.8						
V30A	Spur Ranch, Mi	2.80	275	⇑P	Pn	08 39 12.7	+2.6
	baz=2.8,SNR=22						
U30A	WK&E Inc. Balk	2.91	290	⇓P	Pn	08 39 14.1	+2.5
	baz=2.9,SNR=23						
Z32A	Haskell	2.92	220	⇓P	Pb	08 39 15.3	-1.8
	baz=2.9						
135A	Vickery Place,	3.02	183	⇓P	Pn	08 39 15.4	+2.4
	baz=3.0						
T30A	Plains	3.02	300	⇓P	Pn	08 39 15.4	+2.2
	baz=3.0,SNR=15						
R32A	Long Quarter,	3.07	338	⇓P	Pn	08 39 16.8	+3.2
	baz=3.1						
134A	White-Moore Ra	3.08	193	⇑P	Pn	08 39 16.5	+2.7
	baz=3.1,SNR=29						
X30A	Coker Ranch, T	3.18	250	⇓P	Pn	08 39 17.6	+2.4
	baz=3.2,SNR=46						
MIAR	Mount Ida	3.19	108	*e*Pn	Pn	08 39 17.3	+2.0
MIAR				*e*Sg	Sg	08 40 07.8	+0.9
R31A	Burdett	3.26	327	⇓P	Pn	08 39 19.0	+2.7
	baz=3.2,SNR=11						
133A	Hamilton Ranch	3.27	205	⇑P	Pn	08 39 19.5	+3.1
	baz=3.3						
Z31A	Sharp Cattle R	3.29	227	⇑P	Pn	08 39 19.6	+2.9
	baz=3.3,SNR=10.0						
S30A	Montezuma	3.30	309	⇑P	Pn	08 39 19.6	+2.7
	baz=3.3,SNR=41						
U29A	Oasis Ranch, S	3.37	286	⇑P	Pn	08 39 20.3	+2.4
	baz=3.3,SNR=9.3						
Q33A	Connelly Farm,	3.44	352	⇓P	Pn	08 39 21.2	+2.4
	baz=3.4,SNR=23						
Y30A	Stafford Cattl	3.45	242	⇑P	Pn	08 39 22.1	+3.2
	baz=3.4						
V29A	Stinnett	3.48	276	⇓P	Pn	08 39 22.0	+2.5
	baz=3.5						
KSU1	Kansas State U	3.55	8	*e*Pn	Pn	08 39 22.4	+2.1
KSU1				*e*Sg	Sg	08 40 20.6	+2.1
ABTX	Abilene, Hawle	3.55	215	*e*Pn	Pn	08 39 21.3	+0.9
ABTX	Abilene, Hawle	3.55	215	⇑P	Pn	08 39 23.5	+3.2
	baz=3.5						
Q32A	Meitler Ranch,	3.56	343	⇑P	Pn	08 39 22.6	+2.1
	baz=3.6,SNR=8.6						
WHTX	Lake Whitney	3.58	183	*e*Pn	Pn	08 39 22.6	+1.8
WHTX				*e*Sg	Sg	08 40 20.1	+0.5
WHTX	Lake Whitney	3.58	183	⇑P	Pn	08 39 22.7	+1.9
	baz=3.6,SNR=21						
T29A	Hugoton	3.62	297	⇑P	Pn	08 39 23.5	+2.2
	baz=3.6,SNR=18						
W29A	Amraillo	3.62	264	⇑P	Pn	08 39 23.4	+2.1
	baz=3.6,SNR=9.6						
AMTX	Amarillo	3.69	260	⇓P	Pn	08 39 25.0	+2.7
	baz=3.7						
S29A	Ulysses	3.72	304	⇑P	Pn	08 39 25.0	+2.3
	baz=3.7,SNR=22						
Q31A	Ellis	3.82	334	⇑P	Pn	08 39 26.2	+2.2
	baz=3.8,SNR=11						
X29A	Tulia	3.82	254	⇓P	Pn	08 39 26.4	+2.3
	baz=3.8,SNR=38						
P33A	Williams Farm,	3.87	355	⇑P	Pn	08 39 27.5	+2.8
	baz=3.9						
131A	Roby	3.90	223	⇑P	Pn	08 39 26.7	+1.6
	baz=3.9,SNR=10						
Z30A	Sanderson Ranc	3.94	236	⇑P	Pn	08 39 28.1	+2.5
	baz=3.9,SNR=16						
Y29A	Porterfield Fa	4.02	246	⇑P	Pn	08 39 29.5	+2.6
	baz=4.0,SNR=38						
V28A	Channing	4.05	274	⇓P	Pn	08 39 29.4	+2.1
	baz=4.0,SNR=7.4						
W28A	Vega	4.06	267	⇓P	Pn	08 39 30.1	+2.7
	baz=4.0						
UALR	University of	4.10	100	*e*Pn	Pn	08 39 30.3	+2.4
UALR				*e*Sg	Sg	08 40 36.0	-0.1
U28A	Mallet	4.11	283	⇑P	Pn	08 39 30.0	+1.9
	baz=4.1,SNR=24						
Q30A	Quinter	4.13	326	⇓P	Pn	08 39 31.0	+2.6
	baz=4.1						
P32A	Huiting Farm,	4.17	346	⇓P	Pn	08 39 30.6	+1.7
	baz=4.2,SNR=11						
232A	Coleman	4.19	209	⇑P	Pn	08 39 31.6	+2.5
	baz=4.2,SNR=20						
X28A	Dimmitt	4.19	257	⇓P	Pn	08 39 31.4	+2.2
	baz=4.2						
R29A	Marienthal	4.21	314	⇑P	Pn	08 39 30.4	+1.0
	baz=4.2						
T28A	Walsh	4.21	293	⇑P	Pn	08 39 31.5	+2.0
	baz=4.2,SNR=31						
S28A	Manter	4.24	300	⇑P	Pn	08 39 31.9	+2.0
	baz=4.2,SNR=30						
P31A	Stockton	4.28	337	⇓P	Pn	08 39 32.2	+1.8
	baz=4.3,SNR=20						
130A	Snyder	4.28	227	⇓P	Pn	08 39 32.0	+1.6
	baz=4.3,SNR=14						
335A	Moody	4.29	182	⇓P	Pn	08 39 32.1	+1.6
	baz=4.3,SNR=15						
334A	Lometa	4.32	191	⇓P	Pn	08 39 32.2	+1.3
	baz=4.3,SNR=23						
Z29A	Hungry Hill Ra	4.35	239	⇑P	Pn	08 39 33.5	+2.1
	baz=4.3						
Y28A	McKinney Farm,	4.44	249	⇑P	Pn	08 39 34.5	+1.9
	baz=4.4,SNR=13						
231A	Bronte	4.44	216	⇑P	Pn	08 39 33.9	+1.3
	baz=4.4,SNR=8.8						
Q29A	Oakley	4.44	319	⇑P	Pn	08 39 35.7	+3.1
	baz=4.4,SNR=18						
333A	Richland Sprin	4.49	199	⇑P	Pn	08 39 34.7	+1.5
	baz=4.5,SNR=13						
V27A	Dan Oppiter Fa	4.55	274	⇑P	Pn	08 39 36.6	+2.4
	baz=4.5,SNR=10						
R28A	Tribune	4.57	308	⇓P	Pn	08 39 36.3	+1.9
	baz=4.5,SNR=18						
U27A	Thompson Grove	4.59	282	⇓P	Pn	08 39 36.5	+1.7
	baz=4.6,SNR=45						
P30A	Selden	4.62	330	⇑P	Pn	08 39 37.4	+2.5
	baz=4.6,SNR=6.4						
T27A	Campo	4.66	290	⇓P	Pn	08 39 37.5	+1.9
	baz=4.6,SNR=113						
332A	Millersview	4.67	207	⇑P	Pn	08 39 38.0	+2.2
	baz=4.7						
MSTX	Muleshoe	4.82	252	*e*Pn	Pn	08 39 39.0	+1.2
MSTX				*e*Sg	Sg	08 40 55.7	-3.5
MSTX	Muleshoe	4.82	252	⇑P	Pn	08 39 39.3	+1.5
	baz=4.8,SNR=22						
Z28A	Tucker Farm, M	4.82	243	⇓P	Pn	08 39 40.0	+2.2
	baz=4.8,SNR=27						
129A	Stewart Farms,	4.83	234	⇓P	Pn	08 39 40.6	+2.7
	baz=4.8,SNR=6.2						
434A	Burnet	4.83	190	⇑P	Pn	08 39 39.2	+1.2
	baz=4.8,SNR=39						
O31A	Woolen Ranch,	4.85	341	⇓P	Pn	08 39 40.0	+1.8
	baz=4.8,SNR=8.1						
X27A	F and S Farms,	4.88	261	⇑P	Pn	08 39 40.4	+1.7
	baz=4.8,SNR=14						
230A	Sterling City	4.89	222	⇑P	Pn	08 39 40.0	+1.2
	baz=4.9						
P29A	Atwood	4.96	325	⇑P	Pn	08 39 42.3	+2.5
	baz=4.9						
331A	San Angelo	5.02	213	⇑P	Pn	08 39 43.2	+2.7
	baz=5.0,SNR=17						
Q28A	Sharon Springs	5.04	315	⇓P	Pn	08 39 42.1	+1.3
	baz=5.0						
433A	Art	5.05	198	⇑P	Pn	08 39 42.6	+1.6
	baz=5.1,SNR=22						
O30A	MW Ranch, Wils	5.10	335	⇓P	Pn	08 39 43.7	+2.1
	baz=5.1						
432A	Menard	5.15	205	⇑P	Pn	08 39 44.0	+1.6
	baz=5.2,SNR=41						
Y27A	Causey	5.15	253	⇓P	Pn	08 39 43.8	+1.4
	baz=5.1,SNR=19						
R27A	Eads	5.20	303	⇓P	Pn	08 39 44.8	+1.8
	baz=5.2,SNR=21						
N32A	Stulken Farm,	5.24	351	⇓P	Pn	08 39 45.0	+1.5
	baz=5.2						
128A	Castleberry Fa	5.25	237	⇑P	Pn	08 39 45.4	+1.7
	baz=5.2,SNR=17						
V26A	Tequesquite Ra	5.32	274	⇑P	Pn	08 39 46.5	+1.7
	baz=5.3						
U26A	Atchley Ranch,	5.33	281	⇓P	Pn	08 39 46.9	+2.0
	baz=5.3,SNR=19						
O29A	4D Ranch, Culb	5.33	329	⇑P	Pn	08 39 47.6	+2.8
	baz=5.3						
W26A	Owens Ranch, T	5.35	267	⇑P	Pn	08 39 46.6	+1.5
	baz=5.3,SNR=6.0						
P28A	Saint Francis	5.35	319	⇑P	Pn	08 39 48.0	+2.9
	baz=5.3,SNR=18						
T26A	Comanche Natio	5.36	289	⇑P	Pn	08 39 46.8	+1.5
	baz=5.3,SNR=24						
S26A	Kim	5.40	294	⇓P	Pn	08 39 47.5	+1.6
	baz=5.4,SNR=22						
N31A	Bailey Ranch,	5.40	346	⇑P	Pn	08 39 47.3	+1.5
	baz=5.4						
Z27A	Tatum	5.42	247	⇓P	Pn	08 39 47.5	+1.4
	baz=5.4,SNR=43						
X26A	CR and CF Fran	5.47	261	⇓P	Pn	08 39 47.5	+0.6
	baz=5.4						
KSCO	Kaye Shedlock'	5.48	310	*e*Pn	Pn	08 39 48.1	+1.2
KSCO				*e*Sg	Sg	08 41 18.3	-2.3
KSCO	Kaye Shedlock'	5.48	310	⇓P	Pn	08 39 49.1	+2.1
	baz=5.5,SNR=9.7						
JCT	Junction City	5.52	204	*e*Pn	Pn	08 39 48.8	+1.4
JCT				*e*Sn	Sn	08 40 51.5	+0.2
JCT	Junction City	5.52	204	⇑P	Pn	08 39 49.7	+2.3
	baz=5.5						
534A	Blanco	5.63	191	⇓P	Pn	08 39 49.8	+0.9
	baz=5.6,SNR=30						
431A	Sonora	5.64	211	⇓P	Pn	08 39 51.7	+2.7
	baz=5.6,SNR=21						
R26A	Arlington	5.66	301	⇑P	Pn	08 39 50.5	+1.1
	baz=5.6						
Y26A	Elida	5.66	255	⇓P	Pn	08 39 50.7	+1.3
	baz=5.6						
N30A	Hueftle Ranch,	5.67	338	⇑P	Pn	08 39 51.4	+2.0
	baz=5.7,SNR=12						
533A	Kerrville	5.70	196	⇓P	Pn	08 39 51.3	+1.5
	baz=5.7						
HKT	Hockley	5.74	168	Pn	Pn	08 39 52.5	+2.1
P27A	Ficken Ranch,	5.80	315	⇑P	Pn	08 39 54.3	+3.0
	baz=5.8,SNR=11						
430A	Baggett Ranch,	5.83	216	⇑P	Pn	08 39 53.8	+2.1
	baz=5.8,SNR=15						
127A	Arkansas Junct	5.83	242	⇑P	Pn	08 39 54.2	+2.4
	baz=5.8,SNR=8.6						
U25A	Circle Dot Ran	5.86	280	⇓P	Pn	08 39 53.5	+1.3
	baz=5.8,SNR=28						
BGNE	Belgrade	5.86	353	*e*Pn	Pn	08 39 52.3	+0.3
BGNE				*e*Sn	Sn	08 40 57.5	-2.2
BGNE	Belgrade	5.86	353	⇑P	Pn	08 39 53.8	+1.7
	baz=5.9						
N29A	Votaw Ranch, W	5.87	334	⇑P	Pn	08 39 54.3	+2.2
	baz=5.9,SNR=12						
532A	Rocksprings	5.88	203	⇑P	Pn	08 39 54.0	+1.6
	baz=5.9,SNR=29						
GNAR	Gosnell	5.89	84	*e*Sg	Sg	08 41 31.8	-2.0
W25A	X Bar L Ranch,	5.90	269	⇓P	Pn	08 39 54.6	+1.9
	baz=5.9,SNR=18						
M31A	Lambtecht Ranc	5.91	347	⇓P	Pn	08 39 54.3	+1.

428A	**Kincaid Ranch,** baz=6.6,SNR=19	**6.65**	**225**	⇑P		**Pn**	**08 40 03.9**	**+0.9**
W24A	**Lazy 6 Ranch,** baz=6.6,SNR=7.5	**6.67**	**269**	⇓P		**Pn**	**08 40 05.6**	**+2.2**
N27A	**Anderson Farm,** baz=6.7	**6.67**	**323**	⇓P		**Pn**	**08 40 05.6**	**+2.3**
O26A	**Horse Wrangler** baz=6.7,SNR=14	**6.68**	**316**	⇑P		**Pn**	**08 40 05.5**	**+2.2**
S24A	**Houchin Ranch,** baz=6.7,SNR=6.0	**6.72**	**290**	⇓P		**Pn**	**08 40 06.2**	**+2.0**
P25A	**Willow Gulch B** baz=6.7	**6.75**	**308**	⇓P		**Pn**	**08 40 06.7**	**+2.2**
631A	**Perdido Creek** baz=6.8,SNR=26	**6.76**	**205**	⇓P		**Pn**	**08 40 05.8**	**+1.3**
125A	**Gardner Draw,** baz=6.8	**6.80**	**247**	⇑P		**Pn**	**08 40 06.3**	**+1.2**
SIUC	**Southern Illin**	**6.80**	**69**	Pg		**Pg**	**08 40 32.7**	**-2.0**
SIUC				*e*Sg		**Sg**	**08 41 58.4**	**-4.4**
GDL2	**Guadalupe Moun**	**6.81**	**242**	*e*Pn		**Pn**	**08 40 06.3**	**+1.2**
GDL2				*e*Pg		Pb	08 40 28.6	+5.2
GDL2				*e*Sg		**Sg**	**08 41 57.7**	**-5.3**
529A	**Stev Forest Ra** baz=6.9	**6.86**	**219**	⇓P		**Pn**	**08 40 08.1**	**+2.3**
Y24A	**Capitan** baz=6.9	**6.94**	**259**	⇑P		**Pn**	**08 40 08.4**	**+1.4**
SDCO	**Great Sand Dun**	**6.97**	**290**	*e*Pn		**Pn**	**08 40 09.8**	**+2.3**
SDCO				*e*Sg		**Sg**	**08 42 05.7**	**-2.7**
427A	**Hayter Ranch,** baz=7.0,SNR=29	**6.99**	**229**	⇑P		**Pn**	**08 40 09.0**	**+1.4**
326A	**Caldwell Ranch** baz=7.0,SNR=7.9	**7.05**	**235**	⇓P		**Pn**	**08 40 10.1**	**+1.7**
SCIA	**State Center**	**7.06**	**25**	*e*Pn		**Pn**	**08 40 09.4**	**+1.0**
SCIA				*e*Pg		**Pg**	**08 40 39.3**	**-0.3**
SCIA				*e*Sn		**Sn**	**08 41 29.3**	**+0.2**
SCIA				*e*Sg		**Sg**	**08 42 10.5**	**-0.6**
Z24A	**Sheeppen Canyo** baz=7.0,SNR=14	**7.07**	**254**	⇓P		**Pn**	**08 40 11.2**	**+2.4**
528A	**Cox Ranch, San** baz=7.1,SNR=11	**7.13**	**222**	⇑P		**Pn**	**08 40 10.9**	**+1.2**
225A	**Deer Hill, Car** baz=7.2,SNR=6.6	**7.19**	**243**	⇑P		**Pn**	**08 40 12.1**	**+1.6**
P24A	**Kohler Place,** baz=7.2,SNR=7.7	**7.24**	**305**	⇓P		Pn	08 40 13.9	+2.8
T23A	**Casias Ranch,** baz=7.2	**7.24**	**284**	⇓P		Pn	08 40 14.0	+2.8
K30A	**Basset** baz=7.3	**7.32**	**346**	⇓P		**Pn**	**08 40 14.0**	**+2.0**
S23A	**Nye Farm, Mont** baz=7.3	**7.35**	**289**	⇑P		**Pn**	**08 40 15.4**	**+2.7**
R23A	**Moffat** baz=7.3,SNR=7.9	**7.35**	**293**	⇑P		**Pn**	**08 40 15.1**	**+2.4**
124A	**Stringfield Ra** baz=7.3,SNR=8.8	**7.38**	**249**	⇓P		**Pn**	**08 40 15.4**	**+2.3**
Y23A	**Lovelace Mesa,** baz=7.4,SNR=5.4	**7.43**	**260**	⇑P		**Pn**	**08 40 16.0**	**+2.2**
426A	**McDonald Obser** baz=7.5,SNR=11	**7.50**	**231**	⇑P		**Pn**	**08 40 15.7**	**+0.9**
ANMO	**Albuquerque**	**7.56**	**268**	Pn		**Pn**	**08 40 16.7**	**+1.1**
ANMO				Lg		Lg	08 42 24.1	
ANMO				*e*Sg		**Sg**	**08 42 24.4**	**-2.7**
ANMO	**Albuquerque** 0.2nm,0.3s,baz=82,slow=16,SNR=4.4	**7.56**	**268**	Pn		**Pn**	**08 40 16.6**	**+1.0**
ANMO	2.5nm,0.3s,baz=14,slow=23,SNR=6.0			Lg		Lg	08 42 24.1	
527A	**Woodward Ranch** baz=7.6,SNR=6.1	**7.61**	**226**	⇓P		**Pn**	**08 40 17.3**	**+1.1**
O24A	**Longmont** baz=7.6,SNR=12	**7.67**	**309**	⇑P		**Pn**	**08 40 19.2**	**+2.2**
WVT	**Waverly**	**7.67**	**83**	Pn		Pn	08 40 27.0	+10
WVT				*e*Sg		Sg	08 42 25.1	-5.6
325A	**Bean Ranch, Si** baz=7.7	**7.69**	**239**	⇑P		**Pn**	**08 40 19.2**	**+1.8**
224A	**Cornudas Mount** baz=7.7	**7.72**	**245**	⇑P		**Pn**	**08 40 19.3**	**+1.6**
LPM	**Los Pinos Moun**	**7.80**	**263**	Pn		**Pn**	**08 40 20.6**	**+1.7**
LPM				*e*Sg		**Sg**	**08 42 30.5**	**-4.5**
P23A	**Jefferson** baz=7.8	**7.80**	**302**	⇓P		**Pn**	**08 40 21.3**	**+2.2**
MNTX	**Cornudas Mount**	**7.81**	**243**	*e*Pn		**Pn**	**08 40 19.9**	**+1.1**
MNTX				*e*Sg		Sg	08 42 26.6	-8.5
BNM	**Barren Site**	**7.84**	**262**	*e*Pn		**Pn**	**08 40 16.7**	**-2.7**
BNM				*e*Sg		**Sg**	**08 42 32.5**	**-3.6**
ISCO	**Idaho Springs**	**7.85**	**305**	*e*Pn		**Pn**	**08 40 20.9**	**+1.2**
ISCO				*e*Sg		**Sg**	**08 42 33.5**	**-3.0**
ISCO	**Idaho Springs** baz=7.8,SNR=33	**7.85**	**305**	⇓P		**Pn**	**08 40 21.2**	**+1.5**
OLIL	**Olney**	**7.96**	**64**	*e*Sg		**Sg**	**08 42 35.3**	**-4.5**
526A	**Mary Lane Ranc** baz=7.9,SNR=6.6	**7.96**	**228**	⇓P		**Pn**	**08 40 22.7**	**+1.7**
USIN	**University of**	**8.05**	**70**	*e*Sg		Sg	08 42 36.7	-6.2
425A	**Indio Mountain** baz=8.0	**8.05**	**236**	⇓P		**Pn**	**08 40 24.0**	**+1.7**
ECSD	**EROS Data Cent**	**8.16**	**3**	*e*Pn		**Pn**	**08 40 23.7**	**+0.1**
ECSD				*e*Sn		**Sn**	**08 41 52.8**	**-3.3**
ECSD				*e*Sg		**Sg**	**08 42 42.6**	**-3.6**
TXAR	**Lajitas Array**	**8.26**	**223**	Pn		**Pn**	**08 40 25.2**	**+0.2**
TXAR				Sn		**Sn**	**08 41 55.5**	**-3.3**
TXAR				Lg		Lg	08 42 42.8	
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=54,slow=11,SNR=12	**8.26**	**223**	Pn		**Pn**	**08 40 25.2**	**+0.2**
TXAR	2.2nm,0.3s,baz=37,slow=17,SNR=4.4			Sn		**Sn**	**08 41 55.5**	**-3.3**
TXAR	4.6nm,0.3s,baz=41,slow=33,SNR=8.4			Lg		Lg	08 42 42.8	
O23A	**Lake Granby, G** baz=8.2,SNR=6.0	**8.26**	**307**	⇑P		**Pn**	**08 40 28.0**	**+2.8**
M24A	**Cheyenne** baz=8.3,SNR=5.9	**8.35**	**317**	⇓P		**Pn**	**08 40 28.3**	**+1.9**
626A	**Big Bend Ranch** baz=8.3	**8.35**	**226**	⇓P		**Pn**	**08 40 28.7**	**+2.4**
K26A	**Motz Farm, Whi** baz=8.5	**8.47**	**329**	⇑P		**Pn**	**08 40 29.8**	**+1.9**
O22A	**Kremmling** baz=8.6,SNR=13	**8.65**	**305**	⇓P		**Pn**	**08 40 32.1**	**+1.5**
LRAL	**Lakeview Retre**	**8.86**	**104**	*e*Pn		**Pn**	**08 40 34.3**	**+1.1**
LRAL				*e*Sn		**Sn**	**08 42 13.5**	**+0.2**
JFWS	**Jewell Farm**	**9.12**	**34**	*e*Pn		**Pn**	**08 40 34.3**	**-2.4**
JFWS				*e*Lg		Lg	08 43 13.6	
WCI	**Wyandotte Cave**	**9.17**	**70**	Sn		**Sn**	**08 42 25.4**	**+4.4**
WCI				*e*Lg		Lg	08 43 16.7	
BLO	**Bloomington**	**9.26**	**64**	Sn		**Sn**	**08 42 25.6**	**+2.3**
BLO				*e*Lg		Lg	08 43 13.4	
BLO				*e*Lg		Lg	08 43 14.2	
RSSD	**Black Hills**	**9.99**	**331**	Pn		**Pn**	**08 40 47.8**	**-1.1**
PDAR	**Pinedale Array**	**11.94**	**311**	Pn		**Pn**	**08 41 16.2**	**+0.7**
PDAR				Lg		Lg	08 44 39.1	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=118,slow=13,SNR=5.1	**11.94**	**311**	Pn		**Pn**	**08 41 16.2**	**+0.7**
PDAR	0.2nm,0.3s,baz=119,slow=36,SNR=5.1			Lg		Lg	08 44 39.1	
ULM	**Lac du Bonnet**	**14.70**	**3**	Pn		Pn	08 41 44.2	-8.8
ULM	**Lac du Bonnet** 0.0nm,0.3s,baz=190,slow=14,SNR=1.9	**14.70**	**3**	Pn		Pn	08 41 44.2	-8.8
LPAZ	**La Paz** 0.6nm,0.5s,baz=323,slow=3.6,SNR=5.2	**58.51**	**147**	P		P	08 48 19.4	-3.2

MEX 13 08:48:45.8±0.6, 16°43'N×95°76'W, h16km±20km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.74**	**207**	*e*P	Pg	08 48 57.6	-2.6
HUIG				*e*S	Sg	08 49 06.6	-3.4
VHO	**Vista Hermosa**	**1.14**	**305**	*e*P	Pn	08 49 03.1	-4.3
VHO				*i* S	Sb	08 49 17.4	-4.7
PNIG	**Pinotepa**	**2.28**	**269**	*i* P	Pn	08 49 20.3	-2.5
PNIG				*i* S	Sn	08 49 45.9	-4.7

*IDC **13** 09:18:43.0±2.4, 46°17'S×166°13'E, h0km, mb3.3/2, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, ML4.5/1, MS3.2/2, Ms1 3.1/2, ms1mx2.9/8, Error ellipse: s-maj=68.4km s-min=24.7km az=167.0*

*WEL **13** 09:18:44.4±0.5, 46°07'S×165°96'E, h12km, ML4.4/15, Error ellipse: s-maj=4.5km s-min=2.4km az=90.0*

*ISCJB **13** 09:18:46.0±1.0, 46°04'S±0°05'×166°05'E±0°07, h29km±6km, mb3.3/2, MS3.0/1, Error ellipse: s-maj=9.0km s-min=8.2km az=21.5*

*NEIC **13** 09:18:46.1, 46°07'S×166°06'E, h10km, ML4.4(WEL), After WEL.*

ISC 13 09:18:44.8±3.1, 46°07'S±0°05'×166°09'E±0°06, h11km±20km, n57, σ1ᵖ07/62, 2C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**103**	P*	**Pb**	**09 18 55.2**	**+0.9**
PYZ				S*	**Sb**	**09 19 02.0**	**+1.3**
PYZ	**Puysegur Point**	**0.42**	**103**	P*	**Pb**	**09 18 55.2**	**+0.9**
PYZ				S*	**Sb**	**09 19 02.0**	**+1.3**
DCZ	**Deep Cove**	**0.95**	**52**	P*	**Pb**	**09 19 03.6**	**+0.3**
DCZ				S*	**Sb**	**09 19 16.8**	**+0.9**
DCZ				AML	AML	09 19 18.4	
DCZ				AML	AML	09 19 18.4	
DCZ				AML	AML	09 19 18.5	
DCZ	**Deep Cove**	**0.95**	**52**	P*	**Pb**	**09 19 03.6**	**+0.3**
DCZ				S*	**Sb**	**09 19 16.8**	**+0.9**
WHZ	**Wether Hill Ro**	**1.31**	**83**	Pn	**Pn**	**09 19 09.2**	**+0.2**
WHZ				SN	**Sb**	**09 19 26.4**	**+0.2**
WHZ				AML	AML	09 19 32.7	
WHZ	**Wether Hill Ro**	**1.31**	**83**	Pn	**Pn**	**09 19 09.2**	**+0.2**
APZ	**The Paps**	**1.52**	**121**	⇓PN	**Pn**	**09 19 11.5**	**-0.4**
APZ				SN	**Sn**	**09 19 31.5**	**-0.3**
APZ				AML	AML	09 19 42.3	
APZ	**The Paps**	**1.52**	**121**	Pn	**Pn**	**09 19 11.5**	**-0.4**
MLZ	**Mavora Lakes**	**1.63**	**64**	⇓PN	**Pb**	**09 19 14.9**	**+0.1**
MLZ				SN	**Sn**	**09 19 33.6**	**-0.9**
MLZ				AML	AML	09 19 43.5	
MLZ	**Mavora Lakes**	**1.63**	**64**	Pn	**Pb**	**09 19 14.9**	**+0.1**
MSZ	**Milford Sound**	**1.91**	**43**	PN	**Pb**	**09 19 18.4**	**-1.2**
MSZ				AML	AML	09 19 55.4	
MSZ				AML	AML	09 19 55.4	
MSZ				AML	AML	09 19 56.2	
MSZ				AML	AML	09 19 56.3	
MSZ	**Milford Sound**	**1.91**	**43**	Pn	**Pb**	**09 19 18.4**	**-1.2**
SYZ	**Scrubby Hill**	**2.16**	**104**	⇑PN	**Pn**	**09 19 21.5**	**+0.7**
SYZ				AML	AML	09 19 50.4	
SYZ				AML	AML	09 19 50.5	
SYZ				AML	AML	09 19 53.3	
SYZ				AML	AML	09 19 53.3	
SYZ	**Scrubby Hill**	**2.16**	**104**	Pn	**Pn**	**09 19 21.5**	**+0.7**
WKZ	**Wanaka**	**2.41**	**60**	PN	**Pn**	**09 19 25.6**	**+1.4**
WKZ				AML	AML	09 20 04.5	
WKZ				AML	AML	09 20 17.5	
WKZ	**Wanaka**	**2.41**	**60**	Pn	**Pb**	**09 19 27.1**	**-1.0**
EAZ	**Earnscleugh**	**2.41**	**71**	⇑PN	**Pb**	**09 19 26.5**	**-1.6**
EAZ				AML	AML	09 20 00.6	
EAZ				AML	AML	09 20 00.6	
EAZ				AML	AML	09 20 14.2	
EAZ				AML	AML	09 20 14.2	
EAZ	**Earnscleugh**	**2.41**	**71**	Pn	**Pb**	**09 19 26.5**	**-1.6**
TUZ	**Tuapeka**	**2.47**	**89**	PN	**Pn**	**09 19 26.5**	**+1.5**
TUZ				AML	AML	09 20 02.2	
TUZ				AML	AML	09 20 05.5	
TUZ	**Tuapeka**	**2.47**	**89**	Pn	**Pn**	**09 19 26.5**	**+1.5**
JCZ	**Jackson Bay**	**2.75**	**44**	PN	**Pn**	**09 19 29.6**	**+0.7**
JCZ				AML	AML	09 20 23.7	
JCZ				AML	AML	09 20 24.3	
JCZ	**Jackson Bay**	**2.75**	**44**	Pn	**Pb**	**09 19 31.6**	**-2.4**
HHSZ	**Highcliff Hill**	**3.15**	**88**	PN	**Pn**	**09 19 36.0**	**+1.7**
LBZ	**Lake Benmore**	**3.35**	**61**	PN	**Pn**	**09 19 38.3**	**+1.2**
LBZ				AML	AML	09 20 26.8	
LBZ				AML	AML	09 20 47.2	
LBZ	**Lake Benmore**	**3.35**	**61**	Pn	**Pn**	**09 19 38.3**	**+1.2**
ODZ	**Otahua Downs**	**3.36**	**74**	⇓PN	**Pn**	**09 19 37.6**	**+0.4**
ODZ	**Otahua Downs**	**3.36**	**74**	Pn	**Pn**	**09 19 37.6**	**+0.4**
FOZ	**Fox Glacier**	**3.58**	**47**	PN	**Pn**	**09 19 43.0**	**+2.7**
FOZ				AML	AML	09 20 46.6	
FOZ				AML	AML	09 20 49.9	
FOZ	**Fox Glacier**	**3.58**	**47**	Pn	**Pn**	**09 19 43.0**	**+2.7**
RPZ	**Rata Peaks**	**4.24**	**58**	PN	**Pn**	**09 19 49.7**	**+0.3**
RPZ				AML	AML	09 20 55.6	
RPZ				AML	AML	09 21 15.5	
RPZ	**Rata Peaks**	**4.24**	**58**	Pn	**Pn**	**09 19 49.8**	**+0.5**
RPZ				Sn	**Sn**	**09 20 40.0**	**+1.1**
RPZ	**Rata Peaks** 28nm,0.3s,baz=227,slow=4.9,SNR=90	**4.24**	**58**	Pn	**Pn**	**09 19 49.8**	**+0.5**
RPZ	comp=Z,281nm,21.7s,baz=256,slow=27			LR	LR	09 20 39.7	
RPZ	20nm,0.3s,baz=36,slow=17,SNR=8.8			Sn	**Sn**	**09 20 40.0**	**+1.1**
WVZ	**Waitaha Valley**	**4.47**	**50**	PN	**Pn**	**09 19 54.0**	**+1.5**
WVZ	**Waitaha Valley**	**4.47**	**50**	Pn	**Pn**	**09 19 54.0**	**+1.5**
OXZ	**Oxford**	**5.05**	**59**	PN	**Pn**	**09 20 00.4**	**+0.1**
MQZ	**McQueen's Vall**	**5.23**	**65**	PN	**Pn**	**09 20 03.1**	**+0.2**
MQZ				SN	**Sn**	**09 21 03.3**	**+0.2**
LTZ	**Lake Taylor**	**5.51**	**56**	PN	**Pn**	**09 20 06.6**	**-0.2**
LTZ				AML	AML	09 21 18.4	
DSZ	**Denniston Nort**	**5.98**	**46**	PN	**Pn**	**09 20 13.7**	**+0.5**
THZ	**Tophouse**	**6.54**	**51**	PN	**Pn**	**09 20 21.6**	**+0.6**
THZ				AML	AML	09 21 56.2	
QRZ	**Quartz Range**	**7.03**	**44**	PN	**Pn**	**09 20 28.7**	**+1.1**
URZ	**Urewera**	**11.30**	**50**	Pn	**Pn**	**09 21 25.8**	**-0.3**
URZ				Sn	**Sn**	**09 23 30.8**	**-1.5**
URZ	**Urewera** baz=239,slow=12,SNR=1.8	**11.30**	**50**	Pn	**Pn**	**09 21 25.8**	**-0.3**
URZ	0.3nm,0.3s,baz=45,slow=20,SNR=6.2			Sn	**Sn**	**09 23 30.8**	**-1.5**
STKA	**Stephens Creek** comp=Z,50nm,18.2s,baz=206,slow=32	**23.62**	**298**	LR	LR	09 31 21.3	
ASAR	**Alice Springs**	**34.23**	**300**	P	**P**	**09 25 31.1**	**+0.4**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=135,slow=8.1,SNR=5.5	**34.23**	**300**	P	**P**	**09 25 31.1**	**+0.4**
WRA	**Warramunga Arr**	**36.84**	**304**	P	**P**	**09 25 53.2**	**+0.1**
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=139,slow=7.6,SNR=2.9	**36.84**	**304**	P	**P**	**09 25 53.2**	**+0.1**
H01W1	**Cape Leeuwin H** baz=122,slow=75,SNR=97	**40.39**	**267**	T	T	10 09 17.0	
H01W2	**Cape Leeuwin H** baz=122,slow=75,SNR=70	**40.40**	**267**	T	T	10 09 17.7	
H01W3	**Cape Leeuwin H** baz=122,slow=75,SNR=89	**40.41**	**267**	T	T	10 09 18.3	
H08S2	**Diego Garcia H** baz=135,slow=76,SNR=288	**87.04**	**262**	T	T	11 07 23.5	
H08S1	**Diego Garcia H** baz=135,slow=76,SNR=254	**87.06**	**262**	T	T	11 07 25.9	
H08S3	**Diego Garcia H** baz=135,slow=76,SNR=268	**87.06**	**262**	T	T	11 07 24.9	
TORD	**Torodi Ar. Bea**	**144.63**	**207**	PKP	**PKPab**	**09 38 20.4**	**+0.1**
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=169,slow=2.4,SNR=5.8	**144.63**	**207**	PKP	**PKPab**	**09 38 20.4**	**+0.1**
ARCES	**ARCESS Array B**	**149.45**	**334**	PKPbc	**PKPbc**	**09 38 32.9**	**+0.2**
ARCES	**ARCESS Array B** 3.9nm,0.8s,baz=50,slow=1.9,SNR=6.2	**149.45**	**334**	PKPbc	**PKPbc**	**09 38 32.9**	**+0.2**

MEX 13 09:24:46.1±1.2, 16°50N×99°85W, h15km±106km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.37**	**359**	*i* P	Pg	09 24 49.3	-4.4
ACX				*i* S	Sg	09 24 54.1	-4.8
CAIG	**El Cayaco**	**0.68**	**324**	*i* P	Pg	09 24 56.8	-2.6
CAIG				*i* S	Sg	09 25 05.9	-2.5
MEIG	**Mezcala**	**1.44**	**9**	*i* P	Pn	09 25 07.4	-4.3
MEIG				*i* S	Sn	09 25 25.2	-5.2
ARIG	**Puente Sto Nin**	**1.83**	**345**	*e*P	Pn	09 25 14.5	-2.7
ARIG				*i* S	Sn	09 25 36.3	-4.9
PLIG	**Platanillo**	**1.91**	**10**	*i* P	Pn	09 25 15.4	-2.9
PLIG				*e*S	Sn	09 25 37.5	-4.7

MEX 13 09:39:46.1±1.0, 15°17N×92°37W, h181km±11km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.27**	**159**	*i* P	Pn	09 40 08.3	-2.0
THIG				*i* S	Sn	09 40 27.0	-1.9
PCIG		**0.98**	**303**	*e*P	Pn	09 40 12.4	-1.3
PCIG				*i* S	Sn	09 40 32.8	-2.4
HUIG	**Huatulco**	**3.66**	**280**	*e*P	Pn	09 40 42.6	-0.3
HUIG				*i* S	Sn	09 41 24.4	-2.9

*ROM **13** 09:52:09.7±0.1, 43°42N×12°56E, h8km, Md2.9/36, Ml2.9/23, Error ellipse: s-maj=0.8km s-min=0.7km az=52.0*

*ISCJB **13** 09:52:09.6±0.2, 43°39N±0°02'×12°54E±0°02, h14km±2km, Error ellipse: s-maj=2.9km s-min=2.3km az=36.7*

*LDG **13** 09:52:09.7±0.1, 43°40N×12°55E, h10km, Ml2.9/4, Error ellipse: s-maj=4.5km s-min=3.4km az=46.0*

*CSEM **13** 09:52:10.0±0.1, 43°38N×12°56E, h5km, ML3.5/9, Error ellipse: s-maj=2.6km s-min=2.1km az=56.0*

*PRU **13** 09:52:10.9, 43°38N×12°66E, h0km*

*VIE **13** 09:52:15.0±0.6, 43°71N×12°77E, h10km, mb2.7/7, ML2.9/9, Error ellipse: s-maj=5.6km s-min=3.8km az=5.0 33 km SE of San Marino*

ISC 13 09:52:10.2±0.8, 43°40N±0°02'×12°56E±0°02, h13km±5km, n117, σ1ᵖ03/161, 2C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.14**	**191**	Pg	**Pg**	**09 52 13.7**	**0.0**
MURB				Sg	**Sg**	**09 52 16.6**	**+0.5**
MURB	**Monte Urbino**	**0.14**	**191**	Pg	**Pg**	**09 52 13.7**	**0.0**
MURB				Sg	**Sg**	**09 52 16.6**	**+0.5**
PIEI	**Pieia**	**0.14**	**353**	Pg	**Pg**	**09 52 13.0**	**-0.7**
PIEI				Sg	**Sg**	**09 52 15.3**	**-0.9**
PIEI	**Pieia**	**0.14**	**353**	Pg	**Pg**	**09 52 13.0**	**-0.7**
BADI	**Badiali**	**0.26**	**296**	Pg	**Pg**	**09 52 15.3**	**-0.2**
BADI				Sg	**Sg**	**09 52 19.5**	**+0.3**
BADI	**Badiali**	**0.26**	**296**	Pg	**Pg**	**09 52 15.3**	**-0.2**
BADI				Sg	**Sg**	**09 52 19.5**	**+0.3**
ARVD	**Arcevia**	**0.30**	**70**	Pg	**Pg**	**09 52 16.1**	**-0.2**
ARVD				Sg	**Sb**	**09 52 21.1**	**-1.1**
ARVD	**Arcevia**	**0.30**	**70**	Pg	**Pg**	**09 52 16.1**	**-0.2**
ARVD				Sg	**Sb**	**09 52 21.1**	**-1.1**
FSSB	**Fossombrone**	**0.34**	**28**	Pg	**Pg**	**09 52 16.7**	**-0.3**
FSSB				Sg	**Sg**	**09 52 21.6**	**0.0**
FSSB	**Fossombrone**	**0.34**	**28**	Pg	**Pg**	**09 52 16.7**	**-0.3**
FSSB				Sg	**Sg**	**09 52 21.6**	**0.0**
CAFI	**Castiglion Fio**	**0.44**	**261**	Pg	**Pg**	**09 52 18.8**	**0.0**
CAFI				Sg	**Sg**	**09 52 25.2**	**+0.5**
CAFI	**Castiglion Fio**	**0.44**	**261**	Pg	**Pg**	**09 52 18.8**	**0.0**
CAFI				Sg	**Sg**	**09 52 25.2**	**+0.5**
CING	**Cingoli**	**0.47**	**92**	Pg	**Pg**	**09 52 19.2**	**-0.1**
CING				Sg	**Sb**	**09 52 26.8**	**-0.3**
CING	**Cingoli**	**0.47**	**92**	Pg	**Pg**	**09 52 19.2**	**-0.1**
CING				Sg	**Sb**	**09 52 26.8**	**-0.3**
CESI	**CESI - Serrava**	**0.47**	**147**	Pg	**Pg**	**09 52 19.3**	**-0.1**
CESI				Sg	**Sb**	**09 52 27.2**	**+0.1**
CESI	**CESI - Serrava** 706nm,0.5s	**0.47**	**147**	Pg	**Pg**	**09 52 19.3**	**-0.1**
CESI				Sg	**Sb**	**09 52 27.2**	**+0.1**
CRE	**Caprese Michel** 706nm,0.5s	**0.49**	**297**	Pg	**Pg**	**09 52 19.7**	**-0.2**
CRE				Sg	**Sg**	**09 52 27.5**	**+1.0**
CRE	**Caprese Michel** 223nm,0.5s	**0.49**	**297**	Pg	**Pg**	**09 52 19.7**	**-0.2**
CRE				Sg	**Sg**	**09 52 27.5**	**+1.0**
FDMO	**Fiordimonte**	**0.53**	**133**	Pg	**Pg**	**09 52 20.4**	**-0.1**
FDMO				Sg	**Sb**	**09 52 29.1**	**+0.2**
FDMO	**Fiordimonte** 571nm,0.4s	**0.53**	**133**	Pg	**Pg**	**09 52 20.4**	**-0.1**
FDMO				Sg	**Sb**	**09 52 29.1**	**+0.2**
RSM	**Repubblica di** 571nm,0.4s	**0.54**	**352**	Pg	**Pg**	**09 52 21.0**	**+0.3**
RSM	**Repubblica di** 522nm,0.6s	**0.54**	**352**	Pg	**Pg**	**09 52 21.0**	**+0.3**
MGAB	**Montegabbione** 1µm,0.4s	**0.58**	**214**	Pg	**Pg**	**09 52 21.5**	**-0.1**
MGAB				Sg	**Sb**	**09 52 30.9**	**+0.4**
MGAB	**Montegabbione** 1µm,0.4s	**0.58**	**214**	Pg	**Pg**	**09 52 21.5**	**-0.1**
MGAB				Sg	**Sb**	**09 52 30.9**	**+0.4**
ASQU	**Asqua** 295nm,0.5s	**0.69**	**306**	Pg	**Pg**	**09 52 23.3**	**-0.2**
ASQU				Sg	**Sg**	**09 52 32.5**	**-0.1**
ASQU	**Asqua** 295nm,0.5s	**0.69**	**306**	Pg	**Pg**	**09 52 23.3**	**-0.2**
ASQU				Sg	**Sg**	**09 52 32.5**	**-0.1**
NRCA	**Norcia**	**0.69**	**144**	Pg	**Pg**	**09 52 23.2**	**-0.5**
NRCA				Sg	**Sb**	**09 52 34.1**	**+0.4**
NRCA	**Norcia**	**0.69**	**144**	Pg	**Pg**	**09 52 23.2**	**-0.5**
NRCA				Sg	**Sb**	**09 52 34.1**	**+0.4**
SFI	**Santa Sofia** 189nm,0.6s	**0.72**	**315**	Pg	**Pg**	**09 52 23.6**	**-0.6**
SFI	**Santa Sofia** 189nm,0.6s	**0.72**	**315**	Pg	**Pg**	**09 52 23.6**	**-0.6**
SACS	**San Casciano d** 485nm,0.8s	**0.73**	**221**	Pg	**Pg**	**09 52 23.9**	**-0.3**
SACS				Sg	**Sg**	**09 52 33.7**	**-0.1**
AOI	**Ancona** 336nm,0.3s	**0.78**	**78**	Pg	**Pg**	**09 52 24.8**	**-0.4**
AOI				Sg	**Sb**	**09 52 36.5**	**+0.5**
AOI	**Ancona** 336nm,0.3s	**0.78**	**78**	Pg	**Pg**	**09 52 24.8**	**-0.4**
AOI				Sg	**Sb**	**09 52 36.5**	**+0.5**
CESX	**Cesi** 637nm,0.5s	**0.79**	**179**	Pg	**Pg**	**09 52 25.3**	**-0.1**
CESX	**Cesi** 637nm,0.5s	**0.79**	**179**	Pg	**Pg**	**09 52 25.3**	**-0.1**
LNSS	**Leonessa** 609nm,0.5s	**0.87**	**156**	Pg	**Pg**	**09 52 26.2**	**-0.8**
LNSS				Sg	**Sb**	**09 52 39.8**	**+1.0**
LNSS	**Leonessa** 609nm,0.5s	**0.87**	**156**	Pg	**Pg**	**09 52 26.2**	**-0.8**
LNSS				Sg	**Sb**	**09 52 39.8**	**+1.0**
CSNT	**Castellina Chi** 352nm,1.0s	**0.93**	**275**	Pg	**Pg**	**09 52 28.1**	**+0.1**
CSNT	**Castellina Chi** 352nm,1.0s	**0.93**	**275**	Pg	**Pg**	**09 52 28.1**	**+0.1**
VMG	**Vicchio** 61nm,0.5s	**0.93**	**308**	Pg	**Pg**	**09 52 27.6**	**-0.5**

UDBI	**Udbina**	**2.58**	**63**	*e*Pn		**Pn**	**09 52 53.2**	**+1.5**
UDBI				Sn		**Sb**	**09 53 26.3**	**-1.6**
UDBI	**Udbina**	**2.58**	**63**	*e*Pn		**Pn**	**09 52 53.1**	**+1.5**
UDBI				Sn		**Sb**	**09 53 26.2**	**-1.6**
PGF	**Pioggiola**	**2.75**	**253**	*e*Pn		**Pn**	**09 52 52.7**	**-1.3**
PGF	3.0nm,0.3s			*e*Sn		**Sn**	**09 53 23.1**	**-4.0**
PGF	**Pioggiola**	**2.75**	**253**	*e*Pn		**Pn**	**09 52 52.7**	**-1.3**
PGF	1.5nm,0.3s			*e*Sn		**Sn**	**09 53 23.1**	**-4.0**
VOJS	**Vojsko**	**2.80**	**19**	*i* Pn		**Pn**	**09 52 54.6**	**-0.1**
VOJS	**Vojsko**	**2.80**	**19**	*i* Pn		**Pn**	**09 52 54.6**	**-0.1**
VINO	**Villanova**	**2.90**	**10**	Pg		**Sn**	**09 53 26.0**	**-0.1**
VINO	70nm,0.4s			Sg		**Sn**	**09 53 30.7**	**-0.2**
VINO	**Villanova**	**2.90**	**10**	Pg		**Pn**	**09 52 56.0**	**-0.1**
VINO	70nm,0.4s			Sg		**Sn**	**09 53 30.7**	**-0.2**
CADS	**Cadrg**	**2.95**	**16**	*i* Pn		**Pn**	**09 52 56.9**	**+0.1**
CADS	**Cadrg**	**2.95**	**16**	*i* Pn		**Pn**	**09 52 56.9**	**+0.1**
PDKS	**Podkum**	**3.18**	**32**	*i* Pn		**Pn**	**09 53 01.0**	**+1.0**
PDKS	**Podkum**	**3.18**	**32**	*i* Pn		**Pn**	**09 53 01.0**	**+1.0**
ABTA	**Abfaltersbach** SNR=10	**3.35**	**359**	⇓*i* Pn		**Pn**	**09 53 04.0**	**+1.7**
ABTA	**Abfaltersbach** SNR=10	**3.35**	**359**	Pn		**Pn**	**09 53 04.0**	**+1.7**
SBF	**Sospel**	**3.75**	**279**	*e*P		**Pn**	**09 53 08.9**	**+1.1**
SBF	**Sospel**	**3.75**	**279**	*e*P		**Pn**	**09 53 08.9**	**+1.1**
STON	**Ston**	**3.80**	**96**	*i* Pn		**Pn**	**09 53 10.1**	**+1.7**
STON				Sn		**Sn**	**09 53 54.4**	**+1.5**
STON	**Ston**	**3.80**	**96**	*i* Pn		**Pn**	**09 53 10.1**	**+1.7**
STON				Sn		**Sn**	**09 53 54.4**	**+1.5**
FETA	**Feichten**	**3.85**	**341**	⇓*i* Pn		**Pn**	**09 53 11.6**	**+2.4**
FETA	**Feichten**	**3.85**	**341**	Pn		**Pn**	**09 53 11.6**	**+2.4**
WTTA	**Wattenberg** SNR=5.8	**3.92**	**351**	⇑*i* Pn		**Pn**	**09 53 11.9**	**+1.6**
WTTA	**Wattenberg** SNR=5.8	**3.92**	**351**	Pn		**Pn**	**09 53 11.9**	**+1.6**
WATA	**Walderalm** SNR=13	**4.00**	**350**	⇓*i* Pn		**Pn**	**09 53 13.2**	**+1.9**
WATA	**Walderalm** SNR=13	**4.00**	**350**	Pn		**Pn**	**09 53 13.2**	**+1.9**
MOTA	**Moosalm**	**4.08**	**346**	⇑*i* Pn		**Pn**	**09 53 14.4**	**+2.0**
MOTA	**Moosalm**	**4.08**	**346**	Pn		**Pn**	**09 53 14.4**	**+2.0**
FRF	**La Foret Royal**	**4.31**	**274**	*e*P		**Pn**	**09 53 18.4**	**+3.0**
FRF	**La Foret Royal**	**4.31**	**274**	*e*P		**Pn**	**09 53 18.4**	**+3.0**
MOA	**Molln** SNR=9.4	**4.61**	**14**	⇓*i* Pn		**Pn**	**09 53 20.9**	**+1.3**
MOA	**Molln** SNR=9.4	**4.61**	**14**	Pn		**Pn**	**09 53 20.9**	**+1.3**
KHC	**Kasperske Hory**	**5.78**	**7**	*e*PN		**Pn**	**09 53 36.3**	**+0.7**
KHC				*ex*		x	09 53 44.5	
KHC				*e*SN		**Sn**	**09 54 41.6**	**-0.2**
KHC	**Kasperske Hory**	**5.78**	**7**	Pn		**Pn**	**09 53 36.3**	**+0.7**
KHC				Sn		**Sn**	**09 54 41.6**	**-0.2**
HINF	**Hinteralfeld**	**5.96**	**320**	*e*P		**Pn**	**09 53 39.0**	**+0.9**
HINF	3.0nm,0.4s			*e*Sn		Sn	09 54 40.1	-6.2
HINF	**Hinteralfeld**	**5.96**	**320**	*e*P		**Pn**	**09 53 39.0**	**+0.9**
CDF	**Champ du Feu**	**6.22**	**326**	*e*P		**Pn**	**09 53 42.5**	**+0.7**
CDF	2.3nm,0.3s			*e*Sn		Sn	09 54 46.4	-6.4
CDF	**Champ du Feu**	**6.22**	**326**	*e*P		**Pn**	**09 53 42.5**	**+0.7**
HAU	**Haudompre**	**6.33**	**319**	*e*P		**Pn**	**09 53 44.5**	**+1.3**
HAU	4.7nm,0.4s			*e*Sn		Sn	09 54 49.4	-6.1
HAU	**Haudompre**	**6.33**	**319**	*e*P		**Pn**	**09 53 44.5**	**+1.3**
NKC	**Novy Kostel**	**6.84**	**359**	*e*SN		**Sn**	**09 55 06.8**	**-1.0**
NKC	**Novy Kostel**	**6.84**	**359**	Sn		**Sn**	**09 55 06.8**	**-1.0**
LOR	**Lormes**	**7.25**	**305**	*e*P		**Pn**	**09 53 57.6**	**+1.8**
LOR	**Lormes**	**7.25**	**305**	*e*P		**Pn**	**09 53 57.6**	**+1.8**
BGF	**Bois d'Agland**	**7.58**	**298**	*e*P		**Pn**	**09 54 01.0**	**+0.7**
BGF	**Bois d'Agland**	**7.58**	**298**	*e*P		**Pn**	**09 54 01.0**	**+0.7**

WEL 13 10:11:09.4±0.9, 35°.71S×179°.73E, h33km, ML3.6/6, 1C, Error ellipse: s-maj=9.4km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.17**	**211**	P*	Pn	10 11 42.3	-0.9
MXZ				S*	Sn	10 12 08.3	-0.8
PUZ	**Puketiti**	**2.64**	**206**	⇑PN	Pn	10 11 49.9	+0.3
PUZ				SN	Sn	10 12 17.3	-3.2
CNGZ	**Carnagh Statio**	**3.02**	**203**	PN	Pn	10 11 55.2	+0.2
CNGZ				SN	Sn	10 12 28.3	-1.7
MWZ	**Matawai**	**3.16**	**213**	P*	Pn	10 11 56.4	-0.4
URZ	**Urewera**	**3.30**	**219**	P*	Pn	10 11 58.1	-0.5
KUZ	**Kuaotunu**	**3.40**	**251**	PN	Pn	10 11 59.3	-0.8
KNZ	**Kokohu**	**3.69**	**206**	PN	Pn	10 12 02.7	-1.3
MKAZ	**Moumakai**	**3.93**	**248**	PN	Pn	10 12 07.3	-0.1

ISCJB ***13*** *10:23:46.4±1.1, 7°.5S±0°.3×117°.2E±0°.5, h302km, mb3.5/4, Error ellipse: s-maj=75.9km s-min=15.0km az=143.6*
IDC ***13*** *10:23:47.5±9.9, 7°.52S×117°.24E, h300km±107km, mb2.8/4, mb1 3.0/5, mb1mx2.8/23, mbtmp3.5/5, Error ellipse: s-maj=78.4km s-min=27.7km az=62.0*
ISC 13 10:23:47.6±1.2, 7°.5S±0°.3×117°.2E±0°.5, h302km, n6, σ0s44/6, mb3.1/4, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.31**	**143**	P	**Pn**	**10 26 45.9**	**-0.1**
	0.1nm,0.3s,baz=343,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**20.66**	**128**	P	**P**	**10 28 05.0**	**-0.2**
	0.8nm,0.5s,baz=291,slow=9.8,SNR=7.8						
ASAR	**Alice Springs**	**22.65**	**137**	P	**P**	**10 28 24.1**	**+0.5**
	0.5nm,0.5s,baz=316,slow=8.8,SNR=18						
SONM	**Songino Array**	**55.95**	**351**	P	**P**	**10 32 54.9**	**-0.2**
	0.4nm,0.6s,baz=156,slow=8.8,SNR=4.7						
MKAR	**Makanchi Array**	**62.37**	**334**	P	**P**	**10 33 39.1**	**+0.4**
	0.2nm,0.4s,baz=146,slow=6.4,SNR=3.2						
MMAI	**Mount Meron Ar**	**87.27**	**304**	P	**P**	**10 36 00.6**	**-0.3**
	12nm,1.0s,baz=122,slow=5.4,SNR=3.2						

MEX 13 10:29:57.0±0.9, 19°.31N×103°.86W, h83km±6km, MD3.8, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.18**	**221**	*e*P	Pn	10 30 07.4	-1.8
R15V				*i* S	Sn	10 30 16.4	-1.8
EZ5V		**0.30**	**54**	*e*P	Pn	10 30 08.4	-1.6
EZ5V				*i* S	Sn	10 30 18.3	-1.3
CJM	**Chamela**	**1.14**	**280**	*e*P	Pn	10 30 17.1	-0.7
CJM				*e*S	Sn	10 30 31.9	-1.6
ANIG	**Ahuacatlan**	**1.85**	**340**	*e*P	Pn	10 30 25.7	-1.4
ANIG				*i* S	Sn	10 30 47.2	-2.8
ARIG	**Puente Sto Nin**	**3.48**	**106**	*i* P	Pn	10 30 48.5	-0.4
ARIG				*e*S	Sn	10 31 27.0	-2.1

IDC ***13*** *10:31:05.8±2.8, 23°.43S×68°.54W, h82km±23km, mb3.8/2, mb1 3.7/4, mb1mx3.4/18, mbtmp3.9/4, Error ellipse: s-maj=51.4km s-min=26.9km az=102.0*
GUC ***13*** *10:31:08.0±0.8, 23°.22S×68°.90W, h113km±6km, ML3.9*
ISC 13 10:31:05.8±1.0, 23°.46S±0°.06×68°.5W±0°.1, h91km±16km, n16, σ2s09/22, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.62**	**29**	*i* P	Pn	10 31 27.8	+5.8
SPCH				*i* S	Sn	10 31 42.5	+8.4
SPCH				AML	AML	10 31 42.9	
PB06	**Plate Boundary**	**1.22**	**308**	⇑*i* P	**Pn**	**10 31 28.5**	**+0.2**
PB06	comp=N,6μm,0.4s			*i* S	**Sn**	**10 31 43.7**	**-1.5**
PB06				AML	AML	10 31 44.5	
PB04	**Plate Boundary**	**1.48**	**323**	⇑*i* P	Pn	10 31 35.5	+4.2
PB04	comp=N,13μm,0.3s			*i* S	**Sn**	**10 31 56.0**	**+5.3**
PB04				AML	AML	10 31 58.5	
CEN1	**Los Morros**	**1.54**	**272**	⇓*i* P	**Pn**	**10 31 33.1**	**+0.9**
CEN1	comp=E,2μm,0.2s			*i* S	**Sn**	**10 31 52.6**	**+0.4**
CEN1				AML	AML	10 31 55.1	
ANCH	**Antofagasta**	**1.75**	**262**	⇑*i* P	**Pn**	**10 31 35.0**	**+0.4**
ANCH	comp=N,678nm,0.2s			*i* S	**Sn**	**10 31 55.7**	**-1.0**
ANCH				AML	AML	10 31 57.6	
PB09	**Plate Boundary**	**1.78**	**338**	⇑*i* P	**Pn**	**10 31 36.4**	**+1.1**
PB09	comp=E,2μm,0.1s			*i* S	**Sn**	**10 31 57.5**	**-0.3**
PB09				AML	AML	10 31 58.8	
PB10	**Plate Boundary**	**1.86**	**268**	⇑*i* P	**Pn**	**10 31 35.7**	**-0.6**
PB10	comp=E,4μm,0.6s			AML	AML	10 32 02.2	
PB07	**Plate Boundary**	**2.13**	**324**	⇑*i* P	**Pn**	**10 31 39.2**	**-0.7**
PB07	comp=N,2μm,0.4s			*i* S	**Sn**	**10 32 02.3**	**-3.7**
PB07				AML	AML	10 32 05.1	
PB01	**Plate Boundary**	**2.56**	**339**	⇑*i* P	**Pn**	**10 31 45.2**	**-0.3**
PB01	comp=E,1μm,0.3s			*i* S	**Sn**	**10 32 13.0**	**-3.1**
PB01				AML	AML	10 32 15.6	
HMBC	**Humberstone**	**3.41**	**338**	⇑*i* P	**Pn**	**10 31 54.9**	**-2.1**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=221,slow=19,SNR=4.5	**7.14**	**3**	P	**Pn**	**10 32 48.2**	**+0.1**
CFAA	**Coronel Fontan** comp=N,0.0nm,0.3s,baz=0.7,slow=13,SNR=9.8	**8.12**	**178**	P	**Pn**	**10 33 01.4**	**+0.4**
CFAA				S	**Sn**	**10 34 27.8**	**-3.3**
SIV	**San Ignacio** comp=N,0.0nm,0.3s,baz=354,slow=19,SNR=1.8	**10.21**	**45**	P	**Pn**	**10 33 28.7**	**-0.8**
SIV	comp=N,0.7nm,0.3s,baz=242,slow=9.0,SNR=13			S	Sn	10 35 14.9	-7.4
BDFB	**Brasilia** comp=N,4.3nm,0.5s,baz=241,slow=11,SNR=6.4	**20.82**	**72**	P	**P**	**10 35 41.7**	**+1.6**
TORD	**Torodi Ar. Bea** comp=N,0.9nm,0.5s,baz=254,slow=5.5,SNR=11	**77.69**	**70**	P	**P**	**10 42 53.9**	**+1.0**
MKAR	**Makanchi Array** comp=N,0.5nm,0.7s,baz=318,slow=1.9,SNR=4.0	**146.98**	**38**	PKPbc	**PKPbc**	**10 50 38.4**	**+0.6**

ISCJB ***13*** *10:34:15.9±0.5, 60°.15N±0°.03×27°.06E±0°.07, h0km, Error ellipse: s-maj=5.5km s-min=3.6km az=19.0*
CSEM ***13*** *10:34:17.4±0.2, 60°.17N×27°.06E, h1km, ML2.5, Error ellipse: s-maj=5.8km s-min=3.7km az=122.0, Mining explosion.*
NAO ***13*** *10:34:18.3±1.1, 60°.14N×26°.98E, ML2.7*
BER ***13*** *10:34:18.5±3.6, 60°.15N×26°.90E, h0km, ML2.7(NAO), Suspected explosion*
HEL ***13*** *10:34:18.1±0.2, 60°.14N×27°.03E, h0km, ML2.5, ML2.0(UPP), Explosion*
IDC ***13*** *10:34:19.4±0.9, 60°.20N×26°.98E, h0km, mb1 3.4/4, mb1mx3.2/28, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=9.9km s-min=6.6km az=84.0*
UPP ***13*** *10:34:21.4, 60°.12N×26°.55E, h0km, ML2.0, Suspected Mining explosion.*
ISC 13 10:34:16.6±0.8, 60°.15N±0°.03×27°.03E±0°.03, h0km, n60, σ1s45/81, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.47**	**34**	*e*P	**Pg**	**10 34 26.6**	**+0.8**
VJF				*e*S	**Sg**	**10 34 32.9**	**+1.0**
VJF	**Virojoki**	**0.47**	**34**	P	**Pg**	**10 34 26.5**	**+0.8**
VJF				S	**Sg**	**10 34 32.9**	**+1.0**
PVF	**Pernaja**	**0.70**	**305**	*e*P	**Pg**	**10 34 31.2**	**+1.1**
PVF				*e*S	**Sg**	**10 34 41.2**	**+1.9**
PVF	**Pernaja**	**0.70**	**305**	P	**Pg**	**10 34 31.2**	**+1.1**
PVF				S	**Sg**	**10 34 41.1**	**+1.9**
MEF	**Metsahovi**	**1.32**	**274**	*e*P	**Pg**	**10 34 42.7**	**+0.9**
MEF				*e*S	**Sb**	**10 35 00.5**	**+0.9**
MEF	**Metsahovi**	**1.32**	**274**	P	**Pg**	**10 34 42.7**	**+0.9**
MEF				S	**Sb**	**10 35 00.4**	**+0.9**
FIA0	**FINESS Array S** baz=157,slow=18	**1.38**	**341**	Pg	**Pg**	**10 34 42.6**	**-0.4**
FIA0	baz=164,slow=37			Lg	Lg	10 35 01.9	
FIA0	baz=158,slow=37			Rg	Rg	10 35 09.0	
FIA0	**FINESS Array S** baz=157,slow=18	**1.38**	**341**	Pg	**Pg**	**10 34 42.6**	**-0.4**
FIA0	baz=164,slow=37			Lg	Lg	10 35 01.9	
FIA0	baz=158,slow=37			Rg	Rg	10 35 09.0	
FIA0	**FINESS Array S**	**1.38**	**341**	*e*P	**Pg**	**10 34 42.7**	**-0.4**
FIA0				*e*S	**Sb**	**10 35 02.2**	**+0.6**
FIA0	comp=Z,63nm,0.2s			MSG		10 35 05.4	
FIA0	**FINESS Array S**	**1.38**	**341**	P	**Pg**	**10 34 42.7**	**-0.4**
FIA0				Lg	Lg	10 35 02.0	
FINES	**FINESS Array B** comp=Z,7.7nm,0.3s,baz=160,slow=17,SNR=233	**1.38**	**341**	Pg	**Pg**	**10 34 42.7**	**-0.4**
FINES				Lg	Lg	10 35 01.5	
	comp=Z,6.2nm,0.3s,baz=162,slow=30,SNR=8.7						
SRPE	**Suurupi** SNR=50	**1.50**	**244**	*e*P	**Pb**	**10 34 45.8**	**+0.5**
SRPE	SNR=50			*e*S	**Sn**	**10 35 06.8**	**+1.8**
VSU	**Vasula**	**1.70**	**185**	Pg	**Pb**	**10 34 48.8**	**+0.1**
VSU				Lg	Lg	10 35 11.1	
VSU	**Vasula**	**1.70**	**185**	Pg	**Pb**	**10 34 48.8**	**+0.1**
VSU				Lg	Lg	10 35 11.1	
VSU	**Vasula**	**1.70**	**185**	*e*P	**Pb**	**10 34 48.9**	**+0.3**
VSU				*e*S	**Sb**	**10 35 10.8**	**+0.3**
VSU	**Vasula**	**1.70**	**185**	P	**Pb**	**10 34 48.9**	**+0.3**
VSU				S	**Sb**	**10 35 10.7**	**+0.3**
VSU				Lg	Lg	10 35 11.1	
KAF	**Kangasniemi**	**2.00**	**350**	*e*P	**Pb**	**10 34 53.4**	**-0.5**
KAF				*e*SG	**Sb**	**10 35 20.8**	**+1.3**
KAF	comp=Z,34nm,0.2s			MSG		10 35 22.4	
KAF	**Kangasniemi**	**2.00**	**350**	P	**Pb**	**10 34 53.4**	**-0.5**
KAF				Sg	**Sb**	**10 35 20.7**	**+1.3**
MTSE	**Matsula**	**2.18**	**230**	*e*P	**Pn**	**10 34 55.9**	**+1.7**
MTSE				*e*SG	**Sb**	**10 35 25.6**	**+1.1**
MTSE	**Matsula**	**2.18**	**230**	P	**Pn**	**10 34 55.8**	**+1.7**
MTSE	SNR=50			*e*S	**Sb**	**10 35 25.5**	**+1.1**
AAL	**Aland**	**3.51**	**274**	*e*P	**Pn**	**10 35 13.5**	**+1.1**
AAL	**Aland**	**3.51**	**274**	P	**Pn**	**10 35 13.5**	**+1.1**
SLIT	**Slitere, Latvi** SNR=50	**3.52**	**226**	*e*P	**Pb**	**10 35 18.1**	**-1.7**
GRAU	**Graesoe**	**4.23**	**276**	*e*P	**Pn**	**10 35 22.8**	**+0.5**
GRAU	**Graesoe**	**4.23**	**276**	P	**Pn**	**10 35 22.8**	**+0.5**
NRTU	**Norrtaelje**	**4.25**	**267**	*e*P	**Pn**	**10 35 24.0**	**+1.4**
NRTU	**Norrtaelje**	**4.25**	**267**	P	**Pn**	**10 35 24.0**	**+1.4**
FLYU	**Flymyra**	**4.57**	**274**	*e*P	**Pn**	**10 35 27.6**	**+0.7**
FLYU	**Flymyra**	**4.57**	**274**	P	**Pn**	**10 35 27.6**	**+0.7**
IGGU	**Iggoen**	**4.85**	**288**	*e*P	**Pn**	**10 35 31.8**	**+1.0**
IGGU	**Iggoen**	**4.85**	**288**	P	**Pn**	**10 35 31.8**	**+1.0**
OSTU	**Oestervaala**	**4.94**	**275**	*e*P	**Pn**	**10 35 32.6**	**+0.6**
OSTU	**Oestervaala**	**4.94**	**275**	P	**Pn**	**10 35 32.6**	**+0.6**
ARNU	**Arnoeviken**	**4.96**	**292**	*e*P	**Pn**	**10 35 33.7**	**+1.5**
ARNU	**Arnoeviken**	**4.96**	**292**	P	**Pn**	**10 35 33.7**	**+1.5**
BACU	**Backbrunna**	**4.99**	**271**	*e*P	**Pn**	**10 35 33.5**	**+0.8**
BACU				*e*S	**Sn**	**10 36 30.0**	**-0.9**
BACU	**Backbrunna**	**4.99**	**271**	P	**Pn**	**10 35 33.5**	**+0.8**
BACU				S	**Sn**	**10 36 30.0**	**-0.9**
ESKU	**Eskilstuna**	**5.46**	**265**	*e*P	**Pn**	**10 35 40.3**	**+1.1**
ESKU	**Eskilstuna**	**5.46**	**265**	P	**Pn**	**10 35 40.3**	**+1.1**
FALU	**Falun**	**5.58**	**278**	*e*P	**Pn**	**10 35 42.2**	**+1.5**
FALU	**Falun**	**5.58**	**278**	P	**Pn**	**10 35 42.2**	**+1.5**
ROTU	**Roteberg**	**5.64**	**288**	*e*P	**Pn**	**10 35 42.5**	**+0.9**
ROTU	**Roteberg**	**5.64**	**288**	P	**Pn**	**10 35 42.5**	**+0.9**
HFS	**Hagfors** baz=104,slow=12	**6.66**	**276**	Pn	**Pn**	**10 35 56.3**	**+0.7**
HFS	baz=82,slow=28			Sn	**Sn**	**10 37 08.0**	**-4.1**
HFS	baz=97,slow=37			Lg	Lg	10 37 39.0	
HFS	**Hagfors** baz=104,slow=12	**6.66**	**276**	Pn	**Pn**	**10 35 56.3**	**+0.7**
HFS	baz=82,slow=28			Sn	**Sn**	**10 37 08.0**	**-4.1**
HFS	baz=97,slow=37			Lg	Lg	10 37 39.0	
HFS	**Hagfors** SNR=50	**6.66**	**276**	Pn	**Pn**	**10 35 56.3**	**+0.7**
HFS	SNR=50			Lg	Lg	10 37 39.0	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=99,slow=14,SNR=14	**6.66**	**276**	Pn	**Pn**	**10 35 56.3**	**+0.7**
HFS	comp=Z,0.3nm,0.3s,baz=87,slow=25,SNR=3.9			Sn	**Sn**	**10 37 09.7**	**-2.4**
HFS	comp=Z,1.3nm,0.3s,baz=79,slow=30,SNR=8.0			Lg	Lg	10 37 44.5	
NB2	**NORSAR Subarra** baz=89,slow=14	**7.83**	**283**	Pn	**Pn**	**10 36 12.3**	**+0.5**
NB2	**NORSAR Subarra** baz=89,slow=14	**7.83**	**283**	Pn	**Pn**	**10 36 12.3**	**+0.5**
NB2	**NORSAR Subarra** SNR=50	**7.83**	**283**	Pn	**Pn**	**10 36 12.3**	**+0.5**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.3s,baz=90,slow=11,SNR=19	**7.83**	**283**	Pn	**Pn**	**10 36 11.6**	**-0.2**
NOA	comp=Z,0.2nm,0.3s,baz=40,slow=20,SNR=2.7			Sn	**Sn**	**10 37 36.0**	**-5.1**
NOA	comp=Z,0.7nm,0.3s,baz=94,slow=13,SNR=3.8			Lg	Lg	10 38 21.6	
APA0	**Apatity Array** baz=207,slow=14	**7.94**	**17**	Pn	**Pn**	**10 36 13.0**	**0.0**
APA0	**Apatity Array** baz=207,slow=14	**7.94**	**17**	Pn	**Pn**	**10 36 13.0**	**0.0**
APA0	**Apatity Array** SNR=50	**7.94**	**17**	Pn	**Pn**	**10 36 13.0**	**0.0**
BSD	**Bornholm Skovb**	**8.22**	**237**	*i* P	**Pn**	**10 36 16.0**	**-1.0**
BSD				*i* S	**Sn**	**10 37 45.4**	**-5.0**
ARA0	**ARCESS Array S** baz=168,slow=14	**9.45**	**357**	Pn	**Pn**	**10 36 33.0**	**-0.9**
ARA0	**ARCESS Array S** baz=168,slow=14	**9.45**	**357**	Pn	**Pn**	**10 36 33.0**	**-0.9**
ARA0	**ARCESS Array S** SNR=50	**9.45**	**357**	Pn	**Pn**	**10 36 33.0**	**-0.9**
ARCES	**ARCESS Array B** comp=Z,0.4nm,0.3s,baz=173,slow=14,SNR=22	**9.45**	**357**	Pn	**Pn**	**10 36 33.2**	**-0.6**
ARCES	comp=Z,0.2nm,0.3s,baz=175,slow=23,SNR=3.5			Sn	Sn	10 38 14.4	-6.2
ARCES	comp=Z,0.5nm,0.3s,baz=174,slow=29,SNR=4.1			Lg	Lg	10 39 10.6	
AKASG	**Malin Array Be** comp=Z,1.9nm,0.3s,baz=350,slow=12,SNR=10	**9.55**	**172**	Pn	**Pn**	**10 36 33.7**	**-1.5**
AKASG	comp=Z,0.7nm,0.3s,baz=348,slow=23,SNR=3.1			Sn	Sn	10 38 15.6	-7.5

ISCJB ***13*** *10:44:35.6±0.3, 10°.87S±0°.03×119°.15E±0°.03, h27km, mb4.7/43, MS3.7/9, Error ellipse: s-maj=5.1km s-min=4.2km az=35.2*
IDC ***13*** *10:44:35.5±0.6, 10°.43S×119°.01E, h0km, mb4.6/17, mb1 4.7/19, mb1mx4.6/24, mbtmp4.6/19, ML4.6/2, MS3.5/7, Ms1 3.6/7, ms1mx3.3/28, Error ellipse: s-maj=22.8km s-min=13.8km az=62.0*
BJI ***13*** *10:44:37.5, 10°.70S×118°.80E, h35km, mB4.9/27, mb4.7/39, Ms4.8/13, Ms7 4.5/13*
DJA ***13*** *10:44:42.7±1.0, 11°.5S±2°.×11°.9E±°, h34km±11km, M4.8/37, mb5.0/37, mB5.3/23, MLv5.1/23, Mw(mB)4.7/23*
NEIC ***13*** *10:44:43.0±0.9, 10°.56S×119°.08E, h58km±9km, mb4.7/13, Error ellipse: s-maj=12.1km s-min=6.1km az=55.0*
ISC 13 10:44:38.2±0.3, 10°.86S±0°.04×119°.19E±0°.04, h27km, n167, σ2s13/177, mb4.8/43, MS3.6/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.61**	**43**	P	**Pb**	**10 45 07.5**	**+0.2**
WSI				S	**Sb**	**10 45 27.3**	**+0.1**
LBFI	**Labuhan Bajo,**	**2.46**	**16**	P	**Pn**	**10 45 17.1**	**+0.4**
LBFI				S	**Sn**	**10 45 48.9**	**+3.0**
MTNI	**Mataram**	**3.70**	**306**	P	Pn	10 45 38.4	+4.7
MTNI				S	**Sn**	**10 46 20.1**	**+3.6**
MMRI	**Maumere**	**3.73**	**54**	P	**Pn**	**10 45 36.8**	**+2.7**
MMRI				S	**Sn**	**10 46 16.4**	**-0.8**
KHKI	**Kahang-Kahang**	**4.31**	**305**	P	**Pn**	**10 45 40.4**	**-1.7**
IGBI	**Denpasar**	**4.47**	**297**	P	Pb	10 45 51.4	-4.6
DNP	**Denpasar**	**4.48**	**299**	P	**Pn**	**10 45 42.4**	**-2.0**
SRBI	**Singaraja**	**4.79**	**305**	P	**Pn**	**10 45 49.3**	**+0.6**
BKSI	**Bulukumba** 670nm,0.6s,6μm3.4nm	**5.58**	**10**	P	**Pn**	**10 46 00.0**	**+0.5**
ABJI	**Asem Bagus** 191nm,0.9s,2μm0.9nm	**5.76**	**301**	P	**Pn**	**10 46 00.0**	**-2.0**
KAPI	**Kappang**	**5.83**	**6**	*e*Pn	**Pn**	**10 46 03.8**	**+0.8**
KAPI				*e*Sn	**Sn**	**10 47 07.8**	**-1.3**
GMJI	**Gumukmas** 131nm,0.8s,4μm0.5nm	**6.22**	**294**	P	Pn	10 46 12.5	+4.2
BBSI	**Bau Bau** 197nm,0.8s,2μm0.6nm	**6.30**	**32**	P	**Pn**	**10 46 08.3**	**-1.1**
BLJI	**Banyuglugur** 139nm,0.7s,4μm0.8nm	**6.33**	**299**	P	**Pn**	**10 46 08.6**	**-1.2**
KMMI	**Kalianget** 74nm,0.9s,0.3nm	**6.40**	**306**	P	Pn	10 46 17.6	+6.8
BNSI	**Bone** 227nm,1.0s,2μm1.0nm	**6.48**	**8**	P	**Pn**	**10 46 14.4**	**+2.5**
SPSI	**Sidrap Palu** 140nm,1.0s,1μm0.5nm	**6.87**	**5**	P	**Pn**	**10 46 20.0**	**+2.7**
KKSI	**Kolaka, Sulawe** 239nm,0.9s,3μm0.7nm	**7.08**	**20**	P	Pn	10 46 24.8	+4.7
KRKI	**Karangkates** 247nm,0.8s,1.7nm	**7.16**	**291**	P	**Pn**	**10 46 23.9**	**+2.6**
MJSI	**Majene** 199nm,0.8s,2μm0.6nm	**7.26**	**358**	P	Pn	10 46 28.1	+5.4
TTSI	**Tana Toraja** 108nm,0.9s,1μm0.4nm	**7.79**	**5**	P	**Pn**	**10 46 32.4**	**+2.5**
PWJI	**Pagerwojo** 56nm,0.9s,0.4nm	**7.81**	**291**	P	**Pn**	**10 46 33.1**	**+2.9**
SJI	**Sawahan** 42nm,0.8s,3μm0.7nm	**7.95**	**292**	P	**Pn**	**10 46 35.3**	**+3.1**
MMSI	**Mamuju** 109nm,0.7s,926nm0.3nm	**8.12**	**358**	P	**Pn**	**10 46 35.5**	**+1.0**
PCJI	**Pacitan** 91nm,1.0s	**8.33**	**288**	P	Pn	10 46 44.0	+6.7
BBKI	**Banjar Baru** 65nm,0.8s,1μm	**8.52**	**329**	P	**Pn**	**10 46 41.9**	**+2.0**
FITZ	**Fitzroy Crossi**	**9.53**	**140**	*e*Pn	Pn	10 46 59.3	+5.5
FITZ				Sn	**Sn**	**10 48 40.7**	**+0.6**
FITZ				*e*Sn	Sn	10 48 46

11nm,0.4s,baz=253,slow=15,SNR=6.1
GENI Genyem 22.38 70 P P 10 49 40.3 +5.6
57nm,0.7s,2μm
COEN Coen 23.62 100 *e*P **P 10 49 51.3 +3.9**
92nm,0.9s
PSI Prapat 24.31 303 P P **10 49 55.7 +1.8**
33nm,1.0s,412nm
PSI Prapat 24.31 303 P P **10 49 51.5 -2.4**
PSI Prapat 24.31 303 P P **10 49 51.5 -2.4**
12nm,0.7s,baz=148,slow=8.6,SNR=7.7
TGY Tagaytay City 24.86 4 P P **10 49 59.1 +0.3**
TGY Tagaytay City 24.86 4 P P **10 49 59.1 +0.3**
167nm,0.5s,baz=151,slow=3.6,SNR=4.4
TSI Tuntungan 25.00 304 P P **10 50 02.4 +2.4**
161nm,1.0s,3μm
KCSI Kotacane, Aceh 25.66 303 P P **10 50 06.2 +0.1**
33nm,0.9s
TPTI 26.01 301 P P **10 50 12.2 +3.0**
STKA Stephens Creek 29.43 139 *e*P P 10 50 44.5 +4.8
0.7nm,0.8s
STKA Stephens Creek 29.43 139 P P 10 50 44.5 +4.8
1.5nm,0.6s,baz=285,slow=11,SNR=4.1
STKA LR LR 11 03 14.9
comp=Z,116nm,20.1s,baz=20,slow=38
QIZ Qiongzhong 31.09 343 P P **10 50 56.1 +1.6**
QIZ S S **10 55 59.0 +0.5**
QIZ LR LR
comp=Z,160nm,22.4s
CMAR Chiang Mai Arr 35.32 325 P P **10 51 28.8 -2.6**
CMAR PcP PcP **10 54 03.0 +1.4**
CMAR Chiang Mai Arr 35.32 325 P P **10 51 28.8 -2.6**
1.1nm,0.7s,baz=157,slow=7.0,SNR=8.9
CMAR PcP PcP **10 54 03.0 +1.4**
1.7nm,0.7s,baz=185,slow=2.7,SNR=9.3
CMAR LR LR 11 07 59.5
comp=Z,89nm,19.0s,baz=135,slow=40
CHTO Chiang Mai 35.61 326 *e*P **P 10 51 32.2 -1.6**
4.1nm,1.0s
GYA Guiyang 39.04 342 *e*P P **10 52 05.0 +2.0**
GYA PP **PnPn 10 53 37.0 +1.6**
GYA PcP **PcP 10 54 13.3 +0.4**
GYA ScP **ScP 10 57 55.3 -4.3**
GYA S **S 10 58 01.5 +0.7**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KMI Kunming 39.20 336 P P **10 52 05.4 +0.9**
KMI pP **pP 10 52 17.0 +4.4**
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI LR LR
comp=N,85nm,15.6s
KMI LR LR
comp=E,94nm,15.6s
KMI LR LR
comp=Z,120nm,19.7s
WHN Wuhan 41.42 354 P P **10 52 22.1 -0.5**
ENH Enshi 41.95 347 *e*P P **10 52 25.1 -1.8**
12nm,0.6s
NJ2 Nanjing 42.67 360 *e*P **P 10 52 32.3 -0.4**
NJ2 pmax pmax
comp=Z,40nm,1.0s
CD2 Chengdu 44.09 341 *e*P P **10 52 46.6 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,30nm,4.8s
XAN Xi'an 45.70 348 P P **10 52 54.8 -2.3**
XAN pP **pP 10 53 02.1 -3.2**
XAN pmax pmax
comp=Z,5.0nm,1.0s
XAN pmax pmax
comp=Z,15nm,4.8s
ODAN Odare 48.57 321 *e*P P **10 53 17.4 -2.4**
24nm,0.9s
ODAN Odare 48.57 321 *e*P P **10 53 17.4 -2.4**
TAPN Taplejung 48.73 322 *e*P P **10 53 19.0 -2.1**
37nm,0.8s
TAPN Taplejung 48.73 322 *e*P P **10 53 19.0 -2.1**
KSAR Wonju Array Be 48.73 9 P P **10 53 19.7 -0.8**
KSRS Korea Array 48.75 9 P P **10 53 19.7 -1.0**
12nm,0.7s,baz=184,slow=6.0,SNR=40
KSRS LR LR 11 13 23.9
comp=Z,29nm,20.4s,baz=140,slow=36
LZH Lanzhou 48.88 343 *e*P P **10 53 23.5 +1.5**
LZH PP **PP 10 55 17.6 +2.0**
LZH pmax pmax
comp=Z,17nm,1.2s
LZH pmax pmax
comp=Z,63nm,5.0s
LZH LR LR
comp=N,410nm,14.2s
LZH LR LR
comp=E,390nm,14.0s
LZH LR LR
comp=Z,470nm,18.1s
RAMN Ramite 49.12 321 *e*P P **10 53 21.3 -2.8**
21nm,0.7s
RAMN Ramite 49.12 321 *e*P P **10 53 21.3 -2.8**
JIRN Jiri 49.88 321 *e*P P **10 53 27.4 -2.6**
34nm,0.7s
JIRN Jiri 49.88 321 *e*P P **10 53 27.4 -2.6**
GUN Gumba 50.26 321 *e*P P **10 53 30.6 -2.2**
38nm,0.7s
GUN Gumba 50.26 321 *e*P P **10 53 30.6 -2.2**
PKI Pulchoki 50.31 320 *e*P P **10 53 30.5 -2.7**
16nm,0.8s
PKI Pulchoki 50.31 320 *e*P P **10 53 31.0 -2.2**
PKIN Phulchoki 50.32 320 *e*P P **10 53 31.0 -2.2**
MAT Matsushiro 50.44 20 P P **10 53 31.0 -2.6**
MAT *e*S **S 11 00 47.4 +1.8**
MJAR Matsushiro Arr 50.44 20 P P **10 53 31.3 -2.3**
MJAR Matsushiro Arr 50.44 20 P P **10 53 31.3 -2.3**
7.9nm,0.9s,baz=196,slow=7.9,SNR=20
MJAR LR LR 11 14 16.7
comp=Z,32nm,21.2s,baz=195,slow=36
DMN Daman 50.53 320 *e*P P **10 53 32.7 -2.1**
28nm,0.9s
DMN Daman 50.53 320 *e*P P **10 53 32.7 -2.1**
BJT Baijiatuan 50.69 357 *e*P P **10 53 34.0 -1.5**
28nm,0.5s
GKN Gorkha 51.10 320 *e*P P **10 53 36.5 -2.4**
GKN Gorkha 51.10 320 *e*P P **10 53 36.5 -2.4**
KOLN Koldanda 51.60 319 *e*P P **10 53 40.2 -2.6**
20nm,0.7s
KOLN Koldanda 51.60 319 *e*P P **10 53 40.2 -2.6**
DANN Dangsing 51.90 320 *e*P P **10 53 42.6 -2.5**
43nm,0.8s
DANN Dangsing 51.90 320 *e*P P **10 53 42.6 -2.5**
PYUN Piuthan 52.22 319 *e*P P **10 53 46.4 -1.0**
20nm,0.6s
PYUN Piuthan 52.22 319 *e*P P **10 53 46.4 -1.0**
GTA Gaotai 53.16 341 *e*P P **10 53 52.8 -1.2**
GTA pP **pP 10 54 07.0 +4.6**
GTA pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 54.70 6 *e*P P **10 54 06.3 +1.3**
MDJ Mudanjiang 56.01 9 P P **10 54 13.4 -1.1**
MDJ pmax pmax
comp=Z,22nm,0.7s
MDJ pmax pmax
comp=Z,100nm,4.8s
USRK Ussuriysk Arra 56.02 11 P P **10 54 13.2 -1.2**
18nm,0.5s,baz=192,slow=6.6,SNR=74
ULN Ulaanbaatar 59.45 351 *e*P P **10 54 37.6 -1.2**
4.6nm,0.8s
SONM Songino Array 59.53 350 P P **10 54 37.9 -1.4**
SONM Songino Array 59.53 350 P P **10 54 37.9 -1.4**
7.8nm,0.7s,baz=167,slow=8.4,SNR=76
WMQ Urumqi 61.50 335 P P **10 54 52.0 -0.8**
WMQ PcP **PcP 10 55 34.0 -0.5**
WMQ PP **PP 10 57 09.0 +0.5**
WMQ ScP **ScP 10 59 28.0 -6.5**
WMQ S S 11 03 06.0 -6.7
WMQ ScS SKKSac 11 04 34.0 -8.5
WMQ SS **SS 11 07 08.0 -6.3**
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ pmax pmax
comp=Z,75nm,5.0s
WMQ LR LR
comp=N,36nm,18.0s
WMQ LR LR
comp=E,52nm,17.0s
WMQ LR LR
comp=Z,44nm,17.0s
KSH Kashi 64.20 324 P P **10 55 09.1 -1.8**
KSH pP pP 10 55 25.3 +5.9
KSH PP **PP 10 57 32.3 -0.2**
KSH S S 11 03 34.3 -13
KSH SS **SS 11 07 52.0 -4.9**
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,170nm,5.5s
KSH LR LR
comp=N,86nm,4.6s
KSH LR LR
comp=E,130nm,5.0s
KSH LR LR
comp=Z,110nm,5.7s
MK31 Makanchi Array 66.19 333 *e*P P **10 55 22.0 -1.5**
MKAR Makanchi Array 66.19 333 *e*P P **10 55 22.1 -1.5**
MKAR Makanchi Array 66.19 333 P P **10 55 21.9 -1.6**
7.2nm,0.7s,baz=145,slow=7.8,SNR=64
MKAR LR LR 11 26 08.4
comp=Z,46nm,18.5s,baz=7.0,slow=38
KZA Kyzart 66.32 326 P P **10 55 23.9 -1.0**
SNR=6.9
TKM2 Tokmak 2 66.69 327 P P **10 55 25.5 -1.6**
SNR=9.2
TKM2 Tokmak 2 66.69 327 *e*P P **10 55 25.8 -1.3**
5.7nm,0.6s
UCH Uchtor 66.83 325 P P **10 55 27.0 -1.3**
SNR=5.4
KBK Karagaybulak 66.87 326 P P **10 55 27.5 -0.7**
SNR=5.4
AAK Ala-Archa 67.11 326 P P **10 55 28.6 -1.1**
SNR=7.9
AML Almayashu 67.22 325 P P **10 55 29.5 -1.2**
SNR=12
EKS2 Erkin-Say 67.52 325 P P **10 55 31.2 -1.1**
SNR=6.7
EKS2 Erkin-Say 67.52 325 *e*P P **10 55 31.6 -0.7**
6.6nm,0.7s
USP Osgovoka 67.52 326 P P **10 55 30.4 -1.7**
SNR=5.2
KKAR Karatay Array 69.66 324 *e*P P **10 55 43.8 -1.7**
KURK Kurchatov 70.74 334 *e*P P **10 55 50.2 -1.6**
2.4nm,0.8s
ZAA0 Zalesovo Array 70.83 339 *e*P P **10 55 50.0 -2.4**
ZALV Zalesovo Beam 70.83 339 P P **10 55 50.0 -2.3**
ZALV Zalesovo Beam 70.83 339 P P **10 55 50.0 -2.3**
4.8nm,0.6s,baz=144,slow=4.8,SNR=28
PETK Petropavlovsk- 71.69 23 P P **10 55 58.3 +0.7**
PETK Petropavlovsk- 71.69 23 P P **10 55 58.3 +0.7**
4.3nm,0.6s,baz=202,slow=8.0,SNR=6.2
VOSK Vostochnaya 75.55 332 *e*P P **10 56 18.5 -1.7**
3.2nm,0.7s
BVAR Borovoye Array 76.01 332 P P **10 56 21.7 -1.2**
BVAR Borovoye Array 76.01 332 P P **10 56 21.7 -1.2**
2.0nm,0.8s,baz=134,slow=8.5,SNR=14
BRVK Borovoye 76.08 332 *e*P P **10 56 21.5 -1.8**
5.2nm,1.1s
RAR Rarotonga 77.87 109 P P **10 56 37.3 +3.2**
RAR Rarotonga 77.87 109 P P **10 56 37.3 +3.2**
19nm,0.5s,baz=90,slow=2.2,SNR=3.6
ABKAR Akbulak array 79.18 325 *e*P P **10 56 39.5 -1.1**
AKTO Aktyubinsk 80.85 325 P P **10 56 49.1 -0.6**
AKTO Aktyubinsk 80.85 325 P P **10 56 49.1 -0.6**
4.7nm,0.7s,baz=105,slow=6.2,SNR=24
KMBO Kilima Mbogo 81.87 270 P P **10 56 57.3 +1.1**
KMBO Kilima Mbogo 81.87 270 P P **10 56 57.3 +1.1**
1.6nm,0.2s,baz=66,slow=20,SNR=2.9
TIXI Tiksi 82.58 3 *e*P P **10 56 57.1 -1.2**
5.0nm,0.8s
KBZ Khabaz 87.72 315 P P **10 57 22.5 -2.2**
KBZ Khabaz 87.72 315 P P **10 57 22.5 -2.2**
4.2nm,0.9s,baz=236,slow=3.6,SNR=5.0
KKH Kailua Kona 88.77 70 *e*P P **10 57 32.3 +2.1**
BRTR Keskin Array B 93.46 310 P P **10 57 51.8 0.0**
BRTR Keskin Array B 93.46 310 P P **10 57 51.8 0.0**
0.9nm,0.8s,baz=126,slow=6.4,SNR=3.8
FINES FINESS Array B 100.94 331 P **Pdif 10 58 24.3 -0.6**
FINES FINESS Array B 100.94 331 P **Pdif 10 58 24.3 -0.6**
2.0nm,0.8s,baz=116,slow=6.3,SNR=3.4
ILAR Eielson Array 101.42 26 P **Pdif 10 58 26.2 -0.7**
ILAR Eielson Array 101.42 26 P **Pdif 10 58 26.2 -0.7**
0.2nm,0.5s,baz=234,slow=5.7,SNR=4.6
TORD Torodi Ar. Bea 118.95 279 PKP **PKPdf 11 03 27.1 +1.7**
TORD Torodi Ar. Bea 118.95 279 PKP **PKPdf 11 03 27.1 +1.7**
1.6nm,0.7s,baz=71,slow=1.6,SNR=12
DBIC Dimbokro 124.60 271 PKP **PKPdf 11 03 37.6 +1.4**
DBIC Dimbokro 124.60 271 PKP **PKPdf 11 03 37.6 +1.4**
4.2nm,0.8s,baz=196,slow=1.9,SNR=5.1
VBMS Vicksburg 145.34 48 *e*PKPab **PKPdf 11 04 17.8 +3.5**
BINY Binghamton 146.07 20 *e*PKPbc **PKPab 11 04 17.0 +0.4**
KSPA Keystone Colle 146.72 21 *e*PKPab **PKPab 11 04 19.5 +0.4**
LRAL Lakeview Retre 147.36 43 *e*PKPbc **PKPab 11 04 21.9 +0.1**
PAL Palisades 147.83 19 *e*PKPbc **PKPbc 11 04 21.9 +0.9**
LPAZ La Paz 152.07 165 ePKPbc **PKPbc 11 04 35.2 +2.3**
LPAZ La Paz 152.07 165 PKPbc **PKPbc 11 04 35.8 +2.8**
0.7nm,0.6s,baz=254,slow=1.6,SNR=4.1

IDC 13 10:59:35.6±1.5,3.20N×104.09W,h0km,mb3.8/6, mb1 4.2/6,mb1mx4.0/19,mbtmp3.8/6,MS3.6/4,Ms1 3.7/4, ms1mx3.2/33,Error ellipse: s-maj=63.5km s-min=25.2km az=61.0,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**17.83**	**48**	LR	LR	11 08 51.0	
	comp=Z,86nm,18.4s,baz=101,slow=31						
TEIG	**Tepich**	**22.90**	**41**	LR	LR	11 11 57.3	
	comp=Z,67nm,21.7s,baz=153,slow=32						
TXAR	**Lajitas Array**	**26.00**	**1**	P	P	11 05 11.7	+1.2
	1.0nm,0.9s,baz=191,slow=13,SNR=6.9						
NVAR	**Mina Array Bea**	**37.40**	**341**	P	P	11 06 49.8	-0.9
	0.4nm,0.7s,baz=196,slow=9.4,SNR=3.7						
PDAR	**Pinedale Array**	**39.70**	**354**	P	P	11 07 09.5	-0.5
	1.1nm,0.9s,baz=166,slow=7.2,SNR=7.7						
LPAZ	**La Paz**	**40.47**	**120**	P	P	11 07 16.9	-0.4
	3.3nm,1.0s,baz=328,slow=6.2,SNR=6.0						
SADO	**Sadowa**	**46.86**	**24**	LR	LR	11 30 09.6	
	comp=Z,66nm,19.8s,baz=195,slow=39						
YKA	**Yellowknife Ar**	**59.68**	**354**	P	P	11 09 40.9	-0.6
	0.8nm,0.8s,baz=164,slow=6.7,SNR=7.2						
ILAR	**Eielson Array**	**68.65**	**342**	P	P	11 10 40.8	+0.2
	1.8nm,0.9s,baz=155,slow=4.8,SNR=13						
H11S2	**WAKE ISLAND Hy**	**88.25**	**288**	T	T	12 50 18.1	
	baz=97						
H11S1	**WAKE ISLAND Hy**	**88.25**	**288**	T	T	12 50 20.6	
	baz=97						
H11S3	**WAKE ISLAND Hy**	**88.27**	**288**	T	T	12 50 21.6	
	baz=97						
VNDA	**Vanda**	**93.98**	**193**	LR	LR	11 46 31.8	
	comp=Z,161nm,21.1s,baz=340,slow=30						
WRA	**Warramunga Arr**	**120.70**	**249**	PKP	PKPdf	11 18 30.8	+0.1
	0.1nm,0.3s,baz=90,slow=2.9,SNR=7.6						

IDC 13 11:19:14.0±2.2,3.45N×126.74E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.4/23,mbtmp3.5/3,Error ellipse: s-maj=188.0km s-min=25.0km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.41**	**162**	P	P	11 24 34.5	0.0
	0.8nm,0.6s,baz=342,slow=9.9,SNR=6.5						
ASAR	**Alice Springs**	**27.84**	**166**	P	P	11 25 05.6	+0.2
	0.3nm,0.9s,baz=347,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**57.79**	**325**	P	P	11 29 07.0	-0.3
	0.3nm,0.3s,baz=121,slow=8.0,SNR=8.0						

*ISCJB **13** 11:29:04.0±0.4, 45.69N×143.07E±0.10, h330km, mb3.1/6, Error ellipse: s-maj=9.1km s-min=6.5km az=2.2*
*JMA **13** 11:29:04.6±0.1, 45.71N×143.02E, h332km, M3.2*
*IDC **13** 11:29:05.2±1.1, 45.98N×142.94E, h323km±19km, mb3.0/7, mb1 3.1/10, mb1mx2.9/28, mbtmp2.9/10, Error ellipse: s-maj=35.9km s-min=14.6km az=170.0*

ISC 13 11:29:04.2±0.7, 45.65N±0.07×143.03E±0.08, h330km, n26, σ1.946/30, mb3.1/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**0.76**	**204**	P	**Pn**	**11 29 47.6**	**+0.6**
JWK2	**Keihoku**	**0.86**	**248**	P	**Pn**	**11 29 48.2**	**+1.0**
JWK2				*e*S	**S**	**11 30 21.7**	**+0.1**
JRR	**Rishiri**	**1.31**	**248**	P	**Pn**	**11 29 50.1**	**+0.8**
ASAJ	**Asahikawa**	**1.56**	**191**	P	**Pn**	**11 29 52.3**	**+1.5**
ASAJ	**Asahikawa**	**1.56**	**191**	P	**Pn**	**11 29 52.4**	**+1.5**
	4.6nm,0.3s,baz=22,slow=4.8,SNR=49						
ASAJ				S	**S**	**11 30 24.6**	**-3.5**
	baz=54,slow=19,SNR=2.0						
JMP	**Maruseppu**	**1.66**	**172**	P	**Pn**	**11 29 52.8**	**+1.4**
JKK2	**Kamakawa 2**	**1.79**	**186**	P	**Pn**	**11 29 53.9**	**+1.6**
JTKR	**Abashiri--Toko**	**1.79**	**159**	P	**Pn**	**11 29 53.6**	**+1.4**
JRA	**Rausu**	**2.27**	**138**	P	**Pn**	**11 29 57.1**	**+1.3**
JAR	**Ashorobuto**	**2.41**	**167**	P	**Pn**	**11 29 58.7**	**+1.7**
JAK	**Akkeshi**	**2.91**	**155**	*e*S	**S**	**11 30 46.6**	**-0.5**
NEM2	**Nemuro 2**	**3.00**	**139**	*e*S	**S**	**11 30 46.0**	**-2.5**
JCH	**Churui**	**3.04**	**175**	P	**Pn**	**11 30 02.9**	**+0.4**
JCH				*e*S	**S**	**11 30 47.3**	**-2.0**
JNBK	**Urakawa-nobuka**	**3.37**	**183**	*e*S	**S**	**11 30 55.9**	**+0.8**
JKB	**Kayabe**	**4.03**	**202**	P	**Pn**	**11 30 13.5**	**+1.1**
JKB				*e*S	**S**	**11 31 06.0**	**-1.2**
JOT	**Ohata**	**4.50**	**199**	P	**Pn**	**11 30 18.7**	**+1.2**
JOT				*e*S	**S**	**11 31 14.8**	**-1.6**
USRK	**Ussuriysk Arra**	**7.97**	**263**	P	**Pn**	**11 30 59.2**	**+1.6**
	0.4nm,0.3s,baz=69,slow=13,SNR=10						
KSRS	**Korea Array**	**13.95**	**239**	P	Pn	11 32 13.2	+3.9
	0.1nm,0.3s,baz=55,slow=9.5,SNR=3.7						
SEY	**Seymchan**	**18.12**	**14**	P	**P**	**11 32 51.6**	**-1.5**
	0.2nm,0.3s,baz=207,slow=23,SNR=7.1						
FX1	**Attu Island--F**	**20.84**	**59**	P	**P**	**11 33 22.5**	**+1.4**
	3.7nm,0.5s,baz=294,slow=19,SNR=4.1						
SONM	**Songino Array**	**25.05**	**288**	P	**P**	**11 33 60.0**	**+0.6**
	0.7nm,0.7s,baz=78,slow=6.1,SNR=5.2						
MKAR	**Makanchi Array**	**41.11**	**294**	P	**P**	**11 36 16.1**	**-0.6**
	0.4nm,0.8s,baz=80,slow=8.9,SNR=3.2						
YKA	**Yellowknife Ar**	**55.84**	**33**	P	**P**	**11 38 07.2**	**-0.5**
	0.4nm,0.5s,baz=307,slow=6.9,SNR=6.5						
FINES	**FINESS Array B**	**61.82**	**331**	P	**P**	**11 38 47.7**	**-0.7**
	1.8nm,0.8s,baz=28,slow=6.3,SNR=4.4						
PDAR	**Pinedale Array**	**70.88**	**48**	P	**P**	**11 39 46.1**	**+0.1**
	0.5nm,0.7s,baz=259,slow=0.8,SNR=4.4						
TXAR	**Lajitas Array**	**83.97**	**54**	P	**P**	**11 40 59.2**	**+1.1**
	0.1nm,0.5s,baz=282,slow=3.8,SNR=5.9						

IDC 13 11:39:03.3±2.2,6.36S×130.06E,h0km,mb3.7/1, mb1 3.7/4,mb1mx3.4/20,mbtmp3.5/4,ML3.4/2,Error ellipse: s-maj=89.2km s-min=28.3km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.44**	**200**	Pn	Pn	11 42 02.0	+0.1
	0.2nm,0.3s,baz=30,slow=12,SNR=11						
WRA	**Warramunga Arr**	**14.12**	**163**	Pn	Pn	11 42 24.2	-0.6
	0.2nm,0.3s,baz=346,slow=13,SNR=8.8						
WRA				Sn	Sn	11 44 49.6	-13
	0.5nm,0.3s,baz=332,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**17.60**	**168**	P	Pn	11 43 10.5	+0.3
	0.1nm,0.3s,baz=348,slow=13,SNR=11						
ASAR				S	Sn	11 46 10.4	-17
	0.1nm,0.3s,baz=349,slow=26,SNR=3.5						
MKAR	**Makanchi Array**	**67.73**	**327**	P	P	11 50 02.8	0.0
	0.5nm,0.6s,baz=127,slow=7.8,SNR=6.2						

*IDC **13** 11:57:48.5±5.5, 7.13S×147.34E, h93km±40km, mb3.3/3, mb1 3.4/5, mb1mx3.1/18, mbtmp3.3/5, Error ellipse: s-maj=57.2km s-min=54.9km az=101.0*

ISC 13 11:57:41.9±3.1, 6.65S±0.2×147.2E±0.4, h49km, n6, σ1.922/7, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.81**	**181**	P	**Pn**	**11 58 24.4**	**+0.1**
	7.9nm,0.3s,baz=256,slow=14,SNR=25						
PMG				S	**Sn**	**11 58 57.8**	**+0.9**
	5.1nm,0.3s,baz=356,slow=22,SNR=3.2						
WRA	**Warramunga Arr**	**18.24**	**222**	P	**P**	**12 01 50.6**	**-0.7**
	0.2nm,0.3s,baz=50,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**21.27**	**216**	P	**P**	**12 02 24.1**	**-0.2**
	0.9nm,0.6s,baz=54,slow=8.0,SNR=37						
FITZ	**Fitzroy Crossi**	**23.96**	**239**	P	**P**	**12 02 52.3**	**+0.5**
	1.3nm,0.6s,baz=58,slow=9.5,SNR=5.2						
STKA	**Stephens Creek**	**25.71**	**191**	P	**P**	**12 03 05.9**	**-1.7**
	1.2nm,0.6s,baz=6.8,slow=9.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**145.44**	**284**	PKPbc	**PKPab**	**12 17 17.0**	**+1.2**
	0.3nm,0.4s,baz=57,slow=3.2,SNR=6.1						

*MOS **13** 12:31:08.2±1.1, 51.57N×178.82E, h33km, mb5.0/54, Error ellipse: s-maj=7.3km s-min=5.8km az=107.5*
*IDC **13** 12:31:10.9±0.5, 51.60N×178.83E, h45km±4km, mb4.3/30, mb1 4.5/32, mb1mx4.5/35, mbtmp4.6/32, MS3.9/29, Ms1 3.9/29, ms1mx3.8/38, Error ellipse: s-maj=13.7km s-min=8.2km az=169.0*
*ISCJB **13** 12:31:11.5±0.3, 51.55N±0.04×178.85E±0.02, h66km±2km, mb4.8/170, Error ellipse: s-maj=7.1km s-min=2.3km az=2.1*
*BJI **13** 12:31:11.6, 52.01N×178.36E, h49km, mB5.0/31, mb5.0/48, Ms4.7/22, Ms7 4.4/24*
*NEIC **13** 12:31:11.2, 51.44N×178.85E, h40km, mb4.9/125, ML4.8(AEIC), After AEIC.*

ISC 13 12:31:11.4±0.3, 51.40N±0.06×178.88E±0.03, h53km±2km, h52km:pP-P, n778, σ1.921/840, mb4.9/170, MS4.0/39, 171C-172D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.26**	**94**	P	**Pn**	**12 31 19.7**	**-0.8**
AMKA				S	**Sn**	**12 31 26.1**	**-0.8**
LSPA	**Little Sitkin**	**0.59**	**341**	P	**Pn**	**12 31 22.9**	**-1.0**
LSSA	**Little Sitkin**	**0.60**	**337**	P	**Pn**	**12 31 22.7**	**-1.3**
LSNW	**Little Sitkin**	**0.62**	**338**	P	**Pn**	**12 31 22.9**	**-1.4**
CESW	**Semis' Southwe**	**0.66**	**40**	P	**Pn**	**12 31 24.2**	**-0.5**
CETU	**Semis' Tuman**	**0.68**	**33**	P	**Pn**	**12 31 24.7**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.71**	**44**	P	**Pn**	**12 31 25.1**	**-0.3**
CEAP	**Semis' Anvil P**	**0.74**	**35**	P	**Pn**	**12 31 25.4**	**-0.3**
GANE	**Gareloi Northe**	**1.52**	**73**	P	**Pn**	**12 31 36.7**	**+0.5**
GAEA	**Gareloi East**	**1.53**	**74**	P	**Pn**	**12 31 37.5**	**+0.9**
TANO	**Tanaga North**	**1.94**	**73**	P	**Pn**	**12 31 42.5**	**+0.7**
TASE	**Tanaga Southea**	**1.97**	**76**	P	**Pn**	**12 31 43.0**	**+0.7**
TAFP	**Tanaga Falls P**	**2.02**	**74**	P	**Pn**	**12 31 43.3**	**+0.4**
TAFP				S	**Sn**	**12 32 08.2**	**+1.3**
TAFL	**Tanaga Flats**	**2.04**	**79**	P	**Pn**	**12 31 44.2**	**+0.9**
KIKV	**Kanaga Island**	**2.50**	**77**	P	**Pn**	**12 31 50.5**	**+0.8**
KINC	**Kanaga Island**	**2.54**	**76**	P	**Pn**	**12 31 51.0**	**+0.9**
KIRH	**Kanaga Island**	**2.56**	**77**	P	**Pn**	**12 31 51.2**	**+0.9**
KIRH				S	**Sn**	**12 32 22.7**	**+2.5**
ADAG	**Mount Adagdak**	**2.87**	**77**	P	**Pn**	**12 31 55.8**	**+1.2**
ETKA	**Kagalaska Isla**	**2.97**	**79**	P	**Pn**	**12 31 57.1**	**+1.2**
GSCK	**Great Sitkin C**	**3.14**	**77**	P	**Pn**	**12 31 59.7**	**+1.4**
GSTD	**Great Sitkin T**	**3.16**	**76**	P	**Pn**	**12 31 59.7**	**+1.1**
GSMY	**Great Sitkin M**	**3.21**	**76**	P	**Pn**	**12 32 00.1**	**+0.8**
GSTR	**Great Sitkin T**	**3.22**	**76**	*e*Pn	**Pn**	**12 32 00.1**	**+0.7**
SMY	**Shemya**	**3.24**	**296**	P	**Pn**	**12 32 00.4**	**+0.8**
SMY				S	**Sn**	**12 32 39.4**	**+2.4**
SMY	**Shemya**	**3.24**	**296**	P	**Pn**	**12 32 00.4**	**+0.8**
SMY				S	**Sn**	**12 32 39.4**	**+2.4**
FX1	**Attu Island--F**	**3.83**	**295**	P	**Pn**	**12 32 07.7**	**0.0**
FX1				S	**Sn**	**12 32 55.1**	**+3.8**
FX1	**Attu Island--F**	**3.83**	**295**	P	**Pn**	**12 32 07.1**	**-0.5**
	98nm,0.3s,baz=150,slow=6.2,SNR=235						
FX1				S	**Sn**	**12 32 55.1**	**+3.8**
	590nm,0.3s,baz=131,slow=22,SNR=14						
FX1				LR	LR	12 33 39.8	
	comp=Z,2μm,18.1s,baz=288,slow=40						
NIKH	**Nikolski High**	**7.70**	**73**	P	Pn	12 33 04.2	+3.4
OKRE	**Okmok R'deer P**	**8.19**	**70**	P	Pn	12 33 11.0	+3.5
OKTU	**Okmok Mt. Tuli**	**8.24**	**71**	P	Pn	12 33 11.4	+3.2
SPIA	**Saint Paul Isl**	**8.59**	**43**	P	**Pn**	**12 33 15.3**	**+2.4**
MCIR	**Makushin Cirqu**	**9.01**	**68**	P	**Pn**	**12 33 21.5**	**+2.8**
MSW	**Makushin Switc**	**9.07**	**68**	P	**Pn**	**12 33 22.2**	**+2.7**
UNV	**Unalaska Valle**	**9.22**	**69**	P	**Pn**	**12 33 24.3**	**+2.8**
ZRO	**Akutan Zero**	**9.57**	**68**	P	**Pn**	**12 33 29.4**	**+3.0**
AKGG	**Akutan Green G**	**9.58**	**67**	P	**Pn**	**12 33 29.2**	**+2.7**
AKSA	**Akutan Strait**	**9.74**	**68**	P	**Pn**	**12 33 31.4**	**+2.7**
FALS	**False Pass**	**11.18**	**65**	*e*Pn	**Pn**	**12 33 51.4**	**+3.1**
FALS				*e*Sn	**Sn**	**12 35 55.9**	**+4.3**
PET	**Petropavlovsk**	**12.51**	**285**	*e*P	**Pn**	**12 34 07.6**	**+1.2**
PET				*e*S	Sn	12 36 17.0	-7.1
PET				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PET				smax	smax		
	comp=N,17nm,0.6s						
PET				smax	smax		

comp=E,32nm,0.5s
PET MLR MLR
comp=Z,200nm,16.0s
PET Petropavlovsk 12.51 285 *e*Pn **Pn 12 34 08.5 +2.0**
PET *e*Sn **Sn 12 36 22.0 -2.1**
SDPT Sand Point 12.93 64 *e*Pn **Pn 12 34 12.5 +0.4**
PEA0B Petropavlovsk- 13.09 286 *e*Pn **Pn 12 34 16.4 +2.1**
PEA0B *e*Sn **Sn 12 36 34.7 -3.5**
PETK Petropavlovsk- 13.09 286 P **Pn 12 34 13.8 -0.6**
PETK S **Sn 12 36 35.5 -2.7**
PETK Petropavlovsk- 13.09 286 P **Pn 12 34 13.8 -0.6**
PETK S **Sn 12 36 35.5 -2.7**
PETK PcP **PcP 12 39 43.5 +0.9**
PETK Petropavlovsk- 13.09 286 P **Pn 12 34 13.8 -0.6**
comp=Z,0.9nm,0.3s,baz=94,slow=15,SNR=30
PETK S **Sn 12 36 35.5 -2.7**
comp=Z,0.6nm,0.3s,baz=95,slow=24,SNR=5.9
PETK PcP **PcP 12 39 43.5 +0.9**
comp=Z,0.2nm,0.3s,baz=130,slow=3.3,SNR=5.9
GAMB Gambell 13.38 18 *e*Pn Pn 12 34 19.9 +1.8
CHGN Chignik 14.24 61 *e*Pn **Pn 12 34 30.1 +0.2**
SKR Severo-Kuril's 14.33 276 *e*P **Pn 12 34 28.4 -2.7**
TNA Tin City 15.73 20 *e*P **P 12 34 51.5 -0.8**
comp=Z,68nm,1.2s
SVW2 Sparrevohn 17.08 45 *e*P **P 12 35 08.9 +1.7**
comp=Z,14nm,0.9s
OHAK Old Harbor 17.18 59 *e*P **Pn 12 35 06.3 -1.0**
comp=Z,20nm,0.6s
KDAK Kodiak Island 17.63 58 *e*P **P 12 35 14.3 +1.0**
comp=Z,16nm,0.7s
SEY Seymchan 18.27 319 P **Pn 12 35 20.0 -0.7**
SEY Seymchan 18.27 319 *e*P **Pn 12 35 20.6 -0.1**
SEY Seymchan 18.27 319 P **Pn 12 35 19.9 -0.7**
SEY Seymchan 18.27 319 P **Pn 12 35 19.9 -0.7**
comp=Z,0.2nm,0.3s,baz=190,slow=24,SNR=8.2
SPU Mount Spurr 18.71 47 *e*Pn **Pn 12 35 27.1 +1.0**
PPLA Purkeypile 19.26 42 *e*P **Pn 12 35 33.8 +1.1**
comp=Z,49nm,0.9s
CAST Castle Rocks 19.52 41 *e*Pn **Pn 12 35 36.6 +0.9**
comp=Z,24nm,1.0s
SEW Seward 19.66 51 *e*P **Pn 12 35 36.5 -0.8**
comp=Z,25nm,0.7s
RC01 Rabbit Creek A 19.76 48 *e*P **Pn 12 35 37.6 -0.9**
comp=Z,27nm,1.0s
IM04 Indian Mountai 20.12 33 *e*P **Pn 12 35 41.2 -1.5**
PMR Palmer 20.17 47 *e*P **P 12 35 40.7 -0.3**
PMR pmax pmax
comp=Z,14nm,0.8s
PMR Palmer 20.17 47 *e*P **P 12 35 40.7 -0.3**
comp=Z,14nm,0.8s
TRF Thorofare Moun 20.27 42 *e*P Pn 12 35 43.3 -1.5
comp=Z,51nm,0.8s
MCK McKinley 20.94 42 *e*P **P 12 35 49.5 +0.1**
MCK pmax pmax
comp=Z,26nm,0.8s
MCK McKinley 20.94 42 *e*P **P 12 35 49.5 +0.1**
comp=Z,26nm,0.8s
DIV Divide 21.64 50 *e*P **P 12 35 58.5 +1.5**
comp=Z,33nm,0.7s
COLA College 21.80 39 *e*P **P 12 35 59.1 +0.6**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 21.80 39 *e*P **P 12 35 59.0 +0.6**
comp=Z,9.0nm,0.8s
COLD Coldfoot 22.00 32 *e*P **P 12 36 02.0 +1.4**
comp=Z,14nm,1.0s
RAGM Ragged Mountai 22.05 52 *e*P **P 12 36 03.1 +1.8**
comp=Z,53nm,0.9s
ILAR Eielson Array 22.15 40 P **P 12 36 00.5 -1.8**
ILAR PcP **PcP 12 39 56.4 -0.8**
ILAR pPcP 12 40 09.8
ILAR ScP **ScP 12 43 28.4 -1.4**
ILAR Eielson Array 22.15 40 P **P 12 36 00.5 -1.8**
comp=Z,3.2nm,0.5s,baz=240,slow=9.4,SNR=91
ILAR PcP **PcP 12 39 56.4 -0.8**
comp=Z,2.0nm,0.8s,baz=266,slow=3.3,SNR=8.5
ILAR pPcP 12 40 09.8
comp=Z,0.8nm,0.7s,baz=274,slow=2.8,SNR=4.9
ILAR ScP **ScP 12 43 28.4 -1.4**
comp=Z,1.8nm,0.8s,baz=286,slow=3.0,SNR=17
ILAR LR LR 12 46 02.5
comp=Z,171nm,18.6s,baz=89,slow=40
BMRM Bremner River 22.18 50 *e*P **P 12 36 03.4 +0.7**
comp=Z,79nm,1.0s
PAX Paxson 22.19 45 *e*P **P 12 36 01.9 -1.0**
PAX pmax pmax
comp=Z,27nm,0.9s
PAX Paxson 22.19 45 *e*P **P 12 36 01.9 -1.0**
comp=Z,27nm,0.9s
MENT Mentasta 22.96 45 *e*P **P 12 36 10.9 0.0**
DOT Dot Lake 22.98 44 *e*P **P 12 36 10.1 -1.0**
comp=Z,27nm,0.8s
YSS Yuzh-Sakhalins 23.87 274 *e*P **P 12 36 20.6 +1.0**
YSS pmax pmax
comp=Z,36nm,0.8s
YSS Yuzh-Sakhalins 23.87 274 *e*P **P 12 36 20.6 +1.0**
comp=Z,36nm,0.8s
ASAJ Asahikawa 25.25 268 *e*P **P 12 36 33.6 +1.4**
comp=Z,133nm,2.1s
ASAJ Asahikawa 25.25 268 P **P 12 36 32.6 +0.3**
comp=Z,34nm,0.8s,baz=54,slow=7.8,SNR=9.6
ASAJ LR LR 12 44 34.1
comp=Z,117nm,20.6s,baz=76,slow=32
HYT Haines Junctio 25.61 51 *e*P **P 12 36 35.3 -0.2**
HABR Khabarovsk 28.05 281 *e*P **P 12 36 55.6 -1.8**
HABR *e**SP sP 12 37 09.5 -7.6
HABR *e* 12 37 44.1
HABR *e* 12 40 09.0
HABR *e*S **S 12 41 39.2 +1.2**
HABR *e**SS sS 12 41 55.7 -5.1
HABR *e*SS **SnSn 12 42 57.3 +0.4**
HABR *e*SSS SSS 12 43 13.0
HABR *e* 12 47 39.8
HABR pmax pmax
comp=E,23nm,1.5s
HABR pmax pmax
comp=N,39nm,1.5s
HABR pmax pmax
comp=Z,70nm,1.5s
HABR MLR MLR
comp=Z,169nm,22.0s
INK Inuvik 28.28 35 *e*P **P 12 36 58.8 -0.4**
comp=Z,24nm,1.1s
INK PcP **PcP 12 40 10.4 -0.4**
INK Inuvik 28.28 35 P **P 12 36 58.8 -0.4**
comp=Z,2.1nm,0.3s,baz=247,slow=8.5,SNR=34
INK PcP **PcP 12 40 10.4 -0.4**
comp=Z,1.5nm,0.6s,baz=268,slow=1.7,SNR=3.9
INK LR LR 12 48 18.0
comp=Z,186nm,20.4s,baz=275,slow=36
YAK Yakutsk 28.31 311 *e*P **P 12 36 58.5 -1.1**
DLBC Dease Lake 29.55 56 LR LR 12 47 54.2
comp=Z,187nm,22.0s,baz=318,slow=34
KLR Kul'dur 29.77 285 *e*P P 12 37 08.8 -3.9
KLR pmax pmax
comp=E,34nm,1.2s
KLR pmax pmax
comp=Z,64nm,1.2s
TIXI Tiksi 29.91 331 *e*P **P 12 37 14.8 +1.2**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 29.91 331 *e*P **P 12 37 12.7 -0.9**
comp=Z,4.8nm,1.1s
USRK Ussuriysk Arra 31.85 276 P **P 12 37 30.9 -0.1**
comp=Z,12nm,0.8s,baz=54,slow=7.6,SNR=20
USRK LR LR 12 48 51.5
comp=Z,107nm,20.4s,baz=213,slow=33
MJAR Matsushiro Arr 32.36 259 P **P 12 37 36.4 +0.8**
MJAR PcP **PcP 12 40 21.8 -0.4**
MJAR Matsushiro Arr 32.36 259 P **P 12 37 36.4 +0.8**
comp=Z,3.8nm,0.6s,baz=53,slow=7.2,SNR=15
MJAR PcP **PcP 12 40 21.8 -0.4**
comp=Z,0.6nm,0.4s,baz=83,slow=0.8,SNR=4.4
MJAR LR LR 12 48 47.4
comp=Z,78nm,20.1s,baz=65,slow=33
MAJO Matsushiro 32.36 259 *e*P **P 12 37 36.4 +0.8**
MAJO pmax pmax
comp=Z,37nm,1.3s
MAJO Matsushiro 32.36 259 *e*P **P 12 37 36.4 +0.8**
comp=Z,37nm,1.3s
MAT Matsushiro 32.36 259 P **P 12 37 36.2 +0.6**
H11N2 WAKE ISLAND Hy 32.98 201 T T 13 12 54.0
baz=16,slow=74,SNR=400
H11N3 WAKE ISLAND Hy 32.99 201 T T 13 12 39.1
baz=16,slow=74,SNR=287
H11N1 WAKE ISLAND Hy 33.00 201 T T 13 12 52.1
baz=16,slow=74,SNR=276
MDJ Mudanjiang 33.13 278 P **P 12 37 42.0 -0.2**
MDJ pP **pP 12 37 54.9 -0.9**
MDJ sP **sP 12 38 01.1 -0.9**
MDJ PcP **PcP 12 40 21.8 -2.3**
MDJ S **S 12 42 56.5 -1.2**
MDJ ScP **ScP 12 44 02.8 -0.8**
MDJ PcS **PcS 12 44 08.3 -1.2**
MDJ ScS **ScS 12 48 03.8 -0.3**
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,81nm,4.6s
MDJ LR LR
comp=Z,140nm,35.8s
H11S1 WAKE ISLAND Hy 34.21 201 T T 13 14 25.1
baz=14,slow=75
H11S2 WAKE ISLAND Hy 34.22 201 T T 13 14 25.5
baz=14,slow=75
H11S3 WAKE ISLAND Hy 34.22 201 T T 13 14 58.8
baz=14
CN2 Changchun 36.12 279 *e*P **P 12 38 08.0 0.0**
YKA Yellowknife Ar 36.27 46 P **P 12 38 08.9 -0.1**
YKA pP **pP 12 38 20.8 -1.9**
YKA PcP **PcP 12 40 33.0 +0.1**
YKA ScP **ScP 12 44 13.7 -0.9**
YKA Yellowknife Ar 36.27 46 P **P 12 38 08.9 -0.1**
comp=Z,7.7nm,0.6s,baz=284,slow=7.5,SNR=20
YKA pP **pP 12 38 20.8 -1.9**
comp=Z,14nm,0.8s,baz=283,slow=8.3,SNR=21
YKA PcP **PcP 12 40 33.0 +0.1**
comp=Z,0.6nm,0.4s,baz=288,slow=3.3,SNR=4.6
YKA ScP **ScP 12 44 13.6 -0.9**
comp=Z,2.4nm,0.9s,baz=290,slow=3.2,SNR=14
NLWA Neilton Lookou 36.66 73 *e*P **P 12 38 14.8 +2.1**
comp=Z,23nm,1.3s
NLWA *e* 12 38 24.3
JCJ Chichijima 36.78 243 LR LR 12 49 43.7
comp=Z,144nm,20.8s,baz=323,slow=30
HIA Hailar 36.93 291 *e*P **P 12 38 13.7 -1.2**
comp=Z,17nm,0.9s
E03A Lebam 37.25 74 *e*P **P 12 38 20.3 +2.7**
comp=Z,42nm,0.9s
E03A *e*PcP **PcP 12 40 37.9 +1.8**
D05A Enumclaw 37.88 72 *e*P **P 12 38 25.1 +2.1**
comp=Z,14nm,0.8s
G03D McMinnville, O 38.10 76 ⇓P P 12 38 28.0 +3.3
baz=38
TDL Tradedollar La 38.16 74 P **P 12 38 26.9 +1.5**
KSRS Korea Array 38.19 269 P **P 12 38 27.1 +1.6**
comp=Z,8.2nm,0.8s,baz=53,slow=8.2,SNR=17
KSRS PcP **PcP 12 40 38.4 -0.8**
comp=Z,2.5nm,0.8s,baz=45,slow=3.6,SNR=4.4
KSRS LR LR 12 52 52.8
comp=Z,55nm,20.2s,baz=250,slow=34
FMW Mount Fremont 38.20 73 P **P 12 38 27.7 +1.9**
LON Longmire 38.20 73 *e*P **P 12 38 27.1 +1.4**
LON *e* 12 38 37.1
LON pmax pmax
comp=Z,4.0nm,0.7s
LON Longmire 38.20 73 *e*P **P 12 38 27.1 +1.4**
comp=Z,4.1nm,0.7s
LON *e* 12 38 37.1
KSAR Wonju Array Be 38.22 269 P **P 12 38 27.1 +1.3**
KSAR PcP **PcP 12 40 38.4 -0.9**
F04A Amboy 38.24 74 *e*P **P 12 38 28.9 +2.9**
comp=Z,24nm,0.9s
LTY Liberty 38.63 72 *e*P **P 12 38 30.2 +0.8**
comp=Z,5.7nm,0.7s
ETW Entiat 38.67 71 P **P 12 38 29.7 0.0**
EBG Ellensburg 38.87 72 P **P 12 38 32.3 +1.0**
B08A Colville Reser 38.89 69 *e*P **P 12 38 31.4 0.0**
comp=Z,6.4nm,0.8s
H04A Detroit Lake 39.02 76 *e*P **P 12 38 34.3 +1.7**
comp=Z,63nm,0.9s
VFP Flag Point 39.13 75 P **P 12 38 35.1 +1.4**
JNU Nakatsue 39.14 261 P **P 12 38 35.1 +1.5**
JNU Nakatsue 39.14 261 P **P 12 38 35.1 +1.5**
comp=Z,12nm,0.8s,baz=145,slow=10,SNR=6.3
G05D Wamic, OR 39.26 75 ⇓P **P 12 38 36.4 +1.8**
baz=39
E07A Sunnyside 39.47 72 *e*P **P 12 38 37.0 +0.8**
comp=Z,9.3nm,1.1s
L02D Cave Junction, 39.52 80 ⇓P **P 12 38 39.4 +2.6**
baz=39
HUMO Hull Mountain 39.67 79 *e*P **P 12 38 40.4 +2.4**
comp=Z,25nm,1.1s
HUMO *e* 12 38 51.1
BBOR Butler Butte 39.69 79 P **P 12 38 40.7 +2.4**
I05D Terrebonne, OR 39.72 76 ⇑P **P 12 38 40.9 +2.5**
baz=40
HAWA Hanford 39.74 72 *e*P **P 12 38 39.3 +0.8**
comp=Z,10nm,0.6s
HAWA *e* 12 38 50.6
D08A Wollman Farm, 39.77 71 *e*P **P 12 38 39.0 +0.3**
comp=Z,138nm,2.8s
C09A Chrisman Ranch 39.78 70 *e*P **P 12 38 39.0 +0.1**
comp=Z,5.9nm,0.8s
EDM Edmonton 40.06 60 *e*P **P 12 38 40.5 -0.6**
EDM *e* 12 38 52.1
EDM Edmonton 40.06 60 *e*P **P 12 38 40.5 -0.6**
EDM *e* 12 38 52.1
KHMM Horse Mountain 40.17 82 *e*P **P 12 38 44.6 +2.3**
comp=Z,35nm,1.1s
KHMM *e* 12 38 56.1
NEW Newport 40.23 68 *e*P **P 12 38 42.5 -0.1**
comp=Z,9.9nm,0.8s
NEW *e* 12 38 53.6
NEW Newport 40.23 68 ⇑P **P 12 38 43.6 +1.0**
baz=40
YBH Yreka Blue Hor 40.31 80 *e*P **P 12 38 46.1 +2.7**
comp=Z,22nm,1.1s
YBH *e* 12 38 57.3
YBH Yreka Blue Hor 40.31 80 P **P 12 38 45.2 +1.9**
comp=Z,14nm,0.9s,baz=293,slow=4.4,SNR=28
M02C Callahan 40.41 81 ⇑P **P 12 38 44.5 +0.2**
baz=40
E09A Wood Farm, Sta 40.51 71 *e*P **P 12 38 45.0 +0.2**
comp=Z,62nm,2.3s
G08A Pilot Rock 40.66 73 *e*P **P 12 38 48.4 +2.1**
comp=Z,13nm,1.4s
N02D Trinity Center 40.75 81 ⇑P **P 12 38 47.9 +0.9**
baz=41
M04C Macdoel 40.82 80 ⇑P **P 12 38 50.4 +2.8**
baz=41
K05A Sumner Lake 40.87 78 *e*P **P 12 38 50.5 +2.3**
comp=Z,50nm,0.8s
I07A Izee 40.97 75 *e*P **P 12 38 50.2 +1.4**
comp=Z,24nm,0.8s
WDC Whiskeytown Da 41.08 82 *e*P **P 12 38 52.2 +2.6**
WDC *e* 12 39 03.4
WDC pmax pmax
comp=Z,8.0nm,0.8s
WDC Whiskeytown Da 41.08 82 *e*P **P 12 38 52.2 +2.6**
comp=Z,7.7nm,0.8s
WDC *e* 12 39 03.4
F10A Beach Ranch, E 41.33 71 *e*P **P 12 38 51.9 +0.1**
comp=Z,7.0nm,0.8s
F10A *e*PcP **PcP 12 40 50.2 +1.0**
WALA Waterton Lakes 41.69 66 *e*P **P 12 38 54.6 -0.1**
comp=Z,0.6nm,1.1s
WALA *e* 12 39 05.5
MOD Modoc 41.70 78 *e*P **P 12 38 56.8 +1.9**
comp=Z,9.6nm,0.8s
MOD *e* 12 39 08.1
BSMT Bassoo Peak 41.79 68 *e*P **P 12 38 55.7 +0.1**
BSMT *e* 12 39 07.0
BMO Blue Mountains 41.88 73 *e*P **P 12 38 57.0 +0.7**
comp=Z,6.1nm,0.7s
BMO *e* 12 39 08.3
BLMT Blacktail Moun 41.96 67 *e*P **P 12 38 57.0 +0.1**
BLMT *e* 12 39 07.5
J08A Circle Bar Ran 41.99 76 *e*P **P 12 38 58.4 +1.2**
comp=Z,17nm,0.8s
WVOR Wild Horse Val 42.41 77 *e*P **P 12 39 02.1 +1.5**
WVOR *e* 12 39 13.5
WVOR pmax pmax
comp=Z,47nm,1.0s
WVOR Wild Horse Val 42.41 77 *e*P **P 12 39 02.1 +1.5**
comp=Z,47nm,1.0s
WVOR *e* 12 39 13.5
SWMT Swartz Lake 42.43 68 *e*P **P 12 39 00.1 -0.5**
OHCM Honcut 42.46 82 *e*P **P 12 39 02.4 +1.5**
MSO Missoula 42.82 69 ⇑P **P 12 39 02.7 -1.1**
baz=43
SLMT Seeley Lake 42.86 68 *e*P **P 12 39 03.7 -0.5**
SLMT *e* 12 39 15.4
CHMT Chamberlain Mo 43.17 68 *e*P **P 12 39 06.2 -0.7**
PAHR Pah Rah Range 43.54 80 *e*P **P 12 39 11.6 +1.8**
comp=Z,26nm,0.9s
PAHR *e* 12 39 23.2
MFID Camas Ranch 43.56 74 *e*P **P 12 39 10.5 +0.6**
comp=Z,12nm,1.0s
MFID *e* 12 39 21.8
CMB Columbia Colle 43.94 83 *e*P **P 12 39 15.2 +2.3**
CMB *e* 12 39 25.6
CMB pmax pmax
comp=Z,12nm,0.8s
CMB Columbia Colle 43.94 83 *e*P **P 12 39 15.2 +2.3**
comp=Z,12nm,0.8s
CMB *e* 12 39 25.6
BJI Beijing 43.95 281 P **P 12 39 13.3 +0.4**
BJI S **S 12 45 39.8 -0.7**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI pmax pmax
comp=Z,220nm,4.2s
BJI LR LR
comp=Z,150nm,19.1s
BJI LR LR
comp=Z,99nm,12.5s
BJI LR LR
comp=Z,110nm,19.9s
HRY Holter Researc 44.11 68 *e*P **P 12 39 14.3 +0.1**
HRY *e* 12 39 25.4
LRM Limekiln Ridge 44.23 69 *e*P **P 12 39 14.9 -0.5**
comp=Z,25nm,0.6s
WAKR Walker 44.24 82 *e*P **P 12 39 17.7 +2.2**
WAKR *e* 12 39 28.8
HLID Hailey 44.33 73 *e*P **P 12 39 16.3 +0.2**
comp=Z,14nm,1.1s
HLID *e* 12 39 27.9
HLID Hailey 44.33 73 ⇓P **P 12 39 16.8 +0.7**
baz=44,SNR=8.1
BMN Battle Mountai 44.44 78 *e*P **P 12 39 18.5 +1.5**
BMN *e* 12 39 30.0
BMN pmax pmax
comp=Z,40nm,0.8s
BMN Battle Mountai 44.44 78 *e*P **P 12 39 18.5 +1.5**
comp=Z,40nm,0.8s
BMN *e* 12 39 30.0
MCMT McKenzie Canyo 44.55 70 *e*P **P 12 39 17.4 -0.5**
comp=Z,6.6nm,0.7s
MCMT *e* 12 39 29.3
EGMT Eagleton 44.59 65 *e*P **P 12 39 17.7 -0.4**
comp=Z,20nm,0.8s
EGMT *e* 12 39 28.4
EGMT Eagleton 44.59 65 ⇓P **P 12 39 16.9 -1.2**
baz=44,SNR=6.6
BOZ Bozeman (W) 44.80 69 *e*P **P 12 39 19.6 -0.3**
BOZ *e* 12 39 31.2
BOZ pmax pmax
comp=Z,22nm,0.6s
BOZ Bozeman (W) 44.80 69 *e*P **P 12 39 19.6 -0.3**
comp=Z,22nm,0.6s
BOZ *e* 12 39 31.2
B19A Brinkman Farms 44.82 64 ⇓P **P 12 39 19.3 -0.5**
baz=45
TLY Talaya 44.82 301 *e*P **P 12 39 19.6 -0.1**
TLY *e*S S 12 46 12.2 +19
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY MLR MLR
comp=Z,189nm,20.0s
TLY Talaya 44.82 301 *e*P **P 12 39 19.8 0.0**
comp=Z,7.7nm,0.7s
TLY *e* 12 39 36.3
ULN Ulaanbaatar 44.94 295 *e*P **P 12 39 20.9 0.0**
comp=Z,15nm,0.9s
NVAR Mina Array Bea 44.99 81 P **P 12 39 23.5 +2.0**
NVAR pP **pP 12 39 34.4 -1.1**
NVAR Mina Array Bea 44.99 81 P **P 12 39 23.5 +2.0**
comp=Z,10nm,0.8s,baz=298,slow=8.1,SNR=30
NVAR pP **pP 12 39 34.4 -1.1**
comp=Z,12nm,0.8s,baz=308,slow=7.6,SNR=19
NV11 Mina Array Sit 45.08 81 *e*P **P 12 39 22.8 +0.7**
NV11 *e* 12 39 35.5
C19A Slack Wire Ran 45.15 65 ⇑P **P 12 39 22.0 -0.5**
baz=45,SNR=10.0
JOW Kunigami 45.16 257 *e*P **P 12 39 23.3 +0.7**
comp=Z,9.7nm,0.9s
A20A Cobblestone Ra 45.16 63 ⇑P **P 12 39 21.9 -0.6**
baz=45,SNR=5.8
SONM Songino Array 45.33 295 P **P 12 39 24.3 +0.3**
SONM PcP **PcP 12 41 02.5 -0.2**
SONM ScP **ScP 12 44 50.3 -0.3**
SONM Songino Array 45.33 295 P **P 12 39 24.3 +0.3**
comp=Z,9.7nm,0.7s,baz=60,slow=8.8,SNR=79
SONM PcP **PcP 12 41 02.5 -0.2**
comp=Z,3.0nm,0.7s,baz=70,slow=1.9,SNR=4.1
SONM ScP **ScP 12 44 50.3 -0.3**
comp=Z,1.7nm,0.9s,baz=42,slow=3.5,SNR=7.9
SONM LR LR 12 59 42.1
comp=Z,204nm,18.3s,baz=42,slow=38
B20A Solberg Farm, 45.35 64 ⇓P **P 12 39 23.8 -0.2**
baz=45
QLMT Earthquake Lak 45.38 70 *e*P **P 12 39 25.0 +0.5**
QLMT *e* 12 39 35.9
MTUM Tungsten Hills 45.49 83 *e*P **P 12 39 27.2 +1.8**
D19A Cripps Ranch, 45.55 66 ⇑P **P 12 39 25.6 -0.1**
baz=45
ZAK Zakamensk 45.69 300 *e*P **P 12 39 26.1 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
YMR Madison River 45.74 70 *e*P **P 12 39 27.9 +0.5**
comp=Z,17nm,0.8s
YMR *e* 12 39 38.4
C20A Veseth Ranch, 45.75 64 ⇑P **P 12 39 27.3 +0.1**
baz=46,SNR=5.1
TPH Tonopah 45.87 81 *e*P **P 12 39 30.1 +1.6**
TPH *e* 12 39 41.3
TPH pmax pmax
comp=Z,19nm,0.9s
TPH Tonopah 45.87 81 *e*P **P 12 39 30.1 +1.6**
comp=Z,19nm,0.9s
TPH *e* 12 39 41.3
YNR Norris Junctio 45.88 69 *e*P **P 12 39 30.1 +1.5**
comp=Z,14nm,0.9s
YNR *e* 12 39 40.8
B21A Ellsworth Farm 45.92 63 ⇓P **P 12 39 28.9 +0.5**
baz=46
YFT Old Faithful 45.94 70 *e*P **P 12 39 30.6 +1.6**
comp=Z,28nm,0.8s
YFT *e* 12 39 42.0
E19A Rath Farm, Rou 46.00 66 ⇑P **P 12 39 28.4 -0.8**
baz=46
D20A Manuel Ranch, 46.02 65 ⇓P **P 12 39 28.1 -1.3**
baz=46
H17A Grant Village 46.13 70 *e*P **P 12 39 32.3 +1.8**
H17A *e* 12 39 42.7
H17A Grant Village 46.13 70 ⇑P **P 12 39 31.1 +0.7**
baz=46
A22A Carney Farms, 46.22 62 ⇓P **P 12 39 29.3 -1.6**
baz=46
FLWY Flagg Ranch 46.23 70 *e*P **P 12 39 32.2 +1.0**
comp=Z,19nm,0.6s
MOY Mondy 46.24 303 *e*P **P 12 39 31.0 -0.1**
F19A Roth Farm, Mol 46.25 67 ⇑P **P 12 39 29.2 -2.0**
baz=46
E20A Meyer Farm, Mu 46.35 66 ⇑P **P 12 39 31.8 -0.2**
baz=46
MOOW Moose Ponds 46.40 70 *e*P **P 12 39 33.1 +0.6**
comp=Z,35nm,2.1s
I17A Pilgrim Ck. 46.40 70 ⇑P **P 12 39 33.9 +1.3**
baz=46
TPAW Teton Pass 46.43 71 *e*P **P 12 39 34.0 +1.1**
comp=Z,7.0nm,0.8s
GRAC Grapevine Rang 46.45 82 ⇑P **P 12 39 34.8 +1.9**
baz=46
RLMT Red Lodge 46.48 68 *e*P **P 12 39 33.0 -0.1**
comp=Z,18nm,0.8s
RLMT *e* 12 39 44.6
H18A Shoshone NF, C 46.50 69 ⇓P **P 12 39 32.0 -1.3**
baz=46
B22A Reddig Ranch S 46.55 63 ⇑P **P 12 39 32.3 -1.2**
baz=46
LOHW Long Hollow 46.56 71 *e*P **P 12 39 34.3 +0.5**
comp=Z,4.2nm,0.6s
D21A La Casta Ranch 46.68 65 ⇑P **P 12 39 34.0 -0.6**
baz=46
BGU Big Grassy Mou 46.70 75 *e*P **P 12 39 36.0 +1.1**

comp=Z,6.9nm,0.9s
BGU e 12 39 47.2
R11A Troy Canyon, C 46.71 79 *e*P **P 12 39 35.2 +0.2**
R11A e 12 39 47.5
R11A Troy Canyon, C 46.71 79 ⇑P **P 12 39 36.7 +1.7**
baz=47,SNR=22
F20A Billings 46.74 67 ⇓P **P 12 39 34.8 -0.2**
baz=47
A23A Redstone 46.81 61 ⇓P **P 12 39 34.6 -0.9**
baz=47
SPUT South Promonto 46.82 74 *e*P **P 12 39 35.1 -0.8**
comp=Z,14nm,0.9s
SPUT e 12 39 48.4
H19A Powell 46.90 68 ⇓P **P 12 39 37.5 +1.1**
baz=47
C22A Vida 46.93 63 ⇓P **P 12 39 35.5 -0.9**
baz=47
E21A Keefer Ranch, 46.93 65 ⇑P **P 12 39 35.6 -0.9**
baz=47
FCC Fort Churchill 46.99 45 *e*P **P 12 39 36.3 -0.3**
FCC e 12 39 47.4
FCC pmax pmax
comp=Z,1.0nm,0.9s
FCC Fort Churchill 46.99 45 *e*P **P 12 39 36.2 -0.3**
comp=Z,0.7nm,0.9s
FCC e 12 39 47.4
B23A Brockton 47.02 62 ⇑P **P 12 39 34.9 -2.2**
baz=47
G20A Bridger 47.03 67 ⇑P **P 12 39 37.5 +0.1**
baz=47,SNR=12
D22A Cohagen 47.09 64 ⇓P **P 12 39 37.5 -0.2**
baz=47,SNR=5.4
TPNV Topopah Spring 47.18 81 *e*P **P 12 39 40.2 +1.5**
TPNV pmax pmax
comp=Z,34nm,0.8s
TPNV Topopah Spring 47.18 81 *e*P **P 12 39 40.2 +1.5**
comp=Z,34nm,0.8s
TPNV Topopah Spring 47.18 81 ⇓P **P 12 39 39.8 +1.1**
baz=47,SNR=14
I19A Meeteetse 47.26 69 ⇓P **P 12 39 39.6 +0.4**
baz=47
DUG Dugway 47.27 76 *e*P **P 12 39 40.2 +0.9**
DUG e 12 39 51.9
DUG pmax pmax
comp=Z,50nm,0.8s
DUG Dugway 47.27 76 *e*P **P 12 39 40.1 +0.9**
comp=Z,50nm,0.8s
DUG e 12 39 51.9
DUG Dugway 47.27 76 ⇓P **P 12 39 40.3 +0.9**
baz=47,SNR=22
C23A Lambert 47.28 63 ⇑P **P 12 39 39.6 +0.4**
baz=47
A24A Westby 47.31 61 ⇓P **P 12 39 38.4 -0.9**
baz=47
LAO LASA Array 47.33 65 *e*P **P 12 39 39.5 -0.1**
comp=Z,8.3nm,0.6s
LAO e 12 39 50.7
NJ2 Nanjing 47.36 270 *e*P **P 12 39 40.4 +0.5**
NJ2 pmax pmax
comp=Z,30nm,0.8s
EDW2 Edwards Air Fo 47.43 85 ⇑P **P 12 39 41.1 +0.6**
baz=47
G21A Lodge Grass 47.61 67 ⇑P **P 12 39 39.9 -1.9**
baz=47
D23A Lindsay 47.63 64 ⇑P **P 12 39 40.3 -1.6**
baz=47
E22A Miles City 47.63 65 ⇑P **P 12 39 42.0 +0.1**
baz=47,SNR=6.3
BW06 Boulder Array 47.68 71 *e*P **P 12 39 42.5 -0.1**
comp=Z,16nm,0.7s
BW06 e 12 39 53.9
PDAR Pinedale Array 47.68 71 P **P 12 39 42.4 -0.2**
PDAR pP **pP 12 39 54.9 -1.8**
PDAR ScP **ScP 12 45 00.5 -0.2**
PDAR Pinedale Array 47.68 71 P **P 12 39 42.4 -0.2**
comp=Z,8.0nm,0.7s,baz=334,slow=3.0,SNR=70
PDAR pP **pP 12 39 54.9 -1.8**
comp=Z,21nm,0.7s,baz=301,slow=3.7,SNR=35
PDAR ScP **ScP 12 45 00.5 -0.2**
comp=Z,0.8nm,0.8s,baz=11,slow=1.5,SNR=4.5
PDAR LR LR 12 56 39.8
comp=Z,160nm,18.7s,baz=122,slow=32
J19A Crowheart 47.68 70 ⇓P **P 12 39 42.6 +0.1**
baz=48,SNR=5.7
A25A Svangstu Ranch 47.79 61 ⇑P **P 12 39 42.5 -0.6**
baz=48
I20A Worland 47.82 69 ⇑P **P 12 39 44.0 +0.5**
baz=48
F22A Rosebud 47.83 66 ⇓P **P 12 39 43.0 -0.5**
baz=48
JLU Jordanelle 47.85 74 *e*P **P 12 39 44.9 +1.0**
comp=Z,18nm,1.0s
JLU e 12 39 55.9
NLU North Lily Min 47.87 75 *e*P **P 12 39 45.2 +1.1**
comp=Z,21nm,0.8s
NLU e 12 39 56.4
E23A Ismay 47.96 64 ⇓P **P 12 39 44.6 +0.1**
baz=48
BFSC Mount Baldy Ra 48.05 85 ⇓P **P 12 39 47.3 +1.9**
baz=48
H21A Big Horn, Sher 48.05 67 ⇑P **P 12 39 46.7 +1.4**
baz=48,SNR=6.0
SHPR Sheep Range 48.14 81 *e*P **P 12 39 46.4 +0.3**
comp=Z,6.8nm,0.9s
G22A Birney 48.14 66 ⇑P **P 12 39 44.7 -1.2**
baz=48
J20A Shoshoni 48.20 69 ⇑P **P 12 39 47.2 +0.8**
baz=48
F23A Volborg 48.35 65 ⇑P **P 12 39 46.0 -1.6**
baz=48,SNR=5.5
I21A Big Trails, Te 48.39 68 ⇓P **P 12 39 46.3 -1.6**
baz=48,SNR=5.0
H22A Clearmont 48.47 67 ⇑P **P 12 39 46.3 -2.2**
baz=48
E24A Baker 48.49 64 ⇑P **P 12 39 46.3 -2.3**
baz=48
J21A Lysite 48.58 69 ⇓P **P 12 39 47.8 -1.6**
baz=48
CCUT Cedar City 48.58 79 *e*P **P 12 39 51.1 +1.5**
comp=Z,20nm,1.0s
CCUT e 12 40 02.3
G23A Biddle 48.67 66 ⇓P **P 12 39 48.4 -1.6**
baz=48
MVU Marysvale 48.69 77 *e*P **P 12 39 51.3 +0.9**
comp=Z,31nm,0.9s
MVU e 12 40 03.4
TMUT Trail Mountain 48.80 76 *e*P **P 12 39 52.5 +1.2**
comp=Z,61nm,0.8s
TMUT e 12 40 04.0
I22A 9 Mile Ranch, 48.81 68 ⇓P **P 12 39 52.2 +1.1**
baz=49,SNR=5.2
F24A Ekalaka 48.83 65 ⇓P **P 12 39 49.2 -1.9**
baz=49
GMRC Granite Mounta 48.94 83 ⇓P **P 12 39 52.7 +0.5**
baz=49,SNR=6.3
C26A Wahner Farm, P 48.98 61 ⇑P **P 12 39 50.3 -1.9**
baz=49
E25A Miller Ranch, 49.03 63 ⇑P **P 12 39 51.4 -1.3**
baz=49
J22A Midwest 49.10 68 ⇓P **P 12 39 53.1 -0.3**
baz=49,SNR=6.9
K21A Alcova 49.12 70 ⇓P **P 12 39 52.6 -1.0**
baz=49
G24A Alzada 49.15 65 ⇓P **P 12 39 53.0 -0.6**
baz=49
SRU San Rafael 49.33 75 *e*P **P 12 39 56.3 +1.1**
SRU e 12 40 07.8
SRU pmax pmax
comp=Z,30nm,0.7s
SRU San Rafael 49.33 75 *e*P **P 12 39 56.3 +1.1**
comp=Z,30nm,0.7s
SRU e 12 40 07.8
H24A Dirks Ranch, A 49.41 66 ⇓P **P 12 39 53.8 -1.9**
baz=49
K22A Casper 49.54 69 *e*P **P 12 39 56.8 +0.1**
K22A e 12 40 07.5
K22A Casper 49.54 69 ⇑P **P 12 39 55.1 -1.6**
baz=49
B28A Dugan Ranch, T 49.56 60 ⇑P **P 12 39 55.4 -1.3**
baz=49
E26A Carlson Angus 49.57 63 ⇓P **P 12 39 54.9 -1.9**
baz=49
N20A Spence Gulch, 49.62 72 ⇑P **P 12 39 55.2 -2.3**
baz=50
IRM Iron Mountain 49.67 83 ⇑P **P 12 39 59.0 +1.3**
baz=50
W13A Hualapai Mount 49.84 82 ⇓P **P 12 39 57.5 -1.6**
baz=50
A29A Manning Farm, 49.90 59 ⇓P **P 12 39 57.2 -2.0**
baz=50
U15A North Rim 49.96 79 ⇓P P 12 39 56.7 -3.4
baz=50
L22A Ellis Ranch, M 49.97 70 ⇓P **P 12 39 58.1 -2.0**
baz=50
K23A Bowen Ranch, D 50.00 69 ⇓P **P 12 39 58.3 -1.9**
baz=50
O20A White River Ci 50.07 73 *e*P **P 12 40 00.9 0.0**
O20A e 12 40 12.4
O20A White River Ci 50.07 73 ⇓P **P 12 40 01.0 +0.1**
baz=50,SNR=6.3
RSSD Black Hills 50.09 66 *e*P **P 12 40 00.8 -0.2**
RSSD e 12 40 11.6
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 50.09 66 *e*P **P 12 40 00.8 -0.2**
comp=Z,4.5nm,0.8s
RSSD e 12 40 11.6
E27A Carson 50.10 62 ⇓P **P 12 39 58.8 -1.9**
baz=50
F27A Lemmon 50.17 63 ⇑P **P 12 39 59.5 -1.9**
baz=50
D28A Regan 50.19 61 ⇓P **P 12 40 00.2 -1.3**
baz=50
G26A Maurine 50.20 64 ⇓P **P 12 39 59.7 -1.9**
baz=50
PDMCI Parker Dam,Lak 50.20 83 ⇑P **P 12 40 01.7 0.0**
baz=50,SNR=5.1
M22A Cedar Creek Ra 50.26 71 ⇑P **P 12 40 01.7 -0.7**
baz=50
I25A Rochford 50.32 66 ⇓P **P 12 40 01.0 -1.7**
baz=50
HVS Khovu-Aksy 50.32 305 ⇓*i*P **P 12 40 02.7 +0.2**
HVS pmax pmax
comp=Z,129nm,1.5s
Y12C Blythe 50.33 83 ⇓P **P 12 40 01.7 -1.0**
baz=50,SNR=5.6
MDND Maddock 50.33 60 ⇑P **P 12 40 01.5 -1.0**
baz=50
L23A Garrett 50.35 69 ⇑P **P 12 40 02.6 -0.3**
baz=50,SNR=5.5
A30A Hoffart Farm, 50.38 58 ⇓P **P 12 40 00.9 -2.0**
baz=50
G27A Dupree 50.52 64 ⇓P **P 12 40 02.4 -1.6**
baz=50
GLA Glamis 50.60 84 ⇑P **P 12 40 03.1 -1.7**
baz=50
B30A Myrvik Farm, E 50.66 59 ⇓P **P 12 40 04.0 -1.0**
baz=50
PV10 Paradox Valley 50.70 75 *e*P **P 12 40 05.9 +0.2**
comp=Z,1μm,0.8s
PV10 e 12 40 18.3
N22A Wattenberg Ran 50.72 71 ⇑P **P 12 40 04.5 -1.3**
baz=50
I26A New Underwood 50.81 66 ⇓P **P 12 40 04.7 -1.6**
baz=51
L24A Wheatland 50.84 69 ⇓P **P 12 40 05.7 -0.9**
baz=51
F28A McLaughlin 50.87 63 ⇓P **P 12 40 05.0 -1.6**
baz=51
ULM Lac du Bonnet 50.88 56 P **P 12 40 05.4 -1.1**
ULM Lac du Bonnet 50.88 56 P **P 12 40 05.4 -1.1**
comp=Z,2.6nm,0.4s,baz=338,slow=14,SNR=7.7
ULM LR LR 13 00 38.3
comp=Z,176nm,18.1s,baz=292,slow=35
O22A Kremmling 51.06 72 ⇓P **P 12 40 06.8 -1.7**
baz=51
WUAZ Wupatki 51.12 79 ⇓P **P 12 40 07.1 -1.6**
baz=51
J26A Sides Ranch, S 51.13 67 ⇓P **P 12 40 08.1 -0.6**
baz=51
Y14A Wickenburg 51.15 82 ⇓P **P 12 40 08.5 -0.4**
baz=51
WHN Wuhan 51.21 272 P **P 12 40 09.8 +0.6**
D30A Buchanan 51.23 60 ⇓P **P 12 40 08.0 -1.3**
baz=51
I27A Quinn 51.25 65 ⇓P **P 12 40 08.0 -1.6**
baz=51
P22A Eagle 51.29 72 ⇑P **P 12 40 09.9 -0.3**
baz=51
O23A Lake Granby, G 51.41 71 ⇑P **P 12 40 11.3 +0.3**
baz=51,SNR=6.3
F29A Eureka 51.42 62 ⇑P **P 12 40 09.5 -1.3**
baz=51,SNR=5.1
H28A Mission Ridge 51.46 64 ⇓P **P 12 40 10.8 -0.2**
baz=51,SNR=5.3
Z14A Wintersburg 51.57 83 ⇓P **P 12 40 12.6 +0.6**
baz=51
N24A Carr 51.63 70 ⇑P **P 12 40 12.0 -0.6**
baz=52
MVCO Mesa Verde 51.77 76 *e*P **P 12 40 14.5 +0.7**
comp=Z,24nm,1.1s
MVCO e 12 40 26.2
MVCO Mesa Verde 51.77 76 ⇓P **P 12 40 12.9 -0.8**
baz=52
I28A Midland 51.80 65 ⇓P **P 12 40 13.1 -0.4**
baz=52,SNR=5.6
X16A Lo Mia Camp, P 51.80 81 ⇓P **P 12 40 15.8 +1.9**
baz=52,SNR=14
ISCO Idaho Springs 51.85 72 *e*P **P 12 40 15.2 +0.9**
ISCO e 12 40 26.1
ISCO pmax pmax
comp=Z,2.0nm,0.6s
ISCO Idaho Springs 51.85 72 *e*P **P 12 40 15.2 +0.9**
comp=Z,2.3nm,0.6s
ISCO e 12 40 26.1
ISCO Idaho Springs 51.85 72 ⇓P **P 12 40 15.0 +0.6**
baz=52
SSLB Suanglung 51.88 261 *e*P **P 12 40 15.1 +0.7**
comp=Z,28nm,1.0s
L26A Underwood Farm 51.92 68 ⇑P **P 12 40 13.1 -1.6**
baz=52
O24A Longmont 51.96 71 ⇓P **P 12 40 13.1 -1.9**
baz=52
P23A Jefferson 51.98 72 ⇓P **P 12 40 14.0 -1.4**
baz=52
J28A Allard Ranch, 52.11 65 ⇑P **P 12 40 15.1 -0.9**
baz=52
XAN Xi'an 52.23 279 P **P 12 40 16.8 -0.1**
XAN pP pP 12 40 26.3 -4.9
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN pmax pmax
comp=Z,26nm,7.2s
G30A Faulkton 52.23 62 ⇓P **P 12 40 15.2 -1.6**
baz=52
M26A McRoberts Ranc 52.24 68 ⇑P **P 12 40 16.1 -0.9**
baz=52
I29A Vivian Onida 52.27 64 ⇑P **P 12 40 15.5 -1.6**
baz=52
W18A Petrified Fore 52.38 79 *e*P **P 12 40 19.8 +1.6**
W18A e 12 40 30.8
W18A Petrified Fore 52.38 79 ⇑P **P 12 40 19.6 +1.3**
baz=52
S22A 4UR Ranch, Cre 52.44 74 ⇑P **P 12 40 20.1 +1.4**
baz=52
K28A Ten Mile Ranch 52.48 66 ⇑P **P 12 40 19.2 +0.4**
baz=52
O25A Wiggins 52.53 70 ⇑P **P 12 40 17.3 -1.9**
baz=52
N26A Koester Ranch, 52.60 69 ⇑P **P 12 40 19.1 -0.5**
baz=52
J29A Okreek 52.64 65 ⇑P **P 12 40 19.5 -0.3**
baz=52,SNR=6.3
X18A Snowflake 52.64 79 ⇓P **P 12 40 21.3 +1.1**
baz=52,SNR=9.1
R23A Moffat 52.75 73 ⇓P **P 12 40 19.7 -1.3**
baz=53
I30A Oacoma 52.83 64 ⇑P **P 12 40 20.0 -1.2**
baz=53,SNR=5.6
P25A Willow Gulch B 52.89 71 ⇑P **P 12 40 23.3 +1.4**
baz=53
ZAA0 Zalesovo Array 52.95 312 *e*P **P 12 40 20.4 -1.5**
ZALV Zalesovo Beam 52.95 312 P **P 12 40 20.6 -1.4**
ZALV 12 41 30.6
ZALV Zalesovo Beam 52.95 312 P **P 12 40 20.6 -1.4**
ZALV PcP **PcP 12 41 30.6 +0.5**
ZALV Zalesovo Beam 52.95 312 P **P 12 40 20.6 -1.4**
comp=Z,2.5nm,0.4s,baz=46,slow=7.2,SNR=20
ZALV PcP **PcP 12 41 30.6 +0.5**
comp=Z,3.6nm,0.8s,baz=24,slow=4.0,SNR=5.5
ZALV LR LR 13 03 43.3
comp=Z,97nm,19.3s,baz=247,slow=37
N27A Anderson Farm, 53.02 69 ⇓P **P 12 40 21.5 -1.2**
baz=53
K29A Lazy Trails An 53.05 65 ⇓P **P 12 40 23.0 +0.1**
baz=53
NVS Novosibirsk 53.12 314 ⇑*i*P **P 12 40 21.7 -1.4**
NVS *i* 12 41 30.3
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=Z,7.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.6s
J30A Dallas 53.17 64 ⇑P **P 12 40 23.1 -0.6**
baz=53
OGNE Ogallala 53.22 68 ⇑P **P 12 40 22.7 -1.5**
baz=53
Q25A Bedland, Calha 53.23 72 ⇑P **P 12 40 24.8 +0.4**
baz=53
SDCO Great Sand Dun 53.24 73 *e*P **P 12 40 25.4 +0.8**
comp=E,19nm,1.3s
SDCO e 12 40 36.5
U22A Llaves 53.31 76 ⇑P **P 12 40 26.3 +1.2**
baz=53
M28A Bar X Bar Ranc 53.32 67 ⇓P **P 12 40 25.8 +0.9**
baz=53
P26A Davis Ranch, A 53.34 70 ⇑P **P 12 40 25.6 +0.4**
baz=53
T23A Casias Ranch, 53.38 74 ⇓P **P 12 40 25.7 +0.1**
baz=53
L29A Maesberg Ranch 53.41 66 ⇓P **P 12 40 26.3 +0.8**
baz=53
O27A Beecher Island 53.45 69 ⇑P **P 12 40 26.0 +0.1**
baz=53
S24A Houchin Ranch, 53.48 73 ⇓P **P 12 40 27.5 +1.1**
baz=53
K30A Basset 53.51 65 ⇑P **P 12 40 24.7 -1.6**
baz=53
V22A San Miguel Ran 53.59 76 ⇓P **P 12 40 27.9 +0.7**
baz=53,SNR=6.2
SUMG Summit 53.62 13 *i*P **P 12 40 26.7 -0.3**
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 53.62 13 *i*P **P 12 40 26.7 -0.3**
comp=Z,14nm,0.9s
SUMG Summit 53.62 13 *e*P **P 12 40 26.2 -0.9**
comp=Z,28nm,1.1s
TUC Tucson 53.62 82 *e*P **P 12 40 27.5 +0.3**
TUC e 12 40 39.5
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC Tucson 53.62 82 *e*P **P 12 40 27.5 +0.3**
comp=Z,9.0nm,1.0s
TUC e 12 40 39.5
Q26A Hugo 53.65 71 ⇑P **P 12 40 27.9 +0.5**
baz=54
N28A Pribbeno Ranch 53.67 68 ⇑P **P 12 40 27.7 +0.1**
baz=54
R25A Fountain Ranch 53.70 72 ⇓P **P 12 40 28.7 +0.8**
baz=54
U23A El Rito 53.75 75 ⇓P **P 12 40 29.5 +1.2**
baz=54,SNR=15
P27A Ficken Ranch, 53.80 70 ⇑P **P 12 40 28.3 -0.2**
baz=54
O28A Krutsinger Ran 53.90 69 ⇓P **P 12 40 29.0 -0.2**
baz=54
L30A Spencer Herefo 53.91 66 ⇑P **P 12 40 28.7 -0.6**
baz=54
LZH Lanzhou 53.98 285 *e*P **P 12 40 30.8 +0.9**
LZH pP **pP 12 40 46.5 +2.3**
LZH sP **sP 12 40 53.6 +3.3**
LZH *e*S **S 12 47 57.8 -4.0**
LZH sS **sS 12 48 26.0 +0.2**
LZH *e*SS **SKiKP 12 51 39.5 +2.2**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,110nm,6.0s
LZH LR LR
comp=Z,210nm,14.2s
LZH LR LR
comp=Z,230nm,15.0s
LZH LR LR
comp=Z,360nm,18.3s
KSCO Kaye Shedlock' 54.12 70 *e*P **P 12 40 32.0 +1.1**
KSCO *e* 12 40 43.3
KSCO Kaye Shedlock' 54.12 70 ⇓P **P 12 40 31.0 +0.1**
baz=54
V23A Ortiz Mt. (NFS 54.14 76 ⇓P **P 12 40 32.9 +1.7**
baz=54,SNR=10
GTA Gaotai 54.20 290 P **P 12 40 31.8 +0.3**
GTA pP **pP 12 40 47.4 +1.6**
GTA sP **sP 12 40 54.0 +2.1**
GTA pmax pmax
comp=Z,34nm,0.7s
L31A Butterfield Fa 54.27 65 ⇓P **P 12 40 32.0 +0.2**
baz=54
P28A Saint Francis 54.27 69 ⇑P **P 12 40 31.7 -0.2**
baz=54
T25A Trinidad 54.29 73 ⇑P **P 12 40 33.3 +1.1**
baz=54,SNR=5.2
ENH Enshi 54.43 275 *e*P **P 12 40 32.8 -0.3**
comp=Z,14nm,0.8s
LAZ Ladron 54.45 78 *e*P **P 12 40 34.5 +1.1**
comp=Z,16nm,0.8s
LAZ e 12 40 46.8
O29A 4D Ranch, Culb 54.47 68 ⇑P **P 12 40 34.1 +0.8**
baz=54
R27A Eads 54.50 71 ⇓P **P 12 40 34.0 +0.4**
baz=54,SNR=5.7
ANMO Albuquerque 54.51 77 *e*P **P 12 40 34.1 +0.3**
comp=Z,13nm,1.0s
ANMO e 12 40 46.4
S26A Kim 54.53 72 ⇑P **P 12 40 34.5 +0.6**
baz=54,SNR=6.5
W23A Werner Place, 54.55 76 ⇑P **P 12 40 35.7 +1.5**
baz=54,SNR=5.6
Q28A Sharon Springs 54.56 70 ⇑P **P 12 40 34.5 +0.5**
baz=54
V24A Rampart Ranch, 54.71 75 ⇓P **P 12 40 36.8 +1.5**
baz=54,SNR=5.9
LENM Lemitar 54.71 78 *e*P **P 12 40 37.3 +2.0**
LENM e 12 40 48.5
P29A Atwood 54.73 69 ⇓P **P 12 40 36.4 +1.2**
baz=54,SNR=6.0
T26A Comanche Natio 54.75 73 ⇓P **P 12 40 35.7 +0.1**
baz=55
U25A Circle Dot Ran 54.78 74 ⇑P **P 12 40 36.1 +0.3**
baz=55,SNR=5.8
LPM Los Pinos Moun 54.83 77 *e*P **P 12 40 37.6 +1.5**
LPM e 12 40 49.3
O30A MW Ranch, Wils 54.87 68 ⇑P **P 12 40 37.0 +0.8**
baz=55
Y22A Socorro 54.87 78 ⇓P **P 12 40 35.8 -0.7**
baz=55,SNR=14
BNM Barren Site 54.94 77 *e*P **P 12 40 38.5 +1.5**
comp=Z,15nm,0.8s
BNM e 12 40 50.1
W24A Lazy 6 Ranch, 54.97 76 ⇑P **P 12 40 37.7 +0.6**
baz=55,SNR=8.1
V25A Rancho No Teng 55.03 75 ⇑P **P 12 40 39.1 +1.5**
baz=55,SNR=5.6
R28A Tribune 55.04 71 ⇑P **P 12 40 38.4 +0.8**
baz=55
P30A Selden 55.17 68 ⇓P **P 12 40 38.9 +0.5**
baz=55,SNR=6.5
Q29A Oakley 55.17 69 ⇓P **P 12 40 37.9 -0.5**
baz=55
U26A Atchley Ranch, 55.18 74 ⇓P **P 12 40 39.2 +0.5**
baz=55
319A Douglas 55.19 82 ⇓P **P 12 40 39.9 +1.2**
baz=55
O31A Woolen Ranch, 55.31 67 ⇑P **P 12 40 39.8 +0.5**
baz=55
121A Cookes Peak, D 55.32 80 *e*P **P 12 40 40.6 +0.9**
121A Cookes Peak, D 55.32 80 ⇑P **P 12 40 41.1 +1.4**
baz=55,SNR=7.6
Z22A Elephant Butte 55.34 79 ⇓P **P 12 40 40.8 +1.0**
baz=55,SNR=6.1
T27A Campo 55.35 72 ⇑P **P 12 40 39.8 0.0**
baz=55
Y23A Lovelace Mesa, 55.43 77 ⇓P **P 12 40 42.1 +1.6**
baz=55,SNR=18
S28A Manter 55.49 71 ⇓P **P 12 40 41.6 +0.9**
baz=55,SNR=9.3
W25A X Bar L Ranch, 55.54 75 ⇑P **P 12 40 42.0 +0.8**
baz=55,SNR=6.7
V26A Tequesquite Ra 55.56 74 ⇑P **P 12 40 42.5 +1.2**
baz=55,SNR=5.5
Q30A Quinter 55.56 69 ⇑P **P 12 40 42.0 +0.9**

baz=55,SNR=5.2
SPMN St. Paul 55.63 59 ⇑P P 12 40 42.5 +1.0
baz=55,SNR=8.2
T28A Walsh 55.67 72 ⇑P P 12 40 42.0 -0.1
baz=56
320A Kipp Ranch, An 55.68 81 ⇓P P 12 40 42.7 +0.5
baz=56,SNR=15
221A Mesquite Ranch 55.68 80 ⇓P P 12 40 42.4 +0.1
baz=56
P31A Stockton 55.69 68 ⇑P P 12 40 41.3 -0.8
baz=56
U27A Thompson Grove 55.72 73 ⇓P P 12 40 42.3 -0.1
baz=56
Z23A Rita Site, Whi 55.78 78 ⇓P P 12 40 44.0 +1.0
baz=56
Y24A Capitan 55.82 77 ⇑P P 12 40 44.2 +0.9
baz=56
R30A Dighton 55.98 70 ⇑P P 12 40 44.8 +0.5
baz=56,SNR=7.0
Q31A Ellis 56.02 68 ⇓P P 12 40 44.7 +0.2
baz=56
W26A Owens Ranch, T 56.04 75 ⇓P P 12 40 45.5 +0.7
baz=56
P32A Huiting Farm, 56.07 67 ⇓P P 12 40 45.0 +0.2
baz=56
U28A Mallet 56.10 73 ⇑P P 12 40 46.1 +0.9
baz=56,SNR=5.6
T29A Hugoton 56.14 71 ⇑P P 12 40 46.2 +0.8
baz=56
V27A Dan Oppiter Fa 56.15 74 ⇓P P 12 40 46.5 +0.9
baz=56
Z24A Sheeppen Canyo 56.26 77 ⇓P P 12 40 47.7 +1.2
baz=56,SNR=5.6
Y25A Mesa, Roswell 56.27 76 ⇓P P 12 40 47.1 +0.6
baz=56,SNR=12
S30A Montezuma 56.30 70 ⇓P P 12 40 47.3 +0.7
baz=56
X26A CR and CF Fran 56.38 75 ⇓P P 12 40 48.5 +1.3
baz=56,SNR=5.5
R31A Burdett 56.42 69 ⇓P P 12 40 47.6 +0.2
baz=56
W27A Bowe Ranch, En 56.48 74 ⇑P P 12 40 48.9 +0.9
baz=56
Q32A Meitler Ranch, 56.52 68 ⇓P P 12 40 48.2 +0.2
baz=56,SNR=5.4
223A Chaparral, Ant 56.52 79 ⇑P P 12 40 49.6 +1.4
baz=56
124A Stringfield Ra 56.64 78 ⇓P P 12 40 50.1 +0.9
baz=56
Z25A Roswell 56.69 77 ⇑P P 12 40 50.1 +0.7
baz=56,SNR=6.5
P33A Williams Farm, 56.72 67 ⇑P P 12 40 49.6 +0.2
baz=56
Y26A Elida 56.80 76 ⇑P P 12 40 50.8 +0.6
baz=57
R32A Long Quarter, 56.81 68 ⇓P P 12 40 50.9 +0.9
baz=57
S31A Mullinville 56.90 70 ⇑P P 12 40 50.9 +0.2
baz=57
Q33A Connelly Farm, 56.93 67 ⇑P P 12 40 49.8 -1.1
baz=57,SNR=5.6
U30A WK&E Inc. Balk 56.94 71 ⇓P P 12 40 51.3 +0.2
baz=57
224A Cornudas Mount 57.03 79 ⇓P P 12 40 53.0 +1.2
baz=57,SNR=14
T31A Randall Ranch, 57.13 70 ⇓P P 12 40 52.6 +0.3
baz=57
Z26A Caprock 57.15 76 ⇓P P 12 40 53.7 +1.0
baz=57,SNR=6.7
125A Gardner Draw, 57.16 77 ⇑P P 12 40 54.1 +1.4
baz=57,SNR=6.2
Y27A Causey 57.23 75 ⇓P P 12 40 54.5 +1.3
baz=57,SNR=7.4
R33A Olander Ranch, 57.31 68 ⇓P P 12 40 54.1 +0.6
baz=57
MNTX Cornudas Mount 57.37 79 *e*P P 12 40 54.8 +0.6
comp=Z,27nm,0.9s
MNTX *e* 12 41 07.2
X28A Dimmitt 57.38 74 ⇓P P 12 40 55.5 +1.3
baz=57
MSTX Muleshoe 57.41 75 *e*P P 12 40 55.0 +0.6
MSTX *e* 12 41 06.8
MSTX Muleshoe 57.41 75 ⇓P P 12 40 55.4 +1.0
baz=57,SNR=5.8
225A Deer Hill, Car 57.43 78 ⇓P P 12 40 55.7 +0.9
baz=57,SNR=5.2
324A Moseley Ranch, 57.49 79 ⇑P P 12 40 56.5 +1.4
baz=57
SCO Scoresbysund 57.50 8 *i* P P 12 40 54.3 -0.1
SCO pmax pmax
comp=Z,6.0nm,0.9s
SCO Scoresbysund 57.50 8 *i* P P 12 40 54.3 -0.1
comp=Z,5.8nm,0.9s
T32A Huddler Ranch, 57.52 70 ⇑P P 12 40 56.0 +0.9
baz=57
CD2 Chengdu 57.55 280 P P 12 40 55.6 +0.2
CD2 sP **sP** 12 41 18.3 +2.5
CD2 PP **PP** 12 43 05.3 +2.1
CD2 S **S** 12 48 46.3 -2.8
CD2 sS **sS** 12 49 12.8 -0.6
CD2 SS **SS** 12 52 37.8 -1.5
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,120nm,6.8s
CD2 LR LR
comp=Z,140nm,15.6s
CD2 LR LR
comp=Z,200nm,11.8s
126A Clayton Basin, 57.55 77 ⇑P P 12 40 56.4 +1.0
baz=57
KSU1 Kansas State U 57.57 67 *e*P P 12 40 54.9 -0.5
comp=Z,14nm,0.8s
KSU1 *e* 12 41 06.1
Z27A Tatum 57.59 76 ⇑P P 12 40 56.7 +1.0
baz=57,SNR=6.0
X29A Tulia 57.73 74 ⇑P P 12 40 58.0 +1.3
baz=58
Y28A McKinney Farm, 57.76 75 ⇑P P 12 40 58.3 +1.3
baz=58,SNR=6.0
S33A Kaszmaul Farm, 57.78 69 ⇑P P 12 40 57.8 +0.9
baz=58
ARCES ARCESS Array B 57.81 349 P P 12 40 54.9 -1.8
ARCES ARCESS Array B 57.81 349 P P 12 40 54.9 -1.8
comp=Z,1.9nm,0.6s,baz=24,slow=7.4,SNR=16
ARCES LR LR 13 05 38.7
comp=Z,132nm,21.6s,baz=352,slow=36
325A Bean Ranch, Si 57.85 79 ⇑P P 12 40 59.0 +1.4
baz=58,SNR=14
226B Tecolote Peak, 57.86 78 ⇑P P 12 40 59.0 +1.4
baz=58,SNR=5.3
127A Arkansas Junct 57.94 77 ⇑P P 12 40 59.2 +1.0
baz=58,SNR=5.7
KURK Kurchatov 57.95 312 *e*P P 12 40 57.3 -0.5
KURK pmax pmax
comp=Z,18nm,0.8s
KURK Kurchatov 57.95 312 *e*P P 12 40 57.3 -0.5
comp=Z,18nm,0.8s
U32A Winter Ranch, 58.02 70 ⇑P P 12 40 59.2 +0.6
baz=58
WMQ Urumqi 58.10 302 P P 12 41 00.0 +0.9
WMQ pP **pP** 12 41 16.0 +2.4
WMQ PcP **PcP** 12 41 51.0 +0.7
WMQ PP **PP** 12 43 11.0 +3.2
WMQ ScP **ScP** 12 45 45.0 -0.7
WMQ S **S** 12 48 54.0 -2.2
WMQ ScS **ScS** 12 50 40.0 -3.9
WMQ pmax pmax
comp=Z,23nm,1.0s
WMQ pmax pmax
comp=Z,180nm,5.0s
WMQ LR LR
comp=Z,140nm,17.0s
WMQ LR LR
comp=Z,140nm,16.0s
WMQ LR LR
comp=Z,170nm,18.0s
Z28A Tucker Farm, M 58.11 75 ⇑P P 12 41 00.4 +1.0
baz=58,SNR=6.5
Y29A Porterfield Fa 58.15 74 ⇑P P 12 41 00.9 +1.3
baz=58,SNR=6.9
X30A Coker Ranch, T 58.22 73 ⇑P P 12 41 01.2 +1.1
baz=58
425A Indio Mountain 58.25 79 ⇑P P 12 41 01.9 +1.4
baz=58,SNR=10.0
W31A Holland Ranch, 58.27 72 ⇓P P 12 41 00.8 +0.4
baz=58
227A Bennet, Jal 58.44 77 ⇑P P 12 41 02.4 +0.8
baz=58
326A Caldwell Ranch 58.50 78 ⇓P P 12 41 02.9 +0.8
baz=58,SNR=23
U33A Lingo Farm, Me 58.50 70 ⇑P P 12 40 52.5 -9.5
baz=58
128A Castleberry Fa 58.51 76 ⇑P P 12 41 02.5 +0.4
baz=58,SNR=7.8
Z29A Hungry Hill Ra 58.54 75 ⇑P P 12 41 03.4 +1.0
baz=58,SNR=6.2
JFWS Jewell Farm 58.54 59 *e*P P 12 41 00.9 -1.2
JFWS Jewell Farm 58.54 59 *e*P P 12 41 00.9 -1.2
Y30A Stafford Cattl 58.60 74 ⇓P P 12 41 03.7 +1.0
baz=58
W32A Sentinel 58.73 72 ⇑P P 12 41 03.9 +0.3
baz=59
228A UT Block 9, Go 58.79 76 ⇑P P 12 41 04.9 +0.8
baz=59
V33A Lossen Ranch, 58.82 70 ⇓P P 12 41 04.8 +0.6
baz=59
U34A Anderson Ranch 58.84 69 ⇑P P 12 41 04.9 +0.6
baz=59,SNR=5.2
Z30A Sanderson Ranc 58.87 75 ⇓P P 12 41 06.0 +1.4
baz=59,SNR=6.2
129A Stewart Farms, 58.88 76 ⇑P P 12 41 05.6 +0.9
baz=59
GYA Guiyang 58.88 274 ⇑P P 12 41 06.3 +1.5
GYA pP **pP** 12 41 20.5 +1.2
GYA PP **PP** 12 43 18.9 +3.7
GYA ScP **ScP** 12 45 49.0 -0.5
GYA S **S** 12 49 05.3 -1.4
GYA sS **sS** 12 49 32.0 +1.0
GYA SS **SS** 12 53 01.3 +0.8
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,5.0s
GYA LR LR
comp=Z,470nm,19.0s
GYA LR LR
comp=Z,340nm,20.0s
GYA LR LR
comp=Z,420nm,19.2s
MK31 Makanchi Array 58.88 307 *e*P P 12 41 03.2 -1.2
MK31 Makanchi Array 58.88 307 *e*P P 12 41 03.1 -1.2
MKAR Makanchi Array 58.88 307 *e*P P 12 41 03.5 -0.9
MKAR Makanchi Array 58.88 307 *e*P P 12 41 03.5 -0.9
MKAR Makanchi Array 58.88 307 P P 12 41 03.4 -1.0
comp=Z,7.1nm,0.6s,baz=50,slow=6.8,SNR=56
MKAR LR LR 13 06 50.7
comp=Z,100nm,19.4s,baz=24,slow=36
426A McDonald Obser 58.92 79 ⇑P P 12 41 05.8 +0.6
baz=59,SNR=14
328A Wristen Ranch, 59.17 77 ⇑P P 12 41 07.2 +0.5
baz=59,SNR=15
W33A Caddo, Fort Co 59.17 71 ⇓P P 12 41 07.6 +1.0
baz=59
427A Hayter Ranch, 59.18 78 ⇑P P 12 41 07.6 +0.8
baz=59,SNR=5.9
X32A Elmer 59.19 72 ⇓P P 12 41 07.8 +1.1
baz=59
V34A Guthrie 59.27 70 ⇓P P 12 41 07.6 +0.3
baz=59
WMOK Wichita Mounta 59.27 72 *e*P P 12 41 07.1 -0.2
WMOK *e* 12 41 19.5
WMOK pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 59.27 72 *e*P P 12 41 07.1 -0.2
comp=Z,4.6nm,0.9s
WMOK *e* 12 41 19.5
526A Mary Lane Ranc 59.31 79 ⇑P P 12 41 08.9 +1.1
baz=59,SNR=13
229A Bryant Ranch, 59.37 76 ⇑P P 12 41 09.5 +1.4
baz=59
Y32A R-V Farms, Ver 59.39 73 ⇑P P 12 41 08.4 +0.3
baz=59
Z31A Sharp Cattle R 59.44 74 ⇑P P 12 41 09.6 +1.1
baz=59
130A Snyder 59.45 75 ⇑P P 12 41 09.7 +1.1
baz=59,SNR=8.3
W34A Bridge Creek, 59.53 71 ⇓P P 12 41 09.4 +0.3
baz=59
527A Woodward Ranch 59.54 79 ⇓P P 12 41 09.8 +0.4
baz=59,SNR=8.1
X33A Lawton 59.58 72 ⇓P P 12 41 10.1 +0.7
baz=59
329A Wagon Wheel Ra 59.60 77 ⇑P P 12 41 10.7 +1.0
baz=60,SNR=5.6
626A Big Bend Ranch 59.64 80 ⇑P P 12 41 10.2 +0.2
baz=60,SNR=17
428A Kincaid Ranch, 59.70 78 ⇑P P 12 41 11.3 +0.8
baz=60,SNR=16
131A Roby 59.74 75 ⇓P P 12 41 11.6 +1.0
baz=60,SNR=5.2
Z32A Haskell 59.85 73 ⇑P P 12 41 12.4 +1.1
baz=60
230A Sterling City 59.85 76 ⇓P P 12 41 12.4 +1.0
baz=60,SNR=12
SOKR Solikamsk 59.88 330 *e*P P 12 41 11.8 +0.8
SOKR pmax pmax
comp=Z,10.0nm,0.6s
VOSK Vostochnaya 59.90 318 *e*P P 12 41 10.9 -0.4
VOSK pmax pmax
comp=Z,9.0nm,0.8s
VOSK Vostochnaya 59.90 318 *e*P P 12 41 10.9 -0.4
comp=Z,8.6nm,0.8s
X34A Smith Ranch, M 59.93 71 ⇓P P 12 41 11.5 -0.3
baz=60
BRVK Borovoye 59.95 319 *e*P P 12 41 10.8 -0.8
BRVK *e* 12 41 28.9
BRVK pmax pmax
comp=Z,15nm,0.6s
BRVK Borovoye 59.95 319 *e*P P 12 41 10.8 -0.8
comp=Z,15nm,0.6s
BRVK *e* 12 41 28.9
528A Cox Ranch, San 60.04 78 ⇑P P 12 41 13.6 +0.8
baz=60,SNR=16
TXAR Lajitas Array 60.08 80 P P 12 41 13.7 +0.6
TXAR pP **pP** 12 41 25.9 -1.6
TXAR Lajitas Array 60.08 80 P P 12 41 13.7 +0.6
comp=Z,7.4nm,0.6s,baz=301,slow=5.5,SNR=125
TXAR pP **pP** 12 41 25.9 -1.6
comp=Z,16nm,0.8s,baz=305,slow=4.4,SNR=25
TXAR LR LR 13 07 05.1
comp=Z,56nm,18.4s,baz=180,slow=36
330A Mertzon 60.15 76 ⇑P P 12 41 13.9 +0.4
baz=60,SNR=5.9
627A Terlingua Ranc 60.17 79 ⇓P P 12 41 13.8 +0.1
baz=60,SNR=13
ABTX Abilene, Hawle 60.22 74 *e*P P 12 41 14.8 +0.9
ABTX *e* 12 41 26.1
ABTX Abilene, Hawle 60.22 74 ⇑P P 12 41 14.7 +0.7
baz=60,SNR=5.9
TUL1 Tulsa 60.22 69 *e*P P 12 41 13.7 -0.1
TUL1 *e* 12 41 25.3
TUL1 Tulsa 60.22 69 ⇑P P 12 41 14.5 +0.6
baz=60
429A Davenport Ranc 60.26 77 ⇑P P 12 41 14.4 +0.1
baz=60,SNR=9.4
Z33A Whitaker Ranch 60.29 73 ⇑P P 12 41 15.1 +0.7
baz=60
231A Bronte 60.30 75 ⇑P P 12 41 15.5 +1.1
baz=60,SNR=5.2
529A Stev Forest Ra 60.41 78 ⇑P P 12 41 15.4 +0.2
baz=60
Y34A Reagan Ranch, 60.42 72 ⇑P P 12 41 15.9 +0.7
baz=60
628A Black Gap, Mar 60.45 79 ⇓P P 12 41 16.1 +0.5
baz=60,SNR=16
430A Baggett Ranch, 60.55 77 ⇓P P 12 41 17.0 +0.8
baz=60,SNR=15
133A Hamilton Ranch 60.67 74 ⇓P P 12 41 17.4 +0.4
baz=60,SNR=5.7
331A San Angelo 60.67 76 ⇓P P 12 41 17.5 +0.5
baz=60,SNR=8.1
232A Coleman 60.74 75 ⇓P P 12 41 17.5 +0.1
baz=61,SNR=5.8
Z34A Collier Ranch, 60.74 72 ⇓P P 12 41 17.8 +0.4
baz=61
SVE Sverdlovsk 60.78 326 ⇓*e*P P 12 41 17.7 +0.4
SVE pmax pmax
comp=Z,27nm,1.0s
SCHQ Schefferville 60.88 37 P P 12 41 17.3 -0.7
SCHQ Schefferville 60.88 37 P P 12 41 17.3 -0.7
comp=Z,15nm,1.1s,baz=318,slow=7.5,SNR=12
SCHQ LR LR 13 11 53.0
comp=Z,155nm,18.9s,baz=71,slow=40
530A J-C Ranch, Com 60.93 77 ⇓P P 12 41 19.6 +0.8
baz=61,SNR=22
431A Sonora 61.00 76 ⇓P P 12 41 20.1 +0.8
baz=61,SNR=11
332A Millersview 61.03 75 ⇓P P 12 41 19.9 +0.5
baz=61,SNR=5.7
Z35A Perchaven, San 61.16 72 ⇑P P 12 41 21.0 +0.7
baz=61
134A White-Moore Ra 61.20 73 ⇓P P 12 41 21.3 +0.8
baz=61
PRGR Permogore 61.33 337 *e*P P 12 41 20.4 -0.5
PRGR pmax pmax
comp=Z,14nm,0.9s
432A Menard 61.36 76 ⇓P P 12 41 22.1 +0.5
baz=61
531A Rocksprings 61.41 77 ⇑P P 12 41 22.5 +0.5
baz=61,SNR=6.8
333A Richland Sprin 61.53 75 ⇓P P 12 41 23.9 +1.1
baz=61
JCT Junction City 61.64 76 *e*P P 12 41 23.9 +0.3
JCT *e* 12 41 35.4
JCT pmax pmax
comp=Z,31nm,1.2s
JCT Junction City 61.64 76 *e*P P 12 41 23.9 +0.3
comp=Z,31nm,1.2s
JCT *e* 12 41 35.4
JCT Junction City 61.64 76 ⇓P P 12 41 23.7 +0.1
baz=62
ARU Arti 61.81 327 *c i*P P 12 41 24.3 +0.1
ARU 12 42 04.3
ARU S **S** 12 49 47.1 +3.9
ARU SS **SS** 12 53 43.7 -1.1
ARU pmax pmax
comp=Z,43nm,1.2s
ARU Arti 61.81 327 *e*P P 12 41 24.5 +0.3
comp=Z,26nm,0.6s
532A Rocksprings 61.82 76 ⇓P P 12 41 25.0 +0.1
baz=62
433A Art 61.87 75 ⇓P P 12 41 26.2 +1.1
baz=62,SNR=7.1
631A Perdido Creek 61.92 77 ⇓P P 12 41 25.3 -0.1
baz=62,SNR=10
334A Lometa 61.98 74 ⇓P P 12 41 26.6 +0.8
baz=62,SNR=6.6
WHTX Lake Whitney 61.98 73 ⇓P P 12 41 26.9 +1.1
baz=62
SFIN Scholer Farm 62.00 60 *e*P P 12 41 25.7 -0.1
SFIN *e* 12 41 36.9
SFIN Scholer Farm 62.00 60 ⇑P P 12 41 24.9 -0.9
baz=62
KMI Kunming 62.28 276 P P 12 41 30.6 +2.4
KMI pmax pmax
comp=Z,6.0nm,0.7s
KMI LR LR
comp=Z,54nm,36.9s
434A Burnet 62.33 75 ⇑P P 12 41 28.6 +0.5
baz=62,SNR=7.6
632A Uvalde 62.34 77 ⇑P P 12 41 28.1 -0.1
baz=62
533A Kerrville 62.39 76 ⇓P P 12 41 29.1 +0.5
baz=62,SNR=6.8
MIAR Mount Ida 62.47 68 *e*P P 12 41 29.0 0.0
MIAR *e* 12 41 41.0
MIAR pmax pmax
comp=Z,16nm,0.8s
MIAR Mount Ida 62.47 68 *e*P P 12 41 29.0 0.0
comp=Z,16nm,0.8s
MIAR *e* 12 41 41.0
335A Moody 62.50 74 ⇑P P 12 41 30.1 +0.8
baz=62
534A Blanco 62.76 75 ⇑P P 12 41 32.2 +1.2
baz=63
732A Laxson Ranch, 62.78 77 ⇓P P 12 41 32.4 +1.3
baz=63,SNR=12
JOF Joensuu 63.19 344 *e*P P 12 41 32.1 -1.2
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 63.19 344 *e*p P 12 41 32.1 -1.2
comp=Z,2.7nm,0.6s
KAF Kangasniemi 64.76 346 *e*P P 12 41 42.0 -1.6
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 64.76 346 *e*p P 12 41 42.0 -1.6
comp=Z,2.1nm,0.4s
TKM2 Tokmak 2 64.97 308 *e*P P 12 41 45.8 +0.2
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 64.97 308 P P 12 41 45.8 +0.2
SNR=15
TKM2 Tokmak 2 64.97 308 *e*P P 12 41 45.8 +0.2
comp=Z,9.6nm,0.8s
USP Ospenovka 65.25 309 *i* P P 12 41 47.6 +0.4
USP Ospenovka 65.25 309 P P 12 41 47.7 +0.4
SNR=16
CHMS Chumysh 65.33 308 *i* P P 12 41 48.3 +0.6
CHMS Chumysh 65.33 308 P P 12 41 48.3 +0.6
SNR=5.8
FINES FINESS Array B 65.43 346 P P 12 41 46.1 -1.8
FINES FINESS Array B 65.43 346 P P 12 41 46.1 -1.8
comp=Z,2.0nm,0.5s,baz=8.8,slow=7.0,SNR=14
FINES LR LR 13 11 43.7
comp=Z,91nm,18.9s,baz=1.6,slow=37
AAK Ala-Archa 65.73 308 *i* P P 12 41 50.7 +0.3
AAK Ala-Archa 65.73 308 P P 12 41 50.7 +0.3
SNR=9.8
KZA Kyzart 65.77 307 *i* P P 12 41 51.8 +0.8
KZA Kyzart 65.77 307 P P 12 41 51.8 +0.8
SNR=6.1
UCH Uchtor 66.02 308 *i* P P 12 41 53.0 +0.3
UCH Uchtor 66.02 308 P P 12 41 53.0 +0.3
SNR=6.2
EKS2 Erkin-Say 66.06 309 *i* P P 12 41 52.9 +0.4
EKS2 Erkin-Say 66.06 309 P P 12 41 52.9 +0.4
SNR=12
EKS2 Erkin-Say 66.06 309 *e*P P 12 41 52.8 +0.4
comp=Z,13nm,0.8s
LSA Lhasa 66.06 288 P P 12 41 54.0 +0.9
LSA Lhasa 66.06 288 *e*P P 12 41 54.0 +0.9
LSA pmax pmax
comp=Z,15nm,0.6s
LSA Lhasa 66.06 288 *e*P P 12 41 54.0 +0.9
comp=Z,15nm,0.6s
BINY Binghamton 66.41 52 *e*P P 12 41 53.8 -0.9
comp=Z,6.6nm,0.5s
AML Almayashu 66.50 308 *i* P P 12 41 56.3 +0.7
AML Almayashu 66.50 308 P P 12 41 56.4 +0.7
SNR=12
ABKAR Akbulak array 67.03 321 *e*P P 12 41 58.6 +0.2
KKAR Karatay Array 67.29 311 *e*P P 12 42 00.1 -0.1
KKAR Karatay Array 67.29 311 *e*P P 12 42 00.1 -0.1
KSH Kashi 67.31 305 P P 12 42 04.1 +3.5
KSH pP pP 12 42 21.3 +6.0
KSH sP sP 12 42 27.3 +6.0
KSH PP PP 12 44 35.1 +6.2
KSH S **S** 12 50 52.6 +0.8
KSH SS **SS** 12 55 16.1 +4.7
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,100nm,5.3s
KSH LR LR
comp=Z,100nm,5.0s
KSH LR LR
comp=Z,110nm,5.3s
KSH LR LR
comp=Z,110nm,5.4s
NB2 NORSAR Subarra 67.48 354 P P 12 41 59.7 -1.5
comp=Z,1.1nm,0.6s,baz=6.8,slow=6.5
NOA NORSAR Array B 67.48 354 P P 12 41 60.0 -1.2
NOA NORSAR Array B 67.48 354 P P 12 41 60.0 -1.2
comp=Z,2.0nm,0.7s,baz=9.5,slow=6.3,SNR=9.1
NOA LR LR 13 16 27.8
comp=Z,44nm,18.4s,baz=355,slow=40
KMSC Kings Mountain 68.94 60 ⇑P P 12 42 10.1 -0.5
baz=69
CHTO Chiang Mai 69.30 274 *e*P P 12 42 13.3 +0.2
CHTO pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 69.30 274 *e*P P 12 42 13.3 +0.2
comp=Z,2.3nm,0.9s
OBN Obninsk 69.32 338 ⇓*e*P P 12 42 11.5 -1.1
OBN *e*PP **pP** 12 42 29.2 +1.8
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,100nm,19.0s

CM31	Chiang Mai Arr	69.56	274	*e*P		P		12 42 14.7	0.0
	comp=Z,14nm,1.0s								
CMAR	Chiang Mai Arr	69.56	274	P		P		12 42 14.9	+0.2
CMAR	Chiang Mai Arr	69.56	274	P		P		12 42 14.9	+0.2
	comp=Z,5.9nm,0.8s,baz=27,slow=6.9,SNR=46								
CMAR				LR		LR		13 16 15.1	
	comp=Z,35nm,18.6s,baz=150,slow=39								
TAOE	Nuku Hiva Isla	69.62	136	*e*T		T		13 57 56.4	
	comp=Z,142nm,0.3s								
TAPN	Taplejung	69.83	289	*e*P		P		12 42 17.2	+0.5
TAPN	Taplejung	69.83	289	*e*P		P		12 42 17.2	+0.5
ODAN	Odare	70.39	289	*e*P		P		12 42 20.1	+0.1
	comp=Z,35nm,0.8s								
ODAN	Odare	70.39	289	*e*P		P		12 42 20.1	+0.1
	comp=Z,35nm,0.8s								
TIGA	Tifton	70.46	64	⇑P		P		12 42 20.5	+0.5
	baz=70								
GUN	Gumba	70.50	290	*e*P		P		12 42 21.4	+0.6
	comp=Z,118nm,0.7s								
GUN	Gumba	70.50	290	*e*P		P		12 42 21.4	+0.6
	comp=Z,118nm,0.7s								
JIRN	Jiri	70.50	290	*e*P		P		12 42 21.6	+0.8
	comp=Z,90nm,0.7s								
JIRN	Jiri	70.50	290	*e*P		P		12 42 21.6	+0.8
	comp=Z,90nm,0.7s								
RAMN	Ramite	70.79	289	*e*P		P		12 42 22.8	+0.4
	comp=Z,98nm,0.6s								
RAMN	Ramite	70.79	289	*e*P		P		12 42 22.8	+0.4
	comp=Z,98nm,0.6s								
KKN	Kakani	70.94	291	*e*P		P		12 42 23.9	+0.6
	comp=Z,64nm,0.6s								
KKN	Kakani	70.94	291	*e*P		P		12 42 23.9	+0.6
KKN				pmax		pmax			
	comp=Z,64nm,0.6s								
KKN	Kakani	70.94	291	*e*P		P		12 42 23.9	+0.6
	comp=Z,64nm,0.6s								
PKI	Pulchoki	71.03	290	*e*P		P		12 42 24.2	+0.2
	comp=Z,59nm,0.7s								
PKI	Pulchoki	71.03	290	*e*P		P		12 42 24.2	+0.2
PKI				pmax		pmax			
	comp=Z,59nm,0.7s								
PKI	Pulchoki	71.03	290	*e*P		P		12 42 24.2	+0.2
	comp=Z,59nm,0.7s								
PKIN	Phulchoki	71.03	290	*e*P		P		12 42 24.1	+0.2
	comp=Z,39nm,0.6s								
GKN	Gorkha	71.15	291	*e*P		P		12 42 24.9	+0.4
	comp=Z,68nm,0.7s								
GKN	Gorkha	71.15	291	*e*P		P		12 42 24.9	+0.4
	comp=Z,68nm,0.6s								
DMN	Daman	71.17	291	*e*P		P		12 42 25.4	+0.6
	comp=Z,59nm,0.9s								
DMN	Daman	71.17	291	*e*P		P		12 42 25.4	+0.6
	comp=Z,59nm,0.9s								
DANN	Dangsing	71.41	292	*e*P		P		12 42 26.6	+0.4
	comp=Z,105nm,0.8s								
DANN	Dangsing	71.41	292	*e*P		P		12 42 26.6	+0.4
	comp=Z,105nm,0.8s								
KOLN	Koldanda	71.93	292	*e*P		P		12 42 29.4	+0.1
	comp=Z,50nm,0.9s								
KOLN	Koldanda	71.93	292	*e*P		P		12 42 29.4	+0.1
	comp=Z,50nm,0.9s								
PYUN	Piuthan	72.04	293	*e*P		P		12 42 30.1	+0.2
	comp=Z,120nm,0.9s								
PYUN	Piuthan	72.04	293	*e*P		P		12 42 30.1	+0.2
	comp=Z,120nm,0.9s								
DZM	Mont Dzumac	73.96	192	*e*S		SKiKP		12 52 04.3	-0.2
	comp=Z,763nm,29.6s								
DZM	Mont Dzumac	73.96	192	*e*LR		LR		13 05 33.5	
	comp=Z,180nm,25.0s								
PPT	Papeete	74.01	149	LR		LR		13 08 59.1	
	comp=Z,139nm,19.5s,baz=355,slow=31								
PPT2	Papeete2	74.03	149	*e*LR		LR		13 05 26.3	
	comp=Z,193nm,24.8s,baz=334								
PPT2	Papeete2	74.03	149	*e*T		T		14 03 31.6	
	comp=Z,10nm,0.2s								
TIAR	Tiarei	74.07	149	*e*T		T		14 03 35.3	
	comp=Z,4.5nm,0.3s								
PAE	Paea	74.09	149	*e*T		T		14 03 36.9	
	comp=Z,2.4nm,0.3s								
TVO	Taravao	74.31	149	*e*T		T		14 03 53.3	
	comp=Z,2.3nm,0.3s								
RAR	Rarotonga	74.69	159	LR		LR		13 07 24.2	
	comp=Z,229nm,20.3s,baz=96,slow=29								
AKASG	Malin Array Be	75.06	341	*ce*P		P		12 42 45.5	-1.5
AKASG				pmax		pmax			
	comp=Z,3.0nm,0.4s								
AKASG	Malin Array Be	75.06	341	P		P		12 42 45.5	-1.5
AKASG				sP		sP		12 43 03.7	-4.2
AKASG	Malin Array Be	75.06	341	P		P		12 42 45.5	-1.5
	comp=Z,2.9nm,0.4s,baz=20,slow=6.4,SNR=15								
AKASG				sP		sP		12 43 03.7	-4.2
	comp=Z,2.7nm,0.5s,baz=20,slow=6.1,SNR=5.5								
AKASG				LR		LR		13 19 03.6	
	comp=Z,100nm,19.2s,baz=350,slow=38								
KIEV	Kiev	75.08	341	*e*P		P		12 42 45.9	-1.2
KIEV				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KIEV	Kiev	75.08	341	*e*P		P		12 42 45.9	-1.2
	comp=Z,4.9nm,0.7s								
AK01	Malin Array Si	75.08	341	*e*P		P		12 42 45.7	-1.4
AK02	Malin Array Si	75.11	341	*e*P		P		12 42 45.8	-1.5
KWP	Kalwaria Pacla	77.32	344	⇑P		P		12 42 59.7	-0.2
KWP	Kalwaria Pacla	77.32	344	*i*P		P		12 42 59.7	-0.2
DPC	Dobruska-Polom	77.55	349	*e*P		P		12 43 01.8	+0.6
DPC				*e*				12 43 04.8	
DPC	Dobruska-Polom	77.55	349	*e*P		P		12 43 01.8	+0.6
DPC				*ex*		x		12 43 04.8	
SORM	Soroca	77.68	340	⇑P		P		12 43 01.4	-0.5
SORM	Soroca	77.68	340	⇑*i*P		P		12 43 01.4	-0.5
KIV	Kislovodsk	77.73	329	*e*P		P		12 43 02.5	+0.1
KIV				pmax		pmax			
	comp=Z,11nm,1.0s								
KIV				MLR		MLR			
	comp=Z,64nm,18.0s								
KIV	Kislovodsk	77.73	329	*e*P		P		12 43 02.4	+0.1
	comp=Z,15nm,1.0s								
KIV				*e*				12 43 19.7	
STHS	Stebnicka Huta	77.77	345	*e*P		P		12 43 03.0	+0.6
STHS				pmax		pmax			
	comp=Z,3.0nm,1.0s								
STHS	Stebnicka Huta	77.77	345	*e*		P		12 43 03.0	+0.6
KBZ	Khabaz	77.86	329	P		P		12 43 03.2	+0.3
KBZ	Khabaz	77.86	329	P		P		12 43 03.2	+0.3
KBZ	Khabaz	77.86	329	P		P		12 43 03.2	+0.3
	comp=Z,6.6nm,0.9s,baz=0.1,slow=1.5,SNR=8.6								
KBZ				LR		LR		13 21 05.8	
	comp=Z,113nm,21.1s,baz=0.5,slow=39								
KOLS	Kolonicke sedl	78.07	344	*e*P		P		12 43 03.7	-0.4
KOLS				pmax		pmax			
	comp=Z,4.0nm,1.1s								
KOLS	Kolonicke sedl	78.07	344	*e*P		P		12 43 03.7	-0.4
CRVS	Cervenica-Dubn	78.23	345	*e*P		P		12 43 03.9	-1.1
CRVS				pmax		pmax			
	comp=Z,47nm,3.1s								
CRVS	Cervenica-Dubn	78.23	345	*e*P		P		12 43 03.9	-1.1
ZEI	Tsey	78.37	328	*e*P		P		12 43 05.1	-1.0
ZEI				pmax		pmax			
	comp=Z,15nm,0.9s								
VRAC	Vranov	78.54	348	⇓*i*P		P		12 43 02.4	-4.3
BUR08	Bucovina Ar. S	78.78	342	*e*P		P		12 43 07.5	-0.6
TRPA	Tarpa	78.80	344	⇓*i*P		P		12 43 08.2	+0.1
BURAR	Bucovina Array	78.81	342	⇑P		P		12 43 07.9	-0.4
BURAR	Bucovina Array	78.81	342	⇑*i*P		P		12 43 07.9	-0.4
KHC	Kasperske Hory	79.07	350	*e*P		P		12 43 08.2	-1.4
KHC	Kasperske Hory	79.07	350	*e*P		P		12 43 08.2	-1.4
GERES	GERESS Array B	79.33	350	P		P		12 43 09.6	-1.6
GERES	GERESS Array B	79.33	350	P		P		12 43 09.6	-1.6
	comp=Z,0.3nm,0.5s,baz=28,slow=6.0,SNR=3.8								
GERES				LR		LR		13 21 52.5	
	comp=Z,89nm,18.4s,baz=279,slow=38								
DRGR		80.06	344	⇓P		P		12 43 15.0	-0.1
DRGR		80.06	344	⇓*i*P		P		12 43 15.0	-0.1
VRI	Vrincioaia	80.18	341	⇓P		P		12 43 06.2	-9.5
VRI	Vrincioaia	80.18	341	⇓*i*P		P		12 43 06.2	-9.5
MLR	Muntele Rosu	80.70	341	⇓*i*P		P		12 43 19.6	+1.0
VOIR		80.93	342	⇓P		P		12 43 20.1	+0.3
VOIR		80.93	342	⇓*i*P		P		12 43 20.1	+0.3
WRAB	Tennant Creek	81.03	222	*e*P		P		12 43 20.3	-0.1
WRAB				pmax		pmax			
	comp=Z,3.0nm,0.8s								
WRAB	Tennant Creek	81.03	222	*e*P		P		12 43 20.3	-0.1
	comp=Z,3.1nm,0.8s								
WRA	Warramunga Arr	81.04	222	P		P		12 43 20.4	-0.1
WRA	Warramunga Arr	81.04	222	P		P		12 43 20.4	-0.1
	comp=Z,2.5nm,0.8s,baz=35,slow=6.1,SNR=20								
BZS	Buzias	81.39	344	⇓P		P		12 43 21.7	-0.4
BZS	Buzias	81.39	344	⇓*i*P		P		12 43 21.7	-0.4
GZR	Gura Zlata	81.40	343	⇓P		P		12 43 22.0	-0.3
GZR	Gura Zlata	81.40	343	⇓*i*P		P		12 43 22.0	-0.3
HYB	Hyderabad	82.84	289	*i*P		P		12 43 31.0	+0.8
FITZ	Fitzroy Crossi	83.35	230	*e*P		P		12 43 32.8	+0.3
	comp=Z,6.0nm,0.6s								
FITZ	Fitzroy Crossi	83.35	230	P		P		12 43 33.4	+0.9
	comp=Z,6.2nm,0.8s,baz=37,slow=9.2,SNR=9.7								
VTS	Vitosha	84.03	342	⇓P		P		12 43 35.3	-0.8
VTS	Vitosha	84.03	342	⇓*i*P		P		12 43 35.3	-0.8
BRTR	Keskin Array B	84.31	334	P		P		12 43 36.6	-0.9
BRTR				pP		pP		12 43 50.5	-2.1
BRTR	Keskin Array B	84.31	334	P		P		12 43 36.6	-0.9
	comp=Z,2.2nm,0.7s,baz=56,slow=2.0,SNR=6.9								
BRTR				pP		pP		12 43 50.5	-2.1
	comp=Z,2.3nm,0.9s,baz=31,slow=1.5,SNR=3.1								
BRTR				LR		LR		13 25 25.1	
	comp=Z,48nm,20.7s,baz=286,slow=39								
ASAR	Alice Springs	84.54	221	P		P		12 43 39.1	+0.6
ASAR	Alice Springs	84.54	221	P		P		12 43 39.1	+0.6
	comp=Z,2.6nm,0.8s,baz=29,slow=5.6,SNR=25								
MBWA	Marble Bar	88.85	233	*e*P		P		12 43 59.0	-0.5
	comp=Z,10nm,0.9s								
STKA	Stephens Creek	89.17	211	*e*P		P		12 44 02.2	+1.3
	comp=Z,1.0nm,0.8s								
STKA	Stephens Creek	89.17	211	P		P		12 44 02.1	+1.3
	comp=Z,5.0nm,0.9s,baz=4.3,slow=4.6,SNR=7.8								
STKA				LR		LR		13 23 34.7	
	comp=Z,76nm,18.3s,baz=26,slow=35								
ESDC	Sonseca Array	89.27	2	P		P		12 44 02.4	+0.8
ESDC	Sonseca Array	89.27	2	P		P		12 44 02.4	+0.8
	comp=Z,0.2nm,0.4s,baz=352,slow=2.6,SNR=2.9								
URZ	Urewera	89.30	181	LR		LR		13 18 24.7	
	comp=Z,68nm,21.9s,baz=51,slow=32								
RPZ	Rata Peaks	94.98	186	LR		LR		13 20 38.6	
	comp=Z,129nm,20.4s,baz=150,slow=31								
TORD	Torodi Ar. Bea	115.68	357	PKP		PKPdf		12 49 46.4	-1.4
TORD				pPKP		PKiKP		12 50 00.1	+12
TORD				PKKPab		PKKPab		13 00 25.2	-2.8
TORD	Torodi Ar. Bea	115.68	357	PKP		PKPdf		12 49 46.4	-1.4
	comp=Z,1.0nm,0.5s,baz=346,slow=1.7,SNR=10								
TORD				pPKP		PKiKP		12 50 00.1	+12
	comp=Z,0.6nm,0.7s,baz=8.4,slow=2.3,SNR=3.3								
TORD				PKKPab		PKKPab		13 00 25.2	-2.8
	comp=Z,1.1nm,0.9s,baz=184,slow=3.7,SNR=5.4								
KMBO	Kilima Mbogo	120.42	314	PKP		PKPdf		12 49 57.1	-0.1
KMBO	Kilima Mbogo	120.42	314	PKP		PKPdf		12 49 57.1	-0.1
	comp=Z,0.5nm,0.2s,baz=49,slow=20,SNR=3.0								
DBIC	Dimbokro	122.08	4	PKP		PKPdf		12 49 58.9	-1.3
DBIC	Dimbokro	122.08	4	PKP		PKPdf		12 49 58.9	-1.3
	comp=Z,1.4nm,0.5s,baz=313,slow=9.5,SNR=6.6								
CFAA	Coronel Fontan	127.90	95	PKP		PKPdf		12 50 11.2	+0.5
CFAA	Coronel Fontan	127.90	95	PKP		PKPdf		12 50 11.2	+0.5
	comp=Z,0.2nm,0.8s,baz=231,slow=3.7,SNR=3.7								
PLCA	Paso Flores	132.37	106	PKP		PKPdf		12 50 19.5	+0.5
PLCA	Paso Flores	132.37	106	PKP		PKPdf		12 50 19.5	+0.5
	comp=Z,2.8nm,0.8s,baz=322,slow=3.6,SNR=8.7								
TSUM	Tsumeb	144.65	328	*e*PKPdf		PKPab		12 50 40.5	-0.4
MAW	Mawson	145.61	218	PKPbc		PKPdf		12 50 42.8	+0.7
MAW	Mawson	145.61	218	PKPbc		PKPdf		12 50 42.8	+0.7
	comp=Z,4.9nm,0.6s,baz=122,slow=4.1,SNR=5.8								
LBTB	Lobatse	146.67	312	*e*PKPbc		PKPbc		12 50 47.6	+0.6
BOSA	Boshof	149.86	309	*e*PKPbc		PKPbc		12 50 55.5	+0.1
BOSA	Boshof	149.86	309	PKPbc		PKPbc		12 50 55.8	+0.4
	comp=Z,7.7nm,0.6s,baz=24,slow=1.4,SNR=25								
SYO	Syowa Base	153.92	212	⇑*e*P		PKPbc		12 51 02.0	-1.2
SNAA	Sanae	159.64	178	*e*P		PKPdf		12 51 02.4	-0.1
SNAA	Sanae	159.64	178	*e*P		PKPab		12 51 41.5	+0.1
SNAA	Sanae	159.64	178	PKP		PKPdf		12 51 01.7	-0.9
SNAA				PKPab		PKPab		12 51 40.4	-1.0
SNAA	Sanae	159.64	178	PKP		PKPdf		12 51 01.7	-0.9
	comp=Z,0.6nm,0.9s,baz=282,slow=4.4,SNR=4.6								
SNAA				PKPab		PKPab		12 51 40.4	-1.0
	comp=Z,1.3nm,1.1s,baz=187,slow=5.9,SNR=5.2								
VNA2	Neumayer--Watz	160.19	174	*e*P		PKPdf		12 51 03.4	+0.3
	baz=342,slow=5.5								
VNA2	Neumayer--Watz	160.19	174	*e*P		PKPab		12 51 44.7	+0.9
	baz=192,slow=4.2								

MEX 13 12:45:08.4±0.8, 16.17N×98.64W, h7^{km}±20^{km}, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PNIG	Pinotepa	0.54	66	*e*P		Pg	12 45 18.4		-0.4
PNIG				*i*	S	Sg	12 45 26.6		+0.6
ACX	Acapulco	1.36	301	*i*	P	Pn	12 45 28.0		-5.9
ACX				*i*	S	Sb	12 45 45.3		-6.7
TLIG	Tlapa	1.39	3	*e*P		Pn	12 45 30.1		-4.4
TLIG				*i*	S	Sb	12 45 47.6		-5.3
MEIG	Mezcala	1.98	332	*i*	P	Pn	12 45 38.4		-4.1
MEIG				*i*	S	Sn	12 46 03.5		-4.3
PLIG	Platanillo	2.36	340	*e*P		Pn	12 45 45.0		-2.7
PLIG				*i*	S	Sn	12 46 12.6		-4.5
YAIG	Yautepec	2.71	351	*i*	P	Pn	12 45 50.0		-2.6
YAIG				*i*	S	Sn	12 46 22.7		-3.2

IDC 13 13:06:26.2±8.7, 46.59N×154.29E, h0^{km}, mb3.3/2, mb1 3.7/3, mb1mx3.2/25, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=246.4km s-min=48.7km az=91.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PETK	Petropavlovsk-	6.89	17	Pn		Pn	13 08 09.8		+1.4
	0.1nm,0.3s,baz=185,slow=14,SNR=7.7								
PETK				Sn		Sn	13 09 29.5		+2.0
	baz=128,slow=24,SNR=2.7								
H11N2	WAKE ISLAND Hy	28.71	155	T		T	13 44 06.1		
	baz=343,slow=77,SNR=42								
H11N1	WAKE ISLAND Hy	28.73	155	T		T	13 44 20.4		
	baz=343,slow=77,SNR=68								
H11N3	WAKE ISLAND Hy	28.73	155	T		T	13 44 14.0		
	baz=343,slow=77,SNR=77								
H11S1	WAKE ISLAND Hy	29.81	156	T		T	13 45 44.3		
	baz=344,slow=77,SNR=142								
H11S3	WAKE ISLAND Hy	29.82	156	T		T	13 45 25.9		
	baz=344,slow=77,SNR=98								
H11S2	WAKE ISLAND Hy	29.83	156	T		T	13 45 39.9		
	baz=344,slow=77,SNR=79								
ILAR	Eielson Array	36.17	38	P		P	13 13 28.4		-1.6
	0.2nm,0.6s,baz=266,slow=7.2,SNR=4.1								
TXAR	Lajitas Array	76.86	61	P		P	13 18 20.9		+0.7
	0.1nm,0.5s,baz=314,slow=5.4,SNR=5.9								

*IDC **13** 13:34:57.7±10.0, 36.17N×70.65E, h200^{km}±98^{km}, mb3.2/5, mb1 3.4/9, mb1mx3.1/31, mbtmp3.3/9, MS2.8/1, Ms1 2.8/1, ms1mx2.2/25, Error ellipse: s-maj=55.7km s-min=19.9km az=17.0*

*ISCJB **13** 13:34:59.4±0.6, 36.46N±0.04×70.41E±0.09, h204^{km}, mb3.1/4, Error ellipse: s-maj=10.9km s-min=4.5km az=163.0*

*NNC **13** 13:35:11.4±4.1, 37.31N×71.09E, h225^{km}±32^{km}, mb3.0, mpv3.9, Error ellipse: s-maj=37.2km s-min=22.7km az=21.0*

ISC 13 13:35:00.3±0.7, 36.50N±0.06×70.5E±0.1, h204^{km}, n40, σ1^{s}31/42, mb3.1/4, 6C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
CEP	Cherat	2.91	156	P		Pn	13 35 50.1		+0.8
CEP				S		S	13 36 26.0		-0.9
CHCP	Chirah Chowk	3.62	141	P		Pn	13 35 58.3		+0.6
THW	Thamme Wali	3.83	164	P		Pn	13 36 00.4		+0.1
AML	Almayashu	6.14	23	P		Pn	13 36 30.9		+1.3
	SNR=49								
UCH	Uchtor	6.50	27	P		Pn	13 36 35.6		+1.1
	SNR=22								
KK31	Karatay Array	6.59	360	P		Pn	13 36 36.7		+1.5
	2.5nm,0.3s,baz=175,slow=11,SNR=82								
KK31				⇑S		S	13 37 45.5		-4.9
	12nm,0.5s,baz=176,slow=16,SNR=11								
EKS2	Erkin-Say	6.65	21	P		Pn	13 36 37.6		+1.6
	SNR=14								
KZA	Kyzart	6.67	32	P		Pn	13 36 37.5		+0.9
	SNR=8.6								
AAK	Ala-Archa	6.85	25	P		Pn	13 36 40.4		+1.7
	SNR=19								
KBK	Karagaybulak	7.03	28	P		Pn	13 36 42.7		+1.6
	SNR=8.5								
ULHL	Ulahol	7.25	36	P		Pn	13 36 45.1		+1.2
	SNR=13								
CHMS	Chumysh	7.26	25	P		Pn	13 36 44.8		+1.0
	SNR=6.3								
USP	Ospenovka	7.42	23	P		Pn	13 36 47.3		+1.4
	SNR=9.0								
TKM2	Tokmak 2	7.51	30	P		Pn	13 36 48.3		+1.0
	SNR=26								
TKM2	Tokmak 2	7.51	30	⇓P		Pn	13 36 48.1		+0.8
	10nm,0.5s								
TKM2				⇑S		S	13 38 01.4		-11
	9.2nm,0.7s								
PYUN	Piuthan	13.46	125	*e*P		Pn	13 38 04.5		+0.8
MK31	Makanchi Array	13.52	37	⇓P		Pn	13 38 03.9		-0.1
	2.9nm,0.6s,baz=226,slow=13,SNR=58								
MKAR	Makanchi Array	13.52	37	P		Pn	13 38 03.8		-0.2
	0.8nm,0.3s,baz=220,slow=13,SNR=33								
DANN	Dangsing	13.82	122	*e*P		P	13 38 09.3		-0.9
	4.3nm,0.2s								
KOLN	Koldanda	14.09	124	*e*P		Pn	13 38 11.5		+0.1
GKN	Gorkha	14.64	121	*e*P		P	13 38 20.0		+0.9
AB31	Akbulak array	14.90	332	⇑P		P	13 38 21.5		0.0
	0.6nm,0.4s,baz=140,slow=11,SNR=19								
AB31				⇓S		S	13 41 06.0		+0.1
	0.5nm,0.6s,baz=153,slow=19,SNR=4.2								
KURBB	Kurchatov Arra	15.25	20	P		Pn	13 38 24.9		-0.3
	0.5nm,0.3s,baz=208,slow=11,SNR=11								
KURK	Kurchatov	15.36	20	⇑P		Pn	13 38 25.4		-1.0
	1.8nm,1.1s								
PKIN	Phulchoki	15.43	121	*e*P		P	13 38 28.2		+0.2
GUN	Gumba	15.56	119	*e*P		Pn	13 38 29.7		+0.2
	3.0nm,0.2s								
JIRN	Jiri	15.93	119	*e*P		Pn	13 38 34.0		0.0
	9.5nm,0.4s								
VOSK	Vostochnaya	16.22	1	⇑P		Pn	13 38 37.1		+0.2
	3.3nm,0.5s								
BVA0	Borovoye Array	16.52	360	P		Pn	13 38 41.7		+1.2
	3.8nm,0.6s,baz=156,slow=9.6,SNR=36								
BVAR	Borovoye Array	16.52	360	P		Pn	13 38 41.7		+1.3
	1.1nm,0.3s,baz=169,slow=10,SNR=36								
BRVK	Borovoye	16.55	360	⇓P		Pn	13 38 41.8		+1.0
	8.2nm,0.8s								
AKTO	Aktyubinsk	16.59	331	P		Pn	13 38 43.0		+1.8
	0.8nm,0.3s,baz=142,slow=11,SNR=11								
AKTO				LR		LR	13 46 14.8		
	comp=Z,28nm,18.2s,baz=93,slow=40								
AKTO	Aktyubinsk	16.59	331	⇓P		Pn	13 38 41.9		+0.6
	3.8nm,0.8s								
AKTO				⇑S		S	13 41 45.2		+2.2
	5.1nm,1.4s								
RAMN	Ramite	16.65	120	*e*P		P	13 38 40.2		-1.2
TAPN	Taplejung	17.19	117	*e*P		P	13 38 46.7		-0.7
ZALV	Zalesovo Beam	20.08	25	P		P	13 39 18.4		+0.4
	8.8nm,0.5s,baz=220,slow=11,SNR=54								
NOA	NORSAR Array B	44.14	323	P		P	13 42 48.3		-0.1
	0.7nm,0.9s,baz=101,slow=6.9,SNR=2.3								
TORD	Torodi Ar. Bea	65.33	268	P		P	13 45 19.2		-1.6
	0.6nm,0.4s,baz=49,slow=6.3,SNR=8.7								
WRA	Warramunga Arr	82.33	122	P		P	13 46 56.0		-3.4
	0.1nm,0.5s,baz=326,slow=4.9,SNR=2.7								
ASAR	Alice Springs	84.58	125	P		P	13 47 07.3		-3.5
	0.3nm,0.9s,baz=306,slow=5.0,SNR=3.0								

CASC 13 13:56:36.5±1.6, 14.43N×91.87W, h89^{km}±15^{km}, MD3.9, ML3.9, 2C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
JAT	Jato	0.25	116	⇑*e*P		Pn	13 56 49.1		-0.4
PCG	Pacaya	1.23	92	*e*P		Pn	13 57 00.4		+1.3
PCG				*e*S		Sn	13 57 18.1		+2.0
RBDL	Robledal	2.14	98	*e*P		Pn	13 57 11.3		+0.6
MRL	Marmol	2.20	73	⇑*e*P		Pn	13 57 10.9		-0.7
RTR	El Retiro	2.22	104	*e*P		Pn	13 57 12.6		+0.8
RTR				*e*S		Sn	13 57 39.8		+1.0
SBLS	San

comp=Z,409nm,0.8s
PYUN Piuthan 10.00 309 *e*Pn **Pn** **14 27 21.2 -1.7**
KMI Kunming 10.50 71 P Pn 14 27 32.8 +3.1
KMI pP 14 27 37.0
KMI sP 14 27 39.4
KMI S **Sn** **14 29 31.5 +3.9**
KMI sS 14 29 37.8
KMI SS **SnSn** **14 29 44.6 +5.2**
KMI pmax pmax
comp=Z,11nm,0.8s
KMI pmax pmax
comp=Z,65nm,4.0s
KMI LR LR
comp=Z,1μm,7.2s
KMI LR LR
comp=Z,620nm,9.2s
KMI LR LR
comp=Z,760nm,10.0s
JBP Jabalpur 10.97 278 *e*P **Pn** **14 27 34.4 -1.4**
JBP AMB AMB 14 27 37.3
comp=Z,19nm,0.9s
JBP *ex* x 14 29 31.0
NGP Nagpur 11.89 268 *e*P **Pn** **14 27 46.6 -1.9**
NGP AMB AMB 14 27 47.3
comp=Z,39nm,0.8s
NGP *ex* x 14 29 49.8
LGTI Lohaghat 12.75 308 *ex* **Sn** **14 30 16.4 -5.9**
HYB Hyderabad 13.28 252 *e*P Pn 14 28 10.0 +2.3
HYB *e*S **Sn** **14 30 40.0 +4.4**
HYB Hyderabad 13.28 252 *i* P **Pn** **14 28 07.0 -0.7**
HYB *e*S **Sn** **14 30 35.0 -0.6**
HYB Hyderabad 13.28 252 *e*P Pn 14 28 10.0 +2.3
HYB *e*S **Sn** **14 30 40.0 +4.4**
BHPL Bhopal 13.32 278 *e*P Pn 14 28 04.2 -4.0
BHPL *e*S Sn 14 30 22.7 -14
CD2 Chengdu 13.88 48 *e*P **Pn** **14 28 17.3 +1.5**
CD2 pP **P** **14 28 22.1 -2.0**
CD2 sP 14 28 26.0
CD2 PP **PnPn** **14 28 28.5 +4.7**
CD2 S **Sn** **14 30 52.6 +2.6**
CD2 sS S 14 31 00.1 -12
CD2 SS **SnSn** **14 31 08.6 +6.0**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,100nm,4.8s
CD2 LR LR
comp=Z,770nm,9.5s
CD2 LR LR
comp=Z,840nm,11.8s
CD2 LR LR
comp=Z,600nm,10.8s
GYA Guiyang 14.26 69⇑ *i*P **Pn** **14 28 20.5 -0.6**
GYA pP P 14 28 24.3 -4.1
GYA PP **PnPn** **14 28 33.6 +4.6**
GYA S **Sn** **14 31 01.0 +1.6**
GYA sS S 14 31 07.4 -13
GYA SS **SnSn** **14 31 16.5 +4.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.5s
GYA LR LR
comp=Z,630nm,10.2s
GYA LR LR
comp=Z,520nm,7.8s
GYA LR LR
comp=Z,690nm,8.9s
DDI Dehra Dun 14.83 307 *ex* Sn 14 30 59.1 -14
SMLA Simla 15.90 308 *e*P **Pn** **14 28 40.0 -2.7**
SMLA AMB AMB 14 28 46.5
comp=Z,11nm,0.6s
SMLA *ex* x 14 31 24.7
DHRM DHARAMSHALA 17.11 310 *e*P **Pn** **14 28 58.0 -0.5**
DHRM AMB AMB 14 29 01.4
comp=Z,13nm,1.0s
DHRM *ex* x 14 31 55.1
QIZ Qiongzhong 17.17 97 P **Pn** **14 28 57.0 -2.0**
QIZ pP **pP** **14 29 04.3 +0.8**
QIZ sP **sP** **14 29 07.3 +2.5**
QIZ S **Sn** **14 32 08.6 -1.5**
QIZ pmax pmax
comp=Z,56nm,3.9s
QIZ LR LR
comp=Z,440nm,8.1s
QIZ LR LR
comp=Z,320nm,8.8s
POO Poona 17.19 262 *e*P **Pn** **14 28 58.5 -0.8**
KAD Karad 17.23 257 *i* x **S** **14 32 19.4 -1.5**
LZH Lanzhou 17.50 34 *e*P **P** **14 29 04.9 +0.6**
LZH pP **pP** **14 29 09.5 +2.3**
LZH sP sP 14 29 13.4 +4.9
LZH PP **PnPn** **14 29 19.5 +6.0**
LZH *e*S **Sn** **14 32 19.3 +1.2**
LZH sS **S** **14 32 26.3 0.0**
LZH pmax pmax
comp=Z,76nm,1.3s
LZH pmax pmax
comp=Z,220nm,4.1s
LZH LR LR
comp=Z,660nm,10.2s
LZH LR LR
comp=Z,390nm,7.2s
LZH LR LR
comp=Z,860nm,12.7s
ENH Enshi 17.86 59 P **Pn** **14 29 06.5 -1.1**
comp=Z,15nm,1.0s
GTA Gaotai 18.62 20 *e*P **Pn** **14 29 16.6 -0.4**
GTA pP **pP** **14 29 22.8 +3.3**
GTA sP sP 14 29 27.0 +6.2
GTA S Sn 14 32 36.5 -8.8
GTA sS **S** **14 32 46.3 -2.8**
GTA SS **SnSn** **14 32 58.6 -0.8**
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA pmax pmax
comp=Z,98nm,6.2s
GTA LR LR
comp=Z,450nm,10.7s
GTA LR LR
comp=Z,480nm,10.2s
GTA LR LR
comp=Z,440nm,10.5s
XAN Xi'an 19.24 48 P **P** **14 29 21.8 -1.7**
XAN pP **pP** **14 29 27.8 +1.5**
XAN pmax pmax
comp=Z,5.0nm,1.5s
XAN pmax pmax
comp=Z,33nm,4.8s
CHCP Chirah Chowk 20.02 309 P **P** **14 29 31.8 -0.2**
PSI Prapat 20.34 159 LR LR 14 38 32.7
comp=Z,147nm,18.3s,baz=32,slow=40
THW Thamme Wali 20.74 305 P **P** **14 29 39.3 -0.5**
CEP Cherat 21.09 308 P **P** **14 29 43.8 +0.2**
CEP S S 14 33 30.0 -8.5
WHN Wuhan 21.90 63 ⇓P **P** **14 29 51.6 -0.6**
WHN S **S** **14 33 55.1 +0.9**
WHN LR LR
comp=Z,960nm,9.2s
WHN LR LR
comp=Z,600nm,10.0s
WHN LR LR
comp=Z,800nm,13.8s
WMQ Urumqi 21.99 352 P **P** **14 29 54.0 +0.9**
WMQ sP sP 14 30 03.0 +5.7
WMQ PP **PnPn** **14 30 20.0 +5.1**
WMQ S **S** **14 33 51.0 -4.8**
WMQ PcP **PcP** **14 33 52.0 +0.5**
WMQ sS **sS** **14 34 00.0 -0.4**
WMQ pmax pmax
comp=Z,17nm,0.8s
WMQ LR LR
comp=Z,300nm,7.0s
WMQ LR LR
comp=Z,470nm,8.0s
WMQ LR LR
comp=Z,210nm,7.0s
KSH Kashi 22.04 326 P **P** **14 29 54.4 +0.6**
KSH pP **pP** **14 30 00.0 +3.4**
KSH sP **sP** **14 30 01.1 +3.2**
KSH PP **PnPn** **14 30 18.0 +2.4**
KSH S **S** **14 33 52.1 -4.9**
KSH sS **sS** **14 34 00.1 -1.5**
KSH SS **SnSn** **14 34 30.1 +7.0**
KSH pmax pmax
comp=Z,49nm,1.0s
KSH LR LR
comp=Z,270nm,6.8s
KSH LR LR
comp=Z,320nm,7.4s
KSH LR LR
comp=Z,200nm,7.2s
UCH Uchtor 24.80 328 *i* P **P** **14 30 22.5 +1.0**
UCH Uchtor 24.80 328 P **P** **14 30 22.6 +1.0**
SNR=7.7
TKM2 Tokmak 2 24.82 331 *i* P **P** **14 30 23.8 +2.4**
TKM2 Tokmak 2 24.82 331 P **P** **14 30 23.9 +2.4**
SNR=8.8
KBK Karagaybulak 24.91 330 *i* P **P** **14 30 23.8 +1.5**
KBK Karagaybulak 24.91 330 P **P** **14 30 23.8 +1.5**
SNR=5.6
HHC Hu-ho-hao-te 25.12 37 *e*P **P** **14 30 23.6 -0.5**
HHC pP **pP** **14 30 31.4 +4.3**
HHC pmax pmax
comp=Z,200nm,9.4s
HHC LR LR
comp=Z,750nm,10.2s
HHC LR LR
comp=Z,750nm,10.2s
HHC LR LR
comp=Z,840nm,15.5s
FRU Bishkek 25.21 329 *e*P **P** **14 30 23.0 -1.8**
FRU pmax pmax
comp=Z,55nm,2.0s
CHMS Chumysh 25.27 330 *i* P **P** **14 30 25.7 +0.4**
CHMS Chumysh 25.27 330 P **P** **14 30 25.7 +0.4**
SNR=8.8
EKS2 Erkin-Say 25.48 328 *i* P **P** **14 30 27.9 +0.6**
EKS2 Erkin-Say 25.48 328 P **P** **14 30 28.0 +0.6**
SNR=6.9
USP Ospenovka 25.59 330 *i* P **P** **14 30 28.7 +0.4**
USP Ospenovka 25.59 330 P **P** **14 30 28.8 +0.4**
SNR=11
MK31 Makanchi Array 25.87 345 *e*P **P** **14 30 30.6 -0.1**
MK31 Makanchi Array 25.87 345 *e*P **P** **14 30 30.6 -0.1**
MKAR Makanchi Array 25.87 345 *ce*P **P** **14 30 30.7 0.0**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 25.87 345 P **P** **14 30 30.8 0.0**
MKAR Makanchi Array 25.87 345 P **P** **14 30 30.8 0.0**
comp=Z,6.2nm,0.9s,baz=161,slow=8.8,SNR=33
MKAR LR LR 14 42 50.0
comp=Z,52nm,19.1s,baz=158,slow=41
NJ2 Nanjing 26.02 62 *e*P **P** **14 30 32.1 -0.1**
NJ2 pP **pP** **14 30 39.6 +4.4**
NJ2 sP sP 14 30 41.8 +5.3
NJ2 PcP **PcP** **14 34 00.5 +0.2**
NJ2 S **S** **14 35 03.0 -0.1**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,190nm,3.9s
NJ2 LR LR
comp=Z,670nm,18.4s
NJ2 LR LR
comp=Z,840nm,19.5s
NJ2 LR LR
comp=Z,4μm,18.5s
SONM Songino Array 28.29 21 P **P** **14 30 52.6 0.0**
SONM Songino Array 28.29 21 P **P** **14 30 52.6 0.0**
comp=Z,2.4nm,1.0s,baz=212,slow=10,SNR=14
ULN Ulaanbaatar 28.54 22 *e*P **P** **14 30 54.4 -0.4**
comp=Z,1.6nm,0.6s
ZAK Zakamensk 29.70 15 *e*P **P** **14 31 04.1 -0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.9s
KURK Kurchatov 30.43 343 *e*P **P** **14 31 10.8 -0.5**
KURK Kurchatov 30.43 343 *e*P **P** **14 31 10.8 -0.5**
ZALV Zalesovo Beam 32.30 352 P **P** **14 31 27.4 -0.4**
ZALV Zalesovo Beam 32.30 352 P **P** **14 31 27.4 -0.4**
ZALV Zalesovo Beam 32.30 352 P **P** **14 31 27.4 -0.4**
comp=Z,0.8nm,0.6s,baz=165,slow=12,SNR=7.2
NVS Novosibirsk 33.38 351 *e*P **P** **14 31 34.9 -2.3**
BVAR Borovoye Array 35.01 337 P **P** **14 31 51.4 0.0**
BVAR Borovoye Array 35.01 337 P **P** **14 31 51.4 0.0**
BVAR Borovoye Array 35.01 337 P **P** **14 31 51.4 0.0**
comp=Z,0.5nm,0.6s,baz=153,slow=8.9,SNR=4.2
CN2 Changchun 35.27 44 *e*P **P** **14 31 53.1 -0.6**
JNU Nakatsue 36.17 64 LR LR 14 48 37.5
comp=Z,17nm,19.4s,baz=165,slow=39
AKTO Aktyubinsk 38.74 325 P **P** **14 32 22.1 -1.1**
AKTO Aktyubinsk 38.74 325 P **P** **14 32 22.1 -1.1**
AKTO Aktyubinsk 38.74 325 P **P** **14 32 22.1 -1.1**
comp=Z,2.4nm,0.9s,baz=131,slow=9.8,SNR=6.8
AKTO LR LR 14 51 29.1
comp=Z,83nm,18.8s,baz=309,slow=41
USRK Ussuriysk Arra 39.74 47 P **P** **14 32 30.6 -1.1**
comp=Z,2.5nm,1.0s,baz=235,slow=6.7,SNR=5.2
SVE Sverdlovsk 41.57 335 *e*P **P** **14 32 47.0 +0.4**
SVE pmax pmax
comp=Z,16nm,1.5s
KLR Kul'dur 41.59 39 *e*P P 14 32 43.2 -3.7
ARU Arti 42.15 333 *d* iP **P** **14 32 51.0 -0.4**
ARU 14 34 28.2
ARU S **S** **14 39 10.6 -0.5**
ARU SS **SS** **14 42 18.1 -0.6**
ARU pmax pmax
comp=Z,11nm,1.7s
MAT Matsushiro 42.58 60 P **P** **14 32 52.9 -2.3**
MJAR Matsushiro Arr 42.59 60 P **P** **14 32 54.1 -1.1**
MJAR Matsushiro Arr 42.59 60 P **P** **14 32 54.1 -1.1**
comp=Z,7.4nm,1.1s,baz=270,slow=10,SNR=12
MJAR LR LR 14 52 49.0
comp=Z,161nm,19.6s,baz=255,slow=39
ZEI Tsey 44.73 309 *e*P **P** **14 33 12.2 -0.4**
ZEI pmax pmax
comp=Z,17nm,1.6s
KIV Kislovodsk 45.84 310 *e*P **P** **14 33 23.4 +2.1**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,76nm,16.0s
ANN Anapa 49.69 311 P **P** **14 33 52.7 +1.7**
ANN PPP PPP 14 36 45.2
ANN S **S** **14 41 00.2 +0.4**
ANN SSS SSS 14 45 57.0
ANN pmax pmax
comp=Z,92nm,1.2s
OBN Obninsk 52.45 323⇓ *e*P **P** **14 34 13.4 +1.8**
OBN *e* 14 36 09.9
OBN *e*SS SS 14 45 06.2 -9.2
OBN pmax pmax
comp=Z,26nm,1.7s
OBN MLR MLR
comp=Z,100nm,18.0s
TIXI Tiksi 53.96 14 *e*P **P** **14 34 21.7 -0.7**
TIXI pmax pmax
comp=Z,13nm,1.7s
TIXI Tiksi 53.96 14 *e*P **P** **14 34 21.3 -1.1**
comp=Z,11nm,1.3s
AKASG Malin Array Be 55.96 317 *ce*P **P** **14 34 38.4 +1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 55.96 317 P **P** **14 34 35.5 -1.8**
AKASG Malin Array Be 55.96 317 P **P** **14 34 35.5 -1.8**
comp=Z,1.0nm,0.7s,baz=78,slow=6.0,SNR=9.6
SEY Seymchan 57.31 28 *e*P **P** **14 34 47.3 +0.7**
WRA Warramunga Arr 58.90 132 P **P** **14 34 56.4 -2.0**
WRA Warramunga Arr 58.90 132 P **P** **14 34 56.4 -2.0**
comp=Z,2.6nm,1.0s,baz=321,slow=7.4,SNR=7.6
WRAB Tennant Creek 58.90 132 *e*P **P** **14 34 56.5 -1.9**
WRAB pmax pmax
comp=Z,13nm,1.4s
WRAB Tennant Creek 58.90 132 *e*P **P** **14 34 56.5 -1.9**
comp=Z,13nm,1.4s
FINES FINESS Array B 59.30 329 P **P** **14 35 01.6 +1.1**
FINES FINESS Array B 59.30 329 P **P** **14 35 01.6 +1.1**
comp=Z,1.8nm,0.8s,baz=111,slow=7.6,SNR=4.5
UZH Uzhgorod 60.35 314 *c* iP **P** **14 35 10.0 +2.0**
UZH *e* 14 35 17.6
ASAR Alice Springs 61.17 135 P **P** **14 35 12.3 -1.6**
ASAR Alice Springs 61.17 135 P **P** **14 35 12.3 -1.6**
comp=Z,2.3nm,0.8s,baz=315,slow=6.6,SNR=25
OKC Ostrava-Krasne 63.03 316 *e*P **P** **14 35 25.8 -0.3**
OKC Ostrava-Krasne 63.03 316 *e*P **P** **14 35 25.8 -0.3**
KRLC Kraliky 63.90 316 *e*P **P** **14 35 31.2 -0.7**
KRLC Kraliky 63.90 316 *e*P **P** **14 35 31.2 -0.7**
DPC Dobruska-Polom 64.18 316 *e*P **P** **14 35 33.7 -0.1**
DPC Dobruska-Polom 64.18 316 *e*P **P** **14 35 33.7 -0.1**
PRU Pruhonice 65.35 316 *e*P **P** **14 35 41.4 +0.1**
PRU Pruhonice 65.35 316 *e*P **P** **14 35 41.4 +0.1**
BRG Berggiesshubel 65.65 317 *e*(P) **P** **14 35 42.9 -0.3**
comp=Z,2.8nm,1.0s
BRG Berggiesshubel 65.65 317 *e*P **P** **14 35 42.9 -0.3**
BRG pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 66.01 315 P **P** **14 35 44.3 -1.5**
GERES GERESS Array B 66.01 315 P **P** **14 35 44.3 -1.5**
comp=Z,2.8nm,1.0s,baz=83,slow=4.2,SNR=10.0
KHC Kasperske Hory 66.06 315 *e*P **P** **14 35 47.1 +1.1**
KHC Kasperske Hory 66.06 315 *e*P **P** **14 35 47.1 +1.1**
CLL Collm 66.19 318 *e*P **P** **14 35 48.0 +1.3**
CLL Collm 66.19 318 *e*(P) **P** **14 35 48.0 +1.3**
NOA NORSAR Array B 66.43 328 P **P** **14 35 46.9 -1.3**
NOA NORSAR Array B 66.43 328 P **P** **14 35 46.9 -1.3**
comp=Z,1.6nm,0.9s,baz=86,slow=6.3,SNR=3.2
STKA Stephens Creek 71.74 137 P **P** **14 36 19.6 -1.8**
STKA Stephens Creek 71.74 137 P **P** **14 36 19.6 -1.8**
comp=Z,3.7nm,1.1s,baz=240,slow=4.3,SNR=2.8
LSZ Lusaka 72.52 245 P **P** **14 36 24.9 -1.7**
comp=Z,11nm,1.1s
IM04 Indian Mountai 79.44 22 *e*P **P** **14 37 04.3 -0.9**
COLD Coldfoot 79.98 20 *e*P **P** **14 37 07.5 -0.5**
comp=Z,7.7nm,1.5s
ESDC Sonseca Array 80.48 309 P **P** **14 37 11.1 -0.2**
ESDC Sonseca Array 80.48 309 P **P** **14 37 11.1 -0.2**
comp=Z,0.1nm,0.3s,baz=36,slow=7.7,SNR=5.3
ILAR Eielson Array 82.51 22 P **P** **14 37 19.7 -1.8**
ILAR Eielson Array 82.51 22 P **P** **14 37 19.7 -1.8**
comp=Z,2.8nm,1.0s,baz=291,slow=4.5,SNR=24
INK Inuvik 84.05 15 *e*P **P** **14 37 28.0 -1.3**
comp=Z,14nm,1.4s
TORD Torodi Ar. Bea 85.25 282 P **P** **14 37 34.2 -2.3**
TORD Torodi Ar. Bea 85.25 282 P **P** **14 37 34.2 -2.3**
comp=Z,1.9nm,1.1s,baz=54,slow=6.1,SNR=7.0
YKA Yellowknife Ar 93.18 12 P **P** **14 38 11.5 -1.6**
YKA Yellowknife Ar 93.18 12 P **P** **14 38 11.5 -1.6**
comp=Z,0.9nm,1.1s,baz=328,slow=4.7,SNR=6.1
TXAR Lajitas Array 126.80 17 PKP **PKPdf** **14 44 02.1 -1.4**
TXAR Lajitas Array 126.80 17 PKP **PKPdf** **14 44 02.1 -1.4**
comp=Z,0.3nm,0.8s,baz=45,slow=1.4,SNR=2.9
SDV Santo Domingo 144.76 329 *e*PKPdf **PKPab** **14 44 35.3 -0.7**

SZGRF ***13*** *14:41:52.1,20°.82N×91°.34E,h33km,mb5.4,MS4.4, Myanmar*

IDC ***13*** *14:41:53.6±0.4,21°.96N×91°.84E,h0km,mb4.6/30, mb1 4.7/31,mb1mx4.7/32,mbtmp4.6/31,ML4.4/1,MS4.3/29, Ms1 4.3/29,ms1mx4.2/40, Error ellipse: s-maj=14.0km s-min=10.4km az=36.0*

BJI ***13*** *14:41:54.8,22°.09N×91°.82E,h23km,mB5.1/50,mb4.9/62, ML5.6/1,Ms5.0/73,Ms7 4.8/63*

ISCJB ***13*** *14:41:54.0±0.1,22°.02N±0°.02×91°.81E±0°.02,h10km, mb5.1/178,MS4.5/53,Error ellipse: s-maj=3.4km s-min=2.1km az=32.0*

NEIC ***13*** *14:41:55.8±0.2,22°.00N×91°.82E,h10km,mb5.4/66,Error ellipse: s-maj=6.6km s-min=3.8km az=211.0*

NEIC Felt [IV] at Chittagong. Also felt at Bandarban, Cox's Bazar and Rangamati.

GCMT ***13*** *14:41:56.5±0.2,21°.87N×91°.74E,h12km,MW4.9,Moment Tensor Solution. s32,c37; s76,c118; Moment tensor: Scale 10¹⁶Nm; Mrr2.66±.07; Mθθ-0.10±.07; Mϕϕ-2.57±.06; Mrθ0.27±.29; Mrϕ0.86±.06; Mθϕ-0.47±.21; Best double couple: Mw2.80000×10¹⁶ NP1:ϕs160.00000°,δ51.00000°, λ87.00000°. NP2:ϕs345.00000°,δ40.00000°,λ94.00000°. Principal axes: T 2.7200, Plg84.0000°, Azm46.0000°; N 0.1600, Plg3.0000°, Azm162.0000°; P -2.8900, Plg5.0000°, Azm252.0000°; Data Used: IU II IC G CN.*

BKK ***13*** *14:41:57.8±0.3,22°.N±5°×.9°2E±°,h10km,M4.8/34, mB5.2/16,mb4.9/34,MLv5.2/7,Mw(mB)4.6/16*

MOS ***13*** *14:41:57.5±1.1,22°.05N×91°.92E,h33km,mb5.5/50, MS4.6/10, Error ellipse: s-maj=8.2km s-min=3.8km az=124.0*

LDG ***13*** *14:41:57.4±0.3,22°.23N×91°.44E,h10km,Mb5.2/28, Ms4.2/12, Error ellipse: s-maj=17.4km s-min=12.0km az=64.0*

DJA ***13*** *14:41:59.4±2.5,22°.N±7°×.9°2E±°,h17km±18km,M5.1/42, mb5.2/42,mB5.6/19,Mw(mB)5.1/19*

TEH ***13*** *14:41:59.0,22°.09N×91°.96E,h28km,ML5.3*

ISC 13 14:41:58.0±0.3,**22°.02N**±0°.03×**91°.77E**±0°.03,**h26**km±1km, **n529,σ1$71**/599,**mb5.1**/178,**MS4.5**/53,**35C-22D, Bangladesh**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**3.39**	**35**	*ex*	**Pn**	**14 42 50.0**	**+0.6**
IMP				*ex*	x	14 43 10.0	
SHL	**Shillong**	**3.53**	**2**	*e*P	**Pn**	**14 42 50.5**	**-0.9**
SHL				*i* x	x	14 43 36.0	
BOK	**Bokaro**	**5.71**	**289**	*e*P	**Pn**	**14 43 20.4**	**-0.8**
BOK				AMB	AMB	14 43 23.8	
	comp=Z,309nm,1.1s						
BOK				*ex*	x	14 44 22.2	
ODAN	**Odare**	**6.26**	**321**	*e*Pn	**Pn**	**14 43 28.8**	**-0.2**
ODAN				*e*Sn	**Sn**	**14 44 39.4**	**-0.4**
	comp=Z,1μm,0.6s						
ODAN	**Odare**	**6.26**	**321**	*e*Pn	**Pn**	**14 43 28.8**	**-0.2**
ODAN				*e*Sn	**Sn**	**14 44 39.4**	**-0.4**
TAPN	**Taplejung**	**6.47**	**326**	*e*Pn	**Pn**	**14 43 32.3**	**+0.4**
TAPN	**Taplejung**	**6.47**	**326**	*e*Pn	**Pn**	**14 43 32.3**	**+0.4**
RAMN	**Ramite**	**6.80**	**317**	*e*Pn	**Pn**	**14 43 36.4**	**-0.1**
RAMN				*e*Sn	**Sn**	**14 44 51.9**	**-1.4**
	comp=Z,1μm,0.8s						
RAMN	**Ramite**	**6.80**	**317**	*e*Pn	**Pn**	**14 43 36.4**	**-0.1**
RAMN				*e*Sn	**Sn**	**14 44 51.9**	**-1.4**
MHMT	**Maesarieng**	**6.93**	**122**	P	**Pn**	**14 43 36.3**	**-1.7**
	comp=Z,59nm,0.8s,comp=Z,1μmcomp=Z,0.5nm						
CMAI	**Chiengmai2**	**7.10**	**106**	P	**Pn**	**14 43 39.8**	**-0.7**
	comp=Z,49nm,1.5s,comp=Z,4μmcomp=Z,0.4nm						
CHTO	**Chiang Mai**	**7.44**	**114**	*e*P	**Pn**	**14 43 44.4**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,119nm,1.0s						
CHTO	**Chiang Mai**	**7.44**	**114**	P	**Pn**	**14 43 44.8**	**-0.2**
	SNR=46						
CHTO	**Chiang Mai**	**7.44**	**114**	*e*P	**Pn**	**14 43 44.4**	**-0.6**
	comp=Z,119nm,1.0s						
CHTO	**Chiang Mai**	**7.44**	**114**	P	**Pn**	**14 43 44.0**	**-1.0**
	comp=Z,572nm,1.2s,comp=Z,6μmcomp=Z,1.7nm						
CMMT	**Chiang Mai**	**7.45**	**114**	P	**Pn**	**14 43 43.9**	**-1.2**
	comp=Z,124nm,1.2s,comp=Z,1μmcomp=Z,0.4nm						
JIRN	**Jiri**	**7.57**	**319**	*e*Pn	**Pn**	**14 43 46.7**	**-0.3**
JIRN				*e*Sn	**Sn**	**14 45 10.5**	**-1.7**
	comp=Z,806nm,0.4s						
JIRN	**Jiri**	**7.57**	**319**	*e*Pn	**Pn**	**14 43 46.7**	**-0.3**
JIRN				*e*Sn	**Sn**	**14 45 10.5**	**-1.7**
CM31	**Chiang Mai Arr**	**7.61**	**116**	*e*P	**Pn**	**14 43 46.5**	**-0.7**
	comp=Z,29nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.61**	**116**	Pn	**Pn**	**14 43 46.5**	**-0.7**
CMAR				Lg	Lg	14 45 50.5	
CMAR	**Chiang Mai Arr**	**7.61**	**116**	Pn	**Pn**	**14 43 46.5**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=290,slow=14,SNR=249						
CMAR				Lg	Lg	14 45 50.5	
	comp=Z,0.4nm,0.3s,baz=266,slow=23,SNR=4.2						
LSA	**Lhasa**	**7.67**	**356**	Pn	**Pn**	**14 43 47.3**	**-1.2**
LSA				LR	LR		
	comp=Z,3μm,9.9s						
LSA				LR	LR		
	comp=Z,7μm,9.5s						
LSA	**Lhasa**	**7.67**	**356**	*e*P	**Pn**	**14 43 49.0**	**+0.5**
LSA	**Lhasa**	**7.67**	**356**	*e*P	**Pn**	**14 43 49.0**	**+0.5**
GUN	**Gumba**	**7.94**	**319**	*e*Pn	**Pn**	**14 43 52.2**	**+0.1**
GUN				*e*Sn	**Sn**	**14 45 19.3**	**-2.0**
	comp=Z,1μm,0.8s						
GUN	**Gumba**	**7.94**	**319**	*e*Pn	**Pn**	**14 43 52.2**	**+0.1**
GUN				*e*Sn	**Sn**	**14 45 19.3**	**-2.0**
PKI	**Pulchoki**	**8.00**	**315**	*e*Pn	**Pn**	**14 43 52.3**	**-0.6**
PKI				*e*Sn	**Sn**	**14 45 20.7**	**-2.1**
	comp=Z,387nm,0.4s						
PKI	**Pulchoki**	**8.00**	**315**	*e*P	**Pn**	**14 43 52.5**	**-0.4**
PKI				*e*		14 45 21.0	
PKI	**Pulchoki**	**8.00**	**315**	*e*Pn	**Pn**	**14 43 52.5**	**-0.4**
PKI				*e*Sn	**Sn**	**14 45 21.0**	**-1.8**
PKIN	**Phulchoki**	**8.01**	**315**	*e*Pn	**Pn**	**14 43 52.5**	**-0.5**
PKIN				*e*Sn	**Sn**	**14 45 21.0**	**-2.0**
	comp=Z,776nm,0.6s						
LAMP	**Lampang**	**8.15**	**114**	P	**Pn**	**14 43 54.0**	**-0.8**
	comp=Z,28nm,1.0s,comp=Z,259nmcomp=Z,0.1nm						
CRAI	**Chiangrai**	**8.22**	**101**	P	**Pn**	**14 43 54.7**	**-1.0**

comp=Z,133nm,1.1s,comp=Z,17μmcomp=Z,0.6nm
DMN Daman 8.22 314 *e*Pn **Pn** **14 43 55.4 -0.6**
DMN *e*Sn **Sn** **14 45 25.3 -2.9**
comp=Z,412nm,0.5s
DMN Daman 8.22 314 *e*Pn **Pn** **14 43 55.4 -0.6**
DMN *e*Sn **Sn** **14 45 25.3 -2.9**
KKN Kakani 8.23 316 *e*Pn **Pn** **14 43 55.1 -0.9**
KKN Kakani 8.23 316 *e*P **Pn** **14 43 55.1 -0.9**
KKN Kakani 8.23 316 *e*Pn **Pn** **14 43 55.1 -0.9**
GKN Gorkha 8.80 314 *e*Pn **Pn** **14 44 03.5 -0.2**
GKN *e*Sn **Sn** **14 45 38.8 -3.3**
comp=Z,366nm,0.3s
GKN Gorkha 8.80 314 *e*Pn **Pn** **14 44 03.5 -0.2**
GKN *e*Sn **Sn** **14 45 38.8 -3.3**
VIS Vishakhapatnam 9.02 243 *i* P **Pn** **14 44 05.3 -1.4**
VIS *i* x x 14 45 16.4
KOLN Koldanda 9.37 309 *e*Pn **Pn** **14 44 10.6 -1.0**
KOLN *e*Sn **Sn** **14 45 51.9 -4.4**
comp=Z,641nm,0.4s
KOLN Koldanda 9.37 309 *e*Pn **Pn** **14 44 10.6 -1.0**
KOLN *e*Sn **Sn** **14 45 51.9 -4.4**
DANN Dangsing 9.61 313 *e*Pn **Pn** **14 44 13.4 -1.6**
DANN *e*Sn **Sn** **14 45 57.1 -5.2**
comp=Z,314nm,0.5s
DANN Dangsing 9.61 313 *e*Pn **Pn** **14 44 13.4 -1.6**
DANN *e*Sn **Sn** **14 45 57.1 -5.2**
KHLT Khaolaem Dam 9.66 137 P **Pn** **14 44 12.7 -2.8**
comp=Z,54nm,1.1s,comp=Z,557nm
PYUN Piuthan 10.00 309 *e*Pn **Pn** **14 44 19.0 -1.3**
PYUN *e*Sn **Sn** **14 46 06.6 -5.2**
comp=Z,665nm,0.6s
PYUN Piuthan 10.00 309 *e*Pn **Pn** **14 44 19.0 -1.3**
PYUN *e*Sn **Sn** **14 46 06.6 -5.2**
PBKT Sadao Pong 10.23 120 P **Pn** **14 44 22.3 -1.0**
comp=Z,61nm,1.1s,comp=Z,799nm
KMI Kunming 10.52 71 P **Pn** **14 44 29.9 +2.5**
KMI pP 14 44 34.8
KMI sP 14 44 39.3
KMI S **Sn** **14 46 28.3 +3.7**
KMI SS **SnSn** **14 46 42.5 +6.0**
KMI pmax pmax
comp=Z,19nm,1.1s
KMI pmax pmax
comp=Z,220nm,5.5s
KMI LR LR
comp=Z,5μm,8.4s
KMI LR LR
comp=Z,3μm,9.4s
KMI LR LR
comp=Z,4μm,15.7s
JBP Jabalpur 10.95 278 *e*P **Pn** **14 44 32.2 -0.9**
JBP *e* 14 46 29.0
CHAI Chaiyaphum 11.41 120 P **Pn** **14 44 39.8 +0.3**
comp=Z,13nm,1.1s,comp=Z,127nm
NGP Nagpur 11.87 268 *e*P Pn 14 44 42.2 -3.5
NGP *ex* x 14 46 46.8
PATY Pattaya 12.53 135 P **Pn** **14 44 52.9 -1.8**
comp=Z,18nm,1.0s,comp=Z,762nm
LGTI Lohaghat 12.75 308 *ex* Pn 14 45 01.1 +3.4
LGTI *ex* **Sn** **14 47 16.1 -2.7**
PTH Pithoragarh 12.82 308 *e* Pn 14 44 51.3 -7.6
PTH *e* 14 47 31.9
HYB Hyderabad 13.26 252 *e*P Pn 14 45 01.0 -3.8
HYB *e*S Sn 14 47 38.0 +6.5
HYB Hyderabad 13.26 252 *i* P Pn 14 45 01.0 -3.8
HYB *e*PP **PnPn** **14 45 12.0 -0.7**
HYB *e*S **Sn** **14 47 33.0 +1.5**
HYB Hyderabad 13.26 252 *e*P Pn 14 45 01.0 -3.8
HYB *e*S Sn 14 47 38.0 +6.5
BHPL Bhopal 13.31 278 *e*P **Pn** **14 45 02.4 -3.0**
BHPL AMB AMB 14 45 04.5
comp=Z,121nm,0.7s
BHPL *ex* x 14 47 19.9
CD2 Chengdu 13.90 48 P **Pn** **14 45 14.0 +0.5**
CD2 pP **P** **14 45 21.3 -0.1**
CD2 S **Sn** **14 47 47.8 +0.7**
CD2 sS S 14 47 58.8 -10
CD2 SS **SnSn** **14 48 04.8 +5.1**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,260nm,7.1s
CD2 LR LR
comp=Z,5μm,16.4s
CD2 LR LR
comp=Z,5μm,10.6s
CD2 LR LR
comp=Z,4μm,13.6s
GYA Guiyang 14.28 69⇑ *i*P **Pn** **14 45 21.4 +2.6**
GYA pP **P** **14 45 25.8 +0.1**
GYA sP 14 45 32.0
GYA S **Sn** **14 47 56.8 +0.3**
GYA sS S 14 48 07.4 -9.1
GYA pmax pmax
comp=Z,70nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.8s
GYA LR LR
comp=Z,3μm,11.5s
GYA LR LR
comp=Z,3μm,9.3s
GYA LR LR
comp=Z,4μm,9.0s
UBPT Khong Chiam 14.60 115 P **Pn** **14 45 20.9 -2.1**
comp=Z,46nm,1.6s
SURT Suratani 14.64 151 P **Pn** **14 45 22.1 -1.4**
comp=Z,13nm,1.5s
NDI New Delhi 14.73 300 *e*P **Pn** **14 45 23.0 -1.8**
NDI *e* 14 47 52.0
PKDT Phuket 15.40 155 P **P** **14 45 38.8 +0.7**
SMLA Simla 15.89 308 *e*P3 **Pn** **14 45 36.1 -3.9**
SMLA AMB AMB 14 45 47.2
comp=Z,107nm,1.2s
SMLA *ex* x 14 48 23.4
DHRM DHARAMSHALA 17.11 310 *e*P **Pn** **14 45 51.6 -4.1**
DHRM AMB AMB 14 46 00.7
comp=Z,121nm,1.4s
DHRM *ex* x 14 48 51.4
POO Poona 17.17 262 *i* PP P 14 46 05.0 +7.2
QIZ Qiongzhong 17.18 97 P **Pn** **14 45 55.8 -0.6**
QIZ pP **pP** **14 46 05.3 +0.5**
QIZ sP **sP** **14 46 09.4 +1.3**
QIZ S **Sn** **14 49 06.3 -0.6**
QIZ pmax pmax
comp=Z,65nm,1.3s
QIZ LR LR
comp=Z,2μm,11.0s
QIZ LR LR
comp=Z,2μm,11.7s
QIZ Qiongzhong 17.18 97 *e*P **P** **14 45 58.2 +0.3**
comp=Z,91nm,1.1s
LZH Lanzhou 17.52 34⇑ P **Pn** **14 45 58.3 -2.4**
LZH pP **pP** **14 46 05.0 -3.6**
LZH sP **sP** **14 46 09.8 -2.1**
LZH PP **PnPn** **14 46 12.0 +0.7**
LZH S **Sn** **14 49 09.3 -5.9**
LZH SS **SnSn** **14 49 31.8 +2.9**
LZH pmax pmax
comp=Z,170nm,1.0s
LZH pmax pmax
comp=Z,600nm,4.1s
LZH LR LR
comp=Z,4μm,10.0s
LZH LR LR
comp=Z,2μm,7.8s
LZH LR LR
comp=Z,5μm,14.0s
ENH Enshi 17.89 59 *e*P **Pn** **14 46 04.4 -0.7**
comp=Z,30nm,0.6s
GTA Gaotai 18.65 20 *e*P **Pn** **14 46 14.5 +0.1**
GTA pP **pP** **14 46 21.8 +0.8**
GTA sP **sP** **14 46 27.3 +3.0**
GTA S **Sn** **14 49 39.5 -2.8**
GTA SS **SnSn** **14 50 04.9 +8.4**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,320nm,6.9s
GTA LR LR
comp=Z,2μm,11.2s
GTA LR LR
comp=Z,3μm,14.0s
GTA LR LR
comp=Z,3μm,10.2s

XAN Xi'an 19.27 48 P **P** **14 46 19.1 -1.7**
XAN pP **pP** **14 46 25.8 -2.0**
XAN sP **sP** **14 46 31.6 +0.5**
XAN PP **PnPn** **14 46 34.8 -0.3**
XAN S Sn 14 49 44.6 -13
XAN pmax pmax
comp=Z,17nm,1.1s
XAN pmax pmax
comp=Z,100nm,9.6s
XAN LR LR
comp=Z,2μm,14.4s
XAN LR LR
comp=Z,550nm,14.8s
XAN LR LR
comp=Z,610nm,16.7s
KCSI Kotacane, Aceh 19.29 162 P **P** **14 46 19.2 -1.8**
comp=Z,48nm,1.8s,comp=Z,1μm
TSI Tuntungan 19.55 159 P **Pn** **14 46 24.8 -0.5**
comp=Z,188nm,1.1s
IPM Ipoh 19.61 151 P **P** **14 46 24.2 -0.4**
IPM Ipoh 19.61 151 P **Pn** **14 46 28.4 +2.4**
comp=Z,21nm,2.3s,comp=Z,560nm
SARP Sargodha 19.65 304 P **P** **14 46 23.9 -1.0**
KTGM Kuala Trenggan 19.91 145 P **P** **14 46 27.8 0.0**
SNSI Sinabang, Aceh 19.99 167 P **Pn** **14 46 34.5 +4.0**
CHCP Chirah Chowk 20.02 309 P **P** **14 46 29.2 +0.2**
PSI Prapat 20.33 159 P **P** **14 46 31.2 -1.3**
comp=Z,32nm,1.6s,comp=Z,873nm
PSI Prapat 20.33 159 P **P** **14 46 31.2 -1.3**
PSI Prapat 20.33 159 P **P** **14 46 31.2 -1.3**
comp=Z,15nm,0.9s,baz=331,slow=9.2,SNR=12
PSI LR LR 14 55 29.9
comp=Z,539nm,21.3s,baz=346,slow=40
THW Thamme Wali 20.74 305 P **P** **14 46 36.9 +0.1**
FRIM Kepong 20.98 152 P **P** **14 46 39.1 -0.3**
CEP Cherat 21.09 308 P **P** **14 46 42.8 +2.1**
CEP S **S** **14 50 32.0 -2.3**
WHN Wuhan 21.92 63⇓ *i*P **P** **14 46 49.4 -0.1**
WHN S **S** **14 50 52.3 +1.9**
WHN pmax pmax
comp=Z,1μm,2.2s
WHN LR LR
comp=Z,4μm,8.8s
WHN LR LR
comp=Z,4μm,15.8s
WHN LR LR
comp=Z,5μm,17.0s
WMQ Urumqi 22.01 352 P **P** **14 46 50.0 -0.3**
WMQ pP **pP** **14 47 00.0 +2.6**
WMQ sP **sP** **14 47 04.0 +3.3**
WMQ PP **PnPn** **14 47 16.0 +3.5**
WMQ S **S** **14 50 46.0 -5.9**
WMQ sS **sS** **14 51 01.0 -2.2**
WMQ SS **SnSn** **14 51 25.0 +6.3**
WMQ ScP **ScP** **14 54 21.0 -2.9**
WMQ pmax pmax
comp=Z,49nm,1.0s
WMQ LR LR
comp=Z,1μm,6.0s
WMQ LR LR
comp=Z,3μm,7.0s
WMQ LR LR
comp=Z,250nm,6.0s
KSH Kashi 22.04 326 P **P** **14 46 49.9 -1.0**
KSH pP **pP** **14 47 01.0 +3.1**
KSH sP **sP** **14 47 04.1 +2.9**
KSH PP **PnPn** **14 47 17.1 +4.0**
KSH S S 14 50 43.5 -9.4
KSH sS **sS** **14 51 01.0 -3.2**
KSH SS **SnSn** **14 51 27.1 +7.4**
KSH pmax pmax
comp=Z,130nm,1.2s
KSH LR LR
comp=Z,1μm,10.0s
KSH LR LR
comp=Z,1μm,10.8s
KSH LR LR
comp=Z,2μm,11.1s
MNSI Mandailing Nat 22.42 159 P **P** **14 46 52.3 -2.7**
comp=Z,40nm,1.4s
KGM Kluang 22.84 149 P **P** **14 46 58.7 -0.6**
MYKOM Kota Tinggi 23.29 148 P **P** **14 47 03.9 -0.1**
MYKOM Kota Tinggi 23.29 148 P **P** **14 47 03.8 -0.1**
comp=Z,55nm,1.2s,comp=Z,806nm
TIY Taiyuan 23.70 44 *e*P **P** **14 47 05.4 -2.5**
TIY PP **PnPn** **14 47 41.1 +5.3**
TIY S **S** **14 51 17.6 -4.0**
TIY sS sS 14 51 29.1 -4.9
TIY pmax pmax
comp=Z,330nm,7.6s
TIY LR LR
comp=Z,780nm,8.3s
TIY LR LR
comp=Z,880nm,8.8s
TIY LR LR
comp=Z,1μm,19.8s
PPI Padang Panjang 23.87 158 P **P** **14 47 09.0 -0.6**
comp=Z,25nm,1.0s,comp=Z,689nm
ULHL Ulahol 24.00 331 *i* P **P** **14 47 12.5 +1.6**
ULHL Ulahol 24.00 331 P **P** **14 47 12.5 +1.6**
SNR=5.9
BTO Baotou 24.13 36 *e*P P 14 47 04.9 -7.1
KZA Kyzart 24.34 329 *i* P **P** **14 47 15.9 +1.7**
KZA Kyzart 24.34 329 P **P** **14 47 16.0 +1.7**
SNR=19
QZH Quanzhou 24.75 78⇑ *i*P **P** **14 47 13.5 -4.2**
QZH *e*S **S** **14 51 32.0 -6.5**
QZH pmax pmax
comp=Z,1μm,4.4s
QZH LR LR
comp=Z,3μm,11.2s
QZH LR LR
comp=Z,3μm,11.0s
QZH LR LR
comp=Z,5μm,9.9s
UCH Uchtor 24.80 328 *i* P **P** **14 47 20.1 +1.6**
UCH Uchtor 24.80 328 P **P** **14 47 20.1 +1.6**
SNR=71
TKM2 Tokmak 2 24.83 331 *i* P **P** **14 47 21.7 +3.3**
TKM2 Tokmak 2 24.83 331 P **P** **14 47 21.7 +3.3**
SNR=38
KBK Karagaybulak 24.92 330 *i* P **P** **14 47 21.0 +1.8**
KBK Karagaybulak 24.92 330 P **P** **14 47 21.0 +1.8**
SNR=32
AAK Ala-Archa 25.12 329 *i* P **P** **14 47 22.1 +1.1**
AAK Ala-Archa 25.12 329 P **P** **14 47 22.2 +1.1**
SNR=32
AAK Ala-Archa 25.12 329 P **P** **14 47 22.0 +1.1**
comp=Z,223nm,1.0s,SNR=30
AML Almayashu 25.14 327 *i* P **P** **14 47 22.1 +0.6**
AML Almayashu 25.14 327 P **P** **14 47 22.1 +0.6**
SNR=44
HHC Hu-ho-hao-te 25.15 37 *e*P **P** **14 47 21.0 -0.2**
HHC pP **pP** **14 47 27.8 -0.9**
HHC PP **PnPn** **14 47 57.4 +1.9**
HHC S **S** **14 51 40.8 -4.0**
HHC sS **sS** **14 51 52.8 -4.4**
HHC SS **SnSn** **14 52 40.8 +5.2**
HHC ScS **ScS** **14 58 18.5 -2.5**
HHC pmax pmax
comp=Z,97nm,0.8s
HHC pmax pmax
comp=Z,900nm,4.4s
HHC LR LR
comp=Z,5μm,12.8s
HHC LR LR
comp=Z,4μm,12.1s
HHC LR LR
comp=Z,5μm,12.6s
FRU Bishkek 25.21 329 *i* P **P** **14 47 22.0 +0.3**
FRU pmax pmax
comp=Z,130nm,1.8s
CHMS Chumysh 25.28 330 *i* P **P** **14 47 22.8 +0.6**
CHMS Chumysh 25.28 330 P **P** **14 47 22.9 +0.6**
SNR=36
EKS2 Erkin-Say 25.49 328 *i* P **P** **14 47 27.4 +3.1**
EKS2 Erkin-Say 25.49 328 P **P** **14 47 27.4 +3.1**
SNR=48
USP Ospenovka 25.60 330 *i* P **P** **14 47 25.9 +0.7**
USP Ospenovka 25.60 330 P **P** **14 47 25.9 +0.7**
SNR=42
MK31 Makanchi Array 25.89 345 *e*P **P** **14 47 28.2 +0.5**
MK31 Makanchi Array 25.89 345 *e*P **P** **14 47 28.2 +0.5**
MKAR Makanchi Array 25.89 345 *ce*P **P** **14 47 28.2 +0.5**
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 25.89 345 P **P** **14 47 28.3 +0.5**
MKAR Makanchi Array 25.89 345 P **P** **14 47 28.3 +0.5**
comp=Z,7.0nm,0.5s,baz=158,slow=9.2,SNR=134
MKAR LR LR 15 00 15.1
comp=Z,327nm,21.9s,baz=158,slow=42
NJ2 Nanjing 26.05 62 *e*P **P** **14 47 29.9 +0.6**
NJ2 pP **pP** **14 47 37.0 +0.2**
NJ2 sP **sP** **14 47 42.8 +2.8**
NJ2 pmax pmax
comp=Z,60nm,1.0s
NJ2 pmax pmax
comp=Z,260nm,4.4s
NJ2 LR LR
comp=Z,1μm,12.0s
NJ2 LR LR
comp=Z,1μm,11.8s
NJ2 LR LR
comp=Z,2μm,14.5s
TIA Tai'an 26.18 52⇑ P **P** **14 47 29.8 -0.7**
TIA pmax pmax
comp=Z,40nm,1.1s
TIA pmax pmax
comp=Z,350nm,6.5s
TIA LR LR
comp=Z,710nm,7.1s
TIA LR LR
comp=Z,2μm,11.9s
TIA LR LR
comp=Z,2μm,13.7s
JMBI JAMBI 26.21 152 P **P** **14 47 35.0 +4.1**
comp=Z,338nm,1.2s
KSM Kuching 27.25 136 P **P** **14 47 40.6 +0.3**
BJI Beijing 27.43 44 P **P** **14 47 41.6 -0.1**
BJI S **S** **14 52 20.8 +0.3**
BJI pmax pmax
comp=Z,15nm,1.2s
BJI pmax pmax
comp=Z,190nm,3.5s
BJI LR LR
comp=Z,1μm,17.8s
BJI LR LR
comp=Z,940nm,14.4s
BJI LR LR
comp=Z,440nm,33.9s
SSE Sheshan 27.75 65 P **P** **14 47 44.0 -0.7**
SSE S **S** **14 52 30.1 +4.2**
SSE pmax pmax
comp=Z,31nm,0.8s
SSE pmax pmax
comp=Z,170nm,4.5s
SSE LR LR
comp=Z,1μm,9.9s
SSE LR LR
comp=Z,650nm,10.0s
SSE LR LR
comp=Z,1μm,11.4s
SBUM Sibu 27.81 132 P **P** **14 47 46.3 +1.0**
SBUM Sibu 27.81 132 P **P** **14 47 46.4 +1.1**
comp=Z,13nm,1.5s
KAAM Kaadhehdhoo 28.15 223 P P 14 47 53.7 +5.3
comp=Z,78nm,2.8s
SONM Songino Array 28.31 21 P **P** **14 47 50.3 +0.6**
SONM ScP **ScP** **14 54 44.9 +3.1**
SONM Songino Array 28.31 21 P **P** **14 47 50.3 +0.6**
comp=Z,6.0nm,1.1s,baz=209,slow=10,SNR=35
SONM ScP **ScP** **14 54 44.9 +3.1**
comp=Z,2.3nm,1.1s,baz=215,slow=3.0,SNR=6.5
KKM Kota Kinabalu 28.46 120 P **P** **14 47 51.5 +0.3**
ULN Ulaanbaatar 28.56 22 P **P** **14 47 52.8 +0.9**
SNR=7.4
ULN Ulaanbaatar 28.56 22 *e*P **P** **14 47 52.1 +0.2**
comp=Z,70nm,1.8s
TGY Tagaytay City 28.78 101 LR LR 14 58 25.4
comp=Z,37nm,19.1s,baz=121,slow=34
STKI Sintang 29.07 136 P **P** **14 47 58.1 +1.6**
comp=Z,30nm,1.0s,comp=Z,5μm
HVS Khovu-Aksy 29.10 2 *e*P **P** **14 47 56.7 +0.1**
ZAK Zakamensk 29.72 15 *e*P **P** **14 48 02.8 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.7s
KURBB Kurchatov Arra 30.38 343 P **P** **14 48 08.2 +0.4**
comp=Z,6.6nm,0.9s,baz=161,slow=8.5,SNR=34
KURK Kurchatov 30.44 343 *e*P **P** **14 48 07.9 -0.4**
KURK pmax pmax
comp=Z,31nm,1.5s
KURK Kurchatov 30.44 343 P **P** **14 48 08.8 +0.5**
SNR=15
KURK Kurchatov 30.44 343 *e*P **P** **14 48 07.8 -0.4**
comp=Z,31nm,1.5s
KURK Kurchatov 30.44 343 P **P** **14 48 09.6 +1.3**
comp=Z,134nm,1.5s,SNR=8.7
TSM Tawau 30.82 121 P **P** **14 48 13.0 +0.9**
TLY Talaya 31.01 14 *e*P P 14 48 19.4 +6.0
TLY pmax pmax
comp=Z,15nm,2.0s
TLY MLR MLR
comp=Z,1μm,14.0s
ITEG Tejag 31.13 297 *e*P **P** **14 48 15.7 +0.8**
ZAA0 Zalesovo Array 32.31 352 *e*P **P** **14 48 24.8 0.0**
ZALV Zalesovo Beam 32.31 352 *i* P **P** **14 48 24.7 -0.1**
ZALV Zalesovo Beam 32.31 352 P **P** **14 48 24.8 -0.1**
ZALV Zalesovo Beam 32.31 352 P **P** **14 48 24.8 -0.1**
comp=Z,1.8nm,0.7s,baz=186,slow=7.4,SNR=14
ZALV LR LR 15 01 58.3
comp=Z,414nm,18.1s,baz=223,slow=37
ABKT Ailbek 32.97 306 P **P** **14 48 32.9 +2.1**
comp=Z,204nm,1.4s,SNR=5.7
SNY Shenyang 33.17 46⇑ P **P** **14 48 31.8 -0.6**
SNY S **S** **14 53 51.8 +1.3**
SNY pmax pmax
comp=Z,36nm,1.3s
SNY LR LR
comp=Z,950nm,18.0s
SNY LR LR
comp=Z,970nm,17.9s
SNY LR LR
comp=Z,1μm,17.1s
NVS Novosibirsk 33.40 351 *e*P **P** **14 48 34.0 -0.2**
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,2.0nm,0.7s
KPJI Karang Pucung 33.67 148 P **P** **14 48 38.4 +1.4**
comp=E,40nm,1.1s
BBKI Banjar Baru 33.92 136 P **P** **14 48 40.1 +0.9**
comp=E,64nm,1.3s,comp=E,961nm
BJII Banjamegara 34.06 147 P P 14 48 44.7 +4.2
comp=E,28nm,1.1s
KBKI Kotabaru 34.67 134 P **P** **14 48 47.8 +2.1**
comp=E,26nm,1.2s,comp=E,420nm
KSAR Wonju Array Be 34.68 56 P **P** **14 48 43.3 -2.4**
KSAR PP **PP** **14 50 04.3 -0.1**
KSAR ScP **ScP** **14 55 05.9 +2.8**
KSRS Korea Array 34.71 56 P **P** **14 48 43.3 -2.6**
comp=E,3.3nm,0.8s,baz=259,slow=9.3,SNR=8.6
KSRS PP **PP** **14 50 04.3 -0.5**
comp=E,7.4nm,1.1s,baz=243,slow=11,SNR=5.2
KSRS ScP **ScP** **14 55 05.9 +2.7**
comp=E,1.0nm,0.6s,baz=213,slow=4.3,SNR=4.5
KSRS LR LR 15 04 53.8
comp=E,613nm,18.0s,baz=260,slow=40
BVAR Borovoye Array 35.02 337 P **P** **14 48 48.4 +0.1**
BVAR Borovoye Array 35.02 337 P **P** **14 48 48.4 +0.1**
BVAR Borovoye Array 35.02 337 P **P** **14 48 48.4 +0.1**
comp=E,1.7nm,0.6s,baz=146,slow=9.5,SNR=10
BVAR LR LR 15 05 07.8
comp=E,293nm,19.8s,baz=150,slow=40
HIA Hailar 35.07 32 *e*P **P** **14 48 49.7 +0.9**
comp=E,9.8nm,0.9s
BRVK Borovoye 35.08 337 *e*P **P** **14 48 50.0 +1.1**
BRVK pmax pmax
comp=Z,11nm,1.2s
ISAD Sadrabad 35.20 294 *e*P **P** **14 48 51.9 +1.4**
CN2 Changchun 35.29 44 *e*P **P** **14 48 50.6 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,1μm,11.0s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,800nm,10.0s

SJI Sawahan 35.48 144 P **P** **14 48 51.6 -1.2**
comp=Z,20nm,0.7s
IANJ Anjilo 35.58 301 *e*P **P** **14 48 56.3 +2.6**
IKIA Kiasar 35.92 302 *e*P **P** **14 48 57.0 +0.4**
MMSI Mamuju 36.15 129 P **P** **14 48 59.5 +1.0**
comp=Z,34nm,1.1s
KMMI Kalianget 36.16 141 P **P** **14 49 00.2 +1.7**
comp=Z,47nm,1.6s
JNU Nakatsue 36.20 64 P **P** **14 48 58.4 -0.4**
JNU Nakatsue 36.20 64 P **P** **14 48 58.4 -0.4**
comp=Z,8.0nm,1.0s,baz=270,slow=6.1,SNR=2.4
MRSI Marisa 36.36 122 P **P** **14 49 01.2 +0.9**
comp=Z,46nm,1.1s,comp=Z,586nm
APSI Ampana 37.00 124 P **P** **14 49 06.8 +1.1**
comp=Z,36nm,1.2s
TTSI Tana Toraja 37.05 129 P **P** **14 49 08.6 +2.5**
comp=Z,35nm,1.1s,comp=Z,501nm
GTOI Gorontalo 37.11 121 P **P** **14 49 05.4 -1.3**
comp=Z,127nm,1.2s,comp=Z,1μm
SPSI Sidrap Palu 37.64 130 P **P** **14 49 13.2 +2.0**
comp=Z,48nm,1.3s,comp=Z,635nm
SRBI Singaraja 37.73 140 P **P** **14 49 11.3 -0.5**
comp=Z,114nm,1.2s,comp=Z,1μm
KMSI Cibinong 37.92 120 P **P** **14 49 12.0 -1.6**
comp=Z,170nm,0.9s,comp=Z,2μm
LUWI Luwuk 37.95 123 P **P** **14 49 12.8 -1.0**
comp=Z,148nm,1.2s,comp=Z,6μm
BNSI Bone 38.19 130 P **P** **14 49 12.8 -3.0**
comp=Z,20nm,1.4s
MDJ Mudanjiang 38.33 45 P **P** **14 49 16.8 +0.1**
MDJ pP **pP** **14 49 25.3 +0.9**
MDJ sP **sP** **14 49 29.3 +1.8**
MDJ PP **PP** **14 50 44.3 -0.2**
MDJ PcP **PcP** **14 51 30.4 +0.2**
MDJ S **S** **14 55 07.8 -1.8**
MDJ ScS **ScS** **14 59 25.4 -0.9**
MDJ pmax pmax
comp=Z,23nm,1.5s
MDJ pmax pmax
comp=Z,150nm,5.7s
MDJ LR LR
comp=Z,310nm,19.7s
MDJ LR LR
comp=Z,160nm,21.8s
MDJ LR LR
comp=Z,330nm,19.7s
MDJ Mudanjiang 38.33 45 *e*P **P** **14 49 15.5 -1.2**
comp=Z,74nm,1.8s
KAPI Kappang 38.37 131 P **P** **14 49 17.7 +0.4**
SNR=5.4
KAPI Kappang 38.37 131 *e*P **P** **14 49 16.7 -0.6**
comp=Z,114nm,1.0s
AKTO Aktyubinsk 38.75 325 P **P** **14 49 20.4 +0.3**
AKTO Aktyubinsk 38.75 325 P **P** **14 49 20.4 +0.3**
AKTO Aktyubinsk 38.75 325 P **P** **14 49 20.4 +0.3**
comp=Z,8.0nm,1.1s,baz=130,slow=9.0,SNR=14
AKTO LR LR 15 08 36.9
comp=Z,546nm,18.3s,baz=308,slow=41
BKSI Bulukumba 38.85 131 P **P** **14 49 22.3 +1.0**
comp=Z,20nm,1.3s,comp=Z,562nm
USRK Ussuriysk Arra 39.77 47 P **P** **14 49 28.4 -0.3**
comp=Z,6.0nm,0.8s,baz=253,slow=5.8,SNR=15
USRK LR LR 15 07 57.6
comp=Z,473nm,18.3s,baz=351,slow=39
IKOM Komasi 40.59 297 *e*P **P** **14 49 35.8 -0.1**
LBFI Labuhan Bajo, 40.98 135 P **P** **14 49 39.1 +0.1**
comp=Z,48nm,1.1s,comp=Z,694nm
SVE Sverdlovsk 41.58 335⇓ *e*P **P** **14 49 44.2 +0.7**
SVE *e* 14 51 49.3
SVE *e*S S 14 55 50.0 -7.9
SVE *e* 14 59 05.8
SVE pmax pmax
comp=Z,67nm,1.4s
SVE MLR MLR
comp=Z,986nm,13.0s
KLR Kul'dur 41.62 39 *e*P **P** **14 49 41.2 -2.7**
KLR *e*S S 14 56 06.0 +7.4
KLR pmax pmax
comp=Z,57nm,1.4s
KLR MLR MLR
comp=E,1μm,12.0s
KLR MLR MLR
comp=Z,6μm,12.0s
WSI Waingapu 42.13 135 P P 14 49 59.7 +11
ARU Arti 42.16 333 P **P** **14 49 48.4 +0.1**
comp=Z,103nm,1.2s,SNR=6.1
ARU Arti 42.16 333 *c i*P **P** **14 49 48.1 -0.2**
ARU 14 51 29.0
ARU 14 51 43.3
ARU S **S** **14 56 07.9 +1.4**
ARU pmax pmax
comp=Z,34nm,1.7s
ARU MLR MLR
comp=Z,887nm,18.0s
ARU Arti 42.16 333 *e*P **P** **14 49 48.2 0.0**
comp=Z,62nm,1.5s
MAJO Matsushiro 42.61 60 *e*P **P** **14 49 51.2 -1.0**
MAJO pmax pmax
comp=Z,49nm,1.0s
MAJO Matsushiro 42.61 60 *e*P **P** **14 49 51.2 -1.0**
comp=Z,49nm,1.0s
MJAR Matsushiro Arr 42.61 60 P **P** **14 49 51.9 -0.3**
MJAR Matsushiro Arr 42.61 60 P **P** **14 49 51.9 -0.3**
comp=Z,22nm,1.0s,baz=273,slow=10,SNR=45
MJAR LR LR 15 09 45.8
comp=Z,985nm,19.8s,baz=260,slow=39
NLAI Namlea 42.70 122 P P 14 49 56.9 +3.8
comp=Z,35nm,1.0s
GNI Garni 43.60 306 LR LR 15 10 47.3
comp=Z,351nm,20.6s,baz=104,slow=40
BDHA Al Bayda' 44.53 268 *e*P **P** **14 50 09.1 +0.9**
SWI Sorong 44.72 115 P **P** **14 50 09.3 -0.1**
comp=Z,53nm,1.2s,comp=Z,602nm
ZEI Tsey 44.73 309 *e*P **P** **14 50 08.0 -1.4**
ZEI pmax pmax
comp=Z,38nm,1.3s
KBZ Khabaz 45.64 310 P **P** **14 50 16.5 +0.2**
KBZ Khabaz 45.64 310 P **P** **14 50 16.5 +0.2**
KBZ Khabaz 45.64 310 P **P** **14 50 16.5 +0.2**
comp=Z,4.3nm,0.9s,baz=124,slow=7.8,SNR=5.1
KBZ LR LR 15 12 47.7
comp=Z,280nm,18.8s,baz=222,slow=41
KIV Kislovodsk 45.84 310 *e*P **P** **14 50 19.9 +1.8**
KIV *e*S **S** **14 57 02.7 +2.1**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,410nm,16.0s
FAKI Fak Fak 46.68 117 P **P** **14 50 24.5 -0.4**
comp=Z,59nm,1.2s,comp=Z,4μm
YAK Yakutsk 47.63 23 *e*P **P** **14 50 30.2 -1.5**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,16nm,1.6s
YAK Yakutsk 47.63 23 *e*P **P** **14 50 31.1 -0.6**
comp=E,15nm,0.8s
ANN Anapa 49.69 311 P **P** **14 50 47.4 -0.4**
ANN 14 52 40.2
ANN S **S** **14 57 55.7 +0.6**
ANN SS **SS** **15 01 29.2 +1.7**
ANN pmax pmax
comp=Z,88nm,1.7s
PRGR Permogore 50.62 334 *e*P **P** **14 50 54.3 -0.2**
PRGR pmax pmax
comp=Z,20nm,0.9s
BRTR Keskin Array B 52.04 304 P **P** **14 51 06.5 +0.8**
BRTR Keskin Array B 52.04 304 P **P** **14 51 06.5 +0.8**
comp=Z,3.2nm,1.0s,baz=104,slow=5.2,SNR=8.2
BRTR LR LR 15 16 17.8
comp=Z,186nm,18.8s,baz=289,slow=40
MOS Moscow 52.06 324 *e*P **P** **14 51 06.2 +0.7**
MOS pmax pmax
comp=Z,49nm,1.1s
OBN Obninsk 52.46 323⇓ *e*P **P** **14 51 08.3 -0.1**
OBN *e* 14 53 09.4
OBN *e*S S 14 58 56.1 +23
OBN pmax pmax
comp=Z,75nm,1.7s
OBN MLR MLR
comp=Z,400nm,17.0s
OBN Obninsk 52.46 323 P **P** **14 51 08.5 +0.1**
comp=Z,52nm,1.3s
GENI Genyem 53.22 111 P **P** **14 51 15.4 +0.8**
comp=Z,111nm,1.2s
TIXI Tiksi 53.98 14 *e*P **P** **14 51 18.9 -0.5**
TIXI pmax pmax
comp=Z,41nm,1.7s
TIXI Tiksi 53.98 14 *e*P **P** **14 51 18.5 -0.9**
comp=Z,42nm,1.4s
AKASG Malin Array Be 55.97 317 *ce*P **P** **14 51 33.2 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 55.97 317 P **P** **14 51 34.6 +0.5**
AKASG PP **PP** **14 53 39.4 +0.6**
AKASG Malin Array Be 55.97 317 P **P** **14 51 34.6 +0.5**
comp=Z,6.7nm,0.8s,baz=78,slow=6.2,SNR=18
AKASG PP **PP** **14 53 39.4 +0.6**
comp=Z,0.2nm,0.4s,baz=88,slow=6.9,SNR=4.4
AKBB Malin Array Si 55.97 317 P **P** **14 51 34.5 +0.4**
AKBB Malin Array Si 55.97 317 P **P** **14 51 34.5 +0.4**
AK01 Malin Array Si 55.97 317 *e*P **P** **14 51 32.9 -1.2**
AK02 Malin Array Si 55.97 317 *e*P **P** **14 51 32.6 -1.5**
KIEV Kiev 55.98 317 *e*P **P** **14 51 32.3 -1.8**
KIEV pmax pmax
comp=Z,18nm,1.2s
KIEV Kiev 55.98 317 *e*P **P** **14 51 32.3 -1.8**
comp=Z,18nm,1.2s
MICGM Minsk 57.25 321⇓ *e*P **P** **14 51 44.0 +0.9**
VRI Vrincioaia 57.30 311⇓ P **P** **14 51 44.4 +0.7**
VRI Vrincioaia 57.30 311⇓ *i*P **P** **14 51 44.4 +0.7**
SEY Seymchan 57.33 28 *e*P **P** **14 51 43.5 0.0**
PLOR Plostina 57.36 311⇓ P **P** **14 51 45.0 +0.9**
PLOR Plostina 57.36 311⇓ *i*P **P** **14 51 45.0 +0.9**
TESR Tescani 57.38 312⇑ *i*P **P** **14 51 46.7 +2.5**
JMB Yambol 57.40 307⇓ P **P** **14 51 46.1 +1.7**
JMB Yambol 57.40 307⇓ *i*P **P** **14 51 46.1 +1.7**
MLR Muntele Rosu 57.85 311⇑ *i*P **P** **14 51 48.7 +1.0**
MLR Muntele Rosu 57.85 311 LR LR 15 21 44.2
comp=Z,113nm,18.6s,baz=223,slow=41
KMBO Kilima Mbogo 57.91 254 P **P** **14 51 50.7 +2.0**
SNR=5.5
KMBO Kilima Mbogo 57.91 254 *e*P **P** **14 51 50.1 +1.4**
comp=Z,10nm,1.1s
KMBO Kilima Mbogo 57.91 254 P **P** **14 51 49.9 +1.2**
comp=Z,8.2nm,1.0s,baz=46,slow=12,SNR=14
KMBO LR LR 15 15 48.6
comp=Z,443nm,20.4s,baz=277,slow=35
APA Apatity 57.93 337⇑ *i*P P 14 51 50.6 +2.9
APA MLR MLR
comp=Z,800nm,12.0s
IDID Didziasalis 58.01 322 *e*P **P** **14 51 48.4 -0.1**
IDID AMB AMB 14 51 52.1
comp=Z,13nm,1.3s
DOPR Dopca 58.24 311⇑ *i*P **P** **14 51 50.9 +0.6**
KDZ Kurdzhali 58.29 306⇑ P **P** **14 51 51.8 +1.1**
KDZ Kurdzhali 58.29 306⇑ *i*P **P** **14 51 51.8 +1.1**
PETK Petropavlovsk- 58.29 40 P **P** **14 51 49.5 -1.0**
PETK Petropavlovsk- 58.29 40 P **P** **14 51 49.5 -1.0**
PETK Petropavlovsk- 58.29 40 P **P** **14 51 49.5 -1.0**
comp=Z,8.1nm,1.0s,baz=195,slow=3.9,SNR=5.2
PETK LR LR 15 16 55.9
comp=Z,179nm,20.5s,baz=258,slow=36
IIGN Ignalina 58.31 322 *e*P **P** **14 51 50.4 -0.1**
IIGN AMB AMB 14 51 53.8
comp=Z,19nm,1.1s
BURAR Bucovina Array 58.38 313⇓ P **P** **14 51 52.5 +1.2**
BURAR Bucovina Array 58.38 313⇓ *i*P **P** **14 51 52.5 +1.2**
ISAL Salakas 58.39 323 *e*P **P** **14 51 51.0 -0.1**
ISAL AMB AMB 14 51 54.8
comp=Z,17nm,1.3s
BUR08 Bucovina Ar. S 58.39 313 *e*P **P** **14 51 53.8 +2.3**
VOIR 58.48 311⇑ P **P** **14 51 53.2 +1.2**
VOIR 58.48 311⇑ *i*P **P** **14 51 53.2 +1.2**
ARR Arges 58.77 311⇑ *i*P **P** **14 51 53.0 -1.0**
WRA Warramunga Arr 58.90 132 P **P** **14 51 54.4 -0.7**
WRA Warramunga Arr 58.90 132 P **P** **14 51 54.4 -0.7**
comp=Z,16nm,0.9s,baz=323,slow=7.2,SNR=55
WRAB Tennant Creek 58.90 132 *ce*P **P** **14 51 54.9 -0.2**
WRAB pmax pmax
comp=Z,153nm,1.7s
WRAB Tennant Creek 58.90 132 *e*P **P** **14 51 54.3 -0.8**
comp=Z,42nm,1.1s
WRAB Tennant Creek 58.90 132 P **P** **14 51 54.0 -1.1**
comp=Z,162nm,1.0s,SNR=10
LVV L'vov 59.23 316 *i*P **P** **14 51 58.8 +1.8**
FINES FINESS Array B 59.31 329 P **P** **14 51 56.7 -0.7**
FINES FINESS Array B 59.31 329 P **P** **14 51 56.7 -0.7**
comp=Z,7.1nm,1.0s,baz=104,slow=8.0,SNR=12
FINES LR LR 15 20 25.9
comp=Z,908nm,18.6s,baz=65,slow=39
MMB Musomiste 59.55 306⇑ P **P** **14 52 00.0 +0.5**
MMB Musomiste 59.55 306⇑ *i*P **P** **14 52 00.0 +0.5**
VTS Vitosha 59.88 307⇑ P **P** **14 52 01.8 -0.1**
VTS Vitosha 59.88 307⇑ *i*P **P** **14 52 01.8 -0.1**
SUW Suwalki 59.95 321 *e*P **P** **14 52 01.9 0.0**
SUW pmax pmax
comp=Z,80nm,1.1s
SUW Suwalki 59.95 321 *e*P **P** **14 52 03.3 +1.4**
SUW Suwalki 59.95 321 *e*P **P** **14 52 01.9 0.0**
comp=Z,80nm,1.1s
GZR Gura Zlata 60.08 311⇓ P P 14 51 59.0 -4.1
GZR Gura Zlata 60.08 311⇓ *i*P P 14 51 59.0 -4.1
DRGR 60.09 312⇑ P **P** **14 52 04.1 +1.0**
DRGR 60.09 312⇑ *i*P **P** **14 52 04.1 +1.0**
TRPA Tarpa 60.19 314⇓ *i*P **P** **14 52 05.7 +2.0**
UZH Uzhgorod 60.35 314 *c i*P **P** **14 52 05.0 +0.2**
UZH *e* 14 52 12.8
UZH *e* 14 52 18.4
UZH *e*S **S** **15 00 16.0 -1.9**
KOLS Kolonicke sedl 60.36 315 *e*P **P** **14 52 06.8 +1.9**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 60.36 315 *e*P **P** **14 52 06.8 +1.9**
VAY Valandovo 60.44 306 *e*P **P** **14 52 03.3 -2.2**
SIRR Siria 60.83 312⇑ *i*P P 14 52 11.1 +3.0
BZS Buzias 60.88 311⇓ P **P** **14 52 09.8 +1.3**
BZS Buzias 60.88 311⇓ *i*P **P** **14 52 09.8 +1.3**
CRVS Cervenica-Dubn 60.90 315 *e*P **P** **14 52 08.9 +0.3**
CRVS pmax pmax
comp=Z,37nm,1.5s
CRVS Cervenica-Dubn 60.90 315 *e*P **P** **14 52 08.9 +0.3**
STHS Stebnicka Huta 61.04 315 *e*P **P** **14 52 08.5 -1.0**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 61.04 315 *e*P **P** **14 52 08.5 -1.0**
AS31 Alice Springs 61.17 135 *e*P **P** **14 52 09.8 -0.9**
ASAR Alice Springs 61.17 135 P **P** **14 52 10.2 -0.5**
ASAR Alice Springs 61.17 135 P **P** **14 52 10.2 -0.5**
comp=Z,14nm,0.8s,baz=314,slow=6.5,SNR=110
SKO Skopje 61.23 307 *e*P P 14 52 03.8 -7.2
ARCES ARCESS Array B 61.30 338 P **P** **14 52 11.1 +0.2**
ARCES ARCESS Array B 61.30 338 P **P** **14 52 11.1 +0.2**
comp=Z,7.0nm,0.9s,baz=109,slow=7.0,SNR=7.6
ARCES LR LR 15 21 27.1
comp=Z,355nm,18.8s,baz=17,slow=39
NIE Niedzica 61.64 315 *e*P **P** **14 52 14.0 +0.4**
NIE Niedzica 61.64 315 *e*P **P** **14 52 14.0 +0.4**
OJC Ojcow 61.96 316 *e*P **P** **14 52 13.3 -2.4**
OJC Ojcow 61.96 316 *e*P **P** **14 52 13.3 -2.4**
PSZ Piszkesteto 61.97 314⇑ P **P** **14 52 15.9 0.0**
PSZ Piszkesteto 61.97 314⇑ *i*P **P** **14 52 15.9 0.0**
PSZ Piszkesteto 61.97 314 *e*P **P** **14 52 15.7 -0.1**
comp=Z,13nm,1.0s
PMG Port Moresby 62.64 114 *e*P **P** **14 52 20.4 -0.3**
comp=Z,25nm,0.9s
PKSM Moragy 62.92 312⇓ P **P** **14 52 22.4 +0.2**
PKSM Moragy 62.92 312⇓ *i*P **P** **14 52 22.4 +0.2**
OKC Ostrava-Krasne 63.04 316 *e*P **P** **14 52 23.4 +0.5**
OKC Ostrava-Krasne 63.04 316 *e*P **P** **14 52 23.4 +0.5**
OKC *ep*P pP 14 52 25.6 -5.3
MORC Moravsky Berou 63.43 316⇑ P **P** **14 52 26.8 +1.2**
MORC Moravsky Berou 63.43 316⇑ *i*P **P** **14 52 26.8 +1.2**
MORC Moravsky Berou 63.43 316 *e*P **P** **14 52 24.1 -1.4**
comp=Z,22nm,1.2s
KRLC Kraliky 63.90 316 *e*P **P** **14 52 28.6 -0.1**
KRLC Kraliky 63.90 316 *e*P **P** **14 52 28.6 -0.1**
KRLC *ep*P pP 14 52 31.3 -5.4
VRAC Vranov 64.08 315⇑ *i*P **P** **14 52 31.0 +1.2**
VRAC Vranov 64.08 315 LR LR 15 25 35.6
comp=Z,195nm,19.7s,baz=323,slow=41
KSP Ksiaz 64.17 317 *e*P **P** **14 52 30.2 -0.1**
KSP Ksiaz 64.17 317 *e*P **P** **14 52 30.4 +0.1**
DPC Dobruska-Polom 64.18 316 *e*P **P** **14 52 31.1 +0.6**
DPC Dobruska-Polom 64.18 316 *e*P **P** **14 52 31.1 +0.6**
UPC Upice 64.37 317 *e*P **P** **14 52 33.0 +1.3**
UPC Upice 64.37 317 *e*P **P** **14 52 33.0 +1.3**
KOGS Kog 64.55 312 *e*P **P** **14 52 35.2 +2.3**
CONA Conrad Observa 64.67 314⇑ *i*P **P** **14 52 33.9 +0.1**
comp=Z,30nm,1.3s,SNR=10.0
TREC Trest 64.80 315 *e*P **P** **14 52 35.0 +0.5**
TREC MLR MLR
comp=Z,300nm,16.1s
TREC Trest 64.80 315 *e*P **P** **14 52 35.0 +0.5**
TREC *ep*P pP 14 52 37.3 -5.3
TREC AMS AMS 15 25 50.0
comp=Z,300nm,16.1s
GROS Grobnik 65.07 312 *e*P **P** **14 52 38.2 +1.9**
TIP Timpagrande 65.10 304 *e*P **P** **14 52 37.9 +1.2**
comp=Z,21nm,1.3s
PVCC Panska Ves 65.28 317 *e*P **P** **14 52 39.1 +1.5**
PVCC Panska Ves 65.28 317 *e*P **P** **14 52 39.1 +1.5**
PRU Pruhonice 65.35 316 *e*P **P** **14 52 38.0 -0.1**
PRU MLR MLR
comp=Z,300nm,16.9s
PRU Pruhonice 65.35 316 *e*P **P** **14 52 38.0 -0.1**
PRU *ep*P pP 14 52 41.0 -5.1
PRU AMS AMS 15 23 40.0
comp=Z,300nm,16.9s
PRA Prague 65.41 316 P **P** **14 52 38.0 -0.4**
BRG Berggiesshubel 65.65 317 *e*P **P** **14 52 41.0 +1.0**
comp=Z,5.6nm,1.1s
BRG *e* 14 52 42.7
comp=Z,16nm,1.1s
BRG *e* 14 52 58.2
comp=Z,21nm,1.7s
BRG
comp=N,347nm,13.5s
BRG
comp=E,240nm,19.2s
BRG
comp=Z,343nm,15.0s
BRG Berggiesshubel 65.65 317 *e*P **P** **14 52 41.0 +1.0**
BRG *e* 14 52 58.2
BRG pmax pmax
comp=Z,17nm,1.0s
BRG MLR MLR
comp=N,347nm,13.5s
BRG MLR MLR
comp=E,240nm,19.2s
BRG MLR MLR
comp=Z,343nm,15.0s
BRG Berggiesshubel 65.65 317 *e*P **P** **14 52 39.7 -0.3**
comp=Z,16nm,1.0s
VNDS Vrh nad Dolski 65.66 312 *e*P **P** **14 52 42.5 +2.4**
CUC Castrocucco 65.70 305 *e*P **P** **14 52 40.6 +0.1**
comp=Z,20nm,1.0s
MOA Molln 65.75 314⇑ *i*P **P** **14 52 40.7 0.0**
comp=Z,19nm,0.9s,SNR=6.2
CEL Celeste 65.92 303 *e*P **P** **14 52 40.8 -1.2**
comp=Z,84nm,1.1s
GEC2 GERESS Array S 66.01 315 *e*P **P** **14 52 42.3 -0.2**
comp=Z,24nm,1.1s
GERES GERESS Array B 66.01 315 P **P** **14 52 42.5 0.0**
GERES GERESS Array B 66.01 315 P **P** **14 52 42.5 0.0**
comp=Z,10nm,0.9s,baz=83,slow=5.7,SNR=26
GERES LR LR 15 23 39.1
comp=Z,254nm,18.4s,baz=208,slow=38
KHC Kasperske Hory 66.06 315 *e*P **P** **14 52 41.9 -0.8**
KHC pmax pmax
comp=Z,16nm,1.3s
KHC Kasperske Hory 66.06 315 *e*P **P** **14 52 42.4 -0.3**
KHC Kasperske Hory 66.06 315 *e*P **P** **14 52 41.9 -0.8**
comp=Z,16nm,1.3s
CLL Collm 66.20 318 *i*P **P** **14 52 45.9 +2.4**
CLL pmax pmax
comp=Z,22nm,1.4s
CLL MLR MLR
comp=Z,300nm,20.1s
CLL Collm 66.20 318 *e*P **P** **14 52 42.9 -0.6**
comp=Z,22nm,1.4s
CLL Collm 66.20 318 *i*P **P** **14 52 45.9 +2.4**
comp=Z,22nm,1.4s
CLL LmH 15 21 00.0
comp=N,400nm,20.6s
CLL LmH 15 21 00.0
comp=E,200nm,20.7s
CLL LmV 15 26 00.0
comp=Z,300nm,20.1s
NB2 NORSAR Subarra 66.44 328 P **P** **14 52 43.9 -1.0**
comp=Z,15nm,1.2s,baz=86,slow=6.5
NOA NORSAR Array B 66.44 328 P **P** **14 52 43.9 -1.0**
NOA NORSAR Array B 66.44 328 P **P** **14 52 43.9 -1.0**
comp=Z,5.4nm,1.0s,baz=90,slow=6.2,SNR=7.4
NOA LR LR 15 23 55.4
comp=Z,236nm,18.4s,baz=90,slow=38
WET Wettzell 66.52 315 *e*P **P** **14 52 47.5 +1.9**
comp=Z,21nm,1.2s
TANN Tannenbergstha 66.64 317 *e*P **P** **14 52 46.2 -0.2**
comp=Z,16nm,1.2s
NKC Novy Kostel 66.67 317 *e*P **P** **14 52 47.2 +0.7**
NKC Novy Kostel 66.67 317 *e*P **P** **14 52 47.2 +0.7**
NKC *ep*P pP 14 52 49.2 -5.4
RJOB Jochberg 66.75 314 *e*P **P** **14 52 46.4 -0.8**
comp=Z,22nm,1.3s
ROTZ Rotzenmuhle 66.88 316 *e*P **P** **14 52 47.9 0.0**
comp=Z,35nm,1.2s
GRF Grafenberg Arr 67.52 316 *e*P **P** **14 52 52.4 +0.4**
comp=Z,54nm,1.5s
GRF *e*L L 15 26 58.9
comp=Z,228nm,18.4s
BSEG Bad Segeberg 67.54 321 *e*P **P** **14 52 51.9 0.0**
comp=Z,44nm,1.2s
WTTA Wattenberg 67.59 313⇓ *i*P **P** **14 52 52.2 -0.5**
comp=Z,22nm,1.1s,SNR=5.3
FX1 Attu Island--F 67.62 40 P **P** **14 52 52.2 -0.4**
CTAO Charters Tower 67.70 124 *e*P **P** **14 52 53.1 -0.4**
CTAO pmax pmax
comp=Z,52nm,1.4s
CTAO Charters Tower 67.70 124 *e*P **P** **14 52 53.1 -0.4**
comp=Z,52nm,1.4s
CLZ Clausthal 67.77 318 *e*P **P** **14 52 53.6 +0.1**
comp=Z,34nm,1.2s
NRDL Niedersach Rie 67.84 319 *e*P **P** **14 52 54.3 +0.5**
comp=Z,64nm,1.3s
MOTA Moosalm 67.94 314⇓ *i*P **P** **14 52 53.7 -1.2**
comp=Z,16nm,0.9s,SNR=6.6
FETA Feichten 68.24 313⇑ *i*P **P** **14 52 55.4 -1.3**
comp=Z,16nm,1.1s
DAVA Damuels 68.77 314⇓ *i*P **P** **14 52 59.6 -0.4**
comp=Z,30nm,1.0s,SNR=5.4
DAVOX Davos/Dischmat 68.86 313 LR LR 15 26 41.0
comp=Z,317nm,19.4s,baz=345,slow=39
STU Stuttgart 68.97 315 *e*P **P** **14 53 00.6 -0.5**
comp=Z,16nm,0.9s
TUE Stuetta 69.27 313 *e*P P 14 53 06.4 +3.2
comp=Z,12nm,1.0s
IBBN Ibbenburen 69.29 319 *e*P **P** **14 53 02.9 -0.1**
comp=Z,51nm,1.3s
BUG Bochum--Univer 69.74 318 *e*P **P** **14 53 05.1 -0.6**
comp=Z,32nm,1.1s
PGF Pioggiola 70.28 309 *e*P **P** **14 53 10.9 +1.5**
comp=Z,83nm,1.2s
PGF Pioggiola 70.28 309 *e*P **P** **14 53 10.9 +1.5**
PGF pmax pmax
comp=Z,83nm,1.2s
PGF Pioggiola 70.28 309 *e*P **P** **14 53 10.9 +1.5**
comp=Z,83nm,1.2s
CDF Champ du Feu 70.29 315 *e*P **P** **14 53 10.9 +1.6**
comp=Z,66nm,1.3s
CDF Champ du Feu 70.29 315 *e*P **P** **14 53 10.9 +1.6**
CDF pmax pmax
comp=Z,66nm,1.3s
CDF Champ du Feu 70.29 315 *e*P **P** **14 53 10.9 +1.6**
comp=Z,66nm,1.3s
MEM Membach 70.67 318 P **P** **14 53 14.2 +2.7**
comp=Z,13nm,1.7s
HINF Hinteralfeld 70.69 315 *e*P **P** **14 53 13.3 +1.6**
comp=Z,21nm,1.2s
HINF Hinteralfeld 70.69 315 *e*P **P** **14 53 13.3 +1.6**
HINF pmax pmax
comp=Z,21nm,1.2s
HINF Hinteralfeld 70.69 315 *e*P **P** **14 53 13.3 +1.6**
comp=Z,21nm,1.2s
WLF Walferdange 70.77 317 P **P** **14 53 12.9 +0.8**
comp=Z,28nm,1.6s
WLF Walferdange 70.77 317 *e*P **P** **14 53 12.8 +0.7**
WLF pmax pmax
comp=Z,49nm,1.3s
WLF Walferdange 70.77 317 *e*P **P** **14 53 12.3 +0.2**
comp=Z,55nm,1.3s
WLF Walferdange 70.77 317 *e*P **P** **14 53 12.8 +0.7**
comp=Z,49nm,1.3s
HAU Haudompre 70.98 315 *e*P **P** **14 53 15.0 +1.5**

comp=Z,55nm,1.2s
HAU eR
comp=Z,203nm,18.2s
HAU Haudompre 70.98 315 eP **P** 14 53 15.0 +1.5
HAU pmax pmax
comp=Z,55nm,1.2s
HAU Haudompre 70.98 315 eP **P** 14 53 15.0 +1.5
comp=Z,55nm,1.2s
SBF Sospel 71.12 310 eP **P** 14 53 16.2 +1.8
SBF Sospel 71.12 310 eP **P** 14 53 16.2 +1.8
SBF Sospel 71.12 310 eP **P** 14 53 16.2 +1.8
BCLA Clavier 71.15 318 P P 14 53 17.1 +2.7
comp=Z,13nm,1.8s
LPG La Plagne 71.24 312 eP **P** 14 53 16.2 +0.8
comp=Z,78nm,1.4s
LPG La Plagne 71.24 312 eP **P** 14 53 16.2 +0.8
LPG pmax pmax
comp=Z,78nm,1.4s
LPG La Plagne 71.24 312 eP **P** 14 53 16.2 +0.8
comp=Z,78nm,1.4s
LPL La Plagne 71.25 312 eP **P** 14 53 15.6 +0.2
comp=Z,108nm,1.5s
LPL La Plagne 71.25 312 eP **P** 14 53 15.6 +0.2
LPL pmax pmax
comp=Z,109nm,1.5s
LPL La Plagne 71.25 312 eP **P** 14 53 15.6 +0.2
comp=Z,108nm,1.5s
PAGF Fort de Pagny 71.27 316 eP **P** 14 53 17.3 +2.1
comp=Z,11nm,1.2s
PAGF Fort de Pagny 71.27 316 eP **P** 14 53 17.3 +2.1
comp=Z,11nm,1.2s
BNI Bardonecchia 71.39 312 eP **P** 14 53 17.5 +1.4
BNI pmax pmax
comp=Z,21nm,1.3s
BNI Bardonecchia 71.39 312 eP **P** 14 53 17.5 +1.4
comp=Z,21nm,1.3s
MBDF Montbardon 71.39 311 eP **P** 14 53 17.3 +1.1
MBDF Montbardon 71.39 311 eP **P** 14 53 17.3 +1.1
MBDF Montbardon 71.39 311 eP **P** 14 53 17.3 +1.1
CABF La Chapelle 71.45 314 eP **P** 14 53 18.3 +1.9
comp=Z,38nm,1.2s
CABF La Chapelle 71.45 314 eP **P** 14 53 18.3 +1.9
CABF pmax pmax
comp=Z,38nm,1.2s
CABF La Chapelle 71.45 314 eP **P** 14 53 18.3 +1.9
comp=Z,38nm,1.2s
GIVF Givet 71.52 317 eP **P** 14 53 18.9 +2.3
GIVF Givet 71.52 317 eP **P** 14 53 18.9 +2.3
GIVF Givet 71.52 317 eP **P** 14 53 18.9 +2.3
KEST Kesra 71.57 302 eP **P** 14 53 18.4 +1.1
KEST Kesra 71.57 302 P **P** 14 53 17.5 +0.2
comp=Z,9.7nm,1.0s,baz=297,slow=4.4,SNR=13
KEST LR LR 15 27 44.5
comp=Z,51nm,19.7s,baz=290,slow=38
DOU Dourbes 71.67 317 P P 14 53 20.3 +2.8
MEZF Maizieres J'vi 71.72 316 eP **P** 14 53 19.9 +2.0
comp=Z,74nm,1.2s
MEZF Maizieres J'vi 71.72 316 eP **P** 14 53 19.9 +2.0
comp=Z,74nm,1.2s
STKA Stephens Creek 71.73 137 P **P** 14 53 17.0 -1.1
STKA Stephens Creek 71.73 137 P **P** 14 53 17.0 -1.1
comp=Z,10nm,1.1s,baz=319,slow=7.2,SNR=9.8
STKA LR LR 15 30 56.8
comp=Z,130nm,19.0s,baz=193,slow=41
FRF La Foret Royal 71.74 310 eP **P** 14 53 19.8 +1.7
comp=Z,89nm,1.1s
FRF La Foret Royal 71.74 310 eP **P** 14 53 19.8 +1.7
FRF pmax pmax
comp=Z,89nm,1.1s
FRF La Foret Royal 71.74 310 eP **P** 14 53 19.8 +1.7
comp=Z,89nm,1.1s
SFTF Sexfontaines 71.80 315 eP **P** 14 53 20.3 +2.0
comp=Z,96nm,1.4s
SFTF Sexfontaines 71.80 315 eP **P** 14 53 20.3 +2.0
comp=Z,96nm,1.4s
LMR La Mourre 71.89 310 eP **P** 14 53 20.7 +1.7
comp=Z,61nm,1.2s
LMR La Mourre 71.89 310 eP **P** 14 53 20.7 +1.7
LMR pmax pmax
comp=Z,61nm,1.2s
LMR La Mourre 71.89 310 eP **P** 14 53 20.7 +1.7
comp=Z,61nm,1.2s
LSZ Lusaka 72.49 245 P **P** 14 53 25.4 +2.2
SNR=10
LSZ Lusaka 72.49 245 eP **P** 14 53 22.8 -0.3
comp=Z,46nm,1.0s
LOR Lormes 72.79 315 eP **P** 14 53 25.8 +1.5
comp=Z,33nm,1.3s
LOR eR
comp=Z,270nm,20.2s
LOR Lormes 72.79 315 eP **P** 14 53 25.8 +1.5
comp=Z,33nm,1.3s
VIVF Saint-Julien-l 72.82 312 eP **P** 14 53 26.3 +1.7
comp=Z,77nm,1.4s
VIVF Saint-Julien-l 72.82 312 eP **P** 14 53 26.3 +1.7
VIVF pmax pmax
comp=Z,77nm,1.4s
VIVF Saint-Julien-l 72.82 312 eP **P** 14 53 26.3 +1.7
comp=Z,77nm,1.4s
SMF Signal de Mont 72.95 314 eP **P** 14 53 26.9 +1.6
comp=Z,73nm,1.4s
SMF Signal de Mont 72.95 314 eP **P** 14 53 26.9 +1.6
SMF pmax pmax
comp=Z,73nm,1.4s
SMF Signal de Mont 72.95 314 eP **P** 14 53 26.9 +1.6
comp=Z,73nm,1.4s
SSF Saint Saulge 73.07 314 eP **P** 14 53 27.7 +1.7
comp=Z,48nm,1.1s
SSF Saint Saulge 73.07 314 eP **P** 14 53 27.7 +1.7
SSF pmax pmax
comp=Z,48nm,1.1s
SSF Saint Saulge 73.07 314 eP **P** 14 53 27.7 +1.7
comp=Z,48nm,1.1s
AVF Avril sur Loir 73.24 314 eP **P** 14 53 28.7 +1.8
comp=Z,62nm,1.3s
AVF Avril sur Loir 73.24 314 eP **P** 14 53 28.7 +1.8
AVF pmax pmax
comp=Z,62nm,1.3s
AVF Avril sur Loir 73.24 314 eP **P** 14 53 28.7 +1.8
comp=Z,62nm,1.3s
HYF Humbligny 73.59 315 eP **P** 14 53 31.5 +2.5
HYF Humbligny 73.59 315 eP **P** 14 53 31.5 +2.5
BGF Bois d'Agland 73.64 314 eP **P** 14 53 31.3 +2.0
comp=Z,20nm,1.0s
BGF Bois d'Agland 73.64 314 eP **P** 14 53 31.3 +2.0
BGF pmax pmax
comp=Z,20nm,1.0s
BGF Bois d'Agland 73.64 314 eP **P** 14 53 31.3 +2.0
comp=Z,20nm,1.0s
TCF Toulx Ste Croi 74.13 314 eP **P** 14 53 34.4 +2.1
comp=Z,99nm,1.4s
TCF Toulx Ste Croi 74.13 314 eP **P** 14 53 34.4 +2.1
TCF pmax pmax
comp=Z,99nm,1.4s
TCF Toulx Ste Croi 74.13 314 eP **P** 14 53 34.4 +2.1
comp=Z,99nm,1.4s
EIDS Eidsvold 74.36 126 eP **P** 14 53 32.9 -0.8
comp=Z,17nm,1.3s
CAF Calviac 74.59 313 eP **P** 14 53 36.1 +1.1
comp=Z,63nm,1.6s
CAF Calviac 74.59 313 eP **P** 14 53 36.1 +1.1
CAF pmax pmax
comp=Z,63nm,1.6s
CAF Calviac 74.59 313 eP **P** 14 53 36.1 +1.1
comp=Z,63nm,1.6s
LFF La Frestale 75.49 313 eP **P** 14 53 41.4 +1.3
comp=Z,141nm,1.6s
LFF La Frestale 75.49 313 eP **P** 14 53 41.4 +1.3
LFF pmax pmax
comp=Z,141nm,1.6s
LFF La Frestale 75.49 313 eP **P** 14 53 41.4 +1.3
comp=Z,141nm,1.6s
MFF Saint Martin d 75.61 315 eP **P** 14 53 42.5 +1.8
comp=Z,64nm,1.4s
MFF Saint Martin d 75.61 315 eP **P** 14 53 42.5 +1.8
MFF pmax pmax
comp=Z,64nm,1.4s
MFF Saint Martin d 75.61 315 eP **P** 14 53 42.5 +1.8
comp=Z,64nm,1.4s
TAM Tamanrasset 78.49 290 eP **P** 14 53 58.1 +0.5
TAM pmax pmax
comp=Z,16nm,1.3s
TAM Tamanrasset 78.49 290 eP **P** 14 53 58.1 +0.5
comp=Z,16nm,1.3s
LBTB Lobatse 79.44 238 eP **P** 14 54 03.9 +1.3
comp=Z,54nm,1.2s
IM04 Indian Mountai 79.46 22 eP **P** 14 54 02.0 0.0
BORG Borgarnes 79.60 336 LR LR 15 27 55.1
comp=Z,30nm,18.7s,baz=236,slow=35
COLD Coldfoot 80.00 20 eP **P** 14 54 05.4 +0.6
comp=Z,52nm,1.6s
ESDC Sonseca Array 80.48 309 P **P** 14 54 07.7 -0.3
ESDC Sonseca Array 80.48 309 P **P** 14 54 07.7 -0.3
comp=Z,6.0nm,1.0s,baz=51,slow=4.3,SNR=14
ESDC LR LR 15 37 49.1
comp=Z,88nm,18.5s,baz=310,slow=42
BOSA Boshof 81.52 235 eP **P** 14 54 15.4 +1.7
comp=Z,54nm,1.3s
BOSA Boshof 81.52 235 P **P** 14 54 12.6 -1.1
comp=Z,30nm,1.1s,baz=64,slow=6.9,SNR=10
BOSA LR LR 15 29 37.2
comp=Z,276nm,18.8s,baz=36,slow=35
PPLA Purkeypile 81.68 25 eP **P** 14 54 14.2 +0.2
comp=Z,35nm,1.3s
MVO Monte Corvo 82.11 311 eP **P** 14 54 19.1 +2.4
comp=Z,42nm,1.3s
COLA College 82.14 22 ⍰P **P** 14 54 16.0 -0.2
COLA College 82.14 22 eP **P** 14 54 16.2 0.0
comp=Z,50nm,1.4s
MCK McKinley 82.43 23 eP **P** 14 54 18.0 +0.2
MCK pmax pmax
comp=Z,57nm,1.2s
MCK McKinley 82.43 23 eP **P** 14 54 18.0 +0.2
comp=Z,57nm,1.2s
ILAR Eielson Array 82.53 22 P **P** 14 54 17.4 -0.9
ILAR Eielson Array 82.53 22 P **P** 14 54 17.4 -0.9
comp=Z,11nm,1.0s,baz=297,slow=4.3,SNR=65
ILAR LR LR 15 35 30.7
comp=Z,370nm,20.1s,baz=107,slow=39
PMRV Marv??o 83.03 310 eP **P** 14 54 23.7 +2.3
comp=Z,21nm,1.3s
PBAR Barrancos 83.26 308 eP **P** 14 54 24.7 +2.1
comp=Z,24nm,1.7s
PMR Palmer 83.59 25 eP **P** 14 54 23.6 -0.2
PMR pmax pmax
comp=Z,33nm,1.2s
PMR Palmer 83.59 25 eP **P** 14 54 23.6 -0.2
comp=Z,33nm,1.2s
RC01 Rabbit Creek A 83.64 25 eP **P** 14 54 23.7 -0.4
comp=Z,29nm,1.0s
PTOM Tomar 83.69 310 eP **P** 14 54 22.3 -2.4
comp=Z,48nm,1.5s
PVAQ Vaqueiros 84.05 308 eP P 14 54 30.3 +3.6
comp=Z,42nm,1.6s
INK Inuik 84.07 15 eP **P** 14 54 25.9 -0.2
comp=Z,32nm,1.1s
PAX Paxson 84.14 23 eP **P** 14 54 26.3 -0.4
PAX pmax pmax
comp=Z,15nm,1.1s
PAX Paxson 84.14 23 eP **P** 14 54 26.3 -0.4
comp=Z,15nm,1.1s
DOT Dot Lake 84.20 22 eP **P** 14 54 26.8 -0.1
comp=Z,6.8nm,0.8s
OHAK Old Harbor 84.26 30 eP **P** 14 54 26.9 -0.4
comp=Z,27nm,1.2s
MENT Mentasta 84.78 22 eP **P** 14 54 30.2 +0.3
DIV Divide 85.17 24 eP **P** 14 54 32.0 +0.1
comp=Z,17nm,0.8s
TORD Torodi Ar. Bea 85.24 282 P **P** 14 54 32.6 -0.4
TORD PP **PP** 14 57 51.3 +0.5
TORD Torodi Ar. Bea 85.24 282 P **P** 14 54 32.6 -0.4
comp=Z,6.3nm,1.0s,baz=69,slow=4.9,SNR=24
TORD PP **PP** 14 57 51.3 +0.5
comp=Z,5.5nm,1.1s,baz=65,slow=5.0,SNR=9.4
TORD LR LR 15 35 36.1
comp=Z,249nm,20.0s,baz=55,slow=38
HYT Haines Junctio 88.38 22 eP **P** 14 54 48.0 +0.4
MAW Mawson 91.89 191 LR LR 15 28 27.7
comp=Z,107nm,20.4s,baz=189,slow=30
YKA Yellowknife Ar 93.20 12 P **P** 14 55 09.3 -0.5
YKA PP **PP** 14 58 52.9 +0.3
YKA Yellowknife Ar 93.20 12 P **P** 14 55 09.3 -0.5
comp=Z,2.0nm,0.9s,baz=332,slow=4.7,SNR=18
YKA PP **PP** 14 58 52.9 +0.3
comp=Z,0.8nm,1.0s,baz=331,slow=8.0,SNR=5.4
DBIC Dimbokro 93.64 279 P **P** 14 55 12.7 -0.1
DBIC Dimbokro 93.64 279 P **P** 14 55 12.7 -0.1
comp=Z,6.6nm,0.9s,baz=45,slow=6.6,SNR=5.6
DBIC LR LR 15 43 10.1
comp=Z,178nm,18.5s,baz=49,slow=39
KIC Kosan Boka 93.65 278 eP **P** 14 55 12.4 -0.5
comp=Z,65nm,1.4s
TIC Toumodi 93.80 279 eP **P** 14 55 14.7 +1.1
comp=Z,4.3nm,0.2s
LIC Lato 93.96 278 eP **P** 14 55 15.0 +0.7
comp=Z,64nm,1.5s
LIC eR
comp=Z,148nm,20.5s
LIC Lamto 93.96 278 eP **P** 14 55 15.3 +1.0
comp=Z,56nm,1.5s
LIC Lamto 93.96 278 eP **P** 14 55 15.0 +0.7
comp=Z,64nm,1.5s
JCT Junction City 126.63 12 ePKIKP **PKPdf** 15 00 59.9 +0.2
JCT Junction City 126.63 12 ePKPdf **PKPdf** 15 00 59.9 +0.2
TXAR Lajitas Array 126.82 17 PKP **PKPdf** 15 01 00.5 +0.3
TXAR Lajitas Array 126.82 17 PKP **PKPdf** 15 01 00.5 +0.3
comp=Z,1.1nm,0.9s,baz=315,slow=0.3,SNR=8.8
PTGA Pitinga 145.28 304 ePKP **PKPbc** 15 01 34.1 -0.1
ROSC El Rosal 150.03 331 ePKPbc **PKPbc** 15 01 48.8 +1.1
ROSC El Rosal 150.03 331 PKPbc **PKPbc** 15 01 48.1 +0.3
comp=Z,21nm,0.9s,baz=104,slow=16,SNR=9.4
CPUP Villa Florida 151.52 255 PKP **PKPdf** 15 01 44.4 +0.2
CPUP PKPbc **PKPbc** 15 01 48.8 -1.6
CPUP Villa Florida 151.52 255 PKP **PKPdf** 15 01 44.4 +0.2
comp=Z,4.6nm,1.0s,baz=202,slow=3.7,SNR=2.3
CPUP PKPbc **PKPbc** 15 01 48.8 -1.6
comp=Z,4.4nm,0.9s,baz=127,slow=4.2,SNR=4.0
SAML Samuel 152.65 294 ePKPbc **PKPbc** 15 01 53.0 -0.2

*ISCJB **13** 15:02:54.0±0.6,34°.21N±0°.05×86°.2E±0°.2,h33km,mb3.1/2, Error ellipse: s-maj=20.2km s-min=6.5km az=1.7*
*IDC **13** 15:02:54.1±2.2,34°.24N×86°.43E,h0km,mb3.1/3, mb1 3.4/7,mb1mx3.3/30,mbtmp3.3/7,ML3.3/4,MS3.0/1, Ms1 3.0/1,ms1mx2.7/20,Error ellipse: s-maj=62.7km s-min=25.7km az=61.0*
ISC 13 15:02:56.7±1.1,34°.18N±0°.09×86°.3E±0°.2,h35km,n19, σ1§16/17,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DANN	**Dangsing**	**6.20**	**201**	*eP*		**Pn**	**15 04 26.0**	**0.0**
GUN	**Gumba**	**6.26**	**183**	*eP*		**Pn**	**15 04 26.6**	**-0.3**
	8.2nm,0.4s							
GKN	**Gorkha**	**6.32**	**193**	*eP*		**Pn**	**15 04 27.2**	**-0.3**
KKN	**Kakani**	**6.43**	**188**	*eP*		**Pn**	**15 04 29.3**	**+0.2**
	6.2nm,0.4s							
JIRN	**Jiri**	**6.50**	**181**	*eP*		**Pn**	**15 04 30.1**	**-0.1**
	12nm,0.5s							
PKIN	**Phulchoki**	**6.63**	**187**	*eP*		**Pn**	**15 04 32.2**	**+0.3**
	7.8nm,0.4s							
DMN	**Daman**	**6.63**	**189**	*eP*		**Pn**	**15 04 32.0**	**+0.1**
PKI	**Pulchoki**	**6.63**	**187**	*eP*		**Pn**	**15 04 32.3**	**+0.3**
	10nm,0.4s							
KOLN	**Koldanda**	**6.79**	**201**	*eP*		**Pn**	**15 04 33.4**	**-0.7**
TAPN	**Taplejung**	**6.92**	**169**	*eP*		**Pn**	**15 04 36.3**	**+0.4**
RAMN	**Ramite**	**7.21**	**178**	*eP*		**Pn**	**15 04 39.3**	**-0.6**
ODAN	**Odare**	**7.36**	**172**	*eP*		**Pn**	**15 04 42.6**	**+0.7**
	14nm,0.8s							
MKAR	**Makanchi Array**	**12.96**	**348**		Pn	**Pn**	**15 05 57.3**	**-1.0**
	0.1nm,0.3s,baz=164,slow=15,SNR=3.3							
MKAR					LR	LR	15 10 45.8	
	comp=Z,58nm,18.0s,baz=217,slow=36							
KURBB	**Kurchatov Arra**	**17.38**	**343**		Pn	**Pn**	**15 06 54.9**	**-1.5**
	0.1nm,0.3s,baz=163,slow=11,SNR=11							
CMAR	**Chiang Mai Arr**	**19.31**	**141**		P	**Pn**	**15 07 19.6**	**-0.4**
	0.1nm,0.3s,baz=322,slow=10.0,SNR=10.0							
ZALV	**Zalesovo Beam**	**19.79**	**357**		P	**Pn**	**15 07 23.5**	**-2.0**
	0.0nm,0.3s,baz=170,slow=9.9,SNR=5.6							
SONM	**Songino Array**	**20.32**	**42**		P	Pn	15 07 30.9	-1.1
	1.1nm,0.9s,baz=226,slow=9.9,SNR=6.5							
BVAR	**Borovoye Array**	**21.98**	**334**		P	**P**	**15 07 50.6**	**+3.1**
	0.5nm,0.7s,baz=137,slow=12,SNR=5.0							
YKA	**Yellowknife Ar**	**82.20**	**10**		P	P	15 15 17.1	+3.4
	0.2nm,0.8s,baz=339,slow=5.7,SNR=3.9							

MAN 13 15:10:31,17°.96N×120°.57E,h32km,mb3.8,ML2.6,MS2.2, Luzon

*IDC **13** 15:23:24.5±0.8,0°.53S×132°.94E,h0km,mb4.3/8, mb1 4.5/10,mb1mx4.2/22,mbtmp4.3/10,ML4.4/2,MS3.7/3, Ms1 3.7/3,ms1mx3.1/34,Error ellipse: s-maj=40.0km s-min=14.4km az=71.0*
*ISCJB **13** 15:23:27.9±0.3,0°.53S±0°.04×133°.08E±0°.05,h32km, mb4.5/20,MS4.1/5,Error ellipse: s-maj=6.8km s-min=5.3km az=152.6*
*BJI **13** 15:23:28.2,0°.60S×132°.80E,h35km,mB4.9/10,mb4.7/17, Ms4.8/7,Ms7 4.5/7*
*DJA **13** 15:23:30.1±0.4,1°.S±6°×13°.3E±°,h13km,M4.7/9,mb4.9/5, mB5.0/3,MLv4.7/9,Mw(mB)4.3/3*
*NEIC **13** 15:23:30.0±0.4,0°.56S×132°.82E,h35km,mb4.6/6,Error ellipse: s-maj=15.2km s-min=7.2km az=69.0*
*AUST **13** 15:23:33.0±11.0,1°.00S×132°.89E,h34km,Error ellipse: s-maj=3.4km s-min=1.5km az=3.0*
ISC 13 15:23:30.3±0.4,0°.59S±0°.05×132°.88E±0°.05,h32km,n78, σ1§56/86,mb4.7/20,MS4.2/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SWI	**Sorong**	**1.64**	**260**	P		**Pn**	**15 23 57.2**	**+0.2**
SWI				S		**Sb**	**15 24 20.6**	**+0.2**
FAKI	**Fak Fak**	**2.40**	**195**	P		**Pn**	**15 24 08.9**	**+1.4**
BAKI	**Biak**	**3.28**	**101**	P		**Pn**	**15 24 21.6**	**+2.0**
BAKI				S		**Sn**	**15 25 00.0**	**+2.4**
SRPI	**Serui, Papua**	**3.59**	**111**	P		**Pn**	**15 24 24.4**	**+0.5**
MSAI	**Masohi**	**4.81**	**235**	P		Pn	15 24 44.0	+3.4
BNDI	**Bandanaira**	**4.91**	**217**	P		**Pn**	**15 24 44.7**	**+2.7**
LBMI	**Labuha**	**5.38**	**269**	P		**Pn**	**15 24 49.1**	**+0.7**
	119nm,0.7s,1μm0.5nm							
TNTI	**Ternate**	**5.67**	**284**	P		Pn	15 24 56.0	+3.5
	50nm,1.0s,0.2nm							
NLAI	**Namlea**	**6.35**	**245**	P		**Pn**	**15 25 03.7**	**+1.9**
	69nm,0.6s,1μm0.3nm							
GTOI	**Gorontalo**	**9.94**	**277**	P		Pn	15 25 55.2	+4.1
	34nm,1.1s,559nm							
KDU	**Kakadu**	**12.03**	**182**	P		**Pn**	**15 26 18.1**	**-1.6**
	baz=12,SNR=37							
MTN	**Manton Dam**	**12.30**	**188**	P		**Pn**	**15 26 21.1**	**-2.3**
	baz=12,SNR=12							
PCI	**Palu**	**13.04**	**269**	P		P	15 26 51.1	+7.6
BKSI	**Bulukumba**	**13.58**	**249**	P		P	15 26 54.5	+5.1
LBFI	**Labuhan Bajo,**	**15.13**	**238**	P		P	15 27 17.2	+10
PMG	**Port Moresby**	**16.70**	**122**	P		**P**	**15 27 25.2**	**+1.1**
COEN	**Coen**	**16.74**	**143**	*eP*		**Pn**	**15 27 21.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.81**	**202**	*eP*		**P**	**15 27 46.5**	**-0.9**
FITZ				S		Sn	15 31 07.1	-11
FITZ	**Fitzroy Crossi**	**18.81**	**202**	P		**P**	**15 27 44.6**	**-2.8**
	0.5nm,0.3s,baz=33,slow=14,SNR=13							
FITZ				S		Sn	15 31 07.1	-11
	0.5nm,0.3s,baz=170,slow=17,SNR=4.3							
FITZ				LR		LR	15 35 25.1	
	comp=Z,129nm,19.6s,baz=22,slow=38							
FITZ	**Fitzroy Crossi**	**18.81**	**202**	P		**P**	**15 27 44.9**	**-2.4**
	baz=18,SNR=3.1							
WRAB	**Tennant Creek**	**19.28**	**176**	*eP*		**P**	**15 27 52.1**	**-0.5**
	15nm,0.6s							
WRA	**Warramunga Arr**	**19.29**	**176**	P		**P**	**15 27 51.8**	**-1.0**
WRA				S		Sn	15 31 17.7	-12
WRA	**Warramunga Arr**	**19.29**	**176**	P		**P**	**15 27 51.8**	**-1.0**
	1.7nm,0.3s,baz=356,slow=11,SNR=58							
WRA				S		Sn	15 31 17.7	-12
	0.5nm,0.3s,baz=356,slow=23,SNR=6.8							
QIS	**Mount Isa**	**20.91**	**162**	P		**P**	**15 28 09.6**	**-0.8**
	baz=21,SNR=13							
SJI	**Sawahan**	**22.21**	**251**	P		P	15 28 32.7	+8.3
AS31	**Alice Springs**	**22.96**	**178**	*eP*		**P**	**15 28 32.1**	**-0.1**
ASAR	**Alice Springs**	**22.97**	**178**	P		**P**	**15 28 31.7**	**-0.6**
ASAR				S		**S**	**15 32 41.7**	**+1.1**
ASAR	**Alice Springs**	**22.97**	**178**	P		**P**	**15 28 31.7**	**-0.6**
	6.8nm,0.4s,baz=358,slow=10.0,SNR=339							
ASAR				S		**S**	**15 32 41.7**	**+1.1**
	2.7nm,0.9s,baz=1.0,slow=17,SNR=6.0							
CTA	**Charters Tower**	**23.39**	**147**	P		**P**	**15 28 35.9**	**-0.7**
CTA	**Charters Tower**	**23.39**	**147**	P		**P**	**15 28 35.9**	**-0.7**
	21nm,0.9s,baz=322,slow=13,SNR=13							
CTAO	**Charters Tower**	**23.39**	**147**	*eP*		**P**	**15 28 36.9**	**+0.3**
	28nm,1.0s							
BJII	**Banjamegara**	**24.05**	**253**	P		**P**	**15 28 46.9**	**+3.9**
MBWA	**Marble Bar**	**24.14**	**211**	*eP*		**P**	**15 28 44.7**	**+1.0**
	50nm,1.2s							
TGJI	**Tegal**	**24.50**	**255**	P		**P**	**15 28 49.8**	**+2.7**
WRKA	**Warakurna**	**24.71**	**190**	P		**P**	**15 28 49.1**	**+0.3**
	baz=24,SNR=15							
KPJI	**Karang Pucung**	**24.80**	**254**	P		**P**	**15 28 52.1**	**+2.4**
CISI	**Cisompet, Garu**	**25.93**	**254**	P		**P**	**15 29 01.8**	**+1.8**
CISI	**Cisompet, Garu**	**25.93**	**254**	P		**P**	**15 29 01.2**	**+1.2**
	baz=26,SNR=5.2							
QLP	**Quilpie**	**28.06**	**158**	P		**P**	**15 29 18.4**	**-0.7**
	baz=28,SNR=8.2							
STKA	**Stephens Creek**	**32.20**	**166**	*eP*		**P**	**15 29 54.3**	**-1.2**
	4.5nm,1.0s							
STKA	**Stephens Creek**	**32.20**	**166**	P		**P**	**15 29 54.7**	**-0.8**
	13nm,0.7s,baz=339,slow=7.8,SNR=31							
STKA	**Stephens Creek**	**32.20**	**166**	P		**P**	**15 29 54.5**	**-1.1**
	baz=32,SNR=26							
MORW	**Morawa**	**32.57**	**208**	P		**P**	**15 29 59.3**	**+0.5**
	baz=32,SNR=3.5							
BLDU	**Ballidu**	**33.58**	**206**	P		**P**	**15 30 07.7**	**0.0**
	baz=33,SNR=6.2							
ARMA	**Armidale**	**34.61**	**151**	P		**P**	**15 30 16.8**	**+0.1**
	baz=34,SNR=7.1							
NJ2	**Nanjing**	**35.07**	**339**	*eP*		**P**	**15 30 20.6**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
GYA	**Guiyang**	**36.90**	**319**	*eP*		**P**	**15 30 36.9**	**+0.4**
GYA				pP		**pP**	**15 30 46.8**	**+1.0**
GYA				PP		**PnPn**	**15 32 02.5**	**+1.3**
GYA				PcP		**PcP**	**15 32 57.0**	**-0.8**
GYA				S		**S**	**15 36 17.8**	**-1.7**
GYA				sS		**sS**	**15 36 32.0**	**-3.0**
GYA				ScP		**ScP**	**15 36 40.9**	**-1.6**
GYA				ScS		**ScS**	**15 40 45.8**	**-4.1**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,90nm,4.8s							
GYA				LR		LR		
	comp=N,440nm,17.5s							
GYA				LR		LR		
	comp=E,380nm,18.3s							
GYA				LR		LR		
	comp=Z,390nm,17.0s							
ARPS	**Mount Arapiles**	**36.95**	**168**	P		**P**	**15 30 36.4**	**-0.1**
	baz=37,SNR=13							
KSRS	**Korea Array**	**38.13**	**354**	LR		LR	15 46 05.2	
	comp=Z,68nm,18.2s,baz=180,slow=36							
H11S3	**WAKE ISLAND Hy**	**38.25**	**59**	T		T	16 11 12.4	
	baz=251							
H11S2	**WAKE ISLAND Hy**	**38.27**	**59**	T		T	16 11 17.4	
	baz=251,slow=75							
H11S1	**WAKE ISLAND Hy**	**38.27**	**59**	T		T	16 11 15.8	
	baz=251,slow=75							
CMAR	**Chiang Mai Arr**	**38.35**	**301**	P		**P**	**15 30 48.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**38.35**	**301**	P		**P**	**15 30 48.2**	**-0.4**
	1.7nm,1.0s,baz=127,slow=7.0,SNR=18							
KMI	**Kunming**	**38.77**	**313**	P		**P**	**15 30 54.0**	**+1.5**
KMI				pmax		pmax		
	comp=Z,9.0nm,1.2s							
H11N1	**WAKE ISLAND Hy**	**38.97**	**57**	T		T	16 12 04.3	
	baz=246,slow=75,SNR=579							
H11N2	**WAKE ISLAND Hy**	**38.98**	**57**	T		T	16 12 05.0	
	baz=246,slow=75,SNR=1430							
H11N3	**WAKE ISLAND Hy**	**38.99**	**57**	T		T	16 12 05.4	
	baz=246,slow=75,SNR=687							
CD2	**Chengdu**	**41.79**	**321**	*eP*		**P**	**15 31 17.8**	**+0.7**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CD2				pmax		pmax		
	comp=Z,120nm,5.2s							
LZH	**Lanzhou**	**45.39**	**326**	*eP*		**P**	**15 31 47.6**	**+1.4**
LZH				PP		**PP**	**15 33 35.3**	**+2.4**
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
LZH				pmax		pmax		
	comp=Z,65nm,5.4s							
LZH				LR		LR		
	comp=N,320nm,14.5s							
LZH				LR		LR		
	comp=E,330nm,14.0s							
LZH				LR		LR		
	comp=Z,400nm,18.3s							
HHC	**Hu-ho-hao-te**	**45.57**	**337**	*eP*		**P**	**15 31 47.6**	**+0.1**
HHC				pP		**pP**	**15 31 58.0**	**+1.0**
HHC				PP		**PP**	**15 33 36.3**	**+1.7**

HHC				S	**S**	**15 38 28.3**	**+0.5**
HHC				sS	**sS**	**15 38 45.1**	**+1.6**
HHC				ScS	**ScS**	**15 41 39.4**	**-2.3**
HHC				SS	SS	15 41 44.4	-7.8
HHC				pmax	pmax		
	comp=Z,33nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,4.5s						
HHC				LR	LR		
	comp=N,260nm,15.7s						
HHC				LR	LR		
	comp=E,190nm,15.9s						
HHC				LR	LR		
	comp=Z,180nm,15.6s						
SONM	**Songino Array**	**53.45**	**338**	P	**P**	**15 32 46.6**	**-0.9**
SONM	**Songino Array**	**53.45**	**338**	P	**P**	**15 32 46.6**	**-0.9**
	0.3nm,0.5s,baz=169,slow=9.8,SNR=3.1						
RPZ	**Rata Peaks**	**54.76**	**147**	LR	LR	15 57 32.2	
	comp=Z,141nm,19.4s,baz=177,slow=37						
WMQ	**Urumqi**	**59.79**	**324**	P	**P**	**15 33 33.5**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,12nm,1.0s						
MK31	**Makanchi Array**	**64.61**	**324**	*e*P	**P**	**15 34 03.8**	**-1.0**
MKAR	**Makanchi Array**	**64.61**	**324**	P	**P**	**15 34 04.2**	**-0.6**
MKAR	**Makanchi Array**	**64.61**	**324**	P	**P**	**15 34 04.2**	**-0.6**
	0.9nm,0.5s,baz=116,slow=8.5,SNR=14						
KSH	**Kashi**	**65.42**	**315**	P	**P**	**15 34 11.0**	**+0.6**
KSH				pP	**pP**	**15 34 21.1**	**+0.8**
KSH				sP	**sP**	**15 34 25.1**	**+1.1**
KSH				PP	**PP**	**15 36 37.1**	**+2.5**
KSH				S	**S**	**15 42 52.0**	**-1.0**
KSH				sS	**sS**	**15 43 11.3**	**+2.0**
KSH				ScS	**SKSac**	**15 44 00.0**	**-3.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,59nm,5.5s						
KSH				LR	LR		
	comp=N,91nm,4.1s						
KSH				LR	LR		
	comp=E,170nm,5.5s						
KSH				LR	LR		
	comp=Z,170nm,5.2s						
ZALV	**Zalesovo Beam**	**67.24**	**332**	P	**P**	**15 34 19.9**	**-1.7**
ZALV	**Zalesovo Beam**	**67.24**	**332**	P	**P**	**15 34 19.9**	**-1.7**
	1.1nm,0.7s,baz=122,slow=7.2,SNR=7.2						
KURK	**Kurchatov**	**68.69**	**326**	*e*P	**P**	**15 34 29.7**	**-0.9**
BRVK	**Borovoye**	**74.35**	**326**	*e*P	**P**	**15 35 03.8**	**-1.0**
	5.5nm,1.0s						
COLD	**Coldfoot**	**85.48**	**22**	*e*P	**P**	**15 36 03.2**	**-1.5**
	2.7nm,0.5s						
ILAR	**Eielson Array**	**86.36**	**25**	P	**P**	**15 36 07.5**	**-1.7**
ILAR	**Eielson Array**	**86.36**	**25**	P	**P**	**15 36 07.5**	**-1.7**
	0.5nm,1.1s,baz=244,slow=4.7,SNR=4.3						
ARCES	**ARCESS Array B**	**96.58**	**340**	P	**P**	**15 36 55.1**	**-1.5**
ARCES	**ARCESS Array B**	**96.58**	**340**	P	**P**	**15 36 55.1**	**-1.5**
	3.1nm,0.9s,baz=71,slow=7.9,SNR=3.7						

ISCJB ***13*** *15:47:13.9±0.5, 34°.59N±0°.08×137°.2E±0°.1, h329km±4km, mb3.3/7, Error ellipse: s-maj=15.1km s-min=11.7km az=38.7*
JMA ***13*** *15:47:14.5±0.4, 34°.56N×137°.19E, h326km±4km, M3.0*
IDC ***13*** *15:47:14.5±0.9, 34°.62N×137°.42E, h327km±16km, mb3.1/7, mb1 3.2/8, mb1mx3.0/26, mbtmp3.0/8, Error ellipse: s-maj=50.7km s-min=14.3km az=70.0*

ISC 13 15:47:14.6±0.9, 34°.6N±0°.1×137°.20E±0°.09, h323km±6km, n23, σ0 96/28, mb3.3/7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.08**	**325**	P	**Pn**	**15 47 55.9**	**+0.7**
JIE	**Ise**	**0.44**	**246**	P	**Pn**	**15 47 56.1**	**+0.4**
HMMJ	**Hamamatsu 2**	**0.52**	**56**	P	**Pn**	**15 47 56.3**	**+0.5**
JHMK	**Hamakita**	**0.52**	**62**	P	**Pn**	**15 47 56.1**	**+0.4**
TK02	**Tokai 2**	**0.78**	**143**	P	**Pn**	**15 47 57.5**	**+1.1**
JKN2	**Miekihoku**	**0.83**	**247**	P	**Pn**	**15 47 57.0**	**+0.2**
JNY	**Yasuok**	**0.96**	**35**	S	**S**	**15 48 31.6**	**+0.2**
JGM	**Miyama**	**1.19**	**341**	P	**Pn**	**15 48 00.1**	**+1.8**
JGM				S	**S**	**15 48 32.8**	**-0.5**
JYN	**Shimob**	**1.44**	**50**	P	**Pn**	**15 48 00.3**	**+0.6**
JWZ	**Kozaga**	**1.61**	**230**	P	**Pn**	**15 48 00.4**	**-0.4**
JWT	**Wachi**	**1.64**	**296**	P	**Pn**	**15 48 00.7**	**-0.1**
JWT				S	**S**	**15 48 36.3**	**-1.5**
JOD2	**Odawara 2**	**1.70**	**65**	P	**Pn**	**15 48 01.9**	**+0.6**
JRY	**Ryogami san**	**2.01**	**44**	P	**Pn**	**15 48 04.2**	**+0.8**
JRY				S	**S**	**15 48 42.8**	**+0.3**
MAT	**Matsushiro**	**2.13**	**22**	S	**S**	**15 48 44.2**	**0.0**
MJAR	**Matsushiro Arr**	**2.13**	**22**	P	**Pn**	**15 48 05.1**	**+0.7**
	1.0nm,0.3s,baz=188,slow=10.0,SNR=14						
MJAR				S	**S**	**15 48 43.5**	**-0.8**
	0.6nm,0.3s,baz=191,slow=14,SNR=5.9						
JAG	**Ashikaga**	**2.61**	**44**	P	**Pn**	**15 48 07.7**	**-0.6**
JAG				S	**S**	**15 48 48.4**	**-3.0**
SONM	**Songino Array**	**26.50**	**309**	P	**P**	**15 52 24.3**	**+1.0**
	0.5nm,0.5s,baz=116,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**42.58**	**304**	P	**P**	**15 54 39.8**	**+0.3**
	0.6nm,0.5s,baz=85,slow=9.9,SNR=14						
WRA	**Warramunga Arr**	**54.28**	**183**	P	**P**	**15 56 07.9**	**-0.3**
	1.0nm,0.3s,baz=0.2,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**58.00**	**184**	P	**P**	**15 56 34.4**	**+0.1**
	0.2nm,0.4s,baz=356,slow=4.1,SNR=7.4						
ARCES	**ARCESS Array B**	**65.07**	**339**	P	**P**	**15 57 20.5**	**-0.1**
	2.2nm,0.8s,baz=40,slow=6.4,SNR=3.8						
AKASG	**Malin Array Be**	**74.10**	**321**	P	**P**	**15 58 14.9**	**-0.8**
	0.3nm,0.4s,baz=46,slow=6.1,SNR=4.7						
GERES	**GERESS Array B**	**82.92**	**326**	P	**P**	**15 59 04.0**	**+0.3**
	0.3nm,0.6s,baz=62,slow=4.8,SNR=3.3						

IDC 13 15:47:27.5±7.5, 32°.23S×179°.42E, h362km±45km, mb3.5/4, mb1 3.6/5, mb1mx3.3/18, mbtmp3.4/5, Error ellipse: s-maj=93.5km s-min=19.3km az=48.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.30**	**197**	P	Pn	15 49 02.6	+0.5
	0.8nm,0.3s,baz=347,slow=12,SNR=14						
URZ				S	S	15 50 18.7	-0.2
	2.6nm,0.3s,baz=89,slow=22,SNR=18						
ASAR	**Alice Springs**	**40.85**	**270**	P	P	15 54 36.0	+0.3
	0.3nm,0.4s,baz=107,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**42.02**	**276**	P	P	15 54 44.5	-0.5
	0.8nm,0.3s,baz=111,slow=8.1,SNR=13						
QSPA	**South Pole Qui**	**57.88**	**180**	P	P	15 56 42.5	0.0
	2.3nm,0.4s,baz=330,slow=1.1,SNR=16						
MAW	**Mawson**	**69.81**	**201**	P	P	15 57 59.0	-0.2
	8.3nm,0.4s,baz=196,slow=7.4,SNR=15						

BGS ***13*** *16:03:57.0±1.9, 41°.19N×94°.48E, h10km, mb5.2*
LDG ***13*** *16:03:58.6±0.2, 41°.71N×94°.22E, h10km, Mb5.3/41, Ms4.0/10, Error ellipse: s-maj=9.4km s-min=6.0km az=103.0*
BJI ***13*** *16:03:58.5, 41°.89N×94°.50E, h5km, mB4.8/33, mb4.9/46, ML5.3/10, Ms4.8/55, Ms7 4.7/49*
ISCJB ***13*** *16:03:59.3±0.1, 41°.78N±0°.02×94°.26E±0°.02, h10km, mb5.2/241, MS4.1/41, Error ellipse: s-maj=2.6km s-min=1.9km az=20.6*
IDC ***13*** *16:03:59.1±0.3, 41°.77N×94°.43E, h0km, mb4.9/39, mb1 5.0/44, mb1mx5.0/44, mbtmp4.9/44, ML4.8/5, MS3.9/25, Ms1 3.9/25, ms1mx3.8/51, Error ellipse: s-maj=11.6km s-min=8.4km az=37.0*
NEIC ***13*** *16:04:00.6±0.1, 41°.72N×94°.32E, h10km, mb5.4/128, Error ellipse: s-maj=2.8km s-min=2.7km az=84.0*
NEIC Felt at Jiuquan.
TEH ***13*** *16:04:01.0, 41°.82N×94°.23E, h10km, ML5.2*
SZGRF ***13*** *16:04:01.4, 41°.27N×94°.99E, h33km, mb5.4, MS4.2, Southern Xinjiang, China*
BKK ***13*** *16:04:02.8±0.3, 42°.N±5°×9°.4E±°, h10km, M5.2/24, mB5.6/10, mb5.2/24, Mw(mB)5.1/10*
MOS ***13*** *16:04:02.5±0.9, 41°.81N×94°.32E, h33km, mb5.5/82, MS4.2/14, Error ellipse: s-maj=6.1km s-min=3.8km az=125.7*
NNC ***13*** *16:04:06.5±1.5, 42°.14N×93°.45E, h0km, mb5.2, Error ellipse: s-maj=31.8km s-min=15.9km az=29.0*

ISC 13 16:04:01.9±0.5, 41°.83N±0°.03×94°.26E±0°.03, h16km±2km, n842, σ1 922/905, mb5.2/250, MS4.1/42, 154C-38D,

Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.87**	**118**	Pn	**Pn**	**16 05 14.3**	**-0.3**
GTA				Pg	**Pb**	**16 05 25.6**	**-1.3**
GTA				Sn	**Sn**	**16 06 08.8**	**-1.9**
GTA				Sg	**Sb**	**16 06 27.0**	**+1.8**
GTA				smax	smax		
	comp=N,5μm,1.0s						
GTA				smax	smax		
	comp=E,4μm,1.3s						
GTA				LR	LR		
	comp=N,5μm,6.2s						
GTA				LR	LR		
	comp=E,6μm,6.6s						
GTA				LR	LR		
	comp=Z,5μm,9.3s						
WMQ	**Urumqi**	**5.22**	**295**	Pn	**Pn**	**16 05 21.4**	**+2.0**
WMQ				Sg	**Sg**	**16 06 45.0**	**-4.5**
WMQ				smax	smax		
	comp=N,5μm,0.7s						
WMQ				smax	smax		
	comp=E,6μm,0.7s						
LZH	**Lanzhou**	**9.41**	**124**	*e*P	**Pn**	**16 06 16.9**	**0.0**
LZH				sP		16 06 18.8	
LZH				PP	**PnPn**	**16 06 25.0**	**+0.6**
LZH				*e*S	**Sn**	**16 08 03.3**	**+0.8**
LZH				sS		16 08 07.4	
LZH				SS	**SnSn**	**16 08 15.5**	**+1.6**
LZH				pmax	pmax		
	comp=Z,69nm,1.0s						
LZH				pmax	pmax		
	comp=Z,240nm,4.0s						
LZH				LR	LR		
	comp=N,4μm,9.0s						
LZH				LR	LR		
	comp=E,4μm,8.5s						
LZH				LR	LR		
	comp=Z,5μm,10.3s						
MK31	**Makanchi Array**	**9.91**	**304**	*e*P	**Pn**	**16 06 23.5**	**-0.1**
MK31	**Makanchi Array**	**9.91**	**304**	*e*Pn	**Pn**	**16 06 23.4**	**-0.1**
MK31	**Makanchi Array**	**9.91**	**304**	⇑Pn	**Pn**	**16 06 23.6**	**0.0**
	11nm,0.4s,baz=112,slow=15,SNR=571						
MK31				⇑Sn	**Sn**	**16 08 11.1**	**-3.3**
	90nm,0.7s,baz=117,slow=22						
MK31				⇓Lg	Lg	16 09 04.8	
	536nm,1.1s,baz=110,slow=21						
MKAR	**Makanchi Array**	**9.91**	**304**	P	**Pn**	**16 06 23.5**	**-0.1**
MKAR						16 08 14.4	
MKAR	**Makanchi Array**	**9.91**	**304**	Pn	**Pn**	**16 06 23.5**	**-0.1**
MKAR				Sn	**Sn**	**16 08 14.4**	**0.0**
MKAR				Lg	Lg	16 09 10.2	
	3.8nm,0.3s,baz=237,slow=14,SNR=187						
SONM				Lg	Lg	16 09 24.8	
	29nm,0.3s,baz=240,slow=30,SNR=9.4						
SONM				LR	LR	16 10 49.0	
	comp=Z,2μm,21.1s,baz=76,slow=39						
ZAK	**Zakamensk**	**10.60**	**33**	*e*P	**Pn**	**16 06 34.0**	**+0.9**
ZAK				*e*S	**Sn**	**16 08 30.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,84nm,1.2s						
ZAK				smax	smax		
	comp=E,3μm,1.3s						
MOY	**Mondy**	**10.87**	**23**	*e*P	**Pn**	**16 06 38.0**	**+1.2**
MOY				*e*S	**Sn**	**16 08 38.3**	**+0.2**
MOY				pmax	pmax		
	comp=Z,89nm,1.4s						
MOY				smax	smax		
	comp=E,2μm,1.0s						
ULN	**Ulaanbaatar**	**10.90**	**52**	*e*Pn	**Pn**	**16 06 36.1**	**-1.2**
	comp=E,50nm,0.6s						
TLY	**Talaya**	**11.76**	**30**	*e*P	**Pn**	**16 06 47.0**	**-1.9**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,1μm,8.0s						
BTO	**Baotou**	**11.94**	**91**	*e*P	Pn	16 06 47.6	-3.9
BTO				LR	LR		
	comp=Z,1μm,4.0s						
BTO				LR	LR		
	comp=Z,470nm,2.3s						
LSA	**Lhasa**	**12.36**	**193**	P	Pn	16 06 46.5	-11
LSA				S	Sn	16 10 10.3	+55
LSA				LR	LR		
	comp=N,2μm,12.9s						
LSA				LR	LR		
	comp=E,1μm,9.9s						
LSA	**Lhasa**	**12.36**	**193**	*e*P	Pn	16 06 46.5	-11
LSA				pmax	pmax		
	comp=Z,56nm,0.9s						
LSA	**Lhasa**	**12.36**	**193**	*e*P	Pn	16 06 46.5	-11
	comp=Z,56nm,0.9s						
LSA				*e*		16 06 59.1	
IRK	**Irkutsk**	**12.45**	**30**	*e*P	Pn	16 07 02.9	+4.6
IRK				pmax	pmax		
	comp=Z,150nm,1.5s						
KNDC	**Almaty**	**12.84**	**282**	⇓Pn	**Pn**	**16 07 01.1**	**-2.6**
	comp=Z,69nm,0.5s						
KNDC				⇑Sn	Sn	16 09 19.4	-6.8
	comp=Z,98nm,0.7s						
KNDC				⇑Lg	Lg	16 10 33.0	
	comp=Z,350nm,1.2s						
AAA	**Alma-Ata**	**12.85**	**282**	*i* P	**Pn**	**16 07 04.0**	**+0.1**
AAA				*i* S	**Sn**	**16 09 28.5**	**+2.0**
AAA				pmax	pmax		
	comp=Z,100nm,0.6s						
AAA				smax	smax		
	comp=N,200nm,1.2s						
AAA				MLR	MLR		
	comp=Z,2μm,7.0s						
HHC	**Hu-ho-hao-te**	**13.05**	**89**	*e*P	**Pn**	**16 07 04.8**	**-1.8**
HHC				pP	pP	16 07 08.5	
HHC				sP		16 07 11.3	
HHC				PP	**PnPn**	**16 07 15.3**	**+1.0**
HHC				S	**Sn**	**16 09 30.1**	**-1.3**
HHC				pmax	pmax		
	comp=Z,61nm,0.5s						
HHC				pmax	pmax		
	comp=Z,340nm,4.2s						
HHC				LR	LR		
	comp=Z,3μm,6.8s						
HHC				LR	LR		
	comp=Z,4μm,7.5s						
HHC				LR	LR		
	comp=Z,3μm,7.1s						
CD2	**Chengdu**	**13.30**	**142**	P	**Pn**	**16 07 10.3**	**+0.2**
CD2				pP	pP	16 07 13.5	
CD2				sP		16 07 17.0	
CD2				PP	**P**	**16 07 21.0**	**+1.2**
CD2				S	**Sn**	**16 09 39.3**	**+1.6**
CD2				sS	sS	16 09 43.8	
CD2				SS	**SnSn**	**16 09 54.5**	**+4.6**
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				pmax	pmax		
	comp=Z,90nm,4.8s						
CD2				LR	LR		
	comp=Z,2μm,7.3s						
CD2				LR	LR		
	comp=Z,2μm,7.8s						
CD2				LR	LR		
	comp=Z,3μm,7.6s						
ULHL	**Ulahol**	**13.40**	**278**	*i* P	**Pn**	**16 07 11.0**	**-0.5**
ULHL	**Ulahol**	**13.40**	**278**	P	**Pn**	**16 07 11.1**	**-0.5**
	SNR=11						
ZAA0	**Zalesovo Array**	**13.66**	**336**	*e*P	**Pn**	**16 07 15.4**	**+0.5**
ZALV	**Zalesovo Beam**	**13.66**	**336**	P	**Pn**	**16 07 15.5**	**+0.6**
ZALV	**Zalesovo Beam**	**13.66**	**336**	Pn	**Pn**	**16 07 15.4**	**+0.6**
ZALV				Lg	Lg	16 11 00.9	
ZALV	**Zalesovo Beam**	**13.66**	**336**	Pn	**Pn**	**16 07 15.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=150,slow=12,SNR=38						
ZALV				Lg	Lg	16 11 00.9	
	comp=Z,0.6nm,0.3s,baz=170,slow=25,SNR=3.9						
ZALV				LR	LR	16 12 29.7	
	comp=Z,684nm,18.2s,baz=138,slow=37						
TKM2	**Tokmak 2**	**13.84**	**281**	*i* P	**Pn**	**16 07 17.2**	**-0.3**
	SNR=13						
TKM2	**Tokmak 2**	**13.84**	**281**	⇓P	**Pn**	**16 07 16.3**	**-1.3**
	comp=Z,55nm,0.6s						
XAN	**Xi'an**	**13.93**	**119**	P	**P**	**16 07 26.0**	**-0.7**
XAN				PP	PnPn	16 07 37.1	+11
XAN				S	S	16 10 06.0	-8.7
XAN				SS	SnSn	16 10 24.0	+19
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,27nm,5.3s						
XAN				LR	LR		
	comp=N,830nm,10.0s						
XAN				LR	LR		
	comp=E,450nm,9.9s						
XAN				LR	LR		
	comp=Z,500nm,10.1s						
KURBB	**Kurchatov Arra**	**13.97**	**314**	Pn	**Pn**	**16 07 17.6**	**-1.4**
	comp=Z,4.3nm,0.3s,baz=118,slow=14,SNR=62						
KURBB				Lg	Lg	16 11 22.3	
	comp=Z,2.0nm,0.3s,baz=128,slow=30,SNR=3.9						
KURBB	**Kurchatov Arra**	**13.97**	**314**	⇓P	**Pn**	**16 07 17.7**	**-1.4**
	comp=Z,73nm,0.6s						
KURK	**Kurchatov**	**13.98**	**315**	P	**Pn**	**16 07 17.7**	**-1.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KURK	**Kurchatov**	**13.98**	**315**	*e*Pn	**Pn**	**16 07 17.0**	**-2.1**
	comp=Z,56nm,0.7s						
KURK				Lg	Lg	16 11 22.3	
KURK	**Kurchatov**	**13.98**	**315**	Pn	**Pn**	**16 07 17.3**	**-1.8**
	comp=Z,904nm,0.5s,SNR=35						
KURK	**Kurchatov**	**13.98**	**315**	⇑P	**Pn**	**16 07 17.5**	**-1.7**
	comp=Z,52nm,0.7s						
KSH	**Kashi**	**14.07**	**267**	P	P	16 07 25.0	-3.3
KSH				pP	pP	16 07 33.0	
KSH				PP	PnPn	16 07 37.1	+8.7
KSH				sP		16 07 38.3	
KSH				S	Sn	16 10 04.3	+7.9
KSH				sS	**S**	**16 10 16.1**	**-1.6**
KSH				pmax	pmax		
	comp=Z,110nm,0.7s						
KSH				LR	LR		
	comp=Z,2μm,4.6s						
KZA	**Kyzart**	**14.15**	**277**	*i* P	**Pn**	**16 07 22.2**	**+0.2**
KZA	**Kyzart**	**14.15**	**277**	P	**Pn**	**16 07 22.2**	**+0.2**
	SNR=66						
KBK	**Karagaybulak**	**14.33**	**280**	*i* P	**Pn**	**16 07 23.0**	**-1.2**
KBK	**Karagaybulak**	**14.33**	**280**	P	**Pn**	**16 07 23.0**	**-1.2**
	SNR=68						
CHMS	**Chumysh**	**14.46**	**281**	*i* P	**Pn**	**16 07 24.3**	**-1.6**
CHMS	**Chumysh**	**14.46**	**281**	P	**Pn**	**16 07 24.3**	**-1.6**
	SNR=10						
FRU	**Bishkek**	**14.57**	**281**	*i* P	**Pn**	**16 07 25.0**	**-2.3**
FRU				*e*S	**Sn**	**16 10 14.0**	**+5.6**
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
FRU				smax	smax		
	comp=E,1μm,2.1s						
USP	**Ospenovka**	**14.64**	**282**	*i* P	**Pn**	**16 07 26.9**	**-1.4**
USP	**Ospenovka**	**14.64**	**282**	P	**Pn**	**16 07 26.9**	**-1.4**
	SNR=20						
AAK	**Ala-Archa**	**14.67**	**280**	*i* P	**Pn**	**16 07 26.7**	**-2.1**
AAK	**Ala-Archa**	**14.67**	**280**	P	**Pn**	**16 07 26.7**	**-2.1**
	SNR=37						
AAK	**Ala-Archa**	**14.67**	**280**	Pn	**Pn**	**16 07 27.0**	**-1.8**
	comp=E,320nm,0.6s,SNR=40						
UCH	**Uchtor**	**14.68**	**278**	*i* P	**Pn**	**16 07 28.8**	**-0.5**
UCH	**Uchtor**	**14.68**	**278**	P	**Pn**	**16 07 28.8**	**-0.5**
	SNR=128						
NVS	**Novosibirsk**	**14.92**	**335**	⇑*i* P	**Pn**	**16 07 32.3**	**+0.4**
NVS				*e*S	Sn	16 10 25.3	+8.6
EKS2	**Erkin-Say**	**15.19**	**280**	*i* P	**Pn**	**16 07 34.0**	**-1.8**
EKS2	**Erkin-Say**	**15.19**	**280**	P	**Pn**	**16 07 34.0**	**-1.8**
	SNR=14						
AML	**Almayashu**	**15.30**	**278**	*i* P	**Pn**	**16 07 37.6**	**+0.1**
AML	**Almayashu**	**15.30**	**278**	P	**Pn**	**16 07 37.6**	**+0.1**
	SNR=23						
TAPN	**Taplejung**	**15.41**	**202**	*e*P	**Pn**	**16 07 36.5**	**-2.4**
	comp=E,126nm,0.5s						
TAPN	**Taplejung**	**15.41**	**202**	*e*P	**Pn**	**16 07 36.5**	**-2.4**
	comp=E,126nm,0.5s						
GUN	**Gumba**	**15.48**	**209**	*e*P	**Pn**	**16 07 38.8**	**-1.1**
GUN	**Gumba**	**15.48**	**209**	*e*P	**Pn**	**16 07 38.8**	**-1.1**
JIRN	**Jiri**	**15.60**	**208**	*e*P	**Pn**	**16 07 40.1**	**-1.3**
	comp=E,344nm,0.7s						
JIRN	**Jiri**	**15.60**	**208**	*e*P	**Pn**	**16 07 40.1**	**-1.3**
	comp=E,344nm,0.7s						
KKN	**Kakani**	**15.81**	**210**	*e*P	**Pn**	**16 07 43.0**	**-1.0**
	comp=E,198nm,0.6s						
KKN	**Kakani**	**15.81**	**210**	*e*P	**Pn**	**16 07 43.0**	**-1.0**
KKN				pmax	pmax		
	comp=Z,198nm,0.6s						
KKN	**Kakani**	**15.81**	**210**	*e*P	**Pn**	**16 07 43.0**	**-1.0**
	comp=Z,198nm,0.6s						
GKN	**Gorkha**	**15.87**	**213**	*e*P	**Pn**	**16 07 42.6**	**-2.2**
GKN	**Gorkha**	**15.87**	**213**	*e*P	**Pn**	**16 07 42.6**	**-2.2**
DANN	**Dangsing**	**15.94**	**216**	*e*P	**Pn**	**16 07 44.1**	**-1.6**
DANN	**Dangsing**	**15.94**	**216**	*e*P	**Pn**	**16 07 44.1**	**-1.6**
PKI	**Pulchoki**	**15.96**	**210**	*e*P	**Pn**	**16 07 43.8**	**-2.3**
	comp=Z,209nm,0.8s						
PKI	**Pulchoki**	**15.96**	**210**	*e*P	**Pn**	**16 07 44.6**	**-1.5**
PKI				pmax	pmax		
	comp=Z,94nm,0.5s						
PKI	**Pulchoki**	**15.96**	**210**	*e*P	**Pn**	**16 07 44.6**	**-1.5**
	comp=Z,94nm,0.5s						
PKIN	**Phulchoki**	**15.96**	**210**	*e*P	**Pn**	**16 07 44.6**	**-1.4**
	comp=Z,94nm,0.5s						
ODAN	**Odare**	**15.96**	**203**	*e*P	**Pn**	**16 07 43.0**	**-3.0**
	comp=Z,388nm,0.7s						
ODAN	**Odare**	**15.96**	**203**	*e*P	**Pn**	**16 07 43.0**	**-3.0**
	comp=Z,388nm,0.7s						
DMN	**Daman**	**16.04**	**211**	*e*P	**Pn**	**16 07 45.3**	**-1.7**
DMN	**Daman**	**16.04**	**211**	*e*P	**Pn**	**16 07 45.3**	**-1.7**
RAMN	**Ramite**	**16.12**	**205**	*e*P	**Pn**	**16 07 45.2**	**-2.8**
	comp=Z,128nm,0.5s						
RAMN	**Ramite**	**16.12**	**205**	*e*P	**Pn**	**16 07 45.2**	**-2.8**
	comp=Z,128nm,0.5s						
SHL	**Shillong**	**16.34**	**188**	*e*P	**Pn**	**16 07 47.7**	**-3.1**
SHL				AMB	AMB	16 07 52.8	
	comp=Z,56nm,1.2s						
PYUN	**Piuthan**	**16.50**	**217**	*e*P	**Pn**	**16 07 50.5**	**-2.3**
	comp=Z,535nm,0.8s						
PYUN	**Piuthan**	**16.50**	**217**	*e*P	**Pn**	**16 07 50.5**	**-2.3**
	comp=Z,535nm,0.8s						
KOLN	**Koldanda**	**16.51**	**215**	*e*P	**Pn**	**16 07 50.6**	**-2.4**
	comp=Z,128nm,0.6s						
KOLN	**Koldanda**	**16.51**	**215**	*e*P	**Pn**	**16 07 50.6**	**-2.4**
	comp=Z,128nm,0.6s						
CIT	**Chita**	**16.61**	**46**	*e*P	**Pn**	**16 07 53.0**	**-1.0**
CIT				pmax	pmax		
	comp=Z,137nm,2.3s						
BJI	**Beijing**	**16.66**	**89**	P	**Pn**	**16 07 53.6**	**-0.9**
BJI				S	**Sn**	**16 10 59.3**	**+0.2**
BJI				pmax	pmax		
	comp=Z,26nm,0.5s						
BJI				pmax	pmax		
	comp=Z,130nm,5.0s						
BJI				LR	LR		
	comp=Z,2μm,16.9s						
BJI				LR	LR		
	comp=Z,1μm,17.8s						
BJI				LR	LR		
	comp=Z,510nm,19.8s						
ENH	**Enshi**	**16.84**	**128**	*e*P	**Pn**	**16 07 55.1**	**-1.9**
	comp=Z,39nm,0.7s						
ENH				*e*PcP	**PcP**	**16 12 44.2**	**-0.1**
DHRM	**DHARAMSHALA**	**17.20**	**242**	*e*P	**Pn**	**16 08 01.9**	**+0.2**
DHRM				AMB	AMB	16 08 08.1	
	comp=Z,186nm,1.1s						
SMLA	**Simla**	**17.37**	**238**	*i* P	**Pn**	**16 08 02.7**

KMI pmax pmax
comp=Z,150nm,4.0s
KMI LR LR
comp=Z,840nm,10.8s
KMI LR LR
comp=Z,470nm,10.4s
KMI LR LR
comp=Z,810nm,10.8s
GYA Guiyang 18.42 142⇑ *i*P **P 16 08 16.0 -0.6**
GYA PP **PnPn 16 08 32.6 +4.4**
GYA S **Sn 16 11 44.3 +2.2**
GYA SS **SnSn 16 12 02.1 +6.2**
GYA pmax pmax
comp=Z,120nm,0.8s
GYA pmax pmax
comp=Z,270nm,6.5s
GYA LR LR
comp=Z,590nm,11.8s
GYA LR LR
comp=Z,530nm,9.3s
GYA LR LR
comp=Z,920nm,10.2s
CHCP Chirah Chowk 18.47 251 P **P 16 08 15.7 -1.3**
TIA Tai'an 18.61 100 P **Pn 16 08 18.9 +0.1**
TIA pmax pmax
comp=Z,30nm,1.0s
TIA LR LR
comp=Z,1μm,8.9s
TIA LR LR
comp=Z,2μm,10.1s
TIA LR LR
comp=Z,2μm,11.3s
NDI New Delhi 19.07 232 *e*P **P 16 08 22.0 -1.7**
VOSK Vostochnaya 19.10 313 ⇓P **P 16 08 23.9 +0.1**
comp=Z,78nm,1.5s
HIA Hailar 19.28 59 *e*P **P 16 08 25.6 -0.2**
comp=Z,40nm,0.9s
BOK Bokaro 19.29 204 *e*P **P 16 08 25.2 -0.9**
CEP Cherat 19.34 253 P **P 16 08 27.0 +0.3**
CEP S Sn 16 11 51.0 -14
BVA0 Borovoye Array 19.55 313 ⇓P **P 16 08 29.4 +0.6**
comp=Z,74nm,1.3s,baz=114,slow=12,SNR=215
BVAR Borovoye Array 19.55 313 P **Pn 16 08 29.7 -0.4**
BVAR Borovoye Array 19.55 313 P **Pn 16 08 29.7 -0.4**
BVAR Borovoye Array 19.55 313 P **Pn 16 08 29.7 -0.4**
comp=Z,8.2nm,0.3s,baz=104,slow=12,SNR=85
BVAR LR LR 16 16 32.0
comp=Z,489nm,18.4s,baz=233,slow=38
BRVK Borovoye 19.63 313 *e*P **P 16 08 30.2 +0.7**
BRVK pmax pmax
comp=Z,73nm,0.7s
BRVK Borovoye 19.63 313 *e*P **P 16 08 30.1 +0.7**
comp=Z,74nm,0.7s
BRVK Borovoye 19.63 313 Pn **P 16 08 30.0 +0.5**
comp=Z,714nm,0.6s,SNR=36
BRVK Borovoye 19.63 313 ⇑P **Pn 16 08 30.7 -0.2**
comp=Z,170nm,0.9s
WHN Wuhan 19.69 118 ⇓P **P 16 08 30.3 -0.1**
WHN S **S 16 12 07.8 -4.1**
WHN LR LR
comp=Z,2μm,8.4s
WHN LR LR
comp=Z,2μm,8.6s
WHN LR LR
comp=Z,3μm,10.5s
THW Thamme Wali 20.00 251 P **P 16 08 34.3 +0.5**
DL2 Dalian 21.02 89 P **P 16 08 45.3 +0.5**
DL2 pmax pmax
comp=Z,64nm,1.3s
DL2 pmax pmax
comp=Z,120nm,4.9s
DL2 LR LR
comp=Z,650nm,14.0s
DL2 LR LR
comp=Z,520nm,14.2s
SNY Shenyang 21.81 80 ⇓P **P 16 08 55.3 +2.1**
SNY S **S 16 12 53.6 -0.1**
SNY pmax pmax
comp=Z,31nm,0.6s
SNY pmax pmax
comp=Z,140nm,5.3s
SNY LR LR
comp=Z,1μm,11.2s
SNY LR LR
comp=Z,3μm,12.3s
SNY LR LR
comp=Z,3μm,10.2s
NJ2 Nanjing 21.88 108 *e*P **P 16 08 55.3 +1.3**
NJ2 pP **pP 16 08 59.8 +1.2**
NJ2 sP **sP 16 09 04.0 +3.3**
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 pmax pmax
comp=Z,160nm,3.6s
NJ2 LR LR
comp=Z,1μm,9.2s
NJ2 LR LR
comp=Z,990nm,12.4s
NJ2 LR LR
comp=Z,1μm,11.5s
JBP Jabalpur 22.11 217⇑ *i*P **P 16 08 56.0 -0.5**
JBP *i* x x 16 09 02.9
comp=Z,204nm,0.7s
JBP *ex* x 16 10 31.1
CRAI Chiangrai 22.15 165 P **P 16 08 57.5 +0.5**
comp=Z,104nm,1.6s,comp=Z,11μm
CMAI Chiengmai2 22.20 168 P **P 16 08 58.1 +0.4**
comp=Z,99nm,0.7s,comp=Z,5μm
CN2 Changchun 22.90 75 *e*P **P 16 09 05.3 +0.5**
CN2 *e*S **S 16 13 14.6 +0.6**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,2μm,10.0s
BHPL Bhopal 23.27 222 *ex* P 16 09 01.6 -7.2
BHPL AMB AMB 16 09 13.9
comp=Z,97nm,1.1s
CHTO Chiang Mai 23.28 169 *e*P **P 16 09 08.5 -0.4**
CHTO pmax pmax
comp=Z,83nm,1.1s
CHTO Chiang Mai 23.28 169 *e*P **P 16 09 08.5 -0.4**
comp=Z,83nm,1.1s
CHTO Chiang Mai 23.28 169 P **P 16 09 08.5 -0.4**
comp=Z,365nm,1.1s,comp=Z,4μm
CM31 Chiang Mai Arr 23.63 169 *e*P **P 16 09 12.3 -0.1**
comp=Z,58nm,1.0s
CMAR Chiang Mai Arr 23.63 169 P **P 16 09 12.2 -0.2**
CMAR PcP **PcP 16 12 56.8 -0.2**
CMAR Chiang Mai Arr 23.63 169 P **P 16 09 12.2 -0.2**
comp=Z,42nm,0.9s,baz=351,slow=9.3,SNR=197
CMAR PcP **PcP 16 12 56.8 -0.2**
comp=Z,3.7nm,0.8s,baz=327,slow=3.2,SNR=6.3
CMAR LR LR 16 19 17.7
comp=Z,269nm,21.0s,baz=92,slow=39
LAMP Lampang 23.68 167 P **P 16 09 13.5 +0.7**
comp=Z,40nm,0.9s,comp=Z,310nm
MHMT Maesarieng 23.78 171 P **P 16 09 14.8 +1.0**
comp=Z,27nm,0.8s,comp=Z,608nm
NGP Nagpur 24.28 217 *e*P **P 16 09 17.9 -0.6**
NGP AMB AMB 16 09 22.4
comp=Z,166nm,0.8s
CLNS Chul'man 24.70 42 *e*P **P 16 09 25.0 +2.9**
CLNS *e**PP pP 16 09 39.9 +13
CLNS *e* 16 10 00.6
CLNS *e* 16 12 56.5
CLNS *e*S **S 16 13 45.2 +2.1**
CLNS *e*SS SnSn 16 14 55.1 +26
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,1.1s
CLNS smax smax
comp=E,468nm,15.5s
CLNS smax smax
comp=N,74nm,14.1s
CLNS MLR MLR
comp=Z,218nm,11.0s
CLNS MLR MLR
comp=E,1μm,12.0s
CLNS MLR MLR
comp=N,1μm,11.0s
AB31 Akbulak array 24.99 299 ⇓P **P 16 09 25.4 +0.7**
comp=N,38nm,1.1s,baz=93,slow=11,SNR=95
INCN Inchon 25.21 89 *e*P **P 16 09 28.9 +2.0**
comp=N,53nm,1.0s
MDJ Mudanjiang 25.78 72 P **P 16 09 32.5 +0.6**
MDJ PcP **PcP 16 13 02.3 +1.1**
MDJ S **S 16 14 02.1 +1.8**
MDJ ScP **ScP 16 16 38.9 -1.1**
MDJ ScS **ScS 16 20 32.4 +3.2**
MDJ pmax pmax
comp=N,26nm,1.0s
MDJ pmax pmax
comp=N,53nm,4.3s
MDJ LR LR
comp=N,530nm,9.3s
MDJ LR LR
comp=N,2μm,10.1s
MDJ LR LR
comp=N,2μm,10.1s
MDJ Mudanjiang 25.78 72 *e*P **P 16 09 32.8 +0.9**
comp=N,26nm,1.0s
VIS Vishakhapatnam 25.78 205 *e*P **P 16 09 32.8 +0.7**
VIS AMB AMB 16 09 38.5
comp=Z,130nm,0.0s
KSAR Wonju Array Be 26.16 88 P **P 16 09 34.0 -1.4**
KSRS Korea Array 26.19 88 P **P 16 09 34.0 -1.6**
comp=Z,9.8nm,0.8s,baz=288,slow=8.4,SNR=18
KSRS LR LR 16 20 00.7
comp=Z,183nm,19.3s,baz=113,slow=37
SVE Sverdlovsk 26.22 316 *de*P **P 16 09 37.1 +1.4**
SVE pmax pmax
comp=Z,97nm,1.5s
SVE MLR MLR
comp=Z,310nm,17.0s
QZH Quanzhou 26.25 122 P **P 16 09 35.6 -0.7**
QZH *e*S **S 16 14 05.5 -2.6**
QZH LR LR
comp=Z,1μm,11.8s
QIZ Qiongzhong 26.31 145 P **P 16 09 37.3 +0.4**
QIZ S **S 16 14 11.6 +2.5**
QIZ pmax pmax
comp=Z,34nm,0.9s
QIZ pmax pmax
comp=Z,83nm,3.6s
QIZ LR LR
comp=Z,340nm,10.9s
QIZ LR LR
comp=Z,380nm,9.8s
AKTO Aktyubinsk 26.33 302 P **P 16 09 37.6 +0.8**
AKTO Aktyubinsk 26.33 302 P **P 16 09 37.6 +0.8**
AKTO Aktyubinsk 26.33 302 P **P 16 09 37.6 +0.8**
comp=Z,17nm,0.7s,baz=88,slow=8.8,SNR=33
AKTO LR LR 16 21 00.3
comp=Z,379nm,18.2s,baz=277,slow=39
AKTO Aktyubinsk 26.33 302 ⇑P **P 16 09 37.0 +0.2**
comp=Z,23nm,0.8s
IMYA Miami 26.96 270 *e*P **P 16 09 44.3 +1.5**
KLR Kul'dur 27.07 61 *e*P **P 16 09 42.2 -1.3**
ARU Arti 27.17 315 P **P 16 09 45.1 +0.8**
comp=Z,464nm,0.6s,SNR=28
ARU Arti 27.17 315 *c i*P **P 16 09 45.2 +0.9**
ARU 16 10 27.3
ARU PPP PPP 16 10 38.5
ARU 16 13 03.0
ARU S **S 16 14 26.8 +4.7**
ARU SS **SnSn 16 15 36.5 +7.0**
ARU pmax pmax
comp=Z,124nm,1.7s
ARU MLR MLR
comp=Z,305nm,15.0s
ARU Arti 27.17 315 *e*P **P 16 09 45.1 +0.8**
comp=Z,47nm,0.7s
KHLT Khaolaem Dam 27.19 171 P **P 16 09 47.2 +2.4**
comp=Z,7.9nm,1.6s
ISRO Mashad 27.44 270 *e*P **P 16 09 49.2 +2.1**
USRK Ussuriysk Arra 27.54 72 P **P 16 09 49.6 +1.9**
comp=Z,2.3nm,0.6s,baz=273,slow=8.3,SNR=8.2
USRK LR LR 16 21 38.3
comp=Z,871nm,18.8s,baz=55,slow=39
BHJ Bhuj 27.65 236 *e*P **P 16 09 47.5 -1.4**
SRDT SRDT 27.70 170 P **P 16 09 50.2 +0.8**
comp=Z,46nm,1.1s,comp=Z,11μm
IPAY Payeh 27.74 271 *e*P **P 16 09 52.5 +2.6**
HYB Hyderabad 27.80 214 *i*P **P 16 09 50.0 -0.3**
HYB *e*S **S 16 14 33.0 +0.3**
HYB Hyderabad 27.80 214 *e*P **P 16 09 49.5 -0.9**
ABKT Ailbek 27.87 274 P **P 16 09 52.4 +1.5**
comp=Z,295nm,0.9s,SNR=18
IKRD Kardeh 27.98 272 *e*P **P 16 09 47.8 -4.3**
IDAH Dahanechah 28.67 263 *e*P **P 16 10 00.7 +2.4**
POO Poona 29.02 223 *ex* **P 16 10 01.0 -0.2**
SOKR Solikamsk 29.10 320 *e*P **P 16 10 02.2 +0.7**
SOKR pmax pmax
comp=Z,9.0nm,0.6s
SOKR MLR MLR
comp=Z,320nm,19.0s
YAK Yakutsk 29.18 34 *e*P **P 16 10 01.1 -1.1**
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK Yakutsk 29.18 34 *e*P **P 16 10 01.2 -1.0**
comp=E,17nm,0.8s
HABR Khabarovsk 29.25 63 *e*P **P 16 10 04.3 +1.3**
HABR *e* 16 10 54.2
HABR *e* 16 13 07.6
HABR S **S 16 14 54.5 -0.5**
HABR *e*SS **SnSn 16 16 21.7 +1.3**
HABR *e* 16 16 50.3
HABR *e* 16 20 42.8
HABR pmax pmax
comp=Z,12nm,1.4s
HABR MLR MLR
comp=Z,2μm,11.0s
PATY Pattaya 29.37 167 P P 16 10 08.9 +4.7
comp=Z,8.6nm,1.2s
ITEG Tejag 29.43 264 *e*P **P 16 10 07.4 +2.5**
JNU Nakatsue 30.15 95 P **P 16 10 09.5 -1.6**
JNU PcP **PcP 16 13 11.3 -0.9**
JNU Nakatsue 30.15 95 P **P 16 10 09.5 -1.6**
comp=Z,4.5nm,0.6s,baz=323,slow=11,SNR=5.9
JNU PcP **PcP 16 13 11.3 -0.9**
comp=Z,13nm,0.9s,baz=5.2,slow=7.8,SNR=5.3
JNU LR LR 16 22 13.7
comp=Z,227nm,19.4s,baz=124,slow=36
IGLO Ghaloghah 31.58 274 *e*P **P 16 10 25.6 +1.7**
ISHM Shahmirzad 32.25 273 *e*P **P 16 10 32.9 +3.0**
IBAF Bafgh 32.42 264 *e*P **P 16 10 33.2 +1.9**
ICHK Chekchek 32.97 266 *e*P **P 16 10 37.6 +1.5**
IMEH Mehriz 33.23 265 *e*P **P 16 10 39.2 +0.8**
IDMV Damavand 33.28 273 *e*P **P 16 10 41.2 +2.3**
ISAD Sadrabad 33.66 266 *e*P **P 16 10 44.0 +1.7**
IVRN Varamin 33.75 273 *e*P **P 16 10 44.8 +2.1**
MJAR Matsushiro Arr 34.19 84 P **P 16 10 44.1 -2.4**
MJAR PcP **PcP 16 13 23.1 0.0**
MJAR Matsushiro Arr 34.19 84 P **P 16 10 44.1 -2.4**
comp=Z,5.3nm,1.0s,baz=287,slow=10,SNR=8.8
MJAR PcP **PcP 16 13 23.1 0.0**
comp=Z,3.7nm,0.9s,baz=299,slow=2.1,SNR=6.5
MJAR LR LR 16 23 45.8
comp=Z,60nm,21.9s,baz=320,slow=35
TIXI Tiksi 34.41 19 *e*P **P 16 10 47.5 -0.4**
TIXI pmax pmax
comp=Z,14nm,0.8s
TIXI Tiksi 34.41 19 *e*P **P 16 10 47.1 -0.8**
comp=Z,15nm,0.8s
IKLH Kolahrood 34.58 270 *e*P **P 16 10 52.3 +2.1**
YSS Yuzh-Sakhalins 34.59 65 *e*P **P 16 10 49.7 -0.1**
IRAZ Razeghan 34.92 274 *e*P **P 16 10 55.1 +2.0**
PRGR Permogore 34.95 321 *e*P **P 16 10 50.9 -1.8**
PRGR pmax pmax
comp=Z,21nm,1.0s
ASAJ Asahikawa 35.04 70 P **P 16 10 55.2 +1.5**
ASAJ Asahikawa 35.04 70 P **P 16 10 55.2 +1.5**
comp=Z,10nm,0.8s,baz=349,slow=24,SNR=7.2
ASAJ LR LR 16 25 16.9
comp=Z,194nm,20.1s,baz=78,slow=37
IHRS Heris 35.95 280 *e*P **P 16 11 03.1 +1.2**
VRHR Novokhopersk 36.71 303 *e*P **P 16 11 07.3 -0.6**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.9s
IMRD Marand 36.79 282 *e*P **P 16 11 10.7 +1.7**
ZEI Tsey 36.80 289 *e*P **P 16 11 09.8 +0.7**
ZEI pmax pmax
comp=Z,12nm,0.8s
GOF Gofitskoye 36.82 293 *e*P **P 16 11 09.9 +0.9**
GNI Garni 37.00 284 *e*P **P 16 11 13.3 +2.5**
comp=Z,59nm,1.3s
GNI Garni 37.00 284 P **P 16 11 13.1 +2.4**
comp=Z,15nm,0.6s,baz=195,slow=2.5,SNR=7.8
KBZ Khabaz 37.25 291 P **P 16 11 13.7 +1.1**
KBZ Khabaz 37.25 291 P **P 16 11 13.7 +1.1**
KBZ Khabaz 37.25 291 P **P 16 11 13.7 +1.1**
comp=Z,9.0nm,0.7s,baz=95,slow=6.2,SNR=27
KBZ LR LR 16 27 26.5
comp=Z,161nm,20.6s,baz=70,slow=38
KIV Kislovodsk 37.34 291 *e*P **P 16 11 14.4 +0.8**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,190nm,15.0s
KIV Kislovodsk 37.34 291 *e*P **P 16 11 15.2 +1.6**
comp=Z,12nm,0.7s
IGHG Ghaleghazi 37.88 275 *e*P **P 16 11 19.3 +0.9**
VORD Divnogorie 38.19 303 *e*P **P 16 11 20.2 -0.2**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.8s
VSR Storozhevoye 38.23 304 *e*P **P 16 11 20.7 -0.1**
VSR pmax pmax
comp=Z,50nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,30nm,0.6s
MOS Moscow 38.70 311 *e*P **P 16 11 24.5 -0.2**
MOS *e* 16 12 55.6
MOS pmax pmax
comp=Z,107nm,1.1s
TMCR Tamitsa 38.80 324 *e*P **P 16 11 26.2 +0.7**
TMCR *e* 16 12 55.2
TMCR *e* 16 13 41.8
TMCR pmax pmax
comp=Z,26nm,0.4s
PSI Prapat 39.08 173 P **P 16 11 27.9 -0.5**
PSI PcP **PcP 16 13 37.7 -0.5**
PSI Prapat 39.08 173 P **P 16 11 27.9 -0.5**
comp=Z,3.4nm,0.4s,baz=346,slow=19,SNR=6.8
PSI PcP **PcP 16 13 37.7 -0.5**
comp=Z,5.7nm,0.8s,baz=304,slow=3.6,SNR=3.7
PSI LR LR 16 27 44.7
comp=Z,94nm,18.4s,baz=182,slow=36
OBN Obninsk 39.35 310 P **P 16 11 30.5 +0.4**
comp=Z,301nm,1.0s,SNR=5.5
OBN Obninsk 39.35 310 *i*P **P 16 11 30.3 +0.2**
OBN *e*SS SS 16 20 19.2 -4.8
OBN pmax pmax
comp=Z,74nm,1.2s
OBN MLR MLR
comp=Z,200nm,15.0s
OBN Obninsk 39.35 310 *e*P **P 16 11 30.4 +0.4**
comp=Z,75nm,1.1s
SOC Sochi 39.51 292 *e*P **P 16 11 30.0 -1.7**
SOC *e*S **S 16 17 33.4 +0.2**
SOC *e*SS **SS 16 20 27.4 -0.2**
SOC pmax pmax
comp=Z,24nm,0.6s
SOC MLR MLR
comp=Z,423nm,22.0s
SEY Seymchan 39.53 38 P **P 16 11 32.0 +0.4**
SEY Seymchan 39.53 38 P **P 16 11 31.9 +0.4**
SEY Seymchan 39.53 38 P **P 16 11 31.9 +0.4**
comp=Z,19nm,0.9s,baz=260,slow=9.2,SNR=26
LVZ Lovozero 40.71 330 *ce*P **P 16 11 42.3 +1.0**
LVZ pmax pmax
comp=Z,92nm,2.5s
ANN Anapa 40.74 294 P **P 16 11 39.6 -2.2**
ANN pmax pmax
comp=Z,306nm,2.5s
SDKM Sandakan 41.42 144 P **P 16 11 48.8 +1.0**
JCJ Chichijima 41.63 95 LR LR 16 31 51.5
comp=Z,151nm,18.1s,baz=247,slow=40
BTM Bintulu 42.00 151 P **P 16 11 54.8 +2.4**
MALT Malatya 42.23 284⇑ *i*P **P 16 11 56.9 +2.6**
SBUM Sibu 42.39 153 P **P 16 11 57.0 +1.4**
KSM Kuching 42.69 156 P **P 16 11 58.5 +0.5**
SIM Simferopol' 42.94 295 *e*P P 16 12 11.0 +11
SIM pmax pmax
comp=Z,33nm,1.1s
PEA0B Petropavlovsk- 42.98 52 *e*P **P 16 12 01.3 +1.2**
PETK Petropavlovsk- 42.98 52 P **P 16 12 01.0 +0.9**
PETK Petropavlovsk- 42.98 52 P **P 16 12 00.9 +0.9**
PETK Petropavlovsk- 42.98 52 P **P 16 12 00.9 +0.9**
comp=Z,17nm,0.8s,baz=288,slow=1.4,SNR=27
PETK LR LR 16 31 26.0
comp=Z,352nm,19.2s,baz=285,slow=38
PET Petropavlovsk 43.57 52 *e*P **P 16 12 03.9 -0.8**
PET pmax pmax
comp=Z,66nm,0.8s
PET MLR MLR
comp=Z,100nm,23.0s
PET Petropavlovsk 43.57 52 *e*P **P 16 12 04.2 -0.6**
comp=Z,34nm,0.6s
ARCES ARCESS Array B 44.18 332 P **P 16 12 10.6 +1.1**
ARCES PcP **PcP 16 13 53.9 -0.1**
ARCES ARCESS Array B 44.18 332 P **P 16 12 10.6 +1.1**
comp=Z,12nm,0.7s,baz=88,slow=8.0,SNR=28
ARCES PcP **PcP 16 13 53.9 -0.1**
comp=Z,6.1nm,0.5s,baz=95,slow=3.7,SNR=13
ARCES LR LR 16 30 32.1
comp=Z,60nm,21.1s,baz=239,slow=36
MICGM Minsk 44.41 310 ⇓*e*P **P 16 12 12.0 +0.5**
MNK Minsk 44.44 310 ⇓*e*P **P 16 12 12.0 +0.3**
MNK pmax pmax
comp=Z,120nm,1.0s
AKASG Malin Array Be 44.49 305 P **P 16 12 12.4 +0.2**
AKASG 16 13 54.8
AKASG Malin Array Be 44.49 305 P **P 16 12 12.4 +0.2**
AKASG PcP **PcP 16 13 54.8 -0.6**
AKASG Malin Array Be 44.49 305 P **P 16 12 12.4 +0.2**
comp=Z,9.4nm,0.5s,baz=63,slow=8.0,SNR=55
AKASG PcP **PcP 16 13 54.8 -0.6**
comp=Z,2.8nm,0.7s,baz=64,slow=4.4,SNR=4.9
AKBB Malin Array Si 44.49 305 *e*P **P 16 12 12.5 +0.3**
AKBB Malin Array Si 44.49 305 *e*P **P 16 12 12.5 +0.3**
AK01 Malin Array Si 44.50 305 *e*P **P 16 12 12.4 +0.1**
KIEV Kiev 44.50 305 *e*P **P 16 12 12.5 +0.2**
KIEV pmax pmax
comp=Z,33nm,0.9s
KIEV Kiev 44.50 305 *e*P **P 16 12 12.5 +0.2**
comp=Z,33nm,0.9s
AK02 Malin Array Si 44.51 305 *e*P **P 16 12 12.4 0.0**
IDID Didziasalis 44.89 312 *e*P **P 16 12 16.2 +0.9**
IDID AMB AMB 16 12 17.9
comp=Z,17nm,0.7s
NACGM Naroch 44.95 311 *e* **P 16 12 14.0 -1.8**
BR131 Keskin Array S 45.11 288 *e*P **P 16 12 15.9 -1.7**
comp=Z,8.7nm,0.8s
BRTR Keskin Array B 45.11 288 P **P 16 12 18.7 +1.2**
BRTR Keskin Array B 45.11 288 P **P 16 12 18.7 +1.2**
comp=Z,8.1nm,0.8s,baz=96,slow=7.3,SNR=28
IIGN Ignalina 45.17 312 *e*P **P 16 12 18.4 +0.9**
IIGN AMB AMB 16 12 19.0
comp=Z,34nm,0.8s
ISAL Salakas 45.18 312 *e*P **P 16 12 18.5 +0.9**
ISAL AMB AMB 16 12 19.6
comp=Z,18nm,0.7s
ASF Jabal al Asfar 46.06 277 P **P 16 12 27.1 +2.1**
ASF Jabal al Asfar 46.06 277 P **P 16 12 27.1 +2.1**
comp=Z,16nm,0.8s,baz=16,slow=5.2,SNR=16
TLCR 46.42 297 ⇓*i*P **P 16 12 28.6 +1.1**
MMAI Mount Meron Ar 46.76 279 LR LR 16 36 29.5
comp=Z,42nm,18.7s,baz=75,slow=42
CFR Carcaliu 46.87 298 ⇓*i*P **P 16 12 32.0 +0.9**
TIRR Tirgusor 46.94 297 ⇓*i*P **P 16 12 32.5 +0.8**
SPITS Spitsbergen Ar 46.97 344 P **P 16 12 32.7 +1.3**
SPITS PcP **PcP 16 14 04.0 +0.4**
SPITS Spitsbergen Ar 46.97 344 P **P 16 12 32.7 +1.3**

comp=Z,16nm,0.8s,baz=99,slow=8.9,SNR=14
SPITS PcP **PcP** **16 14 03.9 +0.4**
comp=Z,7.9nm,0.6s,baz=100,slow=7.9,SNR=7.8
GHRR **47.04 299**⇑*iP* **P** **16 12 34.4 +2.0**
TLB Topalu **47.14 297**⇓*iP* **P** **16 12 34.2 +1.0**
HARR Harsova **47.18 297**⇓*iP* **P** **16 12 34.5 +1.0**
SUW Suwalki **47.20 310** *eP* **P** **16 12 33.9 +0.3**
SUW pmax pmax
comp=Z,91nm,0.8s
SUW Suwalki **47.20 310** *eP* **P** **16 12 34.0 +0.3**
SUW Suwalki **47.20 310** *eP* **P** **16 12 33.9 +0.3**
comp=Z,91nm,0.8s
PRAR RASCA **47.37 301**⇑*iP* **P** **16 12 35.9 +0.9**
PSN Preselentsi **47.38 296**⇑*iP* **P** **16 12 37.3 +2.2**
TESR Tescani **47.38 300**⇓*iP* **P** **16 12 35.7 +0.6**
VRI Vrincioaia **47.55 299**⇓*iP* **P** **16 12 38.0 +1.5**
PLOR Plostina **47.61 299**⇑*iP* **P** **16 12 39.2 +2.3**
BURAR Bucovina Array **47.92 302**⇓*iP* **P** **16 12 40.0 +0.6**
BUR08 Bucovina Ar. S **47.92 302** *eP* **P** **16 12 40.2 +0.8**
LVV L'vov **47.94 305** *eP* **P** **16 12 40.0 +0.6**
ISR Istrita **47.94 298**⇓*iP* **P** **16 12 41.5 +1.9**
ISP Isparta **48.12 287** *eP* **P** **16 12 41.6 +0.6**
ISP pmax pmax
comp=Z,36nm,0.9s
ISP Isparta **48.12 287**⇓*iP* **P** **16 12 42.0 +0.9**
ISP Isparta **48.12 287** *eP* **P** **16 12 41.6 +0.6**
comp=Z,36nm,0.9s
MLR Muntele Rosu **48.20 299**⇓*iP* **P** **16 12 43.2 +1.6**
DOPR Dopca **48.39 300**⇑*iP* **P** **16 12 44.7 +1.7**
EIL Elat **48.76 276** LR LR 16 37 28.0
comp=Z,94nm,19.9s,baz=257,slow=41
VOIR **48.81 299**⇓*iP* **P** **16 12 47.4 +1.2**
KWP Kalwaria Pacla **48.81 305** *eP* **P** **16 12 47.3 +1.2**
KWP pmax pmax
comp=Z,121nm,0.8s
KWP Kalwaria Pacla **48.81 305** *eP* **P** **16 12 47.6 +1.5**
KWP Kalwaria Pacla **48.81 305**⇓*iP* **P** **16 12 47.9 +1.8**
KWP Kalwaria Pacla **48.81 305** *eP* **P** **16 12 47.3 +1.2**
comp=Z,121nm,0.8s
MTUR Matau **48.88 299**⇑*iP* **P** **16 12 44.5 -2.3**
JMB Yambol **48.93 295**⇓*iP* **P** **16 12 49.5 +2.4**
BMR Baia Mare **48.99 302**⇓*iP* **P** **16 12 49.4 +1.9**
ARR Arges **49.10 299**⇑*iP* **P** **16 12 50.1 +1.6**
HUMR Humele **49.20 298**⇓*iP* **P** **16 12 50.1 +1.0**
CJR Cluj-Napoca **49.28 301**⇑*iP* **P** **16 12 50.6 +0.8**
KOLS Kolonicke sedl **49.32 304** *eP* **P** **16 12 50.6 +0.6**
KOLS pmax pmax
comp=Z,11nm,0.9s
KOLS Kolonicke sedl **49.32 304** *eP* **P** **16 12 50.6 +0.6**
UZH Uzhgorod **49.41 304** *eP* **P** **16 12 50.6 -0.1**
UZH *e* 16 12 59.0
TRPA Tarpa **49.43 303**⇑*iP* **P** **16 12 52.3 +1.4**
LOT Lotru **49.64 299**⇑*iP* **P** **16 12 53.9 +1.3**
STHS Stebnicka Huta **49.78 305** *eP* **P** **16 12 54.7 +1.2**
STHS pmax pmax
comp=Z,11nm,0.9s
STHS Stebnicka Huta **49.78 305** *eP* **P** **16 12 54.7 +1.2**
STHS *e*PCP **PcP** **16 14 16.6 +2.4**
DRGR **49.81 301**⇑*iP* **P** **16 12 55.5 +1.6**
CRVS Cervenica-Dubn **49.83 304** *eP* **P** **16 12 54.6 +0.7**
CRVS pmax pmax
comp=Z,5.0nm,1.0s
CRVS Cervenica-Dubn **49.83 304** *eP* **P** **16 12 54.6 +0.7**
CRVS *e*PCP **PcP** **16 14 15.9 +1.5**
ALN Alexandroupoli **49.94 293** *eP* **P** **16 12 55.5 +0.7**
KDZ Kurdzhali **50.05 294**⇓*iP* **P** **16 12 55.2 -0.5**
RDO Rodhopi **50.18 294** *eP* **P** **16 12 56.5 -0.2**
GZR Gura Zlata **50.30 300**⇑*iP* **P** **16 12 59.0 +1.4**
NIE Niedzica **50.35 305**⇑*iP* **P** **16 12 59.6 +1.7**
NIE Niedzica **50.35 305** *iP* **P** **16 12 59.6 +1.7**
OJC Ojcow **50.37 307**⇑*iP* **P** **16 12 59.0 +1.0**
OJC Ojcow **50.37 307** *iP* **P** **16 12 59.0 +1.0**
OJC *e*P **pP** **16 13 01.7 -1.3**
HFS Hagfors **50.47 320** P **P** **16 12 58.9 +0.3**
HFS Hagfors **50.47 320** P **P** **16 12 58.9 +0.3**
comp=Z,27nm,0.6s,baz=80,slow=9.2,SNR=46
HFS LR LR 16 35 39.2
comp=Z,146nm,20.3s,baz=252,slow=38
SMTH Samothraki Isl **50.48 293** *eP* **P** **16 12 59.5 +0.6**
PRK Paraskevi **50.49 291** *eP* **P** **16 12 56.5 -2.5**
SIRR Siria **50.69 301**⇓*iP* **P** **16 13 02.0 +1.6**
SMG Samos **50.78 289** *eP* **P** **16 13 01.5 +0.2**
GKP Gorka Klasztor **50.80 311** *eP* **P** **16 13 02.3 +1.1**
GKP Gorka Klasztor **50.80 311** *eP* **P** **16 13 02.2 +1.1**
KAVA Kavala **50.95 294** *eP* **P** **16 13 04.0 +1.6**
BZS Buzias **50.97 300**⇑*iP* **P** **16 13 03.8 +1.3**
VTS Vitosha **51.15 296**⇑*iP* **P** **16 13 05.8 +1.6**
PSZ Piszkesteto **51.16 304** *eP* **P** **16 13 02.9 -1.2**
PSZ pmax pmax
comp=Z,10.0nm,0.8s
PSZ Piszkesteto **51.16 304**⇓*iP* **P** **16 13 06.0 +1.9**
PSZ Piszkesteto **51.16 304** *eP* **P** **16 13 02.9 -1.2**
comp=Z,9.6nm,0.8s
PSZ Piszkesteto **51.16 304**⇑*eP* **P** **16 13 05.2 +1.1**
MMB Musomiste **51.23 295**⇓*iP* **P** **16 13 05.8 +1.2**
NVR Nevrokopi **51.24 295** *eP* **P** **16 13 05.5 +0.8**
NB2 NORSAR Subarra **51.36 322** P **P** **16 13 05.3 0.0**
comp=Z,7.1nm,0.6s,baz=86,slow=7.9
NOA NORSAR Array B **51.36 322** P **P** **16 13 04.8 -0.5**
NOA NORSAR Array B **51.36 322** P **P** **16 13 04.8 -0.5**
comp=Z,12nm,0.6s,baz=70,slow=7.3,SNR=55
BSD Bornholm Skovb **51.45 314**⇑*iP* **P** **16 13 05.9 -0.1**
BSD pmax pmax
comp=Z,52nm,0.8s
BSD Bornholm Skovb **51.45 314**⇑*iP* **P** **16 13 05.9 -0.1**
comp=Z,52nm,0.7s
OKC Ostrava-Krasne **51.50 307** *eP* **P** **16 13 07.7 +1.2**
OKC MLR MLR
comp=Z,300nm,15.1s
OKC Ostrava-Krasne **51.50 307**⇑*eP* **P** **16 13 07.7 +1.2**
OKC *ep*P **pP** **16 13 10.4 -1.1**
OKC AMS AMS 16 35 50.0
comp=Z,300nm,15.1s
SRS Serrai **51.52 294** *eP* **P** **16 13 08.0 +1.2**
NA001 NORSAR Array S **51.57 322** *eP* **P** **16 13 06.9 0.0**
comp=Z,14nm,0.7s
MORC Moravsky Berou **51.89 307** *eP* **P** **16 13 09.9 +0.5**
MORC pmax pmax
comp=Z,41nm,1.1s
MORC Moravsky Berou **51.89 307**⇑*iP* **P** **16 13 11.0 +1.6**
MORC Moravsky Berou **51.89 307** *eP* **P** **16 13 09.9 +0.5**
comp=Z,41nm,1.1s
PLG Polygyros **51.95 294** *eP* **P** **16 13 10.5 +0.5**
KNT Kendrikon **51.98 295** *eP* P 16 13 14.0 +3.8
FX1 Attu Island--F **52.00 49** *eP* **P** **16 13 09.4 -0.8**
KAPI Kappang **52.09 147** P **P** **16 13 09.9 -1.3**
comp=Z,150nm,1.4s
KSP Ksiaz **52.22 308**⇑*iP* **P** **16 13 13.0 +1.1**
KSP Ksiaz **52.22 308** *eP* **P** **16 13 13.0 +1.1**
KRLC Kraliky **52.23 307**⇑*iP* **P** **16 13 13.1 +1.1**
KRLC Kraliky **52.23 307**⇑*iP* **P** **16 13 13.1 +1.1**
KRLC *ep*P **pP** **16 13 15.9 -1.1**
PKSG **52.30 304**⇑*eP* **P** **16 13 13.8 +1.3**
DPC Dobruska-Polom **52.39 308**⇑*iP* **P** **16 13 14.8 +1.6**
DPC Dobruska-Polom **52.39 308**⇑*iP* **P** **16 13 14.8 +1.6**
DPC *ep*P **pP** **16 13 17.6 -0.7**
DPC AMS AMS 16 36 00.0
CSKK Cs^tkako **52.40 304**⇓*eP* **P** **16 13 14.7 +1.5**
GRG Griva **52.40 295** *eP* **P** **16 13 14.0 +0.6**
ZKR Zakros **52.44 286** *eP* **P** **16 13 14.0 +0.3**
SKIA Skiathos **52.48 292** *eP* **P** **16 13 14.0 +0.1**
UPC Upice **52.52 308** *eP* **P** **16 13 15.4 +1.3**
UPC Upice **52.52 308**⇑*eP* **P** **16 13 15.4 +1.3**
UPC *ep*P **pP** **16 13 18.3 -0.8**
COP Copenhagen **52.57 315** *iP* **P** **16 13 15.7 +1.4**
COP pmax pmax
comp=Z,29nm,0.9s
COP Copenhagen **52.57 315** *iP* **P** **16 13 15.7 +1.4**
comp=Z,29nm,0.8s
XOR Xorichti **52.58 293** *eP* **P** **16 13 15.0 +0.3**
KONO Kongsberg **52.58 320** *eP* **P** **16 13 14.7 +0.3**
KONO pmax pmax
comp=Z,12nm,0.9s
KONO Kongsberg **52.58 320** *eP* **P** **16 13 14.7 +0.3**
comp=Z,12nm,0.9s
PKST T^s **52.58 304**⇑*eP* **P** **16 13 15.5 +0.9**
MRKA Markates **52.60 292** *eP* P 16 13 19.0 +4.1
PKSM Moragy **52.63 302**⇑*iP* **P** **16 13 15.9 +1.0**
PKSM Moragy **52.63 302**⇑*eP* **P** **16 13 15.6 +0.7**
VRAC Vranov **52.64 306**⇑*iP* **P** **16 13 16.7 +1.7**
VRAC Vranov **52.64 306** LR LR 16 36 57.8
comp=Z,207nm,18.6s,baz=178,slow=38
PKS9 Tamasi **52.70 303**⇓*eP* **P** **16 13 16.4 +0.9**

PTL Penteli **52.72 291** *eP* **P** **16 13 16.0 +0.3**
LIT Litokhoron **52.73 294** *eP* **P** **16 13 16.0 +0.2**
SMIA Simia **52.79 292** *eP* **P** **16 13 17.0 +0.8**
NPS Neapolis **52.80 287** *eP* **P** **16 13 16.0 -0.4**
LLD Lille Linde **52.82 315** *eP* **P** **16 13 17.7 +1.6**
LLD pmax pmax
comp=Z,6.0nm,0.7s
LLD Lille Linde **52.82 315** *iP* **P** **16 13 17.7 +1.6**
comp=Z,6.1nm,0.7s
ATH Athens Observa **52.85 291** *eP* **P** **16 13 17.0 +0.3**
LAST Lasithi **52.95 287** *eP* **P** **16 13 18.0 +0.5**
LKR Lokris **53.04 292** *eP* **P** **16 13 16.0 -2.1**
RUE Ruedersdorf **53.04 311** *eP* **P** **16 13 18.8 +1.0**
comp=Z,60nm,0.8s
XMIS Christmas Isla **53.09 166** *eP* **P** **16 13 17.6 -1.0**
comp=Z,189nm,1.0s
NAIG Nisos Aigina **53.11 291** *eP* **P** **16 13 19.0 +0.4**
FNA Florina **53.18 295** *eP* **P** **16 13 19.5 +0.4**
THL Klokotos Trika **53.30 293** *eP* **P** **16 13 19.5 -0.4**
IDI Anoyia **53.31 287** *eP* **P** **16 13 19.5 -0.7**
TREC Trest **53.31 307** *eP* **P** **16 13 21.2 +1.3**
TREC MLR MLR
comp=Z,300nm,12.5s
TREC Trest **53.31 307**⇑*eP* **P** **16 13 21.2 +1.3**
TREC *ep*P **pP** **16 13 24.3 -0.7**
TREC AMS AMS 16 36 40.0
comp=Z,300nm,12.5s
SOP Sopron **53.32 305**⇑*eP* **P** **16 13 21.4 +1.4**
AGG Agios Georgios **53.33 293** *eP* **P** **16 13 19.5 -0.7**
LTK Loutraki **53.35 291** *eP* **P** **16 13 19.5 -0.9**
PVCC Panska Ves **53.35 308** *eP* **P** **16 13 21.6 +1.4**
PVCC Panska Ves **53.35 308**⇑*eP* **P** **16 13 21.6 +1.4**
DID Didima **53.41 291** *eP* **P** **16 13 19.5 -1.4**
MAKR Makrakomi, Fth **53.47 293** *eP* **P** **16 13 21.0 -0.3**
DESF Desfina **53.47 292** *eP* **P** **16 13 20.0 -1.4**
DSF Desfina **53.48 292** *eP* **P** **16 13 20.5 -0.9**
SIVA Sivas **53.50 287** *eP* **P** **16 13 21.5 0.0**
NEST Nestorio **53.56 295** *eP* **P** **16 13 21.5 -0.5**
BRG Berggiesshubel **53.58 309** *iP* **P** **16 13 22.9 +1.0**
comp=Z,31nm,1.0s
BRG *i* 16 13 26.0
comp=Z,19nm,0.9s
BRG Berggiesshubel **53.58 309** *iP* **P** **16 13 22.9 +1.0**
BRG pmax pmax
comp=Z,31nm,1.0s
BRG Berggiesshubel **53.58 309** *eP* **P** **16 13 22.8 +0.9**
comp=Z,31nm,1.0s
PRU Pruhonice **53.59 308** *eP* **P** **16 13 23.2 +1.3**
PRU MLR MLR
comp=Z,300nm,15.3s
PRU Pruhonice **53.59 308**⇑*eP* **P** **16 13 23.2 +1.3**
PRU *ep*P **pP** **16 13 26.0 -1.0**
PRU AMS AMS 16 36 50.0
comp=Z,300nm,15.3s
PRA Prague **53.62 308** ⇑*iP* **P** **16 13 24.0 +1.8**
CONA Conrad Observa **53.64 305**⇑*iPP* **P** **16 13 24.2 +1.6**
comp=Z,33nm,0.9s,SNR=23
EVR Evrytania **53.74 293** *eP* **P** **16 13 23.0 -0.3**
VAM Vamos **53.74 288** *eP* P 16 13 15.0 -8.3
KALE Kalithea **53.76 292** *eP* **P** **16 13 22.5 -0.9**
GUR Goura **53.83 291** *eP* **P** **16 13 23.0 -1.0**
EFP Efpalio **53.90 292** *eP* **P** **16 13 24.5 +0.1**
KLV Kalavryta, Ach **53.91 292** *eP* **P** **16 13 23.5 -1.1**
LAKA Lakka **53.94 292** *eP* **P** **16 13 25.0 +0.3**
KARN Karanos **53.94 288** *eP* **P** **16 13 25.0 +0.2**
CLL Collm **53.95 310**⇑*iP* **P** **16 13 25.3 +0.8**
CLL pmax pmax
comp=Z,54nm,1.0s
CLL Collm **53.95 310** *eP* **P** **16 13 25.4 +0.9**
comp=Z,54nm,1.0s
CLL Collm **53.95 310**⇑*iP* **P** **16 13 25.3 +0.8**
comp=Z,54nm,1.0s
CLL *i* pP **pP** **16 13 28.1 -1.5**
CLL *ep*P **PP** **16 15 25.0 -0.5**
PSA1 Psathopyrgos **53.96 292** *eP* **P** **16 13 25.0 +0.2**
MUD Monsted U'grnd **53.97 317** *iP* **P** **16 13 25.7 +1.1**
MUD pmax pmax
comp=Z,32nm,0.8s
MUD Monsted U'grnd **53.97 317** *iP* **P** **16 13 25.7 +1.1**
comp=Z,32nm,0.8s
VLI Veliai **54.00 290** *eP* **P** **16 13 23.0 -2.1**
JAN Janina **54.05 294** *eP* **P** **16 13 26.0 +0.5**
VLX Vlachokerasia **54.07 291** *eP* **P** **16 13 24.5 -1.3**
ARSA Arzberg **54.14 304**⇓*ipP* **P** **16 13 26.7 +0.7**
comp=Z,14nm,0.8s,SNR=9.7
KYTH Kithira **54.14 289** *eP* **P** **16 13 25.5 -0.7**
ANKY Antikythira Is **54.15 289** *eP* P 16 13 23.0 -3.3
DRO Drossia **54.26 292** *eP* **P** **16 13 27.0 -0.1**
PDO Prodromos **54.32 293** *eP* **P** **16 13 27.0 -0.4**
BSEG Bad Segeberg **54.38 314** *eP* **P** **16 13 29.1 +1.5**
comp=Z,58nm,0.9s
RLS Riolos of Patr **54.38 292** *eP* **P** **16 13 27.0 -0.9**
IGT Igoumenitsa **54.46 294** *eP* **P** **16 13 28.0 -0.5**
AMT Artemida-Makis **54.46 291** *eP* **P** **16 13 31.5 +2.9**
ITM Ithomi **54.48 291** *eP* **P** **16 13 27.0 -1.7**
GROS Grobnik **54.49 304** *iP* **P** **16 13 29.2 +0.5**
KHC Kasperske Hory **54.52 307** *eP* **P** **16 13 29.8 +1.0**
KHC MLR MLR
comp=Z,500nm,16.0s
KHC Kasperske Hory **54.52 307**⇑*eP* **P** **16 13 29.8 +1.0**
KHC *ep*P **pP** **16 13 32.9 -1.0**
KHC AMS AMS 16 37 30.0
comp=Z,500nm,16.0s
KHC Kasperske Hory **54.52 307** *eP* **P** **16 13 29.6 +0.8**
comp=Z,18nm,1.0s
GEC2 GERESS Array S **54.56 307** *eP* **P** **16 13 30.2 +1.0**
comp=Z,24nm,1.3s
GERES GERESS Array B **54.56 307** P **P** **16 13 30.2 +1.0**
GERES GERESS Array B **54.56 307** P **P** **16 13 30.2 +1.0**
comp=Z,7.4nm,0.8s,baz=64,slow=7.6,SNR=68
GERES LR LR 16 37 57.9
comp=Z,264nm,18.2s,baz=287,slow=37
DAG Danmarks Havn **54.58 345** *iP* **P** **16 13 31.3 +2.5**
DAG pmax pmax
comp=Z,22nm,0.8s
DAG Danmarks Havn **54.58 345** *iP* **P** **16 13 31.3 +2.5**
comp=Z,29nm,0.8s
LKD2 Lefkada island **54.59 293** *eP* **P** **16 13 29.0 -0.5**
TANN Tannenbergstha **54.63 309** *eP* **P** **16 13 30.7 +1.1**
comp=Z,27nm,1.0s
MOA Molln **54.65 306**⇓*ipP* **P** **16 13 31.0 +1.2**
comp=Z,23nm,1.1s,SNR=8.3
PERS Pernice **54.66 304** *iP* **P** **16 13 30.6 +0.7**
SOKA Soboth **54.69 304**⇑*iP* **P** **16 13 30.4 +0.3**
comp=Z,34nm,0.9s,SNR=12
NKC Novy Kostel **54.71 309** *eP* **P** **16 13 31.2 +1.0**
NKC Novy Kostel **54.71 309**⇑*eP* **P** **16 13 31.2 +1.0**
NKC *ep*P **pP** **16 13 34.2 -1.1**
PYL PYLOS **54.75 291** *eP* **P** **16 13 29.0 -1.6**
WET Wettzell **54.93 308** *eP* P 16 13 35.0 +3.2
comp=Z,26nm,0.9s
VLS Valsamata **54.93 292** *eP* **P** **16 13 30.5 -1.4**
JMIC Jan Mayen **55.00 337** LR LR 16 38 50.2
comp=Z,174nm,20.7s,baz=258,slow=38
ROTZ Rotzenmuhle **55.05 308** *eP* **P** **16 13 34.1 +1.5**
comp=Z,32nm,1.0s
NRDL Niedersach Rie **55.09 312** *eP* **P** **16 13 34.3 +1.6**
comp=Z,50nm,0.9s
CLZ Clausthal **55.22 311** *eP* **P** **16 13 35.0 +1.2**
comp=Z,40nm,0.9s
LJU Ljubljana **55.28 304** *iP* **P** **16 13 35.0 +0.6**
KBA Koelnbreinsper **55.55 305**⇑*iPP* **P** **16 13 37.4 +1.0**
comp=Z,9.9nm,0.5s,SNR=6.7
RJOB Jochberg **55.59 306** *eP* **P** **16 13 37.9 +1.3**
comp=Z,35nm,1.1s
GRF Grafenberg Arr **55.66 309** *eP* **P** **16 13 38.7 +1.7**
comp=Z,66nm,0.9s
GRF *eL* L 16 38 13.7
comp=Z,178nm,18.2s
GRFO Grafenberg **55.66 309** *eP* **P** **16 13 38.4 +1.4**
GRFO pmax pmax
comp=Z,46nm,0.8s
GRFO Grafenberg **55.66 309** *eP* **P** **16 13 38.4 +1.4**
comp=Z,46nm,0.8s
TNA Tin City **55.82 30** *eP* **P** **16 13 39.1 +1.3**
comp=Z,35nm,1.1s
UBBA Unterbreizbach **55.87 310** *eP* **P** **16 13 39.2 +0.9**
comp=Z,18nm,1.3s
ABTA Abfaltersbach **56.21 305**⇑*eP* **P** **16 13 41.0 -0.1**
comp=Z,15nm,0.7s,SNR=6.9
FUR Furstenfeldbru **56.31 307** *eP* **P** **16 13 43.2 +1.5**
comp=Z,78nm,1.0s
IBBN Ibbenburen **56.47 313** *eP* **P** **16 13 43.7 +1.0**
comp=Z,39nm,0.7s

WTTA Wattenberg **56.51 306** *i* pP **P** **16 13 44.2 +0.9**
comp=Z,41nm,0.5s,SNR=16
WATA Walderalm **56.51 306**⇓*ipP* **P** **16 13 44.0 +0.8**
comp=Z,13nm,0.5s,SNR=12
MOTA Moosalm **56.79 306**⇑*ipP* **P** **16 13 45.9 +0.6**
comp=Z,20nm,0.5s,SNR=29
RETA Reutte **56.93 306**⇑*ipP* **P** **16 13 47.1 +0.9**
comp=Z,14nm,0.5s,SNR=6.9
TIP Timpagrande **57.06 295** *eP* **P** **16 13 47.0 -0.2**
comp=Z,13nm,1.1s
BUG Bochum--Univer **57.13 312** *eP* **P** **16 13 48.6 +1.2**
comp=Z,34nm,1.0s
WTSB Winterswijk **57.15 313** *eP* **P** **16 13 48.6 +1.0**
comp=Z,32nm,0.9s
FETA Feichten **57.17 306**⇓*ipP* **P** **16 13 48.5 +0.6**
comp=Z,42nm,1.0s,SNR=13
STU Stuttgart **57.26 308** *eP* **P** **16 13 49.2 +0.8**
STU pmax pmax
comp=Z,12nm,0.7s
STU Stuttgart **57.26 308** *eP* **P** **16 13 49.3 +0.8**
comp=Z,37nm,1.1s
STU Stuttgart **57.26 308** *eP* **P** **16 13 49.2 +0.8**
comp=Z,12nm,0.7s
CUC Castrocucco **57.29 297** *eP* **P** **16 13 49.7 +0.9**
comp=Z,30nm,0.9s
LANF Langenberg **57.98 309** *eP* **P** **16 13 54.2 +0.7**
BFO Black Forest **57.98 308** P **P** **16 13 54.3 +0.8**
comp=Z,157nm,0.7s,SNR=11
CEL Celeste **58.10 295** *eP* **P** **16 13 54.6 +0.1**
comp=Z,36nm,0.8s
HGN Heimansgroeve **58.19 312** *eP* **P** **16 13 55.7 +0.8**
comp=Z,27nm,0.8s
MEM Membach **58.22 311** P **P** **16 13 56.2 +1.1**
comp=Z,20nm,1.2s
TUE Stuetta **58.27 306** *eP* **P** **16 13 55.9 +0.2**
comp=Z,22nm,0.8s
BEBN Eben Emael **58.32 312** P **P** **16 13 57.3 +1.5**
comp=Z,8.7nm,1.4s
FELD Feldberg im Sc **58.39 308** *eP* **P** **16 13 56.6 +0.1**
CDF Champ du Feu **58.56 309**⇑*iP* **P** **16 13 57.9 +0.3**
comp=Z,31nm,0.9s
CDF Champ du Feu **58.56 309**⇑*iP* **P** **16 13 57.9 +0.3**
CDF pmax pmax
comp=Z,31nm,0.9s
CDF Champ du Feu **58.56 309**⇑*iP* **P** **16 13 57.9 +0.3**
comp=Z,31nm,0.9s
WLF Walferdange **58.60 310** P **P** **16 13 58.2 +0.4**
comp=Z,19nm,1.4s
WLF Walferdange **58.60 310** *eP* **P** **16 13 59.1 +1.3**
WLF pmax pmax
comp=Z,22nm,0.9s
WLF Walferdange **58.60 310** *eP* **P** **16 13 59.2 +1.5**
comp=Z,25nm,1.0s
WLF Walferdange **58.60 310** *eP* **P** **16 13 59.1 +1.3**
comp=Z,22nm,0.9s
BCLA Clavier **58.71 312** P **P** **16 13 59.1 +0.5**
MOF Molkenrain **58.91 308** *eP* **P** **16 14 00.3 +0.2**
SCO Scoresbysund **59.02 339** *iP* **P** **16 14 01.6 +1.3**
SCO pmax pmax
comp=Z,9.0nm,0.8s
SCO Scoresbysund **59.02 339** *iP* **P** **16 14 01.6 +1.3**
comp=Z,9.3nm,0.8s
HINF Hinteralfeld **59.09 308**⇑*iP* **P** **16 14 01.5 +0.2**
comp=Z,26nm,0.9s
HINF Hinteralfeld **59.09 308**⇑*iP* **P** **16 14 01.5 +0.2**
HINF pmax pmax
comp=Z,26nm,0.9s
HINF Hinteralfeld **59.09 308**⇑*iP* **P** **16 14 01.5 +0.2**
comp=Z,26nm,0.9s
GIVF Givet **59.13 311**⇑*iP* **P** **16 14 02.4 +0.9**
comp=Z,66nm,0.9s
GIVF Givet **59.13 311**⇑*iP* **P** **16 14 02.4 +0.9**
GIVF pmax pmax
comp=Z,66nm,0.9s
GIVF Givet **59.13 311**⇑*iP* **P** **16 14 02.4 +0.9**
comp=Z,66nm,0.9s
SNF Seneffe **59.23 312** P **P** **16 14 03.1 +1.0**
DOU Dourbes **59.26 311** P **P** **16 14 03.3 +0.9**
comp=Z,8.6nm,1.2s
HAU Haudompre **59.30 309** *eP* **P** **16 14 03.0 +0.3**
comp=Z,28nm,0.8s
HAU *eR*
comp=Z,197nm,17.8s
HAU Haudompre **59.30 309** *eP* **P** **16 14 03.0 +0.3**
HAU pmax pmax
comp=Z,28nm,0.8s
HAU Haudompre **59.30 309** *eP* **P** **16 14 03.0 +0.3**
comp=Z,28nm,0.8s
PAGF Fort de Pagny **59.38 309**⇑*iP* **P** **16 14 04.4 +1.1**
comp=Z,22nm,1.0s
PAGF Fort de Pagny **59.38 309**⇑*iP* **P** **16 14 04.4 +1.1**
comp=Z,22nm,1.0s
THEF They Montfort **59.40 309** *eP* **P** **16 14 04.0 +0.6**
MCD Coleburn Disti **59.53 322** *eP* **P** **16 14 04.1 0.0**
MEZF Maizieres J'vi **59.80 310**⇑*iP* **P** **16 14 07.0 +0.9**
comp=Z,47nm,1.0s
MEZF Maizieres J'vi **59.80 310**⇑*iP* **P** **16 14 07.0 +0.9**
comp=Z,47nm,1.0s
SFTF Sexfontaines **59.96 309**⇑*iP* **P** **16 14 07.6 +0.4**
comp=Z,38nm,0.8s
SFTF Sexfontaines **59.96 309**⇑*iP* **P** **16 14 07.6 +0.4**
comp=Z,38nm,0.8s
MDO Dochfour **60.11 322** *eP* **P** **16 14 08.2 0.0**
CABF La Chapelle **60.15 307**⇑*iP* **P** **16 14 08.8 +0.1**
comp=Z,27nm,0.9s
CABF La Chapelle **60.15 307**⇑*iP* **P** **16 14 08.8 +0.1**
CABF pmax pmax
comp=Z,27nm,0.9s
CABF La Chapelle **60.15 307**⇑*iP* **P** **16 14 08.8 +0.1**
comp=Z,27nm,0.9s
LPG La Plagne **60.32 306**⇑*iP* **P** **16 14 11.1 +1.0**
comp=Z,71nm,0.8s
LPG La Plagne **60.32 306**⇑*iP* **P** **16 14 11.1 +1.0**
LPG pmax pmax
comp=Z,71nm,0.8s
LPG La Plagne **60.32 306**⇑*iP* **P** **16 14 11.1 +1.0**
comp=Z,71nm,0.8s
LPL La Plagne **60.32 306**⇑*iP* **P** **16 14 11.0 +1.0**
comp=Z,56nm,0.9s
LPL La Plagne **60.32 306**⇑*iP* **P** **16 14 11.0 +1.0**
LPL pmax pmax
comp=Z,56nm,0.9s
LPL La Plagne **60.32 306**⇑*iP* **P** **16 14 11.0 +1.0**
comp=Z,56nm,0.9s
MENF Mencas **60.38 313** *eP* **P** **16 14 10.3 +0.3**
PGF Pioggiola **60.44 302**⇑*iP* **P** **16 14 11.5 +0.8**
comp=Z,40nm,0.7s
PGF Pioggiola **60.44 302**⇑*iP* **P** **16 14 11.5 +0.8**
PGF pmax pmax
comp=Z,40nm,0.7s
PGF Pioggiola **60.44 302**⇑*iP* **P** **16 14 11.5 +0.8**
comp=Z,40nm,0.7s
IM04 Indian Mountai **60.55 26** *eP* **P** **16 14 11.3 +0.3**
BNI Bardonecchia **60.59 306** *eP* **P** **16 14 12.3 +0.5**
BNI pmax pmax
comp=Z,33nm,1.0s
BNI Bardonecchia **60.59 306** *eP* **P** **16 14 12.3 +0.5**
comp=Z,33nm,1.0s
SAOF Saorge **60.60 304** *eP* **P** **16 14 12.5 +0.8**
HPK Haverah Park **60.61 318** *eP* **P** **16 14 11.5 -0.1**
ESK Eskdalemuir **60.68 319** *eP* **P** **16 14 11.9 -0.1**
ESK Eskdalemuir **60.68 319** *eP* **P** **16 14 12.2 +0.2**
ESK pmax pmax
comp=Z,18nm,0.8s
ESK Eskdalemuir **60.68 319** *eP* **P** **16 14 12.2 +0.2**
comp=Z,18nm,0.8s
MBDF Montbardon **60.70 305** *eP* **P** **16 14 13.6 +1.1**
comp=Z,62nm,0.7s
MBDF Montbardon **60.70 305** *eP* **P** **16 14 13.6 +1.1**
MBDF pmax pmax
comp=Z,62nm,0.7s
MBDF Montbardon **60.70 305** *eP* **P** **16 14 13.6 +1.1**
comp=Z,62nm,0.7s
SBF Sospel **60.74 304** *eP* **P** **16 14 13.2 +0.5**
comp=Z,99nm,0.8s
SBF Sospel **60.74 304** *eP* **P** **16 14 13.2 +0.5**
SBF pmax pmax
comp=Z,99nm,0.8s
SBF Sospel **60.74 304** *eP* **P** **16 14 13.2 +0.5**
comp=Z,99nm,0.8s
EAB Aberfoyle **60.76 321** *eP* **P** **16 14 13.1 +0.6**
TOUF Mont Tournerai **60.78 304** *eP* **P** **16 14 13.8 +0.7**
LUCF Luceram **60.78 304** *eP* **P** **16 14 12.7 -0.3**
COLD Coldfoot **60.89 24** *eP* **P** **16 14 13.9 +0.7**
comp=Z,52nm,0.9s
MVIF Mont Vial **60.90 304** *eP* **P** **16 14 12.2 -1.7**
PGBU Glenifferbraes **61.03 320** *eP* **P** **16 14 14.4 +0.1**

LOR Lormes 61.12 309⇑ *i*P P 16 14 14.9 -0.3
comp=Z,27nm,1.0s,baz=66
LOR *e*R
comp=Z,121nm,19.0s
LOR Lormes 61.12 309⇑ *i*P P 16 14 14.9 -0.3
comp=Z,27nm,1.0s
ORIF Oris-en-Rattie 61.15 306⇑ *i*P P 16 14 15.9 +0.4
comp=Z,43nm,0.8s
ORIF *e*R
comp=Z,351nm,17.5s
ORIF Oris-en-Rattie 61.15 306⇑ *i*P P 16 14 15.9 +0.4
ORIF pmax pmax
comp=Z,43nm,0.8s
ORIF Oris-en-Rattie 61.15 306⇑ *i*P P 16 14 15.9 +0.4
comp=Z,43nm,0.8s
SUMG Summit 61.26 345 *i* P P 16 14 16.0 -0.2
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 61.26 345 *i* P P 16 14 16.0 -0.2
comp=Z,14nm,0.9s
GCD Castle Douglas 61.28 319 *e*P P 16 14 16.5 +0.4
FRF La Foret Royal 61.39 304 *e*P P 16 14 17.1 +0.1
comp=Z,87nm,1.2s
FRF La Foret Royal 61.39 304 *e*P P 16 14 17.1 +0.1
FRF pmax pmax
comp=Z,87nm,1.3s
FRF La Foret Royal 61.39 304 *e*P P 16 14 17.1 +0.1
comp=Z,87nm,1.3s
SSF Saint Saulge 61.43 309 *e*P P 16 14 17.1 -0.2
comp=Z,26nm,1.1s
SSF Saint Saulge 61.43 309 *e*P P 16 14 17.1 -0.2
SSF pmax pmax
comp=Z,26nm,1.1s
SSF Saint Saulge 61.43 309 *e*P P 16 14 17.1 -0.2
comp=Z,26nm,1.1s
SMF Signal de Mont 61.46 308⇑ *i*P P 16 14 17.6 +0.1
comp=Z,57nm,1.1s
SMF Signal de Mont 61.46 308⇑ *i*P P 16 14 17.6 +0.1
SMF pmax pmax
comp=Z,57nm,1.1s
SMF Signal de Mont 61.46 308⇑ *i*P P 16 14 17.6 +0.1
comp=Z,57nm,1.1s
LMR La Mourre 61.59 304 *e*P P 16 14 18.5 +0.1
comp=Z,86nm,1.2s
LMR La Mourre 61.59 304 *e*P P 16 14 18.5 +0.1
LMR pmax pmax
comp=Z,86nm,1.2s
LMR La Mourre 61.59 304 *e*P P 16 14 18.5 +0.1
comp=Z,86nm,1.2s
GAL1 Galloway 61.66 320 *e*P P 16 14 18.8 +0.2
AVF Avril sur Loir 61.67 309⇑ *i*P P 16 14 18.8 0.0
comp=Z,15nm,0.7s
AVF Avril sur Loir 61.67 309⇑ *i*P P 16 14 18.8 0.0
AVF pmax pmax
comp=Z,15nm,0.7s
AVF Avril sur Loir 61.67 309⇑ *i*P P 16 14 18.8 0.0
comp=Z,15nm,0.7s
SSB Saint Sauveur 61.76 307 *e*P P 16 14 19.8 +0.2
SSB Saint Sauveur 61.76 307 *e*P P 16 14 19.8 +0.2
HYF Humbligny 61.83 309⇑ *i*P P 16 14 20.4 +0.5
HYF Humbligny 61.83 309⇑ *i*P P 16 14 20.4 +0.5
SMRF Simiane la Rot 61.83 305 *e*P P 16 14 21.2 +1.2
SMRF Simiane la Rot 61.83 305 *e*P P 16 14 21.2 +1.2
VIVF Saint-Julien-l 61.91 306⇑ *i*P P 16 14 20.9 +0.3
comp=Z,21nm,0.8s
VIVF Saint-Julien-l 61.91 306⇑ *i*P P 16 14 20.9 +0.3
VIVF pmax pmax
comp=Z,21nm,0.8s
VIVF Saint-Julien-l 61.91 306⇑ *i*P P 16 14 20.9 +0.3
comp=Z,21nm,0.8s
BGF Bois d'Agland 62.09 309⇑ *i*P P 16 14 21.7 0.0
comp=Z,29nm,0.9s
BGF Bois d'Agland 62.09 309⇑ *i*P P 16 14 21.7 0.0
BGF pmax pmax
comp=Z,29nm,0.9s
BGF Bois d'Agland 62.09 309⇑ *i*P P 16 14 21.7 0.0
comp=Z,29nm,0.9s
BERF Bertagne 62.11 304 *e*P P 16 14 23.3 +1.3
KULLO Kullorsuaq 62.32 352 *i* P P 16 14 22.3 -0.5
KULLO pmax pmax
comp=Z,17nm,0.7s
KULLO Kullorsuaq 62.32 352 *i* P P 16 14 22.3 -0.5
comp=Z,17nm,0.7s
MCH1 Michaelchurch 62.37 316 *e*P P 16 14 23.4 -0.1
MCH1 AMB AMB 16 14 24.4
comp=Z,47nm,2.5s
BORG Borgarnes 62.50 334 P P 16 14 26.7 +2.6
LBL Lubilhac 62.56 307 *e*P P 16 14 26.7 +1.7
TCF Toulx Ste Croi 62.60 309⇑ *i*P P 16 14 25.6 +0.4
comp=Z,75nm,1.3s
TCF Toulx Ste Croi 62.60 309⇑ *i*P P 16 14 25.6 +0.4
TCF pmax pmax
comp=Z,75nm,1.3s
TCF Toulx Ste Croi 62.60 309⇑ *i*P P 16 14 25.6 +0.4
comp=Z,75nm,1.3s
GMM Mts of Mourne 62.60 319 *e*P P 16 14 24.7 -0.3
LDF La Druitiere 62.68 312⇑ *i*P P 16 14 25.8 +0.2
LDF La Druitiere 62.68 312⇑ *i*P P 16 14 25.8 +0.2
LDF La Druitiere 62.68 312⇑ *i*P P 16 14 25.8 +0.2
FLN La Foliniere 62.79 312⇑ *i*P P 16 14 26.5 +0.2
comp=Z,124nm,1.2s,baz=43
FLN *e*R
comp=Z,144nm,17.0s
FLN La Foliniere 62.79 312⇑ *i*P P 16 14 26.5 +0.2
FLN pmax pmax
comp=Z,124nm,1.2s
FLN La Foliniere 62.79 312⇑ *i*P P 16 14 26.5 +0.2
comp=Z,124nm,1.2s
LASF Ste Croix 62.82 306⇑ *i*P P 16 14 27.4 +0.7
comp=Z,66nm,0.9s
LASF Ste Croix 62.82 306⇑ *i*P P 16 14 27.4 +0.7
comp=Z,66nm,0.9s
LPW Lampeter 62.85 317 *e*P P 16 14 26.8 +0.1
LPW AMB AMB 16 14 34.5
comp=Z,197nm,2.4s
PPLA Purkeypile 63.01 28 *e*P P 16 14 28.6 +0.8
comp=Z,44nm,0.9s
COLA College 63.16 25 *e*P P 16 14 28.9 +0.4
COLA pmax pmax
comp=Z,45nm,0.9s
COLA College 63.16 25 *e*P P 16 14 28.9 +0.4
comp=Z,45nm,0.9s
GRR Gorron 63.20 312⇑ *i*P P 16 14 29.3 +0.2
comp=Z,53nm,0.7s
GRR Gorron 63.20 312⇑ *i*P P 16 14 29.3 +0.2
GRR pmax pmax
comp=Z,53nm,0.7s
GRR Gorron 63.20 312⇑ *i*P P 16 14 29.3 +0.2
comp=Z,53nm,0.7s
TRF Thorofare Moun 63.31 27 *e*P P 16 14 30.0 +0.2
comp=Z,15nm,0.9s
CAF Calviac 63.43 307⇑ *i*P P 16 14 31.7 +1.0
comp=Z,68nm,1.3s
CAF Calviac 63.43 307⇑ *i*P P 16 14 31.7 +1.0
CAF pmax pmax
comp=Z,68nm,1.3s
CAF Calviac 63.43 307⇑ *i*P P 16 14 31.7 +1.0
comp=Z,68nm,1.3s
ILAR Eielson Array 63.53 25 P P 16 14 30.6 -0.4
ILAR Eielson Array 63.53 25 P P 16 14 30.6 -0.4
comp=Z,18nm,0.8s,baz=302,slow=5.3,SNR=87
ILAR LR LR 16 44 38.1
comp=Z,147nm,18.7s,baz=316,slow=38
RJF Les Rejaudoux 63.55 308⇑ *i*P P 16 14 32.2 +0.8
comp=Z,26nm,0.9s
RJF *e*R
comp=Z,142nm,18.8s
RJF Les Rejaudoux 63.55 308⇑ *i*P P 16 14 32.2 +0.8
RJF pmax pmax
comp=Z,27nm,0.9s
RJF Les Rejaudoux 63.55 308⇑ *i*P P 16 14 32.2 +0.8
comp=Z,26nm,0.9s
MCK McKinley 63.58 26 *e*P P 16 14 30.6 -0.8
MCK pmax pmax
comp=Z,5.0nm,0.7s
MCK McKinley 63.58 26 *e*P P 16 14 30.6 -0.8
comp=Z,5.1nm,0.7s
HTL Hartland 63.70 316 *e*P P 16 14 32.0 -0.3
HTL AMB AMB 16 14 42.2
comp=Z,69nm,3.6s
MFF Saint Martin d 63.79 310⇑ *i*P P 16 14 33.4 +0.4
comp=Z,58nm,0.9s
MFF Saint Martin d 63.79 310⇑ *i*P P 16 14 33.4 +0.4
MFF pmax pmax
comp=Z,58nm,0.9s
MFF Saint Martin d 63.79 310⇑ *i*P P 16 14 33.4 +0.4
comp=Z,58nm,0.9s
KEST Kesra 63.88 296 *e*P P 16 14 34.3 +0.4
KEST Kesra 63.88 296 P P 16 14 34.6 +0.7
comp=Z,4.6nm,0.8s,baz=277,slow=2.5,SNR=13
LFF La Frestale 64.20 308⇑ *i*P P 16 14 36.6 +0.9
comp=Z,72nm,1.0s
LFF La Frestale 64.20 308⇑ *i*P P 16 14 36.6 +0.9
LFF pmax pmax
comp=Z,72nm,1.0s
LFF La Frestale 64.20 308⇑ *i*P P 16 14 36.6 +0.9
comp=Z,72nm,1.0s
SGMF Saint Gilles 64.22 313⇑ *i*P P 16 14 36.4 +0.6
comp=Z,74nm,0.9s
SGMF Saint Gilles 64.22 313⇑ *i*P P 16 14 36.4 +0.6
SGMF pmax pmax
comp=Z,74nm,0.9s
SGMF Saint Gilles 64.22 313⇑ *i*P P 16 14 36.4 +0.6
comp=Z,74nm,0.9s
RSO Redoubt South 64.38 30 *e*P P 16 14 38.0 +1.1
comp=Z,34nm,0.9s
INK Inuvik 64.53 18 *e*P P 16 14 37.3 -0.1
comp=Z,21nm,0.8s
INK Inuvik 64.53 18 P P 16 14 37.7 +0.2
comp=Z,18nm,0.7s,baz=345,slow=9.0,SNR=64
INK LR LR 16 47 00.8
comp=Z,86nm,19.4s,baz=349,slow=40
ROSF Rostrenen 64.56 313⇑ *i*P P 16 14 38.7 +0.7
comp=Z,162nm,1.5s
ROSF Rostrenen 64.56 313⇑ *i*P P 16 14 38.7 +0.7
ROSF pmax pmax
comp=Z,163nm,1.5s
ROSF Rostrenen 64.56 313⇑ *i*P P 16 14 38.7 +0.7
comp=Z,162nm,1.5s
QUIF Quistinic 64.75 312⇑ *i*P P 16 14 39.9 +0.7
comp=Z,38nm,0.6s
QUIF Quistinic 64.75 312⇑ *i*P P 16 14 39.9 +0.7
QUIF pmax pmax
comp=Z,38nm,0.6s
QUIF Quistinic 64.75 312⇑ *i*P P 16 14 39.9 +0.7
comp=Z,38nm,0.6s
PMR Palmer 64.95 28 *e*P P 16 14 39.9 -0.4
PMR pmax pmax
comp=Z,18nm,1.0s
PMR Palmer 64.95 28 *e*P P 16 14 39.9 -0.4
comp=Z,18nm,1.0s
RC01 Rabbit Creek A 65.08 29 *e*P P 16 14 40.7 -0.4
comp=Z,27nm,0.9s
DOT Dot Lake 65.20 25 *e*P P 16 14 41.4 -0.7
comp=Z,10nm,0.7s
PAX Paxson 65.24 26 *e*P P 16 14 41.6 -0.7
PAX pmax pmax
comp=Z,10.0nm,0.8s
PAX Paxson 65.24 26 *e*P P 16 14 41.6 -0.7
comp=Z,9.7nm,0.8s
EPF Esparros 65.53 307⇑ *i*P P 16 14 44.3 -0.2
comp=Z,21nm,0.7s
EPF Esparros 65.53 307⇑ *i*P P 16 14 44.3 -0.2
EPF pmax pmax
comp=Z,21nm,0.7s
EPF Esparros 65.53 307⇑ *i*P P 16 14 44.3 -0.2
comp=Z,21nm,0.7s
MENT Mentasta 65.82 25 *e*P P 16 14 46.4 +0.4
SEW Seward 65.85 29 *e*P P 16 14 45.5 -0.6
comp=Z,20nm,0.9s
VAL Valentia 66.05 319 *e*P P 16 14 48.1 +0.5
ETSF Etsaut 66.14 307 *e*P P 16 14 49.3 +0.8
comp=Z,72nm,1.2s
ETSF Etsaut 66.14 307 *e*P P 16 14 49.3 +0.8
ETSF pmax pmax
comp=Z,72nm,1.2s
ETSF Etsaut 66.14 307 *e*P P 16 14 49.3 +0.8
comp=Z,72nm,1.2s
KDAK Kodiak Island 66.20 33 *e*P P 16 14 47.8 -0.6
comp=Z,35nm,1.0s
KDAK Kodiak Island 66.20 33 P P 16 14 47.6 -0.8
comp=Z,184nm,1.1s,SNR=12
OHAK Old Harbor 66.28 33 *e*P P 16 14 48.3 -0.7
comp=Z,40nm,1.2s
FITZ Fitzroy Crossi 66.32 147 *e*P P 16 14 48.9 -0.7
comp=Z,7.1nm,0.7s
FITZ Fitzroy Crossi 66.32 147 P P 16 14 49.0 -0.6
comp=Z,15nm,0.9s,baz=325,slow=5.1,SNR=26
SJPF Ste Jean 66.41 307⇑ *i*P P 16 14 50.6 +0.5
comp=Z,25nm,0.8s
SJPF Ste Jean 66.41 307⇑ *i*P P 16 14 50.6 +0.5
SJPF pmax pmax
comp=Z,25nm,0.8s
SJPF Ste Jean 66.41 307⇑ *i*P P 16 14 50.6 +0.5
comp=Z,25nm,0.8s
DIV Divide 66.44 27 *e*P P 16 14 52.3 +2.2
comp=Z,7.3nm,0.6s
KMBO Kilima Mbogo 66.80 246 *e*P P 16 14 53.7 +0.5
comp=Z,15nm,1.1s
KMBO Kilima Mbogo 66.80 246 P P 16 14 54.0 +0.9
comp=Z,8.3nm,0.9s,baz=34,slow=9.9,SNR=21
MBWA Mabibar 66.96 154 *e*P P 16 14 53.2 -0.5
comp=Z,17nm,0.7s
SFJD Kangerlussuaq 68.24 346 *i* P P 16 15 00.2 -1.1
comp=Z,26nm,0.9s
HYT Haines Junctio 69.36 24 *e*P P 16 15 08.8 +0.3
ESDC Sonseca Array 70.12 306 P P 16 15 14.1 +0.6
ESDC Sonseca Array 70.12 306 P P 16 15 14.1 +0.6
comp=Z,13nm,0.8s,baz=48,slow=6.2,SNR=56
ESLA Sonseca Array 70.12 306 *e*P P 16 15 14.0 +0.5
comp=Z,4.3nm,0.9s
PMG Port Moresby 70.31 123 P P 16 15 14.2 -0.6
PMG Port Moresby 70.31 123 P P 16 15 14.2 -0.6
comp=Z,6.5nm,0.6s,baz=2,3,slow=13,SNR=5.6
PAB San Pablo 70.44 306 *e*P P 16 15 15.8 +0.3
PAB pmax pmax
comp=Z,15nm,1.1s
PAB San Pablo 70.44 306 *e*P P 16 15 15.8 +0.3
comp=Z,15nm,1.1s
PBRG Braganca 70.45 309 *e*P P 16 15 15.2 -0.2
comp=Z,39nm,1.5s
MBAR Mbarara 70.95 251 P P 16 15 19.6 +0.6
comp=Z,67nm,0.6s,SNR=6.9
MVO Moncorvo 71.02 308 *e*P P 16 15 19.5 +0.5
comp=Z,41nm,1.2s
COEN Coen 71.48 129 *e*P P 16 15 20.9 -0.9
comp=Z,191nm,0.9s
WRAB Tennant Creek 71.77 140*ce*P P 16 15 23.0 -0.5
WRAB pmax pmax
comp=Z,78nm,1.2s
WRAB Tennant Creek 71.77 140 *e*P P 16 15 22.4 -1.1
comp=Z,29nm,1.1s
WRAB Tennant Creek 71.77 140 P P 16 15 22.1 -1.4
comp=Z,120nm,1.2s,SNR=10
WRA Warramunga Arr 71.78 140 P P 16 15 22.7 -0.9
WRA Warramunga Arr 71.78 140 P P 16 15 22.7 -0.9
comp=Z,15nm,1.0s,baz=341,slow=6.3,SNR=36
MTE Manteigas 71.81 308 *e*P P 16 15 25.4 +1.7
comp=Z,38nm,2.4s
PVIS Viseu 71.81 309 *e*P P 16 15 24.5 +0.8
comp=Z,48nm,2.3s
PMRV Marv??o 72.34 307 *e*P P 16 15 27.8 +0.9
comp=Z,36nm,1.5s
PESTR Estremoz 72.82 307 *e*P P 16 15 30.4 +0.7
comp=Z,32nm,1.9s
PBAR Barrancos 72.93 306 *e*P P 16 15 31.2 +0.8
comp=Z,21nm,1.7s
PMTG Montargil 73.06 307 *e*P P 16 15 31.9 +0.8
comp=Z,36nm,2.1s
EVO Evora 73.29 307⇑ *i*P P 16 15 33.7 +1.2
comp=Z,27nm,0.9s
EVO *e*R
comp=Z,93nm,19.5s
EVO Evora 73.29 307 *e*P P 16 15 33.7 +1.2
comp=Z,42nm,2.4s
EVOP Sao Brissos 73.35 307⇑ *i*P P 16 15 33.7 +0.9
EVOP pmax pmax
comp=Z,27nm,0.9s
EVOP Sao Brissos 73.35 307⇑ *i*P P 16 15 33.7 +0.9
comp=Z,27nm,0.9s
YKW3 Yellowknife Ar 73.41 13 *e*P P 16 15 32.0 -0.7
comp=Z,0.3nm,0.9s
YKA Yellowknife Ar 73.47 14 P P 16 15 32.7 -0.4
YKA Yellowknife Ar 73.47 14 P P 16 15 32.7 -0.4
comp=Z,7.5nm,0.6s,baz=334,slow=5.7,SNR=45
PBEJ Beja 73.53 306 *e*P P 16 15 35.0 +1.1
comp=Z,26nm,1.9s
PNCL Nicolau / Gran 73.87 307 *e*P P 16 15 36.7 +0.8
comp=Z,51nm,1.9s
PBDV Barranco-do-Ve 74.07 306 *e*P P 16 15 39.2 +2.1
comp=Z,62nm,1.9s
TAM Tamanrasset 74.27 287 *e*P P 16 15 38.5 -0.1
TAM pmax pmax
comp=Z,11nm,1.1s
TAM Tamanrasset 74.27 287 *e*P P 16 15 38.5 -0.1
comp=Z,11nm,1.1s
MORF Marmelete 74.47 306 *e*P P 16 15 41.7 +2.2
comp=Z,85nm,1.7s
AS31 Alice Springs 74.78 143 *e*P P 16 15 40.7 -0.5
ASAR Alice Springs 74.78 143 P P 16 15 40.8 -0.5
ASAR Alice Springs 74.78 143 P P 16 15 40.8 -0.5
comp=Z,17nm,0.8s,baz=333,slow=6.1,SNR=123
NWAO Narrogin (SRO) 77.33 160 P P 16 15 54.5 -1.0
NWAO Narrogin (SRO) 77.33 160 P P 16 15 54.5 -1.0
comp=Z,14nm,0.7s,baz=352,slow=5.2,SNR=9.2
CTA Charters Tower 78.13 131 P P 16 15 59.7 -0.5
CTA Charters Tower 78.13 131 P P 16 15 59.7 -0.5
comp=Z,9.4nm,0.9s,baz=313,slow=6.1,SNR=7.3
FCC Fort Churchill 79.53 4 P P 16 16 06.7 -0.8
FCC Fort Churchill 79.53 4 P P 16 16 06.7 -0.8
comp=Z,0.7nm,1.0s
SCHQ Schefferville 82.37 349 P P 16 16 22.0 -0.7
SCHQ Schefferville 82.37 349 P P 16 16 22.0 -0.7
comp=Z,17nm,0.8s,baz=61,slow=5.9,SNR=9.6
EDM Edmonton 82.38 16 *e*P P 16 16 22.2 -0.7
EDM Edmonton 82.38 16 *e*P P 16 16 22.2 -0.7
FFC Flin Flon 82.82 9 *e*P P 16 16 24.5 -0.6
FFC pmax pmax
comp=Z,17nm,0.9s
FFC Flin Flon 82.82 9 *e*P P 16 16 24.5 -0.6
comp=Z,17nm,0.9s
FFC Flin Flon 82.82 9 P P 16 16 24.6 -0.6
comp=Z,116nm,0.6s,SNR=6.3
LSZ Lusaka 83.19 243 *e*P P 16 16 28.4 +0.8
comp=Z,16nm,0.8s
TOA0 Torodi Ar. Sit 83.25 281 *e*P P 16 16 27.6 -0.3
TORD Torodi Ar. Bea 83.25 281 P P 16 16 27.8 -0.2
TORD Torodi Ar. Bea 83.25 281 P P 16 16 27.8 -0.2
comp=Z,12nm,0.7s,baz=40,slow=4.7,SNR=71
TORD LR LR 17 00 59.0
comp=Z,50nm,18.8s,baz=300,slow=41
BBOO Buckleboo 83.63 146 *e*P P 16 16 28.3 -1.1
comp=Z,666nm,1.1s
EIDS Eidsvold 85.02 131 *e*P P 16 16 36.1 -0.4
comp=Z,19nm,1.1s
STKA Stephens Creek 85.31 141 *e*P P 16 16 36.7 -1.1
comp=Z,4.5nm,0.8s
STKA Stephens Creek 85.31 141 P P 16 16 37.0 -0.9
comp=Z,23nm,0.7s,baz=327,slow=5.8,SNR=52
NEW Newport 86.10 20 *e*P P 16 16 41.8 -0.1
comp=Z,9.4nm,1.0s
NEW Newport 86.10 20 P P 16 16 41.8 -0.1
baz=86
LON Longmire 86.16 24 *e*P P 16 16 42.8 +0.6
LON pmax pmax
comp=Z,4.0nm,0.9s
LON Longmire 86.16 24 *e*P P 16 16 42.8 +0.6
comp=Z,3.9nm,0.9s
BSMT Bassoo Peak 87.08 19 *e*P P 16 16 47.3 +0.5
comp=Z,40nm,1.6s
A20A Cobblestone Ra 87.58 14 P P 16 16 48.0 -1.1
baz=87
SWMT Swartz Lake 87.59 19 *e*P P 16 16 49.5 +0.2
comp=Z,11nm,1.0s
B19A Brinkman Farms 87.80 15 P P 16 16 48.6 -1.6
baz=88
A22A Carney Farms, 87.83 13 P P 16 16 49.0 -1.4
baz=88
ULM Lac du Bonnet 87.88 6 P P 16 16 49.1 -1.3
ULM Lac du Bonnet 87.88 6 P P 16 16 49.1 -1.3
comp=Z,5.9nm,0.7s,baz=336,slow=3.2,SNR=9.6
SLMT Seeley Lake 87.96 19 *e*P P 16 16 51.1 0.0
comp=Z,12nm,1.1s
B20A Solberg Farm, 87.99 15 P P 16 16 49.8 -1.3
baz=88
A24A Westby 88.21 12 P P 16 16 50.2 -1.9
baz=88
MSO Missoula 88.24 19 P P 16 16 51.6 -0.8
baz=88
I03D Drain, OR 88.40 26 P P 16 16 52.8 -0.2
baz=88
C19A Slack Wire Ran 88.46 15 P P 16 16 53.0 -0.4
baz=88
I05D Terrebonne, OR 88.47 25 P P 16 16 54.1 +0.7
baz=88
B22A Reddig Ranch S 88.49 13 P P 16 16 53.6 +0.2
baz=88
B23A Brockton 88.50 13 P P 16 16 53.4 0.0
baz=88
A26A Wade Farm, Ken 88.52 11 P P 16 16 53.5 0.0
baz=88
I04A Tendick Farm, 88.62 26 P P 16 16 53.4 -0.7
baz=88
HRY Holter Researc 88.84 18 *e*P P 16 16 55.1 -0.1
comp=Z,11nm,0.8s
A30A Hoffart Farm, 88.94 8 P P 16 16 54.9 -0.6
baz=89
B25A Knox Farm, Ray 88.97 12 P P 16 16 55.0 -0.6
baz=89
C23A Lambert 89.11 13 P P 16 16 56.5 +0.2
baz=89
J04D Umpqua Nationa 89.21 26 P P 16 16 57.1 -0.1
baz=89
B30A Myrvik Farm, E 89.42 8 P P 16 16 56.9 -0.8
baz=89
J05D Fort Rock, OR 89.45 25 P P 16 16 58.4 +0.2
baz=89
D21A La Casta Ranch 89.50 14 P P 16 16 57.5 -0.7
baz=89
HUMO Hull Mountain 89.50 27 *e*P P 16 17 00.1 +1.9
comp=Z,9.4nm,0.9s
LRM Limekiln Ridge 89.54 18 *e*P P 16 16 57.6 -1.1
comp=Z,46nm,1.0s
D22A Cohagen 89.57 14 P P 16 16 58.7 +0.2
baz=89
D23A Lindsay 89.71 13 P P 16 16 59.2 0.0
baz=89
E19A Rath Farm, Rou 89.73 16 P P 16 16 59.2 -0.1
baz=90
AGMN Agassiz Nation 89.81 7 *e*P P 16 16 58.5 -1.0
comp=Z,15nm,0.9s
K04D Chiloquin, OR 89.88 26 P P 16 17 01.0 +0.9
baz=90
D25A Fairfield 90.04 12 P P 16 17 01.5 +0.8
baz=90
GCMT Greycliff 90.19 16 *e*P P 16 17 01.6 0.0
comp=Z,6.7nm,0.8s
F19A Roth Farm, Mol 90.28 16 P P 16 17 02.3 +0.4
baz=90
D26A Manning 90.29 11 P P 16 17 02.7 +0.8
baz=90
MCMT McKenzie Canyo 90.38 19 *e*P P 16 17 02.7 +0.1
comp=Z,3.6nm,0.9s
D28A Regan 90.39 10 P P 16 17 03.1 +0.8
baz=90
EYMN Ely 90.47 4 *e*P P 16 17 02.2 -0.4
comp=Z,72nm,1.6s
M04C Macdoel 90.61 26 P P 16 17 04.2 +0.6
baz=90
M02C Callahan 90.62 27 P P 16 17 03.0 -0.6
baz=90
D30A Buchanan 90.70 9 P P 16 17 03.5 -0.2
baz=90
QLMT Earthquake Lak 90.71 18 P P 16 17 05.1 +1.0
comp=Z,0.6nm,0.8s
MOD Modoc 91.00 25 *e*P P 16 17 06.0 +0.6
comp=Z,17nm,1.1s
G20A Bridger 91.04 16 P P 16 17 05.4 -0.1
baz=91
N02D Trinity Center 91.04 27 P P 16 17 06.3 +0.8
baz=91
HLID Hailey 91.17 20 P P 16 17 06.5 +0.3
baz=91
G21A Lodge Grass 91.23 15 P P 16 17 06.0 -0.4
baz=91
H18A Shoshone NF, C 91.25 17 P P 16 17 06.6 0.0
baz=91
E30A Jud 91.28 9 P P 16 17 06.0 -0.4
baz=91
H17A Grant Village 91.32 18 *e*P P 16 17 08.9 +1.9
comp=Z,50nm,1.7s
H17A Grant Village 91.32 18 P P 16 17 08.7 +1.7
baz=91
F27A Lemmon 91.48 11 P P 16 17 07.7 +0.2
baz=91
G23A Biddle 91.59 14 P P 16 17 07.9 -0.1
baz=91
F28A McLaughlin 91.68 10 P P 16 17 08.1 -0.3
baz=91
I17A Pilgrim Ck. 91.77 18 P P 16 17 09.6 +0.5
baz=92

H20A	**Greybull**	**91.78**	**16**	P		**P**	**16 17 09.0**	**0.0**
	baz=92								
LBTB	**Lobatse**	**91.87**	**238**	*e*P		**P**	**16 17 10.3**	**+0.9**
	comp=Z,23nm,1.0s								
LBTB	**Lobatse**	**91.87**	**238**	P		**P**	**16 17 10.3**	**+0.9**
	comp=Z,18nm,0.9s,baz=54,slow=1.4,SNR=15								
G26A	**Maurine**	**91.96**	**12**	P		**P**	**16 17 10.2**	**+0.5**
	baz=92								
G27A	**Dupree**	**91.98**	**11**	P		**P**	**16 17 10.2**	**+0.4**
	baz=92								
H22A	**Clearmont**	**92.00**	**15**	P		**P**	**16 17 10.0**	**0.0**
	baz=92								
I19A	**Meeteetse**	**92.01**	**17**	P		**P**	**16 17 10.5**	**+0.4**
	baz=92								
H24A	**Dirks Ranch, A**	**92.18**	**13**	P		**P**	**16 17 10.3**	**-0.5**
	baz=92								
I20A	**Worland**	**92.27**	**16**	P		**P**	**16 17 11.6**	**+0.3**
	baz=92								
DBIC	**Dimbokro**	**92.35**	**281**	*e*P		**P**	**16 17 11.3**	**-0.5**
	comp=Z,10nm,0.8s								
DBIC	**Dimbokro**	**92.35**	**281**	P		**P**	**16 17 11.7**	**-0.2**
	comp=Z,9.6nm,0.6s,baz=35,slow=5.0,SNR=16								
KIC	**Kosan Boka**	**92.47**	**281**	*e*P		**P**	**16 17 12.0**	**-0.4**
	comp=Z,47nm,1.0s								
TIC	**Toumodi**	**92.48**	**281**	*e*P		**P**	**16 17 12.1**	**-0.4**
	comp=Z,32nm,1.0s								
I21A	**Big Trails, Te**	**92.57**	**15**	P		**P**	**16 17 11.9**	**-0.8**
	baz=92								
J19A	**Crowheart**	**92.73**	**17**	P		**P**	**16 17 13.2**	**-0.3**
	baz=92								
LIC	**Lamto**	**92.77**	**281**	*e*P		**P**	**16 17 13.4**	**-0.4**
	comp=Z,11nm,0.6s								
LIC	**Lamto**	**92.77**	**281**	*e*P		**P**	**16 17 13.4**	**-0.4**
	comp=Z,35nm,1.1s								
LIC	**Lamto**	**92.77**	**281**	*e*P		**P**	**16 17 13.4**	**-0.4**
	comp=Z,11nm,0.6s								
J20A	**Shoshoni**	**92.85**	**16**	P		**P**	**16 17 13.7**	**-0.2**
	baz=93								
RSSD	**Black Hills**	**92.87**	**13**	*e*P		**P**	**16 17 13.7**	**-0.4**
RSSD				pmax		pmax			
	comp=Z,51nm,1.5s								
RSSD	**Black Hills**	**92.87**	**13**	*e*P		**P**	**16 17 13.7**	**-0.4**
	comp=Z,51nm,1.5s								
J21A	**Lysite**	**92.99**	**16**	P		**P**	**16 17 14.3**	**-0.3**
	baz=93								
I25A	**Rochford**	**93.02**	**13**	P		**P**	**16 17 14.7**	**-0.1**
	baz=93								
PDAR	**Pinedale Array**	**93.10**	**17**	P		**P**	**16 17 14.8**	**-0.5**
PDAR	**Pinedale Array**	**93.10**	**17**	P		**P**	**16 17 14.8**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=22,slow=2.5,SNR=10.0								
J22A	**Midwest**	**93.12**	**15**	P		**P**	**16 17 14.7**	**-0.5**
	baz=93								
ECSD	**EROS Data Cent**	**94.27**	**8**	*e*P		**P**	**16 17 19.6**	**-0.6**
	comp=Z,15nm,0.9s								
BOSA	**Boshof**	**94.65**	**235**	P		**P**	**16 17 22.5**	**+0.3**
BOSA	**Boshof**	**94.65**	**235**	P		**P**	**16 17 22.5**	**+0.3**
	comp=Z,5.6nm,0.6s,baz=68,slow=3.9,SNR=13								
BOSA				LR		LR	17 01 18.3		
	comp=Z,58nm,19.7s,baz=271,slow=36								
NVAR	**Mina Array Bea**	**94.79**	**25**	P		**P**	**16 17 23.9**	**+0.9**
NVAR	**Mina Array Bea**	**94.79**	**25**	P		**P**	**16 17 23.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=305,slow=4.4,SNR=9.9								
N20A	**Spence Gulch,**	**95.23**	**17**	P		**P**	**16 17 25.6**	**+0.6**
	baz=95								
N23A	**Red Feather La**	**95.65**	**15**	P		**P**	**16 17 27.3**	**+0.3**
	baz=95								
R11A	**Troy Canyon, C**	**95.69**	**23**	P		**P**	**16 17 26.4**	**-0.7**
	baz=95								
TXAR	**Lajitas Array**	**107.28**	**16**	PKiKP		**PKiKP**	**16 22 27.6**	**-0.2**
TXAR	**Lajitas Array**	**107.28**	**16**	PKiKP		**PKiKP**	**16 22 27.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=341,slow=1.9,SNR=4.5								
SYO	**Syowa Base**	**117.65**	**199**	*e*X		**PKiKP**	**16 22 44.1**	**-1.7**
VNDA	**Vanda**	**125.91**	**166**	PKP		**PKPdf**	**16 23 00.9**	**-0.7**
VNDA	**Vanda**	**125.91**	**166**	PKP		**PKPdf**	**16 23 00.9**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=308,slow=6.0,SNR=9.6								
SDV	**Santo Domingo**	**127.67**	**341**	*e*PKPdf		**PKPdf**	**16 23 06.2**	**-0.9**
SNAA	**Sanae**	**131.26**	**205**	*e*P		**PKPdf**	**16 23 10.6**	**-1.4**
SNAA	**Sanae**	**131.26**	**205**	PKP		**PKPdf**	**16 23 11.2**	**-0.8**
SNAA	**Sanae**	**131.26**	**205**	PKP		**PKPdf**	**16 23 11.2**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=331,slow=3.3,SNR=8.5								
QSPA	**South Pole Qui**	**131.59**	**180**	PKP		**PKPdf**	**16 23 11.2**	**-1.5**
QSPA				*e*PKPdf		**PKiKP**	**16 23 11.7**	**-2.0**
QSPA	**South Pole Qui**	**131.59**	**180**	PKP		**PKPdf**	**16 23 11.2**	**-1.5**
	comp=Z,3.6nm,0.8s,baz=284,slow=1.5,SNR=9.8								
VNA2	**Neumayer--Watz**	**132.62**	**206**	*e*P		**PKPdf**	**16 23 13.6**	**-0.9**
	baz=22,slow=2.5								
SAML	**Samuel**	**141.68**	**322**	*e*PKPdf		**PKPdf**	**16 23 32.9**	**0.0**
LPAZ	**La Paz**	**150.38**	**324**	*e*PKPdf		**PKPdf**	**16 23 47.2**	**-1.2**
LPAZ				PKP		**PKPdf**	**16 23 47.7**	**-0.7**
LPAZ				PKPbc		**PKPbc**	**16 23 52.9**	**-0.7**
LPAZ	**La Paz**	**150.38**	**324**	PKP		**PKPdf**	**16 23 47.7**	**-0.7**
	comp=Z,6.8nm,0.9s,baz=34,slow=4.0,SNR=15								
LPAZ				PKPbc		**PKPbc**	**16 23 52.9**	**-0.7**
	comp=Z,8.6nm,0.7s,baz=35,slow=5.1,SNR=20								
CPUP	**Villa Florida**	**152.01**	**295**	*e*PKPbc		**PKPbc**	**16 23 55.4**	**-0.9**
CPUP	**Villa Florida**	**152.01**	**295**	PKPbc		**PKPbc**	**16 23 55.5**	**-0.8**
	comp=Z,22nm,0.6s,baz=26,slow=2.5,SNR=41								
LCO	**Las Campanas**	**162.32**	**312**	*e*PKPdf		**PKPdf**	**16 24 03.6**	**+0.6**
PLCA	**Paso Flores**	**168.51**	**270**	PKP		**PKPdf**	**16 24 05.9**	**-1.7**
PLCA				PKPab		**PKPab**	**16 25 16.1**	**-1.2**
PLCA	**Paso Flores**	**168.51**	**270**	PKP		**PKPdf**	**16 24 05.9**	**-1.7**
	comp=Z,5.4nm,0.9s,baz=291,slow=2.3,SNR=6.5								
PLCA				PKPab		**PKPab**	**16 25 16.1**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=124,slow=4.3,SNR=3.6								

MAN ***13*** *16:06:19, 18.35N×120.61E, h46km, mb4.6, ML3.5, MS3.5*
IDC 13 16:06:09.2±23.0, 18.51N×122.18E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/24, mbtmp3.9/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/44, Error ellipse: s-maj=433.5km s-min=256.5km az=152.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.03**	**162**	P	P	16 13 46.8	+0.6
	1.3nm,0.5s,baz=341,slow=9.0,SNR=8.0						
ASAR	**Alice Springs**	**43.45**	**164**	P	P	16 14 13.8	-0.4
	1.2nm,0.9s,baz=350,slow=7.7,SNR=11						
ASAR				LR	LR	16 32 32.5	
	comp=Z,96nm,18.6s,baz=157,slow=36						
STKA	**Stephens Creek**	**53.45**	**159**	P	P	16 15 30.5	-0.6
	2.5nm,1.0s,baz=338,slow=12,SNR=3.6						

ISCJB ***13*** *16:09:53.3±0.5, 56°18S±0.07×27°47W±0.2, h112km, mb4.2/13, Error ellipse: s-maj=13.6km s-min=8.4km az=143.6*
NEIC ***13*** *16:09:55.0±1.8, 56°20S×27°53W, h113km±15km, mb4.6/7, Error ellipse: s-maj=10.1km s-min=6.7km az=224.0*
IDC ***13*** *16:09:57.8±1.9, 56°19S×27°50W, h134km±15km, mb4.0/11, mb1 4.0/12, mb1mx3.9/20, mbtmp4.0/12, MS3.1/3, Ms1 3.1/3, ms1mx3.0/20, Error ellipse: s-maj=17.5km s-min=12.5km az=68.0*
ISC 13 16:09:54.8±0.4, 56°20S±0.09×27°5W±0.1, h112km, n71, σ0§82/74, mb4.2/12, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.72**	**158**	*e*P	**P**	**16 13 42.6**	**+0.3**
VNA2	**Neumayer--Watz**	**17.12**	**157**	*e*P	**P**	**16 13 46.0**	**-0.7**
	baz=312,slow=13						
EFI	**East Falkland**	**18.45**	**271**	*e*P	**P**	**16 14 01.8**	**+0.3**
SNAA	**Sanae**	**18.68**	**156**	*e*P	**P**	**16 14 03.3**	**-0.5**
SNAA	**Sanae**	**18.68**	**156**	*e*P	**P**	**16 14 03.1**	**-0.7**
	27nm,0.6s						
SNAA	**Sanae**	**18.68**	**156**	P	**P**	**16 14 03.4**	**-0.4**
	1.8nm,0.3s,baz=307,slow=10,SNR=238						
SNAA				LR	LR	16 20 00.8	
	comp=Z,18nm,18.2s,baz=29,slow=32						
USHA	**Ushuaia**	**22.97**	**256**	P	**P**	**16 14 49.5**	**+0.2**
USHA	**Ushuaia**	**22.97**	**256**	P	**P**	**16 14 49.5**	**+0.2**
	9.6nm,1.0s,baz=111,slow=5.4,SNR=3.8						
TRQA	**Tornquist**	**29.21**	**294**	*e*P	**P**	**16 15 45.3**	**-0.5**
	5.0nm,0.8s						
SYO	**Syowa Base**	**31.58**	**141**	*e*P	**P**	**16 16 05.0**	**-1.2**
PLCA	**Paso Flores**	**31.85**	**281**	LR	LR	16 28 53.6	
	comp=Z,96nm,18.5s,baz=240,slow=36						
QSPA	**South Pole Qui**	**34.05**	**180**	*e*P	**P**	**16 16 28.9**	**+0.9**
	7.2nm,0.9s						
QSPA				ScP	**ScP**	**16 22 34.0**	**-3.0**
QSPA	**South Pole Qui**	**34.05**	**180**	P	**P**	**16 16 29.0**	**+1.1**
	2.5nm,0.3s,baz=52,slow=5.0,SNR=20						
QSPA				ScP	**ScP**	**16 22 34.0**	**-3.0**
	0.8nm,0.5s,baz=341,slow=1.3,SNR=2.2						
CPUP	**Villa Florida**	**36.77**	**312**	*e*P	**P**	**16 16 50.8**	**-0.6**
	0.1nm,0.4s						
CPUP				PcP	**PcP**	**16 19 11.6**	**+0.4**
CPUP	**Villa Florida**	**36.77**	**312**	P	**P**	**16 16 50.7**	**-0.7**
	0.5nm,0.3s,baz=122,slow=7.6,SNR=3.8						
CPUP				PcP	**PcP**	**16 19 11.6**	**+0.4**
	1.3nm,0.5s,baz=199,slow=1.8,SNR=5.5						
MAW	**Mawson**	**40.13**	**144**	P	**P**	**16 17 19.2**	**+0.2**
MAW	**Mawson**	**40.13**	**144**	P	**P**	**16 17 19.2**	**+0.2**
	1.9nm,0.4s,baz=307,slow=5.1,SNR=2.4						
MAW				LR	LR	16 32 12.8	
	comp=Z,27nm,20.3s,baz=330,slow=33						
BDFB	**Brasilia**	**43.41**	**331**	P	**P**	**16 17 46.8**	**+0.4**
BDFB	**Brasilia**	**43.41**	**331**	P	**P**	**16 17 46.8**	**+0.4**
	2.0nm,0.6s,baz=103,slow=5.9,SNR=5.6						
LVC	**Limon Verde**	**45.22**	**301**	*e*P	**P**	**16 18 01.4**	**+0.4**
	7.5nm,0.5s						
VNDA	**Vanda**	**46.41**	**183**	*e*P	**P**	**16 18 09.8**	**+0.5**
	2.7nm,0.7s						
VNDA	**Vanda**	**46.41**	**183**	P	**P**	**16 18 10.7**	**+1.4**
	3.5nm,0.7s,baz=184,slow=4.5,SNR=18						
LBTB	**Lobatse**	**49.23**	**73**	*e*P	**P**	**16 18 32.2**	**+0.3**
LBTB	**Lobatse**	**49.23**	**73**	P	**P**	**16 18 32.0**	**+0.2**
	1.5nm,0.6s,baz=223,slow=13,SNR=1.9						
H10N1	**ASCENSION HYDR**	**49.32**	**17**	T	T	17 10 38.9	
	baz=202,slow=75,SNR=13						
H10N3	**ASCENSION HYDR**	**49.32**	**17**	T	T	17 10 39.7	
	baz=202,slow=75,SNR=10						
H10N2	**ASCENSION HYDR**	**49.34**	**17**	T	T	17 10 40.9	
	baz=202,slow=75,SNR=15						
LPAZ	**La Paz**	**50.32**	**306**	*e*P	**P**	**16 18 41.1**	**+0.4**
	7.4nm,0.4s						
LPAZ				PcP	**PcP**	**16 19 58.5**	**+0.7**
LPAZ	**La Paz**	**50.32**	**306**	P	**P**	**16 18 41.5**	**+0.7**
	6.8nm,0.4s,baz=102,slow=5.1,SNR=42						
LPAZ				PcP	**PcP**	**16 19 58.5**	**+0.7**
	0.6nm,0.4s,baz=81,slow=3.5,SNR=1.7						
DBIC	**Dimbokro**	**65.38**	**25**	P	**P**	**16 20 25.4**	**+0.2**
DBIC	**Dimbokro**	**65.38**	**25**	P	**P**	**16 20 25.4**	**+0.2**
	2.6nm,0.6s,baz=150,slow=9.2,SNR=6.0						
TOA0	**Torodi Ar. Sit**	**73.28**	**30**	*e*P	**P**	**16 21 13.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.28**	**30**	P	**P**	**16 21 14.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.28**	**30**	P	**P**	**16 21 14.1**	**+0.3**
	2.9nm,0.5s,baz=199,slow=6.6,SNR=34						
ASAR	**Alice Springs**	**98.90**	**163**	P	Pdif	16 23 22.2	-0.2
ASAR				PKKP	**PKKPdf**	**16 39 47.6**	**-0.5**
ASAR	**Alice Springs**	**98.90**	**163**	P	Pdif	16 23 22.2	-0.2
	0.5nm,0.8s,baz=183,slow=5.0,SNR=6.6						
ASAR				PKKP	**PKKPdf**	**16 39 47.6**	**-0.5**
	0.2nm,0.6s,baz=20,slow=3.0,SNR=4.3						
PDAR	**Pinedale Array**	**120.27**	**302**	PKP	**PKPdf**	**16 28 31.3**	**-0.8**
PDAR	**Pinedale Array**	**120.27**	**302**	PKP	**PKPdf**	**16 28 31.3**	**-0.8**
	0.2nm,0.5s,baz=96,slow=1.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**125.18**	**111**	PKP	**PKPdf**	**16 28 42.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**125.18**	**111**	PKP	**PKPdf**	**16 28 42.1**	**+0.2**
	0.5nm,0.8s,baz=224,slow=3.7,SNR=4.8						
ARCES	**ARCESS Array B**	**131.15**	**22**	PKP	**PKPdf**	**16 28 51.6**	**-0.1**
ARCES	**ARCESS Array B**	**131.15**	**22**	PKP	**PKPdf**	**16 28 51.6**	**-0.1**
	1.6nm,0.6s,baz=244,slow=3.0,SNR=6.2						
BVAR	**Borovoye Array**	**135.02**	**58**	PKP	**PKPdf**	**16 29 00.3**	**+0.8**
BVAR	**Borovoye Array**	**135.02**	**58**	PKP	**PKPdf**	**16 29 00.3**	**+0.8**
	0.9nm,0.6s,baz=205,slow=4.9,SNR=5.9						
YKA	**Yellowknife Ar**	**136.16**	**318**	PKP	**PKPdf**	**16 29 01.1**	**-0.2**
YKA				SKP		16 32 22.2	
YKA	**Yellowknife Ar**	**136.16**	**318**	PKP	**PKPdf**	**16 29 01.1**	**-0.2**
	1.4nm,0.4s,baz=128,slow=2.2,SNR=30						
YKA				SKP		16 32 22.2	
	0.3nm,0.6s,baz=134,slow=3.7,SNR=6.7						
MKAR	**Makanchi Array**	**137.11**	**72**	PKP	**PKPdf**	**16 29 04.6**	**+0.9**
MKAR	**Makanchi Array**	**137.11**	**72**	PKP	**PKPdf**	**16 29 04.6**	**+0.9**
	0.4nm,0.6s,baz=217,slow=2.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**137.53**	**65**	PKhKP	PKPpre	16 28 59.9	
	0.2nm,0.4s,baz=244,slow=2.9,SNR=2.9						
KURBB				PKP	**PKPdf**	**16 29 04.1**	**-0.1**
	0.2nm,0.4s,baz=237,slow=2.7,SNR=4.5						
KURK	**Kurchatov**	**137.64**	**65**	PKPpre	PKPpre	16 28 59.9	
KURK				PKP	**PKPdf**	**16 29 04.1**	**-0.3**
ZALV	**Zalesovo Beam**	**142.60**	**64**	PKPpre	PKPpre	16 29 07.9	
ZALV	**Zalesovo Beam**	**142.60**	**64**	PKhKP	PKPpre	16 29 07.9	
	0.7nm,0.5s,baz=247,slow=4.8,SNR=4.3						
HYT	**Haines Junctio**	**144.74**	**307**	*e*PKP	**PKPab**	**16 29 16.3**	**+0.1**
INK	**Inuvik**	**145.80**	**321**	*e*PKP	**PKPbc**	**16 29 19.2**	**0.0**
INK				PKPbc	**PKPbc**	**16 29 19.7**	**+0.5**
INK	**Inuvik**	**145.80**	**321**	PKPbc	**PKPbc**	**16 29 19.7**	**+0.5**
	11nm,0.5s,baz=80,slow=2.8,SNR=103						
MENT	**Mentasta**	**148.25**	**309**	*e*PKPbc	**PKPbc**	**16 29 26.3**	**+0.1**
DOT	**Dot Lake**	**148.60**	**310**	*e*PKPbc	**PKPbc**	**16 29 27.6**	**+0.4**
PAX	**Paxson**	**149.02**	**308**	*e*PKPbc	**PKPbc**	**16 29 28.4**	**+0.1**
ILAR	**Eielson Array**	**150.08**	**312**	PKP	**PKPdf**	**16 29 23.2**	**-2.3**
ILAR				PKPbc	**PKPbc**	**16 29 30.6**	**-0.1**
ILAR	**Eielson Array**	**150.08**	**312**	PKP	**PKPdf**	**16 29 23.2**	**-2.3**
	0.4nm,0.8s,baz=256,slow=0.7,SNR=5.0						
ILAR				PKPbc	**PKPbc**	**16 29 30.6**	**-0.1**
	11nm,0.8s,baz=131,slow=3.0,SNR=112						
PMR	**Palmer**	**150.27**	**295**	*e*PKPbc	**PKPbc**	**16 29 31.4**	**+0.2**
RC01	**Rabbit Creek A**	**150.41**	**304**	*e*PKPbc	**PKPbc**	**16 29 32.1**	**+0.5**
COLA	**College**	**150.50**	**312**	*e*PKPbc	**PKPbc**	**16 29 31.5**	**-0.1**
KDAK	**Kodiak Island**	**150.72**	**296**	*e*PKPbc	**PKPbc**	**16 29 32.3**	**-0.1**
MCK	**McKinley**	**150.72**	**309**	*e*PKPbc	**PKPbc**	**16 29 32.8**	**+0.5**
SONM	**Songino Array**	**150.92**	**87**	PKPbc	**PKPbc**	**16 29 33.7**	**+0.3**
SONM	**Songino Array**	**150.92**	**87**	PKPbc	**PKPbc**	**16 29 33.7**	**+0.3**
	3.7nm,0.6s,baz=217,slow=3.4,SNR=28						
TRF	**Thorofare Moun**	**151.25**	**308**	*e*PKPbc	**PKPbc**	**16 29 33.9**	**+0.2**
COLD	**Coldfoot**	**151.80**	**316**	*e*PKPbc	**PKPbc**	**16 29 35.2**	**+0.6**
PPLA	**Purkeypile**	**151.98**	**307**	*e*PKPbc	**PKPbc**	**16 29 35.5**	**+0.1**
IM04	**Indian Mountai**	**153.12**	**313**	*e*PKPbc	**PKPbc**	**16 29 37.6**	**-0.1**

IDC ***13*** *16:25:15.9±3.5, 4°77S×103°39E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=153.1km s-min=18.8km az=58.0*
ISCJB ***13*** *16:25:34.6±0.6, 4°5S±0°1×104°0E±0°1, h168km±5km, mb3.4/6, Error ellipse: s-maj=24.8km s-min=10.9km az=44.0*
DJA ***13*** *16:25:36.8±1.1, 5°S±6°×10°4E±°, h148km±8km, M2.9/6, MLv2.9/6*
ISC 13 16:25:35.6±0.8, 4°5S±0°1×104°0E±0°1, h163km±7km, n12, σ0§67/16, mb3.4/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDSI	**Maura Dua**	**0.23**	**82**	P	**Pn**	**16 25 57.6**	**+0.1**
MDSI				S	**Sn**	**16 26 13.7**	**-0.5**
LWLI	**Liwa**	**0.51**	**168**	P	**Pn**	**16 25 59.0**	**+0.3**
LWLI				S	**Sn**	**16 26 16.5**	**+0.1**
KLSI		**0.79**	**102**	P	**Pn**	**16 26 00.6**	**+0.5**
LHSI	**Lahat**	**0.81**	**328**	P	**Pn**	**16 26 01.0**	**+0.7**
MNAI	**Manna**	**1.01**	**279**	P	**Pn**	**16 26 02.1**	**+0.4**
MNAI				S	**Sn**	**16 26 21.6**	**-0.1**
KASI	**Kota Agung**	**1.14**	**152**	P	**Pn**	**16 26 02.5**	**-0.3**
KASI				S	**Sn**	**16 26 23.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**23.36**	**348**	P	**P**	**16 30 28.6**	**-1.0**
	1.1nm,0.6s,baz=181,slow=9.8,SNR=11						
WRA	**Warramunga Arr**	**33.32**	**120**	P	**P**	**16 31 58.3**	**0.0**
	0.2nm,0.3s,baz=302,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**34.59**	**126**	P	**P**	**16 32 09.6**	**+0.4**
	0.3nm,0.4s,baz=301,slow=7.7,SNR=15						
STKA	**Stephens Creek**	**44.54**	**132**	P	**P**	**16 33 32.1**	**+0.8**
	1.2nm,0.5s,baz=333,slow=9.0,SNR=5.1						
SONM	**Songino Array**	**52.18**	**2**	P	**P**	**16 34 30.2**	**+0.6**
	0.3nm,0.5s,baz=177,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**54.57**	**342**	P	**P**	**16 34 45.8**	**-1.1**
	0.3nm,0.5s,baz=155,slow=8.7,SNR=7.2						

ISCJB ***13*** *16:29:29.0±0.7, 5°73S±0°08×145°81E±0°10, h69km, mb3.5/6, Error ellipse: s-maj=13.8km s-min=10.7km az=162.6*
IDC ***13*** *16:29:32.7±4.1, 5°85S×146°20E, h110km±44km, mb3.3/6, mb1 3.4/8, mb1mx3.3/18, mbtmp3.2/8, Error ellipse: s-maj=35.8km s-min=26.5km az=140.0*
ISC 13 16:29:30.3±0.8, 5°73S±0°08×145°8E±0°1, h69km, n12, σ1§76/14, mb3.7/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.89**	**160**	P	**Pn**	**16 30 29.1**	**+1.4**
	4.2nm,0.3s,baz=353,slow=6.3,SNR=62						
PMG				S	**Sn**	**16 31 10.1**	**-2.1**
	22nm,0.3s,baz=160,slow=20,SNR=20						
PMG	**Port Moresby**	**3.89**	**160**	P	**Pn**	**16 30 29.1**	**+1.4**
	baz=33,SNR=26						
PMG				P	**Pn**	**16 30 29.1**	**+1.4**
	baz=33,SNR=26						
PMG				P	**Pn**	**16 30 29.1**	**+1.4**
	baz=33,SNR=26						
RABL	**Rabaul**	**6.52**	**77**	P	**Pn**	**16 31 05.9**	**+2.2**
	baz=36,SNR=4.7						
WRA	**Warramunga Arr**	**17.99**	**217**	P	**Pn**	**16 33 36.5**	**+0.7**
	0.1nm,0.3s,baz=42,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**21.20**	**212**	P	**P**	**16 34 11.6**	**+1.2**
	0.4nm,0.8s,baz=34,slow=12,SNR=5.1						
FITZ	**Fitzroy Crossi**	**23.21**	**236**	P	**P**	**16 34 31.0**	**-0.5**
	2.5nm,0.9s,baz=9.1,slow=15,SNR=9.6						
CMAR	**Chiang Mai Arr**	**52.07**	**299**	P	**P**	**16 38 35.4**	**+1.8**
	1.5nm,0.6s,baz=120,slow=5.8,SNR=14						
MKAR	**Makanchi Array**	**76.53**	**321**	P	**P**	**16 41 13.2**	**+0.1**
	0.2nm,0.5s,baz=96,slow=9.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**78.15**	**328**	P	**P**	**16 41 20.2**	**-1.7**
	0.3nm,0.3s,baz=98,slow=6.1,SNR=2.8						
ILAR	**Eielson Array**	**85.71**	**23**	P	**P**	**16 41 58.5**	**-2.9**
	0.5nm,0.7s,baz=252,slow=4.7,SNR=9.9						
TORD	**Torodi Ar. Bea**	**143.87**	**284**	PKP	PKPbc	16 48 56.4	-0.2
	0.9nm,0.4s,baz=59,slow=3.2,SNR=9.0						
DBIC	**Dimbokro**	**150.81**	**273**	PKPbc	**PKPbc**	**16 49 15.6**	**-0.4**
	2.1nm,0.5s,baz=108,slow=2.1,SNR=4.0						

IDC ***13*** *16:42:59.4±1.8, 1°99N×96°26E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/27, mbtmp3.6/8, ML3.7/2, Error ellipse: s-maj=53.0km s-min=20.3km az=54.0*
ISCJB ***13*** *16:43:02.0±0.8, 2°02N±0°06×96°32E±0°06, h28km, mb3.6/6, Error ellipse: s-maj=9.2km s-min=8.2km az=164.5*
DJA ***13*** *16:43:03.1±1.3, 2°N±7°×9°6E±1°8, h25km±9km, M3.8/5, MLv3.8/5*
ISC 13 16:43:03.9±1.2, 2°15N±0°08×96°32E±0°09, h28km, n19, σ0§87/17, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.25**	**1**	P	**Pn**	**16 43 11.5**	**-0.3**
SNSI				S	**Sn**	**16 43 16.1**	**-0.7**
TPTI		**1.39**	**38**	P	**Pn**	**16 43 26.7**	**-0.8**
TPTI				S	**Sb**	**16 43 46.8**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.99**	**47**	P	**Pn**	**16 43 36.1**	**+0.4**
KCSI				S	**Sn**	**16 44 01.4**	**+1.7**
TSI	**Tuntungan**	**2.61**	**59**	P	**Pn**	**16 43 44.2**	**0.0**
PSI	**Prapat**	**2.68**	**76**	Pn	**Pn**	**16 43 45.0**	**-0.3**
	3.1nm,0.3s,baz=283,slow=12,SNR=8.6						
PSI				Sn	**Sn**	**16 44 15.5**	**-1.4**
	4.6nm,0.3s,baz=266,slow=13,SNR=6.9						
MNSI	**Mandalling Nat**	**3.52**	**112**	P	**Pn**	**16 43 57.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.41**	**9**	Pn	**P**	**16 46 54.5**	**-0.4**
	0.3nm,0.3s,baz=197,slow=12,SNR=13						
H08S2	**Diego Garcia H**	**25.69**	**247**	T	T	17 15 12.8	
	baz=68,slow=75,SNR=44						
H08S3	**Diego Garcia H**	**25.69**	**248**	T	T	17 15 14.0	
	baz=68,slow=75,SNR=36						
H08S1	**Diego Carcia H**	**25.71**	**248**	T	T	17 15 15.7	
	baz=68

HSIG				*i* S	Sn	17 00 20.4	-7.7		
HPIG		**4.44**	**81**	*i* P	**Pn**	**17 00 19.0**	**-1.9**		
HPIG				*i* S	**Sn**	**17 01 11.6**	**-0.2**		
HPIG		**4.44**	**81**	*i* P	**Pn**	**17 00 19.0**	**-1.9**		
HPIG				*e*S	**Sn**	**17 01 11.6**	**-0.2**		
MAIG	**Mazatlaan**	**4.92**	**129**	*e*P	**Pn**	**17 00 25.1**	**-2.1**		
MAIG				*e*S	**Sn**	**17 01 24.3**	**+1.0**		
MAIG	**Mazatlaan**	**4.92**	**129**	*e*P	**Pn**	**17 00 25.1**	**-2.1**		
MAIG				*e*S	**Sn**	**17 01 24.3**	**+1.0**		
214A	**Organ Pipe Nat**	**5.92**	**341**	*e*Pn	Pn	17 00 37.3	-3.7		
	41nm,0.6s								
TUC	**Tucson**	**5.94**	**358**	*e*Pn	**Pn**	**17 00 38.2**	**-3.2**		
	29nm,0.6s								
121A	**Cookes Peak, D**	**6.63**	**21**	*e*Pn	**Pn**	**17 00 48.7**	**-2.1**		
	102nm,0.9s								
TXAR	**Lajitas Array**	**6.81**	**63**	Pn	**Pn**	**17 00 51.0**	**-2.3**		
TXAR				Sn	**Sn**	**17 02 08.7**	**-1.3**		
TXAR				Lg	Lg	17 02 42.8			
TXAR	**Lajitas Array**	**6.81**	**63**	Pn	**Pn**	**17 00 51.0**	**-2.3**		
	2.7nm,0.3s,baz=237,slow=14,SNR=67								
TXAR				Sn	**Sn**	**17 02 08.7**	**-1.3**		
	2.2nm,0.3s,baz=222,slow=1.7,SNR=4.0								
TXAR				Lg	Lg	17 02 42.8			
	6.0nm,0.3s,baz=272,slow=32,SNR=5.9								
TXAR				LR	LR	17 03 43.8			
	comp=Z,6μm,19.5s,baz=140,slow=40								
MNTX	**Cornudas Mount**	**7.01**	**39**	*e*Pn	**Pn**	**17 00 54.6**	**-1.4**		
	70nm,0.9s								
GLA	**Glamis**	**7.63**	**332**	*e*Pn	Pn	17 01 01.1	-3.4		
	5.3nm,0.4s								
LENM	**Lemitar**	**8.39**	**21**	*e*Pn	**Pn**	**17 01 13.7**	**-1.4**		
	3.7nm,0.6s								
BNM	**Barren Site**	**8.49**	**23**	*e*Pn	**Pn**	**17 01 14.4**	**-2.1**		
	308nm,0.4s								
LAZ	**Ladron**	**8.56**	**19**	*e*Pn	**Pn**	**17 01 16.4**	**-1.1**		
	8.3nm,0.9s								
PFO	**Pinyon Flat Ob**	**8.85**	**326**	Lg	Lg	17 03 52.4			
	0.1nm,0.3s,baz=264,slow=17,SNR=2.3								
PFO				LR	LR	17 04 17.5			
	comp=Z,1μm,20.1s,baz=146,slow=35								
WUAZ	**Wupatki**	**9.16**	**356**	*e*Pn	**Pn**	**17 01 25.9**	**+0.2**		
	12nm,0.7s								
ANMO	**Albuquerque**	**9.28**	**22**	*e*P	**Pn**	**17 01 27.4**	**+0.1**		
ANMO				Sn	Sn	17 03 04.7	-6.1		
ANMO				Lg	Lg	17 04 05.8			
ANMO	**Albuquerque**	**9.28**	**22**	Pn	**Pn**	**17 01 26.0**	**-1.2**		
	0.1nm,0.3s,baz=184,slow=14,SNR=3.8								
ANMO				Sn	Sn	17 03 04.7	-6.1		
	0.2nm,0.3s,baz=200,slow=18,SNR=1.9								
ANMO				Lg	Lg	17 04 05.8			
	1.1nm,0.3s,baz=354,slow=18,SNR=4.9								
MSTX	**Muleshoe**	**10.16**	**40**	*e*P	**Pn**	**17 01 40.1**	**+0.7**		
	60nm,1.1s								
JCT	**Junction City**	**10.34**	**64**	P	**Pn**	**17 01 41.8**	**0.0**		
	39nm,1.0s								
SHPR	**Sheep Range**	**10.85**	**340**	*e*P	**Pn**	**17 01 49.6**	**+0.8**		
	22nm,1.2s								
MVCO	**Mesa Verde**	**10.97**	**9**	*e*P	**Pn**	**17 01 50.2**	**-0.3**		
	18nm,0.9s								
ABTX	**Abilene, Hawle**	**11.39**	**54**	*e*P	**Pn**	**17 01 56.2**	**+0.1**		
	49nm,0.9s								
CCUT	**Cedar City**	**11.41**	**349**	*e*P	**Pn**	**17 01 58.6**	**+2.0**		
	11nm,1.0s								
ARUT	**Antelope Range**	**11.66**	**349**	*e*P	**Pn**	**17 02 01.9**	**+2.0**		
	995nm,1.8s								
R11A	**Troy Canyon, C**	**12.69**	**342**	*e*P	**Pn**	**17 02 13.8**	**-0.1**		
	174nm,2.1s								
SRU	**San Rafael**	**12.73**	**0**	*e*P	**Pn**	**17 02 15.0**	**+0.5**		
	8.1nm,0.8s								
WHTX	**Lake Whitney**	**12.77**	**61**	P	**Pn**	**17 02 14.3**	**-0.6**		
	34nm,1.1s								
WMOK	**Wichita Mounta**	**13.16**	**48**	*e*P	**Pn**	**17 02 19.3**	**-0.9**		
	32nm,1.1s								
HKT	**Hockley**	**13.50**	**71**	*e*P	**Pn**	**17 02 24.7**	**-0.1**		
	52nm,1.4s								
NLU	**North Lily Min**	**13.63**	**355**	*e*P	Pn	17 02 29.5	+2.8		
	48nm,1.7s								
NV11	**Mina Array Sit**	**13.63**	**334**	*e*P	**Pn**	**17 02 27.7**	**+0.9**		
O20A	**White River Ci**	**13.89**	**8**	*e*P	**Pn**	**17 02 32.5**	**+2.2**		
	25nm,1.2s								
DUG	**Dugway**	**13.93**	**353**	*e*P	**Pn**	**17 02 32.1**	**+1.2**		
	26nm,1.2s								
DAU	**Daniels Canyon**	**14.04**	**358**	*e*P	**Pn**	**17 02 33.5**	**+1.0**		
	51nm,1.8s								
ISCO	**Idaho Springs**	**14.04**	**16**	*e*P	**Pn**	**17 02 32.5**	**0.0**		
	4.9nm,0.6s								
WAKR	**Walker**	**14.23**	**331**	P	**Pn**	**17 02 34.4**	**-0.6**		
	173nm,2.2s								
BGU	**Big Grassy Mou**	**14.68**	**353**	P	**Pn**	**17 02 40.3**	**-0.8**		
	54nm,2.2s								
ELK	**Elko**	**14.87**	**346**	Pn	**Pn**	**17 02 44.7**	**+1.0**		
ELK	**Elko**	**14.87**	**346**	Pn	**Pn**	**17 02 44.7**	**+1.0**		
	0.1nm,0.3s,baz=186,slow=11,SNR=11								
ELK				LR	LR	17 08 25.1			
	comp=Z,1μm,21.8s,baz=2.4,slow=37								
SPUT	**South Promonto**	**15.00**	**355**	P	**Pn**	**17 02 45.5**	**+0.1**		
	18nm,1.1s								
PAHR	**Pah Rah Range**	**15.22**	**333**	*e*P	**P**	**17 02 50.5**	**-2.4**		
	235nm,2.2s								
TUL1	**Tulsa**	**15.83**	**49**	*e*P	Pn	17 02 50.1	-6.0		
	13nm,0.7s								
BW06	**Boulder Array**	**16.40**	**3**	*e*P	**P**	**17 03 06.3**	**+0.1**		
	266nm,2.5s								
PDAR	**Pinedale Array**	**16.40**	**3**	Pn	**Pn**	**17 03 03.0**	**-0.6**		
PDAR				Lg	Lg	17 07 57.7			
PDAR	**Pinedale Array**	**16.40**	**3**	Pn	**Pn**	**17 03 03.0**	**-0.6**		
	0.0nm,0.3s,baz=157,slow=8.0,SNR=7.4								
PDAR				Lg	Lg	17 07 57.7			
	0.1nm,0.3s,baz=184,slow=20,SNR=5.4								
PDAR				LR	LR	17 09 23.7			
	comp=Z,1μm,21.8s,baz=190,slow=38								
K22A	**Casper**	**16.60**	**11**	*e*P	**Pn**	**17 03 06.4**	**+0.4**		
	69nm,1.9s								
MIAR	**Mount Ida**	**16.77**	**57**	*e*P	**P**	**17 03 10.1**	**0.0**		
	9.7nm,1.0s								
WVOR	**Wild Horse Val**	**17.35**	**340**	*e*P	**P**	**17 03 16.4**	**-0.2**		
	62nm,1.8s								
MOD	**Modoc**	**17.46**	**335**	*e*P	**P**	**17 03 17.4**	**-0.4**		
	50nm,1.7s								
YMR	**Madison River**	**18.28**	**359**	*e*P	**P**	**17 03 27.7**	**+0.7**		
	154nm,2.1s								
YBH	**Yreka Blue Hor**	**18.31**	**330**	LR	LR	17 10 00.7			
	comp=Z,910nm,20.3s,baz=323,slow=36								
QLMT	**Earthquake Lak**	**18.45**	**358**	*e*P	**Pn**	**17 03 32.0**	**+3.0**		
	1.9nm,1.2s								
MCMT	**McKenzie Canyo**	**18.53**	**355**	*e*P	**Pn**	**17 03 31.2**	**+1.2**		
RLMT	**Red Lodge**	**18.76**	**3**	*e*P	**Pn**	**17 03 33.8**	**+1.0**		
	180nm,2.2s								
GCMT	**Greycliff**	**19.42**	**2**	*e*P	**Pn**	**17 03 41.0**	**+0.4**		
	9.8nm,1.2s								
LRM	**Limekiln Ridge**	**19.49**	**356**	*e*P	**Pn**	**17 03 42.6**	**+1.0**		
	237nm,1.6s								
HRY	**Holter Researc**	**20.35**	**358**	*e*P	Pn	17 03 50.9	-0.7		
	8.5nm,0.6s								
LAO	**LASA Array**	**20.59**	**9**	*e*P	Pn	17 03 53.7	-0.7		
	215nm,2.1s								
CHMT	**Chamberlain Mo**	**20.63**	**355**	*e*P	**P**	**17 03 52.3**	**-0.3**		
	17nm,1.1s								
ECSD	**EROS Data Cent**	**20.73**	**30**	*e*P	**P**	**17 03 53.4**	**0.0**		
	15nm,1.2s								
SLMT	**Seeley Lake**	**20.98**	**354**	*e*P	**P**	**17 03 55.8**	**-0.5**		
	29nm,1.3s								
SCIA	**State Center**	**21.09**	**38**	P	**P**	**17 04 00.3**	**+2.9**		
	75nm,1.4s								
HAWA	**Hanford**	**21.23**	**343**	*e*P	**P**	**17 03 56.9**	**-2.0**		
	28nm,1.5s								
SWMT	**Swartz Lake**	**21.29**	**354**	*e*P	**P**	**17 03 58.7**	**-0.9**		
	8.2nm,1.0s								
SIUC	**Southern Illin**	**21.31**	**53**	*e*P	**P**	**17 03 59.8**	**0.0**		
	40nm,1.0s								
TEIG	**Tepich**	**21.36**	**102**	P	**P**	**17 04 00.4**	**-0.1**		
TEIG	**Tepich**	**21.36**	**102**	P	**P**	**17 04 00.4**	**-0.1**		
	14nm,0.8s,baz=276,slow=12,SNR=4.9								
TEIG				LR	LR	17 14 14.6			
	comp=Z,1μm,18.1s,baz=311,slow=42								
LRAL	**Lakeview Retre**	**21.52**	**66**	*e*P	**P**	**17 04 02.2**	**+0.1**		
	51nm,1.5s								
EGMT	**Eagleton**	**21.65**	**2**	*e*P	**P**	**17 04 03.8**	**+0.4**		
	63nm,1.4s								
WVT	**Waverly**	**21.72**	**58**	*e*P	**P**	**17 04 03.7**	**-0.4**		
APG	**El Apazote**	**21.91**	**117**	P	**P**	**17 04 06.6**	**-0.1**		
APG	**El Apazote**	**21.91**	**117**	P	**P**	**17 04 06.6**	**-0.1**		
	38nm,1.3s,baz=320,slow=8.2,SNR=7.5								
WPW	**White Pass**	**22.09**	**340**	P	**P**	**17 04 07.9**	**-0.3**		
LON	**Longmire**	**22.22**	**339**	P	**P**	**17 04 09.0**	**-0.6**		
FMW	**Mount Fremont**	**22.34**	**340**	P	**P**	**17 04 11.4**	**+0.4**		
OLIL	**Olney**	**22.55**	**51**	*e*P	**P**	**17 04 13.9**	**+0.8**		
	26nm,0.9s								
WCI	**Wyandotte Cave**	**23.63**	**54**	*e*P	**P**	**17 04 25.2**	**+1.1**		
	11nm,0.8s								
TKL	**Tuckaleechee C**	**24.72**	**61**	P	**P**	**17 04 34.8**	**+0.6**		
TKL	**Tuckaleechee C**	**24.72**	**61**	P	**P**	**17 04 34.8**	**+0.6**		
	9.9nm,1.0s,baz=246,slow=7.6,SNR=4.1								
TKL				LR	LR	17 14 47.2			
	comp=Z,1μm,18.9s,baz=247,slow=38								
ULM	**Lac du Bonnet**	**26.41**	**21**	P	**P**	**17 04 48.7**	**-0.6**		
ULM	**Lac du Bonnet**	**26.41**	**21**	P	**P**	**17 04 48.7**	**-0.6**		
	2.1nm,0.7s,baz=201,slow=11,SNR=3.1								
ULM				LR	LR	17 16 10.2			
	comp=Z,387nm,22.0s,baz=263,slow=39								
EDM	**Edmonton**	**26.92**	**356**	*e*P	**P**	**17 04 52.8**	**-1.1**		
BBB	**Bella Bella**	**29.00**	**338**	LR	LR	17 16 28.1			
	comp=Z,653nm,19.8s,baz=289,slow=36								
YKA	**Yellowknife Ar**	**36.24**	**357**	P	**P**	**17 06 14.8**	**-0.7**		
YKA				PcP	**PcP**	**17 08 40.8**	**+0.5**		
YKA	**Yellowknife Ar**	**36.24**	**357**	P	**P**	**17 06 14.8**	**-0.7**		
	0.6nm,0.7s,baz=181,slow=8.4,SNR=9.7								
YKA				PcP	**PcP**	**17 08 40.8**	**+0.5**		
	0.2nm,0.5s,baz=161,slow=2.1,SNR=4.4								
OTAV	**Otavalo**	**40.39**	**125**	*e*P	**P**	**17 06 53.2**	**+1.7**		
	11nm,1.3s								
ROSC	**El Rosal**	**40.70**	**115**	LR	LR	17 23 51.9			
	comp=Z,230nm,19.1s,baz=200,slow=36								
SDV	**Santo Domingo**	**41.63**	**107**	*e*P	**P**	**17 07 02.4**	**+0.9**		
	2.4nm,0.8s								
SCHQ	**Schefferville**	**42.69**	**36**	LR	LR	17 25 36.7			
	comp=Z,648nm,18.4s,baz=254,slow=37								
INK	**Inuvik**	**44.19**	**348**	P	**P**	**17 07 21.7**	**+0.4**		
INK	**Inuvik**	**44.19**	**348**	P	**P**	**17 07 21.7**	**+0.4**		
	1.4nm,0.9s,baz=147,slow=7.6,SNR=3.7								
INK				LR	LR	17 25 26.6			
	comp=Z,381nm,18.3s,baz=54,slow=36								
ILAR	**Eielson Array**	**44.87**	**339**	P	**P**	**17 07 26.2**	**-0.6**		
ILAR	**Eielson Array**	**44.87**	**339**	P	**P**	**17 07 26.2**	**-0.6**		
	1.1nm,0.8s,baz=152,slow=6.7,SNR=15								
ILAR				LR	LR	17 26 50.6			
	comp=Z,268nm,18.2s,baz=326,slow=37								
TRF	**Thorofare Moun**	**45.20**	**336**	*e*P	**P**	**17 07 30.3**	**+0.6**		
	17nm,1.3s								
PPLA	**Purkeypile**	**45.59**	**335**	*e*P	**P**	**17 07 33.3**	**+0.5**		
	14nm,1.1s								
IM04	**Indian Mountai**	**47.89**	**338**	*e*P	**P**	**17 07 50.3**	**-0.2**		
PTGA	**Pitinga**	**55.69**	**111**	*e*P	**P**	**17 08 49.8**	**+0.3**		
PPT	**Papeete**	**57.80**	**225**	LR	LR	17 27 31.3			
	comp=Z,388nm,19.2s,baz=174,slow=29								
H03N2	**Juan Fernandez**	**66.64**	**151**	T	T	18 22 47.3			
	baz=330,slow=75,SNR=6.9								
H03N1	**Juan Fernandez**	**66.65**	**151**	T	T	18 22 52.2			
	baz=330,slow=75,SNR=7.0								
H03N3	**Juan Fernandez**	**66.65**	**151**	T	T	18 22 51.9			
	baz=330,slow=75,SNR=6.6								
PETK	**Petropavlovsk-**	**70.37**	**320**	P	**P**	**17 10 26.8**	**+0.3**		
PETK	**Petropavlovsk-**	**70.37**	**320**	P	**P**	**17 10 26.8**	**+0.3**		
	2.5nm,1.0s,baz=90,slow=7.5,SNR=3.2								
PETK				LR	LR	17 34 22.0			
	comp=Z,102nm,21.9s,baz=244,slow=30								
CPUP	**Villa Florida**	**73.32**	**131**	LR	LR	17 42 17.6			
	comp=Z,91nm,19.4s,baz=67,slow=35								
BDFB	**Brasilia**	**73.74**	**117**	LR	LR	17 46 18.9			
	comp=Z,181nm,18.2s,baz=169,slow=38								
TIXI	**Tiksi**	**74.08**	**344**	*e*P	**P**	**17 10 49.0**	**+0.7**		
	9.7nm,1.3s								
PLCA	**Paso Flores**	**76.40**	**150**	LR	LR	17 38 01.0			
	comp=Z,173nm,19.4s,baz=293,slow=30								
ARCES	**ARCESS Array B**	**79.29**	**14**	LR	LR	17 47 20.0			
	comp=Z,262nm,19.0s,baz=71,slow=36								
NOA	**NORSAR Array B**	**81.05**	**25**	P	**P**	**17 11 25.9**	**-1.6**		
NOA	**NORSAR Array B**	**81.05**	**25**	P	**P**	**17 11 25.9**	**-1.6**		
	1.3nm,0.9s,baz=283,slow=7.3,SNR=2.8								
NOA				LR	LR	17 46 34.2			
	comp=Z,218nm,19.5s,baz=310,slow=35								
ESDC	**Sonseca Array**	**85.26**	**48**	P	**P**	**17 11 50.2**	**+0.5**		
ESDC	**Sonseca Array**	**85.26**	**48**	P	**P**	**17 11 50.2**	**+0.5**		
	1.3nm,0.8s,baz=299,slow=7.4,SNR=4.4								
ESDC				LR	LR	17 48 33.1			
	comp=Z,261nm,18.5s,baz=295,slow=35								
PRU	**Pruhonice**	**89.77**	**32**	AMS	AMS	17 50 50.0			
	400nm,18.9s								
KHC	**Kasperske Hory**	**89.89**	**33**	AMS	AMS	17 51 50.0			
	500nm,18.8s								
MJAR	**Matsushiro Arr**	**89.98**	**311**	LR	LR	17 45 59.5			
	comp=Z,139nm,19.4s,baz=70,slow=31								
GERES	**GERESS Array B**	**90.14**	**33**	LR	LR	17 52 19.3			
	comp=Z,348nm,20.2s,baz=103,slow=35								
TREC	**Trest**	**90.70**	**32**	AMS	AMS	17 52 20.0			
	500nm,16.5s								
CN2	**Changchun**	**93.36**	**323**	*e*P	**P**	**17 12 26.3**	**-1.5**		
AKASG	**Malin Array Be**	**95.46**	**24**	LR	LR	17 57 17.9			
	comp=Z,237nm,18.6s,baz=310,slow=37								
KSRS	**Korea Array**	**96.07**	**317**	LR	LR	17 53 19.3			
	comp=Z,53nm,18.7s,baz=201,slow=34								
KEST	**Kesra**	**96.18**	**45**	LR	LR	17 56 06.0			
	comp=Z,116nm,19.7s,baz=319,slow=36								
JNU	**Nakatsue**	**96.87**	**312**	LR	LR	17 48 49.8			
	comp=Z,95nm,19.7s,baz=60,slow=31								
ZALV	**Zalesovo Beam**	**98.93**	**351**	LR	LR	17 59 11.4			
	comp=Z,135nm,19.8s,baz=250,slow=36								
SONM	**Songino Array**	**99.02**	**336**	LR	LR	18 05 01.1			
	comp=Z,117nm,18.1s,baz=15,slow=40								
HHC	**Hu-ho-hao-te**	**102.53**	**329**	*e*P	**Pdif**	**17 13 06.8**	**-2.6**		
HHC				PP	**PP**	**17 17 21.3**	**-0.3**		
HHC				SKS	**SKSac**	**17 23 44.5**	**-3.1**		
HHC				S	**Sdif**	**17 24 45.9**	**-6.6**		
HHC				SS	**SS**	**17 31 56.3**	**-1.8**		
HHC				pmax	pmax				
	comp=Z,170nm,8.4s								
HHC				LR	LR				
	comp=Z,120nm,19.4s								
WMQ	**Urumqi**	**108.19**	**346**	*e*Pdif	**Pdif**	**17 13 36.0**	**+1.6**		
WMQ				PP	PP	17 18 09.0	+6.0		
WMQ				S	**Sdif**	**17 25 41.0**	**+1.6**		
WMQ				SS	**SS**	**17 33 20.0**	**+5.5**		
WMQ				AMB	AMB				
	comp=Z,31nm,9.0s								
WMQ				LR	LR				
	comp=N,110nm,25.0s								
WMQ				LR	LR				
	comp=E,140nm,26.0s								
WMQ				LR	LR				
	comp=Z,100nm,25.0s								
LZH	**Lanzhou**	**109.92**	**331**	*e*PKP	PKiKP	17 17 39.3	-5.1		
LZH				pPKP	pPKP	17 17 42.3			
LZH				sPKP		17 17 43.8			
LZH				LR	LR				
	comp=N,150nm,18.0s								
LZH				LR	LR				
	comp=E,150nm,18.1s								
LZH				LR	LR				
	comp=Z,190nm,20.0s								
CD2	**Chengdu**	**114.28**	**328**	*e*PKP	PKPdf	17 17 52.3	-0.4		
GYA	**Guiyang**	**116.40**	**323**	*e*Pdif	**Pdif**	**17 14 11.8**	**+0.4**		
GYA				PKP	**PKPdf**	**17 17 56.9**	**-0.1**		
GYA				PP	**PP**	**17 19 07.0**	**+4.6**		
GYA				AMB	AMB				
	comp=Z,90nm,7.8s								
KMI	**Kunming**	**119.55**	**325**	PKP	**PKPdf**	**17 18 03.5**	**+0.3**		
KMI				LR	LR				
	comp=Z,57nm,18.9s								
ASAR	**Alice Springs**	**122.04**	**257**	PKP	**PKPdf**	**17 18 06.7**	**-1.0**		
ASAR	**Alice Springs**	**122.04**	**257**	PKP	**PKPdf**	**17 18 06.7**	**-1.0**		
	comp=Z,0.5nm,1.1s,baz=86,slow=2.9,SNR=3.8								
CMAR	**Chiang Mai Arr**	**127.03**	**324**	PKP	**PKPdf**	**17 18 19.6**	**+2.1**		
CMAR	**Chiang Mai Arr**	**127.03**	**324**	PKP	**PKPdf**	**17 18 19.6**	**+2.1**		
	comp=Z,0.3nm,0.3s,baz=344,slow=2.9,SNR=3.5								

IDC ***13*** *17:12:22.6±1.7,5.°68N×126.°55E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.5/25,mbtmp3.7/6, Error ellipse: s-maj=114.5km s-min=18.9km az=70.0*

ISC 13 17:12:31.0±2.3,5.°6N±0.°4×12.°7E±°,h66km,n6,σ0°54/6, mb3.6/6,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.60**	**182**	P	**P**	**17 17 36.0**	**-0.2**
	4.8nm,1.1s,baz=66,slow=10.0,SNR=3.5						
WRA	**Warramunga Arr**	**26.53**	**164**	P	**P**	**17 18 02.3**	**-0.4**
	0.8nm,0.6s,baz=343,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**29.98**	**167**	P	**P**	**17 18 33.9**	**+0.4**
	0.7nm,1.1s,baz=348,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**55.93**	**325**	P	**P**	**17 22 02.3**	**-0.1**
	0.4nm,0.6s,baz=121,slow=7.9,SNR=4.9						
KURBB	**Kurchatov Arra**	**60.08**	**327**	P	**P**	**17 22 30.6**	**-0.7**
	0.4nm,0.5s,baz=123,slow=6.9,SNR=5.9						
BVAR	**Borovoye Array**	**65.67**	**327**	P	**P**	**17 23 08.6**	**+0.2**
	0.4nm,0.7s,baz=116,slow=3.4,SNR=3.6						

IDC ***13*** *17:32:57.7±1.0,2.°23N×96.°92E,h0km,mb3.9/9, mb1 4.0/11,mb1mx3.8/26,mbtmp3.8/11,ML3.6/1, Error ellipse: s-maj=37.7km s-min=16.4km az=50.0*

ISCJB ***13*** *17:33:01.4±0.7,2.°24N±0.°05×96.°89E±0.°07,h33km, mb3.9/9, Error ellipse: s-maj=10.1km s-min=7.9km az=178.3*

DJA ***13*** *17:33:04.2±0.4,2.°1N±3.°9×97.°7E±°,h10km,M4.3/6,MLv4.3/6*

ISC 13 17:33:03.3±0.7,2.°35N±0.°06×97.°08E±0.°05,h33km,n25, σ1°15/23,mb4.0/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.75**	**274**	P	**Pn**	**17 33 18.4**	**+0.8**
SNSI				S	**Sb**	**17 33 29.4**	**+1.4**
TPTI		**0.91**	**7**	P	**Pn**	**17 33 20.2**	**+0.4**
TPTI				S	**Sb**	**17 33 32.8**	**+0.4**
KCSI	**Kotacane, Aceh**	**1.35**	**31**	P	**Pb**	**17 33 27.6**	**-0.5**
KCSI				S	**Sb**	**17 33 45.7**	**+0.6**
TSI	**Tuntungan**	**1.87**	**52**	P	**Pb**	**17 33 36.3**	**-0.6**
TSI				S	**Sb**	**17 34 02.9**	**+2.9**
PSI	**Prapat**	**1.90**	**76**	P	**Pb**	**17 33 35.5**	**-1.9**
PSI	**Prapat**	**1.90**	**76**	Pn	**Pn**	**17 33 33.9**	**+0.4**
	8.1nm,0.3s,baz=286,slow=5.7,SNR=25						
MNSI	**Mandailing Nat**	**2.94**	**122**	P	**Pn**	**17 33 49.7**	**+2.0**
IPM	**Ipoh**	**4.47**	**62**	P	Pn	17 34 12.6	+3.8
CMAR	**Chiang Mai Arr**	**16.11**	**6**	Pn	**Pn**	**17 36 48.5**	**+1.1**
	0.1nm,0.3s,baz=192,slow=12,SNR=6.7						
H08S2	**Diego Garcia H**	**26.46**	**248**	T	T	18 05 35.6	
	baz=68,slow=75,SNR=530						
H08S3	**Diego Garcia H**	**26.46**	**248**	T	T	18 05 35.3	
	baz=68,slow=75,SNR=411						
H08S1	**Diego Garcia H**	**26.48**	**248**	T	T	18 05 36.9	
	baz=68,slow=75,SNR=335						
H01W3	**Cape Leeuwin H**	**40.35**	**158**	T	T	18 23 34.1	
	baz=334,slow=75,SNR=7.2						
H01W2	**Cape Leeuwin H**	**40.36**	**158**	T	T	18 23 35.3	
	baz=334,slow=75,SNR=8.1						
H01W1	**Cape Leeuwin H**	**40.37**	**158**	T	T	18 23 51.8	
	baz=334,slow=75,SNR=7.4						
WRA	**Warramunga Arr**	**42.75**	**123**	P	**P**	**17 40 57.4**	**-0.5**
	1.0nm,0.7s,baz=301,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**44.19**	**128**	P	**P**	**17 41 09.2**	**-0.3**
	0.6nm,0.7s,baz=302,slow=8.1,SNR=11						
SONM	**Songino Array**	**46.02**	**9**	P	**P**	**17 41 23.7**	**0.0**
	0.4nm,0.4s,baz=188,slow=9.2,SNR=5.5						
SONM				PcP	**PcP**	**17 43 00.4**	**+0.4**
	0.5nm,0.5s,baz=179,slow=4.2,SNR=3.2						
MKAR	**Makanchi Array**	**46.10**	**346**	P	**P**	**17 41 24.1**	**-0.2**
	1.6nm,0.7s,baz=160,slow=8.9,SNR=9.8						
ZALV	**Zalesovo Beam**	**52.41**	**351**	P	**P**	**17 42 12.2**	**-0.2**
	2.6nm,0.6s,baz=172,slow=8.2,SNR=10						
STKA	**Stephens Creek**	**54.22**	**133**	P	**P**	**17 42 25.5**	**-0.6**
	3.2nm,1.0s,baz=315,slow=4.3,SNR=4.9						
AKASG	**Malin Array Be**	**74.28**	**322**	P	**P**	**17 44 36.2**	**-1.0**
	0.9nm,0.6s,baz=87,slow=5.4,SNR=7.2						
ARCES	**ARCESS Array B**	**81.42**	**340**	P	**P**	**17 45 16.9**	**+0.3**
	3.2nm,0.9s,baz=88,slow=5.5,SNR=10.0						
GERES	**GERESS Array B**	**83.87**	**319**	P	**P**	**17 45 30.6**	**+0.6**
	0.4

SSLN **Shishaldin Nor** 2.55 39 P Pn 18 20 34.9 +1.4
FALS **False Pass** 2.81 43 *e*Pn Pn 18 20 37.8 +0.8
DTNA **Dutton South F** 3.51 47 P Pn 18 20 47.3 +0.7
SDPT **Sand Point** 4.46 54 *e*Pn Pn 18 20 59.8 +0.1
SPIA **Saint Paul Isl** 4.77 336 P Pn 18 21 06.9 +3.0
VNHG **Veniaminof 1** 5.55 50 P Pn 18 21 16.2 +1.4
GSMY **Great Sitkin M** 5.75 265 P Pn 18 21 18.3 +0.9
GSTD **Great Sitkin T** 5.80 266 P Pn 18 21 19.4 +1.2
GSCK **Great Sitkin C** 5.82 265 P Pn 18 21 19.3 +1.0
ADAG **Mount Adagdak** 6.09 266 P Pn 18 21 23.6 +1.6
KIKV **Kanaga Island** 6.46 265 P Pn 18 21 27.1 0.0
TAFL **Tanaga Flats** 6.92 265 P Pn 18 21 34.8 +1.3
GANE **Gareloi Northe** 7.44 267 P Pn 18 21 41.4 +0.8
SII **Sitkinak Islan** 8.17 58 P Pn 18 21 50.4 -0.2
OHAK **Old Harbor** 8.88 55 *e*Pn Pn 18 21 59.0 -1.2
KDAK **Kodiak Island** 9.46 53 *e*Pn Pn 18 22 06.8 -1.4
RSO **Redoubt South** 10.81 40 *e*Pn Pn 18 22 27.6 +0.7
60nm,0.9s
GAMB **Gambell** 11.24 349 *e*Pn Pn 18 22 35.6 +3.0
SEW **Seward** 11.98 46 *e*Pn Pn 18 22 41.0 -1.6
FX1 **Attu Island--F** 12.13 278 *e*Pn Pn 18 22 43.8 -1.0
FX1 *e*Sn Sn 18 24 56.9 -2.4
FX1 **Attu Island--F** 12.13 278 Pn Pn 18 22 47.4 +2.5
4.7nm,0.3s,baz=188,slow=2.2,SNR=27
RC01 **Rabbit Creek A** 12.38 42 *e*Pn Pn 18 22 47.9 -0.3
PPLA **Purkeypile** 12.66 32 *e*Pn Pn 18 22 52.8 +0.6
59nm,1.4s
TNA **Tin City** 12.75 358 *e*Pn Pn 18 22 56.6 +3.5
PMR **Palmer** 12.90 40 *e*P Pn 18 22 54.1 -1.2
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR **Palmer** 12.90 40 *e*Pn Pn 18 22 54.1 -1.2
comp=Z,7.6nm,0.8s
CAST **Castle Rocks** 13.07 30 *e*Pn Pn 18 22 57.8 +0.2
SML **Sawmill** 13.34 41 *e*P Pn 18 23 00.9 -0.4
SML **Sawmill** 13.34 41 *e*Pn Pn 18 23 00.9 -0.4
TRF **Thorofare Moun** 13.66 33 *e*Pn Pn 18 23 06.7 +0.8
DIV **Divide** 14.06 46 *e*Pn Pn 18 23 10.7 -0.5
RAGM **Ragged Mountai** 14.24 49 *e*Pn Pn 18 23 12.3 -1.3
MCK **McKinley** 14.30 33 *e*P Pn 18 23 14.6 +0.2
MCK **McKinley** 14.30 33 *e*Pn Pn 18 23 14.6 +0.2
BMRM **Bremner River** 14.50 47 *e*Pn Pn 18 23 14.9 -2.3
IM04 **Indian Mountai** 14.66 21 *e*Pn Pn 18 23 19.8 +0.4
PAX **Paxson** 15.10 40 *e*P Pn 18 23 24.7 -0.5
PAX **Paxson** 15.10 40 *e*Pn Pn 18 23 24.7 -0.5
COLA **College** 15.42 31 *e*P Pn 18 23 29.1 -0.2
COLA pmax pmax
comp=Z,27nm,1.2s
COLA **College** 15.42 31 *e*Pn Pn 18 23 30.1 +0.8
comp=Z,2.0nm,0.9s
ILAR **Eielson Array** 15.66 33 Pn Pn 18 23 31.7 -0.8
ILAR **Eielson Array** 15.66 33 Pn Pn 18 23 31.7 -0.8
comp=Z,0.1nm,0.3s,baz=220,slow=11,SNR=6.3
ILAR LR LR 18 29 56.2
comp=Z,270nm,18.9s,baz=242,slow=39
COLD **Coldfoot** 16.51 23 *e*Pn P 18 23 45.8 -0.1
comp=Z,14nm,1.0s
HYT **Haines Junctio** 17.74 52 *e*Pn Pn 18 23 58.9 -0.1
DAWY **Dawson** 18.01 41 *e*Pn P 18 24 02.8 +0.3
PET **Petropavlovsk** 20.73 284 *e*P Pn 18 24 34.5 -0.1
PET *e*S S 18 28 21.3 -1.1
PET pmax pmax
comp=Z,9.0nm,0.7s
PET MLR MLR
comp=Z,200nm,19.0s
DLBC **Dease Lake** 21.26 60 P P 18 24 44.5 +6.6
DLBC **Dease Lake** 21.26 60 P P 18 24 44.5 +6.6
comp=Z,4.6nm,0.7s,baz=296,slow=11,SNR=5.6
DLBC LR LR 18 32 51.4
comp=Z,209nm,20.0s,baz=311,slow=37
PEA0B **Petropavlovsk-** 21.27 285 *e*P P 18 24 37.8 -0.3
PETK **Petropavlovsk-** 21.27 285 P P 18 24 37.3 -0.7
PETK **Petropavlovsk-** 21.27 285 P P 18 24 37.3 -0.7
PETK **Petropavlovsk-** 21.27 285 P P 18 24 37.3 -0.7
comp=Z,7.9nm,0.5s,baz=86,slow=12,SNR=55
PETK LR LR 18 31 50.5
comp=Z,67nm,19.5s,baz=293,slow=34
INK **Inuvik** 22.06 33 *e*P P 18 24 43.9 -2.5
INK **Inuvik** 22.06 33 P P 18 24 44.6 -1.8
comp=Z,6.1nm,0.7s,baz=243,slow=11,SNR=16
INK LR LR 18 34 08.3
comp=Z,232nm,20.0s,baz=244,slow=39
BBB **Bella Bella** 23.34 76 LR LR 18 32 08.1
comp=Z,190nm,19.4s,baz=272,slow=32
SEY **Seymchan** 23.52 311 P P 18 25 00.8 -0.8
SEY **Seymchan** 23.52 311 P P 18 25 00.8 -0.8
SEY **Seymchan** 23.52 311 P P 18 25 00.8 -0.8
comp=Z,2.9nm,0.7s,baz=197,slow=19,SNR=7.5
YKW3 **Yellowknife Ar** 28.70 50 *e*P P 18 25 48.8 +0.2
comp=Z,0.2nm,1.4s
YKA **Yellowknife Ar** 28.71 50 P P 18 25 49.6 +1.0
YKA PcP PcP 18 28 58.5 +0.1
YKA **Yellowknife Ar** 28.71 50 P P 18 25 49.6 +1.0
comp=Z,1.7nm,1.0s,baz=276,slow=11,SNR=9.1
YKA PcP PcP 18 28 58.5 +0.1
comp=Z,1.4nm,0.7s,baz=280,slow=2.6,SNR=5.4
H04A **Detroit Lake** 30.07 88 *e*P P 18 26 02.6 +1.7
comp=Z,7.2nm,0.7s
NEW **Newport** 31.35 78 *e*P P 18 26 13.9 +1.8
comp=Z,9.3nm,1.2s
YBH **Yreka Blue Hor** 31.40 93 P P 18 26 15.8 +3.1
YBH **Yreka Blue Hor** 31.40 93 P P 18 26 15.8 +3.1
comp=Z,0.7nm,0.5s,baz=27,slow=4.5,SNR=2.1
YBH LR LR 18 35 56.8
comp=Z,111nm,21.1s,baz=299,slow=31
EDM **Edmonton** 31.49 68 *e*P P 18 26 14.5 +1.1
EDM **Edmonton** 31.49 68 *e*P P 18 26 14.5 +1.1
TIXI **Tiksi** 33.14 329 ⇓ *i*P P 18 26 26.6 -0.9
TIXI pmax pmax
comp=Z,2.0nm,1.2s
RES **Resolute Bay** 35.23 26 P P 18 26 44.1 -1.5
RES **Resolute Bay** 35.23 26 P P 18 26 44.1 -1.5
comp=Z,1.3nm,0.6s,baz=78,slow=9.3,SNR=4.0
EGMT **Eagleton** 35.80 74 *e*P P 18 26 49.8 -1.2
comp=Z,25nm,1.0s
PDAR **Pinedale Array** 38.75 81 P P 18 27 16.8 +0.6
PDAR **Pinedale Array** 38.75 81 P P 18 27 16.8 +0.6
comp=Z,0.9nm,0.6s,baz=276,slow=5.1,SNR=9.3
H11N2 **WAKE ISLAND Hy** 38.86 222 T T 19 08 50.9
baz=27,slow=75,SNR=37
H11N3 **WAKE ISLAND Hy** 38.87 222 T T 19 08 52.9
baz=27,slow=75,SNR=71
H11N1 **WAKE ISLAND Hy** 38.88 222 T T 19 08 52.5
baz=27,slow=75,SNR=28
FCC **Fort Churchill** 39.39 52 *e*P P 18 27 22.1 +1.1
FCC **Fort Churchill** 39.39 52 *e*P P 18 27 22.1 +1.1
comp=Z,0.4nm,1.0s
H11S1 **WAKE ISLAND Hy** 40.04 221 T T 19 10 30.1
baz=25,slow=77,SNR=114
H11S2 **WAKE ISLAND Hy** 40.05 221 T T 19 10 17.5
baz=25,slow=77,SNR=71
H11S3 **WAKE ISLAND Hy** 40.06 221 T T 19 10 26.1
baz=25,slow=77,SNR=71
O20A **White River Ci** 41.12 84 *e*P P 18 27 33.8 -2.1
MAJO **Matsushiro** 41.30 269 *e*P P 18 27 35.4 -1.8
MAJO pmax pmax
comp=Z,18nm,1.0s
MAJO **Matsushiro** 41.30 269 *e*P P 18 27 35.4 -1.8
comp=Z,18nm,1.0s
MAT **Matsushiro** 41.30 269 P P 18 27 36.5 -0.7
MJAR **Matsushiro Arr** 41.30 269 P P 18 27 37.1 -0.1
MJAR **Matsushiro Arr** 41.30 269 P P 18 27 37.1 -0.1
comp=Z,3.4nm,0.8s,baz=44,slow=7.4,SNR=8.5
MJAR LR LR 18 42 46.5
comp=Z,69nm,20.0s,baz=30,slow=33
MDND **Maddock** 41.73 69 *e*P P 18 27 38.5 -2.0
ULM **Lac du Bonnet** 42.51 64 LR LR 18 45 20.6
comp=Z,112nm,19.4s,baz=263,slow=36
KSRS **Korea Array** 46.92 278 P P 18 28 22.6 +0.5
comp=Z,3.0nm,0.9s,baz=59,slow=8.8,SNR=6.4
KSRS LR LR 18 48 24.5
comp=Z,51nm,19.0s,baz=245,slow=37
KSAR **Wonju Array Be** 46.95 278 P P 18 28 22.6 +0.3
SPITS **Spitsbergen Ar** 49.21 359 P P 18 28 38.6 -0.7
SPITS **Spitsbergen Ar** 49.21 359 P P 18 28 38.6 -0.7
comp=Z,13nm,0.9s,baz=334,slow=9.6,SNR=5.3
SUMG **Summit** 49.83 18 *i* P P 18 28 44.8 +0.2
SUMG *i* 18 28 52.0
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG **Summit** 49.83 18 *i* P P 18 28 44.8 +0.2
comp=Z,6.0nm,1.0s
SUMG *i* 18 28 52.0
TXAR **Lajitas Array** 51.16 91 P P 18 28 55.0 +0.2

TXAR **Lajitas Array** 51.16 91 P P 18 28 55.0 +0.2
comp=Z,0.7nm,0.7s,baz=310,slow=6.1,SNR=9.8
TXAR LR LR 18 48 16.7
comp=Z,76nm,18.2s,baz=355,slow=33
ULN **Ulaanbaatar** 52.04 302 *e*P P 18 29 00.3 -1.0
comp=Z,2.5nm,0.6s
SONM **Songino Array** 52.40 302 P P 18 29 03.8 -0.2
SONM **Songino Array** 52.40 302 P P 18 29 03.8 -0.2
comp=Z,1.7nm,0.6s,baz=71,slow=4.6,SNR=9.8
SONM LR LR 18 53 56.8
comp=Z,108nm,18.2s,baz=93,slow=39
SCHQ **Schefferville** 53.97 45 LR LR 18 53 29.7
comp=Z,98nm,18.3s,baz=325,slow=38
HHC **Hu-ho-hao-te** 54.22 292 *e*P P 18 29 21.5 +4.1
HHC pP pP 18 29 26.9 +2.7
HHC PP PP 18 31 25.9 +7.0
HHC S S 18 36 57.1 +3.8
HHC sS sS 18 37 06.6 +2.1
HHC ScS ScS 18 39 07.5 +2.3
HHC SS SS 18 40 38.1 +3.4
HHC pmax pmax
comp=Z,36nm,1.2s
HHC pmax pmax
comp=Z,170nm,7.3s
HHC LR LR
comp=Z,310nm,16.7s
HHC LR LR
comp=Z,220nm,16.4s
HHC LR LR
comp=Z,220nm,16.6s
ARCES **ARCESS Array B** 57.58 355 P P 18 29 39.3 -1.6
ARCES **ARCESS Array B** 57.58 355 P P 18 29 39.3 -1.6
comp=Z,3.1nm,0.8s,baz=353,slow=7.2,SNR=4.6
ARCES LR LR 18 53 41.2
comp=Z,67nm,19.1s,baz=166,slow=35
ZALV **Zalesovo Beam** 58.12 319 P P 18 29 43.2 -1.7
ZALV **Zalesovo Beam** 58.12 319 P P 18 29 43.2 -1.7
ZALV **Zalesovo Beam** 58.12 319 P P 18 29 43.2 -1.7
comp=Z,0.4nm,0.4s,baz=58,slow=9.6,SNR=2.3
ZALV LR LR 18 56 15.1
comp=Z,62nm,18.3s,baz=66,slow=38
ENH **Enshi** 62.88 285 *e*P P 18 30 16.6 -1.2
comp=Z,4.0nm,0.6s
SVE **Sverdlovsk** 63.98 333 *e*P P 18 30 24.9 +0.3
SVE pmax pmax
comp=Z,7.0nm,0.7s
BRVK **Borovoye** 64.22 326 *e*P P 18 30 25.7 -0.5
BRVK **Borovoye** 64.22 326 *e*P P 18 30 25.7 -0.5
WMQ **Urumqi** 64.46 309 *e*P P 18 30 36.0 +7.9
WMQ sP sP 18 30 43.0 +5.4
WMQ PcP PcP 18 31 10.0 +7.8
WMQ PP PP 18 33 01.0 +12
WMQ ScP 18 35 11.0
WMQ S S 18 39 14.0 +8.5
WMQ ScS ScS 18 40 26.0 +5.1
WMQ **Urumqi** 64.46 309 SS SS 18 43 26.0 +11
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,55nm,5.0s
WMQ LR LR
comp=N,72nm,18.0s
WMQ LR LR
comp=E,52nm,17.0s
WMQ LR LR
comp=Z,50nm,18.0s
MK31 **Makanchi Array** 64.61 315 *e*P P 18 30 29.0 +0.1
MK31 **Makanchi Array** 64.61 315 *e*P P 18 30 28.9 +0.1
MKAR **Makanchi Array** 64.61 315 P P 18 30 28.0 -0.9
MKAR **Makanchi Array** 64.61 315 P P 18 30 27.9 -0.9
MKAR **Makanchi Array** 64.61 315 P P 18 30 27.9 -0.9
comp=Z,0.6nm,0.6s,baz=49,slow=5.8,SNR=8.2
MKAR LR LR 18 59 29.2
comp=Z,65nm,19.9s,baz=188,slow=37
ARU **Arti** 64.89 334 *c* *i*P P 18 30 30.0 -0.5
ARU PPP PPP 18 34 24.8
ARU S S 18 39 06.8 -3.4
ARU SS SS 18 43 17.3 -3.5
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU **Arti** 64.89 334 *e*P P 18 30 28.2 -2.3
comp=Z,3.7nm,0.6s
NB2 **NORSAR Subarra** 66.43 1 P P 18 30 39.8 -0.6
comp=Z,1.4nm,0.7s,slow=6.2
NOA **NORSAR Array B** 66.43 1 P P 18 30 39.9 -0.6
NOA **NORSAR Array B** 66.43 1 P P 18 30 39.9 -0.6
comp=Z,1.6nm,0.8s,baz=360,slow=6.2,SNR=4.6
NOA LR LR 19 02 20.7
comp=Z,34nm,18.0s,baz=10.0,slow=38
OBN **Obninsk** 70.67 346 ⇑ *e*P P 18 31 09.1 +2.2
OBN *e* 18 33 45.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,17.0s
KMI **Kunming** 70.67 286 P P 18 31 18.8 +11
KMI pmax pmax
comp=Z,12nm,1.1s
AAK **Ala-Archa** 71.25 317 *e*P P 18 31 10.3 -0.6
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK **Ala-Archa** 71.25 317 *e*P P 18 31 10.3 -0.6
comp=Z,2.8nm,0.8s
PPT **Papeete** 71.70 163 LR LR 18 57 54.4
comp=Z,90nm,19.5s,baz=170,slow=32
LSA **Lhasa** 73.65 298 *e*P P 18 31 24.0 -1.8
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA **Lhasa** 73.65 298 *e*P P 18 31 24.0 -1.8
comp=Z,4.7nm,0.7s
AKASG **Malin Array Be** 75.93 350 P P 18 31 37.0 -1.0
AKASG **Malin Array Be** 75.93 350 P P 18 31 37.0 -1.0
AKASG **Malin Array Be** 75.93 350 P P 18 31 37.0 -1.0
comp=Z,4.2nm,0.5s,baz=12,slow=5.8,SNR=37
KIEV **Kiev** 75.94 350 ⇓ *i*P P 18 31 37.4 -0.7
KIEV **Kiev** 75.94 350 *e*P P 18 31 36.5 -1.6
comp=Z,6.2nm,0.6s
BRG **Berggiesshubel** 76.64 360 *e*P P 18 31 43.1 +1.1
comp=Z,4.7nm,1.2s
BRG **Berggiesshubel** 76.64 360 *e*P P 18 31 43.1 +1.1
BRG pmax pmax
comp=Z,5.0nm,1.2s
UPC **Upice** 76.98 358 *e*P P 18 31 51.1 +7.1
DPC **Dobruska-Polom** 77.13 358 *e*P P 18 31 45.2 +0.3
DPC **Dobruska-Polom** 77.13 358 *e*P P 18 31 45.2 +0.3
NKC **Novy Kostel** 77.28 1 *e*P P 18 31 48.1 +2.4
NKC **Novy Kostel** 77.28 1 *e*P P 18 31 48.1 +2.4
TAPN **Taplejung** 77.35 299 *e*P P 18 31 46.4 -0.4
KRLC **Kraliky** 77.39 358 *e*P P 18 31 46.7 +0.3
KRLC *e* 18 31 54.8
KRLC **Kraliky** 77.39 358 *e*P P 18 31 46.7 +0.3
KRLC *e*PCP pP 18 31 54.8 +1.4
PRU **Pruhonice** 77.52 359 *e*P P 18 31 55.5 +8.5
PRU *e* 18 32 02.9
KWP **Kalwaria Pacla** 77.56 354 ⇓ P P 18 31 47.8 +0.5
KWP **Kalwaria Pacla** 77.56 354 *e*P P 18 31 47.9 +0.6
KWP **Kalwaria Pacla** 77.56 354 ⇓ *i*P P 18 31 47.8 +0.5
OKC **Ostrava-Krasne** 77.59 357 *e*P P 18 31 48.8 +1.4
OKC **Ostrava-Krasne** 77.59 357 *e*P P 18 31 48.8 +1.4
GRF **Grafenberg Arr** 77.81 1 *e*P P 18 31 49.4 +0.7
comp=Z,28nm,1.7s
GUN **Gumba** 77.87 300 *e*P P 18 31 49.7 -0.1
comp=Z,31nm,1.1s
STHS **Stebnicka Huta** 77.87 355 *e*P P 18 31 50.0 +1.0
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS **Stebnicka Huta** 77.87 355 *e*P P 18 31 50.0 +1.0
JIRN **Jiri** 77.91 300 *e*P P 18 31 50.0 0.0
comp=Z,13nm,0.8s
CM31 **Chiang Mai Arr** 78.05 285 *e*P P 18 31 50.1 -0.4
comp=Z,2.6nm,0.7s
CMAR **Chiang Mai Arr** 78.05 285 P P 18 31 50.8 +0.3
CMAR **Chiang Mai Arr** 78.05 285 P P 18 31 50.8 +0.3
comp=Z,2.2nm,0.8s,baz=24,slow=6.6,SNR=13
VRAC **Vranov** 78.16 358 ⇓ *i*P P 18 31 51.6 +0.9
RAMN **Ramite** 78.26 299 *e*P P 18 31 50.7 -1.1
KOLS **Kolonicke sedl** 78.29 354 *e*P P 18 31 51.9 +0.5
KOLS pmax pmax
comp=Z,119nm,3.5s
KOLS **Kolonicke sedl** 78.29 354 *e*P P 18 31 51.9 +0.5
CRVS **Cervenica-Dubn** 78.37 354 *e*P P 18 31 55.3 +3.5
CRVS pmax pmax
comp=Z,10.0nm,2.1s
CRVS **Cervenica-Dubn** 78.37 354 *e* P 18 31 55.3 +3.5
KHC **Kasperske Hory** 78.38 360 *e*P P 18 31 52.0 +0.1

KHC *e* 18 32 00.2
KHC **Kasperske Hory** 78.38 360 *e*P P 18 31 52.0 +0.1
KHC *e*PCP PcP 18 32 00.2 -0.9
PKI **Pulchoki** 78.39 300 *e*P P 18 31 51.8 -0.8
PKIN **Phulchoki** 78.39 300 *e*P P 18 31 51.9 -0.7
GKN **Gorkha** 78.44 301 *e*P P 18 31 52.2 -0.5
comp=Z,9.6nm,0.6s
DMN **Daman** 78.51 301 *e*P P 18 31 52.9 -0.4
comp=Z,24nm,1.2s
DANN **Dangsing** 78.61 302 *e*P P 18 31 53.9 +0.1
comp=Z,30nm,0.7s
GERES **GERESS Array B** 78.67 360 P P 18 31 53.6 +0.1
GERES **GERESS Array B** 78.67 360 P P 18 31 53.6 +0.1
comp=Z,1.0nm,0.6s,baz=3.8,slow=4.0,SNR=7.4
PAGF **Fort de Pagny** 78.75 5 *e*P P 18 31 56.7 +2.8
comp=Z,8.0nm,1.2s
PAGF **Fort de Pagny** 78.75 5 *e*P P 18 31 56.7 +2.8
comp=Z,8.0nm,1.2s
SFTF **Sexfontaines** 79.06 6 *e*P P 18 31 57.5 +1.9
SFTF **Sexfontaines** 79.06 6 *e*P P 18 31 57.5 +1.9
TRPA **Tarpa** 79.07 354 ⇓ *i*P P 18 31 56.5 +0.9
KOLN **Koldanda** 79.17 302 *e*P P 18 31 56.3 -0.5
comp=Z,8.6nm,0.7s
PYUN **Piuthan** 79.21 302 *e*P P 18 31 56.6 -0.4
BUR08 **Bucovina Ar. S** 79.35 352 *e*P P 18 31 56.9 -0.4
BURAR **Bucovina Array** 79.38 352 ⇓ P P 18 31 54.4 -3.1
BURAR **Bucovina Array** 79.38 352 ⇓ *i*P P 18 31 54.4 -3.1
CONA **Conrad Observa** 79.56 358 ⇑ *i*SP P 18 31 59.3 +0.9
comp=Z,7.7nm,1.3s
LOR **Lormes** 79.92 6 *e*P P 18 32 01.8 +1.5
comp=Z,7.1nm,0.8s
LOR **Lormes** 79.92 6 *e*P P 18 32 01.8 +1.5
comp=Z,7.1nm,0.8s
SSF **Saint Saulge** 80.10 7 *e*P P 18 32 03.9 +2.6
comp=Z,9.9nm,0.8s
SSF **Saint Saulge** 80.10 7 *e*P P 18 32 03.9 +2.6
SSF pmax pmax
comp=Z,10.0nm,0.8s
SSF **Saint Saulge** 80.10 7 *e*P P 18 32 03.9 +2.6
comp=Z,9.9nm,0.8s
MFF **Saint Martin d** 80.25 9 *e*P P 18 32 05.4 +3.3
comp=Z,25nm,1.1s
MFF **Saint Martin d** 80.25 9 *e*P P 18 32 05.4 +3.3
MFF pmax pmax
comp=Z,25nm,1.1s
MFF **Saint Martin d** 80.25 9 *e*P P 18 32 05.4 +3.3
comp=Z,25nm,1.1s
KIV **Kislovodsk** 80.28 339 *e*P P 18 32 03.3 +0.9
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,36nm,18.0s
KIV **Kislovodsk** 80.28 339 *e*P P 18 32 02.3 -0.2
comp=Z,8.6nm,0.8s
AVF **Avril sur Loir** 80.36 7 *e*P P 18 32 03.8 +1.1
comp=Z,6.3nm,0.8s
DRGR 80.39 353 ⇑ P P 18 32 04.5 +1.6
DRGR 80.39 353 ⇑ *i*P P 18 32 04.5 +1.6
KBA **Koelnbreinsper** 80.43 360 ⇑ *i*SP P 18 32 04.5 +1.2
comp=Z,7.1nm,0.7s
FETA **Feichten** 80.47 2 ⇓ *i*SP P 18 32 04.6 +1.2
comp=Z,9.9nm,1.3s
ANN **Anapa** 80.52 343 P P 18 32 03.4 -0.1
ANN pmax pmax
comp=Z,471nm,2.5s
SMF **Signal de Mont** 80.54 7 *e*P P 18 32 03.9 +0.2
BGF **Bois d'Agland** 80.56 7 *e*P P 18 32 05.7 +2.0
comp=Z,14nm,0.8s
ABTA **Abfaltersbach** 80.76 1 ⇑ *i*SP P 18 32 06.3 +1.4
comp=Z,6.9nm,1.3s
TCF **Toulx Ste Croi** 80.77 8 *e*P P 18 32 09.4 +4.5
BZS **Buzias** 81.63 354 ⇓ P P 18 32 09.4 -0.1
BZS **Buzias** 81.63 354 ⇓ *i*P P 18 32 09.4 -0.1
GZR **Gura Zlata** 81.78 353 ⇑ P P 18 32 10.5 +0.2
GZR **Gura Zlata** 81.78 353 ⇑ *i*P P 18 32 10.5 +0.2
LFF **La Frestale** 81.98 9 *e*P P 18 32 10.9 -0.4
LFF **La Frestale** 81.98 9 *e*P P 18 32 10.9 -0.4
LFF **La Frestale** 81.98 9 *e*P P 18 32 10.9 -0.4
VIVF **Saint-Julien-l** 82.38 6 *e*P P 18 32 14.4 +0.9
MBDF **Montbardon** 82.63 5 *e*P P 18 32 15.9 +1.0
comp=Z,25nm,0.9s
MBDF **Montbardon** 82.63 5 *e*P P 18 32 15.9 +1.0
MBDF pmax pmax
comp=Z,25nm,0.9s
MBDF **Montbardon** 82.63 5 *e*P P 18 32 15.9 +1.0
comp=Z,25nm,0.9s
EPF **Esparros** 83.83 9 *e*P P 18 32 23.0 +2.0
comp=Z,13nm,0.9s
EPF **Esparros** 83.83 9 *e*P P 18 32 23.0 +2.0
EPF pmax pmax
comp=Z,13nm,0.9s
EPF **Esparros** 83.83 9 *e*P P 18 32 23.0 +2.0
comp=Z,13nm,0.9s
ETSF **Etsaut** 83.87 10 *e*P P 18 32 23.4 +2.1
ETSF **Etsaut** 83.87 10 *e*P P 18 32 23.4 +2.1
ETSF **Etsaut** 83.87 10 *e*P P 18 32 23.4 +2.1
ANTO **Ankara** 86.10 345 ⇑ P P 18 32 34.3 +1.8
ANTO **Ankara** 86.10 345 ⇑ *i*P P 18 32 34.3 +1.8
BR131 **Keskin Array S** 86.10 344 *e*P P 18 32 32.4 -0.2
comp=Z,4.6nm,0.9s
BRTR **Keskin Array B** 86.10 344 P P 18 32 33.8 +1.1
BRTR **Keskin Array B** 86.10 344 P P 18 32 33.8 +1.1
comp=Z,3.9nm,0.8s,baz=8.6,slow=2.3,SNR=10
BRTR LR LR 19 14 24.4
comp=Z,27nm,19.9s,baz=286,slow=38
ESDC **Sonseca Array** 86.63 13 P P 18 32 35.0 -0.1
ESDC **Sonseca Array** 86.63 13 P P 18 32 35.0 -0.1
comp=Z,0.5nm,0.6s,baz=340,slow=5.0,SNR=4.1
WRA **Warramunga Arr** 88.57 234 P P 18 32 46.4 +1.9
WRA **Warramunga Arr** 88.57 234 P P 18 32 46.4 +1.9
comp=Z,0.7nm,0.8s,baz=36,slow=6.2,SNR=3.8
HYB **Hyderabad** 90.30 300 *i*P P 18 32 51.5 -1.3
ASAR **Alice Springs** 91.95 232 P P 18 32 59.5 -0.6
ASAR **Alice Springs** 91.95 232 P P 18 32 59.5 -0.6
comp=Z,0.4nm,0.8s,baz=52,slow=6.0,SNR=4.6
H03N2 **Juan Fernandez** 114.64 113 T T 20 43 53.7
baz=320,slow=75,SNR=14
H03N1 **Juan Fernandez** 114.65 113 T T 20 43 48.7
baz=320,slow=75,SNR=16
H03N3 **Juan Fernandez** 114.66 113 T T 20 43 52.6
baz=320,slow=75,SNR=14

WEL 13 18:21:17.4±0.6, 37.68S×176.34E, h217km±7km, ML3.6/5, 1C-2D, Error ellipse: s-maj=10.8km s-min=8.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MWZ	**Matawai**	**1.14**	**125**	PN	PN	Pn	18 21 50.2	+0.3
MWZ				SN	S	S	18 22 15.4	+0.2
BKZ	**Black Stump Fm**	**1.49**	**176**	PN	PN	Pn	18 21 52.7	+0.1
BKZ				SN	S	S	18 22 19.3	-0.8
BKZ				AML	AML		18 22 20.0	
RIGZ	**Rimuhau**	**1.52**	**133**	⇓ PN	PN	Pn	18 21 53.2	+0.5
RIGZ				SN	S	S	18 22 20.3	0.0
PUZ	**Puketiti**	**1.56**	**105**	⇑ PN	PN	Pn	18 21 52.7	-0.4
PUZ				SN	S	S	18 22 19.4	-1.6
KNZ	**Kokohu**	**1.70**	**142**	PN	PN	Pn	18 21 53.8	-0.5
KNZ				SN	S	S	18 22 22.4	-0.6
BHHZ	**Black Hill Sta**	**1.82**	**187**	PN	PN	Pn	18 21 55.5	0.0
MHGZ	**Mahia Peninsul**	**1.92**	**141**	PN	PN	Pn	18 21 57.1	+0.8
CKHZ	**Cape Kidnapper**	**2.06**	**164**	PN	PN	Pn	18 21 58.5	+0.8
KAHZ	**Kahuranaki**	**2.15**	**169**	PN	PN	Pn	18 21 59.2	+0.4
OGWZ	**Otaki Gorge**	**3.27**	**196**	PN	PN	Pn	18 22 09.8	-1.1
HOWZ	**Holdsworth Sta**	**3.28**	**191**	PN	PN	Pn	18 22 09.7	-1.4
KIW	**Kapiti Island**	**3.37**	**199**	PN	PN	Pn	18 22 10.8	-1.3
PLWZ	**Palliser**	**3.98**	**192**	PN	PN	Pn	18 22 17.5	-2.0
TUWZ	**Tuamarina**	**4.18**	**206**	PN	PN	Pn	18 22 20.0	-1.9
NNZ	**Nelson**	**4.21**	**212**	PN	PN	Pn	18 22 20.5	-1.9
QRZ	**Quartz Range**	**4.32**	**222**	PN	PN	Pn	18 22 21.1	-2.6
THZ	**Tophouse**	**4.87**	**212**	PN	PN	Pn	18 22 29.2	-1.4
KHZ	**Kahutara**	**5.20**	**204**	⇓ PN	PN	Pn	18 22 32.4	-2.2
MQZ	**McQueen's Vall**	**6.64**	**204**	PN	PN	Pn	18 22 49.2	-3.8

NEIC 13 18:21:21.2, 52.73N×166.67W, h10km, ML3.1 (AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.01**	**313**	P	P	Pb	18 21 41.0	+0.2
OKFG				S	S	Sb	18 21 54.9	+0.7
MREP	**Makushin Rep't**	**1.08**	**358**	P	P	Pb	18 21 41.9	-0.3
MSOM	**Makushin Julie**	**1.10**	**351**	P	P	Pb	18 21 41.4	-0.9

MSOM				S	Sn	18 21 57.5	-0.3
UNV	**Unalaska Valle**	**1.12**	**5**	P	Pb	18 21 41.9	-0.8
UNV				S	Sn	18 21 57.9	-0.5
MSW	**Makushin Switc**	**1.19**	**357**	P	Pb	18 21 42.5	-1.4
MSW				S	Sg	18 21 59.8	+0.2
MTBL	**Makushin Table**	**1.24**	**360**	P	Pn	18 21 43.8	-0.9
OKAK	**Okmok**	**1.32**	**311**	P	Pn	18 21 43.3	-2.4
OKAK				S	Sb	18 22 00.5	-2.6
DGMT	**Dagmar**	**38.78**	**70**	*e*P	P	18 28 44.1	-1.5

MAN 13 18:34:50, 8.84N×125.99E, h96km, mb4.2, ML3.1, MS2.9, Mindanao

IDC ***13*** *18:57:17.6±1.1, 1.77S×81.68W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/22, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=76.7km s-min=19.0km az=58.0*
ISCJB ***13*** *18:57:20.6±1.0, 1.18S×81.7W±0.4, h33km, mb3.9/5, Error ellipse: s-maj=61.2km s-min=14.7km az=148.0*
ISC 13 18:57:22.5±1.0, 1.18S×81.6W±0.4, h35km, n7, σ0°31/7, mb3.9/5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**19.59**	**138**	P	**Pn**	**19 01 49.6**	**-0.4**
	0.1nm,0.3s,baz=323,slow=9.5,SNR=7.8						
SIV	**San Ignacio**	**24.67**	**126**	P	**P**	**19 02 40.7**	**+0.3**
	2.3nm,0.6s,baz=305,slow=9.5,SNR=8.5						
PLCA	**Paso Flores**	**40.05**	**167**	P	**P**	**19 04 54.5**	**0.0**
	4.7nm,1.1s,baz=337,slow=7.7,SNR=3.4						
ANMO	**Albuquerque**	**43.32**	**330**	P	**P**	**19 05 21.2**	**-0.3**
	1.6nm,0.8s,baz=150,slow=14,SNR=3.3						
PDAR	**Pinedale Array**	**51.00**	**334**	P	**P**	**19 06 21.4**	**+0.1**
	0.8nm,1.1s,baz=116,slow=8.1,SNR=2.8						
ULM	**Lac du Bonnet**	**53.25**	**349**	P	**P**	**19 06 37.6**	**0.0**
	1.7nm,0.7s,baz=145,slow=5.8,SNR=2.9						
WRA	**Warramunga Arr**	**138.67**	**237**	PKP	**PKPdf**	**19 16 46.1**	**+0.2**
	0.7nm,1.0s,baz=114,slow=2.2,SNR=4.0						

IDC ***13*** *18:59:14.3±1.4, 52.84N×166.78W, h0km, mb3.4/6, mb1 3.8/7, mb1mx3.5/28, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=46.2km s-min=16.8km az=180.0*
ISCJB ***13*** *18:59:16.8±1.7, 52.63N±0.05×166.69W±0.07, h30km±15km, mb3.5/7, Error ellipse: s-maj=9.3km s-min=6.8km az=156.0*
NEIC ***13*** *18:59:17.1, 52.78N×166.74W, h5km, ML3.3(AEIC), After AEIC.*
ISC 13 18:59:17.1±2.0, 52.75N±0.08×166.73W±0.05, h16km±11km, n35, σ1s05/36, mb3.4/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.97**	**314**	P	**Pg**	**18 59 35.1**	**-0.8**
OKFG				S	**Sn**	**18 59 50.2**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.02**	**309**	P	**Pg**	**18 59 36.5**	**-0.3**
MGOD	**Makushin Gods**	**1.05**	**355**	P	**Pb**	**18 59 36.6**	**-0.4**
MREP	**Makushin Rep't**	**1.06**	**360**	P	**Pb**	**18 59 37.1**	**-0.1**
UNV	**Unalaska Valle**	**1.11**	**7**	P	**Pb**	**18 59 36.9**	**-1.1**
UNV				S	**Sn**	**18 59 53.4**	**+0.4**
OKRE	**Okmok R'deer P**	**1.16**	**312**	P	**Pb**	**18 59 38.6**	**-0.2**
MSW	**Makushin Switc**	**1.17**	**359**	P	**Pb**	**18 59 38.4**	**-0.6**
MSW				S	**Sn**	**18 59 56.2**	**+1.7**
MCIR	**Makushin Cirqu**	**1.21**	**356**	P	**Pb**	**18 59 39.6**	**-0.1**
OKAK	**Okmok**	**1.29**	**311**	P	**Pn**	**18 59 38.8**	**-1.7**
NIKH	**Nikolski High**	**1.31**	**281**	P	**Pn**	**18 59 40.7**	**-0.1**
ZRO	**Akutan Zero**	**1.42**	**18**	P	**Pb**	**18 59 43.1**	**-0.2**
AKRB	**Akutan Reef Bi**	**1.44**	**16**	P	**Pb**	**18 59 43.0**	**-0.6**
AKRB				S	**Sg**	**19 00 04.2**	**+0.6**
AHB	**Akutan Harbor**	**1.48**	**21**	P	**Pn**	**18 59 43.5**	**+0.3**
AKUT	**Akutan**	**1.50**	**22**	*e*Pn	**Pn**	**18 59 43.1**	**-0.3**
AKUT				*e*Sn	**Sn**	**19 00 02.2**	**-0.5**
AKGG	**Akutan Green G**	**1.52**	**17**	P	**Pn**	**18 59 43.6**	**-0.1**
AKSA	**Akutan Strait**	**1.52**	**24**	P	**Pn**	**18 59 43.1**	**-0.6**
WESE	**West Dahl East**	**2.15**	**36**	P	**Pn**	**18 59 52.8**	**+0.3**
WESN	**West Dahl Nort**	**2.23**	**34**	P	**Pn**	**18 59 54.3**	**+0.9**
SSBA	**Shishaldin**	**2.55**	**36**	P	**Pn**	**18 59 59.0**	**+1.1**
SSLW	**Shishaldin Wes**	**2.55**	**36**	P	**Pn**	**18 59 59.0**	**+1.1**
FALS	**False Pass**	**2.89**	**42**	*e*Pn	**Pn**	**19 00 02.8**	**+0.4**
FALS				*e*Sn	**Sn**	**19 00 37.8**	**+1.0**
FX1	**Attu Island--F**	**12.16**	**279**	Pn	**Pn**	**19 02 12.3**	**+2.7**
	0.5nm,0.3s,baz=25,slow=17,SNR=5.0						
PETK	**Petropavlovsk-**	**21.32**	**285**	P	**P**	**19 04 05.8**	**+2.7**
	2.2nm,0.4s,baz=89,slow=11,SNR=23						
INK	**Inuvik**	**22.15**	**33**	P	**P**	**19 04 10.2**	**-1.6**
	0.6nm,0.5s,baz=290,slow=4.7,SNR=3.3						
YKA	**Yellowknife Ar**	**28.77**	**50**	P	**P**	**19 05 14.1**	**+0.4**
	0.1nm,0.4s,baz=280,slow=8.1,SNR=2.7						
YKA				PcP	**PcP**	**19 08 22.4**	**-0.7**
	0.3nm,0.6s,baz=291,slow=2.5,SNR=4.8						
PDAR	**Pinedale Array**	**38.75**	**81**	P	**P**	**19 06 40.3**	**-0.5**
	0.5nm,0.6s,baz=298,slow=4.7,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**38.78**	**222**	T	T	19 48 14.1	
	baz=27,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**38.79**	**222**	T	T	19 48 26.2	
	baz=27,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**38.80**	**222**	T	T	19 48 21.1	
	baz=27,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**39.96**	**221**	T	T	19 49 46.0	
	baz=25,slow=77,SNR=20						
H11S2	**WAKE ISLAND Hy**	**39.98**	**221**	T	T	19 49 53.0	
	baz=25,slow=77,SNR=13						
H11S3	**WAKE ISLAND Hy**	**39.98**	**221**	T	T	19 49 47.6	
	baz=25,slow=77,SNR=11						
TXAR	**Lajitas Array**	**51.14**	**91**	P	**P**	**19 08 18.5**	**-0.8**
	0.5nm,0.8s,baz=303,slow=5.0,SNR=5.6						
MKAR	**Makanchi Array**	**64.70**	**315**	P	**P**	**19 09 53.2**	**-0.9**
	0.1nm,0.4s,baz=52,slow=9.8,SNR=3.0						
AKASG	**Malin Array Be**	**76.05**	**350**	P	**P**	**19 11 02.2**	**-1.1**
	1.4nm,0.5s,baz=13,slow=6.1,SNR=12						

MEX 13 19:06:46.4±0.7, 16.89N×99.68W, h29km±38km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.17**	**265**	*e*P	Pb	19 06 51.1	-1.1
ACX				*e*S	Sb	19 06 55.6	-0.5
MEIG	**Mezcala**	**1.04**	**3**	*e*P	Pn	19 07 02.5	-2.6
MEIG				*i* S	Sn	19 07 15.6	-3.2
PLIG	**Platanillo**	**1.51**	**6**	*i* P	Pn	19 07 09.9	-1.7
YAIG	**Yautepec**	**2.05**	**16**	*i* P	Pn	19 07 16.6	-2.6
YAIG				*i* S	Sn	19 07 41.3	-2.7
VHO	**Vista Hermosa**	**2.83**	**86**	*e*P	Pn	19 07 27.7	-2.2
VHO				*i* S	Sn	19 08 01.0	-2.2
HUIG	**Huatulco**	**3.60**	**107**	*i* P	Pn	19 07 38.5	-1.9
HUIG				*i* S	Sn	19 08 19.3	-2.7
MMIG	**Aquila**	**3.77**	**292**	*e*P	Pn	19 07 41.9	-0.7

IDC ***13*** *19:08:34.0±1.0, 22.74N×101.29E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.5/6, ML3.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/33, Error ellipse: s-maj=37.2km s-min=18.0km az=80.0*
PLV ***13*** *19:08:36.8±4.1, 22.81N×101.42E, h7km±20km, ML3.5*
BJI ***13*** *19:08:36.8, 22.77N×101.11E, h13km, mB4.6/1, mb4.2/2, ML3.7/8, Ms3.8/2, Ms7 3.6/2*
ISC 13 19:08:36.1±1.6, 22.79N±0.04×101.34E±0.06, h18km±12km, n24, σ1s31/37, mb3.7/5, MS3.0/3, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPV	**Sa-pa**	**2.35**	**101**	*e*Pn	**Pn**	**19 09 15.2**	**+0.6**
KMI	**Kunming**	**2.65**	**29**	Pg	**Pg**	**19 09 26.3**	**-0.7**
KMI				Sg	**Sg**	**19 10 02.9**	**+1.5**
KMI				smax	smax		
	comp=N,240nm,0.9s						
KMI				smax	smax		
	comp=E,260nm,1.4s						
SLVN	**Son La**	**2.79**	**121**	*e*Pn	**Pn**	**19 09 21.0**	**+0.4**
SLVN				*e*Pg	**Pg**	**19 09 29.2**	**-0.3**
SLVN				*e*Sg	**Sg**	**19 10 07.1**	**+1.4**
SLVN				AML	AML	19 10 11.5	
	comp=N,183nm,0.6s						
VTVB	**Vinh Tuy**	**3.33**	**99**	*e*Pg	**Pg**	**19 09 39.5**	**-0.6**
VTVB				*e*Sg	**Sg**	**19 10 24.4**	**+1.1**
HGVB	**Ha Giang**	**3.37**	**89**	*e*Pn	**Pn**	**19 09 29.6**	**+1.1**
HGVB				*e*Pg	**Pg**	**19 09 40.1**	**-0.7**
HGVB				*e*Sg	**Sg**	**19 10 24.5**	**+0.1**
MCVV	**Moc Chau**	**3.66**	**122**	*e*Pn	**Pn**	**19 09 32.8**	**+0.2**
MCVV				*e*Pg	**Pg**	**19 09 47.2**	**+0.9**
MCVV				*e*Sg	**Sg**	**19 10 36.9**	**+3.2**
DHV	**Doan Hung**	**3.75**	**107**	*e*Pg	**Pg**	**19 09 46.8**	**-1.1**
DHV				*e*Sg	**Sg**	**19 10 36.2**	**-0.3**
BCVB	**Bac Can**	**4.20**	**102**	*e*Pg	**Pg**	**19 09 54.9**	**-1.8**
BCVB				*e*Sg	**Sg**	**19 10 50.4**	**-0.7**
CBVB	**Cao Bang**	**4.49**	**91**	*e*Pn	**Pn**	**19 09 44.2**	**+0.3**
CBVB				*e*Pg	**Pg**	**19 10 01.1**	**-1.0**
CBVB				*e*Sg	**Sg**	**19 11 00.1**	**-0.1**
BGV	**Bac-Giang**	**4.78**	**107**	*e*Pg	**Pg**	**19 10 06.2**	**-1.4**
BGV				*e*Sg	**Sg**	**19 11 08.4**	**-1.1**
MTZV	**Met**	**4.80**	**104**	*e*Pn	**Pn**	**19 09 40.0**	**+0.8**
MTZV				*e*Pg	**Pg**	**19 10 06.2**	**-1.9**
MTZV				*e*Sg	**Sg**	**19 11 08.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**4.86**	**208**	Pn	**Pn**	**19 09 47.0**	**-2.1**
	comp=N,0.3nm,0.3s,baz=20,slow=13,SNR=21						
CMAR				Pg	**Pb**	**19 10 02.3**	**+1.1**
	comp=N,1.1nm,0.3s,baz=31,slow=16,SNR=52						
CMAR				Lg	Lg	19 11 02.1	
	comp=N,2.3nm,0.3s,baz=25,slow=22,SNR=7.0						
CCVB	**Con Cuong**	**4.98**	**138**	*e*Pn	**Pn**	**19 09 50.4**	**-0.2**
CCVB				*e*Pg	**Pg**	**19 10 13.6**	**+2.1**
PLV	**Phu-Lien**	**5.30**	**111**	*e*Sg	**Sg**	**19 11 23.8**	**-2.5**
VIVB	**Vinh**	**5.80**	**135**	*e*Sg	**Sg**	**19 11 40.5**	**-1.7**
LZH	**Lanzhou**	**13.43**	**9**	*e*P	P	19 11 51.9	-4.1
LZH				pP	pP	19 11 56.0	
LZH				sP	sP	19 11 59.1	
LZH				PP	PnPn	19 12 03.0	+8.3
LZH				pmax	pmax		
	comp=N,15nm,1.1s						
LZH				pmax	pmax		
	comp=N,49nm,4.2s						
LZH				LR	LR		
	comp=N,170nm,10.0s						
LZH				LR	LR		
	comp=N,170nm,10.2s						
LZH				LR	LR		
	comp=N,180nm,12.5s						
SONM	**Songino Array**	**25.31**	**8**	P	**P**	**19 14 03.4**	**+0.7**
	comp=N,0.7nm,0.8s,baz=192,slow=9.9,SNR=4.3						
KSRS	**Korea Array**	**27.13**	**51**	LR	LR	19 24 58.5	
	comp=N,34nm,18.8s,baz=265,slow=36						
MKAR	**Makanchi Array**	**28.45**	**332**	P	**P**	**19 14 31.0**	**+0.2**
	comp=N,1.1nm,0.7s,baz=140,slow=10,SNR=7.9						
ZALV	**Zalesovo Beam**	**33.52**	**342**	P	**P**	**19 15 15.0**	**-0.4**
	comp=N,0.2nm,0.3s,baz=142,slow=7.3,SNR=2.9						
MJAR	**Matsushiro Arr**	**34.62**	**58**	LR	LR	19 28 11.6	
	comp=N,28nm,20.6s,baz=275,slow=34						
PETK	**Petropavlovsk-**	**52.01**	**40**	LR	LR	19 41 44.1	
	comp=N,30nm,19.8s,baz=351,slow=38						
WRA	**Warramunga Arr**	**53.31**	**140**	P	**P**	**19 17 54.9**	**-0.3**
	comp=N,0.5nm,0.6s,baz=330,slow=8.0,SNR=6.5						
ASAR	**Alice Springs**	**55.99**	**143**	P	**P**	**19 18 14.2**	**-0.5**
	comp=N,0.6nm,0.8s,baz=322,slow=7.1,SNR=6.4						

IDC 13 19:12:15.4±2.1, 20.60N×144.52E, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.3/4, Error ellipse: s-maj=192.0km s-min=25.5km az=113.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**21.00**	**92**	T	T	19 39 22.4	
	baz=283,slow=72,SNR=30						
H11S1	**WAKE ISLAND Hy**	**21.01**	**92**	T	T	19 39 23.5	
	baz=283,slow=72,SNR=28						
H11S2	**WAKE ISLAND Hy**	**21.01**	**92**	T	T	19 39 25.6	
	baz=283,slow=72,SNR=26						
H11N1	**WAKE ISLAND Hy**	**21.02**	**88**	T	T	19 39 25.7	
	baz=280,slow=75,SNR=53						
H11N2	**WAKE ISLAND Hy**	**21.02**	**88**	T	T	19 39 28.6	
	baz=280,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**21.04**	**88**	T	T	19 39 29.7	
	baz=280,slow=75,SNR=51						
WRA	**Warramunga Arr**	**41.51**	**195**	P	P	19 20 04.1	-0.4
	0.2nm,0.6s,baz=19,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**45.20**	**194**	P	P	19 20 34.4	0.0
	0.2nm,0.7s,baz=32,slow=7.1,SNR=3.2						
YKA	**Yellowknife Ar**	**76.84**	**28**	P	P	19 24 08.0	-0.9
	0.2nm,0.4s,baz=291,slow=5.9,SNR=5.9						
NVAR	**Mina Array Bea**	**82.85**	**52**	P	P	19 24 43.9	+1.5
	0.4nm,0.7s,baz=263,slow=7.2,SNR=3.6						

IDC 13 19:28:14.3±11.0, 58.04S×25.61W, h0km, mb3.5/1, mb1 3.5/1, mb1mx3.4/16, mbtmp3.5/1, Error ellipse: s-maj=679.9km s-min=66.6km az=142.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**74.39**	**28**	P	P	19 39 53.8	0.0
	0.2nm,0.5s,baz=193,slow=6.3,SNR=5.9						
YKA	**Yellowknife Ar**	**138.22**	**316**	PKP	PKPdf	19 47 39.1	-0.6
	0.1nm,0.4s,baz=141,slow=1.8,SNR=5.5						
INK	**Inuvik**	**147.88**	**318**	PKPbc	PKPbc	19 47 58.9	-0.7
	0.8nm,0.7s,baz=109,slow=2.4,SNR=3.4						
ILAR	**Eielson Array**	**152.06**	**309**	PKPbc	PKPbc	19 48 09.8	-0.1
	0.5nm,0.5s,baz=134,slow=3.2,SNR=11						

IDC 13 19:30:50.5±29.0, 18.79S×177.11W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=558.7km s-min=143.4km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.30**	**242**	P	P	19 38 21.5	+0.1
	1.1nm,0.6s,baz=85,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**45.69**	**260**	P	P	19 39 13.9	+0.4
	1.0nm,0.3s,baz=98,slow=7.9,SNR=50						
ASAR	**Alice Springs**	**45.75**	**255**	P	P	19 39 13.8	-0.2
	2.3nm,0.5s,baz=89,slow=8.2,SNR=56						
FITZ	**Fitzroy Crossi**	**54.10**	**261**	P	P	19 40 16.8	-0.8
	2.4nm,0.7s,baz=59,slow=4.7						

WEL 13 19:39:01.5±0.4, 35.58S×178.79E, h207km±7km, ML3.8/5, Error ellipse: s-maj=9.4km s-min=7.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.02**	**191**	PN	Pn	19 39 41.3	+0.7
MXZ				SN	S	19 40 10.9	-0.1
PUZ	**Puketiti**	**2.53**	**190**	PN	Pn	19 39 45.9	-0.2
PUZ				SN	S	19 40 20.6	-0.1
MWZ	**Matawai**	**2.94**	**200**	PN	Pn	19 39 51.5	+0.8
MWZ				SN	S	19 40 29.1	+0.1
URZ	**Urewera**	**3.00**	**206**	PN	Pn	19 39 51.1	-0.3
URZ				SN	S	19 40 30.2	0.0
RIGZ	**Rimuhau**	**3.23**	**194**	PN	Pn	19 39 54.5	+0.4
SNGZ	**Shannon Statio**	**3.40**	**199**	PN	Pn	19 39 56.5	+0.3
SNGZ				SN	S	19 40 39.8	+1.0
KNZ	**Kokohu**	**3.55**	**194**	PN	Pn	19 39 57.7	-0.3
KNZ				SN	S	19 40 41.5	-0.4
RAHZ	**Arahi**	**3.60**	**202**	PN	Pn	19 39 58.5	-0.1
HOWZ	**Holdsworth Sta**	**5.91**	**205**	PN	Pn	19 40 25.2	-2.4
OGWZ	**Otaki Gorge**	**5.96**	**207**	PN	Pn	19 40 25.6	-2.6
KIW	**Kapiti Island**	**6.10**	**209**	PN	Pn	19 40 27.1	-2.9
MTW	**Mount Morrison**	**6.14**	**204**	AML	AML	19 40 41.5	
TCW	**Tory Channel**	**6.65**	**211**	PN	Pn	19 40 33.9	-3.2
KHZ	**Kahutara**	**7.96**	**209**	PN	Pn	19 40 51.0	-3.1

IDC 13 19:40:50.1±1.6, 3.75S×144.19E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=84.6km s-min=25.6km az=121.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.74**	**210**	P	Pn	19 45 11.2	+0.2
	0.2nm,0.3s,baz=31,slow=11,SNR=22						
ASAR	**Alice Springs**	**22.15**	**206**	P	P	19 45 47.1	-0.6
	0.5nm,0.5s,baz=38,slow=7.2,SNR=16						
FITZ	**Fitzroy Crossi**	**23.09**	**230**	P	P	19 45 57.8	+0.1
	2.1nm,0.8s,baz=34,slow=7.3,SNR=6.2						
ILAR	**Eielson Array**	**84.55**	**24**	P	P	19 53 25.0	+0.1
	0.2nm,0.6s,baz=251,slow=5.5,SNR=2.7						

KRSC 13 19:45:49.1±7.9, 48.05N×155.55E, h150km±100km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.66**	**8**	P	Pn	19 46 33.7	+1.6
SKR				*i* S	Sn	19 47 09.3	+3.9
PAU	**Pauzhetka**	**3.52**	**13**	*e*P	Pn	19 46 44.6	+1.6
PAU				*i* S	Sn	19 47 28.9	+4.1
MIPR	**Malaya Ipel'ka**	**4.30**	**10**	*e*P	Pn	19 46 53.4	+0.2
ASAK	**Asacha**	**4.59**	**18**	P	Pn	19 47 01.1	+4.0
MTVR	**Mutnovka**	**4.75**	**20**	P	Pn	19 47 03.0	+3.7
MTVR				*i* S	Sn	19 47 58.3	+4.3
RUS	**Russkaya**	**4.78**	**22**	P	Pn	19 47 02.8	+3.3
RUS				*i* S	Sn	19 47 58.2	+3.8
UGLR	**Uglovaya**	**5.57**	**21**	P	Pn	19 47 13.1	+3.0
AVH	**Avacha**	**5.60**	**20**	P	Pn	19 47 14.2	+3.7
KOK	**Koryaka**	**5.60**	**19**	P	Pn	19 47 14.2	+3.7
SMAR	**Somma**	**5.61**	**20**	P	Pn	19 47 13.0	+2.2
KRER	**Koryakskii**	**5.64**	**20**	P	Pn	19 47 14.2	+3.1
SDLR	**Sedlovina**	**5.65**	**21**	P	Pn	19 47 13.8	+2.7
KRX	**Arik**	**5.67**	**19**	P	Pn	19 47 14.8	+3.4
MKZ	**Mys Kozlova**	**7.58**	**28**	*e*P	Pn	19 47 38.9	+2.3
KBTR	**Krutoberegovo**	**9.31**	**26**	P	Pn	19 48 00.7	+1.0

ISCJB ***13*** *19:48:07.0±0.8, 37.25N±0.06×71.7E±0.1, h106km, mb3.2/2, Error ellipse: s-maj=15.5km s-min=5.1km az=155.4*
IDC ***13*** *19:48:09.3±10.0, 40.04N×67.38E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.2/29, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=260.4km s-min=38.5km az=165.0*
NNC ***13*** *19:48:15.1±7.7, 37.57N×71.77E, h119km±128km, mb3.0, mpv3.6, Error ellipse: s-maj=65.5km s-min=44.0km az=13.0*
ISC 13 19:48:08.1±1.1, 37.23N±0.09×71.7E±0.1, h106km, n21, σ1s31/23, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.94**	**352**	⇓P	Pn	19 49 38.0	+4.5
	8.9nm,0.6s,baz=169,slow=12,SNR=151						
KK31				S	**Sn**	**19 50 39.8**	**-0.5**
	8.0nm,0.3s,baz=169,slow=21,SNR=29						
TKM2	**Tokmak 2**	**6.44**	**27**	⇑P	**Pn**	**19 49 40.4**	**-0.1**
	3.2nm,1.4s						
TKM2				⇑S	**Sn**	**19 50 52.8**	**+0.2**
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**12.39**	**36**	Pn	**P**	**19 51 09.0**	**+0.7**
	0.1nm,0.3s,baz=224,slow=12,SNR=4.9						
PYUN	**Piuthan**	**13.17**	**130**	*e*P	**Pn**	**19 51 10.5**	**-0.8**
	18nm,0.6s						
DANN	**Dangsing**	**13.47**	**128**	*e*P	**Pn**	**19 51 14.5**	**-0.8**
	6.1nm,0.4s						
KOLN	**Koldanda**	**13.78**	**130**	*e*P	**Pn**	**19 51 18.8**	**-0.4**
	4.2nm,0.3s						
GKN	**Gorkha**	**14.27**	**126**	*e*P	**Pn**	**19 51 25.1**	**-0.4**
	6.9nm,0.4s						
AB31	**Akbulak array**	**14.73**	**328**	P	**P**	**19 51 34.4**	**+0.1**
	0.3nm,0.3s,baz=134,slow=15,SNR=41						
AB31				⇑S	**Sn**	**19 54 10.4**	**-2.9**
	baz=163,slow=22,SNR=4.2						
KKN	**Kakani**	**14.83**	**125**	*e*P	**Pn**	**19 51 31.6**	**-1.1**
DMN	**Daman**	**14.84**	**126**	*e*P	**Pn**	**19 51 32.1**	**-0.8**
PKIN	**Phulchoki**	**15.05**	**126**	*e*P	**Pn**	**19 51 34.4**	**-1.1**
	3.6nm,0.4s						
PKI	**Pulchoki**	**15.06**	**126**	*e*P	**Pn**	**19 51 34.7**	**-1.0**
	3.6nm,0.3s						
GUN	**Gumba**	**15.14**	**124**	*e*P	**Pn**	**19 51 36.2**	**-0.6**
JIRN	**Jiri**	**15.52**	**124**	*e*P	**Pn**	**19 51 40.8**	**-0.6**
	8.5nm,0.4s						
RAMN	**Ramite**	**16.26**	**125**	*e*P	**Pn**	**19 51 50.4**	**-0.2**
	6.7nm,0.6s						
AKTO	**Aktyubinsk**	**16.44**	**328**	⇑P	**P**	**19 51 57.3**	**+4.1**
	2.7nm,0.9s						
TAPN	**Taplejung**	**16.74**	**121**	*e*P	**Pn**	**19 51 56.0**	**-0.5**
ODAN	**Odare**	**16.84**	**123**	*e*P	**P**	**19 51 57.6**	**-0.5**
ZALV	**Zalesovo Beam**	**19.03**	**24**	P	**Pn**	**19 52 22.9**	**-0.7**
	0.2nm,0.3s,baz=215,slow=11,SNR=3.9						
INK	**Inuvik**	**73.10**	**10**	P	**P**	**19 59 27.4**	**+1.1**
	0.3nm,0.4s,baz=0.0,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**80.50**	**3**	P	**P**	**20 00 08.1**	**+0.1**
	0.1nm,0.5s,baz=350,slow=5.2,SNR=4.2						

IDC ***13*** *20:00:31.9±13.0, 17.83S×178.94W, h650km±131km, mb3.0/4, mb1 3.2/4, mb1mx2.8/19, mbtmp3.0/4, Error ellipse: s-maj=115.9km s-min=78.1km az=111.0*
ISC 13 20:00:20.4±3.3, 17.7S±0.7×178.3W±0.7, h547km, n6, σ0s76/8, mb3.7/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**20 06 59.5**	**+0.5**
	1.7nm,0.6s,baz=90,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**44.77**	**259**	P	**P**	**20 07 45.7**	**-0.2**
	1.0nm,0.7s,baz=95,slow=7.3,SNR=32						
WRA				PcP	**PcP**	**20 09 15.9**	**-0.4**
	0.1nm,0.4s,baz=92,slow=4.9,SNR=4.8						
ASAR	**Alice Springs**	**44.95**	**254**	P	**P**	**20 07 47.3**	**0.0**
	5.3nm,0.6s,baz=88,slow=8.5,SNR=110						
ASAR				PcP	**PcP**	**20 09 15.6**	**-1.3**
	0.5n

DHBB	**Dhamar BB**	7.08	275	*i*	P		**Pn**	21 02 33.8	+0.5
TRBA	**At Turbah**	7.40	264	⇓*i*	P		**Pn**	21 02 37.6	-0.1
TRBA	**At Turbah**	7.40	264	⇓*i*	P		**Pn**	21 02 37.6	-0.1
KMBO	**Kilima Mbogo**	20.80	225	*e*	P		**P**	21 05 30.8	-0.1
	comp=N,2.2nm,1.2s								
KMBO	**Kilima Mbogo**	20.80	225	*e*	P		**P**	21 05 30.8	-0.1
	comp=N,2.2nm,1.2s								
KMBO	**Kilima Mbogo**	20.80	225		P		Pn	21 05 32.7	-0.7
	comp=N,0.6nm,0.8s,baz=32,slow=13,SNR=3.4								
GNI	**Garni**	26.67	348	*e*	P		**P**	21 06 27.9	-0.4
	comp=N,5.1nm,0.7s								
GNI	**Garni**	26.67	348	*e*	P		**P**	21 06 27.9	-0.4
	comp=N,5.1nm,0.7s								
GNI	**Garni**	26.67	348		P		**P**	21 06 30.2	+2.0
	comp=N,6.9nm,0.8s,baz=0.0,slow=20,SNR=5.3								
GNI					LR		LR	21 18 52.4	
	comp=N,72nm,20.1s,baz=233,slow=41								
KBZ	**Khabaz**	30.49	347		LR		LR	21 21 44.5	
	comp=N,110nm,18.6s,baz=176,slow=41								
AKASG	**Malin Array Be**	40.81	338		P		**P**	21 08 31.2	+0.8
AKASG	**Malin Array Be**	40.81	338		P		**P**	21 08 31.2	+0.8
AKASG	**Malin Array Be**	40.81	338		P		**P**	21 08 31.2	+0.8
	comp=N,0.5nm,0.5s,baz=145,slow=7.1,SNR=7.8								
MKAR	**Makanchi Array**	41.46	32		P		**P**	21 08 35.8	-0.1
MKAR	**Makanchi Array**	41.46	32		P		**P**	21 08 35.8	-0.1
MKAR	**Makanchi Array**	41.46	32		P		**P**	21 08 35.8	-0.1
	comp=N,1.2nm,0.5s,baz=218,slow=8.8,SNR=36								
CMAR	**Chiang Mai Arr**	45.48	78		P		**P**	21 09 08.3	-0.4
CMAR	**Chiang Mai Arr**	45.48	78		P		**P**	21 09 08.4	-0.4
CMAR	**Chiang Mai Arr**	45.48	78		P		**P**	21 09 08.3	-0.4
	comp=N,0.7nm,0.3s,baz=269,slow=8.5,SNR=6.0								
GERES	**GERESS Array B**	46.62	326		P		**P**	21 09 17.6	+0.1
GERES	**GERESS Array B**	46.62	326		P		**P**	21 09 17.5	+0.1
GERES	**GERESS Array B**	46.62	326		P		**P**	21 09 17.6	+0.1
	comp=N,0.3nm,0.4s,baz=126,slow=8.8,SNR=4.3								
ZALV	**Zalesovo Beam**	47.52	26		P		**P**	21 09 23.2	-1.0
ZALV	**Zalesovo Beam**	47.52	26		P		**P**	21 09 23.2	-1.0
ZALV	**Zalesovo Beam**	47.52	26		P		**P**	21 09 23.2	-1.0
	comp=N,1.8nm,0.7s,baz=240,slow=8.3,SNR=9.7								
TORD	**Torodi Ar. Bea**	48.51	275		P		**P**	21 09 32.7	+0.2
TORD	**Torodi Ar. Bea**	48.51	275		P		**P**	21 09 32.7	+0.2
TORD	**Torodi Ar. Bea**	48.51	275		P		**P**	21 09 32.7	+0.2
	comp=N,0.6nm,0.7s,baz=82,slow=7.5,SNR=4.9								
FINES	**FINESS Array B**	50.76	344		P		**P**	21 09 49.5	+0.6
FINES	**FINESS Array B**	50.76	344		P		**P**	21 09 49.5	+0.6
FINES	**FINESS Array B**	50.76	344		P		**P**	21 09 49.5	+0.6
	comp=N,2.7nm,0.5s,baz=148,slow=9.8,SNR=12								
NOA	**NORSAR Array B**	55.21	337		LR		LR	21 38 01.0	
	comp=N,27nm,18.8s,baz=295,slow=40								
SONM	**Songino Array**	56.20	41		P		**P**	21 10 29.5	+0.3
SONM	**Songino Array**	56.20	41		P		**P**	21 10 29.5	+0.3
SONM	**Songino Array**	56.20	41		P		**P**	21 10 29.5	+0.3
	comp=N,1.6nm,0.7s,baz=247,slow=7.6,SNR=14								
ULN	**Ulaanbaatar**	56.63	42	*e*	P		**P**	21 10 31.6	-0.7
	comp=N,1.3nm,0.7s								
ULN	**Ulaanbaatar**	56.63	42	*e*	P		**P**	21 10 31.6	-0.7
	comp=N,1.3nm,0.7s								
ARCES	**ARCESS Array B**	57.82	349		P		**P**	21 10 39.9	-0.3
ARCES	**ARCESS Array B**	57.82	349		P		**P**	21 10 39.8	-0.3
ARCES	**ARCESS Array B**	57.82	349		P		**P**	21 10 39.9	-0.3
	comp=N,4.3nm,0.9s,baz=144,slow=7.8,SNR=8.1								

BJI **13** *21:03:42.2, 17˚.67N×146˚.36E, h80km, mB5.0/24, mb4.7/34, Ms4.7/19, Ms7 4.5/18*
ISCJB **13** *21:03:46.8±0.2, 17˚.73N±0˚.04×146˚.03E±0˚.04, h100km, mb4.8/120, Error ellipse: s-maj=5.1km s-min=4.8km az=172.7*
MOS **13** *21:03:49.4±1.1, 17˚.80N×145˚.92E, h126km, mb4.8/33, Error ellipse: s-maj=11.9km s-min=6.9km az=102.3*
NEIC **13** *21:03:49.7±1.6, 17˚.74N×145˚.95E, h114km±14km, mb4.9/66, Error ellipse: s-maj=7.0km s-min=5.9km az=117.0*
IDC **13** *21:03:51.4±1.5, 17˚.74N×146˚.00E, h135km±12km, mb4.3/26, mb1 4.4/28, mb1mx4.4/32, mbtmp4.3/28, MS3.4/7, Ms1 3.4/7, ms1mx3.1/39, Error ellipse: s-maj=14.5km s-min=7.9km az=86.0*

ISC 13 21:03:48.1±0.8, 17.77N±0˚.05×146˚.15E±0˚.06, h102km±6km, n253, σ1°75/287, mb4.9/120, **3C-4D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	4.33	197	*e*Pn		Pn	21 04 44.1	-7.8
GUMO				*e*Sn		Sn	21 05 31.7	-10
CBIJ	**Chichi jima**	9.98	339	P		**Pn**	**21 06 10.2**	**+1.7**
CBIJ				S		**Sn**	**21 07 53.4**	**-5.2**
JCJ	**Chichijima**	9.98	339	P		**Pn**	**21 06 10.2**	**+1.7**
	17nm,0.3s,baz=261,slow=18,SNR=7.1							
JCJ				S		**Sn**	**21 07 53.4**	**-5.2**
	15nm,0.3s,baz=127,slow=20,SNR=3.5							
JOW	**Kunigami**	18.82	302	*e*Pn		**P**	**21 07 58.1**	**-1.8**
	19nm,0.7s							
H11S3	**WAKE ISLAND Hy**	19.54	85	T		T	21 29 12.6	
	baz=277,slow=72,SNR=15							
H11S1	**WAKE ISLAND Hy**	19.55	85	T		T	21 29 13.4	
	baz=277,slow=72,SNR=15							
H11S2	**WAKE ISLAND Hy**	19.55	85	T		T	21 29 12.7	
	baz=277,slow=72,SNR=13							
H11N1	**WAKE ISLAND Hy**	19.74	81	T		T	21 29 30.9	
	baz=269,slow=74,SNR=27							
H11N2	**WAKE ISLAND Hy**	19.75	81	T		T	21 29 21.7	
	baz=269,slow=74,SNR=30							
H11N3	**WAKE ISLAND Hy**	19.76	81	T		T	21 29 28.9	
	baz=269,slow=74,SNR=26							
MJAR	**Matsushiro Arr**	19.97	341	P		**P**	**21 08 12.3**	**0.0**
MJAR	**Matsushiro Arr**	19.97	341	P		**P**	**21 08 12.3**	**0.0**
	5.0nm,0.3s,baz=167,slow=9.9,SNR=25							
MAJO	**Matsushiro**	19.98	341	*e*P		**P**	**21 08 12.8**	**+0.4**
MAJO				*e*S		**S**	**21 11 50.1**	**-1.4**
MAJO				pmax		pmax		
	comp=Z,27nm,0.7s							
MAJO	**Matsushiro**	19.98	341	*e*Pn		**P**	**21 08 12.8**	**+0.4**
	comp=Z,27nm,0.7s							
MAJO				*e*S		**S**	**21 11 50.1**	**-1.4**
MAT	**Matsushiro**	19.98	341	P		**P**	**21 08 12.4**	**+0.1**
MAT				S		**S**	**21 11 49.6**	**-1.8**
JNU	**Nakatsue**	20.55	321	P		**P**	**21 08 19.1**	**+0.5**
JNU	**Nakatsue**	20.55	321	P		**P**	**21 08 19.1**	**+0.5**
	comp=Z,4.6nm,0.4s,baz=0.0,slow=1.0,SNR=3.5							
JNU					LR	LR	21 15 56.6	
	comp=Z,18nm,19.8s,baz=80,slow=35							
SSLB	**Suanglung**	24.29	289	*e*P		**P**	**21 08 57.8**	**+1.7**
	comp=Z,42nm,1.0s							
KSRS	**Korea Array**	25.32	324	P		**P**	**21 09 04.7**	**-0.6**
	comp=Z,12nm,0.6s,baz=142,slow=8.9,SNR=34							
KSRS					LR	LR	21 18 19.7	
	comp=Z,38nm,18.3s,baz=145,slow=34							
KSAR	**Wonju Array Be**	25.33	324	P		**P**	**21 09 04.7**	**-0.7**
ASAJ	**Asahikawa**	26.44	354	*e*P		**P**	**21 09 17.5**	**+2.2**
ASAJ	**Asahikawa**	26.44	354	P		**P**	**21 09 17.1**	**+1.8**
	comp=Z,56nm,0.7s,baz=220,slow=10,SNR=33							
PMG	**Port Moresby**	27.02	178	*e*P		**P**	**21 09 20.2**	**-0.5**
	comp=Z,46nm,1.1s							
PMG	**Port Moresby**	27.02	178	P		**P**	**21 09 20.8**	**+0.1**
	comp=Z,31nm,0.9s,baz=7.8,slow=7.0,SNR=8.8							
NJ2	**Nanjing**	28.45	305	*e*P		**P**	**21 09 32.3**	**-1.1**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
USRK	**Ussuriysk Arra**	28.92	339	P		**P**	**21 09 37.1**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=147,slow=9.9,SNR=9.3							
YSS	**Yuzh-Sakhalins**	29.24	355	*i* P		**P**	**21 09 41.1**	**+0.9**
CN2	**Changchun**	31.28	330	*e*P		**P**	**21 09 59.6**	**+1.3**
COEN	**Coen**	31.66	186	*e*P		**P**	**21 10 01.1**	**-0.8**
	comp=Z,36nm,0.6s							
HABR	**Khabarovsk**	31.93	346	*e*P		P	21 10 00.5	-3.4
HABR				*e*PPP		PPP	21 11 16.1	
HABR				*e*			21 12 50.6	
HABR				*e*S		**S**	**21 15 09.3**	**+1.8**
HABR				*e*SS		**SnSn**	**21 17 00.0**	**-7.4**
HABR				pmax		pmax		
	comp=E,101nm,2.5s							
HABR				pmax		pmax		
	comp=N,80nm,2.5s							
HABR				pmax		pmax		
	comp=Z,36nm,2.5s							
HABR				MLR		MLR		
	comp=Z,51nm,15.0s							
BJT	**Baijiatuan**	34.09	317	*e*P		**P**	**21 10 21.7**	**-1.2**
	comp=Z,11nm,0.3s							
BJI	**Beijing**	34.10	317	P		**P**	**21 10 21.8**	**-1.1**
BJI				S		**S**	**21 15 44.3**	**+3.0**
BJI				pmax		pmax		
	comp=Z,18nm,0.6s							
BJI				pmax		pmax		
	comp=Z,98nm,3.7s							
BJI				LR		LR		
	comp=Z,120nm,26.7s							
BJI				LR		LR		
	comp=Z,130nm,26.5s							
QIZ	**Qiongzhong**	34.44	278	P		**P**	**21 10 24.5**	**-1.6**
QIZ				S		**S**	**21 15 50.0**	**+3.0**
ENH	**Enshi**	35.57	297	*e*P		**P**	**21 10 33.8**	**-2.0**
	comp=Z,2.9nm,0.4s							
PETK	**Petropavlovsk-**	36.41	12	P		**P**	**21 10 44.3**	**+1.7**
PETK							21 13 04.5	
PETK	**Petropavlovsk-**	36.41	12	P		**P**	**21 10 44.2**	**+1.7**
PETK				PcP		**PcP**	**21 13 04.5**	**-0.1**
PETK	**Petropavlovsk-**	36.41	12	P		**P**	**21 10 44.2**	**+1.7**
	comp=Z,7.1nm,0.6s,baz=183,slow=8.0,SNR=7.6							
PETK				PcP		**PcP**	**21 13 04.5**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=188,slow=5.0,SNR=9.7							
SBUM	**Sibu**	36.60	249	*e*P		**P**	**21 10 47.0**	**+2.3**
	comp=Z,8.8nm,0.5s							
GYA	**Guiyang**	37.47	290	⇓*i* P		**P**	**21 10 51.3**	**-0.8**
GYA				PP		**PP**	**21 12 20.0**	**+0.5**
GYA				PcP		**PcP**	**21 13 09.8**	**+1.2**
GYA				S		**S**	**21 16 33.4**	**-0.1**
GYA				ScP		**ScP**	**21 16 51.3**	**+4.6**
GYA				PcS		**PcS**	**21 16 59.0**	**+1.5**
GYA				ScS		**ScS**	**21 20 57.5**	**+2.0**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,130nm,4.7s							
GYA				LR		LR		
	comp=Z,640nm,17.8s							
GYA				LR		LR		
	comp=Z,580nm,18.0s							
GYA				LR		LR		
	comp=Z,690nm,17.6s							
HHC	**Hu-ho-hao-te**	37.56	315	*e*P		**P**	**21 10 52.5**	**-0.1**
HHC				PP		**PP**	**21 12 20.6**	**+0.4**
HHC				S		S	21 16 40.8	+6.4
HHC				SS		SS	21 19 12.0	-11
HHC				pmax		pmax		
	comp=Z,23nm,1.0s							
HHC				pmax		pmax		
	comp=Z,170nm,5.8s							
HHC				LR		LR		
	comp=Z,170nm,14.8s							
HHC				LR		LR		
	comp=Z,200nm,13.9s							
HHC				LR		LR		
	comp=Z,130nm,13.7s							
WRAB	**Tennant Creek**	39.22	198	*e*P		**P**	**21 11 07.2**	**+0.7**
WRAB				pmax		pmax		
	comp=Z,27nm,1.2s							
WRAB	**Tennant Creek**	39.22	198	*e*P		**P**	**21 11 06.8**	**+0.2**
	comp=Z,140nm,2.8s							
WRA	**Warramunga Arr**	39.23	198	P		**P**	**21 11 06.4**	**-0.2**
WRA				ScP		**ScP**	**21 16 49.2**	**-4.0**
WRA	**Warramunga Arr**	39.23	198	P		**P**	**21 11 06.4**	**-0.2**
	comp=Z,7.0nm,0.9s,baz=20,slow=9.3,SNR=26							
WRA				ScP		**ScP**	**21 16 49.2**	**-4.0**
	comp=Z,2.1nm,0.9s,baz=19,slow=4.1,SNR=8.8							
CD2	**Chengdu**	40.54	297	*e*P		**P**	**21 11 15.5**	**-2.1**
CD2				PP		**PP**	**21 12 53.3**	**+0.4**
CD2				S		**S**	**21 17 20.0**	**+0.6**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CD2				pmax		pmax		
	comp=Z,40nm,4.8s							
CD2				LR		LR		
	comp=Z,120nm,13.2s							
CD2				LR		LR		
	comp=Z,130nm,11.8s							
KMI	**Kunming**	40.92	288	P		**P**	**21 11 18.3**	**-2.7**
KMI				pmax		pmax		
	comp=Z,7.0nm,0.8s							
LZH	**Lanzhou**	41.52	305	*e*P		**P**	**21 11 27.5**	**+1.8**
LZH				pP		pP	21 11 42.1	-7.3
LZH				PP		**PnPn**	**21 13 07.3**	**-1.8**
LZH				pmax		pmax		
	comp=Z,22nm,1.3s							
LZH				pmax		pmax		
	comp=Z,75nm,5.2s							
LZH				LR		LR		
	comp=Z,380nm,13.7s							
LZH				LR		LR		
	comp=Z,390nm,13.2s							
LZH				LR		LR		
	comp=Z,500nm,17.8s							
CHAI	**Chaiyaphum**	42.24	274	P		**P**	**21 11 33.0**	**+1.5**
	comp=Z,10nm,0.7s							
AS31	**Alice Springs**	42.88	197	*e*P		**P**	**21 11 36.1**	**-0.5**
ASAR	**Alice Springs**	42.88	197	P		**P**	**21 11 35.8**	**-0.8**
ASAR				ScP		**ScP**	**21 17 04.0**	**-3.6**
ASAR				S		**S**	**21 17 52.0**	**-1.9**
ASAR	**Alice Springs**	42.88	197	P		**P**	**21 11 35.8**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=14,slow=6.7,SNR=25							
ASAR				ScP		**ScP**	**21 17 04.0**	**-3.6**
	comp=Z,1.2nm,0.9s,baz=21,slow=3.8,SNR=7.8							
ASAR				S		**S**	**21 17 52.0**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=20,slow=21,SNR=3.5							
PBKT	**Sadao Pong**	43.10	275	P		**P**	**21 11 40.7**	**+2.2**
	comp=Z,16nm,1.2s							
CRAI	**Chiangrai**	43.25	281	P		**P**	**21 11 41.6**	**+1.9**
	comp=Z,235nm,0.8s,comp=Z,14μm							
ULN	**Ulaanbaatar**	43.76	322	*e*P		**P**	**21 11 42.4**	**-1.2**
	comp=Z,8.4nm,0.7s							
LAMP	**Lampang**	44.11	278	P		**P**	**21 11 48.6**	**+2.0**
	comp=Z,3.7nm,0.7s							
SONM	**Songino Array**	44.13	322	P		**P**	**21 11 45.9**	**-0.7**
SONM				PcP		**PcP**	**21 13 29.3**	**-0.5**
SONM				ScP		**ScP**	**21 17 07.3**	**-5.2**
SONM	**Songino Array**	44.13	322	P		**P**	**21 11 45.9**	**-0.7**
	comp=Z,6.2nm,0.6s,baz=128,slow=7.5,SNR=56							
SONM				PcP		**PcP**	**21 13 29.3**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=146,slow=3.6,SNR=3.7							
SONM				ScP		**ScP**	**21 17 07.3**	**-5.2**
	comp=Z,0.6nm,0.8s,baz=142,slow=4.9,SNR=4.3							
SONM				LR		LR	21 28 30.2	
	comp=Z,46nm,18.2s,baz=190,slow=34							
DZM	**Mont Dzumac**	44.30	153	P		**P**	**21 11 48.9**	**+0.8**
DZM	**Mont Dzumac**	44.30	153	P		**P**	**21 11 48.9**	**+0.8**
	comp=Z,21nm,0.8s,baz=350,slow=6.8,SNR=13							
CMAI	**Chiengmai2**	44.52	281	P		**P**	**21 11 51.6**	**+1.6**
	comp=Z,77nm,0.8s							
CHTO	**Chiang Mai**	44.73	279	*e*P		**P**	**21 11 50.4**	**-1.1**
CHTO				*e*			21 13 32.5	
CHTO				pmax		pmax		
	comp=Z,2.0nm,0.6s							
CHTO	**Chiang Mai**	44.73	279	*e*P		**P**	**21 11 50.4**	**-1.1**
	comp=Z,1.9nm,0.6s							
CHTO				*e*PcP		**PcP**	**21 13 32.5**	**+0.2**
CHTO	**Chiang Mai**	44.73	279	P		**P**	**21 11 52.9**	**+1.4**
	comp=Z,46nm,0.8s							
CM31	**Chiang Mai Arr**	44.77	279	*e*P		**P**	**21 11 52.3**	**+0.4**
CMAR	**Chiang Mai Arr**	44.77	279	P		**P**	**21 11 53.8**	**+1.9**
CMAR	**Chiang Mai Arr**	44.77	279	P		**P**	**21 11 53.8**	**+1.9**
	comp=Z,18nm,0.7s,baz=70,slow=6.8,SNR=139							
SRDT	**SRDT**	45.23	273	P		**P**	**21 11 58.0**	**+2.5**
	comp=Z,53nm,0.8s							
SEY	**Seymchan**	45.33	4	P		**P**	**21 11 57.4**	**+1.8**
SEY							21 13 33.7	
SEY	**Seymchan**	45.33	4	P		**P**	**21 11 57.4**	**+1.8**
SEY				PcP		**PcP**	**21 13 33.7**	**+0.3**
SEY	**Seymchan**	45.33	4	P		**P**	**21 11 57.4**	**+1.8**
	comp=Z,30nm,0.6s,baz=181,slow=7.1,SNR=100							
SEY				PcP		**PcP**	**21 13 33.7**	**+0.3**
	comp=Z,9.1nm,0.8s,baz=92,slow=4.6,SNR=4.0							
GTA	**Gaotai**	45.45	308	*e*P		**P**	**21 11 55.8**	**-1.3**
GTA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YAK	**Yakutsk**	45.71	349	*e*P		**P**	**21 11 56.9**	**-1.7**
YAK				*e**PP		**pP**	**21 12 24.8**	**+2.2**
YAK				*e*			21 13 32.7	
YAK				*e*			21 13 46.4	
YAK				*e*PPP		PPP	21 14 34.0	
YAK				*e*S		**S**	**21 18 32.6**	**-1.3**
YAK				*e**SS		sS	21 19 23.0	+7.7
YAK				*e*			21 21 54.6	
YAK				pmax		pmax		
	comp=Z,25nm,0.9s							
YAK				pmax		pmax		
	comp=E,2.0nm,0.8s							
YAK				pmax		pmax		
	comp=N,12nm,1.1s							
YAK				pmax		pmax		
	comp=Z,18nm,0.5s							
YAK				pmax		pmax		
	comp=N,5.0nm,0.4s							
YAK				pmax		pmax		
	comp=E,3.0nm,0.5s							
YAK				smax		smax		
	comp=N,74nm,3.3s							
YAK				smax		smax		
	comp=E,185nm,4.4s							
YAK	**Yakutsk**	45.71	349	*e*P		**P**	**21 11 58.3**	**-0.3**
	comp=E,34nm,0.6s							
MHMT	**Maesarieng**	45.76	278	P		**P**	**21 12 01.7**	**+2.0**
	comp=E,13nm,0.9s							
MBWA	**Marble Bar**	46.55	215	*e*P		**P**	**21 12 05.0**	**-0.7**
	comp=E,2.5nm,0.4s							
ZAK	**Zakamensk**	47.15	324	*e*P		P	21 12 06.4	-3.8
ZAK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
PSI	**Prapat**	48.62	258	P		**P**	**21 12 23.0**	**+1.0**
PSI	**Prapat**	48.62	258	P		**P**	**21 12 23.0**	**+1.0**
	comp=Z,7.9nm,0.8s,baz=224,slow=0.8,SNR=8.2							
MOY	**Mondy**	49.02	324	*e*P		**P**	**21 12 26.0**	**+1.4**
STKA	**Stephens Creek**	49.55	185	P		**P**	**21 12 27.8**	**-0.9**
STKA	**Stephens Creek**	49.55	185	P		**P**	**21 12 27.8**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=9.2,slow=7.6,SNR=6.8							
BBOO	**Buckleboo**	51.21	191	*e*P		**P**	**21 12 41.3**	**+0.2**
	comp=Z,291nm,1.1s							
LSA	**Lhasa**	51.31	294	P		**P**	**21 12 43.4**	**+0.7**
LSA	**Lhasa**	51.31	294	*e*P		**P**	**21 12 40.8**	**-1.9**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
LSA	**Lhasa**	51.31	294	*e*P		**P**	**21 12 40.8**	**-1.9**
	comp=Z,5.4nm,0.6s							
TAPN	**Taplejung**	54.39	291	*e*P		**P**	**21 13 07.2**	**+2.0**
TAPN	**Taplejung**	54.39	291	*e*P		**P**	**21 13 07.2**	**+2.0**
ODAN	**Odare**	54.70	291	*e*P		**P**	**21 13 09.5**	**+2.1**
	comp=Z,11nm,0.5s							
ODAN	**Odare**	54.70	291	*e*P		**P**	**21 13 09.5**	**+2.1**
	comp=Z,11nm,0.5s							
TIXI	**Tiksi**	54.84	353	*e*P		**P**	**21 13 06.8**	**-0.5**
TIXI				pmax		pmax		
	comp=Z,9.0nm,0.8s							
TIXI				MLR		MLR		
	comp=Z,26nm,16.0s							
TIXI	**Tiksi**	54.84	353	*e*P		**P**	**21 13 06.1**	**-1.2**
	comp=Z,8.2nm,0.6s							
WMQ	**Urumqi**	55.24	311	P		**P**	**21 13 11.0**	**+0.2**
WMQ				PcP		**PcP**	**21 14 12.0**	**+1.5**
WMQ				PP		**PP**	**21 15 16.0**	**+0.8**
WMQ				ScP		**ScP**	**21 18 05.0**	**+5.0**
WMQ				S		S	**21 20 48.0**	**+1.4**
WMQ				ScS		**ScS**	**21 22 53.0**	**+2.8**
WMQ				SS		**SS**	**21 24 32.0**	**-0.1**
WMQ				pmax		pmax		
	comp=Z,17nm,1.0s							
WMQ				pmax		pmax		
	comp=Z,78nm,5.0s							
WMQ				LR		LR		
	comp=Z,36nm,18.0s							
WMQ				LR		LR		
	comp=Z,39nm,17.0s							
WMQ				LR		LR		
	comp=Z,50nm,18.0s							
RAMN	**Ramite**	55.40	291	*e*P		**P**	**21 13 13.6**	**+1.2**
	comp=Z,10.0nm,0.7s							
RAMN	**Ramite**	55.40	291	*e*P		**P**	**21 13 13.6**	**+1.2**
	comp=Z,10.0nm,0.7s							
JIRN	**Jiri**	55.72	292	*e*P		**P**	**21 13 16.0**	**+1.2**
JIRN	**Jiri**	55.72	292	*e*P		**P**	**21 13 16.0**	**+1.2**
GUN	**Gumba**	55.98	292	*e*P		**P**	**21 13 18.4**	**+1.7**
	comp=Z,11nm,0.4s							
PKI	**Pulchoki**	56.42	292	*e*P		**P**	**21 13 21.3**	**+1.5**
	comp=Z,6.3nm,0.4s							
PKIN	**Phulchoki**	56.43	292	*e*P		**P**	**21 13 21.2**	**+1.4**
	comp=Z,5.7nm,0.4s							
KKN	**Kakani**	56.52	292	*e*P		**P**	**21 13 21.9**	**+1.6**
KKN	**Kakani**	56.52	292	*e*P		**P**	**21 13 21.9**	**+1.6**
KKN	**Kakani**	56.52	292	*e*P		**P**	**21 13 21.9**	**+1.6**
TNA	**Tin City**	56.53	21	*e*P		**P**	**21 13 20.5**	**+1.1**
	comp=Z,23nm,1.3s							
DMN	**Daman**	56.69	292	*e*P		**P**	**21 13 22.2**	**+0.6**
	comp=Z,8.3nm,0.4s							
GKN	**Gorkha**	57.07	292	*e*P		**P**	**21 13 25.0**	**+0.8**
	comp=Z,8.7nm,0.5s							
GKN	**Gorkha**	57.07	292	*e*P		**P**	**21 13 25.0**	**+0.8**
	comp=Z,8.7nm,0.5s							
DANN	**Dangsing**	57.82	293	*e*P		**P**	**21 13 29.4**	**-0.2**
	comp=Z,34nm,0.5s							
DANN	**Dangsing**	57.82	293	*e*P		**P**	**21 13 29.4**	**-0.2**
	comp=Z,34nm,0.5s							
KOLN	**Koldanda**	58.01	292	*e*P		**P**	**21 13 30.3**	**-0.5**
	comp=Z,14nm,0.8s							
KOLN	**Koldanda**	58.01	292	*e*P		**P**	**21 13 30.3**	**-0.5**
	comp=Z,14nm,0.8s							
PYUN	**Piuthan**	58.52	292	*e*P		**P**	**21 13 34.3**	**-0.1**
	comp=Z,14nm,0.5s							
PYUN	**Piuthan**	58.52	292	*e*P		**P**	**21 13 34.3**	**-0.1**
	comp=Z,14nm,0.5s						

KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,100nm,4.8s
KSH LR LR
comp=Z,150nm,6.1s
KSH LR LR
comp=Z,120nm,5.8s
KSH LR LR
comp=Z,150nm,6.1s
COLA College 63.91 26 *e*P **P 21 14 10.0 +0.2**
COLA College 63.91 26 *e*P **P 21 14 10.0 +0.2**
TKM2 Tokmak 2 63.97 310 *e*P **P 21 14 11.1 +0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.5s
TKM2 Tokmak 2 63.97 310 *e*P **P 21 14 11.1 +0.2**
comp=Z,4.3nm,0.5s
DIV Divide 64.03 30 *e*P **P 21 14 12.5 +1.7**
comp=Z,17nm,1.1s
ILAR Eielson Array 64.29 26 P **P 21 14 11.3 -1.0**
ILAR Eielson Array 64.29 26 P **P 21 14 11.3 -1.0**
comp=Z,7.3nm,0.7s,baz=247,slow=6.4,SNR=10
PAX Paxson 64.52 28 *e*P **P 21 14 14.8 +0.8**
PAX pmax pmax
comp=Z,15nm,0.6s
PAX Paxson 64.52 28 *e*P **P 21 14 14.8 +0.8**
comp=Z,15nm,0.6s
BMRM Bremner River 64.57 30 *e*P **P 21 14 15.8 +1.6**
comp=Z,20nm,0.9s
DOT Dot Lake 65.27 27 *e*P **P 21 14 19.8 +1.0**
comp=Z,18nm,0.7s
VOSK Vostochnaya 67.10 320 *e*P **P 21 14 29.2 -1.4**
VOSK pmax pmax
comp=Z,7.0nm,0.7s
VOSK Vostochnaya 67.10 320 *e*P **P 21 14 29.2 -1.4**
comp=Z,7.2nm,0.7s
BRVK Borovoye 67.53 321 *e*P **P 21 14 32.7 -0.5**
BRVK pmax pmax
comp=Z,33nm,1.2s
BRVK Borovoye 67.53 321 *e*P **P 21 14 32.4 -0.9**
comp=Z,19nm,0.8s
BRVK Borovoye 67.53 321 P **P 21 14 32.8 -0.5**
comp=Z,156nm,0.8s,SNR=15
KKAR Karatay Array 67.69 310 *e*P **P 21 14 34.1 -0.4**
KKAR Karatay Array 67.69 310 *e*P **P 21 14 34.1 -0.4**
HYT Haines Junctio 68.00 31 *e*P **P 21 14 38.1 +1.8**
INK Inuvik 70.06 23 *e*P **P 21 14 48.9 +0.2**
comp=Z,12nm,1.0s
INK Inuvik 70.06 23 P **P 21 14 49.1 +0.4**
comp=Z,4.8nm,0.5s,baz=277,slow=6.9,SNR=27
PPT Papeete 72.33 116 LR LR 21 40 39.7
comp=Z,114nm,20.8s,baz=311,slow=30
SVE Sverdlovsk 72.88 325⇑ *e*P **P 21 15 05.6 -0.3**
SVE pmax pmax
comp=Z,15nm,0.9s
ARU Arti 74.07 325 P **P 21 15 11.6 -1.2**
comp=Z,224nm,0.5s,SNR=10
ARU Arti 74.07 325 *d iP* **P 21 15 11.4 -1.4**
ARU 21 17 55.8
ARU S **S 21 24 42.2 +4.9**
ARU pmax pmax
comp=Z,19nm,0.6s
ARU Arti 74.07 325 *e*P **P 21 15 11.7 -1.2**
comp=Z,23nm,0.5s
ABKAR Akbulak array 74.31 317 *e*P **P 21 15 13.0 -1.4**
YKW3 Yellowknife Ar 78.58 28 *e*P **P 21 15 37.8 -0.4**
comp=Z,0.1nm,0.5s
YKA Yellowknife Ar 78.61 28 P **P 21 15 38.6 +0.3**
YKA Yellowknife Ar 78.61 28 P **P 21 15 38.6 +0.3**
comp=Z,4.1nm,0.5s,baz=287,slow=5.4,SNR=73
ALE Alert 79.01 4 P **P 21 15 41.6 +1.3**
comp=Z,314nm,0.8s,SNR=17
LTY Liberty 79.28 44 *e*P **P 21 15 43.8 +1.4**
comp=Z,17nm,0.6s
PRGR Permogore 79.43 331⇓ *iP* **P 21 15 41.4 -1.4**
PRGR pmax pmax
comp=Z,25nm,0.7s
B08A Colville Reser 79.87 42 *e*P **P 21 15 46.7 +1.1**
comp=Z,11nm,0.6s
E07A Sunnyside 80.00 44 *e*P **P 21 15 48.1 +1.8**
comp=Z,76nm,2.5s
HAWA Hanford 80.26 44 *e*P **P 21 15 49.2 +1.6**
comp=Z,3.8nm,0.7s
K05A Summer Lake 80.28 48 *e*P **P 21 15 50.1 +2.0**
comp=Z,155nm,2.8s
D08A Wollman Farm, 80.48 44 *e*P **P 21 15 50.3 +1.4**
comp=Z,5.6nm,1.0s
C09A Chrisman Ranch 80.70 43 *e*P **P 21 15 51.1 +1.1**
comp=Z,8.6nm,0.6s
E09A Wood Farm, Sta 81.15 44 *e*P **P 21 15 53.8 +1.4**
comp=Z,108nm,2.9s
NEW Newport 81.31 42 *e*P **P 21 15 54.3 +1.0**
comp=Z,5.7nm,0.7s
TMCR Tamitsa 81.79 335 *e*P **P 21 15 54.4 -1.0**
TMCR *e* 21 19 01.9
TMCR pmax pmax
comp=Z,31nm,0.7s
J08A Circle Bar Ran 81.82 47 *e*P **P 21 15 57.8 +1.6**
comp=Z,94nm,2.8s
WVOR Wild Horse Val 81.97 48 *e*P **P 21 15 58.0 +1.0**
WVOR pmax pmax
comp=Z,20nm,1.8s
WVOR Wild Horse Val 81.97 48 *e*P **P 21 15 58.0 +1.0**
comp=Z,20nm,1.8s
APA Apatity 82.03 339 *e*P P 21 16 06.0 +9.4
APA MLR MLR
comp=Z,800nm,19.0s
EDM Edmonton 82.07 37 *e*P **P 21 15 57.2 0.0**
EDM Edmonton 82.07 37 *e*P **P 21 15 57.2 0.0**
BMO Blue Mountains 82.19 46 *e*P **P 21 15 59.0 +0.9**
BMO pmax pmax
comp=Z,5.0nm,1.0s
BMO Blue Mountains 82.19 46 *e*P **P 21 15 59.0 +0.9**
comp=Z,5.4nm,1.0s
BSMT Bassoo Peak 82.93 42 *e*P **P 21 16 03.4 +1.4**
NVAR Mina Array Bea 83.38 52 P **P 21 16 05.5 +1.1**
NVAR Mina Array Bea 83.38 52 P **P 21 16 05.6 +1.1**
baz=280,slow=5.4
ARCES ARCESS Array B 83.50 342 P **P 21 16 03.4 -0.8**
ARCES ARCESS Array B 83.50 342 P **P 21 16 03.4 -0.8**
comp=Z,16nm,0.6s,baz=68,slow=7.3,SNR=85
SLMT Seeley Lake 83.96 42 *e*P **P 21 16 07.3 +0.1**
comp=Z,4.5nm,1.0s
CHMT Chamberlain Mo 84.22 43 *e*P **P 21 16 09.8 +1.2**
HLID Hailey 84.57 46 *e*P **P 21 16 11.8 +1.4**
comp=Z,2.8nm,0.8s
LRM Limekiln Ridge 85.12 43 *e*P **P 21 16 14.3 +1.1**
DLMT Dillon 85.18 44 *e*P **P 21 16 14.4 +1.0**
comp=Z,4.7nm,0.9s
MCMT McKenzie Canyo 85.20 45 *e*P **P 21 16 14.6 +0.9**
comp=Z,1.5nm,0.7s
HRY Holter Researc 85.21 42 *e*P **P 21 16 14.6 +1.1**
TPNV Topopah Spring 85.38 53 *e*P P 21 16 18.8 +4.2
TPNV pmax pmax
comp=Z,5.0nm,0.9s
TPNV Topopah Spring 85.38 53 *e*P P 21 16 18.8 +4.2
comp=Z,5.3nm,0.9s
BOZ Bozeman (W) 85.72 43 *e*P **P 21 16 17.1 +1.1**
BOZ pmax pmax
comp=Z,7.0nm,0.6s
BOZ Bozeman (W) 85.72 43 *e*P **P 21 16 17.1 +1.1**
comp=Z,7.3nm,0.6s
QLMT Earthquake Lak 86.14 44 *e*P **P 21 16 20.1 +1.8**
OBN Obninsk 86.29 327⇓ *iP* **P 21 16 19.4 +1.0**
OBN *e**PP pP 21 16 53.7 +8.6
OBN *e* 21 19 35.9
OBN pmax pmax
comp=Z,3.0nm,1.0s
SHPR Sheep Range 86.35 53 *e*P **P 21 16 20.6 +1.2**
YMR Madison River 86.51 44 *e*P **P 21 16 22.4 +2.3**
comp=Z,15nm,0.7s
KULLO Kullorsuaq 86.66 6 *i* P **P 21 16 21.0 +1.1**
KULLO pmax pmax
comp=Z,14nm,0.8s
KULLO Kullorsuaq 86.66 6 *i* P **P 21 16 21.0 +1.1**
comp=Z,14nm,0.7s
YNR Norris Junctio 86.68 44 *e*P **P 21 16 24.1 +3.1**
comp=Z,8.2nm,0.9s
DUG Dugway 86.83 49 *e*P **P 21 16 22.6 +1.0**
DUG pmax pmax
comp=Z,5.0nm,0.7s
DUG Dugway 86.83 49 *e*P **P 21 16 22.6 +1.0**
comp=Z,5.0nm,0.7s
FLWY Flagg Ranch 86.90 45 *e*P **P 21 16 24.1 +2.1**
comp=Z,12nm,0.7s
TPAW Teton Pass 86.95 45 *e*P P 21 16 25.7 +3.4
comp=Z,375nm,0.7s
KBZ Khabaz 87.10 315 P **P 21 16 21.0 -1.6**
KBZ Khabaz 87.10 315 P **P 21 16 21.0 -1.6**
KBZ Khabaz 87.10 315 P **P 21 16 21.0 -1.6**
comp=Z,3.5nm,0.9s,baz=234,slow=2.1,SNR=4.7
ARUT Antelope Range 87.21 51 *e*P **P**
ARUT pmax pmax
comp=Z,123nm,0.8s
ARUT Antelope Range 87.21 51 *e*P **P 21 16 25.1 +1.6**
comp=Z,123nm,0.8s
CCUT Cedar City 87.35 51 *e*P **P 21 16 26.4 +2.1**
comp=Z,64nm,2.9s
NLU North Lily Min 87.45 49 *e*P P 21 16 28.0 +3.3
comp=Z,4.6nm,0.8s
FFC Flin Flon 87.64 33 *e*P **P 21 16 25.4 +0.4**
FFC Flin Flon 87.64 33 *e*P **P 21 16 25.4 +0.4**
JLU Jordanelle 87.66 48 *e*P **P 21 16 27.1 +1.3**
comp=Z,4.5nm,0.8s
MVU Marysvale 87.87 50 *e*P **P 21 16 27.0 +0.3**
comp=Z,4.3nm,0.8s
FINES FINESS Array B 87.90 335 P **P 21 16 23.9 -2.2**
FINES FINESS Array B 87.90 335 P **P 21 16 23.9 -2.2**
comp=Z,8.7nm,0.4s,baz=58,slow=4.1,SNR=72
PDAR Pinedale Array 88.17 46 P **P 21 16 28.4 +0.4**
PDAR Pinedale Array 88.17 46 P **P 21 16 28.4 +0.4**
comp=Z,1.1nm,0.4s,baz=135,slow=0.9,SNR=19
SRU San Rafael 88.87 49 *e*P **P 21 16 32.5 +1.1**
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael 88.87 49 *e*P **P 21 16 32.5 +1.1**
comp=Z,4.5nm,0.7s
SUMG Summit 89.83 1 *i* P **P 21 16 35.7 +0.3**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 89.83 1 *i* P **P 21 16 35.7 +0.3**
comp=Z,9.5nm,1.0s
AKASG Malin Array Be 92.31 325 *ce*P **P 21 16 45.0 -1.9**
AKASG Malin Array Be 92.31 325 P **P 21 16 44.3 -2.5**
AKASG Malin Array Be 92.31 325 P **P 21 16 44.3 -2.5**
comp=Z,0.2nm,0.3s,baz=49,slow=4.6,SNR=4.9
NB2 NORSAR Subarra 93.59 340 P **P 21 16 50.3 -2.4**
comp=Z,0.9nm,0.6s,baz=52,slow=5.1
NOA NORSAR Array B 93.59 340 P **P 21 16 50.2 -2.4**
NOA PP **PP 21 20 37.7 -0.1**
NOA NORSAR Array B 93.59 340 P **P 21 16 50.2 -2.4**
comp=Z,1.0nm,0.6s,baz=46,slow=4.5,SNR=6.2
NOA PP **PP 21 20 37.7 -0.1**
comp=Z,0.8nm,0.8s,baz=39,slow=7.6,SNR=3.4
NOA LR LR 22 05 37.4
comp=Z,21nm,18.5s,baz=275,slow=40
BRTR Keskin Array B 95.06 314 P **P 21 16 58.5 -1.5**
BRTR Keskin Array B 95.06 314 P **P 21 16 58.5 -1.5**
comp=Z,2.7nm,1.0s,baz=69,slow=7.9,SNR=5.1
VNDA Vanda 95.54 177 LR LR 21 54 14.5
comp=Z,25nm,20.7s,baz=60,slow=32
TORD Torodi Ar. Bea 133.37 309 PKP **PKPdf 21 22 51.7 -1.5**
TORD SKPbc **SKPbc 21 26 06.5 -5.9**
TORD Torodi Ar. Bea 133.37 309 PKP **PKPdf 21 22 51.7 -1.5**
comp=Z,0.9nm,0.6s,baz=18,slow=2.1,SNR=23
TORD SKPbc **SKPbc 21 26 06.5 -5.9**
comp=Z,1.2nm,0.7s,baz=36,slow=2.4,SNR=6.6
DBIC Dimbokro 142.46 308 PKPpre PKPpre 21 23 04.5
DBIC Dimbokro 142.46 308 PKhKP PKPpre 21 23 04.5
comp=Z,1.9nm,0.3s,baz=34,slow=3.4,SNR=16
LVC Limon Verde 146.79 104 *e*PKPdf **PKPbc 21 23 19.1 -0.3**
LPAZ La Paz 147.22 93 *e*PKPdf **PKPdf 21 23 19.9 +1.1**
LPAZ PKPbc **PKPbc 21 23 20.1 -1.1**
LPAZ La Paz 147.22 93 PKPbc **PKPbc 21 23 20.1 -1.1**
comp=Z,4.3nm,0.6s,baz=287,slow=1.3,SNR=8.7
SAML Samuel 150.18 77 *e*PKPdf **PKPdf 21 23 23.1 +0.1**
SAML *e*PKPbc **PKiKP 21 23 29.6 +0.7**

IDC ***13*** *21:21:47.1±1.3, 37.°07S×176.°87E, h205km±6km, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=33.8km s-min=15.8km az=43.0*
ISCJB ***13*** *21:21:49.7±0.5, 37.°72S±0.°04×176.°28E±0.°06, h230km±3km, mb4.0/8, Error ellipse: s-maj=7.7km s-min=5.7km az=170.4*
WEL ***13*** *21:21:49.4±0.3, 37.°50S×176.°47E, h225km±2km, ML5.0/21, Error ellipse: s-maj=2.4km s-min=2.3km az=90.0*
NEIC ***13*** *21:21:49.2, 37.°46S×176.°46E, h225km, mb4.1/2, After WEL.*

ISC 13 21:21:49.9±0.7, **37.°70S**±0.°05×**176.°35E**±0.°05, **h230**km±5km, **n220**,σ1°11/233, **mb4.1**/8, **45C-13D**, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.08**	**245**	⇑PN		**Pn**	**Pn**	**21 22 18.7**	**-1.0**
TGRZ				SN		**S**	**S**	**21 22 41.4**	**-1.6**
TGRZ	**Tauranga**	**0.08**	**245**	⇑Pn		**Pn**	**Pn**	**21 22 18.7**	**-1.0**
TGRZ				Sn		**S**	**S**	**21 22 41.4**	**-1.6**
KARZ	**Kaharoa**	**0.33**	**194**	⇑PN		**Pn**	**Pn**	**21 22 19.4**	**-0.7**
KARZ				SN		**S**	**S**	**21 22 43.7**	**-0.2**
KARZ	**Kaharoa**	**0.33**	**194**	⇑Pn		**Pn**	**Pn**	**21 22 19.4**	**-0.7**
KARZ				Sn		**S**	**S**	**21 22 43.7**	**-0.2**
MARZ	**Manawahe**	**0.39**	**138**	PN		**Pn**	**Pn**	**21 22 19.3**	**-0.9**
MARZ				SN		**S**	**S**	**21 22 43.0**	**-1.0**
MARZ	**Manawahe**	**0.39**	**138**	Pn		**Pn**	**Pn**	**21 22 19.4**	**-0.9**
MARZ				Sn		**S**	**S**	**21 22 43.0**	**-1.0**
OMRZ	**Omania**	**0.41**	**177**	⇑PN		**Pn**	**Pn**	**21 22 19.7**	**-0.6**
OMRZ				SN		**S**	**S**	**21 22 44.4**	**+0.2**
OMRZ	**Omania**	**0.41**	**177**	⇑Pn		**Pn**	**Pn**	**21 22 19.7**	**-0.6**
OMRZ				Sn		**S**	**S**	**21 22 44.4**	**+0.2**
EDRZ	**Edgecumbe**	**0.51**	**143**	PN		**Pn**	**Pn**	**21 22 19.9**	**-0.8**
EDRZ	**Edgecumbe**	**0.51**	**143**	Pn		**Pn**	**Pn**	**21 22 19.9**	**-0.8**
TARZ	**Mount Tarawera**	**0.55**	**167**	⇑PN		**Pn**	**Pn**	**21 22 20.5**	**-0.3**
TARZ	**Mount Tarawera**	**0.55**	**167**	⇑Pn		**Pn**	**Pn**	**21 22 20.5**	**-0.3**
RRRZ	**Republican Roa**	**0.66**	**168**	⇑PN		**Pn**	**Pn**	**21 22 20.6**	**-0.5**
RRRZ	**Republican Roa**	**0.66**	**168**	⇑Pn		**Pn**	**Pn**	**21 22 20.6**	**-0.5**
TOZ	**Tahuroa Road**	**0.67**	**267**	⇑PN		**Pn**	**Pn**	**21 22 20.4**	**-0.7**
TOZ	**Tahuroa Road**	**0.67**	**267**	⇑Pn		**Pn**	**Pn**	**21 22 20.4**	**-0.7**
GRRZ	**Galatos Road**	**0.68**	**196**	⇑PN		**Pn**	**Pn**	**21 22 21.2**	**0.0**
HRRZ	**Handcock Road**	**0.69**	**184**	PN		**Pn**	**Pn**	**21 22 21.1**	**-0.2**
HRRZ	**Handcock Road**	**0.69**	**184**	Pn		**Pn**	**Pn**	**21 22 21.1**	**-0.2**
PRRZ	**Plateau Road**	**0.80**	**177**	⇑PN		**Pn**	**Pn**	**21 22 21.7**	**0.0**
PRRZ				SN		**S**	**S**	**21 22 45.7**	**-1.0**
PRRZ	**Plateau Road**	**0.80**	**177**	⇑Pn		**Pn**	**Pn**	**21 22 21.7**	**0.0**
PRRZ				Sn		**S**	**S**	**21 22 45.7**	**-1.0**
URZ	**Urewera**	**0.82**	**133**	⇑PN		**Pn**	**Pn**	**21 22 20.5**	**-1.3**
URZ				AML		AML	AML	21 22 43.9	
URZ				AML		AML	AML	21 22 48.9	
URZ	**Urewera**	**0.82**	**133**	*e*Pn		**Pn**	**Pn**	**21 22 20.7**	**-1.1**
URZ				*e*S		**S**	**S**	**21 22 43.2**	**-3.6**
URZ	**Urewera**	**0.82**	**133**	P		**Pn**	**Pn**	**21 22 20.7**	**-1.1**
	222nm,0.3s,baz=284,slow=2.3,SNR=898								
URZ				S		**S**	**S**	**21 22 43.6**	**-3.2**
	585nm,0.3s,baz=150,slow=22,SNR=31								
ALRZ	**Allen Road**	**0.86**	**180**	⇓PN		**Pn**	**Pn**	**21 22 22.4**	**+0.3**
ALRZ	**Allen Road**	**0.86**	**180**	⇓Pn		**Pn**	**Pn**	**21 22 22.4**	**+0.3**
TLZ	**Tolley Road**	**0.90**	**225**	PN		**Pn**	**Pn**	**21 22 22.6**	**+0.3**
WHTZ	**Whakaora**	**1.02**	**198**	⇑PN		**Pn**	**Pn**	**21 22 23.8**	**+0.9**
WHTZ	**Whakaora**	**1.02**	**198**	Pn		**Pn**	**Pn**	**21 22 23.8**	**+0.9**
MKAZ	**Moumakai**	**1.11**	**302**	⇓PN		**Pn**	**Pn**	**21 22 22.7**	**-0.8**
MKAZ				SN		**S**	**S**	**21 22 47.5**	**-2.2**
MKAZ	**Moumakai**	**1.11**	**302**	⇓Pn		**Pn**	**Pn**	**21 22 22.7**	**-0.8**
MKAZ				Sn		**S**	**S**	**21 22 47.5**	**-2.2**
WATZ	**Wairara**	**1.12**	**205**	⇑PN		**Pn**	**Pn**	**21 22 24.4**	**+0.9**
WATZ	**Wairara**	**1.12**	**205**	Pn		**Pn**	**Pn**	**21 22 24.4**	**+0.9**
MWZ	**Matawai**	**1.13**	**125**	⇑PN		**Pn**	**Pn**	**21 22 22.6**	**-1.1**
MWZ				SN		**S**	**S**	**21 22 47.7**	**-2.4**
MWZ				AML		AML	AML	21 22 53.7	
MWZ				AML		AML	AML	21 22 55.2	
MWZ				AML		AML	AML	21 22 55.2	
MWZ	**Matawai**	**1.13**	**125**	⇑Pn		**Pn**	**Pn**	**21 22 22.6**	**-1.1**
MWZ				Sn		**S**	**S**	**21 22 47.7**	**-2.4**
HATZ	**Hinemaiaia**	**1.21**	**190**	PN		**Pn**	**Pn**	**21 22 24.5**	**+0.4**
HATZ	**Hinemaiaia**	**1.21**	**190**	Pn		**Pn**	**Pn**	**21 22 24.5**	**+0.4**
RATZ	**Rangitukua**	**1.25**	**201**	⇓PN		**Pn**	**Pn**	**21 22 25.0**	**+0.5**
RATZ	**Rangitukua**	**1.25**	**201**	Pn		**Pn**	**Pn**	**21 22 25.0**	**+0.5**
SNGZ	**Shannon Statio**	**1.33**	**144**	⇑PN		**Pn**	**Pn**	**21 22 25.3**	**+0.2**
RITZ	**Rihia Road**	**1.33**	**197**	PN		**Pn**	**Pn**	**21 22 26.1**	**+1.0**
RITZ	**Rihia Road**	**1.33**	**197**	Pn		**Pn**	**Pn**	**21 22 26.1**	**+1.0**
RAHZ	**Arahi**	**1.35**	**155**	PN		**Pn**	**Pn**	**21 22 25.6**	**+0.5**
RAHZ	**Arahi**	**1.35**	**155**	Pn		**Pn**	**Pn**	**21 22 25.6**	**+0.5**
OTAZ	**Otara**	**1.36**	**303**	PN		**Pn**	**Pn**	**21 22 24.6**	**-0.7**
OTAZ	**Otara**	**1.36**	**303**	Pn		**Pn**	**Pn**	**21 22 24.6**	**-0.7**
KATZ	**Kakaramea**	**1.38**	**202**	PN		**Pn**	**Pn**	**21 22 26.3**	**+0.8**
KATZ	**Kakaramea**	**1.38**	**202**	Pn		**Pn**	**Pn**	**21 22 26.3**	**+0.8**
HIZ	**Hauiti**	**1.43**	**235**	PN		**Pn**	**Pn**	**21 22 26.3**	**+0.5**
HIZ	**Hauiti**	**1.43**	**235**	Pn		**Pn**	**Pn**	**21 22 26.3**	**+0.5**
NMHZ	**Naumai**	**1.44**	**166**	⇓PN		**Pn**	**Pn**	**21 22 27.0**	**+1.0**
NMHZ	**Naumai**	**1.44**	**166**	Pn		**Pn**	**Pn**	**21 22 27.0**	**+1.0**
BKZ	**Black Stump Fm**	**1.47**	**176**	⇑PN		**Pn**	**Pn**	**21 22 26.2**	**+0.1**
BKZ				AML		AML	AML	21 22 53.9	
BKZ				AML		AML	AML	21 22 53.9	
BKZ	**Black Stump Fm**	**1.47**	**176**	Pn		**Pn**	**Pn**	**21 22 26.2**	**+0.1**
RIGZ	**Rimuhau**	**1.50**	**133**	⇑PN		**Pn**	**Pn**	**21 22 26.6**	**+0.3**
KRVZ	**Karewarewa**	**1.50**	**201**	PN		**Pn**	**Pn**	**21 22 27.1**	**+0.6**
KRVZ	**Karewarewa**	**1.50**	**201**	Pn		**Pn**	**Pn**	**21 22 27.1**	**+0.6**
WTVZ	**West Tongariro**	**1.54**	**203**	PN		**Pn**	**Pn**	**21 22 27.4**	**+0.6**
WTVZ	**West Tongariro**	**1.54**	**203**	Pn		**Pn**	**Pn**	**21 22 27.4**	**+0.6**
WHHZ	**Waihua**	**1.54**	**153**	⇑PN		**Pn**	**Pn**	**21 22 27.3**	**+0.7**
TWVZ	**Taurewa**	**1.55**	**207**	⇑PN		**Pn**	**Pn**	**21 22 27.6**	**+0.8**
TWVZ	**Taurewa**	**1.55**	**207**	Pn		**Pn**	**Pn**	**21 22 27.6**	**+0.8**
PUZ	**Puketiti**	**1.56**	**104**	⇑PN		**Pn**	**Pn**	**21 22 25.7**	**-1.1**
PUZ				AML		AML	AML	21 22 55.1	
PUZ				AML		AML	AML	21 23 05.4	
PUZ	**Puketiti**	**1.56**	**104**	Pn		**Pn**	**Pn**	**21 22 25.7**	**-1.1**
OTVZ	**Oturere**	**1.56**	**200**	PN		**Pn**	**Pn**	**21 22 28.0**	**+1.0**
OTVZ	**Oturere**	**1.56**	**200**	Pn		**Pn**	**Pn**	**21 22 28.0**	**+1.0**
MXZ	**Matakaoa Point**	**1.56**	**86**	PN		**Pn**	**Pn**	**21 22 25.3**	**-1.5**
MXZ				AML		AML	AML	21 22 55.4	
MXZ				AML		AML	AML	21 22 55.4	
MXZ				AML		AML	AML	21 22 55.7	
MXZ				AML		AML	AML	21 22 55.7	
MXZ	**Matakaoa Point**	**1.56**	**86**	Pn		**Pn**	**Pn**	**21 22 25.3**	**-1.5**
NGZ	**Ngauruhoe**	**1.59**	**201**	PN		**Pn**	**Pn**	**21 22 28.2**	**+1.0**
NGZ	**Ngauruhoe**	**1.59**	**201**	Pn		**Pn**	**Pn**	**21 22 28.2**	**+1.0**
COVZ	**Chateau Observ**	**1.63**	**203**	PN		**Pn**	**Pn**	**21 22 28.2**	**+0.8**
WPVZ	**Whakapapa**	**1.63**	**202**	PN		**Pn**	**Pn**	**21 22 28.3**	**+0.7**
WPVZ	**Whakapapa**	**1.63**	**202**	Pn		**Pn**	**Pn**	**21 22 28.3**	**+0.7**
TUVZ	**Tukino**	**1.66**	**199**	⇑PN		**Pn**	**Pn**	**21 22 28.6**	**+0.8**
TUVZ	**Tukino**	**1.66**	**199**	Pn		**Pn**	**Pn**	**21 22 28.6**	**+0.8**
CNGZ	**Carnagh Statio**	**1.66**	**119**	PN		**Pn**	**Pn**	**21 22 28.0**	**+0.3**
CNGZ	**Carnagh Statio**	**1.66**	**119**	Pn		**Pn**	**Pn**	**21 22 28.0**	**+0.3**
FWVZ	**Far West T-bar**	**1.68**	**202**	PN		**Pn**	**Pn**	**21 22 28.6**	**+0.6**
FWVZ	**Far West T-bar**	**1.68**	**202**	Pn		**Pn**	**Pn**	**21 22 28.6**	**+0.6**
KNZ	**Kokohu**	**1.68**	**142**	⇑PN		**Pn**	**Pn**	**21 22 28.1**	**+0.3**
KNZ	**Kokohu**	**1.68**	**142**	Pn		**Pn**	**Pn**	**21 22 28.1**	**+0.3**
WHVZ	**Whangaehu Hut**	**1.69**	**200**	⇑PN		**Pn**	**Pn**	**21 22 28.8**	**+0.7**
DRZ	**Dome Shelter**	**1.69**	**201**	PN		**Pn**	**Pn**	**21 22 29.2**	**+0.9**
DRZ	**Dome Shelter**	**1.69**	**201**	Pn		**Pn**	**Pn**	**21 22 29.2**	**+0.9**
TRVZ	**Turoa**	**1.72**	**201**	PN		**Pn**	**Pn**	**21 22 29.0**	**+0.6**
TRVZ	**Turoa**	**1.72**	**201**	Pn		**Pn**	**Pn**	**21 22 29.1**	**+0.6**
PRGZ	**Paritu Road**	**1.72**	**136**	⇓PN		**Pn**	**Pn**	**21 22 28.3**	**+0.2**
PRGZ	**Paritu Road**	**1.72**	**136**	Pn		**Pn**	**Pn**	**21 22 28.4**	**+0.2**
WNVZ	**Wahianoa**	**1.73**	**200**	⇑PN		**Pn**	**Pn**	**21 22 29.1**	**+0.7**
WNVZ	**Wahianoa**	**1.73**	**200**	Pn		**Pn**	**Pn**	**21 22 29.1**	**+0.7**
MCHZ	**McNeill Hill**	**1.77**	**171**	⇑PN		**Pn**	**Pn**	**21 22 29.7**	**+1.1**
MCHZ	**McNeill Hill**	**1.77**	**171**	Pn		**Pn**	**Pn**	**21 22 29.7**	**+1.1**
MOVZ	**Moawhango**	**1.77**	**195**	⇑PN		**Pn**	**Pn**	**21 22 28.9**	**+0.2**
MOVZ	**Moawhango**	**1.77**	**195**	Pn		**Pn**	**Pn**	**21 22 28.9**	**+0.2**
PKVZ	**Pokaka**	**1.77**	**206**	PN		**Pn**	**Pn**	**21 22 29.6**	**+0.9**
PKVZ	**Pokaka**	**1.77**	**206**	Pn		**Pn**	**Pn**	**21 22 29.6**	**+0.9**
BHHZ	**Black Hill Sta**	**1.80**	**187**	⇑PN		**Pn**	**Pn**	**21 22 29.3**	**+0.3**
BHHZ	**Black Hill Sta**	**1.80**	**187**	Pn		**Pn**	**Pn**	**21 22 29.3**	**+0.3**
MTVZ	**Mangateitei**	**1.82**	**202**	⇓PN		**Pn**	**Pn**	**21 22 30.0**	**+0.9**
MTVZ	**Mangateitei**	**1.82**	**202**	Pn		**Pn**	**Pn**	**21 22 30.0**	**+0.9**
VRZ	**Vera Road**	**1.90**	**221**	PN		**Pn**	**Pn**	**21 22 31.0**	**+1.3**
VRZ	**Vera Road**	**1.90**	**221**	Pn		**Pn**	**Pn**	**21 22 31.0**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.90**	**140**	⇓PN		**Pn**	**Pn**	**21 22 30.4**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.90**	**140**	Pn		**Pn**	**Pn**	**21 22 30.4**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.04**	**164**	⇑PN		**Pn**	**Pn**	**21 22 32.1**	**+1.0**
CKHZ	**Cape Kidnapper**	**2.04**	**164**	Pn		**Pn**	**Pn**	**21 22 32.1**	**+1.0**
KAHZ	**Kahuranaki**	**2.13**	**169**	⇑PN		**Pn**	**Pn**	**21 22 33.0**	**+0.9**
KAHZ	**Kahuranaki**	**2.13**	**169**	Pn		**Pn**	**Pn**	**21 22 33.0**	**+0.9**
PNHZ	**Pukenui**	**2.22**	**183**	⇑PN		**Pn**	**Pn**	**21 22 33.2**	**+0.3**
PNHZ	**Pukenui**	**2.22**	**183**	Pn		**Pn**	**Pn**	**21 22 33.2**	**+0.3**
WAZ	**Wanganui**	**2.31**	**207**	⇓PN		**Pn**	**Pn**	**21 22 34.9**	**+1.1**
WAZ	**Wanganui**	**2.31**	**207**	Pn		**Pn**	**Pn**	**21 22 34.9**	**+1.1**
NEZ	**North Egmont**	**2.36**	**228**	PN		**Pn**	**Pn**	**21 22 36.8**	**+2.4**
NEZ	**North Egmont**	**2.36**	**228**	Pn		**Pn**	**Pn**	**21 22 36.8**	**+2.4**
PXZ	**Pawanui**	**2.37**	**170**	PN		**Pn**	**Pn**	**21 22 35.0**	**+0.7**
PXZ				AML		AML	AML	21 23 11.4	
PXZ				AML		AML	AML	21 23 11.5	
PXZ				AML		AML	AML	21 23 12.3	
PXZ				AML		AML	AML	21 23 12.3	
PXZ	**Pawanui**	**2.37**	**170**	Pn		**Pn**	**Pn**	**21 22 35.0**	**+0.7**
WPHZ	**Waipukurau**	**2.37**	**178**	PN		**Pn**	**Pn**	**21 22 34.9**	**+0.6**
WPHZ	**Waipukurau**	**2.37**	**178**	Pn		**Pn**	**Pn**	**21 22 34.9**	**+0.6**
TSZ	**Takapari Road**	**2.38**	**187**	⇑PN		**Pn**	**Pn**	**21 22 34.9**	**+0.4**
TSZ				AML		AML	AML	21 23 10.5	
TSZ				AML		AML	AML	21 23 10.8	
TSZ	**Takapari Road**	**2.38**	**187**	Pn		**

TUWZ				AML	AML	21 23 45.5	
TUWZ				AML	AML	21 23 46.1	
TUWZ	**Tuamarina**	**4.17 206**		Pn	**Pn**	**21 22 53.9**	**-0.8**
NNZ	**Nelson**	**4.20 212**	⇑	PN	**Pn**	**21 22 54.3**	**-0.8**
NNZ	**Nelson**	**4.20 212**		Pn	**Pn**	**21 22 54.3**	**-0.8**
QRZ	**Quartz Range**	**4.31 222**		PN	**Pn**	**21 22 55.5**	**-1.0**
QRZ	**Quartz Range**	**4.31 222**		Pn	**Pn**	**21 22 55.5**	**-1.0**
CMWZ	**Cape Campbell**	**4.37 201**		AML	AML	21 23 54.8	
CMWZ				AML	AML	21 23 55.6	
BSWZ	**Blackbirch Sta**	**4.44 205**		PN	**Pn**	**21 22 58.0**	**-0.1**
BSWZ				AML	AML	21 23 53.6	
BSWZ				AML	AML	21 23 54.5	
BSWZ	**Blackbirch Sta**	**4.44 205**		Pn	**Pn**	**21 22 58.0**	**-0.1**
THZ	**Tophouse**	**4.85 212**	⇓	PN	**Pn**	**21 23 02.7**	**-0.5**
THZ	**Tophouse**	**4.85 212**		Pn	**Pn**	**21 23 02.7**	**-0.5**
KHZ	**Kahutara**	**5.18 204**	⇑	PN	**Pn**	**21 23 06.6**	**-0.6**
KHZ				AML	AML	21 24 07.3	
KHZ				AML	AML	21 24 07.8	
KHZ	**Kahutara**	**5.18 204**	*e*	Pn	**Pn**	**21 23 06.4**	**-0.8**
	138nm,0.3s						
KHZ			*e*	S	**S**	**21 24 05.0**	**-3.6**
DSZ	**Denniston Nort**	**5.35 219**	⇑	PN	**Pn**	**21 23 08.2**	**-1.2**
DSZ	**Denniston Nort**	**5.35 219**		Pn	**Pn**	**21 23 08.2**	**-1.2**
LTZ	**Lake Taylor**	**5.96 210**		PN	**Pn**	**21 23 16.0**	**-1.1**
LTZ	**Lake Taylor**	**5.96 210**		Pn	**Pn**	**21 23 16.0**	**-1.1**
OXZ	**Oxford**	**6.51 209**		PN	**Pn**	**21 23 22.3**	**-1.7**
MQZ	**McQueen's Vall**	**6.63 204**		PN	**Pn**	**21 23 23.4**	**-2.1**
MQZ	**McQueen's Vall**	**6.63 204**		Pn	**Pn**	**21 23 23.4**	**-2.1**
WVZ	**Waitaha Valley**	**6.87 217**		PN	**Pn**	**21 23 27.6**	**-1.0**
WVZ	**Waitaha Valley**	**6.87 217**		Pn	**Pn**	**21 23 27.6**	**-1.0**
RPZ	**Rata Peaks**	**7.23 212**		PN	**Pn**	**21 23 32.3**	**-0.9**
RPZ	**Rata Peaks**	**7.23 212**		Pn	**Pn**	**21 23 32.4**	**-0.9**
RPZ	**Rata Peaks**	**7.23 212**		P	**Pn**	**21 23 32.4**	**-0.9**
	5.2nm,0.3s,baz=355,slow=1.6,SNR=6.4						
RPZ				S	**S**	**21 24 50.9**	**-5.0**
	17nm,0.3s,baz=211,slow=20,SNR=14						
FOZ	**Fox Glacier**	**7.74 219**		PN	**Pn**	**21 23 37.6**	**-2.1**
FOZ	**Fox Glacier**	**7.74 219**		Pn	**Pn**	**21 23 37.6**	**-2.1**
LBZ	**Lake Benmore**	**8.14 213**		PN	**Pn**	**21 23 43.3**	**-1.5**
LBZ	**Lake Benmore**	**8.14 213**		Pn	**Pn**	**21 23 43.3**	**-1.5**
ODZ	**Otahua Downs**	**8.50 208**		PN	**Pn**	**21 23 48.8**	**-0.6**
ODZ	**Otahua Downs**	**8.50 208**		Pn	**Pn**	**21 23 48.8**	**-0.6**
JCZ	**Jackson Bay**	**8.58 220**		PN	**Pn**	**21 23 49.7**	**-0.8**
JCZ	**Jackson Bay**	**8.58 220**		Pn	**Pn**	**21 23 49.7**	**-0.8**
WKZ	**Wanaka**	**9.01 215**		Pn	**Pn**	**21 23 54.1**	**-1.9**
STKA	**Stephens Creek**	**29.02 271**		P	P	21 27 32.0	+3.5
	3.7nm,0.8s,baz=130,slow=9.6,SNR=7.4						
PMG	**Port Moresby**	**38.54 309**		P	**P**	**21 28 52.9**	**+2.4**
	7.8nm,0.7s,baz=165,slow=6.2,SNR=4.1						
ASAR	**Alice Springs**	**38.76 279**		P	**P**	**21 28 54.0**	**+1.7**
	3.1nm,0.8s,baz=123,slow=8.5,SNR=32						
VNDA	**Vanda**	**40.41 185**		P	P	21 29 10.6	+5.4
	0.8nm,0.8s,baz=27,slow=12,SNR=4.5						
WRAB	**Tennant Creek**	**40.45 284**	*e*	P	**P**	**21 29 07.5**	**+1.2**
	3.3nm,0.5s						
WRA	**Warramunga Arr**	**40.45 284**		P	**P**	**21 29 07.7**	**+1.4**
	3.7nm,0.5s,baz=124,slow=8.3,SNR=65						
MBWA	**Marble Bar**	**51.25 272**	*e*	P	**P**	**21 30 30.7**	**+0.3**
	3.1nm,0.5s						
QSPA	**South Pole Qui**	**52.43 180**		P	P	21 30 43.8	+5.2
	2.1nm,0.3s,baz=11,slow=3.5,SNR=6.5						
MKAR	**Makanchi Array**	**118.75 309**		PKP	**PKPdf**	**21 40 09.7**	**-0.5**
	0.3nm,0.6s,baz=88,slow=4.9,SNR=4.7						
ARCES	**ARCESS Array B**	**144.46 343**		PKP	**PKPab**	**21 40 56.4**	**-0.2**
	2.7nm,0.8s,baz=44,slow=3.6,SNR=11						
DBIC	**Dimbokro**	**149.09 178**		PKPbc	**PKPbc**	**21 41 11.7**	**+0.4**
	2.6nm,1.0s,baz=138,slow=1.3,SNR=5.5						
DBIC				PKPab	**PKPab**	**21 41 17.6**	**+1.4**
	2.7nm,0.9s,baz=186,slow=10,SNR=8.3						
FINES	**FINESS Array B**	**149.88 332**		PKPbc	**PKPbc**	**21 41 11.4**	**-0.4**
	3.4nm,0.9s,baz=78,slow=2.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	**155.09 192**		PKPab	**PKPab**	**21 41 42.2**	**+0.9**
	0.3nm,0.5s,baz=171,slow=3.4,SNR=5.0						

GUC 13 21:23:31.7±0.7, 27.90S×69.47W, h91km±21km, ML3.8, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CPCH	**Copiapo**	**0.96 304**		↓*i*	P	Pn	21 23 51.3	+0.3
CPCH				*i*	S	Sn	21 24 05.8	+0.3
VACH	**Vallenar**	**1.32 239**		↑*i*	P	Pn	21 23 55.8	+0.5
VACH				*i*	S	Sn	21 24 14.2	+1.1
VACH					AML	AML	21 24 15.9	
	comp=E,5μm,0.2s							
CDCH	**Caldera**	**1.47 304**		*e*	P	Pn	21 23 57.3	+0.3
CDCH				*i*	S	Sn	21 24 16.4	+0.2
CDCH					AML	AML	21 24 17.0	
	comp=N,1μm,0.3s							
LCO	**Las Campanas**	**1.55 224**	⇑	*i*	P	Pn	21 23 59.0	+0.5
LCO				*i*	S	Sn	21 24 19.6	+0.8
LCO					AML	AML	21 24 21.9	
	comp=E,1μm,0.7s							
TLL	**Tololo Astrono**	**2.54 207**	⇑	*i*	P	Pn	21 24 11.9	+0.4
TLL					AML	AML	21 24 47.8	
	comp=N,283nm,0.5s							

MAN 13 21:51:24, 18.75N×120.37E, h65km, mb4.5, ML3.3, MS3.2, Luzon

ISCJB 13 22:00:55.1±0.6, 34.15N±0.05×86.1E±0.2, h33km, MS2.7/1, Error ellipse: s-maj=20.3km s-min=6.5km az=2.6
IDC 13 22:00:55.9±3.1, 34.36N×86.36E, h0km, mb2.8/1, mb1 3.4/5, mb1mx3.2/29, mbtmp3.3/5, ML3.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/8, Error ellipse: s-maj=77.0km s-min=27.5km az=66.0

ISC 13 22:00:57.3±1.0, 34.19N±0.08×86.1E±0.2, h35km, n19, σ0s87/18, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DANN	**Dangsing**	**6.15 200**		*e*P		**Pn**	**22 02 26.3**	**+0.3**
	13nm,0.4s							
GUN	**Gumba**	**6.26 182**		*e*P		**Pn**	**22 02 27.1**	**-0.4**
	18nm,0.4s							
GKN	**Gorkha**	**6.29 192**		*e*P		**Pn**	**22 02 27.5**	**-0.3**
	10nm,0.4s							
KKN	**Kakani**	**6.42 186**		*e*P		**Pn**	**22 02 29.7**	**+0.1**
	14nm,0.5s							
JIRN	**Jiri**	**6.51 179**		*e*P		**Pn**	**22 02 30.6**	**-0.4**
	26nm,0.4s							
DMN	**Daman**	**6.61 188**		*e*P		**Pn**	**22 02 32.4**	**+0.1**
	12nm,0.5s							
PKIN	**Phulchoki**	**6.62 185**		*e*P		**Pn**	**22 02 31.9**	**-0.5**
	17nm,0.4s							
PKI	**Pulchoki**	**6.62 185**		*e*P		**Pn**	**22 02 32.5**	**0.0**
	19nm,0.4s							
PYUN	**Piuthan**	**6.62 204**		*e*P		**Pn**	**22 02 31.3**	**-1.1**
	29nm,0.8s							
KOLN	**Koldanda**	**6.75 199**		*e*P		**Pn**	**22 02 33.8**	**-0.3**
	18nm,0.7s							
TAPN	**Taplejung**	**6.96 168**		*e*P		**Pn**	**22 02 36.4**	**-0.7**
	8.7nm,0.5s							
RAMN	**Ramite**	**7.23 176**		*e*P		**Pn**	**22 02 39.2**	**-1.5**
	11nm,0.7s							
ODAN	**Odare**	**7.39 171**		*e*P		**Pn**	**22 02 41.1**	**-1.8**
	7.6nm,0.4s							
MKAR	**Makanchi Array**	**12.92 348**		Pn		**Pn**	**22 03 58.1**	**-0.2**
	0.1nm,0.3s,baz=168,slow=12,SNR=3.7							
KURBB	**Kurchatov Arra**	**17.33 344**		P		P	**22 04 57.1**	**-0.3**
	0.2nm,0.3s,baz=159,slow=11,SNR=9.4							
CMAR	**Chiang Mai Arr**	**19.42 141**		P		**Pn**	**22 05 23.6**	**+1.7**
	baz=325,slow=11,SNR=8.7							
ZALV	**Zalesovo Beam**	**19.77 358**		P		**Pn**	**22 05 26.1**	**+0.2**
	0.1nm,0.3s,baz=186,slow=7.4,SNR=5.7							
ZALV					LR	LR	22 13 35.3	
	comp=Z,35nm,18.7s,baz=247,slow=39							
SONM	**Songino Array**	**20.43 42**		P		**P**	**22 05 31.7**	**+0.1**
	0.5nm,0.8s,baz=224,slow=12,SNR=4.0							
KSRS	**Korea Array**	**33.88 72**		LR		LR	22 21 24.1	
	comp=Z,13nm,19.0s,baz=185,slow=37							

KRSC 13 22:16:43.4±7.8, 49.23N×156.51E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**1.48 350**		*e*P		Pn	22 17 10.7	+0.1
SKR				*e*S		Sn	22 17 30.2	-0.1
PAU	**Pauzhetka**	**2.25 5**		*i* S		Sb	22 17 51.0	-1.6
ASAK	**Asacha**	**3.28 15**		P		Pn	22 17 38.0	+2.5
MTVR	**Mutnovka**	**3.42 17**		P		Pn	22 17 39.6	+2.0
MTVR				*e*S		Sn	22 18 19.5	+0.8
RUS	**Russkaya**	**3.45 21**		*e*P		Pn	22 17 39.1	+1.4
RUS				S		Sn	22 18 18.7	-0.2
AVH	**Avacha**	**4.28 18**		P		Pn	22 17 52.9	+3.7
KOK	**Koryaka**	**4.28 17**		P		Pn	22 17 52.6	+3.3
SMAR	**Somma**	**4.29 19**		P		Pn	22 17 52.5	+3.0
KRER	**Koryakskii**	**4.32 18**		P		Pn	22 17 53.2	+3.3
KRER				S		Sn	22 18 42.9	+2.1
SDLR	**Sedlovina**	**4.32 19**		P		Pn	22 17 51.9	+2.0
KRX	**Arik**	**4.35 17**		P		Pn	22 17 53.3	+3.0
GNL	**Ganaly**	**4.56 11**		P		Pn	22 17 55.8	+2.6
MKZ	**Mys Kozlova**	**6.24 29**		P		Pn	22 18 16.2	+0.3
KBTR	**Krutoberegovo**	**7.97 26**		P		Pn	22 18 42.2	+2.5

CSEM 13 22:19:21.6, 38.57N×29.49W, h10km, ML3.5, After PDA
PDA 13 22:19:21.6±1.5, 38.57N×29.49W, h10km, MD3.7, ML3.5, Error ellipse: s-maj=12.2km s-min=7.7km az=146.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CALA	**Caldeira**	**0.62**	**89**	*e*P		Pg	22 19 32.3	-1.4
CALA				*e*S		Sg	22 19 39.2	-2.7
CALA	**Caldeira**	**0.62**	**89**	*e*P		Pg	22 19 32.3	-1.4
CALA				*e*S		Sg	22 19 39.2	-2.7
PCED	**Cedros**	**0.62**	**84**	*i* P		Pg	22 19 31.5	-2.1
PCED				*i* S		Sg	22 19 39.0	-2.8
PCED				A		A	22 19 41.8	
	1μm,0.5s							
PCED	**Cedros**	**0.62**	**84**	*i* P		Pg	22 19 31.5	-2.1
PCED				*i* S		Sg	22 19 39.0	-2.8
HOR	**Horta**	**0.67**	**93**	*i* P		Pg	22 19 32.1	-2.5
HOR				*e*S		Sg	22 19 40.5	-3.0
HOR	**Horta**	**0.67**	**93**	*i* P		Pg	22 19 32.1	-2.5
HOR				*e*S		Sg	22 19 40.5	-3.0
PCAN	**Candelaria**	**0.79**	**97**	*e*P		Pg	22 19 33.8	-3.2
PCAN				*e*S		Sg	22 19 43.2	-4.2
PCAN				A		A	22 19 47.0	
	573nm,0.4s							
PCAN	**Candelaria**	**0.79**	**97**	*e*P		Pg	22 19 33.8	-3.2
PCAN				*e*S		Sg	22 19 43.2	-4.2
PICO	**Pico**	**0.84**	**94**	*e*P		Pg	22 19 34.7	-3.1
PICO	**Pico**	**0.84**	**94**	*e*P		Pg	22 19 34.7	-3.1
ROSA	**Rosais**	**0.99**	**81**	*e*P		Pg	22 19 36.9	-3.7
ROSA				*e*S		Sg	22 19 48.5	-5.0
ROSA				A		A	22 19 50.5	
	1μm,0.3s							
ROSA	**Rosais**	**0.99**	**81**	*e*P		Pg	22 19 36.9	-3.7
ROSA				*e*S		Sg	22 19 48.5	-5.0
PMAN	**Manadas**	**1.10**	**86**	*e*P		Pb	22 19 38.5	-4.2
PMAN				*e*S		Sg	22 19 51.2	-5.8
PMAN				A		A	22 20 05.7	
	322nm,0.3s							
PMAN	**Manadas**	**1.10**	**86**	*e*P		Pb	22 19 38.5	-4.2
PMAN				*e*S		Sg	22 19 51.2	-5.8
PGRA	**Graciosa**	**1.26**	**68**	*e*P		Pn	22 19 40.2	-5.1
PGRA				*e*S		Sb	22 19 54.4	-7.5
PGRA				A		A	22 19 58.6	
	333nm,0.4s							
PGRA	**Graciosa**	**1.26**	**68**	*e*P		Pn	22 19 40.2	-5.1
PGRA				*e*S		Sb	22 19 54.4	-7.5
ADH	**Angra Heroismo**	**1.77**	**87**	*e*P		Pn	22 19 47.7	-4.5
ADH				*e*S		Sn	22 20 07.3	-7.5
ADH				A		A	22 20 10.3	
	101nm,0.3s							
ADH	**Angra Heroismo**	**1.77**	**87**	*e*P		Pn	22 19 47.7	-4.5
ADH				*e*S		Sn	22 20 07.3	-7.5
PSET	**Sete Cidades**	**3.06**	**103**	*e*P		Pn	22 20 05.7	-4.4
PSET	**Sete Cidades**	**3.06**	**103**	*e*P		Pn	22 20 05.7	-4.4
PDA	**Ponta Delgada**	**3.12**	**104**	*e*P		Pn	22 20 06.6	-4.3
PDA	**Ponta Delgada**	**3.12**	**104**	*e*P		Pn	22 20 06.6	-4.3
GRON	**Grota Negra**	**3.22**	**103**	*e*P		Pn	22 20 09.9	-2.4
CMLA	**Cha da Macela**	**3.23**	**103**	*e*P		Pn	22 20 08.2	-4.1
CMLA	**Cha da Macela**	**3.23**	**103**	*e*P		Pn	22 20 08.2	-4.1
BART	**Pico Bartolome**	**3.49**	**102**	*e*P		Pn	22 20 12.2	-3.9
BART	**Pico Bartolome**	**3.49**	**102**	*e*P		Pn	22 20 12.2	-3.9
PSMA	**Santa Maria**	**3.79**	**113**	*e*P		Pn	22 20 15.1	-5.0
PSMN	**Pico do Norte,**	**3.84**	**113**	*e*P		Pn	22 20 15.7	-5.0
PSMN	**Pico do Norte,**	**3.84**	**113**	*e*P		Pn	22 20 15.7	-5.0

IDC 13 22:25:18.6±8.7, 7.15S×129.36E, h81km±87km, mb3.5/4, mb1 4.0/7, mb1mx3.7/20, mbtmp3.8/7, ML4.6/3, Error ellipse: s-maj=113.9km s-min=29.6km az=58.0
AUST 13 22:25:22.1, 7.48S×129.04E, h100km
ISC 13 22:25:23.2±0.9, 7.44S±0.08×129.1E±0.1, h131km, n19, σ2s43/18, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FAKI	**Fak Fak**	**5.48**	**35**	P		Pn	22 26 38.2	-4.6
	baz=5.6,SNR=30							
MTN	**Manton Dam**	**5.73**	**160**	P		**Pn**	**22 26 47.9**	**+1.9**
	baz=5.7,SNR=200							
KDU	**Kakadu**	**6.18**	**148**	P		**Pn**	**22 26 52.4**	**+0.3**
	baz=6.2,SNR=89							
FITZ	**Fitzroy Crossi**	**11.12**	**197**	P		**Pn**	**22 27 59.7**	**+1.2**
	2.2nm,0.3s,baz=28,slow=10,SNR=40							
FITZ				S		**Sn**	**22 29 57.1**	**-4.0**
	6.2nm,0.3s,baz=86,slow=21,SNR=9.5							
FITZ	**Fitzroy Crossi**	**11.12**	**197**	P		**Pn**	**22 28 00.2**	**+1.7**
	baz=11,SNR=26							
WRA	**Warramunga Arr**	**13.43**	**158**	P		**Pn**	**22 28 27.2**	**-1.4**
	4.6nm,0.3s,baz=347,slow=13,SNR=44							
WRA				S		Sn	22 30 50.1	-6.8
	4.9nm,0.3s,baz=325,slow=24,SNR=16							
COEN	**Coen**	**15.27**	**116**	P		**Pn**	**22 28 49.7**	**-2.3**
	baz=15,SNR=6.5							
QIS	**Mount Isa**	**16.54**	**143**	P		**P**	**22 29 07.5**	**-0.3**
	baz=17,SNR=12							
ASAR	**Alice Springs**	**16.78**	**165**	P		**P**	**22 29 11.7**	**+1.2**
	1.0nm,0.3s,baz=335,slow=9.7,SNR=27							
ASAR				S		**Sn**	**22 32 14.0**	**-3.6**
	1.6nm,0.3s,baz=322,slow=19,SNR=18							
WRKA	**Warakurna**	**17.51**	**182**	P		**Pn**	**22 29 21.8**	**+2.5**
	baz=18,SNR=22							
MEEK	**Meekatharra**	**21.54**	**206**	P		**P**	**22 30 06.1**	**+4.0**
	baz=22,SNR=5.7							
QLP	**Quilpie**	**23.86**	**145**	P		**P**	**22 30 27.7**	**+3.1**
	baz=24,SNR=3.2							
MORW	**Morawa**	**24.78**	**208**	P		P	22 30 38.9	+6.0
	baz=25,SNR=4.9							
STKA	**Stephens Creek**	**26.96**	**156**	P		**P**	**22 30 54.3**	**+1.7**
	1.8nm,0.8s,baz=343,slow=6.5,SNR=3.8							
PPI	**Padang Panjang**	**29.44**	**282**	P		**P**	**22 31 12.0**	**-2.8**
	baz=29,SNR=3.4							
SONM	**Songino Array**	**58.58**	**342**	P		**P**	**22 35 06.2**	**-0.1**
	0.3nm,0.6s,baz=162,slow=7.3,SNR=3.9							
MKAR	**Makanchi Array**	**68.11**	**327**	P		**P**	**22 36 09.4**	**+0.4**
	0.8nm,0.6s,baz=114,slow=8.0,SNR=17							
ZALV	**Zalesovo Beam**	**71.59**	**334**	P		**P**	**22 36 29.3**	**-0.7**
	0.4nm,0.4s,baz=140,slow=7.4,SNR=3.2							
MAW	**Mawson**	**74.21**	**201**	P		P	22 36 38.0	-7.3
	baz=74,SNR=11							

IDC 13 22:35:21.4±6.8, 18.09S×172.66W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/20, mbtmp3.7/2, Error ellipse: s-maj=336.8km s-min=59.2km az=145.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**4.25**	**12**	Sn		Sn	22 37 18.3	+0.4
	11nm,0.3s,baz=105,slow=22,SNR=9.5							
WRA	**Warramunga Arr**	**49.97**	**259**	P		P	22 44 16.9	-0.8
	0.3nm,0.4s,baz=97,slow=6.8,SNR=9.2							
ASAR	**Alice Springs**	**50.00**	**254**	P		P	22 44 18.4	+0.5
	1.5nm,0.8s,baz=91,slow=8.0,SNR=19							
BRTR	**Keskin Array B**	**148.66**	**319**	PKPbc		PKPbc	22 55 10.5	-0.6
	2.5nm,1.2s,baz=69,slow=4.8,SNR=4.3							

IDC 13 22:47:19.6±0.7, 20.84N×143.74E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.8/29, mbtmp3.8/13, MS2.8/2, Ms1 3.0/2, ms1mx2.5/39, Error ellipse: s-maj=25.2km s-min=19.6km az=86.0
ISCJB 13 22:47:22.8±0.7, 20.8N±0.1×143.7E±0.2, h33km, mb3.8/13, MS2.7/2, Error ellipse: s-maj=22.8km s-min=14.6km az=172.8

ISC 13 22:47:24.8±0.9, 20.9N±0.1×143.7E±0.2, h35km, n23, σ1s04/15, mb4.0/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MJAR	**Matsushiro Arr**	**16.36**	**344**	Pn		**P**	**22 51 13.3**	**-1.1**
	0.2nm,0.3s,baz=120,slow=13,SNR=4.2							
KSRS	**Korea Array**	**21.48**	**324**	LR		LR	22 59 27.5	
	comp=Z,23nm,18.5s,baz=349,slow=34							
H11S3	**WAKE ISLAND Hy**	**21.77**	**92**	T		T	23 14 33.9	
	baz=282,slow=73,SNR=144							
H11S1	**WAKE ISLAND Hy**	**21.77**	**92**	T		T	23 14 28.7	
	baz=282,slow=73,SNR=58							
H11N1	**WAKE ISLAND Hy**	**21.78**	**89**	T		T	23 14 41.5	
	baz=280,slow=75,SNR=252							
H11N2	**WAKE ISLAND Hy**	**21.78**	**89**	T		T	23 14 36.7	
	baz=280,slow=75,SNR=102							
H11S2	**WAKE ISLAND Hy**	**21.78**	**92**	T		T	23 14 29.2	
	baz=282,slow=73,SNR=70							
H11N3	**WAKE ISLAND Hy**	**21.79**	**89**	T		T	23 14 29.3	
	baz=280,slow=75,SNR=91							
SONM	**Songino Array**	**40.30**	**321**	P		**P**	**22 54 59.8**	**+1.0**
	0.4nm,0.7s,baz=122,slow=5.0,SNR=4.0							
WRA	**Warramunga Arr**	**41.57**	**193**	P		**P**	**22 55 08.2**	**-1.2**
	0.5nm,0.8s,baz=17,slow=8.6,SNR=4.1							
CMAR	**Chiang Mai Arr**	**42.12**	**275**	LR		LR	23 11 57.3	
	comp=Z,14nm,18.7s,baz=352,slow=35							
ASAR	**Alice Springs**	**45.27**	**193**	P		**P**	**22 55 39.4**	**+0.2**
	0.3nm,0.5s,baz=14,slow=8.2,SNR=4.3							
ZALV	**Zalesovo Beam**	**55.17**	**322**	P		**P**	**22 56 53.7**	**-0.2**
	1.1nm,0.6s,baz=102,slow=6.8,SNR=7.4							
MKAR	**Makanchi Array**	**55.63**	**313**	P		**P**	**22 56 58.5**	**+1.2**
	0.2nm,0.5s,baz=108,slow=8.3,SNR=4.5							
KURBB	**Kurchatov Arra**	**58.47**	**317**	P		**P**	**22 57 17.9**	**+0.6**
	0.3nm,0.4s,baz=94,slow=7.5,SNR=5.0							
ILAR	**Eielson Array**	**62.57**	**27**	P		**P**	**22 57 44.1**	**-0.9**
	0.7nm,0.7s,baz=258,slow=5.4,SNR=6.8							
BVAR	**Borovoye Array**	**63.63**	**320**	P		**P**	**22 57 53.0**	**+0.7**
	1.0nm,0.7s,baz=116,slow=10,SNR=5.4							
YKA	**Yellowknife Ar**	**76.97**	**28**	P		**P**	**22 59 14.1**	**+0.5**
	0.7nm,0.4s,baz=291,slow=5.7,SNR=24							
YBH	**Yreka Blue Hor**	**79.00**	**50**	P		**P**	**22 59 25.4**	**-0.1**
	1.8nm,0.7s,baz=271,slow=9.4,SNR=3.8							
NVAR	**Mina Array Bea**	**83.29**	**52**	P		**P**	**22 59 49.7**	**+1.2**
	1.1nm,0.7s,baz=280,slow=5.4,SNR=11							
FINES	**FINESS Array B**	**84.15**	**335**	P		**P**	**22 59 51.1**	**-1.0**
	1.3nm,0.5s,baz=75,slow=5.9,SNR=7.1							
HFS	**Hagfors**	**89.69**	**337**	P		**P**	**23 00 17.7**	**-1.5**
	1.0nm,0.6s,baz=98,slow=4.5,SNR=4.8							
LPAZ	**La Paz**	**149.51**	**87**	PKPbc		**PKPbc**	**23 07 13.3**	**+1.2**
	1.1nm,0.9s,baz=189,slow=1.4,SNR=5.0							

SGS 13 23:01:49.8, 19.22N×38.78E, h23km
ISCJB 13 23:01:51.7±1.5, 18.9N±0.3×39.27E±0.09, h10km, mb3.5/3, Error ellipse: s-maj=37.1km s-min=11.4km az=3.5
IDC 13 23:01:52.2±2.9, 18.94N×39.22E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/26, mbtmp3.5/3, Error ellipse: s-maj=73.6km s-min=33.3km az=148.0

ISC 13 23:01:52.7±1.4, 18.8N±0.2×39.32E±0.09, h10km, n7, σ0s71/7, mb3.6/3, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NAMS	**An Nimas**	**2.75**	**82**	S		**Sn**	**23 03 10.7**	**0.0**
NAMS	**An Nimas**	**2.75**	**82**	P		**Pn**	**23 03 37.8**	**+0.6**
TATS	**Tathlith**	**3.99**	**79**	P		**Pb**	**23 03 52.8**	**-0.5**
DJNS	**Zahran al Janu**	**4.16**	**105**	P		**Pb**	**23 03 05.6**	**-0.6**
BRTR	**Keskin Array B**	**21.42**	**348**	P		**P**	**23 06 40.2**	**-0.8**
	0.8nm,0.8s,baz=167,slow=13,SNR=3.0							
TORD	**Torodi Ar. Bea**	**36.56**	**267**	P		**P**	**23 08 59.1**	**+0.1**
	1.0nm,0.9s,baz=64,slow=7.7,SNR=5.7							
MKAR	**Makanchi Array**	**44.84**	**42**	P		**P**	**23 10 07.8**	**+0.6**
	1.1nm,1.0s,baz=235,slow=6.8,SNR=4.0							

IDC 13 23:09:41.3±9.1, 62.57S×177.91E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.8/10, mbtmp3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/17, Error ellipse: s-maj=667.2km s-min=58.7km az=19.0, Balleny Islands region

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

AMT	**Artemida-Makis**	0.63	229	P	Pg	23 30 59.6	-1.1	**PAIG**	**Paliouri**	2.25	28	P	Pn	23 31 24.5	-1.0
AMT				S	Sb	23 31 10.3	0.0	**PAIG**	**Paliouri**	2.25	28	*e*PN	Pn	23 31 25.6	+0.1
AMT	**Artemida-Makis**	0.63	229	*e*PB	Pg	23 30 59.7	-1.0	**PAIG**	**Paliouri**	2.25	28	P	Pn	23 31 24.5	-1.0
AMT				*e*SN	Sg	23 31 09.5	+0.5	**PAIG**	**Paliouri**	2.25	28	*e*Pn	Pn	23 31 25.6	+0.1
AMT	**Artemida-Makis**	0.63	229	P	Pg	23 30 59.6	-1.1	**KZN**	**Kozani**	2.39	350	P	Pn	23 31 28.5	+0.9
AMT				S	Sg	23 31 08.9	-0.1	**KZN**	**Kozani**	2.39	350	*e*PN	Pn	23 31 28.2	+0.6
AMT				*e*Sn	Sg	23 31 09.5	+0.5	**KZN**	**Kozani**	2.39	350	*e*Pn	Pn	23 31 28.2	+0.6
RLS	**Riolos of Patr**	0.67	280	P	Pg	23 30 59.9	-1.6	**KZN**	**Kozani**	2.39	350	P	Pn	23 31 28.5	+0.9
RLS				S	Sg	23 31 10.4	0.0	**PLG**	**Polygyros**	2.58	20	P	Pn	23 31 29.4	-0.8
RLS	**Riolos of Patr**	0.67	280	*e*PB	Pg	23 31 00.0	-1.6	**PLG**	**Polygyros**	2.58	20	*e*PN	Pn	23 31 29.9	-0.3
RLS				*e*SN	Sg	23 31 10.8	+0.4	**PLG**	**Polygyros**	2.58	20	P	Pn	23 31 29.4	-0.8
RLS	**Riolos of Patr**	0.67	280	*e*Pb	Pg	23 31 00.0	-1.6	**PLG**	**Polygyros**	2.58	20	*e*Pn	Pn	23 31 29.9	-0.3
RLS				S	Sg	23 31 10.3	-0.1	**KEK**	**Kerkira**	2.63	313	P	Pn	23 31 32.3	+1.4
ITM	**Ithomi**	0.82	202	P	Pg	23 31 03.0	-1.4	**KEK**	**Kerkira**	2.63	313	*e*PB	Pn	23 31 32.3	+1.4
ITM				S	Sg	23 31 15.0	-0.2	**KEK**	**Kerkira**	2.63	313	P	Pn	23 31 32.3	+1.4
ITM	**Ithomi**	0.82	202	*e*PB	Pg	23 31 03.0	-1.4	**SRN**	**Sarande**	2.64	318	P	Pn	23 31 33.0	+2.1
ITM	**Ithomi**	0.82	202	P	Pg	23 31 03.0	-1.4	**SRN**	**Sarande**	2.64	318	P	Pn	23 31 33.0	+2.1
ITM				S	Sg	23 31 15.0	-0.2	**NEST**	**Nestorio**	2.65	339	P	Pn	23 31 33.6	+2.4
DID	**Didima**	0.86	121	P	Pg	23 31 04.5	-0.7	**NEST**	**Nestorio**	2.65	339	*e*PB	Pn	23 31 32.5	+1.3
DID				S	Sb	23 31 16.8	-0.1	**NEST**	**Nestorio**	2.65	339	P	Pn	23 31 33.6	+2.4
DID	**Didima**	0.86	121	*e*PN	Pg	23 31 04.4	-0.7	**APE**	**Apeiranthos**	2.71	108	*e*PN	Pn	23 31 32.7	+0.7
DID	**Didima**	0.86	121	P	Pg	23 31 04.5	-0.7	**APE**	**Apeiranthos**	2.71	108	*e*Pn	Pn	23 31 32.7	+0.7
DID				S	Sb	23 31 16.8	-0.1	**HORT**	**Hortiatis**	2.72	13	*e*PN	Pn	23 31 31.8	-0.3
AXAR	**Agios Charalam**	0.86	19	P	Pg	23 31 04.9	-0.3	**HORT**	**Hortiatis**	2.72	13	*e*Pn	Pn	23 31 31.8	-0.3
AXAR				S	Sb	23 31 16.8	-0.2	**OUR**	**Ouranopolis**	2.72	28	P	Pn	23 31 31.1	-0.9
AXAR	**Agios Charalam**	0.86	19	P	Pg	23 31 04.9	-0.3	**OUR**	**Ouranopolis**	2.72	28	*e*PN	Pn	23 31 31.7	-0.3
AXAR				S	Sb	23 31 16.8	-0.2	**OUR**	**Ouranopolis**	2.72	28	P	Pn	23 31 31.1	-0.9
LKR	**Lokris**	0.89	38	P	Pg	23 31 05.0	-0.7	**OUR**	**Ouranopolis**	2.72	28	*e*Pn	Pn	23 31 31.7	-0.3
LKR				S	Sg	23 31 16.7	-0.6	**THE**	**Thessaloniki**	2.73	11	*e*PN	Pn	23 31 32.8	+0.7
LKR	**Lokris**	0.89	38	*e*PN	Pb	23 31 06.0	+0.1	**THE**	**Thessaloniki**	2.73	11	*e*Pn	Pn	23 31 32.8	+0.7
LKR	**Lokris**	0.89	38	P	Pg	23 31 05.0	-0.7	**KARN**	**Karanos**	2.85	153	P	Pn	23 31 34.3	+0.4
LKR	**Lokris**	0.89	38	*e*Pn	Pg	23 31 06.0	+0.1	**KARN**	**Karanos**	2.85	153	*e*PN	Pn	23 31 34.1	+0.2
LKR				S	Sg	23 31 16.7	-0.6	**KARN**	**Karanos**	2.85	153	*e*Pn	Pn	23 31 34.1	+0.2
PVO	**Paravola**	0.91	318	P	Pg	23 31 05.2	-0.8	**FNA**	**Florina**	2.92	346	P	Pn	23 31 35.1	+0.2
PVO				S	Sb	23 31 19.1	+0.9	**FNA**	**Florina**	2.92	346	*e*PN	Pn	23 31 35.1	+0.2
PVO	**Paravola**	0.91	318	P	Pg	23 31 05.2	-0.8	**FNA**	**Florina**	2.92	346	P	Pn	23 31 35.1	+0.2
PVO				S	Sb	23 31 19.1	+0.9	**VAM**	**Vamos**	2.96	148	*e*PN	Pn	23 31 35.3	0.0
NAIG	**Nisos Aigina**	0.96	101	*e*PN	Pb	23 31 07.0	0.0	**VAM**	**Vamos**	2.96	148	*e*Pn	Pn	23 31 35.3	0.0
NAIG	**Nisos Aigina**	0.96	101	*e*Pn	Pb	23 31 07.0	0.0	**SOH**	**Sokhos**	2.98	15	P	Pn	23 31 35.9	+0.2
EVR	**Evrytania**	1.04	338	P	Pg	23 31 07.5	-1.1	**SOH**	**Sokhos**	2.98	15	*e*PN	Pn	23 31 35.6	-0.1
EVR				S	Sb	23 31 22.3	0.0	**SOH**	**Sokhos**	2.98	15	*e*Pn	Pn	23 31 35.6	-0.1
EVR	**Evrytania**	1.04	338	*e*PN	Pg	23 31 07.9	-0.7	**SOH**	**Sokhos**	2.98	15	P	Pn	23 31 35.9	+0.2
EVR	**Evrytania**	1.04	338	P	Pg	23 31 07.5	-1.1	**CHOS**	**Chios island**	2.99	80	*e*PN	Pn	23 31 36.0	+0.2
EVR	**Evrytania**	1.04	338	*e*Pn	Pg	23 31 07.9	-0.7	**CHOS**	**Chios island**	2.99	80	*e*Pn	Pn	23 31 36.0	+0.2
EVR				S	Sb	23 31 22.2	0.0	**KNT**	**Kendrikon**	3.24	8	*e*PN	Pn	23 31 38.8	-0.4
AGG	**Agios Georgios**	1.07	1	P	Pg	23 31 08.0	-1.2	**KNT**	**Kendrikon**	3.24	8	*e*Pn	Pn	23 31 38.8	-0.4
AGG	**Agios Georgios**	1.07	1	*e*PN	Pg	23 31 08.2	-1.0	**SRS**	**Serrai**	3.32	17	*e*PN	Pn	23 31 40.6	+0.3
AGG	**Agios Georgios**	1.07	1	P	Pg	23 31 08.0	-1.2	**SRS**	**Serrai**	3.32	17	*e*Pn	Pn	23 31 40.6	+0.3
MAKR	**Makrakomi, Fth**	1.07	353	P	Pb	23 31 09.1	0.0	**LAST**	**Lasithi**	3.37	141	*e*PN	Pn	23 31 42.5	+1.4
MAKR				S	Sn	23 31 24.2	-0.1	**LAST**	**Lasithi**	3.37	141	*e*Pn	Pn	23 31 42.5	+1.4
MAKR	**Makrakomi, Fth**	1.07	353	*e*PN	Pb	23 31 09.3	+0.3	**IDI**	**Anoyia**	3.37	141	*e*PN	Pn	23 31 40.8	-0.2
MAKR				*e*SN	Sb	23 31 23.9	+0.9	**IDI**	**Anoyia**	3.37	141	*e*Pn	Pn	23 32 24.5	+3.5
MAKR	**Makrakomi, Fth**	1.07	353	P	Pb	23 31 09.0	0.0	**VAY**	**Valandovo**	3.37	3	*e*PN	Pn	23 31 41.3	+0.3
MAKR	**Makrakomi, Fth**	1.07	353	*e*Pn	Pb	23 31 09.3	+0.3	**VAY**	**Valandovo**	3.37	3	*e*Pn	Pn	23 31 44.9	+0.7
MAKR				S	Sg	23 31 22.9	-0.2	**NVR**	**Nevrokopi**	3.60	19	*e*PN	Pn	23 31 44.9	+0.7
MAKR				*e*Sn	Sb	23 31 23.9	+0.9	**NVR**	**Nevrokopi**	3.60	19	*e*Pn	Pn	23 31 44.9	+0.7
PDO	**Prodromos**	1.10	307	P	Pg	23 31 08.9	-0.7	**LAST**	**Lasithi**	3.78	136	*e*PN	Pn	23 31 47.4	+0.7
PDO				S	Sn	23 31 25.0	+0.2	**LAST**	**Lasithi**	3.78	136	*e*Pn	Pn	23 31 47.4	+0.7
PDO	**Prodromos**	1.10	307	*e*PN	Pg	23 31 09.0	-0.7	**NPS**	**Neapolis**	3.78	134	*e*PN	Pn	23 31 47.9	+1.3
PDO				*e*SN	Sb	23 31 24.2	+0.5	**NPS**	**Neapolis**	3.78	134	*e*Pn	Pn	23 31 47.9	+1.3
PDO	**Prodromos**	1.10	307	P	Pg	23 31 08.9	-0.7	**MMB**	**Musomiste**	3.80	16	P	Pn	23 31 47.1	+0.2
PDO				*e*Sn	Sb	23 31 24.2	+0.5	**MMB**	**Musomiste**	3.80	16	P	Pn	23 31 47.1	+0.2
ATH	**Athens Observa**	1.12	88	P	Pg	23 31 09.6	-0.4	**KKB**	**Krupnik**	3.96	8	P	Pn	23 31 49.6	+0.5
ATH				S	Sg	23 31 23.7	-0.8	**KKB**	**Krupnik**	3.96	8	P	Pn	23 31 49.6	+0.5
ATH	**Athens Observa**	1.12	88	*e*PN	Pn	23 31 10.2	+0.2	**RDO**	**Rodhopi**	4.05	37	*e*PN	Pn	23 31 51.8	+1.4
ATH	**Athens Observa**	1.12	88	P	Pg	23 31 09.6	-0.4	**RDO**	**Rodhopi**	4.05	37	*e*Pn	Pn	23 31 51.8	+1.4
ATH	**Athens Observa**	1.12	88	*e*Pn	Pg	23 31 10.2	+0.2	**RZN**	**Rozhen**	4.17	26	P	Pn	23 31 55.9	+3.7
ATH				S	Sg	23 31 23.7	-0.8	**RZN**	**Rozhen**	4.17	26	P	Pn	23 31 55.9	+3.7
PYL	**PYLOS**	1.14	203	P	Pg	23 31 08.5	-2.0	**VTS**	**Vitosha**	4.69	8	*e*PN	Pn	23 31 59.7	+0.4
PYL				S	Sn	23 31 26.3	+0.3	VTS				*e*Sn	Sn	23 32 51.9	-1.8
PYL	**PYLOS**	1.14	203	*e*PN	Pg	23 31 09.2	-1.3	**VTS**	**Vitosha**	4.69	8	*e*Pn	Pn	23 31 59.7	+0.4
PYL	**PYLOS**	1.14	203	P	Pg	23 31 08.7	-1.8	VTS				*e*Sn	Sn	23 32 51.9	-1.8
PYL	**PYLOS**	1.14	203	*e*Pn	Pg	23 31 09.2	-1.3	**PDG**	**Podgorica**	5.05	333	*e*PN	Pn	23 32 05.8	+1.8
PYL				S	Sn	23 31 26.3	+0.3	**PDG**	**Podgorica**	5.05	333	*e*Pn	Pn	23 32 05.8	+1.8
ATHU	**Athens Univers**	1.17	89	P	Pg	23 31 10.6	-0.4	**TREB**	**Trebinje**	5.64	329	*e*PN	Pn	23 32 12.7	+0.5
ATHU				S	Sb	23 31 26.1	+0.3	**TREB**	**Trebinje**	5.64	329	*e*Pn	Pn	23 32 12.7	+0.5
ATHU	**Athens Univers**	1.17	89	P	Pg	23 31 10.6	-0.4	**IVAS**	**Ivanjica**	5.85	344	*e*PN	Pn	23 32 15.4	+0.2
ATHU				S	Sb	23 31 26.1	+0.3	**IVAS**	**Ivanjica**	5.85	344	*e*Pn	Pn	23 32 15.4	+0.2
SMIA	**Simia**	1.17	37	P	Pg	23 31 10.4	-0.6	**STON**	**Ston**	6.04	326	*e*PN	Pn	23 32 18.5	+0.8
SMIA				S	Sn	23 31 28.7	+2.0	STON				*e*Sn	Sn	23 33 25.0	-1.8
SMIA	**Simia**	1.17	37	*e*PN	Pg	23 31 10.6	-0.4	**STON**	**Ston**	6.04	326	*e*Pn	Pn	23 32 18.5	+0.8
SMIA	**Simia**	1.17	37	P	Pg	23 31 10.4	-0.6	STON				*e*Sn	Sn	23 33 25.0	-1.8
SMIA				S	Sn	23 31 28.7	+2.0	**GRUS**	**Gruza**	6.05	349	*e*PN	Pn	23 32 18.7	+0.8
KFL	**Anninata**	1.21	278	P	Pb	23 31 10.8	-0.6	**GRUS**	**Gruza**	6.05	349	*e*Pn	Pn	23 32 18.7	+0.8
KFL				S	Sb	23 31 27.6	+0.7	**DIVS**	**Divibare**	6.39	345	*e*PN	Pn	23 32 22.9	+0.4
KFL	**Anninata**	1.21	278	P	Pb	23 31 10.8	-0.6	DIVS				*e*SN	Sn	23 33 31.9	-3.5
KFL				S	Sb	23 31 27.6	+0.7	**DIVS**	**Divibare**	6.39	345	*e*Pn	Pn	23 32 22.9	+0.4
PTL	**Penteli**	1.24	85	P	Pb	23 31 11.2	-0.6								
PTL				S	Sb	23 31 28.2	+0.4								
PTL	**Penteli**	1.24	85	*e*PN	Pb	23 31 11.2	-0.6								
PTL	**Penteli**	1.24	85	P	Pb	23 31 11.2	-0.6								
PTL				S	Sb	23 31 28.2	+0.4								
SFD	**Strofades**	1.24	236	P	Pg	23 31 13.9	+1.6								
SFD	**Strofades**	1.24	236	*e*PN	Pg	23 31 12.5	+0.2								
SFD	**Strofades**	1.24	236	*e*Pn	Pg	23 31 12.5	+0.2								
SFD	**Strofades**	1.24	236	P	Pg	23 31 13.9	+1.6								
MRKA	**Markates**	1.26	53	P	Pn	23 31 11.4	-0.6								
MRKA				S	Sn	23 31 30.2	+1.3								
MRKA	**Markates**	1.26	53	*e*PN	Pn	23 31 11.6	-0.4								
MRKA				*e*SN	Sn	23 31 29.8	+0.9								
MRKA	**Markates**	1.26	53	P	Pn	23 31 11.4	-0.6								
MRKA				*e*Sn	Sn	23 31 29.8	+0.9								
MRKA				S	Sn	23 31 30.2	+1.3								
ERET	**Eretria**	1.28	67	P	Pn	23 31 12.0	-0.3								
ERET				S	Sn	23 31 29.9	+0.4								
ERET	**Eretria**	1.28	67	P	Pn	23 31 12.0	-0.3								
ERET				S	Sn	23 31 29.9	+0.4								
VLI	**Veliai**	1.33	158	P	Pn	23 31 12.6	-0.3								
VLI				S	Sg	23 31 31.0	-0.2								
VLI	**Veliai**	1.33	158	*e*PN	Pn	23 31 12.6	-0.3								
VLI	**Veliai**	1.33	158	P	Pn	23 31 12.6	-0.3								
VLI				S	Sg	23 31 31.0	-0.2								
VLS	**Valsamata**	1.37	280	P	Pn	23 31 12.3	-1.2								
VLS				S	Sg	23 31 34.0	+1.3								
VLS	**Valsamata**	1.37	280	*e*PN	Pn	23 31 12.9	-0.6								
VLS	**Valsamata**	1.37	280	P	Pn	23 31 12.3	-1.2								
VLS	**Valsamata**	1.37	280	*e*Pn	Pn	23 31 12.9	-0.6								
VLS				S	Sg	23 31 34.0	+1.3								
SKIA	**Skiathos**	1.52	36	P	Pn	23 31 15.3	-0.2								
SKIA				S	Sg	23 31 37.9	+0.5								
SKIA	**Skiathos**	1.52	36	*e*PB	Pn	23 31 15.4	-0.1								
SKIA	**Skiathos**	1.52	36	P	Pn	23 31 15.3	-0.2								
SKIA				S	Sg	23 31 37.9	+0.5								
FYTO	**Fytoko, Volos**	1.54	19	P	Pn	23 31 15.1	-0.7								
FYTO				S	Sn	23 31 36.4	+0.6								
FYTO	**Fytoko, Volos**	1.54	19	P	Pn	23 31 15.1	-0.7								
FYTO				S	Sn	23 31 36.4	+0.6								
LKD2	**Lefkada island**	1.54	303	P	Pn	23 31 16.5	+0.6								
LKD2	**Lefkada island**	1.54	303	*e*PN	Pn	23 31 16.6	+0.6								
LKD2	**Lefkada island**	1.54	303	P	Pn	23 31 16.5	+0.6								
XOR	**Xorichti**	1.58	26	P	Pn	23 31 15.5	-0.9								
XOR	**Xorichti**	1.58	26	*e*PB	Pn	23 31 15.7	-0.7								
XOR	**Xorichti**	1.58	26	P	Pn	23 31 15.5	-0.9								
THL	**Klokotos Trika**	1.63	352	P	Pn	23 31 16.6	-0.4								
THL				S	Sn	23 31 38.5	+0.5								
THL	**Klokotos Trika**	1.63	352	*e*PN	Pn	23 31 17.0	0.0								
THL	**Klokotos Trika**	1.63	352	P	Pn	23 31 16.6	-0.4								
THL	**Klokotos Trika**	1.63	352	*e*Pn	Pn	23 31 17.0	0.0								
THL				S	Sn	23 31 38.5	+0.5								
AOS	**Alonnisos**	1.73	45	P	Pn	23 31 17.7	-0.8								
AOS	**Alonnisos**	1.73	45	*e*PB	Pn	23 31 17.9	-0.6								
AOS	**Alonnisos**	1.73	45	P	Pn	23 31 17.7	-0.8								
KYTH	**Kithira**	1.77	160	P	Pn	23 31 20.1	+1.2								
KYTH	**Kithira**	1.77	160	*e*PN	Pb	23 31 20.4	-0.4								
KYTH	**Kithira**	1.77	160	P	Pn	23 31 20.1	+1.2								
KYTH	**Kithira**	1.77	160	*e*Pn	Pb	23 31 20.4	-0.4								
JAN	**Janina**	2.05	327	P	Pb	23 31 26.1	+0.4								
JAN	**Janina**	2.05	327	*e*PN	Pb	23 31 25.2	-0.5								
JAN	**Janina**	2.05	327	*e*Pn	Pb	23 31 25.2	-0.5								
JAN	**Janina**	2.05	327	P	Pb	23 31 26.1	+0.4								
LIT	**Litokhoron**	2.15	4	P	Pn	23 31 24.0	-0.3								
LIT	**Litokhoron**	2.15	4	*e*PB	Pn	23 31 24.0	-0.3								
LIT	**Litokhoron**	2.15	4	P	Pn	23 31 24.0	-0.3								
IGT	**Igoumenitsa**	2.21	316	P	Pb	23 31 27.1	-1.3								
IGT	**Igoumenitsa**	2.21	316	*e*PN	Pb	23 31 27.3	-1.1								
IGT	**Igoumenitsa**	2.21	316	P	Pb	23 31 27.1	-1.3								
ANKY	**Antikythira Is**	2.23	159	P	Pn	23 31 25.9	+0.7								
ANKY	**Antikythira Is**	2.23	159	*e*PN	Pn	23 31 25.9	+0.7								
ANKY	**Antikythira Is**	2.23	159	P	Pn	23 31 25.9	+0.7								

IDC 14 00:03:05.4±2.6, 5°.45S×150°.08E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/16, mbtmpg3.1/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/10, Error ellipse: s-maj=128.4km s-min=44.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.88**	**216**	LR	LR	00 06 19.7	
	comp=Z,14nm,28.6s,baz=34,slow=40						
WRA	**Warramunga Arr**	**21.02**	**225**	P	P	00 07 51.9	+1.0
	0.3nm,0.4s,baz=51,slow=10,SNR=4.7						
WRA				PcP	PcP	00 11 57.2	-1.2
	0.3nm,1.0s,baz=45,slow=2.4,SNR=3.1						
ASAR	**Alice Springs**	**23.89**	**219**	P	P	00 08 20.5	-0.4
	0.5nm,0.8s,baz=50,slow=9.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**147.91**	**286**	PKPbc	PKPbc	00 22 53.3	-0.4
	0.6nm,0.5s,baz=63,slow=2.3,SNR=12						

*BJI **14** 00:23:14.6, 13°.79S×168°.02E, h193km, mB4.9/22, mb4.7/35*

*ISCJB **14** 00:23:23.9±2.1, 13°.26S±0°.06×167°.25E±0°.06, h231km±20km, mb4.6/55, Error ellipse: s-maj=10.2km s-min=9.1km az=168.0*

*IDC **14** 00:23:23.6±0.7, 13°.24S×167°.19E, h211km±6km, mb4.2/22, mb1 4.2/23, mb1mx4.2/24, mbtmp4.7/23, Error ellipse: s-maj=10.8km s-min=9.1km az=100.0*

*NEIC **14** 00:23:24.5±1.2, 13°.21S×167°.22E, h223km±11km, mb4.8/31, Error ellipse: s-maj=6.6km s-min=6.3km az=198.0*

*AUST **14** 00:23:41.5±8.6, 13°.48S×167°.08E, h393km, Error ellipse: s-maj=2.4km s-min=1.5km az=38.0*

ISC 14 00:23:22.6±0.4, 13°.15S±0°.05×167°.25E±0°.07, h203km±2km, h203km:pP-P, n207, σ1°.19/255, mb4.7/56, 10C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.91**	**185**	P	**Pn**	**00 25 27.3**	**-0.4**
DZM				S	**S**	**00 27 11.6**	**+3.7**
DZM	**Mont Dzumac**	**8.91**	**185**	P	**Pn**	**00 25 27.3**	**-0.4**
	0.2nm,0.3s,baz=188,slow=14,SNR=2.9						
DZM				S	**S**	**00 27 11.6**	**+3.7**
	1.5nm,0.3s,baz=307,slow=20,SNR=3.4						
EIDS	**Eidsvold**	**19.49**	**229**	*e*P	**P**	**00 27 35.5**	**+1.1**
	14nm,0.5s						
EIDS	**Eidsvold**	**19.49**	**229**	P	**P**	**00 27 35.8**	**+1.4**
	baz=19,SNR=5.4						
LHI	**Lord Howe Isla**	**19.77**	**201**	P	**Pn**	**00 27 42.5**	**+1.0**
	baz=20,SNR=3.3						
AFI	**Afiamalu**	**20.41**	**95**	P	**P**	**00 27 46.1**	**+1.7**
AFI	**Afiamalu**	**20.41**	**95**	P	**P**	**00 27 46.1**	**+1.7**
	35nm,0.9s,baz=248,slow=22,SNR=4.9						
CTA	**Charters Tower**	**21.26**	**248**	P	**P**	**00 27 53.0**	**-0.3**
CTA	**Charters Tower**	**21.26**	**248**	P	**P**	**00 27 53.0**	**-0.3**
	3.7nm,0.5s,baz=82,slow=11,SNR=10.0						
CTAO	**Charters Tower**	**21.26**	**248**	*e*P	**P**	**00 27 53.1**	**-0.2**
	7.7nm,0.7s						
RMQ	**Roma**	**21.84**	**230**	P	**P**	**00 28 00.1**	**+1.0**
	baz=22,SNR=16						
ARMA	**Armidale**	**22.44**	**218**	*e*P	**P**	**00 28 05.5**	**+0.6**
	16nm,0.8s						
ARMA	**Armidale**	**22.44**	**218**	P	**P**	**00 28 05.8**	**+0.9**
	baz=22,SNR=12						
COEN	**Coen**	**23.42**	**265**	*e*P	**P**	**00 28 14.8**	**+1.0**
	154nm,1.4s						
COEN	**Coen**	**23.42**	**265**	P	**P**	**00 28 15.1**	**+1.3**
	baz=23,SNR=6.9						
QLP	**Quilpie**	**25.38**	**235**	P	**P**	**00 28 31.9**	**+0.5**
	baz=25,SNR=4.6						
URZ	**Urewera**	**26.50**	**162**	*e*P	**P**	**00 28 40.9**	**-0.4**
	64nm,1.6s						
URZ	**Urewera**	**26.50**	**162**	P	**P**	**00 28 40.7**	**-0.6**
	7.2nm,0.5s,baz=360,slow=16,SNR=8.0						
CMSA	**Cobar Meteorol**	**26.97**	**224**	P	**P**	**00 28 45.4**	**-0.2**
	baz=27,SNR=11						
YNG	**Young**	**27.13**	**216**	*e*P	**P**	**00 28 47.5**	**+0.5**
	baz=27,SNR=7.2						
BKZ	**Black Stump Fm**	**27.18**	**164**	*e*P	**P**	**00 28 47.7**	**+0.3**
	151nm,2.3s						
CNB	**Canberra Magne**	**27.35**	**213**	P	**P**	**00 28 49.3**	**+0.3**
	baz=27,SNR=5.5						
BFZ	**Birch Farm**	**28.54**	**166**	*e*P	**P**	**00 28 58.6**	**-0.8**
	95nm,1.5s						
KHZ	**Kahutara**	**29.67**	**171**	*e*P	**P**	**00 29 08.7**	**-0.6**
	104nm,1.7s						
STKA	**Stephens Creek**	**30.02**	**227**	P	**P**	**00 29 12.2**	**-0.4**
STKA				PcP	**PcP**	**00 32 09.3**	**-0.3**
STKA	**Stephens Creek**	**30.02**	**227**	P	**P**	**00 29 12.2**	**-0.4**
	6.7nm,0.6s,baz=40,slow=8.9,SNR=20						
STKA				PcP	**PcP**	**00 32 09.3**	**-0.3**
	11nm,0.8s,baz=58,slow=2.6,SNR=12						
STKA	**Stephens Creek**	**30.02**	**227**	P	**P**	**00 29 12.7**	**+0.1**
	baz=30,SNR=16						
RPZ	**Rata Peaks**	**30.64**	**175**	*e*P	**P**	**00 29 17.8**	**0.0**
	89nm,1.6s						
RPZ	**Rata Peaks**	**30.64**	**175**	P	**P**	**00 29 17.3**	**-0.6**
	10nm,0.5s,baz=14,slow=10,SNR=5.7						
TOO	**Toolangi**	**31.12**	**215**	P	**P**	**00 29 22.5**	**+0.3**
	baz=31,SNR=5.7						
ODZ	**Otahua Downs**	**31.92**	**175**	*e*P	**P**	**00 29 28.1**	**-1.0**
	84nm,1.7s						
WRAB	**Tennant Creek**	**32.21**	**253**	*e*P	**P**	**00 29 31.1**	**-0.8**
	253nm,3.0s						
WRA	**Warramunga Arr**	**32.22**	**253**	P	**P**	**00 29 31.1**	**-1.0**
WRA				pP	**pP**	**00 30 13.8**	**+0.1**
WRA				PcP	**PcP**	**00 32 15.2**	**-0.5**
WRA				ScP	**ScP**	**00 35 39.2**	**-1.0**
WRA	**Warramunga Arr**	**32.22**	**253**	P	**P**	**00 29 31.1**	**-1.0**
	1.4nm,0.4s,baz=85,slow=9.0,SNR=30						
WRA				pP	**pP**	**00 30 13.7**	**+0.1**
	1.7nm,0.5s,baz=85,slow=9.3,SNR=4.3						
WRA				PcP	**PcP**	**00 32 15

CD2				S	S	00 44 03.8	+0.1	
CD2				pmax	pmax			
	comp=Z,10.0nm,1.6s							
CD2				pmax	pmax			
	comp=Z,120nm,7.2s							
QSPA	**South Pole Qui**	**76.87**	**180**	P	**P**	**00 34 52.0**	**-0.1**	
QSPA	**South Pole Qui**	**76.87**	**180**	P	**P**	**00 34 52.0**	**-0.1**	
	14nm,0.6s,baz=4.9,slow=2.7,SNR=50							
LZH	**Lanzhou**	**77.25**	**312**	⇑P	**P**	**00 34 55.9**	**+1.1**	
LZH				pP	**pP**	**00 35 43.5**	**0.0**	
LZH				PP	**PP**	**00 37 54.5**	**+2.5**	
LZH				S	**S**	**00 44 29.0**	**+1.1**	
LZH				sS	**sS**	**00 45 50.1**	**-2.8**	
LZH				pmax	pmax			
	comp=Z,28nm,1.0s							
LZH				pmax	pmax			
	comp=Z,160nm,6.5s							
OHAK	**Old Harbor**	**77.33**	**21**	*e*P	**P**	**00 34 54.1**	**-0.3**	
ULN	**Ulaanbaatar**	**80.86**	**324**	*e*P	**P**	**00 35 14.6**	**+0.4**	
	15nm,1.1s							
SONM	**Songino Array**	**81.22**	**323**	P	**P**	**00 35 16.3**	**+0.3**	
SONM	**Songino Array**	**81.22**	**323**	P	**P**	**00 35 16.3**	**+0.3**	
	2.9nm,0.5s,baz=138,slow=5.0,SNR=23							
RC01	**Rabbit Creek A**	**81.46**	**20**	*e*P	**P**	**00 35 16.7**	**-0.1**	
	9.9nm,0.6s							
PMR	**Palmer**	**82.03**	**19**	*e*P	**P**	**00 35 20.3**	**+0.7**	
	9.4nm,0.8s							
DIV	**Divide**	**82.83**	**21**	*e*P	**P**	**00 35 23.0**	**-0.9**	
	13nm,0.8s							
TRF	**Thorofare Moun**	**83.05**	**18**	*e*P	**P**	**00 35 24.7**	**-0.5**	
	6.9nm,0.6s							
MAW	**Mawson**	**83.33**	**202**	P	**P**	**00 35 26.1**	**-0.4**	
MAW	**Mawson**	**83.33**	**202**	P	**P**	**00 35 26.1**	**-0.4**	
	4.2nm,0.6s,baz=114,slow=7.1,SNR=4.3							
MCK	**McKinley**	**83.67**	**18**	*e*P	**P**	**00 35 27.3**	**-0.9**	
	24nm,1.2s							
LSA	**Lhasa**	**84.71**	**302**	*e*P	**P**	**00 35 34.2**	**-0.6**	
	6.1nm,0.6s							
COLA	**College**	**84.83**	**18**	*e*P	**P**	**00 35 33.1**	**-0.8**	
	4.1nm,0.8s							
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**00 35 34.2**	**-0.8**	
ILAR				pP	**pP**	**00 36 27.2**	**+2.6**	
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**00 35 34.2**	**-0.8**	
	10nm,0.6s,baz=241,slow=5.1,SNR=240							
ILAR				pP	**pP**	**00 36 27.2**	**+2.6**	
	3.7nm,0.9s,baz=235,slow=5.7,SNR=5.3							
DOT	**Dot Lake**	**85.14**	**20**	*e*P	**P**	**00 35 34.9**	**-0.7**	
	5.4nm,0.7s							
COLD	**Coldfoot**	**85.92**	**15**	*e*P	**P**	**00 35 40.1**	**+0.8**	
	6.5nm,0.9s							
NVAR	**Mina Array Bea**	**86.26**	**49**	P	**P**	**00 35 42.5**	**+0.6**	
NVAR				PKKPbc	**PKKPbc**	**00 53 39.9**	**-0.5**	
NVAR	**Mina Array Bea**	**86.26**	**49**	P	**P**	**00 35 42.5**	**+0.6**	
	0.5nm,0.6s,baz=238,slow=8.4,SNR=4.4							
NVAR				PKKPbc	**PKKPbc**	**00 53 39.9**	**-0.5**	
	0.4nm,0.7s,baz=77,slow=3.9,SNR=3.1							
TAPN	**Taplejung**	**86.91**	**299**	*e*P	**P**	**00 35 45.2**	**-0.2**	
ODAN	**Odare**	**87.04**	**298**	*e*P	**P**	**00 35 45.5**	**-0.5**	
	26nm,0.7s							
RAMN	**Ramite**	**87.74**	**298**	*e*P	**P**	**00 35 48.5**	**-0.8**	
	9.6nm,0.7s							
JIRN	**Jiri**	**88.29**	**299**	*e*P	**P**	**00 35 51.4**	**-0.6**	
GUN	**Gumba**	**88.62**	**299**	*e*P	**P**	**00 35 52.8**	**-0.7**	
	18nm,0.9s							
PKI	**Pulchoki**	**88.93**	**298**	*e*P	**P**	**00 35 54.0**	**-1.0**	
PKIN	**Phulchoki**	**88.94**	**298**	*e*P	**P**	**00 35 54.1**	**-0.9**	
	12nm,0.8s							
KKN	**Kakani**	**89.10**	**299**	*e*P	**P**	**00 35 54.9**	**-0.7**	
DMN	**Daman**	**89.20**	**298**	*e*P	**P**	**00 35 55.5**	**-0.7**	
	28nm,0.9s							
GKN	**Gorkha**	**89.70**	**299**	*e*P	**P**	**00 35 57.1**	**-1.3**	
	21nm,1.0s							
SYO	**Syowa Base**	**90.20**	**197**	⇑*e*P	**P**	**00 35 57.6**	**-2.1**	
KOLN	**Koldanda**	**90.53**	**298**	*e*P	**P**	**00 36 01.6**	**-0.7**	
DANN	**Dangsing**	**90.54**	**299**	*e*P	**P**	**00 36 00.9**	**-1.5**	
	7.1nm,0.7s							
PYUN	**Piuthan**	**91.14**	**298**	*e*P	**P**	**00 36 04.2**	**-0.9**	
WMQ	**Urumqi**	**91.61**	**315**	P	**P**	**00 36 07.4**	**+0.6**	
WMQ				pmax	pmax			
	comp=Z,11nm,1.0s							
PDAR	**Pinedale Array**	**93.89**	**47**	PKKPbc	PKKPbc	00 53 18.0	-3.5	
PDAR	**Pinedale Array**	**93.89**	**47**	PKKPbc	PKKPbc	00 53 18.0	-3.5	
	0.3nm,0.7s,baz=102,slow=3.8,SNR=3.4							
TXAR	**Lajitas Array**	**95.54**	**61**	PKKPbc	PKKPbc	00 53 15.5	-0.8	
TXAR	**Lajitas Array**	**95.54**	**61**	PKKPbc	PKKPbc	00 53 15.5	-0.8	
	0.1nm,0.5s,baz=125,slow=4.5,SNR=2.3							
MKAR	**Makanchi Array**	**96.05**	**317**	*e*P	**P**	**00 36 26.6**	**-0.4**	
MKAR				PKiKP	**PKiKP**	**00 41 03.8**	**-0.8**	
MKAR				PKKPbc	**PKKPbc**	**00 53 12.4**	**-3.2**	
MKAR	**Makanchi Array**	**96.05**	**317**	P	**P**	**00 36 26.9**	**-0.1**	
	4.7nm,0.5s,baz=85,slow=6.0,SNR=91							
MKAR				PKiKP	**PKiKP**	**00 41 03.8**	**-0.8**	
	0.4nm,0.5s,baz=82,slow=3.1,SNR=12							
MKAR				PKKPbc	**PKKPbc**	**00 53 12.4**	**-3.2**	
	0.3nm,0.7s,baz=270,slow=3.6,SNR=4.0							
ZAA0	**Zalesovo Array**	**96.11**	**324**	*e*P	**P**	**00 36 26.0**	**-1.1**	
ZALV	**Zalesovo Beam**	**96.11**	**324**	P	**P**	**00 36 26.2**	**-0.8**	
ZALV	**Zalesovo Beam**	**96.11**	**324**	P	**P**	**00 36 26.2**	**-0.8**	
	3.2nm,0.6s,baz=107,slow=4.2,SNR=20							
YKA	**Yellowknife Ar**	**96.16**	**27**	P	**P**	**00 36 25.9**	**-1.1**	
YKA				pP	**pP**	**00 37 20.7**	**+3.4**	
YKA				PKKPbc	PKKPbc	00 53 09.4	-6.5	
YKA	**Yellowknife Ar**	**96.16**	**27**	P	**P**	**00 36 25.9**	**-1.1**	
	0.6nm,0.7s,baz=258,slow=4.6,SNR=11							
YKA				pP	**pP**	**00 37 20.7**	**+3.4**	
	1.0nm,0.8s,baz=254,slow=4.6,SNR=7.9							
YKA				PKKPbc	PKKPbc	00 53 09.4	-6.5	
	0.3nm,0.6s,baz=71,slow=2.6,SNR=6.9							
LPAZ	**La Paz**	**117.94**	**117**	PKP	**PKPdf**	**00 41 47.9**	**+1.1**	
LPAZ	**La Paz**	**117.94**	**117**	PKP	**PKPdf**	**00 41 47.9**	**+1.1**	
	0.6nm,0.4s,baz=310,slow=3.9,SNR=3.6							
ARCES	**ARCESS Array B**	**118.73**	**346**	PKP	**PKPdf**	**00 41 45.5**	**-0.5**	
ARCES	**ARCESS Array B**	**118.73**	**346**	PKP	**PKPdf**	**00 41 45.5**	**-0.5**	
	6.0nm,0.4s,baz=85,slow=2.3,SNR=140							
CPUP	**Villa Florida**	**121.53**	**132**	PKP	**PKPdf**	**00 41 51.0**	**-1.7**	
CPUP	**Villa Florida**	**121.53**	**132**	PKP	**PKPdf**	**00 41 51.0**	**-1.7**	
	0.6nm,0.3s,baz=333,slow=3.5,SNR=4.9							
SIV	**San Ignacio**	**124.13**	**120**	PKP	**PKPdf**	**00 41 56.9**	**-1.1**	
SIV	**San Ignacio**	**124.13**	**120**	PKP	**PKPdf**	**00 41 56.9**	**-1.1**	
	1.4nm,0.5s,baz=263,slow=2.4,SNR=6.2							
BOSA	**Boshof**	**124.55**	**221**	PKP	**PKPdf**	**00 41 58.3**	**-0.4**	
BOSA	**Boshof**	**124.55**	**221**	PKP	**PKPdf**	**00 41 58.3**	**-0.4**	
	4.0nm,0.9s,baz=255,slow=1.0,SNR=5.7							
MALT	**Malatya**	**128.31**	**309**	⇑*i*P	**PKPdf**	**00 42 06.2**	**+0.7**	
NB2	**NORSAR Subarra**	**129.10**	**345**	PKPdf	**PKPdf**	**00 42 05.9**	**-0.3**	
	comp=Z,1.1nm,0.4s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**129.10**	**345**	PKP	**PKPdf**	**00 42 06.0**	**-0.1**	
NOA	**NORSAR Array B**	**129.10**	**345**	PKP	**PKPdf**	**00 42 06.0**	**-0.1**	
	comp=Z,3.3nm,0.8s,baz=36,slow=2.1,SNR=11							
HFS	**Hagfors**	**129.22**	**343**	PKP	**PKPdf**	**00 42 05.7**	**-0.6**	
HFS	**Hagfors**	**129.22**	**343**	PKP	**PKPdf**	**00 42 05.7**	**-0.6**	
	comp=Z,2.8nm,0.5s,baz=125,slow=4.0,SNR=16							
AKASG	**Malin Array Be**	**129.42**	**327**	PKP	**PKPdf**	**00 42 06.4**	**-0.6**	
AKASG	**Malin Array Be**	**129.42**	**327**	PKP	**PKPdf**	**00 42 06.4**	**-0.6**	
	comp=Z,2.6nm,0.6s,baz=61,slow=2.1,SNR=10							
BRTR	**Keskin Array B**	**131.46**	**312**	PKP	**PKPdf**	**00 42 11.4**	**0.0**	
BRTR	**Keskin Array B**	**131.46**	**312**	PKP	**PKPdf**	**00 42 11.4**	**0.0**	
	comp=Z,1.2nm,0.5s,baz=59,slow=3.1,SNR=13							
CFR	**Carcaliu**	**132.90**	**321**	||*i*P	**PKPdf**	**00 42 14.6**	**+0.9**	
BEL	**Belsk**	**132.93**	**332**	*e*PKP	**PKPdf**	**00 42 14.3**	**+0.7**	
BURAR	**Bucovina Array**	**133.32**	**325**	⇑*i*P	**PKPdf**	**00 42 16.1**	**+1.5**	
BUR04	**Bucovina Ar. S**	**133.32**	**325**	*e*PKPdf	**PKPdf**	**00 42 16.1**	**+1.4**	
KWP	**Kalwaria Pacla**	**133.45**	**329**	*e*PKP	**PKPdf**	**00 42 15.6**	**+0.9**	
KWP	**Kalwaria Pacla**	**133.45**	**329**	⇑*i*P	**PKPdf**	**00 42 16.0**	**+1.3**	
MLR	**Muntele Rosu**	**134.06**	**322**	PKP	**PKPdf**	**00 42 15.9**	**-0.2**	
MLR	**Muntele Rosu**	**134.06**	**322**	PKP	**PKPdf**	**00 42 15.9**	**-0.2**	
	comp=Z,0.3nm,0.5s,baz=0.0,slow=2.0,SNR=4.7							
DOPR	**Dopca**	**134.14**	**323**	||*i*P	**PKPdf**	**00 42 16.8**	**+0.7**	
BDFB	**Brasilia**	**134.89**	**128**	PKP	**PKPdf**	**00 42 17.1**	**-1.4**	
BDFB	**Brasilia**	**134.89**	**128**	PKP	**PKPdf**	**00 42 17.1**	**-1.4**	
	comp=Z,1.5nm,0.5s,baz=180,slow=1.0,SNR=4.3							
OKC	**Ostrava-Krasne**	**135.52**	**332**	*e*PKPdf	**PKPdf**	**00 42 18.5**	**0.0**	
KSP	**Ksiaz**	**135.62**	**334**	*e*PKP	**PKPdf**	**00 42 20.6**	**+1.9**	
MORC	**Moravsky Berou**	**135.84**	**332**	||*i*P	**PKPdf**	**00 42 19.2**	**0.0**	
DPC	**Dobruska-Polom**	**135.97**	**333**	*e*PKPdf	**PKPdf**	**00 42 21.3**	**+1.9**	
GZR	**Gura Zlata**	**135.97**	**324**	||*i*P	**PKPdf**	**00 42 19.2**	**-0.4**	
UPC	**Upice**	**135.99**	**334**	*e*PKPdf	**PKPdf**	**00 42 21.3**	**+1.9**	
BZS	**Buzias**	**136.50**	**325**	||*i*P	**PKPdf**	**00 42 20.4**	**-0.1**	
PVCC	**Panska Ves**	**136.59**	**335**	*e*PKPdf	**PKPdf**	**00 42 22.6**	**+2.1**	
CLL	**Collm**	**136.61**	**337**	*i* PKPdf	**PKPdf**	**00 42 22.4**	**+1.9**	
	comp=Z,6.0nm,0.6s							
PRU	**Pruhonice**	**137.01**	**334**	*e*PKPdf	**PKPdf**	**00 42 22.9**	**+1.6**	
TREC	**Trest**	**137.12**	**333**	*e*PKPdf	**PKPdf**	**00 42 23.4**	**+1.8**	
EKA	**Eskdalemuir Ar**	**137.25**	**352**	PKPpre	PKPpre	00 42 08.7		
EKA				PKP	**PKPdf**	**00 42 21.2**	**-0.4**	
EKA	**Eskdalemuir Ar**	**137.25**	**352**	PKhKP	PKPpre	00 42 08.6		
	comp=Z,0.4nm,0.5s,baz=26,slow=3.4,SNR=4.8							
EKA				PKP	**PKPdf**	**00 42 21.2**	**-0.4**	
	comp=Z,0.4nm,0.4s,baz=9.6,slow=2.5,SNR=5.0							
VTS	**Vitosha**	**137.28**	**320**	⇑*i*P	**PKPdf**	**00 42 21.5**	**-0.8**	
NKC	**Novy Kostel**	**137.67**	**336**	*e*PKPdf	**PKPdf**	**00 42 24.6**	**+2.0**	
PKSM	**Moragy**	**137.74**	**327**	⇑*i*P	**PKPdf**	**00 42 22.4**	**-0.4**	
CONA	**Conrad Observa**	**137.94**	**331**	⇑*i*PKiKP	**PKPdf**	**00 42 23.5**	**+0.3**	
	comp=Z,5.3nm,0.6s							
KHC	**Kasperske Hory**	**138.07**	**334**	*e*PKPdf	**PKPdf**	**00 42 23.5**	**+0.1**	
KHC				*ex*	x	00 42 25.4		
GERES	**GERESS Array B**	**138.23**	**334**	PKPpre	PKPpre	00 42 12.8		
GERES				PKP	**PKPdf**	**00 42 23.2**	**-0.5**	
GERES				SKPbc	**SKPbc**	**00 45 39.1**	**+0.2**	
GERES	**GERESS Array B**	**138.23**	**334**	PKhKP	PKPpre	00 42 12.8		
	comp=Z,0.3nm,0.5s,baz=96,slow=2.7,SNR=4.6							
GERES				PKP	**PKPdf**	**00 42 23.2**	**-0.5**	
	comp=Z,2.5nm,0.7s,baz=48,slow=2.0,SNR=14							
GERES				SKPbc	**SKPbc**	**00 45 39.1**	**+0.2**	
	comp=Z,0.3nm,0.8s,baz=28,slow=3.2,SNR=3.7							
MOA	**Molln**	**138.73**	**332**	⇑*i*PKiKP	**PKPdf**	**00 42 25.5**	**+0.9**	
	comp=Z,2.5nm,0.5s							
IDI	**Anoyia**	**139.56**	**310**	PKPpre	PKPpre	00 42 17.5		
IDI	**Anoyia**	**139.56**	**310**	PKhKP	PKPpre	00 42 17.5		
	comp=Z,1.4nm,0.3s,baz=90,slow=2.0,SNR=4.5							
MEM	**Membach**	**139.63**	**342**	PKP	**PKPdf**	**00 42 28.5**	**+2.4**	
WTTA	**Wattenberg**	**140.33**	**334**	||*i*PKiKP	**PKiKP**	**00 42 29.9**	**-0.4**	
	comp=Z,3.9nm,0.4s							
DAVOX	**Davos/Dischmat**	**141.46**	**335**	PKPpre	PKPpre	00 42 23.3		
DAVOX	**Davos/Dischmat**	**141.46**	**335**	PKhKP	PKPpre	00 42 23.3		
	comp=Z,3.5nm,0.6s,baz=326,slow=2.9,SNR=10							
BNI	**Bardonecchia**	**144.16**	**336**	*e*PKPdf	PKPbc	00 42 33.6	+0.4	
CEL	**Celeste**	**144.33**	**320**	*e*PKPdf	**PKPab**	**00 42 33.0**	**-0.5**	
KEST	**Kesra**	**149.97**	**322**	*e*PKPbc	**PKPbc**	**00 42 49.9**	**+0.3**	
KEST	**Kesra**	**149.97**	**322**	PKPbc	**PKPbc**	**00 42 49.8**	**+0.3**	
	comp=Z,9.1nm,0.6s,baz=107,slow=1.7,SNR=44							
RCBR	**Riachuelo**	**150.26**	**128**	PKPbc	**PKPbc**	**00 42 50.1**	**-0.7**	
RCBR	**Riachuelo**	**150.26**	**128**	PKPbc	**PKPbc**	**00 42 50.1**	**-0.7**	
	comp=Z,9.1nm,0.8s,baz=262,slow=3.4,SNR=5.1							
PBRG	**Braganca**	**150.97**	**351**	*e*PKPbc	**PKPbc**	**00 42 51.8**	**+0.1**	
PGAV	**Gavieira, Arco**	**151.03**	**353**	*e*PKPbc	**PKPbc**	**00 42 52.4**	**+0.5**	
POLO	**Lamas de Olo**	**151.55**	**352**	*e*PKPbc	**PKPbc**	**00 42 53.9**	**+0.8**	
PVRL	**Vila Real**	**151.64**	**352**	*e*PKPbc	**PKPbc**	**00 42 54.0**	**+0.8**	
MVO	**Moncorvo**	**151.65**	**351**	*e*PKPbc	**PKPbc**	**00 42 53.6**	**+0.3**	
PVIS	**Viseu**	**152.21**	**352**	*e*PKPbc	**PKPbc**	**00 42 55.1**	**+0.6**	
ES19	**SONSECA Array**	**152.42**	**345**	*e*PKPbc	**PKPbc**	**00 42 54.9**	**-0.1**	
ES19				*e*PKPab	**PKPab**	**00 43 06.6**	**+0.7**	
ESDC	**Sonseca Array**	**152.47**	**345**	PKPbc	**PKPbc**	**00 42 55.0**	**-0.1**	
ESDC				PKPab	**PKPab**	**00 43 06.6**	**+0.5**	
ESDC	**Sonseca Array**	**152.47**	**345**	PKPbc	**PKPbc**	**00 42 55.0**	**-0.1**	
	comp=Z,5.6nm,0.7s,baz=14,slow=3.0,SNR=26							
ESDC				PKPab	**PKPab**	**00 43 06.6**	**+0.5**	
	comp=Z,1.7nm,0.5s,baz=8.7,slow=4.0,SNR=9.6							
MTE	**Manteigas**	**152.47**	**351**	*e*PKPbc	**PKPbc**	**00 42 55.4**	**+0.3**	
PAB	**San Pablo**	**152.68**	**346**	*e*PKPbc	**PKPbc**	**00 42 56.0**	**+0.3**	
PAB				*e*PKPab	**PKPab**	**00 43 07.6**	**+0.6**	
PTOM	**Tomar**	**153.36**	**353**	*e*PKPbc	**PKPbc**	**00 42 57.2**	**+0.2**	
PMRV	**Marv??o**	**153.40**	**351**	*e*PKPbc	**PKPbc**	**00 42 58.2**	**+1.1**	
MDT	**Midelt**	**159.06**	**341**	PKPbc	**PKPab**	**00 43 34.4**	**-0.1**	
MDT	**Midelt**	**159.06**	**341**	PKPab	**PKPab**	**00 43 34.4**	**-0.1**	
	comp=Z,2.6nm,0.9s,baz=358,slow=4.5,SNR=4.2							
TORD	**Torodi Ar. Bea**	**165.93**	**272**	PKP	**PKPdf**	**00 43 03.1**	**-1.1**	
TORD				PKPab	**PKPab**	**00 44 04.9**	**-0.4**	
TORD	**Torodi Ar. Bea**	**165.93**	**272**	PKP	**PKPdf**	**00 43 03.1**	**-1.1**	
	comp=Z,2.6nm,0.9s,baz=8.7,slow=1.8,SNR=13							
TORD				PKPab	**PKPab**	**00 44 04.9**	**-0.4**	
	comp=Z,2.2nm,0.9s,baz=88,slow=4.0,SNR=7.5							

IDC 14 00:50:18.7±7.1, 6°35S×153°53E, h87km±51km, mb3.5/4, mb1 3.7/5, mb1mx3.4/19, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=66.5km s-min=48.2km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.00**	**244**	P	Pn	00 51 58.8	+0.2
	1.4nm,0.3s,baz=62,slow=15,SNR=3.2						
PMG				S	Sn	00 53 28.8	+12
	1.2nm,0.3s,baz=12,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**23.02**	**232**	P	P	00 55 16.5	-0.1
	2.0nm,0.8s,baz=56,slow=9.6,SNR=6.5						
ASAR	**Alice Springs**	**25.54**	**226**	P	P	00 55 39.6	0.0
	0.3nm,0.4s,baz=60,slow=9.3,SNR=6.2						
STKA	**Stephens Creek**	**27.74**	**202**	P	P	00 55 59.1	-0.1
	1.0nm,0.6s,baz=49,slow=14,SNR=3.8						
FITZ	**Fitzroy Crossi**	**29.60**	**244**	P	P	00 56 15.7	-0.2
	4.3nm,1.1s,baz=63,slow=4.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**151.45**	**286**	PKPbc	PKPbc	01 10 03.7	0.0
	0.2nm,0.5s,baz=88,slow=2.3,SNR=4.3						

IDC 14 01:06:37.5±2.0, 33°82S×179°38W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=77.1km s-min=44.1km az=16.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.88**	**271**	P	P	01 14 30.7	+0.8
	0.3nm,0.4s,baz=112,slow=7.3,SNR=4.7						
WRA	**Warramunga Arr**	**43.19**	**277**	P	P	01 14 39.9	-0.5
	0.7nm,0.3s,baz=118,slow=7.4,SNR=21						
FITZ	**Fitzroy Crossi**	**51.28**	**273**	P	P	01 15 42.9	-0.6
	1.7nm,0.7s,baz=124,slow=7.3,SNR=6.2						
FINES	**FINESS Array B**	**147.89**	**337**	PKPbc	PKPbc	01 26 23.3	-0.5
	2.4nm,0.9s,baz=32,slow=3.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**159.40**	**183**	PKPab	PKPab	01 27 15.6	-0.4
	0.2nm,0.7s,baz=178,slow=4.3,SNR=4.2						

MAN 14 01:17:58, 18°42N×120°47E, h51km, mb4.0, ML2.8, MS2.4, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.17**	**123**	||*i*P	01 18 13.7	+7.4
PIP				*e*S	Sn	01 18 22.6	+10
SIPP	**Brgy, Tapao**	**0.49**	**181**	||*i*P	01 18 11.7	+2.4
SIPP				*e*S	Sn	01 18 21.5	+4.2
ABRA	**Dolores**	**0.80**	**163**	*e*P	Pn	01 18 17.8	+4.6
APYP	**Conner**	**0.92**	**127**	*e*P	Pn	01 18 16.4	+1.6
APYP				*e*S	Sn	01 18 20.7	-6.4
CAUP	**Cauayan**	**1.96**	**138**	*e*P	Pn	01 18 30.9	+2.1

*FUNV **14** 01:50:49.2, 5°83N×73°73W, h133km, MW3.0*
*ISCJB **14** 01:50:50.8±0.8, 6°1N±0°2×73°4W±0°2, h150km, mb3.1/1, Error ellipse: s-maj=35.1km s-min=7.1km az=37.3*
*IDC **14** 01:50:51.4±6.7, 6°13N×75°55W, h83km±73km, mb3.0/1, mb1 3.3/1, mb1mx2.9/21, mbtmp3.0/1, Error ellipse: s-maj=129.1km s-min=40.5km az=72.0*

ISC 14 01:50:50.6±1.3, 6°1N±0°1×73°6W±0°2, h150km, n8, σ1°06/10, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**1.45**	**211**	P	**Pn**	**01 51 20.7**	**+0.5**
	2.5nm,0.3s,baz=105,slow=23,SNR=12						
ROSC				S	**Sn**	**01 51 43.2**	**+0.5**
	5.8nm,0.3s,baz=95,slow=20,SNR=8.2						
CAPV	**Capacho**	**2.15**	**35**	*e*P	**Pn**	**01 51 28.6**	**+0.9**
CAPV				*e*S	**Sn**	**01 51 57.3**	**+1.1**
SOCV	**Socops**	**3.45**	**51**	*e*P	**Pn**	**01 51 44.6**	**+0.8**
VIRV	**Villa del Rosa**	**4.52**	**15**	*e*P	**Pn**	**01 51 58.0**	**+0.3**
CURV	**Curarigua**	**5.28**	**42**	*e*P	**Pn**	**01 52 07.5**	**-0.3**
CURV				*e*S	**Sn**	**01 53 06.9**	**-1.1**
MONV	**Montecano**	**6.81**	**31**	*e*P	**Pn**	**01 52 29.1**	**+0.9**
YKA	**Yellowknife Ar**	**63.78**	**340**	P	P	02 01 09.8	+3.5
	0.2nm,0.6s,baz=138,slow=6.7,SNR=3.7						
WRA	**Warramunga Arr**	**149.60**	**240**	PKPbc	**PKPab**	**02 10 27.3**	**-1.6**
	0.2nm,0.4s,baz=106,slow=2.8,SNR=5.4						

*IDC **14** 01:50:54.8±1.2, 34°32N×25°26E, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, ML3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.2/34, Error ellipse: s-maj=23.5km s-min=12.2km az=68.0*
*CSEM **14** 01:50:57.4±0.2, 34°30N×25°11E, h10km, MD3.7, Error ellipse: s-maj=5.0km s-min=3.3km az=58.0*
*ISCJB **14** 01:50:57.9±0.4, 34°23N±0°03×25°10E±0°04, h42km±9km, mb3.8/4, MS3.0/1, Error ellipse: s-maj=6.5km s-min=4.7km az=153.7*

*THE **14** 01:50:58.2, 34°38N×25°09E, h0km±1km, ML3.0/1, Error ellipse: s-maj=2.6km s-min=0.7km az=193.0*
*HLW **14** 01:50:59.5, 34°40N×25°14E, h22km±21km, Md0.0, Ml3.4*
*ATH **14** 01:50:59.2, 34°44N×25°07E, h32km±5km, MD3.7/15*

ISC 14 01:50:59.5±1.3, 34°32N±0°04×25°11E±0°04, h37km±2km, n97, σ1°42/116, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.74**	**340**	P	**Pn**	**01 51 11.9**	**-1.5**
SIVA				S	**Sn**	**01 51 22.7**	**-0.7**
SIVA	**Sivas**	**0.74**	**340**	*e*PN	**Pn**	**01 51 12.1**	**-1.3**
SIVA				*e*SN	**Sn**	**01 51 22.3**	**-1.1**
SIVA	**Sivas**	**0.74**	**340**	P	**Pn**	**01 51 11.9**	**-1.5**
SIVA				S	**Sn**	**01 51 22.7**	**-0.7**
LAST	**Lasithi**	**0.89**	**20**	P	**Pn**	**01 51 14.3**	**-1.3**
LAST				S	**Sn**	**01 51 27.6**	**+0.2**
LAST	**Lasithi**	**0.89**	**20**	*e*PN	**Pn**	**01 51 14.7**	**-0.9**
LAST	**Lasithi**	**0.89**	**20**	P	**Pn**	**01 51 14.3**	**-1.3**
LAST	**Lasithi**	**0.89**	**20**	*e*Pn	**Pn**	**01 51 14.7**	**-0.9**
LAST				S	**Sn**	**01 51 27.6**	**+0.2**
IDI	**Anoyia**	**0.98**	**349**	P	**Pn**	**01 51 15.8**	**-1.0**
IDI				S	**Sn**	**01 51 29.8**	**+0.3**
IDI	**Anoyia**	**0.98**	**349**	*e*PN	**Pn**	**01 51 16.0**	**-0.8**
IDI				*e*SN	**Sn**	**01 51 28.2**	**-1.3**
IDI	**Anoyia**	**0.98**	**349**	P	**Pn**	**01 51 15.8**	**-1.0**
IDI				S	**Sn**	**01 51 29.8**	**+0.3**
IDI	**Anoyia**	**0.98**	**349**	Pg	**Pn**	**01 51 15.7**	**-1.0**
	50nm,0.3s,baz=156,slow=19,SNR=430						
IDI				Lg	Lg	01 51 27.5	
	44nm,0.3s,baz=308,slow=20,SNR=11						
IDI				LR	LR	01 51 57.9	
	comp=Z,131nm,20.0s,baz=96,slow=62						
NPS	**Neapolis**	**1.03**	**23**	P	**Pn**	**01 51 16.9**	**-0.4**
NPS				S	**Sn**	**01 51 31.5**	**+1.0**
NPS	**Neapolis**	**1.03**

n76,σ1s50/116, 21C-21D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VADZ	**Vardenis**	**0.25**	**263**	*e*P	**Pb**	**01 52 25.0**	**+0.7**
VADZ				*e*S	**Sb**	**01 52 30.0**	**+0.9**
VADZ	**Vardenis**	**0.25**	**263**	P	**Pb**	**01 52 25.0**	**+0.7**
VADZ				S	**Sb**	**01 52 30.0**	**+0.9**
VRD	**Vardenis**	**0.29**	**273**	*i* Pg	**Pb**	**01 52 25.0**	**+0.1**
VRD	**Vardenis**	**0.29**	**273**	*i* Pg	**Pb**	**01 52 25.0**	**+0.1**
GANJ	**Ganja**	**0.48**	**23**	⇑Pg	Pg	01 52 25.0	-1.5
GANJ				⇓Sg	**Sg**	**01 52 30.9**	**-1.8**
GANJ	**Ganja**	**0.48**	**23**	Pg	Pg	01 52 25.0	-1.5
GANJ				Sg	**Sg**	**01 52 30.9**	**-1.8**
STKZ		**0.65**	**127**	⇓*i*P	Pg	01 52 26.8	-3.0
STKZ				⇓*i*S	**Sg**	**01 52 36.7**	**-1.5**
STKZ		**0.65**	**127**	⇓P	Pg	01 52 26.8	-3.0
STKZ				S	**Sg**	**01 52 36.7**	**-1.5**
GRS	**Goris**	**0.73**	**164**	⇑*i*P	Pg	01 52 26.0	-5.3
GRS				⇓*i*S	**Sg**	**01 52 37.0**	**-3.8**
BRDA	**Brd**	**0.85**	**86**	⇑Pg	**Pg**	**01 52 34.0**	**+0.5**
BRDA				⇓Sg	**Sn**	**01 52 48.4**	**0.0**
BRDA	**Brd**	**0.85**	**86**	Pg	**Pg**	**01 52 34.0**	**+0.5**
BRDA				Sg	**Sn**	**01 52 48.4**	**0.0**
GNI	**Garni**	**1.02**	**267**	⇑*i*P	**Pb**	**01 52 36.0**	**-1.4**
GNI				⇑*i*S	**Sn**	**01 52 51.8**	**-1.2**
GNI	**Garni**	**1.02**	**267**	⇑P	**Pb**	**01 52 36.0**	**-1.4**
GNI				S	**Sn**	**01 52 51.8**	**-1.2**
NAX	**Nakhchivan**	**1.12**	**204**	⇑Pg	**Pn**	**01 52 39.7**	**+0.2**
NAX				⇓Sg	**Sn**	**01 52 55.9**	**+0.6**
NAX	**Nakhchivan**	**1.12**	**204**	Pg	**Pn**	**01 52 39.7**	**+0.2**
NAX				Sg	**Sn**	**01 52 55.9**	**+0.6**
ERE	**Yerevan**	**1.23**	**269**	⇓*i*P	Pn	01 52 34.0	-7.0
SEKA	**Sheki**	**1.32**	**40**	⇓Pg	**Pn**	**01 52 40.1**	**-2.1**
SEKA				⇑Sg	**Sn**	**01 52 58.2**	**-2.0**
SEKA	**Sheki**	**1.32**	**40**	Pg	**Pn**	**01 52 40.1**	**-2.1**
SEKA				Sg	**Sn**	**01 52 58.2**	**-2.0**
ZKTA	**Zakatala**	**1.49**	**16**	⇓Pg	**Pn**	**01 52 43.3**	**-1.3**
ZKTA				⇓Sg	**Sn**	**01 53 03.4**	**-0.9**
STEZ	**Stepenevan**	**1.50**	**302**	⇑*i*P	**Pn**	**01 52 42.0**	**-2.8**
STEZ				⇓*i*S	**Sn**	**01 53 03.0**	**-1.8**
KDMR	**Kurdemir**	**1.62**	**83**	⇑Pg	**Pn**	**01 52 46.8**	**+0.5**
KDMR				⇓Sg	**Sg**	**01 53 10.8**	**+1.4**
KDMR	**Kurdemir**	**1.62**	**83**	Pg	**Pn**	**01 52 46.8**	**+0.5**
KDMR				Sg	**Sg**	**01 53 10.8**	**+1.4**
IML	**Ismayilli**	**1.71**	**69**	⇑Pg	**Pn**	**01 52 47.5**	**-0.1**
IML				⇓Sg	**Sn**	**01 53 10.8**	**+0.9**
IML	**Ismayilli**	**1.71**	**69**	Pg	**Pn**	**01 52 47.5**	**-0.1**
IML				Sg	**Sn**	**01 53 10.8**	**+0.9**
KZR	**Kazreti**	**1.72**	**314**	P	**Pn**	**01 52 46.9**	**-0.8**
KZR				S	**Sn**	**01 53 08.7**	**-1.4**
AKT	**Akhty**	**1.79**	**44**	*e*PN	**Pn**	**01 52 49.5**	**+0.7**
AKT				pmax	pmax		
	comp=Z,52nm,0.1s						
AKT	**Akhty**	**1.79**	**44**	*e*Pn	**Pn**	**01 52 49.5**	**+0.7**
	comp=Z,52nm,0.1s						
GMRZ	**Gyumri**	**1.81**	**290**	*e*	**Sg**	**01 53 20.0**	**+4.5**
TBLG	**Delisi**	**1.83**	**327**	*i* PN	**Pn**	**01 52 48.1**	**-1.1**
TBLG	**Delisi**	**1.83**	**327**	P	**Pn**	**01 52 48.1**	**-1.1**
TBLG				S	**Sn**	**01 53 12.1**	**-0.6**
SEAG	**Tbilisi Sea**	**1.83**	**329**	P	**Pn**	**01 52 47.7**	**-1.6**
SEAG				S	**Sn**	**01 53 12.0**	**-0.8**
BAW	**Bavra**	**1.96**	**299**	*e*	**Pn**	**01 52 49.0**	**-2.2**
PQL	**Pirkuli**	**2.01**	**72**	⇑Pn	**Pn**	**01 52 52.1**	**+0.3**
PQL				⇑S	**Sb**	**01 53 19.3**	**-0.2**
PQL	**Pirkuli**	**2.01**	**72**	Pn	**Pn**	**01 52 52.1**	**+0.3**
PQL				S	**Sb**	**01 53 19.3**	**-0.2**
GLBA	**Clilabad**	**2.03**	**118**	⇓Pn	**Pn**	**01 52 52.6**	**+0.7**
GLBA				⇓S	**Sb**	**01 53 20.6**	**+0.6**
GLBA	**Clilabad**	**2.03**	**118**	Pn	**Pn**	**01 52 52.6**	**+0.7**
GLBA				S	**Sb**	**01 53 20.6**	**+0.6**
DUS	**Dusheti**	**2.15**	**332**	*i* PN	**Pn**	**01 52 55.1**	**+1.4**
DUS	**Dusheti**	**2.15**	**332**	P	**Pn**	**01 52 55.1**	**+1.4**
DUS				S	**Sb**	**01 53 23.8**	**+0.2**
DUS	**Dusheti**	**2.15**	**332**	*i* Pn	**Pn**	**01 52 55.1**	**+1.4**
QUBA	**Quba, Azerbaij**	**2.17**	**57**	⇑Pn	**Pn**	**01 52 55.5**	**+1.6**
QUBA				⇑S	**Sb**	**01 53 25.0**	**+1.0**
QUBA	**Quba, Azerbaij**	**2.17**	**57**	Pn	**Pn**	**01 52 55.5**	**+1.6**
QUBA				S	**Sb**	**01 53 25.0**	**+1.0**
ALIB	**Äli-Bayra**	**2.26**	**95**	⇓Pn	**Pb**	**01 52 58.6**	**+0.1**
ALIB				⇓S	**Sg**	**01 53 29.4**	**-0.5**
ALIB	**Äli-Bayra**	**2.26**	**95**	Pn	**Pb**	**01 52 58.6**	**+0.1**
ATGJ	**Altiaghaj**	**2.28**	**72**	⇑Pn	**Pn**	**01 52 57.1**	**+1.6**
ATGJ				⇑S	**Sb**	**01 53 28.1**	**+0.8**
ATGJ	**Altiaghaj**	**2.28**	**72**	Pn	**Pn**	**01 52 57.1**	**+1.6**
ATGJ				S	**Sb**	**01 53 28.1**	**+0.8**
GNBR	**Gunib**	**2.28**	**17**	*i* PN	**Pn**	**01 52 56.9**	**+1.4**
GNBR				*i* S	**Sn**	**01 53 26.8**	**+2.8**
GNBR	**Gunib**	**2.28**	**17**	*i* Pn	**Pn**	**01 52 56.9**	**+1.4**
GNBR				*i* Sn	**Sn**	**01 53 26.8**	**+2.8**
AKH	**Akhalkalaki**	**2.30**	**302**	*i* PN	**Pn**	**01 52 57.8**	**+2.0**
AKH	**Akhalkalaki**	**2.30**	**302**	P	**Pn**	**01 52 57.8**	**+2.0**
AKH				S	**Sb**	**01 53 27.9**	**0.0**
AKH	**Akhalkalaki**	**2.30**	**302**	*i* Pn	**Pn**	**01 52 57.8**	**+2.0**
SIZA	**Siyzn**	**2.32**	**67**	⇑Pn	**Pn**	**01 52 57.9**	**+1.9**
SIZA				⇓S	**Sb**	**01 53 28.5**	**+0.1**
SIZA	**Siyzn**	**2.32**	**67**	Pn	**Pn**	**01 52 57.9**	**+1.9**
SIZA				S	**Sb**	**01 53 28.5**	**+0.1**
LRK	**Lerik**	**2.35**	**131**	⇑Pn	**Pb**	**01 52 58.4**	**-1.6**
LRK				⇓S	**Sb**	**01 53 30.6**	**+1.3**
LRK	**Lerik**	**2.35**	**131**	Pn	**Pb**	**01 52 58.4**	**-1.6**
LRK				S	**Sb**	**01 53 30.6**	**+1.3**
GUDG	**Gudauri**	**2.56**	**332**	P	**Pn**	**01 53 00.6**	**+1.2**
GUDG				S	**Sb**	**01 53 35.4**	**0.0**
LKRN	**Lenkeran, Azer**	**2.57**	**125**	⇓Pn	**Pn**	**01 53 00.7**	**+1.4**
LKRN				⇑S	**Sb**	**01 53 35.5**	**-0.1**
LKRN	**Lenkeran, Azer**	**2.57**	**125**	Pn	**Pn**	**01 53 00.7**	**+1.4**
LKRN				S	**Sb**	**01 53 35.5**	**-0.1**
DBC	**Dubki**	**2.87**	**11**	⇑*i*PN	Pn	01 53 07.1	+3.5
DBC				*i* S	**Sb**	**01 53 42.7**	**-1.5**
DBC	**Dubki**	**2.87**	**11**	*i* Pn	Pn	01 53 07.1	+3.5
DBC				*i* Sn	**Sb**	**01 53 42.7**	**-1.5**
LACR	**Lac**	**2.94**	**334**	*i* PN	**Pn**	**01 53 06.1**	**+1.5**
LACR				*i* S	**Sb**	**01 53 45.1**	**-1.2**
LACR				pmax	pmax		
	comp=Z,59nm,0.3s						
LACR	**Lac**	**2.94**	**334**	*i* Pn	**Pn**	**01 53 06.1**	**+1.5**
	comp=Z,59nm,0.3s						
LACR				*i* Sn	**Sb**	**01 53 45.1**	**-1.2**
ZEI	**Tsey**	**3.05**	**328**	*e*PN	**Pn**	**01 53 08.9**	**+2.7**
ZEI				*e*S	**Sb**	**01 53 48.5**	**-1.2**
ZEI				pmax	pmax		
	comp=Z,40nm,0.5s						
ZEI				smax	smax		
	comp=N,174nm,0.7s						
ZEI				smax	smax		
	comp=E,148nm,0.7s						
ONI	**Oni**	**3.09**	**321**	*i* PN	**Pn**	**01 53 09.3**	**+2.7**
ONI	**Oni**	**3.09**	**321**	P	**Pn**	**01 53 09.3**	**+2.7**
ONI				S	**Sb**	**01 53 51.4**	**+0.8**
ONI	**Oni**	**3.09**	**321**	*i* Pn	**Pn**	**01 53 09.3**	**+2.7**
KORR	**Kora**	**3.25**	**333**	*e*PN	Pn	01 53 12.3	+3.6
KORR				*e*S	**Sb**	**01 53 54.2**	**-0.9**
KORR				pmax	pmax		
	comp=Z,23nm,0.4s						
KORR				smax	smax		
	comp=E,96nm,0.6s						
KORR	**Kora**	**3.25**	**333**	*e*Pn	Pn	01 53 12.3	+3.6
	comp=E,23nm,0.4s						
STDR	**Stavd-Durt**	**3.50**	**335**	*i* PN	Pn	01 53 16.1	+3.9
STDR				*i* S	**Sb**	**01 54 01.9**	**-0.4**
STDR	**Stavd-Durt**	**3.50**	**335**	*i* Pn	Pn	01 53 16.1	+3.9
APE	**Apeiranthos**	**16.35**	**266**	*e*P	**P**	**01 56 10.6**	**+0.3**
APE	**Apeiranthos**	**16.35**	**266**	*e*P	**P**	**01 56 10.6**	**+0.3**
ARU	**Arti**	**18.19**	**23**	*e*P	**P**	**01 56 32.2**	**+1.8**
ARU	**Arti**	**18.19**	**23**	*e*P	**P**	**01 56 32.2**	**+1.8**
BRVK	**Borovoye**	**20.89**	**44**	*e*P	**P**	**01 56 56.5**	**-3.5**
VSU	**Vasula**	**22.05**	**332**	*i* P	**P**	**01 57 14.2**	**+1.8**
VSU	**Vasula**	**22.05**	**332**	*i* P	**P**	**01 57 14.2**	**+1.8**

CSEM ***14*** *02:02:07.2, 34°.36N×25°.14E, h33km±3km,* **MD3.6/9, Crete**

ATH 14 02:02:07.2, 34°.36N×25°.14E, h33km±3km, MD3.6/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.71**	**338**	*e*PN	Pb	02 02 21.3	+0.1
SIVA				*e*SN	Sb	02 02 32.1	+1.3
SIVA	**Sivas**	**0.71**	**338**	*e*Pn	Pb	02 02 21.3	+0.1
SIVA				*e*Sn	Sb	02 02 32.1	+1.3
LAST	**Lasithi**	**0.85**	**19**	*e*PN	Pb	02 02 23.5	-0.1
LAST				*e*SN	Sb	02 02 35.7	+0.9
IDI	**Anoyia**	**0.95**	**348**	*e*Pn	Pb	02 02 25.4	+0.1
IDI				*e*SN	Sb	02 02 38.7	+1.0
IDI	**Anoyia**	**0.95**	**348**	*e*Pn	Pb	02 02 25.4	+0.1
IDI				*e*Sn	Sb	02 02 38.7	+1.0
NPS	**Neapolis**	**0.98**	**23**	*e*PN	Pb	02 02 25.8	0.0
NPS	**Neapolis**	**0.98**	**23**	*e*Pn	Pb	02 02 25.8	0.0
ZKR	**Zakros**	**1.16**	**49**	*e*PN	Pb	02 02 28.8	0.0
ZKR	**Zakros**	**1.16**	**49**	*e*Pn	Pb	02 02 28.8	0.0
VAM	**Vamos**	**1.30**	**324**	*e*PN	Pb	02 02 31.3	+0.2
VAM	**Vamos**	**1.30**	**324**	*e*Pn	Pb	02 02 31.3	+0.2
KARN	**Karanos**	**1.45**	**316**	*e*PN	Pb	02 02 33.2	-0.4
KARN	**Karanos**	**1.45**	**316**	*e*Pn	Pb	02 02 33.2	-0.4
KYTH	**Kithira**	**2.58**	**319**	*e*PN	Pn	02 02 48.5	+1.9
KYTH	**Kithira**	**2.58**	**319**	*e*Pn	Pn	02 02 48.5	+1.9
VLI	**Veliai**	**2.96**	**323**	*e*PN	Pn	02 02 53.7	+1.8
VLI	**Veliai**	**2.96**	**323**	*e*Pn	Pn	02 02 53.7	+1.8

CSEM ***14*** *02:55:16.0, 34°.33N×23°.95E, h24km,* **MD3.5**, *After ATH*

ATH 14 02:55:16.0, 34°.33N×23°.95E, h24km±3km, MD3.5/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**1.07**	**359**	*e*PN	Pb	02 55 36.5	+0.6
KARN				*e*SN	Sn	02 55 51.7	+2.0
KARN	**Karanos**	**1.07**	**359**	*e*Pn	Pb	02 55 36.5	+0.6
KARN				*e*Sn	Sn	02 55 51.7	+2.0
VAM	**Vamos**	**1.09**	**11**	*e*PN	Pb	02 55 36.9	+0.6
VAM				*e*SN	Sn	02 55 52.4	+2.2
VAM	**Vamos**	**1.09**	**11**	*e*Pn	Pb	02 55 36.9	+0.6
VAM				*e*Sn	Sn	02 55 52.4	+2.2
IDI	**Anoyia**	**1.23**	**39**	*e*PN	Pb	02 55 39.3	+0.6
IDI	**Anoyia**	**1.23**	**39**	*e*Pn	Pb	02 55 39.3	+0.6
LAST	**Lasithi**	**1.51**	**56**	*e*PN	Pb	02 55 44.1	+0.7
LAST	**Lasithi**	**1.51**	**56**	*e*Pn	Pb	02 55 44.1	+0.7
ANKY	**Antikythira Is**	**1.62**	**341**	*e*PN	Pb	02 55 45.1	-0.2
ANKY	**Antikythira Is**	**1.62**	**341**	*e*Pn	Pb	02 55 45.1	-0.2
NPS	**Neapolis**	**1.65**	**55**	*e*PN	Pb	02 55 45.4	-0.4
NPS	**Neapolis**	**1.65**	**55**	*e*Pn	Pb	02 55 45.4	-0.4
KYTH	**Kithira**	**2.08**	**339**	*e*PN	Pb	02 55 51.8	-1.4
KYTH	**Kithira**	**2.08**	**339**	*e*Pn	Pb	02 55 51.8	-1.4
SANT	**Santorini**	**2.38**	**31**	*e*PN	Pn	02 55 54.4	+0.8
SANT	**Santorini**	**2.38**	**31**	*e*Pn	Pn	02 55 54.4	+0.8
VLI	**Veliai**	**2.52**	**341**	*e*PN	Pb	02 55 58.1	-2.5
VLI	**Veliai**	**2.52**	**341**	*e*Pn	Pb	02 55 58.1	-2.5
KARP	**Karpathos**	**2.90**	**64**	*e*PN	Pn	02 56 02.9	+2.1
KARP	**Karpathos**	**2.90**	**64**	*e*Pn	Pn	02 56 02.9	+2.1
GUR	**Goura**	**3.83**	**341**	*e*PN	Pn	02 56 15.9	+2.3
GUR	**Goura**	**3.83**	**341**	*e*Pn	Pn	02 56 15.9	+2.3

IDC 14 02:57:05.4±4.0, 49°.49S×125°.50E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/14, mbtmp3.5/3, Error ellipse: s-maj=121.3km s-min=69.3km az=104.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.33**	**40**	P	P	03 01 54.2	+0.3
	0.5nm,0.6s,baz=150,slow=8.1,SNR=3.4						
ASAR	**Alice Springs**	**26.60**	**17**	P	P	03 02 45.5	+0.1
	0.8nm,0.5s,baz=189,slow=9.2,SNR=11						
WRA	**Warramunga Arr**	**30.31**	**17**	P	P	03 03 18.4	-0.2
	0.5nm,0.8s,baz=194,slow=7.9,SNR=2.8						
YKA	**Yellowknife Ar**	**145.32**	**45**	PKPbc	PKPbc	03 16 42.8	-0.9
	0.3nm,0.7s,baz=261,slow=4.3,SNR=5.1						

AUST ***14*** *03:05:18.8±0.3, 10°.11S×123°.73E, h0km, Error ellipse: s-maj=5.3km s-min=4.6km az=24.0*

IDC ***14*** *03:05:20.5±1.5, 9°.98S×123°.66E, h19km±8km, mb4.8/23, mb1 4.9/24, mb1mx4.9/25, mbtmp4.9/24, ML5.7/1, MS4.7/22, Ms1 4.7/22, ms1mx4.6/26, Error ellipse: s-maj=9.9km s-min=7.6km az=67.0*

BJI ***14*** *03:05:22.6, 10°.10S×123°.70E, h46km, mB5.4/46, mb5.2/56, Ms5.0/56, Ms7 4.8/55*

MOS ***14*** *03:05:23.2±1.0, 9°.50S×123°.48E, h33km, mb5.3/36, MS4.9/21, Error ellipse: s-maj=12.8km s-min=6.9km az=115.4*

ISCJB ***14*** *03:05:24.6±0.4, 10°.03S±0°.02×123°.75E±0°.02, h71km±3km, mb5.2/108, Error ellipse: s-maj=4.0km s-min=3.6km az=33.2*

NEIC ***14*** *03:05:24.4±0.8, 10°.03S×123°.66E, h46km±6km, mb5.5/52, MS5.0/119, MW5.5, Error ellipse: s-maj=7.0km s-min=4.8km az=56.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^17 Nm; Mrr=1.72; Mθθ 1.14; Mφφ 0.58; Mrθ 0.79; Mθφ 1.48; Mφr 0.54; Best double couple: Mo 2.30000×10^17 NP1: φ 46.00000°, δ 33.00000°, λ -97.00000°. NP2: φ 234.00000°, δ 58.00000°, λ -86.00000°. Principal axes: T 2.5800, Plg 12.0000°, Azm 320.0000°; N -0.6400, Plg 3.0000°, Azm 51.0000°; P -1.9400, Plg 76.0000°, Azm 157.0000°;*

NEIC Felt [IV] at Kupang.

DJA ***14*** *03:05:25.9±0.2, 10°.5S×122°.4E±°, h51km±3km, M5.4/77, mb5.6/77, mB5.8/67, MLv5.8/15, Mw(mB) 5.3/67, Mwp5.5/6*

BKK ***14*** *03:05:26.1±0.4, 10°.5S±3°×122°.4E±°, h54km±5km, M5.5/37, mB5.8/27, mb5.3/37, MLv6.1/3, Mw(mB) 5.3/27*

GCMT ***14*** *03:05:26.6±0.1, 10°.01S×123°.79E, h36km, MW5.5, Moment Tensor Solution. s95,c156; s26,c26; Moment tensor: Scale 10^17 Nm; Mrr -1.33±.03; Mθθ 1.06±.02; Mφφ 0.28±.03; Mrθ -0.07±.03; Mθφ 1.13±.02; Mφr 1.01±.04; Best double couple: Mo 2.00000×10^17 NP1: φ 207.00000°, δ 62.00000°, λ -125.00000°. NP2: φ 83.00000°, δ 44.00000°, λ -43.00000°. Principal axes: T 1.9600, Plg 10.0000°, Azm 321.0000°; N -0.0200, Plg 30.0000°, Azm 225.0000°; P -1.9300, Plg 58.0000°, Azm 67.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=100, comp=181, per=50.*

ISC 14 03:05:24.5±0.3, 9°.92S±0°.03×123°.69E±0°.04, h46km±1km, h45km: pP-P, n983, σ1s51/945, mb5.2/108, MS5.0/155, 232C-169D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.92**	**312**	P	**Pn**	**03 05 57.1**	**+2.4**
MMRI				S	Sn	03 06 25.0	+7.3
MMRI	**Maumere**	**1.92**	**312**	*e*Pn	Pn	03 05 57.9	+3.1
WSI	**Waingapu**	**3.35**	**274**	P	**Pn**	**03 06 17.2**	**+2.8**
LBFI	**Labuhan Bajo,**	**4.01**	**291**	P	**Pn**	**03 06 25.9**	**+2.4**
LBFI				S	**Sn**	**03 07 14.0**	**+4.7**
BBSI	**Bau Bau**	**4.54**	**346**	P	Pn	03 06 35.1	+4.3
BKSI	**Bulukumba**	**5.78**	**322**	P	Pn	03 06 51.1	+3.4
	2µm,0.7s,13µm5.7nm						
KKSI	**Kolaka, Sulawe**	**6.06**	**340**	P	Pn	03 06 55.9	+4.3
	572nm,0.5s,7µm2.2nm						
KAPI	**Kappang**	**6.25**	**321**	P	Pn	03 06 58.4	+4.3
	SNR=151						
KAPI	**Kappang**	**6.25**	**321**	*e*Pn	Pn	03 06 58.3	+4.1
KAPI				*e*S	**Sn**	**03 07 59.3**	**-5.0**
KAPI	**Kappang**	**6.25**	**321**	Pn	Pn	03 06 58.3	+4.1
	7µm,1.2s,SNR=56						
BNSI	**Bone**	**6.54**	**327**	P	Pn	03 07 03.2	+5.1
	1µm,1.0s,9µm17µm3.1nm						
SPSI	**Sidrap Palu**	**7.08**	**326**	P	Pn	03 07 10.4	+4.8
	453nm,1.1s,4µm1.2nm						
NLAI	**Namlea**	**7.46**	**27**	P	Pn	03 07 15.4	+4.7
	896nm,0.9s,10µm2.9nm						
MTNI	**Mataram**	**7.53**	**279**	P	**Pn**	**03 07 14.1**	**+2.3**
	420nm,1.0s,6µm1.6nm						
MTNI	**Mataram**	**7.53**	**279**	P	**Pn**	**03 07 13.3**	**+1.5**
	1µm,0.7s,16µm9µm16nm						
TTSI	**Tana Toraja**	**7.84**	**330**	P	Pn	03 07 21.2	+5.2
	585nm,0.9s,5µm16µm						
MTN	**Manton Dam**	**7.86**	**112**	⇑P	Pn	03 07 12.8	-3.4
	baz=7.8,SNR=84						
MJSI	**Majene**	**7.87**	**323**	P	Pn	03 07 23.7	+7.3
	258nm,1.0s,5µm						
KHKI	**Kahang-Kahang**	**8.13**	**280**	P	**Pn**	**03 07 22.2**	**+2.3**
	154nm,0.7s,4µm1.8nm						
BNDI	**Bandanaira**	**8.17**	**49**	P	**Pn**	**03 07 20.5**	**-0.1**
	654nm,1.0s,8µm						
FITZ	**Fitzroy Crossi**	**8.35**	**167**	*e*Pn	Pn	03 07 18.6	-4.3
FITZ				Sn	Sn	03 08 44.3	-12
FITZ	**Fitzroy Crossi**	**8.35**	**167**	Pn	Pn	03 07 18.2	-4.7
	71nm,0.3s,baz=1.5,slow=9.2,SNR=929						
FITZ				Sn	Sn	03 08 44.3	-12
	173nm,0.3s,baz=35,slow=18,SNR=19						
FITZ				LR	LR	03 11 14.4	
	comp=Z,10µm,19.9s,baz=349,slow=43						
FITZ	**Fitzroy Crossi**	**8.35**	**167**	P	Pn	03 07 18.4	-4.6
	baz=8.2,SNR=203						
MSAI	**Masohi**	**8.35**	**39**	P	**Pn**	**03 07 26.0**	**+2.9**
	81nm,0.9s,975nm0.4nm						
IGBI	**Denpasar**	**8.50**	**277**	P	**Pn**	**03 07 25.9**	**+0.8**
	782nm,0.9s,9µm						
SRBI	**Singaraja**	**8.57**	**282**	P	Pn	03 07 29.4	+3.4
	200nm,0.9s,3µm1.2nm						
MMSI	**Mamuju**	**8.61**	**326**	P	Pn	03 07 32.3	+5.7
	186nm,1.0s,5µm						
LUWI	**Luwuk**	**8.87**	**354**	P	Pn	03 07 35.7	+5.5
	744nm,0.9s,8µm15µm						
KDU	**Kakadu**	**9.04**	**108**	⇓P	Pn	03 07 28.9	-3.6
	baz=9.0,SNR=222						
APSI	**Ampana**	**9.18**	**347**	P	Pn	03 07 42.0	+7.6
	557nm,0.9s,6µm						
BYJI	**Banyuwangi**	**9.37**	**280**	P	**Pn**	**03 07 39.5**	**+2.5**
	320nm,1.1s,12µm						
ABJI	**Asem Bagus**	**9.58**	**282**	P	**Pn**	**03 07 40.1**	**+0.3**
KBKI	**Kotabaru**	**9.95**	**311**	P	Pn	03 07 50.4	+5.4
	145nm,0.9s,4µm						
LBMI	**Labuha**	**9.97**	**23**	P	Pn	03 07 49.8	+4.5
	600nm,1.2s,6µm						
KMMI	**Kalianget**	**10.03**	**286**	P	Pn	03 07 49.2	+3.2
	276nm,1.0s,3µm						
BLJI	**Banyuglugur**	**10.21**	**281**	P	**Pn**	**03 07 50.1**	**+1.7**
GMJI	**Gumukmas**	**10.25**	**278**	P	**Pn**	**03 07 46.4**	**-2.6**
KMSI	**Cibinong**	**10.43**	**2**	P	Pn	03 08 03.7	+12
MRSI	**Marisa**	**10.48**	**350**	P	Pn	03 07 55.7	+3.5
	170nm,0.8s,2µm						
GTOI	**Gorontalo**	**10.51**	**356**	P	Pn	03 08 00.6	+8.0
	172nm,0.9s,2µm						
BBKI	**Banjar Baru**	**10.88**	**306**	P	Pn	03 08 01.7	+4.0
BKB	**Balikpapan**	**10.94**	**321**	P	Pn	03 08 13.1	+15
FAKI	**Fak Fak**	**10.99**	**51**	P	**Pn**	**03 07 58.5**	**-0.7**
	205nm,0.8s,8µm						
FAKI	**Fak Fak**	**10.99**	**51**	P	**Pn**	**03 07 58.5**	**-0.7**
	baz=11,SNR=43						
KRKI	**Karangkates**	**11.23**	**278**	P	**Pn**	**03 08 05.1**	**+2.6**
	620nm,0.7s,17µm						
TNTI	**Ternate**	**11.24**	**19**	P	Pn	03 08 06.8	+4.2
	408nm,1.1s,9µm						
TNTI	**Ternate**	**11.24**	**19**	*e*Pn	Pn	03 08 08.4	+5.8
GRJI	**Gresik**	**11.48**	**284**	P	Pn	03 08 09.4	+3.5
	154nm,1.0s,2µm						
SWI	**Sorong**	**11.74**	**40**	P	**Pn**	**03 08 09.6**	**+0.2**
	165nm,0.8s,3µm						
MBWA	**Marble Bar**	**11.80**	**198**	P	**Pn**	**03 08 11.2**	**+0.9**
	SNR=6.2						
MBWA	**Marble Bar**	**11.80**	**198**	*e*Pn	Pn	03 08 07.0	-3.2
MBWA				*e*S	Sn	03 10 13.9	-6.7
PWJI	**Pagerwojo**	**11.89**	**278**	P	**Pn**	**03 08 10.4**	**-1.1**
	187nm,0.7s,2µm						
SJI	**Sawahan**	**11.98**	**280**	P	**Pn**	**03 08 14.8**	**+2.0**
	305nm,0.8s,4µm						
NGJI	**Ngawi**	**12.35**	**281**	P	Pn	03 08 21.5	+3.7
	376nm,1.0s,4µm						
PCJI	**Pacitan**	**12.47**	**277**	P	**Pn**	**03 08 18.5**	**-1.0**
	507nm,0.6s,4µm						
MTKI	**Muara Teweh, K**	**12.49**	**315**	P	P	03 08 25.0	-5.4
	188nm,0.8s,8µm						
UGM	**Wanagama**	**13.16**	**278**	P	**Pn**	**03 08 30.3**	**+1.4**
	525nm,0.9s,4µm						
UGM	**Wanagama**	**13.16**	**278**	P	**Pn**	**03 08 29.1**	**+0.3**
	baz=13,SNR=26						
SMRI	**Semarang**	**13.41**	**281**	P	Pn	03 08 35.3	+3.0
	367nm,0.9s						
SMRI	**Semarang**	**13.41**	**281**	*e*Pn	**Pn**	**03 08 34.6**	**+2.4**
BJII	**Banjamegara**	**14.06**	**279**	P	**Pn**	**03 08 41.8**	**+0.6**
	381nm,0.7s,3µm						
WRA	**Warramunga Arr**	**14.31**	**135**	Pn	Pn

711nm,0.8s,7µm
MDSI Maura Dua 20.09 284 P P 03 09 53.7 -0.7
103nm,0.8s,1µm
PALU Palau 20.24 32 ⇑P P 03 09 56.5 +0.5
baz=20,SNR=31
MORW Morawa 20.35 200 P P 03 09 55.2 -1.9
baz=20,SNR=38
LHSI Lahat 20.91 285 P Pn 03 10 04.8 -1.5
289nm,1.0s,3µm
FORT Forrest 21.15 170 *e*P **P 03 10 03.4 -2.3**
260nm,0.7s
FORT *e*S S 03 13 45.6 -13
FORT Forrest 21.15 170 P P 03 10 03.6 -2.0
baz=21,SNR=60
MNAI Manna 21.29 284 P **P 03 10 06.9 -0.6**
MNAI Manna 21.29 284 *e*P **P 03 10 06.9 -0.6**
1µm,1.4s
MNAI Manna 21.29 284 ⇓P **P 03 10 07.0 -0.4**
baz=21,SNR=7.8
KMBL Kambalda 21.40 184 ⇑P **P 03 10 06.2 -2.2**
baz=21,SNR=12
BLDU Ballidu 21.59 197 ⇑P **P 03 10 08.4 -2.1**
baz=22,SNR=56
TPRI Tanjung Pinang 21.91 298 P P 03 10 21.6 +7.6
KLBR Kellerberrin 22.25 193 P **P 03 10 16.9 -0.6**
baz=22,SNR=22
MASI Maura Aman, Be 22.34 286 P **P 03 10 20.6 +1.9**
MYKOM Kota Tinggi 22.93 299 P **P 03 10 25.1 +0.2**
MYKOM Kota Tinggi 22.93 299 P **P 03 10 26.9 +2.0**
90nm,0.9s,1µm
MYKOM Kota Tinggi 22.93 299 *e*P **P 03 10 27.6 +2.7**
75nm,0.9s
PMG Port Moresby 23.14 91 P **P 03 10 27.8 +0.8**
167nm,1.1s,2µm
PMG Port Moresby 23.14 91 *e*P **P 03 10 28.4 +1.4**
162nm,0.8s
PMG S **S 03 14 39.0 +3.6**
PMG Port Moresby 23.14 91 P **P 03 10 25.2 -1.8**
40nm,0.7s,baz=279,slow=7.6,SNR=16
PMG S **S 03 14 39.0 +3.6**
24nm,1.0s,baz=294,slow=10.0,SNR=5.1
PMG LR LR 03 21 12.1
comp=Z,3µm,18.8s,baz=84,slow=41
PMG Port Moresby 23.14 91 ⇑P **P 03 10 27.9 +0.8**
baz=23,SNR=7.9
PMG ⇑P **P 03 10 27.9 +0.8**
baz=23,SNR=7.9
PMG ⇑P **P 03 10 27.9 +0.8**
baz=23,SNR=7.9
KGM Kluang 23.50 299 P **P 03 10 30.8 +0.3**
NWAO Narrogin (SRO) 23.65 194 P **P 03 10 28.9 -2.9**
NWAO S **S 03 14 45.2 +1.8**
NWAO Narrogin (SRO) 23.65 194 P **P 03 10 28.9 -2.9**
10nm,0.6s,baz=25,slow=9.9,SNR=11
NWAO S **S 03 14 45.2 +1.8**
77nm,0.8s,baz=278,slow=22,SNR=4.5
NWAO LR LR 03 21 40.9
comp=Z,2µm,18.4s,baz=157,slow=42
CTA Charters Tower 23.99 118 P **P 03 10 32.5 -2.6**
CTA S **S 03 14 50.0 +0.9**
CTA Charters Tower 23.99 118 P **P 03 10 32.5 -2.6**
72nm,1.0s,baz=290,slow=12,SNR=34
CTA S **S 03 14 50.0 +0.9**
11nm,0.6s,baz=279,slow=13,SNR=2.6
CTAO Charters Tower 23.99 118 *e*P **P 03 10 35.0 -0.1**
CTAO *e*S **S 03 14 52.8 +3.7**
CTAO pmax pmax
comp=Z,216nm,1.3s
CTAO MLR MLR
comp=Z,8µm,20.0s
CTAO Charters Tower 23.99 118 *e*P **P 03 10 35.0 -0.1**
comp=Z,216nm,1.3s
CTAO *e*S **S 03 14 52.8 +3.7**
CTAO LR LR
comp=Z,8µm,20.0s
TGY Tagaytay City 24.03 353 P **P 03 10 36.5 +1.1**
TGY Tagaytay City 24.03 353 P **P 03 10 36.5 +1.1**
comp=Z,483nm,0.6s,baz=178,slow=5.0,SNR=9.8
BKNI Bangkinang 24.73 293 P **P 03 10 42.2 +0.3**
comp=Z,244nm,1.1s,comp=Z,3µm
PPI Padang Panjang 25.00 291 P **P 03 10 42.8 -1.5**
RKGY Rocky Gully 25.33 193 P **P 03 10 46.3 -0.7**
baz=25,SNR=6.8
KTGM Kuala Trenggan 25.47 306 P **P 03 10 50.7 +2.1**
BBOO Buckleboo 25.48 155 *e*P **P 03 10 47.1 -1.4**
comp=Z,8µm,1.8s
BBOO *e*S **S 03 15 17.1 +4.5**
BBOO Buckleboo 25.48 155 P **P 03 10 47.3 -1.1**
baz=25,SNR=19
QLP Quilpie 25.53 133 P **P 03 10 49.0 0.0**
baz=25,SNR=23
FRIM Kepong 25.57 300 P **P 03 10 51.9 +2.4**
MNSI Mandailing Nat 26.25 293 P **P 03 10 54.6 -1.1**
COCO West Island 26.45 263 *e*P **P 03 10 57.0 -0.4**
COCO pmax pmax
comp=Z,44nm,0.8s
COCO MLR MLR
comp=Z,2µm,22.0s
COCO West Island 26.45 263 *e*P **P 03 10 57.0 -0.4**
comp=Z,44nm,0.8s
COCO LR LR
comp=Z,2µm,22.0s
IPM Ipoh 26.73 301 P **P 03 11 02.4 +2.4**
IPM Ipoh 26.73 301 P **P 03 11 02.8 +2.8**
comp=Z,35nm,1.2s,comp=Z,648nm
HTT Hallett 27.27 151 P **P 03 11 03.7 -0.9**
baz=27,SNR=13
HTT P **P 03 11 03.8 -0.9**
baz=27,SNR=19
STKA Stephens Creek 27.43 145 *e*P **P 03 11 05.3 -0.8**
STKA S **S 03 15 46.5 +3.0**
STKA Stephens Creek 27.43 145 P **P 03 11 04.7 -1.4**
comp=Z,6.6nm,0.5s,baz=324,slow=8.9,SNR=28
STKA S **S 03 15 46.5 +3.0**
comp=Z,8.2nm,0.6s,baz=318,slow=19,SNR=1.6
STKA LR LR 03 23 06.5
comp=Z,5µm,20.0s,baz=310,slow=39
STKA Stephens Creek 27.43 145 P **P 03 11 05.0 -1.0**
baz=27,SNR=23
KULM Kulim 27.48 302 P **P 03 11 07.2 +0.5**
KULM Kulim 27.48 302 PFAKE 03 11 20.0 +13
KULM LR LR
comp=Z,2µm,22.0s
PSI Prapat 27.72 296 P **P 03 11 07.3 -1.7**
comp=Z,36nm,0.9s,comp=Z,607nm
PSI Prapat 27.72 296 P **P 03 11 07.2 -1.8**
PSI S **S 03 15 48.8 +0.3**
PSI Prapat 27.72 296 P **P 03 11 07.2 -1.8**
comp=Z,5.6nm,0.4s,baz=135,slow=8.6,SNR=7.4
PSI S **S 03 15 48.8 +0.3**
comp=Z,1.7nm,0.3s,baz=58,slow=19,SNR=3.3
PSI LR LR 03 24 35.0
comp=Z,5µm,19.7s,baz=131,slow=42
PSI Prapat 27.72 296 ⇑P **P 03 11 07.5 -1.5**
baz=28,SNR=3.9
RMQ Roma 28.86 128 ⇑P **P 03 11 19.6 +0.6**
baz=29,SNR=4.6
KCSI Kotacane, Aceh 29.07 296 P **P 03 11 18.0 -2.9**
CMSA Cobar Meteorol 29.65 140 ⇑P **P 03 11 25.3 -0.5**
baz=30,SNR=13
SNSI Sinabang, Aceh 29.88 293 P **P 03 11 25.8 -2.2**
UBPT Khong Chiam 30.87 324 P P 03 11 40.2 +3.5
comp=Z,26nm,1.6s
ARPS Mount Arapiles 31.37 151 ⇑P **P 03 11 40.6 -0.4**
baz=31,SNR=13
GUMO Guam 31.43 42 PFAKE 03 11 50.0 +8.4
GUMO LR LR
comp=Z,497nm,20.0s
QIZ Qiongzhong 31.84 335 P P 03 11 49.3 +4.0
QIZ pP pP 03 11 59.8 +2.4
QIZ sP sP 03 12 05.1 +2.3
QIZ S S 03 16 59.3 +6.4
QIZ sS sS 03 17 17.1 +3.9
QIZ pmax pmax
comp=Z,29nm,1.5s
QIZ pmax pmax
comp=Z,180nm,11.5s
QIZ LR LR
comp=Z,1µm,25.9s
QIZ LR LR
comp=Z,390nm,28.1s
QIZ LR LR
comp=Z,3µm,26.7s
QIZ Qiongzhong 31.84 335 PFAKE 03 12 00.0 +15
QIZ LR LR
comp=Z,2µm,22.0s
PATY Pattaya 32.08 315 P **P 03 11 49.1 +1.7**
comp=Z,14nm,0.7s,comp=Z,867nm
ARMA Armidale 33.06 132 *e*P **P 03 11 56.9 +0.8**
comp=Z,25nm,1.2s
ARMA Armidale 33.06 132 ⇓P **P 03 11 56.8 +0.8**
baz=33,SNR=7.4
YNG Young 33.17 141 ⇑P **P 03 11 57.3 +0.4**
baz=33,SNR=11
TOO Toolangi 33.82 148 P **P 03 12 03.1 +0.6**
baz=34,SNR=4.5
CAN Canberra 34.22 142 PFAKE 03 12 20.0 +14
CAN LR LR
comp=Z,4µm,20.0s
SRDT SRDT 34.28 314 P **P 03 12 08.1 +1.5**
comp=Z,76nm,1.4s,comp=Z,10µm
CNB Canberra Magne 34.44 141 ⇑P **P 03 12 08.3 +0.4**
baz=34,SNR=5.0
YHNB Yeheng 34.46 356 PFAKE 03 12 20.0 +12
YHNB LR LR
comp=Z,1µm,20.0s
PBKT Sadao Pong 34.61 319 P **P 03 12 09.4 0.0**
comp=Z,25nm,1.0s
KHLT Khaolaem Dam 34.96 314 P **P 03 12 13.4 +0.9**
comp=Z,20nm,1.2s,comp=Z,322nm
HNR Honiara 35.74 92 LR LR 03 28 08.8
comp=Z,1µm,19.2s,baz=275,slow=38
LAMP Lampang 36.91 320 P **P 03 12 29.8 +0.6**
comp=Z,17nm,0.8s,comp=Z,122nm
CMAR Chiang Mai Arr 37.30 319 P **P 03 12 32.5 -0.1**
CMAR PcP **PcP 03 14 52.8 +1.5**
CMAR S **S 03 18 12.4 -4.8**
CMAR ScP **ScP 03 18 37.5 +2.5**
CMAR Chiang Mai Arr 37.30 319 P **P 03 12 32.5 -0.1**
comp=Z,5.0nm,0.3s,baz=142,slow=6.8,SNR=32
CMAR PcP **PcP 03 14 52.8 +1.5**
comp=Z,7.6nm,0.7s,baz=180,slow=2.8,SNR=6.4
CMAR S **S 03 18 12.4 -4.8**
comp=Z,0.5nm,0.3s,baz=140,slow=13,SNR=3.3
CMAR ScP **ScP 03 18 37.5 +2.5**
comp=Z,4.3nm,0.6s,baz=168,slow=3.2,SNR=9.3
CMAR LR LR 03 31 05.2
comp=Z,1µm,20.2s,baz=175,slow=41
CMMT Chiang Mai 37.56 319 P **P 03 12 34.5 -0.2**
comp=Z,42nm,1.0s,comp=Z,733nm
CHTO Chiang Mai 37.56 319 *e*P **P 03 12 34.4 -0.3**
CHTO *e*S **S 03 18 23.1 +2.0**
CHTO *e* 03 18 38.8
CHTO pmax pmax
comp=Z,25nm,0.8s
CHTO MLR MLR
comp=Z,1µm,21.0s
CHTO Chiang Mai 37.56 319 P **P 03 12 34.4 -0.3**
SNR=12
CHTO Chiang Mai 37.56 319 *e*P **P 03 12 34.4 -0.3**
comp=Z,25nm,0.8s
CHTO *e*S **S 03 18 23.1 +2.0**
CHTO *e*ScP **ScP 03 18 38.8 +2.9**
CHTO LR LR
comp=Z,1µm,21.0s
CHTO Chiang Mai 37.56 319 P **P 03 12 34.5 -0.3**
comp=Z,185nm,1.0s,comp=Z,1µm
CRAI Chiangrai 37.74 323 P **P 03 12 37.6 +1.4**
comp=Z,21nm,1.2s,comp=Z,5µm
MHMT Maesarieng 37.77 318 P **P 03 12 37.9 +1.5**
comp=Z,17nm,0.8s,comp=Z,501nm
TAU Tasmania Unive 38.80 152 PFAKE 03 13 00.0 +15
TAU LR LR
comp=Z,5µm,20.0s
GYA Guiyang 39.77 336 ⇑*i*P P 03 12 57.0 +3.8
GYA pP pP 03 13 09.8 +4.2
GYA sP sP 03 13 16.3 +5.4
GYA PP **PnPn 03 14 33.8 +5.0**
GYA PcP **PcP 03 15 02.0 +3.0**
GYA ScP **ScP 03 18 45.8 +1.5**
GYA S S 03 19 00.9 +6.5
GYA sS sS 03 19 22.5 +7.5
GYA SS **SS 03 21 52.3 +0.5**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,150nm,5.0s
GYA LR LR
comp=Z,840nm,19.5s
GYA LR LR
comp=Z,780nm,20.0s
GYA LR LR
comp=Z,920nm,18.6s
KMI Kunming 40.38 330 P P 03 13 01.5 +3.1
KMI pP pP 03 13 14.8 +4.0
KMI sP sP 03 13 20.8 +4.7
KMI PP **PnPn 03 14 41.3 +5.2**
KMI PcP **PcP 03 15 04.3 +3.2**
KMI ScP **ScP 03 18 48.6 +1.7**
KMI PcS **PcS 03 18 53.8 +1.8**
KMI S S 03 19 09.6 +5.9
KMI sS sS 03 19 30.4 +6.0
KMI SS **SS 03 22 03.3 -0.8**
KMI ScS **ScS 03 23 01.8 +0.5**
KMI pmax pmax
comp=Z,25nm,1.4s
KMI pmax pmax
comp=Z,240nm,4.4s
KMI LR LR
comp=Z,950nm,21.0s
KMI LR LR
comp=Z,740nm,20.0s
KMI LR LR
comp=Z,2µm,23.4s
SSE Sheshan 40.85 357 P P 03 13 06.8 +4.8
SSE PcP **PcP 03 15 05.3 +3.1**
SSE S **S 03 19 15.5 +5.3**
SSE sS sS 03 19 36.6 +5.8
SSE pmax pmax
comp=Z,26nm,0.6s
SSE pmax pmax
comp=Z,120nm,4.7s
SSE LR LR
comp=Z,820nm,27.6s
SSE LR LR
comp=Z,360nm,27.6s
SSE LR LR
comp=Z,980nm,29.3s
CBIJ Chichi jima 40.94 26 P **P 03 13 02.7 -0.1**
JCJ Chichijima 40.94 26 P **P 03 13 02.7 -0.1**
comp=Z,200nm,0.6s,baz=214,slow=7.3,SNR=10.0
WHN Wuhan 41.22 348 ⇑P **P 03 13 05.0 0.0**
WHN S **S 03 19 12.4 -3.3**
WHN LR LR
comp=Z,290nm,3.6s
WHN LR LR
comp=Z,2µm,17.4s
NJ2 Nanjing 41.99 354 *e*P **P 03 13 10.8 -0.5**
NJ2 pP **pP 03 13 26.3 +2.6**
NJ2 sP **sP 03 13 31.8 +2.8**
NJ2 S S 03 19 38.0 +11
NJ2 sS sS 03 19 54.0 +6.2
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,190nm,5.5s
NJ2 LR LR
comp=Z,1µm,24.9s
NJ2 LR LR
comp=Z,780nm,14.3s
NJ2 LR LR
comp=Z,4µm,17.9s
ENH Enshi 42.23 342 *e*P **P 03 13 13.8 +0.4**
comp=Z,22nm,0.7s
ENH LR LR
comp=Z,20nm,19.0s
DZM Mont Dzumac 42.69 112 *e*P **P 03 13 17.6 +0.2**
comp=Z,92nm,1.3s
DZM Mont Dzumac 42.69 112 *e*LR LR 03 25 16.2
comp=Z,4µm,24.6s
DZM Mont Dzumac 42.69 112 P **P 03 13 16.7 -0.7**
DZM Mont Dzumac 42.69 112 P **P 03 13 16.7 -0.7**
comp=Z,21nm,0.9s,baz=297,slow=6.8,SNR=5.5
JNU Nakatsue 43.35 9 P **P 03 13 21.4 -1.0**
JNU Nakatsue 43.35 9 P **P 03 13 21.4 -1.0**
comp=Z,28nm,1.0s,baz=166,slow=6.6,SNR=7.0
CD2 Chengdu 44.88 335 ⇑*i*P **P 03 13 34.3 -0.4**
CD2 pP **pP 03 13 47.1 -0.1**
CD2 sP **sP 03 13 52.8 +0.3**
CD2 PcP **PcP 03 15 14.6 -1.2**
CD2 PP **PP 03 15 21.8 +1.5**
CD2 S **S 03 20 04.8 -4.7**
CD2 sS **sS 03 20 32.0 +1.6**
CD2 SS **ScS 03 23 25.8 -2.7**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,360nm,6.2s
CD2 LR LR
comp=Z,1µm,23.8s
CD2 LR LR
comp=Z,650nm,17.8s
CD2 LR LR
comp=Z,2µm,23.8s
XAN Xi'an 45.92 343 P **P 03 13 40.9 -1.9**
XAN pmax pmax
comp=Z,9.0nm,0.7s
XAN pmax pmax
comp=Z,46nm,6.0s
XAN LR LR
comp=Z,700nm,21.0s
XAN LR LR
comp=Z,120nm,23.5s
XAN LR LR
comp=Z,390nm,21.8s
INCN Inchon 47.24 3 PFAKE 03 14 10.0 +17
INCN LR LR
comp=Z,505nm,20.0s
KSAR Wonju Array Be 47.28 5 P **P 03 13 52.7 -0.7**
KSAR PcP **PcP 03 15 24.8 +0.9**
KSAR S **S 03 20 42.5 -1.1**
KSRS Korea Array 47.30 5 P **P 03 13 52.7 -0.8**
comp=Z,6.9nm,0.7s,baz=182,slow=9.5,SNR=14
KSRS PcP **PcP 03 15 24.8 +0.8**
comp=Z,3.2nm,0.5s,baz=182,slow=3.1,SNR=5.2
KSRS S **S 03 20 42.5 -1.3**
comp=Z,0.7nm,0.4s,baz=87,slow=26,SNR=6.7
KSRS LR LR 03 36 19.3
comp=Z,356nm,20.0s,baz=189,slow=39
MJAR Matsushiro Arr 48.20 16 P **P 03 13 59.6 -0.9**
MJAR Matsushiro Arr 48.20 16 P **P 03 13 59.6 -0.9**
comp=Z,18nm,0.6s,baz=191,slow=8.9,SNR=45
MJAR LR LR 03 33 22.7
comp=Z,635nm,21.4s,baz=195,slow=35
MAJO Matsushiro 48.20 16 *e*P **P 03 13 59.3 -1.2**
MAJO pmax pmax
comp=Z,19nm,0.6s
MAJO MLR MLR
comp=Z,649nm,21.0s
MAJO Matsushiro 48.20 16 *e*P **P 03 13 59.3 -1.2**
comp=Z,19nm,0.6s
MAJO LR LR
comp=Z,649nm,21.0s
MAT Matsushiro 48.20 16 P **P 03 13 59.0 -1.5**
MAT S **S 03 20 57.2 +0.5**
DL2 Dalian 48.62 358 *e*P **P 03 14 00.5 -3.2**
DL2 S S 03 20 55.5 -6.9
DL2 pmax pmax
comp=Z,90nm,1.0s
DL2 pmax pmax
comp=Z,120nm,4.2s
DL2 LR LR
comp=E,290nm,16.7s
DL2 LR LR
comp=Z,310nm,16.2s
LZH Lanzhou 49.44 339 ⇑P **P 03 14 10.8 +0.5**
LZH pP **pP 03 14 23.3 +0.4**
LZH sP **sP 03 14 28.6 +0.4**
LZH PP **PP 03 16 05.8 +0.9**
LZH S S **03 21 11.3 -3.2**
LZH sS **sS 03 21 34.5 -1.1**
LZH SS **SS 03 24 41.0 -6.1**
LZH pmax pmax
comp=Z,65nm,1.3s
LZH pmax pmax
comp=Z,360nm,7.6s
LZH LR LR
comp=Z,1µm,16.0s
LZH LR LR
comp=Z,1µm,15.5s
LZH LR LR
comp=Z,2µm,18.3s
BJT Baijiatuau 50.17 352 PFAKE 03 14 30.0 +14
BJT LR LR
comp=Z,505nm,20.0s
BJI Beijing 50.20 352 P P 03 14 19.9 +4.2
BJI S S 03 21 32.6 +8.1
BJI pmax pmax
comp=Z,62nm,0.8s
BJI pmax pmax
comp=Z,92nm,3.6s
BJI LR LR
comp=Z,430nm,18.4s
BJI LR LR
comp=Z,640nm,20.3s
BJI LR LR
comp=Z,510nm,29.8s
LSA Lhasa 50.34 323 *e*P **P 03 14 17.9 +0.3**
LSA pmax pmax
comp=Z,54nm,0.7s
LSA MLR MLR
comp=Z,1µm,22.0s
LSA Lhasa 50.34 323 *e*P **P 03 14 17.9 +0.3**
comp=Z,54nm,0.7s
LSA LR LR
comp=Z,1µm,22.0s
H08S2 Diego Garcia H 50.61 268 T T 04 09 05.7
baz=98,slow=76,SNR=15
H08S3 Diego Garcia H 50.62 268 T T 04 09 06.5
baz=98,slow=76,SNR=42
H08S1 Diego Carcia H 50.63 268 T T 04 09 04.9
baz=98,slow=76,SNR=30
DGAR Diego Garcia 50.67 269 PFAKE 03 14 30.0 +10
DGAR LR LR
comp=Z,1µm,20.0s
ODAN Odare 50.77 317 *e*P **P 03 14 20.0 -0.6**
comp=Z,64nm,0.6s
ODAN Odare 50.77 317 *e*P **P 03 14 20.0 -0.6**
comp=Z,64nm,0.6s
TAPN Taplejung 50.88 318 *e*P **P 03 14 21.1 -0.4**
comp=Z,176nm,0.8s
TAPN Taplejung 50.88 318 *e*P **P 03 14 21.1 -0.4**
comp=Z,176nm,0.8s
RAMN Ramite 51.37 316 *e*P **P 03 14 24.6 -0.5**
comp=Z,151nm,0.5s
RAMN Ramite 51.37 316 *e*P **P 03 14 24.6 -0.5**
comp=Z,151nm,0.5s
KAAM Kaadhehdhoo 51.49 279 P **P 03 14 27.8 +1.8**
SNY Shenyang 51.50 360 ⇓P **P 03 14 24.6 -0.8**
SNY S S 03 21 34.0 -8.5
SNY pmax pmax
comp=Z,10.0nm,0.6s
SNY pmax pmax
comp=Z,87nm,7.8s
SNY LR LR
comp=Z,340nm,21.6s
SNY LR LR
comp=Z,380nm,25.2s
SNY LR LR
comp=Z,570nm,24.0s
HHC Hu-ho-hao-te 51.74 348 *e*P P 03 14 31.8 +4.3
HHC PcP **PcP 03 15 43.1 +2.8**
HHC PP PP 03 16 31.6 +5.9
HHC ScP **ScP 03 19 33.1 -0.5**
HHC S **S 03 21 49.9 +3.7**
HHC ScS **ScS 03 24 13.3 -0.7**
HHC SS **SS 03 25 26.3 +2.8**
HHC pmax pmax
comp=Z,46nm,1.0s
HHC pmax pmax
comp=Z,330nm,6.7s
HHC LR LR
comp=Z,1µm,16.5s
HHC LR LR
comp=Z,630nm,16.9s
HHC LR LR
comp=Z,1µm,16.8s
JIRN Jiri 52.10 317 *e*P **P 03 14 29.9 -0.8**
JIRN Jiri 52.10 317 *e*P **P 03 14 29.9 -0.8**
HYB Hyderabad 52.22 301 *i*P **P 03 14 31.0 -0.4**
GUN Gumba 52.47 317 *e*P **P 03 14 32.8 -0.7**
comp=Z,238nm,0.8s
GUN Gumba 52.47 317 *e*P **P 03 14 32.8 -0.7**
comp=Z,238nm,0.8s
PKI Pulchoki 52.58 316 *e*P **P 03 14 33.0 -1.2**
comp=Z,96nm,0.6s
PKI Pulchoki 52.58 316 *e*P **P 03 14 33.3 -0.9**

PKI pmax pmax
comp=Z,58nm,0.5s
PKI Pulchoki 52.58 316 *e*P **P 03 14 33.3 -0.9**
comp=Z,58nm,0.5s
PKIN Phulchoki 52.59 316 *e*P **P 03 14 33.3 -0.9**
comp=Z,58nm,0.5s
KKN Kakani 52.80 316 *e*P **P 03 14 34.8 -0.9**
comp=Z,144nm,0.9s
KKN Kakani 52.80 316 *e*P **P 03 14 34.8 -0.9**
KKN pmax pmax
comp=Z,144nm,0.9s
KKN Kakani 52.80 316 *e*P **P 03 14 34.8 -0.9**
comp=Z,144nm,0.9s
DMN Daman 52.81 316 *e*P **P 03 14 34.9 -0.9**
comp=Z,138nm,1.0s
DMN Daman 52.81 316 *e*P **P 03 14 34.9 -0.9**
comp=Z,138nm,1.0s
RPZ Rata Peaks 53.00 138 *e*P **P 03 14 36.5 -0.3**
comp=Z,80nm,1.0s
GKN Gorkha 53.38 316 *e*P **P 03 14 38.5 -1.4**
GKN Gorkha 53.38 316 *e*P **P 03 14 38.5 -1.4**
CN2 Changchun 53.49 2 *e*P P 03 14 43.3 +3.1
CN2 *es*P sP 03 15 02.3 +4.1
CN2 *e*S **S 03 22 14.3 +4.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,600nm,19.0s
GTA Gaotai 53.87 337 *e*P **P 03 14 42.8 -0.4**
GTA pP **pP 03 14 55.0 -1.0**
GTA sP **sP 03 15 00.0 -1.3**
GTA ScP **ScP 03 19 45.3 +2.4**
GTA S **S 03 22 10.3 -4.9**
GTA SS **SKiKP 03 25 50.6 -2.6**
GTA pmax pmax
comp=Z,12nm,1.5s
GTA pmax pmax
comp=Z,200nm,5.7s
GTA LR LR
comp=Z,380nm,23.3s
GTA LR LR
comp=Z,570nm,22.6s
GTA LR LR
comp=Z,850nm,24.0s
KOLN Koldanda 53.95 315 *e*P **P 03 14 42.9 -1.2**
comp=Z,88nm,0.8s
KOLN Koldanda 53.95 315 *e*P **P 03 14 42.9 -1.2**
comp=Z,88nm,0.8s
JBP Jabalpur 53.95 308⇑ *e*P **P 03 14 45.1 +1.1**
JBP *e*S S 03 22 04.6 -12
DANN Dangsing 54.20 316 *e*P **P 03 14 44.3 -1.7**
comp=Z,205nm,0.6s
DANN Dangsing 54.20 316 *e*P **P 03 14 44.3 -1.7**
comp=Z,205nm,0.6s
USRK Ussurisyk Arra 54.39 7 P **P 03 14 46.3 -0.4**
comp=Z,28nm,0.9s,baz=188,slow=5.8,SNR=40
USRK ScP **ScP 03 19 46.3 +1.5**
comp=Z,2.6nm,0.8s,baz=246,slow=5.7,SNR=4.3
USRK S **S 03 22 17.9 -3.9**
comp=Z,2.9nm,1.0s,baz=128,slow=26,SNR=3.3
USRK LR LR 03 36 48.3
comp=Z,380nm,21.3s,baz=341,slow=35
MDJ Mudanjiang 54.55 5 P **P 03 14 47.1 -0.8**
MDJ pP **pP 03 14 58.3 -2.4**
MDJ sP **sP 03 15 03.5 -2.4**
MDJ PP **PP 03 16 48.8 -2.0**
MDJ S **S 03 22 21.8 -2.1**
MDJ SS **SS 03 26 05.0 -2.4**
MDJ pmax pmax
comp=Z,72nm,0.8s
MDJ pmax pmax
comp=Z,120nm,4.1s
MDJ LR LR
comp=Z,410nm,27.1s
MDJ LR LR
comp=Z,230nm,22.3s
MDJ LR LR
comp=Z,820nm,27.1s
MDJ Mudanjiang 54.55 5 *e*P **P 03 14 47.7 -0.2**
comp=Z,169nm,1.0s
MDJ LR LR
comp=Z,344nm,21.0s
PYUN Piuthan 54.57 315 *e*P **P 03 14 47.5 -1.2**
comp=Z,223nm,0.9s
PYUN Piuthan 54.57 315 *e*P **P 03 14 47.5 -1.2**
comp=Z,223nm,0.9s
SNZO South Karori 54.58 134 PFAKE 03 15 00.0 +12
SNZO LR LR
comp=Z,1μm,20.0s
ERM Erimo 54.69 18 PFAKE 03 15 00.0 +11
ERM LR LR
comp=Z,487nm,20.0s
POO Poona 56.72 300 *e*P **P 03 15 03.0 -1.0**
CASY Casey 56.99 186 PFAKE 03 15 20.0 +15
CASY LR LR
comp=Z,849nm,19.0s
RAO Raoul Island 57.69 118 PFAKE 03 15 20.0 +9.2
RAO LR LR
comp=Z,3μm,19.0s
DRV Dumont d'Urvil 57.74 172 P P 03 15 01.0 -9.4
DRV S S 03 22 52.0 -14
DRV SS **SS 03 26 53.0 -3.7**
DRV L L 03 29 00.0
DRV R 03 33 00.0
HABR Khabarovsk 59.00 9 *e*P P 03 15 15.9 -3.5
HABR *e**PP pP 03 15 31.7 -0.6
HABR *e* 03 16 04.4
HABR *e* 03 17 26.5
HABR *e*S **S 03 23 17.6 -5.0**
HABR *e**SS sS 03 23 45.2 +1.0
HABR *e* 03 24 59.7
HABR *e*SS **SS 03 27 13.2 -4.2**
HABR pmax pmax
comp=Z,51nm,1.9s
HIA Hailar 59.04 357 *e*P **P 03 15 19.1 -0.6**
comp=Z,40nm,1.0s
HIA LR LR
comp=Z,459nm,22.0s
YSS Yuzh-Sakhalins 59.13 15 *e*P P 03 15 30.0 +10
PAF Port-aux-Franc 59.14 218 PFAKE 03 15 30.0 +10
PAF LR LR
comp=Z,1μm,21.0s
KLR Kul'dur 59.33 6 *e*P P 03 15 17.8 -3.9
ULN Ulaanbaatar 59.40 347 P **P 03 15 21.4 -1.0**
SNR=7.6
ULN Ulaanbaatar 59.40 347 *e*P **P 03 15 21.5 -0.9**
comp=Z,23nm,1.0s
ULN LR LR
comp=Z,510nm,20.0s
SONM Songino Array 59.52 347 P **P 03 15 22.3 -0.9**
SONM Songino Array 59.52 347 P **P 03 15 22.3 -0.9**
comp=Z,6.9nm,0.6s,baz=165,slow=7.8,SNR=52
SDNR Sundarnagar 60.79 315 *e*P **P 03 15 34.0 +1.8**
ZAK Zakamensk 62.64 345 *e*P **P 03 15 41.9 -2.4**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
WMQ Urumqi 62.69 331 P **P 03 15 44.0 -0.7**
WMQ pP **pP 03 15 57.0 -0.7**
WMQ sP **sP 03 16 02.0 -0.9**
WMQ PcP **PcP 03 16 22.0 -1.1**
WMQ PP **PP 03 18 04.0 +0.8**
WMQ ScP **ScP 03 20 19.0 -2.7**
WMQ S **S 03 24 08.0 -2.0**
WMQ ScS **SKSac 03 25 29.0 -4.5**
WMQ SS **SS 03 28 16.0 +0.5**
WMQ pmax pmax
comp=Z,17nm,1.0s
WMQ pmax pmax
comp=Z,290nm,5.0s
WMQ LR LR
comp=Z,630nm,18.0s
WMQ LR LR
comp=Z,740nm,18.0s
WMQ LR LR
comp=Z,1μm,18.0s
TLY Talaya 63.75 346 *e*P **P 03 15 51.4 -0.1**
TLY *e* 03 18 07.4
TLY pmax pmax
comp=Z,19nm,1.1s
TLY Talaya 63.75 346 *e*P **P 03 15 52.8 +1.3**
comp=Z,4.8nm,0.7s
TLY LR LR
comp=Z,346nm,19.0s
MOY Mondy 64.40 345 *e*P **P 03 15 56.2 +0.3**
RER Riviere de l'E 66.00 251 *e*P **P 03 16 07.4 +0.5**
comp=Z,59nm,0.8s
HVS Khovu-Aksy 66.13 340 *e*P **P 03 16 06.5 -0.6**
HVS pmax pmax
comp=Z,92nm,1.7s
KSH Kashi 66.16 321 P **P 03 16 07.0 -0.6**
KSH pP **pP 03 16 20.1 -0.6**
KSH sP **sP 03 16 25.1 -0.7**
KSH PP **PP 03 18 35.0 +1.2**
KSH S S 03 24 45.8 -7.4
KSH sS **sS 03 25 14.1 -0.9**
KSH ScS **SKSac 03 25 55.1 -5.1**
KSH pmax pmax
comp=Z,16nm,0.7s
KSH pmax pmax
comp=Z,190nm,3.0s
KSH LR LR
comp=Z,150nm,6.8s
KSH LR LR
comp=Z,220nm,6.7s
KSH LR LR
comp=Z,1μm,23.5s
CLNS Chul'man 66.53 1 *e*P **P 03 16 09.7 +0.3**
CLNS pmax pmax
comp=Z,10.0nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,1.0s
MK31 Makanchi Array 67.46 331 *e*P **P 03 16 14.9 -0.6**
MK31 Makanchi Array 67.46 331 *e*P **P 03 16 14.9 -0.6**
MKAR Makanchi Array 67.46 331 *ce*P **P 03 16 14.6 -1.0**
MKAR pmax pmax
comp=Z,12nm,0.5s
MKAR Makanchi Array 67.46 331 P **P 03 16 14.9 -0.6**
MKAR S **S 03 25 04.6 -3.8**
MKAR Makanchi Array 67.46 331 P **P 03 16 14.9 -0.6**
comp=Z,12nm,0.5s,baz=136,slow=5.7,SNR=168
MKAR S **S 03 25 04.6 -3.8**
comp=Z,0.5nm,0.8s,baz=202,slow=11,SNR=3.0
MKAR LR LR 03 47 11.9
comp=Z,270nm,21.3s,baz=143,slow=37
MSEY Mahe Island 67.77 269 PFAKE 03 16 30.0 +12
MSEY LR LR
comp=Z,877nm,22.0s
KBL Kabul 68.04 313 *e*P **P 03 16 18.7 -1.0**
KBL pmax pmax
comp=Z,39nm,0.6s
KBL Kabul 68.04 313 *e*P **P 03 16 18.7 -1.0**
comp=Z,39nm,0.6s
TKM2 Tokmak 2 68.45 324 *i* P **P 03 16 21.2 -0.9**
TKM2 Tokmak 2 68.45 324 P **P 03 16 21.2 -0.9**
SNR=9.3
TKM2 Tokmak 2 68.45 324 PFAKE 03 16 30.0 +7.8
TKM2 LR LR
comp=Z,719nm,22.0s
AAK Ala-Archa 68.92 323 *ce*P **P 03 16 24.3 -0.7**
AAK Ala-Archa 68.92 323 P **P 03 16 24.4 -0.7**
SNR=15
FRU Bishkek 68.97 323 *e*P **P 03 16 24.0 -1.2**
AML Almayashu 69.10 322 *i* P **P 03 16 26.1 -0.3**
AML Almayashu 69.10 322 P **P 03 16 26.1 -0.3**
SNR=12
PETK Petropavlovsk- 69.16 21 P **P 03 16 25.8 -0.2**
PETK S **S 03 25 31.6 +3.3**
PETK Petropavlovsk- 69.16 21 P **P 03 16 25.8 -0.2**
PETK S **S 03 25 31.6 +3.3**
PETK Petropavlovsk- 69.16 21 P **P 03 16 25.8 -0.2**
comp=Z,11nm,0.7s,baz=205,slow=5.5,SNR=9.6
PETK S **S 03 25 31.6 +3.3**
comp=Z,1.4nm,0.8s,baz=292,slow=20,SNR=3.6
USP Ospenovka 69.30 324 *i* P **P 03 16 26.2 -1.0**
USP Ospenovka 69.30 324 P **P 03 16 26.3 -1.0**
SNR=13
EKS2 Erkin-Say 69.37 323 *i* P **P 03 16 27.2 -0.5**
EKS2 Erkin-Say 69.37 323 P **P 03 16 27.2 -0.5**
SNR=8.5
EKS2 Erkin-Say 69.37 323 PFAKE 03 16 40.0 +12
EKS2 LR LR
comp=Z,508nm,21.0s
PET Petropavlovsk 69.44 22 *e*P **P 03 16 27.3 -0.4**
PET *e*S **S 03 25 31.8 +0.3**
PET Petropavlovsk 69.44 22 *e*P **P 03 16 28.3 +0.6**
comp=Z,16nm,0.8s
PET LR LR
comp=Z,210nm,20.0s
MAW Mawson 69.99 201 P **P 03 16 30.0 -1.0**
MAW S **S 03 25 39.6 +1.9**
MAW Mawson 69.99 201 P **P 03 16 30.0 -1.0**
comp=Z,10nm,0.6s,baz=61,slow=5.4,SNR=6.4
MAW S **S 03 25 39.6 +1.9**
comp=Z,2.8nm,0.9s,baz=105,slow=20,SNR=1.6
MAW LR LR 03 42 48.9
comp=Z,737nm,21.7s,baz=59,slow=32
VNDA Vanda 70.39 172 *e*P **P 03 16 32.4 -0.9**
comp=Z,10nm,0.9s
VNDA S **S 03 25 44.0 +1.8**
VNDA Vanda 70.39 172 P **P 03 16 31.9 -1.3**
comp=Z,4.3nm,0.5s,baz=314,slow=8.0,SNR=60
VNDA S **S 03 25 44.0 +1.8**
comp=Z,1.0nm,1.0s,baz=37,slow=10,SNR=2.3
VNDA LR LR 03 45 23.2
comp=Z,3μm,21.3s,baz=324,slow=34
SBA Scott Base 71.35 171 PFAKE 03 16 50.0 +11
SBA LR LR
comp=Z,2μm,21.0s
ZALV Zalesovo Beam 71.62 337 P **P 03 16 39.5 -1.5**
ZALV Zalesovo Beam 71.62 337 P **P 03 16 39.5 -1.5**
ZALV Zalesovo Beam 71.62 337 P **P 03 16 39.5 -1.5**
comp=Z,13nm,0.4s,baz=134,slow=4.7,SNR=41
ZALV LR LR 03 52 15.6
comp=Z,329nm,21.9s,baz=342,slow=39
YAK Yakutsk 71.88 3 *e*P **P 03 16 42.2 -0.2**
YAK *e**PP pP 03 16 50.1 -5.5
YAK *e* 03 17 01.2
YAK *e* 03 19 24.0
YAK *e*S **S 03 25 57.7 -2.0**
YAK *e* 03 26 38.4
YAK *e*SSS SSS 03 33 38.9
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK pmax pmax
comp=E,115nm,3.1s
YAK smax smax
comp=E,217nm,2.5s
YAK smax smax
comp=N,240nm,3.9s
YAK Yakutsk 71.88 3 *e*P **P 03 16 43.0 +0.6**
comp=N,125nm,1.1s
YAK LR LR
comp=Z,219nm,20.0s
KURK Kurchatov 71.93 332 *e*P **P 03 16 41.7 -1.2**
KURK *e* 03 19 27.5
KURK pmax pmax
comp=Z,29nm,0.9s
KURK MLR MLR
comp=Z,416nm,22.0s
KURK Kurchatov 71.93 332 P **P 03 16 42.3 -0.7**
SNR=22
KURK Kurchatov 71.93 332 *e*P **P 03 16 41.7 -1.2**
comp=Z,29nm,0.9s
KURK *e*PP **PP 03 19 27.5 +4.2**
KURK LR LR
comp=Z,416nm,22.0s
KURK Kurchatov 71.93 332 P **P 03 16 41.5 -1.4**
comp=Z,295nm,0.7s,SNR=15
NVS Novosibirsk 72.90 337 *i* P **P 03 16 47.0 -1.6**
NVS *e*S **S 03 26 06.0 -5.6**
NVS *i**SS **SKSac 03 26 45.4 -4.8**
NVS pmax pmax
comp=Z,42nm,1.4s
NVS pmax pmax
comp=N,13nm,1.0s
NVS pmax pmax
comp=E,19nm,1.1s
NVS smax smax
comp=N,4.0nm,0.6s
NVS smax smax
comp=E,19nm,1.1s
IDAH Dahanechah 74.09 308 *e*P **P 03 16 56.6 +0.1**
ABPO Ambohimpanom 74.12 253 *e*P **P 03 16 56.1 -0.8**
ABPO pmax pmax
comp=Z,15nm,1.0s
ABPO MLR MLR
comp=Z,488nm,20.0s
ABPO Ambohimpanom 74.12 253 *e*P **P 03 16 56.1 -0.8**
comp=Z,15nm,1.0s
ABPO LR LR
comp=Z,488nm,20.0s
IKOO Kooshah 74.64 308 *e*P **P 03 17 01.5 +1.8**
ITEG Tejag 75.02 308 *e*P **P 03 17 01.3 -0.5**
SEY Seymchan 75.93 13 *i* P **P 03 17 04.7 -1.4**
VOSK Vostochnaya 76.87 330 *i* P **P 03 17 11.5 -0.2**
VOSK pmax pmax
comp=Z,15nm,0.5s
IBAF Bafgh 77.05 306 *e*P **P 03 17 12.6 -0.8**
BRVK Borovoye 77.41 330 *ce*P **P 03 17 13.8 -0.9**
BRVK pmax pmax
comp=Z,20nm,1.7s
BRVK Borovoye 77.41 330 P **P 03 17 14.4 -0.2**
SNR=9.2
BRVK Borovoye 77.41 330 *e*P **P 03 17 13.1 -1.5**
comp=Z,30nm,1.0s
BRVK LR LR
comp=Z,730nm,21.0s
BRVK Borovoye 77.41 330 P **P 03 17 13.1 -1.5**
comp=Z,98nm,0.6s,SNR=6.6
IMEH Mehriz 77.75 305 *e*P **P 03 17 16.2 -1.2**
ICHK Chekchek 78.20 306 *e*P **P 03 17 19.1 -0.8**
ISAD Sadrabad 78.67 305 *e*P **P 03 17 21.6 -0.9**
SYO Syowa Base 78.68 201⇑ *e*P **P 03 17 19.4 -2.1**
SYO Syowa Base 78.68 201⇑ *ep*P pP 03 17 34.6 -0.3
IZEF Zefreh 80.07 306 *e*P **P 03 17 29.3 -0.8**
QSPA South Pole Qui 80.07 180 *e*P **P 03 17 28.7 -0.7**
comp=Z,18nm,0.8s
QSPA LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 80.07 180 P **P 03 17 28.8 -0.5**
comp=Z,16nm,0.7s,baz=295,slow=2.1,SNR=42
IGLO Ghaloghah 80.10 310 *e*P **P 03 17 29.8 -0.3**
IGAR Gharneh 80.15 305 *e*P **P 03 17 30.1 -0.4**
ISHM Shahmirzad 80.27 309 *e*P **P 03 17 30.8 -0.4**
ILAS Lasjerd 80.39 309 *e*P **P 03 17 31.1 -0.6**
TIXI Tiksi 81.47 2 *e*P **P 03 17 34.6 -1.8**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 81.47 2 *e*P **P 03 17 34.5 -1.8**
comp=Z,24nm,0.9s
TIXI LR LR
comp=Z,404nm,21.0s
IMHD Mahdasht 82.25 308 *e*P **P 03 17 41.4 -0.1**
IRAZ Razeghan 82.74 308 *e*P **P 03 17 44.0 -0.1**
TBI Tubuai 83.27 112 *e*S **S 03 28 04.8 +0.3**
comp=Z,610nm,28.2s
TBI Tubuai 83.27 112 *e*LQ LQ 03 40 35.3
comp=Z,853nm,35.2s
TBI *e*LR LR 03 44 05.0
comp=Z,1μm,26.0s
PPT2 Papeete2 83.98 107 *e*S **S 03 28 10.8 -1.2**
comp=Z,226nm,23.8s
PPT2 Papeete2 83.98 107 *e*LQ LQ 03 40 42.6
comp=Z,2μm,38.2s
PPT2 *e*LR LR 03 44 24.4
comp=Z,2μm,27.5s
PPT Papeete 83.98 107 LR LR 03 52 41.0
comp=Z,440nm,18.1s,baz=70,slow=34
SVE Sverdlovsk 84.12 330‖ *e*P **P 03 17 49.8 -0.6**
SVE pmax pmax
comp=Z,72nm,1.1s
ARU Arti 84.96 330 P **P 03 17 53.6 -1.1**
comp=Z,129nm,0.6s,SNR=6.9
ARU Arti 84.96 330 *d* iP **P 03 17 53.2 -1.5**
ARU *PP **pP 03 18 09.5 +1.3**
ARU 03 21 13.2
ARU S S 03 28 11.8 -8.2
ARU SS **SS 03 33 47.0 -6.9**
ARU pmax pmax
comp=Z,48nm,2.5s
ARU Arti 84.96 330 *e*P **P 03 17 53.3 -1.3**
comp=Z,31nm,0.9s
ARU LR LR
comp=Z,519nm,22.0s
KMBO Kilima Mbogo 86.30 270 P **P 03 18 04.4 +1.7**
SNR=7.6
KMBO Kilima Mbogo 86.30 270 *e*P **P 03 18 03.2 +0.5**
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 86.30 270 P **P 03 18 02.8 +0.2**
comp=Z,6.7nm,0.8s,baz=106,slow=5.1,SNR=28
KMBO LR LR 03 53 02.3
comp=Z,553nm,21.3s,baz=96,slow=33
KMBO Kilima Mbogo 86.30 270 P **P 03 18 03.6 +0.9**
baz=86,SNR=5.2
MAK Makhachkala 86.76 314 *e*P **P 03 18 03.7 -0.2**
MAK *e**PP **pP 03 18 17.9 +0.4**
MAK *e* 03 21 28.8
MAK *e*S **SKSac 03 28 25.0 -2.2**
MAK pmax pmax
comp=Z,239nm,1.6s
MAK MLR MLR
comp=Z,1μm,25.0s
NVL N'lazarevskaya 87.71 198 *e*P **P 03 18 08.0 0.0**
NVL *e* 03 18 13.9
NVL pmax pmax
comp=Z,9.0nm,0.7s
GNI Garni 88.00 311 *e*P **P 03 18 11.2 +1.0**
comp=Z,16nm,1.1s
GNI LR LR
comp=Z,334nm,21.0s
TBLG Delisi 88.41 313 P **P 03 18 14.0 +2.1**
GUDG Gudauri 88.78 313 P **P 03 18 17.8 +3.9**
ZEI Tsey 89.27 314 *e*P **P 03 18 17.7 +1.5**
ZEI pmax pmax
comp=Z,27nm,1.4s
ONI Oni 89.55 313 P P 03 18 24.3 +7.0
KBZ Khabaz 90.21 314 P **P 03 18 20.4 +0.2**
KBZ Khabaz 90.21 314 P **P 03 18 20.4 +0.2**
KBZ Khabaz 90.21 314 P **P 03 18 20.4 +0.2**
comp=Z,4.6nm,0.9s,baz=102,slow=7.5,SNR=4.6
KBZ LR LR 04 04 17.8
comp=Z,286nm,20.9s,baz=82,slow=39
KIV Kislovodsk 90.41 314 *e*P **P 03 18 19.2 -2.1**
KIV *e* 03 28 44.2
KIV pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 90.41 314 PFAKE 03 18 30.0 +8.7
KIV LR LR
comp=Z,450nm,22.0s
GOF Gofitskoye 90.42 316 *e*P P 03 18 16.7 -4.5
CHVG Ch'k'valeri 90.56 313 P P 03 18 26.9 +4.9
SNAA Sanae 91.32 195 *e*P **P 03 18 25.3 +0.2**
SNAA Sanae 91.32 195 *ep*P pP 03 18 38.8 +0.1
SNAA Sanae 91.32 195 *es*P sP 03 18 46.9 +3.2
SNAA Sanae 91.32 195 *e*P **P 03 18 24.9 -0.2**
comp=Z,10nm,0.8s
BOSA Boshof 92.60 241 P **P 03 18 31.4 -0.6**
BOSA Boshof 92.60 241 P **P 03 18 31.4 -0.6**
comp=Z,5.0nm,0.9s,baz=119,slow=4.3,SNR=6.9
BOSA LR LR 03 53 23.1
comp=Z,207nm,21.5s,baz=114,slow=31
LSZ Lusaka 92.65 254 *e*P **P 03 18 32.4 0.0**
comp=Z,12nm,0.8s
LSZ LR LR
comp=Z,515nm,20.0s
VRHR Novokhopersk 92.70 321 *e*P **P 03 18 30.3 -1.3**
VRHR pmax pmax
comp=Z,4.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
MBAR Mbarara 92.80 269 PFAKE 03 18 40.0 +6.8
MBAR LR LR
comp=Z,668nm,21.0s
VNA2 Neumayer--Watz 92.93 194 *e*P **P 03 18 32.8 +0.4**
VNA2 Neumayer--Watz 92.93 194 *ep*P pP 03 18 43.2 -2.8
VNA2 Neumayer--Watz 92.93 194 *es*P sP 03 18 53.5 +2.4
LBTB Lobatse 93.08 244 *e*P **P 03 18 34.2 0.0**
comp=Z,5.3nm,0.8s
VORD Divnogorie 94.12 321 *e*P **P 03 18 36.3 -1.8**
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax

comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,30nm,2.5s
VSR Storozhevoye 94.24 321 *e*P **P 03 18 35.9 -2.8**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR pmax pmax
comp=Z,7.0nm,0.9s
KDAK Kodiak Island 94.99 32 PFAKE 03 18 50.0 +8.1
KDAK LR LR
comp=Z,381nm,21.0s
SUR Sutherland 95.42 236 *e*P **P 03 18 45.8 +0.8**
comp=Z,20nm,1.0s
SUR LR LR
comp=Z,562nm,20.0s
MOS Moscow 95.91 325 *e*P **pP 03 19 00.3 +0.5**
MOS *e* 03 19 10.2
BRTR Keskin Array B 96.30 309 P **P 03 18 47.3 -1.2**
BRTR Keskin Array B 96.30 309 P **P 03 18 47.3 -1.2**
comp=Z,0.8nm,0.6s,baz=112,slow=3.4,SNR=4.3
BRTR LR LR 04 09 48.8
comp=Z,219nm,19.0s,baz=279,slow=40
RKT Rikitea 96.40 115 *e*LQ LQ 03 45 55.5
comp=Z,1μm,41.0s
RKT *e*LR LR 03 50 03.0
comp=Z,855nm,23.5s
OBN Obninsk 96.41 325⇑ *e*P **P 03 18 47.6 -0.9**
OBN *i* 03 18 59.5
OBN *e* 03 22 44.8
OBN pmax pmax
comp=Z,32nm,1.6s
OBN MLR MLR
comp=Z,800nm,24.0s
OBN Obninsk 96.41 325 *e*P P 03 18 44.0 -4.5
comp=Z,9.7nm,0.7s
OBN LR LR
comp=Z,403nm,21.0s
ANTO Ankara 96.96 309 PFAKE 03 19 00.0 +8.5
ANTO LR LR
comp=Z,557nm,22.0s
COLD Coldfoot 97.57 23 *e*P **P 03 18 53.5 0.0**
comp=Z,5.2nm,1.2s
MCK McKinley 97.66 27 *e*P **P 03 18 51.9 -2.2**
MCK pmax pmax
comp=Z,4.0nm,1.1s
MCK McKinley 97.66 27 *e*P **P 03 18 51.9 -2.2**
comp=Z,3.8nm,1.1s
COLA College 98.25 26 PFAKE 03 19 10.0 +13
COLA LR LR
comp=Z,261nm,20.0s
ISP Isparta 98.49 307 PFAKE 03 19 10.0 +11
ISP LR LR
comp=Z,419nm,22.0s
ILAR Eielson Array 98.65 26 P **P 03 18 56.8 -1.6**
ILAR PP **PP 03 22 54.8 -5.0**
ILAR Eielson Array 98.65 26 P **P 03 18 56.8 -1.6**
comp=Z,1.3nm,1.0s,baz=240,slow=5.1,SNR=12
ILAR PP **PP 03 22 54.8 -5.0**
comp=Z,0.6nm,0.8s,baz=251,slow=5.6,SNR=4.4
ILAR LR LR 04 03 49.5
comp=Z,93nm,20.1s,baz=84,slow=36
LVZ Lovozero 98.76 337 PFAKE 03 19 10.0 +11
LVZ LR LR
comp=Z,535nm,21.0s
APA Apatity 99.21 337 *e*P **Pdif 03 19 08.2 +7.4**
AKASG Malin Array Be 100.42 320 P **Pdif 03 19 04.7 -1.9**
AKASG Malin Array Be 100.42 320 P **Pdif 03 19 04.7 -1.9**
AKASG PKiKP **PKiKP 03 23 33.4 +0.1**
AKASG Malin Array Be 100.42 320 P **Pdif 03 19 04.7 -1.9**
comp=Z,2.3nm,0.8s,baz=77,slow=4.6,SNR=11
AKASG PKiKP **PKiKP 03 23 33.4 +0.1**
comp=Z,0.7nm,0.5s,baz=88,slow=2.4,SNR=8.4
KIEV Kiev 100.43 320 PFAKE 03 19 20.0 +13
KIEV LR LR
comp=Z,419nm,21.0s
KEV Kevo 101.56 339 PFAKE 03 19 20.0 +8.7
KEV LR LR
comp=Z,431nm,19.0s
TSUM Tsumeb 101.67 248 PFAKE 03 19 20.0 +6.9
TSUM LR LR
comp=Z,446nm,19.0s
ARCES ARCESS Array B 102.10 339 P **Pdif 03 19 13.3 -0.4**
ARCES PKiKP **PKiKP 03 23 36.2 +0.4**
ARCES ARCESS Array B 102.10 339 P **Pdif 03 19 13.3 -0.4**
comp=Z,1.4nm,0.7s,baz=70,slow=7.8,SNR=4.7
ARCES PKiKP **PKiKP 03 23 36.2 +0.4**
comp=Z,2.4nm,0.9s,baz=94,slow=1.6,SNR=4.9
SANT Santorini 102.41 305 PFAKE 03 19 30.0 +14
SANT LR LR
comp=Z,237nm,19.0s
KBS Kingsbay 103.80 349 PFAKE 03 19 30.0 +8.9
KBS LR LR
comp=Z,556nm,21.0s
KWP Kalwaria Pacla 104.60 319 PFAKE 03 19 40.0 +15
KWP LR LR
comp=Z,480nm,20.0s
KOLS Kolonicke sedl 104.91 318 PDIF **Pdif 03 19 29.2 +2.5**
PMSA Palmer Station 105.29 177 PFAKE 03 23 50.0
PMSA LR LR
comp=Z,2μm,19.0s
CRVS Cervenica-Dubn 105.45 318 *e*P **Pdif 03 19 31.0 +1.9**
CRVS Cervenica-Dubn 105.45 318 PDIF **Pdif 03 19 31.0 +1.9**
STHS Stebnicka Huta 105.56 319 PDIF **Pdif 03 19 31.6 +2.0**
WRAK Wrangell Islan 105.93 34 PFAKE 03 24 00.0
WRAK LR LR
comp=Z,377nm,21.0s
PSZ Piszkesteto 106.54 317 PFAKE 03 24 00.0
PSZ LR LR
comp=Z,235nm,20.0s
TIP Timpagrande 109.31 308 PFAKE 03 24 00.0
TIP LR LR
comp=Z,163nm,20.0s
TREC Trest 109.32 319 AMS AMS 04 10 50.0
comp=Z,600nm,23.0s
NB2 NORSAR Subarra 109.44 332 PKPdf **PKiKP 03 23 47.8 -1.9**
comp=Z,3.0nm,1.1s,baz=68,slow=1.9
NOA NORSAR Array B 109.44 332 PKiKP **PKiKP 03 23 49.9 +0.2**
NOA NORSAR Array B 109.44 332 PKiKP **PKiKP 03 23 49.9 +0.2**
comp=Z,1.6nm,0.8s,baz=260,slow=3.2,SNR=5.0
CUC Castrocucco 109.99 309 PFAKE 03 24 00.0
CUC LR LR
comp=Z,315nm,20.0s
CEL Celeste 110.04 307 PFAKE 03 24 00.0
CEL LR LR
comp=Z,230nm,21.0s
GERES GERESS Array B 110.55 318 PKiKP **PKiKP 03 23 52.4 +0.2**
GERES GERESS Array B 110.55 318 PKiKP **PKiKP 03 23 52.4 +0.2**
comp=Z,1.4nm,0.7s,baz=94,slow=0.9,SNR=7.6
KHC Kasperske Hory 110.59 319 AMS AMS 04 10 50.0
comp=Z,600nm,22.7s
KONO Kongsberg 110.59 330 PFAKE 03 24 00.0
KONO LR LR
comp=Z,525nm,22.0s
CLL Collm 110.59 321 *e*PKPdf **PKiKP 03 23 53.0 +1.0**
CLL *e*(pPP) 03 24 39.0
CLL L L 04 18 00.0
comp=Z,200nm,21.4s
ABTA Abfaltersbach 111.66 316⇑ *i*PKiKP **PKiKP 03 23 55.5 +1.1**
comp=Z,7.1nm,1.3s
WTTA Wattenberg 112.17 317⇑ *i*PKiKP **PKiKP 03 23 55.8 +0.4**
comp=Z,13nm,0.6s
CLTB Caltabellotta 112.19 306 PFAKE 03 24 10.0
CLTB LR LR
comp=Z,780nm,20.0s
NLWA Neilton Lookou 112.41 43 PFAKE 03 24 10.0
NLWA LR LR
comp=Z,218nm,20.0s
YKA Yellowknife Ar 113.08 25 PKiKP **PKiKP 03 23 56.4 -0.1**
YKA PKKPbc **PKKPbc 03 34 41.3 -3.9**
YKA Yellowknife Ar 113.08 25 PKiKP **PKiKP 03 23 56.3 -0.1**
comp=Z,1.4nm,0.5s,baz=301,slow=2.0,SNR=28
YKA PKKPbc **PKKPbc 03 34 41.3 -3.9**
comp=Z,0.5nm,0.7s,baz=104,slow=3.5,SNR=7.3
I03D Drain, OR 113.37 47⇑P **PKiKP 03 23 58.1 +0.6**
baz=114
VLC Villacollemand 113.54 314 PFAKE 03 24 10.0
VLC LR LR
comp=Z,483nm,22.0s
TUE Stuetta 113.85 316 PFAKE 03 24 10.0
TUE LR LR
comp=Z,508nm,21.0s
I04A Tendick Farm, 114.03 46⇑P PKPdf 03 23 59.7 +0.8
baz=114
M02C Callahan 114.07 49⇑P PKPdf 03 23 59.6 +0.5
baz=114
BFO Black Forest 114.15 319 PFAKE 03 24 10.0 +11
BFO LR LR
comp=Z,462nm,21.0s
N02D Trinity Center 114.24 50⇑P PKPdf 03 24 00.1 +0.7
baz=114
J04D Umpqua Nationa 114.33 47⇓P PKPdf 03 24 00.2 +0.5
baz=114
M04C Macdoel 114.77 49⇑P PKPdf 03 24 01.0 +0.5
baz=115
ECH Echery 114.94 319 PFAKE 03 24 10.0 +10
ECH LR LR
comp=Z,617nm,20.0s
J05D Fort Rock, OR 114.96 47⇑P PKPdf 03 24 01.6 +0.8
baz=115
VSL Villasalto 114.98 309 PFAKE 03 24 10.0 +9.2
VSL LR LR
comp=Z,334nm,21.0s
WLF Walferdange 115.22 320 PFAKE 03 24 10.0 +9.1
WLF LR LR
comp=Z,641nm,22.0s
HINF Hinteralfeld 115.23 318⇑ *i*PKiKP **PKPdf 03 24 01.0 -0.1**
comp=Z,17nm,1.0s
HINF Hinteralfeld 115.23 318⇑ *i*PKiKP **PKPdf 03 24 01.0 -0.1**
HINF Hinteralfeld 115.23 318⇑ *i*PKPdf **PKPdf 03 24 01.0 -0.1**
KEST Kesra 115.47 305 PKP **PKPdf 03 24 02.2 +0.2**
KEST Kesra 115.47 305 PKP **PKPdf 03 24 02.2 +0.2**
comp=Z,0.8nm,0.6s,baz=337,slow=3.6,SNR=8.1
HAU Haudompre 115.51 319⇑ *i*PKiKP **PKPdf 03 24 01.8 +0.2**
comp=Z,23nm,1.0s
HAU Haudompre 115.51 319⇑ *i*PKiKP **PKPdf 03 24 01.8 +0.2**
HAU Haudompre 115.51 319⇑ *i*PKPdf **PKPdf 03 24 01.8 +0.2**
HAWA Hanford 115.52 43 PFAKE 03 24 10.0 +8.4
HAWA LR LR
comp=Z,253nm,20.0s
LPG La Plagne 115.83 316⇑ *i*PKiKP **PKPdf 03 24 03.7 +1.1**
LPG La Plagne 115.83 316⇑ *i*PKiKP **PKPdf 03 24 03.7 +1.1**
LPG La Plagne 115.83 316⇑ *i*PKPdf **PKPdf 03 24 03.7 +1.1**
LPL La Plagne 115.83 316⇑ *i*PKiKP **PKPdf 03 24 03.5 +0.9**
comp=Z,6.6nm,0.6s
LPL La Plagne 115.83 316⇑ *i*PKiKP **PKPdf 03 24 03.5 +0.9**
LPL La Plagne 115.83 316⇑ *i*PKPdf **PKPdf 03 24 03.5 +0.9**
MOD Modoc 115.88 48 *e*PKPdf **PKPdf 03 24 03.5 +0.8**
BNI Bardonecchia 115.97 315 PFAKE 03 24 10.0 +7.3
BNI LR LR
comp=Z,673nm,21.0s
CABF La Chapelle 116.02 317⇑ *i*PKiKP **PKPdf 03 24 03.2 +0.5**
comp=Z,9.9nm,0.6s
CABF La Chapelle 116.02 317⇑ *i*PKiKP **PKPdf 03 24 03.2 +0.5**
CABF La Chapelle 116.02 317⇑ *i*PKPdf **PKPdf 03 24 03.2 +0.5**
NEW Newport 116.64 41 PFAKE 03 24 20.0 +16
NEW LR LR
comp=Z,440nm,20.0s
NEW Newport 116.64 41⇑P **PKPdf 03 24 04.5 +0.7**
baz=117
WVOR Wild Horse Val 116.99 47 PFAKE 03 24 20.0 +15
WVOR LR LR
comp=Z,288nm,20.0s
LOR Lormes 117.33 318⇑ *i*PKiKP **PKPdf 03 24 05.5 +0.4**
comp=Z,16nm,0.9s
LOR Lormes 117.33 318⇑ *i*PKPdf **PKPdf 03 24 05.5 +0.4**
EDM Edmonton 117.33 35 *e*PKiKP **PKPdf 03 24 05.1 +0.1**
EDM Edmonton 117.33 35 *e*PKPdf **PKPdf 03 24 05.1 +0.1**
BMO Blue Mountains 117.40 44 PFAKE 03 24 20.0 +15
BMO LR LR
comp=Z,189nm,19.0s
SSF Saint Saulge 117.62 318⇑ *i*PKiKP **PKPdf 03 24 06.2 +0.5**
comp=Z,31nm,0.9s
SSF Saint Saulge 117.62 318⇑ *i*PKiKP **PKPdf 03 24 06.2 +0.5**
SSF Saint Saulge 117.62 318⇑ *i*PKPdf **PKPdf 03 24 06.2 +0.5**
AVF Avril sur Loir 117.80 318⇑ *i*PKiKP **PKPdf 03 24 05.6 -0.4**
AVF Avril sur Loir 117.80 318⇑ *i*PKiKP **PKPdf 03 24 05.6 -0.4**
AVF Avril sur Loir 117.80 318⇑ *i*PKPdf **PKPdf 03 24 05.6 -0.4**
NVAR Mina Array Bea 117.99 52 PKP **PKPdf 03 24 07.4 +0.5**
NVAR PKKPbc **PKKPab 03 34 28.8 -0.8**
NVAR PKKP **PKKPdf 03 34 55.8 -0.8**
NVAR Mina Array Bea 117.99 52 PKP **PKPdf 03 24 07.4 +0.5**
comp=Z,2.5nm,0.9s,baz=252,slow=2.6,SNR=12
NVAR PKKPbc **PKKPab 03 34 28.8 -0.8**
comp=Z,0.6nm,0.7s,baz=117,slow=5.2,SNR=5.0
NVAR PKKP **PKKPdf 03 34 55.8 -0.8**
comp=Z,0.6nm,0.7s,baz=135,slow=6.0,SNR=3.9
BGF Bois d'Agland 118.19 318⇑ *i*PKiKP **PKPdf 03 24 07.5 +0.7**
comp=Z,34nm,0.7s
BGF Bois d'Agland 118.19 318⇑ *i*PKiKP **PKPdf 03 24 07.5 +0.7**
BGF Bois d'Agland 118.19 318⇑ *i*PKPdf **PKPdf 03 24 07.5 +0.7**
BSMT Bassoo Peak 118.26 41 *e*PKPdf **PKPdf 03 24 07.3 +0.2**
ESK Eskdalemuir 118.59 329 PFAKE 03 24 20.0 +13
ESK LR LR
comp=Z,504nm,21.0s
EFI East Falkland 118.63 179 PFAKE 03 24 20.0 +13
EFI LR LR
comp=Z,1μm,22.0s
TCF Toulx Ste Croi 118.69 318 *e*PKiKP **PKPdf 03 24 07.7 -0.1**
TCF Toulx Ste Croi 118.69 318 *e*PKiKP **PKPdf 03 24 07.7 -0.1**
TCF Toulx Ste Croi 118.69 318 *e*PKPdf **PKPdf 03 24 07.7 -0.1**
MFID Camas Ranch 118.78 46 *e*PKPdf **PKPdf 03 24 09.2 +1.0**
EDW2 Edwards Air Fo 118.80 56⇓P **PKPdf 03 24 09.1 +0.7**
baz=119
SWMT Swartz Lake 118.88 41 *e*PKPdf **PKPdf 03 24 09.1 +0.9**
LRMC Laurel Mountai 118.96 55⇑P **PKPdf 03 24 09.0 +0.3**
baz=119
MPMC Manual Prospec 119.03 54⇓P **PKPdf 03 24 09.9 +0.9**
baz=119
MSO Missoula 119.12 42⇑P **PKPdf 03 24 09.3 +0.6**
baz=119
BFSC Mount Baldy Ra 119.16 56⇓P **PKPdf 03 24 10.0 +0.8**
baz=119
SLMT Seeley Lake 119.28 41 *e*PKPdf **PKPdf 03 24 10.5 +1.4**
FURC Furnace Creek, 119.46 54⇑P **PKPdf 03 24 10.7 +1.2**
baz=120
LDF La Druitiere 119.47 321 *e*PKiKP **PKPdf 03 24 10.2 +1.0**
LDF La Druitiere 119.47 321 *e*PKiKP **PKPdf 03 24 10.2 +1.0**
LDF La Druitiere 119.47 321 *e*PKPdf **PKPdf 03 24 10.2 +1.0**
MURC Murrieta 119.63 57⇓P **PKPdf 03 24 10.6 +0.6**
baz=120
FLN La Foliniere 119.64 321⇑ *i*PKiKP **PKPdf 03 24 09.9 +0.4**
FLN La Foliniere 119.64 321⇑ *i*PKiKP **PKPdf 03 24 09.9 +0.4**
FLN La Foliniere 119.64 321⇑ *i*PKPdf **PKPdf 03 24 09.9 +0.4**
TAM Tamanrasset 119.68 291 *e*PKiKP **PKPdf 03 24 11.4 +0.9**
TAM MLR MLR
comp=Z,312nm,20.0s
TAM Tamanrasset 119.68 291 *e*PKPdf **PKPdf 03 24 11.4 +0.9**
TAM LR LR
comp=Z,312nm,20.0s
GSC Goldstone 119.70 55 *e*PKiKP **PKPdf 03 24 11.5 +1.4**
GSC Goldstone 119.70 55 *e*PKPdf **PKPdf 03 24 11.5 +1.4**
GSC Goldstone 119.70 55⇑P **PKPdf 03 24 11.0 +0.9**
baz=120
HLID Hailey 119.74 45 *e*PKPdf **PKPdf 03 24 11.4 +1.3**
HLID LR LR
comp=Z,207nm,20.0s
HLID Hailey 119.74 45⇑P **PKPdf 03 24 11.1 +1.0**
baz=120
109C Camp Elliot, M 119.80 58⇓P **PKPdf 03 24 11.4 +1.1**
baz=120
TPNV Topopah Spring 119.86 53⇑P **PKPdf 03 24 11.1 +0.6**
baz=120
GRR Gorron 120.00 321⇑ *i*PKiKP **PKPdf 03 24 10.6 +0.4**
GRR Gorron 120.00 321⇑ *i*PKiKP **PKPdf 03 24 10.6 +0.4**
GRR Gorron 120.00 321⇑ *i*PKPdf **PKPdf 03 24 10.6 +0.4**
R11A Troy Canyon, C 120.11 51 *e*PKPdf **PKPdf 03 24 11.9 +0.9**
R11A Troy Canyon, C 120.11 51⇓P **PKPdf 03 24 12.1 +1.1**
baz=120
MFF Saint Martin d 120.15 319⇑ *i*PKiKP **PKPdf 03 24 11.0 +0.5**
comp=Z,13nm,0.6s
MFF Saint Martin d 120.15 319⇑ *i*PKiKP **PKPdf 03 24 11.0 +0.5**
MFF Saint Martin d 120.15 319⇑ *i*PKPdf **PKPdf 03 24 11.0 +0.5**
HEC Hector,Ludlow 120.16 55⇑P **PKPdf 03 24 11.0 0.0**
baz=120
PFO Pinyon Flat Ob 120.24 57 *e*PKPdf **PKPdf 03 24 12.5 +1.2**
PFO LR LR
comp=Z,378nm,20.0s
PFO Pinyon Flat Ob 120.24 57⇑P **PKPdf 03 24 11.6 +0.3**
baz=120
TUQ Turquoise Moun 120.39 55⇑P **PKPdf 03 24 12.2 +0.7**
baz=121
BELC Belle Mtn. Jos 120.56 56⇑P **PKPdf 03 24 12.8 +0.9**
baz=121
DVTC Desert V Tower 120.67 58⇑P **PKPdf 03 24 13.0 +1.0**
baz=121
GMRC Granite Mounta 120.71 55⇑P **PKPdf 03 24 13.0 +0.8**
baz=121
SHPR Sheep Range 120.80 53 *e*PKPdf **PKPdf 03 24 13.1 +0.8**
SWSC Sam W. Stewart 120.89 58⇑P **PKPdf 03 24 13.1 +0.7**
baz=121
BOZ Bozeman (W) 121.02 42 PFAKE 03 24 20.0 +7.6
BOZ LR LR
comp=Z,368nm,20.0s
BC3 Big Chuckawall 121.06 57⇑P **PKPdf 03 24 13.6 +0.8**
baz=121
LDFC Landfair 121.10 55 *e*PKPdf **PKPdf 03 24 14.2 +1.4**
IRM Iron Mountain 121.23 56⇑P **PKPdf 03 24 14.1 +1.1**
baz=121
EGMT Eagleton 121.39 39 *e*PKPdf **PKPdf 03 24 13.5 +0.5**
EGMT LR LR
comp=Z,308nm,21.0s
EGMT Eagleton 121.39 39⇑P **PKPdf 03 24 13.7 +0.7**
baz=122,SNR=11
GLA Glamis 121.67 57⇑P **PKPdf 03 24 15.1 +1.1**
baz=122
B19A Brinkman Farms 121.72 38⇑P **PKPdf 03 24 14.5 +1.0**
baz=122
DUG Dugway 121.78 49 *e*PKIKP **PKPdf 03 24 14.4 +0.3**
DUG MLR MLR
comp=Z,226nm,19.0s
DUG Dugway 121.78 49 *e*PKPdf **PKPdf 03 24 14.4 +0.3**
DUG LR LR
comp=Z,226nm,19.0s
DUG Dugway 121.78 49⇑P **PKPdf 03 24 14.6 +0.6**
baz=122
Y12C Blythe 121.81 56⇑P **PKPdf 03 24 14.8 +0.7**
baz=122
C19A Slack Wire Ran 121.94 39⇓P **PKPdf 03 24 15.2 +1.1**
baz=122,SNR=5.7
PDMCI Parker Dam,Lak 122.03 56⇑P **PKPdf 03 24 15.4 +0.9**
baz=122
W13A Hualapai Mount 122.09 55⇓P **PKPdf 03 24 15.9 +0.9**
baz=122
H17A Grant Village 122.13 43⇑P **PKPdf 03 24 15.7 +0.9**
baz=122
A20A Cobblestone Ra 122.17 38⇑P **PKPdf 03 24 15.0 +0.6**
baz=122
D19A Cripps Ranch, 122.26 40⇓P **PKPdf 03 24 15.3 +0.6**
baz=122
B20A Solberg Farm, 122.30 38⇑P **PKPdf 03 24 14.8 +0.2**
baz=122,SNR=17
E19A Rath Farm, Rou 122.59 41⇓P **PKPdf 03 24 16.0 +0.7**
baz=123,SNR=5.7
C20A Veseth Ranch, 122.60 39⇑P **PKPdf 03 24 16.2 +0.9**
baz=123,SNR=6.5
FFC Flin Flon 122.61 30 PFAKE 03 24 30.0 +15
FFC LR LR
comp=Z,378nm,22.0s
MVU Marysvale 122.65 51 *e*PKPdf **PKPdf 03 24 17.6 +1.7**
H18A Shoshone NF, C 122.65 43⇑P **PKPdf 03 24 16.6 +0.8**
baz=123
F19A Roth Farm, Mol 122.71 41⇑P **PKPdf 03 24 16.5 +0.9**
baz=123
A21A Bergtoll Ranch 122.73 37⇓P **PKPdf 03 24 16.1 +0.7**
baz=123,SNR=8.8
D20A Manuel Ranch, 122.76 40⇑P **PKPdf 03 24 16.4 +0.8**
baz=123
DAU Daniels Canyon 122.86 48 *e*PKiKP **PKPdf 03 24 17.4 +1.0**
DAU Daniels Canyon 122.86 48 *e*PKPdf **PKPdf 03 24 17.4 +1.0**
B21A Ellsworth Farm 122.91 38⇓P **PKPdf 03 24 16.2 +0.4**
baz=123,SNR=5.1
E20A Meyer Farm, Mu 122.99 40⇓P **PKPdf 03 24 16.9 +0.8**
baz=123
Y14A Wickenburg 123.02 56⇑P **PKPdf 03 24 17.6 +1.1**
baz=123
U15A North Rim 123.08 53⇓P **PKPdf 03 24 18.1 +1.3**
baz=123
H19A Powell 123.11 43⇓P **PKPdf 03 24 18.2 +1.7**
baz=123
TORD Torodi Ar. Bea 123.17 279 PKP **PKPdf 03 24 17.0 -0.2**
TORD PKKPbc **PKKPbc 03 34 07.3 -0.2**
TORD Torodi Ar. Bea 123.17 279 PKP **PKPdf 03 24 17.0 -0.2**
comp=Z,7.1nm,0.6s,baz=58,slow=1.6,SNR=90
TORD PKKPbc **PKKPbc 03 34 07.3 -0.2**
comp=Z,0.4nm,0.7s,baz=294,slow=4.4,SNR=11
Z14A Wintersburg 123.18 57⇑P **PKPdf 03 24 18.2 +1.4**
baz=123
F20A Billings 123.25 41⇑P **PKPdf 03 24 17.8 +1.1**
baz=123
I19A Meeteetse 123.33 43⇓P **PKPdf 03 24 17.8 +0.8**
baz=123
A22A Carney Farms, 123.33 37⇓P **PKPdf 03 24 17.8 +1.2**
baz=123
BW06 Boulder Array 123.37 45 *e*PKPdf **PKPdf 03 24 17.4 +0.2**
BW06 LR LR
comp=Z,375nm,20.0s
PDAR Pinedale Array 123.37 45 PKP **PKPdf 03 24 17.4 +0.2**
PDAR PKKPbc **PKKPab 03 34 06.3 +0.1**
PDAR SKKPbc SKKPbc 03 37 55.7 +0.9
PDAR Pinedale Array 123.37 45 PKP **PKPdf 03 24 17.4 +0.2**
comp=Z,4.0nm,0.8s,baz=190,slow=0.3,SNR=26
PDAR PKKPbc **PKKPab 03 34 06.3 +0.1**
comp=Z,0.4nm,0.7s,baz=113,slow=6.9,SNR=4.2
PDAR SKKPbc SKKPbc 03 37 55.7 +0.9
comp=Z,0.3nm,0.7s,baz=108,slow=9.5,SNR=3.6
G20A Bridger 123.42 42⇑P **PKPdf 03 24 17.7 +0.7**
baz=124,SNR=9.2
D21A La Casta Ranch 123.48 39⇓P **PKPdf 03 24 18.1 +1.1**
baz=124,SNR=6.1
214A Organ Pipe Nat 123.53 58⇑P **PKPdf 03 24 17.9 +0.3**
baz=124
J19A Crowheart 123.55 44⇓P **PKPdf 03 24 18.1 +0.7**
baz=124
B22A Reddig Ranch S 123.58 38⇑P **PKPdf 03 24 18.2 +1.0**
baz=124
E21A Keefer Ranch, 123.65 40⇓P **PKPdf 03 24 18.3 +1.0**
baz=124
SRU San Rafael 123.77 49 *e*PKIKP **PKPdf 03 24 18.4 +0.4**
SRU San Rafael 123.77 49 *e*PKPdf **PKPdf 03 24 18.4 +0.4**
H20A Greybull 123.83 43⇑P **PKPdf 03 24 18.6 +0.7**
baz=124
C22A Vida 123.89 38⇓P **PKPdf 03 24 18.7 +1.0**
baz=124,SNR=10.0
I20A Worland 123.94 43⇓P **PKPdf 03 24 18.7 +0.6**
baz=124,SNR=7.6
D22A Cohagen 123.96 39⇑P **PKPdf 03 24 19.2 +1.3**
baz=124,SNR=14
WUAZ Wupatki 124.01 54 *e*PKPdf **PKPdf 03 24 19.3 +0.8**
WUAZ LR LR
comp=Z,339nm,20.0s
WUAZ Wupatki 124.01 54⇓P **PKPdf 03 24 19.0 +0.5**
baz=124
G21A Lodge Grass 124.08 41⇓P **PKPdf 03 24 18.9 +0.6**
baz=124
B23A Brockton 124.11 37⇓P **PKPdf 03 24 19.3 +1.1**
baz=124,SNR=5.7
LAO LASA Array 124.12 40 *e*PKPdf **PKPdf 03 24 19.5 +1.3**
LAO LR LR
comp=Z,499nm,19.0s
J20A Shoshoni 124.18 44⇓P **PKPdf 03 24 19.4 +0.8**
baz=124,SNR=6.5
X16A Lo Mia Camp, P 124.19 55⇑P **PKPdf 03 24 19.2 +0.3**
baz=124
C23A Lambert 124.29 38⇑P **PKPdf 03 24 20.0 +1.5**
baz=124,SNR=9.0
E22A Miles City 124.40 40⇑P **PKPdf 03 24 19.6 +0.8**
baz=124
H21A Big Horn, Sher 124.41 42⇑P **PKPdf 03 24 20.0 +1.1**
baz=124
F22A Rosebud 124.47 41⇑P **PKPdf 03 24 19.8 +0.8**
baz=124
A24A Westby 124.48 36⇓P **PKPdf 03 24 19.6 +0.8**
baz=124
D23A Lindsay 124.55 39⇑P **PKPdf 03 24 20.6 +1.5**
baz=125,SNR=7.7
I21A Big Trails, Te 124.55 43⇓P **PKPdf 03 24 20.5 +1.2**
baz=125,SNR=6.1
DGMT Dagmar 124.58 37 PFAKE 03 24 30.0 +11
DGMT LR LR
comp=Z,489nm,21.0s
DGMT Dagmar 124.58 37⇓P **PKPdf 03 24 20.2 +1.2**
baz=125
J21A Lysite 124.62 44⇑P **PKPdf 03 24 20.3 +0.8**
baz=125
G22A Birney 124.67 41⇑P **PKPdf 03 24 20.0 +0.6**
baz=125
E23A Ismay 124.78 39⇑P **PKPdf 03 24 20.5 +1.0**
baz=125
C24A Savage 124.87 38⇑P **PKPdf 03 24 21.2 +1.6**
baz=125,SNR=9.4
H22A Clearmont 124.88 42⇓P **PKPdf 03 24 20.0 +0.2**
baz=125
ESDC Sonseca Array 124.98 312 PKP **PKPdf 03 24 19.9 -0.2**
ESDC Sonseca Array 124.98 312 PKP **PKPdf 03 24 19.9 -0.2**
comp=Z,2.9nm,0.8s,baz=27,slow=2.6,SNR=13
A25A Svangstu Ranch 124.99 36⇓P **PKPdf 03 24 20.7 +0.9**

	baz=125							
K21A	**Alcova**	125.01	44	⇓P		PKPdf	03 24 21.1	+0.8
	baz=125,SNR=8.5							
F23A	**Volborg**	125.04	40	⇑P		PKPdf	03 24 20.8	+0.8
	baz=125							
I22A	**9 Mile Ranch,**	125.06	43	⇑P		PKPdf	03 24 21.3	+1.0
	baz=125							
D24A	**Glendive**	125.11	38	⇑P		PKPdf	03 24 21.0	+0.9
	baz=125							
O20A	**White River Ci**	125.15	48	ℯPKPdf		PKPdf	03 24 21.5	+0.9
O20A	**White River Ci**	125.15	48	⇓P		PKPdf	03 24 22.0	+1.4
	baz=125,SNR=12							
TUC	**Tucson**	125.16	57	ℯPKIKP		PKPdf	03 24 22.2	+1.5
TUC				MLR		MLR		
	comp=Z,358nm,21.0s							
TUC	**Tucson**	125.16	57	ℯPKPdf		PKPdf	03 24 22.2	+1.5
TUC				LR		LR		
	comp=Z,358nm,21.0s							
PV04	**Paradox Valley**	125.18	50	ℯPKPdf		PKPdf	03 24 21.3	+0.6
J22A	**Midwest**	125.25	43	⇑P		PKPdf	03 24 21.3	+0.7
	baz=125,SNR=15							
G23A	**Biddle**	125.27	41	⇑P		PKPdf	03 24 21.3	+0.7
	baz=125							
B25A	**Knox Farm, Ray**	125.28	37	⇑P		PKPdf	03 24 21.0	+0.6
	baz=125							
E24A	**Baker**	125.37	39	⇑P		PKPdf	03 24 21.7	+1.1
	baz=125							
X18A	**Snowflake**	125.37	55	⇓P		PKPdf	03 24 21.4	+0.2
	baz=126							
W18A	**Petrified Fore**	125.41	54	ℯPKPdf		PKPdf	03 24 22.6	+1.4
W18A	**Petrified Fore**	125.41	54	⇑P		PKPdf	03 24 21.8	+0.6
	baz=126							
C25A	**Freed Ranch, W**	125.49	37	⇓P		PKPdf	03 24 21.9	+1.1
	baz=126							
K22A	**Casper**	125.50	44	ℯPKPdf		PKPdf	03 24 21.5	+0.3
K22A	**Casper**	125.50	44	⇓P		PKPdf	03 24 22.0	+0.8
	baz=126							
PV01	**Paradox Valley**	125.51	50	ℯPKPdf		PKPdf	03 24 22.0	+0.6
H23A	**Clabaugh Cattl**	125.52	42	⇓P		PKPdf	03 24 21.7	+0.7
	baz=126							
F24A	**Ekalaka**	125.60	40	⇑P		PKPdf	03 24 21.8	+0.6
	baz=126							
A26A	**Wade Farm, Ken**	125.63	36	⇑P		PKPdf	03 24 22.1	+1.1
	baz=126							
D25A	**Fairfield**	125.71	38	⇓P		PKPdf	03 24 22.5	+1.2
	baz=126							
L22A	**Ellis Ranch, M**	125.79	45	⇑P		PKPdf	03 24 22.8	+1.0
	baz=126							
MVCO	**Mesa Verde**	125.83	51	ℯPKPdf		PKPdf	03 24 23.0	+0.9
MVCO				LR		LR		
	comp=Z,356nm,22.0s							
MVCO	**Mesa Verde**	125.83	51	⇓P		PKPdf	03 24 22.6	+0.5
	baz=126							
G24A	**Alzada**	125.84	40	⇓P		PKPdf	03 24 22.2	+0.6
	baz=126							
J23A	**Dilts Ranch, B**	125.88	43	⇓P		PKPdf	03 24 22.6	+0.7
	baz=126							
M22A	**Cedar Creek Ra**	125.90	46	⇑P		PKPdf	03 24 22.9	+0.8
	baz=126							
E25A	**Miller Ranch,**	125.96	39	⇑P		PKPdf	03 24 22.8	+1.0
	baz=126							
H24A	**Dirks Ranch, A**	125.99	41	⇑P		PKPdf	03 24 22.8	+0.8
	baz=126							
K23A	**Bowen Ranch, D**	126.08	44	⇓P		PKPdf	03 24 23.4	+1.2
	baz=126							
C26A	**Wahner Farm, P**	126.12	37	⇓P		PKPdf	03 24 23.3	+1.2
	baz=126							
F25A	**Bowman**	126.18	39	⇓P		PKPdf	03 24 23.6	+1.4
	baz=126							
N22A	**Wattenberg Ran**	126.21	46	⇑P		PKPdf	03 24 23.6	+0.8
	baz=126							
D26A	**Manning**	126.30	38	⇑P		PKPdf	03 24 23.6	+1.2
	baz=126							
O22A	**Kremmling**	126.37	47	⇑P		PKPdf	03 24 24.2	+1.1
	baz=126							
P22A	**Eagle**	126.40	48	⇓P		PKPdf	03 24 24.3	+1.2
	baz=126,SNR=5.1							
G25A	**Newell**	126.53	40	⇓P		PKPdf	03 24 23.8	+0.9
	baz=127							
N23A	**Red Feather La**	126.54	46	⇑P		PKPdf	03 24 23.8	+0.5
	baz=127							
E26A	**Carlson Angus**	126.55	38	⇓P		PKPdf	03 24 23.8	+0.9
	baz=127							
RSSD	**Black Hills**	126.59	42	ℯPKIKP		PKPdf	03 24 23.2	-0.1
RSSD	**Black Hills**	126.59	42	ℯPKPdf		PKPdf	03 24 23.2	-0.1
319A	**Douglas**	126.60	58	⇓P		PKPdf	03 24 24.0	+0.5
	baz=127							
A28A	**Rude Farm, Bot**	126.63	35	⇑P		PKPdf	03 24 24.0	+1.0
	baz=127							
H25A	**Fruitdale**	126.66	41	⇑P		PKPdf	03 24 23.9	+0.7
	baz=127							
F26A	**Lodgepole**	126.71	39	⇓P		PKPdf	03 24 24.0	+0.8
	baz=127							
O23A	**Lake Granby, G**	126.80	47	⇓P		PKPdf	03 24 24.7	+0.8
	baz=127							
D27A	**Center**	126.81	37	⇑P		PKPdf	03 24 24.4	+1.1
	baz=127							
B28A	**Dugan Ranch, T**	126.81	35	⇓P		PKPdf	03 24 24.1	+0.8
	baz=127							
I25A	**Rochford**	126.83	42	⇓P		PKPdf	03 24 24.1	+0.4
	baz=127							
S22A	**4UR Ranch, Cre**	126.94	50	⇑P		PKPdf	03 24 25.9	+1.7
	baz=127,SNR=10							
G26A	**Maurine**	127.00	40	⇑P		PKPdf	03 24 24.7	+0.9
	baz=127							
J25A	**Sunshine Ranch**	127.05	42	⇑P		PKPdf	03 24 24.5	+0.5
	baz=127							
F27A	**Lemmon**	127.10	39	⇑P		PKPdf	03 24 24.9	+0.9
	baz=127							
E27A	**Carson**	127.11	38	⇓P		PKPdf	03 24 24.8	+0.8
	baz=127							
P23A	**Jefferson**	127.15	48	⇓P		PKPdf	03 24 24.8	+0.2
	baz=127							
POLO	**Lamas de Olo**	127.15	315	ℯPKP		PKPdf	03 24 27.4	+3.1
ISCO	**Idaho Springs**	127.17	47	ℯPKIKP		PKPdf	03 24 25.1	+0.5
ISCO				MLR		MLR		
	comp=Z,271nm,21.0s							
ISCO	**Idaho Springs**	127.17	47	ℯPKPdf		PKPdf	03 24 25.1	+0.5
ISCO				LR		LR		
	comp=Z,271nm,21.0s							
ISCO	**Idaho Springs**	127.17	47	⇓P		PKPdf	03 24 25.5	+0.9
	baz=127							
H26A	**Fairpoint**	127.20	41	⇓P		PKPdf	03 24 24.5	+0.3
	baz=127							
A29A	**Manning Farm,**	127.20	34	⇓P		PKPdf	03 24 24.7	+0.7
	baz=127							
320A	**Kipp Ranch, An**	127.24	58	⇓P		PKPdf	03 24 25.6	+0.8
	baz=127							
PGAV	**Gavieira, Arco**	127.25	316	ℯPKP		PKPdf	03 24 26.0	+1.6
K25A	**Mack Ranch, Ha**	127.32	43	⇑P		PKPdf	03 24 25.0	+0.4
	baz=127							
U22A	**Llaves**	127.33	52	⇓P		PKPdf	03 24 26.6	+1.7
	baz=127,SNR=7.3							
D28A	**Regan**	127.33	37	⇓P		PKPdf	03 24 25.3	+1.0
	baz=127							
B29A	**Wagenman Farm,**	127.38	35	⇑P		PKPdf	03 24 25.6	+1.3
	baz=127							
G27A	**Dupree**	127.38	39	⇓P		PKPdf	03 24 25.4	+0.9
	baz=127							
I26A	**New Underwood**	127.40	41	⇑P		PKPdf	03 24 25.4	+0.8
	baz=128							
V22A	**San Miguel Ran**	127.42	52	⇑P		PKPdf	03 24 26.0	+0.8
	baz=128							
R23A	**Moffat**	127.55	49	⇑P		PKPdf	03 24 25.1	-0.3
	baz=128							
J26A	**Sides Ranch, S**	127.56	42	⇓P		PKPdf	03 24 25.4	+0.4
	baz=128							
E28A	**Huff**	127.57	37	⇑P		PKPdf	03 24 25.1	+0.3
	baz=128							
121A	**Cookes Peak, D**	127.59	57	ℯPKPdf		PKPdf	03 24 26.8	+1.3
121A	**Cookes Peak, D**	127.59	57	⇓P		PKPdf	03 24 25.8	+0.3
	baz=128							
H27A	**Howes**	127.63	40	⇓P		PKPdf	03 24 25.7	+0.7
	baz=128							
LAZ	**Ladron**	127.65	54	ℯPKPdf		PKPdf	03 24 27.2	+1.7
LAZ				ℯPP		PP	03 26 25.4	-1.7
A30A	**Hoffart Farm,**	127.70	34	⇑P		PKPdf	03 24 25.6	+0.6
	baz=128							
PBAR	**Barrancos**	127.74	311	ℯPKP		PKPdf	03 24 28.1	+2.8
K26A	**Motz Farm, Whi**	127.75	43	⇓P		PKPdf	03 24 26.0	+0.6
	baz=128							
T23A	**Casias Ranch,**	127.76	51	⇑P		PKPdf	03 24 26.7	+0.9
	baz=128							
P24A	**Kohler Place,**	127.78	47	⇑P		PKPdf	03 24 26.1	+0.5
	baz=128							
U23A	**El Rito**	127.86	51	⇑P		PKPdf	03 24 26.7	+0.7
	baz=128							
F28A	**McLaughlin**	127.86	38	⇓P		PKPdf	03 24 25.8	+0.4
	baz=128							
I27A	**Quinn**	127.90	41	⇑P		PKPdf	03 24 26.4	+0.8
	baz=128							
PLCA	**Paso Flores**	127.91	166	PKP		PKPdf	03 24 26.4	+0.6
PLCA	**Paso Flores**	127.91	166	PKP		PKPdf	03 24 26.4	+0.6
	comp=Z,3.9nm,0.7s,baz=138,slow=2.3,SNR=8.3							
PESTR	**Estremoz**	127.91	312	ℯPKP		PKPdf	03 24 28.6	+2.9
Y22A	**Socorro**	127.91	55	⇑P		PKPdf	03 24 26.7	+0.6
	baz=128							
Y22D	**IRIS PASSCAL I**	127.91	54	⇑P		PKPdf	03 24 26.5	+0.5
	baz=128							
SDCO	**Great Sand Dun**	127.94	50	PFAKE			03 24 40.0	+14
SDCO				LR		LR		
	comp=Z,302nm,20.0s							
B30A	**Myrvik Farm, E**	127.96	34	⇓P		PKPdf	03 24 26.7	+1.2
	baz=128							
V23A	**Ortiz Mt. (NFS**	128.03	52	⇑P		PKPdf	03 24 27.4	+1.1
	baz=128							
ANMO	**Albuquerque**	128.05	53	ℯPKPdf		PKPdf	03 24 26.4	0.0
ANMO				ℯPP		PP	03 26 27.4	-2.2
ANMO				LR		LR		
	comp=Z,210nm,19.0s							
LPM	**Los Pinos Moun**	128.08	54	ℯPKPdf		PKPdf	03 24 28.3	+1.9
Z22A	**Elephant Butte**	128.09	55	⇓P		PKPdf	03 24 27.6	+1.2
	baz=128							
O25A	**Wiggins**	128.12	46	⇑P		PKPdf	03 24 26.9	+0.7
	baz=128							
BNM	**Barren Site**	128.13	54	ℯPKPdf		PKPdf	03 24 27.8	+1.2
G28A	**Parade**	128.16	39	⇓P		PKPdf	03 24 26.9	+0.9
	baz=128							
S24A	**Houchin Ranch,**	128.19	50	⇓P		PKPdf	03 24 27.6	+0.9
	baz=128							
W23A	**Werner Place,**	128.23	53	⇑P		PKPdf	03 24 27.9	+1.2
	baz=128							
ULM	**Lac du Bonnet**	128.24	31	ℯPKPdf		PKPdf	03 24 25.9	0.0
ULM				PKP		PKPdf	03 24 26.1	+0.2
ULM	**Lac du Bonnet**	128.24	31	PKP		PKPdf	03 24 26.1	+0.2
	comp=Z,7.1nm,0.7s,baz=303,slow=2.1,SNR=11							
C30A	**Mose, Pekin**	128.28	35	⇑P		PKPdf	03 24 27.1	+1.0
	baz=128							
H28A	**Mission Ridge**	128.28	40	⇑P		PKPdf	03 24 27.2	+1.0
	baz=128							
M26A	**McRoberts Ranc**	128.28	44	⇑P		PKPdf	03 24 27.4	+0.9
	baz=128							
J27A	**Elkhorn Farm,**	128.29	42	⇓P		PKPdf	03 24 27.6	+1.2
	baz=128							
P25A	**Willow Gulch B**	128.31	47	⇑P		PKPdf	03 24 27.8	+1.1
	baz=128							
X23A	**Hourglass Bar**	128.36	54	⇓P		PKPdf	03 24 27.1	+0.2
	baz=128							
D30A	**Buchanan**	128.44	36	⇓P		PKPdf	03 24 27.0	+0.6
	baz=128							
F29A	**Eureka**	128.46	38	⇑P		PKPdf	03 24 26.7	+0.1
	baz=128							
Q25A	**Bedland, Calha**	128.47	48	⇑P		PKPdf	03 24 27.0	-0.1
	baz=128							
I28A	**Midland**	128.50	41	⇑P		PKPdf	03 24 27.6	+1.0
	baz=129							
Y23A	**Lovelace Mesa,**	128.65	54	⇓P		PKPdf	03 24 28.0	+0.6
	baz=129							
O26A	**Horse Wrangler**	128.65	46	⇓P		PKPdf	03 24 27.5	+0.3
	baz=129							
PCVE	**Castro Verde**	128.66	311	ℯPKP		PKPdf	03 24 30.1	+3.0
E30A	**Jud**	128.67	37	⇑P		PKPdf	03 24 27.8	+0.9
	baz=129							
Z23A	**Rita Site, Whi**	128.68	55	⇑P		PKPdf	03 24 28.4	+0.9
	baz=129							
R25A	**Fountain Ranch**	128.71	49	⇓P		PKPdf	03 24 28.5	+1.1
	baz=129							
G29A	**Hoven**	128.72	39	⇑P		PKPdf	03 24 28.2	+1.1
	baz=129							
J28A	**Allard Ranch,**	128.72	41	⇓P		PKPdf	03 24 28.2	+1.0
	baz=129							
V24A	**Rampart Ranch,**	128.75	52	⇓P		PKPdf	03 24 28.4	+0.7
	baz=129							
S25A	**Roberts Cordova**	128.76	49	⇓P		PKPdf	03 24 28.6	+1.1
	baz=129							
W24A	**Lazy 6 Ranch,**	128.80	53	⇓P		PKPdf	03 24 28.8	+1.1
	baz=129							
H29A	**Onida**	128.81	39	⇓P		PKPdf	03 24 28.5	+1.2
	baz=129							
KIC	**Kosan Boka**	128.87	270	ℯPKP1		PKPdf	03 24 28.3	+0.1
	comp=Z,33nm,1.1s							
P26A	**Davis Ranch, A**	128.88	47	⇑P		PKPdf	03 24 28.6	+0.9
	baz=129							
F30A	**Leola**	128.94	38	⇓P		PKPdf	03 24 28.5	+1.0
	baz=129							
K28A	**Ten Mile Ranch**	128.95	42	⇑P		PKPdf	03 24 28.4	+0.7
	baz=129							
T25A	**Trinidad**	128.96	50	⇑P		PKPdf	03 24 28.8	+0.7
	baz=129							
N27A	**Anderson Farm,**	128.97	45	⇓P		PKPdf	03 24 29.0	+1.2
	baz=129							
Q26A	**Hugo**	128.99	47	⇓P		PKPdf	03 24 27.9	0.0
	baz=129							
DBIC	**Dimbokro**	129.02	271	ℯPKPdf		PKPdf	03 24 28.4	0.0
DBIC				PKP		PKPdf	03 24 28.6	+0.2
DBIC	**Dimbokro**	129.02	271	PKP		PKPdf	03 24 28.6	+0.2
	comp=Z,2.8nm,0.3s,baz=125,slow=2.7,SNR=16							
I29A	**Vivian Onida**	129.04	40	⇑P		PKPdf	03 24 28.4	+0.7
	baz=129							
LIC	**Lamto**	129.13	270	ℯPKIKP		PKPdf	03 24 27.9	-0.8
	comp=Z,18nm,0.7s							
LIC	**Lamto**	129.13	270	ℯPKP1		PKPdf	03 24 29.2	+0.5
	comp=Z,29nm,0.7s							
LIC	**Lamto**	129.13	270	ℯPKPdf		PKPdf	03 24 27.9	-0.8
Y24A	**Capitan**	129.14	54	⇓P		PKPdf	03 24 29.0	+0.6
	baz=129							
TIC	**Toumodi**	129.18	271	ℯPKP1		PKPdf	03 24 29.3	+0.5
	comp=Z,14nm,0.6s							
U25A	**Circle Dot Ran**	129.20	51	⇓P		PKPdf	03 24 29.2	+0.8
	baz=129							
V25A	**Rancho No Teng**	129.22	52	⇑P		PKPdf	03 24 29.2	+0.7
	baz=129							
G30A	**Faulkton**	129.23	38	⇑P		PKPdf	03 24 29.1	+1.1
	baz=129							
O27A	**Beecher Island**	129.25	46	⇓P		PKPdf	03 24 29.1	+0.7
	baz=129							
OGNE	**Ogallala**	129.26	44	PFAKE			03 24 40.0	+12
OGNE				LR		LR		
	comp=Z,606nm,19.0s							
R26A	**Arlington**	129.27	48	⇓P		PKPdf	03 24 29.2	+0.8
	baz=129							
J29A	**Okreek**	129.32	41	⇓P		PKPdf	03 24 28.9	+0.7
	baz=129							
Z24A	**Sheeppen Canyo**	129.36	55	⇓P		PKPdf	03 24 30.3	+1.5
	baz=129,SNR=7.4							
AGMN	**Agassiz Nation**	129.40	33	PFAKE			03 24 40.0	+12
AGMN				LR		LR		
	comp=Z,476nm,20.0s							
P27A	**Ficken Ranch,**	129.43	46	⇑P		PKPdf	03 24 29.5	+0.8
	baz=130							
124A	**Stringfield Ra**	129.46	56	⇑P		PKPdf	03 24 29.4	+0.3
	baz=130							
S26A	**Kim**	129.50	49	⇑P		PKPdf	03 24 29.1	+0.2
	baz=130							
W25A	**X Bar L Ranch,**	129.53	52	⇓P		PKPdf	03 24 29.5	+0.4
	baz=130							
T26A	**Comanche Natio**	129.56	50	⇑P		PKPdf	03 24 29.9	+0.8
	baz=130							
224A	**Cornudas Mount**	129.56	56	⇓P		PKPdf	03 24 29.4	+0.2
	baz=130							
K29A	**Lazy Trails An**	129.62	42	⇑P		PKPdf	03 24 29.2	+0.4
	baz=130							
I30A	**Oacoma**	129.65	40	⇓P		PKPdf	03 24 29.4	+0.6
	baz=130							
Y25A	**Mesa, Roswell**	129.74	54	⇓P		PKPdf	03 24 30.8	+1.3
	baz=130,SNR=7.8							
324A	**Moseley Ranch,**	129.75	57	⇑P		PKPdf	03 24 29.8	+0.2
	baz=130							
R27A	**Eads**	129.75	48	⇓P		PKPdf	03 24 30.1	+0.8
	baz=130							
MNTX	**Cornudas Mount**	129.77	57	ℯPKPdf		PKPdf	03 24 30.7	+1.3
MNTX				LR		LR		
	comp=Z,276nm,20.0s							
O28A	**Krutsinger Ran**	129.78	45	⇓P		PKPdf	03 24 29.7	+0.4
	baz=130							
L29A	**Maesberg Ranch**	129.83	43	⇑P		PKPdf	03 24 29.4	+0.1
	baz=130							
V26A	**Tequesquite Ra**	129.87	51	⇓P		PKPdf	03 24 30.4	+0.7
	baz=130							
J30A	**Dallas**	129.89	41	⇓P		PKPdf	03 24 30.4	+1.0
	baz=130							
Z25A	**Roswell**	129.90	55	⇑P		PKPdf	03 24 31.0	+1.2
	baz=130							
P28A	**Saint Francis**	130.01	46	⇓P		PKPdf	03 24 30.9	+1.1
	baz=130							
125A	**Gardner Draw,**	130.12	56	⇑P		PKPdf	03 24 31.2	+1.0
	baz=130							
K30A	**Basset**	130.12	41	⇓P		PKPdf	03 24 31.2	+1.4
	baz=130							
Q28A	**Sharon Springs**	130.16	47	⇓P		PKPdf	03 24 30.9	+0.8
	baz=130							
325A	**Bean Ranch, Si**	130.19	57	⇑P		PKPdf	03 24 31.4	+1.0
	baz=130							
X26A	**CR and CF Fran**	130.25	53	⇑P		PKPdf	03 24 31.1	+0.6
	baz=130							
T27A	**Campo**	130.25	49	⇓P		PKPdf	03 24 31.2	+0.8
	baz=130							
N29A	**Votaw Ranch, W**	130.28	44	⇓P		PKPdf	03 24 31.0	+0.8
	baz=130							
L30A	**Spencer Herefo**	130.39	42	⇑P		PKPdf	03 24 30.9	+0.6
	baz=130							
U27A	**Thompson Grove**	130.40	50	⇑P		PKPdf	03 24 30.8	+0.2
	baz=130							
R28A	**Tribune**	130.45	47	⇓P		PKPdf	03 24 31.1	+0.4
	baz=130							
O29A	**4D Ranch, Culb**	130.46	45	⇑P		PKPdf	03 24 31.3	+0.8
	baz=130							
P29A	**Atwood**	130.58	46	⇓P		PKPdf	03 24 31.4	+0.6
	baz=131							
S28A	**Manter**	130.67	48	⇓P		PKPdf	03 24 32.5	+1.4
	baz=131							
226B	**Tecolote Peak,**	130.67	56	⇓P		PKPdf	03 24 32.2	+1.0
	baz=131							
T28A	**Walsh**	130.69	49	⇑P		PKPdf	03 24 31.9	+0.7
	baz=131							
Q29A	**Oakley**	130.84	46	⇑P		PKPdf	03 24 31.9	+0.6
	baz=131							
U28A	**Mallet**	130.87	50	⇑P		PKPdf	03 24 32.3	+0.8
	baz=131							
Y27A	**Causey**	130.96	53	⇑P		PKPdf	03 24 32.6	+0.9
	baz=131							
326A	**Caldwell Ranch**	131.03	57	⇑P		PKPdf	03 24 32.8	+0.8
	baz=131							
P30A	**Selden**	131.09	45	⇑P		PKPdf	03 24 33.1	+1.4
	baz=131							
V28A	**Channing**	131.09	51	⇓P		PKPdf	03 24 33.0	+1.1
	baz=131							
Z27A	**Tatum**	131.09	54	⇑P		PKPdf	03 24 32.9	+0.9
	baz=131							
M31A	**Lamtecht Ranc**	131.16	43	⇑P		PKPdf	03 24 32.9	+1.1
	baz=131							
MSTX	**Muleshoe**	131.24	53	⇓P		PKPdf	03 24 33.3	+1.0
	baz=131							
526A	**Mary Lane Ranc**	131.25	59	⇑P		PKPdf	03 24 33.7	+1.2
	baz=131							
T29A	**Hugoton**	131.28	49	⇑P		PKPdf	03 24 33.6	+1.4
	baz=131							
626A	**Big Bend Ranch**	131.33	59	⇓P		PKPdf	03 24 33.3	+0.8
	baz=131							
Q30A	**Quinter**	131.34	46	⇓P		PKPdf	03 24 33.6	+1.3
	baz=131							
N31A	**Bailey Ranch,**	131.41	43	⇓P		PKPdf	03 24 33.7	+1.4
	baz=132							
O31A	**Woolen Ranch,**	131.46	44	⇓P		PKPdf	03 24 33.8	+1.4
	baz=132							
ECSD	**EROS Data Cent**	131.50	39	ℯPKPdf		PKPdf	03 24 33.1	+0.8
ECSD				LR		LR		
	comp=Z,198nm,20.0s							
X28A	**Dimmitt**	131.52	52	⇑P		PKPdf	03 24 33.8	+1.0
	baz=132							
R30A	**Dighton**	131.58	47	⇓P		PKPdf	03 24 34.1	+1.3
	baz=132							
427A	**Hayter Ranch,**	131.63	57	⇓P		PKPdf	03 24 35.1	+2.0
	baz=132,SNR=6.5							
527A	**Woodward Ranch**	131.63	58	⇓P		PKPdf	03 24 34.7	+1.5
	baz=132,SNR=8.5							
Y28A	**McKinney Farm,**	131.68	53	⇑P		PKPdf	03 24 34.1	+1.0
	baz=132							
BGNE	**Belgrade**	131.68	42	⇑P		PKPdf	03 24 33.6	+0.8
	baz=132							
P31A	**Stockton**	131.70	45	⇓P		PKPdf	03 24 34.9	+2.0
	baz=132							
TXAR	**Lajitas Array**	131.78	59	PKPpre		PKPpre	03 24 18.8	
TXAR				PKP		**PKPdf**	**03 24 34.0**	**+0.5**
TXAR				SKPbc		**SKPab**	**03 27 56.9**	**+0.5**
TXAR	**Lajitas Array**	131.78	59	PKhKP		PKPpre	03 24 18.8	
	comp=Z,0.2nm,0.7s,baz=197,slow=2.8,SNR=3.3							
TXAR				PKP		**PKPdf**	**03 24 34.0**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=190,slow=3.3,SNR=12							
TXAR				SKPbc		**SKPab**	**03 27 56.9**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=262,slow=2.5,SNR=8.8							
128A	**Castleberry Fa**	131.88	55	⇓P		PKPdf	03 24 34.5	+1.0
	baz=132							
T30A	**Plains**	131.89	49	⇓P		PKPdf	03 24 34.6	+1.3
	baz=132							
EYMN	**Ely**	131.92	31	PFAKE			03 24 40.0	+7.0
EYMN				LR		LR		
	comp=Z,341nm,19.0s							
X29A	**Tulia**	131.93	52	⇑P		PKPdf	03 24 34.6	+1.0
	baz=132							
328A	**Wristen Ranch,**	131.97	57	⇓P		PKPdf	03 24 34.4	+0.7
	baz=132							
TRQA	**Tornquist**

T33A	**Patterson Ranc**	**133.55**	**48**	⇓P		**PKPdf**	**03 24 38.3**	**+1.9**
	baz=134								
131A	**Roby**	**133.55**	**54**	⇓P		**PKPdf**	**03 24 38.5**	**+1.9**
	baz=134								
KSU1	**Kansas State U**	**133.81**	**44**	*e*PKPdf		**PKPdf**	**03 24 37.4**	**+0.5**
KSU1				LR		LR			
	comp=Z,365nm,20.0s								
231A	**Bronte**	**133.84**	**55**	⇑P		**PKPdf**	**03 24 38.4**	**+1.2**
	baz=134								
331A	**San Angelo**	**133.95**	**56**	⇓P		**PKPdf**	**03 24 38.7**	**+1.3**
	baz=134								
431A	**Sonora**	**133.98**	**57**	⇑P		**PKPdf**	**03 24 39.2**	**+1.7**
	baz=134								
V33A	**Lossen Ranch,**	**134.03**	**49**	⇑P		**PKPdf**	**03 24 39.4**	**+2.0**
	baz=134								
Z32A	**Haskell**	**134.06**	**53**	⇑P		**PKPdf**	**03 24 39.0**	**+1.5**
	baz=134								
WMOK	**Wichita Mounta**	**134.08**	**51**	PFAKE			03 24 50.0	+12
WMOK				LR		LR			
	comp=Z,234nm,22.0s								
ABTX	**Abilene, Hawle**	**134.16**	**54**	⇓P		**PKPdf**	**03 24 39.8**	**+2.1**
	baz=134								
W33A	**Caddo, Fort Co**	**134.16**	**50**	⇑P		**PKPdf**	**03 24 39.3**	**+1.7**
	baz=134								
531A	**Rocksprings**	**134.18**	**57**	⇓P		**PKPdf**	**03 24 39.5**	**+1.7**
	baz=134								
U34A	**Anderson Ranch**	**134.33**	**48**	⇑P		**PKPdf**	**03 24 39.8**	**+1.9**
	baz=134								
X33A	**Lawton**	**134.37**	**51**	⇑P		**PKPdf**	**03 24 39.7**	**+1.7**
	baz=134								
631A	**Perdido Creek**	**134.37**	**58**	⇑P		**PKPdf**	**03 24 39.4**	**+1.2**
	baz=134								
232A	**Coleman**	**134.40**	**55**	⇓P		**PKPdf**	**03 24 39.5**	**+1.3**
	baz=134								
SCHQ	**Schefferville**	**134.44**	**9**	PKP		**PKPdf**	**03 24 37.5**	**0.0**
SCHQ				*e*PKPdf		**PKiKP**	**03 24 38.7**	**-0.2**
SCHQ	**Schefferville**	**134.44**	**9**	PKP		**PKPdf**	**03 24 37.5**	**0.0**
	comp=Z,5.2nm,0.4s,baz=345,slow=3,1,SNR=18								
Y33A	**Hilltop Ranch,**	**134.47**	**52**	⇓P		**PKPdf**	**03 24 40.2**	**+1.9**
	baz=134								
332A	**Millersview**	**134.48**	**55**	⇑P		**PKPdf**	**03 24 39.9**	**+1.6**
	baz=134								
SCIA	**State Center**	**134.59**	**39**	PFAKE			03 24 50.0	+12
SCIA				LR		LR			
	comp=Z,400nm,20.0s								
432A	**Menard**	**134.59**	**56**	⇓P		**PKPdf**	**03 24 40.2**	**+1.5**
	baz=135								
V34A	**Guthrie**	**134.60**	**49**	⇓P		**PKPdf**	**03 24 40.2**	**+1.7**
	baz=135								
Z33A	**Whitaker Ranch**	**134.62**	**53**	⇓P		**PKPdf**	**03 24 40.5**	**+1.9**
	baz=135								
JCT	**Junction City**	**134.71**	**57**	*e*PKIKP		**PKPdf**	**03 24 40.7**	**+1.9**
JCT	**Junction City**	**134.71**	**57**	*e*PKPdf		**PKPdf**	**03 24 40.7**	**+1.9**
JCT	**Junction City**	**134.71**	**57**	⇓P		**PKPdf**	**03 24 40.6**	**+1.9**
	baz=135								
532A	**Rocksprings**	**134.73**	**57**	⇓P		**PKPdf**	**03 24 39.8**	**+0.9**
	baz=135								
133A	**Hamilton Ranch**	**134.74**	**54**	⇓P		**PKPdf**	**03 24 40.2**	**+1.4**
	baz=135								
X34A	**Smith Ranch, M**	**134.85**	**50**	⇓P		**PKPdf**	**03 24 40.6**	**+1.7**
	baz=135								
632A	**Uvalde**	**135.00**	**58**	⇓P		**PKPdf**	**03 24 40.9**	**+1.5**
	baz=135								
732A	**Laxson Ranch,**	**135.06**	**59**	⇓P		**PKPdf**	**03 24 41.1**	**+1.7**
	baz=135								
333A	**Richland Sprin**	**135.11**	**55**	⇑P		**PKPdf**	**03 24 41.4**	**+1.8**
	baz=135								
433A	**Art**	**135.21**	**56**	⇑P		**PKPdf**	**03 24 41.0**	**+1.3**
	baz=135								
134A	**White-Moore Ra**	**135.41**	**53**	⇓P		**PKPdf**	**03 24 41.9**	**+1.9**
	baz=136								
334A	**Lometa**	**135.71**	**55**	⇓P		**PKPdf**	**03 24 42.2**	**+1.6**
	baz=136								
JFWS	**Jewell Farm**	**135.78**	**36**	*e*PKIKP		**PKPdf**	**03 24 41.0**	**+0.6**
JFWS				MLR		MLR			
	comp=Z,430nm,21.0s								
JFWS	**Jewell Farm**	**135.78**	**36**	*e*PKPdf		**PKPdf**	**03 24 41.0**	**+0.6**
JFWS				LR		LR			
	comp=Z,430nm,21.0s								
TUL1	**Tulsa**	**135.83**	**48**	⇑P		**PKPdf**	**03 24 42.3**	**+1.6**
	baz=136								
434A	**Burnet**	**135.86**	**56**	⇓P		**PKPdf**	**03 24 42.1**	**+1.2**
	baz=136								
534A	**Blanco**	**135.94**	**57**	⇓P		**PKPdf**	**03 24 42.4**	**+1.3**
	baz=136								
135A	**Vickery Place,**	**135.95**	**53**	⇓P		**PKPdf**	**03 24 42.9**	**+1.9**
	baz=136								
WHTX	**Lake Whitney**	**136.11**	**54**	⇓P		**PKPdf**	**03 24 43.3**	**+2.0**
	baz=136								
KVTX	**Kingsville**	**137.15**	**60**	PFAKE			03 25 00.0	+17
KVTX				LR		LR			
	comp=Z,452nm,21.0s								
MIAR	**Mount Ida**	**138.07**	**48**	*e*PKIKP		**PKPdf**	**03 24 45.9**	**+1.0**
MIAR				MLR		MLR			
	comp=Z,462nm,21.0s								
MIAR	**Mount Ida**	**138.07**	**48**	*e*PKPdf		**PKPdf**	**03 24 45.9**	**+1.0**
MIAR				LR		LR			
	comp=Z,462nm,21.0s								
LCO	**Las Campanas**	**138.88**	**161**	PFAKE			03 25 00.0	+13
LCO				LR		LR			
	comp=Z,466nm,20.0s								
BLO	**Bloomington**	**140.31**	**38**	*e*PKHKP		PKPpre	03 24 43.4		
BLO				*e*			03 24 49.7		
BLO	**Bloomington**	**140.31**	**38**	*e*PKPpre		PKPpre	03 24 43.4		
BLO				*e*PKPdf		**PKPdf**	**03 24 49.7**	**+0.9**	
WCI	**Wyandotte Cave**	**141.04**	**39**	*e*PKHKP		PKPpre	03 24 44.3		
WCI	**Wyandotte Cave**	**141.04**	**39**	*e*PKPpre		PKPpre	03 24 44.3		
WCI				*e*PKPdf		**PKiKP**	**03 24 53.9**	**+1.0**	
WVT	**Waverly**	**141.30**	**43**	*e*PKHKP		PKPpre	03 24 45.6		
WVT				*e*			03 24 51.0		
WVT	**Waverly**	**141.30**	**43**	*e*PKPpre		PKPpre	03 24 45.6		
WVT				*e*PKPdf		**PKPdf**	**03 24 51.0**	**+0.3**	
ACSO	**Alum Creek Sta**	**141.65**	**34**	PFAKE			03 25 00.0	+8.8	
ACSO				LR		LR			
	comp=Z,622nm,21.0s								
NCB	**Newcomb**	**142.69**	**21**	PFAKE			03 25 00.0	+7.0	
NCB				LR		LR			
	comp=Z,246nm,19.0s								
BINY	**Binghamton**	**143.51**	**25**	PFAKE			03 25 10.0	+16	
BINY				LR		LR			
	comp=Z,369nm,19.0s								
LRAL	**Lakeview Retre**	**143.57**	**46**	*e*PKPdf		PKPbc	03 24 52.4	+0.1	
MCWV	**Mont Chateau**	**143.72**	**31**	*e*PKPdf		PKPbc	03 24 52.9	+0.4	
CPCT	**Cooper Cave**	**143.87**	**41**	*e*PKPdf		PKPbc	03 24 53.2	+0.1	
CPUP	**Villa Florida**	**143.95**	**178**	PKP		PKPbc	03 24 53.5	0.0	
CPUP	**Villa Florida**	**143.95**	**178**	PKP		PKPbc	03 24 53.5	0.0	
	comp=Z,1.7nm,0.4s,baz=169,slow=2.2,SNR=13								
BRAL	**Brewton**	**144.57**	**49**	*e*PKPdf		**PKPdf**	**03 24 56.6**	**0.0**	
BRAL				LR		LR			
	comp=Z,319nm,20.0s								
BLA	**Blacksburg**	**145.19**	**35**	*e*PKIKP		**PKPbc**	**03 24 57.0**	**-0.3**	
BLA	**Blacksburg**	**145.19**	**35**	*e*PKPdf		**PKPbc**	**03 24 57.0**	**-0.3**	
LVC	**Limon Verde**	**145.39**	**159**	*e*PKPbc		**PKPab**	**03 24 59.3**	**+0.6**	
LVC				LR		LR			
	comp=Z,291nm,21.0s								
SDMD	**Soldier's Deli**	**145.39**	**29**	*e*PKPdf		**PKPbc**	**03 24 57.5**	**-0.2**	
CPNY	**Central Park**	**145.51**	**24**	*e*PKPdf		**PKPdf**	**03 24 57.8**	**-0.2**	
SPB	**Sao Paulo**	**145.58**	**195**	PKPbc		**PKPdf**	**03 24 58.5**	**-0.1**	
KMSC	**Kings Mountain**	**146.08**	**38**	*e*PKPbc		**PKPab**	**03 25 00.6**	**-0.1**	
KMSC	**Kings Mountain**	**146.08**	**38**	⇓P		**PKPab**	**03 25 01.2**	**+0.5**	
	baz=146								
CBN	**Corbin**	**146.08**	**30**	*e*PKPbc		**PKPab**	**03 25 00.2**	**-0.3**	
CBN				LR		LR			
	comp=Z,397nm,19.0s								
JSRW	**J. Sargeant Re**	**146.21**	**32**	*e*PKPbc		**PKPbc**	**03 25 00.4**	**+0.1**	
TIGA	**Tifton**	**146.86**	**46**	*e*PKPbc		**PKPbc**	**03 25 03.1**	**+0.7**	
TIGA	**Tifton**	**146.86**	**46**	⇑P		**PKPbc**	**03 25 02.9**	**+0.4**	
	baz=147								
TEIG	**Tepich**	**147.54**	**68**	*e*PKPbc		**PKPbc**	**03 25 05.7**	**+1.1**	
TEIG				LR		LR			
	comp=Z,386nm,22.0s								
SACV	**Santiago Islan**	**147.70**	**282**	*e*PKPbc		**PKPbc**	**03 25 05.1**	**-0.1**	
CNNC	**Cliffs of the**	**148.03**	**35**	*e*PKPbc		**PKPbc**	**03 25 06.2**	**+0.7**	
CNNC				LR		LR			
	comp=Z,471nm,20.0s								
TGUH	**Tegucigalpa,Un**	**149.45**	**79**	PFAKE			03 25 20.0	+5.4	
TGUH				LR		LR			
	comp=Z,365nm,22.0s								
NNA	**Nana**	**150.16**	**136**	*e*PKPbc		**PKPbc**	**03 25 11.7**	**+0.1**	
NNA				LR		LR			
	comp=Z,521nm,20.0s								
LPAZ	**La Paz**	**151.45**	**156**	PKP		**PKPdf**	**03 25 09.6**	**+0.4**	
LPAZ				PKPbc		**PKPbc**	**03 25 15.3**	**+0.1**	
LPAZ	**La Paz**	**151.45**	**156**	PKP		**PKPdf**	**03 25 09.6**	**+0.4**	
	comp=Z,1.8nm,0.8s,baz=175,slow=1.9,SNR=20								
LPAZ				PKPbc		**PKPbc**	**03 25 15.3**	**+0.1**	

	comp=Z,12nm,0.5s,baz=175,slow=2.4,SNR=37							
JTS	**JuntasAbangare**	**151.81**	**87**	PFAKE			03 25 20.0	-4.4
JTS				LR		LR		
	comp=Z,456nm,22.0s							
BDFB	**Brasilia**	**153.30**	**198**	PKP		**PKPdf**	**03 25 11.0**	**-0.2**
BDFB				PKPbc		**PKiKP**	**03 25 18.9**	**0.0**
BDFB	**Brasilia**	**153.30**	**198**	PKP		**PKPdf**	**03 25 11.0**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=83,slow=1.1,SNR=4.9							
BDFB				PKPbc		**PKiKP**	**03 25 18.9**	**0.0**
	comp=Z,7.4nm,0.5s,baz=186,slow=4.0,SNR=14							
RCBR	**Riachuelo**	**154.34**	**233**	PFAKE			03 25 20.0	-1.0
RCBR				LR		LR		
	comp=Z,319nm,20.0s							
OTAV	**Otavalo**	**155.96**	**112**	PFAKE			03 25 30.0	-13
OTAV				LR		LR		
	comp=Z,305nm,20.0s							
BCIP	**Isla Barro Col**	**156.79**	**90**	PFAKE			03 25 30.0	+14
BCIP				LR		LR		
	comp=Z,290nm,19.0s							
MTDJ	**Mount Denham**	**157.84**	**66**	PFAKE			03 25 30.0	+13
MTDJ				LR		LR		
	comp=Z,372nm,19.0s							
SAML	**Samuel**	**160.04**	**160**	PFAKE			03 25 30.0	+10
SAML				LR		LR		
	comp=Z,638nm,22.0s							
SDDR	**Presa de Saban**	**162.94**	**56**	PFAKE			03 25 30.0	+7.2
SDDR				LR		LR		
	comp=Z,541nm,21.0s							
SDV	**Santo Domingo**	**165.83**	**93**	PFAKE			03 25 40.0	+14
SDV				LR		LR		
	comp=Z,4µm,21.0s							
SJG	**San Juan**	**167.46**	**48**	PFAKE			03 25 40.0	+14
SJG				LR		LR		
	comp=Z,426nm,19.0s							
PTGA	**Pitinga**	**168.81**	**161**	PFAKE			03 25 40.0	+12
PTGA				LR		LR		
	comp=Z,578nm,21.0s							
ANWB	**Willy Bob**	**170.65**	**34**	PFAKE			03 25 40.0	+11
ANWB				LR		LR		
	comp=Z,803nm,22.0s							
FDF	**Fort de France**	**173.28**	**44**	PFAKE			03 25 40.0	+10
FDF				LR		LR		
	comp=Z,755nm,21.0s							
GRGR	**Grenville**	**174.31**	**67**	PFAKE			03 25 40.0	+10
GRGR				LR		LR		
	comp=Z,355nm,20.0s							

MAN 14 03:47:52.8±1.5N×123.2±2.2E, h23km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.14**	**76**	⇓*i*P		Pb	03 47 57.4	+0.7
PAGZ	**Pagadian**	**0.72**	**167**	*e*P		Pb	03 48 06.2	+0.4
PAGZ				*e*S		Sb	03 48 11.6	-3.6
IPIL	**Ipil**	**0.99**	**220**	*e*P		Pn	03 48 10.8	+0.3
BUKP	**Musuan**	**1.94**	**110**	*e*P		Pb	03 48 28.5	+1.7

IDC 14 03:49:56.5±1.5, 9.98S×123.99E, h0km, mb3.5/1, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=162.4km s-min=32.1km az=55.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**7.56**	**113**	P		Pn	03 51 52.7	+4.6
	baz=23,SNR=23							
FITZ	**Fitzroy Crossi**	**8.23**	**169**	P		Pn	03 51 58.4	+1.1
	baz=24,SNR=30							
KDU	**Kakadu**	**8.74**	**109**	P		Pn	03 52 10.2	+5.9
	baz=24,SNR=16							
WRA	**Warramunga Arr**	**14.06**	**136**	Pn		Pn	03 53 16.7	-0.6
	0.7nm,0.3s,baz=310,slow=14,SNR=11							
WRA				Sn		Sn	03 55 45.0	-9.3
	2.7nm,0.3s,baz=310,slow=21,SNR=11							
ASAR	**Alice Springs**	**16.58**	**146**	Pn		Pn	03 53 50.6	0.0
	0.7nm,0.3s,baz=322,slow=12,SNR=35							
ASAR				Sn		Sn	03 56 46.2	-9.3
	0.6nm,0.3s,baz=320,slow=23,SNR=9.6							
MKAR	**Makanchi Array**	**67.65**	**330**	P		P	04 00 55.2	-0.2
	0.4nm,0.6s,baz=140,slow=7.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**123.48**	**279**	PKP		PKPdf	04 08 57.1	+0.2
	0.4nm,0.9s,baz=55,slow=1.4,SNR=6.3							

*DJA **14** 03:50:09.6±0.5, 8°S±4°×107°E±°, h10km, M3.6/7, MLv3.6/7*
*ISCJB **14** 03:50:10.1±0.8, 8.31S±0.09×107.40E±0.09, h35km, Error ellipse: s-maj=16.3km s-min=7.2km az=136.6*

ISC 14 03:50:11.2±1.5, 8.32S±0.07×107.41E±0.07, h35km, n8, σ2s09/11, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.86**	**28**	P		**Pn**	**03 50 25.3**	**-1.5**
CISI				S		**Sn**	**03 50 35.5**	**-2.7**
CISI	**Cisompet, Garu**	**0.86**	**28**	P		**Pn**	**03 50 25.3**	**-1.5**
	baz=15,SNR=5.0							
CMJI	**Cimerak**	**1.16**	**63**	P		**Pn**	**03 50 30.2**	**-0.7**
CMJI				S		**Sn**	**03 50 44.1**	**-1.4**
SKJI	**Sukabumi**	**1.55**	**327**	P		**Pn**	**03 50 38.5**	**+2.2**
KPJI	**Karang Pucung**	**1.80**	**57**	P		**Pn**	**03 50 40.6**	**+0.9**
KPJI				S		**Sn**	**03 51 04.8**	**+3.5**
XMI	**Christmas Isla**	**2.71**	**218**	P		**Pn**	**03 50 51.9**	**-0.5**
	baz=18,SNR=4.5							
XMIS	**Christmas Isla**	**2.76**	**219**	P		**Pn**	**03 50 52.1**	**-0.9**
	baz=18,SNR=12							
PCJI	**Pacitan**	**3.73**	**88**	P		**Pn**	**03 51 07.8**	**+1.4**

*BJI **14** 04:19:01.0, 0.46S×124.08E, h112km, mB4.8/19, mb4.8/32*
*AUST **14** 04:19:03.6, 0.00N×124.00E, h100km*
*IDC **14** 04:19:04.0±1.9, 0.09S×123.84E, h97km±15km, mb4.1/18, mb1 4.2/19, mb1mx4.2/26, mbtmp4.1/19, MS3.6/3, Ms1 3.7/3, ms1mx3.0/28, Error ellipse: s-maj=23.0km s-min=10.3km az=72.0*
*ISCJB **14** 04:19:04.1±0.3, 0.09S±0.03×123.96E±0.03, h111km±3km, mb4.6/39, Error ellipse: s-maj=5.4km s-min=4.1km az=42.5*
*NEIC **14** 04:19:04.5±1.5, 0.07S×123.83E, h101km±3km, mb4.9/11, Error ellipse: s-maj=14.7km s-min=13.0km az=161.0*
NEIC Felt [II] at Gorontalo.
*DJA **14** 04:19:06.2±0.3, 0°S±4°×12°4E±°, h95km±9km, M4.8/16, mb5.0/9, mB5.2/6, MLv5.0/16, Mw(mB)4.5/6*
*BKK **14** 04:19:08.7±0.4, 0°S±5°×12°4E±°, h105km±5km, M4.9/8, mB5.1/1, mb4.8/8, MLv4.9/3, Mw(mB)4.4/1*

ISC 14 04:19:06.0±0.5, 0.13S±0.04×123.96E±0.04, h115km±4km, n103, σ1s71/145, mb4.6/39, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.70**	**2**	P		**Pn**	**04 19 24.3**	**-0.5**
KMSI				S		**Sn**	**04 19 40.1**	**+1.1**
LUWI	**Luwuk**	**1.49**	**233**	P		**Pn**	**04 19 35.5**	**+2.5**
LUWI	**Luwuk**	**1.49**	**233**	*e*Pn		**Pn**	**04 19 30.9**	**-2.1**
LUWI				*e*Sn		**Sn**	**04 19 51.5**	**-2.0**
LUWI	**Luwuk**	**1.49**	**233**	P		**Pn**	**04 19 30.7**	**-2.3**
	baz=1.6,SNR=25							
MRSI	**Marisa**	**2.10**	**287**	P		**Pn**	**04 19 39.1**	**-1.4**
MRSI				S		**Sn**	**04 20 04.4**	**-2.5**
APSI	**Ampana**	**2.44**	**251**	P		**Pn**	**04 19 44.0**	**-0.7**
TOLI	**Toli-Toli**	**3.40**	**291**	*e*Pn		Pn	04 19 53.2	-4.2
TOLI				*e*Sn		**Sn**	**04 20 38.9**	**+1.8**
TNTI	**Ternate**	**3.52**	**75**	P		**Pn**	**04 20 01.4**	**+2.3**
TNTI				S		**Sn**	**04 20 39.6**	**-0.5**
TNTI	**Ternate**	**3.52**	**75**	*e*Pn		**Pn**	**04 20 01.1**	**+2.0**
TNTI				*e*Sn		**Sn**	**04 20 37.4**	**-2.7**
LBMI	**Labuha**	**3.58**	**98**	P		**Pn**	**04 20 00.5**	**+0.7**
LBMI				S		**Sn**	**04 20 38.3**	**-3.2**
SGSI	**Sangihe**	**4.10**	**22**	P		Pn	04 20 13.1	+6.3
NLAI	**Namlea**	**4.41**	**135**	P		**Pn**	**04 20 09.1**	**-1.8**
NLAI				S		**Sn**	**04 20 57.9**	**-3.4**
TTSI	**Tana Toraja**	**5.05**	**235**	P		**Pn**	**04 20 19.3**	**-0.3**
	210nm,0.7s,3µm1.7nm							
MMSI	**Mamuju**	**5.65**	**243**	P		Pn	04 20 32.9	+5.2
SPSI	**Sidrap Palu**	**5.66**	**228**	P		**Pn**	**04 20 27.8**	**0.0**
	205nm,0.5s,3µm0.9nm							
BNSI	**Bone**	**5.73**	**222**	P		**Pn**	**04 20 28.7**	**0.0**
	144nm,0.7s,5µm0.9nm							
MSAI	**Masohi**	**5.91**	**123**	P		**Pn**	**04 20 30.4**	**-0.7**
	128nm,0.9s,1µm0.4nm							

KAPI	**Kappang**	**6.42**	**221**	*e*Pn		**Pn**	**04 20 38.5**	**+0.5**
KAPI				*e*Sn		**Sn**	**04 21 46.6**	**-3.4**
BKSI	**Bulukumba**	**6.43**	**217**	P		**Pn**	**04 20 37.9**	**-0.2**
	51nm,0.7s,801nm0.4nm							
SWI	**Sorong**	**7.34**	**96**	P		**Pn**	**04 20 50.2**	**-0.3**
	79nm,0.8s,0.3nm							
BNDI	**Bandanaira**	**7.37**	**126**	P		**Pn**	**04 20 50.1**	**-0.9**
	329nm,1.2s,1.1nm							
FAKI	**Fak Fak**	**8.74**	**109**	P		**Pn**	**04 21 07.0**	**-2.5**
	baz=8.7,SNR=15							
MTN	**Manton Dam**	**14.50**	**151**	P		**Pn**	**04 22 25.3**	**-0.5**
	baz=15,SNR=7.9							
KDU	**Kakadu**	**15.07**	**146**	P		**Pn**	**04 22 31.8**	**-1.2**
	baz=15,SNR=7.8							
KNRA	**Kununurra**	**16.16**	**163**	P		**P**	**04 22 47.4**	**-0.2**
	baz=16,SNR=12							
FITZ	**Fitzroy Crossi**	**17.94**	**175**	*e*P		**P**	**04 23 07.6**	**+0.4**
	21nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.94**	**175**	P		**P**	**04 23 07.3**	**+0.2**
	1.1nm,0.3s,baz=4.2,slow=7.1,SNR=18							
FITZ	**Fitzroy Crossi**	**17.94**	**175**	P		**P**	**04 23 07.6**	**+0.4**
	baz=18,SNR=14							
MBWA	**Marble Bar**	**21.31**	**191**	*e*P		**P**	**04 23 43.9**	**+0.2**
	30nm,0.8s							
WRAB	**Tennant Creek**	**22.16**	**153**	*e*P		**P**	**04 23 52.2**	**-0.5**
	39nm,0.9s							
WRA	**Warramunga Arr**	**22.16**	**153**	*e*P		**P**	**04 23 51.8**	**-0.9**
WRA				*e*ScP		**ScP**	**04 31 14.1**	**+1.5**
WRA	**Warramunga Arr**	**22.16**	**153**	P		**P**	**04 23 51.8**	**-0.9**
	28nm,0.9s,baz=334,slow=9.5,SNR=41							
WRA				ScP		**ScP**	**04 31 14.1**	**+1.5**
	0.6nm,0.6s,baz=326,slow=2.5,SNR=4.8							
COEN	**Coen**	**23.47**	**127**	*e*P		**P**	**04 24 06.4**	**+1.0**
	643nm,2.1s							
COEN	**Coen**	**23.47**	**127**	P		**P**	**04 24 06.9**	**+1.5**
	baz=24,SNR=18							
QIZ	**Qiongzhong**	**23.55**	**325**	P		**P**	**04 24 04.8**	**-1.3**
QIZ				S		**S**	**04 28 10.3**	**-1.4**
QIZ				pmax		pmax		
	comp=Z,8.0nm,1.8s							
QIZ				pmax		pmax		
	comp=Z,92nm,4.1s							
GIRL	**Giralia**	**24.30**	**202**	P		**P**	**04 24 14.3**	**+1.5**
	baz=25,SNR=4.0							
PMG	**Port Moresby**	**24.87**	**112**	*e*P		**P**	**04 24 19.5**	**+1.4**
PMG	**Port Moresby**	**24.87**	**112**	P		**P**	**04 24 19.5**	**+1.4**
	13nm,0.8s,baz=295,slow=11,SNR=4.6							
WRKA	**Warakurna**	**25.12**	**171**	P		**P**	**04 24 20.7**	**+0.4**
	baz=25,SNR=25							
AS12	**Alice Springs**	**25.31**	**158**	*e*P		**P**	**04 24 22.8**	**+0.7**
AS12				*e*pP		pP	04 24 39.0	-8.1
AS12				*e*PcP		**PcP**	**04 27 53.0**	**+0.7**
AS12				*e*ScP		**ScP**	**04 31 22.4**	**+1.3**
ASAR	**Alice Springs**	**25.31**	**158**	P		**P**	**04 24 22.8**	**+0.7**
	24nm,1.0s,baz=331,slow=9.5,SNR=75							
ASAR				pP		pP	04 24 39.0	-8.1
	5.3nm,0.8s,baz=342,slow=8.9,SNR=6.1							
ASAR				PcP		**PcP**	**04 27 53.0**	**+0.7**
	0.3nm,0.5s,baz=347,slow=3.8,SNR=2.4							
ASAR				ScP		**ScP**	**04 31 22.4**	**+1.3**
	1.6nm,0.8s,baz=339,slow=2.4,SNR=10							
AS01	**Alice Springs**	**25.33**	**158**	*e*P		**P**	**04 24 22.8**	**+0.5**
QIS	**Mount Isa**	**25.43**	**144**	P		**P**	**04 24 24.2**	**+1.1**
	baz=26,SNR=44							
MEEK	**Meekatharra**	**26.85**	**191**	P		**P**	**04 24 35.7**	**-0.2**
	baz=27,SNR=5.7							
UMPA	**Umpang Tak**	**29.61**	**304**	P		P	04 25 04.6	+4.0
	4.1nm,0.6s							
FORT	**Forrest**	**30.73**	**173**	*e*P		**P**	**04 25 10.7**	**+0.4**
	43nm,0.6s							
FORT	**Forrest**	**30.73**	**173**	P		**P**	**04 25 10.6**	**+0.3**
	baz=31,SNR=23							
CM31	**Chiang Mai Arr**	**30.74**	**308**	*e*P		**P**	**04 25 10.5**	**0.0**
CM31				*e*PcP		**PcP**	**04 28 05.3**	**-0.3**
CM31				*e*ScP		**ScP**	**04 31 39.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**30.74**	**308**	P		**P**	**04 25 10.5**	**0.0**
	1.5nm,0.3s,baz=138,slow=7.8,SNR=13							
CMAR				PcP		**PcP**	**04 28 05.3**	**-0.3**
	1.3nm,0.3s,baz=151,slow=2.1,SNR=5.3							
CMAR				ScP		**ScP**	**04 31 39.6**	**+1.6**
	0.8nm,0.3s,baz=171,slow=1.6,SNR=6.2							
CMAR				LR		LR	04 38 12.1	
	comp=Z,43nm,21.0s,baz=125,slow=38							

comp=N,160nm,14.6s
HHC LR LR
comp=E,270nm,14.5s
HHC LR LR
comp=Z,130nm,14.5s
CN2 Changchun 43.76 2 *eP* **P 04 27 01.5 +1.5**
CN2 *epP* **pP 04 27 27.5 +1.1**
CN2 *eS* **S 04 33 23.3 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
USRK Ussuriysk Arra 44.71 8 P **P 04 27 07.6 +0.1**
13nm,0.7s,baz=193,slow=7.4,SNR=35
MDJ Mudanjiang 44.83 6 P **P 04 27 08.9 +0.4**
MDJ pmax pmax
comp=Z,11nm,0.7s
MDJ pmax pmax
comp=Z,70nm,3.9s
GTA Gaotai 45.13 333 *eP* **P 04 27 12.0 +0.9**
GTA pmax pmax
comp=Z,7.0nm,0.8s
ASAJ Asahikawa 47.08 18 P **P 04 27 27.1 +0.9**
5.6nm,0.5s,baz=222,slow=12,SNR=3.5
SONA0 Songino Array 50.16 345 *eP* **P 04 27 49.3 -0.5**
SONA0 *es*P sP 04 28 18.2 -12
SONA0 *ePcP* **PcP 04 29 07.8 +0.2**
SONM Songino Array 50.16 345 P **P 04 27 49.3 -0.5**
2.4nm,0.7s,baz=160,slow=8.8,SNR=27
SONM sP sP 04 28 18.2 -12
1.6nm,0.9s,baz=163,slow=8.8,SNR=5.9
SONM PcP **PcP 04 29 07.8 +0.2**
0.3nm,0.2s,baz=173,slow=5.7,SNR=6.0
SONA1 Songino Array 50.16 345 *eP* **P 04 27 49.6 -0.3**
WMQ Urumqi 54.40 328 P **P 04 28 21.3 +0.1**
WMQ pmax pmax
comp=Z,12nm,1.0s
MK01 Makanchi Array 59.21 328 *eP* **P 04 28 54.5 -0.6**
MK32 Makanchi Array 59.23 328 *eP* **P 04 28 54.5 -0.8**
MK32 *ePcP* **PcP 04 29 41.6 -0.8**
MK32 *eScP* **ScP 04 33 34.8 +2.1**
MKAR Makanchi Array 59.23 328 *eP* **P 04 28 54.7 -0.6**
MKAR Makanchi Array 59.23 328 P **P 04 28 54.5 -0.8**
4.3nm,0.7s,baz=120,slow=8.0,SNR=42
MKAR PcP **PcP 04 29 41.6 -0.8**
1.5nm,0.6s,baz=136,slow=5.8,SNR=5.7
MKAR ScP **ScP 04 33 34.8 +2.1**
0.6nm,0.9s,baz=111,slow=6.3,SNR=3.0
PETK Petropavlovsk- 60.03 23 P **P 04 29 00.4 -0.2**
4.6nm,0.8s,baz=204,slow=6.3,SNR=6.4
ZAA0 Zalesovo Array 62.83 335 *eP* **P 04 29 17.2 -2.1**
ZALV Zalesovo Beam 62.83 335 P **P 04 29 17.4 -1.9**
1.4nm,0.7s,baz=126,slow=7.5,SNR=7.2
KURK Kurchatov 63.57 330 *eP* **P 04 29 23.3 -0.9**
5.2nm,0.6s
VOSK Vostochnaya 68.62 329 *eP* **P 04 29 55.0 -1.6**
2.2nm,0.6s
ABKAR Akbulak array 73.42 322 *eP* **P 04 30 24.3 -1.3**
VNDA Vanda 79.99 172 *eP* **P 04 31 03.1 +1.0**
VNDA Vanda 79.99 172 P **P 04 31 03.1 +1.0**
0.9nm,0.7s,baz=310,slow=6.4,SNR=4.0
ILAR Eielson Array 89.75 25 P **P 04 31 50.1 -1.0**
0.3nm,0.5s,baz=251,slow=4.6,SNR=6.8
ILB Eielson Array 89.75 25 *eP* **P 04 31 49.3 -1.8**
ARA0 ARCESS Array S 93.08 340 *eP* **P 04 32 04.8 -1.6**
ARCES ARCESS Array B 93.08 340 P **P 04 32 04.8 -1.6**
1.3nm,0.6s,baz=90,slow=5.4,SNR=4.7
ARCES LR LR 05 19 11.2
comp=Z,76nm,18.8s,baz=348,slow=39
AKASG Malin Array Be 93.11 321 P **P 04 32 05.2 -1.8**
0.6nm,0.6s,baz=70,slow=5.1,SNR=4.0
AKBB Malin Array Si 93.11 321 *eP* **P 04 32 05.2 -1.8**
INK Inuvik 94.74 21 *eP* **P 04 32 14.3 +0.3**
58nm,2.8s
INK Inuvik 94.74 21 P **P 04 32 14.0 -0.1**
0.8nm,0.8s,baz=280,slow=4.2,SNR=4.4
TOA0 Torodi Ar. Sit 121.36 285 *ePKPdf* **PKPdf 04 37 46.6 -0.1**
TORD Torodi Ar. Bea 121.36 285 PKP **PKPdf 04 37 46.6 -0.1**
1.6nm,0.9s,baz=90,slow=1.9,SNR=9.9

IDC 14 04:21:19.4±6.2, 18°25S×68°89W, h148km±40km, mb3.3/2, mb1 3.5/4, mb1mx3.2/20, mbtmp3.3/4, Error ellipse: s-maj=74.7km s-min=34.4km az=35.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.09**	**20**	P	Pn	04 21 56.1	-0.2
	8.7nm,0.3s,baz=199,slow=6.8,SNR=398						
LPAZ				S	Sn	04 22 24.7	+0.2
	baz=324,slow=19						
SIV	**San Ignacio**	**7.81**	**74**	P	Pn	04 23 10.4	0.0
	0.6nm,0.3s,baz=274,slow=12,SNR=9.6						
TORD	**Torodi Ar. Bea**	**76.27**	**71**	P	P	04 32 52.3	0.0
	0.7nm,0.9s,baz=249,slow=5.6,SNR=5.1						
YKA	**Yellowknife Ar**	**88.15**	**341**	P	P	04 33 52.8	-0.1
	0.3nm,0.5s,baz=130,slow=4.7,SNR=8.4						
SONM	**Songino Array**	**150.25**	**6**	PKPbc	PKPbc	04 40 52.9	-0.2
	0.2nm,0.5s,baz=304,slow=3.1,SNR=3.2						

*ISCJB **14** 05:10:59.3±1.1, 60°.9S±0°.2×24°.2W±0°.7, h10km, mb3.9/2, Error ellipse: s-maj=52.0km s-min=14.5km az=152.2*
*IDC **14** 05:10:59.5±1.5, 60°.89S×24°.23W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.8/16, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=59.1km s-min=36.1km az=42.0*
ISC 14 05:11:00.9±1.2, 61°.1S±0°.2×24°.1W±0°.3, h10km, n9, σ3§01/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**11.52**	**153**	*eP*n	Pn	05 13 49.4	+4.3
VNA2	**Neumayer--Watz**	**11.92**	**153**	*eP*n	**Pn**	**05 13 53.4**	**+2.8**
VNA2	**Neumayer--Watz**	**11.92**	**153**	*eS*n	**Sn**	**05 16 01.7**	**-1.7**
SNAA	**Sanae**	**13.49**	**151**	*eP*n	**Pn**	**05 14 15.2**	**+3.1**
SNAA	**Sanae**	**13.49**	**151**	*eS*n	**Sn**	**05 16 39.9**	**-2.0**
SNAA	**Sanae**	**13.49**	**151**	Pn	**Pn**	**05 14 15.2**	**+3.1**
	0.9nm,0.3s,baz=307,slow=13,SNR=88						
SNAA				Sn	**Sn**	**05 16 37.5**	**-4.4**
	0.1nm,0.3s,baz=356,slow=18,SNR=6.0						
LPAZ	**La Paz**	**54.61**	**305**	P	**P**	**05 20 29.1**	**-1.0**
	1.1nm,0.8s,baz=158,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**76.80**	**26**	P	**P**	**05 22 51.9**	**-0.5**
	1.3nm,0.7s,baz=195,slow=6.2,SNR=9.9						
SONM	**Songino Array**	**149.15**	**93**	PKPbc	**PKPbc**	**05 30 48.3**	**-0.2**
	0.8nm,0.8s,baz=242,slow=3.1,SNR=5.8						

*ISCJB **14** 05:24:39.8±0.7, 8°.04S±0°.10×119°.3E±0°.1, h184km, mb4.2/3, Error ellipse: s-maj=17.0km s-min=10.3km az=140.8*
*IDC **14** 05:24:41.6±2.8, 8°.34S×119°.07E, h195km±27km, mb3.7/4, mb1 3.7/6, mb1mx3.4/23, mbtmp3.6/6, Error ellipse: s-maj=60.1km s-min=8.9km az=52.0*
*AUST **14** 05:24:53.9±2.3, 9°.12S×119°.90E, h199km, Error ellipse: s-maj=3.4km s-min=1.3km az=329.0*
ISC 14 05:24:41.5±0.9, 8°.1S±0°.1×119°.3E±0°.1, h184km, n17, σ1§17/18, mb4.3/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.82**	**146**	P	Pn	05 25 23.5	+6.5
	baz=0.7,SNR=3.5						
FITZ	**Fitzroy Crossi**	**11.68**	**149**	P	**Pn**	**05 27 21.4**	**-1.3**
	0.5nm,0.3s,baz=312,slow=11,SNR=12						
FITZ				S	Sn	05 29 19.5	-13
	0.4nm,0.3s,baz=323,slow=16,SNR=3.7						
FITZ	**Fitzroy Crossi**	**11.68**	**149**	P	**Pn**	**05 27 21.2**	**-1.5**
	baz=11,SNR=8.9						
KNRA	**Kununurra**	**11.93**	**130**	P	**Pn**	**05 27 24.6**	**-1.3**
	baz=11,SNR=8.8						
MTN	**Manton Dam**	**12.56**	**113**	P	**Pn**	**05 27 33.9**	**-0.1**
	baz=12,SNR=8.0						
KDU	**Kakadu**	**13.74**	**110**	P	**Pn**	**05 27 48.9**	**-0.1**
	baz=13,SNR=6.7						
GIRL	**Giralia**	**15.21**	**198**	P	**P**	**05 28 08.7**	**+0.9**
	baz=15,SNR=3.6						
MEEK	**Meekatharra**	**18.41**	**182**	P	**Pn**	**05 28 47.4**	**+2.2**
	baz=18,SNR=8.6						
WRA	**Warramunga Arr**	**18.72**	**130**	P	**P**	**05 28 46.0**	**-0.4**
	0.6nm,0.3s,baz=312,slow=10.0,SNR=8.1						
WRA				S	**S**	**05 32 09.6**	**-0.3**
	0.3nm,0.3s,baz=308,slow=23,SNR=5.4						
WRKA	**Warakurna**	**18.88**	**154**	P	**P**	**05 28 48.0**	**-0.1**
	baz=18,SNR=7.6						
ASAR	**Alice Springs**	**20.86**	**139**	P	**P**	**05 29 08.8**	**-0.5**
	1.9nm,0.4s,baz=313,slow=9.3,SNR=38						
ASAR				S	**S**	**05 32 50.9**	**-0.7**
	0.4nm,0.7s,baz=317,slow=22,SNR=3.8						
QIS	**Mount Isa**	**23.21**	**124**	P	**P**	**05 29 33.5**	**+1.1**
	baz=22,SNR=4.6						
COEN	**Coen**	**24.15**	**106**	P	**P**	**05 29 42.5**	**+1.6**
	baz=23,SNR=4.2						
SONM	**Songino Array**	**56.88**	**350**	P	**P**	**05 34 07.9**	**+0.6**
	1.4nm,0.5s,baz=167,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**63.82**	**333**	P	**P**	**05 34 53.8**	**-0.4**
	2.6nm,0.6s,baz=153,slow=6.9,SNR=28						
ZALV	**Zalesovo Beam**	**68.34**	**339**	P	**P**	**05 35 21.5**	**-1.3**
	3.6nm,0.5s,baz=145,slow=5.5,SNR=14						
TORD	**Torodi Ar. Bea**	**118.58**	**281**	PKP	**PKPdf**	**05 43 07.1**	**-1.4**
	0.2nm,0.5s,baz=68,slow=1.3,SNR=3.7						

*AUST **14** 05:36:55.5±24.0, 13°.53S×167°.26E, h0km, Error ellipse: s-maj=2.0km s-min=1.3km az=238.0*
*IDC **14** 05:37:01.1±0.6, 14°.26S×166°.89E, h0km, mb4.3/16, mb1 4.5/19, mb1mx4.4/25, mbtmp4.4/19, ML4.2/3, MS3.7/14, Ms1 3.7/14, ms1mx3.5/28, Error ellipse: s-maj=19.5km s-min=16.1km az=110.0*
*ISCJB **14** 05:37:04.4±0.6, 14°.28S±0°.06×166°.83E±0°.09, h33km, mb4.3/17, MS3.5/12, Error ellipse: s-maj=12.2km s-min=8.3km az=1.9*
*NEIC **14** 05:37:06.5±0.5, 14°.24S×166°.84E, h35km, mb4.2/3, Error ellipse: s-maj=12.7km s-min=10.9km az=120.0*
ISC 14 05:37:06.7±0.5, 14°.24S±0°.06×166°.74E±0°.08, h35km, n78, σ1§21/76, mb4.3/17, MS3.7/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.79**	**182**	*eP*n	**Pn**	**05 38 57.7**	**0.0**
	30nm,0.3s						
DZM				*eS*n	**Sn**	**05 40 25.2**	**+0.5**
	37nm,0.3s						
DZM				*eL*R	LR	05 40 54.5	
	916nm,25.4s						
DZM	**Mont Dzumac**	**7.79**	**182**	Pn	**Pn**	**05 38 57.5**	**-0.2**
DZM				Sn	**Sn**	**05 40 22.6**	**-2.1**
DZM	**Mont Dzumac**	**7.79**	**182**	Pn	**Pn**	**05 38 57.5**	**-0.2**
	2.9nm,0.3s,baz=18,slow=20,SNR=26						
DZM				Sn	**Sn**	**05 40 22.6**	**-2.1**
	baz=317,slow=19,SNR=1.8						
HNR	**Honiara**	**8.19**	**305**	Pn	**Pn**	**05 39 05.2**	**+2.0**
HNR				Sn	**Sn**	**05 40 31.4**	**-3.1**
HNR	**Honiara**	**8.19**	**305**	Pn	**Pn**	**05 39 05.1**	**+2.0**
	12nm,0.3s,baz=140,slow=17,SNR=4.0						
HNR				Sn	**Sn**	**05 40 31.4**	**-3.1**
	9.1nm,0.3s,baz=225,slow=16,SNR=1.7						
HNR				*L*R	LR	05 42 16.3	
	comp=Z,16nm,28.6s,baz=144,slow=38						
PMG	**Port Moresby**	**19.76**	**282**	*eP*	**Pn**	**05 41 36.2**	**+0.7**
PMG	**Port Moresby**	**19.76**	**282**	P	**Pn**	**05 41 35.9**	**+0.5**
	0.9nm,0.3s,baz=109,slow=3.2,SNR=8.9						
PMG				*L*R	LR	05 48 10.5	
	comp=Z,67nm,21.2s,baz=66,slow=34						
CTA	**Charters Tower**	**20.41**	**251**	P	Pn	05 41 42.6	-0.6
CTA	**Charters Tower**	**20.41**	**251**	P	Pn	05 41 42.6	-0.6
	14nm,0.8s,baz=74,slow=13,SNR=12						
CTAO	**Charters Tower**	**20.41**	**251**	*eP*	Pn	05 41 42.7	-0.4
	14nm,0.8s						
RMQ	**Roma**	**20.77**	**231**	P	Pn	05 41 47.4	+0.1
	baz=22,SNR=25						
AFI	**Afiamalu**	**20.84**	**92**	*L*R	LR	05 47 56.1	
	comp=Z,166nm,20.5s,baz=264,slow=32						
ARMA	**Armidale**	**21.28**	**218**	*eP*	**P**	**05 41 52.1**	**+1.9**
	12nm,0.9s						
ARMA	**Armidale**	**21.28**	**218**	P	**P**	**05 41 52.4**	**+2.1**
	baz=22,SNR=6.6						
COEN	**Coen**	**22.86**	**268**	P	**P**	**05 42 08.4**	**+1.2**
	baz=23,SNR=4.5						
QLP	**Quilpie**	**24.36**	**236**	P	**P**	**05 42 22.7**	**+1.1**
	baz=25,SNR=4.6						
CMSA	**Cobar Meteorol**	**25.85**	**225**	P	**P**	**05 42 35.8**	**+0.8**
	baz=27,SNR=8.7						
QIS	**Mount Isa**	**26.62**	**253**	P	**P**	**05 42 42.6**	**+0.4**
	baz=27,SNR=4.6						
STKA	**Stephens Creek**	**28.93**	**228**	*eP*	**P**	**05 43 03.1**	**+0.5**
	2.2nm,1.1s						
STKA	**Stephens Creek**	**28.93**	**228**	P	**P**	**05 43 03.1**	**+0.5**
	6.0nm,0.6s,baz=48,slow=9.5,SNR=12						
STKA				*L*R	LR	05 54 47.9	
	comp=Z,16nm,28.6s,baz=39,slow=37						
STKA	**Stephens Creek**	**28.93**	**228**	P	**P**	**05 43 03.8**	**+1.2**
	baz=30,SNR=6.0						
RPZ	**Rata Peaks**	**29.60**	**174**	*L*R	LR	05 54 43.8	
	comp=Z,143nm,18.3s,baz=3.5,slow=36						
WRAB	**Tennant Creek**	**31.44**	**255**	*eP*	**P**	**05 43 24.0**	**-1.0**
WRA	**Warramunga Arr**	**31.45**	**255**	P	**P**	**05 43 24.3**	**-0.8**
WRA				*Pc*P	**PcP**	**05 46 19.4**	**+1.4**
WRA	**Warramunga Arr**	**31.45**	**255**	P	**P**	**05 43 24.3**	**-0.8**
	4.9nm,0.7s,baz=84,slow=8.8,SNR=25						
WRA				*Pc*P	**PcP**	**05 46 19.4**	**+1.4**
	0.4nm,0.3s,baz=91,slow=2.9,SNR=5.8						
WRA				*L*R	LR	05 55 02.5	
	comp=Z,286nm,21.9s,baz=85,slow=34						
HTT	**Hallett**	**31.66**	**228**	P	**P**	**05 43 27.7**	**+0.9**
	baz=32,SNR=5.5						
AS31	**Alice Springs**	**32.37**	**248**	*eP*	**P**	**05 43 32.0**	**-1.2**
ASAR	**Alice Springs**	**32.37**	**248**	P	**P**	**05 43 32.5**	**-0.8**
ASAR				*Pc*P	**PcP**	**05 46 21.7**	**+1.2**
ASAR	**Alice Springs**	**32.37**	**248**	P	**P**	**05 43 32.5**	**-0.8**
	4.7nm,0.7s,baz=73,slow=9.5,SNR=70						
ASAR				*Pc*P	**PcP**	**05 46 21.7**	**+1.2**
	0.3nm,0.5s,baz=73,slow=3.2,SNR=3.3						
ASAR				*L*R	LR	05 56 14.9	
	comp=Z,238nm,19.2s,baz=85,slow=36						
KDU	**Kakadu**	**33.35**	**268**	P	P	05 43 46.1	+4.4
	baz=34,SNR=4.0						
BBOO	**Buckleboo**	**33.48**	**231**	*eP*	**P**	**05 43 43.5**	**+0.8**
	374nm,1.1s						
BBOO	**Buckleboo**	**33.48**	**231**	P	**P**	**05 43 43.6**	**+0.9**
	baz=34,SNR=12						
WRKA	**Warakurna**	**37.65**	**247**	P	**P**	**05 44 18.2**	**-0.5**
	baz=38,SNR=16						
FORT	**Forrest**	**39.11**	**239**	P	**P**	**05 44 31.1**	**+0.3**
	baz=40,SNR=13						
FITZ	**Fitzroy Crossi**	**39.61**	**259**	*eP*	**P**	**05 44 34.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**39.61**	**259**	P	**P**	**05 44 34.9**	**-0.2**
	7.7nm,0.9s,baz=87,slow=6.5,SNR=6.5						
FITZ	**Fitzroy Crossi**	**39.61**	**259**	P	**P**	**05 44 35.0**	**-0.2**
	baz=40,SNR=3.3						
PPT2	**Papeete2**	**42.07**	**101**	*eL*R	LR	05 56 55.9	
	205nm,25.8s						
PPT	**Papeete**	**42.07**	**101**	*L*R	LR	05 58 12.6	
	comp=Z,114nm,20.4s,baz=266,slow=30						
TBI	**Tubuai**	**42.30**	**109**	*eL*R	LR	05 56 45.0	
	209nm,25.2s						
MEEK	**Meekatharra**	**46.50**	**247**	P	**P**	**05 45 31.1**	**+0.2**
	baz=47,SNR=6.1						
NWAO	**Narrogin (SRO)**	**48.56**	**239**	P	P	05 45 46.3	-0.5
NWAO	**Narrogin (SRO)**	**48.56**	**239**	P	P	05 45 46.3	-0.5
	11nm,0.9s,baz=96,slow=5.9,SNR=6.2						
GIRL	**Giralia**	**50.30**	**252**	P	**P**	**05 45 57.6**	**-2.6**
	baz=51,SNR=4.3						
MJAR	**Matsushiro Arr**	**57.24**	**333**	P	P	05 46 50.2	-0.4
MJAR	**Matsushiro Arr**	**57.24**	**333**	P	P	05 46 50.3	-0.4
	0.8nm,0.3s,baz=172,slow=9.3,SNR=5.1						
VNDA	**Vanda**	**63.33**	**181**	*eP*	**P**	**05 47 34.4**	**+2.7**
VNDA	**Vanda**	**63.33**	**181**	P	**P**	**05 47 31.7**	**-0.1**
	2.3nm,0.6s,baz=359,slow=6.3,SNR=16						
USRK	**Ussuriysk Arra**	**66.23**	**333**	P	**P**	**05 47 51.3**	**+0.3**
	3.1nm,0.9s,baz=103,slow=6.5,SNR=4.3						
PETK	**Petropavlovsk-**	**67.53**	**354**	*L*R	LR	06 12 52.5	
	comp=Z,15nm,28.6s,baz=146,slow=32						
CMAR	**Chiang Mai Arr**	**74.29**	**294**	P	**P**	**05 48 42.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**74.29**	**294**	P	**P**	**05 48 42.2**	**+1.3**
	3.2nm,0.9s,baz=121,slow=4.1,SNR=9.0						
CMAR				*L*R	LR	06 20 42.2	
	comp=Z,11nm,21.7s,baz=130,slow=35						
QSPA	**South Pole Qui**	**75.78**	**180**	P	**P**	**05 48 48.3**	**-0.6**
QSPA	**South Pole Qui**	**75.78**	**180**	P	**P**	**05 48 48.3**	**-0.6**
	5.9nm,0.9s,baz=50,slow=1.7,SNR=15						
SONM	**Songino Array**	**81.81**	**324**	P	**P**	**05 49 22.4**	**+0.3**
SONM	**Songino Array**	**81.81**	**324**	P	**P**	**05 49 22.4**	**+0.3**
	1.0nm,0.7s,baz=138,slow=5.7,SNR=5.1						
MAW	**Mawson**	**82.14**	**202**	*L*R	LR	06 20 47.5	
	comp=Z,16nm,28.6s,baz=146,slow=32						
ILAR	**Eielson Array**	**86.23**	**18**	P	**P**	**05 49 42.7**	**-1.4**
ILAR	**Eielson Array**	**86.23**	**18**	P	**P**	**05 49 42.7**	**-1.4**
	0.5nm,0.6s,baz=234,slow=5.1,SNR=11						
ILAR				*L*R	LR	06 22 53.5	
	comp=Z,81nm,18.7s,baz=232,slow=32						
PDAR	**Pinedale Array**	**95.00**	**47**	*L*R	LR	06 25 18.3	
	comp=Z,38nm,19.9s,baz=271,slow=30						
TXAR	**Lajitas Array**	**96.50**	**61**	P	**P**	**05 50 32.5**	**-0.5**
TXAR	**Lajitas Array**	**96.50**	**61**	P	**P**	**05 50 32.5**	**-0.5**
	0.1nm,0.6s,baz=224,slow=3.8,SNR=2.5						
TXAR				*L*R	LR	06 25 29.3	
	comp=Z,35nm,21.9s,baz=0.0,slow=30						
MKAR	**Makanchi Array**	**96.50**	**317**	P	**P**	**05 50 32.6**	**0.0**
MKAR	**Makanchi Array**	**96.50**	**317**	P	**P**	**05 50 32.6**	**0.0**
	0.7nm,0.7s,baz=102,slow=6.0,SNR=5.2						
YKA	**Yellowknife Ar**	**97.35**	**27**	P	**P**	**05 50 35.5**	**-0.5**
YKA	**Yellowknife Ar**	**97.35**	**27**	P	**P**	**05 50 35.5**	**-0.5**
	0.6nm,1.0s,baz=257,slow=4.2,SNR=3.8						
ARCES	**ARCESS Array B**	**119.66**	**345**	PKP	**PKPdf**	**05 55 51.0**	**-1.4**
ARCES	**ARCESS Array B**	**119.66**	**345**	PKP	**PKPdf**	**05 55 51.0**	**-1.4**
	2.4nm,0.8s,baz=27,slow=2.2,SNR=15						
AKASG	**Malin Array Be**	**130.05**	**326**	PKP	**PKPdf**	**05 56 13.6**	**+0.9**
AKASG	**Malin Array Be**	**130.05**	**326**	PKP	**PKPdf**	**05 56 13.6**	**+0.9**
	0.6nm,0.6s,baz=61,slow=2.5,SNR=4.7						
BDFB	**Brasilia**	**134.59**	**130**	PKP	**PKPdf**	**05 56 21.6**	**-1.0**
BDFB	**Brasilia**	**134.59**	**130**	PKP	**PKPdf**	**05 56 21.6**	**-1.0**
	1.4nm,0.7s,baz=198,slow=3.2,SNR=2.3						
GERES	**GERESS Array B**	**138.98**	**333**	PKP	**PKPdf**	**05 56 29.7**	**0.0**
GERES				SKPbc	**SKiKP**	**06 00 05.8**	**+0.2**
GERES	**GERESS Array B**	**138.98**	**333**	PKP	**PKPdf**	**05 56 29.7**	**0.0**
	0.5nm,0.5s,baz=52,slow=2.2,SNR=5.3						
GERES				SKPbc	**SKiKP**	**06 00 05.8**	**+0.2**
	0.4nm,0.5s,baz=64,slow=3.1,SNR=4.1						
KEST	**Kesra**	**150.51**	**321**	PKPbc	**PKPbc**	**05 56 57.5**	**+2.2**
KEST	**Kesra**	**150.51**	**321**	PKPbc	**PKPbc**	**05 56 57.5**	**+2.2**
	2.3nm,0.6s,baz=90,slow=1.0,SNR=12						
TORD	**Torodi Ar. Bea**	**165.43**	**268**	PKP	**PKPdf**	**05 57 08.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**165.43**	**268**	PKP	**PKPdf**	**05 57 08.3**	**-0.2**
	0.3nm,0.6s,baz=113,slow=3.6,SNR=3.2						

IDC 14 06:00:53.6±2.9, 19°.48S×71°.62W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=90.6km s-min=42.1km az=175.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.59**	**47**	Pn	Pn	06 02 04.8	-0.4
	1.1nm,0.3s,baz=249,slow=13,SNR=27						
SIV	**San Ignacio**	**10.63**	**73**	Pn	Pn	06 03 27.7	+0.4
	0.5nm,0.3s,baz=263,slow=15,SNR=7.8						
H03N1	**Juan Fernandez**	**15.36**	**204**	T	T	06 21 49.8	
	baz=26,slow=75,SNR=22						
H03N2	**Juan Fernandez**	**15.36**	**204**	T	T	06 21 51.8	
	baz=26,slow=75,SNR=22						
H03N3	**Juan Fernandez**	**15.37**	**204**	T	T	06 21 53.7	
	baz=26,slow=75,SNR=22						
TORD	**Torodi Ar. Bea**	**79.10**	**72**	P	P	06 13 00.5	-0.1
	0.3nm,0.5s,baz=253,slow=6.4,SNR=4.5						
YKA	**Yellowknife Ar**	**88.46**	**342**	P	P	06 13 47.4	0.0
	0.4nm,0.6s,baz=136,slow=5.0,SNR=8.5						
H11S2	**WAKE ISLAND Hyd**	**25.08**	**279**	T	T	08 37 47.6	
	baz=102,slow=72,SNR=26						
H11S1	**WAKE ISLAND Hyd**	**25.09**	**279**	T	T	08 37 44.9	
	baz=102,slow=72,SNR=26						
H11S3	**WAKE ISLAND Hyd**	**25.10**	**279**	T	T	08 37 50.8	
	baz=102,slow=72,SNR=18						

*NIED **14** 06:30:00, 30°.70N×138°.20E, h540km, Mw4.6 Best double couple: M0 8.69000×10^15 NP1:φ=281.00000°, δ=72.00000°, λ=-37.00000°. NP2:φ=25.00000°, δ=55.00000°, λ=-158.00000°.*
*JMA **14** 06:30:01.9±0.2, 30°.73N×138°.18E, h510km, M4.2*
*ISCJB **14** 06:30:04.0±0.3, 30°.71N±0°.03×137°.88E±0°.04, h469km±3km, mb4.4/90, Error ellipse: s-maj=5.7km s-min=4.4km az=21.7*
*MOS **14** 06:30:03.4±0.8, 30°.70N×137°.73E, h464km, mb4.2/35, Error ellipse: s-maj=12.2km s-min=6.2km az=99.4*
*BJI **14** 06:30:04.2, 30°.64N×137°.82E, h481km, mB4.9/18, mb4.8/28*
*NEIC **14** 06:30:05.7±0.4, 30°.73N×137°.78E, h470km±4km, mb4.5/40, MW4.6(NIED), Error ellipse: s-maj=6.0km s-min=3.8km az=133.0*
*IDC **14** 06:30:05.7±0.9, 30°.72N×137°.75E, h473km±10km, mb3.7/28, mb1 3.9/33, mb1mx3.8/39, mbtmp3.7/33, Error ellipse: s-maj=10.4km s-min=7.2km az=93.0*
ISC 14 06:30:05.1±0.5, 30°.72N±0°.04×137°.91E±0°.05, h469km±4km, n182, σ1§21/217, mb4.4/90, 6C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.85**	**34**	P	**P**	**06 31 12.6**	**+0.2**
JHJ2	**Mitsune**	**2.89**	**34**	P	**P**	**06 31 12.7**	**0.0**
JHJ2	**Mitsune**	**2.89**	**34**	*eP*	**P**	**06 31 12.7**	**0.0**
TTO1	**TONANKAI O.B.S**	**3.05**	**342**	P	**P**	**06 31 15.4**	**+1.9**
TTO3	**TONANKAI O.B.S**	**3.17**	**352**	P	**P**	**06 31 16.4**	**+1.9**
JWZ	**Kozaga**	**3.36**	**327**	P	**P**	**06 31 17.3**	**+1.1**
JWZ				S	**S**	**06 32 15.0**	**+0.8**
JIE	**Ise**	**3.80**	**345**	P	**P**	**06 31 20.9**	**+1.2**
JIE				S	**S**	**06 32 21.0**	**+0.5**
JOD2	**Odawara 2**	**4.64**	**12**	P	**P**	**06 31 26.1**	**-0.9**
JOD2				S	**S**	**06 32 30.6**	**-3.3**
BSO1	**Boso 1**	**4.70**	**33**	P	**P**	**06 31 25.9**	**-1.0**
BSO1				S	**S**	**06 32 31.1**	**-2.7**
JTO	**Tosashimizu**	**4.84**	**297**	P	**P**	**06 31 30.1**	**+1.2**
**CB

HABR pmax pmax
comp=Z,68nm,1.5s
HABR pmax pmax
comp=N,22nm,0.9s
HABR MLR MLR
comp=Z,147nm,22.0s
KLR Kul'dur 19.07 348 *eP* **P 06 33 54.6 -2.0**
KLR pmax pmax
comp=E,40nm,0.8s
KLR pmax pmax
comp=Z,96nm,0.8s
BJI Beijing 19.97 304 P **P 06 34 04.4 -0.5**
BJI pmax pmax
comp=Z,30nm,0.7s
HIA Hailar 23.06 329 *eP* **P 06 34 32.7 -0.2**
comp=Z,22nm,0.8s
HHC Hu-ho-hao-te 23.56 303 *eP* **P 06 34 37.0 -0.5**
HHC sP **sP 06 36 51.4 +2.4**
HHC PcP **PcP 06 38 07.8 +1.1**
HHC S **S 06 38 15.8 -1.7**
HHC ScP **ScP 06 41 01.5 +1.5**
HHC ScS **ScS 06 44 46.0 -1.4**
HHC pmax pmax
comp=Z,44nm,0.8s
HHC pmax pmax
comp=Z,290nm,4.8s
ENH Enshi 24.47 276 *eP* **P 06 34 44.9 -0.8**
comp=Z,9.0nm,0.3s
XAN Xi'an 24.66 285 P **P 06 34 47.0 -0.4**
PETK Petropavlovsk- 26.61 27 P **P 06 35 05.4 +1.1**
PETK pmax pmax
comp=Z,2.0nm,0.5s
PETK Petropavlovsk- 26.61 27 P **P 06 35 05.4 +1.1**
comp=Z,2.1nm,0.5s,baz=187,slow=5.2,SNR=9.5
CLNS Chul'man 27.65 345 *eP* **P 06 35 13.5 +0.1**
CLNS pmax pmax
comp=E,5.0nm,0.7s
CLNS pmax pmax
comp=Z,11nm,0.8s
CLNS pmax pmax
comp=N,9.0nm,0.7s
GYA Guiyang 27.71 269 *eP* **P 06 35 12.8 -1.7**
GYA sP **sP 06 37 30.0 -0.1**
GYA PcP **PcP 06 38 17.5 +0.8**
GYA S **S 06 39 21.0 -2.0**
GYA ScP **ScP 06 41 12.3 -0.1**
GYA PcS **PcS 06 41 58.8 -0.7**
GYA ScS **ScS 06 45 03.3 -2.4**
GYA pmax pmax
comp=N,10.0nm,0.8s
LZH Lanzhou 28.84 290 *eP* **P 06 35 23.8 -0.5**
LZH pP **pP 06 36 44.5 -1.0**
LZH PP **PP 06 36 48.1 -2.6**
LZH sP **sP 06 37 40.6 +0.3**
LZH pmax pmax
comp=N,17nm,1.3s
LZH pmax pmax
comp=N,49nm,4.2s
ULN Ulaanbaatar 29.12 315 *eP* **P 06 35 26.7 +0.1**
comp=N,17nm,1.1s
CD2 Chengdu 29.26 279 *eP* **P 06 35 27.8 -0.1**
CD2 pmax pmax
comp=N,10.0nm,1.4s
SONM Songino Array 29.51 314 P **P 06 35 29.8 -0.2**
comp=N,3.7nm,0.6s,baz=121,slow=7.7,SNR=30
SONM ScP **ScP 06 41 16.8 -0.9**
comp=N,1.9nm,0.7s,baz=149,slow=2.9,SNR=10
YAK Yakutsk 31.78 353 *eP* **P 06 35 47.9 -1.2**
YAK *e* 06 40 21.2
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,35nm,0.9s
ZAK Zakamensk 32.42 317 *eP* **P 06 35 54.5 -0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
DLV T Lat 33.00 242 *eP* **P 06 36 00.9 +0.4**
UBPT Khong Chiam 33.43 250 P **P 06 36 04.2 +0.4**
comp=Z,28nm,0.9s
SEY Seymchan 33.55 12 P **P 06 36 04.8 +0.6**
SEY pmax pmax
comp=Z,5.0nm,0.7s
SEY Seymchan 33.55 12 P **P 06 36 04.8 +0.6**
comp=Z,4.6nm,0.7s,baz=203,slow=8.1,SNR=9.1
MRSI Marisa 33.68 210 P **P 06 36 07.1 +1.1**
comp=Z,79nm,1.0s,comp=Z,0.2nm
CRAI Chiangrai 35.31 262 P **P 06 36 20.1 +0.4**
comp=Z,17nm,1.0s,comp=Z,3μm
CHAI Chaiyaphum 35.95 254 P **P 06 36 24.6 -0.5**
comp=Z,21nm,0.8s,comp=Z,238nm
LAMP Lampang 36.68 260 P **P 06 36 31.2 +0.1**
comp=Z,15nm,0.7s,comp=Z,107nm
CMMT Chiang Mai 37.13 261 P **P 06 36 34.5 -0.3**
comp=Z,30nm,0.8s
CHTO Chiang Mai 37.13 261 *eP* **P 06 36 34.8 -0.1**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 37.13 261 *eP* **P 06 36 34.8 -0.1**
comp=Z,6.1nm,0.8s
CHTO Chiang Mai 37.13 261 P **P 06 36 34.5 -0.3**
comp=Z,131nm,0.9s,comp=Z,1μm
SBUM Sibu 37.16 226 P **P 06 36 36.1 +1.1**
comp=Z,20nm,1.1s,comp=Z,0.1nm
SBUM Sibu 37.16 226 *eP* **P 06 36 34.6 -0.4**
comp=Z,21nm,1.1s
CM31 Chiang Mai Arr 37.29 260 *eP* **P 06 36 36.1 0.0**
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 37.29 260 P **P 06 36 35.8 -0.4**
comp=Z,8.3nm,0.7s,baz=56,slow=6.9,SNR=40
CHBT CHBT 37.36 249 P P 06 36 41.2 +4.5
comp=Z,23nm,1.1s
BNSI Bone 38.84 209 P **P 06 36 50.1 +1.3**
comp=Z,64nm,1.0s
KSM Kuching 39.11 227 P **P 06 36 52.0 +1.0**
comp=Z,70nm,0.8s,comp=Z,600nm
KSM Kuching 39.11 227 *eP* **P 06 36 51.9 +0.8**
comp=Z,53nm,0.8s
KAPI Kappang 39.55 209 *eP* **P 06 36 55.0 +0.5**
comp=Z,372nm,1.5s
BKSI Bulukumba 39.67 208 P **P 06 36 56.7 +1.2**
comp=Z,22nm,0.9s
BBKI Banjar Baru 40.50 217 P **P 06 37 02.2 0.0**
TIXI Tiksi 41.28 356 *ceP* **P 06 37 07.3 -0.3**
TIXI pmax pmax
comp=Z,14nm,1.1s
TIXI Tiksi 41.28 356 *eP* **P 06 37 07.4 -0.3**
comp=Z,17nm,0.6s
WMQ Urumqi 41.44 303 *eP* **P 06 37 10.0 +0.5**
WMQ pmax pmax
comp=Z,11nm,1.0s
KULM Kulim 43.19 242 *eP* **P 06 37 24.2 +0.6**
comp=Z,21nm,0.8s
IPM Ipoh 43.43 240 *eP* **P 06 37 24.4 -1.1**
comp=Z,26nm,0.9s
WSI Waingapu 43.57 206 P P 06 37 39.8 +13
comp=Z,1μm,0.5s
TAPN Taplejung 43.73 279 *eP* **P 06 37 27.5 -0.5**
comp=Z,6.3nm,0.5s
TAPN Taplejung 43.73 279 *eP* **P 06 37 27.5 -0.5**
comp=Z,6.3nm,0.5s
ODAN Odare 44.14 278 *eP* **P 06 37 31.1 -0.1**
ODAN Odare 44.14 278 *eP* **P 06 37 31.1 -0.1**
ZALV Zalesovo Beam 44.30 317 P **P 06 37 31.0 -0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=N,2.0nm,0.6s
ZALV Zalesovo Beam 44.30 317 P **P 06 37 31.0 -0.7**
comp=N,1.4nm,0.3s,baz=94,slow=8.0,SNR=13
ZALV ScP **ScP 06 42 11.3 -1.5**
comp=N,1.8nm,0.6s,baz=101,slow=4.7,SNR=7.8
MTNI Mataram 44.34 212 P **P 06 37 31.9 -0.6**
comp=N,54nm,1.1s
KHKI Kahang-Kahang 44.36 212 P **P 06 37 33.1 +0.4**
comp=N,77nm,1.3s,comp=N,841nm
BLJI Banyuglugur 44.79 215 P P 06 37 32.3 -3.7
comp=N,82nm,0.5s,comp=N,4μm
RAMN Ramite 44.79 279 *eP* **P 06 37 36.0 -0.2**
comp=N,23nm,0.8s
RAMN Ramite 44.79 279 *eP* **P 06 37 36.0 -0.2**
comp=N,23nm,0.8s
JIRN Jiri 44.93 280 *eP* **P 06 37 37.6 +0.1**
JIRN Jiri 44.93 280 *eP* **P 06 37 37.6 +0.1**
GUN Gumba 45.12 280 *eP* **P 06 37 38.6 -0.3**
comp=N,25nm,0.7s
GUN Gumba 45.12 280 *eP* **P 06 37 38.6 -0.3**
comp=N,25nm,0.7s
MK31 Makanchi Array 45.29 307 *eP* **P 06 37 39.1 -0.5**
MK31 Makanchi Array 45.29 307 *eP* **P 06 37 39.1 -0.5**
MKAR Makanchi Array 45.29 307 P **P 06 37 39.2 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR pmax pmax
comp=N,3.0nm,0.7s
MKAR Makanchi Array 45.29 307 *eP* **P 06 37 39.2 -0.4**
MKAR Makanchi Array 45.29 307 P **P 06 37 39.2 -0.4**
comp=N,3.6nm,0.5s,baz=93,slow=9.7,SNR=56
MKAR ScP **ScP 06 42 15.8 -1.3**
comp=N,2.8nm,0.7s,baz=84,slow=4.4,SNR=14
NVS Novosibirsk 45.36 318 *i* P **P 06 37 38.8 -1.1**
KKN Kakani 45.66 280 *eP* **P 06 37 42.5 -0.4**
comp=N,14nm,0.6s
KKN Kakani 45.66 280 *eP* **P 06 37 42.5 -0.4**
KKN pmax pmax
comp=Z,14nm,0.6s
KKN Kakani 45.66 280 *eP* **P 06 37 42.5 -0.4**
comp=Z,14nm,0.6s
SJI Sawahan 45.72 218 P **P 06 37 42.7 -0.5**
comp=Z,36nm,0.6s
DMN Daman 45.86 280 *eP* **P 06 37 43.8 -0.7**
DMN Daman 45.86 280 *eP* **P 06 37 43.8 -0.7**
GKN Gorkha 46.15 281 *eP* **P 06 37 46.6 0.0**
GKN Gorkha 46.15 281 *eP* **P 06 37 46.6 0.0**
TGJI Tegal 46.44 221 P **P 06 37 50.6 +1.9**
DANN Dangsing 46.79 281 *eP* **P 06 37 51.3 -0.3**
comp=Z,14nm,0.6s
DANN Dangsing 46.79 281 *eP* **P 06 37 51.3 -0.3**
comp=Z,14nm,0.6s
KOLN Koldanda 47.09 281 *eP* **P 06 37 53.8 0.0**
comp=Z,28nm,0.8s
KOLN Koldanda 47.09 281 *eP* **P 06 37 53.8 0.0**
comp=Z,28nm,0.8s
PYUN Piuthan 47.51 281 *eP* **P 06 37 57.0 0.0**
comp=Z,30nm,0.5s
PYUN Piuthan 47.51 281 *eP* **P 06 37 57.0 0.0**
comp=Z,30nm,0.5s
KURK Kurchatov 47.78 312 P **P 06 37 58.1 -0.3**
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 47.78 312 *eP* **P 06 37 57.7 -0.7**
comp=Z,8.8nm,1.0s
TNA Tin City 47.78 27 *eP* **P 06 38 00.0 +1.9**
comp=Z,9.0nm,1.0s
KURBB Kurchatov Arra 47.84 312 P **P 06 37 58.1 -0.7**
comp=Z,7.4nm,0.6s,baz=92,slow=9.5,SNR=111
KURBB ScP **ScP 06 42 26.2 -1.4**
comp=Z,0.3nm,0.6s,baz=97,slow=3.7,SNR=2.9
GSI Gunungsitoli 48.10 240 *eP* **P 06 38 01.3 0.0**
comp=Z,68nm,0.5s
FITZ Fitzroy Crossi 49.95 195 *eP* **P 06 38 15.2 +0.3**
comp=Z,4.3nm,0.4s
FITZ Fitzroy Crossi 49.95 195 P **P 06 38 14.7 -0.2**
comp=Z,4.5nm,0.5s,baz=8.0,slow=9.0,SNR=23
WRAB Tennant Creek 50.48 184 *ceP* **P 06 38 19.0 +0.2**
WRAB pmax pmax
comp=Z,34nm,1.1s
WRAB Tennant Creek 50.48 184 *eP* **P 06 38 18.6 -0.2**
comp=Z,12nm,0.7s
WRA Warramunga Arr 50.49 184 P **P 06 38 18.6 -0.2**
comp=Z,12nm,0.6s,baz=0.4,slow=7.7,SNR=118
WRA PcP **PcP 06 39 28.7 -0.2**
comp=Z,2.5nm,0.7s,baz=360,slow=4.1,SNR=6.5
WRA ScP **ScP 06 42 39.5 +0.1**
comp=Z,0.5nm,0.7s,baz=2.8,slow=4.7,SNR=3.2
VOSK Vostochnaya 52.50 315 *eP* **P 06 38 32.4 -0.7**
VOSK pmax pmax
comp=Z,7.0nm,0.8s
VOSK Vostochnaya 52.50 315 *eP* **P 06 38 32.4 -0.7**
comp=Z,6.7nm,0.8s
BRVK Borovoye 52.90 316 *eP* **P 06 38 36.0 0.0**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 52.90 316 *eP* **P 06 38 35.8 -0.2**
comp=Z,11nm,1.1s
RSO Redoubt South 53.70 35 *eP* **P 06 38 43.1 +1.3**
KDAK Kodiak Island 53.80 38 *eP* **P 06 38 44.0 +1.8**
comp=Z,17nm,1.0s
KKAR Karatay Array 53.95 303 *eP* **P 06 38 43.5 -0.2**
KKAR Karatay Array 53.95 303 *eP* **P 06 38 43.5 -0.2**
AS31 Alice Springs 54.21 185 *eP* **P 06 38 45.6 -0.1**
ASAR Alice Springs 54.21 185 P **P 06 38 45.5 -0.1**
comp=Z,5.2nm,0.8s,baz=13,slow=8.6,SNR=57
ASAR PcP **PcP 06 39 44.1 +1.1**
comp=Z,0.8nm,0.7s,baz=7.7,slow=3.4,SNR=3.1
ASAR ScP **ScP 06 42 56.1 +0.6**
comp=Z,0.4nm,0.6s,baz=3.1,slow=4.1,SNR=4.0
MBWA Marble Bar 54.46 201 *eP* **P 06 38 47.1 -0.2**
comp=Z,15nm,0.5s
MCK McKinley 55.51 31 *eP* **P 06 38 55.4 +1.1**
MCK pmax pmax
comp=Z,6.0nm,0.7s
MCK McKinley 55.51 31 *eP* **P 06 38 55.4 +1.1**
comp=Z,5.8nm,0.7s
ILAR Eielson Array 56.40 30 P **P 06 39 00.4 0.0**
comp=Z,2.0nm,0.6s,baz=257,slow=5.3,SNR=31
DIV Divide 57.10 34 *eP* **P 06 39 06.0 +0.6**
comp=Z,10nm,0.9s
PAX Paxson 57.10 32 *eP* **P 06 39 06.3 +0.9**
PAX pmax pmax
comp=Z,7.0nm,1.0s
PAX Paxson 57.10 32 *eP* **P 06 39 06.3 +0.9**
comp=Z,6.6nm,1.0s
BMRM Bremner River 57.68 34 *eP* **P 06 39 11.1 +1.8**
comp=Z,18nm,1.0s
DOT Dot Lake 57.69 31 *eP* **P 06 39 10.0 +0.7**
comp=Z,9.8nm,0.7s
DZM Mont Dzumac 59.21 149 P **P 06 39 20.6 +0.3**
comp=Z,5.4nm,0.7s,baz=7.1,slow=8.1,SNR=4.3
ARU Arti 59.26 321 *d i* P **P 06 39 19.1 -1.0**
ARU 06 41 36.1
ARU S **S 06 46 49.5 -1.6**
ARU SS **SS 06 50 56.3 +1.3**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 59.26 321 *eP* **P 06 39 19.4 -0.6**
comp=Z,9.6nm,0.7s
ABKAR Akbulak array 59.89 312 *eP* **P 06 39 24.0 -0.4**
INK Inuvik 61.33 25 *eP* **P 06 39 34.3 +0.7**
comp=Z,8.4nm,0.6s
INK Inuvik 61.33 25 P **P 06 39 34.2 +0.7**
comp=Z,6.7nm,0.4s,baz=296,slow=6.1,SNR=92
FORT Forrest 61.87 190 *eP* **P 06 39 37.9 +0.3**
comp=Z,23nm,0.8s
STKA Stephens Creek 62.35 176 P **P 06 39 41.2 +0.4**
comp=Z,3.4nm,0.6s,baz=346,slow=8.2,SNR=17
PRGR Permogore 64.52 328 *eP* **P 06 39 52.7 -1.6**
PRGR pmax pmax
comp=Z,15nm,1.0s
DLBC Dease Lake 65.42 35 P **P 06 40 01.9 +1.7**
comp=Z,4.0nm,1.0s,baz=277,slow=8.1,SNR=2.2
ARCES ARCESS Array B 68.88 340 P **P 06 40 21.5 +0.2**
comp=Z,8.7nm,0.4s,baz=64,slow=8.6,SNR=97
RES Resolute Bay 69.41 13 P **P 06 40 24.8 +0.4**
comp=Z,3.9nm,1.1s,baz=306,slow=7.8,SNR=4.7
YKA Yellowknife Ar 70.73 28 P **P 06 40 33.0 +0.5**
comp=Z,3.3nm,0.7s,baz=298,slow=6.1,SNR=41
OBN Obninsk 71.41 324⇑ *eP* **P 06 40 35.3 -1.3**
OBN pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 72.81 311 P **P 06 40 45.0 0.0**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 72.81 311 P **P 06 40 45.0 0.0**
comp=Z,18nm,0.8s,baz=110,slow=6.2,SNR=5.2
FINES FINESS Array B 73.03 332 P **P 06 40 45.6 -0.3**
comp=Z,5.8nm,0.4s,baz=64,slow=6.3,SNR=53
EDM Edmonton 76.13 36 *eP* **P 06 41 04.7 +1.0**
EDM Edmonton 76.13 36 *eP* **P 06 41 04.7 +1.0**
D08A Wollman Farm, 76.31 43 *eP* **P 06 41 06.4 +1.7**
comp=Z,5.2nm,1.0s
YBH Yreka Blue Hor 76.59 49 P **P 06 41 07.8 +1.3**
comp=Z,1.4nm,0.7s,baz=267,slow=3.6,SNR=7.0
SUMG Summit 76.95 359 *i* P **P 06 41 09.5 +1.2**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 76.95 359 *i* P **P 06 41 09.5 +1.2**
comp=Z,6.6nm,0.8s
AKASG Malin Array Be 77.47 322 *ceP* **P 06 41 10.3 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 77.47 322 P **P 06 41 10.5 -0.6**
comp=Z,2.0nm,0.4s,baz=51,slow=5.4,SNR=24
KIEV Kiev 77.49 322 *eP* **P 06 41 10.6 -0.5**
KIEV Kiev 77.49 322 *eP* **P 06 41 10.4 -0.7**
comp=Z,5.4nm,0.5s
SCO Scoresbysund 78.05 353 *i* P **P 06 41 15.0 +1.2**
SCO pmax pmax
comp=Z,5.0nm,0.8s
SCO Scoresbysund 78.05 353 *i* P **P 06 41 15.0 +1.2**
comp=Z,4.9nm,0.8s
HFS Hagfors 78.60 335 P **P 06 41 16.4 -0.5**
comp=Z,4.9nm,0.4s,baz=90,slow=5.8
NB2 NORSAR Subarra 78.84 337 P **P 06 41 17.5 -0.8**
comp=Z,2.6nm,0.5s,baz=43,slow=5.3
NOA NORSAR Array B 78.84 337 P **P 06 41 17.7 -0.5**
comp=Z,4.3nm,0.7s,baz=45,slow=5.3,SNR=18
NVAR Mina Array Bea 81.18 51 P **P 06 41 32.3 +1.1**
comp=Z,0.9nm,0.6s,baz=304,slow=5.3,SNR=10
TPNV Topopah Spring 83.35 51 *eP* **P 06 41 43.7 +1.4**
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 83.35 51 *eP* **P 06 41 43.7 +1.4**
comp=Z,3.1nm,0.8s
PDAR Pinedale Array 84.21 43 P **P 06 41 47.9 +1.3**
comp=Z,0.3nm,0.6s,baz=176,slow=6.1,SNR=3.3
GERES GERESS Array B 86.46 327 P **P 06 41 56.2 -0.9**
comp=Z,0.4nm,0.2s,baz=45,slow=5.7,SNR=2.5
TXAR Lajitas Array 96.33 51 P **P 06 42 44.1 +1.0**
comp=Z,0.2nm,0.6s,baz=320,slow=3.3,SNR=3.9

SZGRF ***14*** *06:40:58.1,31.15N×0.26W,h33km,mb4.8,MS3.8, Northern Algeria*
SFS ***14*** *06:41:02.0,32.17N×0.03W,h0km,ML5.4*
MDD ***14*** *06:41:03.1±2.0,32.23N×0.03W,h0km,mb5.3/45,Error ellipse: s-maj=19.9km s-min=12.7km az=170.0,PRXIMO*
BGS ***14*** *06:41:03.5±2.8,32.10N×0.75E,h10km±999km,mb4.9*
CNRM ***14*** *06:41:04.3,32.77N×0.77W,h29km,MD4.9*
LDG ***14*** *06:41:09.9±0.3,32.90N×0.26W,h2km,Ml4.7/5,ms3.9/1, Error ellipse: s-maj=6.9km s-min=5.9km az=31.0*
IDC ***14*** *06:41:11.2±0.4,33.02N×0.09W,h0km,mb4.6/33, mb1 4.7/38,mb1mx4.7/41,mbtmp4.6/38,ML4.5/5,MS4.2/29, Ms1 4.2/29,ms1mx4.1/43,Error ellipse: s-maj=12.4km s-min=8.6km az=127.0*
CSEM ***14*** *06:41:11.6±0.1,32.94N×0.14W,h2km,mb5.0/66,Mw4.8, Error ellipse: s-maj=4.0km s-min=3.1km az=1.0*
BJI ***14*** *06:41:11.8,33.40N×0.19W,h10km,mB5.2/20,mb4.9/29, Ms5.0/12,Ms7 4.7/12*
CRAAG ***14*** *06:41:12.2,32.92N×0.27W,Ml5.0*
IGIL ***14*** *06:41:12.8,32.81N×0.09W,h10km*
NEIC ***14*** *06:41:12.8±0.2,32.86N×0.08W,h10km,mb4.9/72,Error ellipse: s-maj=4.4km s-min=3.7km az=138.0*
NEIC Felt at Ain Sefra.
ISCJB ***14*** *06:41:12.3±0.1,33.05N±0.01×0.10W±0.01,h10km, mb4.8/132,MS4.3/43,Error ellipse: s-maj=2.0km s-min=1.6km az=179.5*
MOS ***14*** *06:41:14.7±1.2,32.96N×0.01E,h32km,mb5.1/52, MS4.2/18,Error ellipse: s-maj=8.1km s-min=2.9km az=71.1*
GCMT ***14*** *06:41:15.1±0.3,32.94N×0.26W,h15km±1km,MW4.9, Moment Tensor Solution. s33,c40; s84,c124; Moment tensor: Scale 10¹⁶Nm; Mrr2.24±.15; Mθθ0.85±.08; Mϕϕ-3.09±.11; Mrθ0.44±.20; Mθϕ-0.46±.06; Mϕr-1.31±.18; Best double couple: M₀3.10000×10¹⁶ NP1:φ171.00000°, δ60.00000°,λ70.00000°. NP2:φ26.00000°,δ36.00000°, λ120.00000°. Principal axes: T 2.7000, Plg69.0000°, Azm40.0000°; N 0.7200, Plg17.0000°, Azm181.0000°; P -3.4200, Plg13.0000°, Azm275.0000°; Data Used: II IU G CN IC CU.*

ISC 14 06:41:13.2±0.4,32°93N±0°03×0°07W±0°03,h13km±2km, h13km:pP-P,n1263,σ1§41/1354,mb4.9/133,MS4.3/44, 175C-183D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**2.40**	**358**	P		**Pn**	**06 41 54.0**	**+1.8**
ODJA	**Bouhanifia**	**2.40**	**358**	P		**Pn**	**06 41 54.0**	**+1.8**
ODJA	**Bouhanifia**	**2.40**	**358**	P		**Pn**	**06 41 54.0**	**+1.8**
OLHC	**Oulhaca**	**2.57**	**335**	P		**Pn**	**06 41 53.0**	**-1.6**
OLHC	**Oulhaca**	**2.57**	**335**	P		**Pn**	**06 41 53.0**	**-1.6**
OJGS	**Djebel Guires**	**2.66**	**15**	P		**Pn**	**06 41 57.0**	**+1.2**
OJGS	**Djebel Guires**	**2.66**	**15**	P		**Pn**	**06 41 57.0**	**+1.2**
OJBR	**Djebel Berber**	**2.67**	**7**	P		**Pn**	**06 41 56.0**	**0.0**
OJBR	**Djebel Berber**	**2.67**	**7**	P		**Pn**	**06 41 56.0**	**0.0**
OJBR	**Djebel Berber**	**2.67**	**7**	P		**Pn**	**06 41 56.0**	**0.0**
ETRT	**Tiaret**	**2.71**	**24**	P		**Pn**	**06 41 56.5**	**0.0**
ETRT	**Tiaret**	**2.71**	**24**	P		**Pn**	**06 41 56.5**	**0.0**
ETRT	**Tiaret**	**2.71**	**24**	P		**Pn**	**06 41 56.5**	**0.0**
USTO	**Oran**	**2.83**	**352**	P		**Pn**	**06 41 59.0**	**-2.0**
ZAI	**Zaio**	**3.02**	**313**	*i* P		**Pn**	**06 41 59.0**	**-1.7**
ZAI					eS	**Sb**	**06 42 41.0**	**-2.5**
OKGL	**Djebel Kef Gue**	**3.16**	**11**	P		Pn	06 41 55.0	-7.6
OKGL	**Djebel Kef Gue**	**3.16**	**11**	⇑P		**Pn**	**06 42 02.5**	**-0.1**
	5μm,0.4s,SNR=18							
OKGL					S	**Sb**	**06 42 47.0**	**-0.6**
	7μm,0.4s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**3.16**	**11**	P		**Pn**	**06 42 02.5**	**-0.1**
	5μm,0.4s,SNR=18							
EANR	**'Ain N'Sour**	**3.17**	**17**	P		**Pn**	**06 42 02.6**	**-0.1**
EANR	**'Ain N'Sour**	**3.17**	**17**	P		**Pn**	**06 42 02.6**	**-0.1**
EANR	**'Ain N'Sour**	**3.17**	**17**	P		**Pn**	**06 42 02.6**	**-0.1**
MELI	**Melilla**	**3.35**	**316**	P		**Pn**	**06 42 02.8**	**-2.4**
	2μm,0.8s,SNR=7.9							
MELI					S	**Sn**	**06 42 46.3**	**+1.6**
	4μm,0.6s,SNR=7.9							
MELI	**Melilla**	**3.35**	**316**	P		**Pn**	**06 42 02.8**	**-2.4**
	2μm,0.8s,SNR=7.9							
MELI					S	**Sn**	**06 42 46.3**	**+1.6**
	4μm,0.6s,SNR=7.9							
EMLI	**Melilla**	**3.36**	**316**	P		**Pn**	**06 42 03.0**	**-2.4**
	4μm,0.8s,SNR=27							
EMLI					S	**Sn**	**06 42 48.6**	**+3.5**
	5μm,0.6s,SNR=5.0							
EMEL	**Melilla**	**3.37**	**315**	P		**Pn**	**06 42 03.0**	**-2.4**
	4μm,0.8s,SNR=27							
EMEL					S	**Sn**	**06 42 48.6**	**+3.4**
	5μm,0.6s,SNR=5.0							
ECHF	**Ech Chlef**	**3.42**	**19**	P		**Pn**	**06 42 06.0**	**-0.2**
ECHF	**Ech Chlef**	**3.42**	**19**	P		**Pn**	**06 42 06.0**	**-0.2**
ECHA	**Ech Chlef**	**3.42**	**20**	P		**Pn**	**06 42 06.0**	**-0.2**
ECHA	**Ech Chlef**	**3.42**	**20**	P		**Pn**	**06 42 06.0**	**-0.2**
EBNR	**Beni Rached**	**3.60**	**21**	P		**Pn**	**06 42 08.5**	**-0.3**
EBNR	**Beni Rached**	**3.60**	**21**	P		**Pn**	**06 42 08.5**	**-0.3**
TOU	**Touzarine**	**3.67**	**305**	*i* P		**Pn**	**06 42 08.0**	**-1.8**
TOU				*i*	S	**Sn**	**06 42 55.0**	**+2.0**
ZFT	**Errachidia**	**3.73**	**257**	*i* P		**Pn**	**06 42 08.0**	**-2.6**
ZFT				*i*	S	**Sn**	**06 42 55.0**	**+0.6**
MDT	**Midelt**	**3.83**	**270**	Pn		**Pn**	**06 42 09.5**	**-2.3**
MDT				Lg		Lg	06 43 07.4	
MDT	**Midelt**	**3.83**	**270**	Pn		**Pn**	**06 42 09.5**	**-2.3**
MDT				Lg		Lg	06 43 07.4	
MDT	**Midelt**	**3.83**	**270**	Pn		**Pn**	**06 42 09.5**	**-2.3**
	124nm,0.3s,baz=86,slow=14,SNR=1058							
MDT				Lg		Lg	06 43 07.4	
	165nm,0.3s,baz=59,slow=19,SNR=3.9							
MDT				LR		LR	06 44 03.8	
	comp=Z,8μm,20.6s,baz=122,slow=45							
MPAL	**Palemas**	**3.94**	**307**	*i* P		**Pn**	**06 42 11.0**	**-2.4**
MPAL				*i*	S	**Sn**	**06 42 59.0**	**-0.6**
EMHD	**Djebel Mahouad**	**4.11**	**37**	P		**Pn**	**06 42 17.3**	**+1.5**
EMHD	**Djebel Mahouad**	**4.11**	**37**	P		**Pn**	**06 42 17.3**	**+1.5**
CZD	**Col de Zad**	**4.18**	**273**	*i* P		**Pn**	**06 42 15.0**	**-1.9**
CZD				*i*	S	**Sn**	**06 43 09.0**	**+3.3**
TGT	**Taghat**	**4.32**	**287**	*i* P		**Pn**	**06 42 16.0**	**-2.6**
TGT				*i*	S	**Sn**	**06 43 12.0**	**+3.2**
ADJB	**Djebel Djouab**	**4.33**	**41**	P		**Pn**	**06 42 20.5**	**+1.7**
ADJB	**Djebel Djouab**	**4.33**	**41**	P		**Pn**	**06 42 20.5**	**+1.7**
ADJB	**Djebel Djouab**	**4.33**	**41**	P		**Pn**	**06 42 20.5**	**+1.7**
AKET	**Djebel Ketaf**	**4.51**	**45**	P		**Pn**	**06 42 23.9**	**+2.6**
AKET	**Djebel Ketaf**	**4.51**	**45**	P		**Pn**	**06 42 23.9**	**+2.6**
AKET	**Djebel Ketaf**	**4.51**	**45**	P		**Pn**	**06 42 23.9**	**+2.6**
EBER	**Berja**	**4.59**	**330**	P		**Pn**	**06 42 21.3**	**-1.1**
	222nm,0.6s,SNR=28							
EBER					S	**Sn**	**06 43 10.4**	**-5.2**
	413nm,0.5s,SNR=14							
EBER	**Berja**	**4.59**	**330**	P		**Pn**	**06 42 21.3**	**-1.1**
	222nm,0.6s,SNR=28							
ABA	**Alger-Bouzarea**	**4.63**	**33**	P		**Pn**	**06 42 22.5**	**-0.3**
ABA	**Alger-Bouzarea**	**4.63**	**33**	P		**Pn**	**06 42 22.5**	**-0.3**
CART	**Cartagena**	**4.71**	**351**	*i* P		**Pn**	**06 42 23.3**	**-0.6**

EMUR La Murta 5.00 349 P Pn 06 42 27.6 -0.2
119nm,0.4s,SNR=43
EMUR S Sn 06 43 19.7 -5.8
329nm,0.6s,SNR=4.3
EMUR La Murta 5.00 349 P Pn 06 42 27.6 -0.2
119nm,0.4s,SNR=43
EQUE Quentar 5.08 328 ⇑P Pn 06 42 27.7 -1.4
305nm,0.5s,SNR=18
EQUE S Sn 06 43 23.2 -4.5
305nm,0.8s
EQUE Quentar 5.08 328 P Pn 06 42 27.7 -1.4
305nm,0.5s,SNR=18
EQUE S Sn 06 43 23.2 -4.5
305nm,0.8s
GORA Gorafe 5.15 333 P Pn 06 42 29.0 -1.1
208nm,0.5s,SNR=7.9
GORA S Sn 06 43 33.8 +4.4
945nm,0.8s,SNR=7.9
GORA Gorafe 5.15 333 P Pn 06 42 29.0 -1.1
208nm,0.5s,SNR=7.9
GORA S Sn 06 43 33.8 +4.4
945nm,0.8s,SNR=7.9
ECOG Cogollos-Vega 5.20 328 ⇑P Pn 06 42 30.2 -0.6
113nm,0.4s,SNR=18
ECOG S Sn 06 43 33.2 +2.6
133nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 5.20 328 P Pn 06 42 30.2 -0.6
113nm,0.4s,SNR=18
ECOG S Sn 06 43 33.2 +2.6
133nm,0.4s,SNR=7.9
EMAL Malaga-Limoner 5.24 318 *i* P Pn 06 42 27.9 -3.3
SELV Sierra Elvira 5.24 326 P Pn 06 42 29.7 -1.6
428nm,0.8s,SNR=7.9
SELV S Sn 06 43 31.1 -0.5
272nm,1.0s,SNR=7.9
SELV Sierra Elvira 5.24 326 P Pn 06 42 29.7 -1.6
428nm,0.8s,SNR=7.9
SELV S Sn 06 43 31.1 -0.5
272nm,1.0s,SNR=7.9
EHUE Huescar 5.29 338 P Pn 06 42 31.4 -0.6
60nm,0.5s,SNR=7.9
EHUE S Sn 06 43 33.1 +0.2
183nm,0.7s,SNR=7.9
EHUE Huescar 5.29 338 P Pn 06 42 31.4 -0.6
60nm,0.5s,SNR=7.9
EHUE S Sn 06 43 33.1 +0.2
183nm,0.7s,SNR=7.9
EMIJ Mijas 5.30 314 ⇑P Pn 06 42 29.4 -2.7
96nm,0.6s,SNR=18
EMIJ S Sn 06 43 33.5 +0.4
67nm,0.4s
EMIJ Mijas 5.30 314 P Pn 06 42 29.4 -2.7
96nm,0.6s,SNR=18
EMIJ S Sn 06 43 33.5 +0.4
67nm,0.4s
EQES Quesada 5.45 334 P Pn 06 42 34.8 +0.7
183nm,0.7s,SNR=67
EQES S Sn 06 43 35.3 -1.4
470nm,0.6s,SNR=4.6
CKHR Kef el Ahmar 5.54 55 P Pn 06 42 36.0 +0.5
CKHR Kef el Ahmar 5.54 55 P Pn 06 42 36.0 +0.5
CKHR Kef el Ahmar 5.54 55 P Pn 06 42 36.0 +0.5
SET Setif 5.57 53 P Pn 06 42 37.0 +1.2
SET Setif 5.57 53 P Pn 06 42 37.0 +1.2
ELUQ Luque 5.76 325 P Pn 06 42 36.6 -1.7
67nm,0.5s,SNR=7.9
ELUQ S Sn 06 43 44.6 +0.3
439nm,1.0s,SNR=7.9
EBEN Beniarda 5.76 359 P Pn 06 42 38.2 -0.2
12nm,0.4s,SNR=18
EBEN S Sn 06 43 43.0 -1.5
204nm,0.9s,SNR=4.8
RTC Rabat Centre 5.77 282 *e*Pn Pn 06 42 36.6 -1.9
469nm,0.3s
RTC Rabat Centre 5.77 282 *e*Pn Pn 06 42 36.6 -1.9
469nm,0.3s
ETOB Tobarra 5.83 349 P Pn 06 42 39.6 +0.2
158nm,0.5s,SNR=7.9
ETOB S Sn 06 43 42.1 -4.0
1µm,1.0s,SNR=7.9
EIBI Ibiza 6.19 10 P Pn 06 42 44.2 -0.1
126nm,0.5s,SNR=18
EIBI S Sn 06 43 53.0 -1.9
135nm,0.3s,SNR=5.6
CTEI Djebel Teioual 6.19 58 P Pn 06 42 45.0 +0.6
CTEI Djebel Teioual 6.19 58 P Pn 06 42 45.0 +0.6
CTEI Djebel Teioual 6.19 58 P Pn 06 42 45.0 +0.6
CASM Ain Smara 6.35 57 P Pn 06 42 47.0 +0.5
CASM Ain Smara 6.35 57 P Pn 06 42 47.0 +0.5
CASM Ain Smara 6.35 57 P Pn 06 42 47.0 +0.5
EADA Adamuz 6.39 326 P Pn 06 42 45.6 -1.4
67nm,0.6s,SNR=34
EADA S Sn 06 44 00.5 +0.7
76nm,0.7s,SNR=4.9
CKFL Kef-Lekhel 6.58 56 P Pn 06 42 50.0 +0.3
CKFL Kef-Lekhel 6.58 56 P Pn 06 42 50.0 +0.3
ECHE Chera 6.69 354 P Pn 06 42 50.3 -0.9
17nm,0.3s,SNR=7.9
ECHE S Sn 06 44 11.3 +4.2
88nm,0.4s,SNR=4.7
ECAB El Cabril 6.74 321 P Pn 06 42 49.9 -1.9
9.2nm,0.4s,SNR=9.5
ECAB S Sn 06 44 09.8 +1.4
43nm,0.6s
CAEH 'Ain El Ouahch 6.86 54 P Pn 06 42 53.0 -0.5
CAEH 'Ain El Ouahch 6.86 54 P Pn 06 42 53.0 -0.5
ABSA Djebel Ababsia 7.06 60 P Pn 06 42 56.0 -0.3
ABSA Djebel Ababsia 7.06 60 P Pn 06 42 56.0 -0.3
CMAH Djebel Manchou 7.18 57 P Pn 06 42 58.0 +0.1
CMAH Djebel Manchou 7.18 57 P Pn 06 42 58.0 +0.1
ETOS Mallorca 7.21 18 P Pn 06 42 57.5 -0.8
36nm,0.4s,SNR=18
ETOS S Sn 06 44 16.8 -3.2
52nm,0.5s,SNR=7.9
EMIN Mina Concepcio 7.24 314 P Pn 06 42 56.6 -2.0
57nm,0.7s,SNR=30
EMIN S Sn 06 44 17.8 -2.8
15nm,0.6s,SNR=7.9
EMOS Mosqueruela 7.43 358 P Pn 06 43 01.8 +0.4
64nm,0.5s,SNR=26
EMOS S Sn 06 44 23.1 -2.5
61nm,0.5s,SNR=7.9
ESDC Sonseca Array 7.43 336 P Pn 06 43 00.6 -0.7
16nm,0.6s,baz=156,slow=13,SNR=20
ESDC S Sn 06 44 27.4 +2.0
23nm,0.4s,baz=154,slow=28,SNR=4.0
ESDC Sonseca Array 7.43 336 Pn Pn 06 42 59.5 -1.8
ESDC Lg Lg 06 44 48.2
ESDC Sonseca Array 7.43 336 Pn Pn 06 42 59.5 -1.8
ESDC Lg Lg 06 44 48.2
ESDC Sonseca Array 7.43 336 Pn Pn 06 42 59.5 -1.8
1.4nm,0.3s,baz=154,slow=14,SNR=23
ESDC Lg Lg 06 44 48.2
12nm,0.3s,baz=156,slow=29,SNR=6.0
ESLA Sonseca Array 7.43 336 *e*Pn Pn 06 43 00.9 -0.4
25nm,1.0s
ESLA *e*Sn Sn 06 44 28.6 +3.2
ESLA Sonseca Array 7.43 336 *e*Pn Pn 06 43 00.9 -0.4
25nm,1.0s
ESLA *e*Sn Sn 06 44 28.6 +3.2
PAB San Pablo 7.45 334 *e*P Pn 06 43 00.8 -0.9
PAB *e* 06 44 27.7
PAB San Pablo 7.45 334 *e*Pn Pn 06 43 00.8 -0.9
PAB *e*Sn Sn 06 44 27.7 +1.7
PAB San Pablo 7.45 334 *e*Pn Pn 06 43 00.8 -0.9
PAB *e*Sn Sn 06 44 27.7 +1.7
EGRO El Granado 7.61 309 P Pn 06 43 00.6 -3.1
51nm,0.5s,SNR=23
EGRO S Sn 06 44 26.3 -3.4
14nm,0.4s,SNR=7.9
PVAQ Vaqueiros 7.69 308 *e*Pn Pn 06 43 02.2 -2.6
PBAR Barrancos 7.72 315 *e*Pn Pn 06 43 04.3 -1.0
PBDV Barranco-do-Ve 7.75 306 *e*Pn Pn 06 43 02.9 -2.8
ERTA Horta de San J 8.02 2 P Pn 06 43 09.4 0.0
28nm,0.5s,SNR=7.4
ERTA S Sn 06 44 38.2 -1.7
12nm,0.3s,SNR=7.9
PCVE Castro Verde 8.03 308 *e*Pn Pn 06 43 06.8 -2.7
ETOR Torete 8.03 349 P Pn 06 43 09.9 +0.2
14nm,0.3s,SNR=11
ETOR S Sn 06 44 36.2 -4.2
24nm,0.5s,SNR=7.9
EBAD Badajoz 8.10 318 P Pn 06 43 07.9 -2.5
83nm,1.0s,SNR=20
EBAD S Sn 06 44 43.9 +2.1
8.3nm,0.3s,SNR=7.9

PBEJ Beja 8.14 311 *e*Pn Pn 06 43 08.6 -2.4
MESJ Messejana 8.26 309 *e*P Pn 06 43 10.0 -2.7
MESJ Messejana 8.26 309 P Pn 06 43 10.3 -2.4
SNR=7.9
MORF Marmelete 8.27 304 P Pn 06 43 09.9 -3.0
SNR=7.9
MORF Marmelete 8.27 304 *e*Pn Pn 06 43 10.0 -2.9
KEST Kesra 8.28 68 *e*Pn Pn 06 43 13.1 +0.1
KEST *e*Sn Sn 06 44 45.9 -0.4
KEST Lg Lg 06 45 41.3
KEST Kesra 8.28 68 *e*Pn Pn 06 43 13.1 +0.1
KEST *e*Sn Sn 06 44 45.9 -0.4
KEST Kesra 8.28 68 Pn Pn 06 43 12.6 -0.3
2.1nm,0.3s,baz=239,slow=4.1,SNR=49
KEST Lg Lg 06 45 41.3
1.3nm,0.3s,baz=270,slow=20,SNR=1.9
KEST LR LR 06 47 01.2
comp=Z,2µm,18.3s,baz=206,slow=42
GUD Guadarrama 8.37 338 P Pn 06 43 13.5 -0.7
1.8nm,0.4s,SNR=7.9
GUD S Sn 06 44 53.8 +5.2
21nm,0.7s
PTEO Sao Teotonio 8.44 305 *e*Pn Pn 06 43 12.8 -2.4
PESTR Estremoz 8.50 316 *e*Pn Pn 06 43 14.6 -1.4
EVO Evora 8.54 313 *e*Pn Pn 06 43 14.9 -1.6
EVO *e*Sn Sn 06 44 42.5 -10
EVO *e*S Sn 06 44 55.6 +2.9
EVO *e*Sg Sg 06 45 35.9 -11
146nm,0.9s
EVO *e*R
2µm,14.5s
EVOP Sao Brissos 8.60 313 *e*P Pn 06 43 14.9 -2.5
EVOP *e*S Sn 06 44 55.6 +1.3
EVOP Sao Brissos 8.60 313 *e*Pn Pn 06 43 14.9 -2.5
EVOP *e*Sn Sn 06 44 42.5 -12
EVOP *e*S Sn 06 44 55.6 +1.3
EVOP *e*Sg Sg 06 45 35.9 -13
EPLA Plasencia 8.61 328 P Pn 06 43 15.8 -1.7
17nm,0.5s,SNR=9.1
PNCL Nicolau / Gran 8.62 309 *e*Pn Pn 06 43 15.4 -2.1
LGHD Ghdames 8.63 107 *i* P Pn 06 43 18.4 +0.6
110nm,1.2s,SNR=22
PMRV Marv??o 8.78 320 *e*Pn Pn 06 43 18.4 -1.4
ESAC San Caprasio 8.78 358 P Pn 06 43 23.4 +3.5
24nm,0.3s,SNR=6.4
ESAC S Sn 06 44 59.9 +1.1
160nm,0.5s
ESAC San Caprasio 8.78 358 S Sn 06 44 59.9 +1.1
160nm,0.5s
PMTG Montargil 9.01 315 *e*Pn Pn 06 43 21.0 -1.9
CFON Fontmartina 9.04 12 P Pn 06 43 22.6 -0.8
19nm,0.3s,SNR=6.2
CFON S Sn 06 45 02.4 -2.6
18nm,0.3s,SNR=7.9
EMIR Miracle 9.06 8 P Pn 06 43 23.1 -0.6
22nm,0.3s,SNR=30
EMIR S Sn 06 45 05.6 +0.1
32nm,0.6s,SNR=7.9
PACT Alcochete 9.19 312 *e*Pn Pn 06 43 24.3 -1.1
PTOM Tomar 9.48 317 *e*Pn Pn 06 43 28.4 -0.9
CSOR Sort 9.48 5 P Pn 06 43 29.5 +0.1
13nm,0.4s,SNR=17
CSOR S Sn 06 45 13.3 -2.6
72nm,0.6s,SNR=7.9
MTE Manteigas 9.57 323 *e*Pn Pn 06 43 29.5 -1.2
MTE Manteigas 9.57 323 *e*Pn Pn 06 43 29.2 -1.5
85nm,0.9s
MTE *e*Sn Sn 06 45 12.0 -6.0
MTE Manteigas 9.57 323 *e*Pn Pn 06 43 29.5 -1.2
MTE *e*Sn Sn 06 45 12.0 -6.0
PMAFR Mafra 9.59 311 P Pn 06 43 27.8 -3.1
214nm,0.8s,SNR=11
PMAFR Mafra 9.59 311 *e*Pn Pn 06 43 28.7 -2.1
CLLI Llivia 9.67 9 P Pn 06 43 32.0 -0.1
10nm,0.4s,SNR=14
CLLI S Sn 06 45 20.0 -0.6
11nm,0.4s,SNR=7.9
EBIE Bielsa 9.74 1 P Pn 06 43 33.0 -0.2
7.6nm,0.9s,SNR=8.0
EJON La Jonquera 9.79 13 P Pn 06 43 32.9 -0.7
10nm,0.6s,SNR=7.9
EJON S Sn 06 45 20.2 -3.1
3.5nm,0.2s,SNR=7.9
ALAS Alassa 9.83 87 *i* P Pn 06 43 33.3 -0.8
64nm,1.2s,SNR=22
ALAS *e*S Sn 06 45 19.6 -4.7
SNR=22
IUNC Unciti 9.88 354 P Pn 06 43 37.1 +2.3
29nm,0.5s,SNR=7.9
IEPA Eparoz 9.88 355 P Pn 06 43 34.6 -0.3
11nm,0.2s,SNR=7.9
EARA Aranguren 9.90 354 P Pn 06 43 36.0 +0.9
24nm,0.4s,SNR=7.9
IPRE Itoiz 9.91 354 P Pn 06 43 36.0 +0.6
21nm,0.4s,SNR=7.9
MVO Moncorvo 9.92 328 P Pn 06 43 33.8 -1.7
41nm,0.5s,SNR=11
MVO S Sn 06 45 19.8 -6.9
76nm,0.8s,SNR=7.9
MVO Moncorvo 9.92 328 *e*Pn Pn 06 43 34.5 -1.0
IELO Elcoad 9.94 355 P Pn 06 43 35.5 -0.3
66nm,0.6s,SNR=7.9
ETSF Etsaut 9.96 358 *e*P Pn 06 43 37.8 +1.8
ETSF *e*Sn Sn 06 45 17.9 -10
148nm,1.2s
ETSF Etsaut 9.96 358 *e*P Pn 06 43 37.8 +1.8
ETSF Etsaut 9.96 358 *e*P Pn 06 43 37.8 +1.8
ETSF *e*Sn Sn 06 45 17.9 -10
PVIS Viseu 9.98 323 *e*Pn Pn 06 43 34.7 -1.6
VSL Villasalto 10.06 47 *e*Pn Pn 06 43 37.5 +0.2
VSL *e*Sn Sn 06 45 30.2 +0.2
VSL Villasalto 10.06 47 *e*Pn Pn 06 43 37.5 +0.2
VSL *e*Sn Sn 06 45 30.2 +0.2
IUSE Utxeti 10.07 354 P Pn 06 43 40.9 +3.4
11nm,0.4s,SNR=7.9
EPF Esparros 10.09 2 *e*P Pn 06 43 39.5 +1.7
EPF *e*Sn Sn 06 45 21.2 -10
39nm,0.7s
EPF Esparros 10.09 2 *e*P Pn 06 43 39.5 +1.7
EPF Esparros 10.09 2 *e*P Pn 06 43 39.5 +1.7
EPF *e*Sn Sn 06 45 21.2 -10
SJPF Ste Jean 10.21 355 *e*P Pn 06 43 41.3 +1.9
SJPF Ste Jean 10.21 355 *e*P Pn 06 43 41.3 +1.9
SJPF Ste Jean 10.21 355 *e*Pn Pn 06 43 41.3 +1.9
ELIZ Elizondo 10.28 354 P Pn 06 43 40.9 +0.5
36nm,0.4s,SNR=9.2
ELIZ S Sn 06 45 35.4 -0.1
16nm,0.5s,SNR=7.9
PBRG Braganca 10.32 331 *e*Pn Pn 06 43 40.2 -0.8
PBRG A A 06 43 55.1
53nm,1.2s
PVRL Vila Real 10.32 326 *e*Pn Pn 06 43 40.7 -0.3
PVRL A A 06 43 46.9
46nm,0.9s
EALK Alkurruntz 10.34 354 P Pn 06 43 41.4 +0.4
25nm,0.4s,SNR=9.4
EALK S Sn 06 45 36.8 0.0
71nm,0.6s,SNR=7.9
ECAL Calabor 10.44 331 P Pn 06 43 44.0 +1.5
18nm,0.8s,SNR=7.9
POLO Lamas de Olo 10.44 326 *e*Pn Pn 06 43 42.7 +0.1
POLO A A 06 44 02.4
29nm,1.0s
MTLF Montolieu 10.55 9 *e*P Pn 06 43 45.0 +1.0
MTLF Montolieu 10.55 9 *e*P Pn 06 43 45.0 +1.0
MTLF Montolieu 10.55 9 *e*Pn Pn 06 43 45.0 +1.0
ELAN Lanestosa 10.62 347 P Pn 06 43 44.4 -0.5
26nm,0.7s,SNR=7.9
ELOB Lobios 10.95 327 P Pn 06 43 47.6 -1.9
11nm,0.7s,SNR=5.1
EARI Arriondas 11.12 340 P Pn 06 43 53.9 +2.1
18nm,0.9s,SNR=5.2
EARI S Sn 06 45 54.2 -1.7
2.6nm,0.4s,SNR=7.9
PGAV Gavieira, Arco 11.12 327 *e*Pn Pn 06 43 49.0 -2.9
GHAR Gharyan 11.14 91 *i* P Pn 06 43 51.5 -0.7
53nm,1.0s,SNR=22
TAM Tamanrasset 11.24 153 *e*P Pn 06 43 51.8 -2.0
TAM *e* 06 45 52.3
TAM pmax pmax
comp=Z,75nm,0.6s
TAM Tamanrasset 11.24 153 *e*Pn Pn 06 43 51.8 -2.0
comp=Z,75nm,0.6s
TAM *e*Sn Sn 06 45 52.2 -7.1
TAM Tamanrasset 11.24 153 *e*Pn Pn 06 43 51.8 -2.0

LASF Ste Croix 11.54 14 *e*P Pn 06 44 00.0 +2.3
LASF Ste Croix 11.54 14 *e*P Pn 06 44 00.0 +2.3
LMR La Mourre 11.60 25 *e*P Pn 06 43 59.9 +1.5
LMR La Mourre 11.60 25 *e*P Pn 06 43 59.9 +1.5
LMR La Mourre 11.60 25 *e*P Pn 06 43 59.9 +1.5
FRF La Foret Royal 11.85 24 *e*P Pn 06 44 03.3 +1.5
FRF *e*Sn Sn 06 46 03.8 -10
comp=Z,19nm,0.5s
FRF La Foret Royal 11.85 24 *e*P Pn 06 44 03.3 +1.5
FRF La Foret Royal 11.85 24 *e*P Pn 06 44 03.3 +1.5
FRF *e*Sn Sn 06 46 03.8 -10
PGF Pioggiola 11.98 34 *e*P Pn 06 44 05.3 +1.6
PGF *e*Sn Sn 06 46 08.1 -9.1
comp=Z,33nm,0.6s
PGF Pioggiola 11.98 34 *e*P Pn 06 44 05.3 +1.6
PGF Pioggiola 11.98 34 *e*P Pn 06 44 05.3 +1.6
PGF *e*Sn Sn 06 46 08.1 -9.1
CAF Calviac 12.09 7 *e*P Pn 06 44 07.1 +1.9
CAF Calviac 12.09 7 *e*P Pn 06 44 07.1 +1.9
CAF Calviac 12.09 7 *e*P Pn 06 44 07.1 +1.9
MVIF Mont Vial 12.32 25 *e*P Pn 06 44 11.2 +2.8
MVIF Mont Vial 12.32 25 *e*P Pn 06 44 11.2 +2.8
TOUF Mont Tournerai 12.46 25 *e*P Pn 06 44 13.1 +2.8
TOUF Mont Tournerai 12.46 25 *e*P Pn 06 44 13.1 +2.8
VIVF Saint-Julien-l 12.47 16 *e*Pn Pn 06 44 06.2 -4.1
SNR=1.0
VIVF Saint-Julien-l 12.47 16 *e*P Pn 06 44 12.0 +1.7
VIVF Saint-Julien-l 12.47 16 *e*P Pn 06 44 12.0 +1.7
VIVF Saint-Julien-l 12.47 16 *e*P Pn 06 44 12.0 +1.7
LBL Lubilhac 12.55 11 *e*P Pn 06 44 14.4 +2.9
LBL Lubilhac 12.55 11 *e*P Pn 06 44 14.4 +2.9
LSHF Shwairf 12.57 100 *i* P Pn 06 44 11.6 -0.2
comp=Z,150nm,2.2s,SNR=22
LSHF *e*S Sn 06 46 25.2 -6.5
SNR=22
ORIF Oris-en-Rattie 12.83 19 *e*P Pn 06 44 17.6 +2.3
ORIF *e*R
comp=Z,1µm,17.8s
ORIF Oris-en-Rattie 12.83 19 *e*P Pn 06 44 17.6 +2.3
ORIF Oris-en-Rattie 12.83 19 *e*P Pn 06 44 17.6 +2.3
SSB Saint Sauveur 12.84 15 *e*P Pn 06 44 15.5 +0.1
SSB pmax pmax
comp=Z,18nm,1.0s
SSB Saint Sauveur 12.84 15 *e*Pn Pn 06 44 15.5 +0.1
comp=Z,18nm,1.0s
SSB Saint Sauveur 12.84 15 *e*Pn Pn 06 44 15.5 +0.1
comp=Z,18nm,1.0s
MBDF Montbardon 12.93 22 *e*P Pn 06 44 19.8 +3.2
MBDF Montbardon 12.93 22 *e*P Pn 06 44 19.8 +3.2
MBDF Montbardon 12.93 22 *e*P Pn 06 44 19.8 +3.2
BNI Bardonecchia 13.19 21 *e*P Pn 06 44 21.2 +1.0
BNI *e* 06 46 45.8
BNI Bardonecchia 13.19 21 *e*Pn Pn 06 44 21.2 +1.0
BNI *e*Sn Sn 06 46 45.8 -1.0
BNI Bardonecchia 13.19 21 *e*Pn Pn 06 44 21.2 +1.0
BNI *e*Sn Sn 06 46 45.8 -1.0
TCF Toulx Ste Croi 13.46 7 *e*P Pn 06 44 24.6 +0.8
TCF Toulx Ste Croi 13.46 7 *e*P Pn 06 44 24.6 +0.8
TCF Toulx Ste Croi 13.46 7 *e*P Pn 06 44 24.6 +0.8
LPG La Plagne 13.61 21 *e*P Pn 06 44 29.5 +3.4
LPG La Plagne 13.61 21 *e*P Pn 06 44 29.5 +3.4
LPG La Plagne 13.61 21 *e*P Pn 06 44 29.5 +3.4
LPL La Plagne 13.62 21 *e*P Pn 06 44 28.9 +2.7
LPL La Plagne 13.62 21 *e*P Pn 06 44 28.9 +2.7
LPL La Plagne 13.62 21 *e*P Pn 06 44 28.9 +2.7
MFF Saint Martin d 13.66 360 *e*P Pn 06 44 26.8 +0.3
MFF Saint Martin d 13.66 360 *e*P Pn 06 44 26.8 +0.3
MFF Saint Martin d 13.66 360 *e*P Pn 06 44 26.8 +0.3
BGF Bois d'Agland 13.79 8 *e*P Pn 06 44 29.7 +1.4
BGF Bois d'Agland 13.79 8 *e*P Pn 06 44 29.7 +1.4
BGF Bois d'Agland 13.79 8 *e*P Pn 06 44 29.7 +1.4
LJFR Jufra 14.14 101 *i* P Pn 06 44 34.3 +1.0
comp=Z,52nm,2.7s,SNR=45
LSRT Sirt 14.32 93 *i* P Pn 06 44 35.6 0.0
SNR=45
CABF La Chapelle 14.46 17 *e*P Pn 06 44 39.9 +2.4
CABF La Chapelle 14.46 17 *e*P Pn 06 44 39.9 +2.4
CABF La Chapelle 14.46 17 *e*P Pn 06 44 39.9 +2.4
SENIN Lac Senin/Sane 14.56 21 *e*Pn P 06 44 42.6 -3.0
SENIN Lac Senin/Sane 14.56 21 *e*Pn P 06 44 42.6 -3.0
LUMB Murzuk 14.56 114 *i* P Pn 06 44 39.5 +0.5
comp=Z,55nm,2.3s,SNR=45
CUC Castrocucco 14.59 57 *e*Pn Pn 06 44 40.0 +0.7
CUC Castrocucco 14.59 57 *e*Pn Pn 06 44 40.0 +0.7
LOR Lormes 14.63 11 *e*P Pn 06 44 41.8 +2.0
baz=209
LOR *e*R
comp=Z,716nm,21.5s
LOR Lormes 14.63 11 *e*P Pn 06 44 41.8 +2.0
TIP Timpagrande 14.96 61 *e*P P 06 44 48.8 -1.1
comp=Z,24nm,1.0s
TIP Timpagrande 14.96 61 *e*P P 06 44 48.8 -1.1
comp=Z,24nm,1.0s
CLF Chambon-Foret 15.18 6 *e*P P 06 44 54.1 +2.0
CLF Chambon-Foret 15.18 6 *e*P P 06 44 54.1 +2.0
TUE Stuetta 15.33 25 *e*P P 06 44 53.4 -0.7
comp=Z,90nm,1.6s
TUE Stuetta 15.33 25 *e*P P 06 44 53.4 -0.7
comp=Z,90nm,1.6s
LOMF Lomont 15.33 18 *e*P P 06 44 52.6 -1.4
LOMF Lomont 15.33 18 *e*P P 06 44 52.6 -1.4
SGMF Saint Gilles 15.42 354 *e*P Pn 06 44 51.1 +0.7
SGMF Saint Gilles 15.42 354 *e*P Pn 06 44 51.1 +0.7
SGMF Saint Gilles 15.42 354 *e*P Pn 06 44 51.1 +0.7
ROSF Rostrenen 15.58 352 *e*P Pn 06 44 53.3 +0.9
ROSF Rostrenen 15.58 352 *e*P Pn 06 44 53.3 +0.9
ROSF Rostrenen 15.58 352 *e*P Pn 06 44 53.3 +0.9
BBS Basel-Blauen 15.62 19 *e*P P 06 44 57.7 +0.6
LDF La Druitiere 15.65 360 *e*P P 06 44 56.6 -0.8
LDF La Druitiere 15.65 360 *e*P P 06 44 56.6 -0.8
LDF La Druitiere 15.65 360 *e*P P 06 44 56.6 -0.8
LDF La Druitiere 15.65 360 *e*P P 06 44 56.6 -0.8
LZLA Zalla 15.77 101 *i* P Pn 06 44 56.2 +1.2
comp=Z,73nm,1.2s,SNR=43
LZLA *e*S Sn 06 47 45.7 -4.0
SNR=47
DAVOX Davos/Dischmat 15.78 26 Pn P 06 44 57.4 -1.7
DAVOX Sn S 06 48 01.8 -3.0
DAVOX Davos/Dischmat 15.78 26 P P 06 44 57.4 -1.7
DAVOX Sn S 06 48 01.8 -3.0
DAVOX Davos/Dischmat 15.78 26 Pn P 06 44 57.4 -1.7
comp=Z,1.1nm,0.3s,baz=206,slow=12,SNR=9.0
DAVOX Sn S 06 48 01.8 -3.0
comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=2.3
DAVOX LR LR 06 51 05.4
comp=Z,1µm,18.8s,baz=218,slow=38
MOF Molkenrain 15.87 18 *e*P Pn 06 44 57.3 +1.0
MOF Molkenrain 15.87 18 *e*P Pn 06 44 57.3 +1.0
THEF They Montfort 15.95 15 *e*P P 06 45 00.3 -0.5
THEF They Montfort 15.95 15 *e*P P 06 45 00.3 -0.5
FELD Feldberg im Sc 16.13 20 *e*P Pn 06 45 00.6 +0.9
FELD Feldberg im Sc 16.13 20 *e*P Pn 06 45 00.6 +0.9
PAGF Fort de Pagny 16.21 14 *e*P Pn 06 45 01.3 +0.8
PAGF Fort de Pagny 16.21 14 *e*P Pn 06 45 01.3 +0.8
ECH Echery 16.21 18 *e*P P 06 45 03.3 -0.4
ECH Echery 16.21 18 *e*P Pn 06 45 02.2 +1.6
ECH pmax pmax
comp=Z,32nm,1.0s
ECH Echery 16.21 18 *e*P Pn 06 45 02.2 +1.6
comp=Z,32nm,1.0s
ECH Echery 16.21 18 *e*P P 06 45 03.3 -0.4
FETA Feichten 16.30 27⇑*i*Pn P 06 45 04.2 -0.7
comp=Z,53nm,1.1s,SNR=14
SPAK Spaichingen-Ko 16.57 21 *e*P P 06 45 07.2 -0.5
BFO Black Forest 16.64 20 *e*P P 06 45 07.3 -1.1
BFO pmax pmax
comp=Z,20nm,0.9s
BFO Black Forest 16.64 20 *e*P P 06 45 10.2 +1.8
comp=Z,84nm,1.8s
BFO Black Forest 16.64 20 *e*P P 06 45 07.3 -1.1
comp=Z,20nm,0.9s
BFO Black Forest 16.64 20 *e*P P 06 45 07.3 -1.1
comp=Z,20nm,0.9s
RETA Reutte 16.70 26⇓*i*Pn Pn 06 45 07.4 +0.5
comp=Z,73nm,1.1s,SNR=9.6
MOTA Moosalm 16.72 27⇑*i*Pn Pn 06 45 08.2 +1.1
comp=Z,73nm,1.0s,SNR=18
ABTA Abfaltersbach 16.82 31⇑*i*P P 06 45 12.4 +1.9
comp=Z,37nm,0.8s
ABTA Abfaltersbach 16.82 31 P P 06 45 12.4 +1.9
comp=Z,37nm,0.8s

LANF	Langenberg	17.09	18	*e*P		P	06 45 14.0	+0.6
LANF	Langenberg	17.09	18	*e*P		P	06 45 14.0	+0.6
MYKA	Terra Mystica	17.24	33	⇑*i*P		P	06 45 17.1	+2.0
	comp=Z,43nm,1.4s							
MYKA	Terra Mystica	17.24	33	P		P	06 45 17.1	+2.0
	comp=Z,43nm,1.4s							
WLF	Walferdange	17.35	14	P		P	06 45 18.1	+1.8
	comp=Z,56nm,1.2s							
WLF	Walferdange	17.35	14	*e*P		P	06 45 18.1	+1.8
WLF	Walferdange	17.35	14	*e*P		P	06 45 18.1	+1.8
WLF	Walferdange	17.35	14	P		P	06 45 18.0	+1.8
	comp=Z,56nm,1.2s							
KBA	Koelnbreinsper	17.44	32	⇑*i*Pn		P	06 45 18.6	+1.2
	comp=Z,38nm,0.9s							
DOU	Dourbes	17.50	10	P		P	06 45 18.4	+0.5
	comp=Z,31nm,1.3s							
GIVF	Givet	17.54	11	*e*P		P	06 45 17.9	-0.4
GIVF	Givet	17.54	11	*e*P		P	06 45 17.9	-0.4
GIVF	Givet	17.54	11	*e*P		P	06 45 17.9	-0.4
RUP	Ruppelstein	17.58	15	*e*P		P	06 45 20.4	+1.6
OBKA	Obir	17.58	35	⇑*i*pP		pP	06 45 22.2	-0.4
	comp=Z,55nm,1.2s,SNR=6.8							
VLS	Valsamata	17.60	67	*e*P		P	06 45 21.2	+2.1
RJOB	Jochberg	17.71	30	*e*P		P	06 45 20.4	+0.1
	comp=Z,25nm,0.8s							
SNF	Seneffe	17.86	9	P		P	06 45 24.6	+2.8
ABH	Alteburg	17.86	16	*e*P		P	06 45 24.1	+2.2
BCLA	Clavier	17.92	11	P		P	06 45 23.5	+0.9
	comp=Z,17nm,1.2s							
TOD	Tromm	17.93	19	*e*P		P	06 45 23.2	+0.6
SOKA	Soboth	17.93	36	⇑*i*Pn		P	06 45 23.0	+0.2
	comp=Z,30nm,1.1s							
JAN	Janina	18.13	62	*e*P		P	06 45 27.0	+2.0
PDO	Prodromos	18.14	66	*e*P		P	06 45 26.3	+1.3
MEM	Membach	18.23	12	P		P	06 45 26.8	+1.0
	comp=Z,17nm,1.4s							
MEM	Membach	18.23	12	*e*P		P	06 45 26.9	+1.0
MEM				pmax		pmax		
	comp=Z,40nm,1.2s							
MEM	Membach	18.23	12	*e*Pn		P	06 45 26.9	+1.0
	comp=Z,40nm,1.2s							
MEM	Membach	18.23	12	*e*Pn		P	06 45 26.9	+1.0
	comp=Z,40nm,1.2s							
RLS	Riolos of Patr	18.26	68	*e*P		P	06 45 30.5	+4.2
PYL	PYLOS	18.32	71	*e*P		Pn	06 45 27.0	+0.1
HEX	Exmoor	18.33	352	*e*P		P	06 45 26.9	-0.1
BEBN	Eben Emael	18.35	12	P		P	06 45 27.9	+0.7
AMT	Artemida-Makis	18.37	69	*e*P		Pn	06 45 32.5	+4.9
MOA	Molln	18.43	32	⇑*i*P		P	06 45 27.9	-0.2
	comp=Z,37nm,1.1s							
MOA	Molln	18.43	32	P		P	06 45 28.0	-0.2
	comp=Z,37nm,1.1s							
DRO	Drossia	18.43	68	P		Pn	06 45 29.6	+1.3
DRO	Drossia	18.43	68	*e*P		Pn	06 45 30.8	+2.5
NEST	Nestorio	18.48	60	*e*P		Pn	06 45 30.8	+1.7
ITM	Ithomi	18.49	71	*e*P		Pn	06 45 29.6	+0.5
ARSA	Arzberg	18.58	35	⇑*i*Pn		Pn	06 45 31.2	+1.1
	comp=Z,72nm,0.9s,SNR=23							
EFP	Efpalio	18.66	67	P		Pn	06 45 32.2	+1.1
EFP	Efpalio	18.66	67	*e*P		Pn	06 45 32.2	+1.1
BEHE	Becsehely	18.68	39	⇑*e*P		Pn	06 45 33.4	+2.1
EVR	Evrytania	18.68	65	P		Pn	06 45 32.1	+0.6
EVR	Evrytania	18.68	65	*e*P		Pn	06 45 34.5	+3.0
EVR	Evrytania	18.68	65	P		Pn	06 45 32.1	+0.6
EVR	Evrytania	18.68	65	P		Pn	06 45 32.1	+0.6
LAKA	Lakka	18.69	67	*e*P		Pn	06 45 32.9	+1.4
LUJL	Ujela	18.70	96	*i* P		Pn	06 45 32.5	+0.8
	comp=Z,104nm,3.2s,SNR=35							
GRFO	Grafenberg	18.73	23	*e*P		Pn	06 45 33.6	+1.6
GRFO				pmax		pmax		
	comp=Z,65nm,1.2s							
GRFO	Grafenberg	18.73	23	*e*P		Pn	06 45 33.6	+1.6
	comp=Z,65nm,1.2s							
GRFO	Grafenberg	18.73	23	*e*P		Pn	06 45 33.6	+1.6
	comp=Z,65nm,1.2s							
GRF	Grafenberg Arr	18.74	23	*e*P		Pn	06 45 32.8	+0.8
	comp=Z,65nm,1.2s							
GRF				*e*L		L	06 52 06.2	
	comp=Z,478nm,20.3s							
KLV	Kalavryta, Ach	18.79	68	P		P	06 45 32.1	-0.2
KLV	Kalavryta, Ach	18.79	68	*e*P		Pn	06 45 34.8	+2.1
KLV	Kalavryta, Ach	18.79	68	P		P	06 45 32.1	-0.2
KLV	Kalavryta, Ach	18.79	68	P		P	06 45 32.1	-0.2
KALE	Kalithea	18.84	67	*e*P		Pn	06 45 35.4	+2.1
FNA	Florina	18.84	59	P		Pn	06 45 33.4	+0.1
FNA	Florina	18.84	59	P		Pn	06 45 33.4	+0.1
FNA	Florina	18.84	59	*e*P		Pn	06 45 35.1	+1.8
FNA	Florina	18.84	59	P		Pn	06 45 33.4	+0.1
FNA	Florina	18.84	59	P		Pn	06 45 33.4	+0.1
WET	Wettzell	18.87	27	*e*P		Pn	06 45 34.5	+0.9
	comp=Z,33nm,1.1s							
BIA	Bitola	18.87	59	*e*P		Pn	06 45 34.9	+1.1
VLX	Vlachokerasia	18.87	70	P		P	06 45 32.4	-0.9
VLX	Vlachokerasia	18.87	70	*e*P		Pn	06 45 42.2	+8.4
VLX	Vlachokerasia	18.87	70	P		P	06 45 32.4	-0.9
VLX	Vlachokerasia	18.87	70	P		P	06 45 32.4	-0.9
GUR	Goura	18.92	68	*e*P		Pn	06 45 35.7	+1.3
MAKR	Makrakomi, Fth	18.95	65	P		Pn	06 45 35.5	+0.8
MAKR	Makrakomi, Fth	18.95	65	*e*P		Pn	06 45 36.3	+1.6
MAKR	Makrakomi, Fth	18.95	65	P		Pn	06 45 35.5	+0.8
MAKR	Makrakomi, Fth	18.95	65	P		Pn	06 45 35.5	+0.8
GEC2	GERESS Array S	18.96	29	*e*P		P	06 45 33.2	-0.9
GEC2	GERESS Array S	18.96	29	*e*P		P	06 45 34.4	+0.3
	comp=Z,52nm,1.2s							
GEC2	GERESS Array S	18.96	29	*e*P		P	06 45 33.2	-0.9
GEC2				*e*Pn		P	06 45 34.4	+0.3
GEC2	GERESS Array S	18.96	29	*e*P		P	06 45 33.2	-0.9
GERES	GERESS Array B	18.96	29	P		P	06 45 33.1	-0.9
GERES				S		Sn	06 49 06.2	-0.5
GERES	GERESS Array B	18.96	29	P		P	06 45 33.1	-0.9
GERES				S		Sn	06 49 06.2	-0.5
GERES	GERESS Array B	18.96	29	P		P	06 45 33.1	-0.9
	comp=Z,0.8nm,0.3s,baz=212,slow=11,SNR=36							
GERES				S		Sn	06 49 06.2	-0.5
	comp=Z,0.1nm,0.3s,baz=218,slow=11,SNR=2.2							
GERES				LR		LR	06 53 35.8	
	comp=Z,685nm,18.4s,baz=231,slow=39							
THL	Klokotos Trika	18.98	63	*e*P		Pn	06 45 36.1	+1.1
AGG	Agios Georgios	19.10	65	*e*P		Pn	06 45 39.9	+3.4
KHC	Kasperske Hory	19.13	28	*e*P		P	06 45 35.5	-0.4
KHC				*e*S		S	06 49 13.9	+1.3
KHC				MLR		MLR		
	comp=Z,1μm,12.1s							
KHC	Kasperske Hory	19.13	28	*e*P		P	06 45 35.5	-0.4
KHC				*ep*P		pP	06 45 43.8	+4.1
KHC				*es*P		sP	06 45 48.9	+7.5
KHC				*e*S		S	06 49 13.9	+1.3
KHC				AMS		AMS	06 54 50.0	
	comp=Z,1μm,12.1s							
KHC	Kasperske Hory	19.13	28	*e*P		P	06 45 35.5	-0.4
	comp=Z,35nm,1.1s							
KHC	Kasperske Hory	19.13	28	P		P	06 45 35.5	-0.4
KHC				S		S	06 49 13.9	+1.3
DSF	Desfina	19.14	67	*e*P		Pn	06 45 40.2	+3.2
MCH1	Michaelchurch	19.18	354	*e*P		Pn	06 45 36.7	-0.5
MCH1				AMB		AMB	06 45 41.2	
	comp=Z,57nm,1.7s							
MCH1	Michaelchurch	19.18	354	*e*P		Pn	06 45 36.7	-0.5
DIVS	Divibare	19.20	49	P		P	06 45 34.5	-2.3
DIVS	Divibare	19.20	49	*e*P		P	06 45 36.3	-0.5
CONA	Conrad Observa	19.22	34	⇑*i*P		P	06 45 36.8	-0.2
	comp=Z,41nm,1.1s,SNR=9.8							
CONA	Conrad Observa	19.22	34	P		P	06 45 36.8	-0.2
	comp=Z,41nm,1.1s,SNR=9.8							
VLI	Veliai	19.25	72	P		Pn	06 45 38.8	+0.5
VLI	Veliai	19.25	72	P		Pn	06 45 38.8	+0.5
VLI	Veliai	19.25	72	P		Pn	06 45 38.8	+0.5
SKO	Skopje	19.28	56	*e*P		P	06 45 37.4	-0.1
LPW	Lampeter	19.39	353	*e*P		Pn	06 45 41.1	+1.3
LPW				AMB		AMB	06 45 45.0	
	comp=Z,340nm,1.3s							
LPW	Lampeter	19.39	353	*e*P		Pn	06 45 41.1	+1.3
LTK	Loutraki	19.42	68	*e*P		Pn	06 45 41.9	+1.6
LIT	Litokhoron	19.47	62	*e*P		Pn	06 45 42.2	+1.3
ANKY	Antikythira Is	19.50	75	*e*P		Pn	06 45 41.6	+0.3
PKSM	Moragy	19.53	42	⇑*i*P		P	06 45 40.7	+0.4
PKSM	Moragy	19.53	42	⇑*e*P		P	06 45 41.0	+0.7
LKR	Lokris	19.55	67	*e*P		Pn	06 45 42.8	+1.0
PKS9	Tamasi	19.56	40	⇑*e*P		Pn	06 45 42.0	+0.1
DID	Didima	19.57	70	*e*P		Pn	06 45 43.7	+1.6
NKC	Novy Kostel	19.61	24	*e*P		Pn	06 45 43.4	+0.8
NKC	Novy Kostel	19.61	24	*e*P		Pn	06 45 43.4	+0.8
NKC	Novy Kostel	19.61	24	P		Pn	06 45 43.4	+0.8
GRG	Griva	19.63	60	*e*P		Pn	06 45 42.6	-0.2
HLM1	Long Mynd	19.68	355	*e*P		Pn	06 45 43.1	-0.2
HLM1				AMB		AMB	06 45 49.6	
	comp=Z,36nm,1.0s							
SMIA	Simia	19.75	66	*e*P		Pn	06 45 45.7	+1.5
TOA0	Torodi Ar. Sit	19.76	175	*e*P		P	06 45 42.1	-0.8
TOA0				*e*S		S	06 49 17.8	-7.6
TOA0	Torodi Ar. Sit	19.76	175	*e*P		P	06 45 42.1	-0.8
TORD	Torodi Ar. Bea	19.76	175	P		P	06 45 42.4	-0.5
TORD				S		Sn	06 49 26.7	+0.4
TORD				Lg		Lg	06 51 33.7	
TORD	Torodi Ar. Bea	19.76	175	P		P	06 45 42.4	-0.5
TORD				S		Sn	06 49 26.7	+0.4
TORD	Torodi Ar. Bea	19.76	175	P		P	06 45 42.4	-0.5
	comp=Z,2.9nm,0.3s,baz=353,slow=11,SNR=103							
TORD				S		Sn	06 49 26.7	+0.4
	comp=Z,0.4nm,0.3s,baz=358,slow=17,SNR=3.2							
TORD				Lg		Lg	06 51 33.7	
	comp=Z,0.1nm,0.3s,baz=19,slow=18,SNR=2.3							
TORD				LR		LR	06 53 24.2	
	comp=Z,284nm,21.7s,baz=5.0,slow=37							
TANN	Tannenbergstha	19.77	24	*e*P		Pn	06 45 44.3	-0.2
	comp=Z,43nm,0.9s							
XOR	Xorichti	19.83	65	P		P	06 45 39.0	-4.6
XOR	Xorichti	19.83	65	*e*P		P	06 45 44.5	+0.9
XOR	Xorichti	19.83	65	P		P	06 45 39.0	-4.6
XOR	Xorichti	19.83	65	P		P	06 45 39.0	-4.6
PKST	T˜˜s	19.85	39	⇓*e*P		Pn	06 45 44.8	-0.5
VAY	Valandovo	19.86	59	*e*P		P	06 45 43.9	0.0
THE	Thessaloniki	19.95	61	*e*P		Pn	06 45 47.9	+1.3
MRKA	Markates	20.01	67	*e*P		Pn	06 45 49.5	+2.2
CSKK	Cs˘ákako	20.03	39	*e*P		Pn	06 45 47.5	0.0
HORT	Hortiatis	20.04	61	*e*P		P	06 45 46.8	+0.8
KNT	Kendrikon	20.05	59	*e*P		P	06 45 46.4	+0.4
TREC	Trest	20.05	31	*e*P		P	06 45 46.1	+0.1
TREC				MLR		MLR		
	comp=Z,800nm,12.2s							
TREC	Trest	20.05	31	*e*P		P	06 45 46.1	+0.1
TREC				*ep*P		pP	06 45 49.8	+0.1
TREC				AMS		AMS	06 55 40.0	
	comp=Z,800nm,12.2s							
TREC	Trest	20.05	31	P		P	06 45 46.1	+0.1
FOEL	Foel Wylfa	20.08	354	*e*P		P	06 45 46.8	+0.6
FOEL				AMB		AMB	06 45 53.7	
	comp=Z,91nm,1.0s							
PKSG		20.12	39	⇓*e*P		P	06 45 47.6	+0.9
IBBN	Ibbenburen	20.18	14	*e*P		Pn	06 45 49.1	-0.1
	comp=Z,64nm,0.9s							
PRU	Pruhonice	20.20	28	*e*P		P	06 45 48.4	+0.9
PRU				*e*S		S	06 49 35.0	+1.3
PRU				MLR		MLR		
	comp=Z,900nm,11.4s							
PRU	Pruhonice	20.20	28	*e*P		P	06 45 48.4	+0.9
PRU				*ep*P		pP	06 45 51.6	+0.3
PRU				*e*S		S	06 49 35.0	+1.3
PRU				AMS		AMS	06 55 20.0	
	comp=Z,900nm,11.4s							
PRU	Pruhonice	20.20	28	P		P	06 45 48.4	+0.9
PRU				S		S	06 49 35.0	+1.3
VAM	Vamos	20.22	76	*e*P		Pn	06 45 50.2	+0.3
PLG	Polygyros	20.24	62	*e*P		Pn	06 45 53.1	+3.0
LTBQ	Tobrug	20.25	86	*i* P		P	06 45 47.8	-0.4
	comp=Z,75nm,3.5s,SNR=35							
PKS6	Bocsa	20.28	42	⇑*e*P		Pn	06 45 49.7	-0.7
YRE	Yr Eifl	20.29	352	*e*P		P	06 45 49.0	+0.5
SOH	Sokhos	20.29	60	*e*P		Pn	06 45 52.5	+1.8
PAIG	Paliouri	20.31	63	*e*P		Pn	06 45 52.3	+1.4
AOS	Alonnisos	20.31	65	*e*P		Pn	06 45 52.2	+1.3
KBI1	Birley Grange	20.34	357	*e*P		P	06 45 49.2	+0.2
CLZ	Clausthal	20.38	19	*e*P		Pn	06 45 51.2	-0.4
	comp=Z,48nm,1.3s							
SMOL	Smolenice	20.38	35	*e*P		Pn	06 45 52.0	+0.4
SMOL	Smolenice	20.38	35	*e*PN		Pn	06 45 52.0	+0.4
KKB	Krupnik	20.40	57	*i* P		Pn	06 45 51.5	-0.4
WPM1	Penmaenmawr	20.51	353	*e*P		P	06 45 50.3	-0.6
SRS	Serrai	20.54	60	*e*P		Pn	06 45 53.7	+0.1
BANR	Banloc	20.55	47	⇑*i*P		Pn	06 45 53.8	+0.3
VRAC	Vranov	20.55	32	⇑*i*P		P	06 45 51.3	0.0
VRAC	Vranov	20.55	32	P		P	06 45 51.3	0.0
VRAC				S		Sn	06 49 44.1	-1.0
VRAC	Vranov	20.55	32	⇑*i*P		P	06 45 51.3	0.0
VRAC				S		Sn	06 49 44.1	-1.0
VRAC	Vranov	20.55	32	P		P	06 45 51.3	0.0
	comp=Z,83nm,0.9s,baz=229,slow=10.0,SNR=44							
VRAC				S		Sn	06 49 44.1	-1.0
	comp=Z,1.8nm,0.4s,baz=238,slow=13,SNR=1.6							
VRAC				LR		LR	06 54 17.9	
	comp=Z,565nm,19.3s,baz=214,slow=38							
YRC	Rhoscolyn	20.57	352	*e*P		Pn	06 45 54.1	+0.4
PVCC	Panska Ves	20.64	27	*e*P		Pn	06 45 53.5	-1.1
PVCC				*e*			06 46 01.6	
PVCC				MLR		MLR		
	comp=Z,800nm,12.9s							
PVCC	Panska Ves	20.64	27	*e*P		Pn	06 45 53.5	-1.1
PVCC				*ep*P		pP	06 45 57.1	+1.1
PVCC				*ep*P		pwP	06 46 01.6	+5.6
PVCC				AMS		AMS	06 56 20.0	
	comp=Z,800nm,12.9s							
PVCC	Panska Ves	20.64	27	P		Pn	06 45 53.5	-1.1
LHO	Holmfirth	20.65	357	*e*P		P	06 45 52.5	+0.1
BRG	Berggiesshubel	20.68	26	*e*P		P	06 45 53.8	+1.1
	comp=Z,40nm,0.9s							
BRG				S		Sn	06 49 46.0	-2.1
BRG								
	comp=N,641nm,11.5s							
BRG								
	comp=E,700nm,13.8s							
BRG								
	comp=Z,1μm,10.4s							
BRG	Berggiesshubel	20.68	26	*e*P		P	06 45 53.8	+1.1
BRG				S		Sn	06 49 46.0	-2.1
BRG				pmax		pmax		
	comp=Z,40nm,0.9s							
BRG				MLR		MLR		
	comp=N,641nm,11.5s							
BRG				MLR		MLR		
	comp=E,700nm,13.8s							
BRG				MLR		MLR		
	comp=Z,1μm,10.4s							
BRG	Berggiesshubel	20.68	26	*e*P		Pn	06 45 54.4	-0.7
	comp=Z,40nm,0.9s							
CLL	Collm	20.71	24	⇑*i*P		P	06 45 53.6	+0.6
CLL				*e*S		S	06 49 45.0	+1.1
CLL				pmax		pmax		
	comp=Z,21nm,1.2s							
CLL				MLR		MLR		
	comp=Z,400nm,21.2s							
CLL	Collm	20.71	24	*e*P		Pn	06 45 54.3	-1.1
	comp=Z,36nm,1.0s							
CLL	Collm	20.71	24	⇑*i*P		P	06 45 53.6	+0.6
	comp=Z,21nm,1.2s							
CLL				*es*P		sP	06 45 57.0	-1.6
CLL				*i*			06 46 00.1	
	comp=Z,36nm,1.0s							
CLL				*e*S		S	06 49 45.0	+1.1
	comp=N,500nm,10.7s							
CLL				*e*S		S	06 49 45.0	+1.1
	comp=E,800nm,11.5s							
CLL				Lm		MLR	06 53 00.0	
	comp=Z,400nm,21.2s							
VTS	Vitosha	20.72	56	P		Pn	06 45 56.3	+0.4
VTS	Vitosha	20.72	56	P		Pn	06 45 56.3	+0.4
VTS	Vitosha	20.72	56	*i* P		Pn	06 45 57.9	+2.0
VTS	Vitosha	20.72	56	⇓*i*P		Pn	06 45 55.4	-0.5
VTS	Vitosha	20.72	56	P		Pn	06 45 56.3	+0.4
VTS	Vitosha	20.72	56	⇓*i*P		Pn	06 45 55.4	-0.5
MMB	Musomiste	20.77	59	P		P	06 45 54.6	+0.7
MMB	Musomiste	20.77	59	⇓*i*P		P	06 45 54.4	+0.5
MMB	Musomiste	20.77	59	P		P	06 45 54.6	+0.7
IDI	Anoyia	20.79	77	P		P	06 45 54.6	+0.5
IDI	Anoyia	20.79	77	*e*P		Pn	06 45 55.7	-0.9
	comp=Z,118nm,1.3s							
IDI				S		S	06 49 44.7	-1.2
IDI	Anoyia	20.79	77	P		P	06 45 54.6	+0.5
IDI				S		S	06 49 44.7	-1.2
IDI	Anoyia	20.79	77	P		P	06 45 54.7	+0.5
	comp=Z,26nm,0.6s,baz=283,slow=11,SNR=28							
IDI				S		S	06 49 44.7	-1.2
	comp=Z,2.1nm,0.7s,baz=221,slow=19,SNR=1.8							
IDI				LR		LR	06 56 09.9	
	comp=Z,863nm,20.2s,baz=290,slow=43							
NVR	Nevrokopi	20.80	59	*e*P		P	06 45 55.0	+0.8
NRDL	Niedersach Rie	20.90	18	*e*P		Pn	06 45 56.8	-0.7
	comp=Z,33nm,1.2s							
BZS	Buzias	20.95	46	⇓*i*P		P	06 45 56.5	+0.8
HPK	Haverah Park	21.05	357	*e*P		P	06 45 56.6	0.0
HPK				AMB		AMB	06 46 02.8	
	comp=Z,76nm,2.2s							
KRLC	Kraliky	21.20	31	*e*P		P	06 45 59.0	+0.7
KRLC	Kraliky	21.20	31	*e*P		P	06 45 59.0	+0.7
KRLC	Kraliky	21.20	31	P		P	06 45 59.0	+0.7
UPC	Upice	21.20	29	*e*P		P	06 45 57.8	-0.5
UPC	Upice	21.20	29	*e*P		P	06 45 57.8	-0.5
UPC				*ep*P		pP	06 46 03.4	+1.3
UPC	Upice	21.20	29	P		P	06 45 57.8	-0.5
DPC	Dobruska-Polom	21.20	30	*e*P		P	06 45 58.2	-0.3
DPC				*e*			06 46 06.4	
DPC				*e*S		S	06 49 57.2	+3.4
DPC	Dobruska-Polom	21.20	30	*e*P		P	06 45 58.2	-0.3
DPC				*ep*P		pP	06 46 06.4	+4.2
DPC				*e*S		S	06 49 57.2	+3.4
DPC				AMS		AMS	06 56 20.0	
DPC	Dobruska-Polom	21.20	30	*e*P		P	06 45 58.2	-0.3
DPC	Dobruska-Polom	21.20	30	P		P	06 45 58.2	-0.3
PSZ	Piszkesteto	21.24	39	*e*P		P	06 45 58.6	-0.3
PSZ				pmax		pmax		
	comp=Z,55nm,1.1s							
PSZ	Piszkesteto	21.24	39	⇓*i*P		P	06 45 59.0	+0.1
PSZ	Piszkesteto	21.24	39	*e*P		P	06 45 58.6	-0.3
	comp=Z,55nm,1.1s							
PSZ	Piszkesteto	21.24	39	⇓*i*P		P	06 45 59.0	+0.1
PSZ	Piszkesteto	21.24	39	⇑*e*		P	06 45 59.3	+0.4
SANT	Santorini	21.26	74	*e*P		P	06 46 00.2	+1.0
	comp=Z,88nm,1.0s							
SANT	Santorini	21.26	74	*e*P		P	06 46 00.2	+1.0
	comp=Z,88nm,1.0s							
LAST	Lasithi	21.27	77	P		P	06 46 00.7	+1.3
LAST	Lasithi	21.27	77	P		P	06 46 00.7	+1.3
LAST	Lasithi	21.27	77	P		P	06 46 00.7	+1.3
SIRR	Siria	21.31	45	⇑*i*P		P	06 45 59.6	0.0
MORC	Moravsky Berou	21.32	33	*e*P		P	06 45 58.9	-0.8
MORC				pmax		pmax		
	comp=Z,42nm,1.0s							
MORC	Moravsky Berou	21.32	33	⇓*i*P		P	06 45 59.5	-0.2
MORC	Moravsky Berou	21.32	33	*e*P		P	06 45 58.9	-0.8
	comp=Z,42nm,1.0s							
MORC	Moravsky Berou	21.32	33	*e*P		P	06 45 59.1	-0.6
APE	Apeiranthos	21.35	72	P		P	06 46 01.6	+1.4
APE	Apeiranthos	21.35	72	*d i*P		P	06 46 01.7	+1.5
APE				pmax		pmax		
	comp=Z,132nm,2.5s							
APE	Apeiranthos	21.35	72	*e*P		P	06 46 02.6	+2.4
APE	Apeiranthos	21.35	72	⇓*i*P		P	06 46 02.3	+2.1
APE	Apeiranthos	21.35	72	P		P	06 46 01.6	+1.4
APE	Apeiranthos	21.35	72	P		P	06 46 01.6	+1.4
MPEP	Malo Peshtene	21.36	54	P		P	06 46 01.9	+1.8
PGB	Panagyurishte	21.38	56	P		P	06 46 04.3	+3.9
NPS	Neapolis	21.38	77	*e*P		P	06 46 04.1	+3.7
RZN	Rozhen	21.51	59	P		P	06 46 07.4	+5.4
GZR	Gura Zlata	21.57	48	⇑*i*P		P	06 46 02.3	-0.1
KSP	Ksiaz	21.57	29	⇑*e*P		P	06 46 02.4	+0.1
KSP				*e*S		S	06 50 04.8	+3.9
KSP	Ksiaz	21.57	29	*e*P		P	06 46 02.4	+0.1
OKC	Ostrava-Krasne	21.64	33	*e*P		P	06 46 03.3	+0.3
OKC				*e*S		Sn	06 50 07.8	-3.3
OKC				MLR		MLR		
	comp=Z,800nm,12.4s							
OKC	Ostrava-Krasne	21.64	33	*e*P		P	06 46 03.3	+0.3
OKC				*ep*P		pP	06 46 07.1	+0.3
OKC				*e*S		Sn	06 50 07.8	-3.3
OKC				AMS		AMS	06 57 00.0	
	comp=Z,800nm,12.4s							
OKC	Ostrava-Krasne	21.64	33	P		P	06 46 03.3	+0.3
SIGR	SIGRI	21.83	66	*e*P		P	06 46 07.4	+2.2
CHOS	Chios island	21.88	68	P		P	06 46 03.3	-2.6
CHOS	Chios island	21.88	68	*e*P		P	06 46 07.8	+1.9
CHOS	Chios island	21.88	68	P		P	06 46 03.3	-2.6
CHOS	Chios island	21.88	68	P		P	06 46 03.3	-2.6
RUE	Ruedersdorf	21.96	23	*e*P		P	06 46 08.6	+2.2
	comp=Z,30nm,0.4

BBTS LR LR 06 55 51.9
comp=Z,849nm,18.4s,baz=209,slow=37
MLR Muntele Rosu 23.63 50⇓ *i*P P 06 46 25.5 +1.5
MLR Muntele Rosu 23.63 50 P P **06 46 24.4 +0.3**
MLR S S 06 50 45.7 +7.4
MLR Muntele Rosu 23.63 50 P P **06 46 24.4 +0.3**
MLR S S 06 50 45.7 +7.4
MLR Muntele Rosu 23.63 50 P P **06 46 24.4 +0.3**
comp=Z,17nm,1.1s,baz=278,slow=5.4,SNR=25
MLR S S 06 50 45.7 +7.4
comp=Z,0.2nm,0.4s,baz=180,slow=12,SNR=2.0
KWP Kalwaria Pacla 23.76 39 *e*P P **06 46 25.6 +0.4**
KWP pmax pmax
comp=Z,49nm,1.1s
KWP Kalwaria Pacla 23.76 39 *e*P P **06 46 26.2 +1.0**
KWP Kalwaria Pacla 23.76 39⇑ *i*P P 06 46 25.5 +0.4
KWP Kalwaria Pacla 23.76 39 *e*P P **06 46 25.6 +0.4**
comp=Z,49nm,1.1s
KWP Kalwaria Pacla 23.76 39 *e*P P **06 46 25.6 +0.4**
comp=Z,49nm,1.1s
PRD Provadia 23.84 57 P P 06 46 34.8 +8.9
DRUM Mains of Drumt 24.04 357 *e*P P **06 46 27.1 -0.6**
DRUM AMB AMB 06 46 32.0
comp=Z,105nm,1.2s
BURAR Bucovina Array 24.09 45⇑ *i*P P 06 46 30.2 +1.7
BURAR Bucovina Array 24.09 45⇑ *i*P P 06 46 30.2 +1.7
BUR08 Bucovina Ar. S 24.10 45 *e*P P **06 46 29.8 +1.3**
BUR08 Bucovina Ar. S 24.10 45 *e*P P **06 46 29.8 +1.3**
PLOR Plostina 24.22 50⇑ *i*P P 06 46 31.2 +1.6
PLOR Plostina 24.22 50⇑ *i*P P 06 46 31.2 +1.6
BEL Belsk 24.23 33 *e*P P **06 46 30.8 +1.2**
BEL Belsk 24.23 33 *e*P P **06 46 30.7 +1.2**
VRI Vrincioaia 24.28 50⇑ *i*P P 06 46 29.5 -0.6
VRI Vrincioaia 24.28 50⇑ *i*P P 06 46 29.5 -0.6
MME1 Meikle Cairn 24.47 356 *e*P P **06 46 31.5 -0.2**
TESR Tescani 24.48 49⇓ *i*P P 06 46 32.0 +0.1
TESR Tescani 24.48 49⇓ *i*P P 06 46 32.0 +0.1
PSN Preselentsi 24.52 56⇓ *i*P P 06 46 33.9 +1.6
PSN Preselentsi 24.52 56⇓ *i*P P 06 46 33.9 +1.6
LVV L'vov 24.57 40 *e*P P **06 46 35.2 +2.5**
LVV *e* 06 47 12.2
LVV *e* 06 51 53.6
LVV MLR MLR
comp=Z,600nm,16.0s
LVV MLR MLR
comp=N,400nm,15.0s
LVV MLR MLR
comp=E,400nm,16.0s
MDO Dochfour 24.69 354 *e*P P **06 46 33.2 -0.4**
KPL Plockton 24.71 353 *e*P P **06 46 31.1 -2.7**
KPL AMB AMB 06 46 32.6
comp=Z,71nm,2.9s
MCD Coleburn Disti 24.75 356 *e*P P **06 46 33.6 -0.6**
KAC Achnashellach 24.83 353 *e*P P **06 46 33.8 -1.2**
CFR Carcaliu 24.95 52⇓ *i*P P 06 46 35.7 -0.4
CFR Carcaliu 24.95 52⇓ *i*P P 06 46 35.7 -0.4
MVH1 Achvaich 25.15 355 *e*P P **06 46 37.7 -0.2**
KIS Kishinev 26.05 49 *e*P P **06 46 46.0 -0.1**
KIS *e*S S **06 51 18.0 +1.4**
KIS LRM MLR 06 59 43.0
comp=Z,700nm,12.0s
KIS Kishinev 26.05 49 *e*P P **06 46 46.0 -0.1**
KIS *e* 06 46 50.0
KIS *e*S S **06 51 18.0 +1.4**
KIS MLR MLR
comp=N,700nm,12.0s
KIS MLR MLR
comp=E,500nm,12.0s
KIS MLR MLR
comp=Z,500nm,12.0s
KIS MLR MLR
comp=Z,500nm,12.0s
KIS Kishinev 26.05 49 *e*P P **06 46 46.0 -0.1**
KIS *e*S S **06 51 18.0 +1.4**
DBIC Dimbokro 26.50 191 *e*P P **06 46 50.2 -0.2**
comp=Z,43nm,0.9s
DBIC S S **06 51 22.5 -1.7**
DBIC Lg Lg 06 55 19.0
DBIC Dimbokro 26.50 191 *e*P P **06 46 50.2 -0.2**
comp=Z,43nm,0.9s
DBIC Dimbokro 26.50 191 P P **06 46 50.0 -0.4**
comp=Z,21nm,0.6s,baz=359,slow=11,SNR=20
DBIC S S **06 51 22.5 -1.7**
comp=Z,3.5nm,0.8s,baz=174,slow=15,SNR=1.7
DBIC Lg Lg 06 55 19.0
comp=Z,7.8nm,1.0s,baz=90,slow=20,SNR=2.5
DBIC LR LR 06 57 57.4
comp=Z,469nm,18.5s,baz=354,slow=38
TIC Toumodi 26.55 191 *e*P P **06 46 49.7 -1.2**
comp=Z,58nm,0.5s
SUW Suwalki 26.77 31 *e*P P **06 46 50.9 -1.6**
SUW pmax pmax
comp=Z,61nm,0.8s
SUW Suwalki 26.77 31 *e*P P **06 46 50.7 -1.8**
SUW Suwalki 26.77 31 *e*P P **06 46 50.9 -1.6**
comp=Z,61nm,0.8s
SUW Suwalki 26.77 31 *e*P P **06 46 50.9 -1.6**
comp=Z,61nm,0.8s
KIC Kosan Boka 26.79 190 *e*P P **06 46 51.9 -1.1**
comp=Z,159nm,1.2s
LIC Lamto 26.97 191⇑ *i*P P 06 46 53.1 -1.5
comp=Z,27nm,0.6s,baz=12
LIC *e*R
comp=Z,653nm,15.8s
LIC Lamto 26.97 191 *e*P P **06 46 53.4 -1.2**
comp=Z,89nm,0.7s
LIC Lamto 26.97 191⇑ *i*P P 06 46 53.1 -1.5
comp=Z,27nm,0.6s
AK02 Malin Array Si 27.85 42 *e*P P **06 47 00.4 -1.8**
AK02 Malin Array Si 27.85 42 *e*P P **06 47 00.4 -1.8**
KIEV Kiev 27.86 42⇑ *e*P P 06 47 01.5 -0.9
KIEV Kiev 27.86 42 *e*P P **06 47 00.4 -1.9**
comp=Z,35nm,1.0s
KIEV Kiev 27.86 42 *e*P P **06 47 00.4 -1.9**
comp=Z,35nm,1.0s
AK01 Malin Array Si 27.87 42 *e*P P **06 47 00.7 -1.7**
AK01 Malin Array Si 27.87 42 *e*P P **06 47 00.7 -1.7**
AKASG Malin Array Be 27.88 42 P P **06 47 00.7 -1.8**
AKASG Malin Array Be 27.88 42 P P **06 47 00.7 -1.8**
AKASG Malin Array Be 27.88 42 P P **06 47 00.6 -1.8**
AKASG Malin Array Be 27.88 42 P P **06 47 00.7 -1.8**
comp=Z,30nm,1.0s,baz=244,slow=9.9,SNR=26
AKBB Malin Array Si 27.88 42 *e*P P **06 47 00.8 -1.7**
AKBB Malin Array Si 27.88 42 *e*P P **06 47 00.8 -1.7**
AKBB Malin Array Si 27.88 42 *e*P P **06 47 00.8 -1.7**
BR131 Keskin Array S 27.88 66 *e*P P **06 47 04.3 +1.5**
comp=Z,7.9nm,0.9s
BR131 Keskin Array S 27.88 66 *e*P P **06 47 04.3 +1.5**
comp=Z,7.9nm,0.9s
BRTR Keskin Array B 27.88 66 P P **06 47 03.1 +0.3**
BRTR S S 06 52 09.7 +24
BRTR Keskin Array B 27.88 66 P P **06 47 03.1 +0.3**
BRTR S S 06 52 09.7 +24
BRTR Keskin Array B 27.88 66 P P **06 47 03.1 +0.3**
comp=Z,9.2nm,1.0s,baz=269,slow=7.2,SNR=16
BRTR S S 06 52 09.7 +24
comp=Z,0.6nm,0.9s,baz=20,slow=24,SNR=2.5
BRTR LR LR 06 59 28.2
comp=Z,283nm,19.8s,baz=88,slow=39
HFS Hagfors 28.69 14 P P **06 47 08.0 -1.7**
HFS Hagfors 28.69 14 P P **06 47 07.9 -1.7**
HFS Hagfors 28.69 14 P P **06 47 08.0 -1.7**
comp=Z,1.7nm,0.4s,baz=198,slow=9.1,SNR=14
NB2 NORSAR Subarra 29.07 11 P P **06 47 12.2 -0.9**
comp=Z,6.2nm,1.4s,baz=193,slow=9.3
NB2 NORSAR Subarra 29.07 11 P P **06 47 12.2 -0.9**
comp=Z,6.2nm,1.4s,SNR=3.7
NOA NORSAR Array B 29.07 11 P P **06 47 12.0 -1.1**
NOA PcP **PcP 06 50 20.6 -0.2**
NOA NORSAR Array B 29.07 11 P P **06 47 12.0 -1.1**
NOA NORSAR Array B 29.07 11 P P **06 47 12.0 -1.1**
comp=Z,1.7nm,0.9s,baz=203,slow=8.4,SNR=3.1
NOA PcP **PcP 06 50 20.6 -0.2**
comp=Z,1.8nm,0.9s,baz=205,slow=2.9,SNR=2.5
MNK Minsk 29.19 34 *e*P P **06 47 12.0 -2.2**
MICGM Minsk 29.22 34 *e* P **06 47 12.0 -2.3**
MMAI Mount Meron Ar 29.68 80 P P **06 47 19.1 +0.3**
MMAI Mount Meron Ar 29.68 80 P P **06 47 19.1 +0.3**
MMAI Mount Meron Ar 29.68 80 P P **06 47 19.1 +0.3**
comp=Z,7.4nm,0.8s,baz=262,slow=9.9,SNR=2.7
ANN Anapa 31.25 57 *e*P P 06 47 26.0 -6.4
ANN pmax pmax
comp=Z,165nm,2.3s
MALT Malatya 31.59 69⇓ *i*P P 06 47 37.6 +1.9
MALT Malatya 31.59 69⇓ *i*P P 06 47 37.6 +1.9
FINES FINESS Array B 33.15 23 P P **06 47 47.3 -1.6**
FINES FINESS Array B 33.15 23 P P **06 47 47.3 -1.6**
FINES FINESS Array B 33.15 23 P P **06 47 47.3 -1.6**
comp=Z,4.3nm,0.7s,baz=216,slow=8.6,SNR=6.8
OBN Obninsk 33.85 38⇓ *e*P P 06 47 54.5 -0.5
OBN *e*S S **06 53 19.3 +0.7**
OBN *e*SS SnSn **06 55 22.3 -1.6**
OBN pmax pmax
comp=Z,36nm,1.2s
OBN MLR MLR
comp=Z,500nm,21.0s
VSR Storozhevoye 33.87 46 *e*P P **06 47 54.8 -0.5**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
MOS Moscow 34.66 37 *e*P P **06 48 00.8 -1.3**
MOS *e* 06 48 10.6
MOS *e* 06 49 17.1
MOS pmax pmax
comp=Z,69nm,0.8s
KIV Kislovodsk 34.90 59 *e*P P **06 48 02.0 -2.4**
KIV *e*S S **06 53 36.3 +0.9**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,129nm,15.0s
KBZ Khabaz 35.04 59 P P **06 48 04.6 -0.9**
KBZ Khabaz 35.04 59 P P **06 48 04.6 -0.9**
KBZ Khabaz 35.04 59 P P **06 48 04.6 -0.9**
KBZ Khabaz 35.04 59 P P **06 48 04.6 -0.9**
comp=Z,8.1nm,1.1s,baz=240,slow=8.1,SNR=2.7
GOF Gofitskoye 35.23 57 *e*P P **06 48 08.7 +1.5**
GOF pmax pmax
comp=Z,46nm,1.0s
VRHR Novokhopersk 35.33 47 *e*P P **06 48 08.0 +0.1**
VRHR pmax pmax
comp=Z,20nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.8s
ONI Oni 35.40 61 P P **06 48 10.1 +1.3**
AKH Akhalkalaki 35.42 63 P P **06 48 11.8 +2.7**
TMCR Tamitsa 39.08 25 *e*P P 06 48 44.9 +5.3
TMCR pmax pmax
comp=Z,74nm,0.4s
ARCES ARCESS Array B 39.35 14 P P **06 48 40.3 -1.6**
ARCES PcP **PcP 06 50 49.1 -0.9**
ARCES ARCESS Array B 39.35 14 P P **06 48 40.3 -1.6**
ARCES ARCESS Array B 39.35 14 P P **06 48 40.3 -1.6**
comp=Z,3.5nm,0.7s,baz=209,slow=7.7,SNR=13
ARCES PcP **PcP 06 50 49.1 -0.9**
comp=Z,3.6nm,0.8s,baz=205,slow=2.0,SNR=5.2
SCO Scoresbysund 39.48 349 *i*P P **06 48 43.7 +0.9**
SCO pmax pmax
comp=Z,8.0nm,1.0s
SCO Scoresbysund 39.48 349 *i*P P **06 48 43.7 +0.9**
comp=Z,8.1nm,1.0s
SCO Scoresbysund 39.48 349 *i*P P **06 48 43.7 +0.9**
comp=Z,8.1nm,1.0s
APA Apatity 39.75 19⇓ *i*P P 06 48 53.0 +7.8
APA MLR MLR
comp=Z,800nm,13.0s
PRGR Permogore 40.90 31⇑ *i*P P 06 48 53.7 -1.0
PRGR pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 44.40 344 *i*P P **06 49 22.9 -0.5**
SUMG pmax pmax
comp=Z,36nm,0.9s
SUMG Summit 44.40 344 *i*P P **06 49 22.9 -0.5**
comp=Z,36nm,0.9s
SUMG Summit 44.40 344 *e*P P **06 49 23.0 -0.5**
comp=Z,36nm,0.8s
SUMG Summit 44.40 344 *e*P P **06 49 23.0 -0.5**
comp=Z,36nm,0.8s
ISAD Sadrabad 44.97 76 *e*P P **06 49 28.5 0.0**
ISAD Sadrabad 44.97 76 *e*P P **06 49 28.5 0.0**
IPAR Pars 45.06 79 *e*P P **06 49 30.5 +1.2**
IPAR Pars 45.06 79 *e*P P **06 49 30.5 +1.2**
ISRV Sarvestan 45.26 80 *e*P P **06 49 32.1 +1.3**
ISRV Sarvestan 45.26 80 *e*P P **06 49 32.1 +1.3**
SOKR Solikamsk 45.60 37 *d i*P P **06 49 33.8 +1.1**
SOKR pmax pmax
comp=Z,40nm,0.9s
SOKR MLR MLR
comp=Z,210nm,13.0s
ARU Arti 46.13 41 *d i*P P **06 49 36.9 0.0**
ARU 06 51 21.1
ARU S S **06 56 25.3 +3.0**
ARU pmax pmax
comp=Z,44nm,1.0s
ARU MLR MLR
comp=Z,217nm,14.0s
ARU Arti 46.13 41 *e*P P **06 49 37.0 0.0**
comp=Z,50nm,0.9s
ARU Arti 46.13 41 *e*P P **06 49 37.0 0.0**
comp=Z,50nm,0.9s
SVE Sverdlovsk 47.30 41⇑ *e*P P 06 49 47.0 +0.9
SVE pmax pmax
comp=Z,47nm,1.1s
SVE MLR MLR
comp=Z,434nm,17.0s
KMBO Kilima Mbogo 48.84 126 *e*P P **06 50 01.8 +2.9**
comp=Z,12nm,1.2s
KMBO Kilima Mbogo 48.84 126 *e*P P **06 50 01.8 +2.9**
comp=Z,12nm,1.2s
KMBO Kilima Mbogo 48.84 126 P P **06 50 01.1 +2.3**
comp=Z,4.8nm,0.7s,baz=336,slow=6.0,SNR=13
KULLO Kullorsuaq 49.96 343 *i*P P **06 50 05.1 -1.2**
KULLO pmax pmax
comp=Z,33nm,0.9s
KULLO Kullorsuaq 49.96 343 *i*P P **06 50 05.1 -1.2**
comp=Z,33nm,0.9s
KULLO Kullorsuaq 49.96 343 *i*P P **06 50 05.1 -1.2**
comp=Z,33nm,0.9s,SNR=23
SCHQ Schefferville 50.71 317 P P **06 50 12.9 +0.6**
SCHQ Schefferville 50.71 317 P P **06 50 12.9 +0.6**
SCHQ Schefferville 50.71 317 P P **06 50 12.9 +0.6**
comp=Z,8.0nm,0.9s,baz=84,slow=10,SNR=5.1
SCHQ LR LR 07 08 43.5
comp=Z,158nm,18.1s,baz=105,slow=33
BRVK Borovoye 52.98 45 *e*P P **06 50 30.0 +0.7**
BRVK *e* 06 52 30.9
BRVK pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 52.98 45 *e*P P **06 50 30.0 +0.7**
comp=Z,12nm,0.9s
BRVK *e*PP PP **06 52 30.9 +2.1**
BRVK Borovoye 52.98 45 *e*P P **06 50 30.0 +0.7**
comp=Z,12nm,0.9s
LSZ Lusaka 55.02 146 *e*P P **06 50 45.7 +1.0**
comp=Z,12nm,0.9s
LSZ Lusaka 55.02 146 *e*P P **06 50 45.7 +1.0**
comp=Z,12nm,0.9s
EKS2 Erkin-Say 57.46 57 *i*P P **06 51 02.1 +0.2**
EKS2 Erkin-Say 57.46 57 P P **06 51 02.2 +0.2**
SNR=6.9
AAK Ala-Archa 57.98 57 *ce*P P **06 51 06.5 +0.9**
AAK Ala-Archa 57.98 57 P P **06 51 06.6 +0.9**
SNR=7.2
AAK Ala-Archa 57.98 57 *e*P P **06 51 06.4 +0.9**
comp=Z,7.5nm,0.9s
AAK Ala-Archa 57.98 57 *e*P P **06 51 06.4 +0.9**
comp=Z,7.5nm,0.9s
CHMS Chumysh 58.05 57 *i*P P **06 51 06.4 +0.5**
CHMS Chumysh 58.05 57 P P **06 51 06.5 +0.5**
SNR=5.3
UCH Uchtor 58.11 57 *i*P P **06 51 08.2 +1.3**
UCH Uchtor 58.11 57 P P **06 51 08.2 +1.3**
SNR=10.0
KURK Kurchatov 58.50 47 *e*P P **06 51 09.0 +0.1**
KURK pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 58.50 47 *e*P P **06 51 09.0 +0.1**
comp=Z,15nm,0.9s
KURK Kurchatov 58.50 47 *e*P P **06 51 09.0 +0.1**
comp=Z,15nm,0.9s
KZA Kyzart 58.68 57 *i*P P **06 51 12.1 +1.3**
KZA Kyzart 58.68 57 P P **06 51 12.2 +1.3**
SNR=14
RES Resolute Bay 59.82 342 P P **06 51 18.7 +1.0**
RES Resolute Bay 59.82 342 P P **06 51 18.7 +1.0**
comp=Z,3.3nm,0.9s,baz=79,slow=6.3,SNR=6.3
KSH Kashi 60.02 60 P P **06 51 20.1 +0.3**
KSH pP **pP 06 51 25.1 +1.1**
KSH sP **sP 06 51 27.0 +1.3**
KSH PP **PP 06 53 34.1 +2.2**
KSH S **S 06 59 29.1 -3.1**
KSH sS **sS 06 59 37.1 -2.1**
KSH pmax pmax
comp=Z,22nm,1.1s
KSH pmax pmax
comp=Z,110nm,2.6s
KSH LR LR
comp=Z,160nm,5.4s
KSH LR LR
comp=Z,110nm,5.0s
KSH LR LR
comp=Z,210nm,6.0s
NVS Novosibirsk 60.13 41⇑ *i*P P 06 51 20.5 +0.4
NVS pmax pmax
comp=Z,20nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.3s
NVS pmax pmax
comp=E,1.0nm,0.4s
ZAA0 Zalesovo Array 61.27 42 *e*P P **06 51 28.1 +0.2**
ZAA0 Zalesovo Array 61.27 42 *e*P P **06 51 28.1 +0.2**
ZALV Zalesovo Beam 61.27 42 P P **06 51 28.0 +0.1**
ZALV 06 53 41.3
ZALV Zalesovo Beam 61.27 42 P P **06 51 28.0 +0.1**
ZALV PP PP **06 53 41.3 -1.2**
ZALV Zalesovo Beam 61.27 42 P P **06 51 28.0 +0.1**
ZALV Zalesovo Beam 61.27 42 PP PP 06 53 41.3 -1.2
ZALV Zalesovo Beam 61.27 42 P P **06 51 28.0 +0.1**
comp=E,11nm,0.8s,baz=292,slow=7.8,SNR=32
ZALV PP PP **06 53 41.3 -1.2**
comp=E,3.5nm,0.8s,baz=291,slow=9.4,SNR=3.9
ZALV LR LR 07 19 35.1
comp=E,223nm,18.4s,baz=70,slow=38
MK31 Makanchi Array 61.97 50 *e*P P **06 51 33.0 +0.2**
MK31 Makanchi Array 61.97 50 *e*P P **06 51 33.0 +0.2**
MK31 Makanchi Array 61.97 50 *e*P P **06 51 33.0 +0.2**
MKAR Makanchi Array 61.97 50 P P **06 51 32.9 +0.1**
MKAR 06 53 47.7
MKAR Makanchi Array 61.97 50 P P **06 51 32.9 +0.1**
MKAR PP PP **06 53 47.7 -1.2**
MKAR Makanchi Array 61.97 50 P P **06 51 32.9 +0.1**
MKAR Makanchi Array 61.97 50 PP PP 06 53 47.7 -1.2
MKAR Makanchi Array 61.97 50 P P **06 51 32.9 +0.1**
comp=E,6.1nm,0.7s,baz=288,slow=5.6,SNR=48
MKAR PP PP **06 53 47.7 -1.2**
comp=E,1.4nm,0.8s,baz=286,slow=7.4,SNR=2.7
MKAR LR LR 07 21 37.9
comp=E,129nm,21.2s,baz=126,slow=39
BOSA Boshof 65.76 156 P P **06 51 57.9 -0.1**
BOSA Boshof 65.76 156 P P **06 51 57.8 -0.1**
BOSA Boshof 65.76 156 P P **06 51 57.9 -0.1**
comp=E,2.4nm,0.5s,baz=345,slow=7.3,SNR=5.7
BOSA LR LR 07 22 19.7
comp=E,310nm,18.8s,baz=340,slow=38
BDFB Brasilia 66.56 231 P P **06 52 04.3 +1.0**
BDFB Brasilia 66.56 231 P P **06 52 04.3 +1.0**
BDFB Brasilia 66.56 231 P P **06 52 04.3 +1.0**
comp=E,4.2nm,0.8s,baz=34,slow=5.0,SNR=5.2
BDFB LR LR 07 20 15.1
comp=E,340nm,18.4s,baz=49,slow=35
WMQ Urumqi 66.61 52 P P **06 52 04.0 +0.7**
WMQ sP **sP 06 52 11.0 +1.8**
WMQ PcP **PcP 06 52 33.0 +0.4**
WMQ PP **PP 06 54 33.0 +3.3**
WMQ ScP 06 56 34.0
WMQ S **S 07 00 54.0 -0.3**
WMQ ScS **SKSac 07 01 57.0 -2.8**
WMQ SS **SS 07 05 12.0 +1.0**
WMQ pmax pmax
comp=E,12nm,1.0s
WMQ pmax pmax
comp=E,120nm,5.0s
WMQ LR LR
comp=E,290nm,18.0s
WMQ LR LR
comp=E,240nm,17.0s
WMQ LR LR
comp=E,220nm,17.0s
ULM Lac du Bonnet 68.89 317 P P **06 52 19.1 +1.7**
ULM Lac du Bonnet 68.89 317 P P **06 52 19.1 +1.7**
ULM Lac du Bonnet 68.89 317 P P **06 52 19.1 +1.7**
comp=E,3.1nm,0.8s,baz=99,slow=5.5,SNR=4.2
ULM LR LR 07 18 14.7
comp=E,100nm,18.7s,baz=62,slow=32
SPMN St. Paul 69.24 311 ⇓P P **06 52 20.0 +0.3**
baz=69
TIXI Tiksi 69.77 15⇑ *e*P P 06 52 22.5 0.0
TIXI pmax pmax
comp=Z,12nm,1.2s
TIXI Tiksi 69.77 15 *e*P P **06 52 22.6 0.0**
comp=Z,14nm,1.1s
TIXI Tiksi 69.77 15 *e*P P **06 52 22.6 0.0**
comp=Z,14nm,1.1s
PYUN Piuthan 69.92 69 *e*P P **06 52 24.8 +0.3**
comp=Z,53nm,0.7s
PYUN Piuthan 69.92 69 *e*P P **06 52 24.8 +0.3**
comp=Z,53nm,0.7s
PYUN Piuthan 69.92 69 *e*P P **06 52 24.8 +0.3**
comp=Z,53nm,0.7s
DANN Dangsing 70.41 68 *e*P P **06 52 27.7 +0.1**
DANN Dangsing 70.41 68 *e*P P **06 52 27.7 +0.1**
DANN Dangsing 70.41 68 *e*P P **06 52 27.7 +0.1**
A30A Hoffart Farm, 70.89 316 ⇓P P **06 52 29.7 -0.1**
baz=71
B30A Myrvik Farm, E 71.14 316 ⇓P P **06 52 31.6 +0.2**
baz=71
MOY Mondy 71.17 40 *e*P P **06 52 32.9 +1.3**
MOY Mondy 71.17 40 *e*P P **06 52 32.9 +1.3**
GKN Gorkha 71.26 68 *e*P P **06 52 32.4 -0.2**
GKN Gorkha 71.26 68 *e*P P **06 52 32.4 -0.2**
GKN Gorkha 71.26 68 *e*P P **06 52 32.4 -0.2**
HYB Hyderabad 71.38 81 *i*P P **06 52 32.5 -0.8**
A29A Manning Farm, 71.44 317 ⇓P P **06 52 33.3 +0.1**
baz=71
YKW3 Yellowknife Ar 71.48 334 *e*P P **06 52 32.2 -0.9**
comp=Z,0.2nm,1.1s
YKW3 Yellowknife Ar 71.48 334 *e*P P **06 52 32.2 -0.9**
comp=Z,0.2nm,1.1s
YKA Yellowknife Ar 71.52 334 P P **06 52 32.1 -1.2**
YKA Yellowknife Ar 71.52 334 P P **06 52 32.2 -1.2**
YKA Yellowknife Ar 71.52 334 P P **06 52 32.1 -1.2**
comp=Z,3.2nm,0.7s,baz=56,slow=6.3,SNR=36
C30A Mose, Pekin 71.58 315 ⇓P P **06 52 34.6 +0.5**
baz=71
OXF Oxford 71.75 300 *e*P P **06 52 33.2 -2.1**
OXF pmax pmax
comp=Z,27nm,0.9s
OXF Oxford 71.75 300 *e*P P **06 52 33.2 -2.1**
comp=Z,27nm,0.9s
OXF Oxford 71.75 300 *e*P P **06 52 33.2 -2.1**
comp=Z,27nm,0.9s
DMN Daman 71.81 69 *e*P P **06 52 36.1 0.0**
DMN Daman 71.81 69 *e*P P **06 52 36.1 0.0**
DMN Daman 71.81 69 *e*P P **06 52 36.1 0.0**
KKN Kakani 71.86 68 *e*P P **06 52 36.3 0.0**
comp=Z,23nm,0.5s
KKN Kakani 71.86 68 *e*P P **06 52 36.3 0.0**
KKN pmax pmax
comp=Z,23nm,0.5s
KKN Kakani 71.86 68 *e*P P **06 52 36.3 0.0**
comp=Z,23nm,0.5s
KKN Kakani 71.86 68 *e*P P **06 52 36.3 0.0**
comp=Z,23nm,0.5s
D30A Buchanan 72.04 315 ⇓P P **06 52 37.5 +0.7**
baz=72
PKIN Phulchoki 72.05 68 *e*P P **06 52 37.3 -0.2**
comp=Z,30nm,0.6s
PKI Pulchoki 72.06 68 *e*P P **06 52 37.3 -0.4**
comp=Z,32nm,0.8s
PKI Pulchoki 72.06 68 *e*P P **06 52 37.3 -0.4**
PKI pmax pmax
comp=Z,33nm,0.8s
PKI Pulchoki 72.06 68 *e*P P **06 52 37.3 -0.4**
comp=Z,32nm,0.8s
PKI Pulchoki 72.06 68 *e*P P **06 52 37.3 -0.4**
comp=Z,32nm,0.8s
GUN Gumba 72.27 68 *e*P P **06 52 39.0 0.0**
comp=Z,51nm,0.9s

GUN Gumba 72.27 68 eP P 06 52 39.0 0.0
comp=Z,51nm,0.9s
GUN Gumba 72.27 68 eP P 06 52 39.0 0.0
comp=Z,51nm,0.9s
ECSD EROS Data Cent 72.35 311 eP P 06 52 37.8 -1.0
comp=Z,3.9nm,0.5s
ECSD EROS Data Cent 72.35 311 eP P 06 52 37.8 -1.0
comp=Z,3.8nm,0.5s
E30A Jud 72.43 314 ⇓P P 06 52 40.5 +1.3
baz=72
TLY Talaya 72.59 39 eP P 06 52 48.3 +8.3
TLY eSS SS 07 06 37.7 -4.9
TLY pmax pmax
comp=Z,12nm,1.4s
TLY MLR MLR
comp=Z,176nm,13.0s
JIRN Jiri 72.63 68 eP P 06 52 41.0 -0.1
comp=Z,64nm,1.1s
JIRN Jiri 72.63 68 eP P 06 52 41.0 -0.1
comp=Z,64nm,1.1s
JIRN Jiri 72.63 68 eP P 06 52 41.0 -0.1
comp=Z,64nm,1.1s
F30A Leola 72.82 314 ⇑P P 06 52 42.4 +0.8
baz=73
E29A Napoleon 72.83 315 ⇑P P 06 52 42.5 +0.9
baz=73
SAML Samuel 73.01 247 eP P 06 52 42.4 -0.6
comp=Z,4.7nm,1.0s
SAML Samuel 73.01 247 eP P 06 52 42.4 -0.6
comp=Z,4.7nm,1.0s
ZAK Zakamensk 73.06 41 eP P 06 52 40.7 -2.3
ZAK e 06 55 23.7
ZAK pmax pmax
comp=Z,6.0nm,1.2s
G30A Faulkton 73.25 313 ⇓P P 06 52 45.2 +1.2
baz=73
RAMN Ramite 73.29 68 eP P 06 52 45.3 +0.4
RAMN Ramite 73.29 68 eP P 06 52 45.3 +0.4
RAMN Ramite 73.29 68 eP P 06 52 45.3 +0.4
INK Inuvik 73.31 344 eP P 06 52 43.4 -0.5
comp=Z,12nm,1.1s
INK Inuvik 73.31 344 eP P 06 52 43.4 -0.5
comp=Z,12nm,1.1s
INK Inuvik 73.31 344 P P 06 52 43.1 -0.8
comp=Z,10nm,1.1s,baz=35,slow=6.2,SNR=14
F28A McLaughlin 73.89 314 ⇑P P 06 52 47.5 -0.3
baz=74
ODAN Odare 73.95 68 eP P 06 52 49.1 +0.3
ODAN Odare 73.95 68 eP P 06 52 49.1 +0.3
ODAN Odare 73.95 68 eP P 06 52 49.1 +0.3
TAPN Taplejung 73.97 68 eP P 06 52 48.4 -0.5
comp=Z,26nm,0.9s
TAPN Taplejung 73.97 68 eP P 06 52 48.4 -0.5
comp=Z,26nm,0.9s
TAPN Taplejung 73.97 68 eP P 06 52 48.4 -0.5
comp=Z,26nm,0.9s
E27A Carson 74.05 315 ⇑P P 06 52 48.3 -0.5
baz=74
A24A Westby 74.15 318 ⇑P P 06 52 49.9 +0.6
baz=74
H29A Onida 74.16 313 ⇓P P 06 52 49.5 +0.1
baz=74
ROSC El Rosal 74.17 265 P P 06 52 51.3 +0.9
ROSC El Rosal 74.17 265 P P 06 52 51.3 +0.9
ROSC El Rosal 74.17 265 P P 06 52 51.3 +0.9
comp=Z,3.8nm,0.6s,baz=90,slow=13,SNR=3.5
ROSC LR LR 07 22 32.0
comp=Z,146nm,18.7s,baz=264,slow=34
D26A Manning 74.25 316 ⇓P P 06 52 49.7 -0.2
baz=74
G28A Parade 74.36 314 ⇓P P 06 52 50.5 -0.1
baz=74
C25A Freed Ranch, W 74.37 317 ⇓P P 06 52 51.4 +0.8
baz=74
DGMT Dagmar 74.50 318 ⇓P P 06 52 52.3 +0.9
baz=74
I29A Vivian Onida 74.52 313 ⇓P P 06 52 52.3 +0.8
baz=74
E26A Carlson Angus 74.56 316 ⇑P P 06 52 52.4 +0.6
baz=74
F27A Lemmon 74.61 315 ⇓P P 06 52 52.6 +0.5
baz=74
H28A Mission Ridge 74.63 313 ⇑P P 06 52 52.6 +0.4
baz=74
D25A Fairfield 74.70 316 ⇓P P 06 52 53.5 +0.9
baz=74
MIAR Mount Ida 74.75 301 eP P 06 52 52.7 -0.3
MIAR pmax pmax
comp=Z,7.0nm,1.0s
MIAR Mount Ida 74.75 301 eP P 06 52 52.7 -0.3
comp=Z,6.7nm,1.0s
MIAR Mount Ida 74.75 301 eP P 06 52 52.7 -0.3
comp=Z,6.7nm,1.0s
K30A Basset 74.78 311 ⇓P P 06 52 53.7 +0.7
baz=75
G27A Dupree 74.81 314 ⇓P P 06 52 53.8 +0.5
baz=75
J29A Okreek 74.85 312 ⇓P P 06 52 54.5 +1.0
baz=75
B23A Brockton 74.95 318 ⇑P P 06 52 54.5 +0.5
baz=75,SNR=6.4
F26A Lodgepole 75.01 315 ⇑P P 06 52 55.0 +0.6
baz=75
M31A Lambtecht Ranc 75.05 310 ⇓P P 06 52 55.7 +1.0
baz=75
I28A Midland 75.07 313 ⇑P P 06 52 55.8 +1.0
baz=75
E25A Miller Ranch, 75.09 316 ⇓P P 06 52 55.7 +0.9
baz=75
C24A Savage 75.13 317 ⇑P P 06 52 56.1 +1.0
baz=75
A22A Carney Farms, 75.18 319 ⇓P P 06 52 56.2 +0.9
baz=75
G26A Maurine 75.26 315 ⇑P P 06 52 56.3 +0.5
baz=75
H27A Howes 75.29 314 ⇓P P 06 52 56.8 +0.8
baz=75
D24A Glendive 75.30 317 ⇓P P 06 52 57.3 +1.3
baz=75
J28A Allard Ranch, 75.41 312 ⇑P P 06 52 58.0 +1.3
baz=75
C23A Lambert 75.42 318 ⇓P P 06 52 57.7 +1.0
baz=75
F25A Bowman 75.43 315 ⇑P P 06 52 57.6 +0.7
baz=75
LSA Lhasa 75.46 64 eP P 06 52 58.6 +0.9
LSA pmax pmax
comp=Z,15nm,1.0s
LSA Lhasa 75.46 64 eP P 06 52 58.6 +0.9
comp=Z,15nm,1.0s
LSA Lhasa 75.46 64 eP P 06 52 58.6 +0.9
comp=Z,15nm,1.0s
Q33A Connelly Farm, 75.49 307 ⇑P P 06 52 57.7 +0.5
baz=75
I27A Quinn 75.57 313 ⇓P P 06 52 58.4 +0.8
baz=75
TUL1 Tulsa 75.65 304 eP P 06 52 59.1 +1.0
TUL1 Tulsa 75.65 304 eP P 06 52 59.1 +1.0
P32A Huiting Farm, 75.68 308 ⇓P P 06 52 58.6 +0.3
baz=76
D23A Lindsay 75.78 317 ⇓P P 06 52 59.9 +1.1
baz=76
G25A Newell 75.80 315 ⇑P P 06 52 59.8 +0.9
baz=76
C22A Vida 75.84 318 ⇓P P 06 52 59.8 +0.6
baz=76
K28A Ten Mile Ranch 75.86 312 ⇑P P 06 52 59.8 +0.5
baz=76
R33A Olander Ranch, 75.94 307 ⇓P P 06 53 00.8 +0.9
baz=76
J27A Elkhorn Farm, 75.98 313 ⇑P P 06 53 00.7 +0.7
baz=76
F24A Ekalaka 76.06 316 ⇓P P 06 53 01.0 +0.6
baz=76
SONM Songino Array 76.16 42 P P 06 53 00.7 -0.3
SONM PP PP 06 55 50.4 -1.2
SONM Songino Array 76.16 42 P P 06 53 00.7 -0.3
SONM Songino Array 76.16 42 PP PP 06 55 50.3 -1.2
SONM Songino Array 76.16 42 P P 06 53 00.7 -0.3
comp=Z,4.7nm,1.0s,baz=315,slow=5.3,SNR=18
SONM PP PP 06 55 50.3 -1.2
comp=Z,1.7nm,1.1s,baz=295,slow=8.9,SNR=3.7
SONM LR LR 07 29 52.0
comp=Z,178nm,18.4s,baz=280,slow=38
E23A Ismay 76.20 317 ⇑P P 06 53 01.4 +0.3
baz=76
H25A Fruitdale 76.22 314 ⇑P P 06 53 01.9 +0.6
baz=76
P31A Stockton 76.25 308 ⇑P P 06 53 02.2 +0.7
baz=76
G24A Alzada 76.32 315 ⇓P P 06 53 02.5 +0.6
baz=76
L28A Connealy Angus 76.33 311 ⇓P P 06 53 02.8 +0.7
baz=76
A20A Cobblestone Ra 76.34 320 ⇑P P 06 53 02.8 +0.9
baz=76
D22A Cohagen 76.34 318 ⇓P P 06 53 03.1 +1.1
baz=76
O30A MW Ranch, Wils 76.35 309 ⇓P P 06 53 02.9 +0.8
baz=76
R32A Long Quarter, 76.37 307 ⇑P P 06 53 02.8 +0.5
baz=76
N29A Votaw Ranch, W 76.39 310 ⇓P P 06 53 03.0 +0.6
baz=76
ULN Ulaanbaatar 76.51 41 eP P 06 53 04.6 +1.5
comp=Z,9.0nm,1.2s
EDM Edmonton 76.56 325 eP P 06 53 03.6 +0.5
EDM Edmonton 76.56 325 eP P 06 53 03.6 +0.5
EDM Edmonton 76.56 325 eP P 06 53 03.6 +0.5
U34A Anderson Ranch 76.59 305 ⇓P P 06 53 05.2 +1.7
baz=76
J26A Sides Ranch, S 76.60 313 ⇓P P 06 53 04.2 +0.6
baz=76
I25A Rochford 76.62 314 ⇑P P 06 53 04.3 +0.5
baz=76
F23A Volborg 76.69 316 ⇓P P 06 53 04.1 +0.1
baz=76
H24A Dirks Ranch, A 76.72 315 ⇑P P 06 53 04.4 +0.2
baz=76
RSSD Black Hills 76.75 314 eP P 06 53 05.9 +1.3
RSSD pmax pmax
comp=Z,11nm,1.3s
RSSD Black Hills 76.75 314 eP P 06 53 05.9 +1.3
comp=Z,11nm,1.3s
RSSD Black Hills 76.75 314 eP P 06 53 05.9 +1.3
comp=Z,11nm,1.3s
P30A Selden 76.81 309 ⇓P P 06 53 05.0 +0.3
baz=77
D21A La Casta Ranch 76.85 318 ⇓P P 06 53 05.5 +0.6
baz=77,SNR=6.6
V34A Guthrie 76.89 304 ⇓P P 06 53 03.4 -1.8
baz=77
G23A Biddle 76.97 316 ⇓P P 06 53 05.3 -0.3
baz=77,SNR=11
R31A Burdett 76.99 307 ⇓P P 06 53 05.7 -0.1
baz=77
U33A Lingo Farm, Me 77.00 305 ⇓P P 06 53 06.0 +0.2
baz=77
N28A Pribbeno Ranch 77.05 310 ⇑P P 06 53 06.2 +0.1
baz=77
C20A Veseth Ranch, 77.05 319 ⇑P P 06 53 06.3 +0.4
baz=77
YAK Yakutsk 77.08 22 eP P 06 53 05.4 -0.3
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK Yakutsk 77.08 22 eP P 06 53 05.4 -0.3
comp=E,24nm,1.0s
Q30A Quinter 77.09 308 ⇓P P 06 53 06.6 +0.2
baz=77
M27A Reverse DX Ran 77.14 311 ⇑P P 06 53 06.8 +0.2
baz=77
B19A Brinkman Farms 77.14 320 ⇑P P 06 53 06.9 +0.5
baz=77,SNR=6.7
F22A Rosebud 77.15 316 ⇑P P 06 53 06.1 -0.5
baz=77
E21A Keefer Ranch, 77.19 317 ⇑P P 06 53 07.5 +0.7
baz=77
W34A Bridge Creek, 77.38 304 ⇓P P 06 53 08.3 +0.3
baz=77
K25A Mack Ranch, Ha 77.47 313 ⇑P P 06 53 09.3 +0.8
baz=77
D20A Manuel Ranch, 77.48 318 ⇑P P 06 53 08.5 +0.1
baz=77,SNR=7.9
G22A Birney 77.48 316 ⇑P P 06 53 09.2 +0.7
baz=77
R30A Dighton 77.49 308 ⇓P P 06 53 09.5 +0.9
baz=77
J24A Dixon Ranch, L 77.56 314 ⇑P P 06 53 09.1 0.0
baz=77
C19A Slack Wire Ran 77.61 319 ⇓P P 06 53 09.2 +0.1
baz=77,SNR=6.5
COLD Coldfoot 77.62 349 eP P 06 53 10.0 +1.3
comp=E,10nm,1.0s
COLD Coldfoot 77.62 349 eP P 06 53 10.0 +1.3
comp=E,10nm,1.0s
Q29A Oley 77.64 308 ⇓P P 06 53 09.6 +0.1
baz=78
T31A Randall Ranch, 77.72 306 ⇑P P 06 53 10.1 +0.2
baz=78
X34A Smith Ranch, M 77.75 303 ⇑P P 06 53 10.5 +0.5
baz=78
P28A Saint Francis 77.78 309 ⇓P P 06 53 10.1 -0.2
baz=78
E20A Meyer Farm, Mu 77.81 318 ⇓P P 06 53 10.6 +0.3
baz=78
EGMT Eagleton 77.83 320 ⇓P P 06 53 10.6 +0.2
baz=78,SNR=6.5
D19A Cripps Ranch, 77.85 319 ⇓P P 06 53 11.6 +1.1
baz=78,SNR=6.2
H22A Clearmont 77.87 315 ⇓P P 06 53 11.2 +0.5
baz=78
W33A Caddo, Fort Co 77.91 304 ⇓P P 06 53 12.6 +1.7
baz=78
S30A Montezuma 77.96 307 ⇓P P 06 53 13.6 +2.3
baz=78
Z35A Perchaven, San 78.00 302 ⇓P P 06 53 11.6 +0.1
baz=78
G21A Lodge Grass 78.02 316 ⇑P P 06 53 11.5 0.0
baz=78
Q28A Sharon Springs 78.11 309 ⇑P P 06 53 12.3 +0.2
baz=78
E19A Rath Farm, Rou 78.21 318 ⇑P P 06 53 12.7 +0.2
baz=78
F20A Billings 78.23 317 ⇑P P 06 53 13.5 +0.8
baz=78
X33A Lawton 78.25 303 ⇓P P 06 53 13.1 +0.2
baz=78
H21A Big Horn, Sher 78.26 316 ⇓P P 06 53 13.1 +0.3
baz=78
P27A Ficken Ranch, 78.33 310 ⇓P P 06 53 13.6 +0.3
baz=78
WMOK Wichita Mounta 78.35 304 eP P 06 53 13.0 -0.4
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WMOK Wichita Mounta 78.35 304 eP P 06 53 13.0 -0.4
comp=Z,8.9nm,1.1s
WMOK Wichita Mounta 78.35 304 eP P 06 53 13.0 -0.4
comp=Z,8.9nm,1.1s
I22A 9 Mile Ranch, 78.35 315 ⇑P P 06 53 13.5 +0.1
baz=78
Z34A Collier Ranch, 78.45 302 ⇓P P 06 53 14.2 +0.2
baz=78
K23A Bowen Ranch, D 78.47 314 ⇓P P 06 53 14.1 0.0
baz=78
R28A Tribune 78.48 308 ⇓P P 06 53 14.6 +0.4
baz=78
G20A Bridger 78.60 317 ⇑P P 06 53 14.4 -0.4
baz=78
J22A Midwest 78.62 315 ⇓P P 06 53 15.5 +0.6
baz=78
F19A Roth Farm, Mol 78.65 318 ⇓P P 06 53 15.6 +0.7
baz=78,SNR=6.3
M24A Cheyenne 78.70 312 ⇑P P 06 53 16.1 +0.7
baz=78
HKT Hockley 78.73 298 eP P 06 53 18.4 +3.0
HKT pmax pmax
comp=Z,17nm,1.5s
HKT Hockley 78.73 298 eP P 06 53 18.4 +3.0
comp=Z,17nm,1.5s
T29A Hugoton 78.78 307 ⇑P P 06 53 16.5 +0.7
baz=79
P26A Davis Ranch, A 78.82 310 ⇓P P 06 53 16.1 0.0
baz=79
WHTX Lake Whitney 78.85 301 ⇑P P 06 53 16.9 +0.7
baz=79
X32A Elmer 78.87 304 ⇑P P 06 53 16.9 +0.7
baz=79
I21A Big Trails, Te 78.87 315 ⇓P P 06 53 16.4 +0.1
baz=79,SNR=8.9
H20A Greybull 78.90 316 ⇑P P 06 53 16.9 +0.5
baz=79,SNR=9.9
W31A Holland Ranch, 78.92 305 ⇓P P 06 53 17.2 +0.6
baz=79
134A White-Moore Ra 78.99 302 ⇑P P 06 53 17.7 +0.7
baz=79
K22A Casper 79.08 314 eP P 06 53 18.1 +0.7
comp=Z,11nm,1.0s
K22A Casper 79.08 314 ⇓P P 06 53 17.9 +0.4
baz=79
K22A Casper 79.08 314 eP P 06 53 18.1 +0.7
comp=Z,11nm,1.0s
N24A Carr 79.09 312 ⇓P P 06 53 18.2 +0.6
baz=79
GCMT Greycliff 79.09 318 eP P 06 53 19.1 +1.6
comp=Z,5.2nm,1.0s
GCMT Greycliff 79.09 318 eP P 06 53 19.1 +1.6
comp=Z,5.2nm,1.0s
R27A Eads 79.16 309 ⇑P P 06 53 18.7 +0.8
baz=79
Y32A R-V Farms, Ver 79.20 303 ⇑P P 06 53 18.9 +0.8
baz=79
ILAR Eielson Array 79.21 346 P P 06 53 17.6 0.0
ILAR Eielson Array 79.21 346 P P 06 53 17.6 0.0
ILAR Eielson Array 79.21 346 P P 06 53 17.6 0.0
comp=Z,1.0nm,0.5s,baz=8.5,slow=5.1,SNR=21
ILAR LR LR 07 28 16.2
comp=Z,108nm,21.9s,baz=25,slow=36
J21A Lysite 79.23 315 ⇑P P 06 53 17.9 -0.5
baz=79,SNR=5.5
X31A McDonald Ranch 79.24 304 ⇓P P 06 53 18.7 +0.4
baz=79
M23A Laramie 79.26 313 ⇑P P 06 53 19.9 +1.3
baz=79
Q26A Hugo 79.28 309 ⇓P P 06 53 18.9 +0.2
baz=79
I20A Worland 79.29 316 ⇑P P 06 53 18.4 -0.1
baz=79,SNR=5.9
COLA College 79.31 347⇑ eP P 06 53 20.0 +1.9
COLA pmax pmax
comp=Z,56nm,1.7s
COLA College 79.31 347 eP P 06 53 20.0 +1.9
comp=Z,56nm,1.7s
IM04 Indian Mountai 79.35 349 eP P 06 53 19.2 +0.9
IM04 Indian Mountai 79.35 349 eP P 06 53 19.2 +0.9
H19A Powell 79.37 317 ⇑P P 06 53 19.1 +0.1
baz=79,SNR=8.8
L22A Ellis Ranch, M 79.38 313 ⇓P P 06 53 19.9 +0.8
baz=79
P25A Willow Gulch B 79.38 310 ⇓P P 06 53 19.5 +0.3
baz=79
K21A Alcova 79.53 314 ⇑P P 06 53 19.6 -0.4
baz=79,SNR=6.3
133A Hamilton Ranch 79.57 302 ⇑P P 06 53 20.3 +0.2
baz=79
R26A Arlington 79.58 309 ⇓P P 06 53 20.1 -0.1
baz=79
Z32A Haskell 79.60 303 ⇓P P 06 53 20.8 +0.6
baz=79
DOT Dot Lake 79.60 345 eP P 06 53 20.8 +1.1
comp=Z,16nm,1.0s
DOT Dot Lake 79.60 345 eP P 06 53 20.8 +1.1
comp=Z,16nm,1.0s
J20A Shoshoni 79.61 315 ⇓P P 06 53 20.8 +0.5
baz=79,SNR=12
O24A Longmont 79.61 311 ⇓P P 06 53 20.6 +0.2
baz=79,SNR=5.2
V29A Stinnett 79.63 306 ⇓P P 06 53 22.0 +1.5
baz=80
N23A Red Feather La 79.72 312 ⇓P P 06 53 21.7 +0.6
baz=80
I19A Meeteetse 79.74 316 ⇑P P 06 53 21.4 +0.3
baz=80
H18A Shoshone NF, C 79.75 317 ⇓P P 06 53 21.5 +0.3
baz=80
334A Lometa 79.76 301 ⇑P P 06 53 21.4 +0.2
baz=80
T27A Campo 79.79 308 ⇑P P 06 53 23.6 +2.2
baz=80
Y31A Rekieta Farm, 79.80 304 ⇑P P 06 53 21.6 +0.3
baz=80
U28A Mallet 79.83 307 ⇓P P 06 53 22.0 +0.4
baz=80
M22A Cedar Creek Ra 79.83 313 ⇓P P 06 53 22.2 +0.5
baz=80
DLBC Dease Lake 79.86 336 eP P 06 53 22.1 +0.8
DLBC Dease Lake 79.86 336 eP P 06 53 22.1 +0.8
DLBC Dease Lake 79.86 336 LR LR 07 26 13.2
comp=Z,191nm,18.9s,baz=245,slow=34
X30A Coker Ranch, T 79.96 304 ⇓P P 06 53 22.8 +0.5
baz=80
S26A Kim 79.97 308 ⇑P P 06 53 22.9 +0.5
baz=80
Z31A Sharp Cattle R 80.06 303 ⇓P P 06 53 22.6 -0.2
baz=80,SNR=6.5
434A Burnet 80.06 300 ⇑P P 06 53 22.7 -0.2
baz=80,SNR=6.4
ABTX Abilene, Hawle 80.08 302 ⇑P P 06 53 23.7 +0.8
baz=80
N22A Wattenberg Ran 80.09 312 ⇓P P 06 53 23.7 +0.5
baz=80
O23A Lake Granby, G 80.09 312 ⇑P P 06 53 23.6 +0.4
baz=80
ISCO Idaho Springs 80.14 311 ⇑P P 06 53 23.8 +0.4
baz=80
U27A Thompson Grove 80.21 307 ⇑P P 06 53 23.8 +0.1
baz=80
R25A Fountain Ranch 80.21 309 ⇓P P 06 53 23.8 +0.1
baz=80
J19A Crowheart 80.23 315 ⇓P P 06 53 23.8 0.0
baz=80
CPUP Villa Florida 80.24 230 P P 06 53 23.6 0.0
CPUP Villa Florida 80.24 230 P P 06 53 23.6 0.0
CPUP Villa Florida 80.24 230 P P 06 53 23.6 0.0
comp=Z,3.7nm,0.8s,baz=22,slow=5.5,SNR=5.4
CPUP LR LR 07 27 58.7
comp=Z,324nm,18.6s,baz=25,slow=35
AMTX Amarillo 80.28 305 ⇑P P 06 53 24.7 +0.7
baz=80
BOZ Bozeman (W) 80.28 319 eP P 06 53 25.5 +1.6
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ Bozeman (W) 80.28 319 eP P 06 53 25.5 +1.6
comp=Z,12nm,1.2s
BOZ Bozeman (W) 80.28 319 eP P 06 53 25.5 +1.6
comp=Z,12nm,1.2s
333A Richland Sprin 80.31 301 ⇑P P 06 53 24.5 +0.3
baz=80
Q24A Divide 80.31 310 ⇑P P 06 53 24.3 -0.1
baz=80
HYT Haines Junctio 80.32 340 eP P 06 53 25.7 +1.9
HYT Haines Junctio 80.32 340 eP P 06 53 25.7 +1.9
SWMT Swartz Lake 80.42 321 eP P 06 53 25.2 +0.6
comp=Z,7.5nm,1.0s
SWMT Swartz Lake 80.42 321 eP P 06 53 25.2 +0.6
comp=Z,7.5nm,1.0s
232A Coleman 80.48 302 ⇓P P 06 53 25.1 0.0
baz=80
O22A Kremmling 80.52 312 ⇓P P 06 53 25.6 +0.1
baz=80,SNR=12
P23A Jefferson 80.52 311 ⇑P P 06 53 24.9 -0.7
baz=80
MCK McKinley 80.55 347 eP P 06 53 24.9 +0.1
MCK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 80.55 347 eP P 06 53 24.9 +0.1
comp=Z,15nm,1.1s
MCK McKinley 80.55 347 eP P 06 53 24.9 +0.1
comp=Z,15nm,1.1s
131A Roby 80.58 303 ⇓P P 06 53 26.0 +0.4
baz=80
S25A Robets Cordova 80.58 309 ⇑P P 06 53 26.5 +0.8
baz=80
BSMT Bassoo Peak 80.62 322 eP P 06 53 26.1 +0.3
comp=Z,15nm,1.2s
BSMT Bassoo Peak 80.62 322 eP P 06 53 26.0 +0.3
comp=Z,15nm,1.2s
534A Blanco 80.63 300 ⇓P P 06 53 26.2 +0.3
baz=80
QLMT Earthquake Lak 80.67 318 eP P 06 53 26.7 +0.6
comp=Z,0.8nm,1.0s
QLMT Earthquake Lak 80.67 318 eP P 06 53 26.7 +0.6
comp=Z,0.8nm,1.0s
433A Art 80.69 301 ⇑P P 06 53 26.8 +0.5
baz=80,SNR=12
I17A Pilgrim Ck. 80.73 317 ⇓P P 06 53 26.6 +0.1
baz=80
Z30A Sanderson Ranc 80.77 304 ⇑P P 06 53 26.8 +0.1
baz=81
MSO Missoula 80.81 321 ⇓P P 06 53 27.1 +0.4

baz=81
332A **Millersview** 80.82 301 ⇓P P 06 53 27.5 +0.5
baz=81
BW06 **Boulder Array** 80.83 315 *e*P P 06 53 26.9 -0.1
comp=Z,15nm,1.2s
BW06 **Boulder Array** 80.83 315 *e*P P 06 53 26.9 -0.1
comp=Z,15nm,1.2s
PDAR **Pinedale Array** 80.83 315 P P 06 53 26.8 -0.3
PDAR **Pinedale Array** 80.83 315 P P 06 53 26.8 -0.3
PDAR **Pinedale Array** 80.83 315 P P 06 53 26.8 -0.3
comp=Z,9.3nm,1.1s,baz=64,slow=6.3,SNR=21
PDAR LR LR 07 25 51.6
comp=Z,121nm,19.2s,baz=328,slow=33
Y29A **Porterfield Fa** 80.83 304 ⇑P P 06 53 27.7 +0.7
baz=81
X28A **Dimmitt** 80.83 305 ⇓P P 06 53 27.7 +0.7
baz=81
T25A **Trinidad** 80.86 308 ⇑P P 06 53 27.9 +0.6
baz=81
231A **Bronte** 80.93 302 ⇑P P 06 53 27.9 +0.4
baz=81
P22A **Eagle** 80.98 311 ⇑P P 06 53 27.7 -0.2
baz=81
130A **Snyder** 81.03 303 ⇑P P 06 53 29.0 +0.9
baz=81
TRF **Thorofare Moun** 81.06 347 *e*P P 06 53 28.3 +0.5
comp=Z,8.0nm,1.0s
TRF **Thorofare Moun** 81.06 347 *e*P P 06 53 28.3 +0.5
comp=Z,8.0nm,1.0s
W27A **Bowe Ranch, En** 81.12 306 ⇑P P 06 53 30.1 +1.5
baz=81
432A **Menard** 81.13 301 ⇓P P 06 53 29.1 +0.5
baz=81
LZH **Lanzhou** 81.17 53 *e*P P 06 53 28.1 -0.8
LZH pP **pP** 06 53 31.3 -2.0
LZH sP **sP** 06 53 32.9 -2.0
LZH PP **PP** 06 56 35.3 +1.6
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,83nm,8.6s
LZH LR LR
comp=Z,240nm,16.5s
LZH LR LR
comp=Z,220nm,17.0s
LZH LR LR
comp=Z,340nm,19.8s
Z29A **Hungry Hill Ra** 81.19 304 ⇓P P 06 53 29.4 +0.4
baz=81
R23A **Moffat** 81.19 310 ⇓P P 06 53 29.6 +0.5
baz=81
V26A **Tequesquite Ra** 81.20 307 ⇑P P 06 53 29.4 +0.4
baz=81
SDCO **Great Sand Dun** 81.23 309 *e*P P 06 53 29.7 +0.3
comp=Z,5.2nm,1.0s
SDCO **Great Sand Dun** 81.23 309 *e*P P 06 53 29.7 +0.3
comp=Z,5.2nm,1.0s
U25A **Circle Dot Ran** 81.28 308 ⇑P P 06 53 30.1 +0.6
baz=81,SNR=7.6
LPAZ **La Paz** 81.32 244 *e*P P 06 53 29.9 -0.5
comp=Z,7.9nm,1.4s
LPAZ **La Paz** 81.32 244 *e*P P 06 53 29.9 -0.5
comp=Z,7.9nm,1.4s
LPAZ **La Paz** 81.32 244 P P 06 53 29.8 -0.5
comp=Z,1.1nm,0.5s,baz=38,slow=3.5,SNR=4.7
LPAZ LR LR 07 27 57.1
comp=Z,138nm,19.6s,baz=200,slow=34
331A **San Angelo** 81.35 302 ⇑P P 06 53 30.4 +0.6
baz=81
JCT **Junction City** 81.35 301 *e*P P 06 53 30.6 +0.8
JCT pmax pmax
comp=Z,13nm,0.9s
JCT **Junction City** 81.35 301 *e*P P 06 53 30.6 +0.8
comp=Z,13nm,0.9s
JCT **Junction City** 81.35 301 ⇑P P 06 53 30.1 +0.3
baz=81,SNR=8.4
JCT **Junction City** 81.35 301 *e*P P 06 53 30.6 +0.8
comp=Z,13nm,0.9s
TNA **Tin City** 81.38 355 *e*P P 06 53 29.7 +0.6
comp=Z,11nm,1.0s
TNA **Tin City** 81.38 355 *e*P P 06 53 29.7 +0.6
comp=Z,11nm,1.0s
230A **Sterling City** 81.52 302 ⇑P P 06 53 31.3 +0.6
baz=81
T24B **San Luis** 81.55 309 ⇑P P 06 53 31.0 0.0
baz=81,SNR=5.2
NEW **Newport** 81.55 323 ⇑P P 06 53 30.4 -0.1
baz=81
W26A **Owens Ranch, T** 81.59 306 ⇓P P 06 53 31.8 +0.8
baz=81
532A **Rocksprings** 81.62 300 ⇑P P 06 53 31.4 +0.1
baz=82,SNR=9.3
129A **Stewart Farms,** 81.65 303 ⇓P P 06 53 32.3 +0.9
baz=82
Z28A **Tucker Farm, M** 81.65 304 ⇑P P 06 53 31.8 +0.4
baz=82,SNR=7.2
431A **Sonora** 81.83 301 ⇑P P 06 53 33.0 +0.7
baz=82,SNR=12
330A **Mertzon** 81.83 302 ⇑P P 06 53 32.7 +0.4
baz=82,SNR=8.2
Y27A **Causey** 81.85 305 ⇓P P 06 53 32.8 +0.4
baz=82
632A **Uvalde** 81.87 300 ⇓P P 06 53 33.2 +0.7
baz=82,SNR=11
229A **Bryant Ranch,** 81.97 303 ⇓P P 06 53 34.3 +1.2
baz=82
W25A **X Bar L Ranch,** 81.98 307 ⇑P P 06 53 33.8 +0.6
baz=82
T23A **Casias Ranch,** 81.99 309 ⇓P P 06 53 33.7 +0.4
baz=82
531A **Rocksprings** 82.06 301 ⇓P P 06 53 34.3 +0.7
baz=82
128A **Castleberry Fa** 82.09 304 ⇓P P 06 53 34.4 +0.7
baz=82
S22A **4UR Ranch, Cre** 82.09 310 ⇑P P 06 53 34.0 +0.1
baz=82,SNR=6.8
Z27A **Tatum** 82.20 305 ⇓P P 06 53 34.8 +0.5
baz=82,SNR=7.4
430A **Baggett Ranch,** 82.22 302 ⇓P P 06 53 35.2 +0.8
baz=82
V24A **Rampart Ranch,** 82.24 308 ⇑P P 06 53 35.4 +0.8
baz=82
329A **Wagon Wheel Ra** 82.36 302 ⇑P P 06 53 35.7 +0.6
baz=82,SNR=7.6
732A **Laxson Ranch,** 82.43 299 ⇓P P 06 53 35.5 +0.1
baz=82,SNR=5.9
228A **UT Block 9, Go** 82.44 303 ⇑P P 06 53 36.4 +0.8
baz=82
631A **Perdido Creek** 82.50 300 ⇓P P 06 53 36.1 +0.3
baz=82,SNR=10
U23A **El Rito** 82.50 309 ⇑P P 06 53 36.2 +0.2
baz=82,SNR=6.3
PMR **Palmer** 82.52 346 *e*P P 06 53 36.5 +1.3
PMR pmax pmax
comp=Z,31nm,1.6s
PMR **Palmer** 82.52 346 *e*P P 06 53 36.5 +1.3
comp=Z,31nm,1.6s
PMR **Palmer** 82.52 346 *e*P P 06 53 36.5 +1.3
comp=Z,31nm,1.6s
530A **J-C Ranch, Com** 82.64 301 ⇓P P 06 53 37.5 +0.9
baz=82
127A **Arkansas Junct** 82.66 304 ⇓P P 06 53 37.7 +1.0
baz=82
Z26A **Caprock** 82.76 305 ⇓P P 06 53 37.5 +0.3
baz=83,SNR=7.4
429A **Davenport Ranc** 82.78 302 ⇑P P 06 53 38.8 +1.4
baz=83
V23A **Ortiz Mt. (NFS** 82.83 308 ⇓P P 06 53 39.0 +1.3
baz=83
Y25A **Mesa, Roswell** 82.88 306 ⇑P P 06 53 38.9 +1.1
baz=83
U22A **Llaves** 82.91 309 ⇓P P 06 53 39.0 +0.9
baz=83
227A **Bennet, Jal** 82.99 304 ⇑P P 06 53 39.2 +0.8
baz=83
328A **Wristen Ranch,** 83.01 303 ⇑P P 06 53 38.9 +0.5
baz=83
RC01 **Rabbit Creek A** 83.10 346 *e*P P 06 53 40.3 +2.0
comp=Z,20nm,1.2s
RC01 **Rabbit Creek A** 83.10 346 *e*P P 06 53 40.3 +2.0
comp=Z,20nm,1.2s
HLID **Hailey** 83.14 318 *e*P P 06 53 40.5 +1.4
comp=Z,5.9nm,1.0s
HLID **Hailey** 83.14 318 ⇓P P 06 53 39.9 +0.9
baz=83
HLID **Hailey** 83.14 318 *e*P P 06 53 40.5 +1.4
comp=Z,5.9nm,1.0s
V22A **San Miguel Ran** 83.21 309 ⇓P P 06 53 40.5 +0.8
baz=83,SNR=5.1
Z25A **Roswell** 83.26 305 ⇓P P 06 53 42.7 +2.9
baz=83
HHC **Hu-ho-hao-te** 83.26 45 *e*P P 06 53 39.0 -0.7
HHC pP **pP** 06 53 43.8 -0.3
HHC sP **sP** 06 53 46.3 +0.6
HHC PP **PP** 06 56 52.6 +1.9
HHC S **S** 07 03 56.8 -3.2
HHC sS **SKKSac** 07 04 05.3 -0.8
HHC SS **SS** 07 09 25.4 +1.6
HHC pmax pmax
comp=Z,32nm,1.4s
HHC pmax pmax
comp=Z,180nm,7.8s
HHC LR LR
comp=Z,350nm,17.7s
HHC LR LR
comp=Z,410nm,17.2s
HHC LR LR
comp=Z,380nm,17.5s
JLU **Jordanelle** 83.26 314 *e*P P 06 53 42.9 +3.0
comp=Z,5.9nm,1.2s
428A **Kincaid Ranch,** 83.29 302 ⇓P P 06 53 40.8 +0.8
baz=83
529A **Stev Forest Ra** 83.29 301 ⇓P P 06 53 41.2 +1.2
baz=83,SNR=8.9
WTV **Waterville** 83.34 324 P P 06 53 39.9 0.0
WTV **Waterville** 83.34 324 P P 06 53 39.9 0.0
Y24A **Capitan** 83.38 306 ⇑P P 06 53 41.8 +1.2
baz=83,SNR=17
ANMO **Albuquerque** 83.48 308 *e*P P 06 53 41.9 +0.9
comp=Z,11nm,0.8s
MVCO **Mesa Verde** 83.48 310 *e*P P 06 53 42.6 +1.6
comp=Z,16nm,1.2s
MVCO **Mesa Verde** 83.48 310 ⇓P P 06 53 42.0 +0.9
baz=83,SNR=6.1
MVCO **Mesa Verde** 83.48 310 *e*P P 06 53 42.6 +1.6
comp=Z,16nm,1.2s
X23A **Hourglass Bar** 83.51 307 ⇓P P 06 53 42.4 +1.2
baz=83,SNR=7.7
226B **Tecolote Peak,** 83.56 304 ⇑P P 06 53 42.7 +1.3
baz=83,SNR=13
125A **Gardner Draw,** 83.58 305 ⇓P P 06 53 42.7 +1.2
baz=83,SNR=11
ETW **Entiat** 83.60 324 P P 06 53 41.4 +0.1
ETW **Entiat** 83.60 324 P P 06 53 41.4 +0.1
SRU **San Rafael** 83.61 313 *e*P P 06 53 42.5 +0.9
SRU pmax pmax
comp=Z,11nm,1.0s
SRU **San Rafael** 83.61 313 *e*P P 06 53 42.5 +0.9
comp=Z,11nm,1.0s
SRU **San Rafael** 83.61 313 *e*P P 06 53 42.5 +0.9
comp=Z,11nm,1.0s
GDL2 **Guadalupe Moun** 83.63 304 *e*P P 06 53 43.1 +1.3
comp=Z,4.3nm,1.0s
GDL2 **Guadalupe Moun** 83.63 304 *e*P P 06 53 43.1 +1.3
comp=Z,4.3nm,1.0s
Z24A **Sheeppen Canyo** 83.68 306 ⇑P P 06 53 43.4 +1.4
baz=84,SNR=7.3
528A **Cox Ranch, San** 83.68 302 ⇓P P 06 53 42.9 +0.9
baz=84,SNR=6.2
427A **Hayter Ranch,** 83.73 303 ⇑P P 06 53 43.0 +0.8
baz=84,SNR=8.5
Y23A **Lovelace Mesa,** 83.80 306 ⇓P P 06 53 43.9 +1.2
baz=84
BBB **Bella Bella** 83.84 331 LR LR 07 28 30.4
comp=Z,141nm,18.6s,baz=48,slow=34
326A **Caldwell Ranch** 83.87 303 ⇓P P 06 53 44.2 +1.3
baz=84,SNR=5.6
BMO **Blue Mountains** 83.89 321 *e*P P 06 53 42.9 +0.1
BMO pmax pmax
comp=Z,28nm,1.4s
BMO **Blue Mountains** 83.89 321 *e*P P 06 53 42.9 +0.1
comp=Z,28nm,1.4s
BMO **Blue Mountains** 83.89 321 *e*P P 06 53 42.9 +0.1
comp=Z,28nm,1.4s
LPM **Los Pinos Moun** 83.96 307 *e*P P 06 53 44.8 +1.3
comp=Z,9.7nm,1.2s
LPM **Los Pinos Moun** 83.96 307 *e*P P 06 53 44.8 +1.3
comp=Z,9.6nm,1.2s
225A **Deer Hill, Car** 84.00 304 ⇑P P 06 53 44.3 +0.5
baz=84
BNM **Barren Site** 84.06 307 *e*P P 06 53 45.8 +1.7
comp=Z,14nm,1.4s
BNM **Barren Site** 84.06 307 *e*P P 06 53 45.8 +1.7
comp=Z,14nm,1.4s
124A **Stringfield Ra** 84.10 305 ⇓P P 06 53 45.7 +1.4
baz=84,SNR=9.0
628A **Black Gap, Mar** 84.13 301 ⇓P P 06 53 45.5 +1.2
baz=84,SNR=7.5
LAZ **Ladron** 84.25 307 *e*P P 06 53 46.9 +1.8
comp=Z,6.9nm,1.4s
LAZ **Ladron** 84.25 307 *e*P P 06 53 46.8 +1.8
comp=Z,6.9nm,1.4s
426A **McDonald Obser** 84.27 303 ⇑P P 06 53 46.5 +1.4
baz=84,SNR=16
527A **Woodward Ranch** 84.27 302 ⇑P P 06 53 45.8 +0.7
baz=84
LENM **Lemitar** 84.28 307 *e*P P 06 53 46.9 +1.8
comp=Z,7.2nm,1.0s
LENM **Lemitar** 84.28 307 *e*P P 06 53 46.9 +1.8
comp=Z,7.2nm,1.0s
Z23A **Rita Site, Whi** 84.31 306 ⇑P P 06 53 46.1 +1.0
baz=84
DUG **Dugway** 84.33 315 ⇓P P 06 53 46.1 +0.9
baz=84
Y22A **Socorro** 84.41 307 ⇓P P 06 53 47.8 +2.1
baz=84
224A **Cornudas Mount** 84.51 305 ⇓P P 06 53 47.2 +0.9
baz=84
627A **Terlingua Ranc** 84.51 302 ⇓P P 06 53 47.3 +1.0
baz=84
325A **Bean Ranch, Si** 84.53 304 ⇑P P 06 53 46.7 +0.3
baz=84
TRW **Toppenish Ridg** 84.60 323 P P 06 53 48.0 +1.7
TRW **Toppenish Ridg** 84.60 323 P P 06 53 48.0 +1.7
526A **Mary Lane Ranc** 84.66 302 ⇓P P 06 53 48.8 +1.7
baz=84,SNR=11
123A **Bell Site, Whi** 84.69 306 ⇓P P 06 53 48.5 +1.3
baz=84
TXAR **Lajitas Array** 84.78 302 P P 06 53 47.7 +0.1
TXAR **Lajitas Array** 84.78 302 P P 06 53 47.7 +0.1
TXAR **Lajitas Array** 84.78 302 P P 06 53 47.7 +0.1
comp=Z,2.5nm,0.9s,baz=75,slow=5.3,SNR=13
TXAR LR LR 07 28 54.1
comp=Z,192nm,19.5s,baz=130,slow=34
Z22A **Elephant Butte** 84.81 306 ⇑P P 06 53 49.3 +1.5
baz=85,SNR=14
324A **Moseley Ranch,** 84.85 304 ⇓P P 06 53 48.8 +0.8
baz=85
425A **Indio Mountain** 84.88 303 ⇓P P 06 53 48.6 +0.5
baz=85,SNR=9.3
LON **Longmire** 84.92 324 P P 06 53 48.8 +0.9
LON **Longmire** 84.92 324 P P 06 53 48.8 +0.9
LON **Longmire** 84.92 324 P P 06 53 48.8 +0.9
626A **Big Bend Ranch** 84.98 302 ⇑P P 06 53 50.0 +1.4
baz=85,SNR=10
MVU **Marysvale** 85.02 313 *e*P P 06 53 50.0 +1.1
comp=Z,7.2nm,1.0s
MVU **Marysvale** 85.02 313 *e*P P 06 53 50.0 +1.1
comp=Z,7.2nm,1.0s
G05D **Wamic, OR** 85.72 323 ⇓P P 06 53 52.4 +0.5
baz=86
XAN **Xi'an** 85.75 52 P P 06 53 52.4 +0.1
XAN pmax pmax
comp=Z,3.0nm,1.2s
121A **Cookes Peak, D** 85.79 306 *e*P P 06 53 54.9 +2.2
comp=Z,24nm,1.1s
121A **Cookes Peak, D** 85.79 306 ⇑P P 06 53 54.5 +1.7
baz=86,SNR=17
X18A **Snowflake** 86.03 309 ⇑P P 06 53 54.7 +0.8
baz=86
WVOR **Wild Horse Val** 86.22 319 *e*P P 06 53 56.1 +1.5
WVOR pmax pmax
comp=Z,14nm,1.1s
WVOR **Wild Horse Val** 86.22 319 *e*P P 06 53 56.1 +1.5
comp=Z,14nm,1.1s
WVOR **Wild Horse Val** 86.22 319 *e*P P 06 53 56.1 +1.5
comp=Z,14nm,1.1s
WUAZ **Wupatki** 86.35 310 ⇑P P 06 53 56.8 +1.3
baz=86
I05D **Terrebonne, OR** 86.36 322 ⇑P P 06 53 56.3 +1.2
baz=86
U15A **North Rim** 86.37 312 ⇓P P 06 53 56.5 +0.8
baz=86
BJI **Beijing** 86.49 44 P P 06 53 55.0 -0.8
KMI **Kunming** 86.59 62 P P 06 53 58.1 +1.2
KMI pmax pmax
comp=Z,8.0nm,1.1s
320A **Kipp Ranch, An** 87.01 306 ⇓P P 06 54 00.6 +1.9
baz=87
J05D **Fort Rock, OR** 87.03 321 ⇓P P 06 54 00.2 +1.6
baz=87
X16A **Lo Mia Camp, P** 87.07 310 ⇑P P 06 54 00.1 +1.1
baz=87
R11A **Troy Canyon, C** 87.17 315 ⇑P P 06 54 00.2 +0.8
baz=87
CMAR **Chiang Mai Arr** 87.41 70 P P 06 54 01.4 +0.7
CMAR **Chiang Mai Arr** 87.41 70 P P 06 54 01.4 +0.7
CMAR **Chiang Mai Arr** 87.41 70 P P 06 54 01.4 +0.7
comp=Z,3.4nm,0.9s,baz=304,slow=6.7,SNR=19
CMAR LR LR 07 43 32.1
comp=Z,42nm,18.5s,baz=295,slow=43
319A **Douglas** 87.50 306 ⇓P P 06 54 01.8 +0.8
baz=87
W13A **Hualapai Mount** 88.21 311 ⇓P P 06 54 05.1 +0.6
baz=88
Y14A **Wickenburg** 88.38 310 ⇓P P 06 54 06.1 +1.0
baz=88
M04C **Macdoel** 88.40 320 ⇑P P 06 54 05.1 -0.1
baz=88
GYA **Guiyang** 88.70 59 *e*P P 06 54 07.0 +0.2
GYA PP **PP** 06 57 37.4 +2.3
GYA SKS **SKSac** 07 04 33.3 -3.0
GYA S **S** 07 04 51.8 -2.0
GYA SS **SS** 07 10 44.3 -0.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.6s
GYA LR LR
comp=Z,440nm,20.0s
GYA LR LR
comp=Z,380nm,21.0s
GYA LR LR
comp=Z,420nm,21.2s
PDMCI **Parker Dam,Lak** 88.88 311 ⇓P P 06 54 08.5 +1.2
baz=89
CN2 **Changchun** 88.89 36 *e*P P 06 54 05.5 -1.7
YBH **Yreka Blue Hor** 88.90 321 LR LR 07 31 57.3
comp=Z,72nm,19.1s,baz=231,slow=34
L02D **Cave Junction,** 89.06 322 ⇓P P 06 54 08.7 +0.6
baz=89
FURC **Furnace Creek,** 89.16 314 ⇓P P 06 54 09.7 +1.1
baz=89
WAKR **Walker** 89.32 317 *e*P P 06 54 11.6 +2.0
comp=Z,3.2nm,0.8s
WAKR **Walker** 89.32 317 *e*P P 06 54 11.6 +2.0
comp=Z,3.2nm,0.8s
N02D **Trinity Center** 89.43 320 ⇑P P 06 54 10.3 +0.4
baz=89
Y12C **Blythe** 89.48 311 ⇑P P 06 54 10.5 +0.3
baz=89
214A **Organ Pipe Nat** 89.51 308 ⇑P P 06 54 11.0 +0.6
baz=89
GMRC **Granite Mounta** 89.53 312 ⇓P P 06 54 11.4 +0.8
baz=89
IRM **Iron Mountain** 89.61 311 ⇑P P 06 54 11.9 +1.1
baz=89
113A **Mohawk Valley,** 89.62 310 ⇑P P 06 54 12.1 +1.3
baz=89
MPMC **Manual Prospec** 89.81 314 ⇓P P 06 54 13.0 +1.0
baz=90
BC3 **Big Chuckawall** 90.13 311 ⇓P P 06 54 14.7 +1.3
baz=90
ISA **Isabella** 90.67 314 *e*P P 06 54 16.5 +0.7
ISA pmax pmax
comp=Z,2.0nm,1.0s
ISA **Isabella** 90.67 314 *e*P P 06 54 16.5 +0.7
comp=Z,2.1nm,1.0s
ISA **Isabella** 90.67 314 ⇓P P 06 54 16.8 +1.0
baz=90
ISA **Isabella** 90.67 314 *e*P P 06 54 16.5 +0.7
comp=Z,2.0nm,1.0s
EDW2 **Edwards Air Fo** 90.90 313 ⇑P P 06 54 18.4 +1.5
baz=91
DVTC **Desert V Tower** 91.19 311 ⇑P P 06 54 19.6 +1.3
baz=91
USRK **Ussuriysk Arra** 91.68 32 P P 06 54 18.6 -1.6
comp=Z,3.0nm,0.9s,baz=320,slow=6.2,SNR=3.5
NJ2 **Nanjing** 93.42 48 *e*P P 06 54 26.8 -1.7
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
KSRS **Korea Array** 94.84 39 LR LR 07 41 42.0
comp=Z,186nm,18.4s,baz=147,slow=38
QIZ **Qiongzhong** 95.49 63 P P 06 54 37.3 -0.9
QIZ S **S** 07 05 53.4 -1.4
QIZ pmax pmax
comp=Z,9.0nm,1.6s
QIZ pmax pmax
comp=Z,75nm,3.9s
PLCA **Paso Flores** 97.94 226 LR LR 07 39 43.7
comp=Z,222nm,19.5s,baz=72,slow=36
WRA **Warramunga Arr** 137.49 84 PKP **PKPdf** 07 00 36.2 -1.0
WRA **Warramunga Arr** 137.49 84 PKIKP **PKPdf** 07 00 36.2 -1.0
WRA **Warramunga Arr** 137.49 84 PKP **PKPdf** 07 00 36.2 -1.0
comp=Z,1.0nm,0.6s,baz=311,slow=1.9,SNR=12
ASAR **Alice Springs** 138.71 89 PKP **PKPdf** 07 00 39.5 +0.1
ASAR **Alice Springs** 138.71 89 PKIKP **PKPdf** 07 00 39.5 +0.1
ASAR **Alice Springs** 138.71 89 PKP **PKPdf** 07 00 39.5 +0.1
comp=Z,2.0nm,0.8s,baz=312,slow=1.1,SNR=15
VAH **Vaihoa** 145.73 293 *e*PKPbc **PKPab** 07 00 53.6 +0.9
comp=Z,57nm,1.2s
PMOR **Pomariorio Ree** 145.80 294 *e*PKPbc **PKPab** 07 00 54.1 +1.1
comp=Z,56nm,0.9s
CTAO **Charters Tower** 147.41 75 *e*PKP2 **PKPbc** 07 00 57.2 0.0
CTAO **Charters Tower** 147.41 75 *e*PKPbc **PKPbc** 07 00 57.2 0.0
CTAO **Charters Tower** 147.41 75 *e*PKPbc **PKPbc** 07 00 57.2 0.0
STKA **Stephens Creek** 147.73 99 *e*PKPbc **PKPbc** 07 00 57.6 -0.2
STKA **Stephens Creek** 147.73 99 *e*PKPbc **PKPbc** 07 00 57.6 -0.2
STKA **Stephens Creek** 147.73 99 PKPbc **PKPbc** 07 00 57.4 -0.4
comp=Z,17nm,1.0s,baz=313,slow=4.5,SNR=25

IDC 14 07:13:56.5±6.4, 32°.93S×179°.45W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/16, mbtmp3.6/2, Error ellipse: s-maj=285.8km s-min=56.9km az=161.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.81**	**270**	P	P	07 21 48.3	+0.2
	0.7nm,0.7s,baz=116,slow=7.3,SNR=8.9						
WRA	**Warramunga Arr**	**43.03**	**276**	P	P	07 21 57.6	-0.4
	0.4nm,0.5s,baz=117,slow=8.0,SNR=5.8						
FINES	**FINESS Array B**	**147.05**	**338**	PKPbc	PKPbc	07 33 39.6	-0.8
	2.4nm,0.8s,baz=53,slow=5.4,SNR=3.6						

MEX 14 07:39:15.1±0.9, 17°.43N×100°.55W, h51km±24km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.86**	**130**	*e*P	Pn	07 39 26.4	-4.7
ACX				*i* S	Sn	07 39 37.0	-5.6
ARIG	**Puente Sto Nin**	**0.87**	**13**	*e*P	Pn	07 39 29.1	-2.0
ARIG				*i* S	Sn	07 39 41.3	-1.6
MEIG	**Mezcala**	**1.01**	**61**	*e*P	Pn	07 39 31.0	-2.2
MEIG				*i* S	Sn	07 39 44.5	-1.9
PLIG	**Platanillo**	**1.38**	**46**	*e*P	Pn	07 39 37.0	-1.2
PLIG				*i* S	Sn	07 39 52.8	-2.6
TLIG	**Tlapa**	**1.89**	**86**	*e*P	Pn	07 39 44.2	-0.9
TLIG				*i* S	Sn	07 40 05.2	-2.9
YAIG	**Yautepec**	**2.00**	**44**	*e*P	Pn	07 39 44.9	-1.8
YAIG				*i* S	Sn	07 40 08.6	-2.1

IDC ***14*** *07:53:48.4±0.9, 6°.51N×126°.30E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/27, mbtmp3.7/9, Error ellipse: s-maj=70.6km s-min=17.1km az=72.0*
AUST ***14*** *07:54:02.2±0.0, 6°.55N×126°.80E, h129km±1km, Error ellipse: s-maj=4.4km s-min=2.4km az=328.0*
ISCJB ***14*** *07:54:04.0±0.6, 6°.32N±0°.05×126°.1E±0°.1, h145km±6km, mb3.4/9, Error ellipse: s-maj=17.2km s-min=8.2km az=171.4*
MAN ***14*** *07:54:05, 6°.43N×126°.26E, h127km, mb4.9, ML3.8, MS3.9*
ISC 14 07:54:03.9±0.8, 6°.33N±0°.06×126°.27E±0°.09, h124km±7km, n28, σ1s55/33, mb3.4/9, 4C, Mindanao

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

MATI	**Mati**	**0.61**	**358**	*e*P	**Pn**	**07 54 24.8 +1.8**
MATI				*e*S	**Sn**	**07 54 32.5 -5.0**
DMPH	**Davao City--Mi**	**1.06**	**314**⇑	*e*P	**Pn**	**07 54 28.3 +1.4**
DMPH				*e*S	**Sn**	**07 54 45.8 +1.4**
GSPH	**General Santos**	**1.34**	**260**⇑	*i*P	**Pn**	**07 54 29.2 -0.7**
GSPH				*i* S	**Sn**	**07 54 49.3 -0.4**
KCP	**Kidapawan**	**1.35**	**300**⇑	*e*P	**Pn**	**07 54 31.0 +1.0**
KCP				*i* S	**Sn**	**07 54 51.0 +1.1**
BUKP	**Musuan**	**1.95**	**322**	*e*P	**Pn**	**07 54 38.5 +1.5**
CGP	**Cagayan de Oro**	**2.63**	**323**	*e*P	**Pn**	**07 54 45.5 0.0**
CGP				*e*S	**Sn**	**07 55 18.7 +1.2**
BUTP	**Butuan**	**2.70**	**346**	*e*P	**Pn**	**07 54 48.5 +2.1**
PAGZ	**Pagadian**	**3.24**	**298**	*e*P	**Pn**	**07 54 54.8 +1.3**
SCPH	**Surigao**	**3.51**	**347**⇑	*e*P	**Pn**	**07 54 59.8 +2.7**
MSLP	**Maasin**	**4.03**	**340**	*e*P	**Pn**	**07 55 04.4 +0.5**
KDU	**Kakadu**	**19.88**	**162**	P	**P**	**07 58 26.1 +0.7**
	baz=20,SNR=14					
KNRA	**Kununurra**	**22.01**	**174**	P	**P**	**07 58 48.7 +0.5**
	baz=22,SNR=8.6					
FITZ	**Fitzroy Crossi**	**24.29**	**181**	P	**P**	**07 59 09.7 -0.1**
	2.9nm,0.6s,baz=16,slow=6.3,SNR=3.1					
FITZ	**Fitzroy Crossi**	**24.29**	**181**	P	**P**	**07 59 10.1 +0.3**
	baz=25,SNR=7.8					
WRA	**Warramunga Arr**	**27.29**	**163**	P	**P**	**07 59 35.4 -1.5**
	0.5nm,0.5s,baz=332,slow=10,SNR=3.3					
QIS	**Mount Isa**	**29.76**	**154**	P	**P**	**07 59 59.4 +0.6**
	baz=30,SNR=8.9					
ASAR	**Alice Springs**	**30.73**	**166**	P	**P**	**08 00 07.5 0.0**
	1.1nm,0.3s,baz=343,slow=7.2,SNR=12					
WRKA	**Warakurna**	**31.24**	**176**	P	**P**	**08 00 12.2 +0.3**
	baz=32,SNR=7.2					
MEEK	**Meekatharra**	**33.61**	**192**	P	**P**	**08 00 33.5 +1.0**
	baz=34,SNR=4.3					
BBOO	**Buckleboo**	**40.02**	**167**	P	**P**	**08 01 27.4 +0.7**
	baz=40,SNR=19					
STKA	**Stephens Creek**	**40.71**	**160**	P	**P**	**08 01 32.4 -0.1**
	1.9nm,0.8s,baz=318,slow=6.3,SNR=3.8					
HTT	**Hallett**	**41.33**	**164**	P	**P**	**08 01 38.9 +1.4**
	baz=42,SNR=3.6					
SONM	**Songino Array**	**44.70**	**341**	P	**P**	**08 02 02.8 -1.8**
	0.1nm,0.3s,baz=146,slow=10,SNR=2.2					
MKAR	**Makanchi Array**	**55.18**	**324**	P	**P**	**08 03 21.5 -2.1**
	0.2nm,0.5s,baz=129,slow=7.9,SNR=1.8					
KURBB	**Kurchatov Arra**	**55.32**	**327**	P	**P**	**08 03 51.4 -1.2**
	0.6nm,0.8s,baz=122,slow=6.5,SNR=2.6					
BVAR	**Borovoye Array**	**64.91**	**326**	P	**P**	**08 04 29.1 -0.8**
	0.2nm,0.4s,baz=126,slow=3.9,SNR=2.1					
ILAR	**Eielson Array**	**82.96**	**26**	P	**P**	**08 06 14.2 -0.6**
	0.2nm,0.7s,baz=238,slow=4.8,SNR=2.4					
TORD	**Torodi Ar. Bea**	**121.65**	**290**	PKP	**PKPdf**	**08 12 43.3 -0.7**
	0.2nm,0.4s,baz=65,slow=0.7,SNR=2.2					

IDC 14 08:05:03.6±1.1, 21°01N×143°85E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, MS2.7/2, Ms1 2.9/2, ms1mx2.4/28, Error ellipse: s-maj=60.0km s-min=25.1km az=103.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**21.44**	**323**	LR	LR	08 17 14.2	
	comp=Z,21nm,20.0s,baz=180,slow=34						
H11S3	**WAKE ISLAND Hy**	**21.64**	**93**	T	T	08 32 18.8	
	baz=282,slow=73,SNR=67						
H11N1	**WAKE ISLAND Hy**	**21.64**	**89**	T	T	08 32 20.6	
	baz=280,slow=75,SNR=163						
H11N2	**WAKE ISLAND Hy**	**21.64**	**89**	T	T	08 32 16.8	
	baz=280,slow=75,SNR=129						
H11S1	**WAKE ISLAND Hy**	**21.65**	**93**	T	T	08 32 16.4	
	baz=282,slow=73,SNR=47						
H11S2	**WAKE ISLAND Hy**	**21.66**	**93**	T	T	08 32 17.1	
	baz=282,slow=73,SNR=46						
H11N3	**WAKE ISLAND Hy**	**21.66**	**89**	T	T	08 32 21.3	
	baz=280,slow=75,SNR=126						
WRA	**Warramunga Arr**	**41.75**	**193**	P	P	08 12 54.3	-0.4
	0.5nm,0.8s,baz=15,slow=8.9,SNR=2.3						
CMAR	**Chiang Mai Arr**	**42.24**	**275**	LR	LR	08 28 39.9	
	comp=Z,12nm,21.2s,baz=20,slow=34						
ASAR	**Alice Springs**	**45.45**	**193**	P	P	08 13 24.6	+0.1
	0.3nm,0.7s,baz=17,slow=8.2,SNR=1.9						
ZALV	**Zalesovo Beam**	**55.13**	**322**	P	P	08 14 37.4	-0.2
	0.6nm,0.3s,baz=117,slow=8.5,SNR=3.6						
ILAR	**Eielson Array**	**62.37**	**27**	P	P	08 15 27.4	-0.5
	0.6nm,0.8s,baz=258,slow=5.4,SNR=6.2						
YKA	**Yellowknife Ar**	**76.77**	**28**	P	P	08 16 57.3	+0.6
	0.3nm,0.6s,baz=292,slow=5.8,SNR=4.2						

IDC 14 08:13:03.3±1.7, 3°90N×124°75E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=112.8km s-min=23.4km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.88**	**178**	P	P	08 17 59.5	+1.5
	0.7nm,0.3s,baz=1.6,slow=11,SNR=12						
WRA	**Warramunga Arr**	**25.50**	**159**	P	P	08 18 33.2	-0.3
	0.9nm,0.4s,baz=334,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.82**	**162**	P	P	08 19 02.8	-0.6
	0.3nm,0.4s,baz=339,slow=7.9,SNR=7.7						
STKA	**Stephens Creek**	**39.02**	**157**	P	P	08 20 31.4	-0.5
	0.7nm,0.4s,baz=336,slow=10.0,SNR=3.1						
MKAR	**Makanchi Array**	**56.30**	**326**	P	P	08 22 45.9	0.0
	0.4nm,0.5s,baz=128,slow=6.4,SNR=6.5						

IDC 14 08:18:34.0±2.0, 1°74N×127°37E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, MS4.3/1, Ms1 4.3/1, ms1mx2.8/20, Error ellipse: s-maj=171.1km s-min=23.6km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.60**	**163**	P	P	08 23 36.9	+0.5
	0.8nm,0.4s,baz=342,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.04**	**166**	P	P	08 24 08.9	-0.3
	0.2nm,0.4s,baz=344,slow=11,SNR=5.7						
JCJ	**Chichijima**	**28.95**	**28**	LR	LR	08 34 15.9	
	comp=Z,647nm,21.3s,baz=250,slow=32						
STKA	**Stephens Creek**	**36.05**	**159**	P	P	08 25 36.9	-0.5
	1.0nm,0.6s,baz=329,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**59.55**	**326**	P	P	08 28 39.5	+0.1
	0.2nm,0.4s,baz=122,slow=8.0,SNR=3.6						

IDC 14 08:23:26.4±2.0, 10°24S×124°18E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=113.3km s-min=29.7km az=62.0

ISC 14 08:23:27.7±1.5, 10°4S±0°1×124°4E±0°2, h10km, n9, σ2s06/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNRA	**Kununurra**	**6.81**	**142**	P	Pn	08 25 14.4	+6.7
	baz=10,SNR=5.5						
MTN	**Manton Dam**	**7.08**	**111**	P	Pn	08 25 18.8	+7.5
	baz=10,SNR=11						
FITZ	**Fitzroy Crossi**	**7.81**	**171**	Pn	**Pn**	**08 25 23.6 +2.2**	
	0.4nm,0.3s,baz=56,slow=21,SNR=1.5						
FITZ				Sn	**Sn**	**08 26 48.8 -1.1**	
	2.6nm,0.3s,baz=185,slow=13,SNR=6.8						
FITZ	**Fitzroy Crossi**	**7.81**	**171**	P	**Pn**	**08 25 23.4 +2.0**	
	baz=11,SNR=7.1						
KDU	**Kakadu**	**8.28**	**107**	P	Pn	08 25 35.4	+7.5
	baz=11,SNR=14						
WRA	**Warramunga Arr**	**13.54**	**136**	Pn	**Pn**	**08 26 42.6 +2.6**	
	0.2nm,0.3s,baz=310,slow=15,SNR=2.3						
WRA				Sn	**Sn**	**08 29 09.8 -0.8**	
	1.0nm,0.3s,baz=299,slow=23,SNR=7.2						
WRKA	**Warakurna**	**15.08**	**166**	P	**Pn**	**08 27 02.2 +1.2**	
	baz=18,SNR=7.1						
ASAR	**Alice Springs**	**16.07**	**147**	Pn	**P**	**08 27 16.2 -1.1**	
	0.2nm,0.3s,baz=320,slow=12,SNR=7.2						
ASAR				Sn	**Sn**	**08 30 10.1 -2.1**	
	0.3nm,0.3s,baz=310,slow=21,SNR=11						
MKAR	**Makanchi Array**	**68.16**	**330**	P	**P**	**08 34 27.2 -0.9**	
	0.3nm,0.6s,baz=135,slow=7.5,SNR=2.4						

IDC 14 08:28:53.8±42.0, 16°03S×172°86W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/21, mbtmp3.9/3, Error ellipse: s-maj=818.8km s-min=171.5km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.18**	**241**	P	P	08 37 05.0	+0.3
	1.0nm,0.5s,baz=81,slow=12,SNR=7.3						
WRA	**Warramunga Arr**	**50.21**	**257**	P	P	08 37 51.4	-0.6
	0.3nm,0.4s,baz=95,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**50.41**	**252**	P	P	08 37 53.5	-0.1
	2.3nm,0.5s,baz=89,slow=8.3,SNR=55						

IDC 14 08:38:27.9±7.0, 20°69S×178°16W, h460km±78km, mb3.1/7, mb1 3.3/7, mb1mx3.2/18, mbtmp3.1/7, Error ellipse: s-maj=51.4km s-min=20.2km az=2.0

ISCJB 14 08:38:29.9±0.8, 20°9S±0°3×178°2W±0°2, h495km, mb3.5/7, Error ellipse: s-maj=42.4km s-min=18.2km az=165.9

ISC 14 08:38:31.0±0.9, 20°8S±0°3×178°2W±0°2, h495km, n10, σ0s87/10, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.50**	**245**	P	**P**	**08 45 01.9**	**-0.1**
	1.2nm,0.8s,baz=114,slow=8.2,SNR=6.1						
ASAR	**Alice Springs**	**44.29**	**257**	P	**P**	**08 45 56.0**	**-0.4**
	1.1nm,0.6s,baz=96,slow=8.1,SNR=21						
ASAR				PcP	**PcP**	**08 47 30.2**	**0.0**
	0.5nm,0.6s,baz=97,slow=3.8,SNR=8.3						
WRA	**Warramunga Arr**	**44.40**	**262**	P	**P**	**08 45 56.2**	**-1.0**
	0.5nm,0.3s,baz=94,slow=6.8,SNR=40						
RPN	**Rapa Nui**	**62.53**	**110**	P	**P**	**08 48 06.2**	**+0.1**
	1.2nm,0.4s,baz=295,slow=1.0,SNR=5.8						
TXAR	**Lajitas Array**	**87.37**	**57**	P	**P**	**08 50 25.3**	**0.0**
	0.1nm,0.7s,baz=224,slow=5.0,SNR=1.4						
ILAR	**Eielson Array**	**88.67**	**13**	P	**P**	**08 50 29.6**	**-0.9**
	0.3nm,0.5s,baz=211,slow=5.5,SNR=9.5						
CMAR	**Chiang Mai Arr**	**90.07**	**290**	P	**P**	**08 50 39.9**	**+1.8**
	1.1nm,0.3s,baz=118,slow=2.3,SNR=4.8						
AKASG	**Malin Array Be**	**143.22**	**331**	PKP	PKPab	08 57 05.5	-0.3
	2.0nm,0.5s,baz=44,slow=4.2,SNR=12						
BRTR	**Keskin Array B**	**146.94**	**312**	PKPbc	**PKPbc**	**08 57 17.6**	**-0.3**
	1.0nm,0.5s,baz=149,slow=5.8,SNR=4.0						
GERES	**GERESS Array B**	**150.47**	**344**	PKPbc	**PKPbc**	**08 57 26.7**	**+0.4**
	0.3nm,0.2s,baz=336,slow=2.9,SNR=4.0						

BJI 14 08:53:58.9, 5°95S×155°10E, h59km, mB5.7/60, mb5.5/63, Ms5.4/70, Ms7 5.3/63

MOS 14 08:54:00.0±1.2, 5°83S×154°39E, h33km, mb5.7/47, MS5.3/28, Error ellipse: s-maj=7.1km s-min=5.6km az=86.3

NEIC 14 08:54:01.8±0.1, 5°96S×154°44E, h39km, mb5.6/129, ME6.0, MS5.6/156, MW6.0, MW6.0, MW6.0, Error ellipse: s-maj=5.1km s-min=4.2km az=120.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M_{rr}1.19; $M_{\theta\theta}$-0.95; $M_{\phi\phi}$-0.23; $M_{r\theta}$-0.12; $M_{\theta\phi}$0.41; $M_{\phi r}$0.23; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s108.00000°, δ40.00000°, λ79.00000°. NP2:ϕ_s301.00000°, δ50.00000°, λ99.00000°. Principal axes: T 1.2300, Plg81.0000°, Azm259.0000°; N -0.0700, Plg6.0000°, Azm115.0000°; P -1.1600, Plg5.0000°, Azm25.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.

ISCJB 14 08:54:02.4±0.7, 5°95S±0°02×154°42E±0°02, h56km±5km, mb5.6/204, MS5.5/203 Error ellipse: s-maj=4.1km s-min=3.2km az=178.4

AUST 14 08:54:03.2±0.8, 5°99S×154°67E, h62km±6km, Error ellipse: s-maj=6.5km s-min=4.2km az=77.0

NEIC 14 08:54:04.0±0.0, 6°02S×154°00E, h35km Best double couple: NP1:ϕ_s315.00000°, δ62.00000°, λ84.00000°. NP2:ϕ_s147.00000°, δ27.00000°, λ100.00000°. Principal axes: T 1.1700, Plg71.0000°, Azm213.0000°; N -0.0900, Plg4.0000°, Azm318.0000°; P -1.0800, Plg17.0000°, Azm49.0000°;

IDC 14 08:54:05.1±1.4, 5°98S×154°49E, h72km±12km, mb5.3/22, mb1 5.4/26, mb1mx5.4/27, mbtmp5.3/26, MS5.2/20, Ms1 5.2/20, ms1mx5.2/22 Error ellipse: s-maj=10.4km s-min=9.5km az=91.0

DJA 14 08:54:05.2±0.8, 6°S±4°×15°E±°, h56km±9km, M5.6/17, mb5.6/17, mB6.0/16, Mw(mB)5.6/16, Mwp5.8/7

GCMT 14 08:54:06.8±0.1, 6°13S×154°41E, h55km, MW5.9 Best double couple: NP1:ϕ_s311.00000°, δ49.00000°, λ87.00000°. NP2:ϕ_s135.00000°, δ41.00000°, λ93.00000°. Principal axes: T 0.9900, Plg85.0000°, Azm199.0000°; N 0.0900, Plg2.0000°, Azm313.0000°; P -1.0800, Plg4.0000°, Azm43.0000°; Data Used: II IU CU CN IC G. Surface waves: sta=124, comp=242, per= 50.

NEIC 14 08:54:21.5±0.0, 5°60S×153°83E, h51km, Moment Tensor Solution. s151 Moment tensor: Scale 10^{18}Nm; M_{rr}1.12; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$-0.62; $M_{r\theta}$-0.03; $M_{\theta\phi}$0.54; $M_{\phi r}$0.02; Best double couple: $M_0$1.10000×10^{18} NP1:ϕ_s139.00000°, δ44.00000°, λ90.00000°. NP2:ϕ_s318.00000°, δ46.00000°, λ90.00000°. Principal axes: T 1.1200, Plg88.0000°, Azm210.0000°; N -0.0100, Plg0.0000°, Azm318.0000°; P -1.1100, Plg0.0000°, Azm48.0000°;

ISC 14 08:54:04.9±0.3, 5°96S±0°03×154°49E±0°03, h70km±1km, h70km:pP-P, n885, σ1s57/929, mb5.6/198, 143C-95D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.91**	**307**	⇓P	**Pn**	**08 54 50.9**	**+2.1**
	baz=3.1,SNR=403						
HNR	**Honiara**	**6.42**	**123**	P	**Pn**	**08 55 38.3**	**+1.4**
HNR				S	**Sn**	**08 56 50.2**	**+1.5**
HNR	**Honiara**	**6.42**	**123**	P	**Pn**	**08 55 38.3**	**+1.4**
	81nm,0.3s,baz=226,slow=1.5,SNR=45						
HNR				S	**Sn**	**08 56 50.2**	**+1.5**
	65nm,0.3s,baz=177,slow=22,SNR=1.6						
PMG	**Port Moresby**	**8.03**	**244**	P	**Pn**	**08 56 00.6**	**+1.7**
	3μm,1.0s,28μm58μm						
PMG	**Port Moresby**	**8.03**	**244**	*e*Pn	**Pn**	**08 55 59.4**	**+0.6**
PMG				*e*Sn	**Sn**	**08 57 27.1**	**-1.2**
PMG				S	**Sn**	**08 57 29.9**	**+1.6**
PMG	**Port Moresby**	**8.03**	**244**	P	**Pn**	**08 55 59.5**	**+0.6**
	98nm,0.3s,baz=65,slow=6.5,SNR=116						
PMG				S	**Sn**	**08 57 29.9**	**+1.6**
	baz=192,slow=21,SNR=2.6						
PMG	**Port Moresby**	**8.03**	**244**	P	**Pn**	**08 55 59.5**	**+0.6**
	baz=8.2,SNR=252						
PMG				P	**Pn**	**08 55 59.5**	**+0.6**
	baz=8.2,SNR=252						
PMG				P	**Pn**	**08 55 59.5**	**+0.6**
	baz=8.2,SNR=252						
PATS	**Pohnpei**	**13.27**	**17**	⇑P	**Pn**	**08 57 08.7**	**-1.7**
	baz=13,SNR=28						
COEN	**Coen**	**13.68**	**234**	⇑P	**Pn**	**08 57 15.1**	**-0.8**
	baz=14,SNR=15						
JAY	**Jayapura**	**14.16**	**283**	⇓P	**Pn**	**08 57 21.9**	**-0.3**
	baz=14,SNR=15						
GENI	**Genyem**	**14.67**	**283**	P	**Pn**	**08 57 29.8**	**+1.0**
	463nm,1.8s,9μm						
CTA	**Charters Tower**	**16.17**	**209**	P	**Pn**	**08 57 48.4**	**+0.5**
CTA	**Charters Tower**	**16.17**	**209**	P	**Pn**	**08 57 48.4**	**+0.5**
	1.1nm,0.3s,baz=32,slow=15,SNR=23						
CTAO	**Charters Tower**	**16.17**	**209**	*e*P	**Pn**	**08 57 48.3**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,172nm,1.2s						
CTAO	**Charters Tower**	**16.17**	**209**	*e*P	**Pn**	**08 57 48.3**	**+0.5**
	comp=Z,172nm,1.2s						
CTAO				*e*S	**S**	**09 00 57.9**	**+2.1**
BAKI	**Biak**	**18.94**	**284**	P	**Pn**	**08 58 24.4**	**+2.5**
	comp=Z,207nm,1.0s,comp=Z,7μm						
EIDS	**Eidsvold**	**19.58**	**189**	*e*P	**P**	**08 58 27.5**	**+0.2**
	comp=Z,98nm,0.8s						
EIDS				*e*S	**S**	**09 02 04.8**	**0.0**
EIDS	**Eidsvold**	**19.58**	**189**	⇑P	**P**	**08 58 28.1**	**+0.8**
	baz=20,SNR=45						
KWAJ	**Kwajalein Atol**	**19.65**	**42**	*e*P	**P**	**08 58 28.1**	**-0.1**
KWAJ				*e*S	**Sn**	**09 02 09.5**	**-1.1**
KWAJ				pmax	pmax		
	comp=Z,446nm,1.1s						
KWAJ	**Kwajalein Atol**	**19.65**	**42**	*e*P	**P**	**08 58 28.1**	**-0.1**
	comp=Z,446nm,1.1s						
KWAJ				*e*S	**Sn**	**09 02 09.5**	**-1.1**
NOUC	**Port Laguerre**	**19.70**	**146**	*e*P	**P**	**08 58 27.9**	**-0.8**
DZM	**Mont Dzumac**	**19.75**	**145**	*e*P	**P**	**08 58 29.7**	**+0.3**
	comp=Z,2μm,1.0s						
DZM				*e*LR	LR	09 03 07.3	
	comp=Z,29μm,26.4s						
DZM	**Mont Dzumac**	**19.75**	**145**	P	**P**	**08 58 29.5**	**+0.1**
DZM	**Mont Dzumac**	**19.75**	**145**	P	**P**	**08 58 29.5**	**+0.1**
	comp=Z,11nm,0.3s,baz=349,slow=10,SNR=83						
DZM				LR	LR	09 05 02.4	
	comp=Z,10μm,21.7s,baz=324,slow=33						
TARA	**Tarawa**	**19.79**	**69**	*e*P	**Pn**	**08 58 31.6**	**-0.2**
	comp=Z,409nm,0.7s						
TARA				*e*S	**S**	**09 02 04.6**	**-4.5**
QIS	**Mount Isa**	**20.48**	**223**	P	**P**	**08 58 37.6**	**+0.4**
	baz=21,SNR=49						
RMQ	**Roma**	**21.14**	**194**	P	**P**	**08 58 45.1**	**+0.9**
	baz=21,SNR=55						
GUMO	**Guam**	**21.64**	**334**	*e*P	**P**	**08 58 49.4**	**-0.2**
	comp=Z,146nm,1.0s						
GUMO				*e*S	**S**	**09 02 47.8**	**+2.1**
GUMO				LR	LR		
	comp=Z,3μm,22.0s						
FAKI	**Fak Fak**	**22.38**	**277**	P	**P**	**08 58 59.6**	**+2.0**
	comp=Z,279nm,1.6s,comp=Z,5μm						
FAKI	**Fak Fak**	**22.38**	**277**	P	**P**	**08 58 58.8**	**+1.2**
	baz=23,SNR=15						
KDU	**Kakadu**	**22.72**	**251**	⇑P	**P**	**08 59 01.1**	**-0.1**
	baz=23,SNR=17						
QLP	**Quilpie**	**22.73**	**204**	P	**P**	**08 59 01.1**	**-0.1**
	baz=23,SNR=59						
SWI	**Sorong**	**23.73**	**281**	P	**P**	**08 59 11.9**	**+1.0**
	comp=Z,262nm,1.1s,comp=Z,4μm						
PALU	**Palau**	**23.94**	**303**	⇓P	**P**	**08 59 13.8**	**+1.0**
	baz=24,SNR=30						
WRAB	**Tennant Creek**	**24.00**	**233**	*c i*P	**P**	**08 59 13.5**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,1μm,1.7s						
WRAB				MLR	MLR		
	comp=Z,42μm,22.0s						
WRAB	**Tennant Creek**	**24.00**	**233**	*e*P	**P**	**08 59 13.7**	**+0.3**
	comp=Z,742nm,1.7s						
WRAB				LR	LR		
	comp=Z,17μm,22.0s						
WRAB	**Tennant Creek**	**24.00**	**233**	P	**P**	**08 59 14.0**	**+0.7**
	comp=Z,1μm,0.6s						
WB2	**Warramunga Arr**	**24.01**	**233**	⇓P	**P**	**08 59 13.7**	**+0.3**
	baz=24						
WRA	**Warramunga Arr**	**24.02**	**233**	P	**P**	**08 59 13.7**	**+0.3**
WRA				PcP	**PcP**	**09 02 53.7**	**-0.2**
WRA				S	**S**	**09 03 25.1**	**-0.7**
WRA				*e*		09 32 32.1	
WRA	**Warramunga Arr**	**24.02**	**233**	P	**P**	**08 59 13.7**	**+0.3**
	comp=Z,59nm,0.6s,baz=59,slow=9.9,SNR=153						
WRA				PcP	**PcP**	**09 02 53.7**	**-0.2**
	comp=Z,6.3nm,0.4s,baz=53,slow=2.5,SNR=4.9						
WRA				S	**S**	**09 03 25.1**	**-0.7**
	comp=Z,13nm,1.2s,baz=57,slow=15,SNR=3.0						
WRA				LR	LR	09 08 20.6	
	comp=Z,16μm,21.8s,baz=55,slow=36						
WRA				P3KPbc		09 32 32.1	
	comp=Z,0.7nm,0.7s,baz=226,slow=2.5,SNR=4.9						
MTN	**Manton Dam**	**24.02**	**252**	P	**P**	**08 59 14.1**	**+0.6**
	baz=24,SNR=18						
ARMA	**Armidale**	**24.48**	**186**	*e*P	**P**	**08 59 18.3**	**+0.6**
	comp=Z,253nm,0.8s						
ARMA				*e*S	**S**	**09 03 37.5**	**+4.3**
ARMA	**Armidale**	**24.48**	**186**	P	**P**	**08 59 18.3**	**+0.6**
	baz=25,SNR=118						
BNDI	**Bandanaira**	**24.52**	**272**	P	**P**	**08 59 21.2**	**+3.1**
	comp=Z,416nm,0.8s,comp=Z,8μmcomp=Z,21μm						
LHI	**Lord Howe Isla**	**25.79**	**171**	P	**P**	**08 59 29.3**	**-0.1**
	baz=26,SNR=9.6						
AS31	**Alice Springs**	**26.50**	**226**	*e*P	**P**	**08 59 35.8**	**-0.2**
AS31				*e*PcP	**PcP**	**09 02 59.4**	**-0.1**
ASAR	**Alice Springs**	**26.50**	**226**	P	**P**	**08 59 35.9**	**-0.1**
ASAR				PcP	**PcP**	**09 02 59.5**	**0.0**
ASAR				PKiKP	**PKiKP**	**09 10 36.5**	**-1.9**
ASAR				*e*		09 32 15.7	
ASAR	**Alice Springs**	**26.50**	**226**	P	**P**	**08 59 35.9**	**-0.1**
	comp=Z,58nm,0.8s,baz=63,slow=8.4,SNR=479						
ASAR				PcP	**PcP**	**09 02 59.5**	**0.0**
	comp=Z,38nm,0.7s,baz=65,slow=2.6,SNR=12						
ASAR				LR	LR	09 09 45.1	
	comp=Z,15μm,21.6s,baz=141,slow=36						
ASAR				PKiKP	**PKiKP**	**09 10 36.5**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=79,slow=0.9,SNR=4.5						
ASAR				P3KPbc		09 32 15.7	
	comp=Z,0.3nm,0.6s,baz=227,slow=3.4,SNR=7.6						
ASPA	**Alice Springs**	**26.50**	**226**	⇑P	**P**	**08 59 36.2**	**+0.1**
	baz=27						
CMSA	**Cobar Meteorol**	**26.75**	**197**	P	**P**	**08 59 37.8**	**-0.3**
	baz=27,SNR=59						
KNRA	**Kununurra**	**27.02**	**247**	P	**P**	**08 59 40.6**	**0.0**
	baz=27,SNR=12						
H11S3	**WAKE ISLAND Hy**	**27.11**	**26**	T	T	09 27 42.0	
	SNR=955						
H11S2	**WAKE ISLAND Hy**	**27.11**	**26**	T	T	09 28 17.8	
	baz=206,slow=75,SNR=1880						
H11S1	**WAKE ISLAND Hy**	**27.13**	**26**	T	T	09 28 20.4	
	baz=125,slow=75,SNR=171						
NLAI	**Namlea**	**27.43**	**274**	P	**P**	**08 59 46.8**	**+2.4**
	comp=Z,329nm,1.0s,comp=Z,4μmcomp=Z,13μm						
LBMI	**Labuha**	**27.45**	**280**	P	**P**	**08 59 48.4**	**+3.8**
	comp=Z,427nm,1.7s,comp=Z,5μm						
WAKE	**Wake Island**	**27.80**	**25**	PFAKE		09 00 00.0	+12
WAKE				LR	LR		
	comp=Z,16μm,22.0s						
H11N1	**WAKE ISLAND Hy**	**28.28**	**25**	T	T	09 29 49.1	
	SNR=138						
H11N3	**WAKE ISLAND Hy**	**28.29**	**25**	T	T	09 29 39.2	
	SNR=146						
H11N2	**WAKE ISLAND Hy**	**28.30**	**25**	T	T	09 30 02.4	
	SNR=87						
STKA	**Stephens Creek**	**28.

SNR=8.9
KAPI Kappang 34.59 270 *e*P **P 09 00 47.8 +0.4**
comp=Z,706nm,1.1s
KAPI *e*S **S 09 06 07.9 -4.0**
KAPI LR LR
comp=Z,2µm,22.0s
KAPI Kappang 34.59 270 P **P 09 00 47.0 -0.4**
comp=Z,566nm,0.8s,SNR=7.4
RAO Raoul Island 34.87 135 LR LR 09 10 51.2
comp=Z,1µm,21.6s,baz=307,slow=29
CBIJ Chichi jima 34.95 341 *e*P **P 09 00 49.0 -1.3**
comp=Z,104nm,0.5s
FORT Forrest 35.01 222 *e*P **P 09 00 50.3 -0.5**
comp=Z,184nm,0.6s
FORT Forrest 35.01 222 P **P 09 00 50.4 -0.5**
baz=35,SNR=30
RCP Roxas 36.06 299⇑ *e*P **P 09 01 01.0 +1.0**
MBWA Marble Bar 36.89 242 P **P 09 01 06.7 -0.4**
SNR=11
MBWA Marble Bar 36.89 242 *e*P **P 09 01 05.9 -1.2**
comp=Z,129nm,1.2s
MBWA *e*PcP **PcP 09 03 27.6 0.0**
MBWA LR LR
comp=Z,11µm,21.0s
MOO Moorlands 36.91 189 P **P 09 01 08.1 +1.2**
baz=37,SNR=25
TAU Tasmania Unive 37.34 189 *e*P **P 09 01 11.7 +1.1**
TAU *e* 09 03 29.0
TAU MLR MLR
comp=Z,5µm,21.0s
TAU Tasmania Unive 37.34 189 *e*P **P 09 01 11.7 +1.1**
TAU *e*PcP **PcP 09 03 29.0 +0.6**
TAU LR LR
comp=Z,5µm,21.0s
TAU Tasmania Unive 37.34 189 P **P 09 01 11.0 +0.4**
comp=Z,1µm,0.8s,SNR=24
TSM Tawau 37.95 285 P **P 09 01 16.9 +0.7**
URZ Urewera 38.15 151 *e*P **P 09 01 17.9 +0.5**
comp=Z,248nm,0.7s
URZ Urewera 38.15 151 P **P 09 01 17.4 -0.1**
comp=Z,130nm,0.6s,baz=319,slow=2.6,SNR=74
URZ LR LR 09 14 58.0
comp=Z,2µm,21.4s,baz=117,slow=33
BKZ Black Stump Fm 38.58 152 *e*P **P 09 01 21.1 0.0**
comp=Z,133nm,0.7s
SDKM Sandakan 38.97 287 P **P 09 01 23.6 -1.2**
SNZO South Karori 39.56 156 PFAKE 09 01 40.0 +11
SNZO LR LR
comp=Z,3µm,19.0s
KMBL Kambalda 39.63 226 P **P 09 01 29.8 -0.2**
baz=40,SNR=30
BFZ Birch Farm 39.69 154 *e*P **P 09 01 29.8 -0.5**
comp=Z,126nm,0.7s
KDM Kudat 39.69 288 P **P 09 01 29.3 -1.4**
MEEK Meekatharra 39.88 235 P **P 09 01 32.0 -0.2**
baz=40,SNR=128
RPZ Rata Peaks 40.34 161 *e*P **P 09 01 35.1 -0.5**
comp=Z,266nm,0.8s
RPZ Rata Peaks 40.34 161 P **P 09 01 35.4 -0.2**
comp=Z,252nm,0.7s,baz=297,slow=1.0,SNR=61
RPZ LR LR 09 16 14.3
comp=Z,4µm,18.9s,baz=325,slow=33
DCZ Deep Cove 40.88 166 *e*P **P 09 01 39.9 -0.1**
comp=Z,36nm,0.7s
ODZ Otahua Downs 41.41 163 *e*P **P 09 01 43.3 -1.1**
comp=Z,48nm,0.8s
WHZ Wether Hill Ro 41.47 166 *e*P **P 09 01 44.1 -0.8**
GIRL Giralia 42.20 243 P **P 09 01 51.7 +0.5**
baz=42,SNR=10
BTM Bintulu 42.34 281 P **P 09 01 54.6 +2.1**
KLBR Kellerberrin 42.78 229 P **P 09 01 54.9 -0.9**
baz=43,SNR=114
MORW Morawa 42.97 233 P **P 09 01 56.8 -0.5**
baz=43,SNR=54
SBUM Sibu 43.03 280 P **P 09 01 59.8 +1.8**
SBUM Sibu 43.03 280 *e*P **P 09 01 59.6 +1.6**
comp=Z,274nm,1.3s
YOJ Yonaguni jima 43.06 316 *e*P **P 09 02 00.1 +2.0**
YOJ Yonaguni jima 43.06 316 *e*P **P 09 02 00.1 +2.0**
BLDU Ballidu 43.12 231 P **P 09 01 57.8 -0.7**
baz=43,SNR=63
MIDW Midway 43.49 37 *e*P **P 09 02 03.7 +2.3**
comp=Z,166nm,0.6s
MIDW LR LR
comp=Z,10µm,21.0s
UGM Wanagama 43.67 265 P **P 09 02 03.5 +0.2**
baz=44,SNR=3.4
NWAO Narrogin (SRO) 43.81 227 P **P 09 02 03.7 -0.4**
NWAO Narrogin (SRO) 43.81 227 P **P 09 02 03.7 -0.4**
comp=Z,32nm,0.6s,baz=63,slow=6.9,SNR=15
NWAO LR LR 09 20 16.8
comp=Z,13µm,21.4s,baz=227,slow=36
TATO Taipei 44.45 315 *e*P **P 09 02 10.2 +1.0**
TATO LR LR
comp=Z,3µm,21.0s
KSM Kuching 44.73 278 P **P 09 02 12.9 +1.2**
KSM Kuching 44.73 278 *e*P **P 09 02 12.5 +0.8**
KSM LR LR
comp=Z,2µm,20.0s
KSM Kuching 44.73 278 P **P 09 02 12.4 +0.8**
baz=45,SNR=72
RKGY Rocky Gully 44.84 225 P **P 09 02 12.9 +0.6**
baz=45,SNR=30
JNU Nakatsue 44.86 332 *e*P **P 09 02 12.8 +0.3**
comp=Z,68nm,0.9s
MJAR Matsushiro Arr 44.94 341 P **P 09 02 12.5 -0.6**
MJAR Matsushiro Arr 44.94 341 P **P 09 02 12.5 -0.6**
comp=Z,10nm,0.5s,baz=166,slow=7.0,SNR=27
MJAR LR LR 09 20 29.5
comp=Z,607nm,19.5s,baz=170,slow=35
MAJO Matsushiro 44.94 341⇑ *i*P **P 09 02 12.5 -0.5**
MAJO pmax pmax
comp=Z,104nm,0.5s
MAJO Matsushiro 44.94 341 *e*P **P 09 02 12.8 -0.2**
comp=Z,31nm,0.5s
MAJO LR LR
comp=Z,1µm,22.0s
CISI Cisompet, Garu 46.36 265 *e*P **P 09 02 24.1 -0.6**
comp=Z,2µm,2.0s
CISI Cisompet, Garu 46.36 265⇑ P **P 09 02 23.7 -1.0**
baz=46
QZH Quanzhou 46.51 313⇑ *i*P **P 09 02 22.4 -3.1**
QZH pP pP 09 02 37.0 -6.1
QZH S **S 09 09 05.1 -3.9**
QZH pmax pmax
comp=Z,370nm,0.6s
QZH pmax pmax
comp=Z,2µm,4.4s
QZH LR LR
comp=Z,2µm,11.9s
QZH LR LR
comp=Z,2µm,12.8s
QZH LR LR
comp=Z,4µm,21.6s
LEM Lembang 46.58 266 P **P 09 02 27.8 +1.3**
baz=47,SNR=4.7
RAR Rarotonga 46.78 114 PFAKE 09 02 40.0 +12
RAR LR LR
comp=Z,3µm,21.0s
XMIS Christmas Isla 48.51 261 *e*P **P 09 02 41.6 +0.3**
XMIS *e*PcP **PcP 09 04 07.6 +1.2**
XMIS Christmas Isla 48.51 261 P **P 09 02 41.6 +0.3**
baz=49,SNR=5.8
XMAS Kiritimati 48.65 82 *e*P **P 09 02 44.5 +2.2**
comp=Z,145nm,0.7s
XMAS LR LR
comp=Z,9µm,20.0s
SSE Sheshan 48.69 321 P **P 09 02 41.6 -0.7**
SSE pP **pP 09 02 56.8 -3.2**
SSE S **S 09 09 39.8 +0.1**
SSE sS **sS 09 10 05.6 -4.2**
SSE pmax pmax
comp=Z,26nm,0.8s
SSE pmax pmax
comp=Z,630nm,7.2s
SSE LR LR
comp=Z,2µm,24.5s
SSE LR LR
comp=Z,1µm,24.5s
ERM Erimo 48.85 349⇓ *e*P **P 09 02 43.3 0.0**
ERM pmax pmax
comp=Z,75nm,1.7s
ERM Erimo 48.85 349 PFAKE 09 03 00.0 +17
ERM LR LR
comp=Z,3µm,19.0s
GZH Guangzhou 49.49 307 P **P 09 02 50.6 +2.0**
GZH S **S 09 09 56.4 +5.2**
GZH pmax pmax
comp=Z,2µm,6.9s
GZH LR LR
comp=Z,3µm,22.6s
GZH LR LR
comp=Z,6µm,22.5s
GZH LR LR
comp=Z,8µm,25.1s
KSRS Korea Array 49.79 332 P **P 09 02 50.5 -0.1**
comp=Z,30nm,0.7s,baz=145,slow=7.1,SNR=46
KSRS PcP **PcP 09 04 12.9 +2.4**
comp=Z,8.3nm,0.6s,baz=148,slow=4.9,SNR=7.5
KSRS LR LR 09 23 21.1
comp=Z,755nm,18.4s,baz=150,slow=35
KSAR Wonju Array Be 49.80 332 P **P 09 02 50.5 -0.2**
KSAR PcP **PcP 09 04 12.9 +2.4**
YUK Yuzh-Kuril'sk 50.37 352⇑ *i*P P 09 02 48.9 -5.9
YUK *i*S **S 09 10 01.9 -0.8**
YUK *i*SSS SSS 09 15 07.6
INCN Inchon 50.42 331 P **P 09 02 55.9 +0.5**
SNR=7.0
INCN Inchon 50.42 331 *e*P **P 09 02 55.8 +0.3**
comp=Z,202nm,0.7s
INCN LR LR
comp=Z,1µm,21.0s
QIZ Qiongzhong 50.50 301 P **P 09 02 57.6 +1.2**
QIZ pP **pP 09 03 14.8 +0.7**
QIZ S **S 09 10 06.0 +0.5**
QIZ sS **sS 09 10 37.1 +1.4**
QIZ pmax pmax
comp=Z,47nm,1.4s
QIZ pmax pmax
comp=Z,1µm,11.3s
QIZ LR LR
comp=Z,2µm,20.3s
QIZ LR LR
comp=Z,1µm,21.7s
QIZ LR LR
comp=Z,4µm,21.2s
QIZ Qiongzhong 50.50 301 *e*P **P 09 02 57.5 +1.2**
comp=Z,194nm,1.5s
QIZ LR LR
comp=Z,4µm,21.0s
NJ2 Nanjing 50.80 320 *e*P **P 09 02 59.3 +1.0**
NJ2 pP **pP 09 03 15.1 -1.0**
NJ2 sP **sP 09 03 22.8 -1.3**
NJ2 PP **PP 09 04 58.5 +3.2**
NJ2 S **S 09 10 11.0 +1.8**
NJ2 sS **sS 09 10 42.0 +2.6**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 pmax pmax
comp=Z,1µm,5.6s
NJ2 LR LR
comp=Z,3µm,29.2s
NJ2 LR LR
comp=Z,3µm,33.1s
NJ2 LR LR
comp=Z,4µm,25.4s
MYKOM Kota Tinggi 51.15 277 P **P 09 03 02.2 +0.9**
BTDF Bukit Timah Da 51.16 277 P **P 09 03 02.8 +1.5**
baz=51,SNR=4.7
BTDF P **P 09 03 02.8 +1.5**
baz=51,SNR=4.7
KGM Kluang 51.71 277 P **P 09 03 06.3 +0.8**
KTGM Kuala Trenggan 52.48 281 P **P 09 03 11.8 +0.6**
UBPT Khong Chiam 52.95 294 P **P 09 03 16.4 +1.8**
comp=Z,87nm,1.5s,comp=Z,5µm
FRIM Kepong 53.58 278 P **P 09 03 19.6 +0.3**
YSS Yuzh-Sakhalins 53.70 350‖ *e*P **P 09 03 20.2 +0.7**
YSS *e* 09 03 32.0
YSS *e*PPP PPP 09 06 31.0
YSS *e*S **S 09 10 46.9 -2.3**
YSS *e*PS **PKiKP 09 10 57.0 -4.0**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=N,1µm,19.0s
YSS MLR MLR
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 53.70 350 *e*P **P 09 03 21.2 +1.7**
comp=Z,48nm,0.8s
YSS LR LR
comp=Z,1µm,22.0s
BKNI Bangkinang 53.72 275⇑ P **P 09 03 20.2 -0.1**
baz=54,SNR=3.7
USRK Ussuriysk Arra 53.89 340 P **P 09 03 20.9 -0.1**
comp=Z,21nm,0.5s,baz=138,slow=5.9,SNR=36
USRK LR LR 09 23 00.8
comp=Z,1µm,21.8s,baz=145,slow=32
KIP Kipapa 53.93 58 PFAKE 09 03 30.0 +8.3
KIP LR LR
comp=Z,4µm,21.0s
DL2 Dalian 54.03 328⇑ P **P 09 03 22.3 +0.2**
DL2 pP **pP 09 03 37.3 -2.7**
DL2 S **S 09 10 52.4 -0.6**
DL2 pmax pmax
comp=Z,120nm,0.9s
DL2 pmax pmax
comp=Z,500nm,9.3s
DL2 LR LR
comp=Z,580nm,15.6s
DL2 LR LR
comp=Z,620nm,19.6s
DL2 LR LR
comp=Z,1µm,25.5s
PPI Padang Panjang 54.26 274 P **P 09 03 23.6 -0.7**
baz=54,SNR=7.2
IPM Ipoh 54.38 280 P **P 09 03 25.4 +0.2**
TIA Tai'an 54.64 323⇑ P **P 09 03 25.9 -0.7**
TIA S **S 09 11 04.3 +2.8**
TIA pmax pmax
comp=Z,800nm,7.1s
TIA LR LR
comp=Z,1µm,17.6s
TIA LR LR
comp=Z,960nm,22.5s
TIA LR LR
comp=Z,3µm,21.6s
KULM Kulim 54.90 281 P **P 09 03 29.2 +0.3**
KULM Kulim 54.90 281 PFAKE 09 03 40.0 +11
KULM LR LR
comp=Z,2µm,22.0s
CHBT CHBT 55.06 290 P **P 09 03 30.8 +0.8**
comp=Z,95nm,1.0s
MDJ Mudanjiang 55.10 338 P **P 09 03 29.5 -0.2**
MDJ pP **pP 09 03 47.3 -0.5**
MDJ sP **sP 09 03 55.4 -0.3**
MDJ PP **PP 09 05 32.3 -1.5**
MDJ S **S 09 11 02.3 -4.9**
MDJ sS **sS 09 11 34.3 -3.5**
MDJ ScS **ScS 09 13 08.4 -4.1**
MDJ SS **SS 09 14 52.0 -0.3**
MDJ pmax pmax
comp=Z,26nm,1.3s
MDJ pmax pmax
comp=Z,670nm,8.8s
MDJ LR LR
comp=Z,720nm,18.0s
MDJ LR LR
comp=Z,1µm,25.8s
MDJ LR LR
comp=Z,1µm,25.8s
MDJ Mudanjiang 55.10 338 *e*P **P 09 03 29.6 -0.2**
comp=Z,46nm,1.1s
MDJ LR LR
comp=Z,903nm,20.0s
SNY Shenyang 55.30 332⇑ P **P 09 03 29.0 -2.2**
SNY PP **PP 09 05 36.3 +0.7**
SNY S **S 09 11 08.1 -1.9**
SNY SS **SS 09 14 59.0 +3.5**
SNY pmax pmax
comp=Z,22nm,0.9s
SNY pmax pmax
comp=Z,560nm,10.2s
SNY LR LR
comp=Z,860nm,23.4s
SNY LR LR
comp=Z,1µm,24.6s
SNY LR LR
comp=Z,2µm,24.0s
POHA Pohakuloa 55.40 61 PFAKE 09 03 50.0 +17
POHA LR LR
comp=Z,5µm,22.0s
PPT Papeete 55.78 107 LR LR 09 22 59.0
comp=Z,664nm,21.9s,baz=100,slow=31
PPT2 Papeete2 55.78 107 *e*S **S 09 11 20.0 +2.6**
comp=Z,2µm,27.2s
PPT2 *e*LQ LQ 09 17 33.7
comp=Z,3µm,27.2s
PPT2 *e*LR LR 09 19 54.4
comp=Z,4µm,27.5s
TIAR Tiarei 55.99 107 *e*P **P 09 03 38.6 +1.8**
comp=Z,16nm,0.8s
CN2 Changchun 56.04 335⇑ P **P 09 03 36.6 0.0**
CN2 *e*sP **sP 09 04 01.6 -0.9**
CN2 *e*S **S 09 11 20.4 +0.5**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,2µm,22.0s
ENH Enshi 56.17 313 *e*P **P 09 03 38.0 +0.2**
comp=Z,38nm,0.6s
ENH LR LR
comp=Z,70nm,22.0s
CHAI Chaiyaphum 56.32 293 P **P 09 03 39.9 +0.8**
comp=Z,18nm,1.0s,comp=Z,183nm
GYA Guiyang 56.43 307⇑ *i*P **P 09 03 40.8 +1.0**
GYA pP **pP 09 04 01.3 +3.4**
GYA PcP **PcP 09 04 37.0 +0.9**
GYA PP **PP 09 05 50.5 +4.3**
GYA ScP **ScP 09 08 29.3 -0.2**
GYA S **S 09 11 23.3 -2.6**
GYA sS **sS 09 11 59.0 +2.5**
GYA SS **SS 09 15 15.8 +1.6**
GYA pmax pmax
comp=Z,50nm,1.1s
GYA pmax pmax
comp=Z,870nm,9.3s
GYA LR LR
comp=Z,1µm,20.7s
GYA LR LR
comp=Z,2µm,20.8s
GYA LR LR
comp=Z,3µm,22.3s
SKR Severo-Kuril's 56.43 1 *e*P P 09 03 33.0 -6.1
SKR *e* 09 05 42.0
SKR *e*PPP PPP 09 06 57.0
SKR *e*S **S 09 11 24.0 -0.7**
SKR *e*PS **PnS 09 11 42.0 -3.0**
SKR *e*SSS SSS 09 17 20.0
SKR pmax pmax
comp=Z,1µm,16.0s
SKR smax smax
comp=N,2µm,16.0s
SKR smax smax
comp=E,2µm,16.0s
SKR MLR MLR
comp=N,1µm,20.0s
SKR MLR MLR
comp=E,2µm,20.0s
SKR MLR MLR
comp=Z,2µm,20.0s
PATY Pattaya 56.48 290 P P 09 03 43.6 +3.4
comp=Z,27nm,1.0s
SLVN Son La 56.53 300 *e*P **P 09 03 41.4 +0.9**
TBI Tubuai 56.55 114 *e*S **S 09 11 29.7 +2.3**
comp=Z,1µm,32.0s
TBI *e*LQ LQ 09 17 52.2
comp=Z,3µm,44.0s
TBI *e*LR LR 09 20 17.7
comp=Z,13µm,30.2s
HABR Khabarovsk 56.82 345 *e*P **P 09 03 41.4 -0.6**
HABR *e**PP **pP 09 03 58.3 -1.8**
HABR *e* 09 04 35.1
HABR *e* 09 05 47.0
HABR *e*S **S 09 11 29.1 -0.9**
HABR *e* 09 13 23.0
HABR *e*SS **SS 09 15 17.8 -1.5**
HABR pmax pmax
comp=E,36nm,1.1s
HABR pmax pmax
comp=N,47nm,1.8s
HABR pmax pmax
comp=Z,152nm,1.7s
HABR MLR MLR
comp=Z,712nm,19.0s
COCO West Island 57.18 259 *e*P **P 09 03 47.1 +1.9**
COCO *e* 09 04 40.6
COCO pmax pmax
comp=Z,279nm,1.4s
COCO MLR MLR
comp=Z,1µm,21.0s
COCO West Island 57.18 259 *e*P **P 09 03 47.1 +1.9**
comp=Z,279nm,1.4s
COCO *e*PcP **PcP 09 04 40.6 +1.5**
COCO LR LR
comp=Z,1µm,21.0s
PMOR Pomariorio Ree 57.23 104 *e*P **P 09 03 47.3 +1.8**
comp=Z,61nm,0.8s
PBKT Sadao Pong 57.46 294 P **P 09 03 48.2 +1.1**
comp=Z,108nm,1.8s,comp=Z,3µm
SURT Suratani 57.46 285 P **P 09 03 47.9 +0.8**
comp=Z,46nm,1.5s,comp=Z,758nm
VAH Vaihoa 57.49 104 *e*P **P 09 03 48.9 +1.5**
comp=Z,42nm,0.9s
PKDT Phuket 57.67 283 P **P 09 03 49.7 +1.0**
comp=Z,159nm,1.2s,comp=Z,5µm
BJT Baijiatuau 57.77 326 *e*P **P 09 03 48.5 -0.3**
comp=Z,52nm,0.6s
BJT LR LR
comp=Z,1µm,21.0s
BJI Beijing 57.78 326 P **P 09 03 48.5 -0.4**
BJI S **S 09 11 39.1 -3.8**
BJI SS **SS 09 15 37.4 +2.6**
BJI pmax pmax
comp=Z,46nm,0.8s
BJI pmax pmax
comp=Z,790nm,5.4s
BJI LR LR
comp=Z,1µm,24.0s
BJI LR LR
comp=Z,2µm,24.8s
BJI LR LR
comp=Z,3µm,37.3s
KLR Kul'dur 58.43 343⇓ *i*P **P 09 03 50.5 -2.8**
KLR *e* 09 04 40.0
KLR *e*S **S 09 11 46.0 -5.1**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,160nm,1.6s
KLR pmax pmax
comp=Z,2µm,9.0s
KLR MLR MLR
comp=Z,2µm,12.5s
SRDT SRDT 58.50 291 P **P 09 03 56.3 +1.9**
comp=Z,452nm,1.0s
XAN Xi'an 58.61 316 P **P 09 03 54.9 -0.1**
XAN S **S 09 11 53.8 -0.3**
XAN SS **SS 09 15 53.3 +5.1**
XAN pmax pmax
comp=Z,39nm,0.6s
XAN pmax pmax
comp=Z,260nm,8.9s
XAN LR LR
comp=Z,1µm,23.4s
XAN LR LR
comp=Z,240nm,27.5s
XAN LR LR
comp=Z,770nm,31.2s
PET Petropavlovsk 58.86 3*c i*P **P 09 03 56.4 +0.2**
PET *e**PP **pP 09 04 14.0 -0.4**
PET *e* 09 04 41.5
PET *e*S **S 09 11 59.0 +2.5**
PET pmax pmax
comp=Z,900nm,5.4s
PET pmax pmax
comp=Z,700nm,14.5s
PET pmax pmax
comp=Z,62nm,0.6s
PET Petropavlovsk 58.86 3 *e*P **P 09 03 55.9 -0.2**
comp=Z,40nm,0.6s
PET LR LR
comp=Z,2µm,21.0s

PEA0B Petropavlovsk- 58.90 2 *e*P **P** **09 03 57.5 +1.1**
PETK Petropavlovsk- 58.90 2 P **P** **09 03 57.0 +0.5**
PETK Petropavlovsk- 58.90 2 P **P** **09 03 57.0 +0.5**
PETK Petropavlovsk- 58.90 2 P **P** **09 03 57.0 +0.5**
comp=Z,26nm,0.5s,baz=162,slow=8.4,SNR=43
PETK LR LR 09 25 26.2
comp=Z,2μm,21.4s,baz=178,slow=32
KMI Kunming 59.02 304 ⇑P **P** **09 03 59.8 +1.6**
KMI PcP **PcP** **09 04 48.3 +1.8**
KMI PP **PP** **09 06 13.9 +4.5**
KMI S **S** **09 11 59.9 -0.2**
KMI sS **sS** **09 12 33.1 +2.1**
KMI ScS **ScS** **09 13 39.8 -2.7**
KMI SS **SS** **09 15 55.0 -0.2**
KMI pmax pmax
comp=Z,180nm,1.2s
KMI pmax pmax
comp=Z,1μm,5.6s
KMI LR LR
comp=Z,990nm,18.0s
KMI LR LR
comp=Z,2μm,20.7s
KMI LR LR
comp=Z,3μm,22.7s
KHLT Khaolaem Dam 59.12 291 P **P** **09 04 00.0 +1.3**
comp=Z,57nm,1.1s,comp=Z,1μm
CRAI Chiangrai 59.20 298 P **P** **09 04 00.0 +0.8**
comp=Z,81nm,2.1s,comp=Z,5μm
LAMP Lampang 59.29 296 P **P** **09 04 01.0 +1.2**
comp=Z,40nm,0.8s,comp=Z,411nm
CM31 Chiang Mai Arr 59.89 295 *e*P **P** **09 04 05.0 +1.0**
comp=Z,138nm,1.1s
CMAR Chiang Mai Arr 59.89 295 P **P** **09 04 05.3 +1.3**
CMAR P'P' 09 33 31.9
CMAR Chiang Mai Arr 59.89 295 P **P** **09 04 05.3 +1.3**
comp=Z,37nm,0.7s,baz=118,slow=5.2,SNR=111
CMAR LR LR 09 30 12.9
comp=Z,1μm,20.0s,baz=118,slow=36
CMAR PKPPKP **P'P'df** **09 33 31.9 +0.7**
comp=Z,0.9nm,0.3s,baz=273,slow=3.5,SNR=4.8
CMMT Chiang Mai 60.00 296 P **P** **09 04 05.2 +0.5**
comp=Z,148nm,1.5s,comp=Z,2μm
CHTO Chiang Mai 60.00 296 *e*P **P** **09 04 05.5 +0.8**
CHTO pmax pmax
comp=Z,267nm,1.4s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 60.00 296 P **P** **09 04 06.0 +1.2**
SNR=54
CHTO Chiang Mai 60.00 296 *e*P **P** **09 04 05.5 +0.8**
comp=Z,267nm,1.4s
CHTO LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 60.00 296 P **P** **09 04 05.3 +0.6**
comp=Z,377nm,1.1s,comp=Z,10μm
CMAI Chiengmai2 60.27 297 P **P** **09 04 07.4 +0.6**
comp=Z,84nm,2.0s,comp=Z,2μm
MHMT Maesarieng 60.71 295 P **P** **09 04 10.6 +1.0**
comp=Z,69nm,1.7s,comp=Z,977nm
FX1 Attu Island--F 60.72 13 *e*P **P** **09 04 09.8 +0.9**
CD2 Chengdu 60.76 310 ⇑*i*P **P** **09 04 10.8 +1.0**
CD2 pP **pP** **09 04 28.5 +0.4**
CD2 sP **sP** **09 04 36.6 +0.7**
CD2 PcP **PcP** **09 04 53.5 +0.4**
CD2 PP **PP** **09 06 28.3 +3.8**
CD2 S **S** **09 12 22.1 +0.2**
CD2 sS **sS** **09 12 52.1 -0.8**
CD2 ScS SKKSac 09 13 52.1 -2.6
CD2 SS **SS** **09 16 23.6 +1.6**
CD2 pmax pmax
comp=Z,220nm,0.7s
CD2 pmax pmax
comp=Z,2μm,9.5s
CD2 LR LR
comp=Z,2μm,21.4s
CD2 LR LR
comp=Z,3μm,22.6s
CD2 LR LR
comp=Z,3μm,23.8s
SMY Shemya 60.79 14 *e*P **P** **09 04 11.1 +1.7**
SMY pmax pmax
comp=Z,187nm,0.6s
SMY Shemya 60.79 14 *e*P **P** **09 04 11.1 +1.7**
comp=Z,187nm,0.6s
HHC Hu-ho-hao-te 60.96 324 *e*P **P** **09 04 11.3 +0.3**
HHC pP **pP** **09 04 30.8 +1.5**
HHC PcP **PcP** **09 04 52.6 -1.2**
HHC PP **PP** **09 06 28.9 +2.7**
HHC ScP **ScP** **09 08 47.0 -2.3**
HHC S **S** **09 12 22.3 -1.9**
HHC sS **sS** **09 12 56.4 +1.1**
HHC ScS SKKSac 09 13 51.4 -4.6
HHC SS **SS** **09 16 26.0 +1.1**
HHC pmax pmax
comp=Z,97nm,1.1s
HHC pmax pmax
comp=Z,2μm,7.5s
HHC LR LR
comp=Z,2μm,16.7s
HHC LR LR
comp=Z,3μm,17.1s
HHC LR LR
comp=Z,4μm,17.0s
DRV Dumont d'Urvil 61.43 187 P P 09 04 04.0 -10
DRV Dumont d'Urvil 61.43 187 PP PP 09 06 22.0 -7.5
DRV S **S** **09 12 25.0 -4.1**
DRV SS **SS** **09 16 33.0 +2.1**
DRV L L 09 19 00.0
DRV R 09 23 00.0
BTO Baotou 61.73 323 *e*P **P** **09 04 15.4 -0.8**
HIA Hailar 62.77 335 *e*P **P** **09 04 23.0 +0.1**
comp=Z,97nm,0.6s
HIA LR LR
comp=Z,1μm,21.0s
LZH Lanzhou 63.23 315 ⇑P **P** **09 04 27.4 +1.0**
LZH pP **pP** **09 04 45.3 +0.6**
LZH sP **sP** **09 04 53.3 +0.7**
LZH PP **PP** **09 06 49.5 +3.2**
LZH S **S** **09 12 53.6 +0.6**
LZH sS **sS** **09 13 23.0 -1.2**
LZH SS **SS** **09 17 02.5 +1.8**
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,950nm,7.7s
LZH LR LR
comp=Z,2μm,16.0s
LZH LR LR
comp=Z,1μm,15.0s
LZH LR LR
comp=Z,2μm,18.5s
DGPR DIGLIPUR 64.02 288 *e*P **P** **09 04 29.4 -2.4**
DGPR AMB AMB 09 04 30.2
comp=Z,75nm,5.2s
IMP Imphal 66.33 300 *ex* **P** **09 04 45.0 -1.7**
IMP *ex* x 09 05 02.0
CLNS Chul'man 67.09 343 *e*P **P** **09 04 51.8 +1.0**
CLNS pmax pmax
comp=N,34nm,0.8s
CLNS pmax pmax
comp=Z,88nm,0.8s
CLNS pmax pmax
comp=E,22nm,0.9s
CASY Casey 67.42 198 *e*P **P** **09 04 52.2 -0.5**
comp=E,34nm,0.8s
CASY LR LR
comp=Z,5μm,22.0s
GTA Gaotai 67.64 317 ⇑P **P** **09 04 55.6 +0.8**
GTA pP **pP** **09 05 15.0 +1.7**
GTA S **S** **09 13 45.1 -1.7**
GTA sS **sS** **09 14 18.3 -0.1**
GTA pmax pmax
comp=Z,39nm,1.1s
GTA pmax pmax
comp=Z,900nm,8.3s
GTA LR LR
comp=Z,770nm,21.6s
GTA LR LR
comp=Z,940nm,23.5s
GTA LR LR
comp=Z,2μm,27.6s
ULN Ulaanbaatar 67.86 328 P **P** **09 04 56.8 +0.8**
SNR=36
ULN Ulaanbaatar 67.86 328 PFAKE 09 05 10.0 +14
ULN LR LR
comp=Z,2μm,22.0s
UNV Unalaska Valle 67.98 24 *e*P **P** **09 04 56.1 -0.3**
comp=Z,58nm,0.7s
SONM Songino Array 68.20 327 P **P** **09 04 58.4 +0.4**
SONM S **S** **09 13 55.6 +2.5**
SONM ⇑*e* 09 33 17.2
SONM Songino Array 68.20 327 P **P** **09 04 58.4 +0.4**
comp=Z,41nm,0.5s,baz=144,slow=5.6,SNR=111
SONM S **S** **09 13 55.6 +2.5**
comp=Z,0.4nm,0.6s,baz=124,slow=3.1,SNR=2.1
SONM PKP2bc 09 33 17.2
comp=Z,1.6nm,1.0s,baz=298,slow=2.7,SNR=6.8
SONM LR LR 09 36 32.0
comp=Z,1μm,18.7s,baz=140,slow=37
SHL Shillong 68.34 300 *e*P **P** **09 04 59.8 +0.3**
SHL AMB AMB 09 05 01.4
comp=Z,161nm,0.9s
SHL *i* x x 09 13 55.0
AKUT Akutan 68.48 24 *e*P **P** **09 05 01.1 +1.6**
comp=Z,93nm,0.7s
SEY Seymchan 68.71 359 *e*P **P** **09 05 00.9 +0.1**
RKT Rikitea 69.80 112 *e*S **S** **09 14 15.4 +2.7**
comp=Z,785nm,26.5s
RKT Rikitea 69.80 112 *e*LR LR 09 26 28.4
comp=Z,6μm,31.8s
FALS False Pass 69.96 24 *e*P **P** **09 05 09.9 +1.3**
comp=Z,90nm,0.7s
LSA Lhasa 70.28 304 P **P** **09 05 12.5 +0.7**
LSA S **S** **09 14 13.3 -5.7**
LSA LR LR
comp=Z,480nm,26.9s
LSA LR LR
comp=Z,2μm,28.6s
LSA LR LR
comp=Z,3μm,26.9s
LSA Lhasa 70.28 304 *e*P **P** **09 05 12.4 +0.7**
LSA pmax pmax
comp=Z,64nm,0.6s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 70.28 304 *e*P **P** **09 05 12.4 +0.7**
comp=Z,64nm,0.6s
LSA LR LR
comp=Z,2μm,22.0s
YAK Yakutsk 70.44 348 *e*P **P** **09 05 11.2 -0.2**
YAK *e**PP **pP** **09 05 28.1 -2.0**
YAK *e* 09 05 33.3
YAK *e* 09 07 47.9
YAK *e*S **S** **09 14 22.7 +4.0**
YAK *e**SS **sS** **09 14 51.2 +0.8**
YAK *e* 09 15 01.3
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,101nm,0.9s
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.4s
YAK smax smax
comp=N,190nm,2.8s
YAK smax smax
comp=E,113nm,2.2s
YAK Yakutsk 70.44 348 *e*P **P** **09 05 11.6 +0.2**
comp=E,102nm,0.8s
YAK LR LR
comp=Z,1μm,22.0s
ZAK Zakamensk 71.35 328 *e*P **P** **09 05 17.0 -0.4**
ZAK *e* 09 14 35.4
ZAK pmax pmax
comp=Z,67nm,1.0s
SDPT Sand Point 71.53 25 *e*P **P** **09 05 19.3 +1.2**
comp=Z,98nm,0.6s
VNDA Vanda 71.63 178 P **P** **09 05 18.6 +0.2**
VNDA Vanda 71.63 178 P **P** **09 05 18.6 +0.2**
comp=Z,34nm,0.9s,baz=327,slow=6.4,SNR=93
TLY Talaya 71.92 329 P **P** **09 05 20.5 -0.1**
comp=Z,225nm,0.9s,SNR=6.1
TLY Talaya 71.92 329 *e*P **P** **09 05 20.6 -0.1**
TLY *e*S **S** **09 14 30.5 -5.8**
TLY *e* 09 15 20.0
TLY *e*SS **SS** **09 19 08.9 -5.4**
TLY pmax pmax
comp=Z,36nm,0.9s
TLY MLR MLR
comp=Z,685nm,18.0s
TLY Talaya 71.92 329 P **P** **09 05 21.2 +0.6**
SNR=7.1
TLY Talaya 71.92 329 *e*P **P** **09 05 20.7 +0.1**
comp=Z,37nm,0.9s
TLY LR LR
comp=Z,815nm,20.0s
IRK Irkutsk 71.94 330 *e*P **P** **09 05 19.8 -0.9**
IRK *e*S **S** **09 14 41.6 +5.2**
IRK pmax pmax
comp=Z,80nm,1.0s
SBA Scott Base 72.14 177 *e*P **P** **09 05 22.8 +1.3**
SBA pmax pmax
comp=Z,167nm,1.5s
SBA MLR MLR
comp=Z,791nm,22.0s
SBA Scott Base 72.14 177 *e*P **P** **09 05 22.8 +1.3**
comp=Z,167nm,1.5s
SBA LR LR
comp=Z,791nm,22.0s
BWNR Bhubaneshwar 72.31 293 *ex* P 09 05 14.0 -10
TAPN Taplejung 72.44 301 *e*P **P** **09 05 24.9 +0.3**
comp=Z,301nm,0.9s
TAPN Taplejung 72.44 301 *e*P **P** **09 05 24.9 +0.3**
comp=Z,301nm,0.9s
ODAN Odare 72.58 300 *e*P **P** **09 05 25.8 +0.4**
comp=Z,353nm,0.6s
ODAN Odare 72.58 300 *e*P **P** **09 05 25.8 +0.4**
comp=Z,353nm,0.6s
BOK Bokaro 73.08 297 *e*P **P** **09 05 26.2 -1.9**
BOK AMB AMB 09 05 28.3
comp=Z,152nm,2.1s
MOY Mondy 73.27 328 *e*P **P** **09 05 28.7 -0.1**
MOY pmax pmax
comp=Z,52nm,1.9s
RAMN Ramite 73.28 300 *e*P **P** **09 05 29.7 +0.2**
comp=Z,119nm,0.6s
RAMN Ramite 73.28 300 *e*P **P** **09 05 29.7 +0.2**
comp=Z,119nm,0.6s
MIR Mirnyy 73.47 202 ⇑*i*P **P** **09 05 30.0 +0.5**
MIR pmax pmax
comp=Z,239nm,1.5s
MIR pmax pmax
comp=Z,2μm,6.0s
JIRN Jiri 73.82 301 *e*P **P** **09 05 33.2 +0.3**
comp=Z,205nm,0.7s
JIRN Jiri 73.82 301 *e*P **P** **09 05 33.2 +0.3**
comp=Z,205nm,0.7s
VIS Vishakhapatnam 74.04 290 *e*P **P** **09 05 32.4 -1.4**
VIS AMB AMB 09 05 36.5
comp=Z,149nm,1.6s
GAMB Gambell 74.05 15 *e*P **P** **09 05 34.8 +1.9**
comp=Z,24nm,0.7s
GUN Gumba 74.15 301 *e*P **P** **09 05 35.1 +0.3**
comp=Z,270nm,0.7s
GUN Gumba 74.15 301 *e*P **P** **09 05 35.1 +0.3**
comp=Z,270nm,0.7s
PKI Pulchoki 74.47 301 *e*P **P** **09 05 36.6 0.0**
PKI Pulchoki 74.47 301 *e*P **P** **09 05 36.6 0.0**
PKI Pulchoki 74.47 301 *e*P **P** **09 05 36.6 0.0**
PKIN Phulchoki 74.48 301 *e*P **P** **09 05 36.5 -0.1**
KKN Kakani 74.63 301 *e*P **P** **09 05 37.4 0.0**
KKN Kakani 74.63 301 *e*P **P** **09 05 37.4 0.0**
KKN Kakani 74.63 301 *e*P **P** **09 05 37.4 0.0**
DMN Daman 74.73 301 *e*P **P** **09 05 38.4 +0.4**
comp=Z,162nm,0.5s
DMN Daman 74.73 301 *e*P **P** **09 05 38.4 +0.4**
comp=Z,162nm,0.5s
GKN Gorkha 75.24 301 *e*P **P** **09 05 40.9 +0.1**
comp=Z,167nm,0.7s
GKN Gorkha 75.24 301 *e*P **P** **09 05 40.9 +0.1**
comp=Z,167nm,0.7s
OHAK Old Harbor 75.82 26 *e*P **P** **09 05 42.6 -0.6**
comp=Z,93nm,0.6s
KOLN Koldanda 76.07 300 *e*P **P** **09 05 45.5 -0.1**
comp=Z,209nm,0.6s
KOLN Koldanda 76.07 300 *e*P **P** **09 05 45.5 -0.1**
comp=Z,209nm,0.6s
DANN Dangsing 76.08 301 *e*P **P** **09 05 45.5 -0.3**
comp=Z,127nm,0.6s
DANN Dangsing 76.08 301 *e*P **P** **09 05 45.5 -0.3**
comp=Z,127nm,0.6s
TNA Tin City 76.46 15 *e*P **P** **09 05 46.7 0.0**
comp=Z,26nm,0.7s
KDAK Kodiak Island 76.46 26 *e*P **P** **09 05 48.3 +1.5**
comp=Z,65nm,0.8s
KDAK *e*PP **PP** **09 08 41.2 +1.6**
KDAK LR LR
comp=Z,4μm,22.0s
KDAK Kodiak Island 76.46 26 P **P** **09 05 49.0 +2.2**
comp=Z,560nm,0.7s,SNR=19
PYUN Piuthan 76.67 301 *e*P **P** **09 05 48.6 -0.4**
PYUN Piuthan 76.67 301 *e*P **P** **09 05 48.6 -0.4**
HVS Khovu-Aksy 76.95 326*c i*P **P** **09 05 49.5 -0.4**
HVS pmax pmax
comp=Z,194nm,1.0s
HVS MLR MLR
comp=Z,7μm,22.0s
ALBI Allahabad 77.05 298 *e*P P 09 05 47.5 -3.4
WMQ Urumqi 77.73 317 P **P** **09 05 54.0 -0.4**
WMQ pP **pP** **09 06 11.0 -2.4**
WMQ sP **sP** **09 06 18.0 -3.1**
WMQ PP **PP** **09 08 53.0 +2.3**
WMQ S **S** **09 15 41.0 -0.4**
WMQ SKS **SKSac** **09 15 56.0 -6.1**
WMQ sS **ScS** **09 16 09.0 +1.5**
WMQ pmax pmax
comp=Z,38nm,1.2s
WMQ pmax pmax
comp=Z,930nm,6.0s
WMQ LR LR
comp=Z,1μm,20.0s
WMQ LR LR
comp=Z,890nm,18.0s
WMQ LR LR
comp=Z,1μm,18.0s
RSO Redoubt South 77.95 24 *e*P **P** **09 05 56.4 +0.9**
comp=Z,91nm,0.8s
JBP Jabalpur 78.22 295 ⇑*i*P **P** **09 05 57.6 +0.1**
JBP *i* x x 09 05 59.6
comp=Z,147nm,1.5s
JBP *ex* x 09 06 10.5
HYB Hyderabad 78.46 289 ⇑*i*P **P** **09 05 58.0 -1.0**
comp=Z,71nm,0.5s
HYB *e*S **S** **09 15 52.0 +1.9**
HYB Hyderabad 78.46 289 *e*P **P** **09 05 57.8 -1.2**
HYB AMB AMB 09 06 00.4
comp=Z,114nm,0.8s
TRD Trivandrum 78.62 280 ⇑*e*P P 09 05 56.7 -3.2
TRD ⇑*e*P **P** **09 06 00.6 +0.7**
TRD AMB AMB 09 06 00.9
comp=Z,90nm,7.8s
NGP Nagpur 78.67 293 *e*P **P** **09 05 59.0 -1.0**
NGP AMB AMB 09 05 59.8
comp=Z,120nm,1.5s
NGP *ex* x 09 06 23.1
NGP *ex* x 09 06 37.2
comp=N,15nm,0.4s
SEW Seward 79.11 25 *e*P **P** **09 06 01.9 +0.3**
comp=N,74nm,0.6s
TIXI Tiksi 79.26 352*c e*P **P** **09 06 01.0 -1.2**
TIXI pmax pmax
comp=Z,30nm,1.7s
TIXI Tiksi 79.26 352 *e*P **P** **09 06 03.1 +1.0**
comp=Z,8.7nm,0.6s
TIXI LR LR
comp=Z,883nm,20.0s
LGTI Lohaghat 79.33 301 *e*P **P** **09 06 04.6 +1.2**
RC01 Rabbit Creek A 79.53 24 *e*P **P** **09 06 03.4 -0.5**
comp=Z,79nm,0.6s
PPLA Purkeypile 79.60 22 *e*P **P** **09 06 03.4 -1.0**
comp=Z,24nm,0.6s
PMR Palmer 80.05 24 *e*P **P** **09 06 06.0 -0.6**
PMR pmax pmax
comp=Z,51nm,0.8s
PMR Palmer 80.05 24 *e*P **P** **09 06 06.0 -0.6**
comp=Z,51nm,0.8s
BHPL Bhopal 80.54 295 *e*P **P** **09 06 09.5 -0.7**
BHPL AMB AMB 09 06 10.3
comp=Z,94nm,1.6s
TRF Thorofare Moun 80.63 22 *e*P **P** **09 06 08.6 -1.4**
comp=Z,78nm,0.7s
IM04 Indian Mountai 80.90 19 *e*P **P** **09 06 11.1 -0.1**
DIV Divide 81.19 25 *e*P **P** **09 06 14.3 +1.5**
comp=Z,104nm,0.6s
MCK McKinley 81.29 22 *e*P **P** **09 06 12.3 -1.0**
MCK pmax pmax
comp=Z,91nm,0.6s
MCK McKinley 81.29 22 *e*P **P** **09 06 12.3 -1.0**
comp=Z,91nm,0.6s
DDI Dehra Dun 81.38 302 AMB AMB 09 06 13.2
comp=Z,67nm,6.2s
DDI *e*P **P** **09 06 15.2 +0.7**
DGAR Diego Garcia 81.38 263 *e*P **P** **09 06 13.9 -0.9**
DGAR pmax pmax
comp=Z,151nm,0.9s
DGAR MLR MLR
comp=Z,2μm,22.0s
DGAR Diego Garcia 81.38 263 *e*P **P** **09 06 13.9 -0.9**
comp=Z,152nm,0.9s
DGAR LR LR
comp=Z,2μm,22.0s
NDI New Delhi 81.76 300 *ex* **P** **09 06 14.0 -2.5**
PAF Port-aux-Franc 81.79 221 PFAKE 09 06 30.0 +14
PAF LR LR
comp=Z,2μm,21.0s
PAX Paxson 82.23 24 *e*P **P** **09 06 18.3 0.0**
PAX pmax pmax
comp=Z,21nm,0.6s
PAX Paxson 82.23 24 *e*P **P** **09 06 18.3 0.0**
comp=Z,21nm,0.6s
SMLA Simla 82.29 302 *e*P **P** **09 06 18.7 -0.5**
SMLA AMB AMB 09 06 19.2
comp=Z,58nm,1.8s
MK31 Makanchi Array 82.30 319 *e*P **P** **09 06 18.5 -0.5**
MK31 Makanchi Array 82.30 319 *e*P **P** **09 06 18.5 -0.5**
MKAR Makanchi Array 82.30 319 P **P** **09 06 18.5 -0.5**
MKAR S **S** **09 16 29.6 +0.4**
MKAR Makanchi Array 82.30 319 P **P** **09 06 18.5 -0.5**
MKAR S **S** **09 16 29.6 +0.4**
MKAR PKKPbc **PKKPbc** **09 24 47.0 -1.3**
MKAR P'P' 09 32 56.8
MKAR Makanchi Array 82.30 319 P **P** **09 06 18.5 -0.5**
comp=Z,14nm,0.5s,baz=95,slow=8.1,SNR=56
MKAR S **S** **09 16 29.6 +0.4**
comp=Z,0.6nm,0.9s,baz=203,slow=28,SNR=2.7
MKAR PKKPbc **PKKPbc** **09 24 47.0 -1.3**
comp=Z,1.1nm,0.9s,baz=263,slow=4.8,SNR=5.8
MKAR PKPPKP P'P'df 09 32 56.8 +5.8
comp=Z,0.7nm,0.8s,baz=242,slow=2.6,SNR=4.4
MKAR LR LR 09 43 11.6
comp=Z,751nm,20.6s,baz=118,slow=36
COLA College 82.30 21*c i*P **P** **09 06 17.6 -0.9**
COLA pmax pmax
comp=Z,364nm,0.6s
COLA MLR MLR
comp=Z,9μm,20.0s
COLA College 82.30 21 *e*P **P** **09 06 17.2 -1.3**
comp=Z,113nm,0.6s
COLA LR LR
comp=Z,3μm,22.0s
KAD Karad 82.56 288 *i*P **P** **09 06 20.0 -0.9**
ILAR Eielson Array 82.60 22 P **P** **09 06 18.4 -1.6**
ILAR S **S** **09 16 33.0 +1.4**
ILAR PKKPbc **PKKPbc** **09 24 44.6 -3.7**
ILAR P'P' 09 32 52.1
ILAR Eielson Array 82.60 22 P **P** **09 06 18.4 -1.6**
comp=Z,41nm,0.6s,baz=242,slow=4.6,SNR=128
ILAR S **S** **09 16 33.0 +1.4**
comp=Z,0.8nm,0.9s,baz=253,slow=9.7,SNR=4.1
ILAR PKKPbc **PKKPbc** **09 24 44.6 -3.7**
comp=Z,0.7nm,0.7s,baz=348,slow=1.5,SNR=8.1
ILAR PKPPKP **P'P'df** **09 32 52.1 +3.0**
comp=Z,0.3nm,0.8s,baz=3.1,slow=3.1,SNR=4.8
ILAR LR LR 09 37 57.2
comp=Z,4μm,21.7s,baz=236,slow=32
COLD Coldfoot 82.79 19 *e*P **P** **09 06 21.2 +0.1**
comp=Z,27nm,0.7s
MENT Mentasta 82.91 24 *e*P **P** **09 06 21.7 -0.1**
ZALV Zalesovo Beam 83.04 326 P **P** **09 06 21.1 -1.5**
ZALV S **S** **09 16 37.3 +0.9**
ZALV Zalesovo Beam 83.04 326 P **P** **09 06 21.1 -1.5**
ZALV S **S** **09 16 37.3 +0.9**
ZALV PKKPbc **PKKPbc** **09 24 44.2 -2.6**
ZALV Zalesovo Beam 83.04 326 P **P** **09 06 21.1 -1.5**
comp=Z,13nm,0.4s,baz=109,slow=5.4,SNR=39

ZALV S **S** **09 16 37.3 +0.9**
comp=Z,0.7nm,0.6s,baz=101,slow=7.7,SNR=3.7
ZALV PKKPbc **PKKPbc** **09 24 44.2 -2.6**
comp=Z,1.1nm,0.7s,baz=299,slow=3.1,SNR=4.3
ZALV LR LR 09 45 31.1
comp=Z,734nm,19.4s,baz=91,slow=37
POO **Poona** **83.05 289** AMB AMB 09 06 22.5
comp=Z,120nm,3.5s
POO *e*P **P** **09 06 22.5 -1.0**
DOT **Dot Lake** **83.11 23** *e*P **P** **09 06 22.6 -0.2**
comp=Z,86nm,0.7s
DHRM **DHARAMSHALA** **83.24 303** *e*P **P** **09 06 23.2 -1.2**
DHRM AMB AMB 09 06 26.8
comp=Z,71nm,0.3s
QSPA **South Pole Qui** **84.01 180** *e*P **P** **09 06 27.4 -0.2**
comp=Z,329nm,0.8s
QSPA LR LR
comp=Z,1µm,21.0s
QSPA **South Pole Qui** **84.01 180** P **P** **09 06 27.6 0.0**
comp=Z,309nm,0.7s,baz=344,slow=1.1,SNR=388
NVS **Novosibirsk** **84.21 327** ⇓*i*P **P** **09 06 26.3 -2.3**
NVS *e* 09 06 40.5
NVS *e*S **S** **09 16 47.7 -0.4**
NVS pmax pmax
comp=Z,22nm,0.6s
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=E,10.0nm,0.6s
NVS smax smax
comp=N,7.0nm,1.4s
NVS smax smax
comp=E,28nm,1.6s
HYT **Haines Junctio** **84.68 27** *e*P **P** **09 06 31.5 +0.4**
KSH **Kashi** **84.96 310** P **P** **09 06 34.1 +1.2**
KSH PP **PP** **09 09 55.0 +4.4**
KSH SKS S 09 16 50.1 -6.4
KSH S **SKSac** **09 16 53.3 +1.7**
KSH pmax pmax
comp=E,21nm,0.7s
KSH pmax pmax
comp=E,820nm,4.8s
KSH LR LR
comp=E,250nm,7.5s
KSH LR LR
comp=E,290nm,10.3s
KSH LR LR
comp=E,1µm,21.0s
AAA **Alma-Ata** **85.05 314** *i*P **P** **09 06 32.2 -1.0**
AAA *i*S **S** **09 16 58.7 +1.6**
AAA pmax pmax
comp=Z,1µm,6.5s
AAA smax smax
comp=E,2µm,8.9s
MAW **Mawson** **85.16 203** P **P** **09 06 33.2 +0.1**
MAW **Mawson** **85.16 203** P **P** **09 06 33.2 +0.1**
comp=E,155nm,0.7s,baz=95,slow=6.4,SNR=129
MAW **Mawson** **85.16 203** P **P** **09 06 33.2 +0.1**
baz=85,SNR=188
ULHL **Ulahol** **85.33 313** *i*P **P** **09 06 34.5 -0.3**
ULHL **Ulahol** **85.33 313** P **P** **09 06 34.5 -0.3**
SNR=28
KURK **Kurchatov** **85.71 322** *e*P **P** **09 06 35.3 -0.9**
KURK pmax pmax
comp=Z,9.0nm,0.5s
KURK MLR MLR
comp=Z,384nm,20.0s
KURK **Kurchatov** **85.71 322** P **P** **09 06 35.2 -1.0**
SNR=7.6
KURK **Kurchatov** **85.71 322** *e*P **P** **09 06 35.3 -0.9**
comp=Z,8.9nm,0.5s
KURK PKKPbc **PKKPbc** **09 24 38.5 -1.8**
KURK LR LR
comp=Z,384nm,20.0s
KURK **Kurchatov** **85.71 322** P **P** **09 06 35.6 -0.6**
comp=Z,222nm,0.4s,SNR=14
WRAK **Wrangell Islan** **85.73 32** PFAKE 09 06 50.0 +14
WRAK LR LR
comp=Z,2µm,20.0s
KURBB **Kurchatov Arra** **85.74 322** PKKPbc PKKPbc 09 24 38.5 -1.7
comp=Z,0.5nm,0.3s,baz=290,slow=3.1,SNR=9.7
TKM2 **Tokmak 2** **85.94 314** *i*P **P** **09 06 37.2 -0.6**
TKM2 **Tokmak 2** **85.94 314** P **P** **09 06 37.2 -0.6**
SNR=45
KZA **Kyzart** **86.02 313** *i*P **P** **09 06 38.5 +0.1**
KZA **Kyzart** **86.02 313** P **P** **09 06 38.6 +0.1**
SNR=19
KBK **Karagaybulak** **86.35 313** *e*P **P** **09 06 42.2 +2.4**
KBK **Karagaybulak** **86.35 313** P **P** **09 06 42.2 +2.4**
SNR=6.6
CHMS **Chumysh** **86.56 314** *i*P **P** **09 06 42.5 +1.9**
CHMS **Chumysh** **86.56 314** P **P** **09 06 42.6 +1.9**
SNR=8.6
UCH **Uchtor** **86.58 313** *i*P **P** **09 06 41.3 0.0**
UCH **Uchtor** **86.58 313** P **P** **09 06 41.3 0.0**
SNR=9.8
FRU **Bishkek** **86.63 313** *e*P **P** **09 06 39.0 -2.0**
AAK **Ala-Archa** **86.68 313** *e*P **P** **09 06 41.4 0.0**
AAK pmax pmax
comp=Z,9.0nm,0.6s
AAK MLR MLR
comp=Z,877nm,21.0s
AAK **Ala-Archa** **86.68 313** P **P** **09 06 40.7 -0.7**
SNR=15
AAK **Ala-Archa** **86.68 313** *e*P **P** **09 06 41.4 0.0**
comp=Z,8.9nm,0.6s
AAK LR LR
comp=Z,877nm,21.0s
AAK **Ala-Archa** **86.68 313** P **P** **09 06 41.7 +0.3**
comp=Z,94nm,0.6s,SNR=11
USP **Ospenovka** **86.80 314** *i*P **P** **09 06 43.8 +2.0**
USP **Ospenovka** **86.80 314** P **P** **09 06 43.8 +2.0**
SNR=13
AML **Almayashu** **87.17 313** *e*P **P** **09 06 46.6 +2.6**
AML **Almayashu** **87.17 313** P **P** **09 06 46.6 +2.6**
SNR=24
EKS2 **Erkin-Say** **87.20 313** *i*P **P** **09 06 46.1 +2.3**
EKS2 **Erkin-Say** **87.20 313** P **P** **09 06 46.2 +2.3**
SNR=14
EKS2 **Erkin-Say** **87.20 313** PFAKE 09 07 00.0 +16
EKS2 LR LR
comp=Z,831nm,19.0s
DLBC **Dease Lake** **87.51 31** *e*P **P** **09 06 45.4 +0.5**
KBO **Bosley Butte** **87.54 47** *e*P P 09 06 49.1 +3.7
KCPM **Cahto Peak** **87.58 50** *e*P **P** **09 06 46.9 +1.1**
comp=Z,12nm,0.7s
BHJ **Bhuj** **87.60 294** *e*P **P** **09 06 45.5 -0.5**
BHJ AMB AMB 09 06 46.4
comp=Z,86nm,1.7s
KHMM **Horse Mountain** **87.67 49** *e*P **P** **09 06 48.2 +2.1**
comp=Z,21nm,0.6s
L02D **Cave Junction,** **87.98 47** ⇓P **P** **09 06 48.0 +0.5**
baz=88
M02C **Callahan** **88.41 48** ⇑P **P** **09 06 50.9 +1.3**
baz=88
I03D **Drain, OR** **88.43 46** ⇑P **P** **09 06 50.3 +0.9**
baz=88
N02D **Trinity Center** **88.45 49** ⇓P **P** **09 06 51.1 +1.3**
baz=88
WDC **Whiskeytown Da** **88.51 49** *e*P **P** **09 06 51.6 +1.6**
WDC pmax pmax
comp=Z,9.0nm,0.6s
WDC **Whiskeytown Da** **88.51 49** *e*P **P** **09 06 51.6 +1.6**
comp=Z,8.6nm,0.6s
HUMO **Hull Mountain** **88.53 47** *e*P **P** **09 06 51.2 +1.1**
comp=Z,5.4nm,0.6s
YBH **Yreka Blue Hor** **88.57 48** *e*P **P** **09 06 52.0 +1.6**
comp=Z,12nm,0.6s
YBH PKKPbc **PKKPbc** **09 24 31.5 -1.6**
YBH **Yreka Blue Hor** **88.57 48** PKKPbc PKKPbc 09 24 31.5 -1.6
comp=Z,1.5nm,0.7s,baz=56,slow=4.9,SNR=8.2
NLWA **Neilton Lookou** **88.70 42** PFAKE 09 07 00.0 +9.2
NLWA LR LR
comp=Z,6µm,20.0s
G03D **McMinnville, O** **88.74 44** ⇓P **P** **09 06 51.8 +0.9**
baz=89
INK **Inuvik** **88.93 21** *e*P **P** **09 06 50.1 -1.2**
comp=Z,9.9nm,0.6s
I04A **Tendick Farm,** **89.11 46** ⇓P **P** **09 06 53.7 +0.9**
baz=89
M04C **Macdoel** **89.22 48** ⇓P **P** **09 06 53.8 +0.3**
baz=89
J04D **Umpqua Nationa** **89.25 47** ⇑P **P** **09 06 54.2 +0.5**
baz=89
K04D **Chiloquin, OR** **89.41 47** ⇑P **P** **09 06 55.2 +0.9**
baz=90
KBL **Kabul** **89.60 305** *e*P **P** **09 06 56.6 +1.1**
KBL pmax pmax
comp=Z,11nm,0.5s
KBL **Kabul** **89.60 305** *e*P **P** **09 06 56.5 +1.1**
comp=Z,11nm,0.5s
TDL **Tradedollar La** **89.65 43** P **P** **09 06 55.6 +0.3**
SMMC **Simmler** **89.75 55** ⇓P **P** **09 06 57.4 +1.4**
baz=90
CMB **Columbia Colle** **89.80 52** *e*P **P** **09 06 57.6 +1.4**
CMB pmax pmax
comp=Z,10.0nm,0.7s
CMB **Columbia Colle** **89.80 52** *e*P **P** **09 06 57.6 +1.4**
comp=Z,9.6nm,0.7s
PKM **Peak Mountain** **89.84 55** ⇓P **P** **09 06 57.9 +1.3**
baz=90
SBC **Santa Barbara** **89.87 56** ⇑P **P** **09 06 57.3 +0.8**
baz=90
J05D **Fort Rock, OR** **89.88 47** ⇓P **P** **09 06 57.0 +0.4**
baz=90
I05D **Terrebonne, OR** **89.96 46** ⇑P **P** **09 06 57.4 +0.6**
baz=90
LON **Longmire** **89.99 43** *e*P **P** **09 06 59.2 +2.4**
LON pmax pmax
comp=Z,4.0nm,0.7s
LON **Longmire** **89.99 43** *e*P **P** **09 06 59.2 +2.4**
comp=Z,4.4nm,0.7s
BEKR **Beckworth** **90.06 50** *e*P **P** **09 06 58.4 +0.9**
comp=Z,10nm,0.6s
G05D **Wamic, OR** **90.11 45** ⇑P **P** **09 06 59.3 +1.9**
baz=90
WPW **White Pass** **90.16 43** P **P** **09 06 59.9 +2.1**
BLG **Laguna Peak** **90.37 56** ⇑P **P** **09 06 59.5 +0.6**
baz=90
MOD **Modoc** **90.38 48** *e*P **P** **09 06 59.8 +0.9**
comp=Z,7.4nm,0.7s
WAKR **Walker** **90.60 52** *e*P **P** **09 07 00.6 +0.5**
comp=Z,13nm,0.7s
NAC **Naches** **90.66 43** P **P** **09 07 00.4 +0.5**
SCI **San Clemente I** **90.66 57** ⇑P **P** **09 07 01.3 +1.1**
baz=91
OSI **Osito Adit** **90.70 55** ⇑P **P** **09 07 01.8 +1.3**
baz=91
VOSK **Vostochnaya** **90.77 323** *i*P **P** **09 07 00.2 -0.1**
VOSK pmax pmax
comp=Z,16nm,0.5s
PAHR **Pah Rah Range** **90.79 50** *e*P **P** **09 07 01.8 +0.9**
comp=Z,14nm,0.7s
CIS **Catalina Islan** **90.83 57** ⇑P **P** **09 07 02.2 +1.2**
baz=91
FMP **Fort Macarthur** **90.96 56** ⇑P **P** **09 07 02.6 +1.0**
baz=91
MLAC **Mammoth Lakes** **90.97 52** ⇓P **P** **09 07 02.6 +0.8**
baz=91
DECC **Green Verdugo** **90.99 56** ⇑P **P** **09 07 02.3 +0.6**
baz=91
ISA **Isabella** **91.03 54** *e*P **P** **09 07 02.8 +0.8**
ISA pmax pmax
comp=Z,2.0nm,0.7s
ISA **Isabella** **91.03 54** *e*P **P** **09 07 02.8 +0.8**
comp=Z,1.5nm,0.7s
ISA **Isabella** **91.03 54** ⇑P **P** **09 07 02.4 +0.4**
baz=91,SNR=9.0
PASC **Pasadena Art C** **91.10 56** *e*P **P** **09 07 02.7 +0.5**
comp=Z,22nm,0.8s
ETW **Entiat** **91.11 42** P **P** **09 07 02.0 -0.2**
MWC **Mount Wilson** **91.21 56** *e*P **P** **09 07 04.3 +1.3**
MWC pmax pmax
comp=Z,43nm,0.8s
MWC **Mount Wilson** **91.21 56** *e*P **P** **09 07 04.3 +1.3**
comp=Z,43nm,0.8s
BRVK **Borovoye** **91.24 323** *c i*P **P** **09 06 59.7 -2.7**
BRVK pmax pmax
comp=Z,25nm,0.6s
BRVK MLR MLR
comp=Z,1µm,21.0s
BRVK **Borovoye** **91.24 323** P **P** **09 07 00.9 -1.5**
SNR=6.9
BRVK **Borovoye** **91.24 323** *e*P **P** **09 07 00.0 -2.4**
comp=Z,18nm,0.6s
BRVK LR LR
comp=Z,1µm,22.0s
EDW2 **Edwards Air Fo** **91.33 55** ⇑P **P** **09 07 04.3 +0.9**
baz=91,SNR=10
WTV **Waterville** **91.37 42** P **P** **09 07 02.8 -0.4**
TIN **Tinemaha** **91.38 53** ⇑P **P** **09 07 04.5 +0.9**
baz=92
HAWA **Hanford** **91.50 44** *e*P **P** **09 07 03.9 +0.1**
comp=Z,12nm,0.7s
HAWA LR LR
comp=Z,6µm,22.0s
BFSC **Mount Baldy Ra** **91.54 56** ⇓P **P** **09 07 04.8 +0.3**
baz=92,SNR=5.6
NV11 **Mina Array Sit** **91.59 52** *e*P **P** **09 07 05.2 +0.6**
LRMC **Laurel Mountai** **91.64 55** ⇑P **P** **09 07 05.7 +0.8**
baz=92,SNR=9.0
WVOR **Wild Horse Val** **91.67 48** *e*P **P** **09 07 05.0 +0.1**
WVOR pmax pmax
comp=Z,8.0nm,0.6s
WVOR MLR MLR
comp=Z,7µm,22.0s
WVOR **Wild Horse Val** **91.67 48** *e*P **P** **09 07 05.0 +0.1**
comp=Z,7.7nm,0.6s
WVOR LR LR
comp=Z,7µm,22.0s
MURC **Murrieta** **91.85 57** ⇑P **P** **09 07 06.2 +0.4**
baz=92,SNR=7.8
109C **Camp Elliot, M** **91.86 57** ⇑P **P** **09 07 06.7 +1.0**
baz=92,SNR=6.6
MPMC **Manual Prospec** **91.87 54** ⇑P **P** **09 07 06.0 0.0**
baz=92,SNR=16
GRAC **Grapevine Rang** **92.06 53** ⇓P **P** **09 07 07.4 +0.8**
baz=92
RRX **Edison Barstow** **92.14 55** ⇓P **P** **09 07 07.9 +0.9**
baz=92
BBRC **Big Bear Solar** **92.15 56** ⇓P **P** **09 07 07.7 +0.3**
baz=92,SNR=11
BAR **Barrett** **92.20 58** *e*P **P** **09 07 08.8 +1.4**
comp=Z,15nm,1.0s
TPH **Tonopah** **92.28 52** *e*P **P** **09 07 08.5 +0.6**
TPH pmax pmax
comp=Z,23nm,0.7s
TPH **Tonopah** **92.28 52** *e*P **P** **09 07 08.5 +0.6**
comp=Z,23nm,0.7s
GSC **Goldstone** **92.34 55** *e*P **P** **09 07 09.2 +1.1**
GSC pmax pmax
comp=Z,2.0nm,0.7s
GSC **Goldstone** **92.34 55** *e*P **P** **09 07 09.2 +1.1**
comp=Z,1.6nm,0.7s
GSC **Goldstone** **92.34 55** ⇑P **P** **09 07 08.9 +0.8**
baz=92,SNR=7.8
FURC **Furnace Creek,** **92.41 54** ⇑P **P** **09 07 09.2 +0.9**
baz=92,SNR=44
PFO **Pinyon Flat Ob** **92.47 57** P **P** **09 07 09.8 +1.0**
PFO LR LR
comp=Z,4µm,20.0s
PFO **Pinyon Flat Ob** **92.47 57** P **P** **09 07 09.0 +0.2**
comp=Z,208nm,0.7s,SNR=14
PFO **Pinyon Flat Ob** **92.47 57** ⇑P **P** **09 07 09.8 +1.0**
baz=92,SNR=22
PFO **Pinyon Flat Ob** **92.47 57** P **P** **09 07 09.8 +1.0**
comp=Z,28nm,0.7s,baz=261,slow=3.2,SNR=28
BMN **Battle Mountai** **92.52 50** *e*P **P** **09 07 09.6 +0.7**
BMN pmax pmax
comp=Z,19nm,0.6s
BMN **Battle Mountai** **92.52 50** *e*P **P** **09 07 09.6 +0.7**
comp=Z,19nm,0.6s
DVTC **Desert V Tower** **92.68 58** ⇑P **P** **09 07 10.4 +0.7**
baz=93
HEC **Hector,Ludlow** **92.69 55** ⇓P **P** **09 07 10.3 +0.6**
baz=93
RPN **Rapa Nui** **92.79 117** PFAKE 09 07 20.0 +10
RPN LR LR
comp=Z,2µm,20.0s
BMO **Blue Mountains** **92.88 45** *e*P **P** **09 07 10.3 -0.1**
BMO pmax pmax
comp=Z,6.0nm,0.7s
BMO MLR MLR
comp=Z,3µm,20.0s
BMO **Blue Mountains** **92.88 45** *e*P **P** **09 07 10.3 -0.1**
comp=Z,6.4nm,0.7s
BMO LR LR
comp=Z,3µm,20.0s
BELC **Belle Mtn. Jos** **92.89 56** ⇑P **P** **09 07 11.7 +1.0**
baz=93,SNR=52
TPNV **Topopah Spring** **92.95 53** ⇓P **P** **09 07 11.5 +0.6**
baz=93,SNR=34
SWSC **Sam W. Stewart** **92.96 57** ⇓P **P** **09 07 11.8 +0.9**
baz=93,SNR=6.7
TUQ **Turquoise Moun** **93.08 55** ⇑P **P** **09 07 12.1 +0.6**
baz=93,SNR=16
SYO **Syowa Base** **93.14 199** ⇓*i*P **P** **09 07 08.7 -2.2**
SYO **Syowa Base** **93.14 199** ⇑*i*P **P** **09 07 10.9 0.0**
GMRC **Granite Mounta** **93.23 56** ⇓P **P** **09 07 13.2 +0.9**
baz=93,SNR=15
BC3 **Big Chuckawall** **93.31 57** ⇓P **P** **09 07 13.6 +1.0**
baz=93,SNR=26
NEW **Newport** **93.33 42** *e*P **P** **09 07 12.7 +0.4**
comp=Z,4.8nm,0.6s
NEW LR LR
comp=Z,8µm,21.0s
NEW **Newport** **93.33 42** ⇑P **P** **09 07 13.5 +1.2**
baz=93
R11A **Troy Canyon, C** **93.59 52** *e*P **P** **09 07 14.9 +1.0**
R11A **Troy Canyon, C** **93.59 52** ⇓P **P** **09 07 14.5 +0.5**
baz=94,SNR=28
IRM **Iron Mountain** **93.60 56** ⇓P **P** **09 07 14.5 +0.7**
baz=94,SNR=22
LDFC **Landfair** **93.71 55** *e*P **P** **09 07 15.5 +1.1**
comp=Z,33nm,0.8s
GLA **Glamis** **93.78 57** *e*P **P** **09 07 16.6 +1.9**
GLA pmax pmax
comp=Z,4.0nm,0.8s
GLA **Glamis** **93.78 57** *e*P **P** **09 07 16.6 +1.9**
comp=Z,4.2nm,0.8s
GLA **Glamis** **93.78 57** ⇑P **P** **09 07 15.8 +1.1**
baz=94,SNR=8.7
SHPR **Sheep Range** **93.78 54** *e*P **P** **09 07 15.5 +0.7**
comp=Z,16nm,0.7s
NEE2 **Needles Airpor** **94.09 56** ⇓P **P** **09 07 17.1 +1.1**
baz=94,SNR=9.2
Y12C **Blythe** **94.09 57** ⇑P **P** **09 07 17.0 +0.9**
baz=94,SNR=13
PDMCI **Parker Dam,Lak** **94.45 56** ⇑P **P** **09 07 18.8 +1.2**
baz=94,SNR=8.3
113A **Mohawk Valley,** **94.65 58** ⇓P **P** **09 07 19.6 +1.0**
baz=95
W13A **Hualapai Mount** **94.71 55** ⇑P **P** **09 07 20.2 +1.0**
baz=95,SNR=53
HLID **Hailey** **94.86 47** *e*P **P** **09 07 22.1 +2.5**
comp=Z,4.4nm,0.7s
HLID LR LR
comp=Z,8µm,20.0s
HLID **Hailey** **94.86 47** ⇓P **P** **09 07 20.2 +0.6**
baz=95
BSMT **Bassoo Peak** **94.86 43** *e*P **P** **09 07 19.8 +0.3**
comp=Z,3.8nm,0.7s
ARUT **Antelope Range** **95.24 53** *e*P **P** **09 07 22.7 +1.2**
ARUT pmax pmax
comp=Z,121nm,0.9s
ARUT **Antelope Range** **95.24 53** *e*P **P** **09 07 22.7 +1.2**
comp=Z,121nm,0.9s
CCUT **Cedar City** **95.29 53** *e*P **P** **09 07 23.1 +1.3**
comp=Z,7.7nm,0.8s
Y14A **Wickenburg** **95.36 57** ⇓P **P** **09 07 22.7 +0.8**
baz=95
MSO **Missoula** **95.37 44** ⇓P **P** **09 07 22.7 +0.9**
baz=95
Z14A **Wintersburg** **95.38 57** ⇓P **P** **09 07 23.2 +1.2**
baz=95,SNR=5.4
214A **Organ Pipe Nat** **95.40 59** *e*P **P** **09 07 20.7 -1.4**
214A **Organ Pipe Nat** **95.40 59** ⇑P **P** **09 07 23.2 +1.0**
baz=96
WALA **Waterton Lakes** **95.50 41** *e*P **P** **09 07 24.2 +1.9**
comp=Z,0.3nm,0.8s
YKW3 **Yellowknife Ar** **95.66 28** *e*P **P** **09 07 22.9 +0.4**
comp=Z,0.2nm,0.9s
YKA **Yellowknife Ar** **95.66 28** P **P** **09 07 22.2 -0.3**
YKA PKKPbc **PKKPbc** **09 24 11.1 -4.5**
YKA **Yellowknife Ar** **95.66 28** P **P** **09 07 22.2 -0.3**
comp=Z,6.8nm,0.7s,baz=268,slow=4.5,SNR=37
YKA PKKPbc **PKKPbc** **09 24 11.0 -4.5**
comp=Z,1.6nm,0.5s,baz=86,slow=2.3,SNR=11
BGU **Big Grassy Mou** **95.73 50** *e*P **P** **09 07 24.7 +1.1**
comp=Z,2.1nm,0.7s
DUG **Dugway** **95.86 50** *e*P **P** **09 07 25.6 +1.4**
DUG pmax pmax
comp=Z,3.0nm,0.6s
DUG MLR MLR
comp=Z,2µm,22.0s
DUG **Dugway** **95.86 50** *e*P **P** **09 07 25.6 +1.4**
comp=Z,2.5nm,0.6s
DUG LR LR
comp=Z,2µm,22.0s
DUG **Dugway** **95.86 50** ⇑P **P** **09 07 25.0 +0.8**
baz=96
RER **Riviere de l'E** **95.98 248** PFAKE 09 07 40.0 +15
RER LR LR
comp=Z,518nm,22.0s
EDM **Edmonton** **96.02 37** *e*P **P** **09 07 24.9 +0.4**
EDM **Edmonton** **96.02 37** *e*P **P** **09 07 24.9 +0.4**
MCMT **McKenzie Canyo** **96.04 46** *e*P **P** **09 07 25.0 -0.1**
U15A **North Rim** **96.08 54** ⇓P **P** **09 07 26.1 +0.7**
baz=96
SPUT **South Promonto** **96.19 49** *e*P **P** **09 07 28.2 +2.5**
comp=Z,3.1nm,0.8s
MVU **Marysvale** **96.25 52** *e*P **P** **09 07 27.9 +1.8**
comp=Z,3.7nm,0.9s
LRM **Limekiln Ridge** **96.36 45** *e*P **P** **09 07 28.7 +2.2**
comp=Z,24nm,0.7s
X16A **Lo Mia Camp, P** **96.68 56** ⇓P **P** **09 07 28.7 +0.6**
baz=97
WUAZ **Wupatki** **96.78 55** *e*P **P** **09 07 30.2 +1.6**
comp=Z,10nm,0.8s
WUAZ LR LR
comp=Z,3µm,20.0s
WUAZ **Wupatki** **96.78 55** ⇑P **P** **09 07 29.4 +0.9**
baz=97
HRY **Holter Researc** **96.82 44** *e*P **P** **09 07 30.2 +1.9**
comp=Z,3.0nm,0.6s
BOZ **Bozeman (W)** **96.93 45** *e*P **P** **09 07 31.7 +2.8**
BOZ pmax pmax
comp=Z,6.0nm,0.7s
BOZ MLR MLR
comp=Z,3µm,22.0s
BOZ **Bozeman (W)** **96.93 45** *e*P **P** **09 07 31.7 +2.8**
comp=Z,6.1nm,0.7s
BOZ LR LR
comp=Z,3µm,22.0s
DAU **Daniels Canyon** **97.06 50** *e*P Pdif 09 07 32.3 +2.3
DAU pmax pmax
comp=Z,8.0nm,0.7s
DAU **Daniels Canyon** **97.06 50** *e*P Pdif 09 07 32.3 +2.3
comp=Z,7.8nm,0.7s
TMUT **Trail Mountain** **97.06 51** *e*P Pdif 09 07 30.8 +0.8
comp=Z,12nm,0.7s
TUC **Tucson** **97.14 58** *e*P Pdif 09 07 30.9 +0.7
TUC pmax pmax
comp=Z,2.0nm,0.7s
TUC MLR MLR
comp=Z,3µm,20.0s
TUC **Tucson** **97.14 58** *e*P Pdif 09 07 30.9 +0.7
comp=Z,2.1nm,0.7s
TUC LR LR
comp=Z,3µm,20.0s
YFT **Old Faithful** **97.47 46** *e*P Pdif 09 07 34.9 +3.4
comp=Z,7.2nm,0.7s
SRU **San Rafael** **97.59 51** *e*P Pdif 09 07 33.5 +1.3
SRU pmax pmax
comp=Z,8.0nm,0.7s
SRU **San Rafael** **97.59 51** *e*P Pdif 09 07 33.5 +1.3
comp=Z,8.4nm,0.7s
I17A **Pilgrim Ck.** **97.65 47** ⇑P Pdif 09 07 33.5 +1.1
baz=98
X18A **Snowflake** **97.92 56** ⇑P Pdif 09 07 34.9 +1.2
baz=98
W18A **Petrified Fore** **98.11 55** *e*P Pdif 09 07 36.1 +1.5
W18A **Petrified Fore** **98.11 55** ⇓P Pdif 09 07 35.4 +0.8
baz=98,SNR=6.0
ARU **Arti** **98.21 326** P **P** **09 07 32.5 -1.7**
ARU S **SKSac** **09 11 32.6**
ARU SP **SP** **09 20 19.8 -0.1**
ARU PS **PS** **09 20 29.9 +0.7**
ARU SS **SS** **09 25 38.2 -2.1**
ARU **Arti** **98.21 326** *e*P **P** **09 07 31.6 -2.6**
comp=Z,10.0nm,0.5s
ARU LR LR
comp=Z,795nm,21.0s
EGMT **Eagleton** **98.24 42** *e*P Pdif 09 07 36.6 +1.8
comp=Z,6.7nm,0.8s
EGMT LR LR
comp=Z,7µm,22.0s
EGMT **Eagleton** **98.24 42** ⇓P Pdif 09 07 35.3 +0.5
baz=98

H18A Shoshone NF, C 98.31 46 ⇓Pdiff Pdiff 09 07 36.2 +0.9
baz=98
BW06 Boulder Array 98.38 48 *e*P **P** **09 07 34.9 -0.8**
comp=Z,6.9nm,0.6s
BW06 LR LR
comp=Z,5μm,22.0s
PDAR Pinedale Array 98.38 48 P **P** **09 07 34.9 -0.8**
PDAR PP **PP** **09 11 37.0 +0.6**
PDAR PKiKP **PKiKP** **09 12 09.1 +1.4**
PDAR PKKPbc **PKKPbc** **09 24 05.8 -1.8**
PDAR Pinedale Array 98.38 48 P **P** **09 07 34.9 -0.8**
comp=Z,7.6nm,0.6s,baz=240,slow=2.9,SNR=26
PDAR PP **PP** **09 11 37.0 +0.6**
comp=Z,1.5nm,0.9s,baz=251,slow=4.5,SNR=4.0
PDAR PKiKP **PKiKP** **09 12 09.1 +1.4**
comp=Z,1.5nm,1.0s,baz=254,slow=5.5,SNR=4.0
PDAR PKKPbc **PKKPbc** **09 24 05.8 -1.8**
comp=Z,1.3nm,0.6s,baz=112,slow=6.0,SNR=3.6
PDAR LR LR 09 45 00.4
comp=Z,4μm,21.9s,baz=265,slow=31
319A Douglas 98.38 59 ⇓Pdiff Pdif 09 07 36.5 +0.7
baz=98
MSEY Mahe Island 98.45 264 PFAKE 09 07 50.0 +14
MSEY LR LR
comp=Z,628nm,20.0s
RLMT Red Lodge 98.59 45 *e*P Pdif 09 07 38.3 +1.8
comp=Z,5.0nm,0.9s
RLMT LR LR
comp=Z,2μm,22.0s
C19A Slack Wire Ran 98.72 43 ⇑Pdiff Pdif 09 07 37.7 +0.9
baz=99
J19A Crowheart 98.75 47 ⇓Pdiff Pdif 09 07 37.6 +0.4
baz=99
B19A Brinkman Farms 98.78 42 ⇓Pdiff Pdif 09 07 37.6 +0.6
baz=99
I19A Meeteetse 98.79 46 ⇑Pdiff Pdif 09 07 37.8 +0.4
baz=99
H19A Powell 98.79 46 ⇑Pdiff Pdif 09 07 37.9 +0.6
baz=99
F19A Roth Farm, Mol 98.81 45 ⇓Pdiff Pdif 09 07 37.7 +0.3
baz=99
PV04 Paradox Valley 98.84 52 *e*P Pdif 09 07 40.1 +2.4
D19A Cripps Ranch, 98.84 43 ⇓Pdiff Pdif 09 07 37.9 +0.5
baz=99
E19A Rath Farm, Rou 98.92 44 ⇓Pdiff Pdif 09 07 38.6 +0.8
baz=99
320A Kipp Ranch, An 99.02 59 ⇑Pdiff **Pdif** **09 07 39.2 +0.6**
baz=99
PV01 Paradox Valley 99.10 52 *e*P **Pdif** **09 07 39.4 +0.4**
comp=Z,458nm,0.7s
MVCO Mesa Verde 99.15 53 *e*P **Pdif** **09 07 41.5 +2.3**
comp=Z,8.1nm,0.6s
MVCO LR LR
comp=Z,3μm,21.0s
MVCO Mesa Verde 99.15 53 ⇑Pdiff **Pdif** **09 07 39.9 +0.7**
baz=99
G20A Bridger 99.33 45 ⇑Pdiff **Pdif** **09 07 40.5 +0.8**
baz=99
D20A Manuel Ranch, 99.35 43 ⇓Pdiff **Pdif** **09 07 40.2 +0.5**
baz=99
O20A White River Ci 99.36 50 *e*P **Pdif** **09 07 42.6 +2.6**
O20A White River Ci 99.36 50 ⇓Pdiff **Pdif** **09 07 40.1 +0.1**
baz=99
E20A Meyer Farm, Mu 99.37 44 ⇓Pdiff **Pdif** **09 07 40.2 +0.5**
baz=99
C20A Veseth Ranch, 99.43 43 ⇓Pdiff **Pdif** **09 07 40.7 +0.8**
baz=100
A20A Cobblestone Ra 99.44 42 ⇓Pdiff **Pdif** **09 07 40.9 +0.9**
baz=100
H20A Greybull 99.50 46 ⇓Pdiff **Pdif** **09 07 40.8 +0.4**
baz=100
121A Cookes Peak, D 99.68 58 *e*Pdif **Pdif** **09 07 43.9 +2.3**
121A Cookes Peak, D 99.68 58 ⇑Pdiff **Pdif** **09 07 41.8 +0.2**
baz=100
J21A Lysite 99.92 47 ⇑Pdiff **Pdif** **09 07 42.9 +0.5**
baz=100
I21A Big Trails, Te 100.02 47 ⇑Pdiff **Pdif** **09 07 43.4 +0.5**
baz=100
G21A Lodge Grass 100.05 45 ⇓Pdiff **Pdif** **09 07 43.5 +0.6**
baz=100
B21A Ellsworth Farm 100.06 42 ⇑Pdiff **Pdif** **09 07 43.4 +0.7**
baz=100
K21A Alcova 100.08 48 ⇓Pdiff **Pdif** **09 07 43.9 +0.7**
baz=100
A21A Bergtoll Ranch 100.10 41 ⇓Pdiff **Pdif** **09 07 44.2 +1.3**
baz=100
H21A Big Horn, Sher 100.18 46 ⇑Pdiff **Pdif** **09 07 43.5 0.0**
baz=100
Z22A Elephant Butte 100.38 57 ⇓Pdiff **Pdif** **09 07 45.4 +0.7**
baz=100
V22A San Miguel Ran 100.42 55 ⇓Pdiff **Pdif** **09 07 45.6 +0.6**
baz=100
U22A Llaves 100.47 54 ⇓Pdiff **Pdif** **09 07 45.7 +0.7**
baz=100
S22A 4UR Ranch, Cre 100.48 53 ⇑Pdiff **Pdif** **09 07 45.8 +0.6**
baz=100
P22A Eagle 100.51 51 ⇓Pdiff **Pdif** **09 07 46.2 +1.0**
baz=101
M22A Cedar Creek Ra 100.59 49 ⇑Pdiff **Pdif** **09 07 46.2 +0.6**
baz=101
I22A 9 Mile Ranch, 100.61 47 ⇓Pdiff **Pdif** **09 07 45.0 -0.4**
baz=101
K22A Casper 100.61 48 *e*Pdif **Pdif** **09 07 48.5 +3.0**
K22A Casper 100.61 48 ⇑Pdiff **Pdif** **09 07 45.6 +0.1**
baz=101
J22A Midwest 100.62 47 ⇑Pdiff **Pdif** **09 07 45.9 +0.4**
baz=101
O22A Kremmling 100.66 50 ⇓Pdiff **Pdif** **09 07 46.3 +0.4**
baz=101
H22A Clearmont 100.67 46 ⇑Pdiff **Pdif** **09 07 46.4 +0.7**
baz=101
LAO LASA Array 100.68 44 *e*Pdif **Pdif** **09 07 45.5 0.0**
comp=Z,7.7nm,0.8s
LAO LR LR
comp=Z,5μm,22.0s
D22A Cohagen 100.69 43 ⇓Pdiff **Pdif** **09 07 46.4 +0.9**
baz=101
G22A Birney 100.69 45 ⇓Pdiff **Pdif** **09 07 46.5 +0.8**
baz=101
F22A Rosebud 100.69 45 ⇑Pdiff **Pdif** **09 07 46.2 +0.6**
baz=101
N22A Wattenberg Ran 100.72 50 ⇑Pdiff **Pdif** **09 07 46.5 +0.3**
baz=101
A22A Carney Farms, 100.76 41 ⇓Pdiff **Pdif** **09 07 46.9 +1.0**
baz=101
ANMO Albuquerque 100.80 56 PFAKE 09 08 00.0 +13
ANMO LR LR
comp=Z,2μm,20.0s
E22A Miles City 100.88 44 ⇓Pdiff **Pdif** **09 07 46.7 +0.2**
baz=101
Z23A Rita Site, Whi 100.99 57 ⇑Pdiff **Pdif** **09 07 47.8 +0.5**
baz=101
U23A El Rito 101.00 54 ⇑Pdiff **Pdif** **09 07 47.5 0.0**
baz=101
V23A Ortiz Mt. (NFS 101.02 55 ⇑Pdiff **Pdif** **09 07 47.8 +0.3**
baz=101
X23A Hourglass Bar 101.02 56 ⇑Pdiff **Pdif** **09 07 47.3 -0.2**
baz=101
W23A Werner Place, 101.05 55 ⇑Pdiff **Pdif** **09 07 47.7 0.0**
baz=101
RES Resolute Bay 101.09 15 PKKPbc PKKPbc 09 23 56.0 -4.6
RES Resolute Bay 101.09 15 PKKPbc PKKPbc 09 23 56.0 -4.6
comp=Z,4.0nm,0.6s,baz=175,slow=3.6,SNR=16
N23A Red Feather La 101.10 50 ⇑Pdiff **Pdif** **09 07 47.8 -0.1**
baz=101
SNAA Sanae 101.11 187 *e*Pdif **Pdif** **09 07 46.5 -0.5**
comp=Z,6.4nm,0.8s
T23A Casias Ranch, 101.12 54 ⇑Pdiff **Pdif** **09 07 48.6 +0.6**
baz=101
Y23A Lovelace Mesa, 101.14 57 ⇑Pdiff **Pdif** **09 07 48.7 +0.6**
baz=101
R23A Moffat 101.26 52 ⇑Pdiff **Pdif** **09 07 48.9 +0.2**
baz=101
K23A Bowen Ranch, D 101.27 48 ⇓Pdiff **Pdif** **09 07 49.5 +1.1**
baz=101
F23A Volborg 101.29 45 ⇑Pdiff **Pdif** **09 07 49.1 +0.8**
baz=101
J23A Dilts Ranch, B 101.30 47 ⇑Pdiff **Pdif** **09 07 48.9 +0.4**
baz=101
E23A Ismay 101.32 44 ⇑Pdiff **Pdif** **09 07 49.0 +0.6**
baz=101
C23A Lambert 101.32 43 ⇓Pdiff **Pdif** **09 07 48.7 +0.4**
baz=101
G23A Biddle 101.33 45 ⇑Pdiff **Pdif** **09 07 48.8 +0.3**
baz=101
D23A Lindsay 101.35 43 ⇓Pdiff **Pdif** **09 07 49.4 +0.8**
baz=101
ISCO Idaho Springs 101.39 51 PFAKE 09 08 00.0 +11
ISCO LR LR
comp=Z,2μm,20.0s
B23A Brockton 101.41 42 ⇑Pdiff **Pdif** **09 07 50.1 +1.4**
baz=102
SDCO Great Sand Dun 101.53 53 PFAKE 09 08 00.0 +10
SDCO LR LR
comp=Z,3μm,20.0s
224A Cornudas Mount 101.59 59 ⇓Pdiff **Pdif** **09 07 50.9 +0.8**
baz=102
Y24A Capitan 101.65 57 ⇑Pdiff **Pdif** **09 07 51.2 +0.9**
baz=102
W24A Lazy 6 Ranch, 101.66 55 ⇓Pdiff **Pdif** **09 07 51.6 +1.3**
baz=102
MNTX Cornudas Mount 101.71 59 PFAKE 09 08 00.0 +10
MNTX LR LR
comp=Z,4μm,20.0s
O24A Longmont 101.79 50 ⇑Pdiff **Pdif** **09 07 52.0 +1.2**
baz=102
C24A Savage 101.85 43 ⇑Pdiff **Pdif** **09 07 51.2 +0.5**
baz=102
M24A Cheyenne 101.92 49 ⇑Pdiff **Pdif** **09 07 51.7 +0.3**
baz=102
DGMT Dagmar 101.94 42 PFAKE 09 08 00.0 +8.9
DGMT LR LR
comp=Z,6μm,20.0s
I24A Kuemmerle Ranc 101.95 47 ⇓Pdiff **Pdif** **09 07 52.7 +1.3**
baz=102
D24A Glendive 101.95 43 ⇓Pdiff **Pdif** **09 07 52.6 +1.5**
baz=102
H24A Dirks Ranch, A 101.95 46 ⇓Pdiff **Pdif** **09 07 52.5 +1.2**
baz=102
F24A Ekalaka 101.96 45 ⇑Pdiff **Pdif** **09 07 52.7 +1.4**
baz=102
G24A Alzada 102.01 45 ⇑Pdiff **Pdif** **09 07 52.8 +1.2**
baz=102
325A Bean Ranch, Si 102.06 59 ⇓Pdiff **Pdif** **09 07 53.2 +1.0**
baz=102
Y25A Mesa, Roswell 102.27 57 ⇑Pdiff **Pdif** **09 07 54.3 +1.3**
baz=102
RSSD Black Hills 102.36 46 *e*P **Pdif** **09 07 54.0 +0.7**
RSSD pmax pmax
comp=Z,6.0nm,0.6s
RSSD Black Hills 102.36 46 *e*Pdif **Pdif** **09 07 54.0 +0.7**
comp=Z,6.2nm,0.6s
T25A Trinidad 102.42 53 ⇓Pdiff **Pdif** **09 07 55.2 +1.5**
baz=102
W25A X Bar L Ranch, 102.43 55 ⇑Pdiff **Pdif** **09 07 55.2 +1.5**
baz=102
U25A Circle Dot Ran 102.44 54 ⇑Pdiff **Pdif** **09 07 55.6 +1.8**
baz=102
I25A Rochford 102.58 46 ⇑Pdiff **Pdif** **09 07 55.8 +1.6**
baz=103
C25A Freed Ranch, W 102.63 43 ⇓Pdiff **Pdif** **09 07 55.9 +1.7**
baz=103
E25A Miller Ranch, 102.63 44 ⇓Pdiff **Pdif** **09 07 56.3 +2.0**
baz=103
D25A Fairfield 102.63 43 ⇑Pdiff **Pdif** **09 07 56.5 +2.3**
baz=103
H25A Fruitdale 102.64 46 ⇓Pdiff **Pdif** **09 07 56.2 +1.9**
baz=103
F25A Bowman 102.64 44 ⇑Pdiff **Pdif** **09 07 56.4 +2.1**
baz=103
FFC Flin Flon 102.65 35 PFAKE 09 08 10.0 +16
FFC LR LR
comp=Z,2μm,21.0s
G25A Newell 102.72 45 ⇓Pdiff **Pdif** **09 07 56.7 +2.0**
baz=103
226B Tecolote Peak, 102.74 59 ⇓Pdiff **Pdif** **09 07 56.6 +1.5**
baz=103
Z26A Caprock 102.88 57 ⇑Pdiff **Pdif** **09 07 57.7 +1.9**
baz=103
426A McDonald Obser 102.88 60 ⇑Pdiff **Pdif** **09 07 56.9 +1.0**
baz=103
V26A Tequesquite Ra 102.96 55 ⇑Pdiff **Pdif** **09 07 57.4 +1.3**
baz=103
U26A Atchley Ranch, 102.98 54 ⇓Pdiff **Pdif** **09 07 57.7 +1.5**
baz=103
W26A Owens Ranch, T 103.00 55 ⇓Pdiff **Pdif** **09 07 57.6 +1.3**
baz=103
Q26A Hugo 103.04 52 ⇑Pdiff **Pdif** **09 07 58.1 +1.8**
baz=103
T26A Comanche Natio 103.07 53 ⇑Pdiff **Pdif** **09 07 57.4 +0.8**
baz=103
K26A Mcfarr Farm, Whi 103.08 48 ⇓Pdiff **Pdif** **09 07 57.6 +1.3**
baz=103
J26A Sides Ranch, S 103.11 47 ⇓Pdiff **Pdif** **09 07 57.3 +0.8**
baz=103
S26A Kim 103.14 53 ⇓Pdiff **Pdif** **09 07 58.3 +1.5**
baz=103
P26A Davis Ranch, A 103.14 51 ⇓Pdiff **Pdif** **09 07 58.3 +1.5**
baz=103
F26A Lodgepole 103.19 44 ⇑Pdiff **Pdif** **09 07 58.0 +1.3**
baz=103
TXAR Lajitas Array 103.21 61 Pdif **Pdif** **09 07 59.8 +2.6**
TXAR PKKPbc **PKKPbc** **09 23 53.2 +0.1**
TXAR Lajitas Array 103.21 61 Pdiff **Pdif** **09 07 59.8 +2.6**
comp=Z,0.3nm,0.8s,baz=193,slow=3.7,SNR=3.2
TXAR PKKPbc **PKKPbc** **09 23 53.2 +0.1**
comp=Z,3.7nm,0.7s,baz=115,slow=4.6,SNR=32
I26A New Underwood 103.21 46 ⇓Pdiff **Pdif** **09 07 58.5 +1.6**
baz=103
H26A Fairpoint 103.22 46 ⇑Pdiff **Pdif** **09 07 58.5 +1.6**
baz=103
G26A Maurine 103.29 45 ⇓Pdiff **Pdif** **09 07 58.7 +1.5**
baz=103
A26A Wade Farm, Ken 103.32 41 ⇓Pdiff **Pdif** **09 07 58.9 +1.7**
baz=103
C26A Wahner Farm, P 103.39 42 ⇓Pdiff **Pdif** **09 07 59.4 +1.8**
baz=103
R27A Eads 103.64 52 ⇓Pdiff **Pdif** **09 08 00.4 +1.4**
baz=104
H27A Howes 103.72 46 ⇑Pdiff **Pdif** **09 08 00.7 +1.6**
baz=104
G27A Dupree 103.75 45 ⇑Pdiff **Pdif** **09 08 00.3 +1.0**
baz=104
I27A Quinn 103.79 46 ⇑Pdiff **Pdif** **09 08 00.8 +1.3**
baz=104
E27A Carson 103.90 44 ⇓Pdiff **Pdif** **09 08 01.2 +1.3**
baz=104
PMSA Palmer Station 103.90 164 PFAKE 09 08 10.0 +11
PMSA LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 104.06 49 PFAKE 09 08 10.0 +9.2
OGNE LR LR
comp=Z,2μm,21.0s
PRGR Permogore 104.13 332 *i* P **Pdif** **09 07 57.3 -3.1**
PRGR *e* 09 12 15.1
PRGR pmax pmax
comp=Z,17nm,0.8s
U28A Mallet 104.20 54 ⇑Pdiff **Pdif** **09 08 03.0 +1.5**
baz=104
Z28A Tucker Farm, M 104.21 57 ⇓Pdiff **Pdif** **09 08 03.2 +1.6**
baz=104
I28A Midland 104.43 46 ⇑Pdiff **Pdif** **09 08 03.6 +1.4**
baz=104
J28A Allard Ranch, 104.44 47 ⇑Pdiff **Pdif** **09 08 03.8 +1.4**
baz=104
F28A McLaughlin 104.49 44 ⇑Pdiff **Pdif** **09 08 03.9 +1.4**
baz=104
KBS Kingsbay 104.70 353 PFAKE 09 08 10.0 +7.3
KBS LR LR
comp=Z,945nm,19.0s
Q29A Oakley 105.02 51 ⇑Pdiff **Pdif** **09 08 06.9 +1.8**
baz=105
L29A Maesberg Ranch 105.12 48 ⇑Pdiff **Pdif** **09 08 06.3 +0.9**
baz=105
Q30A Quinter 105.61 51 ⇑Pdiff **Pdif** **09 08 08.6 +0.9**
baz=106
R30A Dighton 105.62 52 ⇑Pdiff **Pdif** **09 08 09.8 +2.1**
baz=106
J30A Dallas 105.71 47 ⇓Pdiff **Pdif** **09 08 08.4 +0.4**
baz=106
LVZ Lovozero 106.42 340 PFAKE 09 12 30.0
LVZ LR LR
comp=Z,962nm,22.0s
JCT Junction City 106.53 60 PFAKE 09 12 40.0
JCT LR LR
comp=Z,6μm,20.0s
APA Apatity 106.99 340 ⇑ *i*P **Pdif** **09 08 18.2 +5.1**
APA *i* 09 12 42.0
APA *i* 09 18 50.0
APA *i* 09 19 28.0
APA *i* PS PS 09 21 48.0 -13
APA MLR MLR
comp=Z,2μm,23.0s
ULM Lac du Bonnet 107.07 39 PKKPbc PKKPbc 09 23 39.8 -2.2
ULM Lac du Bonnet 107.07 39 PKKPbc PKKPbc 09 23 39.8 -2.2
comp=Z,2.1nm,0.6s,baz=128,slow=8.6,SNR=5.8
WMOK Wichita Mounta 107.11 56 PFAKE 09 12 40.0
WMOK LR LR
comp=Z,2μm,19.0s
AGMN Agassiz Nation 107.46 41 PFAKE 09 12 40.0
AGMN LR LR
comp=Z,5μm,20.0s
ECSD EROS Data Cent 107.73 46 PFAKE 09 12 40.0
ECSD LR LR
comp=Z,4μm,22.0s
KEV Kevo 107.90 343 PFAKE 09 12 40.0
KEV LR LR
comp=Z,825nm,20.0s
KVTX Kingsville 108.34 63 PFAKE 09 12 40.0
KVTX LR LR
comp=Z,3μm,20.0s
KSU1 Kansas State U 108.39 51 PFAKE 09 12 40.0
KSU1 LR LR
comp=Z,3μm,21.0s
ARCES ARCESS Array B 108.45 343 PKiKP **PKiKP** **09 12 24.8 -0.2**
ARCES PKKPbc **PKKPbc** **09 23 35.5 -2.7**
ARCES ARCESS Array B 108.45 343 PKiKP **PKiKP** **09 12 24.8 -0.2**
comp=Z,3.2nm,0.9s,baz=64,slow=2.1,SNR=3.9
ARCES PKKPbc **PKKPbc** **09 23 35.5 -2.7**
comp=Z,2.2nm,0.8s,baz=318,slow=1.6,SNR=4.4
KIV Kislovodsk 109.76 315 *e*P **Pdif** **09 08 19.4 -6.7**
KIV *e* 09 12 58.1
KIV *e* 09 18 56.1
KIV *e*PS PS 09 22 19.5 -11
KIV *e*SS SS 09 28 18.9 -0.8
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,535nm,20.0s
KIV Kislovodsk 109.76 315 PFAKE 09 12 40.0
KIV LR LR
comp=Z,729nm,20.0s
EYMN Ely 110.39 41 PFAKE 09 12 40.0
EYMN LR LR
comp=Z,6μm,22.0s
SCIA State Center 110.50 48 PFAKE 09 12 40.0
SCIA LR LR
comp=Z,5μm,21.0s
OBN Obninsk 110.61 327 ⇑ *i* PKIKP **PKiKP** **09 12 27.7 -1.7**
OBN *i* 09 13 07.4
OBN *e* 09 19 34.4
OBN *i* PS **PS** **09 22 34.1 -3.5**
OBN *i* SS SS 09 28 43.5 +14
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,900nm,22.0s
OBN Obninsk 110.61 327 PFAKE 09 12 40.0
OBN LR LR
comp=Z,723nm,20.0s
MIAR Mount Ida 111.40 55 PFAKE 09 12 40.0
MIAR LR LR
comp=Z,3μm,20.0s
SOC Sochi 111.94 315 *i* PKIKP **PKiKP** **09 12 30.2 -2.1**
SOC *e* 09 13 14.2
SOC *e* 09 19 44.7
SOC *e*SS SS 09 28 50.8 +2.3
SOC MLR MLR
comp=Z,1μm,21.0s
JFWS Jewell Farm 112.44 46 PFAKE 09 12 50.0
JFWS LR LR
comp=Z,4μm,22.0s
FINES FINESS Array B 112.79 336 Pdif **Pdif** **09 08 38.7 -0.2**
FINES PKKPbc **PKKPbc** **09 23 19.9 -3.9**
FINES FINESS Array B 112.79 336 Pdiff **Pdif** **09 08 38.7 -0.2**
comp=Z,2.5nm,0.6s,baz=53,slow=5.4,SNR=11
FINES PKKPbc **PKKPbc** **09 23 19.9 -3.9**
comp=Z,2.3nm,0.7s,baz=173,slow=3.1,SNR=5.7
PAYG Puerto Ayora 115.00 94 PFAKE 09 12 50.0 +11
PAYG LR LR
comp=Z,997nm,20.0s
EFI East Falkland 116.19 158 PFAKE 09 12 50.0 +10
EFI LR LR
comp=Z,1μm,22.0s
AKASG Malin Array Be 116.41 325 PKIKP **PKPdf** **09 12 40.4 -0.2**
AKASG 09 13 47.2
AKASG Malin Array Be 116.41 325 PKP **PKPdf** **09 12 40.4 -0.2**
AKASG PP **PP** **09 13 47.2 -0.3**
AKASG PKKPbc **PKKPbc** **09 23 06.0 -5.1**
AKASG Malin Array Be 116.41 325 PKP **PKPdf** **09 12 40.4 -0.2**
comp=Z,2.5nm,0.6s,baz=54,slow=2.4,SNR=7.7
AKASG PP **PP** **09 13 47.2 -0.3**
comp=Z,3.0nm,0.9s,baz=56,slow=6.4,SNR=6.5
AKASG PKKPbc **PKKPbc** **09 23 06.0 -5.1**
comp=Z,2.7nm,0.6s,baz=260,slow=4.2,SNR=13
KIEV Kiev 116.42 325 PFAKE 09 12 50.0 +9.4
KIEV LR LR
comp=Z,1μm,21.0s
WCI Wyandotte Cave 116.48 50 *e*PKIKP **PKPdf** **09 12 42.0 +0.8**
WCI Wyandotte Cave 116.48 50 *e*PKPdf **PKPdf** **09 12 42.0 +0.8**
SFJD Kangerlussuaq 116.66 11 PFAKE 09 12 50.0 +9.4
SFJD LR LR
comp=Z,2μm,21.0s
KMBO Kilima Mbogo 116.94 266 PFAKE 09 13 00.0 +17
KMBO LR LR
comp=Z,678nm,21.0s
LRAL Lakeview Retre 117.05 56 *e*PKPdf **PKPdf** **09 12 42.3 -0.1**
AAM Ann Arbor 117.29 45 PFAKE 09 13 00.0 +17
AAM LR LR
comp=Z,3μm,20.0s
BRTR Keskin Array B 117.32 312 PKP **PKPdf** **09 12 44.7 +1.8**
BRTR PP **PP** **09 13 55.3 +0.7**
BRTR PKKPbc **PKKPbc** **09 23 07.5 -0.2**
BRTR Keskin Array B 117.32 312 PKP **PKPdf** **09 12 44.7 +1.8**
comp=Z,1.4nm,0.6s,baz=120,slow=1.8,SNR=5.5
BRTR PP **PP** **09 13 55.3 +0.7**
comp=Z,1.4nm,0.7s,baz=114,slow=8.2,SNR=3.7
BRTR PKKPbc **PKKPbc** **09 23 07.5 -0.2**
comp=Z,2.5nm,0.7s,baz=225,slow=3.4,SNR=9.5
BRAL Brewton 117.37 58 PFAKE 09 13 00.0 +17
BRAL LR LR
comp=Z,2μm,20.0s
TEIG Tepich 117.57 70 PFAKE 09 13 00.0 +16
TEIG LR LR
comp=Z,1μm,21.0s
PLCA Paso Flores 117.85 143 *e*PKPdf **PKPdf** **09 12 42.9 -1.0**
PLCA PKP **PKPdf** **09 12 43.0 -0.9**
PLCA PKKPbc **PKKPbc** **09 23 06.0 +0.2**
PLCA Paso Flores 117.85 143 PKP **PKPdf** **09 12 43.0 -0.9**
comp=Z,3.6nm,0.6s,baz=231,slow=4.3,SNR=13
PLCA PKKPbc **PKKPbc** **09 23 06.0 +0.2**
comp=Z,2.7nm,0.6s,baz=72,slow=3.1,SNR=14
ANTO Ankara 117.91 312 PFAKE 09 13 00.0 +16
ANTO LR LR
comp=Z,414nm,21.0s
KIS Kishinev 118.17 321 *e*PP PP 09 14 00.0 0.0
KIS Kishinev 118.17 321 *e*PS PS 09 23 38.0 -9.1
KIS *e*L L 09 52 40.0
KIS LRM MLR 10 01 54.0
comp=Z,1μm,24.0s
ACSO Alum Creek Sta 118.41 47 PFAKE 09 13 00.0 +15
ACSO LR LR
comp=Z,4μm,22.0s
NB2 NORSAR Subarra 118.56 341 PKPdf **PKPdf** **09 12 45.2 +0.7**
comp=Z,1.2nm,0.6s,baz=39,slow=1.9
NOA NORSAR Array B 118.56 341 PKP **PKPdf** **09 12 43.2 -1.3**
NOA PP PP 09 13 54.7 -7.3
NOA PKKPbc **PKKPbc** **09 23 03.0 -0.8**
NOA NORSAR Array B 118.56 341 PKP **PKPdf** **09 12 43.2 -1.3**
comp=Z,0.8nm,0.5s,baz=218,slow=13,SNR=2.8
NOA PP PP 09 13 54.7 -7.3
comp=Z,2.0nm,0.8s,baz=33,slow=7.9,SNR=3.8
NOA PKKPbc **PKKPbc** **09 23 03.0 -0.8**
comp=Z,1.1nm,0.7s,baz=221,slow=4.6,SNR=5.9
CSS Prodhromos 118.78 307 PFAKE 09 13 00.0 +14
CSS LR LR
comp=Z,176nm,20.0s
TGUH Tegucigalpa,Un 118.79 77 PFAKE 09 13 00.0 +14
TGUH LR LR
comp=Z,2μm,21.0s
TKL Tuckaleechee C 119.07 52 PKP **PKPdf** **09 12 46.5 +0.2**
TKL *e*PKPdf **PKiKP** **09 12 47.1 +0.8**
TKL Tuckaleechee C 119.07 52 PKP **PKPdf** **09 12 46.5 +0.2**
comp=Z,6.2nm,0.6s,baz=149,slow=3.5,SNR=15
SADO Sadowa 119.50 41 PKP **PKPdf** **09 12 46.5 -0.3**
SADO PKKPbc **PKKPbc** **09 22 57.9 -1.9**
SADO Sadowa 119.50 41 PKP **PKPdf** **09 12 46.5 -0.3**
comp=Z,6.5nm,0.7s,baz=279,slow=4.6,SNR=5.9
SADO PKKPbc **PKKPbc** **09 22 57.9 -1.9**
comp=Z,5.3nm,0.7s,baz=87,slow=2.2,SNR=4.7

KONO Kongsberg 120.13 340 PFAKE 09 13 00.0 +12
KONO LR LR
comp=Z,1μm,21.0s
BOSA Boshof 120.27 232 PKP **PKPdf** **09 12 47.9 -1.1**
BOSA *e*PKPdf **PKiKP** **09 12 48.4 -0.7**
BOSA PKKPbc **PKKPbc** **09 22 57.6 +0.9**
BOSA Boshof 120.27 232 PKP **PKPdf** **09 12 47.9 -1.1**
comp=Z,6.5nm,0.5s,baz=118,slow=1.5,SNR=19
BOSA PKKPbc **PKKPbc** **09 22 57.6 +0.9**
comp=Z,4.4nm,0.6s,baz=270,slow=4.5,SNR=15
KWP Kalwaria Pacla 120.61 326 PFAKE 09 13 00.0 +11
KWP LR LR
comp=Z,987nm,19.0s
MCWV Mont Chateau 120.88 47 PFAKE 09 13 00.0 +10
MCWV LR LR
comp=Z,4μm,21.0s
JTS JuntasAbangare 121.06 82 PFAKE 09 13 00.0 +9.3
JTS LR LR
comp=Z,2μm,20.0s
SCHQ Schefferville 121.08 26 PKP **PKPdf** **09 12 48.9 -0.7**
SCHQ PKKPbc **PKKPab** **09 22 52.2 -1.2**
SCHQ Schefferville 121.08 26 PKP **PKPdf** **09 12 48.9 -0.7**
comp=Z,3.6nm,0.7s,baz=206,slow=10,SNR=6.4
SCHQ PKKPbc **PKKPab** **09 22 52.2 -1.2**
comp=Z,12nm,0.6s,baz=144,slow=5.3,SNR=20
KMSC Kings Mountain 121.13 52 *e*PKPdf **PKPdf** **09 12 49.9 -0.3**
KOLS Kolonicke sedl 121.21 325 *e*PKIKP **PKPdf** **09 12 51.0 +1.0**
KOLS Kolonicke sedl 121.21 325 *e*PKP **PKPdf** **09 12 51.0 +1.0**
BLA Blacksburg 121.24 50 *e*PKIKP **PKPdf** **09 12 50.1 -0.3**
BLA MLR MLR
comp=Z,4μm,21.0s
BLA Blacksburg 121.24 50 *e*PKPdf **PKPdf** **09 12 50.1 -0.3**
BLA LR LR
comp=Z,4μm,21.0s
UZH Uzhgorod 121.36 325 *e*PKIKP **PKPdf** **09 12 52.7 +2.5**
SUR Sutherland 121.75 226 PFAKE 09 13 00.0 +8.2
SUR LR LR
comp=Z,2μm,21.0s
LONY Lake Ozonia 122.51 40 PFAKE 09 13 00.0 +7.4
LONY LR LR
comp=Z,3μm,19.0s
BINY Binghamton 122.64 43 PFAKE 09 13 10.0 +17
BINY LR LR
comp=Z,4μm,22.0s
LSZ Lusaka 122.78 248 *e*PKPdf **PKPdf** **09 12 53.9 -0.2**
LSZ LR LR
comp=Z,1μm,21.0s
OKC Ostrava-Krasne 122.99 328 *e*PP PP 09 14 37.5 +4.8
OKC *e*PS **PS** **09 24 26.8 -3.1**
OKC *ex* x 09 26 10.3
OKC AMS AMS 10 11 30.0
comp=Z,900nm,22.4s
JSRW J. Sargeant Re 122.99 49 *e*PKPdf **PKPdf** **09 12 56.2 +2.5**
PSZ Piszkesteto 123.09 325 PFAKE 09 13 10.0 +16
PSZ LR LR
comp=Z,1μm,22.0s
CBN Corbin 123.19 48 PFAKE 09 13 10.0 +16
CBN LR LR
comp=Z,4μm,21.0s
MBAR Mbarara 123.47 265 PFAKE 09 13 10.0 +14
MBAR LR LR
comp=Z,475nm,22.0s
DPC Dobruska-Polom 123.64 329 *e*PP PP 09 14 40.0 +3.0
DPC *e*PS **PS** **09 24 38.5 +2.8**
DPC *ex* x 09 26 16.1
DPC *e*SS SS 09 31 26.0 +6.7
DPC AMS AMS 10 05 50.0
CNNC Cliffs of the 123.80 51 *e*PKPdf **PKPdf** **09 12 57.3 +2.0**
CNNC LR LR
comp=Z,4μm,20.0s
LCO Las Campanas 124.35 131 *e*PKPdf **PKPdf** **09 12 55.8 -1.2**
LCO LR LR
comp=Z,1μm,21.0s
LBNH Lisbon 124.37 39 PFAKE 09 13 10.0 +14
LBNH LR LR
comp=Z,3μm,19.0s
PVCC Panska Ves 124.41 330 AMS AMS 10 07 40.0
comp=Z,1μm,19.6s
BRG Berggiesshubel 124.50 331 *e*PKP **PKPdf** **09 12 55.2 -1.0**
comp=Z,8.8nm,1.4s
BRG PP **PP** **09 14 40.0 -2.7**
BRG SS SS 09 31 37.0 +7.1
BRG
comp=N,1μm,25.6s
BRG
comp=E,867nm,24.2s
BRG
comp=Z,2μm,25.6s
BRG Berggiesshubel 124.50 331 *e*PKIKP **PKPdf** **09 12 55.2 -1.0**
BRG 09 14 40.0
BRG SS SS 09 31 37.0 +7.1
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG MLR MLR
comp=N,1μm,25.6s
BRG MLR MLR
comp=E,867nm,24.2s
BRG MLR MLR
comp=Z,2μm,25.6s
SANT Santorini 124.50 310 PFAKE 09 13 10.0 +13
SANT LR LR
comp=Z,301nm,20.0s
TRQA Tornquist 124.62 145 PFAKE 09 13 10.0 +13
TRQA LR LR
comp=Z,776nm,19.0s
CLL Collm 124.67 332 *i* PKIKP **PKPdf** **09 12 58.1 +1.6**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 124.67 332 *i* PKPdf **PKPdf** **09 12 58.1 +1.6**
comp=Z,5.0nm,0.8s
CLL *e*PP **PP** **09 14 47.0 +3.3**
CLL *e* 09 16 15.0
CLL *e*SKSP 09 24 37.0
CLL *e*PPS PPS 09 26 16.0
CLL *e*PPPrev 09 30 06.0
CLL *e*SS SS 09 31 38.0 +6.0
CLL LmH 12 41 00.0
comp=N,100nm,21.9s
CLL LmH 12 41 00.0
comp=E,100nm,19.7s
TREC Trest 124.71 329 *e*PP PP 09 14 47.0 +2.8
TREC AMS AMS 10 10 30.0
comp=E,1μm,18.5s
CFAA Coronel Fontan 124.73 135 PKP **PKPdf** **09 12 56.2 -1.2**
CFAA Coronel Fontan 124.73 135 PKP **PKPdf** **09 12 56.2 -1.2**
comp=E,2.1nm,0.8s,baz=246,slow=3.6
PRU Pruhonice 124.76 330 *e*PP PP 09 14 47.5 +3.0
PRU *e*PS **PS** **09 24 40.1 -5.3**
PRU *ex* x 09 26 14.9
PRU *e*SS SS 09 31 39.4 +6.0
PRU AMS AMS 10 07 50.0
comp=E,1μm,20.6s
PRA Prague 124.77 330 PP PP 09 14 48.0 +3.5
PRA PS **PS** **09 24 40.0 -5.4**
CONA Conrad Observa 125.33 327 ⇓ *i* PKPdf **PKPdf** **09 12 56.6 -1.4**
comp=E,8.4nm,1.4s
PKME Peaks-Kenny Pk 125.46 37 PFAKE 09 13 10.0 +12
PKME LR LR
comp=Z,2μm,19.0s
NKC Novy Kostel 125.64 331 *e*PP PP 09 14 53.3 +3.0
KHC Kasperske Hory 125.79 329 *e*PKIKP **PKPdf** **09 12 59.2 +0.4**
KHC *e* 09 14 54.8
KHC *e*PS **PS** **09 24 51.5 -3.1**
KHC MLR MLR
comp=Z,2μm,21.4s
KHC Kasperske Hory 125.79 329 *e*PKPdf **PKPdf** **09 12 59.2 +0.4**
KHC *ex* x 09 13 01.5
KHC *e*PP **PP** **09 14 54.8 +3.4**
KHC *e*PS **PS** **09 24 51.5 -3.1**
KHC AMS AMS 10 08 50.0
comp=Z,2μm,21.4s
GERES GERESS Array B 125.91 329 PKP **PKPdf** **09 12 58.0 -1.1**
GERES GERESS Array B 125.91 329 PKP **PKPdf** **09 12 58.0 -1.1**
comp=Z,2.2nm,0.6s,baz=61,slow=1.9,SNR=14
NNA Nana 125.93 109 PFAKE 09 13 10.0 +10
NNA LR LR
comp=Z,892nm,22.0s
BCIP Isla Barro Col 126.09 83 PFAKE 09 13 10.0 +10
BCIP LR LR
comp=Z,1μm,22.0s
OTAV Otavalo 126.86 94 PFAKE 09 13 10.0 +7.6
OTAV LR LR
comp=Z,952nm,20.0s
ESK Eskdalemuir 127.63 344 PFAKE 09 13 10.0 +7.9
ESK LR LR
comp=Z,990nm,22.0s
MTDJ Mount Denham 127.86 72 PFAKE 09 13 20.0 +16
MTDJ LR LR
comp=Z,1μm,20.0s
BFO Black Forest 128.91 331 PFAKE 09 13 20.0 +15
BFO LR LR
comp=Z,779nm,21.0s
LVC Limon Verde 128.93 125 *e*PKPdf **PKPdf** **09 13 06.1 +0.3**
LVC LR LR
comp=Z,788nm,19.0s
WLF Walferdange 128.94 334 PFAKE 09 13 20.0 +15
WLF LR LR
comp=Z,2μm,22.0s
ECH Echery 129.54 332 PFAKE 09 13 20.0 +14
ECH LR LR
comp=Z,1μm,21.0s
TIP Timpagrande 129.56 317 PFAKE 09 13 20.0 +14
TIP LR LR
comp=Z,434nm,22.0s
TUE Stuetta 129.69 329 PFAKE 09 13 20.0 +13
TUE LR LR
comp=Z,1μm,22.0s
CUC Castrocucco 129.78 319 PFAKE 09 13 20.0 +13
CUC LR LR
comp=Z,650nm,22.0s
GTBY Guantanamo Bay 129.90 69 PFAKE 09 13 20.0 +13
GTBY LR LR
comp=Z,2μm,22.0s
CEL Celeste 130.61 317 PFAKE 09 13 20.0 +12
CEL LR LR
comp=Z,778nm,21.0s
VLC Villacollemand 130.65 326 PFAKE 09 13 20.0 +12
VLC LR LR
comp=Z,1μm,22.0s
TSUM Tsumeb 130.75 238 *e*PKPdf **PKPdf** **09 13 10.8 +1.5**
TSUM LR LR
comp=Z,2μm,21.0s
ROSC El Rosal 131.40 89 PKP **PKPdf** **09 13 09.9 -1.0**
ROSC *e*PKPdf **PKiKP** **09 13 10.1 -1.8**
ROSC El Rosal 131.40 89 PKP **PKPdf** **09 13 09.9 -1.0**
comp=Z,13nm,0.6s,baz=112,slow=8.3,SNR=7.6
LPL La Plagne 131.67 330 ⇑ *i* PKIKP PKPdf 09 13 04.5 -5.8
comp=Z,6.6nm,0.5s
LPL La Plagne 131.67 330 ⇑ *i* PKIKP PKPdf 09 13 04.5 -5.8
LPL La Plagne 131.67 330 ⇑ *i* PKPdf PKPdf 09 13 04.5 -5.8
LPG La Plagne 131.67 330 ⇑ *i* PKIKP PKPdf 09 13 04.0 -6.4
LPG La Plagne 131.67 330 ⇑ *i* PKIKP PKPdf 09 13 04.0 -6.4
LPG La Plagne 131.67 330 ⇑ *i* PKPdf PKPdf 09 13 04.0 -6.4
BNI Bardonecchia 132.02 329 PFAKE 09 13 20.0 +9.1
BNI LR LR
comp=Z,1μm,19.0s
LPAZ La Paz 132.39 118 *e*PKPdf **PKPdf** **09 13 13.0 0.0**
CLTB Caltabellotta 132.77 317 PFAKE 09 13 20.0 +7.5
CLTB LR LR
comp=Z,3μm,21.0s
SSB Saint Sauveur 132.91 331 PFAKE 09 13 20.0 +7.5
SSB LR LR
comp=Z,1μm,21.0s
GRTK Grand Turk 133.26 66 PFAKE 09 13 30.0 +16
GRTK LR LR
comp=Z,3μm,20.0s
SDDR Presa de Saban 133.61 69 PFAKE 09 13 30.0 +15
SDDR LR LR
comp=Z,3μm,20.0s
VSL Villasalto 134.16 322 PFAKE 09 13 30.0 +15
VSL LR LR
comp=Z,644nm,22.0s
BBSR BB Station 135.02 49 PFAKE 09 13 30.0 +13
BBSR LR LR
comp=Z,2μm,20.0s
SDV Santo Domingo 135.18 83 *e*PKPdf **PKPdf** **09 13 18.1 +0.4**
SDV LR LR
comp=Z,2μm,21.0s
CPUP Villa Florida 135.48 138 PKP **PKPdf** **09 13 16.4 -1.4**
CPUP *e*PKPdf **PKiKP** **09 13 17.2 -2.1**
CPUP Villa Florida 135.48 138 PKP **PKPdf** **09 13 16.4 -1.4**
comp=Z,10nm,0.7s,baz=293,slow=3.7,SNR=2.9
SJG San Juan 138.56 69 PFAKE 09 13 40.0 +16
SJG LR LR
comp=Z,2μm,21.0s
SIV San Ignacio 138.59 122 PKhKP PKPpre 09 13 13.2
comp=Z,6.2nm,0.7s,baz=224,slow=1.1,SNR=18
SAML Samuel 139.63 111 PFAKE 09 13 40.0 +14
SAML LR LR
comp=Z,852nm,22.0s
MSKU Masuku 140.21 260 PFAKE 09 13 40.0 +13
MSKU LR LR
comp=Z,2.0nm,20.0s
PBRG Braganca 140.59 338 *e*PKP **PKPdf** **09 13 26.7 -0.1**
ESDC Sonseca Array 141.22 333 PKPpre PKPpre 09 13 22.2
ESDC PP **PP** **09 16 29.9 +0.3**
ESDC Sonseca Array 141.22 333 PKhKP PKPpre 09 13 22.2
comp=Z,0.7nm,0.5s,baz=16,slow=3.1,SNR=7.1
ESDC PP **PP** **09 16 29.9 +0.3**
comp=Z,1.7nm,0.6s,baz=30,slow=6.0,SNR=6.7
PAB San Pablo 141.50 333 PFAKE 09 13 40.0 +11
PAB LR LR
comp=Z,2μm,20.0s
MTE Manteigas 142.10 337 PFAKE 09 13 40.0 +10
MTE LR LR
comp=Z,1μm,21.0s
ANWB Willy Bob 142.72 69 PFAKE 09 13 40.0 +8.9
ANWB LR LR
comp=Z,3μm,22.0s
PMRV Marv??o 142.88 336 *e*PKP **PKPdf** **09 13 27.8 -3.1**
PTOM Tomar 143.11 338 *e*PKP PKPbc 09 13 29.5 +1.2
SPB Sao Paulo 143.66 145 PFAKE 09 13 50.0 +17
SPB LR LR
comp=Z,1μm,19.0s
GRGR Grenville 143.81 78 PFAKE 09 13 50.0 +17
GRGR LR LR
comp=Z,1μm,21.0s
EVO Evora 143.90 336 *e*PKIKP PKPab 09 13 29.5 -0.4
comp=Z,22nm,0.8s
FDF Fort de France 143.92 73 PFAKE 09 13 50.0 +17
FDF LR LR
comp=Z,1μm,21.0s
EVOP Sao Brissos 143.94 337 *e*PKIKP PKPab 09 13 29.5 -0.6
EVOP Sao Brissos 143.94 337 *e*PKPdf PKPab 09 13 29.5 -0.6
LIS Lisbon 144.18 338 *e*P **PKPdf** **09 13 32.4 -0.8**
LIS AMS AMS 10 20 04.8
comp=E,1μm,24.0s
PBEJ Beja 144.27 336 *e*PKP **PKPab** **09 13 31.3 0.0**
PNCL Nicolau / Gran 144.47 337 *e*PKP **PKPab** **09 13 32.0 0.0**
MESJ Messejana 144.58 336 *e*P **PKPab** **09 13 31.6 -0.8**
MESJ AMS AMS 10 27 35.9
comp=Z,723nm,18.8s
PCVE Castro Verde 144.68 336 *e*PKP PKPbc 09 13 33.1 +0.1
PVAQ Vaqueiros 144.74 335 *e*PKP **PKPab** **09 13 32.8 -0.3**
PTGA Pitinga 144.97 100 *e*PKPbc PKPbc 09 13 33.6 -1.0
PTGA LR LR
comp=Z,695nm,19.0s
PBDV Barranco-do-Ve 144.97 335 *e*PKP **PKPdf** **09 13 38.9 +4.3**
PTEO Sao Teotonio 145.03 336 *e*PKP **PKPab** **09 13 34.2 +0.1**
MORF Marmelete 145.21 336 *e*PKP **PKPdf** **09 13 35.1 0.0**
BBGH Gun Hill 145.70 75 PFAKE 09 13 50.0 +13
BBGH LR LR
comp=Z,3μm,19.0s
TAM Tamanrasset 145.71 302 *e*PKP2 **PKPab** **09 13 38.3 +0.9**
TAM MLR MLR
comp=Z,749nm,22.0s
TAM Tamanrasset 145.71 302 *e*PKPbc **PKPab** **09 13 38.3 +0.9**
TAM LR LR
comp=Z,749nm,22.0s
RTC Rabat Centre 147.18 331 PFAKE 09 13 50.0 +7.6
RTC LR LR
comp=Z,920nm,22.0s
BDFB Brasilia 149.06 134 PKP **PKPdf** **09 13 40.5 -1.6**
BDFB PKPbc **PKPbc** **09 13 45.1 -1.2**
BDFB Brasilia 149.06 134 PKP **PKPdf** **09 13 40.5 -1.6**
comp=Z,16nm,0.8s,baz=180,slow=3.4,SNR=18
BDFB PKPbc **PKPbc** **09 13 45.1 -1.2**
comp=Z,35nm,0.7s,baz=209,slow=4.1,SNR=22
SHEL Horse Pasture 150.73 222 *e*PKIKP **PKPdf** **09 13 46.2 +1.5**
SHEL *e* 09 13 52.9
SHEL MLR MLR
comp=Z,2μm,20.0s
SHEL Horse Pasture 150.73 222 *e*PKPdf **PKPdf** **09 13 46.2 +1.5**
SHEL *e*PKPbc **PKiKP** **09 13 52.9 +1.9**
SHEL LR LR
comp=Z,2μm,20.0s
TOA0 Torodi Ar. Sit 152.26 287 *e*PKPbc **PKPbc** **09 13 53.2 -0.6**
TOA0 *e*PKPab **PKPab** **09 14 05.0 +1.2**
TORD Torodi Ar. Bea 152.26 287 PKP **PKPdf** **09 13 45.0 -2.0**
TORD PKPbc **PKPbc** **09 13 53.0 -0.8**
TORD Torodi Ar. Bea 152.26 287 PKP **PKPdf** **09 13 45.0 -2.0**
comp=Z,2.6nm,0.7s,baz=23,slow=1.2,SNR=5.5
TORD PKPbc **PKPbc** **09 13 53.0 -0.8**
comp=Z,36nm,0.7s,baz=70,slow=1.6,SNR=24
KIC Kosan Boka 159.35 272 *e*P **PKPdf** **09 14 00.6 +4.1**
comp=Z,6.9nm,0.6s
KIC Kosan Boka 159.35 272 *e*PcP **PKPab** **09 14 33.6 -0.7**
DBIC Dimbokro 159.46 273 PKP **PKPdf** **09 13 58.0 +1.4**
DBIC PKPab **PKPab** **09 14 34.3 -0.4**
DBIC PP **PP** **09 18 18.6 +2.1**
DBIC Dimbokro 159.46 273 PKP **PKPdf** **09 13 58.0 +1.4**
comp=Z,2.7nm,0.6s,baz=85,slow=2.1,SNR=6.6
DBIC PKPab **PKPab** **09 14 34.3 -0.4**
comp=Z,28nm,0.8s,baz=105,slow=4.3,SNR=4.1
DBIC PP **PP** **09 18 18.6 +2.1**
comp=Z,5.6nm,1.0s,baz=48,slow=12,SNR=3.6
TIC Toumodi 159.62 273 *e*P **PKPdf** **09 14 00.7 +3.9**
comp=Z,16nm,0.8s
TIC Toumodi 159.62 273 *e*PcP **PKPab** **09 14 34.6 -0.9**
LIC Lamto 159.63 272 *e*PKIKP **PKPdf** **09 13 53.4 -3.4**
comp=Z,7.8nm,0.7s
LIC Lamto 159.63 272 *e*P PKPdf 09 14 02.3 +5.5
comp=Z,19nm,0.7s
LIC Lamto 159.63 272 *e*PcP **PKPab** **09 14 34.6 -0.9**
LIC Lamto 159.63 272 *e*PKPdf **PKPdf** **09 13 53.4 -3.4**
ASCN Ascension 162.28 219 PFAKE 09 14 10.0 +10
ASCN LR LR
comp=Z,1μm,20.0s
RCBR Riachuelo 164.36 138 PKP **PKPdf** **09 14 02.5 +0.9**
RCBR LR LR
comp=Z,2μm,19.0s
RCBR Riachuelo 164.36 138 PKP **PKPdf** **09 14 02.5 +0.9**
comp=Z,7.6nm,0.7s,baz=228,slow=2.2,SNR=6.2
SACV Santiago Islan 170.85 348 PFAKE 09 14 20.0 +14
SACV LR LR
comp=Z,2μm,21.0s

TAP ***14*** *09:19:60.0,24.37N×122.90E,h63km±1km,ML3.5,D*
JMA ***14*** *09:19:59.7±0.1,24.34N×122.96E,h49km±2km,M2.5*
ISC 14 09:20:00.0±1.2,24.30N±0.05×122.96E±0.03,h43km±11km,
n34,σ1s09/66,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.17**	**15**	P	**Pn**	**09 20 07.5**	**+0.1**
YOJ				S	**Sn**	**09 20 12.8**	**+0.3**
IRIF	**Iriomote-Funau**	**0.70**	**87**	P	**Pn**	**09 20 13.3**	**-0.2**
IRIF				S	**Sn**	**09 20 23.2**	**0.0**
HATJ	**Hateruma jima**	**0.81**	**107**	P	**Pn**	**09 20 15.1**	**+0.2**
HATJ				*e*S	**Sn**	**09 20 26.4**	**+0.6**
JKRS	**Kuro-shima**	**0.96**	**93**	P	**Pn**	**09 20 17.4**	**+0.4**
JKRS				*e*S	**Sn**	**09 20 29.9**	**+0.5**
TWC	**Suao**	**1.06**	**287**	P	**Pn**	**09 20 17.8**	**-0.7**
baz=284							
TWC				S	**Sn**	**09 20 30.8**	**-1.2**
baz=284							
JIJ	**Ishigaki jima**	**1.08**	**86**	P	**Pn**	**09 20 18.2**	**-0.4**
JIJ				*e*S	**Sn**	**09 20 31.3**	**-1.1**
ENA	**Nanau**	**1.12**	**277**	*e*P	**Pn**	**09 20 19.2**	**-0.1**
baz=281							
ENA				*e*S	**Sn**	**09 20 33.3**	**-0.2**
baz=281							
TWB1	**Santiao Chiao**	**1.13**	**309**	*e*P	**Pn**	**09 20 19.2**	**-0.3**
baz=313							
TWB1				*e*S	**Sn**	**09 20 31.0**	**-2.8**
baz=313							
TWE	**Neicheng**	**1.25**	**290**	P	**Pn**	**09 20 20.7**	**-0.4**
baz=294							
TWE				*e*S	**Sn**	**09 20 36.0**	**-0.7**
baz=294							
TWD	**Chiawan**	**1.27**	**260**	*e*P	**Pn**	**09 20 21.4**	**+0.1**
baz=246							
TWD				*e*S	**Sn**	**09 20 37.1**	**0.0**
baz=246							
ENTT	**Nioudou**	**1.32**	**285**	*e*P	**Pn**	**09 20 22.4**	**+0.4**
baz=291							
ENTT				*e*S	**Sn**	**09 20 37.9**	**-0.5**
baz=291							
ESL	**Shilin**	**1.48**	**251**	*e*P	**Pn**	**09 20 23.7**	**-0.5**
baz=240							
ESL				*e*S	**Sn**	**09 20 41.4**	**-1.0**
baz=240							
NSK	**Sanguang**	**1.51**	**285**	*e*P	**Pn**	**09 20 25.6**	**+1.0**
baz=283							
NSK				*e*S	**Sn**	**09 20 42.5**	**-0.7**
baz=283							
WHF	**Hehuan Shan**	**1.56**	**265**	*e*P	**Pn**	**09 20 25.9**	**+0.3**
baz=262							
WHF				*e*S	**Sn**	**09 20 44.2**	**-0.6**
baz=262							
JTJ	**Tarama**	**1.62**	**78**	P	**Pn**	**09 20 26.4**	**+0.3**
JTJ				*e*S	**Sn**	**09 20 45.6**	**-0.1**
EHY	**Hungye**	**1.70**	**243**	*e*P	**Pn**	**09 20 26.6**	**-0.6**
baz=251							
EHY				*e*S	**Sn**	**09 20 47.0**	**-0.7**
baz=251							
NSTT	**Nanjuang**	**1.82**	**281**	*e*P	**Pn**	**09 20 28.6**	**-0.2**
baz=279							
NSTT				*e*S	**Sn**	**09 20 50.6**	**-0.1**
baz=279							
CHKT	**Chengkung**	**1.89**	**231**	*e*P	**Pn**	**09 20 28.6**	**-1.2**
baz=221							
CHKT				*e*S	**Sn**	**09 20 49.2**	**-3.2**
baz=221							
SMLT	**Sun Moon Lake**	**1.93**	**258**	*e*P	**Pn**	**09 20 31.3**	**+0.8**
baz=256							
SMLT				*e*S	**Sn**	**09 20 53.5**	**-0.1**
baz=256							
TYC	**Yuchr**	**1.97**	**259**	*e*P	**Pn**	**09 20 31.4**	**+0.5**
baz=250							
TYC				*e*S	**Sn**	**09 20 54.6**	**+0.3**
baz=250							
TWQ1	**Liyutan**	**2.00**	**272**	*e*P	**Pn**	**09 20 33.4**	**+2.1**
baz=270							
TWQ1				*e*S	**Sn**	**09 20 56.8**	**+1.6**
baz=270							
YUS	**Yu-Shan**	**2.01**	**247**	*e*P	**Pn**	**09 20 32.4**	**+0.5**
baz=245							
YUS				*e*S	**Sn**	**09 20 55.6**	**-0.5**
baz=245							
ELDTW	**Lidau**	**2.10**	**239**	*e*P	**Pn**	**09 20 31.9**	**-0.9**
baz=236							
ELDTW				*e*S	**Sn**	**09 20 55.9**	**-1.8**
baz=236							
ALS	**Alishan**	**2.13**	**249**	*e*P	**Pn**	**09 20 34.2**	**+0.9**
baz=247							
ALS				*e*S	**Sn**	**09 20 58.7**	**0.0**
baz=247							
CHN5	**Tsauling**	**2.21**	**252**	*e*P	**Pn**	**09 20 35.4**	**+1.1**
baz=250							
CHN5				*e*S	**Sn**	**09 21 01.6**	**+1.3**
baz=250							
TWG	**Pinlang**	**2.28**	**230**	*e*P	**Pn**	**09 20 34.7**	**-0.4**
baz=238							
TWG				*e*S	**Sn**	**09 20 59.6**	**-2.3**
baz=238							
STYT	**Tauyuan**	**2.32**	**241**	*e*P	**Pn**	**09 20 36.2**	**+0.5**
baz=239							
STYT				*e*S	**Sn**	**09 21 03.3**	**+0.2**
baz=239							
WTP	**Ta-pu**	**2.40**	**245**	*e*P	**Pn**	**09 20 37.5**	**+0.7**
baz=242							
TWK	**Hsinying**	**2.49**	**246**	*e*P	**Pn**	**09 20 40.0**	**+1.9**
baz=245							
TWK				*e*S	**Sn**	**09 21 08.6**	**+1.2**
baz=245							
CHN1	**Nanshi**	**2.49**	**244**	*e*P	**Pn**	**09 20 38.9**	**+0.7**
baz=243							
CHN1				*e*S	**Sn**	**09 21 08.6**	**+1.3**
baz=243							
SGST	**Jiashian**	**2.50**	**241**	*e*P	**Pn**	**09 20 39.2**	**+1.0**
baz=248							
SGST				*e*S	**Sn**	**09 21 09.2**	**+1.8**
baz=248							
LAY	**Lan-yu**	**2.60**	**210**	*e*P	**Pn**	**09 20 37.7**	**-1.9**
baz=208							
SSD	**Sandimen**	**2.64**	**235**	*e*P	**Pn**	**09 20 41.2**	**+1.1**
baz=230							
SSD				*e*S	**Sn**	**09 21 12.5**	**+1.6**
baz=230							
SCZT	**Fangliau**	**2.88**	**229**	*e*P	**Pn**	**09 20 44.7**	**+1.3**
baz=223							
SCZT				*e*S	**Sn**	**09 21 17.7**	**+0.7**
baz=223							

SOF **14** *09:35:43.4, 40.21N×25.78E, h8km, MD3.5*
ISK **14** *09:35:44.5, 40.33N×25.74E, h5km, MD3.5*
ISCJB **14** *09:35:45.1±0.4, 40.36N±0.01×25.73E±0.02, h9km±3km, Error ellipse: s-maj=2.6km s-min=1.9km az=33.5*
CSEM **14** *09:35:45.8±0.1, 40.34N×25.73E, h10km, MD3.5, Error ellipse: s-maj=1.8km s-min=1.5km az=32.0*
ATH **14** *09:35:45.2, 40.36N×25.75E, h28km±1km, MD3.5/18*
DDA **14** *09:35:46.2, 40.36N×25.86E, h30km, MD3.6*
THE **14** *09:35:46.2, 40.36N×25.78E, h13km±1km, ML3.6/12, Error ellipse: s-maj=2.0km s-min=1.0km az=42.0*

ISC 14 09:35:46.2±0.8, 40.34N±0.01×25.76E±0.01, h13km±6km, n235, σ0.86/301, 26C-16D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.22**	**307**	P	**Pg**	**09 35 51.2**	**+0.2**
SMTH				S	**Sg**	**09 35 54.6**	**+0.3**
SMTH	**Samothraki Isl**	**0.22**	**307**	*e*PB	**Pg**	**09 35 51.2**	**+0.2**
SMTH				*e*SB	**Sg**	**09 35 54.7**	**+0.4**
SMTH	**Samothraki Isl**	**0.22**	**307**	P	**Pg**	**09 35 51.2**	**+0.2**
SMTH				S	**Sg**	**09 35 54.6**	**+0.3**
ENEZ	**Enez**	**0.50**	**37**	*e*PG	**Pg**	**09 35 54.6**	**-1.4**
ENEZ				*e*SG	**Sg**	**09 36 02.6**	**0.0**
ENEZ	**Enez**	**0.50**	**37**	*e*Pg	**Pg**	**09 35 54.6**	**-1.4**
ENEZ				*e*Sg	**Sg**	**09 36 02.6**	**0.0**
GELI	**Tayfur-Gelibol**	**0.55**	**84**	*e*PG	**Pg**	**09 35 55.9**	**-1.1**
GELI				*e*SG	**Sg**	**09 36 04.2**	**0.0**
GELI	**Tayfur-Gelibol**	**0.55**	**84**	*e*Pg	**Pg**	**09 35 55.9**	**-1.1**
GELI				*e*Sg	**Sg**	**09 36 04.2**	**0.0**
ALN	**Alexandroupoli**	**0.60**	**21**	*e*PG	**Pg**	**09 35 56.7**	**-1.2**
ALN	**Alexandroupoli**	**0.60**	**21**	P	**Pg**	**09 35 57.3**	**-0.6**
ALN				S	**Sg**	**09 36 05.3**	**-0.5**
ALN	**Alexandroupoli**	**0.60**	**21**	*e*PN	**Pg**	**09 35 57.3**	**-0.6**
ALN				*e*SN	**Sg**	**09 36 05.5**	**-0.3**
ALN	**Alexandroupoli**	**0.60**	**21**	*e*Pg	**Pg**	**09 35 56.7**	**-1.2**
ALN	**Alexandroupoli**	**0.60**	**21**	P	**Pg**	**09 35 57.3**	**-0.6**
ALN				*e*Sn	**Sg**	**09 36 05.5**	**-0.3**
LIA	**Limnos Island**	**0.62**	**225**	P	**Pg**	**09 35 58.6**	**+0.2**
LIA				S	**Sb**	**09 36 08.5**	**+0.9**
LIA	**Limnos Island**	**0.62**	**225**	*e*PN	**Pg**	**09 35 58.6**	**+0.2**
LIA				*e*SN	**Sb**	**09 36 07.8**	**+0.2**
LIA	**Limnos Island**	**0.62**	**225**	P	**Pg**	**09 35 58.6**	**+0.2**
LIA				S	**Sb**	**09 36 08.5**	**+0.9**
ERIK	**Erikli-Kesan**	**0.66**	**60**	*e*PG	**Pg**	**09 35 57.7**	**-1.4**
ERIK	**Erikli-Kesan**	**0.66**	**60**	*e*Pg	**Pg**	**09 35 57.7**	**-1.4**
LPK	**Lapseki**	**0.76**	**87**	*e*PG	**Pg**	**09 35 59.9**	**-1.1**
LPK				*e*SG	**Sg**	**09 36 10.6**	**-0.5**
LPK	**Lapseki**	**0.76**	**87**	*e*Pg	**Pg**	**09 35 59.9**	**-1.1**
LPK				*e*Sg	**Sg**	**09 36 10.6**	**-0.5**
RDO	**Rodhopi**	**0.82**	**348**	P	**Pg**	**09 36 01.6**	**-0.6**
RDO				S	**Sg**	**09 36 12.6**	**-0.4**
RDO	**Rodhopi**	**0.82**	**348**	*e*PN	**Pg**	**09 36 01.6**	**-0.6**
RDO				*e*SN	**Sg**	**09 36 12.4**	**-0.6**
RDO	**Rodhopi**	**0.82**	**348**	P	**Pg**	**09 36 01.6**	**-0.6**
RDO				S	**Sg**	**09 36 12.6**	**-0.4**
SIGR	**SIGRI**	**1.13**	**176**	P	**Pb**	**09 36 07.1**	**-0.5**
SIGR				S	**Sb**	**09 36 22.3**	**+0.2**
SIGR	**SIGRI**	**1.13**	**176**	*e*PN	**Pb**	**09 36 07.1**	**-0.5**
SIGR				*e*SN	**Sg**	**09 36 22.7**	**0.0**
SIGR	**SIGRI**	**1.13**	**176**	P	**Pb**	**09 36 07.1**	**-0.5**
SIGR				S	**Sb**	**09 36 22.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.13**	**72**	*e*PN	**Pb**	**09 36 06.8**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.13**	**72**	*e*Pn	**Pb**	**09 36 06.8**	**-0.9**
KAVA	**Kavala**	**1.15**	**305**	P	**Pb**	**09 36 07.2**	**-0.8**
KAVA				S	**Sb**	**09 36 22.9**	**0.0**
KAVA	**Kavala**	**1.15**	**305**	*e*PN	**Pb**	**09 36 07.2**	**-0.8**
KAVA				*e*SN	**Sg**	**09 36 23.2**	**-0.3**
KAVA	**Kavala**	**1.15**	**305**	P	**Pb**	**09 36 07.2**	**-0.8**
KAVA				S	**Sb**	**09 36 22.9**	**0.0**
KAVA				*e*Sn	**Sg**	**09 36 23.2**	**-0.3**
PRK	**Paraskevi**	**1.16**	**160**	P	**Pn**	**09 36 07.8**	**-0.3**
PRK				S	**Sb**	**09 36 23.2**	**+0.1**
PRK	**Paraskevi**	**1.16**	**160**	*e*PN	**Pn**	**09 36 08.1**	**0.0**
PRK				*e*SN	**Sb**	**09 36 23.5**	**+0.4**
PRK	**Paraskevi**	**1.16**	**160**	P	**Pn**	**09 36 07.8**	**-0.3**
PRK	**Paraskevi**	**1.16**	**160**	*e*Pn	**Pn**	**09 36 08.1**	**0.0**
PRK				S	**Sb**	**09 36 23.2**	**+0.1**
KRBG	**Karabiga-Canak**	**1.18**	**87**	*e*PN	**Pn**	**09 36 07.7**	**-0.6**
KRBG	**Karabiga-Canak**	**1.18**	**87**	*e*Pn	**Pn**	**09 36 07.7**	**-0.6**
AYVA	**Ayvalik**	**1.25**	**145**	*i* P	**Pb**	**09 36 09.6**	**-0.1**
AYVA				*i* S	**Sn**	**09 36 26.1**	**0.0**
AYVA	**Ayvalik**	**1.25**	**145**	*i* P	**Pb**	**09 36 09.6**	**-0.1**
AYVA				*i* S	**Sn**	**09 36 26.1**	**0.0**
KDZ	**Kurdzhali**	**1.33**	**349**	P	**Pb**	**09 36 10.7**	**-0.4**
KDZ	**Kurdzhali**	**1.33**	**349**	⇓*i* P	**Pn**	**09 36 10.1**	**-0.5**
KDZ	**Kurdzhali**	**1.33**	**349**	P	**Pb**	**09 36 10.7**	**-0.4**
KDZ				S	**Sb**	**09 36 27.4**	**-0.7**
OUR	**Ouranopolis**	**1.36**	**270**	*e*PN	**Pn**	**09 36 09.7**	**-1.2**
OUR	**Ouranopolis**	**1.36**	**270**	P	**Pn**	**09 36 09.9**	**-1.0**
OUR				S	**Sb**	**09 36 29.0**	**+0.2**
OUR	**Ouranopolis**	**1.36**	**270**	*e*PN	**Pn**	**09 36 09.7**	**-1.1**
OUR	**Ouranopolis**	**1.36**	**270**	P	**Pn**	**09 36 09.9**	**-1.0**
OUR				S	**Sb**	**09 36 29.0**	**+0.2**
TKR	**Tekirdag**	**1.50**	**64**	*e*PN	**Pn**	**09 36 12.6**	**-0.2**
TKR	**Tekirdag**	**1.50**	**64**	*e*Pn	**Pn**	**09 36 12.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.50**	**101**	*e*PN	**Pn**	**09 36 12.3**	**-0.6**
GONE	**Gonen-Balikesi**	**1.50**	**101**	*e*Pn	**Pn**	**09 36 12.3**	**-0.6**
BALY	**Balya**	**1.55**	**112**	*i* P	**Pn**	**09 36 13.8**	**+0.2**
BALY				*i* S	**Sb**	**09 36 34.2**	**-0.1**
BALY	**Balya**	**1.55**	**112**	*i* P	**Pn**	**09 36 13.7**	**+0.2**
BALY				*i* S	**Sb**	**09 36 34.2**	**-0.1**
RZN	**Rozhen**	**1.56**	**330**	P	**Pn**	**09 36 13.7**	**-0.2**
RZN	**Rozhen**	**1.56**	**330**	P	**Pn**	**09 36 13.7**	**-0.2**
EDC	**Edincik**	**1.61**	**89**	*e*PN	**Pn**	**09 36 14.5**	**+0.2**
EDC	**Edincik**	**1.61**	**89**	*e*Pn	**Pn**	**09 36 14.5**	**+0.2**
PAIG	**Paliouri**	**1.65**	**256**	P	**Pn**	**09 36 13.7**	**-1.1**
PAIG				S	**Sn**	**09 36 34.6**	**-1.3**
PAIG	**Paliouri**	**1.65**	**256**	*e*PB	**Pn**	**09 36 13.3**	**-1.5**
PAIG	**Paliouri**	**1.65**	**256**	P	**Pn**	**09 36 13.7**	**-1.1**
PAIG				S	**Sn**	**09 36 34.6**	**-1.3**
BNT	**Bandirma**	**1.65**	**89**	*e*PN	**Pn**	**09 36 15.1**	**+0.2**
BNT	**Bandirma**	**1.65**	**89**	*e*Pn	**Pn**	**09 36 15.1**	**+0.2**
EDRB	**Edirne**	**1.68**	**26**	*e*PN	**Pn**	**09 36 14.9**	**-0.4**
EDRB	**Edirne**	**1.68**	**26**	*e*Pn	**Pn**	**09 36 14.9**	**-0.4**
CRLT	**Corlu**	**1.69**	**62**	*e*PN	**Pn**	**09 36 15.8**	**+0.3**
CRLT	**Corlu**	**1.69**	**62**	*e*Pn	**Pn**	**09 36 15.8**	**+0.3**
DIM	**Dimitrovgrad**	**1.72**	**354**	P	**Pn**	**09 36 15.9**	**+0.1**
DIM	**Dimitrovgrad**	**1.72**	**354**	P	**Pn**	**09 36 15.9**	**+0.1**
NVR	**Nevrokopi**	**1.76**	**306**	P	**Pn**	**09 36 16.0**	**-0.4**
NVR				S	**Sn**	**09 36 38.5**	**-0.2**
NVR	**Nevrokopi**	**1.76**	**306**	*e*PN	**Pn**	**09 36 16.0**	**-0.4**
NVR	**Nevrokopi**	**1.76**	**306**	P	**Pn**	**09 36 16.0**	**-0.4**
NVR				S	**Sn**	**09 36 38.5**	**-0.2**
PLG	**Polygyros**	**1.77**	**272**	P	**Pn**	**09 36 15.8**	**-0.8**
PLG				S	**Sb**	**09 36 40.4**	**-0.3**
PLG	**Polygyros**	**1.77**	**272**	*e*PB	**Pn**	**09 36 15.8**	**-0.8**
PLG	**Polygyros**	**1.77**	**272**	P	**Pn**	**09 36 15.8**	**-0.8**
PLG				S	**Sb**	**09 36 40.4**	**-0.3**
BALB	**Balikesir**	**1.77**	**113**	*e*PN	**Pn**	**09 36 16.8**	**+0.3**
BALB	**Balikesir**	**1.77**	**113**	*e*Pn	**Pn**	**09 36 16.8**	**+0.3**
SRS	**Serrai**	**1.82**	**296**	*e*PN	**Pn**	**09 36 16.5**	**-0.8**
SRS	**Serrai**	**1.82**	**296**	*e*Pn	**Pn**	**09 36 16.5**	**-0.8**
PHSR	**Pinarhisar**	**1.86**	**45**	*e*PN	**Pn**	**09 36 17.6**	**-0.1**
PHSR	**Pinarhisar**	**1.86**	**45**	*e*Pn	**Pn**	**09 36 17.6**	**-0.1**
AOS	**Alonnisos**	**1.86**	**232**	*e*PN	**Pn**	**09 36 18.3**	**+0.5**
AOS	**Alonnisos**	**1.86**	**232**	P	**Pn**	**09 36 16.5**	**-1.2**
AOS				S	**Sb**	**09 36 42.6**	**-0.7**
AOS	**Alonnisos**	**1.86**	**232**	*e*PN	**Pn**	**09 36 16.6**	**-1.2**
AOS	**Alonnisos**	**1.86**	**232**	*e*Pn	**Pn**	**09 36 16.6**	**-1.2**
AOS				S	**Sb**	**09 36 42.6**	**-0.7**
SOH	**Sokhos**	**1.90**	**285**	P	**Pn**	**09 36 17.9**	**-0.4**
SOH				S	**Sn**	**09 36 40.2**	**-1.9**
SOH	**Sokhos**	**1.90**	**285**	*e*PB	**Pn**	**09 36 17.7**	**-0.6**
SOH	**Sokhos**	**1.90**	**285**	P	**Pn**	**09 36 17.9**	**-0.4**
SOH				S	**Sn**	**09 36 40.2**	**-1.9**
PLD	**Plovdiv**	**1.94**	**336**	P	**Pn**	**09 36 18.9**	**+0.1**
PLD	**Plovdiv**	**1.94**	**336**	P	**Pn**	**09 36 18.9**	**+0.1**
CHOS	**Chios island**	**1.96**	**173**	*e*PN	**Pn**	**09 36 18.7**	**-0.6**
CHOS	**Chios island**	**1.96**	**173**	P	**Pn**	**09 36 18.9**	**-0.3**
CHOS				S	**Sn**	**09 36 43.9**	**+0.1**
CHOS	**Chios island**	**1.96**	**173**	*e*PN	**Pn**	**09 36 19.0**	**-0.3**
CHOS	**Chios island**	**1.96**	**173**	*e*Pn	**Pn**	**09 36 19.0**	**-0.3**
CHOS				S	**Sn**	**09 36 43.9**	**+0.1**
MMB	**Musomiste**	**1.98**	**310**	P	**Pn**	**09 36 18.7**	**-0.8**
MMB	**Musomiste**	**1.98**	**310**	⇓*i* P	**Pn**	**09 36 18.9**	**-0.6**
MMB	**Musomiste**	**1.98**	**310**	P	**Pn**	**09 36 18.7**	**-0.8**
KCTX	**Karacabey (Bur**	**1.99**	**91**	*e*PN	**Pn**	**09 36 19.8**	**+0.3**
KCTX	**Karacabey (Bur**	**1.99**	**91**	*e*Pn	**Pn**	**09 36 19.8**	**+0.3**
HORT	**Hortiatis**	**2.05**	**278**	P	**Pn**	**09 36 19.9**	**-0.5**
HORT				S	**Sb**	**09 36 48.0**	**-0.7**
HORT	**Hortiatis**	**2.05**	**278**	*e*PN	**Pn**	**09 36 19.9**	**-0.5**
HORT	**Hortiatis**	**2.05**	**278**	P	**Pn**	**09 36 19.9**	**-0.5**
HORT				S	**Sb**	**09 36 48.0**	**-0.7**
SLVT	**Silivri**	**2.06**	**64**	*e*PN	**Pn**	**09 36 21.3**	**+0.8**
SLVT	**Silivri**	**2.06**	**64**	*e*Pn	**Pn**	**09 36 21.3**	**+0.8**
SKIA	**Skiathos**	**2.12**	**237**	P	**Pn**	**09 36 19.6**	**-1.8**
SKIA				S	**Sn**	**09 36 49.3**	**+1.7**
SKIA	**Skiathos**	**2.12**	**237**	*e*PN	**Pn**	**09 36 19.8**	**-1.6**
SKIA	**Skiathos**	**2.12**	**237**	*e*Pn	**Pn**	**09 36 19.8**	**-1.6**
SKIA				S	**Sn**	**09 36 49.3**	**+1.7**
AKS	**Akhisar**	**2.15**	**132**	*e*PN	**Pn**	**09 36 22.0**	**+0.2**
AKS	**Akhisar**	**2.15**	**132**	*e*Pn	**Pn**	**09 36 22.0**	**+0.2**
AKHS	**Akhisar**	**2.15**	**132**	*i* P	**Pn**	**09 36 22.2**	**+0.4**
AKHS				*i* S	**Sg**	**09 36 56.4**	**+0.9**
AKHS	**Akhisar**	**2.15**	**132**	*i* P	**Pn**	**09 36 22.2**	**+0.4**
ELBA	**Catalca**	**2.18**	**67**	*i* P	**Pn**	**09 36 21.2**	**-1.0**
ELBA				*i* S	**Sn**	**09 36 49.0**	**-0.1**
ELBA	**Catalca**	**2.18**	**67**	*i* P	**Pn**	**09 36 21.2**	**-1.0**
ELBA				*i* S	**Sn**	**09 36 49.0**	**-0.1**
XOR	**Xorichti**	**2.20**	**245**	P	**Pn**	**09 36 21.1**	**-1.4**
XOR				S	**Sn**	**09 36 48.2**	**-1.5**
XOR	**Xorichti**	**2.20**	**245**	*e*PN	**Pn**	**09 36 21.4**	**-1.1**
XOR	**Xorichti**	**2.20**	**245**	P	**Pn**	**09 36 21.1**	**-1.4**
XOR	**Xorichti**	**2.20**	**245**	*e*Pn	**Pn**	**09 36 21.4**	**-1.1**
XOR				S	**Sn**	**09 36 48.2**	**-1.5**
DURS	**Dursunbey**	**2.21**	**109**	*i* P	**Pn**	**09 36 22.9**	**+0.2**
DURS	**Dursunbey**	**2.21**	**109**	*i* P	**Pn**	**09 36 22.9**	**+0.2**
JMB	**Yambol**	**2.21**	**16**	P	**Pn**	**09 36 23.2**	**+0.6**
JMB	**Yambol**	**2.21**	**16**	⇓*i* P	**Pn**	**09 36 23.6**	**+1.0**
JMB	**Yambol**	**2.21**	**16**	P	**Pn**	**09 36 23.2**	**+0.6**
JMB				S	**Sn**	**09 36 55.7**	**-1.7**
CTYL	**Yal??k??y-??at**	**2.23**	**59**	*e*PN	**Pn**	**09 36 23.2**	**+0.4**
CTYL	**Yal??k??y-??at**	**2.23**	**59**	*e*Pn	**Pn**	**09 36 23.2**	**+0.4**
IZM	**Izmir**	**2.26**	**149**	*e*PN	**Pn**	**09 36 23.0**	**-0.3**
IZM	**Izmir**	**2.26**	**149**	*e*Pn	**Pn**	**09 36 23.0**	**-0.3**
CTKS	**Kestanelik-??a**	**2.27**	**66**	*e*PN	**Pn**	**09 36 24.3**	**+0.9**
CTKS	**Kestanelik-??a**	**2.27**	**66**	*e*Pn	**Pn**	**09 36 24.3**	**+0.9**
KNT	**Kendrikon**	**2.33**	**292**	*e*PN	**Pn**	**09 36 23.9**	**-0.3**
KNT	**Kendrikon**	**2.33**	**292**	*e*Pn	**Pn**	**09 36 23.9**	**-0.3**
MRKA	**Markates**	**2.34**	**227**	*e*PN	**Pn**	**09 36 23.5**	**-0.9**
MRKA	**Markates**	**2.34**	**227**	*e*Pn	**Pn**	**09 36 23.5**	**-0.9**
ARMT	**Armutlu**	**2.38**	**84**	*e*PN	**Pn**	**09 36 25.9**	**+1.0**
ARMT	**Armutlu**	**2.38**	**84**	*e*Pn	**Pn**	**09 36 25.9**	**+1.0**
MDNY	**Mudanya-Bursa**	**2.39**	**88**	*e*PN	**Pn**	**09 36 25.8**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.39**	**88**	*e*Pn	**Pn**	**09 36 25.8**	**+0.8**
ORLT	**Orhaneli**	**2.42**	**96**	*e*PN	**Pn**	**09 36 26.2**	**+0.7**
ORLT	**Orhaneli**	**2.42**	**96**	*e*Pn	**Pn**	**09 36 26.2**	**+0.7**
BGKT	**Bogazkoy**	**2.44**	**69**	*e*PN	**Pn**	**09 36 26.9**	**+1.2**
BGKT	**Bogazkoy**	**2.44**	**69**	*e*Pn	**Pn**	**09 36 26.9**	**+1.2**
KKB	**Krupnik**	**2.53**	**308**	P	**Pn**	**09 36 26.8**	**-0.3**
KKB	**Krupnik**	**2.53**	**308**	P	**Pn**	**09 36 26.8**	**-0.3**
VAY	**Valandovo**	**2.61**	**293**	*i* Pn	**Pb**	**09 36 34.2**	**+1.3**
VAY				*e*Sg	**Sg**	**09 37 10.1**	**0.0**
GEMT	**Gemlik**	**2.62**	**87**	*e*PN	**Pn**	**09 36 29.6**	**+1.4**
GEMT	**Gemlik**	**2.62**	**87**	*e*Pn	**Pn**	**09 36 29.6**	**+1.4**
DEMI	**Demirci**	**2.62**	**119**	*i* P	**Pn**	**09 36 28.9**	**+0.6**
DEMI				*i* S	**Sg**	**09 37 09.1**	**-1.4**
DEMI	**Demirci**	**2.62**	**119**	*i* P	**Pn**	**09 36 28.9**	**+0.6**
KLYT	**Kilyos**	**2.65**	**69**	*e*PN	**Pn**	**09 36 29.2**	**+0.6**
KLYT	**Kilyos**	**2.65**	**69**	*e*Pn	**Pn**	**09 36 29.2**	**+0.6**
SMG	**Samos**	**2.76**	**162**	P	**Pn**	**09 36 30.0**	**-0.1**
SMG				S	**Sn**	**09 37 04.4**	**+1.1**
SMG	**Samos**	**2.76**	**162**	*e*PN	**Pn**	**09 36 30.0**	**-0.1**
SMG	**Samos**	**2.76**	**162**	P	**Pn**	**09 36 30.0**	**-0.1**
SMG				S	**Sn**	**09 37 04.4**	**+1.1**
MANT	**Manisa**	**2.85**	**130**	*i* P	**Pn**	**09 36 32.1**	**+0.6**
MANT				*i* S	**Sn**	**09 37 05.6**	**-0.2**
MANT	**Manisa**	**2.85**	**130**	*i* P	**Pn**	**09 36 32.1**	**+0.6**
MANT				*i* S	**Sn**	**09 37 05.6**	**-0.2**
PVL	**Pavlikeni**	**2.89**	**354**	P	**Pn**	**09 36 31.5**	**-0.4**
PVL	**Pavlikeni**	**2.89**	**354**	P	**Pn**	**09 36 31.5**	**-0.4**
SZH	**Strazhica**	**2.93**	**2**	P	**Pn**	**09 36 32.5**	**0.0**
SZH	**Strazhica**	**2.93**	**2**	P	**Pn**	**09 36 32.5**	**0.0**
VTS	**Vitosha**	**2.96**	**320**	*e*PN	**Pn**	**09 36 33.8**	**+0.8**
VTS	**Vitosha**	**2.96**	**320**	P	**Pn**	**09 36 33.4**	**+0.4**
VTS	**Vitosha**	**2.96**	**320**	⇑*i* P	**Pn**	**09 36 33.5**	**+0.4**
VTS	**Vitosha**	**2.96**	**320**	S	**Sg**	**09 37 21.2**	**0.0**
VTS	**Vitosha**	**2.96**	**320**	P	**Pn**	**09 36 33.4**	**+0.4**
VTS	**Vitosha**	**2.96**	**320**	*e*Pn	**Pn**	**09 36 33.8**	**+0.8**
TVSB	**Tavsanli**	**2.98**	**106**	*e*PN	**Pn**	**09 36 34.5**	**+1.2**
TVSB	**Tavsanli**	**2.98**	**106**	*e*Pn	**Pn**	**09 36 34.5**	**+1.2**
ADVT	**Abdulvahap**	**3.04**	**87**	*e*PN	**Pn**	**09 36 35.6**	**+1.6**
ADVT	**Abdulvahap**	**3.04**	**87**	*e*Pn	**Pn**	**09 36 35.6**	**+1.6**
SILT	**Sile**	**3.06**	**73**	*e*PN	**Pn**	**09 36 34.7**	**+0.5**
SILT	**Sile**	**3.06**	**73**	*e*Pn	**Pn**	**09 36 34.7**	**+0.5**
PRD	**Provadia**	**3.11**	**23**	P	**Pn**	**09 36 34.8**	**-0.1**
PRD	**Provadia**	**3.11**	**23**	P	**Pn**	**09 36 34.8**	**-0.1**
CAVI	**Cavuskoy**	**3.13**	**91**	*e*PN	**Pn**	**09 36 36.0**	**+0.8**
CAVI	**Cavuskoy**	**3.13**	**91**	*e*Pn	**Pn**	**09 36 36.0**	**+0.8**
GDZ	**Gediz**	**3.13**	**112**	*i* P	**Pn**	**09 36 36.2**	**+0.8**
GDZ				*i* S	**Sg**	**09 37 25.4**	**-1.3**
GDZ	**Gediz**	**3.13**	**112**	*i* P	**Pn**	**09 36 36.2**	**+0.8**
AYDN	**Tasoluk**	**3.14**	**148**	*i* P	**Pn**	**09 36 35.6**	**+0.1**
AYDN				*i* S	**Sg**	**09 37 26.6**	**-0.6**
AYDN	**Tasoluk**	**3.14**	**148**	*i* P	**Pn**	**09 36 35.6**	**+0.1**
APE	**Apeiranthos**	**3.27**	**183**	*e*PN	**Pn**	**09 36 38.4**	**+1.2**
APE	**Apeiranthos**	**3.27**	**183**	⇑*i* P	**Pn**	**09 36 36.7**	**-0.5**
APE	**Apeiranthos**	**3.27**	**183**	⇑*i* P	**Pn**	**09 36 36.7**	**-0.5**
APE	**Apeiranthos**	**3.27**	**183**	*e*Pn	**Pn**	**09 36 38.4**	**+1.2**
MPEP	**Malo Peshtene**	**3.37**	**334**	P	**Pn**	**09 36 39.2**	**+0.7**
BODT	**Bodrum**	**3.49**	**159**	*e*PN	**Pn**	**09 36 40.4**	**+0.2**
BODT	**Bodrum**	**3.49**	**159**	*e*Pn	**Pn**	**09 36 40.4**	**+0.2**
BDRM	**Kayabasi**	**3.52**	**158**	*i* P	**Pn**	**09 36 40.8**	**+0.1**
BDRM				*i* S	**Sg**	**09 37 39.7**	**+0.2**
BDRM	**Kayabasi**	**3.52**	**158**	*i* P	**Pn**	**09 36 40.8**	**+0.1**
BORA	**Eskisehir**	**3.63**	**96**	*i* P	**Pn**	**09 36 42.6**	**+0.4**
BORA	**Eskisehir**	**3.63**	**96**	*i* P	**Pn**	**09 36 42.6**	**+0.4**
GULT	**Gulveren**	**3.63**	**87**	*e*PN	**Pn**	**09 36 43.5**	**+1.3**
GULT	**Gulveren**	**3.63**	**87**	*e*Pn	**Pn**	**09 36 43.5**	**+1.3**
PSN	**Preselentsi**	**3.80**	**28**	⇓*i* P	**Pn**	**09 36 43.8**	**-0.6**
PSN	**Preselentsi**	**3.80**	**28**	⇓*i* P	**Pn**	**09 36 43.8**	**-0.6**
SEYT	**Eskypehyr**	**4.00**	**100**	*i* P	**Pn**	**09 36 48.3**	**+1.0**
SEYT	**Eskypehyr**	**4.00**	**100**	*i* P	**Pn**	**09 36 48.3**	**+1.0**
SHUT	**Suhut-Afyon**	**4.12**	**114**	*e*PN	**Pn**	**09 36 50.7**	**+1.8**
SHUT	**Suhut-Afyon**	**4.12**	**114**	*e*Pn	**Pn**	**09 36 50.7**	**+1.8**
MDUB	**Mudurnu**	**4.15**	**86**	*e*PN	**Pn**	**09 36 51.0**	**+1.6**
MDUB	**Mudurnu**	**4.15**	**86**	*e*Pn	**Pn**	**09 36 51.0**	**+1.6**
BOLV	**Bolvadin**	**4.33**	**115**	*i* S	**Pn**	**09 36 52.6**	**+1.4**
BOLS	**Boljevac**	**4.49**	**322**	*e*Pn	**Pn**	**09 36 52.6**	**-1.4**
TIRR	**Tirgusor**	**4.56**	**25**	⇑*i* P	**Pn**	**09 36 55.0**	**+0.2**
TIRR	**Tirgusor**	**4.56**	**25**	⇑*i* P	**Pn**	**09 36 55.0**	**+0.2**
TLB	**Topalu**	**4.57**	**21**	⇑*i* P	**Pn**	**09 36 54.9**	**0.0**
TLB	**Topalu**	**4.57**	**21**	⇑*i* P	**Pn**	**09 36 54.9**	**0.0**
ISR	**Istrita**	**4.81**	**7**	⇓*i* P	**Pg**	**09 37 21.0**	**+2.7**
KIZT	**Kizilcal**	**4.95**	**105**	*e*PN	**Pn**	**09 37 01.2**	**+0.9**
KIZT	**Kizilcal**	**4.95**	**105**	*e*Pn	**Pn**	**09 37 01.2**	**+0.9**
ARR	**Arges**	**5.09**	**351**	⇓*i* P	**Pn**	**09 37 02.5**	**+0.2**
VOIR		**5.12**	**354**	⇓*i* P	**Pn**	**09 37 03.1**	**+0.4**
VOIR		**5.12**	**354**	⇓*i* P	**Pn**	**09 37 03.1**	**+0.4**
CFR	**Carcaliu**	**5.14**	**19**	⇓*i* P	**Pn**	**09 37 02.6**	**-0.2**
CFR	**Carcaliu**	**5.14**	**19**	⇓*i* P	**Pn**	**09 37 02.6**	**-0.2**
MLR	**Muntele Rosu**	**5.15**	**1**	⇑*i* P	**Pn**	**09 37 03.9**	**+0.8**
MLR	**Muntele Rosu**	**5.15**	**1**	S	**Sg**	**09 38 36.4**	**+4.9**
MLR	**Muntele Rosu**	**5.15**	**1**	⇑*i* P	**Pn**	**09 37 03.9**	**+0.8**
GRUS	**Gruza**	**5.16**	**315**	⇑*i* Pn	**Pn**	**09 37 03.3**	**+0.1**
IVAS	**Ivanjica**	**5.29**	**310**	⇑*i* Pn	**Pn**	**09 37 05.4**	**+0.5**
LOT	**Lotru**	**5.31**	**345**	⇑*i* P	**Pn**	**09 37 05.2**	**-0.1**
LOT	**Lotru**	**5.31**	**345**	⇑*i* P	**Pn**	**09 37 05.2**	**-0.1**
ANTO	**Ankara**	**5.41**	**93**	⇑*i* P	**Pn**	**09 37 08.7**	**+2.0**
ANTO	**Ankara**	**5.41**	**93**	⇑*i* P	**Pn**	**09 37 08.7**	**+2.0**
GZR	**Gura Zlata**	**5.51**	**338**	⇓*i* P	**Pn**	**09 37 07.8**	**-0.1**
GZR	**Gura Zlata**	**5.51**	**338**	⇓*i* P	**Pn**	**09 37 07.8**	**-0.1**
PLOR	**Plostina**	**5.55**	**6**	⇑*i* P	**Pn**	**09 37 10.1**	**+1.6**
PLOR	**Plostina**	**5.55**	**6**	⇑*i* P	**Pn**	**09 37 10.1**	**+1.6**
VRI	**Vrincioaia**	**5.57**	**7**	⇓*i* P	**Pn**	**09 37 10.3**	**+1.5**
VRI	**Vrincioaia**	**5.57**	**7**	⇓*i* P	**Pn**	**09 37 10.3**	**+1.5**
DOPR	**Dopca**	**5.63**	**357**	⇑*i* P	**Pn**	**09 37 10.5**	**+0.9**
DOPR	**Dopca**	**5.63**	**357**	⇑*i* P	**Pn**	**09 37 10.5**	**+0.9**
DIVS	**Divibare**	**5.70**	**313**	⇑*i* Pn	**Pn**	**09 37 10.5**	**-0.1**
BZS	**Buzias**	**6.09**	**331**	⇑*i* P	**Pn**	**09 37 15.5**	**-0.3**
BZS	**Buzias**	**6.09**	**331**	⇑*i* P	**Pn**	**09 37 15.5**	**-0.3**
TEKS	**Tekeris**	**6.24**	**314**	⇓*i* Pn	**Pn**	**09 37 18.0**	**0.0**
SIRR	**Siria**	**6.64**	**335**	⇑*i* P	**Pn**	**09 37 23.2**	**-0.2**
SIRR	**Siria**	**6.64**	**335**	⇑*i* P	**Pn**	**09 37 23.2**	**-0.2**
BURAR	**Bucovina Array**	**7.28**	**357**	⇑*i* P	**Pn**	**09 37 33.9**	**+1.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.94**	**165**	P	P	11 38 42.2	+0.7
	0.6nm,0.4s,baz=344,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.42**	**168**	P	P	11 39 13.3	-0.8
	0.2nm,0.7s,baz=349,slow=6.9,SNR=4.7						
STKA	**Stephens Creek**	**36.33**	**160**	P	P	11 40 40.6	-0.6
	0.4nm,0.3s,baz=356,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**59.49**	**325**	P	P	11 43 40.8	+0.4
	0.8nm,0.6s,baz=116,slow=8.5,SNR=6.7						

IDC ***14*** *11:38:50.2±1.3, 14.°94S×173.°75W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/19, mbtmp4.0/9, MS3.8/8, Ms1 3.8/8, ms1mx3.5/32, Error ellipse: s-maj=66.2km s-min=19.3km az=146.0*

ISCJB ***14*** *11:38:58.2±1.1, 14.°9S±0.°3×173.°9W±0.°3, h73km, mb3.8/9, Error ellipse: s-maj=56.4km s-min=16.0km az=144.9*

ISC 14 11:38:59.6±1.3, 15.°0S±0.°4×173.°8W±0.°3, h73km, n35, σ0s57/12, mb3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**61**	Pn	Pn	11 39 19.1	-16
	153nm,0.3s,baz=69,slow=1.3,SNR=206						
AFI				Sn	Sn	11 39 40.3	-21
	476nm,0.3s,baz=92,slow=18,SNR=9.0						
RAR	**Rarotonga**	**14.68**	**117**	LR	LR	11 46 17.7	
	comp=Z,309nm,19.7s,baz=270,slow=30						
RAO	**Raoul Island**	**14.68**	**194**	LR	LR	11 47 05.1	
	comp=Z,267nm,20.4s,baz=117,slow=34						
PAE	**Paea**	**23.38**	**100**	*e*T	T	12 07 04.6	
	4.2nm,0.3s						
PPT2	**Papeete2**	**23.38**	**100**	*e*LQ	LQ	11 48 25.8	
	402nm,25.8s						
PPT2				*e*LR	LR	11 49 23.4	
	387nm,25.2s						
PPT2	**Papeete2**	**23.38**	**100**	*e*T	T	12 07 05.3	
	7.1nm,0.3s						
TIAR	**Tiarei**	**23.59**	**100**	*e*T	T	12 07 20.8	
	4.0nm,0.3s						
TVO	**Taravao**	**23.69**	**100**	*e*T	T	12 07 28.8	
	2.8nm,0.3s						
TBI	**Tubuai**	**24.40**	**114**	*e*LQ	LQ	11 48 49.3	
	408nm,27.0s						
TBI				*e*LR	LR	11 49 44.0	
	406nm,26.5s						
TBI	**Tubuai**	**24.40**	**114**	*e*T	T	12 08 33.7	
	17nm,0.3s						
URZ	**Urewera**	**24.52**	**197**	LR	LR	11 52 02.2	
	comp=Z,148nm,20.7s,baz=190,slow=32						
VAH	**Vaihoa**	**25.25**	**94**	*e*T	T	12 09 21.0	
	7.6nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.44**	**329**	T	T	12 27 23.0	
	baz=152,slow=77,SNR=43						
H11S3	**WAKE ISLAND Hy**	**38.45**	**329**	T	T	12 27 17.7	
	baz=152,slow=77,SNR=21						
H11S1	**WAKE ISLAND Hy**	**38.46**	**329**	T	T	12 27 17.3	
	baz=152,slow=77,SNR=18						
H11N3	**WAKE ISLAND Hy**	**39.39**	**331**	T	T	12 28 34.0	
	baz=152,slow=77,SNR=19						
H11N1	**WAKE ISLAND Hy**	**39.40**	**331**	T	T	12 28 29.7	
	baz=152,slow=77,SNR=22						
H11N2	**WAKE ISLAND Hy**	**39.41**	**331**	T	T	12 28 47.2	
	baz=152,slow=77,SNR=29						
STKA	**Stephens Creek**	**43.91**	**240**	P	**P**	**11 46 59.5**	**+0.1**
	0.7nm,0.5s,baz=66,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**49.57**	**256**	P	**P**	**11 47 43.4**	**-0.4**
	1.7nm,0.8s,baz=97,slow=7.8,SNR=29						
ASAR	**Alice Springs**	**49.88**	**252**	P	**P**	**11 47 45.9**	**-0.2**
	7.4nm,0.7s,baz=86,slow=8.2,SNR=13						
ASAR				LR	LR	12 07 14.0	
	comp=Z,218nm,21.5s,baz=80,slow=34						
H06E1	**SOCORRO T-PHAS**	**70.41**	**63**	T	T	13 06 36.4	
	SNR=7.5						
PETK	**Petropavlovsk-**	**72.15**	**342**	P	**P**	**11 50 16.8**	**+0.5**
	1.9nm,0.7s,baz=134,slow=8.3,SNR=4.6						
LPIG	**La Paz**	**73.16**	**59**	LR	LR	12 13 26.9	
	comp=Z,53nm,20.3s,baz=36,slow=28						
YBH	**Yreka Blue Hor**	**73.52**	**37**	P	**P**	**11 50 24.9**	**+0.1**
	1.2nm,0.8s,baz=173,slow=8.1						
KSRS	**Korea Array**	**75.62**	**316**	LR	LR	12 19 31.4	
	comp=Z,50nm,19.5s,baz=170,slow=32						
USRK	**Ussuriysk Arra**	**76.85**	**323**	LR	LR	12 23 19.1	
	comp=Z,62nm,18.4s,baz=102,slow=35						
TXAR	**Lajitas Array**	**80.71**	**56**	P	**P**	**11 51 06.0**	**+0.6**
	0.6nm,0.9s,baz=260,slow=7.0,SNR=6.1						
ANMO	**Albuquerque**	**80.84**	**50**	LR	LR	12 19 37.5	
	comp=Z,36nm,18.4s,baz=209,slow=30						
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**11 51 11.1**	**-0.8**
	0.9nm,0.7s,baz=224,slow=6.0,SNR=15						
PDAR	**Pinedale Array**	**82.23**	**42**	P	**P**	**11 51 12.7**	**-0.6**
	1.1nm,0.8s,baz=218,slow=3.9,SNR=7.1						
YKA	**Yellowknife Ar**	**89.89**	**23**	P	**P**	**11 51 49.8**	**-0.3**
	0.4nm,0.7s,baz=240,slow=4.7,SNR=5.3						
KHC	**Kasperske Hory**	**145.44**	**351**	*e*P	**PKPab**	**11 58 30.5**	**+0.8**
BRTR	**Keskin Array B**	**145.62**	**321**	PKPbc	**PKPab**	**11 58 31.3**	**+0.5**
	2.0nm,0.7s,baz=80,slow=1.9,SNR=7.3						
GERES	**GERESS Array B**	**145.70**	**351**	PKPbc	**PKPab**	**11 58 30.7**	**0.0**
	0.4nm,0.4s,baz=46,slow=3.9,SNR=4.3						

IDC 14 11:46:23.8±3.5, 6.°48S×149.°46E, h0km, mb3.4/1, mb1 4.0/3, mb1mx3.5/17, mbtmp3.8/3, ML3.6/2, Error ellipse: s-maj=122.1km s-min=38.1km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.69**	**218**	Pn	Pn	11 47 24.2	+2.0
	7.0nm,0.3s,baz=57,slow=5.6,SNR=21						
PMG				Sn	Sn	11 48 08.9	+2.5
	18nm,0.3s,baz=54,slow=23,SNR=14						
WRA	**Warramunga Arr**	**19.86**	**226**	P	P	11 50 56.6	-0.1
	0.5nm,0.3s,baz=52,slow=11,SNR=28						
ASAR	**Alice Springs**	**22.70**	**220**	P	P	11 51 26.0	-1.4
	0.9nm,0.6s,baz=52,slow=9.5,SNR=15						
TORD	**Torodi Ar. Bea**	**147.57**	**284**	PKPbc	PKPbc	12 06 10.9	-0.3
	0.6nm,0.7s,baz=69,slow=3.0,SNR=3.7						

IDC 14 11:55:20.4±29.0, 15.°66S×178.°35W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=554.1km s-min=148.3km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.80**	**239**	P	P	12 02 54.2	-1.2
	0.8nm,0.6s,baz=101,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**45.14**	**257**	P	P	12 03 39.3	+0.2
	0.3nm,0.2s,baz=89,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**45.49**	**252**	P	P	12 03 41.8	-0.1
	2.3nm,0.4s,baz=88,slow=7.9,SNR=90						
FITZ	**Fitzroy Crossi**	**53.48**	**259**	P	P	12 04 43.1	+0.2
	3.2nm,1.0s,baz=79,slow=10,SNR=3.5						

IDC 14 12:05:09.0±2.3, 5.°93S×126.°60E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=328.3km s-min=30.2km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.83**	**152**	Pn	Pn	12 08 55.3	+1.9
	0.1nm,0.3s,baz=330,slow=12,SNR=10						
ASAR	**Alice Springs**	**18.98**	**159**	P	P	12 09 31.4	-0.9
	0.1nm,0.3s,baz=343,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**65.32**	**328**	P	P	12 15 54.3	0.0
	0.2nm,0.4s,baz=120,slow=7.4,SNR=5.3						

BJI ***14*** *12:14:42.9, 39.°52N×74.°73E, h8km, mB4.3/2, mb4.3/14, ML4.2/6, Ms4.0/7, Ms7 3.8/6*

ISCJB ***14*** *12:14:42.8±0.3, 39.°37N±0.°03×74.°99E±0.°04, h10km, mb4.1/22, MS3.2/8, Error ellipse: s-maj=5.3km s-min=3.3km az=146.1*

IDC ***14*** *12:14:43.2±0.8, 39.°34N×74.°90E, h0km, mb4.1/16, mb1 4.2/21, mb1mx4.1/34, mbtmp4.0/21, ML3.8/5, MS3.2/9, Ms1 3.2/9, ms1mx3.0/47, Error ellipse: s-maj=15.5km s-min=13.9km az=168.0*

MOS ***14*** *12:14:45.4±0.8, 39.°27N×74.°90E, h27km, mb4.4/6, Error ellipse: s-maj=12.8km s-min=5.2km az=93.7*

NEIC ***14*** *12:14:47.8±0.3, 39.°39N×75.°04E, h35km, mb4.4/5, Error ellipse: s-maj=8.7km s-min=4.3km az=58.0*

NNC ***14*** *12:14:49.0±3.2, 39.°81N×74.°88E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=28.8km s-min=15.7km az=179.0*

ISC 14 12:14:44.9±0.5, 39.°44N±0.°05×75.°07E±0.°04, h10km, n137, σ1s63/131, mb4.2/22, MS3.2/8, 11C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.70**	**84**	Pg	**Pg**	**12 14 56.6**	**-1.9**
KSH				Sg	**Sg**	**12 15 06.4**	**-1.3**
KSH				smax	smax		
	comp=N,15μm,0.6s						
KSH				smax	smax		
	comp=E,8μm,0.5s						
KZA	**Kyzart**	**2.63**	**3**	*i* PN	**Pb**	**12 15 30.4**	**-2.0**
KZA	**Kyzart**	**2.63**	**3**	P	**Pb**	**12 15 30.4**	**-2.0**
	SNR=1008						
UCH	**Uchtor**	**2.81**	**352**	*i* PN	**Pn**	**12 15 32.6**	**+2.3**
UCH	**Uchtor**	**2.81**	**352**	P	**Pn**	**12 15 32.7**	**+2.3**
	SNR=818						
AML	**Almayashu**	**2.88**	**339**	*i* PN	**Pn**	**12 15 33.2**	**+2.0**
AML	**Almayashu**	**2.88**	**339**	P	**Pn**	**12 15 33.2**	**+2.0**
	SNR=168						
ULHL	**Ulahol**	**2.94**	**17**	*i* PN	**Pb**	**12 15 34.9**	**-2.5**
ULHL	**Ulahol**	**2.94**	**17**	P	**Pb**	**12 15 35.0**	**-2.5**
	SNR=63						
KBK	**Karagaybulak**	**3.21**	**358**	*i* PN	Pn	12 15 38.8	+3.2
KBK	**Karagaybulak**	**3.21**	**358**	P	Pn	12 15 38.8	+3.2
	SNR=241						
AAK	**Ala-Archa**	**3.22**	**352**	*i* PN	**Pn**	**12 15 38.5**	**+2.9**
AAK	**Ala-Archa**	**3.22**	**352**	P	**Pn**	**12 15 38.6**	**+2.9**
	SNR=460						
AAK	**Ala-Archa**	**3.22**	**352**	*e*Pn	**Pn**	**12 15 38.4**	**+2.7**
EKS2	**Erkin-Say**	**3.36**	**343**	*i* PN	**Pn**	**12 15 40.2**	**+2.6**
EKS2	**Erkin-Say**	**3.36**	**343**	P	**Pn**	**12 15 40.2**	**+2.6**
	SNR=285						
FRU	**Bishkek**	**3.40**	**354**	⇓*i* PN	**Pn**	**12 15 41.0**	**+2.9**
FRU				*e*S	**Sb**	**12 16 28.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,418nm,1.8s						
FRU				smax	smax		
	comp=E,1μm,1.8s						
TKM2	**Tokmak 2**	**3.50**	**6**	*i* PN	Pn	12 15 42.9	+3.4
TKM2	**Tokmak 2**	**3.50**	**6**	P	Pn	12 15 42.9	+3.4
	SNR=449						
TKM2	**Tokmak 2**	**3.50**	**6**	⇓Pn	Pn	12 15 42.7	+3.2
	comp=E,204nm,0.5s						
TKM2				⇓Lg	Lg	12 16 26.2	
	comp=E,435nm,0.7s						
CHMS	**Chumysh**	**3.56**	**356**	*i* PN	**Pn**	**12 15 43.2**	**+3.0**
CHMS	**Chumysh**	**3.56**	**356**	P	**Pn**	**12 15 43.2**	**+3.0**
	SNR=167						
USP	**Ospenovka**	**3.84**	**354**	*i* PN	Pn	12 15 47.2	+3.0
USP	**Ospenovka**	**3.84**	**354**	P	Pn	12 15 47.2	+3.0
	SNR=54						
KNDC	**Almaty**	**4.03**	**20**	⇑Pn	**Pn**	**12 15 45.5**	**-1.2**
KNDC				⇑Lg	Lg	12 16 51.4	
AAA	**Alma-Ata**	**4.08**	**20**	*i* PN	**Pb**	**12 15 57.9**	**+1.1**
AAA				pmax	pmax		
	comp=Z,266nm,0.2s						
KK31	**Karatay Array**	**5.02**	**318**	⇑Pn	**Pn**	**12 16 00.6**	**+0.3**
	comp=Z,10nm,0.4s,baz=125,slow=13,SNR=247						
KK31				⇑Pg	**Pb**	**12 16 13.3**	**+0.5**
	comp=Z,23nm,0.5s						
KK31				⇓Sn	**Sn**	**12 16 57.5**	**-0.8**
	comp=Z,52nm,0.6s,baz=135,slow=24,SNR=4.4						
KK31				⇓Lg	Lg	12 17 16.7	
	comp=Z,57nm,0.5s,baz=139,slow=30,SNR=4.5						
CHCP	**Chirah Chowk**	**5.96**	**195**	P	Pn	12 16 20.0	+6.8
CEP	**Cherat**	**6.16**	**205**	P	Pn	12 16 21.8	+5.7
CEP				S	Sn	12 17 33.0	+6.4
THW	**Thamme Wali**	**7.16**	**203**	P	Pn	12 16 34.3	+4.6
SARP	**Sargodha**	**7.75**	**195**	P	Pn	12 16 42.8	+4.9
MK31	**Makanchi Array**	**9.04**	**33**	*e*P	**Pn**	**12 16 56.0**	**+0.5**
MK31	**Makanchi Array**	**9.04**	**33**	*e*Pn	**Pn**	**12 16 56.0**	**+0.5**
MK31	**Makanchi Array**	**9.04**	**33**	Pn	**Pn**	**12 16 58.4**	**+2.9**
	comp=Z,2.9nm,0.6s,baz=212,slow=14,SNR=17						
MK31				⇑Lg	Lg	12 19 25.9	
	comp=Z,15nm,0.8s,baz=221,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**9.04**	**33**	*e*P	**Pn**	**12 16 58.6**	**+3.1**
MKAR	**Makanchi Array**	**9.04**	**33**	Pn	**Pn**	**12 16 58.0**	**+2.5**
MKAR				Lg	Lg	12 19 33.2	
MKAR	**Makanchi Array**	**9.04**	**33**	Pn	**Pn**	**12 16 58.0**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=204,slow=12,SNR=15						
MKAR				Lg	Lg	12 19 33.2	
	comp=Z,0.6nm,0.3s,baz=222,slow=29,SNR=5.5						
NDI	**New Delhi**	**10.88**	**170**	*e*P	**Pn**	**12 17 20.0**	**-0.7**
NDI				*e*S	**Sn**	**12 19 22.0**	**-0.5**
KURBB	**Kurchatov Arra**	**11.44**	**11**	Pn	**Pn**	**12 17 29.6**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=196,slow=11,SNR=9.8						
KURBB				Lg	Lg	12 20 43.3	
	comp=Z,0.5nm,0.3s,baz=200,slow=30,SNR=6.8						
KURK	**Kurchatov**	**11.54**	**11**	*e*P	**Pn**	**12 17 30.2**	**+0.5**
KURK				*e*		12 19 37.4	
KURK	**Kurchatov**	**11.54**	**11**	*e*Pn	**Pn**	**12 17 30.2**	**+0.5**
KURK				*e*Sn	**Sn**	**12 19 37.4**	**-1.2**
KURK				Lg	Lg	12 20 43.4	
PYUN	**Piuthan**	**13.08**	**147**	*e*P	**Pn**	**12 17 52.2**	**+1.2**
PYUN	**Piuthan**	**13.08**	**147**	*e*P	**Pn**	**12 17 52.2**	**+1.2**
DANN	**Dangsing**	**13.20**	**144**	*e*P	**Pn**	**12 17 52.3**	**-0.4**
	comp=Z,19nm,0.4s						
DANN	**Dangsing**	**13.20**	**144**	*e*P	**Pn**	**12 17 52.3**	**-0.4**
	comp=Z,19nm,0.4s						
VOSK	**Vostochnaya**	**13.58**	**349**	⇓P	**Pn**	**12 17 55.7**	**-1.8**
	comp=Z,4.1nm,0.7s						
VOSK				⇑Lg	Lg	12 21 48.4	
	comp=Z,23nm,1.2s						
KOLN	**Koldanda**	**13.63**	**146**	*e*P	**Pn**	**12 17 59.0**	**+0.5**
KOLN	**Koldanda**	**13.63**	**146**	*e*P	**Pn**	**12 17 59.0**	**+0.5**
GKN	**Gorkha**	**13.90**	**142**	*e*P	**Pn**	**12 18 02.6**	**+0.5**
	comp=Z,26nm,0.4s						
GKN	**Gorkha**	**13.90**	**142**	*e*P	**Pn**	**12 18 02.6**	**+0.5**
	comp=Z,26nm,0.4s						
BVA0	**Borovoye Array**	**13.96**	**348**	P	**Pn**	**12 18 01.2**	**-1.4**
	comp=Z,10nm,1.0s,baz=164,slow=13,SNR=14						
BVA0				⇑Lg	Lg	12 21 56.2	
	comp=Z,29nm,1.1s						
BVAR	**Borovoye Array**	**13.96**	**348**	P	**Pn**	**12 18 01.4**	**-1.3**
BVAR	**Borovoye Array**	**13.96**	**348**	Pn	**Pn**	**12 18 01.4**	**-1.3**
BVAR				Lg	Lg	12 21 46.8	
BVAR	**Borovoye Array**	**13.96**	**348**	Pn	**Pn**	**12 18 01.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=153,slow=13,SNR=13						
BVAR				Lg	Lg	12 21 46.8	
	comp=Z,0.2nm,0.3s,baz=163,slow=26,SNR=4.1						
BVAR				LR	LR	12 23 35.6	
	comp=Z,129nm,21.4s,baz=171,slow=38						
BRVK	**Borovoye**	**14.01**	**348**	*e*P	**Pn**	**12 18 05.3**	**+2.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**14.01**	**348**	*e*Pn	**Pn**	**12 18 03.7**	**+0.4**
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**14.01**	**348**	⇓P	**Pn**	**12 18 00.6**	**-2.7**
	comp=Z,17nm,0.9s						
BRVK				⇑Lg	Lg	12 22 03.2	
	comp=Z,21nm,1.0s						
KKN	**Kakani**	**14.39**	**141**	*e*P	**Pn**	**12 18 09.2**	**+0.3**
KKN	**Kakani**	**14.39**	**141**	*e*P	**Pn**	**12 18 09.2**	**+0.3**
KKN	**Kakani**	**14.39**	**141**	*e*P	**Pn**	**12 18 09.2**	**+0.3**
DMN	**Daman**	**14.46**	**142**	*e*P	**Pn**	**12 18 09.5**	**-0.3**
DMN	**Daman**	**14.46**	**142**	*e*P	**Pn**	**12 18 09.5**	**-0.3**
AB31	**Akbulak array**	**14.58**	**317**	P	Pn	12 18 07.9	-3.3
	comp=Z,6.2nm,0.5s,baz=128,slow=11,SNR=135						
AB31				⇓S	Sn	12 20 42.3	-10
	comp=Z,10nm,1.1s,baz=122,slow=25,SNR=5.5						
GUN	**Gumba**	**14.59**	**139**	*e*P	**Pn**	**12 18 11.3**	**-0.4**
GUN	**Gumba**	**14.59**	**139**	*e*P	**Pn**	**12 18 11.3**	**-0.4**
PKIN	**Phulchoki**	**14.62**	**141**	*e*P	**Pn**	**12 18 11.7**	**-0.4**
	comp=Z,9.5nm,0.5s						
PKI	**Pulchoki**	**14.63**	**141**	*e*P	**Pn**	**12 18 10.8**	**-1.5**
	comp=Z,12nm,0.4s						
PKI	**Pulchoki**	**14.63**	**141**	*e*P	**Pn**	**12 18 11.7**	**-0.6**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PKI	**Pulchoki**	**14.63**	**141**	*e*P	**Pn**	**12 18 11.7**	**-0.6**
	comp=Z,9.5nm,0.5s						
JIRN	**Jiri**	**14.95**	**138**	*e*P	**Pn**	**12 18 16.2**	**-0.5**
	comp=Z,29nm,0.4s						
JIRN	**Jiri**	**14.95**	**138**	*e*P	**Pn**	**12 18 16.2**	**-0.5**
	comp=Z,29nm,0.4s						
RAMN	**Ramite**	**15.74**	**139**	*e*P	**Pn**	**12 18 24.7**	**-2.2**
	comp=Z,58nm,0.7s						
RAMN	**Ramite**	**15.74**	**139**	*e*P	**Pn**	**12 18 24.7**	**-2.2**
	comp=Z,58nm,0.7s						
ZAA0	**Zalesovo Array**	**15.95**	**21**	*e*Pn	**Pn**	**12 18 29.5**	**+0.3**
ZALV	**Zalesovo Beam**	**15.95**	**21**	P	**Pn**	**12 18 29.8**	**+0.5**
ZALV	**Zalesovo Beam**	**15.95**	**21**	Pn	**Pn**	**12 18 29.8**	**+0.5**
ZALV	**Zalesovo Beam**	**15.95**	**21**	Pn	**Pn**	**12 18 29.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=16						
ZALV				LR	LR	12 24 44.7	
	comp=Z,114nm,19.4s,baz=90,slow=37						
TAPN	**Taplejung**	**16.00**	**135**	*e*P	**Pn**	**12 18 28.3**	**-2.1**
TAPN	**Taplejung**	**16.00**	**135**	*e*P	**Pn**	**12 18 28.3**	**-2.1**
ODAN	**Odare**	**16.22**	**137**	*e*P	**Pn**	**12 18 30.7**	**-2.5**
	comp=Z,22nm,0.5s						
ODAN	**Odare**	**16.22**	**137**	*e*P	**Pn**	**12 18 30.7**	**-2.5**
	comp=Z,22nm,0.5s						
AKTO	**Aktyubinsk**	**16.29**	**318**	P	**Pn**	**12 18 31.2**	**-2.4**
AKTO	**Aktyubinsk**	**16.29**	**318**	Pn	**Pn**	**12 18 31.1**	**-2.4**
AKTO	**Aktyubinsk**	**16.29**	**318**	Pn	**Pn**	**12 18 31.1**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=127,slow=13,SNR=16						
AKTO				LR	LR	12 25 38.8	
	comp=Z,51nm,19.3s,baz=307,slow=40						
NVS	**Novosibirsk**	**16.35**	**17**	*e*P	**P**	**12 18 37.1**	**-0.2**
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA	**Gaotai**	**19.10**	**82**	*e*P	**Pn**	**12 19 10.8**	**+2.1**
GTA				pP	**pP**	**12 19 15.3**	**+4.5**
GTA				sP	sP	12 19 18.0	+5.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	**20.18**	**333**	*c i*P	Pn	12 19 21.3	0.0
ARU						12 19 37.8	
ARU				S	Sn	12 23 08.2	-0.2
ARU				SS	**SnSn**	**12 23 25.8**	**+3.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARU	**Arti**	**20.18**	**333**	*e*P	**P**	**12 19 19.7**	**+0.3**
	comp=Z,7.6nm,0.9s						
ZAK	**Zakamensk**	**22.64**	**52**	*e*P	**P**	**12 19 47.4**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
LZH	**Lanzhou**	**22.95**	**89**	*e*P	**P**	**12 19 50.1**	**+0.6**
LZH				pP	**pP**	**12 19 52.6**	**+0.3**
LZH				PP	**PnPn**	**12 20 20.6**	**+6.6**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,72nm,4.6s						
LZH				LR	LR		
	comp=Z,220nm,11.2s						
LZH				LR	LR		
	comp=Z,210nm,12.0s						
LZH				LR	LR		
	comp=Z,350nm,16.1s						
SONM	**Songino Array**	**24.04**	**59**	P	**P**	**12 20 01.0**	**+0.8**
SONM	**Songino Array**	**24.04**	**59**	P	**P**	**12 20 01.0**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=266,slow=11,SNR=6.1						
SONM				LR	LR	12 30 32.5	
	comp=Z,129nm,18.6s,baz=28,slow=39						
KBZ	**Khabaz**	**24.36**	**291**	LR	LR	12 31 00.7	
	comp=Z,80nm,20.4s,baz=209,slow=40						
KIV	**Kislovodsk**	**24.50**	**291**	*e*P	**P**	**12 20 02.8**	**-1.6**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KIV				MLR	MLR		
	comp=Z,56nm,15.0s						
CMAR	**Chiang Mai Arr**	**29.39**	**129**	LR	LR	12 33 46.4	
	comp=Z,29nm,18.5s,baz=95,slow=39						
BR131	**Keskin Array S**	**31.73**	**284**	*e*P	**P**	**12 21 08.0**	**-1.1**
BRTR	**Keskin Array B**	**31.73**	**284**	P	**P**	**12 21 08.5**	**-0.6**
BRTR	**Keskin Array B**	**31.73**	**284**	P	**P**	**12 21 08.5**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=95,slow=7.9,SNR=8.4						
AKASG	**Malin Array Be**	**33.76**	**305**	P	**P**	**12 21 25.9**	**-0.6**
AKASG	**Malin Array Be**	**33.76**	**305**	P	**P**	**12 21 25.9**	**-0.6**
AKASG	**Malin Array Be**	**33.76**	**305**	P	**P**	**12 21 25.9**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=80,slow=7.3,SNR=13						
AK01	**Malin Array Si**	**33.77**	**305**	*e*P	**P**	**12 21 26.7**	**+0.1**
AK02	**Malin Array Si**	**33.77**	**305**	*e*P	**P**	**12 21 26.5**	**-0.1**
KIEV	**Kiev**	**33.77**	**305**	⇑*e*P	**P**	**12 21 27.0**	**+0.4**
QIZ	**Qiongzhong**	**36.21**	**114**	P	**P**	**12 21 48.1**	**+0.1**
QIZ				S	**S**	**12 27 27.3**	**-1.0**
QIZ				pmax	pmax		
	comp=Z,13nm,2.0s						
MLR	**Muntele Rosu**	**36.27**	**296**	LR	LR	12 37 06.5	
	comp=Z,11nm,19.9s,baz=258,slow=37						
FINES	**FINESS Array B**	**36.96**	**323**	P	**P**	**12 21 53.2**	**-0.7**
FINES	**FINESS Array B**	**36.96**	**323**	P	**P**	**12 21 53.2**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=118,slow=9.5,SNR=7.7						
ARCES	**ARCESS Array B**	**39.74**	**335**	P	**P**	**12 22 17.1**	**-0.1**
ARCES	**ARCESS Array B**	**39.74**	**335**	P	**P**	**12 22 17.1**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=108,slow=10,SNR=7.0						
KSRS	**Korea Array**	**40.95**	**75**	LR	LR	12 41 33.9	
	comp=Z,32nm,20.5s,baz=270,slow=39

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**1.58**	**246**	*e*P	**Pn**	**12 25 44.5**	**-0.6**
BAYA				*e*S	**Sn**	**12 26 05.0**	**0.0**
BAYA				AMP		12 26 06.3	
	comp=Z,61nm,14.1s						
PLUM	**Mont Dore**	**1.83**	**245**	*e*P	**Pn**	**12 25 48.2**	**-0.4**
PLUM				*e*S	**Sn**	**12 26 12.3**	**+1.0**
PLUM				AMP		12 26 16.2	
	comp=Z,700nm,1.0s						
DZM	**Mont Dzumac**	**1.94**	**253**	Pn	**Pn**	**12 25 49.8**	**-0.3**
	comp=Z,40nm,0.3s,baz=75,slow=18,SNR=80						
DZM				Sn	**Sn**	**12 26 14.6**	**+0.7**
	comp=Z,110nm,0.3s,baz=143,slow=23,SNR=5.5						
NORM	**Noumea**	**1.95**	**248**	*e*P	**Pn**	**12 25 49.9**	**-0.4**
NORM				*e*S	**Sn**	**12 26 14.4**	**+0.3**
NORM				AMP		12 26 18.2	
	comp=Z,597nm,0.9s						
MVNO	**Noumea**	**2.00**	**247**	*e*P	**Pn**	**12 25 50.7**	**-0.3**
MVNO				*e*S	**Sn**	**12 26 16.3**	**+0.9**
NOUC	**Port Laguerre**	**2.07**	**253**	*e*P	**Pn**	**12 25 50.9**	**-1.0**
NOUC				*e*S	**Sb**	**12 26 19.7**	**-0.8**
NOUC				AMP		12 26 32.0	
	comp=Z,343nm,8.0s						
WRA	**Warramunga Arr**	**31.89**	**267**	P	**P**	**12 31 43.4**	**+0.8**
	comp=Z,1.2nm,1.1s,baz=96,slow=9.5,SNR=5.2						
ASAR	**Alice Springs**	**31.91**	**259**	P	**P**	**12 31 43.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=89,slow=9.2,SNR=7.6						
EKA	**Eskdalemuir Ar**	**145.64**	**351**	PKPbc	**PKPdf**	**12 44 54.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=17,slow=5.2,SNR=1.6						
GERES	**GERESS Array B**	**146.10**	**330**	PKPbc	**PKPab**	**12 44 57.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=23,slow=4.4,SNR=4.0						

JMA 14 12:33:53.7±0.1, 37.52N×141.54E, h43km±2km, M3.5, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**254**	⇑P	Pn	12 34 05.3	0.0
JFK				S	Sn	12 34 13.2	-0.3
JMM	**Marumori**	**0.69**	**300**	⇑P	Pn	12 34 07.2	+0.2
JMM				S	Sn	12 34 16.6	0.0
ONAJ	**Iwakimizuishiy**	**0.72**	**235**	⇑P	Pn	12 34 07.4	-0.2
ONAJ				S	Sn	12 34 17.0	-0.6
JIO	**Ouri**	**0.94**	**351**	⇓P	Pn	12 34 10.6	+0.1
JIO				S	Sn	12 34 22.2	-0.7
JFT	**Otama**	**0.96**	**270**	⇑P	Pn	12 34 11.4	+0.7
JFT				S	Sn	12 34 23.8	+0.6
JOU	**Okura**	**1.09**	**321**	P	Pn	12 34 12.8	+0.2
JOU				S	Sn	12 34 27.2	+0.7
JYS	**Shirataka**	**1.36**	**301**	P	Pn	12 34 17.0	+0.8
JYS				S	Sn	12 34 34.5	+1.4
JMK	**Ichinoseki**	**1.45**	**350**	P	Pn	12 34 17.9	+0.4
JMK				*e*S	Sn	12 34 35.5	+0.2
JYK	**Kaneyama**	**1.68**	**327**	P	Pn	12 34 21.3	+0.7
MAT	**Matsushiro**	**2.84**	**251**	P	Pn	12 34 38.8	+2.2
MAT				*e*S	Sn	12 35 12.3	+2.7

ISCJB **14** *12:55:00.7±0.4, 0.°15S±0.°05×122.°91E±0.°04, h162km, mb3.7/9, Error ellipse: s-maj=7.3km s-min=4.8km az=14.8*
DJA **14** *12:55:01.9±0.3, 0.°N±4.°×12.°3E±.°, h164km±4km, M4.5/10, mb4.5/10, mB5.1/5, MLv4.5/9, Mw(mB)4.4/5*
AUST **14** *12:55:01.6±3.6, 0.°09S×122.°87E, h189km, Error ellipse: s-maj=4.4km s-min=1.5km az=342.0*
IDC **14** *12:55:01.2±2.2, 0.°15N×123.°29E, h188km±20km, mb3.4/9, mb1 3.7/10, mb1mx3.5/23, mbtmp3.4/10, Error ellipse: s-maj=44.4km s-min=11.0km az=64.0*
ISC 14 12:54:59.7±0.6, 0.°02N±0.°07×122.°92E±0.°06, h162km, n42, σ2§14/48, mb3.7/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.62**	**9**	P	Pn	12 55 27.6	+4.6
LUWI	**Luwuk**	**1.06**	**188**	P	**Pn**	**12 55 29.3**	**+3.2**
LUWI				S	**Sn**	**12 55 49.4**	**+2.9**
LUWI	**Luwuk**	**1.06**	**188**	P	**Pn**	**12 55 29.4**	**+3.2**
	baz=1.0,SNR=54						
MRSI	**Marisa**	**1.08**	**295**	P	**Pn**	**12 55 28.8**	**+2.6**
MRSI				S	**Sn**	**12 55 50.0**	**+3.4**
KMSI	**Cibinong**	**1.20**	**63**	P	**Pn**	**12 55 30.2**	**+2.9**
KMSI				S	**Sn**	**12 55 52.8**	**+4.3**
TOLI	**Toli-Toli**	**2.39**	**297**	P	**Pn**	**12 55 41.2**	**+1.1**
TOLI				S	**Sn**	**12 56 13.7**	**+2.4**
TTSI	**Tana Toraja**	**4.34**	**225**	P	**Pn**	**12 56 07.1**	**+2.4**
TNTI	**Ternate**	**4.51**	**80**	P	**Pn**	**12 56 08.9**	**+2.0**
LBMI	**Labuha**	**4.63**	**98**	P	**Pn**	**12 56 09.6**	**+1.1**
MMSI	**Mamuju**	**4.83**	**236**	P	**Pn**	**12 56 12.9**	**+1.8**
NLAI	**Namlea**	**5.29**	**128**	P	**Pn**	**12 56 19.9**	**+2.8**
	78nm,0.7s,3μm						
MSAI	**Masohi**	**6.88**	**119**	P	**Pn**	**12 56 40.7**	**+2.5**
	18nm,0.9s,328nm						
KBKI	**Kotabaru**	**7.51**	**244**	P	**Pn**	**12 56 47.8**	**+1.2**
	69nm,0.8s						
MTKI	**Muara Teweh, K**	**8.08**	**263**	P	**Pn**	**12 56 56.0**	**+1.8**
	88nm,0.8s						
BNDI	**Bandanaira**	**8.31**	**123**	P	**Pn**	**12 56 59.7**	**+2.5**
	298nm,1.1s,3μm						
SWI	**Sorong**	**8.39**	**96**	P	**Pn**	**12 57 00.0**	**+1.7**
	24nm,0.8s,1μm						
BBKI	**Banjar Baru**	**8.78**	**247**	P	**Pn**	**12 57 04.6**	**+1.1**
	30nm,1.1s						
LBFI	**Labuhan Bajo,**	**8.97**	**200**	P	**Pn**	**12 57 08.0**	**+2.1**
	30nm,1.1s						
FAKI	**Fak Fak**	**9.77**	**107**	P	**Pn**	**12 57 18.7**	**+2.1**
	28nm,1.1s,4μm						
FAKI	**Fak Fak**	**9.77**	**107**	P	**Pn**	**12 57 18.1**	**+1.4**
	baz=9.8,SNR=8.2						
MTNI	**Mataram**	**10.91**	**218**	P	**Pn**	**12 57 31.8**	**+0.2**
MTN	**Manton Dam**	**15.16**	**148**	P	**P**	**12 58 27.2**	**+0.3**
	baz=15,SNR=6.2						
KDU	**Kakadu**	**15.79**	**143**	P	**P**	**12 58 34.0**	**+0.2**
	baz=16,SNR=5.4						
KNRA	**Kununurra**	**16.63**	**160**	P	**Pn**	**12 58 44.1**	**+0.6**
	baz=17,SNR=6.0						
FITZ	**Fitzroy Crossi**	**18.21**	**172**	P	**P**	**12 59 00.2**	**-0.3**
	1.6nm,0.3s,baz=346,slow=6.6,SNR=26						
FITZ	**Fitzroy Crossi**	**18.21**	**172**	P	**P**	**12 59 00.4**	**-0.1**
	baz=18,SNR=16						
WRA	**Warramunga Arr**	**22.78**	**151**	P	**P**	**12 59 47.2**	**-1.3**
	2.4nm,0.5s,baz=328,slow=10,SNR=52						
WRA				PcP	**PcP**	**13 03 33.5**	**-1.4**
	0.4nm,0.8s,baz=322,slow=2.3,SNR=2.6						
WRA				ScP	**ScP**	**13 06 53.2**	**-4.4**
	0.6nm,0.7s,baz=324,slow=2.6,SNR=9.8						
WRKA	**Warakurna**	**25.45**	**169**	P	**P**	**13 00 12.0**	**-0.8**
	baz=26,SNR=22						
ASAR	**Alice Springs**	**25.85**	**156**	P	**P**	**13 00 15.2**	**-1.2**
	0.6nm,0.5s,baz=341,slow=13,SNR=19						
ASAR				PcP	**PcP**	**13 03 40.2**	**-1.3**
	0.6nm,0.3s,baz=346,slow=2.0,SNR=11						
ASAR				ScP	**ScP**	**13 07 01.7**	**-4.3**
	0.5nm,0.6s,baz=341,slow=2.7,SNR=11						
QIS	**Mount Isa**	**26.17**	**142**	P	**P**	**13 00 19.1**	**-0.1**
	baz=26,SNR=5.1						
MEEK	**Meekatharra**	**26.83**	**189**	P	**P**	**13 00 23.4**	**-1.7**
	baz=27,SNR=8.9						
CMAR	**Chiang Mai Arr**	**29.84**	**309**	P	**P**	**13 00 54.5**	**+2.5**
	1.3nm,0.7s,baz=133,slow=6.7,SNR=9.4						
STKA	**Stephens Creek**	**36.31**	**153**	P	**P**	**13 01 47.4**	**-0.5**
	2.5nm,0.5s,baz=332,slow=9.3,SNR=10						
STKA	**Stephens Creek**	**36.31**	**153**	P	**P**	**13 01 47.6**	**-0.3**
	baz=36,SNR=8.2						
HTT	**Hallett**	**36.52**	**157**	P	**P**	**13 01 49.3**	**-0.4**
	baz=37,SNR=4.3						
CMSA	**Cobar Meteorol**	**38.08**	**148**	P	**P**	**13 02 03.1**	**+0.3**
	baz=38,SNR=8.1						
SONM	**Songino Array**	**49.75**	**345**	P	**P**	**13 03 35.2**	**-0.5**
	0.9nm,0.8s,baz=162,slow=9.5,SNR=6.0						
MKAR	**Makanchi Array**	**58.55**	**328**	P	**P**	**13 04 38.2**	**-1.1**
	0.9nm,0.8s,baz=126,slow=8.8,SNR=7.5						
MKAR				PcP	**PcP**	**13 05 25.3**	**-2.6**
	0.4nm,0.6s,baz=132,slow=4.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**62.26**	**336**	P	P	13 05 01.8	-2.5
	0.3nm,0.4s,baz=306,slow=3.5,SNR=3.6						
VNDA	**Vanda**	**80.28**	**172**	P	**P**	**13 06 50.5**	**-1.4**
	1.7nm,0.8s,baz=328,slow=6.6,SNR=8.8						
ILAR	**Eielson Array**	**90.07**	**25**	P	P	13 07 38.0	-2.9
	0.2nm,0.6s,baz=259,slow=5.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**120.32**	**285**	PKP	**PKPdf**	**13 13 30.3**	**-2.4**
	0.7nm,0.4s,baz=57,slow=1.6,SNR=14						

NIED **14** *13:08:00.25.°20N×129.°10E, h8km, Mw3.7 Best double couple: M₀3.86000×10¹⁴ NP1:φ₀181.00000°, δ65.00000°, λ-124.00000°. NP2:φ₀59.00000°, δ41.00000°, λ-40.00000°.*

JMA 14 13:08:05.9±0.3, 25.°25N×129.°15E, h51km, M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.54**	**305**	P	Pn	13 08 31.8	+0.8
JJT2				*e*S	Sn	13 08 50.2	+0.3
JOW	**Kunigami**	**1.76**	**334**	P	Pn	13 08 35.1	+1.1
JOW				S	Sn	13 08 55.1	-0.2
JMZ	**Minamidaito 2**	**1.96**	**73**	P	Pn	13 08 37.4	+0.8
JMZ				*e*S	Sn	13 09 00.2	+0.2
JIH	**Iheya**	**2.07**	**329**	P	Pn	13 08 39.6	+1.4
JIH				S	Sn	13 09 02.7	-0.1
JAGN	**Aguni-jima**	**2.17**	**308**	P	Pn	13 08 40.4	+0.8
JAGN				S	Sn	13 09 04.9	-0.5
JKE	**Kume jima 2**	**2.38**	**297**	P	Pn	13 08 42.8	+0.3
JKE				*e*S	Sn	13 09 08.7	-1.9
JTK	**Tokunoshima**	**2.53**	**356**	P	Pn	13 08 46.0	+1.4
JTK				*e*S	Sn	13 09 13.0	-1.2
JAMN	**Amaminishikomi**	**2.98**	**0**	P	Pn	13 08 52.5	+1.8
JAMN				*e*S	Sn	13 09 26.8	+1.6
JAM	**Amami Oshima**	**3.17**	**7**	P	Pn	13 08 55.9	+2.6
JAM				*e*S	Sn	13 09 31.0	+1.0
JOGS	**Gusukube**	**3.43**	**263**	P	Pn	13 08 57.7	+0.8
JTJ	**Tarama**	**4.08**	**262**	P	Pn	13 09 05.9	+0.1
JTJ				*e*S	Sn	13 09 49.6	-2.7

IDC 14 13:19:04.3±1.4, 20.°50S×177.°66W, h538km±10km, mb3.3/10, mb1 3.5/10, mb1mx3.3/20, mbtmp4.2/10, Error ellipse: s-maj=53.2km s-min=16.4km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.81**	**264**	P	P	13 25 02.1	0.0
	1.9nm,0.5s,baz=85,slow=12,SNR=4.7						
PMG	**Port Moresby**	**35.65**	**283**	P	P	13 25 18.2	+0.7
	7.9nm,0.9s,baz=257,slow=6.5,SNR=3.8						
STKA	**Stephens Creek**	**38.08**	**244**	P	P	13 25 37.3	+0.1
	1.7nm,0.7s,baz=108,slow=6.9,SNR=4.5						
ASAR	**Alice Springs**	**44.83**	**257**	P	P	13 26 31.1	+0.2
	4.3nm,0.5s,baz=89,slow=8.2,SNR=185						
ASAR				PcP	PcP	13 27 60.0	-1.3
	0.5nm,0.6s,baz=111,slow=4.0,SNR=5.0						
ASAR				pP	pP	13 28 08.7	-0.1
	0.4nm,0.8s,baz=86,slow=7.9,SNR=2.7						
ASAR				sP	sP	13 29 08.9	+0.1
	0.9nm,0.5s,baz=91,slow=7.6,SNR=7.7						
WRA	**Warramunga Arr**	**44.92**	**262**	P	P	13 26 30.9	-0.7
	1.7nm,0.5s,baz=96,slow=7.7,SNR=55						
WRA				sP	sP	13 29 09.3	-0.3
	0.4nm,0.4s,baz=97,slow=7.9,SNR=4.3						
FITZ	**Fitzroy Crossi**	**53.34**	**262**	P	P	13 27 34.1	+0.3
	1.7nm,0.5s,baz=108,slow=6.4,SNR=3.7						
TXAR	**Lajitas Array**	**86.79**	**57**	P	P	13 30 53.4	+1.3
	0.8nm,0.8s,baz=216,slow=6.2,SNR=12						
ILAR	**Eielson Array**	**88.25**	**13**	P	P	13 30 56.8	-1.1
	0.5nm,0.8s,baz=224,slow=5.9,SNR=6.6						
PDAR	**Pinedale Array**	**88.75**	**43**	P	P	13 31 01.2	+0.2
	0.4nm,0.7s,baz=220,slow=2.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**90.42**	**289**	P	P	13 31 09.0	-0.1
	0.7nm,0.3s,baz=104,slow=3.8,SNR=4.5						
AKASG	**Malin Array Be**	**143.17**	**331**	PKP	PKPab	13 37 34.3	-0.6
	1.0nm,0.5s,baz=39,slow=4.2,SNR=12						
BRTR	**Keskin Array B**	**147.08**	**313**	PKPbc	PKPbc	13 37 46.4	-0.9
	1.0nm,1.0s,baz=99,slow=7.6,SNR=2.4						
GERES	**GERESS Array B**	**150.29**	**345**	PKPbc	PKPbc	13 37 54.8	-0.1
	0.4nm,0.2s,baz=29,slow=2.2,SNR=3.8						

DJA **14** *13:30:33.3±0.8, 3.°S±4.°×13.°0E±.°, h16km±8km, M3.5/6, MLv3.5/6*
IDC **14** *13:31:07.2±2.3, 6.°23S×130.°11E, h0km, mb3.8/1, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, ML3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/29, Error ellipse: s-maj=91.2km s-min=33.2km az=97.0*
ISC 14 13:30:33.6±1.4, 2.°87S±0.°07×129.°57E±0.°06, h28km, n11, σ2§50/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.80**	**233**	P	**Pn**	**13 30 48.7**	**-0.3**
MSAI				S	**Sn**	**13 31 02.1**	**+2.2**
BNDI	**Bandanaira**	**1.68**	**168**	P	**Pn**	**13 31 01.6**	**+0.5**
BNDI				S	**Sb**	**13 31 26.3**	**+1.7**
NLAI	**Namlea**	**2.49**	**261**	P	**Pn**	**13 31 13.9**	**+1.6**
NLAI				S	**Sn**	**13 31 44.8**	**+3.0**
SWI	**Sorong**	**2.61**	**40**	P	Pn	13 31 07.2	-6.8
FAKI	**Fak Fak**	**2.68**	**91**	P	**Pn**	**13 31 16.7**	**+1.8**
LBMI	**Labuha**	**3.03**	**317**	P	**Pn**	**13 31 19.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**15.62**	**194**	Pn	**Pn**	**13 34 07.9**	**-4.0**
	0.1nm,0.3s,baz=29,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**17.60**	**165**	Pn	Pn	13 34 32.0	-5.0
	0.3nm,0.3s,baz=346,slow=13,SNR=16						
TGY	**Tagaytay City**	**18.91**	**333**	LR	LR	13 44 02.2	
	comp=Z,49nm,20.7s,baz=120,slow=35						
ASAR	**Alice Springs**	**21.10**	**169**	P	**P**	**13 35 14.1**	**-2.0**
	0.7nm,0.3s,baz=349,slow=11,SNR=77						
AFI	**Afiamalu**	**58.91**	**104**	LR	LR	14 02 48.7	
	comp=Z,74nm,19.6s,baz=2.6,slow=33						

IDC **14** *13:51:16.2±0.5, 46.°16N×152.°94E, h0km, mb4.1/22, mb1 4.3/27, mb1mx4.3/32, mbtmp4.1/27, ML3.7/5, MS3.8/16, Ms1 3.8/16, ms1mx3.5/39, Error ellipse: s-maj=15.9km s-min=11.8km az=136.0*
JMA **14** *13:51:18.0±0.6, 46.°44N×153.°04E, h30km, M4.8*
ISCJB **14** *13:51:18.6±0.3, 46.°04N±0.°04×153.°16E±0.°05, h33km, mb4.5/56, MS4.0/20, Error ellipse: s-maj=6.6km s-min=3.3km az=144.8*
SKHL **14** *13:51:18.2±0.2, 46.°04N×153.°41E, h50km±5km, mb4.9/8, Ms4.3/2, msh5.5/1*
MOS **14** *13:51:19.3±1.2, 46.°22N×153.°05E, h36km, mb4.8/22, Error ellipse: s-maj=8.3km s-min=6.5km az=89.5*
BJI **14** *13:51:20.0, 46.°43N×153.°20E, h46km, mB4.9/24, mb4.7/39, Ms4.5/23, Ms7 4.2/23*
NEIC **14** *13:51:22.0±0.9, 46.°19N×153.°07E, h41km±8km, mb5.1/19, Error ellipse: s-maj=10.2km s-min=5.8km az=146.0*
ISC 14 13:51:22.6±0.5, 46.°17N±0.°06×153.°11E±0.°04, h47km±2km, h47km;pP-P,n245, σ1§38/269, mb4.6/56, MS4.0/20, 10C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.79**	**258**	⇓*i*PN	**Pn**	**13 52 18.2**	**-0.2**
KUR				S	**Sn**	**13 53 04.0**	**+2.2**
KUR				pmax	pmax		
	comp=N,270nm,0.5s						
KUR				pmax	pmax		
	comp=Z,460nm,0.5s						
KUR				pmax	pmax		
	comp=E,270nm,0.3s						
KUR				smax	smax		
	comp=N,5μm,3.0s						
KUR				smax	smax		
	comp=E,3μm,2.0s						
KUR				smax	smax		
	comp=N,410nm,0.3s						
KUR				smax	smax		
	comp=E,650nm,0.4s						
KUR	**Kuril'sk**	**3.79**	**258**	*i*P	**Pn**	**13 52 18.0**	**-0.4**
KUR				AMB	AMB	13 52 19.5	
KUR	comp=E,270nm,0.5s			AMB	AMB	13 52 19.5	
	comp=E,460nm,0.5s						
KUR				*e*S	**Sn**	**13 53 03.0**	**+1.2**
KUR				A	A	13 53 06.0	
KUR	comp=E,5μm,2.5s			A	A	13 53 06.0	
KUR	comp=E,3μm,2.5s			A	A	13 53 12.0	
KUR	comp=E,410nm,0.4s			A	A	13 53 12.0	
	comp=E,650nm,0.4s						
SKR	**Severo-Kuril's**	**4.94**	**23**	*e*PN	Pn	13 52 30.6	-3.5
SKR				pmax	pmax		
	comp=Z,90nm,0.6s						
SKR				pmax	pmax		
	comp=N,100nm,0.9s						
SKR				pmax	pmax		
	comp=E,70nm,0.9s						
SKR	**Severo-Kuril's**	**4.94**	**23**	*e*P	**Pn**	**13 52 31.0**	**-3.1**
SKR				AMB	AMB	13 52 33.6	
	comp=E,90nm,0.6s						
SKR				*e*S	**Sn**	**13 53 25.5**	**-4.4**
SKR				A	A	13 53 34.2	
	comp=E,120nm,0.5s						
SKR				A	A	13 53 34.2	
	comp=E,100nm,0.5s						
SKR				AMS	AMS	13 54 56.0	
	comp=E,2μm,12.0s						
SKR				AMS	AMS	13 54 56.0	
	comp=E,1μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.56**	**250**	*c i*PN	**Pn**	**13 52 40.8**	**-1.9**
YUK				pmax	pmax		
	comp=N,116nm,0.2s						
YUK				pmax	pmax		
	comp=E,91nm,0.2s						
YUK				pmax	pmax		
	comp=Z,438nm,0.2s						
YUK				MLR	MLR		
	comp=Z,1μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**5.56**	**250**	⇑*i*P	**Pn**	**13 52 40.8**	**-1.9**
YUK				AMB	AMB	13 52 42.8	
	comp=Z,120nm,0.2s						
YUK				AMB	AMB	13 52 42.8	
	comp=Z,90nm,0.2s						
YUK				AMB	AMB	13 52 42.8	
	comp=Z,440nm,0.2s						
YUK				*i* S	**Sn**	**13 53 43.9**	**-1.3**
YUK				A	A	13 53 58.9	
	comp=Z,130nm,0.8s						
YUK				A	A	13 53 58.9	
	comp=Z,380nm,0.8s						
YUK				A	A	13 54 07.6	
	comp=Z,600nm,1.0s						
YUK				AMS	AMS	13 54 51.5	
	comp=Z,1μm,15.0s						
NEM2	**Nemuro 2**	**5.95**	**244**	P	Pn	13 52 43.9	-4.1
NEM2				*e*S	Sn	13 53 48.0	-6.8
JRA	**Rausu**	**6.08**	**251**	P	**Pn**	**13 52 48.5**	**-1.4**
JNK	**Nakash**	**6.50**	**250**	P	**Pn**	**13 52 53.2**	**-2.4**
JNK				*e*S	**Sn**	**13 54 04.5**	**-3.9**
JAK	**Akkeshi**	**6.80**	**245**	P	Pn	13 52 55.7	-3.9
JAK				*e*S	Sn	13 54 07.4	-8.2
JTKR	**Abashiri--Toko**	**6.88**	**255**	P	**Pn**	**13 52 59.5**	**-1.3**
YSS	**Yuzh-Sakhalins**	**7.18**	**280**	*i*PN	**Pn**	**13 53 07.0**	**+2.1**
YSS				*e*S	**Sn**	**13 54 28.0**	**+2.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax	smax		
	comp=E,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.18**	**280**	⇓*i*P	**Pn**	**13 53 07.0**	**+2.1**
YSS				AMB	AMB	13 53 07.5	
	comp=Z,30nm,1.0s						
YSS				*e*S	**Sn**	**13 54 26.0**	**+0.9**
YSS				A	A	13 54 30.0	
	comp=Z,30nm,0.9s						
YSS				AMS	AMS	13 55 40.0	
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.18**	**280**	*e*P	**Pn**	**13 53 06.2**	**+1.3**
JMP	**Maruseppu**	**7.24**	**256**	P	**Pn**	**13 53 04.8**	**-0.9**
JAR	**Ashorobuto**	**7.25**	**250**	P	**Pn**	**13 53 03.7**	**-2.1**
JAR				*e*S	**Sn**	**13 54 23.5**	**-3.2**
JOB	**Onbets**	**7.39**	**247**	P	Pn	13 53 04.7	-3.1
JOB				*e*S	Sn	13 54 23.6	-6.6
PEA0B	**Petropavlovsk-**	**7.55**	**22**	*e*P	**Pn**	**13 53 09.8**	**-0.1**
PETK	**Petropavlovsk-**	**7.55**	**22**	PN	**Pn**	**13 53 09.5**	**-0.5**
PETK	**Petropavlovsk-**	**7.55**	**22**	Pn	**Pn**	**13 53 09.5**	**-0.5**
PETK	**Petropavlovsk-**	**7.55**	**22**	Pn	**Pn**	**13 53 09.5**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=171,slow=14,SNR=45						
HRK	**Horoka**	**7.60**	**253**	*e*P	**Pn**	**13 53 09.7**	**-1.0**
JKK2	**Kamakawa 2**	**7.70**	**256**	P	**Pn**	**13 53 11.3**	**-0.7**
JKA	**Kamikawa-asahi**	**7.71**	**258**	*e*P	**Pn**	**13 53 12.1**	**-0.1**
ASAJ	**Asahikawa**	**7.71**	**258**	P	**Pn**	**13 53 12.0**	**-0.2**
ASAJ	**Asahikawa**	**7.71**	**258**	*e*P	**Pn**	**13 53 12.1**	**-0.2**
ASAJ	**Asahikawa**	**7.71**	**258**	Pn	**Pn**	**13 53 12.1**	**-0.2**
ASAJ	**Asahikawa**	**7.71**	**258**	Pn	**Pn**	**13 53 12.1**	**-0.2**
	comp=Z,4.0nm,0.3s,baz=85,slow=14,SNR=10.0						
ASAJ				LR	LR	13 56 03.8	
	comp=Z,347nm,20.2s,baz=46,slow=38						
PET	**Petropavlovsk**	**7.74**	**26**	*e*PN	**Pn**	**13 53 11.9**	**-0.7**
PET				MLR	MLR		
	comp=Z,700nm,14.0s						
PET				MLR	MLR		
	comp=Z,400nm,14.0s						
PET	**Petropavlovsk**	**7.74**	**26**	*e*P	**Pn**	**13 53 11.9**	**-0.7**
PET				*e*S	**Sn**	**13 54 36.1**	**-2.7**
PET				AMS	AMS	13 55 46.0	
	comp=Z,700nm,14.0s						
PET	**Petropavlovsk**	**7.74**	**26**	*e*P	**Pn**	**13 53 11.2**	**-1.4**
	comp=Z,17nm,0.7s						
JCH	**Churui**	**7.84**	**246**	P	Pn	13 53 10.4	-3.5
JCH				*e*S	Sn	13 54 33.7	-7.5
UGL	**Uglegorsk**	**8.01**	**295**	*e*P	**Pn**	**13 53 17.2**	**+1.0**
UGL				AMB	AMB	13 53 18.5	
	comp=Z,70nm,0.7s						
MYR	**Moyori**	**8.05**	**245**	*e*P	Pn	13 53 13.4	-3.5
ERM	**Erimo**	**8.28**	**243**	⇑ePN	**Pn**	**13 53 18.2**	**-1.8**
ERM	**Erimo**	**8.28**	**243**	⇑*e*P	**Pn**	**13 53 18.2**	**-1.8**
TYV	**Tymovskoe**	**8.38**	**308**	*e*P	**Pn**	**13 53 22.5**	**+1.2**
TYV				AMB	AMB	13 53 23.3	
	comp=Z,10.0nm,0.7s						
JNBK	**Urakawa-nobuka**	**8.39**	**246**	P	Pn	13 53 17.7	-3.8
JNBK				*e*S	Sn	13 54 47.1	-7.8
JBT2	**Biratori 2**	**8.40**	**250**	P	**Pn**	**13 53 18.9**	**-2.7**
JNB	**Noboribetsu**	**9.41**	**251**	P	**Pn**	**13 53 33.5**	**

comp=Z,20nm,1.0s
MDJ LR LR
comp=Z,190nm,13.4s
MDJ LR LR
comp=Z,140nm,19.6s
MDJ LR LR
comp=Z,200nm,17.1s
MDJ Mudanjiang 16.59 273 *eP* **Pn 13 55 10.4 -1.2**
MDJ Mudanjiang 16.59 273 *eP* **Pn 13 55 10.4 -1.2**
comp=Z,16nm,1.0s
SEY Seymchan 16.80 359 P **Pn 13 55 14.3 +0.1**
SEY Seymchan 16.80 359 *eP* **Pn 13 55 14.3 +0.1**
SEY Seymchan 16.80 359 Pn **Pn 13 55 14.3 +0.1**
SEY Seymchan 16.80 359 Pn **Pn 13 55 14.3 +0.1**
comp=Z,0.2nm,0.3s,baz=200,slow=17,SNR=4.7
BMKR Bomnak 17.59 308 *eP* **Pn 13 55 20.4 -3.6**
BMKR AMB AMB 13 55 23.1
comp=Z,10.0nm,0.5s
ZEA Zeya 18.21 304 *eP* **Pn 13 55 32.3 +0.7**
ZEA AMB AMB 13 55 35.4
comp=Z,20nm,1.2s
ZEA AMS AMS 14 02 58.0
comp=Z,300nm,11.0s
ZEA AMS AMS 14 02 58.0
comp=Z,400nm,14.0s
KROS Kirovskiy 18.55 306 *eP* **P 13 55 31.0 -4.1**
KROS AMB AMB 13 55 34.0
comp=Z,10.0nm,0.5s
CN2 Changchun 19.68 273 *eP* **Pn 13 55 49.9 +0.7**
CN2 *es*P **sP 13 56 07.8 +3.3**
CN2 *es* **S 13 59 24.0 -2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,400nm,16.0s
CLNS Chul'man 20.40 312 *eP* **P 13 55 55.8 +0.5**
CLNS pmax pmax
comp=Z,11nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS Chul'man 20.40 312 *eP* **P 13 55 55.8 +0.5**
KSRS Korea Array 20.63 254 P **P 13 55 57.5 -0.4**
comp=N,8.3nm,0.9s,baz=56,slow=11,SNR=14
KSRS LR LR 14 02 51.2
comp=N,144nm,21.2s,baz=60,slow=34
KSAR Wonju Array Be 20.66 254 *eP* **P 13 55 57.5 -0.7**
KSAR Wonju Array Be 20.66 254 P **P 13 55 57.5 -0.7**
YAK Yakutsk 20.81 328 *eP* **P 13 55 56.9 -2.7**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK Yakutsk 20.81 328 *eP* **P 13 55 56.9 -2.7**
YAK Yakutsk 20.81 328 *eP* **P 13 55 58.7 -0.9**
comp=Z,20nm,0.6s
JNU Nakatsue 21.43 240 P **P 13 56 04.6 -1.9**
JNU Nakatsue 21.43 240 P **P 13 56 04.6 -1.9**
comp=Z,12nm,0.9s,baz=23,slow=7.7,SNR=2.4
JNU LR LR 14 04 55.7
comp=Z,108nm,18.8s,baz=206,slow=38
TIXI Tiksi 28.02 344⇓ *eP* **P 13 57 06.6 -2.0**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
TIXI Tiksi 28.02 344⇑ *eP* **P 13 57 06.6 -2.0**
H11N2 WAKE ISLAND Hy 28.71 152 T T 14 29 00.3
baz=342,slow=76,SNR=246
H11N1 WAKE ISLAND Hy 28.72 152 T T 14 29 10.7
baz=342,slow=76,SNR=177
H11N3 WAKE ISLAND Hy 28.72 152 T T 14 29 01.2
baz=342,slow=76,SNR=135
H11S1 WAKE ISLAND Hy 29.79 153 T T 14 30 05.6
baz=343,slow=77,SNR=5.6
H11S3 WAKE ISLAND Hy 29.80 153 T T 14 30 28.7
baz=343,slow=77,SNR=136
H11S2 WAKE ISLAND Hy 29.81 153 T T 14 30 11.2
baz=343,slow=77,SNR=7.7
NJ2 Nanjing 29.83 254 *eP* **P 13 57 24.9 -0.2**
NJ2 S **S 14 02 20.0 +1.5**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 LR LR
comp=Z,860nm,22.2s
NJ2 LR LR
comp=Z,560nm,14.4s
NJ2 LR LR
comp=Z,200nm,20.6s
HHC Hu-ho-hao-te 30.34 275 *eP* **P 13 57 32.0 +2.3**
HHC pP **pP 13 57 43.3 +1.2**
HHC sP **sP 13 57 49.0 +1.3**
HHC PcP **PcP 14 00 31.6 +2.8**
HHC S **S 14 02 27.8 +1.2**
HHC sS **sS 14 02 48.3 +0.8**
HHC ScP **ScP 14 04 08.4 +1.4**
HHC ScS **ScS 14 08 03.9 +0.9**
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.0s
HHC LR LR
comp=Z,430nm,13.1s
HHC LR LR
comp=Z,880nm,13.2s
HHC LR LR
comp=Z,400nm,13.1s
ULN Ulaanbaatar 31.09 290⇑ *eP* **P 13 57 35.9 -0.4**
SONM Songino Array 31.53 290 P **P 13 57 37.9 -2.2**
SONM PcP **PcP 14 00 31.0 -0.9**
SONM Songino Array 31.53 290 P **P 13 57 37.9 -2.2**
comp=Z,0.8nm,0.7s,baz=75,slow=7.8,SNR=4.9
SONM PcP **PcP 14 00 31.0 -0.9**
comp=Z,0.4nm,0.6s,baz=96,slow=1.4,SNR=3.6
SONM LR LR 14 11 27.4
comp=Z,188nm,18.1s,baz=122,slow=39
XAN Xi'an 35.47 266 P **P 13 58 14.3 -0.1**
XAN pmax pmax
comp=Z,2.0nm,0.7s
COLA College 36.59 38 P P 13 58 20.1 -3.4
COLA pmax pmax
comp=Z,3.0nm,0.6s
COLA College 36.59 38 *eP* P 13 58 20.1 -3.4
COLA College 36.59 38 P P 13 58 20.1 -3.4
comp=Z,3.2nm,0.6s
ILAR Eielson Array 37.00 38 *eP* **P 13 58 27.0 -0.1**
ILAR Eielson Array 37.00 38 P **P 13 58 27.0 -0.1**
ILAR Eielson Array 37.00 38 P **P 13 58 27.0 -0.1**
comp=Z,1.6nm,1.0s,baz=268,slow=9.0,SNR=9.4
LZH Lanzhou 37.91 273 *eP* **P 13 58 36.1 +0.8**
LZH pP **pP 13 58 48.6 +0.7**
LZH sP **sP 13 58 53.8 +0.3**
LZH PP **PnPn 14 00 07.5 +3.5**
LZH pmax pmax
comp=Z,23nm,1.5s
LZH pmax pmax
comp=Z,76nm,6.0s
LZH LR LR
comp=Z,390nm,13.5s
LZH LR LR
comp=Z,390nm,14.0s
LZH LR LR
comp=Z,480nm,17.6s
HVS Khovu-Aksy 38.63 300 *d iP* **P 13 58 39.9 -1.2**
HVS pmax pmax
comp=Z,30nm,1.2s
GTA Gaotai 39.06 280 *eP* **P 13 58 45.8 +0.9**
GTA pP **pP 13 58 58.0 +0.4**
GTA sP **sP 13 59 03.6 +0.4**
GTA pmax pmax
comp=Z,12nm,1.1s
CD2 Chengdu 40.83 266 *eP* **P 13 58 59.8 +0.2**
CD2 pP **pP 13 59 13.0 +0.7**
CD2 sP **sP 13 59 18.5 +0.6**
CD2 PP **PnPn 14 00 37.8 -0.9**
CD2 S **S 14 05 07.1 -0.3**
CD2 SS **SS 14 08 04.8 -4.9**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,100nm,8.3s
CD2 LR LR
comp=Z,130nm,13.2s
CD2 LR LR
comp=Z,220nm,13.2s
GYA Guiyang 41.59 258 *eP* **P 13 59 05.8 -0.1**
GYA pP **pP 13 59 19.0 +0.3**
GYA sP **sP 13 59 25.4 +1.1**
GYA PP **PnPn 14 00 45.8 -1.9**
GYA PcP **PcP 14 01 02.8 +0.4**
GYA ScP **ScP 14 04 47.4 -1.0**
GYA S **S 14 05 19.0 +0.2**
GYA sS **sS 14 05 41.3 +1.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 42.14 32 *eP* **P 13 59 11.6 +1.9**
INK Inuvik 42.14 32 *eP* **P 13 59 11.6 +1.9**
comp=Z,4.2nm,0.8s
INK Inuvik 42.14 32 P **P 13 59 11.7 +1.9**
comp=Z,0.9nm,0.4s,baz=273,slow=8.1,SNR=11
ZALV Zalesovo Beam 42.95 306 P **P 13 59 14.0 -2.5**
ZALV 14 01 06.7
ZALV Zalesovo Beam 42.95 306 P **P 13 59 14.0 -2.5**
ZALV PcP **PcP 14 01 06.7 +0.5**
ZALV Zalesovo Beam 42.95 306 P **P 13 59 14.0 -2.5**
comp=Z,1.0nm,0.5s,baz=66,slow=8.3,SNR=6.1
ZALV PcP **PcP 14 01 06.7 +0.5**
comp=Z,1.5nm,0.8s,baz=73,slow=4.8,SNR=5.7
ZALV LR LR 14 18 23.0
comp=Z,258nm,18.3s,baz=62,slow=38
QIZ Qiongzhong 44.62 247 P **P 13 59 30.0 -0.3**
QIZ S **S 14 06 04.0 +0.9**
QIZ pmax pmax
comp=Z,10.0nm,1.1s
QIZ pmax pmax
comp=Z,72nm,5.9s
WMQ Urumqi 45.14 292 P **P 13 59 35.0 +0.7**
WMQ pP **pP 13 59 47.0 -0.1**
WMQ sP **sP 13 59 53.0 +0.3**
WMQ PP **PP 14 01 22.0 +1.8**
WMQ ScP **ScP 14 05 03.0 +0.6**
WMQ S **S 14 06 11.0 +0.7**
WMQ SS **ScS 14 09 25.0 -1.8**
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ pmax pmax
comp=Z,47nm,4.0s
WMQ LR LR
comp=Z,95nm,16.0s
WMQ LR LR
comp=Z,91nm,16.0s
WMQ LR LR
comp=Z,71nm,16.0s
KMI Kunming 45.14 260 P **P 13 59 34.8 +0.1**
KMI pmax pmax
comp=Z,12nm,1.2s
MK31 Makanchi Array 47.21 298 *eP* **P 13 59 48.8 -1.7**
MK31 Makanchi Array 47.21 298 *eP* **P 13 59 48.8 -1.7**
MKAR Makanchi Array 47.21 298 *cePP* **P 13 59 49.5 -1.0**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 47.21 298⇑ *eP* **P 13 59 49.3 -1.2**
MKAR Makanchi Array 47.21 298 P **P 13 59 49.3 -1.2**
MKAR Makanchi Array 47.21 298 P **P 13 59 49.3 -1.2**
comp=Z,3.8nm,0.8s,baz=68,slow=7.9,SNR=23
MKAR LR LR 14 20 36.7
comp=Z,181nm,19.4s,baz=256,slow=37
KURK Kurchatov 47.69 304 *eP* **P 13 59 52.8 -1.2**
KURK pmax pmax
comp=Z,3.0nm,0.3s
KURK Kurchatov 47.69 304 *eP* **P 13 59 52.8 -1.2**
KURK Kurchatov 47.69 304 *eP* **P 13 59 52.8 -1.2**
comp=Z,3.1nm,0.3s
BVAR Borovoye Array 51.23 310 P **P 14 00 20.0 -1.0**
BVAR Borovoye Array 51.23 310 P **P 14 00 20.0 -1.0**
BVAR Borovoye Array 51.23 310 P **P 14 00 20.0 -1.0**
comp=Z,2.1nm,0.6s,baz=48,slow=7.3,SNR=17
BRVK Borovoye 51.27 310 *cePP* **P 14 00 19.8 -1.5**
BRVK pmax pmax
comp=Z,13nm,2.5s
BRVK Borovoye 51.27 310 *eP* **P 14 00 20.2 -1.1**
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 51.39 36 *eP* **P 14 00 23.2 +1.1**
YKA Yellowknife Ar 51.39 36 P **P 14 00 23.2 +1.1**
YKA Yellowknife Ar 51.39 36 P **P 14 00 23.2 +1.1**
comp=Z,0.3nm,0.4s,baz=296,slow=7.1,SNR=5.3
CHTO Chiang Mai 51.99 257 *eP* **P 14 00 27.7 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 51.99 257 *eP* **P 14 00 27.7 +0.6**
comp=Z,7.3nm,0.9s
CMAR Chiang Mai Arr 52.24 257 *eP* **P 14 00 30.0 +1.0**
CMAR Chiang Mai Arr 52.24 257 P **P 14 00 30.0 +1.0**
CMAR Chiang Mai Arr 52.24 257 P **P 14 00 30.0 +1.0**
comp=Z,2.9nm,0.8s,baz=34,slow=7.6,SNR=13
CMAR LR LR 14 26 02.2
comp=Z,55nm,18.9s,baz=60,slow=40
USP Ospenovka 53.75 297 *i* P **P 14 00 40.1 +0.2**
USP Ospenovka 53.75 297 P **P 14 00 40.2 +0.2**
SNR=12
KZA Kyzart 53.92 296 *i* P **P 14 00 42.1 +0.5**
KZA Kyzart 53.92 296 P **P 14 00 42.1 +0.5**
SNR=6.8
AAK Ala-Archa 54.09 297 *i* P **P 14 00 42.6 +0.1**
AAK Ala-Archa 54.09 297 P **P 14 00 42.6 +0.1**
SNR=7.1
AAK Ala-Archa 54.09 297 *i* P **P 14 00 42.6 +0.1**
TAPN Taplejung 54.13 274 *eP* **P 14 00 43.4 +0.2**
TAPN Taplejung 54.13 274 *eP* **P 14 00 43.4 +0.2**
EKS2 Erkin-Say 54.52 297 *i* P **P 14 00 45.9 +0.3**
EKS2 Erkin-Say 54.52 297 P **P 14 00 45.9 +0.3**
SNR=5.7
ODAN Odare 54.66 273 *eP* **P 14 00 46.9 -0.1**
comp=Z,11nm,0.5s
ODAN Odare 54.66 273 *eP* **P 14 00 46.9 -0.1**
comp=Z,11nm,0.5s
AML Almayashu 54.86 297 *i* P **P 14 00 48.7 +0.3**
AML Almayashu 54.86 297 P **P 14 00 48.7 +0.3**
SNR=5.1
KSH Kashi 54.88 293 P P 14 00 52.3 +4.1
KSH pP pP 14 01 05.1 +3.7
KSH sP sP 14 01 11.3 +4.4
KSH PcP **PcP 14 01 52.1 +2.2**
KSH S **S 14 08 29.1 +3.0**
KSH sS sS 14 08 54.0 +5.9
KSH SS SS 14 12 17.1 +7.7
KSH pmax pmax
comp=Z,7.0nm,0.5s
KSH pmax pmax
comp=Z,140nm,5.8s
KSH LR LR
comp=Z,100nm,6.2s
KSH LR LR
comp=Z,170nm,6.5s
KSH LR LR
comp=Z,140nm,7.3s
JIRN Jiri 54.99 275 *eP* **P 14 00 50.3 +0.8**
comp=Z,14nm,0.5s
JIRN Jiri 54.99 275 *eP* **P 14 00 50.3 +0.8**
comp=Z,14nm,0.5s
GUN Gumba 55.05 275 *eP* **P 14 00 50.7 +0.8**
comp=Z,17nm,0.6s
GUN Gumba 55.05 275 *eP* **P 14 00 50.7 +0.8**
comp=Z,17nm,0.6s
RAMN Ramite 55.15 274 *eP* **P 14 00 50.9 +0.4**
comp=Z,24nm,0.6s
RAMN Ramite 55.15 274 *eP* **P 14 00 50.9 +0.4**
comp=Z,24nm,0.6s
ARU Arti 55.44 318 *d iP* **P 14 00 50.3 -1.5**
ARU 14 02 52.1
ARU S **S 14 08 34.2 +1.3**
ARU pmax pmax
comp=Z,4.0nm,0.5s
ARU MLR MLR
comp=Z,143nm,16.0s
ARU Arti 55.44 318⇓ *iP* **P 14 00 50.3 -1.5**
ARU Arti 55.44 318 *eP* **P 14 00 49.3 -2.6**
comp=Z,5.4nm,0.6s
KKN Kakani 55.54 276 *eP* **P 14 00 54.0 +0.7**
KKN Kakani 55.54 276 *eP* **P 14 00 54.0 +0.7**
KKN Kakani 55.54 276 *eP* **P 14 00 54.0 +0.7**
PKI Pulchoki 55.59 275 *eP* **P 14 00 54.2 +0.4**
PKI Pulchoki 55.59 275 *eP* **P 14 00 54.2 +0.4**
PKI Pulchoki 55.59 275 *eP* **P 14 00 54.2 +0.4**
PKIN Phulchoki 55.59 275 *eP* **P 14 00 54.0 +0.3**
comp=Z,8.7nm,0.6s
DMN Daman 55.78 276 *eP* **P 14 00 56.0 +1.0**
comp=Z,40nm,1.1s
DMN Daman 55.78 276 *eP* **P 14 00 56.0 +1.0**
comp=Z,40nm,1.1s
GKN Gorkha 55.85 276 *eP* **P 14 00 56.1 +0.7**
comp=Z,34nm,0.9s
GKN Gorkha 55.85 276 *eP* **P 14 00 56.1 +0.7**
comp=Z,34nm,0.9s
DANN Dangsing 56.24 277 *eP* **P 14 00 59.4 +1.0**
comp=Z,36nm,0.6s
DANN Dangsing 56.24 277 *eP* **P 14 00 59.4 +1.0**
comp=Z,36nm,0.6s
KOLN Koldanda 56.72 277 *eP* **P 14 01 02.4 +0.8**
comp=Z,28nm,0.8s
KOLN Koldanda 56.72 277 *eP* **P 14 01 02.4 +0.8**
comp=Z,28nm,0.8s
PYUN Piuthan 56.93 278 *eP* **P 14 01 03.9 +0.7**
PYUN Piuthan 56.93 278 *eP* **P 14 01 03.9 +0.7**
ARCES ARCESS Array B 58.40 341 *eP* **P 14 01 12.5 -0.1**
ARCES ARCESS Array B 58.40 341 P **P 14 01 12.5 -0.1**
ARCES ARCESS Array B 58.40 341 P **P 14 01 12.5 -0.1**
comp=Z,1.2nm,0.6s,baz=26,slow=8.5,SNR=9.1
ARCES LR LR 14 29 16.7
comp=Z,80nm,18.5s,baz=12,slow=39
SUMG Summit 61.28 4 *eP* **P 14 01 33.4 +0.6**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 61.28 4 *i* P **P 14 01 33.4 +0.6**
comp=Z,7.7nm,0.9s
SCO Scoresbysund 63.60 358 *i* P **P 14 01 48.3 +0.5**
SCO pmax pmax
comp=Z,4.0nm,0.8s
SCO Scoresbysund 63.60 358 *i* P **P 14 01 48.3 +0.5**
comp=Z,3.6nm,0.8s
FINES FINESS Array B 64.56 335 P **P 14 01 54.0 -0.3**
FINES FINESS Array B 64.56 335 P **P 14 01 53.9 -0.3**
comp=Z,1.6nm,0.4s,baz=38,slow=7.0,SNR=18
FINES LR LR 14 32 41.1
comp=Z,77nm,19.0s,baz=32,slow=38
PDAR Pinedale Array 65.09 54 P **P 14 01 59.8 +1.5**
PDAR Pinedale Array 65.09 54 P **P 14 01 59.8 +1.5**
comp=Z,6.0nm,0.7s,baz=302,slow=5.2,SNR=4.7
OBN Obninsk 65.79 326⇓ *iP* **P 14 02 01.5 -0.8**
OBN pmax pmax
comp=Z,18nm,1.7s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 65.79 326 *eP* **P 14 02 01.5 -0.8**
VRHR Novokhopersk 66.57 320 *eP* **P 14 02 05.5 -1.9**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 67.56 322 *eP* **P 14 02 11.9 -1.8**
VSR pmax pmax
comp=Z,6.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,1.9s
VSR pmax pmax
comp=E,7.0nm,0.6s
VORD Divnogorie 67.69 321 *eP* **P 14 02 12.8 -1.7**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,9.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
WRAB Tennant Creek 67.95 199 *eP* **P 14 02 16.0 -0.4**
WRAB pmax pmax
comp=Z,2.0nm,0.8s
WRAB Tennant Creek 67.95 199 *eP* **P 14 02 16.0 -0.4**
comp=Z,1.9nm,0.8s
WRA Warramunga Arr 67.97 199 *eP* **P 14 02 16.0 -0.5**
WRA Warramunga Arr 67.97 199 P **P 14 02 16.0 -0.5**
WRA Warramunga Arr 67.97 199 P **P 14 02 16.0 -0.5**
comp=Z,1.8nm,0.8s,baz=18,slow=6.9,SNR=12
NB2 NORSAR Subarra 68.78 341 P **P 14 02 21.3 +0.1**
comp=Z,1.5nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 68.78 341 *eP* **P 14 02 21.7 +0.5**
NOA NORSAR Array B 68.78 341 P **P 14 02 21.6 +0.5**
NOA NORSAR Array B 68.78 341 P **P 14 02 21.6 +0.5**
comp=Z,2.3nm,0.6s,baz=27,slow=6.4,SNR=13
NOA LR LR 14 35 34.3
comp=Z,43nm,18.9s,baz=30,slow=39
KBZ Khabaz 71.26 314 P **P 14 02 38.0 +1.4**
KBZ Khabaz 71.26 314 P **P 14 02 38.0 +1.4**
KBZ Khabaz 71.26 314 P **P 14 02 38.0 +1.4**
comp=Z,7.4nm,0.7s,baz=74,slow=5.0,SNR=16
KBZ LR LR 14 38 52.1
comp=Z,147nm,18.1s,baz=9.8,slow=40
AS31 Alice Springs 71.66 199 *eP* **P 14 02 38.3 -0.9**
ASAR Alice Springs 71.66 199 *eP* **P 14 02 39.9 +0.7**
ASAR Alice Springs 71.66 199 P **P 14 02 39.9 +0.7**
ASAR Alice Springs 71.66 199 P **P 14 02 39.9 +0.7**
comp=Z,1.2nm,0.7s,baz=13,slow=6.2,SNR=20
AKASG Malin Array Be 72.03 326 P **P 14 02 41.0 -0.1**
AKASG Malin Array Be 72.03 326 P **P 14 02 41.0 -0.1**
AKASG Malin Array Be 72.03 326 P **P 14 02 41.0 -0.1**
comp=Z,5.1nm,0.5s,baz=34,slow=6.3,SNR=18
AKASG LR LR 14 36 06.3
comp=Z,54nm,18.7s,baz=40,slow=37
AKBB Malin Array Si 72.03 326 *eP* **P 14 02 41.2 +0.1**
AKBB Malin Array Si 72.03 326 *eP* **P 14 02 41.1 +0.1**
KIEV Kiev 72.04 326 *eP* **P 14 02 40.7 -0.5**
KIEV pmax pmax
comp=Z,16nm,1.0s
KIEV Kiev 72.04 326 *eP* **P 14 02 40.6 -0.5**
comp=Z,16nm,1.0s
AK01 Malin Array Si 72.04 326 *eP* **P 14 02 41.1 -0.1**
AK02 Malin Array Si 72.07 326 *eP* **P 14 02 41.1 -0.2**
SCHQ Schefferville 73.84 23 LR LR 14 38 35.1
comp=Z,78nm,18.2s,baz=73,slow=38
KWP Kalwaria Pacla 75.32 329 *eP* **P 14 03 01.8 +1.3**
KWP pmax pmax
comp=Z,11nm,0.6s
KWP Kalwaria Pacla 75.32 329 *eP* **P 14 03 01.8 +1.3**
comp=Z,11nm,0.6s
BUR08 Bucovina Ar. S 76.05 327 *eP* **P 14 03 05.4 +0.5**
DPC Dobruska-Polom 76.84 333 *eP* **P 14 03 09.8 +0.6**
DPC *e* 14 03 20.8
DPC *e* 14 03 22.8
DPC Dobruska-Polom 76.84 333 *eP* **P 14 03 09.8 +0.6**
DPC *ep*P **PcP 14 03 20.8 +0.6**
CLL Collm 76.99 336 *eP* **P 14 03 11.0 +1.1**
CLL *ep*P **pP 14 03 23.0 -0.7**
TXAR Lajitas Array 77.78 60 *eP* **P 14 03 16.3 +1.5**
TXAR Lajitas Array 77.78 60 P **P 14 03 16.3 +1.5**
TXAR Lajitas Array 77.78 60 P **P 14 03 16.3 +1.5**
comp=Z,1.0nm,0.6s,baz=303,slow=4.9,SNR=11
STKA Stephens Creek 78.38 190 P **P 14 03 17.4 -0.2**
STKA Stephens Creek 78.38 190 P **P 14 03 17.4 -0.2**
comp=Z,1.8nm,1.0s,baz=23,slow=7.7,SNR=2.4
KHC Kasperske Hory 78.76 334 *eP* **P 14 03 18.3 -1.5**
KHC *e* 14 03 23.8
KHC Kasperske Hory 78.76 334 *eP* **P 14 03 18.3 -1.5**
KHC *ex* x 14 03 23.8
KHC Kasperske Hory 78.76 334 *eP* **P 14 03 18.3 -1.5**
BRTR Keskin Array B 78.81 317 P **P 14 03 21.1 +0.6**
BRTR Keskin Array B 78.81 317 P **P 14 03 21.1 +0.6**
comp=Z,1.8nm,0.9s,baz=67,slow=3.2,SNR=5.3
GERES GERESS Array B 78.97 334 *eP* **P 14 03 21.8 +0.7**
GERES GERESS Array B 78.97 334 P **P 14 03 21.8 +0.7**
GERES GERESS Array B 78.97 334 P **P 14 03 21.8 +0.7**
comp=Z,1.2nm,0.7s,baz=28,slow=6.0,SNR=5.4
MEM Membach 79.49 339 P **P 14 03 25.7 +2.0**
PPT Papeete 81.82 126 LR LR 14 35 21.8
comp=Z,100nm,18.5s,baz=203,slow=32
TORD Torodi Ar. Bea 115.59 329 PKP **PKPdf 14 09 59.2 -0.5**
TORD Torodi Ar. Bea 115.59 329 PKP **PKPdf 14 09 59.2 -0.5**
comp=Z,0.5nm,0.9s,baz=20,slow=2.3,SNR=3.9
PLCA Paso Flores 148.15 96 PKPbc **PKPbc 14 11 03.1 +0.4**
PLCA Paso Flores 148.15 96 PKPbc **PKPbc 14 11 03.1 +0.4**
comp=Z,2.9nm,0.8s,baz=265,slow=3.5,SNR=6.8

NIED ***14*** *14:12:00.43˙00N×147˙00E,h44km,Mw4.2 Best double couple: M0 1.90000×10^15 NP1:φs60.00000°, δ67.00000°, λ136.00000°. NP2:φs170.00000°, δ51.00000°, λ31.00000°.*
MOS ***14*** *14:12:44.6± 1.6, 43˙01N×147˙19E,h32km,mb4.7/2, Error ellipse: s-maj=11.2km s-min=7.3km az=84.1*
JMA ***14*** *14:12:47.8± 0.2, 43˙05N×146˙99E,h56km±3km,M4.5*
NEIC ***14*** *14:12:47.3± 2.4, 43˙04N×147˙12E,h34km± 17km,mb4.6/5, Error ellipse: s-maj=13.5km s-min=7.2km az=148.0*

SKHL ***14*** *14:12:47.8±0.5, 43˚.07N× 147˚.09E, h60km±5km, mb5.0/3*
IDC ***14*** *14:12:49.1±2.6, 43˚.01N× 146˚.98E, h52km±23km, mb3.9/16, mb1 4.1/19, mb1mx3.9/28, mbtmp3.9/19, ML4.6/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/30, Error ellipse: s-maj=17.6km s-min=14.7km az=155.0*

ISC 14 14:12:44.9±1.8, **43˚.08N**±0˚.05× **147˚.12E**±0˚.04, **h18**km±10km, **n129**, σ1§**43**/142, **mb4.3**/21, **2C-4D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.04**	**286**	P	**Pg**	**14 13 05.5**	**+0.4**
NEM2				eS	**Sb**	**14 13 18.5**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**1.32**	**317**	*d i* PN	**Pb**	**14 13 09.4**	**+0.3**
YUK				*i* S	**Sn**	**14 13 25.7**	**+0.2**
YUK				pmax	pmax		
	comp=N,452nm,0.5s						
YUK				pmax	pmax		
	comp=Z,4μm,0.5s						
YUK				pmax	pmax		
	comp=E,359nm,0.1s						
YUK				smax	smax		
	comp=N,9μm,0.4s						
YUK				smax	smax		
	comp=E,13μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.32**	**317**	⇓*i* P	**Pb**	**14 13 09.4**	**+0.3**
YUK				AMB	AMB	14 13 09.9	
	comp=E,450nm,0.5s						
YUK				AMB	AMB	14 13 09.9	
	comp=E,4μm,0.5s						
YUK				*i* S	**Sn**	**14 13 25.8**	**+0.2**
YUK				A	A	14 13 28.1	
	comp=E,12μm,0.6s						
YUK				A	A	14 13 30.2	
	comp=E,9μm,0.4s						
YUK				A	A	14 13 30.2	
	comp=E,13μm,0.4s						
JRA	**Rausu**	**1.68**	**301**	P	**Pn**	**14 13 14.7**	**+1.3**
JRA				eS	**Sn**	**14 13 34.7**	**+0.2**
JAK	**Akkeshi**	**1.78**	**268**	P	**Pn**	**14 13 15.5**	**+0.8**
JAK				eS	**Sn**	**14 13 35.8**	**-1.0**
JNK	**Nakash**	**1.82**	**287**	P	**Pn**	**14 13 15.8**	**+0.5**
JNK				eS	**Sn**	**14 13 37.2**	**-0.7**
KUR	**Kuril'sk**	**2.22**	**14**	*e*PN	**Pb**	**14 13 23.5**	**-0.9**
KUR				eS	**Sn**	**14 13 49.0**	**+1.3**
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				pmax	pmax		
	comp=N,230nm,0.3s						
KUR				pmax	pmax		
	comp=E,270nm,0.3s						
KUR				smax	smax		
	comp=N,860nm,0.3s						
KUR				smax	smax		
	comp=E,720nm,0.3s						
KUR	**Kuril'sk**	**2.22**	**14**	*e*P	**Pb**	**14 13 23.3**	**-1.1**
KUR				AMB	AMB	14 13 26.0	
	comp=E,230nm,0.3s						
KUR				AMB	AMB	14 13 26.0	
	comp=E,270nm,0.3s						
KUR				AMB	AMB	14 13 26.0	
	comp=E,300nm,0.6s						
KUR				eS	**Sn**	**14 13 49.5**	**+1.8**
KUR				A	A	14 13 51.0	
	comp=E,860nm,0.3s						
KUR				A	A	14 13 51.0	
	comp=E,720nm,0.3s						
JOB	**Onbets**	**2.41**	**267**	P	**Pn**	**14 13 24.3**	**+0.8**
JOB				eS	**Sn**	**14 13 50.7**	**-1.8**
JAR	**Ashorobuto**	**2.46**	**276**	P	**Pn**	**14 13 25.2**	**+1.1**
JAR				eS	**Sn**	**14 13 53.4**	**-0.2**
JTKR	**Abashiri--Toko**	**2.50**	**292**	P	**Pn**	**14 13 26.4**	**+1.8**
JTKR				eS	**Sn**	**14 13 55.3**	**+0.7**
JCH	**Churui**	**2.80**	**262**	P	**Pn**	**14 13 29.5**	**+0.7**
JCH				eS	**Sn**	**14 13 58.9**	**-3.2**
JMP	**Maruseppu**	**2.88**	**290**	P	**Pn**	**14 13 31.9**	**+1.9**
HRK	**Horoka**	**2.94**	**279**	*e*P	**Pn**	**14 13 32.7**	**+2.0**
HRK				eS	**Sn**	**14 14 05.6**	**0.0**
ERM	**Erimo**	**3.11**	**251**	*d i* PN	**Pn**	**14 13 35.5**	**+2.5**
ERM	**Erimo**	**3.11**	**251**	*e*P	**Pn**	**14 13 35.5**	**+2.5**
ERM	**Erimo**	**3.11**	**251**	*e*P	**Pn**	**14 13 35.6**	**+2.5**
JEM	**Erimo**	**3.11**	**251**	P	**Pn**	**14 13 35.4**	**+2.3**
JEM				eS	**Sn**	**14 14 08.9**	**-0.9**
JKK2	**Kamakawa 2**	**3.28**	**285**	P	**Pn**	**14 13 37.6**	**+2.3**
JFR	**Furan**	**3.31**	**273**	P	**Pn**	**14 13 37.5**	**+1.7**
JNBK	**Urakawa-nobuka**	**3.31**	**257**	P	**Pn**	**14 13 36.8**	**+0.9**
JKA	**Kamikawa-asahi**	**3.44**	**289**	*e*P	**Pn**	**14 13 40.5**	**+2.9**
ASAJ	**Asahikawa**	**3.44**	**289**	P	**Pn**	**14 13 40.4**	**+2.9**
ASAJ	**Asahikawa**	**3.44**	**289**	*e*P	**Pn**	**14 13 40.5**	**+2.9**
ASAJ	**Asahikawa**	**3.44**	**289**	P	**Pn**	**14 13 40.5**	**+2.9**
ASAJ				S	**Sb**	**14 14 23.4**	**-3.4**
ASAJ	**Asahikawa**	**3.44**	**289**	P	**Pn**	**14 13 40.5**	**+2.9**
	comp=E,40nm,0.3s,baz=100,slow=12,SNR=160						
ASAJ				S	**Sb**	**14 14 23.4**	**-3.4**
	comp=E,16nm,0.3s,baz=332,slow=17,SNR=6.8						
ASAJ				LR	LR	14 15 13.3	
	comp=E,246nm,20.6s,baz=129,slow=43						
JBT2	**Biratori 2**	**3.50**	**267**	P	**Pn**	**14 13 39.0**	**+0.6**
JAB	**Ashibetsu**	**3.60**	**278**	P	Pn	14 13 42.8	+3.1
YSS	**Yuzh-Sakhalins**	**4.95**	**323**	⇑*i* PN	**Pn**	**14 14 01.2**	**+2.8**
YSS	**Yuzh-Sakhalins**	**4.95**	**323**	⇑*i* P	**Pn**	**14 14 01.2**	**+2.8**
YSS				*i* S	**Sn**	**14 14 56.5**	**+1.3**
YSS				A	A	14 14 59.0	
	comp=E,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.95**	**323**	*e*P	**Pn**	**14 14 01.1**	**+2.8**
MAJO	**Matsushiro**	**9.46**	**229**	⇓*i* PN	**Pn**	**14 15 02.3**	**+2.0**
MAJO	**Matsushiro**	**9.46**	**229**	*e*P	**Pn**	**14 15 02.3**	**+2.0**
MJAR	**Matsushiro Arr**	**9.46**	**229**	P	**Pn**	**14 14 59.0**	**-1.3**
MJAR				S	**Sn**	**14 16 50.8**	**+4.6**
MJAR	**Matsushiro Arr**	**9.46**	**229**	P	**Pn**	**14 14 59.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=30,slow=13,SNR=3.1						
MJAR				S	**Sn**	**14 16 50.8**	**+4.6**
	comp=E,0.6nm,0.3s,baz=357,slow=21,SNR=4.4						
MJAR				LR	LR	14 18 52.8	
	comp=E,100nm,20.2s,baz=75,slow=39						
SKR	**Severo-Kuril's**	**9.78**	**36**	*e*P	**Pn**	**14 15 03.5**	**-1.0**
USRK	**Ussuriysk Arra**	**11.02**	**281**	P	**Pn**	**14 15 22.2**	**+0.7**
	comp=E,0.4nm,0.3s,baz=81,slow=13,SNR=7.6						
PEA0B	**Petropavlovsk-**	**12.26**	**31**	*e*P	**Pn**	**14 15 38.9**	**+0.4**
PETK	**Petropavlovsk-**	**12.26**	**31**	PN	**Pn**	**14 15 39.1**	**+0.6**
PETK	**Petropavlovsk-**	**12.26**	**31**	P	**Pn**	**14 15 39.1**	**+0.6**
PETK	**Petropavlovsk-**	**12.26**	**31**	P	**Pn**	**14 15 39.1**	**+0.6**
	comp=E,0.8nm,0.3s,baz=196,slow=12,SNR=15						
PETK				LR	LR	14 21 03.1	
	comp=E,56nm,19.1s,baz=94,slow=40						
PET	**Petropavlovsk**	**12.57**	**34**	*e*PN	**Pn**	**14 15 41.2**	**-1.5**
PET	**Petropavlovsk**	**12.57**	**34**	*e*P	**Pn**	**14 15 41.2**	**-1.5**
PET	**Petropavlovsk**	**12.57**	**34**	*e*P	**Pn**	**14 15 41.2**	**-1.5**
EKMR	**Ekimchan**	**13.74**	**322**	*e*P	Pn	14 16 02.0	+3.3
EKMR				AMB	AMB	14 16 11.2	
	comp=E,4.0nm,0.5s						
KSRS	**Korea Array**	**15.68**	**255**	LR	LR	14 22 09.8	
	comp=E,40nm,19.9s,baz=65,slow=36						
BMKR	**Bomnak**	**16.66**	**321**	*e*P	**Pn**	**14 16 35.5**	**-1.8**
KROS	**Kirovskiy**	**17.40**	**318**	*e*P	**Pn**	**14 16 45.2**	**-1.4**
HIA	**Hailar**	**19.88**	**298**	*e*P	**Pn**	**14 17 16.3**	**-0.4**
FX1	**Attu Island--F**	**19.90**	**51**	*e*P	**Pn**	**14 17 18.0**	**+1.1**
FX1	**Attu Island--F**	**19.90**	**51**	P	**Pn**	**14 17 17.6**	**+0.7**
	comp=E,14nm,0.6s,baz=8.6,slow=4.3,SNR=11						
SEY	**Seymchan**	**20.12**	**7**	P	**P**	**14 17 16.6**	**-1.0**
SEY	**Seymchan**	**20.12**	**7**	*e*P	**P**	**14 17 16.6**	**-1.0**
SEY	**Seymchan**	**20.12**	**7**	P	**P**	**14 17 16.6**	**-1.0**
SEY	**Seymchan**	**20.12**	**7**	P	**P**	**14 17 16.6**	**-1.0**
	comp=E,3.5nm,0.8s,baz=170,slow=12,SNR=4.4						
YAK	**Yakutsk**	**21.60**	**337**	*e*P	**P**	**14 17 32.9**	**-0.6**
YAK	**Yakutsk**	**21.60**	**337**	*e*P	**P**	**14 17 32.9**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**28.62**	**138**	T	T	14 49 38.4	
	baz=331,slow=76,SNR=87						
H11N1	**WAKE ISLAND Hy**	**28.63**	**138**	T	T	14 49 36.3	
	baz=331,slow=76,SNR=94						
H11N3	**WAKE ISLAND Hy**	**28.63**	**138**	T	T	14 49 36.7	
	baz=331,slow=76,SNR=73						
SONM	**Songino Array**	**28.71**	**294**	P	**P**	**14 18 41.4**	**+0.3**
SONM	**Songino Array**	**28.71**	**294**	P	**P**	**14 18 41.4**	**+0.3**
	comp=E,1.3nm,0.6s,baz=83,slow=8.2,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**29.57**	**140**	T	T	14 50 51.7	
	baz=334,slow=77,SNR=108						
H11S3	**WAKE ISLAND Hy**	**29.57**	**140**	T	T	14 50 36.9	
	baz=334,slow=77,SNR=269						
H11S2	**WAKE ISLAND Hy**	**29.59**	**140**	T	T	14 50 38.3	
	baz=334,slow=77,SNR=66						
TIXI	**Tiksi**	**30.01**	**349**	*i* P	**P**	**14 18 50.3**	**-1.8**
TIXI	**Tiksi**	**30.01**	**349**	*i* P	**P**	**14 18 50.3**	**-1.8**
TNA	**Tin City**	**33.43**	**32**	*e*P	**P**	**14 19 23.5**	**+1.3**
	comp=E,18nm,1.1s						
IM04	**Indian Mountai**	**39.20**	**34**	*e*P	**P**	**14 20 12.0**	**+0.5**
ZALV	**Zalesovo Beam**	**41.38**	**308**	P	**P**	**14 20 29.4**	**-0.3**
ZALV						14 22 26.9	
ZALV	**Zalesovo Beam**	**41.38**	**308**	P	**P**	**14 20 29.4**	**-0.3**
ZALV				PcP	**PcP**	**14 22 26.9**	**-0.7**
ZALV	**Zalesovo Beam**	**41.38**	**308**	P	**P**	**14 20 29.4**	**-0.3**
	comp=E,0.4nm,0.4s,baz=85,slow=8.2,SNR=3.3						
ZALV				PcP	**PcP**	**14 22 26.9**	**-0.7**
	comp=E,1.3nm,0.6s,baz=86,slow=1.9,SNR=7.5						
COLA	**College**	**41.63**	**36**	*e*P	**P**	**14 20 32.8**	**+1.2**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	**College**	**41.63**	**36**	*e*P	**P**	**14 20 32.8**	**+1.2**
COLA	**College**	**41.63**	**36**	*e*P	**P**	**14 20 32.8**	**+1.2**
	comp=Z,4.6nm,0.8s						
ILAR	**Eielson Array**	**42.04**	**36**	*e*P	**P**	**14 20 35.7**	**+0.7**
ILAR	**Eielson Array**	**42.04**	**36**	P	**P**	**14 20 35.6**	**+0.7**
ILAR	**Eielson Array**	**42.04**	**36**	P	**P**	**14 20 35.6**	**+0.7**
	comp=E,1.5nm,0.6s,baz=268,slow=8.1,SNR=22						
MK31	**Makanchi Array**	**44.88**	**298**	*e*P	**P**	**14 20 58.0**	**-0.1**
MK31	**Makanchi Array**	**44.88**	**298**	*e*P	**P**	**14 20 58.0**	**-0.1**
MKAR	**Makanchi Array**	**44.88**	**298**	P	**P**	**14 20 58.1**	**0.0**
MKAR						14 22 38.8	
MKAR	**Makanchi Array**	**44.88**	**298**	*e*P	**P**	**14 20 58.1**	**0.0**
MKAR	**Makanchi Array**	**44.88**	**298**	P	**P**	**14 20 58.0**	**0.0**
MKAR				PcP	**PcP**	**14 22 38.8**	**-0.7**
MKAR	**Makanchi Array**	**44.88**	**298**	P	**P**	**14 20 58.0**	**0.0**
	comp=E,2.8nm,0.7s,baz=80,slow=8.7,SNR=20						
MKAR				PcP	**PcP**	**14 22 38.8**	**-0.7**
	comp=E,0.6nm,0.7s,baz=84,slow=4.5,SNR=3.1						
HYT	**Haines Junctio**	**46.85**	**41**	*e*P	**P**	**14 21 15.7**	**+2.1**
INK	**Inuvik**	**46.99**	**30**	*e*P	**P**	**14 21 15.3**	**+0.9**
INK	**Inuvik**	**46.99**	**30**	*e*P	**P**	**14 21 15.3**	**+0.9**
	comp=Z,5.7nm,0.7s						
HNR	**Honiara**	**53.56**	**164**	LR	LR	14 45 33.4	
	comp=Z,76nm,18.6s,baz=190,slow=37						
YKA	**Yellowknife Ar**	**56.37**	**33**	*e*P	**P**	**14 22 25.3**	**+0.8**
YKA	**Yellowknife Ar**	**56.37**	**33**	P	**P**	**14 22 25.3**	**+0.8**
YKA	**Yellowknife Ar**	**56.37**	**33**	P	**P**	**14 22 25.3**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=300,slow=6.9,SNR=8.7						
ARCES	**ARCESS Array B**	**59.86**	**340**	*e*P	**P**	**14 22 49.0**	**+0.1**
ARCES	**ARCESS Array B**	**59.86**	**340**	P	**P**	**14 22 49.0**	**+0.1**
ARCES	**ARCESS Array B**	**59.86**	**340**	P	**P**	**14 22 49.0**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=46,slow=6.9,SNR=3.8						
WRA	**Warramunga Arr**	**63.80**	**193**	*e*P	**P**	**14 23 14.9**	**-1.0**
WRA	**Warramunga Arr**	**63.80**	**193**	P	**P**	**14 23 14.9**	**-1.0**
WRA	**Warramunga Arr**	**63.80**	**193**	P	**P**	**14 23 14.9**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=11,slow=6.7,SNR=4.1						
SUMG	**Summit**	**64.58**	**2**	*i* P	**P**	**14 23 21.2**	**+0.3**
SUMG	**Summit**	**64.58**	**2**	*i* P	**P**	**14 23 21.2**	**+0.3**
	comp=Z,6.8nm,0.7s						
FINES	**FINESS Array B**	**65.46**	**333**	P	**P**	**14 23 25.6**	**-0.7**
FINES	**FINESS Array B**	**65.46**	**333**	P	**P**	**14 23 25.6**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=34,slow=7.6,SNR=8.1						
HLID	**Hailey**	**67.11**	**51**	*e*P	**P**	**14 23 38.3**	**+0.8**
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**67.52**	**193**	*e*P	**P**	**14 23 39.6**	**-0.3**
ASAR	**Alice Springs**	**67.52**	**193**	P	**P**	**14 23 39.6**	**-0.3**
ASAR	**Alice Springs**	**67.52**	**193**	P	**P**	**14 23 39.6**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=8.1,slow=6.1,SNR=3.3						
NVAR	**Mina Array Bea**	**67.96**	**58**	*e*P	**P**	**14 23 44.0**	**+1.1**
NVAR	**Mina Array Bea**	**67.96**	**58**	P	**P**	**14 23 44.0**	**+1.1**
NVAR	**Mina Array Bea**	**67.96**	**58**	P	**P**	**14 23 44.0**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=294,slow=6.8,SNR=14						
NB2	**NORSAR Subarra**	**70.22**	**339**	P	**P**	**14 23 55.8**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**70.22**	**339**	*e*P	**P**	**14 23 55.9**	**-0.4**
NOA	**NORSAR Array B**	**70.22**	**339**	P	**P**	**14 23 55.9**	**-0.4**
NOA	**NORSAR Array B**	**70.22**	**339**	P	**P**	**14 23 55.9**	**-0.4**
	comp=Z,7.0nm,0.5s,baz=32,slow=6.3,SNR=18						
KBZ	**Khabaz**	**70.22**	**312**	P	**P**	**14 23 57.1**	**+0.5**
KBZ	**Khabaz**	**70.22**	**312**	P	**P**	**14 23 57.1**	**+0.5**
KBZ	**Khabaz**	**70.22**	**312**	P	**P**	**14 23 57.1**	**+0.5**
	comp=E,4.6nm,0.9s,baz=59,slow=5.9,SNR=4.5						
BW06	**Boulder Array**	**70.36**	**50**	*e*P	**P**	**14 23 58.2**	**+0.4**
	comp=E,1.2nm,0.6s						
PDAR	**Pinedale Array**	**70.36**	**50**	*e*P	**P**	**14 23 58.2**	**+0.4**
PDAR	**Pinedale Array**	**70.36**	**50**	P	**P**	**14 23 58.2**	**+0.4**
PDAR	**Pinedale Array**	**70.36**	**50**	P	**P**	**14 23 58.3**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=304,slow=2.1,SNR=11						
AKASG	**Malin Array Be**	**72.10**	**324**	P	**P**	**14 24 07.2**	**-0.6**
AKASG	**Malin Array Be**	**72.10**	**324**	P	**P**	**14 24 07.2**	**-0.6**
AKASG	**Malin Array Be**	**72.10**	**324**	P	**P**	**14 24 07.2**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=39,slow=6.0,SNR=19						
BUR08	**Bucovina Ar. S**	**76.14**	**324**	*e*P	**P**	**14 24 31.4**	**-0.3**
CLL	**Collm**	**77.89**	**333**	*e*P	**P**	**14 24 41.0**	**-0.3**
TXAR	**Lajitas Array**	**83.04**	**56**	*e*P	**P**	**14 25 10.0**	**+0.5**
TXAR	**Lajitas Array**	**83.04**	**56**	P	**P**	**14 25 10.0**	**+0.5**
TXAR	**Lajitas Array**	**83.04**	**56**	P	**P**	**14 25 10.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=297,slow=3.6,SNR=14						
TORD	**Torodi Ar. Bea**	**115.71**	**322**	PKP	**PKPdf**	**14 31 24.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**115.71**	**322**	PKP	**PKPdf**	**14 31 24.8**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=23,slow=1.8,SNR=4.3						

IDC ***14*** *14:24:55.2±1.3, 24˚.29N× 122˚.13E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/25, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=69.8km s-min=21.1km az=69.0*
ISCJB ***14*** *14:25:05.1±0.3, 24˚.51N±0˚.03× 122˚.79E±0˚.02, h96km±3km, mb3.2/4, Error ellipse: s-maj=4.3km s-min=2.3km az=166.7*
JMA ***14*** *14:25:05.6±0.1, 24˚.44N× 122˚.73E, h92km±2km, M3.3*
TAP ***14*** *14:25:06.1, 24˚.50N× 122˚.74E, h94km, ML4.2, C*

ISC 14 14:25:05.5±0.8, **24˚.49N**±0˚.04× **122˚.79E**±0˚.02, **h92**km±6km, **n70**, σ1§**08**/126, **mb3.3**/4, **2C-13D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.20**	**97**	P	**Pn**	**14 25 19.2**	**+0.4**
YOJ				S	**Sn**	**14 25 28.6**	**-0.1**
TWC	**Suao**	**0.86**	**278**	⇓*i* P	**Pn**	**14 25 24.0**	**+0.2**
	baz=283						
TWC				eS	**Sn**	**14 25 36.7**	**-1.0**
	baz=283						
IRIF	**Iriomote-Funau**	**0.87**	**100**	P	**Pn**	**14 25 24.6**	**+0.6**
IRIF				S	**Sn**	**14 25 38.4**	**+0.6**
TWB1	**Santiao Chiao**	**0.89**	**306**	P	**Pn**	**14 25 24.4**	**+0.3**
	baz=303						
TWB1				S	**Sn**	**14 25 37.3**	**-0.9**
	baz=303						
ENA	**Nanau**	**0.95**	**267**	⇓*e*P	**Pn**	**14 25 25.0**	**+0.2**
	baz=260						
ENA				eS	**Sn**	**14 25 39.3**	**-0.1**
	baz=260						
HATJ	**Hateruma jima**	**1.02**	**115**	P	**Pn**	**14 25 26.1**	**+0.5**
HATJ				S	**Sn**	**14 25 42.2**	**+1.5**
TWE	**Neicheng**	**1.05**	**283**	⇓*i* P	**Pn**	**14 25 26.4**	**+0.5**
	baz=283						
TWE				eS	**Sn**	**14 25 40.7**	**-0.5**
	baz=283						
ENTT	**Nioudou**	**1.12**	**278**	⇓*i* P	**Pn**	**14 25 27.5**	**+0.7**
	baz=281						
ENTT				S	**Sn**	**14 25 43.3**	**+0.5**
	baz=281						
JKRS	**Kuro-shima**	**1.14**	**102**	P	**Pn**	**14 25 28.0**	**+1.0**
JKRS				S	**Sn**	**14 25 44.2**	**+1.0**
TWD	**Chiawan**	**1.16**	**250**	⇓*i* P	**Pn**	**14 25 27.2**	**0.0**
	baz=248						
TWD				*i* S	**Sn**	**14 25 42.7**	**-0.8**
	baz=248						
HWA	**Hwalien**	**1.19**	**245**	P	**Pn**	**14 25 27.9**	**+0.3**
	baz=243						
HWA				eS	**Sn**	**14 25 43.7**	**-0.5**
	baz=243						
JIJ	**Ishigaki jima**	**1.24**	**95**	P	**Pn**	**14 25 28.7**	**+0.5**
JIJ				S	**Sn**	**14 25 45.0**	**-0.3**
TAP1	**Taipei**	**1.27**	**296**	*e*P	**Pn**	**14 25 29.0**	**+0.4**
	baz=287						
TAP1				eS	**Sn**	**14 25 45.6**	**-0.3**
	baz=287						
NNS	**Nan Shan**	**1.29**	**268**	⇓*i* P	**Pn**	**14 25 29.2**	**+0.3**
	baz=260						
NNS				S	**Sn**	**14 25 46.4**	**-0.2**
	baz=260						
NSK	**Sanguang**	**1.31**	**279**	⇓*i* P	**Pn**	**14 25 29.8**	**+0.7**
	baz=278						
NSK				eS	**Sn**	**14 25 46.6**	**-0.4**
	baz=278						
TWY	**Chenhua**	**1.33**	**306**	P	**Pn**	**14 25 30.1**	**+0.8**
	baz=298						
TWY				eS	**Sn**	**14 25 47.4**	**+0.1**
	baz=298						
TWS1	**Kuangyinshan**	**1.39**	**296**	⇓*i* P	**Pn**	**14 25 30.6**	**+0.7**
	baz=290						
TWS1				*e*S	**Sn**	**14 25 48.1**	**-0.3**
	baz=290						
ESL	**Shilin**	**1.41**	**242**	P	**Pn**	**14 25 29.9**	**-0.3**
	baz=245						
ESL				eS	**Sn**	**14 25 48.0**	**-0.9**
	baz=245						
WHF	**Hehuan Shan**	**1.43**	**257**	*i* P	**Pn**	**14 25 31.2**	**+0.3**
	baz=261						
WHF				*i* S	**Sn**	**14 25 49.0**	**-1.1**
	baz=261						
TWT	**Tachien**	**1.49**	**261**	⇓*i* P	**Pn**	**14 25 32.5**	**+1.1**
	baz=260						
TWT				*i* S	**Sn**	**14 25 51.4**	**+0.4**
	baz=260						
NCU	**National Centr**	**1.53**	**289**	*e*P	**Pn**	**14 25 32.7**	**+0.9**
	baz=288						
NCU				eS	**Sn**	**14 25 52.1**	**+0.4**
	baz=288						
NSTT	**Nanjuang**	**1.63**	**275**	⇓*i* P	**Pn**	**14 25 33.8**	**+0.7**
	baz=274						
NSTT				eS	**Sn**	**14 25 54.0**	**0.0**
	baz=274						
EHY	**Hungye**	**1.66**	**234**	*e*P	**Pn**	**14 25 33.2**	**-0.2**
	baz=232						
EHY				eS	**Sn**	**14 25 53.3**	**-1.3**
	baz=232						
HSN	**Hsinchu**	**1.68**	**281**	*e*P	**Pn**	**14 25 33.5**	**-0.2**
	baz=282						
HSN				eS	**Sn**	**14 25 54.0**	**-1.1**
	baz=282						
JTJ	**Tarama**	**1.75**	**85**	P	**Pn**	**14 25 35.4**	**+0.9**
JTJ				eS	**Sn**	**14 25 56.7**	**+0.1**
SMLT	**Sun Moon Lake**	**1.83**	**251**	P	**Pn**	**14 25 36.4**	**+0.7**
	baz=247						
SMLT				S	**Sn**	**14 25 59.1**	**+0.5**
	baz=247						
TWQ1	**Liyutan**	**1.84**	**266**	⇓*i* P	**Pn**	**14 25 36.5**	**+0.8**
	baz=265						
TWQ1				eS	**Sn**	**14 25 58.8**	**0.0**
	baz=265						
NSY	**Sanyi**	**1.85**	**268**	*e*P	**Pn**	**14 25 36.5**	**+0.7**
	baz=267						
NSY				eS	**Sn**	**14 25 59.1**	**+0.2**
	baz=267						
TYC	**Yuchr**	**1.86**	**252**	P	**Pn**	**14 25 36.9**	**+1.0**
	baz=246						
TYC				eS	**Sn**	**14 25 59.6**	**+0.6**
	baz=246						
CHKT	**Chengkung**	**1.90**	**224**	P	**Pn**	**14 25 36.0**	**-0.4**
	baz=219						
CHKT				eS	**Sn**	**14 25 58.2**	**-1.8**
	baz=219						
YUS	**Yu-Shan**	**1.95**	**240**	⇓*i* P	**Pn**	**14 25 38.6**	**+1.0**
	baz=232						
YUS				eS	**Sn**	**14 26 01.0**	**-1.0**
	baz=232						
TCU	**Taichung**	**1.96**	**260**	*e*P	**Pn**	**14 25 38.6**	**+1.4**
	baz=269						
TCU				eS	**Sn**	**14 26 02.4**	**+1.0**
	baz=269						
WNT	**Mingjian**	**2.01**	**253**	*e*P	**Pn**	**14 25 39.6**	**+1.6**
	baz=251						
WNT				eS	**Sn**	**14 26 04.2**	**+1.5**
	baz=251						
ALS	**Alishan**	**2.06**	**242**	*e*P	**Pn**	**14 25 40.1**	**+1.3**
	baz=234						
ALS				eS	**Sn**	**14 26 04.3**	**+0.1**
	baz=234						
ELDTW	**Lidau**	**2.07**	**232**	⇓*i* P	**Pn**	**14 25 39.0**	**+0.1**
	baz=226						
ELDTW				eS	**Sn**	**14 26 03.2**	**-1.1**
	baz=226						
CHN5	**Tsauling**	**2.12**	**246**	P	**Pn**	**14 25 41.0**	**+1.5**
	baz=237						
CHN5				S	**Sn**	**14 26 06.7**	**+1.2**
	baz=237						
WGK	**Gukeng**	**2.19**	**249**	*e*P	**Pn**	**14 25 41.7**	**+1.4**
	baz=247						
WGK				eS	**Sn**	**14 26 08.0**	**+1.3**
	baz=247						
STYT	**Tauyuan**	**2.28**	**235**	P	**Pn**	**14 25 42.9**	**+1.3**
	baz=229						
STYT				eS	**Sn**	**14 26 09.9**	**+0.8**
	baz=229						
TWG	**Pinlang**	**2.29**	**224**	*e*P	**Pn**	**14 25 41.5**	**-0.1**
	baz=229						
TWG				eS	**Sn**	**14 26 07.2**	**-1.9**

SONM Songino Array 26.68 335 P **P** **14 30 34.5 -1.4**
0.2nm,0.5s,baz=147,slow=8.6,SNR=2.3
MKAR Makanchi Array 39.15 315 P **P** **14 32 22.7 -1.4**
0.4nm,0.8s,baz=100,slow=6.5,SNR=2.9
WRA Warramunga Arr 45.57 165 P **P** **14 33 16.7 +0.3**
0.5nm,0.8s,baz=347,slow=8.5,SNR=4.0
ASAR Alice Springs 49.07 166 P **P** **14 33 43.9 +0.4**
0.2nm,0.7s,baz=351,slow=7.7,SNR=4.3

AUST ***14*** *15:03:18.7,2˚.50N×125˚.50E, h0km*
IDC ***14*** *15:03:28.0±1.1, 1˚.62N×126˚.90E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/23, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=111.1km s-min=15.6km az=70.0*
ISCJB ***14*** *15:03:33.1±0.8, 1˚.6N±0˚.1×126˚.5E±0˚.3, h47km, mb3.9/7, Error ellipse: s-maj=42.9km s-min=11.0km az=161.4*
ISC 14 15:03:35.1±1.0, 1˚.6N±0˚.1×126˚.7E±0˚.3, h47km, n16, σ1°09/16, mb4.1/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**15.31**	**158**	P	**Pn**	**15 07 09.6**	**+1.3**
	baz=17,SNR=5.0						
KNRA	**Kununurra**	**17.28**	**173**	P	**Pn**	**15 07 33.8**	**+0.6**
	baz=18,SNR=4.3						
FITZ	**Fitzroy Crossi**	**19.60**	**183**	P	**P**	**15 07 59.4**	**-0.2**
	0.5nm,0.3s,baz=353,slow=11,SNR=8.4						
FITZ	**Fitzroy Crossi**	**19.60**	**183**	P	**P**	**15 07 59.6**	**0.0**
	baz=21,SNR=5.0						
WRA	**Warramunga Arr**	**22.68**	**161**	P	**P**	**15 08 30.8**	**-2.0**
	4.3nm,0.4s,baz=339,slow=11,SNR=71						
QIS	**Mount Isa**	**25.39**	**151**	P	**P**	**15 09 00.3**	**+1.9**
	baz=27,SNR=4.1						
ASAR	**Alice Springs**	**26.07**	**165**	P	**P**	**15 09 03.3**	**-1.2**
	1.7nm,0.4s,baz=343,slow=7.5,SNR=71						
WRKA	**Warakurna**	**26.52**	**177**	P	**P**	**15 09 08.5**	**0.0**
	baz=28,SNR=19						
MEEK	**Meekatharra**	**29.13**	**195**	P	**P**	**15 09 32.3**	**+0.5**
	baz=30,SNR=7.0						
BBOO	**Buckleboo**	**35.35**	**166**	P	**P**	**15 10 25.1**	**-1.0**
	baz=37,SNR=11						
STKA	**Stephens Creek**	**36.17**	**158**	P	**P**	**15 10 32.0**	**-1.2**
	0.8nm,0.3s,baz=331,slow=7.4,SNR=6.4						
STKA	**Stephens Creek**	**36.17**	**158**	P	**P**	**15 10 33.1**	**-0.1**
	baz=38,SNR=7.4						
SONM	**Songino Array**	**49.30**	**342**	P	**P**	**15 12 19.8**	**+0.3**
	0.2nm,0.6s,baz=140,slow=9.2,SNR=2.4						
MKAR	**Makanchi Array**	**59.28**	**326**	P	**P**	**15 13 32.1**	**0.0**
	0.7nm,0.5s,baz=120,slow=7.7,SNR=6.0						
KURBB	**Kurchatov Arra**	**63.51**	**328**	P	**P**	**15 14 00.4**	**-0.1**
	1.3nm,0.7s,baz=130,slow=6.4,SNR=17						
VNDA	**Vanda**	**81.33**	**173**	P	**P**	**15 15 45.2**	**-1.0**
	0.6nm,0.6s,baz=323,slow=7.4,SNR=5.2						

IDC ***14*** *15:06:58.0±2.4, 23˚.22S×170˚.16E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML4.4/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/29, Error ellipse: s-maj=73.1km s-min=33.4km az=152.0*
ISC 14 15:07:03.8±1.4, 23˚.0S±0˚.3×169˚.9E±0˚.1, h25km, n13, σ1°72/10, mb3.8/6, MS3.8/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.29**	**285**	*e*Pn	**Pn**	**15 07 56.2**	**+2.3**
	105nm,0.3s						
DZM				*e*Sn	**Sb**	**15 08 39.6**	**-1.7**
	38nm,0.2s						
DZM	**Mont Dzumac**	**3.29**	**285**	Pn	**Pn**	**15 07 56.1**	**+2.3**
	28nm,0.3s,baz=132,slow=16,SNR=306						
DZM				Sn	**Sb**	**15 08 39.9**	**-1.4**
	17nm,0.3s,baz=109,slow=22,SNR=4.1						
RPZ	**Rata Peaks**	**20.73**	**178**	LR	LR	15 17 51.8	
	comp=Z,177nm,20.1s,baz=200,slow=32						
STKA	**Stephens Creek**	**26.57**	**244**	P	**P**	**15 12 38.9**	**-1.1**
	1.1nm,0.5s,baz=76,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**32.99**	**262**	P	**P**	**15 13 36.5**	**-0.4**
	0.9nm,0.5s,baz=92,slow=9.6,SNR=23						
WRA	**Warramunga Arr**	**33.16**	**268**	P	**P**	**15 13 37.5**	**-1.0**
	0.9nm,0.7s,baz=97,slow=8.4,SNR=7.9						
PPT2	**Papeete2**	**38.32**	**90**	*e*LR	LR	15 24 45.7	
	169nm,25.5s						
FITZ	**Fitzroy Crossi**	**41.59**	**268**	P	**P**	**15 14 49.9**	**0.0**
	4.4nm,0.7s,baz=90,slow=8.1,SNR=5.4						
VNDA	**Vanda**	**54.75**	**182**	LR	LR	15 35 41.6	
	comp=Z,66nm,18.0s,baz=184,slow=32						
MAW	**Mawson**	**75.23**	**202**	LR	LR	15 48 11.6	
	comp=Z,49nm,19.4s,baz=114,slow=33						
PETK	**Petropavlovsk-**	**76.48**	**352**	LR	LR	15 53 39.5	
	comp=Z,43nm,18.7s,baz=338,slow=36						
CMAR	**Chiang Mai Arr**	**80.57**	**295**	P	**P**	**15 19 15.6**	**+1.1**
	0.3nm,0.5s,baz=134,slow=3.9,SNR=3.4						
ILAR	**Eielson Array**	**93.59**	**17**	P	**P**	**15 20 15.8**	**-1.4**
	0.2nm,0.8s,baz=237,slow=5.0,SNR=3.6						

IDC ***14*** *15:09:57.4±1.1, 11˚.46S×165˚.88E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/22, mbtmp4.2/13, ML4.8/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/34, Error ellipse: s-maj=42.0km s-min=18.4km az=142.0*
ISCJB ***14*** *15:10:01.4±0.6, 11˚.47S±0˚.08×165˚.69E±0˚.07, h37km, mb4.1/13, MS3.9/8, Error ellipse: s-maj=11.0km s-min=9.9km az=17.5*
NEIC ***14*** *15:10:02.6±0.6, 11˚.46S×165˚.81E, h35km, mb4.5/4, Error ellipse: s-maj=18.7km s-min=9.6km az=134.0*
ISC 14 15:10:03.2±0.7, 11˚.45S±0˚.10×165˚.76E±0˚.09, h37km, n43, σ1°06/36, mb4.1/13, MS3.9/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.06**	**289**	Pn	**Pn**	**15 11 29.8**	**-0.4**
HNR				Sn	**Sn**	**15 12 37.8**	**-0.5**
HNR	**Honiara**	**6.06**	**289**	Pn	**Pn**	**15 11 29.7**	**-0.4**
	21nm,0.3s,baz=195,slow=6.6,SNR=6.2						
HNR				Sn	**Sn**	**15 12 37.8**	**-0.5**
	13nm,0.3s,baz=200,slow=16,SNR=6.4						
HNR				LR	LR	15 12 59.4	
	comp=Z,75nm,20.9s,baz=126,slow=30						
DZM	**Mont Dzumac**	**10.59**	**177**	*e*Pn	**Pn**	**15 12 32.5**	**0.0**
	7.8nm,0.3s						
DZM				*e*LR	LR	15 15 11.5	
	462nm,24.1s						
DZM	**Mont Dzumac**	**10.59**	**177**	LR	LR	15 15 36.1	
	comp=Z,143nm,19.0s,baz=352,slow=32						
EIDS	**Eidsvold**	**19.61**	**223**	*e*P	**Pn**	**15 14 28.7**	**-1.3**
	12nm,1.0s						
CTA	**Charters Tower**	**20.63**	**243**	P	Pn	15 14 40.4	-1.5
CTA	**Charters Tower**	**20.63**	**243**	P	Pn	15 14 40.4	-1.5
	14nm,0.9s,baz=67,slow=13,SNR=9.7						
CTAO	**Charters Tower**	**20.63**	**243**	*e*P	Pn	15 14 40.5	-1.5
	20nm,1.0s						
AFI	**Afiamalu**	**22.05**	**99**	LR	LR	15 21 02.1	
	comp=Z,294nm,20.1s,baz=278,slow=30						
ARMA	**Armidale**	**22.99**	**213**	*e*P	**P**	**15 15 04.3**	**-0.5**
STKA	**Stephens Creek**	**30.16**	**224**	P	**P**	**15 16 10.7**	**+0.8**
STKA	**Stephens Creek**	**30.16**	**224**	P	**P**	**15 16 10.7**	**+0.8**
	2.0nm,0.7s,baz=61,slow=10,SNR=4.4						
STKA				LR	LR	15 27 37.0	
	comp=Z,164nm,21.3s,baz=201,slow=35						
WRAB	**Tennant Creek**	**31.35**	**250**	P	**P**	**15 16 19.8**	**-0.7**
	16nm,1.4s						
WRA	**Warramunga Arr**	**31.36**	**250**	P	**P**	**15 16 19.8**	**-0.8**
WRA	**Warramunga Arr**	**31.36**	**250**	P	**P**	**15 16 19.8**	**-0.8**
	3.2nm,1.0s,baz=82,slow=8.6,SNR=12						
AS31	**Alice Springs**	**32.62**	**244**	*e*P	**P**	**15 16 31.2**	**-0.5**
ASAR	**Alice Springs**	**32.63**	**244**	P	**P**	**15 16 30.8**	**-0.9**
ASAR				PcP	**PcP**	**15 19 19.2**	**+1.7**
ASAR	**Alice Springs**	**32.63**	**244**	P	**P**	**15 16 30.8**	**-0.9**
	2.2nm,0.9s,baz=68,slow=9.7,SNR=9.9						
ASAR				PcP	**PcP**	**15 19 19.2**	**+1.7**
	0.3nm,0.7s,baz=81,slow=2.4,SNR=4.1						
ASAR				LR	LR	15 29 50.7	
	comp=Z,250nm,18.6s,baz=96,slow=36						
RAR	**Rarotonga**	**34.41**	**111**	LR	LR	15 27 57.0	
	comp=Z,250nm,19.2s,baz=270,slow=32						
FITZ	**Fitzroy Crossi**	**39.29**	**255**	P	**P**	**15 17 28.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.29**	**255**	P	**P**	**15 17 28.2**	**-0.6**
	3.6nm,0.7s,baz=102,slow=8.9,SNR=5.4						
PPT	**Papeete**	**43.59**	**103**	LR	LR	15 33 01.8	
	comp=Z,151nm,20.1s,baz=303,slow=32						
PPT2	**Papeete2**	**43.59**	**103**	*e*LR	LR	15 30 26.7	
	194nm,26.8s						
TBI	**Tubuai**	**44.17**	**112**	*e*LR	LR	15 30 59.8	
	222nm,33.8s						
NWAO	**Narrogin (SRO)**	**49.25**	**236**	LR	LR	15 39 49.4	
	comp=Z,293nm,18.5s,baz=279,slow=36						
CMAR	**Chiang Mai Arr**	**72.28**	**294**	P	**P**	**15 21 27.5**	**+2.1**
CMAR	**Chiang Mai Arr**	**72.28**	**294**	P	**P**	**15 21 27.5**	**+2.1**
	0.8nm,0.9s,baz=125,slow=3.9,SNR=4.3						
SONM	**Songino Array**	**78.99**	**324**	P	**P**	**15 22 04.3**	**+0.9**
SONM	**Songino Array**	**78.99**	**324**	P	**P**	**15 22 04.3**	**+0.9**
	1.0nm,0.9s,baz=139,slow=4.8,SNR=5.7						
COLA	**College**	**83.66**	**18**	*e*P	**P**	**15 22 26.8**	**-0.7**
	3.2nm,0.8s						
ILAR	**Eielson Array**	**83.89**	**18**	P	**P**	**15 22 28.0**	**-0.7**
ILAR	**Eielson Array**	**83.89**	**18**	P	**P**	**15 22 28.0**	**-0.7**
	1.1nm,0.6s,baz=245,slow=5.1,SNR=29						
ILAR				LR	LR	15 56 16.2	
	comp=Z,38nm,19.0s,baz=296,slow=33						
NVAR	**Mina Array Bea**	**86.27**	**50**	P	**P**	**15 22 41.2**	**-0.4**
NVAR	**Mina Array Bea**	**86.27**	**50**	P	**P**	**15 22 41.2**	**-0.4**
	0.4nm,0.8s,baz=219,slow=4.2,SNR=3.1						
PDAR	**Pinedale Array**	**93.81**	**47**	LR	LR	15 57 57.6	
	comp=Z,40nm,19.1s,baz=263,slow=31						
MKAR	**Makanchi Array**	**93.82**	**317**	P	**P**	**15 23 17.2**	**+0.6**
MKAR	**Makanchi Array**	**93.82**	**317**	P	**P**	**15 23 17.2**	**+0.6**
	2.5nm,0.8s,baz=97,slow=6.4,SNR=14						
ZALV	**Zalesovo Beam**	**93.89**	**324**	P	**P**	**15 23 15.8**	**-0.8**
ZALV	**Zalesovo Beam**	**93.89**	**324**	P	**P**	**15 23 15.8**	**-0.8**
	1.5nm,1.0s,baz=104,slow=6.1,SNR=5.2						
YKA	**Yellowknife Ar**	**95.32**	**27**	P	**P**	**15 23 21.4**	**-1.7**
YKA	**Yellowknife Ar**	**95.32**	**27**	P	**P**	**15 23 21.4**	**-1.7**
	0.4nm,0.7s,baz=264,slow=4.9,SNR=4.3						
KEST	**Kesra**	**147.74**	**322**	PKPbc	**PKPbc**	**15 29 45.6**	**+1.1**
KEST	**Kesra**	**147.74**	**322**	PKPbc	**PKPbc**	**15 29 45.6**	**+1.1**
	3.1nm,1.0s,baz=313,slow=2.5,SNR=5.7						

NIED ***14*** *15:18:00,23˚.10N×123˚.20E, h8km, Mw3.7 Best double couple: M0 4.61000×10^14 NP1:φs=244.00000°, δ75.00000°, λ-138.00000°. NP2:φs=141.00000°, δ49.00000°, λ-20.00000°.*
JMA ***14*** *15:18:12.2±0.2, 23˚.05N×123˚.18E, h55km, M3.5*
TAP ***14*** *15:18:21.0, 24˚.63N×121˚.98E, h78km, ML2.3, C*
ISC 14 15:18:09.4±3.5, 23˚.7N±0˚.2×122˚.44E±0˚.06, h83km±24km, n17, σ2°25/22, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.95**	**33**	P	Pn	15 18 36.5	+8.4
YOJ				*e*S	Sn	15 18 53.1	+11
ENA	**Nanau**	**0.99**	**320**	⇑P	Pn	15 18 33.2	+4.6
	baz=222						
ENA				S	**Sn**	**15 18 42.2**	**-0.7**
	baz=222						
TWC	**Suao**	**1.09**	**331**	*e*P	**Pn**	**15 18 32.5**	**+2.9**
	baz=259						
NNS	**Nan Shan**	**1.24**	**309**	*e*P	Pn	15 18 36.2	+4.5
	baz=246						
NNS				*e*S	**Sn**	**15 18 46.3**	**-2.2**
	baz=246						
ENTT	**Nioudou**	**1.26**	**321**	P	**Pn**	**15 18 34.0**	**+2.2**
	baz=264						
ENTT				*e*S	Sn	15 18 43.1	-5.5
	baz=264						
TWE	**Neicheng**	**1.27**	**327**	*e*P	**Pn**	**15 18 33.3**	**+1.5**
	baz=283						
TWE				*e*S	Sn	15 18 42.3	-6.5
	baz=283						
HATJ	**Hateruma jima**	**1.31**	**72**	P	**Pn**	**15 18 32.5**	**+0.1**
HATJ				S	**Sn**	**15 18 46.8**	**-3.0**
IRIF	**Iriomote-Funau**	**1.36**	**60**	P	Pn	15 18 35.7	+2.7
IRIF				*e*S	**Sn**	**15 18 52.5**	**+1.7**
NSK	**Sanguang**	**1.41**	**316**	*e*P	**Pn**	**15 18 35.3**	**+1.6**
	baz=274						
NSK				S	Sn	15 18 45.5	-6.6
	baz=274						
JKRS	**Kuro-shima**	**1.55**	**68**	P	**Pn**	**15 18 36.2**	**+0.8**
JKRS				*e*S	**Sn**	**15 18 53.0**	**-2.2**
JIJ	**Ishigaki jima**	**1.71**	**65**	P	**Pn**	**15 18 38.0**	**+0.5**
JIJ				*e*S	**Sn**	**15 18 56.1**	**-2.8**
JTJ	**Tarama**	**2.29**	**64**	P	**Pn**	**15 18 45.6**	**+0.4**
JTJ				*e*S	**Sn**	**15 19 10.1**	**-2.5**
JMJ	**Miyako jima 2**	**2.85**	**66**	P	**Pn**	**15 18 52.6**	**-0.1**
JMJ				*e*S	**Sn**	**15 19 22.2**	**-3.9**
JOGS	**Gusukube**	**2.92**	**67**	P	**Pn**	**15 18 52.9**	**-0.8**
JOGS				*e*S	**Sn**	**15 19 23.7**	**-4.2**
JKE	**Kume jima 2**	**4.76**	**55**	P	**Pn**	**15 19 19.1**	**+0.5**
JKE				*e*S	**Sn**	**15 20 10.8**	**-1.7**
JAMN	**Amaminishikomi**	**7.59**	**52**	P	**Pn**	**15 19 56.7**	**-0.5**
JMZ	**Minamidaito 2**	**8.27**	**73**	P	Pn	15 20 00.7	-5.8
JMZ				*e*S	Sn	15 21 20.7	-18

BJI ***14*** *15:38:04.5, 8˚.21S×128˚.79E, h119km, mB4.9/16, mb4.7/31*
MOS ***14*** *15:38:12.1±1.0, 7˚.31S×128˚.45E, h130km, mb4.6/15, Error ellipse: s-maj=14.3km s-min=7.1km az=115.7*
NEIC ***14*** *15:38:13.6±1.1, 7˚.40S×128˚.41E, h132km±10km, mb5.0/27, Error ellipse: s-maj=7.4km s-min=4.6km az=55.0*
AUST ***14*** *15:38:13.8±0.7, 7˚.46S×128˚.40E, h129km±6km, Error ellipse: s-maj=8.1km s-min=5.7km az=31.0*
ISCJB ***14*** *15:38:15.4±0.5, 7˚.47S±0˚.03×128˚.49E±0˚.03, h167km±5km, mb4.7/64, Error ellipse: s-maj=6.0km s-min=4.0km az=153.8*
IDC ***14*** *15:38:16.8±1.4, 7˚.39S×128˚.42E, h160km±12km, mb4.3/20, mb1 4.3/22, mb1mx4.3/27, mbtmp4.3/22, MS3.2/4, Ms1 3.1/4, ms1mx2.9/33, Error ellipse: s-maj=14.9km s-min=8.2km az=27.0*
DJA ***14*** *15:38:16.4±0.2, 8˚S±2˚×12˚9E±˚, h146km±5km, M4.7/33, mb5.1/33, mB5.2/16, MLv5.1/8, Mw(mB)4.6/16, Mwp5.9/1*
ISC 14 15:38:13.8±0.4, 7˚.41S±0˚.04×128˚.46E±0˚.05, h136km±3km, h136km:pP-P, n244, σ1°45/268, mb4.7/64, 17C-14D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.21**	**27**	P	Pn	15 39 07.5	+4.1
MSAI	**Masohi**	**4.07**	**7**	P	Pn	15 39 21.2	+6.6
NLAI	**Namlea**	**4.36**	**342**	P	Pn	15 39 25.4	+6.8
FAKI	**Fak Fak**	**5.84**	**40**	S	**Sn**	**15 40 41.6**	**-2.7**
MTN	**Manton Dam**	**6.00**	**154**	⇑P	**Pn**	**15 39 40.7**	**+0.2**
	baz=6.0,SNR=1000						
MMRI	**Maumere**	**6.29**	**258**	P	Pn	15 39 48.4	+4.1
	121nm,0.7s,2µm1.4nm						
LBMI	**Labuha**	**6.80**	**352**	P	Pn	15 39 57.3	+6.1
	186nm,1.2s,2µm0.6nm						
SWI	**Sorong**	**7.08**	**23**	P	**Pn**	**15 39 57.4**	**+2.5**
	206nm,0.6s,5µm1.0nm						
SWI				S	**Sn**	**15 41 14.2**	**+0.1**
	206nm,0.6s,5µm1.0nm						
TNTI	**Ternate**	**8.20**	**352**	P	Pn	15 40 15.1	+5.0
	142nm,1.0s						
KNRA	**Kununurra**	**8.22**	**178**	⇓P	**Pn**	**15 40 10.1**	**-0.2**
	baz=8.2						
WSI	**Waingapu**	**8.38**	**254**	P	**Pn**	**15 40 13.9**	**+1.4**
	580nm,0.5s,11µm						
WSI				S	**Sn**	**15 41 44.1**	**-1.5**
	580nm,0.5s,11µm						
LBFI	**Labuhan Bajo,**	**8.56**	**262**	P	Pn	15 40 18.4	+3.6
	97nm,0.5s,1µm						
KMSI	**Cibinong**	**9.11**	**330**	P	Pn	15 40 28.0	+5.8
	215nm,1.2s						
APSI	**Ampana**	**9.37**	**313**	P	Pn	15 40 33.3	+7.5
GTOI	**Gorontalo**	**9.67**	**326**	P	Pn	15 40 39.0	+9.3
	122nm,1.2s,1µm						
MRSI	**Marisa**	**10.19**	**320**	P	Pn	15 40 43.0	+6.4
	76nm,1.0s,627nm						
FITZ	**Fitzroy Crossi**	**10.98**	**194**	*e*P	**Pn**	**15 40 45.2**	**-1.9**
	50nm,0.5s						
FITZ				*e*S	Sn	15 42 19.5	-29
FITZ	**Fitzroy Crossi**	**10.98**	**194**	P	**Pn**	**15 40 44.7**	**-2.4**
	10nm,0.3s,baz=27,slow=9.6,SNR=227						
FITZ				S	Sn	15 42 37.7	-11
	12nm,0.3s,baz=120,slow=20,SNR=4.8						
FITZ				LR	LR	15 44 43.2	
	comp=Z,54nm,21.3s,baz=20,slow=35						
FITZ	**Fitzroy Crossi**	**10.98**	**194**	⇑P	**Pn**	**15 40 46.1**	**-1.0**
	baz=11,SNR=195						
MTNI	**Mataram**	**12.23**	**263**	P	**P**	**15 41 11.0**	**+0.6**
	28nm,0.6s,544nm						
WRAB	**Tennant Creek**	**13.69**	**156**	*e*P	**Pn**	**15 41 19.9**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,70nm,0.6s						
WRAB	**Tennant Creek**	**13.69**	**156**	*e*P	**Pn**	**15 41 19.9**	**-2.7**
	comp=Z,70nm,0.6s						
WRAB				*e*S	Sn	15 43 39.3	-15
WRA	**Warramunga Arr**	**13.70**	**156**	P	**Pn**	**15 41 20.1**	**-2.5**
WRA				S	Sn	15 43 42.6	-11
	comp=Z,11nm,0.3s,baz=341,slow=12,SNR=144						
WRA				S	Sn	15 43 42.6	-11
	comp=Z,13nm,0.3s,baz=343,slow=22,SNR=8.9						
BBKI	**Banjar Baru**	**14.12**	**285**	P	**P**	**15 41 32.7**	**+1.4**
	comp=Z,170nm,0.8s						
BLJI	**Banyuglugur**	**14.74**	**268**	P	P	15 41 41.8	+3.5
	comp=Z,107nm,0.6s,comp=Z,7µmcomp=Z,24µm						
MTKI	**Muara Teweh, K**	**14.97**	**295**	P	P	15 41 46.6	+5.7
	comp=Z,144nm,0.7s						
TSM	**Tawau**	**15.71**	**317**	P	**P**	**15 41 52.7**	**+3.6**
COEN	**Coen**	**15.85**	**115**	*e*P	**Pn**	**15 41 48.5**	**-1.0**
	comp=Z,137nm,0.6s						
COEN	**Coen**	**15.85**	**115**	⇑P	**Pn**	**15 41 49.9**	**+0.3**
	baz=16,SNR=26						
MBWA	**Marble Bar**	**16.06**	**211**	*e*P	**Pn**	**15 41 51.8**	**-0.4**
	comp=Z,26nm,0.4s						
PWJI	**Pagerwojo**	**16.52**	**267**	P	**P**	**15 41 59.0**	**+1.0**
	comp=Z,46nm,0.6s						
SJI	**Sawahan**	**16.56**	**268**	P	**P**	**15 41 59.8**	**+1.3**
	comp=Z,63nm,0.6s						
QIS	**Mount Isa**	**16.95**	**142**	⇑P	**P**	**15 42 02.7**	**+0.1**
	baz=17,SNR=39						
AS15	**Alice Springs**	**16.96**	**163**	⇑P	**P**	**15 42 03.0**	**+0.2**
	baz=17						
AS31	**Alice Springs**	**16.98**	**163**	*e*P	**P**	**15 42 03.0**	**-0.1**
ASAR	**Alice Springs**	**16.99**	**163**	P	**Pn**	**15 42 04.8**	**+1.4**
ASAR				S	Sn	15 45 01.8	-11
ASAR	**Alice Springs**	**16.99**	**163**	P	**Pn**	**15 42 04.8**	**+1.4**
	comp=Z,7.7nm,0.3s,baz=340,slow=10,SNR=851						
ASAR				S	Sn	15 45 01.8	-11
	comp=Z,4.3nm,0.3s,baz=339,slow=23,SNR=7.8						
ASAR				LR	LR	15 49 28.7	
	comp=Z,112nm,19.0s,baz=324,slow=40						
PCJI	**Pacitan**	**17.14**	**266**	P	**Pn**	**15 42 06.0**	**+0.6**
	comp=Z,77nm,0.6s,comp=Z,1µm						
SDKM	**Sandakan**	**17.16**	**319**	P	**Pn**	**15 42 09.0**	**+3.4**
PBKI	**Pangkalan Bun**	**17.37**	**285**	P	**Pn**	**15 42 11.2**	**+3.1**
	comp=Z,482nm,1.0s,comp=Z,3µm						
WRKA	**Warakurna**	**17.53**	**181**	⇓P	**P**	**15 42 09.8**	**-0.1**
	baz=18,SNR=296						
UGM	**Wanagama**	**17.79**	**267**	P	**Pn**	**15 42 17.0**	**+3.9**
	comp=Z,98nm,1.6s						
UGM	**Wanagama**	**17.79**	**267**	⇓P	**P**	**15 42 12.3**	**+0.3**
	baz=18,SNR=7.4						
KDM	**Kudat**	**18.36**	**321**	P	**Pn**	**15 42 20.9**	**+1.0**
PMG	**Port Moresby**	**18.60**	**97**	P	**Pn**	**15 42 22.1**	**-0.6**
	comp=Z,244nm,0.8s						
PMG	**Port Moresby**	**18.60**	**97**	P	**Pn**	**15 42 22.2**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=300,slow=8.1,SNR=7.2						
BTM	**Bintulu**	**18.62**	**304**	P	**Pn**	**15 42 23.8**	**+0.8**
SBUM	**Sibu**	**18.94**	**301**	P	**Pn**	**15 42 28.2**	**+1.5**
SBUM	**Sibu**	**18.94**	**301**	P	**Pn**	**15 42 29.0**	**+2.3**
	comp=Z,35nm,0.7s						
KPJI	**Karang Pucung**	**19.37**	**269**	P	**P**	**15 42 30.3**	**+1.1**
	comp=Z,54nm,0.7s						
KSM	**Kuching**	**20.15**	**295**	P	Pn	15 42 40.5	-0.4
KSM	**Kuching**	**20.15**	**295**	P	Pn	15 42 40.6	-0.3
	comp=Z,133nm,0.8s,comp=Z,1µm						
KSM	**Kuching**	**20.15**	**295**	⇑P	**P**	**15 42 39.1**	**+1.5**
	baz=20,SNR=29						
CISI	**Cisompet, Garu**	**20.47**	**268**	P	**P**	**15 42 42.5**	**+1.3**
	comp=Z,72nm,0.6s,comp=Z,1µm						
CISI	**Cisompet, Garu**	**20.47**	**268**	⇓P	**P**	**15 42 39.2**	**-2.0**
	baz=20,SNR=8.9						
MEEK	**Meekatharra**	**21.29**	**205**	⇓P	**P**	**15 42 50.1**	**+0.3**
	baz=21,SNR=19						
CTA	**Charters Tower**	**21.36**	**128**	P	**P**	**15 42 51.9**	**+1.3**
CTA	**Charters Tower**	**21.36**	**128**	P	**P**	**15 42 51.9**	**+1.3**
	comp=Z,7.3nm,0.9s,baz=302,slow=12,SNR=5.4						
XMI	**Christmas Isla**	**22.70**	**261**	⇑P	**P**	**15 43 03.7**	**-0.6**
	baz=23,SNR=4.6						
XMIS	**Christmas Isla**	**22.74**	**261**	*e*P	**P**	**15 43 02.8**	**-1.9**
	comp=Z,48nm,0.6s						
FORT	**Forrest**	**23.25**	**181**	*e*P	**P**	**15 43 09.8**	**+0.6**
	comp=Z,60nm,0.6s						
FORT	**Forrest**	**23.25**	**181**	⇑P	**P**	**15 43 09.7**	**+0.5**
	baz=23,SNR=43						
KLSI		**23.75**	**275**	P	**P**	**15 43 18.0**	**+4.0**
	comp=Z,15nm,1.1s						
QLP	**Quilpie**	**24.26**	**144**	P	**P**	**15 43 19.1**	**+0.7**
	baz=24,SNR=58						
MORW	**Morawa**	**24.52**	**207**	⇑P	**P**	**15 43 22.4**	**+1.6**
	baz=24,SNR=40						
KMBL	**Kambalda**	**24.61**	**194**	⇓P	**P**	**15 43 22.4**	**+0.8**
	baz=25,SNR=5.9						
KLBR	**Kellerberrin**	**26.05**	**201**	⇓P	**P**	**15 43 35.0**	**+0.3**
	baz=26,SNR=16		

GYA sP **sP** **15 46 17.0 -2.2**
GYA PP **PnPn** **15 47 11.4 -1.1**
GYA PcP **PcP** **15 47 38.9 +1.4**
GYA ScP **ScP** **15 51 15.6 +1.7**
GYA S **S** **15 51 30.4 +2.6**
GYA sS **sS** **15 52 19.0 -1.2**
GYA ScS **ScS** **15 55 27.3 +0.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
NJ2 Nanjing 40.30 347 *e*P **P** **15 45 38.5 +0.7**
NJ2 pmax pmax
comp=Z,20nm,0.6s
JNU Nakatsue 40.37 3 LR LR 16 03 02.4
comp=Z,31nm,18.7s,baz=110,slow=37
KMI Kunming 40.90 323 P **P** **15 45 45.4 +2.2**
KMI pmax pmax
comp=Z,12nm,0.5s
KSAR Wonju Array Be 44.62 359 P **P** **15 46 13.3 +0.6**
KSAR PcP **PcP** **15 47 55.1 +1.9**
KSRS Korea Array 44.63 359 P **P** **15 46 13.3 +0.6**
comp=Z,3.0nm,0.6s,baz=178,slow=9.1,SNR=17
KSRS PcP **PcP** **15 47 55.1 +1.9**
comp=Z,0.7nm,0.6s,baz=180,slow=2.6,SNR=3.2
MJAR Matsushiro Arr 44.67 11 P **P** **15 46 11.5 -1.7**
MJAR ScP **ScP** **15 51 29.8 -3.4**
MJAR Matsushiro Arr 44.67 11 P **P** **15 46 11.5 -1.7**
comp=Z,3.8nm,0.6s,baz=187,slow=9.5,SNR=12
MJAR ScP **ScP** **15 51 29.8 -3.4**
comp=Z,0.9nm,0.7s,baz=186,slow=5.4,SNR=4.1
MAJO Matsushiro 44.67 11⇓*e*P **P** **15 46 12.0 -1.1**
MAJO pmax pmax
comp=Z,300nm,2.5s
CD2 Chengdu 44.86 329 *e*P **P** **15 46 17.0 +2.2**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
XAN Xi'an 45.19 337 P **P** **15 46 17.0 -0.4**
XAN pmax pmax
comp=Z,3.0nm,1.1s
LZH Lanzhou 49.07 333 *e*P **P** **15 46 48.8 +1.3**
LZH pP **pP** **15 47 17.5 -1.2**
LZH sP **sP** **15 47 31.3 -2.5**
LZH PP **PP** **15 48 44.3 +1.8**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,75nm,5.8s
LZH LR LR
comp=Z,390nm,14.3s
LZH LR LR
comp=Z,380nm,14.0s
LZH LR LR
comp=Z,480nm,18.0s
CN2 Changchun 51.05 357 *e*P **P** **15 47 05.1 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 51.46 318 P **P** **15 47 06.4 +0.4**
LSA Lhasa 51.46 318 *e*P **P** **15 47 06.7 +0.7**
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 51.46 318 *e*P **P** **15 47 06.7 +0.7**
comp=Z,6.3nm,0.6s
USRK Ussuriysk Arra 51.47 3 P **P** **15 47 05.0 -0.3**
comp=Z,3.8nm,0.6s,baz=196,slow=7.0,SNR=11
RPZ Rata Peaks 51.85 141 P **P** **15 47 09.3 +1.1**
RPZ Rata Peaks 51.85 141 P **P** **15 47 09.3 +1.1**
comp=Z,24nm,0.9s,baz=128,slow=21,SNR=14
ODAN Odare 52.39 312 *e*P **P** **15 47 12.6 -0.1**
comp=Z,19nm,0.6s
ODAN Odare 52.39 312 *e*P **P** **15 47 12.6 -0.1**
comp=Z,19nm,0.6s
TAPN Taplejung 52.43 313 *e*P **P** **15 47 13.1 0.0**
comp=Z,34nm,0.8s
TAPN Taplejung 52.43 313 *e*P **P** **15 47 13.1 0.0**
comp=Z,34nm,0.8s
ASAJ Asahikawa 52.86 13 P **P** **15 47 15.3 -0.2**
ASAJ Asahikawa 52.86 13 P **P** **15 47 15.3 -0.2**
comp=Z,6.4nm,0.5s,baz=201,slow=8.6,SNR=29
RAMN Ramite 53.02 312 *e*P **P** **15 47 17.7 +0.3**
comp=Z,42nm,0.6s
RAMN Ramite 53.02 312 *e*P **P** **15 47 17.7 +0.3**
comp=Z,42nm,0.6s
GTA Gaotai 53.61 333 *e*P **P** **15 47 22.4 +1.1**
GTA pmax pmax
comp=Z,12nm,0.7s
JIRN Jiri 53.72 312 *e*P **P** **15 47 22.6 0.0**
comp=Z,9.7nm,0.3s
GUN Gumba 54.09 312 *e*P **P** **15 47 25.2 0.0**
comp=Z,43nm,0.7s
GUN Gumba 54.09 312 *e*P **P** **15 47 25.2 0.0**
comp=Z,43nm,0.7s
PKI Pulchoki 54.25 312 *e*P **P** **15 47 26.1 -0.3**
PKI Pulchoki 54.25 312 *e*P **P** **15 47 26.1 -0.3**
PKI Pulchoki 54.25 312 *e*P **P** **15 47 26.1 -0.3**
PKIN Phulchoki 54.26 312 *e*P **P** **15 47 25.9 -0.5**
KKN Kakani 54.46 312 *e*P **P** **15 47 27.6 -0.2**
comp=Z,12nm,0.6s
KKN Kakani 54.46 312 *e*P **P** **15 47 27.6 -0.2**
KKN pmax pmax
comp=Z,12nm,0.6s
KKN Kakani 54.46 312 *e*P **P** **15 47 27.6 -0.2**
comp=Z,12nm,0.6s
DMN Daman 54.49 312 *e*P **P** **15 47 27.9 -0.2**
comp=Z,11nm,0.5s
DMN Daman 54.49 312 *e*P **P** **15 47 27.9 -0.2**
comp=Z,11nm,0.5s
GKN Gorkha 55.05 312 *e*P **P** **15 47 31.9 -0.1**
GKN Gorkha 55.05 312 *e*P **P** **15 47 31.9 -0.1**
HYB Hyderabad 55.14 297 *i* P **P** **15 47 32.0 -0.6**
YSS Yuzh-Sakhalins 55.60 12 *e*P **P** **15 47 35.0 -0.3**
KOLN Koldanda 55.70 311 *e*P **P** **15 47 36.7 0.0**
comp=Z,42nm,0.8s
KOLN Koldanda 55.70 311 *e*P **P** **15 47 36.7 0.0**
comp=Z,42nm,0.8s
DANN Dangsing 55.89 312 *e*P **P** **15 47 37.9 -0.2**
comp=Z,17nm,0.6s
DANN Dangsing 55.89 312 *e*P **P** **15 47 37.9 -0.2**
comp=Z,17nm,0.6s
HABR Khabarovsk 55.95 5 *e*P **P** **15 47 36.2 -1.5**
HABR *e**SP **pP** **15 48 12.0 +2.4**
HABR *e* 15 48 33.6
HABR 15 49 41.5
HABR S **S** **15 55 16.4 +1.4**
HABR *e* 15 57 15.1
HABR pmax pmax
comp=N,55nm,1.8s
HABR pmax pmax
comp=E,62nm,1.8s
HABR pmax pmax
comp=Z,59nm,1.8s
HABR MLR MLR
comp=Z,53nm,17.0s
PYUN Piuthan 56.33 311 *e*P **P** **15 47 41.2 0.0**
comp=Z,62nm,0.8s
PYUN Piuthan 56.33 311 *e*P **P** **15 47 41.2 0.0**
comp=Z,62nm,0.8s
ULN Ulaanbaatar 58.20 343 *e*P **P** **15 47 54.9 +1.0**
comp=Z,11nm,1.0s
SONM Songino Array 58.36 343 P **P** **15 47 56.3 +1.3**
SONM ScP **ScP** **15 52 29.1 -3.0**
SONM Songino Array 58.36 343 P **P** **15 47 56.3 +1.3**
comp=Z,6.1nm,0.8s,baz=166,slow=8.1,SNR=38
SONM ScP **ScP** **15 52 29.1 -3.0**
comp=Z,0.6nm,0.8s,baz=160,slow=4.7,SNR=4.2
WMQ Urumqi 62.92 328 P **P** **15 48 27.0 +1.2**
WMQ pmax pmax
comp=Z,12nm,1.0s
PETK Petropavlovsk- 65.20 19 P **P** **15 48 40.9 +0.5**
PETK Petropavlovsk- 65.20 19 P **P** **15 48 40.9 +0.5**
PETK Petropavlovsk- 65.20 19 P **P** **15 48 40.9 +0.5**
comp=Z,6.8nm,0.6s,baz=187,slow=5.8,SNR=21
HVS Khovu-Aksy 65.56 337*de*P **P** **15 48 43.6 +0.7**
HVS pmax pmax
comp=Z,53nm,1.2s
KSH Kashi 67.30 318 P **P** **15 48 55.1 +0.8**
KSH pP **pP** **15 49 26.1 -1.2**
KSH sP **sP** **15 49 41.1 -0.9**
KSH S **S** **15 57 36.3 -2.6**
KSH sS **sS** **15 58 33.1 -2.7**
KSH ScS **SKSac** **15 58 38.3 -0.9**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,92nm,4.5s
KSH LR LR
comp=Z,87nm,6.2s
KSH LR LR
comp=Z,100nm,6.0s
KSH LR LR
comp=Z,150nm,6.2s
MK31 Makanchi Array 67.74 328 *e*P **P** **15 48 56.6 -0.2**
MK31 Makanchi Array 67.74 328 *e*P **P** **15 48 56.6 -0.2**
MKAR Makanchi Array 67.74 328 P **P** **15 48 57.2 +0.4**
MKAR Makanchi Array 67.74 328 P **P** **15 48 57.2 +0.4**
MKAR Makanchi Array 67.74 328 P **P** **15 48 57.2 +0.4**
comp=Z,3.0nm,0.3s,baz=115,slow=6.9,SNR=48
YAK Yakutsk 69.24 1 *e*P **P** **15 49 04.1 -1.6**
YAK pmax pmax
comp=Z,15nm,0.7s
YAK Yakutsk 69.24 1 *e*P **P** **15 49 04.1 -1.6**
comp=Z,14nm,0.7s
TKM2 Tokmak 2 69.34 321 *i* P **P** **15 49 08.0 +1.0**
TKM2 Tokmak 2 69.34 321 P **P** **15 49 08.0 +1.0**
SNR=7.7
UCH Uchtor 69.66 320 *i* P **P** **15 49 10.5 +1.2**
UCH Uchtor 69.66 320 P **P** **15 49 10.5 +1.2**
SNR=7.6
AAK Ala-Archa 69.88 321 *i* P **P** **15 49 11.6 +1.3**
AAK Ala-Archa 69.88 321 P **P** **15 49 11.6 +1.3**
SNR=6.5
AML Almayashu 70.13 320 *i* P **P** **15 49 13.0 +0.9**
AML Almayashu 70.13 320 P **P** **15 49 13.0 +0.9**
SNR=9.5
USP Ospenovka 70.20 321 *i* P **P** **15 49 13.0 +0.9**
USP Ospenovka 70.20 321 P **P** **15 49 13.1 +0.9**
SNR=5.7
EKS2 Erkin-Say 70.34 320 *i* P **P** **15 49 14.1 +1.0**
EKS2 Erkin-Say 70.34 320 P **P** **15 49 14.2 +1.0**
SNR=9.6
ZAA0 Zalesovo Array 71.29 334 *e*P **P** **15 49 17.8 -0.6**
ZALV Zalesovo Beam 71.29 334 *i* P **P** **15 49 17.8 -0.5**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 71.29 334 P **P** **15 49 17.6 -0.8**
ZALV Zalesovo Beam 71.29 334 P **P** **15 49 17.6 -0.8**
comp=Z,4.1nm,0.5s,baz=125,slow=4.6,SNR=25
KURK Kurchatov 72.08 329 *e*P **P** **15 49 22.9 -0.3**
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK Kurchatov 72.08 329 *e*P **P** **15 49 22.9 -0.3**
comp=Z,3.0nm,0.4s
VNDA Vanda 72.23 173 *e*P **P** **15 49 23.9 +0.2**
comp=Z,3.1nm,0.7s
VNDA Vanda 72.23 173 P **P** **15 49 23.9 +0.2**
comp=Z,3.5nm,0.6s,baz=316,slow=7.7,SNR=28
SEY Seymchan 72.50 11 *i* P **P** **15 49 25.8 +0.4**
NVS Novosibirsk 72.57 335 *e*P **P** **15 49 25.0 -1.0**
NVS *e*S **S** **15 58 34.6 -4.9**
NVS smax smax
comp=E,11nm,1.2s
NVS smax smax
comp=N,11nm,2.1s
MAW Mawson 74.02 201 P **P** **15 49 35.1 +0.8**
MAW Mawson 74.02 201 P **P** **15 49 35.1 +0.8**
comp=N,4.4nm,0.6s,baz=101,slow=5.2,SNR=9.0
VOSK Vostochnaya 77.14 328 *i* P **P** **15 49 51.7 -0.7**
VOSK pmax pmax
comp=Z,4.0nm,0.3s
BRVK Borovoye 77.68 328⇓*e*P **P** **15 49 55.4 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 78.90 0⇑*i*P **P** **15 50 01.1 -0.5**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 78.90 0 *e*P **P** **15 50 00.7 -0.9**
comp=Z,3.0nm,0.6s
QSPA South Pole Qui 82.57 180 P **P** **15 50 21.4 -0.1**
QSPA South Pole Qui 82.57 180 P **P** **15 50 21.4 -0.1**
comp=Z,1.0nm,0.5s,baz=299,slow=0.8,SNR=41
AKTO Aktyubinsk 83.47 323 P **P** **15 50 25.8 -0.5**
AKTO Aktyubinsk 83.47 323 P **P** **15 50 25.8 -0.5**
AKTO Aktyubinsk 83.47 323 P **P** **15 50 25.8 -0.5**
comp=Z,3.1nm,0.5s,baz=119,slow=5.0,SNR=14
SVE Sverdlovsk 84.33 329⇑*e*P **P** **15 50 30.6 +0.1**
SVE pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 85.25 328*d i*P **P** **15 50 34.8 -0.3**
ARU 15 53 53.4
ARU S **S** **16 00 49.6 -4.3**
ARU pmax pmax
comp=Z,12nm,1.7s
ARU Arti 85.25 328 *e*P **P** **15 50 34.8 -0.3**
comp=Z,3.6nm,0.8s
ILAR Eielson Array 94.37 25 P **P** **15 51 19.8 +2.0**
ILAR PKKP **PKKPdf** **16 08 16.9 -2.1**
ILAR Eielson Array 94.37 25 P **P** **15 51 19.8 +2.0**
comp=Z,0.1nm,0.4s,baz=255,slow=2.7,SNR=5.6
ILAR PKKP **PKKPdf** **16 08 16.9 -2.1**
comp=Z,0.4nm,0.7s,baz=22,slow=2.2,SNR=6.0
LSZ Lusaka 97.89 253 P **P** **15 51 34.4 -0.7**
LSZ Lusaka 97.89 253 P **P** **15 51 34.4 -0.7**
comp=Z,2.5nm,0.6s,baz=90,slow=7.4,SNR=6.6
ARCES ARCESS Array B 101.43 340 P **Pdif** **15 51 50.4 +0.8**
ARCES PKiKP **PKiKP** **15 56 12.3 -0.6**
ARCES ARCESS Array B 101.43 340 P **Pdif** **15 51 50.4 +0.8**
comp=Z,3.8nm,0.9s,baz=93,slow=5.8,SNR=7.7
ARCES PKiKP **PKiKP** **15 56 12.3 -0.6**
comp=Z,2.4nm,0.9s,baz=81,slow=2.8,SNR=6.2
AKASG Malin Array Be 101.55 320 PKiKP **PKiKP** **15 56 12.9 -0.7**
AKASG Malin Array Be 101.55 320 PKiKP **PKiKP** **15 56 12.9 -0.7**
comp=Z,0.6nm,0.5s,baz=106,slow=2.3,SNR=5.7
FINES FINESS Array B 102.39 331 PKiKP **PKiKP** **15 56 14.7 -0.1**
FINES FINESS Array B 102.39 331 PKiKP **PKiKP** **15 56 14.7 -0.1**
comp=Z,2.8nm,0.9s,baz=48,slow=2.1,SNR=4.7
YKA Yellowknife Ar 108.79 26 PKiKP **PKiKP** **15 56 25.7 -0.9**
YKA Yellowknife Ar 108.79 26 PKiKP **PKiKP** **15 56 25.7 -0.9**
comp=Z,0.4nm,0.4s,baz=306,slow=1.9,SNR=3.7
GERES GERESS Array B 111.75 320 PKiKP **PKiKP** **15 56 32.2 -0.5**
GERES GERESS Array B 111.75 320 PKiKP **PKiKP** **15 56 32.2 -0.5**
comp=Z,1.4nm,0.6s,baz=57,slow=3.6,SNR=6.6
DAVOX Davos/Dischmat 114.78 318 PKP PKPdf 15 56 38.0 -0.7
DAVOX Davos/Dischmat 114.78 318 PKP PKPdf 15 56 38.0 -0.7
comp=Z,1.8nm,0.4s,baz=225,slow=4.3,SNR=4.0
PDAR Pinedale Array 118.26 45 PKP **PKPdf** **15 56 44.9 -0.8**
PDAR Pinedale Array 118.26 45 PKP **PKPdf** **15 56 44.9 -0.8**
comp=Z,0.7nm,0.6s,baz=270,slow=1.8,SNR=5.6
EKA Eskdalemuir Ar 118.79 331 PKP **PKPdf** **15 56 45.4 -0.5**
EKA Eskdalemuir Ar 118.79 331 PKP **PKPdf** **15 56 45.4 -0.5**
comp=Z,0.7nm,0.4s,baz=47,slow=3.8,SNR=7.7
TXAR Lajitas Array 126.44 59 PKP **PKPdf** **15 57 01.9 +0.3**
TXAR Lajitas Array 126.44 59 PKP **PKPdf** **15 57 01.9 +0.3**
comp=Z,0.3nm,0.4s,baz=204,slow=2.7,SNR=11
TORD Torodi Ar. Bea 127.39 281 PKP **PKPdf** **15 57 02.8 -0.8**
TORD Torodi Ar. Bea 127.39 281 PKP **PKPdf** **15 57 02.8 -0.8**
comp=Z,2.6nm,0.7s,baz=78,slow=1.6,SNR=16
PLCA Paso Flores 128.99 161 PKP **PKPdf** **15 57 05.8 -0.3**
PLCA Paso Flores 128.99 161 PKP **PKPdf** **15 57 05.8 -0.3**
comp=Z,1.8nm,0.7s,baz=228,slow=2.4,SNR=5.4
SCHQ Schefferville 131.15 12 PKP **PKPdf** **15 57 09.8 +0.1**
SCHQ SKPbc **SKPbc** **16 00 18.4 -3.6**
SCHQ Schefferville 131.15 12 PKP **PKPdf** **15 57 09.8 +0.1**
comp=Z,2.5nm,0.5s,baz=124,slow=2.5,SNR=3.8
SCHQ SKPbc **SKPbc** **16 00 18.4 -3.6**
comp=Z,5.3nm,0.6s,baz=326,slow=6.9,SNR=13
DBIC Dimbokro 133.68 272 PKP **PKPdf** **15 57 16.1 +0.5**
DBIC SKPbc **SKPbc** **16 00 27.1 -5.0**
DBIC Dimbokro 133.68 272 PKP **PKPdf** **15 57 16.1 +0.5**
comp=Z,1.9nm,0.5s,baz=146,slow=2.0,SNR=3.5
DBIC SKPbc **SKPbc** **16 00 27.1 -5.0**
comp=Z,2.1nm,0.6s,baz=28,slow=3.2,SNR=3.7
CPUP Villa Florida 145.99 171 *e*PKPdf **PKPdf** **15 57 37.3 -0.2**
CPUP PKPbc **PKPdf** **15 57 37.8 +0.3**
CPUP Villa Florida 145.99 171 PKPbc **PKPdf** **15 57 37.8 +0.3**
comp=Z,2.1nm,0.3s,baz=180,slow=2.9,SNR=14
LPAZ La Paz 151.29 145 *e*PKPbc **PKPbc** **15 57 53.4 +0.2**
LPAZ *e*PKPab **PKPab** **15 58 02.7 +1.2**
LPAZ La Paz 151.29 145 PKPbc **PKPbc** **15 57 53.6 +0.4**
comp=Z,3.5nm,0.4s,baz=104,slow=2.6,SNR=17
SIV San Ignacio 154.90 158 PKPab **PKPab** **15 58 16.4 +0.4**
SIV San Ignacio 154.90 158 PKPab **PKPab** **15 58 16.4 +0.4**
comp=Z,3.3nm,0.6s,baz=194,slow=6.2,SNR=4.9

IDC ***14*** *15:48:11.7±1.6, 22.2°26N×121.1°60E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=144.7km s-min=19.1km az=65.0*
ISCJB ***14*** *15:48:25.6±0.4, 22.2°40N±0.0°02×121.1°54E±0.0°04, h118km±3km, mb3.5/5, Error ellipse: s-maj=5.7km s-min=3.5km az=9.0*
JMA ***14*** *15:48:26.5±0.3, 22.2°43N×121.1°56E, h104km±4km*
TAP ***14*** *15:48:26.1, 22.2°40N×121.1°54E, h112km, ML4.0, C*
MAN ***14*** *15:49:18, 18.0°05N×120.0°60E, h32km, mb4.3, ML3.1, MS2.9*

ISC 14 15:48:25.4±0.9, 22°39N±0°03×121°57E±0°05, h117km±6km, n64, σ0°84/109, mb3.5/5, 9C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LAY	**Lan-yu**	**0.34**	**182**	⇓*i*P	**Pn**	**15 48 42.6**	**+0.3**
	baz=186						
LAY				S	**Sn**	**15 48 54.4**	**-0.5**
	baz=186						
TTN	**Taitung**	**0.54**	**314**	*e*P	**Pn**	**15 48 44.0**	**+0.8**
	baz=308						
TTN				*e*S	**Sn**	**15 48 56.2**	**-0.4**
	baz=308						
ECL	**Taimali**	**0.60**	**291**	⇓P	**Pn**	**15 48 43.8**	**+0.1**
	baz=293						
ECL				S	**Sn**	**15 48 56.5**	**-1.0**
	baz=293						
TAW	**Tawu**	**0.62**	**268**	⇓*i*P	**Pn**	**15 48 44.2**	**+0.4**
	baz=263						
TAW				S	**Sn**	**15 48 57.4**	**-0.2**
	baz=263						
TWG	**Pinlang**	**0.63**	**314**⇑	*e*P	**Pn**	**15 48 44.0**	**+0.1**
	baz=311						
TWG				*e*S	**Sn**	**15 48 56.7**	**-1.2**
	baz=311						
CHKT	**Chengkung**	**0.73**	**345**⇑	*i*P	**Pn**	**15 48 45.6**	**+0.8**
	baz=344						
CHKT				S	**Sn**	**15 49 00.5**	**+1.2**
	baz=344						
TSEB	**Hengchuen, Pin**	**0.78**	**232**	*e*P	**Pn**	**15 48 46.3**	**+1.2**
	baz=239						
TSEB				S	**Sn**	**15 49 01.0**	**+1.0**
	baz=239						
TWK1	**Hengchun**	**0.83**	**238**	*i* P	**Pn**	**15 48 46.5**	**+0.9**
	baz=243						
TWK1				S	**Sn**	**15 49 01.0**	**+0.2**
	baz=243						
HEN	**Hengchun**	**0.86**	**244**	*i* P	**Pn**	**15 48 46.5**	**+0.8**
	baz=249						
HEN				*i* S	**Sn**	**15 49 01.4**	**+0.2**
	baz=249						
SCZT	**Fangliau**	**0.88**	**269**⇓	*i*P	**Pn**	**15 48 46.5**	**+0.5**
	baz=262						
SCZT				*i* S	**Sn**	**15 49 00.6**	**-0.9**
	baz=262						
SSD	**Sandimen**	**0.94**	**293**⇓	*i*P	**Pn**	**15 48 47.4**	**+0.8**
	baz=293						
SSD				*e*S	**Sn**	**15 49 01.8**	**-0.7**
	baz=293						
ELDTW	**Lidau**	**0.95**	**328**⇑	*i*P	**Pn**	**15 48 47.6**	**+0.8**
	baz=322						
ELDTW				*e*S	**Sn**	**15 49 02.8**	**-0.1**
	baz=322						
SGLT	**Jiouru**	**1.05**	**289**	*e*P	**Pn**	**15 48 48.4**	**+0.7**
	baz=289						
SGLT				*e*S	**Sn**	**15 49 05.2**	**+0.7**
	baz=289						
STYT	**Tauyuan**	**1.08**	**316**⇑	*i*P	**Pn**	**15 48 48.9**	**+0.8**
	baz=317						
STYT				*e*S	**Sn**	**15 49 05.1**	**0.0**
	baz=317						
TWP	**Hsiaoliuchiu**	**1.12**	**268**	*e*P	**Pn**	**15 48 50.0**	**+1.7**
	baz=261						
TWP				*e*S	**Sn**	**15 49 06.9**	**+1.2**
	baz=261						
EHY	**Hungye**	**1.14**	**349**⇑	*i*P	**Pn**	**15 48 48.9**	**+0.3**
	baz=344						
EHY				S	**Sn**	**15 49 05.0**	**-1.2**
	baz=344						
SGST	**Jiashian**	**1.14**	**308**⇑	*i*P	**Pn**	**15 48 49.6**	**+0.9**
	baz=308						
SGST				*e*S	**Sn**	**15 49 06.2**	**-0.1**
	baz=308						
TWM1	**Shoushan**	**1.14**	**293**	*e*P	**Pn**	**15 48 49.9**	**+1.2**
	baz=293						
TWM1				*e*S	**Sn**	**15 49 06.9**	**+0.6**
	baz=293						
WTP	**Ta-pu**	**1.23**	**314**⇑	*i*P	**Pn**	**15 48 50.4**	**+0.7**
	baz=315						
WTP				*e*S	**Sn**	**15 49 07.6**	**-0.3**
	baz=315						
YUS	**Yu-Shan**	**1.24**	**333**	*e*P	**Pn**	**15 48 51.4**	**+1.2**
	baz=323						
YUS				*e*S	**Sn**	**15 49 08.5**	**-0.4**
	baz=323						
CHN1	**Nanshi**	**1.25**	**310**⇑	*i*P	**Pn**	**15 48 50.4**	**+0.6**
	baz=310						
CHN1				S	**Sn**	**15 49 08.0**	**-0.3**
	baz=310						
CHN3	**Shinhua**	**1.31**	**302**	*e*P	**Pn**	**15 48 51.6**	**+1.2**
	baz=302						
CHN3				*e*S	**Sn**	**15 49 10.2**	**+0.8**
	baz=302						
CHN4	**Tsaushan**	**1.32**	**317**	*e*P	**Pn**	**15 48 51.0**	**+0.5**
	baz=317						
CHN4				*e*S	**Sn**	**15 49 09.8**	**+0.2**
	baz=317						
ALS	**Alishan**	**1.32**	**328**	*e*P	**Pn**	**15 48 51.8**	**+0.8**
	baz=319						
ALS				*e*S	**Sn**	**15 49 09.5**	**-0.7**
	baz=319						
TWK	**Hsinying**	**1.33**	**312**	P	**Pn**	**15 48 51.1**	**+0.4**
	baz=312						
TWK				S	**Sn**	**15 49 09.7**	**-0.3**
	baz=312						
ESL	**Shilin**	**1.43**	**355**	*e*P	**Pn**	**15 48 52.0**	**+0.1**
	baz=352						
ESL				*e*S	**Sn**	**15 49 10.8**	**-1.1**
	baz=352						
CHN5	**Tsauling**	**1.46**	**326**	*i* P	**Pn**	**15 48 52.7**	**+0.5**
	baz=319						
CHN5				*e*S	**Sn**	**15 49 12.5**	**-0.1**
	baz=319						
SCLT	**Jiali**	**1.49**	**302**	*e*P	**Pn**	**15 48 53.7**	**+1.1**
	baz=310						
SCLT				*e*S	**Sn**	**15 49 13.4**	**+0.2**
	baz=310						
CHY	**Chiayi**	**1.53**	**317**	*e*P	**Pn**	**15 48 53.3**	**+0.3**
	baz=317						
CHY				*e*S	**Sn**	**15 49 13.1**	**-0.9**
	baz=317						
HWA	**Hwalien**	**1.58**	**1**	*e*P	**Pn**	**15 48 54.3**	**+0.6**
	baz=9.0						
WGK	**Gukeng**	**1.59**	**325**	*e*P	**Pn**	**15 48 53.9**	**+0.1**
	baz=317						
WGK				S	**Sn**	**15 49 14.9**	**-0.4**
	baz=317						
SMLT	**Sun Moon Lake**	**1.61**	**338**⇑	*i*P	**Pn**	**15 48 54.7**	**+0.6**
	baz=330						
SMLT				*e*S	**Sn**	**15 49 16.5**	**+0.6**
	baz=330						
TYC	**Yuchr**	**1.65**	**337**	*e*P	**Pn**	**15 48 54.7**	**+0.3**
	baz=330						
TYC				*e*S	**Sn**	**15 49 16.6**	**+0.1**
	baz=330						
TWD	**Chiawan**	**1.69**	**1**	P	**Pn**	**15 48 55.5**	**+0.6**
	baz=355						
TWD				*e*S	**Sn**	**15 49 16.4**	**-0.9**
	baz=355						
WNT	**Mingjian**	**1.69**	**331**	*i* P	**Pn**	**15 48 55.8**	**+0.9**
	baz=324						
WNT				*e*S	**Sn**	**15 49 17.4**	**-0.1**
	baz=324						
WSF	**Szhu**	**1.76**	**315**	*e*P	**Pn**	**15 48 55.6**	**-0.1**
	baz=316						
WSF				*e*S	**Sn**	**15 49 18.6**	**-0.2**
	baz=316						
WHF	**Hehuan Shan**	**1.77**	**351**	*e*P	**Pn**	**15 48 57.1**	**+0.7**
	baz=357						
WHF				*e*S	**Sn**	**15 49 19.7**	**-0.2**
	baz=357						
WTCT	**Ta-ch'eng**	**1.89**	**321**	*e*P	**Pn**	**15 48 57.8**	**+0.4**
	baz=322						
WTCT				*e*S	**Sn**	**15 49 21.1**	**-0.6**
	baz=322						
TWT	**Tachien**	**1.89**	**349**	*e*P	**Pn**	**15 48 59.2**	**+1.6**
	baz=337						
TWT				*e*S	**Sn**	**15 49 22.4**	**+0.3**
	baz=337						
TCU	**Taichung**	**1.94**	**335**	*e*P	**Pn**	**15 48 58.7**	**+0.8**
	baz=327						
TCU				S	**Sn**	**15 49 23.9**	**+1.1**
	baz=327						
WDGT	**Dungji**	**1.96**	**297**	*e*P	**Pn**	**15 48 59.3**	**+1.0**

baz=297
WDGT eS Sn 15 49 21.4 -1.9
baz=297
ENA Nanau 2.04 4 eP Pn 15 49 00.1 +0.8
baz=11
NNS Nan Shan 2.05 355 eP Pn 15 49 01.0 +1.5
baz=1.0
NNS eS Sn 15 49 25.4 -0.3
baz=1.0
TWQ1 Liyutan 2.09 340 eP Pn 15 49 00.3 +0.4
baz=340
TWQ1 eS Sn 15 49 25.6 -0.6
baz=340
TWC Suao 2.23 7 eP Pn 15 49 02.8 +1.2
baz=14
TWC eS Sn 15 49 29.9 +0.5
baz=14
ENTT Nioudou 2.25 360 P Pn 15 49 02.5 +0.7
baz=1.0
ENTT eS Sn 15 49 29.9 +0.1
baz=1.0
NSK Sanguang 2.29 355 eP Pn 15 49 03.7 +1.2
baz=3.0
NSK eS Sn 15 49 30.5 -0.3
baz=3.0
NSTT Nanjuang 2.30 347 eP Pn 15 49 04.5 +2.0
baz=337
NSTT eS Sn 15 49 30.1 -0.8
baz=337
TWE Neicheng 2.33 2 eP Pn 15 49 03.3 +0.5
baz=358
YOJ Yonaguni jima 2.46 32 P Pn 15 49 05.9 +1.4
HATJ Hateruma jima 2.65 51 P Pn 15 49 08.1 +1.1
IRIF Iriomote-Funau 2.78 45 P Pn 15 49 09.9 +1.2
JKRS Kuro-shima 2.91 50 P Pn 15 49 11.6 +1.2
JJ Ishigaki jima 3.08 50 P Pn 15 49 13.4 +0.7
PIP Pasuquin 4.14 193 eP Pn 15 49 27.0 +0.2
APYP Conner 4.51 184 eP Pn 15 49 32.4 +0.6
SIPP Brgy. Tapao 4.56 193 eP Pn 15 49 26.0 -6.4
ABRA Dolores 4.78 190 eP Pn 15 49 36.5 +1.1
CAUP Cauayan 5.42 177 eP Pn 15 49 45.1 +1.1
SONM Songino Array 28.16 338 P P 15 54 06.9 +0.2
0.8nm,0.6s,baz=153,slow=9.7,SNR=5.7
MKAR Makanchi Array 39.88 317 P P 15 55 48.4 +0.7
0.6nm,0.4s,baz=107,slow=10,SNR=13
ZALV Zalesovo Beam 41.95 328 P P 15 56 04.4 -0.1
1.9nm,0.6s,baz=114,slow=9.3,SNR=9.8
WRA Warramunga Arr 43.88 163 P P 15 56 18.2 -2.3
0.2nm,0.5s,baz=343,slow=8.7,SNR=3.2
ASAR Alice Springs 47.32 165 P P 15 56 46.9 -0.6
0.1nm,0.3s,baz=341,slow=7.0,SNR=8.2

IDC 14 15:58:53.7±3.0, 16.12S×173.41W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/21, mbtmp3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=153.6km s-min=23.7km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.70**	**36**	Pn	Pn	15 59 37.5	-1.0
AFI				Sn	Sn	16 00 06.0	-6.0
	baz=53,slow=20						
HNR	**Honiara**	**26.80**	**281**	LR	LR	16 12 42.0	
	comp=Z,47nm,18.7s,baz=89,slow=31						
WRA	**Warramunga Arr**	**49.68**	**257**	P	P	16 07 47.4	-0.4
	0.2nm,0.5s,baz=97,slow=6.8,SNR=5.4						
ASAR	**Alice Springs**	**49.89**	**252**	P	P	16 07 49.3	-0.1
	1.3nm,0.6s,baz=89,slow=8.2,SNR=2.5						
PDAR	**Pinedale Array**	**82.80**	**42**	P	P	16 11 20.9	+0.7
	0.6nm,0.8s,baz=235,slow=2.9,SNR=4.5						
ILAR	**Eielson Array**	**83.14**	**11**	P	P	16 11 21.1	-0.1
	0.4nm,0.9s,baz=231,slow=5.7,SNR=4.5						

KRSC 14 16:28:13.9±8.4, 48.92N×157.13E, h5km±5km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.88**	**340**	P	Pn	16 28 46.5	-0.2
SKR				S	Sn	16 29 10.6	-0.2
PAU	**Pauzhetka**	**2.56**	**356**	P	Pn	16 28 57.1	+1.1
PAU				S	Sn	16 29 28.9	+1.4
RUS	**Russkaya**	**3.63**	**14**	P	Pn	16 29 12.3	+1.7
RUS				S	Sn	16 29 55.3	+1.5
MTVR	**Mutnovka**	**3.63**	**10**	P	Pn	16 29 13.2	+2.3
MTVR				S	Sn	16 29 57.1	+2.8
PET	**Petropavlovsk**	**4.22**	**13**	P	Pn	16 29 21.6	+2.8
PET				S	Sn	16 30 11.6	+3.2
UGLR	**Uglovaya**	**4.43**	**13**	P	Pn	16 29 24.2	+2.4
AVH	**Avacha**	**4.47**	**12**	P	Pn	16 29 25.9	+3.6
SMAR	**Somma**	**4.47**	**13**	P	Pn	16 29 24.9	+2.3
KOK	**Koryaka**	**4.48**	**12**	P	Pn	16 29 26.2	+3.7
NLC	**Nalytchevo**	**4.48**	**17**	S	Sn	16 30 15.0	+0.2
SDLR	**Sedlovina**	**4.50**	**14**	P	Pn	16 29 25.3	+2.4
SDLR				S	Sn	16 30 18.2	+2.5
KRER	**Koryakskii**	**4.51**	**12**	P	Pn	16 29 26.4	+3.4
KRX	**Arik**	**4.55**	**12**	P	Pn	16 29 26.6	+3.1
GNL	**Ganaly**	**4.81**	**6**	P	Pn	16 29 30.2	+3.1
KZV	**Kizimen**	**6.50**	**16**	P	Pn	16 29 53.8	+3.4
TUMR	**Tumrok**	**6.64**	**15**	P	Pn	16 29 53.8	+1.6

*NDI **14** 16:33:24.5±2.1, 32.94N×83.17E, h10km, ML3.5*
*IDC **14** 16:33:28.7±1.0, 34.59N×73.17E, h0km, mb3.7/7, mb1 3.7/11, mb1mx3.6/31, mbtmp3.6/11, ML3.4/4, MS3.1/1, Ms1 3.2/1, ms1mx2.3/34, Error ellipse: s-maj=27.1km s-min=19.0km az=62.0*
*ISCJB **14** 16:33:30.4±0.5, 34.73N±0.04×73.55E±0.07, h22km, mb3.5/6, MS3.1/1, Error ellipse: s-maj=8.8km s-min=4.9km az=155.5*
*NNC **14** 16:33:41.6±7.2, 35.12N×73.34E, h55km±84km, mb3.7, mpv3.9, Error ellipse: s-maj=69.9km s-min=51.7km az=101.0*

ISC 14 16:33:32.4±0.6, 34.71N±0.05×73.43E±0.07, h22km, n36, σ1°64/36, mb3.6/6, 3C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**1.06**	**188**	P	**Pb**	**16 33 52.3**	**+0.2**
CEP	**Cherat**	**1.54**	**235**	P	**Pn**	**16 33 58.3**	**-0.4**
SDNR	**Sundarnagar**	**4.37**	**136**	eP9	**Pb**	**16 34 48.0**	**-0.5**
SDNR				eS	Sb	16 35 51.0	+10
SMLA	**Simla**	**4.76**	**138**	i P	Pn	16 34 46.7	+4.0
SMLA				i S	**Sn**	**16 35 42.5**	**+5.3**
KALG	**Kalgarh**	**6.88**	**138**	e	Pb	16 35 25.9	-5.3
KALG				AML	AML	16 37 06.7	
	comp=E,50nm,0.8s						
KHET	**Khetri**	**6.92**	**162**	eP	Pn	16 35 19.7	+7.2
KHET				e	**Sn**	**16 36 28.9**	**-1.8**
KHET				AML	AML	16 37 21.9	
	comp=N,155nm,0.1s						
KHET				AML	AML	16 37 22.1	
	comp=E,149nm,0.2s						
KUDL	**Kundal**	**7.05**	**157**	eP	**Pn**	**16 35 13.7**	**-0.5**
KUDL				eS	**Sn**	**16 36 33.0**	**-0.7**
KUDL				AML	AML	16 37 26.6	
	comp=E,13nm,1.0s						
KUDL				AML	AML	16 37 26.8	
	comp=N,7.5nm,0.5s						
TKM2	**Tokmak 2**	**8.37**	**11**	⇓P	Pn	16 35 35.7	+3.2
TKM2	comp=N,5.3nm,1.4s			⇓S	**Sn**	**16 37 04.7**	**-1.8**
	comp=N,2.0nm,0.7s						
KK31	**Karatay Array**	**8.68**	**346**	⇑P	**Pn**	**16 35 37.8**	**+1.2**
	comp=N,2.5nm,0.3s,baz=152,slow=11,SNR=93						
KK31				⇑S	**Sn**	**16 37 11.6**	**-2.2**
	comp=N,1.3nm,0.4s,baz=171,slow=24,SNR=6.8						
PYUN	**Piuthan**	**10.49**	**126**	eP	**Pn**	**16 36 02.0**	**+0.3**
	comp=N,17nm,0.4s						
PYUN				eS	**Sn**	**16 37 54.6**	**-4.1**
DANN	**Dangsing**	**10.85**	**123**	eP	**Pn**	**16 36 07.2**	**+0.5**
	comp=N,14nm,0.4s						
KOLN	**Koldanda**	**11.11**	**126**	eP	**Pn**	**16 36 10.4**	**+0.2**
	comp=N,4.4nm,0.3s						
GKN	**Gorkha**	**11.68**	**122**	eP	**Pn**	**16 36 17.9**	**0.0**
	comp=N,13nm,0.4s						
DMN	**Daman**	**12.25**	**122**	eP	**Pn**	**16 36 25.2**	**-0.5**
KKN	**Kakani**	**12.26**	**121**	eP	**Pn**	**16 36 25.1**	**-0.8**
PKIN	**Phulchoki**	**12.47**	**122**	eP	**Pn**	**16 36 28.5**	**-0.3**
	comp=N,9.4nm,0.5s						
PKI	**Pulchoki**	**12.48**	**122**	eP	**Pn**	**16 36 28.9**	**-0.1**
	comp=N,9.7nm,0.4s						
GUN	**Gumba**	**12.61**	**119**	eP	**Pn**	**16 36 30.5**	**-0.3**
	comp=N,8.9nm,0.4s						
JIRN	**Jiri**	**12.98**	**119**	eP	**Pn**	**16 36 34.9**	**-1.0**
	comp=N,13nm,0.4s						
RAMN	**Ramite**	**13.70**	**121**	eP	**Pn**	**16 36 44.3**	**-1.3**
	comp=N,14nm,0.7s						
MKAR	**Makanchi Array**	**13.80**	**26**	Pn	P	16 36 51.4	-3.5
	comp=N,0.1nm,0.3s,baz=209,slow=12,SNR=2.6						
TAPN	**Taplejung**	**14.27**	**117**	eP	**Pn**	**16 36 51.8**	**-1.6**
	comp=N,7.5nm,0.4s						
ODAN	**Odare**	**14.32**	**119**	eP	**Pn**	**16 36 53.1**	**-0.9**
	comp=N,7.3nm,0.5s						
KURBB	**Kurchatov Arra**	**16.33**	**12**	Pn	**Pn**	**16 37 20.6**	**+0.4**
	comp=N,0.1nm,0.3s,baz=196,slow=12,SNR=3.0						
AB31	**Akbulak array**	**17.61**	**330**	⇓P	**P**	**16 37 41.3**	**+4.1**
	comp=N,1.0nm,0.7s,baz=164,slow=10,SNR=6.6						
BVAR	**Borovoye Array**	**18.43**	**354**	P	**P**	**16 37 46.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=165,slow=10,SNR=4.8						
AKTO	**Aktyubinsk**	**19.32**	**329**	P	**P**	**16 37 55.5**	**-0.5**
	comp=N,0.2nm,0.3s,baz=135,slow=9.8,SNR=3.5						
AKTO	**Aktyubinsk**	**19.32**	**329**	⇑P	**Pn**	**16 37 56.8**	**-0.3**
	comp=N,4.5nm,1.1s						
ZALV	**Zalesovo Beam**	**20.84**	**19**	P	**P**	**16 38 12.1**	**-0.2**
	comp=N,4.1nm,0.5s,baz=215,slow=11,SNR=20						
SONM	**Songino Array**	**27.80**	**52**	P	**P**	**16 39 21.4**	**+1.5**
	comp=N,0.1nm,0.3s,baz=260,slow=9.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**27.86**	**119**	P	**P**	**16 39 21.5**	**+1.0**
	comp=N,1.2nm,0.9s,baz=302,slow=8.4,SNR=6.4						
ARCES	**ARCESS Array B**	**43.55**	**338**	P	**P**	**16 41 34.0**	**-0.1**
	comp=N,2.5nm,0.9s,baz=110,slow=9.7,SNR=3.6						
NOA	**NORSAR Array B**	**46.99**	**324**	LR	LR	17 05 01.1	
	comp=N,18nm,18.3s,baz=240,slow=40						
TORD	**Torodi Ar. Bea**	**67.69**	**271**	P	**P**	**16 44 26.9**	**-1.4**
	comp=N,0.5nm,0.6s,baz=48,slow=6.1,SNR=5.6						
WRA	**Warramunga Arr**	**79.36**	**123**	P	**P**	**16 45 37.4**	**+0.6**
	comp=N,0.5nm,0.8s,baz=322,slow=5.1,SNR=8.7						
ASAR	**Alice Springs**	**81.61**	**126**	P	**P**	**16 45 49.3**	**+0.5**
	comp=N,0.3nm,0.6s,baz=307,slow=4.8,SNR=10						

GUC 14 17:02:12.9±0.3, 21.62S×68.65W, h128km±2km, ML3.8, 10C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.58**	**252**	i P	Pn	17 02 33.0	+0.5
PB09				i S	Sn	17 02 48.1	+0.8
PB09				AML	AML	17 02 49.6	
	comp=N,4μm,0.4s						
PB01	**Plate Boundary**	**0.97**	**306**	⇑i P	Pn	17 02 35.9	+0.4
PB01				i S	Sn	17 02 53.3	+0.7
PB01				AML	AML	17 02 54.6	
	comp=N,2μm,0.4s						
PB04	**Plate Boundary**	**1.01**	**230**	⇑i P	Pn	17 02 42.4	+6.7
PB04				i S	Sn	17 03 05.1	+12
PB04				AML	AML	17 03 07.2	
	comp=N,783nm,0.2s						
PB07	**Plate Boundary**	**1.16**	**265**	⇑i P	Pn	17 02 38.1	+0.8
PB07				i S	Sn	17 02 57.0	+1.0
PB07				AML	AML	17 02 59.0	
	comp=N,2μm,0.2s						
MACH	**Maria Elena**	**1.18**	**241**	⇑i P	Pn	17 02 38.4	+0.7
MACH				i S	Sn	17 02 57.7	+1.2
PB06	**Plate Boundary**	**1.38**	**218**	⇑i P	Pn	17 02 40.2	+0.5
PB06				i S	Sn	17 03 01.2	+1.0
PB06				AML	AML	17 03 01.6	
	comp=E,1μm,0.6s						
PATCX	**Punta Patache**	**1.61**	**299**	⇑i P	Pn	17 02 43.1	+0.8
PATCX				i S	Sn	17 03 05.8	+1.1
PATCX				AML	AML	17 03 08.3	
	comp=N,3μm,0.2s						
HMBC	**Humberstone**	**1.77**	**319**	⇑i P	Pn	17 02 44.0	-0.1
HMBC				i S	Sn	17 03 08.4	+0.4
HMBC				AML	AML	17 03 11.0	
	comp=E,753nm,0.6s						
PB11	**Plate Boundary**	**2.08**	**333**	⇑i P	Pn	17 02 47.8	-0.2
PB11				i S	Sn	17 03 15.0	+0.3
PB11				AML	AML	17 03 16.8	
	comp=E,3μm,0.3s						
CEN1	**Los Morros**	**2.27**	**219**	⇓i P	Pn	17 02 52.8	+2.5
CEN1				i S	Sn	17 03 24.2	+5.2
CEN1				AML	AML	17 03 32.5	
	comp=N,167nm,0.5s						
PSGC	**Pisagua**	**2.44**	**325**	i P	Pn	17 02 51.7	-0.7
PSGC				i S	Sn	17 03 22.5	-0.3
PSGC				AML	AML	17 03 25.0	
	comp=E,226nm,0.3s						
PB10	**Plate Boundary**	**2.58**	**223**	AML	AML	17 03 33.4	
	comp=N,388nm,0.5s						

IDC 14 18:16:09.7±7.0, 32.18S×179.71W, h191km±50km, mb3.5/3, mb1 3.6/4, mb1mx3.3/18, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.3/17, Error ellipse: s-maj=69.5km s-min=20.5km az=45.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.60**	**202**	P	Pn	18 17 44.4	-0.1
	1.2nm,0.3s,baz=341,slow=12,SNR=7.4						
URZ				S	Sn	18 18 51.1	-8.5
	6.3nm,0.3s,baz=197,slow=24,SNR=16						
ASAR	**Alice Springs**	**41.59**	**270**	P	P	18 23 39.0	-0.1
	0.3nm,0.3s,baz=109,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**42.74**	**275**	P	P	18 23 48.0	-0.3
	0.8nm,0.4s,baz=113,slow=8.0,SNR=36						
FITZ	**Fitzroy Crossi**	**50.92**	**272**	LR	LR	18 47 56.6	
	comp=Z,37nm,20.7s,baz=230,slow=37						
QSPA	**South Pole Qui**	**57.93**	**180**	P	P	18 25 42.0	+0.3
	3.9nm,0.6s,baz=344,slow=0.9,SNR=32						
FINES	**FINESS Array B**	**146.27**	**338**	PKPbc	PKPbc	18 35 27.3	+0.4
	4.6nm,1.0s,baz=31,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**161.01**	**184**	PKPab	PKPab	18 36 29.3	-2.0
	0.4nm,0.9s,baz=182,slow=3.4,SNR=2.4						

IDC 14 18:32:08.1±2.9, 3.16S×139.85E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=116.3km s-min=30.0km az=83.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.53**	**197**	P	Pn	18 36 14.6	+0.5
	0.4nm,0.3s,baz=18,slow=13,SNR=36						
ASAR	**Alice Springs**	**21.18**	**195**	P	P	18 36 55.5	+0.1
	2.2nm,0.7s,baz=20,slow=11,SNR=40						
STKA	**Stephens Creek**	**28.61**	**177**	P	P	18 38 05.8	-0.5
	1.5nm,0.7s,baz=6.3,slow=9.2,SNR=3.2						
MKAR	**Makanchi Array**	**70.84**	**322**	P	P	18 43 26.9	+0.1
	0.5nm,0.8s,baz=117,slow=5.0,SNR=2.9						

*IDC **14** 18:45:15.8±0.5, 55.42S×26.91W, h0km, mb4.8/13, mb1 4.8/14, mb1mx4.7/19, mbtmp4.7/14, ML4.1/1, MS3.9/16, Ms1 3.9/16, ms1mx3.8/20, Error ellipse: s-maj=17.8km s-min=15.8km az=49.0*
*ISCJB **14** 18:45:17.8±0.3, 55.41S±0.06×26.9W±0.1, h25km, mb4.9/24, MS3.5/15, Error ellipse: s-maj=10.0km s-min=8.0km az=159.1*
*NEIC **14** 18:45:17.3±3.3, 55.47S×26.87W, h10km±19km, mb5.0/10, Error ellipse: s-maj=7.4km s-min=5.6km az=217.0*

ISC 14 18:45:19.7±0.4, 55.46S±0.08×26.92W±0.08, h25km, n126, σ0.971/118, mb4.9/23, MS3.3/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.30**	**159**	eP	**P**	**18 49 20.4**	**+0.1**
VNA2	**Neumayer--Watz**	**17.69**	**159**	eP	**P**	**18 49 24.4**	**-0.3**
SNAA	**Sanae**	**19.23**	**157**	eP	**P**	**18 49 40.3**	**-1.3**
SNAA	**Sanae**	**19.23**	**157**	Pn	**P**	**18 49 40.5**	**-1.2**
SNAA	**Sanae**	**19.23**	**157**	Pn	**P**	**18 49 40.5**	**-1.2**
	0.6nm,0.3s,baz=313,slow=9.4,SNR=36						
SNAA				LR	LR	18 55 47.8	
	comp=Z,15nm,28.6s,baz=28,slow=33						
PMSA	**Palmer Station**	**20.41**	**228**	P	**P**	**18 49 54.6**	**+0.1**
PMSA	**Palmer Station**	**20.41**	**228**	P	**P**	**18 49 54.6**	**+0.1**
	56nm,0.8s,baz=71,slow=10,SNR=7.1						
PMSA				LR	LR	18 56 31.4	
	comp=Z,501nm,18.9s,baz=108,slow=33						
USHA	**Ushuaia**	**23.49**	**254**	P	**P**	**18 50 26.3**	**-0.8**
USHA	**Ushuaia**	**23.49**	**254**	P	**P**	**18 50 26.3**	**-0.8**
	13nm,0.8s,baz=18,slow=3.3,SNR=4.2						
TRQA	**Tornquist**	**29.23**	**292**	eP	**P**	**18 51 19.9**	**+0.6**
	43nm,1.1s						
PLCA	**Paso Flores**	**32.05**	**279**	P	**P**	**18 51 43.3**	**-0.9**
PLCA	**Paso Flores**	**32.05**	**279**	P	**P**	**18 51 43.3**	**-0.9**
	4.7nm,1.1s,baz=146,slow=3.3,SNR=4.5						
PLCA				LR	LR	19 04 52.2	
	comp=Z,150nm,18.9s,baz=258,slow=37						
QSPA	**South Pole Qui**	**34.80**	**180**	eP	**P**	**18 52 07.7**	**-0.3**
	12nm,0.5s						
CPUP	**Villa Florida**	**36.54**	**310**	P	**P**	**18 52 22.7**	**-0.3**
CPUP	**Villa Florida**	**36.54**	**310**	P	**P**	**18 52 22.7**	**-0.3**
	10.0nm,0.7s,baz=132,slow=7.3,SNR=15						
MAW	**Mawson**	**40.54**	**144**	P	**P**	**18 52 56.7**	**+0.5**
MAW	**Mawson**	**40.54**	**144**	P	**P**	**18 52 56.7**	**+0.5**
	11nm,0.7s,baz=228,slow=7.6,SNR=16						
MAW				LR	LR	19 07 59.6	
	comp=Z,16nm,28.6s,baz=252,slow=34						
LCO	**Las Campanas**	**40.82**	**292**	eP	**P**	**18 52 59.1**	**-0.2**
	51nm,0.9s						
BDFB	**Brasilia**	**42.92**	**329**	P	**P**	**18 53 16.7**	**+0.3**
BDFB	**Brasilia**	**42.92**	**329**	P	**P**	**18 53 16.7**	**+0.3**
	7.3nm,1.0s,baz=149,slow=13,SNR=4.4						
BDFB				LR	LR	19 09 42.2	
	comp=Z,16nm,28.6s,baz=81,slow=34						
BOSA	**Boshof**	**45.68**	**76**	P	**P**	**18 53 38.0**	**-0.4**
BOSA	**Boshof**	**45.68**	**76**	P	**P**	**18 53 38.0**	**-0.4**
	7.9nm,0.7s,baz=214,slow=9.5,SNR=12						
BOSA				LR	LR	19 10 24.6	
	comp=Z,16nm,28.6s,baz=196,slow=33						
SBA	**Scott Base**	**46.69**	**184**	eP	**P**	**18 53 46.9**	**+1.4**
	14nm,1.0s						
VNDA	**Vanda**	**47.18**	**183**	P	**P**	**18 53 50.0**	**+0.6**
VNDA	**Vanda**	**47.18**	**183**	P	**P**	**18 53 50.0**	**+0.6**
	12nm,0.7s,baz=187,slow=7.6,SNR=38						
VNDA				LR	LR	19 14 41.2	
	comp=Z,120nm,18.3s,baz=163,slow=37						
H10S2	**ASCENSION HYDR**	**47.38**	**17**	T	T	19 44 56.9	
	baz=203,slow=75,SNR=44						
H10S3	**ASCENSION HYDR**	**47.39**	**17**	T	T	19 45 07.9	
	baz=203,slow=75,SNR=42						
H10S1	**ASCENSION HYDR**	**47.40**	**17**	T	T	19 45 12.0	
	baz=203,slow=75,SNR=31						
H10N1	**ASCENSION HYDR**	**48.50**	**17**	T	T	19 46 31.9	
	baz=202,slow=75,SNR=37						
H10N3	**ASCENSION HYDR**	**48.50**	**17**	T	T	19 46 11.2	
	baz=202,slow=75,SNR=44						
H10N2	**ASCENSION HYDR**	**48.52**	**17**	T	T	19 46 28.5	
	baz=202,slow=75,SNR=34						
TSUM	**Tsumeb**	**49.26**	**61**	eP	**P**	**18 54 06.0**	**-0.3**
	9.5nm,1.1s						
LPAZ	**La Paz**	**50.16**	**305**	P	**P**	**18 54 14.4**	**+0.7**
LPAZ	**La Paz**	**50.16**	**305**	P	**P**	**18 54 14.4**	**+0.7**
	22nm,0.8s,baz=149,slow=5.7,SNR=59						
LPAZ				LR	LR	19 14 45.9	
	comp=Z,47nm,21.1s,baz=158,slow=35						
SAML	**Samuel**	**54.49**	**314**	eP	**P**	**18 54 44.4**	**-0.8**
	17nm,1.0s						
LSZ	**Lusaka**	**58.02**	**69**	eP	**P**	**18 55 09.9**	**-0.6**
	16nm,1.3s						
LIC	**Lamto**	**64.09**	**24**	eP	**P**	**18 55 51.1**	**-0.3**
	68nm,1.2s						
KIC	**Kosan Boka**	**64.29**	**25**	eP	**P**	**18 55 52.4**	**-0.4**
	61nm,1.2s						
TIC	**Toumodi**	**64.50**	**24**	eP	**P**	**18 55 53.7**	**-0.4**
	38nm,0.9s						
DBIC	**Dimbokro**	**64.56**	**24**	P	**P**	**18 55 54.1**	**-0.4**
DBIC	**Dimbokro**	**64.56**	**24**	P	**P**	**18 55 54.1**	**-0.4**
	8.7nm,0.8s,baz=172,slow=6.7,SNR=13						
DBIC				LR	LR	19 16 48.9	
	comp=Z,16nm,28.6s,baz=181,slow=29						
OTAV	**Otavalo**	**69.45**	**303**	eP	**P**	**18 56 27.7**	**+1.5**
	6.1nm,0.8s						
TOA0	**Torodi Ar. Sit**	**72.46**	**29**	eP	**P**	**18 56 43.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**72.46**	**29**	P	**P**	**18 56 44.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**72.46**	**29**	P	**P**	**18 56 44.0**	**+0.2**
	29nm,0.7s,baz=199,slow=6.5,SNR=172						
TORD				LR	LR	19 22 34.5	
	comp=Z,16nm,28.6s,baz=175,slow=31						
KMBO	**Kilima Mbogo**	**74.68**	**69**	LR	LR	19 27 39.3	
	comp=Z,16nm,28.6s,baz=94,slow=34						
TAM	**Tamanrasset**	**82.70**	**30**	eP	**P**	**18 57 43.1**	**+2.1**
	10nm,1.3s						
STKA	**Stephens Creek**	**92.46**	**170**	P	**P**	**18 58 29.0**	**+0.7**
STKA	**Stephens Creek**	**92.46**	**170**	P	**P**	**18 58 29.0**	**+0.7**
	1.0nm,0.6s,baz=323,slow=7.8,SNR=4.6						
STKA				LR	LR	19 39 16.6	
	comp=Z,140nm,18.4s,baz=203,slow=35						
PPT	**Papeete**	**92.67**	**234**	LR	LR	19 33 39.6	
	comp=Z,16nm,28.6s,baz=170,slow=31						
KEST	**Kesra**	**95.98**	**29**	LR	LR	19 34 05.2	
	comp=Z,16nm,28.6s,baz=328,slow=30						
ESDC	**Sonseca Array**	**96.77**	**18**	LR	LR	19 37 44.7	
	comp=Z,54nm,20.5s,baz=145,slow=33						
ASAR	**Alice Springs**	**99.51**	**162**	P	**Pdif**	**18 58 59.8**	**-0.7**
ASAR				PKiKP	**PKiKP**	**19 03 31.8**	**+2.2**
ASAR	**Alice Springs**	**99.51**	**162**	P	**Pdif**	**18 58 59.8**	**-0.7**
	1.2nm,0.7s,baz=187,slow=4.0,SNR=19						
ASAR				PKiKP	**PKiKP**	**19 03 31.8**	**+2.2**
	0.4nm,0.8s,baz=160,slow=3.0,SNR=4.3						
ASAR				LR	LR	19 42 57.1	
	comp=Z,49nm,19.0s,baz=189,slow=35						
WRA	**Warramunga Arr**	**103.23**	**162**	Pdif	**Pdif**	**18 59 15.7**	**-1.3**
WRA	**Warramunga Arr**	**103.23**	**162**	Pdiff	**Pdif**	**18 59 15.7**	**-1.3**
	0.4nm,0.7s,baz=196,slow=4.5,SNR=4.3						
MIAR	**Mount Ida**	**106.12**	**308**	ePdif	**Pdif**	**18 59 27.2**	**-2.1**
	13nm,0.8s						
ULM	**Lac du Bonnet**	**119.92**	**316**	PKP	**PKPdf**	**19 04 05.6**	**-1.1**
ULM	**Lac du Bonnet**	**119.92**	**316**	PKP	**PKPdf**	**19 04 05.6**	**-1.1**
	1.5nm,0.7s,baz=226,slow=8.0,SNR=3.0						
PDAR	**Pinedale Array**	**120.15**	**302**	PKP	**PKPdf**	**19 04 06.5**	**-1.2**
PDAR	**Pinedale Array**	**120.15**	**302**	PKP	**PKPdf**	**19 04 06.5**	**-1.2**
	0.4nm,0.5s,baz=168,slow=1.4,SNR=3.5						
FINES	**FINESS Array B**	**123.78**	**27**	PKP	**PKPdf**	**19 04 13.4**	**-0.4**
FINES	**FINESS Array B**	**123.78**	**27**	PKP	**PKPdf**	**19 04 13.4**	**-0.4**
	5.4nm,0.9s,baz=221,slow=2.0,SNR=9.8		

0.3nm,0.7s,baz=115,slow=1.0,SNR=3.7
YKA PKP **PKPdf** **19 04 36.5 0.0**
3.2nm,0.8s,baz=123,slow=2.2,SNR=23
YKA PP PP 19 07 07.6 -8.8
0.2nm,0.5s,baz=108,slow=5.9,SNR=3.1
YKW3 Yellowknife Ar 135.87 318 *e*PKPdf **PKPdf 19 04 37.5 +0.9**
MKAR Makanchi Array 136.55 71 PKPpre PKPpre 19 04 31.1
MKAR PKP **PKPdf 19 04 38.1 -0.4**
MKAR Makanchi Array 136.55 71 PKhKP PKPpre 19 04 31.1
0.5nm,0.7s,baz=266,slow=4.9,SNR=3.5
MKAR PKP **PKPdf 19 04 38.1 -0.4**
1.0nm,0.7s,baz=242,slow=2.6,SNR=5.8
ZALV Zalesovo Beam 141.97 63 PKPpre PKPpre 19 04 43.3
ZALV Zalesovo Beam 141.97 63 PKhKP PKPpre 19 04 43.3
0.5nm,0.4s,baz=242,slow=3.2,SNR=4.0
HYT Haines Junctio 144.55 308 *e*PKPdf **PKPdf 19 04 52.2 -0.4**
INK Inuvik 145.44 321 *e*PKPdf **PKPab 19 04 53.6 -0.4**
MENT Mentasta 148.03 310 *e*PKPbc **PKPbc 19 05 02.0 +0.5**
DOT Dot Lake 148.37 311 *e*PKPbc **PKPbc 19 05 02.9 +0.5**
DIV Divide 148.43 306 *e*PKPbc **PKPbc 19 05 03.1 +0.5**
PAX Paxson 148.81 309 *e*PKPbc **PKPbc 19 05 03.8 +0.2**
ILAR Eielson Array 149.83 312 PKPbc **PKPbc 19 05 05.8 -0.1**
ILAR Eielson Array 149.83 312 PKPbc **PKPbc 19 05 05.8 -0.1**
15nm,0.8s,baz=128,slow=1.6,SNR=127
COLA College 150.25 312 *e*PKPbc **PKPbc 19 05 06.7 -0.2**
RC01 Rabbit Creek A 150.27 305 *e*PKPbc **PKPbc 19 05 07.7 +0.6**
MCK McKinley 150.51 310 *e*PKPbc **PKPbc 19 05 08.0 +0.4**
SONM Songino Array 150.53 85 PKP **PKPdf 19 05 03.0 0.0**
SONM PKPbc **PKPbc 19 05 08.2 -0.1**
SONM Songino Array 150.53 85 PKP **PKPdf 19 05 03.0 0.0**
1.9nm,0.9s,baz=210,slow=1.6,SNR=8.5
SONM PKPbc **PKPbc 19 05 08.2 -0.1**
12nm,0.9s,baz=217,slow=3.0,SNR=50
KDAK Kodiak Island 150.68 297 *e*PKPbc **PKPbc 19 05 07.6 -0.5**
OHAK Old Harbor 150.86 296 *e*PKPbc **PKPbc 19 05 09.0 +0.5**
ULN Ulaanbaatar 150.92 86 *e*PKPbc **PKPbc 19 05 09.2 -0.1**
TRF Thorofare Moun 151.05 309 *e*PKPbc **PKPbc 19 05 09.3 +0.3**
COLD Coldfoot 151.49 317 *e*PKPbc **PKPbc 19 05 09.9 +0.1**
RSO Redoubt South 151.54 303 *e*PKPbc **PKPbc 19 05 10.1 -0.2**
PPLA Purkeypile 151.79 308 *e*PKPbc **PKPbc 19 05 10.9 +0.1**
IM04 Indian Mountai 152.84 314 *e*PKPbc **PKPbc 19 05 12.4 -0.4**

IDC 14 19:16:02.5±9.8, 6°18S×151°37E, h57km±70km, mb2.8/2, mb1 3.2/3, mb1mx3.0/17, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=114.7km s-min=58.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**232**	P		Pn	19 17 18.9	+0.2
	0.9nm,0.3s,baz=80,slow=6.1,SNR=4.8							
PMG				S		Sn	19 18 18.7	+0.7
	0.4nm,0.3s,baz=285,slow=18,SNR=2.0							
WRA	**Warramunga Arr**	**21.47**	**229**	P		P	19 20 46.1	-0.4
	0.3nm,0.7s,baz=54,slow=10,SNR=5.0							
ASAR	**Alice Springs**	**24.18**	**222**	P		P	19 21 14.1	+0.3
	0.3nm,0.5s,baz=58,slow=8.9,SNR=8.5							
TORD	**Torodi Ar. Bea**	**149.34**	**285**	PKPbc		PKPbc	19 35 45.6	-0.6
	0.3nm,0.7s,baz=84,slow=2.8,SNR=3.5							

*ISCJB **14** 19:19:47.3±0.3, 0°.51N±0°.05×123°.59E±0°.06, h264km, mb3.8/17, Error ellipse: s-maj=9.2km s-min=5.0km az=146.6*
*IDC **14** 19:19:48.6±2.3, 0°.55N×123°.60E, h262km±23km, mb3.7/16, mb1 3.8/17, mb1mx3.7/24, mbtmp3.7/17, Error ellipse: s-maj=22.1km s-min=8.8km az=75.0*
*DJA **14** 19:19:49.1±0.8, 0°.1N±9°×12°.4E±°, h232km±7km, M4.2/7, mb4.5/2, mB4.8/1, MLv4.1/7, Mw(mB)4.0/1*
*AUST **14** 19:19:54.2, 0°.50S×124°.00E, h200km*
ISC 14 19:19:48.6±0.5, 0°.52N±0°.06×123°.53E±0°.06, h264km, n56, σ1§35/56, mb3.8/17, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.46**	**83**	P		**Pn**	**19 20 21.2**	**-1.7**
KMSI				S		S	19 20 43.8	-6.2
MRSI	**Marisa**	**1.59**	**268**	P		**Pn**	**19 20 26.9**	**-2.0**
MRSI				S		**S**	**19 20 56.9**	**-3.8**
LUWI	**Luwuk**	**1.73**	**206**	P		Pn	19 20 27.0	-3.0
LUWI				S		S	19 20 56.2	-6.6
LUWI	**Luwuk**	**1.73**	**206**	P		**Pn**	**19 20 27.4**	**-2.6**
	baz=1.3,SNR=180							
TOLI	**Toli-Toli**	**2.80**	**282**	P		**Pn**	**19 20 38.8**	**-1.1**
TNTI	**Ternate**	**3.85**	**86**	P		**Pn**	**19 20 49.1**	**-2.2**
TNTI				S		S	19 21 25.2	-16
LBMI	**Labuha**	**4.14**	**106**	P		**Pn**	**19 20 52.1**	**-2.5**
TTSI	**Tana Toraja**	**5.13**	**226**	P		**Pn**	**19 21 04.8**	**-1.6**
NLAI	**Namlea**	**5.17**	**136**	P		**Pn**	**19 21 06.0**	**-0.9**
	62nm,0.5s,2μm							
MTN	**Manton Dam**	**15.27**	**151**	P		**Pn**	**19 23 11.5**	**-0.1**
	baz=14,SNR=37							
KDU	**Kakadu**	**15.84**	**146**	P		**Pn**	**19 23 17.7**	**-0.6**
	baz=15,SNR=20							
KNRA	**Kununurra**	**16.91**	**162**	P		**P**	**19 23 29.2**	**+0.6**
	baz=16,SNR=44							
FITZ	**Fitzroy Crossi**	**18.62**	**174**	P		**P**	**19 23 46.7**	**-0.4**
	0.7nm,0.3s,baz=14,slow=6.6,SNR=15							
FITZ	**Fitzroy Crossi**	**18.62**	**174**	P		**P**	**19 23 46.7**	**-0.4**
	baz=18,SNR=11							
WRA	**Warramunga Arr**	**22.93**	**153**	P		**P**	**19 24 30.3**	**+0.2**
	7.5nm,0.3s,baz=334,slow=10,SNR=261							
COEN	**Coen**	**24.20**	**127**	P		**P**	**19 24 43.5**	**+1.8**
	baz=23,SNR=6.8							
WRKA	**Warakurna**	**25.82**	**170**	P		**P**	**19 24 56.8**	**+0.6**
	baz=25,SNR=60							
ASAR	**Alice Springs**	**26.07**	**158**	P		**P**	**19 24 58.9**	**+0.4**
	2.1nm,0.4s,baz=334,slow=8.4,SNR=46							
ASAR				ScP		**ScP**	**19 31 34.6**	**+1.3**
	1.0nm,0.6s,baz=347,slow=2.9,SNR=17							
QIS	**Mount Isa**	**26.20**	**144**	P		**P**	**19 25 00.4**	**+0.8**
	baz=25,SNR=23							
MEEK	**Meekatharra**	**27.41**	**190**	P		**P**	**19 25 10.4**	**+0.1**
	baz=27,SNR=9.6							
CMAR	**Chiang Mai Arr**	**30.01**	**308**	P		**P**	**19 25 35.0**	**+1.7**
	1.0nm,0.7s,baz=135,slow=7.0,SNR=18							
FORT	**Forrest**	**31.43**	**173**	P		**P**	**19 25 46.1**	**+0.6**
	baz=30,SNR=19							
BLDU	**Ballidu**	**31.64**	**191**	P		**P**	**19 25 47.6**	**+0.2**
	baz=31,SNR=8.7							
BBOO	**Buckleboo**	**35.20**	**162**	P		**P**	**19 26 18.6**	**+0.5**
	baz=34,SNR=16							
PATS	**Pohnpei**	**35.26**	**79**	P		P	19 26 31.0	+12
	baz=35,SNR=3.5							
STKA	**Stephens Creek**	**36.48**	**154**	P		**P**	**19 26 29.5**	**+0.6**
	4.0nm,0.5s,baz=327,slow=9.0,SNR=22							
STKA	**Stephens Creek**	**36.48**	**154**	P		**P**	**19 26 29.8**	**+0.8**
	baz=36,SNR=15							
HTT	**Hallett**	**36.75**	**158**	P		**P**	**19 26 32.2**	**+1.0**
	baz=36,SNR=4.6							
KSRS	**Korea Array**	**36.97**	**6**	P		**P**	**19 26 31.3**	**-1.6**
	1.2nm,0.8s,baz=181,slow=9.8,SNR=3.4							
CMSA	**Cobar Meteorol**	**38.18**	**149**	P		**P**	**19 26 44.8**	**+1.6**
	baz=37,SNR=24							
MJAR	**Matsushiro Arr**	**38.34**	**19**	P		**P**	**19 26 43.6**	**-0.8**
	2.1nm,0.6s,baz=189,slow=9.0,SNR=5.0							
ODAN	**Odare**	**43.49**	**310**	*e*P		**P**	**19 27 28.2**	**+1.5**
	7.0nm,0.7s							
TAPN	**Taplejung**	**43.50**	**311**	*e*P		**P**	**19 27 28.1**	**+1.2**
USRK	**Ussuriysk Arra**	**44.14**	**9**	P		**P**	**19 27 31.5**	**+0.3**
	1.7nm,0.3s,baz=186,slow=6.3,SNR=12							
RAMN	**Ramite**	**44.14**	**310**	*e*P		**P**	**19 27 33.5**	**+1.6**
	18nm,0.7s							
JIRN	**Jiri**	**44.82**	**310**	*e*P		**P**	**19 27 38.9**	**+1.6**
	15nm,0.6s							
GUN	**Gumba**	**45.18**	**310**	*e*P		**P**	**19 27 41.7**	**+1.5**
	22nm,0.5s							
PKI	**Pulchoki**	**45.37**	**310**	*e*P		**P**	**19 27 42.7**	**+1.1**
	6.4nm,0.5s							
PKIN	**Phulchoki**	**45.38**	**310**	*e*P		**P**	**19 27 42.7**	**+1.0**
	4.6nm,0.5s							
KKN	**Kakani**	**45.58**	**310**	*e*P		**P**	**19 27 44.4**	**+1.3**
	6.0nm,0.5s							
DMN	**Daman**	**45.62**	**310**	*e*P		**P**	**19 27 44.9**	**+1.4**
	7.3nm,0.7s							
GKN	**Gorkha**	**46.18**	**310**	*e*P		**P**	**19 27 49.0**	**+1.3**
	11nm,0.6s							
KOLN	**Koldanda**	**46.87**	**309**	*e*P		**P**	**19 27 54.3**	**+1.2**
	20nm,0.7s							
DANN	**Dangsing**	**47.02**	**310**	*e*P		**P**	**19 27 55.9**	**+1.5**
	27nm,0.6s							
PYUN	**Piuthan**	**47.50**	**309**	*e*P		**P**	**19 27 59.8**	**+1.8**
	36nm,0.6s							
SONM	**Songino Array**	**49.42**	**345**	P		**P**	**19 28 12.7**	**+0.6**
	3.4nm,0.7s,baz=161,slow=8.7,SNR=26							
MKAR	**Makanchi Array**	**58.45**	**328**	P		**P**	**19 29 17.5**	**+0.4**
	4.9nm,0.4s,baz=124,slow=7.2,SNR=66							
MKAR				PcP		**PcP**	**19 30 04.9**	**+0.2**
	0.9nm,0.6s,baz=162,slow=2.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**62.06**	**335**	P		**P**	**19 29 40.4**	**-0.9**
	1.0nm,0.4s,baz=121,slow=7.2,SNR=7.6							
SEY	**Seymchan**	**65.88**	**14**	P		**P**	**19 30 07.3**	**+1.5**
	1.7nm,0.9s,baz=163,slow=19,SNR=3.0							
MAW	**Mawson**	**79.67**	**200**	P		**P**	**19 31 26.2**	**-0.3**
	1.2nm,0.3s,baz=131,slow=9.3,SNR=7.2							
ILAR	**Eielson Array**	**89.35**	**25**	P		**P**	**19 32 13.9**	**-1.1**
	0.3nm,0.5s,baz=241,slow=4.9,SNR=6.6							
ARCES	**ARCESS Array B**	**92.33**	**340**	P		**P**	**19 32 27.8**	**-0.9**
	2.0nm,0.9s,baz=83,slow=4.8,SNR=6.5							
AKASG	**Malin Array Be**	**92.33**	**321**	P		P	19 32 26.0	-3.1
	0.2nm,0.4s,baz=89,slow=5.6,SNR=3.8							
FINES	**FINESS Array B**	**93.12**	**332**	P		**P**	**19 32 30.9**	**-1.5**
	1.2nm,0.6s,baz=104,slow=3.4,SNR=3.4							
INK	**Inuvik**	**94.30**	**21**	P		**P**	**19 32 36.9**	**-0.7**
	0.4nm,0.5s,baz=289,slow=9.8,SNR=4.1							
TORD	**Torodi Ar. Bea**	**120.78**	**286**	PKP		**PKPdf**	**19 38 10.7**	**+0.4**
	0.2nm,0.3s,baz=80,slow=1.7,SNR=11							

*ISCJB **14** 19:25:32.9±0.5, 15°.98N±0°.08×92°.45W±0°.05, h173km, mb3.8/7, Error ellipse: s-maj=11.7km s-min=5.4km az=18.0*
*IDC **14** 19:25:34.1±1.8, 15°.95N×92°.34W, h184km±16km, mb3.5/7, mb1 3.8/11, mb1mx3.5/28, mbtmp4.1/11, Error ellipse: s-maj=38.4km s-min=14.5km az=66.0*
*MEX **14** 19:25:36.3±0.5, 15°.25N×92°.84W, h186km±6km, MD4.0*
ISC 14 19:25:33.0±0.7, 15°.8N±0°.1×92°.56W±0°.06, h173km, n19, σ1§74/23, mb3.9/7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.64**	**260**	*e*P		**Pn**	**19 26 00.5**	**+2.9**
PCIG				*e*S		**Sn**	**19 26 20.1**	**+3.6**
APG	**El Apazote**	**2.18**	**111**	P		**Pn**	**19 26 11.7**	**-0.1**
	26nm,0.3s,baz=292,slow=9.1,SNR=171							
APG				S		**Sn**	**19 26 41.7**	**-0.1**
	57nm,0.3s,baz=99,slow=18,SNR=41							
TUIG	**Tuzandepetl**	**2.84**	**321**	*i* P		Pn	19 26 20.9	+1.6
HUIG	**Huatulco**	**3.42**	**270**	*e*P		**Pn**	**19 26 26.6**	**+0.1**
HUIG				*i* S		**Sn**	**19 27 05.5**	**-2.6**
VHO	**Vista Hermosa**	**4.20**	**288**	*e*P		**Pn**	**19 26 38.8**	**+2.2**
VHO				*i* S		**Sn**	**19 27 27.1**	**+0.8**
PNIG	**Pinotepa**	**5.38**	**277**	*e*P		**Pn**	**19 26 53.0**	**+1.2**
PNIG				*e*S		**Sn**	**19 27 51.8**	**-1.9**
TEIG	**Tepich**	**5.99**	**42**	P		Pn	19 26 58.9	-0.8
	3.6nm,0.3s,baz=148,slow=1.0,SNR=18							
TLIG	**Tlapa**	**6.01**	**288**	*e*P		**Pn**	**19 27 02.7**	**+2.5**
TLIG				*e*S		**Sn**	**19 28 10.2**	**+1.4**
JTS	**JuntasAbangare**	**9.22**	**126**	P		**Pn**	**19 27 43.7**	**+1.2**
	4.4nm,0.3s,baz=325,slow=15,SNR=5.4							
TXAR	**Lajitas Array**	**16.90**	**325**	P		**Pn**	**19 29 21.2**	**+1.6**
	0.3nm,0.3s,baz=151,slow=12,SNR=37							
TKL	**Tuckaleechee C**	**21.27**	**20**	P		**P**	**19 30 04.7**	**-1.1**
	3.8nm,0.9s,baz=230,slow=7.9,SNR=3.1							
ANMO	**Albuquerque**	**22.77**	**329**	P		**P**	**19 30 21.9**	**+1.1**
	1.7nm,0.8s,baz=132,slow=14,SNR=3.7							
NVAR	**Mina Array Bea**	**31.93**	**320**	PcP		**PcP**	**19 34 28.3**	**-0.5**
	0.5nm,0.6s,baz=198,slow=1.7,SNR=3.2							
LPAZ	**La Paz**	**39.98**	**142**	P		**P**	**19 32 52.0**	**+0.3**
	1.9nm,0.6s,baz=323,slow=6.2,SNR=9.4							
YKA	**Yellowknife Ar**	**49.15**	**347**	P		**P**	**19 34 01.8**	**-1.0**
	3.7nm,0.5s,baz=150,slow=7.3,SNR=47							
INK	**Inuvik**	**58.56**	**343**	P		**P**	**19 35 10.3**	**-0.7**
	1.6nm,0.5s,baz=127,slow=5.6,SNR=15							
ILAR	**Eielson Array**	**60.97**	**337**	P		**P**	**19 35 27.0**	**-0.5**
	0.6nm,0.8s,baz=106,slow=6.4,SNR=8.5							
ARCES	**ARCESS Array B**	**84.59**	**18**	P		**P**	**19 37 44.5**	**-2.0**
	1.6nm,0.8s,baz=275,slow=4.4,SNR=2.6							
WRA	**Warramunga Arr**	**135.28**	**257**	PKP		**PKPdf**	**19 44 32.6**	**-0.3**
	0.6nm,1.0s,baz=88,slow=3.3,SNR=9.6							

IDC 14 19:58:34.2±3.1, 3°.45S×151°.27E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/17, mbtmp3.5/2, MS3.1/1, Ms1 3.0/1, ms1mx2.7/10, Error ellipse: s-maj=132.0km s-min=42.7km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.27**	**224**	P		P	20 03 44.9	+1.2
	0.9nm,0.5s,baz=50,slow=10,SNR=40							
ASAR	**Alice Springs**	**26.18**	**218**	P		P	20 04 10.1	-0.6
	0.2nm,0.4s,baz=53,slow=9.1,SNR=10							
H11S3	**WAKE ISLAND Hy**	**26.57**	**34**	T		T	20 31 39.7	
	baz=218							
H11S2	**WAKE ISLAND Hy**	**26.58**	**34**	T		T	20 31 39.5	
	baz=218,slow=75							
H11S1	**WAKE ISLAND Hy**	**26.59**	**34**	T		T	20 31 42.1	
	baz=218,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.67**	**33**	T		T	20 33 41.3	
	baz=163							
H11N3	**WAKE ISLAND Hy**	**27.68**	**33**	T		T	20 33 30.2	
	baz=163							
H11N2	**WAKE ISLAND Hy**	**27.69**	**33**	T		T	20 33 45.7	
	baz=163							
STKA	**Stephens Creek**	**29.70**	**197**	LR		LR	20 15 21.7	
	comp=Z,37nm,20.1s,baz=197,slow=34							
TORD	**Torodi Ar. Bea**	**148.43**	**290**	PKPbc		PKPbc	20 18 22.9	-1.1
	0.2nm,0.4s,baz=66,slow=1.9,SNR=6.5							

*IDC **14** 20:20:20.7±0.7, 39°.52N×52°.04E, h0km, mb3.7/19, mb1 3.9/23, mb1mx3.8/33, mbtmp3.7/23, ML0.8/1, MS3.0/4, Ms1 3.0/4, ms1mx2.5/44, Error ellipse: s-maj=18.1km s-min=9.9km az=179.0*
*THR **14** 20:20:21.6±1.1, 39°.50N×52°.03E, h15km, ML4.2*
*MOS **14** 20:20:23.2±0.9, 39°.62N×52°.07E, h27km, mb4.2/10, Error ellipse: s-maj=10.8km s-min=7.9km az=106.6*
*CSEM **14** 20:20:26.0±0.2, 39°.49N×52°.10E, h40km, mb3.9/13, Error ellipse: s-maj=5.8km s-min=3.7km az=4.0*
*AZER **14** 20:20:27.7±2.0, 39°.35N×51°.73E, h51km, Error ellipse: s-maj=3.2km s-min=2.5km az=294.0*
*NNC **14** 20:20:33.7±3.1, 40°.06N×52°.61E, h44km±25km, mb3.9, Error ellipse: s-maj=26.2km s-min=19.0km az=65.0*
ISC 14 20:20:24.0±1.6, 39°.42N±0°.04×52°.04E±0°.04, h25km±12km, n140, σ1§48/168, mb3.8/22, MS2.5/3, 32C-26D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.75**	**305**	⇑P		**Pb**	**20 20 56.0**	**+0.5**
GALA				⇓S		**Sn**	**20 21 15.8**	**+1.4**
GALA	**Gala**	**1.75**	**305**	P		**Pb**	**20 20 56.0**	**+0.5**
GALA				S		**Sn**	**20 21 15.8**	**+1.4**
GOBA	**Gobu**	**2.03**	**300**	⇑P		**Pn**	**20 20 59.0**	**+2.4**
GOBA				⇓S		**Sn**	**20 21 21.1**	**0.0**
GOBA	**Gobu**	**2.03**	**300**	P		**Pn**	**20 20 59.0**	**+2.4**
GOBA				S		**Sn**	**20 21 21.1**	**0.0**
ALIB	**Äli-Bayra**	**2.40**	**284**	⇑P		**Pb**	**20 21 05.0**	**-1.5**
ALIB				⇓S		**Sn**	**20 21 31.3**	**+0.9**
ALIB	**Äli-Bayra**	**2.40**	**284**	P		**Pb**	**20 21 05.1**	**-1.5**
ALIB				S		**Sn**	**20 21 31.3**	**+0.9**
LKRN	**Lenkeran, Azer**	**2.64**	**255**	⇑P		**Pn**	**20 21 05.8**	**+0.8**
LKRN				⇓S		**Sn**	**20 21 34.5**	**-1.7**
LKRN	**Lenkeran, Azer**	**2.64**	**255**	P		**Pn**	**20 21 05.8**	**+0.8**
ATGJ	**Altiaghaj**	**2.78**	**302**	⇓P		**Pn**	**20 21 09.2**	**+2.2**
ATGJ				⇓S		**Sn**	**20 21 42.2**	**+2.3**
ATGJ	**Altiaghaj**	**2.78**	**302**	P		**Pn**	**20 21 09.2**	**+2.2**
ATGJ				S		**Sn**	**20 21 42.2**	**+2.3**
GLBA	**Clilabad**	**2.84**	**268**	P		**Pn**	**20 21 09.2**	**+1.5**
	SNR=17							
GLBA				⇑S		**Sn**	**20 21 40.4**	**-0.7**
GLBA	**Clilabad**	**2.84**	**268**	P		**Pn**	**20 21 09.2**	**+1.5**
	SNR=17							
GLBA				S		**Sn**	**20 21 40.4**	**-0.7**
SIZA	**Siyzn**	**2.92**	**305**	⇑Pn		**Pn**	**20 21 11.2**	**+2.3**
SIZA				⇓S		**Sn**	**20 21 44.2**	**+1.0**
SIZA	**Siyzn**	**2.92**	**305**	Pn		**Pn**	**20 21 11.2**	**+2.3**
SIZA				S		**Sn**	**20 21 44.2**	**+1.0**
PQL	**Pirkuli**	**2.98**	**298**	⇑Pn		**Pn**	**20 21 11.9**	**+2.1**
	SNR=11							
PQL				⇑S		**Sn**	**20 21 46.6**	**+1.8**
PQL	**Pirkuli**	**2.98**	**298**	Pn		**Pn**	**20 21 11.9**	**+2.1**
	SNR=11							
PQL				S		**Sn**	**20 21 46.6**	**+1.8**
LRK	**Lerik**	**2.99**	**256**	⇑P		**Pn**	**20 21 10.4**	**+0.5**
LRK				⇓S		**Sn**	**20 21 42.9**	**-2.2**
LRK	**Lerik**	**2.99**	**256**	P		**Pn**	**20 21 10.4**	**+0.5**
KDMR	**Kurdemir**	**3.12**	**289**	⇑Pn		**Pn**	**20 21 13.5**	**+1.9**
KDMR				⇑S		**Sn**	**20 21 48.7**	**+0.7**
KDMR	**Kurdemir**	**3.12**	**289**	Pn		**Pn**	**20 21 13.5**	**+1.9**
KDMR				S		**Sn**	**20 21 48.7**	**+0.7**
IML	**Ismayilli**	**3.26**	**296**	⇓Pn		**Pn**	**20 21 15.0**	**+1.4**
	SNR=19							
IML				⇓S		**Sn**	**20 21 52.4**	**+0.7**
IML	**Ismayilli**	**3.26**	**296**	Pn		**Pn**	**20 21 15.0**	**+1.4**
	SNR=19							
IML				S		**Sn**	**20 21 52.4**	**+0.7**
GRMI	**Germi**	**3.29**	**261**	*e*Pn		**Pn**	**20 21 15.0**	**+1.0**
GRMI	**Germi**	**3.29**	**261**	*e*Pn		**Pn**	**20 21 15.0**	**+1.0**
QUBA	**Quba, Azerbaij**	**3.33**	**307**	⇑Pn		**Pn**	**20 21 16.2**	**+1.7**
QUBA				⇓S		**Sn**	**20 21 54.8**	**+1.5**
QUBA	**Quba, Azerbaij**	**3.33**	**307**	Pn		**Pn**	**20 21 16.2**	**+1.7**
QUBA				S		**Sn**	**20 21 54.8**	**+1.5**
CHTH	**Charan**	**3.58**	**192**	*e*Pn		**Pn**	**20 21 19.9**	**+1.7**
CHTH	**Charan**	**3.58**	**192**	*e*Pn		**Pn**	**20 21 19.9**	**+1.7**
MRVT	**Maraveh tapeh**	**3.63**	**118**	*e*Pn		**Pn**	**20 21 19.6**	**+0.9**
MRVT				AML		AML	20 22 04.0	
	comp=E,248nm,0.1s							
MRVT	**Maraveh tapeh**	**3.63**	**118**	*e*Pn		**Pn**	**20 21 19.6**	**+0.9**
DAMV	**Damavand**	**3.79**	**181**	*e*Pn		**Pn**	**20 21 23.0**	**+2.0**
DAMV				AML		AML	20 22 09.5	
	comp=E,496nm,0.4s							
DAMV				AML		AML	20 22 10.1	
	comp=N,464nm,0.3s							
DAMV	**Damavand**	**3.79**	**181**	*e*Pn		**Pn**	**20 21 23.0**	**+2.0**
ZNJK	**Zanjan**	**3.82**	**225**	*e*Pn		**Pn**	**20 21 22.0**	**+0.5**
ZNJK				AML		AML	20 22 06.0	
	comp=N,352nm,0.5s							
ZNJK				AML		AML	20 22 07.1	
	comp=E,426nm,0.6s							
ZNJK	**Zanjan**	**3.82**	**225**	*e*Pn		**Pn**	**20 21 22.0**	**+0.5**
BRDA	**Brd**	**3.84**	**284**	⇑Pn		**Pn**	**20 21 23.6**	**+2.1**
BRDA				⇓S		**Sn**	**20 22 05.0**	**-0.7**
BRDA	**Brd**	**3.84**	**284**	Pn		**Pn**	**20 21 23.6**	**+2.1**
BRDA				S		**Sn**	**20 22 05.0**	**-0.7**
SEKA	**Sheki**	**4.11**	**297**	⇑Pn		**Pn**	**20 21 26.3**	**+1.0**
SEKA				⇑S		**Sn**	**20 22 12.8**	**+0.2**
SEKA	**Sheki**	**4.11**	**297**	Pn		**Pn**	**20 21 26.3**	**+1.0**
SEKA				S		**Sn**	**20 22 12.8**	**+0.2**
GANJ	**Ganja**	**4.56**	**287**	⇓Pn		**Pn**	**20 21 31.9**	**+0.5**
GANJ				⇓S		**Sn**	**20 22 19.7**	**-3.9**
GANJ	**Ganja**	**4.56**	**287**	Pn		**Pn**	**20 21 31.9**	**+0.5**
SHRO	**Shahrood**	**4.65**	**136**	*e*Pn		**Pn**	**20 21 34.6**	**+1.8**
SHRO	**Shahrood**	**4.65**	**136**	*e*Pn		**Pn**	**20 21 34.6**	**+1.8**
ZKTA	**Zakatala**	**4.69**	**300**	⇑Pn		**Pn**	**20 21 34.3**	**+1.2**
	SNR=11							
ZKTA				⇑S		**Sn**	**20 22 26.3**	**-0.5**
NAX	**Nakhchivan**	**5.09**	**269**	⇑Pn		**Pn**	**20 21 39.2**	**+0.5**
NAX				⇓S		**Sn**	**20 22 34.9**	**-1.8**
NAX	**Nakhchivan**	**5.09**	**269**	Pn		**Pn**	**20 21 39.2**	**+0.5**
GNI	**Garni**	**5.67**	**280**	*e*P		**Pn**	**20 21 49.6**	**+2.8**
GNI	**Garni**	**5.67**	**280**	Pn		**Pn**	**20 21 49.5**	**+2.6**
	comp=E,0.6nm,0.3s,baz=315,slow=20,SNR=4.9							
GNI				Sn		**Sn**	**20 22 54.9**	**+3.7**
	comp=E,1.0nm,0.3s,baz=360,slow=18,SNR=3.0							
VLKR	**Vladikavkaz**	**6.63**	**305**	⇓*e*P		**Pn**	**20 22 00.5**	**+0.7**
VLKR	**Vladikavkaz**	**6.63**	**305**	*e*P		**Pn**	**20 22 00.5**	**+0.7**
ZEI	**Tsey**	**7.01**	**301**	*e*P		**Pn**	**20 22 07.3**	**+2.1**
ZEI	**Tsey**	**7.01**	**301**	*e*P		**Pn**	**20 22 07.3**	**+2.1**
KBZ	**Khabaz**	**8.09**	**305**	P		**Pn**	**20 22 19.8**	**-0.1**
KBZ							20 23 44.8	
KBZ	**Khabaz**	**8.09**	**305**	P		**Pn**	**20 22 19.8**	**-0.1**
KBZ	**Khabaz**	**8.09**	**305**	Pn		**Pn**	**20 22 19.8**	**-0.1**
	comp=E,0.1nm,0.3s,baz=112,slow=16,SNR=5.1							
KBZ				Sn	

comp=Z,0.8nm,0.6s,baz=252,slow=11,SNR=10
KURBB **Kurchatov Arra** 21.70 50 ⇓P P 20 25 12.7 -0.2
comp=Z,3.4nm,0.9s
KURK **Kurchatov** 21.78 50 P P 20 25 12.9 -0.9
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK **Kurchatov** 21.78 50 P P 20 25 12.9 -0.9
comp=Z,1.0nm,0.6s
IDI **Anoyia** 21.94 268 P P 20 25 17.2 +1.5
comp=Z,2.3nm,0.4s,baz=308,slow=19,SNR=3.7
VTS **Vitosha** 21.94 288 ⇓*i*P P 20 25 19.0 +3.2
MK31 **Makanchi Array** 23.18 62 P P 20 25 29.0 +0.3
comp=Z,5.1nm,1.1s,SNR=12
MK31 **Makanchi Array** 23.18 62 ⇓P P 20 25 29.0 +0.3
comp=Z,5.1nm,1.1s,baz=252,slow=8.5,SNR=12
MKAR **Makanchi Array** 23.18 62*ce*P P 20 25 30.2 +1.5
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR **Makanchi Array** 23.18 62 *e*P P 20 25 30.2 +1.5
comp=Z,3.0nm,0.9s
MKAR **Makanchi Array** 23.18 62 P P 20 25 29.0 +0.3
comp=Z,3.0nm,0.9s,baz=250,slow=8.9,SNR=12
ZALV **Zalesovo Beam** 26.48 46 P P 20 25 58.4 -0.6
ZALV **Zalesovo Beam** 26.48 46 P P 20 25 58.4 -0.6
ZALV **Zalesovo Beam** 26.48 46 P P 20 25 58.4 -0.6
comp=Z,0.4nm,0.4s,baz=256,slow=12,SNR=3.0
JOF **Joensuu** 26.63 339 *e*P P 20 25 58.6 -1.7
JOF pmax pmax
comp=Z,3.0nm,0.3s
JOF **Joensuu** 26.63 339 *ep* P 20 25 58.6 -1.7
comp=Z,2.8nm,0.3s
JOF **Joensuu** 26.63 339 *e*P P 20 25 58.6 -1.7
comp=Z,3.0nm,0.3s
VRAC **Vranov** 26.98 303 LR LR 20 39 12.6
comp=Z,15nm,28.6s,baz=150,slow=42
FINES **FINESS Array B** 27.21 333 P P 20 26 05.0 -0.5
comp=Z,2.0nm,0.5s
FINES **FINESS Array B** 27.21 333 P P 20 26 05.0 -0.5
comp=Z,1.6nm,0.5s,baz=142,slow=9.7,SNR=14
NB2 **NORSAR Subarra** 33.09 324 P P 20 26 57.0 -0.6
comp=Z,0.8nm,0.6s,baz=116,slow=8.6
NOA **NORSAR Array B** 33.09 324 P P 20 26 56.8 -0.8
comp=Z,15nm,28.6s
NOA **NORSAR Array B** 33.09 324 P P 20 26 56.8 -0.8
comp=Z,1.1nm,0.6s,baz=117,slow=8.6,SNR=4.9
NOA LR LR 20 41 18.4
comp=Z,14nm,28.6s,baz=250,slow=38
ARCES **ARCESS Array B** 33.30 343 P P 20 26 59.1 -0.2
comp=Z,1.0nm,0.8s
ARCES **ARCESS Array B** 33.30 343 P P 20 26 59.1 -0.2
comp=Z,1.1nm,0.8s,baz=147,slow=12,SNR=2.4
SONM **Songino Array** 39.51 59 P P 20 27 52.6 0.0
SONM **Songino Array** 39.51 59 PcP PcP 20 29 59.9 0.0
SONM **Songino Array** 39.51 59 P P 20 27 52.6 0.0
comp=Z,0.3nm,0.6s,baz=265,slow=9.9,SNR=3.2
SONM PcP PcP 20 29 59.9 0.0
comp=Z,0.3nm,0.6s,baz=249,slow=4.0,SNR=2.2
ULN **Ulaanbaatar** 39.94 59 *e*P P 20 27 56.8 +0.5
comp=Z,4.0nm,1.7s
SPITS **Spitsbergen Ar** 41.53 350 P P 20 28 09.1 +0.3
comp=Z,7.0nm,1.0s
SPITS **Spitsbergen Ar** 41.53 350 P P 20 28 09.1 +0.3
comp=Z,6.8nm,1.0s,baz=140,slow=9.4,SNR=6.0
ESDC **Sonseca Array** 42.57 289 P P 20 28 17.8 0.0
comp=Z,0.1nm,0.3s,baz=63,slow=8.5,SNR=4.9
KMBO **Kilima Mbogo** 42.57 202 P P 20 28 18.5 +0.3
comp=Z,1.0nm,0.4s
KMBO **Kilima Mbogo** 42.57 202 P P 20 28 18.5 +0.3
comp=Z,0.5nm,0.3s,baz=52,slow=19,SNR=2.6
CMAR **Chiang Mai Arr** 45.46 104 *e*P P 20 28 42.5 +1.3
CMAR **Chiang Mai Arr** 45.46 104 P P 20 28 42.0 +0.8
comp=Z,0.4nm,0.3s,baz=339,slow=9.7,SNR=4.6
TORD **Torodi Ar. Bea** 51.36 254 P P 20 29 26.5 -0.2
comp=Z,0.3nm,0.5s,baz=55,slow=6.8,SNR=4.7
USRK **Ussuriysk Arra** 57.54 57 P P 20 30 11.5 +0.2
comp=Z,1.2nm,0.6s,baz=282,slow=7.2,SNR=3.2
KSRS **Korea Array** 57.77 66 P P 20 30 13.4 +0.5
comp=Z,2.0nm,0.6s
KSRS **Korea Array** 57.77 66 P P 20 30 13.4 +0.5
comp=Z,1.8nm,0.6s,baz=294,slow=6.4,SNR=5.5
BOSA **Boshof** 72.14 205 P P 20 31 48.0 +1.5
comp=Z,4.0nm,1.0s
BOSA **Boshof** 72.14 205 P P 20 31 48.0 +1.5
comp=Z,4.3nm,1.0s,baz=93,slow=8.4,SNR=3.1
INK **Inuvik** 72.51 2 LR LR 21 11 16.6
comp=Z,15nm,28.6s,baz=18,slow=42
ILAR **Eielson Array** 75.08 8 P P 20 32 02.7 -0.6
ILAR **Eielson Array** 75.08 8 P P 20 32 02.7 -0.6
comp=Z,0.1nm,0.4s,baz=348,slow=5.3,SNR=2.9
YKA **Yellowknife Ar** 77.86 354 P P 20 32 18.7 -0.3
YKA **Yellowknife Ar** 77.86 354 P P 20 32 18.7 -0.3
comp=Z,0.1nm,0.3s,baz=9.4,slow=5.5,SNR=5.2

*ISCJB **14** 20:30:54.9±0.3, 6.°10N±0.°02×126.°02E±0.°04, h81km±3km, mb4.4/44, Error ellipse: s-maj=7.0km s-min=3.2km az=168.7*
*IDC **14** 20:30:55.3±2.0, 6.°10N×125.°89E, h70km±17km, mb4.0/20, mb1 4.1/20, mb1mx4.0/29, mbtmp4.0/20, MS3.1/4, Ms1 3.2/4, ms1mx2.7/27, Error ellipse: s-maj=24.6km s-min=9.9km az=78.0*
*AUST **14** 20:30:55.3, 6.°00N×126.°01E, h60km*
*MAN **14** 20:30:55, 6.°19N×126.°11E, h67km, mb5.0, ML3.9, MS4.0*
*NEIC **14** 20:30:55.9±1.1, 6.°08N×126.°00E, h76km±10km, mb4.8/19, Error ellipse: s-maj=11.4km s-min=6.4km az=69.0*
*DJA **14** 20:31:00.2±0.9, 6.°N±6.°×12.°6E±.°, h90km±18km, M5.0/7, mb5.1/6, mB5.2/6, MLv5.2/7, Mw(mB)4.6/6*
ISC 14 20:30:55.9±0.7, 6.°09N±0.°03×125.°94E±0.°05, h77km±6km, n139, σ1§24/154, mb4.5/43, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.90**	**20**	*e*P	**Pn**	**20 31 12.6**	**-1.1**
MATI				*e*S	**Sn**	**20 31 24.6**	**-2.2**
GSPH	**General Santos**	**0.98**	**270**	⇓*i*P	**Pn**	**20 31 13.7**	**-1.1**
GSPH				*i* S	**Sn**	**20 31 27.7**	**-1.0**
DAV	**Davao City (W)**	**1.03**	**340**	*e*P	**Pn**	**20 31 15.6**	**+0.4**
DMPH	**Davao City--Mi**	**1.07**	**336**	⇑*i*P	**Pn**	**20 31 16.2**	**+0.5**
DMPH				*e*S	**Sn**	**20 31 31.2**	**+0.8**
KCP	**Kidapawan**	**1.24**	**317**	⇑*i*P	**Pn**	**20 31 18.4**	**+0.5**
KCP				*i* S	**Sn**	**20 31 35.1**	**+0.9**
BUKP	**Musuan**	**1.98**	**334**	*e*P	**Pn**	**20 31 28.6**	**+1.1**
CTBH	**Cotabato--PC H**	**2.02**	**304**	*e*P	**Pn**	**20 31 28.8**	**+0.7**
SGSI	**Sangihe**	**2.43**	**190**	P	**Pn**	**20 31 34.5**	**+1.0**
SGSI				S	**Sn**	**20 32 02.1**	**-0.2**
CGP	**Cagayan de Oro**	**2.65**	**332**	*e*P	**Pn**	**20 31 36.8**	**+0.3**
CGP				*e*S	**Sn**	**20 32 09.7**	**+2.0**
BUTP	**Butuan**	**2.87**	**354**	*e*P	**Pn**	**20 31 41.4**	**+1.8**
PAGZ	**Pagadian**	**3.08**	**305**	*e*P	**Pn**	**20 31 44.2**	**+1.9**
SCPH	**Surigao**	**3.69**	**353**	⇓*e*P	**Pn**	**20 31 50.3**	**-0.3**
IPIL	**Ipil**	**3.74**	**297**	*e*P	**Pn**	**20 31 53.0**	**+1.7**
MSLP	**Maasin**	**4.15**	**345**	*e*P	**Pn**	**20 31 57.3**	**+0.3**
SNPH	**Sibulan**	**4.19**	**320**	*e*P	Pn	20 31 45.6	-12
TNTI	**Ternate**	**5.48**	**165**	P	**Pn**	**20 32 15.4**	**+0.4**
	170nm,0.8s,3µm0.7nm						
TNTI				S	**Sn**	**20 33 18.6**	**+1.9**
	170nm,0.8s,3µm0.7nm						
GUIM	**Jordan**	**5.59**	**324**	*e*P	**Pn**	**20 32 18.9**	**+2.3**
KMSI	**Cibinong**	**5.82**	**200**	P	**Pn**	**20 32 21.2**	**+1.5**
	226nm,0.8s,3µm1.9nm						
KMSI				S	**Sn**	**20 33 23.2**	**-1.9**
	226nm,0.8s,3µm1.9nm						
GTOI	**Gorontalo**	**6.16**	**208**	P	**Pn**	**20 32 23.9**	**-0.5**
	306nm,0.6s,5µm1.7nm						
RCP	**Roxas**	**6.28**	**330**	⇑*e*P	**Pn**	**20 32 28.2**	**+2.2**
MRSI	**Marisa**	**6.86**	**216**	P	**Pn**	**20 32 35.4**	**+1.5**
	104nm,0.6s,2µm3.0nm						
MRSI				S	**Sn**	**20 33 48.2**	**-2.4**
	104nm,0.6s,2µm3.0nm						
LBMI	**Labuha**	**6.87**	**167**	P	**Pn**	**20 32 34.8**	**+0.7**
	75nm,0.7s,1µm0.3nm						
LBMI				S	**Sn**	**20 33 52.5**	**+1.7**
	75nm,0.7s,1µm0.3nm						
TOLI	**Toli-Toli**	**7.12**	**226**	P	**Pn**	**20 32 35.6**	**-2.0**
TOLI				S	**Sn**	**20 33 51.8**	**-5.3**
LUWI	**Luwuk**	**7.76**	**204**	P	Pn	20 32 50.1	+3.8
LUWI				S	**Sn**	**20 34 15.1**	**+2.4**
LUWI	**Luwuk**	**7.76**	**204**	P	Pn	20 32 49.6	+3.3
	baz=7.7,SNR=31						
PALU	**Palau**	**8.57**	**81**	P	**Pn**	**20 32 54.4**	**-2.9**
	baz=8.5,SNR=8.4						
FAKI	**Fak Fak**	**10.95**	**145**	P	**Pn**	**20 33 30.7**	**+0.9**
	baz=11,SNR=6.8						
SBUM	**Sibu**	**14.15**	**256**	P	**P**	**20 34 17.4**	**-0.6**
MTN	**Manton Dam**	**19.51**	**165**	P	**P**	**20 35 17.4**	**+0.2**
	baz=20,SNR=16						
KDU	**Kakadu**	**19.76**	**161**	P	**Pn**	**20 35 21.3**	**-0.7**
	baz=20,SNR=9.4						
KNRA	**Kununurra**	**21.81**	**173**	P	**P**	**20 35 42.1**	**+0.2**
	baz=22,SNR=14						
FITZ	**Fitzroy Crossi**	**24.04**	**181**	*e*P	**P**	**20 36 04.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.04**	**181**	P	**P**	**20 36 05.1**	**+1.0**
	4.8nm,0.5s,baz=0.2,slow=7.9,SNR=18						
FITZ	**Fitzroy Crossi**	**24.04**	**181**	P	**P**	**20 36 05.3**	**+1.3**
	baz=24,SNR=12						
MDSI	**Maura Dua**	**24.14**	**245**	P	P	20 36 10.1	+5.1
LWLI	**Liwa**	**24.48**	**244**	P	P	20 36 29.5	+21
COEN	**Coen**	**26.26**	**139**	P	**P**	**20 36 24.2**	**-0.1**
	baz=26,SNR=9.6						
PSI	**Prapat**	**27.13**	**264**	LR	LR	20 49 34.8	
	comp=Z,50nm,18.3s,baz=22,slow=41						
WRAB	**Tennant Creek**	**27.16**	**162**	*e*P	**P**	**20 36 31.7**	**-0.5**
	39nm,1.5s						
WRA	**Warramunga Arr**	**27.16**	**162**	P	**P**	**20 36 31.7**	**-0.6**
WRA				PcP	**PcP**	**20 39 51.4**	**+0.1**
WRA				ScP	**ScP**	**20 43 25.0**	**0.0**
WRA	**Warramunga Arr**	**27.16**	**162**	P	**P**	**20 36 31.7**	**-0.6**
	0.7nm,0.3s,baz=335,slow=10,SNR=39						
WRA				PcP	**PcP**	**20 39 51.4**	**+0.1**
	0.4nm,0.4s,baz=331,slow=2.2,SNR=4.9						
WRA				ScP	**ScP**	**20 43 25.0**	**0.0**
	0.7nm,0.7s,baz=348,slow=3.4,SNR=5.9						
JNU	**Nakatsue**	**27.28**	**9**	P	**P**	**20 36 33.9**	**+0.6**
JNU	**Nakatsue**	**27.28**	**9**	P	**P**	**20 36 33.9**	**+0.6**
	4.4nm,0.7s,baz=95,slow=12,SNR=3.7						
CMAR	**Chiang Mai Arr**	**29.05**	**297**	P	**P**	**20 36 49.3**	**+0.1**
CMAR				PcP	**PcP**	**20 39 56.8**	**+0.8**
CMAR				ScP	**ScP**	**20 43 30.9**	**0.0**
CMAR	**Chiang Mai Arr**	**29.05**	**297**	P	**P**	**20 36 49.3**	**+0.1**
	0.5nm,0.7s,baz=124,slow=8.0,SNR=6.1						
CMAR				PcP	**PcP**	**20 39 56.8**	**+0.8**
	0.4nm,0.6s,baz=171,slow=0.8,SNR=5.9						
CMAR				ScP	**ScP**	**20 43 30.9**	**0.0**
	0.5nm,0.9s,baz=14,slow=0.3,SNR=5.6						
CMAR				LR	LR	20 48 52.0	
	comp=Z,39nm,18.3s,baz=175,slow=37						
QIS	**Mount Isa**	**29.70**	**153**	P	**P**	**20 36 55.1**	**+0.2**
	baz=30,SNR=14						
AS31	**Alice Springs**	**30.58**	**166**	*e*P	**P**	**20 37 01.4**	**-1.3**
ASAR	**Alice Springs**	**30.59**	**166**	P	**P**	**20 37 02.2**	**-0.5**
ASAR				PcP	**PcP**	**20 40 00.1**	**+0.2**
ASAR				ScP	**ScP**	**20 43 36.2**	**+0.4**
ASAR	**Alice Springs**	**30.59**	**166**	P	**P**	**20 37 02.2**	**-0.5**
	1.2nm,0.5s,baz=349,slow=7.2,SNR=31						
ASAR				PcP	**PcP**	**20 40 00.1**	**+0.2**
	1.5nm,0.5s,baz=351,slow=2.1,SNR=10.0						
ASAR				ScP	**ScP**	**20 43 36.2**	**+0.4**
	0.9nm,0.9s,baz=1.7,slow=2.6,SNR=5.1						
WRKA	**Warakurna**	**31.03**	**176**	P	**P**	**20 37 07.8**	**+1.2**
	baz=31,SNR=12						
KSAR	**Wonju Array Be**	**31.25**	**3**	P	**P**	**20 37 07.9**	**-0.5**
KSRS	**Korea Array**	**31.27**	**3**	P	**P**	**20 37 07.9**	**-0.6**
	2.2nm,0.5s,baz=189,slow=9.9,SNR=9.0						
XAN	**Xi'an**	**31.97**	**333**	P	P	20 37 18.9	+4.1
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MEEK	**Meekatharra**	**33.30**	**192**	P	**P**	**20 37 26.4**	**-0.1**
	baz=33,SNR=6.5						
MORW	**Morawa**	**36.23**	**195**	P	**P**	**20 37 51.9**	**+0.2**
	baz=36,SNR=4.5						
HHC	**Hu-ho-hao-te**	**36.92**	**342**	*e*P	P	20 38 01.6	+4.0
HHC				S	S	20 43 43.3	+6.2
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,6.1s						
KMBL	**Kambalda**	**37.45**	**186**	P	**P**	**20 38 02.9**	**+0.8**
	baz=38,SNR=7.3						
BLDU	**Ballidu**	**37.56**	**193**	P	**P**	**20 38 02.9**	**0.0**
	baz=38,SNR=7.1						
KLBR	**Kellerberrin**	**38.28**	**191**	P	**P**	**20 38 09.2**	**+0.1**
	baz=38,SNR=5.9						
USRK	**Ussuriysk Arra**	**38.32**	**7**	P	**P**	**20 38 10.2**	**+1.0**
	4.2nm,0.6s,baz=183,slow=7.8,SNR=13						
NWAO	**Narrogin (SRO)**	**39.68**	**191**	P	**P**	**20 38 20.1**	**-0.6**
NWAO	**Narrogin (SRO)**	**39.68**	**191**	P	**P**	**20 38 20.1**	**-0.6**
	6.6nm,0.9s,baz=214,slow=14,SNR=6.4						
EIDS	**Eidsvold**	**39.70**	**143**	P	**P**	**20 38 21.0**	**+0.1**
	baz=40,SNR=3.5						
BBOO	**Buckleboo**	**39.87**	**167**	*e*P	**P**	**20 38 22.4**	**+0.2**
	150nm,0.4s						
BBOO	**Buckleboo**	**39.87**	**167**	P	**P**	**20 38 22.7**	**+0.4**
	baz=40,SNR=38						
STKA	**Stephens Creek**	**40.60**	**159**	*e*P	**P**	**20 38 28.5**	**+0.2**
	1.5nm,0.7s						
STKA				PcP	**PcP**	**20 40 29.7**	**+0.6**
STKA	**Stephens Creek**	**40.60**	**159**	P	**P**	**20 38 28.3**	**0.0**
	8.0nm,0.7s,baz=341,slow=10.0,SNR=20						
STKA				PcP	**PcP**	**20 40 29.7**	**+0.6**
	1.3nm,0.5s,baz=343,slow=8.3,SNR=3.1						
STKA				LR	LR	20 56 49.2	
	comp=Z,16nm,20.1s,baz=25,slow=38						
STKA	**Stephens Creek**	**40.60**	**159**	P	**P**	**20 38 28.8**	**+0.4**
	baz=41,SNR=16						
GTA	**Gaotai**	**40.68**	**328**	*e*P	P	20 38 35.8	+6.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HTT	**Hallett**	**41.19**	**163**	P	**P**	**20 38 34.3**	**+1.1**
	baz=41,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**41.57**	**69**	T	T	21 22 44.3	
	baz=259,slow=64,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**41.58**	**69**	T	T	21 22 48.2	
	baz=259,slow=64,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**41.58**	**69**	T	T	21 22 48.2	
	baz=259,slow=64,SNR=5.5						
TAPN	**Taplejung**	**42.01**	**305**	*e*P	**P**	**20 38 41.1**	**+0.7**
	4.6nm,0.4s						
TAPN	**Taplejung**	**42.01**	**305**	*e*P	**P**	**20 38 41.1**	**+0.7**
	4.6nm,0.4s						
ODAN	**Odare**	**42.09**	**304**	*e*P	**P**	**20 38 43.2**	**+2.3**
	8.1nm,0.6s						
ODAN	**Odare**	**42.09**	**304**	*e*P	**P**	**20 38 43.2**	**+2.3**
	8.1nm,0.6s						
RAMN	**Ramite**	**42.77**	**304**	*e*P	**P**	**20 38 48.9**	**+2.4**
	8.8nm,0.7s						
RAMN	**Ramite**	**42.77**	**304**	*e*P	**P**	**20 38 48.9**	**+2.4**
	8.8nm,0.7s						
JIRN	**Jiri**	**43.38**	**304**	*e*P	**P**	**20 38 52.6**	**+1.1**
	6.8nm,0.5s						
JIRN	**Jiri**	**43.38**	**304**	*e*P	**P**	**20 38 52.6**	**+1.1**
	6.8nm,0.5s						
GUN	**Gumba**	**43.72**	**305**	*e*P	**P**	**20 38 54.7**	**+0.4**
	9.2nm,0.5s						
GUN	**Gumba**	**43.72**	**305**	*e*P	**P**	**20 38 54.7**	**+0.4**
	9.2nm,0.5s						
PKI	**Pulchoki**	**43.99**	**304**	*e*P	**P**	**20 38 57.4**	**+1.0**
	2.5nm,0.4s						
PKI	**Pulchoki**	**43.99**	**304**	*e*P	**P**	**20 38 57.4**	**+1.0**
PKIN	**Phulchoki**	**44.00**	**304**	*e*P	**P**	**20 38 57.4**	**+1.0**
DMN	**Daman**	**44.25**	**304**	*e*P	**P**	**20 38 59.8**	**+1.4**
DMN	**Daman**	**44.25**	**304**	*e*P	**P**	**20 38 59.8**	**+1.4**
ULN	**Ulaanbaatar**	**44.64**	**342**	*e*P	**P**	**20 39 01.0**	**-0.1**
	4.3nm,1.1s						
GKN	**Gorkha**	**44.78**	**304**	*e*P	**P**	**20 39 03.3**	**+0.8**
GKN	**Gorkha**	**44.78**	**304**	*e*P	**P**	**20 39 03.3**	**+0.8**
SONM	**Songino Array**	**44.82**	**341**	P	**P**	**20 39 02.3**	**-0.2**
SONM				PcP	**PcP**	**20 40 43.6**	**+0.4**
SONM	**Songino Array**	**44.82**	**341**	P	**P**	**20 39 02.3**	**-0.2**
	0.4nm,0.4s,baz=156,slow=9.1,SNR=8.6						
SONM				PcP	**PcP**	**20 40 43.6**	**+0.4**
	1.3nm,0.7s,baz=164,slow=3.0,SNR=6.7						
SONM				LR	LR	20 59 07.0	
	comp=Z,30nm,19.4s,baz=291,slow=38						
KOLN	**Koldanda**	**45.55**	**303**	*e*P	**P**	**20 39 09.7**	**+1.0**
	5.2nm,0.4s						
KOLN	**Koldanda**	**45.55**	**303**	*e*P	**P**	**20 39 09.7**	**+1.0**
	5.7nm,0.4s						
DANN	**Dangsing**	**45.63**	**304**	*e*P	**P**	**20 39 09.9**	**+0.5**
	11nm,0.5s						
DANN	**Dangsing**	**45.63**	**304**	*e*P	**P**	**20 39 09.9**	**+0.5**
	11nm,0.5s						
PYUN	**Piuthan**	**46.17**	**303**	*e*P	**P**	**20 39 14.6**	**+1.0**
	6.8nm,0.5s						
PYUN	**Piuthan**	**46.17**	**303**	*e*P	**P**	**20 39 14.6**	**+1.0**
	6.8nm,0.5s						
PETK	**Petropavlovsk-**	**53.57**	**23**	P	**P**	**20 40 07.0**	**-2.0**
PETK	**Petropavlovsk-**	**53.57**	**23**	P	**P**	**20 40 07.0**	**-2.0**
	3.7nm,0.7s,baz=193,slow=6.1,SNR=3.9						
MK31	**Makanchi Array**	**55.18**	**325**	*e*P	**P**	**20 40 20.5**	**-0.3**
MKAR	**Makanchi Array**	**55.18**	**325**	P	**P**	**20 40 19.6**	**-1.2**
MKAR				PcP	**PcP**	**20 41 20.4**	**-0.7**
MKAR				P	**P**	**20 40 19.6**	**-1.2**
	1.0nm,0.4s,baz=116,slow=7.4,SNR=37						
MKAR				PcP	**PcP**	**20 41 20.4**	**-0.7**
	0.6nm,0.5s,baz=154,slow=2.9,SNR=6.5						
YAK	**Yakutsk**	**55.89**	**2**	*e*P	**P**	**20 40 27.2**	**+1.7**
	12nm,0.3s						
ZALV	**Zalesovo Beam**	**58.14**	**333**	P	**P**	**20 40 42.7**	**+1.1**
ZALV	**Zalesovo Beam**	**58.14**	**333**	P	**P**	**20 40 42.7**	**+1.1**
	1.1nm,0.4s,baz=101,slow=5.7,SNR=7.0						
KURBB	**Kurchatov Arra**	**59.34**	**327**	P	**P**	**20 40 49.4**	**-0.6**
	1.4nm,0.7s,baz=118,slow=7.3,SNR=8.7						
KURK	**Kurchatov**	**59.34**	**327**	P	**P**	**20 40 49.4**	**-0.6**
BVAR	**Borovoye Array**	**64.92**	**327**	P	**P**	**20 41 27.0**	**-0.4**
BVAR	**Borovoye Array**	**64.92**	**327**	P	**P**	**20 41 27.0**	**-0.4**
	0.5nm,0.3s,baz=42,slow=6.7,SNR=6.3						
TIXI	**Tiksi**	**65.51**	**1**	*e*P	**P**	**20 41 30.7**	**-0.1**
	11nm,0.6s						
ABKAR	**Akbulak array**	**69.83**	**320**	*e*P	**P**	**20 41 57.5**	**-0.9**
	0.9nm,0.6s						
KDAK	**Kodiak Island**	**80.33**	**33**	*e*P	**P**	**20 42 59.1**	**+0.6**
	9.9nm,0.6s						
IM04	**Indian Mountai**	**80.50**	**24**	*e*P	**P**	**20 43 00.7**	**+1.2**
TRF	**Thorofare Moun**	**81.80**	**27**	*e*P	**P**	**20 43 06.7**	**+0.2**
	13nm,1.0s						
COLD	**Coldfoot**	**82.04**	**23**	*e*P	**P**	**20 43 10.4**	**+2.9**
	14nm,0.7s						
MCK	**McKinley**	**82.41**	**27**	*e*P	**P**	**20 43 10.0**	**+0.4**
	15nm,0.6s						
ILAR	**Eielson Array**	**83.32**	**26**	P	**P**	**20 43 14.1**	**-0.2**
ILAR	**Eielson Array**	**83.32**	**26**	P	**P**	**20 43 14.1**	**-0.2**
	4.9nm,0.6s,baz=246,slow=5.0,SNR=93						
MAW	**Mawson**	**85.69**	**200**	P	P	20 43 16.5	-9.5
	baz=86,SNR=11						
JOF	**Joensuu**	**86.73**	**333**	*ep*	**P**	**20 43 28.5**	**-2.8**
	0.9nm,0.3s						
ARCES	**ARCESS Array B**	**87.97**	**340**	P	**P**	**20 43 36.4**	**-0.7**
ARCES	**ARCESS Array B**	**87.97**	**340**	P	**P**	**20 43 36.4**	**-0.7**
	1.9nm,0.5s,baz=82,slow=6.4,SNR=25						
INK	**Inuvik**	**88.27**	**21**	*e*P	**P**	**20 43 38.7**	**+0.1**
	6.9nm,0.9s						
KAF	**Kangasniemi**	**89.15**	**332**	*ep*	**P**	**20 43 40.7**	**-2.1**
	0.8nm,0.4s						
FINES	**FINESS Array B**	**89.39**	**332**	P	**P**	**20 43 42.2**	**-1.7**
FINES	**FINESS Array B**	**89.39**	**332**	P	**P**	**20 43 42.2**	**-1.7**
	2.4nm,0.8s,baz=21,slow=2.7,SNR=6.3						
NOA	**NORSAR Array B**	**96.33**	**334**	P	**P**	**20 44 14.8**	**-1.3**
NOA	**NORSAR Array B**	**96.33**	**334**	P	**P**	**20 44 14.8**	**-1.3**
	0.4nm,0.7s,baz=66,slow=4.5,SNR=2.5						
YKA	**Yellowknife Ar**	**97.68**	**24**	P	Pdif	20 44 22.8	+0.7
YKA	**Yellowknife Ar**	**97.68**	**24**	P	Pdif	20 44 22.7	+0.7
	2.2nm,0.7s,baz=301,slow=4.7,SNR=29						
TXAR	**Lajitas Array**	**120.75**	**51**	PKP	**PKPdf**	**20 49 40.7**	**+0.7**
TXAR	**Lajitas Array**	**120.75**	**51**	PKP	**PKPdf**	**20 49 40.7**	**+0.7**
	0.2nm,0.6s,baz=242,slow=1.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**121.42**	**289**	PKP	**PKPdf**	**20 49 40.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**121.42**	**289**	PKP	**PKPdf**	**20 49 40.9**	**-0.7**
	0.6nm,0.3s,baz=74,slow=1.8,SNR=30						
USIN	**University of**	**126.16**	**33**	*e*PKP	**PKPdf**	**20 49 46.3**	**-3.7**
PLCA	**Paso Flores**	**142.48**	**159**	PKP	**PKPdf**	**20 50 21.5**	**+1.0**
PLCA	**Paso Flores**	**142.48**	**159**	PKP	**PKPdf**	**20 50 21.5**	**+1.0**
	1.3nm,0.7s,baz=244,slow=3.9,SNR=4.2						

IDC 14 20:47:36.4±1.8, 4.°43N×122.°58E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, Error ellipse: s-maj=215.7km s-min=25.5km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.84**	**155**	P	P	20 53 18.7	-0.1
	0.7nm,1.1s,baz=333,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**30.03**	**159**	P	P	20 53 47.5	+0.2
	0.2nm,0.4s,baz=342,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**54.67**	**327**	P	P	20 57 07.2	-0.1
	0.2nm,0.3s,baz=121,slow=7.7,SNR=8.8						

*ISCJB **14** 21:03:28.4±0.7, 11.°78S±0.°08×116.°92E±0.°07, h26km, mb3.6/3, Error ellipse: s-maj=14.1km s-min=5.3km az=35.9*
*DJA **14** 21:03:30.5±1.6, 12.°S±15.°×11.°7E±.°, h10km, M4.7/18, mb4.7/9, mB5.3/5, MLv4.8/18, Mw(mB)4.7/5*
*IDC **14** 21:03:30.4±1.2, 11.°01S×117.°07E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML4.0/2, Error ellipse: s-maj=51.0km s-min=19.8km az=60.0*
ISC 14 21:03:30.3±1.0, 11.°75S±0.°09×116.°97E±0.°08, h26km, n27, σ1§36/24, mb3.6/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**3.19**	**346**	P	**Pn**

s-maj=25.5km s-min=9.6km az=72.0

ISC 14 21:25:40.4±0.6, 6°06S±0.08×127°8E±0.2, h400km, n27, σ0.83/32, mb3.6/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.16**	**190**	P	**P**	**21 28 21.8**	**-0.1**
	1.0nm,0.3s,baz=39,slow=11,SNR=15						
WRA	**Warramunga Arr**	**15.18**	**156**	P	**P**	**21 28 55.6**	**+0.7**
	2.6nm,0.3s,baz=332,slow=11,SNR=311						
WRA				S	**S**	**21 31 34.7**	**-1.3**
	0.5nm,0.3s,baz=328,slow=20,SNR=11						
ASAR	**Alice Springs**	**18.46**	**162**	P	**P**	**21 29 30.3**	**+0.4**
	1.8nm,0.3s,baz=345,slow=12,SNR=143						
ASAR				S	**S**	**21 32 38.6**	**-0.5**
	0.3nm,0.3s,baz=342,slow=20,SNR=11						
STKA	**Stephens Creek**	**28.73**	**155**	P	**P**	**21 31 03.6**	**+0.5**
	0.6nm,0.3s,baz=333,slow=10,SNR=5.1						
CMAR	**Chiang Mai Arr**	**37.48**	**311**	P	**P**	**21 32 17.6**	**-0.4**
	0.7nm,0.6s,baz=140,slow=6.5,SNR=9.6						
CMAR				PcP	**PcP**	**21 34 27.9**	**+1.1**
	0.5nm,0.6s,baz=151,slow=3.1,SNR=5.5						
MJAR	**Matsushiro Arr**	**43.48**	**12**	P	**P**	**21 33 04.4**	**-1.9**
	0.9nm,0.5s,baz=188,slow=10.0,SNR=4.1						
USRK	**Ussuriysk Arra**	**50.17**	**4**	P	**P**	**21 33 57.9**	**+0.8**
	1.8nm,0.5s,baz=183,slow=6.4,SNR=5.8						
ODAN	**Odare**	**51.02**	**312**	*eP*	**P**	**21 34 03.4**	**-0.7**
	6.6nm,0.5s						
TAPN	**Taplejung**	**51.06**	**313**	*eP*	**P**	**21 34 03.8**	**-0.6**
	6.3nm,0.4s						
RAMN	**Ramite**	**51.65**	**311**	*eP*	**P**	**21 34 08.4**	**-0.3**
	16nm,0.6s						
JIRN	**Jiri**	**52.35**	**312**	*eP*	**P**	**21 34 13.2**	**-0.7**
	4.3nm,0.4s						
GUN	**Gumba**	**52.72**	**312**	*eP*	**P**	**21 34 15.9**	**-0.6**
	13nm,0.5s						
PKI	**Pulchoki**	**52.88**	**311**	*eP*	**P**	**21 34 16.8**	**-0.9**
	6.6nm,0.5s						
PKIN	**Phulchoki**	**52.89**	**311**	*eP*	**P**	**21 34 16.6**	**-1.1**
	4.4nm,0.5s						
KKN	**Kakani**	**53.09**	**311**	*eP*	**P**	**21 34 18.5**	**-0.6**
	4.9nm,0.5s						
DMN	**Daman**	**53.13**	**311**	*eP*	**P**	**21 34 18.7**	**-0.7**
GKN	**Gorkha**	**53.69**	**311**	*eP*	**P**	**21 34 22.6**	**-0.7**
	14nm,0.5s						
KOLN	**Koldanda**	**54.34**	**310**	*eP*	**P**	**21 34 27.5**	**-0.6**
DANN	**Dangsing**	**54.53**	**311**	*eP*	**P**	**21 34 28.6**	**-0.9**
PYUN	**Piuthan**	**54.98**	**310**	*eP*	**P**	**21 34 31.9**	**-0.6**
	12nm,0.7s						
SONM	**Songino Arra**	**56.89**	**343**	P	**P**	**21 34 46.7**	**+1.3**
	1.1nm,0.5s,baz=167,slow=6.8,SNR=12						
SONM				PcP	**PcP**	**21 35 36.1**	**+0.4**
	0.3nm,0.5s,baz=158,slow=6.4,SNR=2.5						
PETK	**Petropavlovsk-**	**64.14**	**19**	P	**P**	**21 35 32.5**	**-1.0**
	0.9nm,0.4s,baz=221,slow=16,SNR=7.9						
MKAR	**Makanchi Array**	**66.27**	**328**	P	**P**	**21 35 47.5**	**+0.3**
	2.4nm,0.5s,baz=118,slow=8.2,SNR=74						
MKAR				PcP	**PcP**	**21 36 14.1**	**+0.3**
	0.9nm,0.7s,baz=130,slow=5.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**69.80**	**335**	P	**P**	**21 36 08.3**	**-0.4**
	2.2nm,0.4s,baz=129,slow=5.3,SNR=14						
SEY	**Seymchan**	**71.31**	**12**	P	**P**	**21 36 18.9**	**+1.3**
	1.7nm,0.7s,baz=8.7,slow=13,SNR=8.9						
ILAR	**Eielson Array**	**93.43**	**25**	P	**P**	**21 38 10.9**	**-0.3**
	0.3nm,0.8s,baz=284,slow=3.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**126.50**	**282**	PKP	**PKPdf**	**21 43 58.0**	**+0.2**
	0.4nm,0.6s,baz=85,slow=1.6,SNR=4.2						

*ISCJB **14** 21:34:30.1±0.4, 21°.63S±0°.03×68°.37W±0°.07, h125km±6km, mb4.0/8, Error ellipse: s-maj=10.7km s-min=5.3km az=173.5*

*GUC **14** 21:34:31.4±1.0, 21°.63S×68°.67W, h136km±6km, ML4.5*

*NEIC **14** 21:34:31.4, 21°.63S×68°.67W, h136km, MG4.5(GUC), After GUC.*

*IDC **14** 21:34:32.8±0.8, 21°.74S×68°.37W, h134km±6km, mb3.8/9, mb1 3.8/11, mb1mx3.7/19, mbtmp3.7/11, MS2.8/1, Ms1 2.8/1, ms1mx2.0/31, Error ellipse: s-maj=21.9km s-min=15.7km az=37.0*

ISC 14 21:34:31.7±0.5, 21°.65S±0°.04×68°.45W±0°.07, h128km±5km, n55, σ1§33/77, mb4.1/8, 15C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.75**	**258**	↑*iP*	**Pn**	**21 34 52.3**	**-0.2**
PB09				*i* S	**Sn**	**21 35 08.0**	**-0.2**
PB09				AML	AML	21 35 09.7	
	comp=E,12μm,0.5s						
PB09	**Plate Boundary**	**0.75**	**258**	↑*iP*	**Pn**	**21 34 52.3**	**-0.2**
PB09				*i* S	**Sn**	**21 35 08.0**	**-0.2**
LVC	**Limon Verde**	**1.05**	**204**	*eP*	**Pn**	**21 34 55.1**	**-0.2**
LVC				*eS*	**Sn**	**21 35 11.7**	**-1.4**
PB01	**Plate Boundary**	**1.14**	**302**	*eP*	**Pn**	**21 34 55.2**	**-0.7**
PB01				*i* S	**Sn**	**21 35 13.2**	**-1.0**
PB01				AML	AML	21 35 14.7	
	comp=E,6μm,0.2s						
PB01	**Plate Boundary**	**1.14**	**302**	*eP*	**Pn**	**21 34 55.2**	**-0.7**
PB01				*i* S	**Sn**	**21 35 13.2**	**-1.0**
PB04	**Plate Boundary**	**1.14**	**237**	↑*iP*	Pn	21 35 01.5	+5.7
PB04				*i* S	Sn	21 35 23.8	+10
PB04				AML	AML	21 35 24.9	
	comp=E,4μm,0.2s						
PB04	**Plate Boundary**	**1.14**	**237**	↑*iP*	Pn	21 35 01.5	+5.7
PB04				*i* S	Sn	21 35 23.8	+10
MACH	**Maria Elena**	**1.33**	**245**	↑*iP*	**Pn**	**21 34 57.5**	**-0.6**
MACH				*i* S	**Sn**	**21 35 16.7**	**-1.4**
MACH	**Maria Elena**	**1.33**	**245**	↑*iP*	**Pn**	**21 34 57.5**	**-0.6**
MACH				*i* S	**Sn**	**21 35 16.7**	**-1.4**
PB07	**Plate Boundary**	**1.33**	**266**	↑*iP*	**Pn**	**21 34 57.4**	**-0.6**
PB07				*i* S	**Sn**	**21 35 16.6**	**-1.5**
PB07				AML	AML	21 35 17.4	
	comp=N,8μm,0.5s						
PB07	**Plate Boundary**	**1.33**	**266**	↑*iP*	**Pn**	**21 34 57.4**	**-0.6**
PB07				*i* S	**Sn**	**21 35 16.6**	**-1.5**
PB06	**Plate Boundary**	**1.48**	**224**	↑*iP*	**Pn**	**21 34 59.3**	**-0.3**
PB06				*i* S	**Sn**	**21 35 20.1**	**-0.8**
PB06				AML	AML	21 35 20.6	
	comp=E,8μm,0.2s						
PB06	**Plate Boundary**	**1.48**	**224**	↑*iP*	**Pn**	**21 34 59.3**	**-0.3**
PB06				*i* S	**Sn**	**21 35 20.1**	**-0.8**
PATCX	**Punta Patache**	**1.79**	**297**	↑*iP*	**Pn**	**21 35 02.3**	**-0.8**
PATCX				*i* S	**Sn**	**21 35 25.6**	**-1.5**
PATCX				AML	AML	21 35 27.2	
	comp=N,9μm,0.3s						
HMBC	**Humberstone**	**1.91**	**315**	↑*iP*	**Pn**	**21 35 03.6**	**-1.0**
HMBC				*i* S	**Sn**	**21 35 28.4**	**-1.4**
HMBC				AML	AML	21 35 30.7	
	comp=N,5μm,0.8s						
HMBC	**Humberstone**	**1.91**	**315**	↑*iP*	**Pn**	**21 35 03.6**	**-1.0**
HMBC				*i* S	**Sn**	**21 35 28.4**	**-1.4**
PB11	**Plate Boundary**	**2.19**	**329**	*eP*	**Pn**	**21 35 07.4**	**-0.7**
PB11				*eS*	**Sn**	**21 35 34.9**	**-1.0**
PB11				AML	AML	21 35 36.4	
	comp=E,15μm,0.5s						
PB11	**Plate Boundary**	**2.19**	**329**	*eP*	**Pn**	**21 35 07.4**	**-0.7**
PB11				*eS*	**Sn**	**21 35 34.9**	**-1.0**
CEN1	**Los Morros**	**2.37**	**223**	↓*iP*	Pn	21 35 12.8	+2.5
CEN1				*i* S	**Sn**	**21 35 41.7**	**+1.8**
CEN1				AML	AML	21 35 44.2	
	comp=N,844nm,0.8s						
CEN1	**Los Morros**	**2.37**	**223**	↓*iP*	Pn	21 35 12.8	+2.5
CEN1				S	**Sn**	**21 35 41.7**	**+1.8**
PSGC	**Pisagua**	**2.57**	**322**	↑*iP*	**Pn**	**21 35 11.1**	**-1.7**
PSGC				*eS*	**Sn**	**21 35 42.1**	**-2.3**
PSGC				AML	AML	21 35 43.7	
	comp=E,1μm,0.3s						
PSGC	**Pisagua**	**2.57**	**322**	↑*iP*	**Pn**	**21 35 11.1**	**-1.7**
PSGC				*eS*	**Sn**	**21 35 42.1**	**-2.3**
PB10	**Plate Boundary**	**2.69**	**226**	*eP*	**Pn**	**21 35 13.1**	**-1.2**
PB10				AML	AML	21 35 55.9	
	comp=N,2μm,0.6s						
MNMC	**Minimini**	**2.72**	**337**	*eP*	**Pn**	**21 35 14.7**	**-0.3**
MNMC				*i* S	**Sn**	**21 35 48.5**	**+0.2**
MNMC				AML	AML	21 35 50.3	
	comp=N,4μm,0.3s						
MNMC	**Minimini**	**2.72**	**337**	*eP*	**Pn**	**21 35 14.7**	**-0.3**
MNMC				*i* S	**Sn**	**21 35 48.5**	**+0.2**
LPAZ	**La Paz**	**5.34**	**3**	*e*Pn	**Pn**	**21 35 49.2**	**-0.8**
	comp=N,17nm,0.6s						
LPAZ				*e*Sn	Sn	21 36 40.6	-10
LPAZ	**La Paz**	**5.34**	**3**	P	**Pn**	**21 35 51.5**	**+1.5**
	comp=N,4.3nm,0.3s,baz=185,slow=6.3,SNR=41						
LPAZ				S	Sn	21 36 44.5	-6.3
	comp=N,0.5nm,0.3s,baz=199,slow=14,SNR=4.4						
LCO	**Las Campanas**	**7.61**	**195**	*e*Pn	Pn	21 36 15.9	-4.2
	comp=N,11nm,0.3s						
LCO				*e*Sn	**Sn**	**21 37 40.5**	**-4.6**
SIV	**San Ignacio**	**8.97**	**52**	P	**Pn**	**21 36 35.7**	**-2.6**
SIV				S	Sn	21 38 09.9	-7.9
SIV	**San Ignacio**	**8.97**	**52**	P	**Pn**	**21 36 35.7**	**-2.6**
	comp=N,2.8nm,0.3s,baz=251,slow=12,SNR=31						
SIV				S	Sn	21 38 09.9	-7.9
	comp=N,0.4nm,0.3s,baz=316,slow=21,SNR=6.6						
SIV				LR	LR	21 40 49.0	
	comp=N,57nm,18.1s,slow=42						
CFAA	**Coronel Fontan**	**9.92**	**179**	P	Pn	21 36 47.5	-3.6
CFAA	**Coronel Fontan**	**9.92**	**179**	P	Pn	21 36 47.5	-3.6
	comp=N,0.1nm,0.3s,baz=356,slow=14,SNR=6.5						
CPUP	**Villa Florida**	**11.19**	**117**	P	**Pn**	**21 37 06.0**	**-1.9**
CPUP	**Villa Florida**	**11.19**	**117**	P	**Pn**	**21 37 06.0**	**-1.9**
	comp=N,0.7nm,0.3s,baz=267,slow=7.4,SNR=3.1						
TRQA	**Tornquist**	**17.28**	**163**	*eP*	**Pn**	**21 38 24.1**	**-1.1**
	comp=N,3.5nm,0.8s						
BDFB	**Brasilia**	**20.26**	**76**	P	**P**	**21 38 56.4**	**-0.9**
BDFB	**Brasilia**	**20.26**	**76**	P	**P**	**21 38 56.4**	**-0.9**
	comp=N,3.8nm,0.5s,baz=221,slow=9.3,SNR=4.6						
RCBR	**Riachuelo**	**35.20**	**68**	P	**P**	**21 41 13.4**	**-0.5**
RCBR	**Riachuelo**	**35.20**	**68**	P	**P**	**21 41 13.4**	**-0.5**
	comp=N,2.9nm,0.6s,baz=210,slow=16,SNR=3.1						
PMSA	**Palmer Station**	**43.21**	**177**	P	**P**	**21 42 18.6**	**-1.0**
PMSA	**Palmer Station**	**43.21**	**177**	P	**P**	**21 42 18.6**	**-1.0**
	comp=N,16nm,0.7s,baz=201,slow=17,SNR=4.0						
TXAR	**Lajitas Array**	**60.99**	**325**	P	**P**	**21 44 32.5**	**+0.7**
TXAR				pP	**pP**	**21 45 03.4**	**+0.7**
TXAR	**Lajitas Array**	**60.99**	**325**	P	**P**	**21 44 32.5**	**+0.7**
	comp=N,0.2nm,0.6s,baz=155,slow=7.0,SNR=3.3						
TXAR				pP	**pP**	**21 45 03.4**	**+0.7**
	comp=N,0.3nm,0.8s,baz=152,slow=7.9,SNR=2.9						
DBIC	**Dimbokro**	**68.37**	**73**	P	**P**	**21 45 20.4**	**+0.5**
DBIC	**Dimbokro**	**68.37**	**73**	P	**P**	**21 45 20.4**	**+0.5**
	comp=N,6.7nm,0.7s,baz=214,slow=6.9,SNR=14						
PDAR	**Pinedale Array**	**74.45**	**330**	P	**P**	**21 45 57.7**	**+1.6**
PDAR	**Pinedale Array**	**74.45**	**330**	P	**P**	**21 45 57.7**	**+1.6**
	comp=N,0.3nm,0.8s,baz=155,slow=4.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.01**	**70**	P	**P**	**21 46 10.9**	**-0.1**
TORD				pP	**pP**	**21 46 45.1**	**+2.1**
TORD	**Torodi Ar. Bea**	**77.01**	**70**	P	**P**	**21 46 10.9**	**-0.1**
	comp=N,1.6nm,0.3s,baz=256,slow=5.6,SNR=45						
TORD				pP	**pP**	**21 46 45.1**	**+2.1**
	comp=N,1.6nm,0.8s,baz=249,slow=5.9,SNR=2.9						
BOSA	**Boshof**	**83.00**	**118**	P	**P**	**21 46 43.5**	**+0.3**
BOSA	**Boshof**	**83.00**	**118**	P	**P**	**21 46 43.5**	**+0.3**
	comp=N,0.9nm,0.5s,baz=17,slow=20,SNR=4.5						
YKA	**Yellowknife Ar**	**91.47**	**340**	P	**P**	**21 47 24.1**	**+1.0**
YKA				pP	**pP**	**21 47 57.7**	**+1.7**
YKA	**Yellowknife Ar**	**91.47**	**340**	P	**P**	**21 47 24.0**	**+1.0**
	comp=N,0.6nm,0.6s,baz=133,slow=4.4,SNR=10.0						
YKA				pP	**pP**	**21 47 57.7**	**+1.7**
	comp=N,0.4nm,0.6s,baz=134,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**145.50**	**36**	PKPbc	**PKPab**	**21 53 56.0**	**+0.6**
MKAR				pPKPbc	pPKPbc	21 54 31.4	+2.3
MKAR	**Makanchi Array**	**145.50**	**36**	PKPbc	**PKPab**	**21 53 56.0**	**+0.6**
	comp=N,0.4nm,0.5s,baz=296,slow=4.5,SNR=5.7						
MKAR				pPKPbc	pPKPbc	21 54 31.4	+2.3
	comp=N,1.6nm,0.9s,baz=320,slow=3.5,SNR=6.2						

MAN 14 21:38:16, 8°.51N×125°.73E, h62km, mb4.5, ML3.4, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.47**	**347**	*eP*	Pn	21 38 30.1	+2.2
BUTP				*eS*	Sn	21 38 40.8	+4.4
BUKP	**Musuan**	**0.91**	**227**	*eP*	Pn	21 38 35.2	+2.1
CGP	**Cagayan de Oro**	**1.02**	**267**	*eP*	Pn	21 38 36.3	+1.9
CGP				*eS*	Sn	21 38 50.1	+1.9
CGP	**Cagayan de Oro**	**1.02**	**267**	*eP*	Pn	21 38 36.3	+1.9
CGP				*eS*	Sn	21 38 50.1	+1.9
MATI	**Mati**	**1.64**	**161**	*eP*	Pn	21 38 44.1	+1.4
MSLP	**Maasin**	**1.83**	**332**	*eP*	Pn	21 38 46.6	+1.4

PGC 14 21:44:29.7±90.0, 47°.39N×129°.13W, h10km, ML2.9/6, Mw3.6, 7D, 308km Wsw of Tofino, Bc Off Coast Of Washington, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDR	**Gold River**	**3.16**	**40**	↓*iPn*	Pn	21 45 18.3	-1.1
BTB	**Buttle Lake**	**3.18**	**48**	↓*iPn*	Pn	21 45 18.6	-1.4
WOSB	**Woss**	**3.25**	**30**	↑*iPn*	Pn	21 45 19.5	-1.4
MAYB	**Maynard**	**3.28**	**22**	↑*iPn*	Pn	21 45 19.8	-1.5
PFB	**Port Renfrew**	**3.37**	**68**	↓*iPn*	Pn	21 45 21.0	-1.4
PFB				↑*iSn*	Sn	21 45 59.1	-3.3
MGB	**Mount Grey**	**3.38**	**60**	↓*iPn*	Pn	21 45 21.1	-1.5
YOUB	**Youbou, Lake C**	**3.59**	**63**	↓*iPn*	Pn	21 45 24.4	-1.1
LZB	**Mount Lazard**	**3.77**	**69**	↓*iPn*	Pn	21 45 26.9	-1.1
TXB	**Texada**	**3.88**	**52**	↓*iPn*	Pn	21 45 29.0	-0.4

IDC 14 21:47:15.5±8.1, 17°.08S×177°.84W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.4/3, Error ellipse: s-maj=357.4km s-min=38.3km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.32**	**259**	P	P	21 55 35.4	-0.3
	0.1nm,0.5s,baz=92,slow=8.0,SNR=5.9						
ASAR	**Alice Springs**	**45.54**	**253**	P	P	21 55 37.5	0.0
	0.5nm,0.5s,baz=90,slow=8.2,SNR=11						
ILAR	**Eielson Array**	**84.96**	**13**	P	P	21 59 52.3	0.0
	0.1nm,0.4s,baz=208,slow=5.8,SNR=4.6						

*IDC **14** 21:51:24.8±1.5, 20°.32S×71°.05W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML4.0/2, MS3.3/2, Ms1 3.3/2, ms1mx3.0/22, Error ellipse: s-maj=52.6km s-min=25.3km az=3.0*

*GUC **14** 21:51:27.7±0.8, 19°.87S×71°.09W, h42km±3km, ML4.3*

*NEIC **14** 21:51:27.7, 19°.87S×71°.09W, h42km, MG4.3(GUC), After GUC.*

*ISCJB **14** 21:51:29.5±0.8, 19°.91S±0°.06×71°.07W±0°.06, h33km, mb3.7/4, MS3.3/1, Error ellipse: s-maj=8.6km s-min=8.3km az=151.4*

ISC 14 21:51:31.5±0.8, 19°.94S±0°.05×70°.97W±0°.07, h35km, n41, σ1§09/42, mb3.7/4, 9C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.87**	**67**	↓*iP*	**Pn**	**21 51 45.2**	**-2.2**
PSGC				*i* S	**Sn**	**21 51 58.3**	**-0.5**
PSGC				AML	AML	21 52 00.9	
	comp=N,4μm,0.8s						
PSGC	**Pisagua**	**0.87**	**67**	↓*iP*	**Pn**	**21 51 45.2**	**-2.2**
PSGC				*i* S	**Sn**	**21 51 58.3**	**-0.5**
HMBC	**Humberstone**	**1.07**	**109**	↓*iP*	**Pn**	**21 51 49.3**	**-0.9**
HMBC				*i* S	**Sn**	**21 52 05.6**	**+1.6**
HMBC				AML	AML	21 52 09.4	
	comp=N,10μm,0.7s						
HMBC	**Humberstone**	**1.07**	**109**	↓*iP*	**Pn**	**21 51 49.3**	**-0.9**
HMBC				*i* S	**Sn**	**21 52 05.6**	**+1.6**
PB11	**Plate Boundary**	**1.25**	**82**	↑*iP*	**Pn**	**21 51 51.9**	**-0.7**
PB11				*i* S	**Sn**	**21 52 09.7**	**+1.3**
PB11				AML	AML	21 52 11.3	
	comp=E,48μm,0.7s						
PB11	**Plate Boundary**	**1.25**	**82**	↑*iP*	**Pn**	**21 51 51.9**	**-0.7**
PB11				*i* S	**Sn**	**21 52 09.7**	**+1.3**
PB01	**Plate Boundary**	**1.77**	**129**	↑*iP*	**Pn**	**21 51 59.5**	**-0.3**
PB01				AML	AML	21 52 32.0	
	comp=E,4μm,0.4s						
PB01	**Plate Boundary**	**1.77**	**129**	↑*iP*	**Pn**	**21 51 59.5**	**-0.3**
PB07	**Plate Boundary**	**2.05**	**151**	↑*iP*	**Pn**	**21 52 02.9**	**-0.8**
PB07				AML	AML	21 52 41.0	
	comp=E,2μm,0.4s						
PB07	**Plate Boundary**	**2.05**	**151**	↑*iP*	**Pn**	**21 52 02.9**	**-0.8**
PB09	**Plate Boundary**	**2.46**	**139**	↑*iP*	**Pn**	**21 52 09.9**	**+0.6**
PB09	**Plate Boundary**	**2.46**	**139**	P	**Pn**	**21 52 09.9**	**+0.6**
MACH	**Maria Elena**	**2.52**	**153**	*eP*	**Pn**	**21 52 09.8**	**-0.3**
MACH	**Maria Elena**	**2.52**	**153**	*eP*	**Pn**	**21 52 09.8**	**-0.3**
PB04	**Plate Boundary**	**2.70**	**149**	↑*iP*	Pn	21 52 08.6	-3.9
PB04	**Plate Boundary**	**2.70**	**149**	↑*iP*	Pn	21 52 08.6	-3.9
LVC	**Limon Verde**	**3.28**	**145**	*e*Pn	**Pn**	**21 52 21.3**	**+0.6**
LVC				Sn	**Sn**	**21 52 56.4**	**-2.3**
LPAZ	**La Paz**	**4.52**	**37**	*e*Pn	**Pn**	**21 52 40.1**	**+2.0**
LPAZ	**La Paz**	**4.52**	**37**	Pn	**Pn**	**21 52 40.0**	**+1.9**
	comp=E,1.8nm,0.3s,baz=200,slow=4.9,SNR=21						
LPAZ				LR	LR	21 54 31.0	
	comp=E,237nm,20.2s,baz=89,slow=38						
SIV	**San Ignacio**	**10.20**	**69**	Pn	**Pn**	**21 53 56.4**	**+0.8**
SIV	**San Ignacio**	**10.20**	**69**	Pn	**Pn**	**21 53 56.4**	**+0.8**
	comp=E,1.7nm,0.3s,baz=277,slow=8.8,SNR=21						
H03N1	**Juan Fernandez**	**15.20**	**206**	T	T	22 11 29.3	
	baz=32,slow=75						
H03N2	**Juan Fernandez**	**15.21**	**206**	T	T	22 11 26.3	
	baz=32,slow=75						
H03N3	**Juan Fernandez**	**15.22**	**206**	T	T	22 11 18.0	
	baz=32						
PTGA	**Pitinga**	**21.92**	**31**	*eP*	P	21 56 16.7	-5.2
BDFB	**Brasilia**	**22.27**	**83**	P	**P**	**21 56 25.9**	**+0.1**
BDFB	**Brasilia**	**22.27**	**83**	P	**P**	**21 56 26.0**	**+0.1**
	comp=E,1.2nm,0.4s,baz=243,slow=9.0,SNR=2.8						
BDFB				LR	LR	22 06 07.7	
	comp=E,100nm,18.9s,baz=41,slow=39						
TXAR	**Lajitas Array**	**58.26**	**326**	P	**P**	**22 01 23.1**	**+0.3**
TXAR	**Lajitas Array**	**58.26**	**326**	P	**P**	**22 01 23.1**	**+0.3**
	comp=E,0.2nm,0.8s,baz=146,slow=5.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.67**	**72**	P	**P**	**22 03 29.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**78.67**	**72**	P	**P**	**22 03 29.4**	**-1.2**
	comp=E,2.4nm,0.6s,baz=251,slow=6.6,SNR=20						
YKA	**Yellowknife Ar**	**89.09**	**341**	P	**P**	**22 04 22.8**	**+0.2**
YKA	**Yellowknife Ar**	**89.09**	**341**	P	**P**	**22 04 22.8**	**+0.2**
	comp=E,0.3nm,0.7s,baz=139,slow=4.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**141.31**	**23**	PKP	**PKPdf**	**22 10 59.0**	**+0.7**
ZALV	**Zalesovo Beam**	**141.31**	**23**	PKP	**PKPdf**	**22 10 59.0**	**+0.7**
	comp=E,0.5nm,0.4s,baz=330,slow=2.3,SNR=5.0						
MKAR	**Makanchi Array**	**145.44**	**33**	PKPbc	**PKPab**	**22 11 06.2**	**+0.1**
MKAR	**Makanchi Array**	**145.44**	**33**	PKPbc	**PKPab**	**22 11 06.2**	**+0.1**
	comp=E,0.7nm,1.0s,baz=318,slow=1.9,SNR=3.8						
CBIJ	**Chichi jima**	**148.84**	**290**	PKPbc	**PKPbc**	**22 11 14.8**	**-1.3**
JCJ	**Chichijima**	**148.84**	**290**	PKPbc	**PKPbc**	**22 11 14.8**	**-1.3**
	comp=E,45nm,0.6s,baz=288,slow=20,SNR=2.3						
SONM	**Songino Array**	**152.09**	**4**	PKPbc	**PKPbc**	**22 11 23.4**	**+0.1**
SONM	**Songino Array**	**152.09**	**4**	PKPbc	**PKPbc**	**22 11 23.4**	**+0.1**
	comp=E,0.2nm,0.4s,baz=345,slow=1.5,SNR=3.7						

IDC 14 21:51:52.7±37.0, 30°.29S×175°.82W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/17, mbtmp3.9/3, Error ellipse: s-maj=697.9km s-min=179.5km az=97.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.34**	**256**	P	P	21 58 58.7	+0.2
	0.8nm,0.5s,baz=84,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**45.00**	**266**	P	P	22 00 09.7	-0.4
	0.4nm,0.3s,baz=107,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**45.98**	**271**	P	P	22 00 17.8	-0.1
	1.2nm,0.3s,baz=111,slow=8.1,SNR=66						

*ISCJB **14** 21:57:10.7±0.5, 4°.47S±0°.08×125°.56E±0°.08, h441km, mb3.5/5, Error ellipse: s-maj=12.7km s-min=8.4km az=139.1*

*AUST **14** 21:57:10.5±88.0, 4°.55S×125°.15E, h435km, Error ellipse: s-maj=7.8km s-min=2.2km az=342.0*

*IDC **14** 21:57:12.7±3.4, 4°.54S×125°.50E, h452km±46km, mb3.0/6, mb1 3.1/8, mb1mx3.0/23, mbtmp3.0/8, Error ellipse: s-maj=48.0km s-min=19.5km az=75.0*

*DJA **14** 21:57:40.6±0.9, 5°.5S±9°.12°.2E±°, h413km±15km, M4.2/8, mb4.9/2, mB5.1/2, MLv3.8/8, Mw(mB)4.4/2, Mwp6.1/1*

ISC 14 21:57:12.1±0.7, 4°.45S±0°.09×125°.45E±0°.09, h441km, n22, σ1§37/22, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.04**	**54**	P	**S**	**21 59 02.7**	**+2.1**
MSAI	**Masohi**	**3.64**	**73**	P	**S**	**21 59 21.6**	**-0.1**
	0.1nm478nm36nm,0.6s						
LUWI	**Luwuk**	**4.31**	**322**	P	**P**	**21 58 26.7**	**-

comp=N,654nm,0.5s
ANTU **Antumapu** **1.09** **205**⇑ *i*P Pn 22 55 16.9 -0.3
ANTU *i*S Sn 22 55 35.6 -0.6
ANTU AML AML 22 55 36.4
comp=E,1μm,0.4s
PCH **Pirque** **1.10** **199**⇑ *i*P Pn 22 55 17.3 -0.1
PCH *i*S Sn 22 55 36.2 -0.3
LMEL **Las Melosas** **1.27** **184**⇓ *i*P Pn 22 55 18.6 -0.6
LMEL *i*S Sn 22 55 39.6 0.0
LMEL AML AML 22 55 45.7
comp=N,737nm,0.8s
TACH **Talagante** **1.29** **213**⇓ *i*P Pn 22 55 19.1 0.0
TACH *i*S Sn 22 55 39.4 -0.2
CHCH **Chadas Angostu** **1.44** **199**⇑ *i*P Pn 22 55 20.5 -0.1
CHCH *i*S Sn 22 55 42.0 -0.3
CMCH **Combarbala** **1.60** **331**⇓ *i*P Pn 22 55 22.5 0.0
CMCH *i*S Sn 22 55 45.5 0.0
CMCH AML AML 22 55 49.4
comp=E,4μm,0.7s
CACH **El Canelo** **1.60** **195**⇑ *i*P Pn 22 55 22.8 +0.3
CACH *i*S Sn 22 55 46.4 +0.8
LNV **Longovilo** **1.77** **218** *e*P Pn 22 55 23.9 -0.4
TLL **Tololo Astrono** **2.48** **345**⇑ *i*P Pn 22 55 33.4 +0.3
TLL *i*S Sn 22 56 04.6 +0.2

DJA 14 23:34:59.5±0.7, 1°S±7'×12'0E±', h30km, M3.7/7, MLv3.7/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.42**	**92**	P	Pb	23 35 24.6	-0.8
MRSI	**Marisa**	**2.16**	**52**	P	Pn	23 35 34.9	+1.4
TTSI	**Tana Toraja**	**2.22**	**191**	P	Pn	23 35 34.1	-0.2
TTSI				S	Sb	23 36 03.7	-2.3
MMSI	**Mamuju**	**2.25**	**216**	P	Pn	23 35 34.0	-0.8
MMSI				S	Sb	23 36 04.7	-2.4
LUWI	**Luwuk**	**2.55**	**94**	P	Pn	23 35 37.7	-1.1
SPSI	**Sidrap Palu**	**3.13**	**188**	P	Pn	23 35 45.4	-1.4
BNSI	**Bone**	**3.53**	**182**	P	Pn	23 35 51.7	-0.6

*BJI **14** 23:39:29.7, 39°.41N×73°.40E, h6km, mb3.8/2, ML3.6/4*
*IDC **14** 23:39:29.1±0.9, 39°.31N×73°.80E, h0km, mb3.6/9, mb1 3.7/13, mb1mx3.6/31, mbtmp3.6/13, ML3.5/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/29, Error ellipse: s-maj=18.1km s-min=16.6km az=174.0*
*ISCJB **14** 23:39:30.7±0.5, 39°.64N±0°.05×73°.69E±0°.09, h10km, mb3.5/9, MS2.6/1, Error ellipse: s-maj=10.3km s-min=6.9km az=170.5*
*NNC **14** 23:39:37.1±3.6, 39°.86N×73°.59E, h12km±15km, mb4.0, mpv3.6, Error ellipse: s-maj=28.2km s-min=14.5km az=179.0*

ISC 14 23:39:31.6±0.7, 39°.62N±0°.06×73°.85E±0°.05, h10km, n39, σ1§70/35, mb3.6/9, 8C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.64**	**93**	Pg	**Pn**	**23 39 58.4**	**-2.3**
KSH				Sg	**Sn**	**23 40 20.4**	**-1.5**
KSH				smax	smax		
	comp=N,850nm,0.4s						
KSH				smax	smax		
	comp=E,500nm,0.5s						
AML	**Almayashu**	**2.51**	**357**	P	**Pb**	**23 40 17.1**	**+0.1**
	SNR=70						
UCH	**Uchtor**	**2.65**	**11**	P	**Pb**	**23 40 20.2**	**+0.7**
	SNR=34						
KZA	**Kyzart**	**2.67**	**23**	P	**Pb**	**23 40 21.1**	**+1.2**
	SNR=14						
EKS2	**Erkin-Say**	**3.04**	**359**	P	**Pb**	**23 40 24.9**	**-1.0**
	SNR=37						
AAK	**Ala-Archa**	**3.05**	**9**	P	**Pb**	**23 40 25.7**	**-0.4**
	SNR=58						
KBK	**Karagaybulak**	**3.15**	**15**	P	**Pb**	**23 40 28.1**	**+0.4**
	SNR=12						
ULHL	**Ulahol**	**3.19**	**34**	P	**Pb**	**23 40 29.0**	**+0.5**
	SNR=12						
CHMS	**Chumysh**	**3.44**	**11**	P	**Pb**	**23 40 31.8**	**-0.9**
	SNR=6.1						
TKM2	**Tokmak 2**	**3.55**	**21**	P	**Pb**	**23 40 32.9**	**-1.8**
	SNR=16						
USP	**Ospenovka**	**3.68**	**7**	P	Pb	23 40 33.9	-2.8
	SNR=16						
KNDC	**Almaty**	**4.29**	**32**	⇑Pg	**Pg**	**23 40 52.8**	**-1.0**
KNDC				⇑Lg	Lg	23 41 52.7	
KK31	**Karatay Array**	**4.29**	**325**	Pn	**Pn**	**23 40 39.7**	**+2.7**
	2.2nm,0.3s,baz=129,slow=12,SNR=154						
KK31				Pg	**Pb**	**23 40 48.9**	**+1.7**
	20nm,0.7s,baz=151,slow=13,SNR=17						
KK31				⇑Lg	Lg	23 41 45.4	
	16nm,0.3s,baz=139,slow=29,SNR=4.8						
CHCP	**Chirah Chowk**	**5.97**	**185**	P	Pn	23 41 02.9	+2.8
CEP	**Cherat**	**5.99**	**196**	P	**Pn**	**23 41 02.7**	**+2.2**
THW	**Thamme Wali**	**7.02**	**195**	P	**Pn**	**23 41 15.2**	**+0.7**
MK31	**Makanchi Array**	**9.45**	**38**	⇓Lg	Lg	23 44 37.1	
	13nm,1.4s						
MKAR	**Makanchi Array**	**9.45**	**38**	Pn	**Pn**	**23 41 50.4**	**+2.6**
	0.0nm,0.3s,baz=213,slow=16,SNR=2.3						
MKAR				Lg	Lg	23 44 37.6	
	0.1nm,0.3s,baz=228,slow=27,SNR=3.8						
KURBB	**Kurchatov Arra**	**11.48**	**15**	Lg	Lg	23 45 38.1	
	0.2nm,0.3s,baz=201,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**11.48**	**15**	⇓Lg	Lg	23 45 37.7	
	16nm,0.8s						
KURK	**Kurchatov**	**11.59**	**15**	⇑Lg	Lg	23 45 39.5	
	28nm,1.6s						
VOSK	**Vostochnaya**	**13.26**	**352**	⇑P	**Pn**	**23 42 39.4**	**-0.3**
	2.2nm,0.8s						
VOSK				⇓Lg	Lg	23 46 29.0	
	7.5nm,1.4s						
BVA0	**Borovoye Array**	**13.62**	**351**	⇑P	**Pn**	**23 42 46.2**	**+1.5**
	2.5nm,0.7s,baz=236,slow=42,SNR=6.7						
BVA0				⇑Lg	Lg	23 46 41.1	
	7.9nm,1.1s						
BVAR	**Borovoye Array**	**13.62**	**351**	Pn	**Pn**	**23 42 44.9**	**+0.2**
	0.2nm,0.3s,baz=166,slow=15,SNR=6.3						
BVAR				Lg	Lg	23 46 44.3	
	0.1nm,0.3s,baz=164,slow=24,SNR=3.7						
AB31	**Akbulak array**	**13.82**	**319**	Pn	**Pn**	**23 42 46.0**	**-1.4**
	1.5nm,0.7s,baz=130,slow=13,SNR=19						
AB31				⇓Sn	**Sn**	**23 45 16.6**	**-4.2**
	1.2nm,0.7s,baz=131,slow=23,SNR=3.8						
AKTO	**Aktyubinsk**	**15.53**	**319**	Pn	**Pn**	**23 43 11.8**	**+1.2**
	0.2nm,0.3s,baz=120,slow=16,SNR=5.7						
AKTO				LR	LR	23 49 37.0	
	comp=Z,18nm,20.4s,baz=34,slow=39						
AKTO	**Aktyubinsk**	**15.53**	**319**	⇓Pn	**Pn**	**23 43 11.5**	**+1.0**
	3.5nm,0.9s						
AKTO				⇑Sn	**Sn**	**23 45 59.5**	**-3.0**
	1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**16.15**	**24**	Pn	**P**	**23 43 22.8**	**+1.0**
	0.2nm,0.3s,baz=223,slow=10.0,SNR=5.2						
GTA	**Gaotai**	**20.01**	**82**	*e*P	Pn	23 44 08.5	+2.1
GTA				pP	pP	23 44 13.3	+5.9
GTA				sP	sP	23 44 16.6	+7.9
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**24.76**	**60**	P	**P**	**23 44 54.8**	**+1.3**
	1.1nm,1.1s,baz=282,slow=9.0,SNR=5.4						
BRTR	**Keskin Array B**	**30.77**	**283**	P	**P**	**23 45 46.8**	**-0.6**
	0.8nm,0.9s,baz=32,slow=14,SNR=3.6						
FINES	**FINESS Array B**	**36.25**	**323**	P	**P**	**23 46 34.5**	**-0.1**
	1.4nm,0.8s,baz=102,slow=9.9,SNR=6.0						
ARCES	**ARCESS Array B**	**39.19**	**335**	P	**P**	**23 46 59.5**	**+0.2**
	3.4nm,1.0s,baz=105,slow=7.8,SNR=5.9						
KSRS	**Korea Array**	**41.81**	**75**	LR	LR	00 08 13.8	
	comp=Z,7.6nm,19.3s,baz=330,slow=41						
NOA	**NORSAR Array B**	**43.31**	**321**	P	**P**	**23 47 35.9**	**+2.5**
	0.8nm,0.7s,baz=93,slow=7.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**68.03**	**269**	P	**P**	**23 50 28.9**	**-2.6**
	0.3nm,0.4s,baz=53,slow=5.2,SNR=8.2						
ILAR	**Eielson Array**	**71.15**	**17**	P	**P**	**23 50 51.0**	**+1.0**
	0.1nm,0.6s,baz=330,slow=4.1,SNR=2.8						
WRA	**Warramunga Arr**	**81.80**	**124**	P	**P**	**23 51 49.6**	**-1.3**
	0.2nm,0.5s,baz=327,slow=5.0,SNR=2.8						
ASAR	**Alice Springs**	**84.26**	**127**	P	**P**	**23 52 02.7**	**-0.9**
	0.1nm,0.3s,baz=344,slow=9.6,SNR=2.3						

IDC 15 00:00:06.9±1.2, 55°.38S×26°.95W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, Error ellipse: s-maj=49.9km s-min=31.6km az=94.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.25**	**183**	P	P	00 08 41.0	0.0
	1.4nm,0.7s,baz=179,slow=4.4,SNR=8.0						
LPAZ	**La Paz**	**50.10**	**304**	P	P	00 09 04.5	0.0
	0.7nm,0.7s,baz=143,slow=5.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**72.41**	**29**	P	P	00 11 34.9	+0.1
	1.3nm,0.7s,baz=195,slow=6.6,SNR=12						
ILAR	**Eielson Array**	**149.77**	**312**	PKPbc	PKPbc	00 19 56.5	-0.8
	1.1nm,0.8s,baz=125,slow=1.6,SNR=13						

MEX 15 00:20:06.2±0.7, 18°.08N×103°.50W, h11km±5km, MD4.2, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.25**	**36**	*e*P	Pg	00 20 11.1	-0.3
MMIG				*e*S	Sg	00 20 14.6	-0.4
R15V		**1.17**	**337**	*e*P	Pb	00 20 24.4	-4.2
R15V				*e*S	Sb	00 20 38.9	-5.0
EZ5V		**1.39**	**356**	*e*P	Pn	00 20 28.9	-3.0
EZ5V				*e*S	Sn	00 20 45.8	-4.8
CJM	**Chamela**	**2.03**	**314**	*i*P	Pn	00 20 37.3	-3.0
CJM				*i*S	Sn	00 21 01.2	-4.5
SFJM	**Santa Fe**	**2.43**	**10**	*i*P	Pn	00 20 44.4	-1.7
SFJM				*i*S	Sn	00 21 14.9	-1.1
MOIG	**Morelia**	**2.70**	**54**	*i*P	Pn	00 20 46.5	-3.5
MOIG				*i*S	Sn	00 21 17.9	-5.0
ARIG	**Puente Sto Nin**	**3.00**	**86**	*i*P	Pn	00 20 51.1	-2.7
ARIG				*i*S	Sn	00 21 25.6	-4.3
ANIG	**Ahuacatlan**	**3.11**	**342**	*i*P	Pn	00 20 53.1	-2.3
ANIG				*i*S	Sn	00 21 29.2	-3.4
MEIG	**Mezcala**	**3.70**	**92**	*i*P	Pn	00 21 03.1	-0.4
MEIG				*i*S	Sn	00 21 43.9	-3.3
PLIG	**Platanillo**	**3.81**	**85**	*i*P	Pn	00 20 52.1	-13
PLIG				*i*S	Sn	00 21 45.4	-4.6

*DJA **15** 00:48:46.2±0.8, 9°S±5°×11°5E±', h30km, M3.5/5, MLv3.5/5*
*IDC **15** 00:48:53.2±10.0, 7°.97S×113°.44E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=173.9km s-min=131.0km az=162.0*

ISC 15 00:48:58.1±1.0, 8°.11S±0°.09×113°.76E±0°.05, h10km, n8, σ1§00/8, mb3.4/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.35**	**241**	P	**Pn**	**00 49 08.8**	**-0.4**
BLJI	**Banyuglugur**	**0.39**	**336**	P	**Pn**	**00 49 09.9**	**+0.1**
ABJI	**Asem Bagus**	**0.56**	**57**	P	**Pn**	**00 49 08.5**	**-0.6**
ABJI				S	Sn	00 49 29.6	+8.0
BYJI	**Banyuwangi**	**0.60**	**100**	S	**Sg**	**00 49 19.3**	**+1.5**
PWJI	**Pagerwojo**	**1.93**	**272**	P	**Pg**	**00 49 35.4**	**+0.2**
WRA	**Warramunga Arr**	**23.14**	**123**	P	**P**	**00 54 04.0**	**-0.8**
	0.4nm,0.6s,baz=295,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**24.74**	**131**	P	**P**	**00 54 18.9**	**-1.1**
	0.4nm,0.5s,baz=309,slow=8.8,SNR=6.1						
STKA	**Stephens Creek**	**35.07**	**136**	P	**P**	**00 55 52.0**	**+0.6**
	0.8nm,0.7s,baz=324,slow=8.7,SNR=3.8						

*NEIC **15** 01:03:27.8, 32°.66N×115°.66W, h5km, ML3.3(PAS), ML3.5(ECX), After PAS.*
NEIC Felt [II] at El Centro. Also felt at Chula Vista, Encinitas, San Diego, Spring Valley and Valley Center.
*ECX **15** 01:03:28.2±0.7, 32°.67N×115°.66W, h6km, MD3.4, ML3.5*

ISC 15 01:03:27.5±0.9, 32°.63N±0°.02×115°.68W±0°.02, h9km±8km, n31, σ1§60/49, 6C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.05**	**302**	⇑*i*P	**Pg**	**01 03 29.2**	**-0.1**
YUH	**Yuha Desert**	**0.21**	**276**	⇑*i*P	**Pg**	**01 03 32.1**	**+0.4**
COK	**Cook Ranch**	**0.23**	**349**	⇓*i*P	**Pg**	**01 03 31.9**	**-0.2**
CPBX	**Cerro Prieto**	**0.38**	**123**	*e*P	**Pg**	**01 03 35.3**	**+0.4**
CPBX				*e*S	**Sg**	**01 03 40.8**	**+0.9**
CPBX				⇓*e*		01 03 46.6	
	comp=N,12μm,0.4s						
RDX	**Rancho Dawling**	**0.73**	**198**	⇓*i*P	**Pg**	**01 03 41.5**	**-0.1**
RDX				⇑*e*		01 03 55.0	
	comp=N,1μm,0.3s						
EMX	**El Mayor**	**0.73**	**150**	⇓*e*P	**Pg**	**01 03 41.1**	**-0.5**
EMX				*i*S	**Sg**	**01 03 51.6**	**+0.4**
EMX				⇑*e*		01 03 53.0	
	comp=N,1μm,0.6s						
GLA	**Glamis**	**0.83**	**59**	*e*Pg	**Pg**	**01 03 41.7**	**-1.8**
GLA				*e*S	**Sg**	**01 03 52.9**	**-1.5**
BAR	**Barrett**	**0.84**	**274**	*e*Pg	**Pg**	**01 03 43.4**	**-0.3**
BAR				*e*S	**Sg**	**01 03 54.3**	**-0.3**
CBX	**Cerro Bola**	**0.89**	**250**	⇑*i*P	**Pg**	**01 03 44.7**	**+0.1**
CBX				*i*S	**Sg**	**01 03 56.8**	**+0.6**
CBX				⇑*e*		01 04 00.4	
	comp=E,2μm,0.3s						
PFO	**Pinyon Flat Ob**	**1.18**	**327**	*e*Pn	**Pb**	**01 03 47.4**	**-2.7**
PFO				*e*S	**Sb**	**01 04 02.5**	**-3.1**
ZAX	**El Zacaton**	**1.22**	**205**	⇓*e*P	**Pb**	**01 03 50.4**	**-0.3**
ECNX	**Esteban Cantu**	**1.24**	**219**	*e*P	**Pn**	**01 03 50.8**	**-0.3**
PBX	**Punta Banda**	**1.25**	**226**	*e*P	**Pn**	**01 03 50.8**	**-0.3**
ECBX	**El Chinero**	**1.27**	**155**	⇓*e*P	**Pn**	**01 03 50.9**	**-0.5**
SPX	**San Pedro Mart**	**1.58**	**173**	*e*P	**Pn**	**01 03 56.4**	**+0.4**
LDFC	**Landfair**	**2.49**	**11**	*e*Pn	**Pn**	**01 04 09.8**	**+1.5**
LDFC				*e*S	**Sb**	**01 04 42.8**	**-0.5**
214A	**Organ Pipe Nat**	**2.52**	**105**	*e*Pn	Pn	01 04 05.3	-3.3
214A				*e*S	**Sg**	**01 04 53.4**	**+5.1**
MWC	**Mount Wilson**	**2.55**	**309**	*e*Pn	**Pn**	**01 04 10.0**	**+0.8**
MWC				*e*S	**Sn**	**01 04 42.2**	**+1.7**
PASC	**Pasadena Art C**	**2.60**	**307**	*e*Pn	**Pn**	**01 04 10.2**	**-0.6**
PASC				*e*S	**Sb**	**01 04 45.4**	**-1.1**
GSC	**Goldstone**	**2.83**	**341**	*e*Pn	**Pn**	**01 04 13.3**	**+0.4**
GSC				*e*S	**Sg**	**01 04 58.6**	**+0.2**
ISA	**Isabella**	**3.82**	**323**	*e*Pn	**Pn**	**01 04 24.7**	**-1.8**
ISA				*e*S	**Sb**	**01 05 23.4**	**+2.0**
SHPR	**Sheep Range**	**3.90**	**6**	Pn	**Pn**	**01 04 28.3**	**+0.6**
SHPR				*e*Pg	**Pg**	**01 04 42.3**	**+0.2**
SHPR				*e*S	**Sb**	**01 05 28.2**	**+4.5**
TUC	**Tucson**	**4.15**	**93**	*e*Pn	**Pn**	**01 04 28.9**	**-2.1**
TUC				*e*Pg	Pg	01 04 51.8	+4.9
TUC				*e*S	**Sg**	**01 05 40.3**	**-0.4**
WUAZ	**Wupatki**	**4.59**	**50**	*e*Pn	**Pn**	**01 04 37.1**	**-0.1**
WUAZ				*e*S	**Sg**	**01 05 56.9**	**+1.9**
CCUT	**Cedar City**	**5.27**	**20**	*e*Pn	**Pn**	**01 04 46.4**	**-0.2**
	comp=E,3.4nm,0.7s						
CCUT				*e*S	Sg	01 06 23.4	+6.7
ARUT	**Antelope Range**	**5.47**	**19**	*e*Pn	**Pn**	**01 04 49.6**	**-0.4**
	comp=E,113nm,0.7s						
ARUT				*e*Pg	**Pg**	**01 05 12.4**	**+0.2**
R11A	**Troy Canyon, C**	**5.71**	**1**	Pn	**Pn**	**01 04 54.2**	**+1.6**
R11A				*e*Pg	**Pg**	**01 05 19.1**	**+2.2**
R11A				*e*S	Sg	01 06 37.5	+6.7
121A	**Cookes Peak, D**	**6.66**	**89**	*e*Pn	**Pn**	**01 05 04.3**	**-1.4**
121A				*e*S	Sb	01 06 51.6	+8.2
LAZ	**Ladron**	**7.35**	**74**	*e*Pn	**Pn**	**01 05 15.9**	**+0.7**
BNM	**Barren Site**	**7.72**	**76**	*e*Pn	**Pn**	**01 05 20.2**	**0.0**
PV04	**Paradox Valley**	**7.97**	**42**	*e*Pn	**Pn**	**01 05 20.7**	**-3.0**
PV04				*e*Pg	Pg	01 05 56.7	-3.5
PV04				*e*S	**Sg**	**01 07 42.9**	**-0.5**

IDC 15 01:04:34.8±5.8, 30°.36S×178°.28W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/17, mbtmp3.8/3, Error ellipse: s-maj=218.1km s-min=55.3km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.25**	**257**	P	P	01 11 22.3	-0.2
	1.2nm,0.7s,baz=97,slow=8.1,SNR=2.8						
ASAR	**Alice Springs**	**42.87**	**267**	P	P	01 12 34.9	-0.2
	0.3nm,0.3s,baz=106,slow=7.2,SNR=4.9						
WRA	**Warramunga Arr**	**43.85**	**272**	P	P	01 12 42.9	-0.2
	0.6nm,0.3s,baz=110,slow=8.1,SNR=21						
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	PKPbc	01 24 12.1	-0.6
	3.0nm,0.9s,baz=25,slow=3.7,SNR=4.5						

*IDC **15** 01:26:47.6±1.5, 1°.63S×121°.65E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/23, Error ellipse: s-maj=199.5km s-min=21.0km az=63.0*
*ISCJB **15** 01:26:50.8±0.6, 2°.27S±0°.05×120°.68E±0°.06, h33km, mb3.6/5, Error ellipse: s-maj=10.3km s-min=5.2km az=34.2*
*DJA **15** 01:26:51.2±0.3, 2°S±3'×12°1E±', h10km, M4.0/9, MLv4.0/9*

ISC 15 01:26:53.1±0.9, 2°.27S±0°.05×120°.63E±0°.07, h35km, n16, σ2§58/18, mb3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.12**	**226**	P	Pn	01 27 07.5	-4.7
TTSI				S	**Sn**	**01 27 23.7**	**-2.7**
MMSI	**Mamuju**	**1.77**	**256**	P	**Pn**	**01 27 19.5**	**-1.7**
MMSI				S	**Sn**	**01 27 44.0**	**+1.5**
SPSI	**Sidrap Palu**	**1.89**	**207**	P	**Pn**	**01 27 20.7**	**-2.2**
SPSI				S	**Sn**	**01 27 46.3**	**+0.8**
MJSI	**Majene**	**2.08**	**232**	P	**Pn**	**01 27 25.2**	**-0.3**
MJSI				S	**Sn**	**01 27 55.0**	**+4.8**
BNSI	**Bone**	**2.18**	**194**	P	**Pn**	**01 27 24.8**	**-2.1**
BNSI				S	**Sn**	**01 27 57.8**	**+5.2**
LUWI	**Luwuk**	**2.47**	**60**	P	Pn	01 27 37.2	+6.4
LUWI				S	Sn	01 28 07.0	+7.3
MRSI	**Marisa**	**3.03**	**26**	P	**Pn**	**01 27 36.5**	**-2.1**
MRSI				S	**Sn**	**01 28 11.4**	**-2.2**
BKSI	**Bulukumba**	**3.07**	**189**	P	**Pn**	**01 27 38.7**	**-0.5**
TOLI	**Toli-Toli**	**3.37**	**3**	P	**Pn**	**01 27 45.3**	**+2.0**
GTOI	**Gorontalo**	**3.74**	**40**	P	**Pn**	**01 27 50.4**	**+2.0**
FITZ	**Fitzroy Crossi**	**16.48**	**163**	LR	LR	01 37 15.9	
	comp=Z,31nm,19.3s,baz=98,slow=37						
WRA	**Warramunga Arr**	**22.09**	**144**	P	**P**	**01 31 42.7**	**-2.7**
	1.1nm,0.6s,baz=321,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**24.85**	**150**	P	**P**	**01 32 12.1**	**-0.5**
	0.7nm,0.7s,baz=332,slow=9.1,SNR=7.1						
STKA	**Stephens Creek**	**35.46**	**148**	P	**P**	**01 33 47.8**	**+1.5**
	1.2nm,0.6s,baz=331,slow=13,SNR=4.3						
SONM	**Songino Array**	**51.43**	**348**	P	P	01 35 51.6	-3.3
	0.4nm,0.7s,baz=169,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**59.34**	**330**	P	**P**	**01 36 51.1**	**-0.6**
	0.5nm,0.8s,baz=123,slow=8.8,SNR=3.7						

*IDC **15** 02:05:32.1±0.6, 51°.08N×174°.55E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.1/34, mbtmp4.0/18, ML4.1/1, MS3.1/5, Ms1 3.2/5, ms1mx2.8/48, Error ellipse: s-maj=14.3km s-min=12.3km az=41.0*
*NEIC **15** 02:05:34.0±1.8, 51°.10N×174°.59E, h11km±11km, mb4.4/4, ML3.7(AEIC), Error ellipse: s-maj=8.5km s-min=3.5km az=188.0*
*ISCJB **15** 02:05:35.1±0.4, 51°.13N±0°.05×174°.57E±0°.04, h33km, mb4.1/21, MS3.1/5, Error ellipse: s-maj=7.2km s-min=3.7km az=9.4*

ISC 15 02:05:37.1±0.6, 51°.14N±0°.08×174°.53E±0°.04, h35km, n67, σ1§14/77, mb4.0/21, MS3.0/5, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.62**	**351**	*e*Pn	**Pn**	**02 06 02.0**	**-1.1**
SMY				*e*S	**Sn**	**02 06 23.3**	**+0.5**
FX1	**Attu Island--F**	**1.94**	**335**	*e*Pn	**Pn**	**02 06 06.0**	**-1.7**
FX1				*e*S	**Sn**	**02 06 28.6**	**-2.2**
FX1	**Attu Island--F**	**1.94**	**335**	Pn	**Pn**	**02 06 05.9**	**-1.7**
	33nm,0.3s,baz=173,slow=5.2,SNR=722						
FX1				Sn	**Sn**	**02 06 28.8**	**-2.0**
	70nm,0.3s,baz=185,slow=4.1,SNR=7.8						
LSSA	**Little Sitkin**	**2.62**	**70**	P	**Pn**	**02 06 15.8**	**-1.1**
LSSA				S	**Sn**	**02 06 47.2**	**-0.2**
LSNW	**Little Sitkin**	**2.62**	**70**	P	**Pn**	**02 06 16.0**	**-1.0**
LSPA	**Little Sitkin**	**2.65**	**70**	P	**Pn**	**02 06 16.4**	**-0.9**
LSPA				S	**Sn**	**02 06 48.5**	**+0.2**
AMKA	**Amchitka**	**3.01**	**83**	*e*Pn	**Pn**	**02 06 20.4**	**-1.8**
AMKA				*e*S	**Sn**	**02 06 52.3**	**-4.6**
CETU	**Semis' Tuman**	**3.21**	**73**	P	**Pn**	**02 06 24.3**	**-0.7**
CESW	**Semis' Southwe**	**3.23**	**74**	P	**Pn**	**02 06 24.3**	**-1.0**
CESW				S	**Sn**	**02 07 01.4**	**-1.2**
CEAP	**Semis' Anvil P**	**3.27**	**73**	P	**Pn**	**02 06 25.1**	**-0.7**
CEAP				S	**Sn**	**02 07 02.9**	**-0.5**
CERAA	**Semis' Rag'd T**	**3.31**	**74**	P	**Pn**	**02 06 25.3**	**-1.0**
GANE	**Gareloi Northe**	**4.24**	**78**	P	**Pn**	**02 06 38.1**	**-1.0**
TANO	**Tanaga North**	**4.65**	**77**	P	**Pn**	**02 06 44.0**	**-0.8**
TASE	**Tanaga Southea**	**4.70**	**79**	P	**Pn**	**02 06 44.5**	**-1.0**
TAFP	**Tanaga Falls P**	**4.74**	**78**	P	**Pn**	**02 06 44.7**	**-1.3**
ADK	**Adak**	**5.54**	**79**	*e*Pn	**Pn**	**02 06 54.9**	**-2.1**
	20nm,0.6s						
ADK				*e*S	**Sn**	**02 07 56.2**	**-3.1**
GSMY	**Great Sitkin M**	**5.94**	**78**	P	**Pn**	**02 07 01.2**	**-1.2**
PEA0B	**Petropavlovsk-**	**10.54**	**287**	*e*Pn	**Pn**	**02 08 06.2**	**+0.6**
PEA0B				*e*S	Sn	02 09 48.3	-14
PETK	**Petropavlovsk-**	**10.54**	**287**	Pn	**Pn**	**02 08 05.6**	**+0.1**
PETK				Sn	**Sn**	**02 10 00.1**	**-2.2**
PETK	**Petropavlovsk-**	**10.54**	**287**	Pn	**Pn**	**02 08 05.6**	**+0.1**
	1.5nm,0.3s,baz=207,slow=6.3,SNR=18						
PETK				Sn	**Sn**	**02 10 00.1**	**-2.2**
	2.8nm,0.3s,baz=94,slow=32,SNR=6.6						
SEY	**Seymchan**	**16.77**	**323**	Pn	**P**	**02 09 30.4**	**-0.5**
SEY	**Seymchan**	**16.77**	**323**	Pn	**P**	**02 09 30.4**	**-0.5**
	0.5nm,0.3s,baz=4.3,slow=23,SNR=7.9						
RSO	**Redoubt South**	**20.41**	**50**	*e*P	**P**	**02 10 11.8**	**+0.7**
	27nm,0.

FITZ	**Fitzroy Crossi**	**81.13**	**226**	P	**P**	**02 17 49.3**	**+0.5**
	3.0nm,0.9s,baz=349,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**82.62**	**217**	P	**P**	**02 17 56.9**	**+0.3**
ASAR	**Alice Springs**	**82.62**	**217**	P	**P**	**02 17 56.9**	**+0.3**
	0.7nm,0.6s,baz=18,slow=4.7,SNR=8.8						
BRTR	**Keskin Array B**	**83.27**	**331**	P	**P**	**02 18 01.1**	**+1.1**
BRTR	**Keskin Array B**	**83.27**	**331**	P	**P**	**02 18 01.1**	**+1.1**
	0.8nm,0.9s,baz=72,slow=12,SNR=3.7						
BOSA	**Boshof**	**147.80**	**303**	PKPbc	**PKPbc**	**02 25 18.4**	**+0.3**
BOSA	**Boshof**	**147.80**	**303**	PKPbc	**PKPbc**	**02 25 18.4**	**+0.3**
	1.4nm,0.6s,baz=223,slow=18,SNR=4.3						

TAP ***15*** *02:08:51.4,23.52N×120.80E,h22km,ML2.2,A*
IDC ***15*** *02:08:52.6±4.2,23.24N×121.70E,h0km,mb3.8/6,*
mb1 3.9/7,mb1mx3.6/27,mbtmp3.8/7,ML3.8/1,Error ellipse: s-maj=90.9km s-min=49.7km az=3.0
ISCJB ***15*** *02:08:53.2±0.4,23.50N±0.02×120.83E±0.03,h10km±4km, mb3.7/6, Error ellipse: s-maj=4.3km s-min=3.6km az=30.7*

ISC 15 02:08:53.0±0.9,23.51N±0.03×120.82E±0.04,h15km±5km, n20,σ1s03/26,mb3.7/6,1C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALS	**Alishan**	**0.01**	**287**	⇓*i*P	**Pg**	**02 08 55.7**	**-0.3**
	baz=133						
ALS				S	**Sg**	**02 08 58.4**	**+0.4**
	baz=133						
YUS	**Yu-Shan**	**0.12**	**98**	*i* P	**Pg**	**02 08 56.8**	**-0.2**
	baz=103						
YUS				*i* S	**Sg**	**02 09 00.7**	**+1.1**
	baz=103						
CHN5	**Tsauling**	**0.16**	**305**	⇑*i*P	**Pg**	**02 08 56.4**	**-0.7**
	baz=304						
CHN5				*i* S	**Sg**	**02 08 59.6**	**-0.1**
	baz=304						
WTP	**Ta-pu**	**0.32**	**216**	P	**Pg**	**02 08 59.1**	**-0.6**
	baz=209						
WTP				S	**Sg**	**02 09 04.8**	**+0.5**
	baz=209						
STYT	**Tauyuan**	**0.35**	**190**	P	**Pg**	**02 08 59.8**	**-0.3**
	baz=184						
STYT				*e*S	**Sg**	**02 09 05.4**	**+0.4**
	baz=184						
CHY	**Chiayi**	**0.36**	**269**	*e*S	**Sg**	**02 09 06.0**	**+0.5**
	baz=265						
ELDTW	**Lidau**	**0.36**	**150**	P	**Pb**	**02 09 00.2**	**-1.1**
	baz=147						
ELDTW				*e*S	**Sb**	**02 09 05.3**	**-1.5**
	baz=147						
SMLT	**Sun Moon Lake**	**0.38**	**11**	*e*P	**Pg**	**02 08 59.7**	**-1.2**
	baz=16						
SMLT				*e*S	**Sg**	**02 09 05.8**	**-0.3**
	baz=16						
TWK	**Hsinying**	**0.39**	**232**	P	**Pg**	**02 09 00.1**	**-0.8**
	baz=226						
TWK				*e*S	**Sg**	**02 09 06.3**	**+0.1**
	baz=226						
TYC	**Yuchr**	**0.40**	**5**	P	**Pg**	**02 09 00.3**	**-0.7**
	baz=10.0						
TYC				*i* S	**Sg**	**02 09 06.7**	**+0.2**
	baz=10.0						
CHN1	**Nanshi**	**0.42**	**220**	*i* P	**Pg**	**02 09 00.5**	**-0.9**
	baz=216						
CHN1				*i* S	**Sg**	**02 09 07.7**	**+0.6**
	baz=216						
EHY	**Hungye**	**0.46**	**90**	*e*P	**Pb**	**02 09 01.7**	**-1.2**
	baz=92						
EHY				*e*S	**Sb**	**02 09 08.4**	**-1.1**
	baz=92						
TWF1	**Yuli**	**0.46**	**109**	P	**Pb**	**02 09 01.9**	**-1.0**
	baz=110						
KSRS	**Korea Array**	**15.18**	**22**	Pn	**Pn**	**02 12 29.6**	**+2.7**
	0.4nm,0.3s,baz=200,slow=12,SNR=5.6						
SONM	**Songino Array**	**26.87**	**338**	P	P	02 14 39.4	+6.1
	1.0nm,0.7s,baz=156,slow=11,SNR=7.9						
MKAR	**Makanchi Array**	**38.59**	**317**	P	P	02 16 24.2	+8.6
	0.3nm,0.7s,baz=104,slow=11,SNR=2.2						
ZALV	**Zalesovo Beam**	**40.63**	**328**	P	P	02 16 38.4	+6.1
	0.4nm,0.3s,baz=106,slow=11,SNR=2.9						
BVAR	**Borovoye Array**	**47.99**	**321**	P	P	02 17 38.8	+7.6
	0.7nm,0.5s,baz=104,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**71.86**	**330**	P	P	02 20 21.6	+6.4
	4.4nm,1.1s,baz=90,slow=3.8,SNR=3.8						
YKA	**Yellowknife Ar**	**83.72**	**23**	P	**P**	**02 21 22.5**	**+1.3**
	0.4nm,0.6s,baz=310,slow=4.8,SNR=5.7						

JMA ***15*** *02:09:00.2±0.1,24.29N×121.84E,h0km,M3.6*
TAP ***15*** *02:09:01.0,24.30N×121.83E,h14km,ML3.9,B*

ISC 15 02:09:01.0±0.9,24.28N±0.02×121.87E±0.02,h8km±7km, n59,σ0s78/87,7C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.12**	**282**	*i* P	**Pg**	**02 09 04.0**	**+0.3**
	baz=279						
EHP				*i* S	**Sg**	**02 09 06.2**	**+0.6**
	baz=279						
ENA	**Nanau**	**0.19**	**320**	⇑*i*P	**Pg**	**02 09 05.0**	**+0.2**
	baz=330						
ENA				S	**Sg**	**02 09 07.7**	**+0.2**
	baz=330						
TWD	**Chiawan**	**0.32**	**231**	⇓*i*P	**Pg**	**02 09 07.2**	**-0.1**
	baz=229						
TWD				*e*S	**Sg**	**02 09 11.7**	**+0.1**
	baz=229						
TWC	**Suao**	**0.33**	**356**	⇑*i*P	**Pg**	**02 09 07.7**	**+0.3**
	baz=9.0						
TWC				*i* S	**Sg**	**02 09 11.9**	**+0.2**
	baz=9.0						
HWA	**Hwalien**	**0.39**	**219**	*e*P	**Pb**	**02 09 09.5**	**-0.6**
	baz=219						
ENTT	**Nioudou**	**0.45**	**322**	⇑*i*P	**Pg**	**02 09 09.9**	**+0.1**
	baz=325						
ENTT				*i* S	**Sg**	**02 09 15.6**	**-0.2**
	baz=325						
TWE	**Neicheng**	**0.47**	**337**	⇑*i*P	**Pg**	**02 09 10.4**	**+0.3**
	baz=342						
TWE				*i* S	**Sg**	**02 09 16.5**	**+0.1**
	baz=342						
NNS	**Nan Shan**	**0.48**	**289**	⇑*i*P	**Pg**	**02 09 10.3**	**-0.1**
	baz=290						
NNS				S	**Sg**	**02 09 15.8**	**-0.9**
	baz=290						
ILA	**Ilan**	**0.49**	**347**	*i* P	**Pb**	**02 09 11.0**	**-0.9**
	baz=345						
ILA				S	**Sb**	**02 09 18.5**	**-0.8**
	baz=345						
ESF	**Shoufeng Towns**	**0.53**	**219**	*e*P	**Pg**	**02 09 11.9**	**+0.7**
	baz=224						
WHF	**Hehuan Shan**	**0.57**	**256**	⇓*i*P	**Pg**	**02 09 11.9**	**-0.2**
	baz=255						
WHF				*e*S	**Sg**	**02 09 18.9**	**-0.8**
	baz=255						
NSK	**Sanguang**	**0.61**	**310**	⇑*i*P	**Pg**	**02 09 12.7**	**-0.1**
	baz=312						
NSK				S	**Sg**	**02 09 19.8**	**-1.0**
	baz=312						
ESL	**Shilin**	**0.62**	**221**	*e*P	**Pg**	**02 09 12.4**	**-0.5**
	baz=224						
TWT	**Tachien**	**0.64**	**267**	*e*P	**Pg**	**02 09 13.4**	**+0.1**
	baz=266						
TWT				*e*S	**Sg**	**02 09 21.2**	**-0.4**
	baz=266						
TEGC	**Jichi Village**	**0.65**	**208**	*e*P	**Pg**	**02 09 14.2**	**+0.7**
	baz=206						
TEGC				*e*S	**Sn**	**02 09 26.9**	**+0.1**
	baz=206						
TWB1	**Santiao Chiao**	**0.73**	**8**	⇑*i*P	**Pg**	**02 09 15.1**	**+0.1**
	baz=11						
TWB1				*e*S	**Sb**	**02 09 25.3**	**-0.8**
	baz=11						
TWA	**Mucha**	**0.74**	**339**	P	**Pg**	**02 09 15.1**	**-0.2**
	baz=342						
TAP1	**Taipei**	**0.82**	**337**	*e*P	**Pg**	**02 09 16.3**	**-0.4**
	baz=328						
NSTT	**Nanjuang**	**0.87**	**294**	*e*P	**Pg**	**02 09 17.4**	**-0.2**
	baz=294						
NSTT				*e*S	**Sb**	**02 09 29.3**	**-0.7**
	baz=294						
TWS1	**Kuangyinshan**	**0.91**	**333**	*e*P	**Pg**	**02 09 18.5**	**-0.1**
	baz=325						
EHY	**Hungye**	**0.92**	**213**	*e*P	**Pg**	**02 09 18.0**	**-0.8**
	baz=224						
EHY				*e*S	**Sg**	**02 09 31.3**	**+0.6**
	baz=224						
NCU	**National Centr**	**0.93**	**318**	*e*P	**Pb**	**02 09 19.2**	**-0.1**
	baz=314						
NCU				*e*S	**Sn**	**02 09 34.2**	**+0.4**
	baz=314						
HSN	**Hsinchu**	**0.97**	**302**	*e*P	**Pb**	**02 09 19.7**	**-0.3**
	baz=295						
SMLT	**Sun Moon Lake**	**0.97**	**246**	P	**Pb**	**02 09 19.8**	**-0.3**
	baz=245						
TYC	**Yuchr**	**1.00**	**248**	*e*P	**Pg**	**02 09 20.2**	**0.0**
	baz=247						
TWQ1	**Liyutan**	**1.01**	**274**	*e*P	**Pn**	**02 09 20.9**	**-0.5**
	baz=274						
TWY	**Chenhua**	**1.02**	**346**	*e*P	**Pb**	**02 09 20.9**	**0.0**
	baz=348						
NSY	**Sanyi**	**1.02**	**278**	*e*P	**Pn**	**02 09 21.6**	**0.0**
	baz=278						
NSY				*e*S	**Sb**	**02 09 34.1**	**-0.4**
	baz=278						
YOJ	**Yonaguni jima**	**1.05**	**80**	P	**Pg**	**02 09 21.6**	**+0.4**
YOJ	**Yonaguni jima**	**1.05**	**80**	*e*P	**Pg**	**02 09 21.5**	**+0.4**
	baz=70						
YOJ				*e*S	**Sn**	**02 09 37.4**	**+0.6**
	baz=70						
TWF1	**Yuli**	**1.07**	**210**	*e*P	**Pg**	**02 09 20.3**	**-1.2**
	baz=223						
TCU	**Taichung**	**1.10**	**263**	*e*P	**Pn**	**02 09 23.3**	**+0.6**
	baz=264						
TCU				*e*S	**Sn**	**02 09 40.6**	**+2.5**
	baz=264						
YUS	**Yu-Shan**	**1.16**	**227**	*e*P	**Pb**	**02 09 22.9**	**-0.6**
	baz=238						
YUS				*e*S	**Sn**	**02 09 39.7**	**-0.4**
	baz=238						
WNT	**Mingjian**	**1.16**	**250**	*e*P	**Pn**	**02 09 24.2**	**+0.8**
	baz=247						
WNT				*e*S	**Sn**	**02 09 41.3**	**+1.8**
	baz=247						
ALS	**Alishan**	**1.24**	**232**	*e*P	**Pn**	**02 09 24.4**	**-0.5**
	baz=231						
CHKT	**Chengkung**	**1.27**	**202**	*e*P	**Pn**	**02 09 23.5**	**-1.5**
	baz=185						
CHN5	**Tsauling**	**1.29**	**238**	*e*P	**Pg**	**02 09 25.9**	**+0.2**
	baz=240						
CHN5				*e*S	**Sn**	**02 09 45.5**	**+2.7**
	baz=240						
WGK	**Gukeng**	**1.34**	**244**	*e*P	**Pg**	**02 09 26.5**	**-0.1**
	baz=245						
ELDTW	**Lidau**	**1.34**	**216**	*e*P	**Pn**	**02 09 25.3**	**-0.8**
	baz=202						
PCYT	**Pengchaiyu**	**1.35**	**8**	*e*P	**Pn**	**02 09 24.9**	**-1.3**
	baz=9.0						
STYT	**Tauyuan**	**1.51**	**223**	*e*P	**Pn**	**02 09 28.2**	**-0.2**
	baz=225						
STYT				*e*S	**Sg**	**02 09 49.2**	**-0.5**
	baz=225						
CHY	**Chiayi**	**1.54**	**240**	*e*P	**Pg**	**02 09 30.3**	**-0.2**
	baz=227						
WTP	**Ta-pu**	**1.55**	**228**	*e*P	**Pb**	**02 09 29.8**	**-0.1**
	baz=232						
WTP				*e*S	**Sg**	**02 09 51.5**	**+0.7**
	baz=232						
TWK	**Hsinying**	**1.62**	**232**	*e*P	**Pb**	**02 09 30.7**	**-0.5**
	baz=234						
TWG	**Pinlang**	**1.63**	**207**	*e*P	**Pn**	**02 09 27.9**	**-2.0**
	baz=208						
WSF	**Szhu**	**1.64**	**247**	*e*P	**Pn**	**02 09 30.0**	**-0.1**
	baz=258						
WSF				*e*S	**Sg**	**02 09 53.8**	**+0.1**
	baz=258						
CHN1	**Nanshi**	**1.65**	**229**	*e*P	**Pb**	**02 09 31.0**	**-0.6**
	baz=233						
CHN1				*e*S	**Sg**	**02 09 55.4**	**+1.4**
	baz=233						
SGST	**Jiashian**	**1.68**	**225**	*e*P	**Pb**	**02 09 32.0**	**-0.2**
	baz=227						
SGST				*e*S	**Sg**	**02 09 55.3**	**+0.2**
	baz=227						
IRIF	**Iriomote-Funau**	**1.69**	**88**	P	**Pn**	**02 09 30.8**	**0.0**
ECL	**Taimali**	**1.88**	**207**	*e*P	**Pn**	**02 09 33.2**	**-0.2**
	baz=196						
SSD	**Sandimen**	**1.91**	**217**	*e*P	**Pn**	**02 09 34.6**	**+0.8**
	baz=230						
JKRS	**Kuro-shima**	**1.95**	**91**	P	**Pn**	**02 09 35.1**	**+0.8**
TWM1	**Shoushan**	**1.97**	**223**	*e*P	**Pb**	**02 09 37.0**	**-0.1**
	baz=226						
JIJ	**Ishigaki jima**	**2.07**	**87**	P	**Pn**	**02 09 36.8**	**+0.8**
JIJ				*e*S	**Sb**	**02 10 04.2**	**-0.5**
SCZT	**Fangliau**	**2.22**	**211**	*e*P	**Pn**	**02 09 39.0**	**+0.8**
	baz=203						
LAY	**Lan-yu**	**2.25**	**188**	*e*P	**Pn**	**02 09 36.9**	**-1.7**
	baz=191						
WDGT	**Dungji**	**2.27**	**244**	*e*P	**Pb**	**02 09 41.5**	**-0.6**
	baz=247						
TWK1	**Hengchun**	**2.53**	**203**	*e*P	**Pn**	**02 09 43.4**	**+1.1**
	baz=195						
KNM	**Kinmen**	**3.14**	**273**	*e*P	**Pn**	**02 09 51.9**	**+1.2**
	baz=274						

IDC ***15*** *02:15:51.7±0.8,37.03N×32.67W,h0km,mb3.7/12,*
mb1 4.0/12,mb1mx3.8/31,mbtmp3.7/12,MS3.7/12,
Ms1 3.7/12,ms1mx3.3/43,Error ellipse: s-maj=27.2km s-min=17.3km az=173.0
ISCJB ***15*** *02:15:52.1±0.7,37.0N±0.2×32.7W±0.1,h13km,mb3.7/12,*
MS3.7/12,Error ellipse: s-maj=23.1km s-min=14.5km az=177.0

ISC 15 02:15:53.7±0.8,37.0N±0.2×32.7W±0.1,h13km,n21, σ0s91/13,mb3.8/12,MS3.8/12,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**22.63**	**74**	P	**P**	**02 20 54.5**	**+0.1**
	0.8nm,0.9s,baz=313,slow=8.0,SNR=3.1						
MDT	**Midelt**	**23.35**	**92**	LR	LR	02 28 15.9	
	comp=Z,140nm,18.4s,baz=334,slow=32						
BBTS	**Babate**	**26.52**	**143**	LR	LR	02 30 12.2	
	comp=Z,133nm,18.9s,baz=31,slow=32						
BORG	**Borgarnes**	**28.56**	**10**	LR	LR	02 29 18.7	
	comp=Z,57nm,21.2s,baz=201,slow=28						
SCHQ	**Schefferville**	**29.28**	**318**	LR	LR	02 32 31.8	
	comp=Z,299nm,18.6s,baz=78,slow=34						
TORD	**Torodi Ar. Bea**	**38.84**	**119**	P	**P**	**02 23 18.9**	**+0.3**
	2.3nm,1.1s,baz=338,slow=2.3,SNR=7.1						
TORD				LR	LR	02 37 46.6	
	comp=Z,114nm,18.7s,baz=315,slow=34						
DBIC	**Dimbokro**	**39.45**	**133**	LR	LR	02 38 50.0	
	comp=Z,139nm,18.1s,baz=254,slow=35						
FINES	**FINESS Array B**	**43.50**	**37**	P	**P**	**02 23 58.0**	**+1.6**
	15nm,1.3s,baz=202,slow=6.0,SNR=3.7						
AKASG	**Malin Array Be**	**45.37**	**52**	P	**P**	**02 24 10.9**	**-0.7**
	0.2nm,0.3s,baz=272,slow=8.3,SNR=4.1						
ULM	**Lac du Bonnet**	**46.26**	**308**	LR	LR	02 43 39.9	
	comp=Z,94nm,18.3s,baz=82,slow=36						
YKA	**Yellowknife Ar**	**54.32**	**326**	P	**P**	**02 25 18.7**	**-0.7**
	1.0nm,0.9s,baz=75,slow=7.1,SNR=5.5						
YKA				PcP	**PcP**	**02 26 23.0**	**-0.2**
	0.2nm,0.6s,baz=71,slow=4.4,SNR=4.4						
PDAR	**Pinedale Array**	**57.35**	**302**	P	**P**	**02 25 41.4**	**-0.4**
	0.6nm,0.9s,baz=48,slow=2.2,SNR=3.9						
PDAR				LR	LR	02 47 28.1	
	comp=Z,104nm,21.2s,baz=81,slow=33						
TXAR	**Lajitas Array**	**58.68**	**285**	P	**P**	**02 25 51.6**	**+0.5**
	1.0nm,0.8s,baz=90,slow=8.8,SNR=11						
TXAR				LR	LR	02 48 38.2	
	comp=Z,65nm,18.8s,baz=355,slow=34						
LPAZ	**La Paz**	**62.69**	**219**	P	**P**	**02 26 18.7**	**-0.3**
	2.4nm,1.0s,baz=12,slow=7.7,SNR=6.0						
NVAR	**Mina Array Bea**	**65.22**	**300**	P	**P**	**02 26 36.8**	**+1.7**
	0.6nm,0.8s,baz=61,slow=7.0,SNR=3.8						
ILAR	**Eielson Array**	**66.35**	**335**	LR	LR	02 52 34.5	
	comp=Z,68nm,19.1s,baz=123,slow=33						
KURBB	**Kurchatov Arra**	**73.86**	**38**	P	**P**	**02 27 27.9**	**-0.1**
	0.9nm,0.8s,baz=310,slow=6.2,SNR=8.1						
MKAR	**Makanchi Array**	**78.25**	**40**	P	**P**	**02 27 52.6**	**-0.5**
	0.6nm,0.8s,baz=318,slow=7.1,SNR=4.3						
BOSA	**Boshof**	**84.96**	**132**	LR	LR	03 01 50.6	
	comp=Z,41nm,19.6s,baz=85,slow=32						
SONM	**Songino Array**	**87.95**	**26**	P	**P**	**02 28 42.3**	**-1.0**
	0.1nm,0.5s,baz=2.3,slow=7.2,SNR=2.1						
PETK	**Petropavlovsk-**	**89.78**	**354**	LR	LR	03 08 18.6	
	comp=Z,27nm,20.1s,baz=23,slow=35						

IGQ 15 03:01:52.2,3.03S×78.11W,h12km±165km,Mb4.1,Ms3.9, 4C-7D,Error ellipse: s-maj=7.6km s-min=1.9km az=2.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACE	**Macas**	**0.77**	**353**	⇓S	Sb	03 02 19.1	+0.6
MACE	**Macas**	**0.77**	**353**	⇓P	Pg	03 02 07.6	+0.1
RIOE	**Riobamba**	**1.37**	**338**	P	Pb	03 02 18.4	+0.2
RIOE	**Riobamba**	**1.37**	**338**	S	Sg	03 02 38.2	+1.0
PAT1	**Patacocha**	**1.55**	**348**	⇓P	Pb	03 02 21.0	-0.4
BPAT	**Tungurahua Vol**	**1.55**	**348**	⇓S	Sg	03 02 42.5	-0.6
BPAT	**Tungurahua Vol**	**1.55**	**348**	⇓P	Pb	03 02 21.0	-0.5
ARRY	**Arrayan**	**1.55**	**347**	P	Pn	03 02 20.6	+0.5
BMAS	**Trigal station**	**1.56**	**346**	P	Pb	03 02 21.1	-0.4
ULBA	**Ulba**	**1.60**	**349**	S	Sg	03 02 43.7	-0.7
ULBA	**Ulba**	**1.60**	**349**	P	Pb	03 02 21.6	-0.6
RETU	**Refugio**	**1.60**	**348**	S	Sg	03 02 44.3	-0.7
RETU	**Refugio**	**1.60**	**348**	P	Pb	03 02 21.9	-0.6
BULB	**Ulba Tungurahu**	**1.61**	**349**	S	Sb	03 02 43.6	+0.6
BULB	**Ulba Tungurahu**	**1.61**	**349**	P	Pb	03 02 21.7	-0.7
IGUA	**Igualata**	**1.62**	**341**	P	Pg	03 02 23.6	-0.4
IGUA	**Igualata**	**1.62**	**341**	S	Sg	03 02 47.1	+1.6
BRUN	**Tungurahua Vol**	**1.62**	**349**	⇓S	Sb	03 02 44.3	+0.9
BRUN	**Tungurahua Vol**	**1.62**	**349**	⇓P	Pb	03 02 22.3	-0.3
JUI6	**Juive**	**1.63**	**347**	S	Sg	03 02 46.6	+1.1
JUI6	**Juive**	**1.63**	**347**	P	Pb	03 02 22.5	-0.2
RUN5	**Runtun**	**1.63**	**349**	P	Pb	03 02 22.3	-0.4
RUN5	**Runtun**	**1.63**	**349**	S	Sg	03 02 45.8	+0.3
PISA	**Pisayambo**	**1.98**	**352**	⇑S	Sb	03 02 55.0	+1.2
PISA	**Pisayambo**	**1.98**	**352**	⇑P	Pb	03 02 28.5	-0.3
BMOR	**Cotopaxi Volca**	**2.31**	**351**	P	Pb	03 02 34.2	-0.4
TAMB	**Tambo**	**2.33**	**354**	S	Sb	03 03 06.0	+1.8
TAMB	**Tambo**	**2.33**	**354**	P	Pb	03 02 34.0	-1.0
BTAM	**Cotopaxi Volca**	**2.35**	**353**	S	Sb	03 03 06.5	+1.7
BTAM	**Cotopaxi Volca**	**2.35**	**353**	P	Pb	03 02 34.5	-1.0
COV1	**Cotopaxi Volc**	**2.36**	**354**	S	Sg	03 03 07.9	-1.7
COV1	**Cotopaxi Volc**	**2.36**	**354**	P	Pb	03 02 35.7	+0.1
BREF	**Cotopaxi Volca**	**2.37**	**352**	S	Sb	03 03 07.3	+2.0
BREF	**Cotopaxi Volca**	**2.37**	**352**	P	Pb	03 02 34.8	-0.9
CAMI	**Rancho Maria**	**2.37**	**350**	S	Sg	03 03 07.7	-1.7
CAMI	**Rancho Maria**	**2.37**	**350**	P	Pb	03 02 35.7	+0.2
BNAS	**Cotopaxi Volca**	**2.37**	**351**	P	Pb	03 02 35.1	-0.5
BVC2	**Cotopaxi Volca**	**2.37**	**353**	P	Pb	03 02 34.8	-0.8
PAST	**Pastocalle**	**2.38**	**347**	P	Pb	03 02 36.6	+1.0
PAST	**Pastocalle**	**2.38**	**347**	S	Sg	03 03 09.8	+0.1
VC1	**Cotopaxi 1**	**2.39**	**353**	P	Pb	03 02 35.1	-0.7
NAS2	**Nasa**	**2.39**	**351**	S	Sg	03 03 08.3	-2.1
NAS2	**Nasa**	**2.39**	**351**	P	Pb	03 02 35.7	-0.2
PITA	**Cotopaxi Volc**	**2.47**	**353**	S	Sg	03 03 11.1	-1.7
PITA	**Cotopaxi Volc**	**2.47**	**353**	P	Pb	03 02 37.3	+0.1
ANTI	**Antisana**	**2.56**	**359**	⇑S	Sb	03 03 10.5	-0.4
ANTI	**Antisana**	**2.56**	**359**	⇑P	Pb	03 02 36.6	-2.3
JUA2	**San Juan 2**	**2.84**	**350**	P	Pb	03 02 44.3	+0.8
GGP	**Refugio Guagua**	**2.88**	**350**	P	Pb	03 02 44.0	-0.3
TERV	**Terraza Guagua**	**2.88**	**350**	P	Pb	03 02 45.3	+1.1
PINO	**Pino**	**2.89**	**350**	P	Pb	03 02 46.1	+1.5
CHAR	**Charly**	**2.95**	**9**	P	Pb	03 02 43.7	-1.7
LAV4	**Lava4-Reventad**	**2.96**	**9**	P	Pb	03 02 43.8	-1.4
OTAV	**Otavalo**	**3.26**	**354**	P	Pb	03 02 49.5	-1.2

IDC 15 03:27:08.5±45.0,14.57S×172.94W,h0km,mb4.3/3, mb1 4.5/3,mb1mx3.9/20,mbtmp4.3/3,Error ellipse: s-maj=867.7km s-min=170.5km az=78.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.84**	**239**	P	P	03 35 24.8	+0.2
	1.6nm,0.3s,baz=82,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**50.47**	**256**	P	P	03 36 08.1	-0.6
	0.8nm,0.7s,baz=94,slow=7.1,SNR=9.5						
ASAR	**Alice Springs**	**50.79**	**251**	P	P	03 36 11.1	0.0
	11nm,0.5s,baz=87,slow=8.1,SNR=134						

IDC ***15*** *03:34:02.3±0.9,43.73N×128.60W,h0km,mb4.0/13,*
mb1 4.1/17,mb1mx4.0/35,mbtmp4.0/17,ML3.4/4,MS3.9/23,
Ms1 3.9/23,ms1mx3.7/42,Error ellipse: s-maj=24.6km s-min=14.6km az=53.0
ISCJB ***15*** *03:34:03.7±1.2,43.94N±0.02×128.40W±0.04,h1km±7km,*
mb4.4/31,MS3.9/20,Error ellipse: s-maj=5.1km s-min=3.3km az=173.9
BJI ***15*** *03:34:03.5,43.90N×128.40W,h10km,mB5.1/9,mb4.9/15,*
Ms7 4.5/3
GCMT ***15*** *03:34:05.0±0.3,43.81N×128.76W,h12km,MW4.7,*
Moment Tensor Solution. s19,c20; s71,c97; Moment tensor: Scale 10^16Nm; Mrr=1.55±.05; Mθθ=0.21±.06; Mφφ=1.35±.05; Mrθ=-0.21±.28; Mθφ=0.49±.04; Mφr=0.25±.19; Best double couple: M0=1.60000×10^16 NP1:φ=24.00000°, δ51.00000°,λ=-85.00000°. NP2:φ=196.00000°,δ40.00000°, λ=-96.00000°. Principal axes: T 1.5600, Plg6.0000°, Azm111.0000°; N 0.0300, Plg4.0000°, Azm201.0000°; P -1.5900, Plg83.0000°, Azm324.0000°; Data Used: IU CU IC II G CN.
NEIC ***15*** *03:34:06.1±0.5,43.93N×128.51W,h10km,mb4.7/26 Error ellipse: s-maj=7.8km s-min=4.5km az=56.0*

ISC 15 03:34:05.9±0.9,43.80N±0.06×128.46W±0.05,h17km±4km, n521,σ1s43/476,mb4.6/31,MS3.9/20,165C-201D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.15**	**106**	*e*Pn	Pn	03 34 51.9	-2.9
KEBM				*e*S	**Sn**	**03 35 27.4**	**-4.6**
I03D	**Drain, OR**	**3.71**	**90**	⇑P	**Pn**	**03 35 01.1**	**-1.3**
	baz=3.7						
COR	**Corvallis**	**3.79**	**76**	*e*Pn	**Pn**	**03 35 01.8**	**-1.8**
COR				*e*S	**Sn**	**03 35 46.9**	**-0.8**
L02D	**Cave Junction,**	**3.92**	**113**	⇓P	**Pn**	**03 35 05.8**	**+0.4**
	baz=4.0						
G03D	**McMinnville, O**	**3.98**	**67**	⇓P	**Pn**	**03

67nm,1.5s
BMO Blue Mountains 8.07 79 ePn Pn 03 36 06.0 +3.7
17nm,1.3s
CMB Columbia Colle 8.39 131 ePn Pn 03 36 09.1 +2.3
83nm,1.6s
BBB Bella Bella 8.40 1 Pn Pn 03 36 07.3 +0.6
BBB Bella Bella 8.40 1 Pn Pn 03 36 07.3 +0.6
0.5nm,0.3s,baz=162,slow=3.2,SNR=11
BBB LR LR 03 38 48.9
comp=Z,193nm,18.5s,baz=185,slow=34
WAKR Walker 8.62 125 ePn Pn 03 36 12.6 +2.6
31nm,1.5s
BMN Battle Mountai 9.01 108 ePn Pn 03 36 18.8 +3.5
NEW Newport 9.06 57 ⇓P Pn 03 36 15.6 -0.4
baz=9.0
MFID Camas Ranch 9.18 88 ePn Pn 03 36 20.5 +3.0
4.9nm,1.0s
NV11 Mina Array Sit 9.44 121 ePn Pn 03 36 23.7 +2.5
MLAC Mammoth Lakes 9.55 127 ⇑P Pn 03 36 23.9 +1.1
baz=9.6
HLID Hailey 10.18 86 ⇓P Pn 03 36 31.4 0.0
baz=10,SNR=6.2
TPH Tonopah 10.24 120 ePn Pn 03 36 36.0 +3.8
2.2nm,0.3s
ELK Elko 10.26 103 ePn Pn 03 36 35.3 +2.7
8.3nm,1.2s
BSMT Basso Peak 10.37 62 ePn Pn 03 36 37.0 +3.0
6.0nm,1.0s
MSO Missoula 10.67 68 ⇑P Pn 03 36 38.0 0.0
baz=11
SWMT Swartz Lake 10.78 65 ePn Pn 03 36 39.4 -0.2
5.0nm,0.9s
CWC Cottonwood Cre 10.82 129 ⇑P Pn 03 36 42.4 +2.2
baz=11,SNR=5.9
GRAC Grapevine Rang 10.84 125 ⇑P Pn 03 36 43.5 +3.2
baz=11,SNR=7.4
SLMT Seeley Lake 11.05 67 ePn Pn 03 36 43.0 -0.3
8.4nm,1.0s
R11A Troy Canyon, C 11.13 115 ⇓P Pn 03 36 46.2 +1.7
baz=11
CHMT Chamberlain Mo 11.15 68 ePn Pn 03 36 44.5 -0.1
6.7nm,1.4s
ISA Isabella 11.18 133 ePn Pn 03 36 47.6 +2.6
9.4nm,1.5s
ISA Isabella 11.18 133 ⇑P Pn 03 36 47.0 +2.0
baz=11,SNR=8.1
MCMT McKenzie Canyo 11.24 79 ePn Pn 03 36 47.3 +1.4
3.5nm,0.9s
ARVC Arvin 11.41 136 ⇑P Pn 03 36 50.2 +2.2
baz=12
MPMC Manual Prospec 11.42 129 ⇓P Pn 03 36 49.6 +1.2
baz=12,SNR=6.7
FURC Furnace Creek, 11.50 126 ⇓P Pn 03 36 50.9 +1.7
baz=12,SNR=8.9
TPNV Topopah Spring 11.55 122 ⇑P Pn 03 36 51.9 +1.8
baz=12,SNR=6.4
BGU Big Grassy Mou 11.77 99 ePn Pn 03 36 55.0 +1.8
8.9nm,1.4s
EDW2 Edwards Air Fo 12.03 134 ⇓P Pn 03 36 58.9 +2.2
baz=12
DUG Dugway 12.19 102 ePn Pn 03 37 00.0 +1.3
11nm,1.3s
DUG Dugway 12.19 102 ⇓P Pn 03 37 00.1 +1.3
baz=12
QLMT Earthquake Lak 12.25 79 ePn Pn 03 37 01.1 +1.4
3.5nm,1.3s
GSC Goldstone 12.35 129 ePn Pn 03 37 04.0 +3.0
5.7nm,1.3s
GSC Goldstone 12.35 129 ⇑P Pn 03 37 03.4 +2.3
baz=12,SNR=7.0
SHPR Sheep Range 12.50 121 ePn Pn 03 37 06.2 +3.1
32nm,1.7s
BFSC Mount Baldy Ra 12.70 135 ⇑P Pn 03 37 08.3 +2.4
baz=13
TUQ Turquoise Moun 12.76 127 ⇓P Pn 03 37 08.8 +2.1
baz=13,SNR=13
HEC Hector,Ludlow 12.96 130 ⇓P Pn 03 37 11.7 +2.3
baz=13,SNR=7.5
CCUT Cedar City 13.04 113 ePn Pn 03 37 14.4 +3.8
39nm,1.7s
DAU Daniels Canyon 13.22 99 ePn Pn 03 37 15.0 +2.0
15nm,1.4s
MVU Marysvale 13.33 108 ePn Pn 03 37 18.0 +3.5
37nm,1.4s
GMRC Granite Mounta 13.38 128 ⇓P Pn 03 37 17.3 +2.2
baz=14,SNR=5.9
LDFC Landfair 13.49 126 ePn Pn 03 37 19.5 +2.9
164nm,1.5s
GCMT Greycliff 13.50 75 ePn Pn 03 37 19.2 +2.5
37nm,1.6s
TMUT Trail Mountain 13.68 103 ePn Pn 03 37 21.6 +2.3
21nm,1.3s
EGMT Eagleton 13.69 65 ePn Pn 03 37 19.7 +0.5
32nm,1.4s
EGMT Eagleton 13.69 65 ⇓P Pn 03 37 19.3 +0.1
baz=14
BELC Belle Mtn. Jos 13.76 131 ⇑P Pn 03 37 23.1 +2.7
baz=14
RLMT Red Lodge 13.78 78 ePn Pn 03 37 22.4 +1.9
7.9nm,1.1s
BW06 Boulder Array 13.81 88 ePn Pn 03 37 23.2 +2.1
8.0nm,1.4s
PDAR Pinedale Array 13.81 88 Pn Pn 03 37 23.4 +2.3
PDAR Pinedale Array 13.81 88 Pn Pn 03 37 23.4 +2.3
0.0nm,0.3s,baz=283,slow=14,SNR=11
PDAR LR LR 03 42 53.2
comp=Z,927nm,18.3s,baz=282,slow=38
PFO Pinyon Flat Ob 13.82 133 ⇓P Pn 03 37 23.5 +2.4
baz=14
PFO Pinyon Flat Ob 13.82 133 LR LR 03 42 13.0
comp=Z,428nm,21.3s,baz=164,slow=35
H19A Powell 13.99 80 ⇑P Pn 03 37 23.5 +0.1
baz=14
F19A Roth Farm, Mol 14.01 75 ⇑P Pn 03 37 24.0 +0.4
baz=14
I19A Meeteetse 14.04 82 ⇑P Pn 03 37 24.6 +0.4
baz=14,SNR=8.1
J19A Crowheart 14.10 85 ⇓P Pn 03 37 25.7 +0.8
baz=14
C19A Slack Wire Ran 14.11 67 ⇑P Pn 03 37 24.7 -0.2
baz=14,SNR=7.6
IRM Iron Mountain 14.12 128 ⇑P Pn 03 37 27.1 +2.0
baz=14,SNR=6.6
D19A Cripps Ranch, 14.14 69 ⇑P Pn 03 37 25.1 -0.3
baz=14
E19A Rath Farm, Rou 14.14 72 ⇑P Pn 03 37 25.3 -0.1
baz=14
W13A Hualapai Mount 14.21 123 ⇑P Pn 03 37 28.5 +2.0
baz=14
SRU San Rafael 14.24 103 ePn Pn 03 37 29.6 +2.7
81nm,1.4s
B19A Brinkman Farms 14.30 64 ⇑P Pn 03 37 27.9 +0.3
baz=14
BC3 Big Chuckawall 14.32 131 ⇑P Pn 03 37 30.5 +2.6
baz=14,SNR=5.7
U15A North Rim 14.38 115 ⇑P Pn 03 37 30.8 +1.8
baz=14,SNR=8.2
MONP Monument Peak 14.40 135 ⇑P Pn 03 37 31.0 +1.9
baz=14
G20A Bridger 14.52 77 ⇓P Pn 03 37 31.4 +0.8
baz=14
A19A Klindworth Far 14.54 62 ⇓P Pn 03 37 30.4 -0.4
baz=14
E20A Meyer Farm, Mu 14.60 72 ⇑P Pn 03 37 31.6 0.0
baz=14
PDMCI Parker Dam,Lak 14.60 126 ⇑P Pn 03 37 34.3 +2.7
baz=15
D20A Manuel Ranch, 14.64 70 ⇓P Pn 03 37 32.6 +0.4
baz=15
SWSC Sam W. Stewart 14.68 133 ⇑P Pn 03 37 36.0 +3.2
baz=15
DLBC Dease Lake 14.69 357 Pn Pn 03 37 33.7 +0.8
DLBC Dease Lake 14.69 357 Pn Pn 03 37 33.7 +0.8
0.1nm,0.3s,baz=158,slow=19,SNR=2.4
DLBC LR LR 03 41 54.4
comp=Z,94nm,18.8s,baz=4.4,slow=32
H20A Greybull 14.71 80 ⇓P Pn 03 37 33.5 +0.3
baz=15
DVTC Desert V Tower 14.74 135 ⇑P Pn 03 37 36.6 +2.9
baz=15
Y12C Blythe 14.77 128 ⇓P Pn 03 37 36.9 +2.9
baz=15
J20A Shoshoni 14.78 85 ⇓P Pn 03 37 35.1 +0.9
baz=15,SNR=5.4
C20A Veseth Ranch, 14.80 68 ⇓P Pn 03 37 34.9 +0.5
baz=15
A20A Cobblestone Ra 15.05 63 ⇑P Pn 03 37 38.2 +0.4
baz=15
GLA Glamis 15.12 131 ⇑P Pn 03 37 41.8 +3.0
baz=15
G21A Lodge Grass 15.23 77 ⇓P Pn 03 37 41.1 +0.9
baz=15
N20A Spence Gulch, 15.23 94 ⇓P Pn 03 37 41.7 +1.4
baz=15,SNR=19
J21A Lysite 15.24 84 ⇑P Pn 03 37 41.6 +1.2
baz=15
I21A Big Trails, Te 15.29 83 ⇓P Pn 03 37 41.4 +0.4
baz=15
D21A La Casta Ranch 15.41 70 ⇓P Pn 03 37 43.1 +0.5
baz=15
O20A White River Ci 15.47 97 ePn Pn 03 37 44.9 +1.4
O20A White River Ci 15.47 97 ⇓P Pn 03 37 44.0 +0.5
baz=16,SNR=7.0
K21A Alcova 15.51 87 ⇓P Pn 03 37 44.3 +0.4
baz=16
WUAZ Wupatki 15.52 116 ePn P 03 37 47.5 -0.9
35nm,1.3s
WUAZ Wupatki 15.52 116 ⇑P Pn 03 37 45.9 +1.8
baz=16,SNR=6.9
Y14A Wickenburg 15.53 124 ⇓P Pn 03 37 46.2 +2.1
baz=16,SNR=5.1
B21A Ellsworth Farm 15.56 65 ⇑P Pn 03 37 44.7 +0.3
baz=16
PV10 Paradox Valley 15.60 104 ePn Pn 03 37 47.1 +1.9
184nm,1.1s
PV04 Paradox Valley 15.69 103 ePn Pn 03 37 48.6 +2.3
A21A Bergtoll Ranch 15.72 63 ⇓P Pn 03 37 46.6 +0.1
baz=16
I22A 9 Mile Ranch, 15.86 82 ⇓P Pn 03 37 48.8 +0.4
baz=16
H22A Clearmont 15.88 79 ⇓P Pn 03 37 49.2 +0.6
baz=16
G22A Birney 15.88 77 ⇓P Pn 03 37 49.3 +0.7
baz=16
F22A Rosebud 15.88 75 ⇓P Pn 03 37 49.2 +0.5
baz=16
LAO LASA Array 15.92 72 ePn Pn 03 37 49.7 +0.6
81nm,1.9s
113A Mohawk Valley, 15.92 129 ⇓P P 03 37 51.9 -0.8
baz=16
J22A Midwest 15.93 84 ⇓P Pn 03 37 50.0 +0.7
baz=16
Z14A Wintersburg 15.96 126 ⇓P P 03 37 52.3 -0.9
baz=16
D22A Cohagen 15.98 70 ⇑P Pn 03 37 50.3 +0.5
baz=16
K22A Casper 16.03 86 ePn Pn 03 37 50.9 +0.3
K22A Casper 16.03 86 ⇓P Pn 03 37 51.6 +0.9
baz=16
PV01 Paradox Valley 16.04 104 ePn Pn 03 37 53.0 +2.1
2µm,1.3s
E22A Miles City 16.10 73 ⇑P Pn 03 37 52.3 +0.9
baz=16
X16A Lo Mia Camp, P 16.17 120 ⇓P P 03 37 55.1 -0.5
baz=16
B22A Reddig Ranch S 16.22 66 ⇑P Pn 03 37 53.1 +0.2
baz=16
C22A Vida 16.23 68 ⇑P Pn 03 37 53.0 0.0
baz=16
M22A Cedar Creek Ra 16.27 91 ⇑P Pn 03 37 53.7 -0.1
baz=16
A22A Carney Farms, 16.38 64 ⇓P Pn 03 37 54.6 -0.3
baz=16
F23A Volborg 16.48 75 ⇓P Pn 03 37 56.3 0.0
baz=16
G23A Biddle 16.51 77 ⇓P Pn 03 37 57.2 +0.5
baz=16,SNR=7.1
MVCO Mesa Verde 16.53 107 ePn P 03 37 59.3 -0.4
23nm,1.3s
MVCO Mesa Verde 16.53 107 ⇓P Pn 03 37 58.5 +1.4
baz=17,SNR=9.7
E23A Ismay 16.55 73 ⇑P Pn 03 37 57.2 +0.1
baz=16
N22A Wattenberg Ran 16.55 93 ⇑P Pn 03 37 57.4 +0.1
baz=16,SNR=14
H23A Clabaugh Cattl 16.56 79 ⇑P Pn 03 37 56.8 -0.5
baz=16
D23A Lindsay 16.64 70 ⇓P Pn 03 37 58.0 -0.3
baz=17
O22A Kremmling 16.69 95 ⇑P Pn 03 37 59.6 +0.5
baz=17,SNR=21
C23A Lambert 16.70 68 ⇑P Pn 03 37 59.3 +0.3
baz=17,SNR=7.1
P22A Eagle 16.73 97 ⇓P Pn 03 37 59.7 0.0
baz=17
N23A Red Feather La 16.89 92 ⇑P Pn 03 38 02.2 +0.5
baz=17,SNR=12
B23A Brockton 16.90 66 ⇓P Pn 03 38 01.4 -0.1
baz=17
214A Organ Pipe Nat 17.07 129 ePn P 03 38 05.9 +0.5
214A Organ Pipe Nat 17.07 129 ⇑P P 03 38 05.7 +0.3
baz=17
O23A Lake Granby, G 17.12 94 ⇑P Pn 03 38 04.7 +0.1
baz=17,SNR=7.5
H24A Dirks Ranch, A 17.14 78 ⇓P Pn 03 38 04.8 +0.1
baz=17,SNR=17
F24A Ekalaka 17.15 75 ⇑P Pn 03 38 04.5 -0.2
baz=17,SNR=5.7
I24A Kuemmerle Ranc 17.19 82 ⇓P Pn 03 38 05.1 -0.2
baz=17
G24A Alzada 17.19 77 ⇑P Pn 03 38 04.8 -0.4
baz=17
D24A Glendive 17.24 70 ⇓P Pn 03 38 05.7 -0.1
baz=17
E24A Baker 17.24 72 ⇓P Pn 03 38 05.8 0.0
baz=17
J24A Dixon Ranch, L 17.25 83 ⇑P Pn 03 38 05.9 -0.1
baz=17,SNR=7.6
DGMT Dagmar 17.43 66 ePn Pn 03 38 05.7 -2.5
13nm,0.9s
DGMT Dagmar 17.43 66 ⇑P Pn 03 38 08.1 0.0
baz=17
S22A 4UR Ranch, Cre 17.44 103 ⇑P Pn 03 38 09.6 +0.9
baz=18,SNR=12
P23A Jefferson 17.48 97 ⇓P Pn 03 38 09.9 +0.8
baz=18,SNR=9.1
ISCO Idaho Springs 17.48 95 ePn Pn 03 38 08.8 -0.4
74nm,1.8s
ISCO Idaho Springs 17.48 95 ⇓P Pn 03 38 09.3 +0.1
baz=18
M24A Cheyenne 17.54 89 ⇑P Pn 03 38 09.7 0.0
baz=18
RSSD Black Hills 17.58 80 ePn P 03 38 11.5 +0.3
59nm,1.8s
A24A Westby 17.61 65 ⇓P Pn 03 38 09.6 -0.8
baz=18
Q23A Hartsel 17.66 98 ⇓P Pn 03 38 11.6 +0.2
baz=18
N24A Carr 17.68 92 ⇑P Pn 03 38 11.5 +0.1
baz=18,SNR=11
O24A Longmont 17.76 94 ⇓P P 03 38 13.4 +0.2
baz=18,SNR=6.2
I25A Rochford 17.81 81 ⇓P P 03 38 14.0 +0.3
baz=18,SNR=16
H25A Fruitdale 17.83 79 ⇑P P 03 38 14.1 +0.2
baz=18,SNR=16
F25A Bowman 17.84 74 ⇑P Pn 03 38 13.3 0.0
baz=18
J25A Sunshine Ranch 17.86 83 ⇑P P 03 38 14.5 +0.4
baz=18,SNR=11
E25A Miller Ranch, 17.86 73 ⇑P P 03 38 14.4 +0.2
baz=18,SNR=6.6
G25A Newell 17.91 77 ⇓P Pn 03 38 14.4 +0.3
baz=18
K25A Mack Ranch, Ha 17.95 85 ⇓P P 03 38 15.4 +0.2
baz=18
R23A Moffat 17.96 100 ⇓P P 03 38 16.6 +1.1
baz=18
C25A Freed Ranch, W 17.99 69 ⇓P P 03 38 16.0 +0.5
baz=18
TUC Tucson 18.00 124 ePn P 03 38 18.3 +2.5
24nm,1.5s
S23A Nye Farm, Mont 18.05 102 ⇑P P 03 38 18.0 +1.5
baz=18
U22A Llaves 18.09 107 ⇓P P 03 38 18.5 +1.6
baz=18,SNR=22
Q24A Divide 18.13 97 ⇓P P 03 38 18.4 +1.0
baz=18
V22A San Miguel Ran 18.29 108 ⇓P P 03 38 20.6 +1.5
baz=18,SNR=14
T23A Casias Ranch, 18.33 104 ⇓P Pn 03 38 21.0 +1.4
baz=18,SNR=7.5
SDCO Great Sand Dun 18.39 101 ePn Pn 03 38 21.2 +1.0
123nm,1.9s
F26A Lodgepole 18.39 75 ⇑P Pn 03 38 20.7 +0.7
baz=18,SNR=7.9
J26A Sides Ranch, S 18.39 83 ⇓P Pn 03 38 21.0 +0.9
baz=18
H26A Fairpoint 18.42 78 ⇑P Pn 03 38 21.4 +1.0
baz=18,SNR=11
I26A New Underwood 18.43 80 ⇑P Pn 03 38 21.5 +0.9
baz=18
K26A Motz Farm, Whi 18.44 85 ⇑P Pn 03 38 21.8 +1.2
baz=18
R24A Sanders Place, 18.45 100 ⇑P Pn 03 38 22.4 +1.4
baz=18
G26A Maurine 18.48 76 ⇑P Pn 03 38 22.3 +1.2
baz=18,SNR=12
D26A Manning 18.53 71 ⇓P Pn 03 38 22.6 +1.0
baz=18
U23A El Rito 18.57 106 ⇓P Pn 03 38 24.3 +1.8
baz=19,SNR=9.3
P25A Willow Gulch B 18.63 95 ⇓P Pn 03 38 23.6 +0.5
baz=19,SNR=8.0
S24A Houchin Ranch, 18.64 101 ⇑P Pn 03 38 25.2 +1.9
baz=19
C26A Wahner Farm, P 18.78 68 ⇓P Pn 03 38 25.3 +0.6
baz=19
T24B San Luis 18.78 103 ⇓P Pn 03 38 27.0 +1.9
baz=19
Q25A Bedland, Calha 18.80 97 ⇓P Pn 03 38 26.1 +1.0
baz=19,SNR=6.3
F27A Lemmon 18.84 74 ⇑P Pn 03 38 26.0 +0.6
baz=19
N26A Koester Ranch, 18.88 90 ⇓P Pn 03 38 26.6 +0.5
baz=19
V23A Ortiz Mt. (NFS 18.88 108 ⇓P Pn 03 38 28.4 +2.2
baz=19,SNR=16
A26A Wade Farm, Ken 18.90 65 ⇓P Pn 03 38 26.8 +0.7
baz=19
H27A Howes 18.91 78 ⇓P Pn 03 38 27.2 +0.9
baz=19,SNR=6.0
G27A Dupree 18.94 76 ⇓P Pn 03 38 27.3 +0.6
baz=19,SNR=7.3
LAZ Ladron 18.98 112 ePn Pn 03 38 30.1 +2.7
46nm,1.8s
O26A Horse Wrangler 19.00 92 ⇓P Pn 03 38 28.4 +0.9
baz=19,SNR=6.6
I27A Quinn 19.00 80 ⇑P Pn 03 38 28.4 +1.0
baz=19,SNR=9.9
R25A Fountain Ranch 19.08 99 ⇓P Pn 03 38 29.4 +0.9
baz=19
K27A Flueckinger Fa 19.11 84 ⇓P Pn 03 38 30.2 +1.3
baz=19
ANMO Albuquerque 19.13 110 ePn Pn 03 38 30.5 +1.3
ANMO Albuquerque 19.13 110 P Pn 03 38 29.6 +0.5
0.1nm,0.3s,baz=314,slow=11,SNR=10
ANMO LR LR 03 46 17.2
comp=Z,971nm,18.7s,baz=125,slow=38
E27A Carson 19.13 73 ⇑P Pn 03 38 29.3 +0.3
baz=19
D27A Center 19.15 71 ⇑P Pn 03 38 29.7 +0.5
baz=19
J27A Elkhorn Farm, 19.17 82 ⇓P Pn 03 38 30.8 +1.3
baz=19,SNR=14
U24A Moreno Valley 19.17 105 ⇓P Pn 03 38 31.4 +1.6
baz=19,SNR=5.9
C27A Sayler Ranch, 19.18 69 ⇓P Pn 03 38 30.9 +1.4
baz=19
S25A Robles Cordova 19.18 100 ⇓P Pn 03 38 31.2 +1.4
baz=19,SNR=8.8
P26A Davis Ranch, A 19.20 94 ⇑P Pn 03 38 31.5 +1.5
baz=19,SNR=7.6
W23A Werner Place, 19.22 109 ⇑P Pn 03 38 31.9 +1.6
baz=19
LENM Lemitar 19.23 113 ePn Pn 03 38 32.3 +1.9
20nm,1.4s
M27A Reverse DX Ran 19.29 88 ⇓P Pn 03 38 31.6 +0.6
baz=19
Q26A Hugo 19.32 96 ⇓P Pn 03 38 32.8 +1.4
baz=19,SNR=8.6
Y22A Socorro 19.37 113 ⇑P Pn 03 38 33.7 +1.7
baz=19
T25A Trinidad 19.43 102 ⇑P Pn 03 38 34.0 +1.2
baz=19,SNR=12
BNM Barren Site 19.47 112 ePn Pn 03 38 33.7 +0.4
20nm,1.4s
X23A Hourglass Bar 19.52 111 ⇓P Pn 03 38 35.4 +1.6
baz=20
V24A Rampart Ranch, 19.52 106 ⇓P Pn 03 38 35.1 +1.1
baz=20,SNR=14
319A Douglas 19.56 123 ⇓P Pn 03 38 36.6 +2.3
baz=20
R26A Arlington 19.61 98 ⇑P Pn 03 38 36.0 +1.1
baz=20,SNR=7.5
O27A Beecher Island 19.62 92 ⇓P Pn 03 38 35.8 +0.9
baz=20
I28A Midland 19.64 80 ⇑P Pn 03 38 35.8 +0.7
baz=20,SNR=8.4
H28A Mission Ridge 19.65 78 ⇓P Pn 03 38 35.9 +0.6
baz=20
G28A Parade 19.68 77 ⇓P Pn 03 38 35.9 +0.3
baz=20
J28A Allard Ranch, 19.69 82 ⇑P Pn 03 38 37.0 +1.3
baz=20,SNR=7.3
W24A Lazy 6 Ranch, 19.70 108 ⇓P Pn 03 38 37.0 +0.9
baz=20,SNR=13
OGNE Ogallala 19.71 89 ePn Pn 03 38 36.0 +0.1
44nm,1.4s
OGNE Ogallala 19.71 89 ⇑P Pn 03 38 36.3 +0.4
baz=20
121A Cookes Peak, D 19.71 118 ePn Pn 03 38 37.6 +1.4
121A Cookes Peak, D 19.71 118 ⇑P Pn 03 38 37.8 +1.6
baz=20,SNR=9.6
E28A Huff 19.73 72 ⇓P Pn 03 38 36.9 +0.8
baz=20
K28A Ten Mile Ranch 19.74 84 ⇑P Pn 03 38 36.3 0.0
baz=20,SNR=5.8
P27A Ficken Ranch, 19.76 93 ⇓P Pn 03 38 36.9 +0.3
baz=20
U25A Circle Dot Ran 19.79 104 ⇑P Pn 03 38 38.0 +0.9
baz=20,SNR=23
Z22A Elephant Butte 19.79 115 ⇓P Pn 03 38 38.2 +1.2
baz=20
D28A Regan 19.80 70 ⇑P Pn 03 38 36.7 -0.3
baz=20
S26A Kim 19.89 100 ⇓P Pn 03 38 38.9 +0.7
baz=20
V25A Rancho No Teng 19.92 105 ⇓P Pn 03 38 39.6 +1.0
baz=20,SNR=27
KSCO Kaye Shedlock' 19.93 95 ePn Pn 03 38 39.1 +0.5
KSCO Kaye Shedlock' 19.93 95 ⇑P Pn 03 38 39.0 +0.5
baz=20
B28A Dugan Ranch, T 19.97 67 ⇓P Pn 03 38 38.5 -0.4
baz=20
Y23A Lovelace Mesa, 19.98 112 ⇑P Pn 03 38 40.5 +1.0
baz=20,SNR=8.5
T26A Comanche Natio 20.00 101 ⇓P Pn 03 38 40.0 +0.4
baz=20,SNR=17
320A Kipp Ranch, An 20.05 122 ⇑P Pn 03 38 41.1 +1.0
baz=20,SNR=5.6
M28A Bar X Bar Ranc 20.06 87 ⇑P Pn 03 38 40.6 +0.4
baz=20
A28A Rus Farm, Bot 20.06 65 ⇓P Pn 03 38 39.6 -0.4
baz=20
R27A Eads 20.09 97 ⇓P Pn 03 38 41.0 +0.5
baz=20,SNR=11
N28A Pribbeno Ranch 20.14 90 ⇑P Pn 03 38 40.8 -0.3
baz=20
O28A Krutsinger Ran 20.15 91 ⇑P Pn 03 38 41.1 -0.2
baz=20
H29A Onida 20.23 78 ⇑P Pn 03 38 42.5 +0.5
baz=20
I29A Vivian Onida 20.25 80 ⇑P Pn 03 38 42.0 -0.4
baz=20,SNR=8.3
U26A Atchley Ranch, 20.26 103 ⇑P Pn 03 38 42.7 0.0
baz=20,SNR=18
Z23A Rita Site, Whi 20.27 114 ⇑P Pn 03 38 43.7 +1.1
baz=20
S27A Las Animas 20.27 99 ⇓P Pn 03 38 42.8 +0.1
baz=20
FFC Flin Flon 20.32 48 ePn Pn 03 38 42.1 -0.9
64nm,1.4s
J29A Okreek 20.35 81 ⇓P Pn 03 38 42.8 -0.7
baz=20,SNR=6.7
P28A Saint Francis 20.35 93 ⇑P P 03 38 42.6 +1.1
baz=20
W25A X Bar L Ranch, 20.35 107 ⇓P P 03 38 42.9 +1.3
baz=20,SNR=11
G29A Hoven 20.37 76 ⇓P Pn 03 38 43.1 -0.6
baz=20
F29A Eureka 20.37 74 ⇓P Pn 03 38 43.8 +0.1
baz=20
Y24A Capitan 20.40 111 ⇓P Pn 03 38 44.1 -0.3

baz=20,SNR=10
YKA Yellowknife Ar 20.41 19 P P 03 38 42.0 +0.2
YKA Yellowknife Ar 20.41 19 P P 03 38 42.0 +0.2
6.2nm,0.9s,baz=207,slow=10,SNR=30
222A Williams Famil 20.43 118 ⇓P Pn 03 38 44.6 0.0
baz=20
E29A Napoleon 20.45 72 ⇓P P 03 38 43.1 +0.6
baz=20
MDND Maddock 20.46 68 ⇑P P 03 38 43.0 +0.5
baz=20
YKW3 Yellowknife Ar 20.46 18 eP Pn 03 38 43.4 -1.2
0.2nm,0.9s
D29A Pettibone, Tap 20.47 71 ⇓P P 03 38 42.4 -0.2
baz=20
K29A Lazy Trails An 20.48 83 ⇑P P 03 38 43.9 +1.1
baz=20
Q28A Sharon Springs 20.48 94 ⇓P P 03 38 43.8 +0.9
baz=20
V26A Tequesquite Ra 20.52 105 ⇑P Pn 03 38 45.6 -0.1
baz=20,SNR=36
M29A Burnside Ranch 20.54 87 ⇓P P 03 38 44.9 +1.4
baz=20
X25A Clemmons Ranch 20.59 109 ⇓P Pn 03 38 46.9 +0.4
baz=21,SNR=8.9
123A Bell Site, Whi 20.63 115 ⇓P Pn 03 38 47.2 +0.2
baz=21
T27A Campo 20.67 100 ⇓P P 03 38 46.4 +1.4
baz=21,SNR=15
A29A Manning Farm, 20.74 65 ⇑P P 03 38 46.9 +1.3
baz=21
N29A Votaw Ranch, W 20.76 89 ⇑P P 03 38 47.1 +1.2
baz=21
R28A Tribune 20.77 96 ⇓P P 03 38 47.4 +1.3
baz=21,SNR=8.0
Z24A Sheeppen Canyo 20.80 112 ⇓P Pn 03 38 49.1 +0.1
baz=21,SNR=8.0
O29A 4D Ranch, Culb 20.86 91 ⇓P Pn 03 38 48.6 -0.9
baz=21
U27A Thompson Grove 20.89 102 ⇓P Pn 03 38 49.2 -0.8
baz=21,SNR=10
I30A Oacoma 20.90 80 ⇓P P 03 38 48.4 +1.1
baz=21
W26A Owens Ranch, T 20.90 106 ⇓P Pn 03 38 49.5 -0.7
baz=21,SNR=8.8
Y25A Mesa, Roswell 20.91 110 ⇑P Pn 03 38 49.7 -0.5
baz=21,SNR=5.4
G30A Faulkton 20.92 76 ⇑P P 03 38 48.8 +1.3
baz=21
223A Chaparral, Ant 20.93 117 ⇓P Pn 03 38 50.2 -0.2
baz=21
P29A Atwood 20.94 92 ⇑P P 03 38 49.0 +1.2
baz=21
J30A Dallas 20.96 81 ⇓P Pn 03 38 49.6 -1.0
baz=21,SNR=12
E30A Jud 20.96 72 ⇑P P 03 38 49.3 +1.3
baz=21
K30A Basset 21.01 83 ⇓P P 03 38 50.0 +1.4
baz=21,SNR=6.7
S28A Manter 21.02 98 ⇑P P 03 38 50.6 +1.8
baz=21
D30A Buchanan 21.04 71 ⇓P P 03 38 50.3 +1.5
baz=21,SNR=11
T28A Walsh 21.08 99 ⇓P P 03 38 50.9 +1.6
baz=21,SNR=12
M30A Dale-Ortello V 21.10 86 ⇓P P 03 38 50.7 +1.1
baz=21
L30A Spencer Herefo 21.11 85 ⇑P P 03 38 50.8 +1.2
baz=21
124A Stringfield Ra 21.12 114 ⇑P P 03 38 52.3 +2.3
baz=21,SNR=12
BRSD Miller 21.15 78 eP P 03 38 51.7 +1.8
BRSD Miller 21.15 78 ⇓P P 03 38 51.3 +1.3
baz=21
X26A CR and CF Fran 21.16 108 ⇓P P 03 38 52.2 +1.8
baz=21,SNR=8.1
Q29A Oakley 21.16 94 ⇑P P 03 38 51.8 +1.5
baz=21
V27A Dan Oppiter Fa 21.21 104 ⇓P P 03 38 52.3 +1.5
baz=21,SNR=6.8
R29A Marienthal 21.23 95 ⇑P P 03 38 52.4 +1.4
baz=21,SNR=6.6
Z25A Roswell 21.27 112 ⇓P P 03 38 53.2 +1.8
baz=21
B30A Myrvik Farm, E 21.32 67 ⇓P P 03 38 52.7 +0.8
baz=21
U28A Mallet 21.34 101 ⇓P P 03 38 54.0 +1.8
baz=21,SNR=6.3
A30A Hoffart Farm, 21.36 65 ⇑P P 03 38 53.6 +1.4
baz=21,SNR=7.5
O30A MW Ranch, Wils 21.38 90 ⇑P P 03 38 53.7 +1.2
baz=21
W27A Bowe Ranch, En 21.41 105 ⇓P P 03 38 54.6 +1.7
baz=21
P30A Selden 21.45 92 ⇓P P 03 38 54.6 +1.2
baz=21
224A Cornudas Mount 21.47 115 ⇓P P 03 38 55.6 +1.9
baz=22
Y26A Elida 21.50 109 ⇑P P 03 38 55.4 +1.4
baz=22
S29A Ulysses 21.57 97 ⇓P P 03 38 56.3 +1.6
baz=22
X27A F and S Farms, 21.60 106 ⇓P P 03 38 57.0 +1.9
baz=22
V28A Channing 21.64 103 ⇑P P 03 38 57.4 +1.9
baz=22
T29A Hugoton 21.65 99 ⇓P P 03 38 56.8 +1.3
baz=22
Q30A Quinter 21.68 93 ⇓P P 03 38 57.1 +1.4
baz=22,SNR=6.1
125A Gardner Draw, 21.68 113 ⇑P P 03 38 58.6 +2.7
baz=22,SNR=7.5
Z26A Caprock 21.77 111 ⇓P P 03 38 59.1 +2.3
baz=22
MNTX Cornudas Mount 21.80 116 eP P 03 39 00.2 +3.1
25nm,1.5s
324A Moseley Ranch, 21.90 117 ⇑P P 03 39 00.1 +1.7
baz=22
R30A Dighton 21.90 95 ⇓P P 03 38 59.4 +1.2
baz=22,SNR=7.1
W28A Vega 21.91 104 ⇑P P 03 38 59.4 +1.1
baz=22
225A Deer Hill, Car 21.91 114 ⇑P P 03 39 00.4 +2.0
baz=22
O31A Woolen Ranch, 21.91 89 ⇓P P 03 39 00.0 +1.8
baz=22
Y27A Causey 21.98 108 ⇑P P 03 39 00.3 +1.3
baz=22
S30A Montezuma 22.03 97 ⇓P P 03 39 00.6 +1.0
baz=22
V29A Stinnett 22.08 102 ⇓P P 03 39 01.4 +1.3
baz=22
P31A Stockton 22.09 91 ⇑P P 03 39 01.1 +0.9
baz=22
126A Clayton Basin, 22.11 112 ⇓P P 03 39 02.7 +2.2
baz=22
MSTX Muleshoe 22.20 108 eP P 03 39 04.7 +3.2
MSTX Muleshoe 22.20 108 ⇓P P 03 39 03.0 +1.6
baz=22
T30A Plains 22.24 98 ⇓P P 03 39 03.4 +1.5
baz=22
Q31A Ellis 22.26 92 ⇓P P 03 39 03.4 +1.3
baz=22
Z27A Tatum 22.27 109 ⇓P P 03 39 03.5 +1.3
baz=22,SNR=10
325A Bean Ranch, Si 22.28 116 ⇑P P 03 39 04.8 +2.4
baz=22
X28A Dimmitt 22.30 106 ⇑P P 03 39 04.3 +1.8
baz=22
226B Tecolote Peak, 22.36 113 ⇑P P 03 39 05.2 +2.0
baz=22
W29A Amraillo 22.37 104 ⇑P P 03 39 04.9 +1.7
baz=22
U30A WK&E Inc. Balk 22.39 99 ⇓P P 03 39 05.0 +1.5
baz=22
R31A Burdett 22.44 94 ⇓P P 03 39 05.1 +1.1
baz=22,SNR=12
AMTX Amarillo 22.47 104 ⇓P P 03 39 05.6 +1.3
baz=22
127A Arkansas Junct 22.54 111 ⇑P P 03 39 06.9 +1.7
baz=23
Y28A McKinney Farm, 22.59 107 ⇓P P 03 39 07.7 +2.1
baz=23,SNR=9.3
P32A Huiting Farm, 22.62 90 ⇓P P 03 39 06.7 +0.9
baz=23
O32A Brockman Farm, 22.64 89 ⇓P P 03 39 06.7 +0.7
baz=23
X29A Tulia 22.68 105 ⇓P P 03 39 07.7 +1.1
baz=23,SNR=5.6

V30A Spur Ranch, Mi 22.73 101 ⇓P P 03 39 08.3 +1.2
baz=23
S31A Mullinville 22.75 96 ⇓P P 03 39 08.0 +0.8
baz=23,SNR=6.5
T31A Randall Ranch, 22.83 97 ⇓P P 03 39 08.8 +0.8
baz=23
Z28A Tucker Farm, M 22.85 109 ⇑P P 03 39 09.7 +1.4
baz=23
Q32A Meitler Ranch, 22.87 92 ⇑P P 03 39 09.2 +0.7
baz=23
ECSD EROS Data Cent 22.93 79 eP P 03 39 08.7 -0.3
42nm,1.3s
326A Caldwell Ranch 22.97 115 ⇓P P 03 39 11.7 +2.1
baz=23
AGMN Agassiz Nation 22.97 67 eP P 03 39 12.1 +2.8
72nm,2.0s
R32A Long Quarter, 22.98 93 ⇑P P 03 39 10.4 +0.8
baz=23,SNR=6.0
ULM Lac du Bonnet 23.00 62 eP P 03 39 09.6 -0.1
56nm,1.3s
ULM Lac du Bonnet 23.00 62 P P 03 39 11.1 +1.4
10nm,1.1s,baz=280,slow=12,SNR=6.7
ULM LR LR 03 48 17.7
comp=Z,282nm,20.0s,baz=214,slow=37
S32A Newby Ranch, P 23.11 95 ⇓P P 03 39 11.7 +0.7
baz=23
128A Castleberry Fa 23.17 110 ⇓P P 03 39 13.2 +1.6
baz=23
X30A Coker Ranch, T 23.26 104 ⇑P P 03 39 14.1 +1.5
baz=23
V31A Spring Creek L 23.32 100 ⇑P P 03 39 14.0 +0.9
baz=23
Z29A Hungry Hill Ra 23.33 108 ⇑P P 03 39 14.6 +1.3
baz=23
T32A Huddler Ranch, 23.34 96 ⇓P P 03 39 14.0 +0.8
baz=23
TRF Thorofare Moun 23.34 335 eP P 03 39 14.0 +0.9
103nm,2.0s
P33A Williams Farm, 23.34 90 ⇑P P 03 39 14.5 +1.3
baz=23
426A McDonald Obser 23.35 116 ⇑P P 03 39 15.9 +2.3
baz=23,SNR=8.5
228A UT Block 9, Go 23.39 111 ⇓P P 03 39 15.1 +1.2
baz=23
Q33A Connelly Farm, 23.40 91 ⇓P P 03 39 14.3 +0.5
baz=23
ILAR Eielson Array 23.43 340 P P 03 39 13.6 -0.3
ILAR PcP PcP 03 42 58.6 -0.9
ILAR Eielson Array 23.43 340 P P 03 39 13.6 -0.3
0.9nm,0.8s,baz=153,slow=8.2,SNR=13
ILAR PcP PcP 03 42 58.6 -0.9
0.7nm,0.7s,baz=173,slow=2.3,SNR=7.6
ILAR LR LR 03 46 59.1
comp=Z,282nm,18.4s,baz=337,slow=33
W31A Holland Ranch, 23.54 102 ⇓P P 03 39 16.5 +1.2
baz=24
PPLA Purkeypike 23.55 333 eP P 03 39 16.1 +0.9
34nm,1.4s
Y30A Stafford Cattl 23.55 106 ⇓P P 03 39 16.6 +1.2
baz=24
R33A Olander Ranch, 23.55 93 ⇑P P 03 39 16.4 +1.0
baz=24,SNR=6.0
129A Stewart Farms, 23.58 109 ⇓P P 03 39 17.4 +1.6
baz=24
U32A Winter Ranch, 23.64 98 ⇓P P 03 39 17.5 +1.2
baz=24
427A Hayter Ranch, 23.65 115 ⇑P P 03 39 17.9 +1.5
baz=24
328A Wristen Ranch, 23.70 113 ⇓P P 03 39 18.5 +1.6
baz=24
526A Mary Lane Ranc 23.71 117 ⇑P P 03 39 19.0 +1.9
baz=24
Z30A Sanderson Ranc 23.72 107 ⇑P P 03 39 18.6 +1.6
baz=24
X31A McDonald Ranch 23.80 103 ⇑P P 03 39 19.9 +2.2
baz=24,SNR=6.2
T33A Patterson Ranc 23.87 96 ⇓P P 03 39 20.0 +1.6
baz=24
V32A Arapaho 23.92 100 ⇑P P 03 39 21.3 +2.4
baz=24,SNR=7.6
Y31A Rekieta Farm, 23.95 105 ⇑P P 03 39 20.7 +1.4
baz=24
527A Woodward Ranch 23.97 116 ⇑P P 03 39 21.0 +1.5
baz=24,SNR=5.3
626A Big Bend Ranch 24.03 118 ⇓P P 03 39 21.9 +1.9
baz=24,SNR=7.0
329A Wagon Wheel Ra 24.19 112 ⇓P P 03 39 23.1 +1.6
baz=24
428A Kincaid Ranch, 24.20 114 ⇓P P 03 39 23.3 +1.7
baz=24
KSU1 Kansas State U 24.25 90 eP P 03 39 24.3 +2.4
83nm,1.5s
Z31A Sharp Cattle R 24.38 106 ⇓P P 03 39 24.9 +1.7
baz=24
X32A Elmer 24.39 103 ⇑P P 03 39 24.8 +1.5
baz=24
V33A Lossen Ranch, 24.41 99 ⇓P P 03 39 25.2 +1.7
baz=24
TXAR Lajitas Array 24.48 118 P P 03 39 25.2 +1.1
TXAR Lajitas Array 24.48 118 P P 03 39 25.2 +1.1
3.9nm,1.2s,baz=296,slow=6.4,SNR=9.9
TXAR LR LR 03 49 36.2
comp=Z,358nm,18.7s,baz=35,slow=38
528A Cox Ranch, San 24.49 115 ⇑P P 03 39 26.6 +2.2
baz=25
Y32A R-V Farms, Ver 24.50 104 ⇑P P 03 39 26.4 +2.1
baz=24
230A Sterling City 24.54 110 ⇑P P 03 39 26.4 +1.7
baz=25
627A Terlingua Ranc 24.57 117 ⇑P P 03 39 27.6 +2.5
baz=25,SNR=7.5
131A Roby 24.57 107 ⇓P P 03 39 26.8 +1.9
baz=25
WMOK Wichita Mounta 24.59 101 eP P 03 39 27.1 +2.0
52nm,1.0s
W33A Caddo, Fort Co 24.60 100 ⇓P P 03 39 27.3 +2.1
baz=25
LPIG La Paz 24.65 137 LR LR 03 47 53.8
comp=Z,210nm,21.7s,baz=204,slow=34
U34A Anderson Ranch 24.67 97 ⇑P P 03 39 27.3 +1.5
baz=25
INK Inuvik 24.71 356 P P 03 39 25.2 -0.6
INK Inuvik 24.71 356 P P 03 39 25.2 -0.6
2.4nm,1.1s,baz=160,slow=8.3,SNR=5.3
INK LR LR 03 48 33.5
comp=Z,160nm,19.4s,baz=120,slow=35
330A Mertzon 24.79 111 ⇓P P 03 39 28.8 +1.9
baz=25
429A Davenport Ranc 24.79 113 ⇓P P 03 39 29.3 +2.3
baz=25,SNR=12
Z32A Haskell 24.85 105 ⇑P P 03 39 29.0 +1.6
baz=25
628A Black Gap, Mar 24.87 117 ⇑P P 03 39 29.6 +1.9
baz=25
X33A Lawton 24.89 102 ⇑P P 03 39 29.1 +1.3
baz=25
529A Stev Forest Ra 24.89 114 ⇑P P 03 39 30.1 +2.3
baz=25,SNR=13
V34A Guthrie 24.96 98 ⇑P P 03 39 29.7 +1.3
baz=25,SNR=5.2
231A Bronte 25.05 109 ⇑P P 03 39 30.3 +1.0
baz=25
W34A Bridge Creek, 25.06 99 ⇓P P 03 39 30.6 +1.3
baz=25
Y33A Hilltop Ranch, 25.07 103 ⇓P P 03 39 30.7 +1.3
baz=25,SNR=5.4
ABTX Abilene, Hawle 25.12 107 eP P 03 39 31.4 +1.5
ABTX Abilene, Hawle 25.12 107 ⇓P P 03 39 29.9 0.0
baz=25
430A Baggett Ranch, 25.12 112 ⇓P P 03 39 30.7 +0.7
baz=25
X34A Smith Ranch, M 25.33 101 ⇓P P 03 39 32.1 +0.3
baz=25
331A San Angelo 25.35 110 ⇑P P 03 39 33.2 +1.1
baz=25,SNR=5.4
Z33A Whitaker Ranch 25.36 104 ⇓P P 03 39 32.9 +0.8
baz=25
530A J-C Ranch, Com 25.46 113 ⇓P P 03 39 33.9 +0.9
baz=26
232A Coleman 25.54 108 ⇑P P 03 39 34.5 +0.8
baz=26
431A Sonora 25.61 111 ⇑P P 03 39 35.3 +0.9
baz=26
133A Hamilton Ranch 25.63 106 ⇑P P 03 39 35.4 +0.9
baz=26
Y34A Reagan Ranch, 25.72 102 ⇓P P 03 39 36.4 +1.1
baz=26
332A Millersview 25.77 109 ⇑P P 03 39 36.9 +1.1
baz=26
FCC Fort Churchill 25.83 42 eP P 03 39 37.7 +1.7
0.9nm,1.3s
Z34A Collier Ranch, 25.91 103 ⇑P P 03 39 37.7 +0.7
baz=26
531A Rocksprings 25.98 112 ⇑P P 03 39 38.7 +1.0
baz=26
432A Menard 26.05 110 ⇓P P 03 39 39.3 +1.0
baz=26
TUL1 Tulsa 26.16 96 eP P 03 39 41.0 +1.7
IM04 Indian Mountai 26.21 337 eP P 03 39 40.1 +0.7
134A White-Moore Ra 26.24 105 ⇑P P 03 39 41.6 +1.6
baz=26,SNR=5.6
JCT Junction City 26.28 111 eP P 03 39 43.9 +3.5
15nm,1.2s
JCT Junction City 26.28 111 ⇑P P 03 39 41.0 +0.5
baz=26
333A Richland Sprin 26.33 108 ⇓P P 03 39 41.1 +0.2
baz=26
532A Rocksprings 26.43 112 ⇑P P 03 39 42.3 +0.4
baz=26
631A Perdido Creek 26.44 114 ⇓P P 03 39 42.4 +0.6
baz=26
433A Art 26.60 109 ⇓P P 03 39 43.7 +0.4
baz=27,SNR=8.3
334A Lometa 26.84 107 ⇓P P 03 39 45.3 -0.2
baz=27
632A Uvalde 26.91 112 ⇓P P 03 39 47.1 +1.0
baz=27
434A Burnet 27.12 108 ⇓P P 03 39 47.9 -0.2
baz=27
732A Laxson Ranch, 27.29 114 ⇑P P 03 39 49.6 +0.1
baz=27
534A Blanco 27.46 110 ⇑P P 03 39 50.6 -0.5
baz=28
MIAR Mount Ida 28.41 97 eP P 03 40 02.4 +3.0
26nm,1.3s
SFIN Scholer Farm 30.66 82 ⇓P P 03 40 16.4 -2.9
baz=31
OXF Oxford 31.43 94 eP P 03 40 25.8 -0.3
66nm,1.1s
WVT Waverly 31.82 90 eP P 03 40 32.3 +2.7
16nm,1.3s
SCHQ Schefferville 40.40 52 LR LR 03 58 10.7
comp=Z,123nm,19.9s,baz=135,slow=36
PETK Petropavlovsk- 47.80 309 LR LR 03 59 29.5
comp=Z,112nm,18.1s,baz=109,slow=32
H11N3 WAKE ISLAND Hy 58.42 268 T T 04 47 06.9
baz=52,slow=75,SNR=639
H11N2 WAKE ISLAND Hy 58.43 268 T T 04 47 08.1
baz=52,slow=75,SNR=210
H11N1 WAKE ISLAND Hy 58.44 268 T T 04 47 11.1
baz=52,slow=75,SNR=223
H11S1 WAKE ISLAND Hy 59.35 267 T T 04 48 19.6
baz=50,slow=75,SNR=111
H11S2 WAKE ISLAND Hy 59.36 267 T T 04 48 20.0
baz=50,slow=75,SNR=100
H11S3 WAKE ISLAND Hy 59.37 267 T T 04 48 20.8
baz=50,slow=75,SNR=94
ROSC El Rosal 61.26 113 LR LR 04 11 54.4
comp=Z,85nm,21.5s,baz=2.7,slow=37
USRK Ussuriysk Arra 66.87 310 LR LR 04 11 13.3
comp=Z,80nm,20.8s,baz=9.8,slow=33
MDJ Mudanjiang 67.93 311 P P 03 45 02.8 -0.7
MDJ pmax pmax
comp=Z,4.0nm,1.5s
MDJ pmax pmax
comp=Z,100nm,4.6s
MJAR Matsushiro Arr 67.98 300 LR LR 04 12 19.5
comp=Z,54nm,19.4s,baz=120,slow=34
NOA NORSAR Array B 70.50 20 P P 03 45 18.5 -0.8
NOA NORSAR Array B 70.50 20 P P 03 45 18.5 -0.8
2.0nm,1.0s,baz=331,slow=5.8,SNR=3.0
JCJ Chichijima 71.35 290 LR LR 04 09 49.9
comp=Z,56nm,21.6s,baz=336,slow=30
RPN Rapa Nui 72.72 162 P P 03 45 32.5 -0.4
RPN Rapa Nui 72.72 162 P P 03 45 32.5 -0.4
1.4nm,0.5s,baz=219,slow=7.5,SNR=9.1
FINES FINESS Array B 73.10 12 P P 03 45 36.1 +1.4
FINES FINESS Array B 73.10 12 P P 03 45 36.1 +1.4
2.0nm,0.7s,baz=17,slow=11,SNR=3.8
KSRS Korea Array 73.62 306 LR LR 04 13 13.2
comp=Z,39nm,19.0s,baz=330,slow=32
JNU Nakatsue 74.77 301 LR LR 04 14 05.7
comp=Z,60nm,18.8s,baz=50,slow=32
SONM Songino Array 76.77 326 P P 03 45 55.9 -0.6
SONM Songino Array 76.77 326 P P 03 45 55.9 -0.6
2.4nm,0.9s,baz=16,slow=2.7,SNR=12
SONM LR LR 04 19 26.2
comp=Z,125nm,18.5s,baz=117,slow=36
ZALV Zalesovo Beam 78.55 341 LR LR 04 24 01.0
comp=Z,102nm,18.0s,baz=258,slow=38
HHC Hu-ho-hao-te 79.93 318 eP P 03 46 14.3 +0.4
HHC PcP PcP 03 46 22.5 +1.0
HHC PP PP 03 49 16.0 +1.1
HHC S S 03 56 14.8 -2.0
HHC SKS SKSac 03 56 25.9 -4.5
HHC ScS SKKSac 03 56 34.1 +1.9
HHC pmax pmax
comp=Z,17nm,1.2s
HHC pmax pmax
comp=Z,160nm,7.8s
HHC LR LR
comp=Z,220nm,17.9s
LPAZ La Paz 81.26 122 P P 03 46 19.9 -1.9
LPAZ La Paz 81.26 122 P P 03 46 19.9 -1.9
1.0nm,0.8s,baz=322,slow=5.3,SNR=4.4
BVAR Borovoye Array 82.20 349 P P 03 46 24.3 -1.4
BVAR Borovoye Array 82.20 349 P P 03 46 24.3 -1.4
0.9nm,0.7s,baz=18,slow=6.8,SNR=5.7
NJ2 Nanjing 82.70 308 eP P 03 46 30.4 +1.8
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KURK Kurchatov 82.96 343 P P 03 46 28.8 -0.9
KURBB Kurchatov Arra 83.07 343 P P 03 46 28.8 -1.5
0.7nm,0.3s,baz=19,slow=5.0,SNR=9.9
AKASG Malin Array Be 83.90 14 P P 03 46 32.5 -2.0
AKASG Malin Array Be 83.90 14 P P 03 46 32.5 -2.0
0.5nm,0.6s,baz=346,slow=4.8,SNR=5.5
MKAR Makanchi Array 85.78 339 LR LR 04 27 31.7
comp=Z,93nm,19.2s,baz=354,slow=37
WMQ Urumqi 86.98 335 P P 03 46 55.4 +5.3
WMQ pmax pmax
comp=Z,11nm,1.0s
LZH Lanzhou 87.38 320 eP P 03 46 52.6 +0.3
LZH pP pP 03 46 57.0 -1.0
LZH sP sP 03 46 58.8 -1.3
LZH pmax pmax
comp=Z,11nm,1.0s
CD2 Chengdu 91.65 317 eP P 03 47 13.6 +1.3
KEST Kesra 92.04 33 LR LR 04 26 59.8
comp=Z,36nm,19.4s,baz=319,slow=34
GYA Guiyang 93.76 313 eP P 03 47 23.8 +1.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
BDFB Brasilia 93.96 108 LR LR 04 34 08.9
comp=Z,92nm,18.8s,baz=49,slow=38
KMI Kunming 96.90 315 P P 03 47 40.4 +3.7
KMI LR LR
comp=Z,66nm,32.9s
QIZ Qiongzhong 97.84 306 P Pdif 03 47 42.0 +1.2
QIZ S S 03 59 06.8 +0.5
QIZ pmax pmax
comp=Z,10.0nm,2.5s

WEL 15 03:50:21.1±0.5, 38°36S×175°79E, h160km±3km, ML3.5/13, 2C-1D, Error ellipse: s-maj=3.0km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUVZ	Tukino	0.91	187	PN	Pn	03 50 46.9	+0.6
TRVZ	Turoa	0.96	191	PN	Pn	03 50 47.0	+0.2
BKZ	Black Stump Fm	0.97	146	⇑PN	Pn	03 50 46.7	+0.1
BKZ				eSN	Sn	03 51 05.8	-0.6
WNVZ	Wahianoa	0.98	189	PN	Pn	03 50 46.9	+0.1
PKVZ	Pokaka	0.99	200	PN	Pn	03 50 46.8	0.0
URZ	Urewera	1.04	85	PN	Pn	03 50 46.7	-0.4
URZ				SN	Sn	03 51 07.4	+0.3
MOVZ	Moawhango	1.04	182	⇑PN	Pn	03 50 47.1	-0.2
NMHZ	Naumai	1.08	133	⇓PN	Pn	03 50 48.9	+1.3
NMHZ				SN	Sn	03 51 10.0	+2.0
BHHZ	Black Hill Sta	1.15	169	PN	Pn	03 50 47.9	-0.2
MCHZ	McNeill Hill	1.29	147	PN	Pn	03 50 50.5	+1.1
WHHZ	Waihua	1.34	123	PN	Pn	03 50 50.2	+0.5

MWZ	**Matawai**	**1.37**	**89**	PN	Pn	03 50 50.0	-0.1
MWZ				SN	Sn	03 51 13.0	+0.5
PNHZ	**Pukenui**	**1.58**	**169**	PN	Pn	03 50 52.1	-0.2
RIGZ	**Rimuhau**	**1.58**	**103**	PN	Pn	03 50 52.6	+0.3
KNZ	**Kokohu**	**1.61**	**115**	PN	Pn	03 50 52.8	+0.2
CKHZ	**Cape Kidnapper**	**1.64**	**143**	PN	Pn	03 50 53.3	+0.4
KAHZ	**Kahuranaki**	**1.66**	**150**	PN	Pn	03 50 53.6	+0.5
TSZ	**Takapari Road**	**1.70**	**176**	PN	Pn	03 50 53.2	-0.3
WPHZ	**Waipukurau**	**1.77**	**164**	PN	Pn	03 50 54.1	-0.1
WPHZ				SN	Sn	03 51 18.1	-1.9
MHGZ	**Mahia Peninsul**	**1.83**	**116**	PN	Pn	03 50 55.2	+0.3
DVHZ	**Dannevirke**	**1.96**	**172**	PN	Pn	03 50 55.5	-0.8
PRHZ	**Porangahau**	**2.01**	**161**	PN	Pn	03 50 56.6	-0.4
ANWZ	**Angora Road**	**2.16**	**166**	PN	Pn	03 50 58.2	-0.4
PRWZ	**Pori Road**	**2.20**	**176**	PN	Pn	03 50 58.4	-0.6
MRZ	**Mangatainoka R**	**2.30**	**184**	PN	Pn	03 50 59.0	-1.3
MRZ				SN	Sn	03 51 26.8	-3.9
MRZ				AML	AML	03 51 30.0	
BFZ	**Birch Farm**	**2.34**	**171**	PN	Pn	03 50 59.8	-1.0
TIWZ	**Tintock**	**2.41**	**178**	PN	Pn	03 51 00.6	-1.1
TIWZ				AML	AML	03 51 33.8	
OGWZ	**Otaki Gorge**	**2.50**	**191**	PN	Pn	03 51 01.3	-1.4
HOWZ	**Holdsworth Sta**	**2.54**	**185**	PN	Pn	03 51 01.4	-1.8
KIW	**Kapiti Island**	**2.59**	**195**	PN	Pn	03 51 01.8	-1.9
TMWZ	**Te Maipa**	**2.74**	**178**	PN	Pn	03 51 03.9	-1.8
CAW	**Cannon Point**	**2.80**	**191**	PN	Pn	03 51 04.3	-2.0
CAW				AML	AML	03 51 39.6	
CAW				AML	AML	03 51 40.0	
MTW	**Mount Morrison**	**2.80**	**184**	PN	Pn	03 51 04.2	-2.2
TRWZ	**Traveller**	**3.04**	**181**	PN	Pn	03 51 07.3	-1.9
TCW	**Tory Channel**	**3.08**	**202**	PN	Pn	03 51 07.4	-2.4
TCW				AML	AML	03 51 44.5	
MSWZ	**Moikau Station**	**3.08**	**188**	PN	Pn	03 51 07.2	-2.6
MSWZ				AML	AML	03 51 45.1	
PLWZ	**Palliser**	**3.23**	**187**	PN	Pn	03 51 08.9	-2.9
TUWZ	**Tuamarina**	**3.38**	**204**	PN	Pn	03 51 11.2	-2.3
THZ	**Tophouse**	**4.05**	**212**	*e*PN	Pn	03 51 19.2	-3.1
KHZ	**Kahutara**	**4.40**	**202**	PN	Pn	03 51 23.4	-3.3
LTZ	**Lake Taylor**	**5.17**	**210**	*e*PN	Pn	03 51 32.7	-4.1
MQZ	**McQueen's Vall**	**5.84**	**203**	*e*PN	Pn	03 51 39.8	-5.8

IDC 15 04:00:53.2±2.3, 15°.04S×177°.09W, h362km±31km, mb3.2/5, mb1 3.6/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=84.6km s-min=17.0km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.27**	**78**	P	Pn	04 02 16.6	+0.2
	14nm,0.3s,baz=71,slow=0.9,SNR=12						
WRA	**Warramunga Arr**	**46.46**	**257**	P	P	04 08 45.3	-0.3
	0.3nm,0.6s,baz=97,slow=6.8,SNR=7.6						
WRA				PcP	PcP	04 10 14.0	+0.4
	0.4nm,0.6s,baz=88,slow=3.5,SNR=4.0						
ASAR	**Alice Springs**	**46.84**	**252**	P	P	04 08 48.2	-0.3
	2.8nm,0.4s,baz=86,slow=8.4,SNR=40						
ILAR	**Eielson Array**	**82.83**	**13**	P	P	04 12 37.3	0.0
	0.9nm,0.6s,baz=221,slow=5.7,SNR=20						
TXAR	**Lajitas Array**	**83.39**	**57**	P	P	04 12 41.0	-0.1
	0.4nm,0.6s,baz=243,slow=8.3,SNR=3.8						
PDAR	**Pinedale Array**	**84.41**	**43**	P	P	04 12 45.5	-0.6
	0.4nm,0.7s,baz=212,slow=3.7,SNR=3.8						
BRTR	**Keskin Array B**	**143.58**	**318**	PKP	PKPbc	04 19 44.4	+0.2
	1.4nm,0.7s,baz=78,slow=3.3,SNR=8.6						
GERES	**GERESS Array B**	**145.14**	**348**	PKPbc	PKPdf	04 19 48.2	+0.1
	0.7nm,0.6s,baz=28,slow=6.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**177.78**	**148**	PKPab	PKPab	04 22 11.7	+1.1
	0.8nm,1.1s,baz=221,slow=3.8,SNR=3.8						

MEX 15 04:06:06.9±0.7, 17°.13N×99°.87W, h27km±38km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.82**	**17**	*e*P	Pb	04 06 19.7	-3.1
MEIG				*i* S	Sb	04 06 30.5	-3.1
ARIG	**Puente Sto Nin**	**1.23**	**338**	*e*P	Pn	04 06 25.9	-2.4
ARIG				*i* S	Sn	04 06 40.9	-3.2
PLIG	**Platanillo**	**1.30**	**16**	*i* P	Pn	04 06 26.8	-2.7
PLIG				*i* S	Sn	04 06 42.1	-3.9
TLIG	**Tlapa**	**1.32**	**71**	*i* P	Pn	04 06 27.1	-2.6
TLIG				*e*S	Sn	04 06 44.0	-2.6

IDC 15 05:14:59.2±4.0, 30°.36S×138°.36E, h0km, mb1 2.9/3, mb1mx2.9/16, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=104.8km s-min=17.9km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.16**	**119**	Pn	Pn	05 15 50.1	-0.2
	0.1nm,0.3s,baz=309,slow=7.4,SNR=4.4						
STKA				Pg	Pb	05 15 56.6	+0.3
	0.8nm,0.3s,baz=301,slow=13,SNR=7.0						
STKA				Lg	Lg	05 16 40.1	
	1.4nm,0.3s,baz=6.0,slow=21,SNR=7.7						
ASAR	**Alice Springs**	**7.76**	**328**	Pn	Pn	05 16 53.5	-0.1
	0.1nm,0.3s,baz=148,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	**10.99**	**340**	Pn	Pn	05 17 38.0	+0.2
	0.1nm,0.3s,baz=159,slow=12,SNR=4.7						

NEIC 15 05:21:07.0, 19°.33N×155°.13W, h8km, MD3.6(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.06**	**5**	*e*Pg	Pg	05 21 09.3	+0.4
HPO	**Honuapo**	**0.47**	**239**	Pg	Pg	05 21 16.6	+0.5
POHA	**Pohakuloa**	**0.57**	**318**	*e*Pg	Pg	05 21 17.7	-0.7
POHA				*e*Sg	Sg	05 21 26.2	+0.1
HKL	**Haleakala**	**1.74**	**322**	Pn	Pb	05 21 39.2	-0.5
HON	**Honolulu**	**3.35**	**307**	*e*Pn	Pn	05 21 58.8	-0.9

NEIC 15 05:55:42.3, 53°.67N×166°.07W, h70km, ML3.5(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**0.32**	**305**	P	Pn	05 55 52.8	-0.7
UNV				S	Sn	05 56 01.7	0.0
MREP	**Makushin Rep't**	**0.43**	**290**	P	Pn	05 55 54.3	-0.2
ZRO	**Akutan Zero**	**0.43**	**7**	P	Pn	05 55 53.8	-0.7
AKRB	**Akutan Reef Bi**	**0.47**	**360**	P	Pn	05 55 53.8	-0.9
AKRB				S	Sn	05 56 04.2	+0.3
MSW	**Makushin Switc**	**0.49**	**301**	P	Pn	05 55 53.8	-1.2
MSW				S	Sn	05 56 03.9	-0.5
AKUT	**Akutan**	**0.50**	**20**	P	Pn	05 55 54.3	-0.7
AKUT				S	Sn	05 56 04.3	-0.1
AKGG	**Akutan Green G**	**0.54**	**5**	P	Pn	05 55 54.4	-1.1
MCIR	**Makushin Cirqu**	**0.57**	**301**	P	Pn	05 55 54.8	-1.0
OKFG	**Magazine Ridge**	**1.13**	**258**	P	Pn	05 56 01.4	-1.0
OKFG				S	Sn	05 56 16.7	-0.7
WESE	**West Dahl East**	**1.19**	**47**	P	Pn	05 56 02.8	-0.5
OKTU	**Okmok Mt. Tuli**	**1.21**	**257**	P	Pn	05 56 03.2	-0.3
OKRE	**Okmok R'deer P**	**1.26**	**264**	P	Pn	05 56 03.2	-0.9
WESN	**West Dahl Nort**	**1.26**	**43**	P	Pn	05 56 03.5	-0.6
OKAK	**Okmok**	**1.37**	**267**	P	Pn	05 56 05.0	-0.4
SSBA	**Shishaldin**	**1.59**	**45**	P	Pn	05 56 07.5	-1.0
SSLW	**Shishaldin Wes**	**1.59**	**45**	P	Pn	05 56 07.7	-0.8
SSLN	**Shishaldin Nor**	**1.67**	**46**	P	Pn	05 56 09.0	-0.6
NIKH	**Nikolski High**	**1.81**	**249**	P	Pn	05 56 10.5	-0.8
NIKH				S	Sn	05 56 33.1	-0.2
FALS	**False Pass**	**1.96**	**51**	P	Pn	05 56 12.9	-0.4
OHAK	**Old Harbor**	**8.09**	**59**	P	Pn	05 57 35.0	-1.9

IDC 15 06:41:48.0±1.7, 6°.85S×129°.37E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.7/19, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=111.1km s-min=26.3km az=65.0
AUST 15 06:42:03.1, 7°.49S×128°.54E, h100km
ISC 15 06:42:07.2±1.9, 7°.9S±0°.2×128°.7E±0°.1, h131km, n15, σ2°09/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.73**	**246**	P	**Pn**	**06 43 16.2**	**-0.6**
	baz=4.8,SNR=3.8						
MTN	**Manton Dam**	**5.52**	**154**	P	Pn	06 43 30.4	+3.1
	baz=5.9,SNR=46						
FAKI	**Fak Fak**	**6.08**	**36**	P	Pn	06 43 28.4	-6.5
	baz=5.9,SNR=7.8						
KDU	**Kakadu**	**6.09**	**142**	P	Pn	06 43 37.6	+2.7
	baz=6.5,SNR=129						
KNRA	**Kununurra**	**7.77**	**179**	P	**Pn**	**06 43 59.5**	**+2.0**
	baz=8.2,SNR=66						
WRA	**Warramunga Arr**	**13.21**	**156**	Pn	**Pn**	**06 45 08.0**	**-1.9**
	0.7nm,0.3s,baz=338,slow=12,SNR=41						
WRA				Sn	Sn	06 47 32.0	-3.8
	1.2nm,0.3s,baz=331,slow=22,SNR=8.8						
COEN	**Coen**	**15.49**	**114**	P	**P**	**06 45 41.8**	**+1.5**
	baz=16,SNR=6.2						
QIS	**Mount Isa**	**16.48**	**141**	P	P	06 45 56.8	+5.6
	baz=17,SNR=3.4						
ASAR	**Alice Springs**	**16.50**	**163**	P	**P**	**06 45 53.0**	**+1.5**
	0.5nm,0.3s,baz=344,slow=11,SNR=34						
ASAR				S	**Sn**	**06 48 52.6**	**-2.4**
	0.4nm,0.3s,baz=346,slow=26,SNR=5.9						
WRKA	**Warakurna**	**17.08**	**181**	P	**Pn**	**06 46 00.4**	**+2.2**
	baz=18,SNR=19						
MEEK	**Meekatharra**	**20.97**	**206**	P	**P**	**06 46 40.0**	**0.0**
	baz=21,SNR=5.5						
MORW	**Morawa**	**24.21**	**208**	P	**P**	**06 47 12.2**	**+0.4**
	baz=25,SNR=3.6						
BBOO	**Buckleboo**	**25.76**	**166**	P	**P**	**06 47 26.9**	**+1.1**
	baz=26,SNR=7.3						
STKA	**Stephens Creek**	**26.76**	**155**	P	**P**	**06 47 34.0**	**-0.8**
	1.9nm,0.6s,baz=324,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**68.22**	**328**	P	P	06 52 47.9	-5.9
	0.3nm,0.4s,baz=118,slow=8.2,SNR=5.4						

ISCJB 15 06:51:28.9±0.8, 8°.4S±0°.1×117°.7E±0°.1, h300km, mb3.4/2, Error ellipse: s-maj=19.7km s-min=11.5km az=36.4
IDC 15 06:51:28.5±12.0, 7°.65S×118°.25E, h298km±97km, mb3.0/2, mb1 3.1/4, mb1mx2.8/23, mbtmp3.0/4, Error ellipse: s-maj=137.9km s-min=91.1km az=74.0
AUST 15 06:51:33.7±0.8, 8°.54S×117°.38E, h378km, Error ellipse: s-maj=1.7km s-min=1.1km az=31.0
ISC 15 06:51:30.1±1.0, 8°.3S±0°.1×117°.7E±0°.1, h300km, n13, σ1°38/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**6.69**	**103**	P	Pn	06 53 19.0	+11
	baz=6.9,SNR=9.0						
CISI	**Cisompet, Garu**	**9.78**	**273**	P	**Pn**	**06 53 46.1**	**+0.5**
	baz=9.5,SNR=3.2						
FITZ	**Fitzroy Crossi**	**12.48**	**142**	P	**Pn**	**06 54 18.8**	**+0.3**
	0.5nm,0.3s,baz=347,slow=14,SNR=12						
FITZ				S	**S**	**06 56 39.5**	**+2.4**
	0.1nm,0.3s,baz=299,slow=19,SNR=3.0						
FITZ	**Fitzroy Crossi**	**12.48**	**142**	P	**Pn**	**06 54 19.3**	**+0.8**
	baz=12,SNR=6.4						
MEEK	**Meekatharra**	**18.29**	**177**	P	**P**	**06 55 21.4**	**-1.6**
	baz=18,SNR=3.4						
WRKA	**Warakurna**	**19.52**	**150**	P	**P**	**06 55 35.0**	**-1.0**
	baz=20,SNR=16						
WRA	**Warramunga Arr**	**19.88**	**127**	P	**P**	**06 55 37.6**	**-2.3**
	0.3nm,0.3s,baz=306,slow=11,SNR=16						
ASAR	**Alice Springs**	**21.83**	**136**	P	**P**	**06 55 57.8**	**-1.0**
	0.7nm,0.4s,baz=312,slow=8.2,SNR=10.0						
PALU	**Palau**	**22.84**	**48**	P	**P**	**06 56 08.5**	**+0.6**
	baz=23,SNR=6.5						
LHMI	**Lhok Sumawe**	**24.63**	**302**	P	**P**	**06 56 24.6**	**+0.5**
	baz=25,SNR=4.2						
HTT	**Hallett**	**31.82**	**145**	P	**P**	**06 57 27.5**	**0.0**
	baz=32,SNR=3.1						
STKA	**Stephens Creek**	**32.36**	**140**	P	**P**	**06 57 31.5**	**-0.7**
	0.5nm,0.4s,baz=302,slow=9.5,SNR=3.7						
MCQ	**Macquarie Isla**	**56.65**	**153**	P	P	07 00 36.3	-6.0
	baz=57,SNR=3.8						

IDC 15 06:51:58.1±1.9, 14°.88S×173°.81W, h0km, mb3.8/7, mb1 4.2/7, mb1mx3.9/19, mbtmp3.8/7, Error ellipse: s-maj=107.2km s-min=22.1km az=150.0
ISC 15 06:51:59.7±1.9, 14°.8S±0°.6×173°.9W±0°.4, h10km, n16, σ1°01/9, mb3.7/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.23**	**66**	Pn	Pn	06 52 29.5	-7.3
	26nm,0.3s,baz=60,slow=8.4,SNR=21						
AFI				Sn	Sn	06 52 50.1	-14
	78nm,0.3s,baz=59,slow=24,SNR=19						
H11S2	**WAKE ISLAND Hy**	**38.24**	**329**	T	T	07 40 13.6	
	baz=152,slow=77,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**38.25**	**329**	T	T	07 40 14.2	
	baz=152,slow=77,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**38.26**	**329**	T	T	07 40 16.7	
	baz=152,slow=77,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**39.19**	**331**	T	T	07 41 39.9	
	baz=152,slow=77,SNR=19						
H11N1	**WAKE ISLAND Hy**	**39.19**	**331**	T	T	07 41 36.0	
	baz=152,slow=77,SNR=16						
H11N2	**WAKE ISLAND Hy**	**39.20**	**331**	T	T	07 41 31.1	
	baz=152,slow=77,SNR=11						
WRA	**Warramunga Arr**	**49.53**	**256**	P	**P**	**07 00 50.7**	**-0.4**
	0.3nm,0.5s,baz=90,slow=7.4,SNR=9.3						
ASAR	**Alice Springs**	**49.85**	**251**	P	**P**	**07 00 53.5**	**-0.1**
	2.9nm,0.7s,baz=87,slow=7.9,SNR=36						
NVAR	**Mina Array Bea**	**74.21**	**42**	P	**P**	**07 03 37.6**	**+0.4**
	1.0nm,0.8s,baz=244,slow=12,SNR=5.3						
TXAR	**Lajitas Array**	**80.68**	**56**	P	**P**	**07 04 13.9**	**+0.5**
	0.5nm,0.7s,baz=224,slow=8.8,SNR=3.8						
ILAR	**Eielson Array**	**81.97**	**11**	P	**P**	**07 04 18.5**	**-0.9**
	0.3nm,0.6s,baz=235,slow=6.3,SNR=12						
PDAR	**Pinedale Array**	**82.15**	**42**	P	**P**	**07 04 19.6**	**-1.6**
	0.5nm,0.7s,baz=242,slow=3.2,SNR=4.6						
YKA	**Yellowknife Ar**	**89.76**	**24**	P	**P**	**07 04 58.2**	**+0.2**
	0.5nm,0.8s,baz=241,slow=4.9,SNR=7.7						
BRTR	**Keskin Array B**	**145.42**	**321**	PKPbc	**PKPab**	**07 11 39.4**	**+0.8**
	2.3nm,0.7s,baz=106,slow=2.3,SNR=13						
GERES	**GERESS Array B**	**145.51**	**351**	PKPbc	**PKPab**	**07 11 39.8**	**+1.3**
	0.5nm,0.3s,baz=30,slow=6.2,SNR=5.5						

NEIC 15 07:06:29.8±3.3, 6°.54S×129°.78E, h123km±27km, mb4.6/3, Error ellipse: s-maj=24.3km s-min=16.2km az=174.0
IDC 15 07:06:29.3±5.4, 6°.56S×129°.79E, h121km±47km, mb3.8/5, mb1 4.0/7, mb1mx3.7/21, mbtmp3.9/7, Error ellipse: s-maj=40.5km s-min=23.0km az=58.0
ISCJB 15 07:06:35.5±0.9, 7°.14S±0°.08×129°.95E±0°.06, h146km, mb3.8/4, Error ellipse: s-maj=10.8km s-min=8.4km az=168.8
AUST 15 07:06:37.2, 7°.48S×130°.05E, h100km
ISC 15 07:06:36.7±1.2, 7°.2S±0°.1×129°.93E±0°.09, h146km, n43, σ1°61/44, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.71**	**168**	P	**Pn**	**07 08 01.3**	**+1.7**
	baz=5.5,SNR=60						
KDU	**Kakadu**	**5.98**	**155**	P	**Pn**	**07 08 03.8**	**+0.6**
	baz=5.7,SNR=179						
SOEI	**Soe**	**6.14**	**245**	P	**Pn**	**07 08 05.2**	**-0.2**
	baz=6.2,SNR=15						
KNRA	**Kununurra**	**8.48**	**188**	P	**Pn**	**07 08 37.8**	**+1.1**
	baz=8.3,SNR=62						
FITZ	**Fitzroy Crossi**	**11.60**	**201**	*e*Pn	**Pn**	**07 09 17.9**	**0.0**
	631nm,2.6s						
FITZ				*e*Sn	**Sn**	**07 11 24.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.60**	**201**	P	**Pn**	**07 09 17.9**	**0.0**
	2.3nm,0.3s,baz=29,slow=10.0,SNR=62						
FITZ				S	**Sn**	**07 11 24.2**	**-1.9**
	4.1nm,0.3s,baz=62,slow=16,SNR=15						
FITZ	**Fitzroy Crossi**	**11.60**	**201**	P	**Pn**	**07 09 18.3**	**+0.4**
	baz=12,SNR=51						
WRAB	**Tennant Creek**	**13.35**	**162**	*e*Pn	**Pn**	**07 09 39.4**	**-1.2**
	16nm,0.4s						
WRAB				*e*Sn	Sn	07 12 07.3	-1.0
WRA	**Warramunga Arr**	**13.35**	**162**	P	**Pn**	**07 09 38.7**	**-2.0**
WRA				S	Sn	07 12 06.5	-1.9
WRA	**Warramunga Arr**	**13.35**	**162**	P	**Pn**	**07 09 38.7**	**-2.0**
	1.9nm,0.3s,baz=346,slow=13,SNR=80						
WRA				S	Sn	07 12 06.5	-1.9
	4.5nm,0.3s,baz=334,slow=23,SNR=9.1						
COEN	**Coen**	**14.63**	**118**	*e*P	**Pn**	**07 09 56.5**	**-0.4**
	67nm,0.6s						
COEN				*e*S	Sn	07 12 27.4	-12
COEN	**Coen**	**14.63**	**118**	P	**Pn**	**07 09 56.5**	**-0.4**
	baz=14,SNR=24						
QIS	**Mount Isa**	**16.24**	**146**	P	**P**	**07 10 17.3**	**+0.3**
	baz=16,SNR=19						
AS31	**Alice Springs**	**16.79**	**167**	*e*P	**Pn**	**07 10 25.7**	**+2.3**

ASAR	**Alice Springs**	**16.80**	**167**	P	**Pn**	**07 10 25.4**	**+2.0**
ASAR				S	**S**	**07 13 29.2**	**-1.3**
ASAR	**Alice Springs**	**16.80**	**167**	P	**Pn**	**07 10 25.4**	**+2.0**
	3.9nm,0.3s,baz=350,slow=9.6,SNR=215						
ASAR				S	**S**	**07 13 29.2**	**-1.3**
	1.4nm,0.3s,baz=204,slow=30,SNR=7.2						
MBWA	**Marble Bar**	**17.01**	**214**	*e*P	**Pn**	**07 10 27.7**	**+1.6**
MBWA				*e*S	**S**	**07 13 32.0**	**-3.5**
WRKA	**Warakurna**	**17.79**	**185**	P	**Pn**	**07 10 37.0**	**+1.7**
	baz=18,SNR=58						
MANU	**Manus Island**	**18.12**	**74**	P	Pn	07 10 42.3	+3.0
	baz=18,SNR=5.0						
CTA	**Charters Tower**	**20.35**	**131**	P	**P**	**07 11 02.3**	**+0.4**
CTA	**Charters Tower**	**20.35**	**131**	P	**P**	**07 11 02.3**	**+0.4**
	6.1nm,0.7s,baz=303,slow=13,SNR=5.4						
CTAO	**Charters Tower**	**20.35**	**131**	*e*P	Pn	07 11 04.7	-0.8
	9.5nm,0.8s						
MEEK	**Meekatharra**	**22.11**	**208**	P	**P**	**07 11 21.9**	**+1.4**
	baz=22,SNR=4.0						
QLP	**Quilpie**	**23.58**	**146**	P	**P**	**07 11 34.8**	**+0.6**
	baz=23,SNR=5.9						
KMBL	**Kambalda**	**25.18**	**196**	P	**P**	**07 11 50.0**	**+1.3**
	baz=25,SNR=8.4						
BBOO	**Buckleboo**	**26.09**	**168**	P	**P**	**07 11 57.8**	**+0.9**
	baz=26,SNR=19						
KLBR	**Kellerberrin**	**26.78**	**204**	P	**P**	**07 12 04.5**	**+1.4**
	baz=27,SNR=5.9						
STKA	**Stephens Creek**	**26.84**	**158**	*e*P	**P**	**07 12 03.9**	**+0.2**
	0.8nm,0.6s						
STKA	**Stephens Creek**	**26.84**	**158**	P	**P**	**07 12 04.5**	**+0.8**
	3.5nm,0.5s,baz=344,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**26.84**	**158**	P	**P**	**07 12 04.4**	**+0.8**
	baz=27,SNR=9.3						
EIDS	**Eidsvold**	**27.09**	**134**	P	**P**	**07 12 08.0**	**+2.1**
	baz=27,SNR=5.5						
HTT	**Hallett**	**27.38**	**163**	P	**P**	**07 12 10.9**	**+2.4**
	baz=27,SNR=7.9						
NWAO	**Narrogin (SRO)**	**28.17**	**203**	P	**P**	**07 12 15.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**28.17**	**203**	P	**P**	**07 12 15.7**	**+0.2**
	4.0nm,0.7s,baz=54,slow=8.7,SNR=5.9						
CMSA	**Cobar Meteorol**	**28.32**	**151**	P	**P**	**07 12 17.6**	**+0.8**
	baz=28,SNR=8.5						
MKAR	**Makanchi Array**	**68.37**	**327**	P	P	07 17 14.0	-8.5
MKAR	**Makanchi Array**	**68.37**	**327**	P	P	07 17 14.0	-8.5
	0.6nm,0.5s,baz=119,slow=7.1,SNR=9.2						
VNDA	**Vanda**	**72.24**	**173**	P	**P**	**07 17 44.4**	**-1.1**
VNDA	**Vanda**	**72.24**	**173**	P	**P**	**07 17 44.4**	**-1.1**
	0.8nm,0.9s,baz=321,slow=6.5,SNR=6.2						
CPUP	**Villa Florida**	**145.92**	**168**	PKPbc	**PKPbc**	**07 25 57.3**	**-2.5**
CPUP	**Villa Florida**	**145.92**	**168**	PKPbc	**PKPbc**	**07 25 57.3**	**-2.5**
	0.8nm,0.5s,baz=327,slow=20,SNR=4.0						
LPAZ	**La Paz**	**150.59**	**143**	*e*PKPbc	**PKPbc**	**07 26 10.6**	**-2.6**
LPAZ	**La Paz**	**150.59**	**143**	PKPbc	**PKPbc**	**07 26 09.6**	**-3.6**
	0.5nm,0.4s,baz=30,slow=4.3,SNR=7.4						

NIED 15 07:23:00, 41°.10N×139°.00E, h5km, Mw3.6 Best double couple: M0 2.71000×10^14 NP1:φ=147.00000°, δ=82.00000°, λ=18.00000°. NP2:φ=54.00000°, δ=72.00000°, λ=172.00000°.
IDC 15 07:23:03.4±1.4, 41°.06N×139°.29E, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.4/28, mbtmp3.5/5, ML3.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=35.3km s-min=25.5km az=110.0
ISCJB 15 07:23:05.4±0.9, 41°.08N±0°.03×139°.06E±0°.05, h27km±7km, mb3.5/2, MS2.8/1, Error ellipse: s-maj=6.2km s-min=5.4km az=41.3
JMA 15 07:23:05.7±0.1, 41°.05N×139°.05E, h34km±1km, M4.2
JMA Felt I J1.
ISC 15 07:23:06.0±1.5, 41°.10N±0°.04×139°.18E±0°.05, h18km±10km, n17, σ0°76/25, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIW	**Iwasaki**	**0.81**	**129**	⇓P	**Pb**	**07 23 21.3**	**-0.3**
JIW				S	**Sg**	**07 23 32.5**	**0.0**
JSI2	**Shiura 2**	**0.93**	**92**	P	**Pg**	**07 23 24.0**	**-0.2**
JSI2				*e*S	Sn	**07 23 37.3**	**+0.1**
JOSM	**Okushiri--Mats**	**1.01**	**13**	⇑P	**Pb**	**07 23 24.4**	**-0.6**
JOSM				S	**Sb**	**07 23 38.2**	**+0.3**
JSR	**Shiriuchi**	**1.03**	**65**	P	**Pg**	**07 23 26.0**	**0.0**
JSR				*e*S	**Sn**	**07 23 40.3**	**+0.8**
JYM2	**Yakumo 2**	**1.35**	**41**	P	**Pn**	**07 23 30.4**	**+0.3**
JAH	**Hinai**	**1.44**	**129**	P	**Pn**	**07 23 30.9**	**-0.3**
JAH				*e*S	**Sn**	**07 23 49.8**	**+0.2**
JOT	**Ohata**	**1.44**	**78**	P	**Pn**	**07 23 31.6**	**+0.4**
JOT				*e*S	**Sb**	**07 23 50.2**	**-0.1**
JTM	**Tenmabayashi**	**1.47**	**102**	P	**

0.7nm,0.5s,baz=87,slow=13,SNR=5.8
WRA Warramunga Arr 49.86 257 P P 07 33 10.4 -0.1
0.6nm,0.6s,baz=91,slow=7.0,SNR=18
ASAR Alice Springs 50.09 252 P P 07 33 11.9 -0.2
1.3nm,0.6s,baz=89,slow=8.4,SNR=19
BRTR Keskin Array B 146.51 321 PKPbc PKPdf 07 43 57.9 +0.5
1.7nm,0.9s,baz=29,slow=3.3,SNR=4.7

CASC 15 07:24:27.8±1.2, 13°35N×89°61W, h41km±15km, MD3.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.49**	**359**	*e*P	Pn	07 24 38.7	-0.1
SBLS				*e*S	Sn	07 24 47.5	+1.0
SNET	**Serv Nac Est T**	**0.50**	**47**	*e*P	Pn	07 24 38.6	-0.1
SNET				*e*S	Sn	07 24 47.4	+1.0
BOQS	**Boqueron**	**0.50**	**40**	*e*P	Pn	07 24 38.9	0.0
BOQS				*e*S	Sn	07 24 47.8	+1.0
SNJE	**San Jose**	**0.52**	**0**	*e*P	Pn	07 24 39.0	-0.1
SNJE				*e*S	Sn	07 24 47.7	+0.6
RTR	**El Retiro**	**0.55**	**356**	*e*P	Pn	07 24 39.5	0.0
LFRS	**El Faro**	**0.60**	**63**	*e*P	Pn	07 24 39.9	-0.2
LFRS				*e*S	Sn	07 24 49.6	+0.8
LFU	**La Fuente**	**0.63**	**50**	*e*P	Pn	07 24 40.4	0.0
LFU				*e*S	Sn	07 24 49.6	+0.2
LBRS	**Las Brisas**	**0.68**	**55**	*e*P	Pn	07 24 40.8	-0.3
LBRS				*e*S	Sn	07 24 51.4	+0.8
RBDL	**Robledal**	**0.77**	**354**	*e*P	Pn	07 24 41.7	-0.7
RBDL				*e*S	Sn	07 24 54.0	+1.0
SNVI	**San Vicente**	**0.80**	**71**	*e*P	Pn	07 24 42.4	-0.4
MRL	**Marmol**	**1.71**	**357**	*e*P	Pn	07 24 55.9	+0.5
JAT	**Jato**	**2.19**	**296**	*e*P	Pn	07 25 03.1	+1.4

BUC 15 07:48:30.3±1.8, 44°47N×28°50E, h10km, MD1.9/2, 6C-2D, Error ellipse: s-maj=15.0km s-min=7.7km az=100.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIRR	**Tirgusor**	**0.06**	**260**	⇑*i*P	Pg	07 48 32.4	+0.1
TIRR				S	Sg	07 48 34.7	+0.9
TIRR	**Tirgusor**	**0.06**	**260**	⇑*i*P	Pg	07 48 32.4	+0.1
TIRR				*i* S	Sg	07 48 34.7	+0.9
TLB	**Topalu**	**0.35**	**290**	⇓*i*P	Pg	07 48 37.7	+0.5
TLB	**Topalu**	**0.35**	**290**	⇓*i*P	Pg	07 48 37.7	+0.5
TLB				*i* S	Sb	07 48 44.3	+0.1
HARR	**Harsova**	**0.46**	**299**	⇑*i*P	Pg	07 48 39.4	+0.1
HARR	**Harsova**	**0.46**	**299**	⇑*i*P	Pg	07 48 39.4	+0.1
CFR	**Carcaliu**	**0.76**	**340**	⇑*i*P	Pb	07 48 45.9	+0.3
CFR				S	Sb	07 48 56.6	+0.7
CFR	**Carcaliu**	**0.76**	**340**	⇑*i*P	Pb	07 48 45.9	+0.3
CFR				*i* S	Sb	07 48 56.6	+0.7

WEL 15 08:47:38.6±0.2, 38°12S×178°73E, h38km±4km, ML3.7/4, 7C-1D, Error ellipse: s-maj=2.7km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.38**	**276**	⇑PN	Pn	08 47 47.1	-0.3
PUZ				SN	Sn	08 47 53.9	-0.3
PUZ				AML	AML	08 47 54.2	
CNGZ	**Carnagh Statio**	**0.55**	**228**	PN	Pn	08 47 50.2	+0.2
MXZ	**Matakaoa Point**	**0.65**	**328**	⇑PN	Pn	08 47 51.1	-0.2
MXZ				SN	Sn	08 48 00.5	+0.2
MXZ				AML	AML	08 48 02.1	
MXZ				AML	AML	08 48 02.1	
MXZ				AML	AML	08 48 02.1	
RIGZ	**Rimuhau**	**0.96**	**232**	PN	Pn	08 47 55.3	-0.3
RIGZ				SN	Sn	08 48 08.4	+0.2
MWZ	**Matawai**	**0.97**	**257**	⇑PN	Pn	08 47 55.2	-0.6
MWZ				SN	Sn	08 48 08.0	-0.5
MWZ				AML	AML	08 48 09.0	
MWZ				AML	AML	08 48 09.1	
MWZ				AML	AML	08 48 09.1	
PRGZ	**Paritu Road**	**1.05**	**219**	PN	Pn	08 47 56.2	-0.5
MHGZ	**Mahia Peninsul**	**1.22**	**212**	PN	Pn	08 47 58.8	-0.3
URZ	**Urewera**	**1.29**	**263**	PN	Pn	08 48 00.1	+0.1
URZ				AML	AML	08 48 17.9	
URZ				AML	AML	08 48 18.8	
WHHZ	**Waihua**	**1.52**	**230**	PN	Pn	08 48 03.3	+0.1
RAHZ	**Arahi**	**1.52**	**238**	PN	Pn	08 48 03.3	+0.1
EDRZ	**Edgecumbe**	**1.57**	**270**	PN	Pn	08 48 04.2	+0.2
MARZ	**Manawahe**	**1.63**	**274**	PN	Pn	08 48 04.3	-0.4
OPRZ	**Ohinepanea**	**1.74**	**278**	⇑PN	Pn	08 48 05.4	-0.9
TARZ	**Mount Tarawera**	**1.76**	**265**	⇑PN	Pn	08 48 06.8	-0.2
NMHZ	**Naumai**	**1.80**	**236**	PN	Pn	08 48 07.1	0.0
PRRZ	**Plateau Road**	**1.88**	**258**	PN	Pn	08 48 08.2	0.0
ALRZ	**Allen Road**	**1.93**	**256**	PN	Pn	08 48 08.9	0.0
BKZ	**Black Stump Fm**	**2.04**	**238**	⇓PN	Pn	08 48 10.3	-0.2
BKZ				*e*SN	Sn	08 48 33.5	-1.3
MCHZ	**McNeill Hill**	**2.07**	**230**	PN	Pn	08 48 10.5	-0.3
KAHZ	**Kahuranaki**	**2.21**	**220**	PN	Pn	08 48 11.8	-1.0
PXZ	**Pawanui**	**2.40**	**217**	PN	Pn	08 48 13.4	-1.9
BHHZ	**Black Hill Sta**	**2.50**	**236**	PN	Pn	08 48 16.1	-0.6
KRVZ	**Karewarewa**	**2.61**	**247**	PN	Pn	08 48 17.9	-0.5
OTVZ	**Oturere**	**2.62**	**246**	PN	Pn	08 48 18.3	-0.3
WPHZ	**Waipukurau**	**2.64**	**222**	PN	Pn	08 48 17.2	-1.4
PNHZ	**Pukenui**	**2.67**	**227**	PN	Pn	08 48 17.4	-1.7
NGZ	**Ngauruhoe**	**2.67**	**246**	PN	Pn	08 48 18.6	-0.6
PRHZ	**Porangahau**	**2.70**	**217**	PN	Pn	08 48 17.3	-2.1
WPVZ	**Whakapapa**	**2.72**	**245**	*e*PN	Pn	08 48 19.2	-0.7
WNVZ	**Wahianoa**	**2.73**	**243**	PN	Pn	08 48 19.6	-0.5
FWVZ	**Far West T-bar**	**2.74**	**244**	PN	Pn	08 48 19.9	-0.3
TRVZ	**Turoa**	**2.76**	**244**	PN	Pn	08 48 19.8	-0.7
KUZ	**Kuaotunu**	**2.76**	**299**	⇑PN	Pn	08 48 19.1	-1.1
ANWZ	**Angora Road**	**2.92**	**216**	PN	Pn	08 48 21.0	-1.5
MKAZ	**Moumakai**	**3.00**	**288**	⇑PN	Pn	08 48 22.9	-0.7
BFZ	**Birch Farm**	**3.21**	**216**	PN	Pn	08 48 23.7	-2.6
TIWZ	**Tintock**	**3.45**	**219**	PN	Pn	08 48 27.3	-2.5
MRZ	**Mangatainoka R**	**3.52**	**223**	PN	Pn	08 48 27.4	-3.4
HOWZ	**Holdsworth Sta**	**3.73**	**221**	PN	Pn	08 48 30.9	-2.7
MTW	**Mount Morrison**	**3.93**	**218**	PN	Pn	08 48 33.3	-3.1
KIW	**Kapiti Island**	**4.03**	**226**	PN	Pn	08 48 35.2	-2.5
PLWZ	**Palliser**	**4.37**	**217**	PN	Pn	08 48 38.5	-3.9
QRZ	**Quartz Range**	**5.51**	**239**	*e*PN	Pn	08 48 55.0	-3.1
CTZ	**Chatham Island**	**6.62**	**149**	PN	Pn	08 49 13.3	0.0

NIED ***15*** *08:54:00, 34°.20N×140°.40E, h44km, Mw4.0 Best double couple: M₀1.17000×10¹⁵ NP1:φ₈349.00000°, δ82.00000°, λ-160.00000°. NP2:φ₈256.00000°, δ70.00000°, λ-8.00000°.*

IDC ***15*** *08:54:12.4±0.8, 33°.99N×140°.30E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, ML4.3/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/37, Error ellipse: s-maj=28.8km s-min=15.2km az=82.0*

ISCJB ***15*** *08:54:16.9±0.6, 34°.11N±0°.03×140°.40E±0°.06, h51km±5km, mb4.0/13, Error ellipse: s-maj=8.4km s-min=5.3km az=164.8*

NEIC ***15*** *08:54:17.9±0.9, 34°.07N×140°.40E, h40km±9km, mb4.5/4, MW4.0(NIED), Error ellipse: s-maj=16.9km s-min=7.3km az=82.0*

NEIC Recorded [2 JMA] in Chiba and on Miyake-jima; [1 JMA] in Kanagawa and on Mikura-jima.

JMA ***15*** *08:54:17.8±0.1, 34°.17N×140°.38E, h47km±2km, M4.5*

JMA Felt II J1.

ISC 15 08:54:17.4±1.1, 34°13N±0°.04×140°40E±0°.05, h34km±3km, n52, σ1°03/55, mb4.1/13, 6C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.68**	**8**	⇓P	Pb	08 54 31.1	+0.4
BSO1	**Boso 1**	**0.71**	**42**	⇓P	Pb	08 54 31.0	0.0
JMY	**Miyakejima3**	**0.74**	**266**	⇑P	Pb	08 54 32.0	+0.1
JMY				S	Sb	08 54 41.8	0.0
BSO4	**Boso 4**	**0.86**	**357**	⇓P	Pb	08 54 33.8	-0.1
JIM2	**Oshima 3**	**0.99**	**307**	⇑P	Pn	08 54 34.9	-0.1
JIM2				*e*S	Sn	08 54 47.0	-0.8
JKO	**Kozu shima**	**1.05**	**274**	⇑P	Pn	08 54 36.2	+0.5
JKO				*e*S	Sb	08 54 50.0	-0.5
JHJ2	**Mitsune**	**1.12**	**206**	⇓P	Pn	08 54 37.6	+0.9
JHJ2				*e*S	Sb	08 54 52.3	-0.3
JHJ2	**Mitsune**	**1.12**	**206**	*e*Pn	Pn	08 54 37.6	+0.9
JHJ2				*e*Sn	Sn	08 54 51.9	+1.0
KTJJ	**Kamata 2**	**1.36**	**306**	⇑P	Pn	08 54 39.9	-0.1
KTJJ				S	Sn	08 54 55.5	-1.3
JIZS	**Izushimoda**	**1.39**	**296**	⇑P	Pn	08 54 40.9	+0.5
JOD2	**Odawara 2**	**1.57**	**317**	⇑P	Pn	08 54 43.0	+0.2
JOD2				*e*S	Sn	08 55 00.8	-1.2
MJAR	**Matsushiro Arr**	**3.00**	**324**	Pn	Pn	08 55 03.6	+1.0
MJAR				Sn	Sn	08 55 36.6	-0.8
MJAR	**Matsushiro Arr**	**3.00**	**324**	Pn	Pn	08 55 03.6	+1.0
	57nm,0.3s,baz=94,slow=21,SNR=460						
MJAR				Sn	Sn	08 55 36.6	-0.8
	86nm,0.3s,baz=236,slow=12,SNR=16						
MAJO	**Matsushiro**	**3.00**	**324**	*e*Pn	Pn	08 55 04.3	+1.7
MAJO				*e*Sn	Sn	08 55 39.9	+2.4
MAT	**Matsushiro**	**3.00**	**324**	P	Pn	08 55 04.5	+1.9
MAT				S	Sn	08 55 38.2	+0.8
CBIJ	**Chichi jima**	**7.17**	**167**	*e*Pn	Pn	08 55 59.6	-0.3
CBIJ				Sn	Sn	08 57 13.6	-6.7
JCJ	**Chichijima**	**7.17**	**167**	Pn	Pn	08 55 59.5	-0.4
	6.0nm,0.3s,baz=268,slow=20,SNR=11						
JCJ				Sn	Sn	08 57 13.6	-6.7
	6.6nm,0.3s,baz=270,slow=20,SNR=3.3						
JCJ				LR	LR	08 58 04.5	
	comp=Z,62nm,18.0s,baz=66,slow=33						
ASAJ	**Asahikawa**	**10.12**	**9**	Pn	Pn	08 56 39.3	-0.9
ASAJ	**Asahikawa**	**10.12**	**9**	Pn	Pn	08 56 39.3	-0.9
	2.6nm,0.3s,baz=208,slow=13,SNR=20						
ASAJ				LR	LR	08 59 59.7	
	comp=Z,31nm,21.3s,baz=156,slow=34						
KSRS	**Korea Array**	**10.66**	**292**	Pn	Pn	08 56 53.5	+5.9
	0.5nm,0.3s,baz=108,slow=14,SNR=10						
KSAR	**Wonju Array Be**	**10.69**	**292**	Pn	Pn	08 56 53.5	+5.5
H11N2	**WAKE ISLAND Hy 27.53**	**115**		T	T	09 29 57.1	
	baz=311,slow=76,SNR=618						
H11N1	**WAKE ISLAND Hy 27.54**	**115**		T	T	09 29 58.0	
	baz=311,slow=76,SNR=3.6						
H11N3	**WAKE ISLAND Hy 27.55**	**115**		T	T	09 29 58.5	
	baz=311,slow=76,SNR=501						
H11S3	**WAKE ISLAND Hy 28.13**	**117**		T	T	09 30 42.9	
	baz=314,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy 28.13**	**117**		T	T	09 30 43.4	
	baz=314,slow=75,SNR=78						
H11S2	**WAKE ISLAND Hy 28.14**	**117**		T	T	09 30 44.5	
	baz=314,slow=75,SNR=93						
SONM	**Songino Array**	**28.84**	**309**	P	P	**09 00 13.7**	**+1.1**
SONM	**Songino Array**	**28.84**	**309**	P	P	**09 00 13.7**	**+1.1**
	0.3nm,0.4s,baz=107,slow=8.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**43.31**	**315**	P	P	**09 02 15.9**	**+0.2**
ZALV	**Zalesovo Beam**	**43.31**	**315**	P	P	**09 02 15.9**	**+0.2**
	0.6nm,0.3s,baz=96,slow=4.5,SNR=4.3						
MKAR	**Makanchi Array**	**45.02**	**304**	P	P	**09 02 29.5**	**-0.1**
MKAR	**Makanchi Array**	**45.02**	**304**	P	P	**09 02 29.5**	**-0.1**
	0.8nm,0.6s,baz=82,slow=9.8,SNR=9.3						
ILAR	**Eielson Array**	**52.40**	**31**	P	P	**09 03 28.1**	**+2.1**
ILAR	**Eielson Array**	**52.40**	**31**	P	P	**09 03 28.1**	**+2.1**
	0.2nm,0.5s,baz=282,slow=6.4,SNR=4.3						
WRAB	**Tennant Creek**	**54.07**	**187**	*e*P	P	**09 03 37.6**	**-1.1**
	8.4nm,1.0s						
WRA	**Warramunga Arr**	**54.08**	**187**	P	P	**09 03 37.6**	**-1.2**
WRA	**Warramunga Arr**	**54.08**	**187**	P	P	**09 03 37.6**	**-1.2**
	4.7nm,0.7s,baz=5.3,slow=7.6,SNR=89						
INK	**Inuvik**	**57.35**	**26**	*e*P	P	**09 04 03.1**	**+1.5**
	14nm,1.9s						
INK	**Inuvik**	**57.35**	**26**	P	P	**09 04 02.7**	**+1.0**
	0.6nm,0.8s,baz=297,slow=6.8,SNR=2.4						
AS31	**Alice Springs**	**57.80**	**187**	*e*P	P	**09 04 04.7**	**-0.7**
ASAR	**Alice Springs**	**57.80**	**187**	P	P	**09 04 04.7**	**-0.7**
ASAR	**Alice Springs**	**57.80**	**187**	P	P	**09 04 04.7**	**-0.7**
	1.3nm,0.8s,baz=16,slow=15,SNR=25						
ABKAR	**Akbulak array**	**59.20**	**311**	*e*P	P	**09 04 14.1**	**-0.9**
	1.2nm,0.5s						
STKA	**Stephens Creek**	**65.66**	**179**	*e*P	P	**09 04 57.1**	**-1.0**
	0.4nm,0.7s						
STKA	**Stephens Creek**	**65.66**	**179**	P	P	**09 04 57.7**	**-0.5**
	1.8nm,0.8s,baz=350,slow=12,SNR=6.6						
ARCES	**ARCESS Array B**	**66.42**	**340**	P	P	**09 05 04.1**	**+1.4**
ARCES	**ARCESS Array B**	**66.42**	**340**	P	P	**09 05 04.1**	**+1.4**
	1.6nm,0.8s,baz=66,slow=7.0,SNR=3.6						
FINES	**FINESS Array B**	**71.00**	**332**	P	P	**09 05 31.2**	**-0.1**
FINES	**FINESS Array B**	**71.00**	**332**	P	P	**09 05 31.2**	**-0.1**
	6.5nm,1.1s,baz=57,slow=10,SNR=4.0						
AKASG	**Malin Array Be**	**76.09**	**322**	P	P	**09 06 00.4**	**-1.0**
AKASG	**Malin Array Be**	**76.09**	**322**	P	P	**09 06 00.4**	**-1.0**
	1.0nm,0.4s,baz=49,slow=5.4,SNR=6.2						

IDC 15 08:58:51.2±49.0, 16°78S×177°43W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.1/3, Error ellipse: s-maj=899.9km s-min=160.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.00**	**240**	P	P	09 06 28.1	+0.1
	3.9nm,1.0s,baz=75,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**45.77**	**258**	P	P	09 07 14.9	0.0
	1.0nm,0.5s,baz=94,slow=7.2,SNR=34						
ASAR	**Alice Springs**	**46.01**	**253**	P	P	09 07 16.4	-0.5
	2.3nm,0.4s,baz=88,slow=8.8,SNR=42						

ISCJB ***15*** *09:03:46.9±0.6, 85°.91N±0°.05×2°.7E±°, h10km, mb3.4/8, MS3.4/11, Error ellipse: s-maj=14.8km s-min=6.5km az=3.4*

IDC ***15*** *09:03:47.5±0.8, 86°.11N×29°.64E, h0km, mb3.5/8, mb1 3.8/11, mb1mx3.6/31, mbtmp3.6/11, ML3.6/3, MS3.4/13, Ms1 3.4/13, ms1mx3.1/35, Error ellipse: s-maj=27.8km s-min=13.9km az=73.0*

ISC 15 09:03:48.8±0.8, 85°94N±0°06×27°7E±0°1, h10km, n20, σ1°56/17, mb3.5/8, MS3.5/11, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**7.30**	**204**	*e*P	Pn	**09 05 36.4**	**+1.2**
KBS				*e*S	Sn	**09 06 57.5**	**-0.4**
KBS				AML	AML	09 07 00.7	
	comp=Z,6.9nm,0.5s						
SPA0	**Spitsbergen Ar**	**7.93**	**197**	*e*P	Pn	**09 05 44.9**	**+1.0**
SPA0				*e*S	Sn	**09 07 13.9**	**+0.3**
SPITS	**Spitsbergen Ar**	**7.93**	**197**	Pn	Pn	**09 05 45.0**	**+1.0**
	baz=46,slow=6.2,SNR=43						
SPITS				Sn	Sn	**09 07 13.7**	**+0.1**
	baz=15,slow=17,SNR=2.3						
ARCES	**ARCESS Array B**	**16.51**	**183**	Pn	Pn	**09 07 41.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=359,slow=10,SNR=7.4						
ARCES				Sn	Sn	**09 10 38.0**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=8.3,slow=22,SNR=2.4						
ARCES				LR	LR	09 14 18.9	
	comp=Z,47nm,18.4s,baz=330,slow=38						
RES	**Resolute Bay**	**17.94**	**313**	P	P	**09 07 57.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=12,slow=20,SNR=8.3						
RES				LR	LR	09 15 07.9	
	comp=Z,80nm,18.7s,baz=272,slow=38						
SFJD	**Kangerlussuaq**	**22.66**	**268**	LR	LR	09 18 17.3	
	comp=Z,246nm,18.7s,slow=38						
FINES	**FINESS Array B**	**24.63**	**182**	LR	LR	09 17 57.2	
	comp=Z,60nm,20.7s,baz=21,slow=34						
INK	**Inuvik**	**25.73**	**344**	P	P	**09 09 16.8**	**-1.9**
	comp=Z,1.7nm,1.0s,baz=30,slow=11,SNR=4.1						
INK				LR	LR	09 18 33.3	
	comp=Z,47nm,18.8s,baz=336,slow=35						
HFS	**Hagfors**	**26.09**	**196**	LR	LR	09 20 59.8	
	comp=Z,33nm,18.7s,baz=251,slow=39						
ILAR	**Eielson Array**	**29.45**	**355**	P	P	**09 09 51.8**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=358,slow=8.2,SNR=5.4						
YKA	**Yellowknife Ar**	**30.99**	**327**	P	P	**09 10 05.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=0.5,slow=8.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**34.16**	**118**	P	P	**09 10 33.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=354,slow=7.2,SNR=3.1						
ZALV				LR	LR	09 26 27.2	
	comp=Z,34nm,18.3s,baz=65,slow=40						
AKASG	**Malin Array Be**	**35.40**	**178**	P	P	**09 10 45.1**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=354,slow=8.3,SNR=4.4						
MKAR	**Makanchi Array**	**41.14**	**122**	P	P	**09 11 32.2**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=330,slow=7.0,SNR=4.0						
MKAR				LR	LR	09 31 32.4	
	comp=Z,50nm,19.7s,baz=353,slow=40						
PDAR	**Pinedale Array**	**50.49**	**320**	P	P	**09 12 47.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=19,slow=5.9,SNR=2.7						
TKL	**Tuckaleechee C**	**56.11**	**294**	LR	LR	09 35 48.1	
	comp=Z,41nm,19.0s,baz=5.5,slow=34						
ANMO	**Albuquerque**	**58.13**	**316**	LR	LR	09 38 51.3	
	comp=Z,65nm,18.0s,baz=23,slow=36						
TXAR	**Lajitas Array**	**63.58**	**313**	P	P	**09 14 18.9**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=353,slow=3.6,SNR=2.9						
TXAR				LR	LR	09 42 05.8	
	comp=Z,51nm,18.9s,baz=10.0,slow=36						
LPIG	**La Paz**	**69.11**	**319**	LR	LR	09 44 02.8	
	comp=Z,50nm,20.7s,baz=34,slow=35						
CMAR	**Chiang Mai Arr**	**79.30**	**107**	LR	LR	09 47 56.2	
	comp=Z,46nm,18.9s,baz=156,slow=38						

IDC ***15*** *09:13:37.6±1.8, 23°.13S×66°.36W, h208km±22km, mb3.1/1, mb1 3.2/6, mb1mx3.1/20, mbtmp3.1/6, Error ellipse: s-maj=37.5km s-min=17.2km az=109.0*

ISCJB ***15*** *09:13:38.7±0.7, 22°.96S±0°.05×66°.84W±0°.10, h258km±9km, mb3.2/1, Error ellipse: s-maj=14.4km s-min=7.8km az=177.2*

NEIC ***15*** *09:13:39.4, 22°.91S×67°.05W, h256km, MG4.2(GUC), After GUC.*

GUC ***15*** *09:13:39.4±0.4, 22°.91S×67°.05W, h256km±11km, ML4.2*

ISC 15 09:13:39.9±1.1, 22°87S±0°06×67°0W±0°1, h260km±12km, n35, σ0°98/54, 16C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.82**	**278**	*e*Pn	Pn	**09 14 21.8**	**-0.1**
LVC				*e*S	S	**09 14 54.8**	**-0.3**
PB09	**Plate Boundary**	**2.37**	**296**	⇑*i*P	Pn	**09 14 28.0**	**+1.2**
PB09				*i* S	S	**09 15 04.6**	**+0.7**
PB09				AML	AML	09 15 07.1	
	comp=E,578nm,0.6s						
PB09	**Plate Boundary**	**2.37**	**296**	⇑*i*P	Pn	**09 14 28.0**	**+1.2**
PB09				*i* S	S	**09 15 04.6**	**+0.7**
PB04	**Plate Boundary**	**2.41**	**284**	⇑*i*P	Pn	09 14 34.0	+7.0
PB04				*i* S	S	09 15 15.8	+11
PB04	**Plate Boundary**	**2.41**	**284**	⇑*i*P	Pn	09 14 34.0	+7.0
PB04				*i* S	S	09 15 15.8	+11
PB06	**Plate Boundary**	**2.42**	**273**	⇑*e*P	Pn	**09 14 27.5**	**+0.3**
PB06				*i* S	S	**09 15 04.2**	**-0.5**
PB06				AML	AML	09 15 09.2	
	comp=N,309nm,0.2s						
PB06	**Plate Boundary**	**2.42**	**273**	⇑*e*P	Pn	**09 14 27.5**	**+0.3**
PB06				*i* S	S	**09 15 04.2**	**-0.5**
MACH	**Maria Elena**	**2.67**	**284**	*e*P	Pn	**09 14 30.5**	**+0.6**
MACH				*i* S	S	**09 15 09.4**	**0.0**
MACH	**Maria Elena**	**2.67**	**284**	*e*P	Pn	**09 14 30.5**	**+0.6**
MACH				*i* S	S	**09 15 09.4**	**0.0**
PB07	**Plate Boundary**	**2.94**	**292**	⇑*i*P	Pn	**09 14 33.7**	**+1.1**
PB07				*i* S	S	**09 15 14.4**	**+0.1**
PB07	**Plate Boundary**	**2.94**	**292**	⇑*i*P	Pn	**09 14 33.7**	**+1.1**
PB07				*i* S	S	**09 15 14.4**	**+0.1**
PB01	**Plate Boundary**	**2.97**	**307**	⇑*e*P	Pn	**09 14 33.8**	**+0.9**
PB01				*i* S	S	**09 15 15.2**	**+0.5**
PB01	**Plate Boundary**	**2.97**	**307**	⇑*e*P	Pn	**09 14 33.8**	**+0.9**
PB01				*i* S	S	**09 15 15.2**	**+0.5**
CEN1	**Los Morros**	**3.02**	**260**	*e*P	Pn	**09 14 35.6**	**+2.2**
CEN1	**Los Morros**	**3.02**	**260**	*e*P	Pn	**09 14 35.6**	**+2.2**
ANCH	**Antofagasta**	**3.27**	**255**	⇑*i*P	Pn	**09 14 37.0**	**+1.1**
ANCH				*i* S	S	**09 15 19.6**	**-0.7**
ANCH	**Antofagasta**	**3.27**	**255**	⇑*i*P	Pn	**09 14 37.0**	**+1.1**
ANCH				*i* S	S	**09 15 19.6**	**-0.7**
PB10	**Plate Boundary**	**3.37**	**258**	⇑*i*P	Pn	**09 14 37.7**	**+0.7**
PB10				*i* S	S	**09 15 22.1**	**-0.2**
PATCX	**Punta Patache**	**3.60**	**304**	⇑*i*P	Pn	**09 14 40.8**	**+1.1**
PATCX				*i* S	S	**09 15 28.0**	**+0.8**
HMBC	**Humberstone**	**3.75**	**313**	⇑*i*P	Pn	**09 14 42.0**	**+0.5**
HMBC				*i* S	S	**09 15 30.5**	**+0.1**
HMBC	**Humberstone**	**3.75**	**313**	⇑*i*P	Pn	**09 14 42.0**	**+0.5**
HMBC				*i* S	S	**09 15 30.5**	**+0.1**
PB11	**Plate Boundary**	**3.99**	**320**	*e*P	Pn	**09 14 44.8**	**+0.6**
PB11				*e*S	S	**09 15 35.4**	**-0.1**
PB11	**Plate Boundary**	**3.99**	**320**	*e*P	Pn	**09 14 44.8**	**+0.6**
PB11				*e*S	S	**09 15 35.4**	**-0.1**
PSGC	**Pisagua**	**4.40**	**317**	*e*P	Pn	**09 14 49.2**	**+0.3**
PSGC				*i* S	S	**09 15 43.6**	**-0.3**
PSGC	**Pisagua**	**4.40**	**317**	*e*P	Pn	**09 14 49.2**	**+0.3**
PSGC				*i* S	S	**09 15 43.6**	**-0.3**
LPAZ	**La Paz**	**6.64**	**350**	*e*Pn	Pn	**09 15 18.8**	**+1.9**
	comp=N,4.6nm,0.6s						
LPAZ	**La Paz**	**6.64**	**350**	P	Pn	**09 15 18.8**	**+1.9**
	comp=N,1.1nm,0.3s,baz=162,slow=5.4,SNR=29						
LPAZ				S	S	**09 16 34.1**	**-0.6**
	baz=3.4,slow=19,S

TUMR	**Tumrok**	**3.38 265**	P	Pn	09 41 21.3	+2.0
TUMR			S	Sn	09 42 01.0	+1.5
SRDR	**Sredinnyy**	**3.59 282**	P	Pn	09 41 24.9	+2.7
SRDR			S	Sn	09 42 07.4	+2.7
NLC	**Nalytchevo**	**4.66 240**	S	Sn	09 42 31.8	+0.9
SDLR	**Sedlovina**	**4.83 243**	P	Pn	09 41 41.1	+1.8
SDLR			S	Sn	09 42 35.8	+0.5
SMAR	**Somma**	**4.88 243**	P	Pn	09 41 41.3	+1.2
KRER	**Koryakskii**	**4.88 243**	P	Pn	09 41 42.3	+2.2
KRER			S	Sn	09 42 37.8	+1.0
UGLR	**Uglovaya**	**4.90 242**	P	Pn	09 41 42.4	+2.2
UGLR			S	Sn	09 42 37.2	+0.2
KRX	**Arik**	**4.91 244**	P	Pn	09 41 42.3	+2.0
AVH	**Avacha**	**4.91 243**	P	Pn	09 41 42.2	+1.9
AVH			S	Sn	09 42 37.8	+0.6
KOK	**Koryaka**	**4.95 244**	P	Pn	09 41 43.0	+2.2
GNL	**Ganaly**	**5.11 250**	P	Pn	09 41 44.8	+1.7
RUS	**Russkaya**	**5.51 236**	P	Pn	09 41 50.5	+2.0
MTVR	**Mutnovka**	**5.64 238**	P	Pn	09 41 52.3	+1.9
MTVR			S	Sn	09 42 54.8	-0.6
ASAK	**Asacha**	**5.84 238**	P	Pn	09 41 55.9	+2.8
ASAK			S	Sn	09 43 01.7	+1.6

IDC 15 10:03:53.2±7.6, 18°.92S×178°.00W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=332.3km s-min=37.2km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.84**	**260**	P	P	10 12 09.6	0.0
	0.2nm,0.7s,baz=97,slow=7.8,SNR=6.0						
ASAR	**Alice Springs**	**44.90**	**255**	P	P	10 12 09.7	-0.3
	0.2nm,0.5s,baz=87,slow=8.1,SNR=4.7						
ILAR	**Eielson Array**	**86.78**	**13**	P	P	10 16 38.9	0.0
	0.2nm,0.4s,baz=216,slow=5.2,SNR=8.9						

IDC 15 10:06:32.1±1.6, 6°.29N×126°.65E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/24, mbtmp3.9/5, Error ellipse: s-maj=109.5km s-min=27.8km az=75.0
ISCJB 15 10:06:42.9±0.9, 5°.91N±0°.07×126°.42E±0°.09, h89km±12km, mb3.7/5, Error ellipse: s-maj=16.1km s-min=11.7km az=19.7
MAN 15 10:06:43, 6°.10N×126°.52E, h102km, mb4.5, ML3.4, MS3.4
ISC 15 10:06:43.6±1.4, 5°.88N±0°.09×126°.4E±0°.1, h80km±16km, n12, σ1§55/16, mb3.5/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.07**	**351**	*eP*	**Pn**	**10 07 03.4**	**-0.1**
MATI				*eS*	**Sn**	**10 07 19.0**	**+0.7**
GSPH	**General Santos**	**1.48**	**278**	⇑*iP*	**Pn**	**10 07 07.2**	**-1.5**
GSPH				*i* S	**Sn**	**10 07 26.8**	**-0.9**
DMPH	**Davao City--Mi**	**1.50**	**323**	⇑*eP*	**Pn**	**10 07 09.1**	**+0.2**
DMPH				*eS*	**Sn**	**10 07 28.4**	**+0.5**
BIPH	**Bislig**	**2.29**	**359**	*eP*	**Pn**	**10 07 18.9**	**-0.4**
BIPH				*i* S	**Sn**	**10 07 44.0**	**-2.6**
BUKP	**Musuan**	**2.40**	**326**	*eP*	**Pn**	**10 07 22.0**	**+1.2**
BUKP				*eS*	**Sn**	**10 07 52.1**	**+2.7**
CGP	**Cagayan de Oro**	**3.07**	**326**	*eP*	Pn	10 07 18.6	-11
CGP				*eS*	**Sn**	**10 08 06.2**	**+0.5**
BUTP	**Butuan**	**3.17**	**346**	*eP*	Pn	10 07 23.8	-7.4
FITZ	**Fitzroy Crossi**	**23.85**	**182**	P	**P**	**10 11 51.5**	**+1.9**
	0.7nm,0.3s,baz=351,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**26.82**	**163**	P	**P**	**10 12 16.7**	**+0.1**
	0.7nm,0.5s,baz=344,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**30.27**	**166**	P	**P**	**10 12 47.5**	**+0.2**
	0.3nm,0.4s,baz=346,slow=7.2,SNR=8.4						
STKA	**Stephens Creek**	**40.24**	**160**	P	**P**	**10 14 13.6**	**+0.9**
	1.3nm,0.5s,baz=336,slow=11,SNR=5.3						
ARCES	**ARCESS Array B**	**88.33**	**340**	P	**P**	**10 19 24.0**	**-2.2**
	4.4nm,1.0s,baz=81,slow=5.6,SNR=3.7						

IDC 15 10:31:28.9±6.0, 31°.71S×179°.87W, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.4/17, mbtmp3.2/2, Error ellipse: s-maj=243.6km s-min=57.3km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.46**	**269**	P	P	10 39 17.1	-0.6
	0.2nm,0.5s,baz=107,slow=7.5,SNR=5.4						
WRA	**Warramunga Arr**	**42.57**	**275**	P	P	10 39 27.0	+0.2
	0.1nm,0.3s,baz=115,slow=8.2,SNR=7.3						
FINES	**FINESS Array B**	**145.79**	**338**	PKPbc	PKPdf	10 51 08.3	-0.3
	2.7nm,0.9s,baz=34,slow=5.2,SNR=2.5						

JMA 15 10:56:08.3±0.1, 23°.78N×125°.43E, h63km, M3.2
IDC 15 10:56:08.6±5.0, 22°.86N×123°.71E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/24, mbtmp3.3/3, Error ellipse: s-maj=325.1km s-min=29.3km az=61.0
ISC 15 10:56:05.2±2.0, 23°.75N±0°.07×125°.44E±0°.05, h8km±13km, n17, σ0§69/24, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.01**	**358**	P	**Pn**	**10 56 26.3**	**+0.6**
JOGS				*eS*	**Sn**	**10 56 39.9**	**-0.3**
JMJ	**Miyako jima 2**	**1.07**	**353**	P	**Pn**	**10 56 27.3**	**+0.7**
JMJ				*eS*	**Sb**	**10 56 41.0**	**+0.7**
JTJ	**Tarama**	**1.11**	**323**	P	**Pn**	**10 56 27.7**	**+0.5**
JTJ				S	**Sn**	**10 56 42.1**	**-0.7**
JIJ	**Ishigaki jima**	**1.33**	**298**	P	**Pg**	**10 56 30.9**	**+0.1**
JIJ				S	**Sb**	**10 56 47.2**	**-0.6**
JKRS	**Kuro-shima**	**1.40**	**291**	P	**Pg**	**10 56 32.0**	**0.0**
JKRS				S	**Sn**	**10 56 49.3**	**-0.4**
HATJ	**Hateruma jima**	**1.53**	**282**	P	**Pb**	**10 56 33.5**	**-0.3**
HATJ				*eS*	**Sn**	**10 56 52.3**	**-0.6**
IRIF	**Iriomote-Funau**	**1.67**	**291**	P	**Pb**	**10 56 35.6**	**-0.6**
IRIF				S	**Sn**	**10 56 56.1**	**-0.3**
YOJ	**Yonaguni jima**	**2.33**	**288**	P	**Pn**	**10 56 44.7**	**+0.8**
YOJ				*eS*	**Sn**	**10 57 11.3**	**-1.4**
JKE	**Kume jima 2**	**2.84**	**25**	P	**Pn**	**10 56 51.2**	**+0.2**
JAGN	**Aguni-jima**	**3.27**	**30**	P	**Pn**	**10 56 57.5**	**+0.7**
JOW	**Kunigami**	**4.00**	**39**	P	**Pn**	**10 57 06.5**	**-0.5**
JTK	**Tokunoshima**	**5.12**	**37**	P	**Pn**	**10 57 20.9**	**-1.4**
JAMN	**Amaminishikomi**	**5.60**	**36**	P	**Pn**	**10 57 29.3**	**+0.4**
JMZ	**Minamidaito 2**	**5.65**	**67**	P	Pn	10 57 26.5	-3.0
MKAR	**Makanchi Array**	**41.38**	**315**	P	**P**	**11 03 52.3**	**+0.3**
	0.2nm,0.3s,baz=100,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**44.28**	**168**	P	**P**	**11 04 15.9**	**+0.2**
	0.6nm,0.8s,baz=347,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**47.84**	**170**	P	**P**	**11 04 44.2**	**+0.5**
	0.1nm,0.6s,baz=355,slow=7.6,SNR=4.5						

MEX 15 11:13:40.9±0.5, 19°.33N×96°.41W, h26km±17km, MD3.8, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVIG	**Laguna Verde**	**0.39**	**358**	*i* P	Pb	11 13 47.8	-1.7
LVIG				*i* S	Sb	11 13 53.9	-1.4
TPIG	**Tehuac#an**	**1.28**	**225**	*i* P	Pn	11 14 00.8	-2.5
TPIG				*i* S	Sn	11 14 16.0	-3.8
PPM	**Popocatepetl**	**2.12**	**263**	*i* P	Pn	11 14 13.3	-1.9
PPM				*i* S	Sn	11 14 37.6	-3.6
VHO	**Vista Hermosa**	**2.26**	**188**	*i* P	Pn	11 14 15.0	-2.0
VHO				*i* S	Sn	11 14 40.8	-3.4
YAIG	**Yautepec**	**2.56**	**260**	*i* P	Pn	11 14 20.9	0.0
TLIG	**Tlapa**	**2.70**	**230**	*i* P	Pn	11 14 19.6	-3.2
TLIG				*i* S	Sn	11 14 51.7	-3.0
HUIG	**Huatulco**	**3.55**	**175**	*i* P	Pn	11 14 32.5	-1.9

IDC 15 11:21:08.4±6.2, 36°.62N×71°.07E, h59km±55km, mb3.5/6, mb1 3.7/10, mb1mx3.4/30, mbtmp3.5/10, ML3.6/3, Error ellipse: s-maj=37.0km s-min=24.2km az=22.0
ISCJB 15 11:21:09.5±0.7, 36°.68N±0°.05×71°.06E±0°.10, h88km, mb3.5/6, Error ellipse: s-maj=11.8km s-min=5.4km az=155.6
NNC 15 11:21:21.6±3.2, 37°.54N×71°.17E, h203km±30km, mb2.9, mpv4.0, Error ellipse: s-maj=29.5km s-min=16.3km az=21.0
ISC 15 11:21:11.4±0.8, 36°.80N±0°.07×71°.20E±0°.10, h88km, n33, σ1§78/35, mb3.6/6, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.67**	**19**	P	**Pn**	**11 22 35.0**	**+1.7**
	SNR=77						
UCH	**Uchtor**	**6.00**	**24**	P	**Pn**	**11 22 39.6**	**+1.6**
	SNR=18						
KZA	**Kyzart**	**6.13**	**29**	P	**Pn**	**11 22 41.5**	**+1.7**
	SNR=7.1						
EKS2	**Erkin-Say**	**6.18**	**18**	P	**Pn**	**11 22 42.3**	**+2.1**
	SNR=12						
KK31	**Karatay Array**	**6.32**	**355**	P	**Pn**	**11 22 42.9**	**+0.9**
	5.0nm,0.3s,baz=171,slow=11,SNR=124						
KK31				⇑S	**Sn**	**11 23 49.3**	**-3.3**
	12nm,0.6s,baz=289,slow=60,SNR=5.3						
AAK	**Ala-Archa**	**6.36**	**23**	P	**Pn**	**11 22 44.8**	**+2.3**
	SNR=20						
CHMS	**Chumysh**	**6.77**	**23**	P	**Pn**	**11 22 49.9**	**+1.9**
	SNR=6.2						
USP	**Ospenovka**	**6.94**	**20**	P	**Pn**	**11 22 52.8**	**+2.4**
	SNR=8.3						
TKM2	**Tokmak 2**	**6.99**	**28**	P	**Pn**	**11 22 53.1**	**+1.9**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.99**	**28**	⇑P	**Pn**	**11 22 52.9**	**+1.7**
	13nm,1.1s						
TKM2				⇑S	**Sn**	**11 24 07.0**	**-2.2**
	5.9nm,0.7s						
SDNR	**Sundarnagar**	**7.12**	**136**	*eS*	**Sn**	**11 24 11.0**	**-1.4**
MK31	**Makanchi Array**	**12.96**	**36**	⇑P	**Pn**	**11 24 11.6**	**-0.4**
	1.5nm,0.8s,baz=225,slow=14,SNR=5.9						
MKAR	**Makanchi Array**	**12.96**	**36**	P	**Pn**	**11 24 12.7**	**+0.7**
	0.1nm,0.3s,baz=228,slow=14,SNR=7.3						
DANN	**Dangsing**	**13.52**	**125**	*eP*	**Pn**	**11 24 17.6**	**-2.2**
	10nm,0.5s						
KOLN	**Koldanda**	**13.81**	**127**	*eP*	**Pn**	**11 24 20.5**	**-3.0**
	5.7nm,0.3s						
GKN	**Gorkha**	**14.33**	**124**	*eP*	**Pn**	**11 24 28.9**	**-1.3**
	8.9nm,0.5s						
KURBB	**Kurchatov Arra**	**14.79**	**19**	P	**P**	**11 24 39.7**	**+0.3**
	0.3nm,0.3s,baz=206,slow=10,SNR=6.9						
AB31	**Akbulak array**	**14.90**	**330**	P	**Pn**	**11 24 35.4**	**-1.8**
	0.8nm,0.3s,baz=140,slow=12,SNR=66						
AB31				⇑S	Sn	11 27 10.0	-11
	3.6nm,0.9s,baz=137,slow=27,SNR=4.2						
GUN	**Gumba**	**15.23**	**121**	*eP*	**Pn**	**11 24 42.1**	**+0.2**
	12nm,0.4s						
JIRN	**Jiri**	**15.60**	**121**	*eP*	**Pn**	**11 24 47.0**	**+0.4**
	14nm,0.4s						
VOSK	**Vostochnaya**	**15.93**	**360**	⇓P	**Pn**	**11 24 46.3**	**-3.8**
	2.2nm,1.2s						
BVAR	**Borovoye Array**	**16.24**	**358**	P	**P**	**11 24 55.2**	**-0.3**
	0.2nm,0.3s,baz=162,slow=15,SNR=4.5						
RAMN	**Ramite**	**16.34**	**123**	*eP*	**Pn**	**11 24 55.9**	**+0.2**
	7.6nm,0.4s						
AKTO	**Aktyubinsk**	**16.61**	**329**	P	**Pn**	**11 24 58.4**	**-0.2**
	0.4nm,0.3s,baz=134,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**16.61**	**329**	⇑P	**Pn**	**11 24 56.4**	**-2.2**
	3.7nm,0.8s						
AKTO				⇓S	Sn	11 27 51.3	-11
	3.6nm,1.2s						
TAPN	**Taplejung**	**16.85**	**119**	*eP*	**P**	**11 25 04.2**	**+1.5**
	6.0nm,0.4s						
ZALV	**Zalesovo Beam**	**19.58**	**25**	P	**P**	**11 25 32.7**	**+0.6**
	0.5nm,0.3s,baz=219,slow=11,SNR=11						
SONM	**Songino Array**	**28.03**	**56**	P	**P**	**11 26 55.9**	**+1.7**
	0.5nm,0.7s,baz=234,slow=7.1,SNR=5.4						
ARCES	**ARCESS Array B**	**40.93**	**337**	P	**P**	**11 28 46.1**	**+1.4**
	3.9nm,1.0s,baz=104,slow=7.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.89**	**269**	P	**P**	**11 31 47.3**	**-0.8**
	0.5nm,0.6s,baz=50,slow=6.0,SNR=4.2						
YKA	**Yellowknife Ar**	**80.94**	**3**	P	**P**	**11 33 16.8**	**+1.2**
	0.3nm,0.5s,baz=348,slow=5.0,SNR=6.3						
WRA	**Warramunga Arr**	**82.01**	**122**	P	**P**	**11 33 22.1**	**+0.2**
	0.3nm,0.4s,baz=325,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**11 33 34.2**	**+0.6**
	0.5nm,0.6s,baz=316,slow=4.8,SNR=11						

IDC 15 11:34:40.8±0.6, 44°.36S×82°.12W, h0km, mb4.4/12, mb1 4.5/15, mb1mx4.5/22, mbtmp4.4/15, ML3.4/3, MS4.9/23, Ms1 4.9/23, ms1mx4.9/27, Error ellipse: s-maj=23.3km s-min=15.7km az=105.0
BJI 15 11:34:41.5, 43°.78S×81°.76W, h10km, mB5.4/5, Ms5.4/12, Ms7 5.1/12
ISCJB 15 11:34:41.9±0.2, 44°.51S±0°.04×81°.92W±0°.07, h10km, mb4.9/62, MS5.0/22, Error ellipse: s-maj=7.1km s-min=6.2km az=7.9
NEIC 15 11:34:43.2±0.3, 44°.48S×81°.94W, h10km, mb5.1/49, Error ellipse: s-maj=8.8km s-min=7.7km az=85.0
GCMT 15 11:34:44.1±0.1, 44°.44S×82°.38W, h12km, MW5.4, Moment Tensor Solution. s90,c151; s48,c52; Moment tensor: Scale 10^17 Nm; Mrr=1.36±.02; Mθθ=0.02±.02; Mφφ=1.34±.02; Mrθ=0.20±.05; Mrφ=-0.33±.02; Mθφ=0.18±.05; Best double couple: M0=1.40000×10^17 NP1:φs=340.00000°, δ=50.00000°, λ=-99.00000°. NP2:φs=173.00000°, δ=41.00000°, λ=-80.00000°. Principal axes: T 1.4400, Pl=4.0000°, Azm=76.0000°; N -0.0400, Pl=6.0000°, Azm=346.0000°; P -1.3900, Pl=82.0000°, Azm=201.0000°; Data Used: lI lU CU IC G CN. Surface waves: sta=115, comp=203, per=50.
MOS 15 11:34:46.3±1.2, 44°.44S×81°.60W, h18km, mb5.3/13 Error ellipse: s-maj=19.5km s-min=10.4km az=92.4
ISC 15 11:34:43.2±0.3, 44°.43S±0°.06×81°.92W±0°.06, h10km, n203, σ1§48/207, mb5.0/62, MS5.1/22, 3C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHRN	**Cochrane**	**6.96**	**116**	*i* P	Pn	11 36 31.4	+6.3
PLCA	**Paso Flores**	**9.16**	**70**	*e*Pn	**Pn**	**11 36 54.6**	**-0.8**
PLCA				*e*Sn	**Sn**	**11 38 35.0**	**-3.6**
PLCA	**Paso Flores**	**9.16**	**70**	Pn	**Pn**	**11 36 53.8**	**-1.7**
	0.2nm,0.3s,baz=247,slow=13,SNR=14						
PLCA				LR	LR	11 40 01.9	
	comp=Z,19μm,19.5s,baz=171,slow=35						
H03N3	**Juan Fernandez**	**11.20**	**13**	T	T	11 49 21.5	
	baz=241,SNR=26						
H03N2	**Juan Fernandez**	**11.21**	**13**	T	T	11 48 58.0	
	baz=241,SNR=44						
H03N1	**Juan Fernandez**	**11.21**	**13**	T	T	11 49 17.1	
	baz=241,SNR=38						
USHA	**Ushuaia**	**13.57**	**145**	Pn	**Pn**	**11 37 56.5**	**+1.0**
USHA	**Ushuaia**	**13.57**	**145**	Pn	**Pn**	**11 37 56.5**	**+1.0**
	0.2nm,0.3s,baz=350,slow=17,SNR=2.6						
USHA				LR	LR	11 42 36.9	
	comp=Z,4μm,18.3s,baz=292,slow=35						
TRQA	**Tornquist**	**16.27**	**74**	*e*Pn	**P**	**11 38 34.9**	**+0.1**
	122nm,1.1s						
CFAA	**Coronel Fontan**	**16.70**	**45**	Pn	**Pn**	**11 38 38.0**	**+0.7**
CFAA	**Coronel Fontan**	**16.70**	**45**	Pn	**Pn**	**11 38 38.0**	**+0.7**
	0.0nm,0.3s,baz=211,slow=11,SNR=23						
CFAA				LR	LR	11 44 07.5	
	comp=Z,769nm,18.1s,baz=207,slow=34						
TLL	**Tololo Astrono**	**16.73**	**35**	*e*P	**P**	**11 38 41.2**	**+1.1**
TLL	**Tololo Astrono**	**16.73**	**35**	*e*P	**P**	**11 38 41.2**	**+1.1**
TLL	**Tololo Astrono**	**16.73**	**35**	*e*P	**P**	**11 38 41.2**	**+1.1**
LCO	**Las Campanas**	**17.79**	**34**	*e*Pn	**P**	**11 38 52.5**	**+0.6**
	98nm,1.6s						
LCO				*e*Sn	**Sn**	**11 42 10.8**	**+1.3**
LPA	**La Plata**	**20.71**	**71**	*e*P	Pn	11 39 25.0	-0.8
LPA				sP	sP	11 39 31.0	+3.4
LPA				S	Sn	11 43 20.0	+0.6
LPA				sS	sS	11 43 27.0	+7.9
LPA				SS	**SnSn**	**11 43 36.0**	**+2.0**
LPA				SSS	SSS	11 45 10.0	
LPA				SCS	**ScS**	**11 50 52.0**	**-0.8**
LPA				SKIKP		11 54 50.0	
PMSA	**Palmer Station**	**22.70**	**160**	LR	LR	11 46 30.9	
	comp=Z,910nm,19.0s,baz=107,slow=31						
LVC	**Limon Verde**	**24.25**	**30**	*e*P	**P**	**11 40 01.1**	**+0.5**
	44nm,1.1s						
CPUP	**Villa Florida**	**26.82**	**56**	*e*P	**P**	**11 40 24.0**	**+0.5**
	2.1nm,1.0s						
CPUP	**Villa Florida**	**26.82**	**56**	P	**P**	**11 40 24.2**	**+0.7**
	14nm,1.0s,baz=214,slow=11,SNR=9.4						
CPUP				LR	LR	11 51 00.1	
	comp=Z,9μm,18.9s,baz=205,slow=36						
LPAZ	**La Paz**	**30.38**	**27**	*e*P	**P**	**11 40 56.3**	**+0.3**
LPAZ	**La Paz**	**30.38**	**27**	P	**P**	**11 40 55.1**	**-0.9**
	4.1nm,0.9s,baz=191,slow=7.2,SNR=14						
ATAH	**Atahualpa**	**37.27**	**6**	P	**P**	**11 41 54.5**	**-1.1**
ATAH	**Atahualpa**	**37.27**	**6**	P	**P**	**11 41 54.5**	**-1.1**
	2.4nm,0.5s,baz=184,slow=14,SNR=4.9						
SAML	**Samuel**	**38.91**	**30**	*e*P	**P**	**11 42 08.0**	**-1.0**
	10.0nm,1.1s						
BDFB	**Brasilia**	**40.55**	**56**	*e*P	**P**	**11 42 24.6**	**+1.8**
BDFB	**Brasilia**	**40.55**	**56**	P	**P**	**11 42 24.2**	**+1.4**
	12nm,1.0s,baz=227,slow=8.4,SNR=8.4						
BDFB				LR	LR	11 59 28.0	
	comp=Z,4μm,19.9s,baz=210,slow=37						
OTAV	**Otavalo**	**44.58**	**5**	*e*P	**P**	**11 42 56.8**	**+0.9**
	15nm,1.3s						
SNAA	**Sanae**	**45.20**	**154**	*e*P	**P**	**11 42 59.5**	**-0.3**
	22nm,1.3s						
SNAA	**Sanae**	**45.20**	**154**	P	**P**	**11 43 00.2**	**+0.3**
	2.8nm,0.9s,baz=249,slow=5.6,SNR=13						
QSPA	**South Pole Qui**	**45.82**	**180**	*e*P	**P**	**11 43 05.8**	**+0.9**
	21nm,1.4s						
QSPA	**South Pole Qui**	**45.82**	**180**	P	**P**	**11 43 05.8**	**+0.9**
	4.4nm,1.1s,baz=124,slow=4.8,SNR=9.5						
PTGA	**Pitinga**	**47.68**	**30**	*e*P	**P**	**11 43 18.6**	**-1.2**
	32nm,1.4s						
RKT	**Rikitea**	**48.02**	**278**	*e*S	**S**	**11 50 19.0**	**-1.6**
	475nm,36.5s						
RKT				*e*LR	LR	11 56 56.6	
	5μm,28.5s,baz=134						
ROSC	**El Rosal**	**49.53**	**10**	P	**P**	**11 43 35.1**	**+0.6**
ROSC	**El Rosal**	**49.53**	**10**	LR	LR	12 02 57.5	
	comp=Z,2μm,18.1s,baz=18,slow=34						
NVL	**N'lazarevskaya**	**50.01**	**154**	*e*P	**P**	**11 43 35.8**	**-1.3**
NVL				*e*S	**S**	**11 50 46.5**	**-1.0**
NVL				pmax	pmax		
	comp=Z,12nm,1.5s						
SBA	**Scott Base**	**51.20**	**195**	*e*P	**P**	**11 43 47.1**	**+1.1**
SBA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SBA	**Scott Base**	**51.20**	**195**	*e*P	**P**	**11 43 47.0**	**+1.1**
	comp=Z,3.5nm,1.0s						
VNDA	**Vanda**	**52.27**	**194**	*e*P	**P**	**11 43 56.1**	**+2.1**
VNDA	**Vanda**	**52.27**	**194**	P	**P**	**11 43 55.1**	**+1.2**
	comp=Z,3.3nm,1.1s,baz=136,slow=6.5,SNR=6.9						
VNDA				LR	LR	12 03 10.7	
	comp=Z,2μm,18.1s,baz=122,slow=33						
SDV	**Santo Domingo**	**54.04**	**14**	*e*P	**P**	**11 44 07.3**	**-0.6**
	comp=Z,9.8nm,1.8s						
JTS	**JuntasAbangare**	**54.53**	**356**	*e*P	**P**	**11 44 12.8**	**+1.6**
	comp=Z,20nm,1.0s						
TBI	**Tubuai**	**58.23**	**267**	*e*S	**S**	**11 52 39.1**	**-0.5**
	comp=Z,1μm,30.0s						
TBI				*e*LQ	LQ	11 59 12.2	
	comp=Z,624nm,31.2s						
TBI				*e*LR	LR	12 01 32.8	
	comp=Z,3μm,32.8s,baz=132						
SYO	**Syowa Base**	**58.95**	**159**	⇑*e*P	**P**	**11 44 40.0**	**-2.0**
SYO	**Syowa Base**	**58.95**	**159**	⇑*e*pP	**P**	**11 44 41.5**	**-0.5**
PPT2	**Papeete2**	**62.01**	**272**	*e*S	**S**	**11 53 27.4**	**-1.0**
	comp=Z,998nm,28.5s						
PPT2				*e*LQ	LQ	12 00 33.1	
	comp=Z,662nm,30.0s						
PPT2				*e*LR	LR	12 03 11.9	
	comp=Z,3μm,26.5s,baz=127						
PPT	**Papeete**	**62.02**	**272**	LR	LR	12 05 30.5	
	comp=Z,1μm,18.8s,baz=142,slow=30						
DRV	**Dumont d'Urvil**	**64.69**	**197**	S	**S**	**11 53 57.0**	**-3.4**
DRV				L	L	12 01 00.0	
DRV				R		12 05 00.0	
MAW	**Mawson**	**65.17**	**166**	LR	LR	12 13 23.2	
	comp=Z,707nm,19.6s,baz=227,slow=36						
RAR	**Rarotonga**	**66.94**	**262**	LR	LR	12 06 59.8	
	comp=Z,2μm,19.2s,baz=90,slow=29						
CASY	**Casey**	**69.21**	**185**	*e*P	**P**	**11 45 49.8**	**+0.3**
	comp=Z,2.8nm,0.9s						
RPZ	**Rata Peaks**	**70.83**	**227**	LR	LR	12 09 40.7	
	comp=Z,1μm,18.3s,baz=306,slow=30						
URZ	**Urewera**	**71.16**	**235**	LR	LR	12 10 45.4	
	comp=Z,1μm,18.9s,baz=144,slow=30						
RAO	**Raoul Island**	**74.11**	**245**	LR	LR	12 10 28.7	
	comp=Z,497nm,21.4s,baz=129,slow=29						
TXAR	**Lajitas Array**	**76.05**	**341**	LR	LR	12 15 05.7	
	comp=Z,607nm,18.2s,baz=115,slow=32						
SUR	**Sutherland**	**76.22**	**122**	*e*P	**P**	**11 46 31.1**	**-0.9**
LRAL	**Lakeview Retre**	**77.23**	**356**	P	**P**	**11 46 35.7**	**-1.4**
	comp=Z,24nm,1.4s						
OXF	**Oxford**	**78.86**	**354**	*e*P	**P**	**11 46 47.0**	**+0.9**
OXF	**Oxford**	**78.86**	**354**	*e*P	**P**	**11 46 47.0**	**+0.9**
MIAR	**Mount Ida**	**79.31**	**350**	*e*P	**P**	**11 46 49.3**	**+0.7**
MIAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MIAR	**Mount Ida**	**79.31**	**350**	*e*P	**P**	**11 46 49.3**	**+0.7**
	comp=Z,1.1nm,0.6s						
SWET	**Sewanee**	**79.35**	**357**	*e*P	**P**	**11 46 49.5**	**+0.6**
	comp=Z,32nm,1.2s						
AFI	**Afiamalu**	**80.31**	**260**	LR	LR	12 16 44.7	
	comp=Z,1μm,18.0s,baz=238,slow=32						
WVT	**Waverly**	**80.36**	**355**	*e*P	**P**	**11 46 54.5**	**+0.3**
WVT				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WVT	**Waverly**	**80.36**	**355**	*e*P	**P**	**11 46 54.5**	**+0.3**
	comp=Z,4.7nm,1.1s						
BOSA	**Boshof**	**81.59**	**122**	P	**P**	**11 47 00.2**	**-1.2**
BOSA	**Boshof**	**81.59**	**122**	P	**P**	**11 47 00.2**	**-1.2**
	comp=Z,5.5

SRU				pmax	pmax			
	comp=Z,33nm,2.0s							
SRU	**San Rafael**	**87.07**	**338**	*eP*	**P**	**11**	**47**	**29.2 +0.4**
	comp=Z,32nm,2.0s							
TMUT	**Trail Mountain**	**87.43**	**338**	*eP*	**P**	**11**	**47**	**31.6 +0.9**
	comp=Z,44nm,1.6s							
R11A	**Troy Canyon, C**	**87.83**	**334**	*eP*	**P**	**11**	**47**	**32.3 -0.2**
TPH	**Tonopah**	**88.10**	**333**	*eP*	**P**	**11**	**47**	**33.9 +0.1**
TPH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TPH	**Tonopah**	**88.10**	**333**	*eP*	**P**	**11**	**47**	**33.9 +0.1**
	comp=Z,9.7nm,0.9s							
MPU	**Maple Canyon**	**88.22**	**338**	*eP*	**P**	**11**	**47**	**34.4 +0.1**
	comp=Z,20nm,1.0s							
NLU	**North Lily Min**	**88.28**	**337**	*eP*	**P**	**11**	**47**	**33.9 -0.7**
	comp=Z,20nm,1.1s							
DAU	**Daniels Canyon**	**88.48**	**338**	*eP*	**P**	**11**	**47**	**35.0 -0.7**
DAU	**Daniels Canyon**	**88.48**	**338**	*eP*	**P**	**11**	**47**	**35.0 -0.7**
DUG	**Dugway**	**88.71**	**337**	*eP*	**P**	**11**	**47**	**36.2 -0.3**
DUG				pmax	pmax			
	comp=Z,15nm,0.9s							
DUG	**Dugway**	**88.71**	**337**	*eP*	**P**	**11**	**47**	**36.2 -0.3**
	comp=Z,15nm,0.9s							
ECSD	**EROS Data Cent**	**88.75**	**349**	*eP*	**P**	**11**	**47**	**37.4 +1.0**
	comp=Z,32nm,1.8s							
NVAR	**Mina Array Bea**	**88.78**	**332**	P	**P**	**11**	**47**	**36.7 -0.3**
NVAR	**Mina Array Bea**	**88.78**	**332**	P	**P**	**11**	**47**	**36.7 -0.3**
	comp=Z,2.1nm,0.8s,baz=170,slow=5.4,SNR=16							
DZM	**Mont Dzumac**	**89.11**	**240**	*eS*	**S**	**11**	**58**	**27.6 -0.5**
	comp=Z,254nm,30.0s							
DZM	**Mont Dzumac**	**89.11**	**240**	*e*LR	LR	12	16	06.8
	comp=Z,2µm,23.8s							
DZM	**Mont Dzumac**	**89.11**	**240**	LR	LR	12	17	49.9
	comp=Z,1µm,21.2s,baz=288,slow=29							
CMB	**Columbia Colle**	**89.14**	**331**	*eP*	**P**	**11**	**47**	**38.8 +0.3**
CMB	**Columbia Colle**	**89.14**	**331**	*eP*	**P**	**11**	**47**	**38.8 +0.3**
FRNY	**Flat Rock**	**89.19**	**6**	*eP*	P	11	47	44.3 +5.8
BGU	**Big Grassy Mou**	**89.45**	**337**	*eP*	**P**	**11**	**47**	**39.8 -0.2**
	comp=Z,27nm,1.1s							
SPUT	**South Promonto**	**89.64**	**338**	*eP*	**P**	**11**	**47**	**40.8 -0.1**
	comp=Z,24nm,1.0s							
ELK	**Elko**	**89.92**	**335**	*eP*	**P**	**11**	**47**	**44.2 +1.8**
	comp=Z,41nm,2.4s							
HVU	**Hansel Valley**	**90.17**	**337**	*eP*	**P**	**11**	**47**	**42.4 -1.0**
HVU				pmax	pmax			
	comp=Z,14nm,1.0s							
HVU	**Hansel Valley**	**90.17**	**337**	*eP*	**P**	**11**	**47**	**42.4 -1.0**
	comp=Z,14nm,1.0s							
BW06	**Boulder Array**	**90.26**	**340**	*eP*	**P**	**11**	**47**	**43.4 -0.5**
	comp=Z,8.0nm,1.1s							
PDAR	**Pinedale Array**	**90.26**	**340**	P	**P**	**11**	**47**	**43.4 -0.5**
PDAR	**Pinedale Array**	**90.26**	**340**	P	**P**	**11**	**47**	**43.4 -0.5**
	comp=Z,1.9nm,0.9s,baz=141,slow=5.6,SNR=14							
PDAR				LR	LR	12	22	13.6
	comp=Z,254nm,21.2s,baz=149,slow=32							
RSSD	**Black Hills**	**90.34**	**344**	*eP*	**P**	**11**	**47**	**44.7 +0.5**
RSSD				pmax	pmax			
	comp=Z,1.0nm,0.6s							
RSSD	**Black Hills**	**90.34**	**344**	*eP*	**P**	**11**	**47**	**44.7 +0.5**
	comp=Z,1.1nm,0.6s							
BEKR	**Beckworth**	**90.77**	**331**	*eP*	**P**	**11**	**47**	**46.5 +0.2**
	comp=Z,5.6nm,1.0s							
REDW	**Red Top Meadow**	**91.14**	**339**	*eP*	**P**	**11**	**47**	**50.5 +2.5**
	comp=Z,12nm,1.3s							
TPAW	**Teton Pass**	**91.29**	**339**	*eP*	**P**	**11**	**47**	**48.6 -0.1**
LOHW	**Long Hollow**	**91.31**	**340**	*eP*	**P**	**11**	**47**	**50.6 +1.9**
	comp=Z,58nm,2.8s							
FLWY	**Flagg Ranch**	**91.78**	**340**	*eP*	**P**	**11**	**47**	**51.4 +0.6**
	comp=Z,133nm,2.5s							
WDC	**Whiskeytown Da**	**92.17**	**330**	*eP*	**P**	**11**	**47**	**55.3 +2.9**
WDC	**Whiskeytown Da**	**92.17**	**330**	*eP*	**P**	**11**	**47**	**55.3 +2.9**
HLID	**Hailey**	**92.28**	**337**	*eP*	**P**	**11**	**47**	**53.9 +0.8**
	comp=Z,72nm,2.9s							
WVOR	**Wild Horse Val**	**92.51**	**334**	*eP*	**P**	**11**	**47**	**54.4 +0.2**
WVOR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WVOR	**Wild Horse Val**	**92.51**	**334**	*eP*	**P**	**11**	**47**	**54.4 +0.2**
	comp=Z,2.4nm,0.8s							
STKA	**Stephens Creek**	**94.33**	**216**	LR	LR	12	22	32.2
	comp=Z,1µm,20.0s,baz=80,slow=30							
TOA0	**Torodi Ar. Sit**	**94.59**	**76**	*eP*	**P**	**11**	**48**	**04.3 0.0**
TORD	**Torodi Ar. Bea**	**94.59**	**76**	P	**P**	**11**	**48**	**03.6 -0.7**
TORD	**Torodi Ar. Bea**	**94.59**	**76**	P	**P**	**11**	**48**	**03.6 -0.7**
	comp=Z,0.4nm,0.8s,baz=238,slow=2.8,SNR=2.9							
TORD				LR	LR	12	26	49.2
	comp=Z,480nm,18.8s,baz=230,slow=33							
SCHQ	**Schefferville**	**99.71**	**9**	LR	LR	12	34	24.9
	comp=Z,175nm,18.9s,baz=202,slow=36							
H11S2	**WAKE ISLAND Hy**	**118.89**	**269**	T	T	14	02	07.1
	baz=135,slow=75,SNR=33							
H11S1	**WAKE ISLAND Hy**	**118.90**	**269**	T	T	14	02	28.2
	baz=135,slow=75,SNR=19							
H11S3	**WAKE ISLAND Hy**	**118.90**	**269**	T	T	14	02	02.2
	baz=135,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**118.54**	**270**	T	T	14	02	55.5
	baz=133,slow=76,SNR=7.8							
H11N1	**WAKE ISLAND Hy**	**118.55**	**270**	T	T	14	02	46.3
	baz=133,slow=76,SNR=13							
H11N2	**WAKE ISLAND Hy**	**118.56**	**270**	T	T	14	02	49.2
	baz=133,slow=76,SNR=10							
ILAR	**Eielson Array**	**120.02**	**333**	PKP	**PKPdf**	**11**	**53**	**30.1 -2.6**
ILAR	**Eielson Array**	**120.02**	**333**	PKP	**PKPdf**	**11**	**53**	**30.1 -2.6**
	comp=Z,1.4nm,0.9s,baz=169,slow=2.0,SNR=14							
IM04	**Indian Mountai**	**123.03**	**332**	*e*PKPdf	**PKPdf**	**11**	**53**	**37.6 -0.9**
GERES	**GERESS Array B**	**124.76**	**53**	PKP	**PKPdf**	**11**	**53**	**41.1 -1.3**
GERES	**GERESS Array B**	**124.76**	**53**	PKP	**PKPdf**	**11**	**53**	**41.1 -1.3**
	comp=Z,1.9nm,0.7s,baz=225,slow=1.2,SNR=4.1							
TNA	**Tin City**	**127.85**	**328**	*e*PKPdf	**PKPdf**	**11**	**53**	**47.2 -0.4**
CRVS	**Cervenica-Dubn**	**129.31**	**56**	*e*PKIKP	**PKPdf**	**11**	**53**	**54.8 +3.7**
CRVS	**Cervenica-Dubn**	**129.31**	**56**	*e*PKP	**PKPdf**	**11**	**53**	**54.8 +3.7**
UZH	**Uzhgorod**	**129.69**	**57**	*e*PKHKP	PKPpre	11	53	37.1
BRTR	**Keskin Array B**	**133.04**	**72**	PKP	**PKPdf**	**11**	**53**	**57.2 -1.4**
BRTR	**Keskin Array B**	**133.04**	**72**	PKP	**PKPdf**	**11**	**53**	**57.2 -1.4**
	comp=Z,1.3nm,0.8s,baz=202,slow=2.7,SNR=6.6							
OBN	**Obninsk**	**140.11**	**52**	*i* PKIKP	**PKPdf**	**11**	**54**	**15.0 +4.1**
OBN				pmax	pmax			
	comp=Z,22nm,1.8s							
OBN				MLR	MLR			
	comp=Z,400nm,19.0s							
PETK	**Petropavlovsk-**	**140.81**	**305**	PKIKP	**PKPdf**	**11**	**54**	**11.7 -0.7**
PETK	**Petropavlovsk-**	**140.81**	**305**	PKP	**PKPdf**	**11**	**54**	**11.7 -0.7**
PETK	**Petropavlovsk-**	**140.81**	**305**	PKP	**PKPdf**	**11**	**54**	**11.7 -0.7**
	comp=Z,4.4nm,0.8s,baz=110,slow=6.5,SNR=5.4							
MAK	**Makhachkala**	**143.88**	**74**	*e*PKHKP	PKPpre	11	53	52.8
MAK				MLR	MLR			
	comp=Z,464nm,16.0s							
YUK	**Yuzh-Kuril'sk**	**146.15**	**286**	*i* PKHKP	PKPpre	11	54	13.7
YUK				*i*		11	54	21.3
YUK				*i*		11	57	44.0
YUK				*i* PPP	PPP	12	01	00.1
YUK				*i* SS	SS	12	16	42.0 +0.1
YUK				*e*SSS	SSS	12	22	15.3
HYB	**Hyderabad**	**148.46**	**142**	*i* PKP	**PKPdf**	**11**	**54**	**28.0 +1.3**
MJAR	**Matsushiro Arr**	**148.73**	**269**	PKPbc	**PKPdf**	**11**	**54**	**28.2 +1.6**
MJAR	**Matsushiro Arr**	**148.73**	**269**	PKPbc	**PKPdf**	**11**	**54**	**28.2 +1.6**
	comp=Z,4.2nm,0.8s,baz=160,slow=3.2,SNR=9.8							
TIXI	**Tiksi**	**148.94**	**342**	*e*PKIKP	**PKPdf**	**11**	**54**	**26.9 +1.1**
TIXI				*e*		11	54	34.5
TIXI	**Tiksi**	**148.94**	**342**	*e*PKPdf	**PKPdf**	**11**	**54**	**26.9 +1.1**
TIXI				*e*PKPbc	**PKPbc**	**11**	**54**	**29.0 -0.8**
TIXI				*e*PKPab	**PKPab**	**11**	**54**	**34.5 +0.5**
YSS	**Yuzh-Sakhalins**	**149.01**	**291**	*e*PKIKP	**PKPdf**	**11**	**54**	**27.0 +0.4**
SOKR	**Solikamsk**	**150.98**	**44**	*i* PKIKP	**PKPbc**	**11**	**54**	**33.5 -1.5**
SOKR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
QIZ	**Qiongzhong**	**152.83**	**205**	PKPbc	**PKPdf**	**11**	**54**	**33.6 +0.2**
QIZ				PP	**PP**	**11**	**58**	**25.8 +2.2**
QIZ				SS	SS	12	17	56.8 +2.0
QIZ				AMB	AMB			
	comp=Z,170nm,7.8s							
ABKAR	**Akbulak array**	**153.67**	**66**	*e*PKPdf	**PKPdf**	**11**	**54**	**33.1 -0.6**
ABKAR				*e*PKPbc	**PKPbc**	**11**	**54**	**39.7 -1.8**
ABKAR				*e*PKPab	**PKPab**	**11**	**54**	**54.7 +0.4**
CMAR	**Chiang Mai Arr**	**154.10**	**182**	PKP	**PKPdf**	**11**	**54**	**34.5 -0.8**
CMAR				PKPbc	**PKPbc**	**11**	**54**	**40.4 -3.0**
CMAR	**Chiang Mai Arr**	**154.10**	**182**	PKP	**PKPdf**	**11**	**54**	**34.5 -0.8**
	comp=Z,0.3nm,0.4s,baz=197,slow=0.9,SNR=3.6							
CMAR				PKPbc	**PKPbc**	**11**	**54**	**40.4 -3.0**
	comp=Z,1.4nm,0.9s,baz=212,slow=3.3,SNR=7.1							
YAK	**Yakutsk**	**154.54**	**325**	*e*PKIKP	**PKPbc**	**11**	**54**	**40.3 -2.6**
YAK				pmax	pmax			
	comp=Z,18nm,0.9s							
MDJ	**Mudanjiang**	**157.60**	**282**	PKP	**PKPdf**	**11**	**54**	**39.5 +0.4**
NJ2	**Nanjing**	**159.60**	**240**	*e*PKP	**PKPdf**	**11**	**54**	**41.1 -0.8**
KMI	**Kunming**	**160.37**	**193**	PKP	**PKPdf**	**11**	**54**	**43.5 +0.2**
KMI				pPKP	**pPKPdf**	**11**	**54**	**46.9 +0.2**
KMI				PP	PP	11	59	10.8 +5.4
KMI				SKKS		12	05	55.4
KMI				SS	**SS**	**12**	**19**	**17.8 +1.9**
KMI				AMB	AMB			
	comp=Z,98nm,4.1s							
KMI				LR	LR			
	comp=Z,190nm,17.5s							
KMI				LR	LR			
	comp=Z,210nm,18.1s							
KMI				LR	LR			
	comp=Z,210nm,18.7s							
GYA	**Guiyang**	**160.78**	**204**	PKP	**PKPdf**	**11**	**54**	**42.8 -0.8**
GYA				PKPab	**PKPab**	**11**	**55**	**27.5 +1.9**
GYA				PKS	**PKSdf**	**11**	**58**	**15.0 -2.1**
GYA				PP	**PP**	**11**	**59**	**10.6 +3.0**
GYA				SKKS		12	05	57.4
GYA				SS	**SS**	**12**	**19**	**21.3 +1.0**
GYA				LR	LR			
	comp=Z,140nm,22.7s							
GYA				LR	LR			
	comp=Z,180nm,23.8s							
GYA				LR	LR			
	comp=Z,160nm,22.3s							
AAK	**Ala-Archa**	**162.81**	**88**	*e*PKIKP	**PKPdf**	**11**	**54**	**44.1 -1.1**
AAK	**Ala-Archa**	**162.81**	**88**	*e*PKPdf	**PKPdf**	**11**	**54**	**44.1 -1.1**
KSH	**Kashi**	**162.86**	**99**	PKP	**PKPdf**	**11**	**54**	**47.0 +1.7**
KSH				PKS	**PKSdf**	**11**	**58**	**19.0 +0.6**
KSH				PP	**PP**	**11**	**59**	**23.1 +3.2**
KSH				AMB	AMB			
	comp=Z,200nm,6.1s							
KSH				LR	LR			
	comp=Z,120nm,5.2s							
KSH				LR	LR			
	comp=Z,110nm,6.9s							
KSH				LR	LR			
	comp=Z,220nm,5.3s							
CD2	**Chengdu**	**165.78**	**200**	*e*PKP	**PKPdf**	**11**	**54**	**47.3 -0.8**
CD2				PKPab	**PKPab**	**11**	**55**	**48.5 +1.2**
CD2				PP	**PP**	**11**	**59**	**36.5 +2.6**
CD2				SKS	**SKSdf**	**12**	**01**	**49.0 -3.3**
CD2				SKKS	**SKKSac**	**12**	**06**	**21.3 -0.8**
CD2				LR	LR			
	comp=Z,240nm,25.0s							
CD2				LR	LR			
	comp=Z,300nm,23.6s							
NVS	**Novosibirsk**	**165.85**	**37**	*e*PKIKP	**PKPdf**	**11**	**54**	**44.6 -2.6**
NVS				pmax	pmax			
	comp=Z,43nm,2.9s							
NVS				pmax	pmax			
	comp=N,22nm,3.3s							
NVS				pmax	pmax			
	comp=E,27nm,2.7s							
BJI	**Beijing**	**165.90**	**258**	PKP	**PKPdf**	**11**	**54**	**48.8 +1.0**
BJI				PP	**PP**	**11**	**59**	**37.6 +2.1**
BJI				SS	SS	12	20	14.1 -0.8
BJI				LR	LR			
	comp=E,210nm,22.1s							
BJI				LR	LR			
	comp=E,400nm,22.7s							
BJI				LR	LR			
	comp=E,460nm,34.5s							
ZAA0	**Zalesovo Array**	**167.14**	**38**	*e*PKPdf	**PKPdf**	**11**	**54**	**46.1 -2.2**
ZALV	**Zalesovo Beam**	**167.14**	**38**	PKIKP	**PKPdf**	**11**	**54**	**45.1 -3.2**
ZALV	**Zalesovo Beam**	**167.14**	**38**	PKP	**PKPdf**	**11**	**54**	**45.1 -3.2**
ZALV	**Zalesovo Beam**	**167.14**	**38**	PKP	**PKPdf**	**11**	**54**	**45.1 -3.2**
	comp=E,1.6nm,0.8s,baz=297,slow=0.8,SNR=8.2							
HHC	**Hu-ho-hao-te**	**169.44**	**255**	*e*PKP	**PKPdf**	**11**	**54**	**49.4 -1.1**
HHC				PKS	**PKSdf**	**11**	**58**	**20.5 -2.4**
HHC				PP	**PP**	**11**	**59**	**55.1 +1.3**
HHC				SKS	**SKSdf**	**12**	**01**	**52.3 -1.7**
HHC				SKKS	**SKKSac**	**12**	**06**	**41.3 +0.9**
HHC				SS	**SS**	**12**	**20**	**50.3 -0.5**
HHC				LR	LR			
	comp=E,360nm,22.3s							
HHC				LR	LR			
	comp=E,630nm,22.4s							
HHC				LR	LR			
	comp=E,570nm,22.4s							
LZH	**Lanzhou**	**170.58**	**210**	*e*PKP	**PKPdf**	**11**	**54**	**50.1 -1.2**
LZH				LR	LR			
	comp=E,150nm,18.3s							
LZH				LR	LR			
	comp=E,160nm,19.1s							
LZH				LR	LR			
	comp=E,190nm,20.2s							
WMQ	**Urumqi**	**172.50**	**91**	PKP	**PKPdf**	**11**	**54**	**52.0 +0.1**
WMQ				PKS	**PKSdf**	**11**	**58**	**23.0 -1.1**
WMQ				PP	**PP**	**12**	**00**	**14.0 +4.9**
WMQ				SKS	**SKSdf**	**12**	**01**	**54.0 -1.0**
WMQ				SKKS	**SKKSac**	**12**	**06**	**58.0 +2.9**
WMQ				LR	LR			
	comp=E,490nm,28.0s							
WMQ				LR	LR			
	comp=E,450nm,26.0s							
WMQ				LR	LR			
	comp=E,570nm,27.0s							
SONM	**Songino Array**	**173.29**	**303**	PKP	**PKPdf**	**11**	**54**	**50.3 -1.9**
SONM	**Songino Array**	**173.29**	**303**	PKP	**PKPdf**	**11**	**54**	**50.3 -1.9**
	comp=E,1.0nm,1.1s,baz=151,slow=2.0,SNR=4.8							
GTA	**Gaotai**	**174.82**	**195**	PKP	**PKPdf**	**11**	**54**	**52.8 -0.2**

*ROM **15** 11:49:06.8±0.1,38°.96N×15°.57E, h28km±2km, Ml3.5/21, Error ellipse: s-maj=1.8km s-min=1.5km az=102.0*
*ISCJB **15** 11:49:07.4±0.3,38°.96N±0°.02×15°.56E±0°.03, h28km±4km, Error ellipse: s-maj=4.4km s-min=3.9km az=21.9*
*CSEM **15** 11:49:07.6±0.1,38°.95N×15°.57E, h30km, ML3.5, Error ellipse: s-maj=4.8km s-min=3.0km az=105.0*
*BEO **15** 11:49:11.7±0.9,39°.44N×15°.39E, h0km, ML3.9/7*

ISC 15 11:49:07.3±0.7, 38°.96N±0°.03×15°.57E±0°.03, h28km±7km, n82, σ1°07/103, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
STR3	**STROMBOLI 3**	**0.31**	**239**	Pg	**Pb**	**11**	**49**	**14.8**	**0.0**
STR3				Sg	**Sb**	**11**	**49**	**19.9**	**+0.1**
STR4	**STROMBOLI 4**	**0.34**	**237**	Pg	**Pb**	**11**	**49**	**15.1**	**0.0**
STR4				Sg	**Sb**	**11**	**49**	**20.3**	**-0.1**
STR4	**STROMBOLI 4**	**0.34**	**237**	Pg	**Pb**	**11**	**49**	**15.1**	**0.0**
STR4				Sg	**Sb**	**11**	**49**	**20.3**	**-0.1**
GRI	**Girifalco**	**0.68**	**101**	Pg	**Pb**	**11**	**49**	**19.6**	**-1.0**
GRI				Sg	**Sb**	**11**	**49**	**29.6**	**0.0**
	4µm,0.3s								
GRI	**Girifalco**	**0.68**	**101**	Pg	**Pb**	**11**	**49**	**19.6**	**-1.0**
GRI				Sg	**Sb**	**11**	**49**	**29.6**	**0.0**
	4µm,0.3s								
MSRU	**Castanea**	**0.69**	**184**	Pg	**Pb**	**11**	**49**	**20.5**	**-0.4**
	2µm,0.3s								
MSRU	**Castanea**	**0.69**	**184**	Pg	**Pb**	**11**	**49**	**20.5**	**-0.4**
	2µm,0.3s								
LLI	**Lipari**	**0.71**	**224**	Pg	**Pn**	**11**	**49**	**22.6**	**+1.2**
LLI	**Lipari**	**0.71**	**224**	Pg	**Pn**	**11**	**49**	**22.6**	**+1.2**
VPL	**Vulcano Piano**	**0.74**	**219**	Pg	**Pn**	**11**	**49**	**22.4**	**+0.5**
	3µm,0.6s								
VPL	**Vulcano Piano**	**0.74**	**219**	Pg	**Pn**	**11**	**49**	**22.4**	**+0.5**
	3µm,0.6s								
CEL	**Celeste**	**0.74**	**160**	Pg	**Pb**	**11**	**49**	**21.1**	**-0.6**
CEL				Sg	**Sb**	**11**	**49**	**31.9**	**+0.4**
	1µm,0.4s								
CEL	**Celeste**	**0.74**	**160**	Pg	**Pb**	**11**	**49**	**21.1**	**-0.6**
CEL				Sg	**Sb**	**11**	**49**	**31.9**	**+0.4**
	1µm,0.4s								
PLAC	**Placanica**	**0.85**	**127**	Pg	**Pb**	**11**	**49**	**23.0**	**-0.5**
PLAC				Sg	**Sb**	**11**	**49**	**35.1**	**+0.6**
	3µm,0.6s								
PLAC	**Placanica**	**0.85**	**127**	Pg	**Pb**	**11**	**49**	**23.0**	**-0.5**
PLAC				Sg	**Sb**	**11**	**49**	**35.1**	**+0.6**
	3µm,0.6s								
SERS	**Sersale**	**0.87**	**84**	Pg	**Pb**	**11**	**49**	**23.5**	**-0.5**
SERS				Sg	**Sb**	**11**	**49**	**35.5**	**+0.1**
	2µm,0.5s								
SERS	**Sersale**	**0.87**	**84**	Pg	**Pb**	**11**	**49**	**23.5**	**-0.5**
SERS				Sg	**Sb**	**11**	**49**	**35.5**	**+0.1**
	2µm,0.5s								
MTTG	**Motta San Giov**	**0.96**	**174**	Pg	**Pn**	**11**	**49**	**24.4**	**-0.5**
	1µm,0.6s								
MTTG	**Motta San Giov**	**0.96**	**174**	Pg	**Pn**	**11**	**49**	**24.4**	**-0.5**
	1µm,0.6s								
SOI	**Samo**	**0.96**	**157**	Pg	**Pn**	**11**	**49**	**24.5**	**-0.5**
SOI				Sg	**Sb**	**11**	**49**	**38.3**	**+0.6**
	1µm,0.8s								
SOI	**Samo**	**0.96**	**157**	Pg	**Pn**	**11**	**49**	**24.5**	**-0.5**
SOI				Sg	**Sb**	**11**	**49**	**38.3**	**+0.6**
	1µm,0.8s								
MMN	**Mormanno**	**0.99**	**19**	Pg	**Pn**	**11**	**49**	**25.2**	**-0.1**
MMN				Sg	**Sn**	**11**	**49**	**39.3**	**+1.0**
	1µm,0.3s								
MMN	**Mormanno**	**0.99**	**19**	Pg	**Pn**	**11**	**49**	**25.2**	**-0.1**
MMN				Sg	**Sn**	**11**	**49**	**39.3**	**+1.0**
	1µm,0.3s								
IACL	**Alicudi**	**1.04**	**246**	Pg	**Pn**	**11**	**49**	**25.4**	**-0.6**
	736nm,0.6s								
IACL	**Alicudi**	**1.04**	**246**	Pg	**Pn**	**11**	**49**	**25.4**	**-0.6**
	736nm,0.6s								
MMME	**Mongiuffi-Meli**	**1.05**	**194**	Pg	**Pn**	**11**	**49**	**26.1**	**-0.2**
	588nm,0.6s								
MMME	**Mongiuffi-Meli**	**1.05**	**194**	Pg	**Pn**	**11**	**49**	**26.1**	**-0.2**
	588nm,0.6s								
CUC	**Castrocucco**	**1.05**	**10**	Pg	**Pn**	**11**	**49**	**25.9**	**-0.3**
CUC				Sg	**Sn**	**11**	**49**	**41.9**	**+1.9**
	2µm,0.6s								
CUC	**Castrocucco**	**1.05**	**10**	Pg	**Pn**	**11**	**49**	**25.9**	**-0.3**
SALB	**San Lorenzo Be**	**1.10**	**33**	Pg	**Pn**	**11**	**49**	**27.7**	**+0.8**
	1µm,0.4s								
SALB	**San Lorenzo Be**	**1.10**	**33**	Pg	**Pn**	**11**	**49**	**27.7**	**+0.8**
	1µm,0.4s								
PIPA	**Pietrapaola**	**1.10**	**61**	Pg	**Pn**	**11**	**49**	**27.9**	**+1.0**
	4µm,0.3s								
PIPA	**Pietrapaola**	**1.10**	**61**	Pg	**Pn**	**11**	**49**	**27.9**	**+1.0**
	4µm,0.3s								
BULG	**Bulgheria - Ca**	**1.13**	**352**	Pg	**Pn**	**11**	**49**	**26.7**	**-0.6**
BULG	**Bulgheria - Ca**	**1.13**	**352**	Pg	**Pn**	**11**	**49**	**26.7**	**-0.6**
MGR	**Morigerati**	**1.18**	**359**	Pg	**Pn**	**11**	**49**	**27.6**	**-0.4**
	607nm,0.4s								
MGR	**Morigerati**	**1.18**	**359**	Pg	**Pn**	**11**	**49**	**27.6**	**-0.4**
	607nm,0.4s								
ORI	**Oriolo Calabro**	**1.30**	**31**	Pg	**Pb**	**11**	**49**	**31.7**	**+0.6**
	2µm,0.5s								
ORI	**Oriolo Calabro**	**1.30**	**31**	Pg	**Pb**	**11**	**49**	**31.7**	**+0.6**
	2µm,0.5s								
SCHR	**S. Chirico Rap**	**1.30**	**17**	Pg	**Pn**	**11**	**49**	**29.8**	**+0.1**
	343nm,0.7s								
MTSN	**Montesano sull**	**1.31**	**6**	Pg	**Pn**	**11**	**49**	**30.1**	**+0.2**
MTSN	**Montesano sull**	**1.31**	**6**	Pg	**Pn**	**11**	**49**	**30.1**	**+0.2**
CMPR	**Campora**	**1.38**	**351**	Pg	**Pn**	**11**	**49**	**30.3**	**-0.4**
CMPR	**Campora**	**1.38**	**351**	Pg	**Pn**	**11**	**49**	**30.3**	**-0.4**
GALF	**Gagliano Caste**	**1.47**	**213**	Pg	**Pb**	**11**	**49**	**35.0**	**+0.9**
	724nm,0.9s								
CDRU	**Civita di Ruta**	**1.54**	**352**	Pg	**Pn**	**11**	**49**	**32.8**	**-0.3**
	261nm,0.3s								
CDRU	**Civita di Ruta**	**1.54**	**352**	Pg	**Pn**	**11**	**49**	**32.8**	**-0.3**
	261nm,0.3s								
SGO	**Sicignano**	**1.61**	**353**	Pg	**Pn**	**11**	**49**	**33.9**	**-0.1**
SGO	**Sicignano**	**1.61**	**353**	Pg	**Pn**	**11**	**49**	**33.9**	**-0.1**
AGST	**Augusta-Monte**	**1.72**	**189**	Pg	**Pn**	**11**	**49**	**36.1**	**+0.7**
AGST	**Augusta-Monte**	**1.72**	**189**	Pg	**Pn**	**11**	**49**	**36.1**	**+0.7**
MRLC	**Muro Lucano**	**1.80**	**358**	Pg	**Pn**	**11**	**49**	**38.1**	**+1.6**
MRLC	**Muro Lucano**	**1.80**	**358**	Pg	**Pn**	**11**	**49**	**38.1**	**+1.6**
SSY	**Sortino**	**1.84**	**193**	Pg	**Pn**	**11**	**49**	**38.4**	**+1.3**
	339nm,0.7s								
SSY	**Sortino**	**1.84**	**193**	Pg	**Pn**	**11**	**49**	**38.4**	**+1.3**
	339nm,0.7s								
MCRV	**Calabrutti - M**	**1.85**	**350**	Pg	**Pn**	**11**	**49**	**37.6**	**+0.3**
	125nm,0.5s								
MCRV	**Calabrutti - M**	**1.85**	**350**	Pg	**Pn**	**11**	**49**	**37.6**	**+0.3**
	125nm,0.5s								
HAVL	**Avola**	**2.02**	**190**	Pg	**Pn**	**11**	**49**	**40.3**	**+0.7**
HAVL	**Avola**	**2.02**	**190**	Pg	**Pn**	**11**	**49**	**40.3**	**+0.7**
**ST

baz=6.6,SNR=14
WRA **Warramunga Arr** **13.85 153** Pn Pn 12 00 20.8 -1.8
0.8nm,0.3s,baz=330,slow=12,SNR=32
WRA Sn Sn 12 02 43.3 -14
0.9nm,0.3s,baz=334,slow=22,SNR=9.9
ASAR **Alice Springs** **17.05 161** P P 12 01 06.3 -0.4
0.3nm,0.3s,baz=341,slow=9.6,SNR=42
ASAR S Sn 12 04 05.3 -10
0.2nm,0.3s,baz=352,slow=26,SNR=6.2
MKAR **Makanchi Array** **67.51 328** P P 12 08 02.8 0.0
0.3nm,0.4s,baz=119,slow=8.1,SNR=7.3

IDC 15 12:17:29.1±7.1, 18°.75S×178°.40W, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.3/3, Error ellipse: s-maj=308.6km s-min=36.1km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.49**	**260**	P	P	12 25 43.0	+0.3
	0.2nm,0.3s,baz=96,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**44.57**	**255**	P	P	12 25 42.6	-0.6
	0.2nm,0.4s,baz=86,slow=9.0,SNR=8.4						
ILAR	**Eielson Array**	**86.71**	**13**	P	P	12 30 14.4	0.0
	0.2nm,0.9s,baz=190,slow=4.6,SNR=3.4						

IDC 15 12:30:55.9±3.9, 19°.88S×176°.24W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/19, mbtmp3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.9/20, Error ellipse: s-maj=269.3km s-min=78.0km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.20**	**196**	LR	LR	12 41 56.4	
	comp=Z,67nm,20.1s,baz=78,slow=34						
PMG	**Port Moresby**	**36.83**	**281**	LR	LR	12 49 32.6	
	comp=Z,74nm,19.7s,baz=215,slow=30						
ASAR	**Alice Springs**	**46.27**	**256**	P	P	12 39 24.0	+0.5
	0.4nm,0.5s,baz=91,slow=8.4,SNR=9.8						
ASAR				PcP	PcP	12 40 57.8	-1.4
	0.3nm,0.7s,baz=100,slow=4.0,SNR=4.9						
WRA	**Warramunga Arr**	**46.32**	**261**	P	P	12 39 23.6	-0.4
	0.6nm,1.1s,baz=97,slow=7.7,SNR=6.5						
AKASG	**Malin Array Be**	**143.25**	**333**	PKP	PKPdf	12 50 33.5	+1.5
	0.6nm,0.5s,baz=38,slow=3.6,SNR=5.4						

*IDC **15** 12:54:11.3±2.4, 35°.67N×71°.66E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/30, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=55.7km s-min=32.7km az=142.0*
*ISCJB **15** 12:54:26.0±0.6, 36°.22N±0°.06×71°.51E±0°.10, h114km, mb3.5/6, Error ellipse: s-maj=12.4km s-min=5.8km az=147.5*
*NNC **15** 12:54:33.0±5.9, 36°.79N×70°.93E, h173km±95km, mb3.0, mpv3.9, Error ellipse: s-maj=55.9km s-min=32.8km az=27.0*
ISC 15 12:54:27.3±0.9, 36°.33N±0°.09×71°.5E±0°.1, h114km, n23, σ2s16/24, mb3.5/6, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.81**	**354**	P	**Pn**	**12 56 04.2**	**-0.5**
	8.4nm,0.4s,baz=179,slow=13,SNR=78						
KK31				S	**Sn**	**12 57 16.1**	**-4.6**
	3.5nm,0.3s,baz=177,slow=18,SNR=9.1						
TKM2	**Tokmak 2**	**7.30**	**24**	⇑P	Pn	12 56 14.2	+2.6
	2.2nm,0.6s						
TKM2				⇓S	**Sn**	**12 57 35.2**	**+2.2**
	1.3nm,0.8s						
PYUN	**Piuthan**	**12.72**	**127**	*e*P	**Pn**	**12 57 22.5**	**-1.8**
	17nm,0.4s						
DANN	**Dangsing**	**13.06**	**124**	*e*P	**Pn**	**12 57 27.6**	**-1.2**
	7.8nm,0.3s						
GKN	**Gorkha**	**13.87**	**123**	*e*P	**Pn**	**12 57 38.5**	**-0.7**
	13nm,0.4s						
DMN	**Daman**	**14.44**	**123**	*e*P	**Pn**	**12 57 45.7**	**-0.9**
	5.9nm,0.3s						
KKN	**Kakani**	**14.44**	**122**	*e*P	**Pn**	**12 57 45.3**	**-1.3**
	6.5nm,0.4s						
PKIN	**Phulchoki**	**14.66**	**123**	*e*P	**Pn**	**12 57 48.4**	**-1.0**
	4.2nm,0.3s						
PKI	**Pulchoki**	**14.67**	**123**	*e*P	**Pn**	**12 57 48.3**	**-1.3**
	5.9nm,0.4s						
GUN	**Gumba**	**14.78**	**121**	*e*P	**Pn**	**12 57 50.1**	**-0.9**
	4.7nm,0.4s						
JIRN	**Jiri**	**15.15**	**121**	*e*P	**Pn**	**12 57 54.5**	**-1.2**
	13nm,0.4s						
AB31	**Akbulak array**	**15.43**	**330**	⇓P	**Pn**	**12 57 54.5**	**-4.1**
	0.6nm,0.3s,baz=154,slow=9.8,SNR=46						
AB31				S	Sn	13 00 37.8	-12
	0.6nm,0.5s,baz=155,slow=23,SNR=5.2						
RAMN	**Ramite**	**15.88**	**122**	*e*P	**Pn**	**12 58 02.1**	**-2.6**
	10.0nm,0.5s						
TAPN	**Taplejung**	**16.41**	**118**	*e*P	**Pn**	**12 58 09.0**	**-2.2**
	4.9nm,0.3s						
ODAN	**Odare**	**16.48**	**120**	*e*P	**Pn**	**12 58 09.1**	**-3.0**
	9.0nm,0.6s						
AKTO	**Aktyubinsk**	**17.13**	**330**	P	**Pn**	**12 58 19.9**	**+0.3**
	0.3nm,0.3s,baz=131,slow=12,SNR=11						
ZALV	**Zalesovo Beam**	**19.91**	**24**	P	**Pn**	**12 58 50.9**	**-1.5**
	1.1nm,0.5s,baz=225,slow=10.0,SNR=6.1						
ARCES	**ARCESS Array B**	**41.46**	**338**	P	**P**	**13 02 04.5**	**+2.1**
	1.6nm,0.8s,baz=96,slow=7.4,SNR=4.3						
HFS	**Hagfors**	**43.45**	**322**	P	**P**	**13 02 20.8**	**+2.1**
	4.8nm,1.0s,baz=99,slow=8.9,SNR=3.1						
NOA	**NORSAR Array B**	**44.76**	**323**	P	**P**	**13 02 30.6**	**+1.4**
	0.5nm,0.6s,baz=97,slow=8.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**66.12**	**269**	P	**P**	**13 05 01.6**	**-1.0**
	0.4nm,1.0s,baz=46,slow=6.3,SNR=3.4						
INK	**Inuvik**	**74.01**	**9**	P	**P**	**13 05 52.4**	**+2.5**
	0.4nm,0.6s,baz=331,slow=4.9,SNR=2.7						
YKA	**Yellowknife Ar**	**81.40**	**3**	P	**P**	**13 06 32.2**	**+1.2**
	0.1nm,0.5s,baz=347,slow=5.4,SNR=2.7						

*ISCJB **15** 12:55:49.8±0.2, 60°.33N±0°.02×153°.01W±0°.04, h118km±1km, mb4.2/54, Error ellipse: s-maj=3.1km s-min=2.8km az=35.2*
*IDC **15** 12:55:51.8±0.8, 60°.47N×153°.00W, h124km±6km, mb3.7/24, mb1 3.8/29, mb1mx3.8/40, mbtmp3.7/29, Error ellipse: s-maj=12.3km s-min=8.7km az=16.0*
*NEIC **15** 12:55:51.3, 60°.22N×152°.88W, h118km, mb4.3/28, After AEIC.*
ISC 15 12:55:51.0±0.4, 60°.26N±0°.03×152°.93W±0°.03, h124km±3km, h124km; pP-P, n415, σ1s54/460, mb4.2/54, 104C-112D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INE	**Iliamna NE**	**0.21**	**199**	P	**Pn**	**12 56 07.2**	**-1.3**
INE				S	**Sn**	**12 56 20.2**	**-1.3**
ILW	**Iliamna West**	**0.22**	**208**	P	**Pn**	**12 56 07.1**	**-1.3**
RSO	**Redoubt South**	**0.23**	**23**	*e*Pn	**Pn**	**12 56 07.3**	**-1.2**
RSO				*e*Sn	**Sn**	**12 56 20.4**	**-1.3**
REF	**Redoubt East F**	**0.26**	**26**	P	**Pn**	**12 56 07.4**	**-1.2**
REF				S	**Sn**	**12 56 20.1**	**-1.7**
RDN	**Redoubt North**	**0.27**	**18**	P	**Pn**	**12 56 07.4**	**-1.2**
NCT	**North Crescent**	**0.31**	**360**	P	**Pn**	**12 56 07.6**	**-1.1**
NCT				S	**Sn**	**12 56 18.8**	**-3.2**
DFR	**Drift River**	**0.36**	**20**	P	**Pn**	**12 56 07.6**	**-1.2**
OPT	**Oil Point**	**0.62**	**194**	P	**Pn**	**12 56 09.2**	**-1.1**
PDB	**Pedro Bay**	**0.79**	**234**	P	**Pn**	**12 56 10.2**	**-1.2**
PDB				S	**Sn**	**12 56 25.1**	**-1.9**
HOM	**Homer**	**0.88**	**132**	P	**Pn**	**12 56 11.3**	**-1.0**
HOM				S	**Sn**	**12 56 27.9**	**-0.5**
AUL	**Augustine Lava**	**0.91**	**197**	P	**Pn**	**12 56 11.4**	**-1.2**
AUL				S	**Sn**	**12 56 27.2**	**-1.6**
AUP	**Augustine Pinn**	**0.93**	**196**	P	**Pn**	**12 56 11.7**	**-1.2**
AUH	**Augustine H**	**0.93**	**196**	P	**Pn**	**12 56 11.7**	**-1.2**
AUI	**Augustine Isla**	**0.96**	**195**	P	**Pn**	**12 56 11.7**	**-1.3**
CKL	**Chakachamna La**	**0.99**	**17**	P	**Pn**	**12 56 12.9**	**-0.5**
SPU	**Mount Spurr**	**1.02**	**24**	*e*Pn	**Pn**	**12 56 12.9**	**-0.7**
SPBG	**Spurr Blockage**	**1.04**	**15**	P	**Pn**	**12 56 13.5**	**-0.4**
SPBG				S	**Sn**	**12 56 30.9**	**-0.5**
BGL	**Barrier Glacie**	**1.04**	**14**	P	**Pn**	**12 56 13.6**	**-0.4**
CRP	**Crater Peak**	**1.08**	**20**	P	**Pn**	**12 56 13.9**	**-0.4**
CRP				S	**Sn**	**12 56 31.9**	**-0.2**
BRLK	**Bradley Lake**	**1.14**	**115**	P	**Pn**	**12 56 13.7**	**-1.1**
BRLK				S	**Sn**	**12 56 30.9**	**-1.9**
CGLM	**Capps Glacier**	**1.15**	**23**	P	**Pn**	**12 56 14.3**	**-0.6**
MCNL	**McNeil River**	**1.29**	**214**	P	**Pn**	**12 56 14.9**	**-1.4**
STLK	**Strandline Lak**	**1.36**	**23**	P	**Pn**	**12 56 16.8**	**-0.4**
SLKM	**Skilak Lake**	**1.37**	**78**	P	**Pn**	**12 56 16.3**	**-0.9**
SVW2	**Sparrevohn**	**1.56**	**304**	P	**Pn**	**12 56 18.1**	**-1.2**
SUA	**Susitna One**	**1.62**	**40**	P	**Pn**	**12 56 19.8**	**-0.4**
SUA				S	**Sn**	**12 56 42.2**	**-0.1**
FIB	**Fire Island**	**1.63**	**55**	P	**Pn**	**12 56 20.6**	**+0.4**
FIB				S	**Sn**	**12 56 43.7**	**+1.2**
SEW	**Seward**	**1.75**	**94**	P	**Pn**	**12 56 19.9**	**-1.6**
SEW				S	**Sn**	**12 56 42.1**	**-2.6**
RC01	**Rabbit Creek A**	**1.78**	**61**	P	**Pn**	**12 56 21.1**	**-0.9**
RC01				S	**Sn**	**12 56 44.0**	**-1.6**
SKT	**Skwentna**	**1.86**	**21**	P	**Pn**	**12 56 22.5**	**-0.4**
SKT				S	**Sn**	**12 56 47.8**	**+0.5**
PTE	**Portage**	**2.02**	**71**	P	**Pn**	**12 56 23.4**	**-1.5**
KAKN	**Katmai Knife C**	**2.25**	**210**	P	**Pn**	**12 56 26.6**	**-1.2**
PMR	**Palmer**	**2.29**	**52**	P	**Pn**	**12 56 26.5**	**-1.7**
PMR				S	**Sn**	**12 56 54.2**	**-2.5**
PWL	**Port Wells**	**2.35**	**73**	P	**Pn**	**12 56 27.0**	**-2.0**
PWL				S	**Sn**	**12 56 55.8**	**-2.4**
MGLS	**Mageik Landsli**	**2.42**	**209**	P	**Pn**	**12 56 29.0**	**-0.9**
ANCK	**Angle Creek**	**2.45**	**214**	P	**Pn**	**12 56 29.4**	**-1.0**
KDAK	**Kodiak Island**	**2.49**	**176**	P	**Pn**	**12 56 29.0**	**-1.7**
KDAK				S	**Sn**	**12 56 59.6**	**-1.6**
CNTC	**Contact Creek**	**2.51**	**219**	P	**Pn**	**12 56 30.0**	**-1.1**
CUT	**Chulitna**	**2.51**	**30**	P	**Pn**	**12 56 30.6**	**-0.3**
CAHL	**Cahill**	**2.53**	**210**	P	**Pn**	**12 56 30.5**	**-0.8**
PPLA	**Purkeypile**	**2.67**	**7**	*e*Pn	**Pn**	**12 56 33.5**	**+0.2**
PPLA				*e*Sn	**Sn**	**12 57 02.3**	**-3.5**
GLI	**Glacier Island**	**2.95**	**75**	P	**Pn**	**12 56 35.5**	**-1.2**
TT01	**Tatalina**	**3.04**	**332**	P	**Pn**	**12 56 37.0**	**-0.9**
OHAK	**Old Harbor**	**3.05**	**184**	P	**Pn**	**12 56 35.1**	**-2.6**
PLK3	**Peulik 3**	**3.10**	**215**	P	**Pn**	**12 56 38.1**	**-0.6**
SCM	**Sheep Creek Mo**	**3.15**	**57**	P	**Pn**	**12 56 37.9**	**-1.5**
PLK4	**Peulik 4**	**3.17**	**216**	P	**Pn**	**12 56 39.1**	**-0.7**
HIN	**Hinchinbrook I**	**3.20**	**85**	P	**Pn**	**12 56 37.6**	**-2.4**
CAST	**Castle Rocks**	**3.20**	**7**	P	**Pn**	**12 56 39.7**	**-0.3**
VLZ	**Valdez**	**3.36**	**72**	P	**Pn**	**12 56 40.1**	**-1.9**
MID	**Middleton Isla**	**3.43**	**101**	P	**Pn**	**12 56 41.6**	**-1.3**
TRF	**Thorofare Moun**	**3.44**	**20**	P	**Pn**	**12 56 42.3**	**-1.0**
KTH	**Kantishna Hill**	**3.44**	**15**	P	**Pn**	**12 56 42.3**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.58**	**82**	P	**Pn**	**12 56 43.9**	**-1.0**
DIV	**Divide**	**3.63**	**73**	*e*Pn	**Pn**	**12 56 43.6**	**-2.1**
DIV				*e*Sn	**Sn**	**12 57 25.6**	**-2.3**
RND	**Reindeer**	**3.71**	**30**	P	**Pn**	**12 56 45.7**	**-1.0**
SII	**Sitkinak Islan**	**3.77**	**191**	P	**Pn**	**12 56 44.5**	**-3.0**
SGAM	**Sherman Glacie**	**3.84**	**83**	P	**Pn**	**12 56 47.3**	**-1.1**
DHY	**Denali Highway**	**3.88**	**41**	P	**Pn**	**12 56 48.2**	**-0.8**
MCK	**McKinley**	**3.96**	**27**	P	**Pn**	**12 56 49.3**	**-0.8**
BMRM	**Bremner River**	**4.17**	**77**	P	**Pn**	**12 56 51.9**	**-0.9**
BWN	**Browne**	**4.25**	**21**	P	**Pn**	**12 56 53.0**	**-0.8**
HARP	**HAARP**	**4.32**	**57**	P	**Pn**	**12 56 53.8**	**-1.0**
PAX	**Paxson**	**4.48**	**49**	P	**Pn**	**12 56 56.2**	**-0.8**
GLB	**Gilahina Butte**	**4.62**	**71**	P	**Pn**	**12 56 57.3**	**-1.5**
CHIR	**Chirikof Islan**	**4.67**	**199**	P	Pn	12 56 56.4	-3.1
VRDI	**Verde Repeater**	**4.75**	**74**	P	**Pn**	**12 56 59.4**	**-1.4**
GRIN	**Grindle Hills**	**4.79**	**86**	P	**Pn**	**12 57 00.6**	**-0.5**
WRH	**Wood River Hil**	**4.79**	**26**	P	**Pn**	**12 56 59.5**	**-1.6**
KHIT	**Khitrov Hills**	**4.81**	**84**	P	**Pn**	**12 57 00.7**	**-0.8**
DDM	**Donnelly Dome**	**4.86**	**40**	P	**Pn**	**12 57 02.4**	**+0.3**
GCSA	**Galena City Sc**	**4.86**	**340**	P	**Pn**	**12 57 01.7**	**-0.3**
MLY	**Manley**	**4.90**	**11**	P	**Pn**	**12 57 01.1**	**-1.4**
MCARA	**McCarthy VSAT**	**4.98**	**73**	P	**Pn**	**12 57 02.1**	**-1.5**
CCB	**Clear Creek Bu**	**5.01**	**26**	P	**Pn**	**12 57 02.3**	**-1.6**
HDA	**Harding Lake**	**5.01**	**31**	P	**Pn**	**12 57 03.1**	**-0.8**
KULT	**Kultieth River**	**5.08**	**86**	P	**Pn**	**12 57 04.7**	**-0.4**
BARK	**Barkley Ridge**	**5.19**	**84**	P	**Pn**	**12 57 05.8**	**-0.7**
MDM	**Murphy Dome**	**5.19**	**23**	P	**Pn**	**12 57 05.0**	**-1.6**
COLA	**College**	**5.20**	**25**	P	**Pn**	**12 57 05.4**	**-1.1**
VNHG	**Veniaminof 1**	**5.22**	**222**	P	**Pn**	**12 57 06.8**	**-0.2**
PTPK	**Patty Peak**	**5.22**	**75**	P	**Pn**	**12 57 05.6**	**-1.5**
KIAG	**Kiagna River**	**5.25**	**78**	P	**Pn**	**12 57 06.8**	**-0.6**
ISLE	**Juniper Island**	**5.26**	**82**	P	**Pn**	**12 57 06.5**	**-1.0**
BALM	**Baldy**	**5.27**	**77**	P	**Pn**	**12 57 05.8**	**-1.7**
IL1	**Eielson Array**	**5.33**	**29**	P	**Pn**	**12 57 07.1**	**-1.1**
ILAR	**Eielson Array**	**5.33**	**29**	P	**Pn**	**12 57 07.1**	**-1.1**
ILAR				S	**Sn**	**12 58 04.1**	**-4.3**
ILAR	**Eielson Array**	**5.33**	**29**	P	**Pn**	**12 57 07.1**	**-1.1**
	40nm,0.3s,baz=213,slow=14,SNR=2688						
ILAR				S	**Sn**	**12 58 04.1**	**-4.3**
	22nm,0.3s,baz=218,slow=24,SNR=12						
DOT	**Dot Lake**	**5.39**	**47**	P	**Pn**	**12 57 07.8**	**-1.3**
GLM	**Gilmore Dome**	**5.39**	**26**	P	**Pn**	**12 57 08.3**	**-0.9**
GRNC	**Granite Creek**	**5.55**	**80**	P	**Pn**	**12 57 11.0**	**-0.5**
BARN	**Barnard Glacie**	**5.60**	**77**	P	**Pn**	**12 57 11.4**	**-0.8**
SCRK	**Sand Creek**	**5.62**	**44**	P	**Pn**	**12 57 10.8**	**-1.5**
IM04	**Indian Mountai**	**5.75**	**357**	*e*Pn	**Pn**	**12 57 13.4**	**-0.7**
IM3	**Indian Mountai**	**5.76**	**357**	P	**Pn**	**12 57 13.6**	**-0.6**
CHX	**Chaix Hills**	**5.90**	**87**	P	**Pn**	**12 57 16.2**	**+0.1**
LOGN	**Logan Glacier**	**5.91**	**79**	P	**Pn**	**12 57 16.0**	**-0.4**
BCA3	**Beaver Creek A**	**6.01**	**57**	P	**Pn**	**12 57 16.6**	**-0.9**
COLD	**Coldfoot**	**7.10**	**9**	*e*Pn	**Pn**	**12 57 30.9**	**-1.2**
DAWY	**Dawson**	**7.39**	**53**	*e*Pn	**Pn**	**12 57 35.7**	**-0.5**
DAWY				*e*Sn	**Sn**	**12 59 00.3**	**+1.8**
DHAK	**Deception Hill**	**7.54**	**92**	*e*Pn	**Pn**	**12 57 37.5**	**-0.7**
HYT	**Haines Junctio**	**7.63**	**79**	*e*Pn	**Pn**	**12 57 38.9**	**-0.6**
HYT				*e*Sn	**Sn**	**12 59 00.3**	**-3.9**
TNA	**Tin City**	**8.65**	**314**	*e*Pn	**Pn**	**12 57 53.4**	**+0.4**
INK	**Inuvik**	**11.61**	**38**	*e*Pn	**Pn**	**12 58 31.3**	**-1.3**
	3.8nm,0.4s						
INK	**Inuvik**	**11.61**	**38**	P	**Pn**	**12 58 31.5**	**-1.1**
	1.0nm,0.3s,baz=235,slow=13,SNR=18						
DLBC	**Dease Lake**	**11.81**	**89**	*e*Pn	**Pn**	**12 58 36.6**	**+1.1**
DLBC				S	**Sn**	**13 00 41.0**	**-4.4**
DLBC	**Dease Lake**	**11.81**	**89**	P	**Pn**	**12 58 35.8**	**+0.3**
	0.6nm,0.3s,baz=234,slow=6.2,SNR=4.9						
DLBC				S	**Sn**	**13 00 41.0**	**-4.4**
	0.3nm,0.3s,baz=143,slow=20,SNR=2.1						
YKW3	**Yellowknife Ar**	**18.30**	**66**	*e*P	**P**	**12 59 55.6**	**+0.7**
YKA	**Yellowknife Ar**	**18.32**	**66**	P	**P**	**12 59 55.8**	**+0.6**
YKA				PcP	**PcP**	**13 04 20.6**	**-0.2**
YKA				ScP	**ScP**	**13 07 43.9**	**-0.5**
YKA	**Yellowknife Ar**	**18.32**	**66**	P	**P**	**12 59 55.7**	**+0.6**
	0.8nm,0.3s,baz=277,slow=9.9,SNR=64						
YKA				PcP	**PcP**	**13 04 20.6**	**-0.2**
	0.3nm,0.3s,baz=285,slow=1.5,SNR=20						
YKA				ScP	**ScP**	**13 07 43.8**	**-0.5**
	0.1nm,0.3s,baz=290,slow=2.1,SNR=17						
FX1	**Attu Island--F**	**19.90**	**263**	P	**P**	**13 00 13.0**	**+0.6**
FX1	**Attu Island--F**	**19.90**	**263**	P	**P**	**13 00 13.0**	**+0.6**
	1.6nm,0.3s,baz=288,slow=12,SNR=7.3						
EDM	**Edmonton**	**22.53**	**90**	*e*P	**P**	**13 00 41.5**	**+1.3**
B08A	**Colville Reser**	**22.65**	**107**	*e*P	**P**	**13 00 43.1**	**+1.6**
	5.4nm,0.8s						
E07A	**Sunnyside**	**23.70**	**110**	*e*P	**P**	**13 00 53.3**	**+2.1**
	14nm,1.3s						
D08A	**Wollman Farm,**	**23.77**	**108**	*e*P	**P**	**13 00 53.7**	**+1.9**
	6.0nm,0.8s						
NEW	**Newport**	**23.78**	**104**	⇓P	**P**	**13 00 53.2**	**+1.3**
	baz=24						
E09A	**Wood Farm, Sta**	**24.53**	**108**	*e*P	**P**	**13 00 59.0**	**+0.4**
	15nm,1.4s						
RES	**Resolute Bay**	**25.07**	**32**	P	**P**	**13 01 04.3**	**+1.1**
RES	**Resolute Bay**	**25.07**	**32**	P	**P**	**13 01 04.3**	**+1.1**
	1.0nm,0.3s,baz=272,slow=5.8,SNR=17						
F10A	**Beach Ranch, E**	**25.36**	**108**	*e*P	**P**	**13 01 07.8**	**+1.4**
	7.2nm,0.7s						
SEY	**Seymchan**	**25.49**	**300**	P	**P**	**13 01 08.8**	**+1.6**
SEY	**Seymchan**	**25.49**	**300**	P	**P**	**13 01 08.8**	**+1.6**
	2.6nm,0.9s,baz=9.7,slow=23,SNR=4.3						
BMO	**Blue Mountains**	**26.16**	**110**	*e*P	**P**	**13 01 15.3**	**+1.8**
	6.9nm,1.2s						
YBH	**Yreka Blue Hor**	**26.19**	**121**	P	**P**	**13 01 16.3**	**+2.5**
YBH	**Yreka Blue Hor**	**26.19**	**121**	P	**P**	**13 01 16.3**	**+2.5**
	2.7nm,1.0s,baz=49,slow=3.0,SNR=3.9						
MSO	**Missoula**	**26.32**	**103**	⇓P	**P**	**13 01 16.3**	**+1.3**
	baz=26						
A19A	**Klindworth Far**	**27.45**	**94**	⇓P	**P**	**13 01 26.3**	**+1.3**
	baz=27						
PETK	**Petropavlovsk-**	**27.46**	**277**	P	**P**	**13 01 25.5**	**+0.5**
PETK	**Petropavlovsk-**	**27.46**	**277**	P	**P**	**13 01 25.5**	**+0.5**
	1.3nm,0.7s,baz=70,slow=12,SNR=4.4						
EGMT	**Eagleton**	**27.55**	**97**	⇑P	**P**	**13 01 26.7**	**+0.7**
	baz=27						
B19A	**Brinkman Farms**	**27.66**	**95**	⇑P	**P**	**13 01 28.5**	**+1.6**
	baz=28						
LRM	**Limekiln Ridge**	**27.77**	**103**	*e*P	**P**	**13 01 26.0**	**-2.0**
C19A	**Slack Wire Ran**	**28.10**	**97**	⇑P	**P**	**13 01 32.1**	**+1.3**
	baz=28						
BOZ	**Bozeman (W)**	**28.29**	**102**	*e*P	P	13 01 39.9	+7.3
	19nm,0.9s						
HLID	**Hailey**	**28.49**	**108**	*e*P	**P**	**13 01 36.4**	**+1.9**
	3.9nm,1.1s						
HLID	**Hailey**	**28.49**	**108**	⇓P	**P**	**13 01 36.1**	**+1.6**
	baz=28						
D19A	**Cripps Ranch,**	**28.57**	**97**	⇑P	**P**	**13 01 36.4**	**+1.4**
	baz=28						
D20A	**Manuel Ranch,**	**28.99**	**97**	⇓P	**P**	**13 01 40.4**	**+1.7**
	baz=29						
F19A	**Roth Farm, Mol**	**29.46**	**99**	⇑P	**P**	**13 01 44.7**	**+1.8**
	baz=29						
D21A	**La Casta Ranch**	**29.57**	**96**	⇓P	**P**	**13 01 45.5**	**+1.6**
	baz=29						
D22A	**Cohagen**	**29.92**	**95**	⇓P	**P**	**13 01 47.4**	**+0.5**
	baz=30						
C23A	**Lambert**	**29.97**	**93**	⇑P	**P**	**13 01 47.5**	**+0.1**
	baz=30						
TPAW	**Teton Pass**	**30.20**	**105**	*e*P	**P**	**13 01 52.1**	**+2.4**
	7.2nm,0.6s						
A25A	**Svangstu Ranch**	**30.25**	**89**	⇓P	**P**	**13 01 51.0**	**+1.2**
	baz=30						
G20A	**Bridger**	**30.27**	**99**	⇓P	**P**	**13 01 51.8**	**+1.7**
	baz=30						
LOHW	**Long Hollow**	**30.28**	**104**	*e*P	**P**	**13 01 52.9**	**+2.6**
	4.5nm,0.8s						
H19A	**Powell**	**30.29**	**101**	⇑P	**P**	**13 01 52.0**	**+1.7**
	baz=30						
ELK	**Elko**	**30.30**	**113**	*e*P	**P**	**13 01 53.3**	**+2.7**
	3.3nm,0.8s						
D23A	**Lindsay**	**30.39**	**94**	⇓P	**P**	**13 01 52.2**	**+1.1**
	baz=30						
C24A	**Savage**	**30.54**	**93**	⇑P	**P**	**13 01 53.5**	**+1.2**
	baz=30						
HVU	**Hansel Valley**	**30.64**	**109**	*e*P	**P**	**13 01 56.2**	**+2.8**
	5.2nm,0.9s						
B25A	**Knox Farm, Ray**	**30.67**	**90**	⇓P	**P**	**13 01 54.8**	**+1.3**
	baz=30						
G21A	**Lodge Grass**	**30.76**	**98**	⇑P	**P**	**13 01 55.3**	**+0.9**
	baz=31						
NVAR	**Mina Array Bea**	**30.82**	**119**	P	**P**	**13 01 57.4**	**+2.3**
NVAR				PcP	**PcP**	**13 04 49.1**	**+0.1**
NVAR	**Mina Array Bea**	**30.82**	**119**	P	**P**	**13 01 57.4**	**+2.3**
	2.6nm,0.7s,baz=316,slow=10,SNR=18						
NVAR				PcP	**PcP**	**13 04 49.1**	**+0.1**
	0.5nm,0.6s,baz=357,slow=1.8,SNR=4.2						
D24A	**Glendive**	**30.87**	**93**	⇑P	**P**	**13 01 57.5**	**+2.2**
	baz=31						
I20A	**Worland**	**31.23**	**101**	⇑P	**P**	**13 01 59.8**	**+1.3**
	baz=31						
E24A	**Baker**	**31.26**	**94**	⇓P	**P**	**13 01 59.8**	**+1.1**
	baz=31						
H21A	**Big Horn, Sher**	**31.27**	**99**	⇑P	**P**	**13 02 00.0**	**+1.1**
	baz=31						
J19A	**Crowheart**	**31.29**	**103**	⇑P	**P**	**13 02 00.7**	**+1.5**
	baz=31						
F23A	**Volborg**	**31.30**	**96**	⇑P	**P**	**13 02 00.4**	**+1.4**
	baz=31						
BW06	**Boulder Array**	**31.42**	**104**	*e*P	**P**	**13 02 02.2**	**+1.8**
PDAR	**Pinedale Array**	**31.42**	**104**	P	**P**	**13 02 01.9**	**+1.6**
PDAR	**Pinedale Array**	**31.42**	**104**	P	**P**	**13 02 01.9**	**+1.6**
	2.3nm,0.9s,baz=332,slow=4.5,SNR=18						
G23A	**Biddle**	**31.68**	**97**	⇑P	**P**	**13 02 03.9**	**+1.5**
	baz=32						
F24A	**Ekalaka**	**31.69**	**95**	⇓P	**P**	**13 02 04.0**	**+1.5**
	baz=32						
J20A	**Shoshoni**	**31.70**	**102**	⇑P	**P**	**13 02 05.0**	**+2.3**
	baz=32						
I21A	**Big Trails, Te**	**31.75**	**100**	⇓P	**P**	**13 02 05.0**	**+1.9**
	baz=

baz=35
J28A **Allard Ranch,** 35.02 95 ⇓P P 13 02 32.5 +1.1
baz=35
GMRC **Granite Mounta** 35.03 120 ⇓P P 13 02 33.6 +1.9
baz=35
K27A **Flueckinger Fa** 35.06 97 ⇑P P 13 02 33.3 +1.6
baz=35
PV04 **Paradox Valley** 35.13 108 *e*P P 13 02 34.5 +2.0
O23A **Lake Granby, G** 35.13 103 ⇓P P 13 02 34.8 +2.1
baz=35
U15A **North Rim** 35.15 114 ⇓P P 13 02 34.7 +1.9
baz=35
P22A **Eagle** 35.21 105 ⇑P P 13 02 34.9 +1.7
baz=35
J29A **Okreek** 35.49 94 ⇓P P 13 02 36.4 +1.0
baz=35
M26A **McRoberts Ranc** 35.53 99 ⇓P P 13 02 37.6 +1.8
baz=35
W13A **Hualapai Mount** 35.54 117 ⇑P P 13 02 38.1 +2.1
baz=35
BELC **Belle Mtn. Jos** 35.55 121 ⇓P P 13 02 37.9 +1.9
baz=35
I30A **Oacoma** 35.57 93 ⇑P P 13 02 37.5 +1.5
baz=35
ISCO **Idaho Springs** 35.60 103 ⇑P P 13 02 38.5 +1.9
baz=36
IRM **Iron Mountain** 35.78 120 ⇑P P 13 02 39.8 +1.9
baz=36
WUAZ **Wupatki** 36.32 114 *e*P P 13 02 45.1 +2.5
8.4nm,0.7s
WUAZ **Wupatki** 36.32 114 ⇑P P 13 02 45.0 +2.3
baz=36,SNR=7.6
O26A **Horse Wrangler** 36.38 101 ⇑P P 13 02 44.9 +1.8
baz=36
Y12C **Blythe** 36.40 119 ⇑P P 13 02 45.3 +2.1
baz=36
Q24A **Divide** 36.48 104 ⇓P P 13 02 46.0 +1.8
baz=36
P25A **Willow Gulch B** 36.53 102 ⇑P P 13 02 46.5 +2.1
baz=36
SWSC **Sam W. Stewart** 36.54 122 ⇓P P 13 02 46.4 +2.1
baz=36
S22A **4UR Ranch, Cre** 36.63 107 ⇓P P 13 02 47.4 +1.9
baz=36
R23A **Moffat** 36.76 105 ⇑P P 13 02 48.8 +2.3
baz=37
O27A **Beecher Island** 36.83 100 ⇑P P 13 02 48.6 +1.7
baz=37
P26A **Davis Ranch, A** 36.89 101 ⇓P P 13 02 48.8 +1.4
baz=37
Y14A **Wickenburg** 36.91 117 ⇓P P 13 02 49.9 +2.4
baz=37
N28A **Pribbeno Ranch** 36.91 98 ⇓P P 13 02 48.8 +1.3
baz=37
Q25A **Bedland, Calha** 36.95 103 ⇑P P 13 02 49.8 +1.7
baz=37
R24A **Sanders Place,** 37.07 105 ⇑P P 13 02 50.9 +1.9
baz=37
M30A **Dale-Ortello V** 37.10 96 ⇑P P 13 02 50.8 +1.7
baz=37
N29A **Votaw Ranch, W** 37.27 97 ⇓P P 13 02 52.0 +1.5
baz=37
SDCO **Great Sand Dun** 37.27 105 *e*P P 13 02 53.0 +2.1
4.2nm,0.9s
Q26A **Hugo** 37.30 102 ⇓P P 13 02 52.8 +1.9
baz=37
S24A **Houchin Ranch,** 37.49 105 ⇓P P 13 02 54.5 +1.8
baz=37
R25A **Fountain Ranch** 37.54 104 ⇑P P 13 02 54.8 +1.9
baz=37,SNR=7.2
P28A **Saint Francis** 37.66 100 ⇓P P 13 02 55.3 +1.4
baz=38
KSCO **Kaye Shedlock'** 37.67 101 ⇓P P 13 02 55.5 +1.5
baz=38
M31A **Lambtecht Ranc** 37.69 95 ⇓P P 13 02 55.0 +1.0
baz=38
X18A **Snowflake** 37.79 113 ⇓P P 13 02 57.1 +2.0
baz=38
R26A **Arlington** 37.82 103 ⇓P P 13 02 57.0 +1.7
baz=38
S25A **Robets Cordova** 37.85 104 ⇓P P 13 02 57.6 +2.0
baz=38
SPMN **St. Paul** 37.93 86 ⇑P P 13 02 57.3 +1.4
baz=38
P29A **Atwood** 38.04 99 ⇓P P 13 02 58.5 +1.4
baz=38
V22A **San Miguel Ran** 38.07 109 ⇑P P 13 02 59.1 +1.6
baz=38,SNR=5.6
U23A **El Rito** 38.07 108 ⇓P P 13 02 59.9 +2.4
baz=38
R27A **Eads** 38.15 102 ⇓P P 13 02 59.9 +1.9
baz=38
T25A **Trinidad** 38.27 105 ⇑P P 13 03 01.1 +1.8
baz=38
S26A **Kim** 38.35 103 ⇓P P 13 03 01.5 +1.8
baz=38
Q29A **Oakley** 38.57 100 ⇑P P 13 03 03.1 +1.7
baz=38
R28A **Tribune** 38.59 101 ⇓P P 13 03 03.1 +1.4
baz=38
T26A **Comanche Natio** 38.64 104 ⇓P P 13 03 03.7 +1.5
baz=38
R29A **Marienthal** 38.85 100 ⇑P P 13 03 05.0 +1.2
baz=39
U25A **Circle Dot Ran** 38.87 106 ⇑P P 13 03 06.0 +1.9
baz=39,SNR=6.1
V24A **Rampart Ranch,** 39.00 107 ⇑P P 13 03 07.6 +2.4
baz=39
W23A **Werner Place,** 39.04 109 ⇓P P 13 03 07.4 +1.8
baz=39
ANMO **Albuquerque** 39.07 109 P P 13 03 07.6 +1.8
ANMO **Albuquerque** 39.07 109 P P 13 03 07.6 +1.8
0.8nm,0.6s,baz=321,slow=11,SNR=4.6
S28A **Manter** 39.14 102 ⇑P P 13 03 08.0 +1.8
baz=39
T27A **Campo** 39.15 103 ⇑P P 13 03 08.3 +1.9
baz=39
P32A **Huiting Farm,** 39.18 97 ⇓P P 13 03 07.8 +1.3
baz=39
U26A **Atchley Ranch,** 39.19 105 ⇑P P 13 03 08.6 +1.7
baz=39,SNR=6.8
V25A **Rancho No Teng** 39.22 106 ⇓P P 13 03 09.3 +2.3
baz=39
W24A **Lazy 6 Ranch,** 39.35 108 ⇑P P 13 03 10.3 +2.2
baz=39
R30A **Dighton** 39.39 100 ⇓P P 13 03 10.0 +1.8
baz=39
T28A **Walsh** 39.40 103 ⇓P P 13 03 10.1 +1.6
baz=39
X23A **Hourglass Bar** 39.49 109 ⇓P P 13 03 11.2 +1.8
baz=39
U27A **Thompson Grove** 39.61 104 ⇑P P 13 03 11.4 +1.2
baz=40
V26A **Tequesquite Ra** 39.65 106 ⇑P P 13 03 12.1 +1.6
baz=40,SNR=6.1
Y22A **Socorro** 39.66 111 ⇓P P 13 03 12.9 +2.2
baz=40
Q32A **Meitler Ranch,** 39.69 97 ⇓P P 13 03 11.4 +0.7
baz=40
P33A **Williams Farm,** 39.77 96 ⇓P P 13 03 12.9 +1.5
baz=40
W25A **X Bar L Ranch,** 39.80 107 ⇑P P 13 03 14.0 +2.2
baz=40
U28A **Mallet** 39.94 103 ⇑P P 13 03 14.3 +1.4
baz=40
Q33A **Connelly Farm,** 40.04 97 ⇑P P 13 03 14.6 +1.0
baz=40
R32A **Long Quarter,** 40.05 98 ⇓P P 13 03 14.8 +1.1
baz=40
Y23A **Lovelace Mesa,** 40.09 110 ⇑P P 13 03 16.3 +2.0
baz=40
Z22A **Elephant Butte** 40.22 111 ⇑P P 13 03 17.7 +2.3
baz=40
W26A **Owens Ranch, T** 40.23 106 ⇑P P 13 03 17.6 +2.2
baz=40
Y24A **Capitan** 40.39 109 ⇓P P 13 03 18.8 +2.1
baz=40
V28A **Channing** 40.44 104 ⇓P P 13 03 18.6 +1.6
baz=40
121A **Cookes Peak, D** 40.45 113 ⇑P P 13 03 19.7 +2.5
baz=40
R33A **Olander Ranch,** 40.50 97 ⇑P P 13 03 18.7 +1.3
baz=40
U30A **WK&E Inc. Balk** 40.58 102 ⇓P P 13 03 19.6 +1.4
baz=40
T31A **Randall Ranch,** 40.61 100 ⇑P P 13 03 19.8 +1.5
baz=40
X26A **CR and CF Fran** 40.65 107 ⇑P P 13 03 20.0 +1.2
baz=40
Y25A **Mesa, Roswell** 40.74 108 ⇓P P 13 03 21.3 +1.7
baz=41,SNR=6.7
X27A **F and S Farms,** 40.91 106 ⇑P P 13 03 22.5 +1.6
baz=41
Z24A **Sheeppen Canyo** 40.91 109 ⇑P P 13 03 22.8 +1.8
baz=41,SNR=6.9
Y26A **Elida** 41.15 107 ⇓P P 13 03 24.6 +1.6
baz=41
Z25A **Roswell** 41.26 109 ⇓P P 13 03 25.1 +1.3
baz=41
124A **Stringfield Ra** 41.39 110 ⇓P P 13 03 25.8 +0.9
baz=41
AMTX **Amarillo** 41.40 104 ⇓P P 13 03 26.9 +2.0
baz=41
Y27A **Causey** 41.50 107 ⇓P P 13 03 27.1 +1.4
baz=41
V31A **Spring Creek L** 41.58 102 ⇓P P 13 03 27.9 +1.6
baz=41
Z26A **Caprock** 41.61 108 ⇑P P 13 03 28.2 +1.6
baz=42
MSTX **Muleshoe** 41.62 106 *e*P P 13 03 28.3 +1.6
8.5nm,1.0s
MSTX **Muleshoe** 41.62 106 ⇑P P 13 03 28.2 +1.6
baz=42
SPITS **Spitsbergen Ar** 41.66 3 P P 13 03 25.7 -0.7
SPITS **Spitsbergen Ar** 41.66 3 P P 13 03 25.7 -0.7
0.9nm,0.3s,baz=38,slow=8.0,SNR=18
X29A **Tulia** 41.75 105 ⇓P P 13 03 29.2 +1.5
baz=42
125A **Gardner Draw,** 41.80 109 ⇑P P 13 03 29.9 +1.7
baz=42
Z27A **Tatum** 41.94 107 ⇓P P 13 03 30.6 +1.3
baz=42
X30A **Coker Ranch, T** 42.15 104 ⇑P P 13 03 32.2 +1.3
baz=42
225A **Deer Hill, Car** 42.17 110 ⇑P P 13 03 33.4 +2.0
baz=42
U34A **Anderson Ranch** 42.19 99 ⇑P P 13 03 32.3 +1.1
baz=42
Y29A **Porterfield Fa** 42.23 105 ⇓P P 13 03 33.5 +1.8
baz=42
324A **Moseley Ranch,** 42.42 111 ⇓P P 13 03 35.3 +2.0
baz=42
X31A **McDonald Ranch** 42.43 103 ⇑P P 13 03 35.0 +1.8
baz=42
226B **Tecolote Peak,** 42.51 109 ⇓P P 13 03 35.7 +1.8
baz=42
Y30A **Stafford Cattl** 42.59 104 ⇑P P 13 03 36.0 +1.4
baz=42
V34A **Guthrie** 42.67 99 ⇑P P 13 03 36.1 +1.0
baz=42
Z29A **Hungry Hill Ra** 42.71 106 ⇑P P 13 03 37.3 +1.8
baz=43
325A **Bean Ranch, Si** 42.72 111 ⇑P P 13 03 37.8 +2.1
baz=43
128A **Castleberry Fa** 42.86 107 ⇑P P 13 03 38.2 +1.4
baz=43
Z30A **Sanderson Ranc** 42.96 105 ⇑P P 13 03 39.1 +1.6
baz=43
Y32A **R-V Farms, Ver** 43.20 103 ⇓P P 13 03 40.9 +1.6
baz=43
425A **Indio Mountain** 43.20 111 ⇑P P 13 03 41.9 +2.3
baz=43,SNR=8.4
326A **Caldwell Ranch** 43.23 110 ⇑P P 13 03 41.3 +1.5
baz=43
Z31A **Sharp Cattle R** 43.41 104 ⇓P P 13 03 42.2 +1.1
baz=43
Z32A **Haskell** 43.74 103 ⇓P P 13 03 44.8 +1.1
baz=44
426A **McDonald Obser** 43.75 110 ⇑P P 13 03 45.6 +1.5
baz=44
427A **Hayter Ranch,** 43.89 109 ⇓P P 13 03 46.7 +1.6
baz=44
329A **Wagon Wheel Ra** 44.03 107 ⇑P P 13 03 48.3 +2.1
baz=44
Y34A **Reagan Ranch,** 44.06 101 ⇓P P 13 03 47.4 +1.2
baz=44
ABTX **Abilene, Hawle** 44.22 104 ⇑P P 13 03 49.4 +1.8
baz=44
526A **Mary Lane Ranc** 44.23 111 ⇓P P 13 03 49.4 +1.6
baz=44,SNR=6.7
428A **Kincaid Ranch,** 44.33 109 ⇓P P 13 03 50.4 +1.8
baz=44,SNR=7.8
527A **Woodward Ranch** 44.38 110 ⇓P P 13 03 50.3 +1.3
baz=44,SNR=5.5
330A **Mertzon** 44.49 107 ⇑P P 13 03 50.8 +1.1
baz=44
133A **Hamilton Ranch** 44.59 103 ⇓P P 13 03 51.5 +1.1
baz=44
626A **Big Bend Ranch** 44.64 111 ⇓P P 13 03 52.4 +1.5
baz=44
528A **Cox Ranch, San** 44.76 109 ⇑P P 13 03 53.7 +1.7
baz=45,SNR=7.7
429A **Davenport Ranc** 44.79 108 ⇑P P 13 03 53.4 +1.3
baz=45
232A **Coleman** 44.82 105 ⇓P P 13 03 53.8 +1.5
baz=45
430A **Baggett Ranch,** 44.97 107 ⇓P P 13 03 54.8 +1.3
baz=45
TXAR **Lajitas Array** 45.04 111 P P 13 03 55.8 +1.6
TXAR **Lajitas Array** 45.04 111 P P 13 03 55.8 +1.6
2.2nm,0.8s,baz=332,slow=4.8,SNR=16
529A **Stev Forest Ra** 45.05 109 ⇓P P 13 03 55.9 +1.7
baz=45
627A **Terlingua Ranc** 45.07 110 ⇓P P 13 03 55.9 +1.5
baz=45,SNR=7.7
332A **Millersview** 45.19 105 ⇑P P 13 03 56.4 +1.1
baz=45
628A **Black Gap, Mar** 45.27 110 ⇑P P 13 03 57.4 +1.4
baz=45,SNR=9.7
431A **Sonora** 45.36 107 ⇑P P 13 03 57.9 +1.3
baz=45
530A **J-C Ranch, Com** 45.45 108 ⇓P P 13 03 58.9 +1.6
baz=45
333A **Richland Sprin** 45.60 104 ⇓P P 13 04 00.3 +1.7
baz=46
531A **Rocksprings** 45.82 107 ⇑P P 13 04 01.6 +1.4
baz=46
JCT **Junction City** 45.91 106 *e*P P 13 04 02.0 +1.0
21nm,0.8s
JCT **Junction City** 45.91 106 ⇑P P 13 04 02.2 +1.3
baz=46,SNR=12
334A **Lometa** 45.96 104 ⇑P P 13 04 02.7 +1.4
baz=46
USRK **Ussuriysk Arra** 46.01 285 P P 13 04 00.7 -0.8
0.5nm,0.3s,baz=38,slow=8.4,SNR=4.8
433A **Art** 46.02 105 ⇓P P 13 04 03.1 +1.3
baz=46
532A **Rocksprings** 46.15 106 ⇓P P 13 04 03.9 +1.0
baz=46
434A **Burnet** 46.37 104 ⇓P P 13 04 05.7 +1.1
baz=46
335A **Moody** 46.40 103 ⇑P P 13 04 05.9 +1.2
baz=46
631A **Perdido Creek** 46.43 108 ⇓P P 13 04 06.1 +1.1
baz=46
533A **Kerrville** 46.62 105 ⇓P P 13 04 08.2 +1.8
baz=46
632A **Uvalde** 46.73 107 ⇑P P 13 04 08.5 +1.2
baz=47
MDJ **Mudanjiang** 46.85 287 P P 13 04 07.0 -1.1
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,130nm,4.8s
534A **Blanco** 46.92 105 ⇑P P 13 04 10.2 +1.4
baz=47
732A **Laxson Ranch,** 47.29 107 ⇑P P 13 04 13.0 +1.4
baz=47
OXF **Oxford** 47.74 93 *e*P P 13 04 15.9 +0.8
comp=Z,21nm,0.8s
ARCES **ARCESS Array B** 50.50 1 P P 13 04 34.9 -0.7
ARCES **ARCESS Array B** 50.50 1 P P 13 04 34.9 -0.7
comp=Z,4.7nm,0.9s,baz=347,slow=6.7,SNR=7.3
KSRS **Korea Array** 53.16 282 P P 13 04 55.0 -0.8
comp=Z,1.6nm,0.8s,baz=23,slow=7.7,SNR=3.5
KSAR **Wonju Array Be** 53.19 282 P P 13 04 55.0 -1.0
ULN **Ulaanbaatar** 54.38 305 *e*P P 13 05 05.6 +1.0
comp=Z,54nm,2.8s
SONM **Songino Array** 54.67 306 P P 13 05 07.5 +0.8
SONM pP pP 13 05 36.6 +0.6
SONM **Songino Array** 54.67 306 P P 13 05 07.5 +0.8
comp=Z,4.4nm,0.7s,baz=43,slow=7.0,SNR=30
SONM pP pP 13 05 36.6 +0.6
comp=Z,1.7nm,0.8s,baz=38,slow=7.9,SNR=4.5
ZAA0 **Zalesovo Array** 57.19 324 *e*P P 13 05 24.3 -0.1
ZALV **Zalesovo Beam** 57.19 324 P P 13 05 23.9 -0.5
ZALV pP pP 13 05 53.6 -0.3
ZALV **Zalesovo Beam** 57.19 324 P P 13 05 23.9 -0.5
comp=Z,3.3nm,0.5s,baz=28,slow=7.1,SNR=17
ZALV pP pP 13 05 53.6 -0.3
comp=Z,1.3nm,0.7s,baz=27,slow=6.3,SNR=2.7
HHC **Hu-ho-hao-te** 58.10 297 *e*P P 13 05 30.9 -0.2
HHC sP sP 13 06 15.3 +0.9
HHC PP PP 13 07 42.4 +1.7
HHC ScP ScP 13 10 08.6 -1.0
HHC S S 13 13 19.3 -3.0
HHC ScS ScS 13 15 04.8 -3.5
HHC **Hu-ho-hao-te** 58.10 297 SS SS 13 17 13.5 -1.3
HHC pmax pmax
comp=Z,48nm,1.0s
HHC pmax pmax
comp=Z,230nm,6.7s
HHC LR LR
comp=N,260nm,16.6s
HHC LR LR
comp=E,180nm,16.9s
HHC LR LR
comp=Z,200nm,16.6s
NOA **NORSAR Array B** 58.41 9 P P 13 05 32.5 -0.4
NOA **NORSAR Array B** 58.41 9 P P 13 05 32.5 -0.4
comp=Z,0.6nm,0.6s,baz=350,slow=6.8,SNR=2.7
FINES **FINESS Array B** 58.63 1 P P 13 05 33.9 -0.4
FINES **FINESS Array B** 58.63 1 P P 13 05 33.9 -0.4
comp=Z,1.8nm,0.6s,baz=2.3,slow=7.0,SNR=7.6
HFS **Hagfors** 59.49 8 P P 13 05 38.4 -2.0
HFS **Hagfors** 59.49 8 P P 13 05 38.3 -2.0
comp=Z,0.9nm,0.4s,baz=40,slow=7.8,SNR=7.1
KURK **Kurchatov** 61.84 326 P P 13 05 56.2 -0.1
BVAR **Borovoye Array** 61.86 332 P P 13 05 55.6 -0.8
BVAR pP pP 13 06 24.4 -2.0
BVAR **Borovoye Array** 61.86 332 P P 13 05 55.6 -0.8
comp=Z,1.4nm,0.5s,baz=50,slow=8.9,SNR=9.2
BVAR pP pP 13 06 24.4 -2.0
comp=Z,1.3nm,0.8s,baz=26,slow=10,SNR=3.5
KURBB **Kurchatov Arra** 61.95 326 P P 13 05 56.2 -0.8
comp=Z,1.0nm,0.5s,baz=27,slow=6.9,SNR=6.2
EKA **Eskdalemuir Ar** 62.28 19 P P 13 05 59.2 0.0
EKA **Eskdalemuir Ar** 62.28 19 P P 13 05 59.2 0.0
comp=Z,0.8nm,0.3s,baz=335,slow=5.6,SNR=9.0
MKAR **Makanchi Array** 64.25 321 P P 13 06 11.6 -0.8
MKAR **Makanchi Array** 64.25 321 P P 13 06 11.6 -0.8
comp=Z,0.7nm,0.5s,baz=42,slow=7.0,SNR=9.2
WMQ **Urumqi** 65.10 316 *e*P P 13 06 20.0 +2.0
LZH **Lanzhou** 65.42 300 *e*P P 13 06 20.1 -0.2
LZH pP pP 13 06 50.8 +0.3
LZH sP sP 13 07 04.5 +0.5
LZH pmax pmax
comp=Z,15nm,1.0s
AKTO **Aktyubinsk** 66.86 339 P P 13 06 28.4 -0.7
AKTO **Aktyubinsk** 66.86 339 P P 13 06 28.4 -0.7
comp=Z,0.7nm,0.6s,baz=65,slow=6.1,SNR=3.6
ABKAR **Akbulak array** 67.64 337 *e*P P 13 06 32.9 -1.0
comp=Z,0.7nm,0.5s
AKASG **Malin Array Be** 69.38 359 P P 13 06 44.1 -0.6
AKASG **Malin Array Be** 69.38 359 P P 13 06 44.2 -0.6
comp=Z,0.5nm,0.4s,baz=7.8,slow=7.5,SNR=3.9
BOSA **Boshof** 148.34 3 PKPbc PKPbc 13 15 20.8 -1.5
BOSA **Boshof** 148.34 3 PKPbc PKPbc 13 15 20.8 -1.5
comp=Z,2.1nm,0.4s,baz=79,slow=1.9,SNR=8.5
QSPA **South Pole Qui** 150.06 180 *e*PKPbc PKPbc 13 15 24.7 -0.5
QSPA *e*PKPab PKPab 13 15 32.1 +0.4

VIE **15** *13:11:56.6±0.9, 42.73N×12.40E, h10km, mb4.0/16, ML4.2/17, Ms3.8/1, Error ellipse: s-maj=9.5km s-min=5.1km az=150.0*

NEIC **15** *13:11:58.0, 43.01N×12.28E, h9km, mb4.3/5, ML4.0(LDG), ML4.2(ROM), After ROM.*

NEIC Felt [V] at Collazzone, Fabro, Marsciano, Panicale and San Venanzo; [IV] at Arezzo, Castiglione del Lago, Chiusi, Citta della Pieve, Citta di Castello, Corciano, Deruta, Magione, Orvieto, Passignano sul Trasimeno, Perugia, Todi and Umbertide; [III] at Assisi, Bastia Umbra, Terni and Viterbo; [II] at Rieti and Rome. Felt throughout Umbria, in much of Marche, in northern Lazio and in parts of Abruzzo, Emilia-Romagna and Toscana.

ROM **15** *13:11:58.9±0.1, 43.01N×12.27E, h9km±1km, Ml4.3/43, Error ellipse: s-maj=1.1km s-min=0.9km az=59.0*

LDG **15** *13:11:59.5±0.1, 43.04N×12.31E, h10km, Ml4.0/18, Error ellipse: s-maj=4.1km s-min=2.9km az=177.0*

PDG **15** *13:11:59.3±0.6, 43.03N×12.23E, h16km, ML4.1/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

ISCJB **15** *13:11:59.4±0.2, 43.01N±0.01×12.24E±0.01, h18km±2km, mb4.2/34, MS3.5/4, Error ellipse: s-maj=2.1km s-min=1.4km az=19.8*

IDC **15** *13:11:59.2±0.7, 43.09N×12.24E, h0km, mb4.0/17, mb1 4.1/26, mb1mx4.0/40, mbtmp4.0/26, ML4.0/9, MS3.3/6, Ms1 3.4/6, ms1mx3.0/45, Error ellipse: s-maj=12.7km s-min=10.6km az=96.0*

STR **15** *13:11:59.4±0.3, 42.95N×12.24E, h5km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

CSEM **15** *13:11:59.2±0.1, 42.99N×12.23E, h5km, mb4.3/21, ML4.8/14, Ms3.8, Error ellipse: s-maj=2.0km s-min=1.5km az=22.0*

MOS **15** *13:11:59.5±1.0, 43.16N×12.31E, h11km, mb4.4/20, Error ellipse: s-maj=10.9km s-min=4.6km az=72.7*

GEN **15** *13:12:01.0, 43.01N×12.28E, h9km, ML4.2*

BEO **15** *13:12:02.9±1.0, 42.97N×12.44E, h0km, ML4.4/3*

PRU **15** *13:12:02.7, 43.08N×12.22E, h23km*

ISC 15 13:12:00.2±0.7, **42.99N**±0.01×**12.25E**±0.01, **h13**km±4km, **n626**, σ1$**56**/747, **mb4.2**/34, **MS3.5**/4, **55C-35D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGAB	**Montegabbione**	**0.13**	**233**	P	**Pg**	**13 12 02.8**	**-0.7**
MGAB				S	**Sg**	**13 12 05.8**	**-0.1**
MGAB	**Montegabbione**	**0.13**	**233**	⇑*i*P	**Pg**	**13 12 02.8**	**-0.7**
MGAB				Sg	**Sg**	**13 12 05.7**	**-0.2**
222μm,0.6s							
MGAB	**Montegabbione**	**0.13**	**233**	⇑*i*P	**Pg**	**13 12 02.8**	**-0.7**
MGAB				S	**Sg**	**13 12 05.8**	**-0.1**
SACS	**San Casciano d**	**0.29**	**241**	⇑*i*P	**Pg**	**13 12 05.8**	**-0.3**
SACS				Sg	**Sg**	**13 12 11.1**	**+0.9**
57μm,0.5s							
MURB	**Monte Urbino**	**0.34**	**36**	P	**Pg**	**13 12 05.8**	**-1.3**
MURB				S	**Sg**	**13 12 11.5**	**-0.2**
MURB	**Monte Urbino**	**0.34**	**36**	⇑*i*P	**Pg**	**13 12 05.8**	**-1.3**
MURB				Sg	**Sg**	**13 12 11.1**	**-0.6**
113μm,0.3s							
MURB	**Monte Urbino**	**0.34**	**36**	⇑*i*P	**Pg**	**13 12 05.8**	**-1.3**
MURB				Sg	**Sg**	**13 12 11.1**	**-0.6**
113μm,0.3s							
MURB				S	**Sg**	**13 12 11.5**	**-0.2**
CAFI	**Castiglion Fio**	**0.40**	**329**	⇓*i*P	**Pg**	**13 12 07.0**	**-1.1**
CAFI				Sg	**Sg**	**13 12 13.4**	**-0.1**
42μm,0.4s							
CAFI	**Castiglion Fio**	**0.40**	**329**	⇓*i*P	**Pg**	**13 12 07.0**	**-1.1**
CAFI				Sg	**Sg**	**13 12 13.4**	**-0.1**
42μm,0.4s							
CESX	**Cesi**	**0.45**	**147**	P	**Pg**	**13 12 08.1**	**-1.0**
CESX				S	**Sg**	**13 12 15.2**	**+0.1**
CESX	**Cesi**	**0.45**	**147**	Pg	**Pg**	**13 12 08.1**	**-1.0**
CESX				Sg	**Sg**	**13 12 15.5**	**+0.4**
24μm,0.6s							
CESX	**Cesi**	**0.45**	**147**	Pg	**Pg**	**13 12 08.1**	**-1.0**
CESX				S	**Sg**	**13 12 15.2**	**+0.1**
CESX				Sg	**Sg**	**13 12 15.5**	**+0.4**
24μm,0.6s							
CDCA	**Citt' di Caste**	**0.47**	**359**	P	**Pg**	**13 12 08.0**	**-1.4**
CDCA				S	**Sg**	**13 12 14.9**	**-0.8**
CDCA	**Citt' di Caste**	**0.47**	**359**	Pg	**Pg**	**13 12 08.0**	**-1.4**
CDCA				Sg	**Sg**	**13 12 14.8**	**-0.8**
32μm,0.7s							
CDCA	**Citt' di Caste**	**0.47**	**359**	Pg	**Pg**	**13 12 08.0**	**-1.4**
CDCA				S	**Sg**	**13 12 14.9**	**-0.8**
CESI	**CESI - Serrava**	**0.48**	**88**	P	**Pg**	**13 12 08.2**	**-1.4**
CESI				S	**Sg**	**13 12 15.3**	**-0.7**
CESI	**CESI - Serrava**	**0.48**	**88**	Pg	**Pg**	**13 12 08.2**	**-1.4**
CESI	**CESI - Serrava**	**0.48**	**88**	Pg	**Pg**	**13 12 08.2**	**-1.4**
CESI				S	**Sg**	**13 12 15.3**	**-0.7**
LATE	**Laterza**	**0.50**	**221**	P	**Pg**	**13 12 09.6**	**-0.4**
LATE	**Laterza**	**0.50**	**221**	Pg	**Pg**	**13 12 09.6**	**-0.4**
LATE	**Laterza**	**0.50**	**221**	Pg	**Pg**	**13 12 09.6**	**-0.4**
BADI	**Badiali**	**0.52**	**360**	P	**Pg**	**13 12 09.0**	**-1.4**

BADI S Sg 13 12 16.5 -0.8
BADI Badiali 0.52 360 Pg Pg 13 12 09.0 -1.4
BADI Sg Sg 13 12 16.5 -0.8
29µm,0.3s
BADI Badiali 0.52 360 Pg Pg 13 12 09.0 -1.4
BADI Sg Sg 13 12 16.5 -0.8
29µm,0.3s
PIEI Pieia 0.58 21 P Pg 13 12 10.1 -1.5
PIEI S Sb 13 12 20.9 +0.4
PIEI Pieia 0.58 21⇑*i*Pg Pg 13 12 10.1 -1.5
13µm,0.3s
PIEI Pieia 0.58 21⇑*i*Pg Pg 13 12 10.1 -1.5
13µm,0.3s
PIEI S Sb 13 12 20.9 +0.4
ARCI Arcidosso 0.59 257 Pg Pg 13 12 10.9 -0.7
ARCI Sg Sg 13 12 18.9 -0.5
5µm,0.7s
ARCI Arcidosso 0.59 257 Pg Pg 13 12 10.9 -0.7
ARCI Sg Sg 13 12 18.9 -0.5
5µm,0.7s
NRCA Norcia 0.65 104 P Pg 13 12 11.3 -1.6
NRCA Norcia 0.65 104⇓*i*Pg Pg 13 12 11.3 -1.6
NRCA Sg Sg 13 12 21.4 -0.1
9µm,0.6s
NRCA Norcia 0.65 104⇓*i*Pg Pg 13 12 11.3 -1.6
NRCA Sg Sg 13 12 21.4 -0.1
9µm,0.6s
CRE Caprese Michel 0.67 341 P Pg 13 12 11.7 -1.5
CRE S Sg 13 12 21.8 -0.2
CRE Caprese Michel 0.67 341 Pg Pg 13 12 11.7 -1.5
CRE Sg Sg 13 12 22.0 0.0
CRE Caprese Michel 0.67 341 Pg Pg 13 12 11.7 -1.5
CRE S Sg 13 12 21.8 -0.2
MNS Montasola 0.68 152 Pg Pg 13 12 12.2 -1.2
MNS Sg Sg 13 12 22.9 +0.5
MNS Montasola 0.68 152 Pg Pg 13 12 12.2 -1.2
MNS Sg Sg 13 12 22.9 +0.5
LNSS Leonessa 0.70 123 P Pg 13 12 12.2 -1.5
LNSS S Sg 13 12 23.1 +0.1
LNSS Leonessa 0.70 123⇓*i*Pg Pg 13 12 12.2 -1.5
LNSS Sg Sg 13 12 23.4 +0.5
19µm,0.5s
LNSS Leonessa 0.70 123⇓*i*Pg Pg 13 12 12.2 -1.5
LNSS S Sg 13 12 23.1 +0.1
LNSS Sg Sg 13 12 23.4 +0.5
19µm,0.5s
ARVD Arcevia 0.72 45⇑*i*Pg Pg 13 12 12.3 -1.8
ARVD Sg Sg 13 12 22.9 -0.6
9µm,0.8s
ARVD Arcevia 0.72 45⇑*i*Pg Pg 13 12 12.3 -1.8
ARVD Sg Sg 13 12 22.9 -0.6
9µm,0.8s
FSSB Fossombrone 0.80 29 P Pg 13 12 13.8 -1.8
FSSB Fossombrone 0.80 29⇑*i*Pg Pg 13 12 13.9 -1.8
11µm,0.4s
FSSB Fossombrone 0.80 29⇑*i*Pg Pg 13 12 13.9 -1.8
11µm,0.4s
RM29 Verrico (Monte 0.82 121 Pg Pg 13 12 14.4 -1.7
134µm,1.7s
CSNT Castellina Chi 0.85 305 Pg Pg 13 12 15.0 -1.6
5µm,0.6s
CSNT Castellina Chi 0.85 305 Pg Pg 13 12 15.0 -1.6
5µm,0.6s
ASQU Asqua 0.87 338 Pg Pg 13 12 15.8 -1.3
ASQU Sg Sg 13 12 28.4 -0.1
18µm,0.6s
ASQU Asqua 0.87 338 Pg Pg 13 12 15.8 -1.3
ASQU Sg Sg 13 12 28.4 -0.1
18µm,0.6s
SMA1 SAN MARTINO 0.88 114 Pg Pg 13 12 15.4 -1.7
20µm,0.5s
T0107 San Pelino (Ca 0.90 125 Pg Pg 13 12 15.7 -1.8
GRFL Gerfalco 0.95 280 Pg Pb 13 12 17.1 -1.4
527nm,0.6s
GRFL Gerfalco 0.95 280 Pg Pb 13 12 17.1 -1.4
527nm,0.6s
RSM Repubblica di 0.95 9 Pg Pb 13 12 17.7 -0.8
6µm,0.8s
RSM Repubblica di 0.95 9 Pg Pb 13 12 17.7 -0.8
6µm,0.8s
FIAM Fiamignano 0.96 138 Pg Pb 13 12 16.9 -1.9
13µm,0.7s
FIAM Fiamignano 0.96 138 Pg Pb 13 12 16.9 -1.9
13µm,0.7s
CAMP Campotosto 0.97 118 Pg Pb 13 12 16.8 -2.0
752nm,0.8s
CAMP Campotosto 0.97 118 Pg Pb 13 12 16.8 -2.0
752nm,0.8s
MAON Monte Argentar 1.00 236 Pg Pb 13 12 18.3 -1.0
2µm,0.5s
MAON Monte Argentar 1.00 236 Pg Pb 13 12 18.3 -1.0
2µm,0.5s
SENI Senigallia 1.01 45 Pg Pb 13 12 19.2 -0.3
6µm,0.8s
SENI Senigallia 1.01 45 Pg Pb 13 12 19.2 -0.3
6µm,0.8s
T0104 Madonna delle 1.02 128 Pg Pb 13 12 17.7 -2.0
MTCE Montecelio 1.03 159 Pg Pb 13 12 18.7 -1.2
14µm,1.3s
MTCE Montecelio 1.03 159 Pg Pb 13 12 18.7 -1.2
14µm,1.3s
CASP Castiglione de 1.04 259 Pg Pb 13 12 18.7 -1.3
CASP Sg Sb 13 12 33.7 +0.2
3µm,1.0s
CASP Castiglione de 1.04 259 Pg Pb 13 12 18.7 -1.3
CASP Sg Sb 13 12 33.7 +0.2
3µm,1.0s
OFFI Offida 1.05 93 Pg Pb 13 12 19.5 -0.8
OFFI Offida 1.05 93 Pg Pb 13 12 19.5 -0.8
TERO Teramo 1.06 110 Pg Pb 13 12 18.3 -2.1
8µm,0.7s
TERO Teramo 1.06 110 Pg Pb 13 12 18.3 -2.1
8µm,0.7s
FIR Firenze 1.07 318 Pg Pb 13 12 19.9 -0.6
9µm,0.6s
FIR Firenze 1.07 318 Pg Pb 13 12 19.9 -0.6
9µm,0.6s
VMG Vicchio 1.10 332 Pg Pb 13 12 20.2 -0.8
247nm,0.5s
VMG Vicchio 1.10 332 Pg Pb 13 12 20.2 -0.8
247nm,0.5s
AOI Ancona 1.14 60 Pg Pb 13 12 20.6 -1.1
6µm,0.7s
AOI Ancona 1.14 60 Pg Pb 13 12 20.6 -1.1
6µm,0.7s
CERT Cerreto 1.17 152 Pg Pn 13 12 20.5 -1.8
10µm,0.6s
CERT Cerreto 1.17 152 Pg Pn 13 12 20.5 -1.8
10µm,0.6s
ROM9 Roma 1.18 170 Pg Pn 13 12 22.1 -0.2
9µm,0.9s
ROM9 Roma 1.18 170 Pg Pn 13 12 22.1 -0.2
9µm,0.9s
RMP Rome, Mte Porz 1.23 164 Pg Pn 13 12 22.3 -0.7
7µm,0.7s
RMP Rome, Mte Porz 1.23 164 Pg Pn 13 12 22.3 -0.7
7µm,0.7s
CRMI Carmignano 1.23 311 Pg Pn 13 12 22.1 -1.0
CRMI Carmignano 1.23 311 Pg Pn 13 12 22.1 -1.0
GUMA Gualdo di Mace 1.24 86 Pg Pn 13 12 14.1 -9.1
23µm,0.5s
MA9 Marino 1.26 166 Pg Pn 13 12 22.8 -0.6
6µm,0.5s
MA9 Marino 1.26 166 Pg Pn 13 12 22.8 -0.6
6µm,0.5s
RDP Rocca di Papa 1.28 164 Pg Pn 13 12 23.4 -0.4
12µm,0.5s
RDP Rocca di Papa 1.28 164 Pg Pn 13 12 23.4 -0.4
12µm,0.5s
PTQR Pietraquaria 1.29 138 Pg Pn 13 12 22.2 -1.7
PTQR Pietraquaria 1.29 138 Pg Pn 13 12 22.2 -1.7
VCEL Villa Celiera 1.31 116 Pg Pn 13 12 23.3 -1.0
8µm,0.8s
VCEL Villa Celiera 1.31 116 Pg Pn 13 12 23.3 -1.0
8µm,0.8s
GUAR Guarcino 1.43 146 Pg Pn 13 12 25.0 -0.9
3µm,0.5s
GUAR Guarcino 1.43 146 Pg Pn 13 12 25.0 -0.9
3µm,0.5s
FNVD Fontana Vidola 1.43 326 Pg Pn 13 12 25.2 -0.8
FNVD Fontana Vidola 1.43 326 Pg Pn 13 12 25.2 -0.8
PII Pisa 1.46 301 Pg Pn 13 12 25.5 -0.6
PII Pisa 1.46 301 Pg Pn 13 12 25.5 -0.6
INTR Introdacqua 1.57 128 Pg Pn 13 12 28.3 +0.5
5µm,0.8s
INTR Introdacqua 1.57 128 Pg Pn 13 12 28.3 +0.5
5µm,0.8s
MAIM Mastiano 1.58 306 Pg Pn 13 12 27.0 -0.9
1µm,0.8s
MAIM Mastiano 1.58 306 P Pn 13 12 26.0 -1.9
MAIM Mastiano 1.58 306 Pg Pn 13 12 27.0 -0.9
1µm,0.8s
MAIM S Sn 13 12 48.2 0.0
BDI Bagni Di Lucca 1.61 312 Pg Pn 13 12 27.2 -1.2
4µm,1.3s
GIUL Giuliano Di Ro 1.61 152 Pg Pn 13 12 28.0 -0.4
2µm,0.6s
GIUL Giuliano Di Ro 1.61 152 Pg Pn 13 12 28.0 -0.4
2µm,0.6s
ZCCA Zocca 1.65 326 Pg Pb 13 12 29.7 -0.7
4µm,1.0s
ZCCA Zocca 1.65 326 Pg Pb 13 12 29.7 -0.7
4µm,1.0s
POFI Posta Fibreno 1.67 139 Pg Pn 13 12 29.5 +0.3
2µm,0.9s
POFI Posta Fibreno 1.67 139 Pg Pn 13 12 29.5 +0.3
2µm,0.9s
VLC Villacollemand 1.79 311 *e*Pn Pn 13 12 29.6 -1.2
VLC Villacollemand 1.79 311 Pg Pn 13 12 29.9 -0.9
2µm,1.0s
VLC Villacollemand 1.79 311 *e*Pn Pn 13 12 29.6 -1.2
GSCL Gusciola 1.82 319 Pg Pn 13 12 30.7 -0.5
ERBM Eremo 1.95 318 Pg Pn 13 12 33.0 -0.1
VALM Valbona 1.99 314 P Pn 13 12 32.7 -0.9
VALM S Sn 13 12 58.6 +0.2
BACM Baccana 2.04 310 P Pn 13 12 33.3 -0.9
BACM S Sn 13 12 59.5 -0.1
CODM Codolo 2.23 310 P Pn 13 12 35.9 -1.0
MSSA Maissana 2.39 305 Pg Pn 13 12 38.9 -0.1
447nm,0.6s
SC2M Scurtabo 2.42 307 P Pn 13 12 38.3 -1.2
PGF Pioggiola 2.43 261 *e*Pn Pn 13 12 39.1 -0.6
SNR=1.0
PGF *e*Sn Sn 13 13 07.0 -2.4
84nm,0.5s
PGF Pioggiola 2.43 261 *e*Pn Pn 13 12 39.1 -0.6
PGF *e*Sn Sn 13 13 07.0 -2.4
PGF Pioggiola 2.43 261 *e*Pn Pn 13 12 39.1 -0.6
PGF *e*Sn Sn 13 13 07.0 -2.4
42nm,0.5s
NVLJ Novalja 2.46 49 *i* Pn Pn 13 12 40.0 0.0
NVLJ Sn Sn 13 13 09.5 -0.5
NVLJ Novalja 2.46 49 *i* Pn Pn 13 12 40.0 0.0
NVLJ Sn Sn 13 13 09.4 -0.5
SKDS Skadanscina 2.85 26 *i* Pn Pn 13 12 44.5 -0.9
SKDS Skadanscina 2.85 26 *i* Pn Pn 13 12 44.5 -0.9
UDBI Udbina 2.97 58 *e*Pn Pn 13 12 47.2 0.0
UDBI Sn Sn 13 13 24.1 +1.5
UDBI Udbina 2.97 58 *e*Pn Pn 13 12 47.1 0.0
UDBI Sn Sn 13 13 24.1 +1.5
DDS Dosso del Somm 2.99 346 *e*Pn Pn 13 12 47.2 -0.2
MS1 Monte Sant'Ang 3.02 114 *e*Pn Pb 13 12 52.4 -1.5
PANI Panarotta 3.13 348 *e*Pn Pn 13 12 49.3 -0.1
CEY Cerknica 3.16 29 *i* Pn Pn 13 12 49.2 -0.5
CEY Cerknica 3.16 29 *i* Pn Pn 13 12 49.2 -0.5
VOY Vojsko 3.26 21 *e*Pn Pn 13 12 49.9 -1.2
VOY Vojsko 3.26 21 *e*Pn Pn 13 12 49.9 -1.2
LJU Ljubljana 3.46 27 *i* Pn Pn 13 12 53.8 0.0
LJU *e*Sn Sn 13 13 34.0 -0.6
LJU
comp=Z,372nm,0.7s
LJU Ljubljana 3.46 27 *i* Pn Pn 13 12 53.8 0.0
LJU *e*Sn Sn 13 13 34.0 -0.6
comp=Z,372nm,0.7s
SAOF Saorge 3.56 288 P Pn 13 12 54.5 -0.6
SAOF S Sn 13 13 40.3 +3.3
SAOF Saorge 3.56 288 P Pn 13 12 54.5 -0.6
SAOF S Sn 13 13 40.3 +3.3
SBF Sospel 3.61 286 *e*Pn Pn 13 12 54.4 -1.5
SNR=1.0
SBF *e*Sn Sn 13 13 34.6 -3.9
comp=Z,249nm,0.6s
SBF Sospel 3.61 286 *e*Pn Pn 13 12 54.4 -1.5
SBF *e*Sn Sn 13 13 34.6 -3.9
SBF Sospel 3.61 286 *e*Pn Pn 13 12 54.4 -1.5
SNR=1.0
SBF *e*Sn Sn 13 13 34.6 -3.9
comp=Z,124nm,0.6s
REVF Revere 3.64 284 P Pn 13 12 56.4 +0.2
REVF S Sn 13 13 42.7 +3.7
REVF Revere 3.64 284 P Pn 13 12 56.4 +0.2
AUTN L'Aution 3.65 288 P Pn 13 12 56.0 -0.5
AUTN S Sn 13 13 44.2 +4.6
AUTN L'Aution 3.65 288 P Pn 13 12 56.0 -0.5
LUCF Luceram 3.68 286 P Pn 13 12 56.5 -0.4
LUCF Luceram 3.68 286 P Pn 13 12 56.5 -0.4
ABTA Abfaltersbach 3.76 3⇓*i*Pn Pn 13 12 58.5 +0.5
comp=Z,267nm,0.7s,SNR=54
ABTA Abfaltersbach 3.76 3 Pn Pn 13 12 58.5 +0.5
comp=Z,267nm,0.7s,SNR=54
MYKA Terra Mystica 3.77 15⇓*i*Pn Pn 13 12 58.3 +0.2
comp=Z,67nm,0.6s,SNR=14
MYKA ⇓*e*Sn Sn 13 13 44.6 +2.2
comp=Z,151nm,0.7s
MYKA Terra Mystica 3.77 15 Pn Pn 13 12 58.3 +0.2
comp=Z,67nm,0.6s,SNR=14
MYKA Sn Sn 13 13 44.6 +2.2
comp=Z,151nm,0.7s
TOUF Mont Tournerai 3.78 287 P Pn 13 12 58.0 -0.3
TOUF S Sn 13 13 46.6 +3.9
TOUF Mont Tournerai 3.78 287 P Pn 13 12 58.0 -0.3
MVIF Mont Vial 3.82 285 P Pn 13 12 58.6 -0.2
MVIF Mont Vial 3.82 285 P Pn 13 12 58.6 -0.2
OBKA Obir 3.88 24⇓*e*Pn Pn 13 12 59.3 -0.3
comp=Z,48nm,0.4s
OBKA ⇑*e*Sn Sn 13 13 48.2 +3.1
comp=Z,262nm,0.6s
OBKA Obir 3.88 24 Pn Pn 13 12 59.3 -0.3
comp=Z,48nm,0.4s
OBKA Sn Sn 13 13 48.2 +3.1
comp=Z,262nm,0.6s
BAI Bari 3.93 117 *e*Pn Pn 13 13 03.1 +3.0
BLY Banja Luka 3.98 62 *e*Pn Pn 13 13 02.0 +1.2
BLY *e*Sn Sn 13 13 47.5 +0.2
BLY Banja Luka 3.98 62 *e*Pn Pn 13 13 02.0 +1.2
BLY *e*Sn Sn 13 13 47.5 +0.2
CALN Calern 3.98 283 P Pn 13 13 00.4 -0.6
CALN Calern 3.98 283 P Pn 13 13 00.4 -0.6
STON Ston 4.00 90 *e*Pn Pn 13 13 01.7 +0.5
STON *e*Sn Sn 13 13 46.6 -1.3
STON Ston 4.00 90 *e*Pn Pn 13 13 01.7 +0.5
STON *e*Sn Sn 13 13 46.6 -1.3
TUE Stuetta 4.05 330 *e*Pn Pn 13 13 02.5 +0.5
TUE Stuetta 4.05 330 *e*Pn Pn 13 13 02.5 +0.5
VSL Villasalto 4.11 213 *e*Pn Pn 13 13 03.3 +0.7
VSL Villasalto 4.11 213 *e*Pn Pn 13 13 03.3 +0.7
FRF La Foret Royal 4.13 280 *e*Pn Pn 13 13 02.0 -0.9
SNR=1.0
FRF *e*Sn Sn 13 13 47.2 -3.9
comp=Z,51nm,0.6s
FRF La Foret Royal 4.13 280 *e*Pn Pn 13 13 02.0 -0.9
FRF *e*Sn Sn 13 13 47.2 -3.9
FRF La Foret Royal 4.13 280 *e*Pn Pn 13 13 02.0 -0.9
SNR=1.0
FRF *e*Sn Sn 13 13 47.2 -3.9
comp=Z,26nm,0.6s
DAVOX Davos/Dischmat 4.15 337 Pn Pn 13 13 04.8 +1.5
DAVOX Sn Sn 13 13 51.9 +0.1
DAVOX Davos/Dischmat 4.15 337 P Pn 13 13 04.8 +1.5
comp=Z,29nm,0.3s
DAVOX S Sn 13 13 51.9 +0.1
comp=Z,18nm,0.3s
DAVOX Davos/Dischmat 4.15 337 Pn Pn 13 13 04.8 +1.5
comp=Z,28nm,0.3s,baz=140,slow=11,SNR=101
DAVOX Sn Sn 13 13 51.9 +0.1
comp=Z,18nm,0.3s,baz=156,slow=22,SNR=9.5
KBA Koelnbreinsper 4.16 10⇑*i*Pn Pn 13 13 03.9 +0.4
comp=Z,251nm,0.7s,SNR=54
KBA ⇓*e*Sn Sn 13 13 56.5 +4.4
comp=Z,171nm,0.5s
KBA Koelnbreinsper 4.16 10 Pn Pn 13 13 03.9 +0.4
comp=Z,251nm,0.7s,SNR=54
KBA Sn Sn 13 13 56.5 +4.4
comp=Z,171nm,0.5s
FETA Feichten 4.17 346⇓*i*Pn Pn 13 13 04.6 +0.9
comp=Z,128nm,0.8s,SNR=38
FETA Feichten 4.17 346 Pn Pn 13 13 04.6 +0.9
comp=Z,128nm,0.8s,SNR=38
SOKA Soboth 4.18 27⇑*i*Pn Pn 13 13 03.2 -0.6
comp=Z,15nm,0.4s
SOKA ⇑*e*Sn Sn 13 13 56.0 +3.4
comp=Z,91nm,0.6s
SOKA Soboth 4.18 27 Pn Pn 13 13 03.2 -0.6
comp=Z,15nm,0.4s
SOKA Sn Sn 13 13 56.0 +3.4
comp=Z,91nm,0.6s
SURF Saint Ours 4.21 293 P Pn 13 13 04.4 +0.2
SURF Saint Ours 4.21 293 P Pn 13 13 04.4 +0.2
LMR La Mourre 4.21 277 *e*Pn Pn 13 13 02.9 -1.2
SNR=1.0
LMR *e*Sn Sn 13 13 49.0 -4.1
comp=Z,35nm,0.4s
LMR La Mourre 4.21 277 *e*Pn Pn 13 13 02.9 -1.2
LMR *e*Sn Sn 13 13 49.0 -4.1
LMR La Mourre 4.21 277 *e*Pn Pn 13 13 02.9 -1.2
SNR=1.0
LMR *e*Sn Sn 13 13 49.0 -4.1
comp=Z,18nm,0.4s
OG22 Abries 4.25 297 P Pn 13 13 05.3 +0.6
OG22 Abries 4.25 297 P Pn 13 13 05.3 +0.6
WTTA Wattenberg 4.30 354⇑*i*Pn Pn 13 13 06.7 +1.3
comp=Z,35nm,0.2s,SNR=17
WTTA Wattenberg 4.30 354 Pn Pn 13 13 06.7 +1.3
comp=Z,35nm,0.2s,SNR=17
MBDF Montbardon 4.33 296 *e*Pn Pn 13 13 05.4 -0.4
SNR=1.0
MBDF *e*Sn Sn 13 13 52.2 -3.9
comp=Z,134nm,0.6s
MBDF Montbardon 4.33 296 *e*Pn Pn 13 13 05.4 -0.4
MBDF *e*Sn Sn 13 13 52.2 -3.9
MBDF Montbardon 4.33 296 *e*Pn Pn 13 13 05.4 -0.4
SNR=1.0
MBDF *e*Sn Sn 13 13 52.2 -3.9
comp=Z,67nm,0.6s
WATA Walderalm 4.37 354⇑*i*Pn Pn 13 13 07.9 +1.5
comp=Z,36nm,0.2s,SNR=22
WATA Walderalm 4.37 354 Pn Pn 13 13 07.9 +1.5
comp=Z,36nm,0.2s,SNR=22
MOTA Moosalm 4.43 350⇑*e*Pn Pn 13 13 08.4 +1.2
comp=Z,126nm,0.6s,SNR=69
MOTA ⇑*e*Sn Sn 13 14 02.6 +3.9
comp=Z,196nm,0.7s
MOTA Moosalm 4.43 350 Pn Pn 13 13 08.4 +1.2
comp=Z,126nm,0.6s,SNR=69
MOTA Sn Sn 13 14 02.6 +3.9
comp=Z,196nm,0.7s
PE1 Pezze di Greco 4.43 118 *e*Pn Pn 13 13 08.5 +1.4
TREB Trebinje 4.49 91 *e*Pn Pn 13 13 09.1 +1.2
TREB Trebinje 4.49 91 *e*Pn Pn 13 13 09.1 +1.2
TAR1 Taranto 4.50 121 *e*Pn Pn 13 13 10.5 +2.5
BNI Bardonecchia 4.52 299 *e*Pn Pn 13 13 08.5 +0.2
BNI Bardonecchia 4.52 299 *e*Pn Pn 13 13 08.5 +0.2
TAVF Tavernes 4.56 280 P Pn 13 13 09.1 +0.2
TAVF Tavernes 4.56 280 P Pn 13 13 09.1 +0.2
DAVA Damuels 4.61 340⇓*e*Pn Pn 13 13 11.4 +1.7
comp=Z,36nm,0.3s,SNR=22
DAVA ⇑*e*Sn Sn 13 14 06.0 +2.8
comp=Z,395nm,0.6s
DAVA Damuels 4.61 340 Pn Pn 13 13 11.4 +1.7
comp=Z,36nm,0.3s,SNR=22
DAVA Sn Sn 13 14 06.0 +2.8
comp=Z,395nm,0.6s
BRY Bratogost 4.62 89⇑*i*Pn Pn 13 13 10.9 +1.1
BRY *e*Sn Sn 13 14 03.6 +0.3
BRY Bratogost 4.62 89⇑*i*Pn Pn 13 13 10.9 +1.1
BRY *e*Sn Sn 13 14 03.6 +0.3
RETA Reutte 4.62 347⇑*i*Pn Pn 13 13 11.5 +1.8
comp=Z,20nm,0.2s,SNR=15
RETA Reutte 4.62 347 Pn Pn 13 13 11.5 +1.8
comp=Z,20nm,0.2s,SNR=15
HCY Herceg Novi 4.63 95⇑*i*Pn Pn 13 13 09.9 +0.1
HCY *e*Sn Sn 13 14 03.8 +0.3
HCY Herceg Novi 4.63 95⇑*i*Pn Pn 13 13 09.9 +0.1
HCY *e*Sn Sn 13 14 03.8 +0.3
LPG La Plagne 4.68 304 *e*Pn Pn 13 13 11.0 +0.3
SNR=1.0
LPG *e*Sn Sn 13 14 00.2 -4.8
comp=Z,93nm,0.7s,SNR=1.0
LPG La Plagne 4.68 304 *e*Pn Pn 13 13 11.0 +0.3
LPG *e*Sn Sn 13 14 00.2 -4.8
LPG La Plagne 4.68 304 *e*Pn Pn 13 13 11.0 +0.3
SNR=1.0
LPG *e*Sn Sn 13 14 00.2 -4.8
OG25 Le Caire 4.69 289 P Pn 13 13 10.8 +0.1
OG25 Le Caire 4.69 289 P Pn 13 13 10.8 +0.1
LPL La Plagne 4.70 304 *e*Pn Pn 13 13 11.1 +0.1
SNR=1.0
LPL *e*Sn Sn 13 14 00.7 -4.7
SNR=1.0
LPL *e*Sg Sg 13 14 27.4 -3.6
comp=Z,31nm,0.5s,SNR=1.0
LPL La Plagne 4.70 304 *e*Pn Pn 13 13 11.1 +0.1
LPL *e*Sn Sn 13 14 00.7 -4.7
LPL *e*Sg Sg 13 14 27.4 -3.6
LPL La Plagne 4.70 304 *e*Pn Pn 13 13 11.1 +0.1
SNR=1.0
LPL *e*Sn Sn 13 14 00.7 -4.7
STOF St-Etienne Org 4.72 284 P Pn 13 13 12.3 +1.2
STOF St-Etienne Org 4.72 284 P Pn 13 13 12.3 +1.2
BERF Bertagne 4.81 276 P Pn 13 13 12.3 -0.1
BERF Bertagne 4.81 276 P Pn 13 13 12.3 -0.1
LEPF PUYLOUBIER 4.81 279 P Pn 13 13 12.1 -0.2
LEPF PUYLOUBIER 4.81 279 P Pn 13 13 12.1 -0.2
VILF Villemus 4.84 282 P Pn 13 13 13.0 +0.3
VILF Villemus 4.84 282 P Pn 13 13 13.0 +0.3
ARSA Arzberg 4.85 27⇑*i*Pn Pn 13 13 12.3 -0.5
comp=Z,26nm,0.4s,SNR=9.2
ARSA Arzberg 4.85 27 Pn Pn 13 13 12.3 -0.5
comp=Z,26nm,0.4s,SNR=9.2
UPM Unac-Piva 4.88 85⇑*i*Pn Pn 13 13 14.4 +1.0
UPM *e*Sn Sn 13 14 10.3 +0.5
UPM Unac-Piva 4.88 85⇑*i*Pn Pn 13 13 14.4 +1.0
UPM *e*Sn Sn 13 14 10.3 +0.5
NKME Niksic 4.93 90⇓*i*Pn Pn 13 13 14.2 +0.2
NKME *e*Sn Sn 13 14 10.7 -0.2
NKME Niksic 4.93 90⇓*i*Pn Pn 13 13 14.2 +0.2
NKME *e*Sn Sn 13 14 10.7 -0.2
GDM Grand'Maison 4.94 299 P Pn 13 13 14.3 +0.1
GDM Grand'Maison 4.94 299 P Pn 13 13 14.3 +0.1
BUM Brajici-Budva 4.95 96⇑*i*Pn Pn 13 13 15.0 +0.8
BUM *e*Sn Sn 13 14 12.0 +0.6
BUM Brajici-Budva 4.95 96⇑*i*Pn Pn 13 13 15.0 +0.8
BUM *e*Sn Sn 13 14 12.0 +0.6
NKY Niksic 4.96 90⇓*i*Pn Pn 13 13 15.6 +1.2
NKY *e*Sn Sn 13 14 11.4 -0.2
NKY Niksic 4.96 90⇓*i*Pn Pn 13 13 15.6 +1.2
NKY *e*Sn Sn 13 14 11.4 -0.2
SMRF Simiane la Rot 4.96 284 *e*Pn Pn 13 13 14.5 +0.2
SNR=1.0
SMRF Simiane la Rot 4.96 284 *e*Pn Pn 13 13 14.5 +0.2
SMRF Simiane la Rot 4.96 284 *e*Pn Pn 13 13 14.5 +0.2
SNR=1.0
ORIF Oris-en-Rattie 4.99 295 *e*P Pn 13 13 16.4 +1.6
SNR=1.0
ORIF *e*Sn Sn 13 14 07.3 -5.0
comp=Z,57nm,0.6s,SNR=1.0
ORIF Oris-en-Rattie 4.99 295 *e*P Pn 13 13 16.4 +1.6
ORIF *e*Sn Sn 13 14 07.3 -5.0
ORIF Oris-en-Rattie 4.99 295 *e*P Pn 13 13 16.4 +1.6
SNR=1.0
ORIF *e*Sn Sn 13 14 07.3 -5.0
GELF Grande-Etoile 5.00 277 P Pn 13 13 15.3 +0.3
GELF Grande-Etoile 5.00 277 P Pn 13 13 15.3 +0.3
TREF Trevaresse 5.05 280 P Pn 13 13 15.3 -0.3
TREF Trevaresse 5.05 280 P Pn 13 13 15.3 -0.3
MOA Molln 5.06 16⇓*i*Pn Pn 13 13 16.4 +0.6
comp=Z,144nm,0.5s,SNR=37
MOA ⇓*i*Sn Sn 13 14 18.4 +4.3
MOA Molln 5.06 16 Pn Pn 13 13 16.4 +0.6
comp=Z,144nm,0.5s,SNR=37
MOA Sn Sn 13 14 18.4 +4.3
PDG Podgorica 5.19 94 *e*Pn Pn 13 13 18.3 +0.8
PDG *e*Sn Sn 13 14 15.3 -1.9
PDG Podgorica 5.19 94⇑*i*Pn Pn 13 13 18.0 +0.5
PDG *e*Sn Sn 13 14 17.9 +0.7
TTG Podgorica 5.19 94⇑*i*Pn Pn 13 13 18.0 +0.5
TTG *e*Sn Sn 13 14 17.9 +0.7
GRN Grenoble 5.20 298 P Pn 13 13 18.4 +0.7
GRN Grenoble 5.20 298 P Pn 13 13 18.4 +0.7
PLE Pljevlja 5.23 84⇑*i*Pn Pn 13 13 19.7 +1.5
PLE *e*Sn Sn 13 14 19.1 +0.7
PLE Pljevlja 5.23 84⇑*i*Pn Pn 13 13 19.7 +1.5
PLE *e*Sn Sn 13 14 19.1 +0.7
ULC Ulcinj 5.27 99⇓*i*Pn Pn 13 13 19.3 +0.6

ULC eSn Sn 13 14 19.7 +0.4
ULC Ulcinj 5.27 99⇓ iPn Pn 13 13 19.3 +0.6
ULC eSn Sn 13 14 19.7 +0.4
BBLS Lazići 5.28 78 ePn Pn 13 13 20.2 +1.4
BBLS Lazići 5.28 78 ePn Pn 13 13 20.2 +1.4
TEKS Tekeris 5.50 71 ePn Pn 13 13 22.6 +0.9
TEKS Tekeris 5.50 71 ePn Pn 13 13 22.6 +0.9
CONA Conrad Observa 5.55 26⇑ ePn Pn 13 13 22.1 -0.4
comp=Z,19nm,0.4s,SNR=11
CONA Conrad Observa 5.55 26 Pn Pn 13 13 22.1 -0.4
comp=Z,19nm,0.4s,SNR=11
PKSM Moragy 5.58 53⇓ iP Pn 13 13 24.3 +1.4
PKSM Moragy 5.58 53⇓ iP Pn 13 13 24.3 +1.4
BBS Basel-Blauen 5.59 325 P Pn 13 13 23.2 +0.2
BEY Berane 5.61 89⇓ iPn Pn 13 13 24.8 +1.4
BEY eSn Sn 13 14 28.1 +0.3
IVA Berane 5.61 89⇓ iPn Pn 13 13 24.8 +1.4
IVA eSn Sn 13 14 28.1 +0.3
CABF La Chapelle 5.69 312 ePn Pn 13 13 24.4 0.0
SNR=1.0
CABF La Chapelle 5.69 312 ePn Pn 13 13 24.4 0.0
CABF La Chapelle 5.69 312 ePn Pn 13 13 24.4 0.0
SNR=1.0
PVY Plav 5.69 91⇓ iPn Pn 13 13 25.5 +1.1
PVY eSn Sn 13 14 30.2 +0.6
PVY Plav 5.69 91⇓ iPn Pn 13 13 25.5 +1.1
PVY eSn Sn 13 14 30.2 +0.6
FELD Feldberg im Sc 5.73 330 P Pn 13 13 25.2 +0.2
FELD Feldberg im Sc 5.73 330 P Pn 13 13 25.2 +0.2
DIVS Divibare 5.74 76 ePn Pn 13 13 25.9 +0.8
DIVS Divibare 5.74 76 ePn Pn 13 13 25.9 +0.8
VIVF Saint-Julien-l 5.78 291 ePn Pn 13 13 25.6 -0.1
SNR=1.0
VIVF Saint-Julien-l 5.78 291 ePn Pn 13 13 25.6 -0.1
VIVF Saint-Julien-l 5.78 291 ePn Pn 13 13 25.6 -0.1
SNR=1.0
IVAS Ivanjica 5.80 82 ePn Pn 13 13 27.6 +1.7
IVAS Ivanjica 5.80 82 ePn Pn 13 13 27.6 +1.7
LOMF Lomont 5.80 321 P Pn 13 13 26.4 +0.4
LOMF Lomont 5.80 321 P Pn 13 13 26.4 +0.4
GERES GERESS Array B 5.94 9 Pn Pn 13 13 27.0 -0.9
GERES eSn Sn 13 14 33.4 -2.5
GERES GERESS Array B 5.94 9 P Pn 13 13 27.0 -0.9
comp=Z,11nm,0.3s
GERES Sn Sn 13 14 33.3 -2.5
GERES GERESS Array B 5.94 9 Pn Pn 13 13 27.0 -0.9
comp=Z,11nm,0.3s,baz=182,slow=12,SNR=73
GERES Sn Sn 13 14 33.4 -2.5
comp=Z,10nm,0.3s,baz=195,slow=20,SNR=8.4
GERES LR LR 13 15 35.4
comp=Z,90nm,21.9s,baz=39,slow=37
SSB Saint Sauveur 6.00 295 ePn Pn 13 13 28.2 -0.5
SSB Saint Sauveur 6.00 295 ePn Pn 13 13 28.2 -0.5
BFO Black Forest 6.00 334 i P Pn 13 13 28.7 0.0
BFO Black Forest 6.00 334 ePn Pn 13 13 28.1 -0.6
BFO eSn Sn 13 14 33.9 -3.4
BFO Black Forest 6.00 334 ePn Pn 13 13 28.1 -0.6
BFO Black Forest 6.00 334 i P Pn 13 13 28.7 0.0
BFO eSn Sn 13 14 33.9 -3.4
MOF Molkenrain 6.05 325 P Pn 13 13 29.2 -0.2
MOF Molkenrain 6.05 325 P Pn 13 13 29.2 -0.2
TRUS Trudelj 6.05 75 ePn Pn 13 13 29.6 +0.3
TRUS Trudelj 6.05 75 ePn Pn 13 13 29.6 +0.3
HINF Hinteralfeld 6.14 324 ePn Pn 13 13 29.5 -1.1
SNR=1.0
HINF eSn Sn 13 14 34.1 -6.6
comp=Z,80nm,0.4s
HINF Hinteralfeld 6.14 324 ePn Pn 13 13 29.5 -1.1
HINF eSn Sn 13 14 34.1 -6.6
HINF Hinteralfeld 6.14 324 ePn Pn 13 13 29.5 -1.1
SNR=1.0
HINF eSn Sn 13 14 34.1 -6.6
LASF Ste Croix 6.20 283 ePn Pn 13 13 30.0 -1.3
SNR=1.0
LASF Ste Croix 6.20 283 ePn Pn 13 13 30.0 -1.3
LASF Ste Croix 6.20 283 ePn Pn 13 13 30.0 -1.3
SNR=1.0
KHC Kasperske Hory 6.21 8 eP Pn 13 13 30.4 -1.1
KHC e 13 14 37.5
KHC MLR MLR
comp=Z,700nm,7.3s
KHC Kasperske Hory 6.21 8 ePN Pn 13 13 30.4 -1.1
KHC ex x 13 13 38.0
KHC ePB Pb 13 13 50.0 +1.9
KHC eSN Sn 13 14 37.5 -4.9
KHC AMS AMS 13 16 20.0
comp=Z,700nm,7.3s
KHC Kasperske Hory 6.21 8 ePn Pn 13 13 30.4 -1.1
KHC Kasperske Hory 6.21 8 P Pn 13 13 30.4 -1.1
GRUS Gruza 6.23 79 ePn Pn 13 13 32.9 +1.2
GRUS Gruza 6.23 79 ePn Pn 13 13 32.9 +1.2
ECH Echery 6.33 327 P Pn 13 13 33.0 -0.1
ECH Echery 6.33 327 ePn Pn 13 13 32.0 -1.1
ECH eSn Sn 13 14 42.4 -2.9
ECH Echery 6.33 327 ePn Pn 13 13 32.0 -1.1
ECH Echery 6.33 327 P Pn 13 13 33.0 -0.1
ECH eSn Sn 13 14 42.4 -2.9
CDF Champ du Feu 6.44 329 ePn Pn 13 13 33.8 -1.0
SNR=1.0
CDF eSn Sn 13 14 41.2 -7.0
comp=Z,100nm,0.5s
CDF Champ du Feu 6.44 329 ePn Pn 13 13 33.8 -1.0
CDF eSn Sn 13 14 41.2 -7.0
CDF Champ du Feu 6.44 329 ePn Pn 13 13 33.8 -1.0
SNR=1.0
CDF eSn Sn 13 14 41.2 -7.0
SELS Selova 6.50 85 ePn Pn 13 13 35.7 +0.2
SELS Selova 6.50 85 ePn Pn 13 13 35.7 +0.2
HAU Haudompre 6.51 322 ePn Pn 13 13 34.6 -1.0
SNR=1.0
HAU eSn Sn 13 14 43.4 -6.3
comp=Z,167nm,0.5s
HAU Haudompre 6.51 322 ePn Pn 13 13 34.6 -1.0
HAU eSn Sn 13 14 43.4 -6.3
HAU Haudompre 6.51 322 ePn Pn 13 13 34.6 -1.0
SNR=1.0
HAU eSn Sn 13 14 43.4 -6.3
KEK Kerkira 6.55 117 ePN Pn 13 13 38.5 +2.3
SMOL Smolenice 6.61 31 eP Pn 13 13 36.6 -0.3
SMOL Smolenice 6.61 31 ePN Pn 13 13 36.6 -0.3
SMOL Smolenice 6.61 31 eP Pn 13 13 36.6 -0.3
TREC Trest 6.69 18 eP Pn 13 13 37.2 -0.9
TREC e 13 14 50.0
TREC Trest 6.69 18 ePN Pn 13 13 37.2 -0.9
TREC eSN Sn 13 14 50.0 -4.3
TREC Trest 6.69 18 Pn Pn 13 13 37.2 -0.9
LANF Langenberg 6.74 334 P Pn 13 13 39.8 +1.0
LANF Langenberg 6.74 334 P Pn 13 13 39.8 +1.0
THEF They Montfort 6.83 322 P Pn 13 13 40.5 +0.4
THEF They Montfort 6.83 322 P Pn 13 13 40.5 +0.4
PLDF La Plantade 6.85 299 P Pn 13 13 40.3 -0.1
PLDF La Plantade 6.85 299 P Pn 13 13 40.3 -0.1
LBL Lubilhac 6.86 292 P Pn 13 13 41.0 +0.5
LBL Lubilhac 6.86 292 P Pn 13 13 41.0 +0.5
IGT Igoumenitsa 7.00 117 ePN Pn 13 13 44.6 +2.2
VRAC Vranov 7.00 24⇑ iP Pn 13 13 44.3 +1.9
VRAC Vranov 7.00 24 Pn Pn 13 13 43.7 +1.3
VRAC Vranov 7.00 24 ePn Pn 13 13 41.7 -0.7
VRAC Vranov 7.00 24 P Pn 13 13 43.7 +1.3
comp=Z,2.0nm,0.3s
VRAC Vranov 7.00 24 Pn Pn 13 13 43.7 +1.3
comp=Z,1.9nm,0.3s,baz=211,slow=12,SNR=5.6
SMF Signal de Mont 7.01 304 ePn Pn 13 13 42.0 -0.4
SNR=1.0
SMF eSn Sn 13 14 54.3 -7.7
comp=Z,47nm,0.6s
SMF Signal de Mont 7.01 304 ePn Pn 13 13 42.0 -0.4
SMF eSn Sn 13 14 54.3 -7.7
SMF Signal de Mont 7.01 304 ePn Pn 13 13 42.0 -0.4
SNR=1.0
SMF eSn Sn 13 14 54.3 -7.7
BIA Bitola 7.04 103 ePn Pn 13 13 40.9 -2.0
BIA Bitola 7.04 103 ePn Pn 13 13 40.9 -2.0
NEST Nestorio 7.07 108 ePN Pn 13 13 45.3 +1.9
BOLS Boljevac 7.12 80 ePn Pn 13 13 43.9 0.0
BOLS Boljevac 7.12 80 eP Pn 13 13 43.9 0.0
FNA Florina 7.16 105 ePN Pn 13 13 46.1 +1.5
PRU Pruhonice 7.18 12 eP Pn 13 13 44.2 -0.5
PRU e 13 15 01.5
PRU MLR MLR
comp=Z,600nm,13.8s
PRU Pruhonice 7.18 12 ePN Pn 13 13 44.2 -0.5
PRU eSN Sn 13 15 01.5 -4.6
PRU AMS AMS 13 16 50.0
comp=Z,600nm,13.8s
PRU Pruhonice 7.18 12 Pn Pn 13 13 44.2 -0.5
PAGF Fort de Pagny 7.19 323 ePn Pn 13 13 44.4 -0.6
baz=133
PAGF eSn Sn 13 14 58.2 -8.3
comp=Z,23nm,0.7s
PAGF Fort de Pagny 7.19 323 ePn Pn 13 13 44.4 -0.6
PAGF eSn Sn 13 14 58.2 -8.3
PAGF Fort de Pagny 7.19 323 ePn Pn 13 13 44.4 -0.6
PAGF eSn Sn 13 14 58.2 -8.3
AGO Saint Agoulin 7.20 298 P Pn 13 13 45.6 +0.5
AGO Saint Agoulin 7.20 298 P Pn 13 13 45.6 +0.5
BZS Buzias 7.21 65⇑ iP Pn 13 13 46.0 +0.7
BZS Buzias 7.21 65⇑ iP Pn 13 13 46.0 +0.7
NKC Novy Kostel 7.25 1 eP Pn 13 13 45.1 -0.6
NKC Novy Kostel 7.25 1 ePN Pn 13 13 45.1 -0.6
NKC Novy Kostel 7.25 1 Pn Pn 13 13 45.1 -0.6
SFTF Sexfontaines 7.26 318 ePn Pn 13 13 44.5 -1.4
baz=138
SFTF eSn Sn 13 15 01.6 -6.6
comp=Z,30nm,0.5s
SFTF Sexfontaines 7.26 318 ePn Pn 13 13 44.5 -1.4
SFTF eSn Sn 13 15 01.6 -6.6
SFTF Sexfontaines 7.26 318 ePn Pn 13 13 44.5 -1.4
SFTF eSn Sn 13 15 01.6 -6.6
JAN Janina 7.28 114 ePN Pn 13 13 49.0 +2.8
PSZ Piszkesteto 7.29 45⇓ iP Pn 13 13 47.0 +0.6
PSZ Piszkesteto 7.29 45 ePn Pn 13 13 46.9 +0.6
PSZ Piszkesteto 7.29 45 ePn Pn 13 13 46.9 +0.6
PSZ Piszkesteto 7.29 45 e Pn 13 13 45.5 -0.9
PSZ eSn Sn 13 15 06.7 -2.3
LOR Lormes 7.31 309 ePn Pn 13 13 45.5 -1.2
baz=130,SNR=1.0
LOR eSn Sn 13 15 02.9 -6.6
comp=Z,20nm,0.4s
LOR Lormes 7.31 309 ePn Pn 13 13 45.5 -1.2
LOR eSn Sn 13 15 02.9 -6.6
LOR Lormes 7.31 309 ePn Pn 13 13 45.5 -1.2
SNR=1.0
LOR eSn Sn 13 15 02.9 -6.6
MTLF Montolieu 7.34 276 ePn Pn 13 13 46.1 -1.0
MTLF Montolieu 7.34 276 ePn Pn 13 13 46.1 -1.0
MTLF Montolieu 7.34 276 ePn Pn 13 13 46.1 -1.0
AVF Avril sur Loir 7.37 304 ePn Pn 13 13 46.0 -1.4
SNR=1.0
AVF eSn Sn 13 15 05.4 -5.5
comp=Z,24nm,0.7s,SNR=1.0
AVF Avril sur Loir 7.37 304 ePn Pn 13 13 46.0 -1.4
AVF eSn Sn 13 15 05.4 -5.5
AVF Avril sur Loir 7.37 304 ePn Pn 13 13 46.0 -1.4
SNR=1.0
AVF eSn Sn 13 15 05.4 -5.5
SSF Saint Saulge 7.41 306 ePn Pn 13 13 47.1 -0.9
SNR=1.0
SSF eSn Sn 13 15 04.8 -7.1
comp=Z,31nm,0.7s
SSF Saint Saulge 7.41 306 ePn Pn 13 13 47.1 -0.9
SSF eSn Sn 13 15 04.8 -7.1
SSF Saint Saulge 7.41 306 ePn Pn 13 13 47.1 -0.9
SNR=1.0
SSF eSn Sn 13 15 04.8 -7.1
SIRR Siria 7.47 61⇑ iP Pn 13 13 50.3 +1.5
SIRR Siria 7.47 61⇑ iP Pn 13 13 50.3 +1.5
BGF Bois d'Agland 7.58 301 ePn Pn 13 13 49.8 -0.5
SNR=1.0
BGF eSn Sn 13 15 09.9 -6.2
comp=Z,29nm,0.5s,SNR=1.0
BGF Bois d'Agland 7.58 301 ePn Pn 13 13 49.8 -0.5
BGF eSn Sn 13 15 09.9 -6.2
BGF Bois d'Agland 7.58 301 ePn Pn 13 13 49.8 -0.5
SNR=1.0
BGF eSn Sn 13 15 09.9 -6.2
KEST Kesra 7.59 198 ePn Pn 13 13 54.4 +3.9
KEST Kesra 7.59 198 ePn Pn 13 13 54.4 +3.9
KEST Kesra 7.59 198 ePn Pn 13 13 55.5 +5.0
comp=Z,0.7nm,0.3s,baz=296,slow=5.3,SNR=14
KEST LR LR 13 16 50.1
comp=Z,166nm,21.1s,baz=12,slow=38
CAF Calviac 7.60 288 ePn Pn 13 13 50.7 +0.1
SNR=1.0
CAF Calviac 7.60 288 ePn Pn 13 13 50.7 +0.1
CAF Calviac 7.60 288 ePn Pn 13 13 50.7 +0.1
SNR=1.0
RUP Ruppelstein 7.61 334 P Pn 13 13 50.8 0.0
LKD2 Lefkada island 7.63 121 ePN Pn 13 13 53.3 +2.3
PVCC Panska Ves 7.71 11 eP Pn 13 13 51.6 -0.4
PVCC MLR MLR
comp=Z,500nm,12.9s
PVCC Panska Ves 7.71 11 ePN Pn 13 13 51.6 -0.4
PVCC AMS AMS 13 17 10.0
comp=Z,500nm,12.9s
PVCC Panska Ves 7.71 11 Pn Pn 13 13 51.6 -0.4
MORC Moravsky Berou 7.71 26⇑ iP Pn 13 13 52.8 +0.7
MORC Moravsky Berou 7.71 26 ePn Pn 13 13 52.4 +0.3
MORC Moravsky Berou 7.71 26 ePn Pn 13 13 52.4 +0.3
MORC Moravsky Berou 7.71 26⇑ iP Pn 13 13 52.8 +0.7
KRLC Kraliky 7.74 22 eP Pn 13 13 52.7 +0.1
KRLC Kraliky 7.74 22 ePN Pn 13 13 52.7 +0.1
KRLC Kraliky 7.74 22 Pn Pn 13 13 52.7 +0.1
GRG Griva 7.83 102 ePN Pn 13 13 54.7 +0.9
VAY Valandovo 7.85 99 ePn Pn 13 13 52.7 -1.3
VAY Valandovo 7.85 99 ePn Pn 13 13 53.2 -0.8
DPC Dobruska-Polom 7.88 19 eP Pn 13 13 52.8 -1.6
DPC Dobruska-Polom 7.88 19 ePN Pn 13 13 52.8 -1.6
DPC AMS AMS 13 17 10.0
DPC Dobruska-Polom 7.88 19 Pn Pn 13 13 52.8 -1.6
TCF Toulx Ste Croi 7.88 298 ePn Pn 13 13 54.4 -0.1
SNR=1.0
TCF Toulx Ste Croi 7.88 298 ePn Pn 13 13 54.4 -0.1
TCF Toulx Ste Croi 7.88 298 ePn Pn 13 13 54.4 -0.1
SNR=1.0
GZR Gura Zlata 7.94 69⇑ iP Pn 13 13 54.8 -0.5
GZR Gura Zlata 7.94 69⇑ iP Pn 13 13 54.8 -0.5
UPC Upice 7.95 18 eP Pn 13 13 54.6 -0.8
UPC Upice 7.95 18 ePN Pn 13 13 54.6 -0.8
UPC Upice 7.95 18 Pn Pn 13 13 54.6 -0.8
VLS Valsamata 7.96 124 ePN Pn 13 13 57.8 +2.3
BRG Berggiesshubel 7.97 8 PN Pn 13 13 56.1 +0.5
BRG SN Sn 13 15 21.3 -4.3
BRG SG Sg 13 16 22.8 +7.1
comp=Z,66nm,1.4s
BRG
comp=N,495nm,16.1s
BRG
comp=E,1µm,10.0s
BRG
comp=Z,412nm,15.4s
BRG Berggiesshubel 7.97 8 P Pn 13 13 56.1 +0.5
BRG 13 15 21.3
BRG smax smax
comp=N,66nm,1.4s
BRG MLR MLR
comp=N,495nm,16.1s
BRG MLR MLR
comp=E,1µm,10.0s
BRG MLR MLR
comp=Z,412nm,15.4s
BRG Berggiesshubel 7.97 8 P Pn 13 13 56.1 +0.5
RJF Les Rejaudoux 8.06 290 ePn Pn 13 13 57.1 +0.2
SNR=1.0
RJF Les Rejaudoux 8.06 290 ePn Pn 13 13 57.1 +0.2
RJF Les Rejaudoux 8.06 290 ePn Pn 13 13 57.1 +0.2
VTS Vitosha 8.07 89 P Pn 13 13 47.0 +10
VTS Vitosha 8.07 89 ePn Pn 13 13 57.4 +0.2
VTS Vitosha 8.07 89⇓ iP Pn 13 13 58.5 +1.3
VTS Vitosha 8.07 89 ePn Pn 13 13 57.4 +0.2
VTS Vitosha 8.07 89⇓ iP Pn 13 13 58.5 +1.3
KKB Krupnik 8.09 94 P Pn 13 14 02.5 +5.1
THL Klokotos Trika 8.11 112 ePN Pn 13 14 01.7 +4.1
KNT Kendrikon 8.13 99 ePN Pn 13 13 55.4 -2.4
LIT Litokhoron 8.20 107 ePN Pn 13 14 01.3 +2.4
EVR Evrytania 8.30 116 ePN Pn 13 14 03.4 +3.2
KSP Ksiaz 8.33 18 eP Pn 13 13 55.7 -4.8
KSP e 13 15 26.0
KSP Ksiaz 8.33 18 ePg Pn 13 13 50.9 -10
KSP eSg Pn 13 13 56.1 -4.4
KSP Ksiaz 8.33 18 eP Pn 13 13 57.7 -2.8
CLL Collm 8.34 3 i Pn Pn 13 13 59.1 -1.5
comp=Z,25nm,0.5s
CLL eSn Sn 13 15 27.0 -7.6
CLL eSg Sg 13 16 34.0 +6.5
comp=Z,37nm,1.1s
CLL eLmax 13 16 37.0
DRGR 8.34 59⇑ iP Pn 13 14 02.8 +2.0
DRGR 8.34 59⇑ iP Pn 13 14 02.8 +2.0
LFF La Frestale 8.53 287 ePn Pn 13 14 03.6 +0.3
LFF La Frestale 8.53 287 ePn Pn 13 14 03.6 +0.3
LFF La Frestale 8.53 287 ePn Pn 13 14 03.6 +0.3
AGG Agios Georgios 8.59 114 ePN Pn 13 14 06.9 +2.7
MMB Musomiste 8.62 95 P Pn 13 13 58.0 -6.7
MMB Musomiste 8.62 95⇑ iP Pn 13 14 07.2 +2.5
MMB Musomiste 8.62 95⇑ iP Pn 13 14 07.2 +2.5
LOT Lotru 8.63 70⇑ iP Pn 13 14 09.0 +4.2
SRS Serrai 8.64 99 ePN Pn 13 14 07.5 +2.6
CRVS Cervenica-Dubn 8.72 44 eP Pn 13 14 08.8 +2.8
CRVS Cervenica-Dubn 8.72 44 e Pn 13 14 08.8 +2.8
GIVF Givet 8.76 327 ePn Pn 13 14 04.3 -2.1
GIVF Givet 8.76 327 eP Pn 13 14 09.0 +2.6
GIVF Givet 8.76 327 ePn Pn 13 14 04.3 -2.1
GIVF Givet 8.76 327 ePn Pn 13 14 04.3 -2.1
GIVF Givet 8.76 327 eP Pn 13 14 09.0 +2.6
PGB Panagyurishte 8.78 89 P Pn 13 14 13.6 +6.8
HGN Heimansgroeve 8.90 333 eP Sn 13 15 45.0 -3.3
comp=Z,24nm,0.9s
STHS Stebnicka Huta 8.95 41 eP Pn 13 14 10.7 +1.6
STHS e 13 15 45.3
STHS Stebnicka Huta 8.95 41 ePN Pn 13 14 10.7 +1.6
STHS eSN Sn 13 15 45.3 -4.4
STHS Stebnicka Huta 8.95 41 eP Pn 13 14 10.7 +1.6
UZH Uzhgorod 9.00 48 eP Pn 13 14 14.5 +4.8
UZH eS Sn 13 15 57.7 +6.9
KLV Kalavryta, Ach 9.01 120 ePN Pn 13 14 13.2 +3.2
KOLS Kolonicke sedl 9.16 46 eP Pn 13 14 17.6 +5.6
KOLS e 13 15 51.8
KOLS Kolonicke sedl 9.16 46 e Pn 13 14 17.6 +5.6
KOLS Kolonicke sedl 9.16 46 eSN Sn 13 15 51.8 -3.1
ARR Arges 9.21 71⇓ iP Pn 13 14 15.5 +2.8
ETSF Etsaut 9.40 274 ePn Pn 13 14 16.6 +1.3
SNR=1.0
ETSF Etsaut 9.40 274 ePn Pn 13 14 16.6 +1.3
ETSF Etsaut 9.40 274 ePn Pn 13 14 16.6 +1.3
SNR=1.0
VOIR 9.51 71⇑ iP Pn 13 14 19.7 +2.8
MFF Saint Martin d 9.52 297 ePn Pn 13 14 15.4 -1.5
SNR=1.0
MFF Saint Martin d 9.52 297 ePn Pn 13 14 15.4 -1.5
MFF Saint Martin d 9.52 297 ePn Pn 13 14 15.4 -1.5
SNR=1.0
KWP Kalwaria Pacla 9.82 44 eP Pn 13 14 24.6 +3.6
KWP Kalwaria Pacla 9.82 44 eP Pn 13 14 24.5 +3.6
KWP Kalwaria Pacla 9.82 44⇑ iP Pn 13 14 24.2 +3.3
DOPR Dopca 9.85 68⇑ iP Pn 13 14 23.7 +2.3
DOPR Dopca 9.85 68⇑ iP Pn 13 14 23.7 +2.3
MLR Muntele Rosu 10.14 71⇑ iP Pn 13 14 26.5 +1.0
MLR Muntele Rosu 10.14 71 Pn Pn 13 14 27.9 +2.4
MLR Muntele Rosu 10.14 71 eP Pn 13 14 27.9 +2.4
MLR Muntele Rosu 10.14 71 Pn Pn 13 14 27.9 +2.4
comp=Z,0.1nm,0.3s,baz=247,slow=13,SNR=3.2
BUR08 Bucovina Ar. S 10.24 59 ePn Pn 13 14 28.9 +2.2
BUR08 Bucovina Ar. S 10.24 59 ePn Pn 13 14 29.0 +2.2
BURAR Bucovina Array 10.24 59⇓ iP Pn 13 14 29.8 +3.0
JMB Yambol 10.56 88⇓ iP Pn 13 14 32.9 +1.8
JMB Yambol 10.56 88⇓ iP Pn 13 14 32.9 +1.8
GRR Gorron 10.64 305 ePn Pn 13 14 30.4 -1.7
SNR=1.0
GRR Gorron 10.64 305 ePn Pn 13 14 30.4 -1.7
GRR Gorron 10.64 305 ePn Pn 13 14 30.4 -1.7
SNR=1.0
SGMF Saint Gilles 11.62 302 ePn Pn 13 14 44.0 -1.6
SGMF Saint Gilles 11.62 302 ePn Pn 13 14 44.0 -1.6
SGMF Saint Gilles 11.62 302 ePn Pn 13 14 44.0 -1.6
AKASG Malin Array Be 13.92 50 P Pn 13 15 16.8 -0.2
AKASG Malin Array Be 13.92 50 Pn Pn 13 15 16.8 -0.2
AKASG Malin Array Be 13.92 50 P Pn 13 15 16.8 -0.2
AKASG Malin Array Be 13.92 50 Pn Pn 13 15 16.8 -0.2
comp=Z,0.3nm,0.3s,baz=245,slow=11,SNR=2.8
EKA Eskdalemuir Ar 15.89 326 Pn Pn 13 15 44.0 +0.6
EKA Eskdalemuir Ar 15.89 326 Pn Pn 13 15 44.0 +0.6
EKA Eskdalemuir Ar 15.89 326 Pn Pn 13 15 44.0 +0.6
baz=134,slow=14,SNR=3.4
BRTR Keskin Array B 16.38 94 Pn P 13 15 51.5 -1.1
BRTR Keskin Array B 16.38 94 P P 13 15 51.5 -1.1
BRTR Keskin Array B 16.38 94 Pn P 13 15 51.5 -1.1
comp=Z,0.1nm,0.3s,baz=282,slow=7.2,SNR=2.8
HFS Hagfors 17.19 2 P P 13 16 00.7 -0.7
HFS Hagfors 17.19 2 P P 13 16 00.7 -0.7
HFS Hagfors 17.19 2 P P 13 16 00.7 -0.7
comp=Z,0.3nm,0.3s,baz=180,slow=7.4,SNR=7.7
NB2 NORSAR Subarra 18.09 358 P P 13 16 12.4 +1.1
comp=Z,5.3nm,0.9s,baz=177,slow=14
NB2 NORSAR Subarra 18.09 358 P P 13 16 12.4 +1.1
comp=Z,5.3nm,0.9s,SNR=5.5
NOA NORSAR Array B 18.09 358 P P 13 16 12.1 +0.8
NOA NORSAR Array B 18.09 358 P P 13 16 12.1 +0.8
comp=Z,77nm,18.2s
NOA NORSAR Array B 18.09 358 P P 13 16 12.1 +0.8
comp=Z,0.3nm,0.3s,baz=171,slow=11,SNR=6.4
NOA LR LR 13 24 17.1
comp=Z,77nm,18.2s,baz=5.0,slow=41
OBN Obninsk 19.91 44 P Pn 13 16 32.0 -0.8
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 19.91 44 P Pn 13 16 32.0 -0.8
comp=Z,200nm,17.0s
VSR Storozhevoye 20.00 56 eP P 13 16 31.6 -0.6
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR Storozhevoye 20.00 56 eP P 13 16 31.6 -0.6
comp=E,10.0nm,0.8s
VORD Divnogorie 20.02 57 eP P 13 16 31.4 -1.0
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,5.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 20.02 57 eP P 13 16 31.4 -1.0
FINES FINESS Array B 20.25 19 P P 13 16 35.0 +0.1
FINES FINESS Array B 20.25 19 P P 13 16 35.0 +0.1
comp=E,249nm,18.3s
FINES FINESS Array B 20.25 19 P P 13 16 35.0 +0.1
comp=E,6.1nm,0.6s,baz=202,slow=8.1,SNR=13
FINES LR LR 13 25 39.7
comp=E,249nm,18.3s,baz=229,slow=41
MMAI Mount Meron Ar 20.73 111 P Pn 13 16 42.2 -0.6
MMAI Mount Meron Ar 20.73 111 P Pn 13 16 42.2 -0.6
MMAI Mount Meron Ar 20.73 111 P Pn 13 16 42.2 -0.6
comp=E,13nm,0.8s,baz=320,slow=8.6,SNR=8.1
TAM Tamanrasset 20.91 198 eP Pn 13 16 44.4 -0.6
comp=E,8.8nm,0.9s
TAM Tamanrasset 20.91 198 eP Pn 13 16 44.4 -0.6
comp=E,8.8nm,0.9s
VRHR Novokhopersk 21.48 58 eP P 13 16 52.9 +4.6
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=Z,8.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,1.9s
KIV Kislovodsk 22.05 77 eP P 13 16 56.1 +1.5
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,86nm,14.0s
KIV Kislovodsk 22.05 77 eP P 13 16 56.1 +1.5
comp=Z,86nm,14.0s
ASF Jabal al Asfar 22.24 111 P P 13 16 59.7 +3.0
ASF Jabal al Asfar 22.24 111 P P 13 16 59.7 +3.0
comp=Z,3.7nm,0.8s,baz=190,slow=3.0,SNR=6.5
ZEI Tsey 23.12 80 eP P 13 17 11.2 +5.1
ZEI pmax pmax
comp=Z,8.0nm,1.1s
PRGR Permogore 27.18 35 eP P 13 17 39.0 -4.1
PRGR pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 27.48 10 P P 13 17 45.1 -0.5
ARCES ARCESS Array B 27.48 10 P P 13 17 45.2 -0.5
comp=Z,1.0nm,0.8s

ARCES	**ARCES Array B**	**27.48**	**10**	P		**P**	**13 17 45.1**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=190,slow=8.9,SNR=4.2							
TOA0	**Torodi Ar. Sit**	**31.10**	**200**	*e*P		**P**	**13 18 19.4**	**+1.1**
TOA0	**Torodi Ar. Sit**	**31.10**	**200**	*e*P		**P**	**13 18 19.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**31.10**	**200**	P		**P**	**13 18 19.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**31.10**	**200**	P		**P**	**13 18 19.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**31.10**	**200**	P		**P**	**13 18 19.3**	**+1.0**
	comp=Z,5.2nm,0.9s,baz=12,slow=8.9,SNR=26							
TORD				LR		LR	13 32 16.8	
	comp=Z,84nm,18.3s,baz=305,slow=39							
AKTK	**Aktyubinsk**	**31.82**	**60**	P		**P**	**13 18 24.3**	**-0.1**
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**31.82**	**60**	P		**P**	**13 18 24.3**	**-0.1**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**31.82**	**60**	P		**P**	**13 18 24.2**	**-0.1**
AKTO	**Aktyubinsk**	**31.82**	**60**	P		**P**	**13 18 24.2**	**-0.1**
AKTO	**Aktyubinsk**	**31.82**	**60**	P		**P**	**13 18 24.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=269,slow=7.2,SNR=5.2							
ARU	**Arti**	**32.17**	**49**	*d* iP		**P**	**13 18 27.2**	**-0.1**
ARU							13 19 29.3	
ARU				S		**S**	**13 23 40.7**	**+1.2**
ARU				SS		**SnSn**	**13 25 31.5**	**+1.6**
ARU				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ARU	**Arti**	**32.17**	**49**	*e*P		**P**	**13 18 26.4**	**-1.0**
	comp=Z,8.9nm,0.8s							
ARU	**Arti**	**32.17**	**49**	*i* P		**P**	**13 18 27.2**	**-0.1**
	comp=Z,10.0nm,0.8s							
ARU				S		**S**	**13 23 40.7**	**+1.2**
SVE	**Sverdlovsk**	**33.34**	**48**	*e*P		**P**	**13 18 38.1**	**+0.5**
SVE				pmax		pmax		
	comp=Z,7.0nm,0.6s							
SVE	**Sverdlovsk**	**33.34**	**48**	*e*P		**P**	**13 18 38.1**	**+0.5**
	comp=Z,7.0nm,0.6s							
BRVK	**Borovoye**	**39.09**	**54**	*e*P		**P**	**13 19 27.9**	**+1.2**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BRVK	**Borovoye**	**39.09**	**54**	*e*P		**P**	**13 19 27.9**	**+1.2**
	comp=Z,6.0nm,0.9s							
BVAR	**Borovoye Array**	**39.16**	**54**	P		**P**	**13 19 27.8**	**+0.4**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**39.16**	**54**	P		**P**	**13 19 27.8**	**+0.4**
BVAR	**Borovoye Array**	**39.16**	**54**	P		**P**	**13 19 27.8**	**+0.4**
	comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**39.16**	**54**	P		**P**	**13 19 27.8**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=285,slow=5.8,SNR=14							
DBIC	**Dimbokro**	**39.20**	**208**	P		**P**	**13 19 29.6**	**+1.6**
DBIC	**Dimbokro**	**39.20**	**208**	P		**P**	**13 19 29.6**	**+1.6**
	comp=Z,80nm,19.6s							
DBIC	**Dimbokro**	**39.20**	**208**	P		**P**	**13 19 29.6**	**+1.6**
	comp=Z,3.3nm,0.7s,baz=353,slow=10.0,SNR=6.2							
DBIC				LR		LR	13 36 45.2	
	comp=Z,80nm,19.6s,baz=101,slow=38							
TIC	**Toumodi**	**39.27**	**208**	*e*P		**P**	**13 19 30.2**	**+1.5**
	comp=Z,2.1nm,0.2s							
KIC	**Kosan Boka**	**39.45**	**207**	*e*P		**P**	**13 19 31.7**	**+1.6**
	comp=Z,9.2nm,0.8s							
LIC	**Lamto**	**39.67**	**208**	*e*P		**P**	**13 19 33.6**	**+1.7**
	comp=Z,17nm,0.7s							
KKAR	**Karatay Array**	**41.82**	**69**	*e*P		**P**	**13 19 50.8**	**+1.3**
	comp=Z,4.7nm,0.8s							
KKAR	**Karatay Array**	**41.82**	**69**	*e*P		**P**	**13 19 50.8**	**+1.3**
	comp=Z,4.7nm,0.8s							
EKS2	**Erkin-Say**	**44.21**	**68**	*e*P		**P**	**13 20 10.3**	**+1.3**
	comp=Z,6.5nm,0.8s							
EKS2	**Erkin-Say**	**44.21**	**68**	*e*P		**P**	**13 20 10.3**	**+1.3**
	comp=Z,6.5nm,0.8s							
KURBB	**Kurchatov Arra**	**44.62**	**56**	P		**P**	**13 20 12.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=296,slow=8.9,SNR=12							
KURK	**Kurchatov**	**44.65**	**56**	P		**P**	**13 20 12.0**	**-0.2**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**44.65**	**56**	P		**P**	**13 20 12.0**	**-0.2**
KURK	**Kurchatov**	**44.65**	**56**	P		**P**	**13 20 12.0**	**-0.2**
	comp=Z,2.0nm,0.8s							
AAK	**Ala-Archa**	**44.71**	**68**	*e*P		**P**	**13 20 13.3**	**+0.2**
	comp=Z,2.4nm,0.9s							
AAK	**Ala-Archa**	**44.71**	**68**	*e*P		**P**	**13 20 13.3**	**+0.2**
	comp=Z,2.4nm,0.9s							
NVS	**Novosibirsk**	**46.17**	**49**	↑*i* P		**P**	**13 20 24.6**	**+0.4**
NVS				pmax		pmax		
	comp=Z,7.0nm,0.9s							
NVS				pmax		pmax		
	comp=N,3.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,5.0nm,1.0s							
NVS	**Novosibirsk**	**46.17**	**49**	*i* P		**P**	**13 20 24.6**	**+0.4**
	comp=E,7.0nm,0.9s							
ZALV	**Zalesovo Beam**	**47.32**	**50**	P		**P**	**13 20 33.2**	**0.0**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**47.32**	**50**	P		**P**	**13 20 33.1**	**0.0**
ZALV	**Zalesovo Beam**	**47.32**	**50**	P		**P**	**13 20 33.2**	**0.0**
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**47.32**	**50**	P		**P**	**13 20 33.1**	**0.0**
	comp=Z,1.1nm,0.4s,baz=287,slow=7.6,SNR=9.2							
MKAR	**Makanchi Array**	**48.26**	**60**	P		**P**	**13 20 41.4**	**+0.7**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MKAR	**Makanchi Array**	**48.26**	**60**	P		**P**	**13 20 41.4**	**+0.7**
MKAR	**Makanchi Array**	**48.26**	**60**	P		**P**	**13 20 41.4**	**+0.7**
	comp=Z,4.0nm,0.9s							
MKAR	**Makanchi Array**	**48.26**	**60**	P		**P**	**13 20 41.4**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=297,slow=5.3,SNR=16							
SCHQ	**Schefferville**	**50.61**	**313**	P		**P**	**13 20 59.5**	**+1.0**
SCHQ	**Schefferville**	**50.61**	**313**	P		**P**	**13 20 59.5**	**+1.0**
SCHQ	**Schefferville**	**50.61**	**313**	P		**P**	**13 20 59.5**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=76,slow=12,SNR=2.3							
HVS	**Khovu-Aksy**	**53.39**	**51**	*e*P		**P**	**13 21 19.4**	**+0.1**
HVS				pmax		pmax		
	comp=Z,20nm,1.0s							
HVS	**Khovu-Aksy**	**53.39**	**51**	*e*P		**P**	**13 21 19.4**	**+0.1**
	comp=Z,20nm,1.0s							
TIXI	**Tiksi**	**57.30**	**20**	*e*P		**P**	**13 21 47.1**	**+0.1**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.9s							
TIXI	**Tiksi**	**57.30**	**20**	*e*P		**P**	**13 21 47.1**	**+0.1**
	comp=Z,1.0nm,0.9s							
SONM	**Songino Array**	**62.20**	**49**	P		**P**	**13 22 22.6**	**+1.3**
SONM	**Songino Array**	**62.20**	**49**	P		**P**	**13 22 22.6**	**+1.3**
	comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**62.20**	**49**	P		**P**	**13 22 22.6**	**+1.3**
	comp=Z,4.0nm,0.9s,baz=286,slow=9.0,SNR=25							
YAK	**Yakutsk**	**63.91**	**28**	*e*P		**P**	**13 22 30.7**	**-1.5**
YAK				pmax		pmax		
	comp=Z,11nm,1.0s							
YAK	**Yakutsk**	**63.91**	**28**	*e*P		**P**	**13 22 30.7**	**-1.5**
	comp=Z,11nm,1.0s							
YKA	**Yellowknife Ar**	**66.58**	**336**	P		**P**	**13 22 50.4**	**+0.8**
YKA	**Yellowknife Ar**	**66.58**	**336**	P		**P**	**13 22 50.3**	**+0.8**
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**66.58**	**336**	P		**P**	**13 22 50.3**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=41,slow=5.8,SNR=22							
ILAR	**Eielson Array**	**71.34**	**351**	P		**P**	**13 23 20.2**	**+1.1**
ILAR	**Eielson Array**	**71.34**	**351**	P		**P**	**13 23 20.2**	**+1.1**
	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**71.34**	**351**	P		**P**	**13 23 20.2**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=9.0,slow=5.5,SNR=9.3							
CMAR	**Chiang Mai Arr**	**75.29**	**78**	P		**P**	**13 23 43.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**75.29**	**78**	P		**P**	**13 23 43.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**75.29**	**78**	P		**P**	**13 23 43.4**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=305,slow=6.7,SNR=5.9							
PDAR	**Pinedale Array**	**79.93**	**321**	P		**P**	**13 24 10.3**	**+1.3**
PDAR	**Pinedale Array**	**79.93**	**321**	P		**P**	**13 24 10.3**	**+1.3**
PDAR	**Pinedale Array**	**79.93**	**321**	P		**P**	**13 24 10.3**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=45,slow=2.7,SNR=2.5							
YSS	**Yuzh-Sakhalins**	**80.30**	**32**	*e*P		**P**	**13 24 11.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**80.30**	**32**	*e*P		**P**	**13 24 11.5**	**+0.9**
ASAR	**Alice Springs**	**128.63**	**88**	PKP		**PKPdf**	**13 31 06.7**	**-0.5**
ASAR	**Alice Springs**	**128.63**	**88**	PKIKP		**PKPdf**	**13 31 06.7**	**-0.5**
ASAR	**Alice Springs**	**128.63**	**88**	PKP		**PKPdf**	**13 31 06.7**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=286,slow=1.1,SNR=4.0							

KRSC 15 13:22:48.1±2.2, 58.72N×163.91E, h8km±11km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.69**	**321**	*i* P		Pg 13 23 01.1	-0.3
OSSR				*i* S		Sg 13 23 10.9	+0.5
TILK	**Tilichiki**	**2.07**	**32**	*e*P		Pb 13 23 25.0	-0.9
TILK				*i* S		Sb 13 23 52.9	+1.2
PALN	**Palana**	**2.08**	**282**	*i* P		Pb 13 23 26.0	0.0
PALN				*i* S		Sg 13 23 53.8	-1.1
KBG	**Krutoberegovo**	**2.56**	**195**	P		Pn 13 23 29.7	-0.1
KBG				*i* S		Sn 13 24 00.9	-0.1
KBTR	**Krutoberegovo**	**2.59**	**194**	*e*P		Pn 13 23 30.5	+0.3
KBTR				*i* S		Sn 13 24 01.4	-0.4
TUMR	**Tumrok**	**4.01**	**212**	P		Pn 13 23 53.9	+3.9
KZV	**Kizimen**	**4.12**	**210**	P		Pn 13 23 55.8	+4.3
GNL	**Ganaly**	**6.04**	**216**	P		Pn 13 24 21.3	+3.5

IDC ***15*** *14:38:43.8±2.0, 4.50S×128.43E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.2/22, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=132.9km s-min=28.4km az=67.0*
ISCJB ***15*** *14:38:45.6±0.9, 4.2S±0.2×129.5E±0.3, h36km, mb3.5/1, Error ellipse: s-maj=42.8km s-min=8.4km az=148.6*
DJA ***15*** *14:38:46.0±0.6, 4°S±6'×12°9E±°, h10km, M2.8/3, MLv2.8/3*
ISC 15 14:38:46.5±1.3, 4.1S±0.3×129.6E±0.4, h36km, n6, σ0.86/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.51**	**139**	P		**Pn** 14 38 56.9	**-0.4**
MSAI	**Masohi**	**1.01**	**321**	P		**Pn** 14 39 04.0	**-0.1**
MSAI				S		**Sn** 14 39 16.0	**-1.0**
NLAI	**Namlea**	**2.62**	**290**	P		Pn 14 39 33.6	+7.4
WRA	**Warramunga Arr**	**16.39**	**164**	Pn		**Pn** 14 42 34.5	**+0.6**
	0.1nm,0.3s,baz=338,slow=13,SNR=5.4						
ASAR	**Alice Springs**	**19.87**	**168**	P		**Pn** 14 43 16.1	**-0.4**
	0.1nm,0.3s,baz=349,slow=10,SNR=14						
MKAR	**Makanchi Array**	**65.61**	**326**	P		**P** 14 49 27.6	**+0.8**
	0.3nm,0.6s,baz=110,slow=6.3,SNR=3.6						

IDC ***15*** *14:41:27.7±8.0, 6.11S×150.25E, h61km±58km, mb3.6/4, mb1 3.8/5, mb1mx3.4/19, mbtmp3.7/5, ML3.4/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/19, Error ellipse: s-maj=58.2km s-min=49.7km az=107.0*
ISC 15 14:41:25.4±2.1, 6.0S±0.3×150.4E±0.4, h48km, n9, σ0.75/7, mb3.7/3, MS3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.63**	**223**	P		**Pn** 14 42 34.0	**+1.1**
	12nm,0.3s,baz=41,slow=6.1,SNR=48						
PMG				S		**Sn** 14 43 24.5	**-0.9**
	14nm,0.3s,baz=103,slow=19,SNR=8.8						
PMG				LR		LR 14 44 15.7	
	comp=Z,152nm,20.2s,baz=22,slow=37						
HNR	**Honiara**	**10.10**	**110**	LR		LR 14 46 45.0	
	comp=Z,69nm,20.9s,baz=122,slow=31						
WRA	**Warramunga Arr**	**20.84**	**227**	P		**P** 14 46 03.1	**-0.2**
	1.5nm,0.5s,baz=52,slow=11,SNR=36						
ASAR	**Alice Springs**	**23.64**	**220**	P		**P** 14 46 32.5	**-0.1**
	0.6nm,0.3s,baz=54,slow=9.2,SNR=44						
FITZ	**Fitzroy Crossi**	**26.95**	**241**	P		**P** 14 47 02.5	**-0.1**
	2.1nm,0.6s,baz=69,slow=8.6,SNR=9.5						
STKA	**Stephens Creek**	**27.02**	**197**	P		**P** 14 47 02.8	**-0.3**
	1.8nm,0.8s,baz=20,slow=9.8,SNR=5.6						
STKA				LR		LR 14 57 19.2	
	comp=Z,74nm,18.6s,baz=25,slow=35						
MJAR	**Matsushiro Arr**	**43.82**	**346**	LR		LR 15 04 44.6	
	comp=Z,25nm,18.2s,baz=105,slow=32						
KSRS	**Korea Array**	**48.03**	**336**	LR		LR 15 08 17.1	
	comp=Z,33nm,21.5s,baz=14,slow=34						
TORD	**Torodi Ar. Bea**	**148.31**	**285**	PKPbc		**PKPbc** 15 01 07.1	**-0.4**
	1.1nm,0.4s,baz=67,slow=2.8,SNR=11						

IDC ***15*** *14:43:32.8±1.9, 1.60N×99.49E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=88.1km s-min=16.8km az=54.0*
DJA ***15*** *14:43:35.9±0.5, 1°N±4'×9°9E±°, h10km, M4.3/8, MLv4.3/8*
ISC 15 14:43:34.0±0.9, 1.66N±0.05×99.54E±0.05, h10km, n25, σ1.9/79/18, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.86**	**177**	P		Pg 14 43 42.5	-8.1
MNSI				S		Sg 14 43 50.1	-12
PSI	**Prapat**	**1.29**	**332**	Pg		**Pn** 14 43 55.5	**-2.8**
	3.5nm,0.3s,baz=150,slow=13,SNR=19						
BKNI	**Bangkinang**	**2.00**	**131**	P		**Pn** 14 44 07.7	**-0.2**
TSI	**Tuntungan**	**2.07**	**332**	P		**Pg** 14 44 16.4	**+2.6**
PPI	**Padang Panjang**	**2.27**	**158**	P		**Pn** 14 44 09.0	**-2.6**
KCSI	**Kotacane, Aceh**	**2.56**	**316**	P		**Pn** 14 44 12.8	**-2.8**
FRIM	**Kepong**	**2.61**	**53**	P		**Pg** 14 44 24.2	**+0.2**
TPTI		**2.84**	**304**	P		**Pb** 14 44 24.4	**-0.5**
IPM	**Ipoh**	**3.17**	**28**	P		**Pg** 14 44 35.4	**+0.6**
IPM	**Ipoh**	**3.17**	**28**	P		**Pg** 14 44 35.7	**+0.8**
RGRI	**Rengat**	**3.43**	**125**	P		**Pg** 14 44 41.8	**+2.0**
KULM	**Kulim**	**3.77**	**17**	P		**Pb** 14 44 42.8	**+2.0**
KULM	**Kulim**	**3.77**	**17**	P		**Pb** 14 44 40.4	**-0.4**
KGM	**Kluang**	**3.79**	**85**	P		**Pg** 14 44 47.9	**+1.1**
MYKOM	**Kota Tinggi**	**4.31**	**88**	P		**Pb** 14 44 48.3	**-1.6**
MYKOM	**Kota Tinggi**	**4.31**	**88**	P		Pb 14 44 45.1	-4.8
KTGM	**Kuala Trenggan**	**5.12**	**44**	P		Pb 14 44 58.9	-4.8
CMAR	**Chiang Mai Arr**	**16.71**	**358**	Pn		P 14 47 36.0	+5.3
	baz=174,slow=9.9,SNR=3.5						
H08S2	**Diego Garcia H**	**28.52**	**251**	T		T 15 17 26.2	
	baz=71,slow=75,SNR=15						
H08S3	**Diego Garcia H**	**28.52**	**251**	T		T 15 17 28.0	
	baz=71,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**28.54**	**251**	T		T 15 17 29.1	
	baz=71,slow=75,SNR=20						
WRA	**Warramunga Arr**	**40.32**	**124**	P		**P** 14 51 12.2	**+0.2**
	0.4nm,0.7s,baz=304,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**41.83**	**129**	P		**P** 14 51 24.2	**-0.3**
	0.5nm,1.1s,baz=296,slow=7.6,SNR=4.0						
MKAR	**Makanchi Array**	**47.41**	**344**	P		**P** 14 52 08.6	**0.0**
	0.4nm,0.5s,baz=150,slow=8.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**53.51**	**349**	P		**P** 14 52 57.0	**+2.4**
	0.9nm,0.5s,baz=178,slow=6.8,SNR=3.2						

MEX 15 14:44:04.1±0.6, 15.14N×95.74W, h11km±23km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.72**	**330**	*e*P		Pg 14 44 16.2	-1.8
HUIG				*i* S		Sg 14 44 25.2	-2.2
VHO	**Vista Hermosa**	**2.14**	**334**	*i* P		Pn 14 44 37.8	-2.3
VHO				*i* S		Sn 14 45 02.5	-4.4
PCIG		**2.50**	**77**	*i* P		Pn 14 44 44.3	-0.4
PCIG				*i* S		Sn 14 45 13.4	-1.7
PNIG	**Pinotepa**	**2.61**	**299**	*e*P		Pn 14 44 43.1	-3.2
PNIG				*i* S		Sn 14 45 14.6	-3.4
TLIG	**Tlapa**	**3.63**	**312**	*i* P		Pn 14 44 58.1	-2.3
TLIG				*i* S		Sn 14 45 39.8	-3.6

IDC 15 15:09:25.7±8.9, 1.75N×125.22E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=191.5km s-min=137.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.34**	**158**	P		P 15 14 35.5	-0.3
	0.5nm,0.6s,baz=335,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**26.64**	**162**	P		P 15 15 07.2	+0.9
	0.2nm,0.8s,baz=347,slow=7.7,SNR=3.7						
STKA	**Stephens Creek**	**36.87**	**156**	P		P 15 16 35.1	-1.0
	0.9nm,0.8s,baz=333,slow=14,SNR=3.2						

IDC ***15*** *15:10:38.9±0.5, 29.77S×177.49W, h0km, mb4.9/19, mb1 5.0/22, mb1mx4.9/24, mbtmp4.8/22, ML4.5/3, MS4.2/22, Ms1 4.2/22, ms1mx4.1/27, Error ellipse: s-maj=15.4km s-min=15.0km az=41.0*
MOS ***15*** *15:10:43.3±1.0, 29.58S×177.60W, h33km, mb5.3/22, Error ellipse: s-maj=12.0km s-min=11.4km az=18.2*
BJI ***15*** *15:10:43.6, 30.08S×177.19W, h57km, mB5.7/19, mb5.2/27, Ms5.3/9, Ms7 4.9/10*
ISCJB ***15*** *15:10:45.9±0.2, 29.68S±0.06×177.85W±0.04, h52km, mb5.2/73, MS4.3/28, Error ellipse: s-maj=8.4km s-min=4.4km az=159.3*
AUST ***15*** *15:10:46.7±1.0, 29.12S×177.47W, h48km±9km, Error ellipse: s-maj=27.3km s-min=9.9km az=153.0*
NEIC ***15*** *15:10:47.4±1.1, 29.54S×177.74W, h57km±8km, mb5.1/20, Error ellipse: s-maj=12.4km s-min=9.3km az=145.0*

GCMT ***15*** *15:10:48.3±0.3, 29.64S×177.33W, h50km±1km, MW5.0, Moment Tensor Solution. s61.c80; s66,c92; Moment tensor: Scale 10^16Nm; Mrr3.82±.16; Mθθ0.08±.14; Mφφ-3.89±.12; Mrθ0.45±.11; Mrφ-1.40±.11; Mθφ1.85±.10; Best double couple: M0=4.50000×10^16 NP1:φs16.00000°, δ58.00000°, λ88.00000°. NP2:φs200.00000°, δ33.00000°, λ93.00000°. Principal axes: T 4.2500, Plg77.0000°, Azm279.0000°; N 0.5200, Plg2.0000°, Azm17.0000°; P -4.7600, Plg12.0000°, Azm107.0000°; Data Used: II IU IC G CN CU.*
ISC 15 15:10:46.9±0.3, 29.74S±0.05×177.69W±0.06, h52km, n402, σ1.9$44/404, mb5.2/73, MS4.2/29, 68C-51D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.53**	**338**	*e*P		**Pn**	**15 10 56.1**	**-2.4**
RAO	**Raoul Island**	**0.53**	**338**	Pn		**Pn**	**15 10 56.6**	**-1.9**
	12μm,0.3s,baz=164,slow=2.8,SNR=410							
OUZ	**Omahuta**	**9.16**	**231**	*e*P		Pn	15 13 04.4	+8.1
	54nm,0.4s							
URZ	**Urewera**	**9.53**	**206**	*e*Pn		Pn	15 12 57.4	-3.9
	37nm,0.8s							
URZ						Sn	**Sn**	**15 14 43.6**	**-3.4**
URZ	**Urewera**	**9.53**	**206**	Pn		Pn	15 12 57.5	-3.9
	1.1nm,0.3s,baz=260,slow=18,SNR=20							
URZ						Sn	**Sn**	**15 14 43.6**	**-3.4**
	8.6nm,0.3s,baz=254,slow=17,SNR=15							
NIUE	**Niue**	**12.75**	**35**	↑P		Pn	15 13 35.6	-10
	baz=12,SNR=8.2							
KHZ	**Kahutara**	**14.49**	**207**	*e*P		Pn	15 14 02.1	-6.7
	28nm,0.5s							
DZM	**Mont Dzumac**	**16.18**	**294**	*e*LR		LR	15 18 13.1	
	4μm,25.0s							
DZM	**Mont Dzumac**	**16.18**	**294**	Pn		**P**	**15 14 34.7**	**+1.5**
DZM	**Mont Dzumac**	**16.18**	**294**	Pn		**P**	**15 14 34.7**	**+1.5**
	0.3nm,0.3s,baz=120,slow=16,SNR=5.3							
DZM						LR	LR	15 19 24.8	
	comp=Z,2μm,19.6s,baz=190,slow=32							
RPZ	**Rata Peaks**	**16.59**	**210**	P		**Pn**	**15 14 33.9**	**-1.9**
	19nm,0.5s							
RPZ						Sn	Sn	15 17 23.5	-15
RPZ	**Rata Peaks**	**16.59**	**210**	Pn		**Pn**	**15 14 34.4**	**-1.4**
	3.8nm,0.3s,baz=29,slow=11,SNR=20							
RPZ						Sn	Sn	15 17 23.5	-15
	2.0nm,0.3s,baz=233,slow=23,SNR=7.1							
AFI	**Afiamalu**	**16.68**	**20**	Pn		Pn	15 14 26.2	-11
AFI						Sn	Sn	15 17 17.9	-24
AFI	**Afiamalu**	**16.68**	**20**	Pn		Pn	15 14 26.2	-11
	1.0nm,0.3s,baz=317,slow=19,SNR=2.8							
AFI						Sn	Sn	15 17 17.9	-24
	2.7nm,0.3s,baz=60,slow=20,SNR=5.5							
RAR	**Rarotonga**	**18.26**	**66**	*e*P		**P**	**15 14 52.7**	**-3.4**
RAR						S	Sn	15 17 58.0	-22
RAR	**Rarotonga**	**18.26**	**66**	P		P	15 14 51.0	-5.1
	3.1nm,0.3s,baz=270,slow=7.3,SNR=11							
RAR						S	Sn	15 17 58.0	-22
	1.9nm,0.3s,baz=90,slow=18,SNR=5.5							
RAR						LR	LR	15 19 59.3	
	comp=Z,838nm,21.4s,baz=270,slow=31							
LHI	**Lord Howe Isla**	**20.08**	**259**	↑P		Pn	15 15 19.7	+1.5
	baz=20							
TBI	**Tubuai**	**26.01**	**83**	*e*S		S	15 20 50.5	+8.3
	428nm,29.0s							
TBI				*e*LR		LR	15 22 47.6	
	2μm,26.8s,baz=245							
TBI	**Tubuai**	**26.01**	**83**	*e*T		T	15 42 41.8	
	93nm,0.3s							
ARMA	**Armidale**	**26.52**	**261**	*e*P		**P**	**15 16 23.5**	**+3.8**
	29nm,0.8s							
ARMA	**Armidale**	**26.52**	**261**	↓P		**P**	**15 16 23.4**	**+3.6**
	baz=27,SNR=22							
PAE	**Paea**	**28.33**	**71**	*e*T		T	15 45 25.6	
	16nm,0.3s							
PPT2	**Papeete2**	**28.37**	**71**	*e*S		**S**	**15 21 23.9**	**+4.2**
	236nm,27.5s							
PPT2				*e*LR		LR	15 23 45.1	
	2μm,26.2s,baz=234							
PPT2	**Papeete2**	**28.37**	**71**	*e*T		T	15 45 29.3	
	17nm,0.3s							
PPT	**Papeete**	**28.38**	**71**	LR		LR	15 24 14.1	
	comp=Z,644nm,21.4s,baz=237,slow=29							
TVO	**Taravao**	**28.54**	**72**	*e*T		T	15 45 41.7	
	2.6nm,0.3s							
**C

comp=Z,114nm,20.8s,baz=31,slow=30
FITZ Fitzroy Crossi 52.63 269 P **P** **15 19 55.3 -0.6**
FITZ Fitzroy Crossi 52.63 269 P **P** **15 19 55.3 -0.6**
comp=Z,24nm,0.8s,baz=155,slow=6.8,SNR=25
FITZ LR LR 15 41 51.5
comp=Z,169nm,18.3s,baz=108,slow=36
KIP Kipapa 54.28 23 *e*P **P** **15 20 07.4 -0.4**
KIP pmax pmax
comp=Z,74nm,1.7s
NWAO Narrogin (SRO) 54.88 249 LR LR 15 42 38.1
comp=Z,250nm,18.9s,baz=253,slow=35
CASY Casey 55.84 208 *e*P **P** **15 20 18.2 -0.4**
comp=Z,35nm,1.0s
MBWA Marble Bar 56.56 263 *e*P **P** **15 20 23.0 -1.4**
comp=Z,14nm,1.0s
QSPA South Pole Qui 60.37 180 P **P** **15 20 52.6 +2.2**
QSPA South Pole Qui 60.37 180 P **P** **15 20 52.6 +2.2**
comp=Z,7.7nm,0.6s,baz=50,slow=1.8,SNR=14
LBFI Labuhan Bajo, 61.92 276 P **P** **15 21 00.9 -0.6**
comp=Z,115nm,0.7s
MTNI Mataram 65.07 274 P **P** **15 21 20.2 -2.1**
comp=Z,42nm,1.0s
GMJI Gumukmas 67.61 273 P P 15 21 35.2 -3.4
comp=Z,50nm,0.9s
PWJI Pagerwojo 69.15 273 P **P** **15 21 46.5 -1.7**
comp=Z,36nm,0.9s
SJI Sawahan 69.32 273 P P 15 21 45.4 -4.0
comp=Z,42nm,0.8s,comp=Z,1µm
PCJI Pacitan 69.61 272 P **P** **15 21 50.8 -0.3**
comp=Z,164nm,0.8s,comp=Z,1µm
TSM Tawau 70.27 287 P **P** **15 21 54.8 -0.3**
BJII Banjamegara 71.30 272 P P 15 22 12.5 +11
SDKM Sandakan 71.58 288 P **P** **15 22 02.6 -0.4**
KPJI Karang Pucung 71.98 272 P **P** **15 22 03.5 -1.9**
comp=Z,41nm,0.8s
KDM Kudat 72.58 289 P P 15 22 19.4 +10
CISI Cisompet, Garu 72.84 271 P **P** **15 22 09.4 -1.3**
comp=Z,58nm,0.9s,comp=Z,517nm
MAW Mawson 73.02 200 P **P** **15 22 12.2 +1.5**
MAW Mawson 73.02 200 P **P** **15 22 12.2 +1.5**
comp=Z,16nm,0.8s,baz=135,slow=7.3,SNR=9.6
MAW LR LR 15 53 21.4
comp=Z,187nm,18.3s,baz=134,slow=35
MAW Mawson 73.02 200 ⇑P **P** **15 22 12.0 +1.3**
baz=73
LEM Lembang 73.36 272 P **P** **15 22 13.6 -0.3**
comp=Z,86nm,0.8s
BTM Bintulu 73.70 283 P **P** **15 22 16.0 +0.3**
SBUM Sibu 74.04 282 P **P** **15 22 17.4 -0.2**
CBJI Citeko 74.22 272 P **P** **15 22 17.1 -1.6**
comp=Z,106nm,0.9s
KSM Kuching 75.16 280 P **P** **15 22 23.8 -0.4**
KASI Kota Agung 76.70 271 P **P** **15 22 31.2 -1.7**
comp=Z,53nm,1.0s
KLSI 76.91 272 P **P** **15 22 31.9 -2.2**
comp=Z,28nm,0.9s
LWLI Liwa 77.33 271 P **P** **15 22 35.4 -1.2**
comp=Z,49nm,0.7s,comp=Z,3µm
MDSI Maura Dua 77.48 272 P **P** **15 22 35.5 -1.8**
comp=Z,78nm,0.8s,comp=Z,569nm
SYO Syowa Base 77.81 193⇑ *e*P **P** **15 22 37.8 -0.4**
MJAR Matsushiro Arr 77.85 325 P **P** **15 22 38.9 0.0**
MJAR Matsushiro Arr 77.85 325 P **P** **15 22 38.9 0.0**
comp=Z,10nm,0.8s,baz=158,slow=5.2,SNR=17
MJAR LR LR 15 51 12.0
comp=Z,101nm,21.9s,baz=125,slow=31
MAJO Matsushiro 77.86 325*c i*P **P** **15 22 38.0 -0.9**
MAJO pmax pmax
comp=Z,77nm,0.8s
MAT Matsushiro 77.86 325 P **P** **15 22 38.0 -0.9**
MAT *e*S **S** **15 32 32.6 +4.8**
SNAA Sanae 78.81 178 *e*P **P** **15 22 44.1 +0.4**
comp=Z,20nm,1.3s
JNU Nakatsue 79.24 318 P **P** **15 22 45.7 -0.9**
JNU Nakatsue 79.24 318 P **P** **15 22 45.7 -0.9**
comp=Z,6.0nm,0.6s,baz=141,slow=5.7,SNR=5.8
VNA2 Neumayer--Watz 79.38 177 *e*P **P** **15 22 47.8 +1.0**
VNA2 Neumayer--Watz 79.38 177 *e*PcP **PcP** **15 22 51.8 -3.0**
NVL N'lazarevskaya 79.55 183 *e*P P 15 22 52.6 +4.9
NVL pmax pmax
comp=Z,6.0nm,0.6s
VNA1 Neumayer--Stat 79.61 176 *e*P **P** **15 22 49.0 +1.0**
MASI Maura Aman, Be 79.83 272 P **P** **15 22 49.4 -0.9**
comp=Z,190nm,0.8s,comp=Z,5µm
ASAJ Asahikawa 81.98 332 P **P** **15 23 00.8 -0.1**
ASAJ Asahikawa 81.98 332 P **P** **15 23 00.8 -0.1**
comp=Z,18nm,0.8s,baz=223,slow=9.2,SNR=7.6
PLCA Paso Flores 82.76 133 P **P** **15 23 04.7 -0.8**
PLCA Paso Flores 82.76 133 P **P** **15 23 04.7 -0.8**
comp=Z,2.5nm,0.8s,baz=223,slow=6.2,SNR=9.0
PLCA LR LR 15 51 52.0
comp=Z,92nm,20.7s,baz=278,slow=30
KSRS Korea Array 84.02 319 P **P** **15 23 12.9 +1.3**
comp=Z,7.0nm,0.9s,baz=144,slow=5.8,SNR=16
KSRS LR LR 15 58 43.3
comp=Z,94nm,19.2s,baz=26,slow=34
KSAR Wonju Array Be 84.03 319 P **P** **15 23 12.9 +1.2**
MNSI Mandailing Nat 84.07 274 P P 15 23 07.8 -4.7
comp=Z,12nm,1.2s
YSS Yuzh-Sakhalins 84.27 334 *e*P **P** **15 23 13.3 +0.6**
YSS pmax pmax
comp=Z,30nm,0.8s
PKM Peak Mountain 84.31 44 ⇓P **P** **15 23 14.0 +0.5**
baz=84
IPM Ipoh 84.66 278 *e*P **P** **15 23 14.3 -1.2**
comp=Z,18nm,0.8s
QIZ Qiongzhong 84.95 295 P **P** **15 23 14.4 -2.4**
QIZ S **S** **15 33 42.3 +0.3**
QIZ pmax pmax
comp=Z,32nm,1.7s
QIZ pmax pmax
comp=Z,110nm,3.6s
PET Petropavlovsk 84.96 346 *e*P P 15 23 09.2 -6.8
PET MLR MLR
comp=Z,200nm,16.0s
MURC Murrieta 85.09 47 ⇑P **P** **15 23 18.1 +0.9**
baz=85
MONP Monument Peak 85.13 48 ⇑P **P** **15 23 18.0 +0.4**
baz=85
DVTC Desert V Tower 85.19 48 ⇓P **P** **15 23 18.9 +1.2**
baz=85
BFSC Mount Baldy Ra 85.21 46 ⇓P **P** **15 23 18.3 +0.4**
baz=85
PETK Petropavlovsk- 85.24 345 P **P** **15 23 16.6 -0.8**
PETK Petropavlovsk- 85.24 345 P **P** **15 23 16.6 -0.8**
PETK Petropavlovsk- 85.24 345 P **P** **15 23 16.6 -0.8**
comp=Z,9.4nm,0.7s,baz=125,slow=6.6,SNR=16
PETK LR LR 15 55 11.9
comp=Z,74nm,21.3s,baz=341,slow=31
EDW2 Edwards Air Fo 85.43 45 ⇓P **P** **15 23 19.3 +0.4**
baz=86,SNR=7.3
SWSC Sam W. Stewart 85.56 48 ⇑P **P** **15 23 20.7 +1.2**
baz=86
PFO Pinyon Flat Ob 85.57 47 ⇑P **P** **15 23 20.6 +0.9**
baz=86
PSI Prapat 85.63 276 P P 15 23 13.6 -6.9
comp=Z,15nm,1.3s
PSI Prapat 85.63 276 P **P** **15 23 19.2 -1.3**
PSI Prapat 85.63 276 P **P** **15 23 19.2 -1.3**
comp=Z,3.3nm,0.4s,baz=206,slow=4.7,SNR=13
ISA Isabella 85.64 45 *e*P **P** **15 23 20.7 +0.7**
ISA pmax pmax
comp=Z,6.0nm,1.4s
ISA Isabella 85.64 45 *e*P **P** **15 23 20.7 +0.7**
comp=Z,5.9nm,1.4s
ISA Isabella 85.64 45 ⇓P **P** **15 23 19.9 -0.1**
baz=86,SNR=8.6
LRMC Laurel Mountai 86.00 45 ⇓P **P** **15 23 22.0 +0.2**
baz=86,SNR=6.2
NJ2 Nanjing 86.02 310 *e*P **P** **15 23 23.0 +1.2**
NJ2 pmax pmax
comp=Z,20nm,1.0s
GSI Gunungsitoli 86.06 274 ⇑P **P** **15 23 23.1 +0.6**
baz=86
BELC Belle Mtn. Jos 86.11 47 ⇑P **P** **15 23 23.3 +0.9**
baz=86
BC3 Big Chuckawall 86.24 48 ⇓P **P** **15 23 23.5 +0.5**
baz=86
GLA Glamis 86.26 49 ⇑P **P** **15 23 23.9 +0.8**
baz=86
CWC Cottonwood Cre 86.40 44 ⇑P **P** **15 23 24.2 +0.4**
baz=86
HEC Hector,Ludlow 86.43 46 ⇓P **P** **15 23 24.1 +0.2**
baz=86,SNR=7.4
GSC Goldstone 86.44 46 *e*P **P** **15 23 24.6 +0.7**
GSC pmax pmax
comp=Z,8.0nm,1.5s
GSC Goldstone 86.44 46 ⇑P **P** **15 23 23.9 0.0**
baz=87,SNR=7.2
MPMC Manual Prospec 86.51 45 ⇓P **P** **15 23 24.2 -0.2**
baz=87,SNR=7.5
IRM Iron Mountain 86.75 47 ⇑P **P** **15 23 25.9 +0.5**
baz=87,SNR=9.3
USRK Ussuriysk Arra 86.76 326 P **P** **15 23 26.2 +1.1**
comp=Z,9.0nm,0.8s,baz=127,slow=4.1,SNR=13
USRK LR LR 15 58 50.7
comp=Z,88nm,19.3s,baz=124,slow=33
113A Mohawk Valley, 86.78 49 ⇑P **P** **15 23 26.2 +0.7**
baz=87
GMRC Granite Mounta 86.82 47 ⇑P **P** **15 23 26.4 +0.5**
baz=87
N02D Trinity Center 86.82 38 ⇑P **P** **15 23 26.2 +0.6**
baz=87
214A Organ Pipe Nat 86.91 50 ⇑P **P** **15 23 26.8 +0.6**
baz=87
WAKR Walker 86.96 42 *e*P **P** **15 23 27.1 +0.6**
comp=Z,8.1nm,1.3s
TUQ Turquoise Moun 87.07 46 ⇓P **P** **15 23 28.0 +0.9**
baz=87
GRAC Grapevine Rang 87.19 44 ⇓P **P** **15 23 28.4 +0.9**
baz=87
PDMCI Parker Dam,Lak 87.49 48 ⇓P **P** **15 23 30.0 +1.0**
baz=88
NVAR Mina Array Bea 87.58 43 P **P** **15 23 29.4 -0.1**
NVAR Mina Array Bea 87.58 43 P **P** **15 23 29.4 -0.1**
comp=Z,4.1nm,0.8s,baz=222,slow=7.1,SNR=25
Z14A Wintersburg 87.69 49 ⇓P **P** **15 23 30.8 +0.9**
baz=88
TPNV Topopah Spring 87.84 45 ⇓P **P** **15 23 31.0 +0.2**
baz=88,SNR=7.1
Y14A Wickenburg 88.00 49 ⇓P **P** **15 23 32.4 +0.9**
baz=88
W13A Hualapai Mount 88.15 47 ⇓P **P** **15 23 33.2 +0.8**
baz=88
SHPR Sheep Range 88.23 46 *e*P **P** **15 23 33.6 +0.9**
comp=Z,4.9nm,1.3s
MDJ Mudanjiang 88.24 325 P **P** **15 23 33.0 +0.8**
MDJ pP **pP** **15 23 47.5 +0.2**
MDJ sP **sP** **15 23 53.3 +0.3**
MDJ PP **PP** **15 27 00.0 -0.5**
MDJ S **S** **15 34 13.3 +0.6**
MDJ sS **sS** **15 34 38.4 +0.3**
MDJ pmax pmax
comp=Z,8.0nm,1.4s
MDJ pmax pmax
comp=Z,120nm,4.1s
TUC Tucson 88.49 51 *e*P **P** **15 23 35.2 +1.3**
TUC pmax pmax
comp=Z,12nm,1.5s
TUC Tucson 88.49 51 *e*P **P** **15 23 35.2 +1.3**
comp=Z,12nm,1.5s
HABR Khabarovsk 88.60 331 *e*P **P** **15 23 33.2 -0.6**
HABR *e* 15 27 00.6
HABR *e*PPP PPP 15 28 56.7
HABR 15 34 14.0
HABR eSS SS 15 40 02.0 -6.7
HABR eSSS SSS 15 43 36.3
HABR pmax pmax
comp=Z,12nm,1.1s
HABR MLR MLR
comp=Z,106nm,22.0s
319A Douglas 88.97 53 ⇓P **P** **15 23 37.3 +1.1**
baz=89
PATY Pattaya 89.05 285 P P 15 23 40.3 +3.5
comp=Z,5.4nm,0.8s
J05D Fort Rock, OR 89.21 37 ⇓P **P** **15 23 38.2 +1.1**
baz=89
X16A Lo Mia Camp, P 89.32 49 ⇑P **P** **15 23 38.9 +1.1**
baz=89,SNR=7.1
320A Kipp Ranch, An 89.47 53 ⇓P **P** **15 23 39.9 +1.3**
baz=90
CHAI Chaiyaphum 89.64 288 P **P** **15 23 40.6 +1.1**
comp=Z,4.9nm,0.8s
CN2 Changchun 89.78 323 *e*P **P** **15 23 40.3 +0.8**
CN2 epP **pP** **15 23 57.4 +2.8**
CN2 eS **S** **15 34 25.3 -1.9**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
I05D Terrebonne, OR 89.89 37 ⇑P **P** **15 23 40.2 +0.1**
baz=90
U15A North Rim 89.99 47 ⇑P **P** **15 23 41.8 +0.8**
baz=90,SNR=11
WUAZ Wutatki 90.03 48 *e*P **P** **15 23 42.2 +1.1**
comp=Z,12nm,1.3s
WUAZ Wupatki 90.03 48 ⇓P **P** **15 23 41.6 +0.5**
baz=90,SNR=7.1
PHET Kaeng Krachan 90.08 285 P **P** **15 23 44.1 +2.5**
comp=Z,42nm,1.0s
X18A Snowflake 90.37 50 ⇓P **P** **15 23 43.8 +1.1**
baz=90
PBKT Sadao Pong 90.82 289 P P 15 23 48.7 +3.8
W18A Petrified Fore 90.86 49 ⇑P **P** **15 23 46.2 +1.2**
baz=91
222A Williams Famil 90.90 53 ⇑P **P** **15 23 45.9 +0.7**
baz=91
ENH Enshi 91.45 304 *e*P **P** **15 23 48.6 +0.9**
comp=Z,12nm,1.1s
GYA Guiyang 91.46 300 P **P** **15 23 48.0 +0.1**
GYA pP **pP** **15 24 05.3 +2.3**
GYA sP **sP** **15 24 12.8 +4.1**
GYA PP **PP** **15 27 29.0 +2.4**
GYA SKS **SKSac** **15 34 13.4 -2.9**
GYA S **S** **15 34 40.8 -2.8**
GYA sS **sS** **15 35 08.4 -0.8**
GYA SS **SS** **15 40 50.9 -0.2**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.8s
GYA LR LR
comp=Z,580nm,20.7s
GYA LR LR
comp=Z,480nm,21.6s
GYA LR LR
comp=Z,560nm,20.3s
626A Big Bend Ranch 91.59 57 ⇓P **P** **15 23 48.9 +0.5**
baz=92
425A Indio Mountain 91.66 55 ⇑P **P** **15 23 49.5 +0.8**
baz=92
Z22A Elephant Butte 91.66 52 ⇓P **P** **15 23 49.2 +0.5**
baz=92,SNR=7.4
324A Moseley Ranch, 91.67 55 ⇓P **P** **15 23 49.6 +0.8**
baz=92
TXAR Lajitas Array 91.81 57 P **P** **15 23 49.0 -0.4**
TXAR Lajitas Array 91.81 57 P **P** **15 23 49.0 -0.4**
comp=Z,1.2nm,0.9s,baz=198,slow=3.7,SNR=5.9
TXAR LR LR 15 54 46.7
comp=Z,70nm,20.8s,baz=185,slow=29
526A Mary Lane Ranc 91.90 56 ⇑P **P** **15 23 50.7 +0.8**
baz=92
325A Bean Ranch, Si 91.99 55 ⇓P **P** **15 23 50.7 +0.4**
baz=92
224A Cornudas Mount 91.99 54 ⇑P **P** **15 23 50.6 +0.3**
baz=92
Y22A Socorro 92.04 52 ⇑P **P** **15 23 51.3 +0.8**
baz=92
627A Terlingua Ranc 92.08 57 ⇑P **P** **15 23 50.9 +0.2**
baz=92,SNR=5.9
Z23A Rita Site, Whi 92.16 53 ⇑P **P** **15 23 51.9 +0.9**
baz=92
426A McDonald Obser 92.28 56 ⇓P **P** **15 23 51.8 +0.1**
baz=92
527A Woodward Ranch 92.29 56 ⇑P **P** **15 23 52.1 +0.4**
baz=92
124A Stringfield Ra 92.39 53 ⇓P **P** **15 23 52.9 +0.7**
baz=92
628A Black Gap, Mar 92.46 57 ⇑P **P** **15 23 52.5 +0.1**
baz=93,SNR=5.4
225A Deer Hill, Car 92.50 54 ⇓P **P** **15 23 52.8 +0.1**
baz=93
BJI Beijing 92.64 315 P **P** **15 23 54.3 +1.4**
BJI S **S** **15 34 54.3 +1.0**
BJI pmax pmax
comp=Z,16nm,0.6s
BJI LR LR
comp=Z,130nm,35.5s
Y23A Lovelace Mesa, 92.66 52 ⇑P **P** **15 23 53.9 +0.5**
baz=93
Z24A Sheeppen Canyo 92.80 53 ⇓P **P** **15 23 54.3 +0.2**
baz=93
427A Hayter Ranch, 92.83 56 ⇑P **P** **15 23 54.4 +0.3**
baz=93
125A Gardner Draw, 92.92 54 ⇓P **P** **15 23 54.8 +0.2**
baz=93
X23A Hourglass Bar 92.94 52 ⇑P **P** **15 23 55.1 +0.4**
baz=93
226B Tecolote Peak, 92.95 55 ⇑P **P** **15 23 55.0 +0.4**
baz=93
Y24A Capitan 93.08 52 ⇓P **P** **15 23 55.9 +0.5**
baz=93,SNR=8.4
HLID Hailey 93.13 41 ⇑P **P** **15 23 55.5 +0.2**
baz=93
Z25A Roswell 93.22 53 ⇑P **P** **15 23 56.5 +0.6**
baz=93
529A Stev Forest Ra 93.29 57 ⇓P **P** **15 23 56.5 +0.2**
baz=93
GAMB Gambell 93.32 3 *e*P **P** **15 23 55.6 +0.2**
comp=Z,9.2nm,1.1s
CMAR Chiang Mai Arr 93.44 289 P **P** **15 23 58.0 +1.0**
CMAR Chiang Mai Arr 93.44 289 P **P** **15 23 58.0 +1.0**
comp=Z,1.3nm,1.0s,baz=123,slow=3.0,SNR=6.3
CMAR LR LR 16 08 08.5
comp=Z,59nm,18.5s,baz=344,slow=37
X24A Lazy VL Ranch, 93.44 52 ⇑P **P** **15 23 57.1 +0.1**
baz=94
Y25A Mesa, Roswell 93.60 53 ⇓P **P** **15 23 57.6 0.0**
baz=94
Z26A Caprock 93.74 54 ⇑P **P** **15 23 58.1 -0.2**
baz=94
KMI Kunming 93.76 297 P **P** **15 23 56.4 -2.3**
KMI S **S** **15 35 01.3 -3.1**
KMI pmax pmax
comp=Z,6.0nm,0.5s
429A Davenport Ranc 93.80 57 ⇑P **P** **15 23 58.6 +0.1**
baz=94
W24A Lazy 6 Ranch, 93.82 51 ⇓P **P** **15 23 58.6 -0.1**
baz=94
XAN Xi'an 93.93 307 P **P** **15 24 00.4 +1.4**
XAN pmax pmax
comp=Z,2.0nm,0.9s
X25A Clemmons Ranch 93.95 52 ⇑P **P** **15 23 59.6 +0.3**
baz=94
530A J-C Ranch, Com 93.95 58 ⇓P **P** **15 23 59.6 +0.4**
baz=94
V24A Rampart Ranch, 94.20 51 ⇓P **P** **15 24 00.7 +0.2**
baz=94
S22A 4UR Ranch, Cre 94.29 49 ⇑P **P** **15 24 00.9 -0.1**
baz=94
Z27A Tatum 94.30 54 ⇑P **P** **15 24 01.4 +0.6**
baz=94
W25A X Bar L Ranch, 94.47 52 ⇑P **P** **15 24 01.1 -0.6**
baz=95
531A Rocksprings 94.54 58 ⇓P **P** **15 24 02.0 +0.1**
baz=95
X26A CR and CF Fran 94.55 53 ⇑P **P** **15 24 01.9 -0.1**
baz=95
Y27A Causey 94.64 54 ⇓P **P** **15 24 02.6 +0.2**
baz=95
V25A Rancho No Teng 94.70 51 ⇓P **P** **15 24 02.6 -0.1**
baz=95
W26A Owens Ranch, T 94.88 52 ⇓P **P** **15 24 03.3 -0.2**
baz=95
MSTX Muleshoe 94.96 54 ⇑P **P** **15 24 03.9 +0.1**
baz=95
532A Rocksprings 95.00 58 ⇓P **P** **15 24 04.2 +0.2**
baz=95
N20A Spence Gulch, 95.14 46 ⇑P **P** **15 24 04.3 -0.3**
baz=95
U25A Circle Dot Ran 95.15 51 ⇓P **P** **15 24 04.9 +0.1**
baz=95
R23A Moffat 95.20 49 ⇓P **P** **15 24 06.0 +0.9**
baz=95
S24A Houchin Ranch, 95.30 49 ⇓P **P** **15 24 06.1 +0.5**
baz=95
W27A Bowe Ranch, En 95.35 53 ⇑P **P** **15 24 06.2 +0.6**
baz=96
TRF Thorofare Moun 95.39 12 *e*P **P** **15 24 03.4 -1.8**
comp=Z,6.8nm,0.8s
PDAR Pinedale Array 95.47 43 P **P** **15 24 05.4 -0.8**
PDAR PKKP **PKKPbc** **15 40 58.2 -0.6**
PDAR Pinedale Array 95.47 43 P **P** **15 24 05.4 -0.8**
comp=Z,0.9nm,0.8s,baz=200,slow=3.0,SNR=6.7
PDAR PKKP **PKKPbc** **15 40 58.2 -0.6**
comp=Z,0.7nm,0.7s,baz=88,slow=5.5,SNR=6.4
PDAR LR LR 15 58 25.7
comp=Z,134nm,19.4s,baz=257,slow=30
I17A Pilgrim Ck. 95.55 42 ⇑P **P** **15 24 06.8 +0.3**
baz=96
433A Art 95.92 58 ⇑P **P** **15 24 08.2 0.0**
baz=96
CD2 Chengdu 95.96 302 *e*P **P** **15 24 10.3 +1.9**
CD2 PP **PP** **15 28 06.9 +5.2**
CD2 S S 15 35 12.1 -11
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,100nm,8.2s
HHC Hu-ho-hao-te 95.97 314 *e*P **P** **15 24 08.0 -0.3**
HHC sP **sP** **15 24 31.0 +1.8**
HHC PP **PP** **15 28 03.6 +2.0**
HHC SKS **SKSac** **15 34 37.9 -2.4**
HHC S **S** **15 35 17.8 -4.9**
HHC sS **sS** **15 35 46.3 -2.1**
HHC SS **SS** **15 41 53.8 -1.3**
HHC pmax pmax
comp=Z,210nm,8.5s
HHC LR LR
comp=Z,220nm,17.7s
HHC LR LR
comp=Z,360nm,18.2s
HHC LR LR
comp=Z,280nm,18.2s
J19A Crowheart 96.07 43 ⇓P **P** **15 24 09.1 +0.4**
baz=96
I19A Meeteetse 96.55 43 ⇑P **P** **15 24 11.5 +0.6**
baz=97
COLA College 97.14 12⇑ *i*P **P** **15 24 12.1 -0.7**
COLA pmax pmax
comp=Z,10.0nm,0.7s
ILAR Eielson Array 97.23 13 P **P** **15 24 11.6 -1.7**
ILAR PKKP **PKKPdf** **15 40 56.2 -0.8**
ILAR Eielson Array 97.23 13 P **P** **15 24 11.6 -1.7**
comp=Z,1.2nm,0.7s,baz=220,slow=5.1,SNR=18
ILAR PKKP **PKKPdf** **15 40 56.2 -0.8**
comp=Z,0.2nm,0.6s,baz=39,slow=3.6,SNR=4.2
ILAR LR LR 15 59 51.5
comp=Z,70nm,21.8s,baz=279,slow=30
I22A 9 Mile Ranch, 97.96 44 ⇑P **P** **15 24 17.1 -0.2**
baz=98
LZH Lanzhou 98.54 307 *e*P **P** **15 24 19.8 -0.3**
LZH pP **pP** **15 24 35.3 0.0**
LZH sP **sP** **15 24 41.8 +0.8**
LZH PP **PP** **15 28 22.4 +0.8**
LZH SKS **SKSac** **15 34 51.3 -2.5**
LZH *e*S S 15 35 38.0 -7.1
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,60nm,4.4s
LZH LR LR
comp=Z,410nm,15.1s
LZH LR LR
comp=Z,460nm,15.7s
LZH LR LR
comp=Z,520nm,17.6s
K25A Mack Ranch, Ha 98.86 46 ⇑Pdiff **P** **15 24 21.1 -0.2**
baz=99
H24A Dirks Ranch, A 99.59 44 ⇑Pdiff **Pdif** **15 24 24.7 +0.2**
baz=100
I25A Rochford 99.70 45 ⇓Pdiff **Pdif** **15 24 25.3 +0.2**
baz=100
N30A Hueftle Ranch, 100.33 49 ⇓Pdiff **Pdif** **15 24 28.3 +0.4**
baz=100
C22A Vida 100.43 41 ⇑Pdiff **Pdif** **15 24 28.2 +0.2**
baz=100
C23A Lambert 100.85 41 ⇑Pdiff **Pdif** **15 24 30.3 +0.3**
baz=101
YKA Yellowknife Ar 104.74 25 PKKPbc PKKPbc 15 40 30.8 -1.7
YKA Yellowknife Ar 104.74 25 PKKPbc PKKPbc 15 40 30.8 -1.7
comp=Z,0.5nm,0.7s,baz=32,slow=3.3,SNR=7.0
WMQ Urumqi 113.03 308 PKP **PKiKP** **15 29 17.0 -1.2**
WMQ PP **PP** **15 30 11.0 +2.7**
WMQ PKS **PKSdf** **15 32 53.0 -1.8**
WMQ SKS **SKSdf** **15 36 21.0 -4.9**
WMQ SKKS SKKSac 15 36 57.0 -8.3
WMQ LR LR
comp=Z,40nm,24.0s

WMQ LR LR
comp=Z,100nm,25.0s
WMQ LR LR
comp=Z,100nm,25.0s
MK31 Makanchi Array 117.55 310 *i* PKIKP **PKPdf 15 29 24.8 -1.9**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 117.55 310 PKIKP **PKPdf 15 29 25.1 -1.6**
MKAR Makanchi Array 117.55 310 PKP **PKPdf 15 29 25.1 -1.6**
MKAR Makanchi Array 117.55 310 PKP **PKPdf 15 29 25.1 -1.6**
comp=Z,2.2nm,0.6s,baz=224,slow=1.4,SNR=16
ZAA0 Zalesovo Array 117.72 319 *e*PKPdf **PKPdf 15 29 25.6 -1.1**
ZALV Zalesovo Beam 117.72 319 PKIKP **PKPdf 15 29 25.4 -1.4**
ZALV Zalesovo Beam 117.72 319 PKP **PKPdf 15 29 25.4 -1.4**
ZALV Zalesovo Beam 117.72 319 PKP **PKPdf 15 29 25.4 -1.4**
comp=Z,2.4nm,0.7s,baz=131,slow=1.4,SNR=13
BOSA Boshof 117.97 203 PKP **PKPdf 15 29 28.6 +0.2**
BOSA Boshof 117.97 203 PKP **PKPdf 15 29 28.6 +0.2**
comp=Z,2.1nm,0.6s,baz=90,slow=2.0,SNR=2.4
NVS Novosibirsk 118.81 319 *i* PKIKP **PKPdf 15 29 26.9 -1.9**
NVS pmax pmax
comp=Z,9.0nm,1.4s
NVS pmax pmax
comp=N,4.0nm,1.5s
NVS pmax pmax
comp=E,6.0nm,1.5s
KSH Kashi 120.13 301 PKP PKPdf 15 29 40.1 +8.1
KSH sPKP 15 29 50.1
KSH PP PP 15 31 05.1 +7.0
KSH PKS **PKSdf 15 33 11.0 +2.2**
KSH SKS **SKSdf 15 36 43.1 +3.3**
KSH SKKS **SKKSac 15 37 54.3 +1.2**
KSH Kashi 120.13 301 SS SS 15 47 27.1 +5.2
KSH AMB AMB
comp=Z,110nm,4.6s
KSH LR LR
comp=N,200nm,5.6s
KSH LR LR
comp=E,120nm,5.0s
KSH LR LR
comp=Z,200nm,7.0s
KURK Kurchatov 120.78 314 PKIKP **PKPdf 15 29 31.1 -1.6**
KURK pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 121.24 305 *e*PKIKP **PKPdf 15 29 32.9 -1.3**
TKM2 Tokmak 2 121.24 305 P **PKPdf 15 29 32.9 -1.3**
SNR=6.1
TKM2 Tokmak 2 121.24 305 *e*PKPdf **PKPdf 15 29 32.9 -1.3**
KZA Kyzart 121.30 304 P **PKPdf 15 29 34.5 -0.1**
SNR=8.0
UCH Uchtor 121.86 304 P **PKPdf 15 29 35.9 +0.2**
SNR=7.7
USP Ospenovka 122.10 305 P **PKPdf 15 29 34.6 -1.0**
SNR=5.9
EKS2 Erkin-Say 122.49 304 *e*PKIKP **PKPdf 15 29 35.3 -1.2**
EKS2 Erkin-Say 122.49 304 P **PKPdf 15 29 36.4 0.0**
SNR=7.0
EKS2 Erkin-Say 122.49 304 *e*PKPdf **PKPdf 15 29 35.2 -1.2**
KBL Kabul 124.20 294 *e*PKIKP **PKPdf 15 29 39.5 -0.7**
KBL Kabul 124.20 294 *e*PKPdf **PKPdf 15 29 39.5 -0.7**
KK31 Karatay Array 124.93 304 *i* PKIKP **PKPdf 15 29 39.7 -1.3**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 124.93 304 PKIKP **PKPdf 15 29 40.0 -1.0**
KKAR Karatay Array 124.93 304 PKPdf **PKPdf 15 29 40.0 -1.0**
BVA0 Borovoye Array 126.12 316 *i* PKIKP **PKPdf 15 29 41.9 -1.0**
BVA0 pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 126.18 316*c i*PKIKP **PKPdf 15 29 42.2 -0.8**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 126.18 316 *e*PKPdf **PKPdf 15 29 42.3 -0.8**
SVE Sverdlovsk 131.55 321 *e*PKIKP **PKPdf 15 29 52.1 -1.0**
SVE pmax pmax
comp=Z,13nm,1.0s
AB31 Akbulak array 132.68 311 *i* PKIKP **PKPdf 15 29 54.9 -0.6**
AB31 pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 132.68 311 *e*PKPdf **PKPdf 15 29 54.7 -0.8**
ARU Arti 132.75 321 *i* PKIKP **PKPdf 15 29 54.5 -0.9**
ARU 15 32 17.0
ARU Arti 132.75 321 *e*PKPdf **PKPdf 15 29 54.5 -0.9**
SOKR Solikamsk 133.00 326 *e*PKIKP **PKPdf 15 29 56.3 +0.6**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 137.38 331 *e*PKIKP **PKPdf 15 30 02.3 -1.5**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
KEV Kevo 137.54 348 *e*PKIKP PKPpre 15 29 57.5
KEV pmax pmax
comp=Z,1.0nm,0.5s
KEV Kevo 137.54 348 *ep* PKPpre 15 29 57.5
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 138.00 348 PKPpre PKPpre 15 29 57.4
ARCES PKP **PKPdf 15 30 04.3 -0.6**
ARCES ARCESS Array B 138.00 348 PKhKP PKPpre 15 29 57.4
comp=Z,2.7nm,0.7s,baz=36,slow=1.8,SNR=12
ARCES PKP **PKPdf 15 30 04.3 -0.6**
comp=Z,8.4nm,0.6s,baz=33,slow=0.9,SNR=19
JOF Joensuu 141.90 339 *ep* PKPpre 15 30 06.1
comp=Z,9.7nm,0.6s
VRHR Novokhopersk 143.84 317 *e*PKIKP **PKPdf 15 30 17.2 +1.4**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.8s
VRHR pmax pmax
comp=E,5.0nm,0.7s
KAF Kangasniemi 144.02 341 *e*PKIKP **PKPab 15 30 12.4 -0.9**
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 144.02 341 *ep* **PKPab 15 30 12.4 -0.9**
comp=Z,1.7nm,0.3s
ZEI Tsey 144.38 303 *e*PKIKP PKPbc 15 30 16.3 +0.4
ZEI pmax pmax
comp=Z,9.0nm,0.8s
FIA1 FINESS Array S 144.62 340 *e*PKPdf **PKPab 15 30 14.4 -1.1**
FINES FINESS Array B 144.62 340 PKP **PKPab 15 30 14.3 -1.3**
FINES FINESS Array B 144.62 340 PKP **PKPab 15 30 14.3 -1.3**
comp=Z,24nm,0.6s,baz=51,slow=3.6,SNR=88
OBN Obninsk 144.78 326⇓*i*PKIKP **PKPab 15 30 15.5 -0.9**
OBN *e* 15 30 31.9
OBN 15 33 41.0
OBN pmax pmax
comp=Z,52nm,1.3s
OBN Obninsk 144.78 326 *e*PKP **PKPab 15 30 15.3 -1.1**
KBZ Khabaz 144.96 305 PKIKP PKPbc 15 30 17.0 -0.4
KBZ Khabaz 144.96 305 PKPbc PKPbc 15 30 17.0 -0.4
KBZ Khabaz 144.96 305 PKPbc PKPbc 15 30 17.0 -0.4
comp=Z,5.8nm,0.7s,baz=198,slow=5.3,SNR=10
KIV Kislovodsk 145.07 305 *i* PKP2 **PKPbc 15 30 16.1 -1.8**
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV MLR MLR
comp=Z,78nm,21.0s
VSR Storozhevoye 145.22 319*c i*PKIKP **PKPbc 15 30 17.1 -0.9**
VORD Divnogorie 145.25 318 *e*PKP2 **PKPbc 15 30 15.7 -2.4**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,60nm,0.6s
VSU Vasula 146.73 337*c i*PKIKP **PKPdf 15 30 19.3 -1.3**
SOC Sochi 147.25 305 *i* PKP2 **PKPbc 15 30 23.7 -0.6**
SOC *e*PPP PPP 15 37 04.0
SOC pmax pmax
comp=Z,63nm,0.8s
NB2 NORSAR Subarra148.14 352 PKP **PKPbc 15 30 24.9 -1.3**
comp=Z,37nm,0.8s,baz=12,slow=2.9
NB2 NORSAR Subarra148.14 352 PKP **PKPbc 15 30 24.9 -1.3**
baz=12,slow=2.9
NOA NORSAR Array B148.14 352 PKPbc **PKPbc 15 30 25.1 -1.1**
NOA NORSAR Array B148.14 352 PKPbc **PKPbc 15 30 25.1 -1.1**
comp=Z,27nm,0.8s,baz=16,slow=4.3,SNR=69
NAO01 NORSAR Array S148.37 352 *e*PKPbc **PKPbc 15 30 25.5 -1.3**
ANN Anapa 148.54 308 *i* PKP2 **PKPbc 15 30 26.9 -0.8**
ANN pmax pmax
comp=Z,81nm,1.4s
IDID Didziasalis 149.05 333 *eP* **PKPbc 15 30 28.2 -0.4**
IDID AMB AMB 15 30 29.9
comp=Z,12nm,1.0s
ISAL Salakas 149.11 333 *eP* **PKPbc 15 30 28.6 -0.2**
ISAL AMB AMB 15 30 30.1
comp=Z,12nm,0.9s
MICGM Minsk 149.15 331 *e* **PKPab 15 30 37.0 +3.6**
MNK Minsk 149.17 331 *e*PKP2 **PKPab 15 30 37.0 +3.5**
IIGN Ignalina 149.23 333 *eP* **PKPbc 15 30 28.3 -0.9**
IIGN AMB AMB 15 30 29.9
comp=Z,26nm,0.9s
NACGM Naroch 149.33 332 *eP* **PKPdf 15 30 26.0 +1.0**
KONO Kongsberg 149.69 353 *e*PKP2 **PKPbc 15 30 30.6 +0.5**
AKASG Malin Array Be 150.93 324 PKIKP **PKPbc 15 30 32.4 -1.0**
AKASG Malin Array Be 150.93 324 PKPbc **PKPbc 15 30 32.4 -1.0**
AKASG Malin Array Be 150.93 324 PKPbc **PKPbc 15 30 32.4 -1.0**
comp=Z,30nm,0.7s,baz=48,slow=2.6,SNR=18
AKBB Malin Array Si 150.93 324 *e*PKIKP **PKPbc 15 30 31.9 -1.5**
AKBB Malin Array Si 150.93 324 *e*PKPbc **PKPbc 15 30 31.9 -1.5**
AK01 Malin Array Si 150.94 324 *e*PKPbc **PKPbc 15 30 32.1 -1.3**
KIEV Kiev 150.95 324 *e*PKIKP **PKPbc 15 30 32.0 -1.4**
KIEV Kiev 150.95 324 *e*PKPbc **PKPbc 15 30 32.0 -1.4**
AK02 Malin Array Si 150.97 324 *e*PKPbc **PKPbc 15 30 32.0 -1.5**
SUW Suwalki 151.41 334 *e*PKIKP **PKPbc 15 30 33.3 -1.0**
SUW Suwalki 151.41 334 *e*PKP **PKPbc 15 30 33.3 -1.0**
SUW Suwalki 151.41 334 *e*PKPbc **PKPbc 15 30 33.3 -1.0**
BR131 Keskin Array S 152.51 300 *e*PKPbc **PKPbc 15 30 36.1 -1.5**
BRTR Keskin Array B 152.51 300 PKP **PKPdf 15 30 30.4 -0.3**
BRTR PKPbc **PKPbc 15 30 36.7 -0.9**
BRTR Keskin Array B 152.51 300 PKP **PKPdf 15 30 30.4 -0.3**
comp=Z,5.3nm,0.7s,baz=132,slow=4.1,SNR=4.3
BRTR PKPbc **PKPbc 15 30 36.7 -0.9**
comp=Z,8.2nm,0.9s,baz=117,slow=3.4,SNR=19
BSD Bornholm Skovb 153.07 344 *i* PKIKP **PKPbc 15 30 37.2 -0.9**
BSD pmax pmax
comp=Z,15nm,0.9s
BSD Bornholm Skovb 153.07 344 *i* P **PKPbc 15 30 37.2 -0.9**
comp=Z,15nm,0.9s
COP Copenhagen 153.08 347 *e*PKIKP **PKPbc 15 30 37.1 -0.9**
COP pmax pmax
comp=Z,27nm,0.9s
COP Copenhagen 153.08 347 *i* P **PKPbc 15 30 37.1 -0.9**
comp=Z,27nm,0.9s
ANTO Ankara 153.12 300 *e*PKIKP **PKPbc 15 30 38.5 -0.3**
ANTO Ankara 153.12 300 *e*PKPbc **PKPbc 15 30 38.5 -0.3**
KWP Kalwaria Pacla 154.83 328 *e*PKIKP **PKPbc 15 30 42.1 0.0**
KWP Kalwaria Pacla 154.83 328 *e*PKP **PKPbc 15 30 42.0 0.0**
BUR08 Bucovina Ar. S 154.88 322 *e*PKPbc **PKPbc 15 30 42.8 +0.4**
KOLS Kolonicke sedl 155.52 327 *e*PKP2 **PKPab 15 31 01.7 +1.4**
KOLS Kolonicke sedl 155.52 327 *e*PKP **PKPab 15 31 01.7 +1.4**
STHS Stebnicka Huta 155.65 329 *e*PKP2 **PKPab 15 31 02.3 +1.4**
STHS Stebnicka Huta 155.65 329 *e*PKP **PKPab 15 31 02.2 +1.4**
CRVS Cervenica-Dubn 155.92 328 *e*PKP2 **PKPab 15 31 03.7 +1.6**
CRVS Cervenica-Dubn 155.92 328 *e*PKP **PKPab 15 31 03.7 +1.6**
KSP Ksiaz 156.45 337 *e*PKIKP PKPdf 15 30 45.2 +10
KSP Ksiaz 156.45 337 *e*PKP PKPdf 15 30 45.9 +10
UPC Upice 156.83 337 *e*PKP2 **PKPab 15 31 07.5 +1.6**
UPC Upice 156.83 337 *e*PKPAB **PKPab 15 31 07.5 +1.6**
DPC Dobruska-Polom 156.86 337 *e*PKP2 **PKPab 15 31 07.8 +1.7**
DPC Dobruska-Polom 156.86 337 *e*PKPAB **PKPab 15 31 07.8 +1.7**
KRLC Kraliky 156.93 336 *e*PKP2 **PKPab 15 31 07.5 +1.1**
KRLC Kraliky 156.93 336 *e*PKPAB **PKPab 15 31 07.5 +1.1**
CLL Collm 157.02 343 *e*PKPab **PKPab 15 31 08.1 +1.5**
CLL Collm 157.02 343 *e*PKPdiff PKPdf 15 30 46.7 +10
comp=Z,13nm,1.0s
CLL *i* PKPab **PKPab 15 31 08.3 +1.7**
comp=Z,19nm,0.9s
CLL *e*PP **PP 15 34 48.0 +3.1**
CLL Lm MLR 16 32 00.0
comp=Z,100nm,21.3s
CLZ Clausthal 157.12 347 *e*PKPab **PKPab 15 31 08.9 +1.8**
BRG Berggiesshubel 157.16 341 *e*PKP PKPdf 15 30 46.8 +10
comp=Z,8.9nm,1.1s
BRG *i* 15 31 08.6
comp=Z,11nm,0.8s
BRG Berggiesshubel 157.16 341 *e*PKIKP PKPdf 15 30 46.8 +10
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG pmax pmax
comp=Z,11nm,0.8s
BRG Berggiesshubel 157.16 341 *e*PKPab **PKPab 15 31 08.9 +1.6**
PVCC Panska Ves 157.28 339 *e*PKP2 **PKPab 15 31 08.9 +1.1**
PVCC Panska Ves 157.28 339 *e*PKPAB **PKPab 15 31 08.9 +1.1**
FBE Freiberg 157.28 342 *e*PKPab **PKPab 15 31 09.8 +2.0**
PRU Pruhonice 157.76 339 *e*PKP2 **PKPab 15 31 11.8 +1.9**
PRU Pruhonice 157.76 339 *e*PKPAB **PKPab 15 31 11.8 +1.9**
TANN Tannenbergstha 157.98 342 *e*PKPab **PKPab 15 31 12.5 +1.6**
WERD Werda 157.99 343 *e*PKPab **PKPab 15 31 12.8 +1.9**
GUNZ Gunzen 158.06 343 *e*PKPab **PKPab 15 31 13.1 +1.9**
WERN Wernitzgruen 158.12 342 *e*PKPab **PKPab 15 31 13.5 +2.0**
NKC Novy Kostel 158.15 342 *e*PKP2 **PKPab 15 31 13.4 +1.8**
NKC Novy Kostel 158.15 342 *e*PKPAB **PKPab 15 31 13.4 +1.8**
KHC Kasperske Hory 158.81 339 *e*PKP2 **PKPab 15 31 15.4 +0.9**
KHC Kasperske Hory 158.81 339 *e*PKPAB **PKPab 15 31 15.4 +0.9**
GEC2 GERESS Array S 159.03 339 *e*PKPab **PKPab 15 31 17.0 +1.5**
GERES GERESS Array B 159.03 339 PKP **PKPdf 15 30 38.0 -0.9**
GERES PKPab **PKPab 15 31 17.1 +1.5**
GERES GERESS Array B 159.03 339 PKP **PKPdf 15 30 38.0 -0.9**
comp=Z,0.7nm,0.7s,baz=29,slow=3.0,SNR=3.4
GERES PKPab **PKPab 15 31 17.1 +1.5**
comp=Z,3.6nm,0.6s,baz=29,slow=3.5,SNR=10
CONA Conrad Observa 159.05 334⇑*i*PKPab **PKPab 15 31 15.7 +0.1**
comp=Z,6.0nm,0.7s
RJOB Jochberg 160.29 339 *e*PKPab **PKPab 15 31 23.0 +2.0**
WTTA Wattenberg 161.07 340⇑*i*PKPab **PKPab 15 31 25.3 +0.8**
comp=Z,12nm,0.6s
RETA Reutte 161.11 342⇑*i*PKPab **PKPab 15 31 25.1 +0.5**
comp=Z,17nm,1.0s
DAVA Damuels 161.52 344⇑*i*PKPab **PKPab 15 31 28.4 +1.8**
comp=Z,12nm,1.0s
TORD Torodi Ar. Bea 163.48 178 PKP **PKPdf 15 30 43.8 -0.7**
TORD PKPab **PKPab 15 31 35.6 0.0**
TORD Torodi Ar. Bea 163.48 178 PKP **PKPdf 15 30 43.8 -0.7**
comp=Z,2.1nm,1.1s,baz=295,slow=0.9,SNR=8.0
TORD PKPab **PKPab 15 31 35.6 0.0**
comp=Z,4.5nm,0.9s,baz=178,slow=3.7,SNR=13

*ISCJB **15** 15:22:57.9±0.3,23.°99N±0.°02×121.°84E±0.°02,h52km±5km, Error ellipse: s-maj=3.8km s-min=2.3km az=43.7*
*JMA **15** 15:22:57.1±0.1,23.°98N×121.°79E,h55km±2km,M3.2*
*TAP **15** 15:22:57.9,24.°03N×121.°77E,h55km,ML3.5,C*
ISC 15 15:22:58.5±1.2,24.°00N±0.°03×121.°83E±0.°03,h49km±7km, n59,σ0°69/105,6C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=250	**0.21**	**265**	*eP*		**Pn**		**15 23 08.0**	**+1.3**
TWD	**Chiawan** baz=292	**0.23**	**292**	*i* P		**Pn**		**15 23 06.9**	**0.0**
TWD	baz=292			*i* S		**Sn**		**15 23 13.4**	**+0.4**
ESF	**Shoufeng Towns** baz=247	**0.32**	**247**	*eP*		**Pn**		**15 23 07.9**	**+0.2**
EHP	**Heping Village** baz=357	**0.32**	**345**	*eP*		**Pn**		**15 23 08.0**	**+0.2**
TEGC	**Jichi Village** baz=205	**0.39**	**223**	*eP*		**Pn**		**15 23 08.5**	**+0.1**
ESL	**Shilin** baz=244	**0.41**	**244**	*eP*		**Pn**		**15 23 08.1**	**-0.5**
ESL	baz=244			*eS*		**Sn**		**15 23 15.5**	**-0.4**
ENA	**Nanau** baz=358	**0.44**	**349**	⇑P		**Pn**		**15 23 08.7**	**-0.3**
ENA	baz=358			S		**Sn**		**15 23 16.8**	**+0.3**
WHF	**Hehuan Shan** baz=282	**0.54**	**286**	*i* P		**Pn**		**15 23 09.9**	**-0.7**
WHF	baz=282			*i* S		**Sn**		**15 23 18.5**	**-0.8**
NNS	**Nan Shan** baz=320	**0.61**	**317**	⇑*i*P		**Pn**		**15 23 10.4**	**-0.7**
NNS	baz=320			S		**Sn**		**15 23 19.4**	**-0.9**
TWC	**Suao** baz=14	**0.61**	**2**	⇑*i*P		**Pn**		**15 23 10.9**	**-0.1**
TWC	baz=14			*i* S		**Sn**		**15 23 20.6**	**+0.5**
TWT	**Tachien** baz=292	**0.65**	**293**	⇑*i*P		**Pn**		**15 23 11.6**	**-0.2**
TWT	baz=292			S		**Sn**		**15 23 20.9**	**-0.4**
EHY	**Hungye** baz=217	**0.67**	**224**	*eP*		**Pn**		**15 23 10.6**	**-1.2**
EHY	baz=217			*eS*		**Sn**		**15 23 20.1**	**-1.4**
ENTT	**Nioudou** baz=338	**0.69**	**339**	⇑*i*P		**Pn**		**15 23 11.4**	**-0.6**
ENTT				*eS*		**Sn**		**15 23 21.3**	**-0.5**
ILA	**Ilan** baz=360	**0.77**	**354**	*eP*		**Pn**		**15 23 12.2**	**-0.9**
ILA	baz=360			*eS*		**Sn**		**15 23 24.4**	**+0.7**
NSK	**Sanguang** baz=331	**0.80**	**328**	*i* P		**Pn**		**15 23 12.9**	**-0.7**
NSK	baz=331			S		**Sn**		**15 23 23.8**	**-0.9**
EGS	baz=12	**0.85**	**6**	*eP*		**Pn**		**15 23 14.3**	**+0.1**
EGS	baz=12			*eS*		**Sn**		**15 23 26.2**	**+0.5**
SMLT	**Sun Moon Lake** baz=258	**0.86**	**263**	P		**Pn**		**15 23 14.2**	**-0.2**
SMLT	baz=258			*eS*		**Sn**		**15 23 26.4**	**+0.4**
TYC	**Yuchr** baz=260	**0.90**	**264**	*eP*		**Pn**		**15 23 14.6**	**-0.2**
TYC	baz=260			*eS*		**Sn**		**15 23 26.6**	**-0.1**
YUS	**Yu-Shan** baz=228	**0.95**	**238**	*eP*		**Pn**		**15 23 15.2**	**-0.7**
YUS	baz=228			S		**Sn**		**15 23 28.5**	**-0.2**
NSTT	**Nanjuang** baz=312	**0.99**	**310**	*i* P		**Pn**		**15 23 15.9**	**-0.1**
NSTT	baz=312			S		**Sn**		**15 23 28.7**	**-0.3**
CHKT	**Chengkung** baz=192	**0.99**	**206**	P		**Pn**		**15 23 15.2**	**-0.8**
CHKT	baz=192			*eS*		**Sn**		**15 23 27.9**	**-1.0**
TWB1	**Santiao Chiao** baz=24	**1.02**	**8**	P		**Pn**		**15 23 16.2**	**-0.2**
TWB1	baz=24			*eS*		**Sn**		**15 23 28.9**	**-0.8**
TWQ1	**Liyutan** baz=291	**1.03**	**290**	P		**Pn**		**15 23 16.2**	**-0.3**
TWQ1	baz=291			*i* S		**Sn**		**15 23 29.7**	**-0.2**
WNT	**Mingjian** baz=253	**1.05**	**264**	*eP*		**Pn**		**15 23 17.2**	**+0.3**
WNT	baz=253			*eS*		**Sn**		**15 23 31.6**	**+1.0**
ALS	**Alishan** baz=233	**1.06**	**243**	⇓*iP*		**Pn**		**15 23 17.4**	**+0.1**
ALS	baz=233			S		**Sn**		**15 23 31.2**	**+0.2**
NSY	**Sanyi** baz=294	**1.06**	**293**	*eP*		**Pn**		**15 23 17.0**	**-0.1**
NSY	baz=294			*eS*		**Sn**		**15 23 30.6**	**-0.2**
TCU	**Taichung** baz=278	**1.07**	**278**	*eP*		**Pn**		**15 23 16.8**	**-0.2**
TCU	baz=278			*eS*		**Sn**		**15 23 30.8**	**-0.1**
NWF	**Wu-fen Shan** baz=351	**1.07**	**358**	⇑*iP*		**Pn**		**15 23 17.1**	**-0.2**
NWF	baz=351			S		**Sn**		**15 23 31.3**	**+0.2**
ELDTW	**Lidau** baz=217	**1.09**	**223**	*eP*		**Pn**		**15 23 16.6**	**-1.0**
ELDTW	baz=217			*eS*		**Sn**		**15 23 31.1**	**-0.6**
CHN5	**Tsauling** baz=238	**1.13**	**250**	P		**Pn**		**15 23 18.0**	**0.0**
CHN5	baz=238			*eS*		**Sn**		**15 23 33.1**	**+0.7**
NCU	**National Centr** baz=332	**1.13**	**329**	*eP*		**Pn**		**15 23 17.4**	**-0.6**
NCU	baz=332			*eS*		**Sn**		**15 23 33.1**	**+0.6**
TWS1	**Kuangyinshan** baz=345	**1.16**	**341**	*eP*		**Pn**		**15 23 17.5**	**-0.9**
TWS1	baz=345			*eS*		**Sn**		**15 23 33.2**	**+0.1**
YOJ	**Yonaguni jima**	**1.17**	**66**	P		**Pn**		**15 23 18.4**	**-0.1**
YOJ				*eS*		**Sn**		**15 23 34.3**	**+0.9**
WGK	**Gukeng** baz=243	**1.20**	**255**	*eP*		**Pn**		**15 23 19.1**	**+0.2**
WGK	baz=243			*eS*		**Sn**		**15 23 35.3**	**+1.2**
STYT	**Tauyuan** baz=225	**1.29**	**230**	*eP*		**Pn**		**15 23 20.2**	**+0.1**
STYT	baz=225			*eS*		**Sn**		**15 23 37.1**	**+0.9**
TWY	**Chenhua** baz=343	**1.29**	**351**	*eP*		**Pn**		**15 23 21.1**	**+0.9**
WTP	**Ta-pu** baz=232	**1.34**	**236**	*eP*		**Pn**		**15 23 20.7**	**-0.2**
WTP	baz=232			*eS*		**Sn**		**15 23 38.6**	**+1.0**
TWG	**Pinlang** baz=198	**1.36**	**211**	*eP*		**Pn**		**15 23 20.0**	**-1.1**
TWG	baz=198			*eS*		**Sn**		**15 23 36.9**	**-1.1**
CHY	**Chiayi** baz=246	**1.38**	**249**	*eP*		**Pn**		**15 23 21.3**	**-0.1**
CHY	baz=246			*eS*		**Sn**		**15 23 39.0**	**+0.6**
WTCT	**Ta-ch'eng** baz=276	**1.42**	**265**	*eP*		**Pn**		**15 23 21.4**	**-0.5**
WTCT	baz=276			*eS*		**Sn**		**15 23 39.6**	**+0.1**
TWK	**Hsinying** baz=236	**1.43**	**240**	*i* P		**Pn**		**15 23 22.4**	**+0.4**
TWK	baz=236			S		**Sn**		**15 23 40.0**	**+0.3**
CHN1	**Nanshi** baz=232	**1.44**	**236**	*eP*		**Pn**		**15 23 22.7**	**+0.5**
CHN1	baz=232			*eS*		**Sn**		**15 23 40.8**	**+0.8**
SGST	**Jiashian** baz=219	**1.46**	**232**	P		**Pn**		**15 23 22.9**	**+0.5**
SGST	baz=219			*eS*		**Sn**		**15 23 41.5**	**+1.0**
WSF	**Szhu** baz=268	**1.52**	**257**	*eP*		**Pn**		**15 23 23.0**	**-0.1**
WSF	baz=268			*eS*		**Sn**		**15 23 42.8**	**+1.1**
ECL	**Taimali** baz=198	**1.61**	**210**	*eP*		**Pn**		**15 23 23.6**	**-0.8**
ECL	baz=198			*eS*		**Sn**		**15 23 42.7**	**-1.3**
CHN8	**Yiju** baz=233	**1.62**	**247**	*eP*		**Pn**		**15 23 24.2**	**-0.4**
CHN8	baz=233			*eS*		**Sn**		**15 23 44.7**	**+0.4**
SSD	**Sandimen** baz=216	**1.66**	**222**	*eP*		**Pn**		**15 23 25.8**	**+0.6**
SSD	baz=216			*eS*		**Sn**		**15 23 45.9**	**+0.6**
TWM1	**Shoushan** baz=225	**1.74**	**228**	*eP*		**Pn**		**15 23 26.9**	**+0.6**
TWM1	baz=225			*eS*		**Sn**		**15 23 49.3**	**+2.0**
IRIF	**Iriomote-Funau**	**1.77**	**79**	P		**Pn**		**15 23 26.6**	**0.0**
HATJ	**Hateruma jima**	**1.81**	**88**	P		**Pn**		**15 23 27.6**	**+0.5**
HATJ				S		**Sn**		**15 23 49.9**	**+1.0**
TAW	**Tawu** baz=200	**1.84**	**208**	*eP*		**Pn**		**15 23 28.2**	**+0.6**
SCZT	**Fangliau** baz=209	**1.96**	**215**	*eP*		**Pn**		**15 23 30.2**	**+1.0**
SCZT	baz=209			*eS*		**Sn**		**15 23 54.1**	**+1.4**
LAY	**Lan-yu** baz=185	**1.96**	**188**	*eP*		**Pn**		**15 23 28.1**	**-1.3**
JKRS	**Kuro-shima**	**2.01**	**83**	P		**Pn**		**15 23 30.6**	**+0.7**
JIJ	**Ishigaki jima**	**2.14**	**80**	P		**Pn**		**15 23 31.5**	**-0.3**
JIJ				S		**Sn**		**15 23 56.0**	**-1.2**
TWK1	**Hengchun** baz=196	**2.25**	**205**	*eP*		**Pn**		**15 23 32.5**	**-0.7**
JTJ	**Tarama**	**2.70**	**76**	P		**Pn**		**15 23 39.4**	**0.0**
JTJ				*eS*		**Sn**		**15 24 10.3**	**-0.5**
QZH	**Quanzhou**	**3.10**	**288**	Pn		Pn		15 23 38.4	-6.5
QZH				Sn		Sn		15 24 10.9	-10
QZH	comp=N,60nm,0.3s			smax		smax			
QZH	comp=E,90nm,1.0s			smax		smax			
KNM	**Kinmen** baz=279	**3.13**	**278**	*eP*		**Pn**		**15 23 45.2**	**-0.1**

*ISCJB **15** 15:23:02.1±0.5,6.°28S±0.°04×130.°13E±0.°09,h146km, mb3.9/3,Error ellipse: s-maj=12.9km s-min=5.9km*

az=178.9

IDC ***15*** *15:23:05.3±6.3, 6°.67S×129°.71E, H126km±59km, mb3.7/3, mb1 3.8/6, mb1mx3.5/21, mbtmp3.7/6, Error ellipse: s-maj=45.0km s-min=22.6km az=64.0*

DJA ***15*** *15:23:11.5±1.0, 6°.5±8°×13°.0E±°, h141km±12km, M4.4/9, mb4.6/3, mB4.7/2, MLv4.2/9, Mw(mB)3.9/2*

ISC 15 15:23:02.2±0.8, 6°.21S±0°.07×130°.18E±0°.10, h146km, n14, σ2ᵒ30/14, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.70**	**351**	P	**Pn**	**15 23 36.7**	**+3.1**
MSAI	**Masohi**	**3.11**	**336**	P	**Pn**	**15 23 52.3**	**+1.5**
FAKI	**Fak Fak**	**3.86**	**32**	P	**Pn**	**15 24 02.4**	**+1.8**
FAKI				S	**Sn**	**15 24 45.5**	**-0.4**
NLAI	**Namlea**	**4.26**	**314**	P	**Pn**	**15 24 07.3**	**+1.5**
SWI	**Sorong**	**5.42**	**11**	P	**Pn**	**15 24 21.7**	**+0.6**
SWI				S	**Sn**	**15 25 18.4**	**-4.4**
LBMI	**Labuha**	**6.15**	**334**	P	**Pn**	**15 24 31.5**	**+0.6**
	31nm,0.8s,529nm0.2nm						
MWPI	**Manokwari, Pap**	**6.50**	**36**	P	Pn	15 24 39.4	+3.8
	70nm,0.7s,1.1nm						
BAKI	**Biak**	**7.73**	**50**	P	Pn	15 24 56.8	+4.8
FITZ	**Fitzroy Crossi**	**12.62**	**200**	P	**Pn**	**15 25 54.7**	**-2.0**
	0.5nm,0.3s,baz=3.3,slow=13,SNR=22						
FITZ				S	Sn	15 28 05.4	-11
	1.3nm,0.3s,baz=143,slow=19,SNR=7.3						
WRA	**Warramunga Arr**	**14.24**	**164**	P	**Pn**	**15 26 17.0**	**-0.3**
	0.4nm,0.3s,baz=336,slow=14,SNR=28						
WRA				S	Sn	15 28 48.4	-6.8
	1.9nm,0.3s,baz=330,slow=24,SNR=9.7						
ASAR	**Alice Springs**	**17.72**	**169**	P	**Pn**	**15 27 01.4**	**+1.4**
	3.1nm,0.3s,baz=351,slow=10,SNR=139						
ASAR				S	**S**	**15 30 12.4**	**-3.1**
	0.2nm,0.3s,baz=350,slow=27,SNR=4.5						
STKA	**Stephens Creek**	**27.68**	**159**	P	**P**	**15 28 38.8**	**+2.3**
	1.2nm,0.4s,baz=338,slow=7.5,SNR=13						
NWAO	**Narrogin (SRO)**	**29.19**	**203**	P	**P**	**15 28 50.0**	**+0.1**
	2.4nm,0.4s,baz=20,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	15 33 49.5	+5.9
	0.3nm,0.3s,baz=111,slow=7.9,SNR=3.8						

IDC ***15*** *15:33:36.4±1.5, 3°.01S×139°.64E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML4.1/1, MS3.9/4, Ms1 3.8/4, ms1mx3.2/30, Error ellipse: s-maj=49.4km s-min=22.7km az=96.0*

ISCJB ***15*** *15:33:42.3±0.7, 3°.25S±0°.07×139°.41E±0°.05, h46km, mb3.7/4, MS4.0/4, Error ellipse: s-maj=10.4km s-min=7.4km az=160.7*

DJA ***15*** *15:33:44.9±0.9, 3°S±16°×13°9E±°, h10km, M4.2/3, mb4.0/1, mB5.4/1, MLv4.3/3, Mw(mB)4.9/1*

ISC 15 15:33:43.1±0.9, 3°.3S±0°.1×139°.46E±0°.06, h46km, n15, σ1ᵒ30/13, mb3.7/4, MS4.0/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.96**	**47**	P	**Pn**	**15 34 00.7**	**+0.5**
GENI				S	**Sn**	**15 34 14.7**	**+2.0**
SRPI	**Serui, Papua**	**3.50**	**293**	P	**Pn**	**15 34 35.7**	**+0.7**
SRPI				S	**Sn**	**15 35 15.9**	**+0.7**
BAKI	**Biak**	**3.93**	**301**	P	**Pn**	**15 34 40.6**	**-0.3**
FAKI	**Fak Fak**	**7.21**	**272**	P	**Pn**	**15 35 28.0**	**+2.0**
WRA	**Warramunga Arr**	**17.33**	**196**	P	**P**	**15 37 42.4**	**-0.3**
	0.7nm,0.3s,baz=17,slow=12,SNR=28						
FITZ	**Fitzroy Crossi**	**20.04**	**222**	P	**Pn**	**15 38 14.2**	**-0.3**
	1.4nm,0.4s,baz=53,slow=15,SNR=5.0						
ASAR	**Alice Springs**	**21.00**	**194**	P	Pn	15 38 25.3	-0.6
	2.8nm,0.7s,baz=23,slow=8.8,SNR=26						
CMAR	**Chiang Mai Arr**	**45.36**	**300**	P	**P**	**15 41 56.3**	**-0.9**
	0.6nm,0.8s,baz=115,slow=5.9,SNR=4.5						
SONM	**Songino Array**	**58.52**	**334**	LR	LR	16 09 36.7	
	comp=Z,83nm,18.6s,baz=126,slow=37						
MKAR	**Makanchi Array**	**70.67**	**322**	P	**P**	**15 44 54.5**	**+0.3**
	1.4nm,0.7s,baz=108,slow=8.3,SNR=9.7						
MKAR				LR	LR	16 16 05.8	
	comp=Z,71nm,18.8s,baz=355,slow=36						
ZALV	**Zalesovo Beam**	**72.78**	**330**	P	**P**	**15 45 05.9**	**-0.7**
	0.6nm,0.5s,baz=108,slow=7.8,SNR=3.6						
ZALV				LR	LR	16 15 16.4	
	comp=Z,80nm,21.3s,baz=318,slow=34						
ILAR	**Eielson Array**	**86.01**	**24**	P	**P**	**15 46 16.6**	**-1.8**
	0.3nm,0.8s,baz=253,slow=4.9,SNR=4.8						
KBZ	**Khabaz**	**96.98**	**313**	LR	LR	16 38 07.7	
	comp=Z,52nm,19.6s,baz=113,slow=40						
TORD	**Torodi Ar. Bea**	**137.13**	**286**	PKP	**PKPdf**	**15 53 03.9**	**+1.7**
	0.3nm,0.6s,baz=62,slow=3.4,SNR=6.0						
DBIC	**Dimbokro**	**144.30**	**277**	PKP	PKPbc	15 53 14.4	+0.8
	1.4nm,0.5s,baz=60,slow=3.0,SNR=4.5						

MEX 15 15:48:18.1±0.3, 16°.11N×95°.44W, h9km±5km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.72**	**242**	*i* P	Pg	15 48 30.5	-1.6
HUIG				*i* S	Sg	15 48 40.2	-1.4
VHO	**Vista Hermosa**	**1.56**	**308**	*e*P	Pn	15 48 42.8	-3.6
VHO				*i* S	Sn	15 49 01.9	-5.2
PCIG		**2.18**	**100**	*i* P	Pn	15 48 51.2	-3.4
PCIG				*i* S	Sn	15 49 17.7	-3.9
TLIG	**Tlapa**	**3.32**	**296**	*e*P	Pn	15 49 08.2	-2.3
TLIG				*i* S	Sn	15 49 46.9	-3.4

DJA ***15*** *15:48:48.8±4.9, 4°N±50°×12°3E±1°.6, h527km±34km, M4.0/6, mb3.9/1, mB4.2/1, MLv4.1/6, Mw(mB)3.3/1*

ISCJB ***15*** *15:48:51.4±0.6, 3°.34N±0°.09×123°.4E±0°.2, h500km, mb3.2/6, Error ellipse: s-maj=20.8km s-min=12.1km az=170.4*

IDC ***15*** *15:48:55.2±8.4, 3°.32N×123°.41E, h528km±119km, mb2.8/6, mb1 2.9/6, mb1mx2.6/23, mbtmp2.8/6, Error ellipse: s-maj=49.3km s-min=20.5km az=58.0*

ISC 15 15:48:52.8±0.8, 3°.3N±0°.1×123°.4E±0°.1, h500km, n13, σ1ᵒ93/13, mb3.2/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**2.71**	**189**	P	**P**	**15 50 00.0**	**-1.9**
KMSI	**Cibinong**	**2.79**	**169**	P	**P**	**15 50 02.2**	**-0.2**
MRSI	**Marisa**	**3.20**	**208**	P	**P**	**15 50 04.5**	**-0.7**
LUWI	**Luwuk**	**4.39**	**189**	P	**P**	**15 50 13.6**	**-0.9**
APSI	**Ampana**	**4.57**	**203**	P	**P**	**15 50 15.6**	**-0.4**
TNTI	**Ternate**	**4.68**	**123**	P	**P**	**15 50 16.0**	**-0.9**
LBMI	**Labuha**	**5.66**	**134**	P	**P**	**15 50 25.0**	**-0.9**
WRA	**Warramunga Arr**	**25.49**	**156**	P	**P**	**15 53 40.8**	**+0.1**
	0.2nm,0.3s,baz=335,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**39.04**	**155**	P	**P**	**15 55 37.3**	**+1.3**
	0.4nm,0.3s,baz=330,slow=14,SNR=3.3						
SONM	**Songino Array**	**46.71**	**344**	P	**P**	**15 56 36.0**	**0.0**
	0.6nm,0.8s,baz=167,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**56.05**	**327**	P	**P**	**15 57 44.0**	**+0.3**
	0.5nm,0.3s,baz=124,slow=7.8,SNR=21						
PETK	**Petropavlovsk-**	**57.08**	**24**	P	**P**	**15 57 51.5**	**+0.8**
	4.4nm,1.1s,baz=212,slow=6.8,SNR=5.6						
ILAR	**Eielson Array**	**86.88**	**25**	P	**P**	**16 00 42.5**	**-1.1**
	0.1nm,0.6s,baz=251,slow=5.4,SNR=4.4						

IDC 15 15:51:21.4±2.5, 15°.65S×174°.46W, h146km±31km, mb3.3/4, mb1 3.5/5, mb1mx3.3/20, mbtmp3.4/5, Error ellipse: s-maj=97.1km s-min=24.8km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.12**	**57**	P	Pn	15 52 10.4	+0.1
	31nm,0.3s,baz=235,slow=0.7,SNR=27						
AFI				S	Sn	15 52 44.5	-3.5
	52nm,0.3s,baz=1.4,slow=22,SNR=11						
STKA	**Stephens Creek**	**43.02**	**240**	P	P	15 59 06.2	-0.6
	0.3nm,0.3s,baz=78,slow=9.3,SNR=3.1						
WRA	**Warramunga Arr**	**48.79**	**257**	P	P	15 59 52.0	-0.2
	0.3nm,0.4s,baz=95,slow=6.9,SNR=13						
WRA				PcP	PcP	16 01 15.3	+0.4
	0.2nm,0.4s,baz=96,slow=3.7,SNR=6.8						
ASAR	**Alice Springs**	**49.06**	**252**	P	P	15 59 54.0	-0.2
	2.5nm,0.6s,baz=88,slow=7.7,SNR=30						
ASAR				PcP	PcP	16 01 15.9	+0.1
	0.2nm,0.4s,baz=98,slow=4.0,SNR=4.3						
ILAR	**Eielson Array**	**82.89**	**12**	P	P	16 03 28.9	-0.5
	0.2nm,0.6s,baz=210,slow=3.1,SNR=5.4						

NIED ***15*** *16:21:00, 45°.40N×151°.00E, h17km, Mw3.9 Best double couple: M₀7.36000×10¹⁴ NP1:φ₀351.00000°, δ70.00000°, λ62.00000°. NP2:φ₀228.00000°, δ34.00000°, λ142.00000°.*

JMA ***15*** *16:21:30.4±0.5, 45°.43N×151°.04E, h30km, M4.2*

ISCJB ***15*** *16:21:30.6±0.6, 45°.08N±0°.07×151°.03E±0°.07, h35km, mb3.7/12, MS3.0/1, Error ellipse: s-maj=11.2km s-min=4.8km az=149.4*

MOS ***15*** *16:21:31.3±1.1, 45°.29N×151°.03E, h45km, mb4.1/7, Error ellipse: s-maj=14.6km s-min=10.5km az=46.8*

SKHL ***15*** *16:21:32.8±0.1, 45°.32N×151°.00E, h60km±4km, mb4.6/3*

IDC ***15*** *16:21:33.9±2.6, 45°.29N×150°.95E, h46km±22km, mb3.5/11, mb1 3.7/15, mb1mx3.6/28, mbtmp3.6/15, ML3.2/4, MS3.0/3, Ms1 3.1/3, ms1mx2.8/25, Error ellipse: s-maj=23.2km s-min=16.3km az=130.0*

ISC 15 16:21:32.5±0.7, 45°.21N±0°.08×151°.02E±0°.08, h35km, n73, σ1ᵒ54/75, mb3.8/11, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.23**	**272**	*e*PN	**Pn**	**16 22 07.5**	**+0.7**
KUR				*e*S	**Sn**	**16 22 33.0**	**-0.1**
KUR				pmax	pmax		
	comp=E,710nm,0.5s						
KUR				smax	smax		
	comp=N,350nm,0.6s						
KUR				smax	smax		
	comp=E,150nm,0.6s						
KUR	**Kuril'sk**	**2.23**	**272**	*e*P	**Pn**	**16 22 07.2**	**+0.4**
KUR				AMB	AMB	16 22 08.0	
	comp=E,110nm,0.5s						
KUR				*e*S	**Sn**	**16 22 32.9**	**-0.1**
KUR				A	A	16 22 37.2	
	comp=E,350nm,0.6s						
KUR				A	A	16 22 37.2	
	comp=E,150nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.86**	**254**	*i* PN	**Pn**	**16 22 29.7**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**3.86**	**254**	*d* PN	**Pn**	**16 22 29.9**	**+0.6**
YUK				*i* S	**Sn**	**16 23 14.6**	**+1.2**
YUK				pmax	pmax		
	comp=N,24nm,0.2s						
YUK				pmax	pmax		
	comp=E,29nm,0.2s						
YUK				pmax	pmax		
	comp=Z,89nm,0.2s						
YUK				smax	smax		
	comp=N,287nm,0.7s						
YUK				smax	smax		
	comp=E,183nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.86**	**254**	*i*P	**Pn**	**16 22 29.9**	**+0.6**
YUK				AMB	AMB	16 22 31.3	
	comp=E,20nm,0.2s						
YUK				AMB	AMB	16 22 31.3	
	comp=E,30nm,0.2s						
YUK				AMB	AMB	16 22 31.3	
	comp=E,90nm,0.2s						
YUK				*i* S	**Sn**	**16 23 14.6**	**+1.2**
YUK				A	A	16 23 30.1	
	comp=E,300nm,0.7s						
YUK				A	A	16 23 30.1	
	comp=E,180nm,0.7s						
NEM2	**Nemuro 2**	**4.21**	**246**	P	**Pn**	**16 22 33.2**	**-0.9**
NEM2				*e*S	**Sn**	**16 23 19.7**	**-2.3**
JRA	**Rausu**	**4.40**	**255**	P	**Pn**	**16 22 38.1**	**+1.4**
JNK	**Nakash**	**4.79**	**252**	P	**Pn**	**16 22 42.3**	**+0.1**
JNK				*e*S	**Sn**	**16 23 35.4**	**-1.1**
JAK	**Akkeshi**	**5.06**	**246**	P	**Pn**	**16 22 44.8**	**-1.0**
JAK				*e*S	**Sn**	**16 23 40.8**	**-2.1**
JTKR	**Abashiri--Toko**	**5.22**	**259**	P	**Pn**	**16 22 49.5**	**+1.5**
JAR	**Ashorobuto**	**5.54**	**252**	P	**Pn**	**16 22 53.4**	**+0.9**
JAR				*e*S	**Sn**	**16 23 54.0**	**-0.9**
JMP	**Maruseppu**	**5.60**	**260**	P	**Pn**	**16 22 55.0**	**+1.8**
JOB	**Onbets**	**5.66**	**249**	P	**Pn**	**16 22 54.2**	**+0.1**
JOB				*e*S	**Sn**	**16 23 56.2**	**-1.6**
HRK	**Horoka**	**5.92**	**256**	*e*P	**Pn**	**16 22 59.4**	**+1.8**
YSS	**Yuzh-Sakhalins**	**6.00**	**290**	*e*PN	Pn	16 23 04.5	+5.7
YSS	**Yuzh-Sakhalins**	**6.00**	**290**	*e*P	Pn	16 23 03.4	+4.6
YSS				AMB	AMB	16 23 04.4	
	comp=E,20nm,0.4s						
JKK2	**Kamakawa 2**	**6.06**	**260**	P	**Pn**	**16 23 01.5**	**+2.0**
JKA	**Kamikawa-asahi**	**6.10**	**263**	*e*P	**Pn**	**16 23 02.1**	**+2.0**
ASAJ	**Asahikawa**	**6.10**	**263**	P	**Pn**	**16 23 02.4**	**+2.3**
ASAJ	**Asahikawa**	**6.10**	**263**	P	**Pn**	**16 23 02.1**	**+2.0**
	comp=E,1.4nm,0.3s,baz=83,slow=29,SNR=16						
ASAJ				S	**Sn**	**16 24 08.3**	**-0.4**
	comp=E,0.5nm,0.3s,baz=69,slow=14,SNR=1.7						
ASAJ				LR	LR	16 25 28.1	
	comp=E,149nm,20.7s,baz=113,slow=39						
JCH	**Churui**	**6.10**	**248**	P	**Pn**	**16 22 59.4**	**-0.8**
JCH				*e*S	**Sn**	**16 24 05.5**	**-3.2**
MYR	**Moyori**	**6.31**	**245**	*e*P	**Pn**	**16 23 02.8**	**-0.2**
MYR				*e*S	**Sn**	**16 24 10.5**	**-3.3**
JFR	**Furan**	**6.39**	**254**	P	**Pn**	**16 23 06.1**	**+2.0**
SKR	**Severo-Kuril's**	**6.46**	**30**	*e*PN	**Pn**	**16 23 03.0**	**-2.0**
SKR	**Severo-Kuril's**	**6.46**	**30**	*e*P	**Pn**	**16 23 03.6**	**-1.4**
SKR				*e*S	**Sn**	**16 24 14.3**	**-3.1**
JAB	**Ashibetsu**	**6.53**	**258**	P	**Pn**	**16 23 08.6**	**+2.6**
ERM	**Erimo**	**6.53**	**244**	*i* PN	**Pn**	**16 23 08.3**	**+2.3**
ERM	**Erimo**	**6.53**	**244**	*e*P	**Pn**	**16 23 08.3**	**+2.3**
JNBK	**Urakawa-nobuka**	**6.66**	**247**	P	**Pn**	**16 23 06.9**	**-0.9**
JBT2	**Biratori 2**	**6.70**	**252**	P	**Pn**	**16 23 08.0**	**-0.3**
UGL	**Uglegorsk**	**7.23**	**306**	*e*P	**Pn**	**16 23 17.9**	**+2.4**
TYV	**Tymovskoe**	**7.96**	**318**	*e*P	Pn	16 23 30.0	+4.4
JKB	**Kayabe**	**7.97**	**249**	*e*S	Sn	16 24 48.2	-6.5
JANG	**Nango**	**8.49**	**239**	P	Pn	16 23 29.8	-3.1
JTH	**Tanohata**	**8.56**	**235**	*e*S	Sn	16 25 00.4	-8.7
PETK	**Petropavlovsk-**	**9.04**	**27**	PN	**Pn**	**16 23 42.5**	**+2.2**
PETK	**Petropavlovsk-**	**9.04**	**27**	P	**Pn**	**16 23 42.5**	**+2.2**
	comp=E,0.1nm,0.3s,baz=190,slow=16,SNR=5.0						
PET	**Petropavlovsk**	**9.28**	**30**	*i* PN	Pn	16 24 03.7	+20
PET	**Petropavlovsk**	**9.28**	**30**	*i* P	Pn	16 24 03.7	+20
JIO	**Ouri**	**9.87**	**230**	*e*S	Sn	16 25 33.6	-7.7
USRK	**Ussuriysk Arra**	**13.57**	**272**	P	**Pn**	**16 24 43.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=76,slow=14,SNR=5.5						
EKMR	**Ekimchan**	**14.18**	**310**	*e*P	**P**	**16 24 57.4**	**-0.2**
KSRS	**Korea Array**	**18.95**	**254**	*e*P	**P**	**16 25 50.6**	**+0.1**
KSRS	**Korea Array**	**18.95**	**254**	P	**P**	**16 25 50.5**	**+0.1**
	comp=E,0.1nm,0.3s,baz=58,slow=11,SNR=4.3						
KSRS				LR	LR	16 32 59.0	
	comp=E,36nm,18.2s,baz=167,slow=36						
YAK	**Yakutsk**	**20.90**	**331**	*e*P	**P**	**16 26 10.4**	**-1.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.4s						
YAK	**Yakutsk**	**20.90**	**331**	*e*P	**P**	**16 26 10.4**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**28.61**	**147**	T	T	16 58 20.4	
	baz=339,slow=76,SNR=37						
H11N1	**WAKE ISLAND Hy**	**28.63**	**147**	T	T	16 58 18.0	
	baz=339,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.63**	**147**	T	T	16 58 11.8	
	baz=339,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**29.66**	**149**	T	T	16 59 40.1	
	baz=340,slow=77,SNR=38						
H11S3	**WAKE ISLAND Hy**	**29.66**	**149**	T	T	16 59 29.0	
	baz=340,slow=77,SNR=27						
H11S2	**WAKE ISLAND Hy**	**29.68**	**149**	T	T	16 59 34.7	
	baz=340,slow=77,SNR=35						
SONM	**Songino Array**	**30.50**	**291**	P	**P**	**16 27 42.3**	**+0.2**
	comp=E,0.3nm,0.5s,baz=96,slow=8.5,SNR=2.7						
ILAR	**Eielson Array**	**38.66**	**37**	*e*P	**P**	**16 28 51.2**	**-1.1**
ILAR	**Eielson Array**	**38.66**	**37**	P	**P**	**16 28 51.2**	**-1.1**
	comp=E,0.2nm,0.6s,baz=270,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**46.36**	**298**	P	**P**	**16 29 54.3**	**-0.7**
MKAR						16 31 29.6	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**46.36**	**298**	*e*P	**P**	**16 29 54.3**	**-0.7**
MKAR	**Makanchi Array**	**46.36**	**298**	P	**P**	**16 29 54.3**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=73,slow=6.9,SNR=11						
MKAR				PcP	**PcP**	**16 31 29.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=63,slow=3.6,SNR=3.2						
CMAR	**Chiang Mai Arr**	**50.58**	**256**	*e*P	**P**	**16 30 28.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**50.58**	**256**	P	**P**	**16 30 28.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=53,slow=6.1,SNR=3.1						
CMAR				PcP	**PcP**	**16 31 46.6**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=5.7,slow=5.7,SNR=4.2						
CMAR				LR	LR	16 53 56.7	
	comp=Z,15nm,18.3s,baz=280,slow=38						
WRA	**Warramunga Arr**	**66.59**	**197**	*e*P	**P**	**16 32 19.1**	**0.0**
WRA	**Warramunga Arr**	**66.59**	**197**	P	**P**	**16 32 19.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=15,slow=6.6,SNR=4.1						
WRA				pP	**pP**	**16 32 32.2**	**+2.4**
	comp=Z,1.4nm,0.7s,baz=15,slow=6.5,SNR=7.3						
NOA	**NORSAR Array B**	**69.20**	**340**	*e*P	**P**	**16 32 34.1**	**-1.0**
NOA	**NORSAR Array B**	**69.20**	**340**	P	**P**	**16 32 34.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=30,slow=6.4,SNR=5.2						
ASAR	**Alice Springs**	**70.30**	**197**	*e*P	**P**	**16 32 42.9**	**+0.7**
ASAR	**Alice Springs**	**70.30**	**197**	P	**P**	**16 32 42.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=8.9,slow=6.6,SNR=8.0						
ASAR				pP	**pP**	**16 32 58.0**	**+4.9**
	comp=Z,1.0nm,0.8s,baz=15,slow=6.2,SNR=6.9						
KBZ	**Khabaz**	**70.86**	**313**	P	**P**	**16 32 45.9**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**70.86**	**313**	P	**P**	**16 32 45.9**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=28,slow=6.4,SNR=4.1						
AKASG	**Malin Array Be**	**72.00**	**325**	*e*P	**P**	**16 32 50.9**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**72.00**	**325**	P	**P**	**16 32 51.0**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=37,slow=6.1,SNR=4.9						
BRTR	**Keskin Array B**	**78.49**	**316**	P	**P**	**16 33 30.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=1.9,slow=8.7,SNR=3.3						
GERES	**GERESS Array B**	**79.18**	**333**	*e*P	**P**	**16 33 32.9**	**-0.7**
GERES	**GERESS Array B**	**79.18**	**333**	P	**P**	**16 33 32.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=12,slow=6.8,SNR=3.5						

GUC 15 16:30:09.5±0.4, 28°.94S×70°.44W, h73km±5km, MD3.3, ML3.7, 3C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.24**	**253**	↓*i* P	Pn	16 30 21.5	+0.5
LCO				*i* S	Sn	16 30 30.7	+1.2
LCO				AML	AML	16 30 31.0	
	comp=N,4μm,0.2s						
VACH	**Vallenar**	**0.46**	**322**	↑*i* P	Pn	16 30 22.4	+0.1
VACH				*i* S	Sn	16 30 32.3	+0.6
VACH				AML	AML	16 30 32.7	
	comp=E,14μm,0.1s						
TLL	**Tololo Astrono**	**1.26**	**194**	↑*i* P	Pn	16 30 32.4	+0.6
TLL				*i* S	Sn	16 30 50.0	+1.4
CPCH	**Copiapo**	**1.58**	**3**	↓*i* P	Pn	16 30 36.1	+0.4
CPCH				*i* S	Sn	16 30 56.1	+0.7
CPCH				AML	AML	16 30 59.5	
	comp=N,6μm,0.1s						
CDCH	**Caldera**	**1.90**	**350**	AML	AML	16 31 08.3	
	comp=N,379nm,0.3s						
CMCH	**Combarbala**	**2.28**	**192**	↑*i* P	Pn	16 30 44.5	-0.5
CMCH				*i* S	Sn	16 31 11.8	-0.5
CMCH				AML	AML	16 31 33.3	
	comp=N,402nm,0.6s						

IDC ***15*** *16:39:47.9±0.7, 17°.50S×63°.54W, h0km, mb4.3/9, mb1 4.5/11, mb1mx4.3/21, mbtmp4.3/11, ML4.6/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=20.4km s-min=15.5km az=152.0*

BJI ***15*** *16:39:50.7, 17°.50S×63°.40W, h31km, mB5.0/1, Ms5.2/3, Ms7 4.9/3*

ISCJB ***15*** *16:39:51.2±0.4, 17°.56S±0°.05×63°.42W±0°.05, h33km, mb4.3/12, MS4.4/3, Error ellipse: s-maj=7.8km s-min=6.6km az=42.0*

NEIC ***15*** *16:39:52.9±1.9, 17°.52S×63°.44W, h32km±14km, mb4.5/6, Error ellipse: s-maj=9.0km s-min=7.2km az=87.0*

NEIC Felt at Montero, Portachuelo, San Juan and Santa Cruz.

ISC 15 16:39:52.8±0.4, 17°.56S±0°.07×63°.46W±0°.06, h35km, n60, σ1ᵒ56/67, mb4.5/12, MS4.9/3, 1C, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**2.77**	**56**	Pn	**Pn**	**16 40 35.0**	**+0.2**
SIV				Sn	**Sn**	**16 41 07.6**	**+0.6**
SIV				Lg	Lg	16 41 15.5	
SIV	**San Ignacio**	**2.77**	**56**	Pn	**Pn**	**16 40 35.0**	**+0.2**
	72nm,0.3s,baz=258,slow=12,SNR=140						
SIV				Sn	**Sn**	**16 41 07.6**	**+0.6**
	176nm,0.3s,baz=296,slow=24,SNR=6.6						
SIV				Lg	Lg	16 41 15.5	
	291nm,0.3s,baz=151,slow=23,SNR=7.8						
SIV				LR	LR	16 41 35.2	
	comp=Z,247nm,21.4s,slow=38						
LPAZ	**La Paz**	**4.65**	**285**	*e*P	**Pn**	**16 41 02.8**	**+1.7**
LPAZ				Lg	Lg	16 42 22.5	
LPAZ	**La Paz**	**4.65**	**285**	Pn	**Pn**	**16 41 02.8**	**+1.7**
	4.7nm,0.3s,baz=112,slow=7.8,SNR=37						
LPAZ				Lg	Lg	16 42 22.5	
	18nm,0.3s,baz=43,slow=19,SNR=2.2						
LVC	**Limon Verde**	**7.17**	**225**	*e*P	**Pn**	**16 41 37.1**	**+1.6**
	13nm,0.

WRA	**Warramunga Arr**	**138.84**	**206**	PKhKP	PKPpre	16 59 06.2		
	0.3nm,0.5s,baz=150,slow=2.9,SNR=9.9							
WRA				PKP	**PKPdf**	**16 59 17.2**	**+0.8**	
	1.2nm,0.8s,baz=157,slow=1.7,SNR=10							
WMQ	**Urumqi**	**144.27**	**37**	*e*PKP	PKPbc	16 59 24.4	+0.7	
SONM	**Songino Array**	**148.68**	**13**	PKPbc	**PKPbc**	**16 59 37.8**	**+1.2**	
SONM	**Songino Array**	**148.68**	**13**	PKPbc	**PKPbc**	**16 59 37.8**	**+1.2**	
	2.4nm,0.8s,baz=290,slow=1.3,SNR=14							
USRK	**Ussuriysk Arra**	**150.42**	**337**	PKPbc	**PKPbc**	**16 59 42.1**	**+1.4**	
	6.3nm,0.8s,baz=295,slow=1.4,SNR=8.5							
USRK				PKPab	**PKPab**	**16 59 46.2**	**-1.0**	
	7.5nm,1.1s,baz=237,slow=1.5,SNR=4.9							
MDJ	**Mudanjiang**	**150.88**	**341**	PKPbc	**PKPdf**	**16 59 36.1**	**-0.1**	
CN2	**Changchun**	**152.78**	**346**	*e*PKPbc	**PKPdf**	**16 59 38.8**	**-0.3**	
HHC	**Hu-ho-hao-te**	**156.40**	**9**	*e*PKP	**PKPdf**	**16 59 41.8**	**-2.5**	
HHC				pPKP	**pPKPdf**	**16 59 52.4**	**-3.4**	
HHC				sPKP		16 59 55.0		
HHC				PKS	**PKSdf**	**17 03 13.9**	**-4.4**	
HHC				PP	**PP**	**17 03 51.4**	**+2.0**	
HHC				SKS	**SKSdf**	**17 06 42.4**	**-5.7**	
HHC				SKKS	**SKKSac**	**17 10 34.3**	**-3.1**	
HHC				SS	**SS**	**17 23 36.5**	**-0.3**	
HHC				AMB	AMB			
	comp=Z,120nm,9.7s							
HHC				LR	LR			
	comp=N,150nm,21.7s							
HHC				LR	LR			
	comp=E,150nm,21.8s							
HHC				LR	LR			
	comp=Z,170nm,21.3s							
LZH	**Lanzhou**	**158.39**	**29**	*e*PKP	**PKPdf**	**16 59 45.4**	**-1.7**	
LZH				pPKP	**pPKPdf**	**16 59 56.0**	**-2.6**	
LZH				sPKP		16 59 59.8		
LZH				LR	LR			
	comp=N,150nm,17.2s							
LZH				LR	LR			
	comp=E,150nm,18.0s							
LZH				LR	LR			
	comp=Z,170nm,19.6s							
CD2	**Chengdu**	**162.35**	**39**	*e*PKP	**PKPdf**	**16 59 49.8**	**-1.6**	
KMI	**Kunming**	**165.11**	**57**	PKP	**PKPdf**	**16 59 53.3**	**-1.1**	
KMI				LR	LR			
	comp=N,200nm,16.4s							
KMI				LR	LR			
	comp=E,230nm,12.8s							
KMI				LR	LR			
	comp=Z,330nm,11.9s							
NJ2	**Nanjing**	**165.42**	**352**	*e*PKP	**PKPdf**	**16 59 54.1**	**0.0**	

*IDC **15** 16:51:03.0±0.6, 17°.57S×63°.48W, h0km, mb4.2/9, mb1 4.4/12, mb1mx4.2/23, mbtmp4.1/12, ML4.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/24, Error ellipse: s-maj=16.1km s-min=14.3km az=104.0*

*ISCJB **15** 16:51:06.2±0.5, 17°.67S±0°.07×63°.43W±0°.07, h33km, mb4.1/9, MS3.5/1, Error ellipse: s-maj=10.2km s-min=8.2km az=141.8*

ISC 15 16:51:08.3±0.6, 17°.62S±0°.08×63°.41W±0°.07, h35km, n22, σ0s97/21, mb4.0/9, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**2.76**	**54**	Pn	**Pn**	**16 51 49.5**	**-0.6**
	24nm,0.3s,baz=257,slow=11,SNR=45						
SIV				Sn	**Sn**	**16 52 24.2**	**+1.9**
	45nm,0.3s,baz=188,slow=23,SNR=7.0						
SIV				Lg	Lg	16 52 32.1	
	84nm,0.3s,baz=157,slow=22,SNR=8.1						
LPAZ	**La Paz**	**4.71**	**286**	Pn	**Pn**	**16 52 18.4**	**+1.0**
	3.6nm,0.3s,baz=124,slow=7.1,SNR=27						
LPAZ				Lg	Lg	16 53 34.3	
	38nm,0.3s,baz=284,slow=11,SNR=6.5						
LPAZ				LR	LR	16 54 31.3	
	comp=Z,97nm,20.7s,baz=284,slow=45						
CPUP	**Villa Florida**	**10.33**	**148**	Pn	**Pn**	**16 53 34.4**	**+0.3**
	1.0nm,0.3s,baz=307,slow=13,SNR=5.1						
CPUP				Lg	Lg	16 56 37.8	
	1.1nm,0.3s,baz=58,slow=20,SNR=3.1						
CFAA	**Coronel Fontan**	**14.59**	**197**	Pn	**Pn**	**16 54 31.6**	**-0.7**
	0.0nm,0.3s,baz=53,slow=5.1,SNR=3.3						
BDFB	**Brasilia**	**14.88**	**85**	Lg	Lg	16 58 55.4	
	0.5nm,0.3s,baz=142,slow=26,SNR=4.1						
ATAH	**Atahualpa**	**17.96**	**304**	P	**Pn**	**16 55 15.2**	**-0.6**
	0.7nm,0.3s,baz=303,slow=23,SNR=3.9						
PLCA	**Paso Flores**	**23.84**	**194**	P	**P**	**16 56 16.6**	**-1.7**
	3.2nm,0.8s,baz=23,slow=10,SNR=9.4						
RCBR	**Riachuelo**	**29.32**	**70**	LR	LR	17 08 37.4	
	comp=Z,123nm,18.7s,baz=112,slow=36						
TXAR	**Lajitas Array**	**60.74**	**320**	P	**P**	**17 01 15.8**	**-1.0**
	0.5nm,0.6s,baz=139,slow=7.2,SNR=2.7						
SNAA	**Sanae**	**64.30**	**162**	P	**P**	**17 01 39.9**	**0.0**
	1.3nm,0.8s,baz=294,slow=4.0,SNR=16						
TORD	**Torodi Ar. Bea**	**71.15**	**69**	P	**P**	**17 02 23.6**	**-0.2**
	5.2nm,0.9s,baz=256,slow=6.0,SNR=20						
ULM	**Lac du Bonnet**	**73.39**	**339**	P	**P**	**17 02 35.2**	**-1.3**
	6.6nm,0.7s,baz=142,slow=5.5,SNR=15						
PDAR	**Pinedale Array**	**73.57**	**326**	P	**P**	**17 02 37.4**	**-0.7**
	0.8nm,0.5s,baz=122,slow=9.2,SNR=9.2						
NVAR	**Mina Array Bea**	**75.85**	**318**	P	**P**	**17 02 51.8**	**+0.4**
	0.9nm,0.7s,baz=123,slow=6.6						
VNDA	**Vanda**	**81.51**	**189**	P	**P**	**17 03 23.7**	**+2.1**
	0.6nm,0.6s,baz=169,slow=1.0,SNR=4.1						
YKA	**Yellowknife Ar**	**89.37**	**339**	P	**P**	**17 04 00.8**	**0.0**
	3.8nm,0.7s,baz=123,slow=4.5,SNR=53						
ASAR	**Alice Springs**	**135.62**	**203**	PKhKP	PKPpre	17 10 13.2	
	0.3nm,0.9s,baz=144,slow=2.4,SNR=5.3						
ASAR				PKP	**PKPdf**	**17 10 25.9**	**+0.2**
	0.6nm,0.6s,baz=129,slow=2.0,SNR=9.6						
ZALV	**Zalesovo Beam**	**136.21**	**27**	PKP	**PKPdf**	**17 10 26.1**	**+0.3**
	0.8nm,0.6s,baz=280,slow=2.6,SNR=6.6						
WRA	**Warramunga Arr**	**138.80**	**206**	PKhKP	PKPpre	17 10 21.7	
	0.3nm,0.5s,baz=152,slow=2.6,SNR=11						
WRA				PKP	**PKPdf**	**17 10 31.9**	**+0.3**
	1.2nm,0.8s,baz=166,slow=1.6,SNR=9.6						
ASAJ	**Asahikawa**	**145.70**	**326**	PKPbc	**PKPab**	**17 10 44.2**	**+0.4**
	baz=33,slow=1.9						
SONM	**Songino Array**	**148.73**	**13**	PKPbc	**PKPbc**	**17 10 52.3**	**+0.2**
	1.8nm,0.7s,baz=274,slow=1.2,SNR=18						
USRK	**Ussuriysk Arra**	**150.50**	**337**	PKPbc	**PKPbc**	**17 10 57.0**	**+0.6**
	6.7nm,0.8s,baz=56,slow=2.0,SNR=12						

MEX 15 16:52:42.8±1.0, 16°.30N×94°.58W, h122km±21km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.44**	**114**	*i* P	Pn	16 53 08.6	-1.1
PCIG				*i* S	Sn	16 53 28.2	-1.9
HUIG	**Huatulco**	**1.56**	**250**	*e*P	Pn	16 53 09.0	-2.0
HUIG				*i* S	Sn	16 53 31.6	-1.0
VHO	**Vista Hermosa**	**2.20**	**291**	*e*P	Pn	16 53 18.5	-0.7
VHO				*i* S	Sn	16 53 44.6	-2.4
PNIG	**Pinotepa**	**3.40**	**272**	*i* P	Pn	16 53 33.0	-1.5
PNIG				*i* S	Sn	16 54 12.8	-1.7
TLIG	**Tlapa**	**4.01**	**289**	*i* P	Pn	16 53 41.3	-1.5
TLIG				*i* S	Sn	16 54 27.9	-1.3

*IDC **15** 16:54:45.4±0.9, 17°.50S×63°.55W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/21, mbtmp4.1/6, ML4.5/1, Error ellipse: s-maj=27.3km s-min=17.9km az=151.0*

*ISCJB **15** 16:54:48.7±0.9, 17°.66S±0°.1×63°.48W±0°.06, h33km, mb4.1/5, Error ellipse: s-maj=19.5km s-min=7.5km az=172.1*

ISC 15 16:54:50.9±0.9, 17°.5S±0°.2×63°.47W±0°.06, h35km, n12, σ0s76/13, mb4.3/5, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**2.74**	**57**	Pn	**Pn**	**16 55 32.4**	**0.0**
	42nm,0.3s,baz=258,slow=12,SNR=17						
SIV				Sn	**Sn**	**16 56 05.3**	**+0.9**
	51nm,0.3s,baz=242,slow=18,SNR=4.4						
SIV				Lg	Lg	16 56 14.7	
	106nm,0.3s,baz=163,slow=23,SNR=7.6						
LPAZ	**La Paz**	**4.62**	**284**	Pn	**Pn**	**16 55 59.9**	**+1.0**
	4.0nm,0.3s,baz=112,slow=1.2,SNR=8.4						
LPAZ				Sn	**Sn**	**16 56 51.1**	**-0.6**
	3.9nm,0.3s,baz=243,slow=18,SNR=2.2						
LPAZ				Lg	Lg	16 57 12.2	
	7.2nm,0.3s,baz=36,slow=19,SNR=1.9						
BDFB	**Brasilia**	**14.93**	**85**	Lg	Lg	17 02 43.6	
	0.2nm,0.3s,baz=143,slow=20,SNR=1.9						
SNAA	**Sanae**	**64.43**	**162**	P	**P**	**17 05 23.0**	**-0.4**
	0.5nm,0.7s,baz=291,slow=5.5,SNR=8.1						

TORD	**Torodi Ar. Bea**	**71.16**	**69**	P	**P**	**17 06 06.5**	**0.0**	
	2.3nm,0.7s,baz=255,slow=5.8,SNR=6.2							
ULM	**Lac du Bonnet**	**73.26**	**339**	P	**P**	**17 06 17.0**	**-1.4**	
	2.7nm,0.7s,baz=170,slow=8.0,SNR=5.9							
PDAR	**Pinedale Array**	**73.43**	**326**	P	**P**	**17 06 19.3**	**-0.6**	
	0.5nm,0.5s,baz=132,slow=9.0,SNR=6.2							
YKA	**Yellowknife Ar**	**89.24**	**339**	P	**P**	**17 07 43.4**	**+0.6**	
	1.6nm,0.7s,baz=121,slow=4.4,SNR=20							
ASAR	**Alice Springs**	**135.71**	**203**	PKP	**PKPdf**	**17 14 08.8**	**+0.2**	
	0.3nm,0.6s,baz=136,slow=2.2,SNR=5.1							
WRA	**Warramunga Arr**	**138.89**	**206**	PKhKP	PKPpre	17 14 04.2		
	0.1nm,0.5s,baz=150,slow=2.7,SNR=5.9							
WRA				PKP	**PKPdf**	**17 14 14.9**	**+0.5**	
	0.3nm,0.5s,baz=152,slow=1.5,SNR=6.7							
SONM	**Songino Array**	**148.62**	**13**	PKPbc	**PKPbc**	**17 14 35.3**	**+0.8**	
	0.7nm,0.6s,baz=342,slow=0.9,SNR=6.2							
USRK	**Ussuriysk Arra**	**150.37**	**337**	PKPbc	**PKPbc**	**17 14 38.8**	**+0.1**	
	3.4nm,0.7s,baz=311,slow=2.1,SNR=6.2							

*CSEM **15** 16:56:28.9±0.6, 42°.68N×13°.90E, h30km, MD1.5, Error ellipse: s-maj=18.1km s-min=10.7km az=119.0*

ROM 15 16:56:33.4±0.1, 42°.47N×13°.35E, h11km±1km, Md1.5/5, Ml1.5/1, Error ellipse: s-maj=3.3km s-min=1.3km az=71.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T0107	**San Pelino (Ca**	**0.08**	**274**	Pg	Pg	16 56 36.4	+0.4
T0107				Sg	Sg	16 56 38.5	+0.7
T0104	**Madonna delle**	**0.11**	**186**	Pg	Pg	16 56 36.6	+0.3
T0104				Sg	Sg	16 56 38.8	+0.5
SMA1	**SAN MARTINO**	**0.16**	**355**	Pg	Pg	16 56 37.4	+0.2
SMA1				Sg	Sg	16 56 41.1	+1.2
	489nm,1.7s						
FAGN	**Fagnano**	**0.26**	**139**	Pg	Pg	16 56 39.2	+0.3
FAGN				Sg	Sb	16 56 44.5	-0.4
FAGN	**Fagnano**	**0.26**	**139**	Pg	Pg	16 56 39.2	+0.3
FAGN				Sg	Sb	16 56 44.5	-0.4
NRCA	**Norcia**	**0.41**	**334**	Pg	Pg	16 56 41.6	0.0
NRCA				Sg	Sg	16 56 48.1	+1.0
NRCA	**Norcia**	**0.41**	**334**	Pg	Pg	16 56 41.6	0.0
NRCA				Sg	Sg	16 56 48.1	+1.0

*IDC **15** 17:30:27.1±14.0, 0°.39N×123°.32E, h237km±152km, mb3.1/6, mb1 3.3/7, mb1mx3.1/23, mbtmp3.1/7, Error ellipse: s-maj=115.1km s-min=21.2km az=60.0*

*ISCJB **15** 17:30:28.6±0.5, 0°.34N±0°.08×123°.42E±0°.06, h271km±4km, mb3.3/6, Error ellipse: s-maj=13.6km s-min=8.8km az=11.8*

*DJA **15** 17:30:30.3±0.8, 0°N±7°×12°.3E±°, h256km±7km, M3.5/7, MLv3.5/7*

ISC 15 17:30:29.6±0.8, 0°.33N±0°.09×123°.43E±0°.06, h265km±7km, n13, σ0s93/18, mb3.3/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.60**	**66**	P	**Pn**	**17 31 05.5**	**+0.9**
KMSI				S	**S**	**17 31 33.1**	**+1.0**
MRSI	**Marisa**	**1.50**	**276**	P	**Pn**	**17 31 09.5**	**+0.1**
MRSI				S	**S**	**17 31 39.6**	**-1.2**
LUWI	**Luwuk**	**1.52**	**206**	P	**Pn**	**17 31 09.7**	**+0.2**
LUWI				S	**S**	**17 31 39.3**	**-1.8**
TOLI	**Toli-Toli**	**2.75**	**287**	P	**Pn**	**17 31 20.9**	**+0.4**
TOLI				S	**S**	**17 32 01.0**	**+0.1**
TNTI	**Ternate**	**3.96**	**84**	P	**Pn**	**17 31 33.9**	**+0.2**
TNTI				S	**S**	**17 32 20.0**	**-1.7**
LBMI	**Labuha**	**4.18**	**103**	P	**Pn**	**17 31 36.2**	**0.0**
FITZ	**Fitzroy Crossi**	**18.45**	**173**	P	**P**	**17 34 26.3**	**+0.1**
	0.2nm,0.3s,baz=334,slow=17,SNR=8.5						
WRA	**Warramunga Arr**	**22.81**	**153**	P	**P**	**17 35 10.4**	**+0.5**
	1.6nm,0.4s,baz=331,slow=10,SNR=32						
ASAR	**Alice Springs**	**25.93**	**158**	P	**P**	**17 35 38.9**	**+0.7**
	0.2nm,0.3s,baz=334,slow=9.6,SNR=15						
STKA	**Stephens Creek**	**36.36**	**153**	P	**P**	**17 37 09.7**	**+0.8**
	0.4nm,0.3s,baz=339,slow=8.6,SNR=3.0						
SONM	**Songino Array**	**49.58**	**345**	P	**P**	**17 38 53.7**	**-0.6**
	0.5nm,0.7s,baz=162,slow=8.6,SNR=4.6						
MKAR	**Makanchi Array**	**58.56**	**328**	P	**P**	**17 39 58.0**	**-0.8**
	0.2nm,0.3s,baz=124,slow=8.4,SNR=7.5						
ZALV	**Zalesovo Beam**	**62.19**	**335**	P	**P**	**17 40 23.1**	**+0.1**
	0.5nm,0.3s,baz=118,slow=6.2,SNR=4.9						

MEX 15 17:32:11.5±0.4, 15°.51N×96°.11W, h9km±6km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.26**	**0**	*i* P	Pg	17 32 16.4	-0.3
HUIG				*e*S	Sg	17 32 20.0	-0.2
VHO	**Vista Hermosa**	**1.67**	**339**	*i* P	Pn	17 32 37.4	-3.9
VHO				*i* S	Sn	17 32 58.0	-4.9
PNIG	**Pinotepa**	**2.13**	**295**	*i* P	Pn	17 32 44.8	-2.6
PNIG				*e*S	Sn	17 33 09.2	-4.8

*IDC **15** 17:48:08.7±2.0, 2°.56N×127°.58E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=149.6km s-min=24.5km az=66.0*

*DJA **15** 17:48:13.1±0.9, 3°N±14°×13°OE±°, h334km±10km, M4.6/7, mb4.5/7, mB5.3/5, MLv4.6/6, Mw(mB)4.8/5, Mwp5.4/1*

*ISCJB **15** 17:48:28.7±1.1, 2°.83N±0°.10×128°.68E±0°.07, h200km, mb3.2/4, Error ellipse: s-maj=13.9km s-min=8.9km az=18.9*

ISC 15 17:48:30.1±1.3, 2°.82N±0°.09×128°.58E±0°.09, h200km, n13, σ1s74/17, mb3.4/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.37**	**211**	P	**Pn**	**17 49 14.5**	**+1.9**
TNTI				S	**Sn**	**17 49 49.0**	**+3.3**
SGSI	**Sangihe**	**3.17**	**286**	P	**Pn**	**17 49 23.5**	**+1.8**
SGSI				S	**Sn**	**17 50 04.1**	**+2.0**
LBMI	**Labuha**	**3.60**	**197**	P	**Pn**	**17 49 28.0**	**+1.0**
SWI	**Sorong**	**4.53**	**144**	P	**Pn**	**17 49 41.5**	**+2.9**
KMSI	**Cibinong**	**5.11**	**244**	P	**Pn**	**17 49 46.4**	**+0.5**
	98nm,1.1s,4μm1.7nm						
KMSI				S	**Sn**	**17 50 45.3**	**-0.4**
	98nm,1.1s,4μm1.7nm						
GTOI	**Gorontalo**	**5.97**	**249**	P	**Pn**	**17 49 58.4**	**+1.3**
	28nm,0.8s,0.2nm						
LUWI	**Luwuk**	**6.96**	**237**	P	**Pn**	**17 50 10.0**	**+0.1**
	62nm,0.6s,9μm						
MRSI	**Marisa**	**7.03**	**251**	P	**Pn**	**17 50 12.2**	**+1.4**
	15nm,0.5s,0.1nm						
MRSI				S	**Sn**	**17 51 29.6**	**-1.1**
	15nm,0.5s,0.1nm						
APSI	**Ampana**	**7.86**	**242**	P	**Pn**	**17 50 21.4**	**-0.2**
	44nm,0.9s,521nm9μm						
WRA	**Warramunga Arr**	**23.32**	**166**	P	**P**	**17 53 19.1**	**-1.3**
	0.3nm,0.3s,baz=343,slow=10,SNR=13						
ASAR	**Alice Springs**	**26.83**	**169**	P	**P**	**17 53 50.8**	**-1.4**
	0.2nm,0.5s,baz=352,slow=7.6,SNR=9.8						
STKA	**Stephens Creek**	**36.65**	**161**	P	**P**	**17 55 16.4**	**-1.2**
	0.4nm,0.4s,baz=326,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**59.36**	**325**	P	**P**	**17 58 10.5**	**-0.8**
	0.3nm,0.4s,baz=118,slow=8.1,SNR=5.5						

*ISCJB **15** 17:58:33.9±0.3, 42°.76N±0°.02×12°.70E±0°.03, h24km±3km, Error ellipse: s-maj=4.1km s-min=3.0km az=147.9*

*ROM **15** 17:58:33.4±0.1, 42°.78N×12°.73E, h6km±1km, Ml2.9/20, Error ellipse: s-maj=1.0km s-min=0.9km az=69.0*

*LDG **15** 17:58:34.1±0.1, 42°.80N×12°.73E, h5km, Ml2.7/6, Error ellipse: s-maj=4.8km s-min=2.8km az=47.0*

*CSEM **15** 17:58:34.0±0.2, 42°.77N×12°.70E, h5km, ML3.5/12, Error ellipse: s-maj=4.4km s-min=3.1km az=57.0*

ISC 15 17:58:33.7±0.9, 42°.78N±0°.02×12°.71E±0°.02, h18km±3km, n65, σ1s09/94, 1C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESX	**Cesi**	**0.20**	**209**	Pg	**Pb**	**17 58 38.3**	**-0.1**
CESX				Sg	**Sg**	**17 58 42.0**	**+0.2**
	4μm,0.3s						
CESX	**Cesi**	**0.20**	**209**	Pg	**Pb**	**17 58 38.3**	**-0.1**
CESX				Sg	**Sg**	**17 58 42.0**	**+0.2**
	4μm,0.3s						
LNSS	**Leonessa**	**0.30**	**126**	Pg	**Pg**	**17 58 40.0**	**-0.3**
LNSS				Sg	**Sg**	**17 58 44.9**	**+0.1**
	3μm,0.3s						
LNSS	**Leonessa**	**0.30**	**126**	Pg	**Pg**	**17 58 40.0**	**-0.3**
LNSS				Sg	**Sg**	**17 58 44.9**	**+0.1**
	3μm,0.3s						
NRCA	**Norcia**	**0.30**	**80**	Pg	**Pg**	**17 58 40.0**	**-0.3**
NRCA				Sg	**Sg**	**17 58 45.0**	**+0.2**
	2μm,0.2s						
NRCA	**Norcia**	**0.30**	**80**	Pg	**Pg**	**17 58 40.0**	**-0.3**
NRCA				Sg	**Sg**	**17 58 45.0**	**+0.2**
	2μm,0.2s						
FDMO	**Fiordimonte**	**0.38**	**47**	Pg	**Pg**	**17 58 41.3**	**-0.3**
FDMO				Sg	**Sg**	**17 58 47.3**	**+0.4**
	998nm,0.5s						
FDMO	**Fiordimonte**	**0.38**	**47**	Pg	**Pg**	**17 58 41.3**	**-0.3**
FDMO				Sg	**Sg**	**17 58 47.3**	**+0.4**
	998nm,0.5s						
MNS	**Montasola**	**0.40**	**183**	Pg	**Pg**	**17 58 41.9**	**0.0**
MNS				Sg	**Sb**	**17 58 48.5**	**+0.5**
	771nm,0.4s						
MNS	**Montasola**	**0.40**	**183**	Pg	**Pg**	**17 58 41.9**	**0.0**
MNS				Sg	**Sb**	**17 58 48.5**	**+0.5**
	771nm,0.4s						
RM29	**Verrico (Monte**	**0.42**	**121**	Pg	**Pg**	**17 58 42.2**	**-0.2**
RM29				Sg	**Sb**	**17 58 49.1**	**+0.2**
	25μm,2.4s						
MGAB	**Montegabbione**	**0.46**	**287**	Pg	**Pg**	**17 58 43.2**	**+0.2**
	773nm,0.5s						
MGAB	**Montegabbione**	**0.46**	**287**	Pg	**Pg**	**17 58 43.2**	**+0.2**
	773nm,0.5s						
SMA1	**SAN MARTINO**	**0.48**	**108**	Pg	**Pg**	**17 58 43.3**	**-0.2**
SMA1				Sg	**Sb**	**17 58 51.2**	**+0.6**
	2μm,0.6s						
MURB	**Monte Urbino**	**0.50**	**344**	Pg	**Pg**	**17 58 43.7**	**-0.1**
MURB				Sg	**Sb**	**17 58 51.9**	**+0.9**
	2μm,0.2s						
MURB	**Monte Urbino**	**0.50**	**344**	Pg	**Pg**	**17 58 43.7**	**-0.1**
MURB				Sg	**Sb**	**17 58 51.9**	**+0.9**
	2μm,0.2s						
CAMP	**Campotosto**	**0.57**	**115**	Pg	**Pb**	**17 58 44.6**	**-0.6**
CAMP				Sg	**Sg**	**17 58 53.4**	**+0.6**
CAMP	**Campotosto**	**0.57**	**115**	Pg	**Pb**	**17 58 44.6**	**-0.6**
CAMP				Sg	**Sg**	**17 58 53.4**	**+0.6**
SACS	**San Casciano d**	**0.59**	**277**	Pg	**Pg**	**17 58 45.8**	**+0.3**
	313nm,0.6s						
FIAM	**Fiamignano**	**0.59**	**149**	Pg	**Pb**	**17 58 45.0**	**-0.5**
FIAM				Sg	**Sg**	**17 58 54.2**	**+0.7**
	440nm,0.8s						
FIAM	**Fiamignano**	**0.59**	**149**	Pg	**Pb**	**17 58 45.0**	**-0.5**
FIAM				Sg	**Sg**	**17 58 54.2**	**+0.7**
	440nm,0.8s						
T0104	**Madonna delle**	**0.63**	**132**	Pg	**Pb**	**17 58 45.6**	**-0.5**
T0104				Sg	**Sg**	**17 58 55.6**	**+1.1**
TERO	**Teramo**	**0.68**	**103**	Pg	**Pb**	**17 58 46.2**	**-0.8**
	358nm,0.6s						
TERO	**Teramo**	**0.68**	**103**	Pg	**Pb**	**17 58 46.2**	**-0.8**
	358nm,0.6s						
ARVD	**Arcevia**	**0.74**	**13**	Pg	**Pb**	**17 58 47.8**	**-0.2**
ARVD				Sg	**Sn**	**17 58 59.6**	**-0.4**
	861nm,1.6s						
ARVD	**Arcevia**	**0.74**	**13**	Pg	**Pb**	**17 58 47.8**	**-0.2**
ARVD				Sg	**Sn**	**17 58 59.6**	**-0.4**
	861nm,1.6s						
MTCE	**Montecelio**	**0.76**	**178**	Pg	**Pb**	**17 58 48.5**	**+0.2**
MTCE				Sg	**Sn**	**17 59 00.3**	**-0.2**
	280nm,0.8s						
MTCE	**Montecelio**	**0.76**	**178**	Pg	**Pb**	**17 58 48.5**	**+0.2**
MTCE				Sg	**Sn**	**17 59 00.3**	**-0.2**
	280nm,0.8s						
PIEI	**Pieia**	**0.77**	**350**	Pg	**Pb**	**17 58 48.5**	**0.0**
PIEI				Sg	**Sn**	**17 59 01.2**	**+0.4**
	240nm,0.3s						
PIEI	**Pieia**	**0.77**	**350**	Pg	**Pb**	**17 58 48.5**	**0.0**
PIEI				Sg	**Sn**	**17 59 01.2**	**+0.4**
	240nm,0.3s						
CAFI	**Castiglion Fio**	**0.77**	**315**	Pg	**Pb**	**17 58 48.5**	**-0.1**
CAFI				Sg	**Sn**	**17 59 00.5**	**-0.4**
	248nm,0.6s						
CAFI	**Castiglion Fio**	**0.77**	**315**	Pg	**Pb**	**17 58 48.5**	**-0.1**
CAFI				Sg	**Sn**	**17 59 00.5**	**-0.4**
	248nm,0.6s						
BADI	**Badiali**	**0.81**	**335**	Pg	**Pg**	**17 58 49.8**	**+0.4**
BADI				Sg	**Sn**	**17 59 01.4**	**-0.3**
	253nm,0.4s						
BADI	**Badiali**	**0.81**	**335**	Pg	**Pg**	**17 58 49.8**	**+0.4**
BADI				Sg	**Sn**	**17 59 01.4**	**-0.3**
	253nm,0.4s						
FAGN	**Fagnano**	**0.83**	**128**	Pg	**Pn**	**17 58 50.5**	**0.0**
	460nm,0.5s						
FAGN	**Fagnano**	**0.83**	**128**	Pg	**Pn**	**17 58 50.5**	**0.0**
	460nm,0.5s						
CERT	**Cerreto**	**0.85**	**166**	Pg	**Pb**	**17 58 49.8**	**-0.2**
	161nm,0.5s						
CERT	**Cerreto**	**0.85**	**166**	Pg	**Pb**	**17 58 49.8**	**-0.2**
	161nm,0.5s						
FSSB	**Fossombrone**	**0.91**	**3**	Pg	**Pb**	**17 58 51.0**	**0.0**
	51nm,0.2s						
FSSB	**Fossombrone**	**0.91**	**3**	Pg	**Pb**	**17 58 51.0**	**0.0**
	51nm,0.2s						
PTQR	**Pietraquaria**	**0.92**	**

38nm,0.3s,baz=144,slow=19,SNR=2.8
MBAR Lg Lg 18 22 44.1
55nm,0.3s,baz=88,slow=23,SNR=9.3
MAUS Longido 7.84 58 *i* S **Sn 18 22 54.2 -1.2**
LSZ Lusaka 8.47 192 Pn **Pn 18 21 35.7 +0.8**
4.8nm,0.3s,baz=7.3,slow=11,SNR=61
LSZ Sn **Sn 18 23 07.1 -3.7**
6.1nm,0.3s,baz=97,slow=23,SNR=7.0
LSZ Lg Lg 18 23 59.2
9.1nm,0.3s,baz=307,slow=20,SNR=11
KMBO Kilima Mbogo 9.23 51 Pn **Pn 18 21 46.0 +0.5**
1.6nm,0.3s,baz=226,slow=15,SNR=40
KMBO Sn **Sn 18 23 23.8 -5.8**
2.9nm,0.3s,baz=220,slow=20,SNR=3.1
KMBO Lg Lg 18 24 19.7
13nm,0.3s,baz=279,slow=19,SNR=7.6
TSUM Tsumeb 17.18 224 P **Pn 18 23 29.1 -3.3**
0.4nm,0.3s,baz=16,slow=12,SNR=5.5
TSUM S Sn 18 26 26.3 -17
0.9nm,0.3s,baz=300,slow=20,SNR=5.6
TSUM Lg Lg 18 28 29.1
baz=319,slow=19,SNR=2.9
TSUM LR LR 18 29 58.0
comp=Z,70nm,18.5s,baz=215,slow=36
LBTB Lobatse 18.46 193 P **P 18 23 47.5 -0.6**
0.7nm,0.3s,baz=19,slow=13,SNR=13
LBTB Lg Lg 18 29 11.4
0.1nm,0.3s,baz=299,slow=19,SNR=5.9
LBTB LR LR 18 30 48.2
comp=Z,36nm,19.1s,baz=262,slow=37
BOSA Boshof 22.02 191 P **P 18 24 27.7 +0.9**
6.9nm,0.7s,baz=10,slow=11,SNR=17
BOSA LR LR 18 32 10.9
comp=Z,48nm,20.5s,baz=251,slow=34
TORD Torodi Ar. Bea 34.52 305 P **P 18 26 20.9 +0.1**
0.9nm,1.1s,baz=116,slow=8.1,SNR=3.3
DBIC Dimbokro 37.35 291 P **P 18 26 47.3 +2.2**
0.9nm,0.5s,baz=102,slow=9.3,SNR=3.0
DBIC LR LR 18 40 58.8
comp=Z,83nm,19.3s,baz=118,slow=34
BRTR Keskin Array B 46.56 4 P **P 18 28 01.2 +1.1**
0.7nm,1.0s,baz=181,slow=11,SNR=2.5
KEST Kesra 46.71 337 LR LR 18 49 38.1
comp=Z,28nm,22.0s,baz=272,slow=39
GERES GERESS Array B 57.38 347 P **P 18 29 21.1 +0.5**
0.4nm,0.5s,baz=188,slow=5.9,SNR=2.5
AKASG Malin Array Be 57.42 359 P **P 18 29 20.1 -0.6**
0.1nm,0.3s,baz=184,slow=6.2,SNR=3.1
NOA NORSAR Array B 69.37 350 LR LR 19 02 31.6
comp=Z,21nm,20.3s,baz=125,slow=37
MKAR Makanchi Array 70.72 35 P **P 18 30 49.8 +1.5**
0.3nm,0.7s,baz=249,slow=6.5,SNR=3.3
MKAR LR LR 19 04 01.9
comp=Z,30nm,19.9s,baz=356,slow=38
CMAR Chiang Mai Arr 72.46 68 P **P 18 31 00.2 +0.8**
0.4nm,0.3s,baz=260,slow=5.3,SNR=3.6
ZALV Zalesovo Beam 76.03 30 P **P 18 31 19.4 0.0**
0.2nm,0.4s,baz=266,slow=4.3,SNR=2.4
PDAR Pinedale Array 129.65 322 PKP **PKPdf 18 38 43.7 +1.6**
0.2nm,0.5s,baz=45,slow=4.0,SNR=2.7

IDC ***15*** *19:24:29.0±1.7,7.00S×129.28E,h0km,mb3.8/2, mb1 4.1/5,mb1mx3.7/20,mbtmp4.0/5,ML4.0/3,Error ellipse: s-maj=73.8km s-min=24.9km az=70.0*
ISC 15 19:24:29.1±1.0,6.94S±0.09×129.1E±0.1,h10km,n15, σ1s43/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.07**	**38**	P		**Pg**	**19 26 05.3**	**-1.0**
	baz=5.9,SNR=15							
SOEI	**Soe**	**5.55**	**239**	P		Pn	19 25 58.5	+6.5
	baz=4.8,SNR=12							
KNRA	**Kununurra**	**8.69**	**182**	P		Pn	19 26 37.8	+2.8
	baz=8.2,SNR=23							
FITZ	**Fitzroy Crossi**	**11.60**	**197**	Pn		**Pn**	**19 27 14.5**	**-0.4**
	0.5nm,0.3s,baz=24,slow=13,SNR=22							
FITZ				Sn		Sn	19 29 08.9	-16
	1.2nm,0.3s,baz=287,slow=20,SNR=6.6							
WRA	**Warramunga Arr**	**13.88**	**159**	Pn		**Pn**	**19 27 46.6**	**+0.4**
	1.0nm,0.3s,baz=344,slow=12,SNR=68							
WRA				Sn		Sn	19 30 06.8	-14
	2.6nm,0.3s,baz=332,slow=22,SNR=11							
COEN	**Coen**	**15.48**	**118**	P		P	19 28 19.4	+7.2
	baz=16,SNR=8.2							
QIS	**Mount Isa**	**16.93**	**144**	P		P	19 28 30.5	+2.2
	baz=17,SNR=5.6							
ASAR	**Alice Springs**	**17.26**	**165**	P		**P**	**19 28 31.2**	**-0.7**
	0.7nm,0.3s,baz=341,slow=11,SNR=51							
ASAR				S		Sn	19 31 27.0	-16
	0.5nm,0.3s,baz=347,slow=26,SNR=6.5							
WRKA	**Warakurna**	**18.01**	**182**	P		**P**	**19 28 40.7**	**+0.4**
	baz=18,SNR=11							
CISI	**Cisompet, Garu**	**21.14**	**267**	P		**P**	**19 29 12.5**	**-2.0**
	baz=20,SNR=3.2							
QLP	**Quilpie**	**24.26**	**145**	P		P	19 29 49.3	+2.7
	baz=24,SNR=8.1							
BBOO	**Buckleboo**	**26.54**	**167**	P		**P**	**19 30 07.3**	**+0.1**
	baz=26,SNR=4.5							
STKA	**Stephens Creek**	**27.41**	**156**	P		**P**	**19 30 15.2**	**+0.1**
	0.9nm,0.3s,baz=335,slow=8.2,SNR=8.6							
ARPS	**Mount Arapiles**	**31.88**	**160**	P		P	19 30 55.7	+1.1
	baz=32,SNR=9.9							
MKAR	**Makanchi Array**	**67.70**	**327**	P		**P**	**19 35 29.2**	**+2.5**
	0.2nm,0.3s,baz=128,slow=8.2,SNR=5.5							

ISCJB ***15*** *20:03:59.0±0.3,23.89N±0.02×121.69E±0.02,h29km±2km, Error ellipse: s-maj=3.2km s-min=2.1km az=40.7*
TAP ***15*** *20:03:58.9,23.92N×121.61E,h37km,ML3.5,C*
JMA ***15*** *20:03:58.3,23.88N×121.65E,h35km±1km,M3.0*
ISC 15 20:03:59.5±0.9,23.91N±0.02×121.66E±0.02,h33km±5km, n57,σ0s76/89,8C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.09**	**325**	P		**Pb**	**20 04 05.4**	**+0.3**
	baz=360							
HWA				*e*S		**Sb**	**20 04 09.2**	**+0.2**
	baz=360							
ESF	**Shoufeng Towns**	**0.14**	**256**	*e*P		**Pb**	**20 04 05.5**	**0.0**
	baz=258							
ESF				*e*S		Sn	20 04 09.9	+0.9
	baz=258							
TWD	**Chiawan**	**0.18**	**342**	⇑*i*P		**Pb**	**20 04 05.7**	**-0.2**
	baz=350							
TWD				*i* S		**Sb**	**20 04 10.6**	**+0.4**
	baz=350							
TEGC	**Jichi Village**	**0.22**	**209**	*e*P		**Pb**	**20 04 06.9**	**+0.6**
	baz=190							
ESL	**Shilin**	**0.23**	**246**	⇑*i*P		**Pb**	**20 04 05.8**	**-0.6**
	baz=243							
ESL				*e*S		**Sb**	**20 04 10.3**	**-0.7**
	baz=243							
WHF	**Hehuan Shan**	**0.43**	**304**	⇑*i*P		Pb	20 04 08.4	-1.0
	baz=305							
WHF				S		**Sb**	**20 04 15.4**	**-0.8**
	baz=305							
EHY	**Hungye**	**0.50**	**218**	*i* P		Pb	20 04 08.7	-1.5
	baz=212							
EHY				*e*S		**Sb**	**20 04 15.9**	**-1.6**
	baz=212							
ENA	**Nanau**	**0.53**	**8**	⇑P		Pb	20 04 09.6	-0.9
	baz=4.0							
ENA				*e*S		**Sb**	**20 04 18.5**	**+0.4**
	baz=4.0							
TWT	**Tachien**	**0.56**	**308**	⇑*i*P		**Pb**	**20 04 10.5**	**-0.7**
	baz=309							
TWT				*i* S		**Sb**	**20 04 18.1**	**-1.2**
	baz=309							
NNS	**Nan Shan**	**0.59**	**334**	*e*P		Pb	20 04 10.4	-1.3
	baz=343							
NNS				*e*S		**Sb**	**20 04 18.4**	**-1.6**
	baz=343							
SMLT	**Sun Moon Lake**	**0.69**	**268**	⇑*i*P		Pn	20 04 12.3	-0.9
	baz=267							
SMLT				*e*S		**Sb**	**20 04 22.2**	**-0.6**
	baz=267							
TWC	**Suao**	**0.72**	**14**	*e*P		**Pn**	**20 04 13.0**	**-0.4**
	baz=25							
TWC				*i* S		**Sb**	**20 04 23.9**	**+0.6**
	baz=25							
TYC	**Yuchr**	**0.73**	**270**	*i* P		Pn	20 04 12.6	-1.0
	baz=269							
TYC				S		**Sb**	**20 04 22.2**	**-1.5**
	baz=269							
ENTT	**Nioudou**	**0.74**	**353**	*e*P		Pn	20 04 12.6	-1.1
	baz=355							
ENTT				*e*S		**Sb**	**20 04 23.7**	**-0.1**
	baz=355							
YUS	**Yu-Shan**	**0.77**	**238**	⇓*i*P		**Pn**	**20 04 13.9**	**-0.6**
	baz=228							
YUS				S		**Sn**	**20 04 23.7**	**-1.6**
	baz=228							
CHKT	**Chengkung**	**0.85**	**199**	*e*P		Pn	20 04 14.2	-1.0
	baz=185							
CHKT				*e*S		**Sb**	**20 04 25.4**	**-1.1**
	baz=185							
ILA	**Ilan**	**0.86**	**5**	*e*P		**Pn**	**20 04 15.4**	**+0.1**
	baz=357							
ILA				*e*S		**Sn**	**20 04 26.6**	**-0.2**
	baz=357							
ALS	**Alishan**	**0.88**	**243**	P		**Pn**	**20 04 15.5**	**-0.4**
	baz=235							
ALS				*e*S		**Sn**	**20 04 27.1**	**-0.6**
	baz=235							
WNT	**Mingjian**	**0.89**	**268**	*e*P		**Pn**	**20 04 15.9**	**+0.1**
	baz=268							
WNT				*e*S		**Sn**	**20 04 27.8**	**+0.1**
	baz=268							
TWQ1	**Liyutan**	**0.92**	**299**	*e*P		**Pn**	**20 04 16.4**	**+0.2**
	baz=299							
TWQ1				*e*S		**Sn**	**20 04 27.9**	**-0.5**
	baz=299							
ELDTW	**Lidau**	**0.93**	**220**	⇓*e*P		Pn	20 04 14.7	-1.7
	baz=211							
ELDTW				*e*S		**Sn**	**20 04 27.9**	**-0.7**
	baz=211							
TCU	**Taichung**	**0.93**	**285**	*e*P		**Pn**	**20 04 16.8**	**+0.4**
	baz=285							
TCU				*e*S		**Sn**	**20 04 29.8**	**+1.2**
	baz=285							
NSTT	**Nanjuang**	**0.94**	**320**	⇑*i*P		**Pn**	**20 04 16.6**	**+0.1**
	baz=321							
NSTT				S		**Sn**	**20 04 28.2**	**-0.6**
	baz=321							
CHN5	**Tsauling**	**0.95**	**251**	⇓*i*P		**Pn**	**20 04 16.7**	**0.0**
	baz=250							
CHN5				S		**Sn**	**20 04 29.6**	**+0.4**
	baz=250							
NSY	**Sanyi**	**0.96**	**302**	*e*P		**Pn**	**20 04 16.8**	**-0.1**
	baz=302							
NSY				*e*S		**Sn**	**20 04 30.1**	**+0.7**
	baz=302							
WGK	**Gukeng**	**1.03**	**258**	*e*P		**Pn**	**20 04 17.7**	**0.0**
	baz=257							
WGK				*e*S		**Sn**	**20 04 31.9**	**+1.0**
	baz=257							
STYT	**Tauyuan**	**1.11**	**228**	*e*P		**Pn**	**20 04 18.8**	**-0.1**
	baz=225							
STYT				*e*S		**Sn**	**20 04 33.5**	**+0.4**
	baz=225							
CHN4	**Tsaushan**	**1.12**	**241**	*e*P		**Pn**	**20 04 19.4**	**+0.5**
	baz=230							
CHN4				*e*S		**Sn**	**20 04 34.5**	**+1.1**
	baz=230							
TAP1	**Taipei**	**1.14**	**354**	*e*P		**Pn**	**20 04 19.9**	**+0.8**
	baz=353							
TAP	**Taipei**	**1.14**	**353**	*e*P		**Pn**	**20 04 20.0**	**+0.8**
	baz=353							
TAP				*e*S		**Sn**	**20 04 33.8**	**+0.2**
	baz=353							
TWB1	**Santiao Chiao**	**1.14**	**15**	P		**Pn**	**20 04 20.1**	**+1.0**
	baz=27							
TWB1				*e*S		**Sn**	**20 04 34.4**	**+0.7**
	baz=27							
WTP	**Ta-pu**	**1.16**	**236**	⇓*i*P		**Pn**	**20 04 20.0**	**+0.4**
	baz=235							
WTP				*e*S		**Sn**	**20 04 34.6**	**+0.3**
	baz=235							
NWF	**Wu-fen Shan**	**1.17**	**5**	*e*P		**Pn**	**20 04 20.6**	**+1.0**
	baz=354							
NWF				*e*S		**Sn**	**20 04 35.9**	**+1.4**
	baz=354							
CHY	**Chiayi**	**1.20**	**250**	*e*P		**Pn**	**20 04 20.4**	**+0.3**
	baz=249							
CHY				*e*S		**Sn**	**20 04 35.5**	**+0.2**
	baz=249							
TWG	**Pinlang**	**1.21**	**207**	*e*P		Pn	20 04 17.9	-2.2
	baz=196							
TWS1	**Kuangyinshan**	**1.21**	**350**	*e*P		**Pn**	**20 04 20.4**	**+0.2**
	baz=359							
TWS1				*e*S		**Sn**	**20 04 35.4**	**0.0**
	baz=359							
TTN	**Taitung**	**1.24**	**202**	*e*P		**Pn**	**20 04 21.8**	**+1.2**
	baz=192							
TWK	**Hsinying**	**1.25**	**240**	⇑*i*P		**Pn**	**20 04 21.2**	**+0.5**
	baz=239							
TWK				*e*S		**Sn**	**20 04 37.1**	**+0.6**
	baz=239							
CHN1	**Nanshi**	**1.26**	**236**	P		**Pn**	**20 04 21.2**	**+0.3**
	baz=235							
CHN1				*e*S		**Sn**	**20 04 37.8**	**+1.0**
	baz=235							
WTCT	**Ta-ch'eng**	**1.26**	**268**	*e*P		**Pn**	**20 04 21.3**	**+0.4**
	baz=279							
WTCT				*e*S		**Sn**	**20 04 37.5**	**+0.8**
	baz=279							
SGST	**Jiashian**	**1.28**	**231**	⇓*i*P		**Pn**	**20 04 21.9**	**+0.7**
	baz=230							
SGST				*e*S		**Sn**	**20 04 38.5**	**+1.2**
	baz=230							
WSF	**Szhu**	**1.34**	**259**	*e*P		**Pn**	**20 04 22.5**	**+0.5**
	baz=258							
WSF				*e*S		**Sn**	**20 04 40.1**	**+1.4**
	baz=258							
YOJ	**Yonaguni jima**	**1.35**	**66**	P		**Pn**	**20 04 21.9**	**-0.2**
CHN3	**Shinhua**	**1.45**	**235**	*e*P		Pn	20 04 24.7	+1.2
	baz=236							
CHN3				*e*S		**Sn**	**20 04 42.5**	**+1.2**
	baz=236							
ECL	**Taimali**	**1.46**	**207**	*e*P		Pn	20 04 21.6	-1.9
	baz=198							
SSD	**Sandimen**	**1.49**	**219**	*e*P		**Pn**	**20 04 24.9**	**+0.8**
	baz=221							
SSD				*e*S		**Sn**	**20 04 43.4**	**+1.0**
	baz=221							
SCLT	**Jiali**	**1.53**	**242**	*e*P		**Pn**	**20 04 25.0**	**+0.4**
	baz=241							
SCLT				*e*S		**Sn**	**20 04 44.0**	**+0.7**
	baz=241							
TWM1	**Shoushan**	**1.57**	**227**	*e*P		Pn	20 04 26.6	+1.5
	baz=236							
SGLT	**Jiouru**	**1.59**	**223**	*e*P		Pn	20 04 27.4	+1.9
	baz=221							
SCZT	**Fangliau**	**1.80**	**212**	*e*P		**Pn**	**20 04 29.1**	**+0.8**
	baz=228							
SCZT				*e*S		**Sn**	**20 04 51.2**	**+1.2**
	baz=228							
LAY	**Lan-yu**	**1.86**	**183**	*e*P		**Pn**	**20 04 28.6**	**-0.6**
	baz=184							
IRIF	**Iriomote-Funau**	**1.94**	**77**	P		**Pn**	**20 04 30.0**	**-0.2**
IRIF				*e*S		**Sn**	**20 04 53.4**	**-0.1**
HATJ	**Hateruma jima**	**1.97**	**85**	*e*S		**Sn**	**20 04 54.1**	**-0.1**
TWK1	**Hengchun**	**2.11**	**202**	*e*P		**Pn**	**20 04 33.5**	**+1.0**
	baz=195							
TWK1				*e*S		**Sn**	**20 04 59.0**	**+1.4**
	baz=195							
JKRS	**Kuro-shima**	**2.17**	**81**	P		**Pn**	**20 04 34.0**	**+0.6**
JKRS				*e*S		**Sn**	**20 04 59.6**	**+0.4**
JIJ	**Ishigaki jima**	**2.31**	**78**	P		**Pn**	**20 04 35.1**	**-0.3**
JIJ				*e*S		**Sn**	**20 05 01.3**	**-1.4**
JTJ	**Tarama**	**2.87**	**75**	P		**Pn**	**20 04 43.1**	**+0.1**
JTJ				*e*S		**Sn**	**20 05 16.5**	**0.0**

IDC 15 20:04:24.8±4.6,16.05S×177.05W,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.6/19,mbtmp3.6/4,Error ellipse: s-maj=203.3km s-min=34.0km az=138.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.68**	**240**	P		P	20 12 07.7	+0.6
	0.4nm,0.4s,baz=93,slow=11,SNR=3.2							
WRA	**Warramunga Arr**	**46.27**	**258**	P		P	20 12 52.6	+0.1
	0.4nm,0.8s,baz=95,slow=7.8,SNR=4.0							
ASAR	**Alice Springs**	**46.57**	**252**	P		P	20 12 54.0	-0.8
	1.1nm,0.7s,baz=87,slow=8.5,SNR=15							
ILAR	**Eielson Array**	**83.79**	**13**	P		P	20 16 55.5	0.0
	0.2nm,0.5s,baz=226,slow=5.0,SNR=5.7							

IDC 15 20:30:02.7±4.9,19.66S×177.26W,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.6/19,mbtmp3.5/3,Error ellipse: s-maj=350.6km s-min=30.3km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.40**	**256**	P		P	20 38 22.9	-0.5
	0.2nm,0.5s,baz=99,slow=6.8,SNR=4.6							
WRA	**Warramunga Arr**	**45.41**	**261**	P		P	20 38 23.8	+0.2
	0.4nm,0.8s,baz=96,slow=8.3,SNR=5.6							
NVAR	**Mina Array Bea**	**79.94**	**43**	P		P	20 42 14.0	0.0
	0.2nm,0.3s,baz=219,slow=6.9,SNR=3.4							

KRSC 15 20:31:18.7±3.7,54.39N×161.95E,h10km±10km,ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**1.20**	**308**	*e*P		Pn	20 31 41.8	0.0
KZV				*e*S		Sb	20 31 55.7	-1.8
TUMR	**Tumrok**	**1.38**	**311**	*e*P		Pb	20 31 44.4	-0.3
TUMR				*e*S		Sb	20 32 00.1	-2.3
KMNR	**Kamenistaya**	**1.69**	**325**	*e*P		Pb	20 31 50.0	0.0
KMNR				*e*S		Sn	20 32 10.1	0.0
SPN	**Mys Shipunski**	**1.73**	**222**	P		Pn	20 31 49.1	+0.3
SPN				*e*S		Sn	20 32 08.5	-2.4
KBTR	**Krutoberegovo**	**1.89**	**15**	*e*P		Pb	20 31 52.2	-1.1
KBTR				*e*S		Sn	20 32 13.8	-1.1
NLC	**Nalytchevo**	**1.97**	**233**	*e*S		Sn	20 32 17.8	+1.0
KOZ	**Kozyrevsk**	**2.05**	**325**	S		Sn	20 32 18.8	-0.1
KLY	**Klyuchi**	**2.06**	**339**	P		Pb	20 31 55.4	-0.8
KLY				S		Sn	20 32 19.1	-0.1
SMAR	**Somma**	**2.18**	**240**	*e*P		Pn	20 31 56.8	+1.5
SMAR				*e*S		Sn	20 32 21.9	-0.7
KRER	**Koryakskii**	**2.19**	**241**	*e*P		Pb	20 31 57.4	-1.2
KRER				*e*S		Sn	20 32 23.0	+0.3
UGLR	**Uglovaya**	**2.20**	**239**	*e*P		Pb	20 31 57.2	-1.5
UGLR				*e*S		Sn	20 32 22.4	-0.4
KRX	**Arik**	**2.21**	**243**	*e*P		Pb	20 31 57.3	-1.6
KRX				*e*S		Sn	20 32 22.4	-0.7
AVH	**Avacha**	**2.21**	**241**	*e*P		Pb	20 31 57.7	-1.2
AVH				*e*S		Sn	20 32 23.2	+0.2
SMKR	**Semkarok**	**2.21**	**353**	P		Pb	20 31 57.6	-1.3
SMKR				S		Sn	20 32 23.5	+0.4
BDR	**Baidarnaya**	**2.22**	**349**	S		Sb	20 32 26.1	-0.6
KOK	**Koryaka**	**2.25**	**242**	*e*P		Pb	20 31 58.1	-1.5
KOK				*e*S		Sn	20 32 23.8	-0.2
SRKR	**Sorokina**	**2.31**	**349**	P		Pb	20 32 00.0	-0.6
SRKR				S		Sn	20 32 27.2	+1.7
SRDR	**Sredinnyy**	**2.31**	**327**	P		Pn	20 31 57.9	+1.0
SRDR				S		Sn	20 32 23.3	-2.2
PET	**Petropavlovsk**	**2.39**	**236**	P		Pb	20 32 00.3	-1.5
PET				*e*S		Sn	20 32 27.8	+0.6
ESO	**Esso**	**2.42**	**311**	P		Pn	20 31 58.8	+0.5
GNL	**Ganaly**	**2.46**	**255**	*e*P		Pb	20 32 01.2	-2.0
BKI	**Bering**	**2.47**	**69**	*e*P		Pn	20 31 59.6	+0.7
BKI				*e*S		Sn	20 32 26.8	-2.3
RUS	**Russkaya**	**2.84**	**228**	P		Pn	20 32 05.4	+1.3
RUS				*e*S		Sn	20 32 36.7	-1.6
MTVR	**Mutnovka**	**2.95**	**231**	*e*P		Pn	20 32 07.8	+2.0
MTVR				*e*S		Sn	20 32 41.0	-0.4
ASAK	**Asacha**	**3.15**	**232**	S		Sn	20 32 48.8	+2.7

GUC 15 20:40:57.2±0.5,23.49S×69.63W,h115km±6km,ML3.6,2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.53**	**281**	⇑*i*P		Pn	20 41 14.6	-0.4
CEN1				*i* S		Sn	20 41 28.8	+0.5
ANCH	**Antofagasta**	**0.74**	**255**	*i* P		Pn	20 41 16.6	+0.2
ANCH				*i* S		Sn	20 41 30.9	+0.1
PB10	**Plate Boundary**	**0.84**	**268**	⇑*i*P		Pn	20 41 17.9	+0.5
PB10				*i* S		Sn	20 41 33.1	+0.6
PB10					AML	AML	20 41 38.7	
	comp=N,2μm,0.5s							
PB04	**Plate Boundary**	**1.22**	**6**	*i* P		Pn	20 41 22.2	+1.0
PB04				*i* S		Sn	20 41 41.3	+2.0
PB04					AML	AML	20 41 47.7	
	comp=N,817nm,0.3s							
PB09	**Plate Boundary**	**1.72**	**12**	*i* P		Pn	20 41 28.0	+0.7
PB09				*i* S		Sn	20 41 51.5	+1.4
PB09					AML	AML	20 41 58.2	
	comp=E,1μm,0.3s							
PB07	**Plate Boundary**	**1.77**	**352**	*i* P		Pn	20 41 28.6	+0.8
PB07				*i* S		Sn	20 41 52.5	+1.3
PB07					AML	AML	20 42 03.4	
	comp=E,451nm,0.2s							
PB01	**Plate Boundary**	**2.44**	**3**	*e*P		Pn	20 41 36.9	+0.7
PB01				*i* S		Sn	20 42 07.2	+1.2
PB01					AML	AML	20 42 14.8	
	comp=E,348nm,0.2s							
PATCX	**Punta Patache**	**2.70**	**350**	*e*P		Pn	20 41 39.6	+0.1
PATCX				*i* S		Sn	20 42 12.5	+0.4
PATCX					AML	AML	20 42 28.1	
	comp=N,179nm,0.5s							

MEX 15 20:46:13.6±0.4,16.22N×94.64W,h39km±76km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCIG		**1.46**	**110**	*i* P		Pn	20 46 35.8	-1.7
PCIG				*i* S		Sn	20 46 53.3	-2.1
HUIG	**Huatulco**	**1.48**	**252**	*e*P		Pn	20 46 36.3	-1.4
HUIG				*i* S		Sn	20 46 53.6	-2.3
VHO	**Vista Hermosa**	**2.18**	**293**	*i* P		Pn	20 46 45.5	-2.1
VHO				*i* S		Sn	20 47 11.9	-1.6
PNIG	**Pinotepa**	**3.35**	**273**	*i* P		Pn	20 47 02.6	-0.9
PNIG				*i* S		Sn	20 47 40.2	-2.0

CSEM ***15*** *20:55:24.6,37.28N×20.22E,h13km,MD3.5,After ATH*
ATH 15 20:55:24.7,37.28N×20.22E,h13km±2km,MD3.5/20, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.94**	**18**	*e*PB		Pb	20 55 41.3	-1.7
VLS	**Valsamata**	**0.94**	**18**	*e*Pb		Pb	20 55 41.3	-1.7
AMT	**Artemida-Makis**	**1.21**	**78**	*e*PB		Pg	20 55 47.9	-0.2
AMT				*e*SB		Sg	20 56 04.8	+0.9
AMT	**Artemida-Makis**	**1.21**	**78**	*e*Pb		Pg	20 55 47.9	-0.2
AMT				*e*Sb		Sg	20 56 04.8	+0.9
RLS	**Riolos of Patr**	**1.26**	**51**	*e*PN		Pn	20 55 47.3	-0.7
RLS				*e*SB		Sg	20 56 06.0	+0.7
RLS	**Riolos of Patr**	**1.26**	**51**	*e*Pn		Pn	20 55 47.3	-0.7
RLS				*e*Sb		Sg	20 56 06.0	+0.7
PYL	**PYLOS**	**1.28**	**107**	*e*PB		Pg	20 55 49.1	-0.2
PYL				*e*SB		Sg	20 56 06.1	+0.2
PYL	**PYLOS**	**1.28**	**107**	*e*Pb		Pg	20 55 49.1	-0.2
PYL				*e*Sb		Sg	20 56 06.1	+0.2
DRO	**Drossia**	**1.36**	**60**	*e*PB		Pb	20 55 50.5	+0.4
DRO				*e*SB		Sg	20 56 08.7	0.0
DRO	**Drossia**	**1.36**	**60**	*e*Pb		Pb	20 55 50.5	+0.4
DRO				*e*Sb		Sg	20 56 08.7	0.0
ITM	**Ithomi**	**1.37**	**94**	*e*PB		Pb	20 55 50.3	+0.1
ITM				*e*SB		Sg	20 56 09.2	+0.4
ITM	**Ithomi**

AGG	**Agios Georgios**	**2.41**	**43**	*e*PB	Pn	20 56 05.3 +1.4
AGG	**Agios Georgios**	**2.41**	**43**	*e*Pb	Pn	20 56 05.3 +1.4
DID	**Didima**	**2.41**	**84**	*e*PN	Pb	20 56 06.5 -1.5
DID	**Didima**	**2.41**	**84**	*e*Pn	Pb	20 56 06.5 -1.5
KYTH	**Kithira**	**2.47**	**113**	*e*PB	Pn	20 56 06.6 +1.9
KYTH	**Kithira**	**2.47**	**113**	*e*Pb	Pn	20 56 06.6 +1.9
THL	**Klokotos Trika**	**2.68**	**31**	*e*PB	Pn	20 56 09.3 +1.8
THL	**Klokotos Trika**	**2.68**	**31**	*e*Pb	Pn	20 56 09.3 +1.8
NEST	**Nestorio**	**3.20**	**11**	*e*PN	Pn	20 56 16.9 +2.1
NEST	**Nestorio**	**3.20**	**11**	*e*Pn	Pn	20 56 16.9 +2.1

BJI ***15*** *20:57:02.5, 8.°93S × 119.°58E, h17km, mB5.0/1, mb4.6/5*
IDC ***15*** *20:57:06.7±0.8, 8.°37S × 118.°52E, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.0/25, mbtmp4.1/11, ML3.8/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/34, Error ellipse: s-maj=41.7km s-min=14.0km az=63.0*
ISCJB ***15*** *20:57:08.1±0.3, 8.°40S±0.°04 × 118.°70E±0.°03, h10km, mb4.2/11, MS3.6/2, Error ellipse: s-maj=5.8km s-min=3.6km az=8.3*
AUST ***15*** *20:57:09.6±3.3, 8.°52S × 118.°59E, h0km, Error ellipse: s-maj=1.1km s-min=0.8km az=5.0*
DJA ***15*** *20:57:10.1±0.3, 8.°S±4.′ × 11.°9E±.′, h10km, M4.7/16, mb4.9/5, mB5.1/4, MLv4.7/16, Mw(mB)4.5/4*

ISC 15 20:57:08.8±0.5, 8.°44S±0.°05 × 118.°58E±0.°04, h10km, n51, σ1↑90/45, mb4.3/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.29**	**92**	P	**Pn**	**20 57 31.4**	**-1.6**
LBFI				S	**Sb**	**20 57 47.3**	**-2.7**
WSI	**Waingapu**	**2.09**	**126**	P	**Pn**	**20 57 43.5**	**-0.4**
WSI	**Waingapu**	**2.09**	**126**	P	**Pn**	**20 57 43.5**	**-0.4**
	baz=2.0,SNR=20						
MTNI	**Mataram**	**2.39**	**265**	P	**Pb**	**20 57 50.5**	**-1.5**
DNP	**Denpasar**	**3.34**	**266**	P	**Pn**	**20 58 03.5**	**+2.3**
SRBI	**Singaraja**	**3.35**	**276**	P	**Pn**	**20 58 03.1**	**+1.8**
IGBI	**Denpasar**	**3.42**	**263**	P	**Pn**	**20 58 04.4**	**+2.2**
IGBI				S	**Sb**	**20 58 49.7**	**-1.5**
BKSI	**Bulukumba**	**3.46**	**26**	P	**Pn**	**20 58 02.1**	**-0.6**
MMRI	**Maumere**	**3.62**	**93**	P	**Pn**	**20 58 04.7**	**-0.3**
BYJI	**Banyuwangi**	**4.19**	**273**	P	Pn	20 58 16.5	+3.7
BYJI				S	**Sb**	**20 59 07.6**	**-5.8**
BNSI	**Bone**	**4.29**	**21**	P	**Pn**	**20 58 14.6**	**+0.4**
ABJI	**Asem Bagus**	**4.35**	**278**	P	**Pn**	**20 58 15.3**	**+0.2**
SPSI	**Sidrap Palu**	**4.60**	**15**	P	**Pn**	**20 58 17.8**	**-0.7**
BLJI	**Banyuglugur**	**4.99**	**278**	P	**Pn**	**20 58 26.4**	**+2.6**
	137nm,0.6s,2μm0.8nm						
GMJI	**Gumukmas**	**5.09**	**271**	P	**Pn**	**20 58 26.7**	**+1.5**
	145nm,1.0s,2μm0.6nm						
KKSI	**Kolaka, Sulawe**	**5.22**	**36**	P	**Pn**	**20 58 23.9**	**-3.2**
TTSI	**Tana Toraja**	**5.50**	**13**	P	**Pn**	**20 58 31.7**	**+0.8**
	49nm,0.3s,2μm0.4nm						
SOEI	**Soe**	**5.76**	**104**	P	Pn	20 58 38.9	+4.3
	baz=5.7,SNR=9.3						
KRKI	**Karangkates**	**6.07**	**272**	P	Pb	20 58 49.4	-5.4
PWJI	**Pagerwojo**	**6.72**	**273**	P	Pn	20 58 51.0	+3.3
	47nm,0.6s,0.3nm						
SJI	**Sawahan**	**6.79**	**275**	P	Pn	20 58 52.1	+3.5
UGM	**Wanagama**	**8.00**	**273**	P	Pn	20 59 11.0	+5.8
	baz=8.0,SNR=7.5						
LUWI	**Luwuk**	**8.45**	**30**	P	**Pn**	**20 59 13.1**	**+1.7**
	baz=8.6,SNR=4.3						
CISI	**Cisompet, Garu**	**10.70**	**274**	P	Pn	20 59 45.9	+3.5
	baz=11,SNR=3.8						
FITZ	**Fitzroy Crossi**	**11.80**	**145**	Pn	**Pn**	**20 59 56.7**	**-0.6**
	0.7nm,0.3s,baz=26,slow=5.8,SNR=13						
FITZ				Sn	Sn	21 02 02.4	-6.8
	1.5nm,0.3s,baz=169,slow=18,SNR=11						
FITZ				LR	LR	21 05 09.5	
	comp=Z,17nm,18.9s,baz=327,slow=41						
KNRA	**Kununurra**	**12.28**	**127**	P	**Pn**	**21 00 04.2**	**+0.3**
	baz=12,SNR=10						
MTN	**Manton Dam**	**13.09**	**111**	P	**Pn**	**21 00 14.5**	**-0.4**
	baz=13,SNR=4.5						
KDU	**Kakadu**	**14.29**	**108**	P	Pn	**21 00 31.8**	**+0.4**
	baz=14,SNR=7.4						
GIRL	**Giralia**	**14.73**	**196**	P	**Pn**	**21 00 37.8**	**+0.5**
	baz=15,SNR=6.4						
MEEK	**Meekatharra**	**18.10**	**180**	P	**P**	**21 01 23.4**	**+2.5**
	baz=18,SNR=12						
WRKA	**Warakurna**	**18.93**	**152**	P	**Pn**	**21 01 32.0**	**+1.3**
	baz=19,SNR=4.4						
WRA	**Warramunga Arr**	**19.06**	**129**	P	**P**	**21 01 30.6**	**-0.9**
	0.3nm,0.3s,baz=301,slow=13,SNR=21						
WRA				S	Sn	21 04 54.5	-11
	0.1nm,0.3s,baz=309,slow=24,SNR=4.9						
WRA				LR	LR	21 10 17.8	
	comp=Z,82nm,19.1s,baz=330,slow=41						
ASAR	**Alice Springs**	**21.09**	**138**	P	**P**	**21 01 54.4**	**+0.8**
	5.9nm,0.8s,baz=316,slow=10,SNR=56						
ASAR				S	**S**	**21 05 46.0**	**-2.4**
	1.8nm,0.7s,baz=308,slow=21,SNR=6.2						
PSI	**Prapat**	**22.56**	**299**	P	P	21 02 19.2	+10
QIS	**Mount Isa**	**23.61**	**123**	P	P	21 02 29.0	+8.8
	baz=24,SNR=3.3						
NWAO	**Narrogin (SRO)**	**24.40**	**183**	P	**P**	**21 02 27.8**	**+0.3**
	4.5nm,0.6s,baz=17,slow=14,SNR=3.2						
COEN	**Coen**	**24.73**	**105**	P	**P**	**21 02 32.6**	**+1.9**
	baz=25,SNR=4.3						
STKA	**Stephens Creek**	**31.64**	**141**	P	**P**	**21 03 32.5**	**+0.1**
	2.8nm,0.7s,baz=306,slow=9.9,SNR=7.8						
STKA				LR	LR	21 17 06.6	
	comp=Z,39nm,21.3s,baz=27,slow=38						
STKA	**Stephens Creek**	**31.64**	**141**	P	P	21 03 37.3	+4.9
	baz=32,SNR=3.9						
CMAR	**Chiang Mai Arr**	**33.01**	**324**	P	**P**	**21 03 44.4**	**-0.1**
	0.4nm,0.6s,baz=154,slow=6.3,SNR=4.8						
KMI	**Kunming**	**36.76**	**336**	P	**P**	**21 04 19.4**	**+2.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSRS	**Korea Array**	**46.48**	**10**	P	**P**	**21 05 35.8**	**-0.5**
	4.1nm,0.9s,baz=186,slow=7.5,SNR=8.3						
GTA	**Gaotai**	**50.69**	**341**	*e*P	**P**	**21 06 09.8**	**+1.0**
GTA				pP	**pP**	**21 06 14.1**	**+2.1**
GTA				sP	**sP**	**21 06 17.8**	**+4.6**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MCQ	**Macquarie Isla**	**56.08**	**153**	P	P	21 06 56.8	+8.8
	baz=56,SNR=3.3						
SONM	**Songino Array**	**57.06**	**350**	P	**P**	**21 06 54.4**	**-0.8**
	0.9nm,0.6s,baz=166,slow=8.0,SNR=11						
RPZ	**Rata Peaks**	**57.49**	**37**	P	**P**	**21 06 58.8**	**+0.4**
	16nm,0.9s,baz=225,slow=5.7,SNR=2.9						
MKAR	**Makanchi Array**	**63.77**	**333**	P	**P**	**21 07 39.1**	**-2.0**
	1.1nm,0.7s,baz=136,slow=8.1,SNR=7.9						
ZALV	**Zalesovo Beam**	**68.37**	**339**	P	**P**	**21 08 08.0**	**-2.4**
	0.6nm,0.5s,baz=134,slow=4.3,SNR=4.8						
FINES	**FINESS Array B**	**98.55**	**331**	LR	LR	22 02 20.4	
	comp=Z,63nm,18.7s,baz=171,slow=40						
TORD	**Torodi Ar. Bea**	**117.06**	**280**	PKP	**PKPdf**	**21 15 55.1**	**-1.8**
	0.3nm,0.6s,baz=82,slow=2.8,SNR=4.5						
CPUP	**Villa Florida**	**145.21**	**186**	PKPbc	**PKPab**	**21 16 47.0**	**-0.2**
	1.6nm,0.6s,baz=90,slow=3.1,SNR=3.4						

IDC 15 21:08:18.8±8.8, 30.°22S × 177.°17W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/18, mbtmp3.7/3, Error ellipse: s-maj=158.3km s-min=27.5km az=83.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.17**	**326**	Pn	Pn	21 08 42.5	+0.1
	45nm,0.3s,baz=120,slow=20,SNR=2.1						
RAO				Sn	Sn	21 08 59.9	+0.9
	207nm,0.3s,baz=102,slow=20,SNR=7.1						
STKA	**Stephens Creek**	**35.22**	**257**	P	P	21 15 15.2	+0.2
	1.1nm,0.6s,baz=88,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**43.84**	**266**	P	P	21 16 26.4	-0.6
	0.3nm,0.5s,baz=103,slow=2.7,SNR=6.9						
WRA	**Warramunga Arr**	**44.81**	**272**	P	P	21 16 34.7	-0.1
	0.7nm,0.4s,baz=111,slow=8.1,SNR=14						

STR ***15*** *21:12:35.9±0.1, 47.°90N × 7.°61E, h10km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
CSEM ***15*** *21:12:35.7±0.1, 47.°88N × 7.°55E, h10km, ML2.3/14, Error ellipse: s-maj=2.0km s-min=1.7km az=173.0*
ZUR ***15*** *21:12:36.1, 47.°88N × 7.°58E, h-0km±2km, ML1.8/6*
LDG ***15*** *21:12:36.4±0.0, 47.°90N × 7.°57E, h7km, Md2.6/3, Ml2.4/15, Error ellipse: s-maj=0.9km s-min=0.8km az=161.0*
BGR ***15*** *21:12:36.6±0.5, 47.°90N × 7.°57E, h10km, ML1.5/1, Error ellipse: s-maj=4.4km s-min=3.3km az=77.0*

ISC 15 21:12:36.1±0.9, 47.°89N±0.°01 × 7.°57E±0.°01, h18km±3km, n109, σ1↑07/171, 4C-6D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZ	**Kirchzarten**	**0.25**	**75**	*i*P*	**Pg**	**21 12 41.1**	**-0.7**
KIZ				*i* S*	**Sg**	**21 12 44.3**	**-1.4**
KIZ	**Kirchzarten**	**0.25**	**75**	Pb	**Pg**	**21 12 41.1**	**-0.7**
KIZ				Sb	**Sg**	**21 12 44.3**	**-1.4**
LIBD	**Limburg**	**0.26**	**6**	⇓P*	**Pb**	**21 12 42.1**	**-0.1**
LIBD				S*	**Sb**	**21 12 46.2**	**0.0**
LIBD	**Limburg**	**0.26**	**6**	Pb	**Pb**	**21 12 42.1**	**-0.1**
LIBD				Sg	**Sg**	**21 12 46.0**	**0.0**
MOF	**Molkenrain**	**0.29**	**262**	Pg	**Pg**	**21 12 42.8**	**+0.1**
MOF				Sg	**Sg**	**21 12 47.1**	**0.0**
MOF	**Molkenrain**	**0.29**	**262**	P*	**Pg**	**21 12 42.7**	**+0.1**
MOF				S*	**Sg**	**21 12 47.2**	**+0.2**
MOF	**Molkenrain**	**0.29**	**262**	Pb	**Pg**	**21 12 42.7**	**+0.1**
MOF				Sb	**Sg**	**21 12 47.2**	**+0.2**
FELD	**Feldberg im Sc**	**0.30**	**93**	Pg	**Pg**	**21 12 41.7**	**-1.0**
FELD				Sg	**Sg**	**21 12 45.8**	**-1.4**
FELD	**Feldberg im Sc**	**0.30**	**93**	P*	**Pg**	**21 12 42.0**	**-0.7**
FELD	**Feldberg im Sc**	**0.30**	**93**	Pg	**Pg**	**21 12 41.7**	**-1.0**
FELD	**Feldberg im Sc**	**0.30**	**93**	Pb	**Pg**	**21 12 42.0**	**-0.7**
FELD				Sg	**Sg**	**21 12 45.8**	**-1.4**
ECH	**Echery**	**0.42**	**320**	Pg	**Pg**	**21 12 44.9**	**+0.1**
ECH				Sg	**Sg**	**21 12 50.6**	**-0.1**
ECH	**Echery**	**0.42**	**320**	P*	**Pg**	**21 12 44.8**	**0.0**
ECH				SmS		21 12 55.0	
ECH	**Echery**	**0.42**	**320**	Pb	**Pg**	**21 12 44.8**	**0.0**
BBS	**Basel-Blauen**	**0.43**	**185**	P*	**Pg**	**21 12 45.0**	**0.0**
BBS	**Basel-Blauen**	**0.43**	**185**	Pg	**Pg**	**21 12 44.3**	**-0.7**
BBS	**Basel-Blauen**	**0.43**	**185**	Pb	**Pg**	**21 12 45.0**	**0.0**
HINF	**Hinteralfeld**	**0.48**	**261**	*e*Pg	**Pg**	**21 12 46.1**	**+0.1**
HINF	**Hinteralfeld**	**0.48**	**261**	*e*P	**Pb**	**21 12 47.1**	**+0.9**
	SNR=1.0						
HINF	**Hinteralfeld**	**0.48**	**261**	*e*Pn	**Pn**	**21 12 48.1**	**-0.1**
HINF				*e*Sg	**Sg**	**21 12 52.5**	**-0.1**
HINF				*e*Sn	**Sb**	**21 12 56.2**	**+3.2**
HINF	**Hinteralfeld**	**0.48**	**261**	*e*Pg	**Pg**	**21 12 46.1**	**+0.1**
HINF	**Hinteralfeld**	**0.48**	**261**	*e*P	**Pb**	**21 12 47.1**	**+0.9**
	SNR=1.0						
HINF	**Hinteralfeld**	**0.48**	**261**	*e*Pn	**Pn**	**21 12 48.1**	**-0.1**
HINF				*e*Sg	**Sg**	**21 12 52.5**	**-0.1**
SULZ	**Cheisacher**	**0.52**	**135**	⇓*i*Pg	**Pg**	**21 12 46.3**	**-0.3**
	61nm,0.6s						
SULZ	**Cheisacher**	**0.52**	**135**	*e*Pg	**Pg**	**21 12 46.3**	**-0.3**
	SNR=3.1						
SULZ				*e*Sg	**Sg**	**21 12 53.4**	**-0.2**
SULZ	**Cheisacher**	**0.52**	**135**	⇓*i*Pg	**Pg**	**21 12 46.3**	**-0.3**
	61nm,0.6s						
SULZ				Sg	**Sg**	**21 12 53.4**	**-0.2**
WLS	**Welschbruch**	**0.54**	**345**	⇑P*	**Pg**	**21 12 47.1**	**+0.2**
WLS	**Welschbruch**	**0.54**	**345**	Pb	**Pg**	**21 12 47.2**	**+0.2**
BOURR	**Bourrignon**	**0.55**	**204**	*e*P1		21 12 47.3	
	67nm,0.6s						
BOURR	**Bourrignon**	**0.55**	**204**	*e*P	**Pg**	**21 12 47.3**	**+0.2**
	67nm,0.6s						
CDF	**Champ du Feu**	**0.55**	**340**	*e*Pg	**Pg**	**21 12 47.2**	**0.0**
CDF	**Champ du Feu**	**0.55**	**340**	*e*P	**Pb**	**21 12 48.3**	**+1.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**21 12 54.2**	**-0.5**
	9.2nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.55**	**340**	*e*Pg	**Pg**	**21 12 47.2**	**0.0**
CDF	**Champ du Feu**	**0.55**	**340**	*e*P	**Pb**	**21 12 48.3**	**+1.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**21 12 54.2**	**-0.5**
	4.6nm,0.2s,SNR=1.0						
BALST	**Balsthal**	**0.56**	**171**	⇓*i*Pg	**Pg**	**21 12 47.4**	**0.0**
	152nm,0.2s						
BALST	**Balsthal**	**0.56**	**171**	*e*Pg	**Pg**	**21 12 47.4**	**0.0**
	SNR=7.0						
BALST				*e*Sg	**Sg**	**21 12 55.0**	**0.0**
BALST	**Balsthal**	**0.56**	**171**	⇓*i*Pg	**Pg**	**21 12 47.4**	**0.0**
	152nm,0.2s						
BALST				Sg	**Sg**	**21 12 55.0**	**0.0**
SLE	**Schleitheim**	**0.64**	**101**	⇓*i*P1		21 12 48.4	
	415nm,0.2s						
SLE	**Schleitheim**	**0.64**	**101**	*e*Pg	**Pg**	**21 12 48.4**	**-0.3**
	SNR=10						
SLE				*e*Sg	**Sg**	**21 12 56.7**	**-0.6**
SLE	**Schleitheim**	**0.64**	**101**	Pg	**Pg**	**21 12 48.4**	**-0.3**
	SNR=10						
SLE				Sg	**Sg**	**21 12 56.7**	**-0.6**
BFO	**Black Forest**	**0.67**	**49**	P*	**Pg**	**21 12 49.1**	**-0.3**
BFO				PmP		21 12 50.3	
BFO				S*	**Sg**	**21 12 58.0**	**-0.4**
BFO				SmS		21 13 00.1	
BFO	**Black Forest**	**0.67**	**49**	Pb	**Pg**	**21 12 49.1**	**-0.3**
BFO				Sb	**Sg**	**21 12 58.0**	**-0.4**
LOMF	**Lomont**	**0.74**	**223**	Pg	**Pb**	**21 12 51.0**	**+0.5**
LOMF				Sg	**Sb**	**21 13 01.4**	**+1.2**
LOMF	**Lomont**	**0.74**	**223**	P*	**Pb**	**21 12 50.9**	**+0.5**
LOMF	**Lomont**	**0.74**	**223**	Pb	**Pb**	**21 12 50.9**	**+0.5**
HAU	**Haudompre**	**0.83**	**278**	*e*Pg	**Pg**	**21 12 52.0**	**-0.2**
	SNR=1.0						
HAU	**Haudompre**	**0.83**	**278**	*e*Pn	**Pb**	**21 12 52.7**	**+0.8**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**21 13 02.9**	**-0.3**
HAU				*e*Sn	**Sb**	**21 13 04.3**	**+1.6**
	40nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**0.83**	**278**	*e*Pg	**Pg**	**21 12 52.0**	**-0.2**
	SNR=1.0						
HAU	**Haudompre**	**0.83**	**278**	*e*Pn	**Pb**	**21 12 52.7**	**+0.8**
	SNR=1.0						
STEIN	**Stein am Rhein**	**0.91**	**104**	*e*P1	**Pg**	**21 12 53.9**	**+0.1**
	37nm,0.1s						
STEIN	**Stein am Rhein**	**0.91**	**104**	*e*P	**Pg**	**21 12 53.9**	**+0.1**
	37nm,0.1s						
SISB	**Singen-Schiene**	**0.97**	**102**	P*	**Pb**	**21 12 55.1**	**+0.8**
SISB				S*	**Sb**	**21 13 07.9**	**+1.1**
SISB	**Singen-Schiene**	**0.97**	**102**	Pb	**Pb**	**21 12 55.1**	**+0.8**
SISB				Sb	**Sb**	**21 13 07.9**	**+1.1**
WEIN	**Weingarten**	**1.03**	**110**	*e*P1		21 12 56.2	
	47nm,0.2s						
WEIN	**Weingarten**	**1.03**	**110**	*e*P	**Pb**	**21 12 56.2**	**+0.8**
	47nm,0.2s						
WILA	**Wila**	**1.03**	**117**	*e*Pg	**Pb**	**21 12 56.3**	**+0.9**
	SNR=7.7						
WILA				*e*Sg	**Sb**	**21 13 10.0**	**+1.4**
WILA	**Wila**	**1.03**	**117**	Pg	**Pb**	**21 12 56.3**	**+0.9**
	SNR=7.7						
WILA				Sg	**Sb**	**21 13 10.0**	**+1.4**
GUT	**Gutenstein**	**1.06**	**80**	PmP	**Pg**	**21 12 56.6**	**0.0**
LANF	**Langenberg**	**1.10**	**8**	Pg	**Pg**	**21 12 57.3**	**-0.1**
LANF				Sg	**Sg**	**21 13 11.1**	**-0.8**
LANF	**Langenberg**	**1.10**	**8**	Pg	**Pg**	**21 12 57.3**	**-0.1**
LANF				Sg	**Sg**	**21 13 11.1**	**-0.8**
THEF	**They Montfort**	**1.11**	**288**	Pg	**Pn**	**21 12 57.9**	**+1.1**
THEF				Sg	**Sn**	**21 13 13.1**	**+1.5**
THEF	**They Montfort**	**1.11**	**288**	Pg	**Pn**	**21 12 57.9**	**+1.1**
THEF				Sg	**Sn**	**21 13 13.1**	**+1.5**
LBG	**Lerchenberg**	**1.13**	**46**	⇑P	**Pb**	**21 12 56.3**	**-0.8**
LBG				Sg	**Sg**	**21 13 12.7**	**0.0**
LBG	**Lerchenberg**	**1.13**	**46**	P	**Pb**	**21 12 56.3**	**-0.8**
LBG				Sg	**Sg**	**21 13 12.7**	**0.0**
BUCH	**Bad Urach**	**1.32**	**64**	⇑P	**Pn**	**21 12 59.2**	**-0.5**
BUCH				Pg	**Pg**	**21 13 01.6**	**0.0**
BUCH				Sg	**Sg**	**21 13 19.1**	**+0.2**
BUCH	**Bad Urach**	**1.32**	**64**	P	**Pn**	**21 12 59.2**	**-0.5**
PAGF	**Fort de Pagny**	**1.40**	**299**	*e*Pn	**Pn**	**21 13 00.3**	**-0.4**
PAGF	**Fort de Pagny**	**1.40**	**299**	*e*Pg	**Pb**	**21 13 02.3**	**+0.6**
	baz=128						
PAGF				*e*Sg	**Sg**	**21 13 20.7**	**-0.6**
	3.2nm,0.2s,baz=119						
PAGF	**Fort de Pagny**	**1.40**	**299**	*e*Pn	**Pn**	**21 13 00.3**	**-0.4**
PAGF	**Fort de Pagny**	**1.40**	**299**	*e*Pg	**Pb**	**21 13 02.3**	**+0.6**
	baz=128						
PAGF				*e*Sg	**Sg**	**21 13 20.7**	**-0.6**
	1.6nm,0.2s,baz=119						
PLONS	**Plons/SG**	**1.49**	**124**	*e*Pg	**Pg**	**21 13 04.7**	**-0.2**
	SNR=2.4						
PLONS				*e*Sg	**Sg**	**21 13 24.2**	**-0.2**
PLONS	**Plons/SG**	**1.49**	**124**	Pg	**Pg**	**21 13 04.7**	**-0.2**
	SNR=2.4						
PLONS				Sg	**Sg**	**21 13 24.2**	**-0.2**
CABF	**La Chapelle**	**1.63**	**219**	*e*Pn	**Pn**	**21 13 04.2**	**+0.2**
	SNR=1.0						
CABF	**La Chapelle**	**1.63**	**219**	*e*Pg	**Pb**	**21 13 07.0**	**+1.3**
CABF				*e*Sg	**Sb**	**21 13 26.9**	**+0.9**
	3.5nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.63**	**219**	*e*Pn	**Pn**	**21 13 04.2**	**+0.2**
	SNR=1.0						
CABF	**La Chapelle**	**1.63**	**219**	*e*Pg	**Pb**	**21 13 07.0**	**+1.3**
CABF				*e*Sg	**Sb**	**21 13 26.9**	**+0.9**
	1.8nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**1.72**	**281**	*e*Pn	**Pn**	**21 13 04.9**	**-0.3**
SFTF	**Sexfontaines**	**1.72**	**281**	*e*Pg	**Pb**	**21 13 08.5**	**+1.3**
SFTF				*e*Sn	**Sn**	**21 13 25.5**	**-1.2**
SFTF				*e*Sg	**Sg**	**21 13 30.8**	**-0.9**
	7.8nm,0.2s						
SFTF	**Sexfontaines**	**1.72**	**281**	*e*Pn	**Pn**	**21 13 04.9**	**-0.3**
SFTF	**Sexfontaines**	**1.72**	**281**	*e*Pg	**Pb**	**21 13 08.5**	**+1.3**
SFTF				*e*Sn	**Sn**	**21 13 25.5**	**-1.2**
SFTF				*e*Sg	**Sg**	**21 13 30.8**	**-0.9**
	3.9nm,0.2s						
MEZF	**Maizieres J'vi**	**1.79**	**291**	*e*Pg	**Pg**	**21 13 09.7**	**-0.8**
MEZF				*e*Sg	**Sg**	**21 13 32.9**	**-0.8**
	9.1nm,0.4s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.79**	**291**	*e*Pg	**Pg**	**21 13 09.7**	**-0.8**
MEZF				*e*Sg	**Sg**	**21 13 32.9**	**-0.8**
	4.6nm,0.4s,SNR=1.0						
RUP	**Ruppelstein**	**1.84**	**350**	Pg	**Pg**	**21 13 11.1**	**-0.4**
LPL	**La Plagne**	**2.45**	**194**	*e*Pg	**Pg**	**21 13 22.1**	**-1.0**
LPL				*e*Sg	**Sg**	**21 13 53.6**	**-1.2**
	1.1nm,0.2s						
LPL	**La Plagne**	**2.45**	**194**	*e*Pg	**Pg**	**21 13 22.1**	**-1.0**
LPL				*e*Sg	**Sg**	**21 13 53.6**	**-1.2**
	0.6nm,0.2s						
LPG	**La Plagne**	**2.46**	**193**	*e*Pg	**Pg**	**21 13 22.4**	**-1.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**21 13 54.5**	**-0.8**
	5.5nm,0.8s,SNR=1.0						
LPG	**La Plagne**	**2.46**	**193**	*e*Pg	**Pg**	**21 13 22.4**	**-1.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**21 13 54.5**	**-0.8**
	2.8nm,0.8s,SNR=1.0						
LOR	**Lormes**	**2.58**	**257**	*e*Pn	**Pn**	**21 13 17.2**	**+0.1**
	SNR=1.0						
LOR	**Lormes**	**2.58**	**257**	*e*Pg	**Pg**	**21 13 25.0**	**-0.7**
	baz=79						
LOR				*e*Sg	**Sg**	**21 13 57.4**	**-1.8**
	4.3nm,0.2s,baz=79,SNR=1.0						
LOR	**Lormes**	**2.58**	**257**	*e*Pn	**Pn**	**21 13 17.2**	**+0.1**
	SNR=1.0						
LOR	**Lormes**	**2.58**	**257**	*e*Pg	**Pg**	**21 13 25.0**	**-0.7**
	baz=79						
LOR				*e*Sg	**Sg**	**21 13 57.4**	**-1.8**
	2.2nm,0.2s,baz=79,SNR=1.0						
SMF	**Signal de Mont**	**2.83**	**245**	*e*Pg	**Pg**	**21 13 28.7**	**-1.6**
SMF				*e*Sg	**Sg**	**21 14 05.3**	**-1.6**
	2.8nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.83**	**245**	*e*Pg	**Pg**	**21 13 28.7**	**-1.6**
SMF				*e*Sg	**Sg**	**21 14 05.3**	**-1.6**
	1.4nm,0.2s,SNR=1.0						
GIVF	**Givet**	**2.85**	**322**	*e*Pn	**Pn**	**21 13 20.6**	**-0.1**
	SNR=1.0						
GIVF	**Givet**	**2.85**	**322**	*e*Pn	**Pn**	**21 13 20.6**	**-0.1**
	SNR=1.0						
SSF	**Saint Saulge**	**2.88**	**255**	*e*Pg	**Pg**	**21 13 29.6**	**-1.6**
SSF				*e*Sg	**Sg**	**21 14 06.3**	**-2.2**
	2.4nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.88**	**255**	*e*Pg	**Pg**	**21 13 29.6**	**-1.6**
SSF				*e*Sg	**Sg**	**21 14 06.3**	**-2.2**
	1.2nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.07**	**250**	*e*Pg	**Pg**	**21 13 33.2**	**-1.7**
AVF				*e*Sn	**Sn**	**21 13 58.5**	**-1.4**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**21 14 13.0**	**-1.7**
	1.5nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.07**	**250**	*e*Pg	**Pg**	**21 13 33.2**	**-1.7**
AVF				*e*Sg	**Sg**	**21 14 13.0**	**-1.7**
	0.8nm,0.3s,SNR=1.0		

STKA PcP PcP 21 32 20.2 +0.9
STKA Stephens Creek 37.14 245 P P 21 30 14.5 +1.3
19nm,0.8s,baz=87,slow=9.3,SNR=37
STKA PcP PcP 21 32 20.2 +0.9
5.0nm,0.6s,baz=40,slow=3.4,SNR=5.5
STKA Stephens Creek 37.14 245 P P 21 30 14.6 +1.3
baz=38,SNR=27
COEN Coen 37.16 275 eP P 21 30 14.3 +0.8
71nm,0.8s
COEN Coen 37.16 275 P P 21 30 14.4 +0.8
baz=38,SNR=7.2
ARPS Mount Arapiles 37.81 237 P P 21 30 19.8 +1.2
baz=38,SNR=10
QIS Mount Isa 39.09 263 P P 21 30 29.2 -0.1
baz=40,SNR=6.4
HTT Hallett 39.57 243 P P 21 30 33.9 +0.9
baz=40,SNR=18
BBOO Buckleboo 41.90 244 eP P 21 30 52.2 +0.7
567nm,0.6s
BBOO Buckleboo 41.90 244 P P 21 30 52.1 +0.7
baz=42,SNR=74
JAY Jayapura 43.78 289 P P 21 31 06.8 +0.3
baz=44,SNR=12
AS31 Alice Springs 43.95 257 eP P 21 31 07.8 +0.1
AS31 ePcP PcP 21 32 42.2 +0.3
ASAR Alice Springs 43.95 257 P P 21 31 08.1 +0.3
ASAR PcP PcP 21 32 42.1 +0.2
ASAR S S 21 36 59.0 -1.8
ASAR Alice Springs 43.95 257 P P 21 31 08.1 +0.3
42nm,0.8s,baz=96,slow=8.1,SNR=402
ASAR PcP PcP 21 32 42.1 +0.2
8.2nm,0.6s,baz=105,slow=3.8,SNR=16
ASAR S S 21 36 59.0 -1.8
0.8nm,0.7s,baz=92,slow=16,SNR=5.5
WRAB Tennant Creek 44.06 263 eP P 21 31 08.2 -0.3
32nm,0.9s
WRA Warramunga Arr 44.07 263 P P 21 31 08.3 -0.4
WRA PcP PcP 21 32 42.8 +0.4
WRA S S 21 36 58.3 -4.3
WRA Warramunga Arr 44.07 263 P P 21 31 08.3 -0.4
12nm,0.3s,baz=97,slow=7.2,SNR=557
WRA PcP PcP 21 32 42.8 +0.4
1.5nm,0.8s,baz=98,slow=3.8,SNR=4.7
WRA S S 21 36 58.3 -4.3
5.0nm,1.0s,baz=94,slow=13,SNR=11
KDU Kakadu 47.50 272 P P 21 31 34.6 -0.2
baz=48,SNR=18
FORT Forrest 48.66 247 P P 21 31 43.4 +0.1
baz=49,SNR=22
MTN Manton Dam 48.71 271 P P 21 31 43.2 -0.6
baz=49,SNR=13
WRKA Warakurna 48.88 255 P P 21 31 45.3 +0.3
baz=49,SNR=35
KNRA Kununurra 50.16 267 P P 21 31 54.7 +0.1
baz=51,SNR=29
KMBL Kambalda 53.92 246 P P 21 32 21.7 +0.3
baz=54,SNR=4.8
SOEI Soe 56.06 272 P P 21 32 38.2 +1.5
baz=57,SNR=15
TNTI Ternate 57.15 285 eP P 21 32 44.4 +0.3
77nm,0.8s
MBWA Marble Bar 57.29 258 eP P 21 32 45.0 +0.1
34nm,0.7s
MEEK Meekatharra 57.31 251 P P 21 32 44.6 -0.4
baz=58,SNR=6.6
VNDA Vanda 57.34 185 eP P 21 32 44.4 +0.1
1.2nm,0.8s
VNDA ePcP PcP 21 33 30.9 0.0
VNDA Vanda 57.34 185 P P 21 32 47.1 +2.8
0.8nm,0.7s,baz=335,slow=9.7,SNR=5.1
KLBR Kellerberrin 57.41 245 P P 21 32 45.9 +0.3
baz=58,SNR=15
BLDU Ballidu 58.42 246 P P 21 32 52.5 +0.1
baz=59,SNR=15
MORW Morawa 59.20 248 P P 21 32 58.0 +0.2
baz=60,SNR=4.1
WSI Waingapu 59.79 271 P P 21 32 59.0 -2.9
baz=60,SNR=5.3
GIRL Giralia 61.97 255 P P 21 33 17.4 +1.4
baz=62,SNR=4.7
CASY Casey 63.29 205 eP P 21 33 25.2 +1.5
23nm,1.1s
QSPA South Pole Qui 69.04 180 eP P 21 34 00.2 +0.5
8.2nm,1.0s
UGM Wanagama 69.49 269 P P 21 34 03.2 -0.1
baz=70,SNR=4.1
MJAR Matsushiro Arr 70.37 324 P P 21 34 07.2 -0.7
MJAR Matsushiro Arr 70.37 324 P P 21 34 07.2 -0.7
6.0nm,0.8s,baz=159,slow=5.3,SNR=11
MAT Matsushiro 70.37 324 P P 21 34 07.0 -0.9
KSM Kuching 73.03 278 eP P 21 34 24.3 +0.4
KSM Kuching 73.03 278 P P 21 34 24.4 +0.5
baz=74,SNR=7.0
FX1 Attu Island--F 73.96 355 P P 21 34 27.1 -1.1
FX1 Attu Island--F 73.96 355 P P 21 34 27.1 -1.1
15nm,0.7s,baz=237,slow=22,SNR=4.5
ASAJ Asahikawa 73.98 332 P P 21 34 29.1 +0.5
ASAJ Asahikawa 73.98 332 P P 21 34 29.1 +0.5
15nm,0.8s,baz=260,slow=5.2,SNR=3.7
PEA0B Petropavlovsk- 76.67 346 eP P 21 34 42.3 -1.1
PETK Petropavlovsk- 76.67 346 P P 21 34 42.8 -0.6
PETK Petropavlovsk- 76.67 346 P P 21 34 42.8 -0.6
8.1nm,0.7s,baz=142,slow=7.5,SNR=9.9
KSRS Korea Array 76.98 319 P P 21 34 46.1 +0.6
2.8nm,0.8s,baz=140,slow=6.6,SNR=5.3
KSAR Wonju Array Be 77.00 319 P P 21 34 46.1 +0.5
BSC Santa Cruz Isl 78.30 47 ⇑P P 21 34 53.9 +1.2
baz=78
PTRM Twissleman Ran 78.88 45 eP P 21 34 56.9 +1.1
USRK Ussuriysk Arra 79.15 326 P P 21 34 57.8 +0.8
5.8nm,0.9s,baz=110,slow=3.7,SNR=7.6
MWC Mount Wilson 79.50 47 eP P 21 34 60.0 +0.6
MURC Murrieta 79.75 48 ⇑P P 21 35 01.6 +1.1
baz=80
BFSC Mount Baldy Ra 79.79 47 ⇑P P 21 35 01.5 +0.8
baz=80
NJ2 Nanjing 79.86 310 eP P 21 35 02.8 +1.8
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
MONP Monument Peak 79.91 49 ⇓P P 21 35 02.5 +1.0
baz=80
EDW2 Edwards Air Fo 79.92 47 ⇓P P 21 35 02.5 +1.1
baz=80,SNR=6.1
DVTC Desert V Tower 80.01 49 ⇑P P 21 35 03.0 +1.1
baz=80
ISA Isabella 80.04 46 eP P 21 35 03.0 +1.1
18nm,1.4s
ISA Isabella 80.04 46 ⇑P P 21 35 03.1 +1.1
baz=80,SNR=8.2
CMB Columbia Colle 80.17 43 eP P 21 35 03.3 +0.8
8.6nm,1.0s
OHCM Honcut 80.26 41 eP P 21 35 03.9 +0.9
PFO Pinyon Flat Ob 80.27 48 ⇓P P 21 35 03.9 +0.6
baz=80
LRMC Laurel Mountai 80.46 46 ⇑P P 21 35 05.3 +1.1
baz=81
N02D Trinity Center 80.52 39 ⇓P P 21 35 05.6 +1.2
baz=81
QIZ Qiongzhong 80.66 294 P P 21 35 05.9 +0.5
QIZ S S 21 44 31.6 +2.3
QIZ pmax pmax
comp=Z,21nm,2.2s
MDJ Mudanjiang 80.69 325 P P 21 35 05.3 +0.3
MDJ pP pP 21 36 58.9 -0.8
MDJ sP sP 21 37 53.8 -0.4
MDJ S S 21 44 28.8 +0.2
MDJ SS SS 21 49 57.3 -0.4
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ pmax pmax
comp=Z,64nm,3.7s
M02C Callahan 80.70 39 ⇑P P 21 35 06.6 +1.3
baz=81
CWC Cottonwood Cre 80.74 45 ⇑P P 21 35 06.6 +0.9
baz=81,SNR=6.9
BELC Belle Mtn. Jos 80.81 48 ⇓P P 21 35 06.9 +0.8
baz=81
MAW Mawson 80.91 200 P P 21 35 06.9 +1.0
MAW Mawson 80.91 200 P P 21 35 06.9 +1.0
7.7nm,0.8s,baz=30,slow=6.8,SNR=4.5
MPMC Manual Prospec 80.92 46 ⇑P P 21 35 07.4 +0.7
baz=81,SNR=7.6
MTUM Tungsten Hills 80.94 44 eP P 21 35 07.9 +1.1
GSC Goldstone 80.96 47 eP P 21 35 07.8 +1.0
9.2nm,1.3s
GSC Goldstone 80.96 47 ⇓P P 21 35 07.7 +1.0
baz=81

YBH Yreka Blue Hor 80.99 39 P P 21 35 07.9 +1.1
YBH Yreka Blue Hor 80.99 39 P P 21 35 07.9 +1.1
12nm,0.8s,baz=167,slow=1.7,SNR=16
BC3 Big Chuckawall 81.00 49 ⇑P P 21 35 08.3 +1.2
baz=81
HEC Hector,Ludlow 81.03 47 ⇑P P 21 35 08.1 +0.9
baz=81
GLA Glamis 81.12 50 eP P 21 35 07.7 +0.1
3.8nm,0.9s
GLA Glamis 81.12 50 ⇓P P 21 35 08.8 +1.1
baz=81
HUMO Hull Mountain 81.40 38 eP P 21 35 08.7 -0.1
18nm,1.0s
GMRC Granite Mounta 81.46 48 ⇑P P 21 35 10.3 +0.9
baz=82
IRM Iron Mountain 81.48 49 ⇑P P 21 35 10.5 +1.1
baz=82,SNR=7.1
GRAC Grapevine Rang 81.53 45 ⇑P P 21 35 10.8 +1.2
baz=82
M04C Macdoel 81.54 39 ⇑P P 21 35 10.7 +1.0
baz=82
TUQ Turquoise Moun 81.64 47 ⇓P P 21 35 11.2 +0.9
baz=82,SNR=6.0
113A Mohawk Valley, 81.73 50 ⇑P P 21 35 11.6 +0.9
baz=82
PAHR Pah Rah Range 81.78 42 eP P 21 35 11.9 +0.9
NV11 Mina Array Sit 81.82 44 eP P 21 35 11.3 +0.1
214A Organ Pipe Nat 82.01 51 ⇓P P 21 35 13.1 +1.0
baz=82
TPH Tonopah 82.23 44 eP P 21 35 14.2 +0.8
TPNV Topopah Spring 82.24 46 eP P 21 35 14.4 +1.0
TPNV Topopah Spring 82.24 46 ⇑P P 21 35 14.4 +1.0
baz=82,SNR=15
PDMCI Parker Dam,Lak 82.27 49 ⇑P P 21 35 14.5 +1.1
baz=82
J04D Umpqua Nationa 82.28 38 ⇑P P 21 35 14.7 +1.2
baz=82
I04A Tendick Farm, 82.45 37 ⇓P P 21 35 15.2 +1.0
baz=83
MOD Modoc 82.52 40 eP P 21 35 15.3 +0.6
Z14A Wintersburg 82.63 50 ⇑P P 21 35 16.3 +1.0
baz=83
SHPR Sheep Range 82.73 47 eP P 21 35 17.0 +1.1
J05D Fort Rock, OR 82.81 38 ⇓P P 21 35 17.3 +1.2
baz=83
W13A Hualapai Mount 82.86 48 ⇑P P 21 35 17.5 +0.8
baz=83
G03D McMinnville, O 82.86 36 ⇑P P 21 35 17.5 +1.4
baz=83
Y14A Wickenburg 82.88 50 ⇓P P 21 35 17.5 +1.0
baz=83
I05D Terrebonne, OR 83.39 37 ⇑P P 21 35 19.8 +0.9
baz=84
R11A Troy Canyon, C 83.45 45 ⇑P P 21 35 20.1 +0.6
baz=84
BMN Battle Mountai 83.56 42 eP P 21 35 20.8 +0.8
TUC Tucson 83.67 52 eP P 21 35 21.2 +0.6
WVOR Wild Horse Val 83.83 40 eP P 21 35 22.1 +0.8
RSO Redoubt South 83.86 12 eP P 21 35 21.0 0.0
PSI Prapat 84.08 275 P P 21 35 22.7 -0.4
baz=85,SNR=6.4
X16A Lo Mia Camp, P 84.24 50 ⇑P P 21 35 24.9 +1.4
baz=84,SNR=7.5
I07A Izee 84.29 38 eP P 21 35 24.1 +0.7
319A Douglas 84.33 53 ⇓P P 21 35 25.2 +1.2
baz=84
CCUT Cedar City 84.51 46 eP P 21 35 26.1 +1.3
U15A North Rim 84.66 48 ⇑P P 21 35 26.7 +1.1
baz=85,SNR=14
CHBT CHBT 84.67 286 P P 21 35 27.3 +1.6
11nm,1.1s
D05A Enumclaw 84.80 35 eP P 21 35 27.0 +1.3
WUAZ Wupatki 84.84 49 eP P 21 35 27.4 +1.1
WUAZ Wupatki 84.84 49 ⇑P P 21 35 27.3 +0.9
baz=85
320A Kipp Ranch, An 84.88 54 ⇓P P 21 35 28.1 +1.4
baz=85
ELK Elko 84.98 43 eP P 21 35 27.6 +0.5
G08A Pilot Rock 85.32 38 eP P 21 35 29.3 +0.9
X18A Snowflake 85.37 50 ⇑P P 21 35 30.0 +1.0
baz=86
PMR Palmer 85.64 14 eP P 21 35 28.4 -0.9
H2OWA Water 85.71 37 P P 21 35 31.5 +1.4
ETW Entiat 85.94 35 P P 21 35 31.8 +0.5
ENH Enshi 85.96 304 eP P 21 35 31.9 +0.2
11nm,0.9s
121A Cookes Peak, D 86.00 53 ⇓P P 21 35 33.2 +1.1
baz=86
BMO Blue Mountains 86.02 39 eP P 21 35 31.9 +0.1
PATY Pattaya 86.05 285 P P 21 35 34.5 +2.1
4.5nm,0.9s
MFID Camas Ranch 86.09 40 eP P 21 35 33.0 +0.8
SYO Syowa Base 86.11 193 eP P 21 35 30.4 -1.2
WTV Waterville 86.20 35 P P 21 35 32.4 -0.1
DUG Dugway 86.26 44 ⇑P P 21 35 34.0 +1.0
baz=86
D08A Wollman Farm, 86.38 36 eP P 21 35 33.9 +0.6
E09A Wood Farm, Sta 86.50 37 eP P 21 35 34.2 +0.4
SAW Saint Andrews 86.50 35 P P 21 35 34.3 +0.4
GYA Guiyang 86.51 300 eP P 21 35 36.4 +1.9
GYA pP pP 21 37 32.0 +0.8
GYA sP sP 21 38 24.8 -0.5
GYA PP PP 21 39 09.6 +3.3
GYA SKS SKSac 21 45 11.5 +0.9
GYA S S 21 45 27.0 +0.3
GYA sS sS 21 48 52.3 -2.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
OD2 Odessa Site #2 86.69 36 P P 21 35 35.4 +0.6
TNA Tin City 86.70 4 eP P 21 35 33.9 -0.4
4.7nm,0.8s
SEY Seymchan 86.79 347 P P 21 35 34.3 -0.5
SEY Seymchan 86.79 347 P P 21 35 34.3 -0.5
11nm,0.8s,baz=142,slow=5.9,SNR=18
TMUT Trail Mountain 86.86 46 eP P 21 35 36.3 +0.2
4.6nm,0.9s
B08A Colville Reser 86.93 35 eP P 21 35 35.7 -0.2
Z22A Elephant Butte 86.95 53 ⇑P P 21 35 37.3 +0.8
baz=87
HLID Hailey 87.03 41 eP P 21 35 37.8 +1.1
HLID Hailey 87.03 41 ⇓P P 21 35 37.8 +1.1
baz=87
TRF Thorofare Moun 87.07 12 eP P 21 35 35.0 -1.3
24nm,0.8s
PHET Kaeng Krachan 87.16 285 P P 21 35 40.2 +2.5
47nm,1.0s
324A Moseley Ranch, 87.24 55 ⇑P P 21 35 38.9 +1.0
baz=87,SNR=11
Y22A Socorro 87.26 52 ⇓P P 21 35 38.7 +0.8
baz=87
425A Indio Mountain 87.33 56 ⇑P P 21 35 39.5 +1.2
baz=88,SNR=10
PBKT Sadao Pong 87.35 289 P P 21 35 40.3 +1.8
9.1nm,1.2s
MNTX Cornudas Mount 87.44 55 eP P 21 35 39.3 +0.7
6nm,1.1s
626A Big Bend Ranch 87.46 57 ⇑P P 21 35 40.0 +1.1
baz=88,SNR=6.7
SNAA Sanae 87.49 179 eP P 21 35 37.8 -0.4
2.5nm,1.1s
224A Cornudas Mount 87.50 54 ⇓P P 21 35 40.3 +1.2
baz=88,SNR=6.1
Z23A Rita Site, Whi 87.50 53 ⇑P P 21 35 39.7 +0.7
baz=88
MCK McKinley 87.59 13 eP P 21 35 37.2 -1.4
15nm,0.8s
325A Bean Ranch, Si 87.60 55 ⇓P P 21 35 39.9 +0.3
baz=88,SNR=10
526A Mary Lane Ranc 87.71 57 ⇑P P 21 35 41.2 +1.0
baz=88,SNR=9.7
124A Stringfield Ra 87.83 54 ⇑P P 21 35 41.5 +0.8
baz=88
Y23A Lovelace Mesa, 87.93 52 ⇓P P 21 35 41.5 +0.4
baz=88
627A Terlingua Ranc 88.00 57 ⇑P P 21 35 42.2 +0.8
baz=88,SNR=7.1
426A McDonald Obser 88.02 56 ⇓P P 21 35 42.6 +1.0
baz=88,SNR=7.7
225A Deer Hill, Car 88.04 55 ⇓P P 21 35 42.8 +1.2
baz=88
NEW Newport 88.07 36 eP P 21 35 41.5 +0.2
NEW Newport 88.07 36 ⇑P P 21 35 41.6 +0.3
baz=88
VNA2 Neumayer--Watz 88.08 177 eP P 21 35 42.0 +1.1
baz=198,slow=3.2
XAN Xi'an 88.09 308 P P 21 35 42.3 +0.6

ANMO Albuquerque 88.10 51 eP P 21 35 42.0 +0.2
6.6nm,1.1s
ANMO Albuquerque 88.10 51 P P 21 35 41.7 -0.2
4.8nm,1.0s,baz=209,slow=5.7,SNR=6.0
527A Woodward Ranch 88.12 57 ⇓P P 21 35 42.9 +0.9
baz=88,SNR=5.8
Z24A Sheeppen Canyo 88.17 53 ⇓P P 21 35 43.2 +0.9
baz=88
Y24A Capitan 88.39 53 ⇑P P 21 35 44.2 +1.0
baz=88,SNR=14
125A Gardner Draw, 88.41 54 ⇓P P 21 35 44.4 +1.1
baz=89
628A Black Gap, Mar 88.41 58 ⇑P P 21 35 44.3 +1.0
baz=89,SNR=5.1
NANT Nan 88.45 291 P P 21 35 44.8 +1.2
20nm,1.0s
226B Tecolote Peak, 88.53 55 ⇑P P 21 35 44.5 +0.7
baz=89,SNR=8.5
427A Hayter Ranch, 88.59 56 ⇓P P 21 35 44.7 +0.6
baz=89,SNR=9.9
DOT Dot Lake 88.59 15 eP P 21 35 42.3 -1.0
14nm,1.3s
Z25A Roswell 88.64 54 ⇑P P 21 35 45.0 +0.7
baz=89
V23A Ortiz Mt. (NFS 88.66 51 ⇓P P 21 35 45.5 +1.0
baz=89
DLBC Dease Lake 88.72 23 P P 21 35 44.0 -0.1
DLBC Dease Lake 88.72 23 P P 21 35 44.0 -0.1
3.3nm,0.8s,baz=215,slow=6.5,SNR=5.2
IM04 Indian Mountai 88.74 10 eP P 21 35 43.3 -0.7
528A Cox Ranch, San 88.78 57 ⇑P P 21 35 46.0 +0.9
baz=89
COLA College 88.83 13 eP P 21 35 43.3 -0.9
22nm,0.8s
126A Clayton Basin, 88.89 54 ⇓P P 21 35 46.3 +0.8
baz=89
ILAR Eielson Array 88.94 13 P P 21 35 43.5 -1.4
ILAR Eielson Array 88.94 13 P P 21 35 43.5 -1.4
7.7nm,0.9s,baz=224,slow=5.6,SNR=74
Y25A Mesa, Roswell 88.94 53 ⇓P P 21 35 46.3 +0.5
baz=89,SNR=5.9
W24A Lazy 6 Ranch, 88.98 52 ⇑P P 21 35 46.5 +0.5
baz=89
428A Kincaid Ranch, 89.09 57 ⇓P P 21 35 47.6 +1.1
baz=89
S22A 4UR Ranch, Cre 89.11 49 ⇑P P 21 35 47.3 +0.6
baz=89,SNR=5.6
BSMT Bassoo Peak 89.14 37 P P 21 35 46.7 +0.3
KMI Kunming 89.18 297 P P 21 35 47.1 -0.1
KMI pmax pmax
comp=Z,9.0nm,1.6s
Z26A Caprock 89.19 54 ⇓P P 21 35 47.1 +0.2
baz=89
529A Stev Forest Ra 89.20 57 ⇑P P 21 35 47.5 +0.5
baz=89
X25A Clemmons Ranch 89.23 52 ⇑P P 21 35 47.6 +0.5
baz=89
O20A White River Ci 89.26 46 ⇓P P 21 35 48.2 +1.0
baz=89
328A Wristen Ranch, 89.27 56 ⇑P P 21 35 47.9 +0.7
baz=89
CRAI Chiangrai 89.28 292 P P 21 35 48.8 +1.3
63nm,1.6s
V24A Rampart Ranch, 89.31 51 ⇓P P 21 35 48.8 +1.2
baz=90
HHC Hu-ho-hao-te 89.39 315 eP P 21 35 46.8 -0.9
HHC pP pP 21 37 46.4 +1.2
HHC sP sP 21 38 39.8 +0.8
HHC PP PP 21 39 30.6 +1.8
HHC S S 21 45 50.6 -2.2
HHC sS sS 21 49 21.1 -1.4
HHC SS SS 21 52 06.3 +1.7
HHC pmax pmax
comp=Z,28nm,1.3s
HHC pmax pmax
comp=Z,250nm,7.9s
127A Arkansas Junct 89.41 55 ⇓P P 21 35 48.7 +0.8
baz=90
N20A Spence Gulch, 89.58 46 ⇓P P 21 35 49.2 +0.5
baz=90,SNR=6.1
Y26A Elida 89.59 53 ⇓P P 21 35 49.0 +0.3
baz=90,SNR=5.7
I17A Pilgrim Ck. 89.59 42 ⇓P P 21 35 49.6 +1.0
baz=90
BW06 Boulder Array 89.67 43 eP P 21 35 48.9 -0.2
8.6nm,1.0s
PDAR Pinedale Array 89.67 43 P P 21 35 49.0 0.0
PDAR Pinedale Array 89.67 43 P P 21 35 49.0 0.0
7.1nm,0.8s,baz=208,slow=2.9,SNR=47
429A Davenport Ranc 89.67 57 ⇓P P 21 35 49.4 +0.2
baz=90,SNR=10.0
W25A X Bar L Ranch, 89.68 52 ⇑P P 21 35 49.3 +0.2
baz=90,SNR=6.8
228A UT Block 9, Go 89.75 55 ⇓P P 21 35 50.3 +0.8
baz=90
Z27A Tatum 89.79 54 ⇑P P 21 35 50.6 +0.9
baz=90
H17A Grant Village 89.83 42 ⇑P P 21 35 51.1 +1.3
baz=90
T24B San Luis 89.83 50 ⇑P P 21 35 50.8 +0.8
baz=90
V25A Rancho No Teng 89.84 51 ⇑P P 21 35 50.6 +0.6
baz=90
CM31 Chiang Mai Arr 89.86 290 eP P 21 35 50.4 +0.3
11nm,1.1s
CMAR Chiang Mai Arr 89.86 290 P P 21 35 51.6 +1.4
CMAR Chiang Mai Arr 89.86 290 P P 21 35 51.6 +1.4
7.0nm,1.0s,baz=107,slow=4.0,SNR=46
X26A CR and CF Fran 89.87 53 ⇓P P 21 35 51.1 +1.0
baz=90
530A J-C Ranch, Com 89.91 58 ⇑P P 21 35 51.2 +1.0
baz=90
329A Wagon Wheel Ra 89.96 56 ⇑P P 21 35 51.3 +0.9
baz=90
CHTO Chiang Mai 89.99 290 eP P 21 35 50.5 -0.3
5.2nm,1.0s
CHTO Chiang Mai 89.99 290 P P 21 35 51.8 +1.0
R23A Moffat 90.02 49 ⇑P P 21 35 51.8 +1.0
baz=90
128A Castleberry Fa 90.05 55 ⇑P P 21 35 51.5 +0.6
baz=90
Y27A Causey 90.07 54 ⇓P P 21 35 51.5 +0.5
baz=90
S24A Houchin Ranch, 90.21 49 ⇓P P 21 35 52.4 +0.7
baz=90
631A Perdido Creek 90.21 59 ⇓P P 21 35 52.1 +0.5
baz=90
J19A Crowheart 90.23 43 ⇑P P 21 35 52.0 +0.4
baz=90,SNR=6.7
U25A Circle Dot Ran 90.24 51 ⇑P P 21 35 52.3 +0.5
baz=90
430A Baggett Ranch, 90.25 57 ⇑P P 21 35 52.0 +0.2
baz=90
229A Bryant Ranch, 90.29 56 ⇓P P 21 35 52.6 +0.6
baz=90
MSTX Muleshoe 90.40 54 ⇓P P 21 35 52.9 +0.4
baz=91
O22A Kremmling 90.42 47 ⇑P P 21 35 53.4 +0.7
baz=91
V26A Tequesquite Ra 90.43 52 ⇑P P 21 35 53.4 +0.8
baz=91
COLD Coldfoot 90.48 11 eP P 21 35 51.6 -0.3
10.0nm,1.1s
531A Rocksprings 90.54 58 ⇑P P 21 35 54.0 +0.8
baz=91
R24A Sanders Place, 90.55 49 ⇓P P 21 35 54.0 +0.8
baz=91
T25A Trinidad 90.56 50 ⇓P P 21 35 54.0 +0.7
baz=91
I19A Meeteetse 90.64 42 ⇑P P 21 35 54.2 +0.8
baz=91
W27A Bowe Ranch, En 90.65 53 ⇓P P 21 35 54.0 +0.4
baz=91
CD2 Chengdu 90.69 303 eP P 21 35 54.3 +0.5
CD2 pmax pmax
comp=Z,10.0nm,1.6s
431A Sonora 90.70 57 ⇑P P 21 35 53.5 -0.4
baz=91
U26A Atchley Ranch, 90.72 51 ⇓P P 21 35 53.9 -0.1
baz=91
S25A Robets Cordova 90.77 50 ⇓P P 21 35 54.6 +0.4
baz=91
N22A Wattenberg Ran 90.78 46 ⇑P P 21 35 55.2 +0.9
baz=91
230A Sterling City 90.80 56 ⇑P P 21 35 54.6 +0.3
baz=91
632A Uvalde 90.88 59 ⇓P P 21 35 55.5 +0.8
baz=91

J20A	Shoshoni	90.89	43	⇑P		P		21 35 55.0	+0.4
	baz=91,SNR=8.1								
Z29A	Hungry Hill Ra	90.91	55	⇑P		P		21 35 55.2	+0.4
	baz=91								
H19A	Powell	90.95	42	⇓P		P		21 35 55.8	+1.0
	baz=91								
M22A	Cedar Creek Ra	90.96	46	⇑P		P		21 35 55.7	+0.6
	baz=91								
532A	Rocksprings	91.03	58	⇑P		P		21 35 56.0	+0.6
	baz=91								
R25A	Fountain Ranch	91.09	49	⇑P		P		21 35 55.9	+0.2
	baz=91								
V27A	Dan Oppiter Fa	91.11	52	⇑P		P		21 35 56.5	+0.8
	baz=91								
I20A	Worland	91.15	43	⇑P		P		21 35 56.4	+0.7
	baz=91								
T26A	Comanche Natio	91.16	50	⇓P		P		21 35 56.4	+0.4
	baz=91								
N23A	Red Feather La	91.17	46	⇑P		P		21 35 56.6	+0.5
	baz=91								
J21A	Lysite	91.30	44	⇑P		P		21 35 57.1	+0.6
	baz=92,SNR=7.3								
Z30A	Sanderson Ranc	91.36	55	⇑P		P		21 35 57.2	+0.3
	baz=92								
432A	Menard	91.42	58	⇑P		P		21 35 57.3	+0.1
	baz=92								
231A	Bronte	91.44	56	⇓P		P		21 35 57.2	0.0
	baz=92								
S26A	Kim	91.44	50	⇓P		P		21 35 57.6	+0.3
	baz=92								
F19A	Roth Farm, Mol	91.55	41	⇓P		P		21 35 58.0	+0.5
	baz=92								
K22A	Casper	91.58	45	⇓P		P		21 35 58.1	+0.3
	baz=92								
I21A	Big Trails, Te	91.62	43	⇓P		P		21 35 58.3	+0.4
	baz=92								
332A	Millersview	91.67	57	⇓P		P		21 35 58.9	+0.6
	baz=92								
G20A	Bridger	91.70	42	⇑P		P		21 35 59.6	+1.3
	baz=92								
533A	Kerrville	91.70	58	⇓P		P		21 35 59.1	+0.6
	baz=92								
R26A	Arlington	91.75	50	⇑P		P		21 35 59.1	+0.5
	baz=92								
P25A	Willow Gulch B	91.77	48	⇓P		P		21 35 59.5	+0.7
	baz=92								
433A	Art	91.93	58	⇓P		P		21 35 59.6	+0.1
	baz=92								
232A	Coleman	91.94	57	⇑P		P		21 35 59.8	+0.2
	baz=92								
E19A	Rath Farm, Rou	91.94	40	⇓P		P		21 36 00.3	+1.1
	baz=92								
J22A	Midwest	91.96	44	⇓P		P		21 36 00.1	+0.6
	baz=92								
X30A	Coker Ranch, T	92.03	54	⇑P		P		21 36 00.2	+0.3
	baz=92								
534A	Blanco	92.13	59	⇓P		P		21 36 00.9	+0.4
	baz=92								
I22A	9 Mile Ranch,	92.17	43	⇓P		P		21 36 01.1	+0.7
	baz=92								
M24A	Cheyenne	92.18	46	⇓P		P		21 36 00.7	+0.1
	baz=92								
R27A	Eads	92.21	50	⇑P		P		21 36 00.7	0.0
	baz=92								
D19A	Cripps Ranch,	92.22	40	⇓P		P		21 36 02.4	+1.8
	baz=92								
ABTX	Abilene, Hawle	92.24	56	⇑P		P		21 36 01.8	+0.9
	baz=92								
333A	Richland Sprin	92.24	57	⇓P		P		21 36 01.0	+0.1
	baz=92								
C19A	Slack Wire Ran	92.40	39	⇓P		P		21 36 02.5	+1.2
	baz=93								
434A	Burnet	92.60	58	⇓P		P		21 36 03.5	+0.9
	baz=93								
LZH	Lanzhou	92.73	308	*e*P		P		21 36 04.3	+1.1
LZH				pP		pP		21 38 02.8	+1.7
LZH				sP		sP		21 38 55.0	+0.2
LZH				pmax		pmax			
	comp=Z,16nm,1.1s								
X31A	McDonald Ranch	92.78	54	⇓P		P		21 36 04.1	+0.8
	baz=93								
334A	Lometa	92.83	58	⇓P		P		21 36 04.1	+0.5
	baz=93								
R28A	Tribune	92.94	50	⇓P		P		21 36 04.5	+0.5
	baz=93								
C20A	Veseth Ranch,	93.01	40	⇑P		P		21 36 05.0	+1.0
	baz=93								
L25A	Engebretsen Ra	93.05	46	⇑P		P		21 36 04.7	+0.2
	baz=93								
J24A	Dixon Ranch, L	93.11	45	⇓P		P		21 36 05.3	+0.6
	baz=93								
A19A	Klindworth Far	93.15	38	⇑P		P		21 36 05.7	+1.0
	baz=93								
Z33A	Whitaker Ranch	93.17	56	⇓P		P		21 36 05.2	0.0
	baz=93								
Q28A	Sharon Springs	93.22	49	⇑P		P		21 36 06.1	+0.7
	baz=93								
O27A	Beecher Island	93.23	48	⇑P		P		21 36 06.0	+0.6
	baz=93								
P28A	Saint Francis	93.48	49	⇓P		P		21 36 07.5	+1.0
	baz=94								
A20A	Cobblestone Ra	93.60	39	⇓P		P		21 36 07.5	+0.7
	baz=94								
S30A	Montezuma	93.62	51	⇑P		P		21 36 07.7	+0.6
	baz=94								
F23A	Volborg	93.68	42	⇓P		P		21 36 07.8	+0.6
	baz=94								
Q29A	Oakley	93.75	50	⇓P		P		21 36 08.2	+0.5
	baz=94								
H24A	Dirks Ranch, A	93.80	43	⇓P		P		21 36 08.3	+0.5
	baz=94								
K26A	Motz Farm, Whi	93.81	46	⇓P		P		21 36 08.5	+0.6
	baz=94								
I25A	Rochford	94.01	44	⇑P		P		21 36 09.3	+0.4
	baz=94								
R30A	Dighton	94.02	51	⇑P		P		21 36 09.3	+0.3
	baz=94								
P29A	Atwood	94.08	49	⇓P		P		21 36 09.3	+0.1
	baz=94								
Q30A	Quinter	94.33	50	⇑P		P		21 36 11.1	+0.7
	baz=94								
H25A	Fruitdale	94.36	44	⇑P		P		21 36 11.5	+1.1
	baz=94								
B22A	Reddig Ranch S	94.47	40	⇑P		P		21 36 11.5	+0.8
	baz=95								
P30A	Selden	94.54	49	⇓P		P		21 36 11.9	+0.6
	baz=95								
R31A	Burdett	94.56	51	⇑P		P		21 36 12.5	+1.1
	baz=95								
C23A	Lambert	94.74	40	⇓P		P		21 36 12.7	+0.8
	baz=95								
INK	Inuvik	94.91	15	P		P		21 36 10.9	-1.2
INK	Inuvik	94.91	15	P		P		21 36 10.9	-1.2
	1.3nm,0.9s,baz=214,slow=5.1,SNR=8.3								
B23A	Brockton	95.15	40	⇓P		P		21 36 14.8	+1.0
	baz=95								
R32A	Long Quarter,	95.20	51	⇑P		P		21 36 15.1	+0.8
	baz=95								
YKA	Yellowknife Ar	97.19	25	P		Pdif		21 36 21.8	-0.7
YKA	Yellowknife Ar	97.19	25	P		Pdif		21 36 21.8	-0.7
	0.6nm,0.7s,baz=247,slow=4.4,SNR=8.5								
ZALV	Zalesovo Beam	110.62	321	PKiKP		PKiKP		21 41 17.9	-1.5
ZALV	Zalesovo Beam	110.62	321	PKiKP		PKiKP		21 41 17.9	-1.5
	2.6nm,0.6s,baz=177,slow=1.3,SNR=20								
MKAR	Makanchi Array	111.23	313	PKiKP		PKiKP		21 41 19.4	-1.4
MKAR	Makanchi Array	111.23	313	PKiKP		PKiKP		21 41 19.4	-1.4
	1.9nm,0.7s,baz=119,slow=0.9,SNR=14								
KSH	Kashi	114.81	305	PKP		PKPdf		21 41 28.1	+0.1
KSH				sPKP				21 44 26.1	
KSH				PKS		PKSdf		21 45 03.3	-1.5
KSH				SKS		SKSdf		21 47 49.3	-0.4
KSH				SKKS		SKKSac		21 48 39.3	-2.8
KSH				SS		SS		21 57 57.4	+5.9
KSH				AMB		AMB			
	comp=Z,350nm,6.0s								
FRB	Frobisher Bay	117.47	28	PKP		PKPdf		21 41 30.4	-1.8
FRB	Frobisher Bay	117.47	28	PKP		PKPdf		21 41 30.4	-1.8
	4.0nm,0.9s,baz=123,slow=6.5,SNR=3.8								
BVAR	Borovoye Array	119.19	320	PKP		PKPdf		21 41 34.7	-1.1
BVAR	Borovoye Array	119.19	320	PKP		PKPdf		21 41 34.7	-1.1
	6.1nm,0.5s,baz=138,slow=1.0,SNR=37								
KKAR	Karatay Array	119.22	308	*e*PKPdf		PKPdf		21 41 35.1	-1.1
KBL	Kabul	119.74	299	PKPdf		PKPdf		21 41 37.5	-0.2
SPITS	Spitsbergen Ar	122.37	356	PKP		PKPdf		21 41 40.6	-0.7
SPITS	Spitsbergen Ar	122.37	356	PKP		PKPdf		21 41 40.6	-0.7
	7.0nm,0.7s,baz=23,slow=8.0,SNR=4.6								
BOSA	Boshof	125.58	206	PKP		PKPdf		21 41 49.1	0.0

BOSA	Boshof	125.58	206	PKP		PKPdf		21 41 49.1	0.0
	1.7nm,0.7s,baz=212,slow=21,SNR=4.6								
ABKAR	Akbulak array	126.15	316	*e*PKPdf		PKPdf		21 41 48.7	-0.6
SCO	Scoresbysund	128.61	10	*i* P		PKPdf		21 41 53.0	-0.4
	3.1nm,1.0s								
ARCES	ARCESS Array B	129.36	349	PKP		PKPdf		21 41 54.0	-0.9
ARCES	ARCESS Array B	129.36	349	PKP		PKPdf		21 41 54.0	-0.9
	5.4nm,0.6s,baz=29,slow=2.8,SNR=22								
FINES	FINESS Array B	136.15	343	PKPpre		PKPpre		21 41 55.3	
FINES				PKP		PKPdf		21 42 08.1	+0.3
FINES	FINESS Array B	136.15	343	PKhKP		PKPpre		21 41 55.3	
	1.8nm,0.9s,baz=41,slow=4.4,SNR=2.6								
FINES				PKP		PKPdf		21 42 08.1	+0.3
	2.5nm,0.7s,baz=333,slow=0.4,SNR=6.5								
KMBO	Kilima Mbogo	138.68	242	*e*PKPpre		PKPpre		21 42 07.6	
KMBO				PKPpre		PKPpre		21 42 08.1	
KMBO				PKP		PKPdf		21 42 14.3	0.0
KMBO	Kilima Mbogo	138.68	242	PKhKP		PKPpre		21 42 08.1	
	1.4nm,0.7s,baz=49,slow=22,SNR=7.6								
KMBO				PKP		PKPdf		21 42 14.3	0.0
	1.9nm,0.7s,baz=206,slow=2.9,SNR=6.7								
NB2	NORSAR Subarra	139.45	353	PKP		PKPpre		21 42 05.1	
	comp=Z,1.9nm,0.7s,baz=12,slow=3.5								
NOA	NORSAR Array B	139.45	353	PKPpre		PKPpre		21 42 05.9	
NOA				PKP		PKPdf		21 42 14.1	+0.1
NOA	NORSAR Array B	139.45	353	PKhKP		PKPpre		21 42 05.9	
	comp=Z,2.6nm,0.7s,baz=13,slow=2.4,SNR=9.1								
NOA				PKP		PKPdf		21 42 14.1	+0.1
	comp=Z,0.8nm,0.7s,baz=14,slow=4.1,SNR=5.5								
SUW	Suwalki	143.17	339	*e*PKP		PKPab		21 42 18.1	-0.4
SUW	Suwalki	143.17	339	*e*PKPdf		PKPab		21 42 17.5	-1.0
KAC	Achnashellach	143.24	6	*e*P		PKPab		21 42 17.9	-0.8
AKASG	Malin Array Be	143.25	330	PKP		PKPab		21 42 17.9	-1.0
AKASG	Malin Array Be	143.25	330	PKP		PKPab		21 42 17.9	-1.0
	comp=Z,33nm,0.6s,baz=43,slow=4.5,SNR=121								
AKBB	Malin Array Si	143.25	330	*e*PKPdf		PKPab		21 42 17.4	-1.5
AK01	Malin Array Si	143.26	330	*e*PKPdf		PKPab		21 42 17.7	-1.3
KIEV	Kiev	143.26	330	*e*PKPdf		PKPab		21 42 17.2	-1.8
AK02	Malin Array Si	143.29	330	*e*PKPdf		PKPab		21 42 17.5	-1.5
MCD	Coleburn Disti	143.33	4	*e*P		PKPab		21 42 17.0	-2.0
KPL	Plockton	143.36	7	*e*P		PKPab		21 42 17.9	-1.1
MDO	Dochfour	143.38	5	*e*P		PKPab		21 42 18.3	-0.9
MALT	Malatya	143.88	307	⇓*i*P		PKPbc		21 42 20.7	-1.1
MUD	Monsted U'grnd	144.17	353	*i* P		PKPbc		21 42 21.3	-0.6
	comp=Z,31nm,1.0s								
COP	Copenhagen	144.44	349	*i* P		PKPdf		21 42 22.9	+0.1
BSD	Bornholm Skovb	144.50	347	⇓*i*P		PKPdf		21 42 21.9	-1.1
	comp=Z,56nm,0.9s								
EAB	Aberfoyle	144.62	6	*e*P		PKPdf		21 42 22.1	-1.0
PGBU	Glenifferbraes	144.98	6	*e*P		PKPdf		21 42 23.0	-0.8
GKP	Gorka Klasztor	145.62	343	*e*PKP		PKPbc		21 42 26.1	-0.3
BEL	Belsk	145.78	339	*e*PKP		PKPbc		21 42 26.7	-0.2
GAL1	Galloway	145.89	6	*e*P		PKPdf		21 42 25.4	0.0
KESW	Keswick, Cumbr	146.32	5	*e*P		PKPdf		21 42 27.1	+1.0
BSEG	Bad Segeberg	146.47	351	*e*PKPbc		PKPbc		21 42 28.6	-0.2
LEOM	Leova	146.56	326	⇑*i*P		PKPbc		21 42 29.2	-0.1
BR131	Keskin Array S	146.85	311	*e*PKPdf		PKPdf		21 42 27.8	+0.1
BRTR	Keskin Array B	146.85	311	PKPbc		PKPbc		21 42 29.8	-0.7
BRTR	Keskin Array B	146.85	311	PKPbc		PKPbc		21 42 29.8	-0.7
	comp=Z,10nm,0.7s,baz=12,slow=1.6,SNR=48								
KWP	Kalwaria Pacla	146.87	335	*e*PKP		PKPbc		21 42 30.1	+0.1
KWP	Kalwaria Pacla	146.87	335	PKPdf		PKPdf		21 42 28.6	+1.3
HPK	Haverah Park	147.04	3	*e*P		PKPbc		21 42 29.2	-1.1
TLCR		147.06	323	⇑*i*P		PKPbc		21 42 30.1	-0.6
BUR08	Bucovina Ar. S	147.28	330	*e*PKPdf		PKPdf		21 42 28.6	+0.5
BUR08				*e*PKPbc		PKPbc		21 42 31.7	+0.4
BURAR	Bucovina Array	147.29	330	⇓*i*P		PKPbc		21 42 31.3	-0.1
ANTO	Ankara	147.38	312	⇑*i*P		PKPbc		21 42 31.3	-0.5
ANTO	Ankara	147.38	312	*e*PKPdf		PKPdf		21 42 28.7	+0.3
LHO	Holmfirth	147.44	4	*e*P		PKPbc		21 42 30.5	-0.9
CFR	Carcaliu	147.45	324	⇑*i*P		PKPbc		21 42 30.0	-1.6
WLF1	Llynfaes	147.48	7	*e*P		PKPbc		21 42 30.6	-0.9
OJC	Ojcow	147.48	338	*e*PKP		PKPbc		21 42 31.1	-0.5
KOLS	Kolonicke sedl	147.59	334	*e*PKP		PKPdf		21 42 29.2	+0.8
KOLS				*e*				21 42 32.3	
KOLS				*e*				21 42 33.7	
KOLS				*e*				21 42 35.5	
LMK	Market Rasen	147.60	2	*e*P		PKPbc		21 42 30.7	-1.0
STHS	Stebnicka Huta	147.61	336	*e*PKP		PKPbc		21 42 32.3	+0.3
STHS				*e*				21 42 33.9	
STHS				*e*				21 42 36.2	
VRI	Vrincioaia	147.75	326	⇑*i*P		PKPbc		21 42 32.0	-0.5
PLOR	Plostina	147.81	326	⇑*i*P		PKPbc		21 42 32.3	-0.3
NRDL	Niedersach Rie	147.90	350	*e*PKPbc		PKPbc		21 42 32.3	-0.2
CRVS	Cervenica-Dubn	147.94	335	*e*PKP		PKPdf		21 42 28.7	-0.3
CRVS				*e*				21 42 32.8	
CRVS				*e*				21 42 37.5	
NIE	Niedzica	147.96	337	*e*PKP		PKPbc		21 42 33.1	+0.2
FOEL	Foel Wylfa	147.99	5	*e*P		PKPbc		21 42 31.7	-1.1
MANR	Mangalia	148.02	322	⇓*i*P		PKPbc		21 42 33.3	+0.1
BMR	Baia Mare	148.04	331	⇑*i*P		PKPbc		21 42 33.3	+0.2
KSP	Ksiaz	148.06	342	*e*PKP		PKPbc		21 42 33.3	+0.2
TRPA	Tarpa	148.11	333	⇑*i*P		PKPbc		21 42 33.0	-0.2
PSP	Preselentsi	148.34	322	⇓*i*P		PKPbc		21 42 33.9	-0.1
OKC	Ostrava-Krasne	148.37	339	⇑PKP		PKPbc		21 42 33.9	0.0
HLM1	Long Mynd	148.39	5	*e*P		PKPbc		21 42 32.0	-1.9
IBBN	Ibbenburen	148.41	353	*e*PKPbc		PKPbc		21 42 33.7	-0.2
MLR	Muntele Rosu	148.41	326	⇑*i*P		PKPbc		21 42 33.7	-0.6
UPC	Upice	148.44	342	⇑*i*PKP		PKPbc		21 42 34.0	0.0
CLL	Collm	148.47	346	*e*PKPbc		PKPbc		21 42 33.8	-0.3
CLL				*e*PKPab		PKPab		21 42 38.8	-0.7
CLL	Collm	148.47	346	*e*PKPdf		PKPdf		21 42 29.0	-0.7
CLL				⇓*i*PKPbc		PKPbc		21 42 33.8	-0.3
	comp=Z,41nm,0.8s								
CLL				*i* PKPab		PKPab		21 42 38.1	-1.4
	comp=Z,21nm,0.8s								
CLL				*e*PKPbc		pPKPbc		21 44 36.0	-2.1
CLZ	Clausthal	148.48	349	*e*PKPbc		PKPbc		21 42 34.2	+0.1
CLZ				*e*PKPab		PKPab		21 42 39.2	-0.4
DPC	Dobruska-Polom	148.49	342	⇑*i*PKP		PKPbc		21 42 34.2	0.0
DPC				*e*PKPAB		PKPab		21 42 40.1	+0.4
KRLC	Kraliky	148.60	341	⇑*i*PKP		PKPbc		21 42 34.2	-0.3
MORC	Moravsky Berou	148.62	340	⇓*i*P		PKPbc		21 42 33.4	-1.2
MORC	Moravsky Berou	148.62	340	*e*PKPdf		PKPdf		21 42 30.4	+0.2
BRG	Berggiesshubel	148.66	345	*e*PKP		PKPdf		21 42 30.1	0.0
	comp=Z,20nm,1.8s								
BRG	Berggiesshubel	148.66	345	⇑*i*PKP		PKPbc		21 42 34.4	-0.2
	comp=Z,20nm,0.9s								
BRG				*i*				21 42 39.8	
	comp=Z,12nm,0.9s								
SECR		148.66	325	⇑*i*P		PKPbc		21 42 33.8	-1.0
LPW	Lampeter	148.68	7	*e*P		PKPbc		21 42 32.9	-1.6
PVCC	Panska Ves	148.81	344	⇑*i*PKP		PKPbc		21 42 35.1	+0.2
WTSB	Winterswijk	148.85	354	*e*PKP		PKPbc		21 42 34.5	-0.4
	comp=Z,49nm,0.8s								
MCH1	Michaelchurch	148.90	5	*e*P		PKPbc		21 42 33.3	-1.8
VOIR		148.91	327	⇑*i*P		PKPbc		21 42 35.0	-0.5
DRGR		149.06	331	⇓*i*P		PKPbc		21 42 35.0	-0.8
MONM	Monmouth	149.07	5	*e*P		PKPbc		21 42 34.2	-1.3
ARR	Arges	149.17	327	⇑*i*P		PKPbc		21 42 37.1	+1.0
PRU	Pruhonice	149.31	343	⇑*i*PKP		PKPbc		21 42 35.6	-0.6
PRU				*e*PKPAB		PKPab		21 42 42.6	-0.4
BUG	Bochum--Univer	149.32	353	*e*PKPbc		PKPbc		21 42 35.1	-1.0
PSZ	Piszkesteto	149.35	335	⇑*i*P		PKPbc		21 42 34.4	-2.0
PSZ	Piszkesteto	149.35	335	*e*PKPdf		PKPdf		21 42 31.8	+0.4
PSZ				*e*PKPbc		PKPbc		21 42 36.8	+0.3
TANN	Tannenbergstha	149.43	346	*e*PKPbc		PKPbc		21 42 36.4	-0.1
UBBA	Unterbreizbach	149.53	349	*e*PKPbc		PKPbc		21 42 36.2	-0.3
LOT	Lotru	149.54	328	⇑*i*P		PKPbc		21 42 36.0	-1.0
NKC	Novy Kostel	149.60	346	⇑*i*PKP		PKPbc		21 42 36.5	-0.4
NKC				*e*PKPAB		PKPab		21 42 43.8	-0.4
TREC	Trest	149.68	342	⇑*i*PKP		PKPbc		21 42 36.5	-0.6
TREC				*e*PKPAB		PKPab		21 42 44.2	-0.4
SIRR	Siria	149.93	332	⇓*i*P		PKPbc		21 42 37.4	-0.4
JMB	Yambol	150.01	321	⇓*i*P		PKPbc		21 42 36.3	-1.8
GZR	Gura Zlata	150.06	329	⇑*i*P		PKPbc		21 42 37.1	-1.1
ROTZ	Rotzenmuhle	150.09	346	*e*PKPbc		PKPbc		21 42 38.0	0.0
ROTZ				*e*PKPab		PKPab		21 42 46.3	0.0
HGN	Heimansgroeve	150.12	354	*e*PKP		PKPbc		21 42 37.5	-0.5
	comp=Z,9.2nm,0.8s								
MEM	Membach	150.27	354	PKPbc		PKPbc		21 42 37.9	-0.5
MEM	Membach	150.27	354	PKPab		PKPab		21 42 45.9	-1.0
KHC	Kasperske Hory	150.35	344	⇑*i*PKP		PKPab		21 42 38.6	-0.1
KHC				*e*PKPAB		PKPab		21 42 47.2	-0.2
KHC	Kasperske Hory	150.35	344	*e*PKPbc		PKPbc		21 42 38.0	-0.7
KHC				*e*PKPab		PKPab		21 42 47.4	0.0
BZS	Buzias	150.44	331	⇓*i*P		PKPbc		21 42 38.4	-0.6
SNF	Seneffe	150.50	356	PKPbc		PKPbc		21 42 38.9	0.0
WET	Wettzell	150.52	345	*e*PKPbc		PKPbc		21 42 39.5	+0.4
WET				*e*PKPab		PKPab		21 42 48.8	+0.7
BCLA	Clavier	150.52	355	PKPab		PKPab		21 42 46.2	-1.8

GEC2	GERESS Array S	150.58	343	*e*PKPbc		PKPbc		21 42 39.0	-0.3
GERES	GERESS Array B	150.58	343	PKPbc		PKPbc		21 42 38.8	-0.5
GERES				PKPab		PKPab		21 42 47.9	-0.6
GERES	GERESS Array B	150.58	343	PKPbc		PKPbc		21 42 38.8	-0.5
	comp=Z,10.0nm,0.8s,baz=45,slow=2.1,SNR=38								
GERES				PKPab		PKPab		21 42 47.9	-0.6
	comp=Z,2.4nm,0.8s,baz=22,slow=4.9,SNR=5.5								
CONA	Conrad Observa	150.78	340	⇓*i*PKPbc		PKPbc		21 42 39.6	-0.2
	comp=Z,1.1nm,0.7s								
DOU	Dourbes	150.90	356	PKPbc		PKPbc		21 42 39.5	-0.4
WLF	Walferdange	151.19	354	*e*PKPdf		PKPdf		21 42 35.0	+0.9
WLF				*e*PKPbc		PKPbc		21 42 40.1	-0.4
WLF				*e*PKPab		PKPab		21 42 51.0	+0.2
KDZ	Kurdzhali	151.19	321	⇓*i*P		PKPbc		21 42 40.2	-0.6
PKSM	Moragy	151.24	335	⇓*i*P		PKPbc		21 42 39.8	-1.0
STU	Stuttgart	151.65	349	*e*PKPbc		PKPbc		21 42 41.5	-0.1
FUR	Furstenfeldbru	151.81	346	*e*PKPbc		PKPbc		21 42 41.7	-0.3
FUR				*e*PKPab		PKPab		21 42 53.5	0.0
VTS	Vitosha	151.83	325	⇑*i*P		PKPbc		21 42 41.9	-0.5
RJOB	Jochberg	151.84	344	*e*PKPbc		PKPbc		21 42 41.4	-0.8
RJOB				*e*PKPab		PKPab		21 42 54.0	+0.3
SOKA	Soboth	152.15	340	⇓*i*PKPbc		PKPbc		21 42 41.8	-1.1
	comp=Z,4.8nm,0.7s								
BFO	Black Forest	152.22	350	*e*PKPdf		PKPdf		21 42 36.3	+0.7
BFO				*e*PKPbc		PKPbc		21 42 42.8	-0.1
BFO				*e*PKPab		PKPab		21 42 54.4	-0.9
KBA	Koelnbreinsper	152.29	342	⇑*i*PKPbc		PKPbc		21 42 42.2	-1.1
	comp=Z,8.4nm,0.8s,SNR=4.3								
WTTA	Wattenberg	152.57	345	⇑*i*PKPbc		PKPbc		21 42 43.4	-0.5
	comp=Z,12nm,0.7s								
MOTA	Moosalm	152.62	346	⇑*i*PKPdf		PKPdf		21 42 37.2	+0.7
	comp=Z,3.3nm,0.9s								
MOTA				⇓*i*PKPbc		PKPbc		21 42 43.0	-1.0
	comp=Z,10nm,0.8s								
ABTA	Abfaltersbach	152.83	343	*i* PKPbc		PKPbc		21 42 43.4	-1.0
	comp=Z,12nm,0.6s,SNR=8.7								
ESDC	Sonseca Array	160.84	13	PKP		PKPdf		21 42 47.2	+0.2
ESDC				PKPab		PKPab		21 43 32.4	-0.4
ESDC	Sonseca Array	160.84	13	PKP		PKPdf		21 42 47.2	+0.2
	comp=Z,0.1nm,0.4s,baz=113,slow=5.8,SNR=3.3								
ESDC				PKPab		PKPab		21 43 32.4	-0.4
	comp=Z,2.9nm,0.9s,baz=343,slow=3.5,SNR=11								
LIC	Lamto	163.97	156	*e*PKIKP		PKPdf		21

MDJ	**Mudanjiang**	**83.19**	**324**	P	**P**	**22 37 52.5**	**0.0**	
MDJ				pP	pP	22 38 04.6	-7.3	
MDJ				sP	sP	22 38 09.3	-10	
MDJ				S	**SKSac**	**22 48 08.6**	**+0.4**	
MDJ				pmax	pmax			
	comp=Z,8.0nm,1.9s							
MDJ				pmax	pmax			
	comp=Z,60nm,4.2s							
MDJ				LR	LR			
	comp=N,12nm,19.1s							
MDJ				LR	LR			
	comp=E,12nm,17.7s							
MDJ				LR	LR			
	comp=Z,22nm,21.8s							
QIZ	**Qiongzhong**	**83.38**	**294**	P	**P**	**22 37 55.6**	**+1.5**	
QIZ				S	**S**	**22 48 11.4**	**+1.5**	
QIZ				pmax	pmax			
	comp=Z,14nm,2.1s							
WVOR	**Wild Horse Val**	**83.41**	**39**	*eP*	**P**	**22 37 54.5**	**+0.6**	
	4.9nm,0.8s							
CCUT	**Cedar City**	**83.79**	**45**	*eP*	**P**	**22 37 57.2**	**+1.2**	
	5.1nm,0.9s							
WUAZ	**Wupatki**	**84.00**	**48**	*eP*	**P**	**22 37 57.9**	**+0.8**	
	12nm,1.3s							
SNAA	**Sanae**	**86.02**	**178**	*eP*	**P**	**22 38 05.2**	**-1.3**	
	4.2nm,0.9s							
SRU	**San Rafael**	**86.51**	**45**	*eP*	**P**	**22 38 10.2**	**+0.6**	
	3.5nm,0.8s							
TXAR	**Lajitas Array**	**86.51**	**56**	P	**P**	**22 38 09.2**	**-0.5**	
TXAR	**Lajitas Array**	**86.51**	**56**	P	**P**	**22 38 09.2**	**-0.5**	
	3.9nm,1.0s,baz=212,slow=8.9,SNR=13							
VNA2	**Neumayer--Watz**	**86.55**	**176**	*eP*	**P**	**22 38 08.0**	**-1.1**	
	baz=200,slow=4.2							
PLCA	**Paso Flores**	**86.56**	**133**	P	**P**	**22 38 10.6**	**+0.7**	
TRF	**Thorofare Moun**	**87.95**	**11**	*eP*	**P**	**22 38 16.0**	**+0.1**	
	196nm,3.0s							
PDAR	**Pinedale Array**	**89.08**	**42**	P	**P**	**22 38 21.1**	**-0.8**	
PDAR	**Pinedale Array**	**89.08**	**42**	P	**P**	**22 38 21.1**	**-0.8**	
	0.9nm,0.9s,baz=215,slow=3.8,SNR=7.3							
ILAR	**Eielson Array**	**89.79**	**12**	P	**P**	**22 38 24.1**	**-0.1**	
ILAR	**Eielson Array**	**89.79**	**12**	P	**P**	**22 38 24.1**	**-0.1**	
	1.5nm,1.0s,baz=212,slow=5.5,SNR=7.4							
KSCO	**Kaye Shedlock'**	**91.78**	**48**	*eP*	**P**	**22 38 34.4**	**0.0**	
	18nm,0.4s							
KMI	**Kunming**	**91.92**	**296**	P	**P**	**22 38 34.8**	**-0.6**	
KMI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**92.06**	**314**	*eP*	**P**	**22 38 35.3**	**-0.3**	
HHC				sP	sP	22 38 54.3	-8.5	
HHC				PP	**PP**	**22 42 16.3**	**-0.3**	
HHC				SKS	**SKSac**	**22 49 03.1**	**+0.6**	
HHC				S	**S**	**22 49 29.8**	**-2.3**	
HHC				sS	sS	22 49 52.4	-13	
HHC				SS	**SS**	**22 55 42.3**	**-1.1**	
HHC				pmax	pmax			
	comp=Z,39nm,1.4s							
HHC				pmax	pmax			
	comp=Z,110nm,7.9s							
HHC				LR	LR			
	comp=N,200nm,19.1s							
HHC				LR	LR			
	comp=E,270nm,18.7s							
HHC				LR	LR			
	comp=Z,220nm,18.2s							
CMAR	**Chiang Mai Arr**	**92.55**	**289**	P	**P**	**22 38 40.4**	**+2.1**	
CMAR	**Chiang Mai Arr**	**92.55**	**289**	P	**P**	**22 38 40.4**	**+2.1**	
	0.3nm,0.3s,baz=107,slow=2.8,SNR=4.2							
RSSD	**Black Hills**	**93.23**	**43**	*eP*	**P**	**22 38 40.7**	**-0.3**	
	4.1nm,0.8s							
CD2	**Chengdu**	**93.43**	**302**	P	**P**	**22 38 42.9**	**+0.8**	
CD2				pmax	pmax			
	comp=Z,10.0nm,1.4s							
LZH	**Lanzhou**	**95.45**	**307**	*eP*	**P**	**22 38 52.4**	**+1.0**	
LZH				pP	pP	22 39 05.6	-5.4	
LZH				sP	sP	22 39 10.8	-7.8	
LZH				pmax	pmax			
	comp=Z,12nm,1.0s							
YKA	**Yellowknife Ar**	**97.48**	**24**	P	Pdif	22 38 59.4	-0.3	
YKA	**Yellowknife Ar**	**97.48**	**24**	P	Pdif	22 38 59.4	-0.3	
	0.3nm,0.7s,baz=235,slow=4.8,SNR=5.6							
SONM	**Songino Array**	**98.46**	**318**	LR	LR	23 18 16.3		
	comp=Z,31nm,19.5s,baz=183,slow=32							
AKASG	**Malin Array Be**	**145.62**	**331**	PKPbc	**PKPdf**	**22 45 02.2**	**-2.0**	
AKASG	**Malin Array Be**	**145.62**	**331**	PKPbc	**PKPdf**	**22 45 02.2**	**-2.0**	
	1.6nm,0.5s,baz=39,slow=3.8,SNR=17							
BRTR	**Keskin Array B**	**149.55**	**311**	PKPbc	**PKPbc**	**22 45 15.7**	**-0.1**	
BRTR	**Keskin Array B**	**149.55**	**311**	PKPbc	**PKPbc**	**22 45 15.7**	**-0.1**	
	2.0nm,0.8s,baz=148,slow=5.1,SNR=9.3							
GERES	**GERESS Array B**	**152.55**	**346**	PKPbc	**PKPbc**	**22 45 22.7**	**+0.2**	
GERES	**GERESS Array B**	**152.55**	**346**	PKPbc	**PKPbc**	**22 45 22.7**	**+0.2**	
	0.5nm,0.7s,baz=82,slow=2.1,SNR=2.6							

*ISCJB **15** 22:50:27.1±0.8, 44°.39S±0°.03×168°.22E±0°.04, h5km±5km, mb3.8/4, MS3.7/6, Error ellipse: s-maj=5.6km s-min=4.1km az=38.3*
*WEL **15** 22:50:27.0±0.2, 44°.38S×168°.19E, h5km, ML4.6/20, Error ellipse: s-maj=1.9km s-min=1.3km az=90.0*
WEL Felt in the Otago region, maximum reported intensity MM 4.
*NEIC **15** 22:50:27.4, 44°.42S×168°.19E, h2km, ML4.6(WEL), After WEL.*
NEIC Felt at Closeburn, Frankton, Glenorchy and Queenstown.
*IDC **15** 22:50:28.4±1.2, 44°.31S×168°.26E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.9/16, mbtmp3.9/6, ML4.0/2, MS3.7/6, Ms1 3.8/6, ms1mx3.5/16, Error ellipse: s-maj=49.3km s-min=13.2km az=173.0*

ISC 15 22:50:27.1±1.3, 44°.41S±0°.03×168°.18E±0°.03, h0km±9km, n87, σ1s08/73, mb3.7/4, MS3.7/6, 2C, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.32**	**214**	⇑PG	Pg	22 50 27.7	-5.5
MSZ				eSG	**Sg**	**22 50 32.7**	**-4.6**
MSZ	**Milford Sound**	**0.32**	**214**	PG	**Pg**	**22 50 33.9**	**+0.7**
MSZ				SG	**Sg**	**22 50 38.9**	**+1.6**
MSZ				AML	AML	22 50 39.9	
MSZ				AML	AML	22 50 41.2	
MSZ				AML	AML	22 50 42.5	
MSZ	**Milford Sound**	**0.32**	**214**	Pg	**Pg**	**22 50 33.9**	**+0.7**
MSZ				Sg	**Sg**	**22 50 38.9**	**+1.6**
JCZ	**Jackson Bay**	**0.54**	**51**	⇑PG	Pg	22 50 31.1	-6.2
JCZ	**Jackson Bay**	**0.54**	**51**	PG	**Pg**	**22 50 37.5**	**+0.1**
JCZ				SG	**Sg**	**22 50 44.9**	**+0.6**
JCZ				AML	AML	22 50 48.4	
JCZ	**Jackson Bay**	**0.54**	**51**	Pg	**Pg**	**22 50 37.5**	**+0.1**
JCZ				Sg	**Sg**	**22 50 44.9**	**+0.6**
WKZ	**Wanaka**	**0.73**	**125**	P*	Pg	22 50 35.1	-6.0
WKZ	**Wanaka**	**0.73**	**125**	P*	**Pg**	**22 50 41.5**	**+0.4**
WKZ				S*	**Sg**	**22 50 51.0**	**+0.5**
WKZ				AML	AML	22 50 51.9	
WKZ				AML	AML	22 50 53.0	
WKZ				AML	AML	22 50 53.0	
WKZ	**Wanaka**	**0.73**	**125**	P*	**Pg**	**22 50 41.5**	**+0.4**
WKZ				Sg	**Sg**	**22 50 51.0**	**+0.5**
MLZ	**Mavora Lakes**	**0.94**	**180**	P*	Pg	22 50 39.2	-5.8
MLZ	**Mavora Lakes**	**0.94**	**180**	P*	**Pg**	**22 50 45.6**	**+0.5**
MLZ				S*	**Sb**	**22 50 59.4**	**+0.2**
MLZ				AML	AML	22 51 06.3	
MLZ	**Mavora Lakes**	**0.94**	**180**	P*	**Pg**	**22 50 45.6**	**+0.5**
MLZ				S*	**Sb**	**22 50 59.4**	**+0.2**
EAZ	**Earnscleugh**	**1.15**	**136**	P*	Pg	22 50 42.6	-6.6
EAZ	**Earnscleugh**	**1.15**	**136**	P*	**Pg**	**22 50 49.5**	**+0.4**
EAZ				S*	**Sg**	**22 51 03.9**	**-0.1**
EAZ				AML	AML	22 51 09.6	
EAZ				AML	AML	22 51 09.6	
EAZ				AML	AML	22 51 09.7	
EAZ	**Earnscleugh**	**1.15**	**136**	P*	**Pg**	**22 50 49.5**	**+0.4**
EAZ				S*	**Sg**	**22 51 03.9**	**-0.1**
DCZ	**Deep Cove**	**1.29**	**214**	P*	Pn	22 50 44.7	-7.7
DCZ				eS*	Sg	22 51 03.0	-5.5
DCZ	**Deep Cove**	**1.29**	**214**	P*	**Pn**	**22 50 50.6**	**-1.8**
DCZ				S*	**Sg**	**22 51 08.9**	**+0.3**
DCZ				AML	AML	22 51 10.5	
DCZ				AML	AML	22 51 10.5	
DCZ				AML	AML	22 51 13.0	
DCZ	**Deep Cove**	**1.29**	**214**	P*	**Pn**	**22 50 50.6**	**-1.8**
DCZ				S*	**Sg**	**22 51 08.9**	**+0.3**
FOZ	**Fox Glacier**	**1.38**	**53**	PN	Pn	22 50 47.9	-5.7
FOZ	**Fox Glacier**	**1.38**	**53**	PN	**Pg**	**22 50 55.0**	**+1.4**
FOZ				AML	AML	22 51 16.0	
FOZ				AML	AML	22 51 16.1	
FOZ				AML	AML	22 51 23.1	
FOZ				AML	AML	22 51 23.1	
FOZ	**Fox Glacier**	**1.38**	**53**	Pn	**Pg**	**22 50 55.0**	**+1.4**
LBZ	**Lake Benmore**	**1.44**	**90**	PN	Pn	22 50 48.4	-6.0
LBZ	**Lake Benmore**	**1.44**	**90**	PN	**Pb**	**22 50 54.0**	**-0.7**
LBZ				SN	**Sb**	**22 51 12.7**	**-0.9**
LBZ				AML	AML	22 51 16.6	
LBZ				AML	AML	22 51 16.7	
LBZ				AML	AML	22 51 16.8	
LBZ	**Lake Benmore**	**1.44**	**90**	Pn	**Pg**	**22 50 54.9**	**+0.3**
LBZ				Sn	**Sb**	**22 51 12.7**	**-0.9**
WHZ	**Wether Hill Ro**	**1.49**	**186**	PN	Pn	22 50 48.6	-6.6
WHZ	**Wether Hill Ro**	**1.49**	**186**	PN	**Pn**	**22 50 54.3**	**-0.9**
WHZ				AML	AML	22 51 22.3	
WHZ				AML	AML	22 51 23.3	
WHZ	**Wether Hill Ro**	**1.49**	**186**	Pn	**Pn**	**22 50 54.3**	**-0.9**
TUZ	**Tuapeka**	**1.85**	**147**	PN	**Pn**	**22 51 00.1**	**0.0**
TUZ				AML	AML	22 51 27.8	
TUZ				AML	AML	22 51 28.2	
TUZ	**Tuapeka**	**1.85**	**147**	Pn	**Pn**	**22 51 00.1**	**0.0**
ODZ	**Otahua Downs**	**1.87**	**111**	PN	Pn	22 50 54.7	-5.6
ODZ	**Otahua Downs**	**1.87**	**111**	PN	**Pn**	**22 50 59.9**	**-0.4**
ODZ	**Otahua Downs**	**1.87**	**111**	Pn	**Pn**	**22 50 59.9**	**-0.4**
PYZ	**Puysegur Point**	**2.05**	**211**	*e*PN	Pn	22 50 58.5	-4.3
PYZ	**Puysegur Point**	**2.05**	**211**	PN	**Pn**	**22 51 03.2**	**+0.4**
PYZ	**Puysegur Point**	**2.05**	**211**	Pn	**Pn**	**22 51 03.2**	**+0.4**
RPZ	**Rata Peaks**	**2.19**	**72**	*e*PN	Pn	22 50 59.3	-5.4
RPZ	**Rata Peaks**	**2.19**	**72**	PN	**Pn**	**22 51 03.9**	**-0.8**
RPZ				AML	AML	22 51 38.4	
RPZ				AML	AML	22 51 38.6	
RPZ	**Rata Peaks**	**2.19**	**72**	Pn	**Pn**	**22 51 03.2**	**-1.5**
RPZ				Sn	**Sn**	**22 51 31.5**	**-1.0**
RPZ				Lg	Lg	22 51 36.8	
	133nm,0.3s,baz=69,slow=18,SNR=25						
SYZ	**Scrubby Hill**	**2.23**	**163**	PN	Pn	22 50 59.6	-5.7
SYZ	**Scrubby Hill**	**2.23**	**163**	PN	**Pn**	**22 51 05.7**	**+0.4**
SYZ				AML	AML	22 51 42.6	
SYZ				AML	AML	22 51 42.6	
SYZ				AML	AML	22 51 43.8	
SYZ				AML	AML	22 51 43.8	
SYZ	**Scrubby Hill**	**2.23**	**163**	Pn	**Pn**	**22 51 05.7**	**+0.4**
HHSZ	**Highcliff Hill**	**2.26**	**132**	PN	**Pn**	**22 51 06.2**	**+0.5**
WVZ	**Waitaha Valley**	**2.28**	**55**	PN	**Pg**	**22 51 09.8**	**-1.1**
WVZ				AML	AML	22 51 40.6	
WVZ				AML	AML	22 51 50.0	
WVZ	**Waitaha Valley**	**2.28**	**55**	Pn	**Pg**	**22 51 09.8**	**-1.1**
APZ	**The Paps**	**2.42**	**183**	AML	AML	22 51 04.7	
APZ	**The Paps**	**2.42**	**183**	AML	AML	22 51 46.7	
APZ				AML	AML	22 51 47.0	
LTZ	**Lake Taylor**	**3.39**	**63**	PN	Pb	22 51 24.2	-3.8
LTZ				AML	AML	22 52 08.2	
LTZ				AML	AML	22 52 08.5	
DSZ	**Denniston Nort**	**3.76**	**46**	PN	**Pn**	**22 51 25.5**	**-0.9**
DSZ	**Denniston Nort**	**3.76**	**46**	Pn	**Pn**	**22 51 25.5**	**-0.9**
THZ	**Tophouse**	**4.36**	**54**	PN	**Pn**	**22 51 34.4**	**-0.2**
THZ				AML	AML	22 52 30.0	
THZ				AML	AML	22 52 30.5	
QRZ	**Quartz Range**	**4.81**	**43**	PN	**Pn**	**22 51 39.8**	**-0.9**
QRZ	**Quartz Range**	**4.81**	**43**	Pn	**Pn**	**22 51 39.8**	**-0.9**
NNZ	**Nelson**	**4.98**	**52**	PN	**Pn**	**22 51 42.7**	**-0.4**
NNZ				AML	AML	22 52 43.3	
NNZ				AML	AML	22 52 45.0	
NNZ	**Nelson**	**4.98**	**52**	Pn	**Pn**	**22 51 42.7**	**-0.4**
TUWZ	**Tuamarina**	**5.18**	**57**	AML	AML	22 52 48.3	
TUWZ				AML	AML	22 52 49.4	
TCW	**Tory Channel**	**5.51**	**57**	AML	AML	22 52 01.0	
TCW				AML	AML	22 53 00.9	
DUWZ	**D'Urville Isla**	**5.56**	**52**	PN	**Pn**	**22 51 51.4**	**+0.3**
DUWZ				AML	AML	22 52 58.7	
DUWZ				AML	AML	22 52 59.7	
DUWZ	**D'Urville Isla**	**5.56**	**52**	Pn	**Pn**	**22 51 51.5**	**+0.3**
TRVZ	**Turoa**	**7.50**	**50**	Pn	**Pn**	**22 52 19.8**	**+1.9**
URZ	**Urewera**	**9.10**	**51**	Pn	**Pn**	**22 52 38.4**	**-1.2**
URZ				Sn	Sn	22 54 14.4	-8.4
URZ	**Urewera**	**9.10**	**51**	Pn	**Pn**	**22 52 38.4**	**-1.2**
	1.7nm,0.3s,baz=247,slow=11,SNR=8.6						
URZ				Sn	Sn	22 54 14.4	-8.4
	1.5nm,0.3s,baz=105,slow=20,SNR=5.0						
STKA	**Stephens Creek**	**24.25**	**292**	P	**P**	**22 55 46.5**	**+0.7**
STKA	**Stephens Creek**	**24.25**	**292**	P	**P**	**22 55 46.5**	**+0.7**
	2.9nm,1.0s,baz=142,slow=11,SNR=3.3						
STKA				LR	LR	23 03 40.1	
	comp=Z,175nm,21.1s,baz=297,slow=33						
VNDA	**Vanda**	**33.31**	**183**	LR	LR	23 08 42.9	
	comp=Z,230nm,18.3s,baz=352,slow=33						
ASAR	**Alice Springs**	**34.78**	**295**	P	**P**	**22 57 21.3**	**+1.9**
ASAR	**Alice Springs**	**34.78**	**295**	P	**P**	**22 57 21.3**	**+1.9**
	0.6nm,0.8s,baz=123,slow=9.1,SNR=4.6						
ASAR				LR	LR	23 11 54.7	
	comp=Z,119nm,18.8s,baz=186,slow=37						
WRA	**Warramunga Arr**	**37.21**	**300**	P	**P**	**22 57 40.3**	**+0.2**
WRA	**Warramunga Arr**	**37.21**	**300**	P	**P**	**22 57 40.3**	**+0.2**
	0.9nm,0.9s,baz=136,slow=8.0,SNR=8.8						
WRA				LR	LR	23 11 57.5	
	comp=Z,182nm,22.0s,baz=125,slow=35						
H01W1	**Cape Leeuwin H**	**41.99**	**264**	T	T	23 42 33.7	
	baz=127						
H01W2	**Cape Leeuwin H**	**42.01**	**264**	T	T	23 42 20.7	
	baz=127						
H01W3	**Cape Leeuwin H**	**42.01**	**264**	T	T	23 42 30.1	
	baz=127						
H08S2	**Diego Garcia H**	**88.75**	**261**	T	T	00 41 06.3	
	baz=135						
CMAR	**Chiang Mai Arr**	**88.76**	**297**	P	P	23 03 25.4	+2.6
CMAR	**Chiang Mai Arr**	**88.76**	**297**	P	P	23 03 25.4	+2.6
	0.9nm,0.5s,baz=173,slow=3.4,SNR=5.3						
CMAR				LR	LR	23 47 45.7	
	comp=Z,29nm,20.2s,baz=340,slow=39						
H08S1	**Diego Garcia H**	**88.76**	**261**	T	T	00 41 05.1	
	baz=135						
H08S3	**Diego Garcia H**	**88.77**	**261**	T	T	00 41 06.7	
	baz=135						
H08N1	**Diego Garcia H**	**90.70**	**260**	T	T	00 43 37.0	
	baz=143						
H08N3	**Diego Garcia H**	**90.72**	**260**	T	T	00 43 34.6	
	baz=143						
H08N2	**Diego Garcia H**	**90.73**	**260**	T	T	00 43 35.7	
	baz=143						
FX1	**Attu Island--F**	**97.01**	**3**	LR	LR	23 46 04.7	
	comp=Z,220nm,18.2s,baz=53,slow=34						
ULM	**Lac du Bonnet**	**125.62**	**52**	PKP	**PKPdf**	**23 09 30.8**	**+1.2**
ULM	**Lac du Bonnet**	**125.62**	**52**	PKP	**PKPdf**	**23 09 30.8**	**+1.2**
	1.3nm,0.7s,baz=233,slow=20,SNR=2.1						
BRTR	**Keskin Array B**	**146.27**	**278**	PKPbc	**PKPab**	**23 10 10.8**	**+0.7**
BRTR	**Keskin Array B**	**146.27**	**278**	PKPbc	**PKPab**	**23 10 10.9**	**+0.7**
	1.1nm,0.9s,baz=123,slow=4.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**146.76**	**205**	PKPbc	**PKPab**	**23 10 11.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**146.76**	**205**	PKPbc	**PKPab**	**23 10 11.2**	**-1.2**
	1.0nm,0.7s,baz=145,slow=1.8,SNR=6.5						

*IDC **15** 23:12:13.7±1.8, 30°.12N×80°.10E, h0km, mb3.3/7, mb1 3.5/8, mb1mx3.3/32, mbtmp3.3/8, ML3.3/1, Error ellipse: s-maj=50.1km s-min=20.2km az=59.0*
*NDI **15** 23:12:14.9±2.5, 30°.10N×80°.13E, h10km, ML3.2*
*ISCJB **15** 23:12:15.2±1.1, 30°.08N±0°.05×80°.15E±0°.05, h26km±11km, mb3.2/5, Error ellipse: s-maj=9.1km s-min=7.2km az=7.3*

ISC 15 23:12:15.5±1.7, 30°.02N±0°.05×80°.15E±0°.06, h18km±6km, n20, σ2s07/24, mb3.3/5, 1C, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**0.47**	**173**	*e*S	**Sg**	**23 12 31.7**	**0.0**
LGTI	**Lohaghat**	**0.57**	**172**	*e*P	**Pn**	**23 12 29.5**	**+0.8**
LGTI				*e*S	**Sn**	**23 12 38.7**	**+1.1**
KALG	**Kalgarh**	**1.32**	**248**	*e*S	Pn	23 12 34.3	-4.7
DDI	**Dehra Dun**	**1.84**	**280**	*e*P	**Pn**	**23 12 45.8**	**-0.4**
DDI				*e*S	**Sb**	**23 13 09.4**	**-1.9**
SMLA	**Simla**	**2.80**	**294**	*e*P	**Pn**	**23 12 58.5**	**-0.9**
SMLA				*e*S	**Sn**	**23 13 32.3**	**-0.3**
SMLA				AML	AML	23 13 37.0	
	comp=N,300nm,0.6s						
SMLA				AML	AML	23 13 39.9	
	comp=E,353nm,0.4s						
NDI	**New Delhi**	**2.89**	**243**	*e*	Pn	23 12 57.0	-3.6
NDI				*e*S	**Sn**	**23 13 37.0**	**+2.2**
SDNR	**Sundarnagar**	**3.11**	**299**	*e*	**Sb**	**23 13 52.0**	**+4.1**
KUDL	**Kundal**	**3.71**	**241**	*e*	**Pn**	**23 13 09.5**	**-2.4**
KUDL				*e*S	**Sn**	**23 13 53.6**	**-1.6**
KUDL				AML	AML	23 14 07.1	
	comp=N,69nm,1.1s						
KUDL				AML	AML	23 14 07.4	
	comp=E,49nm,0.0s						
DHRM	**DHARAMSHALA**	**3.98**	**305**	*e*P	**Pn**	**23 13 15.7**	**-0.1**
DHRM				*e*S	**Sn**	**23 14 01.0**	**-1.1**
DHRM				AML	AML	23 14 06.5	
	comp=N,79nm,0.6s						
DHRM				AML	AML	23 14 07.4	
	comp=E,128nm,0.1s						
KHET	**Khetri**	**4.27**	**244**	*e*	**Pb**	**23 13 31.4**	**+1.3**
KHET				AML	AML	23 14 23.8	
	comp=E,27nm,0.7s						
KHET				AML	AML	23 14 24.1	
	comp=N,19nm,0.8s						
JBP	**Jabalpur**	**6.83**	**181**	⇑*i*P	**Pn**	**23 13 55.7**	**+1.0**
JBP				*e*S	**Sn**	**23 15 08.8**	**-3.2**
BOK	**Bokaro**	**8.04**	**139**	*e*S	**Sn**	**23 15 37.0**	**-4.7**
BOK				AML	AML	23 15 41.1	
	comp=N,24nm,0.8s						
BOK				AML	AML	23 15 44.8	
	comp=E,25nm,0.0s						
MKAR	**Makanchi Array**	**16.83**	**5**	Pn	**Pn**	**23 16 08.6**	**-1.5**
	comp=E,0.1nm,0.3s,baz=186,slow=12,SNR=6.6						
CMAR	**Chiang Mai Arr**	**20.61**	**120**	P	Pn	23 16 55.9	-0.2
	comp=E,0.7nm,0.5s,baz=315,slow=11,SNR=8.1						
KURBB	**Kurchatov Arra**	**20.62**	**357**	P	**P**	**23 16 53.0**	**-0.6**
	comp=E,0.2nm,0.4s,baz=178,slow=9.0,SNR=2.9						
BVAR	**Borovoye Array**	**24.07**	**345**	P	**P**	**23 17 28.6**	**-1.0**
	comp=E,0.2nm,0.3s,baz=150,slow=12,SNR=5.2						
ZALV	**Zalesovo Beam**	**24.15**	**7**	P	**P**	**23 17 28.9**	**-1.3**
	comp=E,0.3nm,0.4s,baz=187,slow=10.0,SNR=2.1						
AKTO	**Aktyubinsk**	**26.30**	**327**	P	**P**	**23 17 51.1**	**+1.3**
	comp=E,0.9nm,0.8s,baz=124,slow=12,SNR=5.6						
SONM	**Songino Array**	**26.88**	**41**	P	**P**	**23 17 57.3**	**+2.1**
	comp=E,0.2nm,0.5s,baz=247,slow=9.8,SNR=3.4						
WRA	**Warramunga Arr**	**72.02**	**127**	P	**P**	**23 23 39.8**	**+1.3**
	comp=E,1.2nm,1.2s,baz=325,slow=6.1,SNR=4.2						

*ISCJB **15** 23:42:07.5±0.7, 51°.9N±0°.2×175°.99W±0°.07, h78km±4km, mb3.4/4, Error ellipse: s-maj=26.1km s-min=5.1km az=167.9*
*NEIC **15** 23:42:08.5, 51°.62N×175°.86W, h53km, mb4.0/2, ML3.5(AEIC), After AEIC.*
*IDC **15** 23:42:12.4±4.1, 52°.10N×176°.25W, h105km±36km, mb3.2/4, mb1 3.5/6, mb1mx3.2/29, mbtmp3.2/6, Error ellipse: s-maj=62.6km s-min=19.7km az=174.0*

ISC 15 23:42:09.2±1.1, 51°.9N±0°.2×176°.01W±0°.06, h74km±6km, n41, σ1s25/41, mb3.5/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**0.12**	**344**	P	**Pn**	**23 42 18.6**	**-1.4**
GSCK	**Great Sitkin C**	**0.13**	**311**	P	**Pn**	**23 42 18.7**	**-1.3**
GSTD	**Great Sitkin T**	**0.15**	**326**	P	**Pn**	**23 42 19.0**	**-1.1**
GSTD				S	**Sn**	**23 42 27.7**	**-0.5**
GSTR	**Great Sitkin T**	**0.17**	**349**	*e*P	**Pn**	**23 42 19.3**	**-0.9**
GSTR				*e*S	**Sn**	**23 42 28.0**	**-0.2**
ETKA	**Kagalaska Isla**	**0.26**	**255**	P	**Pn**	**23 42 18.4**	**-2.1**
ADAG	**Mount Adagdak**	**0.37**	**278**	P	**Pn**	**23 42 20.9**	**-0.4**
KIRH	**Kanaga Island**	**0.68**	**268**	P	**Pn**	**23 42 23.2**	**-0.9**
KINC	**Kanaga Island**	**0.69**	**271**	P	**Pn**	**23 42 23.5**	**-0.7**
KIKV	**Kanaga Island**	**0.72**	**267**	P	**Pn**	**23 42 23.6**	**-1.1**
KIKV				S	**Sn**	**23 42 35.0**	**-1.0**
KICM	**Kanaga Island**	**0.74**	**270**	P	**Pn**	**23 42 24.1**	**-0.6**
TAPA	**Tanaga Point A**	**1.13**	**265**	P	**Pn**	**23 42 28.6**	**-0.9**
TAFL	**Tanaga Flats**	**1.19**	**262**	P	**Pn**	**23 42 29.2**	**-1.0**
TAFL				S	**Sn**	**23 42 45.0**	**-0.9**
TAFP	**Tanaga Falls P**	**1.23**	**269**	P	**Pn**	**23 42 30.2**	**-0.5**
TAFP				S	**Sn**	**23 42 46.6**	**-0.2**
TASE	**Tanaga Southea**	**1.26**	**267**	P	**Pn**	**23 42 30.7**	**-0.5**
GAEA	**Gareloi East**	**1.71**	**266**	P	**Pn**	**23 42 36.8**	**-0.2**
GAEA				S	**Sn**	**23 42 59.1**	**+1.0**
GANE	**Gareloi Northe**	**1.72**	**267**	P	**Pn**	**23 42 36.9**	**-0.3**
CERB	**Semis' Cerberu**	**2.70**	**272**	P	**Pn**	**23 42 50.2**	**-0.2**
CESW	**Semis' Southwe**	**2.75**	**271**	P	**Pn**	**23 42 50.5**	**-0.4**
CESW				S	**Sn**	**23 43 22.3**	**-0.7**
AMKA	**Amchitka**	**2.98**	**261**	P	**Pn**	**23 42 53.0**	**-1.1**
LSPA	**Little Sitkin**	**3.36**	**273**	P	**Pn**	**23 42 59.1**	**-0.1**
NIKH	**Nikolski High**	**4.50**	**74**	P	**Pn**	**23 43 13.9**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**5.06**	**70**	P	**Pn**	**23 43 20.5**	**-2.0**
UNV	**Unalaska Valle**	**6.07**	**68**	P	**Pn**	**23 43 36.5**	**+0.4**
FX1	**Attu Island--F**	**6.70**	**282**	P	**Pn**	**23 43 45.3**	**+0.5**
FX1	**Attu Island--F**	**6.70**	**282**	P	**Pn**

WRA	**Warramunga Arr**	**50.37**	**257**	P	**P**	**00 08 55.2**	**-0.1**
	0.2nm,0.3s,baz=93,slow=6.7,SNR=13							
ASAR	**Alice Springs**	**50.59**	**252**	P	**P**	**00 08 57.4**	**+0.4**
	0.9nm,0.5s,baz=88,slow=8.1,SNR=17							
ILAR	**Eielson Array**	**82.75**	**11**	P	**P**	**00 12 21.0**	**-0.1**
	0.2nm,0.6s,baz=230,slow=6.5,SNR=3.7							
GERES	**GERESS Array B**	**146.66**	**352**	PKPbc	**PKPbc**	**00 19 39.6**	**+0.2**
	0.5nm,0.7s,baz=19,slow=5.7,SNR=4.2							
BRTR	**Keskin Array B**	**146.90**	**321**	PKPbc	**PKPab**	**00 19 41.8**	**-0.1**
	1.3nm,0.8s,baz=82,slow=2.1,SNR=5.6							

IDC 16 00:24:01.8±2.5, 20.52N×120.59E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.7/3, MS2.4/1, Ms1 2.6/1, ms1mx2.2/38, Error ellipse: s-maj=324.3km s-min=28.4km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.51**	**268**	LR	LR	00 36 51.8	
	comp=Z,9.9nm,20.8s,baz=90,slow=38						
WRA	**Warramunga Arr**	**42.40**	**161**	P	P	00 31 58.0	-0.3
	1.3nm,0.8s,baz=341,slow=9.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**43.06**	**330**	P	P	00 32 03.1	-0.2
	0.6nm,0.6s,baz=115,slow=6.5,SNR=3.8						
ASAR	**Alice Springs**	**45.79**	**163**	P	P	00 32 25.6	+0.1
	1.2nm,1.0s,baz=345,slow=6.7,SNR=5.5						

*TIR **16** 00:36:39.4±6.1, 40.15N×20.69E, h0km±18km, ML3.2*
*PDG **16** 00:36:40.5±0.2, 40.04N×20.67E, h9km, ML3.3/8, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
*ATH **16** 00:36:41.9, 40.29N×20.54E, h13km±1km, MD3.5/42*
*BEO **16** 00:36:42.6±0.8, 40.04N×20.70E, h0km, ML2.9/6*
*THE **16** 00:36:42.8, 40.22N×20.58E, h0km±1km, ML3.1/9, Error ellipse: s-maj=1.4km s-min=0.5km az=271.0*
*CSEM **16** 00:36:43.6±0.1, 40.19N×20.66E, h2km, MD3.5, Error ellipse: s-maj=4.3km s-min=2.7km az=71.0*
*SKO **16** 00:36:44.9, 40.11N×20.84E, h2km, M2.4, ML2.8*

ISC 16 00:36:42.6±0.8, 40.17N±0.01×20.61E±0.02, h1km±8km, n197, σ1s23/270, 6C-4D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEST	**Nestorio**	**0.41**	**53**	P	**Pg**	**00 36 50.5**	**-0.1**
NEST				S	**Sg**	**00 36 56.8**	**+0.8**
NEST	**Nestorio**	**0.41**	**53**	*e*PB	**Pg**	**00 36 50.5**	**-0.1**
NEST				*e*SB	**Sg**	**00 36 56.9**	**+0.9**
NEST	**Nestorio**	**0.41**	**53**	P	**Pg**	**00 36 50.5**	**-0.1**
NEST				S	**Sg**	**00 36 56.8**	**+0.8**
KBN	**Korca**	**0.47**	**16**	*e*PG	**Pg**	**00 36 52.1**	**+0.4**
KBN				*e*SG	**Sg**	**00 36 59.8**	**+1.9**
KBN	**Korca**	**0.47**	**16**	P	**Pg**	**00 36 51.1**	**-0.6**
KBN				S	**Sg**	**00 36 57.7**	**-0.2**
KBN	**Korca**	**0.47**	**16**	P	**Pg**	**00 36 51.1**	**-0.6**
KBN	**Korca**	**0.47**	**16**	*e*Pg	**Pg**	**00 36 52.1**	**+0.4**
	SNR=91						
KBN				S	**Sg**	**00 36 57.7**	**-0.2**
KBN				*e*Sg	**Sg**	**00 36 59.8**	**+1.9**
	SNR=91						
JAN	**Janina**	**0.54**	**160**	P	**Pb**	**00 36 54.0**	**-0.9**
JAN				S	**Sb**	**00 37 03.2**	**0.0**
JAN	**Janina**	**0.54**	**160**	*e*PB	**Pb**	**00 36 54.2**	**-0.7**
JAN				*e*SB	**Sb**	**00 37 03.6**	**+0.4**
JAN	**Janina**	**0.54**	**160**	P	**Pb**	**00 36 54.0**	**-0.9**
JAN				S	**Sb**	**00 37 03.2**	**0.0**
SRN	**Sarande**	**0.55**	**239**	*e*PG	**Pb**	**00 36 54.0**	**-1.0**
SRN				*e*SG	**Sb**	**00 37 03.1**	**-0.2**
SRN	**Sarande**	**0.55**	**239**	P	**Pb**	**00 36 53.2**	**+0.1**
SRN				S	**Sb**	**00 37 01.7**	**-1.6**
SRN	**Sarande**	**0.55**	**239**	*e*Pg	**Pb**	**00 36 54.0**	**-1.0**
	SNR=90						
SRN				*e*Sg	**Sb**	**00 37 03.1**	**-0.2**
	SNR=90						
MEV	**Metsovon**	**0.61**	**129**	P	**Pb**	**00 36 55.1**	**-1.0**
MEV				S	**Sb**	**00 37 05.2**	**0.0**
MEV	**Metsovon**	**0.61**	**129**	P	**Pb**	**00 36 55.1**	**-1.0**
MEV				S	**Sb**	**00 37 05.2**	**0.0**
IGT	**Igoumenitsa**	**0.67**	**199**	P	**Pb**	**00 36 55.7**	**-1.3**
IGT				S	**Sb**	**00 37 06.4**	**-0.4**
IGT	**Igoumenitsa**	**0.67**	**199**	*e*PB	**Pb**	**00 36 56.0**	**-1.0**
IGT				*e*SB	**Sb**	**00 37 06.9**	**+0.1**
KEK	**Kerkira**	**0.77**	**234**	P	**Pg**	**00 36 57.3**	**-0.1**
KEK				S	**Sb**	**00 37 08.7**	**-1.1**
KEK	**Kerkira**	**0.77**	**234**	*e*PG	**Pg**	**00 36 57.1**	**-0.3**
KEK				*e*SB	**Sb**	**00 37 08.7**	**-1.1**
FNA	**Florina**	**0.85**	**43**	P	**Pg**	**00 36 57.9**	**-0.9**
FNA				S	**Sb**	**00 37 11.5**	**-0.5**
FNA	**Florina**	**0.85**	**43**	*e*PB	**Pg**	**00 36 58.4**	**-0.4**
FNA	**Florina**	**0.85**	**43**	P	**Pg**	**00 36 57.9**	**-0.9**
FNA	**Florina**	**0.85**	**43**	*e*Pb	**Pg**	**00 36 58.4**	**-0.4**
FNA				S	**Sb**	**00 37 11.5**	**-0.5**
KZN	**Kozani**	**0.90**	**81**	P	**Pg**	**00 36 59.3**	**-0.5**
KZN				S	**Sb**	**00 37 13.9**	**+0.4**
KZN	**Kozani**	**0.90**	**81**	*e*PG	**Pg**	**00 36 59.6**	**-0.2**
KZN	**Kozani**	**0.90**	**81**	P	**Pg**	**00 36 59.3**	**-0.5**
KZN	**Kozani**	**0.90**	**81**	*e*Pg	**Pg**	**00 36 59.6**	**-0.2**
KZN				S	**Sb**	**00 37 13.9**	**+0.4**
BIA	**Bitola**	**1.01**	**32**	P	**Pg**	**00 37 00.8**	**-1.1**
BIA				S	**Sg**	**00 37 15.8**	**+0.8**
BIA	**Bitola**	**1.01**	**32**	*i* Pg	**Pg**	**00 37 01.4**	**-0.6**
BIA				*i* Sg	**Sg**	**00 37 15.9**	**+0.9**
BIA	**Bitola**	**1.01**	**32**	P	**Pg**	**00 37 00.8**	**-1.1**
BIA	**Bitola**	**1.01**	**32**	*i* Pg	**Pg**	**00 37 01.3**	**-0.6**
BIA				S	**Sg**	**00 37 15.8**	**+0.8**
THL	**Klokotos Trika**	**1.24**	**119**	P	**Pn**	**00 37 06.7**	**-0.2**
THL				S	**Sn**	**00 37 25.9**	**+1.7**
THL	**Klokotos Trika**	**1.24**	**119**	*e*PN	**Pn**	**00 37 06.2**	**-0.7**
THL	**Klokotos Trika**	**1.24**	**119**	*e*Pn	**Pn**	**00 37 06.2**	**-0.7**
THL	**Klokotos Trika**	**1.24**	**119**	P	**Pn**	**00 37 06.7**	**-0.2**
THL				S	**Sn**	**00 37 25.9**	**+1.7**
LKD2	**Lefkada island**	**1.38**	**179**	P	**Pb**	**00 37 10.3**	**+1.2**
LKD2				S	**Sn**	**00 37 30.8**	**+3.0**
LKD2	**Lefkada island**	**1.38**	**179**	*e*PB	**Pb**	**00 37 10.6**	**+1.5**
LKD2	**Lefkada island**	**1.38**	**179**	P	**Pb**	**00 37 10.3**	**+1.2**
LKD2	**Lefkada island**	**1.38**	**179**	*e*Pb	**Pb**	**00 37 10.6**	**+1.5**
LKD2				S	**Sn**	**00 37 30.8**	**+3.0**
LIT	**Litokhoron**	**1.44**	**92**	P	**Pb**	**00 37 10.4**	**+0.2**
LIT				S	**Sn**	**00 37 30.1**	**+0.7**
LIT	**Litokhoron**	**1.44**	**92**	*e*PB	**Pb**	**00 37 10.6**	**+0.4**
LIT	**Litokhoron**	**1.44**	**92**	*e*Pb	**Pb**	**00 37 10.6**	**+0.4**
LIT				S	**Sn**	**00 37 30.1**	**+0.7**
PHP	**Peshkopia**	**1.52**	**355**	*e*PN	**Pg**	**00 37 13.1**	**+1.4**
PHP	**Peshkopia**	**1.52**	**355**	P	**Pn**	**00 37 10.7**	**-0.2**
PHP				S	**Sn**	**00 37 30.9**	**-0.5**
PHP	**Peshkopia**	**1.52**	**355**	P	**Pn**	**00 37 10.7**	**-0.2**
PHP	**Peshkopia**	**1.52**	**355**	*e*Pn	**Pg**	**00 37 13.1**	**+1.4**
	SNR=40						
PHP				S	**Sn**	**00 37 30.9**	**-0.5**
EVR	**Evrytania**	**1.56**	**143**	P	**Pg**	**00 37 12.0**	**-0.4**
EVR	**Evrytania**	**1.56**	**143**	*e*PB	**Pg**	**00 37 12.3**	**-0.1**
EVR	**Evrytania**	**1.56**	**143**	P	**Pg**	**00 37 12.0**	**-0.4**
EVR	**Evrytania**	**1.56**	**143**	*e*Pb	**Pg**	**00 37 12.3**	**-0.1**
PDO	**Prodromos**	**1.63**	**164**	*e*PG	**Pg**	**00 37 15.0**	**+1.2**
PDO	**Prodromos**	**1.63**	**164**	*e*Pg	**Pg**	**00 37 15.0**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.65**	**134**	*e*PN	**Pg**	**00 37 14.4**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.65**	**134**	*e*Pn	**Pg**	**00 37 14.4**	**+0.3**
AGG	**Agios Georgios**	**1.75**	**130**	P	**Pg**	**00 37 15.6**	**-0.6**
AGG	**Agios Georgios**	**1.75**	**130**	*e*PN	**Pg**	**00 37 15.8**	**-0.4**
AGG	**Agios Georgios**	**1.75**	**130**	P	**Pg**	**00 37 15.6**	**-0.6**
THE	**Thessaloniki**	**1.86**	**75**	*e*PN	**Pn**	**00 37 15.1**	**-0.4**
THE	**Thessaloniki**	**1.86**	**75**	*e*Pn	**Pn**	**00 37 15.1**	**-0.4**
VAY	**Valandovo**	**1.88**	**52**	P	**Pn**	**00 37 15.4**	**-0.4**
VAY				S	**Sn**	**00 37 40.6**	**+0.4**
VAY	**Valandovo**	**1.88**	**52**	*e*Pn	**Pn**	**00 37 15.5**	**-0.4**
VAY	**Valandovo**	**1.88**	**52**	*i* Pn	**Pn**	**00 37 15.8**	**0.0**
VAY				*e*Sn	**Sg**	**00 37 43.2**	**+0.1**
VAY				*i* Lg	Lg	00 37 45.8	
	comp=N,80nm,0.8s						
VAY				*i* Lg	Lg	00 37 47.5	
	comp=E,99nm,1.0s						
VAY	**Valandovo**	**1.88**	**52**	*e*Pn	**Pn**	**00 37 15.5**	**-0.4**
VAY				S	**Sn**	**00 37 40.6**	**+0.4**
VAY				*i* Lg	Lg	00 37 46.2	
	comp=E,80nm,0.8s						
SKO	**Skopje**	**1.91**	**19**	P	**Pn**	**00 37 15.8**	**-0.4**
SKO	**Skopje**	**1.91**	**19**	*e*Pn	**Pb**	**00 37 17.3**	**-0.9**
SKO				*e*Sn	**Sn**	**00 37 42.1**	**+1.2**
SKO	**Skopje**	**1.91**	**19**	*e*Pn	**Pb**	**00 37 18.2**	**0.0**
SKO				*e*Sn	**Sb**	**00 37 43.2**	**+0.7**
SKO				*i* Lg	Lg	00 37 46.3	
	comp=E,128nm,0.8s						
SKO				*i* Lg	Lg	00 37 46.4	
	comp=N,105nm,0.7s						
SKO	**Skopje**	**1.91**	**19**	P	**Pn**	**00 37 15.8**	**-0.4**
SKO	**Skopje**	**1.91**	**19**	*e*Pn	**Pb**	**00 37 17.3**	**-0.9**
SKO				*e*Sn	**Sn**	**00 37 42.1**	**+1.2**
SKO				*i* Lg	Lg	00 37 46.7	
	comp=N,128nm,0.8s						
FYTO	**Fytoko, Volos**	**1.95**	**112**	P	**Pb**	**00 37 17.6**	**-1.2**
FYTO	**Fytoko, Volos**	**1.95**	**112**	P	**Pb**	**00 37 17.6**	**-1.2**
HORT	**Hortiatis**	**1.95**	**76**	P	**Pn**	**00 37 16.6**	**-0.2**
HORT				S	**Sb**	**00 37 42.5**	**-1.2**
HORT	**Hortiatis**	**1.95**	**76**	*e*PN	**Pn**	**00 37 16.7**	**-0.1**
HORT	**Hortiatis**	**1.95**	**76**	*e*Pn	**Pn**	**00 37 16.7**	**-0.1**
HORT				S	**Sb**	**00 37 42.5**	**-1.2**
PUK	**Puka**	**1.95**	**344**	*e*PN	**Pg**	**00 37 20.2**	**+0.2**
PUK	**Puka**	**1.95**	**344**	*e*Pn	**Pg**	**00 37 20.2**	**+0.2**
	SNR=40						
VLS	**Valsamata**	**1.99**	**181**	*e*PN	**Pb**	**00 37 18.7**	**-0.8**
VLS	**Valsamata**	**1.99**	**181**	*e*Pn	**Pb**	**00 37 18.7**	**-0.8**
KNT	**Kendrikon**	**2.00**	**60**	P	**Pn**	**00 37 17.4**	**-0.1**
KNT				S	**Sn**	**00 37 43.7**	**+0.5**
KNT	**Kendrikon**	**2.00**	**60**	*e*PN	**Pn**	**00 37 17.6**	**+0.1**
KNT	**Kendrikon**	**2.00**	**60**	*e*Pn	**Pn**	**00 37 17.6**	**+0.1**
KNT				S	**Sn**	**00 37 43.7**	**+0.5**
EFP	**Efpalio**	**2.01**	**150**	*e*PG	**Pg**	**00 37 20.9**	**-0.2**
EFP	**Efpalio**	**2.01**	**150**	*e*Pg	**Pg**	**00 37 20.9**	**-0.2**
KALE	**Kalithea**	**2.13**	**146**	*e*PN	**Pg**	**00 37 22.4**	**-1.1**
KALE	**Kalithea**	**2.13**	**146**	*e*Pn	**Pg**	**00 37 22.4**	**-1.1**
XOR	**Xorichti**	**2.14**	**111**	P	**Pb**	**00 37 20.2**	**-2.0**
XOR	**Xorichti**	**2.14**	**111**	*e*PN	**Pb**	**00 37 20.6**	**-1.6**
XOR	**Xorichti**	**2.14**	**111**	P	**Pb**	**00 37 20.2**	**-2.0**
XOR	**Xorichti**	**2.14**	**111**	*e*Pn	**Pb**	**00 37 20.6**	**-1.6**
PLG	**Polygyros**	**2.18**	**84**	P	**Pn**	**00 37 20.2**	**+0.3**
PLG	**Polygyros**	**2.18**	**84**	*e*PN	**Pn**	**00 37 20.6**	**+0.7**
PLG	**Polygyros**	**2.18**	**84**	P	**Pn**	**00 37 20.2**	**+0.3**
PLG	**Polygyros**	**2.18**	**84**	*e*Pn	**Pn**	**00 37 20.6**	**+0.7**
NEO	**Neokhori**	**2.19**	**112**	*e*PN	**Pb**	**00 37 21.3**	**-1.7**
NEO	**Neokhori**	**2.19**	**112**	*e*Pn	**Pb**	**00 37 21.3**	**-1.7**
SOH	**Sokhos**	**2.19**	**72**	P	**Pn**	**00 37 20.4**	**+0.3**
SOH				S	**Sb**	**00 37 49.4**	**-1.2**
SOH	**Sokhos**	**2.19**	**72**	*e*PN	**Pn**	**00 37 20.6**	**+0.5**
SOH	**Sokhos**	**2.19**	**72**	P	**Pn**	**00 37 20.4**	**+0.3**
SOH				S	**Sb**	**00 37 49.4**	**-1.2**
LAKA	**Lakka**	**2.20**	**151**	*e*PG	**Pg**	**00 37 23.8**	**-0.9**
LAKA	**Lakka**	**2.20**	**151**	*e*Pg	**Pg**	**00 37 23.8**	**-0.9**
RLS	**Riolos of Patr**	**2.21**	**162**	*e*PN	**Pb**	**00 37 23.1**	**-0.2**
RLS	**Riolos of Patr**	**2.21**	**162**	*e*Pn	**Pb**	**00 37 23.1**	**-0.2**
DSF	**Desfina**	**2.30**	**139**	*e*PN	**Pb**	**00 37 24.0**	**-0.9**
DSF	**Desfina**	**2.30**	**139**	*e*Pn	**Pb**	**00 37 24.0**	**-0.9**
DESF	**Desfina**	**2.30**	**139**	*e*PB	**Pn**	**00 37 22.1**	**+0.5**
DESF	**Desfina**	**2.30**	**139**	*e*Pb	**Pn**	**00 37 22.1**	**+0.5**
PAIG	**Paliouri**	**2.37**	**95**	*e*PB	**Pn**	**00 37 22.6**	**+0.1**
PAIG	**Paliouri**	**2.37**	**95**	*e*Pb	**Pn**	**00 37 22.6**	**+0.1**
DRO	**Drossia**	**2.37**	**159**	*e*PN	**Pb**	**00 37 25.5**	**-0.6**
DRO	**Drossia**	**2.37**	**159**	*e*Pn	**Pb**	**00 37 25.5**	**-0.6**
SMIA	**Simia**	**2.39**	**122**	*e*PB	**Pb**	**00 37 24.1**	**-2.2**
SMIA	**Simia**	**2.39**	**122**	*e*Pb	**Pb**	**00 37 24.1**	**-2.2**
LKR	**Lokris**	**2.39**	**129**	*e*PN	**Pb**	**00 37 24.7**	**-1.7**
LKR	**Lokris**	**2.39**	**129**	*e*Pn	**Pb**	**00 37 24.7**	**-1.7**
SKIA	**Skiathos**	**2.42**	**114**	*e*PB	**Pn**	**00 37 24.3**	**+1.1**
SKIA	**Skiathos**	**2.42**	**114**	*e*Pb	**Pn**	**00 37 24.3**	**+1.1**
KLV	**Kalavryta, Ach**	**2.44**	**150**	*e*PG	**Pg**	**00 37 27.3**	**-2.0**
KLV	**Kalavryta, Ach**	**2.44**	**150**	*e*Pn	**Pg**	**00 37 27.3**	**-2.0**
SRS	**Serrai**	**2.46**	**66**	P	**Pn**	**00 37 23.4**	**-0.4**
SRS				S	**Sn**	**00 37 55.4**	**+1.0**
SRS	**Serrai**	**2.46**	**66**	*e*PB	**Pn**	**00 37 23.6**	**-0.2**
SRS	**Serrai**	**2.46**	**66**	P	**Pn**	**00 37 23.4**	**-0.4**
SRS				S	**Sn**	**00 37 55.4**	**+1.0**
PVY	**Plav**	**2.47**	**349**	⇑ *i* Pn	**Pn**	**00 37 24.4**	**+0.3**
PVY				*e*Sn	**Sn**	**00 37 57.5**	**+2.5**
PVY	**Plav**	**2.47**	**349**	⇑ *i* Pn	**Pn**	**00 37 24.4**	**+0.3**
PDG	**Podgorica**	**2.48**	**336**	*e*Pn	**Pn**	**00 37 25.6**	**+1.6**
PDG				*e*Sn	**Sb**	**00 38 00.0**	**+1.1**
PDG	**Podgorica**	**2.48**	**336**	*e*Pn	**Pn**	**00 37 24.1**	**+0.1**
TTG	**Podgorica**	**2.48**	**336**	*e*Pn	**Pn**	**00 37 24.1**	**+0.1**
TTG				*e*Sn	**Sb**	**00 37 58.0**	**-0.9**
BUM	**Brajici-Budva**	**2.49**	**329**	*e*Pn	**Pn**	**00 37 23.8**	**-0.5**
BUM				*e*Sn	**Sb**	**00 37 58.4**	**-1.0**
BUM	**Brajici-Budva**	**2.49**	**329**	*e*Pn	**Pn**	**00 37 23.8**	**-0.5**
GUR	**Goura**	**2.60**	**148**	*e*PB	**Pb**	**00 37 29.1**	**-1.0**
GUR	**Goura**	**2.60**	**148**	*e*Pb	**Pb**	**00 37 29.1**	**-1.0**
MRKA	**Markates**	**2.73**	**121**	*e*PN	**Pn**	**00 37 28.8**	**+1.3**
MRKA	**Markates**	**2.73**	**121**	*e*Pn	**Pn**	**00 37 28.8**	**+1.3**
NVR	**Nevrokopi**	**2.74**	**63**	P	**Pn**	**00 37 27.4**	**-0.2**
NVR	**Nevrokopi**	**2.74**	**63**	*e*PN	**Pn**	**00 37 27.6**	**0.0**
NVR	**Nevrokopi**	**2.74**	**63**	*e*Pn	**Pn**	**00 37 27.6**	**0.0**
BEY	**Berane**	**2.75**	**349**	⇓ *i* Pn	**Pn**	**00 37 28.1**	**+0.2**
IVA	**Berane**	**2.75**	**349**	⇓ *i* Pn	**Pn**	**00 37 28.1**	**+0.2**
IVA				*e*Sn	**Sn**	**00 38 04.1**	**+2.2**
AMT	**Artemida-Makis**	**2.77**	**162**	*e*PB	**Pb**	**00 37 31.6**	**-1.2**
AMT	**Artemida-Makis**	**2.77**	**162**	*e*Pb	**Pb**	**00 37 31.6**	**-1.2**
LTK	**Loutraki**	**2.82**	**139**	*e*PB	**Pb**	**00 37 31.3**	**-2.4**
LTK	**Loutraki**	**2.82**	**139**	*e*Pb	**Pb**	**00 37 31.3**	**-2.4**
NKME	**Niksic**	**2.88**	**335**	⇓ *i* Pn	**Pn**	**00 37 29.7**	**+0.1**
NKME				*e*Sn	**Sn**	**00 38 07.2**	**+2.3**
NKME	**Niksic**	**2.88**	**335**	⇓ *i* Pn	**Pn**	**00 37 29.7**	**+0.1**
NKME				*e*Sn	**Sn**	**00 38 07.2**	**+2.3**
NKY	**Niksic**	**2.91**	**336**	⇑ *i* Pn	**Pn**	**00 37 30.0**	**-0.1**
NKY				*e*Sn	**Sn**	**00 38 07.5**	**+1.8**
NKY	**Niksic**	**2.91**	**336**	⇑ *i* Pn	**Pn**	**00 37 30.0**	**-0.1**
NKY				*e*Sn	**Sn**	**00 38 07.5**	**+1.8**
TREB	**Trebinje**	**3.06**	**327**	*e*Pn	**Pn**	**00 37 32.3**	**+0.2**
TREB	**Trebinje**	**3.06**	**327**	*e*Pn	**Pn**	**00 37 32.3**	**+0.2**
SELS	**Selova**	**3.07**	**7**	*e*Pn	**Pn**	**00 37 34.4**	**+2.2**
KAVA	**Kavala**	**3.08**	**73**	*e*PN	**Pn**	**00 37 32.0**	**-0.4**
KAVA	**Kavala**	**3.08**	**73**	*e*Pn	**Pn**	**00 37 32.0**	**-0.4**
VTS	**Vitosha**	**3.11**	**38**	*e*Pn	**Pn**	**00 37 34.3**	**+1.4**
VTS				*e*Sn	**Sn**	**00 38 11.3**	**+0.6**
VTS	**Vitosha**	**3.11**	**38**	*e*Pn	**Pn**	**00 37 34.3**	**+1.4**
VTS				*e*Sn	**Sn**	**00 38 11.3**	**+0.6**
VLX	**Vlachokerasia**	**3.12**	**153**	*e*PB	**Pb**	**00 37 37.1**	**-1.7**
VLX	**Vlachokerasia**	**3.12**	**153**	*e*Pb	**Pb**	**00 37 37.1**	**-1.7**
SJES	**Sjenica**	**3.13**	**351**	*e*Pn	**Pn**	**00 37 35.6**	**+2.5**
ITM	**Ithomi**	**3.16**	**161**	*e*PN	**Pn**	**00 37 36.4**	**-3.0**
ITM	**Ithomi**	**3.16**	**161**	*e*Pn	**Pn**	**00 37 36.4**	**-3.0**
PLE	**Pljevlja**	**3.29**	**344**	⇑ *i* Pn	**Pn**	**00 37 35.9**	**+0.6**
PLE				*e*Sn	**Sn**	**00 38 16.8**	**+1.7**
PLE	**Pljevlja**	**3.29**	**344**	⇑ *i* Pn	**Pn**	**00 37 35.9**	**+0.6**
PLE				*e*Sn	**Sn**	**00 38 16.8**	**+1.7**
UPM	**Unac-Piva**	**3.29**	**338**	*e*Pn	**Pn**	**00 37 35.3**	**-0.1**
UPM				*e*Sn	**Sn**	**00 38 16.7**	**+1.5**
UPM	**Unac-Piva**	**3.29**	**338**	*e*Pn	**Pn**	**00 37 35.3**	**-0.1**
UPM				*e*Sn	**Sn**	**00 38 16.7**	**+1.5**
PTL	**Penteli**	**3.30**	**129**	*e*PN	**Pn**	**00 37 37.0**	**+1.7**
PTL	**Penteli**	**3.30**	**129**	*e*Pn	**Pn**	**00 37 37.0**	**+1.7**
DID	**Didima**	**3.36**	**142**	*e*PN	Pb	00 37 39.3	-3.6
DID	**Didima**	**3.36**	**142**	*e*Pn	Pb	00 37 39.3	-3.6
PYL	**PYLOS**	**3.39**	**164**	*e*PN	**Pn**	**00 37 37.8**	**+1.3**
PYL	**PYLOS**	**3.39**	**164**	*e*Pn	**Pn**	**00 37 37.8**	**+1.3**
IVAS	**Ivanjica**	**3.42**	**354**	*e*PN	**Pn**	**00 37 39.5**	**+2.4**
IVAS	**Ivanjica**	**3.42**	**354**	*e*Pn	**Pn**	**00 37 39.5**	**+2.4**
PLD	**Plovdiv**	**3.65**	**57**	*e*Pn	**Pn**	**00 37 40.2**	**+0.1**
PLD	**Plovdiv**	**3.65**	**57**	*e*Pn	**Pn**	**00 37 40.2**	**+0.1**
GRUS	**Gruza**	**3.72**	**1**	*e*Pn	**Pn**	**00 37 43.1**	**+2.0**
GRUS	**Gruza**	**3.72**	**1**	*e*Pn	**Pn**	**00 37 43.1**	**+2.0**
BOLS	**Boljevac**	**3.79**	**15**	*e*Pn	**Pn**	**00 37 44.0**	**+1.9**
BOLS	**Boljevac**	**3.79**	**15**	*e*Pn	**Pn**	**00 37 44.0**	**+1.9**
BBLS	**Lazići**	**3.80**	**347**	*e*PN	**Pn**	**00 37 43.4**	**+1.1**
BBLS	**Lazići**	**3.80**	**347**	*e*Pn	**Pn**	**00 37 43.4**	**+1.1**
RDO	**Rodhopi**	**3.87**	**74**	*e*PN	**Pn**	**00 37 43.2**	**0.0**
RDO	**Rodhopi**	**3.87**	**74**	*e*Pn	**Pn**	**00 37 43.2**	**0.0**
VLI	**Veliai**	**3.90**	**151**	*e*PN	**Pn**	**00 37 45.6**	**+2.0**
VLI	**Veliai**	**3.90**	**151**	*e*Pn	**Pn**	**00 37 45.6**	**+2.0**
DIVS	**Divibare**	**3.95**	**354**	*e*Pn	**Pn**	**00 37 45.7**	**+1.3**
DIVS				*e*Sn	**Sn**	**00 38 33.3**	**+1.9**
DIVS	**Divibare**	**3.95**	**354**	*e*Pn	**Pn**	**00 37 45.7**	**+1.3**
DIVS				*e*Sn	**Sn**	**00 38 33.3**	**+1.9**
TEKS	**Tekeris**	**4.45**	**350**	*e*Pn	**Pn**	**00 37 53.9**	**+2.7**
TEKS	**Tekeris**	**4.45**	**350**	*e*Pn	**Pn**	**00 37 53.9**	**+2.7**
BLY	**Banja Luka**	**5.23**	**332**	*e*Pn	**Pn**	**00 38 03.8**	**+1.9**
BLY	**Banja Luka**	**5.23**	**332**	*e*Pn	**Pn**	**00 38 03.8**	**+1.9**
UDBI	**Udbina**	**5.64**	**322**	*e*Pn	**Pn**	**00 38 08.6**	**+0.9**
UDBI				*e*Sn	**Sn**	**00 39 11.6**	**-1.4**
NVLJ	**Novalja**	**6.11**	**318**	*e*Pn	**Pn**	**00 38 13.1**	**-0.9**
NVLJ				*e*Sn	**Sn**	**00 39 21.3**	**-3.2**
NVLJ	**Novalja**	**6.11**	**318**	*e*Pn	**Pn**	**00 38 13.0**	**-0.9**
NVLJ				*e*Sn	**Sn**	**00 39 21.2**	**-3.2**
BOJS	**Bojanci**	**6.63**	**325**	*i* Pn	**Pn**	**00 38 21.0**	**-0.1**
BOJS	**Bojanci**	**6.63**	**325**	*i* Pn	**Pn**	**00 38 21.0**	**-0.1**
BOJS				*i* Sn	**Sn**	**00 39 37.5**	**+0.3**
CRES	**Cresnjev**	**6.80**	**328**	*i* Pn	**Pn**	**00 38 23.1**	**-0.3**
CRES				*i* Sn	**Sn**	**00 39 39.1**	**-2.3**
CRES	**Cresnjev**	**6.80**	**328**	*i* Pn	**Pn**	**00 38 23.1**	**-0.3**
CRES				*i* Sn	**Sn**	**00 39 39.1**	**-2.3**
JAVS	**Javornik**	**7.46**	**322**	*i* Pn	**Pn**	**00 38 32.8**	**+0.2**
JAVS				*i* Sn	**Sn**	**00 39 55.2**	**-2.7**
JAVS	**Javornik**	**7.46**	**322**	*i* Pn	**Pn**	**00 38 32.8**	**+0.2**
JAVS				*i* Sn	**Sn**	**00 39 55.2**	**-2.7**
PERS	**Pernice**	**7.60**	**330**	*i* Pn	**Pn**	**00 38 35.0**	**+0.6**
PERS				*i* Sn	**Sn**	**00 39 58.1**	**-3.1**
PERS	**Pernice**	**7.60**	**330**	*i* Pn	**Pn**	**00 38 35.0**	**+0.6**
PERS				*i* Sn	**Sn**	**00 39 58.1**	**-3.1**

*ISCJB **16** 00:39:49.6±0.4, 51.53N±0.02×16.13E±0.03, h0km, Error ellipse: s-maj=3.0km s-min=2.6km az=33.9*
*IPEC **16** 00:39:51.4±0.3, 51.57N×16.23E, h0km, ML2.5/2, Error ellipse: s-maj=3.3km s-min=1.7km az=67.0*
*CSEM **16** 00:39:51.7±0.2, 51.49N×16.12E, h2km, ML3.3/13, Error ellipse: s-maj=3.9km s-min=3.3km az=2.0*
*PRU **16** 00:39:52.3, 51.50N×16.16E, h0km*
*IDC **16** 00:39:53.2±0.8, 51.46N×16.01E, h0km,

CRVS				*e*Sg	**Sg**	**00 42 07.6**	**-1.9**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN	**Pn**	**00 41 02.0**	**-1.4**
KOLS				*e*SG	**Sg**	**00 42 20.9**	**-1.6**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*Pn	**Pn**	**00 41 02.0**	**-1.4**
KOLS				*e*Sg	**Sg**	**00 42 20.9**	**-1.6**
KBA	**Koelnbreinsper**	**4.82**	**203**	⇓*i*Pn	**Pn**	**00 41 05.4**	**+0.3**
KBA				⇑*i*Sg	**Sg**	**00 42 24.9**	**-1.0**
	comp=Z,5.4nm,0.4s						
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn	**Pn**	**00 41 05.4**	**+0.3**
KBA				Sg	**Sg**	**00 42 24.9**	**-1.0**
	comp=Z,5.4nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**00 41 26.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=30,slow=8.1,SNR=3.9						
DAVOX				Sn	**Sn**	**00 42 39.6**	**+1.8**
	baz=252,slow=19						
DAVOX				Lg	Lg	00 43 08.3	
	baz=69,slow=18						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**00 41 58.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=164,slow=17,SNR=2.6						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	**00 42 14.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=164,slow=12,SNR=2.6						
FINES	**FINES Array B**	**11.33**	**25**	Pn	**Pn**	**00 42 34.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=3.6						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**00 44 06.9**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=5.5						

PRE 16 00:43:24.2±3.9, 32°66S×31°21E, h10km, ML3.8, 6C-1D, Off coast of South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSD	**Kokstad**	**2.61**	**324**	*e*P	Pn	00 44 08.5	+1.9
KSD				⇑*i*P	Pb	00 44 09.8	-1.5
KSD				*e*S	Sn	00 44 39.6	+1.2
KSD				*e*S	Sb	00 44 40.0	-3.5
KSD				AML	AML	00 44 41.6	
	comp=Z,138nm,0.2s						
KSD				AML	AML	00 44 42.1	
	comp=Z,140nm,0.3s						
GRM	**Grahamstown**	**4.01**	**259**	*e*P	Pn	00 44 25.5	-0.2
GRM				*e*S	Sn	00 45 11.8	-1.0
GRM				*e*S	Sb	00 45 12.7	-11
GRM				AML	AML	00 45 15.7	
	comp=Z,73nm,0.4s						
SOE	**Somerset East**	**4.77**	**268**	*e*P	Pn	00 44 37.0	+0.8
SOE				⇑*i*P	Pb	00 44 37.9	-10
SOE				*e*S	Sn	00 45 30.9	-0.7
SOE				*e*S	Sb	00 45 31.6	-14
SOE				AML	AML	00 45 46.7	
	comp=Z,51nm,0.4s						
SOE				AML	AML	00 45 46.9	
	comp=Z,52nm,0.4s						
SEK	**Senekal**	**5.31**	**323**	*e*P	Pn	00 44 42.0	-1.9
SEK				*e*P	Pb	00 44 46.6	-11
SEK				*e*S	Sn	00 45 40.6	-4.7
SEK				*e*S	Sb	00 45 47.5	-14
SEK				AML	AML	00 46 05.5	
	comp=Z,31nm,0.3s						
SEK				AML	AML	00 46 07.2	
	comp=Z,36nm,0.4s						
BUFB	**Buffelsbos**	**5.61**	**253**	*e*P	Pn	00 44 47.1	-0.7
BUFB				*e*P	Pb	00 44 48.0	-14
BUFB				*e*S	Sn	00 45 47.1	-5.2
BUFB				*e*S	Sb	00 45 49.0	-21
BUFB				AML	AML	00 46 25.3	
	comp=Z,20nm,0.2s						
BUFB				AML	AML	00 46 25.3	
	comp=Z,17nm,0.2s						
BOSA	**Boshof**	**6.52**	**307**	*e*P	Pn	00 45 03.4	+3.0
BOSA				*e*S	Sn	00 46 12.7	-2.4
BOSA				AML	AML	00 46 45.6	
	comp=Z,21nm,0.4s						
ERPM	**east rand prop**	**6.80**	**337**	*e*P	Pn	00 45 07.1	+2.8
ERPM				⇑*i*P	Pb	00 45 08.0	-15
ERPM				*e*S	Sn	00 46 19.7	-2.3
ERPM				AML	AML	00 46 27.1	
	comp=Z,8.6nm,0.4s						
OBSV	**Observatory**	**7.00**	**336**	*e*P	Pn	00 45 08.9	+1.8
OBSV				⇓*i*P	Pb	00 45 09.3	-17
OBSV				*e*S	Sn	00 46 24.0	-3.0
OBSV				*e*S	Sb	00 46 26.8	-23
OBSV				AML	AML	00 46 29.4	
	comp=Z,14nm,0.2s						
OBSV				AML	AML	00 46 58.8	
	comp=Z,10nm,0.5s						
WDLM	**Western Deep L**	**7.03**	**331**	*e*P	Pn	00 45 08.0	+0.5
SLR	**Silverton**	**7.36**	**339**	⇑*i*P	Pn	00 45 13.4	+1.5
SLR				*e*S	Sn	00 46 32.7	-2.9
SLR				AML	AML	00 47 24.5	
	comp=Z,13nm,0.5s						
SWZ	**Schweizer**	**7.47**	**315**	*e*P	Pn	00 45 14.5	+1.1
SWZ				⇑*i*P	Pb	00 45 16.5	-18
SWZ				*e*S	Sn	00 46 32.2	-6.2
SWZ				*e*S	Sb	00 46 35.9	-27
SWZ				AML	AML	00 47 13.8	
	comp=Z,13nm,0.3s						
SWZ				AML	AML	00 47 13.8	
	comp=Z,13nm,0.4s						
KSR	**Koster**	**7.76**	**330**	*e*P	Pn	00 45 16.9	-0.5
SUR	**Sutherland**	**8.79**	**269**	⇑*i*P	Pn	00 45 33.8	+2.2
SUR				*e*S	Sn	00 47 08.4	-2.6
SUR				AML	AML	00 47 13.0	
	comp=Z,10nm,0.4s						
LBTB	**Lobatse**	**9.06**	**326**	*e*P	Pn	00 45 37.3	+2.0
LBTB				*e*S	Sn	00 47 12.9	-4.6
LBTB				AML	AML	00 48 06.2	
	comp=Z,7.7nm,0.7s						
UPI	**Upington**	**9.60**	**294**	*e*P	Pn	00 45 45.3	+2.8
UPI				*e*S	Sn	00 47 25.6	-4.9
UPI				AML	AML	00 47 30.8	
	comp=Z,17nm,0.3s						
ELIM	**Elim**	**9.76**	**255**	*e*P	Pn	00 45 44.0	-0.6
ELIM				*e*P	Pn	00 45 44.1	-0.6
ELIM				*e*S	Sn	00 47 27.2	-7.1
ELIM				*e*S	Sn	00 47 27.5	-6.9
ELIM				AML	AML	00 48 28.0	
	comp=Z,5.2nm,0.6s						
ELIM				AML	AML	00 48 54.7	
	comp=Z,6.6nm,0.6s						
MSNA	**Messina**	**10.32**	**354**	*e*P	Pn	00 45 51.6	-0.9
MSNA				*e*P	Pn	00 45 51.7	-0.8
MSNA				*e*S	Sn	00 47 38.6	-10
MSNA				*e*S	Sn	00 47 39.1	-9.3
MSNA				AML	AML	00 47 42.1	
	comp=Z,8.1nm,0.4s						
MSNA				AML	AML	00 47 42.6	
	comp=Z,9.4nm,0.2s						
KOMG	**Komaggas**	**12.09**	**280**	*e*P	Pn	00 46 17.5	+0.9
KOMG				*e*S	Sn	00 48 23.6	-8.0
KOMG				AML	AML	00 49 16.9	
	comp=Z,6.9nm,0.5s						
LSZ	**Lusaka**	**17.52**	**350**	*e*P	Pn	00 47 28.8	0.0

*IDC **16** 00:48:47.9±5.7, 38°05N×75°51E, h140km±48km, mb3.6/9, mb1 3.6/13, mb1mx3.3/33, mbtmp3.9/13, MS3.4/1, Ms1 3.4/1, ms1mx2.5/35, Error ellipse: s-maj=53.2km s-min=30.3km az=136.0*

*NNC **16** 00:48:57.7±4.5, 38°84N×74°85E, h158km±46km, mb2.9, mpv3.6, Error ellipse: s-maj=40.6km s-min=22.6km az=171.0*

ISC 16 00:48:47.2±0.6, 38°13N±0°06×75°57E±0°08, h135km, n45, σ1s40/43, mb3.7/9, 2C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.42**	**13**	Pg	**Pn**	**00 49 13.8**	**-1.1**
KSH				Sg	Sn	00 49 27.8	-8.2
KSH				smax	smax		
	comp=N,2μm,0.2s						
KSH				smax	smax		
	comp=E,3μm,0.3s						
KZA	**Kyzart**	**3.95**	**357**	P	**Pn**	**00 49 47.5**	**+0.8**
	SNR=52						
ULHL	**Ulahol**	**4.14**	**7**	P	**Pn**	**00 49 51.1**	**+2.0**
	SNR=19						
UCH	**Uchtor**	**4.17**	**349**	P	**Pn**	**00 49 50.2**	**+0.5**
	SNR=100						
AML	**Almayashu**	**4.25**	**341**	P	**Pn**	**00 49 50.2**	**-0.4**
	SNR=92						
KBK	**Karagaybulak**	**4.54**	**354**	P	**Pn**	**00 49 55.5**	**+1.1**
	SNR=22						
AAK	**Ala-Archa**	**4.57**	**350**	P	**Pn**	**00 49 55.6**	**+0.9**
	SNR=21						
EKS2	**Erkin-Say**	**4.73**	**344**	P	**Pn**	**00 49 56.8**	**+0.1**
	SNR=28						
TKM2	**Tokmak 2**	**4.78**	**0**	⇓P	**Pn**	**00 49 59.2**	**+1.6**
	comp=E,6.3nm,0.9s						
TKM2				⇓S	**Sn**	**00 50 48.9**	**-3.5**
	comp=E,12nm,0.5s						
CHMS	**Chumysh**	**4.90**	**353**	P	**Pn**	**00 49 59.9**	**+0.9**
	SNR=12						
USP	**Ospenovka**	**5.19**	**351**	P	**Pn**	**00 50 03.2**	**+0.3**
	SNR=15						
KK31	**Karatay Array**	**6.28**	**324**	⇓P	**Pn**	**00 50 15.3**	**-2.2**
	comp=E,8.2nm,0.4s,baz=142,slow=13,SNR=356						
KK31				⇓S	Sn	00 51 18.6	-9.4
	comp=E,16nm,0.4s,baz=139,slow=24,SNR=17						
SMLA	**Simla**	**7.11**	**169**	*i*P	Pn	00 50 34.5	+5.9
SMLA				*i*S	**Sn**	**00 51 49.4**	**+1.4**
SMLA				*i*S	**Sn**	**00 51 50.4**	**+2.4**
SMLA				AML	AML	00 51 56.0	
	comp=E,2μm,0.2s						
SMLA				AML	AML	00 51 56.0	
	comp=N,2μm,0.2s						
MKAR	**Makanchi Array**	**9.97**	**28**	P	**Pn**	**00 51 09.7**	**+2.7**
	comp=N,0.1nm,0.3s,baz=216,slow=14,SNR=4.0						
PYUN	**Piuthan**	**11.78**	**146**	*e*P	P	00 51 35.4	-3.4
	comp=N,104nm,0.5s						
PYUN				*e*S	**Sn**	**00 53 39.5**	**-1.7**
DANN	**Dangsing**	**11.92**	**143**	*e*P	P	00 51 36.7	-3.7
	comp=N,19nm,0.2s						
KOLN	**Koldanda**	**12.33**	**145**	*e*P	**P**	**00 51 42.5**	**-2.5**
	comp=N,25nm,0.5s						
GKN	**Gorkha**	**12.63**	**140**	*e*P	**P**	**00 51 46.4**	**-1.9**
	comp=N,16nm,0.4s						
KURBB	**Kurchatov Arra**	**12.66**	**9**	P	**Pn**	**00 51 44.7**	**+2.3**
	comp=N,0.2nm,0.3s,baz=204,slow=11,SNR=3.5						
KKN	**Kakani**	**13.14**	**139**	*e*P	**P**	**00 51 52.6**	**-1.4**
	comp=N,31nm,0.5s						
DMN	**Daman**	**13.20**	**140**	*e*P	**P**	**00 51 54.1**	**-0.6**
	comp=N,8.2nm,0.3s						
GUN	**Gumba**	**13.36**	**137**	*e*P	**P**	**00 51 56.3**	**-0.3**
	comp=N,13nm,0.4s						
PKIN	**Phulchoki**	**13.37**	**139**	*e*P	**P**	**00 51 56.9**	**+0.3**
	comp=N,9.4nm,0.3s						
PKI	**Pulchoki**	**13.38**	**139**	*e*P	**P**	**00 51 56.8**	**0.0**
	comp=N,18nm,0.6s						
JIRN	**Jiri**	**13.72**	**136**	*e*P	**P**	**00 52 00.8**	**+0.2**
	comp=N,28nm,0.5s						
RAMN	**Ramite**	**14.51**	**137**	*e*P	**P**	**00 52 11.2**	**+2.0**
	comp=N,11nm,0.4s						
TAPN	**Taplejung**	**14.82**	**133**	*e*P	P	00 52 15.7	+3.0
	comp=N,8.2nm,0.3s						
ODAN	**Odare**	**15.01**	**135**	*e*P	P	00 52 18.0	+3.2
	comp=N,11nm,0.5s						
BVA0	**Borovoye Array**	**15.32**	**348**	⇓P	**P**	**00 52 18.7**	**+1.0**
	comp=N,1.7nm,0.6s,baz=158,slow=11,SNR=3.9						
BVAR	**Borovoye Array**	**15.32**	**348**	P	**Pn**	**00 52 16.5**	**+0.4**
	comp=N,0.5nm,0.3s,baz=159,slow=13,SNR=15						
AB31	**Akbulak array**	**15.82**	**320**	⇑P	**Pn**	**00 52 20.4**	**-1.8**
	comp=N,0.9nm,0.5s,baz=130,slow=13,SNR=35						
AB31				⇓S	Sn	00 55 01.7	-16
	comp=N,0.8nm,0.5s,baz=130,slow=27,SNR=6.7						
ZALV	**Zalesovo Beam**	**17.05**	**19**	P	**P**	**00 52 36.6**	**-0.2**
	comp=N,0.3nm,0.3s,baz=222,slow=12,SNR=6.4						
AKTO	**Aktyubinsk**	**17.53**	**320**	P	**P**	**00 52 41.8**	**-0.3**
	comp=N,0.5nm,0.3s,baz=114,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**17.53**	**320**	⇑P	**P**	**00 52 41.5**	**-0.6**
	comp=N,1.2nm,0.5s						
BRTR	**Keskin Array B**	**32.45**	**286**	P	**P**	**00 55 05.0**	**+0.4**
	comp=N,1.1nm,0.8s,baz=102,slow=8.6,SNR=6.2						
AKASG	**Malin Array Be**	**34.84**	**306**	P	**P**	**00 55 24.7**	**-0.3**
	comp=N,0.5nm,0.3s,baz=71,slow=13,SNR=4.9						
MLR	**Muntele Rosu**	**37.21**	**298**	P	**P**	**00 55 46.7**	**+1.3**
	comp=N,0.5nm,0.7s,baz=82,slow=15						
FINES	**FINESS Array B**	**38.24**	**324**	P	**P**	**00 55 53.9**	**+0.2**
	comp=N,1.1nm,0.4s,baz=114,slow=9.6,SNR=12						
ARCES	**ARCESS Array B**	**41.09**	**336**	P	**P**	**00 56 17.8**	**+0.6**
	comp=N,3.0nm,0.9s,baz=98,slow=8.8,SNR=8.7						
NB2	**NORSAR Subarra**	**45.31**	**322**	P	**P**	**00 56 50.8**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**45.31**	**322**	P	**P**	**00 56 51.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=91,slow=7.9,SNR=3.9						
SPITS	**Spitsbergen Ar**	**46.77**	**346**	P	**P**	**00 57 03.9**	**+1.5**
	comp=Z,25nm,1.1s,baz=113,slow=14,SNR=8.6						
PETK	**Petropavlovsk-**	**56.24**	**46**	LR	LR	01 24 54.4	
	comp=Z,34nm,19.0s,baz=259,slow=38						
ESDC	**Sonseca Array**	**59.89**	**299**	P	**P**	**00 58 38.5**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=51,slow=7.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**69.37**	**271**	P	**P**	**00 59 40.1**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=46,slow=5.8,SNR=34						

*ISCJB **16** 00:53:39.6±1.5, 3°4N±0°2×103°9W±0°3, h10km, mb4.0/10, MS2.5/4, Error ellipse: s-maj=53.2km s-min=14.1km az=153.0*

*IDC **16** 00:53:39.9±1.2, 3°34N×103°95W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/20, mbtmp4.1/9, MS3.4/5, Ms1 3.3/5, ms1mx3.0/28, Error ellipse: s-maj=47.0km s-min=17.3km az=61.0*

ISC 16 00:53:41.4±1.3, 3°4N±0°2×103°9W±0°3, h10km, n18, σ0s35/11, mb4.1/10, MS2.3/4, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**17.61**	**48**	LR	LR	01 02 56.2	
	comp=Z,134nm,21.8s,baz=87,slow=32						
JTS	**JuntasAbangare**	**20.05**	**69**	LR	LR	01 03 55.1	
	comp=Z,15nm,28.6s,baz=229,slow=31						
TEIG	**Tepich**	**22.67**	**41**	LR	LR	01 06 31.5	
	comp=Z,15nm,28.6s,baz=86,slow=34						
TXAR	**Lajitas Array**	**25.84**	**1**	LR	LR	01 08 28.3	
	comp=Z,15nm,28.6s,baz=0.0,slow=34						
TKL	**Tuckaleechee C**	**37.16**	**28**	P	**P**	**01 00 52.6**	**-0.1**
	2.8nm,0.8s,baz=194,slow=8.3,SNR=3.3						
PDAR	**Pinedale Array**	**39.56**	**353**	P	**P**	**01 01 13.5**	**+0.4**
	2.3nm,1.0s,baz=163,slow=6.6,SNR=9.9						
LPAZ	**La Paz**	**40.41**	**120**	P	**P**	**01 01 21.0**	**+0.1**
	3.7nm,1.0s,baz=299,slow=7.2,SNR=7.9						
SIV	**San Ignacio**	**46.53**	**116**	P	**P**	**01 02 09.4**	**-0.2**
	1.2nm,0.8s,baz=277,slow=8.1,SNR=3.0						
ULM	**Lac du Bonnet**	**47.22**	**7**	P	**P**	**01 02 13.8**	**-0.6**
	2.0nm,0.8s,baz=225,slow=7.1,SNR=2.9						
CFAA	**Coronel Fontan**	**48.58**	**138**	P	**P**	**01 02 25.4**	**0.0**
	0.1nm,0.4s,baz=346,slow=9.4,SNR=2.7						
CPUP	**Villa Florida**	**53.85**	**126**	P	**P**	**01 03 05.2**	**+0.2**
	5.2nm,0.9s,baz=294,slow=7.2,SNR=5.5						
SCHQ	**Schefferville**	**59.46**	**24**	P	**P**	**01 03 44.6**	**+0.1**
	3.7nm,0.9s,baz=259,slow=5.2,SNR=3.1						
SCHQ				LR	LR	01 29 22.4	
	comp=Z,16nm,28.6s,baz=252,slow=36						
YKA	**Yellowknife Ar**	**59.54**	**354**	P	**P**	**01 03 45.0**	**+0.2**
	1.4nm,1.0s,baz=162,slow=6.9,SNR=12						
ILAR	**Eielson Array**	**68.55**	**342**	P	**P**	**01 04 44.1**	**+0.1**
	2.0nm,0.9s,baz=153,slow=5.1,SNR=20						
H11N3	**WAKE ISLAND Hy**	**88.10**	**290**	T	T	02 44 05.4	
	baz=72						
H11N2	**WAKE ISLAND Hy**	**88.11**	**290**	T	T	02 44 05.6	
	baz=72						
H11N1	**WAKE ISLAND Hy**	**88.11**	**290**	T	T	02 44 02.6	
	baz=72						
WRA	**Warramunga Arr**	**120.91**	**249**	PKP	**PKPdf**	**01 12 34.7**	**-0.4**
	0.3nm,0.6s,baz=93,slow=0.7,SNR=4.6						

MEX 16 00:55:22.8±0.5, 18°66N×101°78W, h86km±10km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**1.16**	**29**	*e*P	Pn	00 55 42.8	-1.7
MOIG				*e*S	Sn	00 55 59.1	-1.6
ARIG	**Puente Sto Nin**	**1.41**	**105**	*e*P	Pn	00 55 45.7	-1.6
ARIG				*e*S	Sn	00 56 04.2	-1.6
EZ5V		**1.91**	**296**	*e*P	Pn	00 55 52.8	-1.2
EZ5V				*i*S	Sn	00 56 16.3	-1.5
IGIG	**Irapuato, Guan**	**2.12**	**11**	*e*P	Pn	00 55 55.8	-1.1
IGIG				*e*S	Sn	00 56 21.0	-1.8
R15V		**2.15**	**284**	*e*P	Pn	00 55 55.3	-1.6
R15V				*e*S	Sn	00 56 21.0	-2.0
SFJM	**Santa Fe**	**2.17**	**327**	*e*P	Pn	00 55 59.6	+2.1
SFJM				*e*S	Sn	00 56 17.6	-6.2
PLIG	**Platanillo**	**2.18**	**97**	*e*P	Pn	00 55 56.8	-0.5
PLIG				*e*S	Sn	00 56 21.2	-2.6
MEIG	**Mezcala**	**2.18**	**109**	*e*P	Pn	00 55 56.2	-1.2
MEIG				*i*S	Sn	00 56 21.9	-1.9
ACX	**Acapulco**	**2.55**	**134**	*e*P	Pn	00 56 06.2	+3.8
ACX				*e*S	Sn	00 56 22.9	-10
YAIG	**Yautepec**	**2.58**	**85**	*e*P	Pn	00 56 02.0	-0.7
YAIG				*i*S	Sn	00 56 31.2	-2.3
CJM	**Chamela**	**3.20**	**286**	*e*P	Pn	00 56 10.4	-0.5
CJM				*i*S	Sn	00 56 47.2	-0.9

*IDC **16** 01:07:57.5±1.1, 11°28S×165°66E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/19, mbtmp3.9/7, ML4.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=40.3km s-min=22.2km az=129.0*

*ISCJB **16** 01:07:59.7±0.9, 11°4S±0°1×165°6E±0°2, h24km, mb3.7/6, MS3.2/2, Error ellipse: s-maj=25.3km s-min=16.5km az=14.5*

ISC 16 01:08:01.4±0.9, 11°3S±0°1×165°7E±0°2, h24km, n11, σ0s66/9, mb3.9/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.73**	**176**	Pn	**Pn**	**01 10 33.9**	**+0.1**
	2.4nm,0.3s,baz=350,slow=15,SNR=18						
AFI	**Afiamalu**	**22.17**	**99**	LR	LR	01 19 25.2	
	comp=Z,77nm,21.6s,baz=33,slow=31						
STKA	**Stephens Creek**	**30.20**	**224**	P	**P**	**01 14 10.6**	**+0.5**
	1.5nm,0.7s,baz=52,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**31.32**	**250**	P	**P**	**01 14 19.4**	**-0.7**
	2.0nm,0.7s,baz=82,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**32.60**	**244**	P	**P**	**01 14 30.6**	**-0.8**
	0.6nm,0.8s,baz=76,slow=10.0,SNR=5.7						
FITZ	**Fitzroy Crossi**	**39.23**	**255**	LR	LR	01 31 03.4	
	comp=Z,49nm,19.6s,baz=100,slow=35						
SONM	**Songino Array**	**78.83**	**324**	P	**P**	**01 20 03.3**	**+0.8**
	0.1nm,0.4s,baz=113,slow=3.3,SNR=2.2						
ILAR	**Eielson Array**	**83.78**	**19**	P	**P**	**01 20 27.6**	**-0.6**
	0.4nm,0.6s,baz=238,slow=4.9,SNR=8.0						
NVAR	**Mina Array Bea**	**86.25**	**50**	P	**P**	**01 20 41.5**	**-0.1**
	baz=260,slow=5.4						
MKAR	**Makanchi Array**	**93.65**	**317**	P	**P**	**01 21 16.4**	**+0.5**
	0.5nm,0.8s,baz=91,slow=7.4,SNR=2.6						
ARCES	**ARCESS Array B**	**116.56**	**345**	PKP	**PKPdf**	**01 26 42.6**	**-0.2**
	3.7nm,0.9s,baz=96,slow=1.8,SNR=3.7						

*NIED **16** 01:18:00.45°50N×151°00E, h17km, Mw3.9 Best double couple: M0 6.73000×10^14 NP1:φ=21.00000°, δ=58.00000°, λ=68.00000°. NP2:φ=239.00000°, δ=38.00000°, λ=121.00000°.*

*JMA **16** 01:18:03.7±0.5, 45°49N×150°95E, h30km, M4.5*

*SKHL **16** 01:18:07.2±0.3, 45°21N×150°87E, h72km±4km, mb4.9/4*

*MOS **16** 01:18:07.3±0.8, 45°36N×150°78E, h67km, mb4.2/12, Error ellipse: s-maj=14.1km s-min=11.7km az=50.9*

*ISCJB **16** 01:18:07.2±1.0, 44°98N±0°08×150°78E±0°09, h82km±9km, mb3.7/21, Error ellipse: s-maj=14.3km s-min=7.8km az=144.5*

*IDC **16** 01:18:10.6±3.4, 45°39N×150°77E, h80km±30km, mb3.5/18, mb1 3.7/21, mb1mx3.6/28, mbtmp3.8/21, MS3.1/5, Ms1 3.1/5, ms1mx2.8/38, Error ellipse: s-maj=18.5km s-min=13.6km az=141.0*

ISC 16 01:18:07.1±2.1, 45°05N±0°08×150°9E±0°1, h61km±18km, n84, σ1s90/90, mb3.7/21, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.16**	**276**	*e*PN	**Pn**	**01 18 40.8**	**+0.1**
KUR				*i*S	**Sn**	**01 19 06.2**	**-0.1**
KUR				pmax	pmax		
	comp=Z,160nm,0.5s						
KUR				smax	smax		
	comp=N,223nm,0.4s						
KUR				smax	smax		
	comp=E,304nm,0.5s						
KUR	**Kuril'sk**	**2.16**	**276**	*e*P	**Pn**	**01 18 40.8**	**+0.1**
KUR				AMB	AMB	01 18 46.7	
	comp=E,160nm,0.5s						
KUR				*e*S	**Sn**	**01 19 06.0**	**-0.3**
KUR				A	A	01 19 10.1	
	comp=E,223nm,0.4s						
KUR				A	A	01 19 10.1	
	comp=E,304nm,0.4s						
SHO	**Shikotan**	**3.15**	**249**	*e*P	**Pn**	**01 18 53.5**	**-0.7**
SHO				AMB	AMB	01 18 56.8	
	comp=E,260nm,0.3s						
SHO				*e*S	**Sn**	**01 19 28.5**	**-2.0**
SHO				A	A	01 19 41.3	
	comp=E,310nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.75**	**256**	*d i*PN	**Pn**	**01 19 04.0**	**+1.6**
YUK				*i*S	**Sn**	**01 19 47.4**	**+2.2**
YUK				pmax	pmax		
	comp=E,75nm,0.3s						
YUK				pmax	pmax		
	comp=Z,140nm,0.3s						
YUK				pmax	pmax		
	comp=N,41nm,0.5s						
YUK				smax	smax		
	comp=N,263nm,0.8s						
YUK				smax	smax		
	comp=E,155nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.75**	**256**	*e*P	**Pn**	**01 19 04.0**	**+1.6**
YUK				AMB	AMB	01 19 06.6	
	comp=E,40nm,0.3s						
YUK				AMB	AMB	01 19 06.6	
	comp=E,80nm,0.3s						
YUK				AMB	AMB	01 19 06.6	
	comp=E,140nm,0.3s						
YUK				*e*S	**Sn**	**01 19 46.4**	**+1.2**
YUK				A	A	01 20 02.9	
	comp=E,260nm,0.8s						
YUK				A	A	01 20 02.9	
	comp=E,160nm,0.8s						
NEM2	**Nemuro 2**	**4.08**	**247**	P	**Pn**	**01 19 05.9**	**-1.0**
NEM2				*e*S	**Sn**	**01 19 52.1**	**-1.2**
JRA	**Rausu**	**4.28**	**257**	P	**Pn**	**01 19 10.8**	**+1.1**
JNK	**Nakash**	**4.67**	**254**	P	**Pn**	**01 19 15.2**	**+0.1**
JNK				*e*S	**Sn**	**01 20 08.6**	**+0.6**
JAK	**Akkeshi**	**4.92**	**248**	P	**Pn**	**01 19 17.6**	**-0.9**
JAK				*e*S	**Sn**	**01 20 12.6**	**-1.5**
JTKR	**Abashiri--Toko**	**

	comp=E,25nm,18.5s,baz=65,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.52**	**147**	T	T	01 55 39.6	
	baz=341						
H11N1	**WAKE ISLAND Hy**	**28.54**	**147**	T	T	01 55 37.5	
	baz=341,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.54**	**147**	T	T	01 55 35.3	
	baz=341,slow=75						
TIXI	**Tiksi**	**28.70**	**346**	*i* P	**P**	**01 23 56.5**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**28.70**	**346**	*i* P	**P**	**01 23 56.5**	**-1.4**
H11S1	**WAKE ISLAND Hy**	**29.57**	**148**	T	T	01 56 55.6	
	baz=336,slow=75						
H11S3	**WAKE ISLAND Hy**	**29.57**	**148**	T	T	01 56 56.1	
	baz=336,slow=75						
H11S2	**WAKE ISLAND Hy**	**29.58**	**148**	T	T	01 56 59.1	
	baz=336						
SONM	**Songino Array**	**30.48**	**291**	P	**P**	**01 24 14.7**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=86,slow=9.0,SNR=3.0						
ILAR	**Eielson Array**	**38.84**	**37**	*i* P	**P**	**01 25 25.6**	**-0.2**
ILAR	**Eielson Array**	**38.84**	**37**	P	**P**	**01 25 25.6**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=265,slow=9.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.37**	**307**	P	**P**	**01 25 54.6**	**-0.4**
ZALV	**Zalesovo Beam**	**42.37**	**307**	P	**P**	**01 25 54.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=51,slow=9.6,SNR=2.6						
INK	**Inuvik**	**43.91**	**31**	*i* P	**P**	**01 26 07.6**	**+0.4**
INK	**Inuvik**	**43.91**	**31**	P	**P**	**01 26 07.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=291,slow=8.6,SNR=5.7						
MKAR	**Makanchi Array**	**46.36**	**298**	P	**P**	**01 26 27.6**	**+0.6**
MKAR						01 28 01.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,46nm,18.4s						
MKAR	**Makanchi Array**	**46.36**	**298**	*e*P	**P**	**01 26 27.6**	**+0.6**
MKAR	**Makanchi Array**	**46.36**	**298**	P	**P**	**01 26 27.6**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=70,slow=7.5,SNR=15						
MKAR				PcP	**PcP**	**01 28 01.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=60,slow=5.1,SNR=3.5						
MKAR				LR	LR	01 47 11.9	
	comp=Z,46nm,18.4s,baz=174,slow=38						
CMAR	**Chiang Mai Arr**	**50.46**	**256**	*e*P	**P**	**01 26 59.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**50.46**	**256**	P	**P**	**01 26 59.9**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=40,slow=6.2,SNR=3.9						
RES	**Resolute Bay**	**52.93**	**18**	*e*P	**P**	**01 27 15.7**	**-0.8**
RES	**Resolute Bay**	**52.93**	**18**	P	**P**	**01 27 15.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=339,slow=4.9,SNR=4.2						
YKA	**Yellowknife Ar**	**53.20**	**35**	*e*P	**P**	**01 27 18.6**	**0.0**
YKA	**Yellowknife Ar**	**53.20**	**35**	P	**P**	**01 27 18.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=296,slow=6.7,SNR=3.0						
AKTO	**Aktyubinsk**	**58.70**	**312**	LR	LR	01 55 45.0	
	comp=Z,39nm,19.7s,baz=22,slow=39						
ARCES	**ARCESS Array B**	**58.94**	**340**	*e*P	**P**	**01 27 58.2**	**-1.3**
ARCES	**ARCESS Array B**	**58.94**	**340**	P	**P**	**01 27 58.2**	**-1.3**
	comp=Z,6.3nm,1.0s,baz=59,slow=9.6,SNR=3.2						
FINES	**FINESS Array B**	**64.91**	**334**	P	**P**	**01 28 38.2**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=54,slow=7.2,SNR=5.2						
WRA	**Warramunga Arr**	**66.42**	**197**	*e*P	**P**	**01 28 52.2**	**+2.5**
WRA	**Warramunga Arr**	**66.42**	**197**	P	**P**	**01 28 52.2**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=17,slow=6.7,SNR=4.5						
PDAR	**Pinedale Array**	**67.00**	**52**	P	**P**	**01 28 54.4**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=297,slow=5.9,SNR=3.0						
NB2	**NORSAR Subarra**	**69.32**	**340**	P	**P**	**01 29 06.6**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**69.32**	**340**	*e*P	**P**	**01 29 06.9**	**-0.7**
NOA	**NORSAR Array B**	**69.32**	**340**	P	**P**	**01 29 06.2**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=29,slow=6.4,SNR=9.0						
ASAR	**Alice Springs**	**70.12**	**197**	*e*P	P	01 29 16.8	+3.9
ASAR	**Alice Springs**	**70.12**	**197**	P	P	01 29 16.8	+3.9
	comp=Z,0.4nm,0.8s,baz=15,slow=7.7,SNR=3.8						
KBZ	**Khabaz**	**70.91**	**313**	P	**P**	**01 29 17.1**	**-0.4**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**70.91**	**313**	P	**P**	**01 29 17.1**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=25,slow=6.5,SNR=6.1						
AKASG	**Malin Array Be**	**72.08**	**325**	P	**P**	**01 29 23.8**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**72.08**	**325**	P	**P**	**01 29 23.8**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=35,slow=6.0,SNR=5.3						
CLL	**Collm**	**77.35**	**334**	*i* P	**P**	**01 29 54.4**	**-0.5**
	comp=Z,4.0nm,1.0s						
BRTR	**Keskin Array B**	**78.55**	**316**	P	**P**	**01 30 01.6**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=18,slow=6.1,SNR=3.0						
GERES	**GERESS Array B**	**79.28**	**333**	*e*P	**P**	**01 30 05.8**	**0.0**
GERES	**GERESS Array B**	**79.28**	**333**	P	**P**	**01 30 04.7**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=38,slow=6.8,SNR=6.5						
TXAR	**Lajitas Array**	**79.68**	**59**	*e*P	**P**	**01 30 09.4**	**+1.1**
TXAR	**Lajitas Array**	**79.68**	**59**	P	**P**	**01 30 09.4**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=316,slow=6.3,SNR=3.7						

IDC ***16*** *01:18:54.3±2.8, 6.38S×149.26E, h58km±22km, mb3.4/3, mb1 3.8/5, mb1mx3.4/19, mbtmp3.6/5, ML3.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/23, Error ellipse: s-maj=81.1km s-min=16.8km az=123.0*

ISC 16 01:18:52.7±1.8, 6.4S±0.4×149.5E±0.6, h49km, n8, σ1§18/9, mb3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.77**	**217**	P	**Pn**	**01 19 49.5**	**+1.1**
	12nm,0.3s,baz=42,slow=5.0,SNR=17						
PMG				S	**Sn**	**01 20 30.4**	**-1.2**
	24nm,0.3s,baz=40,slow=16,SNR=12						
PMG				LR	LR	01 20 45.0	
	comp=Z,124nm,19.2s,baz=50,slow=30						
HNR	**Honiara**	**10.82**	**107**	LR	LR	01 24 52.9	
	comp=Z,50nm,19.5s,baz=356,slow=33						
WRA	**Warramunga Arr**	**19.94**	**226**	P	**P**	**01 23 20.3**	**-0.4**
	0.3nm,0.3s,baz=51,slow=11,SNR=23						
WRA				S	**Sn**	**01 27 08.0**	**+1.7**
	0.0nm,0.3s,baz=44,slow=17,SNR=3.7						
ASAR	**Alice Springs**	**22.79**	**219**	P	**P**	**01 23 51.4**	**+0.1**
	0.6nm,0.6s,baz=58,slow=9.5,SNR=6.6						
ASAR				S	**S**	**01 27 55.5**	**-1.5**
	1.0nm,0.9s,baz=30,slow=21,SNR=4.6						
FITZ	**Fitzroy Crossi**	**25.99**	**241**	P	**P**	**01 24 20.4**	**-0.7**
	2.6nm,0.6s,baz=81,slow=11,SNR=8.4						
AFI	**Afiamalu**	**38.84**	**104**	LR	LR	01 39 34.2	
	comp=Z,49nm,21.5s,baz=74,slow=32						
ILAR	**Eielson Array**	**84.88**	**23**	P	**P**	**01 31 22.0**	**+0.1**
	0.4nm,0.7s,baz=260,slow=4.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**147.56**	**284**	PKPbc	**PKPbc**	**01 38 32.7**	**+0.1**
	0.4nm,0.7s,baz=62,slow=2.6,SNR=8.7						

LDG 16 02:07:07.4±0.1, 46.35N×7.46E, h6km, Md1.9/2, Ml1.7/8, Error ellipse: s-maj=2.9km s-min=0.9km az=90.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPL	**La Plagne**	**0.97**	**212**	*e*Pg	Pg	02 07 25.9	-0.5
LPL	**La Plagne**	**0.97**	**212**	*e*Pn	Pg	02 07 26.6	+0.2
LPL				*e*Sg	Sg	02 07 38.1	-1.2
	1.2nm,0.2s						
CABF	**La Chapelle**	**0.98**	**286**	*e*Pg	Pg	02 07 26.0	-0.4
CABF	**La Chapelle**	**0.98**	**286**	*e*P	Pn	02 07 27.7	-0.2
CABF				*e*Sn	Sb	02 07 39.9	-0.4
	0.5nm,0.2s						
LPG	**La Plagne**	**0.98**	**210**	*e*Pg	Pg	02 07 26.1	-0.6
LPG				*e*Sg	Sg	02 07 39.0	-0.8
	2.0nm,0.3s						
HINF	**Hinteralfeld**	**1.53**	**344**	*e*P	Pn	02 07 35.3	0.0
HINF				*e*Sg	Sb	02 07 55.9	+0.1
	1.0nm,0.3s						
MBDF	**Montbardon**	**1.69**	**197**	*e*Pg	Pb	02 07 39.2	0.0
MBDF				*e*Sg	Sb	02 08 01.2	+0.3
	0.6nm,0.2s						
HAU	**Haudompre**	**1.82**	**336**	*e*P	Pn	02 07 39.7	+0.4
HAU				*e*Sg	Sb	02 08 04.8	+0.5
	3.0nm,0.4s						
CDF	**Champ du Feu**	**2.07**	**357**	*e*Sn	Sn	02 08 05.7	-3.3
	0.9nm,0.3s						
MEZF	**Maizieres J'vi**	**2.70**	**324**	*e*Sg	Sg	02 08 32.5	-1.8
	3.2nm,0.4s						

ISCJB ***16*** *02:08:53.1±0.3, 50.32N±0.03×18.74E±0.02, h0km, Error ellipse: s-maj=3.7km s-min=1.8km az=11.2*
PRU ***16*** *02:08:54.8, 50.36N×18.76E, h0km*
IPEC ***16*** *02:08:54.1±0.2, 50.36N×18.85E, h4km±1km, ML2.6/3, Error ellipse: s-maj=2.5km s-min=1.1km az=170.0*
WAR ***16*** *02:08:54.1, 50.36N×18.87E*

CSEM ***16*** *02:08:54.3±0.2, 50.33N×18.76E, h2km, ML3.4/10, Error ellipse: s-maj=5.4km s-min=2.9km az=10.0*
BGR ***16*** *02:08:55.4±0.3, 50.31N×18.81E, h1km, ML3.1/14, Error ellipse: s-maj=5.6km s-min=3.3km az=176.0*
VIE ***16*** *02:08:55.5±0.9, 49.75N×19.01E, h0km, mb2.4/2, ML2.9/4, Error ellipse: s-maj=6.0km s-min=5.0km az=36.0 55 km E of Ostrava Suspected Mining induced.*
IDC ***16*** *02:08:56.3±0.9, 50.42N×18.59E, h0km, mb1 3.5/6, mb1mx3.3/27, mbtmp3.5/6, ML2.9/5, Error ellipse: s-maj=17.8km s-min=7.3km az=141.0*

ISC 16 02:08:54.1±0.7, 50.29N±0.02×18.77E±0.01, h0km, n104, σ1§07/172, 14C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.14**	**89**	*e*Pg	**Pg**	**02 08 57.0**	**+0.2**
CHZP				*i*		02 08 57.1	
CHZP				*e*Sg	**Sg**	**02 08 59.1**	**+0.5**
RAC	**Raciborz**	**0.42**	**241**	*e*Sg	**Sb**	**02 09 12.4**	**+1.0**
OKC	**Ostrava-Krasne**	**0.61**	**222**	*e*Pg	**Pb**	**02 09 07.9**	**+0.4**
	SNR=38						
OKC				*e*Sg	**Sb**	**02 09 18.3**	**+1.8**
OKC	**Ostrava-Krasne**	**0.61**	**222**	*e*PG	**Pb**	**02 09 06.9**	**-0.6**
OKC				*e*SG	**Sb**	**02 09 15.9**	**-0.7**
	55nm,0.3s						
OKC	**Ostrava-Krasne**	**0.61**	**222**	Pg	**Pb**	**02 09 06.9**	**-0.6**
OKC				Sg	**Sb**	**02 09 15.9**	**-0.7**
	55nm,0.3s						
OJC	**Ojcow**	**0.66**	**96**	*e*Pg	**Pg**	**02 09 06.3**	**-0.4**
	SNR=143						
OJC				*e*Sg	**Sg**	**02 09 15.3**	**-0.1**
OJC	**Ojcow**	**0.66**	**96**	*e*Pg	**Pg**	**02 09 06.3**	**-0.4**
OJC				*e*Sg	**Sg**	**02 09 15.0**	**-0.3**
OJC	**Ojcow**	**0.66**	**96**	*e*Pg	**Pg**	**02 09 06.3**	**-0.4**
OJC				*e*Sg	**Sg**	**02 09 15.0**	**-0.3**
MORC	**Moravsky Berou**	**0.94**	**238**	*e*Pg	**Pb**	**02 09 13.2**	**-0.1**
	SNR=47						
MORC				*e*Sg	**Sb**	**02 09 27.2**	**+0.8**
MORC	**Moravsky Berou**	**0.94**	**238**	⇑*i* P	**Pn**	**02 09 14.9**	**+0.3**
MORC	**Moravsky Berou**	**0.94**	**238**	Pg	**Pb**	**02 09 13.2**	**-0.1**
	SNR=47						
MORC	**Moravsky Berou**	**0.94**	**238**	⇑*i* P	**Pn**	**02 09 14.9**	**+0.3**
MORC				*e*Sg	**Sb**	**02 09 26.6**	**+0.2**
	150nm,0.5s						
MORC				S	**Sn**	**02 09 27.8**	**-1.0**
KRLC	**Kraliky**	**1.30**	**261**	*e*PG	**Pg**	**02 09 18.8**	**-0.1**
KRLC				*e*SG	**Sb**	**02 09 36.6**	**+0.1**
KRLC	**Kraliky**	**1.30**	**261**	Pg	**Pg**	**02 09 18.8**	**-0.1**
KRLC				Sg	**Sb**	**02 09 36.6**	**+0.1**
NIE	**Niedzica**	**1.32**	**131**	*e*Pg	**Pg**	**02 09 19.4**	**0.0**
NIE				*e*Sg	**Sb**	**02 09 37.6**	**+0.3**
NIE	**Niedzica**	**1.32**	**131**	*e*Sg	**Sb**	**02 09 37.6**	**+0.3**
DPC	**Dobruska-Polom**	**1.57**	**273**	*e*Pn	**Pn**	**02 09 23.5**	**+0.3**
	SNR=9.3						
DPC				*e*Sg	**Sg**	**02 09 45.7**	**+1.2**
DPC	**Dobruska-Polom**	**1.57**	**273**	*e*PG	**Pn**	**02 09 23.5**	**+0.3**
DPC				*e*SG	**Sg**	**02 09 45.6**	**+1.1**
DPC	**Dobruska-Polom**	**1.57**	**273**	Pg	**Pn**	**02 09 23.5**	**+0.3**
DPC				Sg	**Sg**	**02 09 45.6**	**+1.1**
JAVC	**Velka Javorina**	**1.60**	**207**	*e*Pn	**Pg**	**02 09 25.1**	**+0.4**
	SNR=12						
JAVC	**Velka Javorina**	**1.60**	**207**	Pn	**Pg**	**02 09 25.1**	**+0.4**
	SNR=12						
KSP	**Ksiaz**	**1.67**	**290**	*e*Pn	**Pn**	**02 09 24.8**	**+0.2**
	SNR=3.6						
KSP				*e*Sg	**Sg**	**02 09 49.3**	**+1.4**
KSP	**Ksiaz**	**1.67**	**290**	*e*Pn	**Pn**	**02 09 25.1**	**+0.5**
KSP				*e*Sn	**Sn**	**02 09 46.5**	**-0.3**
KSP				*e*Sg	**Sg**	**02 09 49.0**	**+1.2**
KSP	**Ksiaz**	**1.67**	**290**	Pn	**Pn**	**02 09 24.8**	**+0.2**
	SNR=3.6						
KSP	**Ksiaz**	**1.67**	**290**	*e*Pg	**Pg**	**02 09 26.2**	**+0.1**
KSP				*e*Sg	**Sg**	**02 09 48.6**	**+0.8**
VRAC	**Vranov**	**1.72**	**236**	*e*Pn	**Pn**	**02 09 26.1**	**+0.8**
	SNR=4.1						
VRAC				*e*Sg	**Sg**	**02 09 50.7**	**+1.4**
VRAC	**Vranov**	**1.72**	**236**	⇑*i* P	**Pg**	**02 09 27.3**	**+0.3**
VRAC	**Vranov**	**1.72**	**236**	S	**Sg**	**02 09 50.5**	**+1.2**
VRAC	**Vranov**	**1.72**	**236**	*e*Pn	**Pn**	**02 09 25.9**	**+0.7**
VRAC	**Vranov**	**1.72**	**236**	⇑*i* P	**Pg**	**02 09 27.3**	**+0.3**
VRAC				Sg	**Sg**	**02 09 50.7**	**+1.4**
VRAC	**Vranov**	**1.72**	**236**	Pn	**Pn**	**02 09 26.1**	**+0.8**
	7.2nm,0.3s,baz=58,slow=15,SNR=50						
VRAC				Lg	Lg	02 09 50.6	
	18nm,0.3s,baz=136,slow=20,SNR=19						
UPC	**Upice**	**1.78**	**278**	*e*PG	**Pn**	**02 09 26.8**	**+0.7**
UPC				*e*SG	**Sb**	**02 09 50.8**	**+0.4**
	23nm,0.4s						
UPC	**Upice**	**1.78**	**278**	Pg	**Pn**	**02 09 26.8**	**+0.7**
UPC				Sg	**Sb**	**02 09 50.8**	**+0.4**
	23nm,0.4s						
STHS	**Stebnicka Huta**	**1.82**	**118**	*e*PN	**Pb**	**02 09 28.6**	**+0.3**
STHS				*e*SN	**Sg**	**02 09 53.7**	**+1.1**
STHS	**Stebnicka Huta**	**1.82**	**118**	*e*Sn	**Sg**	**02 09 53.7**	**+1.1**
KRUC	**Moravsky**	**1.97**	**232**	*e*Pn	**Pn**	**02 09 29.2**	**+0.5**
	SNR=2.4						
KRUC				*e*Sg	**Sg**	**02 09 58.4**	**+1.0**
KRUC	**Moravsky**	**1.97**	**232**	Pn	**Pn**	**02 09 29.2**	**+0.5**
	SNR=2.4						
KRUC				*e*Sn	**Sb**	**02 09 56.7**	**+0.8**
	17nm,0.2s						
KRUC				Sg	**Sg**	**02 09 58.4**	**+1.0**
SMOL	**Smolenice**	**1.98**	**207**	*e*PN	**Pn**	**02 09 29.5**	**+0.7**
SMOL				*e*SN	**Sb**	**02 09 56.9**	**+0.7**
SMOL	**Smolenice**	**1.98**	**207**	*e*Pn	**Pn**	**02 09 29.5**	**+0.7**
SMOL				*e*Sn	**Sb**	**02 09 56.9**	**+0.7**
CRVS	**Cervenica-Dubn**	**2.23**	**127**	*e*PN	**Pn**	**02 09 33.0**	**+0.7**
CRVS				*e*SN	**Sn**	**02 10 01.3**	**+0.7**
CRVS	**Cervenica-Dubn**	**2.23**	**127**	*e*Pn	**Pn**	**02 09 33.0**	**+0.7**
CRVS				*e*Sn	**Sn**	**02 10 01.3**	**+0.7**
TREC	**Trest**	**2.35**	**246**	*e*PN	**Pn**	**02 09 34.5**	**+0.6**
TREC				*e*PG	**Pb**	**02 09 38.1**	**+0.8**
TREC				*e*SG	**Sg**	**02 10 08.9**	**-0.6**
	42nm,0.5s						
TREC	**Trest**	**2.35**	**246**	Pn	**Pn**	**02 09 34.5**	**+0.6**
PSZ	**Piszkesteto**	**2.49**	**162**	⇑*i* P	**Pn**	**02 09 36.2**	**+0.4**
PSZ	**Piszkesteto**	**2.49**	**162**	S	**Sg**	**02 10 13.8**	**-0.1**
PSZ	**Piszkesteto**	**2.49**	**162**	⇑*i* P	**Pn**	**02 09 36.2**	**+0.4**
PSZ	**Piszkesteto**	**2.49**	**162**	*e*pn	**Pg**	**02 09 43.5**	**+1.8**
PSZ				*e*sn	**Sg**	**02 10 16.1**	**+2.2**
KWP	**Kalwaria Pacla**	**2.63**	**103**	⇓*i* P	**Pb**	**02 09 41.6**	**-0.4**
KWP	**Kalwaria Pacla**	**2.63**	**103**	S	**Sb**	**02 10 14.4**	**-0.3**
KWP	**Kalwaria Pacla**	**2.63**	**103**	S	**Sb**	**02 10 14.4**	**-0.3**
KOLS	**Kolonicke sedl**	**2.65**	**119**	*e*PN	**Pn**	**02 09 38.2**	**+0.1**
KOLS				*e*PG	**Pg**	**02 09 44.2**	**-0.6**
KOLS				*e*SN	**Sn**	**02 10 10.5**	**-0.4**
KOLS	**Kolonicke sedl**	**2.65**	**119**	*e*Pn	**Pn**	**02 09 38.2**	**+0.1**
PVCC	**Panska Ves**	**2.70**	**277**	*e*Pg	**Pg**	**02 09 46.7**	**+0.9**
	SNR=3.4						
PVCC	**Panska Ves**	**2.70**	**277**	*e*PN	**Pn**	**02 09 39.3**	**+0.6**
PVCC				*e*PG	**Pg**	**02 09 45.7**	**-0.1**
PVCC				*e*SG	**Sg**	**02 10 20.4**	**-0.3**
	42nm,0.3s						
PVCC	**Panska Ves**	**2.70**	**277**	Pn	**Pn**	**02 09 39.3**	**+0.6**
PVCC	**Panska Ves**	**2.70**	**277**	Pg	**Pg**	**02 09 46.7**	**+0.9**
	SNR=3.4						
PVCC				Sg	**Sg**	**02 10 20.4**	**-0.3**
	42nm,0.3s						
PRU	**Pruhonice**	**2.74**	**265**	*e*Sg	**Sg**	**02 10 21.8**	**-0.1**
PRU	**Pruhonice**	**2.74**	**265**	*e*PN	**Pn**	**02 09 38.9**	**-0.3**
PRU				*e*PG	**Pb**	**02 09 45.1**	**+1.2**
PRU				*e*SG	**Sg**	**02 10 21.3**	**-0.7**
	23nm,0.6s						
PRU	**Pruhonice**	**2.74**	**265**	Pn	**Pn**	**02 09 38.9**	**-0.3**
PRA	**Prague**	**2.80**	**267**	PN	**Pn**	**02 09 38.0**	**-2.0**
PRA				PG	**Pb**	**02 09 44.0**	**-0.9**
PRA				SG	**Sb**	**02 10 20.0**	**+0.4**
PKSG		**2.91**	**185**	*e*pn	**Pn**	**02 09 42.5**	**+0.9**
PKSG				*e*sn	**Sn**	**02 10 16.9**	**-0.4**
CSKK	**Cs˘‡kako**	**2.95**	**187**	*e*pn	**Pn**	**02 09 43.5**	**+1.4**
CSKK				*e*sn	**Sn**	**02 10 18.3**	**+0.1**
CONA	**Conrad Observa**	**3.04**	**220**	⇑*i* Pn	**Pn**	**02 09 41.2**	**-2.3**
CONA				⇑*i* Pg	**Pb**	**02 09 48.9**	**-0.1**
CONA				⇓*i* Sn	**Sn**	**02 10 15.7**	**-4.9**
CONA	**Conrad Observa**	**3.04**	**220**	Pn	**Pn**	**02 09 41.2**	**-2.3**
PKST	**T˘˘s**	**3.07**	**189**	⇑epn	**Pn**	**02 09 44.8**	**+1.0**
PKST				*e*sn	**Sn**	**02 10 20.5**	**-0.8**
BRG	**Berggiesshubel**	**3.13**	**283**	PG	**Pg**	**02 09 52.6**	**-1.5**
BRG				SG	**Sg**	**02 10 35.2**	**+0.6**
	21nm,0.6s						
BRG	**Berggiesshubel**	**3.13**	**283**	*e*Pg	**Pg**	**02 09 52.9**	**-1.1**
	SNR=2.7						
BRG	**Berggiesshubel**	**3.13**	**283**	Pg	**Pg**	**02 09 52.9**	**-1.1**
	SNR=2.7						
GKP	**Gorka Klasztor**	**3.13**	**343**	*e*Pn	**Pn**	**02 09 45.7**	**+1.1**
	SNR=2.4						
GKP	**Gorka Klasztor**	**3.13**	**343**	Pn	**Pn**	**02 09 45.7**	**+1.1**
	SNR=2.4						
TRPA	**Tarpa**	**3.28**	**130**	⇓*i* P	**Pn**	**02 09 48.2**	**+1.5**
TRPA	**Tarpa**	**3.28**	**130**	⇓*i* P	**Pn**	**02 09 48.2**	**+1.5**
KHC	**Kasperske Hory**	**3.56**	**253**	*e*Pn	**Pn**	**02 09 51.1**	**+0.4**
	SNR=4.7						
KHC				*e*Sg	**Sg**	**02 10 46.6**	**-1.9**
KHC	**Kasperske Hory**	**3.56**	**253**	*e*PN	**Pn**	**02 09 51.0**	**+0.4**
KHC				*e*PG	**Pb**	**02 09 58.5**	**+0.5**
KHC				*e*SN	**Sn**	**02 10 33.5**	**0.0**
KHC				*e*SG	**Sg**	**02 10 46.5**	**-2.0**
	38nm,0.6s						
KHC	**Kasperske Hory**	**3.56**	**253**	Pn	**Pn**	**02 09 51.1**	**+0.4**
	SNR=4.7						
KHC				Sn	**Sn**	**02 10 33.5**	**0.0**
KHC				Sg	**Sg**	**02 10 46.5**	**-2.0**
	38nm,0.6s						
GEC2	**GERESS Array S**	**3.60**	**248**	*e*Pn	**Pn**	**02 09 51.9**	**+0.7**
	SNR=2.9						
GEC2				*e*Pg	**Pg**	**02 10 02.4**	**-0.7**
	SNR=4.2						
GEC2				*e*Sg	**Sg**	**02 10 50.0**	**+0.2**
GEC2	**GERESS Array S**	**3.60**	**248**	Pn	**Pn**	**02 09 51.9**	**+0.7**
	SNR=2.9						
GEC2	**GERESS Array S**	**3.60**	**248**	Pg	**Pg**	**02 10 02.4**	**-0.7**
	SNR=4.2						
GEC2				Sg	**Sg**	**02 10 50.0**	**+0.2**
GERES	**GERESS Array B**	**3.60**	**248**	Pn	**Pn**	**02 09 51.8**	**+0.6**
	0.3nm,0.3s,baz=58,slow=15,SNR=8.5						
GERES				Pg	**Pg**	**02 10 02.3**	**-0.8**
	2.3nm,0.3s,baz=61,slow=17,SNR=18						
GERES				Sn	**Sn**	**02 10 35.5**	**+1.1**
	1.1nm,0.3s,baz=60,slow=25,SNR=5.1						
GERES				Lg	Lg	02 10 49.1	
	5.2nm,0.3s,baz=69,slow=29,SNR=20						
CLL	**Collm**	**3.80**	**288**	*e*Sg	**Sg**	**02 10 57.8**	**+1.8**
CLL	**Collm**	**3.80**	**288**	*i* Pg	**Pb**	**02 10 04.2**	**+2.3**
CLL				*i*		02 10 09.4	
CLL				*e*Sg	**Sg**	**02 10 58.0**	**+2.0**
	comp=Z,34nm,0.8s						
CLL	**Collm**	**3.80**	**288**	Sg	**Sg**	**02 10 57.8**	**+1.8**
MOA	**Molln**	**3.84**	**232**	⇓*i* Pg	**Pb**	**02 10 05.1**	**+2.5**
MOA				⇓*i* Sn	**Sn**	**02 10 38.5**	**-1.7**
MOA				⇑*i* Sg	**Sg**	**02 10 56.9**	**-0.4**
	comp=Z,16nm,0.7s						
MOA	**Molln**	**3.84**	**232**	Pg	**Pb**	**02 10 05.1**	**+2.5**
MOA				Sn	**Sn**	**02 10 38.5**	**-1.7**
MOA				Sg	**Sg**	**02 10 56.9**	**-0.4**
	comp=Z,16nm,0.7s						
NKC	**Novy Kostel**	**4.06**	**272**	*e*PN	**Pn**	**02 09 58.1**	**+0.7**
NKC				*e*PG	**Pb**	**02 10 07.9**	**+1.5**
NKC				*e*SG	**Sg**	**02 11 03.4**	**-0.9**
	comp=Z,12nm,0.4s						
NKC	**Novy Kostel**	**4.06**	**272**	Pn	**Pn**	**02 09 58.1**	**+0.7**
PKSM	**Moragy**	**4.08**	**181**	⇓*i* P	**Pn**	**02 09 58.3**	**+0.6**
PKSM	**Moragy**	**4.08**	**181**	⇓*i* P	**Pn**	**02 09 58.3**	**+0.6**
PKSM	**Moragy**	**4.08**	**181**	*e*pn	**Pn**	**02 09 58.1**	**+0.4**
PKSM				*e*sn	**Sn**	**02 10 44.2**	**-1.9**
WERN	**Wernitzgruen**	**4.10**	**272**	*e*Pn	**Pn**	**02 09 59.3**	**+1.3**
	SNR=1.9						
WERN	**Wernitzgruen**	**4.10**

QLP	Quilpie	30.52 263	P		P	02 20 49.0	-0.7
	baz=30,SNR=12						
STKA	Stephens Creek	32.34 253	*e*P		P	02 21 04.9	-0.2
	16nm,2.3s						
STKA	Stephens Creek	32.34 253	P		P	02 21 05.0	-0.1
	3.8nm,0.5s,baz=93,slow=10,SNR=23						
STKA	Stephens Creek	32.34 253	P		P	02 21 05.0	-0.1
	baz=32,SNR=15						
HTT	Hallett	34.57 250	P		P	02 21 23.4	-0.4
	baz=34,SNR=15						
COEN	Coen	35.50 285	*e*P		P	02 21 30.4	-1.3
COEN	Coen	35.50 285	P		P	02 21 30.7	-0.9
	baz=35,SNR=18						
QIS	Mount Isa	36.09 272	P		P	02 21 35.0	-1.5
	baz=36,SNR=3.8						
BBOO	Buckleboo	36.99 251	P		P	02 21 42.5	-1.2
	baz=36,SNR=27						
AS31	Alice Springs	40.28 265	*e*P		P	02 22 08.8	-1.5
ASAR	Alice Springs	40.28 265	P		P	02 22 09.1	-1.3
	7.3nm,0.4s,baz=94,slow=7.1,SNR=152						
WRAB	Tennant Creek	40.96 271	*e*P		P	02 22 13.7	-2.0
	6.7nm,0.6s						
WRA	Warramunga Arr	40.97 270	P		P	02 22 14.0	-1.8
	11nm,0.4s,baz=104,slow=8.5,SNR=125						
FORT	Forrest	43.97 253	*e*P		P	02 22 36.9	-2.1
	44nm,0.7s						
FORT	Forrest	43.97 253	P		P	02 22 37.4	-1.6
	baz=44,SNR=17						
WRKA	Warakurna	44.90 261	P		P	02 22 44.4	-1.9
	baz=44,SNR=12						
KDU	Kakadu	45.38 279	P		P	02 22 47.5	-2.4
	baz=45,SNR=5.8						
KNRA	Kununurra	47.44 273	P		P	02 23 04.0	-1.5
	baz=47,SNR=11						
VNDA	Vanda	50.94 185	*e*P		P	02 23 31.1	+0.9
	1.4nm,0.7s						
VNDA	Vanda	50.94 185	P		P	02 23 31.5	+1.3
	1.0nm,0.5s,baz=13,slow=8.2,SNR=13						
KLBR	Kellerberrin	52.52 250	P		P	02 23 40.6	-1.7
	baz=52,SNR=7.9						
MEEK	Meekatharra	52.94 256	P		P	02 23 43.1	-2.3
	baz=52,SNR=4.9						
BLDU	Ballidu	53.60 251	P		P	02 23 48.2	-1.8
	baz=53,SNR=8.1						
MORW	Morawa	54.53 252	P		P	02 23 54.9	-1.6
	baz=54,SNR=5.2						
CASY	Casey	56.52 207	*e*P		P	02 24 08.7	-0.8
	2.6nm,0.5s						
QSPA	South Pole Qui	62.84 180	*e*P		P	02 24 52.3	+0.7
	2.5nm,0.5s						
QIZ	Qiongzhong	80.88 297	P		P	02 26 36.3	-0.2
QIZ			S		S	02 35 56.1	-0.8
QIZ			pmax	pmax			
	comp=Z,24nm,1.8s						
SNAA	Sanae	81.34 180	*e*P		P	02 26 37.1	-0.9
	2.4nm,0.6s						
NJ2	Nanjing	81.89 312	*e*P		P	02 26 41.4	+0.1
NJ2			pmax	pmax			
	comp=Z,60nm,1.1s						
CN2	Changchun	85.81 325	*e*P		P	02 27 01.4	+1.1
CN2			pmax	pmax			
	comp=Z,10.0nm,0.5s						
GYA	Guiyang	87.33 301	P		P	02 27 08.1	0.0
GYA			pP		pP	02 29 21.3	+4.4
GYA			sP		sP	02 30 20.4	+3.6
GYA			PP		PP	02 30 45.6	+1.4
GYA			S		S	02 36 57.0	-2.3
GYA			pmax	pmax			
	comp=Z,10.0nm,1.0s						
GYA			pmax	pmax			
	comp=Z,90nm,5.7s						
BJI	Beijing	88.55 317	P		P	02 27 13.4	+0.1
BJI			pmax	pmax			
	comp=Z,17nm,0.4s						
KMI	Kunming	89.66 299	P		P	02 27 19.6	+0.5
KMI			pmax	pmax			
	comp=Z,7.0nm,0.8s						
CD2	Chengdu	91.82 304	*e*P		P	02 27 27.5	-1.2
CD2			pmax	pmax			
	comp=Z,10.0nm,1.4s						
HHC	Hu-ho-hao-te	91.86 316	*e*P		P	02 27 27.8	-0.9
HHC			pP		pP	02 29 39.5	+0.9
HHC			sP		sP	02 30 38.1	0.0
HHC			S		S	02 37 38.0	-1.4
HHC			sS		sS	02 41 30.6	-1.6
HHC			SS		SS	02 44 10.6	+3.1
HHC			pmax	pmax			
	comp=Z,23nm,1.3s						
HHC			pmax	pmax			
	comp=Z,240nm,7.3s						
LZH	Lanzhou	94.39 308	*e*P		P	02 27 41.3	+0.8
LZH			pP		pP	02 29 51.8	+1.3
LZH			sP		sP	02 30 51.3	+1.3
LZH			pmax	pmax			
	comp=Z,14nm,1.0s						
NNA	Nana	97.25 107	*e*P		P	02 27 52.6	-1.1
	12nm,0.9s						
ARU	Arti	128.74 322	*e*PKPdf		PKPdf	02 33 18.3	-4.7
TSUM	Tsumeb	130.25 204	*e*PKPdf		PKPdf	02 33 25.0	-2.3
CSS	Prodhromos	149.34 293	*e*PKPbc		PKPdf	02 34 03.2	+2.5
TORD	Torodi Ar. Bea	165.65 193	PKPab		PKPab	02 35 23.6	-0.4
	0.2nm,0.7s,baz=153,slow=2.6,SNR=5.6						

DDA ***16*** *02:25:45.5,38˚.47N×39˚.29E,h21km,MD3.4*
ISK ***16*** *02:25:45.6,38˚.47N×39˚.33E,h8km,MD3.5*
ISCJB ***16*** *02:25:46.4±0.7,38˚.49N±0˚.03×39˚.30E±0˚.03,h10km±6km, Error ellipse: s-maj=4.9km s-min=4.0km az=6.7*
CSEM ***16*** *02:25:46.2±0.1,38˚.47N×39˚.30E,h5km,MD3.4*

ISC 16 02:25:46.9±0.9,38˚.47N±0˚.03×39˚.29E±0˚.02,h13km±8km, n56,σ1§13/73,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	Elazig	0.24	278	*i* P	Pg	02 25 51.4	-0.7
ELZG				*i* S	Sg	02 25 56.7	+1.1
ELZG	Elazig	0.24	278	*i* P	Pg	02 25 51.4	-0.7
ELZG				*i* S	Sg	02 25 56.7	+1.1
MALT	Malatya	0.69	258	*e*PG	Pg	02 26 00.1	-0.2
MALT				*e*SG	Sb	02 26 10.8	+0.4
MALT	Malatya	0.69	258	*e*Pg	Pg	02 26 00.1	-0.2
MALT				*e*Sg	Sb	02 26 10.8	+0.4
DIYA	Diyarbakir	0.85	129	*i* P	Pg	02 26 02.8	-0.6
DIYA				*i* S	Sg	02 26 14.6	+0.1
DIYA	Diyarbakir	0.85	129	*i* P	Pg	02 26 02.8	-0.6
DIYA				*i* S	Sg	02 26 14.6	+0.1
KEMA	Kemaliye	1.01	323	*i* P	Pb	02 26 04.6	-1.8
KEMA				*i* S	Sb	02 26 18.8	-0.8
KEMA	Kemaliye	1.01	323	*i* P	Pb	02 26 04.6	-1.8
KEMA				*i* S	Sb	02 26 18.8	-0.8
BINT	Bingol	1.03	66	*e*Pn	Pn	02 26 08.3	+1.2
AKCD	Akcadag	1.08	261	*i* P	Pb	02 26 06.0	-1.6
AKCD				*i* S	Sb	02 26 21.4	-0.3
AKCD	Akcadag	1.08	261	*i* P	Pb	02 26 06.0	-1.6
AKCD				*i* S	Sb	02 26 21.4	-0.3
URFA	Urfa	1.09	200	*e*PN	Pb	02 26 07.4	-0.2
URFA	Urfa	1.09	200	*e*Pn	Pb	02 26 07.4	-0.2
ILIC	ilic-Erzincan	1.13	331	*e*PN	Pb	02 26 08.0	-0.4
ILIC	ilic-Erzincan	1.13	331	*e*Pn	Pb	02 26 08.0	-0.4
ERZN	Erzincan	1.17	17	*e*PN	Pb	02 26 07.6	-1.5
BNGB	Bing¯¶‖	1.21	64	*e*PN	Pn	02 26 08.3	-1.3
ATAB	Bozova	1.27	219	*i* P	Pn	02 26 10.3	0.0
ATAB				*i* S	Sg	02 26 27.9	+0.2
ATAB	Bozova	1.27	219	*i* P	Pn	02 26 10.3	0.0
ATAB				*i* S	Sg	02 26 27.9	+0.2
EZC	Erzincan	1.29	2	*e*Pn	Pn	02 26 07.6	-3.1
MAZI	Mazidag	1.36	137	*e*PN	Pn	02 26 10.9	-0.8
MAZI	Mazidag	1.36	137	*e*Pn	Pn	02 26 10.9	-0.8
BNGL	BINGOL	1.54	71	*i* P	Pn	02 26 14.8	+0.6
BNGL				*i* S	Sg	02 26 41.3	+4.9
SVAN	Silvan-Diyarba	1.54	101	*e*PN	Pn	02 26 13.6	-0.5
MARD	Mardin	1.65	134	*i* P	Pn	02 26 15.4	-0.3
MARD				*i* S	Sb	02 26 37.9	-0.1
BEST	Besiri	1.67	110	*i* P	Pn	02 26 15.7	-0.1
BEST				*i* S	Sg	02 26 40.0	-0.5
KELT	Kelkit	1.68	359	*i* P	Pn	02 26 16.7	+0.5
KELT	Kelkit	1.68	359	*i* P	Pn	02 26 16.7	+0.5
BTMT	Batman	1.75	98	*e*PN	Pn	02 26 16.8	-0.3
BTMT	Batman	1.75	98	*e*Pn	Pn	02 26 16.8	-0.3
GZT	Gaziantep	1.75	231	*i* P	Pn	02 26 16.8	-0.3
GZT				*i* S	Sg	02 26 44.5	+1.2
VRTB	Varto-Mus	1.83	67	*e*PN	Pn	02 26 18.1	-0.1
VRTB	Varto-Mus	1.83	67	*e*Pn	Pn	02 26 18.1	-0.1
GUMT	Gumushane	2.00	4	*e*PN	Pn	02 26 20.9	+0.4
GUMT	Gumushane	2.00	4	*e*Pn	Pn	02 26 20.9	+0.4
EZM	Erzurum	2.16	48	*e*PN	Pn	02 26 22.2	-0.6
SVSK	Karacayir	2.29	310	*e*PN	Pn	02 26 25.2	+0.8
SVSK	Karacayir	2.29	310	*e*Pn	Pn	02 26 25.2	+0.8
ESPY	Espiye-Giresun	2.49	350	*e*PN	Pn	02 26 27.7	+0.6
ESPY	Espiye-Giresun	2.49	350	*e*Pn	Pn	02 26 27.7	+0.6
KOZT	Kozan	2.91	251	*e*PN	Pn	02 26 33.6	+0.8
KOZT	Kozan	2.91	251	*e*Pn	Pn	02 26 33.6	+0.8
AGRB	Hanur-Agry	3.09	68	*e*PN	Pn	02 26 35.8	+0.2
AGRB	Hanur-Agry	3.09	68	*e*Pn	Pn	02 26 35.8	+0.2
TAHT	Tahtakopru-Hat	3.23	231	*e*PN	Pn	02 26 38.1	+0.8
TAHT	Tahtakopru-Hat	3.23	231	*e*Pn	Pn	02 26 38.1	+0.8
HAKT	HAKKARI	3.61	103	*i* P	Pn	02 26 43.1	+0.4
HAKT				*i* S	Sg	02 27 46.2	+3.4
HAKT	HAKKARI	3.61	103	*i* P	Pn	02 26 43.1	+0.4
CUKT	Cukurca	3.63	108	*e*PN	Pn	02 26 43.0	+0.1
CUKT	Cukurca	3.63	108	*e*Pn	Pn	02 26 43.0	+0.1
CLDR	Caldiran	3.68	78	*e*PN	Pn	02 26 44.4	+0.7
CLDR	Caldiran	3.68	78	*e*Pn	Pn	02 26 44.4	+0.7
CORM	Corum	4.00	297	*e*PN	Pn	02 26 49.3	+1.4
CORM	Corum	4.00	297	*e*Pn	Pn	02 26 49.3	+1.4
SULT	Sultanhani-AKS	4.54	268	*e*PN	Pn	02 26 57.1	+1.6
SULT	Sultanhani-AKS	4.54	268	*e*Pn	Pn	02 26 57.1	+1.6

IDC 16 02:38:08.9±2.1,55˚.48S×26˚.63W,h0km,mb4.0/2, mb1 4.1/2,mb1mx3.7/16,mbtmp4.0/2,Error ellipse: s-maj=79.1km s-min=42.5km az=2.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	50.31	304	P	P	02 47 08.0	0.0
	0.6nm,0.4s,baz=168,slow=6.9,SNR=3.5						
TORD	Torodi Ar. Bea	72.40	29	P	P	02 49 36.7	0.0
	1.9nm,0.8s,baz=198,slow=6.6,SNR=15						
ILAR	Eielson Array	149.97	312	PKPbc	PKPbc	02 57 58.9	-0.8
	0.5nm,0.6s,baz=112,slow=2.0,SNR=7.4						
SONM	Songino Array	150.37	85	PKPbc	PKPbc	02 58 01.2	-0.1
	0.9nm,0.9s,baz=229,slow=4.1,SNR=5.3						

TRN ***16*** *02:58:02.7,18˚.78N×64˚.52W,h33km,MD2.8(RSPR)*
NEIC ***16*** *02:58:04.4,18˚.86N×64˚.59W,h3km,MD2.8(RSPR),After RSPR.*

RSPR 16 02:58:04.4,18˚.86N×64˚.59W,h3km±4km,15C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABVI	Anegada Island	0.28	118	*e*P	Pg	02 58 10.1	+0.4
ABVI				*e*S	Sb	02 58 15.2	-1.8
ABV	Anegada	0.28	118	*e*P	Pg	02 58 10.1	+0.4
ABV	Anegada	0.28	118	*e*P	Pg	02 58 10.7	+1.0
ABV				*e*S	Sb	02 58 15.2	-1.8
TBVI	Tortola	0.44	183	*e*P	Pg	02 58 13.4	+0.6
TBVI				*e*S	Sb	02 58 20.4	-1.4
TBVI	Tortola	0.44	183	*e*P	Pg	02 58 13.4	+0.6
TBVI				*e*S	Sb	02 58 20.4	-1.4
TBVI	Tortola	0.44	183	*e*P	Pg	02 58 13.4	+0.6
TBVI				*e*S	Sb	02 58 20.4	-1.4
MTP	Monte Pirata	1.19	230	*e*P	Pg	02 58 25.2	-2.0
MTP	Monte Pirata	1.19	230	*e*P	Pg	02 58 25.2	-2.0
MTP				*e*S	Sg	02 58 40.3	-2.3
MTP	Monte Pirata	1.19	230	*e*P	Pg	02 58 25.2	-2.0
MTP				*e*S	Sg	02 58 40.3	-2.3
CBYP	Canovanas	1.34	244	*e*P	Pn	02 58 26.9	-3.2
CBYP	Canovanas	1.34	244	*e*P	Pn	02 58 26.9	-3.2
CBYP				*e*S	Sg	02 58 44.5	-3.0
CBYP	Canovanas	1.34	244	*e*P	Pn	02 58 26.9	-3.2
CBYP				*e*S	Sg	02 58 44.5	-3.0
HUMP	Col San Antoni	1.39	239	*e*P	Pn	02 58 27.6	-3.0
HUMP	Col San Antoni	1.39	239	*e*P	Pn	02 58 27.6	-3.0
HUMP				*e*S	Sg	02 58 45.8	-3.4
HUMP	Col San Antoni	1.39	239	*e*P	Pn	02 58 27.6	-3.0
HUMP				*e*S	Sg	02 58 45.8	-3.4

TRN ***16*** *03:16:04.9,18˚.67N×64˚.97W,h34km,MD3.0(RSPR)*

RSPR 16 03:16:06.5,18˚.83N×64˚.96W,h28km±13km,6C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	Tortola	0.53	141	*e*P	Pb	03 16 16.0	-1.2
TBVI				*e*S	Sb	03 16 23.4	-1.2
TBVI	Tortola	0.53	141	*e*P	Pb	03 16 16.0	-1.2
TBVI				*e*S	Sb	03 16 23.4	-1.2
MTP	Monte Pirata	0.92	218	*e*P	Pn	03 16 21.9	-1.7
MTP	Monte Pirata	0.92	218	*e*P	Pn	03 16 21.9	-1.7
MTP				*e*S	Sb	03 16 33.4	-2.4
CBYP	Canovanas	1.01	237	*e*S	Sn	03 16 35.5	-2.9
CBYP	Canovanas	1.01	237	*e*S	Sn	03 16 35.5	-2.9
HUMP	Col San Antoni	1.08	231	*e*P	Pn	03 16 23.7	-2.1
HUMP	Col San Antoni	1.08	231	*e*P	Pn	03 16 23.7	-2.1
HUMP				*e*S	Sn	03 16 37.3	-2.6

ISCJB ***16*** *03:26:14.3±1.3,29˚.0S±0˚.2×179˚.1W±0˚.2,h300km,mb3.1/2, Error ellipse: s-maj=27.8km s-min=19.0km az=43.6*
IDC ***16*** *03:26:14.7±0.9,28˚.91S×178˚.87W,h305km±9km,mb3.1/2, mb1 3.3/4,mb1mx3.1/19,mbtmp3.2/4,Error ellipse: s-maj=30.3km s-min=21.6km az=163.0*

ISC 16 03:26:14.2±0.9,28˚.9S±0˚.2×178˚.9W±0˚.2,h300km,n13, σ0§63/14,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.93	112	P	Pn	03 26 55.2	+1.0
	161nm,0.3s,baz=86,slow=23,SNR=13						
URZ	Urewera	9.90	199	P	Pn	03 28 30.6	-0.4
	0.6nm,0.3s,baz=54,slow=18,SNR=7.2						
DZM	Mont Dzumac	14.87	294	P	P	03 29 30.6	+0.6
	0.2nm,0.3s,baz=121,slow=18,SNR=2.2						
ASAR	Alice Springs	42.42	266	P	P	03 33 40.8	+0.5
	0.6nm,0.5s,baz=98,slow=6.4,SNR=13						
WRA	Warramunga Arr	43.27	271	P	P	03 33 47.1	+0.1
	1.2nm,0.8s,baz=109,slow=8.0,SNR=13						
MKAR	Makanchi Array	116.21	311	PKP	PKPdf	03 44 20.9	-0.8
	0.2nm,0.4s,baz=115,slow=1.5,SNR=3.7						
KURBB	Kurchatov Arra	119.48	314	PKP	PKPdf	03 44 26.8	-1.0
	0.2nm,0.5s,baz=112,slow=1.8,SNR=4.8						
FINES	FINESS Array B	143.48	340	PKP	PKPbc	03 45 09.9	-0.7
	1.7nm,0.6s,baz=52,slow=3.2,SNR=13						
NOA	NORSAR Array B	147.16	351	PKPbc	PKPbc	03 45 20.9	-0.6
	0.5nm,0.8s,baz=9.8,slow=4.2,SNR=2.9						
HFS	Hagfors	147.63	348	PKPbc	PKPbc	03 45 22.7	0.0
	1.2nm,0.5s,baz=0.0,slow=2.2,SNR=5.1						
AKASG	Malin Array Be	149.63	324	PKPbc	PKPbc	03 45 27.8	-0.3
	1.3nm,0.4s,baz=44,slow=3.1,SNR=11						
AKASG				PKPab	PKPab	03 45 34.1	-0.3
	0.2nm,0.3s,baz=48,slow=3.5,SNR=5.1						
BRTR	Keskin Array B	151.18	301	PKPbc	PKPbc	03 45 32.3	0.0
	0.5nm,0.6s,baz=152,slow=6.4,SNR=3.7						
BRTR				PKPab	PKPab	03 45 40.8	-0.5
	0.8nm,0.9s,baz=325,slow=1.8,SNR=3.1						
TORD	Torodi Ar. Bea	164.31	182	PKPab	PKPab	03 46 38.6	+0.4
	0.3nm,0.5s,baz=167,slow=3.8,SNR=6.6						

IDC ***16*** *03:40:21.7±0.4,55˚.54S×27˚.02W,h0km,mb5.1/16, mb1 5.1/17,mb1mx5.1/19,mbtmp5.0/17,ML4.4/1,MS5.2/26, Ms1 5.2/26,ms1mx5.1/28,Error ellipse: s-maj=15.9km s-min=9.6km az=63.0*
ISCJB ***16*** *03:40:21.8±0.3,55˚.37S±0˚.04×26˚.88W±0˚.07,h10km, mb5.3/48,MS5.4/189,Error ellipse: s-maj=6.7km s-min=5.8km az=27.2*
NEIC ***16*** *03:40:23.7±2.6,55˚.49S×26˚.90W,h11km±2km,mb5.7/29, MS5.4/165,MW5.5,Error ellipse: s-maj=15.3km s-min=9.2km az=64.0*
MOS ***16*** *03:40:27.2±0.8,55˚.65S×26˚.10W,h33km,mb5.7/26, MS5.2/23,Error ellipse: s-maj=28.1km s-min=13.1km az=91.2*
GCMT ***16*** *03:40:30.0±0.1,55˚.53S×26˚.84W,h12km,MW5.5, Moment Tensor Solution. s82,c160; s43,c47; Moment tensor: Scale 10¹⁷Nm; Mrr1.49±.03; Mθθ0.05±.03; Mϕϕ-1.54±.03; Mrθ-0.29±.07; Mrϕ1.72±.02; Mθϕ0.59±.06; Best double couple: M₀2.20000×10¹⁷ NP1:ϕs335.00000°, δ54.00000°,λ101.00000°. NP2:ϕs137.00000°,δ37.00000°, λ76.00000°. Principal axes: T 1.6000, Plg78.0000°, Azm282.0000°; N 1.1400, Plg9.0000°, Azm149.0000°; P -2.7400, Plg9.0000°, Azm58.0000°; Data Used: ll IU CU IC CN G. Surface waves: sta=104, comp=187, per= 50.*
NEIC ***16*** *03:40:45.5±0.0,54˚.95S×26˚.45W,h10km,Moment Tensor Solution. s110 Moment tensor: Scale 10¹⁷Nm; Mrr1.61; Mθθ-0.40; Mϕϕ-1.21; Mrθ0.55; Mrϕ1.28; Mθϕ1.27; Best double couple: M₀2.40000×10¹⁷ NP1:ϕs117.00000°, δ42.00000°,λ42.00000°. NP2:ϕs353.00000°,δ63.00000°, λ124.00000°. Principal axes: T 2.4600, Plg57.0000°, Azm309.0000°; N -0.1700, Plg29.0000°, Azm155.0000°; P -2.2900, Plg11.0000°, Azm58.0000°;*

ISC 16 03:40:26.0±0.8,55˚.44S±0˚.05×27˚.03W±0˚.04,h26km±4km, n412,σ1§72/350,mb5.5/47,MS5.4/189,9C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.58	278	*e*Pn	Pn	03 41 46.4	-0.8
HOPE				*e*Sn	Sn	03 42 48.8	-1.6
VNA1	Neumayer--Stat	17.33	159	*e*Pn	P	03 44 26.6	-0.3
VNA1	Neumayer--Stat	17.33	159	*e*ScP	ScP	03 52 44.2	+4.8
VNA2	Neumayer--Watz	17.73	159	*e*Pn	Pn	03 44 30.8	+0.2
VNA2	Neumayer--Watz	17.73	159	*e*ScP	ScP	03 52 44.3	+4.0
SNAA	Sanae	19.27	157	*e*P	P	03 44 46.6	-1.7
SNAA	Sanae	19.27	157	*e*P	P	03 44 47.4	-0.9
	202nm,1.3s						
SNAA				*e*Sn	Sn	03 48 14.1	-10
SNAA				*e*PcP	PcP	03 49 11.1	+1.2
SNAA	Sanae	19.27	157	P	P	03 44 46.8	-1.5
	1.1nm,0.3s,baz=310,slow=10,SNR=46						
SNAA				S	Sn	03 48 22.5	-1.9
	0.1nm,0.3s,baz=8.1,slow=7.1,SNR=2.0						
SNAA				PcP	PcP	03 49 10.6	+0.7
	0.4nm,0.3s,baz=294,slow=5.8,SNR=6.6						
SNAA				LR	LR	03 50 53.9	
	comp=Z,2μm,19.6s,baz=321,slow=33						
SNAA				ScP	ScP	03 52 46.5	+2.7
	0.1nm,0.3s,baz=304,slow=1.8,SNR=8.3						
PMSA	Palmer Station	20.37	228	*e*P	Pn	03 45 01.6	-0.8
PMSA				LR	LR		
	comp=Z,11μm,18.0s						
TRIS	Tristan da Cun	20.92	35	PFAKE		03 45 20.0	+11
TRIS				LR	LR		
	comp=Z,7μm,22.0s						
NVL	N'lazarevskaya	22.73	147	*e*P	P	03 45 21.7	-3.8
NVL				*e*		03 45 39.5	
NVL				*e*S	S	03 49 29.4	-2.8
NVL				pmax	pmax		
	comp=Z,93nm,1.2s						
NVL				MLR	MLR		
	comp=Z,4μm,15.0s						
USHA	Ushuaia	23.43	254	*e*P	P	03 45 32.1	-0.6
USHA	Ushuaia	23.43	254	P	P	03 45 32.1	-0.6
	comp=Z,32nm,1.0s,baz=92,slow=16,SNR=6.9						
USHA				LR	LR	03 52 19.0	
	comp=Z,8μm,20.4s,baz=80,slow=31						
TRQA	Tornquist	29.17	292	*e*P	P	03 46 25.8	+0.8
	comp=Z,78nm,1.0s						
TRQA				*e*PcP	PcP	03 49 32.8	+0.9
TRQA				LR	LR		
	comp=Z,3μm,19.0s						
LPA	La Plata	29.54	301	*ce*P	P	03 46 32.0	+3.8
LPA				PP	PnPn	03 47 28.0	+5.1
LPA				PS		03 51 36.0	
LPA				PPS	PPS	03 51 43.0	
LPA				SS	SS	03 52 52.0	-35
LPA				SSS	SSS	03 53 08.0	
LPA				SS(2)		03 53 29.0	
LPA				PKIKP	PKiKP	03 57 05.0	-0.6
LPA				SCS	ScS	03 57 08.0	+0.8
PLCA	Paso Flores	31.99	279	*e*P	P	03 46 48.5	-1.4
	comp=Z,85nm,1.8s						
PLCA				*e*PP	PP	03 48 05.0	+2.8
PLCA				*e*PcP	PcP	03 49 40.1	+0.9
PLCA				LR	LR		
	comp=Z,4μm,18.4s						
PLCA	Paso Flores	31.99	279	P	P	03 46 49.2	-0.6
	comp=Z,12nm,1.1s,baz=124,slow=8.5,SNR=11						
PLCA				PcP	PcP	03 49 39.5	+0.2
	comp=Z,3.5nm,0.8s,baz=88,slow=5.8,SNR=4.0						
PLCA				ScP	ScP	03 53 22.7	+2.0
	comp=Z,3.7nm,0.9s,baz=162,slow=5.6,SNR=5.1						
PLCA				LR	LR	03 59 47.7	
	comp=Z,3μm,18.3s,baz=126,slow=36						
QSPA	South Pole Qui	34.81	180	*e*P	P	03 47 14.8	+0.5
	comp=Z,310nm,1.6s						
QSPA				*e*ScP	ScP	03 53 32.5	+2.2
QSPA				*e*		04 00 39.4	
QSPA				LR	LR		
	comp=Z,8μm,20.0s						
QSPA	South Pole Qui	34.81	180	P	P	03 47 13.2	-1.2
	comp=Z,26nm,0.6s,baz=212,slow=1.8,SNR=75						
QSPA				ScP	ScP	03 53 32.5	+2.2
	comp=Z,13nm,1.0s,baz=171,slow=1.5,SNR=4.0						
QSPA				LR	LR	04 00 39.4	
	comp=Z,8μm,19.7s,baz=306,slow=35						
CPUP	Villa Florida	36.48	310	*e*P	P	03 47 28.5	-0.2
CPUP				*e*PcP	PcP	03 49 52.9	+0.7
CPUP	Villa Florida	36.48	310	P	P	03 47 28.9	+0.2
	comp=Z,24nm,0.8s,baz=132,slow=7.4,SNR=33						
CPUP				PcP	PcP	03 49 52.1	0.0
	comp=Z,1.5nm,0.5s,baz=127,slow=5.1,SNR=3.2						
CPUP				LR	LR	04 01 06.3	
	comp=Z,3μm,19.8s,baz=142,slow=34						
ELIM	Elim	38.15	77	*e*P	P	03 47 43.3	+0.4
ELIM				AMB	AMB	03 47 43.9	
	comp=Z,143nm,1.9s						
SUR	Sutherland	40.40	75	*e*P	P	03 48 01.4	-0.5
SUR				AMB	AMB	03 48 03.6	
	comp=Z,81nm,2.0s						
SUR	Sutherland	40.40	75	*e*P	P	03 47 59.6	-2.3
	comp=Z,220nm,1.7s				

comp=Z,10nm,0.9s,baz=198,slow=6.5,SNR=3.9
BOSA LR LR 04 05 20.8
comp=Z,5μm,18.3s,baz=209,slow=33
WIN Windhoek 46.24 63 eP P 03 48 48.2 -0.9
WIN AMB AMB 03 48 49.0
comp=Z,20nm,2.4s
SBA Scott Base 46.70 184 eP P 03 48 53.3 +1.5
SBA pmax pmax
comp=Z,389nm,2.1s
SBA MLR MLR
comp=Z,2μm,18.0s
SBA Scott Base 46.70 184 eP P 03 48 53.3 +1.5
comp=Z,390nm,2.1s
SBA LR LR
comp=Z,2μm,18.0s
SWZ Schweizer 46.89 75⇑iP P 03 48 52.2 -1.9
SWZ AMB AMB 03 48 54.2
comp=Z,105nm,1.8s
VNDA Vanda 47.19 183 eP P 03 48 55.6 -0.1
comp=Z,76nm,0.9s
VNDA eScP ScP 03 54 20.3 +1.8
VNDA LR LR
comp=Z,2μm,19.5s
VNDA Vanda 47.19 183 P P 03 48 55.5 -0.1
comp=Z,59nm,0.8s,baz=190,slow=6.0,SNR=110
VNDA ScP ScP 03 54 20.3 +1.8
comp=Z,3.9nm,0.9s,baz=210,slow=3.1,SNR=3.8
SEK Senekal 47.28 78 eP P 03 48 55.8 -1.4
SEK AMB AMB 03 49 10.9
comp=Z,116nm,5.7s
ASCN Ascension 48.44 17 PFAKE 03 49 20.0 +14
ASCN LR LR
comp=Z,2μm,20.0s
WDLM Western Deep L 48.64 76 eP P 03 49 05.8 -1.9
WDLM AMB AMB 03 49 06.9
comp=Z,52nm,2.2s
LBTB Lobatse 48.75 74⇑iP P 03 49 06.8 -1.6
LBTB AMB AMB 03 49 08.9
comp=Z,107nm,1.8s
LBTB Lobatse 48.75 74 eP P 03 49 06.7 -1.8
comp=Z,200nm,1.5s
LBTB LR LR
comp=Z,3μm,18.3s
KSR Koster 48.80 75 eP P 03 49 07.9 -1.1
KSR AMB AMB 03 49 08.3
comp=Z,33nm,1.9s
ERPM east rand prop 49.16 77 eP P 03 49 11.2 -0.5
ERPM AMB AMB 03 49 11.6
comp=Z,86nm,1.9s
OBSV Observatory 49.19 77 eP P 03 49 10.9 -1.0
OBSV AMB AMB 03 49 13.5
comp=Z,71nm,3.1s
TSUM Tsumeb 49.31 61⇑iP P 03 49 11.4 -1.4
TSUM Tsumeb 49.31 61 eP P 03 49 12.1 -0.7
comp=Z,89nm,1.4s
TSUM LR LR
comp=Z,2μm,19.0s
SLR Silverton 49.66 77 eP P 03 49 14.5 -1.0
SLR AMB AMB 03 49 15.4
comp=Z,94nm,1.8s
RCBR Riachuelo 49.98 348 PFAKE 03 49 30.0 +12
RCBR LR LR
comp=Z,2μm,20.0s
LPAZ La Paz 50.10 305 eP P 03 49 20.5 +1.1
comp=Z,195nm,1.4s
LPAZ LR LR
comp=Z,1μm,18.8s
LPAZ La Paz 50.10 305 P P 03 49 20.0 +0.6
comp=Z,62nm,0.9s,baz=136,slow=6.6,SNR=157
RUDU RUNDU 51.47 62 eP P 03 49 27.9 -1.2
RUDU AMB AMB 03 49 30.1
comp=Z,95nm,1.9s
MSNA Messina 53.31 76 eP P 03 49 39.8 -2.9
MSNA AMB AMB 03 49 43.1
comp=Z,74nm,1.7s
SAML Samuel 54.44 314 eP P 03 49 50.6 -0.3
comp=Z,68nm,1.2s
SAML LR LR
comp=Z,700nm,20.0s
CASY Casey 54.46 160 eP P 03 49 51.7 +1.2
comp=Z,31nm,1.0s
CASY LR LR
comp=Z,4μm,18.0s
DRV Dumont d'Urvil 57.83 174 P P 03 50 01.0 -13
DRV Dumont d'Urvil 57.83 174 PP PP 03 52 05.0 -17
DRV S S 03 57 57.0 -15
DRV SS SS 04 03 12.0 +70
DRV L L 04 06 00.0
DRV R 04 12 00.0
NNA Nana 58.03 298 eP P 03 50 17.8 +1.1
comp=Z,75nm,1.1s
LSZ Lusaka 58.07 69⇑iP P 03 50 15.8 -1.2
LSZ Lusaka 58.07 69 eP P 03 50 15.8 -1.2
comp=Z,52nm,1.4s
LSZ LR LR
comp=Z,4μm,18.0s
LIC Lamto 64.10 24 eP P 03 50 56.4 -1.3
comp=Z,255nm,1.4s
KIC Kosan Boka 64.30 25 eP P 03 50 57.7 -1.3
comp=Z,268nm,1.3s
TIC Toumodi 64.51 24 eP P 03 50 58.7 -1.7
comp=Z,244nm,1.3s
DBIC Dimbokro 64.57 25 eP P 03 50 59.9 -0.8
DBIC Dimbokro 64.57 25 eP P 03 51 00.0 -0.8
comp=Z,114nm,1.4s
DBIC LR LR
comp=Z,3μm,21.9s
DBIC Dimbokro 64.57 25 P P 03 51 00.6 -0.2
comp=Z,39nm,1.1s,baz=168,slow=7.8,SNR=22
DBIC LR LR 04 12 05.9
comp=Z,3μm,21.5s,baz=183,slow=29
OTAV Otavalo 69.39 303 eP P 03 51 33.8 +1.8
comp=Z,77nm,1.4s
OTAV LR LR
comp=Z,800nm,19.0s
ROSC El Rosal 71.58 309 eP P 03 51 45.6 +0.3
ROSC El Rosal 71.58 309 P P 03 51 45.6 +0.3
comp=Z,14nm,0.9s,baz=94,slow=5.1,SNR=13
ROSC LR LR 04 25 09.4
comp=Z,998nm,18.9s,baz=282,slow=38
MBAR Mbarara 71.79 63 eP P 03 51 47.2 +0.9
comp=Z,89nm,1.7s
TOA0 Torodi Ar. Sit 72.48 29 eP P 03 51 49.6 -0.5
TOA0 ePP PP 03 54 38.1 +6.4
TORD Torodi Ar. Bea 72.48 29 P P 03 51 49.6 -0.4
comp=Z,106nm,1.1s,baz=197,slow=5.2,SNR=222
TORD PP PP 03 54 38.1 +6.4
comp=Z,1.4nm,0.6s,baz=201,slow=5.8,SNR=6.2
TORD LR LR 04 17 41.1
comp=Z,926nm,21.2s,baz=180,slow=31
GRGR Grenville 73.32 325 PFAKE 03 52 10.0 +15
GRGR LR LR
comp=Z,2μm,20.0s
SDV Santo Domingo 73.64 315 eP P 03 51 57.3 +0.1
comp=Z,13nm,1.0s
SDV LR LR
comp=Z,200nm,19.0s
PAYG Puerto Ayora 74.57 292 PFAKE 03 52 10.0 +7.4
PAYG LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 74.74 69 eP P 03 52 06.3 +2.5
comp=Z,52nm,1.8s
KMBO LR LR
comp=Z,2μm,18.0s
KMBO Kilima Mbogo 74.74 69 P P 03 52 05.6 +1.8
comp=Z,4.3nm,0.9s,baz=213,slow=7.5,SNR=14
KMBO LR LR 04 22 53.4
comp=Z,2μm,18.0s,baz=8.0,slow=34
WHZ Wether Hill Ro 78.25 191 PFAKE 03 52 30.0 +7.0
WHZ LR LR
comp=Z,3μm,20.0s
DCZ Deep Cove 78.74 190 PFAKE 03 52 40.0 +14
DCZ LR LR
comp=Z,2μm,18.0s
ODZ Otahua Downs 78.78 193 PFAKE 03 52 40.0 +14
ODZ LR LR
comp=Z,3μm,18.0s
SABA Saba 78.97 325 PFAKE 03 52 40.0 +13
SABA LR LR
comp=Z,2μm,21.4s
RPZ Rata Peaks 80.03 193 PFAKE 03 52 40.0 +7.2
RPZ LR LR
comp=Z,2μm,19.0s
RPZ Rata Peaks 80.03 193 LR LR 04 26 07.7
comp=Z,2μm,18.3s,baz=164,slow=34
MTP Monte Pirata 80.19 323 PFAKE 03 52 50.0 +16
MTP LR LR
comp=Z,1μm,19.7s
SJG San Juan 80.41 323 PFAKE 03 52 50.0 +15
SJG LR LR
comp=Z,900nm,21.0s
SJG San Juan 80.41 323 LR LR 04 28 06.1
comp=Z,1μm,20.0s,baz=90,slow=36
CBYP Canovanas 80.46 323 PFAKE 03 52 50.0 +15
CBYP LR LR
comp=Z,1μm,18.3s
CRPR Cabo Rojo, PR 80.65 322 PFAKE 03 52 50.0 +14
CRPR LR LR
comp=Z,2μm,20.3s
AOPR Arecibo Observ 80.84 322 PFAKE 03 52 50.0 +13
AOPR LR LR
comp=Z,1μm,20.3s
RKT Rikitea 80.84 243 eS S 04 02 41.2 -2.8
comp=Z,465nm,40.8s
RKT eSS SS 04 07 59.4 +2.4
comp=Z,331nm,25.2s
RKT eLQ LQ 04 14 28.0
comp=Z,1μm,30.2s
RKT eLR LR 04 17 52.2
comp=Z,2μm,28.5s,baz=148
KHZ Kahutara 80.96 195 PFAKE 03 52 50.0 +12
KHZ LR LR
comp=Z,3μm,18.0s
JTS JuntasAbangare 81.26 302 eP P 03 52 37.2 -2.5
comp=Z,106nm,2.9s
SNZO South Karori 81.86 196 PFAKE 03 52 50.0 +7.5
SNZO LR LR
comp=Z,2μm,18.0s
BFZ Birch Farm 82.21 198 PFAKE 03 53 00.0 +16
BFZ LR LR
comp=Z,2μm,18.0s
SDDR Presa de Saban 83.08 318 PFAKE 03 53 00.0 +11
SDDR LR LR
comp=Z,1μm,19.4s
BKZ Black Stump Fm 83.64 198 PFAKE 03 53 00.0 +8.0
BKZ LR LR
comp=Z,2μm,19.0s
FURI Furi 83.95 65 PFAKE 03 53 10.0 +16
FURI LR LR
comp=Z,2μm,18.0s
URZ Urewera 84.41 199 PFAKE 03 53 10.0 +14
URZ LR LR
comp=Z,1μm,18.0s
URZ Urewera 84.41 199 LR LR 04 27 26.6
comp=Z,867nm,18.1s,baz=170,slow=34
MTDJ Mount Denham 84.89 313 PFAKE 03 53 10.0 +12
MTDJ LR LR
comp=Z,2μm,20.0s
GTBY Guantanamo Bay 85.42 315 PFAKE 03 53 10.0 +9.1
GTBY LR LR
comp=Z,2μm,18.0s
NWAO Narrogin (SRO) 86.82 151 LR LR 04 27 54.0
comp=Z,798nm,20.3s,baz=205,slow=33
TBI Tubuai 87.54 231 eS S 04 03 47.7 -3.4
comp=Z,282nm,30.0s
TBI eSS SS 04 09 29.5 -6.2
comp=Z,264nm,26.8s
TBI Tubuai 87.54 231 eLR LR 04 21 05.9
comp=Z,3μm,30.5s,baz=153
OUZ Omahuta 87.99 197 PFAKE 03 53 20.0 +6.6
OUZ LR LR
comp=Z,2μm,20.0s
APG El Apazote 88.00 300 LR LR 04 31 46.0
comp=Z,744nm,18.7s,baz=110,slow=35
MDT Midelt 89.98 19 LR LR 04 30 40.9
comp=Z,2μm,18.0s,baz=191,slow=34
RTC Rabat Centre 90.73 17 PFAKE 03 53 40.0 +14
RTC LR LR
comp=Z,4μm,22.0s
BBOO Buckleboo 90.92 166 PFAKE 03 53 40.0 +13
BBOO LR LR
comp=Z,9μm,18.3s
TEIG Tepich 91.43 305 eP P 03 53 30.7 +1.2
comp=Z,73nm,1.2s
TEIG Tepich 91.43 305 LR LR 04 34 46.3
comp=Z,480nm,18.1s,baz=103,slow=36
RAO Raoul Island 92.04 205 LR LR 04 27 59.6
comp=Z,582nm,19.4s,baz=137,slow=31
STKA Stephens Creek 92.49 170 eP P 03 53 35.1 +0.5
comp=Z,4.9nm,1.4s
STKA ePP PP 03 57 14.3 -0.5
STKA LR LR
comp=Z,500nm,18.0s
STKA Stephens Creek 92.49 170 P P 03 53 34.1 -0.4
comp=Z,2.0nm,0.6s,baz=184,slow=3.9,SNR=5.8
STKA PP PP 03 57 14.3 -0.5
comp=Z,1.7nm,0.7s,baz=129,slow=6.4,SNR=3.1
STKA LR LR 04 34 23.6
comp=Z,3μm,18.1s,baz=182,slow=35
PPT2 Papeete2 92.61 234 eSP SP 04 05 48.4 -0.5
comp=Z,527nm,28.5s
PPT2 eSS SS 04 10 56.1 +6.6
comp=Z,260nm,24.5s
PPT2 Papeete2 92.61 234 eLR LR 04 23 27.3
comp=Z,4μm,32.2s
PPT Papeete 92.63 234 LR LR 04 26 37.4
comp=Z,656nm,19.6s,baz=173,slow=30
ARMA Armidale 94.48 179 PFAKE 03 53 50.0 +6.1
ARMA LR LR
comp=Z,2μm,19.8s
H07S1 FLORES T-PHASE 94.52 357 T T 05 36 22.8
SNR=7.1
KEST Kesra 96.00 29 LR LR 04 35 30.8
comp=Z,340nm,18.1s,baz=168,slow=34
ESDC Sonseca Array 96.77 18 eP P 03 53 54.6 +0.9
ESDC Sonseca Array 96.77 18 P P 03 53 54.6 +0.9
comp=Z,1.3nm,0.9s,baz=186,slow=4.1,SNR=3.7
ESDC LR LR 04 32 51.4
comp=Z,889nm,20.6s,baz=195,slow=32
MBWA Marble Bar 98.63 149 PFAKE 03 54 10.0 +7.3
MBWA LR LR
comp=Z,1μm,19.0s
TIGA Tifton 99.09 314 PFAKE 03 54 20.0 +16
TIGA LR LR
comp=Z,2μm,20.6s
EIDS Eidsvold 99.50 178 PFAKE 03 54 20.0 +13
EIDS LR LR
comp=Z,700nm,18.8s
AS12 Alice Springs 99.55 162 eP Pdif 03 54 05.9 -0.9
AS12 ePP PP 03 58 09.8 +0.2
AS12 ePKKPdf PKKPbc 04 10 27.1 +0.8
ASAR Alice Springs 99.55 162 P Pdif 03 54 05.9 -0.9
comp=Z,3.5nm,0.8s,baz=189,slow=4.2,SNR=18
ASAR PP PP 03 58 09.8 +0.2
comp=Z,2.5nm,0.9s,baz=192,slow=7.3,SNR=7.3
ASAR PKKPbc PKKPbc 04 10 27.1 +0.8
comp=Z,1.0nm,1.0s,baz=15,slow=3.3,SNR=5.1
ASAR LR LR 04 35 37.0
comp=Z,1μm,20.4s,baz=187,slow=33
AS01 Alice Springs 99.56 162 eP Pdif 03 54 07.8 +0.9
AS01 ePP PP 03 58 09.5 -0.2
CNNC Cliffs of the 100.23 320 PFAKE 03 54 20.0 +11
CNNC LR LR
comp=Z,900nm,19.0s
CEL Celeste 100.27 33 PFAKE 03 54 20.0 +11
CEL LR LR
comp=Z,900nm,20.0s
CUC Castrocucco 101.83 32 PFAKE 03 54 30.0 +14
CUC LR LR
comp=Z,500nm,20.0s
DZM Mont Dzumac 101.95 193 eLR LR 04 27 36.0
comp=Z,2μm,22.2s
WRA Warramunga Arr 103.26 162 ePdif Pdif 03 54 22.4 -0.9
WRA ePP PP 03 58 38.0 +0.3
WRA Warramunga Arr 103.26 162 Pdiff Pdif 03 54 22.4 -0.9
comp=Z,1.1nm,0.9s,baz=196,slow=4.4,SNR=5.2
WRA PP PP 03 58 38.0 +0.3
comp=Z,0.9nm,0.8s,baz=185,slow=5.9,SNR=5.2
WRAB Tennant Creek 103.27 162 PFAKE 03 54 30.0 +6.6
WRAB LR LR
comp=Z,1μm,19.0s
SWET Sewanee 103.34 314 PFAKE 03 54 40.0 +17
SWET LR LR
comp=Z,800nm,19.1s
XMIS Christmas Isla 103.39 132 PFAKE 03 54 30.0 +6.1
XMIS LR LR
comp=Z,2μm,19.3s
TZTN Tazewell 103.53 316 PFAKE 03 54 40.0 +16
TZTN LR LR
comp=Z,800nm,19.1s
SDMD Soldier's Deli 103.57 322 PFAKE 03 54 40.0 +16
SDMD LR LR
comp=Z,700nm,19.8s
CSS Prodhromos 103.73 47 PFAKE 03 54 40.0 +15
CSS LR LR
comp=Z,600nm,20.0s
BRNJ Basking Ridge 103.94 325 PFAKE 03 54 40.0 +14
BRNJ LR LR
comp=Z,195μm,18.4s
PAL Palisades 104.02 325 PFAKE 03 54 40.0 +14
PAL LR LR
comp=Z,3μm,19.9s
VLC Villacollemand 104.17 27 PFAKE 03 54 40.0 +13
VLC LR LR
comp=Z,1μm,21.0s
ODNJ Ogdensburg 104.32 325 PFAKE 03 54 40.0 +13
ODNJ LR LR
comp=Z,1μm,19.4s
CTAO Charters Tower 104.56 173 PFAKE 03 54 40.0 +11
CTAO LR LR
comp=Z,2μm,20.0s
HRV Adam Dziewonsk 104.64 328 PFAKE 03 54 40.0 +11
HRV LR LR
comp=Z,1μm,21.0s
WVT Waverly 104.91 313 PFAKE 03 59 00.0
WVT LR LR
comp=Z,1μm,20.0s
RELT Roellen 105.44 312 ePdif Pdif 03 54 30.0 -2.4
SENIN Lac Senin/Sane 105.48 24 PFAKE 03 59 00.0
SENIN LR LR
comp=Z,2μm,20.4s
UTMT University of 105.52 312 PFAKE 03 59 00.0
UTMT LR LR
comp=Z,2μm,20.1s
PVMO Portageville 105.94 312 PFAKE 03 59 00.0
PVMO LR LR
comp=Z,2μm,20.0s
PALK Pallekele 106.00 101 PFAKE 03 59 00.0
PALK LR LR
comp=Z,1μm,18.0s
ACCN Adirondack Com 106.09 327 PFAKE 03 59 00.0
ACCN LR LR
comp=Z,1μm,19.9s
SIUC Southern Illin 106.84 313 PFAKE 03 59 00.0
SIUC LR LR
comp=Z,900nm,20.2s
CISI Cisompet, Garu 106.92 133 PFAKE 03 59 00.0
CISI LR LR
comp=Z,400nm,21.0s
BLO Bloomington 106.98 316 PFAKE 03 59 00.0
BLO LR LR
comp=Z,1μm,19.9s
ERPA Erie 107.08 322 PFAKE 03 59 00.0
ERPA LR LR
comp=Z,700nm,19.8s
OLIL Olney 107.24 314 PFAKE 03 59 00.0
OLIL LR LR
comp=Z,600nm,18.3s
FRNY Flat Rock 107.37 327 PFAKE 03 59 00.0
FRNY LR LR
comp=Z,1μm,20.0s
LONY Lake Ozonia 107.49 326 PFAKE 03 59 00.0
LONY LR LR
comp=Z,900nm,20.0s
PTN Potsdam (NY) 107.57 326 PFAKE 03 59 00.0
PTN LR LR
comp=Z,2μm,20.0s
MNAI Manna 107.64 127 PFAKE 03 59 00.0
MNAI LR LR
comp=Z,1μm,18.0s
UGM Wanagama 107.71 135 PFAKE 03 59 00.0
UGM LR LR
comp=Z,900nm,18.0s
ANTO Ankara 107.71 44 PFAKE 03 59 00.0
ANTO LR LR
comp=Z,600nm,20.0s
SOKA Soboth 107.74 29⇑iPKiKP PKiKP 03 58 52.3 +2.5
comp=Z,9.5nm,1.8s
BR101 Keskin Array S 107.93 45 ePKiKP PKiKP 03 58 50.0 -0.5
BR101 ePP PP 03 59 12.2 -1.2
BRTR Keskin Array B 107.93 45 PKiKP PKiKP 03 58 50.0 -0.5
comp=Z,0.6nm,0.8s,baz=243,slow=6.8,SNR=3.5
BRTR PP PP 03 59 12.2 -1.2
comp=Z,1.5nm,0.9s,baz=185,slow=7.4,SNR=5.9
SLM Saint Louis 108.04 313 PFAKE 03 59 00.0
SLM LR LR
comp=Z,800nm,19.7s
MNTX Cornudas Mount 109.36 298 PFAKE 03 59 10.0
MNTX LR LR
comp=Z,700nm,18.0s
GEC2 GERESS Array S 109.37 27 ePKiKP PKiKP 03 58 51.4 -1.4
GEC2 ePP PP 03 59 23.1 -0.5
GERES GERESS Array B 109.37 27 PKiKP PKiKP 03 58 51.4 -1.4
comp=Z,1.0nm,1.0s,baz=226,slow=7.3,SNR=3.5
GERES PP PP 03 59 23.1 -0.5
comp=Z,0.4nm,0.5s,baz=182,slow=9.1,SNR=4.6
KHC Kasperske Hory 109.60 27 AMS AMS 04 39 50.0
comp=Z,1μm,20.8s
PMBI Palembang 109.74 128 PFAKE 03 59 10.0
PMBI LR LR
comp=Z,1μm,18.0s
GSI Gunungsitoli 110.01 119 PFAKE 03 59 10.0
GSI LR LR
comp=Z,1μm,19.0s
SMOL Smolenice 110.08 30 eP Pdif 03 54 55.6 +2.9
SMOL Smolenice 110.08 30 PDIF Pdif 03 54 55.6 +2.9
TREC Trest 110.25 28 AMS AMS 04 46 10.0
comp=Z,2μm,19.7s
PSZ Piszkesteto 110.26 32 PFAKE 03 59 10.0
PSZ LR LR
comp=Z,900nm,19.0s
COEN Coen 110.38 170 PFAKE 03 59 10.0
COEN LR LR
comp=Z,8μm,19.3s
PRU Pruhonice 110.64 27 AMS AMS 04 40 40.0
comp=Z,1μm,21.3s
BKNI Bangkinang 110.86 123 PFAKE 03 59 10.0
BKNI LR LR
comp=Z,2μm,18.0s
PVCC Panska Ves 111.14 27 AMS AMS 04 40 40.0
comp=Z,1μm,20.3s
MMRI Maumere 111.21 147 PFAKE 03 59 10.0
MMRI LR LR
comp=Z,600nm,18.4s
MORC Moravsky Berou 111.25 29 PFAKE 03 59 10.0
MORC LR LR
comp=Z,1μm,19.0s
KRLC Kraliky 111.31 29 ePP PP 03 59 40.7 +3.1
CLL Collm 111.46 26 ePS PS 04 09 14.0 +4.4
CLL ePPS PPS 04 10 21.0
CLL eSS SS 04 15 16.0 +4.9
CLL LmV 04 41 00.0
comp=Z,700nm,21.8s
OKC Ostrava-Krasne 111.48 30 ePP PP 03 59 31.6 -7.1
OKC AMS AMS 04 45 20.0
comp=Z,900nm,18.6s
CRVS Cervenica-Dubn 111.61 32 eP Pdif 03 55 02.2 +2.7
CRVS Cervenica-Dubn 111.61 32 PDIF Pdif 03 55 02.2 +2.7
UZH Uzhgorod 111.62 33 ePKIKP 03 59 05.7
UZH *i* 03 59 11.9
STHS Stebnicka Huta 112.00 32 eP Pdif 03 55 02.1 +0.9
STHS Stebnicka Huta 112.00 32 PDIF Pdif 03 55 02.1 +0.9
SCIA State Center 112.03 313 PFAKE 03 59 10.0
SCIA LR LR
comp=Z,1μm,21.0s
OJC Ojcow 112.29 30 PFAKE 03 59 10.0
OJC LR LR
comp=Z,800nm,18.2s
ANMO Albuquerque 112.50 299 PFAKE 03 59 10.0
ANMO LR LR
comp=Z,700nm,20.0s
KWP Kalwaria Pacla 112.63 33 PFAKE 03 59 10.0
KWP LR LR
comp=Z,2μm,21.0s
GNI Garni 113.03 52 PFAKE 03 59 10.0
GNI LR LR
comp=Z,600nm,21.0s
LHMI Lhok Sumawe 113.05 116 PFAKE 03 59 10.0
LHMI LR LR
comp=Z,900nm,20.0s
MYKOM Kota Tinggi 113.47 125 PFAKE 03 59 10.0
MYKOM LR LR
comp=Z,700nm,18.0s
KAPI Kappang 113.81 143 PFAKE 03 59 10.0
KAPI LR LR
comp=Z,400nm,21.0s
SDCO Great Sand Dun 114.24 302 PFAKE 03 59 10.0 +7.3

SDCO LR LR
comp=Z,500nm,19.0s
W18A Petrified Fore 114.28 297 PFAKE 03 59 10.0 +7.2
W18A LR LR
comp=Z,900nm,19.6s
IPM Ipoh 114.46 120 PFAKE 03 59 20.0 +16
IPM LR LR
comp=Z,1μm,18.0s
SPMN St. Paul 114.59 315 PFAKE 03 59 10.0 +7.2
SPMN LR LR
comp=Z,500nm,18.4s
ECSD EROS Data Cent 114.96 311 PFAKE 03 59 20.0 +16
ECSD LR LR
comp=Z,1μm,19.0s
HNR Honiara 115.11 188 PFAKE 03 59 20.0 +15
HNR LR LR
comp=Z,1μm,18.0s
KIV Kislovodsk 115.20 48 *i* PKIKP **PKPdf** **03 59 03.6 -0.5**
KIV *e* 04 00 04.6
KIV *e*PS **PS** **04 09 45.1 +0.8**
KIV *e*SS SS 04 16 01.4 +0.4
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,643nm,20.0s
PMG Port Moresby 115.21 174 PFAKE 03 59 20.0 +15
PMG LR LR
comp=Z,2μm,19.0s
MVCO Mesa Verde 115.30 299 PFAKE 03 59 20.0 +15
MVCO LR LR
comp=Z,700nm,19.0s
AK11 Malin Array Si 115.61 36 *e*PKPdf **PKPdf** **03 59 03.2 -1.3**
KIEV Kiev 115.64 36 *i* PKIKP **PKPdf** **03 59 04.6 0.0**
AKASG Malin Array Be 115.65 36 PKP **PKPdf** **03 59 04.0 -0.6**
comp=Z,0.7nm,0.7s,baz=236,slow=1.7,SNR=6.0
AKASG PP **PP** **04 00 05.7 -2.7**
comp=Z,0.2nm,0.4s,baz=204,slow=6.3,SNR=5.3
AKBB Malin Array Si 115.65 36 *e*PKIKP **PKPdf** **03 59 04.0 -0.6**
AKBB *e* 04 00 05.7
AKBB Malin Array Si 115.65 36 *e*PKPdf **PKPdf** **03 59 04.0 -0.6**
AKBB *e*PP **PP** **04 00 05.7 -2.6**
EML El Monte Cty P 116.27 290 *e*Pdif **Pdif** **03 55 14.6 -6.0**
EYMN Ely 116.30 317 PFAKE 03 59 20.0 +14
EYMN LR LR
comp=Z,900nm,18.7s
BRSD Miller 116.53 310 PFAKE 03 59 20.0 +13
BRSD LR LR
comp=Z,900nm,20.1s
SUW Suwalki 116.62 30 PFAKE 03 59 20.0 +14
SUW LR LR
comp=Z,1μm,19.0s
LDFC Landfair 117.03 293 PFAKE 03 59 20.0 +12
LDFC LR LR
comp=Z,500nm,19.3s
O20A White River Ci 117.44 301 PFAKE 03 59 20.0 +11
O20A LR LR
comp=Z,800nm,19.3s
SRU San Rafael 117.78 299 PFAKE 03 59 20.0 +11
SRU LR LR
comp=Z,600nm,18.2s
SBUM Sibu 117.79 133 PFAKE 03 59 20.0 +10
SBUM LR LR
comp=Z,600nm,20.0s
PASC Pasadena Art C 117.96 290 *e*Pdif **Pdif** **03 55 27.8 -0.3**
ROA Roan Cliffs 118.12 300 *e*Pdif **Pdif** **03 55 28.1 -1.1**
SHPR Sheep Range 118.14 294 *e*PKPdf **PKPdf** **03 59 11.8 +1.7**
MVU Marysvale 118.16 298 *e*PKPdf **PKPdf** **03 59 11.4 +1.2**
AGMN Agassiz Nation 118.31 315 PFAKE 03 59 20.0 +10
AGMN LR LR
comp=Z,700nm,20.0s
KONO Kongsberg 118.40 20 PFAKE 03 59 20.0 +10
KONO LR LR
comp=Z,192nm,18.0s
LUWI Luwuk 118.53 145 PFAKE 03 59 20.0 +8.6
LUWI LR LR
comp=Z,500nm,19.0s
RSSD Black Hills 118.54 307 PFAKE 03 59 20.0 +9.3
RSSD LR LR
comp=Z,1μm,20.0s
LEVU Levan 118.72 299 *e*Pdif **Pdif** **03 55 24.5 -7.2**
LEVU *e* 03 55 31.6
MPU Maple Canyon 119.02 299 PFAKE 03 59 20.0 +8.3
MPU LR LR
comp=Z,901nm,19.2s
NLU North Lily Min 119.19 299 PFAKE 03 59 20.0 +7.9
NLU LR LR
comp=Z,800nm,19.3s
ISA Isabella 119.25 291 *e*PKIKP **PKPdf** **03 59 14.3 +2.1**
ISA Isabella 119.25 291 *e*PKPdf **PKPdf** **03 59 14.2 +2.1**
MDND Maddock 119.50 312 PFAKE 03 59 20.0 +7.9
MDND LR LR
comp=Z,1μm,20.8s
CARC Carrizo Plain 119.71 290 *e*Pdif **Pdif** **03 55 35.5 -0.5**
DUG Dugway 119.74 298 PFAKE 03 59 30.0 +17
DUG LR LR
comp=Z,700nm,18.0s
R11A Troy Canyon, C 119.76 295 PFAKE 03 59 30.0 +17
R11A LR LR
comp=Z,400nm,20.5s
ULM Lac du Bonnet 119.87 316 *e*PKPdf **PKPdf** **03 59 12.3 -0.4**
ULM LR LR
comp=Z,1μm,19.9s
ULM Lac du Bonnet 119.87 316 PKP **PKPdf** **03 59 12.3 -0.4**
comp=Z,2.0nm,0.7s,baz=118,slow=2.2,SNR=2.9
TOLI Toli-Toli 119.89 142 PFAKE 03 59 20.0 +6.0
TOLI LR LR
comp=Z,500nm,20.0s
NB2 NORSAR Subarra120.00 20 PKPdf **PKPdf** **03 59 11.7 -1.0**
comp=Z,13nm,1.7s,baz=202,slow=1.9
NB2 NORSAR Subarra120.00 20 PKPdf **PKPdf** **03 59 11.7 -1.0**
baz=202,slow=1.9
NB200 NORSAR Array S 120.00 20 *e*PKPdf **PKPdf** **03 59 12.4 -0.3**
NOA NORSAR Array B 120.00 20 PKP **PKPdf** **03 59 12.4 -0.3**
comp=Z,3.0nm,1.0s,baz=196,slow=1.8,SNR=4.3
PD31 Pinedale Array 120.09 302 *e*PKPdf **PKPdf** **03 59 13.3 -0.5**
PDAR Pinedale Array 120.09 302 PKP **PKPdf** **03 59 12.9 -0.8**
comp=Z,0.5nm,0.4s,baz=125,slow=5.6,SNR=6.2
PDAR PKKPab **PKKPab** **04 09 22.9 +1.5**
comp=Z,0.6nm,0.8s,baz=17,slow=1.5,SNR=4.7
SPUT South Promonto 120.40 299 *e*PKPdf **PKPdf** **03 59 14.8 +0.5**
SPUT LR LR
comp=Z,500nm,18.3s
TPH Tonopah 120.41 294 PFAKE 03 59 30.0 +16
TPH LR LR
comp=Z,500nm,21.0s
AHID Auburn Hatcher 120.83 301 PFAKE 03 59 30.0 +15
AHID LR LR
comp=Z,700nm,19.0s
KBL Kabul 120.90 73 PFAKE 03 59 30.0 +14
KBL LR LR
comp=Z,500nm,18.1s
REDW Red Top Meadow 121.16 302 PFAKE 03 59 30.0 +14
REDW LR LR
comp=Z,600nm,20.3s
LOHW Long Hollow 121.23 302 *e*PKPdf **PKPdf** **03 59 16.3 +0.4**
NV01 Mina Array Sit 121.24 293 *e*PKPdf **PKPdf** **03 59 17.4 +1.4**
TPAW Teton Pass 121.30 302 *e*PKPdf **PKPdf** **03 59 15.6 -0.5**
ELK Elko 121.38 297 *e*PKPdf **PKPdf** **03 59 17.9 +1.5**
ELK LR LR
comp=Z,600nm,18.0s
MOOW Moose Ponds 121.40 302 *e*PKPdf **PKPdf** **03 59 16.9 +0.7**
LAO LASA Array 121.50 308 PFAKE 03 59 30.0 +14
LAO LR LR
comp=Z,900nm,18.0s
FLWY Flagg Ranch 121.63 303 PFAKE 03 59 30.0 +13
FLWY LR LR
comp=Z,700nm,19.2s
H17A Grant Village 121.80 303 PFAKE 03 59 30.0 +13
H17A LR LR
comp=Z,1μm,19.8s
OBN Obninsk 121.80 37 *e*PKIKP **PKPdf** **03 59 17.0 +0.8**
OBN *e* 04 00 49.1
OBN *e*PS **PS** **04 10 48.9 +5.5**
OBN *e*SS SS 04 17 25.2 -0.7
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,400nm,19.0s
YFT Old Faithful 121.97 303 PFAKE 03 59 30.0 +13
YFT LR LR
comp=Z,2μm,18.7s
GCMT Greycliff 122.41 305 *e*PKPdf **PKPdf** **03 59 17.2 -0.8**
BOZ Bozeman (W) 123.23 303 PFAKE 03 59 30.0 +10
BOZ LR LR
comp=Z,900nm,18.0s

DLMT Dillon 123.48 303 *e*PKPdf **PKPdf** **03 59 22.7 +2.6**
FIA0 FINESS Array S 123.80 28 *e*PKIKP **PKPdf** **03 59 19.5 -0.4**
FIA0 FINESS Array S 123.80 28 *e*PKPdf **PKPdf** **03 59 19.5 -0.4**
FINES FINESS Array B 123.80 28 PKP **PKPdf** **03 59 19.5 -0.4**
comp=Z,9.1nm,0.9s,baz=156,slow=0.9,SNR=14
EGMT Eagleton 124.10 306 PFAKE 03 59 30.0 +8.9
EGMT LR LR
comp=Z,800nm,21.0s
HRY Holter Researc 124.10 304 *e*PKPdf **PKPdf** **03 59 21.8 +0.6**
KAF Kangasniemi 124.42 27 *e*PKIKP **PKPdf** **03 59 20.9 -0.2**
KAF pmax pmax
comp=Z,18nm,1.0s
KAF Kangasniemi 124.42 27 *ep* **PKPdf** **03 59 20.9 -0.2**
comp=Z,18nm,1.0s
J08A Circle Bar Ran 124.93 297 *e*PKPdf **PKPdf** **03 59 25.3 +2.4**
CM01 Chiang Mai Arr 125.17 110 *e*PKPdf **PKPdf** **03 59 23.8 -0.1**
MSO Missoula 125.19 303 *e*PKPdf **PKPdf** **03 59 23.5 +0.2**
MSO LR LR
comp=Z,1μm,18.0s
CM31 Chiang Mai Arr 125.19 110 *e*PKPdf **PKPdf** **03 59 24.1 +0.1**
CMAR Chiang Mai Arr 125.19 110 PKP **PKPdf** **03 59 24.2 +0.2**
comp=Z,4.8nm,0.7s,baz=238,slow=3.7,SNR=14
BMO Blue Mountains 125.42 299 *e*PKIKP **PKPdf** **03 59 24.5 +0.8**
BMO MLR MLR
comp=Z,800nm,18.0s
BMO Blue Mountains 125.42 299 *e*PKPdf **PKPdf** **03 59 24.5 +0.8**
BMO LR LR
comp=Z,800nm,18.0s
CHTO Chiang Mai 125.49 110 *e*PKIKP **PKPdf** **03 59 25.4 +0.9**
CHTO MLR MLR
comp=Z,600nm,19.0s
CHTO Chiang Mai 125.49 110 *e*PKPdf **PKPdf** **03 59 25.4 +0.9**
CHTO LR LR
comp=Z,600nm,19.0s
SWMT Swartz Lake 125.70 304 *e*PKPdf **PKPdf** **03 59 24.2 0.0**
I07A Izee 125.97 297 *e*PKPdf **PKPdf** **03 59 26.0 +1.1**
PINOR Pine Mountain 126.48 296 PFAKE 03 59 40.0 +14
PINOR LR LR
comp=Z,1μm,19.3s
AKTO Aktyubinsk 126.89 53 PKIKP **PKPdf** **03 59 25.7 -0.5**
AKTO pmax pmax
comp=Z,22nm,1.1s
AKTO Aktyubinsk 126.89 53 PKP **PKPdf** **03 59 25.7 -0.5**
comp=Z,8.9nm,0.9s,baz=206,slow=2.2,SNR=24
AKTO PP **PP** **04 01 24.8 -0.3**
comp=Z,6.0nm,1.0s,baz=247,slow=7.9,SNR=4.3
AB31 Akbulak array 126.95 55 *i* PKIKP **PKPdf** **03 59 26.1 -0.3**
AB31 pmax pmax
comp=Z,28nm,1.3s
ABKAR Akbulak array 126.95 55 *e*PKPdf **PKPdf** **03 59 25.8 -0.6**
SHL Shillong 126.98 98 *e*P **PKPdf** **03 59 27.0 -0.5**
SHL *ex* x 04 00 22.0
NEW Newport 127.73 302 PFAKE 03 59 40.0 +12
NEW LR LR
comp=Z,1μm,20.0s
KK31 Karatay Array 127.90 67 *i* PKIKP **PKPdf** **03 59 28.1 -0.3**
KK31 pmax pmax
comp=Z,24nm,1.1s
KKAR Karatay Array 127.90 67 *e*PKIKP **PKPdf** **03 59 28.3 -0.2**
KKAR Karatay Array 127.90 67 *e*PKPdf **PKPdf** **03 59 28.2 -0.2**
C09A Chrisman Ranch 127.97 301 PFAKE 03 59 40.0 +12
C09A LR LR
comp=Z,1μm,19.5s
SUMG Summit 127.97 356 PFAKE 03 59 40.0 +12
SUMG LR LR
comp=Z,700nm,20.0s
KSH Kashi 128.32 74 PKP **PKPdf** **03 59 30.0 +0.5**
KSH sPKP 03 59 44.3
KSH PKS **PKSdf** **04 03 05.1 -1.0**
KSH SKS **SKSdf** **04 06 36.1 -3.1**
KSH SKKS **SKKSac** **04 08 25.3 -4.1**
KSH SS **SS** **04 18 45.1 -3.5**
KSH AMB AMB
comp=Z,210nm,6.3s
KSH LR LR
comp=Z,470nm,7.7s
AML Almayashu 128.91 70 P **PKPdf** **03 59 31.0 +0.2**
SNR=20
TMCR Tamitsa 129.30 31 *e*PKIKP **PKPdf** **03 59 31.1 +0.8**
TMCR pmax pmax
comp=Z,60nm,1.3s
EKS2 Erkin-Say 129.32 69 *e*PKIKP **PKPdf** **03 59 30.9 -0.4**
EKS2 MLR MLR
comp=Z,700nm,19.0s
EKS2 Erkin-Say 129.32 69 P **PKPdf** **03 59 31.7 +0.4**
SNR=19
EKS2 Erkin-Say 129.32 69 *e*PKPdf **PKPdf** **03 59 30.9 -0.4**
EKS2 LR LR
comp=Z,700nm,19.0s
EDM Edmonton 129.39 309 *e*PKIKP **PKPdf** **03 59 31.0 0.0**
EDM Edmonton 129.39 309 *e*PKPdf **PKPdf** **03 59 31.0 0.0**
EDM *e*PP **PP** **04 01 37.4 -4.1**
UCH Uchtor 129.42 70 P **PKPdf** **03 59 32.5 +0.5**
SNR=20
AAK Ala-Archa 129.69 70 *e*PKIKP **PKPdf** **03 59 31.5 -0.6**
AAK *e* 04 01 45.4
AAK MLR MLR
comp=Z,700nm,20.0s
AAK Ala-Archa 129.69 70 P **PKPdf** **03 59 32.5 +0.5**
SNR=13
AAK Ala-Archa 129.69 70 *e*PKPdf **PKPdf** **03 59 31.5 -0.6**
AAK *e*PP **PP** **04 01 45.4 +1.7**
AAK LR LR
comp=Z,700nm,20.0s
KZA Kyzart 129.71 71 P **PKPdf** **03 59 32.9 +0.4**
SNR=13
LSA Lhasa 129.74 94 PFAKE 03 59 40.0 +7.0
LSA LR LR
comp=Z,700nm,20.0s
PRGR Permogore 129.86 36⇑ *i*PKIKP **PKPdf** **03 59 31.7 +0.2**
PRGR 04 01 45.8
PRGR pmax pmax
comp=Z,35nm,0.9s
FRU Bishkek 129.89 70⇑ *i*PKIKP **PKPdf** **03 59 31.0 -1.3**
FRU pmax pmax
comp=Z,76nm,1.8s
KBK Karagaybulak 129.94 70 P **PKPdf** **03 59 32.8 +0.2**
SNR=6.8
USP Ospenovka 130.12 69 *i* PKIKP **PKPdf** **03 59 34.3 +1.6**
USP Ospenovka 130.12 69 P **PKPdf** **03 59 34.4 +1.6**
SNR=9.0
ARA0 ARCESS Array S 130.34 21 *e*PKPdf **PKPdf** **03 59 31.8 -0.4**
ARA0 *e*PP **PP** **04 01 47.8 +0.5**
ARCES ARCESS Array B 130.34 21 PKP **PKPdf** **03 59 31.9 -0.3**
comp=Z,23nm,1.0s,baz=232,slow=1.4,SNR=17
ARCES PP **PP** **04 01 47.8 +0.5**
comp=Z,9.5nm,1.0s,baz=325,slow=1.5,SNR=4.1
TKM2 Tokmak 2 130.47 70 PFAKE 03 59 50.0 +16
TKM2 LR LR
comp=Z,600nm,21.0s
APA Apatity 130.61 26 *e*PKIKP PKPdf 03 59 40.0 +7.2
KEV Kevo 130.83 22 PFAKE 03 59 40.0 +6.9
KEV LR LR
comp=Z,1μm,21.0s
ARU Arti 131.22 47 *i* PKIKP **PKPdf** **03 59 34.8 +0.6**
ARU PPP PPP 04 04 39.8
QIZ Qiongzhong 131.29 121 PKP **PKPdf** **03 59 35.8 +0.2**
QIZ SS SS 04 19 24.4 +0.1
QIZ LR LR
comp=Z,900nm,18.5s
QIZ Qiongzhong 131.29 121 PFAKE 03 59 50.0 +14
QIZ LR LR
comp=Z,900nm,19.0s
SVE Sverdlovsk 132.35 48 *i* PKIKP **PKPdf** **03 59 37.1 +0.7**
SVE pmax pmax
comp=Z,58nm,1.5s
SVE MLR MLR
comp=Z,1μm,25.0s
SOKR Solikamsk 132.56 43 *i* PKIKP **PKPdf** **03 59 37.7 +1.1**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
KMI Kunming 132.65 109 PKP **PKPdf** **03 59 39.3 +1.0**
KMI sPKP 03 59 50.9
KMI PP **PP** **04 02 07.6 +4.8**
KMI AMB AMB
comp=Z,140nm,6.9s
KMI LR LR
comp=Z,440nm,24.3s
KMI LR LR
comp=Z,240nm,25.2s
KMI LR LR
comp=Z,670nm,22.5s
BRVK Borovoye 134.34 57 *e*PKIKP **PKPdf** **03 59 40.5 +0.3**
BRVK *e* 04 02 11.2
BRVK Borovoye 134.34 57 *e*PKPdf **PKPdf** **03 59 40.5 +0.3**

BRVK *e*PP **PP** **04 02 11.2 -2.1**
BVA0 Borovoye Array 134.38 57 *i* PKIKP **PKPdf** **03 59 39.8 -0.5**
BVA0 pmax pmax
comp=Z,24nm,1.3s
BVAR Borovoye Array 134.38 57 PKP **PKPdf** **03 59 40.0 -0.3**
comp=Z,16nm,0.9s,baz=222,slow=2.0,SNR=24
YKA Yellowknife Ar 135.77 318 PKhKP PKPpre 03 59 30.5
comp=Z,1.1nm,0.9s,baz=112,slow=2.9,SNR=4.2
YKA PP **PP** **04 02 21.6 -0.5**
comp=Z,2.3nm,1.0s,baz=116,slow=6.7,SNR=8.2
YKA SKPab **SKiKP** **04 03 20.6 +2.4**
comp=Z,1.2nm,0.8s,baz=119,slow=3.1,SNR=3.6
YKB5 Yellowknife Ar 135.77 318 *e*PKPpre PKPpre 03 59 30.8
YKB5 *e*PKPdf **PKPdf** **03 59 43.1 +0.5**
YKB5 *e*PP **PP** **04 02 21.1 -1.0**
GYA Guiyang 135.81 112 Pdif **Pdif** **03 56 47.8 -0.1**
GYA PKP **PKPdf** **03 59 44.0 -0.1**
GYA sPKP 03 59 58.4
GYA PP **PP** **04 02 27.6 +4.8**
GYA PKS **PKSdf** **04 03 19.0 -1.5**
GYA SKKS 04 09 13.3
GYA SS **SS** **04 20 20.8 +1.2**
GYA AMB AMB
comp=Z,250nm,8.0s
MK01 Makanchi Array 136.60 71 *e*PKPdf **PKPdf** **03 59 44.8 +0.1**
MK01 *e*PP **PP** **04 02 27.3 -0.4**
MK31 Makanchi Array 136.60 71 PKIKP **PKPdf** **03 59 45.0 +0.3**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK32 Makanchi Array 136.60 71 *e*PKPpre PKPpre 03 59 31.5
MK32 *e*PKPdf **PKiKP** **03 59 45.8 -0.7**
MKAR Makanchi Array 136.60 71 *e*PKIKP **PKPdf** **03 59 44.6 -0.1**
MKAR *e* 04 02 29.3
MKAR Makanchi Array 136.60 71 *e*PKPdf **PKPdf** **03 59 44.6 -0.1**
MKAR *e*PP **PP** **04 02 29.2 +1.5**
MKAR Makanchi Array 136.60 71 PKhKP PKPpre 03 59 31.5
comp=Z,0.4nm,0.7s,baz=212,slow=35,SNR=2.5
MKAR PKP **PiKP** **03 59 45.8 -0.7**
comp=Z,6.2nm,1.0s,baz=247,slow=3.1,SNR=16
KURBB Kurchatov Arra 136.96 64 PKhKP PKPpre 03 59 36.5
comp=Z,0.4nm,0.5s,baz=236,slow=4.5,SNR=5.1
KURBB PKP **PKPdf** **03 59 46.1 +0.9**
comp=Z,4.9nm,0.9s,baz=233,slow=3.0,SNR=8.6
KURBB PP **PP** **04 02 30.7 +0.9**
comp=Z,0.8nm,0.9s,baz=242,slow=5.8,SNR=4.9
KURK Kurchatov 137.06 64 *e*PKHKP PKPpre 03 59 36.5
KURK *e* 03 59 46.1
KURK *e* 04 02 30.7
KURK Kurchatov 137.06 64 *e*PKPpre PKPpre 03 59 36.5
KURK *e*PKPdf **PKPdf** **03 59 46.1 +0.7**
KURK *e*PP **PP** **04 02 30.7 +0.3**
RES Resolute Bay 137.32 339 *e*PKPdf **PKPdf** **03 59 46.2 +1.1**
WMQ Urumqi 137.69 78 PKP **PKPdf** **03 59 48.0 +1.1**
WMQ PP PP 04 02 40.0 +5.4
WMQ PKS **PKSdf** **04 03 23.0 0.0**
WMQ SKS **SKSdf** **04 06 53.0 -2.5**
WMQ SKKS **SKKSac** **04 09 26.0 -0.3**
WMQ SS **SS** **04 20 43.0 +0.9**
WMQ AMB AMB
comp=Z,65nm,10.0s
WMQ LR LR
comp=Z,620nm,28.0s
WMQ LR LR
comp=Z,400nm,26.0s
WMQ LR LR
comp=Z,620nm,28.0s
CD2 Chengdu 137.73 105 *e*PKP **PKPdf** **03 59 47.6 +0.2**
CD2 sPKP 04 00 02.5
CD2 PP **PP** **04 02 39.1 +4.3**
CD2 PKS **PKSdf** **04 03 22.8 -0.8**
CD2 SKS **SKSdf** **04 06 53.1 -3.1**
CD2 SKKS **SKKSac** **04 09 25.5 -1.5**
CD2 SS **SS** **04 20 43.4 +1.0**
CD2 AMB AMB
comp=Z,220nm,8.4s
CD2 LR LR
comp=Z,640nm,21.4s
CD2 LR LR
comp=Z,1μm,17.8s
ENH Enshi 140.34 111 PFAKE 04 00 00.0 +7.8
ENH LR LR
comp=Z,700nm,20.0s
LZH Lanzhou 141.63 99 *e*PKP **PKPdf** **03 59 55.0 +0.5**
LZH sPKP 04 00 09.8
LZH PP PP 04 03 04.1 +5.2
LZH *e*SS SS 04 21 28.0 -0.5
LZH AMB AMB
comp=Z,260nm,6.3s
LZH LR LR
comp=Z,470nm,16.3s
LZH LR LR
comp=Z,520nm,17.6s
LZH LR LR
comp=Z,820nm,19.9s
GTA Gaotai 141.66 92 PKP **PKPdf** **03 59 50.8 -3.6**
GTA sPKP 04 00 05.1
GTA PKS **PKSdf** **04 03 26.4 -3.9**
GTA AMB AMB
comp=Z,240nm,5.7s
GTA LR LR
comp=Z,290nm,20.0s
GTA LR LR
comp=Z,400nm,19.0s
GTA LR LR
comp=Z,500nm,19.5s
NVS Novosibirsk 141.68 61⇑ *i*PKHKP PKPpre 03 59 47.6
NVS pmax pmax
comp=Z,43nm,1.7s
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,10.0nm,1.4s
ZAA0 Zalesovo Array 142.02 63 *e*PKPpre PKPpre 03 59 49.9
ZAA0 *e*PKPdf **PKiKP** **03 59 56.8 -0.4**
ZALV Zalesovo Beam 142.02 63 PKhKP PKPpre 03 59 49.8
comp=E,2.2nm,0.7s,baz=228,slow=1.8,SNR=8.3
XAN Xi'an 142.94 107 PKP **PKPdf** **04 00 00.1 +3.4**
HYT Haines Junctio 144.49 308 *e*PKPdf **PKPdf** **03 59 58.4 -0.2**
HVS Khovu-Aksy 145.25 72 *i* PKIKP **PKPbc** **03 59 59.9 -0.1**
INK Inuvik 145.38 321 *e*PKPdf **PKPab** **04 00 00.2 +0.2**
INK *e*PKPbc **PKPbc** **04 00 01.6 +1.9**
INK LR LR
comp=Z,1μm,19.6s
DAWY Dawson 146.44 313 *e*PKPdf **PKPbc** **04 00 03.4 +0.2**
DAWY *e*PKPbc **PKPab** **04 00 04.8 +0.5**
NJ2 Nanjing 146.58 120 *e*PKPbc **PKPbc** **04 00 04.8 +0.3**
NJ2 PKPab **PKiKP** **04 00 06.6 -0.7**
NJ2 pPKP **pPKPdf** **04 00 11.3 -0.3**
NJ2 sPKP 04 00 18.3
NJ2 PP **PP** **04 03 28.5 +0.4**
NJ2 LR LR
comp=Z,400nm,23.0s
NJ2 LR LR
comp=Z,400nm,23.2s
NJ2 LR LR
comp=Z,400nm,22.5s
SSE Sheshan 146.92 124 PKPbc **PKPdf** **04 00 03.4 -0.2**
SSE PP **PP** **04 03 34.8 +4.8**
SSE SS SS 04 22 28.9 +0.7
SSE AMB AMB
comp=Z,310nm,9.3s
SSE LR LR
comp=Z,700nm,17.9s
SSE LR LR
comp=Z,340nm,17.9s
SSE LR LR
comp=Z,1μm,16.6s
BTO Baotou 148.25 100 *e*PKPbc **PKPdf** **04 00 03.6 -2.0**
DOT Dot Lake 148.31 311 *e*PKPbc **PKPbc** **04 00 09.5 +1.1**
DIV Divide 148.37 306 *e*PKPbc **PKPbc** **04 00 09.8 +1.1**
PAX Paxson 148.75 309 *e*PKHKP PKPpre 04 00 09.7
PAX MLR MLR
comp=Z,600nm,21.5s
PAX Paxson 148.75 309 *e*PKPbc **PKPbc** **04 00 09.7 +0.1**
PAX LR LR
comp=Z,600nm,21.5s
HHC Hu-ho-hao-te 149.28 101 *e*PKPbc **PKPdf** **04 00 07.3 0.0**
HHC pPKP **PKPab** **04 00 17.4 +1.1**
HHC sPKP 04 00 21.6
HHC PKS **PKSdf** **04 03 40.6 -1.6**
HHC PP **PP** **04 03 48.0 +3.7**
HHC SKS **SKSdf** **04 07 10.3 -3.1**
HHC SKKS **SKKSac** **04 10 31.4 -1.7**
HHC SS **SS** **04 22 54.5 -1.1**

HHC				AMB	AMB			
	comp=Z,290nm,9.1s							
HHC				LR	LR			
	comp=Z,390nm,21.0s							
HHC				LR	LR			
	comp=Z,700nm,20.6s							
HHC				LR	LR			
	comp=Z,880nm,21.2s							
MOY	**Mondy**	**149.49**	**75**	*e*PKIKP	**PKPdf**	**04 00 07.9**	**+0.6**	
MOY				pmax	pmax			
	comp=Z,137nm,1.9s							
IL1	**Eielson Array**	**149.77**	**312**	*e*PKPbc	**PKPbc**	**04 00 12.1**	**+0.2**	
ILAR	**Eielson Array**	**149.77**	**312**	PKP	**PKPdf**	**04 00 05.4**	**-1.8**	
	comp=Z,1.2nm,1.0s,baz=325,slow=1.0,SNR=9.2							
ILAR				PKPbc	**PKPbc**	**04 00 11.7**	**-0.2**	
	comp=Z,25nm,0.9s,baz=130,slow=2.5,SNR=141							
ILB	**Eielson Array**	**149.77**	**312**	*e*PKPbc	**PKPbc**	**04 00 12.9**	**+1.0**	
SEW	**Seward**	**149.79**	**303**	*e*PKPbc	**PKPbc**	**04 00 12.8**	**+0.7**	
PMR	**Palmer**	**150.05**	**306**	*e*PKIKP	**PKPdf**	**04 00 09.3**	**+1.7**	
PMR	**Palmer**	**150.05**	**306**	*e*PKPdf	**PKPdf**	**04 00 09.3**	**+1.7**	
ZAK	**Zakamensk**	**150.15**	**79**	*e*PKIKP	**PKPdf**	**04 00 06.8**	**-1.6**	
ZAK				*e*		04 00 13.6		
ZAK				pmax	pmax			
	comp=Z,50nm,1.3s							
COLA	**College**	**150.19**	**312**	*i* PKIKP	**PKPbc**	**04 00 13.3**	**+0.4**	
COLA	**College**	**150.19**	**312**	*e*PKPbc	**PKPbc**	**04 00 13.9**	**+1.0**	
RC01	**Rabbit Creek A**	**150.20**	**305**	*e*PKPbc	**PKPbc**	**04 00 13.0**	**-0.1**	
MCK	**McKinley**	**150.45**	**310**	*e*PKIKP	**PKPbc**	**04 00 14.6**	**+0.9**	
MCK	**McKinley**	**150.45**	**310**	*e*PKPbc	**PKPbc**	**04 00 14.6**	**+0.9**	
SONA0	**Songino Array**	**150.60**	**85**	*e*PKPdf	**PKPdf**	**04 00 08.1**	**-1.1**	
SONA0				*e*PKPbc	**PKPbc**	**04 00 14.4**	**-0.3**	
SONM	**Songino Array**	**150.60**	**85**	PKP	**PKPdf**	**04 00 08.1**	**-1.1**	
	comp=Z,3.4nm,1.0s,baz=214,slow=1.5,SNR=17							
SONM				PKPbc	**PKPbc**	**04 00 14.4**	**-0.3**	
	comp=Z,35nm,0.9s,baz=215,slow=3.7,SNR=59							
SONA1	**Songino Array**	**150.61**	**85**	*e*PKPbc	**PKPbc**	**04 00 14.7**	**+0.1**	
OHAK	**Old Harbor**	**150.79**	**296**	*e*PKPbc	**PKPbc**	**04 00 15.6**	**+1.0**	
TLY	**Talaya**	**150.96**	**77**	*i* PKIKP	**PKPbc**	**04 00 15.3**	**+0.1**	
TLY				pmax	pmax			
	comp=Z,47nm,0.9s							
ULN	**Ulaanbaatar**	**150.99**	**86**	*e*PKPdf	**PKPdf**	**04 00 10.0**	**+0.2**	
ULN				*e*PKPbc	**PKPbc**	**04 00 14.7**	**-0.9**	
ULN				LR	LR			
	comp=Z,600nm,20.0s							
TRF	**Thorofare Moun**	**150.99**	**309**	*e*PKPbc	**PKPbc**	**04 00 15.8**	**+0.7**	
BJT	**Baijiatuan**	**151.25**	**107**	PFAKE		04 00 20.0	+3.8	
BJT				LR	LR			
	comp=Z,500nm,18.0s							
BJI	**Beijing**	**151.27**	**107**	PKPbc	**PKPbc**	**04 00 16.3**	**0.0**	
BJI				SS	SS	04 23 20.4	+3.1	
BJI				AMB	AMB			
	comp=Z,290nm,7.3s							
BJI				LR	LR			
	comp=Z,350nm,23.8s							
BJI				LR	LR			
	comp=Z,280nm,22.2s							
BJI				LR	LR			
	comp=Z,360nm,32.2s							
COLD	**Coldfoot**	**151.44**	**317**	*e*PKPdf	**PKPdf**	**04 00 05.3**	**-4.4**	
COLD				*e*PKPbc	**PKiKP**	**04 00 16.8**	**+0.5**	
COLD				LR	LR			
	comp=Z,700nm,20.2s							
RSO	**Redoubt South**	**151.48**	**303**	*e*PKPbc	**PKPbc**	**04 00 17.0**	**+0.6**	
IRK	**Irkutsk**	**151.56**	**76**	*e*PKIKP	**PKPbc**	**04 00 15.2**	**-1.4**	
IRK				pmax	pmax			
	comp=Z,615nm,1.8s							
PPLA	**Purkeypile**	**151.73**	**308**	*e*PKPbc	**PKPbc**	**04 00 17.6**	**+0.7**	
CAST	**Castle Rocks**	**151.78**	**309**	*e*PKPdf	**PKPdf**	**04 00 08.3**	**-2.1**	
CAST				*e*PKPbc	**PKiKP**	**04 00 17.2**	**+0.1**	
INCN	**Inchon**	**154.72**	**124**	PFAKE		04 00 30.0	+6.0	
INCN				LR	LR			
	comp=Z,800nm,20.0s							
KS15	**Wonju Array Si**	**155.27**	**126**	*e*PKPdf	**PKPdf**	**04 00 13.6**	**-2.5**	
KS15				*e*PKPab	**PKPab**	**04 00 39.5**	**-1.9**	
KSRS	**Korea Array**	**155.30**	**126**	PKP	**PKPdf**	**04 00 13.6**	**-2.5**	
	comp=Z,1.5nm,0.9s,baz=226,slow=31,SNR=3.1							
KSRS				PKPab	**PKPab**	**04 00 39.5**	**-2.0**	
	comp=Z,2.5nm,0.8s,baz=194,slow=4.5,SNR=4.9							
KS01	**Wonju Array Si**	**155.30**	**126**	*e*PKPdf	**PKPdf**	**04 00 13.5**	**-2.7**	
CIT	**Chita**	**156.65**	**82**	*e*PKP2	**PKPab**	**04 00 47.0**	**0.0**	
CIT				pmax	pmax			
	comp=Z,159nm,2.0s							
TNA	**Tin City**	**158.62**	**314**	PFAKE		04 00 30.0	+11	
TNA				LR	LR			
	comp=Z,600nm,20.3s							
CN2	**Changchun**	**158.86**	**112**	*e*PKP	**PKPdf**	**04 00 20.3**	**-0.2**	
CN2				*es*PKP		04 00 34.6		
CN2				PP	**PP**	**04 04 40.9**	**+3.0**	
CN2				SS	SS	04 24 38.4	-1.1	
CN2				LR	LR			
	comp=Z,400nm,14.0s							
HIA	**Hailar**	**158.93**	**93**	PFAKE		04 00 30.0	+10	
HIA				LR	LR			
	comp=Z,600nm,20.0s							
MDJ	**Mudanjiang**	**161.58**	**116**	PKP	**PKPdf**	**04 00 22.4**	**-1.1**	
MDJ				pPKP	**pPKPdf**	**04 00 31.8**	**-0.3**	
MDJ				sPKP		04 00 37.0		
MDJ				PKS	**PKSdf**	**04 03 57.5**	**+0.9**	
MDJ				PP	**PP**	**04 04 53.3**	**+0.8**	
MDJ				SKS	**SKSdf**	**04 07 27.0**	**+0.7**	
MDJ				SS	**SS**	**04 25 12.5**	**+4.5**	
MDJ				AMB	AMB			
	comp=Z,150nm,4.7s							
MDJ				LR	LR			
	comp=Z,550nm,17.9s							
MDJ				LR	LR			
	comp=Z,260nm,16.4s							
MDJ				LR	LR			
	comp=Z,780nm,16.4s							
KLR	**Kul'dur**	**165.65**	**107**	*e*PKIKP	**PKPdf**	**04 00 23.2**	**-3.9**	
KLR				*e*		04 01 22.0		
KLR				pmax	pmax			
	comp=Z,90nm,2.0s							
YUK	**Yuzh-Kuril'sk**	**167.70**	**155**	*d i*PKIKP	**PKPdf**	**04 00 31.9**	**+3.1**	
YUK				*i*		04 05 23.6		
YUK				*i*		04 07 28.5		
YUK				*i* SS	SS	04 26 06.7	-3.0	
YUK				*i* SSS	SSS	04 32 44.3		
PET	**Petropavlovsk**	**175.88**	**236**	*e*PKIKP	PKPpre	04 00 15.4		
PET				*e*SS	SS	04 27 30.8	+0.2	
PET				*e*SSS	SSS	04 34 40.5		
PET				pmax	pmax			
	comp=Z,300nm,14.8s							

IDC 16 03:46:01.6±11.0, 7.05S×129.11E, h100km±124km, mb3.3/1,mb1 3.3/4,mb1mx3.1/20,mbtmp3.2/4,ML3.2/3, Error ellipse: s-maj=74.8km s-min=57.7km az=21.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.49**	**197**	P		Pn	03 48 43.9	+1.4
	0.1nm,0.3s,baz=14,slow=12,SNR=3.6							
FITZ				S		Sn	03 50 46.9	-2.1
	0.3nm,0.3s,baz=356,slow=13,SNR=7.7							
WRA	**Warramunga Arr**	**13.78**	**159**	P		Pn	03 49 11.9	-0.9
	0.1nm,0.3s,baz=338,slow=13,SNR=8.5							
WRA				S		Sn	03 51 35.2	-9.4
	0.2nm,0.3s,baz=332,slow=23,SNR=6.6							
ASAR	**Alice Springs**	**17.15**	**165**	P		P	03 49 55.8	+0.6
	0.2nm,0.3s,baz=345,slow=10,SNR=12							
MKAR	**Makanchi Array**	**67.79**	**327**	P		P	03 56 48.7	-0.1
	0.7nm,1.0s,baz=118,slow=8.2,SNR=3.3							

ISCJB ***16*** *04:52:02.9±0.7, 13.93N±0.10×56.8E±0.1, h15km, mb3.9/23,MS3.3/5, Error ellipse: s-maj=14.5km s-min=14.1km az=145.3*

IDC ***16*** *04:52:02.5±0.7, 13.96N×56.88E, h0km, mb3.9/20, mb1 4.0/20,mb1mx4.0/31,mbtmp3.9/20,MS4.0/5, Ms1 4.0/5,ms1mx3.3/43, Error ellipse: s-maj=17.5km s-min=17.1km az=141.0*

NEIC ***16*** *04:52:04.3±0.6, 13.98N×56.87E, h10km, mb4.3/4, Error ellipse: s-maj=14.6km s-min=12.0km az=127.0*

ISC 16 04:52:05.1±0.7, 14.0N±0.1×56.9E±0.1, h15km, n55, σ1ᵖ07/46, mb4.0/23, MS3.4/5, Socotra region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**23.24**	**26**	P	**P**	**04 57 14.1**	**+2.0**
	17nm,2.2s						
KMBO	**Kilima Mbogo**	**24.55**	**234**	*e*P	**P**	**04 57 27.0**	**+2.3**
	14nm,1.5s						
KMBO	**Kilima Mbogo**	**24.55**	**234**	P	**P**	**04 57 26.3**	**+1.6**
	1.1nm,0.5s,baz=36,slow=15,SNR=5.0						
KMBO				LR	LR	05 06 24.4	
	comp=Z,283nm,18.2s,baz=86,slow=35						
H08N2	**Diego Garcia H**	**24.59**	**144**	T	T	05 22 42.4	
	baz=326,slow=76,SNR=108						
H08N3	**Diego Garcia H**	**24.60**	**144**	T	T	05 22 51.0	
	baz=326,slow=76,SNR=94						
H08N1	**Diego Carcia H**	**24.61**	**144**	T	T	05 22 44.1	
	baz=326,slow=76,SNR=95						
MBAR	**Mbarara**	**29.65**	**243**	LR	LR	05 08 56.6	
	comp=Z,16nm,28.6s,baz=68,slow=34						
KBZ	**Khabaz**	**31.96**	**341**	P	**P**	**04 58 31.9**	**+1.5**
KBZ	**Khabaz**	**31.96**	**341**	P	**P**	**04 58 31.9**	**+1.5**
	5.1nm,1.0s,baz=148,slow=9.9,SNR=6.2						
AAK	**Ala-Archa**	**32.35**	**25**	P	P	04 58 38.3	+4.2
	6.2nm,1.3s						
BRTR	**Keskin Array B**	**32.76**	**326**	P	**P**	**04 58 38.5**	**+0.9**
BRTR	**Keskin Array B**	**32.76**	**326**	P	**P**	**04 58 38.5**	**+0.9**
	1.1nm,0.8s,baz=141,slow=14,SNR=5.8						
ABKAR	**Akbulak array**	**35.26**	**4**	*e*P	**P**	**04 58 59.4**	**+0.4**
	0.7nm,0.7s						
AKTO	**Aktyubinsk**	**36.36**	**1**	P	**P**	**04 59 08.5**	**0.0**
AKTO	**Aktyubinsk**	**36.36**	**1**	P	**P**	**04 59 08.5**	**0.0**
	1.4nm,0.8s,baz=192,slow=9.7,SNR=6.3						
AKTO				LR	LR	05 13 52.8	
	comp=Z,248nm,18.3s,baz=194,slow=36						
MKAR	**Makanchi Array**	**39.03**	**28**	P	**P**	**04 59 32.1**	**+0.9**
MKAR	**Makanchi Array**	**39.03**	**28**	P	**P**	**04 59 32.1**	**+0.9**
	1.1nm,0.8s,baz=216,slow=9.6,SNR=5.5						
BVAR	**Borovoye Array**	**40.40**	**13**	P	**P**	**04 59 43.3**	**+0.8**
BVAR	**Borovoye Array**	**40.40**	**13**	P	**P**	**04 59 43.3**	**+0.8**
	0.3nm,0.4s,baz=214,slow=4.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**40.56**	**21**	P	**P**	**04 59 44.3**	**+0.6**
	0.3nm,0.4s,baz=219,slow=8.7,SNR=5.0						
CMAR	**Chiang Mai Arr**	**40.59**	**78**	P	**P**	**04 59 45.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**40.59**	**78**	P	**P**	**04 59 45.8**	**+1.3**
	1.2nm,0.3s,baz=274,slow=8.5,SNR=8.8						
KURK	**Kurchatov**	**40.67**	**21**	P	**P**	**04 59 44.3**	**-0.3**
AKASG	**Malin Array Be**	**42.92**	**334**	P	**P**	**05 00 02.5**	**-0.6**
AKASG	**Malin Array Be**	**42.92**	**334**	P	**P**	**05 00 02.5**	**-0.6**
	0.9nm,0.6s,baz=135,slow=7.5,SNR=9.0						
ZALV	**Zalesovo Beam**	**45.53**	**23**	P	**P**	**05 00 23.8**	**-0.2**
ZALV	**Zalesovo Beam**	**45.53**	**23**	P	**P**	**05 00 23.8**	**-0.2**
	1.1nm,0.6s,baz=225,slow=7.8,SNR=7.0						
GERES	**GERESS Array B**	**49.60**	**324**	P	**P**	**05 00 54.6**	**-1.2**
GERES	**GERESS Array B**	**49.60**	**324**	P	**P**	**05 00 54.6**	**-1.2**
	0.3nm,0.5s,baz=116,slow=9.0,SNR=3.5						
BOSA	**Boshof**	**52.23**	**216**	P	**P**	**05 01 15.5**	**-0.4**
BOSA	**Boshof**	**52.23**	**216**	P	**P**	**05 01 15.5**	**-0.4**
	2.3nm,1.0s,baz=49,slow=4.7,SNR=3.1						
BOSA				LR	LR	05 22 44.7	
	comp=Z,16nm,28.6s,baz=352,slow=35						
FINES	**FINESS Array B**	**52.31**	**342**	P	**P**	**05 01 15.0**	**-0.9**
FINES	**FINESS Array B**	**52.31**	**342**	P	**P**	**05 01 15.0**	**-0.9**
	2.3nm,0.7s,baz=136,slow=9.0,SNR=13						
SONM	**Songino Array**	**52.99**	**40**	P	**P**	**05 01 19.6**	**-1.7**
SONM	**Songino Array**	**52.99**	**40**	P	**P**	**05 01 19.6**	**-1.7**
	0.4nm,0.8s,baz=229,slow=7.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**53.52**	**276**	P	**P**	**05 01 25.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**53.52**	**276**	P	**P**	**05 01 25.4**	**-0.2**
	0.9nm,0.8s,baz=59,slow=5.2,SNR=9.7						
ESDC	**Sonseca Array**	**58.80**	**308**	P	**P**	**05 02 03.1**	**0.0**
ESDC	**Sonseca Array**	**58.80**	**308**	P	**P**	**05 02 03.1**	**0.0**
	0.3nm,0.5s,baz=82,slow=5.6,SNR=3.7						
ARCES	**ARCESS Array B**	**58.91**	**348**	P	**P**	**05 02 01.7**	**-1.5**
ARCES	**ARCESS Array B**	**58.91**	**348**	P	**P**	**05 02 01.7**	**-1.5**
	2.6nm,0.9s,baz=216,slow=13,SNR=3.5						
H01W3	**Cape Leeuwin H**	**72.87**	**134**	T	T	06 22 57.3	
	baz=302,slow=75,SNR=8.3						
H01W2	**Cape Leeuwin H**	**72.89**	**134**	T	T	06 22 57.1	
	baz=302,slow=75,SNR=8.7						
H01W1	**Cape Leeuwin H**	**72.89**	**134**	T	T	06 22 59.9	
	baz=302,slow=75,SNR=8.0						
SEY	**Seymchan**	**80.17**	**28**	P	**P**	**05 04 14.5**	**0.0**
SEY	**Seymchan**	**80.17**	**28**	P	**P**	**05 04 14.5**	**0.0**
	1.6nm,0.5s,baz=29,slow=21,SNR=4.2						
WRA	**Warramunga Arr**	**83.31**	**112**	P	**P**	**05 04 30.9**	**-1.0**
WRA	**Warramunga Arr**	**83.31**	**112**	P	**P**	**05 04 30.9**	**-1.0**
	1.2nm,0.8s,baz=297,slow=4.2,SNR=13						
ASAR	**Alice Springs**	**84.06**	**116**	P	**P**	**05 04 34.4**	**-1.4**
ASAR	**Alice Springs**	**84.06**	**116**	P	**P**	**05 04 34.4**	**-1.4**
	1.3nm,0.7s,baz=293,slow=5.1,SNR=10						
SCHQ	**Schefferville**	**96.64**	**331**	LR	LR	05 52 30.2	
	comp=Z,16nm,28.6s,baz=348,slow=38						
PDAR	**Pinedale Array**	**122.16**	**348**	PKP	**PKPdf**	**05 10 59.9**	**0.0**
PDAR	**Pinedale Array**	**122.16**	**348**	PKP	**PKPdf**	**05 10 59.9**	**0.0**
	0.4nm,0.7s,baz=46,slow=4.3,SNR=3.9						
NVAR	**Mina Array Bea**	**127.66**	**355**	PKP	**PKPdf**	**05 11 11.9**	**+1.3**
NVAR	**Mina Array Bea**	**127.66**	**355**	PKP	**PKPdf**	**05 11 11.9**	**+1.3**
	0.5nm,0.5s,baz=8.5,slow=1.8,SNR=3.4						

MAN 16 05:01:20, 9.73N×125.53E, h28km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.07**	**323**	⇑*e*P	Pb	05 01 24.2	-0.7
SCPH				*e*S	Sb	05 01 26.9	-1.2
BUTP	**Butuan**	**0.76**	**173**	*e*P	Pn	05 01 35.2	+0.3
BUTP				*e*S	Sn	05 01 47.4	+2.0
MSLP	**Maasin**	**0.77**	**301**	*e*P	Pn	05 01 35.7	+0.6
MSLP				*e*S	Sn	05 01 47.1	+1.4
CGP	**Cagayan de Oro**	**1.51**	**213**	*e*P	Pn	05 01 45.1	-0.1
CGP				*i* S	Sn	05 02 04.5	+0.5
BUKP	**Musuan**	**1.90**	**194**	*e*P	Pn	05 01 50.8	+0.2
PAGZ	**Pagadian**	**2.83**	**229**	*e*P	Pb	05 02 06.6	-3.2

NIED ***16*** *05:12:00, 33.10N×133.40E, h29km, Mw4.4 Best double couple: M0 4.57000×10¹⁵ NP1:φs37.00000°, δ77.00000°, λ-16.00000°. NP2:φs131.00000°, δ74.00000°, λ-167.00000°.*

IDC ***16*** *05:12:46.9±0.6, 33.09N×133.31E, h0km, mb4.2/21, mb1 4.3/26, mb1mx4.3/35, mbtmp4.2/26, ML3.7/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/42, Error ellipse: s-maj=16.0km s-min=13.3km az=75.0*

MOS ***16*** *05:12:49.8±0.9, 33.13N×133.34E, h33km, mb4.5/25, Error ellipse: s-maj=10.9km s-min=6.7km az=106.6*

ISCJB ***16*** *05:12:50.4±0.6, 33.12N±0.04×133.37E±0.04, h38km±4km, mb4.3/38, MS4.4/1, Error ellipse: s-maj=7.7km s-min=4.7km az=150.9*

JMA ***16*** *05:12:51.4, 33.11N×133.36E, h31km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs231.00000°, δ74.00000°, λ28.00000°. NP2: φs133.00000°, δ63.00000°, λ162.00000°. Principal axes: T Plg31.0000°, Azm94.0000°; N Plg58.0000°, Azm259.0000°; P Plg7.0000°, Azm0.0000°;*

JMA Felt IV J1.

NEIC ***16*** *05:12:51.4±1.4, 33.11N×133.30E, h30km±10km, mb4.4/9 Error ellipse: s-maj=6.0km s-min=4.6km az=162.0*

NEIC Recorded [4 JMA] in Kochi, [3 JMA] in Ehime, [2 JMA] in Tokushima and [1 JMA] in Kagawa. Recorded [2 JMA] in Hiroshima and Yamaguchi and [1 JMA] in Okayama, Shimane and Wakayama, Honshu. Also recorded [1 JMA] in Kumamoto, Miyazaki and Oita, Kyushu.

BJI ***16*** *05:12:51.9, 33.13N×133.16E, h26km, mB5.0/8, mb4.5/14, Ms4.3/3, Ms7 4.1/3*

ISC 16 05:12:51.4±0.8, 33.12N±0.05×133.39E±0.04, h31km±5km, n109, σ1ᵖ21/116, mb4.3/38, 3C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKU	**Kubokawa**	**0.33**	**304**	⇑P	**Pb**	**05 12 59.0**	**-0.5**
JKU				S	**Sb**	**05 13 04.2**	**-0.7**
JTO	**Tosashimizu**	**0.56**	**242**	⇑P	**Pb**	**05 13 02.1**	**-0.8**
JTO				S	**Sb**	**05 13 09.4**	**-1.3**
UWA2	**Uwa jima 2**	**0.65**	**278**	⇑P	**Pb**	**05 13 03.6**	**-0.8**
UWA2				S	**Sb**	**05 13 12.0**	**-1.2**
JET	**Tanbara**	**0.71**	**337**	⇓P	**Pn**	**05 13 04.8**	**-0.6**
JET				S	**Sb**	**05 13 14.3**	**-0.7**
JMN	**Monobe**	**0.73**	**34**	⇓P	**Pn**	**05 13 05.5**	**-0.1**
JMN				S	**Sb**	**05 13 14.7**	**-0.8**
JNA	**Nagahama**	**0.88**	**300**	P	**Pn**	**05 13 07.1**	**-0.5**
JNA				*e*S	**Sn**	**05 13 18.0**	**-1.3**
JNU	**Nakatsue**	**2.11**	**271**	*e*Pn	**Pn**	**05 13 24.1**	**-0.5**
JNU				Sn	**Sb**	**05 13 57.3**	**+2.5**
JNU	**Nakatsue**	**2.11**	**271**	Pn	**Pn**	**05 13 24.2**	**-0.5**
	48nm,0.3s,baz=72,slow=4.0,SNR=76						
JNU				Sn	**Sb**	**05 13 57.3**	**+2.5**
	249nm,0.3s,baz=151,slow=18,SNR=7.4						
JNU				LR	LR	05 14 23.4	
	comp=Z,934nm,18.7s,baz=320,slow=47						
MAJO	**Matsushiro**	**5.23**	**48**	*e*P	**Pn**	**05 14 08.5**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,102nm,0.6s						
MAJO	**Matsushiro**	**5.23**	**48**	*e*Pn	**Pn**	**05 14 08.5**	**+1.1**
	comp=Z,102nm,0.6s						
MAT	**Matsushiro**	**5.23**	**48**	P	**Pn**	**05 14 08.7**	**+1.2**
MAT				*e*S	**Sn**	**05 15 06.8**	**+0.1**
MJAR	**Matsushiro Arr**	**5.23**	**48**	Pn	**Pn**	**05 14 08.9**	**+1.5**
MJAR	**Matsushiro Arr**	**5.23**	**48**	Pn	**Pn**	**05 14 08.9**	**+1.5**
	comp=Z,5.6nm,0.3s,baz=247,slow=14,SNR=24						
KSRS	**Korea Array**	**6.22**	**316**	Pn	**Pn**	**05 14 20.4**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=133,slow=14,SNR=6.7						
KSRS				Sn	**Sn**	**05 15 36.4**	**+5.4**
	comp=Z,5.8nm,0.3s,baz=134,slow=21,SNR=6.5						
KSRS				LR	LR	05 17 04.8	
	comp=Z,563nm,18.9s,baz=130,slow=42						
KSAR	**Wonju Array Be**	**6.23**	**315**	Pn	**Pn**	**05 14 20.4**	**-0.9**
KSAR				Sn	**Sn**	**05 15 36.4**	**+5.0**
USRK	**Ussuriysk Arra**	**11.11**	**355**	Pn	**Pn**	**05 15 29.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=186,slow=13,SNR=3.9						
ASAJ	**Asahikawa**	**13.12**	**31**	Pn	**Pn**	**05 15 56.4**	**+0.9**
ASAJ	**Asahikawa**	**13.12**	**31**	Pn	**Pn**	**05 15 56.4**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=204,slow=17,SNR=6.0						
HABR	**Khabarovsk**	**15.39**	**4**	*e*P	Pn	05 16 21.1	-5.0
HABR				*e*S	Sn	05 19 05.8	-10
HABR				pmax	pmax		
	comp=Z,33nm,1.3s						
HABR				pmax	pmax		
	comp=Z,194nm,1.7s						
YSS	**Yuzh-Sakhalins**	**15.55**	**25**	*e*P	**Pn**	**05 16 26.0**	**-2.2**
YSS				pmax	pmax		
	comp=Z,40nm,0.1s						
YSS	**Yuzh-Sakhalins**	**15.55**	**25**	*e*Pn	**Pn**	**05 16 27.9**	**-0.4**
KLR	**Kul'dur**	**16.14**	**356**	*e*P	**Pn**	**05 16 34.9**	**-0.9**
KLR				pmax	pmax		
	comp=Z,110nm,1.6s						
WHN	**Wuhan**	**16.39**	**266**	P	**P**	**05 16 42.5**	**+0.8**
HHC	**Hu-ho-hao-te**	**19.04**	**300**	*e*P	**P**	**05 17 10.5**	**-0.5**
HHC				S	Sn	05 20 34.3	-10
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,540nm,4.4s						
HIA	**Hailar**	**19.07**	**332**	*e*P	**P**	**05 17 11.2**	**0.0**
	comp=Z,12nm,0.6s						
ENH	**Enshi**	**20.53**	**268**	*e*P	**P**	**05 17 26.2**	**-1.0**
	comp=Z,21nm,1.0s						
ULN	**Ulaanbaatar**	**24.70**	**314**	*e*P	**P**	**05 18 09.3**	**-0.5**
	comp=Z,7.5nm,0.9s						
SONM	**Songino Array**	**25.09**	**314**	P	**P**	**05 18 13.7**	**+0.4**
SONM	**Songino Array**	**25.09**	**314**	P	**P**	**05 18 13.7**	**+0.4**
	comp=Z,4.1nm,0.5s,baz=128,slow=10,SNR=46						
QIZ	**Qiongzhong**	**25.31**	**242**	P	**P**	**05 18 16.0**	**+0.7**
QIZ				S	**S**	**05 22 41.5**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,16nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,190nm,7.4s						
PET	**Petropavlovsk**	**26.89**	**35**	*e*P	**P**	**05 18 30.8**	**+1.5**
ZAK	**Zakamensk**	**28.05**	**317**	*e*P	P	05 18 33.7	-6.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
YAK	**Yakutsk**	**29.02**	**356**	*e*P	**P**	**05 18 46.7**	**-1.6**
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**32.68**	**106**	T	T	05 54 18.1	
	baz=302,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hy**	**32.69**	**106**	T	T	05 54 19.0	
	baz=302,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**32.70**	**106**	T	T	05 54 20.1	
	baz=302,slow=75,SNR=45						
H11S3	**WAKE ISLAND Hy**	**33.16**	**108**	T	T	05 54 37.4	
	baz=310,slow=75						
H11S1	**WAKE ISLAND Hy**	**33.17**	**108**	T	T	05 54 29.9	
	baz=310,slow=75						
H11S2	**WAKE ISLAND Hy**	**33.18**	**108**	T	T	05 54 33.0	
	baz=310						
CMAR	**Chiang Mai Arr**	**34.10**	**253**	P	**P**	**05 19 33.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**34.10**	**253**	P	**P**	**05 19 33.5**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=54,slow=5.3,SNR=5.2						
TIXI	**Tiksi**	**38.66**	**358**	*d i*P	**P**	**05 20 11.3**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**38.66**	**358**	*e*P	**P**	**05 20 11.1**	**-0.6**
	comp=Z,13nm,1.0s						
ZALV	**Zalesovo Beam**	**39.92**	**316**	P	**P**	**05 20 22.7**	**+0.2**
ZAL

ARCES	**ARCESS Array B**	**65.26**	**338**	P		**P**	**05 23 28.9**	**-0.8**
	comp=Z,3.3nm,0.7s,baz=62,slow=8.7,SNR=8.0							
OBN	**Obninsk**	**67.18**	**322**	*e*P		**P**	**05 23 42.5**	**+0.4**
OBN				*e**PP		**pP**	**05 23 52.5**	**+0.7**
OBN				*e*			05 24 12.8	
OBN				*e*S		**S**	**05 32 30.3**	**-4.0**
OBN				*e*SS		**SS**	**05 36 49.6**	**-3.6**
OBN				pmax	pmax			
	comp=Z,4.0nm,1.2s							
OBN				MLR	MLR			
	comp=Z,200nm,19.0s							
VSR	**Storozhevoye**	**67.42**	**317**	*e*P		**P**	**05 23 43.4**	**-0.4**
VSR				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KBZ	**Khabaz**	**68.32**	**309**	P		**P**	**05 23 49.7**	**+0.1**
KBZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KBZ	**Khabaz**	**68.32**	**309**	P		**P**	**05 23 49.7**	**+0.1**
KBZ	**Khabaz**	**68.32**	**309**	P		**P**	**05 23 49.7**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=53,slow=5.7,SNR=3.7							
FINES	**FINESS Array B**	**69.09**	**331**	P		**P**	**05 23 53.7**	**-0.3**
FINES	**FINESS Array B**	**69.09**	**331**	P		**P**	**05 23 53.7**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=69,slow=6.4,SNR=37							
YKA	**Yellowknife Ar**	**70.39**	**27**	P		**P**	**05 24 03.0**	**+1.1**
YKA	**Yellowknife Ar**	**70.39**	**27**	P		**P**	**05 24 03.0**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=302,slow=6.2,SNR=16							
AKASG	**Malin Array Be**	**73.19**	**320**	P		**P**	**05 24 17.9**	**-1.2**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**73.19**	**320**	P		**P**	**05 24 17.9**	**-1.2**
AKASG	**Malin Array Be**	**73.19**	**320**	P		**P**	**05 24 17.9**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=54,slow=6.2,SNR=6.4							
NB2	**NORSAR Subarra**	**75.07**	**335**	P		**P**	**05 24 29.1**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=46,slow=5.9							
NOA	**NORSAR Array B**	**75.07**	**335**	P		**P**	**05 24 29.4**	**-0.5**
NOA	**NORSAR Array B**	**75.07**	**335**	P		**P**	**05 24 29.4**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=47,slow=5.6,SNR=10							
BRTR	**Keskin Array B**	**76.31**	**309**	P		**P**	**05 24 37.2**	**-0.4**
BRTR	**Keskin Array B**	**76.31**	**309**	P		**P**	**05 24 37.2**	**-0.4**
	comp=Z,2.9nm,1.1s,baz=57,slow=5.3,SNR=3.4							
SLMT	**Seeley Lake**	**80.00**	**40**	*e*P		**P**	**05 24 58.8**	**+0.9**
	comp=Z,2.2nm,0.7s							
GERES	**GERESS Array B**	**82.31**	**325**	P		**P**	**05 25 10.8**	**+0.7**
GERES	**GERESS Array B**	**82.31**	**325**	P		**P**	**05 25 10.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=35,slow=4.9,SNR=4.3							
NVAR	**Mina Array Bea**	**82.55**	**49**	P		**P**	**05 25 12.5**	**+0.8**
NVAR	**Mina Array Bea**	**82.55**	**49**	P		**P**	**05 25 12.5**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=316,slow=5.0,SNR=2.9							
PDAR	**Pinedale Array**	**85.02**	**41**	P		**P**	**05 25 25.1**	**+0.9**
PDAR	**Pinedale Array**	**85.02**	**41**	P		**P**	**05 25 25.1**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=304,slow=1.1,SNR=6.1							
BFO	**Black Forest**	**85.22**	**327**	*i* P		**P**	**05 25 27.3**	**+2.5**
PTGA	**Pitinga**	**145.42**	**24**	*e*PKPbc		**PKPdf**	**05 32 27.0**	**0.0**
SAML	**Samuel**	**151.49**	**36**	*e*PKPbc		**PKPbc**	**05 32 42.9**	**0.0**

IDC ***16*** *05:19:55.0±0.8,46.87N×155.91E,h0km,mb3.8/10, mb1 4.0/13,mb1mx3.8/31,mbtmp3.9/13,ML3.5/3,MS3.7/1, Ms1 3.7/1,ms1mx3.2/35,Error ellipse: s-maj=22.5km s-min=15.1km az=140.0*

ISCJB ***16*** *05:19:56.2±0.7,47.03N±0.09×155.62E±0.09,h18km, mb3.8/11,Error ellipse: s-maj=13.9km s-min=7.1km az=150.0*

MOS ***16*** *05:19:59.2±1.3,47.00N×155.67E,h42km,mb4.3/7,Error ellipse: s-maj=22.6km s-min=15.0km az=66.3*

SKHL ***16*** *05:19:59.9±0.7,47.21N×155.55E,h50km±5km,mb4.7/3*

ISC 16 05:19:58.4±0.8, 47.11N±0.09×155.69E±0.09, h18km, n33, σ1§46/31, mb4.0/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.59**	**4**	*e*P	**Pn**	**05 20 52.0**	**-1.1**
SKR				AMB	AMB	05 20 53.1	
	50nm,0.4s						
SKR				*e*S	**Sn**	**05 21 30.6**	**-4.4**
SKR				A	A	05 21 41.1	
	110nm,0.4s						
KUR	**Kuril'sk**	**5.75**	**254**	*e*PN	**Pn**	**05 21 23.1**	**+0.4**
KUR				pmax	pmax		
	comp=Z,137nm,0.5s						
KUR	**Kuril'sk**	**5.75**	**254**	*e*P	**Pn**	**05 21 23.1**	**+0.4**
KUR				AMB	AMB	05 21 23.3	
	comp=Z,140nm,0.5s						
KUR				*e*S	**Sn**	**05 22 26.0**	**-2.1**
KUR				A	A	05 22 28.9	
	comp=Z,170nm,0.3s						
PETK	**Petropavlovsk-**	**6.14**	**11**	PN	**Pn**	**05 21 28.3**	**+0.1**
PETK						05 22 45.9	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,603nm,20.3s						
PETK	**Petropavlovsk-**	**6.14**	**11**	Pn	**Pn**	**05 21 28.2**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=185,slow=15,SNR=13						
PETK				Sn	Sn	05 22 45.9	+8.0
	comp=Z,0.2nm,0.3s,baz=113,slow=14,SNR=3.9						
PETK				LR	LR	05 24 10.9	
	comp=Z,603nm,20.3s,baz=299,slow=40						
UGL	**Uglegorsk**	**9.33**	**287**	*e*P	**Pn**	**05 22 10.8**	**-1.0**
TYV	**Tymovskoe**	**9.35**	**298**	*e*P	**Pn**	**05 22 14.1**	**+1.9**
JKA	**Kamikawa-asahi**	**9.65**	**257**	*e*P	**Pn**	**05 22 16.2**	**0.0**
ASAJ	**Asahikawa**	**9.65**	**257**	Pn	**Pn**	**05 22 16.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=92,slow=16,SNR=3.7						
FX1	**Attu Island--F**	**12.63**	**56**	Pn	Pn	05 22 53.3	-3.7
	comp=Z,0.6nm,0.3s,baz=234,slow=19,SNR=3.8						
EKMR	**Ekimchan**	**15.73**	**301**	*e*P	**Pn**	**05 23 37.9**	**-1.0**
EKMR				AMB	AMB	05 23 43.5	
	comp=Z,10.0nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**29.93**	**159**	T	T	05 56 59.0	
	baz=348						
H11S3	**WAKE ISLAND Hy**	**29.93**	**159**	T	T	05 56 58.7	
	baz=348,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**29.94**	**159**	T	T	05 57 01.4	
	baz=348,slow=75,SNR=26						
SONM	**Songino Array**	**32.87**	**290**	P	**P**	**05 26 31.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=60,slow=8.5,SNR=3.0						
ILAR	**Eielson Array**	**35.17**	**39**	*e*P	**P**	**05 26 50.6**	**-0.2**
ILAR	**Eielson Array**	**35.17**	**39**	P	**P**	**05 26 50.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=252,slow=7.3,SNR=3.2						
INK	**Inuvik**	**40.40**	**33**	*e*P	**P**	**05 27 36.1**	**+1.2**
INK	**Inuvik**	**40.40**	**33**	P	**P**	**05 27 36.0**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=310,slow=7.7,SNR=13						
KURK	**Kurchatov**	**48.63**	**304**	P	**P**	**05 28 42.5**	**+1.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**48.63**	**304**	*e*P	**P**	**05 28 42.5**	**+1.7**
KURBB	**Kurchatov Arra**	**48.72**	**304**	P	**P**	**05 28 42.5**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=67,slow=8.5,SNR=11						
YKA	**Yellowknife Ar**	**49.57**	**38**	*e*P	**P**	**05 28 47.8**	**0.0**
YKA	**Yellowknife Ar**	**49.57**	**38**	P	**P**	**05 28 47.8**	**0.0**
	comp=Z,0.3nm,0.8s,baz=300,slow=6.8,SNR=4.5						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**05 29 07.6**	**+1.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**05 29 07.6**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=56,slow=9.1,SNR=8.1						
FINES	**FINESS Array B**	**64.45**	**336**	P	**P**	**05 30 35.5**	**+2.4**
	comp=Z,4.4nm,1.1s,baz=46,slow=8.2,SNR=7.8						
WRA	**Warramunga Arr**	**69.46**	**201**	*e*P	**P**	**05 31 03.7**	**-1.7**
WRA	**Warramunga Arr**	**69.46**	**201**	P	**P**	**05 31 03.7**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=21,slow=6.8,SNR=5.8						
ASAR	**Alice Springs**	**73.14**	**201**	*e*P	**P**	**05 31 26.6**	**-1.1**
ASAR	**Alice Springs**	**73.14**	**201**	P	**P**	**05 31 26.6**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=24,slow=6.1,SNR=7.6						
TXAR	**Lajitas Array**	**75.77**	**62**	*e*P	**P**	**05 31 43.2**	**-0.1**
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**05 31 43.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=298,slow=3.4,SNR=7.0						

IDC ***16*** *05:22:04.4±2.2,9.29S×119.02E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.6/22,mbtmp3.6/5,ML3.4/2,Error ellipse: s-maj=149.0km s-min=21.8km az=55.0*

DJA ***16*** *05:22:14.5±0.9,9°S±5'×11°9E±°,h80km±14km,M4.3/4, MLv4.3/4*

ISC 16 05:22:05.2±0.9, 9°26S±0.07'×118°93E±0.05, h10km, n11, σ2§34/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBFI	**Labuhan Bajo,**	**1.22**	**51**	P	Pg	05 22 33.9	+5.2
LBFI				S	**Sn**	**05 22 48.6**	**+3.7**
WSI	**Waingapu**	**1.41**	**107**	P	**Pg**	**05 22 32.9**	**+0.6**
WSI				S	**Sb**	**05 22 46.1**	**-3.5**
MTNI	**Mataram**	**2.80**	**282**	P	Pg	05 23 05.3	+6.4
IGBI	**Denpasar**	**3.77**	**276**	P	**Pg**	**05 23 17.2**	**-0.3**
BKSI	**Bulukumba**	**4.08**	**17**	P	**Pb**	**05 23 16.5**	**-0.8**
BKSI				S	**Sb**	**05 24 03.2**	**-3.5**
GMJI	**Gumukmas**	**5.51**	**280**	P	Pb	05 23 38.5	-3.2
FITZ	**Fitzroy Crossi**	**10.94**	**144**	Pn	**Pn**	**05 24 42.2**	**+0.2**
	0.2nm,0.3s,baz=322,slow=12,SNR=8.4						
FITZ				Sn	Sn	05 26 32.4	-12
	1.1nm,0.3s,baz=181,slow=18,SNR=12						
WRA	**Warramunga Arr**	**18.29**	**127**	P	**Pn**	**05 26 17.9**	**-1.4**
	0.1nm,0.3s,baz=303,slow=13,SNR=4.8						
WRA				S	Sn	05 29 27.0	-17
	0.2nm,0.3s,baz=296,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**20.25**	**137**	P	**P**	**05 26 40.7**	**-0.3**
	0.9nm,0.5s,baz=311,slow=8.7,SNR=17						
ASAR				S	S	05 30 15.9	-13
	0.2nm,0.5s,baz=300,slow=19,SNR=5.1						
SONM	**Songino Array**	**57.92**	**350**	P	**P**	**05 31 59.0**	**+1.3**
	0.5nm,0.6s,baz=170,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**64.65**	**333**	P	**P**	**05 32 44.2**	**+0.9**
	0.2nm,0.4s,baz=149,slow=5.9,SNR=3.5						

NDI 16 05:25:56.1±3.2, 17°22N×73°66E, h10km, ML3.1, Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POO	**Poona**	**1.32**	**8**	*e*P	Pn	05 26 20.6	-0.1
POO				*e*S	Sg	05 26 38.8	+0.1
GOA	**Goa**	**1.72**	**175**	*e*P	Pb	05 26 27.5	-0.3
GOA				*e*S	Sn	05 26 48.0	-0.2
GOA				AML	AML	05 26 54.1	
	comp=N,556nm,0.4s						
GOA				AML	AML	05 26 54.8	
	comp=E,633nm,0.5s						
NGP	**Nagpur**	**6.42**	**52**	*e*P	Pn	05 27 31.7	+0.8
NGP				*e*S	Sn	05 28 37.9	-6.4
NGP				AML	AML	05 28 43.5	
	comp=N,7.8nm,0.2s						
NGP				AML	AML	05 28 43.8	
	comp=E,11nm,0.3s						

NDI 16 05:27:03.3±1.1, 17°22N×73°78E, h10km, ML3.6, Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAD	**Karad**	**0.39**	**77**	*e*P	Pg	05 27 11.1	-0.1
KAD				*e*S	Sg	05 27 16.7	+0.2
POO	**Poona**	**1.30**	**3**	*e*P	Pn	05 27 27.8	+0.1
POO				*e*S	Sg	05 27 45.8	+0.3
POO				AML	AML	05 27 47.6	
	comp=N,712nm,0.7s						
POO				AML	AML	05 27 48.3	
	comp=E,784nm,0.4s						
GOA	**Goa**	**1.72**	**179**	*e*P	Pb	05 27 34.6	-0.4
GOA				*e*S	Sn	05 27 55.1	-0.2
GOA				AML	AML	05 27 59.9	
	comp=E,1μm,0.4s						
GOA				AML	AML	05 28 00.8	
	comp=N,1μm,0.5s						
LATR	**Latur**	**2.90**	**65**	*e*P	Pn	05 27 50.2	+0.7
LATR				*e*		05 28 08.0	
LATR				AML	AML	05 28 12.2	
	comp=E,279nm,0.3s						
LATR				AML	AML	05 28 12.4	
	comp=N,364nm,0.4s						
JBP	**Jabalpur**	**8.30**	**44**	*e*P	Pn	05 29 02.5	-1.2
JBP				*e*		05 30 10.5	

ISCJB ***16*** *05:29:09.7±2.5,13.94N±0.08×93.0E±0.1,h49km±23km, mb4.1/18,MS4.0/1,Error ellipse: s-maj=25.7km s-min=10.2km az=156.7*

IDC ***16*** *05:29:09.5±0.9,13.89N×92.90E,h30km±4km,mb3.9/16, mb1 4.0/18,mb1mx3.8/32,mbtmp4.1/18,ML3.7/2,MS3.8/2, Ms1 3.8/2,ms1mx3.1/36,Error ellipse: s-maj=28.2km s-min=12.1km az=55.0*

NEIC ***16*** *05:29:11.1±1.2,13.91N×92.94E,h46km±11km,mb4.3/2, Error ellipse: s-maj=13.5km s-min=6.0km az=68.0*

ISC 16 05:29:10.4±0.8, 14.05N±0.07×92.99E±0.09, h35km±3km, h35km:pP-P, n47, σ0§99/60, mb4.2/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**7.21**	**52**	*e*Pn	Pn	05 30 56.6	+3.3
CMAR	**Chiang Mai Arr**	**7.21**	**52**	Pn	**Pn**	**05 30 55.5**	**+2.1**
CMAR				Sn	**Sn**	**05 32 12.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**7.21**	**52**	Pn	**Pn**	**05 30 55.5**	**+2.1**
	0.4nm,0.3s,baz=238,slow=14,SNR=4.4						
CMAR				Sn	**Sn**	**05 32 12.4**	**-1.7**
	1.2nm,0.3s,baz=239,slow=28,SNR=7.8						
CHTO	**Chiang Mai**	**7.42**	**50**	*e*Pn	**Pn**	**05 30 58.2**	**+1.8**
	4.6nm,0.6s						
SHL	**Shillong**	**11.51**	**355**	*e*P	**Pn**	**05 31 50.0**	**-2.4**
PSI	**Prapat**	**12.62**	**152**	Pn	**Pn**	**05 32 07.9**	**+0.2**
PSI	**Prapat**	**12.62**	**152**	Pn	**Pn**	**05 32 07.9**	**+0.2**
	0.4nm,0.3s,baz=325,slow=16,SNR=4.3						
PSI				LR	LR	05 37 40.2	
	comp=Z,16nm,28.6s,baz=358,slow=40						
H08S3	**Diego Garcia H**	**29.63**	**225**	T	T	06 06 05.8	
	baz=42,slow=75,SNR=56						
H08S2	**Diego Garcia H**	**29.63**	**225**	T	T	06 06 07.1	
	baz=42,slow=75,SNR=79						
H08S1	**Diego Garcia H**	**29.64**	**225**	T	T	06 06 07.3	
	baz=42,slow=75,SNR=62						
MK31	**Makanchi Array**	**33.85**	**347**	*e*P	**P**	**05 35 49.8**	**+0.2**
MKAR	**Makanchi Array**	**33.85**	**347**	P	**P**	**05 35 50.3**	**+0.7**
MKAR				pP	**pP**	**05 35 59.4**	**-0.2**
MKAR	**Makanchi Array**	**33.85**	**347**	P	**P**	**05 35 50.3**	**+0.7**
	3.4nm,0.9s,baz=170,slow=9.9,SNR=13						
MKAR				pP	**pP**	**05 35 59.4**	**-0.2**
	4.7nm,0.7s,baz=161,slow=8.8,SNR=16						
SONM	**Songino Array**	**35.48**	**16**	P	**P**	**05 36 05.0**	**+1.2**
SONM				pP	**pP**	**05 36 14.8**	**+0.9**
SONM				PcP	**PcP**	**05 38 33.3**	**+0.6**
SONM	**Songino Array**	**35.48**	**16**	P	**P**	**05 36 05.0**	**+1.2**
	1.8nm,1.0s,baz=187,slow=6.7,SNR=11						
SONM				pP	**pP**	**05 36 14.8**	**+0.9**
	3.3nm,0.9s,baz=196,slow=6.5,SNR=11						
SONM				PcP	**PcP**	**05 38 33.3**	**+0.6**
	0.4nm,0.9s,baz=220,slow=3.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**38.32**	**345**	P	**P**	**05 36 28.8**	**+1.1**
	3.5nm,0.9s,baz=162,slow=7.8,SNR=20						
KURBB				pP	**pP**	**05 36 37.2**	**-0.6**
	3.1nm,0.7s,baz=163,slow=7.9,SNR=11						
KURK	**Kurchatov**	**38.39**	**345**	P	**P**	**05 36 28.8**	**+0.6**
KURK				pP	**pP**	**05 36 37.2**	**-1.2**
ZAA0	**Zalesovo Array**	**40.33**	**353**	*e*P	**P**	**05 36 44.4**	**0.0**
ZALV	**Zalesovo Beam**	**40.33**	**353**	P	**P**	**05 36 44.9**	**+0.6**
ZALV				pP	**pP**	**05 36 53.5**	**-1.0**
ZALV	**Zalesovo Beam**	**40.33**	**353**	P	**P**	**05 36 44.9**	**+0.6**
	3.6nm,0.9s,baz=176,slow=8.8,SNR=12						
ZALV				pP	**pP**	**05 36 53.5**	**-1.0**
	4.2nm,0.7s,baz=176,slow=8.7,SNR=10						
BVAR	**Borovoye Array**	**42.83**	**340**	P	**P**	**05 37 05.5**	**+0.6**
BVAR				pP	**pP**	**05 37 14.4**	**-0.7**
BVAR	**Borovoye Array**	**42.83**	**340**	P	**P**	**05 37 05.5**	**+0.6**
	1.3nm,0.9s,baz=151,slow=6.4,SNR=5.9						
BVAR				pP	**pP**	**05 37 14.4**	**-0.7**
	0.5nm,0.5s,baz=143,slow=7.2,SNR=3.5						
ABKAR	**Akbulak array**	**44.34**	**329**	*e*P	**P**	**05 37 16.6**	**-0.5**
	4.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**45.36**	**134**	P	**P**	**05 37 23.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**45.36**	**134**	P	**P**	**05 37 23.8**	**-1.8**
	2.2nm,0.7s,baz=318,slow=17,SNR=5.3						
AKTO	**Aktyubinsk**	**46.05**	**329**	P	**P**	**05 37 31.5**	**+0.8**
AKTO	**Aktyubinsk**	**46.05**	**329**	P	**P**	**05 37 31.5**	**+0.8**
	1.4nm,0.9s,baz=135,slow=16,SNR=5.3						
WRA	**Warramunga Arr**	**52.88**	**129**	P	**P**	**05 38 22.4**	**-0.8**
WRA				PcP	**PcP**	**05 39 32.3**	**+0.2**
WRA	**Warramunga Arr**	**52.88**	**129**	P	**P**	**05 38 22.4**	**-0.8**
	3.0nm,0.9s,baz=308,slow=8.5,SNR=11						
WRA				PcP	**PcP**	**05 39 32.3**	**+0.2**
	0.5nm,0.4s,baz=321,slow=3.1,SNR=3.7						
WRAB	**Tennant Creek**	**52.88**	**129**	*e*P	**P**	**05 38 21.5**	**-1.7**
	2.7nm,0.7s						
ASAR	**Alice Springs**	**54.82**	**133**	P	**P**	**05 38 36.7**	**-0.7**
ASAR				PcP	**PcP**	**05 39 38.9**	**-0.6**
ASAR	**Alice Springs**	**54.82**	**133**	P	**P**	**05 38 36.7**	**-0.7**
	1.9nm,0.5s,baz=310,slow=6.9,SNR=21						
ASAR				PcP	**PcP**	**05 39 38.9**	**-0.6**
	0.8nm,0.9s,baz=295,slow=4.9,SNR=3.0						
BR131	**Keskin Array S**	**57.65**	**308**	*e*P	P	05 38 53.3	-4.2
BRTR	**Keskin Array B**	**57.65**	**308**	P	**P**	**05 38 57.8**	**+0.2**
BRTR	**Keskin Array B**	**57.65**	**308**	P	**P**	**05 38 57.8**	**+0.2**
	2.0nm,0.9s,baz=126,slow=6.0,SNR=7.5						
STKA	**Stephens Creek**	**65.22**	**135**	P	**P**	**05 39 48.7**	**+0.2**
STKA	**Stephens Creek**	**65.22**	**135**	P	**P**	**05 39 48.7**	**+0.2**
	1.6nm,0.8s,baz=346,slow=5.7,SNR=2.9						
STKA				LR	LR	06 10 33.8	
	comp=Z,84nm,19.4s,baz=18,slow=38						
FINES	**FINESS Array B**	**66.77**	**331**	P	**P**	**05 39 57.0**	**-1.0**
FINES	**FINESS Array B**	**66.77**	**331**	P	**P**	**05 39 57.0**	**-1.0**
	1.5nm,0.7s,baz=120,slow=6.8,SNR=7.2						
ARCES	**ARCESS Array B**	**69.11**	**340**	P	**P**	**05 40 13.3**	**+0.6**
ARCES	**ARCESS Array B**	**69.11**	**340**	P	**P**	**05 40 13.3**	**+0.6**
	3.4nm,1.0s,baz=92,slow=5.6,SNR=3.3						
GERES	**GERESS Array B**	**72.53**	**317**	P	**P**	**05 40 34.0**	**0.0**
GERES	**GERESS Array B**	**72.53**	**317**	P	**P**	**05 40 34.0**	**0.0**
	1.1nm,0.8s,baz=94,slow=5.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	**88.10**	**283**	P	**P**	**05 41 58.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**88.10**	**283**	P	**P**	**05 41 58.3**	**+0.2**
	1.3nm,1.1s,baz=65,slow=3.4,SNR=5.3						
ILAR	**Eielson Array**	**89.47**	**22**	P	**P**	**05 42 03.6**	**-0.1**
ILAR	**Eielson Array**	**89.47**	**22**	P	**P**	**05 42 03.6**	**-0.1**
	0.6nm,1.1s,baz=294,slow=4.5,SNR=4.0						

IDC ***16*** *05:51:31.0±1.3,33.49N×92.56E,h0km,mb3.5/4, mb1 3.5/7,mb1mx3.4/29,mbtmp3.4/7,ML3.2/1,MS3.4/1, Ms1 3.4/1,ms1mx2.8/30,Error ellipse: s-maj=45.1km s-min=23.7km az=63.0*

ISCJB ***16*** *05:51:35.2±0.6,33.78N±0.06×92.78E±0.10,h33km, mb3.5/3,Error ellipse: s-maj=13.0km s-min=6.9km az=31.3*

BJI ***16*** *05:51:35.7,33.77N×92.76E,h18km,mb3.9/1,ML3.6/5*

ISC 16 05:51:37.1±0.8, 33.79N±0.10×92.8E±0.1, h35km, n18, σ1§61/16, mb3.6/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**7.98**	**43**	*e*P	**Pn**	**05 53 32.3**	**+1.7**
GTA				pP		05 53 39.5	
GTA				sP		05 53 42.3	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JIRN	**Jiri**	**8.32**	**224**	*e*P	**Pn**	**05 53 38.2**	**+2.6**
	11nm,0.5s						
GUN	**Gumba**	**8.32**	**227**	*e*P	**Pn**	**05 53 37.2**	**+1.6**
	16nm,0.7s						
KKN	**Kakani**	**8.78**	**229**	*e*P	**Pn**	**05 53 43.2**	**+1.5**
	13nm,0.5s						
PKI	**Pulchoki**	**8.85**	**227**	*e*P	**Pn**	**05 53 44.5**	**+1.6**
	12nm,0.6s						
PKIN	**Phulchoki**	**8.86**	**228**	*e*P	**Pn**	**05 53 45.4**	**+2.5**
	16nm,0.7s						
LZH	**Lanzhou**	**9.39**	**73**	*e*P	Pn	05 53 56.1	+6.1
LZH				pP		05 53 59.5	
LZH				sP		05 54 01.5	
DANN	**Dangsing**	**9.43**	**237**	*e*P	**Pn**	**05 53 50.9**	**+0.2**
	14nm,0.7s						
KOLN	**Koldanda**	**9.90**	**235**	*e*P	**Pn**	**05 53 58.3**	**+1.3**
	16nm,1.0s						
PYUN	**Piuthan**	**10.12**	**238**	*e*P	**Pn**	**05 54 00.4**	**+0.3**
	12nm,0.8s						
MKAR	**Makanchi Array**	**15.22**	**332**	Pn	**Pn**	**05 55 08.1**	**-1.2**
	baz=150,slow=15,SNR=2.5						
CMAR	**Chiang Mai Arr**	**16.25**	**159**	Pn	**Pn**	**05 55 21.2**	**-1.5**
	0.5nm,0.3s,baz=342,slow=13,SNR=4.7						
SONM	**Songino Array**	**17.38**	**32**	P	**P**	**05 55 38.1**	**+0.2**
	0.1nm,0.3s,baz=216,slow=14,SNR=9.2						
SONM				LR	LR	06 03 19.7	
	comp=Z,113nm,18.1s,baz=158,slow=40						
KURBB	**Kurchatov Arra**	**19.78**	**332**	P	**P**	**05 56 04.5**	**+0.3**
	0.1nm,0.3s,baz=142,slow=11,SNR=6.5						
ZALV	**Zalesovo Beam**	**20.92**	**347**	P	Pn	05 56 18.3	-0.8
	0.4nm,0.4s,baz=152,slow=9.5,SNR=2.4						
BVAR	**Borovoye Array**	**24.99**	**327**	P	**P**	**05 56 58.0**	**+0.7**
	0.6nm,0.6s,baz=147,slow=8.3,SNR=4.0						
ASAR	**Alice Springs**	**69.27**	**140**	P	**P**	**06 02 39.6**	**-1.2**
	0.5nm,0.6s,baz=324,slow=6.7,SNR=6.5						
TORD	**Torodi Ar. Bea**	**83.67**	**282**	P	**P**	**06 04 01.1**	**-1.6**
	0.5nm,1.0s,baz=52,slow=6.6,SNR=2.3						

IDC ***16*** *06:03:30.0±0.6,51.04N×174.59E,h0km,mb4.1/21, mb1 4.3/23,mb1mx4.1/36,mbtmp4.1/23,ML3.4/2,MS3.2/3, Ms1 3.2/3,ms1mx2.8/52,Error ellipse: s-maj=14.3km s-min=12.6km az=19.0*

*

comp=Z,66nm,19.2s,baz=268,slow=32
YKA Yellowknife Ar 38.45 45 P **P 06 10 53.5 +0.8**
YKA Yellowknife Ar 38.45 45 P **P 06 10 53.5 +0.8**
3.7nm,0.8s,baz=286,slow=8.3,SNR=23
SONM Songino Array 42.98 293 P P 06 11 32.6 +2.2
SONM Songino Array 42.98 293 P P 06 11 32.7 +2.2
0.2nm,0.3s,baz=74,slow=7.7,SNR=7.2
DUG Dugway 50.00 73 *eP* **P 06 12 25.9 +0.3**
4.8nm,0.9s
SPITS Spitsbergen Ar 50.33 354 P **P 06 12 27.8 +0.3**
SPITS Spitsbergen Ar 50.33 354 P **P 06 12 27.8 +0.3**
7.5nm,0.8s,baz=57,slow=10,SNR=13
PDAR Pinedale Array 50.36 68 P **P 06 12 28.4 -0.1**
PDAR Pinedale Array 50.36 68 P **P 06 12 28.4 -0.1**
2.0nm,1.0s,baz=280,slow=3.8,SNR=10.0
PV04 Paradox Valley 53.49 72 *eP* **P 06 12 51.9 +0.1**
PV01 Paradox Valley 53.86 72 *eP* **P 06 12 54.6 +0.1**
481nm,1.1s
FRB Frobisher Bay 55.40 29 P **P 06 13 05.2 +0.2**
FRB Frobisher Bay 55.40 29 P **P 06 13 05.2 +0.2**
4.4nm,0.7s,baz=307,slow=8.9,SNR=12
KURK Kurchatov 56.11 310 P **P 06 13 11.6 +1.3**
KURBB Kurchatov Arra 56.21 310 P **P 06 13 11.6 +0.6**
2.4nm,0.9s,baz=50,slow=6.8,SNR=18
MKAR Makanchi Array 56.85 305 P **P 06 13 16.2 +0.5**
MKAR Makanchi Array 56.85 305 P **P 06 13 16.2 +0.5**
0.5nm,0.5s,baz=58,slow=6.0,SNR=12
ARCES ARCESS Array B 57.59 348 P **P 06 13 20.9 +0.4**
ARCES ARCESS Array B 57.59 348 P **P 06 13 20.9 +0.4**
2.0nm,0.8s,baz=35,slow=8.1,SNR=3.7
BVAR Borovoye Array 58.32 317 P **P 06 13 27.3 +1.4**
BVAR Borovoye Array 58.32 317 P **P 06 13 27.3 +1.4**
2.1nm,0.4s,baz=61,slow=7.4,SNR=15
SCHQ Schefferville 62.76 35 P **P 06 13 56.2 +0.1**
SCHQ Schefferville 62.76 35 P **P 06 13 56.2 +0.1**
3.8nm,0.7s,baz=302,slow=2.4,SNR=7.0
TXAR Lajitas Array 62.83 76 P **P 06 13 57.6 +0.5**
TXAR Lajitas Array 62.83 76 P **P 06 13 57.6 +0.5**
0.8nm,0.6s,baz=297,slow=3.4,SNR=5.8
AKTO Aktyubinsk 65.40 321 P **P 06 14 14.2 +0.6**
AKTO Aktyubinsk 65.40 321 P **P 06 14 14.2 +0.6**
1.2nm,0.6s,baz=49,slow=9.7,SNR=6.3
CMAR Chiang Mai Arr 66.84 271 P P 06 14 25.4 +2.2
CMAR Chiang Mai Arr 66.84 271 P P 06 14 25.4 +2.2
1.1nm,0.2s,baz=64,slow=6.1,SNR=2.3
NOA NORSAR Array B 67.44 351 P **P 06 14 27.3 +0.8**
NOA NORSAR Array B 67.44 351 P **P 06 14 27.3 +0.8**
1.1nm,0.8s,baz=6.1,slow=8.6,SNR=3.0
AKASG Malin Array Be 74.40 338 P **P 06 15 10.0 +1.1**
AKASG Malin Array Be 74.40 338 P **P 06 15 10.0 +1.1**
0.5nm,0.4s,baz=26,slow=6.6,SNR=2.5
WRA Warramunga Arr 79.02 218 P **P 06 15 35.1 -0.1**
WRA Warramunga Arr 79.02 218 P **P 06 15 35.1 -0.1**
0.6nm,0.6s,baz=30,slow=6.1,SNR=2.8
ASAR Alice Springs 82.56 217 P **P 06 15 52.8 -1.3**
ASAR Alice Springs 82.56 217 P **P 06 15 52.8 -1.3**
0.5nm,0.8s,baz=26,slow=4.6,SNR=3.3
BRTR Keskin Array B 83.32 331 P **P 06 15 58.1 0.0**
BRTR Keskin Array B 83.32 331 P **P 06 15 58.1 0.0**
1.5nm,1.0s,baz=294,slow=1.2,SNR=4.0
TORD Torodi Ar. Bea 115.75 352 PKP **PKPdf 06 22 13.8 -0.1**
TORD Torodi Ar. Bea 115.75 352 PKP **PKPdf 06 22 13.8 -0.1**
0.1nm,0.4s,baz=333,slow=1.6,SNR=3.3
BOSA Boshof 147.83 302 PKPbc **PKPab 06 23 16.6 -2.1**
BOSA Boshof 147.83 302 PKPbc **PKPab 06 23 16.6 -2.1**
4.1nm,1.2s,baz=323,slow=5.8,SNR=4.3

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*IDC **16** 06:12:54.9±0.7,29.˚25N×81.˚70E, h0km, mb4.3/20, mb1 4.4/21,mb1mx4.2/32, mbtmp4.3/21, ML3.7/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/36, Error ellipse: s-maj=20.2km s-min=15.9km az=37.0*
*BJI **16** 06:12:56.8, 29.˚53N×81.˚32E, h24km, mB4.8/8, mb4.3/12, Ms4.3/2, Ms7 3.9/2*
*MOS **16** 06:12:58.9±1.4, 29.˚42N×81.˚46E, h33km, mb4.5/29, Error ellipse: s-maj=10.5km s-min=5.4km az=109.7*
*NDI **16** 06:13:00.6±2.8, 29.˚55N×81.˚70E, h10km, ML4.2, mb4.3(NEIC)*
*DMN **16** 06:13:01.5±0.2, 29.˚60N×81.˚51E, h10km, Ml4.8/11, Error ellipse: s-maj=8.0km s-min=4.3km az=28.0*
*NEIC **16** 06:13:01.5±0.4, 29.˚52N×81.˚47E, h35km, mb4.3/9, Error ellipse: s-maj=11.1km s-min=4.8km az=222.0*

ISC 16 06:12:59.4±0.8, 29.˚41N±0.˚05×81.˚44E±0.˚03, h19km±3km, n165, σ1§29/172, mb4.4/45, MS3.5/4, 5C-2D, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LGTI	**Lohaghat**	**1.04**	**272**	*ex*		**Sn**	**06 13 30.5**	**-2.5**
LGTI				*eS*		Sg	06 13 47.1	+14
PTH	**Pithoragarh**	**1.08**	**278**	*e*		Pb	06 13 16.3	-3.2
PTH				*eS*		Sg	06 13 42.1	+7.6
PYUN	**Piuthan**	**1.89**	**134**	*ePn*		**Pb**	**06 13 33.6**	**+0.3**
PYUN				*eSn*		**Sb**	**06 13 56.8**	**+0.2**
PYUN	**Piuthan**	**1.89**	**134**	*ePn*		**Pb**	**06 13 33.6**	**+0.3**
PYUN				*eSn*		**Sb**	**06 13 56.8**	**+0.2**
DANN	**Dangsing**	**2.29**	**117**	*ePn*		**Pb**	**06 13 38.6**	**-1.7**
DANN	**Dangsing**	**2.29**	**117**	*ePn*		**Pb**	**06 13 38.6**	**-1.7**
KOLN	**Koldanda**	**2.51**	**130**	*ePn*		**Pb**	**06 13 42.0**	**-1.9**
KOLN				*eSn*		**Sn**	**06 14 11.9**	**+2.5**
	1μm,0.7s							
KOLN	**Koldanda**	**2.51**	**130**	*ePn*		**Pb**	**06 13 42.0**	**-1.9**
KOLN				*eSn*		**Sn**	**06 14 11.9**	**+2.5**
DDI	**Dehra Dun**	**3.08**	**288**	*eP*		**Pb**	**06 13 53.2**	**-0.4**
DDI				*i* S		**Sb**	**06 14 29.8**	**-0.9**
DDI				AML		AML	06 14 46.1	
	comp=E,1μm,0.1s							
DDI				AML		AML	06 14 46.2	
	comp=N,2μm,0.4s							
GKN	**Gorkha**	**3.14**	**116**	*ePn*		**Pn**	**06 13 49.9**	**+1.9**
GKN				*eSn*		**Sn**	**06 14 24.6**	**-0.4**
	comp=N,634nm,0.3s							
GKN	**Gorkha**	**3.14**	**116**	*ePn*		**Pn**	**06 13 49.9**	**+1.9**
GKN				*eSn*		**Sn**	**06 14 24.6**	**-0.4**
DMN	**Daman**	**3.69**	**118**	*ePn*		**Pn**	**06 13 57.5**	**+1.9**
DMN				*eSn*		**Sn**	**06 14 38.1**	**-0.7**
	comp=N,406nm,0.3s							
DMN	**Daman**	**3.69**	**118**	*ePn*		**Pn**	**06 13 57.5**	**+1.9**
DMN				*eSn*		**Sn**	**06 14 38.1**	**-0.7**
KKN	**Kakani**	**3.74**	**115**	*ePn*		**Pn**	**06 13 57.7**	**+1.4**
KKN				*eSn*		**Sn**	**06 14 38.9**	**-1.1**
	comp=N,219nm,0.2s							
KKN	**Kakani**	**3.74**	**115**	*eP*		**Pn**	**06 13 57.7**	**+1.4**
KKN				*e*			06 14 38.9	
KKN	**Kakani**	**3.74**	**115**	*ePn*		**Pn**	**06 13 57.7**	**+1.4**
KKN				*eSn*		**Sn**	**06 14 38.9**	**-1.1**
NDI	**New Delhi**	**3.77**	**260**	*e*		**Pn**	**06 13 55.0**	**-1.5**
NDI				*e*			06 14 13.0	
PKIN	**Phulchoki**	**3.93**	**117**	*ePn*		**Pn**	**06 14 00.4**	**+1.4**
PKIN				*eSn*		**Sn**	**06 14 44.3**	**-0.4**
	comp=N,408nm,0.3s							
PKI	**Pulchoki**	**3.94**	**117**	*ePn*		**Pn**	**06 14 00.6**	**+1.4**
PKI				*eSn*		**Sn**	**06 14 45.7**	**+0.6**
	comp=N,320nm,0.3s							
PKI	**Pulchoki**	**3.94**	**117**	*eP*		**Pn**	**06 14 00.6**	**+1.4**
PKI				*e*			06 14 44.3	
PKI	**Pulchoki**	**3.94**	**117**	*ePn*		**Pn**	**06 14 00.6**	**+1.4**
PKI				*eSn*		**Sn**	**06 14 44.3**	**-0.8**
PKI				*eSn*		**Sn**	**06 14 45.7**	**+0.6**
SMLA	**Simla**	**4.07**	**296**	*i* P		Pn	06 14 04.5	+3.9
SMLA				*i* S		**Sn**	**06 14 51.5**	**+3.7**
ALBI	**Allahabad**	**4.10**	**175**	*ex*		Pn	06 13 56.0	-5.0
GUN	**Gumba**	**4.18**	**110**	*ePn*		**Pn**	**06 14 04.1**	**+1.7**
GUN				*eSn*		**Sn**	**06 14 50.6**	**-0.3**
	comp=N,369nm,0.3s							
GUN	**Gumba**	**4.18**	**110**	*ePn*		**Pn**	**06 14 04.1**	**+1.7**
GUN				*eSn*		**Sn**	**06 14 50.6**	**-0.3**
SDNR	**Sundarnagar**	**4.38**	**299**	*eP*		Pb	06 14 11.0	-4.8
JIRN	**Jiri**	**4.53**	**112**	*ePn*		**Pn**	**06 14 08.6**	**+1.4**
JIRN				*eSn*		**Sn**	**06 14 58.8**	**-0.8**
	comp=N,462nm,0.2s							
JIRN	**Jiri**	**4.53**	**112**	*ePn*		**Pn**	**06 14 08.6**	**+1.4**
JIRN				*eSn*		**Sn**	**06 14 58.8**	**-0.8**
RAMN	**Ramite**	**5.17**	**117**	*ePn*		**Pn**	**06 14 17.0**	**+1.0**
RAMN				*eSn*		**Sn**	**06 15 13.9**	**-1.4**
	comp=N,587nm,0.3s							
RAMN	**Ramite**	**5.17**	**117**	*ePn*		**Pn**	**06 14 17.0**	**+1.0**
RAMN				*eSn*		**Sn**	**06 15 13.9**	**-1.4**
DHRM	**DHARAMSHALA**	**5.25**	**304**	*e*		**Pn**	**06 14 17.0**	**0.0**
DHRM				*eS*		**Sn**	**06 15 19.3**	**+2.2**
DHRM				AML		AML	06 15 23.8	
	comp=N,310nm,0.4s							
DHRM				AML		AML	06 15 24.0	
	comp=E,392nm,0.4s							
ODAN	**Odare**	**5.83**	**114**	*ePn*		**Pn**	**06 14 26.3**	**+1.2**
ODAN				*eSn*		**Sn**	**06 15 29.9**	**-1.7**
	comp=E,272nm,0.2s							
ODAN	**Odare**	**5.83**	**114**	*ePn*		**Pn**	**06 14 26.3**	**+1.2**
ODAN				*eSn*		**Sn**	**06 15 29.9**	**-1.7**
TAPN	**Taplejung**	**5.89**	**109**	*ePn*		**Pn**	**06 14 27.2**	**+1.3**
TAPN				*eSn*		**Sn**	**06 15 30.6**	**-2.5**
	comp=E,122nm,0.2s							
TAPN	**Taplejung**	**5.89**	**109**	*ePn*		**Pn**	**06 14 27.2**	**+1.3**
TAPN				*eSn*		**Sn**	**06 15 30.6**	**-2.5**
JBP	**Jabalpur**	**6.36**	**192**	*i*P		Pn	06 14 35.4	+3.4
JBP				*e*			06 15 48.2	
BOK	**Bokaro**	**6.87**	**144**	*eP*		**Pn**	**06 14 40.4**	**+1.4**
BOK				*eS*	3		06 15 55.8	
CHCP	**Chirah Chowk**	**8.16**	**303**	P		**Pn**	**06 14 59.4**	**+2.6**
LSA	**Lhasa**	**8.46**	**86**	*eP*		**Pn**	**06 15 02.2**	**+0.9**
LSA				pmax		pmax		
	comp=Z,24nm,0.7s							
LSA	**Lhasa**	**8.46**	**86**	*ePn*		**Pn**	**06 15 02.2**	**+0.9**
	comp=Z,24nm,0.7s							
NGP	**Nagpur**	**8.51**	**195**	*ex*		**Sn**	**06 16 35.0**	**-2.1**
NGP				*ex*		x	06 17 27.1	
CEP	**Cherat**	**9.24**	**301**	P		**Pn**	**06 15 13.3**	**+1.6**
SHL	**Shillong**	**10.03**	**110**	*eP*		**Pn**	**06 15 21.0**	**-1.6**
SHL				*e*			06 16 02.0	
HYB	**Hyderabad**	**12.23**	**193**	*eP*		**Pn**	**06 15 52.0**	**-0.7**
HYB	**Hyderabad**	**12.23**	**193**	*i* P		**Pn**	**06 15 52.0**	**-0.7**
HYB				*ePP*		**P**	**06 16 05.0**	**0.0**
HYB				*eS*		**Sn**	**06 18 06.0**	**-2.5**
HYB	**Hyderabad**	**12.23**	**193**	*eP*		**Pn**	**06 15 52.0**	**-0.7**
HYB				*eS*		Sn	06 18 30.0	+21
POO	**Poona**	**12.86**	**214**	*e*		**P**	**06 16 12.0**	**0.0**
KAD	**Karad**	**13.76**	**210**	*i* P		P	06 16 18.0	-4.0
AAK	**Ala-Archa**	**14.33**	**339**	*eP*		**Pn**	**06 16 21.0**	**-0.4**
AAK				pmax		pmax		
	comp=Z,14nm,0.8s							
AAK	**Ala-Archa**	**14.33**	**339**	*ePn*		**Pn**	**06 16 20.9**	**-0.4**
	comp=Z,14nm,0.8s							
EKS2	**Erkin-Say**	**14.59**	**337**	*eP*		**Pn**	**06 16 25.0**	**+0.1**
EKS2				pmax		pmax		
	comp=Z,19nm,0.8s							
EKS2	**Erkin-Say**	**14.59**	**337**	*ePn*		**Pn**	**06 16 25.0**	**+0.1**
	comp=Z,19nm,0.8s							
KK31	**Karatay Array**	**16.24**	**330**	*i* P		**Pn**	**06 16 43.6**	**-2.8**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.2s							
KKAR	**Karatay Array**	**16.24**	**330**	*eP*		**Pn**	**06 16 43.8**	**-2.6**
KKAR				pmax		pmax		
	comp=Z,15nm,0.9s							
KKAR	**Karatay Array**	**16.24**	**330**	*ePn*		**Pn**	**06 16 43.8**	**-2.6**
	comp=Z,15nm,0.9s							
MK31	**Makanchi Array**	**17.36**	**2**	*eP*		Pn	06 16 57.5	-3.1
MK31	**Makanchi Array**	**17.36**	**2**	*ePn*		Pn	06 16 57.5	-3.1
MKAR	**Makanchi Array**	**17.36**	**2**	P		Pn	06 16 57.3	-3.3
MKAR	**Makanchi Array**	**17.36**	**2**	Pn		Pn	06 16 57.3	-3.3
MKAR	**Makanchi Array**	**17.36**	**2**	Pn		Pn	06 16 57.3	-3.3
	comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=44							
GTA	**Gaotai**	**18.11**	**52**	*eP*		**Pn**	**06 17 08.5**	**-1.5**
GTA				pP		**pP**	**06 17 14.9**	**-0.8**
GTA				sP		**sP**	**06 17 18.8**	**+0.6**
GTA				pmax		pmax		
	comp=Z,15nm,0.7s							
GTA				LR		LR		
	comp=Z,210nm,13.8s							
GTA				LR		LR		
	comp=Z,130nm,13.8s							
GTA				LR		LR		
	comp=Z,160nm,12.4s							
CMAR	**Chiang Mai Arr**	**19.34**	**120**	P		**Pn**	**06 17 24.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.34**	**120**	P		**Pn**	**06 17 24.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=305,slow=11,SNR=4.5							
KURBB	**Kurchatov Arra**	**21.30**	**355**	P		**P**	**06 17 43.5**	**-1.2**
	comp=Z,4.0nm,0.6s,baz=257,slow=21,SNR=31							
KURK	**Kurchatov**	**21.38**	**355**	P		**P**	**06 17 43.9**	**-1.7**
KURK				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KURK	**Kurchatov**	**21.38**	**355**	P		**P**	**06 17 43.5**	**-2.1**
HVS	**Khovu-Aksy**	**23.57**	**20**	*i* P		**P**	**06 18 08.0**	**-0.7**
XAN	**Xi'an**	**23.79**	**72**	P		**P**	**06 18 08.8**	**-2.2**
XAN				pmax		pmax		
	comp=Z,2.0nm,0.6s							
XAN				pmax		pmax		
	comp=Z,29nm,5.2s							
ENH	**Enshi**	**24.32**	**81**	*eP*		**P**	**06 18 14.6**	**-1.3**
	comp=Z,8.9nm,0.6s							
ZAA0	**Zalesovo Array**	**24.64**	**5**	*eP*		**P**	**06 18 17.7**	**-0.9**
ZALV	**Zalesovo Beam**	**24.64**	**5**	P		**P**	**06 18 17.6**	**-0.9**
ZALV				pmax		pmax		
	comp=Z,9.0nm,0.6s							
ZALV	**Zalesovo Beam**	**24.64**	**5**	P		**P**	**06 18 17.6**	**-0.9**
ZALV	**Zalesovo Beam**	**24.64**	**5**	P		**P**	**06 18 17.6**	**-0.9**
	comp=Z,9.4nm,0.6s,baz=192,slow=10,SNR=49							
BVA0	**Borovoye Array**	**24.95**	**344**	P		**P**	**06 18 20.7**	**-0.7**
BVA0				pmax		pmax		
	comp=Z,6.0nm,0.7s							
BVAR	**Borovoye Array**	**24.95**	**344**	P		**P**	**06 18 21.5**	**+0.1**
BVAR				pmax		pmax		
	comp=Z,4.0nm,0.5s							
BVAR				MLR		MLR		
	comp=Z,87nm,19.3s							
BVAR	**Borovoye Array**	**24.95**	**344**	P		**P**	**06 18 21.5**	**+0.1**
BVAR	**Borovoye Array**	**24.95**	**344**	P		**P**	**06 18 21.5**	**+0.1**
	comp=Z,3.9nm,0.5s,baz=148,slow=11,SNR=26							
BVAR				LR		LR	06 29 01.8	
	comp=Z,87nm,19.3s,baz=164,slow=38							
BRVK	**Borovoye**	**25.01**	**344**	*ceP*		**P**	**06 18 21.5**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
BRVK	**Borovoye**	**25.01**	**344**	*eP*		**P**	**06 18 20.6**	**-1.2**
	comp=Z,4.7nm,0.6s							
NVS	**Novosibirsk**	**25.44**	**2**	*i*P		**P**	**06 18 24.8**	**-1.0**
NVS				pmax		pmax		
	comp=N,6.0nm,1.2s							
NVS				pmax		pmax		
	comp=E,2.0nm,1.2s							
NVS				pmax		pmax		
	comp=Z,9.0nm,1.2s							
AB31	**Akbulak array**	**25.71**	**326**	P		**P**	**06 18 29.9**	**+1.6**
AB31				pmax		pmax		
	comp=Z,7.0nm,0.4s							
ABKAR	**Akbulak array**	**25.71**	**326**	*eP*		**P**	**06 18 29.7**	**+1.4**
	comp=Z,0.7nm,0.5s							
SONM	**Songino Array**	**26.61**	**39**	P		**P**	**06 18 37.0**	**+0.3**
SONM				PcP		**PcP**	**06 21 59.7**	**-0.7**
SONM	**Songino Array**	**26.61**	**39**	P		**P**	**06 18 37.0**	**+0.3**
	comp=Z,6.5nm,0.8s,baz=229,slow=9.0,SNR=51							
SONM				PcP		**PcP**	**06 21 59.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=246,slow=2.8,SNR=3.7							
SONM				LR		LR	06 29 42.1	
	comp=Z,75nm,19.4s,baz=332,slow=38							
ZAK	**Zakamensk**	**26.64**	**32**	*eP*		**P**	**06 18 35.9**	**-0.9**
ZAK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ULN	**Ulaanbaatar**	**27.00**	**40**	*eP*		**P**	**06 18 39.6**	**-0.5**
	comp=Z,3.4nm,0.7s							
HHC	**Hu-ho-hao-te**	**27.02**	**57**	*eP*		**P**	**06 18 42.9**	**+2.5**
HHC				S		**S**	**06 23 16.6**	**-0.5**
HHC				pmax		pmax		
	comp=Z,23nm,0.7s							
HHC				pmax		pmax		
	comp=Z,360nm,5.1s							
AKTO	**Aktyubinsk**	**27.43**	**326**	P		**P**	**06 18 44.9**	**+1.1**
AKTO				pmax		pmax		
	comp=Z,4.0nm,0.7s							
AKTO	**Aktyubinsk**	**27.43**	**326**	P		**P**	**06 18 44.9**	**+1.1**
AKTO	**Aktyubinsk**	**27.43**	**326**	P		**P**	**06 18 44.9**	**+1.1**
	comp=Z,4.1nm,0.7s,baz=123,slow=8.3,SNR=18							
QIZ	**Qiongzhong**	**27.82**	**105**	P		**P**	**06 18 49.3**	**+1.7**
QIZ				S		**S**	**06 23 33.4**	**+3.6**
QIZ				pmax		pmax		
	comp=Z,170nm,8.1s							
QIZ	**Qiongzhong**	**27.82**	**105**	P		**P**	**06 18 44.9**	**-2.7**
	comp=Z,21nm,1.0s							
ARU	**Arti**	**31.48**	**336**	*c i*P		**P**	**06 19 18.6**	**-1.0**
ARU							06 20 17.4	
ARU				S		**S**	**06 24 24.8**	**-1.7**
ARU				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ARU	**Arti**	**31.48**	**336**	*eP*		**P**	**06 19 20.2**	**+0.6**
	comp=Z,3.4nm,0.7s							
SOKR	**Solikamsk**	**34.51**	**338**	*i*P		**P**	**06 19 47.7**	**+1.7**
SOKR				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BRTR	**Keskin Array B**	**40.27**	**298**	P		**P**	**06 20 37.2**	**+1.9**
BRTR	**Keskin Array B**	**40.27**	**298**	P		**P**	**06 20 37.2**	**+1.9**
	comp=Z,2.1nm,0.8s,baz=119,slow=12,SNR=9.1							
OBN	**Obninsk**	**40.96**	**322**	*i*P		**P**	**06 20 41.7**	**+1.1**
OBN				*e*			06 20 59.0	
OBN				*e*			06 22 13.4	
OBN				*e*			06 22 44.5	
OBN				*e*SS		SS	06 29 49.0	-4.3
OBN				pmax		pmax		
	comp=Z,35nm,2.5s							
USRK	**Ussuriysk Arra**	**42.42**	**55**	P		**P**	**06 20 52.3**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=260,slow=9.6,SNR=7.5							
AKASG	**Malin Array Be**	**44.19**	**314**	P		**P**	**06 21 07.1**	**+0.2**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**44.19**	**314**	P		**P**	**06 21 07.1**	**+0.2**
AKASG	**Malin Array Be**	**44.19**	**314**	P		**P**	**06 21 07.1**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=79,slow=7.9,SNR=6.0							
JOF	**Joensuu**	**46.34**	**331**	*eP*		**P**	**06 21 25.5**	**+1.7**
JOF				pmax		pmax		
	comp=Z,7.0nm,0.6s							
JOF	**Joensuu**	**46.34**	**331**	*ep*		**P**	**06 21 25.5**	**+1.7**
	comp=Z,6.9nm,0.6s							
FIA1	**FINESS Array S**	**48.18**	**328**	*eP*		**P**	**06 21 38.2**	**0.0**
FINES	**FINESS Array B**	**48.18**	**328**	P		**P**	**06 21 38.8**	**+0.7**
FINES	**FINESS Array B**	**48.18**	**328**	P		**P**	**06 21 38.8**	**+0.7**
	comp=Z,8.1nm,0.6s,baz=111,slow=8.3,SNR=42							
TIXI	**Tiksi**	**49.43**	**18**	*ceP*		**P**	**06 21 46.9**	**-0.7**
TIXI				pmax		pmax		
	comp=Z,8.0nm,1.7s							
KEV	**Kevo**	**50.60**	**339**	*eP*		**P**	**06 21 56.8**	**+0.3**
KEV				pmax		pmax		
	comp=Z,29nm,1.3s							
KEV	**Kevo**	**50.60**	**339**	*ep*		**P**	**06 21 56.8**	**+0.3**
	comp=Z,29nm,1.3s							
ARCES	**ARCESS Array B**	**51.00**	**338**	P		**P**	**06 21 59.6**	**0.0**
ARCES	**ARCESS Array B**	**51.00**	**338**	P		**P**	**06 21 59.6**	**0.0**
	comp=Z,4.2nm,0.8s,baz=99,slow=7.1,SNR=11							
NB2	**NORSAR Subarra**	**55.22**	**326**	P		**P**	**06 22 30.6**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=87,slow=7.4							
NOA	**NORSAR Array B**	**55.22**	**326**	P		**P**	**06 22 30.6**	**-0.2**
NOA	**NORSAR Array B**	**55.22**	**326**	P		**P**	**06 22 30.6**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=92,slow=7.0,SNR=11							
NOA				LR		LR	06 47 29.6	
	comp=E,56nm,19.9s,baz=300,slow=37							
SPITS	**Spitsbergen Ar**	**56.36**	**347**	P		**P**	**06 22 38.8**	**+0.1**
SPITS	**Spitsbergen Ar**	**56.36**	**347**	P		**P**	**06 22 38.8**	**+0.1**
	comp=Z,13nm,1.0s,baz=21,slow=25,SNR=3.7							
LPG	**La Plagne**	**59.38**	**308**	*eP*		P	06 22 59.2	-1.6
LPG	**La Plagne**	**59.38**	**308**	*eP*		P	06 22 59.2	-1.6
LPG	**La Plagne**	**59.38**	**308**	*eP*		P	06 22 59.2	-1.6
LPL	**La Plagne**	**59.39**	**308**	*eP*		P	06 22 59.2	-1.5
	comp=Z,22nm,0.9s							
LPL	**La Plagne**	**59.39**	**308**	*eP*		P	06 22 59.2	-1.5
LPL				pmax		pmax		
	comp=Z,22nm,0.9s							
LPL	**La Plagne**	**59.39**	**308**	*eP*		P	06 22 59.2	-1.5
	comp=Z,22nm,0.9s							
CABF	**La Chapelle**	**59.60**	**309**	*eP*		**P**	**06 23 01.6**	**-0.4**
CABF	**La Chapelle**	**59.60**	**309**	*eP*		**P**	**06 23 01.6**	**-0.4**
CABF	**La Chapelle**	**59.60**	**309**	*eP*		**P**	**06 23 01.6**	**-0.4**
SMF	**Signal de Mont**	**61.10**	**310**	*eP*		P	06 23 10.7	-1.5
SMF	**Signal de Mont**	**61.10**	**310**	*eP*		P	06 23 10.7	-1.5
SMF	**Signal de Mont**	**61.10**	**310**	*eP*		P	06 23 10.7	-1.5
SSF	**Saint Saulge**	**61.23**	**310**	*eP*		**P**	**06 23 13.0**	**-0.1**
	comp=Z,7.6nm,0.8s							
SSF	**Saint Saulge**	**61.23**	**310**	*eP*		**P**	**06 23 13.0**	**-0.1**
SSF				pmax		pmax		
	comp=Z,8.0nm,0.8s							
SSF	**Saint Saulge**	**61.23**	**310**	*eP*		**P**	**06 23 13.0**	**-0.1**
	comp=Z,7.6nm,0.8s							
AVF	**Avril sur Loir**	**61.40**	**310**	*eP*		**P**	**06 23 13.8**	**-0.4**
	comp=Z,55nm,1.8s							
AVF	**Avril sur Loir**	**61.40**	**310**	*eP*		**P**	**06 23 13.8**	**-0.4**
AVF				pmax		pmax		
	comp=Z,55nm,1.8s							
AVF	**Avril sur Loir**	**61.40**	**310**	*eP*		**P**	**06 23 13.8**	**-0.4**
	comp=Z,55nm,1.8s							
TCF	**Toulx Ste Croi**	**62.28**	**310**	*eP*		**P**	**06 23 21.0**	**+0.8**
	comp=Z,65nm,1.6s							
TCF	**Toulx Ste Croi**	**62.28**	**310**	*eP*		**P**	**06 23 21.0**	**+0.8**
TCF				pmax		pmax		
	comp=Z,65nm,1.6s							
TCF	**Toulx Ste Croi**	**62.28**	**310**	*eP*		**P**	**06 23 21.0**	**+0.8**
	comp=Z,65nm,1.6s							
LDF	**La Druitiere**	**63.23**	**313**	*eP*		**P**	**06 23 26.2**	**-0.2**
	comp=Z,13nm,

az=150.0

ISC 16 06:21:27.2±1.9, 15°00S±0.6×173°38W±0.4, h10km±n21, σ0948/9, mb3.8/7, MS3.5/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.18**	**62**	Pn	Pn	06 21 54.8	-8.8
	32nm,0.3s,baz=203,slow=2.4,SNR=31						
AFI				Sn	Sn	06 22 15.1	-16
	198nm,0.3s,baz=138,slow=16,SNR=14						
RAR	**Rarotonga**	**14.67**	**117**	LR	LR	06 28 51.4	
	comp=Z,50nm,19.0s,baz=270,slow=31						
PPT2	**Papeete2**	**23.35**	**100**	*eT*	T	06 49 56.3	
	4.5nm,0.3s						
PAE	**Paea**	**23.35**	**100**	*eT*	T	06 49 55.6	
	2.4nm,0.2s						
TVO	**Taravao**	**23.67**	**100**	*eT*	T	06 50 19.4	
	1.2nm,0.3s						
TBI	**Tubuai**	**24.39**	**114**	*eT*	T	06 51 20.0	
	8.3nm,0.3s						
URZ	**Urewera**	**24.58**	**197**	LR	LR	06 35 23.5	
	comp=Z,157nm,18.3s,baz=126,slow=34						
PMOR	**Pomariorio Ree**	**24.98**	**93**	*eT*	T	06 51 53.8	
	3.7nm,0.4s						
WRA	**Warramunga Arr**	**49.62**	**256**	P	**P**	**06 30 19.1**	**-0.1**
	1.1nm,0.8s,baz=87,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**49.93**	**252**	P	**P**	**06 30 21.4**	**-0.2**
	3.3nm,0.8s,baz=85,slow=8.4,SNR=27						
MJAR	**Matsushiro Arr**	**68.38**	**320**	LR	LR	06 56 36.6	
	comp=Z,22nm,19.7s,baz=15,slow=31						
ASAJ	**Asahikawa**	**70.98**	**328**	LR	LR	07 00 03.0	
	comp=Z,30nm,20.3s,baz=222,slow=33						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**06 33 04.7**	**0.0**
	0.5nm,0.7s,baz=249,slow=7.3,SNR=3.4						
KSRS	**Korea Array**	**75.61**	**316**	LR	LR	07 02 41.2	
	comp=Z,24nm,19.6s,baz=338,slow=33						
TXAR	**Lajitas Array**	**80.65**	**56**	P	**P**	**06 33 41.1**	**+0.3**
	1.4nm,1.1s,baz=253,slow=3.8,SNR=5.1						
ILAR	**Eielson Array**	**82.08**	**11**	P	**P**	**06 33 47.0**	**-0.4**
	0.5nm,0.6s,baz=225,slow=6.0,SNR=10						
PDAR	**Pinedale Array**	**82.16**	**42**	P	**P**	**06 33 48.2**	**-0.5**
	0.4nm,0.6s,baz=182,slow=3.9,SNR=3.9						
YKA	**Yellowknife Ar**	**89.83**	**23**	P	**P**	**06 34 25.6**	**-0.1**
	0.4nm,0.7s,baz=237,slow=5.6,SNR=5.1						
ATAH	**Atahualpa**	**93.32**	**98**	LR	LR	07 08 48.9	
	comp=Z,14nm,18.6s,baz=266,slow=30						
BRTR	**Keskin Array B**	**145.60**	**321**	PKPbc	**PKPab**	**06 41 07.5**	**+0.8**
	0.6nm,0.5s,baz=70,slow=1.9,SNR=3.2						
GERES	**GERESS Array B**	**145.65**	**351**	PKPbc	**PKPab**	**06 41 07.1**	**+0.5**
	0.3nm,0.2s,baz=29,slow=3.0,SNR=3.6						

DJA 16 06:24:10.9±0.8, 1°S±9°×13°4E±°, h18km±12km, M3.5/4, MLv3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWPI	**Manokwari, Pap**	**0.49**	**358**	P	Pb	06 24 21.0	0.0
MWPI				S	Sb	06 24 29.1	+1.3
BAKI	**Biak**	**2.06**	**84**	P	Pn	06 24 44.8	+0.2
BAKI				S	Sn	06 25 10.7	+0.8
FAKI	**Fak Fak**	**2.34**	**231**	P	Pn	06 24 48.4	-0.2
FAKI				S	Sn	06 25 17.9	+1.0
SWI	**Sorong**	**2.85**	**281**	P	Pn	06 24 55.6	0.0

*TEH **16** 06:45:40.6,27°.02N×56°.10E,h28km,ML3.5*
*IDC **16** 06:45:41.5±1.7,27°.35N×55°.99E,h0km,mb3.7/11, mb1 3.8/11,mb1mx3.7/29,mbtmp3.7/11,Error ellipse: s-maj=40.1km s-min=21.5km az=160.0*
*ISCJB **16** 06:45:44.0±0.4,27°.48N±0°.04×55°.96E±0°.05,h15km, mb3.6/11,Error ellipse: s-maj=6.1km s-min=4.6km az=149.1*
*CSEM **16** 06:45:44.8±0.3,27°.39N×55°.94E,h2km,ML3.5,Error ellipse: s-maj=9.6km s-min=6.1km az=67.0*

ISC 16 06:45:44.0±0.6, 27°.32N±0°.05×55°.95E±0°.05, h15km, n42, σ1971/46, mb3.8/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.54**	**77**	*e*Pg	**Pg**	**06 45 53.4**	**-1.3**
IBND				*e*Sg	**Sb**	**06 46 02.8**	**0.0**
IBND				*e*		06 46 17.1	
	comp=Z,30µm,0.1s						
IBND	**Bandar-abas**	**0.54**	**77**	*e*Pg	**Pg**	**06 45 53.4**	**-1.3**
IBND				*e*Sg	**Sb**	**06 46 02.8**	**0.0**
BANOM	**Banah**	**1.43**	**167**	P	**Pb**	**06 46 11.7**	**+1.3**
BANOM				S	**Sg**	**06 46 32.4**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.34**	**186**	P	**Pb**	**06 46 26.8**	**+0.9**
HATD	**Hatta, Dubai**	**2.49**	**176**	P	**Pb**	**06 46 27.1**	**-1.4**
FAQ	**Al Faqa, Dubai**	**2.59**	**187**	P	**Pb**	**06 46 28.7**	**-1.4**
ASHO	**Ashiyiah**	**2.63**	**178**	P	**Pn**	**06 46 29.0**	**+3.0**
ASUD	**Al Ashush, Dub**	**2.74**	**192**	P	**Pb**	**06 46 31.3**	**-1.5**
ISRV	**Sarvestan**	**3.23**	**310**	*e*Pn	**Pn**	**06 46 36.6**	**+2.1**
ISRV				*e*		06 47 47.1	
	comp=Z,705nm,0.3s						
ISRV	**Sarvestan**	**3.23**	**310**	*e*Pn	**Pn**	**06 46 36.6**	**+2.1**
IPAR	**Pars**	**3.58**	**315**	*e*Pn	**Pn**	**06 46 41.8**	**+2.6**
IPAR				*e*		06 47 48.9	
	comp=Z,638nm,0.4s						
IPAR	**Pars**	**3.58**	**315**	*e*Pn	**Pn**	**06 46 41.8**	**+2.6**
IMEH	**Mehriz**	**4.21**	**344**	*e*Pn	**Pn**	**06 46 50.7**	**+2.7**
IMEH				*e*		06 46 53.8	
	comp=Z,578nm,0.1s						
IMEH	**Mehriz**	**4.21**	**344**	*e*Pn	**Pn**	**06 46 50.7**	**+2.7**
IBAF	**Bafgh**	**4.26**	**356**	*e*Pn	**Pn**	**06 46 50.7**	**+2.2**
IBAF				*e*		06 48 07.4	
	comp=Z,388nm,0.3s						
IBAF	**Bafgh**	**4.26**	**356**	*e*Pn	**Pn**	**06 46 50.7**	**+2.2**
ISAD	**Sadrabad**	**4.98**	**337**	*e*Pn	**Pn**	**06 47 01.3**	**+2.8**
ISAD				*e*		06 48 06.4	
	comp=Z,229nm,0.1s						
ISAD	**Sadrabad**	**4.98**	**337**	*e*Pn	**Pn**	**06 47 01.3**	**+2.8**
ICHK	**Chekchek**	**5.08**	**345**	*e*Pn	**Pn**	**06 47 02.5**	**+2.6**
ICHK				*e*		06 48 25.7	
	comp=Z,199nm,0.2s						
ICHK	**Chekchek**	**5.08**	**345**	*e*Pn	**Pn**	**06 47 02.5**	**+2.6**
IGAR	**Gharneh**	**6.09**	**327**	*e*Pn	**Pn**	**06 47 16.4**	**+2.7**
IGAR				*e*		06 48 28.7	
	comp=Z,179nm,0.2s						
IZEF	**Zefreh**	**6.38**	**331**	*e*Pn	**Pn**	**06 47 17.4**	**-0.3**
IZEF				*e*		06 48 32.2	
	comp=Z,59nm,0.2s						
IZEF	**Zefreh**	**6.38**	**331**	*e*Pn	**Pn**	**06 47 17.4**	**-0.3**
IKLH	**Kolahrood**	**7.07**	**329**	*e*Pn	**Pn**	**06 47 28.4**	**+1.3**
IKLH				*e*		06 48 58.0	
	comp=Z,70nm,0.2s						
IKLH	**Kolahrood**	**7.07**	**329**	*e*Pn	**Pn**	**06 47 28.4**	**+1.3**
KBD	**Kabd**	**7.51**	**286**	*e*P	**Pn**	**06 47 33.5**	**+0.6**
KBD	**Kabd**	**7.51**	**286**	*e*P	**Pn**	**06 47 33.5**	**+0.6**
RDF	**Al-Radifah**	**7.58**	**284**	*e*P	**Pn**	**06 47 35.1**	**+1.1**
RDF				AML	AML	06 49 02.7	
	comp=Z,9.8nm,0.4s						
RDF	**Al-Radifah**	**7.58**	**284**	*e*P	**Pn**	**06 47 35.1**	**+1.1**
MIB	**Mutribah**	**7.96**	**290**	*e*P	**Pn**	**06 47 40.1**	**+0.9**
MIB	**Mutribah**	**7.96**	**290**	*e*P	**Pn**	**06 47 40.1**	**+0.9**
BRTR	**Keskin Array B**	**22.27**	**309**	P	**P**	**06 50 41.2**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=138,slow=12,SNR=5.4						
AKTO	**Aktyubinsk**	**23.13**	**3**	P	**P**	**06 50 49.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=162,slow=7.4,SNR=5.8						
BVAR	**Borovoye Array**	**27.83**	**19**	P	**P**	**06 51 32.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=201,slow=7.8,SNR=6.9						
BVAR				PcP	**PcP**	**06 54 49.0**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=196,slow=2.3,SNR=4.1						
MKAR	**Makanchi Array**	**28.41**	**40**	P	**P**	**06 51 36.9**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=222,slow=6.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**34.02**	**31**	P	**P**	**06 52 26.1**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=244,slow=9.6,SNR=3.6						
FINES	**FINESS Array B**	**39.54**	**338**	P	**P**	**06 53 14.7**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=150,slow=13,SNR=4.7						
SONM	**Songino Array**	**44.02**	**48**	P	**P**	**06 53 51.4**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=297,slow=9.5,SNR=3.3						
NOA	**NORSAR Array B**	**45.05**	**331**	P	**P**	**06 53 57.8**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=52,slow=16,SNR=2.8						
ARCES	**ARCESS Array B**	**45.80**	**346**	P	**P**	**06 54 04.5**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=78,slow=26,SNR=4.5						
TORD	**Torodi Ar. Bea**	**52.45**	**266**	P	**P**	**06 54 56.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=64,slow=7.4,SNR=24						
ILAR	**Eielson Array**	**86.50**	**10**	P	**P**	**06 58 24.4**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=320,slow=3.9,SNR=4.5						

*IDC **16** 06:46:48.1±1.3,18°.57S×168°.35E,h0km,mb4.0/7, mb1 4.2/8,mb1mx4.0/19,mbtmp4.0/8,ML3.3/1,MS3.4/7, Ms1 3.4/7,ms1mx3.1/25,Error ellipse: s-maj=43.7km s-min=21.8km az=135.0*
*ISCJB **16** 06:46:53.0±1.2,18°.54S±0°.08×168°.2E±0°.2,h37km, mb3.9/7,MS3.2/4,Error ellipse: s-maj=29.0km s-min=8.7km az=15.1*

ISC 16 06:46:54.0±1.2, 18°.5S±0°.1×168°.3E±0°.2, h37km, n18, σ1902/17, mb4.0/7, MS3.3/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.91**	**206**	Pn	**Pn**	**06 47 49.5**	**-2.1**
	2.1nm,0.3s,baz=49,slow=20,SNR=26						
DZM				Sn	**Sn**	**06 48 36.2**	**-0.1**
	8.7nm,0.3s,baz=128,slow=22,SNR=6.3						
DZM	**Mont Dzumac**	**3.91**	**206**	*e*P	**Pn**	**06 47 52.9**	**+1.3**
DZM				*e*S	**Sn**	**06 48 35.4**	**-0.9**
DZM	**Mont Dzumac**	**3.91**	**206**	*e*P	**Pn**	**06 47 52.9**	**+1.3**
DZM				*e*S	**Sn**	**06 48 35.4**	**-0.9**
NORM	**Noumea**	**4.04**	**204**	*e*S	**Sn**	**06 48 39.7**	**+0.5**
NORM	**Noumea**	**4.04**	**204**	*e*S	**Sn**	**06 48 39.7**	**+0.5**
HNR	**Honiara**	**12.14**	**317**	LR	LR	06 53 20.5	
	comp=Z,132nm,18.7s,baz=174,slow=32						
RAO	**Raoul Island**	**16.50**	**133**	LR	LR	06 55 48.9	
	comp=Z,176nm,18.3s,baz=348,slow=33						
AFI	**Afiamalu**	**19.69**	**79**	LR	LR	06 57 20.5	
	comp=Z,130nm,18.5s,baz=262,slow=32						
URZ	**Urewera**	**21.10**	**160**	LR	LR	06 58 03.5	
	comp=Z,42nm,21.4s,baz=346,slow=32						
STKA	**Stephens Creek**	**27.46**	**236**	P	**P**	**06 52 37.1**	**+0.5**
	3.6nm,1.0s,baz=52,slow=9.3,SNR=4.3						
STKA				LR	LR	07 02 59.7	
	comp=Z,58nm,20.7s,baz=182,slow=35						
WRA	**Warramunga Arr**	**32.05**	**262**	P	**P**	**06 53 16.0**	**-1.4**
	0.2nm,0.4s,baz=81,slow=6.1,SNR=2.6						
ASAR	**Alice Springs**	**32.42**	**255**	P	**P**	**06 53 20.2**	**-0.5**
	1.0nm,0.5s,baz=82,slow=8.6,SNR=12						
ASAR				LR	LR	07 06 28.6	
	comp=Z,103nm,18.9s,baz=95,slow=36						
FITZ	**Fitzroy Crossi**	**40.41**	**264**	P	**P**	**06 54 29.7**	**+0.8**
	4.4nm,0.9s,baz=96,slow=10,SNR=3.3						
FITZ				LR	LR	07 10 38.9	
	comp=Z,70nm,20.7s,baz=104,slow=35						
CMAR	**Chiang Mai Arr**	**77.39**	**294**	P	**P**	**06 58 46.4**	**+0.8**
	0.9nm,0.4s,baz=138,slow=4.2,SNR=5.9						
SONM	**Songino Array**	**86.12**	**323**	P	**P**	**06 59 31.1**	**0.0**
	1.5nm,0.8s,baz=142,slow=7.0,SNR=8.2						
NVAR	**Mina Array Bea**	**89.03**	**49**	P	**P**	**06 59 45.6**	**+0.1**
	0.4nm,0.6s,baz=240,slow=6.5,SNR=2.9						
ARCES	**ARCESS Array B**	**124.17**	**345**	PKP	**PKPdf**	**07 05 46.9**	**-1.0**
	1.6nm,0.8s,baz=84,slow=2.6,SNR=8.9						
DAVOX	**Davos/Dischmat**	**146.70**	**333**	PKPbc	**PKPbc**	**07 06 32.0**	**-0.1**
	4.6nm,0.8s,baz=349,slow=7.4,SNR=5.5						

*CASC **16** 06:49:00.2±1.5,17°.31N×95°.15W,h235km±186km,MD4.8, mb4.6(NEIC)*
*ISCJB **16** 06:49:11.7±0.4,16°.79N±0°.03×94°.53W±0°.03,h114km±3km, mb4.5/7,Error ellipse: s-maj=6.9km s-min=2.8km az=135.1*
*IDC **16** 06:49:11.6±0.7,16°.73N×94°.51W,h106km±5km,mb4.0/24, mb1 4.1/27,mb1mx4.1/33,mbtmp4.3/27,MS3.2/5, Ms1 3.3/5,ms1mx3.0/30,Error ellipse: s-maj=15.4km s-min=8.1km az=47.0*
*MEX **16** 06:49:12.8±0.8,16°.68N×94°.81W,h108km±17km,MD4.2*
*NEIC **16** 06:49:12.0,16°.69N×94°.80W,h115km,mb4.6/49, MD4.1(MEX),After MEX.*

ISC 16 06:49:11.7±0.5, 16°.68N±0°.04×94°.73W±0°.04, h110km±3km, n499, σ1927/520, mb4.6/72, 141C-128D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.38**	**12**	*i* P	**Pn**	**06 49 36.6**	**-0.5**
TUIG				*i* S	**Sn**	**06 49 56.4**	**0.0**
TUIG	**Tuzandepetl**	**1.38**	**12**	*i* P	**Pn**	**06 49 36.4**	**-0.7**
TUIG				*e*S	**Sn**	**06 49 56.5**	**+0.2**
PCIG		**1.75**	**123**	*e*P	**Pn**	**06 49 41.6**	**+0.1**
PCIG				*i* S	**Sn**	**06 50 05.1**	**+0.9**
PCIG		**1.75**	**123**	*e*P	**Pn**	**06 49 42.0**	**+0.6**
PCIG				*e*S	**Sn**	**06 50 05.3**	**+1.1**
VHO	**Vista Hermosa**	**1.96**	**282**	*e*P	**Pn**	**06 49 43.6**	**-0.7**
VHO				*e*S	**Sn**	**06 50 06.7**	**-2.5**
TPIG	**Tehuac#an**	**3.05**	**305**	*e*P	**Pn**	**06 49 57.9**	**-0.6**
TPIG				*e*S	**Sn**	**06 50 33.0**	**-1.6**
TPIG	**Tehuac#an**	**3.05**	**305**	*e*P	**Pn**	**06 49 57.9**	**-0.6**
TPIG				*e*S	**Sn**	**06 50 33.0**	**-1.6**
JAT	**Jato**	**3.79**	**128**	*e*P	**Pn**	**06 50 10.6**	**+2.3**
APG	**El Apazote**	**4.43**	**111**	P	**Pn**	**06 50 14.2**	**-2.9**
APG				S	**Sn**	**06 51 03.1**	**-4.7**
APG	**El Apazote**	**4.43**	**111**	P	**Pn**	**06 50 14.2**	**-2.9**
	20nm,0.3s,baz=297,slow=10,SNR=133						
APG				S	**Sn**	**06 51 03.1**	**-4.7**
	99nm,0.3s,baz=78,slow=20,SNR=4.9						
APG				LR	LR	06 51 22.6	
	comp=Z,212nm,20.4s,baz=329,slow=31						
YAIG	**Yautepec**	**4.67**	**298**	*e*P	**Pn**	**06 50 20.6**	**+0.5**
YAIG				*e*S	**Sn**	**06 51 10.8**	**-2.6**
YAIG	**Yautepec**	**4.67**	**298**	*e*P	**Pn**	**06 50 20.6**	**+0.5**
YAIG				*e*S	**Sn**	**06 51 10.8**	**-2.6**
NBG	**Las Nubes**	**4.71**	**116**	*e*P	Pn	06 50 24.4	+3.6
MEIG	**Mezcala**	**4.83**	**286**	*e*P	**Pn**	**06 50 22.1**	**-0.2**
MEIG				*i* S	**Sn**	**06 51 13.9**	**-3.4**
MEIG	**Mezcala**	**4.83**	**286**	*e*P	**Pn**	**06 50 21.9**	**-0.5**
MEIG				*i* S	**Sn**	**06 51 13.9**	**-3.4**
ACX	**Acapulco**	**4.92**	**273**	*e*P	**Pn**	**06 50 24.9**	**+1.5**
MRL	**Marmol**	**5.11**	**108**	*e*P	**Pn**	**06 50 25.8**	**-0.4**
BOQS	**Boqueron**	**6.02**	**118**	*e*P	**Pn**	**06 50 40.2**	**+1.7**
TEIG	**Tepich**	**7.07**	**59**	*e*Pn	**Pn**	**06 50 50.7**	**-1.9**
TEIG				*e*Sn	Sn	06 52 04.7	-6.7
TEIG				S	**Sn**	**06 52 06.5**	**-4.9**
TEIG	**Tepich**	**7.07**	**59**	P	**Pn**	**06 50 50.7**	**-1.9**
	31nm,0.3s,baz=273,slow=1.7,SNR=233						
TEIG				S	**Sn**	**06 52 06.5**	**-4.9**
	74nm,0.3s,baz=358,slow=21,SNR=13						
TGUH	**Tegucigalpa,Un**	**7.65**	**109**	*e*Pn	**Pn**	**06 51 01.3**	**+0.9**
SFJM	**Santa Fe**	**8.74**	**297**	*i* P	Pn	06 51 10.3	-5.1
VCR	**Vista de Mar**	**10.99**	**125**	*e*P	**Pn**	**06 51 46.8**	**+0.9**
JTS	**JuntasAbangare**	**11.43**	**122**	*e*Pn	**Pn**	**06 51 51.8**	**+0.1**
JTS				S	**Sn**	**06 53 54.7**	**-2.8**
JTS	**JuntasAbangare**	**11.43**	**122**	P	**Pn**	**06 51 51.7**	**0.0**
	7.6nm,0.3s,baz=317,slow=16,SNR=46						
JTS				S	**Sn**	**06 53 54.7**	**-2.8**
	0.4nm,0.3s,baz=85,slow=19,SNR=2.4						
JCR	**Jicaral**	**11.56**	**125**	*e*P	**Pn**	**06 51 54.3**	**+0.9**
CGA2	**Cerro Gallo 2**	**11.98**	**122**	*e*P	**Pn**	**06 51 59.1**	**0.0**
QCR	**Quepos**	**12.56**	**124**	*e*P	**Pn**	**06 52 06.5**	**-0.1**
BUS	**Buena Vista**	**12.81**	**122**	*e*P	**Pn**	**06 52 10.5**	**+0.2**
732A	**Laxson Ranch,**	**12.93**	**339**	⇓P	**Pn**	**06 52 10.5**	**-0.8**
	baz=13,SNR=11						
732A				⇓S	Sn	06 54 27.0	-6.7
	baz=13						
HKT	**Hockley**	**13.25**	**356**	*e*Pn	**Pn**	**06 52 15.6**	**+0.2**
632A	**Uvalde**	**13.59**	**341**	⇑P	**Pn**	**06 52 20.7**	**+0.7**
	baz=14,SNR=40						
534A	**Blanco**	**13.73**	**346**	⇓P	**Pn**	**06 52 21.8**	**+0.1**
	baz=14,SNR=201						
534A				⇓S	Sn	06 54 44.0	-9.0
	baz=14						
631A	**Perdido Creek**	**13.77**	**338**	P	**Pn**	**06 52 21.5**	**-0.7**
	baz=14,SNR=15						
631A				⇓S	Sn	06 54 45.9	-8.0
	baz=14						
533A	**Kerrville**	**13.90**	**344**	⇑P	**Pn**	**06 52 24.6**	**+0.6**
	baz=14,SNR=94						
533A				⇑S	Sn	06 54 49.0	-8.3
	baz=14						
532A	**Rocksprings**	**14.20**	**341**	⇑P	**Pn**	**06 52 28.7**	**+0.8**
	baz=14,SNR=100						
532A				⇓S	Sn	06 54 57.7	-6.8
	baz=14						
434A	**Burnet**	**14.44**	**348**	⇑P	**Pn**	**06 52 30.0**	**-0.9**
	baz=14,SNR=81						
434A				⇑S	Sn	06 55 02.1	-8.1
	baz=14						
531A	**Rocksprings**	**14.44**	**339**	⇓P	**Pn**	**06 52 30.6**	**-0.3**
	baz=14,SNR=26						
JCT	**Junction City**	**14.50**	**342**	*e*Pn	**Pn**	**06 52 32.4**	**+0.7**
JCT	**Junction City**	**14.50**	**342**	⇓P	**Pn**	**06 52 32.1**	**+0.4**
	baz=14,SNR=16						
433A	**Art**	**14.57**	**345**	P	**Pn**	**06 52 32.5**	**0.0**
	baz=15,SNR=125						
433A				⇑S	Sn	06 55 06.0	-7.4
	baz=15						
530A	**J-C Ranch, Com**	**14.71**	**337**	P	**Pn**	**06 52 34.7**	**+0.4**
	baz=15,SNR=10.0						
335A	**Moody**	**14.75**	**351**	⇓P	**Pn**	**06 52 35.2**	**+0.5**
	baz=15,SNR=50						
628A	**Black Gap, Mar**	**14.79**	**331**	P	**Pn**	**06 52 36.8**	**+1.5**
	baz=15,SNR=46						
432A	**Menard**	**14.87**	**343**	⇑P	**Pn**	**06 52 36.1**	**-0.3**
	baz=15,SNR=24						
334A	**Lometa**	**14.94**	**348**	⇓P	**Pn**	**06 52 36.4**	**-0.8**
	baz=15,SNR=124						
431A	**Sonora**	**14.94**	**340**	⇑P	**Pn**	**06 52 37.6**	**+0.4**
	baz=15,SNR=16						
627A	**Terlingua Ranc**	**15.00**	**330**	⇑P	**Pn**	**06 52 39.1**	**+1.0**
	baz=15,SNR=12						
TXAR	**Lajitas Array**	**15.04**	**328**	P	**Pn**	**06 52 39.5**	**+1.0**
TXAR	**Lajitas Array**	**15.04**	**328**	P	**Pn**	**06 52 39.5**	**+1.0**
	0.2nm,0.3s,baz=152,slow=14,SNR=24						
529A	**Stev Forest Ra**	**15.04**	**334**	⇑P	**Pn**	**06 52 38.9**	**+0.4**
	baz=15,SNR=12						
333A	**Richland Sprin**	**15.09**	**346**	⇑P	**Pn**	**06 52 40.4**	**+1.3**
	baz=15,SNR=56						
430A	**Baggett Ranch,**	**15.25**	**338**	⇑P	**Pn**	**06 52 42.2**	**+1.0**
	baz=15,SNR=24						
528A	**Cox Ranch, San**	**15.32**	**333**	⇓P	**Pn**	**06 52 43.3**	**+1.2**
	baz=15						
332A	**Millersview**	**15.34**	**344**	⇑P	**Pn**	**06 52 42.3**	**+0.1**
	baz=15,SNR=21						
429A	**Davenport Ranc**	**15.35**	**336**	⇑P	**Pn**	**06 52 42.9**	**+0.5**
	baz=15,SNR=63						
WHTX	**Lake Whitney**	**15.45**	**351**	*e*Pn	**Pn**	**06 52 43.9**	**+0.4**
WHTX	**Lake Whitney**	**15.45**	**351**	⇑P	**Pn**	**06 52 42.9**	**-0.7**
	baz=16,SNR=21						
626A	**Big Bend Ranch**	**15.45**	**328**	⇓P	**Pn**	**06 52 44.6**	**+0.9**
	baz=15,SNR=26						
331A	**San Angelo**	**15.46**	**341**	⇑P	**Pn**	**06 52 43.9**	**+0.1**
	baz=16,SNR=24						
527A	**Woodward Ranch**	**15.68**	**330**	P	**P**	**06 52 47.9**	**-0.5**
	baz=16,SNR=16						
428A	**Kincaid Ranch,**	**15.76**	**334**	⇓P	**P**	**06 52 48.8**	**-0.4**
	baz=16,SNR=43						
232A	**Coleman**	**15.79**	**344**	⇓P	**Pn**	**06 52 47.9**	**0.0**
	baz=16,SNR=34						
330A	**Mertzon**	**15.79**	**339**	P	**Pn**	**06 52 48.7**	**+0.7**
	baz=16,SNR=27						
526A	**Mary Lane Ranc**	**15.84**	**329**	⇓P	**P**	**06 52 49.6**	**-0.6**
	baz=16,SNR=17						
135A	**Vickery Place,**	**16.00**	**352**	⇑P	**Pn**	**06 52 50.0**	**-0.4**
	baz=16,SNR=13						
231A	**Bronte**	**16.02**	**343**	⇑P	**Pn**	**06 52 51.1**	**+0.4**
	baz=16,SNR=6.5						
134A	**White-Moore Ra**	**16.12**	**350**	P	**Pn**	**06 52 51.9**	**0.0**
	baz=16,SNR=26						
329A	**Wagon Wheel Ra**	**16.15**	**337**	⇑P	**Pn**	**06 52 52.7**	**+0.3**
	baz=16,SNR=25						
427A	**Hayter Ranch,**	**16.18**	**332**	⇑P	**Pn**	**06 52 53.1**	**+0.3**
	baz=16,SNR=12						
230A	**Sterling City**	**16.22**	**340**	P	**Pn**	**06 52 53.6**	**+0.4**
	baz=16,SNR=6.9						
133A	**Hamilton Ranch**	**16.31**	**347**	⇑P	**Pn**	**06 52 53.7**	**-0.5**
	baz=16,SNR=21						
426A	**McDonald Obser**	**16.31**	**330**	P	**P**	**06 52 56.0**	**+0.5**
	baz=16,SNR=57						
LPIG	**La Paz**	**16.36**	**299**	LR	LR	06 59 32.8	
	comp=Z,66nm,18.4s,baz=134,slow=38						
328A	**Wristen Ranch,**	**16.38**	**335**	P	**P**	**06 52 56.0**	**0.0**
	baz=16,SNR=107						
ABTX	**Abilene, Hawle**	**16.49**	**345**	*e*Pn	**Pn**	**06 52 56.7**	**+0.3**
	130nm,0.6s						
ABTX	**Abilene, Hawle**	**16.49**	**345**	P	**Pn**	**06 52 56.8**	**+0.3**
	baz=16,SNR=19						
229A	**Bryant Ranch,**	**16.52**	**338**	⇓P	**P**	**06 52 57.5**	**-0.2**
	baz=16,SNR=11						
131A	**Roby**	**16.73**	**343**	⇑P	**Pn**	**06 52 59.4**	**0.0**
	baz=17,SNR=8.6						
Z35A	**Perchaven, San**	**16.74**	**353**	⇓P	**Pn**	**06 52 59.2**	**-0.3**
	baz=17,SNR=7.4						
130A	**Snyder**	**16.83**	**342**	⇑P	**Pn**	**06 53 00.7**	**+0.1**
	baz=17,SNR=16						
326A	**Caldwell Ranch**	**16.83**	**332**	⇓P	**P**	**06 53 02.0**	**+1.0**
	baz=17

baz=19,SNR=5.8
W33A **Caddo, Fort Co** 18.70 350 ⇓P P 06 53 22.0 +0.5
baz=19,SNR=20
Y27A **Causey** 18.74 338 ⇓P Pn 06 53 23.4 -0.4
baz=19,SNR=19
X29A **Tulia** 18.77 342 ⇑P P 06 53 23.1 +0.7
baz=19,SNR=36
Z25A **Roswell** 18.83 333 ⇓P P 06 53 23.9 +0.9
baz=19,SNR=9.7
X28A **Dimmitt** 18.99 341 ⇓P Pn 06 53 26.1 -0.5
baz=19,SNR=5.4
123A **Bell Site, Whi** 19.01 329 ⇓P Pn 06 53 26.5 -0.4
baz=19
W31A **Holland Ranch,** 19.01 347 P P 06 53 25.7 +0.7
baz=19,SNR=9.9
222A **Williams Famil** 19.02 326 ⇑P Pn 06 53 26.7 -0.4
baz=19
Y26A **Elida** 19.02 336 ⇑P Pn 06 53 26.8 -0.3
baz=19
W30A **Crocket Farms** 19.16 345 ⇑P P 06 53 27.3 +0.8
baz=19
Z24A **Sheeppen Canyo** 19.16 332 ⇓P Pn 06 53 28.0 -0.7
baz=19,SNR=12
AMTX **Amarillo** 19.17 342 *e*P P 06 53 27.4 +0.7
60nm,0.8s
AMTX **Amarillo** 19.17 342 ⇑P P 06 53 27.6 +0.9
baz=19
TUL1 **Tulsa** 19.18 357 *e*P P 06 53 26.9 +0.2
TUL1 **Tulsa** 19.18 357 ⇓P P 06 53 26.2 -0.5
baz=19,SNR=10
V34A **Guthrie** 19.24 353 P P 06 53 27.9 +0.5
baz=19,SNR=24
320A **Kipp Ranch, An** 19.25 322 ⇑P Pn 06 53 29.9 +0.1
baz=19
V33A **Lossen Ranch,** 19.33 351 P P 06 53 28.8 +0.4
baz=19,SNR=37
V32A **Arapaho** 19.35 349 ⇑P P 06 53 29.3 +0.7
baz=19
Y25A **Mesa, Roswell** 19.37 334 ⇑P Pn 06 53 30.9 -0.2
baz=19,SNR=21
W29A **Amraillo** 19.38 343 ⇑P P 06 53 29.7 +0.7
baz=19,SNR=8.9
X27A **F and S Farms,** 19.40 339 ⇑P P 06 53 30.2 +0.9
baz=19,SNR=14
Z23A **Rita Site, Whi** 19.50 330 ⇑P Pn 06 53 32.2 -0.5
baz=20,SNR=6.6
V31A **Spring Creek L** 19.56 348 ⇓P P 06 53 31.1 +0.2
baz=20,SNR=7.9
X26A **CR and CF Fran** 19.57 337 ⇑P Pn 06 53 32.5 -1.0
baz=20
GNAR **Gosnell** 19.66 11 *e*Pn Pn 06 53 36.0 +1.6
539nm,0.9s
W28A **Vega** 19.67 342 ⇑P P 06 53 33.5 +1.3
baz=20
Y24A **Capitan** 19.69 333 ⇓P Pn 06 53 34.4 -0.6
baz=20,SNR=10
121A **Cookes Peak, D** 19.72 326 *e*P Pn 06 53 34.9 -0.4
18nm,0.8s
121A **Cookes Peak, D** 19.72 326 ⇑P Pn 06 53 34.6 -0.7
baz=20,SNR=13
319A **Douglas** 19.73 320 ⇑P Pn 06 53 35.1 -0.3
baz=20
V30A **Spur Ranch, Mi** 19.74 346 ⇑P P 06 53 33.9 +1.1
baz=20,SNR=6.8
U34A **Anderson Ranch** 19.84 353 ⇓P P 06 53 33.7 -0.2
baz=20,SNR=7.1
Z22A **Elephant Butte** 19.86 328 ⇑P Pn 06 53 35.9 -1.0
baz=20,SNR=9.6
X25A **Clemmons Ranch** 19.88 335 ⇓P Pn 06 53 36.2 -1.0
baz=20,SNR=7.0
Y23A **Lovelace Mesa,** 19.97 331 ⇑P P 06 53 37.0 +1.4
baz=20,SNR=17
U32A **Winter Ranch,** 19.99 350 P P 06 53 36.1 +0.6
baz=20,SNR=14
W26A **Owens Ranch, T** 20.04 338 ⇑P P 06 53 37.0 +0.9
baz=20,SNR=5.8
V29A **Stinnett** 20.05 344 ⇓P P 06 53 37.1 +0.8
baz=20,SNR=14
U31A **Nine Bar Ranch** 20.14 348 ⇑P P 06 53 37.8 +0.7
baz=20
V28A **Channing** 20.14 342 ⇑P P 06 53 37.7 +0.5
baz=20,SNR=23
X24A **Lazy VL Ranch,** 20.23 334 ⇑P P 06 53 39.9 +1.5
baz=20
WVT **Waverly** 20.32 16 *e*P P 06 53 38.6 -0.5
18nm,0.9s
V27A **Dan Oppiter Fa** 20.33 341 ⇑P P 06 53 39.8 +0.6
baz=20,SNR=18
Y22A **Socorro** 20.41 330 ⇑P P 06 53 41.7 +1.6
baz=20,SNR=18
W25A **X Bar L Ranch,** 20.41 337 ⇑P P 06 53 40.5 +0.4
baz=20,SNR=16
BNM **Barren Site** 20.42 331 *e*P Pn 06 53 42.3 -1.3
14nm,1.1s
U30A **WK&E Inc. Balk** 20.46 346 ⇑P P 06 53 41.5 +0.9
baz=20
LPM **Los Pinos Moun** 20.55 331 *e*P Pn 06 53 44.8 -0.3
T33A **Patterson Ranc** 20.56 352 ⇓P P 06 53 40.8 -0.8
baz=21,SNR=12
X23A **Hourglass Bar** 20.58 332 ⇑P P 06 53 42.9 +0.8
baz=21
LENM **Lemitar** 20.60 330 *e*P Pn 06 53 44.7 -0.9
14nm,0.8s
V26A **Tequesquite Ra** 20.68 339 ⇑P P 06 53 44.0 +0.9
baz=21,SNR=20
U28A **Mallet** 20.72 343 ⇓P P 06 53 43.7 +0.3
baz=21
T32A **Huddler Ranch,** 20.76 351 ⇑P P 06 53 44.3 +0.5
baz=21
W24A **Lazy 6 Ranch,** 20.78 335 ⇑P P 06 53 45.5 +1.3
baz=21,SNR=9.8
T31A **Randall Ranch,** 20.81 349 ⇓P P 06 53 43.8 -0.5
baz=21,SNR=10
LAZ **Ladron** 20.87 330 *e*P Pn 06 53 47.5 -1.3
11nm,0.9s
T30A **Plains** 20.93 347 ⇓P P 06 53 46.1 +0.4
baz=21,SNR=5.8
U27A **Thompson Grove** 20.94 341 ⇑P P 06 53 46.6 +0.8
baz=21,SNR=18
ANMO **Albuquerque** 21.00 332 *e*P P 06 53 47.8 +1.1
8.7nm,0.6s
ANMO **Albuquerque** 21.00 332 P P 06 53 47.7 +1.1
12nm,0.7s,baz=141,slow=13,SNR=45
V25A **Rancho No Teng** 21.02 337 ⇓P P 06 53 47.8 +1.0
baz=21,SNR=31
W23A **Werner Place,** 21.05 333 ⇓P P 06 53 48.6 +1.5
baz=21,SNR=7.2
V24A **Rampart Ranch,** 21.17 336 ⇓P P 06 53 49.9 +1.4
baz=21,SNR=20
U26A **Atchley Ranch,** 21.21 340 ⇓P P 06 53 49.9 +1.1
baz=21,SNR=20
T29A **Hugoton** 21.21 345 ⇑P P 06 53 49.7 +1.0
baz=21
S32A **Newby Ranch, P** 21.27 351 ⇑P P 06 53 48.6 -0.6
baz=21,SNR=6.5
TKL **Tuckaleechee C** 21.28 25 *e*P P 06 53 48.7 -0.7
TKL S 06 57 44.9 +5.3
TKL **Tuckaleechee C** 21.28 25 P P 06 53 48.7 -0.7
1.5nm,0.5s,baz=209,slow=10,SNR=3.1
TKL S 06 57 44.9 +5.3
3.3nm,0.5s,baz=124,slow=15,SNR=4.4
S31A **Mullinville** 21.28 350 ⇓P P 06 53 48.9 -0.5
baz=21,SNR=5.1
TUC **Tucson** 21.30 320 *e*P P 06 53 50.6 +0.9
6.7nm,0.9s
T28A **Walsh** 21.39 344 ⇓P P 06 53 51.3 +0.7
baz=21
U25A **Circle Dot Ran** 21.44 338 ⇓P P 06 53 52.1 +0.8
baz=22,SNR=17
S30A **Montezuma** 21.49 347 ⇓P P 06 53 52.3 +0.7
baz=22
T27A **Campo** 21.50 342 ⇑P P 06 53 52.8 +1.0
baz=22
SIUC **Southern Illin** 21.52 12 *e*P P 06 53 51.7 -0.1
26nm,0.8s
V23A **Ortiz Mt. (NFS** 21.56 334 ⇑P P 06 53 53.7 +1.1
baz=22,SNR=15
S29A **Ulysses** 21.61 346 ⇑P P 06 53 53.9 +1.0
baz=22
R33A **Olander Ranch,** 21.74 353 ⇑P P 06 53 54.3 +0.1
baz=22,SNR=6.6
U24A **Moreno Valley** 21.77 337 ⇓P P 06 53 55.4 +0.5
baz=22
S28A **Manter** 21.77 345 ⇓P P 06 53 55.1 +0.4
baz=22
T26A **Comanche Natio** 21.87 341 ⇑P P 06 53 56.5 +0.7
baz=22
R31A **Burdett** 21.94 350 ⇑P P 06 53 55.9 -0.5
baz=22,SNR=5.3
KMSC **Kings Mountain** 21.95 31 *e*P P 06 53 57.4 +0.9
R32A **Long Quarter,** 21.95 352 ⇓P P 06 53 56.0 -0.4
baz=22
V22A **San Miguel Ran** 22.01 333 ⇓P P 06 53 58.3 +1.0
baz=22,SNR=11
U23A **El Rito** 22.06 335 ⇓P P 06 53 59.6 +1.7
baz=22
R30A **Dighton** 22.07 348 ⇑P P 06 53 58.7 +0.9
baz=22
T25A **Trinidad** 22.11 339 ⇑P P 06 53 59.1 +0.8
baz=22
S26A **Kim** 22.24 341 ⇓P P 06 54 00.7 +1.0
baz=22
U22A **Llaves** 22.38 334 ⇑P P 06 54 01.8 +0.6
baz=22
R29A **Marienthal** 22.39 347 ⇓P P 06 54 01.6 +0.5
baz=22
T24B **San Luis** 22.39 337 ⇓P P 06 54 02.5 +1.2
baz=22
KSU1 **Kansas State U** 22.40 356 *e*P P 06 54 00.1 -1.0
36nm,0.8s
KSU1 *e*pP pP 06 54 15.4 -6.8
Q33A **Connelly Farm,** 22.41 354 ⇑P P 06 54 00.8 -0.3
baz=22
X18A **Snowflake** 22.41 325 ⇓P P 06 54 03.5 +2.0
baz=22
R28A **Tribune** 22.46 345 ⇑P P 06 54 02.7 +0.9
baz=22
Q32A **Meitler Ranch,** 22.48 352 ⇓P P 06 54 00.9 -1.1
baz=22,SNR=11
S25A **Robets Cordova** 22.59 340 ⇑P P 06 54 04.3 +1.1
baz=23
T23A **Casias Ranch,** 22.61 336 ⇓P P 06 54 03.9 +0.3
baz=23,SNR=7.3
Q31A **Ellis** 22.62 351 ⇓P P 06 54 02.9 -0.4
baz=23
R27A **Eads** 22.66 343 ⇓P P 06 54 04.6 +0.7
baz=23
WCI **Wyandotte Cave** 22.72 17 *e*P P 06 54 01.4 -2.9
5.3nm,0.6s
Q30A **Quinter** 22.73 349 ⇓P P 06 54 05.0 +0.5
baz=23
Q29A **Oakley** 22.80 347 ⇑P P 06 54 05.3 +0.1
baz=23
S24A **Houchin Ranch,** 22.84 338 ⇑P P 06 54 06.4 +0.6
baz=23
R26A **Arlington** 22.86 342 ⇓P P 06 54 06.6 +0.8
baz=23
OTAV **Otavalo** 22.90 134 *e*P P 06 54 09.4 +2.6
26nm,1.4s
R25A **Fountain Ranch** 22.98 340 ⇓P P 06 54 08.1 +1.0
baz=23,SNR=7.2
SDCO **Great Sand Dun** 23.04 338 *e*P P 06 54 09.7 +2.0
7.7nm,1.1s
P32A **Huiting Farm,** 23.11 352 ⇓P P 06 54 08.0 -0.1
baz=23,SNR=14
P31A **Stockton** 23.12 351 ⇑P P 06 54 08.2 0.0
baz=23,SNR=5.3
Q28A **Sharon Springs** 23.15 346 ⇓P P 06 54 08.7 +0.1
baz=23
X16A **Lo Mia Camp, P** 23.16 323 ⇑P P 06 54 09.9 +1.1
baz=23
S23A **Nye Farm, Mont** 23.18 337 ⇓P P 06 54 09.9 +0.8
baz=23,SNR=5.9
ROSC **El Rosal** 23.20 118 *e*P P 06 54 11.8 +2.2
ROSC **El Rosal** 23.20 118 P P 06 54 11.7 +2.1
5.2nm,0.6s,baz=96,slow=19,SNR=9.0
ROSC LR LR 07 05 08.7
comp=Z,43nm,19.0s,baz=206,slow=42
P30A **Selden** 23.29 349 ⇓P P 06 54 09.7 -0.1
baz=23,SNR=6.5
KSCO **Kaye Shedlock'** 23.30 344 *e*P P 06 54 11.2 +1.2
7.1nm,0.7s
KSCO **Kaye Shedlock'** 23.30 344 ⇑P P 06 54 10.9 +0.9
baz=23
R24A **Sanders Place,** 23.33 339 ⇓P P 06 54 11.7 +1.4
baz=23
Q26A **Hugo** 23.46 343 ⇑P P 06 54 12.4 +0.9
baz=24
P29A **Atwood** 23.47 348 P P 06 54 11.7 +0.1
baz=24,SNR=7.5
113A **Mohawk Valley,** 23.51 316 ⇑P P 06 54 14.0 +2.2
baz=24
S22A **4UR Ranch, Cre** 23.54 335 ⇓P P 06 54 13.6 +1.1
baz=24
R23A **Moffat** 23.55 338 ⇓P P 06 54 13.4 +0.9
baz=24
P28A **Saint Francis** 23.62 346 ⇑P P 06 54 14.0 +1.1
baz=24
Q25A **Bedland, Calha** 23.67 341 ⇓P P 06 54 14.6 +1.2
baz=24
O32A **Brockman Farm,** 23.70 353 ⇓P P 06 54 13.5 0.0
baz=24
O31A **Woolen Ranch,** 23.73 351 ⇑P P 06 54 13.8 0.0
baz=24,SNR=9.4
Y14A **Wickenburg** 23.77 320 ⇑P P 06 54 16.7 +2.4
baz=24
MVCO **Mesa Verde** 23.80 332 *e*P P 06 54 15.5 +0.8
13nm,1.0s
MVCO **Mesa Verde** 23.80 332 ⇓P P 06 54 15.3 +0.6
baz=24
P27A **Ficken Ranch,** 23.80 345 ⇑P P 06 54 15.5 +0.9
baz=24
O30A **MW Ranch, Wils** 23.87 350 ⇓P P 06 54 15.7 +0.6
baz=24,SNR=7.3
WUAZ **Wupatki** 23.92 325 *e*P P 06 54 18.0 +2.3
10nm,0.9s
WUAZ **Wupatki** 23.92 325 ⇓P P 06 54 17.8 +2.1
baz=24
O29A **4D Ranch, Culb** 23.95 348 ⇑P P 06 54 17.3 +1.5
baz=24
Q24A **Divide** 24.00 340 ⇓P P 06 54 18.5 +1.9
baz=24
P26A **Davis Ranch, A** 24.01 343 ⇑P P 06 54 18.2 +1.8
baz=24
BLA **Blacksburg** 24.05 29 P P 06 54 15.4 -1.3
33nm,1.0s
O28A **Krutsinger Ran** 24.16 347 ⇑P P 06 54 19.1 +1.4
baz=24
P25A **Willow Gulch B** 24.20 342 ⇑P P 06 54 19.2 +1.0
baz=24
N31A **Bailey Ranch,** 24.34 352 ⇑P P 06 54 19.6 +0.3
baz=24
O27A **Beecher Island** 24.38 346 ⇓P P 06 54 21.5 +1.8
baz=24
GLA **Glamis** 24.39 316 ⇑P P 06 54 21.8 +2.0
baz=24
N30A **Hueftle Ranch,** 24.48 350 ⇓P P 06 54 22.0 +1.5
baz=24
N29A **Votaw Ranch, W** 24.59 349 ⇑P P 06 54 23.0 +1.4
baz=25,SNR=6.0
PV01 **Paradox Valley** 24.60 333 *e*P P 06 54 23.8 +1.9
P23A **Jefferson** 24.61 339 ⇓P P 06 54 24.3 +2.3
baz=25,SNR=6.5
N28A **Pribbeno Ranch** 24.64 348 ⇑P P 06 54 23.3 +1.2
baz=25
PDMCI **Power Dam,Lak** 24.72 319 ⇑P P 06 54 25.0 +2.2
baz=25
SDV **Santo Domingo** 24.72 105 *e*P P 06 54 21.4 -1.8
3.4nm,0.9s
SDV *e*pP pP 06 54 48.9 +1.9
O25A **Wiggins** 24.74 343 ⇑P P 06 54 25.2 +2.2
baz=25
SMCO **Snowmass** 24.84 337 *e*P P 06 54 28.6 +4.3
15nm,1.2s
M31A **Lambtecht Ranc** 24.85 352 ⇑P P 06 54 25.0 +1.0
baz=25,SNR=18
ISCO **Idaho Springs** 24.91 340 ⇓P P 06 54 25.8 +1.0
baz=25,SNR=5.2
PV04 **Paradox Valley** 24.96 333 *e*P P 06 54 27.1 +2.0
N27A **Anderson Farm,** 24.98 346 ⇑P P 06 54 24.9 -0.3
baz=25
OGNE **Ogallala** 25.00 347 ⇑P P 06 54 27.2 +1.9
baz=25
DVTC **Desert V Tower** 25.03 313 ⇑P P 06 54 28.2 +2.5
baz=25
O24A **Longmont** 25.03 341 ⇑P P 06 54 26.9 +1.2
baz=25
U15A **North Rim** 25.09 325 ⇑P P 06 54 28.4 +1.9
baz=25,SNR=5.3
BC3 **Big Chuckawall** 25.17 316 ⇓P P 06 54 29.2 +2.2
baz=25
SCIA **State Center** 25.18 3 *e*P P 06 54 26.6 -0.2
37nm,0.6s
M29A **Burnside Ranch** 25.21 349 ⇓P P 06 54 28.6 +1.3
baz=25
IRM **Iron Mountain** 25.28 317 ⇑P P 06 54 31.0 +3.1
baz=25
MONP **Monument Peak** 25.38 313 ⇑P P 06 54 31.6 +2.6
baz=25
O23A **Lake Granby, G** 25.38 340 ⇓P P 06 54 31.3 +2.2
baz=25
L30A **Spencer Herefo** 25.55 351 ⇓P P 06 54 31.2 +0.9
baz=26
O22A **Kremmling** 25.55 339 ⇓P P 06 54 32.1 +1.5
baz=26
L31A **Butterfield Fa** 25.66 353 ⇑P P 06 54 32.2 +1.0
baz=26
PFO **Pinyon Flat Ob** 25.82 315 ⇑P P 06 54 36.4 +3.5
baz=26
O20A **White River Ci** 26.16 336 *e*pP pP 06 54 57.4 -2.5
K30A **Basset** 26.25 352 ⇓P P 06 54 37.2 +0.7
baz=26
SRU **San Rafael** 26.27 331 *e*P P 06 54 40.8 +3.8
JFWS **Jewell Farm** 26.43 7 *e*P P 06 54 37.2 -0.9
19nm,0.7s
K29A **Lazy Trails An** 26.43 351 ⇑P P 06 54 41.3 +3.1
baz=26
K28A **Ten Mile Ranch** 26.56 349 ⇑P P 06 54 39.9 +0.5
baz=27
ARUT **Antelope Range** 26.71 326 *e*P P 06 54 43.2 +2.2
47nm,0.8s
ECSD **EROS Data Cent** 27.02 357 *e*P P 06 54 43.0 -0.5
18nm,0.9s
ECSD *e*pP pP 06 55 13.8 +6.4
TPNV **Topopah Spring** 27.75 321 *e*pP pP 06 55 18.9 +4.6
K22A **Casper** 27.78 341 *e*pP pP 06 55 15.4 +0.9
MPMC **Manual Prospec** 27.96 318 ⇑P P 06 54 53.3 +1.2
baz=28
SPMN **St. Paul** 28.51 3 *e*P P 06 54 56.2 -0.5
SPMN **St. Paul** 28.51 3 ⇓P P 06 54 56.6 -0.1
baz=29
G30A **Faulkton** 28.61 353 ⇓P P 06 54 57.7 +0.2
baz=29
PDAR **Pinedale Array** 28.92 337 P P 06 55 01.2 +0.5
PDAR pP pP 06 55 24.9 +0.1
PDAR **Pinedale Array** 28.92 337 P P 06 55 01.2 +0.5
0.4nm,0.5s,baz=145,slow=9.7,SNR=5.7
PDAR pP pP 06 55 24.9 +0.1
1.0nm,0.8s,baz=144,slow=9.9,SNR=4.9
G27A **Dupree** 29.25 350 ⇓P P 06 55 03.7 +0.4
baz=29
HVU **Hansel Valley** 29.43 332 *e*pP pP 06 55 30.1 +0.8
AHID **Auburn Hatcher** 29.52 335 *e*P P 06 55 10.8 +4.9
1.3nm,0.4s
F27A **Lemmon** 29.74 350 ⇓P P 06 55 07.5 -0.1
baz=30
ELK **Elko** 29.83 328 P P 06 55 09.5 +0.8
ELK pP pP 06 55 34.1 +1.1
ELK **Elko** 29.83 328 P P 06 55 09.5 +0.8
0.5nm,0.5s,baz=268,slow=21,SNR=4.5
ELK pP pP 06 55 34.1 +1.1
0.7nm,0.4s,baz=224,slow=4.0,SNR=3.9
F26A **Lodgepole** 29.84 349 ⇓P P 06 55 09.5 +1.0
baz=30
H20A **Greybull** 29.90 341 ⇓P P 06 55 10.1 +1.0
baz=30
REDW **Red Top Meadow** 29.93 336 *e*P P 06 55 10.8 +1.3
10nm,0.9s
REDW *e*pP pP 06 55 33.8 +0.1
NVAR **Mina Array Bea** 29.95 321 P P 06 55 11.6 +1.8
NVAR **Mina Array Bea** 29.95 321 P P 06 55 11.6 +1.8
2.1nm,0.8s,baz=134,slow=7.7,SNR=14
LOHW **Long Hollow** 30.04 337 *e*pP pP 06 55 34.7 -0.1
F25A **Bowman** 30.06 348 ⇓P P 06 55 10.7 +0.2
baz=30
TPAW **Teton Pass** 30.07 336 *e*P P 06 55 15.2 +4.3
TPAW *e*pP pP 06 55 35.6 +0.5
E29A **Napoleon** 30.08 353 ⇓P P 06 55 11.8 +1.2
baz=30
MOOW **Moose Ponds** 30.21 337 *e*pP pP 06 55 36.1 -0.2
E28A **Huff** 30.22 352 ⇓P P 06 55 12.3 +0.5
baz=30
E26A **Carlson Angus** 30.40 349 ⇓P P 06 55 14.3 +0.9
baz=30
D30A **Buchanan** 30.53 355 ⇑P P 06 55 14.6 +0.1
baz=31
E25A **Miller Ranch,** 30.60 348 ⇓P P 06 55 16.5 +1.3
baz=31
H18A **Shoshone NF, C** 30.62 339 ⇓P P 06 55 17.3 +1.6
baz=31
D27A **Center** 30.86 351 ⇑P P 06 55 18.1 +0.6
baz=31
D26A **Manning** 30.93 350 ⇓P P 06 55 18.3 +0.1
baz=31,SNR=5.7
E23A **Ismay** 31.01 346 ⇓P P 06 55 19.4 +0.6
baz=31
C30A **Mose, Pekin** 31.09 355 ⇓P P 06 55 19.6 +0.1
baz=31
F20A **Billings** 31.13 342 ⇓P P 06 55 20.9 +1.0
baz=31
D25A **Fairfield** 31.21 349 ⇓P P 06 55 21.3 +0.8
baz=31
MDND **Maddock** 31.34 354 *e*P P 06 55 21.6 -0.1
MDND *e*pP pP 06 55 49.9 +3.9
MDND **Maddock** 31.34 354 ⇓P P 06 55 21.6 -0.1
baz=31
D24A **Glendive** 31.38 347 ⇑P P 06 55 22.7 +0.7
baz=31
C27A **Sayler Ranch,** 31.45 351 ⇓P P 06 55 23.5 +0.8
baz=32
E21A **Keefer Ranch,** 31.50 344 ⇓P P 06 55 23.9 +0.8
baz=32
AGMN **Agassiz Nation** 31.55 359 *e*P P 06 55 22.8 -0.7
16nm,0.5s
HLID **Hailey** 31.58 332 *e*pP pP 06 55 49.0 +0.6
HLID **Hailey** 31.58 332 ⇓P P 06 55 24.9 +0.9
baz=32
D23A **Lindsay** 31.62 346 ⇑P P 06 55 25.2 +1.0
baz=32
C26A **Wahner Farm, P** 31.65 351 ⇓P P 06 55 25.2 +0.9
baz=32
C25A **Freed Ranch, W** 31.74 349 ⇓P P 06 55 26.1 +0.9
baz=32
E20A **Meyer Farm, Mu** 31.76 342 ⇓P P 06 55 26.1 +0.7
baz=32
C24A **Savage** 31.79 347 ⇓P P 06 55 26.8 +1.2
baz=32
B30A **Myrvik Farm, E** 31.83 355 ⇑P P 06 55 25.5 -0.4
baz=32,SNR=11
D22A **Cohagen** 31.83 345 ⇓P P 06 55 27.1 +1.1
baz=32
E19A **Rath Farm, Rou** 31.92 341 ⇑P P 06 55 27.9 +1.1
baz=32
B29A **Wagenman Farm,** 31.93 354 ⇓P P 06 55 27.3 +0.5
baz=32
D21A **La Casta Ranch** 31.96 344 ⇓P P 06 55 28.4 +1.3
baz=32
B28A **Dugan Ranch, T** 32.02 353 ⇓P P 06 55 27.5 -0.1
baz=32
BOZ **Bozeman (W)** 32.16 337 *e*P P 06 55 36.9 +7.9
11nm,0.8s
C23A **Lambert** 32.21 347 ⇑P P 06 55 30.3 +1.0
baz=32
DLMT **Dillon** 32.28 336 *e*pP pP 06 55 55.0 +0.5
D20A **Manuel Ranch,** 32.30 343 ⇑P P 06 55 31.0 +0.9
baz=32
A30A **Hoffart Farm,** 32.31 356 ⇑P P 06 55 29.8 -0.3
baz=32,SNR=8.8
C22A **Vida** 32.32 346 ⇓P P 06 55 30.7 +0.5
baz=32,SNR=8.2
A29A **Manning Farm,** 32.37 354 ⇓P P 06 55 30.2 -0.5
baz=32,SNR=7.0
A28A **Rude Farm, Bot** 32.47 353 ⇑P P 06 55 31.6 +0.1
baz=32
D19A **Cripps Ranch,** 32.58 342 ⇓P P 06 55 33.5 +0.9
baz=33
LRM **Limekiln Ridge** 32.61 337 *e*P P 06 55 34.8 +1.7
DGMT **Dagmar** 32.64 348 ⇑P P 06 55 34.0 +0.9
baz=33
A26A **Wade Farm, Ken** 32.69 351 ⇑P P 06 55 32.9 -0.5
baz=33,SNR=5.6
C21A **Desert Coulee** 32.69 345 ⇑P P 06 55 34.6 +1.1
baz=33
B23A **Brockton** 32.80 347 ⇑P P 06 55 34.7 +0.3
baz=33
B22A **Reddig Ranch S** 32.87 346 ⇓P P 06 55 35.6 +0.6
baz=33
A24A **Westby** 33.04 349 ⇑P P 06 55 37.7 +1.1
baz=33
J08A **Circle Bar Ran** 33.38 328 *e*P P 06 55 41.4 +1.7
14nm,0.9s
J08A *e*pP pP 06 56 03.8 -0.4
ULM **Lac du Bonnet** 33.50 359 P P 06 55 38.9 -1.6

ULM	**Lac du Bonnet**	33.50	359	P		P	06 55 38.9	-1.6	
	3.0nm,0.6s,baz=179,slow=9.9,SNR=4.8								
EGMT	**Eagleton**	33.61	342	⇓P		P	06 55 42.4	+0.8	
	baz=34								
A21A	**Bergtoll Ranch**	33.73	345	⇓P		P	06 55 43.7	+1.2	
	baz=34								
A20A	**Cobblestone Ra**	33.88	344	⇓P		P	06 55 44.9	+1.1	
	baz=34								
MSO	**Missoula**	34.02	336	⇑P		P	06 55 46.7	+1.5	
	baz=34								
F10A	**Beach Ranch, E**	34.72	332	*e*P		P	06 55 51.9	+0.8	
	18nm,1.0s								
KBO	**Bosley Butte**	35.84	321	*e*P		P	06 56 02.9	+2.1	
FFC	**Flin Flon**	38.38	353	*e*P		P	06 56 21.5	-0.5	
	9.0nm,0.8s								
PTGA	**Pitinga**	38.40	113	*e*P		P	06 56 21.5	-1.2	
LPAZ	**La Paz**	41.97	140	*e*P		P	06 56 52.9	+0.1	
	6.2nm,0.8s								
LPAZ	**La Paz**	41.97	140	P		P	06 56 52.5	-0.2	
	5.8nm,0.7s,baz=336,slow=7.9,SNR=4.6								
SCHQ	**Schefferville**	43.72	23	LR		LR	07 16 21.2		
	comp=Z,62nm,18.9s,baz=84,slow=37								
YKA	**Yellowknife Ar**	47.85	348	P		P	06 57 37.6	-0.4	
YKA				pP		pP	06 58 02.6	-1.2	
YKA	**Yellowknife Ar**	47.85	348	P		P	06 57 37.6	-0.4	
	2.2nm,0.7s,baz=152,slow=7.3,SNR=20								
YKA				pP		pP	06 58 02.6	-1.2	
	2.8nm,0.7s,baz=152,slow=7.3,SNR=8.3								
CFAA	**Coronel Fontan**	54.32	152	P		P	06 58 27.0	+0.1	
CFAA	**Coronel Fontan**	54.32	152	P		P	06 58 27.0	+0.1	
	0.4nm,0.7s,baz=333,slow=5.4,SNR=10								
CPUP	**Villa Florida**	56.12	139	P		P	06 58 40.2	+0.4	
CPUP	**Villa Florida**	56.12	139	P		P	06 58 40.2	+0.4	
	7.1nm,0.9s,baz=312,slow=5.7,SNR=7.0								
BDFB	**Brasilia**	56.17	122	P		P	06 58 40.0	-0.5	
BDFB	**Brasilia**	56.17	122	P		P	06 58 40.0	-0.5	
	4.2nm,0.6s,baz=261,slow=8.3,SNR=9.9								
INK	**Inuvik**	57.15	344	*e*P		P	06 58 46.5	0.0	
	5.4nm,0.9s								
ILAR	**Eielson Array**	59.36	337	P		P	06 59 02.2	+0.2	
ILAR				pP		pP	06 59 27.9	-0.9	
ILAR				sP		sP	06 59 40.6	-0.3	
ILAR	**Eielson Array**	59.36	337	P		P	06 59 02.2	+0.2	
	0.8nm,0.5s,baz=123,slow=5.6,SNR=28								
ILAR				pP		pP	06 59 27.9	-0.9	
	1.0nm,0.8s,baz=120,slow=5.3,SNR=5.6								
ILAR				sP		sP	06 59 40.6	-0.3	
	1.7nm,0.9s,baz=118,slow=5.0,SNR=6.3								
TRF	**Thorofare Moun**	60.11	335	*e*P		P	06 59 07.7	+0.3	
	14nm,1.3s								
SPB	**Sao Paulo**	61.13	130	*e*P		P	06 59 14.3	-0.3	
	19nm,0.8s								
PLCA	**Paso Flores**	61.38	159	P		P	06 59 15.8	-0.3	
PLCA	**Paso Flores**	61.38	159	P		P	06 59 15.8	-0.3	
	3.6nm,0.9s,baz=359,slow=6.8,SNR=8.5								
BORG	**Borgarnes**	67.97	26	P		P	06 59 58.5	-0.1	
BORG	**Borgarnes**	67.97	26	P		P	06 59 58.5	-0.1	
	8.3nm,0.9s,baz=258,slow=16,SNR=3.6								
EKA	**Eskdalemuir Ar**	77.35	36	P		P	07 00 53.6	-0.6	
EKA	**Eskdalemuir Ar**	77.35	36	P		P	07 00 53.6	-0.6	
	5.7nm,1.0s,baz=259,slow=5.0,SNR=6.2								
SPITS	**Spitsbergen Ar**	78.00	11	P		P	07 00 58.0	+0.5	
SPITS	**Spitsbergen Ar**	78.00	11	P		P	07 00 58.0	+0.5	
	23nm,1.1s,baz=211,slow=10,SNR=3.4								
ROSF	**Rostrenen**	78.69	43	*e*P		P	07 01 00.6	-1.2	
	18nm,0.9s								
ROSF	**Rostrenen**	78.69	43	*e*P		P	07 01 00.6	-1.2	
	18nm,0.9s								
QUIF	**Quistinic**	78.85	43	*e*P		P	07 01 01.7	-1.0	
QUIF	**Quistinic**	78.85	43	*e*P		P	07 01 01.7	-1.0	
SGMF	**Saint Gilles**	79.17	43	*e*P		P	07 01 03.3	-1.2	
SGMF	**Saint Gilles**	79.17	43	*e*P		P	07 01 03.3	-1.2	
ESDC	**Sonseca Array**	80.13	52	P		P	07 01 09.7	-0.3	
ESDC	**Sonseca Array**	80.13	52	P		P	07 01 09.7	-0.3	
	3.6nm,0.7s,baz=290,slow=5.4,SNR=13								
GRR	**Gorron**	80.25	42	*e*P		P	07 01 09.7	-0.6	
	17nm,0.6s								
GRR	**Gorron**	80.25	42	*e*P		P	07 01 09.7	-0.6	
	17nm,0.6s								
FLN	**La Foliniere**	80.40	42	*e*P		P	07 01 10.6	-0.5	
	15nm,0.6s								
FLN	**La Foliniere**	80.40	42	*e*P		P	07 01 10.6	-0.5	
	15nm,0.6s								
LDF	**La Druitiere**	80.67	42	*e*P		P	07 01 12.0	-0.5	
	43nm,1.1s								
LDF	**La Druitiere**	80.67	42	*e*P		P	07 01 12.0	-0.5	
	43nm,1.1s								
MFF	**Saint Martin d**	81.16	44	*e*P		P	07 01 14.5	-0.7	
MFF	**Saint Martin d**	81.16	44	*e*P		P	07 01 14.5	-0.7	
MDT	**Midelt**	81.25	58	P		P	07 01 15.9	-0.2	
MDT	**Midelt**	81.25	58	P		P	07 01 15.9	-0.2	
	1.3nm,0.7s,baz=351,slow=9.2,SNR=3.6								
SJPF	**Ste Jean**	81.30	48	*e*P		P	07 01 15.4	-0.6	
	52nm,1.5s								
SJPF	**Ste Jean**	81.30	48	*e*P		P	07 01 15.4	-0.6	
	52nm,1.5s								
ETSF	**Etsaut**	81.83	48	*e*P		P	07 01 18.5	-0.4	
	44nm,1.3s								
ETSF	**Etsaut**	81.83	48	*e*P		P	07 01 18.5	-0.4	
	44nm,1.3s								
LFF	**La Frestale**	82.19	46	*e*P		P	07 01 20.0	-0.6	
	46nm,1.0s								
LFF	**La Frestale**	82.19	46	*e*P		P	07 01 20.0	-0.6	
	46nm,1.0s								
EPF	**Esparros**	82.43	47	*e*P		P	07 01 21.4	-0.6	
	66nm,1.4s								
EPF	**Esparros**	82.43	47	*e*P		P	07 01 21.4	-0.6	
	66nm,1.4s								
RJF	**Les Rejaudoux**	82.62	45	*e*P		P	07 01 22.1	-0.8	
	45nm,1.2s								
RJF	**Les Rejaudoux**	82.62	45	*e*P		P	07 01 22.1	-0.8	
	45nm,1.2s								
TCF	**Toulx Ste Croi**	82.81	44	*e*P		P	07 01 23.0	-0.9	
	50nm,1.3s								
TCF	**Toulx Ste Croi**	82.81	44	*e*P		P	07 01 23.0	-0.9	
	50nm,1.3s								
NB2	**NORSAR Subarra**	83.05	28	P		P	07 01 25.6	+0.8	
	comp=Z,0.9nm,0.6s,baz=293,slow=5.3								
NOA	**NORSAR Array B**	83.05	28	P		P	07 01 25.4	+0.5	
NOA	**NORSAR Array B**	83.05	28	P		P	07 01 25.4	+0.5	
	comp=Z,3.9nm,1.0s,baz=292,slow=5.1,SNR=5.1								
NOA				LR		LR	07 38 35.0		
	comp=Z,15nm,28.6s,baz=265,slow=36								
CAF	**Calviac**	83.10	45	*e*P		P	07 01 24.4	-1.0	
	comp=Z,13nm,1.0s								
CAF	**Calviac**	83.10	45	*e*P		P	07 01 24.4	-1.0	
	comp=Z,13nm,1.0s								
BGF	**Bois d'Agland**	83.16	44	*e*P		P	07 01 24.8	-0.8	
	comp=Z,28nm,0.9s								
BGF	**Bois d'Agland**	83.16	44	*e*P		P	07 01 24.8	-0.8	
	comp=Z,28nm,0.9s								
DOU	**Dourbes**	83.22	40	P		P	07 01 26.1	+0.3	
GIVF	**Givet**	83.35	40	*e*P		P	07 01 26.2	-0.3	
GIVF	**Givet**	83.35	40	*e*P		P	07 01 26.2	-0.3	
AVF	**Avril sur Loir**	83.42	43	*e*P		P	07 01 25.8	-1.1	
	comp=Z,17nm,1.1s								
AVF	**Avril sur Loir**	83.42	43	*e*P		P	07 01 25.8	-1.1	
	comp=Z,17nm,1.1s								
SSF	**Saint Saulge**	83.44	43	*e*P		P	07 01 26.0	-1.1	
	comp=Z,18nm,0.9s								
SSF	**Saint Saulge**	83.44	43	*e*P		P	07 01 26.0	-1.1	
	comp=Z,18nm,0.9s								
LOR	**Lormes**	83.61	43	*e*P		P	07 01 27.3	-0.6	
	comp=Z,28nm,1.2s								
LOR	**Lormes**	83.61	43	*e*P		P	07 01 27.3	-0.6	
	comp=Z,28nm,1.2s								
MEZF	**Maizieres J'vi**	83.99	41	*e*P		P	07 01 29.5	-0.3	
MEZF	**Maizieres J'vi**	83.99	41	*e*P		P	07 01 29.5	-0.3	
SFTF	**Sexfontaines**	84.08	42	*e*P		P	07 01 29.8	-0.5	
	comp=Z,36nm,0.9s								
SFTF	**Sexfontaines**	84.08	42	*e*P		P	07 01 29.8	-0.5	
	comp=Z,36nm,0.9s								
PAGF	**Fort de Pagny**	84.40	41	*e*P		P	07 01 31.9	0.0	
PAGF	**Fort de Pagny**	84.40	41	*e*P		P	07 01 31.9	0.0	
ARCES	**ARCESS Array B**	84.42	18	P		P	07 01 31.8	+0.2	
ARCES	**ARCESS Array B**	84.42	18	P		P	07 01 31.8	+0.2	
	comp=Z,2.5nm,0.5s,baz=304,slow=5.0,SNR=24								
HFS	**Hagfors**	84.53	28	P		P	07 01 32.7	+0.4	
HFS	**Hagfors**	84.53	28	P		P	07 01 32.7	+0.4	
	comp=Z,5.2nm,1.0s,baz=212,slow=5.1,SNR=3.1								
HAU	**Haudompre**	84.97	41	*e*P		P	07 01 34.4	-0.4	
	comp=Z,28nm,1.0s								
HAU	**Haudompre**	84.97	41	*e*P		P	07 01 34.4	-0.4	
	comp=Z,28nm,1.0s								
HINF	**Hinteralfeld**	85.36	41	*e*P		P	07 01 36.0	-0.8	
HINF	**Hinteralfeld**	85.36	41	*e*P		P	07 01 36.0	-0.8	

CDF	**Champ du Feu**	85.42	41	*e*P		P	07 01 36.7	-0.4	
	comp=Z,19nm,1.1s								
CDF	**Champ du Feu**	85.42	41	*e*P		P	07 01 36.7	-0.4	
	comp=Z,19nm,1.1s								
TIC	**Toumodi**	87.85	84	*e*P		P	07 01 49.6	+0.1	
	comp=Z,2.6nm,0.2s								
LIC	**Lamto**	87.96	84	*e*P		P	07 01 48.4	-1.6	
	comp=Z,49nm,1.3s								
LIC	**Lamto**	87.96	84	*e*P		P	07 01 47.9	-2.1	
	comp=Z,48nm,1.3s,baz=265								
LIC	**Lamto**	87.96	84	*e*P		P	07 01 47.9	-2.1	
	comp=Z,48nm,1.3s								
DBIC	**Dimbokro**	88.00	84	*e*P		P	07 01 50.0	-0.2	
	comp=Z,2.4nm,0.6s								
DBIC	**Dimbokro**	88.00	84	P		P	07 01 49.6	-0.6	
	comp=Z,2.4nm,0.6s,baz=307,slow=6.9,SNR=6.9								
KIC	**Kosan Boka**	88.19	84	*e*P		P	07 01 50.6	-0.5	
	comp=Z,72nm,1.5s								
GERES	**GERESS Array B**	89.20	39	P		P	07 01 53.8	-1.6	
GERES	**GERESS Array B**	89.20	39	P		P	07 01 53.8	-1.6	
	comp=Z,2.0nm,1.0s,baz=337,slow=2.2,SNR=4.8								
TORD	**Torodi Ar. Bea**	92.30	76	P		P	07 02 08.8	-1.4	
TORD	**Torodi Ar. Bea**	92.30	76	P		P	07 02 08.8	-1.4	
	comp=Z,0.5nm,0.5s,baz=285,slow=3.6,SNR=8.6								
STHS	**Stebnicka Huta**	93.34	36	*e*P		P	07 02 13.6	-0.8	
STHS				*e*			07 02 39.6		
STHS				*e*			07 02 51.7		
CRVS	**Cervenica-Dubn**	93.72	36	*e*P		P	07 02 17.2	+1.1	
CRVS				*e*			07 02 51.8		
HHC	**Hu-ho-hao-te**	117.78	338	*e*PKP		PKPdf	07 07 44.6	-1.0	
HHC				PP		PP	07 09 02.3	+3.2	
HHC				PKS		PKSdf	07 11 19.8	-2.6	
HHC				SKS		SKSdf	07 14 46.3	-1.6	
HHC				SKKS		SKKSac	07 15 44.0	-6.4	
HHC				SS		SS	07 25 00.8	-1.9	
HHC				AMB		AMB			
	comp=Z,96nm,9.2s								
WMQ	**Urumqi**	119.76	358	*e*PKP		PKPdf	07 07 52.5	+3.2	
LZH	**Lanzhou**	124.66	342	*e*PKP		PKPdf	07 08 01.8	+2.8	
LZH				LR		LR			
	comp=Z,140nm,17.0s								
LZH				LR		LR			
	comp=Z,160nm,16.4s								
LZH				LR		LR			
	comp=Z,200nm,19.8s								
CD2	**Chengdu**	129.46	339	*e*PKP		PKPdf	07 08 08.3	+0.1	
GYA	**Guiyang**	132.35	334	*e*Pdif		Pdif	07 05 08.8	-0.2	
GYA				PKP		PKiKP	07 08 14.6	-0.3	
GYA				sPKP			07 08 58.0		
GYA				PP		PP	07 10 40.9	+4.5	
GYA				AMB		AMB			
	comp=Z,70nm,7.9s								
WRA	**Warramunga Arr**	133.43	258	PKP		PKPdf	07 08 15.2	-0.6	
WRA	**Warramunga Arr**	133.43	258	PKP		PKPdf	07 08 15.2	-0.6	
	comp=Z,0.4nm,0.5s,baz=90,slow=2.7,SNR=4.9								
ASAR	**Alice Springs**	133.99	253	PKP		PKPdf	07 08 17.1	+0.2	
ASAR	**Alice Springs**	133.99	253	PKP		PKPdf	07 08 17.1	+0.2	
	comp=Z,0.4nm,0.5s,baz=74,slow=1.7,SNR=4.1								

ISCJB ***16*** *06:49:40.4±2.3,27.0°N×0.3×56.1°E×0.2, h14km, mb3.7/8, Error ellipse: s-maj=47.9km s-min=20.4km az=157.1*
IDC ***16*** *06:49:40.9±2.5, 27.09°N×56.03°E, h0km, mb3.8/8, mb1 3.8/8, mb1mx3.6/30, mbtmp3.8/8, Error ellipse: s-maj=53.7km s-min=23.8km az=154.0*

ISC 16 06:49:43.1±2.6, 27.1°N±0.3×56.0°E±0.2, h14km, n8, σ0s83/8, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRTR	**Keskin Array B**	22.45	310	P		P	06 54 42.1	+0.2
	0.5nm,0.4s,baz=126,slow=10,SNR=3.5							
AKTO	**Aktyubinsk**	23.36	3	P		P	06 54 51.8	+0.8
	0.3nm,0.3s,baz=170,slow=6.1,SNR=3.6							
BVAR	**Borovoye Array**	28.03	19	P		P	06 55 32.6	-1.1
	0.8nm,0.7s,baz=224,slow=5.6,SNR=4.2							
MKAR	**Makanchi Array**	28.55	40	P		P	06 55 38.4	-0.1
	0.6nm,0.9s,baz=223,slow=9.3,SNR=2.6							
ZALV	**Zalesovo Beam**	34.19	30	P		P	06 56 28.1	+0.2
	0.5nm,0.5s,baz=212,slow=6.8,SNR=2.7							
FINES	**FINESS Array B**	39.77	338	P		P	06 57 15.8	+0.5
	8.3nm,1.1s,baz=139,slow=7.4,SNR=3.7							
HFS	**Hagfors**	43.77	331	P		P	06 57 46.8	-1.2
	5.4nm,1.1s,baz=133,slow=10,SNR=5.2							
TORD	**Torodi Ar. Bea**	52.48	266	P		P	06 58 56.2	+0.2
	0.6nm,0.4s,baz=66,slow=7.4,SNR=12							

IDC 16 06:53:03.5±2.4, 5.55S×130.84E, h0km, mb3.9/1, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=113.8km s-min=27.6km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MTN	**Manton Dam**	7.25	178	P		Pn	06 54 56.4	+5.6
	baz=7.0,SNR=21							
KDU	**Kakadu**	7.27	167	P		Pn	06 54 58.0	+6.8
	baz=7.3,SNR=77							
LUWI	**Luwi**	9.21	299	P		Pn	06 55 10.8	-6.9
	baz=8.4,SNR=3.6							
KNRA	**Kununurra**	10.27	191	P		Pn	06 55 34.0	+1.8
	baz=9.7,SNR=6.5							
FITZ	**Fitzroy Crossi**	13.47	202	Pn		Pn	06 56 15.1	-0.9
	0.2nm,0.3s,baz=23,slow=9.8,SNR=7.9							
FITZ				Sn		Sn	06 58 26.9	-20
	0.5nm,0.3s,baz=119,slow=21,SNR=7.1							
WRA	**Warramunga Arr**	14.71	167	Pn		Pn	06 56 33.0	0.0
	0.2nm,0.3s,baz=352,slow=13,SNR=5.4							
WRA				Sn		Sn	06 59 04.2	-13
	0.3nm,0.3s,baz=348,slow=19,SNR=5.0							
ASAR	**Alice Springs**	18.25	171	P		Pn	06 57 18.2	-0.2
	0.1nm,0.3s,baz=354,slow=9.7,SNR=6.2							
ASAR				S		Sn	07 00 33.5	-10
	0.2nm,0.3s,baz=343,slow=23,SNR=3.5							
MKAR	**Makanchi Array**	67.48	326	P		P	07 04 01.5	+0.1
	0.5nm,0.4s,baz=120,slow=7.9,SNR=12							

IDC ***16*** *07:25:28.3±1.0, 15.36S×173.48W, h0km, mb4.2/8, mb1 4.6/9, mb1mx4.3/21, mbtmp4.3/9, ML4.2/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/21, Error ellipse: s-maj=46.8km s-min=21.1km az=154.0*
NEIC ***16*** *07:25:29.4±0.3, 15.45S×173.45W, h10km, mb4.6/6, Error ellipse: s-maj=13.4km s-min=8.2km az=166.0*

ISC 16 07:25:34.2±0.9, 15.0S±0.3×173.8W±0.1, h30km, n255, σ0s73/234, mb4.3/15, MS3.4/4, 96C-104D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	2.25	62	*e*Pn		Pn	07 25 58.9	-11
AFI				Sn		Sn	07 26 16.6	-20
AFI	**Afiamalu**	2.25	62	Pn		Pn	07 25 59.2	-10
	55nm,0.3s,baz=45,slow=2.5,SNR=81							
AFI				Sn		Sn	07 26 16.6	-20
	153nm,0.3s,baz=217,slow=20,SNR=14							
RAR	**Rarotonga**	14.71	117	Pn		Pn	07 28 49.6	-11
RAR	**Rarotonga**	14.71	117	Pn		Pn	07 28 49.6	-11
	1.2nm,0.3s,baz=270,slow=5.9,SNR=4.5							
RAR				LR		LR	07 32 47.3	
	comp=Z,175nm,19.6s,baz=270,slow=31							
PAE	**Paea**	23.41	100	*e*T		T	07 54 00.8	
	4.0nm,0.2s							
PPT2	**Papeete2**	23.41	100	*e*S		S	07 34 53.5	+1.1
	370nm,26.8s							
PPT2				*e*LR		LR	07 36 01.1	
	176nm,30.5s							
PPT2	**Papeete2**	23.41	100	*e*T		T	07 54 02.0	
	4.4nm,0.2s							
TIAR	**Tiarei**	23.63	100	*e*T		T	07 54 17.7	
	3.5nm,0.3s							
TVO	**Taravao**	23.73	100	*e*T		T	07 54 25.4	
	2.0nm,0.3s							
TBI	**Tubuai**	24.44	114	*e*T		T	07 55 31.6	
	18nm,0.3s							
PMOR	**Pomariorio Ree**	25.04	93	*e*T		T	07 55 59.0	
	4.6nm,0.4s							
VAH	**Vaihoa**	25.28	94	*e*T		T	07 56 17.3	
	8.1nm,0.3s							
H11S2	**WAKE ISLAND Hy**	38.40	329	T		T	08 13 52.9	
	baz=152,slow=77,SNR=49							
H11S3	**WAKE ISLAND Hy**	38.41	329	T		T	08 13 54.3	
	baz=152,slow=77,SNR=59							
H11S1	**WAKE ISLAND Hy**	38.42	329	T		T	08 13 54.6	
	baz=152,slow=77,SNR=39							
H11N3	**WAKE ISLAND Hy**	39.35	331	T		T	08 15 05.6	
	baz=152,slow=77,SNR=52							
H11N1	**WAKE ISLAND Hy**	39.36	331	T		T	08 15 06.2	
	baz=152,slow=77,SNR=76							
H11N2	**WAKE ISLAND Hy**	39.37	331	T		T	08 15 06.6	
	baz=152,slow=77,SNR=64							
STKA	**Stephens Creek**	43.90	239	LR		LR	07 50 30.3	
	comp=Z,42nm,18.1s,baz=47,slow=34							
WRAB	**Tennant Creek**	49.54	256	*e*P		P	07 34 22.3	-0.4
WRA	**Warramunga Arr**	49.55	256	P		P	07 34 22.6	-0.2
WRA	**Warramunga Arr**	49.55	256	P		P	07 34 22.6	-0.2
	1.9nm,0.8s,baz=90,slow=7.5,SNR=10							
AS31	**Alice Springs**	49.86	252	*e*P		P	07 34 24.9	-0.2
ASAR	**Alice Springs**	49.86	252	P		P	07 34 25.2	+0.1
ASAR	**Alice Springs**	49.86	252	P		P	07 34 25.2	+0.1
	7.1nm,0.8s,baz=85,slow=8.4,SNR=61							
MJAR	**Matsushiro Arr**	68.36	320	LR		LR	08 01 31.9	
	comp=Z,20nm,19.6s,baz=125,slow=31							
PKM	**Peak Mountain**	71.30	45	⇓P		P	07 36 52.8	+1.5
	baz=72							
PETK	**Petropavlovsk-**	72.11	342	P		P	07 36 56.7	+1.1
PETK	**Petropavlovsk-**	72.11	342	P		P	07 36 56.7	+1.1
	4.5nm,0.9s,baz=157,slow=9.2,SNR=3.9							
GSC	**Goldstone**	73.58	46	⇑P		P	07 37 06.3	+1.5
	baz=74							
NVAR	**Mina Array Bea**	74.29	42	P		P	07 37 08.6	-0.5
NVAR	**Mina Array Bea**	74.29	42	P		P	07 37 08.6	-0.5
	1.2nm,0.9s,baz=234,slow=7.7,SNR=5.2							
TPNV	**Topopah Spring**	74.84	44	⇓P		P	07 37 13.9	+1.6
	baz=75							
W13A	**Hualapai Mount**	75.52	47	⇓P		P	07 37 15.9	-0.3
	baz=76							
KSRS	**Korea Array**	75.58	316	LR		LR	08 03 37.8	
	comp=Z,19nm,21.6s,baz=180,slow=30							
R11A	**Troy Canyon, C**	76.03	44	⇑P		P	07 37 19.5	+0.4
	baz=76							
X16A	**Lo Mia Camp, P**	76.94	49	⇓P		P	07 37 24.7	+0.4
	baz=77							
319A	**Douglas**	77.16	52	⇓P		P	07 37 25.8	+0.3
	baz=77							
U15A	**North Rim**	77.31	47	⇑P		P	07 37 26.1	-0.3
	baz=78							
DUG	**Dugway**	78.83	43	⇑P		P	07 37 34.5	-0.1
	baz=79							
HLID	**Hailey**	79.56	40	⇑P		P	07 37 38.8	+0.2
	baz=80							
324A	**Moseley Ranch,**	80.12	54	⇑P		P	07 37 41.6	-0.3
	baz=80							
425A	**Indio Mountain**	80.24	55	⇓P		P	07 37 42.1	-0.5
	baz=80							
224A	**Cornudas Mount**	80.35	53	⇑P		P	07 37 42.8	-0.3
	baz=80							
626A	**Big Bend Ranch**	80.43	56	⇓P		P	07 37 42.6	-0.9
	baz=80							
325A	**Bean Ranch, Si**	80.49	54	⇑P		P	07 37 43.1	-0.8
	baz=81							
124A	**Stringfield Ra**	80.66	53	⇑P		P	07 37 44.4	-0.5
	baz=81							
526A	**Mary Lane Ranc**	80.66	56	⇓P		P	07 37 44.5	-0.3
	baz=81							
Y23A	**Lovelace Mesa,**	80.71	51	⇓P		P	07 37 44.3	-0.8
	baz=81							
TXAR	**Lajitas Array**	80.72	56	P		P	07 37 44.5	-0.6
TXAR	**Lajitas Array**	80.72	56	P		P	07 37 44.5	-0.6
	1.1nm,0.9s,baz=235,slow=4.4,SNR=8.1							
PV01	**Paradox Valley**	80.73	47	*e*P		P	07 37 43.7	-1.4
	192nm,0.9s							
MCK	**McKinley**	80.79	11	*e*P		P	07 37 44.3	-0.3
	7.3nm,0.9s							
225A	**Deer Hill, Car**	80.90	53	⇓P		P	07 37 45.7	-0.4
	baz=81							
V22A	**San Miguel Ran**	80.93	49	⇑P		P	07 37 46.0	-0.3
	baz=81							
426A	**McDonald Obser**	80.95	55	⇑P		P	07 37 46.2	-0.2
	baz=81							
627A	**Terlingua Ranc**	80.98	56	⇑P		P	07 37 46.2	-0.3
	baz=81							
Z24A	**Sheeppen Canyo**	80.99	52	⇓P		P	07 37 46.1	-0.5
	baz=81							
527A	**Woodward Ranch**	81

3.3nm,0.6s
J19A Crowheart 82.79 42 ⇑P P 07 37 54.8 -0.9
baz=83
329A Wagon Wheel Ra 82.89 55 ⇓P P 07 37 55.8 -0.6
baz=83
Y27A Causey 82.89 52 ⇓P P 07 37 55.4 -1.0
baz=83
S24A Houchin Ranch, 82.90 48 ⇑P P 07 37 57.3 +0.6
baz=83
530A J-C Ranch, Com 82.90 56 ⇑P P 07 37 55.6 -0.9
baz=83
128A Castleberry Fa 82.92 54 ⇑P P 07 37 55.8 -0.8
baz=83
U25A Circle Dot Ran 82.97 50 ⇑P P 07 37 55.7 -1.2
baz=83,SNR=5.2
O22A Kremmling 83.04 45 ⇑P P 07 37 56.8 -0.6
baz=83,SNR=8.5
V26A Tequesquite Ra 83.18 50 ⇑P P 07 37 57.4 -0.6
baz=83
I19A Meeteetse 83.19 41 ⇑P P 07 37 57.5 -0.4
baz=84
P23A Jefferson 83.19 46 ⇓P P 07 37 58.4 +0.2
baz=83
229A Bryant Ranch, 83.20 54 ⇓P P 07 37 57.5 -0.6
baz=83
430A Baggett Ranch, 83.22 56 ⇑P P 07 37 57.3 -0.9
baz=83
R24A Sanders Place, 83.22 48 ⇓P P 07 37 58.0 -0.2
baz=83
MSTX Muleshoe 83.22 52 ⇓P P 07 37 57.4 -0.8
baz=83
X27A F and S Farms, 83.24 52 ⇑P P 07 37 58.3 +0.1
baz=83
631A Perdido Creek 83.25 57 ⇑P P 07 37 57.4 -0.9
baz=83
Z28A Tucker Farm, M 83.25 53 ⇑P P 07 37 57.4 -0.9
baz=83
T25A Trinidad 83.27 49 ⇓P P 07 37 58.1 -0.4
baz=84
N22A Wattenberg Ran 83.39 45 ⇓P P 07 37 59.1 0.0
baz=84,SNR=5.8
129A Stewart Farms, 83.41 54 ⇓P P 07 37 58.4 -0.7
baz=84
W27A Bowe Ranch, En 83.43 51 ⇑P P 07 37 58.5 -0.7
baz=84
J20A Shoshoni 83.45 42 ⇓P P 07 37 58.8 -0.4
baz=84,SNR=6.7
U26A Atchley Ranch, 83.45 50 ⇓P P 07 37 58.8 -0.7
baz=84
S25A Robets Cordova 83.47 48 ⇑P P 07 37 59.1 -0.3
baz=84,SNR=5.4
H19A Powell 83.50 41 ⇑P P 07 37 58.9 -0.5
baz=84,SNR=7.6
Q24A Divide 83.50 47 ⇓P P 07 38 00.1 +0.3
baz=84
ISCO Idaho Springs 83.53 46 ⇑P P 07 37 58.8 -1.1
baz=84
531A Rocksprings 83.54 57 ⇓P P 07 37 59.2 -0.6
baz=84
M22A Cedar Creek Ra 83.56 44 ⇓P P 07 37 59.6 -0.3
baz=84
Y28A McKinney Farm, 83.60 53 ⇓P P 07 37 59.0 -1.1
baz=84
K21A Alcova 83.67 43 ⇑P P 07 37 59.4 -1.0
baz=84,SNR=5.3
I20A Worland 83.70 41 ⇑P P 07 37 59.8 -0.6
baz=84,SNR=7.1
Z29A Hungry Hill Ra 83.77 53 ⇓P P 07 38 00.0 -0.9
baz=84
N23A Red Feather La 83.78 45 ⇓P P 07 38 01.2 +0.2
baz=84
R25A Fountain Ranch 83.78 48 ⇓P P 07 38 00.2 -0.7
baz=84
J21A Lysite 83.86 42 ⇑P P 07 38 00.9 -0.5
baz=84,SNR=18
T26A Comanche Natio 83.88 49 ⇓P P 07 38 00.5 -1.0
baz=84
632A Uvalde 83.92 57 ⇓P P 07 38 00.6 -1.2
baz=84
L22A Ellis Ranch, M 83.94 44 ⇓P P 07 38 01.9 +0.1
baz=84
Y29A Porterfield Fa 84.03 53 ⇑P P 07 38 01.8 -0.5
baz=84
H20A Greybull 84.03 41 ⇑P P 07 38 01.7 -0.4
baz=84
O24A Longmont 84.04 46 ⇑P P 07 38 02.2 -0.1
baz=84
532A Rocksprings 84.05 57 ⇓P P 07 38 01.8 -0.6
baz=84
331A San Angelo 84.05 56 ⇑P P 07 38 01.2 -1.2
baz=84
F19A Roth Farm, Mol 84.08 40 ⇓P P 07 38 01.5 -0.8
baz=84,SNR=5.4
130A Snyder 84.10 54 ⇑P P 07 38 01.7 -0.9
baz=84
Q25A Bedland, Calha 84.12 47 ⇑P P 07 38 02.4 -0.4
baz=84
S26A Kim 84.15 49 ⇓P P 07 38 01.9 -0.9
baz=84
K22A Casper 84.16 43 ⇓P P 07 38 02.4 -0.4
baz=84
M23A Laramie 84.17 44 ⇓P P 07 38 02.2 -0.8
baz=84
I21A Big Trails, Te 84.18 42 ⇓P P 07 38 02.0 -0.9
baz=84,SNR=10
Z30A Sanderson Ranc 84.23 53 ⇑P P 07 38 02.1 -1.2
baz=84
G20A Bridger 84.24 40 ⇓P P 07 38 02.2 -0.9
baz=84
JCT Junction City 84.25 57 ⇑P P 07 38 02.1 -1.4
baz=84
231A Bronte 84.37 55 ⇓P P 07 38 02.4 -1.6
baz=84
432A Menard 84.40 56 ⇑P P 07 38 02.8 -1.4
baz=84
AMTX Amarillo 84.41 52 ⇑P P 07 38 03.2 -0.9
baz=84
P25A Willow Gulch B 84.42 47 ⇓P P 07 38 03.3 -0.9
baz=85
R26A Arlington 84.44 48 ⇓P P 07 38 03.7 -0.6
baz=85
E19A Rath Farm, Rou 84.47 39 ⇓P P 07 38 03.8 -0.4
baz=85,SNR=5.0
T27A Campo 84.47 49 ⇑P P 07 38 03.5 -1.0
baz=85
N24A Carr 84.47 45 ⇑P P 07 38 04.1 -0.4
baz=85
W29A Amraillo 84.52 52 ⇑P P 07 38 04.0 -0.8
baz=85
J22A Midwest 84.52 42 ⇑P P 07 38 03.7 -1.0
baz=85,SNR=7.1
131A Roby 84.58 54 ⇓P P 07 38 03.9 -1.2
baz=85
332A Millersview 84.62 56 ⇓P P 07 38 04.4 -0.9
baz=85
Y30A Stafford Cattl 84.63 53 ⇓P P 07 38 04.2 -1.1
baz=85
EGMT Eagleton 84.64 37 ⇑P P 07 38 04.8 -0.2
baz=85
H21A Big Horn, Sher 84.70 41 ⇑P P 07 38 04.7 -0.8
baz=85
533A Kerrville 84.73 57 ⇑P P 07 38 04.7 -1.1
baz=85
I22A 9 Mile Ranch, 84.73 42 ⇑P P 07 38 05.0 -0.7
baz=85,SNR=5.1
D19A Cripps Ranch, 84.75 38 ⇑P P 07 38 05.2 -0.3
baz=85,SNR=6.4
M24A Cheyenne 84.78 45 ⇑P P 07 38 05.6 -0.4
baz=85
K23A Bowen Ranch, D 84.80 43 ⇓P P 07 38 05.6 -0.5
baz=85
X30A Coker Ranch, T 84.86 52 ⇓P P 07 38 05.3 -1.1
baz=85
232A Coleman 84.88 55 ⇓P P 07 38 05.5 -1.1
baz=85
E20A Meyer Farm, Mu 84.89 39 ⇓P P 07 38 06.0 -0.3
baz=85,SNR=5.3
R27A Eads 84.90 48 ⇓P P 07 38 05.6 -1.0
baz=85
C19A Slack Wire Ran 84.92 38 ⇓P P 07 38 06.5 +0.1
baz=85,SNR=5.8
433A Art 84.92 56 ⇓P P 07 38 05.7 -1.1
baz=85
T28A Walsh 84.94 50 ⇑P P 07 38 05.8 -1.1
baz=85
L24A Wheatland 84.95 44 ⇑P P 07 38 06.3 -0.5
baz=85
Z31A Sharp Cattle R 85.01 54 ⇑P P 07 38 06.1 -1.0
baz=85
H22A Clearmont 85.13 41 ⇑P P 07 38 07.1 -0.5
baz=85
ABTX Abilene, Hawle 85.15 55 eP P 07 38 06.5 -1.4
ABTX Abilene, Hawle 85.15 55 ⇑P P 07 38 07.1 -0.7
baz=85
Y31A Rekieta Farm, 85.15 53 ⇓P P 07 38 07.1 -0.8
baz=85
D20A Manuel Ranch, 85.16 39 ⇑P P 07 38 07.8 +0.2
baz=86
534A Blanco 85.17 57 ⇑P P 07 38 07.3 -0.7
baz=85
333A Richland Sprin 85.21 56 ⇑P P 07 38 07.2 -1.1
baz=85
B19A Brinkman Farms 85.33 37 ⇓P P 07 38 07.9 -0.5
baz=86
Z32A Haskell 85.52 54 ⇓P P 07 38 08.9 -0.8
baz=86
C20A Veseth Ranch, 85.53 38 ⇓P P 07 38 09.5 +0.1
baz=86
E21A Keefer Ranch, 85.55 40 ⇑P P 07 38 09.6 0.0
baz=86
434A Burnet 85.61 57 ⇓P P 07 38 09.5 -0.7
baz=86
X31A McDonald Ranch 85.61 53 ⇑P P 07 38 09.1 -1.0
baz=86
R28A Tribune 85.64 49 ⇑P P 07 38 09.5 -0.8
baz=86
A19A Klindworth Far 85.67 37 ⇑P P 07 38 09.8 -0.3
baz=86
133A Hamilton Ranch 85.72 55 ⇑P P 07 38 09.6 -1.1
baz=86
H23A Clabaugh Cattl 85.73 42 ⇑P P 07 38 10.5 -0.1
baz=86
Y32A R-V Farms, Ver 85.80 53 ⇑P P 07 38 10.4 -0.7
baz=86
334A Lometa 85.81 56 ⇓P P 07 38 10.5 -0.7
baz=86
W31A Holland Ranch, 85.84 52 ⇑P P 07 38 10.6 -0.7
baz=86
B20A Solberg Farm, 85.86 38 ⇑P P 07 38 10.8 -0.3
baz=86
G23A Biddle 86.01 41 ⇑P P 07 38 11.1 -0.9
baz=86
X32A Elmer 86.07 53 ⇑P P 07 38 11.5 -0.9
baz=86
Z33A Whitaker Ranch 86.07 54 ⇓P P 07 38 11.5 -0.9
baz=86
A20A Cobblestone Ra 86.12 37 ⇑P P 07 38 11.9 -0.4
baz=86
C21A Desert Coulee 86.13 38 ⇓P P 07 38 11.9 -0.5
baz=86
F23A Volborg 86.23 41 ⇓P P 07 38 12.4 -0.6
baz=86
H24A Dirks Ranch, A 86.35 42 ⇓P P 07 38 12.6 -1.1
baz=87
134A White-Moore Ra 86.37 55 ⇑P P 07 38 13.5 -0.4
baz=86
Y33A Hilltop Ranch, 86.44 54 ⇓P P 07 38 13.3 -0.9
baz=87
335A Moody 86.45 56 ⇓P P 07 38 13.1 -1.2
baz=86
B21A Ellsworth Farm 86.45 38 ⇓P P 07 38 13.8 -0.1
baz=87
X33A Lawton 86.72 53 ⇓P P 07 38 14.6 -1.0
baz=87
J26A Sides Ranch, S 86.73 44 ⇑P P 07 38 15.0 -0.5
baz=87
A21A Bergtoll Ranch 86.76 37 ⇑P P 07 38 15.2 -0.3
baz=87
C22A Vida 86.82 39 ⇓P P 07 38 15.7 -0.1
baz=87
F24A Ekalaka 86.89 41 ⇑P P 07 38 15.4 -0.8
baz=87
135A Vickery Place, 86.89 55 ⇑P P 07 38 15.7 -0.8
baz=87
D23A Lindsay 86.98 40 ⇑P P 07 38 16.4 -0.2
baz=87
B22A Reddig Ranch S 87.00 38 ⇑P P 07 38 16.4 -0.3
baz=87
Q30A Quinter 87.03 48 ⇓P P 07 38 15.7 -1.3
baz=87
P30A Selden 87.22 48 ⇑P P 07 38 17.4 -0.6
baz=87
X34A Smith Ranch, M 87.26 53 ⇓P P 07 38 17.9 -0.3
baz=87
C23A Lambert 87.27 39 ⇓P P 07 38 18.1 +0.1
baz=88
Z35A Perchaven, San 87.28 55 ⇓P P 07 38 17.4 -0.9
baz=87
R31A Burdett 87.28 49 ⇑P P 07 38 18.0 -0.3
baz=88
J27A Elkhorn Farm, 87.42 44 ⇑P P 07 38 18.0 -0.9
baz=88
B23A Brockton 87.67 38 ⇑P P 07 38 19.5 -0.4
baz=88
G26A Maurine 87.84 42 ⇑P P 07 38 19.7 -1.1
baz=88
R32A Long Quarter, 87.93 49 ⇓P P 07 38 20.3 -1.1
baz=88
J28A Allard Ranch, 88.00 44 ⇓P P 07 38 20.9 -0.7
baz=88
DGMT Dagmar 88.15 39 ⇓P P 07 38 22.1 -0.1
baz=88
K29A Lazy Trails An 88.37 45 ⇑P P 07 38 22.8 -0.6
baz=89
A24A Westby 88.46 38 ⇑P P 07 38 23.3 -0.4
baz=89
L30A Spencer Herefo 88.48 46 ⇓P P 07 38 23.0 -0.9
baz=89
M31A Lambtecht Ranc 88.78 47 ⇓P P 07 38 24.5 -0.9
baz=89
C26A Wahner Farm, P 89.17 40 ⇓P P 07 38 26.9 -0.1
baz=90
YKA Yellowknife Ar 89.88 24 P P 07 38 29.7 -0.2
YKA Yellowknife Ar 89.88 24 P P 07 38 29.7 -0.2
1.5nm,0.8s,baz=239,slow=4.5,SNR=13
A29A Manning Farm, 91.36 39 ⇓P P 07 38 35.9 -1.2
baz=92
CMAR Chiang Mai Arr 92.10 288 LR LR 08 17 43.1
comp=2,16nm,21.2s,baz=95,slow=34
ARCES ARCESS Array B 124.14 352 PKP PKPdf 07 44 28.9 -0.4
ARCES ARCESS Array B 124.14 352 PKP PKPdf 07 44 28.9 -0.4
1.4nm,0.6s,baz=307,slow=1.9,SNR=4.7
BRTR Keskin Array B 145.58 321 PKPbc PKPdf 07 45 10.9 +0.9
BRTR Keskin Array B 145.58 321 PKPbc PKPdf 07 45 10.9 +0.9
2.1nm,0.7s,baz=120,slow=2.3,SNR=9.8
GERES GERESS Array B 145.67 351 PKPbc PKPdf 07 45 10.2 +0.4
GERES GERESS Array B 145.67 351 PKPbc PKPdf 07 45 10.2 +0.4
1.6nm,0.8s,baz=343,slow=1.4,SNR=10

*SKHL **16** 07:42:57.1±0.6,44.°73N×149.°93E,h16km±5km,mb4.6/2*
*JMA **16** 07:42:58.9±0.4,45.°08N×149.°48E,h184km,M3.5*
ISC 16 07:42:57.8±4.2,45.°2N±0.°2×149.°5E±0.°2,h157km±16km,
n19,σ1°89/28,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	1.12	270	eP	Pn	07 43 23.6	-0.5
KUR				AMB	AMB	07 43 23.9	
	170nm,0.4s						
KUR				eS	Sn	07 43 43.0	-1.3
KUR				A	A	07 43 50.0	
	100nm,0.7s						
SHO	Shikotan	2.32	235	eP	Pn	07 43 37.0	0.0
SHO				AMB	AMB	07 43 40.1	
	280nm,0.8s						
SHO				eS	Sn	07 44 07.0	-0.3
SHO				A	A	07 44 16.8	
	850nm,0.3s						
NEM2	Nemuro 2	3.25	236	P	Pn	07 43 50.2	+1.6
NEM2				eS	Sn	07 44 30.5	+2.6
JNK	Nakash	3.77	246	P	Pn	07 43 57.6	+2.4
JAK	Akkeshi	4.09	238	P	Pn	07 44 00.8	+1.5
JAK				eS	Sn	07 44 48.5	+1.3
JAR	Ashorobuto	4.52	247	P	Pn	07 44 07.2	+2.3
JOB	Onbets	4.67	242	P	Pn	07 44 08.6	+1.7
JOB				eS	Sn	07 45 01.7	+0.9
HRK	Horoka	4.87	251	eP	Pn	07 44 11.7	+2.2
YSS	Yuzh-Sakhalins	4.96	293	eP	Pn	07 44 19.0	+8.3
JKK2	Kamakawa 2	4.98	256	P	Pn	07 44 12.5	+1.5
JCH	Churui	5.12	241	P	Pn	07 44 14.2	+1.4
JCH				eS	Sn	07 45 11.7	+0.3
MYR	Moyori	5.35	239	eP	Pn	07 44 17.0	+1.2
MYR				eS	Sn	07 45 16.7	-0.2
JNBK	Urakawa-nobuka	5.68	241	P	Pn	07 44 20.7	+0.5
JNBK				eS	Sn	07 45 23.3	-1.4
JNB Noboribetsu 6.68 248 P Pn 07 44 33.5 0.0
JNB eS Sn 07 45 47.6 -1.0
JKB Kayabe 6.97 244 P Pn 07 44 37.7 +0.3
JKB eS Sn 07 45 52.5 -3.0
JYM2 Yakumo 2 7.28 248 P Pn 07 44 41.9 +0.4
JTM Tenmabayashi 7.58 237 eS Sn 07 46 07.0 -3.3
JANG Nango 7.59 233 eS Sn 07 46 06.7 -3.8
JTH Tanohata 7.70 229 eS Sn 07 46 10.5 -2.7

WBNET 16 08:03:15.4,50.°24N×12.°45E,h7km,Ml1.0,3C-7D,
Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	Novy Kostel	0.01	199	ePG	Pg	08 03 16.2	-0.4
NKC				eSG	Sg	08 03 17.3	-0.2
	44nm,0.1s						
NKC	Novy Kostel	0.01	199	⇓P	Pg	08 03 16.6	-0.1
NKC				S	Sg	08 03 17.4	-0.1
LBCW	Luby	0.04	317	⇓P	Pg	08 03 16.8	0.0
LBCW				S	Sg	08 03 18.0	+0.1
STCW	Studenec	0.05	65	P	Pg	08 03 16.8	-0.2
STCW				S	Sg	08 03 17.8	-0.3
VAC	Vackov	0.05	266	⇓P	Pg	08 03 16.9	0.0
VAC				S	Sg	08 03 17.9	-0.1
KVC	Kvetna	0.05	129	⇓P	Pg	08 03 16.8	-0.2
KVC				S	Sg	08 03 17.8	-0.4
POCW	Po¯¡tky	0.08	349	⇓P	Pg	08 03 17.5	0.0
POCW				S	Sg	08 03 18.9	-0.1
KACW	Kace¯ov	0.10	156	⇑P	Pg	08 03 17.6	-0.1
KACW				S	Sg	08 03 19.3	-0.1
KRCW	Kraslice	0.11	29	⇑P	Pg	08 03 17.7	-0.1
KRCW				S	Sg	08 03 19.3	-0.3
KOCW	Kopaniny	0.14	281	⇓P	Pg	08 03 18.4	-0.1
KOCW				S	Sg	08 03 20.4	-0.1
ZHC	Zelena Hora	0.19	209	⇑P	Pg	08 03 19.2	-0.1
ZHC				S	Sg	08 03 21.8	-0.2
LACW	Lazy	0.22	149	⇓P	Pg	08 03 19.7	-0.1
LACW				S	Sg	08 03 22.7	-0.2

*PRU **16** 08:03:24.1,50.°26N×12.°47E,h3km,West Bohemia*
WBNET 16 08:03:23.9,50.°24N×12.°45E,h7km,Ml0.3,5D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	Novy Kostel	0.01	185	ePG	Pg	08 03 25.1	0.0
NKC				eSG	Sg	08 03 25.8	-0.2
	8.8nm,0.2s						
NKC	Novy Kostel	0.01	185	⇓P	Pg	08 03 25.0	-0.1
NKC				S	Sg	08 03 25.9	-0.1
LBCW	Luby	0.03	316	⇓P	Pg	08 03 25.3	0.0
LBCW				S	Sg	08 03 26.5	+0.1
VAC	Vackov	0.05	263	⇓P	Pg	08 03 25.4	0.0
VAC				S	Sg	08 03 26.4	-0.1
STCW	Studenec	0.05	68	P	Pg	08 03 25.3	-0.2
STCW				S	Sg	08 03 26.3	-0.3
KVC	Kvetna	0.06	130	S	Sg	08 03 26.2	-0.5
POCW	Po¯¡tky	0.08	350	⇓P	Pg	08 03 25.9	0.0
POCW				S	Sg	08 03 27.4	0.0
KRCW	Kraslice	0.10	30	S	Sg	08 03 27.7	-0.2
KACW	Kace¯ov	0.11	156	S	Sg	08 03 27.8	-0.1
KOCW	Kopaniny	0.14	280	⇓P	Pg	08 03 26.8	-0.1
KOCW				S	Sg	08 03 28.8	-0.1
ZHC	Zelena Hora	0.19	208	S	Sg	08 03 30.3	-0.2
LACW	Lazy	0.22	149	S	Sg	08 03 31.3	-0.1

KRSC 16 08:06:17.2±1.2,48.°28N×153.°70E,h198km±47km,ML4.2,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	Pauzhetka	3.77	31	P	Pn	08 07 18.3	+2.4
PAU				S	Sn	08 08 02.4	+0.2
ASAK	Asacha	4.91	32	P	Pn	08 07 33.6	+3.2
MTVR	Mutnovka	5.09	33	P	Pn	08 07 35.8	+3.0
MTVR				S	Sn	08 08 32.4	-0.1
APC	Apacha	5.14	24	P	Pn	08 07 35.0	+1.8
RUS	Russkaya	5.17	35	P	Pn	08 07 35.5	+1.9
RUS				S	Sn	08 08 30.8	-3.2
UGLR	Uglovaya	5.91	31	P	Pn	08 07 45.9	+2.6
KOK	Koryaka	5.91	30	P	Pn	08 07 47.0	+3.7
AVH	Avacha	5.92	31	P	Pn	08 07 46.6	+3.2
SMAR	Somma	5.95	31	P	Pn	08 07 46.4	+2.5
KRER	Koryakskii	5.96	31	P	Pn	08 07 47.0	+3.0
KRER				S	Sn	08 08 52.6	-0.2
KRX	Arik	5.97	30	P	Pn	08 07 47.2	+3.1
SDLR	Sedlovina	5.99	31	P	Pn	08 07 46.9	+2.6
GNL	Ganaly	6.05	25	P	Pn	08 07 47.4	+2.4
SHO	Shikotan	6.50	230	P	Pn	08 07 53.9	+3.0
SHO				S	Sn	08 09 04.1	-0.9
KBTR	Krutoberegovo	9.70	32	P	Pn	08 08 32.6	+0.2

*MOS **16** 08:49:03.2±0.9,4.°18N×128.°12E,h33km,mb5.3/24,Error ellipse: s-maj=15.2km s-min=6.0km az=118.9*
*DJA **16** 08:49:05.8±2.0,4.°1N±11.°×12.°8E±.°,h13km±17km,M4.9/11, mb4.9/11,mB5.3/7,MLv5.1/6,Mw(mB)4.7/7*
*IDC **16** 08:49:05.2±0.6,4.°10N×128.°02E,h37km±3km,mb4.3/23, mb1 4.4/23,mb1mx4.3/29,mbtmp4.3/23,MS3.7/18, Ms1 3.7/18,ms1mx3.5/33,Error ellipse: s-maj=22.4km s-min=10.2km az=82.0*
*ISCJB **16** 08:49:07.0±0.5,4.°07N±0.°03×128.°06E±0.°04,h68km±4km, mb4.8/88,Error ellipse: s-maj=6.8km s-min=3.8km az=158.4*
*AUST **16** 08:49:08.6,4.°00N×128.°01E,h60km*
*BJI **16** 08:49:08.2,3.°82N×128.°07E,h94km,mB5.1/27,mb4.9/44*
*NEIC **16** 08:49:11.0±0.9,4.°04N×127.°99E,h89km±8km,mb5.1/38, Error ellipse: s-maj=7.7km s-min=5.0km az=73.0*
ISC 16 08:49:06.6±0.5,4.°16N±0.°04×128.°08E±0.°05,h51km±3km,
h50km:pP-P,n244,σ1°77/265,mb5.0/88,MS3.9/28,8C-5D,
North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	2.59	260	P	Pn	08 49 45.8	-0.3
SGSI				S	Sn	08 50 19.5	+3.1
MATI	Mati	3.31	327	eP	Pn	08 50 00.6	+4.7
MATI				eS	Sn	08 50 35.5	+1.5
TNTI	Ternate	3.44	192	ePn	Pn	08 50 00.6	+2.8
GSPH	General Santos	3.66	302	⇓eP	Pn	08 49 60.0	-0.9
DAV	Davao City (W)	3.81	319	ePn	Pn	08 50 08.6	+5.7
BIPH	Bislig	4.35	337	⇓eP	Pn	08 50 12.0	+1.9
BUKP	Musuan	4.76	321	eP	Pn	08 50 19.7	+3.8
LBMI	Labuha	4.80	187	P	Pn	08 50 18.3	+1.9
CTBH	Catabato--PC H	4.88	309	⇓eP	Pn	08 50 19.2	+1.8
BUTP	Butuan	5.36	333	eP	Pn	08 50 33.1	+9.0
KMSI	Cibinong	5.43	229	P	Pn	08 50 26.1	+1.1
CGP	Cagayan de Oro	5.43	322	eP	Pn	08 50 28.7	+3.7
CGP				i S	Sn	08 51 33.2	+6.9
SWI	Sorong	5.92	147	P	Pn	08 50 32.2	+0.5
	38nm,0.8s,1μm0.3nm						
SWI				S	Sn	08 51 38.0	-0.2
	38nm,0.8s,1μm0.3nm						
PAGZ	Pagadian	5.94	308	eP	Pn	08 50 33.2	+1.3
SCPH	Surigao	6.15	335	⇓eP	Pn	08 50 42.1	+7.3
GTOI	Gorontalo	6.16	235	P	Pn	08 50 35.3	+0.3
	241nm,0.7s,3μm0.8nm						
MRSI	Marisa	7.14	239	P	Pn	08 50 49.8	+1.2
	356nm,0.8s,4μm1.1nm						
LUWI	Luwuk	7.41	226	P	Pn	08 50 54.4	+2.2
	179nm,0.6s,3μm0.9nm						
LUWI	Luwuk	7.41	226	P	Pn	08 50 55.0	+2.8
	baz=7.3,SNR=8.2						
FAKI	Fak Fak	8.18	149	P	Pn	08 51 04.8	+2.1
	baz=8.1,SNR=4.3						
TTSI	Tana Toraja	10.93	229	P	Pn	08 51 41.2	+0.8
	46nm,0.9s,2μm						
SPSI	Sidrap Palu	11.58	226	P	Pn	08 51 49.7	+0.4
	38nm,0.7s						
BNSI	Bone	11.66	223	P	Pn	08 51 50.0	-0.3
	27nm,1.5s						
BKSI	Bulukumba	12.33	220	P	Pn	08 51 58.2	-1.3
	32nm,1.0s						
SBUM	Sibu	15.93	264	P	Pn	08 52 48.5	+1.0
	59nm,1.5s,833nm						
SBUM	Sibu	15.93	264	ePn	Pn	08 52 48.0	+0.5
	130nm,1.5s						
MTN	Manton Dam	17.16	170	P	Pn	08 53 02.1	-0.9

baz=17,SNR=9.5
KDU Kakadu 17.30 165 P **Pn** **08 53 04.0 -0.6**
baz=17,SNR=15
KSM Kuching 17.95 262 P **Pn** **08 53 14.6 +1.9**
KSM Kuching 17.95 262 *e*Pn **P** **08 53 13.0 +0.2**
37nm,0.7s
KSM Kuching 17.95 262 P **P** **08 53 13.2 +0.5**
baz=18,SNR=13
YULB Yu-li 20.21 342 *e*P Pn 08 53 39.6 -0.1
26nm,0.8s
MANU Manus Island 20.23 107 P P 08 53 26.9 -11
baz=20,SNR=9.0
TPUB Ta-pu 20.34 340 *e*P Pn 08 53 41.4 +0.2
84nm,0.6s
SSLB Suanglung 20.69 341 *e*Pn Pn 08 53 45.6 +0.3
66nm,0.8s
DLV T Lat 20.87 293 *e*P **P** **08 53 45.9 +1.0**
YHNB Yeheng 21.39 343 *e*P **P** **08 53 52.5 +2.4**
FITZ Fitzroy Crossi 22.25 186 P **P** **08 53 57.4 -2.0**
FITZ Fitzroy Crossi 22.25 186 P **P** **08 53 57.4 -2.0**
2.9nm,0.4s,baz=349,slow=18,SNR=12
FITZ LR LR 09 01 22.4
comp=Z,95nm,20.2s,baz=44,slow=33
FITZ Fitzroy Crossi 22.25 186 P **P** **08 53 59.4 0.0**
baz=22,SNR=8.0
QIZ Qiongzhong 23.14 311 P **P** **08 54 11.3 +2.6**
QIZ S **S** **08 58 15.8 -0.7**
QIZ pmax pmax
comp=Z,17nm,1.5s
QIZ pmax pmax
comp=Z,150nm,7.7s
PMG Port Moresby 23.31 125 LR LR 09 03 52.8
comp=Z,176nm,18.7s,baz=317,slow=38
WRAB Tennant Creek 24.73 166⇑ *e*P **P** **08 54 23.4 +0.1**
WRAB pmax pmax
comp=Z,62nm,1.2s
WRAB MLR MLR
comp=Z,395nm,20.0s
WRAB Tennant Creek 24.73 166 *e*P **P** **08 54 23.6 +0.3**
comp=Z,25nm,0.9s
WRA Warramunga Arr 24.73 166 P **P** **08 54 23.1 -0.3**
WRA Warramunga Arr 24.73 166 P **P** **08 54 23.1 -0.3**
comp=Z,9.1nm,0.7s,baz=345,slow=11,SNR=50
IPM Ipoh 26.98 272 *e*P P 08 54 38.4 -5.5
comp=Z,30nm,0.5s
QIS Mount Isa 27.05 156 P **P** **08 54 44.6 +0.3**
baz=27,SNR=6.2
KULM Kulim 27.36 273 *e*P **P** **08 54 47.1 -0.2**
KULM *epP* **pP** **08 54 57.3 -3.0**
CHAI Chaiyaphum 28.18 296 P **P** **08 54 55.3 +0.8**
comp=Z,19nm,0.8s
ASAR Alice Springs 28.24 169 P **P** **08 54 54.5 -0.4**
ASAR Alice Springs 28.24 169 P **P** **08 54 54.5 -0.4**
comp=Z,1.2nm,0.5s,baz=355,slow=8.1,SNR=19
ASAR LR LR 09 06 18.4
comp=Z,73nm,20.9s,baz=348,slow=37
JNU Nakatsue 28.93 5 P **P** **08 55 03.5 +2.5**
JNU Nakatsue 28.93 5 P **P** **08 55 03.5 +2.5**
comp=Z,15nm,0.9s,baz=210,slow=7.5,SNR=4.2
JNU LR LR 09 05 25.0
comp=Z,113nm,18.6s,baz=324,slow=34
WRKA Warakurna 29.03 180 P **P** **08 55 01.7 -0.3**
baz=29,SNR=11
NJ2 Nanjing 29.06 344 *e*P P 08 55 06.3 +4.1
NJ2 pmax pmax
comp=Z,20nm,0.6s
PBKT Sadao Pong 29.33 297 P **P** **08 55 06.2 +1.5**
comp=Z,44nm,0.9s
SURT Suratani 29.47 281 P **P** **08 55 07.4 +1.3**
comp=Z,9.0nm,0.8s
GYA Guiyang 30.20 319 P **P** **08 55 15.0 +2.5**
GYA pP pP 08 55 36.6 +11
GYA sP sP 08 55 48.0 +16
GYA PP **PnPn** **08 56 17.3 +5.6**
GYA PcP **PcP** **08 58 13.9 +1.2**
GYA S **S** **09 00 05.8 -2.7**
GYA sS sS 09 00 44.3 +14
GYA ScP **ScP** **09 01 46.4 -4.6**
GYA PcS **PcS** **09 01 55.5 -1.0**
GYA ScS **ScS** **09 05 40.3 -6.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,540nm,16.5s
GYA LR LR
comp=Z,480nm,17.0s
GYA LR LR
comp=Z,510nm,16.8s
CRAI Chiangrai 31.35 303 P P 08 55 35.2 +13
ENH Enshi 31.35 328 *e*P **P** **08 55 23.7 +1.2**
comp=Z,9.3nm,0.6s
CMAR Chiang Mai Arr 31.83 299 P **P** **08 55 28.2 +1.4**
CMAR Chiang Mai Arr 31.83 299 P **P** **08 55 28.2 +1.4**
comp=Z,2.1nm,0.5s,baz=119,slow=7.0,SNR=10
CMAR LR LR 09 09 47.5
comp=Z,62nm,19.3s,baz=100,slow=39
MEEK Meekatharra 31.96 196 P **P** **08 55 27.7 -0.2**
baz=32,SNR=9.9
CHTO Chiang Mai 31.97 299 *e*P **P** **08 55 30.0 +1.9**
CHTO pmax pmax
comp=Z,1.0nm,0.7s
CHTO Chiang Mai 31.97 299 *e*P **P** **08 55 30.0 +1.9**
comp=Z,1.1nm,0.7s
KMI Kunming 32.05 313 P **P** **08 55 31.3 +2.3**
KMI pP pP 08 55 53.9 +12
KMI pmax pmax
comp=Z,16nm,1.4s
KMI pmax pmax
comp=Z,96nm,6.5s
KMI LR LR
comp=Z,210nm,15.8s
KMI LR LR
comp=Z,140nm,19.9s
KMI LR LR
comp=Z,170nm,17.0s
CMAI Chiengmai2 32.34 301 P **P** **08 55 34.3 +2.8**
comp=Z,7.4nm,0.7s
MHMT Maesariang 32.62 298 P **P** **08 55 35.6 +1.9**
KSAR Wonju Array Be 33.12 360 P **P** **08 55 37.8 -0.1**
KSRS Korea Array 33.13 360 P **P** **08 55 37.8 -0.2**
comp=Z,5.5nm,0.7s,baz=177,slow=11,SNR=15
KSRS LR LR 09 07 10.8
comp=Z,70nm,21.9s,baz=338,slow=33
MJAR Matsushiro Arr 33.54 15 P **P** **08 55 42.7 +1.1**
MJAR Matsushiro Arr 33.54 15 P **P** **08 55 42.7 +1.1**
comp=Z,1.5nm,0.6s,baz=187,slow=9.6,SNR=4.3
MJAR LR LR 09 07 12.7
comp=Z,162nm,19.4s,baz=195,slow=32
XAN Xi'an 34.66 331 P **P** **08 55 52.4 +1.0**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,21nm,5.4s
MORW Morawa 35.01 199 P **P** **08 55 54.9 +0.6**
baz=35,SNR=3.1
CD2 Chengdu 35.11 322 P **P** **08 55 56.3 +1.0**
CD2 pP pP 08 56 18.8 +10
CD2 sP sP 08 56 30.3 +16
CD2 PP **PP** **08 57 18.3 +2.5**
CD2 S **S** **09 01 22.8 -2.0**
CD2 sS **ScP** **09 02 00.6 -7.1**
CD2 SS **SnSn** **09 03 44.6 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,120nm,6.8s
CD2 LR LR
comp=Z,260nm,17.8s
CD2 LR LR
comp=Z,190nm,14.4s
BLDU Balliduu 36.25 197 P **P** **08 56 05.3 +0.4**
baz=36,SNR=6.4
KLBR Kellerberrin 36.89 195 P **P** **08 56 10.8 +0.4**
baz=37,SNR=9.4
BJI Beijing 37.30 345 P **P** **08 56 14.8 +1.0**
BJI pmax pmax
comp=Z,21nm,0.7s
BBOO Buckleboo 37.54 169 P **P** **08 56 15.9 0.0**
baz=38,SNR=5.6
STKA Stephens Creek 38.08 161 *e*P **P** **08 56 20.8 +0.4**
comp=Z,2.4nm,0.6s
STKA Stephens Creek 38.08 161 P **P** **08 56 20.2 -0.3**
comp=Z,4.6nm,0.5s,baz=340,slow=7.7,SNR=24
STKA LR LR 09 13 59.5
comp=Z,116nm,19.6s,baz=24,slow=39
STKA Stephens Creek 38.08 161 P **P** **08 56 20.8 +0.4**
baz=38,SNR=23
NWAO Narrogin (SRO) 38.30 195 P **P** **08 56 22.7 +0.4**
NWAO Narrogin (SRO) 38.30 195 P **P** **08 56 22.7 +0.4**
comp=Z,12nm,0.5s,baz=27,slow=8.6,SNR=11
LZH Lanzhou 38.84 328⇑ P **P** **08 56 29.8 +2.8**
LZH pP pP 08 56 52.8 +12
LZH sP sP 08 57 02.6 +16
LZH S **ScP** **09 02 21.3 -0.4**
LZH sS sS 09 03 00.3 +16
LZH SS **SS** **09 05 10.5 -3.7**
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,180nm,5.3s
LZH LR LR
comp=Z,480nm,13.0s
LZH LR LR
comp=Z,560nm,13.6s
LZH LR LR
comp=Z,870nm,14.2s
HHC Hu-ho-hao-te 39.43 340 *e*P **P** **08 56 32.4 +0.5**
HHC sP sP 08 57 07.8 +17
HHC PP **PnPn** **08 58 08.8 +2.4**
HHC S **S** **09 02 27.5 -2.7**
HHC sS sS 09 03 08.3 +16
HHC SS **SS** **09 05 20.8 -5.3**
HHC pmax pmax
comp=Z,40nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.3s
HHC LR LR
comp=Z,310nm,14.7s
HHC LR LR
comp=Z,310nm,14.7s
HHC LR LR
comp=Z,180nm,14.6s
CN2 Changchun 39.54 357 *e*P P 08 56 37.5 +4.9
CN2 *eS* **S** **09 02 34.8 +3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
RKGY Rocky Gully 39.96 194 P **P** **08 56 37.2 +1.1**
baz=40,SNR=7.9
USRK Ussuriysk Arra 40.02 4 P **P** **08 56 37.1 +0.6**
comp=Z,4.2nm,0.7s,baz=188,slow=6.1,SNR=9.7
USRK LR LR 09 10 52.0
comp=Z,69nm,21.0s,baz=311,slow=33
H11S3 WAKE ISLAND Hy 40.32 66 T T 09 40 02.1
baz=254,slow=73,SNR=28
H11S1 WAKE ISLAND Hy 40.34 66 T T 09 39 55.5
baz=254,slow=73,SNR=16
H11S2 WAKE ISLAND Hy 40.34 66 T T 09 39 54.4
baz=254,slow=73,SNR=33
ASAJ Asahikawa 41.80 16 P **P** **08 56 52.9 +1.7**
ASAJ Asahikawa 41.80 16 P **P** **08 56 52.9 +1.7**
comp=Z,7.1nm,0.8s,baz=249,slow=25,SNR=4.1
ARPS Mount Arapiles 42.70 164 P P 08 57 03.3 +4.7
baz=43,SNR=6.8
LSA Lhasa 43.18 310 *e*P **P** **08 57 04.7 +1.5**
LSA pmax pmax
comp=Z,26nm,1.1s
LSA Lhasa 43.18 310 *e*P **P** **08 57 04.7 +1.5**
comp=Z,26nm,1.1s
GTA Gaotai 43.44 328 P **P** **08 57 05.9 +1.2**
GTA pP pP 08 57 27.6 +9.3
GTA sP sP 08 57 39.8 +16
GTA S **S** **09 03 25.3 -4.4**
GTA pmax pmax
comp=Z,20nm,0.8s
GTA LR LR
comp=Z,140nm,12.3s
GTA LR LR
comp=Z,130nm,14.2s
GTA LR LR
comp=Z,150nm,19.9s
TAPN Taplejung 44.86 305 *e*P **P** **08 57 17.3 +0.8**
comp=Z,79nm,0.9s
TAPN Taplejung 44.86 305 *e*P **P** **08 57 17.3 +0.8**
comp=Z,79nm,0.9s
ODAN Odare 44.93 304 *e*P **P** **08 57 18.4 +1.4**
comp=Z,85nm,0.8s
ODAN Odare 44.93 304 *e*P **P** **08 57 18.4 +1.4**
comp=Z,85nm,0.8s
RAMN Ramite 45.62 304 *e*P **P** **08 57 24.0 +1.5**
comp=Z,99nm,1.0s
RAMN Ramite 45.62 304 *e*P **P** **08 57 24.0 +1.5**
comp=Z,99nm,1.0s
LHI Lord Howe Isla 46.15 142 P P 08 57 35.0 +8.7
baz=46,SNR=4.5
JIRN Jiri 46.22 305 *e*P **P** **08 57 28.1 +0.7**
comp=Z,60nm,0.9s
JIRN Jiri 46.22 305 *e*P **P** **08 57 28.1 +0.7**
comp=Z,60nm,0.9s
GUN Gumba 46.57 305 *e*P **P** **08 57 30.8 +0.7**
comp=Z,87nm,1.0s
GUN Gumba 46.57 305 *e*P **P** **08 57 30.8 +0.7**
comp=Z,87nm,1.0s
PKI Pulchoki 46.83 304 *e*P **P** **08 57 33.0 +0.9**
comp=Z,38nm,1.0s
PKI Pulchoki 46.83 304 *e*P **P** **08 57 33.0 +0.9**
PKI pmax pmax
comp=Z,38nm,1.0s
PKI Pulchoki 46.83 304 *e*P **P** **08 57 33.0 +0.9**
comp=Z,38nm,1.0s
KKN Kakani 47.02 305 *e*P **P** **08 57 34.5 +1.1**
comp=Z,38nm,0.9s
KKN Kakani 47.02 305 *e*P **P** **08 57 34.5 +1.1**
KKN pmax pmax
comp=Z,38nm,0.9s
KKN Kakani 47.02 305 *e*P **P** **08 57 34.5 +1.1**
comp=Z,38nm,0.9s
DMN Daman 47.09 304 *e*P **P** **08 57 34.6 +0.5**
comp=Z,58nm,1.0s
DMN Daman 47.09 304 *e*P **P** **08 57 34.6 +0.5**
comp=Z,58nm,1.0s
ULN Ulaanbaatar 47.14 341 *e*P **P** **08 57 34.8 +0.8**
comp=Z,18nm,0.9s
SONM Songino Array 47.34 340 P **P** **08 57 36.0 +0.6**
SONM PcP **PcP** **08 59 05.7 0.0**
SONM Songino Array 47.34 340 P **P** **08 57 36.0 +0.6**
comp=Z,6.3nm,0.8s,baz=154,slow=9.7,SNR=40
SONM PcP **PcP** **08 59 05.7 0.0**
comp=Z,1.3nm,0.6s,baz=143,slow=3.7,SNR=3.8
GKN Gorkha 47.62 305 *e*P **P** **08 57 37.8 -0.3**
comp=Z,20nm,0.7s
GKN Gorkha 47.62 305 *e*P **P** **08 57 37.8 -0.3**
comp=Z,20nm,0.7s
KOLN Koldanda 48.40 304 *e*P **P** **08 57 44.7 +0.6**
comp=Z,68nm,0.8s
KOLN Koldanda 48.40 304 *e*P **P** **08 57 44.7 +0.6**
comp=Z,68nm,0.8s
DANN Dangsing 48.47 305 *e*P **P** **08 57 45.1 +0.3**
comp=Z,49nm,0.6s
DANN Dangsing 48.47 305 *e*P **P** **08 57 45.1 +0.3**
comp=Z,49nm,0.6s
MOY Mondy 52.45 339 *e*P **P** **08 58 15.9 +1.7**
WMQ Urumqi 53.16 324 P **P** **08 58 21.5 +2.0**
WMQ pP pP 08 58 45.0 +12
WMQ sP sP 08 58 57.0 +18
WMQ PcP **PcP** **08 59 28.5 +1.4**
WMQ PP **PP** **09 00 24.0 +4.1**
WMQ ScP **ScP** **09 03 14.5 -6.2**
WMQ S **S** **09 05 43.5 -3.1**
WMQ sS sS 09 06 23.5 +14
WMQ ScS ScS 09 07 57.0 -7.9
WMQ SS **SS** **09 09 24.0 -2.8**
WMQ pmax pmax
comp=Z,35nm,1.0s
WMQ pmax pmax
comp=Z,130nm,5.0s
WMQ LR LR
comp=Z,110nm,20.0s
WMQ LR LR
comp=Z,79nm,18.0s
WMQ LR LR
comp=Z,78nm,18.0s
PETK Petropavlovsk- 54.53 21 P **P** **08 58 31.2 +1.9**
PETK Petropavlovsk- 54.53 21 P **P** **08 58 31.2 +1.9**
PETK Petropavlovsk- 54.53 21 P **P** **08 58 31.2 +1.9**
comp=Z,2.7nm,0.5s,baz=230,slow=11,SNR=4.1
PETK LR LR 09 22 36.4
comp=Z,41nm,19.0s,baz=340,slow=37
HVS Khovu-Aksy 54.93 334⇑ *i*P **P** **08 58 33.5 +1.2**
HVS pmax pmax
comp=Z,82nm,1.3s
HVS MLR MLR
comp=Z,8μm,18.0s
YAK Yakutsk 57.75 1 *e*P **P** **08 58 52.2 +0.2**
YAK *e* 08 59 04.1
YAK pmax pmax
comp=Z,27nm,0.8s
YAK Yakutsk 57.75 1 *e*P **P** **08 58 52.0 0.0**
comp=Z,42nm,0.8s
MK31 Makanchi Array 57.98 324 *e*P **P** **08 58 54.8 +0.8**
MK31 Makanchi Array 57.98 324 *e*P **P** **08 58 54.8 +0.8**
MKAR Makanchi Array 57.98 324 *e*P **P** **08 58 55.0 +0.9**
MKAR *PP **pP** **08 59 06.6 -1.5**
MKAR Makanchi Array 57.98 324 *e*P **P** **08 58 55.0 +0.9**
MKAR pP **pP** **08 59 06.6 -1.5**
MKAR Makanchi Array 57.98 324 P **P** **08 58 54.7 +0.6**
comp=Z,20nm,0.6s,baz=121,slow=8.2,SNR=150
MKAR pP **pP** **08 59 06.6 -1.5**
comp=Z,23nm,0.4s,baz=113,slow=7.6,SNR=32
MKAR LR LR 09 24 52.2
comp=Z,61nm,18.4s,baz=357,slow=37
KSH Kashi 58.70 314 *e*P **P** **08 59 02.1 +2.8**
KSH pP pP 08 59 27.6 +14
KSH sP sP 08 59 39.3 +20
KSH S **S** **09 06 55.5 -5.1**
KSH sS sS 09 07 39.8 +16
KSH SS **SS** **09 10 54.8 +0.4**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,170nm,5.3s
KSH LR LR
comp=Z,84nm,7.4s
KSH LR LR
comp=Z,130nm,5.0s
KSH LR LR
comp=Z,100nm,8.0s
ULHL Ulahol 59.61 317 P P 08 59 18.8 +13
SNR=5.1
KZA Kyzart 60.22 317 *i*P **P** **08 59 12.5 +2.4**
KZA Kyzart 60.22 317 P **P** **08 59 12.5 +2.4**
SNR=21
TKM2 Tokmak 2 60.33 318 *i*P **P** **08 59 11.7 +1.2**
TKM2 Tokmak 2 60.33 318 P **P** **08 59 11.8 +1.2**
SNR=28
TKM2 Tokmak 2 60.33 318 *e*P **P** **08 59 11.5 +0.9**
comp=Z,35nm,0.7s
KBK Karagaybulak 60.65 317 *i*P **P** **08 59 14.6 +1.8**
KBK Karagaybulak 60.65 317 P **P** **08 59 14.6 +1.8**
SNR=7.7
UCH Uchtor 60.78 317 *i*P **P** **08 59 15.7 +1.7**
UCH Uchtor 60.78 317 P **P** **08 59 15.7 +1.7**
SNR=31
ZAA0 Zalesovo Array 60.83 332 *e*P **P** **08 59 12.9 -0.6**
ZALV Zalesovo Beam 60.83 332 P **P** **08 59 13.6 +0.1**
ZALV *PP **pP** **08 59 24.7 -2.9**
ZALV Zalesovo Beam 60.83 332 P **P** **08 59 13.6 +0.1**
ZALV pP **pP** **08 59 24.7 -2.9**
ZALV Zalesovo Beam 60.83 332 P **P** **08 59 13.6 +0.1**
comp=Z,6.7nm,0.8s,baz=113,slow=6.9,SNR=25
ZALV pP **pP** **08 59 24.7 -2.9**
comp=Z,7.1nm,0.4s,baz=126,slow=6.4,SNR=13
CHMS Chumysh 60.92 318 *i*P **P** **08 59 15.8 +1.4**
CHMS Chumysh 60.92 318 P **P** **08 59 15.8 +1.4**
SNR=6.1
FRU Bishkek 60.95 317 *e*P **P** **08 59 14.0 -0.6**
AAK Ala-Archa 60.95 317 *i*P **P** **08 59 16.3 +1.5**
AAK Ala-Archa 60.95 317 P **P** **08 59 16.3 +1.5**
SNR=8.2
AAK Ala-Archa 60.95 317 *e*P **P** **08 59 15.5 +0.7**
comp=Z,19nm,0.8s
USP Ospenovka 61.20 318 *i*P **P** **08 59 17.3 +1.0**
USP Ospenovka 61.20 318 P **P** **08 59 17.4 +1.0**
SNR=16
AML Almayashu 61.30 316 *i*P **P** **08 59 19.1 +1.6**
AML Almayashu 61.30 316 P **P** **08 59 19.1 +1.6**
SNR=18
SEY Seymchan 61.32 12 *e*P **P** **08 59 18.5 +1.9**
RPZ Rata Peaks 61.35 146 LR LR 09 26 09.7
comp=Z,87nm,18.9s,baz=336,slow=36
EKS2 Erkin-Say 61.45 317 *i*P **P** **08 59 19.9 +1.8**
EKS2 Erkin-Say 61.45 317 P **P** **08 59 20.0 +1.8**
SNR=11
EKS2 Erkin-Say 61.45 317 *e*P **P** **08 59 19.6 +1.5**
comp=Z,39nm,0.7s
NVS Novosibirsk 62.10 333⇓ *i*P **P** **08 59 21.3 -0.8**
NVS *i* 08 59 32.5
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=E,15nm,1.4s
NVS pmax pmax
comp=Z,22nm,1.4s
KURK Kurchatov 62.11 327 P **P** **08 59 22.8 +0.6**
KURK pmax pmax
comp=Z,22nm,0.6s
KURK Kurchatov 62.11 327 *e*P **P** **08 59 22.4 +0.2**
comp=Z,29nm,0.6s
AFI Afiamalu 62.29 108 LR LR 09 21 07.4
comp=Z,77nm,19.3s,baz=307,slow=31
KBL Kabul 62.34 307 *e*P **P** **08 59 24.9 +0.5**
KBL *e*PP **pP** **08 59 36.6 -1.9**
KBL pmax pmax
comp=Z,21nm,1.0s
KBL Kabul 62.34 307 *e*P **P** **08 59 24.9 +0.5**
comp=Z,21nm,1.0s
KBL *ep*P **pP** **08 59 36.6 -1.9**
KK31 Karatay Array 63.84 316 *i*P **P** **08 59 34.1 +0.2**
KK31 pmax pmax
comp=Z,14nm,0.5s
KKAR Karatay Array 63.84 316 *e*P **P** **08 59 34.5 +0.5**
KKAR Karatay Array 63.84 316 *e*P **P** **08 59 34.5 +0.5**
TIXI Tiksi 67.40 0⇑ *i*P **P** **08 59 56.4 +0.1**
TIXI pmax pmax
comp=Z,6.0nm,0.6s
TIXI Tiksi 67.40 0 *e*P **P** **08 59 56.2 -0.1**
comp=Z,6.8nm,0.6s
BVA0 Borovoye Array 67.70 327 *i*P **P** **08 59 58.8 +0.2**
BVA0 pmax pmax
comp=Z,25nm,1.0s
BVAR Borovoye Array 67.70 327 P **P** **08 59 58.9 +0.4**
BVAR *PP **pP** **09 00 10.4 -2.5**
BVAR Borovoye Array 67.70 327 P **P** **08 59 58.9 +0.4**
BVAR pP **pP** **09 00 10.4 -2.5**
BVAR Borovoye Array 67.70 327 P **P** **08 59 58.9 +0.4**
comp=Z,13nm,0.7s,baz=124,slow=8.2,SNR=66
BVAR pP **pP** **09 00 10.4 -2.5**
comp=Z,22nm,0.8s,baz=129,slow=7.4,SNR=20
BRVK Borovoye 67.77 327 *c i*P **P** **08 59 59.5 +0.5**
BRVK pmax pmax
comp=Z,32nm,1.2s
BRVK Borovoye 67.77 327 *e*P **P** **08 59 59.4 +0.4**
comp=Z,28nm,0.9s
IKOO Kooshah 70.14 303 *e*P **P** **09 00 15.7 +1.2**
AB31 Akbulak array 72.67 320 *i*P **P** **09 00 29.0 -0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 72.67 320 *e*P **P** **09 00 28.9 -0.2**
GAMB Gambell 73.46 24 *e*P **P** **09 00 35.2 +1.9**
comp=Z,13nm,0.8s
AKTO Aktyubinsk 74.16 321 P **P** **09 00 38.2 +0.4**
AKTO *PP **PcP** **09 00 49.7 -2.9**
AKTO Aktyubinsk 74.16 321 P **P** **09 00 38.2 +0.4**
AKTO pP **PcP** **09 00 49.7 -2.9**
AKTO Aktyubinsk 74.16 321 P **P** **09 00 38.2 +0.4**
comp=Z,7.4nm,0.7s,baz=101,slow=7.8,SNR=17
AKTO pP **PcP** **09 00 49.7 -2.9**
comp=Z,6.7nm,0.4s,baz=111,slow=7.8,SNR=11
SVE Sverdlovsk 74.30 328 *e*P **P** **09 00 38.8 +0.3**
SVE pmax pmax
comp=Z,20nm,0.8s
IPAR Pars 74.96 300 *e*P **P** **09 00 42.5 -0.8**
ARU Arti 75.30 327 *d i*P **P** **09 00 43.4 -0.8**
ARU PPP PPP 09 05 27.5
ARU S **S** **09 10 20.3 +0.6**
ARU pmax pmax
comp=Z,11nm,0.6s
ARU Arti 75.30 327 *e*P **P** **09 00 43.5 -0.8**
comp=Z,12nm,0.6s
ARU *ep*P **PcP** **09 00 53.2 -4.2**
CHGN Chignik 77.42 33 *e*P P 09 00 59.9 +3.6
IM04 Indian Mountai 81.39 24 *e*P **P** **09 01 17.8 +0.1**
TRF Thorofare Moun 82.55 27 *e*P **P** **09 01 25.4 +1.4**

	comp=Z,24nm,1.4s							
PRGR	**Permogore**	**82.77**	**331**	P	**P**	09 01 23.9	**-1.1**
PRGR				pmax	pmax			
	comp=Z,14nm,1.4s							
ZEI	**Tsey**	**82.92**	**312**	*eP*	**P**	09 01 26.7	**+0.2**
ZEI				pmax	pmax			
	comp=Z,9.0nm,1.3s							
COLD	**Coldfoot**	**82.97**	**23**	*eP*	**P**	09 01 28.1	**+2.2**
	comp=Z,8.0nm,0.9s							
COLD				*ep*P	**pP**	09 01 38.1	**-2.6**
MCK	**McKinley**	**83.18**	**26**	*eP*	**P**	09 01 27.2	**+0.1**
MCK				pmax	pmax			
	comp=Z,20nm,1.1s							
MCK	**McKinley**	**83.18**	**26**	*eP*	**P**	09 01 27.2	**+0.1**
	comp=Z,20nm,1.1s							
VNDA	**Vanda**	**83.69**	**173**	P	**P**	09 01 30.2	**+0.8**
VNDA	**Vanda**	**83.69**	**173**	P	**P**	09 01 30.2	**+0.8**
	comp=Z,1.3nm,0.9s,baz=335,slow=5.1,SNR=6.1							
VNDA				LR	LR	09 35 08.0		
	comp=Z,66nm,18.4s,baz=173,slow=33							
COLA	**College**	**83.73**	**25**	P	**P**	09 01 29.9	**+0.1**
COLA				pmax	pmax			
	comp=Z,29nm,1.6s							
ILAR	**Eielson Array**	**84.14**	**25**	P	**P**	09 01 32.0	**+0.1**
ILAR				pP	**pP**	09 01 44.6	**-2.1**
ILAR	**Eielson Array**	**84.14**	**25**	P	**P**	09 01 32.0	**+0.1**
	comp=Z,2.5nm,0.9s,baz=246,slow=5.4,SNR=25							
ILAR				pP	**pP**	09 01 44.6	**-2.1**
	comp=Z,1.9nm,0.9s,baz=243,slow=6.3,SNR=6.5							
ILAR				LR	LR	09 41 43.7		
	comp=Z,39nm,18.9s,baz=284,slow=38							
DIV	**Divide**	**84.52**	**29**	*eP*	**P**	09 01 36.1	**+2.0**
	comp=Z,33nm,1.2s							
VRHR	**Novokhopersk**	**84.56**	**321**	*eP*	**P**	09 01 33.5	**-0.9**
VRHR				pmax	pmax			
	comp=N,4.0nm,0.7s							
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
VRHR				pmax	pmax			
	comp=E,3.0nm,0.3s							
VORD	**Divnogorie**	**86.03**	**321**	*eP*	**P**	09 01 40.8	**-0.9**
VORD				pmax	pmax			
	comp=N,10.0nm,1.1s							
VORD				pmax	pmax			
	comp=E,20nm,1.1s							
VORD				pmax	pmax			
	comp=Z,8.0nm,1.1s							
VSR	**Storozhevoye**	**86.11**	**321**	*eP*	**P**	09 01 41.9	**-0.2**
VSR				pmax	pmax			
	comp=N,3.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
TMCR	**Tamitsa**	**86.30**	**334**	*eP*	**P**	09 01 45.4	**+2.6**
TMCR				pmax	pmax			
	comp=Z,18nm,1.0s							
OBN	**Obninsk**	**87.48**	**325**	*iP*	**P**	09 01 48.7	**0.0**
OBN				*e**PP	**pP**	09 02 00.4	**-3.1**
OBN				*e*		09 05 16.3		
OBN				*eS*	S	09 12 12.7	-13	
OBN				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ANN	**Anapa**	**87.56**	**315**	*eP*	P	09 01 36.2	-13	
ANN				pmax	pmax			
	comp=Z,133nm,1.5s							
APA	**Apatity**	**87.97**	**337**	*iP*	**P**	09 01 48.2	**-2.6**
APA				MLR	MLR			
	comp=Z,600nm,19.0s							
INK	**Inuvik**	**89.27**	**22**	LR	LR	09 42 34.6		
	comp=Z,58nm,18.9s,baz=335,slow=36							
ARCES	**ARCESS Array B**	**90.51**	**340**	P	**P**	09 02 01.2	**-1.5**
ARCES				pP	pP	09 02 13.4	-4.1	
ARCES	**ARCESS Array B**	**90.51**	**340**	P	**P**	09 02 01.2	**-1.5**
	comp=Z,3.0nm,0.6s,baz=79,slow=5.8,SNR=12							
ARCES				pP	pP	09 02 13.4	-4.1	
	comp=Z,2.3nm,0.4s,baz=88,slow=6.0,SNR=2.6							
BRTR	**Keskin Array B**	**90.78**	**310**	LR	LR	09 49 56.0		
	comp=Z,27nm,21.7s,baz=98,slow=40							
FINES	**FINESS Array B**	**92.09**	**332**	P	**P**	09 02 08.5	**-1.6**
FINES				pP	pP	09 02 20.8	-4.2	
FINES	**FINESS Array B**	**92.09**	**332**	P	**P**	09 02 08.5	**-1.6**
	comp=Z,1.4nm,0.8s,baz=58,slow=5.0,SNR=3.7							
FINES				pP	pP	09 02 20.8	-4.2	
	comp=Z,1.4nm,0.4s,baz=76,slow=4.9,SNR=2.4							
VSU	**Vasula**	**92.40**	**329**	*i* P	**P**	09 02 11.5	**-0.1**
AKASG	**Malin Array Be**	**92.41**	**321**	P	**P**	09 02 10.3	**-1.6**
AKASG				*PP	pP	09 02 22.4	-4.3	
AKASG	**Malin Array Be**	**92.41**	**321**	P	**P**	09 02 10.3	**-1.6**
AKASG				pP	pP	09 02 22.4	-4.3	
AKASG	**Malin Array Be**	**92.41**	**321**	P	**P**	09 02 10.3	**-1.6**
	comp=Z,0.4nm,0.4s,baz=70,slow=4.4,SNR=4.7							
AKASG				pP	pP	09 02 22.4	-4.3	
	comp=Z,1.4nm,0.4s,baz=68,slow=5.1,SNR=6.4							
KWP	**Kalwaria Pacla**	**96.73**	**321**	P	**P**	09 02 31.8	**+0.1**
KWP				pmax	pmax			
	comp=Z,53nm,0.4s							
KWP	**Kalwaria Pacla**	**96.73**	**321**	P	**P**	09 02 31.8	**+0.1**
	comp=Z,53nm,0.4s							
KOLS	**Kolonicke sedl**	**97.18**	**320**	*eP*	**P**	09 02 33.5	**-0.3**
KOLS	**Kolonicke sedl**	**97.18**	**320**	*e*	**P**	09 02 33.5	**-0.3**
CRVS	**Cervenica-Dubn**	**97.70**	**320**	*eP*	Pdif	09 02 37.8	+1.6	
CRVS	**Cervenica-Dubn**	**97.70**	**320**	*eP*	Pdif	09 02 37.8	+1.6	
YKA	**Yellowknife Ar**	**98.55**	**25**	P	**P**	09 02 39.8	**+0.2**
YKA	**Yellowknife Ar**	**98.55**	**25**	P	**P**	09 02 39.7	**+0.2**
	comp=Z,0.3nm,0.6s,baz=297,slow=4.3,SNR=5.1							
NOA	**NORSAR Array B**	**99.00**	**334**	LR	LR	09 53 55.7		
	comp=Z,34nm,18.5s,baz=0.0,slow=39							
TXAR	**Lajitas Array**	**120.27**	**53**	PKP	**PKPdf**	09 07 52.8	**-0.2**
TXAR	**Lajitas Array**	**120.27**	**53**	PKP	**PKPdf**	09 07 52.8	**-0.2**
	comp=Z,0.3nm,0.6s,baz=354,slow=2.7,SNR=3.2							
JCT	**Junction City**	**122.75**	**50**	*e*PKIKP	**PKPdf**	09 07 58.0	**+0.4**
JCT	**Junction City**	**122.75**	**50**	*e*PKPdf	**PKPdf**	09 07 58.0	**+0.4**
TORD	**Torodi Ar. Bea**	**124.06**	**289**	PKP	**PKPdf**	09 07 59.9	**-0.6**
TORD	**Torodi Ar. Bea**	**124.06**	**289**	PKP	**PKPdf**	09 07 59.9	**-0.6**
	comp=Z,1.0nm,0.7s,baz=54,slow=2.0,SNR=7.3							

IDC 16 09:14:50.0±3.0, 57°.62S×23°.83W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.7/16, mbtmp4.0/2, Error ellipse: s-maj=114.8km s-min=50.5km az=165.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**52.78**	**303**	P		P	09 24 07.5	-0.1
	0.6nm,0.3s,baz=154,slow=3.4,SNR=4.6							
TORD	**Torodi Ar. Bea**	**73.59**	**26**	P		P	09 26 24.8	+0.1
	1.2nm,0.7s,baz=198,slow=6.9,SNR=8.3							
INK	**Inuvik**	**148.19**	**318**	PKPbc		PKPbc	09 34 34.7	-1.4
	0.6nm,0.5s,baz=125,slow=2.6,SNR=6.4							
ILAR	**Eielson Array**	**152.54**	**309**	PKPbc		PKPbc	09 34 47.0	+0.3
	0.8nm,0.8s,baz=122,slow=1.6,SNR=9.7							

IDC 16 09:16:45.6±9.1, 17°.45S×172°.87W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/21, mbtmp3.6/3, Error ellipse: s-maj=404.8km s-min=23.6km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**1.86**	**35**	Pn		Pn	09 17 17.5	-1.4
	21nm,0.3s,baz=239,slow=6.1,SNR=36							
AFI				Sn		Sn	09 17 36.0	-7.2
	34nm,0.3s,baz=118,slow=14,SNR=9.0							
WRA	**Warramunga Arr**	**50.33**	**257**	P		P	09 25 45.0	+0.4
	0.2nm,0.5s,baz=95,slow=7.4,SNR=5.6							
ASAR	**Alice Springs**	**50.58**	**252**	P		P	09 25 45.7	-0.9
	1.9nm,0.6s,baz=85,slow=8.2,SNR=23							
ILAR	**Eielson Array**	**82.40**	**11**	P		P	09 29 10.1	+1.0
	0.3nm,0.9s,baz=222,slow=5.9,SNR=4.0							
POO	**Poona**	**116.44**	**283**	*ex*		x	09 30 40.0	

MEX 16 09:24:51.5±0.9, 17°.15N×93°.90W, h200km±27km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**1.58**	**155**	*i* P		Pn	09 25 27.2	+1.2
PCIG				*eS*		S	09 25 53.2	+0.9
HUIG	**Huatulco**	**2.52**	**237**	*eP*		Pn	09 25 33.8	-1.9
HUIG				*eS*		S	09 26 08.8	-0.6
VHO	**Vista Hermosa**	**2.71**	**269**	*eP*		Pn	09 25 36.4	-1.6
VHO				*eS*		S	09 26 12.2	-1.4
TPIG	**Tehuac#an**	**3.53**	**292**	*eP*		Pn	09 25 47.0	-0.7
TPIG				*i* S		S	09 26 29.0	-2.1
PNIG	**Pinotepa**	**4.12**	**260**	*eP*		Pn	09 25 53.4	-1.4
PNIG				*i* S		S	09 26 42.5	-1.4
TLIG	**Tlapa**	**4.47**	**276**	*i* P		Pn	09 25 59.3	-0.1
TLIG				*i* S		S	09 26 50.2	-2.0

MAN 16 10:59:57, 9°.27N×125°.45E, h1km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**0.35**	**150**	*eP*		Pg	11 00 04.5	+0.8
BUTP				*eS*		Sg	11 00 09.9	+1.7
SCPH	**Surigao**	**0.51**	**5**	*iP*		Pg	11 00 07.4	+0.6
CGP	**Cagayan de Oro**	**1.10**	**223**	*eP*		Pn	11 00 19.4	-0.2
BUKP	**Musuan**	**1.43**	**195**	*eP*		Pb	11 00 24.8	+0.2
PAGZ	**Pagadian**	**2.48**	**235**	*eP*		Pn	11 00 39.8	+1.2

*ISCJB **16** 11:18:09.2±0.6, 18°.05S×175°.2W±0°.1, h228km, mb3.9/17, Error ellipse: s-maj=18.5km s-min=8.5km az=43.5*
*IDC **16** 11:18:09.8±2.1, 18°.06S×175°.10W, h224km±20km, mb3.8/16, mb1 4.0/17, mb1mx3.8/26, mbtmp4.4/17, Error ellipse: s-maj=21.9km s-min=11.0km az=136.0*
ISC 16 11:18:09.8±0.7, 18°.1S±0°.1×175°.0W±0°.1, h228km, n32, σ1°19/35, mb4.0/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**5.18**	**37**	P		**Pn**	**11 19 28.0**	**+0.7**
	18nm,0.3s,baz=240,slow=8.1,SNR=48							
AFI				S		**S**	**11 20 24.3**	**-4.4**
	37nm,0.3s,baz=49,slow=20,SNR=20							
URZ	**Urewera**	**21.26**	**197**	P		**P**	**11 22 38.4**	**0.0**
	5.6nm,0.7s,baz=218,slow=10,SNR=11							
URZ				S		**S**	**11 26 16.7**	**-2.9**
	7.0nm,0.9s,baz=360,slow=19,SNR=3.5							
RMQ	**Roma**	**34.47**	**249**	P		**P**	**11 24 37.1**	**+0.8**
	baz=37,SNR=5.9							
CTA	**Charters Tower**	**36.61**	**260**	P		**P**	**11 24 54.1**	**-0.6**
	3.5nm,0.5s,baz=87,slow=13,SNR=5.4							
QLP	**Quilpie**	**38.51**	**250**	P		**P**	**11 25 10.3**	**-0.1**
	baz=41,SNR=6.3							
COEN	**Coen**	**40.34**	**270**	P		**P**	**11 25 25.7**	**0.0**
	baz=43,SNR=7.3							
STKA	**Stephens Creek**	**41.40**	**242**	P		**P**	**11 25 33.9**	**-0.2**
	4.5nm,0.8s,baz=86,slow=12,SNR=7.9							
STKA	**Stephens Creek**	**41.40**	**242**	P		**P**	**11 25 34.8**	**+0.7**
	baz=44,SNR=4.6							
BBOO	**Buckleboo**	**46.17**	**242**	P		**P**	**11 26 11.8**	**-0.2**
	baz=49,SNR=6.2							
WRA	**Warramunga Arr**	**47.78**	**259**	P		**P**	**11 26 23.9**	**-0.8**
	4.2nm,0.5s,baz=96,slow=7.3,SNR=75							
ASAR	**Alice Springs**	**47.86**	**254**	P		**P**	**11 26 25.2**	**-0.1**
	24nm,0.6s,baz=89,slow=8.8,SNR=418							
ASAR				PcP		**PcP**	**11 27 49.9**	**-0.3**
	1.1nm,0.8s,baz=108,slow=3.0,SNR=4.1							
KDU	**Kakadu**	**50.79**	**268**	P		**P**	**11 26 46.9**	**-0.5**
	baz=54,SNR=7.7							
MTN	**Manton Dam**	**52.03**	**268**	P		**P**	**11 26 55.7**	**-0.8**
	baz=55,SNR=4.7							
WRKA	**Warakurna**	**52.87**	**252**	P		**P**	**11 27 02.2**	**-0.5**
	baz=55,SNR=22							
MEEK	**Meekatharra**	**61.40**	**249**	P		**P**	**11 28 01.4**	**-0.9**
	baz=64,SNR=3.9							
MJAR	**Matsushiro Arr**	**70.02**	**321**	P		**P**	**11 28 56.6**	**-0.4**
	2.2nm,0.6s,baz=167,slow=7.1,SNR=7.1							
ASAJ	**Asahikawa**	**73.02**	**329**	P		**P**	**11 29 15.4**	**+0.8**
	11nm,1.1s							
PETK	**Petropavlovsk-**	**74.72**	**343**	P		**P**	**11 29 24.2**	**-0.1**
	3.5nm,0.7s,baz=122,slow=8.1,SNR=9.5							
YBH	**Yreka Blue Hor**	**76.65**	**37**	P		**P**	**11 29 36.4**	**+0.8**
	1.4nm,0.8s,baz=222,slow=3.7,SNR=3.7							
KSRS	**Korea Array**	**77.01**	**317**	P		**P**	**11 29 38.5**	**+0.9**
	1.6nm,0.7s,baz=149,slow=7.6,SNR=3.5							
NVAR	**Mina Array Bea**	**77.33**	**42**	P		**P**	**11 29 40.4**	**+0.7**
	0.4nm,0.5s,baz=234,slow=7.7,SNR=5.2							
TXAR	**Lajitas Array**	**83.37**	**56**	P		**P**	**11 30 14.3**	**+2.4**
	0.1nm,0.6s,baz=224,slow=7.6,SNR=2.4							
SEY	**Seymchan**	**84.71**	**346**	P		**P**	**11 30 17.3**	**-0.3**
	2.9nm,0.6s,baz=16,slow=23,SNR=3.9							
DLBC	**Dease Lake**	**84.74**	**22**	P		**P**	**11 30 18.6**	**+0.5**
	1.4nm,0.7s,baz=230,slow=7.9,SNR=4.2							
ILAR	**Eielson Array**	**85.36**	**12**	P		**P**	**11 30 20.3**	**-0.6**
	1.0nm,0.6s,baz=223,slow=6.4,SNR=44							
INK	**Inuvik**	**91.23**	**14**	P		**P**	**11 30 48.2**	**-0.3**
	1.1nm,0.7s,baz=231,slow=4.4,SNR=5.6							
CMAR	**Chiang Mai Arr**	**92.00**	**289**	P		**P**	**11 30 54.9**	**+1.6**
	0.5nm,0.4s,baz=108,slow=2.9,SNR=5.6							
ARCES	**ARCESS Array B**	**127.02**	**351**	PKP		**PKPdf**	**11 36 45.5**	**-0.5**
	1.4nm,0.6s,baz=11,slow=0.9,SNR=6.8							
FINES	**FINESS Array B**	**134.19**	**346**	PKP		**PKPdf**	**11 37 00.6**	**+0.8**
	0.6nm,0.5s,baz=5.7,slow=5.6,SNR=4.1							
BRTR	**Keskin Array B**	**147.16**	**317**	PKPbc		**PKPbc**	**11 37 26.3**	**-0.1**
	2.3nm,0.9s,baz=122,slow=1.9,SNR=6.0							
GERES	**GERESS Array B**	**148.51**	**349**	PKPbc		**PKPbc**	**11 37 29.6**	**0.0**
	1.0nm,0.7s,baz=20,slow=3.1,SNR=6.5							
DAVOX	**Davos/Dischmat**	**151.09**	**353**	PKPbc		**PKPbc**	**11 37 36.3**	**+0.2**
	6.1nm,0.6s,baz=315,slow=2.9,SNR=6.2							

*ISCJB **16** 11:37:22.0±1.0, 73°.35N±0°.09×8°.6E±0°.3, h10km, mb3.0/2, Error ellipse: s-maj=17.0km s-min=9.1km az=140.1*
*BER **16** 11:37:22.2±3.3, 73°.35N×7°.45E, h0km±131km, ML2.7(NAO)*
*IDC **16** 11:37:22.2±1.5, 73°.29N×7°.95E, h0km, mb3.2/2, mb1 3.5/6, mb1mx3.3/30, mbtmp3.5/6, ML3.0/4, Error ellipse: s-maj=28.1km s-min=14.3km az=65.0*
*CSEM **16** 11:37:23.0±2.0, 73°.38N×8°.11E, h10km, ML2.7, Error ellipse: s-maj=92.7km s-min=28.7km az=70.0*
*NAO **16** 11:37:23.1±3.3, 73°.36N×8°.11E, ML2.7*
ISC 16 11:37:23.5±1.3, 73°.4N±0°.1×8°.3E±0°.1, h10km, n15, σ0°96/19, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPA0	**Spitsbergen Ar**	**5.24**	**19**	Pn		**Pn**	**11 38 41.0**	**-0.8**
	baz=191,slow=14							
SPA0	**Spitsbergen Ar**	**5.24**	**19**	Pn		**Pn**	**11 38 41.0**	**-0.8**
	baz=191,slow=14							
SPA0	**Spitsbergen Ar**	**5.24**	**19**	Pn		**Pn**	**11 38 41.0**	**-0.8**
	SNR=50							
SPITS	**Spitsbergen Ar**	**5.24**	**19**	Pn		**Pn**	**11 38 40.9**	**-0.8**
	baz=209,slow=16,SNR=21							
ARA0	**ARCESS Array S**	**6.69**	**116**	Pn		**Pn**	**11 39 03.0**	**+1.4**
	baz=315,slow=12							
ARA0				Sn		**Sn**	**11 40 17.4**	**-0.2**
	baz=313,slow=22							
ARA0	**ARCESS Array S**	**6.69**	**116**	Pn		**Pn**	**11 39 03.0**	**+1.4**
	baz=315,slow=12							
ARA0				Sn		**Sn**	**11 40 17.4**	**-0.2**
	baz=313,slow=22							
ARA0	**ARCESS Array S**	**6.69**	**116**	Pn		**Pn**	**11 39 03.0**	**+1.4**
	SNR=50							
ARA0				Sn		**Sn**	**11 40 17.4**	**-0.2**
	SNR=50							
ARCES	**ARCESS Array B**	**6.69**	**116**	Pn		**Pn**	**11 39 02.8**	**+1.3**
	0.4nm,0.3s,baz=323,slow=12,SNR=12							
ARCES				Sn		**Sn**	**11 40 15.9**	**-1.8**
	0.2nm,0.3s,baz=315,slow=22,SNR=3.6							
HFS	**Hagfors**	**13.44**	**168**	Pn		**Pn**	**11 40 33.1**	**-0.8**
	0.2nm,0.3s,baz=2.1,slow=12,SNR=4.2							
FIA0	**FINESS Array S**	**13.68**	**142**	Pn		**Pn**	**11 40 37.2**	**+0.1**
	baz=338,slow=14							
FIA0	**FINESS Array S**	**13.68**	**142**	Pn		**Pn**	**11 40 37.2**	**+0.1**
	baz=338,slow=14							
FIA0	**FINESS Array S**	**13.68**	**142**	Pn		**Pn**	**11 40 37.2**	**+0.1**
	SNR=50							
FINES	**FINESS Array B**	**13.68**	**142**	Pn		**Pn**	**11 40 36.9**	**-0.2**
	0.2nm,0.3s,baz=342,slow=12,SNR=7.8							
AKASG	**Malin Array Be**	**24.47**	**147**	P		**P**	**11 42 42.0**	**-0.2**
	0.2nm,0.3s,baz=341,slow=9.7,SNR=4.2							
ILAR	**Eielson Array**	**41.15**	**344**	P		**P**	**11 45 07.8**	**+0.7**
	0.3nm,0.8s,baz=2.7,slow=5.8,SNR=4.1							

*ISCJB **16** 11:40:32.8±0.8, 73°.42N±0°.06×8°.9E±0°.3, h10km, mb3.4/3, MS3.2/9, Error ellipse: s-maj=11.6km s-min=7.5km az=156.9*
*IDC **16** 11:40:33.1±1.2, 73°.31N×7°.95E, h0km, mb3.5/3, mb1 3.8/8, mb1mx3.5/31, mbtmp3.7/8, ML3.3/5, MS3.2/13, Ms1 3.2/13, ms1mx3.0/40, Error ellipse: s-maj=23.3km s-min=13.4km az=68.0*
*CSEM **16** 11:40:34.3±0.9, 73°.39N×8°.30E, h10km, ML3.3, Error ellipse: s-maj=29.9km s-min=9.4km az=69.0*
*NAO **16** 11:40:34.5±3.0, 73°.35N×8°.39E, ML3.3*
*BER **16** 11:40:35.2±2.0, 73°.38N×7°.88E, h10km, ML3.3(NAO)*
ISC 16 11:40:34.4±1.1, 73°.41N±0°.07×8°.6E±0°.1, h10km, n28, σ1°32/25, mb3.6/3, MS3.2/9, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPA0	**Spitsbergen Ar**	**5.16**	**18**	Pn		**Pn**	**11 41 51.9**	**+0.4**
	baz=196,slow=12							
SPA0	**Spitsbergen Ar**	**5.16**	**18**	Pn		**Pn**	**11 41 51.9**	**+0.4**
	baz=196,slow=12							
SPA0	**Spitsbergen Ar**	**5.16**	**18**	Pn		**Pn**	**11 41 51.9**	**+0.4**
	baz=196,slow=12,SNR=50							
SPITS	**Spitsbergen Ar**	**5.16**	**18**	Pn		**Pn**	**11 41 51.8**	**+0.4**
	baz=190,slow=16,SNR=52							
SPITS				Sn		**Sn**	**11 42 48.6**	**-2.3**
	baz=202,slow=26,SNR=1.9							
ARA0	**ARCESS Array S**	**6.63**	**118**	Pn		**Pn**	**11 42 13.8**	**+2.1**
	baz=315,slow=12							
ARA0				Sn		**Sn**	**11 43 26.2**	**-1.0**
	baz=317,slow=22							
ARA0	**ARCESS Array S**	**6.63**	**118**	Pn		**Pn**	**11 42 13.8**	**+2.1**
	baz=315,slow=12							
ARA0				Sn		**Sn**	**11 43 26.2**	**-1.0**
	baz=317,slow=22							
ARA0	**ARCESS Array S**	**6.63**	**118**	Pn		**Pn**	**11 42 13.8**	**+2.1**
	baz=315,slow=12,SNR=50							
ARA0				Sn		**Sn**	**11 43 26.2**	**-1.0**
	baz=317,slow=20,SNR=50							
ARCES	**ARCESS Array B**	**6.63**	**118**	Pn		**Pn**	**11 42 13.9**	**+2.1**
	1.0nm,0.3s,baz=317,slow=11,SNR=27							
ARCES				Sn		**Sn**	**11 43 26.6**	**-0.7**
	0.4nm,0.3s,baz=317,slow=20,SNR=3.3							
ARCES				LR		LR	11 45 35.4	
	comp=Z,67nm,18.2s,baz=83,slow=45							
APA0	**Apatity Array**	**9.95**	**113**	Pn		**Pn**	**11 42 58.9**	**+1.8**
	baz=314,slow=6.2							
APA0	**Apatity Array**	**9.95**	**113**	Pn		**Pn**	**11 42 58.9**	**+1.8**
	baz=314,slow=6.2							
APA0	**Apatity Array**	**9.95**	**113**	Pn		**Pn**	**11 42 58.9**	**+1.8**
	baz=314,slow=6.1,SNR=50							
NOA	**NORSAR Array B**	**12.47**	**174**	Pn		**Pn**	**11 43 31.3**	**-0.3**
	0.2nm,0.3s,baz=347,slow=14,SNR=2.6							
NOA				LR		LR	11 48 10.0	
	comp=Z,61nm,18.6s,baz=355,slow=37							
HFS	**Hagfors**	**13.48**	**169**	Pn		**Pn**	**11 43 44.6**	**-0.8**
	0.3nm,0.3s,baz=10,slow=8.9,SNR=4.4							
HFS				LR		LR	11 48 33.8	
	comp=Z,122nm,20.0s,baz=101,slow=36							
FIA0	**FINESS Array S**	**13.67**	**142**	Pn		**Pn**	**11 43 47.8**	**-0.1**
	baz=343,slow=14							
FIA0	**FINESS Array S**	**13.67**	**142**	Pn		**Pn**	**11 43 47.8**	**-0.1**
	baz=343,slow=14							
FIA0	**FINESS Array S**	**13.67**	**142**	Pn		**Pn**	**11 43 47.8**	**-0.1**
	baz=343,slow=13,SNR=50							
FINES	**FINESS Array B**	**13.67**	**142**	Pn		**Pn**	**11 43 47.9**	**-0.1**
	0.2nm,0.3s,baz=357,slow=14,SNR=6.7							
FINES				LR		LR	11 48 39.5	
	comp=Z,126nm,21.8s,baz=207,slow=36							
VRAC	**Vranov**	**24.44**	**167**	LR		LR	11 55 03.3	
	comp=Z,64nm,19.1s,baz=130,slow=36							
AKASG	**Malin Array Be**	**24.47**	**147**	P		**P**	**11 45 52.5**	**-0.5**
	1.3nm,0.6s,baz=346,slow=9.6,SNR=6.0							
GERES	**GERESS Array B**	**24.76**	**172**	P		**P**	**11 45 56.1**	**+0.3**
	1.4nm,0.9s,baz=0.6,slow=10,SNR=5.1							
GERES				LR		LR	11 55 31.2	
	comp=Z,73nm,20.2s,baz=319,slow=36							
AKTO	**Aktyubinsk**	**31.15**	**110**	LR		LR	12 00 08.4	
	comp=Z,51nm,20.1s,baz=352,slow=38							
KBZ	**Khabaz**	**33.72**	**133**	LR		LR	12 01 37.1	
	comp=Z,64nm,18.5s,baz=242,slow=37							
ZALV	**Zalesovo Beam**	**35.61**	**80**	LR		LR	12 04 51.1	
	comp=Z,36nm,20.1s,baz=75,slow=41							
INK	**Inuvik**	**36.40**	**337**	LR		LR	12 04 14.7	
	comp=Z,57nm,18.2s,baz=303,slow=39							
GNI	**Garni**	**37.54**	**132**	LR		LR	12 04 09.0	
	comp=Z,44nm,18.8s,baz=92,slow=38							
ILAR	**Eielson Array**	**41.11**	**344**	P		**P**	**11 48 18.2**	**+0.5**
	0.6nm,0.8s,baz=7.8,slow=7.3,SNR=9.1							
MKAR	**Makanchi Array**	**41.30**	**88**	LR		LR	12 07 04.4	
	comp=Z,33nm,19.2s,baz=354,slow=38							
MMAI	**Mont Meron Ar**	**42.71**	**146**	LR		LR	12 07 11.6	
	comp=Z,28nm,19.3s,baz=10.0,slow=37							

*ISCJB **16** 11:41:54.9±0.9, 60°.3S±0°.1×34°.2W±0°.4

BJI ***16*** *11:46:00.4,5.74S×131.81E,h68km,mB5.0/29,mb5.1/52, Ms4.7/19,Ms7 4.4/17*
NEIC ***16*** *11:46:02.8±0.9,5.54S×131.60E,h52km±9km,mb4.9/31, Error ellipse: s-maj=8.1km s-min=5.1km az=54.0*
ISCJB ***16*** *11:46:02.7±0.4,5.47S±0.02×131.68E±0.03,h67km±4km, mb5.0/93,Error ellipse: s-maj=4.6km s-min=3.7km az=158.2*
AUST ***16*** *11:46:03.5±0.2,5.46S×131.62E,h59km,Error ellipse: s-maj=0.8km s-min=0.6km az=235.0*
DJA ***16*** *11:46:07.9±0.3,5.5S×3.3×13.2E±.1,h95km±5km,M5.1/32, mb5.2/32,mB5.5/25,MLv5.7/11,Mw(mB)5.0/25*
ISC 16 11:46:04.5±0.3,5.46S±0.04×131.74E±0.04,h67km±2km, h67km:pP-P,n269,σ1s43/309,mb5.0/94,5C-3D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.05**	**297**	P	**Pn**	**11 46 36.7**	**0.0**
BNDI				S	**Sn**	**11 47 03.0**	**+1.7**
FAKI	**Fak Fak**	**2.57**	**11**	P	**Pn**	**11 46 44.1**	**+0.2**
FAKI				S	**Sn**	**11 47 12.6**	**-1.5**
FAKI	**Fak Fak** baz=2.6,SNR=1000	**2.57**	**11**	P	**Pn**	**11 46 43.6**	**-0.3**
MSAI	**Masohi**	**3.50**	**307**	P	**Pn**	**11 46 56.3**	**-0.2**
MSAI				S	**Sn**	**11 47 33.8**	**-2.9**
SWI	**Sorong**	**4.59**	**354**	P	**Pn**	**11 47 10.3**	**-1.1**
SWI				S	**Sn**	**11 47 59.0**	**-4.5**
MWPI	**Manokwari, Pap**	**5.05**	**27**	P	**Pn**	**11 47 20.1**	**+2.3**
MWPI				S	**Sn**	**11 48 15.1**	**+0.3**
NLAI	**Namlea**	**5.12**	**295**	P	**Pn**	**11 47 19.8**	**+1.1**
SRPI	**Serui, Papua** 320nm,0.5s,30µm8.5nm	**5.74**	**52**	P	Pn	11 47 30.5	+3.4
LBMI	**Labuha** 1µm,0.4s,24µm6.6nm	**6.39**	**318**	P	**Pn**	**11 47 36.4**	**+0.3**
LBMI	1µm,0.4s,24µm6.6nm			S	**Sn**	**11 48 43.7**	**-3.9**
KDU	**Kakadu** baz=7.3,SNR=1000	**7.22**	**174**	P	**Pn**	**11 47 46.5**	**-0.9**
MTN	**Manton Dam** baz=7.4,SNR=922	**7.36**	**185**	P	**Pn**	**11 47 48.6**	**-0.7**
TNTI	**Ternate** 264nm,0.8s,3µm1.0nm	**7.57**	**325**	P	**Pn**	**11 47 52.2**	**-0.1**
TNTI	**Ternate**	**7.57**	**325**	*e*Pn	**Pn**	**11 47 53.4**	**+1.1**
SOEI	**Soe** baz=8.5,SNR=20	**8.54**	**240**	P	**Pn**	**11 48 06.5**	**+0.8**
GENI	**Genyem** 133nm,0.7s,2µm	**8.88**	**72**	P	**Pn**	**11 48 12.9**	**+2.8**
BBSI	**Bau Bau** 552nm,1.1s,6µm	**9.12**	**269**	P	Pn	11 48 17.2	+3.7
JAY	**Jayapura** baz=9.5,SNR=7.0	**9.41**	**72**	P	**Pn**	**11 48 18.8**	**+1.3**
KMSI	**Cibinong** 379nm,0.9s,5µm	**9.79**	**308**	P	**Pn**	**11 48 21.5**	**-1.1**
LUWI	**Luwuk** 124nm,0.8s,2µm	**9.97**	**296**	P	**Pn**	**11 48 25.0**	**0.0**
LUWI	**Luwuk** baz=9.9,SNR=10	**9.97**	**296**	P	**Pn**	**11 48 24.5**	**-0.5**
KKSI	**Kolaka, Sulawe** 238nm,1.2s	**10.13**	**277**	P	**Pn**	**11 48 30.1**	**+2.9**
APSI	**Ampana** 135nm,0.9s,2µm	**11.04**	**294**	P	**Pn**	**11 48 39.7**	**+0.1**
MRSI	**Marisa** 106nm,1.0s,1µm	**11.42**	**301**	P	**Pn**	**11 48 44.7**	**-0.2**
BKSI	**Bulukumba** 210nm,1.1s,2µm	**11.56**	**270**	P	Pn	11 48 50.6	+3.8
BNSI	**Bone** 89nm,1.4s,1µm	**11.63**	**275**	P	Pn	11 48 51.3	+3.5
KAPI	**Kappang**	**11.94**	**272**	*e*Pn	**Pn**	**11 48 51.1**	**-0.9**
KAPI				*e*Sn	**Sn**	**11 51 08.8**	**+5.2**
SPSI	**Sidrap Palu** 83nm,1.7s,1µm	**12.02**	**277**	P	**Pn**	**11 48 54.9**	**+1.9**
TTSI	**Tana Toraja** 113nm,1.0s,1µm	**12.12**	**281**	P	**Pn**	**11 48 56.0**	**+1.5**
PALU	**Palau** baz=13,SNR=5.6	**13.01**	**12**	P	Pn	11 48 58.3	-8.2
FITZ	**Fitzroy Crossi**	**13.91**	**205**	Pn	Pn	11 49 13.4	-5.1
FITZ				Sn	Sn	11 51 35.0	-16
FITZ	**Fitzroy Crossi** 57nm,0.3s,baz=40,slow=11,SNR=190	**13.91**	**205**	Pn	Pn	11 49 13.4	-5.1
FITZ	30nm,0.3s,baz=160,slow=14,SNR=8.9			Sn	Sn	11 51 35.0	-16
COEN	**Coen**	**14.08**	**128**	*e*Pn	**Pn**	**11 49 18.6**	**-2.2**
COEN				*e*Sn	Sn	11 51 41.7	-14
COEN	**Coen** baz=14,SNR=28	**14.08**	**128**	P	**Pn**	**11 49 19.2**	**-1.7**
WRAB	**Tennant Creek**	**14.61**	**170**	*de*P	Pn	11 49 22.4	-5.3
WRAB	comp=Z,567nm,1.7s			pmax	pmax		
WRAB	**Tennant Creek**	**14.61**	**170**	*e*Pn	Pn	11 49 22.9	-4.9
WRAB				*e*Sn	Sn	11 51 55.0	-14
WRA	**Warramunga Arr**	**14.62**	**170**	Pn	Pn	11 49 22.2	-5.6
WRA				Sn	Sn	11 51 56.9	-12
WRA	**Warramunga Arr** comp=Z,22nm,0.3s,baz=353,slow=13,SNR=239	**14.62**	**170**	Pn	Pn	11 49 22.2	-5.6
WRA	comp=Z,32nm,0.3s,baz=353,slow=22,SNR=12			Sn	Sn	11 51 56.9	-12
KBKI	**Kotabaru** comp=Z,70nm,1.1s,comp=Z,855nm	**15.67**	**277**	P	**Pn**	**11 49 41.2**	**-0.2**
PMG	**Port Moresby** comp=Z,63nm,1.1s	**15.79**	**105**	P	**P**	**11 49 46.6**	**+1.1**
PMG	**Port Moresby** comp=Z,87nm,1.2s	**15.79**	**105**	*e*Pn	**Pn**	**11 49 43.0**	**+0.2**
PMG	**Port Moresby** comp=Z,4.8nm,0.3s,baz=307,slow=4.2,SNR=11	**15.79**	**105**	Pn	**Pn**	**11 49 41.8**	**-1.0**
QIS	**Mount Isa** baz=17,SNR=55	**16.84**	**154**	P	**Pn**	**11 49 52.9**	**-3.1**
TSM	**Tawau**	**16.90**	**305**	P	**Pn**	**11 49 56.9**	**+0.2**
BBKI	**Banjar Baru** comp=Z,238nm,1.1s,comp=Z,2µm	**16.96**	**276**	P	**P**	**11 49 58.0**	**-0.5**
KMMI	**Kalianget** comp=Z,320nm,1.0s,comp=Z,3µm	**17.73**	**264**	P	**P**	**11 50 08.8**	**+1.8**
BLJI	**Banyuglugur** comp=Z,172nm,1.0s,comp=Z,2µm	**18.16**	**262**	P	**Pn**	**11 50 12.2**	**-0.1**
AS31	**Alice Springs**	**18.22**	**174**	*e*P	**P**	**11 50 10.0**	**-2.3**
AS31				*e*S	Sn	11 53 21.1	-15
ASAR	**Alice Springs**	**18.22**	**174**	P	**P**	**11 50 10.2**	**-2.2**
ASAR				S	Sn	11 53 21.9	-14
ASAR	**Alice Springs** comp=Z,14nm,0.3s,baz=354,slow=14,SNR=246	**18.22**	**174**	P	**P**	**11 50 10.2**	**-2.2**
ASAR	comp=Z,5.0nm,0.3s,baz=358,slow=29,SNR=4.3			S	Sn	11 53 21.9	-14
SDKM	**Sandakan**	**18.23**	**307**	P	**P**	**11 50 12.2**	**-0.4**
KDM	**Kudat**	**19.30**	**309**	P	**P**	**11 50 23.6**	**-0.6**
MBWA	**Marble Bar** comp=Z,40nm,0.9s	**19.47**	**216**	*e*Pn	**P**	**11 50 25.8**	**-0.3**
WRKA	**Warakurna** baz=20,SNR=405	**19.75**	**189**	P	**P**	**11 50 29.0**	**-0.1**
SJI	**Sawahan** comp=Z,40nm,1.3s,comp=Z,3µm	**19.96**	**262**	P	**Pn**	**11 50 33.2**	**-0.6**
CTA	**Charters Tower**	**20.27**	**137**	P	Pn	11 50 36.9	-0.4
CTA				S	**S**	**11 54 15.3**	**-3.2**
CTA	**Charters Tower** comp=Z,38nm,0.9s,baz=310,slow=13,SNR=16	**20.27**	**137**	P	Pn	11 50 36.9	-0.4
CTA	comp=Z,11nm,0.7s,baz=38,slow=18,SNR=4.3			S	**S**	**11 54 15.3**	**-3.2**
CTAO	**Charters Tower**	**20.27**	**137**	*e*P	**P**	**11 50 34.8**	**+0.1**
CTAO	**Charters Tower**	**20.27**	**137**	*e*P	**P**	**11 50 34.8**	**+0.1**
BTM	**Bintulu**	**20.52**	**294**	P	**P**	**11 50 37.7**	**+0.2**
STKI	**Sintang** comp=Z,31nm,1.1s,comp=Z,9µm	**20.96**	**285**	P	**P**	**11 50 40.3**	**-1.9**
SBUM	**Sibu**	**21.02**	**291**	P	**P**	**11 50 42.2**	**-0.6**
SBUM	**Sibu** comp=Z,84nm,1.0s,comp=Z,718nm	**21.02**	**291**	P	**P**	**11 50 42.0**	**-0.9**
SBUM	**Sibu** comp=Z,76nm,1.0s	**21.02**	**291**	*e*P	**P**	**11 50 41.7**	**-1.2**
UGM	**Wanagama** baz=21,SNR=3.2	**21.21**	**262**	P	**P**	**11 50 42.3**	**-2.7**
SMRI	**Semarang** comp=Z,71nm,1.0s	**21.23**	**265**	*e*P	**P**	**11 50 43.7**	**-1.5**
BJII	**Banjamegara** comp=Z,39nm,1.0s	**21.97**	**264**	P	**P**	**11 50 51.6**	**-1.5**
KSM	**Kuching**	**22.48**	**287**	P	**P**	**11 50 55.9**	**-2.7**
KSM	**Kuching** comp=Z,38nm,0.9s	**22.48**	**287**	P	**P**	**11 50 55.5**	**-3.1**
KSM	**Kuching** comp=Z,24nm,0.7s	**22.48**	**287**	*e*P	**P**	**11 50 55.5**	**-3.1**
KSM	**Kuching** baz=22,SNR=11	**22.48**	**287**	P	**P**	**11 50 55.5**	**-3.1**
KPJI	**Karang Pucung** comp=Z,62nm,0.8s	**22.74**	**264**	P	**P**	**11 50 58.7**	**-2.6**
CISI	**Cisompet, Garu** comp=Z,104nm,0.7s	**23.86**	**264**	*e*P	**P**	**11 51 08.1**	**-3.9**
QLP	**Quilpie** baz=24,SNR=77	**24.16**	**152**	P	**P**	**11 51 15.3**	**+0.8**
FORT	**Forrest**	**25.42**	**187**	*e*P	**P**	**11 51 26.3**	**+0.4**
FORT	**Forrest** baz=26,SNR=57	**25.42**	**187**	P	**P**	**11 51 26.4**	**+0.4**
XMIS	**Christmas Isla** baz=26,SNR=4.7	**26.30**	**257**	P	**P**	**11 51 33.2**	**-0.9**
RMQ	**Roma** baz=27,SNR=6.0	**26.48**	**144**	P	P	11 51 40.7	+5.1
KLSI	**Kalabahi** comp=Z,63nm,0.8s,comp=Z,1µm	**26.91**	**270**	P	**P**	**11 51 39.8**	**+0.2**
EIDS	**Eidsvold** comp=Z,15nm,1.1s	**27.12**	**139**	*e*P	**P**	**11 51 42.1**	**+0.7**
EIDS	**Eidsvold** baz=27,SNR=3.0	**27.12**	**139**	P	**P**	**11 51 45.7**	**+4.3**
KMBL	**Kambalda** baz=28,SNR=78	**27.38**	**199**	P	**P**	**11 51 43.9**	**+0.2**
BBOO	**Buckleboo**	**27.51**	**172**	*e*P	**P**	**11 51 45.0**	**+0.3**
BBOO	**Buckleboo** baz=28,SNR=9.5	**27.51**	**172**	P	**P**	**11 51 44.8**	**0.0**
MORW	**Morawa** baz=28,SNR=4.7	**27.79**	**211**	P	**P**	**11 51 47.2**	**-0.1**
STKA	**Stephens Creek** comp=Z,8.9nm,1.0s	**27.86**	**162**	*e*P	**P**	**11 51 48.4**	**+0.5**
STKA	**Stephens Creek** comp=Z,7.6nm,0.3s,baz=340,slow=9.6,SNR=53	**27.86**	**162**	P	**P**	**11 51 48.3**	**+0.5**
STKA	comp=Z,405nm,18.4s,baz=127,slow=40			LR	LR	12 04 19.4	
STKA	**Stephens Creek** baz=28,SNR=38	**27.86**	**162**	P	**P**	**11 51 48.6**	**+0.7**
HTT	**Hallett** baz=29,SNR=9.3	**28.62**	**167**	P	**P**	**11 51 55.4**	**+0.7**
BLDU	**Ballidu** baz=29,SNR=20	**28.74**	**208**	P	**P**	**11 51 56.5**	**+0.7**
MYKOM	**Kota Tinggi**	**28.77**	**284**	P	**P**	**11 51 54.6**	**-1.6**
CMSA	**Cobar Meteorol** baz=29,SNR=8.4	**29.06**	**155**	P	**P**	**11 51 59.8**	**+1.2**
KLBR	**Kellerberrin** baz=29,SNR=9.9	**29.11**	**205**	P	**P**	**11 51 59.2**	**+0.1**
KGM	**Kluang**	**29.34**	**284**	P	**P**	**11 51 59.7**	**-1.6**
NWAO	**Narrogin (SRO)**	**30.49**	**205**	P	**P**	**11 52 11.0**	**-0.3**
NWAO	**Narrogin (SRO)** comp=Z,4.5nm,0.4s,baz=33,slow=11,SNR=8.0	**30.49**	**205**	P	**P**	**11 52 11.0**	**-0.3**
KTGM	**Kuala Trenggan**	**30.50**	**290**	P	**P**	**11 52 10.2**	**-1.3**
ARMA	**Armidale** baz=31,SNR=11	**31.10**	**145**	P	**P**	**11 52 19.3**	**+2.5**
FRIM	**Kepong**	**31.29**	**285**	P	**P**	**11 52 16.9**	**-1.7**
RKGY	**Rocky Gully** baz=32,SNR=22	**32.06**	**203**	P	**P**	**11 52 26.4**	**+1.4**
IPM	**Ipoh**	**32.22**	**287**	P	**P**	**11 52 25.3**	**-1.4**
IPM	**Ipoh** comp=Z,23nm,1.0s	**32.22**	**287**	*e*P	**P**	**11 52 25.6**	**-1.1**
ARPS	**Mount Arapiles** baz=33,SNR=11	**32.51**	**165**	P	**P**	**11 52 30.5**	**+1.6**
QIZ	**Qiongzhong**	**32.52**	**319**	P	**P**	**11 52 28.3**	**-0.9**
QIZ				S	**S**	**11 57 41.8**	**+2.0**
QIZ	comp=Z,31nm,1.3s			pmax	pmax		
QIZ	comp=Z,120nm,4.0s			pmax	pmax		
YNG	**Young** baz=33,SNR=12	**32.59**	**154**	P	**P**	**11 52 31.6**	**+1.9**
KULM	**Kulim**	**32.83**	**288**	P	**P**	**11 52 30.6**	**-1.4**
KULM	**Kulim** comp=Z,19nm,0.9s	**32.83**	**288**	*e*P	**P**	**11 52 29.9**	**-2.1**
PSI	**Prapat**	**33.79**	**283**	P	P	11 52 36.4	-4.1
PSI	**Prapat** comp=Z,14nm,1.0s,baz=120,slow=7.2,SNR=5.0	**33.79**	**283**	P	P	11 52 36.4	-4.1
PSI	comp=Z,119nm,18.3s,baz=11,slow=40			LR	LR	12 08 33.2	
PSI	**Prapat** baz=34,SNR=4.5	**33.79**	**283**	P	**P**	**11 52 37.4**	**-3.1**
TOO	**Toolangi** baz=34,SNR=7.4	**34.34**	**160**	P	**P**	**11 52 47.2**	**+2.3**
SURT	**Suratani** comp=Z,20nm,1.0s	**35.83**	**293**	P	**P**	**11 52 56.8**	**-1.1**
PKDT	**Phuket** comp=Z,60nm,1.1s	**35.86**	**291**	P	**P**	**11 52 56.7**	**-1.5**
CHAI	**Chaiyaphum** comp=Z,14nm,0.8s,comp=Z,127nm	**36.30**	**306**	P	**P**	**11 53 00.9**	**-1.0**
PHET	**Kaeng Krachan** comp=Z,129nm,0.9s,comp=Z,1µm	**36.75**	**300**	P	**P**	**11 53 05.0**	**-0.8**
PBKT	**Sadao Pong** comp=Z,14nm,0.7s,comp=Z,729nm	**37.48**	**306**	P	**P**	**11 53 11.0**	**-0.9**
SRDT	**SRDT** comp=Z,125nm,1.1s,comp=Z,8µm	**37.87**	**302**	P	**P**	**11 53 15.5**	**+0.3**
SLVN	**Son La**	**38.13**	**315**	*e*P	**P**	**11 53 16.7**	**-0.8**
JNU	**Nakatsue**	**38.38**	**359**	P	**P**	**11 53 18.9**	**-0.4**
JNU	**Nakatsue** comp=Z,25nm,0.9s,baz=144,slow=4.1,SNR=7.0	**38.38**	**359**	P	**P**	**11 53 18.9**	**-0.4**
KHLT	**Khaolaem Dam** comp=Z,20nm,1.1s	**38.53**	**302**	P	**P**	**11 53 20.6**	**-0.2**
NJ2	**Nanjing**	**39.27**	**343**	*e*P	**P**	**11 53 28.3**	**+1.6**
NJ2	comp=Z,30nm,0.9s			pmax	pmax		
WHN	**Wuhan**	**39.48**	**336**	P	**P**	**11 53 29.3**	**+0.8**
WHN	comp=Z,110nm,0.9s			pmax	pmax		
LAMP	**Lampang** comp=Z,9.5nm,0.8s,comp=Z,122nm	**39.62**	**308**	P	**P**	**11 53 29.6**	**-0.3**
GYA	**Guiyang**	**39.96**	**324**	*i*P	**P**	**11 53 32.3**	**-0.5**
GYA				pP	**pP**	**11 53 50.8**	**+1.4**
GYA				sP	**sP**	**11 53 59.0**	**+1.9**
GYA				PP	**PnPn**	**11 55 11.4**	**+1.6**
GYA				PcP	**PcP**	**11 55 39.6**	**+2.5**
GYA				ScP	**ScP**	**11 59 21.0**	**+0.5**
GYA				S	**S**	**11 59 35.3**	**+1.7**
GYA				sS	**sS**	**12 00 03.8**	**+2.0**
GYA				SS	**SS**	**12 02 27.4**	**-5.5**
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,110nm,4.9s			pmax	pmax		
GYA	comp=Z,580nm,17.9s			LR	LR		
GYA	comp=Z,460nm,18.2s			LR	LR		
GYA	comp=Z,530nm,17.6s			LR	LR		
CM31	**Chiang Mai Arr** comp=Z,8.7nm,0.6s	**40.13**	**307**	*e*P	**P**	**11 53 34.1**	**0.0**
CMAR	**Chiang Mai Arr**	**40.13**	**307**	P	**P**	**11 53 33.6**	**-0.5**
CMAR	**Chiang Mai Arr** comp=Z,12nm,0.6s,baz=133,slow=6.8,SNR=79	**40.13**	**307**	P	**P**	**11 53 33.6**	**-0.5**
CMAR	comp=Z,55nm,19.3s,baz=152,slow=36			LR	LR	12 09 51.4	
CMMT	**Chiang Mai** comp=Z,25nm,0.9s	**40.32**	**308**	P	**P**	**11 53 34.9**	**-0.8**
CHTO	**Chiang Mai**	**40.32**	**308**	*e*P	**P**	**11 53 35.2**	**-0.5**
CHTO	comp=Z,21nm,0.8s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,21nm,0.8s	**40.32**	**308**	*e*P	**P**	**11 53 35.2**	**-0.5**
CHTO	**Chiang Mai** comp=Z,113nm,0.9s	**40.32**	**308**	P	**P**	**11 53 35.0**	**-0.7**
MHMT	**Maesarieng** comp=Z,11nm,1.4s,comp=Z,214nm	**40.79**	**306**	P	**P**	**11 53 39.3**	**-0.2**
CMAI	**Chiengmai2** comp=Z,17nm,1.0s	**40.87**	**309**	P	**P**	**11 53 39.5**	**-0.9**
ENH	**Enshi** comp=Z,13nm,0.7s	**41.43**	**330**	*e*P	**P**	**11 53 44.2**	**-0.6**
KMI	**Kunming** comp=Z,21nm,1.1s	**41.46**	**318**	P	**P**	**11 53 45.4**	**+0.1**
KMI				pmax	pmax		
MAJO	**Matsushiro** comp=Z,186nm,1.7s	**42.22**	**8**	*i*P	**P**	**11 53 49.9**	**-1.1**
MAJO				pmax	pmax		
MAJO	**Matsushiro** comp=Z,20nm,1.2s	**42.22**	**8**	*e*P	**P**	**11 53 50.4**	**-0.6**
MJAR	**Matsushiro Arr**	**42.22**	**8**	P	**P**	**11 53 50.3**	**-0.7**
MJAR	**Matsushiro Arr** comp=Z,4.5nm,0.9s,baz=186,slow=9.2,SNR=7.5	**42.22**	**8**	P	**P**	**11 53 50.3**	**-0.7**
MJAR	comp=Z,45nm,22.0s,baz=160,slow=34			LR	LR	12 09 58.1	
KSAR	**Wonju Array Be**	**42.83**	**355**	P	**P**	**11 53 56.0**	**+0.1**
KSRS	**Korea Array** comp=Z,1.8nm,0.7s,baz=169,slow=9.9,SNR=4.9	**42.84**	**356**	P	**P**	**11 53 56.0**	**0.0**
KSRS	comp=Z,46nm,21.1s,baz=347,slow=34			LR	LR	12 10 34.8	
XAN	**Xi'an**	**44.82**	**333**	P	**P**	**11 54 11.3**	**-0.7**
XAN	comp=Z,13nm,0.7s			pmax	pmax		
XAN	comp=Z,31nm,5.6s			pmax	pmax		
CD2	**Chengdu**	**44.98**	**325**	P	**P**	**11 54 13.0**	**-0.4**
CD2				sP	**sP**	**11 54 37.8**	**-0.1**
CD2				PP	**PP**	**11 56 00.9**	**+1.2**
CD2				S	**S**	**12 00 47.3**	**+0.2**
CD2				SS	**ScS**	**12 04 02.3**	**-2.3**
CD2	comp=Z,30nm,1.1s			pmax	pmax		
CD2	comp=Z,120nm,5.2s			pmax	pmax		
CD2	comp=Z,220nm,11.8s			LR	LR		
CD2	comp=Z,200nm,15.5s			LR	LR		
BJT	**Baijiatuau** comp=Z,16nm,0.6s	**47.47**	**344**	*e*P	**P**	**11 54 33.0**	**+0.4**
BJI	**Beijing**	**47.49**	**344**	P	**P**	**11 54 32.8**	**0.0**
BJI				sP	**sP**	**11 54 57.1**	**-0.4**
BJI				PP	**PP**	**11 56 28.8**	**+3.9**
BJI				S	**S**	**12 01 26.4**	**+3.8**
BJI	comp=Z,34nm,1.1s			pmax	pmax		
BJI	comp=Z,110nm,9.4s			LR	LR		
BJI	comp=Z,140nm,9.4s			LR	LR		
LZH	**Lanzhou**	**48.91**	**330**	P	**P**	**11 54 44.8**	**+0.8**
LZH				pP	**pP**	**11 54 59.8**	**-1.3**
LZH				sP	**sP**	**11 55 07.8**	**-1.0**
LZH				PP	**PP**	**11 56 40.3**	**+2.2**
LZH				S	**S**	**12 01 44.4**	**+1.2**
LZH				sS	**sS**	**12 02 10.8**	**-1.3**
LZH				SS	**SS**	**12 05 12.3**	**-2.6**
LZH	comp=Z,34nm,1.0s			pmax	pmax		
LZH	comp=Z,120nm,4.0s			pmax	pmax		
LZH	comp=Z,400nm,13.6s			LR	LR		
LZH	comp=Z,460nm,14.0s			LR	LR		
LZH	comp=Z,610nm,15.6s			LR	LR		
CN2	**Changchun**	**49.36**	**354**	*e*P	**P**	**11 54 46.8**	**-0.3**
CN2				*e*S	**S**	**12 01 49.3**	**+0.4**
CN2	comp=Z,10.0nm,0.7s			pmax	pmax		
CN2	comp=Z,200nm,5.0s			pmax	pmax		
USRK	**Ussuriysk Arra** comp=Z,5.9nm,0.8s,baz=190,slow=7.3,SNR=12	**49.43**	**0**	P	**P**	**11 54 47.9**	**+0.3**
SHL	**Shillong**	**49.48**	**310**	*e*P	**P**	**11 54 46.5**	**-2.1**
HHC	**Hu-ho-hao-te**	**49.66**	**340**	*e*P	**P**	**11 54 50.3**	**+0.7**
HHC				pP	**pP**	**11 55 08.0**	**+1.3**
HHC				sP	**sP**	**11 55 12.4**	**-2.0**
HHC				PP	**PP**	**11 56 46.6**	**+1.8**
HHC				S	**S**	**12 01 54.9**	**+1.4**
HHC				sS	**sS**	**12 02 22.9**	**+0.4**
HHC				SS	**SS**	**12 05 24.3**	**-2.5**
HHC	comp=Z,41nm,1.0s			pmax	pmax		
HHC	comp=Z,260nm,6.7s			pmax	pmax		
HHC	comp=Z,300nm,16.3s			LR	LR		
HHC	comp=Z,270nm,16.3s			LR	LR		
HHC	comp=Z,140nm,15.9s			LR	LR		
MDJ	**Mudanjiang**	**49.88**	**358**	P	**P**	**11 54 51.0**	**-0.1**
MDJ	comp=Z,12nm,1.1s			pmax	pmax		
MDJ	comp=Z,100nm,4.8s			pmax	pmax		
MDJ	**Mudanjiang** comp=Z,5.9nm,0.8s	**49.88**	**358**	*e*P	**P**	**11 54 51.5**	**+0.4**
RPZ	**Rata Peaks**	**51.43**	**144**	P	**P**	**11 55 04.1**	**+1.2**
RPZ	**Rata Peaks** comp=Z,8.0nm,0.8s,baz=313,slow=8.9,SNR=3.6	**51.43**	**144**	P	**P**	**11 55 04.1**	**+1.2**
LSA	**Lhasa**	**52.32**	**314**	*e*P	**P**	**11 55 10.4**	**+0.1**
LSA	comp=Z,14nm,0.8s			pmax	pmax		
LSA	**Lhasa** comp=Z,14nm,0.8s	**52.32**	**314**	*e*P	**P**	**11 55 10.4**	**+0.1**
PALK	**Pallekele** comp=Z,162nm,1.2s	**52.47**	**283**	*e*P	**P**	**11 55 09.8**	**-1.3**
YSS	**Yuzh-Sakhalins**	**53.09**	**9**	⇑*i*P	**P**	**11 55 15.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**53.09**	**9**	*e*P	**P**	**11 55 16.0**	**+1.0**
GTA	**Gaotai**	**53.50**	**329**	⇑P	**P**	**11 55 18.9**	**+0.6**
GTA				pP	**pP**	**11 55 35.0**	**-0.6**
GTA				sP	**sP**	**11 55 41.8**	**-1.4**
GTA				PcP	**PcP**	**11 56 25.3**	**+0.8**
GTA	comp=Z,30nm,1.0s			pmax	pmax		
ODAN	**Odare** comp=Z,44nm,0.6s	**53.59**	**309**	*e*P	**P**	**11 55 18.5**	**-0.9**
ODAN	**Odare** comp=Z,44nm,0.6s	**53.59**	**309**	*e*P	**P**	**11 55 18.5**	**-0.9**
TAPN	**Taplejung** comp=Z,43nm,0.3s	**53.59**	**310**	*e*P	**P**	**11 55 18.8**	**-0.7**
HABR	**Khabarovsk**	**53.78**	**3**	*e*P	**P**	**11 55 17.7**	**-2.3**
HABR				*e*PP	**pP**	**11 55 35.7**	**-1.6**
HABR				*e*S	**S**	**11 55 48.8**	**-0.8**
HABR				*e*		12 05 00.5	
HABR				*e*SS	**SS**	**12 06 32.5**	**+1.0**
HABR	comp=Z,28nm,1.9s			pmax	pmax		
HABR	comp=Z,217nm,23.0s			MLR	MLR		
RAMN	**Ramite** comp=Z,112nm,0.6s	**54.25**	**309**	*e*P	**P**	**11 55 23.9**	**-0.3**
RAMN	**Ramite** comp=Z,112nm,0.6s	**54.25**	**309**	*e*P	**P**	**11 55 23.9**	**-0.3**
KLR	**Kul'dur**	**54.46**	**0**	*e*P	**P**	**11 55 22.8**	**-2.2**
JIRN	**Jiri** comp=Z,30nm,0.3s	**54.92**	**309**	*e*P	**P**	**11 55 28.5**	**-0.7**
GUN	**Gumba** comp=Z,88nm,0.7s	**55.28**	**309**	*e*P	**P**	**11 55 31.0**	**-0.8**
GUN	**Gumba** comp=Z,88nm,0.6s	**55.28**	**309**	*e*P	**P**	**11 55 31.0**	**-0.8**
PKI	**Pulchoki** comp=Z,11nm,0.2s	**55.48**	**309**	*e*P	**P**	**11 55 32.1**	**-1.1**
PKIN	**Phulchoki** comp=Z,7.4nm,0.2s	**55.49**	**309**	*e*P	**P**	**11 55 32.4**	**-0.8**
KKN	**Kakani**	**55.68**	**309**	*e*P	**P**	**11 55 33.7**	**-0.8**
KKN	**Kakani**	**55.68**	**309**	*e*P	**P**	**11 55 33.7**	**-0.8**
KKN	**Kakani**	**55.68**	**309**	*e*P	**P**	**11 55 33.7**	**-0.8**
DMN	**Daman** comp=Z,52nm,0.7s	**55.73**	**309**	*e*P	**P**	**11 55 34.2**	**-0.7**
DMN	**Daman** comp=Z,52nm,0.7s	**55.73**	**309**	*e*P	**P**	**11 55 34.2**	**-0.7**
GKN	**Gorkha** comp=Z,90nm,0.6s	**56.28**	**309**	*e*P	**P**	**11 55 38.0**	**-0.7**
GKN	**Gorkha** comp=Z,90nm,0.6s	**56.28**	**309**	*e*P	**P**	**11 55 38.0**	**-0.7**
KOLN	**Koldanda** comp=Z,97nm,0.7s	**56.98**	**308**	*e*P	**P**	**11 55 43.3**	**-0.4**
KOLN	**Koldanda** comp=Z,97nm,0.7s	**56.98**	**308**	*e*P	**P**	**11 55 43.3**	**-0.4**
DANN	**Dangsing** comp=Z,58nm,0.7s	**57.13**	**309**	*e*P	**P**	**11 55 44.1**	**-0.8**
DANN	**Dangsing** comp=Z,58nm,0.7s	**57.13**	**309**	*e*P	**P**	**11 55 44.1**	**-0.8**
ULN	**Ulaanbaatar** comp=Z,21nm,0.8s	**57.37**	**340**	*e*P	**P**	**11 55 46.8**	**+0.8**
SONM	**Songino Array**	**57.56**	**340**	P	**P**	**11 55 47.9**	**+0.5**
SONM	**Songino Array** comp=Z,11nm,0.6s,baz=160,slow=6.4,SNR=46	**57.56**	**340**	P	**P**	**11 55 47.9**	**+0.5**
PYUN	**Piuthan** comp=Z,207nm,0.8s	**57.61**	**308**	*e*P	**P**	**11 55 47.7**	**-0.5**
PYUN	**Piuthan** comp=Z,207nm,0.8s	**57.61**	**308**	*e*P	**P**	**11 55 47.7**	**-0.5**
ZAK	**Zakamensk** comp=Z,8.0nm,1.2s

WMQ				ScP			12 00 59.0		
WMQ				S	**S**		**12 04 50.0**	**-0.9**	
WMQ				ScS	**SKSac**		**12 06 09.0**	**-3.1**	
WMQ				SS	**SS**		**12 08 59.0**	**+1.0**	
WMQ				pmax	pmax				
	comp=Z,71nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,290nm,5.0s								
WMQ				LR	LR				
	comp=Z,97nm,18.0s								
WMQ				LR	LR				
	comp=Z,78nm,17.0s								
WMQ				LR	LR				
	comp=Z,94nm,17.0s								
HVS	**Khovu-Aksy**	**65.12**	**335***c*	*i*P	**P**		**11 56 39.0**	**+0.7**	
HVS				pmax	pmax				
	comp=Z,175nm,1.1s								
YAK	**Yakutsk**	**67.31**	**359**	*e*P	**P**		**11 56 51.0**	**-0.9**	
YAK				pmax	pmax				
	comp=Z,27nm,0.8s								
YAK	**Yakutsk**	**67.31**	**359**	*e*P	**P**		**11 56 52.4**	**+0.5**	
	comp=Z,28nm,0.6s								
MK31	**Makanchi Array**	**67.91**	**326**	*e*P	**P**		**11 56 56.5**	**+0.4**	
MK31				pmax	pmax				
	comp=Z,16nm,0.4s								
MK31	**Makanchi Array**	**67.91**	**326**	*e*P	**P**		**11 56 56.7**	**+0.6**	
MKAR	**Makanchi Array**	**67.91**	**326**	P	**P**		**11 56 56.6**	**+0.5**	
MKAR	**Makanchi Array**	**67.91**	**326**	P	**P**		**11 56 56.6**	**+0.5**	
MKAR	**Makanchi Array**	**67.91**	**326**	P	**P**		**11 56 56.6**	**+0.5**	
	comp=Z,18nm,0.3s,baz=111,slow=8.0,SNR=596								
KSH	**Kashi**	**68.08**	**316**	P	**P**		**11 56 58.6**	**+1.2**	
KSH				pP	**pP**		**11 57 16.9**	**+1.6**	
KSH				sP	**sP**		**11 57 23.3**	**+0.5**	
KSH				PP	PP		11 59 33.8	+5.3	
KSH				S	**S**		**12 05 49.5**	**-2.7**	
KSH				sS	**sS**		**12 06 22.6**	**0.0**	
KSH				SS	**SS**		**12 10 19.4**	**+3.4**	
KSH				pmax	pmax				
	comp=Z,11nm,0.9s								
KSH				LR	LR				
	comp=Z,150nm,5.6s								
KSH				LR	LR				
	comp=Z,120nm,5.3s								
KSH				LR	LR				
	comp=Z,170nm,5.3s								
KZA	**Kyzart**	**69.75**	**319**	*i*P	**P**		**11 57 09.3**	**+1.2**	
KZA	**Kyzart**	**69.75**	**319**	P	**P**		**11 57 09.3**	**+1.2**	
	SNR=19								
TKM2	**Tokmak 2**	**69.92**	**319**	*e*P	**P**		**11 57 09.3**	**+0.4**	
TKM2				pmax	pmax				
	comp=Z,19nm,0.8s								
TKM2	**Tokmak 2**	**69.92**	**319**	P	**P**		**11 57 09.5**	**+0.6**	
	SNR=26								
TKM2	**Tokmak 2**	**69.92**	**319**	*e*P	**P**		**11 57 09.3**	**+0.4**	
	comp=Z,19nm,0.8s								
SEY	**Seymchan**	**69.99**	**10**	*e*P	**P**		**11 57 08.8**	**+0.2**	
KBK	**Karagaybulak**	**70.22**	**319**	*e*P	**P**		**11 57 11.5**	**+0.8**	
KBK	**Karagaybulak**	**70.22**	**319**	P	**P**		**11 57 11.5**	**+0.8**	
	SNR=6.8								
UCH	**Uchtor**	**70.31**	**318**	*i*P	**P**		**11 57 12.5**	**+0.9**	
UCH	**Uchtor**	**70.31**	**318**	P	**P**		**11 57 12.5**	**+0.9**	
	SNR=26								
AAK	**Ala-Archa**	**70.50**	**319**	*e*P	**P**		**11 57 12.7**	**+0.3**	
AAK				pmax	pmax				
	comp=Z,18nm,1.0s								
AAK	**Ala-Archa**	**70.50**	**319**	P	**P**		**11 57 12.9**	**+0.5**	
	SNR=14								
AAK	**Ala-Archa**	**70.50**	**319**	*e*P	**P**		**11 57 12.7**	**+0.3**	
	comp=Z,18nm,1.0s								
USP	**Ospenovka**	**70.79**	**319**	*i*P	**P**		**11 57 14.5**	**+0.5**	
USP	**Ospenovka**	**70.79**	**319**	P	**P**		**11 57 14.6**	**+0.5**	
	SNR=21								
AML	**Almayashu**	**70.80**	**318**	*i*P	**P**		**11 57 15.5**	**+1.0**	
AML	**Almayashu**	**70.80**	**318**	P	**P**		**11 57 15.5**	**+1.0**	
	SNR=26								
EKS2	**Erkin-Say**	**70.99**	**319**	*e*P	**P**		**11 57 15.9**	**+0.6**	
EKS2				pmax	pmax				
	comp=Z,23nm,1.0s								
EKS2	**Erkin-Say**	**70.99**	**319**	P	**P**		**11 57 16.0**	**+0.6**	
	SNR=12								
EKS2	**Erkin-Say**	**70.99**	**319**	*e*P	**P**		**11 57 15.9**	**+0.6**	
	comp=Z,23nm,1.0s								
ZAA0	**Zalesovo Array**	**70.99**	**333**	*e*P	**P**		**11 57 14.2**	**-0.7**	
ZALV	**Zalesovo Beam**	**70.99**	**333**	P	**P**		**11 57 14.1**	**-0.8**	
ZALV	**Zalesovo Beam**	**70.99**	**333**	P	**P**		**11 57 14.1**	**-0.8**	
ZALV	**Zalesovo Beam**	**70.99**	**333**	P	**P**		**11 57 14.1**	**-0.8**	
	comp=Z,24nm,0.8s,baz=111,slow=5.1,SNR=101								
KBL	**Kabul**	**71.11**	**309**	*e*P	**P**		**11 57 16.2**	**-0.2**	
KBL				pmax	pmax				
	comp=Z,5.0nm,0.4s								
KBL	**Kabul**	**71.11**	**309**	*e*P	**P**		**11 57 16.1**	**-0.2**	
	comp=Z,5.0nm,0.4s								
KBL	**Kabul**	**71.11**	**309**	P	**P**		11 57 10.4	-5.9	
	baz=71,SNR=7.0								
KURK	**Kurchatov**	**72.13**	**328**	P	**P**		**11 57 21.7**	**-0.1**	
KURK				pmax	pmax				
	comp=Z,20nm,1.0s								
KURK	**Kurchatov**	**72.13**	**328**	*e*P	**P**		**11 57 21.9**	**+0.1**	
	comp=Z,17nm,0.9s								
NVS	**Novosibirsk**	**72.27**	**333**	*e*P	**P**		**11 57 19.7**	**-2.9**	
NVS				*e*			11 57 44.7		
NVS				*e*S	S		12 06 34.1	-6.2	
NVS				pmax	pmax				
	comp=Z,27nm,1.3s								
NVS				pmax	pmax				
	comp=N,13nm,1.4s								
NVS				pmax	pmax				
	comp=E,17nm,1.4s								
NVS				smax	smax				
	comp=N,15nm,2.2s								
NVS				smax	smax				
	comp=E,19nm,2.2s								
KK31	**Karatay Array**	**73.34**	**318**	*i*P	**P**		**11 57 29.3**	**+0.1**	
KK31				pmax	pmax				
	comp=Z,2.0nm,0.4s								
KKAR	**Karatay Array**	**73.34**	**318**	*e*P	**P**		**11 57 29.3**	**+0.1**	
KKAR				pmax	pmax				
	comp=Z,13nm,0.8s								
KKAR	**Karatay Array**	**73.34**	**318**	*e*P	**P**		**11 57 29.3**	**+0.1**	
	comp=Z,12nm,0.8s								
VNDA	**Vanda**	**73.77**	**173**	*e*P	**P**		**11 57 31.4**	**+0.3**	
	comp=Z,3.7nm,0.9s								
VNDA	**Vanda**	**73.77**	**173**	P	**P**		**11 57 31.6**	**+0.5**	
	comp=Z,3.4nm,0.8s,baz=322,slow=6.3,SNR=17								
TIXI	**Tiksi**	**76.98**	**359**⇓	*e*P	**P**		**11 57 49.0**	**-0.5**	
TIXI				pmax	pmax				
	comp=Z,14nm,1.2s								
TIXI				MLR	MLR				
	comp=Z,117nm,29.0s								
TIXI	**Tiksi**	**76.98**	**359**	*e*P	**P**		**11 57 49.5**	**+0.1**	
	comp=Z,10nm,0.9s								
BVA0	**Borovoye Array**	**77.70**	**327**	*i*P	**P**		**11 57 53.6**	**-0.3**	
BVA0				pmax	pmax				
	comp=Z,29nm,1.1s								
BRVK	**Borovoye**	**77.77**	**327***c*	*i*P	**P**		**11 57 54.2**	**-0.1**	
BRVK				pmax	pmax				
	comp=Z,36nm,1.2s								
BRVK	**Borovoye**	**77.77**	**327**	*e*P	**P**		**11 57 54.2**	**-0.1**	
	comp=Z,28nm,1.0s								
AB31	**Akbulak array**	**82.39**	**321**	*i*P	**P**		**11 58 18.4**	**-0.9**	
AB31				pmax	pmax				
	comp=Z,5.0nm,0.6s								
ABKAR	**Akbulak array**	**82.39**	**321**	*e*P	**P**		**11 58 18.8**	**-0.5**	
	comp=Z,4.8nm,0.8s								
AKTO	**Aktyubinsk**	**83.92**	**322**	P	**P**		**11 58 26.8**	**-0.4**	
AKTO	**Aktyubinsk**	**83.92**	**322**	P	**P**		**11 58 26.8**	**-0.4**	
AKTO	**Aktyubinsk**	**83.92**	**322**	P	**P**		**11 58 26.8**	**-0.4**	
	comp=Z,9.0nm,1.0s,baz=116,slow=5.8,SNR=23								
SVE	**Sverdlovsk**	**84.36**	**328**	*e*P	**P**		**11 58 29.1**	**-0.1**	
SVE				pmax	pmax				
	comp=Z,46nm,1.2s								
QSPA	**South Pole Qui**	**84.51**	**180**	P	**P**		**11 58 29.8**	**-0.3**	
QSPA	**South Pole Qui**	**84.51**	**180**	P	**P**		**11 58 29.7**	**-0.3**	
	comp=Z,9.4nm,0.8s,baz=332,slow=1.5,SNR=27								
ARU	**Arti**	**85.32**	**328***d*	*i*P	**P**		**11 58 33.1**	**-1.0**	
ARU							12 01 48.2		
ARU				S	S		12 08 51.6	-7.7	
ARU				pmax	pmax				
	comp=Z,11nm,0.7s								
ARU	**Arti**	**85.32**	**328**	*e*P	**P**		**11 58 33.4**	**-0.7**	
	comp=Z,11nm,0.8s								
ARU				*e*PP	**PP**		**12 01 52.0**	**-0.8**	
COLA	**College**	**90.84**	**25**	*i*P	**P**		**11 59 00.1**	**-0.1**	
COLA				pmax	pmax				
	comp=Z,92nm,3.5s								
ILAR	**Eielson Array**	**91.23**	**25**	P	**P**		**11 59 01.0**	**-1.1**	
	comp=Z,1.2nm,0.7s,baz=273,slow=4.6,SNR=14								
KMBO	**Kilima Mbogo**	**94.36**	**268**	*e*P	**P**		**11 59 18.1**	**+0.1**	
	comp=Z,4.2nm,1.0s								
INK	**Inuvik**	**96.80**	**22**	P	**P**		**11 59 26.8**	**-0.8**	
INK	**Inuvik**	**96.80**	**22**	P	**P**		**11 59 26.8**	**-0.8**	
	comp=Z,1.3nm,0.9s,baz=272,slow=4.9,SNR=4.5								
OBN	**Obninsk**	**97.40**	**325**	*e*P	**P**		**11 59 28.7**	**-1.8**	
OBN				*e*			12 03 34.5		
OBN				*e*SS	SS		12 17 29.6	+0.5	
OBN				pmax	pmax				
	comp=Z,8.0nm,0.9s								
ARCES	**ARCESS Array B**	**100.74**	**340**	P	**Pdif**		**11 59 44.1**	**-1.1**	
ARCES	**ARCESS Array B**	**100.74**	**340**	P	**Pdif**		**11 59 44.1**	**-1.1**	
	comp=Z,4.5nm,0.8s,baz=75,slow=5.2,SNR=8.9								
TORD	**Torodi Ar. Bea**	**130.18**	**283**	PKP	**PKPdf**		**12 05 07.8**	**-0.2**	
TORD	**Torodi Ar. Bea**	**130.18**	**283**	PKP	**PKPdf**		**12 05 07.8**	**-0.2**	
	comp=Z,1.9nm,0.7s,baz=71,slow=1.8,SNR=13								
LVC	**Limon Verde**	**145.56**	**145**	*e*PKPbc	**PKPab**		**12 05 39.3**	**+2.5**	
LPAZ	**La Paz**	**150.79**	**138**	PKPbc	**PKPbc**		**12 05 53.9**	**+2.8**	
LPAZ	**La Paz**	**150.79**	**138**	PKPbc	**PKPbc**		**12 05 53.9**	**+2.8**	
	comp=Z,2.9nm,1.0s,baz=333,slow=4.5,SNR=6.0								

DJA 16 12:24:34.9±0.3,**1°S**±3°,**12°0E**±°,**h10**km,**M3.7**/11,
MLv3.7/11,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.38**	**269**	P	Pg	12 24 42.9	+0.4
APSI	**Ampana**	**1.43**	**90**	P	Pn	12 24 58.1	-2.8
TOLI	**Toli-Toli**	**2.09**	**16**	S	Sn	12 25 35.9	-0.2
TTSI	**Tana Toraja**	**2.17**	**191**	P	Pn	12 25 11.0	-0.1
TTSI				S	Sb	12 25 40.2	-1.0
MRSI	**Marisa**	**2.20**	**52**	P	Pn	12 25 10.8	-0.7
MRSI				S	Sb	12 25 40.5	-1.6
MMSI	**Mamuju**	**2.21**	**216**	P	Pn	12 25 11.5	-0.2
LUWI	**Luwuk**	**2.56**	**93**	P	Pn	12 25 17.9	+1.5
MJSI	**Majene**	**2.91**	**205**	P	Pn	12 25 22.9	+1.6
SPSI	**Sidrap Palu**	**3.08**	**188**	P	Pn	12 25 23.9	+0.3
GTOI	**Gorontalo**	**3.18**	**61**	P	Pn	12 25 24.4	-0.6
BNSI	**Bone**	**3.48**	**182**	P	Pn	12 25 29.0	-0.1
BNSI				S	Sn	12 26 11.7	+1.3
BKSI	**Bulukumba**	**4.39**	**181**	P	Pn	12 25 40.4	-1.3

AUST ***16*** *12:36:37.2*±*2.5,31°.24S*×*177°.28W,h17*km±*16*km*,Error ellipse: s-maj=16.9km s-min=7.0km az=111.0*

IDC ***16*** *12:36:37.7*±*0.4,31°.12S*×*177°.85W,h0*km*,mb5.0/22, mb1 5.1/23,mb1mx5.1/23,mbtmp4.9/23,ML5.2/1,MS5.3/31, Ms1 5.3/31,ms1mx5.2/44,Error ellipse: s-maj=13.9km s-min=12.9km az=142.0*

BJI ***16*** *12:36:38.5,31°.70S*×*177°.80W,h15*km*,mB5.6/31, mb5.4/29,Ms5.5/35,Ms7 5.2/35*

NEIC ***16*** *12:36:38.5*±*0.2,31°.59S*×*177°.84W,h10*km*,mb5.5/68, MS5.5/131,MW5.5,Error ellipse: s-maj=8.3km s-min=4.7km az=149.0,Moment Tensor Solution. s21 Moment tensor: Scale 10*17*Nm; Mrr=1.04; Mθθ 1.03; Mφφ0.01; Mrθ0.52; Mrφ0.21; Mθφ1.82; Best double couple: M*o*2.20000*×*10*17 *NP1:*ϕ*86.00000°,*δ*21.00000°, λ-34.00000°. NP2:*ϕ*209.00000°,*δ*78.00000°, λ-107.00000°. Principal axes: T 1.7300, Plg31.0000°, Azm313.0000°; N 0.7100, Plg16.0000°, Azm212.0000°; P -2.4300, Plg53.0000°, Azm98.0000°;*

MOS ***16*** *12:36:41.9*±*1.1,31°.16S*×*177°.94W,h33*km*,mb5.5/50, MS5.4/31 Error ellipse: s-maj=11.1km s-min=9.4km az=68.4*

ISCJB ***16*** *12:36:41.7*±*0.1,31°.37S*±*0°.04*×*177°.95W*±*0°.03,h33*km*, mb5.4/120,MS5.5/181,Error ellipse: s-maj=6.6km s-min=3.3km az=155.7*

GCMT ***16*** *12:36:43.1*±*0.1,31°.25S*×*177°.68W,h13*km*,MW5.5, Moment Tensor Solution. s99,c177; s41,c42; Moment tensor: Scale 10*17*Nm; Mrr-1.80±.03; Mθθ0.54±.03; Mφφ1.27±.03; Mrθ0.49±.07; Mrφ1.15±.02; Mθφ1.13±.07; Best double couple: M*o*2.30000×10*17 *NP1:*ϕ*208.00000°, δ61.00000°,λ-98.00000°. NP2:*ϕ*45.00000°,δ30.00000°, λ-75.00000°. Principal axes: T 2.4500, Plg16.0000°, Azm305.0000°; N -0.2700, Plg7.0000°, Azm212.0000°; P -2.1800, Plg72.0000°, Azm98.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=106, comp=207, per= 50.*

DJA ***16*** *12:38:00.6*±*4.0,32°S*±*10°×17°E*±*2°8,h571*km*±27*km*, M4.8/26,mb4.9/26,mB5.4/19,Mw(mB)4.8/19*

ISC 16 12:36:43.2±0.4,**31°.37S**±0°.04×**177°.71W**±0°.05,**h35**km±1km,
h35km**:pP-P,n783,**σ1**9.68**/683,**mb5.5**/118,**MS5.5**/182,
91C-89D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.12**	**355**	Pn	Pn	12 37 10.9	-5.3
RAO				Sn	**Sn**	**12 37 35.9**	**-5.5**
RAO				*e*Sn	**Sn**	**12 37 38.3**	**-3.1**
RAO	**Raoul Island**	**2.12**	**355**	Pn	Pn	12 37 10.9	-5.3
	852nm,0.3s,baz=94,slow=15,SNR=42						
RAO				Sn	**Sn**	**12 37 35.9**	**-5.5**
	3μm,0.3s,baz=90,slow=20,SNR=7.4						
URZ	**Urewera**	**8.08**	**210**	*e*Pn	Pn	12 38 31.5	-6.5
URZ				Sn	**Sn**	**12 40 05.9**	**-2.2**
URZ				*e*Sn	**Sn**	**12 40 07.2**	**-0.9**
URZ	**Urewera**	**8.08**	**210**	Pn	Pn	12 38 31.5	-6.5
	3.3nm,0.3s,baz=22,slow=0.8,SNR=30						
URZ				Sn	**Sn**	**12 40 05.9**	**-2.2**
	37nm,0.3s,baz=330,slow=20,SNR=12						
OUZ	**Omahuta**	**8.22**	**240**	*e*Pn	**Pn**	**12 38 41.3**	**+1.3**
BKZ	**Black Stump Fm**	**9.10**	**210**	*e*Pn	Pn	12 38 45.9	-6.2
BFZ	**Birch Farm**	**10.49**	**206**	*e*Pn	Pn	12 39 03.3	-7.8
RPZ	**Rata Peaks**	**15.18**	**213**	*e*Pn	Pn	12 40 09.8	-5.1
RPZ				Sn	Sn	12 42 42.9	-19
RPZ				*e*Sn	Sn	12 42 50.2	-12
RPZ	**Rata Peaks**	**15.18**	**213**	Pn	Pn	12 40 06.3	-8.7
	1.9nm,0.3s,baz=69,slow=3.1,SNR=9.5						
RPZ				Sn	Sn	12 42 42.9	-19
	3.5nm,0.3s,baz=47,slow=18,SNR=4.6						
ODZ	**Otahua Downs**	**16.41**	**210**	*e*Pn	Pn	12 40 24.4	-6.3
	99nm,1.0s						
ODZ				*e*Sn	Sn	12 43 16.2	-15
DZM	**Mont Dzumac**	**16.90**	**299**	*e*P	**Pn**	**12 40 37.9**	**+0.7**
	740nm,1.4s						
DZM				*e*LR	LR	12 44 19.0	
	29μm,24.4s						
DZM	**Mont Dzumac**	**16.90**	**299**	*e*Pn	**Pn**	**12 40 37.7**	**+0.6**
	378nm,1.3s						
DZM				*e*S	**S**	**12 43 53.3**	**-0.2**
DZM	**Mont Dzumac**	**16.90**	**299**	LR	LR	12 44 34.5	
	comp=Z,6μm,18.1s,baz=157,slow=29						
NOUC	**Port Laguerre**	**16.99**	**299**	*e*P	**P**	**12 40 39.2**	**-0.5**
AFI	**Afiamalu**	**18.22**	**19**	*e*P	P	12 40 47.7	-5.7
AFI				Sn	Sn	12 43 55.2	-21
AFI	**Afiamalu**	**18.22**	**19**	Pn	P	12 40 44.1	-9.3
	2.6nm,0.3s,baz=72,slow=9.6,SNR=6.6						
AFI				Sn	Sn	12 43 55.2	-21
	2.6nm,0.3s,baz=193,slow=18,SNR=2.7						
WHZ	**Wether Hill Ro**	**18.28**	**213**	*e*P	P	12 40 47.9	-6.0
DCZ	**Deep Cove**	**18.36**	**216**	*e*P	**P**	**12 40 54.3**	**-0.5**
	128nm,1.7s						
RAR	**Rarotonga**	**18.98**	**62**	*e*P	**P**	**12 40 59.5**	**-2.2**
RAR				Sn	Sn	12 44 15.7	-18
RAR	**Rarotonga**	**18.98**	**62**	P	**P**	**12 40 59.1**	**-2.6**
	6.7nm,0.3s,baz=270,slow=5.8,SNR=9.8						
RAR				Sn	Sn	12 44 15.7	-18
	0.9nm,0.3s,baz=90,slow=19,SNR=5.3						
RAR				LR	LR	12 45 34.6	
	comp=Z,2μm,21.2s,baz=269,slow=28						
TBI	**Tubuai**	**26.28**	**79**	*e*LQ	LQ	12 47 25.9	
	13μm,25.0s						
TBI				*e*LR	LR	12 48 41.7	
	8μm,22.2s,baz=251						
TBI	**Tubuai**	**26.28**	**79**	*e*T	T	13 09 13.1	
	75nm,0.4s						
ARMA	**Armidale**	**26.29**	**264**	*e*P	**P**	**12 42 14.5**	**-1.1**
	197nm,1.3s						
ARMA	**Armidale**	**26.29**	**264**	⇓P	**P**	**12 42 16.1**	**+0.5**
	baz=27,SNR=12						
MILA	**Mila**	**27.89**	**249**	⇓P	**P**	**12 42 29.8**	**-0.1**
	baz=28,SNR=10						
CAN	**Canberra**	**28.01**	**253**	*e*P	**P**	**12 42 33.3**	**+2.3**
CAN				pmax	pmax		
	comp=Z,115nm,1.4s						
CAN				MLR	MLR		
	comp=Z,8μm,20.0s						
CAN	**Canberra**	**28.01**	**253**	*e*P	**P**	**12 42 33.3**	**+2.3**
	comp=Z,115nm,1.4s						
CAN				LR	LR		
	comp=Z,8μm,20.0s						
EIDS	**Eidsvold**	**28.04**	**274**	*e*P	**P**	**12 42 30.1**	**-1.2**
	comp=Z,238nm,1.3s						
EIDS	**Eidsvold**	**28.04**	**274**	P	**P**	**12 42 30.4**	**-0.9**
	baz=28,SNR=17						
YNG	**Young**	**28.55**	**255**	⇓P	**P**	**12 42 36.0**	**+0.2**
	baz=29,SNR=8.0						
PAE	**Paea**	**28.91**	**68**	*e*P	**P**	**12 42 38.7**	**-0.3**
	comp=Z,25nm,1.1s						
PAE	**Paea**	**28.91**	**68**	*e*T	T	13 12 24.8	
	comp=Z,14nm,0.3s						
PPT2	**Papeete2**	**28.95**	**68**	*e*P	**P**	**12 42 39.5**	**0.0**
	comp=Z,137nm,1.2s						
PPT2				*e*LQ	LQ	12 48 25.9	
	comp=Z,8μm,24.2s						
PPT2				*e*LR	LR	12 49 48.8	
	comp=Z,5μm,23.0s,baz=235						
PPT2	**Papeete2**	**28.95**	**68**	*e*T	T	13 12 28.7	
	comp=Z,13nm,0.3s						
PPT	**Papeete**	**28.96**	**68**	P	**P**	**12 42 39.3**	**-0.3**
PPT	**Papeete**	**28.96**	**68**	P	**P**	**12 42 39.3**	**-0.3**
	comp=Z,41nm,1.0s,baz=263,slow=8.1,SNR=4.6						
PPT				LR	LR	12 50 52.9	
	comp=Z,3μm,20.4s,baz=244,slow=30						
TVO	**Taravao**	**29.11**	**69**	*e*P	**P**	**12 42 41.4**	**+0.5**
	comp=Z,8.5nm,0.8s						
TVO	**Taravao**	**29.11**	**69**	*e*T	T	13 12 39.7	
	comp=Z,2.6nm,0.3s						
TIAR	**Tiarei**	**29.15**	**69**	*e*P	**P**	**12 42 41.1**	**-0.1**
	comp=Z,42nm,0.8s						
TIAR	**Tiarei**	**29.15**	**69**	*e*T	T	13 12 43.1	
	comp=Z,4.2nm,0.3s						
RMQ	**Roma**	**29.68**	**271**	P	**P**	**12 42 46.2**	**+0.4**
	baz=30,SNR=56						
MOO	**Moorlands**	**29.96**	**238**	P	**P**	**12 42 48.9**	**+0.7**
	baz=30,SNR=4.8						
MEH	**Mehetia**	**30.01**	**70**	*e*P	**P**	**12 42 49.0**	**+0.2**
	comp=Z,19nm,1.0s						
MEH	**Mehetia**	**30.01**	**70**	*e*T	T	13 13 47.9	
	comp=Z,33nm,0.3s						
HNR	**Honiara**	**30.12**	**312**	LR	LR	12 53 06.1	
	comp=Z,5μm,19.2s,baz=350,slow=33						
TOO	**Toolamgi**	**30.82**	**248**	⇑P	**P**	**12 42 56.1**	**+0.3**
	baz=31,SNR=20						
CMSA	**Cobar Meteorol**	**31.13**	**260**	P	**P**	**12 42 57.5**	**-1.0**
	baz=32,SNR=121						
PMOR	**Pomariorio Ree**	**31.75**	**66**	*e*P	**P**	**12 43 03.0**	**-1.1**
	comp=Z,177nm,1.4s						
VAH	**Vaihoa**	**31.82**	**67**	*e*P	**P**	**12 43 04.5**	**-0.3**
	comp=Z,186nm,1.2s						
VAH	**Vaihoa**	**31.82**	**67**	*e*T	T	13 16 01.7	
	comp=Z,63nm,0.3s						
QLP	**Quilpie**	**33.52**	**268**	P	**P**	**12 43 18.1**	**-1.5**
	baz=34,SNR=67						
ARPS	**Mount Arapiles**	**33.75**	**250**	P	**P**	**12 43 21.3**	**-0.2**
	baz=34,SNR=34						
CTA	**Charters Tower**	**34.21**	**280**	P	**P**	**12 43 24.7**	**-1.0**
CTA	**Charters Tower**	**34.21**	**280**	P	**P**	**12 43 24.7**	**-1.0**
	comp=Z,59nm,0.6s,baz=102,slow=11,SNR=36						
CTA				LR	LR	12 55 33.4	
	comp=Z,7μm,20.1s,baz=108,slow=33						
CTAO	**Charters Tower**	**34.21**	**280**	*e*P	**P**	**12 43 24.5**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,451nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,7μm,20.0s						
CTAO	**Charters Tower**	**34.21**	**280**	*e*P	**P**	**12 43 24.5**	**-1.1**
	comp=Z,451nm,1.2s						
CTAO				LR	LR		
	comp=Z,7μm,20.0s						
STKA	**Stephens Creek**	**34.51**	**258**	P	**P**	**12 43 27.2**	**-0.9**
STKA	**Stephens Creek**	**34.51**	**258**	P	**P**	**12 43 27.2**	**-0.9**
	comp=Z,32nm,0.5s,baz=103,slow=9.6,SNR=38						
STKA				LR	LR	12 55 46.4	
	comp=Z,6μm,21.2s,baz=94,slow=33						
STKA	**Stephens Creek**	**34.51**	**258**	P	**P**	**12 43 27.1**	**-1.1**
	baz=35,SNR=54						
HTT	**Hallett**	**36.48**	**255**	P	**P**	**12 43 43.4**	**-1.7**
	baz=37,SNR=53						
XMAS	**Kiritimati**	**38.42**	**34**	*e*P	**P**	**12 44 02.1**	**+0.5**
	comp=Z,105nm,1.0s						
XMAS				LR	LR		
	comp=Z,7μm,19.0s						
RKT	**Rikitea**	**38.69**	**89**	*e*S	**S**	**12 50 01.9**	**+3.5**
	comp=Z,1μm,27.2s						
RKT				*e*LQ	LQ	12 52 38.9	
	comp=Z,2μm,23.8s						
RKT				*e*LR	LR	12 54 29.7	
	comp=Z,6μm,22.5s,baz=254						
BBOO	**Buckleboo**	**38.95**	**255**	*e*P	**P**	**12 44 03.2**	**-2.7**
	comp=Z,1μm,0.8s						
BBOO	**Buckleboo**	**38.95**	**255**	P	**P**	**12 44 03.2**	**-2.7**
	baz=39,SNR=46						
PMG	**Port Moresby**	**39.25**	**296**	P	P	12 44 13.0	+4.4
	comp=Z,62nm,1.2s,comp=Z,972nm						
PMG	**Port Moresby**	**39.25**	**296**	P	**P**	**12 44 07.3**	**-1.3**
	comp=Z,4.8nm,1.2s						
PMG	**Port Moresby**	**39.25**	**296**	P	**P**	**12 44 07.3**	**-1.3**
	comp=Z,15nm,1.0s,baz=106,slow=11,SNR=5.4						
PMG				LR	LR	12 57 23.8	
	comp=Z,3μm,21.2s,baz=117,slow=32						
QIS	**Mount Isa**	**39.64**	**275**	P	**P**

WAKE	**Wake Island**	**52.56**	**341**	PFAKE			12 46 10.0	+17
WAKE				LR	LR			
	comp=Z,4µm,20.0s							
FITZ	**Fitzroy Crossi**	**52.61**	**270**	*e*P	**P**		**12 45 52.6**	**-1.3**
	comp=Z,58nm,0.9s							
FITZ	**Fitzroy Crossi**	**52.61**	**270**	P	**P**		**12 45 52.6**	**-1.3**
	comp=Z,38nm,1.0s,baz=126,slow=7.6,SNR=24							
FITZ				LR	LR		13 07 33.4	
	comp=Z,6µm,18.7s,baz=109,slow=35							
KLBR	**Kellerberrin**	**54.27**	**252**	P	**P**		**12 46 04.9**	**-1.1**
	baz=55,SNR=11							
NWAO	**Narrogin (SRO)**	**54.29**	**250**	LR	LR		13 06 51.2	
	comp=Z,3µm,20.4s,baz=103,slow=33							
CASY	**Casey**	**54.40**	**208**	*e*P	**P**		**12 46 05.4**	**-1.0**
	comp=Z,99nm,0.9s							
CASY				LR	LR			
	comp=Z,2µm,20.0s							
FAKI	**Fak Fak**	**54.91**	**291**	P	P		12 46 20.1	+9.3
FAKI	**Fak Fak**	**54.91**	**291**	⇑P	**P**		**12 46 09.3**	**-1.5**
	baz=55,SNR=5.0							
POHA	**Pohakuloa**	**55.12**	**26**	*e*P	**P**		**12 46 12.0**	**-0.3**
	comp=Z,67nm,0.8s							
POHA				LR	LR			
	comp=Z,2µm,19.0s							
MEEK	**Meekatharra**	**55.21**	**258**	P	**P**		**12 46 10.7**	**-2.2**
	baz=56,SNR=14							
KIP	**Kipapa**	**55.79**	**22**⇑	*e*P	**P**		**12 46 17.1**	**+0.2**
KIP				pmax	pmax			
	comp=Z,201nm,2.5s							
KIP				MLR	MLR			
	comp=Z,803nm,16.0s							
MBWA	**Marble Bar**	**56.37**	**264**	*e*P	**P**		**12 46 18.8**	**-2.4**
	comp=Z,30nm,0.9s							
MBWA				LR	LR			
	comp=Z,5µm,19.0s							
SWI	**Sorong**	**56.93**	**292**	P	**P**		**12 46 22.5**	**-2.7**
	comp=Z,52nm,2.0s,comp=Z,1µm							
GUMO	**Guam**	**57.34**	**315**	PFAKE			12 46 40.0	+12
GUMO				LR	LR			
	comp=Z,2µm,20.0s							
QSPA	**South Pole Qui**	**58.74**	**180**	P	**P**		**12 46 39.3**	**+1.9**
QSPA	**South Pole Qui**	**58.74**	**180**	P	**P**		**12 46 39.3**	**+1.9**
	comp=Z,31nm,1.1s,baz=32,slow=3.2,SNR=28							
QSPA				LR	LR		13 09 27.2	
	comp=Z,4µm,18.9s,baz=226,slow=33							
RPN	**Rapa Nui**	**58.95**	**105**	PFAKE			12 46 50.0	+11
RPN				LR	LR			
	comp=Z,4µm,20.0s							
MIDW	**Midway**	**59.26**	**0**	PFAKE			12 46 50.0	+8.9
MIDW				LR	LR			
	comp=Z,5µm,20.0s							
MIR	**Mirnyy**	**61.37**	**207**	⇓*i*P	**P**		**12 46 52.0**	**-3.2**
MIR				*i*			12 47 05.0	
MIR				pmax	pmax			
	comp=Z,94nm,1.5s							
LUWI	**Luwuk**	**63.69**	**286**	P	**P**		**12 47 12.2**	**+0.7**
	comp=Z,48nm,1.2s,comp=Z,2µm							
KAPI	**Kappang**	**64.03**	**280**	PFAKE			12 47 20.0	+6.3
KAPI				LR	LR			
	comp=Z,2µm,19.0s							
DAV	**Davao City (W)**	**66.26**	**295**	PFAKE			12 47 40.0	+12
DAV				LR	LR			
	comp=Z,944nm,21.0s							
JCJ	**Chichijima**	**69.60**	**322**	LR	LR		13 14 42.0	
	comp=Z,2µm,21.5s,baz=126,slow=33							
TSM	**Tawau**	**70.74**	**288**	P	**P**		**12 47 54.9**	**-1.4**
PMSA	**Palmer Station**	**71.28**	**156**	PFAKE			12 48 10.0	+11
PMSA				LR	LR			
	comp=Z,2µm,20.0s							
BJII	**Banjamegara**	**71.35**	**273**	P	P		12 48 09.8	+10
MAW	**Mawson**	**71.48**	**201**	P	**P**		**12 48 01.9**	**+2.1**
MAW	**Mawson**	**71.48**	**201**	P	**P**		**12 48 01.9**	**+2.1**
	comp=Z,33nm,0.9s,baz=105,slow=7.2,SNR=6.2							
MAW				LR	LR		13 19 06.5	
	comp=Z,3µm,18.4s,baz=121,slow=36							
SDKM	**Sandakan**	**72.06**	**288**	P	**P**		**12 48 02.2**	**-2.1**
CMJI	**Cimerak**	**72.20**	**272**	P	P		12 48 12.2	+7.1
CISI	**Cisompet, Garu**	**72.86**	**272**	P	**P**		**12 48 07.9**	**-1.2**
	baz=73,SNR=3.9							
STKI	**Sintang**	**73.70**	**280**	P	**P**		**12 48 14.6**	**+0.6**
	comp=Z,48nm,0.6s,comp=Z,14µm							
BTM	**Bintulu**	**74.07**	**284**	P	P		12 48 12.8	-3.3
SBUM	**Sibu**	**74.37**	**283**	P	**P**		**12 48 15.0**	**-2.9**
SBUM	**Sibu**	**74.37**	**283**	P	**P**		**12 48 17.6**	**-0.3**
	comp=Z,17nm,1.6s,comp=Z,501nm							
USHA	**Ushuaia**	**74.98**	**146**	LR	LR		13 12 20.6	
	comp=Z,850nm,19.5s,baz=212,slow=28							
KSM	**Kuching**	**75.44**	**281**	P	**P**		**12 48 22.4**	**-1.6**
KSM	**Kuching**	**75.44**	**281**	P	**P**		**12 48 23.3**	**-0.8**
	comp=Z,35nm,1.4s,comp=Z,648nm							
KSM	**Kuching**	**75.44**	**281**	*e*P	**P**		**12 48 22.1**	**-1.9**
	comp=Z,71nm,1.4s							
KSM				LR	LR			
	comp=Z,855nm,20.0s							
KSM	**Kuching**	**75.44**	**281**	P	**P**		**12 48 22.9**	**-1.2**
	baz=76,SNR=7.0							
SYO	**Syowa Base**	**76.22**	**193**⇑	*e*P	**P**		**12 48 25.3**	**-2.3**
KASI	**Kota Agung**	**76.72**	**272**	P	**P**		**12 48 33.4**	**+2.0**
	comp=Z,70nm,0.9s							
KLSI	**Kupang**	**76.95**	**272**	P	**P**		**12 48 31.4**	**-1.2**
	comp=Z,96nm,1.0s,comp=Z,1µm							
SNAA	**Sanae**	**77.18**	**178**	*e*P	**P**		**12 48 30.5**	**-2.6**
	comp=Z,52nm,0.9s							
MDSI	**Maura Dua**	**77.53**	**272**	P	P		12 48 31.9	-4.0
	comp=Z,65nm,0.9s,comp=Z,554nm							
VNA2	**Neumayer--Watz**	**77.76**	**177**	*e*P	**P**		**12 48 36.2**	**0.0**
	baz=184,slow=4.4							
VNA2	**Neumayer--Watz**	**77.76**	**177**	*e*PP	PP		12 51 30.5	-0.7
	baz=184,slow=4.4							
NVL	**N'lazarevskaya**	**77.92**	**183**	*e*P	**P**		**12 48 38.8**	**+1.7**
NVL				*e*PPP	PPP		12 53 20.7	
NVL				*e*S	**S**		**12 58 27.4**	**-0.1**
NVL				pmax	pmax			
	comp=Z,42nm,1.5s							
NVL				MLR	MLR			
	comp=Z,517nm,20.0s							
VNA1	**Neumayer--Stat**	**77.98**	**176**	*e*P	**P**		**12 48 38.4**	**+1.0**
LHSI	**Lahat**	**78.42**	**273**	P	**P**		**12 48 43.3**	**+2.5**
	comp=Z,64nm,1.3s							
MJAR	**Matsushiro Arr**	**79.18**	**325**	P	**P**		**12 48 44.5**	**0.0**
MJAR	**Matsushiro Arr**	**79.18**	**325**	P	**P**		**12 48 44.5**	**0.0**
	comp=Z,7.1nm,1.1s,baz=153,slow=5.6,SNR=7.5							
MJAR				LR	LR		13 18 43.8	
	comp=Z,880nm,21.0s,baz=85,slow=32							
MAJO	**Matsushiro**	**79.18**	**325**	PFAKE			12 49 00.0	+16
MAJO				LR	LR			
	comp=Z,1µm,21.0s							
COCO	**West Island**	**79.92**	**262**	PFAKE			12 49 00.0	+11
COCO				LR	LR			
	comp=Z,3µm,19.0s							
H03N3	**Juan Fernandez**	**79.92**	**123**	T	T		14 16 51.2	
	baz=239							
H03N2	**Juan Fernandez**	**79.92**	**123**	T	T		14 16 47.4	
	baz=239							
H03N1	**Juan Fernandez**	**79.94**	**123**	T	T		14 16 53.0	
	baz=239							
YHNB	**Yeheng**	**80.60**	**306**	PFAKE			12 49 00.0	+7.5
YHNB				LR	LR			
	comp=Z,877nm,21.0s							
MYKOM	**Kota Tinggi**	**81.06**	**278**	P	**P**		**12 48 53.0**	**-2.2**
ERM	**Erimo**	**81.43**	**332**	PFAKE			12 49 10.0	+14
ERM				LR	LR			
	comp=Z,2µm,20.0s							
KGM	**Kluang**	**81.63**	**277**	P	**P**		**12 48 55.7**	**-2.5**
PLCA	**Paso Flores**	**81.67**	**133**	P	**P**		**12 48 58.7**	**+0.6**
PLCA	**Paso Flores**	**81.67**	**133**	P	**P**		**12 48 58.7**	**+0.6**
	comp=Z,11nm,1.1s,baz=221,slow=6.4,SNR=13							
PLCA				LR	LR		13 17 34.0	
	comp=Z,2µm,19.3s,baz=257,slow=30							
YUK	**Yuzh-Kuril'sk**	**82.09**	**334**	*c* *i*P	**P**		**12 49 02.2**	**+2.4**
YUK				*i* S	**S**		**12 59 15.1**	**+3.3**
YUK				*e*SSS	SSS		13 07 57.6	
DLV	**T Lat**	**82.70**	**289**	*e*P	**P**		**12 49 03.3**	**-0.7**
QZH	**Quanzhou**	**82.71**	**305**	P	**P**		**12 49 05.5**	**+2.0**
QZH				S	**S**		**12 59 13.6**	**-5.4**
QZH				LR	LR			
	comp=Z,2µm,14.8s							
ASAJ	**Asahikawa**	**83.42**	**332**	*e*P	**P**		**12 49 07.0**	**+0.3**
	comp=Z,8.5nm,0.9s							
KTGM	**Kuala Trenggan**	**83.54**	**280**	P	**P**		**12 49 05.2**	**-2.9**
FRIM	**Kepong**	**83.71**	**278**	P	P		12 49 05.3	-3.7
FX1	**Attu Island--F**	**84.28**	**354**	LR	LR		13 21 47.9	
	comp=Z,3µm,20.4s,baz=90,slow=32							
IPM	**Ipoh**	**84.87**	**278**	P	**P**		**12 49 13.4**	**-1.5**
IPM	**Ipoh**	**84.87**	**278**	P	**P**		**12 49 17.8**	**+2.9**
	comp=Z,22nm,1.1s							
IPM	**Ipoh**	**84.87**	**278**	*e*P	**P**		**12 49 13.4**	**-1.5**
	comp=Z,22nm,1.0s							
SSE	**Sheshan**	**84.93**	**311**	P	**P**		**12 49 16.8**	**+2.1**
SSE				S	**S**		**12 59 45.9**	**+4.9**
SSE				pmax	pmax			
	comp=Z,41nm,1.0s							
SSE				pmax	pmax			
	comp=Z,130nm,6.6s							
SSE				LR	LR			
	comp=Z,370nm,17.1s							
SSE				LR	LR			
	comp=Z,500nm,17.1s							
SSE				LR	LR			
	comp=Z,820nm,18.5s							
SCI	**San Clemente I**	**84.96**	**46**	⇓P	**P**		**12 49 15.6**	**+0.8**
	baz=85							
BSC	**Santa Cruz Isl**	**84.99**	**45**	⇓P	**P**		**12 49 15.8**	**+0.8**
	baz=86							
SBC	**Santa Barbara**	**85.24**	**45**	⇑P	**P**		**12 49 17.7**	**+1.5**
	baz=86							
KSRS	**Korea Array**	**85.25**	**320**	P	**P**		**12 49 14.9**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=137,slow=4.4,SNR=6.7							
KSRS				LR	LR		13 26 17.9	
	comp=Z,757nm,18.2s,baz=138,slow=35							
KSAR	**Wonju Array Be**	**85.26**	**320**	P	**P**		**12 49 14.9**	**-1.3**
CIS	**Catalina Islan**	**85.34**	**46**	⇑P	**P**		**12 49 18.1**	**+1.3**
	baz=86							
BLG	**Laguna Peak**	**85.41**	**45**	⇑P	**P**		**12 49 17.7**	**+0.6**
	baz=86							
PKM	**Peak Mountain**	**85.49**	**44**	⇓P	**P**		**12 49 18.5**	**+0.8**
	baz=86							
FMP	**Fort Macarthur**	**85.61**	**46**	⇑P	**P**		**12 49 18.7**	**+0.7**
	baz=86							
KULM	**Kulim**	**85.62**	**279**	P	**P**		**12 49 16.3**	**-2.3**
KULM	**Kulim**	**85.62**	**279**	P	P		12 49 22.2	+3.6
	comp=Z,29nm,1.2s,comp=Z,988nm							
KULM	**Kulim**	**85.62**	**279**	PFAKE			12 49 30.0	+11
KULM				LR	LR			
	comp=Z,612nm,22.0s							
QIZ	**Qiongzhong**	**85.63**	**295**	PFAKE			12 49 30.0	+11
QIZ				LR	LR			
	comp=Z,647nm,19.0s							
SMMC	**Simmler**	**85.67**	**44**	⇑P	**P**		**12 49 19.0**	**+0.6**
	baz=86							
YSS	**Yuzh-Sakhalins**	**85.73**	**334**	*e*P	**P**		**12 49 18.0**	**-0.3**
YSS				*e**PP	**pP**		**12 49 28.3**	**-0.9**
YSS				*e*S	**S**		**12 59 46.0**	**-2.2**
YSS				pmax	pmax			
	comp=Z,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**85.73**	**334**	PFAKE			12 49 30.0	+12
YSS				LR	LR			
	comp=Z,742nm,20.0s							
PSI	**Prapat**	**85.78**	**276**	P	**P**		**12 49 19.8**	**+0.2**
109C	**Camp Elliot, M**	**85.80**	**47**	⇑P	**P**		**12 49 19.5**	**+0.5**
	baz=86							
BAR	**Barrett**	**85.94**	**48**	*e*P	**P**		**12 49 20.9**	**+1.1**
	comp=Z,51nm,1.6s							
DECC	**Green Verdugo**	**85.95**	**46**	⇑P	**P**		**12 49 20.3**	**+0.5**
	baz=86							
OSI	**Osito Adit**	**85.96**	**45**	*e*P	**P**		**12 49 20.7**	**+0.9**
OSI	**Osito Adit**	**85.96**	**45**	⇓P	**P**		**12 49 20.9**	**+1.1**
	baz=86							
INCN	**Inchon**	**85.99**	**319**	PFAKE			12 49 30.0	+10
INCN				LR	LR			
	comp=Z,702nm,19.0s							
PASC	**Pasadena Art C**	**85.99**	**46**	*e*P	**P**		**12 49 20.7**	**+0.7**
	comp=Z,16nm,0.8s							
MWC	**Mount Wilson**	**86.10**	**46**	*e*P	**P**		**12 49 21.7**	**+1.0**
MWC				pmax	pmax			
	comp=Z,38nm,1.3s							
MWC	**Mount Wilson**	**86.10**	**46**	*e*P	**P**		**12 49 21.7**	**+1.0**
	comp=Z,38nm,1.3s							
MURC	**Murrieta**	**86.22**	**47**	⇑P	**P**		**12 49 21.8**	**+0.7**
	baz=87							
MONP	**Monument Peak**	**86.23**	**48**	⇓P	**P**		**12 49 22.2**	**+0.7**
	baz=87							
DVTC	**Desert V Tower**	**86.29**	**48**	⇑P	**P**		**12 49 22.4**	**+0.9**
	baz=87							
BFSC	**Mount Baldy Ra**	**86.36**	**46**	⇑P	**P**		**12 49 22.2**	**+0.3**
	baz=87,SNR=18							
PET	**Petropavlovsk**	**86.53**	**346**	*e*P	**P**		**12 49 22.6**	**+0.5**
PET				*e*			12 59 49.0	
PET				*e*S	**S**		**12 59 59.4**	**+3.7**
PET				*e*PS	**PnS**		**13 00 59.5**	**+1.3**
PET				*e*SS	**SS**		**13 05 38.1**	**+0.4**
PET				pmax	pmax			
	comp=Z,26nm,0.6s							
PET	**Petropavlovsk**	**86.53**	**346**	PFAKE			12 49 30.0	+7.9
PET				LR	LR			
	comp=Z,2µm,20.0s							
EDW2	**Edwards Air Fo**	**86.58**	**45**	⇑P	**P**		**12 49 23.8**	**+0.9**
	baz=87,SNR=22							
SWSC	**Sam W. Stewart**	**86.66**	**48**	⇓P	**P**		**12 49 24.4**	**+1.1**
	baz=87							
PFO	**Pinyon Flat Ob**	**86.69**	**47**	*e*P	**P**		**12 49 24.1**	**+0.5**
	comp=Z,52nm,1.5s							
PFO				LR	LR			
	comp=Z,2µm,19.0s							
PFO	**Pinyon Flat Ob**	**86.69**	**47**	P	**P**		**12 49 24.8**	**+1.2**
	comp=Z,91nm,1.0s,SNR=6.1							
PFO	**Pinyon Flat Ob**	**86.69**	**47**	⇓P	**P**		**12 49 24.4**	**+0.8**
	baz=87							
PFO	**Pinyon Flat Ob**	**86.69**	**47**	P	**P**		**12 49 24.3**	**+0.8**
	comp=Z,14nm,1.1s,baz=240,slow=3.1,SNR=9.8							
RCTC	**Rector, Farmer**	**86.80**	**44**	⇑P	**P**		**12 49 25.1**	**+1.2**
	baz=87							
PEA0B	**Petropavlovsk-**	**86.81**	**345**	*e*P	**P**		**12 49 22.3**	**-1.2**
PETK	**Petropavlovsk-**	**86.81**	**345**	P	**P**		**12 49 22.2**	**-1.3**
PETK				pmax	pmax			
	comp=Z,39nm,0.8s							
PETK	**Petropavlovsk-**	**86.81**	**345**	P	**P**		**12 49 22.2**	**-1.3**
PETK	**Petropavlovsk-**	**86.81**	**345**	P	**P**		**12 49 22.2**	**-1.3**
	comp=Z,38nm,0.8s,baz=127,slow=6.7,SNR=54							
PETK				LR	LR		13 21 33.4	
	comp=Z,1µm,21.1s,baz=158,slow=31							
ISA	**Isabella**	**86.82**	**44**	*e*P	**P**		**12 49 24.5**	**+0.4**
ISA				pmax	pmax			
	comp=Z,44nm,1.8s							
ISA	**Isabella**	**86.82**	**44**	*e*P	**P**		**12 49 24.5**	**+0.4**
	comp=Z,44nm,1.8s							
ISA	**Isabella**	**86.82**	**44**	⇓P	**P**		**12 49 24.8**	**+0.7**
	baz=87,SNR=20							
BBRC	**Big Bear Solar**	**86.83**	**46**	⇑P	**P**		**12 49 25.5**	**+1.1**
	baz=87							
NJ2	**Nanjing**	**87.06**	**310**	*e*P	**P**		**12 49 27.3**	**+2.1**
NJ2				pP	**pP**		**12 49 38.3**	**+2.1**
NJ2				PP	**PP**		**12 52 51.6**	**+2.3**
NJ2				S	**S**		**13 00 04.0**	**+2.1**
NJ2				pmax	pmax			
	comp=Z,20nm,1.1s							
NJ2				pmax	pmax			
	comp=Z,350nm,4.6s							
NJ2				LR	LR			
	comp=Z,400nm,19.5s							
NJ2				LR	LR			
	comp=Z,410nm,18.3s							
NJ2				LR	LR			
	comp=Z,420nm,21.5s							
LRMC	**Laurel Mountai**	**87.17**	**45**	⇓P	**P**		**12 49 26.6**	**+0.7**
	baz=88,SNR=25							
RRX	**Edison Barstow**	**87.19**	**46**	⇓P	**P**		**12 49 27.0**	**+1.2**
	baz=88							
BELC	**Belle Mtn. Jos**	**87.23**	**47**	⇑P	**P**		**12 49 27.0**	**+0.8**
	baz=88,SNR=18							
CMB	**Columbia Colle**	**87.32**	**42**	*e*P	**P**		**12 49 26.7**	**+0.3**
CMB				pmax	pmax			
	comp=Z,83nm,1.7s							
CMB	**Columbia Colle**	**87.32**	**42**	*e*P	**P**		**12 49 26.7**	**+0.3**
	comp=Z,83nm,1.7s							
BC3	**Big Chuckawall**	**87.35**	**48**	⇓P	**P**		**12 49 27.8**	**+1.1**
	baz=88,SNR=21							
GLA	**Glamis**	**87.36**	**48**	*e*P	**P**		**12 49 27.8**	**+1.1**
GLA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
GLA	**Glamis**	**87.36**	**48**	*e*P	**P**		**12 49 27.8**	**+1.1**
	comp=Z,4.4nm,1.1s							
GLA	**Glamis**	**87.36**	**48**	⇑P	**P**		**12 49 27.8**	**+1.1**
	baz=88							
PAYG	**Puerto Ayora**	**87.45**	**89**	PFAKE			12 49 40.0	+12
PAYG				LR	LR			
	comp=Z,2µm,19.0s							
HEC	**Hector,Ludlow**	**87.57**	**46**	⇑P	**P**		**12 49 28.1**	**+0.4**
	baz=88							
CWC	**Cottonwood Cre**	**87.58**	**44**	⇑P	**P**		**12 49 28.6**	**+0.8**
	baz=88							
GSC	**Goldstone**	**87.59**	**46**	*e*P	**P**		**12 49 28.6**	**+0.8**
GSC				pmax	pmax			
	comp=Z,11nm,1.2s							
GSC	**Goldstone**	**87.59**	**46**	*e*P	**P**		**12 49 28.6**	**+0.8**
	comp=Z,11nm,1.2s							
GSC	**Goldstone**	**87.59**	**46**	⇓P	**P**		**12 49 28.4**	**+0.6**
	baz=88,SNR=25							
MPMC	**Manual Prospec**	**87.68**	**45**	⇑P	**P**		**12 49 28.8**	**+0.5**
	baz=88,SNR=23							
113A	**Mohawk Valley,**	**87.86**	**49**	⇓P	**P**		**12 49 30.2**	**+1.1**
	baz=88,SNR=6.3							
IRM	**Iron Mountain**	**87.87**	**47**	⇓P	**P**		**12 49 30.3**	**+1.2**
	baz=88,SNR=27							
TIN	**Tinemaha**	**87.90**	**44**	⇓P	**P**		**12 49 29.9**	**+0.6**
	baz=88							
WDC	**Whiskeytown Da**	**87.92**	**39**	*e*P	**P**		**12 49 29.8**	**+0.6**
WDC				pmax	pmax			
	comp=Z,70nm,1.6s							
WDC	**Whiskeytown Da**	**87.92**	**39**	*e*P	**P**		**12 49 29.8**	**+0.6**
	comp=Z,70nm,1.6s							
MLAC	**Mammoth Lakes**	**87.94**	**43**	⇓P	**P**		**12 49 30.4**	**+0.8**
	baz=88							
GMRC	**Granite Mounta**	**87.95**	**47**	⇑P	**P**		**12 49 30.3**	**+0.7**
	baz=88,SNR=14							
214A	**Organ Pipe Nat**	**87.97**	**50**	*e*P	**P**		**12 49 30.8**	**+1.1**
214A	**Organ Pipe Nat**	**87.97**	**50**	⇓P	**P**		**12 49 30.8**	**+1.1**
	baz=88							
Y12C	**Blythe**	**88.00**	**48**	⇑P	**P**		**12 49 30.8**	**+1.1**
	baz=88							
USRK	**Ussuriysk Arra**	**88.11**	**326**	P	**P**		**12 49 27.6**	**-2.3**
	comp=Z,4.1nm,0.9s,baz=134,slow=4.2,SNR=10							
USRK				LR	LR		13 27 00.6	
	comp=Z,933nm,19.0s,baz=143,slow=34							
N02D	**Trinity Center**	**88.11**	**38**	⇑P	**P**		**12 49 31.4**	**+1.3**
	baz=89							
CHBT	**CHBT**	**88.17**	**286**	P	**P**		**12 49 31.2**	**+0.3**
	comp=Z,52nm,1.3s							
WAKR	**Walker**	**88.19**	**42**	*e*P	**P**		**12 49 31.1**	**+0.4**
	comp=Z,132nm,1.9s							
TUQ	**Turquoise Moun**	**88.22**	**46**	⇓P	**P**		**12 49 31.6**	**+0.7**
	baz=89,SNR=13							
LCO	**Las Campanas**	**88.24**	**123**	*e*P	**P**		**12 49 32.3**	**+0.8**
	comp=Z,55nm,1.5s							
LCO				LR	LR			
	comp=Z,2µm,20.0s							
FURC	**Furnace Creek,**	**88.33**	**45**	⇓P	**P**		**12 49 32.3**	**+1.1**
	baz=89							
GRAC	**Grapevine Rang**	**88.38**	**44**	⇑P	**P**		**12 49 32.5**	**+1.0**
	baz=89							
LDFC	**Landfair**	**88.49**	**47**	*e*P	**P**		**12 49 33.5**	**+1.4**
	comp=Z,120nm,1.2s							
TRQA	**Tornquist**	**88.58**	**135**	*e*P	**P**		**12 49 35.6**	**+3.0**
	comp=Z,50nm,1.8s							
TRQA				LR	LR			
	comp=Z,1µm,20.0s							
NEE2	**Needles Airpor**	**88.59**	**47**	⇓P	**P**		**12 49 33.8**	**+1.3**
	baz=89							
PDMCI	**Parker Dam,Lak**	**88.59**	**48**	⇓P	**P**		**12 49 33.6**	**+1.1**
	baz=89							
BEKR	**Beckworth**	**88.61**	**40**	*e*P	**P**		**12 49 32.9**	**+0.3**
	comp=Z,35nm,1.8s							
YBH	**Yreka Blue Hor**	**88.65**	**38**	P	**P**		**12 49 35.2**	**+2.5**
YBH	**Yreka Blue Hor**	**88.65**	**38**	P	**P**		**12 49 35.2**	**+2.5**
	comp=Z,7.1nm,0.9s,baz=220,slow=7.9,SNR=6.6							
Z14A	**Wintersburg**	**88.76**	**49**	⇑P	**P**		**12 49 34.6**	**+1.2**
	baz=89							
NVAR	**Mina Array Bea**	**88.79**	**43**	P	**P**		**12 49 33.4**	**-0.3**
NVAR	**Mina Array Bea**	**88.79**	**43**	P	**P**		**12 49 33.3**	**-0.3**
	comp=Z,4.9nm,0.8s,baz=228,slow=7.1,SNR=26							
NVAR				LR	LR		13 26 55.9	
	comp=Z,4µm,18.0s,baz=317,slow=34							
NV11	**Mina Array Sit**	**88.87**	**43**	*e*P	**P**		**12 49 32.9**	**-1.0**
TPNV	**Topopah Spring**	**89.01**	**45**	⇓P	**P**		**12 49 35.6**	**+1.0**
	baz=90							
PAHR	**Pah Rah Range**	**89.04**	**41**	*e*P	**P**		**12 49 34.5**	**-0.2**
	comp=Z,45nm,1.5s							
Y14A	**Wickenburg**	**89.09**	**49**	⇑P	**P**		**12 49 35.7**	**+0.8**
	baz=90,SNR=15							
WHN	**Wuhan**	**89.13**	**307**	P	P		12 49 39.3	+4.2
WHN				LR	LR			
	comp=Z,1µm,17.2s							
M04C	**Macdoel**	**89.14**	**38**	⇓P	**P**		**12 49 35.7**	**+0.6**
	baz=90							
TPH	**Tonopah**	**89.18**	**43**	*e*P	**P**		**12 49 35.8**	**+0.4**
TPH				pmax	pmax			
	comp=Z,68nm,1.5s							
TPH	**Tonopah**	**89.18**	**43**	*e*P	**P**		**12 49 35.8**	**+0.4**
	comp=Z,68nm,1.5s							
W13A	**Hualapai Mount**	**89.27**	**47**	⇓P	**P**		**12 49 37.0**	**+1.0**
	baz=90,SNR=27							
SHPR	**Sheep Range**	**89.38**	**46**	*e*P	**P**		**12 49 37.5**	**+1.1**
	comp=Z,117nm,1.9s							
TUC	**Tucson**	**89.53**	**51**	*e*P	**P**		**12 49 38.0**	**+0.9**
TUC				pmax	pmax			
	comp=Z,108nm,1.8s							
TUC				MLR	MLR			
	comp=Z,2µm,19.0s							
TUC	**Tucson**	**89.53**	**51**	*e*P	**P**		**12 49 38.0**	**+0.9**
	comp=Z,108nm,1.8s							
TUC				LR	LR			
	comp=Z,2µm,19.0s							
MDJ	**Mudanjiang**	**89.56**	**325**	P	**P**		**12 49 37.0**	**+0.2**
MDJ				PP	**PP**		**12 53 09.8**	**+0.6**
MDJ				pmax	pmax			
	comp=Z,

WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 91.12 48 ⇑P **P 12 49 45.6 +1.0**
baz=92
CCUT Cedar City 91.16 46 *e*P **P 12 49 45.7 +1.0**
comp=Z,56nm,1.9s
I05D Terrebonne, OR 91.20 37 ⇑P **P 12 49 46.5 +2.0**
baz=92
ARUT Antelope Range 91.26 46 *e*P **P 12 49 45.5 +0.4**
ARUT pmax pmax
comp=Z,898nm,1.9s
ARUT Antelope Range 91.26 46 *e*P **P 12 49 45.5 +0.4**
comp=Z,898nm,1.9s
KDAK Kodiak Island 91.30 13 PFAKE 12 50 00.0 +16
KDAK LR LR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 91.31 39 *e*P **P 12 49 45.3 +0.1**
WVOR pmax pmax
comp=Z,52nm,1.6s
WVOR MLR MLR
comp=Z,6µm,19.0s
WVOR Wild Horse Val 91.31 39 *e*P **P 12 49 45.3 +0.1**
comp=Z,52nm,1.6s
WVOR LR LR
comp=Z,6µm,19.0s
X18A Snowflake 91.44 50 ⇓P **P 12 49 47.1 +1.0**
baz=92
121A Cookes Peak, D 91.68 53 *e*P **P 12 49 47.7 +0.5**
121A Cookes Peak, D 91.68 53 ⇑P **P 12 49 48.2 +1.0**
baz=92
G05D Wamic, OR 91.85 36 ⇓P **P 12 49 48.9 +1.4**
baz=92
222A Williams Famil 91.89 53 ⇑P **P 12 49 48.7 +0.6**
baz=92
W18A Petrified Fore 91.94 50 *e*P **P 12 49 49.3 +0.9**
W18A Petrified Fore 91.94 50 ⇑P **P 12 49 49.0 +0.7**
baz=92
KLR Kul'dur 92.00 330 *e*P P 12 49 40.6 -7.4
KLR pmax pmax
comp=Z,70nm,1.8s
ELK Elko 92.09 42 *e*P **P 12 49 49.0 0.0**
comp=Z,5.3nm,0.9s
NLWA Neilton Lookou 92.14 33 PFAKE 12 50 00.0 +11
NLWA LR LR
comp=Z,4µm,20.0s
GYA Guiyang 92.25 300 P P 12 49 53.8 +3.9
GYA PP **PP 12 53 33.3 +2.4**
GYA SKS **SKSac 13 00 21.8 +1.0**
GYA S **ScS 13 00 52.0 -0.9**
GYA SS **SS 13 07 06.9 +5.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=Z,850nm,21.6s
GYA LR LR
comp=Z,640nm,20.4s
GYA LR LR
comp=Z,780nm,22.0s
ENH Enshi 92.35 304 *e*P **P 12 49 49.6 -0.6**
comp=Z,22nm,1.2s
MVU Marysvale 92.46 46 *e*P **P 12 49 50.9 +0.2**
comp=Z,16nm,1.4s
626A Big Bend Ranch 92.50 57 ⇓P **P 12 49 51.6 +0.7**
baz=93
425A Indio Mountain 92.60 55 ⇓P **P 12 49 51.6 +0.2**
baz=93
324A Moseley Ranch, 92.63 55 ⇑P **P 12 49 51.9 +0.3**
baz=93
Z22A Elephant Butte 92.66 52 ⇑P **P 12 49 52.2 +0.4**
baz=93
TXAR Lajitas Array 92.71 57 P **P 12 49 52.1 +0.2**
TXAR PKKP **PKKPbc 13 07 04.6 +0.9**
TXAR Lajitas Array 92.71 57 P **P 12 49 52.1 +0.2**
comp=Z,3.5nm,1.0s,baz=204,slow=8.0,SNR=11
TXAR PKKP **PKKPbc 13 07 04.6 +0.9**
comp=Z,0.6nm,0.9s,baz=79,slow=4.7,SNR=3.3
TXAR LR LR 13 26 29.7
comp=Z,3µm,18.3s,baz=305,slow=32
123A Bell Site, Whi 92.78 53 ⇓P **P 12 49 52.7 +0.4**
baz=93
526A Mary Lane Ranc 92.82 56 ⇑P **P 12 49 52.6 +0.1**
baz=93
MNTX Cornudas Mount 92.84 54 *e*P **P 12 49 52.7 +0.3**
comp=Z,29nm,1.9s
MNTX LR LR
comp=Z,1µm,19.0s
NNA Nana 92.92 106 PFAKE 12 50 00.0 +6.7
NNA LR LR
comp=Z,2µm,20.0s
325A Bean Ranch, Si 92.94 55 ⇓P **P 12 49 53.8 +0.8**
baz=93
224A Cornudas Mount 92.97 54 ⇑P **P 12 49 53.6 +0.5**
baz=93
627A Terlingua Ranc 92.97 57 ⇑P **P 12 49 53.9 +0.7**
baz=93
Y22A Socorro 93.06 52 ⇑P **P 12 49 54.3 +0.7**
baz=94
DUG Dugway 93.16 44 P **P 12 49 52.2 -1.6**
DUG MLR MLR
comp=Z,3µm,19.0s
DUG Dugway 93.16 44 P **P 12 49 52.2 -1.6**
DUG LR LR
comp=Z,3µm,19.0s
DUG Dugway 93.16 44 ⇑P **P 12 49 54.7 +0.9**
baz=94
Z23A Rita Site, Whi 93.17 53 ⇓P **P 12 49 54.8 +0.8**
baz=94
LENM Lemitar 93.19 52 *e*P **P 12 49 53.7 -0.5**
comp=Z,5.6nm,1.0s
426A McDonald Obser 93.20 56 ⇓P **P 12 49 54.5 +0.2**
baz=94
527A Woodward Ranch 93.21 57 ⇓P **P 12 49 54.9 +0.6**
baz=94
LAZ Ladron 93.22 51 *e*P **P 12 49 55.4 +1.1**
comp=Z,4.8nm,1.1s
LVC Limon Verde 93.25 119 *e*P **P 12 49 56.6 +1.7**
comp=Z,22nm,1.2s
LVC LR LR
comp=Z,2µm,21.0s
628A Black Gap, Mar 93.35 57 ⇑P **P 12 49 54.9 0.0**
baz=94
124A Stringfield Ra 93.37 54 ⇓P **P 12 49 55.6 +0.5**
baz=94
BNM Barren Site 93.42 52 *e*P **P 12 49 58.4 +3.2**
comp=Z,62nm,2.1s
225A Deer Hill, Car 93.47 54 ⇓P **P 12 49 55.7 +0.2**
baz=94
MFID Camas Ranch 93.50 40 *e*P **P 12 49 55.3 0.0**
comp=Z,13nm,0.9s
LPM Los Pinos Moun 93.51 52 *e*P **P 12 49 57.0 +1.3**
comp=Z,20nm,1.4s
HAWA Hanford 93.54 36 PFAKE 12 50 10.0 +15
HAWA LR LR
comp=Z,3µm,19.0s
TMUT Trail Mountain 93.57 45 *e*P **P 12 49 56.4 +0.5**
comp=Z,17nm,1.2s
Y23A Lovelace Mesa, 93.67 52 ⇑P **P 12 49 56.9 +0.5**
baz=94
427A Hayter Ranch, 93.75 56 ⇑P **P 12 49 57.0 +0.3**
baz=94
BJT Baijiatuau 93.78 315 PFAKE 12 50 10.0 +14
BJT LR LR
comp=Z,1µm,21.0s
BJI Beijing 93.79 315 P **P 12 49 57.3 +0.8**
BJI SKS **SKSac 13 00 29.6 +1.2**
BJI S **ScS 13 01 09.5 +4.7**
BJI pmax pmax
comp=Z,12nm,0.8s
BJI LR LR
comp=Z,700nm,21.0s
BJI LR LR
comp=Z,780nm,21.0s
BJI LR LR
comp=Z,950nm,27.9s
Z24A Sheeppen Canyo 93.80 53 ⇑P **P 12 49 57.4 +0.4**
baz=94
528A Cox Ranch, San 93.80 57 ⇓P **P 12 49 57.2 +0.2**
baz=94
SRU San Rafael 93.87 46 *e*P **P 12 49 57.3 +0.1**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael 93.87 46 *e*P **P 12 49 57.3 +0.1**
comp=Z,6.8nm,0.8s
125A Gardner Draw, 93.90 54 ⇑P **P 12 49 57.8 +0.4**
baz=94

226B Tecolote Peak, 93.91 55 ⇓P **P 12 49 57.7 +0.2**
baz=94
CM31 Chiang Mai Arr 93.95 289 P P 12 49 58.4 +0.6
comp=Z,1.1nm,0.4s
CMAR Chiang Mai Arr 93.95 289 P **P 12 49 57.0 -0.8**
CMAR PKKP **PKKPbc 13 07 04.2 +4.4**
CMAR Chiang Mai Arr 93.95 289 P **P 12 49 57.0 -0.8**
comp=Z,1.7nm,0.8s,baz=148,slow=3.5,SNR=11
CMAR PKKP **PKKPbc 13 07 04.2 +4.4**
comp=Z,0.8nm,0.6s,baz=295,slow=4.8,SNR=4.6
X23A Hourglass Bar 93.96 52 ⇓P **P 12 49 58.2 +0.5**
baz=94
ANMO Albuquerque 93.99 51 *e*P **P 12 49 56.8 -1.0**
comp=Z,70nm,2.1s
ANMO LR LR
comp=Z,2µm,19.0s
MVCO Mesa Verde 93.99 48 *e*P **P 12 50 00.3 +2.5**
comp=Z,2.1nm,0.4s
MVCO LR LR
comp=Z,3µm,19.0s
SPUT South Promonto 94.08 43 *e*P **P 12 49 58.1 0.0**
comp=Z,19nm,1.3s
Y24A Capitan 94.09 53 ⇑P **P 12 49 58.7 +0.3**
baz=94
CHTO Chiang Mai 94.14 289 *e*P **P 12 49 57.1 -1.5**
CHTO *e* 12 53 46.2
CHTO pmax pmax
comp=Z,9.0nm,1.2s
CHTO MLR MLR
comp=Z,969nm,21.0s
CHTO Chiang Mai 94.14 289 *e*P **P 12 49 57.1 -1.5**
comp=Z,9.3nm,1.2s
CHTO *e*PP **PP 12 53 46.2 +0.5**
CHTO LR LR
comp=Z,969nm,21.0s
HVU Hansel Valley 94.18 43 *e*P **P 12 49 58.6 +0.1**
HVU pmax pmax
comp=Z,37nm,1.4s
HVU Hansel Valley 94.18 43 *e*P **P 12 49 58.6 +0.1**
comp=Z,37nm,1.4s
529A Stev Forest Ra 94.19 57 ⇑P **P 12 49 59.0 +0.3**
baz=95
428A Kincaid Ranch, 94.19 57 ⇑P **P 12 49 59.3 +0.5**
baz=95
Z25A Roswell 94.21 53 ⇑P **P 12 49 59.2 +0.4**
baz=95
V22A San Miguel Ran 94.26 50 ⇑P **P 12 49 59.6 +0.5**
baz=95
HLID Hailey 94.38 41 *e*P **P 12 49 59.6 +0.2**
comp=Z,8.4nm,0.9s
HLID LR LR
comp=Z,2µm,19.0s
HLID Hailey 94.38 41 ⇑P **P 12 50 00.1 +0.7**
baz=95
KMI Kunming 94.48 297 P **P 12 50 02.8 +2.5**
KMI pP **pP 12 50 13.1 +1.8**
KMI PP **PP 12 53 52.9 +4.3**
KMI SKS **SKSac 13 00 33.8 +0.5**
KMI S **S 13 01 10.6 0.0**
KMI SS **SS 13 07 41.1 +7.0**
KMI pmax pmax
comp=Z,11nm,0.8s
KMI pmax pmax
comp=Z,82nm,3.5s
KMI LR LR
comp=Z,730nm,18.3s
KMI LR LR
comp=Z,650nm,20.8s
KMI LR LR
comp=Z,730nm,20.8s
PV01 Paradox Valley 94.50 48 *e*P **P 12 50 00.5 +0.4**
comp=Z,679nm,1.2s
U22A Llaves 94.57 50 ⇓P **P 12 50 00.7 +0.2**
baz=95
Y25A Mesa, Roswell 94.59 53 ⇓P **P 12 50 00.6 0.0**
baz=95
429A Davenport Ranc 94.70 57 ⇑P **P 12 50 01.2 +0.1**
baz=95
Z26A Caprock 94.71 54 ⇓P **P 12 50 01.2 +0.1**
baz=95
530A J-C Ranch, Com 94.84 58 ⇓P **P 12 50 01.7 0.0**
baz=95
W24A Lazy 6 Ranch, 94.85 52 ⇓P **P 12 50 02.3 +0.5**
baz=95
XAN Xi'an 94.89 307 P P 12 49 56.3 -5.5
XAN pP **PcP 12 50 00.3 -1.8**
XAN pP pP 12 50 02.5 -10
XAN PP PP 12 55 21.6 +90
XAN Xi'an 94.89 307 S **SKSac 13 00 35.8 +1.0**
GAMB Gambell 94.95 3 P **P 12 50 01.7 +0.6**
comp=Z,6.5nm,0.9s
631A Perdido Creek 94.99 59 ⇓P **P 12 50 02.7 +0.4**
baz=95
732A Laxson Ranch, 95.06 59 ⇓P **P 12 50 03.0 +0.3**
baz=95
329A Wagon Wheel Ra 95.12 56 ⇓P **P 12 50 03.5 +0.5**
baz=96
V24A Rampart Ranch, 95.23 51 ⇓P **P 12 50 04.3 +0.7**
baz=96
S22A 4UR Ranch, Cre 95.38 49 ⇓P **P 12 50 04.9 +0.6**
baz=96
531A Rocksprings 95.42 58 ⇓P **P 12 50 04.9 +0.6**
baz=96
W25A X Bar L Ranch, 95.49 52 ⇓P **P 12 50 05.4 +0.8**
baz=96
WRAK Wrangell Islan 95.56 23 PFAKE 12 50 20.0 +16
WRAK LR LR
comp=Z,2µm,20.0s
632A Uvalde 95.62 59 ⇑P **P 12 50 05.9 +0.7**
baz=96
Y27A Causey 95.62 54 ⇓P **P 12 50 06.1 +0.8**
baz=96
V25A Rancho No Teng 95.74 51 ⇓P **P 12 50 06.2 +0.4**
baz=96
AHID Auburn Hatcher 95.77 43 PFAKE 12 50 20.0 +14
AHID LR LR
comp=Z,4µm,19.0s
Z28A Tucker Farm, M 95.83 55 ⇓P **P 12 50 06.7 +0.6**
baz=96
532A Rocksprings 95.87 58 ⇑P **P 12 50 06.7 +0.3**
baz=96
KVTX Kingsville 95.98 61 PFAKE 12 50 20.0 +13
KVTX LR LR
comp=Z,2µm,19.0s
NEW Newport 96.02 36 PFAKE 12 50 20.0 +13
NEW LR LR
comp=Z,4µm,20.0s
MCMT McKenzie Canyo 96.06 40 *e*P **P 12 50 07.4 +0.3**
comp=Z,5.6nm,1.3s
JCT Junction City 96.13 58 PFAKE 12 50 20.0 +12
JCT LR LR
comp=Z,5µm,19.0s
U25A Circle Dot Ran 96.19 51 ⇓P **P 12 50 07.6 -0.3**
baz=97
SDCO Great Sand Dun 96.24 49 PFAKE 12 50 20.0 +12
SDCO LR LR
comp=Z,1µm,19.0s
V26A Tequesquite Ra 96.27 52 ⇑P **P 12 50 08.6 +0.4**
baz=97
R23A Moffat 96.28 49 ⇓P **P 12 50 09.1 +0.7**
baz=97
Z29A Hungry Hill Ra 96.29 55 ⇑P **P 12 50 08.3 +0.1**
baz=97
N20A Spence Gulch, 96.30 46 ⇓P **P 12 50 09.1 +0.8**
baz=97
W27A Bowe Ranch, En 96.35 53 ⇑P **P 12 50 09.1 +0.6**
baz=97
231A Bronte 96.55 57 ⇑P **P 12 50 09.5 +0.1**
baz=97
U26A Atchley Ranch, 96.63 51 ⇑P **P 12 50 10.5 +0.6**
baz=97
Y29A Porterfield Fa 96.64 54 ⇑P **P 12 50 10.1 +0.3**
baz=97
332A Millersview 96.66 57 ⇓P **P 12 50 10.0 +0.1**
baz=97
BW06 Boulder Array 96.67 43 PFAKE 12 50 20.0 +10
BW06 LR LR
comp=Z,3µm,19.0s
PDAR Pinedale Array 96.67 43 P **P 12 50 09.5 -0.4**
PDAR PKKP **PKKPbc 13 06 54.4 +0.5**
PDAR Pinedale Array 96.67 43 P **P 12 50 09.5 -0.4**
comp=Z,1.0nm,0.8s,baz=205,slow=3.2,SNR=8.1
PDAR PKKP **PKKPbc 13 06 54.4 +0.5**
comp=Z,0.9nm,0.6s,baz=91,slow=3.7,SNR=8.9
PDAR LR LR 13 30 56.0
comp=Z,3µm,18.1s,baz=236,slow=34
R24A Sanders Place, 96.77 49 ⇑P **P 12 50 11.1 +0.7**
baz=97
I17A Pilgrim Ck. 96.78 42 ⇓P **P 12 50 11.0 +0.6**
baz=97
433A Art 96.80 58 ⇓P **P 12 50 10.3 -0.2**
baz=97
CD2 Chengdu 96.81 302 P **P 12 50 11.8 +1.2**
CD2 pP **pP 12 50 22.6 +0.9**
CD2 sP **sP 12 50 26.8 +1.2**
CD2 PP **PP 12 54 11.3 +4.9**
CD2 SKS **SKSac 13 00 44.6 -0.5**
CD2 S **S 13 01 29.3 -0.9**
CD2 sS **sS 13 01 48.1 -0.5**
CD2 SS **SS 13 08 11.4 +4.7**
CD2 pmax pmax
comp=Z,10.0nm,1.3s
CD2 pmax pmax
comp=Z,170nm,9.4s
CD2 LR LR
comp=Z,510nm,21.4s
CD2 LR LR
comp=Z,680nm,17.8s
CD2 LR LR
comp=Z,680nm,20.2s
TNA Tin City 96.92 4 *e*P **P 12 50 09.9 -0.2**
comp=Z,14nm,1.1s
O22A Kremmling 96.96 47 ⇓P **P 12 50 12.2 +0.8**
baz=97
SEY Seymchan 96.98 347 *e*P **P 12 50 09.4 -1.1**
232A Coleman 97.00 57 ⇓P Pdif 12 50 11.8 +0.2
baz=97
YMR Madison River 97.01 41 *e*P Pdif 12 50 12.4 +0.9
comp=Z,42nm,1.6s
HHC Hu-ho-hao-te 97.08 314 *e*P Pdif 12 50 14.1 +2.3
HHC pP pP 12 50 24.3 +1.6
HHC PP PP 12 54 15.0 +6.6
HHC SKS **SKSac 13 00 47.3 +1.2**
HHC S **ScS 13 01 33.5 +0.9**
HHC sS sS 13 01 50.3 -0.3
HHC SS SS 13 08 17.8 +7.4
HHC pmax pmax
comp=Z,22nm,1.3s
HHC pmax pmax
comp=Z,290nm,8.2s
HHC LR LR
comp=Z,1µm,17.4s
HHC LR LR
comp=Z,560nm,17.7s
HHC LR LR
comp=Z,860nm,17.9s
BOZ Bozeman (W) 97.24 40 PFAKE 12 50 20.0 +7.6
BOZ LR LR
comp=Z,3µm,20.0s
J19A Crowheart 97.27 43 ⇑P Pdif 12 50 12.9 +0.2
baz=98
ISCO Idaho Springs 97.34 48 PFAKE 12 50 20.0 +6.8
ISCO LR LR
comp=Z,2µm,19.0s
ISCO Idaho Springs 97.34 48 ⇑P Pdif 12 50 18.3 +5.1
baz=98
O23A Lake Granby, G 97.39 47 ⇑P Pdif 12 50 15.9 +2.5
baz=98
S26A Kim 97.50 50 ⇑P Pdif 12 50 17.6 +3.8
baz=98
LPAZ La Paz 97.52 114 P Pdif 12 50 16.2 +1.1
LPAZ La Paz 97.52 114 P Pdif 12 50 16.2 +1.1
comp=Z,1.3nm,0.7s,baz=265,slow=1.8,SNR=4.0
LPAZ LR LR 13 24 37.0
comp=Z,523nm,18.3s,baz=178,slow=30
TGUH Tegucigalpa,Un 97.55 78 PFAKE 12 50 30.0 +16
TGUH LR LR
comp=Z,1µm,19.0s
JTS JuntasAbangare 97.61 83 LR LR 13 26 54.5
comp=Z,708nm,18.5s,baz=181,slow=31
M22A Cedar Creek Ra 97.65 46 ⇓P Pdif 12 50 17.1 +2.6
baz=98
HIA Hailar 97.65 324 PFAKE 12 50 20.0 +6.0
HIA LR LR
comp=Z,837nm,20.0s
334A Lometa 97.72 58 ⇑P Pdif 12 50 16.4 +1.6
baz=98
I19A Meeteetse 97.76 43 ⇓P Pdif 12 50 18.3 +3.5
baz=98
J20A Shoshoni 97.89 44 ⇓Pdiff Pdif 12 50 18.9 +3.5
baz=98
DLBC Dease Lake 97.92 23 LR LR 13 28 13.9
comp=Z,1µm,18.7s,baz=332,slow=32
K21A Alcova 97.96 45 ⇑Pdiff Pdif 12 50 17.9 +2.1
baz=98
OTAV Otavalo 98.04 95 PFAKE 12 50 30.0 +13
OTAV LR LR
comp=Z,817nm,21.0s
RLMT Red Lodge 98.25 42 PFAKE 12 50 30.0 +13
RLMT LR LR
comp=Z,3µm,19.0s
J21A Lysite 98.26 44 ⇓Pdiff Pdif 12 50 18.5 +1.5
baz=99
I21A Big Trails, Te 98.62 44 ⇓Pdiff Pdif 12 50 22.1 +3.5
baz=99
COLA College 98.73 12 *i* P **P 12 50 15.9 -2.4**
COLA pmax pmax
comp=Z,55nm,2.1s
COLA MLR MLR
comp=Z,4µm,17.0s
COLA College 98.73 12 PFAKE 12 50 30.0 +12
COLA LR LR
comp=Z,2µm,20.0s
ILAR Eielson Array 98.82 13 P **P 12 50 16.9 -1.9**
ILAR PKKPbc **PKKPbc 13 06 46.1 -2.3**
ILAR Eielson Array 98.82 13 P **P 12 50 16.9 -1.9**
comp=Z,0.8nm,0.6s,baz=218,slow=5.5,SNR=18
ILAR PKKPbc **PKKPbc 13 06 46.1 -2.3**
comp=Z,0.9nm,1.1s,baz=348,slow=1.0,SNR=3.9
ILAR LR LR 13 35 22.6
comp=Z,914nm,18.2s,baz=4.4,slow=36
WMOK Wichita Mounta 99.13 55 PFAKE 12 50 30.0 +9.1
WMOK LR LR
comp=Z,2µm,19.0s
CPUP Villa Florida 99.19 128 PKKPbc PKKPbc 13 06 44.7 -0.7
CPUP Villa Florida 99.19 128 PKKPbc PKKPbc 13 06 44.7 -0.7
comp=Z,0.8nm,0.4s,baz=45,slow=2.9,SNR=3.2
CPUP LR LR 13 31 41.4
comp=Z,504nm,18.8s,baz=209,slow=33
LZH Lanzhou 99.50 306 *e*P **Pdif 12 50 25.8 +3.1**
LZH pP **pP 12 50 35.3 +1.5**
LZH PP **PP 12 54 32.0 +5.0**
LZH SKS **SKSac 13 01 01.1 +2.4**
LZH *e*S **S 13 01 54.4 +1.3**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.2s
LZH LR LR
comp=Z,550nm,16.8s
LZH LR LR
comp=Z,590nm,17.2s
LZH LR LR
comp=Z,730nm,18.9s
EGMT Eagleton 99.70 39 PFAKE 12 50 30.0 +6.8
EGMT LR LR
comp=Z,5µm,19.0s
TEIG Tepich 99.80 72 LR LR 13 29 43.4
comp=Z,719nm,18.8s,baz=256,slow=32
OGNE Ogallala 100.25 48 PFAKE 12 50 40.0 +14
OGNE LR LR
comp=Z,3µm,19.0s
G23A Biddle 100.53 43 ⇑Pdiff **Pdif 12 50 30.6 +3.6**
baz=101
RSSD Black Hills 100.74 45 *e*P **Pdif 12 50 28.8 +0.7**
RSSD pmax pmax
comp=Z,7.0nm,1.2s
RSSD Black Hills 100.74 45 *e*Pdif **Pdif 12 50 28.8 +0.7**
comp=Z,6.8nm,1.2s
H24A Dirks Ranch, A 100.77 44 ⇓Pdiff **Pdif 12 50 31.6 +3.5**
baz=101
F23A Volborg 100.81 43 ⇓Pdiff **Pdif 12 50 31.2 +3.0**
baz=101
I25A Rochford 100.86 45 ⇑Pdiff **Pdif 12 50 32.0 +3.4**
baz=101
LAO LASA Array 100.89 42 PFAKE 12 50 40.0 +11
LAO LR LR
comp=Z,2µm,19.0s
BCIP Isla Barro Col 101.40 86 PFAKE 12 50 40.0 +8.5
BCIP LR LR
comp=Z,1µm,20.0s
YAK Yakutsk 102.24 337 PFAKE 12 50 50.0 +16
YAK LR LR

comp=Z,1µm,22.0s
MIAR Mount Ida 102.73 57 PFAKE 12 50 50.0 +13
MIAR LR LR
comp=Z,2µm,20.0s
DGAR Diego Garcia 102.79 253 PFAKE 12 50 50.0 +12
DGAR LR LR
comp=Z,2µm,19.0s
KSU1 Kansas State U 102.86 52 PFAKE 12 50 50.0 +13
KSU1 LR LR
comp=Z,2µm,19.0s
DGMT Dagmar 103.01 41 PFAKE 12 50 50.0 +12
DGMT LR LR
comp=Z,2µm,20.0s
ULN Ulaanbaatar 103.66 318 PFAKE 12 50 50.0 +9.1
ULN LR LR
comp=Z,840nm,20.0s
SONM Songino Array 104.03 318 Pdif **Pdif** **12 50 46.5 +4.0**
SONM PKiKP **PKiKP** **12 54 56.8 -2.9**
SONM PKKP **PKKPbc** **13 06 31.6 -1.1**
SONM Songino Array 104.03 318 Pdiff **Pdif** **12 50 46.5 +4.0**
comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=2.9
SONM PKiKP **PKiKP** **12 54 56.8 -2.9**
comp=Z,3.0nm,1.1s,baz=107,slow=4.8,SNR=6.2
SONM PKKP **PKKPbc** **13 06 31.6 -1.1**
comp=Z,0.2nm,0.3s,baz=204,slow=3.2,SNR=3.4
ECSD EROS Data Cent 105.13 48 PFAKE 12 55 10.0
ECSD LR LR
comp=Z,2µm,19.0s
LSA Lhasa 105.67 295 PFAKE 12 55 10.0
LSA LR LR
comp=Z,553nm,22.0s
SAML Samuel 105.71 111 PFAKE 12 55 10.0
SAML LR LR
comp=Z,2µm,20.0s
BRAL Brewton 105.90 63 PFAKE 12 55 10.0
BRAL LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 106.21 26 Pdif **Pdif** **12 50 55.2 +3.5**
YKA PKiKP **PKiKP** **12 55 03.8 +0.7**
YKA PKKPbc **PKKPbc** **13 06 22.3 -4.0**
YKA Yellowknife Ar 106.21 26 Pdiff **Pdif** **12 50 55.2 +3.5**
comp=Z,0.5nm,0.9s,baz=235,slow=4.1,SNR=4.1
YKA PKiKP **PKiKP** **12 55 03.8 +0.7**
comp=Z,0.5nm,0.6s,baz=255,slow=1.3,SNR=7.3
YKA PKKPbc **PKKPbc** **13 06 22.3 -4.0**
comp=Z,0.3nm,0.5s,baz=54,slow=3.2,SNR=3.7
SCIA State Center 106.47 51 PFAKE 12 55 20.0
SCIA LR LR
comp=Z,2µm,19.0s
FFC Flin Flon 107.44 36 PFAKE 12 55 20.0
FFC LR LR
comp=Z,2µm,20.0s
TLY Talaya 107.49 320 PFAKE 12 55 20.0
TLY LR LR
comp=Z,819nm,20.0s
SPB Sao Paulo 107.53 133 PFAKE 12 55 20.0
SPB LR LR
comp=Z,1µm,20.0s
AGMN Agassiz Nation 107.74 44 PFAKE 12 55 20.0
AGMN LR LR
comp=Z,2µm,19.0s
MTDJ Mount Denham 107.74 79 PFAKE 12 55 20.0
MTDJ LR LR
comp=Z,1µm,20.0s
ULM Lac du Bonnet 108.62 42 PKKPbc PKKPbc 13 06 24.4 +6.1
ULM Lac du Bonnet 108.62 42 PKKPbc PKKPbc 13 06 24.4 +6.1
comp=Z,6.0nm,1.0s,baz=247,slow=7.7,SNR=5.2
JFWS Jewell Farm 108.89 51 PFAKE 12 55 20.0
JFWS LR LR
comp=Z,1µm,19.0s
SDV Santo Domingo 109.13 91 PFAKE 12 55 20.0
SDV LR LR
comp=Z,227nm,21.0s
TIXI Tiksi 109.27 344 PFAKE 12 55 20.0
TIXI LR LR
comp=Z,2µm,22.0s
EYMN Ely 110.22 46 PFAKE 12 55 20.0
EYMN LR LR
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 110.56 79 PFAKE 12 55 20.0
GTBY LR LR
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 112.79 56 PFAKE 12 55 30.0
ACSO LR LR
comp=Z,4µm,19.0s
PTGA Pitinga 113.06 106 PFAKE 12 55 30.0
PTGA LR LR
comp=Z,689nm,19.0s
AAM Ann Arbor 113.10 54 PFAKE 12 55 30.0
AAM LR LR
comp=Z,2µm,19.0s
SDDR Presa de Saban 113.35 81 PFAKE 12 55 30.0
SDDR LR LR
comp=Z,545nm,19.0s
BLA Blacksburg 113.50 60 PFAKE 12 55 30.0
BLA LR LR
comp=Z,3µm,19.0s
WMQ Urumqi 114.02 308 PKP **PKiKP** **12 55 18.0 -0.5**
WMQ PP PP 12 56 20.0 +6.5
WMQ PKS **PKSdf** **12 58 53.0 -2.1**
WMQ SKKS 13 03 08.0
WMQ SS **SS** **13 12 06.0 +4.5**
WMQ AMB AMB
comp=Z,68nm,9.0s
WMQ LR LR
comp=Z,440nm,26.0s
WMQ LR LR
comp=Z,450nm,25.0s
WMQ LR LR
comp=Z,420nm,25.0s
SUR Sutherland 114.21 197 PFAKE 12 55 30.0 +10
SUR LR LR
comp=Z,2µm,20.0s
GRTK Grand Turk 114.59 79 PFAKE 12 55 30.0 +10
GRTK LR LR
comp=Z,1µm,19.0s
CNNC Cliffs of the 114.65 63 PFAKE 12 55 30.0 +10
CNNC LR LR
comp=Z,1µm,19.0s
MCWV Mont Chateau 114.82 57 PFAKE 12 55 30.0 +10
MCWV LR LR
comp=Z,3µm,19.0s
ERPA Erie 115.58 55 PFAKE 12 55 30.0 +8.6
ERPA LR LR
comp=Z,2µm,19.0s
CBN Corbin 116.11 60 PFAKE 12 55 30.0 +7.4
CBN LR LR
comp=Z,2µm,19.0s
BOSA Boshof 116.46 203 PKP **PKPdf** **12 55 24.9 +1.0**
BOSA Boshof 116.46 203 PKP **PKPdf** **12 55 24.9 +1.0**
comp=Z,3.4nm,0.9s,baz=159,slow=2.1,SNR=3.6
SJG San Juan 117.33 85 PFAKE 12 55 40.0 +15
SJG LR LR
comp=Z,606nm,19.0s
MSEY Mahe Island 117.96 245 PFAKE 12 55 40.0 +13
MSEY LR LR
comp=Z,962nm,19.0s
GRGR Grenville 118.40 93 PFAKE 12 55 40.0 +12
GRGR LR LR
comp=Z,1µm,22.0s
BINY Binghamton 118.42 56 PFAKE 12 55 40.0 +13
BINY LR LR
comp=Z,4µm,19.0s
MK31 Makanchi Array 118.58 310 *i* PKIKP **PKPdf** **12 55 25.3 -1.8**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 118.58 310 *e*PKPdf **PKPdf** **12 55 26.6 -0.5**
MKAR Makanchi Array 118.58 310 PKIKP **PKPdf** **12 55 25.5 -1.7**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 118.58 310 PKP **PKPdf** **12 55 25.5 -1.7**
MKAR PKKPbc **PKKPab** **13 05 45.7 +1.0**
MKAR Makanchi Array 118.58 310 PKP **PKPdf** **12 55 25.5 -1.7**
comp=Z,3.5nm,0.6s,baz=92,slow=1.0,SNR=29
MKAR PKKPbc **PKKPab** **13 05 45.7 +1.0**
comp=Z,0.6nm,0.8s,baz=279,slow=3.2,SNR=4.1
ZAA0 Zalesovo Array 118.92 318 *e*PKPdf **PKPdf** **12 55 25.7 -1.8**
ZALV Zalesovo Beam 118.92 318 PKIKP **PKPdf** **12 55 26.8 -0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 118.92 318 PKP **PKPdf** **12 55 26.8 -0.7**
ZALV Zalesovo Beam 118.92 318 PKP **PKPdf** **12 55 26.8 -0.7**
comp=Z,1.9nm,0.5s,baz=124,slow=3.5,SNR=7.4

NVS Novosibirsk 120.03 319 *e*PKIKP **PKPdf** **12 55 26.7 -2.9**
NVS *e* 13 02 25.5
NVS pmax pmax
comp=E,6.0nm,1.3s
NVS pmax pmax
comp=Z,20nm,1.3s
FDF Fort de France 120.07 91 PFAKE 12 55 40.0 +9.1
FDF LR LR
comp=Z,814nm,19.0s
LONY Lake Ozonia 120.09 53 PFAKE 12 55 40.0 +10
LONY LR LR
comp=Z,2µm,19.0s
ANWB Willy Bob 120.85 87 PFAKE 12 55 40.0 +7.7
ANWB LR LR
comp=Z,714nm,19.0s
KSH Kashi 120.94 300 PKP **PKPdf** **12 55 33.0 +1.0**
KSH PP PP 12 57 09.3 +7.4
KSH SKS **SKSdf** **13 02 35.1 -6.4**
KSH SKKS **SKKSac** **13 03 57.1 -1.3**
KSH SS **SS** **13 13 38.1 +6.3**
KSH AMB AMB
comp=Z,96nm,6.1s
KSH LR LR
comp=Z,200nm,6.4s
KSH LR LR
comp=Z,180nm,10.4s
KSH LR LR
comp=Z,640nm,19.2s
LBNH Lisbon 121.83 54 PFAKE 12 55 40.0 +6.6
LBNH LR LR
comp=Z,2µm,19.0s
KURK Kurchatov 121.90 313 *e*PKIKP **PKPdf** **12 55 31.2 -2.1**
KURK MLR MLR
comp=Z,365nm,20.0s
KURK Kurchatov 121.90 313 *e*PKPdf **PKPdf** **12 55 31.2 -2.1**
KURK PKP **PKiKP** **12 55 31.8 -1.7**
KURK LR LR
comp=Z,365nm,20.0s
KURBB Kurchatov Arra 121.93 313 PKP **PKPdf** **12 55 31.8 -1.6**
comp=Z,6.0nm,0.6s,baz=115,slow=2.0,SNR=28
TKM2 Tokmak 2 122.14 304 *e*PKIKP **PKPdf** **12 55 33.0 -1.3**
TKM2 Tokmak 2 122.14 304 P **PKPdf** **12 55 33.1 -1.2**
SNR=13
TKM2 Tokmak 2 122.14 304 *e*PKPdf **PKPdf** **12 55 33.0 -1.3**
KZA Kyzart 122.17 303 P **PKPdf** **12 55 34.6 0.0**
SNR=10.0
UCH Uchtor 122.74 303 P **PKPdf** **12 55 35.7 -0.2**
SNR=18
CHMS Chumysh 122.76 304 P **PKPdf** **12 55 34.5 -0.8**
SNR=7.7
FRU Bishkek 122.81 303 *e*PKIKP **PKPdf** **12 55 34.0 -1.4**
FRU pmax pmax
comp=Z,54nm,2.0s
AAK Ala-Archa 122.85 303 P **PKPdf** **12 55 34.7 -1.0**
SNR=6.9
USP Ospenovka 123.00 304 P **PKPdf** **12 55 35.0 -0.8**
SNR=10
AML Almayashu 123.31 302 P **PKPdf** **12 55 36.5 -0.4**
SNR=10.0
EKS2 Erkin-Say 123.37 303 *e*PKIKP **PKPdf** **12 55 36.0 -0.6**
EKS2 Erkin-Say 123.37 303 P **PKPdf** **12 55 35.5 -1.1**
SNR=11
EKS2 Erkin-Say 123.37 303 *e*PKPdf **PKPdf** **12 55 36.0 -0.6**
PKME Peaks-Kenny Pk 123.90 54 PFAKE 12 55 50.0 +13
PKME LR LR
comp=Z,2µm,19.0s
BBSR BB Station 123.99 70 PFAKE 12 55 50.0 +12
BBSR LR LR
comp=Z,713nm,20.0s
KBL Kabul 124.82 292 *e*PKIKP **PKPdf** **12 55 38.3 -1.4**
KBL Kabul 124.82 292 *e*PKPdf **PKPdf** **12 55 38.3 -1.4**
KK31 Karatay Array 125.81 303 *i* PKIKP **PKPdf** **12 55 40.1 -1.0**
KK31 pmax pmax
comp=Z,19nm,1.0s
KKAR Karatay Array 125.81 303 *e*PKIKP **PKPdf** **12 55 40.3 -0.8**
KKAR Karatay Array 125.81 303 *e*PKPdf **PKPdf** **12 55 40.3 -0.8**
SCHQ Schefferville 126.79 42 PKP **PKPdf** **12 55 41.1 -1.5**
SCHQ Schefferville 126.79 42 PKP **PKPdf** **12 55 41.1 -1.5**
comp=Z,5.2nm,0.8s,baz=281,slow=5.2,SNR=3.5
BVA0 Borovoye Array 127.27 315 PKIKP **PKPdf** **12 55 42.0 -1.6**
BVA0 pmax pmax
comp=Z,28nm,1.2s
BVAR Borovoye Array 127.27 315 PKIKP **PKPdf** **12 55 42.1 -1.5**
BVAR pmax pmax
comp=Z,5.0nm,0.4s
BVAR Borovoye Array 127.27 315 PKP **PKPdf** **12 55 42.1 -1.5**
BVAR Borovoye Array 127.27 315 PKP **PKPdf** **12 55 42.1 -1.5**
comp=Z,4.9nm,0.4s,baz=110,slow=2.3,SNR=21
BRVK Borovoye 127.34 315*d i*PKIKP **PKPdf** **12 55 42.4 -1.3**
BRVK pmax pmax
comp=Z,49nm,2.5s
BRVK Borovoye 127.34 315 *e*PKPdf **PKPdf** **12 55 42.8 -0.9**
BRVK LR LR
comp=Z,750nm,20.0s
LSZ Lusaka 127.37 212 PFAKE 12 56 00.0 +15
LSZ LR LR
comp=Z,1µm,20.0s
TSUM Tsumeb 127.61 198 PFAKE 12 56 00.0 +14
TSUM LR LR
comp=Z,3µm,19.0s
RCBR Riachuelo 128.07 129 PFAKE 12 56 00.0 +14
RCBR LR LR
comp=Z,2µm,19.0s
ARQ Araqi 131.57 274 P **PKSbc** **12 59 18.6 -1.0**
SNR=7.5
ABTO Aybut 131.88 266 ⇓P **PKSbc** **12 59 19.6 -1.2**
SNR=5.9
KBS Kingsbay 132.17 357 PFAKE 12 56 00.0 +7.8
KBS LR LR
comp=Z,727nm,19.0s
HATD Hatta, Dubai 132.44 276 P **PKSbc** **12 59 22.1 -0.5**
SNR=8.4
ASHO Ashiyiah 132.45 276 ⇑P **PKSbc** **12 59 22.1 -0.6**
SNR=7.8
SFJD Kangerlussuaq 132.78 25 PFAKE 12 56 00.0 +6.5
SFJD LR LR
comp=Z,2µm,19.0s
SVE Sverdlovsk 132.80 320 *i* PKIKP **PKPdf** **12 55 55.4 +1.5**
SVE pmax pmax
comp=Z,40nm,2.2s
KMBO Kilima Mbogo 133.68 232 *e*PKPdf **PKPdf** **12 55 52.8 -4.5**
KMBO LR LR
comp=Z,942nm,19.0s
AB31 Akbulak array 133.72 310 PKHKP PKPpre 12 55 46.8
AB31 pmax pmax
comp=Z,16nm,1.2s
ABKAR Akbulak array 133.72 310 *e*PKPdf **PKPdf** **12 55 55.6 -0.3**
ARU Arti 134.00 320 *i* PKIKP **PKPdf** **12 55 55.6 -0.6**
ARU 12 58 25.0
ARU MLR MLR
comp=Z,1µm,22.0s
ARU Arti 134.00 320 *e*PKPdf **PKPdf** **12 55 55.3 -0.9**
ARU LR LR
comp=Z,1µm,22.0s
SOKR Solikamsk 134.32 325 *e*PKIKP **PKPdf** **12 55 59.3 +2.7**
SOKR pmax pmax
comp=Z,20nm,1.5s
ASCN Ascension 137.79 155 PFAKE 12 56 20.0 +15
ASCN LR LR
comp=Z,885nm,20.0s
MBAR Mbarara 138.29 226 PFAKE 12 56 20.0 +14
MBAR LR LR
comp=Z,734nm,21.0s
SCO Scoresbysund 138.60 12 *e*PKIKP PKPdf 12 56 11.5 +7.2
SCO Scoresbysund 138.60 12 *i* P PKPdf 12 56 11.5 +7.2
comp=Z,3.2nm,0.8s
PRGR Permogore 138.79 330 *e*PKIKP **PKPdf** **12 56 03.4 -1.5**
PRGR pmax pmax
comp=Z,24nm,1.5s
LVZ Lovozero 138.85 342 PFAKE 12 56 20.0 +15
LVZ LR LR
comp=Z,1µm,22.0s
KEV Kevo 139.12 347 PFAKE 12 56 20.0 +15
KEV LR LR
comp=Z,1µm,21.0s
ARCES ARCESS Array B 139.59 348 PKPpre PKPpre 12 55 57.7
ARCES ARCESS Array B 139.59 348 PKhKP PKPpre 12 55 57.7
comp=Z,2.7nm,0.5s,baz=34,slow=2.2,SNR=14
KBD Kabd 140.93 279 *e*P PKPpre 12 56 03.9
RDF Al-Radifah 140.99 278 *e*P PKPpre 12 56 04.6
RDF AMb AMB 12 56 14.5
comp=Z,119nm,0.9s
RST Umm Al-Ruwaisa 141.60 279 *e*P PKPpre 12 56 05.8
RST AMb AMB 12 56 15.5
comp=Z,352nm,1.0s

JOF Joensuu 143.41 338 *e*PKIKP PKPbc 12 56 10.2 -0.2
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 143.41 338 *e*P PKPbc 12 56 10.2 -0.2
comp=Z,10nm,0.5s
TBLG Delisi 144.68 299 P **PKPab** **12 56 13.1 -1.8**
DUS Dusheti 144.69 300 P **PKPdf** **12 56 15.8 -0.4**
GNI Garni 144.73 296 *e*PKPdf **PKPab** **12 56 14.8 -0.6**
GNI PKP **PKPdf** **12 56 17.7 +1.2**
GNI LR LR
comp=Z,475nm,19.0s
GNI Garni 144.73 296 PKP **PKPdf** **12 56 17.7 +1.2**
comp=Z,9.3nm,0.5s,baz=270,slow=3.6,SNR=6.8
GUDG Gudauri 144.83 300 P PKPbc 12 56 15.9 +0.2
KZR Kazreti 144.94 299 P **PKPab** **12 56 15.9 0.0**
VRHR Novokhopersk 145.01 316 *e*PKIKP **PKPbc** **12 56 14.8 -0.9**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=Z,790nm,19.0s
VRHR MLR MLR
comp=N,250nm,17.0s
VRHR MLR MLR
comp=E,450nm,19.0s
ZEI Tsey 145.22 301 *i* PKIKP **PKPbc** **12 56 15.9 -1.1**
ZEI pmax pmax
comp=Z,120nm,1.4s
MOS Moscow 145.27 325 *e*PKHKP PKPpre 12 56 12.3
MOS pmax pmax
comp=Z,288nm,1.7s
MOS pmax pmax
comp=Z,600nm,2.2s
CLDR Caldiran 145.37 295 *e*P **PKPbc** **12 56 16.0 -1.6**
KAF Kangasniemi 145.55 340 *e*PKP2 **PKPdf** **12 56 14.9 -2.0**
KAF pmax pmax
comp=Z,111nm,0.5s
KAF Kangasniemi 145.55 340 *e*p **PKPdf** **12 56 14.9 -2.0**
comp=Z,111nm,0.5s
GOF Gofitskoye 145.56 305 *e*PKP2 **PKPdf** **12 56 14.7 -2.8**
GOF pmax pmax
comp=Z,120nm,1.3s
ONI Oni 145.57 301 P **PKPdf** **12 56 15.1 -2.6**
CUKT Cukurca 145.57 291 *e*P **PKPdf** **12 56 16.6 -1.3**
AKH Akhalkalaki 145.63 299 P **PKPdf** **12 56 16.8 -1.2**
KBZ Khabaz 145.85 303 PKP2 **PKPab** **12 56 19.2 +0.1**
KBZ pmax pmax
comp=Z,32nm,1.1s
KBZ Khabaz 145.85 303 PKPbc **PKPab** **12 56 19.1 +0.1**
KBZ Khabaz 145.85 303 PKPbc **PKPab** **12 56 19.1 +0.1**
comp=Z,32nm,1.1s,baz=89,slow=1.0,SNR=21
KIV Kislovodsk 145.97 303 *i* PKP2 **PKPdf** **12 56 18.0 -0.4**
KIV *e* 13 03 19.7
KIV *e*SS SS 13 18 29.8 -4.5
KIV *e*SSS SSS 13 24 03.2
KIV pmax pmax
comp=Z,58nm,1.0s
KIV Kislovodsk 145.97 303 *e*PKPbc **PKPdf** **12 56 18.6 +0.3**
KIV LR LR
comp=Z,679nm,20.0s
KARS Kars 145.99 297 *e*P **PKPdf** **12 56 18.9 +0.3**
AGRB Hanur-Agry 146.09 295 *e*P **PKPdf** **12 56 17.8 -1.1**
OBN Obninsk 146.11 325*d i*PKP2 **PKPdf** **12 56 17.8 -0.3**
OBN *e*SS SS 13 18 34.0 -0.3
OBN pmax pmax
comp=Z,204nm,0.9s
OBN Obninsk 146.11 325 *e*PKPbc **PKPdf** **12 56 18.1 0.0**
OBN LR LR
comp=Z,777nm,20.0s
FIA1 FINESS Array S 146.14 340 *e*PKPdf **PKPdf** **12 56 17.6 -0.3**
FIA1 *e*PKPbc **PKPab** **12 56 19.7 +0.1**
FINES FINESS Array B 146.14 340 PKPbc **PKPdf** **12 56 16.6 -1.3**
FINES FINESS Array B 146.14 340 PKPbc **PKPdf** **12 56 16.6 -1.3**
comp=Z,82nm,0.6s,baz=56,slow=3.5,SNR=94
VOR Voronezh 146.20 318 *e*PKHKP PKPpre 12 56 15.0
VOR pmax pmax
comp=Z,300nm,1.8s
VSR Storozhevoye 146.42 317 *e*PKIKP **PKPdf** **12 56 17.5 -1.2**
VSR pmax pmax
comp=Z,180nm,1.2s
VSR pmax pmax
comp=N,40nm,0.9s
VSR pmax pmax
comp=E,80nm,1.0s
VORD Divnogorie 146.44 316 *e*PKIKP **PKPdf** **12 56 17.1 -1.7**
VORD pmax pmax
comp=Z,120nm,1.2s
VORD pmax pmax
comp=N,20nm,1.4s
VORD pmax pmax
comp=E,50nm,0.9s
EZM Erzurum 147.33 296 *e*P **PKPdf** **12 56 21.6 +0.6**
BNGB Bing¶ll 147.90 294 *e*P **PKPbc** **12 56 24.3 -0.5**
MAZI Mazidag 148.09 292 *e*P **PKPbc** **12 56 24.7 -0.8**
SOC Sochi 148.16 303 *i* PKP2 **PKPbc** **12 56 24.5 -0.7**
SOC *e* 12 59 51.5
SOC *e* 13 03 22.0
SOC pmax pmax
comp=Z,41nm,0.8s
SOC MLR MLR
comp=Z,768nm,21.0s
VSU Vasula 148.21 336 *i* PKHKP PKPpre 12 56 18.0
BAYT Ayd¯ntepe-Bay 148.24 297 *e*P **PKPbc** **12 56 25.4 -0.4**
DYBB Diyarbakir 148.34 292 *e*P **PKPdf** **12 56 22.2 -0.3**
GUMT Gumushane 148.73 297 *e*P **PKPbc** **12 56 25.7 -1.3**
EZC Erzincan 148.88 296 *e*P **PKPbc** **12 56 27.2 -0.2**
PTK Pertek 148.90 294 *e*P **PKPbc** **12 56 26.0 -1.5**
ESPY Espiye-Giresun 149.26 298 *e*P **PKPbc** **12 56 26.5 -1.7**
URFA Urfa 149.39 291 *e*P **PKPbc** **12 56 27.2 -1.4**
ANN Anapa 149.51 306 *i* PKIKP PKPpre 12 56 17.2
ANN *e* 13 03 28.2
ANN pmax pmax
comp=Z,151nm,1.5s
ANN MLR MLR
comp=N,595nm,23.0s
ANN MLR MLR
comp=Z,780nm,23.0s
MALT Malatya 149.68 293 *e*P **PKPbc** **12 56 27.4 -2.0**
MALT Malatya 149.68 293⇑ *i*P **PKPdf** **12 56 26.1 +1.4**
NB2 NORSAR Subarra 149.75 351 PKP **PKPbc** **12 56 27.0 -1.7**
comp=Z,318nm,2.0s,baz=20,slow=2.7
NB2 NORSAR Subarra 149.75 351 PKP **PKPbc** **12 56 27.0 -1.7**
baz=20,slow=2.7
NOA NORSAR Array B 149.75 351 PKPbc **PKPbc** **12 56 27.1 -1.6**
NOA NORSAR Array B 149.75 351 PKPbc **PKPbc** **12 56 27.1 -1.6**
comp=Z,8.7nm,0.6s,baz=14,slow=4.1,SNR=18
NAO01 NORSAR Array S 149.98 352 *e*PKPbc **PKPbc** **12 56 30.4 +1.2**
HFS Hagfors 150.25 348 PKPbc **PKPbc** **12 56 27.8 -2.1**
HFS Hagfors 150.25 348 PKPbc **PKPbc** **12 56 27.8 -2.1**
comp=Z,11nm,0.6s,baz=48,slow=2.1,SNR=19
DARE Darende-Malaty 150.41 294 *e*P **PKPbc** **12 56 30.6 -0.5**
IDID Didziasalis 150.48 331 *e*P **PKPbc** **12 56 30.4 -0.1**
IDID AMB AMB 12 56 50.8
comp=Z,32nm,1.2s
ISAL Salakas 150.55 332 *e*P **PKPbc** **12 56 29.7 -1.1**
ISAL AMB AMB 12 56 40.4
comp=Z,30nm,1.2s
MICGM Minsk 150.55 329 *e*P **PKPdf** **12 56 24.0 -1.4**
MNK Minsk 150.57 329 *e*PKIKP **PKPdf** **12 56 24.0 -1.4**
MNK pmax pmax
comp=Z,320nm,1.4s
ASF Jabal al Asfar 150.64 281 PKPbc **PKPbc** **12 56 31.3 -0.6**
ASF Jabal al Asfar 150.64 281 PKPbc **PKPbc** **12 56 31.3 -0.6**
comp=Z,31nm,0.8s,baz=76,slow=3.5,SNR=28
IIGN Ignalina 150.66 332 *e*P **PKPbc** **12 56 29.5 -1.6**
IIGN AMB AMB 12 56 50.7
comp=Z,36nm,1.4s
SVSK Karacayir 150.68 297 *e*P **PKPbc** **12 56 32.3 +0.7**
NACGM Naroch 150.75 331 *e* **PKPdf** **12 56 27.0 +1.3**
KMRS Kahramanmaras 150.92 292 *e*P **PKPbc** **12 56 31.1 -1.2**
SACV Santiago Islan 151.24 119 PFAKE 12 56 40.0 -1.6
SACV LR LR
comp=Z,758nm,19.0s
KONO Kongsberg 151.30 352 *e*PKIKP **PKPbc** **12 56 34.6 +2.2**
KONO *e* 12 56 43.8
KONO MLR MLR
comp=Z,966nm,19.0s
KONO Kongsberg 151.30 352 *e*PKPbc **PKPbc** **12 56 34.6 +2.2**
KONO *e*PKPab **PKPab** **12 56 43.8 +3.3**
KONO LR LR
comp=Z,966nm,19.0s

TAHT	Tahtakopru-Hat	151.51	289	*e*P		PKPbc	12 56 33.3	-0.4	
SIM	Simferopol'	151.74	308	*d i* PKIKP		PKPbc	12 56 33.4	-0.5	
SIM				pmax	pmax				
	comp=Z,53nm,0.8s								
EIL	Elat	151.86	275	PKPbc		PKPbc	12 56 33.4	-1.3	
EIL	Elat	151.86	275	PKPbc		PKPbc	12 56 33.4	-1.3	
	comp=Z,56nm,0.7s,baz=61,slow=1.3,SNR=17								
MMAI	Mount Meron Ar	151.99	282	PKPbc		PKPbc	12 56 34.8	-0.1	
MMAI	Mount Meron Ar	151.99	282	PKPbc		PKPbc	12 56 34.8	-0.1	
	comp=Z,40nm,0.5s,baz=72,slow=4.7,SNR=48								
AKASG	Malin Array Be	152.22	322	PKIKP		PKPbc	12 56 33.4	-1.4	
AKASG				pmax	pmax				
	comp=Z,14nm,0.5s								
AKASG	Malin Array Be	152.22	322	PKPbc		PKPbc	12 56 33.4	-1.4	
AKASG	Malin Array Be	152.22	322	PKPbc		PKPbc	12 56 33.4	-1.4	
	comp=Z,14nm,0.5s,baz=49,slow=2.7,SNR=29								
KIEV	Kiev	152.23	322	*d i* PKIKP		PKPbc	12 56 33.4	-1.4	
KIEV	Kiev	152.23	322	*e*PKPbc		PKPbc	12 56 33.6	-1.2	
KIEV				*e*PKPab		PKPab	12 56 45.4	+0.8	
KIEV				LR	LR				
	comp=Z,969nm,20.0s								
TOS	Tosya	152.76	300	*e*P		PKPbc	12 56 36.8	+0.3	
SUW	Suwalki	152.85	333	*e*PKIKP		PKPbc	12 56 35.0	-1.1	
SUW	Suwalki	152.85	333	*e*PKP		PKPbc	12 56 35.4	-0.7	
SUW	Suwalki	152.85	333	*e*PKPdf		PKPbc	12 56 35.0	-1.1	
SUW				*e*PKPab		PKPab	12 56 55.1	+8.0	
KAMT	Kaman	153.26	296	*e*P		PKPbc	12 56 36.4	-1.2	
BR131	Keskin Array S	153.27	297	*e*PKPbc		PKPbc	12 56 36.8	-0.9	
BRTR	Keskin Array B	153.27	297	PKPbc		PKPbc	12 56 36.1	-1.6	
BRTR	Keskin Array B	153.27	297	PKPbc		PKPbc	12 56 36.1	-1.6	
	comp=Z,11nm,0.8s,baz=128,slow=3.1,SNR=16								
AFSR	Af˙ar-Bala (A	153.74	296	*e*P		PKPdf	12 56 34.4	+3.7	
CSS	Prodhromos	153.82	286	*e*PKPbc		PKPbc	12 56 39.9	+1.0	
CSS				LR	LR				
	comp=Z,311nm,20.0s								
ANTO	Ankara	153.89	297	*e*PKIKP		PKPdf	12 56 30.7	-0.3	
ANTO				*e*			12 56 38.8		
ANTO				*e*			12 56 50.6		
ANTO				MLR	MLR				
	comp=Z,765nm,20.0s								
ANTO	Ankara	153.89	297	P		PKPbc	12 56 38.0	-0.9	
	SNR=7.7								
ANTO	Ankara	153.89	297	⇑ *i* P		PKPbc	12 56 38.3	-0.6	
ANTO	Ankara	153.89	297	*e*PKPdf		PKPdf	12 56 30.7	-0.3	
ANTO				*e*PKPbc		PKPbc	12 56 38.8	-0.2	
ANTO				*e*PKPab		PKPab	12 56 50.6	-1.6	
ANTO				LR	LR				
	comp=Z,765nm,20.0s								
LIC	Lamto	154.06	163	*e*P		PKPdf	12 56 34.0	+2.1	
	comp=Z,71nm,0.8s								
KIC	Kosan Boka	154.26	164	*e*P		PKPdf	12 56 35.5	+3.3	
	comp=Z,79nm,1.1s								
TIC	Toumodi	154.46	163	*e*P		PKPdf	12 56 33.7	+1.2	
	comp=Z,22nm,0.7s								
MUD	Monsted U'grnd	154.47	351	*e*PKP2		PKPab	12 56 53.4	-0.5	
MUD	Monsted U'grnd	154.47	351	*i* P		PKPab	12 56 53.4	-0.5	
	comp=Z,17nm,0.9s								
DBIC	Dimbokro	154.53	163	*e*PKPdf		PKPdf	12 56 31.1	-1.4	
DBIC				PKP		PKPdf	12 56 31.8	-0.8	
DBIC				*e*PKPbc		PKiKP	12 56 42.0	+1.1	
DBIC	Dimbokro	154.53	163	PKP		PKPdf	12 56 31.8	-0.8	
	comp=Z,5.8nm,1.1s,baz=164,slow=3.2,SNR=3.7								
BSD	Bornholm Skovb	154.63	343	*e*PKP2		PKPab	12 56 56.7	+2.1	
BSD	Bornholm Skovb	154.63	343	*i* P		PKPab	12 56 56.7	+2.1	
	comp=Z,31nm,1.0s								
EKA	Eskdalemuir Ar	155.74	8	PKPab		PKPab	12 56 57.3	-2.1	
EKA	Eskdalemuir Ar	155.74	8	PKPab		PKPab	12 56 57.3	-2.1	
	comp=Z,4.2nm,0.7s,baz=332,slow=2.7,SNR=9.2								
ESK	Eskdalemuir	155.75	8	PFAKE			12 56 40.0	+7.1	
ESK				LR	LR				
	comp=Z,1μm,20.0s								
BUR08	Bucovina Ar. S	156.12	319	*e*PKPdf		PKPdf	12 56 29.9	-3.9	
BUR08				*e*PKPab		PKPab	12 57 04.3	+2.8	
BURAR	Bucovina Array	156.13	319	⇑ *i* P		PKPdf	12 56 46.1	+12	
KWP	Kalwaria Pacla	156.18	326	*e*PKP2		PKPab	12 57 00.5	-1.0	
KWP	Kalwaria Pacla	156.18	326	*e*PKP		PKPab	12 57 00.5	-1.0	
KWP	Kalwaria Pacla	156.18	326	⇑ *i* P		PKPab	12 57 00.6	-1.0	
KWP	Kalwaria Pacla	156.18	326	*e*PKPab		PKPab	12 57 01.3	-0.3	
KWP				LR	LR				
	comp=Z,1μm,20.0s								
MLR	Muntele Rosu	156.83	314	⇓ *i* P		PKPdf	12 56 48.5	+14	
MLR	Muntele Rosu	156.83	314	PKPab		PKPab	12 56 59.6	-5.0	
MLR	Muntele Rosu	156.83	314	PKPab		PKPab	12 56 59.6	-5.0	
	comp=Z,0.8nm,0.6s,baz=190,slow=6.1,SNR=4.3								
KOLS	Kolonicke sedl	156.86	325	*e*PKP2		PKPab	12 57 04.3	-0.2	
KOLS				*e*			13 00 42.0		
KOLS	Kolonicke sedl	156.86	325	*e*PKP		PKPab	12 57 04.3	-0.2	
KOLS				*e*PP		PP	13 00 42.0	-0.8	
STHS	Stebnicka Huta	157.02	327	*e*PKP2		PKPab	12 57 06.1	+0.9	
STHS				*e*			13 00 46.0		
STHS	Stebnicka Huta	157.02	327	*e*PKP		PKPab	12 57 06.1	+0.9	
STHS				*e*PP		PP	13 00 46.0	+2.4	
UZH	Uzhgorod	157.05	324	*e*PKIKP		PKPdf	12 56 36.2	+1.4	
TRPA	Tarpa	157.25	323	⇓ *i* P		PKPdf	12 56 46.4	+11	
CRVS	Cervenica-Dubn	157.27	326	*e*PKP2		PKPab	12 57 04.5	-1.8	
CRVS				*e*			13 00 46.5		
CRVS	Cervenica-Dubn	157.27	326	*e*		PKPab	12 57 04.5	-1.8	
CRVS				*e*PP		PP	13 00 46.5	+1.4	
ARR	Arges	157.69	315	⇓ *i* P		PKPdf	12 56 38.6	+2.8	
KSP	Ksiaz	157.94	336	*e*PKP2		PKPab	12 57 07.6	-1.4	
KSP	Ksiaz	157.94	336	*e*PKP		PKPab	12 57 07.8	-1.2	
DRGR		158.00	320	⇑ *i* P		PKPdf	12 56 42.8	+6.6	
OKC	Ostrava-Krasne	158.06	332	*e*PKP2		PKPab	12 57 07.0	-2.6	
OKC				MLR	MLR				
	comp=Z,900nm,18.4s								
OKC	Ostrava-Krasne	158.06	332	*e*PKPAB		PKPab	12 57 07.0	-2.6	
OKC				AMS	AMS		14 18 30.0		
	comp=Z,900nm,18.4s								
UPC	Upice	158.32	336	*e*PKP2		PKPab	12 57 08.9	-1.8	
UPC	Upice	158.32	336	*e*PKPAB		PKPab	12 57 08.9	-1.8	
DPC	Dobruska-Polom	158.34	335	*e*PKIKP		PKPdf	12 56 36.0	-0.4	
DPC				*e*			12 57 08.6		
DPC				*e*			13 26 57.0		
DPC	Dobruska-Polom	158.34	335	*e*PKPDF		PKPdf	12 56 36.0	-0.4	
DPC				*e*PKPAB		PKPab	12 57 08.6	-2.2	
DPC				*ex*	x		12 57 22.8		
DPC				*ex*	x		13 26 57.0		
DPC				*ex*	x		13 29 35.8		
DPC				AMS	AMS		14 20 30.0		
MORC	Moravsky Berou	158.34	332	⇑ *i* P		PKPdf	12 56 38.8	+2.4	
KRLC	Kraliky	158.40	334	*e*PKP2		PKPab	12 57 08.7	-2.4	
KRLC	Kraliky	158.40	334	*e*PKPAB		PKPab	12 57 08.7	-2.4	
CLL	Collm	158.56	341	*e*PKPdiff		PKPdf	12 56 55.0	+18	
CLL				*e*			12 57 03.0		
CLL				*i* PKPab		PKPab	12 57 10.0	-1.7	
	comp=Z,87nm,1.7s								
CLL				*e*SS	SS		13 20 55.0	+4.6	
CLL				*e*SSS	SSS		13 26 57.0		
CLL				L	L		14 22 00.0		
	comp=Z,1μm,18.5s								
BRG	Berggiesshubel	158.68	339	*e*PKP		PKPdf	12 56 51.5	+15	
	comp=Z,33nm,1.8s								
BRG				*i*			12 57 11.2		
	comp=Z,33nm,1.3s								
BRG				*e*			13 00 35.0		
BRG				SS	SS		13 20 07.0	-45	
BRG									
	comp=N,890nm,19.3s								
BRG									
	comp=E,410nm,20.4s								
BRG									
	comp=Z,1μm,20.0s								
BRG	Berggiesshubel	158.68	339	*e*PKIKP		PKPdf	12 56 51.5	+15	
BRG				*i*			12 57 11.2		
BRG				pmax	pmax				
	comp=Z,33nm,1.8s								
BRG				pmax	pmax				
	comp=Z,33nm,1.3s								
BRG				MLR	MLR				
	comp=N,890nm,19.3s								
BRG				MLR	MLR				
	comp=E,410nm,20.4s								
BRG				MLR	MLR				
	comp=Z,1μm,20.0s								
PSZ	Piszkesteto	158.71	326	⇓ *i* P		PKPab	12 57 09.6	-3.0	
PSZ	Piszkesteto	158.71	326	PFAKE			12 56 50.0	+13	
PSZ				LR	LR				
	comp=Z,1μm,20.0s								
PVCC	Panska Ves	158.79	338	*e*PKP2		PKPab	12 57 11.1	-1.6	
PVCC				MLR	MLR				
	comp=Z,1μm,15.9s								
PVCC	Panska Ves	158.79	338	*e*PKPAB		PKPab	12 57 11.1	-1.6	
PVCC				AMS	AMS		14 17 10.0		
	comp=Z,1μm,15.9s								
VRAC	Vranov	159.09	333	⇑ *i* P		PKPab	12 57 14.3	+0.2	
VRAC	Vranov	159.09	333	PKPab		PKPab	12 57 12.9	-1.2	
VRAC	Vranov	159.09	333	PKPab		PKPab	12 57 12.9	-1.2	
	comp=Z,2.6nm,0.4s,baz=74,slow=4.8,SNR=6.3								
PRA	Prague	159.23	338	PKPAB		PKPab	12 57 14.0	-0.6	
PRU	Pruhonice	159.26	337	*e*PKP2		PKPab	12 57 13.6	-1.2	
PRU				*e*SS	SS		13 20 58.4	+0.4	
PRU				MLR	MLR				
	comp=Z,1μm,20.1s								
PRU	Pruhonice	159.26	337	*e*PKPAB		PKPab	12 57 13.6	-1.2	
PRU				*ep*PKP		pPKPdf	12 57 21.9	+33	
PRU				*e*SS	SS		13 20 58.4	+0.4	
PRU				*ex*	x		13 29 21.3		
PRU				AMS	AMS		14 18 40.0		
	comp=Z,1μm,20.1s								
SMOL	Smolenice	159.38	330	*e*PKP2		PKPab	12 57 16.5	+1.1	
SMOL	Smolenice	159.38	330	*e*PKP		PKPab	12 57 16.5	+1.1	
TREC	Trest	159.52	335	*e*PKP2		PKPab	12 57 13.9	-2.1	
TREC	Trest	159.52	335	*e*PKPAB		PKPab	12 57 13.9	-2.1	
NKC	Novy Kostel	159.69	341	*e*PKP2		PKPab	12 57 15.4	-1.2	
NKC	Novy Kostel	159.69	341	*e*PKPAB		PKPab	12 57 15.4	-1.2	
NKC				*ex*	x		12 57 28.3		
KHC	Kasperske Hory	160.32	338	*e*PKIKP		PKPdf	12 56 50.6	+12	
KHC				*e*			12 57 18.5		
KHC				MLR	MLR				
	comp=Z,1μm,17.7s								
KHC	Kasperske Hory	160.32	338	⇓ *e*PKP		PKPdf	12 56 50.6	+12	
KHC				*ep*PKPAB		PKPab	12 57 18.5	-1.0	
KHC				AMS	AMS		14 23 40.0		
	comp=Z,1μm,17.7s								
BEBN	Eben Emael	160.43	354	PKPab		PKPab	12 57 19.8	0.0	
GRA2	Grafenberg Arr	160.51	342	*e*PKPab		PKPab	12 57 19.2	-1.0	
GRA2				*eL*	L		14 18 38.7		
	comp=Z,873nm,19.2s								
PKSM	Moragy	160.51	324	⇓ *i* P		PKPdf	12 56 41.3	+2.3	
GERES	GERESS Array B	160.53	337	PKPab		PKPab	12 57 19.8	-0.7	
GERES	GERESS Array B	160.53	337	PKPab		PKPab	12 57 19.7	-0.7	
	comp=Z,2.2nm,0.7s,baz=28,slow=4.4,SNR=7.7								
MEM	Membach	160.58	353	PKPab		PKPab	12 57 21.1	+0.7	
BCLA	Clavier	160.84	354	PKPab		PKPab	12 57 22.1	+0.6	
MOA	Molln	161.17	334	⇑ *i* PKPab		PKPab	12 57 20.8	-2.4	
	comp=Z,23nm,1.3s								
DOU	Dourbes	161.22	355	PKPab		PKPab	12 57 24.0	+0.7	
WLF	Walferdange	161.50	352	PKPab		PKPab	12 57 24.9	+0.4	
WLF	Walferdange	161.50	352	PFAKE			12 56 50.0	+10	
WLF				LR	LR				
	comp=Z,1μm,22.0s								
SOKA	Soboth	161.83	331	⇑ *i* PKPab		PKPab	12 57 26.3	+0.1	
	comp=Z,22nm,1.6s								
TOA0	Torodi Ar. Sit	161.85	178	*e*PKPdf		PKPdf	12 56 39.1	-2.3	
TOA0				*e*PKPab		PKPab	12 57 27.4	+0.5	
TORD	Torodi Ar. Bea	161.85	178	PKP		PKPdf	12 56 42.4	+1.1	
TORD				PKPab		PKPab	12 57 26.2	-0.7	
TORD				SKP			13 00 16.2		
TORD	Torodi Ar. Bea	161.85	178	PKP		PKPdf	12 56 42.4	+1.1	
	comp=Z,4.5nm,1.1s,baz=176,slow=0.9,SNR=14								
TORD				PKPab		PKPab	12 57 26.2	-0.7	
	comp=Z,20nm,0.9s,baz=177,slow=3.4,SNR=15								
TORD				SKP			13 00 16.2		
	comp=Z,1.6nm,0.7s,baz=174,slow=1.4,SNR=3.9								
LANF	Langenberg	161.93	348	PKP		PKPab	12 57 25.3	-1.1	
BFO	Black Forest	162.45	347	PFAKE			12 56 50.0	+9.0	
BFO				LR	LR				
	comp=Z,996nm,20.0s								
WTTA	Wattenberg	162.58	338	⇑ *i* PKPab		PKPab	12 57 28.6	-1.0	
	comp=Z,44nm,1.4s								
RETA	Reutte	162.65	340	⇑ *i* PKPab		PKPab	12 57 28.7	-1.0	
	comp=Z,39nm,1.2s								
MOTA	Moosalm	162.68	340	⇑ *i* PKPab		PKPab	12 57 29.0	-0.9	
	comp=Z,48nm,1.2s								
ECH	Echery	162.77	349	PKP		PKPab	12 57 27.1	-3.1	
ECH	Echery	162.77	349	PFAKE			12 56 50.0	+8.7	
ECH				LR	LR				
	comp=Z,1μm,19.0s								
THEF	They Montfort	162.93	352	PKP		PKPab	12 57 29.7	-1.1	
FELD	Feldberg im Sc	162.95	347	PKP		PKPab	12 57 29.4	-1.7	
DAVA	Damuels	163.07	342	⇑ *i* PKPab		PKPab	12 57 30.7	-1.0	
	comp=Z,40nm,1.2s								
FETA	Feichten	163.08	340	⇑ *i* PKPab		PKPab	12 57 28.2	-3.5	
	comp=Z,25nm,1.1s								
MOF	Molkenrain	163.13	349	PKP		PKPab	12 57 27.1	-4.7	
DAVOX	Davos/Dischmat	163.54	341	PKPab		PKPab	12 57 32.9	-0.9	
DAVOX	Davos/Dischmat	163.54	341	PKPab		PKPab	12 57 32.9	-0.9	
	comp=Z,19nm,0.9s,baz=315,slow=4.4,SNR=14								
LOMF	Lomont	163.67	349	PKP		PKPab	12 57 29.4	-4.8	
TUE	Stuetta	163.97	342	PFAKE			12 56 50.0	+7.3	
TUE				LR	LR				
	comp=Z,2μm,20.0s								
VLC	Villacollemand	165.73	336	PFAKE			12 56 50.0	+5.9	
VLC				LR	LR				
	comp=Z,1μm,20.0s								
TIP	Timpagrande	165.86	307	PFAKE			12 56 50.0	+5.6	
TIP				LR	LR				
	comp=Z,587nm,19.0s								
BNI	Bardonecchia	165.92	347	PFAKE			12 56 50.0	+5.6	
BNI				LR	LR				
	comp=Z,2μm,19.0s								
SSB	Saint Sauveur	166.01	353	PFAKE			12 56 50.0	+5.7	
SSB				LR	LR				
	comp=Z,1μm,19.0s								
CUC	Castrocucco	166.05	312	PFAKE			12 56 50.0	+5.5	
CUC				LR	LR				
	comp=Z,941nm,19.0s								
CEL	Celeste	166.89	305	PFAKE			12 57 00.0	+15	
CEL				LR	LR				
	comp=Z,935nm,21.0s								
MTE	Manteigas	167.98	39	PFAKE			12 57 00.0	+14	
MTE				LR	LR				
	comp=Z,2μm,19.0s								
WDD	Wield Dalam	168.86	297	PFAKE			12 57 00.0	+13	
WDD				LR	LR				
	comp=Z,1μm,20.0s								
CLTB	Caltabellotta	169.06	307	PFAKE			12 57 00.0	+13	
CLTB				LR	LR				
	comp=Z,626nm,22.0s								
VSL	Villasalto	170.05	326	PFAKE			12 57 00.0	+13	
VSL				LR	LR				
	comp=Z,2μm,20.0s								
PAB	San Pablo	170.22	32	PFAKE			12 57 00.0	+13	
PAB				LR	LR				
	comp=Z,2μm,19.0s								
ESDC	Sonseca Array	170.28	30	PKP		PKPdf	12 56 47.8	+0.4	
ESDC				PKPab		PKPab	12 58 03.7	+0.1	
ESDC	Sonseca Array	170.28	30	PKP		PKPdf	12 56 47.8	+0.4	
	comp=Z,0.1nm,0.3s,baz=299,slow=2.6,SNR=2.8								
ESDC				PKPab		PKPab	12 58 03.7	+0.1	
	comp=Z,0.6nm,0.4s,baz=314,slow=3.9,SNR=3.4								
TAM	Tamanrasset	170.98	199	*e*PKIKP		PKPdf	12 56 49.1	+0.7	
TAM				MLR	MLR				
	comp=Z,1μm,19.0s								
TAM	Tamanrasset	170.98	199	*e*PKPdf		PKPdf	12 56 49.1	+0.7	
TAM				*e*PKPab		PKPab	12 58 10.8	+3.7	
TAM				LR	LR				
	comp=Z,1μm,19.0s								
RTC	Rabat Centre	171.87	69	PFAKE			12 57 00.0	+12	
RTC				LR	LR				
	comp=Z,2μm,19.0s								
KEST	Kesra	172.68	308	*e*PKPdf		PKPdf	12 56 45.5	-3.2	
KEST				PKP			12 56 45.8		
KEST	Kesra	172.68	308	PKP		PKPdf	12 56 45.8	-3.0	
	comp=Z,5.2nm,0.6s,baz=90,slow=3.0,SNR=16								

*CSEM **16** 12:37:02.9, 46°.35N × 7°.45E, h4km, ML0.9/6, After ZUR*

ZUR 16 12:37:02.9, 46°.35N × 7°.45E, h4km ± 2km, ML0.9/6, 4C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SENIN	Lac Senin/Sane	0.11	279	⇓ *i* Pg		Pg	12 37 05.3	-0.1
	196nm,0.3s							
SENIN	Lac Senin/Sane	0.11	279	⇓ *i* Pg		Pg	12 37 05.3	-0.1
	196nm,0.3s							
LKBD	Leukerbad	0.13	71	⇓ *i* Pg		Pg	12 37 05.7	0.0
	58nm,0.2s							
LKBD				*i* Sg		Sg	12 37 07.7	+0.2
	58nm,0.2s							
LKBD	Leukerbad	0.13	71	⇓ *i* Pg		Pg	12 37 05.7	0.0
	58nm,0.2s							
LKBD				*i* Sg		Sg	12 37 07.7	+0.2
	58nm,0.2s							
LKBD2	Leukerbad 2	0.14	78	*e*Pg		Pg	12 37 06.0	+0.1
LKBD2	Leukerbad 2	0.14	78	*e*Pg		Pg	12 37 06.0	+0.1
GRYON	Gryon	0.26	248	*e*Pg		Pg	12 37 08.0	-0.1
	22nm,0.4s							
GRYON				*e*Sg		Sg	12 37 11.8	+0.2
	22nm,0.4s							
GRYON	Gryon	0.26	248	*e*Pg		Pg	12 37 08.0	-0.1
	22nm,0.4s							
GRYON				*e*Sg		Sg	12 37 11.8	+0.2
	22nm,0.4s							
DIX	Grande Dixence	0.27	187	⇑ *i* Pg		Pg	12 37 08.3	-0.2
	18nm,0.1s							
DIX	Grande Dixence	0.27	187	⇑ *i* Pg		Pg	12 37 08.3	-0.2
	18nm,0.1s							
MMK	Mattmark	0.46	130	*e*Pg		Pg	12 37 11.9	-0.2
	18nm,0.2s							
MMK	Mattmark	0.46	130	*e*Pg		Pg	12 37 11.9	-0.2
	18nm,0.2s							
EMV	Vieux Emosson	0.48	234	⇑ *i* Pg		Pg	12 37 12.2	-0.3
	13nm,0.4s							
EMV	Vieux Emosson	0.48	234	⇑ *i* Pg		Pg	12 37 12.2	-0.3
	13nm,0.4s							
FUSIO	Fusio	0.84	82	*e*Pg		Pg	12 37 19.0	-0.3
FUSIO	Fusio	0.84	82	*e*Pg		Pg	12 37 19.0	-0.3

IDC 16 12:53:18.3±1.3, 31°.27S × 177°.72W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/20, mbtmp4.2/4, ML4.3/1, Error ellipse: s-maj=37.6km s-min=22.0km az=83.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	Raoul Island	2.02	355	Pn		Pn	12 53 54.1	+0.5
	107nm,0.3s,baz=78,slow=20,SNR=3.4							
RAO				Sn		Sn	12 54 20.2	+0.6
	150nm,0.3s,baz=75,slow=20,SNR=3.3							
URZ	Urewera	8.17	210	Pn		Pn	12 55 14.5	-3.6
	0.2nm,0.3s,baz=201,slow=8.6,SNR=5.3							
URZ				Sn		Sn	12 56 46.9	-4.3
	1.3nm,0.3s,baz=311,slow=20,SNR=12							
ASAR	Alice Springs	43.31	268	P		P	13 01 22.2	0.0
	1.7nm,0.7s,baz=107,slow=7.4,SNR=16							
WRA	Warramunga Arr	44.38	273	P		P	13 01 30.5	-0.3
	1.4nm,0.4s,baz=113,slow=8.1,SNR=28							
QSPA	South Pole Qui	58.84	180	P		P	13 03 18.4	-0.1
	1.3nm,0.2s,baz=290,slow=4.9,SNR=2.6							
FINES	FINESS Array B	146.04	340	PKPbc		PKPdf	13 12 58.6	0.0
	5.4nm,0.7s,baz=38,slow=2.5,SNR=8.5							
TORD	Torodi Ar. Bea	161.96	178	PKPab		PKPab	13 14 07.5	-0.4
	0.4nm,0.8s,baz=187,slow=4.5,SNR=2.4							

*IDC **16** 13:05:23.8±1.2, 30°.86S × 177°.76W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.1/5, MS4.6/2, Ms1 4.5/2, ms1mx3.8/29, Error ellipse: s-maj=31.6km s-min=24.9km az=80.0*

*NEIC **16** 13:05:24.5±0.8, 31°.18S × 177°.65W, h10km, mb4.8/3, Error ellipse: s-maj=24.8km s-min=18.0km az=204.0*

*ISCJB **16** 13:05:27.0±1.6, 31°.20S±0°.08 × 177°.8W±0°.3, h35km, mb4.3/6, MS4.6/2, Error ellipse: s-maj=33.0km s-min=10.5km az=6.8*

ISC 16 13:05:28.2±1.2, 31°.29S±0°.08 × 177°.8W±0°.2, h35km, n26, σ1°.53/24, mb4.5/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	Raoul Island	2.04	357	Pn		Pn	13 05 47.5	-12
RAO				Sn		Sn	13 06 21.7	-2.5
RAO	Raoul Island	2.04	357	Pn		Pn	13 05 53.2	-6.8
	32nm,0.3s,baz=137,slow=19,SNR=1.9							
RAO				Sn		Sn	13 06 21.7	-2.5
	181nm,0.3s,baz=120,slow=20,SNR=3.9							
URZ	Urewera	8.11	210	*e*Pn		Pn	13 07 21.1	-2.4
URZ				Sn		Sn	13 08 51.9	-2.0
URZ	Urewera	8.11	210	Pn		Pn	13 07 18.6	-4.9
	0.3nm,0.3s,baz=124,slow=18,SNR=8.9							
URZ				Sn		Sn	13 08 51.9	-2.0
	1.3nm,0.3s,baz=25,slow=21,SNR=8.5							
CTA	Charters Tower	34.12	280	P		P	13 12 11.6	+1.7
CTA	Charters Tower	34.12	280	P		P	13 12 11.6	+1.7
	3.3nm,0.7s,baz=116,slow=18,SNR=3.6							
CTAO	Charters Tower	34.12	280	*e*P		P	13 12 11.6	+1.7
	27nm,1.3s							
STKA	Stephens Creek	34.45	258	P		P	13 12 14.2	+1.5
STKA

AS31	Alice Springs	43.42	268	*e*P	P	13	28	58.6 -1.2
ASAR	Alice Springs	43.42	268	P	P	13	28	58.8 -0.9
ASAR	Alice Springs	43.42	268	P	P	13	28	58.8 -0.9
	1.1nm,0.4s,baz=106,slow=7.5,SNR=22							
WRAB	Tennant Creek	44.47	273	*e*P	P	13	29	07.2 -1.0
	4.9nm,0.7s							
WRA	Warramunga Arr	44.48	273	P	P	13	29	07.3 -0.9
WRA	Warramunga Arr	44.48	273	P	P	13	29	07.3 -0.9
	1.7nm,0.4s,baz=112,slow=8.0,SNR=31							
PETK	Petropavlovsk-	86.65	345	P	P	13	33	40.1 +0.4
PETK	Petropavlovsk-	86.65	345	P	P	13	33	40.1 +0.4
	4.9nm,0.9s,baz=174,slow=6.7,SNR=2.9							
KURK	Kurchatov	121.83	313	PKP	PKPdf	13	39	49.6 -0.6
KURBB	Kurchatov Arra	121.87	313	PKP	PKPdf	13	39	49.6 -0.7
	0.3nm,0.3s,baz=98,slow=2.0,SNR=5.0							
FINES	FINESS Array B	145.99	340	PKPbc	PKPab	13	40	35.7 -0.4
FINES	FINESS Array B	145.99	340	PKPbc	PKPab	13	40	35.7 -0.4
	9.1nm,0.7s,baz=59,slow=2.3,SNR=23							
AKASG	Malin Array Be	152.12	322	PKPbc	PKPbc	13	40	51.3 -0.3
AKASG	Malin Array Be	152.12	322	PKPbc	PKPbc	13	40	51.3 -0.3
	3.0nm,0.8s,baz=51,slow=3.3,SNR=9.7							
TORD	Torodi Ar. Bea	162.05	178	PKPab	PKPab	13	41	44.2 -0.5
TORD	Torodi Ar. Bea	162.05	178	PKPab	PKPab	13	41	44.2 -0.5
	0.3nm,0.7s,baz=194,slow=4.4,SNR=2.7							

IDC 16 13:24:58.3±3.1, 31°40S×177°71W, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.9/20, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=71.2km s-min=29.8km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	2.15	355	Pn	Pn	13 25 34.4	-1.0
	65nm,0.3s,baz=93,slow=16,SNR=5.2						
RAO				Sn	Sn	13 25 54.9	-7.9
	91nm,0.3s,baz=72,slow=20,SNR=2.9						
URZ	Urewera	8.06	210	Pn	Pn	13 26 54.9	-1.7
	0.4nm,0.3s,baz=344,slow=7.4,SNR=7.6						
URZ				Sn	Sn	13 28 26.6	-1.8
	1.2nm,0.3s,baz=252,slow=20,SNR=8.5						
ASAR	Alice Springs	43.32	268	P	P	13 33 02.3	+0.1
	0.7nm,0.4s,baz=106,slow=7.6,SNR=14						
WRA	Warramunga Arr	44.40	273	P	P	13 33 10.8	0.0
	1.0nm,0.4s,baz=111,slow=8.1,SNR=21						
FINES	FINESS Array B	146.17	340	PKPbc	PKPbc	13 44 39.4	-0.4
	2.5nm,0.7s,baz=29,slow=3.2,SNR=5.9						

IGQ 16 13:27:45.7, 0.98N×79.04W, h26km±82km, Mb4.0, Ms3.8, 8C, Error ellipse: s-maj=2.6km s-min=1.8km az=1.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LITE	Lita	0.69	104	⇑S	Sn	13 28 10.1	-0.1
LITE	Lita	0.69	104	⇑P	Pb	13 27 59.6	+0.1
GOLV	Golondrinas	0.77	187	⇑P	Pn	13 28 01.2	+0.2
OTAV	Otavalo	0.94	141	P	Pn	13 28 03.5	-0.4
OTAV	Otavalo	0.94	141	S	Sn	13 28 17.5	+0.6
PINO	Pino	1.21	159	⇑P	Pb	13 28 08.6	-0.1
TERV	Terraza Guagua	1.22	159	S	Sb	13 28 25.9	+1.0
TERV	Terraza Guagua	1.22	159	P	Pb	13 28 08.8	-0.2
GGP	Refugio Guagua	1.23	159	⇑P	Pb	13 28 09.0	-0.1
JUA2	San Juan 2	1.26	160	⇑P	Pb	13 28 09.3	-0.2
MAG1	Magdalena	1.28	215	P	Pb	13 28 09.1	-0.1
CAYA	Cayambe	1.38	131	⇑P	Pb	13 28 11.1	-0.6
ANGU	Angureal	1.38	132	S	Sb	13 28 30.5	+1.0
ANGU	Angureal	1.38	132	P	Pb	13 28 11.2	-0.5
CAYR	Refugio Cayamb	1.41	133	P	Pb	13 28 11.6	-0.6
PITA	Cotopaxi Volc	1.64	158	S	Sb	13 28 37.1	+0.4
PITA	Cotopaxi Volc	1.64	158	P	Pb	13 28 15.6	-0.4
ANTI	Antisana	1.67	148	P	Pb	13 28 15.7	-0.9
NAS2	Nasa	1.71	161	S	Sb	13 28 40.1	+1.4
NAS2	Nasa	1.71	161	P	Pb	13 28 17.0	-0.2
CAMI	Rancho Maria	1.73	162	⇑P	Pb	13 28 17.4	0.0
CHAR	Charly	1.73	128	S	Sb	13 28 40.2	+1.1
CHAR	Charly	1.73	128	P	Pb	13 28 17.1	-0.2
VC1	Cotopaxi 1	1.73	159	P	Pb	13 28 16.9	-0.7
BNAS	Cotopaxi Volca	1.73	161	P	Pb	13 28 17.2	-0.3
BVC2	Cotopaxi Volca	1.74	159	P	Pb	13 28 17.0	-0.8
CONE	Cono NE Rev Vo	1.74	127	P	Pb	13 28 17.2	-0.2
BREF	Cotopaxi Volca	1.74	160	S	Sb	13 28 40.1	+0.2
BREF	Cotopaxi Volca	1.74	160	P	Pb	13 28 17.6	-0.3
BTAM	Cotopaxi Volca	1.76	159	S	Sb	13 28 40.2	-0.1
BTAM	Cotopaxi Volca	1.76	159	P	Pb	13 28 17.5	-0.7
LAV4	Lava4-Reventad	1.77	127	P	Pb	13 28 17.2	-0.6
COV1	Cotopaxi Volc	1.77	157	P	Pb	13 28 17.9	-0.5
COV1	Cotopaxi Volc	1.77	157	S	Sb	13 28 40.2	-0.5
MOV1	Cotopaxi Vol s	1.78	160	P	Pb	13 28 17.9	-0.7
BMOR	Cotopaxi Volca	1.79	161	P	Pb	13 28 17.3	-1.4
PISA	Pisayambo	2.13	162	P	Pb	13 28 23.7	-0.6
BULB	Ulba Tungurahu	2.48	165	P	Pb	13 28 28.6	-1.5
ULBA	Ulba	2.49	165	P	Pb	13 28 28.6	-1.8
BMAS	Trigal station	2.53	167	P	Pb	13 28 30.2	-0.7
ARRY	Arrayan	2.54	167	S	Sb	13 29 01.4	-0.8
ARRY	Arrayan	2.54	167	P	Pb	13 28 39.8	-1.3
BPAT	Tungurahua Vol	2.54	166	P	Pb	13 28 30.1	-1.2
PAT1	Patacocha	2.54	166	P	Pb	13 28 30.6	-0.7

*NEIC **16** 13:33:04.5±3.9, 31°.23S×177°.80W, h32km±25km, mb5.0/7, Error ellipse: s-maj=16.4km s-min=8.2km az=146.0*
*ISCJB **16** 13:33:05.7±0.3, 31°.15S±0°.06×178°.00W±0°.06, h46km, mb4.7/17, MS3.5/7, Error ellipse: s-maj=10.2km s-min=6.1km az=145.6*
*AUST **16** 13:33:06.0±2.1, 31°.12S×177°.84W, h33km, Error ellipse: s-maj=2.0km s-min=1.0km az=302.0*
*IDC **16** 13:33:13.6±1.7, 30°.42S×178°.27W, h88km±14km, mb4.3/11, mb1 4.4/12, mb1mx4.2/22, mbtmp4.6/12, MS4.0/9, Ms1 4.0/9, ms1mx3.6/33, Error ellipse: s-maj=21.0km s-min=15.8km az=140.0*

ISC 16 13:33:05.7±0.6, 31°22S±0°.07×177°8W±0°.1, h46km, n129, σ1°44/102, mb4.8/17, MS3.8/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	1.96	358	*e*Pn	Pn	13 33 35.3	-1.3
RAO				S	Sn	13 33 58.0	-1.9
RAO	Raoul Island	1.96	358	P	Pn	13 33 35.1	-1.4
	485nm,0.3s,baz=190,slow=2.5,SNR=17						
RAO				S	Sn	13 33 58.0	-1.9
	674nm,0.3s,baz=233,slow=20,SNR=7.8						
URZ	Urewera	8.16	209	*e*Pn	Pn	13 34 58.0	-3.5
URZ				S	Sn	13 36 27.4	-5.0
URZ	Urewera	8.16	209	P	Pn	13 34 54.4	-7.1
	1.8nm,0.3s,baz=190,slow=5.0,SNR=14						
URZ				S	Sn	13 36 27.4	-5.0
	6.0nm,0.3s,baz=43,slow=23,SNR=6.8						
OUZ	Omahuta	8.21	239	*e*P	Pn	13 35 04.7	+2.5
	74nm,0.9s						
RPZ	Rata Peaks	15.25	212	P	Pn	13 36 29.1	-8.9
RPZ				S	Sn	13 39 06.7	-19
RPZ	Rata Peaks	15.25	212	P	Pn	13 36 29.1	-8.9
	0.5nm,0.3s,baz=347,slow=18,SNR=3.1						
RPZ				S	Sn	13 39 06.7	-19
	0.3nm,0.3s,baz=118,slow=15,SNR=3.3						
DZM	Mont Dzumac	16.73	299	*e*LR	LR	13 40 40.7	
	1µm,26.7s						
DZM	Mont Dzumac	16.73	299	*e*P	P	13 37 06.1	+7.4
DZM	Mont Dzumac	16.73	299	LR	LR	13 41 57.1	
	comp=Z,16nm,28.6s,baz=180,slow=33						
AFI	Afiamalu	18.11	19	*e*P	P	13 37 12.6	-1.3
AFI	Afiamalu	18.11	19	P	P	13 37 13.0	-0.9
	3.0nm,0.3s,baz=227,slow=21,SNR=4.7						
RAR	Rarotonga	19.01	63	LR	LR	13 42 39.2	
	comp=Z,16nm,28.6s,baz=271,slow=30						
TBI	Tubuai	26.36	80	*e*LQ	LQ	13 43 43.0	
	402nm,26.8s						
TBI				*e*LR	LR	13 45 02.2	
	486nm,29.5s						
TBI	Tubuai	26.36	80	*e*T	T	14 05 34.1	
	16nm,0.4s						
EIDS	Eidsvold	27.92	274	*e*P	P	13 38 52.9	+1.2
EIDS	Eidsvold	27.92	274	P	P	13 38 53.5	+1.9
	baz=28,SNR=3.8						
PAE	Paea	28.96	69	*e*T	T	14 08 50.4	
	4.1nm,0.3s						
PPT2	Papeete2	29.00	69	*e*LQ	LQ	13 44 44.1	
	307nm,24.5s						
PPT2				*e*LR	LR	13 46 10.9	
	377nm,27.8s						
PPT2	Papeete2	29.00	69	*e*T	T	14 08 54.3	
	4.2nm,0.3s						
TVO	Taravao	29.16	69	*e*T	T	14 09 05.4	
	0.9nm,0.3s						
RMQ	Roma	29.56	271	P	P	13 39 09.2	+3.0
	baz=30,SNR=11						
CMSA	Cobar Meteorol	31.04	260	P	P	13 39 21.0	+1.7
	baz=31,SNR=18						
VAH	Vaihoa	31.86	67	*e*T	T	14 12 28.6	
	14nm,0.2s						
QLP	Quilpie	33.41	268	P	P	13 39 41.5	+1.4
	baz=33,SNR=8.3						
CTA	Charters Tower	34.07	280	P	P	13 39 47.4	+1.5
CTA	Charters Tower	34.07	280	P	P	13 39 47.4	+1.5
	21nm,0.8s,baz=98,slow=11,SNR=14						
CTAO	Charters Tower	34.07	280	*e*P	P	13 39 48.0	+2.1
	24nm,0.8s						
STKA	Stephens Creek	34.43	258	*e*P	P	13 39 50.1	+1.2
STKA	Stephens Creek	34.43	258	P	P	13 39 50.0	+1.1
	4.1nm,0.7s,baz=97,slow=10,SNR=10.0						
STKA				LR	LR	13 51 22.6	
	comp=Z,16nm,28.6s,baz=25,slow=32						
STKA	Stephens Creek	34.43	258	P	P	13 39 50.3	+1.4
	baz=34,SNR=7.3						
HTT	Hallett	36.41	255	P	P	13 40 06.3	+0.4
	baz=36,SNR=7.5						
RKT	Rikitea	38.79	89	*e*LR	LR	13 50 50.4	
	470nm,29.0s						
BBOO	Buckleboo	38.88	255	P	P	13 40 26.7	-0.1
	baz=39,SNR=10						
PMG	Port Moresby	39.08	296	LR	LR	13 52 48.6	
	comp=Z,158nm,20.7s,baz=19,slow=31						
COEN	Coen	39.63	287	*e*P	P	13 40 34.1	+0.9
AS31	Alice Springs	43.20	268	*e*P	P	13 41 02.6	+0.1
ASAR	Alice Springs	43.20	268	P	P	13 41 02.5	0.0
ASAR	Alice Springs	43.20	268	P	P	13 41 02.5	0.0
	9.3nm,0.9s,baz=104,slow=7.6,SNR=57						
WRAB	Tennant Creek	44.26	273	*e*P	P	13 41 11.2	+0.2
	22nm,0.7s						
WRAB	Tennant Creek	44.26	273	P	P	13 41 11.0	0.0
	190nm,0.7s,SNR=19						
WRA	Warramunga Arr	44.27	273	P	P	13 41 11.3	+0.3
WRA	Warramunga Arr	44.27	273	P	P	13 41 11.3	+0.3
	10nm,0.6s,baz=113,slow=7.9,SNR=76						
WRA				LR	LR	13 57 36.4	
	comp=Z,222nm,21.3s,baz=50,slow=33						
VNDA	Vanda	47.30	186	P	P	13 41 44.8	+11
VNDA	Vanda	47.30	186	P	P	13 41 44.8	+11
	1.1nm,0.9s,baz=5.5,slow=7.6,SNR=5.1						
WRKA	Warakurna	47.51	263	P	P	13 41 36.2	-0.4
	baz=48,SNR=5.5						
MTN	Manton Dam	50.25	280	P	P	13 42 01.2	+3.6
	baz=50,SNR=3.2						
FITZ	Fitzroy Crossi	52.49	270	*e*P	P	13 42 15.1	+0.7
FITZ	Fitzroy Crossi	52.49	270	P	P	13 42 14.2	-0.2
	7.3nm,1.0s,baz=115,slow=8.4,SNR=6.0						
FITZ				LR	LR	14 03 27.1	
	comp=Z,16nm,28.6s,baz=93,slow=35						
NWAO	Narrogin (SRO)	54.24	250	LR	LR	14 02 33.7	
	comp=Z,160nm,18.7s,slow=32						
CASY	Casey	54.48	208	*e*P	P	13 42 27.6	-0.7
	19nm,1.1s						
SOEI	Soe	57.61	279	P	P	13 42 47.2	-4.3
	baz=58,SNR=4.7						
QSPA	South Pole Qui	58.89	180	P	P	13 43 08.9	+9.2
QSPA	South Pole Qui	58.89	180	P	P	13 43 08.9	+9.2
	13nm,0.8s,baz=32,slow=4.2,SNR=13						
SNAA	Sanae	77.33	178	*e*P	P	13 44 55.0	-0.2
	7.2nm,1.0s						
VNA2	Neumayer--Watz	77.92	177	*e*P	P	13 44 58.8	+0.5
VNA2	Neumayer--Watz	77.92	177	*e*	P	13 45 14.1	+16
VNA1	Neumayer--Stat	78.14	176	*e*P	P	13 45 01.1	+1.5
H03N3	Juan Fernandez	80.10	123	T	T	15 14 20.9	
	baz=238						
H03N2	Juan Fernandez	80.10	123	T	T	15 14 35.6	
	baz=238						
H03N1	Juan Fernandez	80.11	123	T	T	15 14 37.2	
	baz=238						
JNU	Nakatsue	80.26	318	LR	LR	14 16 24.8	
	comp=Z,16nm,28.6s,slow=33						
PLCA	Paso Flores	81.85	133	LR	LR	14 16 10.0	
	comp=Z,92nm,18.1s,baz=122,slow=31						
MONP	Monument Peak	86.22	48	P	P	13 45 44.2	+1.7
	baz=86						
BFSC	Mount Baldy Ra	86.33	46	P	P	13 45 45.1	+2.1
	baz=86						
EDW2	Edwards Air Fo	86.56	45	P	P	13 45 45.3	+1.3
	baz=87						
PETK	Petropavlovsk-	86.64	346	P	P	13 45 44.4	+0.6
PETK	Petropavlovsk-	86.64	346	P	P	13 45 44.4	+0.6
	8.8nm,0.7s,baz=123,slow=8.2,SNR=16						
PFO	Pinyon Flat Ob	86.66	47	P	P	13 45 45.8	+1.2
	baz=87						
ISA	Isabella	86.79	45	P	P	13 45 47.1	+2.0
	baz=87						
LRMC	Laurel Mountai	87.14	45	P	P	13 45 48.1	+1.1
	baz=87						
BELC	Belle Mtn. Jos	87.21	47	P	P	13 45 49.1	+1.8
	baz=87						
BC3	Big Chuckawall	87.33	48	P	P	13 45 49.4	+1.6
	baz=88						
HEC	Hector,Ludlow	87.54	46	P	P	13 45 50.4	+1.6
	baz=88						
CWC	Cottonwood Cre	87.55	44	P	P	13 45 50.4	+1.5
	baz=88						
GSC	Goldstone	87.56	46	P	P	13 45 50.4	+1.5
	baz=88						
MPMC	Manual Prospec	87.64	45	P	P	13 45 50.8	+1.4
	baz=88						
IRM	Iron Mountain	87.84	48	P	P	13 45 51.9	+1.7
	baz=88						
GMRC	Granite Mounta	87.93	47	P	P	13 45 52.2	+1.5
	baz=88						
TUQ	Turquoise Moun	88.19	46	P	P	13 45 53.0	+1.0
	baz=88						
FURC	Furnace Creek,	88.30	45	P	P	13 45 53.8	+1.6
	baz=88						
GRAC	Grapevine Rang	88.34	44	P	P	13 45 54.1	+1.5
	baz=89						
LDFC	Landfair	88.46	47	*e*P	P	13 45 55.6	+2.4
	11nm,1.0s						
PDMCI	Parker Dam,Lak	88.58	48	P	P	13 45 55.5	+1.9
	baz=89						
NVAR	Mina Array Bea	88.75	43	P	P	13 45 55.5	+0.9
NVAR	Mina Array Bea	88.75	43	P	P	13 45 55.5	+0.9
	3.0nm,1.0s,baz=224,slow=7.6,SNR=12						
TPNV	Topopah Spring	88.98	45	P	P	13 45 57.5	+1.8
	baz=89						
TPH	Tonopah	89.14	43	*e*P	P	13 45 58.0	+1.5
	5.3nm,1.1s						
W13A	Hualapai Mount	89.25	47	P	P	13 45 58.8	+1.7
	baz=90						
SHPR	Sheep Range	89.36	46	*e*P	P	13 45 59.6	+2.1
	4.0nm,1.1s						
X16A	Lo Mia Camp, P	90.38	49	P	P	13 46 04.3	+2.0
	baz=91						
320A	Kipp Ranch, An	90.46	53	P	P	13 46 04.5	+1.8
	baz=91						
U15A	North Rim	91.09	47	P	P	13 46 07.4	+1.6
	baz=91						
WUAZ	Wupatki	91.11	48	P	P	13 46 07.5	+1.8
	baz=91						
TXAR	Lajitas Array	92.72	57	P	P	13 46 13.9	+0.7
TXAR	Lajitas Array	92.72	57	P	P	13 46 13.9	+0.7
	0.7nm,1.0s,baz=217,slow=6.1,SNR=5.0						
SEY	Seymchan	96.80	347	P	P	13 46 30.0	-0.9
SEY	Seymchan	96.80	347	P	P	13 46 30.0	-0.9
	2.7nm,0.7s,baz=200,slow=24,SNR=4.3						
MKAR	Makanchi Array	118.40	310	PKP	PKPdf	13 51 47.4	-0.5
MKAR	Makanchi Array	118.40	310	PKP	PKPdf	13 51 47.4	-0.5
	1.3nm,0.8s,baz=94,slow=1.9,SNR=6.0						
TKM2	Tokmak 2	121.96	304	*e*P	PKPdf	13 51 54.9	-0.2
KKAR	Karatay Array	125.64	303	*e*PKPdf	PKPdf	13 52 02.2	+0.3
ABKAR	Akbulak array	133.54	310	*e*PKPdf	PKPdf	13 52 17.3	+0.6
ARCES	ARCESS Array B	139.42	348	PKPpre	PKPpre	13 52 21.1	
ARCES	ARCESS Array B	139.42	348	PKhKP	PKPpre	13 52 21.1	
	2.1nm,0.9s,baz=46,slow=5.2,SNR=6.1						
KAF	Kangasniemi	145.36	340	*ep*	PKPbc	13 52 37.7	0.0
	42nm,0.6s						
KBZ	Khabaz	145.67	303	PKP	PKPab	13 52 40.2	+0.6
KBZ	Khabaz	145.67	303	PKP	PKPab	13 52 40.2	+0.6
	5.0nm,0.9s,baz=315,slow=1.4,SNR=5.8						
OBN	Obninsk	145.92	325	*e*PKP	PKPab	13 52 40.1	-0.1
FIA1	FINESS Array S	145.96	340	*e*PKP	PKPbc	13 52 39.7	+0.1
FINES	FINESS Array B	145.96	340	PKPbc	PKPbc	13 52 39.7	+0.1
FINES	FINESS Array B	145.96	340	PKPbc	PKPbc	13 52 39.7	+0.1
	38nm,0.7s,baz=49,slow=3.4,SNR=81						
NB2	NORSAR Subarra	149.58	351	PKP	PKPbc	13 52 49.7	+0.2
	comp=Z,6.3nm,1.1s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.58	351	PKPbc	PKPbc	13 52 49.8	+0.3
NOA	NORSAR Array B	149.58	351	PKPbc	PKPbc	13 52 49.8	+0.3
	comp=Z,1.2nm,0.7s,baz=18,slow=3.0,SNR=6.0						
AKASG	Malin Array Be	152.03	322	PKPbc	PKPbc	13 52 55.5	+0.1
AKASG	Malin Array Be	152.03	322	PKPbc	PKPbc	13 52 55.5	+0.1
	comp=Z,5.4nm,0.5s,baz=52,slow=2.7,SNR=20						
AKBB	Malin Array Si	152.03	322	*e*PKPbc	PKPbc	13 52 55.7	+0.2
KIEV	Kiev	152.04	322	*e*PKPbc	PKPbc	13 52 55.5	0.0
AK02	Malin Array Si	152.06	322	*e*PKPbc	PKPbc	13 52 55.8	+0.3
BR131	Keskin Array S	153.10	297	*e*PKPbc	PKPbc	13 52 58.5	0.0
BRTR	Keskin Array B	153.10	297	PKPbc	PKPbc	13 52 58.3	-0.1
BRTR	Keskin Array B	153.10	297	PKPbc	PKPbc	13 52 58.3	-0.1
	comp=Z,14nm,1.2s,baz=144,slow=2.7,SNR=12						
CLL	Collm	158.38	341	*e*PKPab	PKPab	13 53 32.0	-0.1
	comp=Z,9.0nm,0.9s						
CLL				*ep*PKPab	pPKPab	13 53 42.0	-3.9
BRG	Berggiesshubel	158.50	339	*e*PKP	PKPab	13 53 32.7	+0.1
	comp=Z,5.2nm,0.9s						
GERES	GERESS Array B	160.34	337	PKPab	PKPab	13 53 39.9	-1.0
GERES	GERESS Array B	160.34	337	PKPab	PKPab	13 53 39.9	-1.0
	comp=Z,0.3nm,0.5s,baz=2.3,slow=4.9,SNR=3.9						
TORD	Torodi Ar. Bea	162.01	179	PKPab	PKPab	13 53 48.8	0.0
TORD	Torodi Ar. Bea	162.01	179	PKPab	PKPab	13 53 48.8	0.0
	comp=Z,1.4nm,0.7s,baz=185,slow=4.2,SNR=7.3						

*IDC **16** 13:38:22.4±0.9, 5°.95S×149°.93E, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/18, mbtmp4.2/9, ML4.2/1, Error ellipse: s-maj=42.0km s-min=19.1km az=120.0*
*ISCJB **16** 13:38:28.1±0.5, 6°.27S±0°.07×150°.01E±0°.09, h52km, mb4.0/9, Error ellipse: s-maj=14.3km s-min=7.3km az=38.3*
*AUST **16** 13:38:29.1, 6°.67S×150°.14E, h30km*
*NEIC **16** 13:38:29.2±2.7, 6°.09S×149°.84E, h45km±23km, mb4.5/3, Error ellipse: s-maj=22.2km s-min=15.7km az=113.0*

ISC 16 13:38:29.9±0.6, 6°22S±0°.10×150°0E±0°.1, h52km, n43, σ1°37/44, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	2.94	47	P	Pn	13 39 14.2	0.0
	baz=3.2,SNR=80						
PMG	Port Moresby	4.25	222	*e*Pn	Pn	13 39 31.6	-0.5
PMG				Sn	Sn	13 40 20.2	-0.2
PMG	Port Moresby	4.25	222	Pn	Pn	13 39 31.9	-0.2
	96nm,0.3s,baz=48,slow=4.4,SNR=321						
PMG				Sn	Sn	13 40 20.2	-0.2
	283nm,0.3s,baz=249,slow=15,SNR=15						
MANU	Manus Island	4.92	327	P	Pn	13 39 49.1	+7.7
	baz=5.4,SNR=4.9						
QIS	Mount Isa	17.47	214	P	Pn	13 42 29.2	-0.8
	baz=17,SNR=3.8						
KDU	Kakadu	18.45	248	P	P	13 42 40.7	-0.7
	baz=18,SNR=11						
EIDS	Eidsvold	19.07	177	P	Pn	13 42 49.0	-0.3
MTN	Manton Dam	19.74	249	P	P	13 42 55.9	+0.3
	baz=20,SNR=9.9						
RMQ	Roma	20.19	183	P	P	13 42 59.4	-1.0
	baz=20,SNR=6.6						
WRAB	Tennant Creek	20.43	227	*e*P	P	13 43 02.4	-0.6
	31nm,0.6s						
WRA	Warramunga Arr	20.45	227	P	P	13 43 02.5	-0.8
WRA	Warramunga Arr	20.45	227	P	P	13 43 02.5	-0.8
	32nm,0.6s,baz=52,slow=11,SNR=17						
QLP	Quilpie	20.98	195	P	P	13 43 07.8	-1.2
	baz=21,SNR=7.9						
AS31	Alice Springs	23.26	220	*e*P	P	13 43 32.1	-0.9
ASAR	Alice Springs	23.26	220	P	P	13 43 31.8	-1.3
ASAR	Alice Springs	23.26	220	P	P	13 43 31.8	-1.3
	1.6nm,0.4s,baz=52,slow=8.9,SNR=10						
SOEI	Soe	25.73	260	P	P	13 43 60.0	+4.0
	baz=26,SNR=5.2						
FITZ	Fitzroy Crossi	26.55	241	P	P	13 44 02.4	-0.8
FITZ	Fitzroy Crossi	26.55	241	P	P	13 44 02.4	-0.8
	6.7nm,0.4s,baz=64,slow=11,SNR=19						
STKA	Stephens Creek	26.71	196	*e*P	P	13 44 06.3	+1.9
	2.8nm,1.3s						
STKA	Stephens Creek	26.71	196	P	P	13 44 06.0	+1.6
	3.1nm,0.7s,baz=23,slow=11,SNR=5.6						
STKA	Stephens Creek	26.71	196	P	P	13 44 07.7	+3.2
	baz=26,SNR=4.2						
WRKA	Warakurna	27.98	226	P	P	13 44 14.7	-1.2
	baz=28,SNR=4.1						
MBWA	Marble Bar	32.86	240	*e*P	P	13 44 58.2	-0.9
	10nm,0.9s						
MEEK	Meekatharra	36.14	232	P	P	13 45 26.8	-0.6
	baz=36,SNR=8.7						
UGM	Wanagama	39.22	265	P	P	13 45 53.9	+0.3
	baz=39,SNR=5.5						
CISI	Cisompet, Garu	41.91	266	P	P

3.4nm,0.5s,baz=220,slow=7.1,SNR=16
BOSA LR LR 14 11 42.9
comp=Z,510nm,18.1s,baz=201,slow=31
VNDA Vanda 47.18 183 P **P 13 56 39.5 +0.8**
VNDA Vanda 47.18 183 P **P 13 56 39.5 +0.8**
10nm,0.8s,baz=185,slow=8.4,SNR=46
SIV San Ignacio 47.25 313 P **P 13 56 39.6 -0.4**
SIV San Ignacio 47.25 313 P **P 13 56 39.6 -0.4**
1.5nm,0.7s,baz=171,slow=9.3,SNR=4.8
TSUM Tsumeb 49.28 61 *e*P **P 13 56 55.8 +0.1**
TSUM Tsumeb 49.28 61 LR LR 14 13 09.9
comp=Z,358nm,19.1s,baz=315,slow=30
LPAZ La Paz 50.13 305 *e*P **P 13 57 03.4 +0.7**
LPAZ La Paz 50.13 305 P **P 13 57 03.5 +0.7**
8.2nm,0.7s,baz=153,slow=5.7,SNR=25
SAML Samuel 54.47 314 *e*P **P 13 57 34.1 -0.1**
9.7nm,1.1s
DBIC Dimbokro 64.56 24 P **P 13 58 44.0 +0.2**
DBIC Dimbokro 64.56 24 P **P 13 58 44.0 +0.2**
4.4nm,1.0s,baz=187,slow=6.8,SNR=4.6
TOA0 Torodi Ar. Sit 72.47 29 *e*P **P 13 59 33.6 +0.5**
TORD Torodi Ar. Bea 72.47 29 P **P 13 59 33.7 +0.6**
TORD Torodi Ar. Bea 72.47 29 P **P 13 59 33.7 +0.6**
10nm,0.6s,baz=198,slow=6.6,SNR=70
SDV Santo Domingo 73.67 315 *e*P **P 13 59 40.8 +0.2**
1.6nm,0.8s
STKA Stephens Creek 92.48 170 LR LR 14 41 57.6
comp=Z,250nm,18.3s,baz=202,slow=35
ASAR Alice Springs 99.53 162 P **Pdif 14 01 49.8 0.0**
ASAR PP **PP 14 05 49.7 -2.8**
ASAR Alice Springs 99.53 162 P **Pdif 14 01 49.8 0.0**
0.4nm,0.6s,baz=185,slow=4.1,SNR=11
ASAR PP **PP 14 05 49.7 -2.8**
0.8nm,1.1s,baz=183,slow=6.5,SNR=3.1
ASAR LR LR 14 47 22.1
comp=Z,189nm,18.9s,baz=175,slow=36
FINES FINESS Array B 123.79 28 PKP **PKPdf 14 07 03.1 +0.1**
FINES FINESS Array B 123.79 28 PKP **PKPdf 14 07 03.1 +0.1**
2.7nm,0.9s,baz=242,slow=4.1,SNR=6.9
CMAR Chiang Mai Arr 125.16 110 PKP **PKPdf 14 07 07.7 +0.6**
CMAR Chiang Mai Arr 125.16 110 PKP **PKPdf 14 07 07.7 +0.6**
0.4nm,0.6s,baz=223,slow=3.8,SNR=5.1
ARCES ARCESS Array B 130.34 21 PKP **PKPdf 14 07 15.6 +0.3**
ARCES ARCESS Array B 130.34 21 PKP **PKPdf 14 07 15.6 +0.3**
4.1nm,0.9s,baz=180,slow=1.8,SNR=9.1
YKA Yellowknife Ar 135.80 318 PKP **PKPdf 14 07 24.4 -1.4**
YKA PP **PP 14 10 03.6 -1.8**
YKA Yellowknife Ar 135.80 318 PKP **PKPdf 14 07 24.4 -1.4**
0.9nm,0.5s,baz=135,slow=2.1,SNR=7.2
YKA PP **PP 14 10 03.6 -1.8**
0.2nm,0.4s,baz=116,slow=7.0,SNR=5.9
MKAR Makanchi Array 136.58 71 PKP **PKPdf 14 07 27.7 -0.1**
MKAR Makanchi Array 136.58 71 PKP **PKPdf 14 07 27.7 -0.1**
0.4nm,0.6s,baz=222,slow=1.6,SNR=4.4
HYT Haines Junctio 144.52 308 *e*PKP **PKPdf 14 07 41.8 0.0**
INK Inuvik 145.41 321 *e*PKP **PKPab 14 07 43.8 +0.6**
DOT Dot Lake 148.34 311 *e*PKPbc **PKPbc 14 07 52.5 +1.0**
PAX Paxson 148.78 309 *e*PKPdf **PKPdf 14 07 49.4 +0.5**
ILAR Eielson Array 149.80 312 PKPbc **PKPbc 14 07 55.6 +0.5**
ILAR Eielson Array 149.80 312 PKPbc **PKPbc 14 07 55.6 +0.5**
9.7nm,1.0s,baz=121,slow=3.1,SNR=44
COLA College 150.22 312 *e*PKPbc **PKPbc 14 07 56.4 +0.3**
MCK McKinley 150.48 310 *e*PKPbc **PKPbc 14 07 57.6 +0.8**
SONM Songino Array 150.56 85 PKPbc **PKPbc 14 07 58.0 +0.4**
SONM Songino Array 150.56 85 PKPbc **PKPbc 14 07 58.0 +0.4**
2.5nm,0.8s,baz=216,slow=3.6,SNR=11
COLD Coldfoot 151.46 317 *e*PKPbc **PKPbc 14 08 00.3 +1.3**
IM04 Indian Mountai 152.81 314 *e*PKPbc **PKPbc 14 08 02.9 +0.8**

*ISCJB **16** 13:56:17.7±0.7,60.5S±0.1×33.9W±0.4,h10km,mb4.0/8, MS4.0/1,Error ellipse: s-maj=32.6km s-min=12.0km az=152.6*
*IDC **16** 13:56:17.1±0.9,60.43S×33.83W,h0km,mb4.0/8, mb1 4.0/9,mb1mx3.9/19,mbtmp3.9/9,ML3.1/1,MS4.0/1, Ms1 4.1/1,ms1mx3.5/17,Error ellipse: s-maj=41.0km s-min=18.0km az=69.0*
*NEIC **16** 13:56:25.6±4.1,60.52S×34.04W,h64km±38km,mb4.6/3, Error ellipse: s-maj=36.1km s-min=16.1km az=59.0*
ISC 16 13:56:18.9±0.6,60.6S±0.1×33.7W±0.2,h10km,n33, σ1§95/29,mb4.1/8,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.47**	**145**	*e*P	**P**	**P**	**14 00 12.7**	**+0.2**
	19nm,1.3s							
SNAA				Sn	**Sn**	**Sn**	**14 03 08.5**	**-3.8**
SNAA	**Sanae**	**16.47**	**145**	Pn	**P**	**P**	**14 00 12.0**	**-0.5**
	0.1nm,0.3s,baz=297,slow=15,SNR=5.4							
SNAA				Sn	**Sn**	**Sn**	**14 03 08.5**	**-3.8**
	0.0nm,0.3s,baz=324,slow=19,SNR=3.2							
QSPA	**South Pole Qui**	**29.66**	**180**	*e*P	**P**	**P**	**14 02 25.9**	**+1.4**
	18nm,1.0s							
QSPA	**South Pole Qui**	**29.66**	**180**	P	**P**	**P**	**14 02 25.7**	**+1.2**
	10nm,0.8s,baz=180,slow=7.2,SNR=6.3							
CFAA	**Coronel Fontan**	**36.80**	**306**	P	**P**	**P**	**14 03 25.5**	**-1.2**
CFAA	**Coronel Fontan**	**36.80**	**306**	P	**P**	**P**	**14 03 25.5**	**-1.2**
	0.2nm,0.4s,baz=173,slow=8.5,SNR=4.0							
CPUP	**Villa Florida**	**37.84**	**324**	P	**P**	**P**	**14 03 34.7**	**-0.7**
CPUP	**Villa Florida**	**37.84**	**324**	P	**P**	**P**	**14 03 34.7**	**-0.7**
	2.5nm,0.7s,baz=156,slow=10,SNR=5.4							
VNDA	**Vanda**	**41.82**	**185**	P	**P**	**P**	**14 04 09.0**	**+0.9**
VNDA	**Vanda**	**41.82**	**185**	P	**P**	**P**	**14 04 09.0**	**+0.9**
	0.7nm,0.8s,baz=221,slow=5.6,SNR=3.6							
SIV	**San Ignacio**	**48.70**	**324**	P	**P**	**P**	**14 05 02.8**	**-0.5**
SIV	**San Ignacio**	**48.70**	**324**	P	**P**	**P**	**14 05 02.8**	**-0.5**
	1.8nm,0.9s,baz=173,slow=9.8,SNR=4.3							
LPAZ	**La Paz**	**50.68**	**315**	*e*P	**P**	**P**	**14 05 19.9**	**+0.8**
	10nm,1.5s							
LPAZ	**La Paz**	**50.68**	**315**	P	**P**	**P**	**14 05 17.8**	**-1.2**
	2.0nm,0.9s,baz=140,slow=7.2,SNR=6.3							
LPAZ				LR	LR	LR	14 23 39.6	
	comp=Z,148nm,18.4s,baz=246,slow=32							
H10S2	**ASCENSION HYDR**	**53.45**	**24**	T	**T**	**T**	15 03 23.9	
	baz=193,slow=75,SNR=30							
H10S3	**ASCENSION HYDR**	**53.45**	**24**	T	**T**	**T**	15 03 24.3	
	baz=193,slow=75,SNR=34							
H10S1	**ASCENSION HYDR**	**53.46**	**24**	T	**T**	**T**	15 03 25.9	
	baz=193,slow=75,SNR=22							
H10N1	**ASCENSION HYDR**	**54.56**	**24**	T	**T**	**T**	15 04 42.6	
	baz=191,slow=75,SNR=27							
H10N3	**ASCENSION HYDR**	**54.56**	**24**	T	**T**	**T**	15 05 07.4	
	baz=191,slow=75,SNR=77							
H10N2	**ASCENSION HYDR**	**54.58**	**24**	T	**T**	**T**	15 05 08.6	
	baz=191,slow=75,SNR=66							
TORD	**Torodi Ar. Bea**	**78.73**	**35**	P	**P**	**P**	**14 08 20.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**78.73**	**35**	P	**P**	**P**	**14 08 20.9**	**-0.3**
	3.8nm,1.0s,baz=194,slow=6.7,SNR=6.8							
ASAR	**Alice Springs**	**95.46**	**169**	P	**P**	**P**	**14 09 44.7**	**+1.0**
ASAR	**Alice Springs**	**95.46**	**169**	P	**P**	**P**	**14 09 44.7**	**+1.0**
	0.6nm,0.9s,baz=180,slow=4.5,SNR=2.6							
YKA	**Yellowknife Ar**	**137.20**	**318**	PKP	**PKPdf**	**PKPdf**	**14 15 37.5**	**-3.1**
YKA	**Yellowknife Ar**	**137.20**	**318**	PKP	**PKPdf**	**PKPdf**	**14 15 37.5**	**-3.1**
	0.2nm,0.6s,baz=127,slow=2.3,SNR=3.6							
INK	**Inuvik**	**146.97**	**318**	*e*PKPdf	**PKPdf**	**PKPdf**	**14 15 55.5**	**-2.4**
ZALV	**Zalesovo Beam**	**147.24**	**74**	PKPbc	**PKPab**	**PKPab**	**14 16 05.3**	**+2.4**
ZALV	**Zalesovo Beam**	**147.24**	**74**	PKPbc	**PKPab**	**PKPab**	**14 16 05.3**	**+2.4**
	0.6nm,0.5s,baz=237,slow=4.6,SNR=4.8							
ILAR	**Eielson Array**	**150.33**	**307**	PKPbc	**PKPdf**	**PKPdf**	**14 16 05.4**	**+2.0**
ILAR	**Eielson Array**	**150.33**	**307**	PKPbc	**PKPdf**	**PKPdf**	**14 16 05.4**	**+2.0**
	1.4nm,1.0s,baz=139,slow=1.7,SNR=9.1							
SONM	**Songino Array**	**153.89**	**101**	PKPab	**PKPab**	**PKPab**	**14 16 33.1**	**+2.3**
SONM	**Songino Array**	**153.89**	**101**	PKPab	**PKPab**	**PKPab**	**14 16 33.1**	**+2.3**
	0.5nm,0.9s,baz=132,slow=2.1,SNR=3.3							

MAN 16 14:13:03,12.94N×122.82E,h15km,mb4.2,ML3.0,MS2.7, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.40**	**340**	*e*P		Pb	14 13 12.2	+0.4
AUQP				*e*S		Sg	14 13 17.0	+0.3
OTRP	**Odiongan**	**0.97**	**234**	*e*P		Pb	14 13 20.6	-1.0
OTRP				*e*S		Sb	14 13 32.1	-2.1
GQP	**Guinayangan**	**1.02**	**339**	*e*P		Pb	14 13 22.1	-0.4
GQP				*e*S		Sn	14 13 37.2	+0.3
BOAC	**Boac**	**1.08**	**298**	*e*P		Pb	14 13 22.7	-0.7
PVCP	**Virac**	**1.45**	**63**	*e*P		Pn	14 13 28.4	-0.3
SJMP	**San Jose**	**1.73**	**254**	*e*P		Pn	14 13 32.8	+0.2
LUBP	**Lubang**	**2.62**	**288**	*e*P		Pn	14 13 37.1	-7.8

IDC 16 14:27:56.9±5.6,12.42S×167.26E,h0km,mb3.3/3,mb1 3.6/3,mb1mx3.4/19,mbtmp3.3/3,MS3.8/1,Ms1 3.8/1, ms1mx3.0/11,Error ellipse: s-maj=277.9km s-min=33.7km az=141.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.45**	**252**	P		P	14 34 29.1	-0.1
	0.1nm,0.3s,baz=84,slow=9.2,SNR=3.3							
ASAR	**Alice Springs**	**33.55**	**246**	P		P	14 34 38.8	0.0
	0.3nm,0.6s,baz=70,slow=8.9,SNR=4.1							
PPT	**Papeete**	**41.94**	**102**	LR	LR	LR	14 49 01.6	
	comp=Z,105nm,18.1s,baz=341,slow=30							
ILAR	**Eielson Array**	**84.35**	**18**	P		P	14 40 30.6	0.0
	0.2nm,0.6s,baz=223,slow=5.4,SNR=6.6							

*PGC **16** 14:49:54.0±9.5,52.00N×131.32W,h20km,ML4.3/6, Mw4.3, 142km Sse of Sandspit, Bc Queen Charlotte Islands Region*
*ISCJB **16** 14:49:55.2±0.3,52.05N±0.03×131.34W±0.06,h18km, mb3.8/4,MS3.8/2,Error ellipse: s-maj=5.9km s-min=3.5km az=154.6*
*IDC **16** 14:49:56.2±1.5,52.03N×130.91W,h0km,mb3.8/4, mb1 4.1/10,mb1mx3.8/32,mbtmp3.8/10,ML3.4/6,MS3.6/5, Ms1 3.6/5,ms1mx3.2/50,Error ellipse: s-maj=25.4km s-min=11.0km az=66.0*
ISC 16 14:49:56.4±0.7,52.11N±0.07×131.24W±0.06,h18km, n236,σ1§03/220,mb3.9/4,112C-103D,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.56**	**326**	⇑P		**Pg**	**14 50 06.2**	**-1.5**
BNB				⇓S		**Sg**	**14 50 15.0**	**-0.2**
MOBC	**Moresby Island**	**1.13**	**337**	⇑P		**Pn**	**14 50 14.8**	**-2.5**
MOBC				⇓S		**Sb**	**14 50 31.9**	**+0.1**
DIB	**Dawson Inlet,**	**1.33**	**326**	⇑Pn		Pn	14 50 16.5	-3.5
BBB	**Bella Bella**	**1.93**	**87**	⇑Pn		**Pn**	**14 50 26.5**	**-1.7**
BBB				⇑Sg		**Sg**	**14 50 56.3**	**-2.1**
BBB	**Bella Bella**	**1.93**	**87**	Pn		**Pn**	**14 50 26.5**	**-1.7**
	42nm,0.3s,baz=271,slow=14,SNR=29							
BBB				Sn		**Sg**	**14 50 56.5**	**-1.9**
	974nm,0.3s,baz=343,slow=21,SNR=36							
BBB				LR	LR	LR	14 51 02.9	
	comp=Z,392nm,18.2s,baz=265,slow=39							
NDB	**Naden**	**2.12**	**332**	⇓Pn		**Pn**	**14 50 28.2**	**-2.7**
NDB				⇑Sg		**Sb**	**14 51 01.4**	**+1.3**
HOLB	**Holberg**	**2.44**	**126**	⇑Pn		**Pn**	**14 50 32.4**	**-3.0**
PHC	**Port Hardy**	**2.77**	**119**	Pn		Pn	14 50 35.6	-4.2
DLBC	**Dease Lake**	**6.38**	**6**	Pn		**Pn**	**14 51 32.1**	**+2.6**
	1.1nm,0.3s,baz=240,slow=26,SNR=20							
DLBC				Lg		Lg	14 53 16.0	
	5.3nm,0.3s,baz=286,slow=27,SNR=9.8							
I03D	**Drain, OR**	**9.94**	**145**	⇑P		**Pn**	**14 52 19.4**	**+1.2**
	baz=9.9							
J05D	**Fort Rock, OR**	**11.10**	**139**	⇑P		**Pn**	**14 52 36.6**	**+2.3**
	baz=11							
YBH	**Yreka Blue Hor**	**11.90**	**147**	Pn		**Pn**	**14 52 47.2**	**+2.1**
	0.1nm,0.3s,baz=322,slow=10,SNR=7.7							
YBH				LR		LR	14 56 39.4	
	comp=Z,239nm,19.4s,baz=19,slow=34							
M04C	**Macdoel**	**12.15**	**145**	⇑P		**Pn**	**14 52 47.7**	**-1.0**
	baz=12							
M02C	**Callahan**	**12.15**	**149**	⇓P		**Pn**	**14 52 47.1**	**-1.5**
	baz=12							
MSO	**Missoula**	**12.42**	**108**	⇑P		**Pn**	**14 52 53.2**	**+1.0**
	baz=12							
N02D	**Trinity Center**	**12.58**	**149**	⇓P		**Pn**	**14 52 53.8**	**-0.6**
	baz=12							
YKA	**Yellowknife Ar**	**13.70**	**34**	Pn		**Pn**	**14 53 09.6**	**+0.1**
	0.2nm,0.3s,baz=232,slow=13,SNR=14							
YKA				Lg		Lg	14 57 08.5	
	0.2nm,0.3s,baz=216,slow=30,SNR=4.7							
HLID	**Hailey**	**14.14**	**121**	⇑P		**Pn**	**14 53 17.0**	**+1.1**
	baz=14,SNR=8.4							
A19A	**Klindworth Far**	**14.65**	**94**	⇓P		**Pn**	**14 53 23.8**	**+1.2**
	baz=15,SNR=5.4							
C19A	**Slack Wire Ran**	**14.93**	**98**	⇓P		**Pn**	**14 53 27.6**	**+1.1**
	baz=15,SNR=5.2							
ILAR	**Eielson Array**	**15.04**	**334**	Pn		**P**	**14 53 33.7**	**+0.7**
	0.0nm,0.3s,baz=148,slow=10,SNR=3.7							
ILAR				Lg		Lg	14 58 01.8	
	baz=115,slow=27,SNR=4.3							
ILAR				LR		LR	14 58 25.9	
	comp=Z,185nm,18.6s,baz=343,slow=34							
A20A	**Cobblestone Ra**	**15.17**	**93**	⇓P		**Pn**	**14 53 30.2**	**+0.7**
	baz=15,SNR=6.0							
B20A	**Solberg Farm,**	**15.27**	**95**	⇓P		**Pn**	**14 53 31.6**	**+0.6**
	baz=15							
D19A	**Cripps Ranch,**	**15.28**	**100**	⇑P		**Pn**	**14 53 32.0**	**+0.8**
	baz=15							
C20A	**Veseth Ranch,**	**15.58**	**97**	⇑P		**Pn**	**14 53 35.7**	**+0.7**
	baz=16							
E19A	**Rath Farm, Rou**	**15.67**	**102**	⇑P		**Pn**	**14 53 37.3**	**+1.1**
	baz=16,SNR=9.9							
H17A	**Grant Village**	**15.74**	**111**	⇓P		**P**	**14 53 40.7**	**-0.5**
	baz=16,SNR=6.9							
A21A	**Bergtoll Ranch**	**15.74**	**92**	⇑P		**Pn**	**14 53 37.9**	**+0.8**
	baz=16							
D20A	**Manuel Ranch,**	**15.77**	**99**	⇓P		**Pn**	**14 53 39.1**	**+1.6**
	baz=16,SNR=5.4							
F19A	**Roth Farm, Mol**	**15.88**	**104**	⇓P		**Pn**	**14 53 40.2**	**+1.2**
	baz=16,SNR=12							
I17A	**Pilgrim Ck.**	**16.03**	**113**	⇑P		**Pn**	**14 53 41.7**	**+0.8**
	baz=16							
E20A	**Meyer Farm, Mu**	**16.05**	**101**	⇑P		**Pn**	**14 53 42.0**	**+0.9**
	baz=16							
C21A	**Desert Coulee**	**16.09**	**96**	⇑P		**Pn**	**14 53 42.4**	**+0.9**
	baz=16							
INK	**Inuvik**	**16.29**	**357**	Pn		**P**	**14 53 47.6**	**+0.9**
	0.1nm,0.3s,baz=158,slow=6.8,SNR=2.4							
A22A	**Carney Farms,**	**16.36**	**91**	⇓P		**P**	**14 53 46.5**	**-1.4**
	baz=16,SNR=11							
F20A	**Billings**	**16.39**	**104**	⇓P		**Pn**	**14 53 46.1**	**+0.6**
	baz=16							
NVAR	**Mina Array Bea**	**16.40**	**141**	Pn		**P**	**14 53 47.1**	**-1.3**
	0.1nm,0.3s,baz=320,slow=13,SNR=19							
NVAR				LR		LR	14 58 56.3	
	comp=Z,150nm,20.1s,baz=332,slow=33							
D21A	**La Casta Ranch**	**16.48**	**98**	⇓P		**Pn**	**14 53 47.1**	**+0.6**
	baz=17							
G20A	**Bridger**	**16.66**	**105**	⇓P		**Pn**	**14 53 49.8**	**+0.9**
	baz=17,SNR=9.3							
E21A	**Keefer Ranch,**	**16.67**	**100**	⇑P		**P**	**14 53 50.1**	**-1.1**
	baz=17							
C22A	**Vida**	**16.86**	**95**	⇓P		**P**	**14 53 52.9**	**-0.5**
	baz=17							
I19A	**Meeteetse**	**16.87**	**110**	⇑P		**P**	**14 53 52.9**	**-0.8**
	baz=17							
D22A	**Cohagen**	**16.94**	**97**	⇑P		**P**	**14 53 53.8**	**-0.4**
	baz=17							
A23A	**Redstone**	**17.02**	**90**	⇓P		**P**	**14 53 55.2**	**+0.1**
	baz=17							
B23A	**Brockton**	**17.13**	**92**	⇑P		**P**	**14 53 56.9**	**+0.6**
	baz=17							
H20A	**Greybull**	**17.19**	**107**	⇑P		**P**	**14 53 56.5**	**-0.6**
	baz=17							
C23A	**Lambert**	**17.27**	**94**	⇑P		**P**	**14 53 57.3**	**-0.5**
	baz=17							
J19A	**Crowheart**	**17.30**	**112**	⇓P		**P**	**14 53 58.2**	**-0.2**
	baz=17							
PDAR	**Pinedale Array**	**17.33**	**114**	Pn		**P**	**14 53 59.4**	**+0.5**
	0.4nm,0.3s,baz=319,slow=10,SNR=28							
DUG	**Dugway**	**17.40**	**126**	⇑P		**Pn**	**14 53 58.2**	**0.0**
	baz=17							
I20A	**Worland**	**17.42**	**109**	⇓P		**P**	**14 53 59.3**	**-0.3**
	baz=18,SNR=9.2							
D23A	**Lindsay**	**17.52**	**96**	⇓P		**P**	**14 54 01.0**	**+0.3**
	baz=18							
A24A	**Westby**	**17.57**	**90**	⇓P		**P**	**14 54 00.8**	**-0.3**
	baz=18							
R11A	**Troy Canyon, C**	**17.58**	**135**	⇑P		**Pn**	**14 54 00.0**	**-0.5**
	baz=18							
DGMT	**Dagmar**	**17.62**	**91**	⇓P		**P**	**14 54 02.5**	**+0.8**
	baz=18							
H21A	**Big Horn, Sher**	**17.68**	**105**	⇓P		**P**	**14 54 02.3**	**-0.1**
	baz=18							
G22A	**Birney**	**17.81**	**103**	⇑P		**P**	**14 54 03.9**	**0.0**
	baz=18							
J20A	**Shoshoni**	**17.81**	**110**	⇑P		**P**	**14 54 04.0**	**+0.1**
	baz=18							
I21A	**Big Trails, Te**	**17.99**	**108**	⇑P		**P**	**14 54 05.9**	**-0.1**
	baz=18							
GRAC	**Grapevine Rang**	**18.00**	**142**	⇓P		**Pn**	**14 54 05.3**	**-0.3**
	baz=18							
F23A	**Volborg**	**18.08**	**100**	⇓P		**P**	**14 54 07.6**	**+0.8**
	baz=18							
H22A	**Clearmont**	**18.11**	**105**	⇑P		**P**	**14 54 07.0**	**-0.2**
	baz=18							
A25A	**Svangstu Ranch**	**18.11**	**89**	⇑P		**P**	**14 54 08.1**	**+1.0**
	baz=18							
J21A	**Lysite**	**18.18**	**109**	⇑P		**P**	**14 54 08.5**	**+0.4**
	baz=18,SNR=7.9							
CWC	**Cottonwood Cre**	**18.23**	**144**	⇑P		**Pn**	**14 54 08.1**	**-0.4**
	baz=18,SNR=5.7							
B25A	**Knox Farm, Ray**	**18.33**	**91**	⇓P		**P**	**14 54 10.8**	**+1.3**
	baz=18							
E24A	**Baker**	**18.35**	**97**	⇑P		**P**	**14 54 10.6**	**+0.8**
	baz=18,SNR=5.0							
G23A	**Biddle**	**18.36**	**102**	⇑P		**Pn**	**14 54 10.7**	**+0.8**
	baz=18							
I22A	**9 Mile Ranch,**	**18.42**	**107**	⇑P		**Pn**	**14 54 11.5**	**+0.7**
	baz=18							
TPNV	**Topopah Spring**	**18.49**	**139**	⇑P		**P**	**14 54 11.2**	**-0.3**
	baz=18,SNR=10							
C25A	**Freed Ranch, W**	**18.49**	**93**	⇑P		**Pn**	**14 54 12.8**	**+1.3**
	baz=19							
F24A	**Ekalaka**	**18.61**	**99**	⇓P		**Pn**	**14 54 13.8**	**+0.8**
	baz=19							
D25A	**Fairfield**	**18.69**	**94**	⇑P		**Pn**	**14 54 15.3**	**+1.4**
	baz=19							
K21A	**Alcova**	**18.73**	**111**	⇓P		**Pn**	**14 54 15.4**	**+0.8**
	baz=19							
MPMC	**Manual Prospec**	**18.79**	**143**	⇑P		**P**	**14 54 14.6**	**-0.2**
	baz=19,SNR=15							
A26A	**Wade Farm, Ken**	**18.79**	**88**	⇓P		**Pn**	**14 54 16.7**	**+1.6**
	baz=19							
ISA	**Isabella**	**18.79**	**146**	⇑P		**Pn**	**14 54 15.3**	**0.0**
	baz=19,SNR=7.4							
G24A	**Alzada**	**18.88**	**100**	⇓P		**Pn**	**14 54 16.5**	**+0.2**
	baz=19,SNR=5.5							
H24A	**Dirks Ranch, A**	**19.10**	**102**	⇑P		**Pn**	**14 54 18.7**	**-0.3**
	baz=19							
K22A	**Casper**	**19.14**	**110**	⇑P		**Pn**	**14 54 19.4**	**-0.1**
	baz=19							
C26A	**Wahner Farm, P**	**19.16**	**91**	⇑P		**Pn**	**14 54 20.4**	**+0.8**
	baz=19							
F25A	**Bowman**	**19.17**	**98**	⇓P		**Pn**	**14 54 20.3**	**+0.6**
	baz=19							
LRMC	**Laurel Mountai**	**19.23**	**145**	⇓P		**P**	**14 54 19.3**	**-0.3**
	baz=19,SNR=6.7							
D26A	**Manning**	**19.29**	**94**	⇑P		**Pn**	**14 54 21.6**	**+0.5**
	baz=19							
N20A	**Spence Gulch,**	**19.34**	**117**	⇓P		**Pn**	**14 54 21.7**	**-0.3**
	baz=19,SNR=11							
I24A	**Kuemmerle Ranc**	**19.55**	**104**	⇑P		**Pn**	**14 54 23.6**	**-0.7**
	baz=20,SNR=5.3							
G25A	**Newell**	**19.56**	**100**	⇓P		**Pn**	**14 54 24.3**	**-0.1**
	baz=20,SNR=5.4							
L22A	**Ellis Ranch, M**	**19.58**	**111**	⇑P		**P**	**14 54 23.4**	**-0.1**
	baz=20							
F26A	**Lodgepole**	**19.69**	**97**	⇑P		**Pn**	**14 54 26.7**	**+0.8**
	baz=20							
GSC	**Goldstone**	**19.71**	**143**	⇑P		**P**	**14 54 24.8**	**-0.1**
	baz=20							
H25A	**Fruitdale**	**19.75**	**101**	⇓P		**Pn**	**14 54 26.6**	**0.0**
	baz=20							
J24A	**Dixon Ranch, L**	**19.83**	**106**	⇑P		**Pn**	**14 54 28.1**	**+0.5**
	baz=20							
O20A	**White River Ci**	**19.84**	**118**	⇓P		**Pn**	**14 54 28.1**	**+0.2**
	baz=20							
A28A	**Rude Farm, Bot**	**19.88**	**87**	⇓P		**Pn**	**14 54 28.5**	**+0.3**
	baz=20							
M22A	**Cedar Creek Ra**	**19.89**	**113**	⇑P		**Pn**	**14 54 27.8**	**-0.9**
	baz=20,SNR=7.5							
TUQ	**Turquoise Moun**	**19.93**	**141**	⇓P		**Pn**	**14 54 28.3**	**-0.6**
	baz=20							
B28A	**Dugan Ranch, T**	**19.99**	**88**	⇑P		**Pn**	**14 54 29.5**	**+0.1**
	baz=20							
I25A	**Rochford**	**19.99**	**103**	⇓P		**Pn**	**14 54 29.6**	**-0.1**
	baz=20							
G26A	**Maurine**	**20.00**	**99**	⇓P		**Pn**	**14 54 29.5**	**-0.2**
	baz=20,SNR=5.6							
F27A	**Lemmon**	**20.07**	**96**	⇓P		Pn	14 54 30.1	-0.4
	baz=20							
K24A	**Anderson Ranch**	**20.10**	**107**	⇑P		Pn	14 54 30.1	-0.8
	baz=20							
C28A	**Hausauer Farms**	**20.26**	**90**	⇑P		Pn	14 54 32.5	-0.1
	baz=20							
J25A	**Sunshine Ranch**	**20.30**	**105**	⇓P		**Pn**	**14 54 32.4**	**-1.0**
	baz=20,SNR=9.3							
HEC	**Hector,Ludlow**	**20.31**	**142**	⇓P		**P**	**14 54 31.6**	**+0.3**
	baz=20,SNR=15							
M23A	**Laramie**	**20.35**	**111**	⇑P		**P**	**14 54 31.9**	**0.0**
	baz=20							
BFSC	**Mount Baldy Ra**	**20.36**	**146**	⇑P		**P**	**14 54

P23A	**Jefferson** baz=22,SNR=5.5	21.69	116	⇑P	P	14 54 48.2 +1.7
H29A	**Onida** baz=22	21.80	98	⇑P	P	14 54 49.2 +1.9
WUAZ	**Wupatki** baz=22,SNR=7.4	21.81	132	⇑P	P	14 54 48.6 +1.0
J28A	**Allard Ranch,** baz=22	21.83	102	⇑P	P	14 54 49.3 +1.7
M26A	**McRoberts Ranc** baz=22	21.85	108	⇑P	P	14 54 49.6 +1.7
MVCO	**Mesa Verde** baz=22,SNR=5.4	21.86	124	⇑P	P	14 54 49.1 +0.9
MONP	**Monument Peak** baz=22	22.02	145	⇓P	P	14 54 50.6 +0.7
ULM	**Lac du Bonnet** 4.5nm,1.0s,baz=289,slow=10,SNR=4.5	22.12	81	P	P	14 54 50.8 +0.2
SWSC	**Sam W. Stewart** baz=22	22.20	144	⇑P	P	14 54 52.4 +0.9
G30A	**Faulkton** baz=22	22.20	96	⇑P	P	14 54 53.5 +1.9
N26A	**Koester Ranch,** baz=22	22.21	109	⇑P	P	14 54 53.0 +1.3
S22A	**4UR Ranch, Cre** baz=22,SNR=5.4	22.32	120	⇓P	P	14 54 54.2 +1.0
DVTC	**Desert V Tower** baz=22	22.34	145	⇑P	P	14 54 53.5 +0.3
Q24A	**Divide** baz=22	22.36	116	⇓P	P	14 54 54.6 +1.0
Y14A	**Wickenburg** baz=22,SNR=7.6	22.42	137	⇑P	P	14 54 54.8 +0.8
GLA	**Glamis** baz=22	22.46	142	⇑P	P	14 54 54.8 +0.4
P25A	**Willow Gulch B** baz=23	22.53	113	⇓P	P	14 54 56.5 +1.2
O26A	**Horse Wrangler** baz=23	22.54	111	⇑P	P	14 54 56.7 +1.4
R23A	**Moffat** baz=23	22.54	118	⇓P	P	14 54 56.4 +0.9
N27A	**Anderson Farm,** baz=23,SNR=5.2	22.62	109	⇑P	P	14 54 57.6 +1.4
Q25A	**Bedland, Calha** baz=23	22.90	115	⇓P	P	14 54 59.5 +0.2
W18A	**Petrified Fore** baz=23	22.90	129	⇑P	P	14 54 59.3 0.0
R24A	**Sanders Place,** baz=23	22.90	117	⇑P	P	14 54 59.8 +0.5
M28A	**Bar X Bar Ranc** baz=23	22.94	106	⇓P	P	14 55 00.7 +1.3
P26A	**Davis Ranch, A** baz=23	22.97	112	⇓P	P	14 55 01.3 +1.4
S24A	**Houchin Ranch,** baz=23	23.27	118	⇑P	P	14 55 03.7 +0.5
X18A	**Snowflake** baz=23,SNR=5.7	23.28	131	⇑P	P	14 55 03.9 +0.8
Q26A	**Hugo** baz=23	23.30	113	⇑P	P	14 55 04.0 +0.7
U22A	**Llaves** baz=23	23.34	123	⇑P	P	14 55 04.1 +0.4
R25A	**Fountain Ranch** baz=24	23.42	116	⇑P	P	14 55 05.0 +0.6
T24B	**San Luis** baz=24	23.61	119	⇓P	P	14 55 06.8 +0.4
V22A	**San Miguel Ran** baz=24,SNR=5.7	23.67	124	⇓P	P	14 55 07.7 +0.7
S25A	**Robets Cordova** baz=24	23.68	117	⇑P	P	14 55 07.7 +0.7
U23A	**El Rito** baz=24	23.72	122	⇑P	P	14 55 08.1 +0.6
KSCO	**Kaye Shedlock'** baz=24	23.75	112	⇓P	P	14 55 08.7 +1.1
R26A	**Arlington** baz=24	23.78	115	⇑P	P	14 55 08.8 +0.9
T25A	**Trinidad** baz=24	24.07	118	⇓P	P	14 55 11.4 +0.6
R27A	**Eads** baz=24	24.15	114	⇑P	P	14 55 11.5 +0.1
Q28A	**Sharon Springs** baz=24	24.17	111	⇓P	P	14 55 11.7 +0.1
214A	**Organ Pipe Nat** baz=24	24.22	139	⇓P	P	14 55 12.2 +0.2
S26A	**Kim** baz=24,SNR=9.5	24.24	116	⇓P	P	14 55 13.1 +0.8
T26A	**Comanche Natio** baz=24	24.50	117	⇓P	P	14 55 14.8 +0.1
U25A	**Circle Dot Ran** baz=25	24.62	119	⇑P	P	14 55 16.7 +0.9
W23A	**Werner Place,** baz=25	24.64	124	⇑P	P	14 55 16.8 +0.8
ANMO	**Albuquerque** 4.5nm,0.9s,baz=322,slow=10,SNR=10.0	24.65	124	P	P	14 55 15.9 -0.2
V24A	**Rampart Ranch,** baz=25,SNR=6.3	24.67	121	⇑P	P	14 55 17.2 +0.9
R28A	**Tribune** baz=25	24.67	112	⇑P	P	14 55 17.4 +1.2
Q29A	**Oakley** baz=25	24.78	110	⇓P	P	14 55 18.0 +0.9
V25A	**Rancho No Teng** baz=25	24.93	120	⇓P	P	14 55 19.4 +0.8
U26A	**Atchley Ranch,** baz=25	24.98	118	⇓P	P	14 55 20.1 +1.0
W24A	**Lazy 6 Ranch,** baz=25,SNR=7.1	24.99	122	⇓P	P	14 55 20.4 +1.2
R29A	**Marienthal** baz=25	25.00	111	⇓P	P	14 55 20.5 +1.4
T27A	**Campo** baz=25,SNR=5.1	25.06	116	⇓P	P	14 55 20.7 +1.0
X23A	**Hourglass Bar** baz=25	25.08	124	⇓P	P	14 55 21.0 +1.1
Q30A	**Quinter** baz=25	25.16	109	⇓P	P	14 55 22.0 +1.5
Y22A	**Socorro** baz=25	25.20	127	⇓P	P	14 55 21.8 +0.8
P31A	**Stockton** baz=25	25.30	107	⇓P	P	14 55 23.6 +1.8
V26A	**Tequesquite Ra** baz=25	25.40	119	⇓P	P	14 55 24.0 +1.2
W25A	**X Bar L Ranch,** baz=26	25.48	121	⇓P	P	14 55 24.6 +1.1
Y23A	**Lovelace Mesa,** baz=26	25.66	125	⇑P	P	14 55 26.3 +1.1
Z22A	**Elephant Butte** baz=26	25.75	128	⇑P	P	14 55 27.2 +1.2
121A	**Cookes Peak, D** baz=26	25.94	130	⇓P	P	14 55 29.1 +1.3
W26A	**Owens Ranch, T** baz=26	25.95	120	⇓P	P	14 55 28.9 +1.1
R31A	**Burdett** baz=26	26.03	109	⇓P	P	14 55 30.5 +2.1
Z23A	**Rita Site, Whi** baz=26	26.10	126	⇓P	P	14 55 30.2 +1.0
319A	**Douglas** baz=26	26.23	134	⇓P	P	14 55 32.6 +2.3
Y25A	**Mesa, Roswell** baz=26	26.36	123	⇓P	P	14 55 32.4 +0.9
Q33A	**Connelly Farm,** baz=27	26.55	106	⇑P	P	14 55 34.3 +1.2
320A	**Kipp Ranch, An** baz=27	26.60	132	⇑P	P	14 55 35.3 +1.7
Y27A	**Causey** baz=27	27.19	121	⇓P	P	14 55 39.7 +0.8
AMTX	**Amarillo** baz=27	27.23	118	⇑P	P	14 55 40.1 +0.9
Z26A	**Caprock** baz=27	27.24	123	⇓P	P	14 55 40.0 +0.6
125A	**Gardner Draw,** baz=27	27.38	125	⇓P	P	14 55 41.2 +0.5
224A	**Cornudas Mount** baz=27	27.41	127	⇓P	P	14 55 41.7 +0.7
Z27A	**Tatum** baz=28	27.60	122	⇑P	P	14 55 43.3 +0.6
226B	**Tecolote Peak,** baz=28	28.09	125	⇑P	P	14 55 47.4 +0.5
128A	**Castleberry Fa** baz=29	28.52	122	⇑P	P	14 55 50.8 -0.1
425A	**Indio Mountain** baz=29	28.73	128	⇓P	P	14 55 52.6 -0.1
326A	**Caldwell Ranch** baz=29	28.80	126	⇑P	P	14 55 53.0 -0.3
426A	**McDonald Obser** baz=29	29.30	126	⇑P	P	14 55 58.9 +1.0
130A	**Snyder** baz=29	29.35	120	⇑P	P	14 55 58.8 +0.6
526A	**Mary Lane Ranc** baz=30	29.76	127	⇓P	P	14 56 02.5 +0.6
428A	**Kincaid Ranch,** baz=30	29.93	124	⇑P	P	14 56 03.9 +0.6
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=327,slow=6.0,SNR=6.6	30.57	127	P	P	14 56 09.6 +0.6
628A	**Black Gap, Mar** baz=31	30.83	126	⇑P	P	14 56 11.0 -0.2
631A	**Perdido Creek** baz=32	32.06	123	⇑P	P	14 56 22.0 0.0
SPITS	**Spitsbergen Ar** comp=Z,70nm,18.2s,baz=195,slow=38	48.48	8	LR	LR	15 20 19.6
H11N2	**WAKE ISLAND Hy** baz=42,slow=75,SNR=630	57.44	260	T	T	16 01 59.0
H11N3	**WAKE ISLAND Hy** baz=42,slow=75,SNR=544	57.45	260	T	T	16 01 57.5
H11N1	**WAKE ISLAND Hy** baz=42,slow=75,SNR=546	57.46	260	T	T	16 01 58.7
VRAC	**Vranov** comp=Z,70nm,18.1s,baz=351,slow=36	75.32	21	LR	LR	15 35 25.0

MAN 16 14:49:56,18.25N×120.66E,h21km,mb4.2,ML3.1,MS2.8, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.09**	**334**	⇑*i* P	Pb	14 50 01.4	+1.4
PIP				*i* S	Sb	14 50 07.3	+4.6
SIPP	**Brgy, Tapao**	**0.38**	**211**	⇓*i* P	Pn	14 50 05.4	-0.8
SIPP				*e*S	Sn	14 50 14.1	+1.2
ABRA	**Dolores**	**0.60**	**175**	*e*P	Pb	14 50 07.8	-0.1
ABRA				*e*S	Sb	14 50 16.5	+0.5
APYP	**Conner**	**0.68**	**125**	*e*P	Pb	14 50 08.5	-0.6
APYP				*e*S	Sb	14 50 16.6	-1.6
CAUP	**Cauayan**	**1.71**	**139**	*e*P	Pb	14 50 27.1	+0.4

*ISCJB **16** 14:54:54.0±1.0,37.4N±0.1×96.5E±0.2,h11km,mb3.5/5, Error ellipse: s-maj=23.9km s-min=14.5km az=142.3*
*IDC **16** 14:54:54.6±1.1,37.43N×96.68E,h0km,mb3.5/5, mb1 3.6/9,mb1mx3.5/31,mbtmp3.5/9,ML3.5/4,Error ellipse: s-maj=42.1km s-min=19.5km az=60.0*
ISC 16 14:54:55.8±1.3,37.4N±0.2×96.4E±0.2,h11km,n9,σ1§21/9, mb3.6/5,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array** 0.3nm,0.3s,baz=217,slow=15,SNR=15	**12.75**	**32**	Pn	**Pn**	**14 57 57.0**	**0.0**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=125,slow=14,SNR=5.9	**14.03**	**316**	Pn	**Pn**	**14 58 13.3**	**-1.1**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=140,slow=10,SNR=6.3	**18.36**	**322**	P	**P**	**14 59 10.7**	**+0.5**
ZALV	**Zalesovo Beam** 0.0nm,0.3s,baz=159,slow=12,SNR=2.7	**18.36**	**338**	P	**P**	**14 59 11.8**	**+1.5**
BVAR	**Borovoye Array** 1.2nm,0.7s,baz=94,slow=9.2,SNR=5.4	**23.87**	**319**	P	**P**	**15 00 11.2**	**+2.1**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=293,slow=4.2,SNR=4.5	**66.85**	**25**	P	**P**	**15 05 46.5**	**-0.8**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=329,slow=5.8,SNR=2.5	**67.32**	**141**	P	**P**	**15 05 50.6**	**-0.2**
INK	**Inuvik** 0.7nm,0.6s,baz=346,slow=13,SNR=5.5	**68.22**	**18**	P	**P**	**15 05 55.7**	**-0.2**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=325,slow=6.9,SNR=5.2	**70.27**	**144**	P	**P**	**15 06 09.2**	**+0.1**

IDC 16 15:17:36.9±3.3,19.99S×177.66W,h478km±38km, mb3.2/5,mb1 3.4/6,mb1mx3.1/19,mbtmp3.2/6,Error ellipse: s-maj=116.2km s-min=20.7km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 1.9nm,0.3s,baz=271,slow=6.7,SNR=7.1	**8.26**	**44**	P	P	15 19 36.7	+1.0
AFI				S	S	15 21 12.2	-0.9
CTA	**Charters Tower** 4.0nm,0.9s,baz=95,slow=9.5,SNR=6.5	**33.87**	**264**	P	P	15 23 39.1	+0.3
STKA	**Stephens Creek** 0.7nm,0.5s,baz=96,slow=13,SNR=3.7	**38.30**	**244**	P	P	15 24 15.1	-0.5
ASAR	**Alice Springs** 3.7nm,0.7s,baz=87,slow=8.5,SNR=57	**44.95**	**256**	P	P	15 25 08.4	-0.2
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=97,slow=8.2,SNR=28	**44.99**	**261**	P	P	15 25 08.6	-0.3
ILAR	**Eielson Array** 0.2nm,0.6s,baz=217,slow=4.8,SNR=4.9	**87.75**	**13**	P	P	15 29 33.7	+0.1

FUNV 16 15:30:37.8,10.77N×68.06W,h12km,MW3.5,1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURV	**Turiamo**	**0.38**	**146**	⇓*e*P	Pg	15 30 45.0	-0.4
TURV				*e*S	Sg	15 30 50.1	-0.3
JACV	**Jacura**	**0.82**	**293**	*e*P	Pg	15 30 53.3	-0.5
JACV				*e*S	Sg	15 31 04.9	+0.3
MAPV	**Macapo**	**1.01**	**203**	*e*P	Pb	15 30 56.9	-0.5
MAPV				*e*S	Sg	15 31 10.1	-0.5
FUNV	**FUNVISIS**	**1.26**	**103**	*e*P	Pn	15 31 01.2	-0.2
FUNV				*e*S	Sb	15 31 17.8	-0.3
TEPV	**Terepaima**	**1.37**	**235**	*e*P	Pn	15 31 01.9	-1.1
TEPV				*e*S	Sn	15 31 20.8	-0.4
SIQV	**Siquisique**	**1.73**	**266**	*e*P	Pn	15 31 06.8	-1.0
SIQV				*e*S	Sn	15 31 29.6	-0.2
BAUV	**El Baul**	**1.81**	**180**	*e*P	Pn	15 31 08.5	-0.4
BAUV				*e*S	Sn	15 31 31.5	-0.4
SANV	**Sanarito**	**1.92**	**229**	*e*P	Pn	15 31 10.8	+0.2
SANV				*e*S	Sn	15 31 33.6	-1.3
CURV	**Curarigua**	**2.02**	**248**	*e*P	Pn	15 31 10.7	-1.1
MONV	**Montecano**	**2.22**	**302**	*e*P	Pn	15 31 13.4	-1.2
CUPV	**Cœpira**	**2.34**	**107**	*e*P	Pn	15 31 15.7	-0.6
CUPV				*e*S	Sn	15 31 43.7	-1.3
DABV	**Dabajuro**	**2.54**	**274**	*e*P	Pn	15 31 17.3	-1.7
SOCV	**Socops**	**3.70**	**228**	*e*P	Pn	15 31 34.2	-0.8

MEX 16 15:30:48.3±0.4,16.23N×95.85W,h16km±999km,MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.52**	**208**	*e*P	Pg	15 30 57.0	-1.7
HUIG				*e*S	Sg	15 31 03.8	-2.0
VHO	**Vista Hermosa**	**1.19**	**315**	*e*P	Pn	15 31 06.8	-3.8
VHO				*i* S	Sb	15 31 21.1	-5.1

IDC 16 15:45:22.9±2.8,24.86S×133.72E,h0km,mb1 3.8/3, mb1mx3.5/16,mbtmp3.6/3,ML3.3/3,Error ellipse: s-maj=20.3km s-min=16.2km az=23.0,Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 5.3nm,0.3s,baz=184,slow=14,SNR=213	**1.20**	**8**	Pg	Pn	15 45 47.1	+0.1
ASAR				Lg	Lg	15 46 02.2	
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=189,slow=14,SNR=98	**4.93**	**7**	Pn	Pn	15 46 38.4	+0.1
WRA				Sn	Sn	15 47 32.5	-3.6
WRA	2.4nm,0.3s,baz=189,slow=23,SNR=11			Lg	Lg	15 47 55.6	
STKA	**Stephens Creek** 0.3nm,0.3s,baz=309,slow=13,SNR=6.4	**9.84**	**137**	Pn	Pn	15 47 45.1	-0.6
STKA	3.3nm,0.3s,baz=193,slow=29,SNR=15			Sn	Sn	15 49 29.0	-7.9
FITZ	**Fitzroy Crossi** 0.9nm,0.3s,baz=290,slow=14,SNR=5.5	**10.09**	**310**	Pn	Pn	15 47 48.2	-0.9
	0.2nm,0.3s,baz=150,slow=5.9,SNR=9.0						

*ISCJB **16** 15:46:01.7±0.4,21.38S±0.03×68.14W±0.03,h107km±3km, mb4.8/97,Error ellipse: s-maj=5.7km s-min=4.6km az=139.7*
*MOS **16** 15:46:02.4±1.1,21.42S×68.18W,h108km,mb5.2/20, Error ellipse: s-maj=15.2km s-min=7.2km az=118.0*
*NEIC **16** 15:46:03.1±0.3,21.44S×68.13W,h103km±2km,mb4.9/84, Error ellipse: s-maj=4.6km s-min=3.7km az=223.0*
*GUC **16** 15:46:04.5±0.5,21.53S×68.64W,h135km±3km,ML4.7*
*IDC **16** 15:46:05.6±0.7,21.43S×68.19W,h126km±5km,mb4.6/16, mb1 4.6/21,mb1mx4.5/25,mbtmp4.9/21,MS3.4/3, Ms1 3.4/3,ms1mx3.2/24,Error ellipse: s-maj=13.2km s-min=10.0km az=66.0*
ISC 16 15:46:03.9±0.5,21.47S±0.03×68.22W±0.05,h114km±3km, h114km:pP-P,n579,σ1§01/614,mb4.9/97,152C-157D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**1.00**	**251**	⇑*i* P	**Pn**	**15 46 25.6**	**0.0**
PB09				*i* S	**Sn**	**15 46 41.5**	**-0.4**
PB09	comp=N,47μm,0.7s			AML	AML	15 46 42.8	
PB09	**Plate Boundary**	**1.00**	**251**	⇑*i* P	**Pn**	**15 46 25.6**	**0.0**
PB09				*i* S	**Sn**	**15 46 41.5**	**-0.4**
PB01	**Plate Boundary**	**1.25**	**290**	⇑*i* P	**Pn**	**15 46 27.9**	**-0.2**
PB01				*i* S	**Sn**	**15 46 45.5**	**-1.1**
PB01	comp=N,8μm,0.6s			AML	AML	15 46 46.6	
PB01	**Plate Boundary**	**1.25**	**290**	⇑*i* P	**Pn**	**15 46 27.9**	**-0.2**
PB01				*i* S	**Sn**	**15 46 45.5**	**-1.1**
LVC	**Limon Verde**	**1.30**	**209**	*e*Pn	**Pn**	**15 46 28.7**	**-0.2**
PB04	**Plate Boundary**	**1.42**	**236**	⇑*i* P	Pn	15 46 35.3	+5.4
PB04				*i* S	Sn	15 46 58.7	+9.1
PB04	comp=N,5μm,0.8s			AML	AML	15 47 17.0	
PB04	**Plate Boundary**	**1.42**	**236**	⇑*i* P	Pn	15 46 35.3	+5.4
PB04				*i* S	Sn	15 46 58.7	+9.1
SPCH	**San Pedro de A** comp=E,11μm,0.5s	**1.43**	**179**	AML	AML	15 47 05.5	
PB07	**Plate Boundary**	**1.57**	**260**	⇑*i* P	**Pn**	**15 46 30.8**	**-1.1**
PB07				*e*S	**Sn**	**15 46 50.2**	**-3.0**
PB07	comp=N,14μm,0.5s			AML	AML	15 46 52.0	
PB07	**Plate Boundary**	**1.57**	**260**	⇑*i* P	**Pn**	**15 46 30.8**	**-1.1**
PB07				*e*S	**Sn**	**15 46 50.2**	**-3.0**
MACH	**Maria Elena**	**1.60**	**243**	⇑*i* P	**Pn**	**15 46 31.0**	**-1.3**
MACH				*i* S	**Sn**	**15 46 51.7**	**-2.3**
MACH	**Maria Elena**	**1.60**	**243**	⇑*i* P	**Pn**	**15 46 31.0**	**-1.3**
MACH				*i* S	**Sn**	**15 46 51.7**	**-2.3**
PATCX	**Punta Patache**	**1.92**	**289**	⇑*i* P	**Pn**	**15 46 35.6**	**-0.5**
PATCX				*i* S	**Sn**	**15 46 58.5**	**-2.1**
PATCX	comp=N,9μm,0.4s			AML	AML	15 47 00.3	
HMBC	**Humberstone**	**1.96**	**307**	⇑*i* P	**Pn**	**15 46 36.4**	**-0.2**
HMBC				*i* S	**Sn**	**15 47 00.3**	**-1.3**
HMBC	comp=N,9μm,0.5s			AML	AML	15 47 04.1	
HMBC	**Humberstone**	**1.96**	**307**	⇑*i* P	**Pn**	**15 46 36.4**	**-0.2**
HMBC				*i* S	**Sn**	**15 47 00.3**	**-1.3**
PSGC	**Pisagua**	**2.58**	**316**	⇑*i* P	**Pn**	**15 46 43.6**	**-1.0**
PSGC				*i* S	**Sn**	**15 47 13.9**	**-1.9**
PSGC	comp=E,3μm,0.7s			AML	AML	15 47 15.7	
PSGC	**Pisagua**	**2.58**	**316**	⇑*i* P	**Pn**	**15 46 43.6**	**-1.0**
PSGC				*i* S	**Sn**	**15 47 13.9**	**-1.9**
CEN1	**Los Morros**	**2.65**	**223**	*i* P	**Pn**	**15 46 46.9**	**+1.5**
CEN1				*i* S	**Sn**	**15 47 19.1**	**+1.8**
CEN1	comp=N,2μm,0.8s			AML	AML	15 47 26.9	
CEN1	**Los Morros**	**2.65**	**223**	*i* P	**Pn**	**15 46 46.9**	**+1.5**
CEN1				*i* S	**Sn**	**15 47 19.1**	**+1.8**
PB10	**Plate Boundary** comp=N,6μm,0.3s	**2.96**	**226**	AML	AML	15 47 41.7	
ANCH	**Antofagasta**	**2.99**	**222**	⇓*i* P	**Pn**	**15 46 48.3**	**-1.5**
ANCH				*i* S	**Sn**	**15 47 21.8**	**-3.4**
ANCH	comp=N,4μm,0.4s			AML	AML	15 47 30.8	
ANCH	**Antofagasta**	**2.99**	**222**	⇓*i* P	**Pn**	**15 46 48.3**	**-1.5**
ANCH				*i* S	**Sn**	**15 47 21.8**	**-3.4**
LPAZ	**La Paz** comp=N,87nm,0.5s	**5.16**	**1**	*e*Pn	**Pn**	**15 47 22.2**	**+2.7**
LPAZ				S	**Sn**	**15 48 19.6**	**+1.5**
LPAZ	**La Paz** comp=N,16nm,0.3s,baz=172,slow=6.8,SNR=174	**5.16**	**1**	P	**Pn**	**15 47 22.2**	**+2.7**
LPAZ				S	**Sn**	**15 48 19.6**	**+1.5**
ARE	**Arequipa** comp=N,1.4nm,0.3s,baz=306,slow=5.6,SNR=3.6	**5.87**	**328**	*e*P	**Pn**	**15 47 28.0**	**-0.7**
ARE				*i* S	**Sn**	**15 48 33.0**	**-1.9**
ARE	**Arequipa**	**5.87**	**328**	*e*P	**Pn**	**15 47 28.0**	**-0.7**
ARE				*i* S	**Sn**	**15 48 33.0**	**-1.9**
LCO	**Las Campanas** comp=N,115nm,0.7s	**7.83**	**196**	*e*P	Pn	15 47 49.5	-5.8
SIV	**San Ignacio**	**8.69**	**52**	P	**Pn**	**15 48 06.2**	**-0.6**
SIV				S	**Sn**	**15 49 39.0**	**-4.2**
SIV	**San Ignacio** comp=N,46nm,0.3s,baz=252,slow=13,SNR=516	**8.69**	**52**	P	**Pn**	**15 48 06.2**	**-0.6**
SIV				S	**Sn**	**15 49 39.0**	**-4.2**
CFAA	**Coronel Fontan**	**10.09**	**180**	P	Pn	15 48 21.6	-4.1
CFAA				S	Sn	15 50 06.5	-11
CFAA	**Coronel Fontan** comp=N,0.3nm,0.3s,baz=353,slow=13,SNR=28	**10.09**	**180**	P	Pn	15 48 21.6	-4.1
CFAA				S	Sn	15 50 06.5	-11
CPUP	**Villa Florida**	**11.07**	**118**	*e*P	**Pn**	**15 48 38.4**	**-0.5**
CPUP	**Villa Florida** comp=N,7.0nm,0.3s,baz=279,slow=12,SNR=26	**11.07**	**118**	P	**Pn**	**15 48 36.5**	**-2.4**
CPUP				LR	LR	15 54 05.7	
SAML	**Samuel** comp=N,123nm,21.0s,baz=288,slow=43	**13.36**	**22**	*e*P	**Pn**	**15 49 07.5**	**-1.6**
ATAH	**Atahualpa** comp=N,3.1nm,0.4s	**17.31**	**324**	P	**Pn**	**15 50 00.9**	**+1.9**
ATAH	**Atahualpa** comp=N,0.6nm,0.3s,baz=169,slow=14,SNR=4.6	**17.31**	**324**	P	**Pn**	**15 50 00.9**	**+1.9**
TRQA	**Tornquist** comp=N,54nm,0.8s	**17.39**	**163**	*e*P	**P**	**15 49 57.1**	**-1.9**
PLCA	**Paso Flores** comp=N,30nm,0.9s	**19.30**	**185**	*e*P	**P**	**15 50 19.1**	**-0.8**
PLCA				PcP	**PcP**	**15 54 38.0**	**+0.1**
PLCA	**Paso Flores** comp=N,1.5nm,0.3s,baz=9.8,slow=13,SNR=46	**19.30**	**185**	P	**P**	**15 50 19.4**	**-0.6**
PLCA				PcP	**PcP**	**15 54 38.0**	**+0.1**
SPB	**Sao Paulo** comp=N,32nm,0.9s	**19.32**	**100**	*e*P	**P**	**15 50 20.1**	**-0.1**
BDFB	**Brasilia**	**20.01**	**77**	P	**P**	**15 50 26.9**	**-1.0**
BDFB	**Brasilia** comp=N,2.8nm,0.3s,baz=238,slow=12,SNR=15	**20.01**	**77**	P	**P**	**15 50 26.9**	**-1.0**
BDFB				LR	LR	15 59 50.3	
PTGA	**Pitinga** comp=N,16nm,0.5s	**22.13**	**22**	*e*P	**P**	**15 50 48.6**	**-1.8**
OTAV	**Otavalo** comp=N,10nm,0.8s	**23.78**	**334**	*e*P	**P**	**15 51 07.9**	**+1.2**
ROSC	**El Rosal** comp=N,82nm,19.3s,baz=333,slow=39	**26.84**	**346**	LR	LR	16 03 23.8	
SDV	**Santo Domingo** comp=N,3.3nm,0.9s	**30.26**	**355**	*e*P	**P**	**15 52 03.2**	**-1.2**
GRGR	**Grenville**	**34.01**	**12**	P	**P**	**15 52 37.5**	**+0.5**
RCBR	**Riachuelo**	**34.93**	**68**	P	**P**	**15 52 44.9**	**-0.2**
RCBR	**Riachuelo** comp=N,9.4nm,0.5s,baz=186,slow=4.1,SNR=13	**34.93**	**68**	P	**P**	**15 52 44.9**	**-0.2**
OBIP	**Obispado Ponce** comp=N,45nm,0.6s	**39.30**	**2**	*e*P	**P**	**15 53 20.0**	**-1.9**
CELP	**Cerrillos**	**39.34**	**2**	*e*P	**P**	**15 53 20.4**	**-1.7**
TIGA	**Tifton** baz=55	**54.63**	**344**	⇓P	**P**	**15 55 20.3**	**-0.6**
LRAL	**Lakeview Retre** comp=N,12nm,0.9s	**57.09**	**341**	*e*P	**P**	**15 55 37.5**	**-0.8**
KMSC	**Kings Mountain** baz=58	**57.66**	**347**	⇓P	**P**	**15 55 42.2**	**-0.1**
732A	**Laxson Ranch,** baz=59	**58.56**	**327**	⇑P	**P**	**15 55 48.3**	**-0.4**
CPCT	**Cooper Cave**	**58.68**	**344**	*e*P	**P**	**15 55 49.2**	**-0.2**
TKL	**Tuckaleechee C**	**58.70**	**345**	*e*P	**P**	**15 55 49.0**	**-0.5**
SWET	**Sewanee** comp=N,39nm,0.8s	**58.83**	**343**	*e*P	**P**	**15 55 49.9**	**-0.6**
534A	**Blanco**	**58.90**	**329**	⇓P	**P**	**15 55 50.2**	**-0.9**

baz=59
632A **Uvalde** 59.10 328 ⇑P P 15 55 52.3 -0.1
baz=59
533A **Kerrville** 59.20 329 ⇓P P 15 55 52.5 -0.6
baz=60
631A **Perdido Creek** 59.42 327 ⇓P P 15 55 54.0 -0.6
baz=60,SNR=10
434A **Burnet** 59.46 330 ⇓P P 15 55 54.6 -0.3
baz=60
335A **Moody** 59.47 331 ⇓P P 15 55 54.8 -0.2
baz=60
532A **Rocksprings** 59.67 328 ⇓P P 15 55 56.3 -0.2
baz=60,SNR=7.4
433A **Art** 59.80 329 ⇓P P 15 55 56.7 -0.5
baz=60,SNR=15
334A **Lometa** 59.88 330 ⇓P P 15 55 57.3 -0.4
baz=60,SNR=5.4
JCT **Junction City** 59.91 328 *eP* P 15 55 57.8 -0.2
JCT pmax pmax
comp=Z,16nm,0.6s
JCT **Junction City** 59.91 328 *eP* P 15 55 57.8 -0.2
comp=Z,16nm,0.6s
JCT **Junction City** 59.91 328 ⇓P P 15 55 57.7 -0.4
baz=60,SNR=7.9
531A **Rocksprings** 60.02 328 ⇑P P 15 55 59.0 +0.2
baz=60,SNR=14
WHTX **Lake Whitney** 60.08 331 *eP* P 15 55 59.0 -0.1
comp=Z,15nm,0.7s
WHTX **Lake Whitney** 60.08 331 ⇓P P 15 55 58.8 -0.3
baz=60
VNA1 **Neumayer--Stat** 60.10 161 *eP* P 15 55 58.3 -0.4
WVT **Waverly** 60.22 342 *eP* P 15 55 59.0 -0.9
WVT pmax pmax
comp=Z,47nm,1.0s
WVT **Waverly** 60.22 342 *eP* P 15 55 59.0 -0.9
comp=Z,47nm,1.0s
333A **Richland Sprin** 60.22 330 ⇑P P 15 55 59.8 -0.3
baz=60,SNR=9.9
432A **Menard** 60.23 329 ⇓P P 15 55 60.0 -0.3
baz=60,SNR=13
530A **J-C Ranch, Com** 60.40 327 ⇓P P 15 56 01.4 0.0
baz=61,SNR=16
VNA2 **Neumayer--Watz** 60.47 161 *eP* P 15 56 01.0 -0.3
431A **Sonora** 60.47 328 ⇓P P 15 56 01.6 -0.3
baz=61,SNR=9.2
135A **Vickery Place,** 60.54 332 ⇓P P 15 56 02.0 -0.2
baz=61
332A **Millersview** 60.63 329 ⇓P P 15 56 02.5 -0.3
baz=61,SNR=13
628A **Black Gap, Mar** 60.68 325 ⇓P P 15 56 03.7 +0.4
baz=61,SNR=16
MIAR **Mount Ida** 60.70 336 *eP* P 15 56 03.1 -0.2
MIAR pmax pmax
comp=Z,33nm,1.2s
MIAR **Mount Ida** 60.70 336 *eP* P 15 56 03.1 -0.2
comp=Z,33nm,1.2s
529A **Stev Forest Ra** 60.84 326 ⇑P P 15 56 04.5 +0.2
baz=61,SNR=19
134A **White-Moore Ra** 60.85 331 ⇓P P 15 56 03.8 -0.5
baz=61
430A **Baggett Ranch,** 60.87 328 ⇓P P 15 56 04.2 -0.4
baz=61,SNR=11
331A **San Angelo** 60.90 329 ⇓P P 15 56 04.0 -0.7
baz=61
627A **Terlingua Ranc** 60.92 325 ⇓P P 15 56 05.1 +0.1
baz=61,SNR=9.3
TXAR **Lajitas Array** 60.97 325 P P 15 56 05.3 -0.1
TXAR **Lajitas Array** 60.97 325 P P 15 56 05.3 -0.1
comp=Z,2.7nm,0.7s,baz=151,slow=8.3,SNR=26
232A **Coleman** 61.00 330 ⇑P P 15 56 04.9 -0.5
baz=61,SNR=8.0
429A **Davenport Ranc** 61.07 327 ⇓P P 15 56 05.8 -0.2
baz=61,SNR=13
Z35A **Perchaven, San** 61.13 332 ⇑P P 15 56 06.2 0.0
baz=61
528A **Cox Ranch, San** 61.16 326 ⇓P P 15 56 06.4 -0.3
baz=61,SNR=5.6
133A **Hamilton Ranch** 61.26 331 ⇓P P 15 56 06.8 -0.3
baz=62
330A **Mertzon** 61.34 328 ⇓P P 15 56 07.2 -0.5
baz=62
231A **Bronte** 61.36 329 ⇓P P 15 56 07.2 -0.6
baz=62
626A **Big Bend Ranch** 61.40 324 ⇓P P 15 56 08.4 +0.2
baz=62,SNR=21
Z34A **Collier Ranch,** 61.45 332 ⇓P P 15 56 08.3 -0.1
baz=62
428A **Kincaid Ranch,** 61.56 326 ⇑P P 15 56 09.3 0.0
baz=62
527A **Woodward Ranch** 61.58 325 ⇑P P 15 56 09.2 -0.3
baz=62,SNR=13
ABTX **Abilene, Hawle** 61.61 330 *eP* P 15 56 08.2 -1.3
comp=Z,28nm,1.1s
ABTX **Abilene, Hawle** 61.61 330 ⇓P P 15 56 09.1 -0.4
baz=62,SNR=7.6
230A **Sterling City** 61.70 328 ⇑P P 15 56 10.2 0.0
baz=62
Z33A **Whitaker Ranch** 61.76 331 ⇓P P 15 56 10.5 0.0
baz=62,SNR=6.6
WCI **Wyandotte Cave** 61.76 344 *eP* P 15 56 09.4 -1.0
WCI pmax pmax
comp=Z,13nm,0.5s
WCI **Wyandotte Cave** 61.76 344 *eP* P 15 56 09.3 -1.0
comp=Z,13nm,0.5s
526A **Mary Lane Ranc** 61.77 325 ⇑P P 15 56 10.8 +0.1
baz=62,SNR=21
329A **Wagon Wheel Ra** 61.81 327 ⇑P P 15 56 10.6 -0.3
baz=62,SNR=6.5
Y34A **Reagan Ranch,** 61.88 332 ⇑P P 15 56 10.9 -0.3
baz=62,SNR=7.0
131A **Roby** 62.00 329 ⇓P P 15 56 11.7 -0.5
baz=62,SNR=6.9
427A **Hayter Ranch,** 62.03 326 ⇑P P 15 56 12.4 0.0
baz=62,SNR=8.8
SNAA **Sanae** 62.10 161 *eP* P 15 56 12.3 -0.1
comp=Z,21nm,0.8s
SNAA **Sanae** 62.10 161 P P 15 56 12.4 +0.1
comp=Z,8.0nm,0.7s,baz=285,slow=6.5,SNR=77
Z32A **Haskell** 62.10 331 ⇓P P 15 56 12.0 -0.8
baz=62
229A **Bryant Ranch,** 62.11 328 ⇑P P 15 56 12.3 -0.6
baz=62
BBTS **Babate** 62.14 59 P P 15 56 13.4 +0.1
BBTS **Babate** 62.14 59 P P 15 56 13.4 +0.1
comp=Z,33nm,0.9s,baz=175,slow=1.2,SNR=4.3
328A **Wristen Ranch,** 62.14 327 ⇑P P 15 56 12.9 -0.3
baz=62,SNR=12
130A **Snyder** 62.21 329 ⇓P P 15 56 13.1 -0.5
baz=62,SNR=10
426A **McDonald Obser** 62.22 325 ⇓P P 15 56 13.8 0.0
baz=62,SNR=18
Y33A **Hilltop Ranch,** 62.31 332 ⇑P P 15 56 13.9 -0.2
baz=63
Z31A **Sharp Cattle R** 62.42 330 ⇓P P 15 56 14.5 -0.4
baz=63,SNR=6.8
X34A **Smith Ranch, M** 62.47 333 ⇑P P 15 56 15.1 -0.1
baz=63
228A **UT Block 9, Go** 62.62 327 ⇓P P 15 56 15.7 -0.7
baz=63
Y32A **R-V Farms, Ver** 62.67 331 ⇑P P 15 56 15.8 -0.7
baz=63
129A **Stewart Farms,** 62.68 328 ⇓P P 15 56 16.1 -0.6
baz=63
326A **Caldwell Ranch** 62.70 326 ⇑P P 15 56 16.9 0.0
baz=63,SNR=8.9
X33A **Lawton** 62.70 332 ⇓P P 15 56 15.8 -1.0
baz=63
TUL1 **Tulsa** 62.76 335 ⇓P P 15 56 16.5 -0.5
baz=63
425A **Indio Mountain** 62.82 325 ⇓P P 15 56 17.6 -0.2
baz=63,SNR=18
Z30A **Sanderson Ranc** 62.86 329 ⇓P P 15 56 17.2 -0.6
baz=63,SNR=12
227A **Bennet, Jal** 62.89 327 ⇑P P 15 56 17.8 -0.3
baz=63
ACSO **Alum Creek Sta** 62.91 347 *eP* P 15 56 17.2 -0.8
comp=Z,35nm,1.0s
X32A **Elmer** 62.95 331 ⇑P P 15 56 18.3 -0.1
baz=63
128A **Castleberry Fa** 62.98 328 ⇑P P 15 56 18.4 -0.3
baz=63
W34A **Bridge Creek,** 62.98 333 ⇓P P 15 56 18.5 -0.1
baz=63
Y31A **Rekieta Farm,** 63.01 330 ⇓P P 15 56 18.6 -0.1
baz=63
Z29A **Hungry Hill Ra** 63.11 329 ⇓P P 15 56 18.8 -0.7
baz=63
W33A **Caddo, Fort Co** 63.21 332 ⇑P P 15 56 20.2 +0.2
baz=64,SNR=9.2
325A **Bean Ranch, Si** 63.27 325 ⇑P P 15 56 20.6 -0.1
baz=64,SNR=46
V34A **Guthrie** 63.39 334 ⇓P P 15 56 20.8 -0.4
baz=64
226B **Tecolote Peak,** 63.40 326 ⇓P P 15 56 21.8 +0.3
baz=64,SNR=10
X31A **McDonald Ranch** 63.44 331 ⇑P P 15 56 21.2 -0.4
baz=64,SNR=12
Z28A **Tucker Farm, M** 63.47 328 ⇓P P 15 56 21.1 -0.8
baz=64
324A **Moseley Ranch,** 63.59 325 ⇑P P 15 56 22.1 -0.8
baz=64,SNR=22
GDL2 **Guadalupe Moun** 63.59 326 *eP* P 15 56 23.2 +0.4
comp=Z,3.7nm,0.8s
X30A **Coker Ranch, T** 63.69 330 ⇓P P 15 56 22.1 -1.2
baz=64
V33A **Lossen Ranch,** 63.70 333 ⇑P P 15 56 22.6 -0.7
baz=64
MNTX **Cornudas Mount** 63.74 325 *eP* P 15 56 22.9 -0.7
comp=Z,11nm,1.1s
225A **Deer Hill, Car** 63.76 326 ⇑P P 15 56 23.8 -0.2
baz=64,SNR=12
126A **Clayton Basin,** 63.77 327 ⇑P P 15 56 23.6 -0.3
baz=64,SNR=5.9
W31A **Holland Ranch,** 63.88 331 ⇓P P 15 56 23.0 -1.5
baz=64
Z27A **Tatum** 63.90 328 ⇑P P 15 56 23.8 -0.9
baz=64,SNR=11
Y28A **McKinney Farm,** 63.90 329 ⇓P P 15 56 24.0 -0.8
baz=64
U34A **Anderson Ranch** 63.91 334 ⇓P P 15 56 24.5 -0.2
baz=64
V32A **Arapaho** 63.94 332 ⇑P P 15 56 24.3 -0.6
baz=64
SFIN **Scholer Farm** 64.00 344 ⇓P P 15 56 23.8 -1.2
baz=64
X29A **Tulia** 64.08 330 ⇓P P 15 56 24.8 -1.1
baz=64
125A **Gardner Draw,** 64.11 326 ⇓P P 15 56 25.6 -0.6
baz=64,SNR=6.5
224A **Cornudas Mount** 64.11 325 ⇑P P 15 56 25.7 -0.5
baz=64,SNR=19
MSTX **Muleshoe** 64.20 328 ⇑P P 15 56 26.1 -0.7
baz=64,SNR=13
Z26A **Caprock** 64.25 327 ⇓P P 15 56 26.6 -0.4
baz=64,SNR=6.3
Y27A **Causey** 64.33 328 ⇓P P 15 56 26.9 -0.7
baz=65,SNR=7.9
V31A **Spring Creek L** 64.33 332 ⇓P P 15 56 27.2 -0.3
baz=65
124A **Stringfield Ra** 64.56 326 ⇑P P 15 56 28.7 -0.5
baz=65,SNR=11
W29A **Amarillo** 64.61 330 ⇑P P 15 56 28.9 -0.5
baz=65
Z25A **Roswell** 64.63 327 ⇑P P 15 56 28.8 -0.7
baz=65,SNR=5.8
Y26A **Elida** 64.69 328 ⇑P P 15 56 29.7 -0.2
baz=65
V30A **Spur Ranch, Mi** 64.70 331 ⇓P P 15 56 30.7 +0.8
baz=65
T33A **Patterson Ranc** 64.76 334 ⇓P P 15 56 30.0 -0.2
baz=65
W28A **Vega** 64.98 330 ⇑P P 15 56 31.6 -0.1
baz=65
222A **Williams Famil** 64.98 324 ⇑P P 15 56 32.3 +0.5
baz=65
Z24A **Sheeppen Canyo** 65.00 326 ⇑P P 15 56 31.6 -0.4
baz=65,SNR=13
T32A **Huddler Ranch,** 65.12 333 ⇑P P 15 56 32.5 -0.1
baz=65
Y25A **Mesa, Roswell** 65.12 327 ⇓P P 15 56 32.2 -0.6
baz=65,SNR=8.9
X26A **CR and CF Fran** 65.18 328 ⇑P P 15 56 33.1 -0.1
baz=66,SNR=6.6
320A **Kipp Ranch, An** 65.20 322 ⇓P P 15 56 33.6 +0.3
baz=66
W27A **Bowe Ranch, En** 65.23 329 ⇑P P 15 56 32.8 -0.6
baz=66
T31A **Randall Ranch,** 65.37 333 ⇓P P 15 56 34.2 0.0
baz=66
V28A **Channing** 65.39 330 ⇑P P 15 56 34.3 -0.1
baz=66
Z23A **Rita Site, Whi** 65.40 325 ⇓P P 15 56 35.2 +0.6
baz=66,SNR=9.7
X25A **Clemmons Ranch** 65.59 327 ⇓P P 15 56 35.0 -0.7
baz=66
W26A **Owens Ranch, T** 65.59 328 ⇓P P 15 56 36.2 +0.5
baz=66
319A **Douglas** 65.66 322 ⇓P P 15 56 37.2 +0.9
baz=66
121A **Cookes Peak, D** 65.68 324 *eP* P 15 56 37.6 +1.1
comp=Z,21nm,1.1s
121A **Cookes Peak, D** 65.68 324 ⇓P P 15 56 37.6 +1.1
baz=66,SNR=12
T30A **Plains** 65.70 332 ⇑P P 15 56 37.6 +1.2
baz=66
R33A **Olander Ranch,** 65.70 335 ⇓P P 15 56 36.0 -0.3
baz=66
Z22A **Elephant Butte** 65.79 325 ⇓P P 15 56 38.0 +1.0
baz=66,SNR=28
Y23A **Lovelace Mesa,** 65.83 326 ⇓P P 15 56 37.3 -0.1
baz=66
U28A **Mallet** 65.91 330 ⇑P P 15 56 37.7 0.0
baz=66
X24A **Lazy VL Ranch,** 66.01 327 ⇓P P 15 56 38.1 -0.4
baz=66,SNR=6.0
W25A **X Bar L Ranch,** 66.03 328 ⇓P P 15 56 38.2 -0.4
baz=66,SNR=5.9
R32A **Long Quarter,** 66.09 334 ⇓P P 15 56 38.9 +0.1
baz=66
S30A **Montezuma** 66.17 332 ⇓P P 15 56 38.8 -0.5
baz=66
V26A **Tequesquite Ra** 66.17 329 ⇑P P 15 56 39.3 -0.2
baz=66,SNR=11
U27A **Thompson Grove** 66.22 330 ⇑P P 15 56 39.2 -0.5
baz=66
Q33A **Connelly Farm,** 66.24 335 ⇓P P 15 56 39.5 -0.1
baz=66
BNM **Barren Site** 66.30 326 *eP* P 15 56 41.2 +0.8
comp=Z,6.7nm,1.0s
Y22A **Socorro** 66.31 325 ⇑P P 15 56 40.2 -0.3
baz=67
R31A **Burdett** 66.32 333 ⇑P P 15 56 39.6 -0.6
baz=67
S29A **Ulysses** 66.43 332 ⇑P P 15 56 40.9 -0.1
baz=67
W24A **Lazy 6 Ranch,** 66.50 327 ⇓P P 15 56 41.4 -0.3
baz=67
Q32A **Meitler Ranch,** 66.52 335 ⇑P P 15 56 41.1 -0.4
baz=67
V25A **Rancho No Teng** 66.61 328 ⇑P P 15 56 42.3 0.0
baz=67,SNR=14
R30A **Dighton** 66.63 333 ⇓P P 15 56 42.0 -0.2
baz=67
U26A **Atchley Ranch,** 66.63 329 ⇑P P 15 56 42.7 +0.3
baz=67,SNR=5.6
NVL **N'lazarevskaya** 66.63 159 *eP* P 15 56 41.9 +0.2
NVL pmax pmax
comp=Z,21nm,0.8s
T27A **Campo** 66.69 330 ⇓P P 15 56 42.5 -0.2
baz=67,SNR=9.7
S28A **Manter** 66.75 331 ⇑P P 15 56 43.0 -0.1
baz=67,SNR=9.3
LAZ **Ladron** 66.76 326 P P 15 56 43.3 -0.1
comp=Z,5.6nm,1.0s
ANMO **Albuquerque** 66.83 326 *eP* P 15 56 44.5 +0.7
comp=Z,6.6nm,0.7s
W23A **Werner Place,** 66.84 327 ⇓P P 15 56 44.1 +0.3
baz=67,SNR=7.4
V24A **Rampart Ranch,** 66.84 328 ⇓P P 15 56 43.9 +0.1
baz=67,SNR=9.1
Q31A **Ellis** 66.87 334 ⇓P P 15 56 43.3 -0.4
baz=67
U25A **Circle Dot Ran** 66.95 329 ⇑P P 15 56 44.6 +0.1
baz=67,SNR=13
P32A **Huiting Farm,** 67.08 335 ⇓P P 15 56 44.9 -0.1
baz=67
R29A **Marienthal** 67.11 332 ⇓P P 15 56 45.2 -0.1
baz=67
Q30A **Quinter** 67.19 333 ⇓P P 15 56 46.0 +0.3
baz=68,SNR=8.1
T26A **Comanche Natio** 67.19 330 ⇑P P 15 56 46.3 +0.3
baz=68,SNR=13
JFWS **Jewell Farm** 67.20 343 *eP* P 15 56 45.1 -0.6
JFWS pmax pmax
comp=Z,20nm,0.8s
JFWS **Jewell Farm** 67.20 343 *eP* P 15 56 45.1 -0.6
comp=Z,20nm,0.8s
TUC **Tucson** 67.21 322 *eP* P 15 56 46.8 +0.7
TUC pmax pmax
comp=Z,18nm,1.3s
TUC **Tucson** 67.21 322 *eP* P 15 56 46.8 +0.7
comp=Z,18nm,1.3s
P31A **Stockton** 67.30 334 ⇑P P 15 56 46.4 -0.1
baz=68,SNR=6.3
V23A **Ortiz Mt. (NFS** 67.31 327 ⇓P P 15 56 46.8 0.0
baz=68
R28A **Tribune** 67.34 332 ⇑P P 15 56 46.5 -0.3
baz=68
Q29A **Oakley** 67.43 333 ⇑P P 15 56 47.3 0.0
baz=68
S26A **Kim** 67.49 330 ⇓P P 15 56 48.6 +0.7
baz=68,SNR=13
O32A **Brookman Farm,** 67.50 335 ⇑P P 15 56 47.8 +0.1
baz=68
T25A **Trinidad** 67.55 329 ⇑P P 15 56 48.5 +0.2
baz=68
P30A **Selden** 67.68 334 ⇓P P 15 56 48.7 -0.1
baz=68
R27A **Eads** 67.73 331 ⇑P P 15 56 48.8 -0.4
baz=68
LIC **Lamto** 67.77 73 *eP* P 15 56 49.3 -0.6
comp=Z,30nm,0.6s
LIC **Lamto** 67.77 73 *eP* P 15 56 49.4 -0.5
comp=Z,12nm,0.5s,baz=252
LIC **Lamto** 67.77 73 *eP* P 15 56 49.4 -0.5
comp=Z,12nm,0.5s
V22A **San Miguel Ran** 67.81 327 ⇓P P 15 56 51.0 +1.0
baz=68,SNR=14
Q28A **Sharon Springs** 67.94 332 ⇑P P 15 56 50.4 -0.2
baz=68
T24B **San Luis** 67.95 329 ⇓P P 15 56 51.9 +1.0
baz=68,SNR=6.3
TIC **Toumodi** 67.96 73 *eP* P 15 56 51.1 0.0
comp=Z,22nm,0.8s
S25A **Robets Cordova** 67.98 330 ⇑P P 15 56 51.2 +0.3
baz=68
R26A **Arlington** 68.04 331 ⇓P P 15 56 51.5 +0.3
baz=68,SNR=5.8
KIC **Kosan Boka** 68.08 73 *eP* P 15 56 51.6 -0.2
comp=Z,47nm,0.6s
DBIC **Dimbokro** 68.11 73 *eP* P 15 56 52.1 +0.1
comp=Z,22nm,0.7s
DBIC **Dimbokro** 68.11 73 P P 15 56 52.1 +0.1
comp=Z,23nm,0.6s,baz=220,slow=6.7,SNR=39
O30A **MW Ranch, Wils** 68.14 334 ⇓P P 15 56 52.2 +0.6
baz=68
U22A **Llaves** 68.14 327 ⇑P P 15 56 53.0 +0.9
baz=68
214A **Organ Pipe Nat** 68.15 320 *eP* P 15 56 52.7 +0.8
comp=Z,45nm,1.4s
214A **Organ Pipe Nat** 68.15 320 ⇑P P 15 56 53.4 +1.5
baz=68,SNR=10
N31A **Bailey Ranch,** 68.25 335 ⇑P P 15 56 52.3 0.0
baz=68
T23A **Casias Ranch,** 68.25 328 ⇑P P 15 56 52.8 0.0
baz=68
R25A **Fountain Ranch** 68.30 330 ⇑P P 15 56 53.1 +0.2
baz=69
S24A **Houchin Ranch,** 68.33 329 ⇑P P 15 56 54.1 +0.9
baz=69,SNR=9.8
X18A **Snowflake** 68.37 324 ⇑P P 15 56 53.9 +0.4
baz=69
O29A **4D Ranch, Culb** 68.39 334 ⇑P P 15 56 54.1 +0.8
baz=69
SDCO **Great Sand Dun** 68.55 329 *eP* P 15 56 55.3 +0.7
comp=Z,13nm,0.8s
Q26A **Hugo** 68.58 331 ⇑P P 15 56 55.1 +0.5
baz=69
P27A **Ficken Ranch,** 68.68 332 ⇑P P 15 56 55.6 +0.4
baz=69
W18A **Petrified Fore** 68.69 324 *eP* P 15 56 56.2 +0.8
comp=Z,36nm,1.3s
W18A **Petrified Fore** 68.69 324 ⇓P P 15 56 56.5 +1.0
baz=69,SNR=5.8
M31A **Lambtecht Ranc** 68.70 336 ⇑P P 15 56 55.4 +0.2
baz=69
R24A **Sanders Place,** 68.75 330 ⇑P P 15 56 56.5 +0.8
baz=69,SNR=9.9
P26A **Davis Ranch, A** 69.02 332 ⇓P P 15 56 56.9 -0.4
baz=69
R23A **Moffat** 69.06 329 ⇑P P 15 56 58.4 +0.7
baz=69,SNR=7.7
X16A **Lo Mia Camp, P** 69.12 323 ⇓P P 15 56 59.2 +1.1
baz=69,SNR=14
O27A **Beecher Island** 69.16 333 ⇓P P 15 56 58.7 +0.6
baz=69
S22A **4UR Ranch, Cre** 69.20 328 ⇑P P 15 56 59.1 +0.5
baz=70,SNR=6.1
Z14A **Wintersburg** 69.23 321 ⇑P P 15 56 58.5 -0.1
baz=70
113A **Mohawk Valley,** 69.29 320 ⇓P P 15 56 59.3 +0.3
baz=70
P25A **Willow Gulch B** 69.35 331 ⇑P P 15 57 00.2 +0.8
baz=70,SNR=5.5
Q24A **Divide** 69.36 330 ⇑P P 15 57 00.5 +0.9
baz=70,SNR=5.9
L31A **Butterfield Fa** 69.37 336 ⇓P P 15 56 59.5 +0.2
baz=70
M29A **Burnside Ranch** 69.46 334 ⇑P P 15 57 00.3 +0.4
baz=70
L30A **Spencer Herefo** 69.51 335 ⇓P P 15 57 00.7 +0.6
baz=70
MVCO **Mesa Verde** 69.62 327 *eP* P 15 57 02.2 +1.0
comp=Z,10nm,0.6s
MVCO **Mesa Verde** 69.62 327 ⇑P P 15 57 02.0 +0.8
baz=70,SNR=6.4
Y14A **Wickenburg** 69.67 321 ⇓P P 15 57 02.5 +1.1
baz=70,SNR=10
WUAZ **Wupatki** 69.89 324 *eP* P 15 57 04.2 +1.3
comp=Z,29nm,1.0s
WUAZ **Wupatki** 69.89 324 ⇓P P 15 57 04.1 +1.3
baz=70,SNR=21
P23A **Jefferson** 70.00 330 ⇓P P 15 57 04.3 +0.7
baz=70
K30A **Basset** 70.09 336 ⇑P P 15 57 03.8 +0.1
baz=70
GLA **Glamis** 70.13 320 *eP* P 15 57 05.3 +1.2
GLA pmax pmax
comp=Z,2.0nm,0.6s
GLA **Glamis** 70.13 320 *eP* P 15 57 05.3 +1.2
comp=Z,1.5nm,0.6s
GLA **Glamis** 70.13 320 ⇑P P 15 57 05.4 +1.2
baz=70
ISCO **Idaho Springs** 70.24 330 *eP* P 15 57 05.4 +0.4
ISCO pmax pmax
comp=Z,2.0nm,0.6s
ISCO **Idaho Springs** 70.24 330 *eP* P 15 57 05.4 +0.4
comp=Z,1.9nm,0.6s
ISCO **Idaho Springs** 70.24 330 ⇓P P 15 57 05.8 +0.8
baz=70,SNR=5.1
PV01 **Paradox Valley** 70.37 327 *eP* P 15 57 06.8 +1.1
comp=Z,232nm,0.5s
Y12C **Blythe** 70.43 320 ⇑P P 15 57 07.1 +1.2
baz=71,SNR=5.5
PDMCI **Parker Dam,Lak** 70.59 321 ⇑P P 15 57 07.5 +0.6
baz=71
J30A **Dallas** 70.60 336 ⇓P P 15 57 07.1 +0.4
baz=71
P22A **Eagle** 70.61 329 ⇑P P 15 57 07.9 +0.7
baz=71
SWSC **Sam W. Stewart** 70.64 319 ⇓P P 15 57 07.6 +0.4
baz=71
O23A **Lake Granby, G** 70.71 330 ⇓P P 15 57 07.7 -0.1
baz=71
BC3 **Big Chuckawall** 70.92 320 ⇓P P 15 57 10.2 +1.1
baz=71,SNR=17
O22A **Kremmling** 70.96 330 ⇓P P 15 57 10.1 +0.8
baz=71,SNR=5.7
MONP **Monument Peak** 70.99 318 ⇑P P 15 57 11.0 +1.4
baz=71,SNR=6.7
BAR **Barrett** 71.01 318 *eP* P 15 57 10.3 +0.9
comp=Z,30nm,1.1s
W13A **Hualapai Mount** 71.01 322 ⇑P P 15 57 11.1 +1.4
baz=71,SNR=11
U15A **North Rim** 71.06 324 ⇑P P 15 57 11.5 +1.5
baz=71,SNR=29
IRM **Iron Mountain** 71.09 320 ⇓P P 15 57 11.3 +1.3
baz=71,SNR=18
K27A **Flueckinger Fa** 71.14 334 ⇑P P 15 57 11.5 +1.4
baz=71
BELC **Belle Mtn. Jos** 71.49 320 ⇓P P 15 57 14.0 +1.5
baz=72,SNR=8.9
PFO **Pinyon Flat Ob** 71.50 319 ⇑P P 15 57 13.8 +1.3
baz=72,SNR=9.2

J27A **Elkhorn Farm,** 71.51 335 ⇓P P 15 57 13.1 +0.8
baz=72
LDFC **Landfair** 71.70 321 *eP* P 15 57 15.3 +1.6
comp=Z,34nm,1.1s
O20A **White River Ci** 71.75 329 *eP* P 15 57 14.9 +1.0
comp=Z,22nm,1.0s
O20A **White River Ci** 71.75 329 ⇑P P 15 57 15.0 +1.0
baz=72,SNR=7.1
GMRC **Granite Mounta** 71.82 320 ⇑P P 15 57 15.9 +1.4
baz=72,SNR=25
SRU **San Rafael** 72.10 327 *eP* P 15 57 16.9 +0.8
SRU pmax pmax
comp=Z,26nm,0.6s
SRU **San Rafael** 72.10 327 *eP* P 15 57 16.9 +0.8
comp=Z,26nm,0.6s
EYMN **Ely** 72.19 344 *eP* P 15 57 15.4 -0.7
comp=Z,9.4nm,0.7s
HEC **Hector,Ludlow** 72.26 320 ⇓P P 15 57 18.6 +1.6
baz=72,SNR=11
N20A **Spence Gulch,** 72.30 329 ⇑P P 15 57 17.9 +0.6
baz=73
TUQ **Turquoise Moun** 72.43 321 ⇓P P 15 57 19.6 +1.5
baz=73,SNR=10
CCUT **Cedar City** 72.46 324 *eP* P 15 57 19.9 +1.5
comp=Z,29nm,0.8s
TMUT **Trail Mountain** 72.59 326 *eP* P 15 57 20.3 +1.1
comp=Z,7.3nm,0.6s
BFSC **Mount Baldy Ra** 72.66 319 ⇑P P 15 57 20.4 +1.0
baz=73,SNR=7.3
ARUT **Antelope Range** 72.68 324 *eP* P 15 57 21.3 +1.8
ARUT pmax pmax
comp=Z,570nm,0.9s
ARUT **Antelope Range** 72.68 324 *eP* P 15 57 21.3 +1.8
comp=Z,570nm,0.9s
SHPR **Sheep Range** 72.73 322 *eP* P 15 57 21.3 +1.5
comp=Z,28nm,1.2s
I25A **Rochford** 72.84 334 ⇓P P 15 57 21.0 +0.6
baz=73
GSC **Goldstone** 72.86 320 *eP* P 15 57 22.1 +1.5
GSC pmax pmax
comp=Z,1.0nm,0.5s
GSC **Goldstone** 72.86 320 *eP* P 15 57 22.1 +1.5
comp=Z,1.0nm,0.5s
GSC **Goldstone** 72.86 320 ⇓P P 15 57 21.8 +1.2
baz=73,SNR=11
F29A **Eureka** 72.88 337 ⇓P P 15 57 21.0 +0.7
baz=73
MWC **Mount Wilson** 72.90 319 *eP* P 15 57 21.9 +1.0
MWC pmax pmax
comp=Z,11nm,0.6s
MWC **Mount Wilson** 72.90 319 *eP* P 15 57 21.9 +1.0
comp=Z,11nm,0.6s
K21A **Alcova** 73.24 331 ⇓P P 15 57 23.6 +0.8
baz=74,SNR=6.1
H25A **Fruitdale** 73.29 334 ⇓P P 15 57 23.7 +0.9
baz=74
EDW2 **Edwards Air Fo** 73.30 319 ⇑P P 15 57 23.8 +0.7
baz=74,SNR=15
MPU **Maple Canyon** 73.35 327 *eP* P 15 57 24.8 +1.4
comp=Z,19nm,0.9s
BLG **Laguna Peak** 73.45 318 ⇓P P 15 57 24.5 +0.6
baz=74
LRMC **Laurel Mountai** 73.51 320 ⇑P P 15 57 25.4 +1.0
baz=74,SNR=10
D30A **Buchanan** 73.61 339 ⇑P P 15 57 24.8 +0.2
baz=74
TPNV **Topopah Spring** 73.67 322 ⇓P P 15 57 26.9 +1.5
baz=74,SNR=24
FURC **Furnace Creek,** 73.69 321 ⇓P P 15 57 26.6 +1.4
baz=74,SNR=14
AGMN **Agassiz Nation** 73.73 341 *eP* P 15 57 24.8 -0.4
comp=Z,14nm,0.2s
H24A **Dirks Ranch, A** 73.78 334 ⇓P P 15 57 26.1 +0.4
baz=74
MPMC **Manual Prospec** 73.79 320 ⇑P P 15 57 26.9 +0.8
baz=74,SNR=16
E28A **Huff** 73.82 337 ⇑P P 15 57 26.1 +0.3
baz=74
D29A **Pettibone, Tap** 73.85 338 ⇑P P 15 57 26.1 0.0
baz=74
J21A **Lysite** 73.89 331 ⇓P P 15 57 26.5 -0.1
baz=74
F26A **Lodgepole** 73.94 336 ⇓P P 15 57 27.0 +0.3
baz=74
C30A **Mose, Pekin** 74.03 339 ⇓P P 15 57 27.0 -0.1
baz=74
DUG **Dugway** 74.09 326 *eP* P 15 57 28.7 +1.0
DUG pmax pmax
comp=Z,17nm,1.2s
DUG **Dugway** 74.09 326 *eP* P 15 57 28.7 +1.0
comp=Z,17nm,1.2s
DUG **Dugway** 74.09 326 ⇑P P 15 57 28.9 +1.1
baz=74,SNR=11
ISA **Isabella** 74.11 319 *eP* P 15 57 29.1 +1.2
ISA pmax pmax
comp=Z,6.0nm,0.7s
ISA **Isabella** 74.11 319 *eP* P 15 57 29.1 +1.2
comp=Z,5.5nm,0.7s
ISA **Isabella** 74.11 319 ⇑P P 15 57 29.0 +1.2
baz=74,SNR=31
J20A **Shoshoni** 74.18 331 ⇓P P 15 57 29.1 +0.9
baz=74
I21A **Big Trails, Te** 74.19 332 ⇑P P 15 57 28.9 +0.6
baz=74
R11A **Troy Canyon, C** 74.26 323 *eP* P 15 57 30.1 +1.3
comp=Z,12nm,1.0s
R11A **Troy Canyon, C** 74.26 323 ⇓P P 15 57 30.5 +1.6
baz=74,SNR=19
D28A **Regan** 74.31 338 ⇓P P 15 57 29.4 +0.8
baz=75
GRAC **Grapevine Rang** 74.36 321 ⇓P P 15 57 30.3 +1.1
baz=75
CWC **Cottonwood Cre** 74.40 320 ⇑P P 15 57 30.6 +1.0
baz=75,SNR=12
PDAR **Pinedale Array** 74.41 330 P P 15 57 29.7 0.0
PDAR **Pinedale Array** 74.41 330 P P 15 57 29.7 0.0
comp=Z,2.6nm,0.8s,baz=113,slow=6.9,SNR=4.1
PKM **Peak Mountain** 74.43 318 ⇓P P 15 57 30.7 +0.8
baz=75,SNR=14
MDND **Maddock** 74.54 339 ⇓P P 15 57 30.8 +0.8
baz=75
J19A **Crowheart** 74.56 330 ⇓P P 15 57 30.8 +0.4
baz=75
F24A **Ekalaka** 74.63 335 ⇑P P 15 57 30.7 0.0
baz=75
B30A **Myrvik Farm, E** 74.64 340 ⇑P P 15 57 30.4 -0.2
baz=75,SNR=5.1
SPUT **South Promonto** 74.72 327 *eP* P 15 57 31.9 +0.5
comp=Z,25nm,1.1s
BGU **Big Grassy Mou** 74.74 326 *eP* P 15 57 32.1 +0.6
comp=Z,7.2nm,1.3s
E25A **Miller Ranch,** 74.77 336 ⇓P P 15 57 31.6 +0.2
baz=75
I19A **Meeteetse** 75.13 331 ⇑P P 15 57 33.7 0.0
baz=75
AHID **Auburn Hatcher** 75.14 329 *eP* P 15 57 34.5 +0.7
comp=Z,25nm,1.0s
E24A **Baker** 75.17 335 ⇓P P 15 57 34.0 +0.3
baz=75
HVU **Hansel Valley** 75.23 327 *eP* P 15 57 35.0 +0.7
HVU pmax pmax
comp=Z,14nm,0.9s
HVU **Hansel Valley** 75.23 327 *eP* P 15 57 35.0 +0.7
comp=Z,14nm,0.9s
D25A **Fairfield** 75.28 336 ⇑P P 15 57 34.6 +0.3
baz=76
B28A **Dugan Ranch, T** 75.31 339 ⇑P P 15 57 34.5 +0.1
baz=76,SNR=6.2
A29A **Manning Farm,** 75.34 339 ⇑P P 15 57 34.4 -0.2
baz=76,SNR=7.9
C26A **Wahner Farm, P** 75.39 337 ⇓P P 15 57 35.0 +0.1
baz=76
ULM **Lac du Bonnet** 75.48 342 *eP* P 15 57 34.2 -1.1
comp=Z,7.1nm,0.5s
ULM **Lac du Bonnet** 75.48 342 P P 15 57 34.7 -0.6
comp=Z,11nm,0.5s,baz=152,slow=6.4,SNR=30
A28A **Rude Farm, Bot** 75.68 339 ⇑P P 15 57 36.1 -0.4
baz=76
ELK **Elko** 75.77 325 *eP* P 15 57 38.1 +0.6
comp=Z,7.2nm,0.9s
I17A **Pilgrim Ck.** 75.77 330 ⇓P P 15 57 38.6 +1.2
baz=76,SNR=6.6
NV11 **Mina Array Sit** 75.78 322 *eP* P 15 57 38.2 +0.7
NVAR **Mina Array Bea** 75.87 322 P P 15 57 38.8 +0.7
NVAR **Mina Array Bea** 75.87 322 P P 15 57 38.8 +0.7
comp=Z,9.4nm,0.9s,baz=142,slow=5.3,SNR=44
SCHQ **Schefferville** 76.00 1 P P 15 57 38.2 +0.1
SCHQ **Schefferville** 76.00 1 P P 15 57 38.2 +0.1
comp=Z,12nm,0.7s,baz=194,slow=3.5,SNR=17
C24A **Savage** 76.01 336 ⇑P P 15 57 39.7 +1.2
baz=76
A27A **Ledoux Ranch,** 76.05 338 P P 15 57 39.6 +1.0
baz=76
F20A **Billings** 76.14 332 ⇑P P 15 57 39.6 +0.3
baz=76
B25A **Knox Farm, Ray** 76.15 337 ⇓P P 15 57 40.1 +0.9
baz=76
E21A **Keefer Ranch,** 76.27 334 ⇓P P 15 57 40.6 +0.7
baz=76
A26A **Wade Farm, Ken** 76.28 338 ⇑P P 15 57 40.2 +0.3
baz=77
SYO **Syowa Base** 76.30 159⇑ *eP* P 15 57 38.6 -1.2
SYO **Syowa Base** 76.30 159⇓ *ePcP* PcP 15 57 49.6 -1.6
YMR **Madison River** 76.52 330 *eP* P 15 57 42.7 +1.1
F19A **Roth Farm, Mol** 76.52 332 ⇑P P 15 57 41.6 +0.2
baz=77
D21A **La Casta Ranch** 76.66 334 ⇓P P 15 57 42.6 +0.5
baz=77
E20A **Meyer Farm, Mu** 76.68 333 ⇓P P 15 57 42.9 +0.6
baz=77
A25A **Svangstu Ranch** 76.69 337 ⇓P P 15 57 42.8 +0.5
baz=77
DGMT **Dagmar** 76.70 336 ⇑P P 15 57 42.8 +0.5
baz=77
TOA0 **Torodi Ar. Sit** 76.74 70 *eP* P 15 57 43.1 -0.2
TORD **Torodi Ar. Bea** 76.74 70 P P 15 57 43.1 -0.1
TORD *pP* pP 15 58 15.3 +3.3
TORD **Torodi Ar. Bea** 76.74 70 P P 15 57 43.1 -0.1
comp=Z,38nm,0.6s,baz=254,slow=5.5,SNR=336
TORD *pP* pP 15 58 15.3 +3.3
comp=Z,2.7nm,0.7s,baz=251,slow=5.6,SNR=1.2
GCMT **Greycliff** 76.79 332 *eP* P 15 57 43.4 +0.3
comp=Z,12nm,1.2s
CMB **Columbia Colle** 76.83 320 *eP* P 15 57 43.8 +0.5
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB **Columbia Colle** 76.83 320 *eP* P 15 57 43.8 +0.5
comp=Z,5.4nm,0.9s
E19A **Rath Farm, Rou** 76.93 333 ⇓P P 15 57 44.2 +0.5
baz=77,SNR=5.5
VNDA **Vanda** 76.99 190 P P 15 57 44.9 +1.3
VNDA **Vanda** 76.99 190 P P 15 57 44.9 +1.3
comp=Z,3.5nm,0.9s,baz=123,slow=5.6,SNR=14
B23A **Brockton** 77.00 336 ⇑P P 15 57 44.6 +0.6
baz=77
A24A **Westby** 77.00 337 ⇑P P 15 57 44.4 +0.4
baz=77
D20A **Manuel Ranch,** 77.15 333 ⇓P P 15 57 45.0 +0.1
baz=77
B22A **Reddig Ranch S** 77.25 335 ⇑P P 15 57 45.5 +0.1
baz=78
PAHR **Pah Rah Range** 77.35 322 *eP* P 15 57 47.8 +1.5
comp=Z,50nm,0.7s
HLID **Hailey** 77.36 327 *eP* P 15 57 47.6 +1.3
comp=Z,25nm,0.9s
HLID **Hailey** 77.36 327 ⇓P P 15 57 47.5 +1.3
baz=78,SNR=34
MCMT **McKenzie Canyo** 77.52 329 *eP* P 15 57 48.6 +1.3
comp=Z,6.6nm,0.8s
B21A **Ellsworth Farm** 77.76 335 ⇑P P 15 57 48.0 -0.2
baz=78
A22A **Carney Farms,** 77.78 336 ⇑P P 15 57 48.8 +0.4
baz=78,SNR=8.1
MFID **Camas Ranch** 77.97 327 *eP* P 15 57 50.8 +1.1
comp=Z,20nm,1.2s
BEKR **Beckworth** 78.02 322 *eP* P 15 57 51.1 +1.1
comp=Z,3.8nm,0.8s
C19A **Slack Wire Ran** 78.04 333 ⇑P P 15 57 49.8 0.0
baz=78
SUR **Sutherland** 78.04 120 P P 15 57 51.4 +0.8
SUR **Sutherland** 78.04 120 P P 15 57 51.4 +0.8
comp=Z,10.0nm,0.6s,baz=247,slow=6.2,SNR=18
LRM **Limekiln Ridge** 78.08 330 *eP* P 15 57 51.2 +0.9
comp=Z,23nm,0.8s
B20A **Solberg Farm,** 78.17 334 ⇑P P 15 57 50.7 +0.1
baz=78
A21A **Bergtoll Ranch** 78.17 335 ⇓P P 15 57 50.2 -0.3
baz=78
HRY **Holter Researc** 78.46 331 *eP* P 15 57 53.2 +1.0
comp=Z,4.0nm,0.6s
A20A **Cobblestone Ra** 78.48 335 ⇑P P 15 57 52.4 +0.1
baz=79,SNR=5.2
B19A **Brinkman Farms** 78.56 334 ⇓P P 15 57 52.8 +0.1
baz=79,SNR=6.3
EGMT **Eagleton** 78.56 333 *eP* P 15 57 52.2 -0.5
comp=Z,16nm,1.2s
EGMT **Eagleton** 78.56 333 ⇓P P 15 57 52.4 -0.3
baz=79
A19A **Klindworth Far** 78.85 334 ⇑P P 15 57 54.6 +0.4
baz=79
MOD **Modoc** 79.33 323 *eP* P 15 57 58.2 +1.1
comp=Z,26nm,1.0s
TSUM **Tsumeb** 79.44 107 *eP* P 15 57 59.0 +0.8
comp=Z,17nm,0.9s
TSUM **Tsumeb** 79.44 107 P P 15 57 59.4 +1.1
comp=Z,14nm,0.8s,baz=239,slow=5.5,SNR=39
MSO **Missoula** 79.52 330 ⇓P P 15 57 58.7 +0.7
baz=80
SLMT **Seeley Lake** 79.61 331 *eP* P 15 57 59.4 +0.8
comp=Z,3.9nm,0.6s
WDC **Whiskeytown Da** 79.75 321 *eP* P 15 57 58.6 -0.7
WDC pmax pmax
comp=Z,20nm,0.6s
WDC **Whiskeytown Da** 79.75 321 *eP* P 15 57 58.6 -0.7
comp=Z,20nm,0.6s
N02D **Trinity Center** 80.09 321 ⇑P P 15 58 01.3 0.0
baz=80
M04C **Macdoel** 80.12 322 ⇓P P 15 58 02.0 +0.6
baz=80
JTMT **Jette** 80.35 330 *eP* P 15 58 03.1 +0.6
M02C **Callahan** 80.45 322 ⇓P P 15 58 03.5 +0.4
baz=81
LAMM **Antelope Mount** 80.46 322 P P 15 58 03.1 -0.2
BSMT **Bassoo Peak** 80.66 330 *eP* P 15 58 05.1 +0.9
comp=Z,8.8nm,1.0s
J05D **Fort Rock, OR** 80.76 324 ⇑P P 15 58 05.4 +0.6
baz=81
PINOR **Pine Mountain** 80.91 324 *eP* P 15 58 07.1 +1.8
comp=Z,16nm,0.7s
FFC **Flin Flon** 81.21 341 *eP* P 15 58 06.3 -0.4
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC **Flin Flon** 81.21 341 *eP* P 15 58 06.3 -0.4
comp=Z,5.9nm,0.9s
J04D **Umpqua Nationa** 81.21 323 ⇑P P 15 58 08.2 +0.9
baz=82
VIPM **Ingram Point** 81.23 325 P P 15 58 08.7 +1.4
VIPM **Ingram Point** 81.23 325 P P 15 58 08.7 +1.4
HUMO **Hull Mountain** 81.28 322 *eP* P 15 58 07.4 0.0
comp=Z,4.0nm,0.6s
I05D **Terrebonne, OR** 81.51 325 ⇑P P 15 58 10.0 +1.4
baz=82
HUOR **Husband** 81.64 324 P P 15 58 10.8 +1.3
I04A **Tendick Farm,** 81.74 324 ⇓P P 15 58 10.0 +0.1
baz=82
HAWA **Hanford** 81.93 327 *eP* P 15 58 11.5 +0.8
comp=Z,18nm,0.9s
NEW **Newport** 82.05 329 ⇑P P 15 58 11.5 +0.1
baz=82
G05D **Wamic, OR** 82.09 325 ⇑P P 15 58 12.4 +0.8
baz=82
I03D **Drain, OR** 82.20 323 ⇓P P 15 58 13.2 +1.1
baz=82
OD2 **Odessa Site #2** 82.20 328 P P 15 58 12.9 +0.7
DPW **Davenport** 82.29 329 P P 15 58 13.6 +1.0
DPW **Davenport** 82.29 329 P P 15 58 13.6 +1.0
TRW **Toppenish Ridg** 82.38 326 P P 15 58 14.4 +1.2
FCC **Fort Churchill** 82.75 347 *eP* P 15 58 14.7 +0.1
FCC **Fort Churchill** 82.75 347 *eP* P 15 58 14.7 +0.1
comp=Z,0.4nm,0.9s
EBG **Ellensburg** 82.81 327 P P 15 58 16.7 +1.3
BOSA **Boshof** 82.89 118 *eP* P 15 58 16.1 -0.4
comp=Z,26nm,0.9s
BOSA **Boshof** 82.89 118 P P 15 58 16.8 +0.3
comp=Z,19nm,0.7s,baz=250,slow=4.1,SNR=36
G03D **McMinnville, O** 83.12 324 ⇓P P 15 58 17.6 +0.7
baz=83
ETW **Entiat** 83.16 327 P P 15 58 17.7 +0.5
EDM **Edmonton** 84.01 335 *eP* P 15 58 20.1 -1.2
EDM **Edmonton** 84.01 335 *eP* P 15 58 20.1 -1.2
TAM **Tamanrasset** 84.24 63 *eP* P 15 58 24.0 +0.7
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM **Tamanrasset** 84.24 63 *eP* P 15 58 24.0 +0.7
comp=Z,4.2nm,1.0s
JCW **Jim Creek** 84.35 327 P P 15 58 23.0 -0.2
LBTB **Lobatse** 84.45 115 *eP* P 15 58 25.0 +0.5
comp=Z,25nm,0.7s
ESDC **Sonseca Array** 85.36 44 P P 15 58 29.3 +0.8
ESDC **Sonseca Array** 85.36 44 P P 15 58 29.3 +0.8
comp=Z,1.9nm,0.6s,baz=242,slow=4.1,SNR=11
LFF **La Frestale** 91.07 42 *eP* P 15 58 55.2 -0.2
comp=Z,21nm,0.7s
LFF **La Frestale** 91.07 42 *eP* P 15 58 55.2 -0.2
LFF pmax pmax
comp=Z,21nm,0.7s
LFF **La Frestale** 91.07 42 *eP* P 15 58 55.2 -0.2
comp=Z,21nm,0.7s
MFF **Saint Martin d** 91.36 40 *eP* P 15 58 56.5 -0.3
comp=Z,16nm,0.8s
MFF **Saint Martin d** 91.36 40 *eP* P 15 58 56.5 -0.3
MFF pmax pmax
comp=Z,16nm,0.8s
MFF **Saint Martin d** 91.36 40 *eP* P 15 58 56.5 -0.3
comp=Z,16nm,0.8s
YKA **Yellowknife Ar** 91.37 340 P P 15 58 56.5 +0.1
YKA **Yellowknife Ar** 91.37 340 P P 15 58 56.5 +0.1
comp=Z,25nm,0.6s,baz=133,slow=4.5,SNR=379
YKW3 **Yellowknife Ar** 91.43 340 *eP* P 15 58 56.8 +0.2
comp=Z,0.6nm,0.6s
TCF **Toulx Ste Croi** 92.63 41 *eP* P 15 59 02.7 0.0
comp=Z,7.3nm,0.8s
TCF **Toulx Ste Croi** 92.63 41 *eP* P 15 59 02.7 0.0
TCF pmax pmax
comp=Z,7.0nm,0.8s
TCF **Toulx Ste Croi** 92.63 41 *eP* P 15 59 02.7 0.0
comp=Z,7.3nm,0.8s
AVF **Avril sur Loir** 93.56 41 *eP* P 15 59 06.2 -0.7
AVF **Avril sur Loir** 93.56 41 *eP* P 15 59 06.2 -0.7
AVF **Avril sur Loir** 93.56 41 *eP* P 15 59 06.2 -0.7
SMF **Signal de Mont** 93.79 41 *eP* P 15 59 07.5 -0.5
comp=Z,6.9nm,0.7s
SMF **Signal de Mont** 93.79 41 *eP* P 15 59 07.5 -0.5
SMF pmax pmax
comp=Z,7.0nm,0.7s
SMF **Signal de Mont** 93.79 41 *eP* P 15 59 07.5 -0.5
comp=Z,6.9nm,0.7s
DLBC **Dease Lake** 94.47 332 P P 15 59 11.1 +0.2
DLBC **Dease Lake** 94.47 332 P P 15 59 11.1 +0.2
comp=Z,3.3nm,0.7s
ILAR **Eielson Array** 104.50 334 Pdif **Pdif** 15 59 56.2 +0.6
ILAR PP **PP** 16 04 18.8 +2.6
ILAR **Eielson Array** 104.50 334 Pdiff **Pdif** 15 59 56.2 +0.6
comp=Z,0.2nm,0.7s,baz=148,slow=2.7,SNR=4.6
ILAR PP **PP** 16 04 18.8 +2.6
comp=Z,0.5nm,1.0s,baz=98,slow=6.7,SNR=5.2
KBZ **Khabaz** 119.60 51 PKIKP **PKPdf** 16 04 41.2 +0.9
KBZ **Khabaz** 119.60 51 PKP **PKPdf** 16 04 41.2 +0.9
KBZ **Khabaz** 119.60 51 PKP **PKPdf** 16 04 41.2 +0.9
comp=Z,2.9nm,0.9s,baz=189,slow=5.1,SNR=3.6
ARU **Arti** 127.77 34 PKIKP **PKPdf** 16 04 56.3 +0.7
H11S2 **WAKE ISLAND Hyl** 128.51 277 T T 18 25 08.7
baz=104,slow=73,SNR=15
H11S1 **WAKE ISLAND Hyl** 128.52 277 T T 18 25 26.5
baz=104,slow=73,SNR=12
H11S3 **WAKE ISLAND Hyl** 128.53 277 T T 18 25 14.6
baz=104,slow=73,SNR=13
H11N3 **WAKE ISLAND Hyl** 128.59 279 T T 18 24 51.8
baz=105,slow=75,SNR=8.6
H11N2 **WAKE ISLAND Hyl** 128.60 279 T T 18 24 53.0
baz=105,slow=75,SNR=5.9
H11N1 **WAKE ISLAND Hyl** 128.60 279 T T 18 24 52.3
baz=105,slow=75,SNR=4.4
TIXI **Tiksi** 128.84 353 *i* PKIKP **PKPdf** 16 04 56.9 -0.3
TIXI pmax pmax
comp=Z,3.0nm,1.7s
AKTO **Aktyubinsk** 129.19 42 PKIKP **PKPdf** 16 04 59.3 +0.8
AKTO **Aktyubinsk** 129.19 42 PKP **PKPdf** 16 04 59.3 +0.8
AKTO **Aktyubinsk** 129.19 42 PKP **PKPdf** 16 04 59.3 +0.8
comp=Z,2.0nm,0.8s,baz=306,slow=2.7,SNR=7.6
ASAR **Alice Springs** 130.23 207 PKP **PKPdf** 16 05 01.0 -0.4
ASAR pPKP **pPKPdf** 16 05 36.4 +4.1
ASAR **Alice Springs** 130.23 207 PKP **PKPdf** 16 05 01.0 -0.4
comp=Z,3.0nm,0.5s,baz=154,slow=2.2,SNR=26
ASAR pPKP **pPKPdf** 16 05 36.4 +4.1
comp=Z,0.9nm,0.7s,baz=146,slow=1.9,SNR=2.4
SEY **Seymchan** 130.32 337 PKIKP **PKPdf** 16 05 00.3 +0.1
SEY **Seymchan** 130.32 337 PKP **PKPdf** 16 05 00.3 +0.1
SEY **Seymchan** 130.32 337 PKP **PKPdf** 16 05 00.3 +0.1
comp=Z,5.5nm,0.8s,baz=32,slow=22,SNR=7.2
AB31 **Akbulak array** 130.69 43 *i* PKIKP **PKPdf** 16 05 01.6 +0.2
AB31 pmax pmax
comp=Z,2.0nm,0.5s
PETK **Petropavlovsk-** 132.92 324 PKIKP **PKPdf** 16 05 06.5 +1.0
PETK **Petropavlovsk-** 132.92 324 PKP **PKPdf** 16 05 06.5 +1.0
PETK **Petropavlovsk-** 132.92 324 PKP **PKPdf** 16 05 06.5 +1.0
comp=Z,2.0nm,0.6s,baz=270,slow=22,SNR=3.6
WRA **Warramunga Arr** 133.30 210 PKPpre PKPpre 16 04 55.0
WRA PKP **PKPdf** 16 05 06.3 -1.0
WRA **Warramunga Arr** 133.30 210 PKhKP PKPpre 16 04 55.0
comp=Z,0.3nm,0.6s,baz=174,slow=1.2,SNR=5.3
WRA PKP **PKPdf** 16 05 06.3 -1.0
comp=Z,2.9nm,0.4s,baz=155,slow=1.7,SNR=34
BVA0 **Borovoye Array** 135.41 35 *i* PKIKP **PKPdf** 16 05 10.5 +0.4
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BVAR **Borovoye Array** 135.41 35 PKIKP **PKPdf** 16 05 10.2 0.0
BVAR **Borovoye Array** 135.41 35 PKP **PKPdf** 16 05 10.2 0.0
BVAR **Borovoye Array** 135.41 35 PKP **PKPdf** 16 05 10.2 0.0
comp=Z,2.5nm,0.8s,baz=300,slow=2.9,SNR=12
YAK **Yakutsk** 137.63 348 *i* PKIKP **PKPdf** 16 05 14.2 +0.3
FITZ **Fitzroy Crossi** 138.39 200 PKP **PKPdf** 16 05 18.1 +1.3
FITZ **Fitzroy Crossi** 138.39 200 PKP **PKPdf** 16 05 18.1 +1.3
comp=Z,4.9nm,0.7s,baz=236,slow=12,SNR=5.7
NVS **Novosibirsk** 140.37 26 *e*PKIKP **PKPdf** 16 05 18.3 -0.9
KURK **Kurchatov** 140.95 34 PKHKP PKPpre 16 05 15.2
KURK 16 05 21.2
KURK **Kurchatov** 140.95 34 PKPpre PKPpre 16 05 15.2
KURK PKP **PKPdf** 16 05 21.2 +0.8
KURBB **Kurchatov Arra** 140.96 34 PKhKP PKPpre 16 05 15.2
comp=Z,0.6nm,0.5s,baz=305,slow=3.2,SNR=9.8
KURBB PKP **PKPdf** 16 05 21.2 +0.8
comp=Z,1.8nm,0.7s,baz=303,slow=2,SNR=17
ZAA0 **Zalesovo Array** 141.65 26 *e*PKPpre PKPpre 16 05 18.0
ZALV **Zalesovo Beam** 141.65 26 PKHKP PKPpre 16 05 16.8
ZALV **Zalesovo Beam** 141.65 26 PKPpre PKPpre 16 05 16.8
ZALV **Zalesovo Beam** 141.65 26 PKhKP PKPpre 16 05 16.8
comp=Z,5.2nm,0.6s,baz=314,slow=3.3,SNR=15
KSH **Kashi** 144.58 51 PKP PKPbc 16 05 26.3 0.0
KSH pPKP pPKPdf 16 05 52.1 -6.1
KSH sPKP 16 06 05.1
KSH SKS **SKSdf** 16 12 25.1 -1.4
KSH SKKS **SKKSac** 16 15 26.3 -0.4
KSH SS **SS** 16 27 24.3 +0.7
KSH AMB AMB
comp=Z,96nm,6.1s
KSH LR LR
comp=Z,140nm,5.0s
KSH LR LR
comp=Z,130nm,5.0s
MK31 **Makanchi Array** 145.23 36 *i* PKIKP **PKPab** 16 05 28.5 +0.3
MK31 pmax pmax
comp=Z,12nm,0.5s
MK31 **Makanchi Array** 145.23 36 *e*PKP **PKPab** 16 05 28.6 +0.3
MKAR **Makanchi Array** 145.23 36 PKIKP **PKPab** 16 05 28.6 +0.4
MKAR 16 06 01.5
MKAR **Makanchi Array** 145.23 36 PKPbc **PKPab** 16 05 28.6 +0.4
MKAR pPKPbc pPKPbc 16 06 01.5 +3.0
MKAR **Makanchi Array** 145.23 36 PKPbc **PKPab** 16 05 28.6 +0.4
comp=Z,16nm,0.6s,baz=329,slow=2.8,SNR=198
MKAR pPKPbc pPKPbc 16 06 01.5 +3.0
comp=Z,6.3nm,0.8s,baz=343,slow=3.8,SNR=4.6
ASAJ **Asahikawa** 145.95 319 PKPbc **PKPbc** 16 05 30.4 +0.1
ASAJ **Asahikawa** 145.95 319 PKPbc **PKPbc** 16 05 30.4 +0.1
comp=Z,12nm,0.8s,baz=78,slow=29,SNR=12
ERM **Erimo** 146.64 315 ⇑ *i* PKP2 **PKPbc** 16 05 32.8 +0.5
ERM pmax pmax
comp=Z,34nm,1.0s
KLR **Kul'dur** 148.07 335 *e*PKHKP **PKPdf** 16 05 31.0 -1.8
HYB **Hyderabad** 148.45 91 *i* PKP **PKPab** 16 05 40.0 -1.6
MOY **Mondy** 148.71 13 *e*PKP2 **PKPbc** 16 05 39.0 +1.2
WMQ **Urumqi** 150.07 36 PKPbc **PKPdf** 16 05 36.0 -0.2
ZAK **Zakamensk** 150.38 11 *e*PKIKP **PKPdf** 16 05 39.2 +2.6
ZAK pmax pmax
comp=Z,5.0nm,1.3s
USRK **Ussuriysk Arra** 151.83 328 PKPbc **PKPbc** 16 05 45.1 -0.2
comp=Z,8.5nm,0.7s,baz=321,slow=1.3,SNR=19
USRK pPKPbc **pPKPbc** 16 06 17.8 +1.8
comp=Z,3.5nm,0.8s,baz=57,slow=7.3,SNR=3.2
MJAR **Matsushiro Arr** 152.55 309 PKPbc **PKPbc** 16 05 47.2 -0.1

MJAR	**Matsushiro Arr**	**152.55**	**309**	PKPbc	**PKPbc**	**16 05 47.2**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=119,slow=1.2,SNR=11						
MAJO	**Matsushiro**	**152.56**	**309**	*e*PKIKP	**PKPbc**	**16 05 47.0**	**-0.2**
MAJO	**Matsushiro**	**152.56**	**309**	*e*PKPbc	**PKPbc**	**16 05 47.0**	**-0.2**
MAT	**Matsushiro**	**152.56**	**309**	PKP	**PKPbc**	**16 05 46.0**	**-1.2**
SONM	**Songino Array**	**153.34**	**8**	PKP	**PKPdf**	**16 05 41.4**	**+0.3**
SONM				PKPbc	**PKPbc**	**16 05 48.7**	**-0.1**
SONM				PKPab	**PKPab**	**16 06 01.2**	**+0.1**
SONM	**Songino Array**	**153.34**	**8**	PKP	**PKPdf**	**16 05 41.4**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=311,slow=1.1,SNR=13						
SONM				PKPbc	**PKPbc**	**16 05 48.7**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=308,slow=1.0,SNR=20						
SONM				PKPab	**PKPab**	**16 06 01.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=328,slow=4.4,SNR=6.9						
CN2	**Changchun**	**155.00**	**336**	*e*PKPbc	**PKPdf**	**16 05 42.9**	**-0.5**
KSRS	**Korea Array**	**158.81**	**322**	PKP	**PKPdf**	**16 05 49.3**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=90,slow=2.5,SNR=6.6						
KSRS				PKPab	**PKPab**	**16 06 23.8**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=47,slow=4.6,SNR=7.8						
KSAR	**Wonju Array Be**	**158.84**	**322**	PKP	**PKPdf**	**16 05 49.3**	**+0.8**
KSAR				PKPab	**PKPab**	**16 06 23.8**	**-1.1**
GTA	**Gaotai**	**159.39**	**27**	PKP	**PKPdf**	**16 05 49.9**	**+0.6**
GTA				pPKP	**pPKPdf**	**16 06 20.3**	**0.0**
GTA				PKPab	**PKPab**	**16 06 27.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**160.68**	**0**	*e*PKP	**PKPdf**	**16 05 49.1**	**-1.5**
HHC				pPKP	**pPKPdf**	**16 06 16.3**	**-5.3**
HHC				sPKP		16 06 27.4	
HHC				PKS	**PKSdf**	**16 09 22.0**	**-2.0**
HHC				PP	**PP**	**16 10 16.8**	**+2.1**
HHC				SKKS		16 16 54.4	
HHC				SS	**SS**	**16 30 17.3**	**-0.1**
HHC				AMB	AMB		
	comp=Z,150nm,9.7s						
HHC				LR	LR		
	comp=Z,230nm,22.1s						
HHC				LR	LR		
	comp=Z,280nm,22.2s						
HHC				LR	LR		
	comp=Z,200nm,23.2s						
LZH	**Lanzhou**	**163.87**	**24**	*e*PKP	**PKPdf**	**16 05 53.3**	**-0.8**
LZH				pPKP	**pPKPdf**	**16 06 20.1**	**-5.0**
LZH				sPKP		16 06 30.8	
LZH				LR	LR		
	comp=Z,150nm,18.0s						
LZH				LR	LR		
	comp=Z,160nm,17.8s						
LZH				LR	LR		
	comp=Z,180nm,20.1s						
CMAR	**Chiang Mai Arr**	**167.56**	**102**	PKP	**PKPdf**	**16 05 57.3**	**0.0**
CMAR				PKPab	**PKPab**	**16 07 03.9**	**0.0**
CMAR				PP	**PP**	**16 10 54.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**167.56**	**102**	PKP	**PKPdf**	**16 05 57.3**	**0.0**
	comp=Z,1.0nm,0.9s,baz=278,slow=2.0,SNR=8.4						
CMAR				PKPab	**PKPab**	**16 07 03.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=254,slow=6.1,SNR=13						
CMAR				PP	**PP**	**16 10 54.2**	**+1.4**
	comp=Z,0.6nm,1.0s,baz=272,slow=5.6,SNR=4.1						
CD2	**Chengdu**	**168.16**	**36**	*e*PKP	**PKPdf**	**16 05 55.6**	**-1.9**
GYA	**Guiyang**	**173.18**	**42**	*e*PKP	**PKPdf**	**16 05 58.8**	**-1.6**
GYA				sPKP		16 06 38.4	
GYA				PKPab	**PKPab**	**16 07 28.8**	**+0.3**
GYA				PKS	**PKSdf**	**16 09 30.3**	**-2.6**
GYA				PP	**PP**	**16 11 21.8**	**+1.9**
GYA				AMB	AMB		
	comp=Z,110nm,8.0s						

*ISCJB **16** 15:55:22.3±0.5, 64°.57N±0°.03×6°.53E±0°.10, h0km, Error ellipse: s-maj=6.3km s-min=3.9km az=25.2*
*CSEM **16** 15:55:23.9±0.3, 64°.58N×6°.27E, h1km, ML2.5, Error ellipse: s-maj=7.7km s-min=4.7km az=116.0, Suspected Mining explosion.*
*HEL **16** 15:55:24.8±0.3, 64°.58N×6°.15E, h10km, ML3.0, ML2.5(UPP), ML2.5(BER)*
*UPP **16** 15:55:25.9, 64°.57N×6°.30E, h0km, ML2.5, Suspected Mining explosion.*
*BER **16** 15:55:25.5±2.9, 64°.65N×6°.08E, h10km, MD2.9, ML2.5, ML2.6(NAO)*
*IDC **16** 15:55:25.9±2.5, 64°.58N×6°.76E, h0km, mb1 3.4/5, mb1mx3.2/31, mbtmp3.3/5, ML3.1/5, Error ellipse: s-maj=28.3km s-min=13.1km az=83.0*
*NAO **16** 15:55:25.7±2.1, 64°.54N×6°.62E, ML2.6*

ISC 16 15:55:23.3±0.9, 64°.53N±0°.04×6°.35E±0°.06, h0km, n118, σ1§85/153, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOL	**Molde**	**2.04**	**164**	*e*P	**Pn**	**15 56 00.6**	**+1.8**
MOL	**Molde**	**2.04**	**164**	*e*P	**Pn**	**15 56 00.6**	**+1.8**
MOL	**Molde**	**2.04**	**164**	*e*P	**Pn**	**15 56 00.6**	**+1.8**
	SNR=50						
AKN	**Aaknes**	**2.38**	**173**	Pn	**Pn**	**15 56 05.3**	**+1.8**
AKN	**Aaknes**	**2.38**	**173**	Pn	**Pn**	**15 56 05.3**	**+1.8**
AKN	**Aaknes**	**2.38**	**173**	Pn	**Pn**	**15 56 05.3**	**+1.8**
	SNR=50						
DOMB	**Dombas**	**2.78**	**153**	*e*P	**Pn**	**15 56 11.3**	**+2.3**
DOMB				*e*S	**Sn**	**15 56 44.9**	**+1.7**
DOMB				AML	AML	15 56 46.0	
	comp=Z,37nm,0.4s						
DOMB	**Dombas**	**2.78**	**153**	*e*P	**Pn**	**15 56 11.3**	**+2.3**
DOMB				*e*S	**Sn**	**15 56 44.9**	**+1.7**
DOMB				AML	AML	15 56 46.0	
	comp=Z,37nm,0.4s						
FOO	**Floro**	**3.00**	**192**	*e*P	**Pn**	**15 56 13.3**	**+1.4**
FOO				*e*S	**Sn**	**15 56 47.1**	**-1.5**
FOO				AML	AML	15 56 50.7	
	comp=Z,18nm,0.2s						
FOO	**Floro**	**3.00**	**192**	*e*P	**Pn**	**15 56 13.3**	**+1.4**
FOO				*e*S	**Sn**	**15 56 47.1**	**-1.5**
FOO				AML	AML	15 56 50.7	
	comp=Z,18nm,0.2s						
FOO	**Floro**	**3.00**	**192**	*e*P	**Pn**	**15 56 13.4**	**+1.4**
	SNR=50						
FOO				*e*S	**Sn**	**15 56 47.1**	**-1.5**
	comp=Z,51nm,0.3s,SNR=50						
HYA	**Hoyanger**	**3.37**	**181**	*e*P	**Pn**	**15 56 18.4**	**+1.3**
HYA				*e*S	**Sn**	**15 56 58.6**	**+0.8**
HYA				AML	AML	15 57 02.5	
	comp=Z,51nm,0.3s						
HYA	**Hoyanger**	**3.37**	**181**	*e*P	**Pn**	**15 56 18.4**	**+1.3**
HYA				*e*S	**Sn**	**15 56 58.6**	**+0.8**
HYA				AML	AML	15 57 02.5	
	comp=Z,51nm,0.3s						
KONS	**Konsvik**	**3.45**	**52**	*e*P	**Pn**	**15 56 17.7**	**-0.4**
KONS				AML	AML	15 57 06.4	
	comp=Z,24nm,0.3s						
KONS	**Konsvik**	**3.45**	**52**	*e*P	**Pn**	**15 56 17.7**	**-0.4**
KONS				AML	AML	15 57 06.4	
	comp=Z,24nm,0.3s						
FLOS	**Flostrand**	**3.45**	**55**	*e*P	**Pn**	**15 56 18.4**	**+0.3**
FLOS	**Flostrand**	**3.45**	**55**	*e*P	**Pn**	**15 56 18.4**	**+0.3**
SUE	**Sulen**	**3.56**	**193**	*e*P	**Pn**	**15 56 20.5**	**+0.9**
SUE				*e*S	**Sn**	**15 56 59.8**	**-2.5**
SUE	**Sulen**	**3.56**	**193**	*e*P	**Pn**	**15 56 20.5**	**+0.9**
SUE				*e*S	**Sn**	**15 56 59.8**	**-2.5**
SUE	**Sulen**	**3.56**	**193**	*e*P	**Pn**	**15 56 20.5**	**+0.9**
	SNR=50						
SUE				*e*S	**Sn**	**15 56 59.8**	**-2.5**
	SNR=50						
MOR8	**Moi Rana**	**3.77**	**60**	*e*P	**Pn**	**15 56 25.3**	**+2.7**
MOR8				*e*P	Pb	15 56 25.6	-5.1
MOR8				*e*S	**Sn**	**15 57 10.3**	**+2.6**
MOR8	**Moi Rana**	**3.77**	**60**	*e*P	**Pn**	**15 56 25.3**	**+2.7**
MOR8				*e*P	Pb	15 56 25.6	-5.1
MOR8				*e*S	**Sn**	**15 57 10.3**	**+2.6**
MOR8	**Moi Rana**	**3.77**	**60**	*e*P	**Pn**	**15 56 25.3**	**+2.7**
	SNR=49						
MOR8				*e*S	**Sn**	**15 57 10.3**	**+2.6**
	SNR=49						
ASK	**Askoy**	**4.09**	**188**	*e*P	**Pn**	**15 56 27.9**	**+0.9**
ASK				*e*S	**Sn**	**15 57 11.9**	**-3.6**
ASK	**Askoy**	**4.09**	**188**	*e*P	**Pn**	**15 56 27.9**	**+0.9**
ASK				*e*S	**Sn**	**15 57 11.9**	**-3.6**
NB2	**NORSAR Subarra**	**4.15**	**145**	Pn	**Pn**	**15 56 29.4**	**+1.5**
	baz=324,slow=14						
NB2				Pg	**Pb**	**15 56 39.2**	**+2.1**
NB2				Sn	**Sn**	**15 57 17.7**	**+0.6**
	baz=324,slow=22						
NB2				Lg	Lg	15 57 32.3	
	baz=327,slow=28						
NB2	**NORSAR Subarra**	**4.15**	**145**	Pn	**Pn**	**15 56 29.4**	**+1.5**
	baz=324,slow=14						
NB2				E		15 56 39.2	
NB2				Sn	**Sn**	**15 57 17.7**	**+0.6**
	baz=324,slow=22						
NB2	**NORSAR Subarra**	**4.15**	**145**	*e*P	**Pn**	**15 56 29.4**	**+1.5**
NB2				*e*S	**Sn**	**15 57 17.7**	**+0.6**
NB2	**NORSAR Subarra**	**4.15**	**145**	Pn	**Pn**	**15 56 29.4**	**+1.5**
	baz=324,slow=13,SNR=50						
NB2				Sn	**Sn**	**15 57 17.7**	**+0.6**
	comp=Z,16nm,0.3s,baz=324,slow=22,SNR=50						
NB2				Lg	Lg	15 57 32.3	
	SNR=3.0						
NOA	**NORSAR Array B**	**4.15**	**145**	Pn	**Pn**	**15 56 29.7**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=327,slow=14,SNR=14						
NOA				Sn	**Sn**	**15 57 15.2**	**-1.9**
	comp=Z,5.0nm,0.3s,baz=320,slow=13,SNR=4.5						
NOA				Lg	Lg	15 57 32.0	
	comp=Z,7.5nm,0.3s,baz=314,slow=27,SNR=4.3						
RUND	**Rundenannen**	**4.15**	**187**	*e*P	**Pn**	**15 56 27.9**	**+0.1**
RUND	**Rundenannen**	**4.15**	**187**	*e*P	**Pn**	**15 56 27.9**	**+0.1**
EGD	**Espegrend**	**4.30**	**187**	*e*P	**Pn**	**15 56 30.0**	**+0.1**
EGD				AML	AML	15 57 33.2	
	comp=Z,18nm,0.4s						
EGD	**Espegrend**	**4.30**	**187**	*e*P	**Pn**	**15 56 30.0**	**+0.1**
EGD				AML	AML	15 57 33.2	
	comp=Z,18nm,0.4s						
BLS5	**Blasjo**	**5.12**	**179**	*e*P	**Pn**	**15 56 42.9**	**+1.7**
BLS5				*e*S	**Sn**	**15 57 37.0**	**-4.0**
BLS5				AML	AML	15 57 41.3	
	comp=Z,16nm,0.3s						
BLS5	**Blasjo**	**5.12**	**179**	*e*P	**Pn**	**15 56 42.9**	**+1.7**
BLS5				*e*S	**Sn**	**15 57 37.0**	**-4.0**
BLS5				AML	AML	15 57 41.3	
	comp=Z,16nm,0.3s						
KON	**Kongsberg**	**5.13**	**161**	Pn	**Pn**	**15 56 43.3**	**+2.1**
KON				Sn	**Sn**	**15 57 40.4**	**-0.6**
KONO	**Kongsberg**	**5.13**	**161**	Pn	**Pn**	**15 56 43.3**	**+2.1**
KONO				*e*P	Pb	15 56 43.5	-10
KONO				Sn	**Sn**	**15 57 40.4**	**-0.6**
KONO	**Kongsberg**	**5.13**	**161**	*e*	**Pn**	**15 56 43.3**	**+2.1**
KONO				*e*P	Pb	15 56 43.5	-10
KONO				*e*S	**Sn**	**15 57 40.4**	**-0.6**
KONO	**Kongsberg**	**5.13**	**161**	Pn	**Pn**	**15 56 43.3**	**+2.1**
	SNR=50						
KONO				Sn	**Sn**	**15 57 40.4**	**-0.6**
	comp=Z,12nm,0.3s,SNR=50						
HASU	**Hassela**	**5.20**	**113**	*e*P	**Pn**	**15 56 43.9**	**+1.7**
HASU				*e*S	**Sn**	**15 57 41.4**	**-1.4**
HASU	**Hassela**	**5.20**	**113**	P	**Pn**	**15 56 43.9**	**+1.7**
ROTU	**Roteberg**	**5.32**	**122**	*e*P	**Pn**	**15 56 46.2**	**+2.3**
ROTU				*e*S	**Sn**	**15 57 44.9**	**-0.9**
ROTU	**Roteberg**	**5.32**	**122**	P	**Pn**	**15 56 46.2**	**+2.3**
ROTU				S	**Sn**	**15 57 44.9**	**-0.9**
KMY	**Karmoy**	**5.36**	**186**	*e*P	**Pn**	**15 56 45.0**	**+0.6**
KMY				*e*S	Sn	15 57 41.3	-5.4
KMY				AML	AML	15 57 47.5	
	comp=Z,12nm,0.3s						
KMY	**Karmoy**	**5.36**	**186**	*e*P	**Pn**	**15 56 45.0**	**+0.6**
KMY				*e*S	Sn	15 57 41.3	-5.4
KMY				AML	AML	15 57 47.5	
	comp=Z,12nm,0.3s						
HEMU	**Hemsoen**	**5.54**	**104**	*e*P	**Pn**	**15 56 48.2**	**+1.4**
HEMU	**Hemsoen**	**5.54**	**104**	P	**Pn**	**15 56 48.2**	**+1.4**
HFS	**Hagfors**	**5.58**	**139**	Pn	**Pn**	**15 56 50.2**	**+2.8**
	baz=314,slow=12						
HFS				Sn	**Sn**	**15 57 51.1**	**-1.1**
	baz=331,slow=22						
HFS	**Hagfors**	**5.58**	**139**	Pn	**Pn**	**15 56 50.2**	**+2.8**
	baz=314,slow=12						
HFS				Sn	**Sn**	**15 57 51.1**	**-1.1**
	baz=331,slow=22						
HFS	**Hagfors**	**5.58**	**139**	*e*P	**Pn**	**15 56 50.2**	**+2.8**
HFS				*e*S	**Sn**	**15 57 51.1**	**-1.1**
HFS	**Hagfors**	**5.58**	**139**	Pn	**Pn**	**15 56 50.2**	**+2.8**
	baz=314,slow=12,SNR=50						
HFS	**Hagfors**	**5.58**	**139**	Pn	**Pn**	**15 56 50.2**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=328,slow=10,SNR=28						
HFS				Sn	**Sn**	**15 57 51.7**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=339,slow=19,SNR=7.6						
HFS				Lg	Lg	15 58 21.4	
	comp=Z,2.3nm,0.3s,baz=320,slow=24,SNR=3.2						
UDD	**Uddeholm**	**5.59**	**139**	*e*P	**Pn**	**15 56 50.5**	**+2.9**
UDD	**Uddeholm**	**5.59**	**139**	P	**Pn**	**15 56 50.5**	**+2.9**
LRW	**Lerwick**	**5.63**	**222**	*e*P	**Pn**	**15 56 48.7**	**+0.6**
LRW	**Lerwick**	**5.63**	**222**	*e*P	**Pn**	**15 56 48.7**	**+0.6**
LRW	**Lerwick**	**5.63**	**222**	*e*P	**Pn**	**15 56 48.7**	**+0.6**
	SNR=49						
HUDU	**Hudiksvall**	**5.63**	**115**	*e*P	**Pn**	**15 56 50.1**	**+2.0**
HUDU	**Hudiksvall**	**5.63**	**115**	P	**Pn**	**15 56 50.1**	**+2.0**
ARNU	**Arnoeviken**	**5.75**	**115**	*e*P	**Pn**	**15 56 51.6**	**+1.8**
ARNU	**Arnoeviken**	**5.75**	**115**	P	**Pn**	**15 56 51.6**	**+1.8**
FINU	**Finntorp**	**5.90**	**148**	*e*P	**Pn**	**15 56 53.0**	**+1.3**
FINU	**Finntorp**	**5.90**	**148**	P	**Pn**	**15 56 53.0**	**+1.3**
FALU	**Falun**	**5.97**	**128**	*e*P	**Pn**	**15 56 55.0**	**+2.3**
FALU	**Falun**	**5.97**	**128**	P	**Pn**	**15 56 55.0**	**+2.3**
STRU	**Stroemstad**	**5.97**	**155**	*e*P	**Pn**	**15 56 53.3**	**+0.6**
STRU	**Stroemstad**	**5.97**	**155**	P	**Pn**	**15 56 53.3**	**+0.6**
IGGU	**Iggoen**	**6.23**	**121**	*e*P	**Pn**	**15 56 57.8**	**+1.4**
IGGU	**Iggoen**	**6.23**	**121**	P	**Pn**	**15 56 57.8**	**+1.4**
NRAU	**Nora**	**6.43**	**137**	*e*P	**Pn**	**15 57 01.7**	**+2.6**
NRAU	**Nora**	**6.43**	**137**	P	**Pn**	**15 57 01.7**	**+2.6**
NASU	**Vaermlandsnaes**	**6.49**	**147**	*e*P	**Pn**	**15 57 01.1**	**+1.3**
NASU	**Vaermlandsnaes**	**6.49**	**147**	P	**Pn**	**15 57 01.1**	**+1.3**
OSTU	**Oestervaala**	**6.61**	**126**	*e*P	**Pn**	**15 57 02.9**	**+1.3**
OSTU	**Oestervaala**	**6.61**	**126**	P	**Pn**	**15 57 02.8**	**+1.3**
BACU	**Backbrunna**	**6.87**	**128**	*e*P	**Pn**	**15 57 06.5**	**+1.4**
BACU	**Backbrunna**	**6.87**	**128**	P	**Pn**	**15 57 06.5**	**+1.4**
FLYU	**Flymyra**	**6.95**	**124**	*e*P	**Pn**	**15 57 06.9**	**+0.7**
FLYU	**Flymyra**	**6.95**	**124**	P	**Pn**	**15 57 06.9**	**+0.7**
GRAU	**Graesoe**	**7.04**	**121**	*e*P	**Pn**	**15 57 08.5**	**+1.0**
GRAU	**Graesoe**	**7.04**	**121**	P	**Pn**	**15 57 08.5**	**+1.0**
KIF	**Kilpisjarvi**	**7.26**	**45**	*e*S	**Sn**	**15 58 27.5**	**-5.9**
VAF	**Ylistaro**	**7.38**	**94**	*e*P	**Pn**	**15 57 13.4**	**+1.3**
VAF				*e*S	**Sn**	**15 58 33.1**	**-3.2**
VAF				MSN		15 58 38.0	
	comp=Z,3.5nm,0.2s						
VAF	**Ylistaro**	**7.38**	**94**	P	**Pn**	**15 57 13.4**	**+1.3**
RAF	**Rauma**	**7.89**	**109**	MSN		15 58 48.4	
	comp=Z,2.2nm,0.2s						
HEF	**Hetta**	**7.93**	**53**	*e*P	**Pn**	**15 57 19.6**	**-0.1**
HEF				*e*S	Sn	15 58 41.6	-8.3
HEF				MSN		15 58 50.5	
	comp=Z,1.7nm,0.2s						
HEF	**Hetta**	**7.93**	**53**	P	**Pn**	**15 57 19.6**	**-0.1**
OUL	**Oulu**	**8.35**	**77**	*e*P	**Pn**	**15 57 25.6**	**+0.2**
OUL				*e*S	**Sn**	**15 58 54.9**	**-5.4**
RNF	**Rovaniemi**	**8.40**	**67**	*e*P	Pn	15 57 29.2	+3.1
RNF				*e*S	Sn	15 58 54.6	-6.9
KEF	**Keuruu**	**8.65**	**97**	MSN		15 59 04.7	
	comp=Z,4.0nm,0.2s						
ARA0	**ARCESS Array S**	**8.99**	**48**	Pn	**Pn**	**15 57 32.9**	**-1.2**
	baz=247,slow=14						
ARA0				Sn	Sn	15 59 06.1	-10
	baz=237,slow=22						
ARA0	**ARCESS Array S**	**8.99**	**48**	Pn	**Pn**	**15 57 32.9**	**-1.2**
	baz=247,slow=14						
ARA0				Sn	Sn	15 59 06.1	-10
	baz=237,slow=22						
ARA0	**ARCESS Array S**	**8.99**	**48**	*e*P	**Pn**	**15 57 32.9**	**-1.2**
ARA0				*e*		15 59 06.1	
ARA0	**ARCESS Array S**	**8.99**	**48**	Pn	**Pn**	**15 57 32.9**	**-1.2**
	baz=247,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**8.99**	**48**	Pn	**Pn**	**15 57 32.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=238,slow=12,SNR=14						
ARCES				Sn	Sn	15 59 06.6	-9.3
	comp=Z,0.5nm,0.3s,baz=238,slow=21,SNR=3.6						
SUF	**Sumiainen**	**8.99**	**93**	*e*P	**Pn**	**15 57 34.9**	**+0.7**
SUF	**Sumiainen**	**8.99**	**93**	P	**Pn**	**15 57 34.8**	**+0.7**
KJN	**Kajaani**	**9.28**	**83**	*e*P	**Pn**	**15 57 39.2**	**+1.1**
KJN				*e*S	Sn	15 59 16.1	-7.0
KJN				MSN		15 59 24.3	
	comp=Z,1.9nm,0.2s						
KJN	**Kajaani**	**9.28**	**83**	P	**Pn**	**15 57 39.2**	**+1.1**
KAF	**Kangasniemi**	**9.29**	**96**	*e*P	**Pn**	**15 57 39.2**	**+0.9**
KAF				*e*S	Sn	15 59 16.4	-6.8
KAF	**Kangasniemi**	**9.29**	**96**	P	**Pn**	**15 57 39.1**	**+0.9**
MEF	**Metsahovi**	**9.41**	**109**	*e*P	**Pn**	**15 57 39.8**	**-0.2**
MEF				*e*S	Sn	15 59 19.8	-6.6
MEF	**Metsahovi**	**9.41**	**109**	P	**Pn**	**15 57 39.8**	**-0.2**
FIA0	**FINESS Array S**	**9.48**	**100**	Pn	**Pn**	**15 57 41.0**	**+0.1**
	baz=302,slow=12						
FIA0				Sn	**Sn**	**15 59 23.0**	**-5.0**
	baz=297,slow=28						
FIA0	**FINESS Array S**	**9.48**	**100**	*e*P	**Pn**	**15 57 40.7**	**-0.2**
FIA0				*e*S	Sn	15 59 21.6	-6.3
FIA0				MSN		15 59 25.7	
	comp=Z,1.6nm,0.2s						
FIA0	**FINESS Array S**	**9.48**	**100**	Pn	**Pn**	**15 57 41.0**	**+0.1**
	baz=302,slow=12,SNR=50						
FINES	**FINESS Array B**	**9.48**	**100**	Pn	**Pn**	**15 57 39.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=303,slow=12,SNR=8.3						
FINES				Sn	Sn	15 59 21.9	-6.0
	comp=Z,0.6nm,0.3s,baz=300,slow=22,SNR=4.1						
FINES				Lg	Lg	16 00 30.7	
	comp=Z,0.9nm,0.3s,baz=299,slow=28,SNR=4.1						
KEV	**Kevo**	**9.56**	**48**	*e*P	**Pn**	**15 57 41.7**	**-0.2**
KEV				*e*S	Sn	15 59 18.8	-11
PVF	**Pernaja**	**9.84**	**105**	*e*P	**Pn**	**15 57 47.3**	**+1.5**
PVF				*e*S	Sn	15 59 30.8	-6.0
PVF				MSN		15 59 36.1	
	comp=Z,2.7nm,0.2s						
EKA	**Eskdalemuir Ar**	**10.37**	**212**	Pn	**Pn**	**15 57 51.7**	**-1.3**
	baz=26,slow=12,SNR=11						
JOF	**Joensuu**	**11.15**	**87**	*e*P	**Pn**	**15 58 03.1**	**-0.6**
SPA0	**Spitsbergen Ar**	**14.05**	**9**	Pn	**Pn**	**15 58 43.9**	**+0.7**
	baz=186,slow=18						
SPA0	**Spitsbergen Ar**	**14.05**	**9**	Pn	**Pn**	**15 58 43.9**	**+0.7**
	baz=186,slow=18						
SPA0	**Spitsbergen Ar**	**14.05**	**9**	*e*	**Pn**	**15 58 43.9**	**+0.7**
SPA0	**Spitsbergen Ar**	**14.05**	**9**	Pn	**Pn**	**15 58 43.9**	**+0.7**
	baz=186,slow=16,SNR=50						
AKASG	**Malin Array Be**	**18.33**	**128**	P	**P**	**15 59 40.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=330,slow=12,SNR=2.6						

IDC 16 16:02:15.0±2.1, 17°.73S×178°.45W, h545km±32km, mb3.5/3, mb1 3.6/4, mb1mx3.1/19, mbtmp3.5/4, Error ellipse: s-maj=100.2km s-min=23.0km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.46**	**60**	P	P	16 04 07.3	-0.2
	2.1nm,0.3s,baz=244,slow=5.1,SNR=6.7						
AFI				S	S	16 05 26.7	-13
	1.4nm,0.3s,baz=286,slow=19,SNR=6.4						
STKA	**Stephens Creek**	**38.68**	**241**	P	P	16 08 52.6	+0.2
	3.3nm,0.5s,baz=81,slow=10,SNR=17						
WRA	**Warramunga Arr**	**44.63**	**259**	P	P	16 09 39.0	-0.5
	1.2nm,0.5s,baz=94,slow=6.9,SNR=22						
ASAR	**Alice Springs**	**44.80**	**254**	P	P	16 09 40.8	-0.1
	0.5nm,0.3s,baz=88,slow=8.5,SNR=5.6						
ASAR				PcP	PcP	16 11 09.9	-1.2
	0.4nm,0.5s,baz=105,slow=4.2,SNR=4.6						
GERES	**GERESS Array B**	**147.43**	**345**	PKPbc	PKPbc	16 20 57.7	-0.2
	0.4nm,0.4s,baz=20,slow=4.3,SNR=5.7						

*IDC **16** 16:16:27.0±3.1, 4°.03S×133°.42E, h0km, mb3.8/1, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, ML3.7/3, Error ellipse: s-maj=129.1km s-min=30.2km az=80.0*
*AUST **16** 16:16:30.2, 3°.96S×134°.02E, h100km*
*DJA **16** 16:16:49.6±0.6, 2°.5±3°×13°.3E±°, h10km, M3.3/2, MLv3.3/2*

ISC 16 16:16:30.5±0.9, 4°.23S±0°.07×133°.7E±0°.1, h35km, n13, σ2§69/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.96**	**311**	P	**Pn**	**16 17 02.7**	**+1.4**
FAKI				S	Sn	16 17 13.1	-12
FAKI	**Fak Fak**	**1.96**	**311**	P	**Pn**	**16 17 02.7**	**+1.4**
	baz=2.1,SNR=54						
MWPI	**Manokwari, Pap**	**3.29**	**5**	P	Pn	16 17 23.4	+3.8
SWI	**Sorong**	**4.15**	**324**	P	Pn	16 17 29.7	-1.7
SWI				S	Sn	16 17 46.8	-32
KDU	**Kakadu**	**8.50**	**188**	P	Pn	16 18 36.0	+4.9
	baz=8.9,SNR=57						
MTN	**Manton Dam**	**8.94**	**196**	P	Pn	16 18 42.5	+5.2
	baz=9.3,SNR=50						
SOEI	**Soe**	**10.87**	**239**	P	Pn	16 19 11.3	+7.4
	baz=11,SNR=3.4						
KNRA	**Kununurra**	**12.38**	**203**	P	Pn	16 19 28.5	+4.1
	baz=13,SNR=21						
COEN	**Coen**	**13.43**	**137**	P	**Pn**	**16 19 35.8**	**-2.9**
	baz=14,SNR=5.4						
WRA	**Warramunga Arr**	**15.63**	**178**	Pn	**Pn**	**16 20 09.6**	**+1.2**
	0.2nm,0.3s,baz=357,slow=14,SNR=18						
WRA				Sn	**Sn**	**16 22 56.5**	**-4.1**
	0.2nm,0.3s,baz=355,slow=23,SNR

JTKR S **Sn** **16 29 45.3 -2.7**
ASAJ **Asahikawa** **5.05 345** Pn **Pn** **16 28 58.7 +0.8**
0.7nm,0.3s,baz=248,slow=15,SNR=11
ASAJ Sn **Sn** **16 29 57.6 +1.9**
0.9nm,0.3s,baz=148,slow=28,SNR=6.8
JRY **Ryogami san** **5.40 235** P **Pn** **16 29 02.4 -0.4**
JRY S **Sn** **16 30 00.0 -4.5**
MJAR **Matsushiro Arr** **5.57 243** Pn **Pn** **16 29 06.4 +1.3**
1.2nm,0.3s,baz=55,slow=11,SNR=13
MAT **Matsushiro** **5.57 243** P **Pn** **16 29 06.1 +1.0**
MAT eS **Sn** **16 30 09.0 +0.5**
ZALV **Zalesovo Beam** **42.20 311** P P 16 35 38.0 +3.4
0.2nm,0.3s,baz=80,slow=12,SNR=2.1
MKAR **Makanchi Array** **44.96 301** P P 16 36 02.0 +5.0
0.7nm,1.0s,baz=80,slow=10,SNR=2.5
ILAR **Eielson Array** **46.38 33** P **P** **16 36 09.6 +1.7**
0.4nm,0.7s,baz=262,slow=6.4,SNR=6.6

PRU 16 16:43:01.8, 50.26N × 19.28E, h0 km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.84**	**240**	*e*SG	Sg	16 43 28.3	-0.7
DPC	**Dobruska-Polom**	**1.90**	**274**	*e*SG	Sb	16 44 02.2	+0.5

CSEM ***16*** *16:43:21.8 ± 0.6, 50.28N × 19.20E, h2 km, Error ellipse: s-maj=17.9km s-min=6.3km az=7.0*

PRU 16 16:43:22.2, 50.23N × 19.22E, h0 km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.37**	**91**	*e*Pg	Pg	16 43 28.5	-0.9
OJC				*e*Sg	Sg	16 43 32.9	-1.3
OKC	**Ostrava-Krasne**	**0.80**	**241**	*e*PG	Pg	16 43 37.1	-0.4
OKC				*e*SG	Sg	16 43 47.8	0.0
	6.6nm,0.4s						
OKC	**Ostrava-Krasne**	**0.80**	**241**	Pg	Pg	16 43 37.1	-0.4
OKC				Sg	Sg	16 43 47.8	0.0
	6.6nm,0.4s						
MORC	**Moravsky Berou**	**1.17**	**248**	*e*Pg	Pg	16 43 41.3	-3.5
MORC				*e*Sg	Sg	16 43 59.2	-0.9
STHS	**Stebnicka Huta**	**1.54**	**121**	*e*PN	Pn	16 43 50.8	-0.2
STHS				*e*SN	Sg	16 44 12.1	+0.2
STHS	**Stebnicka Huta**	**1.54**	**121**	*e*Pn	Pn	16 43 50.8	-0.2
STHS				*e*Sn	Sg	16 44 12.1	+0.2
DPC	**Dobruska-Polom**	**1.86**	**275**	*e*PG	Pb	16 43 56.4	-0.8
DPC				*e*SG	Sg	16 44 22.2	0.0
DPC	**Dobruska-Polom**	**1.86**	**275**	Pg	Pb	16 43 56.4	-0.8
DPC				Sg	Sg	16 44 22.2	0.0
VRAC	**Vranov**	**1.94**	**243**	*e*Pn	Pn	16 43 57.0	+0.6
UPC	**Upice**	**2.07**	**279**	*e*SG	Sg	16 44 29.2	+0.6
UPC	**Upice**	**2.07**	**279**	Sg	Sg	16 44 29.2	+0.3

IDC 16 16:52:38.6 ± 7.1, 30.70S × 178.06W, h0 km, mb3.6/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.6/2, Error ellipse: s-maj=288.9km s-min=59.9km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.05**	**267**	P	P	17 00 40.5	+0.2
	0.3nm,0.4s,baz=107,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**44.06**	**272**	P	P	17 00 48.0	-0.5
	0.4nm,0.3s,baz=111,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**145.40**	**340**	PKPbc	PKPbc	17 12 16.9	-0.8
	3.3nm,0.9s,baz=94,slow=5.7,SNR=3.9						

MAN 16 16:56:23, 8.09N × 121.75E, h18 km, mb4.5, ML3.4, MS3.3, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.86**	**110**	*e*P	Pb	16 56 38.9	-0.6
IPIL				*e*S	Sb	16 56 49.4	-1.3
ZMPH	**Zamboanga City**	**1.17**	**165**	*i* P	Pn	16 56 41.7	-2.7
ZMPH				*i* S	Sb	16 56 54.6	-4.9
PAGZ	**Pagadian**	**1.63**	**98**	*e*P	Pn	16 56 51.5	+0.7
CTBH	**Cotabato--PC H**	**2.62**	**109**	*i* P	Pn	16 57 04.0	-0.4
CTBH				*i* S	Sn	16 57 26.3	-9.5
TBP	**Tagbilaran**	**2.62**	**52**	*e*P	Pn	16 57 06.8	+2.2
TBP				*e*S	Sn	16 57 37.6	+1.7
GUIM	**Jordan**	**2.66**	**18**	*e*P	Pn	16 57 07.4	+2.5
CUYO	**Cuyo Island**	**2.84**	**345**	*e*P	Pn	16 57 10.2	+2.7
CGP	**Cagayan de Oro**	**2.94**	**83**	*e*P	Pn	16 57 08.8	+0.1
CGP				*e*S	Sn	16 57 42.6	-1.0
LLP	**Lapu-Lapu**	**3.11**	**44**	*e*P	Pn	16 57 13.2	+1.9
LLP				*e*S	Sn	16 57 49.1	+1.0
BUKP	**Musuan**	**3.29**	**93**	*e*P	Pb	16 57 21.6	+0.8
RCP	**Roxas**	**3.59**	**16**	*e*P	Pn	16 57 21.2	+3.4
RCP	**Roxas**	**3.59**	**16**	*e*P	Sn	16 57 55.7	-4.0
MSLP	**Maasin**	**3.68**	**56**	*e*P	Pn	16 57 21.6	+2.5
ENPP	**El Nido**	**3.86**	**324**	*e*P	Pn	16 57 21.8	+0.4
BATP	**Bataraza**	**3.97**	**281**	*e*P	Pn	16 57 20.7	-2.4
OCLP	**Ormoc**	**4.08**	**43**	*e*P	Pn	16 57 26.1	+1.6
BUSP	**Coron**	**4.18**	**339**	*e*P	Pn	16 57 26.9	+0.9
OTRP	**Odiongan**	**4.26**	**4**	*e*P	Pn	16 57 29.4	+2.4
SJMP	**San Jose**	**4.39**	**352**	*e*P	Pn	16 57 30.9	+2.0
LUBP	**Lubang**	**5.80**	**345**	*e*P	Pn	16 57 50.8	+2.6

IDC ***16*** *17:24:47.8 ± 0.9, 55.47S × 26.88W, h0 km, mb4.1/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, Error ellipse: s-maj=33.5km s-min=26.8km az=67.0*
ISCJB ***16*** *17:24:49.7 ± 1.1, 55.5S ± 0.2 × 26.8W ± 0.4, h25 km, mb4.0/5, Error ellipse: s-maj=36.9km s-min=24.0km az=150.7*

ISC 16 17:24:51.6 ± 1.1, 55.5S ± 0.2 × 27.0W ± 0.2, h25 km, n7, σ 0 s 65/7, mb4.3/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**37.47**	**292**	P	**P**	**17 32 02.5**	**-0.5**
	0.4nm,0.6s,baz=170,slow=11,SNR=4.9						
VNDA	**Vanda**	**47.14**	**183**	P	**P**	**17 33 20.9**	**-0.2**
	3.1nm,0.7s,baz=193,slow=5.3,SNR=20						
LPAZ	**La Paz**	**50.17**	**305**	P	**P**	**17 33 46.2**	**+0.5**
	1.8nm,0.8s,baz=152,slow=7.0,SNR=8.2						
TORD	**Torodi Ar. Bea**	**72.50**	**29**	P	**P**	**17 36 15.5**	**-0.5**
	2.0nm,0.6s,baz=198,slow=6.6,SNR=17						
ASAR	**Alice Springs**	**99.48**	**162**	P	**Pdif**	**17 38 32.0**	**-0.3**
	0.3nm,0.9s,baz=188,slow=4.6,SNR=4.2						
ILAR	**Eielson Array**	**149.84**	**312**	PKPbc	**PKPbc**	**17 44 38.3**	**+0.4**
	1.2nm,0.8s,baz=128,slow=4.2,SNR=12						
SONM	**Songino Array**	**150.55**	**85**	PKPbc	**PKPbc**	**17 44 41.1**	**+0.8**
	0.9nm,0.7s,baz=257,slow=3.2,SNR=6.0						

IDC 16 17:31:49.1 ± 3.2, 31.19S × 177.63W, h0 km, mb4.0/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, MS2.9/2, Ms1 2.9/2, ms1mx2.7/34, Error ellipse: s-maj=69.2km s-min=26.5km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.95**	**353**	Pn	Pb	17 32 24.8	-0.7
	50nm,0.3s,baz=108,slow=24,SNR=3.0						
RAO					Sn	17 32 49.0	+0.3
	81nm,0.3s,baz=88,slow=22,SNR=4.3						
URZ	**Urewera**	**8.27**	**210**	Pn	Pn	17 33 44.8	-5.6
	0.2nm,0.3s,baz=270,slow=3.0,SNR=2.8						
URZ					Sn	17 35 15.3	-9.2
	0.5nm,0.3s,baz=66,slow=20,SNR=5.1						
RPZ	**Rata Peaks**	**15.37**	**212**	LR	LR	17 40 18.3	
	comp=Z,15nm,18.8s,baz=179,slow=33						
RAR	**Rarotonga**	**18.83**	**62**	LR	LR	17 40 55.9	
	comp=Z,92nm,20.0s,baz=90,slow=29						
STKA	**Stephens Creek**	**34.62**	**258**	P	P	17 38 41.1	+1.1
	2.7nm,1.0s,baz=78,slow=9.3,SNR=2.2						
ASAR	**Alice Springs**	**43.39**	**268**	P	P	17 39 53.3	-0.3
	1.1nm,0.7s,baz=105,slow=7.5,SNR=10						
WRA	**Warramunga Arr**	**44.45**	**273**	P	P	17 40 01.3	-0.9
	1.3nm,0.5s,baz=112,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**146.00**	**340**	PKPbc	PKPdf	17 51 28.6	-0.7
	2.2nm,0.8s,baz=64,slow=4.4,SNR=7.1						

MOS ***16*** *17:41:59.7 ± 0.9, 6.82S × 155.33E, h33 km, mb5.0/8, Error ellipse: s-maj=11.2km s-min=10.6km az=58.4*
ISCJB ***16*** *17:42:01.6 ± 0.3, 6.88S ± 0.05 × 155.33E ± 0.05, h50 km, mb4.8/50, MS3.5/8, Error ellipse: s-maj=6.9km s-min=6.8km az=137.6*

NEIC ***16*** *17:42:04.9 ± 0.9, 6.99S × 155.37E, h70 km ± 8 km, mb5.0/18, Error ellipse: s-maj=7.2km s-min=5.9km az=160.0*
IDC ***16*** *17:42:04.2 ± 2.7, 6.94S × 155.35E, h62 km ± 23 km, mb4.1/17, mb1 4.3/20, mb1mx4.3/22, mbtmp4.1/20, ML3.8/3, MS3.5/10, Ms1 3.5/10, ms1mx3.4/27, Error ellipse: s-maj=17.6km s-min=14.2km az=92.0*
AUST ***16*** *17:42:08.9, 7.50S × 154.71E, h15 km*

ISC 16 17:42:03.0 ± 0.3, 6.80S ± 0.07 × 155.38E ± 0.06, h50 km, n155, σ 1§ 22/149, mb4.8/50, MS3.5/8, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.12**	**309**	P	Pn	17 43 09.6	+6.1
	baz=4.2,SNR=18						
HNR	**Honiara**	**5.22**	**120**	P	**Pn**	**17 43 19.9**	**+1.3**
HNR				S	**Sn**	**17 44 21.0**	**+3.5**
HNR	**Honiara**	**5.22**	**120**	P	**Pn**	**17 43 19.9**	**+1.3**
	6.1nm,0.3s,baz=255,slow=6.8,SNR=8.6						
HNR				S	**Sn**	**17 44 21.0**	**+3.5**
	12nm,0.3s,baz=122,slow=23,SNR=3.7						
HNR				LR	LR	17 45 18.7	
	comp=Z,1μm,18.7s,baz=341,slow=38						
PMG	**Port Moresby**	**8.54**	**252**	P	**Pn**	**17 44 04.4**	**+0.2**
PMG				S	**Sn**	**17 45 43.9**	**+4.7**
PMG	**Port Moresby**	**8.54**	**252**	P	**Pn**	**17 44 04.4**	**+0.2**
	5.2nm,0.3s,baz=55,slow=10.0,SNR=21						
PMG				S	**Sn**	**17 45 43.9**	**+4.7**
	1.9nm,0.3s,baz=114,slow=20,SNR=8.6						
PMG				LR	LR	17 47 21.9	
	comp=Z,314nm,19.3s,baz=218,slow=38						
COEN	**Coen**	**13.95**	**238**	P	**P**	**17 45 25.5**	**+0.7**
	baz=13,SNR=4.6						
CTA	**Charters Tower**	**15.90**	**213**	P	**Pn**	**17 45 43.1**	**-0.6**
CTA	**Charters Tower**	**15.90**	**213**	P	**Pn**	**17 45 43.1**	**-0.6**
	0.2nm,0.3s,baz=51,slow=15,SNR=5.1						
QIS	**Mount Isa**	**20.51**	**227**	P	**P**	**17 46 36.6**	**-0.6**
	baz=20,SNR=5.9						
RMQ	**Roma**	**20.57**	**197**	P	**P**	**17 46 36.7**	**-1.0**
	baz=20,SNR=7.9						
QLP	**Quilpie**	**22.36**	**207**	P	**P**	**17 46 55.1**	**-1.8**
	baz=22,SNR=9.4						
KDU	**Kakadu**	**23.31**	**254**	P	**P**	**17 47 05.8**	**-1.1**
	baz=22,SNR=5.6						
ARMA	**Armidale**	**23.76**	**188**	P	P	17 47 19.9	+8.8
	baz=23,SNR=4.3						
WRAB	**Tennant Creek**	**24.23**	**235**	*de*P	**P**	**17 47 14.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,46nm,1.1s						
WRAB	**Tennant Creek**	**24.23**	**235**	*e*P	**P**	**17 47 14.4**	**-0.9**
	comp=Z,36nm,1.4s						
WRA	**Warramunga Arr**	**24.24**	**235**	P	**P**	**17 47 14.7**	**-0.8**
WRA				PcP	**PcP**	**17 50 54.5**	**-0.5**
WRA	**Warramunga Arr**	**24.24**	**235**	P	**P**	**17 47 14.7**	**-0.8**
	comp=Z,11nm,0.7s,baz=58,slow=9.0,SNR=78						
WRA				PcP	**PcP**	**17 50 54.5**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=39,slow=1.6,SNR=6.7						
PALU	**Palau**	**25.14**	**304**	P	P	17 47 17.3	-6.4
	baz=25,SNR=3.3						
AS31	**Alice Springs**	**26.59**	**229**	*e*P	**P**	**17 47 34.5**	**-2.3**
ASAR	**Alice Springs**	**26.59**	**229**	P	**P**	**17 47 35.0**	**-1.7**
ASAR	**Alice Springs**	**26.59**	**229**	P	**P**	**17 47 35.0**	**-1.7**
	comp=Z,2.8nm,0.9s,baz=58,slow=9.7,SNR=34						
H11S3	**WAKE ISLAND Hy**	**27.50**	**24**	T	T	18 15 55.0	
	baz=204,slow=77,SNR=67						
H11S2	**WAKE ISLAND Hy**	**27.50**	**24**	T	T	18 16 01.1	
	baz=204,slow=77,SNR=64						
H11S1	**WAKE ISLAND Hy**	**27.52**	**24**	T	T	18 15 56.3	
	baz=204,slow=77,SNR=39						
STKA	**Stephens Creek**	**28.07**	**206**	P	**P**	**17 47 48.5**	**-1.5**
STKA	**Stephens Creek**	**28.07**	**206**	P	**P**	**17 47 48.5**	**-1.5**
	comp=Z,4.2nm,1.0s,baz=26,slow=9.3,SNR=3.6						
STKA				LR	LR	17 59 12.8	
	comp=Z,154nm,19.2s,baz=24,slow=37						
STKA	**Stephens Creek**	**28.07**	**206**	P	**P**	**17 47 51.9**	**+2.0**
	baz=27,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**28.68**	**23**	T	T	18 17 44.2	
	baz=205,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**28.69**	**23**	T	T	18 18 07.3	
	baz=205,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**28.70**	**23**	T	T	18 17 48.5	
	baz=205,slow=75,SNR=5.0						
WRKA	**Warakurna**	**31.62**	**232**	P	**P**	**17 48 20.8**	**-0.7**
	baz=31,SNR=3.9						
MBWA	**Marble Bar**	**37.31**	**244**	*e*P	**P**	**17 49 10.0**	**-0.6**
MJAR	**Matsushiro Arr**	**46.02**	**341**	PcP	**PcP**	**17 51 58.2**	**+0.5**
MJAR	**Matsushiro Arr**	**46.02**	**341**	PcP	**PcP**	**17 51 58.2**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=139,slow=3.9,SNR=4.2						
MJAR				LR	LR	18 06 44.0	
	comp=Z,30nm,18.0s,baz=215,slow=32						
KSRS	**Korea Array**	**50.95**	**332**	P	**P**	**17 50 59.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=145,slow=7.4,SNR=3.4						
KSRS				LR	LR	18 09 52.2	
	comp=Z,15nm,18.2s,baz=140,slow=33						
KSAR	**Wonju Array Be**	**50.95**	**332**	P	**P**	**17 50 59.6**	**+0.1**
USRK	**Ussuriysk Arra**	**54.98**	**340**	P	**P**	**17 51 28.9**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=237,slow=6.6,SNR=4.1						
USRK				LR	LR	18 12 54.5	
	comp=Z,37nm,18.4s,baz=200,slow=34						
CHBT	**CHBT**	**56.18**	**290**	P	P	17 51 41.8	+3.5
	comp=Z,7.8nm,1.0s						
CHAI	**Chaiyaphum**	**57.47**	**294**	P	**P**	**17 51 48.2**	**+0.8**
	comp=Z,5.6nm,0.6s						
PATY	**Pattaya**	**57.59**	**290**	P	**P**	**17 51 50.7**	**+2.4**
	comp=Z,3.9nm,0.7s,comp=Z,635nm						
PBKT	**Sadao Pong**	**58.61**	**294**	P	**P**	**17 51 57.0**	**+1.6**
	comp=Z,13nm,1.1s						
PHET	**Kaeng Krachan**	**58.75**	**289**	P	**P**	**17 51 58.5**	**+2.1**
	comp=Z,39nm,0.8s						
NANT	**Nan**	**59.59**	**296**	P	**P**	**17 52 02.9**	**+0.7**
	comp=Z,114nm,0.7s						
SRDT	**SRDT**	**59.63**	**291**	P	**P**	**17 52 04.1**	**+1.6**
	comp=Z,47nm,0.9s						
PETK	**Petropavlovsk-**	**59.71**	**2**	P	**P**	**17 52 03.4**	**+1.1**
PETK	**Petropavlovsk-**	**59.71**	**2**	P	**P**	**17 52 03.4**	**+1.1**
PETK	**Petropavlovsk-**	**59.71**	**2**	P	**P**	**17 52 03.4**	**+1.1**
	comp=Z,9.9nm,0.8s,baz=165,slow=7.7,SNR=14						
PETK				LR	LR	18 13 24.9	
	comp=Z,52nm,20.1s,baz=357,slow=31						
CRAI	**Chiangrai**	**60.37**	**298**	P	**P**	**17 52 08.7**	**+1.2**
	comp=Z,64nm,0.7s						
LAMP	**Lampang**	**60.45**	**296**	P	**P**	**17 52 09.6**	**+1.5**
	comp=Z,14nm,0.7s						
CM31	**Chiang Mai Arr**	**61.05**	**295**	*e*P	**P**	**17 52 13.4**	**+1.3**
	comp=Z,12nm,0.6s						
CMAR	**Chiang Mai Arr**	**61.05**	**295**	P	**P**	**17 52 13.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**61.05**	**295**	P	**P**	**17 52 13.8**	**+1.7**
	comp=Z,13nm,0.7s,baz=123,slow=5.3,SNR=138						
CMAR				LR	LR	18 19 01.2	
	comp=Z,16nm,20.4s,baz=40,slow=36						
CMMT	**Chiang Mai**	**61.16**	**296**	P	**P**	**17 52 13.8**	**+0.9**
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	**61.16**	**296**	*e*P	**P**	**17 52 13.8**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	**Chiang Mai**	**61.16**	**296**	*e*P	**P**	**17 52 13.8**	**+0.9**
	comp=Z,4.3nm,0.6s						
CHTO	**Chiang Mai**	**61.16**	**296**	P	**P**	**17 52 13.8**	**+0.9**
	comp=Z,64nm,1.0s						
FX1	**Attu Island--F**	**61.35**	**12**	LR	LR	18 14 12.6	
	comp=Z,44nm,20.6s,baz=133,slow=31						
CMAI	**Chiengmai2**	**61.44**	**297**	P	**P**	**17 52 16.2**	**+1.2**
	comp=Z,91nm,0.7s						
MHMT	**Maesariang**	**61.87**	**295**	P	P	17 52 34.8	+17
SONM	**Songino Array**	**69.38**	**327**	P	**P**	**17 53 06.6**	**+0.8**
SONM	**Songino Array**	**69.38**	**327**	P	**P**	**17 53 06.6**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=132,slow=5.7,SNR=21						
VNDA	**Vanda**	**70.77**	**179**	P	**P**	**17 53 11.8**	**-1.8**
VNDA	**Vanda**	**70.77**	**179**	P	**P**	**17 53 11.8**	**-1.8**
	comp=Z,1.4nm,0.9s,baz=336,slow=8.3,SNR=4.3						
YAK	**Yakutsk**	**71.45**	**348**	*e*P	**P**	**17 53 18.2**	**+0.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
ZAK	**Zakamensk**	**72.53**	**328**	*e*P	**P**	**17 53 24.5**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	**Talaya**	**73.09**	**329**	*e*P	P	17 53 34.5	+6.5
TLY				pmax	pmax		
	comp=Z,11nm,1.0s						
TAPN	**Taplejung**	**73.63**	**301**	*e*P	**P**	**17 53 33.0**	**+1.0**
	comp=Z,26nm,0.8s						
TAPN	**Taplejung**	**73.63**	**301**	*e*P	**P**	**17 53 33.0**	**+1.0**
	comp=Z,28nm,0.8s						
ODAN	**Odare**	**73.76**	**300**	*e*P	**P**	**17 53 33.5**	**+0.8**
	comp=Z,48nm,0.6s						
ODAN	**Odare**	**73.76**	**300**	*e*P	**P**	**17 53 33.5**	**+0.8**
	comp=Z,48nm,0.6s						
RAMN	**Ramite**	**74.47**	**300**	*e*P	**P**	**17 53 37.3**	**+0.5**
	comp=Z,13nm,0.5s						
RAMN	**Ramite**	**74.47**	**300**	*e*P	**P**	**17 53 37.3**	**+0.5**
	comp=Z,13nm,0.5s						
JIRN	**Jiri**	**75.01**	**301**	*e*P	**P**	**17 53 40.8**	**+0.7**
	comp=Z,17nm,0.6s						
JIRN	**Jiri**	**75.01**	**301**	*e*P	**P**	**17 53 40.8**	**+0.7**
	comp=Z,17nm,0.6s						
GUN	**Gumba**	**75.35**	**301**	*e*P	**P**	**17 53 42.4**	**+0.4**
	comp=Z,32nm,0.7s						
GUN	**Gumba**	**75.35**	**301**	*e*P	**P**	**17 53 42.4**	**+0.4**
	comp=Z,32nm,0.7s						
PKI	**Pulchoki**	**75.66**	**301**	*e*P	**P**	**17 53 43.5**	**-0.3**
	comp=Z,9.9nm,0.6s						
PKI	**Pulchoki**	**75.66**	**301**	*e*P	**P**	**17 53 44.5**	**+0.7**
PKI				pmax	pmax		
	comp=Z,12nm,0.7s						
PKI	**Pulchoki**	**75.66**	**301**	*e*P	**P**	**17 53 44.5**	**+0.7**
	comp=Z,12nm,0.7s						
PKIN	**Phulchoki**	**75.67**	**301**	*e*P	**P**	**17 53 44.5**	**+0.7**
	comp=Z,12nm,0.7s						
KKN	**Kakani**	**75.82**	**301**	*e*P	**P**	**17 53 45.1**	**+0.5**
	comp=Z,12nm,0.6s						
KKN	**Kakani**	**75.82**	**301**	*e*P	**P**	**17 53 45.1**	**+0.5**
KKN				pmax	pmax		
	comp=Z,12nm,0.6s						
KKN	**Kakani**	**75.82**	**301**	*e*P	**P**	**17 53 45.1**	**+0.5**
	comp=Z,12nm,0.6s						
DMN	**Daman**	**75.92**	**301**	*e*P	**P**	**17 53 46.1**	**+0.9**
	comp=Z,32nm,0.8s						
DMN	**Daman**	**75.92**	**301**	*e*P	**P**	**17 53 46.1**	**+0.9**
	comp=Z,32nm,0.8s						
GKN	**Gorkha**	**76.43**	**301**	*e*P	**P**	**17 53 48.3**	**+0.3**
	comp=Z,22nm,0.9s						
GKN	**Gorkha**	**76.43**	**301**	*e*P	**P**	**17 53 48.3**	**+0.3**
	comp=Z,22nm,0.9s						
TNA	**Tin City**	**77.04**	**15**	*e*P	**P**	**17 53 51.2**	**+0.9**
	comp=Z,4.2nm,0.8s						
KOLN	**Koldanda**	**77.25**	**300**	*e*P	**P**	**17 53 53.0**	**+0.3**
	comp=Z,10nm,0.5s						
KOLN	**Koldanda**	**77.25**	**300**	*e*P	**P**	**17 53 53.0**	**+0.3**
	comp=Z,10nm,0.5s						
DANN	**Dangsing**	**77.27**	**301**	*e*P	**P**	**17 53 52.5**	**-0.4**
	comp=Z,9.2nm,0.5s						
DANN	**Dangsing**	**77.27**	**301**	*e*P	**P**	**17 53 52.5**	**-0.4**
	comp=Z,9.2nm,0.5s						
PYUN	**Piuthan**	**77.86**	**301**	*e*P	**P**	**17 53 56.1**	**0.0**
PYUN	**Piuthan**	**77.86**	**301**	*e*P	**P**	**17 53 56.1**	**0.0**
TIXI	**Tiksi**	**80.22**	**352**	*i* P	**P**	**17 54 08.1**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**80.22**	**352**	*e*P	**P**	**17 54 07.6**	**-0.1**
	comp=Z,5.5nm,1.0s						
IM04	**Indian Mountai**	**81.40**	**19**	*e*P	**P**	**17 54 15.0**	**+0.8**
MCK	**McKinley**	**81.73**	**22**	*e*P	**P**	**17 54 15.6**	**-0.5**
MCK				pmax	pmax		
	comp=Z,11nm,0.8s						
MCK	**McKinley**	**81.73**	**22**	*e*P	**P**	**17 54 15.6**	**-0.5**
	comp=Z,11nm,0.8s						
COLA	**College**	**82.76**	**21**	*i* P	**P**	**17 54 21.3**	**0.0**
COLA				pmax	pmax		
	comp=Z,33nm,0.8s						
ILAR	**Eielson Array**	**83.05**	**21**	P	**P**	**17 54 22.3**	**-0.6**
ILAR	**Eielson Array**	**83.05**	**21**	P	**P**	**17 54 22.3**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=247,slow=5.8,SNR=37						
QSPA	**South Pole Qui**	**83.17**	**180**	P	**P**	**17 54 22.4**	**-1.3**
QSPA	**South Pole Qui**	**83.17**	**180**	P	**P**	**17 54 22.4**	**-1.3**
	comp=Z,4.0nm,0.7s,baz=14,slow=0.7,SNR=19						
MK31	**Makanchi Array**	**83.51**	**319**	*e*P	**P**	**17 54 25.4**	**-0.2**
MK31	**Makanchi Array**	**83.51**	**319**	*e*P	**P**	**17 54 25.4**	**-0.2**
MKAR	**Makanchi Array**	**83.51**	**319**	P	**P**	**17 54 25.9**	**+0.2**
MKAR	**Makanchi Array**	**83.51**	**319**	P	**P**	**17 54 25.9**	**+0.2**
MKAR	**Makanchi Array**	**83.51**	**319**	P	**P**	**17 54 25.9**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=102,slow=5.4,SNR=22						
DOT	**Dot Lake**	**83.53**	**23**	*e*P	**P**	**17 54 25.7**	**+0.3**
	comp=Z,5.7nm,0.7s						
ZALV	**Zalesovo Beam**	**84.23**	**326**	P	**P**	**17 54 28.2**	**-0.9**
ZALV	**Zalesovo Beam**	**84.23**	**326**	P	**P**	**17 54 28.2**	**-0.9**
ZALV	**Zalesovo Beam**	**84.23**	**326**	P	**P**	**17 54 28.2**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=113,slow=5.4,SNR=8.0						
MAW	**Mawson**	**84.72**	**203**	P	P	17 54 41.3	+10
	baz=84,SNR=12						
HYT	**Haines Junctio**	**85.03**	**27**	*e*P	**P**	**17 54 33.8**	**+0.6**
KURK	**Kurchatov**	**86.92**	**322**	P	**P**	**17 54 41.1**	**-1.4**
KURK	**Kurchatov**	**86.92**	**322**	P	**P**	**17 54 41.1**	**-1.4**
KURBB	**Kurchatov Arra**	**86.

*SKO **16** 17:48:07.5,38°.35N×19°.99E,h0km*
ISC 16 17:47:55.2±1.3,**37°.55N**±0°.03×**19°.49E**±0°.03,**h15**km±8km,
n260,σ1§63/361,**mb3.8**/10,**22C-19D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**1.08**	**54**	P	**Pg**	**17 48 16.0**	**0.0**
VLS				S	**Sn**	**17 48 30.7**	**+0.2**
VLS	**Valsamata**	**1.08**	**54**	*e*PN	**Pg**	**17 48 15.8**	**-0.2**
VLS				*e*SN	**Sg**	**17 48 30.2**	**+0.1**
VLS	**Valsamata**	**1.08**	**54**	*e*Pn	**Pg**	**17 48 15.8**	**-0.2**
VLS				*e*Sn	**Sg**	**17 48 30.2**	**+0.1**
KFL	**Anninata**	**1.17**	**61**	P	**Pg**	**17 48 17.4**	**-0.4**
KFL				S	**Sg**	**17 48 32.9**	**-0.3**
KFL	**Anninata**	**1.17**	**61**	P	**Pg**	**17 48 17.4**	**-0.4**
KFL				S	**Sg**	**17 48 32.9**	**-0.3**
SFD	**Strofades**	**1.25**	**103**	*e*PN	**Pg**	**17 48 18.5**	**-0.9**
SFD				*e*SN	**Sb**	**17 48 33.6**	**-0.9**
SFD	**Strofades**	**1.25**	**103**	*e*Pn	**Pg**	**17 48 18.5**	**-0.9**
SFD				*e*Sn	**Sb**	**17 48 33.6**	**-0.9**
LKD2	**Lefkada island**	**1.54**	**36**	P	**Pg**	**17 48 24.2**	**-0.7**
LKD2				S	**Sb**	**17 48 43.3**	**+0.3**
LKD2	**Lefkada island**	**1.54**	**36**	*e*PN	**Pb**	**17 48 23.6**	**0.0**
LKD2				*e*SN	**Sb**	**17 48 43.4**	**+0.4**
LKD2	**Lefkada island**	**1.54**	**36**	*e*Pn	**Pb**	**17 48 23.6**	**0.0**
LKD2	**Lefkada island**	**1.54**	**36**	P	**Pg**	**17 48 24.2**	**-0.7**
LKD2				*e*Sn	**Sb**	**17 48 43.4**	**+0.4**
RLS	**Riolos of Patr**	**1.65**	**71**	P	**Pb**	**17 48 25.0**	**-0.3**
RLS	**Riolos of Patr**	**1.65**	**71**	*e*PN	**Pb**	**17 48 24.7**	**-0.6**
RLS				*e*SN	**Sn**	**17 48 45.3**	**+0.7**
RLS	**Riolos of Patr**	**1.65**	**71**	*e*Pn	**Pb**	**17 48 24.7**	**-0.6**
RLS	**Riolos of Patr**	**1.65**	**71**	P	**Pb**	**17 48 25.0**	**-0.3**
RLS				*e*Sn	**Sn**	**17 48 45.3**	**+0.7**
PDO	**Prodromos**	**1.70**	**51**	P	**Pb**	**17 48 26.3**	**+0.1**
PDO				S	**Sb**	**17 48 47.8**	**+0.4**
PDO	**Prodromos**	**1.70**	**51**	*e*PN	**Pb**	**17 48 25.5**	**-0.7**
PDO				*e*SN	**Sn**	**17 48 46.6**	**+0.7**
PDO	**Prodromos**	**1.70**	**51**	*e*Pn	**Pb**	**17 48 25.5**	**-0.7**
PDO	**Prodromos**	**1.70**	**51**	P	**Pb**	**17 48 26.3**	**+0.1**
PDO				*e*Sn	**Sn**	**17 48 46.6**	**+0.7**
PDO				S	**Sb**	**17 48 47.8**	**+0.4**
AMT	**Artemida-Makis**	**1.77**	**90**	P	**Pn**	**17 48 25.7**	**+0.4**
AMT	**Artemida-Makis**	**1.77**	**90**	*e*PN	**Pn**	**17 48 25.5**	**+0.2**
AMT				*e*SN	**Sn**	**17 48 47.7**	**+0.2**
AMT	**Artemida-Makis**	**1.77**	**90**	*e*Pn	**Pn**	**17 48 25.5**	**+0.2**
AMT				*e*Sn	**Sn**	**17 48 47.7**	**+0.2**
DRO	**Drossia**	**1.81**	**76**	P	**Pb**	**17 48 27.1**	**-0.9**
DRO	**Drossia**	**1.81**	**76**	*e*PN	**Pb**	**17 48 26.9**	**-1.1**
DRO				*e*SN	**Sn**	**17 48 48.9**	**+0.4**
DRO	**Drossia**	**1.81**	**76**	P	**Pb**	**17 48 27.1**	**-0.9**
DRO				*e*Sn	**Sn**	**17 48 48.9**	**+0.4**
PYL	**PYLOS**	**1.91**	**109**	P	**Pn**	**17 48 27.4**	**+0.1**
PYL				S	**Sn**	**17 48 49.5**	**-1.6**
PYL	**PYLOS**	**1.91**	**109**	*e*PN	**Pn**	**17 48 27.9**	**+0.6**
PYL	**PYLOS**	**1.91**	**109**	P	**Pn**	**17 48 27.4**	**+0.1**
PYL	**PYLOS**	**1.91**	**109**	*e*Pn	**Pn**	**17 48 27.9**	**+0.6**
PYL				S	**Sn**	**17 48 49.5**	**-1.6**
PVO	**Paravola**	**1.93**	**56**	P	**Pb**	**17 48 29.9**	**-0.2**
PVO				S	**Sn**	**17 48 52.7**	**+1.2**
PVO	**Paravola**	**1.93**	**56**	P	**Pb**	**17 48 29.9**	**-0.2**
PVO				S	**Sn**	**17 48 52.7**	**+1.2**
ITM	**Ithomi**	**1.98**	**100**	P	**Pn**	**17 48 28.6**	**+0.4**
ITM				S	**Sn**	**17 48 52.0**	**-0.7**
ITM	**Ithomi**	**1.98**	**100**	*e*PB	**Pn**	**17 48 28.4**	**+0.2**
ITM				*e*SN	**Sn**	**17 48 52.1**	**-0.7**
ITM	**Ithomi**	**1.98**	**100**	*e*Pb	**Pn**	**17 48 28.4**	**+0.2**
ITM				*e*Sn	**Sn**	**17 48 52.1**	**-0.7**
PSA1	**Psathopyrgos**	**2.05**	**67**	*e*PN	**Pn**	**17 48 30.0**	**+0.9**
PSA1				*e*SN	**Sn**	**17 48 54.7**	**+0.3**
LAKA	**Lakka**	**2.09**	**70**	*e*PB	**Pb**	**17 48 30.9**	**-1.9**
LAKA	**Lakka**	**2.09**	**70**	*e*Pb	**Pb**	**17 48 30.9**	**-1.9**
IGT	**Igoumenitsa**	**2.09**	**18**	P	**Pb**	**17 48 31.0**	**-1.8**
IGT	**Igoumenitsa**	**2.09**	**18**	*e*PN	**Pb**	**17 48 31.1**	**-1.8**
IGT				*e*SN	**Sb**	**17 48 57.6**	**-1.0**
IGT	**Igoumenitsa**	**2.09**	**18**	*e*Pn	**Pb**	**17 48 31.1**	**-1.8**
IGT				*e*Sn	**Sb**	**17 48 57.6**	**-1.0**
EFP	**Efpalio**	**2.10**	**65**	P	**Pb**	**17 48 31.6**	**-1.5**
EFP	**Efpalio**	**2.10**	**65**	*e*PB	**Pb**	**17 48 31.5**	**-1.5**
EFP				*e*SN	**Sn**	**17 48 55.6**	**-0.2**
EFP	**Efpalio**	**2.10**	**65**	*e*Pb	**Pb**	**17 48 31.5**	**-1.5**
EFP				*e*Sn	**Sn**	**17 48 55.6**	**-0.2**
KLV	**Kalavryta, Ach**	**2.17**	**76**	P	**Pb**	**17 48 32.5**	**-1.7**
KLV	**Kalavryta, Ach**	**2.17**	**76**	*e*PN	**Pn**	**17 48 32.1**	**+1.3**
KLV				*e*SB	**Sn**	**17 48 56.9**	**-0.6**
KLV	**Kalavryta, Ach**	**2.17**	**76**	*e*Pb	**Pn**	**17 48 32.1**	**+1.3**
KLV	**Kalavryta, Ach**	**2.17**	**76**	P	**Pb**	**17 48 32.5**	**-1.7**
KLV				*e*Sn	**Sn**	**17 48 56.9**	**-0.6**
KEK	**Kerkira**	**2.18**	**6**	*e*PN	**Pb**	**17 48 32.4**	**-1.9**
KEK				*e*SN	**Sb**	**17 48 59.9**	**-1.2**
KEK	**Kerkira**	**2.18**	**6**	*e*Pn	**Pb**	**17 48 32.4**	**-1.9**
KEK				*e*Sn	**Sb**	**17 48 59.9**	**-1.2**
KALE	**Kalithea**	**2.26**	**67**	P	**Pb**	**17 48 34.0**	**-1.8**
KALE	**Kalithea**	**2.26**	**67**	*e*PB	**Pn**	**17 48 33.5**	**+1.4**
KALE				*e*SN	**Sn**	**17 49 00.7**	**+1.0**
KALE	**Kalithea**	**2.26**	**67**	*e*Pb	**Pn**	**17 48 33.5**	**+1.4**
KALE	**Kalithea**	**2.26**	**67**	P	**Pb**	**17 48 34.0**	**-1.8**
KALE				*e*Sn	**Sn**	**17 49 00.7**	**+1.0**
EVR	**Evrytania**	**2.28**	**53**	P	**Pb**	**17 48 35.1**	**-1.1**
EVR				S	**Sn**	**17 49 02.0**	**+1.6**
EVR	**Evrytania**	**2.28**	**53**	*e*PB	**Pn**	**17 48 33.9**	**+1.4**
EVR				*e*SN	**Sn**	**17 49 01.3**	**+0.9**
EVR	**Evrytania**	**2.28**	**53**	*e*Pb	**Pn**	**17 48 33.9**	**+1.4**
EVR	**Evrytania**	**2.28**	**53**	P	**Pb**	**17 48 35.1**	**-1.1**
EVR				*e*Sn	**Sn**	**17 49 01.3**	**+0.9**
EVR				S	**Sn**	**17 49 02.0**	**+1.6**
GUR	**Goura**	**2.30**	**79**	P	**Pn**	**17 48 34.1**	**+1.4**
GUR	**Goura**	**2.30**	**79**	*e*PN	**Pn**	**17 48 33.5**	**+0.8**
GUR				*e*SN	**Sn**	**17 49 00.0**	**-0.7**
GUR	**Goura**	**2.30**	**79**	*e*Pn	**Pn**	**17 48 33.5**	**+0.8**
GUR	**Goura**	**2.30**	**79**	P	**Pn**	**17 48 34.1**	**+1.4**
GUR				*e*Sn	**Sn**	**17 49 00.0**	**-0.7**
VLX	**Vlachokerasia**	**2.31**	**94**	P	**Pn**	**17 48 33.5**	**+0.7**
VLX	**Vlachokerasia**	**2.31**	**94**	*e*PN	**Pn**	**17 48 33.5**	**+0.7**
VLX				*e*SN	**Sn**	**17 49 01.0**	**0.0**
VLX	**Vlachokerasia**	**2.31**	**94**	P	**Pn**	**17 48 33.5**	**+0.7**
VLX				*e*Sn	**Sn**	**17 49 01.0**	**0.0**
JAN	**Janina**	**2.36**	**26**	*e*PN	**Pb**	**17 48 35.2**	**-2.3**
JAN				*e*SN	**Sn**	**17 49 03.2**	**+1.0**
JAN	**Janina**	**2.36**	**26**	*e*Pn	**Pb**	**17 48 35.2**	**-2.3**
JAN				*e*Sn	**Sn**	**17 49 03.2**	**+1.0**
SRN	**Sarande**	**2.36**	**10**	P	**Pb**	**17 48 35.0**	**-2.5**
SRN	**Sarande**	**2.36**	**10**	P	**Pb**	**17 48 35.0**	**-2.5**
SRN				S	**Sn**	**17 49 08.7**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.54**	**54**	P	**Pb**	**17 48 38.6**	**-2.0**
MAKR				S	**Sn**	**17 49 08.7**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.54**	**54**	*e*PB	**Pn**	**17 48 37.8**	**+1.8**
MAKR				*e*SN	**Sn**	**17 49 07.3**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.54**	**54**	*e*Pb	**Pn**	**17 48 37.8**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.54**	**54**	P	**Pb**	**17 48 38.6**	**-2.0**
MAKR				*e*Sn	**Sn**	**17 49 07.3**	**+0.6**
MAKR				S	**Sn**	**17 49 08.7**	**+2.0**
DSF	**Desfina**	**2.55**	**69**	P	**Pn**	**17 48 37.4**	**+1.3**
DSF				S	**Sn**	**17 49 07.5**	**+0.6**
DSF	**Desfina**	**2.55**	**69**	*e*PN	**Pn**	**17 48 37.5**	**+1.3**
DSF				*e*SN	**Sn**	**17 49 07.6**	**+0.6**
DSF	**Desfina**	**2.55**	**69**	P	**Pn**	**17 48 37.4**	**+1.3**
DSF				*e*Sn	**Sn**	**17 49 07.6**	**+0.6**
MEV	**Metsovon**	**2.62**	**31**	P	**Pb**	**17 48 40.1**	**-1.8**
MEV	**Metsovon**	**2.62**	**31**	P	**Pb**	**17 48 40.1**	**-1.8**
AGG	**Agios Georgios**	**2.68**	**56**	P	**Pn**	**17 48 39.8**	**+2.0**
AGG	**Agios Georgios**	**2.68**	**56**	*e*PN	**Pn**	**17 48 39.4**	**+1.6**
AGG				*e*SN	**Sn**	**17 49 10.8**	**+0.8**
AGG	**Agios Georgios**	**2.68**	**56**	*e*Pn	**Pn**	**17 48 39.4**	**+1.6**
AGG	**Agios Georgios**	**2.68**	**56**	P	**Pn**	**17 48 39.8**	**+2.0**
AGG				*e*Sn	**Sn**	**17 49 10.8**	**+0.8**
AXAR	**Agios Charalam**	**2.78**	**63**	P	**Pn**	**17 48 40.8**	**+1.6**
AXAR	**Agios Charalam**	**2.78**	**63**	P	**Pn**	**17 48 40.8**	**+1.6**
LTK	**Loutraki**	**2.80**	**79**	*e*PN	**Pn**	**17 48 40.4**	**+0.9**
LTK				*e*SN	**Sn**	**17 49 12.2**	**-0.8**
LTK	**Loutraki**	**2.80**	**79**	*e*Pn	**Pn**	**17 48 40.4**	**+0.9**
LTK				*e*Sn	**Sn**	**17 49 12.2**	**-0.8**
THL	**Klokotos Trika**	**2.83**	**44**	P	**Pb**	**17 48 42.3**	**-3.1**
THL	**Klokotos Trika**	**2.83**	**44**	*e*PN	**Pn**	**17 48 41.4**	**+1.6**
THL				*e*SN	**Sn**	**17 49 14.3**	**+0.7**
THL	**Klokotos Trika**	**2.83**	**44**	*e*Pn	**Pn**	**17 48 41.4**	**+1.6**
THL	**Klokotos Trika**	**2.83**	**44**	P	**Pb**	**17 48 42.3**	**-3.1**
THL				*e*Sn	**Sn**	**17 49 14.3**	**+0.7**
VLI	**Veliai**	**2.88**	**106**	*e*PN	**Pn**	**17 48 41.7**	**+1.1**
VLI				*e*SN	**Sn**	**17 49 14.5**	**-0.4**
VLI	**Veliai**	**2.88**	**106**	*e*Pn	**Pn**	**17 48 41.7**	**+1.1**
VLI				*e*Sn	**Sn**	**17 49 14.5**	**-0.4**
DID	**Didima**	**2.98**	**90**	P	**Pn**	**17 48 42.3**	**+0.3**
DID				S	**Sn**	**17 49 15.8**	**-1.7**
DID	**Didima**	**2.98**	**90**	*e*PN	**Pn**	**17 48 42.5**	**+0.5**
DID	**Didima**	**2.98**	**90**	*e*Pn	**Pn**	**17 48 42.5**	**+0.5**
DID				S	**Sn**	**17 49 15.8**	**-1.7**
LKR	**Lokris**	**2.98**	**67**	*e*PN	**Pn**	**17 48 43.1**	**+1.1**
LKR				*e*SN	**Sn**	**17 49 16.5**	**-1.0**
LKR	**Lokris**	**2.98**	**67**	*e*Pn	**Pn**	**17 48 43.1**	**+1.1**
LKR				*e*Sn	**Sn**	**17 49 16.5**	**-1.0**
NEST	**Nestorio**	**3.11**	**23**	P	**Pb**	**17 48 47.3**	**-3.0**
NEST	**Nestorio**	**3.11**	**23**	P	**Pb**	**17 48 47.3**	**-3.0**
KYTH	**Kithira**	**3.11**	**113**	P	**Pn**	**17 48 46.0**	**+2.2**
KYTH	**Kithira**	**3.11**	**113**	*e*PN	**Pn**	**17 48 45.2**	**+1.4**
KYTH	**Kithira**	**3.11**	**113**	*e*Pn	**Pn**	**17 48 45.2**	**+1.4**
KYTH	**Kithira**	**3.11**	**113**	P	**Pn**	**17 48 46.0**	**+2.2**
NAIG	**Nisos Aigina**	**3.18**	**85**	*e*PN	**Pn**	**17 48 46.0**	**+1.3**
NAIG	**Nisos Aigina**	**3.18**	**85**	*e*Pn	**Pn**	**17 48 46.0**	**+1.3**
SMIA	**Simia**	**3.22**	**64**	*e*PN	**Pn**	**17 48 45.8**	**+0.5**
SMIA	**Simia**	**3.22**	**64**	*e*Pn	**Pn**	**17 48 45.8**	**+0.5**
KZN	**Kozani**	**3.28**	**32**	P	Pn	17 48 49.2	+3.0
KZN	**Kozani**	**3.28**	**32**	*e*PN	**Pn**	**17 48 48.9**	**+2.7**
KZN				*e*SN	**Sn**	**17 49 25.7**	**+0.7**
KZN	**Kozani**	**3.28**	**32**	*e*Pn	**Pn**	**17 48 48.9**	**+2.7**
KZN	**Kozani**	**3.28**	**32**	P	Pn	17 48 49.2	+3.0
KZN				*e*Sn	**Sn**	**17 49 25.7**	**+0.7**
ATH	**Athens Observa**	**3.38**	**82**	*e*PN	**Pn**	**17 48 48.1**	**+0.7**
ATH	**Athens Observa**	**3.38**	**82**	*e*Pn	**Pn**	**17 48 48.1**	**+0.7**
NEO	**Neokhori**	**3.42**	**58**	*e*PN	**Pn**	**17 48 48.7**	**+0.7**
NEO				*e*SN	**Sn**	**17 49 27.5**	**-0.8**
NEO	**Neokhori**	**3.42**	**58**	*e*Pn	**Pn**	**17 48 48.7**	**+0.7**
NEO				*e*Sn	**Sn**	**17 49 27.5**	**-0.8**
XOR	**Xorichti**	**3.43**	**57**	*e*PN	**Pn**	**17 48 49.5**	**+1.4**
XOR	**Xorichti**	**3.43**	**57**	*e*Pn	**Pn**	**17 48 49.5**	**+1.4**
MRKA	**Markates**	**3.43**	**69**	*e*PN	**Pn**	**17 48 48.9**	**+0.7**
MRKA	**Markates**	**3.43**	**69**	*e*Pn	**Pn**	**17 48 48.9**	**+0.7**
LIT	**Litokhoron**	**3.46**	**42**	*e*PN	**Pn**	**17 48 50.2**	**+1.6**
LIT	**Litokhoron**	**3.46**	**42**	*e*Pn	**Pn**	**17 48 50.2**	**+1.6**
ANKY	**Antikythira Is**	**3.49**	**118**	*e*PN	**Pn**	**17 48 50.0**	**+1.0**
ANKY	**Antikythira Is**	**3.49**	**118**	*e*Pn	**Pn**	**17 48 50.0**	**+1.0**
PTL	**Penteli**	**3.50**	**80**	*e*PN	**Pn**	**17 48 50.2**	**+1.0**
PTL				*e*SN	**Sn**	**17 49 29.4**	**-1.0**
PTL	**Penteli**	**3.50**	**80**	*e*Pn	**Pn**	**17 48 50.2**	**+1.0**
PTL				*e*Sn	**Sn**	**17 49 29.4**	**-1.0**
SKIA	**Skiathos**	**3.52**	**61**	*e*PN	**Pn**	**17 48 50.9**	**+1.5**
SKIA	**Skiathos**	**3.52**	**61**	*e*Pn	**Pn**	**17 48 50.9**	**+1.5**
FNA	**Florina**	**3.55**	**24**	P	**Pn**	**17 48 51.8**	**+2.0**
FNA	**Florina**	**3.55**	**24**	*e*PN	**Pn**	**17 48 51.8**	**+2.0**
FNA	**Florina**	**3.55**	**24**	P	**Pn**	**17 48 51.8**	**+2.0**
BIA	**Bitola**	**3.75**	**22**	*i* Pn	**Pn**	**17 48 54.5**	**+1.9**
BIA	**Bitola**	**3.75**	**22**	*i* Pn	**Pn**	**17 48 54.4**	**+1.9**
AOS	**Alonnisos**	**3.81**	**64**	*e*PN	**Pn**	**17 48 54.7**	**+1.3**
AOS	**Alonnisos**	**3.81**	**64**	*e*Pn	**Pn**	**17 48 54.7**	**+1.3**
PAIG	**Paliouri**	**4.05**	**53**	*e*PN	**Pn**	**17 48 58.3**	**+1.7**
PAIG	**Paliouri**	**4.05**	**53**	*e*Pn	**Pn**	**17 48 58.3**	**+1.7**
GRG	**Griva**	**4.09**	**33**	*e*PN	**Pn**	**17 48 58.8**	**+1.6**
GRG	**Griva**	**4.09**	**33**	*e*Pn	**Pn**	**17 48 58.8**	**+1.6**
BAI	**Bari**	**4.09**	**331**	*e*Pn	Pb	17 49 01.2	-5.7
BAI				*e*Sn	**Sn**	**17 49 40.6**	**-4.1**
THE	**Thessaloniki**	**4.10**	**40**	*e*PN	**Pn**	**17 48 59.2**	**+1.9**
THE	**Thessaloniki**	**4.10**	**40**	*e*Pn	**Pn**	**17 48 59.2**	**+1.9**
HORT	**Hortiatis**	**4.14**	**42**	*e*PN	**Pn**	**17 48 59.3**	**+1.3**
HORT				*e*SN	**Sn**	**17 49 46.5**	**+0.2**
HORT	**Hortiatis**	**4.14**	**42**	*e*Pn	**Pn**	**17 48 59.3**	**+1.3**
HORT				*e*Sn	**Sn**	**17 49 46.5**	**+0.2**
KARN	**Karanos**	**4.16**	**120**	*e*PN	**Pn**	**17 48 59.2**	**+1.0**
KARN	**Karanos**	**4.16**	**120**	*e*Pn	**Pn**	**17 48 59.2**	**+1.0**
PLG	**Polygyros**	**4.18**	**46**	*e*PN	**Pn**	**17 48 59.4**	**+1.8**
PLG	**Polygyros**	**4.18**	**46**	*e*Pn	**Pn**	**17 49 00.3**	**+1.8**
CDT	**Castel del Mon**	**4.32**	**326**	*e*Pn	**Pn**	**17 49 02.7**	**+2.3**
CDT				*e*Sn	**Sn**	**17 49 47.6**	**-2.9**
VAM	**Vamos**	**4.36**	**118**	*e*PN	**Pn**	**17 49 01.6**	**+0.7**
VAM				*e*SN	**Sn**	**17 49 50.4**	**-1.0**
VAM	**Vamos**	**4.36**	**118**	*e*Pn	**Pn**	**17 49 01.6**	**+0.7**
VAM				*e*Sn	**Sn**	**17 49 50.4**	**-1.0**
ULC	**Ulcinj**	**4.41**	**358**	*i* Pn	**Pn**	**17 49 03.4**	**+1.7**
ULC				*e*Sn	**Sn**	**17 49 53.1**	**+0.3**
ULC	**Ulcinj**	**4.41**	**358**	*i* Pn	**Pn**	**17 49 03.4**	**+1.7**
ULC				*e*Sn	**Sn**	**17 49 53.1**	**+0.3**
SOH	**Sokhos**	**4.44**	**41**	*e*PN	**Pn**	**17 49 04.0**	**+1.9**
SOH				*e*SN	**Sn**	**17 49 53.6**	**+0.1**
SOH	**Sokhos**	**4.44**	**41**	*e*Pn	**Pn**	**17 49 04.0**	**+1.9**
SOH				*e*Sn	**Sn**	**17 49 53.6**	**+0.1**
VAY	**Valandovo**	**4.46**	**31**	*e*Pn	**Pn**	**17 49 03.3**	**+1.0**
VAY	**Valandovo**	**4.46**	**31**	*i* Pn	**Pn**	**17 49 03.6**	**+1.4**
VAY	**Valandovo**	**4.46**	**31**	*e*Pn	**Pn**	**17 49 03.5**	**+1.0**
KNT	**Kendrikon**	**4.47**	**35**	*e*PN	**Pn**	**17 49 04.2**	**+1.7**
KNT	**Kendrikon**	**4.47**	**35**	*e*Pn	**Pn**	**17 49 04.2**	**+1.7**
OUR	**Ouranopolis**	**4.47**	**50**	*e*PN	**Pn**	**17 49 03.9**	**+1.4**
OUR	**Ouranopolis**	**4.47**	**50**	*e*Pn	**Pn**	**17 49 03.9**	**+1.4**
BUM	**Brajici-Budva**	**4.77**	**355**	*i* Pn	**Pn**	**17 49 08.0**	**+1.4**
BUM				*e*Sn	**Sn**	**17 50 01.9**	**+0.3**
BUM	**Brajici-Budva**	**4.77**	**355**	*i* Pn	**Pn**	**17 49 08.0**	**+1.4**
BUM				*e*Sn	**Sn**	**17 50 01.9**	**+0.3**
SRS	**Serrai**	**4.78**	**40**	*e*PN	**Pn**	**17 49 08.3**	**+1.6**
SRS	**Serrai**	**4.78**	**40**	*e*Pn	**Pn**	**17 49 08.3**	**+1.6**
PDG	**Podgorica**	**4.88**	**358**	*i* Pn	**Pn**	**17 49 09.1**	**+1.1**
PDG				*i* Sn	**Sn**	**17 50 02.5**	**-1.7**
PDG	**Podgorica**	**4.88**	**358**	*i* Pn	**Pn**	**17 49 09.5**	**+1.5**
PDG				*e*Sn	**Sn**	**17 50 04.6**	**+0.4**
TTG	**Podgorica**	**4.88**	**358**	*i* Pn	**Pn**	**17 49 09.5**	**+1.5**
TTG				*e*Sn	**Sn**	**17 50 04.6**	**+0.4**
IDI	**Anoyia**	**4.91**	**116**	*e*PN	**Pn**	**17 49 09.8**	**+1.3**
IDI	**Anoyia**	**4.91**	**116**	*e*Pn	**Pn**	**17 49 09.8**	**+1.3**
IDI	**Anoyia**	**4.91**	**116**	Pn	**Pn**	**17 49 09.4**	**+1.0**
IDI	3.5nm,0.3s,baz=302,slow=16,SNR=18						
	7.8nm,0.3s,baz=163,slow=23,SNR=17				Sn	**Sn**	**17 50 02.4**	**-2.6**
SANT	**Santorini**	**4.92**	**102**	*e*PN	**Pn**	**17 49 09.8**	**+1.1**
SANT	**Santorini**	**4.92**	**102**	*e*Pn	**Pn**	**17 49 09.8**	**+1.1**
HCY	**Herceg Novi**	**4.95**	**351**	*i* Pn	**Pn**	**17 49 10.2**	**+1.1**
HCY				*e*Sn	**Sn**	**17 50 06.3**	**+0.2**
HCY	**Herceg Novi**	**4.95**	**351**	*i* Pn	**Pn**	**17 49 10.2**	**+1.1**
HCY				*e*Sn	**Sn**	**17 50 06.3**	**+0.2**
PVY	**Plav**	**5.05**	**4**	*i* Pn	**Pn**	**17 49 13.0**	**+2.4**
PVY				*e*Sn	**Sn**	**17 50 09.8**	**+1.1**
PVY	**Plav**	**5.05**	**4**	*i* Pn	**Pn**	**17 49 13.0**	**+2.4**
PVY				*e*Sn	**Sn**	**17 50 09.8**	**+1.1**
NVR	**Nevrokopi**	**5.09**	**40**	*e*PN	**Pn**	**17 49 13.1**	**+2.2**
NVR	**Nevrokopi**	**5.09**	**40**	*e*Pn	**Pn**	**17 49 13.1**	**+2.2**
MMB	**Musomiste**	**5.20**	**38**	*i* P	**Pn**	**17 49 14.5**	**+2.0**
MMB	**Musomiste**	**5.20**	**38**	*i* P	**Pn**	**17 49 14.5**	**+2.0**
KAVA	**Kavala**	**5.20**	**47**	*e*PN	**Pn**	**17 49 14.0**	**+1.5**
KAVA	**Kavala**	**5.20**	**47**	*e*Pn	**Pn**	**17 49 14.0**	**+1.5**
NKME	**Niksic**	**5.23**	**356**	*i* Pn	**Pn**	**17 49 14.2**	**+1.3**
NKME				*e*Sn	**Sn**	**17 50 13.0**	**0.0**
TREB	**Trebinje**	**5.24**	**351**	*e*Pn	**Pn**	**17 49 13.8**	**+0.8**
TREB				*i* Sn	**Sn**	**17 50 11.8**	**-1.3**
NKY	**Niksic**	**5.27**	**356**	*i* Pn	**Pn**	**17 49 15.2**	**+1.6**
NKY				*e*Sn	**Sn**	**17 50 14.7**	**+0.6**
BEY	**Berane**	**5.33**	**3**	*e*Sn	**Sn**	**17 50 15.8**	**+0.4**
IVA	**Berane**	**5.33**	**3**	*i* Pn	Pn	17 49 16.9	+2.6
IVA				*e*Sn	**Sn**	**17 50 15.8**	**+0.4**
LAST	**Lasithi**	**5.39**	**114**	*e*PN	**Pn**	**17 49 16.2**	**+1.0**
LAST	**Lasithi**	**5.39**	**114**	*e*Pn	**Pn**	**17 49 16.2**	**+1.0**
BRY	**Bratogost**	**5.40**	**353**	*i* Pn	**Pn**	**17 49 17.2**	**+1.9**
BRY				*e*Sn	**Sn**	**17 50 16.9**	**-0.3**
BRY	**Bratogost**	**5.40**	**353**	*i* Pn	**Pn**	**17 49 17.2**	**+1.9**
BRY				*e*Sn	**Sn**	**17 50 16.9**	**-0.3**
NPS	**Neapolis**	**5.44**	**113**	*e*PN	**Pn**	**17 49 17.4**	**+1.6**
NPS	**Neapolis**	**5.44**	**113**	*e*Pn	**Pn**	**17 49 17.4**	**+1.6**
UPM	**Unac-Piva**	**5.67**	**356**	*i* Pn	**Pn**	**17 49 20.9**	**+1.9**
UPM				*e*Sn	**Sn**	**17 50 24.5**	**+0.6**
UPM	**Unac-Piva**	**5.67**	**356**	*i* Pn	**Pn**	**17 49 20.9**	**+1.9**
UPM				*e*Sn	**Sn**	**17 50 24.5**	**+0.6**
SJES	**Sjenica**	**5.72**	**4**	*e*Pn	**Pn**	**17 49 20.2**	**+0.5**
SJES				*e*Sn	**Sn**	**17 50 22.4**	**-2.7**
SJES	**Sjenica**	**5.72**	**4**	*e*Pn	**Pn**	**17 49 20.2**	**+0.5**
PLE	**Pljevlja**	**5.78**	**359**	*i* Pn	**Pn**	**17 49 21.7**	**+1.2**
PLE				*e*Sn	**Sn**	**17 50 26.4**	**-0.1**
PLE	**Pljevlja**	**5.78**	**359**	*i* Pn	**Pn**	**17 49 21.7**	**+1.2**
PLE				*e*Sn	**Sn**	**17 50 26.4**	**-0.1**
VTS	**Vitosha**	**5.79**	**28**	*e*Pn	**Pn**	**17 49 22.4**	**+1.7**
VTS	**Vitosha**	**5.79**	**28**	*i* P	**Pn**	**17 49 23.1**	**+2.4**
VTS	**Vitosha**	**5.79**	**28**	*i* P	**Pn**	**17 49 23.1**	**+2.4**
SELS	**Selova**	**5.80**	**12**	*e*Pn	**Pn**	**17 49 22.2**	**+1.5**
ZKR	**Zakros**	**5.95**	**112**	*e*PN	**Pn**	**17 49 24.6**	**+1.8**
ZKR	**Zakros**	**5.95**	**112**	*e*Pn	**Pn**	**17 49 24.6**	**+1.8**
IVAS	**Ivanjica**	**6.04**	**5**	*e*Pn	**Pn**	**17 49 25.2**	**+1.1**
IVAS	**Ivanjica**	**6.04**	**5**	*e*Pn	**Pn**	**17 49 25.2**	**+1.1**
BBLS	**Lazići**	**6.31**	**359**	*e*Pn	**Pn**	**17 49 29.0**	**+1.2**
BBLS				*i* Sn	**Sn**	**17 50 37.0**	**-2.7**
BBLS	**Lazići**	**6.31**	**359**	*e*Pn	**Pn**	**17 49 29.0**	**+1.2**
GRUS	**Gruza**	**6.40**	**8**	⇓*i*Pn	**Pn**	**17 49 30.2**	**+1.2**
GRUS				*e*Sn	**Sn**	**17 50 38.9**	**-2.9**
GRUS	**Gruza**	**6.40**	**8**	⇓*i*Pn	**Pn**	**17 49 30.2**	**+1.2**
DIVS	**Divibare**	**6.55**	**3**	*e*Pn	**Pn**	**17 49 32.6**	**+1.5**
D

SMAR	**Somma**	**4.18**	**238**	*e*P		**Pn**	**18 18 26.4**	**+2.2**
SMAR				*e*S		**Sn**	**18 19 13.4**	**+0.5**
KRX	**Arik**	**4.20**	**240**	*e*P		Pn	18 18 26.9	+2.5
KRX				*e*S		**Sn**	**18 19 13.8**	**+0.6**
UGLR	**Uglovaya**	**4.20**	**237**	*e*P		Pn	18 18 27.0	+2.6
UGLR				*e*S		**Sn**	**18 19 12.2**	**-1.1**
AVH	**Avacha**	**4.21**	**238**	*e*P		Pn	18 18 27.2	+2.7
AVH				*e*S		**Sn**	**18 19 14.5**	**+1.1**
KOK	**Koryaka**	**4.24**	**239**	*e*P		Pn	18 18 27.5	+2.5
KOK				*e*S		**Sn**	**18 19 11.5**	**-2.8**
GNL	**Ganaly**	**4.38**	**247**	*e*P		Pn	18 18 29.7	+2.8
GNL				*e*S		**Sn**	**18 19 19.9**	**+2.3**
PET	**Petropavlovsk**	**4.39**	**236**	*e*PN		**Pn**	**18 18 29.0**	**+1.9**
PET	comp=Z,123nm,0.3s			pmax		pmax		
PET	comp=Z,300nm,15.0s			MLR		MLR		
PET	**Petropavlovsk**	**4.39**	**236**	*e*P		**Pn**	**18 18 28.9**	**+1.9**
PET				*e*S		**Sn**	**18 19 15.9**	**-2.0**
PETK	**Petropavlovsk-**	**4.81**	**241**	PN		**Pn**	**18 18 34.6**	**+1.9**
PETK	comp=Z,8.0nm,0.3s			pmax		pmax		
PETK	**Petropavlovsk-**	**4.81**	**241**	Pn		**Pn**	**18 18 34.6**	**+1.9**
PETK	comp=Z,7.7nm,0.3s,baz=71,slow=18,SNR=200			Sn		**Sn**	**18 19 30.7**	**+2.6**
	comp=Z,4.3nm,0.3s,baz=147,slow=6.3,SNR=8.6							
RUS	**Russkaya**	**4.85**	**231**	PN		**Pn**	**18 18 34.8**	**+1.6**
RUS	**Russkaya**	**4.85**	**231**	*e*P		**Pn**	**18 18 34.8**	**+1.6**
RUS				*e*S		**Sn**	**18 19 26.5**	**-2.6**
MTVR	**Mutnovka**	**4.96**	**233**	*e*P		**Pn**	**18 18 36.9**	**+1.9**
MTVR				*e*S		**Sn**	**18 19 29.4**	**-2.8**
GRL	**Gorelyy**	**4.97**	**234**	*e*P		Pn	18 18 37.9	+2.9
GRL				*e*S		**Sn**	**18 19 33.6**	**+1.4**
ASAK	**Asacha**	**5.16**	**234**	*e*P		Pn	18 18 40.5	+2.9
ASAK				*e*S		**Sn**	**18 19 37.5**	**+0.6**
APC	**Apacha**	**5.18**	**242**	*e*P		Pn	18 18 40.7	+2.9
APC				*e*S		**Sn**	**18 19 40.7**	**+3.4**
FX1	**Attu Island--F**	**5.67**	**115**	Pn		**Pn**	**18 18 44.1**	**-0.4**
FX1	comp=Z,4.7nm,0.3s,baz=328,slow=9.2,SNR=23			Sn		**Sn**	**18 19 46.2**	**-3.2**
	comp=Z,4.1nm,0.3s,baz=77,slow=19,SNR=6.6							
MIPR	**Malaya Ipel'ka**	**5.76**	**238**	*e*P		Pn	18 18 49.6	+3.8
PAU	**Pauzhetka**	**6.28**	**232**	PN		**Pn**	**18 18 54.9**	**+2.0**
PAU	**Pauzhetka**	**6.28**	**232**	*e*P		**Pn**	**18 18 54.9**	**+2.0**
SKR	**Severo-Kuril's**	**7.15**	**230**	*e*P		**Pn**	**18 19 06.3**	**+1.5**
ASAJ	**Asahikawa**	**18.23**	**240**	P		**P**	**18 21 33.8**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=70,slow=8.4,SNR=12							
ERM	**Erimo**	**19.55**	**235**	*i* P		**Pn**	**18 21 49.0**	**-0.1**
ILAR	**Eielson Array**	**25.11**	**49**	P		**P**	**18 22 44.3**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=265,slow=9.5,SNR=9.6							
MJAR	**Matsushiro Arr**	**26.23**	**234**	P		**P**	**18 22 55.3**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=24,slow=9.1,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**35.87**	**176**	T		T	19 02 20.3	
	baz=0.6,slow=76,SNR=400							
H11N3	**WAKE ISLAND Hy**	**35.89**	**176**	T		T	19 02 18.8	
	baz=0.6,slow=76,SNR=314							
H11N1	**WAKE ISLAND Hy**	**35.89**	**176**	T		T	19 02 21.5	
	baz=0.6,slow=76,SNR=351							
SONM	**Songino Array**	**35.97**	**283**	P		**P**	**18 24 21.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=64,slow=7.8,SNR=4.3							
H11S1	**WAKE ISLAND Hy**	**37.08**	**177**	T		T	19 03 51.1	
	baz=1.2,slow=78,SNR=13							
H11S3	**WAKE ISLAND Hy**	**37.10**	**177**	T		T	19 03 54.5	
	baz=1.2,slow=78,SNR=11							
H11S2	**WAKE ISLAND Hy**	**37.10**	**177**	T		T	19 03 53.5	
	baz=1.2,slow=78,SNR=12							
YKA	**Yellowknife Ar**	**39.47**	**46**	P		**P**	**18 24 49.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=300,slow=8.3,SNR=4.0							
MKAR	**Makanchi Array**	**49.47**	**296**	P		**P**	**18 26 09.6**	**-0.6**
MKAR	**Makanchi Array**	**49.47**	**296**	P		**P**	**18 26 09.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=60,slow=7.2,SNR=4.9							
PDAR	**Pinedale Array**	**53.97**	**65**	P		**P**	**18 26 44.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=310,slow=3.4,SNR=3.5							
CMAR	**Chiang Mai Arr**	**61.30**	**261**	P		**P**	**18 27 36.7**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=22,slow=7.2,SNR=4.7							
OBN	**Obninsk**	**61.78**	**329**	*e*P		**P**	**18 27 36.9**	**-1.5**
OBN				*e*			18 28 18.2	
OBN	comp=Z,4.0nm,0.8s			pmax		pmax		
WRA	**Warramunga Arr**	**79.56**	**209**	P		**P**	**18 29 26.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=24,slow=6.2,SNR=4.6							
ASAR	**Alice Springs**	**83.22**	**208**	P		**P**	**18 29 46.6**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=17,slow=5.7,SNR=7.5							

IDC ***16*** *18:27:14.1±0.6, 15°.93S×173°.45W, h0km, mb4.2/12, mb1 4.5/12, mb1mx4.3/22, mbtmp4.2/12, MS3.6/7, Ms1 3.6/7, ms1mx3.3/45, Error ellipse: s-maj=29.9km s-min=15.4km az=139.0*

NEIC ***16*** *18:27:15.8±0.4, 15°.89S×173°.52W, h10km, mb4.7/5, Error ellipse: s-maj=18.1km s-min=9.9km az=138.0*

AUST ***16*** *18:27:22.5±99.0, 17°.57S×173°.50W, h20km, 8km, Error ellipse: s-maj=11.2km s-min=3.1km az=233.0*

ISC 16 18:27:24.1±0.6, 16°.2S±0°.2×173°.4W±0°.2, h79km, n89, σ1§14/61, mb4.3/17, 5C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.75**	**35**	*e*P		Pn	18 27 51.0	-15
AFI				Sn		Sn	18 28 18.2	-20
AFI	**Afiamalu**	**2.75**	**35**	Pn		Pn	18 27 51.4	-15
	48nm,0.3s,baz=25,slow=2.5,SNR=51							
AFI				Sn		Sn	18 28 18.2	-20
	118nm,0.3s,baz=49,slow=20,SNR=11							
AFI				LR		LR	18 28 36.9	
	comp=Z,283nm,19.2s,baz=199,slow=32							
RAR	**Rarotonga**	**13.83**	**113**	*e*P		Pn	18 30 27.1	-9.5
	30nm,0.9s							
RAR	**Rarotonga**	**13.83**	**113**	Pn		Pn	18 30 27.3	-9.3
	1.7nm,0.3s,baz=270,slow=8.1,SNR=6.4							
RAR				LR		LR	18 35 06.1	
	comp=Z,276nm,18.1s,baz=270,slow=34							
DZM	**Mont Dzumac**	**19.93**	**250**	*e*LR		LR	18 36 34.1	
	382nm,26.1s							
DZM	**Mont Dzumac**	**19.93**	**250**	P		Pn	18 31 53.8	+1.7
DZM	**Mont Dzumac**	**19.93**	**250**	P		Pn	18 31 53.8	+1.7
	0.5nm,0.3s,baz=85,slow=16,SNR=5.6							
DZM				LR		LR	18 38 07.3	
	comp=Z,274nm,20.6s,baz=27,slow=33							
PAE	**Paea**	**22.82**	**97**	*e*T		T	18 55 20.3	
	7.7nm,0.3s							
PPT	**Papeete**	**22.82**	**97**	LR		LR	18 38 50.7	
	comp=Z,185nm,21.4s,baz=188,slow=30							
PPT2	**Papeete2**	**22.82**	**97**	*e*LR		LR	18 37 34.8	
	417nm,27.8s							
PPT2	**Papeete2**	**22.82**	**97**	*e*T		T	18 55 21.5	
	12nm,0.4s							
TIAR	**Tiarei**	**23.04**	**97**	*e*T		T	18 55 37.1	
	6.5nm,0.3s							
TVO	**Taravao**	**23.13**	**97**	*e*T		T	18 55 44.2	
	4.0nm,0.3s							
URZ	**Urewera**	**23.52**	**199**	*e*P		**P**	**18 32 23.1**	**-4.1**
URZ	**Urewera**	**23.52**	**199**	P		**P**	**18 32 26.7**	**-0.4**
	15nm,0.7s,baz=352,slow=7.9,SNR=8.1							
TBI	**Tubuai**	**23.59**	**111**	*e*LR		LR	18 38 05.0	
	431nm,28.2s,baz=287							
TBI	**Tubuai**	**23.59**	**111**	*e*T		T	18 56 28.0	
	30nm,0.4s							
PMOR	**Pomariorio Ree**	**24.58**	**91**	*e*T		T	18 57 28.2	
	4.4nm,0.2s							
VAH	**Vaihoa**	**24.81**	**91**	*e*T		T	18 57 45.8	
	10nm,0.3s							
HNR	**Honiara**	**26.84**	**281**	LR		LR	18 41 54.1	
	comp=Z,283nm,21.2s,baz=115,slow=33							
ARMA	**Armidale**	**34.95**	**240**	P		**P**	**18 34 08.8**	**0.0**
	baz=34,SNR=6.2							
RMQ	**Roma**	**36.60**	**247**	P		**P**	**18 34 22.5**	**-0.4**
	baz=36,SNR=7.9							
RKT	**Rikitea**	**36.74**	**107**	*e*LR		LR	18 43 44.7	
	250nm,29.0s							
CTA	**Charters Tower**	**38.49**	**258**	P		**P**	**18 34 38.4**	**-0.4**
CTA	**Charters Tower**	**38.49**	**258**	P		**P**	**18 34 38.4**	**-0.4**
	2.4nm,0.6s,baz=90,slow=2.0,SNR=3.2							
PMG	**Port Moresby**	**39.01**	**275**	LR		LR	18 48 16.7	
	comp=Z,96nm,18.4s,baz=100,slow=32							
H11S2	**WAKE ISLAND Hy**	**39.65**	**330**	T		T	19 16 44.1	
	baz=152,slow=77,SNR=45							
H11S3	**WAKE ISLAND Hy**	**39.66**	**330**	T		T	19 16 46.4	
	baz=152,slow=77,SNR=46							
H11S1	**WAKE ISLAND Hy**	**39.66**	**330**	T		T	19 16 33.2	
	baz=152,slow=77,SNR=42							
CMSA	**Cobar Meteorol**	**40.17**	**240**	P		**P**	**18 34 52.3**	**-0.4**
	baz=39,SNR=20							
H11N3	**WAKE ISLAND Hy**	**40.60**	**331**	T		T	19 17 57.6	
	baz=152,slow=77,SNR=35							
H11N1	**WAKE ISLAND Hy**	**40.61**	**331**	T		T	19 17 57.0	
	baz=152,slow=77,SNR=60							
H11N2	**WAKE ISLAND Hy**	**40.62**	**331**	T		T	19 17 48.4	
	baz=152,slow=77,SNR=36							
QLP	**Quilpie**	**40.63**	**248**	P		**P**	**18 34 55.6**	**-1.0**
	baz=40,SNR=4.6							
STKA	**Stephens Creek**	**43.66**	**241**	*e*P		**P**	**18 35 20.6**	**-0.5**
	1.7nm,0.8s							
STKA	**Stephens Creek**	**43.66**	**241**	P		**P**	**18 35 21.1**	**0.0**
	10nm,0.7s,baz=90,slow=8.3,SNR=24							
STKA				LR		LR	18 50 16.7	
	comp=Z,57nm,20.4s,baz=206,slow=32							
STKA	**Stephens Creek**	**43.66**	**241**	P		**P**	**18 35 21.0**	**-0.1**
	baz=43,SNR=18							
BBOO	**Buckleboo**	**48.43**	**240**	P		**P**	**18 35 58.4**	**-0.3**
	baz=48,SNR=5.8							
WRA	**Warramunga Arr**	**49.68**	**257**	P		**P**	**18 36 07.1**	**-1.3**
WRA				PcP		**PcP**	**18 37 30.0**	**+1.3**
WRA	**Warramunga Arr**	**49.68**	**257**	P		**P**	**18 36 07.1**	**-1.3**
	4.7nm,0.7s,baz=91,slow=6.8,SNR=39							
WRA				PcP		**PcP**	**18 37 30.0**	**+1.3**
	0.6nm,0.7s,baz=93,slow=3.5,SNR=2.8							
AS31	**Alice Springs**	**49.88**	**253**	*e*P		**P**	**18 36 09.0**	**-0.9**
ASAR	**Alice Springs**	**49.88**	**253**	P		**P**	**18 36 09.1**	**-0.9**
ASAR				PcP		**PcP**	**18 37 30.2**	**+0.8**
ASAR	**Alice Springs**	**49.88**	**253**	P		**P**	**18 36 09.1**	**-0.9**
	11nm,0.7s,baz=90,slow=7.8,SNR=342							
ASAR				PcP		**PcP**	**18 37 30.2**	**+0.8**
	0.9nm,0.8s,baz=96,slow=4.0,SNR=2.5							
KDU	**Kakadu**	**52.43**	**266**	P		**P**	**18 36 29.1**	**+0.1**
	baz=52,SNR=3.8							
WRKA	**Warakurna**	**54.95**	**251**	P		**P**	**18 36 46.7**	**-0.7**
	baz=54,SNR=6.1							
SOEI	**Soe**	**60.91**	**268**	P		P	18 37 32.1	+2.7
	baz=61,SNR=3.5							
VNDA	**Vanda**	**62.60**	**186**	P		P	18 37 42.2	+2.7
VNDA	**Vanda**	**62.60**	**186**	P		P	18 37 42.2	+2.7
	2.1nm,1.0s,baz=17,slow=5.2,SNR=7.6							
MBWA	**Mawie Bar**	**63.16**	**254**	*e*P		**P**	**18 37 43.6**	**-0.5**
KLBR	**Kellerberrin**	**63.89**	**242**	P		**P**	**18 37 49.2**	**+0.4**
	baz=63,SNR=7.3							
CASY	**Casey**	**69.70**	**205**	*e*P		**P**	**18 38 26.8**	**+1.7**
	5.4nm,1.0s							
TGY	**Tagaytay City**	**71.53**	**291**	P		**P**	**18 38 37.2**	**0.0**
TGY	**Tagaytay City**	**71.53**	**291**	P		**P**	**18 38 37.2**	**0.0**
	226nm,0.4s,baz=153,slow=6.8,SNR=3.5							
QSPA	**South Pole Qui**	**73.86**	**180**	*e*P		P	18 38 53.0	+2.8
	4.7nm,0.7s							
NVAR	**Mina Array Bea**	**74.90**	**42**	P		**P**	**18 38 56.6**	**-0.1**
NVAR	**Mina Array Bea**	**74.90**	**42**	P		**P**	**18 38 56.6**	**-0.1**
	1.9nm,0.8s,baz=229,slow=8.2,SNR=9.9							
TXAR	**Lajitas Array**	**81.04**	**56**	P		**P**	**18 39 31.0**	**+0.2**
TXAR	**Lajitas Array**	**81.04**	**56**	P		**P**	**18 39 31.0**	**+0.2**
	0.7nm,0.8s,baz=219,slow=7.0,SNR=3.4							
TNA	**Tin City**	**81.61**	**2**	*e*P		**P**	**18 39 32.5**	**-0.4**
	13nm,1.6s							
PDAR	**Pinedale Array**	**82.84**	**42**	P		**P**	**18 39 39.8**	**-0.4**
PDAR	**Pinedale Array**	**82.84**	**42**	P		**P**	**18 39 39.8**	**-0.4**
	1.1nm,0.9s,baz=224,slow=3.1,SNR=7.2							
COLA	**College**	**83.13**	**11**	*e*P		**P**	**18 39 40.3**	**-0.5**
	11nm,1.0s							
ILAR	**Eielson Array**	**83.21**	**11**	P		**P**	**18 39 39.8**	**-1.5**
ILAR	**Eielson Array**	**83.21**	**11**	P		**P**	**18 39 39.8**	**-1.5**
	0.9nm,0.7s,baz=231,slow=6.1,SNR=16							
YKA	**Yellowknife Ar**	**90.81**	**23**	P		**P**	**18 40 17.8**	**-0.4**
YKA	**Yellowknife Ar**	**90.81**	**23**	P		**P**	**18 40 17.8**	**-0.4**
	0.3nm,0.9s,baz=244,slow=4.5,SNR=3.2							
CMAR	**Chiang Mai Arr**	**92.88**	**288**	P		**P**	**18 40 29.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**92.88**	**288**	P		**P**	**18 40 29.8**	**+1.0**
	0.7nm,0.7s,baz=101,slow=2.1,SNR=8.5							
CLL	**Coll m**	**144.59**	**353**	*i* PKPdf		PKPdf	18 46 55.3	+3.9
	comp=Z,11nm,1.4s							
CLL				*i* (sPKiKP)			18 47 01.0	
	comp=Z,7.0nm,1.1s							
STHS	**Stebnicka Huta**	**144.78**	**343**	*e*PKP		**PKPab**	**18 46 49.2**	**-1.7**
BRG	**Berggiesshubel**	**144.90**	**352**	*e*P		PKPab	18 46 39.2	-12
	comp=Z,3.6nm,0.7s							
DPC	**Dobruska-Polom**	**145.03**	**349**	*e*PKP		**PKPdf**	**18 46 52.6**	**+0.3**
BURAR	**Bucovina Array**	**145.10**	**338**	*i* P		PKPdf	18 46 56.8	+4.2
CRVS	**Cervenica-Dubn**	**145.19**	**343**	*e*PKP		**PKPdf**	**18 46 52.9**	**+0.3**
KMBO	**Kilima Mbogo**	**145.20**	**243**	*e*PKPbc		**PKPab**	**18 46 56.0**	**+2.2**
KMBO	**Kilima Mbogo**	**145.20**	**243**	PKPbc		**PKPab**	**18 46 55.7**	**+1.9**
	comp=Z,7.0nm,1.0s,baz=41,slow=3.7,SNR=14							
PRU	**Pruhonice**	**145.68**	**351**	*e*PKP		**PKPab**	**18 46 54.1**	**-0.1**
PRU				*ep*PKP		**PKiKP**	**18 47 00.4**	**+3.0**
MLR	**Muntele Rosu**	**146.59**	**335**	*i* P		**PKPab**	**18 46 58.5**	**+0.5**
KHC	**Kasperske Hory**	**146.66**	**352**	*e*PKP		**PKPab**	**18 46 57.3**	**-0.7**
KHC				*ep*PKP		PKiKP	18 47 03.3	+3.8
BR131	**Keskin Array S**	**146.77**	**320**	*e*P		**PKPab**	**18 46 58.1**	**-0.8**
BRTR	**Keskin Array B**	**146.77**	**320**	PKPbc		**PKPab**	**18 46 57.7**	**-1.2**
BRTR	**Keskin Array B**	**146.77**	**320**	PKPbc		**PKPab**	**18 46 57.7**	**-1.2**
	comp=Z,4.9nm,1.1s,baz=104,slow=3.0,SNR=11							
GERES	**GERESS Array B**	**146.92**	**351**	PKPbc		**PKPab**	**18 46 57.1**	**-2.0**
GERES	**GERESS Array B**	**146.92**	**351**	PKPbc		**PKPab**	**18 46 57.1**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=29,slow=3.0,SNR=6.8							
VOIR		**146.99**	**336**	*i* P		**PKPab**	**18 47 00.3**	**+0.8**
CONA	**Conrad Observa**	**147.44**	**348**	*i* pPKPbc		**PKPab**	**18 47 01.4**	**+0.3**
	comp=Z,5.4nm,0.9s							
MMB	**Musomiste**	**150.70**	**333**	*i* P		**PKPbc**	**18 47 08.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**174.36**	**122**	PKP		**PKPdf**	**18 47 25.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**174.36**	**122**	PKP		**PKPdf**	**18 47 25.2**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=301,slow=0.7,SNR=4.4							

ISCJB ***16*** *18:43:19.7±0.8, 4°.64S±0°.08×153°.9E±0°.2, h300km, mb3.5/9, Error ellipse: s-maj=21.5km s-min=11.5km az=6.3*

IDC ***16*** *18:43:19.5±4.4, 4°.62S×153°.98E, h285km±38km, mb3.3/9, mb1 3.5/11, mb1mx3.4/19, mbtmp3.3/11, Error ellipse: s-maj=35.4km s-min=16.5km az=83.0*

AUST ***16*** *18:43:34.1, 5°.14S×154°.10E, h450km*

ISC 16 18:43:20.7±0.9, 4°.7S±0°.1×154°.0E±0°.2, h300km, n22, σ1§19/25, mb3.6/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**8.29**	**235**	P		**Pn**	**18 45 17.3**	**-0.5**
	1.3nm,0.3s,baz=49,slow=11,SNR=6.2							
PMG				S		**S**	**18 46 54.7**	**+1.7**
	0.7nm,0.3s,baz=86,slow=13,SNR=2.9							
CTA	**Charters Tower**	**17.11**	**206**	P		**Pn**	**18 47 01.1**	**-2.8**
	0.2nm,0.3s,baz=17,slow=11,SNR=2.1							
EIDS	**Eidsvold**	**20.80**	**188**	P		**P**	**18 47 40.0**	**+0.3**
	baz=20,SNR=3.6							
QIS	**Mount Isa**	**21.13**	**220**	P		**P**	**18 47 46.0**	**+3.0**
	baz=21,SNR=3.1							
RMQ	**Roma**	**22.29**	**193**	P		**P**	**18 47 54.0**	**+0.6**
	baz=22,SNR=5.0							
KDU	**Kakadu**	**22.73**	**248**	P		**P**	**18 47 56.2**	**-1.3**
	baz=23,SNR=8.2							
QLP	**Quilpie**	**23.73**	**202**	P		**P**	**18 48 06.8**	**+0.3**
	baz=23,SNR=5.2							
WRA	**Warramunga Arr**	**24.46**	**230**	P		**P**	**18 48 12.5**	**-0.7**
	2.0nm,0.5s,baz=54,slow=9.6,SNR=31							
WRA				PcP		**PcP**	**18 51 44.0**	**+0.9**
	0.2nm,0.5s,baz=55,slow=2.8,SNR=3.7							
ASAR	**Alice Springs**	**27.09**	**224**	P		**P**	**18 48 35.9**	**-0.8**
	1.0nm,0.3s,baz=54,slow=8.9,SNR=31							
ASAR				PcP		**PcP**	**18 51 49.9**	**+0.6**
	0.3nm,0.7s,baz=62,slow=4.3,SNR=3.7							
CMSA	**Cobar Meteorol**	**27.87**	**195**	P		**P**	**18 48 44.0**	**+0.6**
	baz=28,SNR=11							
STKA	**Stephens Creek**	**29.49**	**202**	P		**P**	**18 48 57.5**	**-0.2**
	4.3nm,0.6s,baz=38,slow=12,SNR=16							
STKA	**Stephens Creek**	**29.49**	**202**	P		**P**	**18 48 57.7**	**0.0**
	baz=29,SNR=13							
HTT	**Hallett**	**31.91**	**204**	P		**P**	**18 49 19.3**	**+0.4**
	baz=32,SNR=4.4							
WRKA	**Warakurna**	**31.96**	**228**	P		**P**	**18 49 17.8**	**-1.6**
	baz=32,SNR=9.9							
MEEK	**Meekatharra**	**40.27**	**233**	P		**P**	**18 50 28.5**	**-0.9**
	baz=40,SNR=9.0							
CMAR	**Chiang Mai Arr**	**58.91**	**295**	P		**P**	**18 52 50.0**	**+0.7**
	1.2nm,0.6s,baz=118,slow=5.5,SNR=7.7							
SONM	**Songino Array**	**66.85**	**327**	P		**P**	**18 53 41.3**	**+0.4**
	0.3nm,0.5s,baz=141,slow=5.4,SNR=6.4							
VNDA	**Vanda**	**72.94**	**178**	P		**P**	**18 54 18.4**	**+1.2**
	1.0nm,0.9s,baz=329,slow=5.9,SNR=3.6							
MKAR	**Makanchi Array**	**81.01**	**319**	P		**P**	**18 55 02.5**	**+0.1**
	0.3nm,0.4s,baz=102,slow=6.2,SNR=7.8							
ILAR	**Eielson Array**	**81.56**	**22**	P		**P**	**18 55 04.3**	**-0.6**
	0.3nm,0.8s,baz=231,slow=8.0,SNR=4.5							
ZALV	**Zalesovo Beam**	**81.70**	**326**	P		**P**	**18 55 05.4**	**-0.4**
	0.5nm,0.4s,baz=106,slow=6.0,SNR=4.0							
TORD	**Torodi Ar. Bea**	**151.41**	**289**	PKPbc		**PKPbc**	**19 02 40.0**	**-0.1**
	0.4nm,0.4s,baz=57,slow=2.1,SNR=8.5							

IDC 16 18:47:18.4±2.2, 37°.89N×96°.23E, h0km, mb1 3.6/4, mb1mx3.3/29, mbtmp3.4/4, ML3.7/4, Error ellipse: s-maj=57.5km s-min=29.3km az=78.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**12.41**	**34**	Pn		Pn	18 50 16.3	-0.2
	0.1nm,0.3s,baz=223,slow=15,SNR=3.8							
MKAR	**Makanchi Array**	**13.60**	**315**	Pn		Pn	18 50 27.6	-5.0
	0.8nm,0.3s,baz=126,slow=13,SNR=47							
ZALV	**Zalesovo Beam**	**17.88**	**338**	P		P	18 51 28.8	-0.2
	0.1nm,0.3s,baz=143,slow=14,SNR=4.6							
CMAR	**Chiang Mai Arr**	**19.51**	**172**	P		P	18 51 47.3	0.0
	0.2nm,0.3s,baz=344,slow=9.4,SNR=3.0							

IDC 16 18:48:32.4±4.1, 6°.68S×128°.68E, h0km, mb3.4/1, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=500.8km s-min=31.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.29**	**158**	Pn		Pn	18 51 55.8	-0.4
	0.8nm,0.3s,baz=322,slow=14,SNR=22							
WRA				Sn		Sn	18 54 20.7	-15
	1.5nm,0.3s,baz=328,slow=22,SNR=14							
ASAR	**Alice Springs**	**17.62**	**164**	P		Pn	18 52 39.8	+0.2
	0.9nm,0.3s,baz=341,slow=12,SNR=53							
ASAR				S		Sn	18 55 39.8	-17
	0.4nm,0.3s,baz=342,slow=25,SNR=6.0							
MKAR	**Makanchi Array**	**67.24**	**327**	P		P	18 59 28.7	0.0
	0.2nm,0.4s,baz=124,slow=7.0,SNR=5.0							

ISCJB ***16*** *18:54:41.7±0.2, 16°.00S±0°.07×173°.48W±0°.05, h10km, mb4.8/60, MS4.3/29, Error ellipse: s-maj=11.9km s-min=4.8km az=149.3*

IDC ***16*** *18:54:41.5±0.5, 15°.84S×173°.56W, h0km, mb4.4/18, mb1 4.6/18, mb1mx4.5/28, mbtmp4.4/18, MS4.2/20, Ms1 4.3/20, ms1mx4.1/33, Error ellipse: s-maj=25.5km s-min=13.4km az=139.0*

NEIC ***16*** *18:54:43.0±0.3, 15°.92S×173°.55W, h10km, mb5.1/35, Error ellipse: s-maj=14.7km s-min=6.8km az=141.0*

BJI ***16*** *18:54:42.7, 15°.90S×173°.50W, h10km, mB5.5/15, mb4.9/21, Ms5.0/8, Ms7 4.6/12*

MOS ***16*** *18:54:45.9±1.3, 15°.91S×173°.52W, h33km, mb5.2/11, Error ellipse: s-maj=16.3km s-min=11.8km az=46.9*

AUST ***16*** *18:54:46.8±34.0, 14°.89S×173°.75W, h30km±2km, Error ellipse: s-maj=3.7km s-min=2.9km az=292.0*

GCMT ***16*** *18:54:47.8±0.2, 15°.96S×172°.93W, h15km, MW5.0, Moment Tensor Solution. s50,c66; s83,c124; Moment tensor: Scale 10^16 Nm; Mrr~3.90±.15; Mθθ~0.88±.12; Mφφ4.78±.11; Mrθ0.40±.27; Mθφ0.09±.09; Mφr~0.33±.19; Best double couple: M0 4.40000×10^16 NP1:φs354.00000°, δ48.00000°, λ-100.00000°. NP2:φs188.00000°, δ43.00000°, λ-79.00000°. Principal axes: T 4.7900, Plg2.0000°, Azm91.0000°; N -0.8300, Plg8.0000°, Azm0.0000°; P -3.9700, Plg82.0000°, Azm197.0000°; Data Used: ll IU IC G CU CN.*

**ISC 16

H11N2 **WAKE ISLAND Hy** 40.46 331 T T 19 45 24.5
baz=152,slow=77,SNR=38
QLP **Quilpie** 40.69 248 P P **19 02 23.1 -0.9**
baz=41,SNR=3.4
COEN **Coen** 41.95 267 P P **19 02 35.6 +1.1**
baz=42,SNR=7.8
STKA **Stephens Creek** 43.73 240 *e*P P **19 02 47.9 -0.9**
comp=Z,3.4nm,1.1s
STKA **Stephens Creek** 43.73 240 P P **19 02 48.0 -0.7**
comp=Z,9.3nm,0.7s,baz=76,slow=8.3,SNR=20
STKA **Stephens Creek** 43.73 240 P P **19 02 48.3 -0.5**
baz=44,SNR=8.9
HTT **Hallett** 46.23 239 P P **19 03 08.9 +0.2**
baz=46,SNR=3.9
WRA **Warramunga Arr** 49.71 257 P P **19 03 33.8 -2.0**
WRA PcP **PcP** **19 04 56.5 -0.4**
WRA **Warramunga Arr** 49.71 257 P P **19 03 33.8 -2.0**
comp=Z,2.9nm,0.5s,baz=91,slow=7.0,SNR=82
WRA PcP **PcP** **19 04 56.5 -0.4**
comp=Z,1.0nm,0.8s,baz=87,slow=4.1,SNR=2.3
WRA LR LR 19 23 19.1
comp=Z,378nm,19.1s,baz=95,slow=35
AS31 **Alice Springs** 49.92 252 *e*P P **19 03 35.5 -1.9**
ASAR **Alice Springs** 49.92 252 P P **19 03 35.8 -1.7**
ASAR **Alice Springs** 49.92 252 P P **19 03 35.8 -1.7**
comp=Z,6.9nm,0.4s,baz=89,slow=8.1,SNR=274
ASAR LR LR 19 23 32.5
comp=Z,535nm,18.2s,baz=95,slow=35
KDU **Kakadu** 52.43 266 P P **19 03 56.6 +0.4**
baz=52,SNR=4.4
MTN **Manton Dam** 53.68 266 P P **19 04 05.7 +0.1**
baz=53,SNR=3.2
WRKA **Warakurna** 54.99 250 P P **19 04 13.8 -1.2**
baz=55,SNR=42
VNDA **Vanda** 62.77 186 *e*P P **19 05 10.8 +2.7**
VNDA **Vanda** 62.77 186 P P **19 05 09.9 +1.8**
comp=Z,3.3nm,1.0s,baz=360,slow=6.9,SNR=6.5
VNDA LR LR 19 27 14.3
comp=Z,57nm,18.9s,baz=271,slow=31
MBWA **Marble Bar** 63.19 254 *e*P P **19 05 10.2 -1.7**
MEEK **Meekatharra** 63.58 248 P P **19 05 14.7 +0.2**
baz=64,SNR=4.3
MJAR **Matsushiro Arr** 69.41 320 LR LR 19 31 40.7
comp=Z,50nm,18.9s,baz=180,slow=32
CASY **Casey** 69.86 205 *e*P P **19 05 54.9 +1.3**
comp=Z,31nm,1.5s
EDW2 **Edwards Air Fo** 72.97 45 P P **19 06 14.4 +1.3**
baz=73
MONP **Monument Peak** 72.98 48 P P **19 06 14.2 +0.9**
baz=73
ISA **Isabella** 73.09 44 *e*P P **19 06 14.5 +0.7**
ISA pmax pmax
comp=Z,20nm,2.6s
ISA **Isabella** 73.09 44 *e*P P **19 06 14.5 +0.7**
comp=Z,20nm,2.6s
ISA **Isabella** 73.09 44 P P **19 06 14.9 +1.1**
baz=73
PFO **Pinyon Flat Ob** 73.34 47 P P **19 06 16.3 +1.0**
baz=74
PFO **Pinyon Flat Ob** 73.34 47 LR LR 19 32 09.0
comp=Z,231nm,18.6s,baz=269,slow=31
LRMC **Laurel Mountai** 73.51 45 P P **19 06 16.9 +0.6**
baz=74
BELC **Belle Mtn. Jos** 73.87 47 P P **19 06 17.9 -0.6**
baz=74
MPMC **Manual Prospec** 73.97 44 P P **19 06 19.1 0.0**
baz=74
QSPA **South Pole Qui** 74.03 180 *e*P P **19 06 20.1 +1.1**
comp=Z,24nm,1.3s
YBH **Yreka Blue Hor** 74.08 37 P P **19 06 18.4 -1.1**
YBH **Yreka Blue Hor** 74.08 37 P P **19 06 18.4 -1.1**
comp=Z,4.7nm,0.9s,baz=266,slow=6.4,SNR=5.7
YBH LR LR 19 30 22.5
comp=Z,290nm,19.9s,baz=239,slow=29
GMRC **Granite Mounta** 74.52 46 P P **19 06 23.0 +0.8**
baz=75
UGM **Wanagama** 74.53 266 P P **19 06 22.3 -0.3**
baz=74,SNR=3.2
IRM **Iron Mountain** 74.55 47 P P **19 06 23.2 +0.9**
baz=75
M04C **Macdoel** 74.62 37 P P **19 06 23.4 +0.7**
baz=75
TUQ **Turquoise Moun** 74.69 46 P P **19 06 24.0 +0.8**
baz=75
NVAR **Mina Array Bea** 74.78 42 P P **19 06 23.7 -0.1**
NVAR **Mina Array Bea** 74.78 42 P P **19 06 23.7 -0.1**
comp=Z,1.9nm,0.7s,baz=230,slow=8.2,SNR=7.2
LDFC **Landfair** 75.06 46 *e*P P **19 06 24.8 -0.5**
comp=Z,77nm,2.1s
TPH **Tonopah** 75.28 43 *e*P P **19 06 26.6 -0.1**
TPH pmax pmax
comp=Z,48nm,2.1s
TPH **Tonopah** 75.28 43 *e*P P **19 06 26.6 -0.1**
comp=Z,48nm,2.1s
TPNV **Topopah Spring** 75.30 44 *e*P P **19 06 26.9 +0.1**
TPNV pmax pmax
comp=Z,86nm,2.4s
TPNV **Topopah Spring** 75.30 44 *e*P P **19 06 26.9 +0.1**
comp=Z,86nm,2.4s
TPNV **Topopah Spring** 75.30 44 P P **19 06 26.8 +0.1**
baz=76
MOD **Modoc** 75.60 38 *e*P P **19 06 27.0 -1.4**
comp=Z,29nm,2.6s
SHPR **Sheep Range** 75.79 45 *e*P P **19 06 31.0 +1.4**
J05D **Fort Rock, OR** 75.91 36 P P **19 06 30.7 +0.6**
baz=76
W13A **Hualapai Mount** 75.93 47 P P **19 06 30.5 +0.1**
baz=76
G03D **McMinnville, O** 76.01 34 P P **19 06 30.6 +0.2**
baz=76
R11A **Troy Canyon, C** 76.50 43 P P **19 06 34.3 +0.7**
baz=77
WVOR **Wild Horse Val** 76.91 38 *e*P P **19 06 36.1 +0.4**
WVOR pmax pmax
comp=Z,137nm,2.9s
WVOR **Wild Horse Val** 76.91 38 *e*P P **19 06 36.1 +0.4**
comp=Z,137nm,2.9s
X16A **Lo Mia Camp, P** 77.32 48 P P **19 06 38.2 -0.1**
baz=78
I07A **Izee** 77.39 37 *e*P P **19 06 39.6 +1.3**
comp=Z,173nm,3.0s
J08A **Circle Bar Ran** 77.55 38 *e*P P **19 06 40.5 +1.2**
comp=Z,151nm,2.8s
CCUT **Cedar City** 77.56 45 *e*P P **19 06 41.8 +2.1**
comp=Z,41nm,2.0s
U15A **North Rim** 77.72 46 P P **19 06 41.2 +0.5**
baz=78
USRK **Ussuriysk Arra** 77.87 323 LR LR 19 39 51.0
comp=Z,64nm,18.4s,baz=222,slow=35
WUAZ **Wupatki** 77.91 47 *e*P P **19 06 43.4 +1.9**
comp=Z,42nm,2.1s
WUAZ **Wupatki** 77.91 47 P P **19 06 42.2 +0.6**
baz=78
ELK **Elko** 78.04 41 *e*P P **19 06 41.4 -0.9**
comp=Z,35nm,2.3s
G08A **Pilot Rock** 78.43 36 *e*P P **19 06 45.3 +1.2**
comp=Z,13nm,1.1s
BBB **Bella Bella** 78.43 27 LR LR 19 33 50.7
comp=Z,150nm,18.7s,baz=285,slow=30
MVU **Marysvale** 78.83 44 *e*P P **19 06 47.1 +0.4**
comp=Z,65nm,2.3s
MDJ **Mudanjiang** 79.51 322 P P **19 06 51.6 +1.7**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,83nm,4.4s
GAMB **Gambell** 79.55 1 *e*P P **19 06 51.9 +2.3**
comp=Z,46nm,1.8s
NLU **North Lily Min** 79.67 43 *e*P P **19 06 52.0 +0.8**
comp=Z,16nm,0.8s
F10A **Beach Ranch, E** 79.81 36 *e*P P **19 06 51.4 -0.3**
comp=Z,126nm,2.8s
MPU **Maple Canyon** 79.99 43 *e*P P **19 06 53.5 +0.5**
comp=Z,11nm,0.8s
HLID **Hailey** 80.10 39 P P **19 06 53.3 -0.1**
baz=80
324A **Moseley Ranch,** 80.40 53 P P **19 06 55.4 +0.1**
baz=81
DAU **Daniels Canyon** 80.44 43 *e*P P **19 06 54.8 -0.7**
DAU **Daniels Canyon** 80.44 43 *e*P P **19 06 54.8 -0.7**
425A **Indio Mountain** 80.51 54 P P **19 06 55.6 -0.2**
baz=81
NJ2 **Nanjing** 80.53 307 *e*P P **19 06 56.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
224A **Cornudas Mount** 80.64 53 P P **19 06 57.0 +0.5**
baz=81
626A **Big Bend Ranch** 80.67 56 P P **19 06 58.0 +1.4**
baz=81
325A **Bean Ranch, Si** 80.77 54 P P **19 06 57.0 -0.3**
baz=81
526A **Mary Lane Ranc** 80.91 55 P P **19 06 58.8 +0.7**
baz=81
TXAR **Lajitas Array** 80.95 56 P P **19 06 59.0 +0.8**
TXAR **Lajitas Array** 80.95 56 P P **19 06 59.0 +0.8**
comp=Z,0.9nm,0.8s,baz=232,slow=6.2,SNR=7.9
TXAR LR LR 19 36 34.8
comp=Z,171nm,18.6s,baz=270,slow=31
124A **Stringfield Ra** 80.96 52 P P **19 06 58.7 +0.4**
baz=81
PV01 **Paradox Valley** 81.14 46 *e*P P **19 06 58.9 -0.3**
comp=Z,1μm,1.6s
ANMO **Albuquerque** 81.19 50 *e*P P **19 06 59.2 -0.3**
comp=Z,11nm,1.3s
ANMO **Albuquerque** 81.19 50 P P **19 06 59.8 +0.3**
comp=Z,1.5nm,0.7s,baz=223,slow=4.5,SNR=5.6
225A **Deer Hill, Car** 81.19 53 P P **19 06 60.0 +0.4**
baz=81
426A **McDonald Obser** 81.21 55 P P **19 06 59.5 -0.2**
baz=81
627A **Terlingua Ranc** 81.22 56 P P **19 06 59.5 -0.1**
baz=81
TRF **Thorofare Moun** 81.22 10 *e*P P **19 06 58.9 -0.1**
comp=Z,14nm,1.0s
527A **Woodward Ranch** 81.33 55 P P **19 07 00.6 +0.4**
baz=82
TNA **Tin City** 81.43 2 *e*P P **19 07 00.1 +0.3**
comp=Z,9.7nm,1.0s
Y24A **Capitan** 81.50 51 P P **19 07 00.9 -0.2**
baz=82
CN2 **Changchun** 81.55 320 *e*P P 19 07 05.3 +4.4
CN2 *e*S **S** **19 17 15.1 +2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
628A **Black Gap, Mar** 81.63 56 P P **19 07 02.5 +0.7**
baz=82
226B **Tecolote Peak,** 81.69 53 P P **19 07 01.6 -0.5**
baz=82
MCK **McKinley** 81.72 11 *e*P P **19 07 00.9 -0.5**
MCK pmax pmax
comp=Z,17nm,0.9s
MCK **McKinley** 81.72 11 *e*P P **19 07 00.9 -0.5**
comp=Z,17nm,0.9s
MCMT **McKenzie Canyo** 81.73 39 *e*P P **19 07 03.4 +1.3**
comp=Z,3.7nm,1.2s
427A **Harper Ranch,** 81.78 55 P P **19 07 02.3 -0.2**
baz=82
528A **Cox Ranch, San** 81.98 56 P P **19 07 03.6 0.0**
baz=82
U23A **El Rito** 82.00 49 P P **19 07 04.0 +0.2**
baz=82
Y25A **Mesa, Roswell** 82.06 51 P P **19 07 04.1 0.0**
baz=82
MSO **Missoula** 82.17 37 P P **19 07 04.6 +0.3**
baz=82
S22A **4UR Ranch, Cre** 82.18 47 P P **19 07 04.9 +0.2**
baz=82
REDW **Red Top Meadow** 82.20 41 *e*P P 19 06 57.3 -7.3
comp=Z,32nm,1.6s
BSMT **Bassoo Peak** 82.26 35 *e*P P **19 07 03.7 -1.1**
DLBC **Dease Lake** 82.27 21 LR LR 19 37 12.3
comp=Z,198nm,18.7s,baz=262,slow=31
428A **Kincaid Ranch,** 82.29 55 P P **19 07 05.8 +0.6**
baz=82
Z26A **Caprock** 82.33 52 P P **19 07 05.3 -0.1**
baz=82
V24A **Rampart Ranch,** 82.41 50 P P **19 07 05.7 -0.3**
baz=83
529A **Stev Forest Ra** 82.42 56 P P **19 07 05.5 -0.4**
baz=83
CHMT **Chamberlain Mo** 82.61 37 *e*P P **19 07 06.4 -0.3**
comp=Z,4.9nm,1.2s
N20A **Spence Gulch,** 82.63 44 P P **19 07 06.3 -0.7**
baz=83
PDAR **Pinedale Array** 82.72 42 P P **19 07 06.8 -0.6**
PDAR **Pinedale Array** 82.72 42 P P **19 07 06.7 -0.6**
comp=Z,1.7nm,0.9s,baz=198,slow=3.1,SNR=12
PDAR LR LR 19 39 14.8
comp=Z,255nm,18.2s,baz=255,slow=32
SMCO **Snowmass** 82.73 46 *e*P P **19 07 09.4 +1.6**
comp=Z,36nm,1.8s
W25A **X Bar L Ranch,** 82.78 50 P P **19 07 08.1 +0.3**
baz=83
429A **Davenport Ranc** 82.88 55 P P **19 07 08.0 -0.3**
baz=83
T24B **San Luis** 82.91 48 P P **19 07 08.6 0.0**
baz=83
V25A **Rancho No Teng** 82.94 50 P P **19 07 07.9 -0.7**
baz=83
COLA **College** 82.96 11 *e*P P **19 07 07.3 -0.5**
COLA pmax pmax
comp=Z,63nm,1.0s
COLA **College** 82.96 11 *e*P P **19 07 06.6 -1.2**
comp=Z,5.8nm,1.1s
ILAR **Eielson Array** 83.04 11 P P **19 07 07.4 -0.8**
ILAR **Eielson Array** 83.04 11 P P **19 07 07.4 -0.8**
comp=Z,1.4nm,0.6s,baz=230,slow=6.2,SNR=17
ILAR LR LR 19 36 10.7
comp=Z,103nm,21.3s,baz=238,slow=30
P22A **Eagle** 83.07 46 P P **19 07 09.0 -0.3**
baz=83
R23A **Moffat** 83.09 47 P P **19 07 09.3 -0.2**
baz=83
SEY **Seymchan** 83.11 345 P P **19 07 07.6 -1.0**
SEY **Seymchan** 83.11 345 P P **19 07 07.6 -1.0**
SEY **Seymchan** 83.11 345 P P **19 07 07.6 -1.0**
comp=Z,3.7nm,0.8s,baz=106,slow=12,SNR=4.2
SDCO **Great Sand Dun** 83.12 48 *e*P P **19 07 10.5 +0.8**
comp=Z,30nm,2.1s
QIZ **Qiongzhong** 83.13 292 P P **19 07 10.0 +0.3**
QIZ S S **19 17 29.8 +0.4**
QIZ pmax pmax
comp=Z,32nm,1.7s
QIZ LR LR
comp=Z,280nm,21.6s
Y27A **Causey** 83.20 52 P P **19 07 10.1 +0.1**
baz=83
J19A **Crowheart** 83.29 42 P P **19 07 09.9 -0.4**
baz=84
U25A **Circle Dot Ran** 83.33 49 P P **19 07 10.6 0.0**
baz=84
O22A **Kremmling** 83.48 45 P P **19 07 11.8 +0.4**
baz=84
V26A **Tequesquite Ra** 83.53 50 P P **19 07 11.3 -0.3**
baz=84
P23A **Jefferson** 83.61 46 P P **19 07 13.3 +1.1**
baz=84
I19A **Meeteetse** 83.70 41 P P **19 07 12.4 0.0**
baz=84
W27A **Bowe Ranch, En** 83.76 51 P P **19 07 13.4 +0.6**
baz=84
531A **Rocksprings** 83.77 56 P P **19 07 12.4 -0.5**
baz=84
U26A **Atchley Ranch,** 83.81 50 P P **19 07 13.1 0.0**
baz=84
N22A **Wattenberg Ran** 83.83 45 P P **19 07 13.0 -0.2**
baz=84
S25A **Robets Cordova** 83.85 48 P P **19 07 13.2 -0.1**
baz=84
Q24A **Divide** 83.91 47 P P **19 07 14.8 +1.1**
baz=84
J20A **Shoshoni** 83.95 42 P P **19 07 13.2 -0.4**
baz=84
DAWY **Dawson** 84.01 14 *e*P P **19 07 13.5 +0.2**
GCMT **Greycliff** 84.15 39 *e*P P **19 07 13.2 -1.4**
comp=Z,2.2nm,0.7s
I20A **Worland** 84.20 41 P P **19 07 14.0 -0.9**
baz=84
J21A **Lysite** 84.35 42 P P **19 07 15.6 -0.1**
baz=84
Z30A **Sanderson Ranc** 84.52 53 P P **19 07 16.2 -0.4**
baz=85
S26A **Kim** 84.52 49 P P **19 07 16.5 -0.2**
baz=85
COLD **Coldfoot** 84.75 9 *e*P P **19 07 18.6 +1.7**
comp=Z,13nm,1.4s
H03N2 **Juan Fernandez** 84.97 123 T T 20 42 44.3
baz=270
H03N3 **Juan Fernandez** 84.97 123 T T 20 42 45.4
baz=270,slow=75
H03N1 **Juan Fernandez** 84.98 123 T T 20 42 44.3
baz=270,slow=75
E19A **Rath Farm, Rou** 85.01 39 P P **19 07 18.8 0.0**
baz=85
ABTX **Abilene, Hawle** 85.42 54 *e*P P **19 07 22.1 +1.0**
ABTX **Abilene, Hawle** 85.42 54 P P **19 07 21.6 +0.5**
baz=86
C19A **Slack Wire Ran** 85.48 38 P P **19 07 22.4 +1.2**
baz=86
Z32A **Haskell** 85.80 54 P P **19 07 22.7 -0.3**
baz=86
BJI **Beijing** 85.89 314 P P **19 07 24.6 +1.4**
BJI S S **19 17 56.3 +0.2**
BJI pmax pmax
comp=Z,10.0nm,1.2s
Y32A **R-V Farms, Ver** 86.09 53 P P **19 07 24.5 +0.1**
baz=86
GYA **Guiyang** 88.33 298 *e*P P **19 07 36.9 +1.3**
GYA PP **PP** **19 11 05.4 +2.0**
GYA SKS **SKSac** **19 18 01.0 -3.3**
GYA S **S** **19 18 20.6 +0.1**
GYA SS **SS** **19 24 12.0 +1.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.0s
GYA LR LR
comp=Z,530nm,19.2s
GYA LR LR
comp=Z,480nm,20.0s
GYA LR LR
comp=Z,510nm,18.7s
INK **Inuvik** 88.86 14 P P **19 07 36.7 -0.2**
INK **Inuvik** 88.86 14 P P **19 07 36.7 -0.2**
comp=Z,2.0nm,0.8s,baz=225,slow=3.5,SNR=6.2
INK LR LR 19 40 15.9
comp=Z,150nm,19.4s,baz=179,slow=31
PLCA **Paso Flores** 89.10 132 LR LR 19 39 15.1
comp=Z,164nm,18.3s,baz=273,slow=30
HHC **Hu-ho-hao-te** 89.44 313 *e*P P **19 07 39.8 -0.6**
HHC sP **sP** **19 07 47.8 -0.2**
HHC PP **PP** **19 11 15.0 +3.0**
HHC SKS **SKSac** **19 18 06.8 -3.4**
HHC S **S** **19 18 27.9 -2.5**
HHC sS **ScS** **19 18 36.8 +1.8**
HHC SS **SS** **19 24 27.5 +1.3**
HHC pmax pmax
comp=Z,22nm,1.2s
HHC pmax pmax
comp=Z,260nm,7.6s
HHC LR LR
comp=Z,170nm,17.2s
HHC LR LR
comp=Z,340nm,17.5s
HHC LR LR
comp=Z,170nm,17.8s
YAK **Yakutsk** 89.67 337 *i*P P **19 07 40.6 -0.2**
YKA **Yellowknife Ar** 90.66 23 P P **19 07 44.6 -0.8**
YKA **Yellowknife Ar** 90.66 23 P P **19 07 44.6 -0.8**
comp=Z,1.1nm,1.0s,baz=233,slow=4.5,SNR=8.6
KMI **Kunming** 91.29 296 P P **19 07 51.4 +1.8**
KMI pP **pP** **19 07 54.6 -0.5**
KMI pmax pmax
comp=Z,6.0nm,1.2s
SYO **Syowa Base** 92.00 191 *e*P P **19 07 51.2 -0.5**
CD2 **Chengdu** 92.13 301 *e*P P **19 07 53.4 +0.3**
CD2 pP **pP** **19 07 58.3 -0.4**
CD2 sP **sP** **19 08 00.3 -0.3**
CD2 PP **PP** **19 11 36.1 +2.7**
CD2 SKS **SKSac** **19 18 24.8 -1.2**
CD2 S **S** **19 18 53.1 -2.2**
CD2 sS **ScS** **19 19 00.8 +3.1**
CD2 SS **SS** **19 25 05.8 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,120nm,8.8s
CD2 LR LR
comp=Z,240nm,13.2s
CD2 LR LR
comp=Z,120nm,16.7s
SNAA **Sanae** 92.30 177 *e*P P **19 07 53.6 +0.4**
comp=Z,8.5nm,1.1s
SNAA **Sanae** 92.30 177 P P **19 07 54.5 +1.3**
comp=Z,2.3nm,1.0s,baz=209,slow=5.0,SNR=5.0
CMAR **Chiang Mai Arr** 92.81 288 P P **19 07 56.3 -0.2**
CMAR **Chiang Mai Arr** 92.81 288 P P **19 07 56.3 -0.2**
comp=Z,1.1nm,0.9s,baz=99,slow=2.5,SNR=10.0
CHTO **Chiang Mai** 92.90 289 *e*P P **19 07 57.2 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,1.8s
CHTO **Chiang Mai** 92.90 289 *e*P P **19 07 57.1 +0.3**
comp=Z,4.0nm,1.8s
VNA1 **Neumayer--Stat** 92.94 175 *e*P P **19 07 57.3 +1.2**
LZH **Lanzhou** 93.59 306 *e*P P **19 08 00.3 +0.4**
LZH pP **pP** **19 08 05.1 -0.3**
LZH sP **sP** **19 08 07.3 -0.1**
LZH pmax pmax
comp=Z,13nm,1.0s
ULM **Lac du Bonnet** 94.41 39 LR LR 19 46 32.9
comp=Z,250nm,18.3s,baz=311,slow=33
HDIL **Hopedale** 95.87 50 *e*P P **19 08 08.1 -1.9**
comp=Z,34nm,0.6s
LPAZ **La Paz** 99.60 110 LR LR 19 44 15.9
comp=Z,82nm,20.1s,baz=52,slow=30
WMQ **Urumqi** 107.27 312 Pdif **Pdif** **19 09 01.3 +0.3**
WMQ PP **PP** **19 13 31.3 +2.9**
WMQ S **Sdif** **19 21 01.3 -2.2**
WMQ SS **SS** **19 28 35.3 -1.1**
WMQ LR LR
comp=Z,54nm,24.0s
WMQ LR LR
comp=Z,44nm,24.0s
WMQ LR LR
comp=Z,55nm,24.0s
BVAR **Borovoye Array** 118.36 322 PKIKP **PKPdf** **19 13 30.3 -0.3**
BVAR **Borovoye Array** 118.36 322 PKP **PKPdf** **19 13 30.3 -0.3**
BVAR **Borovoye Array** 118.36 322 PKP **PKPdf** **19 13 30.3 -0.3**
comp=Z,1.0nm,0.6s,baz=106,slow=3.1,SNR=3.1
KBL **Kabul** 121.47 301 *e*PKPdf **PKPdf** **19 13 32.8 -4.6**
ARU **Arti** 123.86 328 PKIKP **PKPdf** **19 13 40.9 -0.1**
ARCES **ARCESS Array B** 125.21 352 PKP **PKPdf** **19 13 43.2 -0.1**
ARCES **ARCESS Array B** 125.21 352 PKP **PKPdf** **19 13 43.2 -0.1**
comp=Z,2.5nm,0.8s,baz=46,slow=2.6,SNR=4.7
BOSA **Boshof** 132.11 202 PKP **PKPdf** **19 13 58.1 +0.3**
BOSA **Boshof** 132.11 202 PKP **PKPdf** **19 13 58.1 +0.3**
comp=Z,3.9nm,1.0s,baz=135,slow=1.4,SNR=4.0
FINES **FINESS Array B** 132.54 347 PKP **PKPdf** **19 13 57.6 +0.2**
FINES **FINESS Array B** 132.54 347 PKP **PKPdf** **19 13 57.6 +0.2**
comp=Z,2.6nm,0.8s,baz=72,slow=4.5,SNR=2.9
OBN **Obninsk** 134.67 336 *e*PKIKP **PKPdf** **19 14 03.6 +2.0**
OBN *e* 19 14 12.2
OBN *e* 19 21 10.6
OBN *e*PS **PS** **19 26 50.8 -5.3**
OBN pmax pmax
comp=Z,6.0nm,1.0s
AKASG **Malin Array Be** 140.90 337 PKIKP **PKPdf** **19 14 13.0 -0.2**
AKASG **Malin Array Be** 140.90 337 PKP **PKPdf** **19 14 13.0 -0.2**
AKASG **Malin Array Be** 140.90 337 PKP **PKPdf** **19 14 13.0 -0.2**
comp=Z,0.5nm,0.5s,baz=42,slow=2.1,SNR=5.9
MALT **Malatya** 144.29 315 *i*P **PKPdf** **19 14 20.5 +0.7**
KSP **Ksiaz** 144.39 349 *e*PKIKP **PKPdf** **19 14 18.8 -0.6**
CLL **Collm** 144.42 353 *i* PKPdf PKPbc 19 14 17.8 -0.1
comp=Z,5.0nm,1.1s
STHS **Stebnicka Huta** 144.61 343 *e*PKIKP PKPbc 19 14 19.0 +0.4
STHS *i* 19 14 24.7
STHS **Stebnicka Huta** 144.61 343 *e*PKP PKPbc 19 14 19.0 +0.4
STHS *e* 19 14 24.7
BRG **Berggiesshubel** 144.73 352 *e*PKP PKPdf 19 14 27.1 +7.1
comp=Z,25nm,1.8s
BRG **Berggiesshubel** 144.73 352 *e*PKIKP PKPdf 19 14 27.1 +7.1
BRG pmax pmax
comp=Z,25nm,1.8s
KOLS **Kolonicke sedl** 144.75 342 *e*PKIKP **PKPab** **19 14 19.0 0.0**
KOLS *i* 19 14 24.7
KOLS **Kolonicke sedl** 144.75 342 *e*PKP **PKPab** **19 14 19.0 0.0**
KOLS *e* 19 14 24.7
UPC **Upice** 144.76 350 *e*PKIKP **PKPdf** **19 14 19.8 -0.3**
UPC **Upice** 144.76 350 *e*PKP **PKPdf** **19 14 19.8 -0.3**
DPC **Dobruska-Polom** 144.86 349 *e*PKIKP PKPbc 19 14 19.7 +0.3
DPC *e* 19 14 28.0
DPC **Dobruska-Polom** 144.86 349 *e*PKP PKPbc 19 14 19.7 +0.3

DPC				*ex*	x	19 14 28.0		
DPC	**Dobruska-Polom**	**144.86**	**349**	*e*PKPdf	PKPbc	19 14 19.7	+0.3	
BURAR	**Bucovina Array**	**144.93**	**338**	⇑*i*P	PKPbc	19 14 20.2	+0.4	
OKC	**Ostrava-Krasne**	**144.98**	**347**	*e*PKIKP	**PKPab**	**19 14 18.6**	**-1.1**	
OKC	**Ostrava-Krasne**	**144.98**	**347**	*e*PKP	**PKPab**	**19 14 18.6**	**-1.1**	
CRVS	**Cervenica-Dubn**	**145.02**	**343**	*e*PKIKP	**PKPdf**	**19 14 21.0**	**+0.4**	
CRVS	**Cervenica-Dubn**	**145.02**	**343**	*e*PKP	**PKPdf**	**19 14 21.0**	**+0.4**	
CRVS				*e*		19 14 24.8		
UZH	**Uzhgorod**	**145.02**	**342**	*d i*PKIKP	**PKPbc**	**19 14 19.4**	**-0.5**	
UZH				*i*		19 14 28.0		
MORC	**Moravsky Berou**	**145.17**	**348**	*e*PKIKP	**PKPbc**	**19 14 19.6**	**-0.8**	
MORC	**Moravsky Berou**	**145.17**	**348**	⇑*i*P	**PKPdf**	**19 14 21.8**	**+0.9**	
MORC	**Moravsky Berou**	**145.17**	**348**	*e*PKPdf	**PKPbc**	**19 14 19.6**	**-0.8**	
KMBO	**Kilima Mbogo**	**145.23**	**343**	*e*PKPdf	**PKPdf**	**19 14 22.9**	**+0.5**	
KMBO	**Kilima Mbogo**	**145.27**	**243**	PKPbc	**PKPdf**	**19 14 22.9**	**+0.5**	
	comp=Z,7.2nm,0.9s,baz=91,slow=3.4,SNR=16							
TRPA	**Tarpa**	**145.39**	**341**	⇑*i*P	**PKPab**	**19 14 22.5**	**+1.3**	
MEM	**Membach**	**145.49**	**1**	PKP	**PKPab**	**19 14 21.8**	**+0.2**	
WERN	**Wernitzgruen**	**145.50**	**353**	*e*PKPbc	**PKPab**	**19 14 21.7**	**+0.1**	
PRU	**Pruhonice**	**145.50**	**351**	*e*PKIKP	**PKPdf**	**19 14 21.4**	**0.0**	
PRU				*e*		19 14 29.8		
PRU	**Pruhonice**	**145.50**	**351**	*e*PKP	**PKPdf**	**19 14 21.4**	**0.0**	
PRU				*ex*	x	19 14 29.8		
NKC	**Novy Kostel**	**145.54**	**353**	*e*PKIKP	**PKPbc**	**19 14 21.6**	**0.0**	
NKC				*e*		19 14 28.5		
NKC	**Novy Kostel**	**145.54**	**353**	*e*PKP	**PKPbc**	**19 14 21.6**	**0.0**	
NKC				*ep*PKP	**pPKPdf**	**19 14 28.5**	**+1.3**	
BCLA	**Clavier**	**145.66**	**1**	PKP	**PKPab**	**19 14 22.3**	**+0.1**	
MANZ	**Manzenberg**	**145.82**	**354**	*e*PKPbc	**PKPdf**	**19 14 22.0**	**0.0**	
DOU	**Daurbes**	**145.97**	**2**	PKP	**PKPdf**	**19 14 21.4**	**-0.7**	
TREC	**Trest**	**146.02**	**350**	*e*PKP2	**PKPbc**	**19 14 23.0**	**-0.1**	
TREC	**Trest**	**146.02**	**350**	*e*PKP	**PKPbc**	**19 14 23.0**	**-0.1**	
TREC				*ex*	x	19 14 31.5		
ROTZ	**Rotzenmuhle**	**146.03**	**353**	*e*PKPbc	**PKPbc**	**19 14 23.3**	**+0.2**	
PSZ	**Piszkesteto**	**146.35**	**344**	*e*PKP2	**PKPab**	**19 14 25.4**	**+0.4**	
PSZ	**Piszkesteto**	**146.35**	**344**	*e*PKPab	**PKPab**	**19 14 25.4**	**+0.4**	
MLR	**Muntele Rosu**	**146.42**	**335**	⇑*i*P	**PKPab**	**19 14 25.3**	**-0.1**	
MLR	**Muntele Rosu**	**146.42**	**335**	PKPbc	**PKPbc**	**19 14 24.3**	**-0.3**	
MLR	**Muntele Rosu**	**146.42**	**335**	PKPbc	**PKPbc**	**19 14 24.3**	**-0.3**	
	baz=79,slow=5.2							
WLF	**Walferdange**	**146.43**	**1**	PKP	**PKPbc**	**19 14 24.1**	**-0.2**	
KHC	**Kasperske Hory**	**146.48**	**352**	*e*PKP2	**PKPdf**	**19 14 23.4**	**+0.3**	
KHC	**Kasperske Hory**	**146.48**	**352**	*e*PKP	**PKPdf**	**19 14 23.4**	**+0.3**	
KHC				*ex*	x	19 14 32.6		
KHC	**Kasperske Hory**	**146.48**	**352**	*e*PKPab	**PKPdf**	**19 14 23.8**	**+0.7**	
DRGR		**146.51**	**340**	⇑*i*P	**PKPab**	**19 14 26.0**	**+0.3**	
BR131	**Keskin Array S**	**146.63**	**320**	*e*PKPbc	**PKPbc**	**19 14 25.3**	**-0.1**	
BRTR	**Keskin Array B**	**146.63**	**320**	PKPbc	**PKPdf**	**19 14 24.6**	**+0.8**	
BRTR	**Keskin Array B**	**146.63**	**320**	PKPbc	**PKPdf**	**19 14 24.6**	**+0.8**	
	comp=Z,14nm,1.2s,baz=86,slow=1.1,SNR=15							
GERES	**GERESS Array B**	**146.74**	**351**	PKPbc	**PKPbc**	**19 14 24.7**	**-0.7**	
GERES	**GERESS Array B**	**146.74**	**351**	PKPbc	**PKPbc**	**19 14 24.7**	**-0.7**	
	comp=Z,2.0nm,0.8s,baz=29,slow=3.0,SNR=12							
VOIR		**146.82**	**336**	⇑*i*P	**PKPab**	**19 14 27.6**	**+0.7**	
ARR	**Arges**	**147.04**	**336**	⇑*i*P	**PKPab**	**19 14 28.0**	**+0.2**	
CONA	**Conrad Observa**	**147.27**	**348**	⇑*i*SPKPdf	**PKPab**	**19 14 27.9**	**-0.7**	
	comp=Z,16nm,1.1s							
SIRR	**Siria**	**147.32**	**341**	⇑*i*P	**PKPab**	**19 14 28.8**	**+0.1**	
MOA	**Molln**	**147.63**	**350**	⇑*i*SPKPdf	**PKPab**	**19 14 28.6**	**-1.4**	
	comp=Z,12nm,1.4s							
FUR	**Furstenfeldbru**	**147.71**	**354**	*e*PKPbc	**PKPbc**	**19 14 28.3**	**+0.3**	
BFO	**Black Forest**	**147.74**	**358**	*i* PKP2	**PKPab**	**19 14 29.7**	**-0.6**	
BZS	**Buzias**	**147.91**	**340**	⇑*i*P	**PKPbc**	**19 14 29.7**	**+1.2**	
RJOB	**Jochberg**	**147.95**	**352**	*e*PKPbc	**PKPbc**	**19 14 28.7**	**0.0**	
PKSM	**Moragy**	**148.25**	**344**	⇑*i*P	**PKPab**	**19 14 31.6**	**-0.8**	
WATA	**Walderalm**	**148.50**	**354**	⇑*i*SPKPdf	**PKPbc**	**19 14 30.2**	**-0.1**	
	comp=Z,4.6nm,0.7s							
WTTA	**Wattenberg**	**148.56**	**353**	⇑*i*SPKPdf	**PKPbc**	**19 14 30.5**	**0.0**	
	comp=Z,11nm,1.1s							
DAVA	**Damuels**	**148.70**	**356**	⇑*i*SPKPdf	**PKPbc**	**19 14 30.9**	**+0.1**	
	comp=Z,16nm,1.1s,SNR=4.8							
FETA	**Feichten**	**148.89**	**355**	⇑*i*PKIKP	**PKPbc**	**19 14 32.1**	**+0.8**	
	comp=Z,16nm,1.1s,SNR=4.9							
MMAI	**Mount Meron Ar**	**148.95**	**308**	PKPbc	**PKPbc**	**19 14 30.5**	**-1.2**	
MMAI	**Mount Meron Ar**	**148.95**	**308**	PKPbc	**PKPbc**	**19 14 30.5**	**-1.2**	
	comp=Z,10nm,1.0s,baz=40,slow=2.5,SNR=5.3							
ABTA	**Abfaltersbach**	**148.96**	**352**	⇑*i*SPKPdf	**PKPbc**	**19 14 30.9**	**-0.4**	
	comp=Z,14nm,0.9s							
TUE	**Stuetta**	**149.54**	**356**	*e*PKPbc	**PKPbc**	**19 14 33.0**	**0.0**	
VTS	**Vitosha**	**149.93**	**335**	⇑*i*P	**PKPbc**	**19 14 35.5**	**+1.5**	
SSB	**Saint Sauveur**	**150.77**	**3**	*e*PKIKP	**PKPbc**	**19 14 36.0**	**+0.2**	
SSB	**Saint Sauveur**	**150.77**	**3**	*e*PKPbc	**PKPbc**	**19 14 36.0**	**+0.2**	
BNI	**Bardonecchia**	**151.05**	**360**	*e*PKIKP	**PKPab**	**19 14 41.0**	**-3.1**	
BNI	**Bardonecchia**	**151.05**	**360**	*e*PKPab	**PKPab**	**19 14 41.0**	**-3.1**	
TOA0	**Torodi Ar. Sit**	**174.46**	**120**	*e*PKPdf	**PKPdf**	**19 14 52.4**	**-1.6**	
TORD	**Torodi Ar. Bea**	**174.46**	**120**	PKP	**PKPdf**	**19 14 52.6**	**-1.4**	
TORD	**Torodi Ar. Bea**	**174.46**	**120**	PKP	**PKPdf**	**19 14 52.6**	**-1.4**	
	comp=Z,1.7nm,1.0s,baz=114,slow=0.4,SNR=7.0							

*ISCJB **16** 19:00:17.1±0.6,31°.65S±0°.07×68°.77W±0°.09,h110km, mb4.0/6,Error ellipse: s-maj=12.6km s-min=9.0km az=36.6*

*IDC **16** 19:00:17.2±0.6,31°.63S×68°.71W,h99km±4km,mb3.8/6, mb1 3.9/9,mb1mx3.7/20,mbtmp3.7/9,Error ellipse: s-maj=19.2km s-min=15.9km az=76.0*

ISC 16 19:00:17.9±0.6,31°.66S±0°.09×68°.8W±0°.1,h110km,n20, σ1s38/25,mb3.9/6,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.45**	**83**	P		**Pn**	**19 00 33.6**	**-0.8**
	131nm,0.3s,baz=277,slow=4.3,SNR=5721							
CFAA				S		**Sn**	**19 00 45.4**	**-1.5**
	86nm,0.3s,baz=168,slow=21,SNR=118							
H03N1	**Juan Fernandez**	**8.75**	**256**	T		T	19 09 33.4	
	baz=78,slow=73,SNR=76							
H03N3	**Juan Fernandez**	**8.76**	**256**	T		T	19 09 26.0	
	baz=78,slow=73,SNR=83							
H03N2	**Juan Fernandez**	**8.77**	**256**	T		T	19 09 25.1	
	baz=78,slow=73,SNR=60							
PLCA	**Paso Flores**	**9.17**	**189**	P		**Pn**	**19 02 27.4**	**+0.2**
	0.2nm,0.3s,baz=346,slow=13,SNR=4.2							
CPUP	**Villa Florida**	**11.33**	**65**	P		**Pn**	**19 02 58.1**	**+1.7**
	0.9nm,0.3s,baz=235,slow=16,SNR=2.6							
CPUP				S		**Sn**	**19 05 01.4**	**+0.4**
	1.4nm,0.3s,baz=345,slow=20,SNR=4.0							
LPAZ	**La Paz**	**15.32**	**2**	P		**Pn**	**19 03 49.1**	**+0.3**
	0.4nm,0.3s,baz=176,slow=10,SNR=16							
SIV	**San Ignacio**	**17.10**	**26**	P		**P**	**19 04 09.7**	**-0.6**
	0.3nm,0.3s,baz=215,slow=10.0,SNR=6.0							
USHA	**Ushuaia**	**23.16**	**180**	P		**P**	**19 05 15.5**	**+1.1**
	8.3nm,0.6s,baz=325,slow=12,SNR=4.7							
SNAA	**Sanae**	**52.73**	**159**	P		**P**	**19 09 22.0**	**+1.1**
	0.6nm,0.8s,baz=300,slow=8.0,SNR=4.1							
TEIG	**Tepich**	**54.88**	**337**	P		**P**	**19 09 37.3**	**+0.2**
	9.5nm,0.6s,baz=139,slow=8.2,SNR=5.6							
TXAR	**Lajitas Array**	**69.14**	**328**	P		**P**	**19 11 13.1**	**+0.6**
	0.7nm,0.6s,baz=157,slow=8.7,SNR=8.1							
TORD	**Torodi Ar. Bea**	**80.80**	**68**	P		**P**	**19 12 20.0**	**+0.3**
	2.3nm,0.8s,baz=258,slow=4.8,SNR=13							
TORD				pP		**pP**	**19 12 46.1**	**-1.8**
	1.1nm,0.6s,baz=242,slow=4.0,SNR=3.7							
PDAR	**Pinedale Array**	**83.00**	**331**	P		**P**	**19 12 32.4**	**+1.6**
	0.7nm,0.8s,baz=110,slow=7.8,SNR=2.7							
ASAR	**Alice Springs**	**120.86**	**204**	PKP		**PKPdf**	**19 18 57.3**	**-0.5**
	0.5nm,0.5s,baz=136,slow=1.4,SNR=7.6							
WRA	**Warramunga Arr**	**124.11**	**206**	PKP		**PKPdf**	**19 19 03.8**	**-0.3**
	1.2nm,0.5s,baz=159,slow=1.8,SNR=26							
WRA				pPKP		**pPKPdf**	**19 19 31.9**	**-2.1**
	0.4nm,0.7s,baz=170,slow=1.7,SNR=2.3							
AAK	**Ala-Archa**	**148.95**	**59**	PKPbc		**PKPbc**	**19 19 53.7**	**+0.7**
	2.9nm,0.7s,baz=209,slow=2.5,SNR=11							
AAK				pPKPbc		**pPKPbc**	**19 20 20.6**	**-2.1**
	1.8nm,0.7s,baz=352,slow=3.8,SNR=3.0							
KURBB	**Kurchatov Arra**	**149.28**	**42**	PKPbc		**PKPbc**	**19 19 53.3**	**0.0**
	1.0nm,0.5s,baz=306,slow=3.5,SNR=8.2							
ZALV	**Zalesovo Beam**	**150.78**	**33**	PKPbc		**PKPbc**	**19 19 57.1**	**+0.3**
	7.8nm,0.8s,baz=305,slow=3.4,SNR=24							
ZALV				pPKPbc		**pPKPbc**	**19 20 23.1**	**-3.5**
	2.0nm,0.5s,baz=325,slow=3.4,SNR=5.1							
MKAR	**Makanchi Array**	**153.15**	**47**	PKPbc		**PKPbc**	**19 20 02.5**	**+0.1**
	1.3nm,0.9s,baz=291,slow=3.0,SNR=7.7							
MKAR				PKPab		**PKPab**	**19 20 14.6**	**+0.1**
	1.0nm,0.8s,baz=290,slow=3.4,SNR=6.9							
MKAR				pPKPbc		**pPKPbc**	**19 20 30.2**	**-2.1**
	0.7nm,0.7s,baz=287,slow=2.2,SNR=4.0							

*IDC **16** 19:01:58.9±0.9,55°.80S×27°.07W,h0km,mb4.0/3, mb1 4.0/4,mb1mx3.8/17,mbtmp3.9/4,ML3.5/1,Error ellipse: s-maj=42.7km s-min=25.6km az=79.0*

*ISCJB **16** 19:02:05.4±1.1,55°.9S±0°.2×26°.9W±0°.5,h63km,mb4.1/3, Error ellipse: s-maj=41.6km s-min=19.3km az=159.4*

ISC 16 19:02:07.1±1.0,55°.9S±0°.2×27°.1W±0°.3,h63km,n13, σ0s45/7,mb4.1/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.88**	**156**	P		**P**	**19 06 21.5**	**-0.4**
	0.2nm,0.3s,baz=310,slow=10,SNR=24							
VNDA	**Vanda**	**46.75**	**183**	P		**P**	**19 10 29.8**	**+0.5**
	0.9nm,0.6s,baz=182,slow=7.5,SNR=6.6							
H10S2	**ASCENSION HYDR**	**47.81**	**17**	T		T	20 02 37.4	
	baz=190,slow=75,SNR=19							
H10S3	**ASCENSION HYDR**	**47.82**	**17**	T		T	20 02 39.1	
	baz=190,slow=75,SNR=19							
H10S1	**ASCENSION HYDR**	**47.83**	**17**	T		T	20 02 40.4	
	baz=190,slow=75,SNR=18							
H10N1	**ASCENSION HYDR**	**48.93**	**17**	T		T	20 04 03.2	
	baz=198,slow=67,SNR=9.8							
H10N3	**ASCENSION HYDR**	**48.93**	**17**	T		T	20 04 03.2	
	baz=198,slow=67,SNR=26							
H10N2	**ASCENSION HYDR**	**48.95**	**17**	T		T	20 04 02.4	
	baz=198,slow=67,SNR=15							
LPAZ	**La Paz**	**50.33**	**305**	P		**P**	**19 10 58.1**	**0.0**
	2.0nm,0.5s,baz=199,slow=6.3,SNR=22							
TORD	**Torodi Ar. Bea**	**72.87**	**29**	P		**P**	**19 13 29.4**	**+0.3**
	2.0nm,0.5s,baz=199,slow=6.3,SNR=22							
INK	**Inuvik**	**145.70**	**321**	PKPbc		**PKPbc**	**19 21 36.8**	**-0.4**
	0.4nm,0.4s,baz=96,slow=4.9,SNR=4.6							
ILAR	**Eielson Array**	**150.04**	**312**	PKPbc		**PKPbc**	**19 21 48.6**	**-0.3**
	0.6nm,0.8s,baz=131,slow=2.7,SNR=7.7							
SONM	**Songino Array**	**150.66**	**86**	PKPbc		**PKPbc**	**19 21 51.0**	**-0.1**
	0.7nm,0.8s,baz=222,slow=4.0,SNR=4.4							

*IDC **16** 19:02:19.5±1.3,13°.56S×166°.42E,h0km,mb3.8/6, mb1 4.0/8,mb1mx3.8/20,mbtmp3.9/8,ML4.0/2,Error ellipse: s-maj=31.5km s-min=23.5km az=97.0*

*ISCJB **16** 19:02:23.3±1.1,13°.58S±0°.08×166°.4E±0°.1,h39km, mb3.7/6,Error ellipse: s-maj=20.1km s-min=8.4km az=154.9*

ISC 16 19:02:25.0±1.1,13°.54S±0°.09×166°.5E±0°.1,h39km,n9, σ1s70/11,mb3.6/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.59**	**302**	Pn		**Pn**	**19 04 12.0**	**-1.3**
	3.9nm,0.3s,baz=194,slow=17,SNR=3.7							
HNR				Sn		**Sn**	**19 05 40.5**	**+2.4**
	4.4nm,0.3s,baz=150,slow=20,SNR=2.0							
DZM	**Mont Dzumac**	**8.49**	**180**	Pn		**Pn**	**19 04 24.4**	**-1.2**
	0.9nm,0.3s,baz=79,slow=22,SNR=6.6							
DZM				Sn		**Sn**	**19 06 02.8**	**+2.7**
	0.5nm,0.3s,baz=264,slow=18,SNR=1.8							
STKA	**Stephens Creek**	**29.21**	**227**	P		**P**	**19 08 23.1**	**0.0**
	1.9nm,0.8s,baz=37,slow=10,SNR=3.7							
WRA	**Warramunga Arr**	**31.40**	**254**	P		**P**	**19 08 40.9**	**-1.7**
	0.8nm,0.8s,baz=86,slow=9.7,SNR=4.9							
ASAR	**Alice Springs**	**32.41**	**247**	P		**P**	**19 08 49.9**	**-1.6**
	0.7nm,0.7s,baz=74,slow=9.5,SNR=5.0							
CMAR	**Chiang Mai Arr**	**73.77**	**294**	P		**P**	**19 13 56.9**	**+1.1**
	0.6nm,0.8s,baz=119,slow=5.6,SNR=5.0							
SONM	**Songino Array**	**81.09**	**324**	P		**P**	**19 14 36.5**	**+0.1**
	0.5nm,0.9s,baz=151,slow=6.2,SNR=3.2							
ILAR	**Eielson Array**	**85.64**	**18**	P		**P**	**19 14 59.4**	**+0.3**
	0.7nm,0.8s,baz=230,slow=4.7,SNR=4.3							
ARCES	**ARCESS Array B**	**118.91**	**345**	PKP		**PKPdf**	**19 21 09.5**	**+0.7**
	2.6nm,0.9s,baz=65,slow=1.9,SNR=14							

*IDC **16** 19:04:00.1±0.7,41°.09N×141°.51E,h85km±6km,mb4.0/27, mb1 4.1/30,mb1mx4.1/36,mbtmp4.0/30,MS3.9/2, Ms1 3.9/2,ms1mx2.9/42,Error ellipse: s-maj=11.9km s-min=8.7km az=123.0*

*BJI **16** 19:04:00.4,41°.20N×141°.40E,h90km,mB5.0/4,mb4.7/11*

*MOS **16** 19:04:00.1±0.8,41°.24N×141°.44E,h91km,mb4.3/22,Error ellipse: s-maj=8.6km s-min=6.1km az=81.6*

*NIED **16** 19:04:00,41°.20N×141°.50E,h83km,Mw4.1 Best double couple: M0 1.73000×10^15 NP1:φs187.00000°,δ58.00000°, λ78.00000°. NP2:φs29.00000°,δ34.00000°,λ109.00000°.*

*ISCJB **16** 19:04:00.2±0.2,41°.16N±0°.02×141°.51E±0°.04,h97km±1km, mb4.5/56,Error ellipse: s-maj=5.2km s-min=3.3km az=33.7*

*JMA **16** 19:04:01.0±0.1,41°.16N×141°.52E,h90km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs185.00000°,δ69.00000°,λ72.00000°. NP2:φs47.00000°, δ27.00000°,λ128.00000°. Principal axes: T Plg62.0000°, Azm68.0000°; N Plg17.0000°, Azm192.0000°; P Plg22.0000°, Azm289.0000°;*

JMA Felt II J1.

*NEIC **16** 19:04:01.4±0.5,41°.17N±0°.03×141°.51E±0°.04,h87km±4km, n214,σ0s94/244,mb4.5/56,12C-3D,Hokkaido region*

ISC 16 19:04:00.4±0.5,41°.17N±0°.03×141°.51E±0°.04,h87km±4km, n214,σ0s94/244,mb4.5/56,12C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.41**	**302**	⇑P		**Pn**	**19 04 15.1**	**+1.1**
JOT				S		**Sn**	**19 04 26.0**	**+1.8**
JTM	**Tenmabayashi**	**0.51**	**221**	⇑P		**Pn**	**19 04 15.7**	**+0.9**
JTM				S		**Sn**	**19 04 27.0**	**+1.5**
JANG	**Nango**	**0.79**	**180**	⇑P		**Pn**	**19 04 18.1**	**+0.5**
JANG				S		**Sn**	**19 04 30.5**	**+0.1**
JKB	**Kayabe**	**0.80**	**334**	⇑P		**Pn**	**19 04 18.8**	**+1.2**
JSR	**Shiriuchi**	**0.90**	**294**	⇑P		**Pn**	**19 04 19.8**	**+1.2**
JSR				S		**Sn**	**19 04 33.4**	**+1.1**
JAH	**Hinai**	**1.18**	**214**	⇑P		**Pn**	**19 04 23.3**	**+1.3**
JAH				S		**Sn**	**19 04 40.4**	**+2.2**
JIW	**Iwasaki**	**1.27**	**244**	⇑P		**Pn**	**19 04 24.2**	**+1.1**
JIW				S		**Sn**	**19 04 41.4**	**+1.1**
JYM2	**Yakumo 2**	**1.27**	**318**	⇓P		**Pn**	**19 04 24.7**	**+1.6**
JYM2				S		**Sn**	**19 04 42.2**	**+2.0**
JNB	**Noboribetsu**	**1.35**	**345**	P		**Pn**	**19 04 25.3**	**+1.3**
JNB				*e*S		**Sn**	**19 04 43.4**	**+1.6**
JNBK	**Urakawa-nobuka**	**1.45**	**40**	P		**Pn**	**19 04 26.4**	**+1.1**
JNBK				S		**Sn**	**19 04 46.4**	**+2.3**
ERM	**Erimo**	**1.50**	**55**	*c i*P		**Pn**	**19 04 27.6**	**+1.6**
ERM	**Erimo**	**1.50**	**55**	*e*P		**Pn**	**19 04 27.5**	**+1.6**
JEM	**Erimo**	**1.50**	**55**	⇓P		**Pn**	**19 04 27.5**	**+1.6**
JEM				*e*S		**Sn**	**19 04 46.3**	**+1.1**
JEW	**Eniwo**	**1.67**	**359**	P		**Pn**	**19 04 29.9**	**+1.8**
JEW				*e*S		**Sn**	**19 04 51.1**	**+1.9**
JOM	**Ohasama**	**1.70**	**186**	⇑P		**Pn**	**19 04 29.5**	**+0.9**
JOM				S		**Sn**	**19 04 50.8**	**+0.9**
JOSM	**Okushiri--Mats**	**1.78**	**302**	⇓P		**Pn**	**19 04 30.3**	**+0.8**
JOSM				*e*S		**Sn**	**19 04 52.2**	**+0.6**
ASAJ	**Asahikawa**	**3.05**	**15**	*e*P		**Pn**	**19 04 47.3**	**+0.8**
ASAJ				S		**Sn**	**19 05 23.8**	**+1.7**
ASAJ	**Asahikawa**	**3.05**	**15**	P		**Pn**	**19 04 48.0**	**+1.5**
	11nm,0.3s,baz=220,slow=11,SNR=168							
ASAJ				S		**Sn**	**19 05 23.8**	**+1.7**
	16nm,0.3s,baz=20,slow=30,SNR=4.2							
YUK	**Yuzh-Kuril'sk**	**4.30**	**47**	*c i*P		**Pn**	**19 05 03.9**	**+0.5**
YUK				*i* S		**Sn**	**19 05 50.3**	**-2.1**
YUK				pmax	pmax			
	comp=Z,162nm,0.3s							
YUK				pmax	pmax			
	comp=N,20nm,0.2s							
YUK				pmax	pmax			
	comp=E,30nm,0.2s							
YUK				smax	smax			
	comp=N,723nm,0.6s							
YUK				smax	smax			
	comp=E,1μm,0.6s							
MAJO	**Matsushiro**	**5.29**	**210**	*i* P		**Pn**	**19 05 19.4**	**+2.5**
MAJO	**Matsushiro**	**5.29**	**210**	*e*P		**Pn**	**19 05 19.7**	**+2.8**
	comp=E,14nm,0.6s							
MAT	**Matsushiro**	**5.29**	**210**	P		**Pn**	**19 05 18.5**	**+1.6**
MAT				*e*S		**Sn**	**19 06 17.5**	**+1.0**
MJAR	**Matsushiro Arr**	**5.29**	**210**	P		**Pn**	**19 05 18.5**	**+1.6**
MJAR	**Matsushiro Arr**	**5.29**	**210**	P		**Pn**	**19 05 18.5**	**+1.6**
	comp=E,1.5nm,0.3s,baz=9.6,slow=16,SNR=14							
YSS	**Yuzh-Sakhalins**	**5.85**	**8**	⇑*i*P		**Pn**	**19 05 25.0**	**+0.5**
YSS				*e*S		**Sn**	**19 06 31.0**	**+0.9**
YSS				pmax	pmax			
	comp=Z,30nm,0.8s							
YSS	**Yuzh-Sakhalins**	**5.85**	**8**	*e*P		**Pn**	**19 05 25.7**	**+1.2**
	comp=Z,16nm,0.5s							
KUR	**Kuril'sk**	**6.17**	**47**	P		**Pn**	**19 05 30.5**	**+1.7**
KUR				S		**Sn**	**19 06 37.5**	**-0.4**
KUR				smax	smax			
	comp=N,265nm,0.2s							
KUR				smax	smax			
	comp=E,162nm,0.3s							
VLA	**Vladivostok**	**7.41**	**288**	*e*P		**Pn**	**19 05 48.2**	**+2.5**
VLA				pmax	pmax			
	comp=Z,64nm,1.3s							
USRK	**Ussuriysk Arra**	**7.64**	**297**	P		**Pn**	**19 05 50.9**	**+2.1**
	comp=Z,2.0nm,0.3s,baz=97,slow=14,SNR=36							
HABR	**Khabarovsk**	**8.62**	**330**	P		**Pn**	**19 06 00.3**	**-1.9**
HABR				*e*S		**Sn**	**19 07 34.7**	**-3.0**
HABR				pmax	pmax			
	comp=Z,26nm,1.7s							
HABR				smax	smax			
	comp=N,24nm,2.1s							
HABR				smax	smax			
	comp=E,44nm,2.1s							
HABR				smax	smax			
	comp=Z,43nm,2.1s							
KSRS	**Korea Array**	**11.16**	**255**	P		**Pn**	**19 06 37.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=74,slow=13,SNR=4.2							
KSAR	**Wonju Array Be**	**11.19**	**255**	P		**Pn**	**19 06 37.1**	**-0.2**
JCJ	**Chichijima**	**14.05**	**178**	LR		LR	19 12 23.6	
	comp=Z,185nm,21.4s,baz=236,slow=36							
PETK	**Petropavlovsk-**	**16.20**	**37**	P		**Pn**	**19 07 40.9**	**-1.7**
PETK	**Petropavlovsk-**	**16.20**	**37**	P		**Pn**	**19 07 40.9**	**-1.7**
PETK	**Petropavlovsk-**	**16.20**	**37**	P		**Pn**	**19 07 40.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=206,slow=13,SNR=4.7							
HHC	**Hu-ho-hao-te**	**22.55**	**279**	*e*P		**P**	**19 08 51.9**	**-1.4**
HHC				S		S	19 12 46.6	-7.8
HHC				pmax	pmax			
	comp=Z,34nm,0.7s							
HHC				pmax	pmax			
	comp=Z,160nm,4.6s							
SEY	**Seymchan**	**22.74**	**13**	P		**P**	**19 08 54.8**	**-0.1**
SEY				pmax	pmax			
	comp=Z,3.0nm,0.4s							
SEY	**Seymchan**	**22.74**	**13**	P		**P**	**19 08 54.8**	**-0.1**
SEY	**Seymchan**	**22.74**	**13**	P		**P**	**19 08 54.8**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=175,slow=12,SNR=6.6							
FX1	**Attu Island--F**	**24.35**	**50**	P		**P**	**19 09 09.2**	**-0.7**
FX1	**Attu Island--F**	**24.35**	**50**	P		**P**	**19 09 09.2**	**-0.7**
	comp=Z,4.5nm,0.6s,baz=293,slow=7.7,SNR=2.9							
SONM	**Songino Array**	**25.75**	**297**	P		**P**	**19 09 22.4**	**-0.5**
SONM				PcP		**PcP**	**19 12 50.2**	**-0.2**
SONM	**Songino Array**	**25.75**	**297**	P		**P**	**19 09 22.4**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=89,slow=8.2,SNR=19							
SONM				PcP		**PcP**	**19 12 50.2**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=102,slow=3.5,SNR=3.0							
ENH	**Enshi**	**28.03**	**257**	*e*P		**P**	**19 09 41.0

DMN	Daman	47.70	272	*e*P		P	19 12 29.0	+0.4	
	comp=Z,24nm,0.8s								
DMN	Daman	47.70	272	*e*P		P	19 12 29.0	+0.4	
	comp=Z,24nm,0.8s								
TKM2	Tokmak 2	47.83	295	*e*P		P	19 12 29.6	+0.2	
TKM2				pmax	pmax				
	comp=Z,19nm,0.6s								
TKM2	Tokmak 2	47.83	295	*e*P		P	19 12 29.6	+0.2	
	comp=Z,19nm,0.6s								
GKN	Gorkha	47.84	273	*e*P		P	19 12 29.4	-0.2	
	comp=Z,30nm,0.6s								
GKN	Gorkha	47.84	273	*e*P		P	19 12 29.4	-0.2	
	comp=Z,30nm,0.6s								
BVAR	Borovoye Array	47.92	310	P		P	19 12 29.9	+0.2	
BVAR							19 13 56.9		
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.4s								
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BVAR	Borovoye Array	47.92	310	P		P	19 12 29.9	+0.2	
BVAR				PcP		PcP	19 13 56.9	+0.2	
BVAR	Borovoye Array	47.92	310	P		P	19 12 29.9	+0.2	
	comp=Z,2.3nm,0.4s,baz=68,slow=7.9,SNR=12								
BVAR				PcP		PcP	19 13 56.9	+0.2	
	comp=Z,0.6nm,0.4s,baz=73,slow=4.8,SNR=2.6								
DANN	Dangsing	48.33	274	*e*P		P	19 12 33.7	+0.2	
	comp=Z,131nm,0.6s								
DANN	Dangsing	48.33	274	*e*P		P	19 12 33.7	+0.2	
	comp=Z,131nm,0.6s								
AAK	Ala-Archa	48.69	295	*e*P		P	19 12 36.2	+0.2	
AAK				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AAK	Ala-Archa	48.69	295	*e*P		P	19 12 36.2	+0.2	
	comp=Z,3.7nm,0.6s								
AAK	Ala-Archa	48.69	295	P		P	19 12 36.7	+0.7	
	comp=Z,2.8nm,0.3s,baz=101,slow=6.1,SNR=12								
KOLN	Koldanda	48.75	273	*e*P		P	19 12 38.0	+1.4	
	comp=Z,28nm,0.8s								
KOLN	Koldanda	48.75	273	*e*P		P	19 12 38.0	+1.4	
	comp=Z,28nm,0.8s								
KSH	Kashi	48.89	291	P		P	19 12 43.3	+5.8	
KSH				pmax	pmax				
	comp=Z,73nm,4.4s								
PYUN	Piuthan	49.04	274	*e*P		P	19 12 40.0	+1.2	
	comp=Z,40nm,0.6s								
PYUN	Piuthan	49.04	274	*e*P		P	19 12 40.0	+1.2	
	comp=Z,40nm,0.6s								
INK	Inuvik	50.70	29	*e*P		P	19 12 51.7	+1.1	
INK	Inuvik	50.70	29	P		P	19 12 51.6	+1.1	
	comp=Z,7.0nm,0.5s,baz=302,slow=6.5,SNR=51								
DLBC	Dease Lake	55.37	40	P		P	19 13 26.8	+1.7	
DLBC	Dease Lake	55.37	40	P		P	19 13 26.8	+1.7	
	comp=Z,1.0nm,0.5s,baz=315,slow=8.6,SNR=3.7								
AKTO	Aktyubinsk	56.02	310	P		P	19 13 31.1	+1.3	
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKTO	Aktyubinsk	56.02	310	P		P	19 13 31.1	+1.3	
AKTO	Aktyubinsk	56.02	310	P		P	19 13 31.1	+1.3	
	comp=Z,0.6nm,0.4s,baz=72,slow=6.4,SNR=2.8								
RES	Resolute Bay	58.59	15	P		P	19 13 47.5	+0.1	
RES	Resolute Bay	58.59	15	P		P	19 13 47.5	+0.1	
	comp=Z,3.3nm,0.7s,baz=302,slow=4.2,SNR=15								
ARCES	ARCESS Array B	60.17	339	P		P	19 13 58.4	-0.1	
ARCES	ARCESS Array B	60.17	339	P		P	19 13 58.3	-0.1	
	comp=Z,2.0nm,0.7s,baz=70,slow=7.8,SNR=3.7								
YKA	Yellowknife Ar	60.22	31	P		P	19 13 59.2	+0.3	
YKA	Yellowknife Ar	60.22	31	P		P	19 13 59.2	+0.3	
	comp=Z,1.3nm,0.6s,baz=301,slow=6.7,SNR=16								
WRA	Warramunga Arr	61.16	188	P		P	19 14 04.7	-1.1	
WRA				pP		pP	19 14 25.9	-1.7	
WRA	Warramunga Arr	61.16	188	P		P	19 14 04.7	-1.1	
	comp=Z,1.7nm,0.4s,baz=6.1,slow=7.2,SNR=40								
WRA				pP		pP	19 14 25.9	-1.7	
	comp=Z,1.0nm,0.5s,baz=5.3,slow=6.9,SNR=4.1								
ASAR	Alice Springs	64.89	188	P		P	19 14 30.0	-0.4	
ASAR				pP		pP	19 14 51.5	-0.9	
ASAR	Alice Springs	64.89	188	P		P	19 14 30.0	-0.4	
	comp=Z,1.5nm,0.5s,baz=5.6,slow=7.7,SNR=32								
ASAR				pP		pP	19 14 51.5	-0.9	
	comp=Z,1.0nm,0.7s,baz=2.2,slow=6.1,SNR=5.0								
FINES	FINESS Array B	65.21	331	P		P	19 14 32.1	0.0	
FINES	FINESS Array B	65.21	331	P		P	19 14 32.1	0.0	
	comp=Z,3.3nm,0.8s,baz=45,slow=8.5,SNR=7.2								
KBZ	Khabaz	68.30	310	P		P	19 14 52.1	+0.1	
KBZ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
KBZ	Khabaz	68.30	310	P		P	19 14 52.0	+0.1	
KBZ	Khabaz	68.30	310	P		P	19 14 52.0	+0.1	
	comp=Z,2.0nm,0.9s,baz=90,slow=10,SNR=2.8								
JTMT	Jette	68.97	44	*e*P		P	19 14 54.0	-2.3	
	comp=Z,3.3nm,0.9s								
NB2	NORSAR Subarra	70.41	337	P		P	19 15 04.6	-0.2	
	comp=Z,3.3nm,0.8s,baz=39,slow=6.5								
NOA	NORSAR Array B	70.41	337	P		P	19 15 04.7	-0.1	
NOA	NORSAR Array B	70.41	337	P		P	19 15 04.7	-0.1	
	comp=Z,1.8nm,0.6s,baz=38,slow=6.1,SNR=7.1								
AKASG	Malin Array Be	71.09	322	P		P	19 15 08.8	-0.2	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG	Malin Array Be	71.09	322	P		P	19 15 08.8	-0.2	
AKASG	Malin Array Be	71.09	322	P		P	19 15 08.8	-0.2	
	comp=Z,0.8nm,0.4s,baz=44,slow=6.4,SNR=7.6								
FRB	Frobisher Bay	72.74	13	P		P	19 15 18.6	+0.1	
FRB	Frobisher Bay	72.74	13	P		P	19 15 18.6	+0.1	
	comp=Z,4.1nm,0.5s,baz=352,slow=6.0,SNR=7.6								
PDAR	Pinedale Array	74.74	46	P		P	19 15 31.5	+0.5	
PDAR	Pinedale Array	74.74	46	P		P	19 15 31.5	+0.5	
	comp=Z,2.3nm,0.6s,baz=258,slow=1.7,SNR=18								
KHC	Kasperske Hory	79.07	328	*e*P		P	19 15 55.6	+0.6	
KHC	Kasperske Hory	79.07	328	*e*P		P	19 15 55.6	+0.6	
GERES	GERESS Array B	79.25	328	P		P	19 15 56.3	+0.3	
GERES	GERESS Array B	79.25	328	P		P	19 15 56.3	+0.3	
	comp=Z,0.7nm,0.5s,baz=27,slow=6.6,SNR=6.6								
SCHQ	Schefferville	81.35	16	P		P	19 16 07.2	+0.2	
SCHQ	Schefferville	81.35	16	P		P	19 16 07.2	+0.2	
	comp=Z,4.6nm,1.0s,baz=334,slow=11,SNR=3.3								
SCHQ				LR		LR	19 56 17.6		
	comp=Z,204nm,19.7s,baz=63,slow=38								
CDF	Champ du Feu	82.06	331	*e*P		P	19 16 11.0	0.0	
CDF	Champ du Feu	82.06	331	*e*P		P	19 16 11.0	0.0	
CDF	Champ du Feu	82.06	331	*e*P		P	19 16 11.0	0.0	
PAGF	Fort de Pagny	82.50	332	*e*P		P	19 16 13.4	+0.2	
	comp=Z,2.1nm,0.7s								
PAGF	Fort de Pagny	82.50	332	*e*P		P	19 16 13.4	+0.2	
	comp=Z,2.1nm,0.7s								
CABF	La Chapelle	84.01	331	*e*P		P	19 16 20.9	-0.2	
CABF	La Chapelle	84.01	331	*e*P		P	19 16 20.9	-0.2	
CABF	La Chapelle	84.01	331	*e*P		P	19 16 20.9	-0.2	
LOR	Lormes	84.25	333	*e*P		P	19 16 22.0	-0.2	
LOR	Lormes	84.25	333	*e*P		P	19 16 22.0	-0.2	
FLN	La Foliniere	84.37	336	*e*P		P	19 16 22.4	-0.4	
FLN	La Foliniere	84.37	336	*e*P		P	19 16 22.4	-0.4	
FLN	La Foliniere	84.37	336	*e*P		P	19 16 22.4	-0.4	
LDF	La Druitiere	84.41	336	*e*P		P	19 16 22.5	-0.5	
LDF	La Druitiere	84.41	336	*e*P		P	19 16 22.5	-0.5	
LDF	La Druitiere	84.41	336	*e*P		P	19 16 22.5	-0.5	
SSF	Saint Saulge	84.55	333	*e*P		P	19 16 23.5	-0.2	
SSF	Saint Saulge	84.55	333	*e*P		P	19 16 23.5	-0.2	
SSF	Saint Saulge	84.55	333	*e*P		P	19 16 23.5	-0.2	
LPL	La Plagne	84.69	330	*e*P		P	19 16 25.0	+0.2	
	comp=Z,5.3nm,0.5s								
LPL	La Plagne	84.69	330	*e*P		P	19 16 25.0	+0.2	
LPL				pmax	pmax				
	comp=Z,5.0nm,0.5s								
LPL	La Plagne	84.69	330	*e*P		P	19 16 25.0	+0.2	
	comp=Z,5.3nm,0.5s								
LPG	La Plagne	84.70	330	*e*P		P	19 16 25.1	+0.2	
	comp=Z,14nm,0.8s								
LPG	La Plagne	84.70	330	*e*P		P	19 16 25.1	+0.2	
LPG				pmax	pmax				
	comp=Z,14nm,0.8s								
LPG	La Plagne	84.70	330	*e*P		P	19 16 25.1	+0.2	
	comp=Z,14nm,0.8s								
GRR	Gorron	84.82	336	*e*P		P	19 16 25.0	0.0	
GRR	Gorron	84.82	336	*e*P		P	19 16 25.0	0.0	
GRR	Gorron	84.82	336	*e*P		P	19 16 25.0	0.0	
AVF	Avril sur Loir	84.83	333	*e*P		P	19 16 25.2	+0.1	
	comp=Z,11nm,0.8s								
AVF	Avril sur Loir	84.83	333	*e*P		P	19 16 25.2	+0.1	
AVF				pmax	pmax				
	comp=Z,11nm,0.8s								
AVF	Avril sur Loir	84.83	333	*e*P		P	19 16 25.2	+0.1	
	comp=Z,11nm,0.8s								
BGF	Bois d'Agland	85.21	333	*e*P		P	19 16 27.2	+0.1	
BGF	Bois d'Agland	85.21	333	*e*P		P	19 16 27.2	+0.1	
BGF	Bois d'Agland	85.21	333	*e*P		P	19 16 27.2	+0.1	
MBDF	Montbardon	85.35	329	*e*P		P	19 16 27.4	-0.6	
MBDF	Montbardon	85.35	329	*e*P		P	19 16 27.4	-0.6	
MBDF	Montbardon	85.35	329	*e*P		P	19 16 27.4	-0.6	
ORIF	Oris-en-Rattie	85.52	330	*e*P		P	19 16 28.8	0.0	
ORIF	Oris-en-Rattie	85.52	330	*e*P		P	19 16 28.8	0.0	
ORIF	Oris-en-Rattie	85.52	330	*e*P		P	19 16 28.8	0.0	
ROSF	Rostrenen	85.59	337	*e*P		P	19 16 29.3	+0.4	
ROSF	Rostrenen	85.59	337	*e*P		P	19 16 29.3	+0.4	
ROSF	Rostrenen	85.59	337	*e*P		P	19 16 29.3	+0.4	
TCF	Toulx Ste Croi	85.67	333	*e*P		P	19 16 29.5	+0.1	
	comp=Z,17nm,1.1s								
TCF	Toulx Ste Croi	85.67	333	*e*P		P	19 16 29.5	+0.1	
TCF				pmax	pmax				
	comp=Z,17nm,1.1s								
TCF	Toulx Ste Croi	85.67	333	*e*P		P	19 16 29.5	+0.1	
	comp=Z,17nm,1.1s								
QUIF	Quistinic	85.94	337	*e*P		P	19 16 31.3	+0.7	
QUIF	Quistinic	85.94	337	*e*P		P	19 16 31.3	+0.7	
QUIF	Quistinic	85.94	337	*e*P		P	19 16 31.3	+0.7	
VIVF	Saint-Julien-l	86.03	331	*e*P		P	19 16 31.3	+0.1	
VIVF	Saint-Julien-l	86.03	331	*e*P		P	19 16 31.3	+0.1	
VIVF	Saint-Julien-l	86.03	331	*e*P		P	19 16 31.3	+0.1	
MFF	Saint Martin d	86.17	335	*e*P		P	19 16 32.3	+0.5	
	comp=Z,8.9nm,0.7s								
MFF	Saint Martin d	86.17	335	*e*P		P	19 16 32.3	+0.5	
MFF				pmax	pmax				
	comp=Z,9.0nm,0.7s								
MFF	Saint Martin d	86.17	335	*e*P		P	19 16 32.3	+0.5	
	comp=Z,8.9nm,0.7s								
CAF	Calviac	86.90	332	*e*P		P	19 16 36.3	+0.8	
CAF	Calviac	86.90	332	*e*P		P	19 16 36.3	+0.8	
CAF	Calviac	86.90	332	*e*P		P	19 16 36.3	+0.8	
TXAR	Lajitas Array	87.55	52	P		P	19 16 39.6	+0.7	
TXAR	Lajitas Array	87.55	52	P		P	19 16 39.6	+0.7	
	comp=Z,0.2nm,0.4s,baz=310,slow=2.2,SNR=3.1								
VNA2	Neumayer--Watz	146.29	198	*e*PKP		PKPbc	19 23 29.4	-0.3	
	baz=123,slow=2.9								
VNA2	Neumayer--Watz	146.29	198	*e*		pPKPdf	19 23 49.3	-3.3	
	baz=123,slow=2.9								
H03N2	Juan Fernandez	147.15	90	T		T	22 08 32.4		
	baz=296,slow=75,SNR=21								
H03N3	Juan Fernandez	147.17	90	T		T	22 08 33.6		
	baz=296,slow=75,SNR=12								
H03N1	Juan Fernandez	147.17	90	T		T	22 08 33.6		
	baz=296,slow=75,SNR=18								

IDC **16** *19:07:35.8±1.0, 43.˚45N×105.˚24W, h0km, mb1 3.6/5, mb1mx3.4/31, mbtmp3.2/5, ML3.3/5, Error ellipse: s-maj=20.0km s-min=9.1km az=150.0*
ISCJB **16** *19:07:37.5±0.2, 43.˚77N±0.˚01×105.˚28W±0.˚02, h0km, Error ellipse: s-maj=2.1km s-min=2.0km az=177.3*
NEIC **16** *19:07:38.2±0.3, 43.˚77N×105.˚23W, h0km, ML3.2, Error ellipse: s-maj=4.8km s-min=4.1km az=141.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.

ISC 16 19:07:37.6±0.7, 43.73N±0.˚02×105.˚26W±0.˚02, h0km, n122, σ0s99/133, 51C-38D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.27	327	P		P	Pg	19 07 43.6	+0.8
	baz=0.3,SNR=183								
J23A	Dilts Ranch, B	0.39	213	P		P	Pb	19 07 46.3	-1.2
	baz=0.4,SNR=51								
I24A	Kuemmerle Ranc	0.48	74	⇑P		P	Pg	19 07 47.2	+0.5
	baz=0.4,SNR=144								
I24A				⇑S			Sg	19 07 52.8	-0.1
	baz=0.4								
J24A	Dixon Ranch, L	0.59	133	⇑P		P	Pb	19 07 49.9	-1.0
	baz=0.6,SNR=122								
H23A	Clabaugh Cattl	0.83	353	⇑P		P	Pg	19 07 53.2	-0.3
	baz=0.8								
H23A				⇓S			Sg	19 08 03.9	-0.5
	baz=0.8								
I22A	9 Mile Ranch,	0.90	281	P		P	Pg	19 07 55.1	+0.3
	baz=0.9,SNR=215								
I22A				⇑S			Sg	19 08 06.4	0.0
	baz=0.9								
J22A	Midwest	0.94	251	⇓P		P	Pg	19 07 55.4	-0.2
	baz=1.0,SNR=24								
RSSD	Black Hills	0.97	66	*e*Pg		P	Pg	19 07 55.8	-0.3
K23A	Bowen Ranch, D	1.01	195	⇓P		P	Pb	19 07 57.8	-0.3
	baz=1.1								
K24A	Anderson Ranch	1.06	162	⇑P		P	Pb	19 07 58.2	-0.8
	baz=1.1,SNR=157								
J25A	Sunshine Ranch	1.11	107	⇑P		P	Pb	19 07 58.8	-1.0
	baz=1.1,SNR=264								
H24A	Dirks Ranch, A	1.13	26	⇑P		P	Pg	19 07 58.4	-0.9
	baz=1.1,SNR=192								
H24A				⇑S			Sg	19 08 14.0	0.0
	baz=1.1								
I25A	Rochford	1.14	75	⇓P		P	Pg	19 07 59.0	-0.5
	baz=1.1,SNR=82								
H22A	Clearmont	1.17	318	P		P	Pg	19 07 59.6	-0.3
	baz=1.2,SNR=145								
H22A				⇓S			Sg	19 08 15.7	+0.6
	baz=1.2								
K22A	Casper	1.42	221	*e*Pn		P	Pn	19 08 04.2	-0.7
K22A	Casper	1.42	221	⇓P		P	Pn	19 08 04.3	-0.6
	baz=1.5,SNR=14								
K22A				⇓S			Sn	19 08 25.5	+1.2
	baz=1.5								
G23A	Biddle	1.47	356	⇑P		P	Pn	19 08 04.5	-1.0
	baz=1.4,SNR=519								
G23A				⇑S			Sg	19 08 25.2	+0.3
	baz=1.4								
I21A	Big Trails, Te	1.47	274	⇑P		P	Pn	19 08 04.2	-1.3
	baz=1.5,SNR=162								
H25A	Fruitdale	1.49	53	⇑P		P	Pn	19 08 05.2	-0.5
	baz=1.4,SNR=48								
H25A				⇓S			Sn	19 08 26.1	+0.3
	baz=1.4								
K25A	Mack Ranch, Ha	1.51	137	⇑P		P	Pg	19 08 06.2	-0.3
	baz=1.5,SNR=28								
K25A				⇑S			Sn	19 08 27.6	+1.1
	baz=1.5								
H21A	Big Horn, Sher	1.56	306	⇓P		P	Pn	19 08 06.6	-0.2
	baz=1.6,SNR=59								
J21A	Lysite	1.64	257	⇑P		P	Pn	19 08 07.4	-0.4
	baz=1.7,SNR=223								
J26A	Sieds Ranch, S	1.64	104	⇑P		P	Pg	19 08 08.3	-0.8
	baz=1.6,SNR=48								
J26A				⇓Sb			Sg	19 08 32.0	+1.6
	baz=1.6								
G22A	Birney	1.66	334	P		P	Pn	19 08 08.3	+0.2
	baz=1.6,SNR=103								
G24A	Alzada	1.71	20	⇑P		P	Pn	19 08 08.6	-0.1
	baz=1.7,SNR=63								
G24A				⇓Sb			Sg	19 08 32.6	+0.3
	baz=1.7								
L24A	Wheatland	1.71	172	⇑P		P	Pg	19 08 09.7	-0.6
	baz=1.7,SNR=23								
L24A				⇑Sb			Sg	19 08 34.3	+1.9
	baz=1.7								
I26A	New Underwood	1.76	79	⇓P		P	Pb	19 08 10.0	-0.8
	baz=1.7,SNR=7.9								
K21A	Alcova	1.82	234	⇑P		P	Pb	19 08 11.2	-0.7
	baz=1.9,SNR=84								
K21A				⇑S			Sg	19 08 35.9	-0.3
	baz=1.9								
K26A	Motz Farm, Whi	1.84	123	⇑P		P	Pb	19 08 11.2	-0.9
	baz=1.8								
L25A	Engebretsen Ra	1.84	148	⇓P		P	Pg	19 08 12.0	-0.8
	baz=1.9,SNR=22								
L22A	Ellis Ranch, M	1.91	207	⇓P		P	Pb	19 08 12.7	-0.7
	baz=1.9,SNR=15								
G25A	Newell	1.97	41	⇑P		P	Pn	19 08 13.0	+0.8
	baz=1.9,SNR=59								
F23A	Volborg	1.99	357	⇑P		P	Pn	19 08 12.6	+0.1
	baz=2.0,SNR=100								
F23A				⇓S			Sn	19 08 39.2	+1.0
	baz=2.0								
H26A	Fairpoint	2.00	63	⇓Pb		P	Pb	19 08 14.4	-0.4
	baz=2.0								
G21A	Lodge Grass	2.04	318	⇓P		P	Pn	19 08 13.4	+0.1
	baz=2.0,SNR=78								
I20A	Worland	2.09	277	P		P	Pn	19 08 14.6	+0.7
	baz=2.1,SNR=84								
J20A	Shoshoni	2.09	260	⇓Pb		P	Pb	19 08 16.4	-0.1
	baz=2.1,SNR=116								
H20A	Greybull	2.11	292	⇑P		P	Pn	19 08 14.5	+0.2
	baz=2.1,SNR=30								
F22A	Rosebud	2.17	341	⇓P		P	Pn	19 08 14.8	-0.2
	baz=2.1,SNR=57								
F24A	Ekalaka	2.19	15	⇑P		P	Pn	19 08 15.7	+0.3
	baz=2.1,SNR=15								
M24A	Cheyenne	2.29	172	⇑P		P	Pb	19 08 18.8	-1.0
	baz=2.3								
M23A	Laramie	2.29	189	⇓P		P	Pb	19 08 17.9	-2.0
	baz=2.3,SNR=28								
L26A	Underwood Farm	2.33	136	⇑P		P	Pb	19 08 19.6	-0.9
	baz=2.3								
I27A	Quinn	2.34	81	⇑P		P	Pb	19 08 19.3	-1.4
	baz=2.3								
J27A	Elkhorn Farm,	2.42	100	⇑P		P	Pb	19 08 20.5	-1.4
	baz=2.4								
K27A	Flueckinger Fa	2.44	114	⇑P		P	Pb	19 08 20.6	-1.8
	baz=2.4								
H27A	Howes	2.46	67	⇑P		P	Pn	19 08 20.3	+1.3
	baz=2.4								
G26A	Maurine	2.46	50	⇓P		P	Pn	19 08 20.0	+1.0
	baz=2.4,SNR=42								
M25A	Palm-Egli Farm	2.46	158	⇑P		P	Pb	19 08 20.8	-2.0
	baz=2.5								
F21A	Absaloka Mine,	2.48	328	⇑P		P	Pn	19 08 19.0	-0.3
	baz=2.5								
M22A	Cedar Creek Ra	2.53	203	⇓P		P	Pb	19 08 22.1	-1.9
	baz=2.6,SNR=124								
F25A	Bowman	2.54	30	⇑P		P	Pn	19 08 21.2	+1.1
	baz=2.5								
G20A	Bridger	2.58	306	⇑P		P	Pn	19 08 20.4	-0.4
	baz=2.6,SNR=75								
I19A	Meeteetse	2.72	278	⇑P		P	Pn	19 08 23.6	+0.9
	baz=2.7,SNR=18								
E22A	Miles City	2.75	350	⇑P		P	Pn	19 08 22.5	-0.5
	baz=2.7,SNR=8.9								
J19A	Crowheart	2.80	262	⇓P		P	Pn	19 08 25.3	+1.5
	baz=2.8,SNR=26								
H19A	Powell	2.84	291	⇓P		P	Pn	19 08 24.8	+0.5
	baz=2.8,SNR=13								
N23A	Red Feather La	2.88	190	⇓P		P	Pn	19 08 26.5	+1.5
	baz=2.9,SNR=6.0								
G27A	Dupree	2.89	54	⇓P		P	Pn	19 08 25.6	+0.6
	baz=2.9,SNR=7.7								
E24A	Baker	2.91	13	⇑P		P	Pn	19 08 25.8	+0.6
	baz=2.9,SNR=13								
F20A	Billings	2.92	316	⇓P		P	Pn	19 08 24.9	-0.5
	baz=2.9,SNR=17								
LAO	LASA Array	3.03	347	*e*Pn		P	Pn	19 08 27.0	+0.1
RLMT	Red Lodge	3.19	297	*e*Pn		P	Pn	19 08 29.7	+0.5
BW06	Boulder Array	3.29	254	*e*P		P	Pn	19 08 31.9	+1.4
PDAR	Pinedale Array	3.29	254	Pn		P	Pn	19 08 31.6	+1.1
PDAR				Lg		Lg	Lg	19 09 15.7	
PDAR	Pinedale Array	3.29	254	Pn		P	Pn	19 08 31.6	+1.1
	2.1nm,0.3s,baz=73,slow=19,SNR=24								
PDAR				Lg		Lg	Lg	19 09 15.7	
	2.8nm,0.3s,baz=72,slow=32,SNR=3.5								
H18A	Shoshone NF, C	3.30	288	⇓P		P	Pn	19 08 30.8	0.0
	baz=3.3,SNR=14								
F19A	Roth Farm, Mol	3.37	310	P		P	Pn	19 08 32.0	+0.5
	baz=3.4,SNR=66								
D24A	Glendive	3.44	11	⇑P		P	Pn	19 08 33.4	+0.8
	baz=3.4,SNR=6.9								
D22A	Cohagen	3.48	350	⇓P		P	Pn	19 08 32.9	-0.1
	baz=3.4,SNR=9.0								
O23A	Lake Granby, G	3.55	188	⇓P		P	Pn	19 08 36.4	+2.2
	baz=3.6,SNR=19								
N20A	Spence Gulch,	3.66	219	⇑P		P	Pn	19 08 37.1	+1.5
	baz=3.7,SNR=5.7								
OGNE	Ogallala	3.67	138	*e*Pn		P	Pn	19 08 36.8	+1.1
OGNE				*e*Pg		P	Pg	19 08 46.8	-1.2
GCMT	Greycliff	3.75	305	*e*Pn		P	Pn	19 08 37.3	+0.4
C24A	Savage	3.84	8	⇑P		P	Pn	19 08 38.9	+0.9
	baz=3.8,SNR=9.9								
H17A	Grant Village	3.89	282	*e*Pn		P	Pn	19 08 39.1	+0.3
D20A	Manuel Ranch,	3.92	330	⇑P		P	Pn	19 08 38.6	-0.5
	baz=3.9,SNR=19								
ISCO	Idaho Springs	3.94	184	*e*Pn		P	Pn	19 08 41.2	+1.7
ISCO	Idaho Springs	3.94	184	⇑P		P	Pn	19 08 41.3	+1.7
	baz=4.0,SNR

KRVZ					AML	AML	19 20 52.9	
WTVZ	**West Tongariro**	**0.36**	**262**	⇓PG	Pg	Pg	19 20 45.7	+0.5
WTVZ					AML	AML	19 20 51.8	
WTVZ					AML	AML	19 20 56.5	
NGZ	**Ngauruhoe**	**0.36**	**252**	⇓PG	Pg	Pg	19 20 45.7	+0.4
NGZ					AML	AML	19 20 52.7	
NGZ					AML	AML	19 20 55.3	
BKZ	**Black Stump Fm**	**0.36**	**106**	⇑PG	Pg	Pg	19 20 44.5	-0.7
BKZ					AML	AML	19 20 49.5	
BKZ					AML	AML	19 20 49.6	
TUVZ	**Tukino**	**0.36**	**236**	⇓PG	Pg	Pg	19 20 45.6	+0.2
TUVZ					AML	AML	19 20 54.5	
TUVZ					AML	AML	19 20 56.6	
WHTZ	**Whakaora**	**0.40**	**350**	⇑PG	Pb	Pb	19 20 46.9	-0.9
MOVZ	**Moawhango**	**0.41**	**213**	⇓PG	Pg	Pg	19 20 45.7	-0.4
MOVZ					AML	AML	19 20 53.0	
MOVZ					AML	AML	19 20 54.2	
COVZ	**Chateau Observ**	**0.41**	**251**	⇓PG	Pg	Pg	19 20 46.5	+0.3
WPVZ	**Whakapapa**	**0.41**	**250**	⇓PG	Pg	Pg	19 20 46.5	+0.3
WPVZ					AML	AML	19 20 54.1	
WPVZ					AML	AML	19 20 55.5	
WHVZ	**Whangaehu Hut**	**0.41**	**238**	⇓PG	Pg	Pg	19 20 46.5	+0.1
BHHZ	**Black Hill Sta**	**0.42**	**178**	⇓PG	Pg	Pg	19 20 46.0	-0.4
BHHZ					SG	Sg	19 20 51.6	-0.4
FWVZ	**Far West T-bar**	**0.43**	**243**	⇓PG	Pg	Pg	19 20 46.7	0.0
FWVZ					AML	AML	19 20 54.2	
FWVZ					AML	AML	19 20 54.3	
DRZ	**Dome Shelter**	**0.43**	**240**	⇑PG	Pg	Pg	19 20 46.8	0.0
DRZ					AML	AML	19 20 53.4	
DRZ					AML	AML	19 20 56.5	
WATZ	**Wairara**	**0.43**	**326**	⇑PG	Pg	Pg	19 20 47.1	+0.7
WATZ					AML	AML	19 20 55.0	
WATZ					AML	AML	19 21 08.1	
WNVZ	**Wahianoa**	**0.43**	**233**	⇓PG	Pg	Pg	19 20 46.7	0.0
WNVZ					AML	AML	19 20 54.6	
WNVZ					AML	AML	19 20 59.0	
TRVZ	**Turoa**	**0.45**	**239**	⇓PG	Pg	Pg	19 20 47.0	-0.1
TRVZ					AML	AML	19 20 48.0	
TRVZ					AML	AML	19 20 57.0	
TWVZ	**Taurewa**	**0.47**	**269**	PG	Pg	Pg	19 20 47.5	+0.2
TWVZ					AML	AML	19 20 54.3	
TWVZ					AML	AML	19 20 59.2	
MTVZ	**Mangateitei**	**0.55**	**234**	⇓PG	Pg	Pg	19 20 48.6	-0.2
MTVZ					AML	AML	19 20 57.6	
MTVZ					AML	AML	19 21 00.6	
ALRZ	**Allen Road**	**0.55**	**25**	PG	Pg	Pg	19 20 47.9	-0.9
PKVZ	**Pokaka**	**0.59**	**247**	⇓PG	Pg	Pg	19 20 49.4	0.0
PKVZ					AML	AML	19 20 58.5	
PKVZ					AML	AML	19 20 58.5	
NMVZ	**Naumai**	**0.59**	**93**	P*	Pg	Pg	19 20 49.6	-0.1
PRRZ	**Plateau Road**	**0.63**	**26**	⇓P*	Pg	Pg	19 20 49.3	-0.9
MCHZ	**McNeill Hill**	**0.63**	**127**	⇑P*	Pb	Pb	19 20 51.0	-0.6
HRRZ	**Handcock Road**	**0.70**	**16**	⇓P*	Pg	Pg	19 20 51.2	-0.4
RRRZ	**Republican Roa**	**0.81**	**27**	P*	Pg	Pg	19 20 52.5	-1.2
RAHZ	**Arahi**	**0.83**	**80**	⇓P*	Pg	Pg	19 20 53.8	-0.2
TLZ	**Tolley Road**	**0.83**	**332**	P*	Pg	Pg	19 20 53.9	-0.3
HLRZ	**Highlands Stat**	**0.85**	**17**	P*	Pg	Pg	19 20 54.0	-0.4
PNHZ	**Pukenui**	**0.86**	**172**	⇓P*	Pg	Pg	19 20 54.2	-0.4
UTU	**Utuhina**	**0.90**	**8**	P*	Pg	Pg	19 20 55.3	0.0
UTU					AML	AML	19 21 10.3	
UTU					AML	AML	19 21 13.1	
TARZ	**Mount Tarawera**	**0.91**	**24**	P*	Pg	Pg	19 20 54.7	-0.9
WHHZ	**Waihua**	**0.93**	**91**	P*	Pg	Pg	19 20 56.2	+0.3
KAHZ	**Kahuranaki**	**0.97**	**139**	P*	Pb	Pb	19 20 57.3	-0.2
MKRZ	**Makatiti**	**0.98**	**20**	P*	Pg	Pg	19 20 56.6	-0.3
MKRZ					AML	AML	19 20 59.3	
MKRZ					AML	AML	19 21 08.7	
OMRZ	**Omania**	**0.99**	**15**	P*	Pg	Pg	19 20 56.6	-0.6
TSZ	**Takapari Road**	**0.99**	**184**	⇑P*	Pg	Pg	19 20 56.7	-0.6
TSZ					AML	AML	19 21 09.6	
TSZ					AML	AML	19 21 10.7	
CKHZ	**Cape Kidnapper**	**1.00**	**127**	⇑P*	Pb	Pb	19 20 58.2	+0.4
VRZ	**Vera Road**	**1.00**	**266**	*e*P*	Pb	Pb	19 20 57.6	-0.3
VRZ					AML	AML	19 21 13.4	
VRZ					AML	AML	19 21 17.7	
WPHZ	**Waipukurau**	**1.04**	**163**	⇑P*	Pb	Pb	19 20 58.4	-0.2
WPHZ				S*	Sb	Sb	19 21 12.5	-0.2
SNGZ	**Shannon Statio**	**1.05**	**75**	P*	Pg	Pg	19 20 57.8	-0.5
WAZ	**Wanganui**	**1.07**	**230**	⇑P*	Pg	Pg	19 20 58.1	-0.6
WAZ					AML	AML	19 21 14.6	
WAZ					AML	AML	19 21 15.5	
HIZ	**Hauiti**	**1.08**	**300**	P*	Pg	Pg	19 20 58.3	-0.5
HIZ					AML	AML	19 21 15.0	
HIZ					AML	AML	19 21 15.1	
EDRZ	**Edgecumbe**	**1.10**	**30**	P*	Pg	Pg	19 20 57.0	-1.5
EDRZ					AML	AML	19 21 26.2	
EDRZ					AML	AML	19 21 26.6	
PXZ	**Pawanui**	**1.16**	**147**	P*	Pb	Pb	19 21 00.5	0.0
PXZ					AML	AML	19 21 24.2	
PXZ					AML	AML	19 21 25.1	
URZ	**Urewera**	**1.16**	**46**	⇓P*	Pg	Pg	19 20 58.5	-1.8
URZ					AML	AML	19 21 02.9	
URZ					AML	AML	19 21 19.0	
DVHZ	**Dannevirke**	**1.24**	**176**	P*	Pg	Pg	19 21 01.3	-0.5
KNZ	**Kokohu**	**1.27**	**88**	P*	Pb	Pb	19 21 02.6	+0.1
PRHZ	**Porangahau**	**1.28**	**159**	P*	Pn	Pn	19 21 02.3	-0.4
POWZ	**Post Office Ro**	**1.34**	**189**	P*	Pn	Pn	19 21 02.9	-0.6
MWZ	**Matawai**	**1.37**	**58**	P*	Pn	Pn	19 21 02.5	-1.5
MWZ					AML	AML	19 21 23.4	
MWZ					AML	AML	19 21 25.4	
RIGZ	**Rimuhau**	**1.39**	**76**	*e*PN	Pn	Pn	19 21 03.8	-0.4
TOZ	**Tahuroa Road**	**1.40**	**342**	*e*P*	Pn	Pn	19 21 03.0	-1.3
ANWZ	**Angora Road**	**1.43**	**167**	PN	Pn	Pn	19 21 04.6	-0.1
DREZ	**Durham Road**	**1.44**	**264**	*e*PN	Pn	Pn	19 21 04.9	+0.1
PRGZ	**Paritu Road**	**1.44**	**85**	*e*PN	Pn	Pn	19 21 04.3	-0.6
MHGZ	**Mahia Peninsul**	**1.45**	**94**	*e*PN	Pn	Pn	19 21 05.2	+0.2
NEZ	**North Egmont**	**1.53**	**262**	*e*PN	Pn	Pn	19 21 06.0	-0.1
KHEZ	**Kahui Hut**	**1.59**	**261**	PN	Pn	Pn	19 21 07.3	+0.3
PKE	**Pukeiti**	**1.60**	**265**	PN	Pn	Pn	19 21 07.5	+0.4
PKE					AML	AML	19 21 31.5	
PKE					AML	AML	19 21 34.0	
BFZ	**Birch Farm**	**1.62**	**175**	PN	Pn	Pn	19 21 06.9	-0.4
MRZ	**Mangatainoka R**	**1.63**	**192**	PN	Pn	Pn	19 21 07.6	+0.1
MRZ					AML	AML	19 21 38.8	
MRZ					AML	AML	19 21 40.3	
NWEZ	**Newall Road**	**1.70**	**262**	PN	Pn	Pn	19 21 09.1	+0.6
TIWZ	**Tintock**	**1.71**	**184**	PN	Pn	Pn	19 21 08.3	-0.3
TIWZ					AML	AML	19 21 39.1	
TIWZ					AML	AML	19 21 41.6	
NMEZ	**Namu Road**	**1.72**	**258**	*e*PN	Pn	Pn	19 21 09.1	+0.5
CPWZ	**Castlepoint**	**1.85**	**176**	PN	Pn	Pn	19 21 10.5	+0.1
OGWZ	**Otaki Gorge**	**1.87**	**201**	PN	Pn	Pn	19 21 10.9	+0.1
HOWZ	**Holdsworth Sta**	**1.88**	**192**	PN	Pn	Pn	19 21 10.3	-0.5
KIW	**Kapiti Island**	**1.99**	**206**	PN	Pn	Pn	19 21 12.6	+0.1
KIW					AML	AML	19 21 45.2	
KIW					AML	AML	19 21 47.7	
PUZ	**Puketiti**	**2.00**	**61**	PN	Pn	Pn	19 21 11.6	-0.9
PUZ					AML	AML	19 21 27.2	
TMWZ	**Te Maipa**	**2.04**	**183**	PN	Pn	Pn	19 21 12.4	-0.7
MKAZ	**Moumakai**	**2.07**	**340**	AML	AML	AML	19 21 49.1	
MTW	**Mount Morrison**	**2.13**	**191**	*e*PN	Pn	Pn	19 21 13.0	-1.3
CAW	**Cannon Point**	**2.17**	**200**	PN	Pn	Pn	19 21 14.3	-0.6
CAW					AML	AML	19 21 52.8	
CAW					AML	AML	19 21 54.9	
MXZ	**Matakaoa Point**	**2.33**	**51**	P*	Pn	Pn	19 21 17.2	+0.2
MXZ					AML	AML	19 21 25.5	
TRWZ	**Traveller**	**2.35**	**187**	*e*PN	Pn	Pn	19 21 15.9	-1.4
DUWZ	**D'Urville Isla**	**2.38**	**223**	*e*PN	Pn	Pn	19 21 18.3	+0.5
SNZO	**South Karori**	**2.46**	**204**	*e*PN	Pn	Pn	19 21 18.0	-0.8
BHW	**Baring Head**	**2.51**	**201**	*e*PN	Pn	Pn	19 21 18.1	-1.3
TCW	**Tory Channel**	**2.54**	**212**	*e*PN	Pn	Pn	19 21 19.3	-0.6
TCW					AML	AML	19 21 24.0	
TCW					AML	AML	19 21 24.3	
TUWZ	**Tuamarina**	**2.86**	**214**	AML	AML	AML	19 21 30.1	
TUWZ					AML	AML	19 21 30.9	
NNZ	**Nelson**	**2.96**	**223**	PN	Pn	Pn	19 21 25.6	-0.1
NNZ					AML	AML	19 21 37.7	
CMWZ	**Cape Campbell**	**3.02**	**207**	*e*PN	Pb	Pb	19 21 31.8	-0.5
CMWZ					AML	AML	19 21 42.1	
CMWZ					AML	AML	19 22 30.2	
BSWZ	**Blackbirch Sta**	**3.12**	**211**	*e*PN	Pb	Pb	19 21 31.8	-2.2
BSWZ					AML	AML	19 21 34.5	
BSWZ					AML	AML	19 21 34.9	
QRZ	**Quartz Range**	**3.22**	**236**	*e*PN	Pn	Pn	19 21 29.5	+0.2
THZ	**Tophouse**	**3.61**	**221**	*e*PN	Pn	Pn	19 21 33.9	-0.8
THZ					AML	AML	19 21 44.8	
THZ					AML	AML	19 22 45.2	
LTZ	**Lake Taylor**	**4.69**	**216**	*e*PN	Pn	Pn	19 21 47.1	-2.4
MQZ	**McQueen's Vall**	**5.29**	**208**	*e*PN	Pn	Pn	19 21 53.8	-3.9

IDC **16** *19:27:27.8*±*1.2, 3.°94S*×*100.°22E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/26, mbtmp3.9/11, Error ellipse: s-maj=48.5km s-min=16.0km az=54.0*

ISCJB **16** *19:27:30.9*±*1.1, 3.°9S*±*0.°2*×*100.°3E*±*0.°3, h33km, mb3.9/11, Error ellipse: s-maj=43.7km s-min=13.5km az=145.2*

ISC 16 19:27:33.1±**1.4, 3.°9S**±**0.°2**×**100.°3E**±**0.°3, h35km, n18, σ0°51/12, mb3.9/11, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.25**	**357**	P	**P**	**19 32 26.3**	**-0.8**
	3.7nm,0.9s,baz=185,slow=10,SNR=22						
H08S2	**Diego Garcia H**	**27.88**	**261**	T	T	20 02 29.0	
	baz=81,slow=75,SNR=167						
H08S3	**Diego Garcia H**	**27.89**	**261**	T	T	20 02 28.5	
	baz=81,SNR=369						
H08S1	**Diego Garcia H**	**27.90**	**261**	T	T	20 02 27.5	
	baz=81,slow=75,SNR=159						
H01W3	**Cape Leeuwin H**	**33.41**	**159**	T	T	20 09 17.5	
	baz=336,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**33.42**	**159**	T	T	20 09 18.9	
	baz=336,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**33.42**	**159**	T	T	20 09 23.7	
	baz=336,slow=76,SNR=12						
WRA	**Warramunga Arr**	**36.83**	**118**	P	**P**	**19 34 37.6**	**-0.6**
	2.1nm,0.5s,baz=302,slow=9.0,SNR=32						
ASAR	**Alice Springs**	**37.95**	**124**	P	**P**	**19 34 47.5**	**-0.1**
	0.4nm,0.5s,baz=300,slow=7.4,SNR=9.8						
STKA	**Stephens Creek**	**47.71**	**131**	P	**P**	**19 36 06.9**	**+0.2**
	1.2nm,0.9s,baz=308,slow=12,SNR=2.9						
SONM	**Songino Array**	**51.80**	**5**	P	**P**	**19 36 38.2**	**+0.6**
	2.6nm,0.8s,baz=187,slow=7.6,SNR=18						
MKAR	**Makanchi Array**	**52.92**	**345**	P	**P**	**19 36 46.3**	**+0.5**
	1.9nm,0.7s,baz=157,slow=8.4,SNR=21						
USRK	**Ussuriysk Arra**	**55.70**	**27**	P	**P**	**19 37 05.9**	**-0.1**
	2.9nm,0.7s,baz=228,slow=5.6,SNR=6.6						
KURBB	**Kurchatov Arra**	**57.44**	**344**	P	**P**	**19 37 18.3**	**0.0**
	0.6nm,0.9s,baz=164,slow=6.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**59.07**	**349**	P	**P**	**19 37 29.6**	**0.0**
	1.7nm,0.5s,baz=152,slow=6.7,SNR=12						
BVAR	**Borovoye Array**	**62.05**	**340**	P	**P**	**19 37 50.1**	**+0.1**
	0.4nm,0.5s,baz=152,slow=6.5,SNR=3.1						
BRTR	**Keskin Array B**	**74.80**	**313**	P	**P**	**19 39 09.8**	**-0.3**
	0.3nm,0.6s,baz=152,slow=4.8,SNR=3.0						
TXAR	**Lajitas Array**	**146.01**	**39**	PKPbc	**PKPab**	**19 47 11.3**	**+0.6**
	1.2nm,0.7s,baz=178,slow=0.4,SNR=12						

STR **16** *19:29:03.6*±*0.7, 51.°59N*×*16.°27E, h5km, Ml4.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISCJB **16** *19:29:04.5*±*0.1, 51.°52N*±*0.°01*×*16.°08E*±*0.°02, h0km, mb4.4/25, Error ellipse: s-maj=1.6km s-min=1.4km az=166.1*

LDG **16** *19:29:04.3*±*0.1, 51.°59N*×*16.°09E, h1km, Ml4.7/11, Error ellipse: s-maj=3.4km s-min=2.5km az=176.0, Suspected Mining induced.*

BJI **16** *19:29:05.8, 51.°69N*×*15.°79E, h10km, mB4.8/2, mb4.6/5*

IPEC **16** *19:29:05.9*±*0.3, 51.°58N*×*16.°18E, h0km, ML3.9/3, Error ellipse: s-maj=3.3km s-min=1.7km az=67.0*

MOS **16** *19:29:05.1*±*1.5, 51.°62N*×*15.°94E, h10km, mb4.5/15, Error ellipse: s-maj=6.6km s-min=4.0km az=77.7*

CSEM **16** *19:29:06.4*±*0.1, 51.°53N*×*16.°08E, h2km, mb4.4/5, ML4.5/19, Ms4.3, Error ellipse: s-maj=2.1km s-min=1.8km az=1.0*

IDC **16** *19:29:07.0*±*0.4, 51.°53N*×*16.°02E, h0km, mb4.1/12, mb1 4.1/22, mb1mx4.0/36, mbtmp3.9/22, ML3.6/10, Error ellipse: s-maj=7.7km s-min=5.2km az=101.0*

NEIC **16** *19:29:07.4*±*0.2, 51.°52N*×*16.°08E, h5km, mb4.6/7, ML4.3(SZGRF), Error ellipse: s-maj=4.4km s-min=3.6km az=153.0*

PRU **16** *19:29:07.7, 51.°51N*×*16.°09E, h0km, M4.5, Felt In Harrachov*

BGR **16** *19:29:07.6*±*0.2, 51.°53N*×*16.°11E, h1km, ML4.3/33, Error ellipse: s-maj=4.4km s-min=2.2km az=24.0*

BNS **16** *19:29:08.1*±*0.9, 51.°80N*×*16.°07E, h5km, ML3.9*

VIE **16** *19:29:09.3*±*0.3, 51.°30N*×*16.°05E, h1km, mb3.7/17, ML3.7/15, Ms4.3/4, Error ellipse: s-maj=2.0km s-min=1.5km az=4.0 71 km WNW of Wroclaw Suspected Mining induced.*

UPP **16** *19:29:48.4, 54.°71N*×*15.°12E, h0km, ML2.2, Suspected Mining explosion.*

ISC 16 19:29:06.4±**0.3, 51.°54N**±**0.°02**×**16.°10E**±**0.°01, h0km, n427, σ18°35/536, mb4.3/25, 37C-32D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pg**	**19 29 20.6**	**+0.5**
	SNR=103						
KSP	**Ksiaz**	**0.71**	**170**	⇓*i*P	**Pg**	**19 29 20.5**	**+0.5**
KSP				*e*		19 29 33.5	
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pg**	**19 29 20.5**	**+0.5**
KSP				*e*Sg	**Sg**	**19 29 30.0**	**+0.8**
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pg**	**19 29 20.6**	**+0.5**
KSP	**Ksiaz**	**0.71**	**170**	*i* P	**Pg**	**19 29 20.5**	**+0.5**
KSP				*i* Sg	**Sg**	**19 29 30.0**	**+0.8**
KSP				*e*S	**Sb**	**19 29 33.5**	**+1.5**
UPC	**Upice**	**1.04**	**183**	⇓*i*PG	**Pg**	**19 29 26.4**	**+0.1**
UPC				*e*SG	**Sg**	**19 29 39.3**	**-0.4**
	664nm,0.5s						
UPC	**Upice**	**1.04**	**183**	Pg	**Pg**	**19 29 26.4**	**+0.1**
UPC				Sg	**Sg**	**19 29 39.3**	**-0.4**
	664nm,0.5s						
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*Pg	**Pg**	**19 29 29.3**	**-0.1**
	SNR=312						
DPC				*e*Sg	**Sg**	**19 29 45.1**	**+0.1**
DPC	**Dobruska-Polom**	**1.20**	**173**	⇓*i*P	**Pg**	**19 29 29.3**	**-0.1**
DPC				*e*		19 29 44.7	
DPC	**Dobruska-Polom**	**1.20**	**173**	⇓*i*PG	**Pg**	**19 29 29.3**	**-0.1**
DPC				*e*SG	**Sg**	**19 29 44.7**	**-0.3**
DPC				AMS	AMS	19 30 00.0	
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*Pg	**Pg**	**19 29 29.3**	**-0.1**
DPC				*e*Sg	**Sg**	**19 29 45.1**	**+0.1**
DPC	**Dobruska-Polom**	**1.20**	**173**	*i* P	**Pg**	**19 29 29.3**	**-0.1**
DPC				Sg	**Sg**	**19 29 44.7**	**-0.3**
PVCC	**Panska Ves**	**1.40**	**224**	*e*Pn	**Pn**	**19 29 32.9**	**-0.4**
PVCC				*e*Pg	**Pg**	**19 29 33.7**	**+0.5**
	SNR=351						
PVCC				*e*Sg	**Sn**	**19 29 53.4**	**+1.0**
PVCC	**Panska Ves**	**1.40**	**224**	⇓*i*P	**Pn**	**19 29 32.8**	**-0.4**
PVCC				*e*		19 29 52.4	
PVCC				smax	smax		
	comp=N,3μm,0.7s						
PVCC	**Panska Ves**	**1.40**	**224**	⇓*i*PG	**Pn**	**19 29 32.8**	**-0.4**
PVCC				*e*SG	**Sg**	**19 29 52.4**	**+1.0**
	comp=N,3μm,0.7s						
PVCC	**Panska Ves**	**1.40**	**224**	Pn	**Pn**	**19 29 32.9**	**-0.4**
PVCC				Sg	**Sg**	**19 29 52.4**	**+1.0**
	comp=N,3μm,0.7s						
BRG	**Berggiesshubel**	**1.51**	**245**	PN	**Pn**	**19 29 33.9**	**-0.8**
BRG				PG	**Pg**	**19 29 36.1**	**+0.7**
BRG				SG	**Sn**	**19 29 56.1**	**+1.0**
	comp=N,1μm,1.0s						
BRG							
	comp=N,2μm,4.9s						
BRG							
	comp=E,3μm,4.2s						
BRG							
	comp=Z,4μm,4.7s						
BRG	**Berggiesshubel**	**1.51**	**245**	*e*Pg	**Pn**	**19 29 35.3**	**+0.6**
	SNR=312						
BRG				*e*Sg	**Sb**	**19 29 55.8**	**+0.8**
BRG	**Berggiesshubel**	**1.51**	**245**	P	**Pn**	**19 29 33.9**	**-0.8**
BRG						19 29 56.1	
BRG				smax	smax		
	comp=N,1μm,1.0s						
BRG				MLR	MLR		
	comp=N,2μm,4.9s						
BRG				MLR	MLR		
	comp=E,3μm,4.2s						
BRG				MLR	MLR		
	comp=Z,4μm,4.7s						
BRG	**Berggiesshubel**	**1.51**	**245**	*e*Pg	**Pn**	**19 29 35.3**	**+0.6**
BRG				*e*Sg	**Sb**	**19 29 55.8**	**+0.8**
BRG	**Berggiesshubel**	**1.51**	**245**	P	**Pn**	**19 29 33.9**	**-0.8**
BRG	**Berggiesshubel**	**1.51**	**245**	Pg	**Pn**	**19 29 35.3**	**+0.6**
	SNR=312						
BRG				Sg	**Sb**	**19 29 55.8**	**+0.8**
BRG				S	**Sn**	**19 29 56.1**	**+1.0**
	comp=Z,4μm,4.7s						
RUE	**Ruedersdorf**	**1.71**	**304**	*e*Pg	**Pn**	**19 29 36.6**	**-0.8**
	SNR=28						
RUE	**Ruedersdorf**	**1.71**	**304**	*e*P	**Pn**	**19 29 36.3**	**-1.1**
RUE	**Ruedersdorf**	**1.71**	**304**	*e*P	**Pn**	**19 29 36.3**	**-1.1**
FBE	**Freiberg**	**1.83**	**251**	*e*Pn	**Pn**	**19 29 38.5**	**-0.7**
FBE				*e*Pg	**Pg**	**19 29 41.9**	**+0.4**
	SNR=96						
FBE				*e*Sg	**Sg**	**19 30 06.3**	**+1.1**
FBE	**Freiberg**	**1.83**	**251**	Pn	**Pn**	**19 29 38.5**	**-0.7**
PRU	**Pruhonice**	**1.84**	**213**	*e*Pn	**Pn**	**19 29 38.8**	**-0.5**
PRU	**Pruhonice**	**1.84**	**213**	*i* P	**Pn**	**19 29 38.7**	**-0.5**
PRU				*e*		19 30 05.0	
PRU				smax	smax		
	comp=N,580nm,0.7s						
PRU				MLR	MLR		
	comp=Z,3μm,5.1s						
PRU	**Pruhonice**	**1.84**	**213**	⇓*i*PN	**Pn**	**19 29 38.7**	**-0.5**
PRU				*e*PG	**Pn**	**19 29 41.1**	**+1.8**
PRU				*e*SG	**Sn**	**19 30 05.0**	**+1.7**
	comp=Z,580nm,0.7s						
PRU				AMS	AMS	19 30 20.0	
	comp=Z,3μm,5.1s						
PRU	**Pruhonice**	**1.84**	**213**	Pn	**Pn**	**19 29 38.8**	**-0.5**
PRU	**Pruhonice**	**1.84**	**213**	Pg	**Pn**	**19 29 41.1**	**+1.8**
PRU				Sg	**Sn**	**19 30 05.0**	**+1.7**
	comp=Z,580nm,0.7s						
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*P	**Pg**	**19 29 43.9**	**+1.7**
GKP				*e*		19 30 10.3	
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*Pn	**Pn**	**19 29 40.3**	**+0.7**
GKP				*e*Pg	**Pg**	**19 29 43.9**	**+1.7**
GKP				*e*PP	PnPn	19 29 48.2	+1.3
GKP				*e*Sg	**Sg**	**19 30 10.2**	**+3.9**
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*Pn	**Pn**	**19 29 40.3**	**+0.7**
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*P	**Pg**	**19 29 43.9**	**+1.7**
GKP				*e*Sg	**Sg**	**19 30 10.3**	**+3.9**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**19 29 39.8**	**-1.0**
CLL				*e*Sg	**Sg**	**19 30 10.6**	**+1.5**
CLL	**Collm**	**1.95**	**264**	*e*P	**Pn**	**19 29 39.8**	**-1.0**
CLL				*e*		19 30 10.6	
CLL	**Collm**	**1.95**	**264**	*i* Pn	**Pn**	**19 29 39.7**	**-1.0**
	comp=Z,139nm,0.6s						
CLL				*i* Pg	**Pb**	**19 29 42.9**	**+0.1**
CLL				*i*		19 29 47.4	
CLL				*i* Sg	**Sg**	**19 30 10.4**	**+1.3**
	comp=Z,620nm,0.7s						
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**19 29 39.8**	**-1.0**
CLL				*e*Sg	**Sg**	**19 30 10.6**	**+1.5**
CLL	**Collm**	**1.95**	**264**	Pn	**Pn**	**19 29 39.8**	**-1.0**
CLL				Sg	**Sg**	**19 30 10.6**	**+1.5**
RAC	**Raciborz**	**1.98**	**137**	*e*P	**Pb**	**19 29 43.8**	**+0.6**
RAC				*e*		19 30 09.8	
RAC	**Raciborz**	**1.98**	**137**	*e*Pn	**Pn**	**19 29 40.0**	**-1.1**
RAC	**Raciborz**	**1.98**	**137**	*e*Pg	**Pb**	**19 29 43.8**	**+0.6**
RAC				*e*Sg	**Sb**	**19 30 09.8**	**+1.4**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**19 29 40.4**	**-1.0**
MORC				*e*Sg	**Sn**	**19 30 09.2**	**+2.2**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*P	**Pn**	**19 29 39.9**	**-1.5**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*P	**Pn**	**19 29 39.9**	**-1.5**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*P	**Pn**	**19 29 39.9**	**-1.5**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**19 29 40.8**	**-0.6**
MORC				S	**Sn**	**19 30 06.3**	**-0.8**
MORC				Sg	**Sn**	**19 30 09.2**	**+2.2**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*Pn	**Pn**	**19 29 43.1**	**-0.4**
OKC				*e*Sg	**Sb**	**19 30 13.9**	**+0.6**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*P	**Pn**	**19 29 42.8**	**-0.7**
OKC				*e*		19 30 13.7	
OKC				smax	smax		
	comp=N,2μm,0.8s						
OKC				MLR	MLR		
	comp=Z,2μm,3.4s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	⇓*e*PN	**Pn**	**19 29 42.8**	**-0.7**
OKC				*e*PG	**Pb**	**19 29 46.1**	**-0.1**
OKC				*e*SG	**Sn**	**19 30 13.7**	**+2.9**
	comp=Z,2μm,0.8s						
OKC				AMS	AMS	19 30 30.0	
	comp=Z,2μm,3.4s						
OKC	**Ostr

comp=Z,207nm,0.5s
KHC AMS AMS 19 31 00.0
comp=Z,1µm,5.3s
KHC Kasperske Hory 2.90 215 *e*Pn **Pn 19 29 53.4 -0.5**
KHC Kasperske Hory 2.90 215 Pn **Pn 19 29 53.4 -0.5**
BEL Belsk 2.94 82 *e*P **Pn 19 29 54.9 +0.6**
BEL Belsk 2.94 82 *e*Pn **Pn 19 29 54.8 +0.5**
BEL *e*Pg **Pg 19 30 04.8 +2.1**
BEL *e*Sn **Sn 19 30 31.2 +1.0**
BEL *e*Sg **Sg 19 30 42.0 +1.3**
BEL Belsk 2.94 82 *e*P **Pn 19 29 54.9 +0.6**
MANZ Manzenberg 2.97 240 *e*Pn **Pn 19 29 54.7 -0.2**
MANZ Manzenberg 2.97 240 Pn **Pn 19 29 54.7 -0.2**
ROTZ Rotzenmuhle 3.05 236 *e*Pn **Pn 19 29 55.7 -0.2**
ROTZ Rotzenmuhle 3.05 236 Pn **Pn 19 29 55.7 -0.2**
GEC2 GERESS Array S 3.11 211 *e*Pn **Pn 19 29 56.6 -0.2**
GEC2 GERESS Array S 3.11 211 Pn **Pn 19 29 56.6 -0.2**
GERES GERESS Array B 3.11 211 Pn **Pn 19 29 57.0 +0.2**
GERES Pg **Pb 19 30 03.3 +0.7**
GERES Sn **Sn 19 30 34.0 -0.6**
GERES Lg Lg 19 30 44.9
GERES GERESS Array B 3.11 211 P **Pn 19 29 57.0 +0.2**
comp=Z,20nm,0.3s
GERES GERESS Array B 3.11 211 Pg **Pb 19 30 03.3 +0.7**
GERES S **Sn 19 30 34.1 -0.6**
GERES GERESS Array B 3.11 211 Pn **Pn 19 29 57.0 +0.2**
comp=Z,11nm,0.3s,baz=33,slow=12,SNR=320
GERES Pg **Pb 19 30 03.3 +0.7**
comp=Z,20nm,0.3s,baz=30,slow=16,SNR=68
GERES Sn **Sn 19 30 34.0 -0.6**
comp=Z,12nm,0.3s,baz=26,slow=25,SNR=6.1
GERES Lg Lg 19 30 44.9
comp=Z,31nm,0.3s,baz=31,slow=30,SNR=7.5
SMOL Smolenice 3.15 164 *e*P **Pg 19 30 06.6 -0.2**
SMOL Smolenice 3.15 164 *e*PG **Pg 19 30 06.5 -0.2**
SMOL *e*SG **Sg 19 30 49.0 +1.4**
SMOL Smolenice 3.15 164 *e*Pg **Pg 19 30 06.6 -0.2**
SMOL *e*Sg **Sg 19 30 49.0 +1.4**
WET Wettzell 3.17 222 *e*Pn **Pn 19 29 57.9 +0.4**
WET Wettzell 3.17 222 Pn **Pn 19 29 57.9 +0.4**
ASSE Asse, Remlinge 3.42 282 *e*Pn **Pn 19 30 01.1 +0.3**
ASSE Asse, Remlinge 3.42 282 Pn **Pn 19 30 01.1 +0.3**
NIE Niedzica 3.43 127 *e*P **Pn 19 30 01.3 +0.1**
NIE Niedzica 3.43 127 *e*Pn **Pn 19 30 01.3 +0.1**
NIE *i*Pg **Pg 19 30 11.8 -0.3**
NIE *i*Sg **Sg 19 30 56.9 +0.3**
NIE Niedzica 3.43 127 *e*P **Pn 19 30 01.3 +0.1**
CLZ Clausthal 3.58 277 *e*Pn **Pn 19 30 03.7 +0.6**
CLZ Clausthal 3.58 277 Pn **Pn 19 30 03.7 +0.6**
CONA Conrad Observa 3.62 182 ⇓*i*Pn **Pn 19 30 03.7 -0.1**
SNR=42
CONA ⇓*i*Pg **Pb 19 30 13.6 +2.3**
CONA ⇓*i*Sg **Sg 19 31 01.8 -0.9**
comp=Z,462nm,0.6s
CONA Conrad Observa 3.62 182 Pn **Pn 19 30 03.7 -0.1**
SNR=42
BSD Bornholm Skovb 3.65 349 *i*P **Pn 19 30 02.7 -1.3**
BSD *i*S **Sn 19 30 45.3 -2.4**
BSD Bornholm Skovb 3.65 349 *i*P **Pn 19 30 02.7 -1.3**
BSD *i*S **Sn 19 30 45.3 -2.4**
BSD Bornholm Skovb 3.65 349 *i*P **Pn 19 30 02.8 -1.3**
SNR=49
BSD *i*S **Sn 19 30 45.3 -2.4**
SOP Sopron 3.88 175⇑*e*Pn **Pn 19 30 07.7 +0.5**
SOP esn **Sg 19 31 10.3 -0.5**
MOA Molln 3.88 199⇑*i*Pn **Pn 19 30 07.4 0.0**
SNR=42
MOA ⇑*i*Sg **Sg 19 31 10.7 -0.4**
comp=Z,391nm,0.8s
MOA Molln 3.88 199 Pn **Pn 19 30 07.4 0.0**
SNR=42
MOA Sg **Sg 19 31 10.7 -0.4**
comp=Z,391nm,0.8s
UBBA Unterbreizbach 3.90 262 *e*Pn **Pn 19 30 07.2 -0.3**
UBBA Unterbreizbach 3.90 262 Pn **Pn 19 30 07.2 -0.3**
STHS Stebnicka Huta 3.92 121 *e*P **Pg 19 30 21.6 +0.1**
STHS Stebnicka Huta 3.92 121 *e*PG **Pg 19 30 21.5 +0.1**
STHS *e*SG **Sg 19 31 10.7 -1.4**
STHS Stebnicka Huta 3.92 121 *e*Pg **Pg 19 30 21.6 +0.1**
STHS *e*Sg **Sg 19 31 10.7 -1.4**
BSEG Bad Segeberg 4.25 307 *e*Pn **Pn 19 30 11.4 -1.0**
BSEG Bad Segeberg 4.25 307 Pn **Pn 19 30 11.4 -1.0**
ARSA Arzberg 4.31 185 ⇓*i*Pn **Pn 19 30 12.7 -0.6**
SNR=11
ARSA ⇓*i*Sg **Sg 19 31 24.5 -0.4**
comp=Z,473nm,0.7s
ARSA Arzberg 4.31 185 Pn **Pn 19 30 12.7 -0.6**
SNR=11
ARSA Sg **Sg 19 31 24.5 -0.4**
comp=Z,473nm,0.7s
CRVS Cervenica-Dubn 4.34 125 *e*P **Pg 19 30 30.4 +0.8**
CRVS Cervenica-Dubn 4.34 125 *e*PG **Pg 19 30 30.3 +0.7**
CRVS *e*SG **Sg 19 31 25.8 0.0**
CRVS Cervenica-Dubn 4.34 125 *e*Pg **Pg 19 30 30.4 +0.8**
CRVS *e*Sg **Sg 19 31 25.8 0.0**
RJOB Jochberg 4.37 211 *e*Pn **Pn 19 30 14.9 +0.8**
RJOB Jochberg 4.37 211 Pn **Pn 19 30 14.9 +0.8**
PSZ Piszkesteto 4.38 144 *e*P **Pn 19 30 14.6 +0.3**
PSZ Piszkesteto 4.38 144 ⇓*i*P **Pn 19 30 15.1 +0.8**
PSZ Piszkesteto 4.38 144 *e*P **Pn 19 30 14.6 +0.3**
PSZ Piszkesteto 4.38 144 *e*P **Pn 19 30 14.6 +0.3**
PSZ Piszkesteto 4.38 144⇓*e*Pn **Pn 19 30 14.8 +0.5**
PSZ esn **Sg 19 31 26.0 -1.2**
LUNU Lund 4.39 340 P **Pn 19 30 12.5 -1.8**
CSKK Cs˘‡kako 4.42 161 *e*Pn **Pn 19 30 14.9 +0.3**
PKSG 4.42 159 *e*Pn **Pn 19 30 14.5 -0.1**
PKSG *e*Sb **Sb 19 31 20.5 +1.9**
LLD Lille Linde 4.45 330 *i*P **Pn 19 30 12.9 -2.2**
LLD *i*S **Sn 19 31 05.0 -2.5**
LLD Lille Linde 4.45 330 *i*P **Pn 19 30 12.9 -2.2**
LLD *i* 19 30 36.6
LLD *i*S **Sn 19 31 05.0 -2.5**
LLD Lille Linde 4.45 330 *i*P **Pn 19 30 12.9 -2.2**
LLD *i*S **Sn 19 31 05.0 -2.5**
PKST T˘'s 4.47 163⇑*e*Pn **Pn 19 30 15.7 +0.3**
PKST *e*Sb **Sb 19 31 22.1 +1.9**
FUR Furstenfeldbru 4.60 225 *e*Pn **Pn 19 30 17.4 +0.2**
FUR Furstenfeldbru 4.60 225 Pn **Pn 19 30 17.4 +0.2**
KWP Kalwaria Pacla 4.63 112 *e*P **Pn 19 30 18.4 +0.9**
KWP Kalwaria Pacla 4.63 112 *e*Pn **Pn 19 30 18.3 +0.8**
KWP *e*Pg **Pb** 19 30 31.9 +8.6
KWP *e*Sn **Sn 19 31 12.4 +0.5**
KWP *e*Sg **Sg 19 31 35.6 +0.7**
KWP Kalwaria Pacla 4.63 112 ⇓*i*P **Pn 19 30 17.8 +0.3**
KWP Kalwaria Pacla 4.63 112 S **Sg 19 31 35.6 +0.7**
KWP Kalwaria Pacla 4.63 112 *e*P **Pn 19 30 18.4 +0.9**
KWP Kalwaria Pacla 4.63 112 *e*Pg Pb 19 30 32.0 +3.6
KWP *e*Sn **Sn 19 31 12.5 +0.5**
KWP *e*Sg **Sg 19 31 35.6 +0.7**
KOLS Kolonicke sedl 4.75 121 *e*P **Pg 19 30 37.8 +0.5**
KOLS Kolonicke sedl 4.75 121 *e*PG **Pg 19 30 37.8 +0.5**
KOLS *e* 19 30 57.8
KOLS Kolonicke sedl 4.75 121 *e*Pg **Pg 19 30 37.8 +0.5**
KOLS *e*Sg **Sg 19 31 37.3 -1.5**
BLEU Blekinge 4.77 358 P **Pn 19 30 18.5 -1.0**
KBA Koelnbreinsper 4.82 203 ⇓*i*Pn **Pn 19 30 19.7 -0.6**
SNR=24
KBA ⇓*i*Sg **Sg 19 31 40.3 -0.8**
comp=Z,150nm,0.7s
KBA Koelnbreinsper 4.82 203 Pn **Pn 19 30 19.7 -0.6**
SNR=24
KBA Sg **Sg 19 31 40.3 -0.8**
comp=Z,150nm,0.7s
SOKA Soboth 4.92 189⇑*i*Pn **Pn 19 30 21.7 +0.1**
SNR=5.3
SOKA ⇑*i*Sn **Sn 19 31 16.4 -2.8**
SOKA ⇓*i*Sg **Sg 19 31 43.5 -0.9**
comp=Z,64nm,0.6s
SOKA Soboth 4.92 189 Pn **Pn 19 30 21.7 +0.1**
SNR=5.3
SOKA Sn **Sn 19 31 16.4 -2.8**
SOKA Sg **Sg 19 31 43.5 -0.9**
comp=Z,64nm,0.6s
UZH Uzhgorod 4.94 124 *e*P **Pn 19 30 21.8 0.0**
UZH *e*S **Sn 19 31 18.5 -1.1**
UZH smax smax
comp=N,210nm,1.0s
UZH smax smax
comp=E,150nm,1.0s
UZH MLR MLR
comp=N,270nm,1.0s
UZH MLR MLR
comp=E,260nm,1.0s
UZH MLR MLR
comp=Z,160nm,1.0s
UZH Uzhgorod 4.94 124 *e*P **Pn 19 30 21.8 0.0**
UZH *e*S **Sn 19 31 18.5 -1.1**
PERS Pernice 4.95 188 *i*Pn **Pn 19 30 23.4 +1.4**
PERS Pernice 4.95 188 Pn **Pn 19 30 23.5 +1.4**
SUW Suwalki 4.96 57 *e*Pn **Pn 19 30 22.6 +0.5**
SUW Suwalki 4.96 57 *e*P **Pn 19 30 22.5 +0.4**
SUW Suwalki 4.96 57 *e*Pn **Pn 19 30 22.5 +0.4**
SUW *e*Pg **Pg 19 30 42.9 +1.5**
SUW *e*Sn **Sn 19 31 22.0 +1.9**
SUW *e*Sb **Sb 19 31 37.9 +3.7**
SUW *e*Sg **Sg** 19 31 54.9 +9.2
SUW Suwalki 4.96 57 *e*P **Pn 19 30 20.5 -1.6**
SUW Suwalki 4.96 57 Pn **Pn 19 30 22.6 +0.5**
TOD Tromm 5.04 250 P **Pn 19 30 21.8 -1.4**
TOD S **Sn 19 31 25.3 +3.3**
BEHE Becsehely 5.10 175 *e*pPn **Pn 19 30 25.0 +1.0**
BEHE *e*Sb **Sb 19 31 38.8 +0.6**
DEL Delary 5.11 346 P **Pn 19 30 22.8 -1.3**
OBKA Obir 5.14 192⇑*i*Pn **Pn 19 30 23.8 -0.9**
SNR=5.2
OBKA ⇑*i*Sg **Sg 19 31 51.7 +0.3**
comp=Z,160nm,0.8s
OBKA Obir 5.14 192 Pn **Pn 19 30 23.8 -0.9**
SNR=5.2
OBKA Sg **Sg 19 31 51.7 +0.3**
comp=Z,160nm,0.8s
WATA Walderalm 5.14 217⇑*i*Pn **Pn 19 30 24.8 +0.1**
SNR=23
WATA ⇑*i*Sg **Sg 19 31 52.2 +0.7**
comp=Z,67nm,0.6s
WATA Walderalm 5.14 217 Pn **Pn 19 30 24.8 +0.1**
SNR=23
WATA Sg **Sg 19 31 52.2 +0.7**
comp=Z,67nm,0.6s
PKS9 Tamasi 5.16 163⇑*e*pPn **Pn 19 30 25.9 +1.0**
MYKA Terra Mystica 5.17 199⇑*i*Pn **Pn 19 30 25.5 +0.4**
MYKA ⇑*i*Sg **Sg 19 31 51.4 -1.2**
comp=Z,417nm,1.4s
MYKA Terra Mystica 5.17 199 Pn **Pn 19 30 25.5 +0.4**
MYKA Sg **Sg 19 31 51.4 -1.2**
comp=Z,417nm,1.4s
WTTA Wattenberg 5.18 216⇑*i*Pn **Pn 19 30 24.8 -0.5**
SNR=22
WTTA ⇑*i*Sn **Sn 19 31 24.8 -1.0**
WTTA ⇑*i*Sg **Sg 19 31 53.6 +0.9**
comp=Z,211nm,0.9s
WTTA Wattenberg 5.18 216 Pn **Pn 19 30 24.8 -0.5**
SNR=22
WTTA Sn **Sn 19 31 24.8 -1.0**
WTTA Sg **Sg 19 31 53.6 +0.9**
comp=Z,211nm,0.9s
IBBN Ibbenburen 5.22 282 *e*Pn **Pn 19 30 26.8 +1.2**
IBBN Ibbenburen 5.22 282 Pn **Pn 19 30 26.8 +1.2**
STU Stuttgart 5.23 241 *e*Pn **Pn 19 30 25.6 -0.3**
STU Stuttgart 5.23 241 *e*P **Pn 19 30 24.9 -0.9**
STU Stuttgart 5.23 241 *e*Pn **Pn 19 30 24.9 -0.9**
STU Stuttgart 5.23 241 *e*P **Pn 19 30 24.9 -0.9**
STU Stuttgart 5.23 241 Pn **Pn 19 30 25.6 -0.3**
MOTA Moosalm 5.32 220⇑*i*Pn **Pn 19 30 26.7 -0.5**
SNR=25
MOTA ⇑*i*Sg **Sg 19 31 58.4 +1.3**
comp=Z,130nm,0.8s
MOTA Moosalm 5.32 220 Pn **Pn 19 30 26.7 -0.5**
SNR=25
MOTA Sg **Sg 19 31 58.4 +1.3**
comp=Z,130nm,0.8s
LVV L'vov 5.33 106 *e*P Pb 19 30 35.0 -5.4
RETA Reutte 5.34 223⇑*i*Pn **Pn 19 30 27.1 -0.4**
SNR=9.7
RETA ⇓*i*Sn **Sn 19 31 28.6 -1.1**
RETA ⇑*i*Sg **Sg 19 31 59.4 +1.4**
comp=Z,166nm,0.8s
RETA Reutte 5.34 223 Pn **Pn 19 30 27.1 -0.4**
SNR=9.7
RETA Sn **Sn 19 31 28.6 -1.1**
RETA Sg **Sg 19 31 59.4 +1.4**
comp=Z,166nm,0.8s
ABTA Abfaltersbach 5.34 207⇓*i*Pn **Pn 19 30 27.8 +0.3**
SNR=28
ABTA ⇑*i*Sg **Sg 19 31 57.7 -0.3**
comp=Z,192nm,0.8s
ABTA Abfaltersbach 5.34 207 Pn **Pn 19 30 27.8 +0.3**
SNR=28
ABTA Sg **Sg 19 31 57.7 -0.3**
comp=Z,192nm,0.8s
TRPA Tarpa 5.39 127⇑*i*P **Pn 19 30 28.8 +0.8**
TRPA Tarpa 5.39 127⇑*i*P **Pn 19 30 28.8 +0.8**
TRPA Tarpa 5.39 127⇑*e*Pn **Pn 19 30 28.0 0.0**
TRPA esn **Sg** 19 32 06.9 +7.5
KOE Koeppel 5.40 261 *e*Pn **Pn 19 30 28.0 -0.2**
KOE Koeppel 5.40 261 Pn **Pn 19 30 28.0 -0.2**
HOBG Hohbusch 5.53 268 *e*Pn **Pn 19 30 29.5 -0.4**
HOBG Hohbusch 5.53 268 Pn **Pn 19 30 29.5 -0.4**
KTD Kalmit 5.58 250 P **Pn 19 30 29.3 -1.4**
PKSM Moragy 5.59 162⇑*i*P **Pn 19 30 31.8 +1.0**
PKSM Moragy 5.59 162 S **Sn 19 31 35.4 -0.3**
PKSM Moragy 5.59 162 *e*pPn **Pn 19 30 31.5 +0.7**
PKSM esn **Sn 19 31 39.8 +4.1**
LJU Ljubljana 5.60 191 *e*Pn **Pn 19 30 33.5 +2.6**
BNS Bensberg 5.63 268 *e*Pn **Pn 19 30 30.8 -0.5**
BNS Bensberg 5.63 268 Pn **Pn 19 30 30.8 -0.5**
VOY Vojsko 5.70 196 *e*Pn **Pn 19 30 32.3 -0.1**
VOY *e* 19 30 58.2
VOY *e*Sn **Sg 19 32 10.2 +0.6**
BGG Burgeitz 5.71 260 *e*Pn **Pn 19 30 32.2 -0.1**
BGG Burgeitz 5.71 260 Pn **Pn 19 30 32.2 -0.1**
FETA Feichten 5.73 220 ⇓*i*Pn **Pn 19 30 32.4 -0.4**
FETA ⇓*i*Sn **Sn 19 31 37.5 -1.8**
FETA Feichten 5.73 220 Pn **Pn 19 30 32.4 -0.4**
LAUG Laupendahl 5.73 272 *e*Pn **Pn 19 30 32.1 -0.5**
LAUG Laupendahl 5.73 272 Pn **Pn 19 30 32.1 -0.5**
WTSB Winterswijk 5.79 278 *e*Pn **Pn 19 30 34.2 +0.7**
comp=Z,266nm,0.6s
WTSB *e*Sn **Sg 19 32 13.7 +1.4**
WTSB Winterswijk 5.79 278 *e*Pn **Pn 19 30 34.2 +0.7**
comp=Z,266nm,0.6s
VISS Visnje 5.80 189 *i*Pn **Pn 19 30 34.2 +0.5**
JAVS Javornik 5.81 194 *i*Pn **Pn 19 30 34.4 +0.5**
DAVA Damuels 5.88 226⇑*i*Pn **Pn 19 30 34.6 -0.3**
DAVA ⇑*i*Sn **Sn 19 31 41.5 -1.6**
DAVA ⇓*i*Sg **Sg 19 32 17.6 +2.4**
comp=Z,143nm,0.7s
DAVA Damuels 5.88 226 Pn **Pn 19 30 34.6 -0.3**
STB Steinbach 5.91 264 *e*Pn **Pn 19 30 35.7 +0.5**
STB *e*Sn **Sn 19 31 41.3 -2.3**
comp=Z,44nm,0.8s
STB Steinbach 5.91 264 Pn **Pn 19 30 35.7 +0.5**
STB Sn **Sn 19 31 41.3 -2.3**
comp=Z,44nm,0.8s
BFO Black Forest 5.96 240 *e*Pn **Pn 19 30 34.7 -1.1**
BFO Black Forest 5.96 240 *i*P **Pn 19 30 35.1 -0.7**
BFO Black Forest 5.96 240 Pn **Pn 19 30 34.7 -1.1**
BFO Black Forest 5.96 240 *i*P **Pn 19 30 35.1 -0.7**
RUP Ruppelstein 6.04 256 P **Pn 19 30 34.4 -2.6**
BOJS Bojanci 6.07 186 *i*Pn **Pn 19 30 38.1 +0.8**
HILG Hillesheim 6.09 262 *e*Pn **Pn 19 30 38.6 +1.0**
HILG Hillesheim 6.09 262 Pn **Pn 19 30 38.6 +1.0**
KLL Kalltalsperre 6.23 266 *e*Pn **Pn 19 30 39.5 -0.1**
KLL Kalltalsperre 6.23 266 Pn **Pn 19 30 39.5 -0.1**
DAVOX Davos/Dischmat 6.27 223 Pn **Pn 19 30 40.5 +0.2**
DAVOX Lg Lg 19 32 24.3
DAVOX Davos/Dischmat 6.27 223 P **Pn 19 30 40.5 +0.2**
comp=Z,2.0nm,0.3s
DAVOX Davos/Dischmat 6.27 223 Pn **Pn 19 30 40.5 +0.2**
comp=Z,2.0nm,0.3s,baz=20,slow=15,SNR=18
comp=Z,2.4nm,0.3s,baz=43,slow=23,SNR=5.9
DREG Dreilaegerbach 6.28 266 *e*Pn **Pn 19 30 40.5 +0.3**
DREG Dreilaegerbach 6.28 266 Pn **Pn 19 30 40.5 +0.3**
FELD Feldberg im Sc 6.40 238 P **Pn 19 30 40.3 -1.8**
FELD S **Sn 19 31 59.8 +3.9**
FELD Feldberg im Sc 6.40 238 P **Pn 19 30 40.3 -1.8**
SIRR Siria 6.43 143⇑*i*P **Pn 19 30 42.0 -0.3**
MEM Membach 6.43 266 PN **Pn 19 30 42.1 -0.1**
MEM SG **Sg 19 32 37.6 +4.9**
comp=N,60nm,0.0s
DRGR 6.43 135⇑*i*P **Pn 19 30 42.3 -0.1**
HGN Heimansgroeve 6.44 267 *e*Pn **Pn 19 30 43.4 +1.0**
comp=N,2.9nm,0.2s
HGN *e*Sn **Sb 19 32 22.5 +5.6**
HGN Heimansgroeve 6.44 267 *e*Pn **Pn 19 30 43.4 +1.0**
comp=N,2.9nm,0.2s
WLS Welschbruch 6.45 244 P **Pn 19 30 40.6 -2.0**
WLS Welschbruch 6.45 244 P **Pn 19 30 40.6 -2.0**
CDF Champ du Feu 6.49 245 *e*Pn Pn 19 30 40.4 -2.9
CDF Champ du Feu 6.49 245 *e*P **Pn 19 30 43.3 0.0**
CDF *e*Sg Sg 19 32 28.5 -6.4
comp=N,548nm,1.3s
CDF Champ du Feu 6.49 245 *e*P Pn 19 30 40.4 -2.9
CDF Champ du Feu 6.49 245 *e*Pn Pn 19 30 40.4 -2.9
CDF *e*Sg Sg 19 32 28.5 -6.4
CDF Champ du Feu 6.49 245 *e*P **Pn 19 30 43.3 0.0**
BEBN Eben Emael 6.60 268 SG **Sg 19 32 37.0 -1.1**
comp=N,20nm,0.0s
BEBN Eben Emael 6.60 268 Sg **Sg 19 32 37.0 -1.1**
WLF Walferdange 6.60 257 PN **Pn 19 30 42.8 -1.9**
WLF SG **Sg 19 32 36.8 -1.6**
comp=N,69nm,0.0s
ECH Echery 6.67 244 P Pn 19 30 43.0 -2.6
ECH Echery 6.67 244 *e*P Pn 19 30 43.0 -2.6
ECH Echery 6.67 244 *e*Pn Pn 19 30 43.0 -2.6
ECH Echery 6.67 244 P Pn 19 30 43.0 -2.6
TUE Stuetta 6.74 224 *e*Pn **Pn 19 30 47.5 +0.8**
TUE Stuetta 6.74 224 *e*Pn **Pn 19 30 47.5 +0.8**
BCLA Clavier 6.91 265 PN **Pn 19 30 48.9 +0.1**
BZS Buzias 6.97 146⇑*i*P **Pn 19 30 50.4 +0.7**
NVLJ Novalja 7.03 187 P **Pn 19 30 51.4 +0.8**
NVLJ Novalja 7.03 187 *i*P **Pn 19 30 51.3 +0.8**
HINF Hinteralfeld 7.06 242 *e*Pn Pn 19 30 47.6 -3.4
HINF *e*Sg Sg 19 32 45.6 -7.4
comp=N,220nm,1.0s
HINF Hinteralfeld 7.06 242 *e*P Pn 19 30 47.6 -3.4
HINF Hinteralfeld 7.06 242 *e*Pn Pn 19 30 47.6 -3.4
HINF *e*Sg Sg 19 32 45.6 -7.4
BUR08 Bucovina Ar. S 7.09 120 *e*P **Pn 19 30 51.3 -0.1**
BUR08 Bucovina Ar. S 7.09 120 *e*P **Pn 19 30 51.3 -0.1**
BURAR Bucovina Array 7.11 120⇑*i*P **Pn 19 30 51.6 -0.2**
IIGN Ignalina 7.15 54 *e*P Pg 19 31 19.3 -3.9
IIGN AMB AMB 19 31 24.7
comp=Z,35nm,1.1s
IIGN Ignalina 7.15 54 *e*P Pg 19 31 19.3 -3.9
comp=Z,35nm,1.1s
ISAL Salakas 7.21 52 *e*P **Pg 19 31 21.8 -2.6**
ISAL AMB AMB 19 31 27.8
comp=Z,24nm,1.4s
ISAL Salakas 7.21 52 *e*P **Pg 19 31 21.8 -2.6**
comp=Z,24nm,1.4s
HAU Haudompre 7.24 245 *e*Pn Pn 19 30 50.1 -3.3
HAU *e*Sg Sg 19 32 50.8 -7.9
comp=Z,302nm,1.2s
HAU Haudompre 7.24 245 *e*P Pn 19 30 50.1 -3.3
HAU Haudompre 7.24 245 *e*Pn Pn 19 30 50.1 -3.3
HAU *e*Sg Sg 19 32 50.8 -7.9
NACGM Naroch 7.24 58 *e*P **Pn 19 30 52.0 -1.4**
GIVF Givet 7.29 263 *e*Sg Sb 19 32 50.3 +9.2
comp=Z,328nm,1.3s
GIVF Givet 7.29 263 *e*Sg Sb 19 32 50.3 +9.2
PAGF Fort de Pagny 7.32 250 *e*P **Pn 19 30 54.1 -0.4**
baz=59
PAGF *e*Sg Sg 19 32 54.3 -6.9
comp=Z,196nm,1.4s
PAGF Fort de Pagny 7.32 250 *e*P **Pn 19 30 54.1 -0.4**
PAGF *e*Sg Sg 19 32 54.3 -6.9
PAGF Fort de Pagny 7.32 250 *e*P **Pn 19 30 54.1 -0.4**
IDID Didziasalis 7.39 55 *e*P Pg 19 31 22.1 -5.8
IDID AMB AMB 19 31 29.7
comp=Z,22nm,1.4s
DOU Dourbes 7.43 263 PN **Pn 19 30 56.1 +0.1**
DOU SG Sn 19 32 33.0 +12
comp=N,20nm,0.0s
GZR Gura Zlata 7.58 142⇑*i*P **Pn 19 30 59.3 +1.1**
MICGM Minsk 7.70 63⇓*e*P Pb 19 31 27.0 +6.3
LOT Lotru 7.94 137⇑*i*P **Pn 19 31 04.8 +1.6**
CABF La Chapelle 8.21 237 *e*Pn Pn 19 31 03.6 -3.3
CABF *e*Sg Sg 19 33 21.2 -9.1
comp=N,585nm,1.2s
CABF La Chapelle 8.21 237 *e*P Pn 19 31 03.6 -3.3
CABF La Chapelle 8.21 237 *e*Pn Pn 19 31 03.6 -3.3
CABF *e*Sg Sg 19 33 21.2 -9.1
KIEV Kiev 8.30 91 *d*iP **Pn 19 31 06.4 -1.5**
KIEV Kiev 8.30 91 *e*P **Pn 19 31 06.0 -1.9**
KIEV Kiev 8.30 91 *i*P **Pn 19 31 06.4 -1.5**
AKASG Malin Array Be 8.30 91 P **Pn 19 31 06.0 -2.0**
AKASG 19 32 36.8
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG smax smax
comp=N,3.0nm,0.3s
AKASG Malin Array Be 8.30 91 Pn **Pn 19 31 06.0 -2.0**
AKASG Sn Sn 19 32 36.8 -5.6
AKASG Lg Lg 19 33 32.7
AKASG Malin Array Be 8.30 91 Pn **Pn 19 31 06.0 -2.0**
comp=N,2.9nm,0.3s,baz=280,slow=12,SNR=30
AKASG Sn Sn 19 32 36.8 -5.6
comp=N,2.9nm,0.3s,baz=270,slow=23,SNR=6.7
AKASG Lg Lg 19 33 32.7
comp=N,1.5nm,0.3s,baz=278,slow=29,SNR=5.1
MTSE Matsula 8.43 29 *e*P **Pn 19 31 09.6 -0.1**
SNR=16
VOIR 8.52 132⇑*i*P **Pn 19 31 12.0 +0.9**
LPL La Plagne 8.65 229 *e*P **Pn 19 31 14.2 +1.2**
LPL La Plagne 8.65 229 *e*P **Pn 19 31 14.2 +1.2**
LPL La Plagne 8.65 229 *e*P **Pn 19 31 14.2 +1.2**
LPL La Plagne 8.65 229 *e*P **Pn 19 31 14.2 +1.2**
LPG La Plagne 8.66 229 *e*P **Pn 19 31 14.2 +1.1**
LPG *e*Sg Sg 19 33 36.2 -8.1
comp=N,191nm,1.2s
LPG La Plagne 8.66 229 *e*P **Pn 19 31 14.2 +1.1**
LPG La Plagne 8.66 229 *e*P **Pn 19 31 14.2 +1.1**
LPG *e*Sg Sg 19 33 36.2 -8.1
LPG La Plagne 8.66 229 *e*P **Pn 19 31 14.2 +1.1**
HFS Hagfors 8.72 352 Pn **Pn 19 31 11.8 -1.8**
HFS Sn **Sn 19 32 47.5 -4.9**
HFS Lg Lg 19 33 43.6
HFS Hagfors 8.72 352 Pn **Pn 19 31 11.8 -1.8**
comp=N,0.6nm,0.3s,baz=174,slow=14,SNR=16
HFS Sn **Sn 19 32 47.5 -4.9**
comp=N,0.6nm,0.3s,baz=176,slow=26,SNR=3.5
HFS Lg Lg 19 33 43.6
comp=N,0.6nm,0.3s,baz=181,slow=27,SNR=3.0
MLR Muntele Rosu 8.91 129⇑*i*P **Pn 19 31 16.1 -0.3**
MLR Muntele Rosu 8.91 129 Pn **Pn 19 31 17.5 +1.1**
MLR Muntele Rosu 8.91 129 P **Pn 19 31 17.5 +1.1**
MLR Muntele Rosu 8.91 129 Pn **Pn 19 31 17.5 +1.1**
comp=N,0.0nm,0.3s,baz=282,slow=19,SNR=2.3
VRI Vrincioaia 9.03 125⇑*i*P Pn 19 31 26.1 +8.1
LOR Lormes 9.05 247 *e*Pn **Pn 19 31 16.7 -1.6**
baz=60
LOR *e*Sg Sn 19 33 48.5 +48
comp=N,150nm,1.2s
LOR Lormes 9.05 247 *e*Pn **Pn 19 31 16.7 -1.6**
LOR *e*Sg Sn 19 33 48.5 +48
LOR Lormes 9.05 247 *e*Pn **Pn 19 31 16.7 -1.6**
SRPE Suurupi 9.22 27 *e*P **Pn 19 31 19.1 -1.3**
SNR=16
MBDF Montbardon 9.23 226 *e*Pn Pn 19 31 17.1 -3.8
MBDF Montbardon 9.23 226 *e*P **Pn 19 31 22.1 +1.2**
MBDF *e*Sg Sn 19 33 51.6 +46
comp=N,108nm,1.3s
MBDF Montbardon 9.23 226 *e*P Pn 19 31 17.1 -3.8
MBDF Montbardon 9.23 226 *e*Pn Pn 19 31 17.1 -3.8
MBDF *e*Sg Sn 19 33 51.6 +46
MBDF Montbardon 9.23 226 *e*P **Pn 19 31 22.1 +1.2**
VSU Vasula 9.23 37 *d*iP **Pn 19 31 21.3 +0.6**
VSU Vasula 9.23 37 *i*P **Pn 19 31 21.3 +0.6**
SSF Saint Saulge 9.37 246 *e*Pn Pn 19 31 19.6 -3.0
SSF *e*Sg Sn 19 33 57.5 +49
comp=N,111nm,1.3s
SSF Saint Saulge 9.37 246 *e*P Pn 19 31 19.6 -3.0
SSF Saint Saulge 9.37 246 *e*Pn Pn 19 31 19.6 -3.0
SSF *e*Sg Sn 19 33 57.5 +49
CLF Chambon-Foret 9.62 254 *e*P **Pn 19 31 25.5 -0.4**
SBF Sospel 9.64 221 *e*P **Pn 19 31 26.9 +0.5**
SBF *e*Sg Sn 19 34 07.9 +52
comp=N,60nm,0.9s
SBF Sospel 9.64 221 *e*P **Pn 19 31 26.9 +0.5**
SBF Sospel 9.64 221 *e*P **Pn 19 31 26.9 +0.5**
SBF *e*Sg Sn 19 34 07.9 +52
NB2 NORSAR Subarra 9.90 346 Pn **Pn 19 31 26.7 -3.1**
comp=Z,9.0nm,1.4s,baz=162,slow=14
NOA NORSAR Array B 9.90 346 Pn **Pn 19 31 26.9 -2.9**
NOA Sn **Sn 19 33 15.6 -5.8**
NOA Lg Lg 19 34 20.4
NOA NORSAR Array B 9.90 346 Pn **Pn 19 31 26.9 -2.9**

comp=Z,0.5nm,0.3s,baz=164,slow=12,SNR=9.5
NOA Sn **Sn** **19 33 15.6 -5.8**
comp=Z,0.4nm,0.3s,baz=147,slow=22,SNR=3.1
NOA Lg Lg 19 34 20.4
comp=Z,0.8nm,0.3s,baz=319,slow=19,SNR=4.2
FRF La Foret Royal 10.22 222 *eP* **Pn** **19 31 35.1 +0.9**
FRF La Foret Royal 10.22 222 *eP* **Pn** **19 31 35.1 +0.9**
FRF La Foret Royal 10.22 222 *eP* **Pn** **19 31 35.1 +0.9**
FINES FINESS Array B 11.34 25 Pn Pn **19 31 46.7 -2.7**
FINES Sn Sn 19 33 48.8 -7.9
FINES Lg Lg 19 35 11.2
FINES FINESS Array B 11.34 25 Pn **Pn** **19 31 46.7 -2.7**
comp=Z,1.1nm,0.3s,baz=208,slow=11,SNR=30
FINES Sn Sn 19 33 48.8 -7.9
comp=Z,0.9nm,0.3s,baz=211,slow=21,SNR=4.3
FINES Lg Lg 19 35 11.2
comp=Z,0.5nm,0.3s,baz=205,slow=26,SNR=2.4
KAF Kangasniemi 11.96 24 *eP* **Pn** **19 31 56.3 -1.7**
KAF Kangasniemi 11.96 24 *ep* **Pn** **19 31 56.3 -1.7**
EKA Eskdalemuir Ar 12.08 296 Pn Pn 19 31 56.1 -3.6
EKA Eskdalemuir Ar 12.08 296 Pn Pn 19 31 56.1 -3.6
baz=102,slow=14,SNR=12
OBN Obninsk 12.74 66 *eP* Pn 19 32 04.7 -3.9
OBN *eS* **Sn** **19 34 29.5 -1.5**
OBN pmax pmax
comp=Z,16nm,1.1s
MOS Moscow 13.43 63 *eP* Pn 19 32 12.6 -5.4
MOS *eS* **Sn** **19 34 42.8 -5.0**
MOS pmax pmax
comp=Z,23nm,1.1s
VOR Voronezh 14.34 80 P Pn 19 32 26.0 -4.5
VOR pmax pmax
comp=Z,300nm,1.4s
VSR Storozhevoye 14.40 82 *eP* Pn 19 32 23.9 -7.5
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,30nm,1.0s
VORD Divnogorie 14.53 83 *eP* Pn 19 32 25.6 -7.5
VORD pmax pmax
comp=N,5.0nm,0.7s
VORD pmax pmax
comp=Z,3.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,1.3s
VRHR Novokhopersk 15.95 82 *eP* Pn 19 32 44.2 -7.7
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,1.3s
VRHR pmax pmax
comp=E,80nm,1.2s
BRTR Keskin Array B 16.98 127 P **Pn** **19 33 06.0 +0.6**
BRTR Lg Lg 19 38 07.5
BRTR Keskin Array B 16.98 127 P **Pn** **19 33 05.9 +0.6**
comp=E,0.1nm,0.3s,baz=304,slow=10,SNR=3.7
BRTR Lg Lg 19 38 07.4
baz=339,slow=15,SNR=3.3
TMCR Tamitsa 17.08 34 *eP* Pn 19 33 01.2 -5.1
TMCR *e* 19 36 06.7
TMCR pmax pmax
comp=Z,34nm,1.1s
ESDC Sonseca Array 18.31 237 P **Pn** **19 33 22.4 +0.6**
ESDC Sonseca Array 18.31 237 P **Pn** **19 33 22.4 +0.6**
comp=Z,0.2nm,0.3s,baz=33,slow=7.4,SNR=4.5
ARCES ARCESS Array B 18.59 10 P **P** **19 33 20.7 -4.1**
ARCES ARCESS Array B 18.59 10 P **P** **19 33 20.7 -4.1**
comp=Z,1.0nm,0.3s,baz=193,slow=12,SNR=21
PRGR Permogore 18.97 46 *eP* P 19 33 23.0 -5.9
PRGR *eS* **Sn** **19 36 56.8 -5.4**
PRGR pmax pmax
comp=Z,22nm,1.7s
KEV Kevo 18.98 12 *eP* **P** **19 33 27.5 -1.5**
KEV Kevo 18.98 12 *ep* **P** **19 33 27.5 -1.5**
ZEI Tsey 20.73 104 *eP* Pn 19 33 50.7 -0.2
ZEI pmax pmax
comp=Z,12nm,1.5s
ARU Arti 25.13 62 *d iP* **P** **19 34 32.0 -0.7**
ARU S **S** **19 38 59.5 +1.3**
ARU SS **SnSn** **19 39 49.0 +2.1**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 25.13 62 *eP* **P** **19 34 31.7 -1.0**
comp=Z,12nm,0.9s
AKTO Aktyubinsk 26.16 76 P **P** **19 34 42.1 0.0**
AKTO pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 26.16 76 P **P** **19 34 42.0 0.0**
AKTO Aktyubinsk 26.16 76 P **P** **19 34 42.0 0.0**
comp=Z,5.4nm,0.8s,baz=292,slow=10,SNR=21
SVE Sverdlovsk 26.22 61 *eP* **P** **19 34 42.9 +0.3**
SVE pmax pmax
comp=Z,24nm,1.4s
BRVK Borovoye 32.51 66 *eP* **P** **19 35 38.4 -0.1**
BRVK pmax pmax
comp=Z,16nm,1.4s
BRVK Borovoye 32.51 66 *eP* **P** **19 35 38.4 -0.1**
comp=Z,16nm,1.4s
BVAR Borovoye Array 32.58 66 P **P** **19 35 40.2 +1.0**
BVAR Borovoye Array 32.58 66 P **P** **19 35 40.1 +1.0**
BVAR Borovoye Array 32.58 66 P **P** **19 35 40.1 +1.0**
comp=Z,2.3nm,0.6s,baz=288,slow=8.1,SNR=15
KURBB Kurchatov Arra 38.17 66 P **P** **19 36 27.6 +0.4**
comp=Z,2.3nm,0.8s,baz=297,slow=8.9,SNR=23
KURBB PP **PP** **19 37 50.9 -3.2**
comp=Z,3.9nm,1.2s,baz=295,slow=10,SNR=4.4
KURK Kurchatov 38.18 66 P **P** **19 36 27.6 +0.3**
KURK 19 37 50.9
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK pmax pmax
comp=Z,4.0nm,1.2s
KURK Kurchatov 38.18 66 P **P** **19 36 27.6 +0.3**
KURK PP **PP** **19 37 50.9 -3.3**
NVS Novosibirsk 38.97 58 *eP* **P** **19 36 33.2 -0.7**
NVS pmax pmax
comp=E,7.0nm,1.4s
NVS pmax pmax
comp=Z,18nm,1.4s
AAK Ala-Archa 39.77 79 P **P** **19 36 41.9 +0.9**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 39.77 79 P **P** **19 36 41.9 +0.9**
AAK Ala-Archa 39.77 79 P **P** **19 36 41.9 +0.9**
comp=Z,5.0nm,0.9s,baz=278,slow=5.9,SNR=11
TORD Torodi Ar. Bea 40.03 202 P **P** **19 36 43.0 -0.1**
TORD Torodi Ar. Bea 40.03 202 P **P** **19 36 43.0 -0.1**
comp=Z,6.7nm,1.2s,baz=12,slow=8.1,SNR=17
ZAA0 Zalesovo Array 40.19 59 *eP* **P** **19 36 44.6 +0.5**
ZALV Zalesovo Beam 40.19 59 P **P** **19 36 44.8 +0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 40.19 59 P **P** **19 36 44.8 +0.7**
ZALV Zalesovo Beam 40.19 59 P **P** **19 36 44.8 +0.7**
comp=Z,2.3nm,0.8s,baz=294,slow=8.0,SNR=13
HVS Khovu-Aksy 46.29 58 *eP* **P** **19 37 34.0 +0.5**
HVS pmax pmax
comp=Z,48nm,1.2s
SONM Songino Array 54.90 55 P **P** **19 38 39.7 +1.0**
SONM Songino Array 54.90 55 P **P** **19 38 39.7 +1.0**
comp=Z,3.0nm,1.0s
SONM Songino Array 54.90 55 P **P** **19 38 39.7 +1.0**
comp=Z,3.2nm,1.0s,baz=294,slow=7.2,SNR=13
YAK Yakutsk 55.18 32 *eP* P 19 38 37.0 -3.2
YAK pmax pmax
comp=Z,20nm,1.5s
ULN Ulaanbaatar 55.22 55 *eP* **P** **19 38 41.3 +0.3**
comp=Z,7.0nm,1.7s
LSA Lhasa 58.32 81 *eP* **P** **19 39 05.1 +1.5**
LSA pmax pmax
comp=Z,17nm,1.4s
LSA Lhasa 58.32 81 *eP* **P** **19 39 05.1 +1.5**
comp=Z,17nm,1.4s
LSA Lhasa 58.32 81 *eP* **P** **19 39 05.1 +1.5**
comp=Z,17nm,1.4s
YKW3 Yellowknife Ar 59.77 336 *eP* **P** **19 39 13.1 +0.5**
YKW3 Yellowknife Ar 59.77 336 *eP* **P** **19 39 13.1 +0.5**
YKA Yellowknife Ar 59.82 336 P **P** **19 39 13.3 +0.4**
YKA Yellowknife Ar 59.82 336 P **P** **19 39 13.3 +0.4**
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 59.82 336 P **P** **19 39 13.3 +0.4**
comp=Z,3.6nm,0.8s,baz=30,slow=6.7,SNR=38
FFC Flin Flon 62.24 325 *i* P **P** **19 39 30.7 +1.2**
FFC Flin Flon 62.24 325 *i* P **P** **19 39 30.7 +1.2**
ILAR Eielson Array 63.27 352 P **P** **19 39 37.5 +1.2**
ILAR Eielson Array 63.27 352 P **P** **19 39 37.5 +1.2**
comp=Z,1.0nm,0.9s
ILAR Eielson Array 63.27 352 P **P** **19 39 37.5 +1.2**
comp=Z,0.5nm,0.9s,baz=354,slow=5.9,SNR=6.5
CHTO Chiang Mai 71.09 83 *eP* **P** **19 40 26.8 +0.3**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 71.09 83 *eP* **P** **19 40 26.8 +0.3**
comp=Z,3.4nm,0.8s
CMAR Chiang Mai Arr 71.36 84 P **P** **19 40 29.0 +0.8**
CMAR Chiang Mai Arr 71.36 84 P **P** **19 40 29.0 +0.8**
comp=Z,1.7nm,1.0s,baz=307,slow=6.9,SNR=14
SWMT Swartz Lake 72.45 327 *eP* **P** **19 40 35.7 +1.2**
comp=Z,5.9nm,1.1s
PDAR Pinedale Array 74.91 322 P **P** **19 40 49.3 +0.2**
PDAR Pinedale Array 74.91 322 P **P** **19 40 49.3 +0.2**
comp=Z,1.1nm,0.8s,baz=71,slow=5.8,SNR=8.8
BGU Big Grassy Mou 77.81 323 *eP* **P** **19 41 07.2 +1.7**
comp=Z,8.4nm,1.4s
MVU Marysvale 79.60 321 *eP* **P** **19 41 14.6 -0.9**
comp=Z,4.4nm,1.2s
TXAR Lajitas Array 83.69 310 P **P** **19 41 37.6 +0.5**
TXAR Lajitas Array 83.69 310 P **P** **19 41 37.6 +0.5**
comp=Z,1.3nm,1.1s,baz=56,slow=4.7,SNR=8.2
ASAR Alice Springs 125.37 84 PKP **PKPdf** **19 48 09.1 0.0**
ASAR Alice Springs 125.37 84 PKP **PKPdf** **19 48 09.1 0.0**
comp=Z,0.4nm,0.7s,baz=349,slow=0.9,SNR=4.1

PRU ***16*** *19:40:17.5,50.˚18N×19.˚27E,h0km*
CSEM ***16*** *19:40:17.3±1.0,50.˚26N×19.˚23E,h1km,ML2.5/4,Error ellipse: s-maj=13.9km s-min=11.2km az=36.0*
ISC 16 19:40:17.1±1.2,50.˚09N±0.˚06×19.˚31E±0.˚04,h0km,n17,
σ1ˢ22/24,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.29**	**315**	*ePg*	**Pg**	**19 40 24.2**	**+1.6**
CHZP				*eSg*	**Sg**	**19 40 27.6**	**+1.2**
OJC	**Ojcow**	**0.34**	**67**	*ePg*	**Pg**	**19 40 23.7**	**0.0**
OJC				*eSg*	**Sg**	**19 40 28.1**	**0.0**
OKC	**Ostrava-Krasne**	**0.79**	**252**	*ePG*	**Pg**	**19 40 33.1**	**+0.8**
OKC				*eSG*	**Sg**	**19 40 44.0**	**+1.5**
	5.8nm,0.4s						
OKC	**Ostrava-Krasne**	**0.79**	**252**	Pg	**Pg**	**19 40 33.1**	**+0.8**
OKC				Sg	**Sg**	**19 40 44.0**	**+1.5**
	5.8nm,0.4s						
MORC	**Moravsky Berou**	**1.18**	**255**	*ePg*	**Pb**	**19 40 40.8**	**+0.3**
MORC				*eSg*	**Sb**	**19 40 56.7**	**+0.3**
DPC	**Dobruska-Polom**	**1.94**	**279**	*ePG*	**Pb**	**19 40 52.7**	**-0.6**
DPC				*eSG*	**Sg**	**19 41 17.9**	**-1.4**
DPC	**Dobruska-Polom**	**1.94**	**279**	Pg	**Pb**	**19 40 52.7**	**-0.6**
DPC				Sg	**Sg**	**19 41 17.9**	**-1.4**
UPC	**Upice**	**2.16**	**282**	*eSG*	**Sg**	**19 41 25.5**	**-0.9**
UPC	**Upice**	**2.16**	**282**	Sg	**Sg**	**19 41 25.5**	**-0.9**
TREC	**Trest**	**2.61**	**254**	*eSG*	**Sg**	**19 41 40.3**	**-0.5**
	2.0nm,0.3s						
TREC	**Trest**	**2.61**	**254**	Sg	**Sg**	**19 41 40.3**	**-0.5**
	2.0nm,0.3s						
PVCC	**Panska Ves**	**3.07**	**280**	*eSG*	**Sg**	**19 41 54.4**	**-1.3**
	6.3nm,0.3s						
PVCC	**Panska Ves**	**3.07**	**280**	Sg	**Sg**	**19 41 54.4**	**-1.3**
	6.3nm,0.3s						
PRU	**Pruhonice**	**3.08**	**270**	*eSG*	**Sg**	**19 41 53.9**	**-2.0**
	2.0nm,0.3s						
PRU	**Pruhonice**	**3.08**	**270**	Sg	**Sg**	**19 41 53.9**	**-2.0**
	2.0nm,0.3s						
KHC	**Kasperske Hory**	**3.85**	**258**	*eSG*	**Sg**	**19 42 19.4**	**-1.3**
KHC	**Kasperske Hory**	**3.85**	**258**	Sg	**Sg**	**19 42 19.4**	**-1.3**

ISCJB ***16*** *19:51:26.4±0.7,29.˚03±0.˚08×67.˚0W±0.˚2,h135km, mb3.9/3,Error ellipse: s-maj=20.4km s-min=8.3km az=25.3*
IDC ***16*** *19:51:26.9±1.6,28.˚99S×66.˚96W,h115km±15km,mb3.8/3, mb1 3.6/7,mb1mx3.4/20,mbtmp3.5/7,Error ellipse: s-maj=32.8km s-min=14.4km az=121.0*
ISC 16 19:51:27.9±0.8,29.˚0S±0.˚1×66.˚9W±0.˚1,h135km,n11,
σ1ˢ47/13,mb3.9/3,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**2.79**	**203**	P	**Pn**	**19 52 11.0**	**-1.0**
	5.8nm,0.3s,baz=18,slow=13,SNR=648						
CFAA				S	**Sn**	**19 52 45.2**	**-0.8**
	11nm,0.3s,baz=288,slow=20,SNR=28						
CPUP	**Villa Florida**	**8.94**	**75**	P	**Pn**	**19 53 33.2**	**-0.8**
	0.5nm,0.3s,baz=263,slow=7.7,SNR=3.5						
LPAZ	**La Paz**	**12.74**	**355**	P	**Pn**	**19 54 23.1**	**-1.9**
	0.1nm,0.3s,baz=185,slow=7.3,SNR=4.1						
SIV	**San Ignacio**	**14.07**	**24**	P	**Pn**	**19 54 39.5**	**-2.0**
	0.5nm,0.3s,baz=224,slow=12,SNR=4.1						
BDFB	**Brasilia**	**21.97**	**57**	P	**P**	**19 56 10.7**	**-0.5**
	1.7nm,0.3s,baz=216,slow=8.7,SNR=3.1						
TKL	**Tuckaleechee C**	**66.28**	**345**	P	**P**	**20 02 03.1**	**+1.5**
	3.6nm,0.6s,baz=192,slow=8.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**78.37**	**68**	P	**P**	**20 03 15.2**	**+1.3**
	0.7nm,0.6s,baz=272,slow=5.1,SNR=9.7						
ASAR	**Alice Springs**	**123.88**	**203**	PKP	**PKPdf**	**20 10 10.5**	**-0.2**
	0.2nm,0.6s,baz=134,slow=1.6,SNR=3.3						
WRA	**Warramunga Arr**	**127.14**	**205**	PKP	**PKPdf**	**20 10 17.5**	**+0.6**
	0.4nm,0.4s,baz=164,slow=1.8,SNR=12						
AAK	**Ala-Archa**	**146.22**	**56**	PKPab	**PKPab**	**20 10 55.9**	**+2.2**
	0.6nm,0.5s,baz=288,slow=3.2,SNR=3.3						
MKAR	**Makanchi Array**	**150.21**	**45**	PKPbc	**PKPbc**	**20 11 04.0**	**+1.2**
	0.2nm,0.8s,baz=312,slow=3.5,SNR=2.5						
MKAR				PKPab	**PKPab**	**20 11 09.9**	**+0.5**
	0.2nm,0.5s,baz=300,slow=2.4,SNR=5.8						

IDC 16 20:05:56.5±2.3,30.˚47S×178.˚10W,h0km,mb4.0/3, mb1 4.1/3,mb1mx3.8/16,mbtmp4.0/3,Error ellipse: s-maj=61.0km s-min=45.6km az=47.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.02**	**267**	P	P	20 13 58.1	+0.1
	0.4nm,0.7s,baz=106,slow=7.8,SNR=6.2						
WRA	**Warramunga Arr**	**44.01**	**272**	P	P	20 14 05.6	-0.4
	0.5nm,0.4s,baz=111,slow=8.1,SNR=14						
MAW	**Mawson**	**72.21**	**201**	P	P	20 17 22.9	0.0
	6.5nm,0.6s,baz=119,slow=10,SNR=2.7						
FINES	**FINESS Array B**	**145.18**	**340**	PKPbc	PKPbc	20 25 34.0	-0.8
	2.4nm,0.8s,baz=54,slow=3.3,SNR=4.5						

IDC ***16*** *20:28:00.6±0.6,15.˚10S×173.˚48W,h0km,mb4.5/15, mb1 4.7/15,mb1mx4.7/20,mbtmp4.5/15,MS4.1/13, Ms1 4.1/13,ms1mx3.9/26,Error ellipse: s-maj=23.9km s-min=15.9km az=130.0*
NEIC ***16*** *20:28:02.0±0.2,15.˚14S×173.˚47W,h10km,mb5.0/37, Error ellipse: s-maj=9.9km s-min=5.2km az=141.0*
BJI ***16*** *20:28:01.2,15.˚00S×173.˚60W,h10km,mB5.4/14, mb4.9/24,Ms5.2/8,Ms7 4.8/10*
MOS ***16*** *20:28:04.8±1.4,14.˚99S×173.˚55W,h33km,mb5.3/15, MS4.5/4,Error ellipse: s-maj=14.8km s-min=11.4km az=61.1*
ISCJB ***16*** *20:28:04.0±0.2,15.˚14S±0.˚07×173.˚51W±0.˚05,h33km, mb4.9/71,MS4.3/20,Error ellipse: s-maj=10.1km s-min=6.0km az=159.5*
SZGRF ***16*** *20:28:04.2,15.˚96S×172.˚89W,h33km,mb4.6,Samoa Islands region*
ISC 16 20:28:03.1±0.6,15.˚11S±0.˚08×173.˚47W±0.˚08,h17km±3km, h17km:pP-P,n506,σ0ˢ73/496,mb4.9/71,MS4.5/20, 174C-124D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.03**	**54**	Pn	Pn	20 28 29.0	-7.6
AFI				Sn	Sn	20 28 46.8	-15
AFI	**Afiamalu**	**2.03**	**54**	Pn	Pn	20 28 29.0	-7.6
	112nm,0.3s,baz=32,slow=3.5,SNR=98						
AFI				Sn	Sn	20 28 46.8	-15
	417nm,0.3s,baz=131,slow=20,SNR=15						
RAR	**Rarotonga**	**14.36**	**117**	P	Pn	20 31 17.7	-8.0
	24nm,0.8s						
DZM	**Mont Dzumac**	**20.25**	**247**	*e*LR	LR	20 37 48.1	
	1μm,25.4s						
PAE	**Paea**	**23.05**	**100**	*e*T	T	20 56 21.4	
	2.6nm,0.2s						
PPT	**Papeete**	**23.05**	**99**	LR	LR	20 39 23.8	
	comp=Z,194nm,20.0s,baz=215,slow=30						
PPT2	**Papeete2**	**23.05**	**99**	*e*LQ	LQ	20 37 28.4	
	759nm,26.8s						
PPT2				*e*LR	LR	20 38 33.1	
	414nm,23.8s						
TIAR	**Tiarei**	**23.27**	**99**	*e*T	T	20 56 37.1	
	3.2nm,0.4s						
TVO	**Taravao**	**23.37**	**100**	*e*T	T	20 56 45.7	
	2.3nm,0.3s						
TBI	**Tubuai**	**24.08**	**114**	*e*LQ	LQ	20 37 55.6	
	748nm,27.8s						
TBI				*e*LR	LR	20 38 51.8	
	307nm,24.5s,baz=293						
TBI	**Tubuai**	**24.08**	**114**	*e*T	T	20 57 37.6	
	14nm,0.4s						
URZ	**Urewera**	**24.51**	**198**	*e*P	**P**	**20 33 20.7**	**-1.0**
URZ	**Urewera**	**24.51**	**198**	P	**P**	**20 33 21.7**	**0.0**
	6.6nm,0.6s,baz=349,slow=5.2,SNR=6.8						
PMOR	**Pomariorio Ree**	**24.70**	**93**	*e*P	**P**	**20 33 22.8**	**-0.7**
	162nm,1.1s						
VAH	**Vaihoa**	**24.94**	**94**	*e*P	**P**	**20 33 25.4**	**-0.3**
	90nm,1.2s						
VAH	**Vaihoa**	**24.94**	**94**	*e*T	T	20 58 37.5	
	5.5nm,0.3s						
HNR	**Honiara**	**26.57**	**279**	LR	LR	20 42 37.8	
	comp=Z,250nm,19.6s,baz=102,slow=33						
TAOE	**Nuku Hiva Isla**	**33.15**	**83**	*e*T	T	21 08 45.2	
	109nm,0.3s						
RKT	**Rikitea**	**37.15**	**108**	*e*LR	LR	20 45 29.2	
	227nm,24.5s						
RKT	**Rikitea**	**37.15**	**108**	*e*T	T	21 14 04.9	
	4.6nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**38.68**	**329**	T	T	21 16 32.8	
	baz=152,slow=77,SNR=22						
H11S3	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	21 16 36.4	
	baz=152,slow=77,SNR=17						
H11S1	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	21 16 34.5	
	baz=152,slow=77,SNR=4.5						
PMG	**Port Moresby**	**38.85**	**274**	LR	LR	20 48 58.3	
	comp=Z,127nm,18.5s,baz=81,slow=32						
H11N3	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	21 18 03.3	
	baz=152,slow=77,SNR=48						
H11N1	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	21 17 39.2	
	baz=152,slow=77,SNR=16						
H11N2	**WAKE ISLAND Hy**	**39.65**	**330**	T	T	21 17 47.8	
	baz=152,slow=77,SNR=14						
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**20 36 10.2**	**-0.7**
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**20 36 10.2**	**-0.7**
	6.8nm,0.9s,baz=43,slow=5.7,SNR=12						
STKA				LR	LR	20 52 01.2	
	comp=Z,226nm,19.4s,baz=27,slow=33						
WRAB	**Tennant Creek**	**49.84**	**257**	*i* P	**P**	**20 36 54.8**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,56nm,3.9s						
WRAB				MLR	MLR		
	comp=Z,473nm,21.0s						
WRA	**Warramunga Arr**	**49.84**	**257**	P	**P**	**20 36 55.1**	**-0.7**
WRA	**Warramunga Arr**	**49.84**	**257**	P	**P**	**20 36 55.1**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=90,slow=7.0,SNR=40						
AS31	**Alice Springs**	**50.13**	**252**	*e*P	**P**	**20 36 57.0**	**-1.0**
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**20 36 57.0**	**-1.0**
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**20 36 57.0**	**-1.0**
	comp=Z,11nm,0.6s,baz=86,slow=8.4,SNR=132						
ASAR				LR	LR	20 56 17.3	
	comp=Z,496nm,21.8s,baz=91,slow=34						
VNDA	**Vanda**	**63.65**	**186**	P	**P**	**20 38 34.7**	**+1.8**
VNDA	**Vanda**	**63.65**	**186**	P	**P**	**20 38 34.7**	**+1.8**
	comp=Z,4.6nm,1.0s,baz=11,slow=8.5,SNR=9.0						
MJAR	**Matsushiro Arr**	**68.68**	**320**	P	**P**	**20 39 06.2**	**+0.4**
MJAR	**Matsushiro Arr**	**68.68**	**320**	P	**P**	**20 39 06.2**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=166,slow=4.6,SNR=5.7						
H06S1	**SOCORRO T**	**70.14**	**63**	T	T	21 55 31.9	
	SNR=4.6						
MURC	**Murrieta**	**72.25**	**47**	⇓P	**P**	**20 39 28.4**	**+0.7**
	baz=72						
BFSC	**Mount Baldy Ra**	**72.27**	**46**	⇑P	**P**	**20 39 29.0**	**+1.1**
	baz=72						
PETK	**Petropavlovsk-**	**72.34**	**342**	P	**P**	**20 39 28.5**	**+0.7**
PETK	**Petropavlovsk-**	**72.34**	**342**	P	**P**	**20 39 28.5**	**+0.7**
PETK	**Petropavlovsk-**	**72.34**	**342**	P	**P**	**20 39 28.5**	**+0.7**
	comp=Z,6.9nm,0.8s,baz=147,slow=8.8,SNR=5.3						
PETK				LR	LR	21 07 26.6	
	comp=Z,40nm,19.5s,baz=285,slow=33						
EDW2	**Edwards Air Fo**	**72.39**	**45**	⇓P	**P**	**20 39 28.9**	**+0.3**
	baz=73						
MONP	**Monument Peak**	**72.42**	**48**	⇓P	**P**	**20 39 29.4**	**+0.4**
	baz=73						
ISA	**Isabella**	**72.50**	**44**	*e*P	**P**	**20 39 29.4**	**+0.2**
ISA				pmax	pmax		
	comp=Z,6.0nm,1.8s						
ISA	**Isabella**	**72.50**	**44**	*e*P	**P**	**20 39 29.4**	**+0.2**
	comp=Z,5.9nm,1.8s						
ISA	**Isabella**	**72.50**	**44**	⇑P	**P**	**20 39 29.9**	**+0.7**
	baz=73						
PFO	**Pinyon Flat Ob**	**72.78**	**47**	⇓P	**P**	**20 39 31.5**	**+0.5**
	baz=73						
LRMC	**Laurel Mountai**	**72.92**	**45**	⇓P	**P**	**20 39 32.5**	**+0.6**
	baz=73						
N02D	**Trinity Center**	**72.94**	**38**	⇓P	**P**	**20 39 33.0**	**+1.2**
	baz=73						
YSS	**Yuzh-Sakhalins**	**73.20**	**330**	P	**P**	**20 39 31.0**	**-2.0**
BELC	**Belle Mtn. Jos**	**73.31**	**47**	⇓P	**P**	**20 39 34.8**	**+0.7**
	baz=74						
MPMC	**Manual Prospec**	**73.38**	**44**	⇓P	**P**	**20 39 34.6**	**0.0**
	baz=74						
GSC	**Goldstone**	**73.44**	**45**	⇑P	**P**	**20 39 34.8**	**0.0**
	baz=74						
WAKR	**Walker**	**73.47**	**41**	*e*P	**P**	**20 39 34.3**	**-0.8**
	comp=Z,10nm,1.3s						
BC3	**Big Chuckawall**	**73.51**	**48**	⇓P	**P**	**20 39 35.4**	**+0.1**
	baz=74						
HEC	**Hector,Ludlow**	**73.51**	**46**	⇑P	**P**	**20 39 35.5**	**+0.2**
	baz=74						
GLA	**Glamis**	**73.65**	**48**	⇓P	**P**	**20 39 36.2**	**+0.1**
	baz=74						
GMRC	**Granite Mounta**	**73.95**	**46**	⇑P	**P**	**20 39 37.4**	**-0.6**
	baz=74						
M04C	**Macdoel**	**73.95**	**38**	⇓P	**P**	**20 39 38.2**	**+0.4**
	baz=74						
GRAC	**Grapevine Rang**	**73.98**	**44**	⇑P	**P**	**20 39 38.8**	**+0.9**
	baz=74						
IRM	**Iron Mountain**	**73.99**	**47**	⇑P	**P**	**20 39 38.4**	**+0.4**
	baz=74						
TUQ	**Turquoise Moun**	**74.11**	**46**	⇑P	**P**	**20 39 39.2**	**+0.3**
	baz=74						
Y12C	**Blythe**	**74.23**	**48**	⇓P	**P**	**20 39 40.2**	**+0.8**
	baz=74						
113A	**Mohawk Valley,**	**74.28**	**49**	⇑P	**P**	**20 39 40.1**	**+0.4**
	baz=74						
LDFC	**Landfair**	**74.49**	**46**	*e*P	**P**	**20 39 41.2**	**+0.2**
	comp=Z,36nm,1.4s						
214A	**Organ Pipe Nat**	**74.58**	**50**	*e*P	**P**	**20 39 42.5**	**+0.9**
214A	**Organ Pipe Nat**	**74.58**	**50**	⇓P	**P**	**20 39 41.7**	**+0.2**
	baz=75						
TPH	**Tonopah**	**74.67**	**43**	*e*P	**P**	**20 39 42.2**	**+0.1**
TPH				pmax	pmax		
	comp=Z,13nm,1.2s						
TPH	**Tonopah**	**74.67**	**43**	*e*P	**P**	**20 39 42.2**	**+0.1**
	comp=Z,13nm,1.2s						
J04D	**Umpqua Nationa**	**74.70**	**36**	⇓P	**P**	**20 39 42.9**	**+0.7**
	baz=75						
TPNV	**Topopah Spring**	**74.70**	**44**	⇑P	**P**	**20 39 42.3**	**+0.1**
	baz=75						
PDMCI	**Parker Dam,Lak**	**74.78**	**48**	⇑P	**P**	**20 39 42.6**	**+0.1**
	baz=75						
QSPA	**South Pole Qui**	**74.93**	**180**	*e*P	**P**	**20 39 43.9**	**+0.8**
	comp=Z,25nm,1.0s						
MOD	**Modoc**	**74.94**	**38**	*e*P	**P**	**20 39 44.0**	**+0.4**
	comp=Z,21nm,0.3s						
SHPR	**Sheep Range**	**75.21**	**45**	*e*P	**P**	**20 39 45.3**	**+0.1**
	comp=Z,26nm,1.8s						
**

TUC pmax pmax
comp=Z,24nm,1.7s
TUC Tucson 76.26 51 *e*P **P 20 39 50.5 -0.7**
comp=Z,24nm,1.7s
X16A Lo Mia Camp, P 76.78 49 ⇓P **P 20 39 54.6 +0.4**
baz=77
319A Douglas 76.97 52 ⇓P **P 20 39 56.2 +0.9**
baz=77
U15A North Rim 77.15 46 ⇑P **P 20 39 57.1 +0.7**
baz=77
WUAZ Wupatki 77.36 48 ⇓P **P 20 39 58.1 +0.7**
baz=78
320A Kipp Ranch, An 77.53 53 ⇓P **P 20 39 58.9 +0.5**
baz=78
X18A Snowflake 77.91 49 ⇑P **P 20 40 01.2 +0.6**
baz=78
HABR Khabarovsk 78.06 328 *e*P **P 20 39 59.9 -0.9**
HABR *e* 20 40 09.0
HABR *e**PP **PcP 20 40 10.2 -0.2**
HABR *e**SP sP 20 40 14.2 +5.8
HABR 20 42 56.2
HABR *e*PPP PPP 20 44 44.3
HABR *e*S **S 20 49 52.0 -2.0**
HABR *e*S SKSac 20 50 05.2 -8.9
HABR *e* 20 50 16.2
HABR *e*SS **SS 20 54 54.2 -1.8**
HABR *e*SSS SSS 20 58 19.4
HABR pmax pmax
comp=Z,10.0nm,1.6s
HABR MLR MLR
comp=Z,246nm,23.0s
HAWA Hanford 78.08 35 *e*P **P 20 40 01.4 +0.4**
comp=Z,3.8nm,0.6s
MFID Camas Ranch 78.51 39 *e*P **P 20 40 03.6 0.0**
comp=Z,13nm,1.1s
121A Cookes Peak, D 78.62 52 ⇑P **P 20 40 04.2 -0.3**
baz=79
GAMB Gambell 78.65 1 *e*P **P 20 40 04.6 +0.9**
comp=Z,29nm,1.7s
DUG Dugway 78.70 43 ⇑P **P 20 40 04.6 -0.2**
baz=79
MDJ Mudanjiang 78.76 322 P **P 20 40 07.6 +2.8**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,63nm,4.3s
TMUT Trail Mountain 79.31 44 *e*P **P 20 40 09.4 +1.0**
comp=Z,18nm,1.1s
HLID Hailey 79.45 39 *e*P **P 20 40 08.9 0.0**
comp=Z,14nm,1.0s
HLID Hailey 79.45 39 ⇑P **P 20 40 09.1 +0.2**
baz=80
SPUT South Promonto 79.50 42 *e*P **P 20 40 09.2 0.0**
comp=Z,17nm,1.4s
HVU Hansel Valley 79.54 42 *e*P **P 20 40 09.0 -0.3**
HVU pmax pmax
comp=Z,13nm,1.0s
HVU Hansel Valley 79.54 42 *e*P **P 20 40 09.0 -0.3**
comp=Z,13nm,1.0s
Z22A Elephant Butte 79.56 51 ⇑P **P 20 40 09.7 +0.1**
baz=80,SNR=7.2
SRU San Rafael 79.69 45 *e*P **P 20 40 10.6 +0.3**
SRU pmax pmax
comp=Z,29nm,1.4s
SRU San Rafael 79.69 45 *e*P **P 20 40 10.6 +0.3**
comp=Z,29nm,1.4s
JLU Jordanelle 79.80 43 *e*P **P 20 40 11.1 +0.2**
comp=Z,18nm,1.5s
DAU Daniels Canyon 79.83 43 *e*P **P 20 40 11.3 +0.1**
DAU pmax pmax
comp=Z,15nm,1.3s
DAU Daniels Canyon 79.83 43 *e*P **P 20 40 11.3 +0.1**
comp=Z,15nm,1.3s
324A Moseley Ranch, 79.92 54 ⇓P **P 20 40 11.4 -0.2**
baz=80,SNR=7.5
LAZ Ladron 79.93 50 *e*P **P 20 40 12.4 +0.7**
comp=Z,2.1nm,0.9s
NJ2 Nanjing 79.94 307 *e*P **P 20 40 12.9 +1.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
425A Indio Mountain 80.04 54 ⇑P **P 20 40 12.4 +0.1**
baz=80,SNR=12
224A Cornudas Mount 80.16 53 ⇓P **P 20 40 13.2 +0.3**
baz=80,SNR=8.2
BNM Barren Site 80.20 51 *e*P **P 20 40 13.8 +0.6**
comp=Z,1.5nm,0.7s
626A Big Bend Ranch 80.22 56 ⇑P **P 20 40 13.4 +0.1**
baz=80,SNR=7.1
LPM Los Pinos Moun 80.27 51 *e*P **P 20 40 13.5 0.0**
comp=Z,20nm,1.4s
325A Bean Ranch, Si 80.29 54 ⇑P **P 20 40 13.5 -0.2**
baz=80,SNR=7.9
526A Mary Lane Ranc 80.46 55 ⇓P **P 20 40 14.8 +0.2**
baz=81,SNR=10
124A Stringfield Ra 80.47 52 ⇓P **P 20 40 15.0 +0.3**
baz=81,SNR=5.2
TXAR Lajitas Array 80.51 56 P **P 20 40 15.5 +0.7**
TXAR Lajitas Array 80.51 56 P **P 20 40 15.5 +0.7**
comp=Z,6.6nm,1.1s,baz=258,slow=5.8,SNR=26
TXAR LR LR 21 09 21.4
comp=Z,160nm,18.0s,baz=190,slow=31
NEW Newport 80.51 34 ⇑P **P 20 40 14.3 0.0**
baz=81
Y23A Lovelace Mesa, 80.53 51 ⇑P **P 20 40 15.0 0.0**
baz=81
PV01 Paradox Valley 80.57 46 *e*P **P 20 40 15.4 +0.3**
comp=Z,1µm,1.1s
ANMO Albuquerque 80.67 50 *e*P **P 20 40 16.1 +0.4**
comp=Z,76nm,2.1s
225A Deer Hill, Car 80.71 53 ⇑P **P 20 40 15.9 0.0**
baz=81
426A McDonald Obser 80.75 55 ⇓P **P 20 40 16.1 -0.1**
baz=81,SNR=18
V22A San Miguel Ran 80.76 49 ⇑P **P 20 40 16.2 0.0**
baz=81
627A Terlingua Ranc 80.78 56 ⇑P **P 20 40 16.1 -0.2**
baz=81,SNR=12
Z24A Sheeppen Canyo 80.80 52 ⇑P **P 20 40 16.4 0.0**
baz=81
CN2 Changchun 80.82 320 *e*P **P 20 40 17.9 +1.9**
CN2 *es*P **sP 20 40 24.9 +1.2**
CN2 *e*S **S 20 50 24.3 +0.7**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
MCK McKinley 80.86 11 *e*P **P 20 40 15.5 -0.3**
MCK pmax pmax
comp=Z,37nm,0.9s
MCK McKinley 80.86 11 *e*P **P 20 40 15.5 -0.3**
comp=Z,37nm,0.9s
527A Woodward Ranch 80.87 55 ⇓P **P 20 40 16.7 -0.1**
baz=81,SNR=9.7
HYT Haines Junctio 80.96 17 *e*P **P 20 40 16.8 +0.3**
W23A Werner Place, 80.99 50 ⇓P **P 20 40 17.1 -0.3**
baz=81
Y24A Capitan 81.00 51 ⇓P **P 20 40 17.7 +0.2**
baz=81,SNR=12
U22A Llaves 81.00 49 ⇓P **P 20 40 17.4 -0.1**
baz=81
326A Caldwell Ranch 81.05 54 ⇓P **P 20 40 17.4 -0.2**
baz=81
125A Gardner Draw, 81.06 53 ⇑P **P 20 40 17.8 0.0**
baz=81,SNR=5.4
MCMT McKenzie Canyo 81.07 39 *e*P **P 20 40 18.2 +0.5**
comp=Z,7.9nm,1.2s
628A Black Gap, Mar 81.19 56 ⇑P **P 20 40 18.4 0.0**
baz=81,SNR=5.5
226B Tecolote Peak, 81.21 53 ⇑P **P 20 40 18.4 -0.1**
baz=81,SNR=15
V23A Ortiz Mt. (NFS 81.22 49 ⇑P **P 20 40 19.0 +0.4**
baz=81,SNR=5.2
X24A Lazy VL Ranch, 81.27 51 ⇓P **P 20 40 18.7 -0.1**
baz=81
Z25A Roswell 81.27 52 ⇓P **P 20 40 19.3 +0.4**
baz=81,SNR=5.8
427A Hayter Ranch, 81.32 55 ⇑P **P 20 40 18.7 -0.4**
baz=82,SNR=9.3
U23A El Rito 81.46 49 ⇓P **P 20 40 20.2 +0.2**
baz=82
MSO Missoula 81.49 37 ⇑P **P 20 40 19.4 -0.3**
baz=82,SNR=6.0
528A Cox Ranch, San 81.53 56 ⇓P **P 20 40 20.1 -0.2**
baz=82,SNR=8.2
126A Clayton Basin, 81.55 53 ⇓P **P 20 40 20.3 +0.1**
baz=82
Y25A Mesa, Roswell 81.56 52 ⇓P **P 20 40 20.3 -0.1**
baz=82,SNR=5.5
W24A Lazy 6 Ranch, 81.56 50 ⇓P **P 20 40 20.4 0.0**
baz=82
BSMT Bassoo Peak 81.57 36 *e*P **P 20 40 19.7 -0.4**
comp=Z,23nm,1.4s
S22A 4UR Ranch, Cre 81.62 47 ⇓P **P 20 40 21.1 +0.3**
baz=82,SNR=21
X25A Clemmons Ranch 81.83 51 ⇓P **P 20 40 21.9 +0.2**
baz=82
LRM Limekiln Ridge 81.83 38 *e*P **P 20 40 21.4 -0.3**
comp=Z,77nm,1.2s
Z26A Caprock 81.83 52 ⇑P **P 20 40 21.7 -0.1**
baz=82,SNR=7.5
428A Kincaid Ranch, 81.84 55 ⇑P **P 20 40 21.9 +0.1**
baz=82,SNR=7.3
V24A Rampart Ranch, 81.88 50 ⇑P **P 20 40 22.3 +0.2**
baz=82
T23A Casias Ranch, 81.88 48 ⇑P **P 20 40 22.4 +0.2**
baz=82
CHMT Chamberlain Mo 81.94 37 *e*P **P 20 40 21.7 -0.5**
comp=Z,8.2nm,1.2s
QLMT Earthquake Lak 81.94 39 *e*P **P 20 40 22.5 +0.3**
comp=Z,3.1nm,1.4s
529A Stev Forest Ra 81.97 56 ⇓P **P 20 40 22.3 -0.2**
baz=82,SNR=11
328A Wristen Ranch, 81.99 55 ⇓P **P 20 40 22.3 -0.3**
baz=82
I17A Pilgrim Ck. 82.01 41 ⇓P **P 20 40 23.0 +0.3**
baz=82,SNR=7.3
N20A Spence Gulch, 82.03 44 ⇓P **P 20 40 22.9 +0.1**
baz=82,SNR=5.5
127A Arkansas Junct 82.07 53 ⇑P **P 20 40 23.0 -0.1**
baz=82
COLA College 82.09 11 ⇑*e*P **P**
COLA pmax pmax
comp=Z,183nm,1.0s
COLA MLR MLR
comp=Z,330nm,18.0s
COLA College 82.09 11 *e*P **P 20 40 21.0 -1.2**
comp=Z,42nm,0.9s
BW06 Boulder Array 82.10 42 *e*P **P 20 40 22.7 -0.4**
comp=Z,23nm,1.5s
PDAR Pinedale Array 82.10 42 P **P 20 40 22.9 -0.2**
PDAR Pinedale Array 82.10 42 P **P 20 40 22.9 -0.2**
comp=Z,3.3nm,0.9s,baz=224,slow=3.9,SNR=21
PDAR LR LR 21 12 14.5
comp=Z,224nm,18.4s,baz=266,slow=32
YMR Madison River 82.14 40 *e*P **P 20 40 23.9 +0.6**
comp=Z,45nm,1.4s
ILAR Eielson Array 82.18 11 P **P 20 40 22.2 -0.5**
ILAR Eielson Array 82.18 11 P **P 20 40 22.2 -0.5**
comp=Z,7.2nm,0.9s,baz=233,slow=6.4,SNR=63
ILAR LR LR 21 16 20.2
comp=Z,85nm,18.0s,baz=191,slow=35
IM04 Indian Mountai 82.19 8 *e*P **P 20 40 22.7 0.0**
SEY Seymchan 82.22 345 *e*P **P 20 40 23.3 +0.3**
H17A Grant Village 82.25 40 ⇓P **P 20 40 24.9 +1.0**
baz=82
W25A X Bar L Ranch, 82.27 50 ⇑P **P 20 40 23.7 -0.3**
baz=82,SNR=7.0
T24B San Luis 82.37 48 ⇓P **P 20 40 25.1 +0.4**
baz=82,SNR=5.9
V25A Rancho No Teng 82.41 50 ⇑P **P 20 40 24.9 0.0**
baz=83,SNR=18
429A Davenport Ranc 82.43 56 ⇓P **P 20 40 24.5 -0.4**
baz=83,SNR=14
Z27A Tatum 82.44 53 ⇓P **P 20 40 25.1 +0.1**
baz=83
228A UT Block 9, Go 82.45 54 ⇑P **P 20 40 25.2 +0.1**
baz=83
X26A CR and CF Fran 82.48 51 ⇑P **P 20 40 25.2 0.0**
baz=83
P22A Eagle 82.50 46 ⇓P **P 20 40 25.6 +0.3**
baz=83
R23A Moffat 82.53 47 ⇑P **P 20 40 25.8 +0.2**
baz=83,SNR=5.8
J19A Crowheart 82.66 42 ⇓P **P 20 40 25.8 -0.2**
baz=83,SNR=9.4
HRY Holter Researc 82.66 38 *e*P **P 20 40 25.7 -0.1**
comp=Z,13nm,0.7s
530A J-C Ranch, Com 82.69 56 ⇑P **P 20 40 25.9 -0.4**
baz=83,SNR=6.2
Y27A Causey 82.70 52 ⇓P **P 20 40 26.5 +0.1**
baz=83
128A Castleberry Fa 82.73 54 ⇓P **P 20 40 26.5 0.0**
baz=83,SNR=7.2
S24A Houchin Ranch, 82.73 48 ⇑P **P 20 40 27.2 +0.5**
baz=83,SNR=12
W26A Owens Ranch, T 82.73 51 ⇑P **P 20 40 27.0 +0.5**
baz=83
QIZ Qiongzhong 82.74 292 P **P 20 40 25.3 -1.4**
QIZ S **S 20 50 43.8 -0.5**
QIZ pmax pmax
comp=Z,20nm,2.2s
U25A Circle Dot Ran 82.80 49 ⇓P **P 20 40 27.0 +0.1**
baz=83,SNR=8.2
O22A Kremmling 82.89 45 ⇑P **P 20 40 27.4 0.0**
baz=83,SNR=25
H18A Shoshone NF, C 82.96 40 ⇓P **P 20 40 27.8 +0.3**
baz=83
229A Bryant Ranch, 83.00 54 ⇓P **P 20 40 27.9 0.0**
baz=83
V26A Tequesquite Ra 83.01 50 ⇑P **P 20 40 28.2 +0.3**
baz=83
430A Baggett Ranch, 83.01 56 ⇑P **P 20 40 27.8 -0.1**
baz=83
631A Perdido Creek 83.03 57 ⇓P **P 20 40 27.7 -0.3**
baz=83,SNR=5.8
MSTX Muleshoe 83.04 52 *e*P **P 20 40 28.1 0.0**
MSTX Muleshoe 83.04 52 ⇑P **P 20 40 27.7 -0.3**
baz=83,SNR=5.8
P23A Jefferson 83.04 46 ⇓P **P 20 40 29.0 +0.8**
baz=83,SNR=9.6
X27A F and S Farms, 83.06 51 ⇑P **P 20 40 28.4 +0.3**
baz=83
R24A Sanders Place, 83.06 48 ⇑P **P 20 40 28.5 +0.3**
baz=83,SNR=10
Z28A Tucker Farm, M 83.06 53 ⇓P **P 20 40 28.1 -0.1**
baz=83
I19A Meeteetse 83.07 41 ⇑P **P 20 40 28.4 +0.3**
baz=83
T25A Trinidad 83.10 49 ⇑P **P 20 40 28.6 +0.1**
baz=83
N22A Wattenberg Ran 83.24 45 ⇑P **P 20 40 29.4 +0.3**
baz=83,SNR=14
W27A Bowe Ranch, En 83.25 51 ⇓P **P 20 40 28.8 -0.3**
baz=83,SNR=7.2
U26A Atchley Ranch, 83.28 50 ⇑P **P 20 40 28.9 -0.5**
baz=83,SNR=11
330A Mertzon 83.29 55 ⇓P **P 20 40 29.0 -0.4**
baz=83
S25A Robets Cordova 83.30 48 ⇑P **P 20 40 29.5 0.0**
baz=84
J20A Shoshoni 83.33 42 ⇑P **P 20 40 29.4 0.0**
baz=84,SNR=21
531A Rocksprings 83.33 56 ⇑P **P 20 40 29.2 -0.4**
baz=84,SNR=14
Q24A Divide 83.34 47 ⇑P **P 20 40 29.9 +0.1**
baz=84,SNR=16
O23A Lake Granby, G 83.35 45 ⇑P **P 20 40 30.1 +0.3**
baz=84
H19A Powell 83.38 40 ⇓P **P 20 40 29.4 -0.2**
baz=84,SNR=8.3
ISCO Idaho Springs 83.38 46 *e*P **P 20 40 30.3 +0.4**
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 83.38 46 *e*P **P 20 40 30.3 +0.4**
comp=Z,6.1nm,0.9s
ISCO Idaho Springs 83.38 46 ⇓P **P 20 40 29.5 -0.4**
baz=84,SNR=6.3
Y28A McKinney Farm, 83.41 52 ⇑P **P 20 40 30.0 0.0**
baz=84
M22A Cedar Creek Ra 83.42 44 ⇑P **P 20 40 29.6 -0.5**
baz=84,SNR=9.0
431A Sonora 83.47 56 ⇑P **P 20 40 30.4 +0.1**
baz=84
230A Sterling City 83.52 55 ⇓P **P 20 40 30.7 +0.1**
baz=84
K21A Alcova 83.54 43 ⇓P **P 20 40 30.1 -0.5**
baz=84,SNR=13
I20A Worland 83.58 41 ⇑P **P 20 40 30.4 -0.2**
baz=84,SNR=21
Z29A Hungry Hill Ra 83.58 53 ⇓P **P 20 40 30.6 -0.2**
baz=84
R25A Fountain Ranch 83.61 48 ⇓P **P 20 40 30.4 -0.5**
baz=84,SNR=6.7
N23A Red Feather La 83.63 45 ⇓P **P 20 40 30.9 -0.3**
baz=84,SNR=8.4
X28A Dimmitt 83.69 52 ⇓P **P 20 40 31.7 +0.3**
baz=84
V27A Dan Oppiter Fa 83.70 51 ⇑P **P 20 40 32.0 +0.5**
baz=84
632A Uvalde 83.71 57 ⇑P **P 20 40 32.2 +0.7**
baz=84
T26A Comanche Natio 83.71 49 ⇑P **P 20 40 30.8 -0.8**
baz=84
J21A Lysite 83.73 42 ⇑P **P 20 40 31.3 -0.2**
baz=84,SNR=39
L22A Ellis Ranch, M 83.80 44 ⇑P **P 20 40 31.8 -0.2**
baz=84,SNR=8.1
532A Rocksprings 83.84 57 ⇑P **P 20 40 31.4 -0.8**
baz=84,SNR=6.6
130A Snyder 83.90 54 ⇑P **P 20 40 32.3 -0.2**
baz=84
H20A Greybull 83.91 41 ⇑P **P 20 40 31.3 -1.0**
baz=84,SNR=5.8
Q25A Bedland, Calha 83.96 47 ⇓P **P 20 40 32.5 -0.4**
baz=84
F19A Roth Farm, Mol 83.97 39 ⇓P **P 20 40 32.7 +0.1**
baz=84,SNR=15
U27A Thompson Grove 83.97 50 ⇓P **P 20 40 32.1 -0.7**
baz=84,SNR=5.0
S26A Kim 83.98 49 ⇑P **P 20 40 32.3 -0.6**
baz=84,SNR=7.2
K22A Casper 84.02 43 *e*P **P 20 40 33.1 +0.1**
K22A Casper 84.02 43 ⇓P **P 20 40 32.3 -0.7**
baz=84,SNR=5.4
M23A Laramie 84.03 44 ⇓P **P 20 40 32.8 -0.3**
baz=84,SNR=10
Z30A Sanderson Ranc 84.04 53 ⇓P **P 20 40 32.3 -0.8**
baz=84,SNR=14
JCT Junction City 84.05 56 ⇑P **P 20 40 33.1 -0.1**
baz=84
I21A Big Trails, Te 84.05 42 ⇑P **P 20 40 32.5 -0.6**
baz=84,SNR=26
G20A Bridger 84.12 40 ⇑P **P 20 40 32.9 -0.5**
baz=84
231A Bronte 84.17 55 ⇓P **P 20 40 32.8 -1.0**
baz=84,SNR=5.4
432A Menard 84.20 56 ⇑P **P 20 40 33.4 -0.6**
baz=84,SNR=6.6
AMTX Amarillo 84.22 52 ⇑P **P 20 40 34.0 -0.1**
baz=84
P25A Willow Gulch B 84.27 47 ⇑P **P 20 40 34.2 -0.1**
baz=84,SNR=10
R26A Arlington 84.28 48 ⇓P **P 20 40 33.8 -0.5**
baz=84,SNR=13
T27A Campo 84.30 49 ⇑P **P 20 40 33.9 -0.6**
baz=84
N24A Carr 84.33 45 ⇑P **P 20 40 34.2 -0.4**
baz=84,SNR=6.4
W29A Amraillo 84.34 52 ⇑P **P 20 40 34.1 -0.6**
baz=84,SNR=6.7
E19A Rath Farm, Rou 84.36 39 ⇓P **P 20 40 34.5 0.0**
baz=84,SNR=14
131A Roby 84.38 54 ⇑P **P 20 40 34.7 -0.2**
baz=84
J22A Midwest 84.39 42 ⇑P **P 20 40 34.7 -0.2**
baz=85,SNR=17
U28A Mallet 84.40 50 ⇑P **P 20 40 34.8 -0.2**
baz=85
332A Millersview 84.42 56 ⇓P **P 20 40 35.0 -0.1**
baz=85
F20A Billings 84.43 40 ⇓P **P 20 40 34.7 -0.2**
baz=85,SNR=6.4
Y30A Stafford Cattl 84.44 53 ⇓P **P 20 40 35.5 +0.3**
baz=85
533A Kerrville 84.52 57 ⇓P **P 20 40 35.1 -0.5**
baz=85
EGMT Eagleton 84.54 37 *e*P **P 20 40 35.6 +0.2**
comp=Z,42nm,1.6s
EGMT Eagleton 84.54 37 ⇑P **P 20 40 35.5 +0.2**
baz=85
H21A Big Horn, Sher 84.58 41 ⇑P **P 20 40 35.5 -0.3**
baz=85,SNR=7.9
I22A 9 Mile Ranch, 84.61 42 ⇑P **P 20 40 36.0 +0.1**
baz=85,SNR=13
M24A Cheyenne 84.64 45 ⇑P **P 20 40 36.1 -0.1**
baz=85
D19A Cripps Ranch, 84.64 38 ⇓P **P 20 40 36.0 +0.1**
baz=85,SNR=8.3
K23A Bowen Ranch, D 84.66 43 ⇓P **P 20 40 36.1 -0.1**
baz=85
X30A Coker Ranch, T 84.67 52 ⇓P **P 20 40 36.3 -0.1**
baz=85
232A Coleman 84.68 55 ⇑P **P 20 40 36.0 -0.4**
baz=85,SNR=7.1
433A Art 84.72 56 ⇓P **P 20 40 36.1 -0.5**
baz=85,SNR=10
R27A Eads 84.74 48 ⇑P **P 20 40 36.4 -0.3**
baz=85
G21A Lodge Grass 84.75 41 ⇓P **P 20 40 36.5 -0.1**
baz=85
T28A Walsh 84.77 50 ⇑P **P 20 40 36.5 -0.3**
baz=85
E20A Meyer Farm, Mu 84.78 39 ⇑P **P 20 40 37.2 +0.6**
baz=85
Z31A Sharp Cattle R 84.81 54 ⇑P **P 20 40 36.1 -1.0**
baz=85,SNR=9.0
L24A Wheatland 84.81 44 ⇓P **P 20 40 36.9 -0.1**
baz=85
C19A Slack Wire Ran 84.82 38 ⇓P **P 20 40 36.9 +0.1**
baz=85,SNR=11
P26A Davis Ranch, A 84.86 47 ⇑P **P 20 40 37.3 -0.1**
baz=85
N25A Grover 84.87 46 ⇑P **P 20 40 37.4 +0.1**
baz=85
ABTX Abilene, Hawle 84.95 54 *e*P **P 20 40 37.6 -0.2**
ABTX Abilene, Hawle 84.95 54 ⇑P **P 20 40 37.4 -0.3**
baz=85,SNR=15
534A Blanco 84.96 57 ⇓P **P 20 40 37.1 -0.8**
baz=85,SNR=13
Y31A Rekieta Farm, 84.96 53 ⇓P **P 20 40 37.1 -0.7**
baz=85,SNR=6.0
J23A Dilts Ranch, B 84.99 43 ⇑P **P 20 40 38.3 +0.4**
baz=85
333A Richland Sprin 85.01 56 ⇓P **P 20 40 38.3 +0.2**
baz=85
H22A Clearmont 85.01 41 ⇑P **P 20 40 38.1 +0.2**
baz=85
D20A Manuel Ranch, 85.05 39 ⇓P **P 20 40 38.1 +0.1**
baz=85,SNR=10
F21A Absaloka Mine, 85.08 40 ⇓P **P 20 40 38.6 +0.4**
baz=85
M25A Palm-Egli Farm 85.15 45 ⇓P **P 20 40 38.3 -0.4**
baz=85
KSCO Kaye Shedlock' 85.15 48 *e*P **P 20 40 39.0 +0.2**
KSCO Kaye Shedlock' 85.15 48 ⇓P **P 20 40 38.6 -0.2**
baz=85
O26A Horse Wrangler 85.17 46 ⇓P **P 20 40 39.3 +0.5**
baz=85
BJI Beijing 85.22 313 P **P 20 40 38.8 -0.1**
BJI S **S 20 51 10.5 +2.0**
BJI SS **SS 20 56 39.1 -4.1**
BJI pmax pmax
comp=Z,6.0nm,0.7s
B19A Brinkman Farms 85.23 37 ⇑P **P 20 40 38.8 0.0**
baz=85,SNR=11
G22A Birney 85.33 41 ⇓P **P 20 40 39.3 -0.1**
baz=86
Z32A Haskell 85.33 54 ⇑P **P 20 40 39.4 -0.2**
baz=86,SNR=31
434A Burnet 85.40 57 ⇑P **P 20 40 39.4 -0.7**
baz=86,SNR=11
C20A Veseth Ranch, 85.42 38 ⇑P **P 20 40 40.2 +0.4**
baz=86,SNR=12
X31A McDonald Ranch 85.42 52 ⇑P **P 20 40 39.9 -0.2**
baz=86
E21A Keefer Ranch, 85.44 39 ⇑P **P 20 40 40.5 +0.6**
baz=86
R28A Tribune 85.47 48 ⇑P **P 20 40 40.1 -0.2**
baz=86
133A Hamilton Ranch 85.52 55 ⇑P **P 20 40 40.1 -0.5**
baz=86,SNR=6.0
J24A Dixon Ranch, L 85.55 43 ⇓P **P 20 40 40.5 -0.1**
baz=86
A19A Klindworth Far 85.57 37 ⇑P **P 20 40 40.5 0.0**
baz=86
334A Lometa 85.61 56 ⇑P **P 20 40 40.3 -0.8**
baz=86,SNR=12

Y32A	**R-V Farms, Ver**	**85.61**	**53**	⇑P		**P**	**20 40 40.7**	**-0.3**
	baz=86,SNR=7.9							
U30A	**WK&E Inc. Balk**	**85.63**	**51**	⇑P		**P**	**20 40 41.2**	**+0.1**
	baz=86							
W31A	**Holland Ranch,**	**85.66**	**52**	⇓P		**P**	**20 40 41.0**	**-0.2**
	baz=86							
S29A	**Ulysses**	**85.70**	**49**	⇑P		**P**	**20 40 41.1**	**-0.3**
	baz=86							
D21A	**La Casta Ranch**	**85.73**	**39**	⇓P		**P**	**20 40 41.4**	**+0.1**
	baz=86,SNR=7.2							
B20A	**Solberg Farm,**	**85.76**	**37**	⇑P		**P**	**20 40 41.6**	**+0.1**
	baz=86							
I24A	**Kuemmerle Ranc**	**85.80**	**43**	⇓P		**P**	**20 40 41.4**	**-0.4**
	baz=86							
Z33A	**Whitaker Ranch**	**85.88**	**54**	⇑P		**P**	**20 40 42.1**	**-0.2**
	baz=86,SNR=9.4							
X32A	**Elmer**	**85.88**	**53**	⇑P		**P**	**20 40 41.4**	**-0.9**
	baz=86,SNR=6.6							
G23A	**Biddle**	**85.89**	**41**	⇑P		**P**	**20 40 42.0**	**-0.2**
	baz=86							
V31A	**Spring Creek L**	**85.95**	**51**	⇑P		**P**	**20 40 43.2**	**+0.5**
	baz=86							
C21A	**Desert Coulee**	**86.02**	**38**	⇓P		**P**	**20 40 42.6**	**-0.1**
	baz=86							
A20A	**Cobblestone Ra**	**86.02**	**37**	⇓P		**P**	**20 40 43.0**	**+0.3**
	baz=86							
LAO	**LASA Array**	**86.03**	**40**	*e*P		**P**	**20 40 43.7**	**+0.9**
	comp=Z,82nm,1.6s							
F23A	**Volborg**	**86.11**	**41**	⇑P		**P**	**20 40 43.8**	**+0.5**
	baz=86							
J25A	**Sunshine Ranch**	**86.14**	**43**	⇓P		**P**	**20 40 43.2**	**-0.3**
	baz=86							
134A	**White-Moore Ra**	**86.17**	**55**	⇓P		**P**	**20 40 44.4**	**+0.6**
	baz=86							
H24A	**Dirks Ranch, A**	**86.23**	**42**	⇓P		**P**	**20 40 43.0**	**-0.9**
	baz=86,SNR=12							
335A	**Moody**	**86.24**	**56**	⇑P		**P**	**20 40 44.6**	**+0.5**
	baz=86							
Y33A	**Hilltop Ranch,**	**86.24**	**53**	⇓P		**P**	**20 40 44.3**	**+0.2**
	baz=86							
D22A	**Cohagen**	**86.26**	**39**	⇑P		**P**	**20 40 44.4**	**+0.5**
	baz=86							
K26A	**Motz Farm, Whi**	**86.27**	**44**	⇓P		**P**	**20 40 44.8**	**+0.7**
	baz=86							
RSSD	**Black Hills**	**86.30**	**43**	*e*P		**P**	**20 40 43.8**	**-0.6**
RSSD				pmax		pmax		
	comp=Z,24nm,1.4s							
RSSD	**Black Hills**	**86.30**	**43**	*e*P		**P**	**20 40 43.8**	**-0.6**
	comp=Z,24nm,1.4s							
I25A	**Rochford**	**86.45**	**43**	⇓P		**P**	**20 40 44.6**	**-0.6**
	baz=87,SNR=7.1							
WHTX	**Lake Whitney**	**86.46**	**56**	*e*P		**P**	**20 40 45.2**	**0.0**
WHTX	**Lake Whitney**	**86.46**	**56**	⇑P		**P**	**20 40 44.9**	**-0.4**
	baz=87							
V32A	**Arapaho**	**86.54**	**52**	⇑P		**P**	**20 40 45.7**	**+0.2**
	baz=87							
T31A	**Randall Ranch,**	**86.56**	**50**	⇑P		**P**	**20 40 46.1**	**+0.5**
	baz=87							
Z34A	**Collier Ranch,**	**86.57**	**54**	⇑P		**P**	**20 40 46.0**	**+0.3**
	baz=87							
135A	**Vickery Place,**	**86.69**	**55**	⇓P		**P**	**20 40 46.7**	**+0.4**
	baz=87							
W33A	**Caddo, Fort Co**	**86.77**	**52**	⇓P		**P**	**20 40 47.4**	**+0.7**
	baz=87							
D23A	**Lindsay**	**86.87**	**39**	⇓P		**P**	**20 40 47.4**	**+0.4**
	baz=87							
Y34A	**Reagan Ranch,**	**86.90**	**54**	⇑P		**P**	**20 40 48.1**	**+0.8**
	baz=87							
X34A	**Smith Ranch, M**	**87.07**	**53**	⇑P		**P**	**20 40 48.9**	**+0.8**
	baz=87							
Z35A	**Perchaven, San**	**87.08**	**55**	⇑P		**P**	**20 40 48.7**	**+0.5**
	baz=87							
HKT	**Hockley**	**87.09**	**58**	*e*P		**P**	**20 40 47.1**	**-1.1**
HKT				pmax		pmax		
	comp=Z,41nm,1.6s							
HKT	**Hockley**	**87.09**	**58**	*e*P		**P**	**20 40 47.1**	**-1.1**
	comp=Z,41nm,1.6s							
V33A	**Lossen Ranch,**	**87.15**	**52**	⇓P		**P**	**20 40 48.9**	**+0.4**
	baz=87							
C23A	**Lambert**	**87.16**	**39**	⇑P		**P**	**20 40 49.2**	**+0.8**
	baz=87							
J27A	**Elkhorn Farm,**	**87.28**	**44**	⇓P		**P**	**20 40 49.6**	**+0.5**
	baz=87							
D24A	**Glendive**	**87.39**	**40**	⇓P		**P**	**20 40 49.9**	**+0.4**
	baz=88							
C24A	**Savage**	**87.50**	**39**	⇓P		**P**	**20 40 50.5**	**+0.6**
	baz=88							
B23A	**Brockton**	**87.57**	**38**	⇑P		**P**	**20 40 50.5**	**+0.2**
	baz=88,SNR=5.1							
GYA	**Guiyang**	**87.85**	**298**	*e*P		**P**	**20 40 51.8**	**-0.4**
GYA				PP		**PP**	**20 44 19.5**	**+1.0**
GYA				SKS		**SKSac**	**20 51 18.0**	**-2.3**
GYA				S		**SKKSac**	**20 51 32.3**	**+2.1**
GYA				SS		**SS**	**20 57 22.6**	**+0.1**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,6.2s							
GYA				LR		LR		
	comp=Z,510nm,19.4s							
GYA				LR		LR		
	comp=Z,450nm,20.1s							
GYA				LR		LR		
	comp=Z,500nm,18.9s							
CLNS	**Chul'man**	**87.95**	**331**	*e*P		P	20 40 56.5	+4.6
CLNS				pmax		pmax		
	comp=Z,17nm,1.5s							
CLNS				pmax		pmax		
	comp=E,15nm,2.1s							
CLNS				pmax		pmax		
	comp=N,11nm,2.1s							
DGMT	**Dagmar**	**88.05**	**39**	*e*P		**P**	**20 40 52.4**	**-0.2**
	comp=N,22nm,0.9s							
DGMT	**Dagmar**	**88.05**	**39**	⇑P		**P**	**20 40 53.4**	**+0.8**
	baz=88							
Q32A	**Meitler Ranch,**	**88.07**	**49**	⇑P		**P**	**20 40 53.0**	**+0.1**
	baz=88							
G27A	**Dupree**	**88.18**	**42**	⇓P		**P**	**20 40 53.4**	**+0.1**
	baz=88							
R33A	**Olander Ranch,**	**88.25**	**50**	⇓P		**P**	**20 40 54.3**	**+0.6**
	baz=88							
D26A	**Manning**	**88.52**	**40**	⇑P		**P**	**20 40 55.2**	**+0.4**
	baz=89							
B25A	**Knox Farm, Ray**	**88.59**	**39**	⇑P		**P**	**20 40 55.9**	**+0.8**
	baz=89							
K30A	**Basset**	**88.68**	**45**	⇓P		**P**	**20 40 56.0**	**+0.2**
	baz=89							
HHC	**Hu-ho-hao-te**	**88.78**	**313**	*e*P		P	20 40 59.6	+3.3
HHC				sP		sP	20 41 05.8	+1.8
HHC				PP		PP	20 44 31.1	+5.4
HHC				SKS		**SKSac**	**20 51 26.3**	**+1.0**
HHC				S		**S**	**20 51 43.8**	**+0.7**
HHC				sS		sS	20 51 52.3	-0.2
HHC				SS		**SS**	**20 57 38.6**	**+3.1**
HHC				pmax		pmax		
	comp=N,25nm,1.3s							
HHC				pmax		pmax		
	comp=N,220nm,7.8s							
HHC				LR		LR		
	comp=N,220nm,17.8s							
HHC				LR		LR		
	comp=N,300nm,18.0s							
HHC				LR		LR		
	comp=N,66nm,17.5s							
YAK	**Yakutsk**	**88.82**	**337**	*e*P		**P**	**20 40 54.4**	**-1.4**
YAK				pmax		pmax		
	comp=Z,15nm,1.3s							
P33A	**Williams Farm,**	**88.86**	**49**	⇑P		**P**	**20 40 56.9**	**+0.3**
	baz=89							
A25A	**Svangstu Ranch**	**88.89**	**38**	⇑P		**P**	**20 40 57.2**	**+0.7**
	baz=89							
PLCA	**Paso Flores**	**89.75**	**132**	LR		LR	21 14 44.5	
	comp=Z,118nm,19.7s,baz=161,slow=31							
YKA	**Yellowknife Ar**	**89.86**	**23**	P		**P**	**20 41 00.5**	**-0.2**
YKA	**Yellowknife Ar**	**89.86**	**23**	P		**P**	**20 41 00.4**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=239,slow=4.6,SNR=62							
KMI	**Kunming**	**90.84**	**296**	P		**P**	**20 41 04.1**	**-2.4**
KMI				pmax		pmax		
	comp=Z,4.0nm,0.7s							
A29A	**Manning Farm,**	**91.24**	**39**	⇑P		**P**	**20 41 07.4**	**-0.1**
	baz=91							
CD2	**Chengdu**	**91.60**	**301**	*e*P		**P**	**20 41 09.8**	**+0.1**
CD2				pP		**pP**	**20 41 14.6**	**-0.7**
CD2				sP		**sP**	**20 41 17.3**	**0.0**
CD2				PP		**PP**	**20 44 50.4**	**+2.1**
CD2				SKS		**SKSac**	**20 51 40.8**	**-1.2**
CD2				S		**S**	**20 52 07.3**	**-2.2**
CD2				sS		**ScS**	**20 52 15.0**	**+2.8**
CD2				SS		**SS**	**20 58 17.0**	**+0.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CD2				LR		LR		
	comp=Z,180nm,11.8s							
CD2				LR		LR		
	comp=Z,230nm,14.0s							
CD2				LR		LR		
	comp=Z,160nm,13.2s							
A30A	**Hoffart Farm,**	**91.82**	**40**	⇓P		**P**	**20 41 09.9**	**-0.3**
	baz=92							
CMAR	**Chiang Mai Arr**	**92.46**	**288**	P		**P**	**20 41 15.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**92.46**	**288**	P		**P**	**20 41 15.3**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=57,slow=3.5,SNR=3.0							
CMAR				LR		LR	21 19 09.4	
	comp=Z,19nm,18.2s,baz=185,slow=33							
LZH	**Lanzhou**	**93.00**	**306**	*e*P		**P**	**20 41 16.0**	**-0.1**
LZH				pP		**pP**	**20 41 20.9**	**-0.9**
LZH				sP		**sP**	**20 41 23.3**	**-0.5**
LZH				pmax		pmax		
	comp=Z,12nm,1.0s							
SNAA	**Sanae**	**93.19**	**177**	*e*P		**P**	**20 41 15.4**	**-0.9**
	comp=Z,7.4nm,1.1s							
VNA2	**Neumayer--Watz**	**93.64**	**175**	*e*P		**P**	**20 41 19.0**	**+0.7**
	baz=198,slow=3.3							
ULM	**Lac du Bonnet**	**93.75**	**39**	P		**P**	**20 41 17.9**	**-1.2**
ULM	**Lac du Bonnet**	**93.75**	**39**	P		**P**	**20 41 17.9**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=268,slow=2.9,SNR=4.1							
ULM				LR		LR	21 18 55.9	
	comp=Z,287nm,18.4s,baz=337,slow=33							
VNA1	**Neumayer--Stat**	**93.84**	**175**	*e*P		**P**	**20 41 20.0**	**+0.8**
SONM	**Songino Array**	**94.59**	**318**	P		**P**	**20 41 23.0**	**-0.1**
SONM	**Songino Array**	**94.59**	**318**	P		**P**	**20 41 23.0**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=109,slow=7.8,SNR=2.7							
TIXI	**Tiksi**	**94.71**	**344**	⇑*i*P		**P**	**20 41 22.5**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,26nm,4.2s							
GTA	**Gaotai**	**96.95**	**309**	*e*P		**P**	**20 41 35.6**	**+1.5**
GTA				pmax		pmax		
	comp=Z,2.0nm,1.3s							
TKL	**Tuckaleechee C**	**98.41**	**55**	LR		LR	21 20 44.2	
	comp=Z,129nm,18.3s,baz=306,slow=32							
MKAR	**Makanchi Array**	**110.58**	**315**	PKiKP		**PKiKP**	**20 46 34.6**	**-0.3**
MKAR	**Makanchi Array**	**110.58**	**315**	PKiKP		**PKiKP**	**20 46 34.6**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=53,slow=1.2,SNR=4.1							
ARU	**Arti**	**123.06**	**328**	*i* PKIKP		**PKPdf**	**20 46 59.0**	**+0.5**
ARU							20 48 40.1	
ARU							20 53 57.2	
ARU				SS		SS	21 05 14.7	-6.6
ARCES	**ARCESS Array B**	**124.32**	**352**	PKP		**PKPdf**	**20 47 01.1**	**+0.5**
ARCES	**ARCESS Array B**	**124.32**	**352**	PKP		**PKPdf**	**20 47 01.1**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=350,slow=3.7,SNR=5.1							
AKASG	**Malin Array Be**	**140.05**	**338**	PKIKP		**PKPdf**	**20 47 30.7**	**+0.1**
AKASG	**Malin Array Be**	**140.05**	**338**	PKP		**PKPdf**	**20 47 30.7**	**+0.1**
AKASG	**Malin Array Be**	**140.05**	**338**	PKP		**PKPdf**	**20 47 30.7**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=37,slow=5.5,SNR=3.9							
CLL	**Collm**	**143.52**	**353**	*i* PKPdf		**PKPdf**	**20 47 37.8**	**+0.9**
	comp=Z,10.0nm,1.1s							
MALT	**Malatya**	**143.61**	**316**	⇑PKIKP		**PKPdf**	**20 47 38.1**	**+0.5**
MALT	**Malatya**	**143.61**	**316**	⇑*i*P		**PKPdf**	**20 47 38.1**	**+0.5**
STHS	**Stebnicka Huta**	**143.74**	**344**	*e*PKIKP		PKPbc	20 47 36.1	+1.3
STHS	**Stebnicka Huta**	**143.74**	**344**	*e*PKP		PKPbc	20 47 36.1	+1.3
UPC	**Upice**	**143.87**	**350**	*e*PKIKP		**PKPdf**	**20 47 36.6**	**-0.9**
UPC	**Upice**	**143.87**	**350**	*e*PKP		**PKPdf**	**20 47 36.6**	**-0.9**
KOLS	**Kolonicke sedl**	**143.88**	**342**	*e*PKIKP		**PKPdf**	**20 47 37.2**	**-0.4**
KOLS	**Kolonicke sedl**	**143.88**	**342**	*e*PKP		**PKPdf**	**20 47 37.2**	**-0.4**
DPC	**Dobruska-Polom**	**143.97**	**349**	*e*PKIKP		PKPbc	20 47 36.5	+1.0
DPC				*e*			20 47 43.7	
DPC	**Dobruska-Polom**	**143.97**	**349**	*e*PKP		PKPbc	20 47 36.5	+1.0
DPC				*ep*PKP		pPKPdf	20 47 43.7	+0.1
BURAR	**Bucovina Array**	**144.08**	**338**	⇑PKIKP		**PKPdf**	**20 47 37.4**	**-0.7**
BURAR	**Bucovina Array**	**144.08**	**338**	⇑*i*P		**PKPdf**	**20 47 37.4**	**-0.7**
OKC	**Ostrava-Krasne**	**144.10**	**347**	*e*PKIKP		**PKPdf**	**20 47 37.1**	**-0.8**
OKC	**Ostrava-Krasne**	**144.10**	**347**	*e*PKP		**PKPdf**	**20 47 37.1**	**-0.8**
CRVS	**Cervenica-Dubn**	**144.14**	**343**	*e*PKIKP		PKPbc	20 47 36.9	+0.8
CRVS	**Cervenica-Dubn**	**144.14**	**343**	*e*PKP		PKPbc	20 47 36.8	+0.7
CRVS				*e*			20 47 40.1	
UZH	**Uzhgorod**	**144.15**	**342**	*e*PKIKP		**PKPab**	**20 47 35.2**	**-0.4**
UZH				*e*			20 47 49.2	
MORC	**Moravsky Berou**	**144.28**	**348**	*e*PKIKP		**PKPab**	**20 47 35.1**	**-1.1**
MORC	**Moravsky Berou**	**144.28**	**348**	*e*PKPdf		**PKPab**	**20 47 35.0**	**-1.1**
TESR	**Tescani**	**144.46**	**336**	⇑*i*P		PKPbc	20 47 37.8	+0.6
TRPA	**Tarpa**	**144.52**	**341**	⇑*i*P		**PKPdf**	**20 47 38.1**	**-0.6**
MEM	**Membach**	**144.59**	**1**	PKP		**PKPab**	**20 47 36.9**	**-0.4**
PRU	**Pruhonice**	**144.61**	**351**	*e*PKIKP		PKPbc	20 47 38.1	+0.6
PRU	**Pruhonice**	**144.61**	**351**	*e*PKP		PKPbc	20 47 38.1	+0.6
NKC	**Novy Kostel**	**144.64**	**353**	*e*PKIKP		**PKPab**	**20 47 37.2**	**-0.3**
NKC				*e*			20 47 44.8	
NKC	**Novy Kostel**	**144.64**	**353**	*e*PKP		**PKPab**	**20 47 37.2**	**-0.3**
NKC				*ep*PKP		**pPKPdf**	**20 47 44.8**	**+0.1**
SNF	**Seneffe**	**144.65**	**2**	PKP		PKPbc	20 47 38.2	+0.6
DOU	**Dourbes**	**145.07**	**2**	PKP		**PKPab**	**20 47 39.2**	**+0.2**
ROTZ	**Rotzenmuhle**	**145.13**	**354**	*e*PKPbc		**PKPdf**	**20 47 40.0**	**+0.3**
TREC	**Trest**	**145.13**	**350**	*e*PKIKP		**PKPdf**	**20 47 39.7**	**-0.1**
TREC				*e*			20 47 47.1	
TREC	**Trest**	**145.13**	**350**	*e*PKP		**PKPdf**	**20 47 39.7**	**-0.1**
TREC				*ex*		x	20 47 47.1	
TIRR	**Tirgusor**	**145.35**	**332**	⇑*i*P		**PKPbc**	**20 47 35.4**	**-4.6**
PSZ	**Piszkesteto**	**145.47**	**344**	⇑PKIKP		**PKPab**	**20 47 42.3**	**+1.6**
PSZ	**Piszkesteto**	**145.47**	**344**	⇑P		**PKPab**	**20 47 42.3**	**+1.6**
PSZ	**Piszkesteto**	**145.47**	**344**	*e*PKPdf		**PKPbc**	**20 47 39.3**	**-1.2**
WLF	**Walferdange**	**145.54**	**0**	PKP		**PKPab**	**20 47 41.6**	**+0.9**
WLF	**Walferdange**	**145.54**	**0**	*e*PKIKP		**PKPab**	**20 47 41.6**	**+0.9**
WLF	**Walferdange**	**145.54**	**0**	*e*PKPbc		**PKPab**	**20 47 41.3**	**+0.6**
WLF	**Walferdange**	**145.54**	**0**	*e*PKPdf		**PKPab**	**20 47 41.6**	**+0.9**
MLR	**Muntele Rosu**	**145.58**	**336**	⇑*i*P		**PKPab**	**20 47 42.7**	**+1.5**
KHC	**Kasperske Hory**	**145.59**	**352**	*e*PKIKP		**PKPab**	**20 47 41.1**	**+0.1**
KHC				*e*			20 47 48.5	
KHC	**Kasperske Hory**	**145.59**	**352**	*e*PKP		**PKPab**	**20 47 41.1**	**+0.1**
KHC				*ep*PKP		**PKiKP**	**20 47 44.8**	**+0.2**
KHC				*ex*		x	20 47 48.5	
KHC	**Kasperske Hory**	**145.59**	**352**	*e*PKPdf		**PKPab**	**20 47 41.5**	**+0.5**
KMBO	**Kilima Mbogo**	**145.60**	**245**	PKPbc		**PKPdf**	**20 47 42.0**	**+0.1**
KMBO	**Kilima Mbogo**	**145.60**	**245**	PKPbc		**PKPdf**	**20 47 42.0**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=229,slow=21,SNR=4.6							
DRGR		**145.65**	**340**	⇑PKP2		**PKPab**	**20 47 41.7**	**+0.3**
DRGR		**145.65**	**340**	⇑*i*P		**PKPab**	**20 47 41.7**	**+0.3**
WET	**Wettzell**	**145.66**	**353**	*e*PKPbc		**PKPab**	**20 47 42.0**	**+0.7**
WET				*eL*		L	21 55 48.9	
	comp=Z,122nm,18.7s							
GEC2	**GERESS Array S**	**145.85**	**352**	*e*PKPbc		**PKPab**	**20 47 42.0**	**-0.1**
GEC2				*eL*		L	21 56 14.3	
	comp=Z,104nm,19.8s							
GERES	**GERESS Array B**	**145.85**	**352**	PKPbc		**PKPbc**	**20 47 41.8**	**+0.2**
GERES	**GERESS Array B**	**145.85**	**352**	PKPbc		**PKPbc**	**20 47 41.8**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=29,slow=3.0,SNR=32							
BR131	**Keskin Array S**	**145.89**	**321**	*e*PKPbc		**PKPab**	**20 47 43.1**	**+0.5**
BRTR	**Keskin Array B**	**145.89**	**321**	PKPbc		**PKPab**	**20 47 43.2**	**+0.6**
BRTR	**Keskin Array B**	**145.89**	**321**	PKPbc		**PKPab**	**20 47 43.2**	**+0.6**
	comp=Z,12nm,0.8s,baz=97,slow=2.7,SNR=51							
VOIR		**145.98**	**336**	⇑PKP2		**PKPab**	**20 47 43.6**	**+1.0**
VOIR		**145.98**	**336**	⇑*i*P		**PKPab**	**20 47 43.6**	**+1.0**
ARR	**Arges**	**146.19**	**337**	⇑*i*P		**PKPab**	**20 47 44.7**	**+1.3**
LANF	**Langenberg**	**146.21**	**358**	PKP		**PKPab**	**20 47 43.8**	**+0.5**
ANTO	**Ankara**	**146.31**	**322**	⇓PKP2		**PKPab**	**20 47 45.2**	**+1.1**
ANTO	**Ankara**	**146.31**	**322**	⇓*i*P		**PKPab**	**20 47 45.2**	**+1.1**
ANTO	**Ankara**	**146.31**	**322**	*e*PKPbc		**PKPab**	**20 47 44.8**	**+0.8**
STU	**Stuttgart**	**146.36**	**357**	*e*PKPbc		**PKPab**	**20 47 44.0**	**+0.1**
CONA	**Conrad Observa**	**146.38**	**349**	⇑*i*pPKPdf		**PKPab**	**20 47 44.6**	**+0.5**
	comp=Z,19nm,1.2s,SNR=9.7							
SIRR	**Siria**	**146.45**	**341**	⇑*i*P		**PKPab**	**20 47 44.5**	**+0.2**
MOA	**Molln**	**146.73**	**350**	⇑*i*pPKPdf		**PKPab**	**20 47 45.1**	**-0.3**
	comp=Z,15nm,1.1s							
WLS	**Welschbruch**	**146.79**	**359**	PKP		**PKPbc**	**20 47 44.5**	**+0.1**
FUR	**Furstenfeldbru**	**146.81**	**354**	*e*PKPbc		**PKPab**	**20 47 45.1**	**-0.6**
BFO	**Black Forest**	**146.84**	**358**	*e*PKP2		**PKPbc**	**20 47 45.1**	**+0.6**
BFO	**Black Forest**	**146.84**	**358**	*e*PKPbc		**PKPbc**	**20 47 45.1**	**+0.6**
BFO	**Black Forest**	**146.84**	**358**	*e*PKPbc		**PKPbc**	**20 47 45.1**	**+0.6**
GZR	**Gura Zlata**	**146.85**	**339**	⇑PKP2		**PKPab**	**20 47 45.6**	**-0.4**
GZR	**Gura Zlata**	**146.85**	**339**	⇑*i*P		**PKPab**	**20 47 45.6**	**-0.4**
THEF	**They Montfort**	**146.98**	**1**	PKP		**PKPbc**	**20 47 44.9**	**0.0**
ECH	**Echery**	**146.99**	**359**	PKP		**PKPab**	**20 47 46.4**	**+0.1**
BZS	**Buzias**	**147.04**	**340**	⇑PKP2		**PKPbc**	**20 47 45.8**	**+0.7**
BZS	**Buzias**	**147.04**	**340**	⇑*i*P		**PKPbc**	**20 47 45.8**	**+0.7**
RJOB	**Jochberg**	**147.06**	**352**	*e*PKPbc		**PKPbc**	**20 47 45.8**	**+0.6**
FELD	**Feldberg im Sc**	**147.31**	**358**	PKP		**PKPbc**	**20 47 45.7**	**-0.3**
MOF	**Molkenrain**	**147.35**	**359**	PKP		**PKPbc**	**20 47 46.9**	**+0.8**
PKSM	**Moragy**	**147.37**	**344**	⇑PKP2		**PKPbc**	**20 47 46.5**	**+0.5**
PKSM	**Moragy**	**147.37**	**344**	⇑*i*P		**PKPbc**	**20 47 46.5**	**+0.5**
RETA	**Reutte**	**147.53**	**355**	⇑*i*PKPab		**PKPbc**	**20 47 47.0**	**+0.5**
	comp=Z,20nm,1.4s,SNR=5.4							
MOTA	**Moosalm**	**147.64**	**354**	⇑*i*pPKPdf		**PKPbc**	**20 47 46.8**	**-0.2**
	comp=Z,9.4nm,1.0s							
WTTA	**Wattenberg**	**147.66**	**353**	⇑*i*PKPbc		**PKPdf**	**20 47 44.7**	**+0.4**
	comp=Z,12nm,0.9s							
SOKA	**Soboth**	**147.74**	**349**	⇓*i*pPKPdf		**PKPbc**	**20 47 47.3**	**+0.1**
	comp=Z,20nm,1.4s,SNR=6.4							
DAVA	**Damuels**	**147.80**	**356**	⇑*i*sPKPdf		**PKPbc**	**20 47 48.3**	**+0.9**
	comp=Z,19nm,1.2s							
FETA	**Feichten**	**147.99**	**355**	⇑*i*sPKPdf		**PKPbc**	**20 47 48.5**	**+0.6**
	comp=Z,12nm,1.2s							
ABTA	**Abfaltersbach**	**148.07**	**352**	⇓*i*sPKPdf		**PKPbc**	**20 47 48.1**	**0.0**
	comp=Z,16nm,1.0s							
TUE	**Stuetta**	**148.65**	**356**	*e*PKPbc		**PKPbc**	**20 47 50.5**	**+0.8**
AGO	**Saint Agoulin**	**149.02**	**5**	PKP		**PKPbc**	**20 47 48.8**	**-1.6**
VTS	**Vitosha**	**149.09**	**336**	⇑PKP2		**PKPbc**	**20 47 50.9**	**0.0**
VTS	**Vitosha**	**149.09**	**336**	⇑*i*P		**PKPbc**	**20 47 50.9**	**0.0**
PLDF	**La Plantade**	**149.14**	**4**	PKP		**PKPbc**	**20 47 50.5**	**-0.3**
MMB	**Musomiste**	**149.71**	**334**	⇑PKP2		**PKPbc**	**20 47 52.9**	**+0.6**
MMB	**Musomiste**	**149.71**	**334**	⇑*i*P		**PKPbc**	**20 47 52.9**	**+0.6**
ESDC	**Sonseca Array**	**153.86**	**19**	PKPab		**PKPab**	**20 48 15.4**	**+0.5**
ESDC	**Sonseca Array**	**153.86**	**19**	PKPab		**PKPab**	**20 48 15.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=325,slow=3.4,SNR=6.8							
TORD	**Torodi Ar. Bea**	**174.92**	**112**	PKP		**PKPdf**	**20 48 11.8**	**-1.3**
TORD				PKPab		**PKPab**	**20 49 46.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**174.92**	**112**	PKP		**PKPdf**	**20 48 11.8**	**-1.3**
	comp=Z,3.1nm,1.3s,baz=308,slow=1.9,SNR=5.7							
TORD				PKPab		**PKPab**	**20 49 46.2**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=272,slow=3.6,SNR=3.7							

IDC 16 20:36:12.6±6.9, 30.92S×177.92W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/17, mbtmp3.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.0/30, Error ellipse: s-maj=288.2km s-min=55.5km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.66**	**0**	LR	LR	20 37 11.8	
	comp=Z,628nm,19.3s,baz=195,slow=36						
ASAR	**Alice Springs**	**43.15**	**267**	P	P	20 44 15.1	-0.2
	1.0nm,0.7s,baz=110,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**44.19**	**273**	P	P	20 44 23.5	-0.1
	0.7nm,0.3s,baz=111,slow=8.1,SNR=27						
LPIG	**La Paz**	**84.75**	**58**	LR	LR	21 21 20.2	
	comp=Z,51nm,19.2s,baz=48,slow=32						
FINES	**FINESS Array B**	**145.65**	**340**	PKPbc	PKPdf	20 55 51.7	-0.5
	2.7nm,0.7s,baz=36,slow=5.2,SNR=7

LPG				*e*Sg		Sg	21 37 10.7	-0.6
	0.1nm,0.1s							
LPG	**La Plagne**	**0.81**	**359**	*e*Pg		Pg	21 37 00.4	-0.1
LPG				*e*Sg		Sg	21 37 10.7	-0.6
	0.1nm,0.1s							
LPL	**La Plagne**	**0.83**	**358**	*e*Pg		Pg	21 37 00.5	-0.3
LPL				*e*Sg		Sg	21 37 10.9	-0.9
	0.3nm,0.2s							
LPL	**La Plagne**	**0.83**	**358**	*e*Pg		Pg	21 37 00.5	-0.3
LPL				*e*Sg		Sg	21 37 10.9	-0.9
	0.2nm,0.2s							

CSEM ***16*** *21:37:10.1,46.01N×7.00E, h2km, ML1.3/2, After LDG*
LDG ***16*** *21:37:10.1±0.1,46.01N×7.00E, h2km, Md1.4/2, Ml1.3/2, Error ellipse: s-maj=4.5km s-min=1.1km az=104.0*

ZUR 16 21:37:10.7,46.04N×6.92E, h4km±3km, ML0.3/3, 2C-6D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
EMV	**Vieux Emosson**	**0.03**	**331**	⇓ *i* Pg		Pg	21 37 12.1		+0.1
EMV	**Vieux Emosson**	**0.03**	**331**	⇓ *i* Pg		Pg	21 37 12.1		+0.1
SALAN	**Lac Salanfe**	**0.11**	**19**	⇑ *i* Pg		Pg	21 37 13.3		0.0
	13nm,0.1s								
SALAN	**Lac Salanfe**	**0.11**	**19**	⇑ *i* Pg		Pg	21 37 13.3		0.0
	13nm,0.1s								
GRYON	**Gryon**	**0.25**	**32**	⇓ *e*Pg		Pg	21 37 15.9		+0.1
	4.5nm,0.5s								
GRYON	**Gryon**	**0.25**	**32**	⇓ *e*Pg		Pg	21 37 15.9		+0.1
	4.5nm,0.5s								
AIGLE	**Aigle**	**0.30**	**4**	⇓ *i* Pg		Pg	21 37 16.6		-0.1
	13nm,1.0s								
AIGLE	**Aigle**	**0.30**	**4**	⇓ *i* Pg		Pg	21 37 16.6		-0.1
	13nm,1.0s								
SENIN	**Lac Senin/Sane**	**0.42**	**39**	*e*Pg		Pg	21 37 18.9		-0.2
	4.5nm,2.8s								
SENIN	**Lac Senin/Sane**	**0.42**	**39**	*e*Pg		Pg	21 37 18.9		-0.2
	4.5nm,2.8s								
LPL	**La Plagne**	**0.54**	**194**	*e*Pg		Pg	21 37 20.6		-0.8
LPL				*e*Sg		Sg	21 37 27.3		-1.3
	0.8nm,0.3s								
LPL	**La Plagne**	**0.54**	**194**	*e*Pg		Pg	21 37 20.6		-0.8
LPL				*e*Sg		Sg	21 37 27.3		-1.3
	0.4nm,0.3s								
LPG	**La Plagne**	**0.55**	**192**	*e*Pg		Pg	21 37 21.0		-0.7
LPG				*e*Sg		Sg	21 37 28.2		-1.0
	0.8nm,0.2s								
LPG	**La Plagne**	**0.55**	**192**	*e*Pg		Pg	21 37 21.0		-0.7
LPG				*e*Sg		Sg	21 37 28.2		-1.0
	0.4nm,0.2s								
MBDF	**Montbardon**	**1.31**	**185**	*e*Sn		Sg	21 37 50.5		-2.9
	0.6nm,0.3s								
MBDF	**Montbardon**	**1.31**	**185**	*e*Sn		Sg	21 37 50.5		-2.9
	0.3nm,0.3s								
ORIF	**Oris-en-Rattie**	**1.34**	**214**	*e*Sg		Sg	21 37 52.5		-1.4
	0.8nm,0.3s								
ORIF	**Oris-en-Rattie**	**1.34**	**214**	*e*Sg		Sg	21 37 52.5		-1.4
	0.4nm,0.3s								

IDC ***16*** *21:42:19.5±1.4,31.5S×177.83W, h0km, mb4.3/4, mb1 4.3/5, mb1mx4.0/20, mbtmp4.2/5, ML3.3/1, Error ellipse: s-maj=37.9km s-min=27.9km az=49.0*

ISC 16 21:42:24.1±1.2,31°29S±0.1'0×178.1W±0.3, h35km, n9, σ2°26/9, mb4.3/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
RAO	**Raoul Island**	**2.04**	**4**	Sn		**Sn**	**21 43 17.0**		**-3.1**
	88nm,0.3s,baz=288,slow=20,SNR=3.3								
URZ	**Urewera**	**7.99**	**208**	Pn		**Pn**	**21 44 16.0**		**-1.8**
	0.4nm,0.3s,baz=291,slow=5.1,SNR=2.8								
URZ				Sn		**Sn**	**21 45 44.5**		**-2.5**
	1.0nm,0.3s,baz=162,slow=20,SNR=3.6								
CTA	**Charters Tower**	**33.87**	**281**	P		P	21 49 06.9		+3.3
	3.4nm,0.5s,baz=87,slow=12,SNR=4.3								
ASAR	**Alice Springs**	**42.99**	**268**	P		**P**	**21 50 22.5**		**+2.3**
	2.0nm,0.6s,baz=105,slow=7.4,SNR=19								
WRA	**Warramunga Arr**	**44.06**	**273**	P		**P**	**21 50 30.8**		**+2.0**
	2.7nm,0.6s,baz=111,slow=8.1,SNR=37								
QSPA	**South Pole Qui**	**58.83**	**180**	P		**P**	**21 52 20.2**		**+1.4**
	0.8nm,0.3s,baz=0.0,slow=1.0,SNR=3.3								
FINES	**FINESS Array B**	**145.95**	**339**	PKPbc		**PKPab**	**22 01 59.6**		**-0.1**
	7.6nm,0.9s,baz=24,slow=3.3,SNR=10								
AKASG	**Malin Array Be**	**151.95**	**322**	PKPbc		**PKPbc**	**22 02 16.0**		**+1.0**
	0.8nm,0.6s,baz=50,slow=2.7,SNR=4.1								
TORD	**Torodi Ar. Bea**	**161.94**	**179**	PKPab		**PKPab**	**22 03 08.2**		**0.0**
	0.3nm,0.5s,baz=184,slow=4.2,SNR=6.9								

IDC ***16*** *21:49:17.1±1.1,0.84N×97.37E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.0/28, mbtmp4.1/14, ML4.3/1, MS3.3/3, Ms1 3.4/3, ms1mx3.0/41, Error ellipse: s-maj=32.2km s-min=15.0km az=59.0*
ISCJB ***16*** *21:49:18.9±0.5,0.87N±0.05×97.30E±0.04, h27km, mb4.2/17, MS3.3/2, Error ellipse: s-maj=7.5km s-min=4.9km az=40.8*
DJA ***16*** *21:49:21.6±0.8,1.1N±6.9×97.7E±°, h10km, M4.2/8, MLv4.2/8*
NEIC ***16*** *21:49:22.2±0.5,0.93N×97.40E, h35km, mb4.2/6, Error ellipse: s-maj=10.7km s-min=7.7km az=59.0*

ISC 16 21:49:20.7±0.7,0.86N±0.06×97.26E±0.06, h27km, n64, σ1°03/59, mb4.2/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SNSI	**Sinabang, Aceh**	**1.80**	**329**	P		**Pb**	**21 49 51.8**		**-1.2**
SNSI				S		**Sn**	**21 50 09.5**		**-2.4**
MNSI	**Mandailing Nat**	**2.32**	**92**	P		**Pn**	**21 49 56.8**		**-0.4**
MNSI				S		**Sn**	**21 50 22.7**		**-2.2**
TPTI		**2.38**	**358**	P		**Pn**	**21 49 57.5**		**-0.5**
TPTI				S		**Sn**	**21 50 26.1**		**-0.3**
PSI	**Prapat**	**2.55**	**41**	P		**Pn**	**21 49 59.3**		**-1.1**
PSI	**Prapat**	**2.55**	**41**	Pn		**Pn**	**21 49 59.2**		**-1.1**
PSI	**Prapat**	**2.55**	**41**	Pn		**Pn**	**21 49 59.2**		**-1.1**
	baz=249,slow=23,SNR=19								
KCSI	**Kotacane, Aceh**	**2.69**	**11**	P		**Pn**	**21 50 02.0**		**-0.3**
KCSI				S		**Sb**	**21 50 43.9**		**+3.0**
TSI	**Tuntungan**	**2.93**	**26**	P		**Pn**	**21 50 06.2**		**+0.7**
PPI	**Padang Panjang**	**3.40**	**113**	P		**Pn**	**21 50 13.1**		**+1.1**
BKNI	**Bangkinang**	**3.82**	**98**	P		**Pn**	**21 50 17.6**		**-0.2**
FRIM	**Kepong**	**4.96**	**62**	P		**Pn**	**21 50 33.4**		**-0.1**
IPM	**Ipoh**	**5.20**	**46**	P		**Pn**	**21 50 37.7**		**+0.9**
IPM	**Ipoh**	**5.20**	**46**	P		**Pn**	**21 50 37.5**		**+0.6**
IPM	**Ipoh**	**5.20**	**46**	*e*Pn		**Pn**	**21 50 36.2**		**-0.7**
	72nm,0.6s								
IPM				*e*Sn		**Sn**	**21 51 37.0**		**+1.0**
KGM	**Kluang**	**6.17**	**79**	P		**Pn**	**21 50 50.1**		**+0.1**
MYKOM	**Kota Tinggi**	**6.65**	**82**	P		**Pn**	**21 50 56.4**		**-0.4**
KTGM	**Kuala Trenggan**	**7.36**	**53**	P		**Pn**	**21 51 06.2**		**-0.2**
CM31	**Chiang Mai Arr**	**17.57**	**5**	*e*Pn		**Pn**	**21 53 22.5**		**-1.3**
	4.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P		**Pn**	**21 53 22.8**		**-1.0**
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P		**Pn**	**21 53 22.8**		**-1.0**
	0.4nm,0.3s,baz=192,slow=12,SNR=22								
CMAR				LR		LR	22 01 03.6		
	comp=Z,112nm,19.5s,baz=190,slow=40								
PALK	**Pallekele**	**17.69**	**292**	*e*Pn		**P**	**21 53 26.4**		**+0.3**
CHTO	**Chiang Mai**	**17.92**	**5**	*e*Pn		**Pn**	**21 53 25.3**		**-2.9**
	4.9nm,0.9s								
SLVN	**Son La**	**21.36**	**17**	*e*P		**P**	**21 54 05.2**		**-0.9**
H08S2	**Diego Garcia H**	**26.10**	**251**	T		T	22 22 30.4		
	baz=72,slow=76,SNR=518								
H08S3	**Diego Garcia H**	**26.11**	**251**	T		T	22 22 01.0		
	baz=72,slow=76,SNR=529								
H08S1	**Diego Carcia H**	**26.12**	**251**	T		T	22 22 31.7		
	baz=72,slow=76,SNR=427								
H08N1	**Diego Carcia H**	**27.16**	**254**	T		T	22 24 10.5		
	baz=345,slow=74,SNR=8.6								
H08N2	**Diego Garcia H**	**27.17**	**254**	T		T	22 24 27.7		
	baz=345,slow=74,SNR=10								
H08N3	**Diego Garcia H**	**27.18**	**254**	T		T	22 24 30.0		
	baz=345,slow=74,SNR=3.2								
LSA	**Lhasa**	**29.26**	**349**	*e*P		**P**	**21 55 21.4**		**+0.1**
	2.9nm,0.6s								
FITZ	**Fitzroy Crossi**	**33.69**	**125**	P		**P**	**21 55 58.7**		**-1.1**
	4.1nm,1.0s								
H01W3	**Cape Leeuwin H**	**38.91**	**158**	T		T	22 38 07.3		
	baz=334,slow=75,SNR=4.2								
H01W2	**Cape Leeuwin H**	**38.92**	**158**	T		T	22 38 08.3		
	baz=334,slow=75,SNR=5.5								
H01W1	**Cape Leeuwin H**	**38.93**	**158**	T		T	22 38 08.5		
	baz=334,slow=75,SNR=5.1								
WRA	**Warramunga Arr**	**41.81**	**122**	P		**P**	**21 57 07.7**		**-0.8**
WRA	**Warramunga Arr**	**41.81**	**122**	P		**P**	**21 57 07.7**		**-0.8**
	1.2nm,0.7s,baz=298,slow=8.9,SNR=15								
WRAB	**Tennant Creek**	**41.81**	**122**	*e*P		**P**	**21 57 07.5**		**-1.0**
	8.1nm,1.1s								
ASAR	**Alice Springs**	**43.15**	**127**	P		**P**	**21 57 18.9**		**-0.5**
ASAR	**Alice Springs**	**43.15**	**127**	P		**P**	**21 57 18.9**		**-0.5**
	1.1nm,0.6s,baz=297,slow=7.7,SNR=15								
JNU	**Nakatsue**	**45.02**	**41**	LR		LR	22 17 19.0		
	comp=Z,68nm,19.5s,baz=223,slow=37								
KSAR	**Wonju Array Be**	**46.06**	**34**	P		**P**	**21 57 42.0**		**-0.3**
KSRS	**Korea Array**	**46.09**	**34**	P		**P**	**21 57 42.0**		**-0.5**
	2.1nm,0.8s,baz=214,slow=9.0,SNR=5.3								
KSRS				LR		LR	22 17 36.1		
	comp=Z,19nm,19.9s,baz=240,slow=37								
SONM	**Songino Array**	**47.46**	**8**	P		**P**	**21 57 53.7**		**+0.5**
SONM	**Songino Array**	**47.46**	**8**	P		**P**	**21 57 53.7**		**+0.5**
	1.1nm,0.5s,baz=193,slow=9.5,SNR=7.7								
MK31	**Makanchi Array**	**47.58**	**346**	*e*P		**P**	**21 57 54.3**		**+0.2**
MKAR	**Makanchi Array**	**47.58**	**346**	P		**P**	**21 57 55.1**		**+1.0**
MKAR	**Makanchi Array**	**47.58**	**346**	P		**P**	**21 57 55.1**		**+1.0**
	3.0nm,0.5s,baz=161,slow=8.7,SNR=81								
ULN	**Ulaanbaatar**	**47.59**	**9**	*e*P		**P**	**21 57 54.2**		**-0.1**
	1.9nm,0.8s								
MJAR	**Matsushiro Arr**	**51.90**	**42**	P		**P**	**21 58 27.0**		**-0.2**
MJAR	**Matsushiro Arr**	**51.90**	**42**	P		**P**	**21 58 27.0**		**-0.2**
	1.5nm,0.8s,baz=214,slow=6.3,SNR=3.9								
USRK	**Ussuriysk Arra**	**53.03**	**31**	P		**P**	**21 58 35.6**		**+0.2**
	3.2nm,0.9s,baz=204,slow=4.2,SNR=5.2								
STKA	**Stephens Creek**	**53.09**	**132**	*e*P		**P**	**21 58 35.5**		**-0.5**
STKA	**Stephens Creek**	**53.09**	**132**	P		**P**	**21 58 36.6**		**+0.6**
	1.5nm,0.7s,baz=300,slow=14,SNR=3.2								
ZAA0	**Zalesovo Array**	**53.90**	**351**	*e*P		**P**	**21 58 42.0**		**+0.4**
ZALV	**Zalesovo Beam**	**53.90**	**351**	P		**P**	**21 58 42.2**		**+0.7**
ZALV	**Zalesovo Beam**	**53.90**	**351**	P		**P**	**21 58 42.2**		**+0.7**
	3.0nm,0.4s,baz=178,slow=6.1,SNR=26								
BVAR	**Borovoye Array**	**56.59**	**341**	P		**P**	**21 59 01.5**		**+0.5**
BVAR	**Borovoye Array**	**56.59**	**341**	P		**P**	**21 59 01.5**		**+0.5**
	1.6nm,0.8s,baz=122,slow=5.2,SNR=6.4								
ASAJ	**Asahikawa**	**58.90**	**37**	*e*P		**P**	**21 59 17.1**		**-0.3**
DZM	**Mont Dzumac**	**71.09**	**114**	*e*P		**P**	**22 00 37.1**		**-0.2**
	22nm,1.0s								
ARCES	**ARCESS Array B**	**82.87**	**340**	P		**P**	**22 01 43.5**		**+0.9**
ARCES	**ARCESS Array B**	**82.87**	**340**	P		**P**	**22 01 43.5**		**+0.9**
	2.0nm,0.9s,baz=118,slow=9.4,SNR=3.1								
GERES	**GERESS Array B**	**85.11**	**319**	P		**P**	**22 01 56.3**		**+1.9**
GERES	**GERESS Array B**	**85.11**	**319**	P		**P**	**22 01 56.3**		**+1.9**
	0.7nm,0.8s,baz=100,slow=6.0,SNR=5.0								

IDC 16 21:51:52.7±368.0,55.40N×160.31E, h0km, Error ellipse: s-maj=149.9km s-min=22.9km az=35.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
I44RU	**PETROPAVLOVSK-**	**2.76**	**215**	*i*			22 05 40.0		
	baz=32,slow=334,SNR=12								

IDC 16 22:25:20.5±7.4,17.87S×179.04W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.5/3, Error ellipse: s-maj=326.9km s-min=37.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**44.05**	**260**	P		P	22 33 30.6		+0.1
	0.3nm,0.5s,baz=95,slow=7.7,SNR=7.6								
ASAR	**Alice Springs**	**44.23**	**254**	P		P	22 33 31.6		-0.4
	0.7nm,0.7s,baz=86,slow=8.7,SNR=5.7								
ILAR	**Eielson Array**	**85.99**	**13**	P		P	22 38 02.3		0.0
	0.3nm,0.7s,baz=218,slow=5.2,SNR=6.4								

ISCJB ***16*** *22:34:43.2±0.8,32.8S±0.1×68.8W±0.1, h139km±6km, mb3.6/5, Error ellipse: s-maj=25.6km s-min=7.8km az=135.2*
GUC ***16*** *22:34:43.4±0.3,32.89S×68.55W, h23km±3km, MD3.5, ML3.5*
IDC ***16*** *22:34:45.2±0.9,32.66S×68.83W, h138km±5km, mb3.5/4, mb1 3.6/5, mb1mx3.5/14, mbtmp3.4/5, Error ellipse: s-maj=32.3km s-min=15.2km az=116.0*

ISC 16 22:34:44.4±0.8,32.8S±0.1×68.8W±0.1, h136km±6km, n28, σ0°56/27, mb3.8/5, 2C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
CFAA	**Coronel Fontan**	**1.26**	**23**	P		**Pn**	**22 35 10.3**		**-0.2**
	11nm,0.3s,baz=198,slow=13,SNR=1275								
CFAA				S		**Sn**	**22 35 29.6**		**-0.6**
	66nm,0.3s,baz=350,slow=17,SNR=198								
JACH	**Jahuel**	**1.50**	**273**	*i* P		**Pn**	**22 35 12.8**		**-0.2**
JACH				*i* S		**Sn**	**22 35 35.3**		**+0.5**
CLCH	**Cerro Calan**	**1.57**	**246**	⇑ *i* P		**Pn**	**22 35 13.7**		**-0.2**
CLCH				*i* S		**Sn**	**22 35 36.2**		**-0.1**
CLCH				AML		AML	22 35 38.8		
	comp=E,1μm,0.5s								
STL	**Santa Lucia**	**1.67**	**246**	⇑ *i* P		**Pn**	**22 35 14.5**		**-0.4**
STL				*i* S		**Sn**	**22 35 38.1**		**-0.1**
STL				AML		AML	22 35 42.0		
	comp=E,225nm,0.3s								
SAN	**Santiago**	**1.69**	**246**	⇓ *i* P		**Pn**	**22 35 14.8**		**-0.3**
SAN				*i* S		**Sn**	**22 35 38.3**		**-0.3**
SAN				AML		AML	22 35 38.9		
	comp=N,976nm,0.4s								
ANTU	**Antumapu**	**1.72**	**242**	*i* P		**Pn**	**22 35 14.9**		**-0.6**
ANTU				*i* S		**Sn**	**22 35 39.0**		**-0.2**
ANTU				AML		AML	22 35 41.6		
	comp=E,703nm,0.3s								
CHCH	**Chadas Angostu**	**1.93**	**232**	*i* P		**Pn**	**22 35 17.7**		**-0.2**
CHCH				*i* S		**Sn**	**22 35 43.7**		**+0.1**
H03N1	**Juan Fernandez**	**8.49**	**263**	T		T	22 43 38.2		
	baz=82,slow=74,SNR=39								
H03N3	**Juan Fernandez**	**8.51**	**263**	T		T	22 43 44.6		
	baz=82,slow=74,SNR=27								
H03N2	**Juan Fernandez**	**8.51**	**263**	T		T	22 43 32.5		
	baz=82,slow=74,SNR=29								
SIV	**San Ignacio**	**18.11**	**25**	P		**Pn**	**22 38 47.6**		**+0.1**
	comp=E,0.2nm,0.3s,baz=225,slow=14,SNR=4.2								
BDFB	**Brasilia**	**25.43**	**53**	P		**P**	**22 39 58.7**		**-1.0**
	comp=E,2.4nm,0.7s,baz=195,slow=12,SNR=3.1								
TXAR	**Lajitas Array**	**70.05**	**328**	P		**P**	**22 45 42.0**		**+0.4**
	comp=E,0.5nm,0.4s,baz=154,slow=9.2,SNR=6.4								
DBIC	**Dimbokro**	**72.23**	**70**	P		**P**	**22 45 55.5**		**+0.5**
	comp=E,1.1nm,0.6s,baz=224,slow=8.0,SNR=4.0								
BOSA	**Boshof**	**78.23**	**116**	P		P	22 46 34.8		+5.3
	comp=E,1.1nm,0.5s,baz=214,slow=4.8,SNR=8.1								
BOSA				pP		pP	22 47 03.5		+0.1
	comp=E,2.5nm,1.1s,baz=244,slow=4.3,SNR=1.4								
PDAR	**Pinedale Array**	**83.93**	**331**	P		**P**	**22 46 58.4**		**-0.8**
	comp=E,0.2nm,0.5s,baz=130,slow=8.3,SNR=3.3								
ARCES	**ARCESS Array B**	**121.77**	**24**	PKP		**PKPdf**	**22 53 21.3**		**0.0**
	comp=E,2.7nm,0.8s,baz=233,slow=4.3,SNR=3.5								
WRA	**Warramunga Arr**	**123.10**	**206**	PKP		**PKPdf**	**22 53 24.6**		**-0.9**
	comp=E,0.4nm,0.7s,baz=160,slow=1.9,SNR=8.2								
WRA				pPKP		**pPKPdf**	**22 54 01.6**		**-0.2**
	comp=E,0.8nm,1.0s,baz=165,slow=1.7,SNR=2.9								
H11S2	**WAKE ISLAND Hyl**	**28.49**	**268**	T		T	01 14 41.0		
	baz=102								
H11S1	**WAKE ISLAND Hyl**	**28.50**	**268**	T		T	01 15 08.9		
	baz=102								
H11S3	**WAKE ISLAND Hyl**	**28.51**	**268**	T		T	01 14 51.5		
	baz=102								
H11N3	**WAKE ISLAND Hyl**	**28.87**	**270**	T		T	01 14 41.5		
	baz=104,slow=75,SNR=15								
H11N1	**WAKE ISLAND Hyl**	**28.89**	**270**	T		T	01 14 42.6		
	baz=104,slow=75,SNR=11								
H11N2	**WAKE ISLAND Hyl**	**28.89**	**270**	T		T	01 15 06.6		
	baz=104,slow=75,SNR=12								
BVAR	**Borovoye Array**	**144.54**	**43**	PKP		**PKPdf**	**22 54 04.9**		**+0.7**
	comp=E,0.2nm,0.5s,baz=228,slow=1.7,SNR=3.1								
KURBB	**Kurchatov Arra**	**150.12**	**44**	PKPbc		**PKPbc**	**22 54 19.3**		**+0.7**
	comp=E,0.7nm,0.7s,baz=294,slow=3.1,SNR=5.5								
KURBB				pPKPbc		**pPKPbc**	**22 54 55.8**		**+1.0**
	comp=E,1.2nm,0.6s,baz=298,slow=3.2,SNR=5.8								
ZALV	**Zalesovo Beam**	**151.72**	**34**	PKPbc		**PKPbc**	**22 54 22.8**		**+0.5**
	comp=E,3.4nm,0.4s,baz=311,slow=3.2,SNR=20								
ZALV				pPKPbc		**pPKPbc**	**22 54 59.3**		**+0.8**
	comp=E,2.6nm,0.6s,baz=300,slow=3.4,SNR=6.9								
MKAR	**Makanchi Array**	**153.92**	**49**	pPKPbc		pPKPbc	22 55 03.6		0.0
	comp=E,0.4nm,0.6s,baz=286,slow=1.5,SNR=4.1								

GUC 16 22:35:55.4±0.5,21.32S×68.94W, h116km±3km, ML3.8, 5C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PB09	**Plate Boundary**	**0.55**	**210**	⇑ *i* P		Pn	22 36 13.9		+0.4
PB09				*i* S		Sn	22 36 27.8		+0.7
PB09				AML		AML	22 36 29.9		
	comp=E,5μm,0.2s								
PB01	**Plate Boundary**	**0.58**	**298**	⇑ *i* P		Pn	22 36 14.0		+0.5
PB01				*i* S		Sn	22 36 27.7		+0.6
PB01				AML		AML	22 36 28.7		
	comp=N,7μm,0.3s								
PB07	**Plate Boundary**	**0.97**	**245**	⇑ *i* P		Pn	22 36 17.9		+0.9
PB07				*i* S		Sn	22 36 34.4		+1.0
PB04	**Plate Boundary**	**1.07**	**208**	⇓ *i* P		Pn	22 36 23.4		+5.7
PB04				*i* S		Sn	22 36 44.9		+10
MACH	**Maria Elena**	**1.16**	**221**	*i* P		Pn	22 36 19.7		+0.7
MACH				*i* S		Sn	22 36 38.0		+1.1
PATCX	**Punta Patache**	**1.23**	**293**	⇑ *i* P		Pn	22 36 21.1		+1.4
PATCX				*i* S		Sn	22 36 39.8		+1.7
PATCX				AML		AML	22 36 41.2		
	comp=E,3μm,0.3s								
HMBC	**Humberstone**	**1.36**	**319**	⇓ *i* P		Pn	22 36 21.8		+0.6
HMBC				*i* S		Sn	22 36 41.7		+1.0
HMBC				AML		AML	22 36 43.5		
	comp=N,2μm,0.4s								
PB06	**Plate Boundary**	**1.50**	**203**	⇑ *i* P		Pn	22 36 23.3		+0.5
PB06				*i* S		Sn	22 36 44.6		+1.0
PB06				AML		AML	22 36 45.5		
	comp=E,970nm,0.5s								
PB11	**Plate Boundary**	**1.69**	**336**	⇓ *i* P		Pn	22 36 25.5		+0.4
PB11				*i* S		Sn	22 36 48.7		+1.1
PB11				AML		AML	22 36 49.9		
	comp=N,3μm,0.6s								
PSGC	**Pisagua**	**2.04**	**327**	*i* P		Pn	22 36 29.2		-0.1
PSGC				*i* S		Sn	22 36 55.6		+0.4
MNMC	**Minimini**	**2.26**	**344**	AML		AML	22 37 07.6		
	comp=N,367nm,0.1s								
PB10	**Plate Boundary**	**2.65**	**214**	AML		AML	22 37 29.2		
	comp=N,279nm,0.5s								

IDC ***16*** *22:51:51.4±0.6,8.34S×128.10E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/23, mbtmp4.2/13, ML4.0/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/27, Error ellipse: s-maj=32.0km s-min=14.7km az=74.0*
ISCJB ***16*** *22:51:53.0±0.3,8.62S±0.03×128.20E±0.06, h33km, mb4.5/21, MS3.5/3, Error ellipse: s-maj=8.4km s-min=4.9km az=170.1*
NEIC ***16*** *22:51:55.5±0.3,8.54S×128.17E, h35km, mb4.2/3, Error ellipse: s-maj=13.5km s-min=6.6km az=78.0*
AUST ***16*** *22:51:58.1±0.0,8.51S×128.44E, h56km, Error ellipse: s-maj=1.1km s-min=1.0km az=246.0*
DJA ***16*** *22:52:01.2±0.5,8°S±5°×12°9E±°, h51km±10km, M4.8/8, mb4.8/8, mB5.3/5, MLv4.8/5, Mw(mB)4.7/5*

ISC 16 22:51:55.7±0.4,8.67S±0.05×128.38E±0.07, h35km, n93, σ2°21/88, mb4.5/21, MS3.5/3, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SOEI	**Soe**	**4.20**	**255**	P		**Pn**	**22 52 59.4**		**+2.1**
	baz=4.3,SNR=6.9								
BNDI	**Bandanaira**	**4.39**	**20**	P		**Pn**	**22 53 01.5**		**+1.6**
MTN	**Manton Dam**	**4.95**	**147**	P		Pn	22 53 12.4		+4.8
	baz=5.1,SNR=40								
NLAI	**Namlea**	**5.55**	**347**	P		**Pn**	**22 53 17.8**		**+2.0**
	0.6nm,0.9s,0.2nm								
KDU	**Kakadu**	**5.67**	**135**	P		**Pn**	**22 53 20.6**		**+3.2**
	baz=5.8,SNR=15								
FAKI	**Fak Fak**	**6.89**	**34**	P		**Pn**	**22 53 34.9**		**+0.6**
	85nm,0.6s,974nm0.3nm								
FAKI	**Fak Fak**	**6.89**

PKI	**Pulchoki**	**55.02 312**	*e*P		**P**		**23 01 22.1**	**-2.3**
	4.7nm,0.6s							
PKI	**Pulchoki**	**55.02 312**	*e*P		**P**		**23 01 22.9**	**-1.5**
PKIN	**Phulchoki**	**55.03 312**	*e*P		**P**		**23 01 22.9**	**-1.6**
DMN	**Daman**	**55.27 312**	*e*P		**P**		**23 01 24.5**	**-1.6**
DMN	**Daman**	**55.27 312**	*e*P		**P**		**23 01 24.5**	**-1.6**
GKN	**Gorkha**	**55.83 312**	*e*P		**P**		**23 01 28.3**	**-1.7**
	4.8nm,0.3s							
GKN	**Gorkha**	**55.83 312**	*e*P		**P**		**23 01 28.3**	**-1.7**
	4.8nm,0.3s							
KOLN	**Koldanda**	**56.46 312**	*e*P		**P**		**23 01 32.9**	**-1.7**
	7.4nm,0.7s							
KOLN	**Koldanda**	**56.46 312**	*e*P		**P**		**23 01 32.9**	**-1.7**
	7.4nm,0.7s							
DANN	**Dangsing**	**56.66 312**	*e*P		**P**		**23 01 34.2**	**-2.0**
DANN	**Dangsing**	**56.66 312**	*e*P		**P**		**23 01 34.2**	**-2.0**
PYUN	**Piuthan**	**57.09 311**	*e*P		**P**		**23 01 37.4**	**-1.7**
	17nm,0.8s							
PYUN	**Piuthan**	**57.09 311**	*e*P		**P**		**23 01 37.4**	**-1.7**
	17nm,0.8s							
SONM	**Songino Array**	**59.53 343**	P		**P**		**23 01 55.8**	**+0.1**
SONM	**Songino Array**	**59.53 343**	P		**P**		**23 01 55.8**	**+0.1**
	0.5nm,0.7s,baz=144,slow=5.4,SNR=2.5							
PETK	**Petropavlovsk-**	**66.41 19**	P		**P**		**23 02 40.3**	**-0.8**
PETK	**Petropavlovsk-**	**66.41 19**	P		**P**		**23 02 40.3**	**-0.8**
	3.8nm,0.6s,baz=187,slow=4.6,SNR=3.5							
MK31	**Makanchi Array**	**68.76 328**	*e*P		**P**		**23 02 54.2**	**-1.9**
MKAR	**Makanchi Array**	**68.76 328**	P		**P**		**23 02 54.4**	**-1.8**
MKAR	**Makanchi Array**	**68.76 328**	P		**P**		**23 02 54.4**	**-1.8**
	1.5nm,0.6s,baz=123,slow=8.2,SNR=25							
VNDA	**Vanda**	**71.00 173**	*e*P		**P**		**23 03 10.9**	**+1.6**
ZALV	**Zalesovo Beam**	**72.38 335**	P		**P**		**23 03 16.0**	**-2.0**
ZALV	**Zalesovo Beam**	**72.38 335**	P		**P**		**23 03 16.0**	**-2.0**
	2.6nm,0.6s,baz=135,slow=5.5,SNR=14							
KURBB	**Kurchatov Arra**	**73.11 329**	P		**P**		**23 03 20.9**	**-1.4**
	3.7nm,0.6s,baz=134,slow=5.2,SNR=57							
KURK	**Kurchatov**	**73.12 330**	*e*P		**P**		**23 03 20.3**	**-2.1**
	1.5nm,0.6s							
BVAR	**Borovoye Array**	**78.63 329**	P		**P**		**23 03 52.1**	**-1.7**
BVAR	**Borovoye Array**	**78.63 329**	P		**P**		**23 03 52.1**	**-1.7**
	1.0nm,0.6s,baz=121,slow=5.7,SNR=8.9							
AKTO	**Aktyubinsk**	**84.41 323**	P		**P**		**23 04 22.8**	**-1.7**
AKTO	**Aktyubinsk**	**84.41 323**	P		**P**		**23 04 22.8**	**-1.7**
	1.5nm,0.8s,baz=109,slow=7.6,SNR=8.5							
GAMB	**Gambell**	**85.07 23**	*e*P		**P**		**23 04 27.2**	**-0.3**
	3.2nm,0.3s							
YKA	**Yellowknife Ar**	**109.95 26**	PKiKP		**PKiKP**		**23 10 23.8**	**+0.8**
YKA	**Yellowknife Ar**	**109.95 26**	PKiKP		**PKiKP**		**23 10 23.8**	**+0.8**
	0.3nm,0.6s,baz=287,slow=1.3,SNR=7.3							
GERES	**GERESS Array B**	**112.65 319**	PKiKP		**PKiKP**		**23 10 29.6**	**+0.8**
GERES	**GERESS Array B**	**112.65 319**	PKiKP		**PKiKP**		**23 10 29.6**	**+0.8**
	0.1nm,0.3s,baz=98,slow=2.2,SNR=4.6							
LPG	**La Plagne**	**118.11 317**	*e*PP		PP		23 11 49.5	-5.1
	30nm,1.4s							
MBDF	**Montbardon**	**118.32 316**	*e*PP		PP		23 11 47.1	-8.9
	6.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**127.53 280**	PKP		**PKPdf**		**23 10 59.5**	**+1.5**
TORD	**Torodi Ar. Bea**	**127.53 280**	PKP		**PKPdf**		**23 10 59.5**	**+1.5**
	0.6nm,0.6s,baz=48,slow=2.3,SNR=6.9							
DBIC	**Dimbokro**	**133.63 271**	PKP		**PKPdf**		**23 11 11.0**	**+1.3**
DBIC	**Dimbokro**	**133.63 271**	PKP		**PKPdf**		**23 11 11.0**	**+1.3**
	0.6nm,0.4s,baz=86,slow=5.2,SNR=4.6							
CPUP	**Villa Florida**	**144.77 171**	PKPbc		**PKPdf**		**23 11 31.4**	**+1.7**
CPUP	**Villa Florida**	**144.77 171**	PKPbc		**PKPdf**		**23 11 31.4**	**+1.7**
	5.1nm,0.6s,baz=166,slow=3.2,SNR=12							
LPAZ	**La Paz**	**150.30 147**	PKPab		**PKPab**		**23 11 55.2**	**+4.0**
LPAZ	**La Paz**	**150.30 147**	PKPab		**PKPab**		**23 11 55.2**	**+4.0**
	4.2nm,0.7s,baz=184,slow=2.8,SNR=7.7							

ISCJB ***16*** *22:52:13.0±0.5,6.14S±0.06×149.87E±0.09,h52km, mb4.3/19,MS3.8/7,Error ellipse: s-maj=13.8km s-min=7.1km az=17.7*

IDC ***16*** *22:52:14.9±3.1,6.14S×149.85E,h50km±27km,mb4.1/15, mb1 4.2/16,mb1mx4.1/22,mbtmp4.1/16,ML3.8/1,MS3.8/9, Ms1 3.8/9,ms1mx3.6/24,Error ellipse: s-maj=20.5km s-min=12.8km az=74.0*

NEIC ***16*** *22:52:16.0±1.7,6.17S×149.88E,h63km±15km,mb4.4/6, Error ellipse: s-maj=14.2km s-min=8.5km az=74.0*

ISC 16 22:52:14.8±0.5,6.15S±0.07×149.9E±0.1,h52km,n67, σ0.82/65,mb4.4/19,MS3.8/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.21**	**220**	*e*Pn		**Pn**	**22 53 17.6**	**+1.1**
PMG				*e*Sn		**Sn**	**22 54 03.4**	**-1.2**
PMG	**Port Moresby**	**4.21**	**220**	P		**Pn**	**22 53 17.7**	**+1.1**
	42nm,0.3s,baz=33,slow=5.6,SNR=132							
PMG				S		**Sn**	**22 54 04.2**	**-0.3**
	73nm,0.3s,baz=256,slow=20,SNR=10							
PMG				LR		LR	22 55 08.3	
	comp=Z,1μm,21.5s,baz=21,slow=41							
HNR	**Honiara**	**10.49**	**109**	LR		LR	22 58 07.0	
	comp=Z,258nm,20.8s,baz=27,slow=33							
WRAB	**Tennant Creek**	**20.39**	**226**	*e*P		**P**	**22 56 47.6**	**+0.1**
	27nm,0.8s							
WRA	**Warramunga Arr**	**20.40**	**226**	P		**P**	**22 56 48.5**	**+0.9**
WRA	**Warramunga Arr**	**20.40**	**226**	P		**P**	**22 56 48.5**	**+0.9**
	13nm,0.5s,baz=48,slow=11,SNR=7.1							
WRA				LR		LR	23 05 20.9	
	comp=Z,235nm,20.4s,baz=40,slow=39							
DZM	**Mont Dzumac**	**22.51**	**136**	*e*P		**P**	**22 57 10.0**	**-0.4**
DZM	**Mont Dzumac**	**22.51**	**136**	P		**P**	**22 57 10.1**	**-0.2**
	14nm,0.6s,baz=342,slow=15,SNR=13							
ASAR	**Alice Springs**	**23.23**	**220**	P		**P**	**22 57 18.2**	**+0.5**
ASAR	**Alice Springs**	**23.23**	**220**	P		**P**	**22 57 18.2**	**+0.5**
	2.8nm,0.5s,baz=53,slow=9.2,SNR=5.8							
ASAR				LR		LR	23 07 05.4	
	comp=Z,164nm,18.7s,baz=307,slow=38							
FITZ	**Fitzroy Crossi**	**26.47**	**241**	P		**P**	**22 57 47.6**	**+0.2**
	11nm,0.4s,baz=56,slow=11,SNR=1.9							
FITZ				LR		LR	23 08 32.0	
	comp=Z,186nm,18.2s,baz=187,slow=37							
STKA	**Stephens Creek**	**26.74**	**196**	*e*P		**P**	**22 57 48.3**	**-1.3**
	3.2nm,1.1s							
URZ	**Urewera**	**40.39**	**146**	P		**P**	**22 59 47.8**	**-0.1**
URZ	**Urewera**	**40.39**	**146**	P		**P**	**22 59 47.8**	**-0.1**
	5.8nm,0.9s,baz=262,slow=7.1,SNR=3.4							
RPZ	**Rata Peaks**	**41.79**	**157**	LR		LR	23 13 13.4	
	comp=Z,362nm,20.9s,baz=225,slow=30							
JNU	**Nakatsue**	**43.03**	**336**	P		**P**	**23 00 08.0**	**-1.5**
JNU	**Nakatsue**	**43.03**	**336**	P		**P**	**23 00 08.0**	**-1.5**
	5.5nm,0.7s,baz=153,slow=18,SNR=2.5							
KSRS	**Korea Array**	**47.98**	**336**	P		**P**	**23 00 49.2**	**+0.7**
	3.1nm,0.8s,baz=157,slow=7.1,SNR=6.1							
KSAR	**Wonju Array Be**	**47.98**	**336**	P		**P**	**23 00 49.2**	**+0.7**
ASAJ	**Asahikawa**	**50.47**	**353**	P		**P**	**23 01 08.8**	**+1.4**
ASAJ	**Asahikawa**	**50.47**	**353**	P		**P**	**23 01 08.8**	**+1.4**
	7.4nm,0.7s,baz=130,slow=7.9,SNR=4.6							
USRK	**Ussuriysk Arra**	**52.66**	**344**	P		**P**	**23 01 24.9**	**+1.2**
	1.1nm,0.5s,baz=158,slow=10,SNR=4.4							
PETK	**Petropavlovsk-**	**59.40**	**5**	P		**P**	**23 02 11.4**	**-0.4**
PETK	**Petropavlovsk-**	**59.40**	**5**	P		**P**	**23 02 11.4**	**-0.4**
	3.1nm,0.6s,baz=171,slow=12,SNR=3.4							
ULN	**Ulaanbaatar**	**65.65**	**330**	*e*P		**P**	**23 02 53.9**	**0.0**
	17nm,2.1s							
SONM	**Songino Array**	**65.96**	**329**	P		**P**	**23 02 57.0**	**+1.2**
SONM	**Songino Array**	**65.96**	**329**	P		**P**	**23 02 57.0**	**+1.2**
	1.2nm,0.6s,baz=148,slow=4.5,SNR=6.1							
SONM				LR		LR	23 28 28.2	
	comp=Z,69nm,20.9s,baz=30,slow=33							
VNDA	**Vanda**	**71.61**	**177**	*e*P		**P**	**23 03 29.9**	**-0.4**
	4.9nm,0.9s							
VNDA	**Vanda**	**71.61**	**177**	P		**P**	**23 03 31.1**	**+0.8**
	4.6nm,0.9s,baz=318,slow=8.0,SNR=11							
MKAR	**Makanchi Array**	**79.45**	**320**	P		**P**	**23 04 15.8**	**0.0**
MKAR	**Makanchi Array**	**79.45**	**320**	P		**P**	**23 04 15.8**	**0.0**
	0.6nm,0.5s,baz=113,slow=7.2,SNR=6.4							
MKAR				LR		LR	23 38 43.0	
	comp=Z,36nm,18.2s,baz=96,slow=35							
ZALV	**Zalesovo Beam**	**80.68**	**327**	P		**P**	**23 04 21.1**	**-1.0**
ZALV	**Zalesovo Beam**	**80.68**	**327**	P		**P**	**23 04 21.1**	**-1.0**
	1.0nm,0.6s,baz=98,slow=4.9,SNR=3.8							
ZALV				LR		LR	23 37 28.7	
	comp=Z,59nm,19.7s,baz=74,slow=34							
KURK	**Kurchatov**	**83.06**	**323**	*e*P		**P**	**23 04 33.9**	**-0.9**
	0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**83.08**	**323**	P		**P**	**23 04 34.1**	**-0.8**
	0.2nm,0.3s,baz=112,slow=4.2,SNR=3.4							
QSPA	**South Pole Qui**	**83.82**	**180**	*e*P		**P**	**23 04 38.2**	**-0.4**
	8.5nm,0.9s							
ILAR	**Eielson Array**	**84.50**	**23**	P		P	23 04 38.2	-3.7
ILAR	**Eielson Array**	**84.50**	**23**	P		P	23 04 38.2	-3.7
	1.2nm,0.6s,baz=252,slow=5.1,SNR=22							
ARCES	**ARCESS Array B**	**107.28**	**342**	PKKPbc		PKKPbc	23 21 51.0	-2.9
ARCES	**ARCESS Array B**	**107.28**	**342**	PKKPbc		PKKPbc	23 21 51.0	-3.0
	4.2nm,1.0s,baz=256,slow=3.6,SNR=5.3							
PLCA	**Paso Flores**	**120.39**	**145**	PKP		**PKPdf**	**23 11 00.9**	**0.0**
PLCA	**Paso Flores**	**120.39**	**145**	PKP		**PKPdf**	**23 11 00.9**	**0.0**
	1.0nm,0.5s,baz=246,slow=2.4,SNR=3.7							
TKL	**Tuckaleechee C**	**122.79**	**51**	PKP		**PKPdf**	**23 11 05.1**	**-0.4**
TKL	**Tuckaleechee C**	**122.79**	**51**	PKP		**PKPdf**	**23 11 05.1**	**-0.4**
	3.5nm,0.6s,baz=34,slow=1.5,SNR=6.0							
GERES	**GERESS Array B**	**123.63**	**327**	PKP		**PKPdf**	**23 11 06.7**	**-0.2**
GERES	**GERESS Array B**	**123.63**	**327**	PKP		**PKPdf**	**23 11 06.7**	**-0.2**
	1.6nm,0.7s,baz=90,slow=1.3,SNR=14							
EKA	**Eskdalemuir Ar**	**126.42**	**341**	PKP		**PKPdf**	**23 11 12.3**	**+0.4**
EKA	**Eskdalemuir Ar**	**126.42**	**341**	PKP		**PKPdf**	**23 11 12.3**	**+0.4**
	0.2nm,0.3s,baz=15,slow=2.9,SNR=4.2							
DAVOX	**Davos/Dischmat**	**126.93**	**326**	PKP		**PKPdf**	**23 11 13.9**	**+0.6**
DAVOX	**Davos/Dischmat**	**126.93**	**326**	PKP		**PKPdf**	**23 11 13.9**	**+0.6**
	2.8nm,0.7s,baz=191,slow=5.2							
CFAA	**Coronel Fontan**	**127.73**	**138**	PKP		**PKPdf**	**23 11 15.4**	**+0.2**
CFAA	**Coronel Fontan**	**127.73**	**138**	PKP		**PKPdf**	**23 11 15.4**	**+0.2**
	0.4nm,0.5s,baz=255,slow=1.4,SNR=5.8							
KEST	**Kesra**	**133.35**	**315**	PKP		**PKPdf**	**23 11 25.2**	**-0.6**
KEST	**Kesra**	**133.35**	**315**	PKP		**PKPdf**	**23 11 25.2**	**-0.6**
	1.7nm,1.0s,baz=90,slow=3.0,SNR=3.9							
LPAZ	**La Paz**	**136.28**	**121**	PKP		**PKPdf**	**23 11 33.8**	**+1.4**
LPAZ	**La Paz**	**136.28**	**121**	PKP		**PKPdf**	**23 11 33.8**	**+1.4**
	2.5nm,0.7s,baz=290,slow=1.7,SNR=9.3							
SIV	**San Ignacio**	**142.28**	**126**	PKPpre		PKPpre	23 11 37.8	
SIV	**San Ignacio**	**142.28**	**126**	PKhKP		PKPpre	23 11 37.8	
	1.5nm,0.6s,baz=246,slow=4.7,SNR=5.1							
TORD	**Torodi Ar. Bea**	**147.90**	**285**	PKP		**PKPdf**	**23 11 51.6**	**-0.7**
TORD				PKPbc		**PKPbc**	**23 11 54.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**147.90**	**285**	PKP		**PKPdf**	**23 11 51.6**	**-0.7**
	5.4nm,0.3s,baz=51,slow=1.9,SNR=135							
TORD				PKPbc		**PKPbc**	**23 11 54.9**	**-0.4**
	5.7nm,0.3s,baz=65,slow=2.4,SNR=94							
BDFB	**Brasilia**	**152.02**	**141**	PKP		**PKPdf**	**23 11 59.1**	**+0.2**
BDFB				PKPbc		**PKiKP**	**23 12 06.0**	**+0.2**
BDFB				PKPab		**PKPab**	**23 12 15.7**	**+0.8**
BDFB	**Brasilia**	**152.02**	**141**	PKP		**PKPdf**	**23 11 59.1**	**+0.2**
	2.9nm,0.5s,baz=180,slow=5.4,SNR=3.8							
BDFB				PKPbc		**PKiKP**	**23 12 06.0**	**+0.2**
	5.9nm,0.5s,baz=207,slow=2.2,SNR=10							
BDFB				PKPab		**PKPab**	**23 12 15.7**	**+0.8**
	8.5nm,0.8s,baz=208,slow=5.6,SNR=9.8							
KIC	**Kosan Boka**	**154.78**	**272**	*e*PKIKP		PKPbc	**23 12 10.9**	**-0.6**
	13nm,0.8s							
DBIC	**Dimbokro**	**154.89**	**273**	PKPbc		**PKPbc**	**23 12 10.0**	**-1.7**
DBIC	**Dimbokro**	**154.89**	**273**	PKPbc		**PKPbc**	**23 12 10.0**	**-1.7**
	3.7nm,0.8s,baz=238,slow=1.6,SNR=7.7							
TIC	**Toumodi**	**155.06**	**273**	*e*PKIKP		PKPdf	23 12 10.3	+7.1
	3.1nm,0.2s							
LIC	**Lamto**	**155.06**	**272**	*e*PKIKP		PKPdf	23 12 10.9	+7.7
	13nm,0.5s							

MEX 16 22:54:43.0±0.6,16.58N×99.67W,h3km±13km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.34**	**328**	*e*P		Pb	22 54 50.8	-1.0
ACX				*e*S		Sg	22 54 55.3	+1.1
MEIG	**Mezcala**	**1.34**	**2**	*e*P		Pn	22 55 04.7	-4.0
MEIG				*i* S		Sg	22 55 21.5	-4.9
TLIG	**Tlapa**	**1.44**	**47**	*e*P		Pn	22 55 06.6	-3.6
TLIG				*e*S		Sb	22 55 24.8	-4.7
PLIG	**Platanillo**	**1.81**	**5**	*e*P		Pn	22 55 12.1	-3.2
PLIG				*i* S		Sn	22 55 34.7	-4.2
ARIG	**Puente Sto Nin**	**1.81**	**339**	*e*P		Pn	22 55 11.8	-3.4
ARIG				*i* S		Sn	22 55 34.2	-4.5
YAIG	**Yautepec**	**2.34**	**14**	*i* P		Pn	22 55 19.8	-2.8
YAIG				*i* S		Sn	22 55 47.9	-4.2

IDC 16 23:23:43.1±7.3,30.51S×178.08W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.6/18,mbtmp3.5/2,Error ellipse: s-maj=305.0km s-min=57.8km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.03**	**267**	P		P	23 31 44.4	-0.4
	0.6nm,0.7s,baz=106,slow=7.3,SNR=4.9							
WRA	**Warramunga Arr**	**44.03**	**272**	P		P	23 31 52.9	+0.1
	0.4nm,0.3s,baz=111,slow=8.1,SNR=11							
FINES	**FINESS Array B**	**145.22**	**340**	PKPbc		PKPbc	23 43 20.8	-0.8
	1.2nm,0.5s,baz=48,slow=2.1,SNR=6.3							

IDC 16 23:47:36.9±6.3,4.87S×150.76E,h128km±47km,mb3.2/3, mb1 3.5/4,mb1mx3.2/18,mbtmp3.3/4,Error ellipse: s-maj=103.3km s-min=46.0km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.76**	**218**	P		Pn	23 48 59.7	-0.4
	9.3nm,0.3s,baz=51,slow=7.7,SNR=14							
PMG				S		Sn	23 50 06.4	+1.3
	4.0nm,0.3s,baz=108,slow=22,SNR=5.9							
WRA	**Warramunga Arr**	**21.92**	**225**	P		P	23 52 20.5	+0.4
	0.5nm,0.6s,baz=50,slow=10,SNR=7.6							
ASAR	**Alice Springs**	**24.77**	**219**	P		P	23 52 45.7	-1.3
	0.3nm,0.4s,baz=51,slow=8.5,SNR=4.8							
FITZ	**Fitzroy Crossi**	**27.86**	**240**	P		P	23 53 15.0	+0.3
	1.2nm,0.4s,baz=59,slow=8.0,SNR=9.5							
TORD	**Torodi Ar. Bea**	**148.39**	**287**	PKPbc		PKPbc	00 07 09.2	-0.2
	0.4nm,0.6s,baz=81,slow=2.7,SNR=5.3							

IDC 17 00:14:42.1±3.3,27.52N×54.18E,h0km,mb3.4/3, mb1 3.4/3,mb1mx3.2/27,mbtmp3.4/3,MS3.6/1,Ms1 3.7/1, ms1mx2.7/19,Error ellipse: s-maj=85.2km s-min=34.0km az=153.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRTR	**Keskin Array B**	**20.94**	**311**	P		P	00 19 26.6	0.0
	0.5nm,0.7s,baz=132,slow=11,SNR=3.7							
ZALV	**Zalesovo Beam**	**34.67**	**32**	P		P	00 21 33.1	-0.1
	0.4nm,0.4s,baz=249,slow=11,SNR=2.9							
ESDC	**Sonseca Array**	**49.15**	**300**	LR		LR	00 48 07.2	
	comp=Z,60nm,19.6s,baz=245,slow=41							
TORD	**Torodi Ar. Bea**	**50.90**	**265**	P		P	00 23 45.2	-0.1
	0.5nm,0.7s,baz=58,slow=6.4,SNR=4.0							

IDC 17 00:36:25.9±4.7,4.35S×77.28W,h240km±41km,mb2.8/4, mb1 3.2/6,mb1mx3.0/21,mbtmp2.9/6,Error ellipse: s-maj=55.0km s-min=24.5km az=45.0,Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**9.61**	**18**	P		Pn	00 38 40.0	-0.2
	1.8nm,0.3s,baz=258,slow=20,SNR=2.1							
LPAZ	**La Paz**	**14.88**	**144**	P		P	00 39 45.4	-0.5
	0.1nm,0.3s,baz=4.8,slow=12,SNR=3.6							
TXAR	**Lajitas Array**	**41.99**	**325**	P		P	00 43 54.7	+0.6
	0.1nm,0.5s,baz=141,slow=9.2,SNR=4.1							
PDAR	**Pinedale Array**	**55.26**	**331**	P		P	00 45 34.2	-0.6
	0.4nm,0.6s,baz=126,slow=9.2,SNR=3.2							
YKA	**Yellowknife Ar**	**72.46**	**343**	P		P	00 47 26.0	0.0
	0.2nm,0.4s,baz=136,slow=5.7,SNR=5.9							
TORD	**Torodi Ar. Bea**	**80.28**	**76**	P		P	00 48 11.1	+0.2
	0.2nm,0.4s,baz=251,slow=4.4,SNR=5.8							
WRA	**Warramunga Arr**	**140.66**	**231**	PKP		PKPdf	00 55 27.8	-0.1
	0.6nm,0.9s,baz=138,slow=1.1,SNR=3.0							

BJI ***17*** *01:37:43.5,36.40N×9.90W,h8km,mB5.5/42,mb5.2/50, Ms5.7/49,Ms7 5.2/47*

IDC ***17*** *01:37:44.8±0.4,36.44N×10.01W,h0km,mb5.1/42, mb1 5.2/45,mb1mx5.2/46,mbtmp5.1/45,ML6.2/3,MS5.0/46, Ms1 5.0/46,ms1mx5.0/52,Error ellipse: s-maj=10.5km s-min=8.4km az=144.0*

DJA ***17*** *01:37:45.2±2.1,37.7N×22.1°W±3.5°,h10km,M5.7/7, mb5.6/7,mB6.1/4,Mw(mB)5.8/4*

MOS ***17*** *01:37:45.5±1.1,36.49N×9.91W,h14km,mb5.7/74, MS5.0/68,Error ellipse: s-maj=5.6km s-min=2.6km az=55.8*

ISCJB ***17*** *01:37:46.9±0.5,36.46N±0.01×9.87W±0.01,h25km±3km, mb5.5/321,MS5.1/220,Error ellipse: s-maj=2.1km s-min=1.5km az=176.1*

CRAAG ***17*** *01:37:46.6,36.46N×9.95W,Mw5.5*

CSEM ***17*** *01:37:46.6±0.1,36.47N×9.94W,h11km,mb5.7/99,Ms5.1, Mw5.6,Error ellipse: s-maj=2.2km s-min=1.5km az=166.0*

LDG ***17*** *01:37:48.3±0.1,36.53N×9.90W,h40km,Md5.0/1,Ml6.2/48, ms4.8/2,Error ellipse: s-maj=4.7km s-min=3.2km az=127.0*

NEIC ***17*** *01:37:48.1±1.1,36.46N×9.90W,h20km±7km,mb5.7/207, MS5.2/127,MW5.4,MW5.5,Error ellipse: s-maj=3.0km s-min=2.2km az=183.0,Moment Tensor Solution. s86 Moment tensor: Scale 10¹⁷Nm; Mrr0.20; Mθθ-1.18; Mφφ0.98; Mrθ0.86; Mrφ0.18; Mθφ1.11; Best double couple: Mo1.80000×10¹⁷ NP1:φs314.00000°,δ39.00000°, λ173.00000°. NP2:φs49.00000°,δ85.00000°,λ51.00000°. Principal axes: T 1.9100, Plg37.0000°, Azm285.0000°; N -0.2700, Plg38.0000°, Azm53.0000°; P -1.6400, Plg29.0000°, Azm170.0000°;*

NEIC Felt [V] at Baixa da Banheira, Boliqueime, Grandola, Guarda, Monchique, Odemira, Olhao, Portimao and Serpa, [IV] in the Albufeira-Portalegre-Torres Vedras area and [III] at Lisbon, Portugal. Felt [IV] at Kenitra and [III] at Casablanca, El Jadida, Marrakech and Rabat, Morocco. Felt [IV] at Huelva; [III] at Badajoz and Malaga; [II] at Alcorcon, Ciudad Real, Cordoba, Madrid and Sevilla, Spain. Felt in most of Portugal and in much of southwestern Spain and northwestern Morocco.

MDD ***17*** *01:37:49.7±0.5,36.47N×10.03W,h56km±17km,mb6.3/69 Error ellipse: s-maj=5.8km s-min=3.9km az=101.0, PRXIMO*

MDD EMS: IV INTENSIDAD MAXIMA.

SFS ***17*** *01:37:49.0,36.44N×10.00W,h50km, ML6.2*

CNRM ***17*** *01:37:50.6,36.47N×9.88W,h30km,MD5.4*

IGIL ***17*** *01:37:50.4,36.44N×10.04W,h50km, ML6.1*

INMG ***17*** *01:37:51.1±2.2,36.48N×9.99W,h31km,MD3.9,ML6.0, Error ellipse: s-maj=3.9km s-min=3.1km az=112.0*

PDA ***17*** *01:37:52.0,36.52N×9.91W,h31km,mb5.7*

GCMT ***17*** *01:37:53.0±0.1,36.47N×9.89W,h48km±1km,MW5.6, Moment Tensor Solution. s97,c171; s30,c33; Moment tensor: Scale 10¹⁷Nm; Mrr-0.50±.04; Mθθ-1.47±.04; Mφφ1.96±.03; Mrθ1.71±.05; Mθφ-0.25±.03; Mrφ1.86±.05; Best double couple: Mo3.10000×10¹⁷ NP1:φs217.00000°, δ84.00000°,λ-56.00000°. NP2:φs316.00000°,δ35.00000°, λ-170.00000°. Principal axes: T 3.0500, Plg31.0000°, Azm280.0000°; N 0.0800, Plg34.0000°, Azm34.0000°; P -3.1400, Plg41.0000°, Azm159.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=128, comp=253, per= 50.*

NEIC ***17*** *01:37:58.5±0.0,36.36N×10.27W,h39km,Moment Tensor Solution. s145 Moment tensor: Scale 10¹⁷Nm; Mrr-0.69; Mθθ-1.08; Mφφ1.76; Mrθ1.59; Mθφ-0.14; Mrφ1.15; Best double couple: Mo2.50000×10¹⁷ NP1:φs322.00000°, δ38.00000°,λ-162.00000°. NP2:φs219.00000°, δ80.00000°,λ-52.00000°. Principal axes: T 2.2900, Plg25.0000°, Azm280.0000°; N 0.3700, Plg36.0000°, Azm31.0000°; P -2.6600, Plg43.0000°, Azm164.0000°;*

BGS ***17*** *01:38:05.0±2.0,37.94N×9.92W,h10km,mb5.6,MS4.7*

SZGRF ***17*** *01:38:25.1,38.15N×6.67W,h33km,mb5.4,MS4.6 Spain*

ISC 17 01:37:47.2±0.3,36.44N±0.02×9.85W±0.02,h15km±1km, h14km:pP-P,n2585,σ1s27/2739,mb5.6/321,MS5.2/222, 336C-340D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.07**	**50**	⇑P		**Pg**	**01 38 09.6**	**+1.8**
	5μm,0.1s,SNR=18							
PFVI				S		**Sg**	**01 38 22.5**	**+0.7**
	632μm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**1.07**	**50**	⇑*i*P		**Pg**	**01 38 09.7**	**+1.8**
PFVI				*e*S		**Sg**	**01 38 22.7**	**+0.9**
PFVI				A		A	01 38 23.5	
	293μm,0.5s							
PFVI	**Vila Bisbo**	**1.07**	**50**	P		**Pg**	**01 38 09.6**	**+1.8**
	5μm,0.1s,SNR=18							
PFVI				S		**Sg**	**01 38 22.5**	**+0.7**
	632μm,0.3s,SNR=7.9							
MORF	**Marmelete**	**1.29**	**48**	P		**Pg**	**01 38 12.4**	**+0.4**
	SNR=7.9							
MORF				S		**

EVOP Sao Brissos 2.49 33⇓*i*P Pn 01 38 28.4 +1.2
EVOP *e*Sn **Sn 01 38 53.5 -3.8**
EVOP Sao Brissos 2.49 33⇓*i*P Pn 01 38 28.4 +1.2
EVOP *e*Sn **Sn 01 38 53.5 -3.8**
EVO Evora 2.54 34⇓*i*P Pn 01 38 28.4 +0.5
baz=228
EVO *e*Sn **Sn 01 38 53.5 -5.1**
comp=N,162µm,0.5s
EVO Evora 2.54 34⇓*e*Pn Pn 01 38 29.3 +1.3
EVO *e*Sn **Sn 01 38 56.8 -1.8**
EVO A A 01 38 59.1
comp=N,70µm,0.5s
EVO Evora 2.54 34⇓*e*P Pn 01 38 29.2 +1.3
PMAFR Mafra 2.55 10 ⇓P Pn 01 38 28.7 +0.7
comp=N,5µm,0.1s,SNR=18
PMAFR S **Sn 01 38 56.5 -2.3**
comp=N,330µm,0.6s,SNR=12
PMAFR Mafra 2.55 10 *e*Pn Pn 01 38 28.7 +0.7
PMAFR *e*Sn **Sn 01 38 56.4 -2.3**
PMAFR A A 01 38 59.9
comp=N,104µm,0.5s
PMAFR Mafra 2.55 10 P Pn 01 38 28.7 +0.7
comp=N,5µm,0.1s,SNR=18
PMAFR S **Sn 01 38 56.5 -2.3**
comp=N,330µm,0.6s,SNR=12
PBAR Barrancos 2.83 51⇑*e*Pn Pn 01 38 33.5 +1.7
PBAR *e*Sn **Sn 01 39 04.5 -1.1**
PBAR A A 01 39 06.6
comp=N,64µm,0.7s
PBAR Barrancos 2.83 51⇑*e*P Pn 01 38 33.5 +1.7
EMIN Mina Concepcio 2.86 62 ⇑P Pn 01 38 33.9 +1.6
comp=N,880nm,0.1s,SNR=18
EMIN S **Sn 01 39 06.1 -0.4**
comp=N,28µm,0.4s,SNR=10.0
EMIN Mina Concepcio 2.86 62 P Pn 01 38 33.9 +1.6
comp=N,880nm,0.1s,SNR=18
EMIN S **Sn 01 39 06.1 -0.4**
comp=N,28µm,0.4s,SNR=10.0
ALMR Almeirim 2.89 20 *e*P Pn 01 38 33.6 +0.9
ALMR AML AML 01 39 10.9
comp=E,37µm,0.8s
ALMR Almeirim 2.89 20 P Pn 01 38 33.4 +0.8
SNR=7.9
ALMR Almeirim 2.89 20 P Pn 01 38 33.4 +0.8
SNR=7.9
PMTG Montargil 2.92 26⇓*e*Pn Pn 01 38 34.3 +1.2
PMTG *e*Sn **Sn 01 39 06.0 -1.9**
PMTG A A 01 39 06.9
comp=E,92µm,0.5s
PMTG Montargil 2.92 26⇓*e*P Pn 01 38 34.3 +1.2
PMTG *e*S **Sn 01 39 06.0 -1.9**
comp=E,92µm,0.5s
SFS San Fernando 2.94 88 ⇑P Pn 01 38 36.0 +2.7
SFS S **Sn 01 39 02.9 -5.4**
SFS San Fernando 2.94 88 P Pn 01 38 36.0 +2.7
PESTR Estremoz 3.01 36 *e*Pn Pn 01 38 35.4 +1.1
PESTR *e*Sn **Sn 01 39 07.9 -2.3**
PESTR A A 01 39 10.6
comp=E,35µm,0.6s
PESTR Estremoz 3.01 36 *e*P Pn 01 38 35.4 +1.1
PESTR *e*S **Sn 01 39 08.8 -1.4**
comp=E,35µm,0.6s
CNIL Conil 3.06 90 ⇑P Pn 01 38 38.4 +3.4
CNIL S **Sn 01 39 07.3 -4.0**
CNIL Conil 3.06 90 P Pn 01 38 38.4 +3.4
EBAD Badajoz 3.22 43 ⇑P Pn 01 38 38.4 +1.2
comp=E,410nm,0.1s,SNR=18
EBAD S **Sn 01 39 13.7 -1.7**
comp=E,46µm,0.3s,SNR=5.0
EBAD Badajoz 3.22 43 P Pn 01 38 38.4 +1.2
comp=E,410nm,0.1s,SNR=18
EBAD S **Sn 01 39 13.7 -1.7**
comp=E,46µm,0.3s,SNR=5.0
ESPR Espera 3.24 81 ⇑P Pn 01 38 39.8 +2.4
comp=E,6µm,0.2s,SNR=18
ESPR S **Sn 01 39 15.4 -0.3**
comp=E,115µm,0.3s,SNR=14
ESPR Espera 3.24 81 P Pn 01 38 39.8 +2.4
comp=E,6µm,0.2s,SNR=18
ESPR S **Sn 01 39 15.4 -0.3**
comp=E,115µm,0.3s,SNR=14
PTOM Tomar 3.37 19⇓*e*Pn Pn 01 38 40.1 +0.9
PTOM Tomar 3.37 19⇓*e*P Pn 01 38 40.1 +0.9
PTOM *e*S **Sn 01 39 16.7 -2.2**
RTC Rabat Centre 3.46 134 P Pn 01 38 42.0 +1.5
RTC S **Sn 01 39 21.0 -0.3**
RTC Rabat Centre 3.46 134 *e*Pn Pn 01 38 42.7 +2.2
RTC *e*Sn Sn 01 39 09.8 -11
RTC Rabat Centre 3.46 134 *i*P Pn 01 38 42.0 +1.5
RTC Rabat Centre 3.46 134 *e*Pn Pn 01 38 42.7 +2.2
RTC *e*Sn Sn 01 39 09.8 -11
RTC *e*S **Sn 01 39 21.0 -0.3**
PMRV Marv??o 3.56 32 *e*Pn Pn 01 38 43.3 +1.4
PMRV *e*Sn **Sn 01 39 21.1 -2.5**
PMRV A A 01 39 23.9
comp=E,56µm,0.6s
PMRV Marv??o 3.56 32⇓*e*P Pn 01 38 43.2 +1.4
LIJA Lijar 3.60 81 ⇓P Pn 01 38 45.1 +2.6
LIJA Lijar 3.60 81 P Pn 01 38 45.1 +2.6
ECEU Ceuta 3.66 97 ⇑P Pn 01 38 46.4 +3.2
comp=E,330nm,0.1s,SNR=18
ECEU S **Sn 01 39 26.4 +0.3**
comp=E,28µm,1.0s,SNR=5.8
ECEU Ceuta 3.66 97 P Pn 01 38 46.4 +3.2
comp=E,330nm,0.1s,SNR=18
ECEU S **Sn 01 39 26.4 +0.3**
comp=E,28µm,1.0s,SNR=5.8
REAL Reales 3.74 88 ⇓P Pn 01 38 47.3 +2.8
REAL S **Sb 01 39 36.3 -1.9**
REAL Reales 3.74 88 P Pn 01 38 47.3 +2.8
REAL S **Sb 01 39 36.3 -1.9**
PCAS Casmilo, Conde 3.76 16⇓*e*Pn Pn 01 38 45.5 +0.9
PCAS *e*Sn **Sn 01 39 25.1 -3.5**
PCAS A A 01 39 37.3
comp=E,20µm,0.6s
PCAS Casmilo, Conde 3.76 16⇓*e*P Pn 01 38 45.5 +0.9
ECAB El Cabril 3.89 64 ⇑P Pn 01 38 48.2 +1.7
comp=E,2µm,0.3s,SNR=18
ECAB S **Sn 01 39 29.7 -2.2**
comp=E,20µm,0.4s,SNR=13
ECAB El Cabril 3.89 64 P Pn 01 38 48.2 +1.7
comp=E,2µm,0.3s,SNR=18
ECAB S **Sn 01 39 29.7 -2.2**
comp=E,20µm,0.4s,SNR=13
EMIJ Mijas 4.09 87 ⇑P Pn 01 38 51.0 +1.8
comp=E,907nm,0.3s,SNR=18
EMIJ S **Sn 01 39 36.1 -0.7**
comp=E,15µm,0.6s,SNR=17
EMIJ Mijas 4.09 87 P Pn 01 38 51.0 +1.8
comp=E,907nm,0.3s,SNR=18
EMIJ S **Sn 01 39 36.1 -0.7**
comp=E,15µm,0.6s,SNR=17
MTE Manteigas 4.34 24⇓*e*Pn Pn 01 38 53.6 +0.8
MTE *e*Sn **Sn 01 39 38.9 -4.2**
MTE A A 01 39 43.4
comp=E,33µm,0.4s
MTE Manteigas 4.34 24 *e*Pn Pn 01 38 53.5 +0.8
MTE *e*Sn **Sn 01 39 40.0 -3.2**
MTE Manteigas 4.34 24 *e*Pn Pn 01 38 53.5 +0.8
MTE *e*Sn **Sn 01 39 40.0 -3.2**
EMAL Malaga-Limoner 4.37 84 *i*P Pn 01 38 55.8 +2.8
PVIS Viseu 4.53 19⇓*e*Pn Pn 01 38 55.9 +0.6
PVIS *e*Sn **Sn 01 39 42.9 -4.8**
PVIS Viseu 4.53 19⇓*e*P Pn 01 38 55.9 +0.6
EADA Adamuz 4.54 66 ⇑P Pn 01 38 56.9 +1.5
comp=E,2µm,0.3s,SNR=18
EADA S **Sn 01 39 45.4 -2.5**
comp=E,21µm,0.3s,SNR=7.1
EADA Adamuz 4.54 66 P Pn 01 38 56.9 +1.5
comp=E,2µm,0.3s,SNR=18
EADA S **Sn 01 39 45.4 -2.5**
comp=E,21µm,0.3s,SNR=7.1
TGT Taghat 4.58 120 P Pn 01 38 58.0 +2.0
TGT S **Sn 01 39 46.0 -3.0**
TGT Taghat 4.58 120 *i*P Pn 01 38 58.0 +2.0
ELUQ Luque 4.60 74 ⇑P Pn 01 38 58.2 +1.9
comp=E,392nm,0.2s,SNR=18
ELUQ Luque 4.60 74 P Pn 01 38 58.2 +1.9
comp=E,392nm,0.2s,SNR=18
EPLA Plasencia 4.67 38 ⇓P Pn 01 38 58.4 +1.2
comp=E,961nm,0.2s,SNR=18
EPLA S **Sn 01 39 46.9 -4.3**
comp=E,21µm,0.4s,SNR=7.6
EPLA Plasencia 4.67 38 P Pn 01 38 58.4 +1.2
comp=E,961nm,0.2s,SNR=18

PTO Porto 4.79 11⇓*e*Pn Pn 01 38 59.0 +0.3
PTO *i* Sn **Sn 01 39 49.3 -4.6**
PTO Porto 4.79 11⇓*e*P Pn 01 38 59.0 +0.3
MIF Mishlifen 4.85 127 P Pn 01 39 02.0 +2.1
MIF S **Sn 01 39 54.0 -1.9**
MIF Mishlifen 4.85 127 *i*P Pn 01 39 02.0 +2.1
MIF *i*S **Sn 01 39 54.0 -1.9**
MPAL Palemas 4.95 102 P Pn 01 39 02.0 +1.0
MPAL S **Sn 01 39 55.0 -3.0**
MPAL Palemas 4.95 102 *e*P Pn 01 39 02.0 +1.0
CIA Chichaoua 4.95 169 P Pn 01 39 03.0 +2.0
CIA S **Sn 01 39 56.0 -2.0**
CIA Chichaoua 4.95 169 *e*P Pn 01 39 03.0 +2.0
CIA *i*S **Sn 01 39 56.0 -2.0**
SELV Sierra Elvira 4.97 79 ⇑P Pn 01 39 03.7 +2.4
comp=E,6µm,1.0s,SNR=18
SELV S **Sn 01 39 57.0 -1.6**
comp=E,30µm,1.1s,SNR=7.9
SELV Sierra Elvira 4.97 79 P Pn 01 39 03.7 +2.4
comp=E,6µm,1.0s,SNR=18
SELV S **Sn 01 39 57.0 -1.6**
comp=E,30µm,1.1s,SNR=7.9
KIB El Ksiba 4.98 140 P Pn 01 39 03.0 +1.6
KIB S **Sn 01 39 56.0 -2.8**
KIB El Ksiba 4.98 140 *i*P Pn 01 39 03.0 +1.6
EGUA Guajares 5.07 84 P Pn 01 39 05.1 +2.5
comp=E,162nm,0.1s,SNR=7.9
EGUA Guajares 5.07 84 P Pn 01 39 05.1 +2.5
comp=E,162nm,0.1s,SNR=7.9
ECOG Cogollos-Vega 5.10 79 ⇓P Pn 01 39 05.6 +2.4
comp=E,206nm,0.2s,SNR=18
ECOG S **Sn 01 39 59.5 -2.4**
comp=E,514nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 5.10 79 P Pn 01 39 05.6 +2.4
comp=E,206nm,0.2s,SNR=18
PVRL Vila Real 5.10 18⇓*e*Pn Pn 01 39 03.4 +0.3
PVRL Vila Real 5.10 18⇓*e*P Pn 01 39 03.4 +0.3
TZC Tazercounte 5.11 146 P Pn 01 39 07.0 +3.7
TZC S **Sn 01 40 00.0 -2.1**
TZC Tazercounte 5.11 146 *e*P Pn 01 39 07.0 +3.7
TZC *e*S **Sn 01 40 00.0 -2.1**
TOU Touzarine 5.17 105 P Pn 01 39 06.0 +1.8
TOU S **Sn 01 40 02.0 -1.7**
TOU Touzarine 5.17 105 *i*P Pn 01 39 06.0 +1.8
POLO Lamas de Olo 5.18 17 *e*Pn Pn 01 39 04.6 +0.4
POLO *e*Sn Sn 01 39 57.8 -5.9
POLO A A 01 40 04.4
comp=E,6µm,0.5s
POLO Lamas de Olo 5.18 17 *e*P Pn 01 39 04.6 +0.4
EQUE Quentar 5.20 80 ⇑P Pn 01 39 06.8 +2.3
comp=E,1µm,0.4s,SNR=18
EQUE S **Sn 01 40 03.6 -0.6**
comp=E,14µm,0.6s,SNR=9.0
EQUE Quentar 5.20 80 P Pn 01 39 06.8 +2.3
comp=E,1µm,0.4s,SNR=18
EQUE S **Sn 01 40 03.6 -0.6**
comp=E,14µm,0.6s,SNR=9.0
MVO Moncorvo 5.20 24 ⇓P Pn 01 39 05.0 +0.5
comp=E,2µm,0.3s,SNR=18
MVO S **Sn 01 40 00.2 -4.1**
comp=E,32µm,0.5s,SNR=5.0
MVO Moncorvo 5.20 24 *e*Pn Pn 01 39 05.0 +0.5
MVO *e*Sn **Sn 01 40 00.0 -4.3**
MVO A A 01 40 03.5
comp=E,21µm,0.5s
MVO Moncorvo 5.20 24 P Pn 01 39 05.0 +0.5
comp=E,2µm,0.3s,SNR=18
MVO S **Sn 01 40 00.2 -4.1**
comp=E,32µm,0.5s,SNR=5.0
CZD Col de Zad 5.22 129 P Pn 01 39 08.0 +3.1
CZD S **Sn 01 40 03.0 -2.0**
CZD Col de Zad 5.22 129 *i*P Pn 01 39 08.0 +3.1
CZD *i*S **Sn 01 40 03.0 -2.0**
PAB San Pablo 5.33 53 *e*P Pn 01 39 07.3 +1.0
PAB *e* 01 40 05.6
PAB San Pablo 5.33 53 *e*Pn Pn 01 39 07.3 +1.0
PAB *e*Sn **Sn 01 40 05.6 -1.9**
PAB San Pablo 5.33 53 *e*Pn Pn 01 39 07.3 +1.0
PAB *e*Sn **Sn 01 40 05.6 -1.9**
PCAB Cabril 5.45 15⇓*e*Pn Pn 01 39 08.0 +0.2
PCAB *e*Sn Sn 01 40 03.9 -6.4
PCAB A A 01 40 08.1
comp=E,10µm,0.5s
PCAB Cabril 5.45 15⇓*e*P Pn 01 39 08.0 +0.2
OUK Oukaimeden 5.47 162 P Pn 01 39 09.0 +0.5
OUK S **Sn 01 40 10.0 -1.4**
OUK Oukaimeden 5.47 162 *i*P Pn 01 39 09.0 +0.5
GORA Gorafe 5.55 77 ⇑P Pn 01 39 11.2 +1.9
comp=E,1µm,0.3s,SNR=18
GORA S **Sn 01 40 12.3 -0.5**
comp=E,22µm,0.5s,SNR=7.9
GORA Gorafe 5.55 77 P Pn 01 39 11.2 +1.9
comp=E,1µm,0.3s,SNR=18
EQES Quesada 5.58 74 ⇑P Pn 01 39 11.2 +1.4
comp=E,1µm,0.4s,SNR=18
EQES S **Sn 01 40 12.1 -1.6**
comp=E,21µm,0.5s,SNR=17
EQES Quesada 5.58 74 P Pn 01 39 11.2 +1.4
comp=E,1µm,0.4s,SNR=18
ELOB Lobios 5.59 14 ⇓P Pn 01 39 09.9 0.0
comp=E,1µm,0.2s,SNR=18
ELOB S **Sn** 01 40 07.2 -6.7
comp=E,11µm,0.4s,SNR=26
ELOB Lobios 5.59 14 P Pn 01 39 09.9 0.0
comp=E,1µm,0.2s,SNR=18
EBER Berja 5.61 83 ⇑P Pn 01 39 12.1 +1.9
comp=E,770nm,0.3s,SNR=18
EBER S **Sn 01 40 13.6 -0.9**
comp=E,22µm,0.9s
EBER Berja 5.61 83 P Pn 01 39 12.1 +1.9
comp=E,770nm,0.3s,SNR=18
MDT Midelt 5.63 128 Pn Pn 01 39 11.7 +1.2
MDT Sn **Sn 01 40 11.5 -3.4**
MDT Midelt 5.63 128 Pn Pn 01 39 11.7 +1.2
MDT Sn **Sn 01 40 11.5 -3.4**
MDT Midelt 5.63 128 Pn Pn 01 39 11.7 +1.2
comp=E,1µm,0.3s,baz=320,slow=12
MDT Sn **Sn 01 40 11.5 -3.4**
comp=E,2µm,0.3s,baz=206,slow=20,SNR=28
PGAV Gavieira, Arco 5.65 12 *e*Pn Pn 01 39 11.1 +0.4
PGAV *e*Sn Sn 01 40 08.8 -6.5
PGAV A A 01 40 13.6
comp=E,15µm,0.6s
PGAV Gavieira, Arco 5.65 12 *e*P Pn 01 39 11.1 +0.4
ESLA Sonseca Array 5.65 53 *e*Pn Pn 01 39 11.4 +0.7
ESLA *e*S Sn 01 40 06.7 -8.7
ESLA Sonseca Array 5.65 53 *e*Pn Pn 01 39 11.4 +0.7
ESLA *e*S Sn 01 40 06.7 -8.7
ESDC Sonseca Array 5.65 53 Pn Pn 01 39 11.6 +0.9
ESDC Sn Sn 01 40 07.0 -8.4
ESDC Sonseca Array 5.65 53 Pn Pn 01 39 11.6 +0.9
ESDC Sn Sn 01 40 07.0 -8.4
ESDC Sonseca Array 5.65 53 Pn Pn 01 39 11.6 +0.9
comp=E,838nm,0.3s,baz=241,slow=13,SNR=2990
ESDC Sn Sn 01 40 07.0 -8.4
comp=E,723nm,0.3s,baz=245,slow=18,SNR=11
ESDC LR LR 01 41 40.2
comp=E,5µm,19.5s,baz=255,slow=41
EMEL Melilla 5.71 99 ⇑P Pn 01 39 12.1 +0.7
comp=E,881nm,0.2s,SNR=18
EMEL S **Sn 01 40 13.7 -3.0**
comp=E,7µm,0.2s,SNR=8.6
EMLI Melilla 5.71 99 P Pn 01 39 12.1 +0.6
comp=E,881nm,0.2s,SNR=18
MELI Melilla 5.73 100 ⇑P Pn 01 39 12.2 +0.5
comp=E,1µm,0.4s,SNR=18
MELI S **Sn 01 40 13.7 -3.4**
comp=E,18µm,0.8s,SNR=7.9
MELI Melilla 5.73 100 P Pn 01 39 12.2 +0.5
comp=E,1µm,0.4s,SNR=18
EZAM Zamans 5.77 9 ⇓P Pn 01 39 12.3 +0.1
comp=E,234nm,0.2s,SNR=18
EZAM Zamans 5.77 9 P Pn 01 39 12.3 +0.1
comp=E,234nm,0.2s,SNR=18
PBRG Braganca 5.87 23 *e*Pn Pn 01 39 14.3 +0.6
PBRG *e*Sn **Sn 01 40 15.5 -5.3**
PBRG A A 01 40 18.6
comp=E,7µm,0.7s
PBRG Braganca 5.87 23 *e*P Pn 01 39 14.3 +0.6
EHUE Huescar 5.96 75 ⇑P Pn 01 39 16.2 +1.3
comp=E,215nm,0.2s,SNR=18
EHUE S **Sn 01 40 20.7 -2.2**
comp=E,317nm,0.2s,SNR=7.9
EHUE Huescar 5.96 75 P Pn 01 39 16.2 +1.3
comp=E,215nm,0.2s,SNR=18

ZAI Zaio 5.96 102 P Pn 01 39 15.0 0.0
ZAI S **Sn 01 40 22.0 -1.0**
ZAI Zaio 5.96 102 *i*P Pn 01 39 15.0 0.0
ECAL Calabor 6.00 23 ⇓P Pn 01 39 15.8 +0.4
comp=E,2µm,0.3s,SNR=18
ECAL S **Sn 01 40 18.8 -5.1**
comp=E,39µm,0.6s,SNR=19
ECAL Calabor 6.00 23 P Pn 01 39 15.8 +0.4
comp=E,2µm,0.3s,SNR=18
AFS Agadir Fac de 6.01 177 P Pn 01 39 17.0 +1.4
AFS S **Sn 01 40 21.0 -3.2**
AFS Agadir Fac de 6.01 177 *i*P Pn 01 39 17.0 +1.4
GUD Guadarrama 6.12 45 P Pn 01 39 18.1 +0.9
comp=E,470nm,0.2s,SNR=1701
GUD S **Sn 01 40 23.1 -3.9**
comp=E,22µm,0.3s,SNR=18
GUD Guadarrama 6.12 45 P Pn 01 39 18.1 +0.9
comp=E,469nm,0.2s,SNR=1000
PMPST Porto Santo, M 6.31 240 *e*P Pn 01 39 18.1 -1.5
PMPST *e*S Sn 01 40 19.7 -12
PMPST A A 01 40 29.2
comp=E,5µm,0.7s
PMPST *e*T T 01 45 57.6
PMPST Porto Santo, M 6.31 240 *e*P Pn 01 39 18.1 -1.5
PMPS Porto Santo 6.32 240 *e*P Pn 01 39 17.9 -1.9
PMPS *e*S Sn 01 40 19.4 -12
PMPS A A 01 40 29.0
comp=E,2µm,0.6s
PMPS *e*T T 01 46 03.1
PMPS Porto Santo 6.32 240 *e*P Pn 01 39 17.9 -1.9
ZFT Errachidia 6.33 132 P Pn 01 39 23.0 +2.9
ZFT S **Sn 01 40 30.0 -2.2**
ZFT Errachidia 6.33 132 *i*P Pn 01 39 23.0 +2.9
STS Santiago 6.51 8 ⇓P Pn 01 39 22.2 -0.2
comp=E,180nm,0.4s,SNR=18
STS Santiago 6.51 8 P Pn 01 39 22.2 -0.2
comp=E,180nm,0.4s,SNR=18
EMAZ Mazaricos 6.53 6 P Pn 01 39 22.1 -0.6
comp=E,2µm,0.2s,SNR=4541
EMAZ S **Sn** 01 40 29.2 -7.8
comp=E,5µm,0.2s,SNR=31
EMAZ Mazaricos 6.53 6 P Pn 01 39 22.1 -0.6
comp=E,2µm,0.1s,SNR=1000
PMAR Madeira 6.91 240 *e*P Pn 01 39 26.2 -1.9
PMAR *e*S Sn 01 40 34.3 -12
PMAR A A 01 40 43.5
comp=E,3µm,0.9s
PMAR Madeira 6.91 240 *e*P Pn 01 39 26.2 -1.9
FUL Funchal 6.94 239 *e*P Pn 01 39 26.5 -1.8
FUL *e*S Sn 01 40 34.3 -13
FUL A A 01 40 41.9
comp=E,2µm,0.3s
FUL *e*T T 01 47 03.3
OLHC Oulhaca 6.95 97 P Pn 01 39 27.0 -1.5
OLHC Oulhaca 6.95 97 P Pn 01 39 27.0 -1.5
ETOB Tobarra 6.95 69 ⇑P Pn 01 39 29.9 +1.4
comp=E,539nm,0.3s,SNR=18
ETOB S **Sn 01 40 43.3 -4.1**
comp=E,6µm,0.5s,SNR=6.2
ETOB Tobarra 6.95 69 P Pn 01 39 29.9 +1.4
comp=E,539nm,0.3s,SNR=18
PMOZ Porto Moniz, M 7.05 241⇑*e*P Pn 01 39 28.8 -1.2
PMOZ *e*S Sn 01 40 41.6 -8.3
PMOZ A A 01 40 54.6
comp=E,7µm,0.7s
PMOZ Porto Moniz, M 7.05 241⇑*e*P Pn 01 39 28.8 -1.2
CART Cartagena 7.17 78 ⇑P Pn 01 39 31.8 +0.4
CART S Sn 01 40 45.5 -7.1
CART Cartagena 7.17 78 P Pn 01 39 31.8 +0.4
EPON Pontenova 7.18 16 P Pn 01 39 31.7 +0.1
comp=E,352nm,0.3s,SNR=193
EPON S **Sn** 01 40 46.7 -6.3
comp=E,3µm,0.5s,SNR=10
EPON Pontenova 7.18 16 P Pn 01 39 31.7 +0.1
comp=E,352nm,0.3s,SNR=193
ETOR Torete 7.50 52 ⇑P Pn 01 39 36.8 +0.7
comp=E,3µm,0.6s,SNR=18
ETOR S **Sn 01 40 55.5 -5.4**
comp=E,31µm,0.4s,SNR=6.7
ETOR Torete 7.50 52 P Pn 01 39 36.8 +0.7
comp=E,3µm,0.6s,SNR=18
USTO Oran 7.56 93 P Pb 01 39 48.0 -10
USTO Oran 7.56 93 P Pb 01 39 48.0 -10
ECHE Chera 7.68 63 P Pn 01 39 40.9 +2.4
comp=E,372nm,0.4s,SNR=40
ECHE Chera 7.68 63 P Pn 01 39 40.9 +2.4
comp=E,372nm,0.4s,SNR=40
EARI Arriondas 7.72 26 P Pn 01 39 39.6 +0.5
comp=E,252nm,0.3s,SNR=232
EARI S **Sn** 01 40 59.6 -6.6
comp=E,3µm,0.5s,SNR=11
EARI Arriondas 7.72 26 P Pn 01 39 39.6 +0.5
comp=E,252nm,0.3s,SNR=232
EFAM Famara 7.93 204 P Pn 01 39 40.5 -1.4
comp=E,114nm,0.2s,SNR=14
EFAM S **Sn** 01 41 02.6 -8.7
comp=E,2µm,0.6s,SNR=5.9
EFAM Famara 7.93 204 P Pn 01 39 40.5 -1.4
comp=E,114nm,0.2s,SNR=14
EBEN Beniarda 7.97 71 P Pn 01 39 44.0 +1.5
comp=E,143nm,0.3s,SNR=227
EBEN S **Sn 01 41 07.8 -4.6**
comp=E,3µm,0.6s,SNR=16
EBEN Beniarda 7.97 71 P Pn 01 39 44.0 +1.5
comp=E,143nm,0.3s,SNR=227
OJBR Djebel Berber 8.30 93 P Pn 01 39 50.0 +2.9
OJBR Djebel Berber 8.30 93 P Pn 01 39 50.0 +2.9
OJBR Djebel Berber 8.30 93 P Pn 01 39 50.0 +2.9
EMOS Mosqueruela 8.33 59 P Pn 01 39 49.9 +2.3
comp=E,1µm,0.5s,SNR=12
EMOS S **Sn 01 41 17.0 -4.6**
comp=E,14µm,0.5s,SNR=5.9
ELAN Lanestosa 8.38 34 P Pn 01 39 48.7 +0.7
comp=E,65nm,0.2s,SNR=131
ELAN S **Sn** 01 41 15.7 -6.7
comp=E,2µm,0.4s,SNR=7.6
ELAN Lanestosa 8.38 34 P Pn 01 39 48.7 +0.7
comp=E,65nm,0.2s,SNR=131
OKGL Djebel Kef Gue 8.48 90 P Pn 01 39 51.0 +1.5
OKGL Djebel Kef Gue 8.48 90 P Pn 01 39 51.1 +1.5
comp=E,267nm,0.3s,SNR=7.9
OKGL S **Sn 01 41 21.0 -4.1**
comp=E,9µm,0.8s,SNR=7.9
OKGL Djebel Kef Gue 8.48 90 P Pn 01 39 51.1 +1.5
comp=E,267nm,0.3s,SNR=7.9
CFUE Fuerteventura 8.51 205 P Pn 01 39 47.2 -2.6
comp=E,85nm,0.2s,SNR=7.9
CFUE S **Sn** 01 41 17.2 -8.3
comp=E,755nm,0.3s,SNR=7.9
CFUE Fuerteventura 8.51 205 P Pn 01 39 47.2 -2.6
comp=E,85nm,0.2s,SNR=7.9
CFTV Fuerteventura 8.77 205 P Pn 01 39 51.5 -2.0
comp=E,36nm,0.3s,SNR=12
CFTV S **Sn** 01 41 22.6 -9.5
comp=E,269nm,0.4s,SNR=9.1
CFTV Fuerteventura 8.77 205 P Pn 01 39 51.5 -2.0
comp=E,36nm,0.3s,SNR=12
EANR 'Ain N'Sour 8.86 90 P Pn 01 39 55.0 +0.2
EANR 'Ain N'Sour 8.86 90 P Pn 01 39 55.0 +0.2
EANR 'Ain N'Sour 8.86 90 P Pn 01 39 55.0 +0.2
EARA Aranguren 8.98 43 P Pn 01 39 57.8 +1.5
comp=E,351nm,0.3s,SNR=166
EARA S **Sn** 01 41 31.3 -5.8
comp=E,9µm,0.6s,SNR=12
EARA Aranguren 8.98 43 P Pn 01 39 57.8 +1.5
comp=E,351nm,0.3s,SNR=166
ESAC San Caprasio 8.99 51 P Pn 01 39 57.7 +1.1
comp=E,718nm,0.6s,SNR=106
ESAC S **Sn 01 41 32.2 -5.4**
comp=E,16µm,0.7s,SNR=8.7
ESAC San Caprasio 8.99 51 P Pn 01 39 57.7 +1.1
comp=E,718nm,0.6s,SNR=106
IUNC Uncitti 9.01 43 ⇑P Pn 01 39 58.3 +1.5
comp=E,372nm,0.3s,SNR=18
IUNC S **Sn** 01 41 32.4 -5.6
comp=E,6µm,0.6s,SNR=7.9
ECHF Ech Chlef 9.04 89 P Pn 01 39 58.4 +1.3
ECHF Ech Chlef 9.04 89 P Pn 01 39 58.4 +1.3
ECHA Ech Chlef 9.06 89 P Pn 01 39 58.4 +1.0
ECHA Ech Chlef 9.06 89 P Pn 01 39 58.4 +1.0
ETRT Tiaret 9.10 93 P Pn 01 39 58.2 +0.1
ETRT Tiaret 9.10 93 P Pn 01 39 58.2 +0.1
ETRT Tiaret 9.10 93 P Pn 01 39 58.2 +0.1
IZUN Zunzarren 9.10 43 P Pn 01 39 59.4 +1.4
comp=E,264nm,0.2s,SNR=7.9
IZUN S **Sn** 01 41 33.9 -6.3

comp=E,12µm,0.9s,SNR=7.9
IUSE Utxeti 9.11 42 P **Pn 01 40 00.1 +1.9**
comp=E,241nm,0.3s,SNR=7.9
IUSE S Sn 01 41 34.3 -6.2
comp=E,3µm,0.5s,SNR=7.9
IPRE Itoiz 9.12 43 P **Pn 01 39 59.8 +1.6**
comp=E,237nm,0.4s,SNR=7.9
IPRE S Sn 01 41 34.5 -6.1
comp=E,4µm,0.8s,SNR=7.9
ERTA Horta de San J 9.14 57 P **Pn 01 39 59.8 +1.3**
comp=E,50nm,0.2s,SNR=184
ERTA **S Sn 01 41 36.1 -5.1**
comp=E,4µm,0.7s,SNR=5.6
IEPA Eparoz 9.15 44 P **Pn 01 40 00.3 +1.6**
comp=E,783nm,0.5s,SNR=7.9
IEPA S **Sn 01 41 36.5 -5.0**
comp=E,13µm,0.6s,SNR=7.9
EBNR Beni Rached 9.18 88 P **Pn 01 39 59.6 +0.5**
EBNR Beni Rached 9.18 88 P **Pn 01 39 59.6 +0.5**
EBR Ebro Roquetas 9.19 58 P **Pn 01 40 00.3 +1.1**
comp=E,300nm,0.3s,SNR=7.9
EBR S Sn 01 41 35.6 -6.8
comp=E,17µm,1.0s,SNR=7.9
IELO Elcoad 9.21 43 P **Pn 01 40 01.1 +1.5**
comp=E,493nm,0.4s,SNR=7.9
IELO S Sn 01 41 36.9 -6.0
comp=E,5µm,0.4s,SNR=7.9
IELO Elcoad 9.21 43 P **Pn 01 40 01.1 +1.5**
comp=E,493nm,0.4s,SNR=7.9
EIBI Ibiza 9.23 70 P **Pn 01 40 01.0 +1.2**
comp=E,28nm,0.1s,SNR=60
EIBI S Sn 01 41 35.6 -7.7
comp=E,4µm,0.7s,SNR=18
EIBI Ibiza 9.23 70 P **Pn 01 40 01.0 +1.2**
comp=E,28nm,0.1s,SNR=60
ELIZ Elizondo 9.27 41 P **Pn 01 40 01.5 +1.2**
comp=E,660nm,0.4s,SNR=600
ELIZ S Sn 01 41 33.5 -11
comp=E,244nm,0.2s,SNR=7.9
ELIZ Elizondo 9.27 41 P **Pn 01 40 01.5 +1.2**
comp=E,660nm,0.4s,SNR=600
EALK Alkurruntz 9.32 41 ⇑P **Pn 01 40 02.0 +1.1**
comp=E,320nm,0.3s,SNR=18
EALK S Sn 01 41 39.5 -5.9
comp=E,11µm,0.6s,SNR=14
EALK Alkurruntz 9.32 41 P **Pn 01 40 02.0 +1.1**
comp=E,320nm,0.3s,SNR=18
SJPF Ste Jean 9.40 42 *e*P **Pn 01 40 03.5 +1.5**
SJPF *e*Sn Sn 01 41 35.3 -12
comp=E,4µm,0.5s
SJPF Ste Jean 9.40 42 *e*P **Pn 01 40 03.5 +1.5**
SJPF Ste Jean 9.40 42 *e*P **Pn 01 40 03.5 +1.5**
SJPF *e*Sn Sn 01 41 35.3 -12
SJPF Ste Jean 9.40 42 *e*P **Pn 01 40 03.5 +1.5**
SJPF *e*Sn Sn 01 41 35.3 -12
OSSF Osses 9.48 41 *e*P **Pn 01 40 04.4 +1.3**
OSSF Osses 9.48 41 *e*P **Pn 01 40 04.4 +1.3**
LARF Larrau 9.48 43 *e*P **Pn 01 40 04.8 +1.6**
LARF Larrau 9.48 43 *e*P **Pn 01 40 04.8 +1.6**
EBAJ Bajamar 9.60 217 P Pn 01 39 59.9 -4.9
comp=E,30nm,0.2s,SNR=5.2
EBAJ S Sn 01 41 41.0 -11
comp=E,752nm,1.0s,SNR=6.9
ORDF Ordiarp 9.62 43 *e*P **Pn 01 40 06.4 +1.3**
ORDF Ordiarp 9.62 43 *e*P **Pn 01 40 06.4 +1.3**
ETSF Etsaut 9.63 45 *e*P **Pn 01 40 06.7 +1.4**
ETSF *e*Sn Sn 01 41 43.2 -10
comp=E,6µm,0.6s
ETSF Etsaut 9.63 45 *e*P **Pn 01 40 06.7 +1.4**
ETSF Etsaut 9.63 45 *e*P **Pn 01 40 06.7 +1.4**
ETSF *e*Sn Sn 01 41 43.2 -10
ETSF Etsaut 9.63 45 *e*P **Pn 01 40 06.7 +1.4**
ETSF *e*Sn Sn 01 41 43.2 -10
EOSO Osorio 9.64 212 P **Pn 01 40 03.1 -2.4**
comp=E,5.0nm,0.1s,SNR=8.6
EOSO S Sn 01 41 42.4 -11
comp=E,800nm,0.7s,SNR=7.0
EOSO Osorio 9.64 212 P **Pn 01 40 03.1 -2.4**
comp=E,5.0nm,0.1s,SNR=8.6
ATE Arette 9.67 44 *e*P **Pn 01 40 07.2 +1.4**
ATE Arette 9.67 44 P **Pn 01 40 07.2 +1.4**
comp=E,148nm,0.2s,SNR=7.9
EBIE Bielsa 9.91 48 P **Pn 01 40 09.5 +0.2**
comp=E,156nm,0.2s,SNR=276
EBIE S Sn 01 41 53.0 -7.4
comp=E,5µm,0.6s,SNR=22
EBIE Bielsa 9.91 48 P **Pn 01 40 09.5 +0.2**
comp=E,156nm,0.2s,SNR=276
CICO Icod de los Vi 9.94 218 S Sn 01 41 49.9 -11
comp=E,7.2nm,0.3s,SNR=7.9
CRAJ Montana Rajada 9.95 217 S Sn 01 41 49.7 -12
comp=E,1µm,0.3s,SNR=5.9
CCAN Las Canadas 9.99 217 P Pn 01 40 05.8 -4.6
comp=E,6.1nm,0.2s,SNR=22
CCAN S Sn 01 41 49.3 -13
comp=E,363nm,1.0s,SNR=4.7
RESF Ens 10.10 48 *e*P **Pn 01 40 12.9 +1.1**
RESF Ens 10.10 48 *e*P **Pn 01 40 12.9 +1.1**
EPF Esparros 10.23 47 *e*P **Pn 01 40 15.2 +1.7**
EPF *e*Sn Sn 01 41 55.6 -12
comp=E,6µm,0.5s
EPF Esparros 10.23 47 *e*P **Pn 01 40 15.2 +1.7**
EPF Esparros 10.23 47 *e*P **Pn 01 40 15.2 +1.7**
EPF *e*Sn Sn 01 41 55.6 -12
EPF Esparros 10.23 47 *e*P **Pn 01 40 15.2 +1.7**
EPF *e*Sn Sn 01 41 55.6 -12
EMHD Djebel Mahouad 10.33 88 P **Pn 01 40 16.0 +1.0**
EMHD Djebel Mahouad 10.33 88 P **Pn 01 40 16.0 +1.0**
EMHD Djebel Mahouad 10.33 88 P **Pn 01 40 16.0 +1.0**
EHIG Higuera 10.34 223 P **Pn 01 40 12.8 -2.3**
comp=E,90nm,0.4s,SNR=7.9
EHIG S Sn 01 41 58.7 -12
comp=E,500nm,0.3s,SNR=6.2
EHIG Higuera 10.34 223 P **Pn 01 40 12.8 -2.3**
comp=E,90nm,0.4s,SNR=7.9
EGOM La Gomera 10.34 219 P Pn 01 40 10.1 -4.9
comp=E,11nm,0.2s,SNR=6.5
EGOM S Sn 01 41 57.8 -13
comp=E,806nm,0.7s,SNR=5.4
CSOR Sort 10.35 52 P **Pn 01 40 15.0 -0.2**
comp=E,284nm,0.5s,SNR=230
CSOR S Sn 01 42 04.5 -6.5
comp=E,4µm,0.5s,SNR=12
CSOR Sort 10.35 52 P **Pn 01 40 15.0 -0.2**
comp=E,284nm,0.5s,SNR=230
ABA Alger-Bouzarea 10.36 84 P **Pn 01 40 15.2 -0.1**
ABA Alger-Bouzarea 10.36 84 P **Pn 01 40 15.2 -0.1**
ABA Alger-Bouzarea 10.36 84 P **Pn 01 40 15.2 -0.1**
EMIR Miracle 10.38 55 P **Pn 01 40 15.2 -0.3**
comp=E,223nm,0.5s,SNR=162
EMIR S Sn 01 42 05.0 -6.6
comp=E,2µm,0.7s,SNR=6.8
EMIR Miracle 10.38 55 P **Pn 01 40 15.2 -0.3**
comp=E,223nm,0.5s,SNR=162
MELF Melles 10.39 49 *e*P **Pn 01 40 16.7 +1.0**
MELF Melles 10.39 49 *e*P **Pn 01 40 16.7 +1.0**
ETOS Mallorca 10.51 68 ⇓P **Pn 01 40 18.3 +0.9**
comp=E,177nm,0.5s,SNR=18
ETOS S Sn 01 42 08.8 -6.1
comp=E,1µm,0.8s,SNR=8.9
ETOS Mallorca 10.51 68 P **Pn 01 40 18.3 +0.9**
comp=E,177nm,0.5s,SNR=18
MLS Moulis 10.64 49 *e*P **Pn 01 40 20.5 +1.4**
MLS Moulis 10.64 49 *e*P **Pn 01 40 20.5 +1.4**
ADJB Djebel Djouab 10.73 88 P **Pn 01 40 21.7 +1.3**
ADJB Djebel Djouab 10.73 88 P **Pn 01 40 21.7 +1.3**
ADJB Djebel Djouab 10.73 88 P **Pn 01 40 21.7 +1.3**
CFON Fontmartina 10.92 57 P **Pn 01 40 23.5 +0.6**
comp=E,65nm,0.3s,SNR=108
CFON S Sn 01 42 18.6 -6.3
comp=E,933nm,0.5s,SNR=7.9
CFON Fontmartina 10.92 57 P **Pn 01 40 23.5 +0.6**
comp=E,65nm,0.3s,SNR=108
VALF Valcebollere 10.93 53 *e*P **Pn 01 40 24.0 +0.8**
VALF Valcebollere 10.93 53 *e*P **Pn 01 40 24.0 +0.8**
CLLI Llivia 10.94 53 P **Pn 01 40 24.4 +1.1**
comp=E,284nm,0.8s,SNR=245
CLLI S Sn 01 42 18.6 -6.9
comp=E,7µm,1.1s,SNR=5.6
CLLI Llivia 10.94 53 P **Pn 01 40 24.4 +1.1**
comp=E,284nm,0.8s,SNR=245
CTIG El Hierro 11.01 221 P Pn 01 40 20.1 -4.0
comp=E,13nm,0.3s,SNR=7.9
CTIG S Sn 01 42 14.7 -12
comp=E,472nm,0.7s,SNR=7.9
CHIE El Hierro 11.08 221 S Sn 01 42 16.5 -12
comp=E,68nm,0.4s,SNR=6.2
AKET Djebel Ketaf 11.10 88 P Pn 01 40 29.1 +3.7
AKET Djebel Ketaf 11.10 88 P Pn 01 40 29.1 +3.7
AKET Djebel Ketaf 11.10 88 P Pn 01 40 29.1 +3.7
CARF Carcanieres 11.14 52 *e*P **Pn 01 40 28.0 +2.0**
CARF Carcanieres 11.14 52 *e*P **Pn 01 40 28.0 +2.0**
FILF Fillols 11.36 54 *e*P **Pn 01 40 28.8 -0.2**
FILF Fillols 11.36 54 *e*P **Pn 01 40 28.8 -0.2**
EJON La Jonquera 11.52 55 P **Pn 01 40 32.2 +1.1**
comp=E,6.4nm,0.2s,SNR=7.9
EJON La Jonquera 11.52 55 P **Pn 01 40 32.2 +1.1**
comp=E,6.4nm,0.2s,SNR=7.9
LRDF Laroque-de-Fa 11.53 52 *e*P **Pn 01 40 31.3 +0.1**
LRDF Laroque-de-Fa 11.53 52 *e*P **Pn 01 40 31.3 +0.1**
SJAF Saint Jean de 11.54 55 *e*P **Pn 01 40 31.6 +0.3**
SJAF Saint Jean de 11.54 55 P **Pn 01 40 32.0 +0.7**
comp=E,50nm,0.2s,SNR=7.9
MTLF Montolieu 11.54 50 *e*P **Pn 01 40 31.5 +0.2**
MTLF *e*Sn Sn 01 42 25.0 -15
comp=E,2µm,0.6s
MTLF Montolieu 11.54 50 *e*P **Pn 01 40 31.5 +0.2**
MTLF Montolieu 11.54 50 *e*P **Pn 01 40 31.5 +0.2**
MTLF *e*Sn Sn 01 42 25.0 -15
MTLF Montolieu 11.54 50 *e*P **Pn 01 40 31.5 +0.2**
MTLF *e*Sn Sn 01 42 25.0 -15
MAHO Mahon 11.63 69 P **Pn 01 40 33.9 +1.3**
MAHO Mahon 11.63 69 P **Pn 01 40 33.9 +1.3**
LFF La Frestale 11.68 40 *e*P **Pn 01 40 33.4 +0.2**
LFF *e*Sn Sn 01 42 32.6 -11
comp=E,2µm,0.6s
LFF La Frestale 11.68 40 *e*P **Pn 01 40 33.4 +0.2**
LFF La Frestale 11.68 40 *e*P **Pn 01 40 33.4 +0.2**
LFF *e*Sn Sn 01 42 32.6 -11
LFF La Frestale 11.68 40 *e*P **Pn 01 40 33.4 +0.2**
LFF *e*Sn Sn 01 42 32.6 -11
PSMN Pico do Norte, 12.23 277 *e*P Pn 01 40 35.7 -5.1
comp=E,40nm,0.5s
PSMN *e*S Sn 01 42 42.7 -14
PSMN Pico do Norte, 12.23 277 *e*T T 01 53 32.8
PSMN Pico do Norte, 12.23 277 *e*P Pn 01 40 35.7 -5.1
comp=E,40nm,0.5s
LCHF La Chataignera 12.27 31 *e*P **Pn 01 40 41.2 -0.1**
LCHF La Chataignera 12.27 31 *e*P **Pn 01 40 41.2 -0.1**
PSMA Santa Maria 12.28 277 *e*P Pn 01 40 36.3 -5.2
comp=E,33nm,0.4s
PSMA *e*S Sn 01 42 43.3 -15
PSMA Santa Maria 12.28 277 *e*T T 01 53 34.5
SET Setif 12.30 87 P **Pn 01 40 44.6 +2.7**
SET Setif 12.30 87 P **Pn 01 40 44.6 +2.7**
SET Setif 12.30 87 P **Pn 01 40 44.6 +2.7**
BART Pico Bartolome 12.31 281 *e*P Pn 01 40 45.8 +3.9
comp=E,115nm,0.6s
BART *e*S Sn 01 42 44.2 -15
BART Pico Bartolome 12.31 281 *e*T T 01 53 30.1
RJF Les Rejaudoux 12.33 41 *e*Pn **Pn 01 40 40.4 -1.7**
RJF *e*Sn Sn 01 42 47.3 -12
comp=E,2µm,0.6s
RJF *e*R
comp=E,8µm,20.8s
RJF Les Rejaudoux 12.33 41 *e*P **Pn 01 40 40.4 -1.7**
RJF Les Rejaudoux 12.33 41 *e*Pn **Pn 01 40 40.4 -1.7**
RJF *e*Sn Sn 01 42 47.3 -12
RJF Les Rejaudoux 12.33 41 *e*Pn **Pn 01 40 40.4 -1.7**
RJF *e*Sn Sn 01 42 47.3 -12
CAF Calviac 12.38 43 *e*Pn **Pn 01 40 42.1 -0.7**
CAF *e*Sn Sn 01 42 48.6 -12
comp=E,3µm,0.6s
CAF Calviac 12.38 43 *e*P **Pn 01 40 42.1 -0.7**
CAF Calviac 12.38 43 *e*Pn **Pn 01 40 42.1 -0.7**
CAF *e*Sn Sn 01 42 48.6 -12
CAF Calviac 12.38 43 *e*Pn **Pn 01 40 42.1 -0.7**
CAF *e*Sn Sn 01 42 48.6 -12
CKHR Kef el Ahmar 12.41 87 P **Pn 01 40 45.6 +2.2**
CKHR Kef el Ahmar 12.41 87 P **Pn 01 40 45.6 +2.2**
CKHR Kef el Ahmar 12.41 87 P **Pn 01 40 45.6 +2.2**
MFF Saint Martin d 12.47 33 *e*P **Pn 01 40 43.0 -1.1**
MFF *e*Sn Sn 01 42 51.2 -12
comp=E,2µm,0.7s
MFF Saint Martin d 12.47 33 *e*P **Pn 01 40 43.0 -1.1**
MFF Saint Martin d 12.47 33 *e*P **Pn 01 40 43.0 -1.1**
MFF *e*Sn Sn 01 42 51.2 -12
MFF Saint Martin d 12.47 33 *e*P **Pn 01 40 43.0 -1.1**
MFF *e*Sn Sn 01 42 51.2 -12
QUIF Quistinic 12.48 21 *e*P **Pn 01 40 43.0 -1.2**
QUIF *e*Sn Sn 01 42 50.5 -12
comp=E,1µm,0.6s
QUIF Quistinic 12.48 21 *e*P **Pn 01 40 43.0 -1.2**
QUIF Quistinic 12.48 21 *e*P **Pn 01 40 43.0 -1.2**
QUIF *e*Sn Sn 01 42 50.5 -12
QUIF Quistinic 12.48 21 P **Pn 01 40 43.0 -1.2**
QUIF *e*Sn Sn 01 42 50.5 -12
CMLA Cha da Macela 12.59 281 *e*P Pn 01 40 40.6 -5.1
comp=E,83nm,0.8s
CMLA *e*S Sn 01 42 52.1 -14
CMLA Cha da Macela 12.59 281 *e*T T 01 53 54.1
CMLA Cha da Macela 12.59 281 *e*P **Pn 01 40 43.9 -1.8**
CMLA Cha da Macela 12.59 281 *e*Pn **Pn 01 40 43.9 -1.8**
CMLA Cha da Macela 12.59 281 *e*P Pn 01 40 40.6 -5.1
comp=E,83nm,0.8s
CMLA Cha da Macela 12.59 281 *e*Pn **Pn 01 40 43.9 -1.8**
PDA Ponta Delgada 12.70 281 *e*T T 01 53 59.3
PSET Sete Cidades 12.75 281 *e*P Pn 01 40 43.8 -4.1
comp=E,44nm,0.4s
PSET *e*S Sn 01 42 55.9 -14
PSET Sete Cidades 12.75 281 *e*T T 01 53 49.0
PSET Sete Cidades 12.75 281 *e*P Pn 01 40 43.8 -4.1
comp=E,44nm,0.4s
ROSF Rostrenen 12.83 20 *e*P **Pn 01 40 48.4 -0.6**
ROSF *e*Sn Sn 01 42 59.2 -12
comp=E,724nm,0.6s
ROSF Rostrenen 12.83 20 *e*P **Pn 01 40 48.4 -0.6**
ROSF Rostrenen 12.83 20 *e*P **Pn 01 40 48.4 -0.6**
ROSF *e*Sn Sn 01 42 59.2 -12
ROSF Rostrenen 12.83 20 *e*P **Pn 01 40 48.4 -0.6**
ROSF *e*Sn Sn 01 42 59.2 -12
LASF Ste Croix 12.94 50 *e*P **Pn 01 40 51.0 +0.5**
LASF *e*Sn Sn 01 42 58.4 -16
comp=E,3µm,0.8s
LASF Ste Croix 12.94 50 *e*P **Pn 01 40 51.0 +0.5**
LASF *e*Sn Sn 01 42 58.4 -16
LASF Ste Croix 12.94 50 *e*P **Pn 01 40 51.0 +0.5**
LASF *e*Sn Sn 01 42 58.4 -16
FRNF Fournols 12.94 43 *e*P **Pn 01 40 49.7 -0.9**
FRNF Fournols 12.94 43 *e*P **Pn 01 40 49.7 -0.9**
SGMF Saint Gilles 12.97 22 *e*P **Pn 01 40 50.0 -0.8**
SGMF *e*Sn Sn 01 43 00.8 -14
comp=E,954nm,0.8s
SGMF Saint Gilles 12.97 22 *e*P **Pn 01 40 50.0 -0.8**
SGMF Saint Gilles 12.97 22 *e*P **Pn 01 40 50.0 -0.8**
SGMF *e*Sn Sn 01 43 00.8 -14
SGMF Saint Gilles 12.97 22 *e*P **Pn 01 40 50.0 -0.8**
SGMF *e*Sn Sn 01 43 00.8 -14
CTEI Djebel Teioual 13.13 87 P **Pn 01 40 55.5 +2.3**
CTEI Djebel Teioual 13.13 87 P **Pn 01 40 55.5 +2.3**
CTEI Djebel Teioual 13.13 87 P **Pn 01 40 55.5 +2.3**
VERF Verneugheol 13.13 41 *e*P **Pn 01 40 52.8 -0.4**
VERF Verneugheol 13.13 41 *e*P **Pn 01 40 52.8 -0.4**
CASM Ain Smara 13.17 86 P **Pn 01 40 54.9 +1.1**
CASM Ain Smara 13.17 86 P **Pn 01 40 54.9 +1.1**
CASM Ain Smara 13.17 86 P **Pn 01 40 54.9 +1.1**
LBL Lubilhac 13.23 44 *e*P **Pn 01 40 54.2 -0.3**
LBL Lubilhac 13.23 44 *e*P **Pn 01 40 54.2 -0.3**
CKFL Kef-Lekhel 13.35 85 P **Pn 01 40 57.3 +1.1**
CKFL Kef-Lekhel 13.35 85 P **Pn 01 40 57.3 +1.1**
CKFL Kef-Lekhel 13.35 85 P **Pn 01 40 57.3 +1.1**
TCF Toulx Ste Croi 13.35 39 ⇓*i*P **Pn 01 40 55.7 -0.4**
TCF *e*Sn Sn 01 43 11.1 -13
comp=E,1µm,0.6s
TCF Toulx Ste Croi 13.35 39 ⇓*i*P **Pn 01 40 55.7 -0.4**
TCF Toulx Ste Croi 13.35 39 ⇓*i*P **Pn 01 40 55.7 -0.4**
TCF *e*Sn Sn 01 43 11.1 -13
TCF Toulx Ste Croi 13.35 39 ⇓*i*P **Pn 01 40 55.7 -0.4**
TCF *e*Sn Sn 01 43 11.1 -13
CAEH 'Ain El Ouahch 13.42 84 P **Pn 01 40 59.4 +2.3**
CAEH 'Ain El Ouahch 13.42 84 P **Pn 01 40 59.4 +2.3**
CAEH 'Ain El Ouahch 13.42 84 P **Pn 01 40 59.4 +2.3**
GELF Grande-Etoile 13.61 55 *e*P **Pn 01 41 00.3 +0.7**
GELF Grande-Etoile 13.61 55 *e*P **Pn 01 41 00.3 +0.7**
GRR Gorron 13.65 26 *e*P **Pn 01 40 58.8 -1.3**
GRR *e*Sn Sn 01 43 19.8 -12
comp=E,814nm,0.5s
GRR Gorron 13.65 26 *e*P **Pn 01 40 58.8 -1.3**
GRR Gorron 13.65 26 *e*P **Pn 01 40 58.8 -1.3**
GRR *e*Sn Sn 01 43 19.8 -12
AGO Saint Agoulin 13.68 41 *e*P **Pn 01 40 59.7 -0.8**
AGO Saint Agoulin 13.68 41 *e*P **Pn 01 40 59.7 -0.8**
TREF Trevaresse 13.69 54 *e*P **Pn 01 41 01.8 +1.1**
TREF Trevaresse 13.69 54 *e*P **Pn 01 41 01.8 +1.1**
VIVF Saint-Julien-I 13.85 48 *e*P **Pn 01 41 02.1 -0.8**
VIVF *e*Sn Sn 01 43 17.2 -19
comp=E,1µm,0.7s
VIVF Saint-Julien-I 13.85 48 *e*P **Pn 01 41 02.1 -0.8**
VIVF Saint-Julien-I 13.85 48 *e*P **Pn 01 41 02.1 -0.8**
VIVF *e*Sn Sn 01 43 17.2 -19
VIVF Saint-Julien-I 13.85 48 *e*P **Pn 01 41 02.1 -0.8**
VIVF *e*Sn Sn 01 43 17.2 -19
LEPF PUYLOUBIER 13.85 55 *e*P **Pn 01 41 03.8 +0.9**
LEPF PUYLOUBIER 13.85 55 *e*P **Pn 01 41 03.8 +0.9**
BGF Bois d'Agland 13.86 39 *e*P **Pn 01 41 02.5 -0.5**
BGF *e*Sn Sn 01 43 24.1 -13
comp=E,4µm,0.6s
BGF Bois d'Agland 13.86 39 *e*P **Pn 01 41 02.5 -0.5**
BGF Bois d'Agland 13.86 39 *e*P **Pn 01 41 02.5 -0.5**
BGF *e*Sn Sn 01 43 24.1 -13
BGF Bois d'Agland 13.86 39 *e*P **Pn 01 41 02.5 -0.5**
BGF *e*Sn Sn 01 43 24.1 -13
PLDF La Plantade 13.89 43 *e*P **Pn 01 41 02.8 -0.7**
PLDF La Plantade 13.89 43 *e*P **Pn 01 41 02.8 -0.7**
CMAH Djebel Manchou 13.89 84 P **Pn 01 41 05.6 +2.1**
CMAH Djebel Manchou 13.89 84 P **Pn 01 41 05.6 +2.1**
CMAH Djebel Manchou 13.89 84 P **Pn 01 41 05.6 +2.1**
JRS Jersey 13.94 22 *e*P **Pn 01 41 03.4 -0.7**
JRS Jersey 13.94 22 *e*P **Pn 01 41 03.4 -0.7**
JQE Queens East 13.97 22 *e*P **Pn 01 41 04.0 -0.4**
JQE Queens East 13.97 22 *e*P **Pn 01 41 04.0 -0.4**
ABSA Djebel Ababsia 13.97 86 P Pn 01 41 01.4 -3.2
CABS Djebel Ababsia 13.97 86 P Pn 01 41 01.4 -3.2
SMRF Simiane la Rot 13.97 53 *e*P **Pn 01 41 05.2 +0.7**
SMRF *e*Sn Sn 01 43 28.1 -11
comp=E,2µm,1.2s
SMRF Simiane la Rot 13.97 53 *e*P **Pn 01 41 05.2 +0.7**
SMRF *e*Sn Sn 01 43 28.1 -11
SMRF Simiane la Rot 13.97 53 *e*P **Pn 01 41 05.2 +0.7**
SMRF *e*Sn Sn 01 43 28.1 -11
ADH Angra Heroismo 13.97 284 *e*P **Pn 01 41 01.7 -2.9**
comp=E,94nm,0.4s
ADH Angra Heroismo 13.97 284 *e*T T 01 55 04.3
ADH Angra Heroismo 13.97 284 *e*P **Pn 01 41 01.7 -2.9**
comp=E,94nm,0.4s
SSB Saint Sauveur 14.00 46 *e*P **Pn 01 41 05.1 +0.1**
SSB Saint Sauveur 14.00 46 *e*P **Pn 01 41 05.3 +0.3**
SSB Saint Sauveur 14.00 46 *e*Pn **Pn 01 41 05.3 +0.3**
SSB *e*S Sn 01 43 30.8 -9.3
SSB Saint Sauveur 14.00 46 *e*Pn **Pn 01 41 05.3 +0.3**
SSB *e*S Sn 01 43 30.8 -9.3
LDF La Druitiere 14.09 27 *e*P **Pn 01 41 05.1 -1.0**
LDF *e*Sn Sn 01 43 28.2 -14
comp=E,754nm,0.6s
LDF La Druitiere 14.09 27 *e*P **Pn 01 41 05.1 -1.0**
LDF La Druitiere 14.09 27 *e*P **Pn 01 41 05.1 -1.0**
LDF *e*Sn Sn 01 43 28.2 -14
LDF La Druitiere 14.09 27 *e*P **Pn 01 41 05.1 -1.0**
LDF *e*Sn Sn 01 43 28.2 -14
FLN La Foliniere 14.10 26 *e*P **Pn 01 41 05.1 -1.1**
baz=207
FLN *e*Sn Sn 01 43 28.3 -14
comp=E,771nm,0.7s
FLN *e*R
comp=E,10µm,19.0s
FLN La Foliniere 14.10 26 *e*P **Pn 01 41 05.1 -1.1**
FLN La Foliniere 14.10 26 *e*P **Pn 01 41 05.1 -1.1**
FLN *e*Sn Sn 01 43 28.3 -14
TAVF Tavernes 14.12 55 *e*P **Pn 01 41 08.0 +1.3**
STOF St-Etienne Org 14.19 53 *e*P **Pn 01 41 08.2 +0.6**
HYF Humbligny 14.25 37 *e*P **Pn 01 41 08.2 -0.1**
HYF *e*Sn Sn 01 43 33.5 -13
HYF Humbligny 14.25 37 *e*P **Pn 01 41 08.2 -0.1**
HYF *e*Sn Sn 01 43 33.5 -13
HYF Humbligny 14.25 37 *e*P **Pn 01 41 08.2 -0.1**
HYF *e*Sn Sn 01 43 33.5 -13
AVF Avril sur Loir 14.27 40 *e*P **Pn 01 41 07.8 -0.9**
AVF *e*Sn Sn 01 43 34.9 -12
comp=E,1µm,0.8s
AVF Avril sur Loir 14.27 40 *e*P **Pn 01 41 07.8 -0.9**
AVF Avril sur Loir 14.27 40 *e*P **Pn 01 41 07.8 -0.9**
AVF *e*Sn Sn 01 43 34.9 -12
AVF Avril sur Loir 14.27 40 *e*P **Pn 01 41 07.8 -0.9**
AVF *e*Sn Sn 01 43 34.9 -12
LMR La Mourre 14.31 56 *e*Pn Pn 01 41 06.1 -3.0
LMR *e*Sn Sn 01 43 35.6 -12
comp=E,388nm,0.7s
LMR La Mourre 14.31 56 *e*P Pn 01 41 06.1 -3.0
LMR La Mourre 14.31 56 *e*Pn Pn 01 41 06.1 -3.0
LMR *e*Sn Sn 01 43 35.6 -12
LMR La Mourre 14.31 56 *e*Pn Pn 01 41 06.1 -3.0
LMR *e*Sn Sn 01 43 35.6 -12
SMF Signal de Mont 14.43 41 *e*P **Pn 01 41 10.1 -0.8**
SMF *e*Sn Sn 01 43 37.5 -13
comp=E,610nm,0.7s
SMF Signal de Mont 14.43 41 *e*P **Pn 01 41 10.1 -0.8**
SMF Signal de Mont 14.43 41 *e*P **Pn 01 41 10.1 -0.8**
SMF *e*Sn Sn 01 43 37.5 -13
SMF Signal de Mont 14.43 41 *e*P **Pn 01 41 10.1 -0.8**
SMF *e*Sn Sn 01 43 37.5 -13
FRF La Foret Royal 14.49 56 *e*Pn Pn 01 41 08.3 -3.4
FRF *e*Sn Sn 01 43 39.5 -13
comp=E,294nm,0.7s
FRF La Foret Royal 14.49 56 *e*P Pn 01 41 08.3 -3.4
FRF La Foret Royal 14.49 56 *e*Pn Pn 01 41 08.3 -3.4
FRF *e*Sn Sn 01 43 39.5 -13
FRF La Foret Royal 14.49 56 *e*Pn Pn 01 41 08.3 -3.4
FRF *e*Sn Sn 01 43 39.5 -13
SSF Saint Saulge 14.53 39 *e*P **Pn 01 41 11.4 -0.8**
SSF *e*Sn Sn 01 43 38.7 -14
comp=E,689nm,0.5s
SSF Saint Saulge 14.53 39 *e*P **Pn 01 41 11.4 -0.8**
SSF Saint Saulge 14.53 39 *e*P **Pn 01 41 11.4 -0.8**
SSF *e*Sn Sn 01 43 38.7 -14
SSF Saint Saulge 14.53 39 *e*P **Pn 01 41 11.4 -0.8**
SSF *e*Sn Sn 01 43 38.7 -14
PGRA Graciosa 14.58 286 *e*P **Pn 01 41 10.8 -2.1**
comp=E,90nm,0.6s
PGRA Graciosa 14.58 286 *e*T T 01 56 13.5
ORIF Oris-en-Rattie 14.61 50 *e*P **Pn 01 41 13.8 +0.4**
ORIF *e*Sn Sn 01 43 43.2 -12
comp=E,945nm,1.0s
ORIF *e*R
comp=E,7µm,20.2s
ORIF Oris-en-Rattie 14.61 50 *e*P **Pn 01 41 13.8 +0.4**
ORIF Oris-en-Rattie 14.61 50 *e*P **Pn 01 41 13.8 +0.4**
ORIF *e*Sn Sn 01 43 43.2 -12
ORIF Oris-en-Rattie 14.61 50 *e*P **Pn 01 41 13.8 +0.4**
ORIF *e*Sn Sn 01 43 43.2 -12
DYA Yadsworthy 14.62 15 *e*P **Pn 01 41 11.9 -1.5**
DYA AMB AMB 01 41 15.5
comp=Z,243nm,1.0s
DYA *e*S Sn 01 43 41.2 -14
DYA AMS AMS 01 46 06.7
comp=Z,6µm,20.4s
DYA Yadsworthy 14.62 15 *e*P **Pn 01 41 11.9 -1.5**
DYA *e*S Sn 01 43 41.2 -14
PMAN Manadas 14.64 284 *e*P **P 01 41 19.4 -0.6**
comp=Z,126nm,0.8s
PMAN *e*S Sn 01 43 33.3 -22
PMAN Manadas 14.64 284 *e*P **P 01 41 19.4 -0.6**
comp=Z,126nm,0.8s
GRN Grenoble 14.70 48 *e*P **Pn 01 41 16.7 +2.2**
CALN Calern 14.73 55 *e*P **Pn 01 41 15.8 +0.8**
ROSA Rosais 14.76 284 *e*P **Pn 01 41 12.5 -2.9**
comp=Z,71nm,0.4s
ROSA *e*S Sn 01 43 42.9 -16
LOR Lormes 14.85 39 *e*P **Pn 01 41 15.6 -1.0**
baz=225
LOR *e*Sn Sn 01 43 46.0 -15
comp=Z,673nm,0.7s
LOR *e*R
comp=Z,4µm,23.2s
LOR Lormes 14.85 39 *e*P **Pn 01 41 15.6 -1.0**
LOR *e*Sn Sn 01 43 46.0 -15
LOR Lormes 14.85 39 *e*P **Pn 01 41 15.6 -1.0**
LOR *e*Sn Sn 01 43 46.0 -15
PICO Pico 14.90 284 *e*P **Pn 01 41 14.8 -2.5**

GDM	**Grand'Maison**	**14.90**	**49**	*e*P	**Pn**	**01 41 18.7 +1.3**	
MVIF	**Mont Vial**	**14.96**	**55**	*e*P	**Pn**	**01 41 20.0 +1.8**	
SURF	**Saint Ours**	**14.99**	**53**	*e*P	**Pn**	**01 41 19.4 +0.8**	
REVF	**Revere**	**15.04**	**56**	*e*P	**Pn**	**01 41 18.9 -0.3**	
HTL	**Hartland**	**15.05**	**13**	*e*P	**Pn**	**01 41 18.8 -0.3**	
HTL				*e*S	Sn	01 43 50.8 -15	
HTL				AMS	AMS	01 46 05.0	
	comp=Z,6µm,24.6s						
HTL	**Hartland**	**15.05**	**13**	*e*P	**Pn**	**01 41 18.8 -0.3**	
HTL				*e*S	Sn	01 43 50.8 -15	
TOUF	**Mont Tournerai**	**15.07**	**55**	*e*P	**Pn**	**01 41 20.6 +0.9**	
MBDF	**Montbardon**	**15.08**	**52**	*e*P	**Pn**	**01 41 20.1 +0.4**	
MBDF				*e*Sn	Sn	01 43 53.4 -13	
	comp=Z,542nm,0.9s						
MBDF	**Montbardon**	**15.08**	**52**	*e*P	**Pn**	**01 41 20.1 +0.4**	
MBDF	**Montbardon**	**15.08**	**52**	*e*P	**Pn**	**01 41 20.1 +0.4**	
MBDF				*e*Sn	Sn	01 43 53.4 -13	
MBDF	**Montbardon**	**15.08**	**52**	*e*P	**Pn**	**01 41 20.1 +0.4**	
MBDF				*e*Sn	Sn	01 43 53.4 -13	
SBF	**Sospel**	**15.13**	**55**	*e*P	**Pn**	**01 41 21.5 +1.1**	
SBF				*e*Sn	Sn	01 43 55.8 -12	
	comp=Z,800nm,0.8s						
SBF	**Sospel**	**15.13**	**55**	*e*P	**Pn**	**01 41 21.5 +1.1**	
SBF	**Sospel**	**15.13**	**55**	*e*P	**Pn**	**01 41 21.5 +1.1**	
SBF				*e*Sn	Sn	01 43 55.8 -12	
SBF	**Sospel**	**15.13**	**55**	*e*P	**Pn**	**01 41 21.5 +1.1**	
SBF				*e*Sn	Sn	01 43 55.8 -12	
BNI	**Bardonecchia**	**15.17**	**50**	*e*P	**Pn**	**01 41 22.5 +1.5**	
BNI				pmax	pmax		
	comp=Z,104nm,1.1s						
BNI	**Bardonecchia**	**15.17**	**50**	*e*Pn	**Pn**	**01 41 22.5 +1.5**	
	comp=Z,104nm,1.1s						
BNI				*e*Sn	Sn	01 43 56.9 -12	
BNI	**Bardonecchia**	**15.17**	**50**	*e*Pn	**Pn**	**01 41 22.5 +1.5**	
	comp=Z,104nm,1.1s						
BNI				*e*Sn	Sn	01 43 56.9 -12	
AUTN	**L'Aution**	**15.18**	**55**	*e*P	**Pn**	**01 41 23.7 +2.5**	
HEX	**Exmoor**	**15.25**	**15**	*e*P	**Pn**	**01 41 20.6 -1.3**	
HEX	**Exmoor**	**15.25**	**15**	*e*P	**Pn**	**01 41 20.5 -1.3**	
SAOF	**Saorge**	**15.26**	**55**	*e*P	**Pn**	**01 41 24.1 +2.0**	
LPL	**La Plagne**	**15.43**	**49**	*e*P	**Pn**	**01 41 25.5 +1.0**	
LPL				*e*Sn	Sn	01 44 02.0 -13	
	comp=Z,1µm,1.4s						
LPL	**La Plagne**	**15.43**	**49**	*e*P	**Pn**	**01 41 25.5 +1.0**	
LPL	**La Plagne**	**15.43**	**49**	*e*P	**Pn**	**01 41 25.5 +1.0**	
LPL				*e*Sn	Sn	01 44 02.0 -13	
LPL	**La Plagne**	**15.43**	**49**	*e*P	**Pn**	**01 41 25.5 +1.0**	
LPL				*e*Sn	Sn	01 44 02.0 -13	
LPG	**La Plagne**	**15.44**	**49**	*e*P	**Pn**	**01 41 25.9 +1.3**	
LPG				*e*Sn	Sn	01 44 00.8 -15	
	comp=Z,2µm,1.4s						
LPG	**La Plagne**	**15.44**	**49**	*e*P	**Pn**	**01 41 25.9 +1.3**	
LPG	**La Plagne**	**15.44**	**49**	*e*P	**Pn**	**01 41 25.9 +1.3**	
LPG				*e*Sn	Sn	01 44 00.8 -15	
LPG	**La Plagne**	**15.44**	**49**	*e*P	**Pn**	**01 41 25.9 +1.3**	
LPG				*e*Sn	Sn	01 44 00.8 -15	
VSL	**Villasalto**	**15.46**	**73**	*e*Pn	**Pn**	**01 41 27.2 +2.5**	
	comp=Z,270nm,1.1s						
VSL				*e*Sn	Sn	01 44 07.8 -8.0	
VSL	**Villasalto**	**15.46**	**73**	*e*Pn	**Pn**	**01 41 27.2 +2.5**	
	comp=Z,270nm,1.1s						
VSL				*e*Sn	Sn	01 44 07.8 -8.0	
VAL	**Valentia**	**15.50**	**359**	*e*P	**Pn**	**01 41 22.6 -2.4**	
VAL	**Valentia**	**15.50**	**359**	*i*/S	Sn	01 44 01.5 -15	
KEST	**Kesra**	**15.54**	**87**	*e*Pn	**Pn**	**01 41 27.7 +1.9**	
KEST				*e*S	**Sn**	**01 44 16.1 -1.6**	
KEST	**Kesra**	**15.54**	**87**	*e*Pn	**Pn**	**01 41 27.7 +1.9**	
KEST				*e*S	**Sn**	**01 44 16.1 -1.6**	
KEST	**Kesra**	**15.54**	**87**	Pn	**Pn**	**01 41 27.9 +2.1**	
	comp=Z,1.3nm,0.3s,baz=205,slow=9.2,SNR=41						
KEST				Sn	**Sn**	**01 44 20.2 +2.5**	
	comp=Z,0.5nm,0.3s,baz=56,slow=13,SNR=2.7						
CABF	**La Chapelle**	**15.64**	**45**	*e*P	**Pn**	**01 41 27.1 0.0**	
CABF				*e*Sn	Sn	01 44 09.3 -11	
	comp=Z,3µm,1.2s						
CABF	**La Chapelle**	**15.64**	**45**	*e*P	**Pn**	**01 41 27.1 0.0**	
CABF	**La Chapelle**	**15.64**	**45**	*e*P	**Pn**	**01 41 27.1 0.0**	
CABF				*e*Sn	Sn	01 44 09.3 -11	
CABF	**La Chapelle**	**15.64**	**45**	*e*P	**Pn**	**01 41 27.1 0.0**	
CABF				*e*Sn	Sn	01 44 09.3 -11	
PGF	**Pioggiola**	**15.76**	**61**	*e*P	**Pn**	**01 41 28.7 0.0**	
PGF				*e*Sn	Sn	01 44 10.6 -13	
	comp=Z,178nm,0.6s						
PGF	**Pioggiola**	**15.76**	**61**	*e*P	**Pn**	**01 41 28.7 0.0**	
PGF	**Pioggiola**	**15.76**	**61**	*e*P	**Pn**	**01 41 28.7 0.0**	
PGF				*e*Sn	Sn	01 44 10.6 -13	
PGF	**Pioggiola**	**15.76**	**61**	*e*P	**Pn**	**01 41 28.7 0.0**	
PGF				*e*Sn	Sn	01 44 10.6 -13	
SFTF	**Sexfontaines**	**16.07**	**38**	*e*P	**Pn**	**01 41 32.8 +0.3**	
	baz=214						
SFTF				*e*Sn	Sn	01 44 15.8 -15	
	comp=Z,1µm,1.1s						
SFTF	**Sexfontaines**	**16.07**	**38**	*e*P	**Pn**	**01 41 32.8 +0.3**	
SFTF				*e*Sn	Sn	01 44 15.8 -15	
SFTF	**Sexfontaines**	**16.07**	**38**	*e*P	**Pn**	**01 41 32.8 +0.3**	
SFTF				*e*Sn	Sn	01 44 15.8 -15	
SWN1	**Swindon**	**16.12**	**18**	*e*P	**Pn**	**01 41 34.8 +1.7**	
SWN1				AMB	AMB	01 41 47.9	
	comp=Z,274nm,1.5s						
SWN1				AMS	AMS	01 47 48.3	
	comp=Z,7µm,16.5s						
SWN1	**Swindon**	**16.12**	**18**	*e*P	**Pn**	**01 41 34.8 +1.7**	
HMNX	**Herstmonceux**	**16.17**	**24**	*e*P	**Pn**	**01 41 34.6 +0.9**	
HMNX				*e*S	Sn	01 44 20.2 -12	
HMNX				AMS	AMS	01 48 14.2	
	comp=Z,8µm,17.0s						
HMNX	**Herstmonceux**	**16.17**	**24**	*e*P	**Pn**	**01 41 34.6 +0.9**	
HMNX				*e*S	Sn	01 44 20.2 -12	
LPW	**Lampeter**	**16.20**	**13**	*e*P	**Pn**	**01 41 34.5 +0.5**	
LPW				AMB	AMB	01 41 45.3	
	comp=Z,1µm,1.0s						
LPW				AMS	AMS	01 46 33.3	
	comp=Z,61µm,22.0s						
LPW	**Lampeter**	**16.20**	**13**	*e*P	**Pn**	**01 41 34.5 +0.5**	
SENIN	**Lac Senin/Sane**	**16.21**	**47**	*e*Pn	**Pn**	**01 41 35.9 +1.4**	
	comp=Z,80nm,0.8s						
SENIN	**Lac Senin/Sane**	**16.21**	**47**	*e*Pn	**Pn**	**01 41 35.9 +1.4**	
	comp=Z,80nm,0.8s						
MEZF	**Maizieres J'vi**	**16.27**	**38**	*e*P	**Pn**	**01 41 35.8 +0.7**	
	baz=228						
MEZF				*e*Sn	Sn	01 44 17.6 -18	
	comp=Z,1µm,1.0s						
MEZF	**Maizieres J'vi**	**16.27**	**38**	*e*P	**Pn**	**01 41 35.8 +0.7**	
MEZF				*e*Sn	Sn	01 44 17.6 -18	
MEZF	**Maizieres J'vi**	**16.27**	**38**	*e*P	**Pn**	**01 41 35.8 +0.7**	
MEZF				*e*Sn	Sn	01 44 17.6 -18	
MCH1	**Michaelchurch**	**16.29**	**15**	*e*P	**Pn**	**01 41 34.9 -0.4**	
MCH1				AMB	AMB	01 41 44.1	
	comp=Z,158nm,0.9s						
MCH1				*e*S	Sn	01 44 21.7 -14	
MCH1				AMS	AMS	01 46 56.2	
	comp=Z,5µm,21.6s						
MCH1	**Michaelchurch**	**16.29**	**15**	*e*P	**Pn**	**01 41 34.9 -0.4**	
MCH1				*e*S	Sn	01 44 21.7 -14	
LOMF	**Lomont**	**16.48**	**43**	*e*P	**P**	**01 41 39.9 -0.6**	
LOMF	**Lomont**	**16.48**	**43**	*e*P	**P**	**01 41 39.9 -0.6**	
MENF	**Mencas**	**16.55**	**28**	*e*P	**Pn**	**01 41 38.2 -0.3**	
THEF	**They Montfort**	**16.57**	**40**	*e*P	**Pn**	**01 41 38.3 -0.5**	
HAU	**Haudompre**	**16.61**	**41**	*e*P	**Pn**	**01 41 39.5 0.0**	
HAU				*e*Sn	Sn	01 44 30.0 -14	
	comp=Z,745nm,1.0s						
HAU				*e*R			
	comp=Z,6µm,21.5s						
HAU	**Haudompre**	**16.61**	**41**	*e*P	**Pn**	**01 41 39.5 0.0**	
HAU	**Haudompre**	**16.61**	**41**	*e*P	**Pn**	**01 41 39.5 0.0**	
HAU				*e*Sn	Sn	01 44 30.0 -14	
HAU	**Haudompre**	**16.61**	**41**	*e*P	**Pn**	**01 41 39.5 0.0**	
HAU				*e*Sn	Sn	01 44 30.0 -14	
PAGF	**Fort de Pagny**	**16.64**	**39**	*e*P	**Pn**	**01 41 40.6 +0.8**	
	baz=231						
PAGF				*e*Sn	Sn	01 44 26.3 -18	
	comp=Z,182nm,0.8s						
PAGF	**Fort de Pagny**	**16.64**	**39**	*e*P	**Pn**	**01 41 40.6 +0.8**	
PAGF				*e*Sn	Sn	01 44 26.3 -18	
PAGF	**Fort de Pagny**	**16.64**	**39**	*e*P	**Pn**	**01 41 40.6 +0.8**	
PAGF				*e*Sn	Sn	01 44 26.3 -18	
ELSH	**Elham, Standar**	**16.67**	**25**	*e*P	**Pn**	**01 41 40.5 +0.4**	
ELSH				AMB	AMB	01 41 42.9	
	comp=Z,201nm,0.9s						
ELSH				AMS	AMS	01 48 30.4	
	comp=Z,8µm,16.8s						
ELSH	**Elham, Standar**	**16.67**	**25**	*e*P	**Pn**	**01 41 40.5 +0.4**	
HINF	**Hinteralfeld**	**16.77**	**42**	*e*P	**Pn**	**01 41 41.8 +0.3**	
HINF				*e*Sn	Sn	01 44 33.9 -14	
	comp=Z,229nm,0.8s						
HINF	**Hinteralfeld**	**16.77**	**42**	*e*P	**Pn**	**01 41 41.8 +0.3**	
HINF	**Hinteralfeld**	**16.77**	**42**	*e*P	**Pn**	**01 41 41.8 +0.3**	
HINF				*e*Sn	Sn	01 44 33.9 -14	
HINF	**Hinteralfeld**	**16.77**	**42**	*e*P	**Pn**	**01 41 41.8 +0.3**	
HINF				*e*Sn	Sn	01 44 33.9 -14	
BBS	**Basel-Blauen**	**16.93**	**44**	*e*P	**Pn**	**01 41 44.3 +0.9**	
MOF	**Molkenrain**	**16.94**	**42**	*e*P	**Pn**	**01 41 44.1 +0.4**	
MOF	**Molkenrain**	**16.94**	**42**	*e*P	**Pn**	**01 41 44.1 +0.4**	
YRE	**Yr Eifl**	**16.97**	**11**	*e*P	**Pn**	**01 41 44.1 +0.2**	
YRE	**Yr Eifl**	**16.97**	**11**	*e*P	**Pn**	**01 41 44.1 +0.2**	
DSB	**Dublin**	**16.98**	**7**	*e*Pn	**Pn**	**01 41 44.3 +0.3**	
	comp=Z,152nm,1.0s						
DSB				*e*S	Sn	01 44 31.1 -21	
DSB	**Dublin**	**16.98**	**7**	*e*Pn	**Pn**	**01 41 44.3 +0.3**	
	comp=Z,152nm,1.0s						
DSB				*e*S	Sn	01 44 31.1 -21	
FOEL	**Foel Wylfa**	**17.10**	**14**	*e*P	**Pn**	**01 41 46.4 +0.9**	
FOEL				AMB	AMB	01 41 48.6	
	comp=Z,130nm,1.0s						
FOEL				AMS	AMS	01 47 40.6	
	comp=Z,4µm,20.5s						
FOEL	**Foel Wylfa**	**17.10**	**14**	*e*P	**Pn**	**01 41 46.4 +0.9**	
SBD1	**Bryn Du**	**17.10**	**14**	AMS	AMS	01 45 52.1	
	comp=Z,6µm,22.8s						
YLL	**Llanberis**	**17.16**	**12**	*e*P	**P**	**01 41 47.2 -0.7**	
YLL				*e*S	Sn	01 44 42.4 -14	
YLL	**Llanberis**	**17.16**	**12**	*e*P	**P**	**01 41 47.2 -0.7**	
YLL				*e*S	Sn	01 44 42.4 -14	
ECH	**Echery**	**17.17**	**41**	*e*P	**P**	**01 41 48.5 +0.4**	
ECH	**Echery**	**17.17**	**41**	*e*P	**P**	**01 41 47.8 -0.3**	
ECH				pmax	pmax		
	comp=Z,115nm,1.1s						
ECH	**Echery**	**17.17**	**41**	*e*Pn	**P**	**01 41 47.8 -0.3**	
	comp=Z,115nm,1.1s						
ECH				*e*S	Sn	01 44 42.5 -15	
ECH	**Echery**	**17.17**	**41**	*e*Pn	**P**	**01 41 47.8 -0.3**	
	comp=Z,115nm,1.1s						
ECH	**Echery**	**17.17**	**41**	*e*P	**P**	**01 41 48.5 +0.4**	
ECH				*e*S	Sn	01 44 42.5 -15	
DOU	**Dourbes**	**17.18**	**33**	P	**P**	**01 41 47.9 -0.3**	
	comp=Z,294nm,1.4s						
DOU	**Dourbes**	**17.18**	**33**	P	**P**	**01 41 47.8 -0.3**	
	comp=Z,294nm,1.4s						
YRC	**Rhoscolyn**	**17.21**	**11**	*e*P	**P**	**01 41 47.8 -0.5**	
YRC	**Rhoscolyn**	**17.21**	**11**	*e*P	**P**	**01 41 47.8 -0.5**	
VLC	**Villacollemand**	**17.22**	**57**	*e*Pn	**P**	**01 41 48.4 -0.3**	
	comp=Z,427nm,1.6s						
VLC				*e*S	**Sn**	**01 44 54.5 -4.0**	
VLC	**Villacollemand**	**17.22**	**57**	*e*Pn	**P**	**01 41 48.4 -0.3**	
	comp=Z,427nm,1.6s						
VLC				*e*S	**Sn**	**01 44 54.5 -4.0**	
WLF1	**Llynfaes**	**17.27**	**11**	*e*P	**Pn**	**01 41 47.6 0.0**	
WLF1				AMB	AMB	01 41 49.8	
	comp=Z,238nm,1.1s						
WLF1				*e*S	Sn	01 44 44.0 -15	
WLF1				AMS	AMS	01 47 10.6	
	comp=Z,4µm,25.9s						
WLF1	**Llynfaes**	**17.27**	**11**	*e*P	**Pn**	**01 41 47.7 0.0**	
WLF1				*e*S	Sn	01 44 44.0 -15	
GIVF	**Givet**	**17.29**	**33**	*e*P	**P**	**01 41 49.2 -0.1**	
GIVF				*e*Sn	Sn	01 44 42.5 -17	
	comp=Z,3µm,1.1s						
GIVF	**Givet**	**17.29**	**33**	*e*P	**P**	**01 41 49.2 -0.1**	
GIVF	**Givet**	**17.29**	**33**	*e*P	**P**	**01 41 49.2 -0.1**	
GIVF				*e*Sn	Sn	01 44 42.5 -17	
GIVF	**Givet**	**17.29**	**33**	*e*P	**P**	**01 41 49.2 -0.1**	
GIVF				*e*Sn	Sn	01 44 42.5 -17	
WPM1	**Penmaenmawr**	**17.32**	**12**	*e*P	**P**	**01 41 49.1 -0.5**	
WPM1				*e*S	Sn	01 44 46.3 -14	
WPM1	**Penmaenmawr**	**17.32**	**12**	*e*P	**P**	**01 41 49.1 -0.5**	
WPM1				*e*S	Sn	01 44 46.3 -14	
LGHD	**Ghdames**	**17.35**	**106**	*i* P	**P**	**01 41 50.3 +0.1**	
	comp=Z,645nm,1.3s,SNR=64						
LGHD				*e*S	**Sn**	**01 44 59.6 -2.1**	
	SNR=77						
CDF	**Champ du Feu**	**17.36**	**41**	*e*P	**Pn**	**01 41 48.9 +0.1**	
CDF				*e*Sn	Sn	01 44 45.5 -16	
	comp=Z,474nm,1.1s						
CDF	**Champ du Feu**	**17.36**	**41**	*e*P	**Pn**	**01 41 48.9 +0.1**	
CDF	**Champ du Feu**	**17.36**	**41**	*e*P	**Pn**	**01 41 48.9 +0.1**	
CDF				*e*Sn	Sn	01 44 45.5 -16	
CDF	**Champ du Feu**	**17.36**	**41**	*e*P	**Pn**	**01 41 48.9 +0.1**	
CDF				*e*Sn	Sn	01 44 45.5 -16	
SNF	**Seneffe**	**17.36**	**31**	P	**P**	**01 41 50.0 -0.1**	
SNF	**Seneffe**	**17.36**	**31**	P	**P**	**01 41 49.9 -0.1**	
LIBD	**Limburg**	**17.37**	**42**	*e*P	**P**	**01 41 50.6 +0.4**	
WME	**Myndd Eilian**	**17.39**	**11**	*e*P	**Pn**	**01 41 49.0 -0.1**	
WME				*e*S	Sn	01 44 46.4 -16	
WME	**Myndd Eilian**	**17.39**	**11**	*e*P	**Pn**	**01 41 49.0 -0.1**	
WME				*e*S	Sn	01 44 46.4 -16	
WLS	**Welschbruch**	**17.40**	**41**	*e*P	**P**	**01 41 50.5 -0.1**	
WLS	**Welschbruch**	**17.40**	**41**	*e*P	**P**	**01 41 50.5 -0.1**	
FELD	**Feldberg im Sc**	**17.44**	**44**	*e*P	**P**	**01 41 51.5 +0.4**	
FELD	**Feldberg im Sc**	**17.44**	**44**	*e*P	**P**	**01 41 51.5 +0.4**	
STNC	**Stoke**	**17.49**	**15**	*e*P	**P**	**01 41 52.8 +1.3**	
STNC				AMB	AMB	01 42 00.8	
	comp=Z,310nm,1.1s						
STNC				AMS	AMS	01 47 43.0	
	comp=Z,5µm,21.6s						
STNC	**Stoke**	**17.49**	**15**	*e*P	**P**	**01 41 52.8 +1.3**	
TUE	**Stuetta**	**17.49**	**49**	*e*P	**P**	**01 41 51.9 +0.1**	
	comp=Z,95nm,1.0s						
TUE				*e*S	Sn	01 44 57.7 -7.4	
TUE	**Stuetta**	**17.49**	**49**	*e*P	**P**	**01 41 51.9 +0.1**	
	comp=Z,95nm,1.0s						
TUE				*e*S	Sn	01 44 57.7 -7.4	
WLF	**Walferdange**	**17.59**	**36**	P	**P**	**01 41 52.8 +0.1**	
	comp=Z,436nm,1.5s						
WLF	**Walferdange**	**17.59**	**36**	*e*P	**P**	**01 41 53.4 +0.7**	
WLF				pmax	pmax		
	comp=Z,600nm,0.9s						
WLF	**Walferdange**	**17.59**	**36**	*e*P	**P**	**01 41 53.3 +0.6**	
	comp=Z,613nm,0.8s						
WLF	**Walferdange**	**17.59**	**36**	*e*Pn	**P**	**01 41 53.4 +0.7**	
	comp=Z,600nm,0.9s						
WLF				*e*S	Sn	01 44 54.6 -13	
WLF	**Walferdange**	**17.59**	**36**	P	**P**	**01 41 52.7 +0.1**	
	comp=Z,436nm,1.5s						
WLF	**Walferdange**	**17.59**	**36**	*e*Pn	**P**	**01 41 53.4 +0.7**	
	comp=Z,600nm,0.9s						
UCC	**Uccle**	**17.61**	**31**	P	**P**	**01 41 53.6 +0.8**	
UCC	**Uccle**	**17.61**	**31**	P	**P**	**01 41 53.6 +0.8**	
BCLA	**Clavier**	**17.73**	**33**	P	**P**	**01 41 54.9 +0.6**	
	comp=Z,176nm,1.2s						
BCLA	**Clavier**	**17.73**	**33**	P	**P**	**01 41 54.8 +0.6**	
	comp=Z,176nm,1.2s						
KBI1	**Birley Grange**	**17.79**	**17**	*e*P	**P**	**01 41 55.0 +0.2**	
KBI1	**Birley Grange**	**17.79**	**17**	*e*P	**P**	**01 41 55.0 +0.2**	
BFO	**Black Forest**	**17.87**	**43**	P	**P**	**01 41 57.2 +1.4**	
	comp=Z,191nm,1.0s,SNR=7.9						
BFO	**Black Forest**	**17.87**	**43**	*e*P	**P**	**01 41 56.9 +1.1**	
BFO				*e*S	Sn	01 45 03.8 -10	
BFO				pmax	pmax		
	comp=Z,171nm,1.4s						
BFO	**Black Forest**	**17.87**	**43**	*e*P	**P**	**01 41 57.6 +1.8**	
	comp=Z,128nm,1.3s						
BFO				*e*L	L	01 48 47.7	
	comp=Z,4µm,18.7s						
BFO	**Black Forest**	**17.87**	**43**	*e*P	**P**	**01 41 56.9 +1.1**	
	comp=Z,171nm,1.4s						
BFO				*e*S	Sn	01 45 03.8 -10	
BFO	**Black Forest**	**17.87**	**43**	*e*P	**P**	**01 41 56.9 +1.1**	
	comp=Z,171nm,1.4s						
BFO				*e*S	Sn	01 45 03.8 -10	
DAVOX	**Davos/Dischmat**	**17.96**	**49**	Pn	**P**	**01 41 58.7 +1.8**	
DAVOX				Sn	Sn	01 45 09.5 -7.0	
DAVOX	**Davos/Dischmat**	**17.96**	**49**	Pn	**P**	**01 41 58.7 +1.8**	
DAVOX				Sn	Sn	01 45 09.5 -7.0	
	baz=215,slow=13						
DAVOX				Sn	Sn	01 45 09.5 -7.0	
	comp=Z,1.3nm,0.3s,baz=271,slow=22,SNR=2.4						
DAVOX				LR	LR	01 48 22.3	
	comp=Z,2µm,18.9s,baz=244,slow=35						
LANF	**Langenberg**	**17.98**	**40**	*e*P	**P**	**01 41 59.1 +2.1**	
GMM	**Mts of Mourne**	**18.00**	**7**	*e*P	**Pn**	**01 41 56.6 -0.1**	
GMM	**Mts of Mourne**	**18.00**	**7**	*e*P	**Pn**	**01 41 56.6 -0.1**	
ALAS	**Alassa**	**18.02**	**95**	*i* P	**P**	**01 41 58.3 +0.9**	
	comp=Z,400nm,1.1s,SNR=63						
FUORN	**Ofenpass-Fuorn**	**18.12**	**50**	*e*Pn	**P**	**01 42 01.6 +2.8**	
	comp=Z,80nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**18.12**	**50**	*e*Pn	**P**	**01 42 01.6 +2.8**	
	comp=Z,80nm,0.9s						
BEBN	**Eben Emael**	**18.17**	**33**	P	**P**	**01 41 59.8 +0.8**	
	comp=Z,95nm,1.3s						
BEBN	**Eben Emael**	**18.17**	**33**	P	**P**	**01 41 59.7 +0.8**	
	comp=Z,95nm,1.3s						
MEM	**Membach**	**18.18**	**34**	P	**P**	**01 41 60.0 +0.8**	
	comp=Z,138nm,1.5s						
MEM	**Membach**	**18.18**	**34**	*e*P	**P**	**01 42 00.1 +1.0**	
MEM				pmax	pmax		
	comp=Z,211nm,0.8s						
MEM	**Membach**	**18.18**	**34**	*e*Pn	**P**	**01 42 00.1 +1.0**	
	comp=Z,211nm,0.8s						
MEM	**Membach**	**18.18**	**34**	P	**P**	**01 41 59.9 +0.8**	
	comp=Z,138nm,1.5s						
DAVA	**Damuels**	**18.20**	**47**	*i*/*e*P	**P**	**01 42 02.0 +2.4**	
	comp=Z,63nm,0.8s,SNR=16						
DAVA	**Damuels**	**18.20**	**47**	P	**P**	**01 42 02.0 +2.4**	
	comp=Z,63nm,0.8s,SNR=16						
HGN	**Heimansgroeve**	**18.26**	**33**	*e*P	**P**	**01 42 00.9 +0.9**	
	comp=Z,99nm,0.8s						
HGN				*e*S	Sn	01 45 08.0 -15	
LMK	**Market Rasen**	**18.27**	**18**	AMS	AMS	01 49 03.3	
	comp=Z,6µm,19.2s						
HPK	**Haverah Park**	**18.43**	**16**	*e*P	**Pn**	**01 42 04.5 +2.6**	
HPK				AMB	AMB	01 42 06.7	
	comp=Z,160nm,0.8s						
HPK				AMS	AMS	01 48 11.7	
	comp=Z,4µm,20.6s						
HPK	**Haverah Park**	**18.43**	**16**	*e*P	**Pn**	**01 42 04.5 +2.6**	
CLTB	**Caltabellotta**	**18.45**	**80**	*e*Pn	**Pn**	**01 42 04.2 +1.8**	
	comp=Z,46nm,0.8s						
CLTB	**Caltabellotta**	**18.45**	**80**	*e*Pn	**Pn**	**01 42 04.2 +1.8**	
	comp=Z,46nm,0.8s						
FETA	**Feichten**	**18.59**	**49**	⇓*i*Pn	**Pn**	**01 42 06.4 +2.3**	
	comp=Z,43nm,0.7s,SNR=25						
FETA	**Feichten**	**18.59**	**49**	P	**Pn**	**01 42 06.4 +2.3**	
	comp=Z,43nm,0.7s,SNR=25						
STU	**Stuttgart**	**18.60**	**43**	*e*P	**Pn**	**01 42 06.5 +2.5**	
STU				pmax	pmax		
	comp=Z,137nm,1.1s						
STU	**Stuttgart**	**18.60**	**43**	*e*P	**Pn**	**01 42 06.9 +2.9**	
	comp=Z,133nm,1.0s						
STU				*e*L	L	01 50 07.6	
	comp=Z,3µm,18.8s						
STU	**Stuttgart**	**18.60**	**43**	*e*Pn	**Pn**	**01 42 06.5 +2.5**	
	comp=Z,137nm,1.1s						
STU				*e*S	Sn	01 45 11.2 -20	
STU	**Stuttgart**	**18.60**	**43**	*e*Pn	**Pn**	**01 42 06.5 +2.5**	
	comp=Z,137nm,1.1s						
STU				*e*S	Sn	01 45 11.2 -20	
KESW	**Keswick, Cumbr**	**18.73**	**12**	*e*P	**Pn**	**01 42 07.1 +1.5**	
KESW				AMB	AMB	01 42 08.2	
	comp=Z,164nm,2.4s						
KESW				*e*S	Sn	01 45 19.7 -15	
KESW				AMS	AMS	01 48 40.2	
	comp=Z,4µm,18.8s						
KESW	**Keswick, Cumbr**	**18.73**	**12**	*e*P	**Pn**	**01 42 07.1 +1.5**	
GAL1	**Galloway**	**18.76**	**9**	*e*P	**Pn**	**01 42 06.7 +0.7**	
GAL1				AMB	AMB	01 42 08.2	
	comp=Z,159nm,1.4s						
GAL1				AMS	AMS	01 47 52.0	
	comp=Z,4µm,28.4s						
GAL1	**Galloway**	**18.76**	**9**	*e*P	**Pn**	**01 42 06.7 +0.7**	
RETA	**Reutte**	**18.82**	**48**	⇑*i*Pn	**Pn**	**01 42 08.1 +1.2**	
	comp=Z,19nm,0.9s,SNR=23						
RETA	**Reutte**	**18.82**	**48**	P	**Pn**	**01 42 08.1 +1.2**	
	comp=Z,19nm,0.9s,SNR=23						
GCD	**Castle Douglas**	**18.87**	**11**	*e*P	**Pn**	**01 42 08.7 +1.4**	
GCD	**Castle Douglas**	**18.87**	**11**	*e*P	**Pn**	**01 42 08.6 +1.4**	
MOTA	**Moosalm**	**18.96**	**48**	⇓*i*P	**P**	**01 42 08.0 +0.1**	
	comp=Z,27nm,0.7s,SNR=7.7						
MOTA	**Moosalm**	**18.96**	**48**	P	**P**	**01 42 08.0 +0.1**	
	comp=Z,27nm,0.7s,SNR=7.7						
TAM	**Tamanrasset**	**19.03**	**131**	*e*P	**Pn**	**01 42 09.8

comp=Z,4µm,19.5s
KBA Koelnbreinsper 20.23 51⇓ *i* Pn **P 01 42 22.7 +0.9**
comp=Z,31nm,0.6s,SNR=17
KBA ⇑*i*S **S 01 46 09.6 +1.2**
KBA Koelnbreinsper 20.23 51 P **P 01 42 22.7 +0.9**
comp=Z,31nm,0.6s,SNR=17
KBA S **S 01 46 09.6 +1.2**
MYKA Terra Mystica 20.25 53⇓ *i* Pn Pn 01 42 23.2 -0.7
comp=Z,24nm,0.6s,SNR=13
MYKA ⇓*i*S **S 01 46 08.8 +0.3**
MYKA Terra Mystica 20.25 53 P Pn 01 42 23.2 -0.7
comp=Z,24nm,0.6s,SNR=13
MYKA S **S 01 46 08.8 +0.3**
NVLJ Novalja 20.42 59 P **P 01 42 24.6 +0.9**
CUC Castrocucco 20.45 72 *e*P **P 01 42 24.9 +0.8**
comp=Z,242nm,1.0s
CUC LR LR
comp=Z,2µm,20.0s
CUC Castrocucco 20.45 72 *e*P **P 01 42 24.9 +0.8**
comp=Z,242nm,1.0s
CEL Celeste 20.53 77 *e*P **P 01 42 25.1 +0.2**
comp=Z,134nm,1.0s
CEL LR LR
comp=Z,3µm,21.0s
CEL Celeste 20.53 77 *e*P **P 01 42 25.1 +0.2**
comp=Z,134nm,1.0s
LJU Ljubljana 20.62 55 *e*P Pn 01 42 27.3 -0.8
LJU *e* 01 42 46.0
LJU *e*S **S 01 46 15.0 -0.8**
LJU Ljubljana 20.62 55 *e*P Pn 01 42 27.3 -0.8
MS1 Monte Sant'Ang 20.66 67 *i* Pn **P 01 42 27.2 +0.8**
OBKA Obir 20.79 53⇑ *i* Pn **P 01 42 29.0 +1.2**
comp=Z,60nm,0.7s,SNR=30
OBKA ⇑*i*S **S 01 46 19.9 +0.6**
OBKA Obir 20.79 53 P **P 01 42 29.0 +1.2**
comp=Z,60nm,0.7s,SNR=30
OBKA S **S 01 46 19.9 +0.6**
ROTZ Rotzenmuhle 20.80 43 *e*P Pn 01 42 29.9 -0.3
comp=Z,242nm,1.7s
ROTZ *e*L L 01 49 57.1
comp=Z,4µm,20.9s
WET Wettzell 20.86 45 *e*P Pn 01 42 31.8 +0.8
comp=Z,385nm,2.0s
WET *e*L L 01 52 16.9
comp=Z,4µm,18.0s
LMSR Misrath 20.91 94 *i* P Pn 01 42 31.0 -0.6
comp=Z,417nm,1.3s,SNR=51
UDBI Udbina 21.03 60 P **P 01 42 31.2 +0.8**
CLZ Clausthal 21.05 37 *e*P **P 01 42 33.2 +2.8**
comp=Z,314nm,1.6s
CLZ *e*L L 01 51 57.8
comp=Z,4µm,19.4s
DRUM Mains of Drumt 21.07 11 AMS AMS 01 49 14.7
comp=Z,3µm,22.6s
KPL Plockton 21.09 6 *e*P **P 01 42 31.8 +1.0**
KPL AMB AMB 01 42 36.8
comp=Z,253nm,1.2s
KPL AMS AMS 01 49 01.6
comp=Z,4µm,20.3s
KPL Plockton 21.09 6 *e*P **P 01 42 31.8 +1.0**
MOA Molln 21.11 50⇓ *i* P **P 01 42 30.8 -0.3**
comp=Z,28nm,0.6s,SNR=16
MOA ⇓*i*S **S 01 46 26.8 +1.3**
MOA Molln 21.11 50 P **P 01 42 30.8 -0.3**
comp=Z,28nm,0.6s,SNR=16
MOA S **S 01 46 26.8 +1.3**
LSHF Shwairf 21.13 101 *i* P **P 01 42 33.4 +1.8**
comp=Z,665nm,1.2s,SNR=51
SOKA Soboth 21.16 53⇓ *i* P **P 01 42 32.5 +0.7**
comp=Z,28nm,0.9s,SNR=17
SOKA Soboth 21.16 53 P **P 01 42 32.5 +0.7**
comp=Z,28nm,0.9s,SNR=17
TIP Timpagrande 21.17 75 P **P 01 42 32.3 +0.4**
TIP Timpagrande 21.17 75 *e*P **P 01 42 32.0 +0.1**
comp=Z,252nm,1.3s
TIP LR LR
comp=Z,3µm,22.0s
TIP Timpagrande 21.17 75 P **P 01 42 32.3 +0.4**
NKC Novy Kostel 21.17 42 *e*P **P 01 42 31.1 -0.7**
NKC *e* 01 42 37.7
NKC *e*S **S 01 46 28.6 +1.8**
NKC MLR MLR
comp=Z,3µm,10.6s
NKC Novy Kostel 21.17 42⇓ *e*P **P 01 42 31.1 -0.7**
NKC *ep*P **pP 01 42 37.7 +1.6**
NKC *es*P sP 01 42 43.9 +5.9
NKC *e*S **S 01 46 28.6 +1.8**
NKC AMS AMS 01 50 40.0
comp=Z,3µm,10.6s
NKC Novy Kostel 21.17 42 P **P 01 42 31.1 -0.7**
NKC S **S 01 46 28.6 +1.8**
GEC2 GERESS Array S 21.20 47 *e*P **P 01 42 33.6 +1.4**
GEC2 GERESS Array S 21.20 47 *e*P **P 01 42 33.7 +1.5**
comp=Z,187nm,1.3s
GEC2 *e*L L 01 49 53.0
comp=Z,5µm,20.5s
GEC2 GERESS Array S 21.20 47 *e*P **P 01 42 33.6 +1.4**
GEC2 GERESS Array S 21.20 47 *e*P **P 01 42 33.6 +1.4**
GERES GERESS Array B 21.20 47 P **P 01 42 33.3 +1.1**
GERES S **S 01 46 22.1 -5.3**
GERES PKKKP 02 17 09.1
GERES GERESS Array B 21.20 47 P **P 01 42 33.3 +1.1**
GERES S **S 01 46 22.1 -5.3**
GERES GERESS Array B 21.20 47 P **P 01 42 33.3 +1.1**
comp=Z,62nm,1.0s,baz=230,slow=10,SNR=137
GERES S **S 01 46 22.1 -5.3**
comp=Z,41nm,0.9s,baz=253,slow=23,SNR=12
GERES P3KP 02 17 09.1
comp=Z,1.0nm,1.1s,baz=150,slow=2.9,SNR=3.9
PERS Pernice 21.20 54 *e*P **P 01 42 32.7 +0.5**
PERS *e*S **S 01 46 26.2 -1.1**
PERS Pernice 21.20 54 *e*P **P 01 42 32.7 +0.5**
KHC Kasperske Hory 21.26 46⇓ *i* P **P 01 42 34.5 +1.7**
KHC *e*S **S 01 46 30.1 +1.6**
KHC MLR MLR
comp=Z,4µm,15.1s
KHC Kasperske Hory 21.26 46⇓ *i* P **P 01 42 34.5 +1.7**
KHC *ex* x 01 42 48.5
KHC *e*S **S 01 46 30.1 +1.6**
KHC AMS AMS 01 52 20.0
comp=Z,4µm,15.1s
KHC Kasperske Hory 21.26 46 *e*P **P 01 42 34.5 +1.7**
comp=Z,181nm,1.0s
KHC *e*S **S 01 46 25.1 -3.4**
KHC Kasperske Hory 21.26 46 *e*P **P 01 42 34.5 +1.7**
comp=Z,181nm,1.0s
KHC *e*S **S 01 46 25.1 -3.4**
TANN Tannenbergstha 21.28 42 *e*P **P 01 42 36.7 +3.7**
comp=Z,173nm,1.5s
TANN *e*L L 01 51 35.8
comp=Z,2µm,19.1s
KAC Achnashellach 21.28 7 *e*P **P 01 42 35.7 +2.8**
KAC Achnashellach 21.28 7 *e*P **P 01 42 35.7 +2.8**
GCIS Gornji Cirnik 21.29 56 *i* P **P 01 42 34.2 +1.1**
GCIS *e* 01 42 38.9
GCIS *e*S S 01 46 22.2 -6.9
GCIS Gornji Cirnik 21.29 56 *i* P **P 01 42 34.2 +1.1**
BAI Bari 21.31 69 *e*Pn **P 01 42 34.4 +1.1**
MDO Dochfour 21.32 8 *e*P **P 01 42 36.2 +2.9**
MDO Dochfour 21.32 8 *e*P **P 01 42 36.2 +2.9**
NRDL Niedersach Rie 21.34 35 *e*P **P 01 42 36.3 +2.8**
comp=Z,401nm,1.6s
NRDL *e*L L 01 51 22.7
comp=Z,3µm,18.8s
MME1 Meikle Cairn 21.38 10 *e*P **P 01 42 36.4 +2.4**
MME1 Meikle Cairn 21.38 10 *e*P **P 01 42 36.3 +2.4**
TAR1 Taranto 21.59 71 *e*Pn **P 01 42 35.7 -0.6**
MCD Coleburn Disti 21.60 10 *e*P **P 01 42 38.5 +2.2**
MCD Coleburn Disti 21.60 10 *e*P **P 01 42 38.5 +2.2**
ARSA Arzberg 21.67 52⇑ *i* P **P 01 42 36.1 -1.1**
comp=Z,25nm,0.8s
ARSA ⇑*i*S **S 01 46 36.9 +0.3**
ARSA Arzberg 21.67 52 P **P 01 42 36.1 -1.1**
comp=Z,25nm,0.8s
ARSA S **S 01 46 36.9 +0.3**
PE1 Pezze di Greco 21.71 70 *e*Pn **P 01 42 36.5 -1.1**
KOGS Kog 21.88 55 *e*P **P 01 42 39.5 +0.1**
KOGS *e*S **S 01 46 40.2 -0.4**
KOGS Kog 21.88 55 *e*P **P 01 42 39.5 +0.1**
KOGS *e*S **S 01 46 40.2 -0.4**
CLL Collm 22.05 40 *e*P **P 01 42 42.9 +1.7**
comp=Z,181nm,1.5s
CLL *e*L L 01 51 21.8
comp=Z,1µm,21.9s
CLL Collm 22.05 40⇑ *i* P **P 01 42 42.8 +1.6**
comp=Z,181nm,1.5s
CLL *e*Plp 01 43 18.0
CLL *e*S **S 01 46 47.0 +3.1**
comp=N,5µm,17.0s
CLL *e*S **S 01 46 47.0 +3.1**
comp=E,2µm,14.9s
CLL *e*S **S 01 46 47.0 +3.1**
comp=Z,900nm,12.0s
CLL Lmax 01 50 00.0
CLL LmV 01 51 00.0
comp=Z,1µm,21.9s
CONA Conrad Observa 22.13 51⇑ *i* P **P 01 42 41.8 -0.4**
comp=Z,50nm,0.9s,SNR=20
CONA ⇓*i*S **S 01 46 46.0 +0.4**
CONA Conrad Observa 22.13 51 P **P 01 42 41.8 -0.4**
comp=Z,50nm,0.9s,SNR=20
CONA S **S 01 46 46.0 +0.4**
PRA Prague 22.19 45⇓ P **P 01 42 44.0 +1.3**
PRA S **S 01 46 43.0 -3.5**
PRU Pruhonice 22.22 45 *e*P **P 01 42 44.0 +1.6**
PRU *e*S **S 01 46 42.3 -4.7**
PRU MLR MLR
comp=Z,3µm,10.8s
PRU Pruhonice 22.22 45⇓ *e*P **P 01 42 44.0 +1.0**
PRU *es*P sP 01 42 54.8 +5.6
PRU *e*S **S 01 46 42.3 -4.7**
PRU AMS AMS 01 50 30.0
comp=Z,3µm,10.8s
PRU Pruhonice 22.22 45 P **P 01 42 44.0 +1.0**
BEHE Becsehely 22.23 55⇓ *e*P **P 01 42 45.9 +2.7**
BRG Berggiesshubel 22.32 42 *e*P **P 01 42 46.9 +2.8**
comp=Z,81nm,1.7s
BRG *i* 01 42 53.0
comp=Z,192nm,1.3s
BRG *e* 01 46 55.6
comp=Z,61nm,1.3s
BRG S Sn 01 46 56.0 -5.2
BRG *e* 01 50 10.0
comp=Z,278nm,1.9s
BRG
comp=N,6µm,18.6s
BRG
comp=E,5µm,17.8s
BRG
comp=Z,5µm,9.0s
BRG Berggiesshubel 22.32 42 *e*P **P 01 42 46.9 +2.8**
BRG *i* 01 42 53.0
BRG pmax pmax
comp=Z,81nm,1.7s
BRG pmax pmax
comp=Z,192nm,1.3s
BRG pmax pmax
comp=Z,61nm,1.3s
BRG pmax pmax
comp=Z,278nm,1.9s
BRG MLR MLR
comp=N,6µm,18.6s
BRG MLR MLR
comp=E,5µm,17.8s
BRG MLR MLR
comp=Z,5µm,9.0s
BRG Berggiesshubel 22.32 42 *e*P **P 01 42 46.9 +2.8**
comp=Z,81nm,1.7s
BSEG Bad Segeberg 22.40 32 *e*P **P 01 42 46.3 +1.4**
comp=Z,220nm,1.3s
BSEG *e*L L 01 52 57.2
comp=Z,5µm,18.6s
TREC Trest 22.45 47 *e*P **P 01 42 45.9 +0.4**
TREC *e* 01 42 52.8
TREC *e*S **S 01 46 50.9 -0.6**
TREC MLR MLR
comp=Z,5µm,10.3s
TREC Trest 22.45 47⇓ *e*P **P 01 42 45.9 +0.4**
TREC *ep*P **pP 01 42 52.8 +3.0**
TREC *ex* x 01 43 00.9
TREC *e*S **S 01 46 50.9 -0.6**
TREC AMS AMS 01 50 50.0
comp=Z,5µm,10.3s
TREC Trest 22.45 47 P **P 01 42 45.9 +0.4**
TREC S **S 01 46 50.9 -0.6**
SOP Sopron 22.48 52⇓ *e*P **P 01 42 45.4 -0.4**
PVCC Panska Ves 22.49 44 *e*P **P 01 42 48.2 +2.3**
PVCC *e* 01 42 57.9
PVCC *e*S **S 01 46 53.4 +1.3**
PVCC MLR MLR
comp=Z,4µm,9.8s
PVCC Panska Ves 22.49 44⇓ *e*P **P 01 42 48.2 +2.3**
PVCC *es*P sP 01 42 57.9 +5.8
PVCC *e*S **S 01 46 53.4 +1.3**
PVCC AMS AMS 01 51 30.0
comp=Z,4µm,9.8s
PVCC Panska Ves 22.49 44 P **P 01 42 48.2 +2.3**
PVCC S **S 01 46 53.4 +1.3**
BBTS Babate 22.50 197 P **P 01 42 47.1 +0.9**
BBTS Babate 22.50 197 P **P 01 42 47.1 +0.9**
BBTS Babate 22.50 197 P **P 01 42 47.1 +0.9**
comp=Z,717nm,1.2s,baz=0.7,slow=2.0,SNR=34
BBTS LR LR 01 51 51.5
comp=Z,3µm,18.0s,baz=12,slow=38
HCY Herceg Novi 22.63 66⇓ *i* P **P 01 42 47.6 +0.1**
HCY Herceg Novi 22.63 66⇓ *i* P **P 01 42 47.7 +0.2**
BRY Bratogost 22.72 65⇓ *i* P **P 01 42 48.2 -0.3**
BRY Bratogost 22.72 65⇓ *i* P **P 01 42 48.3 -0.3**
LJFR Jufra 22.74 101 *i* P **P 01 42 49.6 +0.8**
comp=Z,770nm,1.3s,SNR=50
LJFR *e*S **S 01 46 56.3 -0.7**
SNR=41
BUM Brajici-Budva 22.91 66⇓ *i* P **P 01 42 50.4 -0.1**
BUM Brajici-Budva 22.91 66⇓ *i* P **P 01 42 50.5 -0.1**
NKME Niksic 23.00 65 *e*P **P 01 42 49.8 -1.6**
UPM Unac-Piva 23.02 64⇓ *i* P **P 01 42 51.4 -0.4**
UPM Unac-Piva 23.02 64⇓ *i* P **P 01 42 51.4 -0.4**
NKY Niksic 23.04 65⇓ *i* P **P 01 42 52.0 +0.1**
NKY Niksic 23.04 65⇓ *i* P **P 01 42 52.0 +0.1**
RUE Ruedersdorf 23.11 39 *e*P **P 01 42 53.1 +0.8**
comp=Z,204nm,1.3s
RUE *e*S Sn 01 47 15.6 -4.3
RUE Ruedersdorf 23.11 39 *e*P **P 01 42 53.1 +0.8**
comp=Z,204nm,1.3s
RUE *e*S Sn 01 47 15.6 -4.3
VRAC Vranov 23.11 48⇑ *i* P **P 01 42 54.0 +1.5**
VRAC Vranov 23.11 48 P **P 01 42 53.2 +0.7**
VRAC S **S 01 47 09.5 +6.3**
VRAC Vranov 23.11 48 P **P 01 42 53.2 +0.7**
VRAC S **S 01 47 09.5 +6.3**
VRAC Vranov 23.11 48 P **P 01 42 53.2 +0.7**
comp=Z,20nm,0.9s,baz=244,slow=9.1,SNR=22
VRAC S **S 01 47 09.5 +6.3**
comp=Z,37nm,1.1s,baz=193,slow=17,SNR=4.6
VRAC LR LR 01 51 50.1
comp=Z,5µm,19.7s,baz=248,slow=36
ULC Ulcinj 23.14 67⇓ *i* P **P 01 42 52.6 -0.3**
ULC Ulcinj 23.14 67⇓ *i* P **P 01 42 52.7 -0.2**
PDG Podgorica 23.19 66 P **P 01 42 54.2 +0.9**
PDG Podgorica 23.19 66 P **P 01 42 54.2 +0.9**
TTG Podgorica 23.19 66⇓ *i* P **P 01 42 53.4 +0.1**
PKS9 Tamasi 23.26 55⇓ *e*P **P 01 42 55.3 +1.3**
PKST T˜˜s 23.29 54⇓ *e*P **P 01 42 55.6 +1.3**
UPC Upice 23.29 45 *e*P **P 01 42 55.0 +0.7**
UPC Upice 23.29 45⇓ *e*P **P 01 42 55.0 +0.7**
UPC *ep*P pP 01 43 06.0 +7.4
UPC Upice 23.29 45 P **P 01 42 55.0 +0.7**
SMOL Smolenice 23.32 50 *e*P **P 01 42 56.1 +1.5**
SMOL Smolenice 23.32 50 *e*P **P 01 42 56.1 +1.5**
SMOL Smolenice 23.32 50 *e*P **P 01 42 56.1 +1.5**
LUMB Murzuk 23.34 109 *i* P **P 01 42 56.1 +1.1**
comp=Z,865nm,1.3s,SNR=50
PLE Pljevlja 23.39 64⇓ *i* P **P 01 42 55.7 +0.3**
PLE Pljevlja 23.39 64⇓ *i* P **P 01 42 55.8 +0.3**
DPC Dobruska-Polom 23.40 45 *i* P **P 01 42 55.9 +0.5**
DPC *e*S **S 01 47 05.7 -2.2**
DPC Dobruska-Polom 23.40 45 *i* P **P 01 42 55.9 +0.5**
DPC *ex* x 01 43 09.1
DPC *e*S **S 01 47 05.7 -2.2**
DPC AMS AMS 01 52 00.0
DPC Dobruska-Polom 23.40 45 *e*P **P 01 42 55.8 +0.4**
DPC Dobruska-Polom 23.40 45 P **P 01 42 55.9 +0.5**
DPC *e*S **S 01 47 05.7 -2.2**
PKSM Moragy 23.40 56⇑ *i* P **P 01 42 55.8 +0.4**
PKSM Moragy 23.40 56⇑ *i* P **P 01 42 55.8 +0.4**
PKSM Moragy 23.40 56⇓ *e*P **P 01 42 55.5 +0.1**
CSKK Cs˜‡kako 23.47 54⇓ *e*P **P 01 42 56.8 +0.7**
BBLS Lazići 23.47 63⇑ *i* P **P 01 42 56.5 +0.3**
KEK Kerkira 23.51 73 *e*P **P 01 42 55.3 -1.3**
KRLC Kraliky 23.55 46 *e*P **P 01 42 57.4 +0.6**
KRLC Kraliky 23.55 46⇓ *e*P **P 01 42 57.4 +0.6**
KRLC *ex* x 01 43 10.9
KRLC *e*S **S 01 47 16.3 +6.0**
KRLC Kraliky 23.55 46 P **P 01 42 57.4 +0.6**
PKSG 23.56 54⇑ *e*P **P 01 42 57.5 +0.6**
KSP Ksiaz 23.61 44⇑ *e*P **P 01 42 58.7 +1.3**
KSP *e**PP pP 01 43 08.8 +7.0
KSP *e*S **S 01 47 16.0 +4.9**
KSP MLR MLR
comp=N,16µm,20.1s
KSP MLR MLR
comp=E,12µm,20.2s
KSP MLR MLR
comp=Z,7µm,18.5s
KSP Ksiaz 23.61 44 *e*P **P 01 42 59.2 +1.8**
KSP LMZ LR 01 52 07.7
KSP Ksiaz 23.61 44 *e*P **P 01 42 58.7 +1.3**
BEY Berane 23.70 65 *e*P **P 01 42 58.6 +0.1**
IVA Berane 23.70 65 *e*P **P 01 42 58.6 +0.1**
PVY Plav 23.72 66⇓ *i* P **P 01 42 58.0 -0.7**
PVY Plav 23.72 66⇓ *i* P **P 01 42 58.0 -0.7**
MUD Monsted U'grnd 23.77 27 *i* P **P 01 43 00.0 +1.1**
MUD MLR MLR
comp=Z,5µm,13.0s
MUD Monsted U'grnd 23.77 27 *i* P **P 01 43 00.0 +1.1**
comp=Z,38nm,0.7s
MUD *i* 01 43 13.0
MUD
comp=Z,5µm,13.0s
MUD Monsted U'grnd 23.77 27 *i* P **P 01 43 00.0 +1.1**
comp=Z,38nm,0.8s,SNR=34
MORC Moravsky Berou 23.87 47 *e*P **P 01 42 59.7 -0.3**
MORC pmax pmax
comp=Z,187nm,1.3s
MORC Moravsky Berou 23.87 47⇑ *i* P **P 01 43 00.0 0.0**
MORC Moravsky Berou 23.87 47 *e*P **P 01 42 59.7 -0.3**
comp=Z,187nm,1.3s
MORC *e*S Sn 01 47 28.5 -10
MORC Moravsky Berou 23.87 47 *e*P **P 01 42 59.7 -0.3**
comp=Z,187nm,1.3s
DIVS Divibare 23.92 62 P **P 01 43 00.2 -0.4**
DIVS Divibare 23.92 62 P **P 01 43 00.2 -0.4**
IGT Igoumenitsa 23.93 73 *e*P **P 01 42 59.0 -1.6**
IVAS Ivanjica 23.97 63⇑ *i* P **P 01 43 00.4 -0.6**
BUD Budapest 24.00 54⇓ *e*P **P 01 43 01.4 +0.3**
PHP Peshkopia 24.02 68 P **P 01 43 03.0 +1.5**
PHP Peshkopia 24.02 68 P **P 01 43 03.0 +1.5**
PKS6 Bocsa 24.12 56⇑ *e*P **P 01 43 02.9 +0.6**
VLS Valsamata 24.22 77 *e*P **P 01 43 01.9 -1.4**
LKD2 Lefkada island 24.22 75 *e*P **P 01 43 02.5 -0.9**
TRUS Trudelj 24.24 62 *e*P **P 01 43 02.0 -1.4**
OKC Ostrava-Krasne 24.25 48 *e*P **P 01 43 04.7 +1.2**
OKC *e*S **S 01 47 24.3 +2.8**
OKC MLR MLR
comp=Z,4µm,11.1s
OKC Ostrava-Krasne 24.25 48⇓ *e*P **P 01 43 04.7 +1.2**
OKC *ex* x 01 43 15.6
OKC *e*S **S 01 47 24.3 +2.8**
OKC AMS AMS 01 52 00.0
comp=Z,4µm,11.1s
OKC Ostrava-Krasne 24.25 48 P **P 01 43 04.7 +1.2**
OKC S **S 01 47 24.3 +2.8**
KBN Korca 24.26 71 P **P 01 43 03.7 0.0**
KBN Korca 24.26 71 P **P 01 43 03.7 0.0**
JAN Janina 24.33 73 P **P 01 43 03.8 -0.5**
JAN Janina 24.33 73 *e*P **P 01 43 04.1 -0.2**
JAN Janina 24.33 73 P **P 01 43 03.8 -0.5**
LRW Lerwick 24.36 11 AMB AMB 01 43 15.2
comp=Z,222nm,3.1s
LRW AMS AMS 01 52 07.7
comp=Z,4µm,22.8s
LZLA Zalla 24.36 101 *i* P **P 01 43 06.2 +1.5**
comp=Z,402nm,1.1s,SNR=41
BEO Beograd 24.37 61⇑ *i* P **P 01 43 03.7 -0.9**
PKSN Nyarlorinc 24.39 55⇓ *e*P **P 01 43 06.6 +1.8**
GRUS Gruza 24.41 63 *e*P **P 01 43 05.0 0.0**
NEST Nestorio 24.46 71 P **P 01 43 06.2 +0.6**
NEST Nestorio 24.46 71 *e*P **P 01 43 05.4 -0.2**
NEST Nestorio 24.46 71 P **P 01 43 06.2 +0.6**
SNART Snartemo 24.62 22 *e*P **P 01 43 07.7 +0.9**
SELS Selova 24.63 64⇑ *i* P **P 01 43 06.8 -0.2**
SACV Santiago Islan 24.66 213 *e*P **P 01 43 06.6 -0.9**
comp=Z,21nm,0.7s
SACV Santiago Islan 24.66 213 *e*P **P 01 43 06.6 -0.9**
comp=Z,21nm,0.7s
BIA Bitola 24.67 70 *i* P **P 01 43 06.7 -0.8**
BIA Bitola 24.67 70 *i* P **P 01 43 06.6 -0.8**
PSZ Piszkesteto 24.69 53 *e*P **P 01 43 07.6 0.0**
PSZ MLR MLR
comp=Z,4µm,21.0s
PSZ Piszkesteto 24.69 53⇑ *i* P **P 01 43 07.8 +0.2**
PSZ Piszkesteto 24.69 53 *e*P **P 01 43 07.6 0.0**
PSZ LR LR
comp=Z,4µm,21.0s
PSZ Piszkesteto 24.69 53 *e*P **P 01 43 07.6 0.0**
PSZ Piszkesteto 24.69 53⇓ *e*P **P 01 43 07.6 0.0**
FNA Florina 24.71 70 *e*P **P 01 43 06.9 -0.9**
SKO Skopje 24.78 68 *i* P **P 01 43 08.1 -0.3**
SVIS Svilajnac 24.82 62⇑ *i* P **P 01 43 08.3 -0.3**
RLS Riolos of Patr 24.92 77 *e*P **P 01 43 09.2 -0.4**
BANR Banloc 24.93 59⇑ *i* P **P 01 43 09.3 -0.4**
BANR Banloc 24.93 59⇑ *i* P **P 01 43 09.3 -0.4**
HOMB Homborsund 24.96 23 *e* P 01 43 18.6 +8.8
KZN Kozani 25.01 71 *e*P **P 01 43 10.2 -0.4**
EVR Evrytania 25.11 75 P **P 01 43 11.6 +0.1**
EVR Evrytania 25.11 75 *e*P **P 01 43 12.1 +0.6**
EVR Evrytania 25.11 75 P **P 01 43 11.6 +0.1**
DRO Drossia 25.12 77 P **P 01 43 12.0 +0.5**
DRO Drossia 25.12 77 P **P 01 43 12.0 +0.5**
AMT Artemida-Makis 25.17 78 *e*P **P 01 43 12.0 0.0**
BSD Bornholm Skovb 25.21 34 *i* P P 01 43 18.6 +6.6
BSD MLR MLR
comp=Z,3µm,20.0s
BSD Bornholm Skovb 25.21 34 *i* P P 01 43 18.6 +6.6
BSD
comp=Z,3µm,20.0s
PSA1 Psathopyrgos 25.22 76 *e*P **P 01 43 13.2 +0.9**
EFP Efpalio 25.23 76 *e*P **P 01 43 13.2 +0.8**
THL Klokotos Trika 25.23 73 P **P 01 43 12.1 -0.3**
THL Klokotos Trika 25.23 73 *e*P **P 01 43 12.2 -0.2**
THL Klokotos Trika 25.23 73 P **P 01 43 12.1 -0.3**
PYL PYLOS 25.29 79 *e*P **P 01 43 13.2 +0.2**
BOLS Boljevac 25.29 63 *e*P **P 01 43 12.3 -0.7**
GKP Gorka Klasztor 25.30 40 *e*P **P 01 43 13.8 +0.9**
GKP MLR MLR
comp=Z,3µm,19.9s
GKP Gorka Klasztor 25.30 40 *e*P **P 01 43 13.8 +0.9**
GKP LMZ LR 01 53 44.3
GKP Gorka Klasztor 25.30 40 *e*P **P 01 43 13.8 +0.9**
comp=Z,3µm,19.9s
LAKA Lakka 25.30 76 *e*P **P 01 43 13.7 +0.5**
BZS Buzias 25.31 59⇑ *i* P **P 01 43 13.6 +0.5**
BZS Buzias 25.31 59⇑ *i* P **P 01 43 13.6 +0.5**
MAKR Makrakomi, Fth 25.36 74 P **P 01 43 16.1 +2.5**
MAKR Makrakomi, Fth 25.36 74 *e*P **P 01 43 14.4 +0.8**
MAKR Makrakomi, Fth 25.36 74 P **P 01 43 16.1 +2.5**
OJC Ojcow 25.38 48 *e*P **P 01 43 13.9 +0.2**
OJC *e**SP **sP 01 43 18.0 -2.1**
OJC MLR MLR
comp=Z,5µm,13.4s
OJC Ojcow 25.38 48 *e*P **P 01 43 13.9 +0.2**
OJC *es*P **sP 01 43 18.0 -2.1**
OJC *e*S S 01 47 53.0 +13
OJC L L 01 52 50.0
comp=Z,5µm,13.4s
OJC Ojcow 25.38 48 *e*P **P 01 43 13.9 +0.2**
ITM Ithomi 25.39 79 *e*P **P 01 43 13.1 -0.8**
TOA0 Torodi Ar. Sit 25.41 153 *e*P **P 01 43 13.8 -0.4**
TOA0 Torodi Ar. Sit 25.41 153 *e*P **P 01 43 13.8 -0.4**
TORD Torodi Ar. Bea 25.41 153 P **P 01 43 13.9 -0.3**
TORD S S 01 47 57.1 +17
TORD Torodi Ar. Bea 25.41 153 P **P 01 43 13.9 -0.3**
TORD Torodi Ar. Bea 25.41 153 P **P 01 43 13.9 -0.3**
comp=Z,219nm,0.8s,baz=341,slow=8.9,SNR=364
TORD S S 01 47 57.1 +17
comp=Z,9.0nm,0.7s,baz=324,slow=20,SNR=2.6
TORD LR LR 01 53 42.7
comp=Z,5µm,18.4s,baz=345,slow=38
KALE Kalithea 25.41 76 *e*P **P 01 43 14.2 0.0**
NIE Niedzica 25.42 50 *e*P **P 01 43 14.7 +0.6**
NIE *e**SP **sP 01 43 18.6 -1.9**

NIE MLR MLR
comp=Z,6µm,21.4s
NIE Niedzica 25.42 50 *e*P **P 01 43 14.7 +0.6**
NIE *es*P **sP 01 43 18.6 -1.9**
NIE *e*S S 01 47 54.9 +15
NIE L L 01 53 58.0
comp=Z,6µm,21.4s
NIE Niedzica 25.42 50 *e*P **P 01 43 14.7 +0.6**
SIRR Siria 25.46 57⇑*i*P **P 01 43 15.3 +0.8**
SIRR Siria 25.46 57⇑*i*P **P 01 43 15.3 +0.8**
KLV Kalavryta, Ach 25.46 77 *e*P **P 01 43 15.0 +0.4**
AGG Agios Georgios 25.51 74 *e*P **P 01 43 13.9 -1.1**
AGG Agios Georgios 25.51 74 *e*P **P 01 43 14.9 -0.1**
AGG Agios Georgios 25.51 74 P P 01 43 13.9 -1.1
LIT Litokhoron 25.57 72 *e*P **P 01 43 15.3 -0.3**
VAY Valandovo 25.61 69 P **P 01 43 15.3 -0.6**
VAY Valandovo 25.61 69 *i*P **P 01 43 15.1 -0.7**
VAY Valandovo 25.61 69 P **P 01 43 15.3 -0.6**
GUR Goura 25.62 77 *e*P **P 01 43 16.4 +0.3**
SOFL Sornfelli, Far 25.71 3 AMS AMS 01 51 22.7
comp=Z,4µm,26.8s
DSF Desfina 25.72 76 *e*P **P 01 43 15.9 -1.0**
DESF Desfina 25.72 76 *e*P **P 01 43 13.5 -3.5**
VLX Vlachokerasia 25.72 78 *e*P **P 01 43 17.6 +0.6**
AXAR Agios Charalam 25.79 75 P **P 01 43 17.9 +0.4**
AXAR Agios Charalam 25.79 75 P **P 01 43 17.9 +0.4**
DJES Djerdap 25.80 61 *e*P **P 01 43 16.0 -1.5**
KNT Kendrikon 25.86 69 P **P 01 43 18.0 -0.1**
KNT Kendrikon 25.86 69 *e*P **P 01 43 18.1 -0.1**
KNT Kendrikon 25.86 69 P **P 01 43 18.0 -0.1**
BER Bergen 25.86 17 *e*P **P 01 43 17.9 0.0**
BER Bergen 25.86 17 *e*P **P 01 43 17.9 0.0**
SNR=41
RUND Rundenannen 25.89 17 *e*P **P 01 43 17.8 -0.5**
THE Thessaloniki 25.92 71 *e*P **P 01 43 18.4 -0.2**
CRVS Cervenica-Dubn 25.97 52 *e*P **P 01 43 19.3 +0.2**
CRVS pmax pmax
comp=Z,13nm,1.2s
CRVS Cervenica-Dubn 25.97 52 *e*P **P 01 43 19.3 +0.2**
CRVS *ep*P **pP 01 43 26.1 +2.5**
CRVS *es*P **sP 01 43 29.7 +4.2**
CRVS Cervenica-Dubn 25.97 52 *e*P **P 01 43 19.3 +0.2**
comp=Z,13nm,1.2s
STHS Stebnicka Huta 25.99 50 *e*P **P 01 43 20.1 +0.8**
STHS pmax pmax
comp=Z,1.0nm,0.7s
STHS Stebnicka Huta 25.99 50 *e*P **P 01 43 20.1 +0.8**
STHS *es*P sP 01 43 31.0 +5.3
STHS Stebnicka Huta 25.99 50 *e*P **P 01 43 20.1 +0.8**
comp=Z,1.0nm,0.7s
KKB Krupnik 26.00 68 *i*P **P 01 43 21.1 +1.6**
KKB Krupnik 26.00 68 *i*P **P 01 43 21.1 +1.6**
HORT Hortiatis 26.02 71 *e*P **P 01 43 19.4 -0.3**
LKR Lokris 26.06 75 *e*P **P 01 43 19.8 -0.2**
GZR Gura Zlata 26.08 60⇑*i*P **P 01 43 20.4 +0.3**
GZR Gura Zlata 26.08 60⇑*i*P **P 01 43 20.4 +0.3**
LTK Loutraki 26.10 77 *e*P **P 01 43 20.5 +0.1**
VTS Vitosha 26.12 66 P **P 01 43 21.2 +0.5**
VTS Vitosha 26.12 66 *i*P **P 01 43 22.1 +1.4**
VTS Vitosha 26.12 66⇑*i*P **P 01 43 21.4 +0.7**
VTS Vitosha 26.12 66 P **P 01 43 21.2 +0.5**
XOR Xorichti 26.15 74 P **P 01 43 20.2 -0.6**
XOR Xorichti 26.15 74 *e*P **P 01 43 20.7 -0.1**
XOR Xorichti 26.15 74 P **P 01 43 20.2 -0.6**
NEO Neokhori 26.18 74 *e*P **P 01 43 20.6 -0.5**
SMIA Simia 26.20 75 *e*P **P 01 43 21.1 -0.2**
SOH Sokhos 26.21 70 P **P 01 43 21.2 -0.2**
SOH Sokhos 26.21 70 *e*P **P 01 43 20.9 -0.5**
SOH Sokhos 26.21 70 P **P 01 43 21.2 -0.2**
DEV Deva 26.24 59⇑*i*P **P 01 43 22.7 +1.2**
DEV Deva 26.24 59⇑*i*P **P 01 43 22.7 +1.2**
VLI Veliai 26.26 80 P **P 01 43 23.0 +1.2**
VLI Veliai 26.26 80 *e*P **P 01 43 22.5 +0.7**
VLI Veliai 26.26 80 P **P 01 43 23.0 +1.2**
DRGR 26.27 57⇑*i*P **P 01 43 22.3 +0.4**
DRGR 26.27 57⇑*i*P **P 01 43 22.3 +0.4**
PLG Polygyros 26.29 71 P **P 01 43 22.4 +0.3**
PLG Polygyros 26.29 71 *e*P **P 01 43 21.6 -0.5**
PLG Polygyros 26.29 71 P **P 01 43 22.4 +0.3**
SUE Sulen 26.32 16 *e*P **P 01 43 25.6 +3.5**
SKIA Skiathos 26.38 74 P **P 01 43 22.7 -0.2**
SKIA Skiathos 26.38 74 *e*P **P 01 43 22.4 -0.5**
SKIA Skiathos 26.38 74 P **P 01 43 22.7 -0.2**
DID Didima 26.38 78 *e*P **P 01 43 22.3 -0.6**
SRS Serrai 26.38 70 P **P 01 43 23.5 +0.6**
SRS Serrai 26.38 70 *e*P **P 01 43 22.7 -0.2**
SRS Serrai 26.38 70 P **P 01 43 23.5 +0.6**
KONO Kongsberg 26.41 22 *e*P **P 01 43 23.0 +0.1**
KONO pmax pmax
comp=Z,38nm,1.4s
KONO MLR MLR
comp=Z,5µm,19.0s
KONO Kongsberg 26.41 22 *e*P **P 01 43 23.0 +0.1**
comp=Z,38nm,1.4s
KONO LR LR
comp=Z,5µm,19.0s
KONO Kongsberg 26.41 22 *e*P **P 01 43 23.0 +0.1**
comp=Z,38nm,1.4s
KONO *es*S **S 01 47 57.3 +1.7**
SNR=40
UZH Uzhgorod 26.43 52*ce*P **P 01 43 22.7 -0.5**
UZH *i* 01 43 31.9
UZH *i* 01 44 10.7
UZH *e*PPP PPP 01 44 17.1
UZH *e* 01 46 51.0
UZH *es*S **S 01 47 51.7 -4.4**
UZH MLR MLR
comp=N,4µm,15.0s
UZH MLR MLR
comp=E,3µm,15.0s
UZH MLR MLR
comp=Z,1µm,15.0s
UZH Uzhgorod 26.43 52 *e*P **P 01 43 22.7 -0.5**
UZH Uzhgorod 26.43 52 *e*PcP **PcP 01 46 51.0 +2.8**
TRPA Tarpa 26.46 54⇑*i*P **P 01 43 23.5 +0.1**
TRPA Tarpa 26.46 54⇑*i*P **P 01 43 23.5 +0.1**
TRPA Tarpa 26.46 54⇓*e*P **P 01 43 23.1 -0.3**
MMB Musomiste 26.48 68 *i*P **P 01 43 24.4 +0.6**
MMB Musomiste 26.48 68⇑*i*P **P 01 43 24.5 +0.6**
MMB Musomiste 26.48 68 *i*P **P 01 43 24.4 +0.6**
PAIG Paliouri 26.49 72 *e*P **P 01 43 24.9 +4.0**
KOLS Kolonicke sedl 26.50 52 *e*P **P 01 43 23.8 0.0**
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS Kolonicke sedl 26.50 52 *e*P **P 01 43 23.8 0.0**
KOLS *ep*P **pP 01 43 31.0 +2.7**
KOLS *es*P sP 01 43 35.6 +5.4
KOLS Kolonicke sedl 26.50 52 *e*P **P 01 43 23.8 0.0**
comp=Z,8.0nm,1.2s
MRKA Markates 26.51 75 P **P 01 43 24.1 -0.1**
MRKA Markates 26.51 75 *e*P **P 01 43 24.0 -0.1**
MRKA Markates 26.51 75 P **P 01 43 24.1 -0.1**
MPEP Malo Peshtene 26.55 65 *i*P **P 01 43 25.1 +0.7**
BEL Belsk 26.58 45 *e*P **P 01 43 25.8 +1.2**
BEL MLR MLR
comp=Z,3µm,20.7s
BEL Belsk 26.58 45 *e*P **P 01 43 25.7 +1.2**
BEL LMZ LR 01 53 23.7
BEL Belsk 26.58 45 *e*P **P 01 43 25.8 +1.2**
comp=Z,3µm,20.7s
NVR Nevrokopi 26.58 69 P **P 01 43 25.2 +0.5**
NVR Nevrokopi 26.58 69 *e*P **P 01 43 24.4 -0.3**
NVR Nevrokopi 26.58 69 P **P 01 43 25.2 +0.5**
AOS Alonnisos 26.70 74 P **P 01 43 25.3 -0.4**
AOS Alonnisos 26.70 74 *e*P **P 01 43 25.3 -0.4**
AOS Alonnisos 26.70 74 P **P 01 43 25.3 -0.4**
OUR Ouranopolis 26.70 71 *e*P **P 01 43 25.2 -0.5**
ERET Eretria 26.71 75 P **P 01 43 25.8 -0.2**
ERET Eretria 26.71 75 P **P 01 43 25.8 -0.2**
HYA Hoyanger 26.75 17 *e* P 01 43 37.7 +12
PTL Penteli 26.80 76 *e*P **P 01 43 25.5 -1.2**
PGB Panagyurishte 26.82 66 *i*P **P 01 43 28.0 +1.1**
PGB Panagyurishte 26.82 66 *i*P **P 01 43 28.0 +1.1**
CJR Cluj-Napoca 26.86 57⇑*i*P **P 01 43 28.0 +0.8**
CJR Cluj-Napoca 26.86 57⇑*i*P **P 01 43 28.0 +0.8**
FOO Floro 26.87 16 *e*P **P 01 43 30.3 +3.4**
KWP Kalwaria Pacla 26.97 50 *e*P **P 01 43 28.5 +0.4**
KWP *e**PP **pP 01 43 31.1 -1.5**
KWP MLR MLR
comp=Z,5µm,24.1s
KWP Kalwaria Pacla 26.97 50 *e*P **P 01 43 28.5 +0.4**
KWP *ep*P **pP 01 43 31.1 -1.5**
KWP LMZ LR 01 53 07.6
KWP Kalwaria Pacla 26.97 50⇑*i*P **P 01 43 28.6 +0.4**
KWP Kalwaria Pacla 26.97 50 *e*P **P 01 43 28.5 +0.4**
comp=Z,141nm,1.2s
KWP LR LR
comp=Z,6µm,22.0s
KWP Kalwaria Pacla 26.97 50 *e*P **P 01 43 28.5 +0.4**
comp=Z,141nm,1.2s
KAVA Kavala 27.08 70 *e*P **P 01 43 26.3 -2.9**
LUJL Ujela 27.11 97 *i*P **P 01 43 30.6 +1.1**
comp=Z,190nm,1.4s,SNR=41
PLD Plovdiv 27.21 67 P **P 01 43 33.3 +3.0**
PLD Plovdiv 27.21 67 *i*P **P 01 43 33.8 +3.5**
PLD Plovdiv 27.21 67 P **P 01 43 33.3 +3.0**
RZN Rozhen 27.22 68 *i*P **P 01 43 33.9 +3.2**
RZN Rozhen 27.22 68 *i*P **P 01 43 33.9 +3.2**
ARR Arges 27.37 60⇑*i*P **P 01 43 32.6 +0.8**
ARR Arges 27.37 60⇑*i*P **P 01 43 32.6 +0.8**
VAM Vamos 27.51 82 *e*P **P 01 43 33.7 +0.6**
HUMR Humele 27.53 62⇓*i*P **P 01 43 34.1 +0.9**
HUMR Humele 27.53 62⇓*i*P **P 01 43 34.1 +0.9**
LIA Limnos Island 27.65 72 *e*P **P 01 43 34.7 +0.5**
VOIR 27.67 60⇑*i*P **P 01 43 34.8 +0.3**
VOIR 27.67 60⇑*i*P **P 01 43 34.8 +0.3**
KDZ Kurdzhali 27.75 68⇑*i*P **P 01 43 35.2 +0.1**
KDZ Kurdzhali 27.75 68⇑*i*P **P 01 43 35.3 +0.1**
KDZ Kurdzhali 27.75 68 *i*P **P 01 43 35.2 +0.1**
NAO01 NORSAR Array S 27.75 22 *e*P **P 01 43 34.9 -0.1**
comp=Z,65nm,1.2s
NAO01 NORSAR Array S 27.75 22 *e*P **P 01 43 34.9 -0.1**
comp=Z,65nm,1.2s
DIM Dimitrovgrad 27.83 67 *i*P **P 01 43 36.7 +0.8**
DIM Dimitrovgrad 27.83 67 *i*P **P 01 43 36.7 +0.8**
LVV L'vov 27.84 51 *e*P **P 01 43 36.4 +0.5**
LVV *es*S **S 01 48 16.8 -1.7**
LVV MLR MLR
comp=Z,2µm,18.0s
LVV MLR MLR
comp=N,1µm,17.0s
LVV MLR MLR
comp=E,2µm,18.0s
LVV L'vov 27.84 51 *e*P **P 01 43 36.4 +0.5**
comp=E,2µm,18.0s
LVV *es*S **S 01 48 16.8 -1.7**
comp=E,1µm,17.0s
NC602 NORSAR Array S 27.87 23 *e*P **P 01 43 36.4 +0.4**
NC602 NORSAR Array S 27.87 23 *e*P **P 01 43 36.4 +0.4**
SNR=41
SMTH Samothraki Isl 27.88 71 *e*P **P 01 43 34.1 -2.2**
DOPR Dopca 27.97 59⇑*i*P **P 01 43 37.4 +0.3**
DOPR Dopca 27.97 59⇑*i*P **P 01 43 37.4 +0.3**
NB2 NORSAR Subarra 28.01 22 P **P 01 43 38.1 +0.8**
comp=Z,22nm,1.1s,baz=208,slow=6.2
NB2 NORSAR Subarra 28.01 22 P **P 01 43 38.1 +0.8**
baz=208,slow=6.2
NB2 NORSAR Subarra 28.01 22 P **P 01 43 38.1 +0.8**
SNR=41
NOA NORSAR Array B 28.01 22 P **P 01 43 37.6 +0.3**
NOA NORSAR Array B 28.01 22 P **P 01 43 37.6 +0.3**
NOA NORSAR Array B 28.01 22 P **P 01 43 37.6 +0.3**
comp=Z,3.6nm,0.9s,baz=223,slow=8.5,SNR=6.8
NOA LR LR 01 54 53.7
comp=Z,2µm,20.9s,baz=215,slow=37
IDI Anoyia 28.09 82 *e*P **P 01 43 39.2 +0.9**
comp=Z,712nm,1.8s
IDI Anoyia 28.09 82 *e*P **P 01 43 39.2 +0.9**
comp=Z,712nm,1.8s
IDI Anoyia 28.09 82 P **P 01 43 39.3 +0.9**
comp=Z,50nm,0.7s,baz=278,slow=8.7,SNR=48
BUR08 Bucovina Ar. S 28.10 56 *e*P **P 01 43 38.8 +0.4**
BUR08 Bucovina Ar. S 28.10 56 *e*P **P 01 43 38.8 +0.4**
BURAR Bucovina Array 28.11 56⇑*i*P **P 01 43 39.0 +0.6**
BURAR Bucovina Array 28.11 56⇑*i*P **P 01 43 39.0 +0.6**
HFS Hagfors 28.11 25 P **P 01 43 38.4 +0.2**
HFS Hagfors 28.11 25 P **P 01 43 38.4 +0.2**
HFS Hagfors 28.11 25 P **P 01 43 38.4 +0.2**
comp=Z,4.5nm,0.5s,baz=206,slow=9.9,SNR=19
HFS LR LR 01 56 42.6
comp=Z,5µm,18.2s,baz=222,slow=40
SZH Strazhica 28.14 65 *i*P **P 01 43 39.6 +0.9**
SZH Strazhica 28.14 65 *i*P **P 01 43 39.6 +0.9**
SIGR SIGRI 28.22 73 *e*P **P 01 43 39.6 +0.2**
ALN Alexandroupoli 28.25 70 *e*P **P 01 43 38.7 -0.9**
APE Apeiranthos 28.25 78⇓*i*P **P 01 43 39.3 -0.5**
APE Apeiranthos 28.25 78 *e*P **P 01 43 39.0 -0.8**
APE Apeiranthos 28.25 78⇑*i*P **P 01 43 39.7 -0.1**
APE Apeiranthos 28.25 78⇑*i*P **P 01 43 39.7 -0.1**
MLR Muntele Rosu 28.30 60⇑*i*P **P 01 43 41.2 +1.0**
MLR Muntele Rosu 28.30 60 P **P 01 43 41.2 +1.0**
MLR Muntele Rosu 28.30 60 P **P 01 43 41.2 +1.0**
MLR Muntele Rosu 28.30 60 P **P 01 43 41.2 +1.0**
comp=Z,7.2nm,1.2s,baz=244,slow=3.7,SNR=9.9
SANT Santorini 28.32 79 *e*P **P 01 43 39.9 -0.5**
comp=Z,237nm,1.1s
SANT LR LR
comp=Z,1µm,20.0s
SANT Santorini 28.32 79 *e*P **P 01 43 39.9 -0.5**
comp=Z,237nm,1.1s
CHOS Chios island 28.47 75 *e*P **P 01 43 41.3 -0.4**
PRK Paraskevi 28.54 73 *e*P **P 01 43 42.9 +0.7**
NPS Neapolis 28.67 82 *e*P **P 01 43 43.8 +0.4**
ISR Istrita 28.69 61⇑*i*P **P 01 43 43.8 +0.2**
ISR Istrita 28.69 61⇑*i*P **P 01 43 43.8 +0.2**
PRAR RASCA 28.74 56⇓*i*P **P 01 43 44.3 +0.4**
PRAR RASCA 28.74 56⇓*i*P **P 01 43 44.3 +0.4**
SUW Suwalki 28.78 42 *e*P **P 01 43 44.7 +0.5**
SUW *e**PP **pP 01 43 47.6 -1.2**
SUW MLR MLR
comp=Z,2µm,22.2s
SUW Suwalki 28.78 42 *e*P **P 01 43 44.7 +0.5**
SUW *ep*P **pP 01 43 47.5 -1.2**
SUW *e* 01 43 57.1
SUW LMZ LR 01 54 28.6
SUW Suwalki 28.78 42 *e*P **P 01 43 44.7 +0.5**
comp=Z,467nm,1.2s
SUW Suwalki 28.78 42 *e*P **P 01 43 44.7 +0.5**
comp=Z,467nm,1.2s
SUW *ep*P **pP 01 43 47.6 -1.2**
VRI Vrincioaia 28.89 60⇑*i*P **P 01 43 45.2 -0.1**
VRI Vrincioaia 28.89 60⇑*i*P **P 01 43 45.2 -0.1**
TESR Tescani 28.91 58⇑*i*P **P 01 43 46.1 +0.7**
TESR Tescani 28.91 58⇑*i*P **P 01 43 46.1 +0.7**
BORG Borgarnes 29.16 350 LR LR 01 53 02.0
comp=Z,1µm,21.9s,baz=187,slow=32
SMG Samos 29.18 76 *e*P **P 01 43 46.8 -1.2**
PRD Provadia 29.21 65 *i*P **P 01 43 48.5 +0.4**
PRD Provadia 29.21 65 *i*P **P 01 43 48.5 +0.4**
TBLU Trondheim 29.54 18 *e*P **P 01 43 53.9 +3.1**
CFR Carcaliu 29.82 61⇓*i*P **P 01 43 51.1 -2.4**
KARP Karpathos 29.84 81 *e*P **P 01 43 54.1 +0.2**
TIRR Tirgusor 29.98 63 *e*P **P 01 43 54.6 -0.3**
TIRR pmax pmax
comp=Z,3.0nm,0.7s
TIRR Tirgusor 29.98 63⇑*i*P **P 01 43 54.9 0.0**
TIRR Tirgusor 29.98 63 *e*P **P 01 43 54.6 -0.3**
comp=Z,2.9nm,0.7s
TIRR Tirgusor 29.98 63⇑*i*P **P 01 43 54.9 0.0**
DBIC Dimbokro 29.98 170⇓*i*P **P 01 43 54.5 -0.7**
DBIC Dimbokro 29.98 170 *e*P **P 01 43 54.6 -0.5**
comp=Z,59nm,0.6s
DBIC Dimbokro 29.98 170 *e*P **P 01 43 54.6 -0.5**
comp=Z,59nm,0.6s
DBIC Dimbokro 29.98 170 P **P 01 43 54.6 -0.5**
comp=Z,64nm,0.6s,baz=341,slow=9.7,SNR=242
DBIC LR LR 01 56 40.4
comp=Z,4µm,19.8s,baz=339,slow=38
TIC Toumodi 29.99 170 *e*P **P 01 43 53.9 -1.3**
comp=Z,129nm,0.4s
LEOM Leova 30.00 59⇑*i*P **P 01 43 54.7 -0.4**
LEOM Leova 30.00 59⇑*i*P **P 01 43 54.7 -0.4**
KIC Kosan Boka 30.30 170 *e*P **P 01 43 56.6 -1.4**
comp=Z,114nm,0.6s
LIC Lamto 30.40 170 *e*P **P 01 43 57.3 -1.5**
comp=Z,247nm,0.6s
LIC Lamto 30.40 170⇓*i*P **P 01 43 58.2 -0.6**
comp=Z,143nm,0.6s,baz=354
LIC *e*R
comp=Z,6µm,20.8s
LIC Lamto 30.40 170⇓*i*P **P 01 43 58.2 -0.6**
comp=Z,143nm,0.6s
LIC Lamto 30.40 170⇓*i*P **P 01 43 58.2 -0.6**
comp=Z,143nm,0.6s
KIS Kishinev 30.44 58 *e*P P 01 44 03.0 +4.0
KIS *e*Li 01 52 15.0
KIS *e*LQ LQ 01 53 14.0
KIS LRM MLR 01 56 44.0
comp=Z,3µm,20.0s
KIS Kishinev 30.44 58 *e*P P 01 44 03.0 +4.0
KIS *es*S S 01 49 09.0 +10
KIS MLR MLR
comp=N,2µm,17.0s
KIS MLR MLR
comp=Z,2µm,17.0s
KIS MLR MLR
comp=Z,3µm,20.0s
LKFR Kufra 30.90 104 *i*P **P 01 44 04.6 +1.3**
comp=Z,350nm,1.1s,SNR=40
IIGN Ignalina 30.94 41 *e*P **P 01 44 03.5 +0.2**
IIGN AMB AMB 01 44 19.2
comp=Z,47nm,1.5s
IIGN Ignalina 30.94 41 *e*P **P 01 44 03.5 +0.2**
comp=Z,47nm,1.5s,SNR=27
ISAL Salakas 30.97 40 *e*P **P 01 44 03.8 +0.2**
ISAL AMB AMB 01 44 20.0
comp=Z,20nm,1.6s
ISAL Salakas 30.97 40 *e*P **P 01 44 03.8 +0.2**
comp=Z,20nm,1.6s,SNR=27
NSS Namsos 31.02 18 *e*P **P 01 44 04.1 +0.2**
NSS Namsos 31.02 18 *e*P **P 01 44 04.1 +0.2**
SNR=40
NACGM Naroch 31.07 42 *e*P **P 01 44 03.0 -1.4**
NACGM Naroch 31.07 42 *e*P **P 01 44 03.0 -1.4**
IDID Didziasalis 31.20 41 *e*P **P 01 44 05.7 +0.2**
IDID AMB AMB 01 44 22.2
comp=Z,38nm,1.3s
IDID Didziasalis 31.20 41 *e*P **P 01 44 05.7 +0.2**
comp=Z,38nm,1.3s,SNR=27
KIEV Kiev 31.28 51⇑*e*P **P 01 44 06.4 +0.1**
KIEV Kiev 31.28 51 *e*P **P 01 44 05.3 -1.1**
comp=Z,100nm,2.0s
KIEV LR LR
comp=Z,3µm,22.0s
KIEV Kiev 31.28 51 *e*P **P 01 44 06.4 +0.1**
AKASG Malin Array Be 31.29 51 P **P 01 44 04.9 -1.5**
AKASG Malin Array Be 31.29 51 P **P 01 44 04.9 -1.5**
AKASG ScP **ScP 01 50 38.9 -4.0**
comp=Z,1.5nm,0.5s,baz=254,slow=8.5,SNR=7.7
AKASG ScP **ScP 01 50 38.9 -4.0**
comp=Z,0.2nm,0.3s,baz=266,slow=4.2,SNR=6.9
AKASG LR LR 01 58 06.4
comp=Z,2µm,20.0s,baz=260,slow=39
MNK Minsk 31.50 43 *e*P P 01 44 04.0 -4.2
VSU Vasula 32.49 36 *i*P **P 01 44 19.0 +2.2**
VSU Vasula 32.49 36 *i*P **P 01 44 19.0 +2.2**
KONS Konsvik 32.91 17 *e*P **P 01 44 21.6 +1.1**
NRS Narsarsuaq 33.36 329 *i*P **P 01 44 24.1 -0.3**
NRS MLR MLR
comp=Z,4µm,18.0s
NRS Narsarsuaq 33.36 329 *i*P **P 01 44 24.1 -0.3**
comp=Z,4µm,18.0s
ANTO Ankara 33.47 71 *e*P **P 01 44 26.1 +0.3**
ANTO pmax pmax
comp=Z,44nm,1.0s
ANTO MLR MLR
comp=Z,1µm,20.0s
ANTO Ankara 33.47 71⇓*i*P **P 01 44 25.6 -0.2**
ANTO Ankara 33.47 71 *e*P **P 01 44 26.1 +0.3**
comp=Z,44nm,1.0s
ANTO LR LR
comp=Z,1µm,20.0s
ANTO Ankara 33.47 71 *e*P **P 01 44 26.1 +0.3**
comp=Z,44nm,1.0s
FINES FINESS Array B 33.65 31 P **P 01 44 27.2 +0.3**
FINES FINESS Array B 33.65 31 P **P 01 44 27.2 +0.3**
FINES FINESS Array B 33.65 31 P **P 01 44 27.2 +0.3**
comp=Z,33nm,0.7s,baz=245,slow=7.2,SNR=74
FINES LR LR 01 59 45.3
comp=Z,6µm,19.2s,baz=235,slow=39
FIA1 FINESS Array S 33.65 31 *e*P **P 01 44 27.5 +0.5**
FIA1 FINESS Array S 33.65 31 *e*P **P 01 44 27.5 +0.5**
SIM Simferopol' 34.05 62 *e*P **P 01 44 31.8 +1.2**
SIM *es*S **S 01 49 54.6 -1.0**
SIM pmax pmax
comp=Z,140nm,2.7s
SIM MLR MLR
comp=Z,580nm,16.6s
SIM Simferopol' 34.05 62 *e*P **P 01 44 31.8 +1.2**
comp=Z,140nm,2.7s
SIM *es*S **S 01 49 54.6 -1.0**
comp=Z,580nm,16.6s
KAF Kangasniemi 34.09 30 *e*P **P 01 44 30.2 -0.6**
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 34.09 30 *ep* **P 01 44 30.2 -0.6**
comp=Z,2.4nm,0.3s
KAF Kangasniemi 34.09 30 *e*P **P 01 44 30.2 -0.6**
comp=Z,2.0nm,0.3s
BR131 Keskin Array S 34.14 71 *e*P **P 01 44 31.9 +0.3**
comp=Z,9.6nm,0.7s
BR131 Keskin Array S 34.14 71 *e*P **P 01 44 32.0 +0.3**
comp=Z,9.6nm,0.7s
BRTR Keskin Array B 34.14 71 P **P 01 44 31.9 +0.2**
BRTR PKKP **PKKPdf 02 09 24.8 +1.6**
BRTR PKKKP 02 16 44.5
BRTR Keskin Array B 34.14 71 P **P 01 44 31.9 +0.3**
BRTR Keskin Array B 34.14 71 P **P 01 44 31.9 +0.2**
comp=Z,8.1nm,0.9s,baz=278,slow=6.2,SNR=20
BRTR LR LR 01 59 24.5
comp=Z,938nm,20.2s,baz=77,slow=38
BRTR PKKP **PKKPdf 02 09 24.8 +1.6**
comp=Z,1.9nm,1.1s,baz=27,slow=8.3,SNR=3.8
BRTR P3KP 02 16 44.5
comp=Z,0.6nm,0.9s,baz=0.0,slow=0.6,SNR=3.5
SCO Scoresbysund 34.71 353 *i*P **P 01 44 37.9 +1.8**
SCO MLR MLR
comp=Z,2µm,21.0s
SCO Scoresbysund 34.71 353 *i*P **P 01 44 37.9 +1.8**
comp=Z,12nm,1.1s
SCO
comp=Z,2µm,20.0s
SCO Scoresbysund 34.71 353 *i*P **P 01 44 37.9 +1.8**
CSS Prodhromos 34.88 79 *e*P **P 01 44 38.6 +0.6**
CSS LR LR
comp=Z,476nm,22.0s
CSS Prodhromos 34.88 79 *e*P **P 01 44 38.6 +0.6**
ANN Anapa 36.41 62 P P 01 44 45.7 -5.3
ANN S S 01 50 24.2 -7.6
ANN pmax pmax
comp=Z,241nm,1.3s
ANN MLR MLR
comp=Z,2µm,19.0s
JOF Joensuu 36.51 30 *e*P **P 01 44 51.4 -0.2**
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF Joensuu 36.51 30 *ep* **P 01 44 51.4 -0.2**
comp=Z,1.7nm,0.3s
JOF Joensuu 36.51 30 *e*P **P 01 44 51.4 -0.2**
comp=Z,1.7nm,0.3s
OBN Obninsk 36.54 44⇑*i*P **P 01 44 52.3 +0.4**
OBN *e* 01 46 15.1
OBN *i*S **S 01 50 35.0 +1.5**
OBN pmax pmax
comp=Z,40nm,1.7s
OBN MLR MLR
comp=Z,2µm,17.0s
OBN Obninsk 36.54 44 *e*P **P 01 44 51.9 0.0**
comp=Z,169nm,1.2s
OBN LR LR
comp=Z,2µm,21.0s
OBN Obninsk 36.54 44 *i*P **P 01 44 52.3 +0.4**
comp=Z,40nm,1.7s
OBN *i*S **S 01 50 35.0 +1.5**
comp=Z,2µm,17.0s
TRO Tromso 36.73 16 *e*P **P 01 44 55.2 +1.8**
TRO *es*S **S 01 50 37.0 +0.8**
TRO Tromso 36.73 16 *e*P **P 01 44 55.2 +1.8**
SNR=38
TRO *es*S **S 01 50 37.0 +0.8**
SNR=37
MOS Moscow 37.25 44 *e*P **P 01 44 56.1 -1.9**
MOS *e* 01 46 20.8
MOS *es*S **S 01 50 41.0 -3.4**
MOS *es*S **SnSn 01 53 21.1 +1.4**
MOS *e* 01 55 06.0
MOS pmax pmax
comp=Z,32nm,0.9s
MOS MLR MLR
comp=Z,2µm,17.0s

MOS MLR MLR
comp=N,2μm,16.0s
MOS MLR MLR
comp=E,2μm,18.0s
MOS Moscow 37.25 44 *e*P **P 01 44 56.1 -1.9**
comp=E,32nm,0.9s
KTK1 Kautokeino 37.33 19 *e*P **P 01 44 59.6 +1.1**
KFRA Kufra 37.55 78 *e*P **P 01 44 58.1 -2.8**
VSR Storozhevoye 37.59 51 *e*P **P 01 44 59.7 -1.2**
VSR pmax pmax
comp=Z,30nm,0.7s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,60nm,1.0s
VSR MLR MLR
comp=Z,780nm,15.0s
VSR MLR MLR
comp=N,3μm,16.0s
VSR MLR MLR
comp=E,1μm,19.0s
VSR Storozhevoye 37.59 51 *e*P **P 01 44 59.7 -1.2**
comp=E,3μm,16.0s
QASN Qassioun 37.62 80 *e*P P 01 44 58.0 -3.6
MARH Ras Al Marh 37.64 80 *e*P **P 01 45 03.2 +1.2**
VOR Voronezh 37.64 50 P **P 01 45 01.0 -0.4**
VOR pmax pmax
comp=Z,440nm,1.4s
VOR Voronezh 37.64 50 P **P 01 45 01.0 -0.4**
comp=Z,440nm,1.4s
VORD Divnogorie 37.65 52 *e*P **P 01 44 59.8 -1.6**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,120nm,1.7s
VORD MLR MLR
comp=Z,2μm,23.0s
VORD MLR MLR
comp=N,2μm,14.0s
VORD MLR MLR
comp=E,1μm,23.0s
VORD Divnogorie 37.65 52 *e*P **P 01 44 59.8 -1.6**
comp=E,2μm,14.0s
TCHB Talchebab 37.65 82 *e*P **P 01 45 03.3 +1.6**
EIL Elat 37.88 87 P **P 01 45 04.8 +1.1**
EIL Elat 37.88 87 P **P 01 45 04.8 +1.1**
EIL Elat 37.88 87 P **P 01 45 04.8 +1.1**
comp=E,52nm,1.1s,baz=320,slow=4.9,SNR=15
EIL LR LR 02 03 21.4
comp=E,710nm,20.9s,baz=287,slow=40
MALT Malatya 38.06 72 ‖ *i*P **P 01 45 03.5 -1.7**
MALT Malatya 38.06 72 ‖ *i*P **P 01 45 03.5 -1.7**
SOC Sochi 38.15 64 *d* iP **P 01 45 06.1 +0.3**
SOC *e**PP **pP 01 45 10.1 -0.3**
SOC *e*PPP PPP 01 46 54.3
SOC *e*S **S 01 51 01.8 +3.4**
SOC pmax pmax
comp=Z,72nm,0.9s
SOC MLR MLR
comp=Z,1μm,18.0s
SOC Sochi 38.15 64 *i* P **P 01 45 06.1 +0.3**
comp=Z,72nm,0.9s
SOC *e*S **S 01 51 01.8 +3.4**
comp=Z,1μm,18.0s
SLMH Al Salmeh 38.17 76 *e*P **P 01 45 06.0 -0.2**
ARCES ARCESS Array B 38.28 19 P **P 01 45 06.5 -0.1**
ARCES PcP **PcP 01 47 20.4 +0.1**
ARCES ARCESS Array B 38.28 19 P **P 01 45 06.5 -0.1**
ARCES ARCESS Array B 38.28 19 PcP **PcP 01 47 20.4 +0.1**
ARCES ARCESS Array B 38.28 19 P **P 01 45 06.5 -0.1**
comp=Z,22nm,0.7s,baz=225,slow=8.4,SNR=110
ARCES PcP **PcP 01 47 20.4 +0.1**
comp=Z,4.2nm,0.4s,baz=246,slow=2.5,SNR=7.0
ARCES LR LR 02 01 18.8
comp=Z,1μm,21.0s,baz=231,slow=37
ARE0 ARCESS Array S 38.28 19 *e*P **P 01 45 04.2 -2.4**
ARE0 *e*S **S 01 50 57.3 -2.5**
ARE0 ARCESS Array S 38.28 19 *e*P **P 01 45 06.5 -0.1**
ARE0 ARCESS Array S 38.28 19 *e*P **P 01 45 06.5 -0.1**
SFJD Kangerlussuaq 38.39 336 *i* P **P 01 45 06.5 -0.9**
comp=Z,84nm,0.9s
SFJD pmax pmax
comp=Z,4μm,22.0s
SFJD Kangerlussuaq 38.39 336 *e*P **P 01 45 06.5 -0.9**
comp=Z,192nm,1.1s
SFJD LR LR
comp=Z,4μm,21.0s
SFJD Kangerlussuaq 38.39 336 *i* P **P 01 45 06.6 -0.9**
comp=Z,84nm,0.9s,SNR=26
SFJD Kangerlussuaq 38.39 336 P **P 01 45 06.7 -0.7**
comp=Z,127nm,1.0s,baz=127,slow=8.1,SNR=27
ASF Jabal al Asfar 38.55 82 P **P 01 45 11.0 +1.6**
ASF Jabal al Asfar 38.55 82 P **P 01 45 11.0 +1.6**
comp=Z,40nm,1.0s,baz=232,slow=2.7,SNR=18
ZALF Zalf 38.66 81 *e*P **P 01 45 11.5 +1.3**
KEV Kevo 38.83 19 *e*P **P 01 45 10.8 -0.3**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 38.83 19 *e*p **P 01 45 10.8 -0.3**
comp=Z,1.9nm,0.4s
KEV Kevo 38.83 19 PFAKE 01 45 20.0 +8.9
KEV LR LR
comp=Z,3μm,19.0s
KEV Kevo 38.83 19 *e*P **P 01 45 10.8 -0.3**
comp=Z,1.9nm,0.4s
KSRV Kasrt alli 39.11 76 *e*P **P 01 45 13.7 -0.2**
KSRV *e*P **pP 01 45 14.9 -3.6**
KSRV *e*P **pwP 01 45 16.4 -2.2**
VRHR Novokhopersk 39.13 51 *e*P **P 01 45 13.5 -0.3**
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR MLR MLR
comp=Z,2μm,22.0s
VRHR MLR MLR
comp=N,1μm,17.0s
VRHR MLR MLR
comp=E,2μm,24.0s
VRHR Novokhopersk 39.13 51 *e*P **P 01 45 13.5 -0.3**
comp=E,1μm,17.0s
MNKR ALMNKUR 39.30 76 *e*P P 01 45 10.4 -5.0
APA Apatity 39.51 24 *i* P **P 01 45 17.4 +0.6**
APA *i* 01 46 57.8
APA *i* 01 47 27.0
APA *i* S **S 01 51 20.0 +1.7**
APA MLR MLR
comp=Z,4μm,21.0s
APA Apatity 39.51 24 *i* P **P 01 45 17.4 +0.6**
APA Apatity 39.51 24 *i* PcP **PcP 01 47 27.0 +2.9**
APA *i* S **S 01 51 20.0 +1.7**
comp=Z,4μm,21.0s
ILULI Ilulissat 39.75 338 *i* P **P 01 45 17.8 -1.0**
ILULI MLR MLR
comp=Z,2μm,18.0s
ILULI Ilulissat 39.75 338 *i* P **P 01 45 17.8 -1.0**
comp=Z,55nm,1.0s
ILULI
comp=Z,2μm,18.0s
ILULI Ilulissat 39.75 338 *i* P **P 01 45 17.8 -1.0**
comp=Z,55nm,1.1s,SNR=26
TMCR Tamitsa 39.77 31 *e*P P 01 45 24.9 +5.9
TMCR *e* 01 46 58.2
TMCR pmax pmax
comp=Z,98nm,1.5s
SFNV Sufian 39.82 75 *e*P P 01 45 14.5 -5.5
CHVG Ch'k'valeri 39.99 65 P **P 01 45 22.9 +1.7**
KBSD Kabsdagh 40.01 74 *e*P P 01 45 15.0 -6.4
LVZ Lovozero 40.08 24 *i* P **P 01 45 24.3 +2.6**
LVZ pmax pmax
comp=Z,21nm,0.9s
LVZ MLR MLR
comp=Z,2μm,20.0s
LVZ Lovozero 40.08 24 PFAKE 01 45 30.0 +8.3
LVZ LR LR
comp=Z,3μm,22.0s
LVZ Lovozero 40.08 24 *i* P **P 01 45 24.3 +2.6**
comp=Z,2μm,20.0s
KIV Kislovodsk 40.24 63 P **P 01 45 24.8 +1.4**
comp=Z,176nm,1.3s,SNR=6.5
KIV Kislovodsk 40.24 63 *e*P **P 01 45 23.9 +0.5**
KIV *e*S **S 01 51 29.4 -0.6**
KIV pmax pmax
comp=Z,39nm,1.1s
KIV MLR MLR
comp=Z,747nm,15.0s
KIV Kislovodsk 40.24 63 PFAKE 01 45 40.0 +17
KIV LR LR
comp=Z,1μm,21.0s
KIV Kislovodsk 40.24 63 *e*P **P 01 45 23.9 +0.5**
comp=Z,39nm,1.1s
KIV *e*S **S 01 51 29.4 -0.6**
comp=Z,747nm,15.0s
GOF Gofitskoye 40.35 61 ‖ *i*P **P 01 45 25.0 +0.8**
GOF pmax pmax
comp=Z,110nm,1.3s
MZRK Al-Mazaregh 40.41 75 *e*P P 01 45 18.8 -6.0
KBZ Khabaz 40.42 63 P **P 01 45 26.3 +1.6**
KBZ Khabaz 40.42 63 P **P 01 45 26.3 +1.6**
KBZ Khabaz 40.42 63 P **P 01 45 26.3 +1.6**
KBZ Khabaz 40.42 63 P **P 01 45 26.3 +1.6**
comp=Z,16nm,1.1s,baz=325,slow=8.0,SNR=14
DAG Danmarks Havn 40.62 357 *i* P **P 01 45 26.9 +1.0**
DAG MLR MLR
comp=Z,2μm,18.0s
DAG Danmarks Havn 40.62 357 *i* P **P 01 45 26.9 +1.0**
DAG
comp=Z,2μm,18.0s
DAG Danmarks Havn 40.62 357 *i* P **P 01 45 26.9 +1.0**
ONI Oni 41.00 64 P **P 01 45 31.1 +1.5**
AKH Akhalkalaki 41.25 66 P **P 01 45 32.1 +0.3**
ZEI Tsey 41.30 64 *e*P **P 01 45 31.4 -0.8**
ZEI pmax pmax
comp=Z,75nm,1.5s
ZEI Tsey 41.30 64 *e*P **P 01 45 31.4 -0.8**
comp=Z,75nm,1.5s
GUDG Gudauri 41.77 64 P **P 01 45 38.1 +1.9**
KZR Kazreti 41.93 66 P **P 01 45 38.3 +1.0**
TBLG Delisi 42.10 65 P **P 01 45 39.6 +1.0**
SEAG Tbilisi Sea 42.14 65 P **P 01 45 39.3 +0.3**
GNI Garni 42.44 68 P **P 01 45 42.7 +1.2**
SNR=8.2
GNI Garni 42.44 68 *e*P **P 01 45 41.5 -0.1**
comp=Z,45nm,0.9s
GNI Garni 42.44 68 *i* P **P 01 45 42.1 +0.6**
comp=Z,578nm,25.0s
GNI Garni 42.44 68 P **P 01 45 42.2 +0.6**
comp=Z,16nm,0.8s,baz=297,slow=4.5,SNR=11
GNI LR LR 02 05 02.2
comp=Z,455nm,20.9s,baz=294,slow=38
PRGR Permogore 42.45 36 ‖ *i*P **P 01 45 41.5 +0.4**
PRGR pmax pmax
comp=Z,57nm,1.0s
PRGR Permogore 42.45 36 *i* P **P 01 45 41.5 +0.4**
comp=Z,57nm,1.0s
SCHQ Schefferville 42.56 314 *e*P **P 01 45 41.4 -0.7**
comp=Z,249nm,1.3s
SCHQ Schefferville 42.56 314 *e*P **P 01 45 41.4 -0.7**
comp=Z,249nm,1.3s
SCHQ Schefferville 42.56 314 P **P 01 45 41.5 -0.7**
comp=Z,63nm,0.6s,baz=94,slow=7.4,SNR=93
SCHQ LR LR 01 59 30.4
comp=Z,3μm,21.9s,baz=303,slow=31
DGRG David-gareji 42.62 66 P **P 01 45 43.7 +0.8**
SPA0 Spitsbergen Ar 43.29 8 *e*P **P 01 45 48.6 +0.8**
SPA0 Spitsbergen Ar 43.29 8 *e*P **P 01 45 48.6 +0.8**
SNR=36
SPITS Spitsbergen Ar 43.29 8 P **P 01 45 48.8 +1.0**
SPITS Spitsbergen Ar 43.29 8 P **P 01 45 48.8 +1.0**
SPITS Spitsbergen Ar 43.29 8 P **P 01 45 48.8 +1.0**
comp=Z,33nm,0.9s,baz=186,slow=10,SNR=17
IMRD Marand 43.51 70 *e*P **P 01 45 50.0 -0.3**
IMRD Marand 43.51 70 *e*P **P 01 45 50.0 -0.3**
KBS Kingsbay 43.53 6 *e*P **P 01 45 52.3 +2.6**
KBS Kingsbay 43.53 6 *e*P **P 01 45 51.1 +1.4**
KBS pmax pmax
comp=Z,665nm,2.7s
KBS MLR MLR
comp=Z,2μm,22.0s
KBS Kingsbay 43.53 6 *e*P **P 01 45 51.1 +1.4**
comp=Z,666nm,2.7s
KBS LR LR
comp=Z,2μm,22.0s
KBS Kingsbay 43.53 6 *e*P **P 01 45 51.1 +1.4**
comp=Z,666nm,2.7s
MAK Makhachkala 43.87 63 P **P 01 45 50.8 -2.0**
MAK *e* 01 47 35.0
MAK *e*PPP PPP 01 48 12.6
MAK *e*S **S 01 52 17.9 -5.5**
MAK *e*SSS SSS 01 56 18.3
MAK pmax pmax
comp=Z,93nm,0.9s
MAK MLR MLR
comp=Z,2μm,19.0s
MAK Makhachkala 43.87 63 P **P 01 45 50.8 -2.0**
comp=Z,93nm,0.9s
ITBZ Tabriz 43.97 70 *e*P **P 01 45 53.5 -0.5**
ITBZ Tabriz 43.97 70 *e*P **P 01 45 53.5 -0.5**
KULLO Kullorsuaq 44.28 344 *i* P **P 01 45 56.2 +0.5**
KULLO MLR MLR
comp=Z,3μm,24.0s
KULLO Kullorsuaq 44.28 344 *i* P **P 01 45 56.2 +0.5**
comp=Z,65nm,0.9s
KULLO
comp=Z,3μm,24.0s
KULLO Kullorsuaq 44.28 344 *i* P **P 01 45 56.2 +0.5**
comp=Z,3μm,24.0s
ASCN Ascension 44.34 186 PFAKE 01 46 10.0 +13
ASCN LR LR
comp=Z,2μm,19.0s
IHRS Heris 44.63 70 *e*P **P 01 45 58.5 -0.8**
IHRS Heris 44.63 70 *e*P **P 01 45 58.5 -0.8**
IBST Bostanabad 44.69 71 *e*P **P 01 45 58.6 -1.2**
IBST Bostanabad 44.69 71 *e*P **P 01 45 58.6 -1.2**
PKME Peaks-Kenny Pk 44.91 301 *e*P **P 01 46 01.9 +0.8**
comp=Z,376nm,2.1s
PKME LR LR
comp=Z,3μm,19.0s
PKME Peaks-Kenny Pk 44.91 301 *e*P **P 01 46 01.9 +0.8**
comp=Z,376nm,2.1s
BBSR BB Station 44.93 282 PFAKE 01 46 10.0 +8.5
BBSR LR LR
comp=Z,4μm,22.0s
LBNH Lisbon 46.95 300 *e*P **P 01 46 17.5 +0.2**
LBNH pmax pmax
comp=Z,306nm,1.8s
LBNH MLR MLR
comp=Z,4μm,21.0s
LBNH Lisbon 46.95 300 *e*P **P 01 46 17.5 +0.2**
comp=Z,306nm,1.8s
LBNH LR LR
comp=Z,4μm,21.0s
LBNH Lisbon 46.95 300 *e*P **P 01 46 17.5 +0.2**
comp=Z,4μm,21.0s
WES Weston 46.96 297 *e*P **P 01 46 17.9 +0.5**
WES Weston 46.96 297 *e*P **P 01 46 17.9 +0.5**
WES Weston 46.96 297 *e*P **P 01 46 17.9 +0.5**
HRV Adam Dziewonsk 47.10 297 *e*P **P 01 46 17.9 -0.6**
HRV pmax pmax
comp=Z,427nm,1.9s
HRV Adam Dziewonsk 47.10 297 *e*P **P 01 46 17.9 -0.6**
comp=Z,427nm,1.9s
HRV Adam Dziewonsk 47.10 297 *e*P **P 01 46 17.9 -0.6**
comp=Z,427nm,1.9s
RST Umm Al-Ruwaisa 47.61 81 *e*P **P 01 46 22.1 -0.5**
RST AMb AMB 01 46 24.0
comp=Z,844nm,1.1s
RST Umm Al-Ruwaisa 47.61 81 *e*P **P 01 46 22.1 -0.5**
comp=Z,844nm,1.1s
IRAZ Razeghan 47.72 73 *e*P **P 01 46 23.4 -0.3**
IRAZ Razeghan 47.72 73 *e*P **P 01 46 23.4 -0.3**
MDV Middlebury 47.89 300 *e*P **P 01 46 24.6 0.0**
MDV Middlebury 47.89 300 *e*P **P 01 46 24.6 0.0**
FRNY Flat Rock 47.98 301 *e*P **P 01 46 25.4 +0.1**
comp=Z,186nm,2.0s
FRNY Flat Rock 47.98 301 *e*P **P 01 46 25.4 +0.1**
comp=Z,186nm,2.0s
RDF Al-Radifah 48.28 82 *e*P **P 01 46 26.9 -0.9**
RDF AMb AMB 01 46 29.5
comp=Z,79nm,1.6s
RDF Al-Radifah 48.28 82 *e*P **P 01 46 26.9 -0.9**
comp=Z,79nm,1.6s
KBD Kabd 48.29 81 *e*P **P 01 46 27.6 -0.3**
KBD AMb AMB 01 46 29.8
comp=Z,124nm,1.3s
KBD Kabd 48.29 81 *e*P **P 01 46 27.6 -0.3**
comp=Z,124nm,1.3s
ACCN Adirondack Com 48.38 299 *e*P **P 01 46 29.1 +0.7**
comp=Z,324nm,2.4s
ACCN Adirondack Com 48.38 299 *e*P **P 01 46 29.1 +0.7**
comp=Z,324nm,2.4s
TRY Troy 48.55 298 *e*P **P 01 46 31.0 +1.3**
TRY Troy 48.55 298 *e*P **P 01 46 31.0 +1.3**
RCBR Riachuelo 48.62 216 PFAKE 01 46 40.0 +9.5
RCBR LR LR
comp=Z,711nm,20.0s
LONY Lake Ozonia 48.72 301 *e*P **P 01 46 30.1 -0.9**
comp=Z,201nm,1.8s
LONY LR LR
comp=Z,5μm,22.0s
LONY Lake Ozonia 48.72 301 *e*P **P 01 46 30.1 -0.9**
comp=Z,201nm,1.8s
ARU Arti 48.96 43 P **P 01 46 32.5 -0.1**
comp=Z,120nm,0.6s,SNR=7.6
ARU Arti 48.96 43 *d* iP **P 01 46 32.6 -0.1**
ARU 01 47 57.3
ARU 01 48 25.3
ARU S **S 01 53 34.7 -1.3**
ARU 01 56 19.6
ARU SS **SS 01 57 02.2 -4.2**
ARU pmax pmax
comp=Z,19nm,1.1s
ARU MLR MLR
comp=Z,3μm,18.0s
ARU Arti 48.96 43 *e*P **P 01 46 32.8 +0.2**
comp=Z,77nm,1.1s
ARU LR LR
comp=Z,3μm,19.0s
ARU Arti 48.96 43 *e*P **P 01 46 32.8 +0.2**
comp=Z,77nm,1.1s
ARU Arti 48.96 43 PcP **PcP 01 47 57.3 +0.7**
ARU S **S 01 53 34.7 -1.3**
PTN Potsdam (NY) 49.01 301 *e*P **P 01 46 33.6 +0.4**
PTN pmax pmax
comp=Z,314nm,1.4s
PTN Potsdam (NY) 49.01 301 *e*P **P 01 46 33.6 +0.4**
comp=Z,314nm,1.4s
PTN Potsdam (NY) 49.01 301 *e*P **P 01 46 33.6 +0.4**
comp=Z,314nm,1.4s
IVRN Varamin 49.25 72 *e*P **P 01 46 35.5 +0.2**
IVRN Varamin 49.25 72 *e*P **P 01 46 35.5 +0.2**
IDMV Damavand 49.28 72 *e*P **P 01 46 35.5 -0.3**
IDMV Damavand 49.28 72 *e*P **P 01 46 35.5 -0.3**
ANWB Willy Bob 49.28 262 PFAKE 01 46 50.0 +14
ANWB LR LR
comp=Z,971nm,22.0s
CPNY Central Park 49.29 296 *e*P **P 01 46 35.0 -0.4**
comp=Z,148nm,1.4s
CPNY PcP **PcP 01 47 59.0 +1.0**
CPNY Central Park 49.29 296 *e*P **P 01 46 35.0 -0.4**
comp=Z,148nm,1.4s
ALE Alert 49.40 352 P **P 01 46 35.3 -0.4**
comp=Z,609nm,1.0s,SNR=7.9
AKTK Aktyubinsk 49.53 51 P **P 01 46 37.6 +0.5**
AKTO Aktyubinsk 49.53 51 P **P 01 46 37.6 +0.5**
AKTO Aktyubinsk 49.53 51 P **P 01 46 37.6 +0.5**
AKTO Aktyubinsk 49.53 51 P **P 01 46 37.6 +0.5**
AKTO Aktyubinsk 49.53 51 P **P 01 46 37.6 +0.5**
comp=Z,12nm,0.8s,baz=291,slow=7.7,SNR=36
AKTO LR LR 02 08 25.1
comp=Z,549nm,18.0s,baz=107,slow=37
ODNJ Ogdensburg 49.68 296 *e*P **P 01 46 38.7 +0.3**
comp=Z,198nm,1.6s
ODNJ Ogdensburg 49.68 296 *e*P **P 01 46 38.7 +0.3**
comp=Z,198nm,1.6s
IKLH Kolahrood 49.74 74 *e*P **P 01 46 39.5 +0.2**
IKLH Kolahrood 49.74 74 *e*P **P 01 46 39.5 +0.2**
SVE Sverdlovsk 50.05 43 *ce*P **P 01 46 41.1 +0.2**
SVE *e*S **S 01 53 49.3 -2.0**
SVE *e*SS **SS 01 57 27.0 +3.1**
SVE pmax pmax
comp=Z,72nm,1.2s
SVE MLR MLR
comp=Z,2μm,18.0s
SVE Sverdlovsk 50.05 43 *e*P **P 01 46 41.1 +0.2**
comp=Z,72nm,1.2s
BINY Binghamton 50.34 298 *e*P **P 01 46 43.6 +0.1**
comp=Z,423nm,2.1s
BINY LR LR
comp=Z,3μm,19.0s
BINY Binghamton 50.34 298 *e*P **P 01 46 43.6 +0.1**
comp=Z,423nm,2.1s
KSPA Keystone Colle 50.38 297 *e*P **P 01 46 44.0 +0.3**
KSPA Keystone Colle 50.38 297 *e*P **P 01 46 44.0 +0.3**
FDF Fort de France 50.41 258 PFAKE 01 47 00.0 +16
FDF LR LR
comp=Z,873nm,21.0s
IGAR Gharneh 50.44 75 *e*P **P 01 46 44.7 +0.1**
IZEF Zefreh 50.48 75 *e*P **P 01 46 44.3 -0.6**
IZEF Zefreh 50.48 75 *e*P **P 01 46 44.3 -0.6**
DESE Dese 51.13 107 *i* P **P 01 46 51.9 +1.9**
MVL Millersville 51.27 295 *e*P **P 01 46 51.1 +0.8**
comp=Z,186nm,1.8s
MVL *e*pP pP 01 47 02.0 +6.9
MVL Millersville 51.27 295 *e*P **P 01 46 51.2 +0.8**
comp=Z,186nm,1.8s
IKAZ Kazeroun 51.34 79 *e*P **P 01 46 51.0 -0.5**
IKAZ Kazeroun 51.34 79 *e*P **P 01 46 51.0 -0.5**
MMNY Mt. Morris Dam 51.55 299 *e*P **P 01 46 53.2 +0.8**
comp=Z,182nm,1.2s
MMNY Mt. Morris Dam 51.55 299 *e*P **P 01 46 53.2 +0.8**
comp=Z,182nm,1.2s
CDVI St. Croix 51.62 264 *e*P **P 01 46 53.9 +0.6**
CDVI St. Croix 51.62 264 *e*P **P 01 46 53.9 +0.6**
FURI Furi 51.79 110 *i* P **P 01 46 56.1 +1.1**
FURI S **S 01 54 22.3 +5.4**
SDMD Soldier's Deli 51.82 295 *e*P **P 01 46 54.3 -0.2**
comp=Z,146nm,1.5s
SDMD Soldier's Deli 51.82 295 *e*P **P 01 46 54.3 -0.2**
comp=Z,146nm,1.5s
ISAD Sadrabad 51.92 75 *e*P **P 01 46 54.9 -0.8**
ISAD Sadrabad 51.92 75 *e*P **P 01 46 54.9 -0.8**
MTP Monte Pirata 52.07 265 *e*P **P 01 46 56.3 -0.3**
comp=Z,264nm,1.9s
MTP Monte Pirata 52.07 265 *e*P **P 01 46 56.3 -0.3**
comp=Z,264nm,1.9s
CBYP Canovanas 52.22 265 *e*P **P 01 46 57.5 -0.3**
comp=Z,146nm,1.8s
CBYP *e* 01 47 13.7
CBYP Canovanas 52.22 265 *e*P **P 01 46 57.5 -0.3**
comp=Z,146nm,1.8s
IPAR Pars 52.26 78 *e*P **P 01 46 58.8 +0.4**
IPAR Pars 52.26 78 *e*P **P 01 46 58.8 +0.4**
GRGR Grenville 52.33 256 PFAKE 01 47 10.0 +11
GRGR LR LR
comp=Z,524nm,19.0s
ICHK Chekchek 52.35 75 *e*P **P 01 46 58.1 -0.8**
ICHK Chekchek 52.35 75 *e*P **P 01 46 58.1 -0.8**
SJG San Juan 52.54 265 *e*P **P 01 46 60.0 -0.1**
comp=Z,11nm,0.4s
SJG *e* 01 47 16.9
SJG LR LR
comp=Z,1μm,22.0s
SJG San Juan 52.54 265 *e*P **P 01 47 00.0 -0.1**
comp=Z,1μm,22.0s
SJG San Juan 52.54 265 P **P 01 47 00.0 -0.1**
comp=Z,11nm,0.3s,baz=45,slow=6.8,SNR=4.3
CBN Corbin 52.62 294 *e*P **P 01 47 00.3 -0.2**
comp=Z,17nm,0.6s
CBN LR LR
comp=Z,2μm,22.0s
CBN Corbin 52.62 294 *e*P **P 01 47 00.3 -0.2**
comp=Z,17nm,0.6s
MBAR Mbarara 52.69 125 *e*P **P 01 47 02.1 +0.7**
MBAR Mbarara 52.69 125 P **P 01 47 02.8 +1.4**
comp=Z,314nm,1.2s,SNR=35
MBAR Mbarara 52.69 125 PFAKE 01 47 10.0 +8.6
MBAR LR LR
comp=Z,470nm,20.0s
IMEH Mehriz 52.85 75 *e*P **P 01 47 02.2 -0.4**
IMEH Mehriz 52.85 75 *e*P **P 01 47 02.2 -0.4**
CELP Cerrillos 52.90 266 *e*P **P 01 47 03.5 +0.7**
CELP Cerrillos 52.90 266 *e*P **P 01 47 03.5 +0.7**
ABKT Ailbek 53.04 67 P **P 01 47 04.2 +0.5**
comp=Z,255nm,1.4s,SNR=16
JSRW J. Sargeant Re 53.17 293 *e*P **P 01 47 04.7 +0.1**
JSRW *e* 01 47 21.1
JSRW J. Sargeant Re 53.17 293 *e*P **P 01 47 04.7 +0.1**
ERPA Erie 53.20 299 *e*P **P 01 47 05.2 +0.4**
comp=Z,40nm,0.6s
ERPA LR LR
comp=Z,2μm,20.0s

ERPA Erie 53.20 299 *e*P P 01 47 05.2 +0.4
comp=Z,40nm,0.6s
LSP Las Mesas 53.26 266 P P 01 47 03.9 -1.6
LSP Las Mesas 53.26 266 P P 01 47 03.9 -1.6
CRPR Cabo Rojo, PR 53.37 266 *e*P P 01 47 07.2 +1.0
comp=Z,96nm,1.1s
CRPR *e* 01 47 23.3
CRPR Cabo Rojo, PR 53.37 266 *e*P P 01 47 07.2 +1.0
comp=Z,96nm,1.1s
IBAF Bafgh 53.52 75 *e*P P 01 47 07.0 -0.4
IBAF Bafgh 53.52 75 *e*P P 01 47 07.0 -0.4
IKRD Kardeh 53.75 68 *e*P P 01 47 14.9 +5.7
MCWV Mont Chateau 53.92 296 *e*P P 01 47 10.5 +0.4
comp=Z,51nm,0.7s
MCWV *e* 01 47 26.2
MCWV LR LR
comp=Z,4μm,21.0s
MCWV Mont Chateau 53.92 296 *e*P P 01 47 10.5 +0.4
comp=Z,51nm,0.7s
RES Resolute Bay 53.94 341 LR LR 02 06 44.2
comp=Z,2μm,20.2s,baz=114,slow=32
CNNC Cliffs of the 54.09 290 *e*P P 01 47 11.5 +0.2
comp=Z,270nm,1.4s
CNNC LR LR
comp=Z,2μm,22.0s
CNNC Cliffs of the 54.09 290 *e*P P 01 47 11.5 +0.2
comp=Z,270nm,1.4s
IPAY Payeh 54.23 68 *e*P P 01 47 13.6 +0.9
IPAY Payeh 54.23 68 *e*P P 01 47 13.6 +0.9
ISRO Mashad 54.64 68 *e*P P 01 47 16.4 +0.9
ISRO Mashad 54.64 68 *e*P P 01 47 16.4 +0.9
GRTK Grand Turk 54.81 272 PFAKE 01 47 30.0 +13
GRTK LR LR
comp=Z,2μm,20.0s
IMYA Miami 55.10 68 *e*P P 01 47 19.3 +0.4
IMYA Miami 55.10 68 *e*P P 01 47 19.3 +0.4
BLA Blacksburg 55.23 294 *e*P P 01 47 19.8 +0.1
BLA pmax pmax
comp=Z,57nm,1.1s
BLA MLR MLR
comp=Z,2μm,22.0s
BLA Blacksburg 55.23 294 *e*P P 01 47 19.8 +0.1
comp=Z,57nm,1.1s
BLA LR LR
comp=Z,2μm,22.0s
BLA Blacksburg 55.23 294 *e*P P 01 47 19.8 +0.1
comp=Z,2μm,22.0s
ITEG Tejag 55.44 72 *e*P P 01 47 21.5 +0.1
ITEG Tejag 55.44 72 *e*P P 01 47 21.5 +0.1
AAM Ann Arbor 55.71 300 *e*P P 01 47 22.9 -0.1
AAM pmax pmax
comp=Z,127nm,1.4s
AAM MLR MLR
comp=Z,3μm,19.0s
AAM Ann Arbor 55.71 300 *e*P P 01 47 22.9 -0.1
comp=Z,127nm,1.4s
AAM LR LR
comp=Z,3μm,19.0s
AAM Ann Arbor 55.71 300 *e*P P 01 47 22.9 -0.1
comp=Z,3μm,19.0s
ACSO Alum Creek Sta 55.97 298 *e*P P 01 47 24.9 0.0
comp=Z,326nm,1.4s
ACSO LR LR
comp=Z,4μm,20.0s
ACSO Alum Creek Sta 55.97 298 *e*P P 01 47 24.9 0.0
comp=Z,326nm,1.4s
IBND Bandar-abas 56.07 79 *e*P P 01 47 26.2 +0.5
IBND Bandar-abas 56.07 79 *e*P P 01 47 26.2 +0.5
SDDR Presa de Saban 56.22 270 *e*P P 01 47 28.2 +1.2
comp=Z,431nm,1.8s
SDDR *e* 01 47 44.2
SDDR LR LR
comp=Z,3μm,20.0s
SDDR Presa de Saban 56.22 270 *e*P P 01 47 28.2 +1.2
comp=Z,431nm,1.8s
BRVK Borovoye 56.29 46 PFAKE 01 47 40.0 +13
BRVK LR LR
comp=Z,2μm,19.0s
BRVK Borovoye 56.29 46 P P 01 47 27.7 +0.7
comp=Z,192nm,0.7s,SNR=16
BVAR Borovoye Array 56.36 46 P P 01 47 27.8 +0.3
BVAR Borovoye Array 56.36 46 P P 01 47 27.8 +0.3
BVAR Borovoye Array 56.36 46 P P 01 47 27.8 +0.3
BVAR Borovoye Array 56.36 46 P P 01 47 27.8 +0.3
comp=Z,12nm,0.8s,baz=278,slow=5.5,SNR=48
BVAR LR LR 02 11 27.7
comp=Z,769nm,21.9s,baz=90,slow=36
IDAH Dahanechah 56.36 72 *e*P P 01 47 28.4 +0.3
IDAH Dahanechah 56.36 72 *e*P P 01 47 28.4 +0.3
ASUD Al Ashush, Dub 56.41 83 P P 01 47 28.2 -0.1
NAZ Nazwa, Dubai 56.51 82 P P 01 47 28.3 -0.6
FAQ Al Faqa, Dubai 56.57 82 P P 01 47 28.6 -0.8
BANOM Banah 56.58 81 P P 01 47 28.9 -0.6
SNR=22
BANOM Banah 56.58 81 P P 01 47 28.9 -0.6
SNR=22
KMSC Kings Mountain 56.72 292 *e*P P 01 47 30.8 +0.5
KMSC Kings Mountain 56.72 292 ⇑P P 01 47 30.4 +0.1
baz=56
KMSC Kings Mountain 56.72 292 *e*P P 01 47 30.8 +0.5
RGRS Roger Stewart 56.78 289 *e*P P 01 47 31.7 +1.0
RGRS Roger Stewart 56.78 289 *e*P P 01 47 31.7 +1.0
FCC Fort Churchill 56.84 322 *e*P P 01 47 30.4 -0.4
FCC pmax pmax
comp=Z,6.0nm,1.1s
FCC Fort Churchill 56.84 322 *e*P P 01 47 30.4 -0.4
comp=Z,6.4nm,1.1s
FCC Fort Churchill 56.84 322 *e*P P 01 47 30.4 -0.4
comp=Z,6.3nm,1.1s
HATD Hatta, Dubai 56.96 82 P P 01 47 31.4 -0.8
UOSS Wadi Hilu 56.96 82 P P 01 47 31.9 -0.3
comp=Z,411nm,1.3s,SNR=24
ASHO Ashiyiah 56.97 82 P P 01 47 31.6 -0.7
SNR=36
ASHO Ashiyiah 56.97 82 P P 01 47 31.6 -0.7
SNR=36
JSC Jenkinsville 57.02 291 *e*P P 01 47 33.2 +0.8
JSC Jenkinsville 57.02 291 *e*P P 01 47 33.2 +0.8
JSC Jenkinsville 57.02 291 *e*P P 01 47 33.2 +0.8
KMBO Kilima Mbogo 57.50 120 P P 01 47 39.3 +3.0
SNR=42
KMBO Kilima Mbogo 57.50 120 *e*P P 01 47 38.8 +2.5
comp=Z,130nm,1.1s
KMBO Kilima Mbogo 57.50 120 P P 01 47 38.4 +2.0
comp=Z,2μm,18.5s
KMBO Kilima Mbogo 57.50 120 P P 01 47 38.4 +2.0
comp=Z,81nm,1.0s,baz=328,slow=6.8,SNR=127
KMBO LR LR 02 16 04.1
comp=Z,2μm,18.5s,baz=303,slow=40
TZTN Tazewell 57.80 294 *e*P P 01 47 37.8 -0.2
comp=Z,119nm,1.1s
TZTN Tazewell 57.80 294 *e*P P 01 47 37.8 -0.2
comp=Z,119nm,1.1s
ARQ Araqi 57.99 83 P P 01 47 39.5 +0.1
SNR=45
ARQ Araqi 57.99 83 P P 01 47 39.5 +0.1
SNR=45
TKL Tuckaleechee C 58.33 293 LR LR 02 09 54.2
comp=Z,2μm,21.2s,baz=142,slow=33
ABTO Aybut 58.45 91 P P 01 47 42.9 +0.1
SNR=8.6
ABTO Aybut 58.45 91 P P 01 47 42.9 +0.1
SNR=8.6
HOQ Hoqain 58.50 83 P P 01 47 42.3 -0.7
SNR=20
HOQ Hoqain 58.50 83 P P 01 47 42.3 -0.7
SNR=20
GTBY Guantanamo Bay 58.81 273 PFAKE 01 48 00.0 +15
GTBY LR LR
comp=Z,2μm,21.0s
SFIN Scholer Farm 58.83 299 *e*P P 01 47 44.7 -0.3
SFIN Scholer Farm 58.83 299 ⇓P P 01 47 44.6 -0.5
baz=59
SFIN Scholer Farm 58.83 299 *e*P P 01 47 44.7 -0.3
EYMN Ely 58.90 309 *e*P P 01 47 44.7 -0.7
comp=Z,78nm,1.0s
EYMN LR LR
comp=Z,7μm,21.0s
EYMN Ely 58.90 309 *e*P P 01 47 44.7 -0.7
comp=Z,78nm,1.0s
BLO Bloomington 58.90 298 *e*P P 01 47 45.5 -0.1
BLO pmax pmax
comp=Z,214nm,1.2s
BLO Bloomington 58.90 298 *e*P P 01 47 45.5 -0.1
comp=Z,214nm,1.2s
BLO Bloomington 58.90 298 *e*P P 01 47 45.5 -0.1
comp=Z,214nm,1.2s
CPCT Cooper Cave 58.97 293 *e*P P 01 47 46.7 +0.6
CPCT Cooper Cave 58.97 293 *e*P P 01 47 46.7 +0.6
GOGA Godfrey 59.05 291 *e*P P 01 47 47.1 +0.4
GOGA pmax pmax
comp=Z,142nm,1.5s
GOGA MLR MLR
comp=Z,2μm,21.0s
GOGA Godfrey 59.05 291 *e*P P 01 47 47.0 +0.4
comp=Z,142nm,1.5s
GOGA LR LR
comp=Z,2μm,21.0s
GOGA Godfrey 59.05 291 *e*P P 01 47 47.0 +0.4
comp=Z,142nm,1.5s
RBK Rabkut 59.10 90 P P 01 47 47.0 -0.3
SNR=8.2
RBK Rabkut 59.10 90 P P 01 47 47.0 -0.3
SNR=8.2
WCI Wyandotte Cave 59.12 297 *e*P P 01 47 46.9 -0.2
WCI pmax pmax
comp=Z,125nm,1.1s
WCI Wyandotte Cave 59.12 297 *e*P P 01 47 46.9 -0.2
comp=Z,125nm,1.1s
WCI Wyandotte Cave 59.12 297 *e*P P 01 47 46.9 -0.2
comp=Z,125nm,1.1s
SMDO Samad 59.35 83 P P 01 47 48.6 -0.4
SNR=23
SMDO Samad 59.35 83 P P 01 47 48.6 -0.4
SNR=23
PTGA Pitinga 59.37 243 *e*P P 01 47 48.7 -0.4
comp=Z,75nm,1.7s
PTGA LR LR
comp=Z,1μm,21.0s
PTGA Pitinga 59.37 243 *e*P P 01 47 48.7 -0.4
comp=Z,75nm,1.7s
JMDO Jabal Madar 59.73 83 P P 01 47 50.7 -0.9
SNR=63
JMDO Jabal Madar 59.73 83 P P 01 47 50.7 -0.9
SNR=63
JFWS Jewell Farm 60.00 303 *e*P P 01 47 52.4 -0.7
JFWS pmax pmax
comp=Z,134nm,1.4s
JFWS MLR MLR
comp=Z,5μm,21.0s
JFWS Jewell Farm 60.00 303 *e*P P 01 47 52.4 -0.7
comp=Z,134nm,1.4s
JFWS LR LR
comp=Z,5μm,21.0s
JFWS Jewell Farm 60.00 303 *e*P P 01 47 52.4 -0.7
comp=Z,5μm,21.0s
TIGA Tifton 60.01 289 *e*P P 01 47 53.1 -0.2
TIGA Tifton 60.01 289 ⇑P P 01 47 54.0 +0.7
baz=60,SNR=8.7
TIGA Tifton 60.01 289 *e*P P 01 47 53.1 -0.2
WBK Wadi Bani Khal 60.31 83 P P 01 47 55.7 +0.2
SNR=23
WBK Wadi Bani Khal 60.31 83 P P 01 47 55.7 +0.2
SNR=23
ULM Lac du Bonnet 60.70 313 *e*P P 01 47 56.5 -1.3
comp=Z,176nm,1.4s
ULM Lac du Bonnet 60.70 313 P P 01 47 56.6 -1.2
comp=Z,78nm,1.2s
ULM Lac du Bonnet 60.70 313 P P 01 47 56.6 -1.2
comp=Z,78nm,1.1s,baz=73,slow=6.8,SNR=41
ULM LR LR 02 10 22.3
comp=Z,2μm,21.7s,baz=82,slow=32
SPMN St. Paul 60.77 307 *e*P P 01 47 57.6 -0.8
SPMN St. Paul 60.77 307 ⇑P P 01 47 57.5 -0.8
baz=60
SPMN St. Paul 60.77 307 *e*P P 01 47 57.6 -0.8
RUDU RUNDU 60.86 147 ⇓*i*P P 01 47 59.5 +0.3
RUDU AMB AMB 01 48 00.4
comp=Z,143nm,1.5s
WVT Waverly 61.11 295 *e*P P 01 47 59.4 -1.4
WVT pmax pmax
comp=Z,38nm,1.2s
WVT Waverly 61.11 295 *e*P P 01 47 59.4 -1.4
comp=Z,38nm,1.2s
WVT Waverly 61.11 295 *e*P P 01 47 59.4 -1.4
comp=Z,38nm,1.2s
TSUM Tsumeb 61.12 150 ⇓*i*P P 01 48 00.3 -0.7
TSUM Tsumeb 61.12 150 *e*P P 01 48 01.0 0.0
comp=Z,108nm,1.6s
TSUM LR LR
comp=Z,2μm,20.0s
TSUM Tsumeb 61.12 150 *e*P P 01 48 01.0 0.0
comp=Z,108nm,1.6s
SDV Santo Domingo 61.34 259 *e*P P 01 48 03.4 +0.6
comp=Z,17nm,0.7s
SDV Santo Domingo 61.34 259 *e*P P 01 48 03.4 +0.6
comp=Z,17nm,0.7s
SIUC Southern Illin 61.43 297 *e*P P 01 48 01.4 -1.5
comp=Z,68nm,1.1s
SIUC Southern Illin 61.43 297 *e*P P 01 48 01.4 -1.5
comp=Z,68nm,1.1s
AGMN Agassiz Nation 61.47 311 *e*P P 01 48 02.4 -0.6
comp=Z,78nm,1.2s
AGMN LR LR
comp=Z,3μm,22.0s
AGMN Agassiz Nation 61.47 311 *e*P P 01 48 02.4 -0.6
comp=Z,78nm,1.2s
MTDJ Mount Denham 61.65 272 *e*P P 01 48 05.5 +0.7
MTDJ *e* 01 48 22.2
MTDJ LR LR
comp=Z,2μm,20.0s
MTDJ Mount Denham 61.65 272 *e*P P 01 48 05.5 +0.7
LRAL Lakeview Retre 61.87 292 *e*P P 01 48 06.0 +0.1
comp=Z,60nm,0.8s
LRAL Lakeview Retre 61.87 292 *e*P P 01 48 06.0 +0.1
comp=Z,60nm,0.8s
KURBB Kurchatov Arra 61.93 46 P P 01 48 05.9 -0.2
comp=Z,11nm,0.6s,baz=297,slow=7.8,SNR=11
KURBB PKP2bc 02 17 27.7
comp=Z,0.7nm,1.0s,baz=83,slow=1.9,SNR=4.3
KURK Kurchatov 61.95 46 *e*P P 01 48 06.5 +0.3
KURK pmax pmax
comp=Z,42nm,1.1s
KURK MLR MLR
comp=Z,753nm,19.0s
KURK Kurchatov 61.95 46 P P 01 48 06.7 +0.5
SNR=18
KURK Kurchatov 61.95 46 *e*P P 01 48 06.5 +0.3
comp=Z,42nm,1.1s
KURK LR LR
comp=Z,753nm,19.0s
KURK Kurchatov 61.95 46 *e*P P 01 48 06.5 +0.3
comp=Z,42nm,1.1s
EKS2 Erkin-Say 62.26 56 *e*P P 01 48 09.3 +0.6
EKS2 pmax pmax
comp=Z,93nm,1.4s
EKS2 MLR MLR
comp=Z,2μm,20.0s
EKS2 Erkin-Say 62.26 56 P P 01 48 09.0 +0.3
SNR=34
EKS2 Erkin-Say 62.26 56 *e*P P 01 48 09.3 +0.6
comp=Z,93nm,1.4s
EKS2 LR LR
comp=Z,2μm,20.0s
EKS2 Erkin-Say 62.26 56 *e*P P 01 48 09.3 +0.6
comp=Z,93nm,1.4s
FFC Flin Flon 62.33 319 *e*P P 01 48 08.2 -0.5
FFC pmax pmax
comp=Z,55nm,1.3s
FFC MLR MLR
comp=Z,1μm,19.0s
FFC Flin Flon 62.33 319 *e*P P 01 48 08.2 -0.5
comp=Z,55nm,1.3s
FFC LR LR
comp=Z,1μm,19.0s
FFC Flin Flon 62.33 319 P P 01 48 08.6 -0.1
comp=Z,385nm,1.2s,SNR=23
FFC Flin Flon 62.33 319 *e*P P 01 48 08.2 -0.5
comp=Z,1μm,19.0s
SCIA State Center 62.41 303 *e*P P 01 48 08.1 -1.4
comp=Z,20nm,0.4s
SCIA LR LR
comp=Z,5μm,20.0s
SCIA State Center 62.41 303 *e*P P 01 48 08.1 -1.4
comp=Z,20nm,0.4s
AML Almayashu 62.43 56 *i*P P 01 48 11.2 +1.1
AML Almayashu 62.43 56 P P 01 48 11.2 +1.1
SNR=19
AML Almayashu 62.43 56 *i*P P 01 48 11.2 +1.1
KBL Kabul 62.48 66 *e*P P 01 48 10.2 -0.1
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 62.48 66 *e*P P 01 48 10.2 -0.1
comp=Z,12nm,0.8s
USP Ospenovka 62.49 55 *i*P P 01 48 09.5 -0.5
USP Ospenovka 62.49 55 P P 01 48 09.5 -0.5
SNR=7.8
USP Ospenovka 62.49 55 *i*P P 01 48 09.5 -0.5
A30A Hoffart Farm, 62.68 312 ⇓P P 01 48 10.1 -1.1
baz=62,SNR=11
LSZ Lusaka 62.74 138 ⇓*i*P P 01 48 12.5 +0.5
LSZ Lusaka 62.74 138 P P 01 48 12.9 +1.0
SNR=33
LSZ Lusaka 62.74 138 *e*P P 01 48 12.5 +0.5
comp=Z,191nm,1.1s
LSZ LR LR
comp=Z,2μm,20.0s
LSZ Lusaka 62.74 138 *e*P P 01 48 12.5 +0.5
comp=Z,191nm,1.1s
FRU Bishkek 62.75 55 *e*P P 01 48 11.0 -0.8
FRU pmax pmax
comp=Z,120nm,1.6s
FRU Bishkek 62.75 55 *e*P P 01 48 11.0 -0.8
comp=Z,120nm,1.6s
AAK Ala-Archa 62.75 56 *i*P P 01 48 12.8 +0.8
AAK Ala-Archa 62.75 56 P P 01 48 12.8 +0.8
SNR=12
AAK Ala-Archa 62.75 56 *i*P P 01 48 12.8 +0.8
CHMS Chumysh 62.77 55 *i*P P 01 48 12.4 +0.5
CHMS Chumysh 62.77 55 P P 01 48 12.4 +0.5
SNR=11
CHMS Chumysh 62.77 55 *i*P P 01 48 12.4 +0.5
GNAR Gosnell 62.77 296 *e*P P 01 48 10.4 -1.6
comp=Z,524nm,0.8s
GNAR Gosnell 62.77 296 *e*P P 01 48 10.4 -1.6
comp=Z,524nm,0.8s
NVS Novosibirsk 62.78 41 *e*P P 01 48 11.4 -0.3
NVS *e* 01 50 39.9
NVS *e*S S 01 56 38.4 -1.6
NVS pmax pmax
comp=Z,92nm,1.4s
NVS pmax pmax
comp=E,18nm,1.2s
NVS pmax pmax
comp=Z,29nm,1.5s
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=E,12nm,1.4s
NVS smax smax
comp=N,52nm,2.2s
NVS Novosibirsk 62.78 41 *e*P P 01 48 11.4 -0.3
comp=N,29nm,1.5s
BRAL Brewton 62.84 290 *e*P P 01 48 12.4 -0.1
comp=N,44nm,0.4s
BRAL LR LR
comp=Z,2μm,21.0s
BRAL Brewton 62.84 290 *e*P P 01 48 12.4 -0.1
comp=Z,44nm,0.4s
B30A Myrvik Farm, E 62.90 312 ⇑P P 01 48 11.7 -1.0
baz=63,SNR=23
UCH Uchtor 62.94 56 *i*P P 01 48 14.5 +0.9
UCH Uchtor 62.94 56 P P 01 48 14.6 +0.9
SNR=13
UCH Uchtor 62.94 56 *i*P P 01 48 14.5 +0.9
OXF Oxford 62.99 294 *e*P P 01 48 11.6 -1.8
OXF pmax pmax
comp=Z,260nm,1.2s
OXF Oxford 62.99 294 *e*P P 01 48 11.6 -1.8
comp=Z,260nm,1.2s
OXF Oxford 62.99 294 *e*P P 01 48 11.6 -1.8
comp=Z,260nm,1.2s
KBK Karagaybulak 63.05 56 *i*P P 01 48 14.8 +0.9
KBK Karagaybulak 63.05 56 P P 01 48 14.8 +0.9
SNR=7.9
KBK Karagaybulak 63.05 56 *i*P P 01 48 14.8 +0.9
BDFB Brasilia 63.11 222 P P 01 48 14.8 +0.4
BDFB Brasilia 63.11 222 P P 01 48 14.9 +0.4
BDFB Brasilia 63.11 222 P P 01 48 14.8 +0.4
comp=Z,7.8nm,0.8s,baz=24,slow=7.6,SNR=13
BDFB LR LR 02 11 32.2
comp=Z,644nm,20.8s,baz=225,slow=32
A29A Manning Farm, 63.24 312 ⇑P P 01 48 14.0 -0.9
baz=63,SNR=36
C30A Mose, Pekin 63.31 311 ⇑P P 01 48 14.3 -1.1
baz=63,SNR=19
TKM2 Tokmak 2 63.36 55 *i*P P 01 48 16.9 +0.9
TKM2 Tokmak 2 63.36 55 P P 01 48 17.0 +0.9
SNR=13
TKM2 Tokmak 2 63.36 55 *e*P P 01 48 15.9 -0.1
comp=Z,45nm,1.4s
TKM2 LR LR
comp=Z,823nm,20.0s
TKM2 Tokmak 2 63.36 55 *e*P P 01 48 15.9 -0.1
comp=Z,45nm,1.4s
KZA Kyzart 63.50 56 *i*P P 01 48 18.5 +1.3
KZA Kyzart 63.50 56 P P 01 48 18.5 +1.3
SNR=18
KZA Kyzart 63.50 56 *i*P P 01 48 18.5 +1.3
B29A Wagenman Farm, 63.51 312 ⇓P P 01 48 15.9 -0.8
baz=63,SNR=29
D30A Buchanan 63.74 310 ⇓P P 01 48 17.4 -0.8
baz=64,SNR=17
A28A Rude Farm, Bot 63.86 313 ⇓P P 01 48 18.1 -1.0
baz=64,SNR=11
ECSD EROS Data Cent 63.87 306 *e*P P 01 48 17.8 -1.3
comp=Z,21nm,0.9s
ECSD LR LR
comp=Z,7μm,21.0s
ECSD EROS Data Cent 63.87 306 *e*P P 01 48 17.8 -1.3
comp=Z,21nm,0.9s
MDND Maddock 63.93 311 *e*P P 01 48 18.5 -1.0
MDND Maddock 63.93 311 ⇑P P 01 48 18.6 -0.8
baz=64
MDND Maddock 63.93 311 *e*P P 01 48 18.5 -1.0
WIN Windhoek 63.98 152 ⇓*i*P P 01 48 20.7 +0.5
WIN AMB AMB 01 48 21.7
comp=Z,40nm,1.6s
ZAA0 Zalesovo Array 64.00 41 *e*P P 01 48 19.2 -0.6
ZAA0 Zalesovo Array 64.00 41 *e*P P 01 48 19.2 -0.6
ZALV Zalesovo Beam 64.00 41 P P 01 48 20.0 +0.2
ZALV Zalesovo Beam 64.00 41 P P 01 48 20.0 +0.2
ZALV Zalesovo Beam 64.00 41 P P 01 48 20.0 +0.2
ZALV Zalesovo Beam 64.00 41 P P 01 48 20.0 +0.2
comp=Z,7.6nm,0.8s,baz=282,slow=6.9,SNR=20
ZALV LR LR 02 17 34.1
comp=Z,2μm,19.9s,baz=301,slow=37
AAA Alma-Ata 64.09 54 *e*P P 01 48 21.6 +0.9
AAA pmax pmax
comp=Z,400nm,2.7s
AAA Alma-Ata 64.09 54 *e*P P 01 48 21.6 +0.9
comp=Z,400nm,2.7s
E30A Jud 64.10 310 ⇑P P 01 48 19.7 -1.0
baz=64,SNR=5.7
B28A Dugan Ranch, T 64.12 312 ⇓P P 01 48 19.9 -0.8
baz=64,SNR=32
D29A Pettibone, Tap 64.28 311 ⇓P P 01 48 21.0 -0.7
baz=64,SNR=12
A27A Ledoux Ranch, 64.42 313 ⇓P P 01 48 21.6 -1.1
baz=64
C28A Hausauer Farms 64.46 312 ⇓P P 01 48 22.3 -0.7
baz=64,SNR=20
F30A Leola 64.47 309 ⇑P P 01 48 22.2 -0.9
baz=64
E29A Napoleon 64.53 310 ⇑P P 01 48 22.7 -0.7
baz=64,SNR=17
YKW3 Yellowknife Ar 64.60 330 *e*P P 01 48 22.4 -1.1
comp=Z,1.3nm,1.3s
YKW3 Yellowknife Ar 64.60 330 *e*P P 01 48 22.4 -1.1
comp=Z,1.3nm,1.3s
YKA Yellowknife Ar 64.63 330 P P 01 48 22.6 -1.2
YKA P'P' 02 17 09.7
YKA ⇑*e* 02 17 18.4
YKA Yellowknife Ar 64.63 330 P P 01 48 22.6 -1.2
YKA Yellowknife Ar 64.63 330 P P 01 48 22.5 -1.2
comp=Z,27nm,1.0s,baz=60,slow=6.8,SNR=146
YKA PKPPKP P'P'df 02 17 09.7 -8.0
comp=Z,1.8nm,1.1s,baz=225,slow=2.5,SNR=8.6
YKA PKP2bc 02 17 18.4
comp=Z,4.4nm,1.2s,baz=233,slow=2.4,SNR=10.0
B27A Peters Farms, 64.68 313 ⇑P P 01 48 24.0 -0.3
baz=64,SNR=11
D28A Regan 64.81 311 ⇑P P 01 48 24.3 -1.0
baz=65
G30A Faulkton 64.87 309 ⇓P P 01 48 24.8 -0.8
baz=65,SNR=14
VBMS Vicksburg 64.87 293 *e*P P 01 48 25.5 -0.4

VBMS **Vicksburg** 64.87 293 eP P 01 48 25.5 -0.4
A26A **Wade Farm, Ken** 64.91 313 ⇓P P 01 48 25.3 -0.6
baz=65,SNR=22
F29A **Eureka** 64.97 310 ⇑P P 01 48 25.4 -1.0
baz=65,SNR=14
BRSD **Miller** 65.06 308 eP P 01 48 25.9 -1.1
BRSD **Miller** 65.06 308 ⇑P P 01 48 25.8 -1.1
baz=65,SNR=5.5
BRSD **Miller** 65.06 308 eP P 01 48 25.9 -1.1
C27A **Sayler Ranch,** 65.14 312 ⇓P P 01 48 26.7 -0.7
baz=65,SNR=7.3
KSH **Kashi** 65.15 58 P P 01 48 28.1 +0.4
KSH pP pP 01 48 32.3 -0.2
KSH sP sP 01 48 35.3 +1.0
KSH PP PP 01 50 54.1 +3.4
KSH S S 01 57 06.8 -3.4
KSH sS sS 01 57 15.1 -3.0
KSH ScS SKSac 01 58 18.1 -4.3
KSH pmax pmax
comp=Z,78nm,0.9s
KSH LR LR
comp=Z,1μm,16.1s
KSH LR LR
comp=Z,2μm,21.4s
KSH LR LR
comp=Z,270nm,9.9s
E28A **Huff** 65.17 311 ⇓P P 01 48 26.7 -0.9
baz=65,SNR=8.3
B26A **Jensen Ranch,** 65.27 313 ⇓P P 01 48 27.5 -0.7
baz=65,SNR=5.3
G29A **Hoven** 65.33 309 ⇓P P 01 48 27.5 -1.1
baz=65,SNR=6.9
D27A **Center** 65.43 311 ⇓P P 01 48 28.8 -0.5
baz=65,SNR=9.0
C26A **Wahner Farm, P** 65.44 312 ⇓P P 01 48 28.7 -0.6
baz=65,SNR=23
A25A **Svangstu Ranch** 65.52 314 ⇓P P 01 48 29.5 -0.3
baz=65,SNR=13
F28A **McLaughlin** 65.57 310 ⇓P P 01 48 29.5 -0.7
baz=65,SNR=46
I30A **Oacoma** 65.60 307 ⇓P P 01 48 29.4 -1.1
baz=65,SNR=16
E27A **Carson** 65.77 311 ⇑P P 01 48 31.0 -0.5
baz=66,SNR=18
H29A **Onida** 65.77 308 ⇑P P 01 48 30.8 -0.7
baz=66,SNR=18
MK31 **Makanchi Array** 65.85 49 eP P 01 48 32.0 0.0
MK31 **Makanchi Array** 65.85 49 eP P 01 48 32.0 0.0
MK31 **Makanchi Array** 65.85 49 eP P 01 48 32.0 0.0
MKAR **Makanchi Array** 65.85 49 P P 01 48 31.8 -0.2
MKAR **Makanchi Array** 65.85 49 P P 01 48 31.8 -0.2
MKAR **Makanchi Array** 65.85 49 P P 01 48 31.8 -0.2
MKAR **Makanchi Array** 65.85 49 P P 01 48 31.8 -0.2
comp=Z,14nm,0.9s,baz=305,slow=4.3,SNR=54
MKAR LR LR 02 20 06.4
comp=Z,1μm,18.8s,baz=294,slow=38
B25A **Knox Farm, Ray** 65.86 313 ⇑P P 01 48 31.8 -0.2
baz=66,SNR=15
J30A **Dallas** 65.92 307 ⇓P P 01 48 31.2 -1.4
baz=66,SNR=30
KSU1 **Kansas State U** 65.99 302 eP P 01 48 31.6 -1.4
comp=Z,329nm,1.7s
KSU1 LR LR
comp=Z,4μm,21.0s
KSU1 **Kansas State U** 65.99 302 eP P 01 48 31.6 -1.4
comp=Z,329nm,1.7s
G28A **Parade** 66.00 309 ⇓P P 01 48 32.3 -0.8
baz=66,SNR=16
MIAR **Mount Ida** 66.01 296 eP P 01 48 32.1 -1.1
MIAR pmax pmax
comp=Z,125nm,1.1s
MIAR MLR MLR
comp=Z,2μm,20.0s
MIAR **Mount Ida** 66.01 296 eP P 01 48 32.1 -1.1
comp=Z,125nm,1.1s
MIAR LR LR
comp=Z,2μm,20.0s
MIAR **Mount Ida** 66.01 296 eP P 01 48 32.1 -1.1
comp=Z,2μm,20.0s
D26A **Manning** 66.02 312 ⇓P P 01 48 32.8 -0.2
baz=66,SNR=32
L31A **Butterfield Fa** 66.03 306 ⇑P P 01 48 32.0 -1.3
baz=66,SNR=8.3
A24A **Westby** 66.05 314 ⇑P P 01 48 33.1 -0.1
baz=66,SNR=23
I29A **Vivian Onida** 66.11 308 ⇑P P 01 48 33.0 -0.7
baz=66,SNR=19
C25A **Freed Ranch, W** 66.18 313 ⇓P P 01 48 34.3 +0.1
baz=66,SNR=22
H28A **Mission Ridge** 66.26 309 ⇑P P 01 48 33.6 -1.1
baz=66,SNR=18
E26A **Carlson Angus** 66.30 311 ⇑P P 01 48 34.3 -0.6
baz=66,SNR=21
K30A **Basset** 66.31 306 ⇓P P 01 48 33.8 -1.3
baz=66,SNR=58
F27A **Lemmon** 66.31 310 ⇑P P 01 48 34.1 -0.9
baz=66,SNR=8.7
N32A **Stulken Farm,** 66.34 304 ⇑P P 01 48 33.9 -1.4
baz=66
DGMT **Dagmar** 66.38 314 eP P 01 48 35.4 +0.1
comp=Z,252nm,1.2s
DGMT LR LR
comp=Z,1μm,22.0s
DGMT **Dagmar** 66.38 314 ⇑P P 01 48 35.3 -0.1
baz=66
DGMT **Dagmar** 66.38 314 eP P 01 48 35.4 +0.1
comp=Z,252nm,1.2s
J29A **Okreek** 66.42 307 ⇑P P 01 48 34.4 -1.4
baz=66,SNR=44
D25A **Fairfield** 66.49 312 ⇑P P 01 48 36.4 +0.2
baz=66,SNR=38
G27A **Dupree** 66.49 310 ⇓P P 01 48 35.3 -0.9
baz=66,SNR=40
M31A **Lambtecht Ranc** 66.52 305 ⇑P P 01 48 35.3 -1.1
baz=66,SNR=25
A23A **Redstone** 66.54 314 ⇓P P 01 48 36.3 -0.1
baz=66
O32A **Brockman Farm,** 66.57 304 ⇓P P 01 48 35.4 -1.4
baz=66,SNR=11
P33A **Williams Farm,** 66.57 302 ⇓P P 01 48 35.5 -1.2
baz=66,SNR=8.9
I28A **Midland** 66.67 308 ⇑P P 01 48 36.3 -1.0
baz=66,SNR=15
ROSC **El Rosal** 66.68 258 P P 01 48 37.6 -0.6
ROSC **El Rosal** 66.68 258 P P 01 48 37.6 -0.6
ROSC **El Rosal** 66.68 258 P P 01 48 37.6 -0.6
comp=Z,7.4nm,0.5s,baz=109,slow=15,SNR=5.7
ROSC LR LR 02 13 60.0
comp=Z,851nm,21.8s,baz=272,slow=33
F26A **Lodgepole** 66.72 311 ⇑P P 01 48 36.7 -0.9
baz=66,SNR=8.4
L30A **Spencer Herefo** 66.72 306 ⇑P P 01 48 36.2 -1.5
baz=66,SNR=9.1
K29A **Lazy Trails An** 66.72 307 ⇓P P 01 48 36.5 -1.2
baz=66,SNR=49
N31A **Bailey Ranch,** 66.75 304 ⇑P P 01 48 36.5 -1.4
baz=66,SNR=5.8
B23A **Brockton** 66.84 314 ⇑P P 01 48 38.6 +0.3
baz=67,SNR=84
E25A **Miller Ranch,** 66.85 311 ⇓P P 01 48 38.5 0.0
baz=67,SNR=35
Q33A **Connelly Farm,** 66.87 302 ⇓P P 01 48 37.6 -1.1
baz=67,SNR=6.8
H27A **Howes** 66.94 309 ⇓P P 01 48 38.0 -1.0
baz=67
TUL1 **Tulsa** 66.94 298 eP P 01 48 37.6 -1.5
TUL1 **Tulsa** 66.94 298 ⇑P P 01 48 37.7 -1.5
baz=67,SNR=43
TUL1 **Tulsa** 66.94 298 eP P 01 48 37.6 -1.5
G26A **Maurine** 66.94 310 ⇑P P 01 48 38.2 -0.9
baz=67,SNR=64
C24A **Savage** 66.96 313 ⇓P P 01 48 39.4 +0.3
baz=67,SNR=42
J28A **Allard Ranch,** 66.99 308 ⇑P P 01 48 39.0 -0.4
baz=67,SNR=43
M30A **Dale-Ortello V** 67.02 305 ⇑P P 01 48 38.7 -0.9
baz=67
P32A **Huiting Farm,** 67.09 303 ⇑P P 01 48 38.9 -1.2
baz=67,SNR=37
D24A **Glendive** 67.11 312 ⇓P P 01 48 40.2 +0.1
baz=67,SNR=18
A22A **Carney Farms,** 67.12 315 ⇓P P 01 48 39.7 -0.4
baz=67,SNR=38
L29A **Maesberg Ranch** 67.16 306 ⇓P P 01 48 39.4 -1.2
baz=67,SNR=22
F25A **Bowman** 67.17 311 ⇓P P 01 48 39.8 -0.7
baz=67,SNR=11
I27A **Quinn** 67.20 309 ⇓P P 01 48 39.9 -0.8
baz=67,SNR=19
C23A **Lambert** 67.28 313 ⇓P P 01 48 41.1 0.0
baz=67,SNR=37
R33A **Olander Ranch,** 67.31 302 ⇓P P 01 48 40.6 -0.9
baz=67,SNR=27
O31A **Woolen Ranch,** 67.33 304 ⇑P P 01 48 40.2 -1.4
baz=67,SNR=26
E24A **Baker** 67.37 312 ⇓P P 01 48 41.6 -0.2
baz=67,SNR=8.3
Q32A **Meitler Ranch,** 67.37 302 ⇓P P 01 48 40.8 -1.1
baz=67
H26A **Fairpoint** 67.38 309 ⇑P P 01 48 40.5 -1.4
baz=67,SNR=12
SAML **Samuel** 67.40 239 eP P 01 48 41.3 -0.9
comp=Z,10nm,1.0s
SAML LR LR
comp=Z,872nm,22.0s
SAML **Samuel** 67.40 239 eP P 01 48 41.3 -0.9
comp=Z,10nm,1.0s
K28A **Ten Mile Ranch** 67.42 307 ⇑P P 01 48 41.5 -0.7
baz=67,SNR=10
INK **Inuvik** 67.49 340 eP P 01 48 41.1 -0.9
comp=Z,72nm,1.4s
INK **Inuvik** 67.49 340 eP P 01 48 41.1 -0.9
comp=Z,72nm,1.4s
INK **Inuvik** 67.49 340 LR LR 02 15 58.7
comp=Z,1μm,19.4s,baz=53,slow=34
G25A **Newell** 67.50 310 ⇓P P 01 48 41.6 -1.0
baz=67,SNR=14
B22A **Reddig Ranch S** 67.50 314 ⇓P P 01 48 42.3 -0.3
baz=67,SNR=29
N30A **Hueftle Ranch,** 67.53 305 ⇑P P 01 48 41.8 -1.0
baz=67,SNR=5.6
J27A **Elkhorn Farm,** 67.57 308 ⇓P P 01 48 42.5 -0.6
baz=67,SNR=11
M29A **Burnside Ranch** 67.60 306 ⇑P P 01 48 42.3 -1.1
baz=67,SNR=27
D23A **Lindsay** 67.60 313 ⇓P P 01 48 43.5 +0.2
baz=67
P31A **Stockton** 67.67 303 ⇓P P 01 48 42.9 -0.9
baz=67,SNR=69
S33A **Kaszmaul Farm,** 67.67 301 ⇓P P 01 48 43.3 -0.5
baz=67
A21A **Bergtoll Ranch** 67.69 315 ⇑P P 01 48 42.9 -0.9
baz=67
C22A **Vida** 67.72 314 ⇓P P 01 48 43.7 -0.2
baz=67,SNR=57
I26A **New Underwood** 67.72 309 ⇓P P 01 48 42.8 -1.3
baz=68,SNR=10
R32A **Long Quarter,** 67.75 302 ⇓P P 01 48 43.4 -0.9
baz=68,SNR=65
O30A **MW Ranch, Wils** 67.80 304 ⇑P P 01 48 43.7 -0.9
baz=68,SNR=58
F24A **Ekalaka** 67.81 311 ⇓P P 01 48 44.3 -0.3
baz=68,SNR=67
L28A **Connealy Angus** 67.86 306 ⇑P P 01 48 44.7 -0.3
baz=68,SNR=10
N29A **Votaw Ranch, W** 67.86 305 ⇓P P 01 48 44.0 -1.0
baz=68,SNR=13
H25A **Fruitdale** 67.89 310 ⇑P P 01 48 44.0 -1.2
baz=68,SNR=6.8
U34A **Anderson Ranch** 67.92 300 ⇓P P 01 48 45.0 -0.3
baz=68,SNR=12
Q31A **Ellis** 67.93 303 ⇑P P 01 48 44.8 -0.6
baz=68,SNR=16
K27A **Flueckinger Fa** 67.98 307 ⇑P P 01 48 45.2 -0.6
baz=68,SNR=8.7
E23A **Ismay** 68.00 312 ⇑P P 01 48 45.6 -0.1
baz=68,SNR=12
B21A **Ellsworth Farm** 68.03 315 ⇑P P 01 48 45.4 -0.5
baz=68,SNR=9.0
G24A **Alzada** 68.05 311 ⇑P P 01 48 45.5 -0.6
baz=68,SNR=24
M28A **Bar X Bar Ranc** 68.07 306 ⇓P P 01 48 45.1 -1.2
baz=68
T33A **Patterson Ranc** 68.09 301 ⇓P P 01 48 45.9 -0.5
baz=68,SNR=21
D22A **Cohagen** 68.19 313 ⇑P P 01 48 46.9 0.0
baz=68,SNR=54
V34A **Guthrie** 68.20 299 ⇓P P 01 48 46.3 -0.8
baz=68,SNR=34
J26A **Sides Ranch, S** 68.22 308 ⇓P P 01 48 46.9 -0.3
baz=68,SNR=49
P30A **Selden** 68.24 304 ⇓P P 01 48 46.7 -0.7
baz=68,SNR=53
S32A **Newby Ranch, P** 68.27 301 ⇓P P 01 48 47.4 -0.1
baz=68,SNR=26
I25A **Rochford** 68.28 309 ⇑P P 01 48 47.4 -0.3
baz=68,SNR=38
A20A **Cobblestone Ra** 68.32 315 ⇑P P 01 48 47.0 -0.7
baz=68,SNR=39
O29A **4D Ranch, Culb** 68.32 304 ⇑P P 01 48 46.8 -1.0
baz=68,SNR=10
L27A **T5 Ranch, Ells** 68.34 307 ⇑P P 01 48 47.6 -0.5
baz=68,SNR=6.0
TIXI **Tiksi** 68.34 13 ⇓/P P 01 48 48.0 +0.7
TIXI pmax pmax
comp=Z,50nm,1.7s
TIXI **Tiksi** 68.34 13 eP P 01 48 47.6 +0.3
comp=Z,78nm,1.4s
TIXI LR LR
comp=Z,919nm,22.0s
TIXI **Tiksi** 68.34 13 eP P 01 48 47.7 +0.3
comp=Z,78nm,1.4s
R31A **Burdett** 68.38 302 ⇓P P 01 48 47.7 -0.5
baz=68,SNR=80
C21A **Desert Coulee** 68.38 314 ⇓P P 01 48 47.7 -0.4
baz=68
E22A **Miles City** 68.41 312 ⇑P P 01 48 47.9 -0.4
baz=68,SNR=67
RSSD **Black Hills** 68.41 309 eP P 01 48 47.8 -0.8
RSSD pmax pmax
comp=Z,60nm,1.3s
RSSD **Black Hills** 68.41 309 eP P 01 48 47.8 -0.8
comp=Z,60nm,1.3s
RSSD **Black Hills** 68.41 309 eP P 01 48 47.8 -0.8
comp=Z,60nm,1.3s
H24A **Dirks Ranch, A** 68.42 310 ⇑P P 01 48 47.1 -1.3
baz=68,SNR=41
LAO **LASA Array** 68.45 313 eP P 01 48 48.4 -0.2
comp=Z,146nm,1.2s
LAO LR LR
comp=Z,2μm,20.0s
LAO **LASA Array** 68.45 313 eP P 01 48 48.4 -0.2
comp=Z,146nm,1.2s
F23A **Volborg** 68.45 311 ⇓P P 01 48 47.9 -0.7
baz=68,SNR=30
Q30A **Quinter** 68.51 303 ⇑P P 01 48 48.5 -0.5
baz=68,SNR=51
T32A **Huddler Ranch,** 68.52 301 ⇓P P 01 48 48.9 -0.3
baz=68,SNR=48
BCIP **Isla Barro Col** 68.53 266 PFAKE 01 49 00.0 +11
BCIP LR LR
comp=Z,875nm,21.0s
N28A **Pribbeno Ranch** 68.53 305 ⇓P P 01 48 48.5 -0.7
baz=68,SNR=35
K26A **Motz Farm, Whi** 68.59 308 ⇓P P 01 48 49.0 -0.6
baz=68,SNR=31
B20A **Solberg Farm,** 68.60 315 ⇑P P 01 48 49.0 -0.5
baz=68,SNR=46
J25A **Sunshine Ranch** 68.64 309 ⇓P P 01 48 49.5 -0.3
baz=68,SNR=18
M27A **Reverse DX Ran** 68.67 306 ⇓P P 01 48 49.7 -0.3
baz=68,SNR=7.2
P29A **Atwood** 68.67 304 ⇓P P 01 48 49.2 -0.9
baz=68,SNR=34
W34A **Bridge Creek,** 68.68 299 ⇓P P 01 48 49.4 -0.7
baz=68,SNR=16
S31A **Mullinville** 68.68 302 ⇓P P 01 48 50.0 -0.1
baz=68,SNR=37
G23A **Biddle** 68.70 311 ⇓P P 01 48 49.5 -0.7
baz=68,SNR=89
D21A **La Casta Ranch** 68.71 313 ⇑P P 01 48 50.2 0.0
baz=68,SNR=48
OGNE **Ogallala** 68.73 306 eP P 01 48 49.9 -0.6
comp=Z,179nm,0.9s
OGNE LR LR
comp=Z,7μm,21.0s
OGNE **Ogallala** 68.73 306 ⇓P P 01 48 49.9 -0.6
baz=68
OGNE **Ogallala** 68.73 306 eP P 01 48 49.9 -0.6
comp=Z,179nm,0.9s
V33A **Lossen Ranch,** 68.75 299 ⇓P P 01 48 50.2 -0.3
baz=68,SNR=32
A19A **Klindworth Far** 68.76 316 ⇑P P 01 48 50.1 -0.4
baz=68,SNR=34
L26A **Underwood Farm** 68.86 307 ⇓P P 01 48 51.2 -0.1
baz=69,SNR=12
R30A **Dighton** 68.89 302 ⇑P P 01 48 51.2 -0.3
baz=69,SNR=64
I24A **Kuemmerle Ranc** 68.91 309 ⇑P P 01 48 51.1 -0.5
baz=69,SNR=16
F22A **Rosebud** 68.93 312 ⇑P P 01 48 51.2 -0.4
baz=69,SNR=39
EDM **Edmonton** 68.94 321 eP P 01 48 50.9 -0.6
EDM **Edmonton** 68.94 321 eP P 01 48 50.9 -0.6
EDM **Edmonton** 68.94 321 eP P 01 48 50.9 -0.6
C20A **Veseth Ranch,** 68.97 314 ⇓P P 01 48 51.2 -0.5
baz=69,SNR=34
O28A **Krutsinger Ran** 68.97 305 ⇓P P 01 48 51.5 -0.4
baz=69,SNR=27
U32A **Winter Ranch,** 68.97 300 ⇓P P 01 48 52.1 +0.1
baz=69
E21A **Keefer Ranch,** 69.03 313 ⇑P P 01 48 52.3 +0.1
baz=69,SNR=43
H23A **Clabaugh Cattl** 69.03 310 ⇓P P 01 48 51.8 -0.5
baz=69,SNR=5.9
X34A **Smith Ranch, M** 69.04 298 ⇑P P 01 48 52.4 0.0
baz=69,SNR=52
Q29A **Oakley** 69.06 303 ⇑P P 01 48 51.8 -0.7
baz=69,SNR=53
K25A **Mack Ranch, Ha** 69.07 308 ⇓P P 01 48 52.4 -0.3
baz=69,SNR=12
T31A **Randall Ranch,** 69.08 301 ⇑P P 01 48 52.2 -0.4
baz=69,SNR=28
B19A **Brinkman Farms** 69.12 315 ⇓P P 01 48 52.4 -0.2
baz=69,SNR=32
N27A **Anderson Farm,** 69.13 306 ⇑P P 01 48 52.6 -0.4
baz=69,SNR=25
M26A **McRoberts Ranc** 69.19 307 ⇓P P 01 48 53.1 -0.2
baz=69
TEIG **Tepich** 69.20 280 eP P 01 48 53.1 -0.4
comp=Z,229nm,1.5s
TEIG **Tepich** 69.20 280 eP P 01 48 53.1 -0.4
comp=Z,229nm,1.5s
TEIG **Tepich** 69.20 280 LR LR 02 13 13.8
comp=Z,2μm,21.8s,baz=89,slow=31
J24A **Dixon Ranch, L** 69.20 309 ⇑P P 01 48 53.0 -0.4
baz=69,SNR=16
W33A **Caddo, Fort Co** 69.21 299 ⇓P P 01 48 53.5 0.0
baz=69,SNR=23
P28A **Saint Francis** 69.24 304 ⇓P P 01 48 53.2 -0.5
baz=69,SNR=66
G22A **Birney** 69.24 311 ⇓P P 01 48 53.1 -0.5
baz=69,SNR=24
Z35A **Perchaven, San** 69.27 297 ⇓P P 01 48 53.2 -0.5
baz=69,SNR=12
Y34A **Reagan Ranch,** 69.31 297 ⇓P P 01 48 53.0 -1.1
baz=69,SNR=7.9
V32A **Arapaho** 69.33 300 ⇑P P 01 48 54.1 -0.1
baz=69,SNR=35
S30A **Montezuma** 69.34 302 ⇑P P 01 48 54.1 -0.2
baz=69,SNR=73
D20A **Manuel Ranch,** 69.37 314 ⇑P P 01 48 53.9 -0.4
baz=69,SNR=61
L25A **Engebretsen Ra** 69.37 308 ⇑P P 01 48 54.3 -0.1
baz=69,SNR=8.8
I23A **Meade Ranch, G** 69.38 310 ⇓P P 01 48 54.4 -0.1
baz=69
O27A **Beecher Island** 69.40 305 ⇓P P 01 48 54.1 -0.6
baz=69,SNR=11
R29A **Marienthal** 69.40 303 ⇓P P 01 48 54.1 -0.6
baz=69,SNR=40
F21A **Absaloka Mine,** 69.43 312 ⇓P P 01 48 54.1 -0.5
baz=69
SPB **Sao Paulo** 69.46 217 PFAKE 01 49 10.0 +15
SPB LR LR
comp=Z,540nm,19.0s
Q28A **Sharon Springs** 69.55 304 ⇑P P 01 48 55.1 -0.5
baz=69,SNR=35
X33A **Lawton** 69.55 298 ⇓P P 01 48 54.7 -0.8
baz=69,SNR=30
MSNA **Messina** 69.55 141 ⇓/P P 01 48 55.9 +0.3
MSNA AMB AMB 01 48 57.6
comp=Z,204nm,1.3s
C19A **Slack Wire Ran** 69.56 315 ⇓P P 01 48 55.2 -0.3
baz=69,SNR=34
N26A **Koester Ranch,** 69.56 306 ⇓P P 01 48 55.2 -0.5
baz=69
U31A **Nine Bar Ranch** 69.56 301 ⇓P P 01 48 55.6 0.0
baz=69
H22A **Clearmont** 69.60 311 ⇓P P 01 48 55.1 -0.7
baz=69,SNR=29
K24A **Anderson Ranch** 69.61 308 ⇑P P 01 48 55.8 -0.2
baz=69
WMOK **Wichita Mounta** 69.64 299 eP P 01 48 55.5 -0.7
WMOK pmax pmax
comp=Z,131nm,1.1s
WMOK MLR MLR
comp=Z,3μm,20.0s
WMOK **Wichita Mounta** 69.64 299 eP P 01 48 55.5 -0.7
comp=Z,131nm,1.1s
WMOK LR LR
comp=Z,3μm,20.0s
WMOK **Wichita Mounta** 69.64 299 eP P 01 48 55.5 -0.7
comp=Z,3μm,20.0s
E20A **Meyer Farm, Mu** 69.67 313 ⇑P P 01 48 55.4 -0.8
baz=69,SNR=29
LBTB **Lobatse** 69.68 146 ⇓/P P 01 48 56.2 -0.1
LBTB AMB AMB 01 48 57.9
comp=Z,133nm,1.2s
LBTB **Lobatse** 69.68 146 eP P 01 48 56.1 -0.2
comp=Z,192nm,1.3s
LBTB **Lobatse** 69.68 146 eP P 01 48 56.1 -0.2
comp=Z,192nm,1.3s
T30A **Plains** 69.69 301 ⇑P P 01 48 56.0 -0.4
baz=69,SNR=9.6
Z34A **Collier Ranch,** 69.72 297 ⇑P P 01 48 55.9 -0.7
baz=70,SNR=30
J23A **Dilts Ranch, B** 69.72 309 ⇑P P 01 48 56.6 0.0
baz=70,SNR=5.9
D19A **Cripps Ranch,** 69.76 314 ⇑P P 01 48 56.3 -0.4
baz=70,SNR=35
SDNR **Sundarnagar** 69.77 65 eP P 01 48 56.0 -1.0
135A **Vickery Place,** 69.78 296 ⇑P P 01 48 56.6 -0.3
baz=70,SNR=13
G21A **Lodge Grass** 69.79 312 ⇓P P 01 48 56.4 -0.6
baz=70,SNR=18
P27A **Ficken Ranch,** 69.79 305 ⇓P P 01 48 56.7 -0.4
baz=70,SNR=46
M25A **Palm-Egli Farm** 69.79 307 ⇓P P 01 48 57.2 +0.1
baz=70,SNR=12
S29A **Ulysses** 69.80 302 ⇑P P 01 48 57.2 +0.1
baz=70,SNR=34
EGMT **Eagleton** 69.80 315 eP P 01 48 56.7 -0.3
comp=Z,212nm,1.3s
EGMT LR LR
comp=Z,1μm,19.0s
EGMT **Eagleton** 69.80 315 ⇓P P 01 48 56.6 -0.4
baz=70
EGMT **Eagleton** 69.80 315 eP P 01 48 56.7 -0.3
comp=Z,212nm,1.3s
V31A **Spring Creek L** 69.86 300 ⇑P P 01 48 58.0 +0.5
baz=70,SNR=25
R28A **Tribune** 69.90 303 ⇑P P 01 48 57.5 -0.2
baz=70,SNR=95
Y33A **Hilltop Ranch,** 69.91 298 ⇓P P 01 48 57.3 -0.4
baz=70,SNR=26
O26A **Horse Wrangler** 69.92 306 ⇓P P 01 48 57.4 -0.5
baz=70,SNR=22
HKT **Hockley** 69.95 293 eP P 01 48 57.4 -0.6
HKT pmax pmax
comp=Z,90nm,1.3s
HKT **Hockley** 69.95 293 eP P 01 48 57.4 -0.6
comp=Z,90nm,1.3s
HKT **Hockley** 69.95 293 eP P 01 48 57.4 -0.6
comp=Z,90nm,1.3s
H21A **Big Horn, Sher** 70.00 311 ⇓P P 01 48 57.5 -0.9
baz=70,SNR=26
U30A **WK&E Inc. Balk** 70.04 301 ⇓P P 01 48 58.7 +0.1
baz=70,SNR=28
L24A **Wheatland** 70.04 308 ⇑P P 01 48 58.3 -0.3
baz=70,SNR=12
I22A **9 Mile Ranch,** 70.05 310 ⇑P P 01 48 58.0 -0.6
baz=70,SNR=66
F20A **Billings** 70.05 313 ⇑P P 01 48 57.9 -0.7
baz=70,SNR=18
E19A **Rath Farm, Rou** 70.08 313 ⇓P P 01 48 57.9 -0.8
baz=70,SNR=31
WHTX **Lake Whitney** 70.10 295 eP P 01 48 58.5 -0.4
WHTX **Lake Whitney** 70.10 295 ⇑P P 01 48 58.7 -0.3
baz=70,SNR=33
WHTX **Lake Whitney** 70.10 295 eP P 01 48 58.5 -0.4
KSCO **Kaye Shedlock'** 70.10 304 eP P 01 48 58.8 -0.2
KSCO **Kaye Shedlock'** 70.10 304 ⇓P P 01 48 58.9 -0.2

baz=70,SNR=46
KSCO **Kaye Shedlock'** 70.10 304 *e*P P 01 48 58.8 -0.2
HVS **Khovu-Aksy** 70.11 41 *i* P P 01 49 01.0 +2.2
HVS pmax pmax
comp=Z,87nm,1.0s
HVS **Khovu-Aksy** 70.11 41 *i* P P 01 49 01.0 +2.2
comp=Z,87nm,1.0s
K23A **Bowen Ranch, D** 70.11 309 ⇓P P 01 48 58.9 -0.2
baz=70,SNR=41
N25A **Grover** 70.13 306 ⇑P P 01 48 59.1 -0.2
baz=70
T29A **Hugoton** 70.16 302 ⇑P P 01 48 58.9 -0.4
baz=70,SNR=6.0
X32A **Elmer** 70.16 299 ⇑P P 01 48 59.0 -0.3
baz=70,SNR=28
W31A **Holland Ranch,** 70.23 299 ⇑P P 01 48 59.5 -0.2
baz=70,SNR=15
134A **White-Moore Ra** 70.25 296 ⇑P P 01 48 59.3 -0.5
baz=70,SNR=24
M24A **Cheyenne** 70.27 307 ⇓P P 01 49 00.4 +0.3
baz=70
J22A **Midwest** 70.30 310 ⇓P P 01 48 59.0 -1.1
baz=70,SNR=27
P26A **Davis Ranch, A** 70.30 305 ⇓P P 01 48 59.8 -0.4
baz=70,SNR=10
S28A **Manter** 70.35 303 ⇑P P 01 49 00.2 -0.3
baz=70,SNR=53
Z33A **Whitaker Ranch** 70.38 297 ⇑P P 01 48 60.0 -0.7
baz=70,SNR=29
G20A **Bridger** 70.40 312 ⇑P P 01 48 60.0 -0.7
baz=70,SNR=40
335A **Moody** 70.44 295 ⇓P P 01 49 00.2 -0.9
baz=70,SNR=6.2
V30A **Spur Ranch, Mi** 70.46 300 ⇑P P 01 49 00.8 -0.4
baz=70
Y32A **R-V Farms, Ver** 70.49 298 ⇑P P 01 49 01.1 -0.2
baz=70,SNR=53
F19A **Roth Farm, Mol** 70.49 313 ⇑P P 01 49 00.8 -0.5
baz=70,SNR=77
U29A **Oasis Ranch, S** 70.50 301 ⇑P P 01 49 01.7 +0.2
baz=70
O25A **Wiggins** 70.52 306 ⇓P P 01 49 01.3 -0.3
baz=70,SNR=21
X31A **McDonald Ranch** 70.55 299 ⇑P P 01 49 01.6 -0.1
baz=70,SNR=31
I21A **Big Trails, Te** 70.59 310 ⇓P P 01 49 00.9 -1.0
baz=70,SNR=66
R27A **Eads** 70.59 304 ⇑P P 01 49 01.8 -0.2
baz=70,SNR=41
WMQ **Urumqi** 70.64 50 P P 01 49 03.0 +0.8
WMQ PcP **PcP** 01 49 24.0 +0.8
WMQ PP **PP** 01 51 41.0 +2.8
WMQ S **S** 01 58 17.0 +1.4
WMQ SKS **SKSac** 01 59 03.0 -0.8
WMQ SS **SS** 02 02 51.0 +4.4
WMQ pmax pmax
comp=Z,30nm,1.0s
WMQ pmax pmax
comp=Z,230nm,6.0s
WMQ LR LR
comp=Z,3μm,20.0s
WMQ LR LR
comp=Z,2μm,18.0s
WMQ LR LR
comp=Z,1μm,18.0s
N24A **Carr** 70.64 307 ⇓P P 01 49 02.4 +0.1
baz=70,SNR=6.9
H20A **Greybull** 70.66 311 ⇑P P 01 49 01.8 -0.5
baz=70,SNR=23
W30A **Crocket Farms** 70.68 300 ⇓P P 01 49 02.5 0.0
baz=70
KOMG **Komaggas** 70.72 155 ⇓*i*P P 01 49 02.7 +0.3
KOMG AMB AMB 01 49 03.6
comp=Z,102nm,1.7s
K22A **Casper** 70.73 309 *e*P P 01 49 02.0 -0.8
K22A **Casper** 70.73 309 ⇓P P 01 49 02.3 -0.5
baz=70,SNR=80
K22A **Casper** 70.73 309 *e*P P 01 49 02.0 -0.8
T28A **Walsh** 70.74 302 ⇑P P 01 49 02.9 0.0
baz=70,SNR=63
Q26A **Hugo** 70.74 304 ⇓P P 01 49 03.6 +0.6
baz=70,SNR=80
UPI **Upington** 70.79 151 ⇓*i*P P 01 49 03.1 +0.1
UPI AMB AMB 01 49 04.7
comp=Z,193nm,1.4s
133A **Hamilton Ranch** 70.84 297 ⇓P P 01 49 02.9 -0.6
baz=71,SNR=28
M23A **Laramie** 70.84 308 ⇑P P 01 49 03.9 +0.2
baz=71,SNR=13
P25A **Willow Gulch B** 70.86 305 ⇓P P 01 49 03.8 +0.1
baz=71,SNR=32
Z32A **Haskell** 70.88 298 ⇑P P 01 49 03.0 -0.7
baz=71,SNR=72
J21A **Lysite** 70.93 310 ⇑P P 01 49 03.3 -0.8
baz=71,SNR=72
GCMT **Greycliff** 70.95 313 *e*P P 01 49 03.8 -0.3
comp=Z,61nm,1.1s
GCMT **Greycliff** 70.95 313 *e*P P 01 49 03.8 -0.3
comp=Z,61nm,1.1s
S27A **Las Animas** 70.98 303 ⇑P P 01 49 04.5 +0.1
baz=71,SNR=25
V29A **Stinnett** 70.98 301 ⇑P P 01 49 04.7 +0.3
baz=71,SNR=34
KSR **Koster** 70.99 145 *e*P P 01 49 04.4 -0.1
KSR AMB AMB 01 49 05.2
comp=Z,61nm,1.4s
L22A **Ellis Ranch, M** 71.00 308 ⇑P P 01 49 04.7 +0.1
baz=71,SNR=33
334A **Lometa** 71.01 295 ⇓P P 01 49 03.7 -0.8
baz=71,SNR=48
R26A **Arlington** 71.02 304 ⇑P P 01 49 04.7 0.0
baz=71,SNR=88
I20A **Worland** 71.03 311 ⇑P P 01 49 04.2 -0.4
baz=71,SNR=71
RLMT **Red Lodge** 71.08 312 *e*P P 01 49 04.7 -0.3
comp=Z,83nm,1.4s
RLMT LR LR
comp=Z,2μm,20.0s
RLMT **Red Lodge** 71.08 312 *e*P P 01 49 04.7 -0.3
comp=Z,83nm,1.4s
Y31A **Rekieta Farm,** 71.09 299 ⇓P P 01 49 04.8 -0.2
baz=71,SNR=39
O24A **Longmont** 71.14 306 ⇑P P 01 49 05.7 +0.3
baz=71,SNR=23
H19A **Powell** 71.16 312 ⇓P P 01 49 05.4 0.0
baz=71,SNR=75
T27A **Campo** 71.18 302 ⇑P P 01 49 05.6 0.0
baz=71,SNR=48
K21A **Alcova** 71.19 309 ⇓P P 01 49 05.0 -0.7
baz=71,SNR=78
U28A **Mallet** 71.20 302 ⇑P P 01 49 05.9 +0.2
baz=71
Q25A **Bedland, Calha** 71.23 305 ⇑P P 01 49 05.8 -0.2
baz=71,SNR=12
X30A **Coker Ranch, T** 71.27 299 ⇓P P 01 49 06.1 0.0
baz=71,SNR=33
N23A **Red Feather La** 71.29 307 ⇓P P 01 49 06.4 -0.1
baz=71,SNR=60
434A **Burnet** 71.30 295 ⇓P P 01 49 05.2 -1.2
baz=71,SNR=44
J20A **Shoshoni** 71.32 310 ⇑P P 01 49 06.0 -0.4
baz=71,SNR=126
Z31A **Sharp Cattle R** 71.35 298 ⇑P P 01 49 06.0 -0.6
baz=71,SNR=37
P24A **Kohler Place,** 71.35 306 ⇑P P 01 49 06.5 -0.2
baz=71,SNR=7.8
ABTX **Abilene, Hawle** 71.35 297 *e*P P 01 49 06.0 -0.6
ABTX **Abilene, Hawle** 71.35 297 ⇑P P 01 49 05.9 -0.7
baz=71
ABTX **Abilene, Hawle** 71.35 297 *e*P P 01 49 06.0 -0.6
S26A **Kim** 71.39 303 ⇑P P 01 49 07.2 +0.2
baz=71,SNR=82
M22A **Cedar Creek Ra** 71.44 308 ⇓P P 01 49 07.3 +0.1
baz=71,SNR=32
SWZ **Schweizer** 71.44 147 ⇓*i*P P 01 49 06.8 -0.3
SWZ AMB AMB 01 49 08.4
comp=Z,267nm,1.3s
W29A **Amraillo** 71.46 300 ⇓P P 01 49 07.7 +0.4
baz=71,SNR=20
I19A **Meeteetse** 71.50 311 ⇓P P 01 49 07.1 -0.5
baz=71,SNR=56
V28A **Channing** 71.53 301 ⇑P P 01 49 07.8 0.0
baz=71,SNR=11
SLR **Silverton** 71.54 144 *e*P P 01 49 08.0 +0.3
SLR AMB AMB 01 49 09.3
comp=Z,196nm,1.3s
WALA **Waterton Lakes** 71.55 318 *e*P P 01 49 06.9 -0.7
comp=Z,4.4nm,1.3s
WALA **Waterton Lakes** 71.55 318 *e*P P 01 49 06.9 -0.7
comp=Z,4.4nm,1.3s
333A **Richland Sprin** 71.56 296 ⇓P P 01 49 07.1 -0.8
baz=71,SNR=23
H18A **Shoshone NF, C** 71.56 312 ⇑P P 01 49 07.0 -0.9
baz=71,SNR=38
U27A **Thompson Grove** 71.59 302 ⇓P P 01 49 07.9 -0.2
baz=71,SNR=66
Y30A **Stafford Cattl** 71.59 299 ⇑P P 01 49 07.7 -0.4
baz=71,SNR=8.7
AMTX **Amarillo** 71.61 300 ⇓P P 01 49 08.2 -0.1
baz=71
O23A **Lake Granby, G** 71.64 307 ⇑P P 01 49 08.6 0.0
baz=71,SNR=39
ISCO **Idaho Springs** 71.66 306 *e*P P 01 49 08.7 0.0
ISCO pmax pmax
comp=Z,122nm,1.4s
ISCO MLR MLR
comp=Z,6μm,22.0s
ISCO **Idaho Springs** 71.66 306 *e*P P 01 49 08.7 0.0
comp=Z,122nm,1.4s
ISCO LR LR
comp=Z,6μm,22.0s
ISCO **Idaho Springs** 71.66 306 ⇓P P 01 49 08.6 0.0
baz=71
ISCO **Idaho Springs** 71.66 306 *e*P P 01 49 08.7 0.0
comp=Z,6μm,22.0s
R25A **Fountain Ranch** 71.66 304 ⇑P P 01 49 08.5 0.0
baz=71,SNR=40
N22A **Wattenberg Ran** 71.67 307 ⇑P P 01 49 09.1 +0.4
baz=71,SNR=46
HRY **Holter Researc** 71.70 315 *e*P P 01 49 08.4 -0.2
comp=Z,72nm,1.1s
HRY **Holter Researc** 71.70 315 *e*P P 01 49 08.4 -0.2
comp=Z,72nm,1.1s
T26A **Comanche Natio** 71.71 303 ⇑P P 01 49 09.4 +0.4
baz=72,SNR=63
WDLM **Western Deep L** 71.72 145 *e*P P 01 49 09.1 +0.3
WDLM AMB AMB 01 49 10.2
comp=Z,44nm,1.2s
232A **Coleman** 71.74 296 ⇓P P 01 49 08.6 -0.3
baz=72,SNR=62
TGUH **Tegucigalpa,Un** 71.75 274 *e*P P 01 49 10.0 +0.8
comp=Z,253nm,1.5s
TGUH LR LR
comp=Z,2μm,21.0s
TGUH **Tegucigalpa,Un** 71.75 274 *e*P P 01 49 10.0 +0.8
comp=Z,253nm,1.5s
W28A **Vega** 71.78 301 ⇓P P 01 49 08.8 -0.4
baz=72
Q24A **Divide** 71.80 305 ⇓P P 01 49 09.4 -0.2
baz=72,SNR=19
OBSV **Observatory** 71.82 144 ⇓*i*P P 01 49 09.8 +0.3
OBSV AMB AMB 01 49 10.2
comp=Z,123nm,1.5s
X29A **Tulia** 71.85 300 ⇓P P 01 49 09.1 -0.6
baz=72,SNR=8.2
131A **Roby** 71.86 297 ⇑P P 01 49 09.3 -0.3
baz=72,SNR=34
534A **Blanco** 71.87 294 ⇑P P 01 49 08.8 -0.9
baz=72,SNR=19
433A **Art** 71.94 295 ⇓P P 01 49 09.5 -0.7
baz=72,SNR=35
V27A **Dan Oppiter Fa** 71.95 301 ⇑P P 01 49 10.5 +0.3
baz=72,SNR=26
J19A **Crowheart** 71.96 311 ⇓P P 01 49 09.2 -1.1
baz=72,SNR=26
JTS **JuntasAbangare** 72.00 270 LR LR 02 14 56.2
comp=Z,1μm,22.0s,baz=4.5,slow=31
S25A **Robets Cordova** 72.02 304 ⇑P P 01 49 11.4 +0.7
baz=72,SNR=55
ERPM **east rand prop** 72.03 144 ⇓*i*P P 01 49 10.3 -0.5
ERPM AMB AMB 01 49 11.0
comp=Z,156nm,1.5s
P23A **Jefferson** 72.03 306 ⇓P P 01 49 11.6 +0.6
baz=72,SNR=46
LKWY **Lake** 72.06 312 *e*P P 01 49 11.6 +0.6
LKWY pmax pmax
comp=Z,108nm,2.0s
LKWY MLR MLR
comp=Z,4μm,22.0s
LKWY **Lake** 72.06 312 *e*P P 01 49 11.6 +0.6
comp=Z,108nm,2.0s
LKWY LR LR
comp=Z,4μm,22.0s
LKWY **Lake** 72.06 312 *e*P P 01 49 11.6 +0.6
comp=Z,108nm,2.0s
Z30A **Sanderson Ranc** 72.06 298 ⇑P P 01 49 10.4 -0.5
baz=72,SNR=41
O22A **Kremmling** 72.07 307 ⇑P P 01 49 11.1 -0.1
baz=72,SNR=85
332A **Millersview** 72.08 296 ⇓P P 01 49 10.3 -0.7
baz=72,SNR=56
YNR **Norris Junctio** 72.14 313 *e*P P 01 49 11.8 +0.3
comp=Z,85nm,1.6s
YNR **Norris Junctio** 72.14 313 *e*P P 01 49 11.8 +0.3
comp=Z,85nm,1.6s
Y29A **Porterfield Fa** 72.14 299 ⇓P P 01 49 10.9 -0.5
baz=72
X28A **Dimmitt** 72.16 300 ⇑P P 01 49 11.2 -0.3
baz=72,SNR=9.8
R24A **Sanders Place,** 72.17 305 ⇑P P 01 49 12.3 +0.7
baz=72,SNR=77
BOZ **Bozeman (W)** 72.18 314 *e*P P 01 49 11.6 +0.1
BOZ pmax pmax
comp=Z,86nm,1.1s
BOZ MLR MLR
comp=Z,1μm,20.0s
BOZ **Bozeman (W)** 72.18 314 *e*P P 01 49 11.6 +0.1
comp=Z,86nm,1.1s
BOZ LR LR
comp=Z,1μm,20.0s
BOZ **Bozeman (W)** 72.18 314 *e*P P 01 49 11.6 +0.1
comp=Z,86nm,1.1s
231A **Bronte** 72.20 297 ⇓P P 01 49 11.6 -0.1
baz=72,SNR=36
U26A **Atchley Ranch,** 72.23 302 ⇑P P 01 49 12.2 +0.2
baz=72,SNR=54
533A **Kerrville** 72.26 294 ⇓P P 01 49 11.2 -0.9
baz=72,SNR=11
H17A **Grant Village** 72.26 312 *e*P P 01 49 12.1 0.0
H17A ePP **PP** 01 51 54.6 +2.3
H17A **Grant Village** 72.26 312 ⇓P P 01 49 12.5 +0.3
baz=72,SNR=27
H17A **Grant Village** 72.26 312 *e*P P 01 49 12.1 0.0
YBMT **Yellow Bay** 72.28 317 *e*P P 01 49 11.0 -1.1
comp=Z,55nm,1.3s
YBMT **Yellow Bay** 72.28 317 *e*P P 01 49 11.0 -1.1
comp=Z,54nm,1.3s
Q23A **Hartsel** 72.28 305 ⇓P P 01 49 12.2 -0.2
baz=72
T25A **Trinidad** 72.28 303 ⇓P P 01 49 12.8 +0.4
baz=72,SNR=46
130A **Snyder** 72.31 298 ⇑P P 01 49 12.2 -0.2
baz=72,SNR=30
YMR **Madison River** 72.34 313 *e*P P 01 49 12.6 0.0
comp=Z,85nm,1.2s
YMR **Madison River** 72.34 313 *e*P P 01 49 12.6 0.0
comp=Z,85nm,1.2s
SLMT **Seeley Lake** 72.35 316 *e*P P 01 49 11.6 -0.9
comp=Z,58nm,1.2s
SLMT **Seeley Lake** 72.35 316 *e*P P 01 49 11.6 -0.9
comp=Z,58nm,1.2s
COLD **Coldfoot** 72.36 345 *e*P P 01 49 12.5 +0.5
comp=Z,57nm,1.1s
COLD **Coldfoot** 72.36 345 *e*P P 01 49 12.5 +0.5
comp=Z,57nm,1.1s
YFT **Old Faithful** 72.38 312 *e*P P 01 49 14.0 +1.1
comp=Z,128nm,1.3s
YFT **Old Faithful** 72.38 312 *e*P P 01 49 14.0 +1.1
comp=Z,128nm,1.3s
432A **Menard** 72.38 296 ⇓P P 01 49 12.1 -0.7
baz=72,SNR=28
CHMT **Chamberlain Mo** 72.40 316 *e*P P 01 49 12.4 -0.5
comp=Z,86nm,1.3s
CHMT **Chamberlain Mo** 72.40 316 *e*P P 01 49 12.4 -0.5
comp=Z,86nm,1.3s
W27A **Bowe Ranch, En** 72.47 301 ⇑P P 01 49 13.6 +0.2
baz=72
SWMT **Swartz Lake** 72.47 316 *e*P P 01 49 12.4 -0.8
comp=Z,44nm,1.1s
SWMT **Swartz Lake** 72.47 316 *e*P P 01 49 12.4 -0.8
comp=Z,44nm,1.1s
JTMT **Jette** 72.50 317 *e*P P 01 49 12.5 -0.9
comp=Z,33nm,1.1s
JTMT **Jette** 72.50 317 *e*P P 01 49 12.5 -0.9
comp=Z,33nm,1.1s
P22A **Eagle** 72.51 306 ⇓P P 01 49 13.5 -0.2
baz=72,SNR=32
I17A **Pilgrim Ck.** 72.52 312 ⇑P P 01 49 13.7 0.0
baz=72,SNR=32
Y28A **McKinney Farm,** 72.52 299 ⇑P P 01 49 13.0 -0.7
baz=72,SNR=13
BW06 **Boulder Array** 72.54 310 *e*P P 01 49 12.6 -1.2
comp=Z,95nm,1.1s
BW06 LR LR
comp=Z,3μm,22.0s
BW06 **Boulder Array** 72.54 310 *e*P P 01 49 12.6 -1.2
comp=Z,95nm,1.1s
PDAR **Pinedale Array** 72.54 310 P P 01 49 12.7 -1.2
PDAR **Pinedale Array** 72.54 310 P P 01 49 12.6 -1.2
PDAR **Pinedale Array** 72.54 310 P P 01 49 12.7 -1.2
comp=Z,34nm,0.8s,baz=67,slow=5.7,SNR=225
PDAR LR LR 02 19 34.4
comp=Z,2μm,19.0s,baz=62,slow=35
S24A **Houchin Ranch,** 72.55 304 ⇑P P 01 49 13.9 -0.2
baz=72,SNR=13
LRM **Limekiln Ridge** 72.56 314 *e*P P 01 49 13.9 0.0
comp=Z,561nm,1.2s
LRM **Limekiln Ridge** 72.56 314 *e*P P 01 49 13.9 0.0
comp=Z,561nm,1.2s
V26A **Tequesquite Ra** 72.58 302 ⇑P P 01 49 14.1 0.0
baz=72,SNR=142
JCT **Junction City** 72.60 295 *e*P P 01 49 13.4 -0.8
JCT pmax pmax
comp=Z,137nm,1.1s
JCT MLR MLR
comp=Z,2μm,22.0s
JCT **Junction City** 72.60 295 *e*P P 01 49 13.4 -0.8
comp=Z,137nm,1.1s
JCT LR LR
comp=Z,2μm,22.0s
JCT **Junction City** 72.60 295 ⇑P P 01 49 13.6 -0.6
baz=72
JCT **Junction City** 72.60 295 *e*P P 01 49 13.4 -0.8
comp=Z,2μm,22.0s
331A **San Angelo** 72.61 296 ⇑P P 01 49 14.0 -0.2
baz=72,SNR=21
BOSA **Boshof** 72.65 148 ⇓*i*P P 01 49 13.8 -0.4
BOSA AMB AMB 01 49 15.2
comp=Z,146nm,1.2s
BOSA **Boshof** 72.65 148 *e*P P 01 49 13.9 -0.4
comp=Z,305nm,1.4s
BOSA **Boshof** 72.65 148 *e*P P 01 49 13.9 -0.4
comp=Z,305nm,1.4s
BOSA **Boshof** 72.65 148 P P 01 49 13.9 -0.3
comp=Z,82nm,1.0s,baz=339,slow=6.1,SNR=96
BOSA LR LR 02 21 57.5
comp=Z,1μm,21.0s,baz=332,slow=36
R23A **Moffat** 72.67 305 ⇑P P 01 49 14.9 +0.2
baz=72
U25A **Circle Dot Ran** 72.68 303 ⇓P P 01 49 15.5 +0.8
baz=72,SNR=147
SDCO **Great Sand Dun** 72.69 304 *e*P P 01 49 14.5 -0.4
comp=Z,79nm,1.2s
SDCO LR LR
comp=Z,6μm,20.0s
SDCO **Great Sand Dun** 72.69 304 *e*P P 01 49 14.5 -0.4
comp=Z,79nm,1.2s
BSMT **Bassoo Peak** 72.71 317 *e*P P 01 49 14.3 -0.4
comp=Z,115nm,1.3s
BSMT **Bassoo Peak** 72.71 317 *e*P P 01 49 14.3 -0.4
comp=Z,115nm,1.3s
X27A **F and S Farms,** 72.72 300 ⇑P P 01 49 14.9 0.0
baz=72,SNR=24
OTAV **Otavalo** 72.75 257 *e*P P 01 49 15.8 +0.1
comp=Z,47nm,1.4s
OTAV LR LR
comp=Z,621nm,20.0s
OTAV **Otavalo** 72.75 257 *e*P P 01 49 15.8 +0.1
comp=Z,47nm,1.4s
230A **Sterling City** 72.80 297 ⇑P P 01 49 15.1 -0.2
baz=73,SNR=18
N20A **Spence Gulch,** 72.80 308 ⇓P P 01 49 15.5 +0.1
baz=72,SNR=63
MSO **Missoula** 72.83 316 ⇓P P 01 49 15.0 -0.3
baz=72
MSTX **Muleshoe** 72.86 300 *e*P P 01 49 15.6 -0.1
MSTX **Muleshoe** 72.86 300 ⇓P P 01 49 15.8 +0.1
baz=73
MSTX **Muleshoe** 72.86 300 *e*P P 01 49 15.6 -0.1
532A **Rocksprings** 72.86 295 ⇑P P 01 49 15.4 -0.3
baz=73,SNR=29
129A **Stewart Farms,** 72.94 298 ⇑P P 01 49 15.9 -0.3
baz=73,SNR=44
W26A **Owens Ranch, T** 72.95 301 ⇑P P 01 49 16.6 +0.4
baz=73,SNR=18
Z28A **Tucker Farm, M** 72.95 299 ⇓P P 01 49 16.3 +0.1
baz=73,SNR=55
T24B **San Luis** 72.98 304 ⇑P P 01 49 17.7 +1.0
baz=73,SNR=88
S23A **Nye Farm, Mont** 73.05 304 ⇑P P 01 49 17.4 +0.5
baz=73,SNR=7.3
431A **Sonora** 73.08 296 ⇑P P 01 49 16.8 -0.2
baz=73,SNR=37
330A **Mertzon** 73.10 297 ⇑P P 01 49 17.0 -0.1
baz=73,SNR=28
V25A **Rancho No Teng** 73.12 302 ⇓P P 01 49 17.3 -0.1
baz=73,SNR=31
DLBC **Dease Lake** 73.15 332 *e*P P 01 49 17.7 +0.7
DLBC **Dease Lake** 73.15 332 *e*P P 01 49 17.7 +0.7
O20A **White River Ci** 73.17 308 *e*P P 01 49 15.5 -2.1
O20A **White River Ci** 73.17 308 ⇑P P 01 49 17.1 -0.5
baz=73,SNR=21
O20A **White River Ci** 73.17 308 *e*P P 01 49 15.5 -2.1
Y27A **Causey** 73.18 300 ⇓P P 01 49 17.4 -0.2
baz=73,SNR=34
229A **Bryant Ranch,** 73.25 297 ⇓P P 01 49 18.0 0.0
baz=73,SNR=21
U24A **Moreno Valley** 73.27 303 ⇑P P 01 49 19.0 +0.7
baz=73,SNR=17
X26A **CR and CF Fran** 73.27 301 ⇓P P 01 49 18.2 0.0
baz=73,SNR=37
MSEY **Mahe Island** 73.28 109 P P 01 49 19.1 +0.8
comp=Z,200nm,1.2s,SNR=6.4
MSEY **Mahe Island** 73.28 109 *e*P P 01 49 18.8 +0.4
comp=Z,41nm,1.1s
MSEY LR LR
comp=Z,1μm,22.0s
MSEY **Mahe Island** 73.28 109 *e*P P 01 49 18.8 +0.4
comp=Z,41nm,1.1s
531A **Rocksprings** 73.31 295 ⇑P P 01 49 17.9 -0.5
baz=73,SNR=17
W25A **X Bar L Ranch,** 73.36 302 ⇓P P 01 49 19.2 +0.5
baz=73,SNR=74
128A **Castleberry Fa** 73.38 298 ⇑P P 01 49 18.8 0.0
baz=73,SNR=34
T23A **Casias Ranch,** 73.43 304 ⇑P P 01 49 19.4 +0.1
baz=73,SNR=27
SEK **Senekal** 73.44 146 ⇓*i*P P 01 49 18.8 -0.2
SEK AMB AMB 01 49 19.5
comp=Z,135nm,1.5s
430A **Baggett Ranch,** 73.48 296 ⇓P P 01 49 19.3 -0.1
baz=73,SNR=28
AHID **Auburn Hatcher** 73.49 311 *e*P P 01 49 18.5 -0.9
comp=Z,92nm,1.1s
AHID LR LR
comp=Z,3μm,22.0s
AHID **Auburn Hatcher** 73.49 311 *e*P P 01 49 18.5 -0.9
comp=Z,92nm,1.1s
MOY **Mondy** 73.50 37 *e*P P 01 49 20.6 +1.4
MOY **Mondy** 73.50 37 *e*P P 01 49 20.6 +1.4
Z27A **Tatum** 73.52 299 ⇑P P 01 49 19.6 -0.1
baz=73,SNR=65
S22A **4UR Ranch, Cre** 73.57 305 ⇓P P 01 49 20.2 +0.1
baz=73,SNR=102
Y26A **Elida** 73.62 300 ⇓P P 01 49 20.4 +0.1
baz=73,SNR=12
V24A **Rampart Ranch,** 73.63 302 ⇓P P 01 49 21.2 +0.8
baz=73,SNR=83
329A **Wagon Wheel Ra** 73.64 297 ⇓P P 01 49 20.3 0.0
baz=73,SNR=34
ILAR **Eielson Array** 73.65 342 P P 01 49 19.9 +0.3
ILAR P'P' 02 16 54.8
ILAR **Eielson Array** 73.65 342 P P 01 49 20.0 +0.3
ILAR **Eielson Array** 73.65 342 P P 01 49 19.9 +0.3
comp=Z,6.4nm,0.7s,baz=28,slow=4.7,SNR=69
ILAR PKPPKP P'P'df 02 16 54.8 -7.4
comp=Z,0.8nm,1.0s,baz=255,slow=3.1,SNR=4.6
ILAR LR LR 02 19 58.0
comp=Z,1μm,20.1s,baz=50,slow=34
732A **Laxson Ranch,** 73.66 294 ⇑P P 01 49 20.0 -0.4
baz=74,SNR=38
228A **UT Block 9, Go** 73.73 298 ⇓P P 01 49 20.3 -0.5
baz=74,SNR=12
631A **Perdido Creek** 73.74 295 ⇓P P 01 49 20.0 -0.9

baz=74,SNR=27
NEW Newport 73.74 318 *e*P **P 01 49 19.6 -1.0**
comp=Z,40nm,1.0s
NEW LR LR
comp=Z,2µm,20.0s
NEW Newport 73.74 318 ⇑P **P 01 49 20.0 -0.6**
baz=73
NEW Newport 73.74 318 *e*P **P 01 49 19.6 -1.0**
comp=Z,40nm,1.0s
COLA College 73.80 343*c i*P **P 01 49 21.1 +0.6**
COLA pmax pmax
comp=Z,270nm,1.8s
COLA College 73.80 343 *e*P **P 01 49 20.9 +0.4**
comp=Z,35nm,1.1s
COLA LR LR
comp=Z,2µm,19.0s
COLA College 73.80 343 *e*P **P 01 49 20.9 +0.4**
comp=Z,35nm,1.1s
DOT Dot Lake 73.84 341 *e*P **P 01 49 21.6 +0.7**
comp=Z,38nm,1.0s
DOT Dot Lake 73.84 341 *e*P **P 01 49 21.6 +0.7**
comp=Z,38nm,1.0s
X25A Clemmons Ranch 73.87 301 ⇓P **P 01 49 22.0 +0.3**
baz=74
530A J-C Ranch, Com 73.90 296 ⇑P **P 01 49 21.7 -0.1**
baz=74,SNR=54
U23A El Rito 73.93 303 ⇑P **P 01 49 22.9 +0.8**
baz=74,SNR=48
127A Arkansas Junct 73.97 299 ⇑P **P 01 49 22.4 +0.1**
baz=74
W24A Lazy 6 Ranch, 74.01 302 ⇑P **P 01 49 23.1 +0.6**
baz=74,SNR=53
429A Davenport Ranc 74.04 296 ⇓P **P 01 49 22.2 -0.5**
baz=74,SNR=35
HYT Haines Junctio 74.09 336 *e*P **P 01 49 22.7 +0.2**
HYT Haines Junctio 74.09 336 *e*P **P 01 49 22.7 +0.2**
IM04 Indian Mountai 74.17 345 *e*P **P 01 49 23.5 +0.7**
IM04 Indian Mountai 74.17 345 *e*P **P 01 49 23.5 +0.7**
Y25A Mesa, Roswell 74.22 301 ⇓P **P 01 49 23.7 -0.1**
baz=74,SNR=24
SUR Sutherland 74.23 153⇓*i*P **P 01 49 23.9 +0.3**
SUR AMB AMB 01 49 24.8
comp=Z,73nm,1.5s
SUR Sutherland 74.23 153 P **P 01 49 24.9 +1.3**
SNR=6.2
SUR Sutherland 74.23 153 *e*P **P 01 49 23.6 0.0**
comp=Z,134nm,1.1s
SUR LR LR
comp=Z,3µm,21.0s
SUR Sutherland 74.23 153 P **P 01 49 23.5 -0.1**
comp=Z,501nm,1.3s,SNR=24
SUR Sutherland 74.23 153 *e*P **P 01 49 23.6 0.0**
comp=Z,134nm,1.1s
V23A Ortiz Mt. (NFS 74.24 303 ⇓P **P 01 49 25.1 +1.2**
baz=74,SNR=18
227A Bennet, Jal 74.29 298 ⇓P **P 01 49 24.5 +0.4**
baz=74
328A Wristen Ranch, 74.29 297 ⇓P **P 01 49 23.7 -0.3**
baz=74,SNR=90
U22A Llaves 74.34 304 ⇑P **P 01 49 25.3 +0.8**
baz=74
126A Clayton Basin, 74.45 299 ⇑P **P 01 49 25.1 0.0**
baz=74,SNR=15
PV01 Paradox Valley 74.50 306 *e*P **P 01 49 25.1 -0.4**
comp=Z,6µm,1.5s
PV01 Paradox Valley 74.50 306 *e*P **P 01 49 25.1 -0.4**
comp=Z,6µm,1.5s
W23A Werner Place, 74.54 302 ⇓P **P 01 49 26.3 +0.5**
baz=74,SNR=38
529A Stev Forest Ra 74.55 296 ⇑P **P 01 49 25.7 0.0**
baz=74,SNR=70
428A Kincaid Ranch, 74.56 297 ⇑P **P 01 49 25.7 0.0**
baz=74,SNR=50
PV04 Paradox Valley 74.57 306 *e*P **P 01 49 25.8 0.0**
PV04 Paradox Valley 74.57 306 *e*P **P 01 49 25.8 0.0**
Z25A Roswell 74.59 300 ⇓P **P 01 49 26.1 +0.2**
baz=74,SNR=46
V22A San Miguel Ran 74.64 303 ⇑P **P 01 49 27.2 +0.9**
baz=74,SNR=65
Y24A Capitan 74.74 301 ⇑P **P 01 49 27.3 +0.5**
baz=74,SNR=67
TLY Talaya 74.77 36 *e*P **P 01 49 28.1 +1.6**
TLY pmax pmax
comp=Z,28nm,0.9s
TLY Talaya 74.77 36 *e*P **P 01 49 27.8 +1.3**
comp=Z,34nm,1.0s
TLY LR LR
comp=Z,1µm,20.0s
TLY Talaya 74.77 36 *e*P **P 01 49 27.8 +1.3**
comp=Z,34nm,1.0s
327A Balmorhea Ranc 74.78 298 ⇑P **P 01 49 27.4 +0.4**
baz=75
226B Tecolote Peak, 74.87 299 ⇑P **P 01 49 28.1 +0.6**
baz=75,SNR=94
ANMO Albuquerque 74.87 302 *e*P **P 01 49 28.0 +0.4**
comp=Z,60nm,1.4s
ANMO Albuquerque 74.87 302 *e*P **P 01 49 28.0 +0.4**
comp=Z,60nm,1.4s
ANMO Albuquerque 74.87 302 LR LR 02 20 14.4
comp=Z,3µm,21.6s,baz=54,slow=34
X23A Hourglass Bar 74.89 302 ⇓P **P 01 49 28.3 +0.6**
baz=75
125A Gardner Draw, 74.89 299 ⇑P **P 01 49 27.7 +0.1**
baz=75,SNR=53
DAU Daniels Canyon 74.92 309 *e*P **P 01 49 27.7 -0.3**
DAU pmax pmax
comp=Z,57nm,1.1s
DAU Daniels Canyon 74.92 309 *e*P **P 01 49 27.6 -0.3**
comp=Z,57nm,1.1s
DAU Daniels Canyon 74.92 309 *e*P **P 01 49 27.6 -0.4**
comp=Z,57nm,1.1s
JLU Jordanelle 74.93 309 *e*P **P 01 49 27.4 -0.5**
comp=Z,167nm,1.4s
JLU Jordanelle 74.93 309 *e*P **P 01 49 27.4 -0.5**
comp=Z,167nm,1.4s
528A Cox Ranch, San 74.94 296 ⇑P **P 01 49 27.9 0.0**
baz=75,SNR=72
MVCO Mesa Verde 74.97 305 *e*P **P 01 49 28.6 +0.4**
comp=Z,188nm,1.4s
MVCO LR LR
comp=Z,5µm,21.0s
MVCO Mesa Verde 74.97 305 ⇓P **P 01 49 28.5 +0.3**
baz=75
MVCO Mesa Verde 74.97 305 *e*P **P 01 49 28.6 +0.4**
comp=Z,188nm,1.4s
427A Hayter Ranch, 75.00 297 ⇑P **P 01 49 28.3 0.0**
baz=75,SNR=51
HLID Hailey 75.01 313 *e*P **P 01 49 28.6 +0.4**
comp=Z,75nm,1.4s
HLID LR LR
comp=Z,1µm,20.0s
HLID Hailey 75.01 313 ⇓P **P 01 49 28.8 +0.6**
baz=75
HLID Hailey 75.01 313 *e*P **P 01 49 28.6 +0.4**
comp=Z,75nm,1.4s
Z24A Sheeppen Canyo 75.02 300 ⇑P **P 01 49 28.9 +0.5**
baz=75,SNR=54
MCK McKinley 75.02 342 *e*P **P 01 49 27.9 +0.2**
MCK pmax pmax
comp=Z,72nm,1.2s
MCK McKinley 75.02 342 *e*P **P 01 49 27.9 +0.2**
comp=Z,72nm,1.2s
MCK McKinley 75.02 342 *e*P **P 01 49 27.9 +0.2**
comp=Z,72nm,1.2s
HVU Hansel Valley 75.07 311 *e*P **P 01 49 28.3 -0.3**
HVU pmax pmax
comp=Z,119nm,1.2s
HVU Hansel Valley 75.07 311 *e*P **P 01 49 28.3 -0.3**
comp=Z,119nm,1.2s
HVU Hansel Valley 75.07 311 *e*P **P 01 49 28.3 -0.3**
comp=Z,119nm,1.2s
SPUT South Promonto 75.14 310 *e*P **P 01 49 28.2 -0.8**
comp=Z,72nm,1.2s
SPUT South Promonto 75.14 310 *e*P **P 01 49 28.2 -0.8**
comp=Z,72nm,1.2s
326A Caldwell Ranch 75.16 298 ⇑P **P 01 49 29.8 +0.6**
baz=75,SNR=57
Y23A Lovelace Mesa, 75.16 301 ⇑P **P 01 49 29.7 +0.5**
baz=75,SNR=41
SRU San Rafael 75.21 308 *e*P **P 01 49 28.9 -0.5**
SRU pmax pmax
comp=Z,106nm,1.2s
SRU San Rafael 75.21 308 *e*P **P 01 49 28.9 -0.5**
comp=Z,106nm,1.2s
SRU San Rafael 75.21 308 *e*P **P 01 49 28.9 -0.5**
comp=Z,106nm,1.2s
225A Deer Hill, Car 75.31 299 ⇓P **P 01 49 29.8 -0.4**
baz=75,SNR=48

LPM Los Pinos Moun 75.34 302 *e*P **P 01 49 30.8 +0.5**
comp=Z,70nm,1.3s
LPM Los Pinos Moun 75.34 302 *e*P **P 01 49 30.8 +0.5**
comp=Z,70nm,1.3s
628A Black Gap, Mar 75.39 296 ⇑P **P 01 49 30.9 +0.4**
baz=75,SNR=245
MPU Maple Canyon 75.39 309 *e*P **P 01 49 29.9 -0.6**
comp=Z,61nm,1.2s
MPU Maple Canyon 75.39 309 *e*P **P 01 49 29.9 -0.6**
comp=Z,61nm,1.2s
ZAK Zakamensk 75.43 37 *e*P **P 01 49 30.1 -0.3**
ZAK pmax pmax
comp=Z,11nm,1.5s
ZAK Zakamensk 75.43 37 *e*P **P 01 49 30.1 -0.3**
comp=Z,11nm,1.5s
BNM Barren Site 75.43 302 *e*P **P 01 49 31.4 +0.5**
comp=Z,72nm,1.2s
BNM Barren Site 75.43 302 *e*P **P 01 49 31.4 +0.5**
comp=Z,72nm,1.2s
WRAK Wrangell Islan 75.47 331 PFAKE
WRAK LR LR 01 49 40.0 +10
comp=Z,2µm,19.0s
TMUT Trail Mountain 75.53 308 *e*P **P 01 49 31.1 -0.4**
comp=Z,74nm,1.0s
TMUT Trail Mountain 75.53 308 *e*P **P 01 49 31.1 -0.4**
comp=Z,74nm,1.0s
NLW Nelson Butte 75.56 320 P **P 01 49 30.8 -0.4**
NLW Nelson Butte 75.56 320 P **P 01 49 30.8 -0.4**
TRF Thorofare Moun 75.58 343 *e*P **P 01 49 31.0 -0.1**
comp=Z,23nm,0.6s
TRF Thorofare Moun 75.58 343 *e*P **P 01 49 31.0 -0.1**
comp=Z,23nm,0.6s
LAZ Ladron 75.64 302 *e*P **P 01 49 32.3 +0.3**
comp=Z,48nm,1.3s
LAZ Ladron 75.64 302 *e*P **P 01 49 32.3 +0.3**
comp=Z,48nm,1.3s
LENM Lemitar 75.66 302 *e*P **P 01 49 32.7 +0.6**
comp=Z,79nm,1.1s
LENM Lemitar 75.66 302 *e*P **P 01 49 32.7 +0.6**
comp=Z,79nm,1.1s
Y22D IRIS PASSCAL i 75.68 302 ⇓P **P 01 49 33.1 +0.9**
baz=75,SNR=7.2
NLU North Lily Min 75.70 309 *e*P **P 01 49 31.7 -0.6**
comp=Z,67nm,1.2s
NLU *e*PP **PP 01 52 20.4 -1.2**
NLU North Lily Min 75.70 309 *e*P **P 01 49 31.7 -0.6**
comp=Z,67nm,1.2s
BGU Big Grassy Mou 75.72 310 *e*P **P 01 49 31.9 -0.5**
comp=Z,68nm,1.2s
BGU *e*PP **PP 01 52 17.6 -4.1**
BGU Big Grassy Mou 75.72 310 *e*P **P 01 49 31.9 -0.5**
comp=Z,68nm,1.2s
627A Terlingua Ranc 75.77 296 ⇓P **P 01 49 33.1 +0.4**
baz=76,SNR=89
ELIM Elim 75.87 155⇓*i*P **P 01 49 33.2 +0.4**
ELIM AMB AMB 01 49 34.8
comp=Z,247nm,1.4s
MFID Camas Ranch 75.92 314 *e*P **P 01 49 33.4 0.0**
comp=Z,40nm,1.1s
MFID Camas Ranch 75.92 314 *e*P **P 01 49 33.4 0.0**
comp=Z,40nm,1.1s
MNTX Cornudas Mount 75.94 299 *e*P **P 01 49 32.7 -0.8**
comp=Z,31nm,1.4s
MNTX LR LR
comp=Z,3µm,19.0s
MNTX Cornudas Mount 75.94 299 *e*P **P 01 49 32.7 -0.8**
comp=Z,31nm,1.4s
LPAZ La Paz 75.98 237 *e*P **P 01 49 33.7 -0.9**
comp=Z,41nm,1.6s
LPAZ La Paz 75.98 237 *e*P **P 01 49 33.7 -0.9**
comp=Z,41nm,1.6s
LPAZ La Paz 75.98 237 P **P 01 49 34.1 -0.5**
comp=Z,2.6nm,0.6s,baz=27,slow=1.5,SNR=11
LPAZ LR LR 02 23 54.5
comp=Z,371nm,18.1s,baz=47,slow=36
PYUN Piuthan 76.00 65 *e*P **P 01 49 34.3 +0.1**
comp=Z,418nm,1.2s
PYUN Piuthan 76.00 65 *e*P **P 01 49 34.3 +0.1**
comp=Z,418nm,1.2s
PYUN Piuthan 76.00 65 *e*P **P 01 49 34.3 +0.1**
comp=Z,418nm,1.2s
DUG Dugway 76.02 310 *e*P **P 01 49 33.5 -0.6**
DUG pmax pmax
comp=Z,86nm,1.2s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway 76.02 310 *e*P **P 01 49 33.5 -0.6**
comp=Z,86nm,1.2s
DUG LR LR
comp=Z,2µm,19.0s
DUG Dugway 76.02 310 ⇑P **P 01 49 33.4 -0.6**
baz=76
DUG Dugway 76.02 310 *e*P **P 01 49 33.5 -0.6**
comp=Z,86nm,1.2s
123A Bell Site, Whi 76.03 300 ⇓P **P 01 49 34.5 +0.3**
baz=76
TXAR Lajitas Array 76.03 296 P **P 01 49 34.4 +0.2**
TXAR PP **PP 01 52 24.5 -0.1**
TXAR ⇑*e* 02 17 03.0
TXAR Lajitas Array 76.03 296 P **P 01 49 34.4 +0.2**
TXAR Lajitas Array 76.03 296 P **P 01 49 34.4 +0.2**
comp=Z,29nm,0.8s,baz=66,slow=5.9,SNR=228
TXAR PP **PP 01 52 24.5 -0.1**
comp=Z,4.1nm,1.1s,baz=62,slow=10,SNR=3.4
TXAR PKP2bc 02 17 03.0
comp=Z,0.3nm,0.9s,baz=271,slow=4.2,SNR=2.9
TXAR LR LR 02 21 30.8
comp=Z,3µm,21.8s,baz=195,slow=35
KSD Kokstad 76.14 146 *e*P **P 01 49 33.6 -1.0**
KSD AMB AMB 01 49 36.9
comp=Z,32nm,1.7s
BMRM Bremner River 76.15 339 *e*P **P 01 49 33.4 -0.9**
comp=Z,190nm,1.3s
BMRM Bremner River 76.15 339 *e*P **P 01 49 33.4 -0.9**
comp=Z,190nm,1.3s
HAWA Hanford 76.18 318 *e*P **P 01 49 33.8 -0.8**
comp=Z,21nm,1.0s
HAWA LR LR
comp=Z,2µm,20.0s
HAWA Hanford 76.18 318 *e*P **P 01 49 33.8 -0.8**
comp=Z,21nm,1.0s
626A Big Bend Ranch 76.25 297 ⇑P **P 01 49 35.7 +0.3**
baz=76,SNR=62
DIV Divide 76.35 340 *e*P **P 01 49 35.5 +0.1**
comp=Z,100nm,1.5s
DIV Divide 76.35 340 *e*P **P 01 49 35.5 +0.1**
comp=Z,100nm,1.5s
SOE Somerset East 76.35 150 *e*P **P 01 49 36.0 +0.4**
SOE AMB AMB 01 49 37.8
comp=Z,194nm,1.4s
DANN Dangsing 76.43 65 *e*P **P 01 49 36.7 0.0**
comp=Z,294nm,0.9s
DANN Dangsing 76.43 65 *e*P **P 01 49 36.7 0.0**
comp=Z,294nm,0.9s
DANN Dangsing 76.43 65 *e*P **P 01 49 36.7 0.0**
comp=Z,294nm,0.9s
223A Chaparral, Ant 76.50 300 ⇓P **P 01 49 37.8 +0.9**
baz=76,SNR=6.3
PPLA Purkeypile 76.50 343 *e*P **P 01 49 35.9 -0.5**
comp=Z,115nm,1.3s
PPLA Purkeypile 76.50 343 *e*P **P 01 49 35.9 -0.5**
comp=Z,115nm,1.3s
YAK Yakutsk 76.56 18 PFAKE
YAK LR LR 01 49 50.0 +14
comp=Z,2µm,22.0s
YAK Yakutsk 76.56 18 *e*P **P 01 49 34.9 -1.6**
comp=Z,4.0nm,1.1s
MVU Marysvale 76.63 308 *e*P **P 01 49 37.7 0.0**
comp=Z,83nm,1.3s
MVU *e*PP **PP 01 52 30.1 +0.6**
MVU Marysvale 76.63 308 *e*P **P 01 49 37.7 0.0**
comp=Z,83nm,1.3s
YA2 Yakima 76.63 318 P **P 01 49 37.2 0.0**
YA2 Yakima 76.63 318 P **P 01 49 37.2 0.0**
KOLN Koldanda 76.63 65 *e*P **P 01 49 37.1 -0.7**
comp=Z,154nm,1.2s
KOLN Koldanda 76.63 65 *e*P **P 01 49 37.1 -0.7**
comp=Z,154nm,1.2s
KOLN Koldanda 76.63 65 *e*P **P 01 49 37.1 -0.7**
comp=Z,154nm,1.2s
CPUP Villa Florida 76.81 223 *e*P **P 01 49 37.6 -0.7**
comp=Z,2.3nm,0.8s
CPUP Villa Florida 76.81 223 P **P 01 49 38.0 -0.3**
comp=Z,431nm,18.1s
CPUP Villa Florida 76.81 223 P **P 01 49 38.0 -0.3**
comp=Z,15nm,0.7s,baz=23,slow=6.2,SNR=17
CPUP LR LR 02 23 48.5

comp=Z,431nm,18.1s,baz=16,slow=36
222A Williams Famil 76.92 300 ⇑P **P 01 49 39.4 +0.2**
baz=77
W18A Petrified Fore 76.99 304 *e*P **P 01 49 39.4 -0.3**
W18A Petrified Fore 76.99 304 ⇑P **P 01 49 39.4 -0.3**
baz=77
W18A Petrified Fore 76.99 304 *e*P **P 01 49 39.4 -0.3**
WPW White Pass 77.06 319 P **P 01 49 39.3 -0.5**
WPW White Pass 77.06 319 P **P 01 49 39.3 -0.5**
121A Cookes Peak, D 77.15 301 *e*P **P 01 49 41.1 +0.5**
121A Cookes Peak, D 77.15 301 ⇓P **P 01 49 41.1 +0.5**
baz=77,SNR=33
LON Longmire 77.17 319 *e*P **P 01 49 39.3 -1.0**
LON pmax pmax
comp=Z,38nm,1.0s
LON Longmire 77.17 319 *e*P **P 01 49 39.3 -1.0**
comp=Z,38nm,1.0s
LON Longmire 77.17 319 *e*P **P 01 49 39.3 -1.0**
comp=Z,38nm,1.0s
ELK Elko 77.18 311 *e*P **P 01 49 41.0 +0.3**
comp=Z,54nm,1.2s
ELK Elko 77.18 311 *e*P **P 01 49 41.0 +0.3**
comp=Z,54nm,1.2s
GKN Gorkha 77.26 65 *e*P **P 01 49 41.0 -0.3**
comp=Z,198nm,1.1s
GKN Gorkha 77.26 65 *e*P **P 01 49 41.0 -0.3**
comp=Z,198nm,1.1s
GKN Gorkha 77.26 65 *e*P **P 01 49 41.0 -0.3**
comp=Z,198nm,1.1s
GRM Grahamstown 77.26 149 *e*P **P 01 49 41.3 +0.6**
GRM AMB AMB 01 49 42.3
comp=Z,232nm,1.6s
BUFB Buffelsbos 77.29 151 *e*P **P 01 49 41.3 +0.5**
BUFB AMB AMB 01 49 42.8
comp=Z,3.3nm,7.1s
ATAH Atahualpa 77.31 251 LR LR 02 21 49.6
comp=Z,1µm,20.4s,baz=50,slow=34
RC01 Rabbit Creek A 77.45 341 *e*P **P 01 49 41.4 -0.2**
comp=Z,52nm,1.1s
RC01 Rabbit Creek A 77.45 341 *e*P **P 01 49 41.4 -0.2**
comp=Z,52nm,1.1s
X18A Snowflake 77.47 304 ⇑P **P 01 49 42.1 -0.3**
baz=77,SNR=12
TDL Tradedollar La 77.64 319 P **P 01 49 42.3 -0.8**
TDL Tradedollar La 77.64 319 P **P 01 49 42.3 -0.8**
NLWA Neilton Lookou 77.82 321 *e*P **P 01 49 44.6 +0.7**
comp=Z,119nm,1.4s
NLWA LR LR
comp=Z,2µm,21.0s
NLWA Neilton Lookou 77.82 321 *e*P **P 01 49 44.6 +0.7**
comp=Z,119nm,1.4s
DMN Daman 77.83 65 *e*P **P 01 49 44.6 0.0**
comp=Z,349nm,1.3s
DMN Daman 77.83 65 *e*P **P 01 49 44.6 0.0**
comp=Z,349nm,1.3s
DMN Daman 77.83 65 *e*P **P 01 49 44.6 0.0**
comp=Z,349nm,1.3s
ARUT Antelope Range 77.83 308 *e*P **P 01 49 44.0 -0.3**
ARUT *e* 01 52 39.5
ARUT pmax pmax
comp=Z,1µm,1.3s
ARUT Antelope Range 77.83 308 *e*P **P 01 49 44.0 -0.3**
comp=Z,1µm,1.3s
ARUT *e*PP **PP 01 52 39.5 -0.1**
ARUT Antelope Range 77.83 308 *e*P **P 01 49 44.0 -0.3**
comp=Z,1µm,1.3s
WUAZ Wupatki 77.84 305 *e*P **P 01 49 44.5 +0.1**
comp=Z,61nm,1.1s
WUAZ LR LR
comp=Z,4µm,21.0s
WUAZ Wupatki 77.84 305 ⇓P **P 01 49 44.9 +0.5**
baz=78
WUAZ Wupatki 77.84 305 *e*P **P 01 49 44.5 +0.1**
comp=Z,61nm,1.1s
KKN Kakani 77.85 65 *e*P **P 01 49 44.4 -0.2**
comp=Z,162nm,0.9s
KKN Kakani 77.85 65 *e*P **P 01 49 44.4 -0.2**
KKN pmax pmax
comp=Z,162nm,0.9s
KKN Kakani 77.85 65 *e*P **P 01 49 44.4 -0.2**
comp=Z,162nm,0.9s
KKN Kakani 77.85 65 *e*P **P 01 49 44.4 -0.2**
comp=Z,162nm,0.9s
G05D Wamic, OR 77.87 318 ⇓P **P 01 49 44.4 +0.2**
baz=78
U15A North Rim 77.91 306 ⇓P **P 01 49 44.6 -0.3**
baz=78
VFP Flag Point 77.91 318 P **P 01 49 44.5 -0.1**
VFP Flag Point 77.91 318 P **P 01 49 44.5 -0.1**
CCUT Cedar City 77.93 308 *e*P **P 01 49 44.7 -0.2**
comp=Z,51nm,1.1s
CCUT *e*PP **PP 01 52 40.5 +0.1**
CCUT Cedar City 77.93 308 *e*P **P 01 49 44.7 -0.2**
comp=Z,51nm,1.1s
PKIN Phulchoki 78.06 65 *e*P **P 01 49 45.1 -0.8**
comp=Z,78nm,0.8s
PKI Pulchoki 78.07 65 *e*P **P 01 49 45.6 -0.4**
comp=Z,112nm,0.9s
PKI Pulchoki 78.07 65 *e*P **P 01 49 45.6 -0.4**
PKI pmax pmax
comp=Z,112nm,0.9s
PKI Pulchoki 78.07 65 *e*P **P 01 49 45.6 -0.4**
comp=Z,112nm,0.9s
PKI Pulchoki 78.07 65 *e*P **P 01 49 45.6 -0.4**
comp=Z,112nm,0.9s
WVOR Wild Horse Val 78.15 314 *e*P **P 01 49 46.1 +0.1**
WVOR pmax pmax
comp=Z,64nm,1.1s
WVOR MLR MLR
comp=Z,1µm,21.0s
WVOR Wild Horse Val 78.15 314 *e*P **P 01 49 46.1 +0.1**
comp=Z,64nm,1.1s
WVOR LR LR
comp=Z,1µm,21.0s
WVOR Wild Horse Val 78.15 314 *e*P **P 01 49 46.1 +0.1**
comp=Z,64nm,1.1s
GUN Gumba 78.22 64 *e*P **P 01 49 46.8 0.0**
comp=Z,347nm,1.1s
GUN Gumba 78.22 64 *e*P **P 01 49 46.8 0.0**
comp=Z,347nm,1.1s
GUN Gumba 78.22 64 *e*P **P 01 49 46.8 0.0**
comp=Z,347nm,1.1s
ALDR Aldan 78.22 22 P P 01 49 37.2 -8.7
F04D Rainier, OR 78.24 319 ⇓P **P 01 49 46.4 +0.2**
baz=78
320A Kipp Ranch, An 78.35 300 ⇓P **P 01 49 48.1 +0.8**
baz=78,SNR=15
I05D Terrebonne, OR 78.47 317 ⇓P **P 01 49 48.1 +0.5**
baz=78
X16A Lo Mia Camp, P 78.53 304 ⇓P **P 01 49 48.9 +0.6**
baz=78,SNR=56
BMN Battle Mountai 78.56 312 *e*P **P 01 49 48.5 +0.2**
BMN pmax pmax
comp=Z,184nm,1.8s
BMN Battle Mountai 78.56 312 *e*P **P 01 49 48.5 +0.2**
comp=Z,184nm,1.8s
BMN Battle Mountai 78.56 312 *e*P **P 01 49 48.5 +0.2**
comp=Z,184nm,1.8s
JIRN Jiri 78.59 64 *e*P **P 01 49 48.9 0.0**
comp=Z,148nm,1.4s
JIRN Jiri 78.59 64 *e*P **P 01 49 48.9 0.0**
comp=Z,148nm,1.4s
JIRN Jiri 78.59 64 *e*P **P 01 49 48.9 0.0**
comp=Z,148nm,1.4s
HYB Hyderabad 78.61 77 *i*P **P 01 49 48.0 -0.8**
SONM Songino Array 78.65 38 P **P 01 49 49.1 +0.5**
SONM PP PP 01 53 02.1 +16
SONM Songino Array 78.65 38 P **P 01 49 49.1 +0.5**
SONM Songino Array 78.65 38 P **P 01 49 49.1 +0.5**
comp=Z,8.9nm,1.0s,baz=303,slow=6.0,SNR=32
SONM PP PP 01 53 02.1 +16
comp=Z,7.7nm,1.1s,baz=297,slow=8.0,SNR=4.7
SONM LR LR 02 27 52.6
comp=Z,2µm,18.5s,baz=320,slow=38
R11A Troy Canyon, C 78.84 310 *e*P **P 01 49 49.8 -0.2**
R11A Troy Canyon, C 78.84 310 ⇑P **P 01 49 50.0 +0.1**
baz=79
R11A Troy Canyon, C 78.84 310 *e*P **P 01 49 49.8 -0.2**
319A Douglas 78.85 301 ⇑P **P 01 49 51.0 +1.0**
baz=79
G03D McMinnville, O 78.94 319 ⇓P **P 01 49 50.5 +0.5**
baz=79
ULN Ulaanbaatar 78.95 38 P **P 01 49 52.0 +1.7**
SNR=9.3
ULN Ulaanbaatar 78.95 38 *e*P **P 01 49 50.8 +0.5**
comp=Z,26nm,1.0s
ULN LR LR

comp=Z,2µm,22.0s
ULN Ulaanbaatar 78.95 38 *e*P P 01 49 50.8 +0.5
comp=Z,26nm,1.0s
GAMB Gambell 79.08 352 *e*P P 01 49 51.0 +0.5
comp=Z,127nm,1.7s
GAMB Gambell 79.08 352 *e*P P 01 49 51.0 +0.5
comp=Z,127nm,1.7s
J05D Fort Rock, OR 79.09 316 ⇑P P 01 49 51.9 +0.7
baz=79
NNA Nana 79.26 246 *e*P P 01 49 52.7 +0.4
comp=Z,14nm,0.9s
NNA LR LR
comp=Z,803nm,19.0s
NNA Nana 79.26 246 *e*P P 01 49 52.7 +0.4
comp=Z,803nm,19.0s
RAMN Ramite 79.29 65 *e*P P 01 49 52.0 -0.6
comp=Z,103nm,0.9s
RAMN Ramite 79.29 65 *e*P P 01 49 52.0 -0.6
comp=Z,103nm,0.9s
RAMN Ramite 79.29 65 *e*P P 01 49 52.0 -0.6
comp=Z,103nm,0.9s
TUC Tucson 79.34 302 *e*P P 01 49 53.1 +0.5
TUC pmax pmax
comp=Z,106nm,1.5s
TUC MLR MLR
comp=Z,2µm,19.0s
TUC Tucson 79.34 302 *e*P P 01 49 53.1 +0.5
comp=Z,106nm,1.5s
TUC LR LR
comp=Z,2µm,19.0s
TUC Tucson 79.34 302 *e*P P 01 49 53.1 +0.5
comp=Z,2µm,19.0s
I04A Tendick Farm, 79.41 317 ⇓P P 01 49 54.0 +1.2
baz=79
MOD Modoc 79.45 315 *e*P P 01 49 53.4 +0.3
comp=Z,59nm,1.1s
MOD Modoc 79.45 315 *e*P P 01 49 53.4 +0.3
comp=Z,59nm,1.1s
J04D Umpqua Nationa 79.60 317 ⇓P P 01 49 54.1 +0.1
baz=79
SHPR Sheep Range 79.70 308 *e*P P 01 49 54.9 +0.3
comp=Z,64nm,1.2s
SHPR Sheep Range 79.70 308 *e*P P 01 49 54.9 +0.3
comp=Z,64nm,1.2s
W13A Hualapai Mount 79.74 306 ⇓P P 01 49 55.1 +0.2
baz=80
K04D Chiloquin, OR 79.80 316 ⇑P P 01 49 55.3 +0.3
baz=80
Y14A Wickenburg 79.86 305 ⇓P P 01 49 55.8 +0.4
baz=80,SNR=16
TAPN Taplejung 79.86 64 *e*P P 01 49 55.4 -0.4
comp=Z,144nm,1.3s
TAPN Taplejung 79.86 64 *e*P P 01 49 55.4 -0.4
comp=Z,144nm,1.3s
TAPN Taplejung 79.86 64 *e*P P 01 49 55.4 -0.4
comp=Z,144nm,1.3s
ODAN Odare 79.92 64 *e*P P 01 49 55.4 -0.6
comp=Z,88nm,1.0s
ODAN Odare 79.92 64 *e*P P 01 49 55.4 -0.6
comp=Z,88nm,1.0s
ODAN Odare 79.92 64 *e*P P 01 49 55.4 -0.6
comp=Z,88nm,1.0s
SEY Seymchan 79.94 8 P P 01 49 55.7 +0.5
SEY Seymchan 79.94 8 P P 01 49 55.7 +0.5
SEY Seymchan 79.94 8 P P 01 49 55.7 +0.5
SEY Seymchan 79.94 8 P P 01 49 55.7 +0.5
comp=Z,9.3nm,0.9s,baz=334,slow=8.4,SNR=8.7
I03D Drain, OR 79.98 318 ⇓P P 01 49 56.0 +0.2
baz=80
TPH Tonopah 80.03 310 *e*P P 01 49 56.5 +0.1
TPH *e* 01 52 56.5
TPH pmax pmax
comp=Z,92nm,1.2s
TPH Tonopah 80.03 310 *e*P P 01 49 56.5 +0.1
comp=Z,92nm,1.2s
TPH *e*PP PP 01 52 56.5 -1.3
TPH Tonopah 80.03 310 *e*P P 01 49 56.5 +0.1
comp=Z,92nm,1.2s
TPNV Topopah Spring 80.12 309 ⇑P P 01 49 57.4 +0.5
baz=80
Z14A Wintersburg 80.17 304 ⇓P P 01 49 57.8 +0.8
baz=80,SNR=11
PAHR Pah Rah Range 80.31 312 *e*P P 01 49 58.0 +0.2
comp=Z,182nm,1.7s
PAHR Pah Rah Range 80.31 312 *e*P P 01 49 58.0 +0.2
comp=Z,182nm,1.7s
NV11 Mina Array Sit 80.38 311 *e*P P 01 49 58.0 -0.2
NV11 Mina Array Sit 80.38 311 *e*P P 01 49 58.0 -0.2
PDMCI Parker Dam,Lak 80.39 306 ⇓P P 01 49 58.7 +0.6
baz=80
M04C Macdoel 80.40 315 ⇑P P 01 49 58.5 +0.3
baz=80
NEE2 Needles Airpor 80.42 306 ⇑P P 01 49 58.9 +0.6
baz=80
HUMO Hull Mountain 80.49 316 *e*P P 01 49 57.7 -0.9
comp=Z,70nm,1.9s
HUMO Hull Mountain 80.49 316 *e*P P 01 49 57.7 -0.9
comp=Z,70nm,1.9s
LDFC Landfair 80.55 307 *e*P P 01 49 59.7 +0.5
comp=Z,118nm,1.1s
LDFC Landfair 80.55 307 *e*P P 01 49 59.7 +0.5
comp=Z,118nm,1.1s
GTA Gaotai 80.57 48 ⇓P P 01 49 59.8 +0.6
GTA pP PcP 01 50 05.5 -0.6
GTA sP **sP** 01 50 09.1 +3.2
GTA PP **PP** 01 53 04.1 +1.9
GTA S **S** 02 00 03.3 -2.5
GTA SKS **SKSac** 02 00 11.8 -5.3
GTA sS **sS** 02 00 14.1 +0.2
GTA SS **SS** 02 05 19.6 +2.3
GTA pmax pmax
comp=Z,20nm,1.3s
GTA pmax pmax
comp=Z,130nm,5.7s
GTA LR LR
comp=Z,1µm,24.7s
GTA LR LR
comp=Z,980nm,24.7s
GTA LR LR
comp=Z,740nm,23.7s
BEKR Beckworth 80.78 313 *e*P P 01 50 00.7 +0.3
comp=Z,22nm,1.4s
BEKR *e*PP PP 01 52 54.7 -9.3
BEKR Beckworth 80.78 313 *e*P P 01 50 00.7 +0.3
comp=Z,22nm,1.4s
GRAC Grapevine Rang 80.79 309 ⇑P P 01 50 01.0 +0.6
baz=80
FURC Furnace Creek, 80.80 309 ⇓P P 01 50 01.2 +0.9
baz=80
TUQ Turquoise Moun 80.85 307 ⇓P P 01 50 01.4 +0.6
baz=81
214A Organ Pipe Nat 80.92 303 *e*P P 01 50 01.9 +0.7
214A Organ Pipe Nat 80.92 303 ⇑P P 01 50 01.7 +0.6
baz=81,SNR=22
LSA Lhasa 80.92 60 *e*P P 01 50 02.2 +0.5
LSA pmax pmax
comp=Z,34nm,0.9s
LSA MLR MLR
comp=Z,666nm,22.0s
LSA Lhasa 80.92 60 *e*P P 01 50 02.2 +0.5
comp=Z,34nm,0.9s
LSA LR LR
comp=Z,666nm,22.0s
LSA Lhasa 80.92 60 *e*P P 01 50 02.2 +0.5
comp=Z,34nm,0.9s
LVC Limon Verde 80.97 233 *e*P P 01 50 01.9 +0.3
comp=Z,24nm,0.8s
LVC LR LR
comp=Z,646nm,19.0s
LVC Limon Verde 80.97 233 *e*P P 01 50 01.9 +0.3
comp=Z,24nm,0.8s
Y12C Blythe 80.98 305 ⇑P P 01 50 02.2 +0.8
baz=81,SNR=40
KDAK Kodiak Island 81.05 341 PFAKE 01 50 10.0 +8.8
KDAK LR LR
comp=Z,2µm,19.0s
KDAK Kodiak Island 81.05 341 *i*P P 01 50 02.3 +1.1
113A Mohawk Valley, 81.07 304 ⇓P P 01 50 02.3 +0.5
baz=81,SNR=17
GMRC Granite Mounta 81.08 307 ⇓P P 01 50 02.4 +0.4
baz=81
IRM Iron Mountain 81.14 306 ⇑P P 01 50 02.9 +0.6
baz=81
L02D Cave Junction, 81.14 316 ⇑P P 01 50 02.4 +0.3
baz=81
M02C Callahan 81.23 316 ⇓P P 01 50 02.4 -0.3
baz=81

TIN Tinemaha 81.29 310 ⇑P P 01 50 04.0 +0.9
baz=81
MLAC Mammoth Lakes 81.30 311 ⇓P P 01 50 04.4 +1.1
baz=81
N02D Trinity Center 81.42 315 ⇑P P 01 50 04.5 +0.8
baz=81
MPMC Manual Prospec 81.45 309 ⇑P P 01 50 05.1 +1.1
baz=81
HEC Hector,Ludlow 81.49 307 ⇑P P 01 50 05.0 +0.9
baz=81
GSC Goldstone 81.50 308 *e*P P 01 50 04.9 +0.7
GSC pmax pmax
comp=Z,95nm,1.3s
GSC Goldstone 81.50 308 *e*P P 01 50 04.9 +0.7
comp=Z,95nm,1.3s
GSC Goldstone 81.50 308 ⇑P P 01 50 04.9 +0.7
baz=81
GSC Goldstone 81.50 308 *e*P P 01 50 04.9 +0.7
comp=Z,95nm,1.3s
CWC Cottonwood Cre 81.59 309 ⇓P P 01 50 05.5 +0.7
baz=81
GLA Glamis 81.61 305 *e*P P 01 50 05.4 +0.7
GLA pmax pmax
comp=Z,34nm,1.3s
GLA Glamis 81.61 305 *e*P P 01 50 05.4 +0.7
comp=Z,34nm,1.3s
GLA Glamis 81.61 305 ⇓P P 01 50 05.6 +0.9
comp=Z,34nm,1.3s
GLA Glamis 81.61 305 *e*P P 01 50 05.4 +0.7
comp=Z,34nm,1.3s
BC3 Big Chuckawall 81.65 306 ⇑P P 01 50 05.7 +0.7
baz=81
BELC Belle Mtn. Jos 81.79 306 ⇑P P 01 50 06.9 +1.1
baz=82
RRX Edison Barstow 81.88 307 ⇓P P 01 50 07.2 +1.0
baz=82
LRMC Laurel Mountai 81.95 308 ⇓P P 01 50 07.3 +0.7
baz=82
CMB Columbia Colle 81.98 312 *e*P P 01 50 06.9 +0.3
CMB pmax pmax
comp=Z,32nm,1.2s
CMB Columbia Colle 81.98 312 *e*P P 01 50 06.9 +0.3
comp=Z,32nm,1.2s
CMB Columbia Colle 81.98 312 *e*P P 01 50 06.9 +0.3
comp=Z,32nm,1.2s
BBRC Big Bear Solar 82.22 307 ⇓P P 01 50 09.3 +1.1
baz=82
SWSC Sam W. Stewart 82.31 305 ⇑P P 01 50 09.4 +1.0
baz=82
ISA Isabella 82.33 309 *e*P P 01 50 09.7 +1.2
ISA pmax pmax
comp=Z,33nm,1.1s
ISA Isabella 82.33 309 *e*P P 01 50 09.7 +1.2
comp=Z,34nm,1.1s
ISA Isabella 82.33 309 ⇓P P 01 50 09.7 +1.2
baz=82
ISA Isabella 82.33 309 *e*P P 01 50 09.7 +1.2
comp=Z,33nm,1.1s
PFO Pinyon Flat Ob 82.33 306 *e*P P 01 50 09.5 +0.9
comp=Z,74nm,1.1s
PFO LR LR
comp=Z,3µm,20.0s
PFO Pinyon Flat Ob 82.33 306 P P 01 50 09.9 +1.3
comp=Z,309nm,1.0s,SNR=31
PFO Pinyon Flat Ob 82.33 306 ⇑P P 01 50 09.7 +1.0
baz=82
PFO Pinyon Flat Ob 82.33 306 *e*P P 01 50 09.5 +0.9
comp=Z,3µm,20.0s
RCTC Rector, Farmer 82.39 310 ⇑P P 01 50 09.0 +0.2
baz=82
EDW2 Edwards Air Fo 82.52 308 ⇓P P 01 50 10.4 +0.9
baz=82
VES Vestal, Richgr 82.59 309 ⇓P P 01 50 11.9 +2.1
baz=82
DVTC Desert V Tower 82.69 305 ⇓P P 01 50 11.6 +1.1
baz=82
BFSC Mount Baldy Ra 82.71 307 ⇑P P 01 50 11.4 +0.8
baz=82
MONP Monument Peak 82.75 306 ⇓P P 01 50 12.3 +1.3
baz=82
MURC Murrieta 82.82 307 ⇓P P 01 50 12.0 +0.9
baz=82
MWC Mount Wilson 82.97 308 *e*P P 01 50 12.5 +0.4
MWC pmax pmax
comp=Z,69nm,1.3s
MWC Mount Wilson 82.97 308 *e*P P 01 50 12.5 +0.4
comp=Z,69nm,1.3s
MWC Mount Wilson 82.97 308 *e*P P 01 50 12.5 +0.4
comp=Z,69nm,1.3s
BAR Barrett 83.05 306 *e*P P 01 50 13.3 +1.0
comp=Z,152nm,1.4s
BAR Barrett 83.05 306 *e*P P 01 50 13.3 +1.0
comp=Z,152nm,1.4s
PASC Pasadena Art C 83.09 308 *e*P P 01 50 13.2 +0.7
comp=Z,71nm,1.3s
PASC Pasadena Art C 83.09 308 *e*P P 01 50 13.1 +0.7
comp=Z,71nm,1.3s
DECC Green Verdugo 83.13 308 ⇓P P 01 50 13.5 +0.8
baz=83
OSI Osito Adit 83.15 308 ⇑P P 01 50 13.5 +0.8
baz=83
109C Camp Elliot, M 83.20 306 ⇑P P 01 50 13.7 +0.7
baz=83
FMP Fort Macarthur 83.45 307 ⇑P P 01 50 15.2 +1.0
baz=83
SMMC Simmler 83.51 309 ⇑P P 01 50 15.6 +1.0
baz=83
PKM Peak Mountain 83.66 309 ⇑P P 01 50 16.8 +1.2
baz=83
HIA Hailar 83.67 31 *e*P P 01 50 16.4 +1.2
HIA LR LR
comp=Z,2µm,20.0s
HIA Hailar 83.67 31 *e*P P 01 50 16.4 +1.2
comp=Z,44nm,1.2s
BLG Laguna Peak 83.69 308 ⇓P P 01 50 15.8 +0.3
baz=83
CIS Catalina Islan 83.72 307 ⇓P P 01 50 16.9 +1.2
baz=84
SBC Santa Barbara 83.89 309 ⇑P P 01 50 17.7 +1.2
baz=84
LPIG La Paz 83.89 295 LR LR 02 25 03.2
comp=Z,2µm,21.4s,baz=128,slow=34
SCI San Clemente I 84.08 307 ⇑P P 01 50 18.4 +0.8
baz=84
BSC Santa Cruz Isl 84.12 308 ⇑P P 01 50 18.9 +1.2
baz=84
LZH Lanzhou 85.16 48 P P 01 50 24.5 +1.4
LZH pP **pP** 01 50 28.0 -0.1
LZH sP **sP** 01 50 31.4 +1.6
LZH PP **PP** 01 53 42.0 +2.1
LZH SKS **SKSac** 02 00 44.5 -3.2
LZH *e*S **SKKSac** 02 00 54.1 +0.1
LZH sS **sS** 02 01 02.0 +1.1
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,200nm,5.4s
LZH LR LR
comp=Z,630nm,14.4s
LZH LR LR
comp=Z,850nm,17.3s
LZH LR LR
comp=Z,860nm,18.0s
PALK Pallekele 86.17 84 P P 01 50 28.4 +0.1
comp=Z,152nm,1.2s,SNR=5.6
PALK Pallekele 86.17 84 *e*P P 01 50 27.9 -0.4
comp=Z,108nm,1.4s
PALK Pallekele 86.17 84 *e*P P 01 50 27.9 -0.4
comp=Z,108nm,1.4s
HHC Hu-ho-hao-te 86.18 40 *e*P P 01 50 28.4 +0.3
HHC sP **sP** 01 50 34.0 -0.8
HHC PP **PP** 01 53 50.0 +2.0
HHC S **SKKSac** 02 01 01.6 +0.1
HHC sS **sS** 02 01 08.4 -2.3
HHC SS **SS** 02 06 41.8 +1.7
HHC pmax pmax
comp=Z,17nm,1.2s
HHC pmax pmax
comp=Z,330nm,7.8s
HHC LR LR
comp=Z,4µm,18.1s
HHC LR LR
comp=Z,3µm,17.3s
HHC LR LR
comp=Z,5µm,18.0s
LCO Las Campanas 86.64 230 *e*P P 01 50 30.9 +0.5
comp=Z,22nm,1.1s
LCO LR LR
comp=Z,815nm,20.0s
LCO Las Campanas 86.64 230 *e*P P 01 50 31.0 +0.5
comp=Z,22nm,1.1s
KLR Kul'dur 88.14 24 *e*P P 01 50 34.6 -2.6
KLR MLR MLR
comp=N,1µm,18.0s
KLR MLR MLR
comp=E,1µm,18.0s
DGAR Diego Garcia 88.20 100 PFAKE 01 50 50.0 +12
DGAR LR LR
comp=Z,785nm,22.0s
TRQA Tornquist 88.42 219 *e*P P 01 50 37.9 -0.6
comp=Z,40nm,2.0s
TRQA LR LR
comp=Z,461nm,20.0s
TRQA Tornquist 88.42 219 *e*P P 01 50 37.9 -0.6
comp=Z,40nm,2.0s
CD2 Chengdu 88.58 52 ⇓*i*P P 01 50 40.3 +0.6
CD2 pP **pP** 01 50 45.1 +0.4
CD2 sP **sP** 01 50 47.8 +1.3
CD2 PP **PP** 01 54 10.3 +2.8
CD2 SKS **SKSac** 02 01 06.8 -1.9
CD2 S **S** 02 01 23.6 -2.1
CD2 sS **ScS** 02 01 31.1 -0.3
CD2 SS **SS** 02 07 16.8 +1.3
CD2 pmax pmax
comp=Z,40nm,1.5s
CD2 pmax pmax
comp=Z,230nm,8.2s
CD2 LR LR
comp=Z,960nm,17.8s
CD2 LR LR
comp=Z,970nm,17.8s
CD2 LR LR
comp=Z,1µm,20.2s
BJI Beijing 89.14 38 P P 01 50 43.0 +0.9
BJI PP **PP** 01 54 15.6 +4.0
BJI S **S** 02 01 26.1 -4.5
BJI SS **SS** 02 07 25.3 +2.4
BJI pmax pmax
comp=Z,13nm,1.2s
BJI pmax pmax
comp=Z,68nm,5.0s
BJI LR LR
comp=Z,3µm,20.2s
BJI LR LR
comp=Z,4µm,21.6s
BJI LR LR
comp=Z,750nm,23.6s
BJT Baijiatuau 89.16 38 PFAKE 01 50 50.0 +7.8
BJT LR LR
comp=Z,1µm,20.0s
XAN Xi'an 89.58 47 P P 01 50 45.3 +0.9
XAN pP **pP** 01 50 49.3 -0.1
XAN SKS **SKSac** 02 01 13.0 -1.5
XAN S **S** 02 01 31.5 -3.5
XAN SS **SS** 02 07 31.1 +1.2
XAN pmax pmax
comp=Z,8.0nm,1.3s
XAN LR LR
comp=Z,880nm,21.4s
XAN LR LR
comp=Z,580nm,21.4s
XAN LR LR
comp=Z,230nm,19.0s
HABR Khabarovsk 89.86 22 *e*P P 01 50 44.1 -1.2
HABR *e* 01 50 45.3
HABR *e**PP **pP** 01 50 49.2 -1.1
HABR *e*S **SKSac** 02 01 13.7 -1.7
HABR *e* 02 01 39.9
HABR *e*SS **SS** 02 07 34.8 +2.2
HABR pmax pmax
comp=Z,8.0nm,0.5s
HABR pmax pmax
comp=Z,25nm,1.5s
HABR MLR MLR
comp=Z,946nm,17.0s
HABR Khabarovsk 89.86 22 *e*P P 01 50 44.1 -1.2
comp=Z,8.0nm,0.5s
PETK Petropavlovsk- 90.16 7 LR LR 02 34 34.0
comp=Z,413nm,19.4s,baz=336,slow=38
PET Petropavlovsk 90.34 7 *e*P P 01 50 51.4 +4.0
PET *e* 02 01 18.1
PET *e*S **S** 02 01 43.8 +2.6
PET *e*PS **PS** 02 02 51.5 +2.7
PET *e*PPS PPS 02 03 17.4
PET *e*SS **SS** 02 07 45.4 +6.1
PET pmax pmax
comp=Z,100nm,17.1s
PET MLR MLR
comp=Z,600nm,21.0s
PET Petropavlovsk 90.34 7 PFAKE 01 51 00.0 +13
PET LR LR
comp=Z,536nm,19.0s
CN2 Changchun 90.40 31 *e*P P 01 50 40.4 -7.5
ADK Adak 91.29 352 PFAKE 01 51 00.0 +8.1
ADK LR LR
comp=Z,1µm,20.0s
MDJ Mudanjiang 91.35 28 P P 01 50 51.4 -0.9
MDJ S **S** 02 01 48.6 -2.2
MDJ pmax pmax
comp=Z,200nm,3.8s
MDJ LR LR
comp=Z,630nm,24.6s
MDJ LR LR
comp=Z,1µm,21.7s
MDJ LR LR
comp=Z,490nm,26.5s
MDJ Mudanjiang 91.35 28 PFAKE 01 51 00.0 +7.7
MDJ LR LR
comp=Z,1µm,21.0s
KMI Kunming 91.78 57 P P 01 50 55.3 +0.3
KMI PP **PP** 01 54 34.8 +1.5
KMI SKS **SKSac** 02 01 27.6 -0.2
KMI S **SKKSac** 02 01 47.8 +3.7
KMI SS **SS** 02 08 03.3 +0.8
KMI pmax pmax
comp=Z,24nm,1.4s
KMI pmax pmax
comp=Z,180nm,4.4s
KMI LR LR
comp=Z,520nm,23.2s
KMI LR LR
comp=Z,620nm,22.6s
KMI LR LR
comp=Z,560nm,22.0s
USRK Ussuriysk Arra 92.58 26 P P 01 50 57.8 -0.3
comp=Z,8.7nm,1.2s,baz=310,slow=3.2,SNR=3.6
USRK LR LR 02 34 16.4
comp=Z,895nm,20.0s,baz=132,slow=37
MHMT Maesarieng 92.91 65 P P 01 51 01.5 +1.5
comp=Z,12nm,1.4s,comp=Z,610nm
CHTO Chiang Mai 93.23 64 PFAKE 01 51 10.0 +8.5
CHTO LR LR
comp=Z,215nm,19.0s
CHTO Chiang Mai 93.23 64 P P 01 51 02.9 +1.4
comp=Z,44nm,1.0s
CMMT Chiang Mai 93.24 64 P P 01 51 02.8 +1.3
comp=Z,9.9nm,1.7s
CRAI Chiangrai 93.35 62 P P 01 51 02.6 +0.6
YSS Yuzh-Sakhalins 93.41 18 PFAKE 01 51 10.0 +8.2
YSS LR LR
comp=Z,325nm,20.0s
CMAR Chiang Mai Arr 93.46 64 P P 01 51 03.1 +0.5
CMAR Chiang Mai Arr 93.46 64 P P 01 51 03.1 +0.5
CMAR Chiang Mai Arr 93.46 64 P P 01 51 03.1 +0.5
comp=Z,1.3nm,0.3s,baz=310,slow=5.6,SNR=14
CMAR LR LR 02 42 40.7
comp=Z,267nm,19.1s,baz=144,slow=42
GYA Guiyang 93.47 53 P P 01 51 03.0 +0.4
GYA PP **PP** 01 54 48.9 +2.5
GYA SKS **SKSac** 02 01 36.5 -0.5
GYA S **S** 02 02 07.8 -2.9
GYA SS **SS** 02 08 27.0 +0.6
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.0s
GYA LR LR
comp=Z,720nm,19.9s
GYA LR LR
comp=Z,640nm,20.0s
GYA LR LR

comp=Z,750nm,20.2s
PLCA Paso Flores 94.85 222 P P 01 51 08.2 -0.2
PLCA Paso Flores 94.85 222 P P 01 51 08.2 -0.2
PLCA Paso Flores 94.85 222 P P 01 51 08.2 -0.2
comp=Z,4.6nm,0.9s,baz=38,slow=3.3,SNR=5.9
PLCA LR LR 02 30 55.6
comp=Z,629nm,19.4s,baz=220,slow=34
WHN Wuhan 95.27 46 *eP* P 01 51 14.3 +3.6
ASAJ Asahikawa 96.00 20 LR LR 02 40 01.0
comp=Z,1µm,18.4s,baz=286,slow=39
INCN Inchon 96.13 33 PFAKE 01 51 30.0 +16
INCN LR LR
comp=Z,2µm,19.0s
NJ2 Nanjing 96.65 42 *eP* P 01 51 12.9 -4.0
NJ2 pP **PcP** **01 51 18.3 +1.3**
NJ2 sP sP 01 51 20.6 -3.0
NJ2 PP **PP** **01 55 09.4 -1.2**
NJ2 S **S** **02 02 34.0 -3.8**
NJ2 sS sS 02 02 43.0 -3.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,260nm,4.6s
NJ2 LR LR
comp=Z,3µm,25.2s
NJ2 LR LR
comp=Z,2µm,25.5s
NJ2 LR LR
comp=Z,1µm,19.0s
KSAR Wonju Array Be 96.71 33 P **P** **01 51 17.8 +0.7**
KSAR Wonju Array Be 96.71 33 P **P** **01 51 17.8 +0.7**
KSRS Korea Array 96.72 33 P **P** **01 51 17.8 +0.7**
comp=Z,1.0nm,0.4s
KSRS Korea Array 96.72 33 P **P** **01 51 17.8 +0.7**
comp=Z,0.8nm,0.4s,baz=320,slow=4.2,SNR=3.3
KSRS LR LR 02 39 13.8
comp=Z,1µm,21.5s,baz=233,slow=38
ERM Erimo 98.11 20 PFAKE 01 51 30.0 +6.7
ERM LR LR
comp=Z,806nm,21.0s
SSE Sheshan 98.64 41 *eP* **P** **01 51 24.4 -1.4**
SSE pP **pP** **01 51 29.3 -1.5**
SSE S **S** **02 02 53.0 -1.8**
SSE sS **sS** **02 03 01.1 -2.0**
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,80nm,3.8s
SSE LR LR
comp=Z,1µm,25.6s
SSE LR LR
comp=Z,2µm,25.6s
SSE LR LR
comp=Z,1µm,21.9s
QIZ Qiongzhong 100.73 57 P **Pdif** **01 51 34.8 -0.6**
QIZ S **Sdif** **02 03 11.8 -0.9**
QIZ SS **SS** **02 10 10.3 +1.4**
QIZ pmax pmax
comp=Z,10.0nm,1.3s
QIZ LR LR
comp=Z,480nm,22.8s
QIZ LR LR
comp=Z,350nm,22.8s
QIZ LR LR
comp=Z,480nm,26.4s
QIZ Qiongzhong 100.73 57 PFAKE 01 51 50.0 +15
QIZ LR LR
comp=Z,646nm,19.0s
MAJO Matsushiro 101.56 26 PFAKE 01 51 50.0 +11
MAJO LR LR
comp=Z,929nm,20.0s
QZH Quanzhou 101.95 47 P **Pdif** **01 51 43.1 +2.4**
QZH S **Sdif** **02 03 18.4 -4.3**
QZH LR LR
comp=Z,1µm,23.0s
YHNB Yeheng 103.77 45 PFAKE 01 52 00.0 +11
YHNB LR LR
comp=Z,826nm,20.0s
SNAA Sanae 107.93 178 *eP* **PP** **01 56 34.3 -1.5**
COCO West Island 110.51 90 PFAKE 01 56 30.0
COCO LR LR
comp=Z,259nm,20.0s
PAF Port-aux-Franc 110.88 136 PFAKE 01 56 30.0
PAF LR LR
comp=Z,3µm,21.0s
KSM Kuching 112.94 70 PFAKE 01 56 40.0
KSM LR LR
comp=Z,173nm,22.0s
DAV Davao City (W) 119.85 53 PFAKE 01 56 50.0 +12
DAV LR LR
comp=Z,655nm,20.0s
TTSI Tana Toraja 123.04 66 PKP **PKPdf** **01 56 44.4 +0.8**
KAPI Kappang 124.29 68 PFAKE 01 57 00.0 +14
KAPI LR LR
comp=Z,337nm,21.0s
GUMO Guam 124.81 30 PFAKE 01 57 00.0 +13
GUMO LR LR
comp=Z,370nm,20.0s
QSPA South Pole Qui 126.33 180 *e*PKPdf **PKPdf** **01 56 48.1 -0.3**
QSPA LR LR
comp=Z,1µm,20.0s
QSPA South Pole Qui 126.33 180 *e*PKIKP **PKPdf** **01 56 48.1 -0.3**
RKT Rikitea 131.15 270 *e*LR LR 02 38 33.6
comp=Z,443nm,30.8s
MBWA Marble Bar 133.77 85 PFAKE 01 57 20.0 +16
MBWA LR LR
comp=Z,339nm,21.0s
CASY Casey 134.90 150 PFAKE 01 57 20.0 +16
CASY LR LR
comp=Z,699nm,20.0s
SBA Scott Base 138.46 179 PFAKE 01 57 20.0 +9.2
SBA LR LR
comp=Z,896nm,19.0s
VNDA Vanda 138.66 177 PKPpre PKPpre 01 57 06.8
VNDA PP **PP** **02 00 01.4 -1.2**
VNDA Vanda 138.66 177 PKhKP PKPpre 01 57 06.8
comp=Z,3.4nm,1.1s,baz=282,slow=3.4,SNR=5.5
VNDA PP **PP** **02 00 01.4 -1.2**
comp=Z,2.7nm,1.1s,baz=234,slow=4.1,SNR=4.6
PPT2 Papeete2 139.86 287 *e*PP PP 02 00 05.4 -6.1
comp=Z,301nm,28.5s
PPT2 Papeete2 139.86 287 *e*SS SS 02 18 29.4 -3.3
comp=Z,236nm,28.5s
PPT2 Papeete2 139.86 287 *e*LR LR 02 42 27.4
comp=Z,1µm,24.8s
TBI Tubuai 142.90 279 *e*SS SS 02 19 11.3 +3.2
comp=Z,247nm,24.5s
TBI Tubuai 142.90 279 *e*LR LR 02 43 50.4
comp=Z,849nm,27.2s
WRA Warramunga Arr 144.66 72 PKP **PKPab** **01 57 21.7 -0.6**
WRA Warramunga Arr 144.66 72 PKIKP **PKPab** **01 57 21.7 -0.6**
WRA Warramunga Arr 144.66 72 PKP **PKPab** **01 57 21.7 -0.6**
comp=Z,35nm,1.2s,baz=322,slow=2.7,SNR=294
WRAB Tennant Creek 144.66 72 *d i*PKIKP **PKPab** **01 57 21.7 -0.6**
WRAB pmax pmax
comp=Z,154nm,1.2s
WRAB Tennant Creek 144.66 72 *e*PKPdf **PKPab** **01 57 21.8 -0.5**
WRAB LR LR
comp=Z,614nm,22.0s
WRAB Tennant Creek 144.66 72 *e*PKIKP **PKPab** **01 57 21.8 -0.5**
FORT Forrest 144.70 93 *e*PKPdf **PKPab** **01 57 21.9 -0.3**
FORT Forrest 144.70 93 *e*PKIKP **PKPab** **01 57 21.9 -0.3**
PMG Port Moresby 145.94 43 PKP **PKPab** **01 57 27.2 +0.1**
PMG Port Moresby 145.94 43 *e*PKPbc **PKPbc** **01 57 26.6 0.0**
PMG LR LR
comp=Z,554nm,21.0s
PMG Port Moresby 145.94 43 *e*PKPbc **PKPbc** **01 57 26.6 0.0**
PMG Port Moresby 145.94 43 PKPbc **PKPdf** **01 57 26.3 +0.3**
comp=Z,54nm,1.0s,baz=315,slow=4.6,SNR=9.9
ASAR Alice Springs 146.34 78 PKPbc **PKPdf** **01 57 27.1 +0.6**
ASAR PP **PP** **02 00 46.6 -4.0**
ASAR Alice Springs 146.34 78 PKPbc **PKPdf** **01 57 27.1 +0.6**
ASAR Alice Springs 146.34 78 PKPbc **PKPdf** **01 57 27.1 +0.6**
comp=Z,24nm,0.9s,baz=309,slow=2.5,SNR=125
ASAR PP **PP** **02 00 46.6 -4.0**
comp=Z,4.0nm,0.9s,baz=312,slow=3.6,SNR=3.5
AS31 Alice Springs 146.34 78 *e*PKPbc **PKPdf** **01 57 27.1 +0.6**
AS31 Alice Springs 146.34 78 *e*PKPbc **PKPdf** **01 57 27.1 +0.6**
COEN Coen 147.08 54 *e*PKPbc **PKPbc** **01 57 30.4 +0.4**
COEN Coen 147.08 54 *e*PKPbc **PKPbc** **01 57 30.4 +0.4**
RAR Rarotonga 149.75 292 *e*PKPbc **PKPbc** **01 57 39.1 +2.3**
HNR Honiara 151.56 22 PFAKE 01 57 50.0 +0.4
HNR LR LR
comp=Z,800nm,21.0s
CTA Charters Tower 153.49 59 PKPbc **PKPbc** **01 57 44.9 -0.6**
CTA Charters Tower 153.49 59 PKPbc **PKPbc** **01 57 44.8 -0.6**
CTA Charters Tower 153.49 59 PKPbc **PKPbc** **01 57 44.9 -0.6**
comp=Z,16nm,0.8s,baz=300,slow=4.6,SNR=12
CTAO Charters Tower 153.49 59 *e*PKIKP **PKPbc** **01 57 45.7 +0.2**
CTAO MLR MLR
comp=Z,534nm,20.0s
CTAO Charters Tower 153.49 59 *e*PKPbc **PKPbc** **01 57 45.7 +0.2**
CTAO LR LR
comp=Z,534nm,20.0s
CTAO Charters Tower 153.49 59 *e*PKPbc **PKPbc** **01 57 45.7 +0.2**
STKA Stephens Creek 155.98 87 PKPbc PKPdf 01 57 48.9 +8.0
STKA Stephens Creek 155.98 87 PKPbc PKPdf 01 57 48.9 +8.0
comp=Z,8.0nm,0.9s,baz=38,slow=2.2,SNR=5.3
CAN Canberra 162.82 93 PFAKE 01 58 00.0 +11
CAN LR LR
comp=Z,765nm,20.0s
DZM Mont Dzumac 165.32 14 *e*LR LR 02 54 32.3
comp=Z,1µm,23.9s
SNZO South Karori 173.98 215 PFAKE 01 58 10.0 +14
SNZO LR LR
comp=Z,974nm,20.0s

IDC 17 01:38:29.2±7.6, 21.75N×143.92E, h295km±70km, mb3.4/12, mb1 3.5/13, mb1mx3.4/31, mbtmp3.5/13, Error ellipse: s-maj=55.0km s-min=11.4km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**16.18**	**317**	P		P		01 41 59.7	+0.3
	0.6nm,0.3s,baz=80,slow=6.1,SNR=3.0								
KSRS	**Korea Array**	**20.89**	**322**	P		P		01 42 49.2	-0.1
	2.7nm,0.5s,baz=144,slow=9.1,SNR=10.0								
SONM	**Songino Array**	**39.73**	**320**	P		P		01 45 33.3	-0.5
	0.2nm,0.3s,baz=130,slow=9.8,SNR=3.7								
WRA	**Warramunga Arr**	**42.49**	**193**	P		P		01 45 56.6	+0.3
	0.5nm,0.4s,baz=16,slow=9.5,SNR=18								
FITZ	**Fitzroy Crossi**	**43.47**	**206**	P		P		01 46 03.2	-0.8
	4.2nm,1.1s,baz=41,slow=9.3,SNR=3.6								
ASAR	**Alice Springs**	**46.19**	**193**	P		P		01 46 25.6	+0.3
	0.2nm,0.3s,baz=7.6,slow=8.4,SNR=4.2								
ZALV	**Zalesovo Beam**	**54.59**	**322**	P		P		01 47 27.2	-0.3
	0.9nm,0.6s,baz=110,slow=8.1,SNR=4.7								
MKAR	**Makanchi Array**	**55.16**	**313**	P		P		01 47 31.1	-0.7
	0.8nm,0.6s,baz=90,slow=9.1,SNR=13								
KURBB	**Kurchatov Arra**	**57.95**	**317**	P		P		01 47 50.8	-0.3
	2.1nm,0.4s,baz=93,slow=7.6,SNR=16								
BVAR	**Borovoye Array**	**63.07**	**319**	P		P		01 48 25.8	+0.2
	3.2nm,0.3s,baz=103,slow=8.1,SNR=17								
ARCES	**ARCESS Array B**	**79.08**	**342**	P		P		01 50 02.9	+2.0
	1.5nm,0.5s,baz=68,slow=7.7,SNR=7.7								
FINES	**FINESS Array B**	**83.42**	**335**	P		P		01 50 24.0	+0.5
	1.7nm,0.5s,baz=48,slow=2.8,SNR=5.5								
HFS	**Hagfors**	**88.94**	**338**	P		P		01 50 50.4	0.0
	5.0nm,0.9s,baz=57,slow=5.3,SNR=3.1								
LPAZ	**La Paz**	**149.25**	**85**	PKPbc		PKPbc		01 57 42.9	-1.8
	0.6nm,0.4s,baz=153,slow=6.8,SNR=4.9								

ISCJB ***17*** *02:05:29.3±1.0, 13.63N±0.09×91.64W±0.06, h28km, mb3.6/5, Error ellipse: s-maj=13.5km s-min=8.3km az=18.5*

CASC ***17*** *02:05:33.8±3.2, 13.78N×91.38W, h38km±333km, MD3.9*

IDC ***17*** *02:05:42.1±3.8, 14.14N×91.28W, h115km±36km, mb3.2/5, mb1 3.6/8, mb1mx3.4/25, mbtmp3.3/8, Error ellipse: s-maj=44.8km s-min=18.5km az=63.0*

ISC 17 02:05:31.3±1.2, 13.71N±0.09×91.51W±0.07, h28km, n20, σ1§10/20, mb3.7/5, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.61**	**348**	*i*	P		**Pn**	**02 05 44.9**	**+0.6**
PCG	**Pacaya**	**1.11**	**52**	*e*	P		**Pb**	**02 05 52.1**	**+0.1**
NBG	**Las Nubes**	**1.43**	**52**	*e*	P		**Pb**	**02 05 58.9**	**+1.5**
APG	**El Apazote**	**1.64**	**38**		P		**Pn**	**02 05 57.3**	**-1.2**
	26nm,0.3s,baz=216,slow=10,SNR=273								
APG					S		**Sb**	**02 06 19.8**	**-1.5**
	22nm,0.3s,baz=180,slow=11,SNR=7.6								
RBDL	**Robledal**	**1.81**	**77**	*e*	P		**Pn**	**02 06 01.5**	**+0.6**
RTR	**El Retiro**	**1.82**	**84**	*e*	P		**Pn**	**02 06 01.2**	**+0.3**
SNJE	**San Jose**	**1.86**	**85**	*e*	P		**Pn**	**02 06 01.9**	**+0.4**
BOQS	**Boqueron**	**2.17**	**89**	*e*	P		**Pn**	**02 06 06.6**	**+0.8**
MRL	**Marmol**	**2.22**	**52**	*e*	P		**Pn**	**02 06 07.7**	**+1.2**
LFU	**La Fuente**	**2.33**	**89**	*e*	P		**Pn**	**02 06 08.2**	**+0.3**
LFRS	**El Faro**	**2.38**	**92**	*e*	P		**Pn**	**02 06 08.8**	**+0.1**
TEIG	**Tepich**	**7.18**	**25**		P		**Pn**	**02 07 16.7**	**+2.2**
	4.8nm,0.3s,baz=192,slow=5.8,SNR=12								
TEIG					S		**Sn**	**02 08 35.1**	**0.0**
	baz=1.1,slow=14,SNR=0.9								
JTS	**JuntasAbangare**	**7.26**	**117**		P		Pb	02 07 26.8	-10
	0.9nm,0.3s,baz=309,slow=14,SNR=6.0								
JTS					S		Sn	02 08 46.5	+9.3
	0.3nm,0.3s,baz=214,slow=15,SNR=2.2								
TXAR	**Lajitas Array**	**19.20**	**326**		P		**Pn**	**02 09 55.1**	**+0.8**
	0.1nm,0.3s,baz=150,slow=13,SNR=14								
ANMO	**Albuquerque**	**25.09**	**330**		P		**P**	**02 10 54.8**	**+0.9**
	0.9nm,0.7s,baz=82,slow=7.1,SNR=4.4								
PDAR	**Pinedale Array**	**32.88**	**335**		P		**P**	**02 12 02.1**	**-1.1**
	0.3nm,0.6s,baz=146,slow=8.3,SNR=2.6								
YKA	**Yellowknife Ar**	**51.41**	**347**		P		**P**	**02 14 32.0**	**-1.5**
	0.5nm,0.6s,baz=148,slow=7.2,SNR=12								
INK	**Inuvik**	**60.85**	**343**		P		P	02 15 37.9	-2.9
	0.3nm,0.3s,baz=132,slow=15,SNR=4.6								
ILAR	**Eielson Array**	**63.29**	**337**		P		**P**	**02 15 56.7**	**-0.6**
	0.7nm,0.7s,baz=173,slow=4.5,SNR=8.6								
CMAR	**Chiang Mai Arr**	**146.41**	**342**	PKPbc			**PKPdf**	**02 25 10.4**	**+1.0**
	1.0nm,0.3s,baz=337,slow=3.0,SNR=5.3								

MEX 17 02:14:07.3±0.7, 16.91N×93.79W, h226km±13km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.31**	**155**	*e*	P		Pn	02 14 41.2	-0.7
PCIG					S		S	02 15 06.1	-2.8
HUIG	**Huatulco**	**2.50**	**243**	*e*	P		Pn	02 14 51.0	-1.9
HUIG				*i*	S		S	02 15 26.7	-1.7
VHO	**Vista Hermosa**	**2.83**	**274**	*i*	P		Pn	02 14 55.1	-1.5
VHO				*i*	S		S	02 15 32.9	-2.2
PNIG	**Pinotepa**	**4.19**	**264**	*e*	P		Pn	02 15 12.0	-0.4
PNIG				*e*	S		S	02 16 01.2	-2.5
TLIG	**Tlapa**	**4.62**	**279**	*i*	P		Pn	02 15 17.5	-0.3
TLIG				*i*	S		S	02 16 10.3	-3.0

NIED ***17*** *02:14:00, 28.30N×129.50E, h47km, Mw4.4 Best double couple: M0 4.87000×10^15 NP1: φ=254.00000°, δ70.00000°, λ-76.00000°. NP2: φ=38.00000°, δ25.00000°, λ-124.00000°.*

IDC ***17*** *02:14:15.2±0.6, 28.18N×129.54E, h0km, mb4.2/22, mb1 4.4/23, mb1mx4.3/30, mbtmp4.2/23, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx3.0/32, Error ellipse: s-maj=19.7km s-min=13.6km az=79.0*

NEIC ***17*** *02:14:21.7±0.9, 28.09N×129.45E, h48km±8km, mb4.6/2, MW4.4(NIED), Error ellipse: s-maj=12.2km s-min=7.0km az=120.0*

NEIC Recorded [3 JMA] on Amami-oshima and [1 JMA] on Kikaiga-shima and Tokuno-shima.

JMA ***17*** *02:14:21.4±0.2, 28.25N×129.53E, h48km±2km, M4.2*

JMA Felt III J1.

ISC 17 02:14:15.3±1.8, 28.09N±0.03×129.71E±0.05, h1km±11km, n90, σ1§33/98, mb4.4/27, 4C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.33**	**45**		P		Pn	02 14 31.3	+4.1
JZK						*e*	Sb	02 14 39.4	+10
JAM	**Amami Oshima**	**0.34**	**344**		P		**Pn**	**02 14 29.3**	**+1.9**
JAM					S		**Sb**	**02 14 34.8**	**+4.8**
JAMN	**Amaminishikomi**	**0.50**	**289**		P		**Pn**	**02 14 30.6**	**+1.1**
JAMN						*e*	**Sb**	**02 14 37.3**	**+2.7**
JTK	**Tokunoshima**	**0.73**	**246**		P		**Pn**	**02 14 34.7**	**+1.9**
JTK						*e*	**Sn**	**02 14 44.9**	**+0.2**
JNN	**Nakanoshima**	**1.76**	**5**		P		**Pb**	**02 14 48.8**	**+0.5**
JNN						*e*	**Sn**	**02 15 08.9**	**-1.0**
JOW	**Kunigami**	**1.78**	**226**		P		**Pb**	**02 14 49.4**	**+0.6**
JOW						*e*	**Sg**	**02 15 13.3**	**+0.7**
JOW	**Kunigami**	**1.78**	**226**	*e*	Pn		**Pb**	**02 14 49.4**	**+0.6**
JIH	**Iheya**	**1.87**	**236**		P		**Pb**	**02 14 50.4**	**+0.2**
JIH						*e*	**Sg**	**02 15 14.8**	**-0.5**

JKC Kuchinoerabu 2.41 10 P **Pb** **02 14 58.2 -1.2**
JKC *e* **Sn** **02 15 25.6 -0.3**
JJT2 Tamagusuku 2 2.61 222 P **Pn** **02 15 00.7 +2.1**
JJT2 *e* **Sn** **02 15 31.1 +0.1**
JMZ Minamidaito 2 2.63 149 P **Pn** **02 15 01.1 +2.2**
JMZ *e* **Sn** **02 15 30.3 -1.1**
JAGN Aguni-jima 2.65 236 P **Pn** **02 15 01.3 +2.1**
JTN Tanegashima 3 2.79 23 P **Pn** **02 15 03.9 +2.8**
JTN *e* **Sn** **02 15 35.3 -0.1**
JKE Kume jima 2 3.14 237 P **Pn** **02 15 07.3 +1.4**
JKE *e* **Sn** **02 15 42.0 -2.0**
JNU Nakatsue 5.12 11 *e*Pn Pn 02 15 37.3 +4.1
34nm,0.4s
JNU Sn **Sn** **02 16 33.1 +0.1**
JNU Nakatsue 5.12 11 Pn Pn 02 15 37.4 +4.2
36nm,0.3s,baz=192,slow=2.6,SNR=164
JNU Sn **Sn** **02 16 33.1 +0.1**
baz=82,slow=22,SNR=0.9
JNU LR LR 02 17 19.7
comp=Z,179nm,19.0s,baz=357,slow=36
NACB Ninganchiao 8.27 244 *e*Pn **Pn** **02 16 15.8 -0.6**
YULB Yu-li 8.91 240 *e*Pn **Pn** **02 16 22.6 -2.6**
SSLB Suanglung 8.97 243 *e*Pn **Pn** **02 16 24.9 -1.1**
24nm,0.3s
KSAR Wonju Array Be 9.46 351 Pn Pn 02 16 37.9 +5.3
KSRS Korea Array 9.46 351 Pn Pn 02 16 37.9 +5.2
0.9nm,0.3s,baz=175,slow=14,SNR=11
TPUB Ta-pu 9.47 242 *e*Pn **Pn** **02 16 32.7 -0.3**
MJAR Matsushiro Arr 11.08 38 Pn Pn 02 16 59.0 +4.1
MJAR Matsushiro Arr 11.08 38 Pn Pn 02 16 59.0 +4.1
0.4nm,0.3s,baz=235,slow=8.7,SNR=3.3
JCJ Chichijima 11.11 92 LR LR 02 20 35.8
comp=Z,133nm,20.1s,baz=265,slow=34
ASAJ Asahikawa 19.05 29 P **P** **02 18 38.6 -0.3**
ASAJ Asahikawa 19.05 29 P **P** **02 18 38.6 -0.3**
0.6nm,0.3s,baz=241,slow=19,SNR=4.9
SONM Songino Array 26.78 324 P **P** **02 19 56.2 -0.6**
SONM Songino Array 26.78 324 P **P** **02 19 56.2 -0.6**
2.8nm,0.9s,baz=146,slow=9.3,SNR=12
CMAR Chiang Mai Arr 29.77 258 P **P** **02 20 24.5 +0.8**
CMAR Chiang Mai Arr 29.77 258 P **P** **02 20 24.5 +0.8**
1.0nm,0.3s,baz=50,slow=7.2,SNR=4.0
H11N2 WAKE ISLAND Hy 34.89 96 T T 02 58 33.3
baz=293,slow=75,SNR=20
H11N1 WAKE ISLAND Hy 34.89 96 T T 02 58 33.7
baz=293,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 34.91 96 T T 02 58 34.8
baz=293,slow=75,SNR=23
H11S3 WAKE ISLAND Hy 35.16 98 T T 02 58 55.0
baz=293,slow=73,SNR=9.9
H11S1 WAKE ISLAND Hy 35.17 98 T T 02 58 55.3
baz=293,slow=73,SNR=2.0
H11S2 WAKE ISLAND Hy 35.18 98 T T 02 58 59.5
baz=293,slow=73,SNR=3.1
SEY Seymchan 37.87 17 P **P** **02 21 33.3 -0.2**
SEY Seymchan 37.87 17 P **P** **02 21 33.3 -0.2**
5.7nm,0.7s,baz=207,slow=9.0,SNR=6.0
MK31 Makanchi Array 41.32 310 *e*P **P** **02 22 01.3 -1.2**
MKAR Makanchi Array 41.32 310 P **P** **02 22 00.9 -1.6**
MKAR PcP **PcP** **02 24 01.1 0.0**
MKAR Makanchi Array 41.32 310 P **P** **02 22 00.9 -1.6**
0.7nm,0.6s,baz=95,slow=10,SNR=9.7
MKAR PcP **PcP** **02 24 01.1 0.0**
0.6nm,0.7s,baz=77,slow=3.0,SNR=4.4
ZALV Zalesovo Beam 41.60 321 P **P** **02 22 02.4 -2.3**
ZALV PcP **PcP** **02 24 01.4 -0.3**
ZALV ScP **ScP** **02 27 55.9 +2.8**
ZALV Zalesovo Beam 41.60 321 P **P** **02 22 02.4 -2.3**
1.7nm,0.5s,baz=113,slow=9.2,SNR=8.3
ZALV PcP **PcP** **02 24 01.4 -0.3**
0.6nm,0.5s,baz=75,slow=6.3,SNR=3.0
ZALV ScP **ScP** **02 27 55.9 +2.8**
0.3nm,0.4s,baz=92,slow=4.3,SNR=3.8
KURK Kurchatov 44.41 315 P **P** **02 22 25.3 -2.2**
KURBB Kurchatov Arra 44.45 315 P **P** **02 22 25.3 -2.5**
1.1nm,0.4s,baz=100,slow=8.9,SNR=10
TKM2 Tokmak 2 45.72 304 *eP* **P** **02 22 38.0 -0.2**
4.8nm,0.9s
WRAB Tennant Creek 47.95 174 *eP* **P** **02 22 56.5 +0.9**
16nm,1.3s
WRA Warramunga Arr 47.95 174 P **P** **02 22 56.4 +0.7**
WRA PcP **PcP** **02 24 24.0 0.0**
WRA Warramunga Arr 47.95 174 P **P** **02 22 56.4 +0.7**
2.2nm,0.7s,baz=354,slow=8.3,SNR=21
WRA PcP **PcP** **02 24 24.0 0.0**
0.4nm,0.6s,baz=353,slow=5.0,SNR=4.9
ASAR Alice Springs 51.61 175 P **P** **02 23 24.4 +0.9**
ASAR PcP **PcP** **02 24 37.4 0.0**
ASAR Alice Springs 51.61 175 P **P** **02 23 24.4 +0.9**
1.4nm,0.8s,baz=5.2,slow=14,SNR=25
ASAR PcP **PcP** **02 24 37.4 0.0**
0.8nm,0.7s,baz=348,slow=3.4,SNR=3.2
STKA Stephens Creek 60.70 168 P **P** **02 24 28.1 -0.2**
STKA Stephens Creek 60.70 168 P **P** **02 24 28.1 -0.2**
1.5nm,0.6s,baz=8.8,slow=7.8,SNR=3.8
ILAR Eielson Array 62.18 29 P **P** **02 24 38.1 0.0**
ILAR Eielson Array 62.18 29 P **P** **02 24 38.1 0.0**
0.5nm,0.8s,baz=261,slow=5.2,SNR=7.2
SPITS Spitsbergen Ar 67.29 348 P **P** **02 25 10.2 -1.0**
SPITS Spitsbergen Ar 67.29 348 P **P** **02 25 10.2 -1.0**
1.7nm,0.5s,baz=88,slow=9.4,SNR=6.4
KEV Kevo 68.20 339 *ep* **P** **02 25 15.6 -1.4**
0.7nm,0.3s
ARCES ARCESS Array B 68.77 339 P **P** **02 25 19.6 -1.0**
ARCES ARCESS Array B 68.77 339 P **P** **02 25 19.6 -1.0**
5.7nm,1.0s,baz=76,slow=7.6,SNR=7.5
KBZ Khabaz 69.01 309 P **P** **02 25 21.8 -0.7**
KBZ Khabaz 69.01 309 P **P** **02 25 21.8 -0.7**
5.6nm,0.8s,baz=67,slow=2.1,SNR=8.2
JOF Joensuu 69.06 331 *ep* **P** **02 25 20.8 -1.7**
2.4nm,0.3s
FINES FINESS Array B 71.90 331 P **P** **02 25 39.1 -0.7**
FINES FINESS Array B 71.90 331 P **P** **02 25 39.1 -0.7**
4.3nm,0.5s,baz=60,slow=6.0,SNR=39
RES Resolute Bay 73.48 11 P **P** **02 25 49.4 +0.3**
RES Resolute Bay 73.48 11 P **P** **02 25 49.4 +0.3**
3.9nm,0.8s,baz=304,slow=6.1,SNR=16
AKASG Malin Array Be 74.98 320 P **P** **02 25 56.8 -1.4**
AKASG Malin Array Be 74.98 320 P **P** **02 25 56.8 -1.4**
1.4nm,0.4s,baz=58,slow=6.2,SNR=14
YKA Yellowknife Ar 76.29 26 P **P** **02 26 06.0 +0.6**
YKA Yellowknife Ar 76.29 26 P **P** **02 26 06.0 +0.6**
0.8nm,0.8s,baz=303,slow=5.5,SNR=12
BRTR Keskin Array B 76.94 308 P **P** **02 26 09.0 -0.8**
BRTR Keskin Array B 76.94 308 P **P** **02 26 09.0 -0.8**
3.0nm,0.9s,baz=91,slow=5.1,SNR=14
CFR Carcaliu 78.13 315 *i* P 02 26 23.6 +7.5
NB2 NORSAR Subarra 78.23 334 P **P** **02 26 14.7 -1.8**
comp=Z,0.9nm,0.6s,baz=52,slow=5.6
NOA NORSAR Array B 78.23 334 P **P** **02 26 14.5 -2.0**
NOA NORSAR Array B 78.23 334 P **P** **02 26 14.5 -2.0**
comp=Z,1.5nm,0.7s,baz=51,slow=5.5,SNR=4.9
BURAR Bucovina Array 78.74 318 *i* P **P** **02 26 19.8 +0.2**
DOPR Dopca 79.44 317 *i* P **P** **02 26 23.9 +0.5**
ARR Arges 80.20 316 *i* P **P** **02 26 27.3 -0.3**
VTS Vitosha 82.50 314 *i* P **P** **02 26 40.6 +0.6**
MMB Musomiste 82.69 313 *i* P **P** **02 26 41.1 +0.3**
CLL Collm 83.38 326 *i* P **P** **02 26 45.0 +0.9**
comp=Z,7.0nm,0.8s
GERES GERESS Array B 84.51 323 P **P** **02 26 49.4 -0.7**
GERES GERESS Array B 84.51 323 P **P** **02 26 49.4 -0.7**
comp=Z,1.0nm,0.8s,baz=40,slow=5.2,SNR=8.1
FRB Frobisher Bay 87.35 8 P **P** **02 27 02.7 -1.0**
FRB Frobisher Bay 87.35 8 P **P** **02 27 02.7 -1.0**
comp=Z,1.2nm,0.3s,baz=7.3,slow=7.8,SNR=4.2
PDAR Pinedale Array 90.90 39 P **P** **02 27 22.3 +1.1**
PDAR Pinedale Array 90.90 39 P **P** **02 27 22.3 +1.1**
comp=Z,0.5nm,0.8s,baz=48,slow=2.2,SNR=4.2

ISCJB ***17*** *02:14:36.2±0.6, 41.35N±0.06×139.11E±0.09, h225km±6km, mb3.4/3, Error ellipse: s-maj=11.9km s-min=8.7km az=20.8*

JMA ***17*** *02:14:36.9±0.2, 41.36N×139.10E, h221km±2km, M3.1*

IDC ***17*** *02:14:36.6±7.0, 41.28N×139.10E, h219km±32km, mb3.2/3, mb1 3.3/5, mb1mx2.9/27, mbtmp3.3/5, Error ellipse: s-maj=114.2km s-min=28.0km az=165.0*

ISC 17 02:14:36.8±1.1, 41.33N±0.06×139.11E±0.07, h221km±8km, n21, σ0§68/27, mb3.7/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.80**	**20**		P		**Pn**	**02 15 07.5**	**-0.1**
JOSM						*e*	**S**	**02 15 30.9**	**-0.8**

JSR	Shiriuchi	1.00	78	P		Pn	02 15 09.1	+0.3
JSR				eS		S	02 15 34.0	+0.4
JIW	Iwasaki	1.00	137	P		Pn	02 15 09.2	+0.3
JIW				eS		S	02 15 34.0	+0.2
JOT	Ohata	1.46	87	P		Pn	02 15 12.3	+0.3
JSH	Shimam	1.48	28	P		Pn	02 15 12.5	+0.3
JKB	Kayabe	1.54	68	P		Pn	02 15 13.0	+0.3
JANG	Nango	2.06	117	P		Pn	02 15 17.3	-0.2
JSK	Shakotan	2.26	26	P		Pn	02 15 19.7	+0.3
JOM	Ohasama	2.49	137	P		Pn	02 15 22.0	0.0
JYK	Kaneyama	2.59	158	P		Pn	02 15 23.5	+0.3
JMK	Ichinoseki	2.87	145	P		Pn	02 15 26.2	0.0
JNBK	Urakawa-nobuka	2.88	70	P		Pn	02 15 26.7	+0.5
JNBK				eS		S	02 16 04.4	-0.3
JHR	Hokuryu	3.08	38	P		Pn	02 15 29.6	+1.1
JFR	Furan	3.16	54	P		Pn	02 15 29.3	-0.1
JCH	Churui	3.42	67	P		Pn	02 15 32.6	+0.3
JCH				eS		S	02 16 13.5	-2.3
JNS	Sasagawa	3.51	177	P		Pn	02 15 34.3	+0.7
ASAJ	Asahikawa	3.78	42	P		Pn	02 15 37.1	+0.4
	23nm,0.3s,baz=234,slow=10,SNR=74							
ASAJ				S		S	02 16 24.9	+1.2
	baz=277,slow=33,SNR=1.0							
USRK	Ussuriysk Arra	5.97	301	P		Pn	02 16 03.8	-0.2
	0.5nm,0.3s,baz=110,slow=12,SNR=12							
ZALV	Zalesovo Beam	37.77	308	P		P	02 21 31.4	+0.1
	1.3nm,0.6s,baz=90,slow=7.8,SNR=5.3							
MKAR	Makanchi Array	40.43	298	P		P	02 21 53.4	-0.2
	0.2nm,0.4s,baz=79,slow=7.5,SNR=4.2							
KURBB	Kurchatov Arra	42.03	304	P		P	02 22 06.3	-0.1
	2.8nm,0.7s,baz=81,slow=8.6,SNR=24							

IDC ***17*** *02:42:36.7±3.2, 35°.08N×140°.43E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, ML3.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/53, Error ellipse: s-maj=113.1km s-min=25.8km az=65.0*

ISCJB ***17*** *02:42:39.8±1.3, 35°.19N±0°.09×140°.4E±0°.2, h29km±5km, mb3.6/4, Error ellipse: s-maj=29.5km s-min=7.7km az=154.4*

JMA ***17*** *02:42:41.3±0.1, 35°.20N×140°.32E, h12km±2km, M3.2*

JMA Felt III J1.

ISC 17 02:42:40.6±1.0, 35°.18N±0°.05×140°.33E±0°.09, h18km±3km, n21, σ1s=3°/15, mb3.6/4, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	Katsuura	0.03	193	⇑P	Pg	02 42 43.5	-0.3
KTR				S	Sg	02 42 45.7	-0.3
BSO4	Boso 4	0.19	177	⇑P	Pg	02 42 45.8	+0.4
JCN	Nagara	0.26	337	⇓P	Pb	02 42 47.2	+0.5
JCN				S	Sg	02 42 52.7	+2.2
TATJ	Tateyama 2	0.39	247	⇑P	Pb	02 42 49.9	+0.9
BSO3	Boso 3	0.41	158	P	Pb	02 42 50.1	+0.9
BSO3				S	Sb	02 42 55.8	+0.8
MJAR	Matsushiro Arr	2.19	309	Pn	Pn	02 43 15.9	-0.3
	4.2nm,0.3s,baz=127,slow=11,SNR=22						
MAT	Matsushiro	2.19	309	P	Pn	02 43 16.0	-0.2
MAT				eS	Sb	02 43 46.4	-0.2
JCJ	Chichijima	8.22	168	LR	LR	02 47 02.5	
	comp=Z,177nm,19.3s,baz=151,slow=33						
H11N2	WAKE ISLAND Hy	28.04	116	T	T	03 17 40.4	
	baz=312,slow=76,SNR=189						
H11N1	WAKE ISLAND Hy	28.05	116	T	T	03 17 40.4	
	baz=312,slow=76,SNR=183						
H11N3	WAKE ISLAND Hy	28.06	116	T	T	03 17 41.3	
	baz=312,slow=76,SNR=182						
H11S3	WAKE ISLAND Hy	28.67	119	T	T	03 18 31.5	
	baz=314,slow=75,SNR=124						
H11S1	WAKE ISLAND Hy	28.67	119	T	T	03 18 30.5	
	baz=314,slow=75,SNR=177						
H11S2	WAKE ISLAND Hy	28.69	119	T	T	03 18 32.5	
	baz=314,slow=75,SNR=106						
ZALV	Zalesovo Beam	42.54	314	P	P	02 50 34.1	-0.8
	0.8nm,0.6s,baz=108,slow=9.5,SNR=3.7						
MKAR	Makanchi Array	44.38	304	P	P	02 50 49.5	-0.5
	0.4nm,0.5s,baz=87,slow=9.6,SNR=6.4						
BVAR	Borovoye Array	51.18	313	P	P	02 51 42.9	+0.4
	0.2nm,0.4s,baz=46,slow=6.6,SNR=2.8						
WRA	Warramunga Arr	55.11	187	P	P	02 52 10.1	-1.7
	0.5nm,0.3s,baz=6.3,slow=8.4,SNR=7.9						
H03N2	Juan Fernandez	147.67	98	T	T	05 47 15.2	
	baz=286,slow=75,SNR=4.9						
H03N3	Juan Fernandez	147.68	98	T	T	05 47 15.6	
	baz=286,slow=75,SNR=7.7						
H03N1	Juan Fernandez	147.68	98	T	T	05 47 16.8	
	baz=286,slow=75,SNR=7.1						

ISCJB ***17*** *02:53:40.2±0.2, 40°.36N±0°.01×95°.71W±0°.02, h10km, mb3.7/4, Error ellipse: s-maj=2.0km s-min=1.8km az=150.8*

IDC ***17*** *02:53:42.2±0.8, 40°.44N×95°.87W, h0km, mb3.5/3, mb1 4.0/8, mb1mx3.7/32, mbtmp3.7/8, ML3.7/5, Error ellipse: s-maj=11.0km s-min=9.6km az=19.0*

NEIC ***17*** *02:53:42.5±0.2, 40°.41N×95°.86W, h5km, MN3.6, Error ellipse: s-maj=4.2km s-min=3.5km az=2.0*

NEIC Felt [IV] at Brock, Johnson, Pawnee City and Peru; [III] at Auburn, Brownville, Dunbar, Humboldt and Tecumseh; [II] at Beatrice, Cook, Elk Creek, Falls City, Nebraska City, Omaha, Plattsmouth and Superior. Felt [III] at Hamburg, Iowa. Felt [II] at Fairfax, Kansas City and Rock Port, Missouri. Felt as far as Red Oak, Iowa; Rantoul, Kansas; Belton, Missouri; Hastings, Nebraska.

ISC 17 02:53:41.8±0.4, 40°.39N±0°.02×95°.86W±0°.02, h10km, n245, σ1s=5°/85/291, mb3.9/4, 102C-93D, Iowa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	Kansas State U	1.41	204	ePn	Pg	02 54 09.5	+0.6
KSU1				eS	Sg	02 54 28.9	+1.6
P33A	Williams Farm,	1.70	236	⇓P	Pg	02 54 14.2	-0.2
	baz=1.7,SNR=189						
P33A				⇑S	Sb	02 54 35.9	+1.3
	baz=1.7						
O32A	Brockman Farm,	1.85	267	⇓P	Pb	02 54 15.9	+0.2
	baz=1.8						
O32A				⇑S	Sb	02 54 39.7	+0.8
	baz=1.8						
N32A	Stulken Farm,	1.89	282	⇓P	Pb	02 54 16.5	+0.1
	baz=1.9						
N32A				⇑S	Sb	02 54 41.0	+0.9
	baz=1.9						
Q33A	Connelly Farm,	2.06	228	P	Pb	02 54 19.8	+0.5
	baz=2.1,SNR=228						
Q33A				⇓Sb	Sg	02 54 48.2	+0.1
	baz=2.1						
P32A	Huiting Farm,	2.24	251	P	Pb	02 54 21.0	-1.4
	baz=2.2,SNR=138						
P32A				⇓Sb	Sb	02 54 52.0	+1.9
	baz=2.2						
N31A	Bailey Ranch,	2.39	281	⇑P	Pb	02 54 23.6	-1.4
	baz=2.4						
N31A				⇑S	Sn	02 54 52.4	+1.9
	baz=2.4						
SCIA	State Center	2.51	52	ePn	Pb	02 54 25.7	-1.2
SCIA				eS	Sb	02 54 57.3	-0.5
Q32A	Meitler Ranch,	2.51	237	P	Pn	02 54 25.1	+2.4
	baz=2.5,SNR=367						
Q32A				⇓Sb	Sb	02 55 00.6	+2.7
	baz=2.5						
M31A	Lambtecht Ranc	2.54	293	⇑P	Pb	02 54 25.7	-1.9
	baz=2.5						
M31A				⇓S	Sb	02 54 57.5	-1.5
	baz=2.5						
R33A	Olander Ranch,	2.65	219	⇑P	Pb	02 54 28.3	-1.1
	baz=2.7,SNR=51						
O31A	Woolen Ranch,	2.66	266	⇓P	Pn	02 54 27.0	+2.2
	baz=2.7,SNR=48						
O31A				⇑S	Sb	02 55 00.0	-2.3
	baz=2.7						
P31A	Stockton	2.84	253	P	Pn	02 54 29.1	+1.9
	baz=2.8,SNR=94						
P31A				⇓S	Sn	02 55 04.5	+3.0
	baz=2.8						
L31A	Butterfield Fa	2.86	309	⇑P	Pn	02 54 29.8	+2.2
	baz=2.9						
L31A				⇓S	Sb	02 55 05.5	-2.6
	baz=2.9						
R32A	Long Quarter,	2.96	229	⇓P	Pn	02 54 31.5	+2.7
	baz=3.0,SNR=76						
R32A				⇓S	Sn	02 55 07.7	+3.3
	baz=3.0						
Q31A	Ellis	3.06	244	P	Pn	02 54 31.9	+1.6
	baz=3.1,SNR=37						
O30A	MW Ranch, Wils	3.21	268	⇑P	Pn	02 54 34.6	+2.2
	baz=3.2,SNR=60						
O30A				⇑S	Sn	02 55 13.3	+2.5
	baz=3.2						
M30A	Dale-Ortello V	3.24	292	⇑P	Pn	02 54 35.3	+2.5
	baz=3.2						
N30A	Hueftle Ranch,	3.25	278	⇑P	Pn	02 54 35.1	+2.2
	baz=3.2						
N30A				⇓S	Sn	02 55 13.8	+2.1
	baz=3.2						
S33A	Kaszmaul Farm,	3.25	211	⇓P	Pn	02 54 36.0	+3.1
	baz=3.3						
L30A	Spencer Herefo	3.30	299	⇑P	Pn	02 54 36.1	+2.5
	baz=3.3						
ECSD	EROS Data Cent	3.38	351	ePn	Pn	02 54 37.3	+2.6
ECSD				eS	Sn	02 55 16.6	+1.7
P30A	Selden	3.47	257	⇓P	Pn	02 54 37.7	+1.7
	baz=3.5,SNR=59						
R31A	Burdett	3.53	235	⇓P	Pn	02 54 38.3	+1.5
	baz=3.5,SNR=90						
S32A	Newby Ranch, P	3.60	223	⇓P	Pn	02 54 40.0	+2.3
	baz=3.6,SNR=27						
Q30A	Quinter	3.65	249	⇑P	Pn	02 54 39.5	+1.1
	baz=3.6,SNR=24						
N29A	Votaw Ranch, W	3.65	278	⇑P	Pn	02 54 40.6	+2.2
	baz=3.6						
O29A	4D Ranch, Culb	3.79	268	⇑P	Pn	02 54 42.4	+2.1
	baz=3.8,SNR=91						
T33A	Patterson Ranc	3.79	210	⇑P	Pn	02 54 42.9	+2.6
	baz=3.8						
M29A	Burnside Ranch	3.80	288	⇑P	Pn	02 54 42.4	+1.9
	baz=3.8						
L29A	Maesberg Ranch	3.86	297	⇑P	Pn	02 54 43.5	+2.2
	baz=3.8						
S31A	Mullinville	3.95	227	⇑P	Pn	02 54 44.4	+1.8
	baz=4.0,SNR=33						
P29A	Atwood	3.97	260	⇑P	Pn	02 54 44.3	+1.4
	baz=4.0,SNR=16						
J30A	Dallas	3.99	318	⇑P	Pn	02 54 45.2	+2.2
	baz=4.0						
T32A	Huddler Ranch,	4.00	218	⇓P	Pn	02 54 45.7	+2.4
	baz=4.0						
R30A	Dighton	4.02	240	⇓P	Pn	02 54 44.5	+1.1
	baz=4.0,SNR=32						
K29A	Lazy Trails An	4.09	307	⇑P	Pn	02 54 46.9	+2.4
	baz=4.1						
U34A	Anderson Ranch	4.16	199	⇓P	Pn	02 54 48.0	+2.6
	baz=4.2						
Q29A	Oakley	4.22	251	⇓P	Pn	02 54 47.2	+0.9
	baz=4.2,SNR=9.8						
M28A	Bar X Bar Ranc	4.29	285	⇑P	Pn	02 54 49.4	+2.1
	baz=4.3						
N28A	Pribbeno Ranch	4.34	276	⇑P	Pn	02 54 49.6	+1.8
	baz=4.3						
T31A	Randall Ranch,	4.44	223	⇓P	Pn	02 54 51.0	+1.8
	baz=4.4,SNR=12						
TUL1	Tulsa	4.48	179	ePn	Pn	02 54 51.7	+2.0
TUL1				ePg	Pg	02 55 07.4	-0.1
TUL1				eSg	Sg	02 56 05.3	-0.2
TUL1	Tulsa	4.48	179	⇑P	Pn	02 54 51.9	+2.2
	baz=4.5						
S30A	Maesbzuma	4.52	234	P	Pn	02 54 51.7	+1.4
	baz=4.5,SNR=17						
O28A	Krutsinger Ran	4.53	269	⇑P	Pn	02 54 52.0	+1.5
	baz=4.5,SNR=9.3						
R29A	Marienthal	4.53	246	⇑P	Pn	02 54 51.4	+0.9
	baz=4.5,SNR=12						
P28A	Saint Francis	4.60	262	⇓P	Pn	02 54 53.0	+1.5
	baz=4.6,SNR=12						
BRSD	Miller	4.65	332	ePg	Pb	02 55 06.5	+3.0
BRSD				eSg	Sb	02 56 05.0	+5.5
SLM	Saint Louis	4.69	110	ePn	Pn	02 54 55.1	+2.5
SLM				eSg	Sg	02 56 10.2	-2.2
U32A	Winter Ranch,	4.71	213	⇑P	Pn	02 54 54.9	+2.0
	baz=4.7						
OGNE	Ogallala	4.72	279	ePn	Pn	02 54 54.9	+1.7
OGNE				ePg	Pb	02 55 08.0	+3.2
OGNE				eSn	Sn	02 55 47.5	-0.6
OGNE				eSg	Sg	02 56 11.9	-1.6
OGNE	Ogallala	4.72	279	⇑P	Pn	02 54 54.7	+1.6
	baz=4.7						
V34A	Guthrie	4.73	197	⇑P	Pn	02 54 55.3	+2.1
	baz=4.8						
JFWS	Jewell Farm	4.90	57	ePn	Pn	02 54 56.7	+1.1
JFWS				ePg	Pg	02 55 13.8	-1.9
JFWS				eSn	Sn	02 55 54.5	+2.1
JFWS				eSg	Sg	02 56 14.6	-4.5
S29A	Ulysses	4.94	238	⇓P	Pn	02 54 57.2	+1.0
	baz=4.9,SNR=8.1						
T30A	Plains	4.94	229	⇑P	Pn	02 54 57.4	+1.3
	baz=4.9,SNR=14						
V33A	Lossen Ranch,	4.95	203	⇑P	Pn	02 54 58.4	+2.2
	baz=5.0						
R28A	Tribune	5.04	248	⇑P	Pn	02 54 58.3	+0.7
	baz=5.0						
O27A	Beecher Island	5.06	270	⇑P	Pn	02 54 59.5	+1.6
	baz=5.0,SNR=18						
U31A	Nine Bar Ranch	5.09	219	⇓P	Pn	02 55 00.1	+1.8
	baz=5.1						
N27A	Anderson Farm,	5.10	277	⇑P	Pn	02 54 59.7	+1.4
	baz=5.1						
L27A	T5 Ranch, Ells	5.15	291	⇓P	Pn	02 55 01.0	+2.0
	baz=5.1						
P27A	Fiesen Ranch,	5.23	263	⇓P	Pn	02 55 01.6	+1.5
	baz=5.2						
K27A	Flueckinger Fa	5.31	298	⇑P	Pn	02 55 03.1	+1.9
	baz=5.3						
G30A	Faulkton	5.31	334	⇓P	Pn	02 55 03.8	+2.6
	baz=5.3						
SPMN	St. Paul	5.33	24	ePn	Pn	02 55 02.9	+1.5
SPMN				eSn	Sn	02 56 04.8	+2.1
SPMN	St. Paul	5.33	24	⇓P	Pn	02 55 03.1	+1.7
	baz=5.3						
T29A	Hugoton	5.33	234	⇑P	Pn	02 55 03.3	+1.8
	baz=5.3						
W34A	Bridge Creek,	5.37	197	⇓P	Pn	02 55 03.9	+1.9
	baz=5.4						
U30A	WK&E Inc. Balk	5.38	226	⇓P	Pn	02 55 03.5	+1.3
	baz=5.4,SNR=13						
KSCO	Kaye Shedlock'	5.40	257	ePn	Pn	02 55 03.3	+0.9
KSCO				ePg	Pg	02 55 22.3	-2.8
KSCO				eSn	Sn	02 56 04.8	+0.1
KSCO	Kaye Shedlock'	5.40	257	⇑P	Pn	02 55 03.6	+1.2
	baz=5.4						
S28A	Hanter	5.47	241	⇑P	Pn	02 55 04.7	+1.3
	baz=5.5						
V31A	Spring Creek L	5.58	215	⇑P	Pn	02 55 06.6	+1.7
	baz=5.6						
M26A	McRoberts Ranc	5.62	283	⇓P	Pn	02 55 07.5	+2.0
	baz=5.6						
N26A	Koester Ranch,	5.62	277	⇑P	Pn	02 55 07.1	+1.6
	baz=5.6						
W33A	Caddo, Fort Co	5.62	202	⇑P	Pn	02 55 07.6	+2.1
	baz=5.6						
O26A	Horse Wrangler	5.70	271	⇓P	Pn	02 55 08.1	+1.5
	baz=5.7,SNR=20						
H28A	Mission Ridge	5.73	320	⇑P	Pn	02 55 08.5	+1.6
	baz=5.7						
R27A	Eads	5.77	251	⇑P	Pn	02 55 08.2	+0.6
	baz=5.8						
U29A	Oasis Ranch, S	5.79	229	⇓P	Pn	02 55 09.2	+1.4
	baz=5.8						
P26A	Dale Ranch, A	5.81	264	⇓P	Pn	02 55 08.8	+0.7
	baz=5.8						
SIUC	Southern Illin	5.82	115	ePn	Pn	02 55 05.3	-2.9
SIUC				ePg	Pb	02 55 28.6	+5.2
SIUC				eS	Sg	02 56 45.3	-3.4
K26A	Motz Farm, Whi	5.95	295	⇓P	Pn	02 55 11.4	+1.3
	baz=5.9						
V30A	Spur Ranch, Mi	5.99	221	⇓P	Pn	02 55 11.9	+1.4
	baz=6.0						
X34A	Smith Ranch, M	5.99	196	⇑P	Pn	02 55 12.7	+2.2
	baz=6.0						
WMOK	Wichita Mounta	6.10	203	ePn	Pn	02 55 13.3	+1.2
WMOK				eSn	Sn	02 56 21.2	-0.7
WMOK				eSg	Sg	02 56 54.8	-2.9
S27A	Las Animas	6.11	246	⇑P	Pn	02 55 13.7	+1.4
	baz=6.1						
MIAR	Mount Ida	6.11	162	ePn	Pn	02 55 14.3	+2.1
MIAR				eSn	Sn	02 56 22.1	-0.1
MIAR				eSg	Sg	02 56 57.1	-1.0
W31A	Holland Ranch,	6.12	213	⇓P	Pn	02 55 14.1	+1.8
	baz=6.1						
H27A	Howes	6.25	315	⇓P	Pn	02 55 15.9	+1.9
	baz=6.2						
O25A	Wiggins	6.32	270	⇑P	Pn	02 55 17.6	+2.4
	baz=6.3						
V29A	Stinnett	6.34	226	⇓P	Pn	02 55 16.7	+1.3
	baz=6.3						
GNAR	Gosnell	6.38	132	ePn	Pn	02 55 18.2	+2.4
GNAR				eSn	Sn	02 56 30.6	+1.9
W30A	Crocket Farms	6.40	217	⇓P	Pn	02 55 17.8	+1.6
	baz=6.4						
U28A	Mallet	6.40	233	⇓P	Pn	02 55 17.9	+1.6
	baz=6.4						
P25A	Willow Gulch B	6.44	265	⇓P	Pn	02 55 17.8	+0.9
	baz=6.4,SNR=20						
F28A	McLaughlin	6.54	328	⇓P	Pn	02 55 20.1	+2.1
	baz=6.5						
S26A	Kim	6.54	247	⇓P	Pn	02 55 18.9	+0.7
	baz=6.5						
X32A	Elmer	6.55	206	⇑P	Pn	02 55 20.7	+2.5
	baz=6.6						
Y34A	Reagan Ranch,	6.60	194	⇑P	Pn	02 55 20.6	+1.7
	baz=6.6						
X31A	McDonald Ranch	6.62	211	⇓P	Pn	02 55 20.8	+1.7
	baz=6.6						
H26A	Fairpoint	6.62	312	⇓P	Pn	02 55 21.2	+2.0
	baz=6.6						
Q25A	Bedland, Calha	6.64	260	⇓P	Pn	02 55 20.7	+1.2
	baz=6.6						
J25A	Sunshine Ranch	6.64	299	⇑P	Pn	02 55 20.8	+1.3
	baz=6.6						
G27A	Dupree	6.68	320	⇑P	Pn	02 55 21.9	+1.8
	baz=6.7						
SFIN	Scholer Farm	6.69	87	ePn	Pn	02 55 20.9	+0.7
SFIN				eSg	Sg	02 57 11.4	-5.2
SFIN	Scholer Farm	6.69	87	⇓P	Pn	02 55 22.0	+1.9
	baz=6.7						
Y33A	Hilltop Ranch,	6.74	200	⇓P	Pn	02 55 22.8	+1.9
	baz=6.8						
U27A	Thompson Grove	6.75	236	⇓P	Pn	02 55 21.8	+0.7
	baz=6.8						
E29A	Napoleon	6.76	337	⇑P	Pn	02 55 22.6	+1.6
	baz=6.7						
V28A	Channing	6.83	229	⇑P	Pn	02 55 23.6	+1.5
	baz=6.8						
T26A	Comanche Natio	6.84	244	⇑P	Pn	02 55 23.3	+1.0
	baz=6.8						
M24A	Cheyenne	6.87	282	⇓P	Pn	02 55 24.5	+1.7
	baz=6.8						
N24A	Carr	6.88	277	⇑P	Pn	02 55 24.3	+1.4
	baz=6.9						
G26A	Maurine	6.96	317	⇓P	Pn	02 55 26.0	+2.1
	baz=6.9						
W29A	Amraillo	6.98	223	⇑P	Pn	02 55 25.7	+1.5
	baz=7.0,SNR=17						
Y32A	R-V Farms, Ver	6.99	205	⇓P	Pn	02 55 26.4	+2.2
	baz=7.0						
P24A	Kohler Place,	7.00	266	⇑P	Pn	02 55 26.1	+1.5
	baz=7.0						
D30A	Buchanan	7.03	344	⇓P	Pn	02 55 27.2	+2.5
	baz=7.0						
O24A	Longmont	7.05	271	⇓P	Pn	02 55 26.4	+1.2
	baz=7.0						
F27A	Lemmon	7.09	323	⇓P	Pn	02 55 27.6	+2.0
	baz=7.1						
H25A	Fruitdale	7.11	309	⇓P	Pn	02 55 27.5	+1.7
	baz=7.1						
K24A	Anderson Ranch	7.11	292	⇓P	Pn	02 55 27.8	+1.9
	baz=7.1						
RSSD	Black Hills	7.12	304	ePn	Pn	02 55 26.6	+0.5
RSSD				ePg	Pg	02 55 52.9	-5.1
RSSD				eSn	Sn	02 56 51.6	+4.5
RSSD				eSg	Sg	02 57 23.1	-7.0
Z35A	Perchaven, San	7.14	189	⇓P	Pn	02 55 28.0	+1.7
	baz=7.2						
X30A	Coker Ranch, T	7.15	215	⇓P	Pn	02 55 28.1	+1.6
	baz=7.2						
W28A	Vega	7.17	226	⇓P	Pn	02 55 28.3	+1.5
	baz=7.2						
AMTX	Amarillo	7.18	222	⇑P	Pn	02 55 28.5	+1.6
	baz=7.2						
V27A	Dan Oppiter Fa	7.19	232	⇓P	Pn	02 55 28.8	+1.7
	baz=7.2						
D29A	Pettibone, Tap	7.19	339	⇓P	Pn	02 55 29.0	+2.1
	baz=7.2						
Z34A	Collier Ranch,	7.20	194	⇑P	Pn	02 55 29.1	+2.0
	baz=7.2						
S25A	Robets Cordova	7.21	251	⇓P	Pn	02 55 28.5	+1.1
	baz=7.2						
Q24A	Divide	7.30	262	⇑P	Pn	02 55 29.8	+1.0
	baz=7.3						
Y31A	Rekieta Farm,	7.32	210	⇓P	Pn	02 55 30.9	+2.2
	baz=7.3						
E27A	Carson	7.32	327	⇑P	Pn	02 55 31.4	+2.6
	baz=7.3						
G25A	Newell	7.34	313	⇑P	Pn	02 55 31.2	+2.2
	baz=7.3						
U26A	Atchley Ranch,	7.36	240	⇓P	Pn	02 55 30.4	+0.9
	baz=7.4,SNR=12						
F26A	Lodgepole	7.38	320	⇑P	Pn	02 55 32.4	+2.7
	baz=7.4						
T25A	Trinidad	7.43	247	⇓P	Pn	02 55 32.0	+1.6
	baz=7.4						
Z33A	Whitaker Ranch	7.46	199	⇓P	Pn	02 55 32.9	+2.1
	baz=7.5						
ISCO	Idaho Springs	7.50	269	ePn	Pn	02 55 32.7	+1.2
ISCO				ePg	Pg	02 56 03.6	-1.8
ISCO				eSn	Sn	02 56 55.8	-0.9
ISCO				eSg	Sg	02 57 38.2	-4.3
ISCO	Idaho Springs	7.50	269	⇑P	Pn	02 55 32.3	+0.8
	baz=7.5						
X29A	Tulia	7.54	220	⇓P	Pn	02 55 33.4	+1.6
	baz=7.5						
M23A	Laramie	7.54	281	⇑P	Pn	02 55 33.5	+1.5
	baz=7.5						
WVT	Waverly	7.62	121	ePn	Pn	02 55 34.0	+1.2
WVT				ePg	Pg	02 56 04.3	-3.3
WVT				eSn	Sn	02 57 00.4	+1.2
WVT				eSg	Sg	02 57 39.4	-6.9
Z32A	Haskell	7.64	203	⇑P	Pn	02 55 35.2	+2.0
	baz=7.7						
Y30A	Stafford Cattl	7.64	213	⇑P	Pn	02 55 35.7	+2.4
	baz=7.7						
N23A	Red Feather La	7.68	277	⇓P	Pn	02 55 35.7	+1.7
	baz=7.7						
O23A	Lake Granby, G	7.69	272	⇓P	Pn	02 55 35.4	+1.4
	baz=7.7						
WCI	Wyandotte Cave	7.73	103	ePn	Pn	02 55 34.2	-0.1
WCI				ePg	Pb	02 56 02.7	+6.9
WCI				eSg	Sg	02 57 42.0	-7.7

baz=8.2
W26A Owens Ranch, T 8.20 232 ⇑P **Pn 02 55 42.4 +1.4**
baz=8.2
E25A Miller Ranch, 8.20 321 ⇑P **Pn 02 55 42.6 +1.7**
baz=8.2
B30A Myrvik Farm, E 8.25 348 ⇑P Pn 02 55 44.5 +3.0
baz=8.2
Z30A Sanderson Ranc 8.25 212 ⇑P **Pn 02 55 43.3 +1.7**
baz=8.3
V25A Rancho No Teng 8.26 239 ⇑P **Pn 02 55 43.2 +1.3**
baz=8.3
K22A Casper 8.31 289 *e*Pn **Pn 02 55 43.8 +1.3**
K22A *e*Sg **Sg 02 58 04.0 -4.4**
K22A Casper 8.31 289 ⇓P **Pn 02 55 44.8 +2.3**
baz=8.3
ABTX Abilene, Hawle 8.33 203 *e*Pn **Pn 02 55 42.3 -0.3**
ABTX *e*Pg Pg 02 56 17.3 -3.9
ABTX *e*Sg **Sg 02 58 07.2 -1.9**
ABTX Abilene, Hawle 8.33 203 ⇑P **Pn 02 55 43.7 +1.1**
baz=8.4
MSTX Muleshoe 8.45 223 *e*Pn **Pn 02 55 45.9 +1.5**
MSTX Muleshoe 8.45 223 ⇑P **Pn 02 55 46.2 +1.8**
baz=8.5
WHTX Lake Whitney 8.48 189 ⇑P **Pn 02 55 46.6 +1.9**
baz=8.5
131A Roby 8.52 207 ⇓P **Pn 02 55 47.4 +2.1**
baz=8.5
Z29A Hungry Hill Ra 8.52 215 ⇓P **Pn 02 55 47.2 +1.9**
baz=8.5
W25A X Bar L Ranch, 8.54 236 ⇓P **Pn 02 55 46.5 +0.9**
baz=8.5,SNR=9.2
X26A CR and CF Fran 8.60 230 ⇓P **Pn 02 55 48.3 +1.9**
baz=8.6
B28A Dugan Ranch, T 8.67 340 ⇑P **Pn 02 55 49.7 +2.5**
baz=8.7
Y27A Causey 8.72 224 ⇑P **Pn 02 55 49.8 +1.7**
baz=8.7
130A Snyder 8.80 209 ⇑P **Pn 02 55 50.7 +1.7**
baz=8.8
A29A Manning Farm, 8.86 345 ⇓P **Pn 02 55 51.4 +1.5**
baz=8.8
232A Coleman 9.02 201 ⇓P **Pn 02 55 53.1 +1.0**
baz=9.0
A28A Rude Farm, Bot 9.07 341 ⇑P **Pn 02 55 54.8 +2.0**
baz=9.1
335A Moody 9.18 188 ⇑P **Pn 02 55 56.0 +1.7**
baz=9.2
Z27A Tatum 9.20 222 ⇑P **Pn 02 55 55.3 +0.7**
baz=9.2
334A Lometa 9.24 193 ⇓P **Pn 02 55 55.5 +0.3**
baz=9.3
AAM Ann Arbor 9.38 74 *e*Pn **Pn 02 55 57.8 +0.8**
AAM *e*Lg Lg 02 58 34.2
333A Richland Sprin 9.40 197 ⇓P **Pn 02 55 57.3 0.0**
baz=9.4
230A Sterling City 9.49 208 ⇓P **Pn 02 55 59.5 +1.0**
baz=9.5
332A Millersview 9.52 200 ⇓P **Pn 02 55 58.7 -0.4**
baz=9.6
434A Burnet 9.76 192 ⇑P **Pn 02 56 02.0 -0.2**
baz=9.8
331A San Angelo 9.79 204 ⇑P **Pn 02 56 02.5 -0.2**
baz=9.8
ACSO Alum Creek Sta 9.84 87 *e*Pn **Pn 02 56 04.2 +0.8**
ACSO *e*Sn **Sn 02 57 51.7 -2.2**
ACSO *e*Sg 02 58 48.9
ULM Lac du Bonnet 9.86 360 *e*Pn **Pn 02 56 03.1 -0.4**
ULM *e*Sn Sn 02 57 47.9 -6.2
ULM *e*Sg 02 58 44.4
ULM Lac du Bonnet 9.86 360 Pn **Pn 02 56 03.4 -0.1**
2.1nm,0.3s,baz=180,slow=13,SNR=22
ULM Sn Sn 02 57 47.7 -6.4
1.7nm,0.3s,baz=296,slow=16,SNR=5.8
ULM Lg Lg 02 58 44.3
2.0nm,0.3s,baz=87,slow=22,SNR=6.5
330A Mertzon 9.95 207 ⇑P **Pn 02 56 04.5 -0.4**
baz=10.0
433A Art 9.97 196 ⇓P **Pn 02 56 05.1 0.0**
baz=10.0
C23A Lambert 9.98 321 ⇓P **Pn 02 56 07.0 +1.7**
baz=10.0
ANMO Albuquerque 10.00 240 Pn Pn 02 56 09.6 +3.9
ANMO Pg 02 56 45.3
ANMO *e*Lg Lg 02 58 48.8
ANMO Lg Lg 02 58 53.0
ANMO Albuquerque 10.00 240 Pn Pn 02 56 15.3 +10
0.1nm,0.3s,baz=74,slow=15,SNR=2.9
ANMO Pg 02 56 45.3
1.5nm,0.3s,baz=68,slow=16,SNR=17
ANMO Lg Lg 02 58 53.0
1.1nm,0.3s,baz=317,slow=21,SNR=8.2
LRAL Lakeview Retre 10.22 133 Pn **Pn 02 56 02.5 -6.0**
LRAL *e*Sn **Sn 02 58 02.5 -0.7**
LRAL *e*Lg Lg 02 59 06.2
CPCT Cooper Cave 10.23 115 Pn **Pn 02 56 08.4 -0.2**
CPCT Sn Sn 02 57 51.4 -12
MVCO Mesa Verde 10.36 256 *e*Pn Pn 02 56 14.2 +3.5
JCT Junction City 10.40 199 Pn Pn 02 56 07.7 -3.3
431A Sonora 10.43 203 ⇓P **Pn 02 56 11.4 -0.1**
baz=10
PDAR Pinedale Array 10.53 287 Pn **Pn 02 56 13.8 +0.8**
PDAR Pg 02 56 56.1
PDAR Sn **Sn 02 58 07.8 -3.3**
PDAR Lg Lg 02 59 09.2
PDAR Pinedale Array 10.53 287 Pn **Pn 02 56 13.8 +0.8**
0.2nm,0.3s,baz=118,slow=15,SNR=10.0
PDAR Pg 02 56 56.1
0.3nm,0.3s,baz=103,slow=15,SNR=3.8
PDAR Sn **Sn 02 58 07.8 -3.3**
0.4nm,0.3s,baz=104,slow=31,SNR=5.5
PDAR Lg Lg 02 59 09.2
0.5nm,0.3s,baz=86,slow=29,SNR=7.5
430A Baggett Ranch, 10.53 206 ⇑P **Pn 02 56 12.7 -0.2**
baz=11
534A Blanco 10.56 192 ⇓P **Pn 02 56 13.1 -0.1**
baz=11
TKL Tuckaleechee C 10.64 113 Pn **Pn 02 56 15.8 +1.5**
TKL Lg Lg 02 59 13.6
TKL Tuckaleechee C 10.64 113 Pn **Pn 02 56 15.8 +1.5**
0.4nm,0.3s,baz=30,slow=23,SNR=4.5
TKL Lg Lg 02 59 13.6
2.6nm,0.3s,baz=33,slow=17,SNR=8.1
532A Rocksprings 10.76 199 ⇓P **Pn 02 56 16.4 +0.4**
baz=11
531A Rocksprings 10.90 202 ⇑P **Pn 02 56 18.2 +0.3**
baz=11
428A Kincaid Ranch, 11.12 212 ⇓P **Pn 02 56 21.4 +0.4**
baz=11
530A J-C Ranch, Com 11.15 205 ⇑P **Pn 02 56 21.6 +0.2**
baz=11
632A Uvalde 11.32 198 ⇑P **Pn 02 56 24.1 +0.4**
baz=11
529A Stev Forest Ra 11.48 209 ⇓P **Pn 02 56 25.4 -0.5**
baz=12
MNTX Cornudas Mount 11.60 225 *e*Pn **Pn 02 56 27.8 +0.5**
528A Cox Ranch, San 11.67 211 ⇑P **Pn 02 56 29.0 +0.6**
baz=12
426A McDonald Obser 11.76 217 ⇑P **Pn 02 56 30.0 +0.2**
baz=12
GOGA Godfrey 12.12 121 Pn **Pn 02 56 35.2 +0.7**
GOGA *e*Lg Lg 03 00 01.1
BLA Blacksburg 12.46 100 *e*Pn **Pn 02 56 39.0 -0.2**
TX31 Lajitas Ar. Si 12.75 212 Pn **Pn 02 56 43.0 -0.3**
TXAR Lajitas Array 12.75 212 Pn **Pn 02 56 43.0 -0.3**
TXAR Pg 02 57 34.5
TXAR Sn **Sn 02 59 04.1 -1.3**
TXAR Lg Lg 03 00 26.3
TXAR Lajitas Array 12.75 212 Pn **Pn 02 56 43.0 -0.3**
0.2nm,0.3s,baz=34,slow=11,SNR=11
TXAR Pg 02 57 34.5
0.5nm,0.3s,baz=27,slow=14,SNR=7.3
TXAR Sn **Sn 02 59 04.1 -1.3**
0.3nm,0.3s,baz=32,slow=24,SNR=1.9
TXAR Lg Lg 03 00 26.3
0.5nm,0.3s,baz=26,slow=26,SNR=6.2
SADO Sadowa 13.07 65 Pn **Pn 02 56 44.9 -2.6**
SADO Lg Lg 03 00 29.7
SADO Sadowa 13.07 65 Pn **Pn 02 56 44.9 -2.6**
0.5nm,0.3s,baz=280,slow=9.2,SNR=3.4
SADO Lg Lg 03 00 29.7
0.8nm,0.3s,baz=270,slow=19,SNR=5.9
FFC Flin Flon 14.91 346 *e*Pn **Pn 02 57 10.1 -2.4**
2.4nm,0.4s
FFC *e*Sn Sn 02 59 45.8 -12
NVAR Mina Array Bea 17.45 271 Pn P 02 57 52.1 +5.4
NVAR Mina Array Bea 17.45 271 Pn P 02 57 52.1 +5.4
0.1nm,0.3s,baz=70,slow=11,SNR=2.9
SCHQ Schefferville 24.10 43 P **P 02 58 59.1 +1.8**
2.9nm,0.8s
YKA Yellowknife Ar 24.84 339 P **P 02 59 05.0 +1.0**
YKA Yellowknife Ar 24.84 339 P **P 02 59 05.0 +1.0**
0.4nm,0.7s,baz=136,slow=9.4,SNR=9.6
ILAR Eielson Array 37.90 327 P **P 03 01 01.0 +2.3**
ILAR Eielson Array 37.90 327 P **P 03 01 01.0 +2.3**
2.9nm,1.4s,baz=112,slow=7.1,SNR=5.7
ARCES ARCESS Array B 62.33 20 P **P 03 04 04.5 +0.7**
ARCES ARCESS Array B 62.33 20 P **P 03 04 04.5 +0.7**
1.7nm,0.7s,baz=330,slow=4.3,SNR=5.0

IDC ***17*** *02:55:01.3±0.9, 1°.34N×128°.61E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/35, Error ellipse: s-maj=60.9km s-min=15.8km az=79.0*
DJA ***17*** *02:55:04.2±0.8, 1°.N±6°×12°.8E±°, h10km, M4.5/6, MLv4.5/6*
ISCJB ***17*** *02:55:06.8±0.6, 1°.20N±0°.06×128°.31E±0°.06, h61km, mb4.0/7, Error ellipse: s-maj=8.3km s-min=7.5km az=44.1*
ISC 17 02:55:08.8±0.8, 1°.15N±0°.07×128°.31E±0°.06, h61km, n22, σ1s84/17, mb4.0/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.01**	**249**	P	Pn	02 55 21.3	-5.8
TNTI				S	**Sn**	**02 55 37.0**	**-3.6**
LBMI	**Labuha**	**1.95**	**205**	P	**Pn**	**02 55 36.8**	**-2.8**
LBMI				S	**Sn**	**02 56 03.8**	**+0.8**
SWI	**Sorong**	**3.56**	**124**	P	**Pn**	**02 56 00.0**	**-1.6**
SWI				S	**Sn**	**02 56 42.5**	**0.0**
KMSI	**Cibinong**	**4.37**	**263**	P	**Pn**	**02 56 11.3**	**-1.3**
MSAI	**Masohi**	**4.50**	**172**	P	**Pn**	**02 56 15.8**	**+1.3**
NLAI	**Namlea**	**4.52**	**196**	P	**Pn**	**02 56 13.6**	**-1.2**
GTOI	**Gorontalo**	**5.32**	**265**	P	**Pn**	**02 56 28.8**	**+3.0**
LUWI	**Luwuk**	**5.95**	**249**	P	Pn	02 56 50.4	+16
FITZ	**Fitzroy Crossi**	**19.31**	**188**	P	**Pn**	**02 59 31.5**	**+0.9**
	0.1nm,0.3s,baz=24,slow=10.0,SNR=4.0						
FITZ				LR	LR	03 06 37.1	
	comp=Z,203nm,21.6s,baz=307,slow=36						
WRA	**Warramunga Arr**	**21.77**	**165**	P	**P**	**02 59 56.1**	**+0.4**
	4.2nm,0.6s,baz=342,slow=11,SNR=36						
ASAR	**Alice Springs**	**25.25**	**168**	P	**P**	**03 00 30.8**	**+1.4**
	1.1nm,0.5s,baz=355,slow=15,SNR=14						
MJAR	**Matsushiro Arr**	**36.39**	**13**	P	**P**	**03 02 05.3**	**-2.1**
	1.4nm,0.8s,baz=178,slow=8.5,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**41.40**	**63**	T	T	03 46 34.8	
	baz=246,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**41.42**	**63**	T	T	03 46 37.0	
	baz=246,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**41.42**	**63**	T	T	03 46 38.1	
	baz=246,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**42.01**	**61**	T	T	03 47 21.6	
	baz=251,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**42.02**	**61**	T	T	03 47 23.6	
	baz=251,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**42.03**	**61**	T	T	03 47 24.8	
	baz=251,slow=75,SNR=9.6						
SONM	**Songino Array**	**50.24**	**341**	P	**P**	**03 03 59.3**	**+0.4**
	1.4nm,0.8s,baz=151,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**60.56**	**325**	P	**P**	**03 05 13.5**	**+0.5**
	2.2nm,0.5s,baz=114,slow=8.1,SNR=38						
ZALV	**Zalesovo Beam**	**63.59**	**333**	P	**P**	**03 05 33.2**	**+0.1**
	0.5nm,0.5s,baz=128,slow=9.3,SNR=4.0						
VNDA	**Vanda**	**80.68**	**173**	P	**P**	**03 07 16.1**	**+1.3**
	0.5nm,0.7s,baz=346,slow=3.9,SNR=2.8						

IDC 17 03:03:37.9±7.2, 14°.88S×174°.48W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=320.3km s-min=33.5km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.79**	**70**	Pn	Pn	03 04 10.8	-13
	22nm,0.3s,baz=31,slow=0.8,SNR=14						
AFI				Sn	Sn	03 04 35.8	-23
	96nm,0.3s,baz=254,slow=24,SNR=11						
H11S2	**WAKE ISLAND Hy**	**37.99**	**330**	T	T	03 53 06.4	
	baz=152,slow=77,SNR=15						
H11S3	**WAKE ISLAND Hy**	**38.01**	**330**	T	T	03 53 05.6	
	baz=152,slow=77,SNR=12						
H11S1	**WAKE ISLAND Hy**	**38.01**	**330**	T	T	03 53 06.8	
	baz=152,slow=77,SNR=14						
H11N3	**WAKE ISLAND Hy**	**38.96**	**331**	T	T	03 54 17.9	
	baz=152,slow=77,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**38.96**	**331**	T	T	03 54 16.1	
	baz=152,slow=77,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**38.98**	**331**	T	T	03 54 19.7	
	baz=152,slow=77,SNR=8.6						
WRA	**Warramunga Arr**	**48.95**	**256**	P	P	03 12 26.5	0.0
	1.1nm,0.7s,baz=91,slow=7.2,SNR=13						
ASAR	**Alice Springs**	**49.29**	**251**	P	P	03 12 28.5	-0.6
	2.9nm,0.7s,baz=87,slow=8.2,SNR=27						
ILAR	**Eielson Array**	**82.15**	**12**	P	P	03 15 59.7	-0.5
	0.3nm,0.5s,baz=224,slow=6.2,SNR=7.1						
BRTR	**Keskin Array B**	**145.10**	**321**	PKPbc	PKPdf	03 23 17.9	-0.1
	1.1nm,0.8s,baz=70,slow=4.4,SNR=4.3						

MEX 17 03:06:15.6±0.7, 16°.91N×94°.58W, h182km±14km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.77**	**132**	*i* P	Pn	03 06 49.9	-0.6
PCIG				*i* S	Sn	03 07 15.1	-2.4
HUIG	**Huatulco**	**1.85**	**232**	*e*P	Pn	03 06 49.5	-1.8
HUIG				*e*S	Sn	03 07 17.5	-1.5
VHO	**Vista Hermosa**	**2.06**	**275**	*e*P	Pn	03 06 52.7	-1.1
VHO				*e*S	Sn	03 07 21.3	-2.2
TPIG	**Tehuac#an**	**3.05**	**300**	*i* P	Pn	03 07 03.8	-1.4
PNIG	**Pinotepa**	**3.44**	**262**	*e*P	Pn	03 07 08.5	-1.3
PNIG				*e*S	Sn	03 07 49.7	-2.3
TLIG	**Tlapa**	**3.86**	**280**	*e*P	Pn	03 07 14.1	-1.1
TLIG				*i* S	Sn	03 08 00.3	-1.6

IGIL ***17*** *03:09:25.0, 36°.54N×9°.94W, h30km, ML2.3*
INMG ***17*** *03:09:25.9±1.1, 36°.61N×9°.79W, h17km±4km, ML2.3, Error ellipse: s-maj=4.4km s-min=3.3km az=49.0*
CSEM ***17*** *03:09:25.5±0.4, 36°.69N×9°.72W, h20km, ML3.2/14, Error ellipse: s-maj=6.9km s-min=5.2km az=36.0*
MDD ***17*** *03:09:25.1±1.8, 36°.56N×9°.89W, h50km, mb3.9/9, Error ellipse: s-maj=16.9km s-min=12.2km az=33.0, PRXIMO*
ISC 17 03:09:21.3±2.3, 36°.55N±0°.08×9°.86W±0°.08, h10km, n66, σ1s79/124, 6C-2D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.01**	**55**	⇑P	**Pb**	**03 09 42.6**	**+1.7**
	12nm,0.1s,SNR=18						
PFVI				S	**Sg**	**03 09 55.0**	**+1.2**
	21nm,0.2s,SNR=7.7						
PFVI	**Vila Bisbo**	**1.01**	**55**	⇑*e*P	**Pb**	**03 09 42.6**	**+1.7**
PFVI				*e*S	**Sg**	**03 09 55.1**	**+1.2**
PFVI				A	A	03 09 55.9	
	33nm,0.2s						
PFVI	**Vila Bisbo**	**1.01**	**55**	P	**Pb**	**03 09 42.6**	**+1.7**
	12nm,0.1s,SNR=18						
PFVI				*e*S	**Sg**	**03 09 55.1**	**+1.2**
	33nm,0.2s						
MORF	**Marmelete**	**1.23**	**52**	P	**Pb**	**03 09 45.9**	**+1.3**
	SNR=7.9						
MORF				S	**Sb**	**03 10 00.4**	**-0.1**
	SNR=7.9						
MORF	**Marmelete**	**1.23**	**52**	*e*P	**Pb**	**03 09 45.6**	**+1.0**
MORF				*e*S	**Sb**	**03 10 00.2**	**-0.3**
MORF				A	A	03 10 01.2	
	54nm,0.1s						
MORF	**Marmelete**	**1.23**	**52**	P	**Pb**	**03 09 45.9**	**+1.3**
	SNR=7.9						
MORF				S	**Sb**	**03 10 00.4**	**-0.1**
	SNR=7.9						
PTEO	**Sao Teotonio**	**1.34**	**42**	*e*P	**Pn**	**03 09 47.1**	**+1.0**
PTEO				*e*S	**Sb**	**03 10 03.7**	**-0.1**
PTEO				A	A	03 10 04.2	
	26nm,0.3s						
PTEO	**Sao Teotonio**	**1.34**	**42**	*e*P	**Pn**	**03 09 47.1**	**+1.0**
PTEO				*e*S	**Sb**	**03 10 03.7**	**-0.1**
	26nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.69**	**65**	⇑*e*Pn	**Pn**	**03 09 52.1**	**+1.2**
PBDV				*e*Sn	**Sn**	**03 10 11.3**	**-1.4**
PBDV				A	A	03 10 22.0	
	9.9nm,0.8s						
PBDV	**Barranco-do-Ve**	**1.69**	**65**	⇑*e*Pn	**Pn**	**03 09 52.1**	**+1.2**
PBDV				*e*Sn	**Sn**	**03 10 11.3**	**-1.4**
	9.9nm,0.8s						
PCVE	**Castro Verde**	**1.81**	**53**	*e*Pn	**Pn**	**03 09 53.9**	**+1.4**
PCVE				*e*Sn	**Sn**	**03 10 14.8**	**-0.7**
PCVE				A	A	03 10 17.0	
	12nm,0.3s						
PCVE	**Castro Verde**	**1.81**	**53**	*e*Pn	**Pn**	**03 09 53.9**	**+1.4**
PCVE				*e*Sn	**Sn**	**03 10 14.8**	**-0.7**
	12nm,0.3s						
MESJ	**Messejana**	**1.83**	**45**	*e*P	**Pn**	**03 09 54.0**	**+1.1**
MESJ				*e*S	**Sn**	**03 10 14.9**	**-1.3**
MESJ				AML	AML	03 10 15.6	
	comp=E,12nm,0.1s						
MESJ	**Messejana**	**1.83**	**45**	P	**Pn**	**03 09 53.9**	**+1.1**
	SNR=7.9						
MESJ				S	**Sn**	**03 10 14.8**	**-1.3**
	SNR=7.9						
MESJ	**Messejana**	**1.83**	**45**	P	**Pn**	**03 09 53.9**	**+1.1**
	SNR=7.9						
MESJ				S	**Sn**	**03 10 14.8**	**-1.3**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**1.88**	**34**	⇓*e*Pn	**Pn**	**03 09 54.6**	**+1.1**
PNCL				*e*Sn	**Sn**	**03 10 15.9**	**-1.4**
PNCL				A	A	03 10 17.0	
	comp=E,18nm,0.1s						
PNCL	**Nicolau / Gran**	**1.88**	**34**	⇓*e*Pn	**Pn**	**03 09 54.6**	**+1.1**
PNCL				*e*Sn	**Sn**	**03 10 15.9**	**-1.4**
	comp=E,18nm,0.1s						
PVAQ	**Vaqueiros**	**1.91**	**63**	⇑*e*Pn	**Pn**	**03 09 55.0**	**+1.1**
PVAQ				*e*Sn	**Sn**	**03 10 16.8**	**-1.3**
PVAQ				A	A	03 10 18.2	
	comp=E,12nm,0.1s						
PVAQ	**Vaqueiros**	**1.91**	**63**	⇑*e*Pn	**Pn**	**03 09 55.0**	**+1.1**
PVAQ				*e*Sn	**Sn**	**03 10 16.8**	**-1.3**
	comp=E,12nm,0.1s						
EGRO	**El Granado**	**2.14**	**62**	P	**Pn**	**03 09 58.1**	**+1.1**
	comp=E,1.6nm,0.1s,SNR=11						
EGRO				S	**Sn**	**03 10 21.9**	**-1.7**
	comp=E,4.2nm,0.2s						
EGRO	**El Granado**	**2.14**	**62**	P	**Pn**	**03 09 58.1**	**+1.1**
	comp=E,1.6nm,0.1s,SNR=11						
EGRO				S	**Sn**	**03 10 21.9**	**-1.7**
	comp=E,4.2nm,0.2s						
PBEJ	**Beja**	**2.16**	**47**	*e*Pn	**Pn**	**03 09 58.2**	**+0.8**
PBEJ				*e*Sn	**Sn**	**03 10 22.8**	**-1.5**
PBEJ				A	A	03 10 23.6	
	comp=E,6.9nm,0.2s						
PBEJ	**Beja**	**2.16**	**47**	*e*Pn	**Pn**	**03 09 58.2**	**+0.8**
PBEJ				*e*Sn	**Sn**	**03 10 22.8**	**-1.5**
	comp=E,6.9nm,0.2s						
PACT	**Alcochete**	**2.35**	**20**	*e*Pn	**Pn**	**03 10 01.5**	**+1.5**
PACT				A	A	03 10 27.6	
	comp=E,14nm,0.8s						
PACT				*e*Sn	**Sn**	**03 10 29.0**	**0.0**
PACT	**Alcochete**	**2.35**	**20**	*e*Pn	**Pn**	**03 10 01.5**	**+1.5**
	comp=E,14nm,0.8s						
PACT				*e*Sn	**Sn**	**03 10 29.0**	**0.0**
PMAFR	**Mafra**	**2.44**	**11**	P	**Pn**	**03 10 02.0**	**+0.7**
	comp=E,5.3nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**03 10 29.3**	**-1.8**
	comp=E,21nm,0.2s						
PMAFR	**Mafra**	**2.44**	**11**	*e*Pn	**Pn**	**03 10 01.9**	**+0.7**
PMAFR				*e*Sn	**Sn**	**03 10 29.1**	**-2.0**
PMAFR				A	A	03 10 32.2	
	comp=E,25nm,0.2s						
PMAFR	**Mafra**	**2.44**	**11**	P	**Pn**	**03 10 02.0**	**+0.7**
	comp=E,5.3nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**03 10 29.3**	**-1.8**
	comp=E,21nm,0.2s						
EVO	**Evora**	**2.46**	**36**	*e*Pn	**Pn**	**03 10 02.2**	**+0.7**
EVO				*e*Sn	**Sn**	**03 10 29.6**	**-2.0**
EVO				A	A	03 10 30.6	
	comp=E,28nm,0.1s						
EVO	**Evora**	**2.46**	**36**	*e*Pn	**Pn**	**03 10 02.2**	**+0.7**
EVO				*e*Sn	**Sn**	**03 10 29.6**	**-2.0**
	comp=E,28nm,0.1s						
PBAR	**Barrancos**	**2.77**	**53**	*e*Pn	**Pn**	**03 10 06.5**	**+0.8**
PBAR				*e*Sn	**Sn**	**03 10 36.9**	**-2.3**
PBAR				A	A	03 10 40.3	
	comp=E,2.8nm,0.1s						
PBAR	**Barrancos**	**2.77**	**53**	*e*Pn	**Pn**	**03 10 06.5**	**+0.8**
PBAR				*e*Sn	**Sn**	**03 10 36.9**	**-2.3**
	comp=E,2.8nm,0.1s						
EMIN	**Mina Concepcio**	**2.82**	**64**	P	**Pn**	**03 10 07.0**	**+0.6**
	comp=E,0.8nm,0.1s,SNR=9.9						
EMIN				S	**Sn**	**03 10 38.3**	**-2.2**
	comp=E,1.4nm,0.1s						
EMIN	**Mina Concepcio**	**2.82**	**64**	P	**Pn**	**03 10 07.0**	**+0.6**
	comp=E,0.8nm,0.1s,SNR=9.9						
EMIN				S	**Sn**	**03 10 38.3**	**-2.2**
	comp=E,1.4nm,0.1s						
PMTG	**Montargil**	**2.82**	**27**	*e*Pn	**Pn**	**03 10 07.4**	**+0.9**
PMTG				*e*Sn	**Sn**	**03 10 38.8**	**-1.8**
PMTG				A	A	03 10 40.8	
	comp=E,7.9nm,0.3s						
PMTG	**Montargil**	**2.82**	**27**	*e*Pn	**Pn**	**03 10 07.4**	**+0.9**
PMTG				*e*Sn	**Sn**	**03 10 38.8**	**-1.8**
	comp=E,7.9nm,0.3s						
PESTR	**Estremoz**	**2.93**	**37**	*e*Pn	**Pn**	**03 10 08.4**	**+0.5**
PESTR				*e*Sn	**Sn**	**03 10 40.9**	**-2.3**
PESTR				A	A	03 10 43.5	
	comp=E,3.3nm,0.2s						
PESTR	**Estremoz**	**2.93**	**37**	*e*Pn	**Pn**	**03 10 08.4**	**+0.5**
PESTR				*e*Sn	**Sn**	**03 10 40.9**	**-2.3**
	comp=E,3.3nm,0.2s						
EBAD	**Badajoz**	**3.15**	**45**	P	**Pn**	**03 10 11.4**	**+0.4**
	comp=E,0.6nm,0.1s,SNR=9.8						
EBAD				S	**Sn**	**03 10 46.5**	**-2.1**
	comp=E,3.5nm,0.1s,SNR=9.3						
EBAD	**Badajoz**	**3.15**	**45**	P	**Pn**	**03 10 11.4**	**+0.4**
	comp=E,0.6nm,0.1s,SNR=9.8						
EBAD				S	**Sn**	**03 10 46.5**	**-2.1**
	comp=E,3.5nm,0.1s,SNR=9.3						
ESPR	**Espera**	**3.23**	**83**	P	**Pn**	**03 10 13.0**	**+0.9**
	comp=E,2.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**03 10 48.6**	**-2.0**
	comp=E,29nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.23**	**83**	P	**Pn**	**03 10 13.0**	**+0.9**
	comp=E,2.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**03 10 48.6**	**-2.0**
	comp=E,29nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.27**	**20**	*e*Pn	**Pn**	**03 10 13.5**	**+0.9**
PTOM				*e*Sn	**Sn**	**03 10 49.1**	**-2.4**
PTOM				A	A	03 10 51.6	
	comp=E,7.3nm,0.1s						
PTOM	**Tomar**	**3.27**	**20**	*e*Pn	**Pn**	**03 10 13.5**	**+0.9**
PTOM				*e*Sn	**Sn**	**03 10 49.1**	**-2.4**
	comp=E,7.3nm,0.1s						
PMRV	**Marv??o**	**3.47**	**33**	*e*Pn	**Pn**	**03 10 16.3**	**+0.9**
PMRV				*e*Sn	**Sn**	**03 10 53.8**	**-2.7**
PMRV				A	A	03 10 55.5	
	comp=E,5.4nm,0.1s						
PMRV	**Marv??o**	**3.47**	**33**	*e*Pn	**Pn**	**03 10 16.3**	**+0.9**
PMRV				*e*Sn	**Sn**	**03 10 53.8**	**-2.7**
	comp=E,5.4nm,0.1s						
PCAS	**Casmilo, Conde**	**3.65**	**17**	*e*Pn	**Pn**	**03 10 19.0**	**+1.1**
PCAS				*e*Sn	**Sn**	**03 10 58.4**	**-2.7**
PCAS				A	A	03 11 01.6	
	comp=E,2.3nm,0.2s						
PCAS	**Casmilo, Conde**	**3.65**	**17**	*e*Pn	**Pn**	**03 10 19.0**	**+1.1**
PCAS				*e*Sn	**Sn**	**03 10 58.4**	**-2.7**
	comp=E,2.3nm,0.2s						
ECAB	**El Cabril**	**3.85**	**65**	P	**Pn**	**03 10 21.6**	**+1.0**
	comp=E,0.8nm,0.2s,SNR=8.5						
ECAB				S	**Sn**	**03 11 02.8**	**-3.2**
	comp=E,0.9nm,0.2s,SNR=7.0						
ECAB

comp=E,5.5nm,0.1s
PVIS Viseu 4.43 20 *e*Pn **Pn 03 10 29.1 +0.5**
PVIS *e*Sn **Sn 03 11 16.9 -3.4**
comp=E,5.5nm,0.1s
EADA Adamuz 4.50 67 P **Pn 03 10 30.5 +0.9**
comp=E,0.5nm,0.1s,SNR=7.9
EADA S **Sn 03 11 17.9 -4.2**
comp=E,1.7nm,0.1s,SNR=7.9
EADA Adamuz 4.50 67 P **Pn 03 10 30.5 +0.9**
comp=E,0.5nm,0.1s,SNR=7.9
EADA S **Sn 03 11 17.9 -4.2**
comp=E,1.7nm,0.1s,SNR=7.9
EPLA Plasencia 4.59 39 P **Pn 03 10 31.5 +0.6**
comp=E,0.3nm,0.1s,SNR=7.9
EPLA S **Sn 03 11 20.9 -3.4**
comp=E,5.3nm,0.1s,SNR=7.9
EPLA Plasencia 4.59 39 P **Pn 03 10 31.5 +0.6**
comp=E,0.3nm,0.1s,SNR=7.9
EPLA S **Sn 03 11 20.9 -3.4**
comp=E,5.3nm,0.1s,SNR=7.9
MVO Moncorvo 5.11 25 P **Pn 03 10 38.3 +0.4**
comp=E,1.6nm,0.2s,SNR=5.8
MVO S **Sn 03 11 33.2 -3.7**
comp=E,2.4nm,0.1s,SNR=7.9
MVO Moncorvo 5.11 25 P **Pn 03 10 38.3 +0.4**
comp=E,1.6nm,0.2s,SNR=5.8
MVO S **Sn 03 11 33.2 -3.7**
comp=E,2.4nm,0.1s,SNR=7.9
EQUE Quentar 5.19 81 S **Sn 03 11 35.4 -3.6**
comp=E,0.1nm,0.2s,SNR=7.9
EQUE Quentar 5.19 81 S **Sn 03 11 35.4 -3.6**
comp=E,0.1nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.42 6 P **Pn 03 10 55.5 -0.5**
comp=E,2.1nm,0.2s,SNR=8.1
EMAZ S Sn 03 12 02.7 -6.6
comp=E,2.9nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.42 6 P **Pn 03 10 55.5 -0.5**
comp=E,2.1nm,0.2s,SNR=8.1

IDC 17 03:17:42.2±1.4, 11°98N×86°43W, h0km, mb3.3/3, mb1 3.8/4, mb1mx3.6/22, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=81.1km s-min=13.1km az=52.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.22**	**139**	Pn	Pn	03 18 19.0	-1.3
	13nm,0.3s,baz=317,slow=15,SNR=38						
JTS				Pg	Pb	03 18 22.0	-1.3
	15nm,0.3s,baz=320,slow=16,SNR=37						
JTS				Lg	Lg	03 18 54.8	
	6.9nm,0.3s,baz=197,slow=22,SNR=2.4						
TXAR	**Lajitas Array**	**23.57**	**320**	P	P	03 22 54.8	+0.1
	0.6nm,0.7s,baz=134,slow=10,SNR=9.8						
PDAR	**Pinedale Array**	**36.66**	**331**	P	P	03 24 51.4	+0.5
	0.3nm,0.5s,baz=138,slow=9.8,SNR=3.0						
YKA	**Yellowknife Ar**	**54.33**	**344**	P	P	03 27 09.8	-0.5
	0.3nm,0.7s,baz=139,slow=7.1,SNR=6.0						

IDC 17 03:33:26.1±1.4, 1°51N×127°08E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=139.7km s-min=20.5km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.48**	**162**	P	P	03 38 27.5	+0.3
	0.9nm,0.4s,baz=341,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.89**	**166**	P	P	03 38 59.7	-0.3
	0.2nm,0.3s,baz=356,slow=9.5,SNR=3.8						
SONM	**Songino Array**	**49.50**	**342**	P	P	03 42 18.7	+0.2
	0.2nm,0.6s,baz=152,slow=9.5,SNR=3.9						
MKAR	**Makanchi Array**	**59.57**	**326**	P	P	03 43 31.3	-0.3
	0.5nm,0.4s,baz=117,slow=7.5,SNR=20						

IDC 17 03:42:26.4±8.5, 6°91N×125°20E, h306km±88km, mb3.1/5, mb1 3.3/5, mb1mx3.0/25, mbtmp3.1/5, Error ellipse: s-maj=52.1km s-min=19.6km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.86**	**179**	P	P	03 47 22.8	+0.9
	0.9nm,0.3s,baz=24,slow=8.8,SNR=7.8						
WRA	**Warramunga Arr**	**28.16**	**162**	P	P	03 47 50.4	-0.9
	0.3nm,0.7s,baz=338,slow=9.9,SNR=4.4						
ASAR	**Alice Springs**	**31.56**	**165**	P	P	03 48 21.0	-0.2
	0.8nm,0.4s,baz=342,slow=6.8,SNR=14						
MKAR	**Makanchi Array**	**54.10**	**325**	P	P	03 51 20.1	-0.2
	0.4nm,0.3s,baz=118,slow=6.9,SNR=19						
ILAR	**Eielson Array**	**82.91**	**26**	P	P	03 54 17.1	+0.1
	0.3nm,0.7s,baz=248,slow=4.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**120.46**	**290**	PKP	PKPdf	04 00 42.4	-0.2
	0.4nm,0.9s,baz=73,slow=1.5,SNR=3.2						

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*ISCJB **17** 03:43:31.3±0.2, 43°58N±0°02×12°97E±0°02, h66km±3km, Error ellipse: s-maj=2.5km s-min=2.2km az=179.5*
*GEN **17** 03:43:31.7, 43°44N×12°99E, h13km, ML3.3*
*LDG **17** 03:43:31.9±0.1, 43°55N×13°06E, h30km, Ml3.3/15, Error ellipse: s-maj=2.9km s-min=2.3km az=156.0*
*BEO **17** 03:43:32.1±3.5, 43°43N×12°80E, h46km±4km, ML3.5/8*
*ROM **17** 03:43:33.1±0.1, 43°53N×12°98E, h35km, Ml3.3/34, Error ellipse: s-maj=1.9km s-min=1.2km az=44.0*
*PRU **17** 03:43:33.0, 43°67N×13°18E, h17km*
*CSEM **17** 03:43:33.0±0.1, 43°57N×12°98E, h40km, ML3.9/17, Error ellipse: s-maj=2.4km s-min=2.2km az=11.0*
*VIE **17** 03:43:35.8±0.4, 43°96N×13°06E, h10km, mb2.5/15, ML3.1/17, Error ellipse: s-maj=3.2km s-min=2.4km az=5.0*
48 km E of San Marino

ISC 17 03:43:31.2±1.0, 43°56N±0°02×13°00E±0°02, h44km±4km, n214, σ1§94/309, 24C-16D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARVD	**Arcevia**	**0.07**	**215**	Pg	**Pn**	**03 43 38.6**	**+0.3**
ARVD				Sg	**Sn**	**03 43 43.4**	**+0.2**
	7µm,0.3s						
ARVD	**Arcevia**	**0.07**	**215**	Pg	**Pn**	**03 43 38.6**	**+0.3**
ARVD				Sg	**Sn**	**03 43 43.4**	**+0.2**
	7µm,0.3s						
FSSB	**Fossombrone**	**0.21**	**310**	Pg	**Pn**	**03 43 39.9**	**+0.8**
FSSB				Sg	**Sn**	**03 43 45.7**	**+1.1**
	15µm,0.4s						
FSSB	**Fossombrone**	**0.21**	**310**	Pg	**Pn**	**03 43 39.9**	**+0.8**
FSSB				Sg	**Sn**	**03 43 45.7**	**+1.1**
	15µm,0.4s						
SENI	**Senigallia**	**0.23**	**49**	⇓*i*Pg	**Pn**	**03 43 41.0**	**+1.9**
	2µm,0.5s						
SENI	**Senigallia**	**0.23**	**49**	⇓*i*Pg	**Pn**	**03 43 41.0**	**+1.9**
	2µm,0.5s						
CING	**Cingoli**	**0.23**	**141**	⇑*i*Pg	**Pn**	**03 43 40.2**	**+0.9**
CING				Sg	**Sn**	**03 43 45.8**	**+0.9**
CING	**Cingoli**	**0.23**	**141**	⇑*i*Pg	**Pn**	**03 43 40.2**	**+0.9**
CING				Sg	**Sn**	**03 43 45.8**	**+0.9**
PIEI	**Pieia**	**0.34**	**267**	⇓*i*Pg	**Pn**	**03 43 40.8**	**+0.5**
PIEI				Sg	**Sn**	**03 43 47.5**	**+0.8**
	2µm,0.4s						
PIEI	**Pieia**	**0.34**	**267**	⇓*i*Pg	**Pn**	**03 43 40.8**	**+0.5**
PIEI				Sg	**Sn**	**03 43 47.5**	**+0.8**
	2µm,0.4s						
AOI	**Ancona**	**0.44**	**91**	Pg	**Pn**	**03 43 43.3**	**+1.9**
AOI				Sg	**Sn**	**03 43 51.6**	**+3.0**
	3µm,0.4s						
AOI	**Ancona**	**0.44**	**91**	Pg	**Pn**	**03 43 43.3**	**+1.9**
AOI				Sg	**Sn**	**03 43 51.6**	**+3.0**
	3µm,0.4s						
MURB	**Monte Urbino**	**0.45**	**230**	Pg	**Pn**	**03 43 42.5**	**+0.9**
MURB				Sg	**Sn**	**03 43 50.7**	**+1.7**
	8µm,0.3s						
MURB	**Monte Urbino**	**0.45**	**230**	Pg	**Pn**	**03 43 42.5**	**+0.9**
MURB				Sg	**Sn**	**03 43 50.7**	**+1.7**
	8µm,0.3s						
FDMO	**Fiordimonte**	**0.52**	**173**	Pg	**Pn**	**03 43 43.5**	**+1.0**
FDMO				Sg	**Sn**	**03 43 52.6**	**+2.1**
	1µm,0.2s						
FDMO	**Fiordimonte**	**0.52**	**173**	Pg	**Pn**	**03 43 43.5**	**+1.0**
FDMO				Sg	**Sn**	**03 43 52.6**	**+2.1**
	1µm,0.2s						
RSM	**Repubblica di**	**0.55**	**313**	Pg	**Pn**	**03 43 44.8**	**+2.0**
	925nm,0.8s						
RSM	**Repubblica di**	**0.55**	**313**	Pg	**Pn**	**03 43 44.8**	**+2.0**
	925nm,0.8s						
BADI	**Badiali**	**0.55**	**265**	Pg	**Pn**	**03 43 44.2**	**+1.4**
BADI				Sg	**Sn**	**03 43 53.6**	**+2.5**
	3µm,0.4s						
BADI	**Badiali**	**0.55**	**265**	Pg	**Pn**	**03 43 44.2**	**+1.4**
BADI				Sg	**Sn**	**03 43 53.6**	**+2.5**
	3µm,0.4s						
CESI	**CESI - Serrava**	**0.56**	**187**	Pg	**Pn**	**03 43 44.0**	**+1.1**
CESI				Sg	**Sn**	**03 43 53.3**	**+2.0**
	798nm,0.4s						
CESI	**CESI - Serrava**	**0.56**	**187**	Pg	**Pn**	**03 43 44.0**	**+1.1**
CESI				Sg	**Sn**	**03 43 53.3**	**+2.0**
	798nm,0.4s						
CDCA	**Citt' di Caste**	**0.56**	**260**	Pg	**Pn**	**03 43 44.5**	**+1.5**
	1µm,0.6s						
CDCA	**Citt' di Caste**	**0.56**	**260**	Pg	**Pn**	**03 43 44.5**	**+1.5**
	1µm,0.6s						
NRCA	**Norcia**	**0.73**	**173**	Pg	**Pn**	**03 43 46.7**	**+1.5**
NRCA				Sg	**Sn**	**03 43 58.3**	**+3.0**
	1µm,0.2s						
NRCA	**Norcia**	**0.73**	**173**	Pg	**Pn**	**03 43 46.7**	**+1.5**
NRCA				Sg	**Sn**	**03 43 58.3**	**+3.0**
	1µm,0.2s						
CRE	**Caprese Michel**	**0.76**	**275**	Pg	**Pn**	**03 43 48.0**	**+2.3**
	448nm,0.4s						
CRE	**Caprese Michel**	**0.76**	**275**	Pg	**Pn**	**03 43 48.0**	**+2.3**
	448nm,0.4s						
CAFI	**Castiglion Fio**	**0.79**	**254**	Pg	**Pn**	**03 43 48.1**	**+2.2**
CAFI				Sg	**Sn**	**03 44 00.0**	**+3.4**
	1µm,0.7s						
CAFI	**Castiglion Fio**	**0.79**	**254**	Pg	**Pn**	**03 43 48.1**	**+2.2**
CAFI				Sg	**Sn**	**03 44 00.0**	**+3.4**
	1µm,0.7s						
OFFI	**Offida**	**0.80**	**141**	Pg	**Pn**	**03 43 48.9**	**+2.8**
	2µm,0.5s						
OFFI	**Offida**	**0.80**	**141**	Pg	**Pn**	**03 43 48.9**	**+2.8**
	2µm,0.5s						
GUMA	**Gualdo di Mace**	**0.84**	**125**	⇓*i*Pg	**Pn**	**03 43 44.7**	**-2.0**
GUMA				Sg	**Sn**	**03 43 53.3**	**-4.7**
	9µm,0.5s						
SFI	**Santa Sofia**	**0.90**	**293**	Pg	**Pn**	**03 43 50.2**	**+2.6**
	548nm,0.5s						
SFI	**Santa Sofia**	**0.90**	**293**	Pg	**Pn**	**03 43 50.2**	**+2.6**
	548nm,0.5s						
ASQU	**Asqua**	**0.91**	**286**	Pg	**Pn**	**03 43 50.3**	**+2.6**
ASQU				Sg	**Sn**	**03 44 02.9**	**+3.2**
	870nm,0.8s						
ASQU	**Asqua**	**0.91**	**286**	Pg	**Pn**	**03 43 50.3**	**+2.6**
ASQU				Sg	**Sn**	**03 44 02.9**	**+3.2**
	870nm,0.8s						
LNSS	**Leonessa**	**0.95**	**178**	Pg	**Pn**	**03 43 50.4**	**+2.1**
	965nm,0.3s						
LNSS	**Leonessa**	**0.95**	**178**	Pg	**Pn**	**03 43 50.4**	**+2.1**
	965nm,0.3s						
SMA1	**SAN MARTINO**	**0.96**	**165**	Pg	**Pn**	**03 43 50.5**	**+2.1**
	934nm,0.2s						
CESX	**Cesi**	**0.99**	**198**	Pg	**Pn**	**03 43 50.9**	**+2.1**
	1µm,0.5s						
CESX	**Cesi**	**0.99**	**198**	Pg	**Pn**	**03 43 50.9**	**+2.1**
	1µm,0.5s						
RM29	**Verrico (Monte**	**1.01**	**171**	Pg	**Pn**	**03 43 51.4**	**+2.4**
	459µm,15.0s						
TERO	**Teramo**	**1.03**	**154**	Pg	**Pn**	**03 43 51.3**	**+2.0**
	663nm,0.5s						
TERO	**Teramo**	**1.03**	**154**	Pg	**Pn**	**03 43 51.3**	**+2.0**
	663nm,0.5s						
SACS	**San Casciano d**	**1.06**	**229**	Pg	**Pn**	**03 43 51.8**	**+2.0**
SACS				Sg	**Sn**	**03 44 06.7**	**+3.3**
	514nm,0.7s						
VMG	**Vicchio**	**1.13**	**292**	Pn	Pn	03 43 54.2	+3.6
	199nm,0.5s						
VMG	**Vicchio**	**1.13**	**292**	Pn	Pn	03 43 54.2	+3.6
	199nm,0.5s						
MNS	**Montasola**	**1.19**	**191**	Pn	**Pn**	**03 43 53.5**	**+2.0**
	441nm,0.4s						
MNS	**Montasola**	**1.19**	**191**	Pn	**Pn**	**03 43 53.5**	**+2.0**
	441nm,0.4s						
T0104	**Madonna delle**	**1.22**	**168**	Pg	**Pn**	**03 43 54.6**	**+2.7**
CSNT	**Castellina Chi**	**1.25**	**267**	Pn	**Pn**	**03 43 54.2**	**+2.0**
	320nm,1.0s						
CSNT	**Castellina Chi**	**1.25**	**267**	Pn	**Pn**	**03 43 54.2**	**+2.0**
	320nm,1.0s						
FIAM	**Fiamignano**	**1.29**	**176**	Pg	**Pn**	**03 43 55.0**	**+2.1**
	319nm,0.6s						
FIAM	**Fiamignano**	**1.29**	**176**	Pg	**Pn**	**03 43 55.0**	**+2.1**
	319nm,0.6s						
VCEL	**Villa Celiera**	**1.32**	**152**	Pn	**Pn**	**03 43 55.3**	**+2.0**
	425nm,0.6s						
VCEL	**Villa Celiera**	**1.32**	**152**	Pn	**Pn**	**03 43 55.3**	**+2.0**
	425nm,0.6s						
ARCI	**Arcidosso**	**1.32**	**238**	Pg	**Pn**	**03 43 55.1**	**+1.8**
	123nm,0.7s						
ARCI	**Arcidosso**	**1.32**	**238**	Pg	**Pn**	**03 43 55.1**	**+1.8**
	123nm,0.7s						
FAGN	**Fagnano**	**1.36**	**161**	Pg	**Pn**	**03 43 56.1**	**+2.3**
	674nm,0.6s						
FAGN	**Fagnano**	**1.36**	**161**	Pg	**Pn**	**03 43 56.1**	**+2.3**
	674nm,0.6s						
MTRZ	**Monterenzio**	**1.38**	**307**	Pn	Pn	03 43 57.6	+3.6
MTRZ	**Monterenzio**	**1.38**	**307**	Pn	Pn	03 43 57.6	+3.6
FNVD	**Fontana Vidola**	**1.49**	**295**	Pn	Pn	03 43 59.6	+4.0
FNVD	**Fontana Vidola**	**1.49**	**295**	Pn	Pn	03 43 59.6	+4.0
GRFL	**Gerfalco**	**1.53**	**255**	Pn	**Pn**	**03 43 58.0**	**+1.9**
	34nm,0.7s						
GRFL	**Gerfalco**	**1.53**	**255**	Pn	**Pn**	**03 43 58.0**	**+1.9**
	34nm,0.7s						
MTCE	**Montecelio**	**1.54**	**187**	Pn	**Pn**	**03 43 58.4**	**+2.1**
	109nm,0.4s						
MTCE	**Montecelio**	**1.54**	**187**	Pn	**Pn**	**03 43 58.4**	**+2.1**
	109nm,0.4s						
CERT	**Cerreto**	**1.61**	**180**	Pn	**Pn**	**03 43 59.1**	**+1.9**
	170nm,0.4s						
CERT	**Cerreto**	**1.61**	**180**	Pn	**Pn**	**03 43 59.1**	**+1.9**
	170nm,0.4s						
INTR	**Introdacqua**	**1.68**	**156**	Pn	**Pn**	**03 43 59.7**	**+1.5**
	257nm,0.8s						
INTR	**Introdacqua**	**1.68**	**156**	Pn	**Pn**	**03 43 59.7**	**+1.5**
	257nm,0.8s						
NVLJ	**Novalja**	**1.68**	**53**	*i* Pn	**Pn**	**03 43 59.7**	**+1.6**
NVLJ				*i* Sn	**Sn**	**03 44 19.9**	**+1.4**
CASP	**Castiglione de**	**1.74**	**245**	Pn	**Pn**	**03 44 00.1**	**+1.2**
	87nm,0.4s						
CASP	**Castiglione de**	**1.74**	**245**	Pn	**Pn**	**03 44 00.1**	**+1.2**
	87nm,0.4s						
LPEL	**Lama dei Pelig**	**1.74**	**150**	Pn	**Pn**	**03 44 01.0**	**+1.9**
	150nm,0.6s						
LPEL	**Lama dei Pelig**	**1.74**	**150**	Pn	**Pn**	**03 44 01.0**	**+1.9**
	150nm,0.6s						
PII	**Pisa**	**1.80**	**276**	Pn	**Pn**	**03 44 01.5**	**+1.7**
	29nm,0.2s						
PII	**Pisa**	**1.80**	**276**	Pn	**Pn**	**03 44 01.5**	**+1.7**
	29nm,0.2s						
BDI	**Bagni Di Lucca**	**1.81**	**287**	Pn	**Pn**	**03 44 02.1**	**+2.1**
BDI	**Bagni Di Lucca**	**1.81**	**287**	Pn	**Pn**	**03 44 02.1**	**+2.1**
MAIM	**Mastiano**	**1.85**	**282**	P	**Pn**	**03 44 02.1**	**+1.6**
MAIM				S	**Sn**	**03 44 23.1**	**+0.4**
SKDS	**Skadanscina**	**2.12**	**20**	*i* Pn	**Pn**	**03 44 05.5**	**+1.2**
SKDS				*i* Sn	**Sn**	**03 44 30.4**	**+1.1**
	comp=Z,46nm,0.1s						
SKDS	**Skadanscina**	**2.12**	**20**	*i* Pn	**Pn**	**03 44 05.4**	**+1.2**
SKDS				*i* Sn	**Sn**	**03 44 30.4**	**+1.1**
	comp=Z,46nm,0.1s						
KNDS	**Knezji Dol**	**2.21**	**26**	*i* Pn	**Pn**	**03 44 07.3**	**+1.9**
KNDS				*e*Sn	**Sn**	**03 44 34.0**	**+2.5**
KNDS							
	comp=Z,43nm,0.1s						
KNDS	**Knezji Dol**	**2.21**	**26**	*i* Pn	**Pn**	**03 44 07.3**	**+1.9**
KNDS				*e*Sn	**Sn**	**03 44 34.0**	**+2.5**
	comp=Z,43nm,0.1s						
UDBI	**Udbina**	**2.22**	**63**	*i* Pn	**Pn**	**03 44 08.4**	**+2.8**
UDBI				Sn	**Sn**	**03 44 34.8**	**+2.9**
UDBI	**Udbina**	**2.22**	**63**	*i* Pn	**Pn**	**03 44 08.3**	**+2.8**
UDBI				Sn	**Sn**	**03 44 34.7**	**+2.9**
GBRS	**Gornja Briga**	**2.36**	**33**	*i* Pn	**Pn**	**03 44 09.7**	**+2.2**
GBRS				*i* Sn	**Sn**	**03 44 38.2**	**+2.9**
CEY	**Cerknica**	**2.41**	**25**	*i* Pn	**Pn**	**03 44 09.8**	**+1.6**
CEY				*i* Sn	**Sn**	**03 44 39.0**	**+2.6**
CEY							
	comp=Z,54nm,0.2s						
CEY	**Cerknica**	**2.41**	**25**	*i* Pn	**Pn**	**03 44 09.8**	**+1.6**
CEY				*i* Sn	**Sn**	**03 44 39.0**	**+2.6**
	comp=Z,54nm,0.2s						
JAVS	**Javornik**	**2.46**	**18**	*e*Pn	**Pn**	**03 44 10.2**	**+1.3**
JAVS				*i* Sn	**Sn**	**03 44 39.5**	**+1.8**
JAVS	**Javornik**	**2.46**	**18**	*e*Pn	**Pn**	**03 44 10.2**	**+1.3**
JAVS				*i* Sn	**Sn**	**03 44 39.5**	**+1.8**
VOY	**Vojsko**	**2.56**	**14**	*e*Pn	**Pn**	**03 44 11.7**	**+1.5**
VOY				*e*		03 44 26.7	
VOY				*e*Sn	**Sn**	**03 44 41.3**	**+1.2**
VOY	**Vojsko**	**2.56**	**14**	*e*Pn	**Pn**	**03 44 11.7**	**+1.5**
VOY				*e*Sn	**Sn**	**03 44 41.3**	**+1.2**
VISS	**Visnje**	**2.60**	**30**	*e*Pn	**Pn**	**03 44 12.9**	**+2.1**
VISS				*e*Sn	**Sn**	**03 44 43.8**	**+2.6**
VISS	**Visnje**	**2.60**	**30**	*e*Pn	**Pn**	**03 44 12.9**	**+2.1**
VISS				*e*Sn	**Sn**	**03 44 43.8**	**+2.6**
SC2M	**Scurtabo**	**2.64**	**290**	P	**Pn**	**03 44 13.9**	**+2.6**
SC2M				S	**Sn**	**03 44 41.6**	**-0.5**
DDS	**Dosso del Somm**	**2.66**	**332**	*e*Pn	**Pn**	**03 44 13.0**	**+1.3**
LJU	**Ljubljana**	**2.71**	**23**	*e*Pn	**Pn**	**03 44 14.5**	**+2.2**
LJU				*e*Pg		03 44 24.5	
LJU				*e*Sn	**Sn**	**03 44 46.7**	**+2.8**
PANI	**Panarotta**	**2.77**	**335**	*e*Pn	**Pn**	**03 44 14.7**	**+1.5**
MS1	**Monte Sant'Ang**	**2.85**	**129**	*e*Pn	**Pn**	**03 44 15.9**	**+1.6**
PGF	**Pioggiola**	**3.10**	**252**	*e*P	**Pn**	**03 44 20.1**	**+2.4**
PGF				*e*Sn	**Sn**	**03 44 53.0**	**-0.5**
	comp=Z,14nm,0.4s						
PGF	**Pioggiola**	**3.10**	**252**	*e*P	**Pn**	**03 44 20.1**	**+2.4**
PGF				*e*Sn	**Sn**	**03 44 53.0**	**-0.5**
	comp=Z,6.8nm,0.4s						
MYKA	**Terra Mystica**	**3.11**	**8**	⇓*i*Pn	**Pn**	**03 44 19.7**	**+1.9**
MYKA				⇑*i*Sn	**Sn**	**03 44 52.7**	**-1.0**
MYKA	**Terra Mystica**	**3.11**	**8**	Pn	**Pn**	**03 44 19.7**	**+1.9**
MYKA				Sn	**Sn**	**03 44 52.7**	**-1.0**
OBKA	**Obir**	**3.15**	**20**	⇓*i*Pn	**Pn**	**03 44 20.0**	**+1.6**
OBKA				⇑*i*Sn	**Sn**	**03 44 53.9**	**-0.9**
OBKA	**Obir**	**3.15**	**20**	Pn	**Pn**	**03 44 20.0**	**+1.6**
OBKA				Sn	**Sn**	**03 44 53.9**	**-0.9**
ABTA	**Abfaltersbach**	**3.21**	**354**	⇑*e*Pn	**Pn**	**03 44 21.4**	**+2.2**
	SNR=27						
ABTA				⇓*i*Sn	**Sn**	**03 44 56.5**	**+0.3**
ABTA	**Abfaltersbach**	**3.21**	**354**	Pn	**Pn**	**03 44 21.4**	**+2.2**
	SNR=27						
ABTA				Sn	**Sn**	**03 44 56.5**	**+0.3**
BLY	**Banja Luka**	**3.24**	**67**	*e*Pn	**Pn**	**03 44 22.1**	**+2.6**
BLY				*e*Sn	**Sn**	**03 45 01.0**	**+4.2**
BLY	**Banja Luka**	**3.24**	**67**	*e*Pn	**Pn**	**03 44 22.1**	**+2.6**
BLY				*e*Sn	**Sn**	**03 45 01.0**	**+4.2**
PCP	**Piancastagn**	**3.36**	**289**	P	**Pn**	**03 44 23.4**	**+2.2**
PCP				S	**Sn**	**03 44 58.2**	**-1.6**
CDT	**Castel del Mon**	**3.47**	**134**	*e*Pn	**Pn**	**03 44 23.6**	**+0.9**
CDT				*e*Sn	**Sn**	**03 45 00.5**	**-2.0**
KBA	**Koelnbreinsper**	**3.53**	**4**	⇑*i*Pn	**Pn**	**03 44 25.9**	**+2.2**
	SNR=4.4						
KBA				⇑*i*Sn	**Sn**	**03 45 04.0**	**-0.2**
KBA	**Koelnbreinsper**	**3.53**	**4**	Pn	**Pn**	**03 44 25.9**	**+2.2**
	SNR=4.4						
KBA				Sn	**Sn**	**03 45 04.0**	**-0.2**
BAI	**Bari**	**3.78**	**129**	*e*Pn	**Pn**	**03 44 27.9**	**+1.0**
BAI				*e*Sn	**Sn**	**03 45 07.1**	**-3.0**
FETA	**Feichten**	**3.82**	**336**	⇑*i*Pn	**Pn**	**03 44 30.3**	**+2.7**
	SNR=6.5						
FETA				⇑*i*Sn	**Sn**	**03 45 12.6**	**+1.3**
FETA	**Feichten**	**3.82**	**336**	Pn	**Pn**	**03 44 30.3**	**+2.7**
	SNR=6.5						
FETA				Sn	**Sn**	**03 45 12.6**	**+1.3**
WTTA	**Wattenberg**	**3.83**	**346**	⇓*i*Pn	**Pn**	**03 44 29.7**	**+1.9**
WTTA				⇑*i*Sn	**Sn**	**03 45 11.5**	**-0.1**
WTTA	**Wattenberg**	**3.83**	**346**	Pn	**Pn**	**03 44 29.7**	**+1.9**
WTTA				Sn	**Sn**	**03 45 11.5**	**-0.1**
WATA	**Walderalm**	**3.91**	**346**	⇓*i*Pn	**Pn**	**03 44 31.5**	**+2.6**
WATA	**Walderalm**	**3.91**	**346**	Pn	**Pn**	**03 44 31.5**	**+2.6**
TREB	**Trebinje**	**4.01**	**100**	⇓*i*Pn	**Pn**	**03 44 32.1**	**+2.0**
TREB				*i* Sn	**Sn**	**03 45 16.9**	**+1.2**
TREB	**Trebinje**	**4.01**	**100**	⇓*i*Pn	**Pn**	**03 44 32.1**	**+2.0**
TREB				*i* Sn	**Sn**	**03 45 16.9**	**+1.2**
MOTA	**Moosalm**	**4.02**	**341**	⇑*i*Pn	**Pn**	**03 44 32.8**	**+2.5**
MOTA	**Moosalm**	**4.02**	**341**	Pn	**Pn**	**03 44 32.8**	**+2.5**
SBF	**Sospel**	**4.04**	**276**	*e*Pn	**Pn**	**03 44 31.6**	**+0.9**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**03 45 15.6**	**-1.2**
	comp=Z,26nm,0.4s,SNR=1.0						
SBF	**Sospel**	**4.04**	**276**	*e*Pn	**Pn**	**03 44 31.6**	**+0.9**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**03 45 15.6**	**-1.2**
	comp=Z,13nm,0.4s,SNR=1.0						
ARSA	**Arzberg**	**4.10**	**25**	⇑*i*Pn	**Pn**	**03 44 33.0**	**+1.6**
ARSA				⇓*i*Sn	**Sn**	**03 45 18.0**	**-0.1**
ARSA	**Arzberg**	**4.10**	**25**	Pn	**Pn**	**03 44 33.0**	**+1.6**
ARSA				Sn	**Sn**	**03 45 18.0**	**-0.1**
RETA	**Reutte**	**4.23**	**339**	⇓*i*Pn	**Pn**	**03 44 36.0**	**+2.8**
	SNR=8.0						
RETA				⇑*i*Sn	**Sn**	**03 45 22.2**	**+0.8**
RETA	**Reutte**	**4.23**	**339**	Pn	**Pn**	**03 44 36.0**	**+2.8**
	SNR=8.0						
RETA				Sn	**Sn**	**03 45 22.2**	**+0.8**
TRAV	**Traversella**	**4.23**	**299**	P	**Pn**	**03 44 33.2**	**0.0**
PE1	**Pezze di Greco**	**4.29**	**128**	*e*Pn	**Pn**	**03 44 35.0**	**+1.1**
PE1				*e*Sn	**Sn**	**03 45 20.6**	**-2.0**
DAVA	**Damuels**	**4.33**	**331**	⇑*i*

ORIF	**Oris-en-Rattie**	**5.29**	**287**	*e*Pn	**Pn**	**03 44 50.3**	**+2.5**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**5.29**	**287**	*e*Pn	**Pn**	**03 44 50.3**	**+2.5**
	SNR=1.0						
SMRF	**Simiane la Rot**	**5.39**	**277**	*e*P	Pn	03 44 53.0	+3.9
	SNR=1.0						
SMRF	**Simiane la Rot**	**5.39**	**277**	*e*P	Pn	03 44 53.0	+3.9
	SNR=1.0						
KHC	**Kasperske Hory**	**5.59**	**4**	*e*PN	**Pn**	**03 44 52.9**	**+1.1**
KHC				*ex*	x	03 44 58.0	
KHC				*ex*	x	03 44 59.7	
KHC				*e*SN	**Sn**	**03 45 53.9**	**-0.8**
KHC	**Kasperske Hory**	**5.59**	**4**	Pn	**Pn**	**03 44 52.9**	**+1.1**
KHC				Sn	**Sn**	**03 45 53.9**	**-0.8**
GRUS	**Gruza**	**5.60**	**84**	*e*Pn	**Pn**	**03 44 54.0**	**+2.0**
GRUS				*e*Sn	**Sn**	**03 45 54.7**	**-0.3**
GRUS	**Gruza**	**5.60**	**84**	*e*Pn	**Pn**	**03 44 54.0**	**+2.0**
GRUS				*e*Sn	**Sn**	**03 45 54.7**	**-0.3**
CABF	**La Chapelle**	**5.77**	**304**	*e*Pn	**Pn**	**03 44 55.4**	**+1.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**03 45 56.1**	**-3.1**
	comp=Z,5.5nm,0.5s						
CABF	**La Chapelle**	**5.77**	**304**	*e*Pn	**Pn**	**03 44 55.4**	**+1.1**
	SNR=1.0						
TREC	**Trest**	**5.99**	**16**	*e*PN	**Pn**	**03 44 58.2**	**+0.9**
TREC				*e*SN	**Sn**	**03 46 02.6**	**-2.0**
TREC	**Trest**	**5.99**	**16**	Pn	**Pn**	**03 44 58.2**	**+0.9**
HINF	**Hinteralfeld**	**6.05**	**317**	*e*Pn	**Pn**	**03 44 58.6**	**+0.4**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**03 46 03.2**	**-3.0**
	comp=Z,11nm,0.3s						
HINF	**Hinteralfeld**	**6.05**	**317**	*e*Pn	**Pn**	**03 44 58.6**	**+0.4**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**6.12**	**285**	*e*Pn	**Pn**	**03 45 00.0**	**+0.9**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**6.12**	**285**	*e*Pn	**Pn**	**03 45 00.0**	**+0.9**
	SNR=1.0						
CDF	**Champ du Feu**	**6.28**	**323**	*e*Pn	**Pn**	**03 45 02.7**	**+1.4**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**03 46 08.6**	**-3.2**
	comp=Z,6.2nm,0.4s						
CDF	**Champ du Feu**	**6.28**	**323**	*e*Pn	**Pn**	**03 45 02.7**	**+1.4**
	SNR=1.0						
SKO	**Skopje**	**6.41**	**101**	*e*Pn	**Pn**	**03 45 05.5**	**+2.4**
HAU	**Haudompre**	**6.43**	**316**	*e*Pn	**Pn**	**03 45 04.0**	**+0.6**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**03 46 11.8**	**-3.7**
	comp=Z,26nm,0.4s						
HAU	**Haudompre**	**6.43**	**316**	*e*Pn	**Pn**	**03 45 04.0**	**+0.6**
	SNR=1.0						
PRU	**Pruhonice**	**6.52**	**9**	*e*PN	**Pn**	**03 45 05.9**	**+1.4**
PRU				*e*SN	**Sn**	**03 46 14.6**	**-2.9**
PRU	**Pruhonice**	**6.52**	**9**	Pn	**Pn**	**03 45 05.9**	**+1.4**
BIA	**Bitola**	**6.67**	**109**	*e*Pn	**Pn**	**03 45 08.4**	**+1.6**
NKC	**Novy Kostel**	**6.69**	**357**	*e*SN	**Sn**	**03 46 19.8**	**-1.9**
PAGF	**Fort de Pagny**	**7.11**	**317**	*e*P	Pn	03 45 17.0	+4.4
	baz=131						
PAGF				*e*Sn	**Sn**	**03 46 28.2**	**-3.9**
	comp=Z,1.0nm,0.4s						
PAGF	**Fort de Pagny**	**7.11**	**317**	*e*P	Pn	03 45 17.0	+4.4
SMF	**Signal de Mont**	**7.18**	**299**	*e*Pn	**Pn**	**03 45 13.9**	**+0.3**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**03 46 29.1**	**-4.6**
	comp=Z,8.1nm,0.5s						
SMF	**Signal de Mont**	**7.18**	**299**	*e*Pn	**Pn**	**03 45 13.9**	**+0.3**
	SNR=1.0						
SFTF	**Sexfontaines**	**7.24**	**313**	*e*Pn	**Pn**	**03 45 14.6**	**+0.2**
	baz=131						
SFTF	**Sexfontaines**	**7.24**	**313**	*e*Pn	**Pn**	**03 45 14.6**	**+0.2**
MEZF	**Maizieres J'vi**	**7.42**	**315**	*e*Sn	Sn	03 46 34.6	-5.0
	comp=Z,5.0nm,0.5s,SNR=1.0						
LOR	**Lormes**	**7.42**	**303**	*e*Pn	**Pn**	**03 45 17.4**	**+0.5**
	baz=123,SNR=1.0						
LOR				*e*Sn	**Sn**	**03 46 35.7**	**-4.1**
	comp=Z,8.1nm,0.4s						
LOR	**Lormes**	**7.42**	**303**	*e*Pn	**Pn**	**03 45 17.4**	**+0.5**
	SNR=1.0						
VAY	**Valandovo**	**7.42**	**104**	*e*Pn	**Pn**	**03 45 18.9**	**+2.0**
VTS	**Vitosha**	**7.54**	**94**	*e*Sn	**Sn**	**03 46 40.7**	**-2.1**
AVF	**Avril sur Loir**	**7.54**	**299**	*e*Pn	**Pn**	**03 45 18.6**	**0.0**
	SNR=1.0						
AVF	**Avril sur Loir**	**7.54**	**299**	*e*Pn	**Pn**	**03 45 18.6**	**0.0**
	SNR=1.0						
SSF	**Saint Saulge**	**7.55**	**301**	*e*Pn	**Pn**	**03 45 17.3**	**-1.4**
	SNR=1.0						
CLL	**Collm**	**7.75**	**0**	*e*Sn	**Sn**	**03 46 47.0**	**-0.8**
CLL				*e*Sg		03 47 53.0	
BGF	**Bois d'Agland**	**7.79**	**296**	*e*Pn	**Pn**	**03 45 22.1**	**+0.2**
	SNR=1.0						
BGF	**Bois d'Agland**	**7.79**	**296**	*e*Pn	**Pn**	**03 45 22.1**	**+0.2**
	SNR=1.0						
MTLF	**Montolieu**	**7.85**	**272**	*e*Pn	**Pn**	**03 45 23.3**	**+0.5**
MTLF	**Montolieu**	**7.85**	**272**	*e*Pn	**Pn**	**03 45 23.3**	**+0.5**
CAF	**Calviac**	**7.97**	**284**	*e*Pn	**Pn**	**03 45 26.2**	**+1.7**
CAF	**Calviac**	**7.97**	**284**	*e*Pn	**Pn**	**03 45 26.2**	**+1.7**
TCF	**Toulx Ste Croi**	**8.13**	**293**	*e*Pn	**Pn**	**03 45 26.1**	**-0.5**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**8.13**	**293**	*e*Pn	**Pn**	**03 45 26.1**	**-0.5**
	SNR=1.0						
HYF	**Humbligny**	**8.18**	**301**	*e*Pn	**Pn**	**03 45 26.3**	**-1.0**

IGIL ***17*** *03:47:56.8, 36˚.56N×10˚.03W, h30km, ML1.8*
MDD ***17*** *03:47:56.7±2.0, 36˚.58N×10˚.01W, h50km, mb3.5/4, Error ellipse: s-maj=18.2km s-min=15.5km az=22.0, PRXIMO*
CSEM ***17*** *03:47:57.4±0.5, 36˚.66N×9˚.79W, h20km, ML2.6/8, Error ellipse: s-maj=9.0km s-min=8.2km az=53.0*
INMG ***17*** *03:47:58.2±1.2, 36˚.58N×9˚.77W, h14km±5km, ML1.6, Error ellipse: s-maj=6.8km s-min=5.2km az=84.0*

ISC 17 03:47:57.0±3.1, 36˚.6N±0˚.1×9˚.8W±0˚.1, h27km±14km, n48, σ0§84/81, 4C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.95**	**55**	⇑P	**Pn**	**03 48 15.1**	**+0.5**
	5.4nm,0.1s,SNR=18						
PFVI				S	**Sn**	**03 48 28.0**	**+0.7**
	17nm,0.6s,SNR=10						
PFVI	**Vila Bisbo**	**0.95**	**55**	⇑*e*P	**Pn**	**03 48 15.1**	**+0.5**
PFVI				*e*S	**Sn**	**03 48 27.8**	**+0.5**
PFVI				A	A	03 48 38.7	
	15nm,0.9s						
PFVI	**Vila Bisbo**	**0.95**	**55**	P	**Pn**	**03 48 15.1**	**+0.5**
	5.4nm,0.1s,SNR=18						
PFVI				S	**Sn**	**03 48 28.0**	**+0.7**
	17nm,0.6s,SNR=10						
MORF	**Marmelete**	**1.17**	**52**	P	**Pb**	**03 48 18.3**	**-0.2**
	SNR=7.9						
MORF				S	**Sb**	**03 48 33.3**	**+0.1**
	SNR=7.9						
MORF	**Marmelete**	**1.17**	**52**	⇓*e*P	**Pb**	**03 48 18.2**	**-0.2**
MORF				*e*S	**Sb**	**03 48 33.1**	**-0.1**
MORF				A	A	03 48 34.0	
	12nm,0.1s						
MORF	**Marmelete**	**1.17**	**52**	P	**Pb**	**03 48 18.3**	**-0.2**
	SNR=7.9						
MORF				*e*S	**Sb**	**03 48 33.1**	**-0.1**
	12nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.63**	**66**	*e*Pn	**Pn**	**03 48 24.6**	**+0.6**
PBDV				*e*Sn	**Sn**	**03 48 44.3**	**+0.1**
PBDV	**Barranco-do-Ve**	**1.63**	**66**	*e*Pn	**Pn**	**03 48 24.6**	**+0.6**
PBDV				*e*Sn	**Sn**	**03 48 44.3**	**+0.1**
PCVE	**Castro Verde**	**1.75**	**53**	*e*Pn	**Pn**	**03 48 26.5**	**+0.9**
PCVE				*e*Sn	**Sn**	**03 48 47.8**	**+0.8**
PCVE				A	A	03 48 49.0	
	2.0nm,0.2s						
PCVE	**Castro Verde**	**1.75**	**53**	*e*Pn	**Pn**	**03 48 26.5**	**+0.9**
PCVE				*e*Sn	**Sn**	**03 48 47.8**	**+0.8**
	2.0nm,0.2s						
MESJ	**Messejana**	**1.77**	**45**	*e*P	**Pn**	**03 48 26.5**	**+0.6**
MESJ				*e*S	**Sn**	**03 48 47.8**	**+0.2**
MESJ				AML	AML	03 48 50.5	
	comp=E,5.1nm,0.1s						
MESJ	**Messejana**	**1.77**	**45**	P	**Pn**	**03 48 26.2**	**+0.3**
	SNR=7.9						
MESJ				S	**Sn**	**03 48 47.5**	**-0.1**
	SNR=7.9						
MESJ	**Messejana**	**1.77**	**45**	P	**Pn**	**03 48 26.2**	**+0.3**
	SNR=7.9						
MESJ				S	**Sn**	**03 48 47.5**	**-0.1**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**1.82**	**33**	*e*Pn	**Pn**	**03 48 27.3**	**+0.7**
PNCL				*e*Sn	**Sn**	**03 48 49.0**	**+0.1**
	comp=E,3.7nm,0.2s						
PNCL	**Nicolau / Gran**	**1.82**	**33**	*e*Pn	**Pn**	**03 48 27.3**	**+0.7**
PNCL				*e*Sn	**Sn**	**03 48 49.0**	**+0.1**
	comp=E,3.7nm,0.2s						
PVAQ	**Vaqueiros**	**1.85**	**63**	⇑*e*Pn	**Pn**	**03 48 27.6**	**+0.6**
PVAQ				*e*Sn	**Sn**	**03 48 49.7**	**+0.1**
PVAQ				A	A	03 48 51.2	
	comp=E,2.8nm,0.1s						
PVAQ	**Vaqueiros**	**1.85**	**63**	⇑*e*Pn	**Pn**	**03 48 27.6**	**+0.6**
PVAQ				*e*Sn	**Sn**	**03 48 49.7**	**+0.1**
	comp=E,2.8nm,0.1s						
EGRO	**El Granado**	**2.08**	**62**	P	**Pn**	**03 48 30.9**	**+0.8**
	comp=E,0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**03 48 55.6**	**+0.5**
	comp=E,2.1nm,0.4s,SNR=5.9						
EGRO	**El Granado**	**2.08**	**62**	P	**Pn**	**03 48 30.9**	**+0.8**
	comp=E,0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**03 48 55.6**	**+0.5**
	comp=E,2.1nm,0.4s,SNR=5.9						
PBEJ	**Beja**	**2.10**	**46**	*e*Pn	**Pn**	**03 48 31.3**	**+0.8**
PBEJ				*e*Sn	**Sn**	**03 48 56.0**	**+0.2**
PBEJ				A	A	03 48 56.6	
	comp=E,1.4nm,0.1s						
PBEJ	**Beja**	**2.10**	**46**	*e*Pn	**Pn**	**03 48 31.3**	**+0.8**
PBEJ				*e*Sn	**Sn**	**03 48 56.0**	**+0.2**
	comp=E,1.4nm,0.1s						
PACT	**Alcochete**	**2.31**	**19**	*e*Sn	**Sn**	**03 49 02.2**	**+1.5**
PACT	**Alcochete**	**2.31**	**19**	*e*Sn	**Sn**	**03 49 02.2**	**+1.5**
PMAFR	**Mafra**	**2.40**	**10**	P	Pn	03 48 32.3	-2.2
	comp=E,0.2nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**03 49 01.1**	**-1.9**
	comp=E,10nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**2.40**	**10**	P	Pn	03 48 32.3	-2.2
	comp=E,0.2nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**03 49 01.1**	**-1.9**
	comp=E,10nm,0.5s,SNR=7.9						
EVO	**Evora**	**2.40**	**36**	*e*Sn	**Sn**	**03 49 02.5**	**-0.6**
EVO				A	A	03 49 03.9	
	comp=E,4.7nm,0.1s						
EVO	**Evora**	**2.40**	**36**	*e*Sn	**Sn**	**03 49 02.5**	**-0.6**
	comp=E,4.7nm,0.1s						
PBAR	**Barrancos**	**2.71**	**53**	*e*Pn	**Pn**	**03 48 39.3**	**+0.5**
PBAR				*e*Sn	**Sn**	**03 49 10.6**	**-0.1**
PBAR				A	A	03 49 11.4	
	comp=E,1.0nm,0.2s						
PBAR	**Barrancos**	**2.71**	**53**	*e*Pn	**Pn**	**03 48 39.3**	**+0.5**
PBAR				*e*Sn	**Sn**	**03 49 10.6**	**-0.1**
	comp=E,1.0nm,0.2s						
EMIN	**Mina Concepcio**	**2.76**	**64**	P	**Pn**	**03 48 39.9**	**+0.4**
	comp=E,0.5nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**03 49 11.4**	**-0.6**
	comp=E,1.8nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.76**	**64**	P	**Pn**	**03 48 39.9**	**+0.4**
	comp=E,0.5nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**03 49 11.4**	**-0.6**
	comp=E,1.8nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**2.77**	**26**	*e*Pn	**Pn**	**03 48 41.4**	**+1.8**
PMTG	**Montargil**	**2.77**	**26**	*e*Pn	**Pn**	**03 48 41.4**	**+1.8**
PESTR	**Estremoz**	**2.87**	**37**	*e*Sn	**Sn**	**03 49 14.2**	**-0.5**
PESTR				A	A	03 49 15.6	
	comp=E,0.8nm,0.3s						
PESTR	**Estremoz**	**2.87**	**37**	*e*Sn	**Sn**	**03 49 14.2**	**-0.5**
	comp=E,0.8nm,0.3s						
EBAD	**Badajoz**	**3.09**	**45**	P	**Pn**	**03 48 43.9**	**-0.1**
	comp=E,0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**03 49 19.2**	**-0.9**
	comp=E,1.9nm,0.1s,SNR=7.3						
EBAD	**Badajoz**	**3.09**	**45**	P	**Pn**	**03 48 43.9**	**-0.1**
	comp=E,0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**03 49 19.2**	**-0.9**
	comp=E,1.9nm,0.1s,SNR=7.3						
ESPR	**Espera**	**3.18**	**84**	P	**Pn**	**03 48 45.6**	**+0.4**
	comp=E,1.7nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**03 49 21.3**	**-1.0**
	comp=E,11nm,0.3s,SNR=7.9						
ESPR	**Espera**	**3.18**	**84**	P	**Pn**	**03 48 45.6**	**+0.4**
	comp=E,1.7nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**03 49 21.3**	**-1.0**
	comp=E,11nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**3.41**	**33**	*e*Pn	**Pn**	**03 48 49.6**	**+1.1**
PMRV				*e*Sn	**Sn**	**03 49 26.8**	**-1.3**
PMRV				A	A	03 49 30.0	
	comp=E,1.3nm,0.1s						
PMRV	**Marv??o**	**3.41**	**33**	*e*Pn	**Pn**	**03 48 49.6**	**+1.1**
PMRV				*e*Sn	**Sn**	**03 49 26.8**	**-1.3**
	comp=E,1.3nm,0.1s						
ECAB	**El Cabril**	**3.79**	**66**	P	**Pn**	**03 48 54.2**	**+0.5**
	comp=E,0.4nm,0.2s,SNR=5.7						
ECAB				S	**Sn**	**03 49 36.4**	**-1.1**
	comp=E,1.9nm,0.5s,SNR=5.8						
ECAB	**El Cabril**	**3.79**	**66**	P	**Pn**	**03 48 54.2**	**+0.5**
	comp=E,0.4nm,0.2s,SNR=5.7						
ECAB				S	**Sn**	**03 49 36.4**	**-1.1**
	comp=E,1.9nm,0.5s,SNR=5.8						
EADA	**Adamuz**	**4.45**	**68**	P	**Pn**	**03 49 03.1**	**+0.4**
	comp=E,0.3nm,0.2s,SNR=7.9						
EADA				S	Sn	03 49 51.6	-2.0
	comp=E,1.3nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**4.45**	**68**	P	**Pn**	**03 49 03.1**	**+0.4**
	comp=E,0.3nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**4.54**	**39**	S	**Sn**	**03 49 54.2**	**-1.6**
	comp=E,3.3nm,0.5s,SNR=7.9						
MVO	**Moncorvo**	**5.05**	**24**	*e*Sn	**Sn**	**03 50 06.7**	**-1.9**
MVO	**Moncorvo**	**5.05**	**24**	*e*Sn	**Sn**	**03 50 06.7**	**-1.9**

IDC 17 04:00:46.3±1.1, 14˚.89S×172˚.48W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/22, mbtmp4.0/4, MS3.9/1, Ms1 3.9/1, ms1mx2.9/29, Error ellipse: s-maj=51.5km s-min=16.2km az=133.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.19**	**35**	Pn	Pn	04 01 10.3	-0.1
	99nm,0.3s,baz=38,slow=1.9,SNR=71						
AFI				Sn	Sn	04 01 27.2	-0.2
	204nm,0.3s,baz=0.0,slow=20,SNR=16						
RAO	**Raoul Island**	**15.15**	**198**	LR	LR	04 08 28.3	
	comp=Z,419nm,19.7s,baz=155,slow=30						
URZ	**Urewera**	**25.03**	**200**	P	P	04 06 11.8	-0.3
	4.3nm,0.5s,baz=5.4,slow=19,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**39.00**	**328**	T	T	04 50 44.0	
	baz=149,slow=75,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**39.01**	**328**	T	T	04 50 48.1	
	baz=149,slow=75,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**39.02**	**328**	T	T	04 50 41.2	
	baz=149,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**39.92**	**329**	T	T	04 51 51.4	
	baz=148,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**39.93**	**329**	T	T	04 51 51.9	
	baz=148,slow=76,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**39.94**	**329**	T	T	04 51 52.9	
	baz=148,slow=76,SNR=4.0						
WRA	**Warramunga Arr**	**50.82**	**256**	P	P	04 09 49.2	+0.1
	0.8nm,0.9s,baz=92,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**51.11**	**251**	P	P	04 09 51.0	-0.3
	2.1nm,0.6s,baz=87,slow=8.2,SNR=26						
TXAR	**Lajitas Array**	**79.60**	**56**	P	P	04 12 56.5	+0.6
	0.6nm,1.1s,baz=264,slow=9.0,SNR=3.4						

ISCJB ***17*** *04:32:51.1±0.8, 29˚.0N±0˚.2×139˚.4E±0˚.2, h423km, mb3.0/4, Error ellipse: s-maj=31.2km s-min=12.2km az=140.3*
IDC ***17*** *04:32:52.0±1.1, 29˚.05N×139˚.56E, h419km±72km, mb2.8/4, mb1 2.9/6, mb1mx2.7/26, mbtmp2.8/6, Error ellipse: s-maj=196.4km s-min=17.1km az=71.0*

ISC 17 04:32:52.3±0.9, 29˚.1N±0˚.2×139˚.6E±0˚.2, h423km, n6, σ0§55/7, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.02**	**130**	P	**P**	**04 33 58.1**	**+0.7**
	20nm,0.3s,baz=271,slow=20,SNR=4.7						
JCJ				S	**S**	**04 34 49.4**	**-0.8**
	60nm,0.3s,baz=287,slow=23,SNR=15						
MJAR	**Matsushiro Arr**	**7.55**	**352**	P	**P**	**04 34 42.5**	**0.0**
	0.4nm,0.3s,baz=156,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**47.45**	**308**	P	**P**	**04 40 46.6**	**-0.2**
	0.4nm,0.5s,baz=93,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**48.98**	**187**	P	**P**	**04 40 58.5**	**0.0**
	0.4nm,1.0s,baz=3.8,slow=7.9,SNR=4.7						
KURBB	**Kurchatov Arra**	**50.02**	**313**	P	**P**	**04 41 05.7**	**-0.2**
	0.7nm,0.5s,baz=91,slow=8.2,SNR=12						
BVAR	**Borovoye Array**	**55.04**	**316**	P	**P**	**04 41 42.2**	**0.0**
	0.4nm,0.5s,baz=82,slow=11,SNR=3.6						

MOS ***17*** *04:41:53.2±0.9, 3˚.10N×125˚.55E, h148km, mb4.7/22, Error ellipse: s-maj=15.2km s-min=6.6km az=116.4*
NEIC ***17*** *04:41:54.8±0.2, 3˚.10N×125˚.62E, mb5.0/39, Error ellipse: s-maj=5.9km s-min=4.0km az=68.0*
IDC ***17*** *04:41:54.6±0.7, 3˚.03N×125˚.41E, h146km±6km, mb4.2/28, mb1 4.3/28, mb1mx4.3/32, mbtmp4.6/28, MS3.6/3, Ms1 3.6/3, ms1mx2.9/30, Error ellipse: s-maj=15.4km s-min=7.0km az=76.0*
ISCJB ***17*** *04:41:54.5±0.4, 3˚.11N±0˚.02×125˚.70E±0˚.04, h158km±3km, mb4.7/87, Error ellipse: s-maj=6.2km s-min=3.5km az=162.5*
BJI ***17*** *04:41:55.0, 3˚.10N×125˚.60E, h150km, mB4.9/24, mb4.7/31*
AUST ***17*** *04:41:59.0±0.3, 2˚.90N×125˚.71E, h183km, Error ellipse: s-maj=1.2km s-min=0.9km az=2.0*

ISC 17 04:41:56.1±0.3, 3˚.07N±0˚.03×125˚.63E±0˚.05, h157km±2km, h157km:pP-P, n239, σ1§69/332, mb4.7/87, 4C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.87**	**143**	*e*Pn	**Pn**	**04 42 39.9**	**-2.1**
GSPH	**General Santos**	**3.08**	**347**	⇓*i*P	**Pn**	**04 42 43.1**	**-1.7**
GSPH				*i* S	**Sn**	**04 43 19.6**	**-3.0**
DAV	**Davao City (W)**	**3.98**	**359**	*e*Pn	**Pn**	**04 42 55.3**	**-0.9**
DAV				*e*S	**Sn**	**04 43 47.6**	**+4.5**
DMPH	**Davao City--Mi**	**3.99**	**358**	⇑*e*P	**Pn**	**04 42 55.9**	**-0.5**
DMPH				*e*S	Sn	04 43 34.8	-8.6
CTBH	**Cotabato--PC H**	**4.35**	**342**	⇓*e*P	**Pn**	**04 43 00.2**	**-0.8**
BUKP	**Musuan**	**4.81**	**353**	*e*P	**Pn**	**04 43 05.9**	**-1.3**
LUWI	**Luwuk**	**4.98**	**215**	P	**Pn**	**04 43 11.8**	**+2.3**
	baz=4.9,SNR=28						
BIPH	**Bislig**	**5.13**	**8**	⇓*e*P	**Pn**	**04 43 09.8**	**-1.6**
BIPH				*e*S	**Sn**	**04 44 06.7**	**-3.6**
PAGZ	**Pagadian**	**5.25**	**335**	*e*P	**Pn**	**04 43 12.1**	**-0.8**
CGP	**Cagayan de Oro**	**5.43**	**350**	*e*P	**Pn**	**04 43 14.1**	**-1.2**
CGP				*i* S	**Sn**	**04 44 14.1**	**-3.3**
IPIL	**Ipil**	**5.59**	**327**	*e*P	**Pn**	**04 43 17.9**	**+0.5**
BUTP	**Butuan**	**5.86**	**360**	*e*P	**Pn**	**04 43 20.7**	**-0.3**
SCPH	**Surigao**	**6.67**	**359**	⇓*e*P	**Pn**	**04 43 32.7**	**+0.9**
TSM	**Tawau**	**7.84**	**279**	P	Pn	**04 43 48.7**	**+1.3**
SDKM	**Sandakan**	**8.79**	**287**	P	Pn	04 44 04.5	+4.5
FAKI	**Fak Fak**	**8.89**	**132**	P	**Pn**	**04 43 60.0**	**-1.5**
	baz=8.8,SNR=3.6						
KDM	**Kudat**	**9.56**	**294**	P	**Pn**	**04 44 10.0**	**-0.2**
PALU	**Palau**	**9.78**	**64**	P	**Pn**	**04 44 14.8**	**+1.7**
	baz=9.8,SNR=3.9						
KAPI	**Kappang**	**9.95**	**216**	*e*Pn	**Pn**	**04 44 15.6**	**+0.3**
KAPI	**Kappang**	**9.95**	**216**	Pn	**Pn**	**04 44 16.5**	**+1.1**
	264nm,0.8s,SNR=6.3						
MMRI	**Maumere**	**12.11**	**196**	*e*Pn	**Pn**	**04 44 44.3**	**+0.6**
BTM	**Bintulu**	**12.53**	**271**	P	**Pn**	**04 44 48.6**	**-0.5**
SBUM	**Sibu**	**13.41**	**268**	P	**P**	**04 45 02.7**	**-1.5**
SBUM	**Sibu**	**13.41**	**268**	*e*Pn	**Pn**	**04 45 02.1**	**+1.7**
KSM	**Kuching**	**15.39**	**264**	P	**P**	**04 45 29.6**	**+3.4**
KSM	**Kuching**	**15.39**	**264**	*e*P	**P**	**04 45 26.9**	**+0.6**
	58nm,0.7s						
KSM	**Kuching**	**15.39**	**264**	P	**P**	**04 45 28.9**	**+2.6**
	baz=16,SNR=14						
MTN	**Manton Dam**	**16.73**	**161**	P	**P**	**04 45 38.3**	**-2.7**
	baz=17,SNR=40						
KDU	**Kakadu**	**17.06**	**157**	P	**P**	**04 45 42.2**	**-2.5**
	baz=17,SNR=26						
SMRI	**Semarang**	**18.19**	**236**	*e*Pn	**P**	**04 45 57.3**	**+0.3**
	90nm,1.2s						
KNRA	**Kununurra**	**18.88**	**171**	P	**P**	**04 46 04.5**	**-0.1**
	baz=19,SNR=86						
CISI	**Cisompet, Garu**	**20.67**	**239**	*e*P	**P**	**04 46 22.9**	**-1.0**
	56nm,0.7s						
TPUB	**Ta-pu**	**20.69**	**347**	P	**P**	**04 46 20.5**	**-3.5**
	641nm,2.9s						
FITZ	**Fitzroy Crossi**	**21.04**	**180**	*e*P	**P**	**04 46 27.4**	**-0.2**
	56nm,0.8s						
FITZ				*e*S	**S**	**04 50 10.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**21.04**	**180**	P	**P**	**04 46 26.9**	**-0.8**
	36nm,0.5s,baz=8.9,slow=9.2,SNR=69						
FITZ				S	**S**	**04 50 10.7**	**-2.4**
	9.1nm,1.0s,baz=180,slow=20,SNR=3.0						
PMBI	**Palembang**	**21.68**	**254**	*e*P	**P**	**04 46 32.6**	**-2.1**
	353nm,0.3s						
PMBI

MEEK	**Meekatharra**	30.30	193	P		**P**	04 47 52.7	-0.1		
	baz=30,SNR=22									
CMMT	**Chiang Mai**	30.43	303	P		**P**	04 47 54.6	+0.6		
	comp=Z,10nm,1.1s,comp=Z,429nm									
CHTO	**Chiang Mai**	30.44	303	*e*P		**P**	04 47 54.5	+0.5		
CHTO				pmax		pmax				
	comp=Z,3.0nm,1.1s									
CHTO	**Chiang Mai**	30.44	303	*e*P		**P**	04 47 54.5	+0.5		
	comp=Z,3.1nm,1.1s									
CHTO	**Chiang Mai**	30.44	303	P		**P**	04 47 54.7	+0.7		
	comp=Z,43nm,1.3s									
CTA	**Charters Tower**	30.65	140	P		**P**	04 47 56.6	+0.7		
CTA	**Charters Tower**	30.65	140	P		**P**	04 47 56.6	+0.7		
	comp=Z,11nm,0.6s,baz=335,slow=13,SNR=10									
CTAO	**Charters Tower**	30.65	140	*e*P		**P**	04 47 56.3	+0.4		
CTAO				pmax		pmax				
	comp=Z,15nm,0.8s									
CTAO	**Charters Tower**	30.65	140	*e*P		**P**	04 47 56.3	+0.4		
	comp=Z,15nm,0.8s									
CMAI	**Chiengmai2**	30.89	305	P		**P**	04 47 58.9	+0.7		
	comp=Z,36nm,0.8s									
MHMT	**Maesarieng**	31.01	301	P		**P**	04 48 01.9	+2.8		
	comp=Z,6.6nm,0.9s									
KMI	**Kunming**	31.09	317	P		**P**	04 48 03.0	+3.1		
KMI				pmax		pmax				
	comp=Z,6.0nm,1.1s									
MORW	**Morawa**	33.25	195	P		**P**	04 48 21.6	+3.1		
	baz=33,SNR=3.7									
FORT	**Forrest**	33.74	176	*e*P		**P**	04 48 22.5	-0.2		
	comp=Z,70nm,0.7s									
FORT	**Forrest**	33.74	176	P		**P**	04 48 22.6	0.0		
	baz=34,SNR=35									
KSAR	**Wonju Array Be**	34.27	3	P		**P**	04 48 28.4	+1.2		
KSRS	**Korea Array**	34.28	3	P		**P**	04 48 28.4	+1.1		
	comp=Z,3.9nm,0.6s,baz=173,slow=10,SNR=16									
KMBL	**Kambalda**	34.43	186	P		**P**	04 48 28.7	+0.1		
	baz=34,SNR=12									
QLP	**Quilpie**	34.53	150	P		**P**	04 48 29.3	-0.2		
	baz=34,SNR=11									
CD2	**Chengdu**	34.55	326	*e*P		**P**	04 48 29.8	+0.1		
CD2				pP		**pP**	04 49 02.9	-0.3		
CD2				sP		**sP**	04 49 20.6	-0.7		
CD2				PP		**PP**	04 49 52.5	+1.2		
CD2				PcP		**PcP**	04 51 00.4	-0.7		
CD2				S		**S**	04 53 47.4	+0.3		
CD2				sS		**sS**	04 54 45.3	-0.7		
CD2				SS		**SnSn**	04 56 11.0	-7.0		
CD2				ScS		**ScS**	04 58 32.3	-2.9		
CD2				pmax		pmax				
	comp=Z,20nm,1.8s									
CD2				pmax		pmax				
	comp=Z,60nm,8.3s									
MJAR	**Matsushiro Arr**	35.27	18	P		**P**	04 48 35.2	-0.6		
MJAR	**Matsushiro Arr**	35.27	18	P		**P**	04 48 35.2	-0.6		
	comp=Z,5.4nm,0.8s,baz=195,slow=9.0,SNR=11									
NWAO	**Narrogin (SRO)**	36.67	192	P		**P**	04 48 47.8	0.0		
NWAO	**Narrogin (SRO)**	36.67	192	P		**P**	04 48 47.8	0.0		
	comp=Z,4.6nm,0.3s,baz=14,slow=7.4,SNR=10.0									
BBOO	**Buckleboo**	37.03	165	P		**P**	04 48 50.7	0.0		
	baz=37,SNR=55									
EIDS	**Eidsvold**	37.53	140	*e*P		**P**	04 48 54.5	-0.5		
	comp=Z,52nm,0.9s									
EIDS	**Eidsvold**	37.53	140	P		**P**	04 48 55.0	-0.1		
	baz=38,SNR=18									
BJI	**Beijing**	37.79	348	P		**P**	04 48 58.6	+1.6		
BJI				S		**S**	04 54 40.1	+4.0		
BJI				pmax		pmax				
	comp=Z,10.0nm,0.8s									
BJI				pmax		pmax				
	comp=Z,130nm,4.7s									
STKA	**Stephens Creek**	37.92	158	*e*P		**P**	04 48 58.8	+0.5		
	comp=Z,12nm,0.9s									
STKA	**Stephens Creek**	37.92	158	P		**P**	04 48 58.8	+0.5		
	comp=Z,56nm,0.8s,baz=329,slow=8.0,SNR=57									
STKA	**Stephens Creek**	37.92	158	P		**P**	04 48 58.9	+0.5		
	baz=38,SNR=40									
HTT	**Hallett**	38.41	162	P		**P**	04 49 03.3	+0.8		
	baz=38,SNR=19									
LZH	**Lanzhou**	38.53	331	P		**P**	04 49 04.6	+1.0		
LZH				pP		**pP**	04 49 35.4	-2.2		
LZH				sP		**sP**	04 49 54.3	-1.2		
LZH				PP		**PnPn**	04 50 37.4	-1.5		
LZH				eS		**S**	04 54 49.0	+1.2		
LZH				sS		**sS**	04 55 47.6	+0.2		
LZH				pmax		pmax				
	comp=Z,27nm,1.0s									
LZH				pmax		pmax				
	comp=Z,120nm,4.1s									
LZH				LR		LR				
	comp=Z,400nm,12.6s									
LZH				LR		LR				
	comp=Z,320nm,11.8s									
LZH				LR		LR				
	comp=Z,460nm,14.0s									
CMSA	**Cobar Meteorol**	39.35	152	P		**P**	04 49 11.0	+0.8		
	baz=39,SNR=14									
HHC	**Hu-ho-hao-te**	39.70	343	*e*P		**P**	04 49 15.0	+1.9		
HHC				pP		**pP**	04 49 49.5	+2.2		
HHC				sP		**sP**	04 50 08.4	+3.3		
HHC				PP		**PnPn**	04 50 53.8	+1.4		
HHC				S		**S**	04 55 06.9	+1.9		
HHC				sS		**sS**	04 56 08.3	+3.6		
HHC				SS		**SS**	04 58 03.6	-3.6		
HHC				pmax		pmax				
	comp=Z,22nm,0.9s									
HHC				pmax		pmax				
	comp=Z,190nm,5.8s									
HHC				LR		LR				
	comp=Z,310nm,14.7s									
HHC				LR		LR				
	comp=Z,570nm,14.8s									
HHC				LR		LR				
	comp=Z,160nm,14.7s									
CN2	**Changchun**	40.56	360	*e*P		**P**	04 49 21.8	+1.8		
CN2				*e*PP		**PnPn**	04 51 01.6	-0.7		
CN2				eS		**S**	04 55 20.4	+2.9		
CN2				LR		LR				
	comp=Z,500nm,21.0s									
CN2				LR		LR				
	comp=Z,400nm,21.0s									
CN2				LR		LR				
	comp=Z,300nm,22.0s									
USRK	**Ussuriysk Arra**	41.34	7	pP		pP	04 49 58.1	-2.7		
	comp=Z,3.4nm,0.7s,baz=160,slow=6.1,SNR=3.0									
LSA	**Lhasa**	42.06	313	*e*P		**P**	04 49 33.8	+0.7		
LSA				pmax		pmax				
	comp=Z,12nm,0.6s									
LSA	**Lhasa**	42.06	313	*e*P		**P**	04 49 33.8	+0.7		
	comp=Z,12nm,0.6s									
YNG	**Young**	42.91	152	P		**P**	04 49 40.5	+1.2		
	baz=43,SNR=7.7									
GTA	**Gaotai**	43.11	330	*e*P		**P**	04 49 40.8	-0.2		
GTA				pP		**pP**	04 50 14.8	-0.9		
GTA				sP		**sP**	04 50 30.9	-2.5		
GTA				PcP		**PcP**	04 51 28.4	+0.4		
GTA				ScP		**ScP**	04 55 03.9	-0.7		
GTA				pmax		pmax				
	comp=Z,6.0nm,0.9s									
TAPN	**Taplejung**	43.53	307	*e*P		**P**	04 49 44.3	-0.5		
	comp=Z,14nm,0.5s									
TAPN	**Taplejung**	43.53	307	*e*P		**P**	04 49 44.3	-0.5		
	comp=Z,14nm,0.5s									
ASAJ	**Asahikawa**	43.55	18	P		**P**	04 49 45.2	+1.0		
ASAJ	**Asahikawa**	43.55	18	P		**P**	04 49 45.2	+1.0		
	comp=Z,17nm,0.5s,baz=228,slow=10.0,SNR=12									
ASAJ				LR		LR	05 05 02.9			
	comp=Z,194nm,21.3s,baz=104,slow=32									
ODAN	**Odare**	43.57	307	*e*P		**P**	04 49 44.2	-0.8		
	comp=Z,17nm,0.6s									
ODAN	**Odare**	43.57	307	*e*P		**P**	04 49 44.2	-0.8		
	comp=Z,17nm,0.6s									
CNB	**Canberra Magne**	44.19	152	P		**P**	04 49 51.2	+1.6		
	baz=44,SNR=8.6									
RAMN	**Ramite**	44.24	306	*e*P		**P**	04 49 50.3	-0.1		
	comp=Z,29nm,0.7s									
RAMN	**Ramite**	44.24	306	*e*P		**P**	04 49 50.3	-0.1		
	comp=Z,29nm,0.7s									
TOO	**Toolangi**	44.44	157	P		**P**	04 49 53.6	+2.1		
	baz=44,SNR=4.8									
JIRN	**Jiri**	44.88	307	*e*P		**P**	04 49 54.5	-1.1		
	comp=Z,29nm,0.5s									
JIRN	**Jiri**	44.88	307	*e*P		**P**	04 49 54.5	-1.1		
	comp=Z,29nm,0.5s									
GUN	**Gumba**	45.24	307	*e*P		**P**	04 49 57.9	-0.4		
	comp=Z,58nm,0.5s									
GUN	**Gumba**	45.24	307	*e*P		**P**	04 49 57.9	-0.4		
	comp=Z,58nm,0.5s									
PKI	**Pulchoki**	45.47	306	*e*P		**P**	04 49 59.9	-0.2		
	comp=Z,14nm,0.5s									
PKI	**Pulchoki**	45.47	306	*e*P		**P**	04 49 59.9	-0.2		
PKI				pmax		pmax				
	comp=Z,14nm,0.5s									
PKI	**Pulchoki**	45.47	306	*e*P		**P**	04 49 59.9	-0.2		
	comp=Z,14nm,0.5s									
PKIN	**Phulchoki**	45.48	306	*e*P		**P**	04 49 59.3	-0.9		
	comp=Z,10nm,0.6s									
KKN	**Kakani**	45.66	307	*e*P		**P**	04 50 01.5	0.0		
	comp=Z,22nm,0.5s									
KKN	**Kakani**	45.66	307	*e*P		**P**	04 50 01.5	0.0		
KKN				pmax		pmax				
	comp=Z,22nm,0.5s									
KKN	**Kakani**	45.66	307	*e*P		**P**	04 50 01.5	0.0		
	comp=Z,22nm,0.5s									
DMN	**Daman**	45.73	306	*e*P		**P**	04 50 01.2	-0.9		
	comp=Z,30nm,0.8s									
DMN	**Daman**	45.73	306	*e*P		**P**	04 50 01.2	-0.9		
	comp=Z,30nm,0.8s									
YSS	**Yuzh-Sakhalins**	46.17	16↑	*e*P		P	04 50 01.6	-3.3		
GKN	**Gorkha**	46.27	307	*e*P		**P**	04 50 05.9	-0.3		
	comp=Z,20nm,0.6s									
GKN	**Gorkha**	46.27	307	*e*P		**P**	04 50 05.9	-0.3		
	comp=Z,20nm,0.6s									
KLR	**Kul'dur**	46.29	6	*e*P		P	04 50 02.2	-3.6		
KOLN	**Koldanda**	47.01	306	*e*P		**P**	04 50 12.1	+0.1		
	comp=Z,93nm,0.6s									
KOLN	**Koldanda**	47.01	306	*e*P		**P**	04 50 12.1	+0.1		
	comp=Z,93nm,0.6s									
DANN	**Dangsing**	47.12	307	*e*P		**P**	04 50 12.4	-0.6		
	comp=Z,89nm,0.6s									
DANN	**Dangsing**	47.12	307	*e*P		**P**	04 50 12.4	-0.6		
	comp=Z,89nm,0.6s									
ULN	**Ulaanbaatar**	47.42	343	*e*P		**P**	04 50 14.6	-0.2		
	comp=Z,1.1nm,0.4s									
SONM	**Songino Array**	47.58	343	P		**P**	04 50 15.6	-0.4		
SONM				PcP		**PcP**	04 51 43.6	+0.2		
SONM	**Songino Array**	47.58	343	P		**P**	04 50 15.6	-0.4		
	comp=Z,0.5nm,0.4s,baz=158,slow=7.9,SNR=8.2									
SONM				PcP		**PcP**	04 51 43.6	+0.2		
	comp=Z,0.8nm,0.6s,baz=181,slow=3.9,SNR=4.1									
PYUN	**Piuthan**	47.63	306	*e*P		**P**	04 50 16.7	-0.2		
	comp=Z,68nm,0.5s									
PYUN	**Piuthan**	47.63	306	*e*P		**P**	04 50 16.7	-0.2		
	comp=Z,68nm,0.5s									
HYB	**Hyderabad**	48.31	291	*i* P		**P**	04 50 20.0	-2.0		
WMQ	**Urumqi**	52.65	326	P		**P**	04 50 55.0	+0.8		
WMQ				pP		**pP**	04 51 31.0	+0.9		
WMQ				sP		**sP**	04 51 50.0	+2.5		
WMQ				PP		**PP**	04 52 57.0	+2.0		
WMQ				ScP		**ScP**	04 55 41.0	-3.7		
WMQ				S		**S**	04 58 09.0	-0.5		
WMQ				ScS		**ScS**	05 00 24.0	-4.1		
WMQ				SS		**SS**	05 01 49.0	-1.2		
WMQ				pmax		pmax				
	comp=Z,12nm,1.0s									
WMQ				pmax		pmax				
	comp=Z,55nm,4.0s									
WMQ				LR		LR				
	comp=Z,60nm,18.0s									
WMQ				LR		LR				
	comp=Z,39nm,17.0s									
WMQ				LR		LR				
	comp=Z,28nm,17.0s									
PETK	**Petropavlovsk-**	56.45	23	P		**P**	04 51 21.0	-0.3		
PETK				*PP		**pP**	04 51 57.1	-0.7		
PETK	**Petropavlovsk-**	56.45	23	P		**P**	04 51 21.0	-0.3		
PETK				pP		**pP**	04 51 57.1	-0.7		
PETK	**Petropavlovsk-**	56.45	23	P		**P**	04 51 21.0	-0.3		
	comp=Z,7.5nm,0.9s,baz=210,slow=4.1,SNR=6.0									
PETK				pP		**pP**	04 51 57.1	-0.7		
	comp=Z,3.6nm,0.9s,baz=193,slow=6.2,SNR=1.9									
MK31	**Makanchi Array**	57.48	326	*e*P		**P**	04 51 28.0	-0.7		
MK31				*e*SP		**sP**	04 52 20.7	-1.8		
MK31	**Makanchi Array**	57.48	326	*e*P		**P**	04 51 28.0	-0.7		
MK31				*e*pP		**pP**	04 52 08.1	+2.9		
MK31				*e*sP		**sP**	04 52 20.7	-1.8		
MKAR	**Makanchi Array**	57.48	326	P		**P**	04 51 28.0	-0.7		
MKAR							04 52 21.1			
MKAR	**Makanchi Array**	57.48	326	P		**P**	04 51 28.0	-0.7		
MKAR				PcP		**PcP**	04 52 21.1	+0.5		
MKAR				ScP		**ScP**	04 56 05.8	0.0		
MKAR	**Makanchi Array**	57.48	326	P		**P**	04 51 28.0	-0.7		
	comp=Z,3.3nm,0.4s,baz=119,slow=7.8,SNR=123									
MKAR				PcP		**PcP**	04 52 21.1	+0.5		
	comp=Z,3.2nm,0.7s,baz=119,slow=4.6,SNR=8.7									
MKAR				ScP		**ScP**	04 56 05.8	0.0		
	comp=Z,0.5nm,0.6s,baz=107,slow=4.6,SNR=5.0									
MKAR				LR		LR	05 17 24.8			
	comp=Z,28nm,19.6s,baz=347,slow=37									
KSH	**Kashi**	57.74	316	P		**P**	04 51 31.0	+0.2		
KSH				pP		**pP**	04 52 10.1	+2.7		
KSH				sP		**sP**	04 52 27.0	+2.4		
KSH				PP		**PP**	04 53 41.1	+0.5		
KSH				S		**S**	04 59 12.8	-4.9		
KSH				sS		**sS**	05 00 22.1	+1.1		
KSH				SS		**SS**	05 03 10.0	-0.8		
KSH				pmax		pmax				
	comp=Z,3.0nm,0.3s									
KSH				pmax		pmax				
	comp=Z,59nm,4.4s									
KSH				LR		LR				
	comp=Z,79nm,5.0s									
KSH				LR		LR				
	comp=Z,130nm,5.2s									
KSH				LR		LR				
	comp=Z,110nm,5.3s									
YAK	**Yakutsk**	58.90	2	*e*P		**P**	04 51 37.9	-0.3		
YAK				pmax		pmax				
	comp=Z,38nm,0.9s									
YAK				pmax		pmax				
	comp=E,2.0nm,0.8s									
YAK				pmax		pmax				
	comp=N,7.0nm,0.8s									
YAK	**Yakutsk**	58.90	2	*e*P		**P**	04 51 38.6	+0.4		
	comp=N,37nm,0.8s									
TKM2	**Tokmak 2**	59.52	319	*e*P		**P**	04 51 42.7	-0.5		
TKM2				pmax		pmax				
	comp=Z,2.0nm,0.5s									
TKM2	**Tokmak 2**	59.52	319	*e*P		**P**	04 51 42.7	-0.5		
	comp=Z,2.2nm,0.5s									
EKS2	**Erkin-Say**	60.60	318	*e*P		**P**	04 51 51.3	+0.8		
EKS2	**Erkin-Say**	60.60	318	*e*P		**P**	04 51 51.3	+0.8		
ZALV	**Zalesovo Beam**	60.68	334	P		**P**	04 51 49.2	-1.4		
ZALV							04 52 30.2			
ZALV	**Zalesovo Beam**	60.68	334	P		**P**	04 51 49.2	-1.4		
ZALV				PcP		**pP**	04 52 30.2	+2.7		
ZALV	**Zalesovo Beam**	60.68	334	P		**P**	04 51 49.2	-1.4		
	comp=Z,1.1nm,0.3s,baz=134,slow=6.4,SNR=4.5									
ZALV				PcP		**pP**	04 52 30.2	+2.7		
	comp=Z,1.6nm,0.5s,baz=132,slow=4.4,SNR=4.7									
KURBB	**Kurchatov Arra**	61.71	328	P		**P**	04 51 56.6	-0.9		
	comp=Z,5.2nm,0.5s,baz=130,slow=6.0,SNR=71									
KURK	**Kurchatov**	61.71	328	*e*P		**P**	04 51 56.5	-1.0		
KURK				*e*PP		**pP**	04 52 29.8	-4.8		
KURK				pmax		pmax				
	comp=Z,8.0nm,0.6s									
KURK	**Kurchatov**	61.71	328	*e*P		**P**	04 51 56.5	-1.0		
	comp=Z,7.5nm,0.6s									
KURK				epP		**pP**	04 52 29.8	-4.8		
KURK	**Kurchatov**	61.71	328	P		**P**	04 51 56.2	-1.4		
	comp=Z,174nm,0.4s,SNR=17									
RPZ	**Rata Peaks**	61.86	144	*e*P		**P**	04 51 59.7	+1.0		
	comp=Z,220nm,2.3s									
NVS	**Novosibirsk**	61.97	334	*e*P		**P**	04 51 57.9	-1.3		
URZ	**Urewera**	62.82	136	*e*P		**P**	04 52 05.0	-0.1		
BKZ	**Black Stump Fm**	62.84	137	*e*P		**P**	04 52 05.3	0.0		
	comp=Z,26nm,1.0s									
SEY	**Seymchan**	62.92	13	P		**P**	04 52 06.1	+0.7		
SEY	**Seymchan**	62.92	13	P		**P**	04 52 06.1	+0.7		
SEY	**Seymchan**	62.92	13	P		**P**	04 52 06.1	+0.7		
	comp=Z,7.5nm,1.0s,baz=3.9,slow=23,SNR=5.5									
FX1	**Attu Island--F**	63.20	30	P		**P**	04 52 08.5	+1.1		
FX1	**Attu Island--F**	63.20	30	P		**P**	04 52 08.5	+1.1		
	comp=Z,23nm,0.9s,baz=326,slow=11,SNR=5.1									
BVAR	**Borovoye Array**	67.28	327	P		**P**	04 52 32.5	-1.2		
BVAR				*PP		**pP**	04 53 07.4	-3.9		
BVAR	**Borovoye Array**	67.28	327	P		**P**	04 52 32.5	-1.2		
BVAR				pP		**pP**	04 53 07.4	-3.9		
BVAR	**Borovoye Array**	67.28	327	P		**P**	04 52 32.5	-1.2		
	comp=Z,2.3nm,0.6s,baz=146,slow=9.7,SNR=15									
BVAR				pP		**pP**	04 53 07.4	-3.9		
	comp=Z,0.8nm,0.5s,baz=128,slow=9.3,SNR=1.9									
BRVK	**Borovoye**	67.35	327	*e*P		**P**	04 52 33.1	-1.0		
BRVK				*e*PP		**pP**	04 53 10.5	-1.3		
BRVK				pmax		pmax				
	comp=Z,5.0nm,0.8s									
BRVK	**Borovoye**	67.35	327	*e*P		**P**	04 52 33.1	-1.0		
	comp=Z,4.9nm,0.8s									
BRVK				*e*pP		**pP**	04 53 10.4	-1.3		
BRVK	**Borovoye**	67.35	327	P		**P**	04 52 33.4	-0.7		
	comp=Z,41nm,1.0s,SNR=5.5									
TIXI	**Tiksi**	68.52	1	*e*P		**P**	04 52 41.1	+0.1		
TIXI				pmax		pmax				
	comp=Z,4.0nm,0.8s									
TIXI	**Tiksi**	68.52	1	*e*P		**P**	04 52 40.8	-0.2		
	comp=Z,5.7nm,0.5s									
CASY	**Casey**	70.04	186	*e*P		**P**	04 52 51.0	+0.5		
	comp=Z,6.3nm,1.0s									
CASY				*e*pP		**pP**	04 53 24.6	-3.8		
AKTO	**Aktyubinsk**	73.50	322	P		**P**	04 53 10.8	-0.7		
AKTO	**Aktyubinsk**	73.50	322	P		**P**	04 53 10.8	-0.7		
AKTO	**Aktyubinsk**	73.50	322	P		**P**	04 53 10.8	-0.7		
	comp=Z,4.3nm,0.6s,baz=104,slow=8.7,SNR=26									
ARU	**Arti**	74.91	328	*d* P		**P**	04 53 18.2	-1.3		
ARU				S		**S**	05 02 43.8	0.0		
ARU				SS		**SS**	05 07 35.2	-0.2		
ARU				pmax		pmax				
	comp=Z,4.0nm,0.5s									
GAMB	**Gambell**	75.44	24	*e*P		**P**	04 53 23.2	+0.8		
	comp=Z,11nm,0.9s									
PRGR	**Permogore**	82.56	332	*e*P		**P**	04 53 59.3	-1.9		
PRGR				pmax		pmax				
	comp=Z,13nm,0.7s									
VNDA	**Vanda**	82.92	173	*e*P		**P**	04 54 03.2	+0.5		
	comp=Z,3.1nm,0.4s									
VNDA	**Vanda**	82.92	173	P		**P**	04 54 03.2	+0.5		
	comp=Z,3.4nm,0.5s,baz=319,slow=5.9,SNR=36									
MCK	**McKinley**	85.24	26	*e*P		**P**	04 54 15.4	+0.6		
MCK				pmax		pmax				
	comp=Z,3.0nm,0.6s									
MCK	**McKinley**	85.24	26	*e*P		**P**	04 54 15.4	+0.6		
	comp=Z,2.6nm,0.6s									
COLA	**College**	85.76	25	*e*P		**P**	04 54 17.8	+0.6		
COLA				pmax		pmax				
	comp=Z,10.0nm,1.2s									
ILAR	**Eielson Array**	86.17	25	P		**P**	04 54 18.2	-1.1		
ILAR	**Eielson Array**	86.17	25	P		**P**	04 54 18.2	-1.1		
	comp=Z,0.8nm,0.7s,baz=241,slow=5.2,SNR=17									
OBN	**Obninsk**	86.97	325↑	*e*P		**P**	04 54 22.7	-0.7		
OBN				*e*			04 57 48.4			
OBN				*e*S		**SKSac**	05 04 32.7	-2.9		
OBN				*e*SS		**SS**	05 10 35.2	+0.5		
OBN				pmax		pmax				
	comp=Z,12nm,1.2s									
JOF	**Joensuu**	89.26	333	*e*P		**P**	04 54 32.8	-1.3		
JOF				pmax		pmax				
	comp=Z,2.0nm,0.3s									
JOF	**Joensuu**	89.26	333	*e*p		**P**	04 54 32.8	-1.3		
	comp=Z,2.1nm,0.3s									
BRTR	**Keskin Array B**	89.59	310	P		**P**	04 54 34.9	-1.5		
BRTR	**Keskin Array B**	89.59	310	P		**P**	04 54 34.9	-1.5		
	comp=Z,2.3nm,0.9s,baz=108,slow=4.6,SNR=8.9									
KEV	**Kevo**	90.13	340	*e*P		P	04 54 42.7	+4.7		
KEV				pmax		pmax				
	comp=Z,1.0nm,0.3s									
KEV	**Kevo**	90.13	340	*e*p		P	04 54 42.7	+4.7		
	comp=Z,0.5nm,0.3s									
ARCES	**ARCESS Array B**	90.69	340	P		**P**	04 54 39.7	-0.9		
ARCES	**ARCESS Array B**	90.69	340	P		**P**	04 54 39.7	-0.9		
	comp=Z,5.1nm,1.0s,baz=87,slow=5.2,SNR=15									
INK	**Inuvik**	91.17	21	P		**P**	04 54 42.4	-0.4		
INK	**Inuvik**	91.17	21	P		**P**	04 54 42.4	-0.4		
	comp=Z,1.0nm,0.6s,baz=271,slow=4.2,SNR=4.6									
SYO	**Syowa Base**	91.42	201↓	*e*P		**P**	04 54 43.2	-0.7		
KAF	**Kangasniemi**	91.67	332	*e*P		**P**	04 54 43.9	-1.4		
KAF				pmax		pmax				
	comp=Z,3.0nm,0.3s									
KAF	**Kangasniemi**	91.67	332	*e*p		**P**	04 54 43.9	-1.4		
	comp=Z,3.1nm,0.3s									
AKASG	**Malin Array Be**	91.71	321	P		**P**	04 54 44.1	-1.6		
AKASG	**Malin Array Be**	91.71	321	P		**P**	04 54 44.1	-1.6		
AKASG	**Malin Array Be**	91.71	321	P		**P**	04 54 44.1	-1.6		
	comp=Z,1.8

comp=Z,31nm,21.6s,baz=119,slow=37
SONM Songino Array 26.11 326 P **P** **04 48 15.2 +1.5**
0.5nm,0.9s,baz=125,slow=9.0,SNR=2.3
MKAR Makanchi Array 40.29 311 P P 04 50 20.8 +3.9
0.3nm,0.9s,baz=99,slow=8.9,SNR=3.6
KURBB Kurchatov Arra 43.54 315 P **P** **04 50 43.3 -0.1**
0.1nm,0.3s,baz=104,slow=8.7,SNR=3.0
ILAR Eielson Array 63.26 29 P **P** **04 53 07.4 -0.7**
0.2nm,0.6s,baz=263,slow=7.2,SNR=6.0

IDC 17 04:57:08.5±4.0, 14°.83N×144°.77E, h447km±45km, mb3.3/12, mb1 3.5/12, mb1mx3.3/27, mbtmp3.3/12, Error ellipse: s-maj=22.4km s-min=14.0km az=87.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.41**	**346**	P	P	05 01 32.7	+0.9
	1.2nm,0.4s,baz=169,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**36.04**	**197**	P	P	05 03 30.3	-0.5
	0.4nm,0.7s,baz=8.6,slow=8.8,SNR=6.5						
FITZ	**Fitzroy Crossi**	**37.76**	**211**	P	P	05 03 44.6	-0.3
	2.9nm,0.9s,baz=18,slow=12,SNR=6.6						
SONM	**Songino Array**	**45.67**	**324**	P	P	05 04 48.0	+0.2
	0.7nm,0.6s,baz=143,slow=7.0,SNR=12						
SONM				PcP	PcP	05 06 17.0	+0.1
	0.2nm,0.5s,baz=150,slow=4.3,SNR=2.6						
MKAR	**Makanchi Array**	**60.54**	**316**	P	P	05 06 34.5	+0.3
	1.7nm,0.4s,baz=91,slow=8.5,SNR=44						
ZALV	**Zalesovo Beam**	**60.57**	**324**	P	P	05 06 33.8	-0.4
	0.5nm,0.4s,baz=115,slow=7.9,SNR=2.9						
ZALV				PcP	PcP	05 07 12.7	-0.8
	0.5nm,0.4s,baz=104,slow=6.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**63.62**	**319**	P	P	05 06 54.1	-0.2
	3.3nm,0.5s,baz=102,slow=6.6,SNR=44						
ILAR	**Eielson Array**	**67.50**	**26**	P	P	05 07 17.5	-0.9
	1.0nm,0.6s,baz=248,slow=5.8,SNR=31						
BVAR	**Borovoye Array**	**68.90**	**321**	P	P	05 07 27.1	-0.1
	4.3nm,0.4s,baz=104,slow=7.7,SNR=33						
INK	**Inuvik**	**73.27**	**23**	P	P	05 07 52.9	+0.2
	0.7nm,0.6s,baz=315,slow=9.4,SNR=5.7						
YKA	**Yellowknife Ar**	**81.81**	**27**	P	P	05 08 39.5	+0.2
	0.4nm,0.3s,baz=287,slow=5.0,SNR=7.4						
ARCES	**ARCESS Array B**	**85.88**	**342**	P	P	05 08 58.7	-0.8
	7.2nm,1.0s,baz=72,slow=5.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**134.08**	**305**	PKP	PKPdf	05 15 35.1	0.0
	1.3nm,1.3s,baz=0.1,slow=2.6,SNR=4.4						
LPAZ	**La Paz**	**148.29**	**97**	PKPbc	PKPbc	05 16 05.9	+0.8
	0.4nm,0.4s,baz=342,slow=3.2,SNR=3.0						

NNC 17 05:33:26.0±5.9, 54°.74N×83°.86E, h0km, mb3.7, mpv3.3, 4C-6D, Error ellipse: s-maj=50.5km s-min=26.2km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**5.24**	**220**	⇓Pn	Pn	05 34 49.8	+4.2
	3.4nm,0.3s,baz=36,slow=14						
KURBB				⇑Sn	Sn	05 35 52.3	+5.7
	1.2nm,0.5s						
KURBB				⇓Lg	Lg	05 36 14.5	
	7.9nm,0.7s,baz=45,slow=30						
MK31	**Makanchi Array**	**8.02**	**188**	⇓Pn	Pn	05 35 27.0	+3.3
	0.2nm,0.5s,baz=15,slow=12,SNR=8.1						
MK31				⇑Sn	Sn	05 36 59.6	+4.5
	0.2nm,0.6s						
MK31				⇓Lg	Lg	05 37 41.8	
	1.1nm,0.7s,baz=16,slow=27,SNR=4.6						
BVA0	**Borovoye Array**	**8.14**	**263**	⇓Pn	Pn	05 35 25.4	0.0
	1.2nm,0.5s,baz=71,slow=15,SNR=13						
BVA0				⇑Sn	Sn	05 36 55.5	-2.5
	1.6nm,0.8s,baz=65,slow=27,SNR=4.0						
BRVK	**Borovoye**	**8.19**	**264**	⇓Pn	Pn	05 35 23.7	-2.3
	0.8nm,0.4s						
BRVK				⇑Sn	Sn	05 36 55.5	-3.7
	1.2nm,0.4s						

KRSC 17 05:38:57.2±5.0, 50°.36N×157°.01E, h34km±34km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.66**	**300**	P	Pb	05 39 12.3	+2.0
SKR				*i* S	Sb	05 39 22.4	+3.1
PAU	**Pauzhetka**	**1.12**	**354**	P	Pb	05 39 17.3	-0.7
PAU				*i* S	Sb	05 39 32.0	-0.2
MTVR	**Mutnovka**	**2.25**	**19**	P	Pn	05 39 34.1	+1.9
MTVR				*i* S	Sn	05 40 00.8	+1.9
RUS	**Russkaya**	**2.28**	**24**	P	Pn	05 39 33.7	+1.3
RUS				*i* S	Sn	05 40 00.3	+1.1
UGLR	**Uglovaya**	**3.07**	**21**	P	Pn	05 39 46.6	+3.2
AVH	**Avacha**	**3.10**	**20**	P	Pn	05 39 46.9	+3.1
KOK	**Koryaka**	**3.10**	**18**	P	Pn	05 39 46.7	+2.8
KRER	**Koryakskii**	**3.14**	**19**	P	Pn	05 39 47.0	+2.5
KRX	**Arik**	**3.17**	**18**	P	Pn	05 39 47.5	+2.7
GNL	**Ganaly**	**3.39**	**9**	P	Pn	05 39 48.9	+1.1

IDC 17 05:47:20.9±1.6, 31°.06S×177°.86W, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.8/19, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=59.5km s-min=36.4km az=144.0
ISC 17 05:47:26.7±1.8, 31°.4S±0°.2×178°.0W±0°.4, h35km, n8, σ1s88/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.10**	**2**	LR	LR	05 48 17.8	
	comp=Z,558nm,18.6s,baz=246,slow=32						
URZ	**Urewera**	**7.97**	**209**	Pn	**Pn**	**05 49 22.3**	**+2.3**
	0.5nm,0.3s,baz=336,slow=20,SNR=2.3						
URZ				Sn	**Sn**	**05 50 46.2**	**-2.6**
	0.7nm,0.3s,baz=160,slow=19,SNR=4.3						
ASAR	**Alice Springs**	**43.06**	**268**	P	**P**	**05 55 24.2**	**+0.8**
	1.6nm,0.5s,baz=105,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**44.14**	**273**	P	**P**	**05 55 31.7**	**-0.3**
	2.6nm,0.5s,baz=112,slow=8.0,SNR=32						
MKAR	**Makanchi Array**	**118.38**	**310**	PKP	**PKPdf**	**06 06 11.2**	**+1.1**
	0.2nm,0.7s,baz=82,slow=5.2,SNR=3.1						
KURBB	**Kurchatov Arra**	**121.74**	**313**	PKP	**PKPdf**	**06 06 15.1**	**-1.3**
	0.1nm,0.4s,baz=87,slow=2.1,SNR=2.8						
BVAR	**Borovoye Array**	**127.08**	**315**	PKP	**PKPdf**	**06 06 25.4**	**-1.2**
	0.2nm,0.5s,baz=54,slow=2.5,SNR=3.1						
FINES	**FINESS Array B**	**146.04**	**339**	PKPbc	**PKPdf**	**06 07 00.7**	**-0.5**
	3.6nm,0.7s,baz=45,slow=5.7,SNR=7.8						

GUC 17 05:48:47.3±0.6, 32°.76S×71°.89W, h9km±1km, MD3.5, ML3.6, 8C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.34**	**141**	⇑*i*P	Pg	05 49 54.2	+0.3
IHA				*i* S	Sg	05 48 59.7	+1.2
ROCH	**El Roble**	**0.77**	**106**	⇑*i*P	Pg	05 49 02.0	-0.4
ROCH				*i* S	Sb	05 49 13.9	-0.1
ROCH				AML	AML	05 49 15.5	
	comp=N,5μm,0.7s						
PEL	**Peldehue**	**1.08**	**111**	⇓*i*P	Pg	05 49 07.3	-0.9
PEL				*i* S	Sg	05 49 22.0	-0.4
PEL				AML	AML	05 49 23.8	
	comp=E,5μm,0.3s						
JACH	**Jahuel**	**1.10**	**86**	⇑*i*P	Pg	05 49 07.3	-1.3
JACH				*i* S	Sg	05 49 22.6	-0.4
TACH	**Talagante**	**1.20**	**138**	⇓*i*P	Pb	05 49 08.5	-1.7
TACH				*i* S	Sb	05 49 24.7	-1.1
SAN	**Santiago**	**1.24**	**124**	⇓*i*P	Pn	05 49 09.7	+1.2
SAN				*e*S	Sb	05 49 26.6	-0.5
SAN				AML	AML	05 49 27.5	
	comp=N,2μm,0.1s						
STL	**Santa Lucia**	**1.25**	**123**	*i* P	Pn	05 49 09.6	-1.3
STL				*i* S	Sb	05 49 26.6	-0.7
LNV	**Longovilo**	**1.26**	**161**	⇑*i*P	Pn	05 49 08.6	-2.4
LNV				*i* S	Sb	05 49 26.7	-0.8
CLCH	**Cerro Calan**	**1.30**	**119**	⇑*i*P	Pn	05 49 10.7	-1.1
CLCH				*i* S	Sb	05 49 28.4	-0.5
CLCH				AML	AML	05 49 35.6	
	comp=N,2μm,0.4s						
ANTU	**Antumapu**	**1.33**	**128**	⇓*i*P	Pn	05 49 11.2	-0.9
ANTU				*i* S	Sb	05 49 28.9	-0.7
ANTU				AML	AML	05 49 35.0	
	comp=N,1μm,0.4s						
LACH	**Col Las Americ**	**1.33**	**121**	⇑*i*P	Pn	05 49 11.2	-0.9
LACH				*i* S	Sb	05 49 29.3	-0.5
LACH				AML	AML	05 49 30.5	
	comp=E,823nm,0.4s						
PCH	**Pirque**	**1.44**	**127**	⇓*i*P	Pn	05 49 13.0	-0.7
PCH				*i* S	Sn	05 49 32.1	-0.7
SJCH	**San Jose de Ma**	**1.56**	**125**	*i* P	Pn	05 49 13.9	-1.4
SJCH				*i* S	Sn	05 49 34.9	-0.9
SJCH				AML	AML	05 49 40.4	
	comp=N,696nm,0.3s						
CHCH	**Chadas Angostu**	**1.56**	**139**	⇓*i*P	Pn	05 49 14.5	-0.8
CHCH				*i* S	Sn	05 49 35.2	-0.5
CACH	**El Canelo**	**1.73**	**142**	⇑*i*P	Pn	05 49 18.1	+0.4
CACH				*i* S	Sb	05 49 41.5	+0.1
CMCH	**Combarbala**	**1.76**	**26**	⇑*i*P	Pn	05 49 16.9	-1.1
CMCH				*i* S	Sn	05 49 40.0	-0.5
CMCH				AML	AML	05 49 48.1	
	comp=E,3μm,0.5s						
LMEL	**Las Melosas**	**1.78**	**128**	⇓*i*P	Pn	05 49 18.6	+0.2
LMEL				*i* S	Sn	05 49 42.0	+0.6
LMEL				AML	AML	05 49 48.2	
	comp=N,1μm,0.2s						

DJA 17 05:57:14.0±0.8, 8°.S±6°.×10°.8E±°, h23km±6km, M3.5/12, MLv3.5/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.54**	**358**	P	Pb	05 57 25.2	+0.3
CMJI				S	Sb	05 57 33.3	+1.0
CLJI	**Cilicap**	**0.81**	**42**	P	Pb	05 57 29.7	+0.2
CLJI				S	Sb	05 57 30.0	-10
CISI	**Cisompet, Garu**	**1.01**	**320**	P	Pn	05 57 31.5	-1.3
CISI				S	Sb	05 57 44.0	-1.7
KPJI	**Karang Pucung**	**1.09**	**25**	P	Pn	05 57 33.4	-0.5
BJII	**Banjamegara**	**1.58**	**51**	P	Pn	05 57 41.6	+0.9
BJII				S	Sn	05 58 00.9	+0.4
TGJI	**Tegal**	**1.59**	**24**	P	Pn	05 57 39.0	-1.8
LEM	**Lembang**	**1.72**	**330**	P	Pn	05 57 43.3	+0.6
UGM	**Wanagama**	**2.08**	**79**	P	Pn	05 57 46.4	-1.1
UGM				S	Sn	05 58 08.6	-4.1
SKJI	**Sukabumi**	**2.31**	**305**	P	Pn	05 57 46.0	-4.7
SMRI	**Semarang**	**2.33**	**57**	P	Sn	05 58 18.8	-0.2
PCJI	**Pacitan**	**2.68**	**87**	P	Pn	05 57 56.0	+0.2
PWJI	**Pagerwojo**	**3.31**	**85**	P	Pn	05 58 03.5	-1.0
SJI	**Sawahan**	**3.32**	**80**	P	Sn	05 58 44.6	+1.1
SJI	**Sawahan**	**3.32**	**80**	P	Pb	05 58 10.1	-2.2
KRKI	**Karangkates**	**3.95**	**88**	P	Sn	05 59 07.5	+8.7

IDC 17 06:01:08.3±1.3, 26°.24N×126°.71E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.4/4, Error ellipse: s-maj=62.9km s-min=26.2km az=74.0
ISCJB 17 06:01:16.8±0.6, 26°.28N±0°.08×126°.63E±0°.08, h84km±5km, mb3.3/4, Error ellipse: s-maj=16.6km s-min=5.8km az=137.7
JMA 17 06:01:17.7±0.1, 26°.28N×126°.58E, h76km±1km, M3.4
ISC 17 06:01:17.8±0.9, 26°.30N±0°.09×126°.60E±0°.08, h78km±7km, n15, σ0s70/21, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.17**	**80**	P	**Pn**	**06 01 29.0**	**-0.2**
JKE				*e*S	**Sn**	**06 01 37.2**	**-0.4**
JAGN	**Aguni-jima**	**0.65**	**63**	P	**Pn**	**06 01 32.9**	**+0.2**
JAGN				*e*S	**Sn**	**06 01 43.9**	**+0.2**
JJT2	**Tamagusuku 2**	**1.04**	**98**	P	**Pn**	**06 01 37.5**	**+0.3**
JJT2				*e*S	**Sn**	**06 01 52.1**	**+0.3**
JIH	**Iheya**	**1.43**	**59**	P	**Pn**	**06 01 42.6**	**+0.5**
JIH				*e*S	**Sn**	**06 02 00.5**	**+0.1**
JOW	**Kunigami**	**1.59**	**70**	P	**Pn**	**06 01 44.2**	**0.0**
JOW				*e*S	**Sn**	**06 02 03.7**	**-0.6**
JOGS	**Gusukube**	**1.87**	**215**	*e*S	**Sn**	**06 02 10.9**	**+0.1**
JMJ	**Miyako jima 2**	**1.89**	**219**	*e*S	**Sn**	**06 02 10.0**	**-1.2**
JTK	**Tokunoshima**	**2.57**	**54**	P	**Pn**	**06 01 57.1**	**-0.2**
JTK				*e*S	**Sn**	**06 02 26.9**	**-0.7**
JAMN	**Amaminishikomi**	**3.00**	**49**	P	**Pn**	**06 02 02.6**	**-0.5**
JAM	**Amami Oshima**	**3.40**	**51**	P	**Pn**	**06 02 08.3**	**-0.3**
JAM				*e*S	**Sn**	**06 02 46.1**	**-1.7**
JMZ	**Minamidaito 2**	**4.18**	**96**	P	Pn	06 02 15.6	-3.6
JMZ				*e*S	Sn	06 02 59.3	-7.6
MKAR	**Makanchi Array**	**40.40**	**312**	P	**P**	**06 08 48.9**	**+0.6**
	0.1nm,0.3s,baz=94,slow=9.3,SNR=4.4						
WRA	**Warramunga Arr**	**46.57**	**170**	P	**P**	**06 09 37.3**	**-0.7**
	1.2nm,0.8s,baz=352,slow=8.5,SNR=7.3						
ASAR	**Alice Springs**	**50.17**	**171**	P	**P**	**06 10 05.1**	**-0.6**
	0.5nm,0.6s,baz=1.4,slow=11,SNR=5.2						
YKA	**Yellowknife Ar**	**79.08**	**24**	P	**P**	**06 13 14.3**	**+1.0**
	0.1nm,0.6s,baz=296,slow=5.7,SNR=3.7						

ISCJB 17 06:18:21.3±0.7, 19°.26N±0°.09×145°.5E±0°.2, h214km, mb3.7/17, Error ellipse: s-maj=22.3km s-min=12.3km az=2.9
IDC 17 06:18:21.7±4.9, 19°.25N×145°.52E, h200km±46km, mb3.5/15, mb1 3.7/16, mb1mx3.6/28, mbtmp3.5/16, Error ellipse: s-maj=20.0km s-min=10.7km az=93.0
ISC 17 06:18:22.7±0.8, 19°.2N±0°.1×145°.6E±0°.2, h214km, n22, σ0s99/20, mb3.9/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.42**	**341**	P	**P**	**06 22 20.7**	**-1.4**
	0.7nm,0.3s,baz=102,slow=10,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**19.99**	**89**	T	T	06 43 35.4	
	baz=276,slow=72,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**20.00**	**89**	T	T	06 43 35.6	
	baz=276,slow=72,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**20.01**	**89**	T	T	06 43 37.0	
	baz=276,slow=72,SNR=5.3						
KSRS	**Korea Array**	**23.82**	**323**	P	**P**	**06 23 15.7**	**-0.5**
	1.4nm,0.6s,baz=157,slow=8.1,SNR=4.8						
ASAJ	**Asahikawa**	**24.93**	**355**	P	**P**	**06 23 27.3**	**+1.1**
	2.7nm,0.4s,baz=77,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**40.47**	**196**	P	**P**	**06 25 40.6**	**-0.2**
	2.0nm,0.6s,baz=22,slow=9.0,SNR=14						
FITZ	**Fitzroy Crossi**	**41.96**	**209**	P	**P**	**06 25 52.8**	**0.0**
	2.4nm,0.6s,baz=6.4,slow=5.3,SNR=44						
SONM	**Songino Array**	**42.66**	**321**	P	**P**	**06 25 58.3**	**0.0**
	1.0nm,0.6s,baz=135,slow=8.4,SNR=11						
CMAR	**Chiang Mai Arr**	**44.04**	**277**	P	**P**	**06 26 11.2**	**+1.5**
	1.3nm,0.3s,baz=69,slow=7.3,SNR=6.6						
ASAR	**Alice Springs**	**44.14**	**195**	P	**P**	**06 26 09.8**	**-0.5**
	0.4nm,0.5s,baz=16,slow=7.1,SNR=7.3						
ZALV	**Zalesovo Beam**	**57.52**	**322**	P	**P**	**06 27 49.1**	**-0.5**
	0.6nm,0.4s,baz=96,slow=9.1,SNR=3.8						
MKAR	**Makanchi Array**	**58.01**	**314**	P	**P**	**06 27 53.3**	**+0.1**
	0.3nm,0.4s,baz=85,slow=8.6,SNR=8.8						
MKAR				PcP	**PcP**	**06 28 42.9**	**+0.2**
	0.4nm,0.6s,baz=84,slow=5.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**60.85**	**318**	P	**P**	**06 28 12.1**	**-0.3**
	0.5nm,0.3s,baz=91,slow=7.5,SNR=13						
ILAR	**Eielson Array**	**63.22**	**26**	P	**P**	**06 28 28.1**	**+0.1**
	1.3nm,0.4s,baz=258,slow=5.8,SNR=60						
YKA	**Yellowknife Ar**	**77.57**	**28**	P	**P**	**06 29 55.7**	**+1.0**
	1.4nm,0.5s,baz=289,slow=5.6,SNR=31						
KEV	**Kevo**	**81.39**	**342**	*ep*	**P**	**06 30 13.9**	**-1.3**
	1.0nm,0.4s						
ARCES	**ARCESS Array B**	**81.95**	**342**	P	**P**	**06 30 18.4**	**+0.2**
	1.8nm,0.5s,baz=88,slow=8.6,SNR=15						
JOF	**Joensuu**	**83.48**	**335**	*ep*	**P**	**06 30 24.4**	**-1.8**
	0.8nm,0.3s						
FINES	**FINESS Array B**	**86.35**	**335**	P	**P**	**06 30 39.3**	**-1.2**
	5.4nm,1.0s,baz=73,slow=4.8,SNR=16						
PDAR	**Pinedale Array**	**87.53**	**45**	P	**P**	**06 30 47.8**	**+0.9**
	0.3nm,0.5s,baz=170,slow=1.4,SNR=4.0						
LPAZ	**La Paz**	**147.79**	**90**	PKPbc	**PKPab**	**06 37 45.5**	**-1.5**
	0.6nm,0.6s,baz=287,slow=4.3,SNR=5.4						

MEX 17 06:20:06.3±0.5, 16°.11N×97°.25W, h20km±22km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.89**	**288**	*e*P	Pb	06 20 20.1	-3.0
PNIG				*e*S	Sb	06 20 31.6	-2.9
VHO	**Vista Hermosa**	**1.07**	**27**	*e*P	Pb	06 20 22.9	-3.6
VHO				*i* S	Sb	06 20 36.4	-3.9
HUIG	**Huatulco**	**1.15**	**107**	*e*P	Pn	06 20 24.3	-2.9
HUIG				*i* S	Sb	06 20 37.7	-4.4
TLIG	**Tlapa**	**1.92**	**319**	*i* P	Pn	06 20 35.0	-3.0
TLIG				*i* S	Sn	06 20 57.5	-4.1

IDC 17 06:34:28.6±1.8, 13°.86N×93°.10E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/27, mbtmp3.4/4, ML3.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=62.1km s-min=26.3km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.24**	**50**	Pn	Pn	06 36 15.7	-0.1
	0.1nm,0.3s,baz=240,slow=17,SNR=4.2						
CMAR				Sn	Sn	06 37 31.4	-7.3
	0.6nm,0.3s,baz=239,slow=28,SNR=3.6						
H08S3	**Diego Garcia H**	**29.57**	**225**	T	T	07 11 48.6	
	baz=46						
H08S2	**Diego Garcia H**	**29.58**	**225**	T	T	07 11 53.6	
	baz=46,SNR=2.3						
H08S1	**Diego Garcia H**	**29.59**	**225**	T	T	07 11 51.7	
	baz=46						
AAK	**Ala-Archa**	**32.87**	**334**	LR	LR	06 58 02.4	
	comp=Z,26nm,18.1s,baz=230,slow=43						
MKAR	**Makanchi Array**	**34.06**	**347**	P	P	06 41 14.6	0.0
	0.1nm,0.5s,baz=155,slow=8.0,SNR=3.5						
KSRS	**Korea Array**	**38.86**	**46**	LR	LR	06 58 02.0	
	comp=Z,16nm,18.3s,baz=250,slow=36						
WRA	**Warramunga Arr**	**52.67**	**129**	P	P	06 43 44.6	-0.5
	0.5nm,0.5s,baz=313,slow=8.3,SNR=11						
WRA				PcP	PcP	06 44 55.0	-0.1
	0.2nm,0.4s,baz=322,slow=3.2,SNR=4.9						
ASAR	**Alice Springs**	**54.62**	**133**	P	P	06 43 59.5	+0.1
	0.8nm,0.6s,baz=305,slow=6.7,SNR=12						

IDC 17 06:47:19.3±5.6, 36°.92N×133°.94E, h325km±131km, mb2.7/2, mb1 3.0/4, mb1mx2.7/27, mbtmp2.7/4, Error ellipse: s-maj=238.2km s-min=19.5km az=56.0
ISCJB 17 06:47:20.3±0.7, 37°.4N±0°.1×134°.9E±0°.1, h378km, mb2.8/2, Error ellipse: s-maj=16.5km s-min=12.3km az=29.0
JMA 17 06:47:20.4±0.5, 37°.34N×134°.90E, h388km±4km, M3.3
ISC 17 06:47:20.6±1.0, 37°.4N±0°.1×135°.0E±0°.1, h378km, n11, σ0s96/11, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.59**	**135**	P	**Pn**	**06 48 12.7**	**+0.7**
JKY	**Yasaka**	**1.79**	**176**	P	**Pn**	**06 48 13.6**	**+0.3**
JWT	**Wachi**	**2.17**	**170**	P	**Pn**	**06 48 16.0**	**+0.3**
JGM	**Miyama**	**2.23**	**140**	P	**Pn**	**06 48 16.6**	**+0.4**
MAT	**Matsushiro**	**2.75**	**108**	P	**Pn**	**06 48 20.9**	**+0.9**
MJAR	**Matsushiro Arr**	**2.75**	**108**	P	**Pn**	**06 48 21.6**	**+1.5**
	1.6nm,0.3s,baz=285,slow=10,SNR=17						
JIE	**Ise**	**3.34**	**154**	P	**Pn**	**06 48 25.8**	**+0.7**
JFK	**Kawauchi**	**4.72**	**89**	*e*S	**S**	**06 49 40.1**	**-1.7**
USRK	**Ussuriysk Arra**	**7.13**	**343**	P	**P**	**06 49 06.2**	**+0.2**
	0.2nm,0.3s,baz=160,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**39.52**	**301**	P	**P**	**06 54 15.7**	**-0.5**
	0.1nm,0.5s,baz=87,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**57.06**	**181**	P	**P**	**06 56 28.7**	**0.0**
	0.7nm,0.5s,baz=354,slow=7.7,SNR=11						

IDC 17 07:12:22.4±0.7, 30°.01S×177°.55W, h0km, mb4.3/8, mb1 4.6/9, mb1mx4.4/18, mbtmp4.3/9, ML4.3/1, MS4.0/18, Ms1 4.0/18, ms1mx3.8/32, Error ellipse: s-maj=24.1km s-min=18.2km az=91.0
ISCJB 17 07:12:26.5±0.5, 30°.12S±0°.05×177°.58W±0°.07, h35km, mb4.5/14, MS4.0/16, Error ellipse: s-maj=9.5km s-min=6.8km az=25.9
NEIC 17 07:12:30.2±1.3, 29°.91S×177°.58W, h55km±11km, mb4.8/7, Error ellipse: s-maj=17.2km s-min=10.5km az=126.0
AUST 17 07:12:30.9±1.2, 30°.00S×177°.56W, h46km, Error ellipse: s-maj=2.5km s-min=1.1km az=291.0
ISC 17 07:12:27.1±0.5, 30°.11S±0°.06×177°.47W±0°.08, h35km, n79, σ1s45/64, mb4.6/14, MS4.0/16, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**335**	*e*Pg	**Pn**	**07 12 42.4**	**-1.5**
RAO				*e*Sg	**Sn**	**07 12 55.8**	**-0.3**
RAO	**Raoul Island**	**0.94**	**335**	Pn	**Pn**	**07 12 42.0**	**-1.8**
	1μm,0.3s,baz=148,slow=1.4,SNR=60						
OUZ	**Omahuta**	**9.09**	**234**	*e*Pn	Pn	07 14 42.1	+6.3
	20nm,0.7s						
OUZ				*e*Sn	**Sn**	**07 16 17.6**	**+0.7**
URZ	**Urewera**	**9.28**	**207**	*e*Pn	**Pn**	**07 14 36.2**	**-2.2**
URZ				Sn	**Sn**	**07 16 18.9**	**-2.7**
URZ	**Urewera**	**9.28**	**207**	Pn	Pn	07 14 34.2	-4.3
	0.4nm,0.3s,baz=252,slow=3.2,SNR=4.8						
URZ				Sn	**Sn**	**07 16 18.9**	**-2.7**
	3.9nm,0.3s,baz=163,slow=22,SNR=9.1						
RPZ	**Rata Peaks**	**16.36**	**211**	*e*Pn	**P**	**07 16 16.0**	**-0.7**
RPZ				Sn	Sn	07 19 01.7	-13
RPZ	**Rata Peaks**	**16.36**	**211**	Pn	**Pn**	**07 16 13.1**	**-1.1**
	1.2nm,0.3s,baz=22,slow=7.6,SNR=3.8						
RPZ				Sn	Sn	07 19 01.7	-13
	0.7nm,0.3s,baz=243,slow=18,SNR=2.7						
DZM	**Mont Dzumac**	**16.51**	**295**	*e*P	P	07 16 32.3	+14
	122nm,1.3s						
DZM				*e*LR	LR	07 20 24.8	
	1μm,24.4s						
DZM	**Mont Dzumac**	**16.51**	**295**	LR	LR	07 21 16.2	
	comp=Z,715nm,20

baz=48,SNR=6.2
VNDA Vanda 48.43 186 *e*P P 07 21 09.2 +3.8
VNDA Vanda 48.43 186 P **P 07 21 08.2 +2.8**
1.0nm,0.7s,baz=34,slow=4.3,SNR=10.0
VNDA LR LR 07 38 36.1
comp=Z,91nm,18.3s,baz=342,slow=32
FITZ Fitzroy Crossi 52.82 269 LR LR 07 41 58.0
comp=Z,116nm,21.5s,baz=132,slow=34
CASY Casey 55.61 208 *e*P **P 07 21 59.4 +0.4**
8.4nm,0.8s
QSPA South Pole Qui 60.00 180 *e*P **P 07 22 32.6 +2.6**
1.3nm,0.3s
JCJ Chichijima 68.74 322 LR LR 07 47 57.1
comp=Z,86nm,20.1s,baz=305,slow=31
USHA Ushuaia 75.90 146 LR LR 07 50 01.4
comp=Z,183nm,18.3s,baz=170,slow=30
MJAR Matsushiro Arr 78.27 325 P **P 07 24 24.2 +0.9**
MJAR Matsushiro Arr 78.27 325 P **P 07 24 24.2 +0.9**
3.2nm,0.8s,baz=160,slow=11,SNR=4.8
JNU Nakatsue 79.65 318 LR LR 07 52 48.4
comp=Z,84nm,20.0s,baz=62,slow=30
PLCA Paso Flores 82.37 133 LR LR 07 52 19.7
comp=Z,172nm,21.1s,baz=258,slow=29
ASAJ Asahikawa 82.40 332 LR LR 07 58 35.4
comp=Z,121nm,19.9s,baz=132,slow=34
PETK Petropavlovsk- 85.65 345 P **P 07 25 01.8 +0.1**
PETK Petropavlovsk- 85.65 345 P **P 07 25 01.8 +0.1**
5.8nm,0.8s,baz=111,slow=6.5,SNR=4.5
WAKR Walker 87.11 42 *e*P **P 07 25 11.6 +2.1**
33nm,1.9s
WUAZ Wupatki 90.13 48 *e*P **P 07 25 21.8 -2.0**
2.7nm,0.9s
TXAR Lajitas Array 91.85 57 P **P 07 25 34.0 +2.1**
TXAR Lajitas Array 91.85 57 P **P 07 25 34.0 +2.1**
0.5nm,1.0s,baz=208,slow=7.2,SNR=3.6
TXAR LR LR 08 02 52.8
comp=Z,102nm,18.5s,baz=0.0,slow=33
PDAR Pinedale Array 95.61 43 P **P 07 25 50.5 +1.4**
PDAR Pinedale Array 95.61 43 P **P 07 25 50.5 +1.4**
0.6nm,1.0s,baz=232,slow=4.4,SNR=2.9
PDAR LR LR 08 02 13.1
comp=Z,72nm,19.9s,baz=262,slow=31
CPUP Villa Florida 99.80 128 LR LR 08 04 10.7
comp=Z,69nm,18.5s,baz=51,slow=31
MKAR Makanchi Array 117.94 310 PKP **PKPdf 07 31 09.3 -0.5**
MKAR Makanchi Array 117.94 310 PKP **PKPdf 07 31 09.3 -0.5**
0.8nm,0.9s,baz=53,slow=5.5
ARCES ARCESS Array B 138.40 348 PKP **PKPdf 07 31 47.1 -0.8**
ARCES ARCESS Array B 138.40 348 PKP **PKPdf 07 31 47.1 -0.8**
4.2nm,1.0s,baz=27,slow=1.0,SNR=3.0
FINES FINESS Array B 145.03 340 PKP **PKPbc 07 31 59.4 0.0**
FINES FINESS Array B 145.03 340 PKP **PKPbc 07 31 59.4 0.0**
25nm,0.8s,baz=51,slow=4.1,SNR=47
KBZ Khabaz 145.33 304 PKPbc **PKPdf 07 32 02.1 +1.1**
KBZ Khabaz 145.33 304 PKPbc **PKPdf 07 32 02.1 +1.1**
3.3nm,0.9s,baz=23,slow=4.4,SNR=3.5
NB2 NORSAR Subarra 148.53 352 PKP **PKPbc 07 32 09.4 -0.2**
comp=Z,3nm,0.7s,baz=12,slow=2.7
NOA NORSAR Array B 148.53 352 PKPbc **PKPbc 07 32 09.8 +0.1**
NOA NORSAR Array B 148.53 352 PKPbc **PKPbc 07 32 09.8 +0.1**
comp=Z,4.1nm,0.8s,baz=14,slow=4.4,SNR=8.9
AKASG Malin Array Be 151.34 323 PKPbc **PKPbc 07 32 16.4 -0.2**
AKASG PKPab **PKPab 07 32 22.8 -2.1**
AKASG Malin Array Be 151.34 323 PKPbc **PKPbc 07 32 16.4 -0.2**
comp=Z,3.2nm,0.7s,baz=47,slow=2.4,SNR=17
AKASG PKPab **PKPab 07 32 22.8 -2.1**
comp=Z,7.5nm,0.8s,baz=48,slow=3.3,SNR=16
KIEV Kiev 151.36 323 *e*PKPbc **PKPbc 07 32 17.3 +0.6**
KIEV *e*PKPab **PKPab 07 32 23.0 -1.9**
BR131 Keskin Array S 152.86 299 *e*PKPbc **PKPbc 07 32 18.9 -1.8**
BR131 *e*PKPab **PKPab 07 32 30.7 -1.2**
BRTR Keskin Array B 152.86 299 PKPbc **PKPbc 07 32 19.9 -0.7**
BRTR Keskin Array B 152.86 299 PKPbc **PKPbc 07 32 19.9 -0.7**
comp=Z,3.3nm,0.9s,baz=127,slow=1.7,SNR=9.9
CLL Collm 157.43 343 *i* PKPab **PKPab 07 32 50.4 -0.3**
comp=Z,12nm,1.3s
BRG Berggiesshubel 157.57 341 *e*P **PKPab 07 32 51.6 +0.3**
comp=Z,6.9nm,1.0s
GERES GERESS Array B 159.44 339 PKPab **PKPab 07 32 59.2 -0.4**
GERES GERESS Array B 159.44 339 PKPab **PKPab 07 32 59.2 -0.4**
comp=Z,1.0nm,0.7s,baz=26,slow=3.4,SNR=8.1
TORD Torodi Ar. Bea 163.10 177 PKPab **PKPab 07 33 16.1 -0.1**
TORD Torodi Ar. Bea 163.10 177 PKPab **PKPab 07 33 16.1 -0.1**
comp=Z,1.0nm,1.0s,baz=191,slow=3.8,SNR=3.4

IDC 17 07:15:54.1±3.4, 30.03S×177.32W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/17, mbtmp3.5/2, Error ellipse: s-maj=65.7km s-min=37.3km az=92.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.94**	**326**	Pn	Pn	07 16 14.6	0.0
	206nm,0.3s,baz=37,slow=20,SNR=14						
RAO				Sn	Sb	07 16 26.8	+0.6
	301nm,0.3s,baz=68,slow=19,SNR=9.5						
ASAR	**Alice Springs**	**43.72**	**266**	P	P	07 24 01.1	-0.2
	0.4nm,0.7s,baz=94,slow=8.5,SNR=2.7						
WRA	**Warramunga Arr**	**44.67**	**271**	P	P	07 24 08.9	-0.1
	0.4nm,0.3s,baz=111,slow=8.2,SNR=11						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	07 35 31.1	-0.9
	0.8nm,0.5s,baz=48,slow=2.8,SNR=3.6						

*IDC **17** 07:33:43.1±3.1,5.1°18S×102.03E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, MS3.7/1, Ms1 3.7/1, ms1mx2.8/36, Error ellipse: s-maj=138.3km s-min=20.1km az=51.0*
*ISCJB **17** 07:33:48.1±0.9,5.1°01S±0.1°09S×102.1°35E±0.1°06, h44km, mb3.8/7, MS3.7/1, Error ellipse: s-maj=12.5km s-min=8.0km az=1.9*
*DJA **17** 07:33:50.9±1.2,5.1°S±9.1°×10.1°3E±0.1°, h22km±11km, M3.7/5, MLv3.7/5*
ISC 17 07:33:50.6±1.2, 5.1°0S±0.1°1×102.1°46E±0.1°09, h44km, n17, σ0s78/16, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.78**	**39**	P	**Pn**	**07 34 04.7**	**-0.5**
MNAI				S	**Sn**	**07 34 15.3**	**-0.5**
MBSI	**MBSI**	**1.21**	**351**	P	**Pn**	**07 34 11.9**	**+0.8**
LHSI	**Lahat**	**1.55**	**43**	P	**Pn**	**07 34 16.4**	**+0.6**
LWLI	**Liwa**	**1.59**	**92**	P	**Pn**	**07 34 16.3**	**-0.1**
MDSI	**Maura Dua**	**1.78**	**74**	P	**Pn**	**07 34 18.3**	**-0.6**
MDSI				S	**Sn**	**07 34 40.6**	**+0.3**
KLSI		**2.28**	**83**	S	**Sn**	**07 34 53.9**	**+1.3**
H08S2	**Diego Garcia H**	**29.90**	**263**	T	T	08 10 57.9	
	baz=87,slow=75,SNR=24						
H08S3	**Diego Garcia H**	**29.91**	**263**	T	T	08 10 58.5	
	baz=87,slow=75,SNR=21						
H08S1	**Diego Garcia H**	**29.92**	**263**	T	T	08 10 59.3	
	baz=87,slow=75,SNR=13						
WRA	**Warramunga Arr**	**41.11**	**118**	P	**P**	**07 40 35.3**	**+1.3**
	0.2nm,0.4s,baz=295,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**35.54**	**125**	P	**P**	**07 40 43.5**	**-0.3**
	0.2nm,0.4s,baz=291,slow=7.5,SNR=5.5						
SONM	**Songino Array**	**52.69**	**3**	P	**P**	**07 43 00.8**	**0.0**
	0.9nm,0.7s,baz=178,slow=9.1,SNR=8.7						
SONM				LR	LR	08 07 57.1	
	comp=Z,64nm,19.3s,baz=43,slow=39						
MKAR	**Makanchi Array**	**54.55**	**343**	P	**P**	**07 43 13.5**	**-0.7**
	0.6nm,0.4s,baz=154,slow=9.1,SNR=16						
KURBB	**Kurchatov Arra**	**59.09**	**342**	P	**P**	**07 43 45.6**	**-0.7**
	0.6nm,0.8s,baz=158,slow=6.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**60.54**	**348**	P	**P**	**07 43 55.8**	**-0.4**
	1.4nm,0.4s,baz=160,slow=4.7,SNR=6.4						
BVAR	**Borovoye Array**	**63.81**	**339**	P	**P**	**07 44 17.0**	**-1.1**
	0.6nm,0.5s,baz=143,slow=10,SNR=4.9						
TXAR	**Lajitas Array**	**145.38**	**43**	PKPbc	**PKPab**	**07 53 24.9**	**+0.2**
	0.6nm,0.9s,baz=276,slow=1.1,SNR=6.2						

*IDC **17** 07:42:41.2±1.3,3.7°55N×126.57E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/25, mbtmp3.8/6, Error ellipse: s-maj=100.4km s-min=18.0km az=68.0*
*ISCJB **17** 07:42:46.6±1.4,3.7°4N±0.3°×126.3°E±0.6°, h53km, mb3.8/6, Error ellipse: s-maj=98.7km s-min=16.6km az=158.5*
ISC 17 07:42:48.5±1.4, 3.7°4N±0.3°×126.4°E±0.6°, h53km, n6, σ0s52/7, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.42**	**182**	P	**P**	**07 47 32.2**	**0.0**
	2.3nm,0.5s,baz=16,slow=7.4,SNR=9.2						
WRA	**Warramunga Arr**	**24.52**	**162**	P	**P**	**07 48 03.0**	**-0.1**
	8.4nm,0.5s,baz=342,slow=10.0,SNR=68						
ASAR	**Alice Springs**	**27.92**	**165**	P	**P**	**07 48 33.5**	**-0.4**
	0.4nm,0.4s,baz=342,slow=6.9,SNR=12						
STKA	**Stephens Creek**	**37.99**	**159**	P	**P**	**07 50 01.8**	**+0.4**
	1.4nm,0.7s,baz=332,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**57.59**	**326**	P	**P**	**07 52 33.5**	**+0.5**
	0.2nm,0.4s,baz=118,slow=7.9,SNR=6.6						
MKAR				PcP	**PcP**	**07 53 25.1**	**-0.7**
	0.3nm,0.6s,baz=115,slow=5.2,SNR=4.0						
KURBB	**Kurchatov Arra**	**61.80**	**328**	P	**P**	**07 53 01.9**	**+0.1**
	0.3nm,0.5s,baz=124,slow=6.1,SNR=4.6						

*IDC **17** 07:43:46.0±2.0,23.9°7S×66.8°4W, h163km±22km, mb3.4/1, mb1 3.6/5, mb1mx3.3/19, mbtmp4.0/5, Error ellipse: s-maj=39.9km s-min=19.4km az=108.0*
ISC 17 07:43:47.0±1.1, 24.0°S±0.1°×66.8°W±0.2°, h195km, n7, σ1s69/7, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.70**	**189**	P	**Pn**	**07 45 35.5**	**-0.9**
	0.1nm,0.3s,baz=4.3,slow=14,SNR=15						
LPAZ	**La Paz**	**7.77**	**350**	P	**Pn**	**07 45 37.1**	**-0.8**
	0.9nm,0.3s,baz=149,slow=9.6,SNR=24						
SIV	**San Ignacio**	**9.58**	**35**	P	**Pn**	**07 45 59.0**	**-2.0**
	0.9nm,0.3s,baz=248,slow=10,SNR=13						
PLCA	**Paso Flores**	**17.00**	**190**	P	**Pn**	**07 47 33.2**	**-0.3**
	0.1nm,0.3s,baz=11,slow=18,SNR=3.5						
BDFB	**Brasilia**	**19.47**	**68**	P	**Pn**	**07 48 03.0**	**0.0**
	2.9nm,0.3s,baz=236,slow=11,SNR=33						
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	**P**	**07 55 17.1**	**+2.0**
	0.9nm,0.8s,baz=255,slow=6.0,SNR=6.7						
MKAR	**Makanchi Array**	**146.37**	**40**	PKPbc	**PKPab**	**08 03 07.6**	**+1.5**
	0.4nm,0.6s,baz=316,slow=2.3,SNR=2.6						

IDC 17 07:44:08.6±2.5, 21.7°0N×143.3°E, h304km±22km, mb3.1/7, mb1 3.2/8, mb1mx3.0/29, mbtmp3.2/8, Error ellipse: s-maj=107.0km s-min=14.7km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.58**	**345**	P	Pn	07 45 34.8	+1.8
	21nm,0.3s,baz=293,slow=21,SNR=5.1						
JCJ				S	S	07 46 40.2	-0.8
	14nm,0.3s,baz=287,slow=19,SNR=3.4						
SONM	**Songino Array**	**39.73**	**320**	P	P	07 51 11.7	-0.6
	0.2nm,0.3s,baz=116,slow=7.2,SNR=4.9						
WRA	**Warramunga Arr**	**42.41**	**193**	P	P	07 51 34.1	-0.1
	0.3nm,0.3s,baz=16,slow=9.6,SNR=6.0						
ASAR	**Alice Springs**	**46.11**	**193**	P	P	07 52 02.9	-0.4
	0.3nm,0.7s,baz=15,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**55.15**	**313**	P	P	07 53 11.2	+1.0
	0.2nm,0.5s,baz=91,slow=9.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**57.34**	**317**	P	P	07 53 28.8	-0.8
	0.7nm,0.5s,baz=94,slow=7.6,SNR=8.0						
BVAR	**Borovoye Array**	**63.07**	**319**	P	P	07 54 03.8	-0.1
	1.5nm,0.3s,baz=99,slow=8.0,SNR=20						
FINES	**FINESS Array B**	**83.44**	**335**	P	P	07 56 02.3	+0.2
	2.5nm,0.8s,baz=70,slow=4.6,SNR=4.8						

MEX 17 07:49:42.5±0.9, 16.9°3N×99.4°6W, h20km±197km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**1.00**	**351**	*e*P	Pb	07 49 57.6	-3.7
MEIG				*i* S	Sb	07 50 10.6	-3.6
TLIG	**Tlapa**	**1.06**	**53**	*e*P	Pb	07 49 58.8	-3.5
TLIG				*i* S	Sb	07 50 11.9	-4.0
PNIG	**Pinotepa**	**1.38**	**113**	*e*P	Pn	07 50 04.2	-2.5
PNIG				*i* S	Sn	07 50 20.9	-3.6
PLIG	**Platanillo**	**1.46**	**358**	*e*P	Pn	07 50 04.4	-3.4
PLIG				*i* S	Sn	07 50 22.8	-3.6
ARIG	**Puente Sto Nin**	**1.59**	**328**	*e*P	Pn	07 50 07.0	-2.6
ARIG				*i* S	Sn	07 50 26.1	-3.5
YAIG	**Yautepec**	**1.96**	**11**	*e*P	Pn	07 50 11.8	-3.1
YAIG				*i* S	Sn	07 50 35.5	-3.4
ZIIG	**Zihuatanejo**	**2.03**	**290**	*i* P	Pn	07 50 12.7	-2.9
ZIIG				*i* S	Sn	07 50 37.5	-3.0
PPM	**Popocatepetl**	**2.27**	**20**	*e*P	Pn	07 50 18.6	-1.0
VHO	**Vista Hermosa**	**2.61**	**86**	*i* P	Pb	07 50 28.3	-0.6
MOIG	**Morelia**	**3.19**	**329**	*e*P	Pn	07 50 32.8	+0.9
PCIG		**6.11**	**101**	*i* P	Pn	07 51 14.9	+3.1

SKHL 17 07:56:08.2±0.1, 54.2°N×129.0°8E, h7km±1km, mb4.3/3, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BMKR	**Bomnak**	**0.32**	**335**	↑*i* Pg	Pg	07 56 13.5	-1.1
BMKR				sPg	Sg	07 56 18.0	-0.9
KROS	**Kirovskiy**	**1.23**	**271**	↓*i* Pg	Pb	07 56 30.0	-1.8
KROS				AMB	AMB	07 56 31.5	
	140nm,0.4s						
KROS				*e*Sg	Sg	07 56 46.0	-1.9
KROS				A	A	07 56 49.5	
	280nm,0.5s						
KROS				A	A	07 56 49.5	
	550nm,0.5s						
ZEA	**Zeya**	**1.28**	**238**	↓*i* Pg	Pn	07 56 30.7	-1.7
ZEA				AMB	AMB	07 56 31.0	
	110nm,0.2s						
ZEA				pPg	Pb	07 56 32.4	-0.2
ZEA				*e*Sg	Sb	07 56 47.1	-2.1
ZEA				A	A	07 56 47.8	
	800nm,0.5s						
ZEA				A	A	07 56 47.9	
	700nm,0.5s						
ZEA				A	A	07 56 47.9	
	550nm,0.5s						
ZEA				A	A	07 56 47.9	
	420nm,0.5s						
EKMR	**Ekimchan**	**2.67**	**119**	*e*Pn	Pn	07 56 51.1	-0.5
EKMR				pPn	pPn	07 56 53.9	+0.8
EKMR				*e*Pg	Pb	07 56 56.0	-0.3
EKMR				AMB	AMB	07 57 02.5	
	20nm,0.5s						
EKMR				AMB	AMB	07 57 02.5	
	7.0nm,0.5s						
EKMR				AMB	AMB	07 57 02.5	
	28nm,0.5s						
EKMR				*e*Sg	Sb	07 57 30.0	+0.8
EKMR				A	A	07 57 40.0	
	120nm,0.5s						
EKMR				A	A	07 57 40.0	
	100nm,0.5s						
EKMR				A	A	07 57 40.0	
	82nm,0.5s						
CLNS	**Chul'man**	**3.39**	**317**	*e*Pg	Pb	07 57 07.1	-1.6
CLNS				*e*Sg	Sg	07 57 55.5	-1.7
TUP	**Tupik**	**5.33**	**274**	*e*Pn	Pn	07 57 30.5	+2.3
TUP				*e*Pg	Pg	07 57 46.4	-3.9
TUP				*e*Sn	Sn	07 58 30.5	+0.7
TUP				*e*Sg	Sg	07 58 54.8	-4.6
KLR	**Kul'dur**	**5.46**	**161**	*e*Sg	Sb	07 58 55.6	+6.2
GRNR	**Gornyy**	**5.78**	**126**	*e*Sg	Sg	07 59 09.0	-4.7
GRNR				A	A	07 59 15.4	
	24nm,0.7s						
NKL	**Nikolayevsk**	**6.99**	**96**	*e*Sg	Sg	07 59 47.5	-4.9

IDC 17 08:00:25.4±2.2, 16.5°4S×178.0°9W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=131.2km s-min=28.5km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.20**	**258**	P	P	08 08 44.5	0.0
	0.4nm,0.3s,baz=94,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**45.47**	**253**	P	P	08 08 46.5	-0.2
	1.9nm,0.5s,baz=87,slow=8.7,SNR=25						
ILAR	**Eielson Array**	**84.49**	**13**	P	P	08 12 59.4	-0.3
	0.3nm,0.9s,baz=210,slow=5.2,SNR=4.6						
TXAR	**Lajitas Array**	**85.01**	**58**	P	P	08 13 03.5	+0.3
	0.4nm,1.0s,baz=224,slow=6.3,SNR=3.6						

IDC 17 08:00:29.7±1.9, 16.2°6S×173.2°3W, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.8/22, mbtmp4.0/5, ML1.7/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/31, Error ellipse: s-maj=58.7km s-min=27.5km az=125.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.72**	**31**	Pn	Pn	08 01 14.8	-0.1
	7.8nm,0.3s,baz=91,slow=1.1,SNR=18						
AFI				Sn	Sn	08 01 44.1	-4.5
	34nm,0.3s,baz=245,slow=22,SNR=10						
RAR	**Rarotonga**	**13.66**	**113**	LR	LR	08 07 35.8	
	comp=Z,122nm,21.9s,baz=269,slow=31						
DZM	**Mont Dzumac**	**20.05**	**250**	*e*LR	LR	08 10 40.8	
	105nm,24.9s						
TBI	**Tubuai**	**23.43**	**111**	*e*LR	LR	08 11 11.5	
	69nm,27.0s						
URZ	**Urewera**	**23.51**	**199**	P	P	08 05 40.9	-0.4
	3.4nm,0.3s,baz=174,slow=12,SNR=7.3						
HNR	**Honiara**	**27.00**	**281**	LR	LR	08 15 25.2	
	comp=Z,99nm,18.9s,baz=315,slow=33						
STKA	**Stephens Creek**	**43.76**	**241**	P	P	08 08 37.6	+0.4
	1.8nm,0.7s,baz=86,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**49.81**	**257**	P	P	08 09 24.4	-0.4
	0.4nm,0.5s,baz=92,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	**50.01**	**253**	P	P	08 09 26.2	0.0
	2.8nm,0.5s,baz=89,slow=8.3,SNR=28						

IGQ 17 08:04:13.2, 1.7°4S×81.7°5W, h20km±5km, Mb4.3, Ms4.1, 8C, Error ellipse: s-maj=7.0km s-min=3.3km az=5.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISPT	**Isla de la Pla**	**0.83**	**55**	↑↑S	Sb	08 04 39.0	-0.7
ISPT	**Isla de la Pla**	**0.83**	**55**	↑↑P	Pb	08 04 28.7	-0.3
PECV	**Mancha de Ca P**	**1.95**	**61**	P	Pn	08 04 42.0	-3.4
ARNL	**Arenillas**	**2.46**	**137**	↑↑P	Pn	08 04 54.0	+1.7
ARNL	**Arenillas**	**2.46**	**137**	↑↑S	Sn	08 05 21.4	-0.5
MAG1	**Magdalena**	**2.58**	**50**	P	Pn	08 04 55.5	+1.5
RIOE	**Riobamba**	**3.12**	**90**	P	Pn	08 05 03.2	+1.4
IGUA	**Igualata**	**3.12**	**86**	P	Pn	08 05 04.4	+2.2
BMAS	**Trigal station**	**3.28**	**86**	P	Pn	08 05 05.9	+1.8
ARRY	**Arrayan**	**3.31**	**86**	P	Pn	08 05 06.1	+1.7
RETU	**Refugio**	**3.32**	**85**	P	Pn	08 05 06.8	+2.0
PAT1	**Patacocha**	**3.32**	**86**	P	Pn	08 05 07.0	+2.2
BPAT	**Tungurahua Vol**	**3.33**	**86**	P	Pn	08 05 07.0	+2.1
BRUN	**Tungurahua Vol**	**3.35**	**85**	P	Pn	08 05 07.1	+2.0
BULB	**Ulba Tungurahu**	**3.35**	**85**	↑↑P	Pn	08 05 07.5	+2.4
ULBA	**Ulba**	**3.36**	**85**	P	Pn	08 05 07.6	+2.4
PISA	**Pisayambo**	**3.43**	**79**	P	Pn	08 05 09.4	+3.0
BNAS	**Cotopaxi Volca**	**3.44**	**72**	↑↑P	Pb	08 05 13.9	-0.3
BREF	**Cotopaxi Volca**	**3.48**	**72**	P	Pn	08 05 10.6	+3.5
JUA2	**San Juan 2**	**3.49**	**64**	P	Pn	08 05 09.0	+1.8
BVC2	**Cotopaxi Volca**	**3.51**	**72**	P	Pn	08 05 09.7	+2.2
PINO	**Pino**	**3.51**	**64**	P	Pn	08 05 08.9	+1.3
BTAM	**Cotopaxi Volca**	**3.52**	**73**	P	Pn	08 05 11.4	+3.8
GGP	**Refugio Guagua**	**3.52**	**64**	P	Pn	08 05 09.0	+1.3
VC1	**Cotopaxi 1**	**3.52**	**72**	P	Pb	08 05 14.4	-1.2
TAMB	**Tambo**	**3.54**	**73**	P	Pn	08 05 11.1	+3.3
COV1	**Cotopaxi Volc**	**3.57**	**73**	P	Pb	08 05 16.0	-0.7
ANTI	**Antisana**	**3.81**	**70**	P	Pn	08 05 14.9	+3.2
OTAV	**Otavalo**	**3.84**	**59**	↑↑S	Sn	08 05 57.8	+0.8
OTAV	**Otavalo**	**3.84**	**59**	↑↑P	Pn	08 05 13.0	+1.1
CAYR	**Refugio Cayamb**	**4.13**	**65**	P	Pn	08 05 20.0	+3.9
CAYA	**Cayambe**	**4.17**	**65**	P	Pn	08 05 19.8	+3.2

*ISCJB **17** 08:22:17.1±0.8, 23.2°4N±0.1°0×142.3°E±0.2, h33km, mb3.9/12, Error ellipse: s-maj=30.6km s-min=13.7km az=175.0*
*IDC **17** 08:22:20.4±4.2, 23.2°5N×142.3°2E, h46km±38km, mb3.6/12, mb1 3.8/13, mb1mx3.8/24, mbtmp3.7/13, ML4.1/1, Error ellipse: s-maj=29.4km s-min=17.0km az=86.0*
ISC 17 08:22:18.8±0.9, 23.1°1N±0.1°0×142.2°E±0.2, h35km, n21, σ1s44/18, mb3.9/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.97**	**360**	P	Pn	08 23 23.6	+6.4
	69nm,0.3s,baz=298,slow=22,SNR=23						
JCJ				S	**Sn**	**08 24 05.9**	**+3.4**
	230nm,0.3s,baz=280,slow=23,SNR=28						
MJAR	**Matsushiro Arr**	**13.82**	**346**	P	**Pn**	**08 25 31.1**	**-1.2**
	1.0nm,0.3s,baz=160,slow=11,SNR=10.0						
KSRS	**Korea Array**	**18.84**	**323**	P	Pn	08 26 42.8	+6.4
	0.5nm,0.3s,baz=135,slow=13,SNR=16						
USRK	**Ussuriysk Arra**	**22.65**	**341**	P	**P**	**08 27 15.8**	**-1.0**
	1.1nm,0.4s,baz=144,slow=9.2,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**23.23**	**94**	T	T	08 51 25.1	
	baz=285,slow=75,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**23.23**	**94**	T	T	08 51 38.3	
	baz=285,slow=75,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**23.24**	**94**	T	T	08 51 26.3	
	baz=285,slow=75,SNR=3.3						
SONM	**Songino Array**	**37.67**	**320**	P	**P**	**08 29 30.1**	**-0.7**
	0.3nm,0.4s,baz=135,slow=6.9,SNR=4.2						
WRA	**Warramunga Arr**	**43.48**	**191**	P	**P**	**08 30 20.7**	**+1.9**
	0.4nm,0.3s,baz=9.4,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**47.19**	**190**	P	**P**	**08 30 49.4**	**+1.1**
	0.1nm,0.5s,baz=13,slow=7.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.54**	**321**	P	**P**	**08 31 29.2**	**+0.6**
	1.0nm,0.3s,baz=109,slow=7.6,SNR=3.8						
MKAR	**Makanchi Array**	**53.08**	**312**	P	**P**	**08 31 34.1**	**+1.4**
	1.6nm,0.7s,baz=92,slow=9.6,SNR=16						
MKAR				PcP	**PcP**	**08 32 41.0**	**+0.2**
	0.2nm,0.4s,baz=85,slow=3.0,SNR=3.2						
ILAR	**Eielson Array**	**61.20**	**28**	P	**P**	**08 32 30.6**	**+0.8**
	0.2nm,0.6s,baz=245,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**75.63**	**28**	P	**P**	**08 33 58.8**	**-1.2**
	0.4nm,0.5s,baz=292,slow=6.0,SNR=11						
ARCES	**ARCESS Array B**	**77.30**	**341**

BIM	**Bigot**	**0.84**	**230**	*e*P	Pn	08 36 23.1	+1.2
BIM				eS	Sn	08 36 35.7	+2.6
DBCT	**Belle View Cho**	**0.93**	**283**	*e*P	Pn	08 36 25.5	+2.5
DBCT				eS	Sn	08 36 38.6	+3.4
DSHT	**Scott's Head**	**0.94**	**279**	*e*P	Pn	08 36 25.6	+2.5
DSHT				eS	Sn	08 36 38.3	+2.8
MDN	**Morne-Daniel**	**0.98**	**285**	*e*P	Pn	08 36 26.3	+2.6
MDN				eS	Sn	08 36 39.2	+2.8
DWS	**Wesley**	**1.00**	**300**	*e*P	Pn	08 36 25.8	+1.8
DWS				eS	Sn	08 36 39.4	+2.5
MGG	**Marie-Galante**	**1.22**	**314**	*e*P	Pn	08 36 28.0	+1.0
SLPE	**Piton Saint Es**	**1.34**	**205**	*e*P	Pn	08 36 30.9	+2.2
SLPE				eS	Sn	08 36 47.7	+2.3
SLB	**Belfond**	**1.38**	**207**⇑	*e*P	Pn	08 36 30.1	+1.8
SLB				eS	Sn	08 36 48.6	+2.3
TBG	**Guadaloupe-3**	**1.43**	**303**	*e*P	Pn	08 36 31.0	+1.2
MCLT	**Moule a Chique**	**1.45**	**201**	*e*P	Pn	08 36 31.4	+1.3
MCLT				eS	Sn	08 36 50.7	+2.8
DOG	**Dongo Capester**	**1.51**	**310**	*e*P	Pn	08 36 32.6	+1.6
PHG	**Guadaloupe-2**	**1.52**	**309**	*e*P	Pn	08 36 32.7	+1.5
ECG	**Echelle**	**1.54**	**309**	*e*P	Pn	08 36 33.0	+1.4
HMG	**Houelmont**	**1.54**	**306**	*e*P	Pn	08 36 33.0	+1.5
BCG	**Bois Riant Cap**	**1.54**	**311**	*e*P	Pn	08 36 32.9	+1.4
SCG	**Saint Claude**	**1.56**	**308**	*e*P	Pn	08 36 33.1	+1.5
SSG	**Sans Toucher**	**1.59**	**310**	*e*P	Pn	08 36 33.3	+1.0
MLG	**Mont-d'or**	**1.60**	**308**	*e*P	Pn	08 36 34.1	+1.8
LZG	**Guadaloupe-1**	**1.69**	**309**	*e*P	Pn	08 36 35.2	+1.7
SSV	**Crater Summit**	**1.89**	**204**	*e*P	Pn	08 36 38.0	+1.7
SSV				eS	Sn	08 37 01.0	+2.0
BHS	**Barnard House**	**1.89**	**202**	*e*P	Pn	08 36 38.5	+2.3
BHS				eS	Sn	08 37 01.6	+2.8
SVV	**Soufriere Volc**	**1.91**	**204**	*e*P	Pn	08 36 38.0	+1.6
SVV				eS	Sn	08 37 01.5	+2.2
SVB	**Belmont**	**1.96**	**205**	*e*P	Pn	08 36 38.8	+1.5
SVB				eS	Sn	08 37 01.9	+1.2
FCV	**Fort Charlotte**	**2.06**	**203**	*e*P	Pn	08 36 40.1	+1.5
FCV				eS	Sn	08 37 04.7	+1.5
GRW	**Mount Saint Ca**	**3.14**	**203**	*e*P	Pn	08 36 55.5	+2.0
GRW				eS	Sn	08 37 30.9	+1.1
SKI	**Saint Kitts**	**3.18**	**316**	*e*P	Pn	08 36 56.5	+2.6
SKI				eS	Sn	08 37 32.1	+1.5
TOSP	**Speyside**	**3.75**	**182**	*e*P	Pn	08 37 04.2	+2.4

DJA **17** *08:52:59.0±1.9,4°S±10″×14°0E±1″4, h10km, M3.8/2, MLv3.8/2*
IDC **17** *08:53:01.9±2.8, 3°24S×135°76E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=115.2km s-min=29.5km az=79.0*
ISC 17 08:53:03.9±1.5,**3°3S**±0′2×**138°0E**±0′2, **h82km**, **n4**, σ1⁹**98**/5, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAMI	**Wamena**	**0.98**	**129**	P	**Pn**	**08 53 21.2**	**-1.7**
WAMI				S	**Sn**	**08 53 39.0**	**+2.0**
WRA	**Warramunga Arr**	**16.95**	**192**	Pn	**P**	**08 56 57.5**	**+0.8**
	0.2nm,0.3s,baz=6.1,slow=13,SNR=10						
WRA				Sn	**S**	**09 00 08.8**	**-0.7**
	0.1nm,0.3s,baz=16,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**20.66**	**191**	P	Pn	08 57 40.2	-0.1
	0.6nm,0.5s,baz=22,slow=9.2,SNR=19						
MKAR	**Makanchi Array**			P	**P**	**09 04 05.8**	**+0.4**
	0.4nm,0.8s,baz=111,slow=7.9,SNR=3.4						

MAN **17** *08:53:48, 12°73N×121°22E, h1km, mb4.2, ML3.1, MS2.8*
IDC **17** *08:53:49.8±1.2, 12°72N×121°41E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/25, mbtmp3.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=55.5km s-min=18.0km az=66.0*
ISCJB **17** *08:53:51.1±0.5, 12°80N±0′04×121°20E±0′05, h25km, mb3.5/4, MS3.1/1, Error ellipse: s-maj=7.2km s-min=5.7km az=136.4*
ISC 17 08:53:51.4±0.9,**12°78N**±0′04×**121°23E**±0′04, **h25**km, **n16**, σ1⁹**65**/17, **mb3.6**/4, **2C-1D**, **Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.33**	**199**	*e*P	**Pb**	**08 53 57.7**	**-1.3**
SJMP				eS	**Sn**	**08 54 06.1**	**-0.5**
PGP	**Puerto Galera**	**0.77**	**340**⇑	*i*P	**Pb**	**08 54 03.6**	**-2.6**
OTRP	**Odiongan**	**0.88**	**118**	*e*P	**Pb**	**08 54 05.4**	**-2.6**
OTRP				eS	**Sn**	**08 54 20.0**	**-0.1**
BOAC	**Boac**	**0.91**	**41**	*e*P	**Pb**	**08 54 06.2**	**-2.3**
BUSP	**Coron**	**1.27**	**233**	*e*P	**Pn**	**08 54 12.4**	**-1.2**
TGY	**Tagaytay City**	**1.35**	**348**	i/P	**Pb**	**08 54 15.5**	**-0.6**
TGY				*i* S	Sb	08 54 39.4	+6.4
TGY	**Tagaytay City**	**1.35**	**348**	Pg	**Pb**	**08 54 15.0**	**-1.1**
	347nm,0.3s,baz=172,slow=2.3,SNR=40						
LUBP	**Lubang**	**1.35**	**315**	*e*P	**Pn**	**08 54 14.4**	**-0.3**
AUQP	**San Andres**	**1.51**	**69**	*e*P	**Pb**	**08 54 18.3**	**-0.5**
RCP	**Roxas**	**1.91**	**129**⇑	*e*P	**Pn**	**08 54 23.4**	**+0.9**
RCP				eS	**Sb**	**08 54 48.5**	**-0.6**
ENPP	**El Nido**	**2.36**	**229**	*e*P	**Pn**	**08 54 28.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**22.18**	**288**	P	**P**	**08 58 49.4**	**+3.3**
	0.6nm,0.3s,baz=107,slow=8.6,SNR=4.8						
WRA	**Warramunga Arr**	**34.98**	**158**	P	**P**	**09 00 42.9**	**+0.9**
	0.8nm,0.7s,baz=341,slow=9.0,SNR=4.3						
SONM	**Songino Array**	**37.08**	**343**	P	P	09 01 04.2	+4.3
	0.2nm,0.5s,baz=158,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**38.28**	**161**	P	**P**	**09 01 10.8**	**+0.7**
	0.8nm,0.7s,baz=343,slow=7.1,SNR=8.6						
PETK	**Petropavlovsk-**	**49.59**	**28**	LR	LR	09 22 08.1	
	comp=Z,20nm,21.7s,baz=264,slow=34						

WEL 17 09:14:44.1±0.7,**46°71S×165°13E**, **h33**km, **ML3.9**/11, **1C-1D**, **Error ellipse: s-maj=6.8km s-min=4.4km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.87**	**50**	PN	Pn	09 15 11.0	-2.8
DCZ				SN	Sn	09 15 33.5	-2.8
DCZ				AML	AML	09 15 35.0	
DCZ				AML	AML	09 15 39.8	
DCZ				AML	AML	09 15 45.7	
APZ	**The Paps**	**1.97**	**95**	PN	Pn	09 15 14.4	-0.9
APZ				SN	Sn	09 15 37.0	-1.8
APZ				AML	AML	09 15 38.1	
WHZ	**Wether Hill Ro**	**2.12**	**68**	PN	Pn	09 15 16.1	-1.2
WHZ				SN	Sn	09 15 40.8	-1.6
WHZ				AML	AML	09 15 43.2	
MLZ	**Mavora Lakes**	**2.52**	**58**	PN	Pn	09 15 21.6	-1.2
MLZ				SN	Sn	09 15 50.8	-1.7
MLZ				AML	AML	09 15 54.4	
SYZ	**Scrubby Hill**	**2.77**	**88**	PN	Pn	09 15 26.1	0.0
SYZ				SN	Sn	09 15 57.6	-0.8
SYZ				AML	AML	09 16 00.4	
MSZ	**Milford Sound**	**2.83**	**45**	*e*PN	Pn	09 15 25.5	-1.5
MSZ				AML	AML	09 16 07.5	
MSZ				AML	AML	09 16 09.9	
TUZ	**Tuapeka**	**3.21**	**78**	PN	Pn	09 15 31.2	-1.0
TUZ				SN	Sn	09 16 07.2	-2.1
TUZ				AML	AML	09 16 09.3	
EAZ	**Earnscleugh**	**3.27**	**65**	⇑PN	Pn	09 15 32.3	-0.7
EAZ				AML	AML	09 16 10.2	
EAZ				AML	AML	09 16 11.0	
WKZ	**Wanaka**	**3.31**	**57**	PN	Pn	09 15 33.8	+0.2
WKZ				AML	AML	09 16 13.5	
WKZ				AML	AML	09 16 14.6	
JCZ	**Jackson Bay**	**3.67**	**45**	*e*PN	Pn	09 15 37.4	-1.4
JCZ				AML	AML	09 16 24.7	
JCZ				AML	AML	09 16 25.3	
ODZ	**Otahua Downs**	**4.20**	**69**	⇓PN	Pn	09 15 43.3	-2.5
LBZ	**Lake Benmore**	**4.25**	**59**	*e*PN	Pn	09 15 43.8	-2.6
LBZ				AML	AML	09 16 32.2	
FOZ	**Fox Glacier**	**4.51**	**47**	*e*PN	Pn	09 15 49.6	-0.4
WVZ	**Waitaha Valley**	**5.39**	**50**	PN	Pn	09 15 60.0	-2.2
DSZ	**Denniston Nort**	**6.90**	**46**	*e*PN	Pn	09 16 20.3	-2.7
DSZ				SN	Sn	09 17 32.4	-7.9
THZ	**Tophouse**	**7.46**	**51**	PN	Pn	09 16 29.4	-1.2

IDC **17** *09:21:56.1±1.4, 54°25N×86°22E, h0km, mb3.2/1, mb1 3.7/5, mb1mx3.4/30, mbtmp3.6/5, ML3.7/4, Error ellipse: s-maj=12.3km s-min=11.9km az=74.0*
ISCJB **17** *09:21:58.7±1.2, 54°31N±0′07×85°8E±0′1, h33km, mb3.3/1, Error ellipse: s-maj=10.4km s-min=8.4km az=44.4*

NNC **17** *09:22:01.9±5.4, 53°78N×85°73E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=42.3km s-min=24.7km az=46.0*
ISC 17 09:22:00.7±1.5,**54°31N**±0′10×**86°0E**±0′1, **h35**km, **n11**, σ1⁹**08**/14, **2C-5D**, **Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.80**	**243**	Pg	Pn	09 22 11.0	-4.5
	4.6nm,0.3s,baz=69,slow=17,SNR=23						
ZALV				Lg	Lg	09 22 25.6	
	19nm,0.3s,baz=72,slow=29,SNR=46						
KURBB	**Kurchatov Arra**	**5.89**	**234**	Pn	**Pn**	**09 23 25.9**	**+0.5**
	1.5nm,0.3s,baz=51,slow=14,SNR=15						
KURBB				Lg	Lg	09 25 05.2	
	0.6nm,0.3s,baz=52,slow=34,SNR=6.6						
KURBB	**Kurchatov Arra**	**5.89**	**234**	⇓Pn	**Pn**	**09 23 26.4**	**+1.0**
	6.0nm,0.5s,baz=51,slow=14						
KURBB				⇓Sn	**Sn**	**09 24 31.9**	**+0.3**
	9.4nm,0.6s						
KURBB				⇓Lg	Lg	09 24 59.2	
	15nm,0.6s,baz=53,slow=32						
MK31	**Makanchi Array**	**7.89**	**199**	Pn	**Pn**	**09 23 53.4**	**+0.5**
	1.9nm,0.6s,baz=28,slow=13,SNR=44						
MK31				⇓Sn	**Sn**	**09 25 19.1**	**-1.9**
	0.8nm,0.6s,baz=25,slow=27,SNR=4.1						
MK31				⇓Lg	Lg	09 25 56.2	
	3.8nm,0.8s,baz=23,slow=31,SNR=3.1						
MKAR	**Makanchi Array**	**7.89**	**199**	Pn	**Pn**	**09 23 52.7**	**-0.3**
	0.9nm,0.3s,baz=26,slow=13,SNR=38						
MKAR				Sn	**Sn**	**09 25 22.2**	**+1.2**
	0.2nm,0.3s,baz=27,slow=26,SNR=4.7						
MKAR				Lg	Lg	09 26 01.5	
	0.2nm,0.3s,baz=20,slow=23,SNR=6.4						
BVA0	**Borovoye Array**	**9.38**	**268**	⇑Sn	**Sn**	**09 25 56.8**	**-0.6**
	1.4nm,0.5s,baz=72,slow=27,SNR=4.8						
BVAR	**Borovoye Array**	**9.38**	**268**	Pn	**Pn**	**09 24 14.6**	**+1.4**
	0.6nm,0.3s,baz=68,slow=15,SNR=13						
BVAR				Sn	**Sn**	**09 25 55.8**	**-1.5**
	0.5nm,0.3s,baz=68,slow=27,SNR=5.7						
BRVK	**Borovoye**	**9.43**	**269**	⇑Sn	**Sn**	**09 25 57.9**	**-0.7**
	3.1nm,0.7s						
AAK	**Ala-Archa**	**13.95**	**218**	Pn	**Pn**	**09 25 16.6**	**+0.8**
	0.1nm,0.3s,baz=22,slow=19,SNR=2.8						
AKTO	**Aktyubinsk**	**17.49**	**269**	P	**Pn**	**09 26 01.6**	**+0.1**
	0.1nm,0.3s,baz=63,slow=9.0,SNR=3.4						
ILAR	**Eielson Array**	**54.50**	**25**	P	**P**	**09 31 24.1**	**-0.2**
	0.3nm,0.9s,baz=310,slow=3.9,SNR=5.6						

IGQ **17** *09:30:20.3, 1°71S×81°84W, h21km±179km, Mb4.7, Ms4.6, Error ellipse: s-maj=7.9km s-min=3.6km az=5.9*
IDC **17** *09:30:21.4±1.4, 1°58S×81°68W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/21, mbtmp3.7/7, ML3.6/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/26, Error ellipse: s-maj=98.3km s-min=17.9km az=58.0*
ISCJB **17** *09:30:24.2±0.7, 1°64S±0′04×81°74W±0′05, h33km, mb3.7/5, MS3.6/5, Error ellipse: s-maj=7.5km s-min=6.3km az=20.4*
ISC 17 09:30:26.3±0.8,**1°65S**±0′05×**81°68W**±0′08, **h35**km, **n56**, σ1⁹**24**/48, **mb3.6**/5, **MS3.5**/5, **12C**, **Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**0.71**	**57**	⇑S	**Sn**	**09 30 47.1**	**-2.6**
ISPT	**Isla de la Pla**	**0.71**	**57**	⇑P	Pn	09 30 36.6	-3.3
PECV	**Mancha de Ca P**	**1.84**	**62**	⇑P	Pn	09 30 49.7	-5.8
JAMA	**Jama**	**2.02**	**47**	P	**Pn**	**09 30 55.4**	**-2.5**
MAG1	**Magdalena**	**2.46**	**51**	P	**Pn**	**09 31 03.4**	**-0.7**
ARNL	**Arenillas**	**2.48**	**140**	⇑S	**Sn**	**09 31 29.3**	**-3.9**
ARNL	**Arenillas**	**2.48**	**140**	⇑P	**Pn**	**09 31 01.9**	**-2.3**
IGUA	**Igualata**	**3.04**	**87**	P	**Pn**	**09 31 11.8**	**-0.7**
PAST	**Pastocalle**	**3.18**	**73**	P	**Pn**	**09 31 15.5**	**+1.2**
BMAS	**Trigal station**	**3.20**	**87**	P	**Pn**	**09 31 13.5**	**-1.0**
JUI6	**Juive**	**3.21**	**86**	P	**Pn**	**09 31 14.6**	**-0.1**
ARRY	**Arrayan**	**3.22**	**88**	⇑S	**Sn**	**09 31 53.6**	**+1.4**
ARRY	**Arrayan**	**3.22**	**88**	⇑P	**Pn**	**09 31 14.0**	**-0.8**
RETU	**Refugio**	**3.23**	**87**	P	**Pn**	**09 31 15.2**	**+0.1**
PAT1	**Patacocha**	**3.24**	**88**	P	**Pn**	**09 31 14.7**	**-0.5**
BPAT	**Tungurahua Vol**	**3.24**	**87**	P	**Pn**	**09 31 14.6**	**-0.6**
BRUN	**Tungurahua Vol**	**3.27**	**86**	⇑P	**Pn**	**09 31 15.0**	**-0.4**
BULB	**Ulba Tunguruhu**	**3.27**	**86**	⇑P	**Pn**	**09 31 15.4**	**-0.1**
ULBA	**Ulba**	**3.27**	**87**	P	**Pn**	**09 31 15.4**	**-0.1**
BNAS	**Cotopaxi Volca**	**3.34**	**73**	P	**Pn**	**09 31 16.9**	**+0.4**
PISA	**Pisayambo**	**3.34**	**80**	P	**Pn**	**09 31 17.0**	**+0.5**
NAS2	**Nasa**	**3.36**	**73**	P	**Pn**	**09 31 18.2**	**+1.4**
MOV1	**Cotopaxi Vol s**	**3.37**	**74**	P	**Pn**	**09 31 16.9**	**-0.1**
JUA2	**San Juan 2**	**3.38**	**65**	P	**Pn**	**09 31 16.8**	**-0.4**
PINO	**Pino**	**3.41**	**64**	P	**Pn**	**09 31 16.7**	**-0.9**
BVC2	**Cotopaxi Volca**	**3.41**	**73**	P	**Pn**	**09 31 17.9**	**+0.4**
GGP	**Refugio Guagua**	**3.41**	**65**	P	**Pn**	**09 31 16.7**	**-0.9**
BTAM	**Cotopaxi Volca**	**3.42**	**74**	⇑P	**Pn**	**09 31 18.0**	**+0.3**
VC1	**Cotopaxi 1**	**3.42**	**73**	P	**Pn**	**09 31 18.8**	**+1.1**
TAMB	**Tambo**	**3.44**	**74**	P	**Pn**	**09 31 18.7**	**+0.8**
COV1	**Cotopaxi Volc**	**3.47**	**74**	P	**Pn**	**09 31 17.5**	**-1.0**
MACE	**Macas**	**3.53**	**100**	P	**Pn**	**09 31 17.5**	**-1.4**
ANTI	**Antisana**	**3.71**	**71**	P	**Pn**	**09 31 22.4**	**+0.7**
OTAV	**Otavalo**	**3.73**	**60**	⇑S	**Sn**	**09 32 06.2**	**+1.4**
OTAV	**Otavalo**	**3.73**	**60**	⇑P	**Pn**	**09 31 20.6**	**-1.3**
CAYR	**Refugio Cayamb**	**4.02**	**66**	P	**Pn**	**09 31 27.4**	**+1.3**
CAYA	**Cayambe**	**4.06**	**65**	P	**Pn**	**09 31 27.5**	**+0.9**
LITE	**Lita**	**4.11**	**54**	P	**Pn**	**09 31 25.5**	**-1.4**
LITE	**Lita**	**4.11**	**54**	S	**Sn**	**09 32 12.7**	**-1.2**
ATAH	**Atahualpa**	**6.36**	**149**	Pn	**Pn**	**09 31 58.5**	**+0.5**
	0.7nm,0.3s,baz=352,slow=9.0,SNR=6.5						
ATAH				Sn	**Sn**	**09 33 11.3**	**+1.8**
	1.0nm,0.3s,baz=135,slow=19,SNR=3.7						
APG	**El Apazote**	**18.69**	**333**	LR	LR	09 40 45.9	
	comp=Z,63nm,20.1s,baz=350,slow=34						
LPAZ	**La Paz**	**19.74**	**138**	P	**P**	**09 34 54.2**	**+0.3**
	0.1nm,0.3s,baz=332,slow=9.8,SNR=12						
LPAZ				LR	LR	09 43 31.1	
	comp=Z,60nm,21.9s,baz=253,slow=40						
SIV	**San Ignacio**	**24.80**	**126**	P	**P**	**09 35 45.8**	**+0.4**
	2.2nm,0.8s,baz=304,slow=11,SNR=6.5						
SIV				LR	LR	09 46 44.4	
	comp=Z,126nm,20.9s,slow=40						
H03N2	**Juan Fernandez**	**31.73**	**176**	T	T	10 11 12.7	
	baz=354,slow=75,SNR=50						
H03N1	**Juan Fernandez**	**31.73**	**176**	T	T	10 11 13.0	
	baz=354,slow=75,SNR=71						
H03N3	**Juan Fernandez**	**31.75**	**176**	T	T	10 11 13.6	
	baz=354,slow=75,SNR=79						
CPUP	**Villa Florida**	**33.91**	**138**	LR	LR	09 52 20.6	
	comp=Z,97nm,21.0s,baz=297,slow=39						
BDFB	**Brasilia**	**35.98**	**115**	LR	LR	09 53 22.4	
	comp=Z,172nm,18.9s,baz=224,slow=38						
TXAR	**Lajitas Array**	**37.31**	**327**	PcP	**PcP**	**09 39 55.2**	**+0.7**
	0.3nm,0.8s,baz=166,slow=5.6,SNR=3.1						
TXAR				LR	LR	09 52 56.4	
	comp=Z,36nm,18.4s,baz=95,slow=36						
PDAR	**Pinedale Array**	**50.85**	**334**	P	**P**	**09 39 24.6**	**+0.6**
	0.6nm,0.9s,baz=151,slow=6.8,SNR=3.6						
ULM	**Lac du Bonnet**	**53.12**	**349**	P	**P**	**09 39 40.9**	**+0.5**
	3.0nm,0.7s,baz=157,slow=8.4,SNR=6.8						
YKA	**Yellowknife Ar**	**68.64**	**344**	P	**P**	**09 41 25.2**	**-0.5**
	0.2nm,0.6s,baz=145,slow=6.3,SNR=4.5						
DBIC	**Dimbokro**	**77.11**	**83**	LR	LR	10 11 55.4	
	comp=Z,76nm,19.0s,baz=21,slow=32						
ILAR	**Eielson Array**	**81.15**	**337**	P	**P**	**09 42 37.2**	**-0.8**
	0.5nm,0.9s,baz=169,slow=4.8,SNR=5.0						
ASAR	**Alice Springs**	**137.22**	**232**	PKP	**PKPdf**	**09 49 47.2**	**+0.2**
	0.2nm,0.8s,baz=108,slow=3.0,SNR=3.0						
WRA	**Warramunga Arr**	**138.67**	**237**	PKP	**PKPdf**	**09 49 51.5**	**+1.9**
	0.5nm,0.7s,baz=96,slow=1.7,SNR=4.8						

IDC 17 09:32:25.4±1.2,**55°51S×26°80W**, **h0km**, **mb3.9**/2, **mb1 3.7**/3, **mb1mx3.6**/17, **mbtmp3.6**/3, **ML2.7**/1, **Error ellipse: s-maj=52.4km s-min=34.6km az=59.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.15**	**157**	P	P	09 36 49.7	-0.2
	0.0nm,0.3s,baz=275,slow=11,SNR=1.8						
LPAZ	**La Paz**	**50.25**	**304**	P	P	09 41 23.4	-0.5
	0.8nm,0.7s,baz=148,slow=7.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**72.47**	**29**	P	P	09 43 53.5	-0.1
	0.9nm,0.7s,baz=190,slow=5.7,SNR=6.1						
INK	**Inuvik**	**145.52**	**321**	PKPbc	PKPdf	09 52 03.5	-0.2
	0.5nm,0.4s,baz=114,slow=1.8,SNR=7.7						
ILAR	**Eielson Array**	**149.92**	**312**	PKPbc	PKPbc	09 52 15.7	-0.3
	0.2nm,0.7s,baz=123,slow=3.8,SNR=5.5						

NIED **17** *09:33:00, 37°20N×141°00E, h83km, Mw3.5 Best double couple: M₀2.08000×10¹⁴ NP1:φ₁216.00000°, δ76.00000°, λ-95.00000°. NP2:φ₂57.00000°, δ15.00000°, λ-69.00000°.*
IDC **17** *09:33:48.8±3.0, 37°26N×141°26E, h80km±25km, mb3.1/3, mb1 3.3/6, mb1mx3.1/26, mbtmp3.2/6, Error ellipse: s-maj=39.2km s-min=23.5km az=84.0*
ISCJB **17** *09:33:49.6±0.8, 37°26N±0′06×141°07E±0′09, h99km±4km, mb3.3/3, Error ellipse: s-maj=12.4km s-min=7.9km az=31.4*
JMA **17** *09:33:51.2±0.1, 37°25N×140°95E, h91km±1km, M3.5*
JMA Felt I J1.
ISC 17 09:33:50.3±1.2,**37°26N**±0′07×**141°10E**±0′08, **h93**km±7km, **n21**, σ0⁹**74**/24, **mb3.3**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.21**	**302**	P	**Pn**	**09 34 04.1**	**+0.3**
JFK				S	**Sn**	**09 34 13.5**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.28**	**238**	P	**Pn**	**09 34 04.4**	**+0.2**
ONAJ				S	**Sn**	**09 34 14.5**	**+0.1**
JMM	**Marumori**	**0.66**	**338**	P	**Pn**	**09 34 07.1**	**+0.4**
JMM				S	**Sn**	**09 34 18.9**	**-0.1**
JFT	**Otama**	**0.66**	**294**	P	**Pn**	**09 34 06.9**	**+0.1**
JFT				S	**Sn**	**09 34 18.1**	**-1.0**
JFY	**Yanaizu**	**1.12**	**278**	P	**Pn**	**09 34 11.1**	**-0.6**
JFY				S	**Sn**	**09 34 26.4**	**-1.3**
JOU	**Okura**	**1.16**	**343**	P	**Pn**	**09 34 12.7**	**+0.6**
JOU				S	**Sn**	**09 34 29.1**	**+0.5**
JIO	**Ouri**	**1.21**	**9**	P	**Pn**	**09 34 13.5**	**+0.8**
JIO				S	**Sn**	**09 34 29.8**	**+0.2**
JYS	**Shirataka**	**1.27**	**320**	P	**Pn**	**09 34 13.7**	**+0.3**
JYS				S	**Sn**	**09 34 31.1**	**+0.4**
MJAR	**Matsushiro Arr**	**2.42**	**254**	P	**Pn**	**09 34 28.1**	**-0.1**
	4.2nm,0.3s,baz=88,slow=16,SNR=30						
MJAR				S	Sn	09 34 50.3	-7.0
	6.6nm,0.3s,baz=90,slow=16,SNR=9.9						
MAT	**Matsushiro**	**2.42**	**254**	P	**Pn**	**09 34 28.4**	**+0.2**
MAT				eS	**Sn**	**09 34 58.2**	**+0.9**
ASAJ	**Asahikawa**	**6.95**	**9**	P	**Pn**	**09 35 27.2**	**-2.2**
	1.3nm,0.3s,baz=0.1,slow=13,SNR=6.9						
USRK	**Ussuriysk Arra**	**9.79**	**318**	P	**Pn**	**09 36 07.6**	**-0.5**
	0.3nm,0.3s,baz=132,slow=13,SNR=7.0						
SONM	**Songino Array**	**27.45**	**304**	P	**P**	**09 39 27.6**	**+0.1**
	0.4nm,0.4s,baz=99,slow=6.6,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**28.48**	**121**	T	T	10 09 52.8	
	baz=316,slow=76,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**28.48**	**121**	T	T	10 09 52.9	
	baz=316,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.50**	**121**	T	T	10 09 56.6	
	baz=316,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.19**	**123**	T	T	10 10 41.1	
	baz=323,slow=75,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**29.19**	**123**	T	T	10 10 46.5	
	baz=323,slow=75,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**29.21**	**123**	T	T	10 10 45.9	
	baz=323						
MKAR	**Makanchi Array**	**43.79**	**302**	P	**P**	**09 41 47.1**	**+0.4**
	0.2nm,0.5s,baz=81,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**09 43 28.3**	**+0.2**
	0.2nm,0.3s,baz=3.6,slow=7.2,SNR=8.7						

BJI 17 10:02:03.8, **39°83N×102°54E**, **h7**km, **ML3.6**/8, **Ms3.3**/1, **Ms7 3.3**/1, **Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.15**	**260**	Pn	Pn	10 02 39.8	-0.4
GTA				Sg	Sn	10 03 06.5	-0.7
GTA				smax	smax		
	comp=N,750nm,0.5s						
GTA				smax	smax		
	comp=E,300nm,0.5s						
LZH	**Lanzhou**	**3.88**	**164**	*e*Pg	Pb	10 03 13.0	+0.3
LZH				Sg	Sb	10 04 03.9	+3.9
LZH				smax	smax		
	comp=N,200nm,0.9s						
LZ

1.0nm,0.3s,baz=0.0,slow=20,SNR=3.7
DZM Mont Dzumac 15.03 255 P **P 10 44 58.6 +2.3**
0.8nm,0.3s,baz=89,slow=21,SNR=7.6
URZ Urewera 19.95 192 P **P 10 45 41.7 +0.2**
3.9nm,0.3s,baz=115,slow=24,SNR=20
STKA Stephens Creek 38.65 242 P **P 10 48 23.2 +0.4**
2.0nm,0.7s,baz=94,slow=12,SNR=4.0
WRA Warramunga Arr 44.95 260 P **P 10 49 10.6 -1.9**
3.6nm,0.4s,baz=97,slow=7.1,SNR=108
ASAR Alice Springs 45.02 255 P **P 10 49 11.8 -1.4**
4.2nm,0.5s,baz=91,slow=7.7,SNR=160
VNDA Vanda 59.68 185 P **P 10 50 56.7 -0.3**
0.5nm,0.6s,baz=13,slow=6.1,SNR=5.9

IDC 17 10:55:05.4±3.5, 30.08S×177.35W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/17, mbtmp3.4/2, Error ellipse: s-maj=67.5km s-min=35.6km az=95.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**329**	Pn	Pn	10 55 26.2	0.0
	135nm,0.3s,baz=74,slow=21,SNR=10						
RAO				Sn	Sb	10 55 37.6	-0.8
	232nm,0.3s,baz=72,slow=20,SNR=6.6						
ASAR	**Alice Springs**	**43.69**	**266**	P	P	11 03 11.7	-0.7
	0.3nm,0.9s,baz=107,slow=7.4,SNR=2.9						
WRA	**Warramunga Arr**	**44.65**	**271**	P	P	11 03 20.4	+0.3
	0.3nm,0.3s,baz=110,slow=8.2,SNR=16						
FINES	**FINESS Array B**	**145.04**	**341**	PKPbc	PKPbc	11 14 42.5	-0.9
	3.5nm,1.1s,baz=11,slow=1.9,SNR=3.5						

*JMA **17** 10:57:46.6±0.2, 40.69N×142.65E, h28km±3km, M4.3*
JMA Felt I J1.
*MOS **17** 10:57:46.4±1.8, 40.82N×142.72E, h33km, mb4.4/15, Error ellipse: s-maj=11.2km s-min=7.2km az=82.7*
*BJI **17** 10:57:46.8, 40.80N×142.60E, h40km, mB4.9/2, mb4.5/8, Ms4.2/1*
*ISCJB **17** 10:57:47.2±0.5, 40.70N±0.03×142.62E±0.05, h51km±4km, mb4.1/22, MS3.2/3, Error ellipse: s-maj=7.5km s-min=3.8km az=32.5*
*IDC **17** 10:57:48.8±0.8, 40.72N×142.61E, h49km±6km, mb3.8/15, mb1 3.9/18, mb1mx3.8/28, mbtmp3.8/18, MS3.1/6, Ms1 3.2/6, ms1mx2.9/36, Error ellipse: s-maj=18.2km s-min=11.0km az=105.0*
*NEIC **17** 10:57:49.7±0.6, 40.77N×142.61E, h56km±4km, mb4.4/2, Error ellipse: s-maj=11.4km s-min=5.7km az=118.0*
NEIC Recorded [1 JMA] in Aomori and Iwate. Also recorded [1 JMA] in southwestern Hokkaido.
ISC 17 10:57:48.7±0.6, 40.72N±0.04×142.61E±0.05, h49km±4km, h48km:pP-P, n84, σ1s09/103, mb4.1/22, MS3.2/3, 4C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.90**	**248**	⇓P	Pn	10 58 03.5	-1.6
JANG				*e*S	Sn	10 58 14.8	-2.3
JTH	**Tanohata**	**0.96**	**217**	P	Pn	10 58 03.9	-2.0
JTH				*e*S	Sn	10 58 16.1	-2.5
JTM	**Tenmabayashi**	**1.18**	**274**	⇓P	Pn	10 58 07.7	-1.1
JTM				*e*S	Sn	10 58 22.8	-0.9
JOT	**Ohata**	**1.36**	**300**	⇓P	Pn	10 58 09.9	-1.4
JOT				*e*S	Sn	10 58 26.5	-1.6
ERM	**Erimo**	**1.36**	**17**	*e*P	Pn	10 58 11.7	+0.4
ERM				*e*		10 58 28.3	
ERM	**Erimo**	**1.36**	**17**	*e*Pn	Pn	10 58 11.7	+0.4
ERM				*e*Sn	Sn	10 58 28.3	+0.1
JEM	**Erimo**	**1.36**	**17**	P	Pn	10 58 10.7	-0.6
JEM				*e*S	Sn	10 58 28.2	0.0
JNBK	**Urakawa-nobuka**	**1.57**	**4**	P	Pn	10 58 13.8	-0.3
JNBK				*e*S	Sn	10 58 33.2	0.0
JAH	**Hinai**	**1.60**	**251**	⇓P	Pn	10 58 14.4	-0.1
JAH				*e*S	Sn	10 58 34.6	+0.6
JOM	**Ohasama**	**1.60**	**220**	P	Pn	10 58 13.9	-0.7
JOM				*e*S	Sn	10 58 33.6	-0.5
JKB	**Kayabe**	**1.67**	**315**	⇓P	Pn	10 58 14.3	-1.2
JKB				*e*S	Sn	10 58 34.2	-1.5
JSR	**Shiriuchi**	**1.85**	**297**	⇓P	Pn	10 58 17.5	-0.4
JSR				*e*S	Sn	10 58 40.5	+0.4
JCH	**Churui**	**1.98**	**16**	P	Pn	10 58 19.0	-0.7
JCH				*e*S	Sn	10 58 42.5	-0.8
ASAJ	**Asahikawa**	**3.40**	**360**	*e*Pn	Pn	10 58 39.3	+0.1
ASAJ				S	Sn	10 59 18.9	+0.7
ASAJ	**Asahikawa**	**3.40**	**360**	P	Pn	10 58 39.2	0.0
	11nm,0.3s,baz=200,slow=9.7,SNR=29						
ASAJ				S	Sn	10 59 18.9	+0.7
	8.2nm,0.3s,baz=30,slow=24,SNR=4.2						
ASAJ				LR	LR	11 00 41.3	
	comp=Z,261nm,21.4s,baz=202,slow=51						
YUK	**Yuzh-Kuril'sk**	**4.10**	**35**	*c i*P	Pn	10 58 46.9	-1.9
YUK				*i* S	Sn	10 59 30.9	-4.5
YUK				pmax	pmax		
	comp=Z,88nm,0.5s						
YUK				pmax	pmax		
	comp=E,27nm,0.3s						
YUK				pmax	pmax		
	comp=N,23nm,0.2s						
YUK				smax	smax		
	comp=N,377nm,0.5s						
YUK				smax	smax		
	comp=E,271nm,0.5s						
MJA0	**Matsu Arr-Jizo**	**5.39**	**221**	*e*P	Pn	10 59 11.4	+4.8
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**5.41**	**221**	*e*P	Pn	10 59 09.2	+2.3
MAJO	**Matsushiro**	**5.41**	**221**	*e*Pn	Pn	10 59 08.8	+1.9
	comp=Z,21nm,0.6s						
MJAR	**Matsushiro Arr**	**5.41**	**221**	P	Pn	10 59 08.8	+2.0
MJAR	**Matsushiro Arr**	**5.41**	**221**	P	Pn	10 59 08.8	+2.0
	comp=Z,1.5nm,0.3s,baz=28,slow=14,SNR=8.5						
YSS	**Yuzh-Sakhalins**	**6.24**	**1**	⇑*e*P	Pn	10 59 18.6	+0.5
YSS				*e*		11 00 29.0	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
USRK	**Ussuriysk Arra**	**8.59**	**297**	P	Pn	10 59 51.9	+1.5
	comp=Z,1.8nm,0.3s,baz=98,slow=14,SNR=28						
USRK				LR	LR	11 03 06.5	
	comp=Z,123nm,20.8s,baz=352,slow=37						
KSRS	**Korea Array**	**11.87**	**259**	P	Pn	11 00 41.3	+6.1
	comp=Z,0.3nm,0.3s,baz=87,slow=9.8,SNR=3.4						
KSAR	**Wonju Array Be**	**11.90**	**259**	P	Pn	11 00 41.3	+5.6
PETK	**Petropavlovsk-**	**16.08**	**35**	LR	LR	11 08 38.2	
	comp=Z,40nm,20.0s,baz=93,slow=40						
YAK	**Yakutsk**	**22.73**	**344**	*e*P	P	11 02 56.3	+10
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
SEY	**Seymchan**	**23.00**	**11**	P	P	11 02 47.5	-1.6
SEY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SEY	**Seymchan**	**23.00**	**11**	P	P	11 02 47.5	-1.6
SEY	**Seymchan**	**23.00**	**11**	P	P	11 02 47.5	-1.6
	comp=Z,3.6nm,0.8s,baz=154,slow=23,SNR=7.1						
SONM	**Songino Array**	**26.70**	**298**	P	P	11 03 23.8	+0.4
SONM	**Songino Array**	**26.70**	**298**	P	P	11 03 23.8	+0.4
	comp=Z,1.2nm,0.5s,baz=86,slow=8.8,SNR=7.7						
SONM				LR	LR	11 14 50.0	
	comp=Z,69nm,20.2s,baz=103,slow=38						
H11N2	**WAKE ISLAND Hy**	**29.45**	**128**	T	T	11 35 28.5	
	SNR=47						
H11N1	**WAKE ISLAND Hy**	**29.46**	**128**	T	T	11 34 54.5	
	baz=321,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy**	**29.47**	**128**	T	T	11 34 57.1	
	baz=196,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**30.29**	**130**	T	T	11 36 32.3	
	baz=326,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**30.29**	**130**	T	T	11 36 34.3	
	baz=326,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**30.30**	**130**	T	T	11 36 35.3	
	baz=326,slow=76,SNR=9.3						
ZAA0	**Zalesovo Array**	**40.22**	**309**	*e*P	P	11 05 20.1	-0.2
ZALV	**Zalesovo Beam**	**40.22**	**309**	P	P	11 05 20.2	-0.1
ZALV				*PP	pP	11 05 32.6	-0.6
ZALV						11 07 24.0	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**40.22**	**309**	P	P	11 05 20.2	-0.1
	comp=Z,4.4nm,0.4s,baz=92,slow=8.2,SNR=24						
ZALV				pP	pP	11 05 32.6	-0.6
	comp=Z,2.7nm,0.6s,baz=90,slow=8.5,SNR=4.9						
ZALV				PcP	PcP	11 07 24.0	+0.7
	comp=Z,0.5nm,0.3s,baz=112,slow=1.6,SNR=2.5						
IM04	**Indian Mountai**	**43.01**	**33**	*e*P	P	11 05 43.4	+0.4
MK31	**Makanchi Array**	**43.05**	**299**	*e*P	P	11 05 43.4	-0.2
MK31	**Makanchi Array**	**43.05**	**299**	*e*P	P	11 05 43.4	-0.2
MKAR	**Makanchi Array**	**43.05**	**299**	P	P	11 05 43.5	-0.1
MKAR				*PP	pP	11 05 55.8	-0.8
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,40nm,19.2s						
MKAR	**Makanchi Array**	**43.05**	**299**	P	P	11 05 43.5	-0.1
MKAR				pP	pP	11 05 55.8	-0.8
MKAR	**Makanchi Array**	**43.05**	**299**	P	P	11 05 43.5	-0.1
	comp=Z,2.2nm,0.4s,baz=85,slow=11,SNR=41						
MKAR				pP	pP	11 05 55.8	-0.8
	comp=Z,1.9nm,0.6s,baz=86,slow=8.5,SNR=7.8						
MKAR				LR	LR	11 24 29.4	
	comp=Z,40nm,19.1s,baz=357,slow=37						
CMAR	**Chiang Mai Arr**	**43.42**	**252**	P	P	11 05 47.0	+0.1
CMAR	**Chiang Mai Arr**	**43.42**	**252**	P	P	11 05 47.0	+0.1
	comp=Z,0.5nm,0.6s,baz=36,slow=7.9,SNR=4.9						
CMAR				LR	LR	11 25 52.0	
	comp=Z,22nm,19.1s,baz=352,slow=39						
KURK	**Kurchatov**	**44.48**	**305**	*e*P	P	11 05 54.6	-0.3
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**44.48**	**305**	*e*P	P	11 05 54.6	-0.3
	comp=Z,2.2nm,0.6s						
ILAR	**Eielson Array**	**45.91**	**34**	P	P	11 06 07.0	+1.0
ILAR				pP	pP	11 06 19.6	+0.3
ILAR	**Eielson Array**	**45.91**	**34**	P	P	11 06 07.0	+1.0
	comp=Z,0.5nm,0.7s,baz=268,slow=6.2,SNR=8.9						
ILAR				pP	pP	11 06 19.6	+0.3
	comp=Z,1.2nm,0.7s,baz=264,slow=5.2,SNR=4.7						
TKM2	**Tokmak 2**	**48.78**	**296**	*e*P	P	11 06 29.2	+0.2
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TKM2	**Tokmak 2**	**48.78**	**296**	*e*P	P	11 06 29.2	+0.2
	comp=Z,4.5nm,0.6s						
INK	**Inuvik**	**50.70**	**29**	P	P	11 06 44.0	+1.2
INK	**Inuvik**	**50.70**	**29**	P	P	11 06 44.0	+1.2
	comp=Z,1.0nm,0.6s,baz=275,slow=9.6,SNR=8.8						
ARU	**Arti**	**54.26**	**317**	*c i*P	P	11 07 09.5	0.0
ARU				S	S	11 14 44.2	+1.0
ARU				SS	SS	11 18 25.6	+0.6
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
RES	**Resolute Bay**	**58.81**	**15**	P	P	11 07 40.5	-0.9
RES	**Resolute Bay**	**58.81**	**15**	P	P	11 07 40.5	-0.9
	comp=Z,1.5nm,0.7s,baz=304,slow=5.2,SNR=5.9						
KEV	**Kevo**	**60.34**	**339**	*e*P	P	11 07 56.9	+4.8
KEV	**Kevo**	**60.34**	**339**	*e*p	P	11 07 56.9	+4.8
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**60.84**	**189**	P	P	11 07 55.0	-1.0
WRA	**Warramunga Arr**	**60.84**	**189**	P	P	11 07 55.0	-1.0
	comp=Z,0.3nm,0.5s,baz=7.8,slow=7.7,SNR=11						
ARCES	**ARCESS Array B**	**60.89**	**339**	P	P	11 07 55.5	-0.4
ARCES	**ARCESS Array B**	**60.89**	**339**	P	P	11 07 55.5	-0.4
	comp=Z,5.6nm,1.0s,baz=31,slow=7.3,SNR=3.6						
JOF	**Joensuu**	**63.17**	**331**	*e*P	P	11 08 10.7	-0.5
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**63.17**	**331**	*e*p	P	11 08 10.7	-0.5
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**64.56**	**189**	P	P	11 08 21.0	+0.2
ASAR	**Alice Springs**	**64.56**	**189**	P	P	11 08 21.0	+0.2
	comp=Z,0.5nm,0.8s,baz=3.6,slow=7.8,SNR=11						
OBN	**Obninsk**	**65.72**	**323**	⇑*e*P	P	11 08 28.5	+0.5
OBN				*e**PP	pP	11 08 45.0	+3.3
OBN				*e*		11 10 53.0	
OBN				*e*S	S	11 17 08.1	-2.2
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**66.00**	**332**	P	P	11 08 29.5	-0.2
FINES	**FINESS Array B**	**66.00**	**332**	P	P	11 08 29.5	-0.2
	comp=Z,6.3nm,0.8s,baz=45,slow=7.7,SNR=22						
NB2	**NORSAR Subarra**	**71.16**	**337**	P	P	11 09 01.5	-0.5
	comp=Z,1.1nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**71.16**	**337**	P	P	11 09 01.4	-0.5
NOA				pP	pP	11 09 16.0	+0.2
NOA	**NORSAR Array B**	**71.16**	**337**	P	P	11 09 01.4	-0.5
	comp=Z,1.9nm,0.8s,baz=37,slow=6.0,SNR=4.9						
NOA				pP	pP	11 09 16.0	+0.2
	comp=Z,1.6nm,0.7s,baz=36,slow=6.1,SNR=3.1						
AKASG	**Malin Array Be**	**71.96**	**322**	P	P	11 09 06.8	-0.1
AKASG				*PP	pP	11 09 21.2	+0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.96**	**322**	P	P	11 09 06.8	-0.1
AKASG				pP	pP	11 09 21.2	+0.4
AKASG	**Malin Array Be**	**71.96**	**322**	P	P	11 09 06.8	-0.1
	comp=Z,0.6nm,0.4s,baz=42,slow=5.8,SNR=8.7						
AKASG				pP	pP	11 09 21.2	+0.4
	comp=Z,1.2nm,0.3s,baz=44,slow=6.1,SNR=7.4						
BRTR	**Keskin Array B**	**77.11**	**312**	P	P	11 09 37.6	+0.5
BRTR	**Keskin Array B**	**77.11**	**312**	P	P	11 09 37.6	+0.5
	comp=Z,0.7nm,0.6s,baz=95,slow=4.0,SNR=3.6						
GERES	**GERESS Array B**	**80.07**	**329**	pP	pP	11 10 08.7	+1.4
GERES	**GERESS Array B**	**80.07**	**329**	pP	pP	11 10 08.7	+1.4
	comp=Z,0.5nm,0.5s,baz=41,slow=6.5,SNR=2.7						

*ISCJB **17** 11:08:23.0±0.6, 36.51N±0.03×9.65W±0.05, h10km, Error ellipse: s-maj=5.9km s-min=4.2km az=9.9*
*CSEM **17** 11:08:24.9±0.3, 36.51N×9.74W, h20km, ML3.4/9, Error ellipse: s-maj=6.4km s-min=4.0km az=94.0*
*MDD **17** 11:08:25.6±1.1, 36.50N×9.92W, h40km, mbLg2.9/19, Error ellipse: s-maj=11.8km s-min=6.5km az=95.0, PRXIMO*
*CNRM **17** 11:08:26.2, 36.46N×9.76W, h30km, MD3.5*
*IGIL **17** 11:08:26.4, 36.60N×9.81W, h11km, ML2.7*
*INMG **17** 11:08:27.5±1.2, 36.62N×9.77W, h18km±4km, MD2.4, ML2.5, Error ellipse: s-maj=5.2km s-min=2.7km az=53.0*
ISC 17 11:08:21.0±1.3, 36.50N±0.04×9.89W±0.05, h10km, n92, σ2s07/146, 6C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.06**	**53**	⇑P	Pn	11 08 43.8	+1.9
	36nm,0.1s,SNR=18						
PFVI				S	Sg	11 08 56.3	+1.1
	107nm,0.1s,SNR=16						
PFVI	**Vila Bisbo**	**1.06**	**53**	⇑*e*P	Pn	11 08 43.8	+1.9
PFVI				*e*S	Sg	11 08 56.3	+1.1
PFVI				A	A	11 08 57.1	
	124nm,0.3s						
PFVI	**Vila Bisbo**	**1.06**	**53**	P	Pn	11 08 43.8	+1.9
	36nm,0.1s,SNR=18						
PFVI				S	Sg	11 08 56.3	+1.1
	107nm,0.1s,SNR=16						
MORF	**Marmelete**	**1.28**	**50**	P	Pn	11 08 46.2	+1.3
	SNR=7.9						
MORF				S	Sb	11 09 01.9	+0.2
	SNR=7.9						
MORF	**Marmelete**	**1.28**	**50**	*e*P	Pn	11 08 46.8	+1.8
MORF				*e*S	Sb	11 09 01.9	+0.2
MORF				A	A	11 09 02.0	
	76nm,0.1s						
MORF	**Marmelete**	**1.28**	**50**	*e*P	Pn	11 08 46.8	+1.8
MORF				*e*S	Sb	11 09 01.9	+0.2
	76nm,0.1s						
PTEO	**Sao Teotonio**	**1.40**	**41**	*e*P	Pn	11 08 48.3	+1.7
PTEO				*e*S	Sb	11 09 04.3	-0.8
PTEO				A	A	11 09 08.8	
	46nm,0.3s						
PTEO	**Sao Teotonio**	**1.40**	**41**	*e*P	Pn	11 08 48.3	+1.7
PTEO				*e*S	Sb	11 09 04.3	-0.8
	46nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.73**	**64**	⇑*e*P	Pn	11 08 53.4	+2.2
PBDV				*e*S	Sn	11 09 12.7	-0.8
PBDV				A	A	11 09 23.1	
	28nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.73**	**64**	⇑*e*P	Pn	11 08 53.4	+2.2
PBDV				*e*S	Sn	11 09 12.7	-0.8
	28nm,0.5s						
PCVE	**Castro Verde**	**1.86**	**52**	*e*Pn	Pn	11 08 55.1	+2.2
PCVE				*e*Sn	Sn	11 09 16.3	-0.2
PCVE				A	A	11 09 18.0	
	43nm,0.4s						
PCVE	**Castro Verde**	**1.86**	**52**	*e*Pn	Pn	11 08 55.1	+2.2
PCVE				*e*Sn	Sn	11 09 16.3	-0.2
	43nm,0.4s						
MESJ	**Messejana**	**1.89**	**44**	*e*P	Pn	11 08 55.1	+1.8
MESJ				*e*S	Sn	11 09 16.2	-1.0
MESJ				AML	AML	11 09 17.6	
	comp=N,41nm,0.2s						
MESJ	**Messejana**	**1.89**	**44**	P	Pn	11 08 55.8	+2.5
	SNR=7.9						
MESJ				S	Sn	11 09 16.2	-1.0
	SNR=7.9						
MESJ	**Messejana**	**1.89**	**44**	P	Pn	11 08 55.8	+2.5
	SNR=7.9						
MESJ				S	Sn	11 09 16.2	-1.0
	SNR=7.9						
PNCL	**Nicolau / Gran**	**1.94**	**33**	*e*Pn	Pn	11 08 55.8	+1.8
PNCL				*e*Sn	Sn	11 09 17.4	-1.1
PNCL				A	A	11 09 19.7	
	comp=N,28nm,0.3s						
PNCL	**Nicolau / Gran**	**1.94**	**33**	*e*Pn	Pn	11 08 55.8	+1.8
PNCL				*e*Sn	Sn	11 09 17.4	-1.1
	comp=N,28nm,0.3s						
PVAQ	**Vaqueiros**	**1.96**	**62**	⇑*e*Pn	Pn	11 08 56.3	+2.0
PVAQ				*e*Sn	Sn	11 09 18.1	-0.8
PVAQ				A	A	11 09 20.8	
	comp=N,25nm,0.2s						
PVAQ	**Vaqueiros**	**1.96**	**62**	⇑*e*Pn	Pn	11 08 56.3	+2.0
PVAQ				*e*Sn	Sn	11 09 18.1	-0.8
	comp=N,25nm,0.2s						
EGRO	**El Granado**	**2.18**	**61**	P	Pn	11 08 59.2	+1.9
	comp=N,6.6nm,0.1s,SNR=24						
EGRO				S	Sn	11 09 24.1	-0.4
	comp=N,26nm,0.1s,SNR=17						
EGRO	**El Granado**	**2.18**	**61**	P	Pn	11 08 59.2	+1.9
	comp=N,6.6nm,0.1s,SNR=24						
EGRO				S	Sn	11 09 24.1	-0.4
	comp=N,26nm,0.1s,SNR=17						
PBEJ	**Beja**	**2.22**	**46**	*e*Pn	Pn	11 08 59.5	+1.6
PBEJ				*e*Sn	Sn	11 09 23.8	-1.6
PBEJ				A	A	11 09 26.3	
	comp=N,13nm,0.1s						
PBEJ	**Beja**	**2.22**	**46**	*e*Pn	Pn	11 08 59.5	+1.6
PBEJ				*e*Sn	Sn	11 09 23.8	-1.6
	comp=N,13nm,0.1s						
PACT	**Alcochete**	**2.42**	**20**	*e*Pn	Pn	11 09 03.1	+2.6
PACT				*e*Sn	Sn	11 09 30.1	-0.1
PACT				A	A	11 09 36.6	
	comp=N,36nm,0.4s						
PACT	**Alcochete**	**2.42**	**20**	*e*Pn	Pn	11 09 03.1	+2.6
PACT				*e*Sn	Sn	11 09 30.1	-0.1
	comp=N,36nm,0.4s						
PMAFR	**Mafra**	**2.50**	**11**	P	Pn	11 09 03.2	+1.5
	SNR=7.9						
PMAFR				S	Sn	11 09 30.5	-1.8
	comp=N,60nm,0.2s,SNR=12						
PMAFR	**Mafra**	**2.50**	**11**	*e*Pn	Pn	11 09 03.8	+2.1
PMAFR				*e*Sn	Sn	11 09 30.5	-1.8
PMAFR				A	A	11 09 33.3	
	comp=N,37nm,0.2s						
PMAFR	**Mafra**	**2.50**	**11**	P	Pn	11 09 03.2	+1.5
	SNR=7.9						
PMAFR	**Mafra**	**2.50**	**11**	*e*Pn	Pn	11 09 03.8	+2.1
PMAFR				S	Sn	11 09 30.5	-1.8
	comp=N,60nm,0.2s,SNR=12						
EVO	**Evora**	**2.52**	**36**	*e*Pn	Pn	11 09 04.0	+2.0
EVO				*e*Sn	Sn	11 09 31.0	-1.7
EVO				A	A	11 09 32.2	
	comp=N,18nm,0.1s						
EVO	**Evora**	**2.52**	**36**	*e*Pn	Pn	11 09 04.0	+2.0
EVO				*e*Sn	Sn	11 09 31.0	-1.7
	comp=N,18nm,0.1s						
PBAR	**Barrancos**	**2.82**	**53**	*e*Pn	Pn	11 09 07.9	+1.8
PBAR				*e*Sn	Sn	11 09 38.7	-1.5
PBAR				A	A	11 09 40.9	
	comp=N,13nm,1.6s						
PBAR	**Barrancos**	**2.82**	**53**	*e*Pn	Pn	11 09 07.9	+1.8
PBAR				*e*Sn	Sn	11 09 38.7	-1.5
	comp=N,13nm,1.6s						
EMIN	**Mina Concepcio**	**2.86**	**63**	P	Pn	11 09 08.2	+1.5
	comp=N,1.6nm,0.3s,SNR=15						
EMIN				S	Sn	11 09 39.8	-1.5
	comp=N,5.3nm,0.1s,SNR=7.1						
EMIN	**Mina Concepcio**	**2.86**	**63**	P	Pn	11 09 08.2	+1.5
	comp=N,1.6nm,0.3s,SNR=15						
EMIN				S	Sn	11 09 39.8	-1.5
	comp=N,5.3nm,0.1s,SNR=7.1						
PMTG	**Montargil**	**2.88**	**27**	*e*Pn	Pn	11 09 08.7	+1.7
PMTG				*e*Sn	Sn	11 09 39.8	-2.0
PMTG				A	A	11 09 40.5	
	comp=N,20nm,0.6s						
PMTG	**Montargil**	**2.88**	**27**	*e*Pn	Pn	11 09 08.7	+1.7
PMTG				*e*Sn	Sn	11 09 39.8	-2.0
	comp=N,20nm,0.6s						
PESTR	**Estremoz**	**2.98**	**37**	*e*Pn	Pn	11 09 09.9	+1.5
PESTR				*e*Sn	Sn	11 09 42.2	-2.1
PESTR				A	A	11 09 45.2	
	comp=N,4.1nm,0.2s						
PESTR	**Estremoz**	**2.98**	**37**	*e*Pn	Pn	11 09 09.9	+1.5
PESTR				*e*Sn	Sn	11 09 42.2	-2.1
	comp=N,4.1nm,0.2s						
EBAD	**Badajoz**	**3.21**	**44**	P	Pn	11 09 12.6	+1.2
	comp=N,2.2nm,0.7s,SNR=10						
EBAD				S	Sn	11 09 47.8	-1.9
	comp=N,36nm,0.2s,SNR=9.3						
EBAD	**Badajoz**	**3.21**	**44**	P	Pn	11 09 12.6	+1.2
	comp=N,2.2nm,0.7s,SNR=10						
EBAD				S	Sn	11 09 47.8	-1.9
	comp=N,36nm,0.2s,SNR=9.3						
ESPR	**Espera**	**3.26**	**82**	P	Pn	11 09 14.3	+2.1
	comp=N,4.0nm,0.3s,SNR=12						
ESPR				S	Sn	11 09 49.6	-1.4
	comp=N,125nm,0.2s,SNR=4.9			

EPLA					S		**Sn**	**11 10 22.6**	**-2.8**
	comp=N,6.8nm,0.1s,SNR=9.1									
EPLA	**Plasencia**	**4.65**	**39**		P		**Pn**	**11 09 32.5**	**+1.2**
	SNR=7.9									
EPLA					S		**Sn**	**11 10 22.6**	**-2.8**
	comp=N,6.8nm,0.1s,SNR=9.1									
CIA	**Chichaoua**	**5.01**	**169**		P		**Pn**	**11 09 38.0**	**+1.8**
CIA					S		**Sn**	**11 10 31.0**	**-3.2**
CIA	**Chichaoua**	**5.01**	**169**	*i*	P		**Pn**	**11 09 38.0**	**+1.8**
CIA				*i*	S		**Sn**	**11 10 31.0**	**-3.2**
KIB	**El Ksiba**	**5.04**	**140**		P		**Pn**	**11 09 38.0**	**+1.3**
KIB					S		Sn	11 10 31.0	-4.0
KIB	**El Ksiba**	**5.04**	**140**	*i*	P		**Pn**	**11 09 38.0**	**+1.3**
KIB					*e*S		Sn	11 10 31.0	-4.0
PVRL	**Vila Real**	**5.06**	**19**		*e*Sn		Sn	11 10 31.2	-4.3
PVRL					A		A	11 10 34.5	
	comp=N,10nm,0.2s									
POLO	**Lamas de Olo**	**5.13**	**18**		*e*Sn		Sn	11 10 32.9	-4.5
POLO					A		A	11 10 36.3	
	comp=N,1.3nm,0.1s									
EBAN	**Banos Encina**	**5.14**	**69**		S		**Sn**	**11 10 33.2**	**-4.2**
	comp=N,2.8nm,0.2s,SNR=6.4									
EBAN	**Banos Encina**	**5.14**	**69**		S		**Sn**	**11 10 33.2**	**-4.2**
	comp=N,2.8nm,0.2s,SNR=6.4									
MVO	**Moncorvo**	**5.17**	**25**		P		**Pn**	**11 09 39.5**	**+1.1**
	comp=N,1.5nm,0.2s,SNR=7.9									
MVO					S		**Sn**	**11 10 34.5**	**-3.6**
	comp=N,0.8nm,0.1s,SNR=7.9									
MVO	**Moncorvo**	**5.17**	**25**		*e*Pn		**Pn**	**11 09 38.9**	**+0.5**
MVO					*e*Sn		Sn	11 10 33.8	-4.3
MVO					A		A	11 10 36.8	
	comp=N,5.0nm,0.2s									
MVO	**Moncorvo**	**5.17**	**25**		*e*Pn		**Pn**	**11 09 38.9**	**+0.5**
MVO	**Moncorvo**	**5.17**	**25**		P		**Pn**	**11 09 39.5**	**+1.1**
	comp=N,1.5nm,0.2s,SNR=7.9									
MVO					S		**Sn**	**11 10 34.5**	**-3.6**
	comp=N,0.8nm,0.1s,SNR=7.9									
EQUE	**Quentar**	**5.22**	**80**		P		**Pn**	**11 09 42.1**	**+2.9**
	comp=N,0.5nm,0.3s,SNR=7.9									
EQUE					S		**Sn**	**11 10 36.5**	**-3.0**
	comp=N,0.4nm,0.1s,SNR=5.1									
EQUE	**Quentar**	**5.22**	**80**		P		**Pn**	**11 09 42.1**	**+2.9**
	comp=N,0.5nm,0.3s,SNR=7.9									
EQUE					S		**Sn**	**11 10 36.5**	**-3.0**
	comp=N,0.4nm,0.1s,SNR=5.1									
CZD	**Col de Zad**	**5.28**	**130**		P		**Pn**	**11 09 41.0**	**+0.9**
CZD					S		Sn	11 10 36.0	-5.1
CZD	**Col de Zad**	**5.28**	**130**		*e*P		**Pn**	**11 09 41.0**	**+0.9**
CZD					*i* S		Sn	11 10 36.0	-5.1
PCAB	**Cabril**	**5.40**	**15**		*e*Sn		**Sn**	**11 10 40.0**	**-3.9**
PCAB					A		A	11 10 41.8	
	comp=N,4.1nm,0.1s									
OUK	**Oukaimeden**	**5.54**	**162**		P		**Pn**	**11 09 45.0**	**+1.2**
OUK					S		**Sn**	**11 10 44.0**	**-3.6**
OUK	**Oukaimeden**	**5.54**	**162**	*i*	P		**Pn**	**11 09 45.0**	**+1.2**
ELOB	**Lobios**	**5.55**	**14**		S		Sn	11 10 42.5	-5.0
	comp=N,0.2nm,0.1s,SNR=4.6									
EQES	**Quesada**	**5.60**	**75**		P		**Pn**	**11 09 46.3**	**+1.9**
	comp=N,0.6nm,0.1s,SNR=7.9									
EQES					S		**Sn**	**11 10 46.3**	**-2.5**
	comp=N,2.1nm,0.2s,SNR=7.9									
EQES	**Quesada**	**5.60**	**75**		P		**Pn**	**11 09 46.3**	**+1.9**
	comp=N,0.6nm,0.1s,SNR=7.9									
EQES					S		**Sn**	**11 10 46.3**	**-2.5**
	comp=N,2.1nm,0.2s,SNR=7.9									
PGAV	**Gavieira, Arco**	**5.60**	**12**		*e*Sn		Sn	11 10 43.6	-5.3
PGAV					A		A	11 10 47.3	
	comp=N,6.5nm,0.5s									
ESDC	**Sonseca Array**	**5.65**	**54**		P		**Pn**	**11 09 46.6**	**+1.6**
	comp=N,1.7nm,0.2s,baz=239,slow=14,SNR=5.9									
ESDC	**Sonseca Array**	**5.65**	**54**		P		**Pn**	**11 09 46.6**	**+1.6**
	comp=N,1.7nm,0.2s,baz=239,slow=14,SNR=5.9									
PBRG	**Braganca**	**5.84**	**24**		*e*Sn		Sn	11 10 50.3	-4.3
PBRG					A		A	11 10 52.2	
	comp=N,2.7nm,0.1s									
ECAL	**Calabor**	**5.96**	**23**		P		**Pn**	**11 09 52.5**	**+3.2**
	comp=N,2.3nm,0.2s,SNR=7.9									
ECAL					S		**Sn**	**11 10 53.6**	**-4.1**
	comp=N,2.3nm,0.3s,SNR=5.9									
ECAL	**Calabor**	**5.96**	**23**		P		**Pn**	**11 09 52.5**	**+3.2**
	comp=N,2.3nm,0.2s,SNR=7.9									
GUD	**Guadarrama**	**6.11**	**46**		S		Sn	11 10 56.9	-4.5
	comp=N,5.7nm,0.3s,SNR=7.9									
ZFT	**Errachidia**	**6.39**	**133**		P		**Pn**	**11 09 57.0**	**+1.6**
ZFT					S		Sn	11 11 04.0	-4.5
ZFT	**Errachidia**	**6.39**	**133**	*i*	P		**Pn**	**11 09 57.0**	**+1.6**
EMAZ	**Mazaricos**	**6.48**	**6**		S		Sn	11 11 02.8	-7.6
	comp=N,1.9nm,0.1s,SNR=7.9									
ETOB	**Tobarra**	**6.96**	**70**		S		**Sn**	**11 11 18.6**	**-3.7**
	comp=N,1.9nm,0.2s,SNR=4.1									

*JMA **17** 11:20:15.1±0.3, 44.°12N×148.°33E, h96km, M2.9*
*SKHL **17** 11:20:15.5±1.0, 44.°29N×148.°51E, h40km, mb4.2/3*
ISC 17 11:20:12.5±3.6, 44.°3N±0.°1×148.°5E±0.°2, h92km±24km, n12, σ1§54/22, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.04**	**334**	*e*P	**Pn**	**11 20 33.0**	**+0.2**
KUR				AMB	AMB	11 20 33.5	
	90nm,0.5s						
KUR				*e*S	**Sn**	**11 20 47.0**	**-1.0**
KUR				A	A	11 20 48.8	
	140nm,0.3s						
KUR				A	A	11 20 48.8	
	310nm,0.3s						
SHO	**Shikotan**	**1.28**	**251**	*e*P	**Pn**	**11 20 36.6**	**+1.0**
SHO				AMB	AMB	11 20 39.1	
	117nm,0.3s						
SHO				*e*S	**Sn**	**11 20 52.3**	**-0.7**
SHO				A	A	11 20 53.6	
	569nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**1.92**	**263** ⇑	*i* P	**Pn**	**11 20 45.3**	**+1.6**
YUK				AMB	AMB	11 20 45.6	
	10.0nm,0.2s						
YUK				AMB	AMB	11 20 45.6	
	20nm,0.2s						
YUK				AMB	AMB	11 20 45.6	
	40nm,0.2s						
YUK				AMB	AMB	11 20 45.7	
	5μm,0.2s						
YUK				*e*S	**Sn**	**11 21 07.0**	**-0.5**
YUK				A	A	11 21 09.9	
	80nm,0.3s						
NEM2	**Nemuro 2**	**2.21**	**246**	P	**Pn**	**11 20 48.4**	**+1.0**
NEM2				*e*S	**Sn**	**11 21 13.2**	**-1.0**
JRA	**Rausu**	**2.46**	**263**	P	**Pn**	**11 20 52.1**	**+1.3**
JNK	**Nakash**	**2.83**	**257**	P	**Pn**	**11 20 57.1**	**+1.4**
JNK				*e*S	**Sn**	**11 21 28.7**	**-0.3**
JAK	**Akkeshi**	**3.06**	**246**	P	**Pn**	**11 20 59.6**	**+0.8**
JAK				*e*S	**Sn**	**11 21 33.3**	**-1.1**
JTKR	**Abashiri--Toko**	**3.33**	**266**	P	**Pn**	**11 21 03.6**	**+1.2**
JAR	**Ashorobuto**	**3.57**	**255**	P	**Pn**	**11 21 07.8**	**+2.1**
JAR				*e*S	**Sn**	**11 21 47.9**	**+1.0**
JCH	**Churui**	**4.11**	**248**	P	**Pn**	**11 21 13.9**	**+1.0**
JCH				*e*S	**Sn**	**11 21 58.4**	**-1.4**
JNBK	**Urakawa-nobuka**	**4.66**	**246**	P	**Pn**	**11 21 21.0**	**+0.5**
JNBK				*e*S	**Sn**	**11 22 11.5**	**-1.8**
JKB	**Kayabe**	**5.98**	**249**	P	**Pn**	**11 21 39.2**	**+0.8**
JKB				*e*S	**Sn**	**11 22 41.4**	**-4.0**

IDC 17 11:23:09.5±1.6, 29.°03N×43.°28W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/28, mbtmp3.7/5, MS3.3/4, Ms1 3.3/4, ms1mx3.0/29, Error ellipse: s-maj=76.2km s-min=25.9km az=22.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**23.57**	**248**	LR	LR	11 35 15.3	
	comp=Z,46nm,20.1s,baz=273,slow=31						
TORD	**Torodi Ar. Bea**	**44.55**	**101**	P	P	11 31 23.2	-0.1
	0.5nm,0.9s,baz=292,slow=5.2,SNR=3.6						
H10N2	**ASCENSION HYDR**	**45.96**	**138**	T	T	12 20 10.6	
	baz=324,slow=75,SNR=69						
H10N3	**ASCENSION HYDR**	**45.96**	**138**	T	T	12 20 10.9	
	baz=324,slow=75,SNR=56						
H10N1	**ASCENSION HYDR**	**45.98**	**138**	T	T	12 20 12.0	
	baz=324,slow=75,SNR=61						
H10S1	**ASCENSION HYDR**	**46.77**	**139**	T	T	12 21 14.8	
	baz=324,slow=75,SNR=58						
H10S3	**ASCENSION HYDR**	**46.77**	**140**	T	T	12 21 14.9	
	baz=324,slow=75,SNR=45						
H10S2	**ASCENSION HYDR**	**46.78**	**139**	T	T	12 21 16.2	
	baz=324,slow=75,SNR=51						
NOA	**NORSAR Array B**	**47.99**	**32**	LR	LR	11 48 33.4	
	comp=Z,17nm,20.6s,baz=55,slow=32						
TXAR	**Lajitas Array**	**52.18**	**286**	P	P	11 32 22.0	-0.3
	0.8nm,0.8s,baz=98,slow=8.1,SNR=7.3						
TXAR				LR	LR	11 52 17.4	
	comp=Z,32nm,20.0s,baz=5.0,slow=34						
PDAR	**Pinedale Array**	**54.13**	**304**	P	P	11 32 36.6	0.0
	2.9nm,0.9s,baz=83,slow=7.4,SNR=18						
PDAR				LR	LR	11 54 17.6	
	comp=Z,76nm,19.8s,baz=257,slow=34						
YKA	**Yellowknife Ar**	**56.10**	**328**	P	P	11 32 49.8	-0.4
	0.3nm,0.6s,baz=86,slow=7.7,SNR=6.4						
ILAR	**Eielson Array**	**69.65**	**334**	P	P	11 34 20.6	+0.2
	0.6nm,0.8s,baz=67,slow=3.7,SNR=8.9						

IDC 17 11:24:38.6±7.6, 13.°20N×91.°65E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=405.1km s-min=30.1km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**34.40**	**349**	P	P	11 31 27.4	-0.2
	0.4nm,0.7s,baz=166,slow=9.3,SNR=4.0						
WRA	**Warramunga Arr**	**53.39**	**127**	P	P	11 33 59.8	-0.6
	0.2nm,0.4s,baz=303,slow=9.6,SNR=3.4						
ASAR	**Alice Springs**	**55.22**	**131**	P	P	11 34 14.2	+0.4
	0.2nm,0.5s,baz=312,slow=7.1,SNR=9.8						

*IGIL **17** 11:29:45.5, 36.°50N×9.°89W, h29km, ML2.3*
*MDD **17** 11:29:45.5±1.9, 36.°51N×9.°87W, h45km, mb4.0/10, Error ellipse: s-maj=16.6km s-min=14.0km az=43.0, PRXIMO*
*INMG **17** 11:29:46.9±1.3, 36.°59N×9.°72W, h16km±5km, ML2.3, Error ellipse: s-maj=6.3km s-min=4.7km az=58.0*
*CSEM **17** 11:29:46.5±0.4, 36.°68N×9.°68W, h20km, ML3.4/16, Error ellipse: s-maj=6.8km s-min=5.3km az=60.0*
ISC 17 11:29:43.3±2.4, 36.°58N±0.°09×9.°79W±0.°08, h10km, n71, σ1§83/116, 7C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.95**	**54**	⇑P	**Pg**	**11 30 03.1**	**+1.5**
	14nm,0.1s,SNR=18						
PFVI				S	**Sb**	**11 30 15.5**	**+1.0**
	27nm,0.1s,SNR=9.3						
PFVI	**Vila Bisbo**	**0.95**	**54**	⇑*e*P	**Pg**	**11 30 03.1**	**+1.5**
PFVI				*e*S	**Sg**	**11 30 15.3**	**+1.3**
PFVI				A	A	11 30 16.6	
	32nm,0.1s						
PFVI	**Vila Bisbo**	**0.95**	**54**	P	**Pg**	**11 30 03.1**	**+1.5**
	14nm,0.1s,SNR=18						
PFVI				S	**Sb**	**11 30 15.5**	**+1.0**
	27nm,0.1s,SNR=9.3						
MORF	**Marmelete**	**1.17**	**51**	P	**Pb**	**11 30 06.3**	**+0.7**
	SNR=7.9						
MORF				S	**Sb**	**11 30 21.4**	**+0.6**
	SNR=7.9						
MORF	**Marmelete**	**1.17**	**51**	⇑*e*P	**Pb**	**11 30 06.1**	**+0.5**
MORF				*e*S	**Sb**	**11 30 20.8**	**0.0**
MORF				A	A	11 30 21.7	
	53nm,0.1s						
MORF	**Marmelete**	**1.17**	**51**	P	**Pb**	**11 30 06.3**	**+0.7**
	SNR=7.9						
MORF				S	**Sb**	**11 30 21.4**	**+0.6**
	SNR=7.9						
PTEO	**Sao Teotonio**	**1.29**	**41**	*e*P	**Pn**	**11 30 07.9**	**+0.5**
PTEO				*e*S	**Sb**	**11 30 24.0**	**-0.2**
PTEO				A	A	11 30 24.9	
	16nm,0.2s						
PTEO	**Sao Teotonio**	**1.29**	**41**	*e*P	**Pn**	**11 30 07.9**	**+0.5**
PTEO				*e*S	**Sb**	**11 30 24.0**	**-0.2**
	16nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.63**	**65**	⇑*e*P	**Pn**	**11 30 12.6**	**+0.5**
PBDV				*e*S	**Sn**	**11 30 32.2**	**-1.0**
PBDV				A	A	11 30 36.0	
	12nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.63**	**65**	⇑*e*P	**Pn**	**11 30 12.6**	**+0.5**
PBDV				*e*S	**Sn**	**11 30 32.2**	**-1.0**
	12nm,0.3s						
PCVE	**Castro Verde**	**1.75**	**53**	*e*Pn	**Pn**	**11 30 14.5**	**+0.8**
PCVE				*e*Sn	**Sn**	**11 30 35.8**	**-0.3**
PCVE				A	A	11 30 36.8	
	9.1nm,0.1s						
PCVE	**Castro Verde**	**1.75**	**53**	*e*Pn	**Pn**	**11 30 14.5**	**+0.8**
PCVE				*e*Sn	**Sn**	**11 30 35.8**	**-0.3**
	9.1nm,0.1s						
MESJ	**Messejana**	**1.78**	**44**	*e*P	**Pn**	**11 30 14.5**	**+0.4**
MESJ				*e*S	**Sn**	**11 30 35.6**	**-1.1**
MESJ				AML	AML	11 30 37.7	
	comp=N,14nm,0.3s						
MESJ	**Messejana**	**1.78**	**44**	P	**Pn**	**11 30 14.4**	**+0.4**
	SNR=7.9						
MESJ				S	**Sn**	**11 30 35.4**	**-1.3**
	SNR=7.9						
MESJ	**Messejana**	**1.78**	**44**	P	**Pn**	**11 30 14.4**	**+0.4**
	SNR=7.9						
MESJ				S	**Sn**	**11 30 35.4**	**-1.3**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**1.83**	**33**	*e*Pn	**Pn**	**11 30 15.2**	**+0.4**
PNCL				*e*Sn	**Sn**	**11 30 36.7**	**-1.4**
PNCL				A	A	11 30 38.3	
	comp=N,14nm,0.1s						
PNCL	**Nicolau / Gran**	**1.83**	**33**	*e*Pn	**Pn**	**11 30 15.2**	**+0.4**
PNCL				*e*Sn	**Sn**	**11 30 36.7**	**-1.4**
	comp=N,14nm,0.1s						
PVAQ	**Vaqueiros**	**1.85**	**63**	⇑*e*Pn	**Pn**	**11 30 15.5**	**+0.4**
PVAQ				*e*Sn	**Sn**	**11 30 37.3**	**-1.3**
PVAQ				A	A	11 30 39.9	
	comp=N,18nm,0.1s						
PVAQ	**Vaqueiros**	**1.85**	**63**	⇑*e*Pn	**Pn**	**11 30 15.5**	**+0.4**
PVAQ				*e*Sn	**Sn**	**11 30 37.3**	**-1.3**
	comp=N,18nm,0.1s						
EGRO	**El Granado**	**2.08**	**62**	P	**Pn**	**11 30 18.5**	**+0.3**
	comp=N,2.5nm,0.1s,SNR=15						
EGRO				S	**Sn**	**11 30 43.3**	**-0.8**
	comp=N,11nm,0.1s,SNR=12						
EGRO	**El Granado**	**2.08**	**62**	P	**Pn**	**11 30 18.5**	**+0.3**
	comp=N,2.5nm,0.1s,SNR=15						
EGRO				S	**Sn**	**11 30 43.3**	**-0.8**
	comp=N,11nm,0.1s,SNR=12						
PBEJ	**Beja**	**2.11**	**46**	*e*Pn	**Pn**	**11 30 18.9**	**+0.3**
PBEJ				*e*Sn	**Sn**	**11 30 43.5**	**-1.4**
PBEJ				A	A	11 30 45.2	
	comp=N,7.6nm,0.1s						
PBEJ	**Beja**	**2.11**	**46**	*e*Pn	**Pn**	**11 30 18.9**	**+0.3**
PBEJ				*e*Sn	**Sn**	**11 30 43.5**	**-1.4**
	comp=N,7.6nm,0.1s						
PACT	**Alcochete**	**2.31**	**19**	*e*Pn	**Pn**	**11 30 22.7**	**+1.2**
PACT				*e*Sn	**Sn**	**11 30 49.7**	**-0.3**
PACT				A	A	11 30 51.7	
	comp=N,20nm,0.2s						
PACT	**Alcochete**	**2.31**	**19**	*e*Pn	**Pn**	**11 30 22.7**	**+1.2**
PACT				*e*Sn	**Sn**	**11 30 49.7**	**-0.3**
	comp=N,20nm,0.2s						
PMAFR	**Mafra**	**2.41**	**9**	P	**Pn**	**11 30 23.2**	**+0.4**
	comp=N,1.1nm,0.1s,SNR=4.0						
PMAFR				S	**Sn**	**11 30 50.3**	**-2.0**
	comp=N,30nm,0.2s,SNR=8.2						
PMAFR	**Mafra**	**2.41**	**9**	*e*Sn	**Sn**	**11 30 50.9**	**-1.4**
	comp=N,25nm,0.7s						
EVO	**Evora**	**2.41**	**35**	*e*Sn	**Sn**	**11 30 50.2**	**-2.1**
EVO				A	A	11 30 51.2	
	comp=N,27nm,0.1s						
EVO	**Evora**	**2.41**	**35**	*e*Sn	**Sn**	**11 30 50.2**	**-2.1**
	comp=N,27nm,0.1s						
PBAR	**Barrancos**	**2.71**	**53**	*e*Pn	**Pn**	**11 30 27.2**	**+0.3**
PBAR				*e*Sn	**Sn**	**11 30 58.6**	**-1.2**
PBAR				A	A	11 31 00.3	
	comp=N,5.4nm,0.2s						
PBAR	**Barrancos**	**2.71**	**53**	*e*Pn	**Pn**	**11 30 27.2**	**+0.3**
PBAR				*e*Sn	**Sn**	**11 30 58.6**	**-1.2**
	comp=N,5.4nm,0.2s						
EMIN	**Mina Concepcio**	**2.76**	**64**	P	**Pn**	**11 30 27.4**	**-0.2**
	comp=N,0.7nm,0.1s,SNR=10						
EMIN				S	**Sn**	**11 30 59.0**	**-2.0**
	comp=N,2.8nm,0.1s,SNR=8.0						
EMIN	**Mina Concepcio**	**2.76**	**64**	P	**Pn**	**11 30 27.4**	**-0.2**
	comp=N,0.7nm,0.1s,SNR=10						
EMIN				S	**Sn**	**11 30 59.0**	**-2.0**
	comp=N,2.8nm,0.1s,SNR=8.0						
PMTG	**Montargil**	**2.78**	**26**	*e*Pn	**Pn**	**11 30 28.1**	**+0.2**
PMTG				*e*Sn	**Sn**	**11 30 59.3**	**-2.1**
PMTG				A	A	11 31 00.0	
	comp=N,9.7nm,0.5s						
PMTG	**Montargil**	**2.78**	**26**	*e*Pn	**Pn**	**11 30 28.1**	**+0.2**
PMTG				*e*Sn	**Sn**	**11 30 59.3**	**-2.1**
	comp=N,9.7nm,0.5s						
PESTR	**Estremoz**	**2.88**	**37**	*e*Pn	**Pn**	**11 30 29.9**	**+0.7**
PESTR				*e*Sn	**Sn**	**11 31 01.8**	**-2.1**
PESTR				A	A	11 31 04.1	
	comp=N,4.5nm,0.2s						
PESTR	**Estremoz**	**2.88**	**37**	*e*Pn	**Pn**	**11 30 29.9**	**+0.7**
PESTR				*e*Sn	**Sn**	**11 31 01.8**	**-2.1**
	comp=N,4.5nm,0.2s						
EBAD	**Badajoz**	**3.10**	**45**	P	**Pn**	**11 30 31.9**	**-0.3**
	comp=N,0.9nm,0.1s,SNR=8.6						
EBAD				S	**Sn**	**11 31 07.0**	**-2.3**
	comp=N,1.4nm,0.1s,SNR=5.2						
EBAD	**Badajoz**	**3.10**	**45**	P	**Pn**	**11 30 31.9**	**-0.3**
	comp=N,0.9nm,0.1s,SNR=8.6						
EBAD				S	**Sn**	**11 31 07.0**	**-2.3**
	comp=N,1.4nm,0.1s,SNR=5.2						
ESPR	**Espera**	**3.17**	**84**	P	**Pn**	**11 30 33.4**	**+0.1**
	comp=N,1.5nm,0.1s,SNR=7.2						
ESPR				S	**Sn**	**11 31 08.3**	**-2.9**
	comp=N,56nm,0.2s						
ESPR	**Espera**	**3.17**	**84**	P	**Pn**	**11 30 33.4**	**+0.1**
	comp=N,1.5nm,0.1s,SNR=7.2						
ESPR				S	**Sn**	**11 31 08.3**	**-2.9**
	comp=N,56nm,0.2s						
PTOM	**Tomar**	**3.22**	**19**	*e*Sn	**Sn**	**11 31 08.8**	**-3.6**
PTOM				A	A	11 31 19.0	
	comp=N,35nm,0.1s						
PTOM	**Tomar**	**3.22**	**19**	*e*Sn	**Sn**	**11 31 08.8**	**-3.6**
	comp=N,35nm,0.1s						
PMRV	**Marv??o**	**3.42**	**33**	*e*Pn	**Pn**	**11 30 37.1**	**+0.4**
PMRV				*e*Sn	**Sn**	**11 31 14.4**	**-2.9**
PMRV				A	A	11 31 17.1	
	comp=N,6.6nm,0.3s						
PMRV	**Marv??o**	**3.42**	**33**	*e*Pn	**Pn**	**11 30 37.1**	**+0.4**
PMRV				*e*Sn	**Sn**	**11 31 14.4**	**-2.9**
	comp=N,6.6nm,0.3s						
PCAS	**Casmilo, Conde**	**3.62**	**16**	*e*Sn	**Sn**	**11 31 20.2**	**-1.9**
PCAS				A	A	11 31 24.0	
	comp=N,3.5nm,0.1s						
PCAS	**Casmilo, Conde**	**3.62**	**16**	*e*Sn	**Sn**	**11 31 20.2**	**-1.9**
	comp=N,3.5nm,0.1s						
ECAB	**El Cabril**	**3.79**	**65**	P	**Pn**	**11 30 42.0**	**+0.2**
	comp=N,1.2nm,0.1s,SNR=6.0						
ECAB				S	**Sn**	**11 31 23.7**	**-2.8**
	comp=N,1.2nm,0.1s,SNR=6.4						
ECAB	**El Cabril**	**3.79**	**65**	P	**Pn**	**11 30 42.0**	**+0.2**
	comp=N,1.2nm,0.1s,SNR=6.0						
ECAB				S	**Sn**	**11 31 23.7**	**-2.8**
	comp=N,1.2nm,0.1s,SNR=6.4						
PVIS	**Viseu**	**4.39**	**19**	*e*Sn	**Sn**	**11 31 38.6**	**-2.7**
PVIS				A	A	11 31 41.0	
	comp=N,6.1nm,0.1s						
PVIS	**Viseu**	**4.39**	**19**	*e*Sn	**Sn**	**11 31 38.6**	**-2.7**
	comp=N,6.1nm,0.1s						
EADA	**Adamuz**	**4.45**	**68**	P	**Pn**	**11 30 50.6**	**-0.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**11 31 38.8**	**-3.8**
	comp=N,1.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.45**	**68**	P	**Pn**	**11 30 50.6**	**-0.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**11 31 38.8**	**-3.8**
	comp=N,1.9nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.54**	**39**	P	**Pn**	**11 30 52.7**	**+0.6**
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**11 31 41.5**	**-3.5**
	comp=N,8.1nm,0.2s,SNR=6.3						
EPLA	**Plasencia**	**4.54**	**39**	P	**Pn**	**11 30 52.7**	**+0.6**
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**11 31 41.5**	**-3.5**
	comp=N,8.1nm,0.2s,SNR=6.3						
POLO	**Lamas de Olo**	**5.04**	**17**	*e*Sn	**Sn**	**11 31 53.8**	**-3.4**
POLO				A	A	11 31 55.8	
	comp=N,0.8nm,0.1s						
POLO	**Lamas de Olo**	**5.04**	**17**	*e*Sn	**Sn**	**11 31 53.8**	**-3.4**
	comp=N,0.8nm,0.1s						
EBAN	**Banos Encina**	**5.04**	**70**	S	Sn	11 31 52.1	-5.1
	comp=N,3.1nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**5.04**	**70**	S	Sn	11 31 52.1	-5.1
	comp=N,3.1nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.06**	**24**	S	**Sn**	**11 31 54.8**	**-3.1**
	comp=N,1.9nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.06**	**24**	*e*Sn	**Sn**	**11 31 54.5**	**-3.3**
MVO				A	A	11 31 56.4	
	comp=N,2.8nm,0.1s						
MVO	**Moncorvo**	**5.06**	**24**	*e*Sn	**Sn**	**11 31 54.5**	**-3.3**
	comp=N,2.8nm,0.1s						
MVO				S	**Sn**	**11 31 54.8**	**-3.1**
	comp=N,1.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.45**	**14**	S	Sn	11 32 01.7	-5.7
	comp=N,1.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.45**	**14**	S	Sn	11 32 01.7	-5.7
	comp=N,1.1nm,0.1s,S

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.78**	**146**	Pn	Pn	12 39 16.5	-1.5
	0.4nm,0.3s,baz=319,slow=13,SNR=26						
WRA				Sn	Sn	12 41 31.2	-10
	0.9nm,0.3s,baz=334,slow=22,SNR=10						
ASAR	**Alice Springs**	**15.74**	**155**	Pn	Pn	12 39 60.0	+1.8
	0.2nm,0.3s,baz=333,slow=9.5,SNR=20						
ASAR				Sn	Sn	12 42 42.6	-11
	0.1nm,0.3s,baz=324,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**68.55**	**329**	P	P	12 47 19.4	0.0
	0.1nm,0.6s,baz=130,slow=7.9,SNR=3.0						

CSEM ***17*** *12:38:57.5, 36.59N×36.26E, h7km, MD2.8, After DDA*
DDA ***17*** *12:38:57.5, 36.59N×36.26E, h7km, MD2.8*
ISCJB ***17*** *12:38:58.1±0.9, 36.54N±0.06×36.21E±0.08, h11km, Error ellipse: s-maj=11.4km s-min=5.4km az=37.7*

ISC 17 12:38:57.3±1.1, 36.59N±0.05×36.26E±0.05, h11km, n10, σ0.32/14, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAHT	**Tahtakopru-Hat**	**0.22**	**197**	*e*PG	**Pg**	**12 39 01.5**	**-0.5**
TAHT				*e*SG	**Sg**	**12 39 05.0**	**-0.1**
YAYL	**Yayladag**	**0.57**	**193**	*i* P	**Pg**	**12 39 08.7**	**+0.3**
YAYL	**Yayladag**	**0.57**	**193**	*i* P	**Pg**	**12 39 08.7**	**+0.3**
KUZU	**Kuzuini**	**0.68**	**74**	*i* P	**Pb**	**12 39 11.2**	**0.0**
KUZU				*i* S	**Sn**	**12 39 23.3**	**-0.2**
KUZU	**Kuzuini**	**0.68**	**74**	*i* P	**Pb**	**12 39 11.2**	**0.0**
KUZU				*i* S	**Sn**	**12 39 23.3**	**-0.2**
GZT	**Gaziantep**	**1.29**	**53**	*i* P	**Pg**	**12 39 22.4**	**+0.2**
GZT				*i* S	**Sg**	**12 39 39.6**	**+0.6**
GULE	**Gulek**	**1.38**	**301**	*i* P	**Pb**	**12 39 23.3**	**+0.1**
GULE	**Gulek**	**1.38**	**301**	*i* P	**Pb**	**12 39 23.3**	**+0.1**
AKCD	**Akcadag**	**2.16**	**37**	*i* P	**Pg**	**12 39 38.4**	**-0.3**
AKCD	**Akcadag**	**2.16**	**37**	*i* P	**Pg**	**12 39 38.4**	**-0.3**

ISCJB ***17*** *12:41:05.7±0.6, 20.49S×68.79W±0.09, h105km±8km, mb3.7/2, Error ellipse: s-maj=13.9km s-min=5.8km az=176.7*
GUC ***17*** *12:41:06.5±0.4, 20.53S×68.91W, h105km±3km, ML4.0*
IDC ***17*** *12:41:08.9±2.9, 20.60S×68.59W, h122km±24km, mb3.4/3, mb1 3.5/5, mb1mx3.3/18, mbtmp3.3/5, Error ellipse: s-maj=38.6km s-min=26.9km az=100.0*

ISC 17 12:41:07.0±0.7, 20.47S±0.04×68.84W±0.08, h103km±7km, n18, σ1§45/27, 3C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.84**	**226**	⇓*i*P	**Pn**	**12 41 25.3**	**-0.9**
PB01				*i* S	**Sn**	**12 41 39.3**	**-1.2**
PB01				AML	AML	12 41 40.0	
	comp=N,10μm,0.2s						
HMBC	**Humberstone**	**1.00**	**280**	⇑*i*P	**Pn**	**12 41 27.4**	**-0.5**
HMBC				*e*S	**Sn**	**12 41 43.1**	**-0.5**
HMBC				AML	AML	12 41 43.5	
	comp=N,6μm,0.3s						
PATCX	**Punta Patache**	**1.28**	**254**	⇑*i*P	**Pn**	**12 41 30.2**	**-0.8**
PATCX				*i* S	**Sn**	**12 41 48.1**	**-1.0**
PATCX				AML	AML	12 41 55.1	
	comp=E,3μm,0.3s						
PB09	**Plate Boundary**	**1.38**	**196**	*e*P	**Pn**	**12 41 31.5**	**-0.7**
PB09				*i* S	**Sn**	**12 41 50.5**	**-0.8**
PB09				AML	AML	12 41 52.6	
	comp=N,2μm,0.4s						
PSGC	**Pisagua**	**1.48**	**305**	⇑*i*P	**Pn**	**12 41 33.3**	**-0.1**
PSGC				*e*S	**Sn**	**12 41 53.6**	**+0.2**
PSGC				AML	AML	12 41 58.2	
	comp=E,2μm,0.4s						
PB07	**Plate Boundary**	**1.59**	**218**	⇓*i*P	**Pn**	**12 41 33.7**	**-1.1**
PB07				*i* S	**Sn**	**12 41 54.7**	**-1.2**
PB07				AML	AML	12 41 59.8	
	comp=N,1μm,0.4s						
PB04	**Plate Boundary**	**1.89**	**199**	*e*P	Pn	12 41 42.3	+4.0
PB04				*i* S	Sn	12 42 09.4	+7.1
PB04				AML	AML	12 42 17.4	
	comp=N,652nm,0.1s						
PB06	**Plate Boundary**	**2.33**	**197**	*e*P	**Pn**	**12 41 43.7**	**-0.5**
PB06				*i* S	**Sn**	**12 42 12.1**	**-0.6**
PB06				AML	AML	12 42 20.5	
	comp=E,475nm,0.4s						
ARCH	**Arica**	**2.40**	**325**	*e*P	**Pn**	**12 41 45.5**	**+0.6**
ARCH				*i* S	**Sn**	**12 42 15.3**	**+1.3**
ARCH				AML	AML	12 42 21.4	
	comp=N,7μm,0.5s						
CEN1	**Los Morros**	**3.17**	**203**	*i* P	**Pn**	**12 41 57.7**	**+2.4**
CEN1				*i* S	**Sn**	**12 42 37.0**	**+4.5**
CEN1				AML	AML	12 42 44.7	
	comp=E,216nm,0.5s						
LPAZ	**La Paz**	**4.21**	**9**	P	Pn	12 42 13.9	+4.2
	comp=E,1.6nm,0.3s,baz=197,slow=6.2,SNR=26						
LPAZ				S	**Sn**	**12 42 57.4**	**-0.8**
	comp=E,1.2nm,0.3s,baz=237,slow=2.5,SNR=5.7						
SIV	**San Ignacio**	**8.62**	**60**	P	**Pn**	**12 43 08.2**	**-0.8**
	comp=E,1.1nm,0.3s,baz=254,slow=12,SNR=11						
PLCA	**Paso Flores**	**20.26**	**184**	P	**P**	**12 45 33.5**	**-0.8**
	comp=E,2.3nm,1.0s,baz=341,slow=7.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.95**	**71**	P	**P**	**12 52 47.9**	**-0.8**
	comp=E,0.5nm,0.4s,baz=257,slow=5.8,SNR=10						
TORD				pP	**pP**	**12 53 17.4**	**+2.1**
	comp=E,0.7nm,0.8s,baz=250,slow=4.7,SNR=4.6						
YKA	**Yellowknife Ar**	**90.24**	**341**	P	**P**	**12 53 55.7**	**+0.2**
	comp=E,0.7nm,0.8s,baz=133,slow=4.5,SNR=9.1						
YKA				pP	**pP**	**12 54 24.6**	**+1.9**
	comp=E,0.3nm,0.8s,baz=136,slow=4.6,SNR=5.5						
ASAR	**Alice Springs**	**130.85**	**208**	PKP	**PKPdf**	**13 00 06.6**	**-0.5**
	comp=E,0.2nm,0.5s,baz=134,slow=2.2,SNR=4.2						
MKAR	**Makanchi Array**	**144.76**	**35**	PKP	PKPbc	13 00 31.3	+0.3
	comp=E,0.5nm,0.6s,baz=354,slow=3.2,SNR=8.6						
SONM	**Songino Array**	**152.42**	**7**	PKPbc	**PKPbc**	**13 00 50.9**	**-0.3**
	comp=E,0.3nm,0.5s,baz=248,slow=1.6,SNR=2.9						

IDC ***17*** *12:48:43.6±1.5, 31.31S×177.68W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/18, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=43.0km s-min=36.7km az=156.0*

ISC 17 12:48:47.8±1.7, 31.55S±0.2×177.7W±0.3, h26km, n7, σ0.78/8, mb4.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.00**	**211**	Pn	**Pn**	**12 50 41.7**	**-0.6**
	0.4nm,0.3s,baz=168,slow=20,SNR=6.6						
URZ				Sn	**Sn**	**12 52 12.0**	**+0.1**
	1.2nm,0.3s,baz=143,slow=20,SNR=5.8						
STKA	**Stephens Creek**	**34.51**	**258**	P	**P**	**12 55 35.0**	**+1.1**
	1.4nm,0.6s,baz=138,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**43.33**	**268**	P	**P**	**12 56 47.4**	**-0.5**
	1.1nm,0.6s,baz=104,slow=7.6,SNR=28						
WRA	**Warramunga Arr**	**44.41**	**273**	P	**P**	**12 56 56.1**	**-0.5**
	2.6nm,0.8s,baz=112,slow=8.0,SNR=22						
FINES	**FINESS Array B**	**146.25**	**340**	PKPbc	**PKPdf**	**13 08 23.6**	**-0.4**
	2.9nm,0.5s,baz=35,slow=3.0,SNR=15						
AKASG	**Malin Array Be**	**152.32**	**322**	PKPbc	**PKPbc**	**13 08 40.6**	**-0.3**
	0.9nm,0.6s,baz=52,slow=2.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**161.74**	**178**	PKPab	**PKPab**	**13 09 33.1**	**+0.9**
	0.6nm,1.0s,baz=197,slow=4.6,SNR=2.6						

IDC ***17*** *13:09:48.1±1.3, 39.78N×53.89E, h0km, mb3.4/6, mb1 3.7/10, mb1mx3.5/31, mbtmp3.6/10, ML3.5/4, MS2.7/2, Ms1 2.7/2, ms1mx2.3/33, Error ellipse: s-maj=22.1km s-min=13.7km az=165.0*
CSEM ***17*** *13:09:49.5±0.2, 39.81N×54.21E, h2km, ML4.0, Error ellipse: s-maj=6.0km s-min=5.1km az=154.0*
ISCJB ***17*** *13:09:50.8±0.4, 39.86N±0.04×54.26E±0.04, h42km, mb3.4/5, Error ellipse: s-maj=5.2km s-min=4.1km az=2.9*
TEH ***17*** *13:09:53.9, 39.75N×54.16E, h27km, ML4.0*
AZER ***17*** *13:09:54.9±2.0, 39.42N×53.96E, h40km, Error ellipse: s-maj=17.2km s-min=10.8km az=147.0*
NNC ***17*** *13:10:01.4±2.8, 40.38N×55.55E, h0km, mb3.8, Error ellipse: s-maj=25.6km s-min=17.1km az=41.0*

ISC 17 13:09:52.3±0.7, 39.81N±0.05×54.31E±0.04, h42km, n62, σ2.63/74, mb3.5/5, 13C-15D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**3.33**	**187**	*e*Pn	**Pn**	**13 10 42.2**	**+0.1**
IGLO				*e*		13 10 45.5	
	comp=Z,3μm,0.0s						
IKIA	**Kiasar**	**3.63**	**188**	*e*Pn	**Pn**	**13 10 47.4**	**+1.1**
IKIA				*e*		13 10 48.3	
	comp=Z,2μm,0.1s						
IKIA	**Kiasar**	**3.63**	**188**	*e*Pn	**Pn**	**13 10 47.4**	**+1.1**
IPRN	**Peran**	**3.89**	**204**	*e*Pn	**Pn**	**13 10 48.7**	**-1.0**
IPRN				*e*		13 10 50.4	
	comp=Z,5μm,0.1s						
IALA	**Alasht**	**3.91**	**198**	*e*Pn	**Pn**	**13 10 50.7**	**+0.6**
IALA				*e*		13 10 50.9	
	comp=Z,10μm,0.1s						
IALA	**Alasht**	**3.91**	**198**	*e*Pn	**Pn**	**13 10 50.7**	**+0.6**
ATGJ	**Altiaghaj**	**4.24**	**286**	⇓Pn	**Pn**	**13 10 55.5**	**+1.1**
ATGJ				⇓Sn	**Sn**	**13 11 43.9**	**+1.1**
SIZA	**Siyzn**	**4.32**	**289**	⇑Sn	**Sn**	**13 11 46.6**	**+1.9**
SIZA	**Siyzn**	**4.32**	**289**	Sn	**Sn**	**13 11 46.6**	**+1.9**
IFIR	**Firoozkooh**	**4.34**	**197**	*e*Pn	**Pn**	**13 10 56.8**	**+0.7**
IFIR				*e*		13 10 59.1	
	comp=Z,8μm,0.1s						
IFIR	**Firoozkooh**	**4.34**	**197**	*e*Pn	**Pn**	**13 10 56.8**	**+0.7**
LKRN	**Lenkeran, Azer**	**4.43**	**257**	⇑Pn	**Pn**	**13 10 55.8**	**-1.2**
LKRN				⇓Sn	**Sn**	**13 11 42.6**	**-4.8**
LKRN	**Lenkeran, Azer**	**4.43**	**257**	Pn	**Pn**	**13 10 55.8**	**-1.2**
PQL	**Pirkuli**	**4.48**	**284**	⇓Pn	**Pn**	**13 11 00.1**	**+2.3**
PQL				⇓Sn	**Sn**	**13 11 50.3**	**+1.5**
PQL	**Pirkuli**	**4.48**	**284**	Pn	**Pn**	**13 11 00.1**	**+2.3**
PQL				Sn	**Sn**	**13 11 50.3**	**+1.5**
IKRD	**Kardeh**	**4.49**	**131**	*e*Pn	Pn	13 11 09.0	+11
IKRD				*e*		13 12 12.8	
	comp=Z,779nm,0.1s						
IDMV	**Damavand**	**4.60**	**204**	*e*Pn	**Pn**	**13 11 00.0**	**+0.4**
IDMV				*e*		13 11 04.0	
	comp=Z,993nm,0.1s						
IDMV	**Damavand**	**4.60**	**204**	*e*Pn	**Pn**	**13 11 00.0**	**+0.4**
GLBA	**Cilabad**	**4.61**	**265**	⇓Pn	**Pn**	**13 10 58.8**	**-0.7**
GLBA				⇓Sn	**Sn**	**13 11 47.4**	**-4.4**
QUBA	**Quba, Azerbaij**	**4.69**	**291**	⇑Pn	**Pn**	**13 11 05.3**	**+4.7**
QUBA				⇑Sn	**Sn**	**13 11 54.6**	**+0.8**
QUBA	**Quba, Azerbaij**	**4.69**	**291**	Pn	Pn	13 11 05.3	+4.7
QUBA				Sn	**Sn**	**13 11 54.6**	**+0.8**
LRK	**Lerik**	**4.78**	**258**	⇑Pn	**Pn**	**13 11 00.2**	**-1.8**
LRK				⇓Sn	Sn	13 11 49.8	-6.5
IPAY	**Payeh**	**4.99**	**131**	*e*Pn	**Pn**	**13 11 07.4**	**+2.5**
IPAY				*e*		13 12 08.3	
	comp=Z,919nm,0.1s						
IPAY	**Payeh**	**4.99**	**131**	*e*Pn	**Pn**	**13 11 07.4**	**+2.5**
IVRN	**Varamin**	**5.23**	**204**	*e*		13 11 18.8	
	comp=Z,419nm,0.1s						
IVRN				*e*Pn	**Pn**	**13 11 08.5**	**+0.4**
ISRO	**Mashad**	**5.37**	**129**	*e*Sn	**Sn**	**13 12 09.8**	**-0.8**
SEKA	**Sheki**	**5.60**	**287**	⇓Pn	**Pn**	**13 11 13.9**	**+0.8**
SEKA				⇓Sn	**Sn**	**13 12 11.3**	**-4.9**
IRAZ	**Razeghan**	**5.61**	**220**	*e*Pn	**Pn**	**13 11 13.2**	**-0.2**
IRAZ				*e*		13 11 14.2	
	comp=Z,363nm,0.2s						
IRAZ	**Razeghan**	**5.61**	**220**	*e*Pn	**Pn**	**13 11 13.2**	**-0.2**
IMYA	**Miami**	**5.73**	**125**	*e*Pn	**Pn**	**13 11 17.4**	**+2.3**
IMYA				*e*		13 13 23.5	
	comp=Z,440nm,0.2s						
IMYA	**Miami**	**5.73**	**125**	*e*Pn	**Pn**	**13 11 17.4**	**+2.3**
IHRS	**Heris**	**5.85**	**258**	*e*Pn	**Pn**	**13 11 16.3**	**-0.4**
IHRS				*e*		13 12 37.5	
	comp=Z,511nm,0.2s						
IHRS	**Heris**	**5.85**	**258**	*e*Pn	**Pn**	**13 11 16.3**	**-0.4**
ZKTA	**Zakatala**	**6.12**	**290**	⇑Pn	**Pn**	**13 11 19.4**	**-0.8**
ZKTA				⇓Sn	**Sn**	**13 12 27.4**	**-1.5**
GANJ	**Ganja**	**6.17**	**280**	⇑Pn	**Pn**	**13 11 18.8**	**-2.1**
GANJ				⇓Sn	Sn	13 12 23.2	-7.1
GANJ	**Ganja**	**6.17**	**280**	Pn	**Pn**	**13 11 18.8**	**-2.1**
IMRD	**Marand**	**6.77**	**263**	*e*Pn	**Pn**	**13 11 29.2**	**-0.1**
IMRD	**Marand**	**6.77**	**263**	*e*Pn	**Pn**	**13 11 29.2**	**-0.1**
KBZ	**Khabaz**	**9.38**	**298**	Pn	Pn	13 12 00.8	-4.0
	comp=Z,0.1nm,0.3s,baz=104,slow=17,SNR=2.2						
AB31	**Akbulak array**	**10.26**	**21**	Pn	**Pn**	**13 12 17.6**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=204,SNR=29						
AB31				Sn	**Sn**	**13 14 06.0**	**-4.4**
	comp=Z,2.6nm,0.5s,SNR=5.0						
AB31	**Akbulak array**	**10.26**	**21**	Pn	**Pn**	**13 12 17.6**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=204,slow=13,SNR=29						
AB31				⇑Sn	**Sn**	**13 14 06.0**	**-4.4**
	comp=Z,2.6nm,0.5s,baz=188,slow=23,SNR=5.0						
AKTO	**Aktyubinsk**	**10.94**	**13**	Pn	**Pn**	**13 12 27.0**	**+0.9**
	comp=Z,1.2nm,0.3s						
AKTO				Sn	**Sn**	**13 14 22.9**	**-4.2**
	comp=Z,10nm,0.8s						
AKTO	**Aktyubinsk**	**10.94**	**13**	Pn	**Pn**	**13 12 25.9**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=203,slow=10,SNR=8.7						
AKTO				Sn	**Sn**	**13 14 22.6**	**-4.5**
	comp=Z,1.5nm,0.3s,baz=358,slow=22,SNR=7.1						
AKTO				LR	LR	13 17 47.1	
	comp=Z,36nm,20.7s,baz=118,slow=43						
AKTO	**Aktyubinsk**	**10.94**	**13**	⇓Pn	**Pn**	**13 12 27.0**	**+0.9**
	comp=Z,1.2nm,0.3s						
AKTO				⇓Sn	**Sn**	**13 14 22.9**	**-4.2**
	comp=Z,10nm,0.8s						
KK31	**Karatay Array**	**12.59**	**70**	Pn	**Pn**	**13 12 48.8**	**0.0**
	comp=Z,1.1nm,0.4s,SNR=28						
KK31				Sn	**Sn**	**13 15 02.2**	**-5.4**
	comp=Z,1.8nm,0.6s						
KK31	**Karatay Array**	**12.59**	**70**	⇓Pn	**Pn**	**13 12 48.8**	**0.0**
	comp=Z,1.1nm,0.4s,baz=252,slow=16,SNR=28						
KK31				⇑Sn	**Sn**	**13 15 02.2**	**-5.4**
	comp=Z,1.8nm,0.6s						
AAK	**Ala-Archa**	**15.44**	**73**	Pn	**Pn**	**13 13 27.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=231,slow=10,SNR=7.7						
AAK				LR	LR	13 20 23.4	
	comp=Z,40nm,21.3s,baz=48,slow=40						
BRVK	**Borovoye**	**17.17**	**34**	P	**P**	**13 13 53.3**	**+3.2**
	comp=Z,5.8nm,1.0s						
BRVK				S	**Sn**	**13 16 53.5**	**-5.2**
	comp=Z,5.5nm,1.4s						
BRVK	**Borovoye**	**17.17**	**34**	⇑P	**P**	**13 13 53.3**	**+3.2**
	comp=Z,5.8nm,1.0s						
BRVK				⇑S	**Sn**	**13 16 53.5**	**-5.2**
	comp=Z,5.5nm,1.4s						
BVA0	**Borovoye Array**	**17.19**	**34**	P	**P**	**13 13 53.3**	**+2.9**
	comp=Z,2.9nm,0.8s,baz=214,SNR=13						
BVA0				S	**Sn**	**13 16 54.0**	**-5.3**
	comp=Z,2.7nm,0.7s						
BVA0	**Borovoye Array**	**17.19**	**34**	P	**P**	**13 13 53.2**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=220,slow=13,SNR=4.8						
KURBB	**Kurchatov Arra**	**20.10**	**49**	P	Pn	13 14 25.3	+0.9
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**20.10**	**49**	P	Pn	13 14 26.0	+1.6
	comp=Z,1.9nm,0.9s,baz=246,slow=9.7,SNR=7.4						
KURBB	**Kurchatov Arra**	**20.10**	**49**	⇑P	Pn	13 14 25.3	+0.9
	comp=Z,1.5nm,0.8s						
AKASG	**Malin Array Be**	**20.64**	**310**	P	**P**	**13 14 27.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=108,slow=9.7,SNR=4.2						
MK31	**Makanchi Array**	**21.45**	**62**	P	**P**	**13 14 40.5**	**+3.6**
	comp=Z,0.7nm,0.3s,SNR=10						
MK31	**Makanchi Array**	**21.45**	**62**	P	**P**	**13 14 40.5**	**+3.6**
	comp=Z,0.7nm,0.3s,baz=249,slow=10,SNR=10						
MKAR	**Makanchi Array**	**21.45**	**62**	P	P	13 14 40.9	+4.0
	comp=Z,1.1nm,0.5s,baz=249,slow=9.7,SNR=16						
ZALV	**Zalesovo Beam**	**24.95**	**45**	P	**P**	**13 15 15.1**	**+3.6**
	comp=Z,2.1nm,0.6s,baz=254,slow=9,SNR=12						
TORD	**Torodi Ar. Bea**	**53.15**	**255**	P	**P**	**13 19 05.3**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=29,slow=7.3,SNR=4.1						
ILAR	**Eielson Array**	**74.43**	**9**	P	**P**	**13 21 27.7**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=335,slow=7.5,SNR=3.3						

JMA 17 13:26:02.3±0.1, 34.97N×139.16E, h8km±1km, M1.2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	**Ajiro2**	**0.09**	**323**	P	Pg	13 26 04.7	+0.1
AJI				S	Sg	13 26 06.1	-0.1
JOD2	**Odawara 2**	**0.30**	**349**	P	Pg	13 26 08.6	+0.3
JYN	**Shimob**	**0.73**	**316**	P	Pg	13 26 16.0	-0.5

IDC ***17*** *13:27:03.1±1.1, 9.01S×118.51E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/25, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=50.0km s-min=17.9km az=49.0*
AUST ***17*** *13:27:12.5, 9.49S×118.96E, h5km*
DJA ***17*** *13:27:13.1±0.3, 9.5S±4.3×11.9E±1.3, h10km, M4.7/19, mb4.9/10, mB5.1/4, MLv4.7/19, Mw(mB)4.5/4*

ISC 17 13:27:05.3±0.6, 8.92S±0.06×118.46E±0.03, h10km, n46, σ1§39/34, mb4.2/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.48**	**73**	P	Pg	13 27 39.8	+6.0
LBFI				S	Sg	13 27 59.4	+6.3
WSI	**Waingapu**	**1.96**	**112**	P	**Pg**	**13 27 43.6**	**+0.6**
WSI				S	**Sb**	**13 28 05.6**	**-0.1**
WSI	**Waingapu**	**1.96**	**112**	P	**Pg**	**13 27 42.5**	**-0.5**
	baz=1.3,SNR=50						
MTNI	**Mataram**	**2.28**	**277**	P	Pg	13 27 54.1	+5.1
MTNI				S	Sg	13 28 26.2	+7.6
DNP	**Denpasar**	**3.22**	**274**	P	**Pg**	**13 28 06.1**	**-0.9**
IGBI	**Denpasar**	**3.27**	**271**	P	**Pb**	**13 28 04.8**	**+1.3**
SRBI	**Singaraja**	**3.31**	**284**	P	**Pb**	**13 28 05.3**	**+1.1**
MMRI	**Maumere**	**3.75**	**86**	P	**Pb**	**13 28 09.5**	**-2.1**
BKSI	**Bulukumba**	**3.94**	**25**	P	**Pb**	**13 28 16.5**	**+1.6**
ABJI	**Asem Bagus**	**4.33**	**285**	P	**Pb**	**13 28 21.0**	**-0.5**
BNSI	**Bone**	**4.78**	**20**	P	**Pb**	**13 28 29.3**	**+0.1**
	48nm,0.7s,0.3nm						
BLJI	**Banyuglugur**	**4.95**	**283**	P	Pb	13 28 28.3	-3.9
	90nm,0.4s,3μm0.8nm						
GMJI	**Gumukmas**	**5.00**	**277**	P	Pb	13 28 27.5	-5.5
	92nm,0.8s,2μm0.4nm						
SPSI	**Sidrap Palu**	**5.09**	**15**	P	**Pb**	**13 28 34.3**	**-0.3**
	20nm,0.7s,0.2nm						
BBSI	**Bau Bau**	**5.32**	**50**	P	Pb	13 28 34.1	-4.3
	56nm,0.9s,0.2nm						
MJSI	**Majene**	**5.36**	**6**	P	**Pb**	**13 28 37.7**	**-1.4**
	161nm,0.6s,2μm0.7nm						
SOEI	**Soe**	**5.79**	**99**	P	Pn	13 28 36.1	+4.6
	baz=5.2,SNR=8.8						
KRKI	**Karangkates**	**5.99**	**277**	P	**Pb**	**13 28 48.3**	**-1.5**
	172nm,0.5s,1.7nm						
TTSI	**Tana Toraja**	**5.99**	**13**	P	**Pb**	**13 28 47.0**	**-2.9**
	23nm,0.4s,0.1nm						
MMSI	**Mamuju**	**6.20**	**4**	P	Pb	13 28 49.0	-4.5
	75nm,0.5s,980nm0.3nm						
BBKI	**Banjar Baru**	**6.50**	**326**	P	**Pb**	**13 29 01.6**	**+3.0**
PWJI	**Pagerwojo**	**6.64**	**277**	P	Pb	13 28 54.1	-6.9
SJI	**Sawahan**	**6.72**	**280**	P	**Pb**	**13 29 00.6**	**-1.8**
UGM	**Wanagama**	**7.91**	**277**	P	Pb	13 29 13.7	-8.9
	baz=8.5,SNR=7.2						
FITZ	**Fitzroy Crossi**	**11.49**	**143**	Pn	**Pn**	**13 29 47.2**	**-2.4**
FITZ				Sn	Sn	13 31 42.0	-16
KNRA	**Kununurra**	**12.10**	**125**	P	**Pn**	**13 29 57.7**	**-0.2**
	baz=11,SNR=10						
MTN	**Manton Dam**	**13.04**	**109**	P	Pn	**13 30 10.2**	**-0.7**
	baz=12,SNR=35						
GIRL	**Giralia**	**14.24**	**196**	P	Pn	**13 30 28.6**	**+1.5**
	baz=14,SNR=3.8						
KDU	**Kakadu**	**14.27**	**106**	P	Pn	**13 30 26.9**	**-0.6**
	baz=14,SNR=8.1						
FAKI	**Fak Fak**	**14.95**	**67**	P	Pn	**13 30 38.5**	**+1.5**
	baz=15,SNR=8.0						
MEEK	**Meekatharra**	**17.62**	**180**	P	**P**	**13 31 12.9**	**+0.7**
	baz=17,SNR=10						
WRKA	**Warakurna**	**18.57**	**151**	P	**P**	**13 31 21.6**	**-1.0**
	baz=18,SNR=7.1						
WRA	**Warramunga Arr**	**18.87**	**127**	P	**P**	**13 31 24.2**	**-1.7**
	0.3nm,0.3s,baz=303,slow=12,SNR=24						
WRA				S	Sn	13 34 40.3	-17
	0.2nm,0.3s,baz=292,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**20.82**	**137**	P	**P**	**13 31 45.5**	**-1.7**
	2.1nm,0.6s,baz=319,slow=9.9,SNR=36						
ASAR				S		13 35 29.9	-10
	0.8nm,0.6s,baz=305,slow=22,SNR=7.9						
PSI	**Prapat**	**22.69**	**300**	P	**P**	**13 32 07.5**	**0.0**
	18nm,0.4s,baz=150,slow=0.5,SNR=7.1						
COEN	**Coen**	**24.73**	**104**	P	P	13 32 33.0	+5.8
	baz=24,SNR=4.6						
CMAR	**Chiang Mai Arr**	**33.33**	**325**	P	**P**	**13 33 45.3**	**+1.6**
	0.5nm,0.4s,baz=156,slow=7.8,SNR=4.2						
H08S2	**Diego Garcia H**	**45.48**	**268**	T	T	14 25 04.2	
	baz=95,slow=75,SNR=5.1						
H08S3	**Diego Garcia H**	**45.49**	**268**	T	T	14 25 07.0	
	baz=95,slow=75,SNR=4.2						
H08S1	**Diego Carcia H**	**45.50**	**268**	T	T	14 25 05.6	
	baz=95,slow=75,SNR=5.0						
USRK	**Ussuriysk Arra**	**54.27**	**12**	P	**P**	**13 36 31.4**	**-0.1**
	1.3nm,0.4s,baz=208,slow=7.4,SNR=8.1						
SONM	**Songino Array**	**57.51**	**350**	P	**P**	**13 36 55.6**	**+0.7**
	1.6nm,0.6s,baz=169,slow

	baz=19,SNR=9.4					
631A	**Perdido Creek**	**18.89 313**	⇓P	**Pn**	**13 42 37.7**	**+0.9**
	baz=19,SNR=26					
MIAR	**Mount Ida**	**19.01 337**	*e*P	**P**	**13 42 36.6**	**-0.6**
JCT	**Junction City**	**19.04 317**	*e*Pn	**P**	**13 42 39.1**	**+1.5**
	16nm,0.5s					
JCT	**Junction City**	**19.04 317**	⇓P	**Pn**	**13 42 40.0**	**+1.5**
	baz=19					
333A	**Richland Sprin**	**19.09 320**	⇓P	**Pn**	**13 42 40.7**	**+1.5**
	baz=19,SNR=48					
432A	**Menard**	**19.29 318**	⇑P	**P**	**13 42 41.8**	**+1.4**
	baz=19,SNR=7.2					
531A	**Rocksprings**	**19.33 315**	⇑P	**Pn**	**13 42 42.5**	**+0.4**
	baz=19					
134A	**White-Moore Ra**	**19.47 325**	⇑P	**Pn**	**13 42 44.9**	**+1.3**
	baz=20					
332A	**Millersview**	**19.60 319**	⇑P	**Pn**	**13 42 45.9**	**+0.7**
	baz=20,SNR=6.8					
431A	**Sonora**	**19.70 316**	⇑P	**P**	**13 42 46.5**	**+1.7**
	baz=20					
530A	**J-C Ranch, Com**	**19.86 314**	⇓P	**P**	**13 42 48.4**	**+1.7**
	baz=20,SNR=9.6					
232A	**Coleman**	**19.89 320**	⇑P	**Pn**	**13 42 49.3**	**+0.6**
	baz=20,SNR=9.7					
331A	**San Angelo**	**19.98 318**	⇓P	Pn	13 42 50.4	+0.6
	baz=20					
430A	**Baggett Ranch,**	**20.18 315**	⇓P	**P**	**13 42 52.1**	**+1.9**
	baz=20,SNR=5.3					
231A	**Bronte**	**20.33 319**	⇓P	**P**	**13 42 53.7**	**+1.9**
	baz=20					
BLA	**Blacksburg**	**20.36 10**	*e*P	P	13 42 48.1	-3.9
Y34A	**Reagan Ranch,**	**20.36 328**	⇓P	Pn	13 42 54.8	+0.6
	baz=20					
Z33A	**Whitaker Ranch**	**20.38 325**	⇓P	**P**	**13 42 54.3**	**+2.1**
	baz=20					
ABTX	**Abilene, Hawle**	**20.40 322**	*e*P	**P**	**13 42 54.6**	**+2.2**
	22nm,0.6s					
ABTX	**Abilene, Hawle**	**20.40 322**	⇓P	Pn	13 42 54.7	0.0
	baz=20					
529A	**Stev Forest Ra**	**20.47 312**	⇓P	**P**	**13 42 54.3**	**+1.1**
	baz=21,SNR=5.5					
429A	**Davenport Ranc**	**20.53 314**	⇑P	**P**	**13 42 55.4**	**+1.4**
	baz=21,SNR=9.5					
330A	**Mertzon**	**20.53 317**	⇓P	**P**	**13 42 55.7**	**+1.7**
	baz=21,SNR=6.7					
628A	**Black Gap, Mar**	**20.59 310**	⇑P	**P**	**13 42 55.2**	**+0.6**
	baz=21					
Z32A	**Haskell**	**20.80 323**	⇓P	**P**	**13 42 59.1**	**+2.4**
	baz=21					
230A	**Sterling City**	**20.80 318**	⇑P	**P**	**13 42 58.1**	**+1.2**
	baz=21					
Y33A	**Hilltop Ranch,**	**20.85 326**	⇓P	Pn	13 42 59.9	-0.1
	baz=21					
X34A	**Smith Ranch, M**	**20.91 329**	⇓P	Pn	13 43 00.8	+0.2
	baz=21					
627A	**Terlingua Ranc**	**20.95 309**	⇓P	**P**	**13 42 59.1**	**+0.6**
	baz=21,SNR=11					
TXAR	**Lajitas Array**	**21.09 308**	P	**P**	**13 43 00.4**	**+0.3**
TXAR			S	**S**	**13 46 49.6**	**-3.5**
TXAR	**Lajitas Array**	**21.09 308**	P	**P**	**13 43 00.4**	**+0.3**
	1.4nm,0.7s,baz=128,slow=12,SNR=22					
TXAR			S	**S**	**13 46 49.6**	**-3.5**
	0.2nm,0.3s,baz=56,slow=24,SNR=5.7					
TXAR			LR	LR	13 52 05.7	
	comp=Z,119nm,20.2s,baz=5.0,slow=39					
Z31A	**Sharp Cattle R**	**21.19 322**	⇑P	**P**	**13 43 02.6**	**+1.6**
	baz=21					
527A	**Woodward Ranch**	**21.48 310**	⇑P	**P**	**13 43 04.6**	**+0.4**
	baz=22					
WMOK	**Wichita Mounta**	**21.50 327**	*e*P	**P**	**13 43 04.0**	**-0.3**
	9.5nm,0.8s					
X32A	**Elmer**	**21.52 326**	⇓P	**P**	**13 43 07.4**	**+2.9**
	baz=22					
626A	**Big Bend Ranch**	**21.55 308**	⇑P	**P**	**13 43 05.9**	**+0.9**
	baz=22,SNR=8.2					
328A	**Wristen Ranch,**	**21.61 314**	⇓P	**P**	**13 43 05.7**	**+0.1**
	baz=22					
W33A	**Caddo, Fort Co**	**21.66 328**	⇑P	**P**	**13 43 09.2**	**+3.1**
	baz=22					
427A	**Hayter Ranch,**	**21.72 312**	⇓P	**P**	**13 43 06.2**	**-0.6**
	baz=22					
Y31A	**Rekieta Farm,**	**21.72 323**	⇓P	**P**	**13 43 08.4**	**+1.7**
	baz=22					
Z30A	**Sanderson Ranc**	**21.75 321**	⇓P	**P**	**13 43 08.2**	**+1.1**
	baz=22					
129A	**Stewart Farms,**	**21.77 318**	⇓P	**P**	**13 43 08.7**	**+1.4**
	baz=22					
526A	**Mary Lane Ranc**	**21.78 310**	⇓P	**P**	**13 43 07.9**	**+0.4**
	baz=22					
Y30A	**Stafford Cattl**	**22.03 322**	⇑P	**P**	**13 43 12.3**	**+2.3**
	baz=22					
X31A	**McDonald Ranch**	**22.05 325**	⇓P	**P**	**13 43 12.0**	**+1.7**
	baz=22					
426A	**McDonald Obser**	**22.07 311**	⇑P	**P**	**13 43 11.3**	**+0.7**
	baz=22					
Z29A	**Hungry Hill Ra**	**22.09 320**	⇑P	**P**	**13 43 11.9**	**+1.2**
	baz=22					
128A	**Castleberry Fa**	**22.16 317**	⇑P	**P**	**13 43 11.7**	**+0.2**
	baz=22					
U34A	**Anderson Ranch**	**22.26 332**	⇓P	**P**	**13 43 14.1**	**+1.7**
	baz=22					
227A	**Bennet, Jal**	**22.32 315**	⇑P	**P**	**13 43 13.5**	**+0.3**
	baz=22					
326A	**Caldwell Ranch**	**22.39 313**	⇑P	**P**	**13 43 13.4**	**-0.5**
	baz=22					
X30A	**Coker Ranch, T**	**22.42 323**	⇑P	**P**	**13 43 15.5**	**+1.3**
	baz=22					
W31A	**Holland Ranch,**	**22.45 326**	⇓P	**P**	**13 43 16.6**	**+2.1**
	baz=22					
Y29A	**Porterfield Fa**	**22.48 321**	⇑P	**P**	**13 43 15.8**	**+0.9**
	baz=22					
Z28A	**Tucker Farm, M**	**22.53 319**	⇑P	**P**	**13 43 15.6**	**+0.1**
	baz=23					
425A	**Indio Mountain**	**22.82 310**	⇓P	**P**	**13 43 18.5**	**-0.1**
	baz=23					
Y28A	**McKinney Farm,**	**22.86 320**	⇓P	**P**	**13 43 19.4**	**+0.5**
	baz=23					
X29A	**Tulia**	**22.90 322**	⇑P	**P**	**13 43 20.0**	**+0.7**
	baz=23					
226B	**Tecolote Peak,**	**22.96 314**	⇑P	**P**	**13 43 19.6**	**-0.3**
	baz=23					
Z27A	**Tatum**	**23.08 318**	⇓P	**P**	**13 43 20.7**	**-0.5**
	baz=23					
325A	**Bean Ranch, Si**	**23.12 311**	⇓P	**P**	**13 43 20.5**	**-1.3**
	baz=23,SNR=5.1					
AMTX	**Amarillo**	**23.20 323**	⇓P	**P**	**13 43 23.8**	**+1.4**
	baz=23					
MSTX	**Muleshoe**	**23.23 320**	*e*P	**P**	**13 43 22.4**	**-0.3**
	15nm,0.9s					
MSTX	**Muleshoe**	**23.23 320**	⇑P	**P**	**13 43 23.5**	**+0.8**
	baz=23					
Y27A	**Causey**	**23.41 319**	⇑P	**P**	**13 43 25.6**	**+1.1**
	baz=24					
225A	**Deer Hill, Car**	**23.43 313**	⇓P	**P**	**13 43 25.4**	**+0.6**
	baz=24,SNR=6.0					
324A	**Moseley Ranch,**	**23.53 311**	⇑P	**P**	**13 43 25.7**	**0.0**
	baz=24,SNR=9.1					
Z26A	**Caprock**	**23.55 317**	⇓P	**P**	**13 43 26.7**	**+0.8**
	baz=24					
125A	**Gardner Draw,**	**23.63 314**	⇑P	**P**	**13 43 27.2**	**+0.6**
	baz=24					
224A	**Cornudas Mount**	**23.90 312**	⇑P	**P**	**13 43 29.8**	**+0.5**
	baz=24					
W27A	**Bowe Ranch, En**	**24.14 321**	⇓P	**P**	**13 43 32.7**	**+1.3**
	baz=24					
X26A	**CR and CF Fran**	**24.25 319**	⇑P	**P**	**13 43 32.9**	**+0.5**
	baz=24,SNR=5.7					
Z24A	**Sheeppen Canyo**	**24.51 315**	⇓P	**P**	**13 43 35.6**	**+0.8**
	baz=25,SNR=6.8					
U27A	**Thompson Grove**	**24.95 324**	⇑P	**P**	**13 43 39.4**	**+0.8**
	baz=25,SNR=6.7					
ATAH	**Atahualpa**	**24.96 165**	LR	LR	13 52 53.0	
	comp=Z,216nm,18.6s,baz=155,slow=35					
Z23A	**Rita Site, Whi**	**25.06 314**	⇓P	**P**	**13 43 40.3**	**+0.5**
	baz=25					
V26A	**Tequesquite Ra**	**25.07 321**	⇑P	**P**	**13 43 41.6**	**+1.7**
	baz=25,SNR=9.6					
W25A	**X Bar L Ranch,**	**25.09 320**	⇑P	**P**	**13 43 41.0**	**+1.0**
	baz=25,SNR=7.9					
T27A	**Campo**	**25.35 325**	⇓P	**P**	**13 43 43.9**	**+1.5**
	baz=25					
U26A	**Atchley Ranch,**	**25.45 323**	⇑P	**P**	**13 43 44.6**	**+1.3**
	baz=26,SNR=11					
Z22A	**Elephant Butte**	**25.57 313**	⇑P	**P**	**13 43 44.2**	**-0.2**
	baz=26					
W24A	**Lazy 6 Ranch,**	**25.68 318**	⇑P	**P**	**13 43 47.0**	**+1.5**
	baz=26,SNR=5.1					
U25A	**Circle Dot Ran**	**25.85 322**	⇓P	**P**	**13 43 48.3**	**+1.3**
	baz=26					
V24A	**Rampart Ranch,**	**25.93 319**	⇓P	**P**	**13 43 49.7**	**+2.0**
	baz=26,SNR=6.8					
S26A	**Kim**	**26.16 325**	⇓P	**P**	**13 43 51.3**	**+1.6**
	baz=26					
ANMO	**Albuquerque**	**26.20 317**	LR	LR	13 54 39.7	
	comp=Z,138nm,21.5s,baz=298,slow=38					
R27A	**Kim**	**26.29 327**	⇓P	**P**	**13 43 52.8**	**+2.0**
	baz=26					
T25A	**Trinidad**	**26.35 323**	⇑P	**P**	**13 43 53.1**	**+1.6**
	baz=26					
R24A	**Sanders Place,**	**27.51 324**	⇓P	**P**	**13 44 03.8**	**+1.8**
	baz=28					
SADO	**Sadowa**	**27.95 9**	LR	LR	13 55 06.2	
	comp=Z,268nm,19.9s,baz=182,slow=36					
P22A	**Eagle**	**29.38 324**	⇑P	**P**	**13 44 20.5**	**+1.9**
	baz=29					
PDAR	**Pinedale Array**	**33.09 326**	P	**P**	**13 44 52.6**	**+1.4**
PDAR	**Pinedale Array**	**33.09 326**	P	**P**	**13 44 52.6**	**+1.4**
	0.9nm,0.9s,baz=134,slow=8.4,SNR=4.7					
PDAR			LR	LR	13 58 19.1	
	comp=Z,172nm,21.6s,baz=134,slow=36					
LPAZ	**La Paz**	**37.08 153**	P	**P**	**13 45 27.6**	**+1.3**
LPAZ	**La Paz**	**37.08 153**	P	**P**	**13 45 27.6**	**+1.3**
	0.5nm,0.5s,baz=270,slow=3.0,SNR=2.4					
LPAZ			LR	LR	14 00 19.5	
	comp=Z,159nm,21.8s,baz=56,slow=36					
SCHQ	**Schefferville**	**40.08 16**	LR	LR	14 01 39.2	
	comp=Z,180nm,19.2s,baz=103,slow=35					
SIV	**San Ignacio**	**40.42 143**	P	**P**	**13 45 53.7**	**+0.1**
SIV	**San Ignacio**	**40.42 143**	P	**P**	**13 45 53.7**	**+0.1**
	2.1nm,0.7s,baz=348,slow=8.4,SNR=6.2					
SIV			LR	LR	14 04 27.1	
	comp=Z,137nm,18.1s,slow=39					
BDFB	**Brasilia**	**48.79 130**	LR	LR	14 09 03.6	
	comp=Z,141nm,19.2s,baz=130,slow=38					
YKA	**Yellowknife Ar**	**49.84 342**	P	**P**	**13 47 08.1**	**+0.3**
YKA	**Yellowknife Ar**	**49.84 342**	P	**P**	**13 47 08.1**	**+0.3**
	0.5nm,0.7s,baz=135,slow=8.1,SNR=8.5					
CPUP	**Villa Florida**	**50.82 148**	LR	LR	14 09 50.9	
	comp=Z,77nm,21.9s,baz=163,slow=37					
PLCA	**Paso Flores**	**59.10 167**	P	**P**	**13 48 15.3**	**0.0**
PLCA	**Paso Flores**	**59.10 167**	P	**P**	**13 48 15.3**	**0.0**
	0.5nm,0.6s,baz=344,slow=20,SNR=2.4					
ILAR	**Eielson Array**	**62.82 335**	P	**P**	**13 48 41.5**	**+1.3**
ILAR	**Eielson Array**	**62.82 335**	P	**P**	**13 48 41.5**	**+1.3**
	1.5nm,0.8s,baz=110,slow=5.0,SNR=20					
ESDC	**Sonseca Array**	**72.34 53**	LR	LR	14 17 31.5	
	comp=Z,84nm,18.4s,baz=180,slow=33					
NOA	**NORSAR Array B**	**78.06 30**	P	**P**	**13 50 13.1**	**-0.4**
NOA	**NORSAR Array B**	**78.06 30**	P	**P**	**13 50 13.1**	**-0.4**
	0.9nm,0.7s,baz=233,slow=11,SNR=2.3					
NOA			LR	LR	14 27 33.2	
	comp=Z,20nm,18.6s,baz=270,slow=38					
DBIC	**Dimbokro**	**78.52 87**	P	**P**	**13 50 16.2**	**-0.6**
DBIC	**Dimbokro**	**78.52 87**	P	**P**	**13 50 16.2**	**-0.6**
	1.5nm,0.5s,baz=282,slow=8.6,SNR=4.6					
DBIC			LR	LR	14 21 23.5	
	comp=Z,46nm,18.4s,baz=150,slow=33					
ARCES	**ARCESS Array B**	**80.94 20**	P	**P**	**13 50 28.9**	**0.0**
ARCES	**ARCESS Array B**	**80.94 20**	P	**P**	**13 50 28.9**	**0.0**
	3.8nm,0.9s,baz=281,slow=6.9,SNR=4.6					
GERES	**GERESS Array B**	**82.75 41**	LR	LR	14 22 12.4	
	comp=Z,55nm,21.0s,baz=267,slow=32					
TORD	**Torodi Ar. Bea**	**82.96 78**	P	**P**	**13 50 39.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.96 78**	P	**P**	**13 50 39.9**	**-0.6**
	0.7nm,0.6s,baz=284,slow=4.1,SNR=3.9					
TORD			LR	LR	14 23 18.4	
	comp=Z,50nm,18.9s,baz=280,slow=33					
AKASG	**Malin Array Be**	**91.24 36**	LR	LR	14 30 09.4	
	comp=Z,50nm,18.2s,baz=295,slow=34					
ASAR	**Alice Springs**	**143.20 253**	PKP	PKPbc	13 57 47.9	+1.2
ASAR	**Alice Springs**	**143.20 253**	PKP	PKPbc	13 57 47.9	+1.2
	0.6nm,0.7s,baz=114,slow=3.3,SNR=12					

*IDC **17** 14:12:32.3±3.3,20.86S×176.61W,h158km±31km, mb3.3/4, mb1 3.7/6, mb1mx3.5/18, mbtmp3.4/6, Error ellipse: s-maj=45.2km s-min=20.7km az=136.0*

*ISCJB **17** 14:12:33.2±0.9,21.1S±0.2×176.3W±0.2,h183km, mb3.4/4, Error ellipse: s-maj=29.2km s-min=14.0km az=136.5*

ISC 17 14:12:34.8±0.9,20.9S±0.2×176.4W±0.2,h183km,n9, σ1s50/9,mb3.4/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.23**	**33**	P	**Pn**	**14 14 29.8**	**-1.5**
	0.6nm,0.3s,baz=197,slow=14,SNR=4.9						
AFI				S	Sn	14 15 52.9	-11
	2.7nm,0.3s,baz=36,slow=19,SNR=4.9						
DZM	**Mont Dzumac**	**16.03**	**263**	P	**Pn**	**14 16 12.1**	**+1.6**
	1.0nm,0.3s,baz=89,slow=8.5,SNR=8.4						
URZ	**Urewera**	**18.18**	**197**	P	**P**	**14 16 32.7**	**-1.0**
	0.8nm,0.3s,baz=1.1,slow=5.4,SNR=9.9						
WRA	**Warramunga Arr**	**46.04**	**262**	P	**P**	**14 20 39.0**	**-1.5**
	0.7nm,0.6s,baz=97,slow=7.6,SNR=8.9						
TXAR	**Lajitas Array**	**86.01**	**57**	P	**P**	**14 24 55.9**	**+0.9**
	0.2nm,0.4s,baz=225,slow=8.7,SNR=4.2						
PDAR	**Pinedale Array**	**88.23**	**43**	P	**P**	**14 25 07.5**	**+2.0**
	0.2nm,0.3s,baz=262,slow=5.4,SNR=4.6						
ILAR	**Eielson Array**	**88.39**	**12**	P	**P**	**14 25 05.8**	**+0.3**
	0.2nm,0.4s,baz=211,slow=5.5,SNR=11						
AKASG	**Malin Array Be**	**144.09**	**332**	PKP	**PKPab**	**14 31 46.4**	**-0.1**
	0.2nm,0.3s,baz=44,slow=4.7,SNR=5.2						
GERES	**GERESS Array B**	**150.98**	**346**	PKPbc	**PKPbc**	**14 32 05.3**	**-0.6**
	0.5nm,0.7s,baz=31,slow=4.6,SNR=3.4						

JMA 17 14:29:21.5,34.97N×139.12E,h6km±1km,M2.7,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.06**	**226**	P	Pg	14 29 23.2	+0.1
KTJJ				S	Sg	14 29 24.6	+0.3
AJI	**Ajiro2**	**0.08**	**343**	P	Pg	14 29 23.5	+0.1
JOD2	**Odawara 2**	**0.29**	**355**	P	Pg	14 29 27.5	+0.2
JOD2				S	Sg	14 29 32.0	+0.7
JIZS	**Izushimoda**	**0.32**	**218**	P	Pg	14 29 27.8	0.0
JYN	**Shimob**	**0.71**	**318**	P	Pg	14 29 34.9	-0.3
MAT	**Matsushiro**	**1.74**	**335**	P	Pn	14 29 52.3	0.0
MAT				S	Sn	14 30 15.1	+0.3

*NIED **17** 14:32:00,35.00N×139.10E,h5km,Mw3.6 Best double couple: M0 2.57000×10^14 NP1:φs264.00000°,δ86.00000°, λ-167.00000°. NP2:φs173.00000°,δ77.00000°, λ-4.00000°.*

JMA 17 14:32:53.1,34.96N×139.13E,h5km±1km,M3.3,1C-2D Broadband fault plane solution: P waves. NP1: φs76.00000°,δ75.00000°,λ138.00000°. **NP2:** φs179.00000°,δ49.00000°,λ20.00000°. **Principal axes:** T Plg40.0000°, Azm29.0000°; N Plg46.0000°, Azm240.0000°; P Plg16.0000°, Azm133.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.09**	**340**	⇓P	Pg	14 32 55.1	0.0
JOD2	**Odawara 2**	**0.30**	**354**	⇓P	Pg	14 32 59.1	0.0
JOD2				S	Sg	14 33 03.7	+0.5
JIZS	**Izushimoda**	**0.32**	**221**	⇑P	Pg	14 32 59.4	+0.1
JIM2	**Oshima 3**	**0.35**	**134**	P	Pg	14 32 59.9	0.0

*NIED **17** 14:45:00,35.00N×139.10E,h5km,Mw4.8 Best double couple: M0 1.96000×10^16 NP1:φs81.00000°,δ82.00000°, λ-164.00000°. NP2:φs348.00000°,δ74.00000°, λ-8.00000°.*

*IDC **17** 14:45:23.1±0.5,34.84N×139.15E,h0km,mb4.3/27, mb1 4.4/31,mb1mx4.4/35,mbtmp4.3/31,ML3.9/3,MS4.3/19, Ms1 4.3/19,ms1mx4.1/41,Error ellipse: s-maj=13.9km s-min=13.0km az=4.0*

*ISCJB **17** 14:45:24.5±0.4,34.93N±0.02×139.18E±0.02,h19km±2km, mb4.5/63,MS4.5/28,Error ellipse: s-maj=3.3km s-min=2.9km az=153.5*

*JMA **17** 14:45:24.5,34.96N×139.14E,h4km±1km,M5.0 Broadband fault plane solution: P waves. NP1: φs343.00000°,δ89.00000°,λ-3.00000°. NP2:φs73.00000°, δ87.00000°,λ-179.00000°. Principal axes: T Plg1.0000°, Azm28.0000°; N Plg87.0000°, Azm136.0000°; P Plg3.0000°, Azm298.0000°;*

*NEIC **17** 14:45:24.9±3.2,34.93N×139.18E,h14km±20km,mb4.8/21, MW4.8(NIED) Error ellipse: s-maj=8.5km s-min=6.8km az=114.0*

NEIC Felt at Fussa, Yokohama, Yokosuka and Zushi. Recorded [5L JMA] in Shizuoka; [3 JMA] in Kanagawa; [2 JMA] in Chiba, Tokyo and Yamanashi; [1 JMA] in Aichi and Saitama.

*BJI **17** 14:45:24.7,35.00N×139.30E,h15km,mB4.9/34,mb4.8/45, Ms4.8/44,Ms7 4.5/43*

*MOS **17** 14:45:25.9±1.8,34.92N×139.20E,h33km,mb4.7/33, MS4.3/13,Error ellipse: s-maj=8.8km s-min=5.4km az=107.3*

*GCMT **17** 14:45:28.4±0.4,34.96N×139.11E,h12km±2km,MW4.9, Moment Tensor Solution. s14,c14; s75,c103; Moment tensor: Scale 10^16Nm; Mrr=0.33±.11; Mθθ1.10±.10; Mφφ=0.78±.10; Mrθ=0.45±.28; Mθφ=-2.26±.09; Mφr=0.25±.25; Best double couple: M0 2.50000×10^16 NP1:φs79.00000°, δ85.00000°,λ-168.00000°. NP2:φs348.00000°, δ78.00000°,λ-6.00000°. Principal axes: T 2.6300, Plg5.0000°, Azm213.0000°; N -0.2400, Plg77.0000°, Azm103.0000°; P -2.3900, Plg13.0000°, Azm304.0000°; Data Used: IU II IC CN G CU.*

ISC 17 14:45:28.0±0.4,34.91N±0.03×139.17E±0.03,h33km±1km, n242,σ1s79/296,mb4.6/63,MS4.5/28,8C-11D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.15**	**336**	⇓P	Pb	14 45 26.6	-7.5
JIM2	**Oshima 3**	**0.29**	**131**	P	Pb	14 45 31.3	-4.3
JIZS	**Izushimoda**	**0.30**	**232**	P	Pb	14 45 30.6	-5.2
JIZS				S	**Sb**	**14 45 35.4**	**-5.6**
JOD2	**Odawara 2**	**0.36**	**350**	⇑P	Pb	14 45 30.5	-6.1
JOD2				S	Sb	14 45 35.8	-6.7
JKO	**Kozu shima**	**0.72**	**182**	S	**Sb**	**14 45 50.0**	**-1.7**
JYN	**Shimob**	**0.78**	**319**	⇓P	Pn	14 45 38.0	-4.8
SHZ3	**Shizuoka 3**	**0.80**	**282**	P	Pn	14 45 39.5	-3.6
SHZ3				S	**Sn**	**14 45 51.1**	**-2.8**
JSG	**Sagara**	**0.84**	**254**	⇑P	**Pn**	**14 45 41.4**	**-2.1**
JSG				S	**Sn**	**14 45 54.8**	**+0.1**
TOK	**Tokyo**	**0.92**	**32**	S	**Sb**	**14 45 56.5**	**-0.8**
BSO4	**Boso 4**	**0.97**	**85**	P	**Pn**	**14 45 43.2**	**-2.0**
BSO3	**Boso 3**	**1.11**	**95**	⇓P	**Pn**	**14 45 44.9**	**-2.1**
JRY	**Ryogami san**	**1.13**	**349**	P	Pn	14 45 45.9	-3.7
JRY				S	**Sn**	**14 45 58.6**	**-3.4**
JNY	**Yasuok**	**1.16**	**293**	⇓P	**Pn**	**14 45 45.3**	**-2.7**
JNY				S	**Sn**	**14 46 00.7**	**-2.1**
JYZW	**Yoshizawa**	**1.18**	**275**	P	**Pn**	**14 45 45.6**	**-2.6**
HMMJ	**Hamamatsu 2**	**1.19**	**268**	P	**Pn**	**14 45 46.3**	**-2.0**
HMMJ				S	**Sn**	**14 46 02.2**	**-1.2**
JNT	**Takato**	**1.28**	**319**	P	**Pn**	**14 45 46.8**	**-2.9**
JNT				S	**Sn**	**14 46 03.3**	**-2.5**
BSO2	**Boso 2**	**1.32**	**96**	P	**Pn**	**14 45 50.0**	**+0.2**
BSO2				S	**Sb**	**14 46 08.1**	**-0.3**
BSO1	**Boso 1**	**1.51**	**99**	⇑P	**Pn**	**14 45 49.7**	**-2.6**
JAG	**Ashikaga**	**1.53**	**9**	P	**Pn**	**14 45 51.3**	**-1.8**
JAG				S	**Sn**	**14 46 12.2**	**+0.3**
JAO	**Obara**	**1.60**	**284**	P	**Pn**	**14 45 52.8**	**-1.3**
JAO				S	**Sn**	**14 46 14.0**	**+0.3**
JGF	**Kuroka**	**1.64**	**296**	P	**Pn**	**14 45 53.5**	**-1.0**
JGF				S	**Sn**	**14 46 14.8**	**+0.3**
JAA	**Atsumi**	**1.69**	**261**	P	**Pn**	**14 45 54.1**	**-1.1**
JAA				S	**Sn**	**14 46 16.2**	**+0.5**
JGK	**Kuni**	**1.71**	**346**	P	**Pn**	**14 45 54.7**	**-0.8**
JNG	**Nsakai**	**1.73**	**330**	P	**Pn**	**14 45 54.6**	**-1.3**
MJAR	**Matsushiro Arr**	**1.81**	**335**	Pn	**Pn**	**14 45 55.5**	**-1.5**
MJAR				Sn	**Sn**	**14 46 17.4**	**-1.4**
MJAR	**Matsushiro Arr**	**1.81**	**335**	Pn	**Pn**	**14 45 55.5**	**-1.5**
	120nm,0.3s,baz=168,slow=12,SNR=325						
MJAR				Sn	**Sn**	**14 46 17.4**	**-1.4**
	467nm,0.3s,baz=162,slow=12,SNR=24						
MJAR				LR	LR	14 46 40.8	
	comp=Z,10μm,19.7s,baz=205,slow=42						
MAJO	**Matsushiro**	**1.81**	**335**	*e*/*i*P	**Pn**	**14 45 56.0**	**-0.9**
MAJO	**Matsushiro**	**1.81**	**335**	*e*Pn	**Pn**	**14 45 55.1**	**-1.8**
MAT	**Matsushiro**	**1.81**	**335**	P	**Pn**	**14 45 55.8**	**-1.1**
MAT				S	**Sn**	**14 46 19.0**	**+0.2**
MAT	**Matsushiro**	**1.81**	**335**	P	**Pn**	**14 45 56.0**	**-0.9**
MAT				S	**Sn**	**14 46 18.9**	**+0.1**
JKT	**Katashina**	**1.86**	**2**	P	**Pn**	**14 45 56.3**	**-1.4**
JHJ2	**Mitsune**	**1.87**	**163**	P	**Pn**	**14 45 57.6**	**-0.1**
JHJ2				S	**Sb**	**14 46 23.6**	**-0.9**
JHJ2	**Mitsune**	**1.87**	**163**	*e*Pn	**Pn**	**14 45 57.6**	**-0.1**
JGN	**Niukaw**	**2.00**	**312**	P	**Pn**	**14 45 59.8**	**+0.2**
JIE	**Ise**	**2.09**	**256**	P	**Pn**	**14 45 59.3**	**-1.5**
JIE				S	**Sn**	**14 46 25.6**	**-0.1**
JSB	**Shiboa**	**2.15**	**16**	P	**Pn**	**14 46 00.2**	**-1.4**
JGM	**Miyama**	**2.15**	**292**	P	**Pn**	**14 46 01.3**	**-0.3**
TSUJ	**Tsu 2**	**2.27**	**266**	P	**Pn**	**14 46 03.1**	**-0.1**
JJN	**Nakama**	**2.34**	**340**	P	**Pn**	**14 46 04.9**	**+0.7**
JKU	**Miekihoku**	**2.48**	**255**	P	**Pn**	**14 46 05.2**	**-0.9**
JKN2				S	**Sn**	**14 46 34.5**	**-0.7**
JMM	**Marumori**	**3.23**	**23**	P	**Pn**	**14 46 15.4**	**-1.0**
JMK	**Ichinoseki**	**4.36**	**22**	P	**Pn**	**14 46 31.3**	**-0.6**
JUS	**Usuki**	**6.43**	**255**	P	**Pn**	**14 47 00.9**	**+0.5**
JTSN	**Tsuno**	**6.92**	**250**	P	**Pn**	**14 47 07.5**	**+0.3**
JNU	**Nakatsue**	**7.11**	**258**	*e*Pn	**Pn**	**14 47 10.8**	**+1.1**
JNU	**Nakatsue**	**7.11**	**258**	Pn	**Pn**	**14 47 09.6**	**-0.2**
	2.1nm,0.3s,baz=53,slow=12,SNR=20						
JN

comp=Z,1µm,16.0s
HABR Khabarovsk 13.90 349 *e*P **P 14 48 47.7 -2.6**
HABR *e*S **Sn 14 51 14.5 -1.0**
HABR pmax pmax
comp=Z,28nm,1.8s
HABR MLR MLR
comp=Z,2µm,17.0s
SNY Shenyang 14.04 304 ⇑P **P 14 48 50.4 -1.5**
SNY pmax pmax
comp=Z,31nm,1.0s
SNY pmax pmax
comp=Z,290nm,4.7s
SNY LR LR
comp=Z,2µm,12.2s
SNY LR LR
comp=Z,1µm,17.2s
SNY LR LR
comp=Z,2µm,14.6s
DL2 Dalian 14.59 291 P **P 14 49 00.3 +2.3**
DL2 S **S 14 51 49.3 -1.7**
DL2 pmax pmax
comp=Z,100nm,0.8s
DL2 pmax pmax
comp=Z,240nm,3.4s
DL2 LR LR
comp=N,1µm,9.3s
DL2 LR LR
comp=Z,2µm,12.3s
KLR Kul'dur 15.32 341 *e*P P 14 49 18.0 +12
KLR MLR MLR
comp=N,2µm,13.0s
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,4µm,11.0s
SSE Sheshan 15.55 261 *e*P **Pn 14 49 02.8 -2.1**
SSE pP **P 14 49 10.3 +1.5**
SSE S **Sn 14 51 56.8 +0.7**
SSE sS **S 14 52 08.3 -2.6**
SSE pmax pmax
comp=Z,42nm,0.7s
SSE pmax pmax
comp=Z,97nm,3.9s
SSE LR LR
comp=N,3µm,16.8s
SSE LR LR
comp=E,1µm,16.8s
SSE LR LR
comp=Z,2µm,12.5s
NJ2 Nanjing 17.18 266 *e*P **Pn 14 49 22.8 -2.7**
NJ2 pP **pP 14 49 33.6 -1.9**
NJ2 sP **sP 14 49 37.3 -2.4**
NJ2 S **Sn 14 52 35.0 -0.6**
NJ2 sS **sS 14 52 59.0 +1.3**
NJ2 pmax pmax
comp=Z,50nm,1.0s
NJ2 pmax pmax
comp=Z,150nm,3.8s
NJ2 LR LR
comp=N,2µm,13.8s
NJ2 LR LR
comp=E,1µm,13.8s
NJ2 LR LR
comp=Z,900nm,20.1s
BJI Beijing 18.94 292 P **Pn 14 49 47.0 +0.1**
BJI S **Sn 14 53 14.5 -3.4**
BJI pmax pmax
comp=Z,22nm,1.0s
BJI pmax pmax
comp=Z,160nm,4.1s
BJI LR LR
comp=Z,2µm,17.5s
BJI LR LR
comp=Z,1µm,13.1s
BJI LR LR
comp=Z,570nm,22.4s
WHN Wuhan 21.31 265 ⇓P **P 14 50 15.0 +3.0**
WHN S Sn 14 54 12.5 -2.7
WHN pmax pmax
comp=Z,68nm,0.8s
WHN LR LR
comp=Z,2µm,12.5s
WHN LR LR
comp=Z,3µm,13.3s
WHN LR LR
comp=Z,3µm,12.6s
PETK Petropavlovsk- 22.44 30 P **P 14 50 24.5 +0.5**
PETK pmax pmax
comp=Z,10.0nm,0.9s
PETK MLR MLR
comp=Z,515nm,21.3s
PETK Petropavlovsk- 22.44 30 P **P 14 50 24.5 +0.5**
PETK Petropavlovsk- 22.44 30 P **P 14 50 24.5 +0.5**
comp=Z,10nm,0.9s,baz=207,slow=2.7,SNR=8.7
PETK LR LR 14 58 44.1
comp=Z,515nm,21.3s,baz=215,slow=36
HHC Hu-ho-hao-te 22.53 293 *e*P **P 14 50 24.6 -0.6**
HHC pP **pP 14 50 33.8 -0.1**
HHC sP **sP 14 50 37.4 -0.7**
HHC PP **PnPn 14 50 53.5 +4.6**
HHC S **S 14 54 24.5 -5.8**
HHC sS Sn 14 54 40.4 -4.2
HHC SS **SnSn 14 55 07.5 +7.3**
HHC pmax pmax
comp=Z,37nm,0.8s
HHC pmax pmax
comp=Z,260nm,4.3s
HHC LR LR
comp=Z,3µm,12.4s
HHC LR LR
comp=Z,2µm,12.0s
HHC LR LR
comp=Z,2µm,12.6s
PET Petropavlovsk 22.78 31 *e*P **P 14 50 28.9 +1.4**
PET *e*S **S 14 54 33.6 -0.5**
PET pmax pmax
comp=Z,14nm,0.7s
PET pmax pmax
comp=Z,100nm,13.5s
PET MLR MLR
comp=Z,1µm,18.0s
XAN Xi'an 24.91 277 P **P 14 50 48.4 +0.3**
XAN pP **pP 14 50 58.0 +0.6**
XAN PP **PnPn 14 51 25.5 +4.0**
XAN S **S 14 55 06.3 -3.0**
XAN sS **sS 14 55 21.3 -3.5**
XAN pmax pmax
comp=Z,22nm,4.2s
XAN LR LR
comp=Z,660nm,16.9s
XAN LR LR
comp=Z,270nm,13.5s
XAN LR LR
comp=Z,320nm,14.7s
ENH Enshi 25.38 268 *e*P **P 14 50 50.9 -1.4**
comp=Z,9.9nm,0.9s
SONM Songino Array 27.56 308 P **P 14 51 11.6 -0.3**
SONM PcP **PcP 14 54 30.0 +0.9**
SONM ScP **ScP 14 58 09.8 +2.5**
SONM Songino Array 27.56 308 P **P 14 51 11.6 -0.3**
comp=Z,1.9nm,0.9s,baz=105,slow=8.4,SNR=12
SONM PcP **PcP 14 54 30.0 +0.9**
comp=Z,0.6nm,0.5s,baz=126,slow=2.9,SNR=6.1
SONM ScP **ScP 14 58 09.8 +2.5**
comp=Z,0.7nm,0.9s,baz=116,slow=6.8,SNR=4.8
SONM LR LR 15 02 30.5
comp=Z,2µm,18.6s,baz=282,slow=37
YAK Yakutsk 27.80 350 *e*P **P 14 51 11.8 -2.0**
YAK pmax pmax
comp=Z,33nm,1.4s
YAK pmax pmax
comp=N,30nm,1.6s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK MLR MLR
comp=Z,631nm,19.0s
YAK MLR MLR
comp=E,596nm,13.0s
YAK MLR MLR
comp=N,573nm,19.0s
YAK Yakutsk 27.80 350 *e*P **P 14 51 12.3 -1.4**
comp=N,19nm,0.7s
LZH Lanzhou 28.69 283 P **P 14 51 23.8 +1.6**
LZH pP **pP 14 51 30.9 -0.8**
LZH sP **sP 14 51 33.6 -2.0**
LZH PP **PnPn 14 52 17.6 +4.4**
LZH *e*S **S 14 56 09.5 +0.3**
LZH sS **sS 14 56 25.5 +0.7**
LZH SS **SnSn 14 57 33.6 +2.6**
LZH pmax pmax
comp=N,26nm,1.0s
LZH pmax pmax
comp=N,120nm,4.6s
LZH LR LR
comp=N,980nm,11.5s
LZH LR LR
comp=N,1µm,14.7s
LZH LR LR
comp=N,1µm,15.2s
H11N2 WAKE ISLAND Hy 28.78 114 T T 15 21 31.0
baz=310,slow=76,SNR=7760
H11N1 WAKE ISLAND Hy 28.79 114 T T 15 21 31.6
baz=310,slow=76,SNR=6808
H11N3 WAKE ISLAND Hy 28.80 114 T T 15 21 32.3
baz=310,slow=76,SNR=8239
GYA Guiyang 29.09 262 *e*P **P 14 51 26.5 +0.7**
GYA pP **pP 14 51 35.8 +0.5**
GYA PP **PnPn 14 52 20.8 +2.0**
GYA PcP **PcP 14 54 33.9 +0.6**
GYA S **S 14 56 15.0 -0.6**
GYA sS **sS 14 56 31.4 +0.1**
GYA ScP **ScP 14 58 11.0 -1.4**
GYA ScS **ScS 15 02 02.4 -4.3**
GYA pmax pmax
comp=N,10.0nm,0.8s
GYA pmax pmax
comp=N,90nm,4.9s
GYA LR LR
comp=N,510nm,16.6s
GYA LR LR
comp=N,460nm,17.4s
GYA LR LR
comp=N,480nm,16.7s
SEY Seymchan 29.24 12 P **P 14 51 26.4 -0.2**
SEY pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 29.24 12 P **P 14 51 26.4 -0.2**
SEY Seymchan 29.24 12 P **P 14 51 26.4 -0.2**
H11S3 WAKE ISLAND Hy 29.39 117 T T 15 22 17.1
baz=314,slow=75,SNR=1746
H11S1 WAKE ISLAND Hy 29.39 117 T T 15 22 16.5
baz=314,slow=75,SNR=1645
H11S2 WAKE ISLAND Hy 29.40 117 T T 15 22 17.7
baz=314,slow=75,SNR=85
CD2 Chengdu 29.90 272 *e*P **P 14 51 33.3 +0.5**
CD2 pP **pP 14 51 43.3 +1.0**
CD2 sP **sP 14 51 47.8 +1.5**
CD2 PP **PnPn 14 52 31.5 +1.9**
CD2 S **S 14 56 27.0 -1.0**
CD2 sS **sS 14 56 43.6 -0.1**
CD2 SS **SnSn 14 58 04.3 +4.0**
CD2 pmax pmax
comp=Z,10.0nm,1.3s
CD2 pmax pmax
comp=Z,90nm,9.0s
CD2 LR LR
comp=Z,2µm,17.8s
CD2 LR LR
comp=Z,1µm,16.6s
CD2 LR LR
comp=Z,650nm,20.2s
FX1 Attu Island--F 30.00 43 LR LR 15 01 37.6
comp=Z,268nm,20.5s,baz=244,slow=32
QIZ Qiongzhong 30.40 246 P **P 14 51 37.3 0.0**
QIZ S **S 14 56 37.5 +1.6**
QIZ pmax pmax
comp=Z,31nm,2.0s
QIZ LR LR
comp=Z,800nm,19.4s
QIZ LR LR
comp=Z,340nm,16.6s
QIZ LR LR
comp=Z,710nm,15.1s
GTA Gaotai 31.51 290 P **P 14 51 48.1 +1.0**
GTA pP **pP 14 51 58.3 +1.7**
GTA sP **sP 14 52 03.1 +2.6**
GTA PP **PnPn 14 52 53.9 +3.2**
GTA PcP **PcP 14 54 42.4 +3.0**
GTA S **S 14 56 54.8 +1.5**
GTA ScS **ScS 15 02 18.0 0.0**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,140nm,4.3s
GTA LR LR
comp=Z,710nm,14.3s
GTA LR LR
comp=Z,780nm,15.2s
GTA LR LR
comp=Z,960nm,13.3s
KMI Kunming 32.86 263 P **P 14 52 00.6 +1.4**
KMI pP **pP 14 52 08.0 -0.7**
KMI PP **PnPn 14 53 06.1 -2.2**
KMI S **S 14 57 15.3 +0.5**
KMI sS **sS 14 57 31.1 +0.6**
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI pmax pmax
comp=Z,160nm,6.0s
KMI LR LR
comp=Z,810nm,15.1s
KMI LR LR
comp=Z,710nm,16.4s
KMI LR LR
comp=Z,830nm,14.0s
MYLDM Lahad Datu 35.22 218 *e*P **P 14 52 19.8 +0.5**
comp=Z,41nm,1.3s
TIXI Tiksi 37.21 355 ⇓*i*P **P 14 52 35.1 -0.7**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 37.21 355 *e*P **P 14 52 34.2 -1.6**
comp=Z,4.4nm,0.6s
CMAR Chiang Mai Arr 39.20 256 P **P 14 52 53.2 0.0**
CMAR Chiang Mai Arr 39.20 256 P **P 14 52 53.2 0.0**
comp=Z,0.8nm,0.4s,baz=49,slow=7.6,SNR=8.3
CMAR LR LR 15 10 56.2
comp=Z,272nm,21.4s,baz=249,slow=39
WMQ Urumqi 40.22 299 P **P 14 53 02.0 +0.5**
WMQ pP **pP 14 53 12.0 +0.9**
WMQ sP **sP 14 53 17.0 +1.9**
WMQ PP **PnPn 14 54 39.0 +1.1**
WMQ PcP **PcP 14 55 07.0 +1.9**
WMQ ScP **ScP 14 58 52.0 +0.2**
WMQ S **S 14 59 07.0 +0.6**
WMQ SS **SS 15 02 00.0 -4.9**
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ pmax pmax
comp=Z,55nm,4.0s
WMQ LR LR
comp=Z,610nm,16.0s
WMQ LR LR
comp=Z,510nm,16.0s
WMQ LR LR
comp=Z,260nm,16.0s
LSA Lhasa 40.61 276 *e*P **P 14 53 04.9 -0.5**
LSA pmax pmax
comp=Z,9.0nm,1.1s
LSA Lhasa 40.61 276 *e*P **P 14 53 04.9 -0.5**
comp=Z,9.5nm,1.1s
SBUM Sibu 40.87 224 *e*P **P 14 53 07.3 +0.2**
comp=Z,7.1nm,1.1s
ZAA0 Zalesovo Array 42.04 314 *e*P **P 14 53 15.2 -1.1**
ZALV Zalesovo Beam 42.04 314 P **P 14 53 15.9 -0.4**
ZALV 14 55 10.3
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV MLR MLR
comp=Z,391nm,19.0s
ZALV Zalesovo Beam 42.04 314 P **P 14 53 15.9 -0.4**
ZALV PcP **PcP 14 55 10.3 -0.4**
ZALV Zalesovo Beam 42.04 314 P **P 14 53 15.9 -0.4**
comp=Z,3.9nm,0.7s,baz=116,slow=6.8,SNR=18
ZALV PcP **PcP 14 55 10.3 -0.4**
comp=Z,1.3nm,0.7s,baz=87,slow=2.9,SNR=3.6
ZALV LR LR 15 11 26.0
comp=Z,391nm,19.0s,baz=243,slow=37
NVS Novosibirsk 43.03 315 *i* P **P 14 53 23.5 -0.8**
TNA Tin City 43.60 29 *e*P **P 14 53 26.7 -2.0**
comp=Z,29nm,1.7s
KAPI Kappang 43.72 209 *e*P **P 14 53 29.6 -0.6**
comp=Z,117nm,1.2s
MK31 Makanchi Array 43.74 304 *e*P **P 14 53 27.8 -2.3**
MK31 Makanchi Array 43.74 304 *e*P **P 14 53 27.8 -2.3**
MKAR Makanchi Array 43.74 304 P **P 14 53 29.9 -0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR MLR MLR
comp=Z,532nm,18.7s
MKAR Makanchi Array 43.74 304 P **P 14 53 29.9 -0.3**
MKAR Makanchi Array 43.74 304 P **P 14 53 29.9 -0.3**
comp=Z,4.9nm,0.8s,baz=89,slow=8.1,SNR=44
MKAR LR LR 15 12 22.5
comp=Z,532nm,18.7s,baz=246,slow=37
PMG Port Moresby 44.72 169 LR LR 15 11 29.4
comp=Z,280nm,18.7s,baz=355,slow=35
KURK Kurchatov 45.84 310 *e*P **P 14 53 45.9 -0.9**
KURK pmax pmax
comp=Z,34nm,0.8s
KURK Kurchatov 45.84 310 *e*P **P 14 53 45.9 -0.9**
comp=Z,34nm,0.8s
KURBB Kurchatov Arra 45.91 309 P **P 14 53 46.9 -0.4**
comp=Z,29nm,0.8s,baz=86,slow=7.9,SNR=146
HNR Honiara 48.28 152 P **P 14 54 04.4 -1.8**
HNR Honiara 48.28 152 P **P 14 54 04.4 -1.8**
comp=Z,47nm,0.9s,baz=190,slow=3.2,SNR=4.5
HNR LR LR 15 11 45.9
comp=Z,497nm,21.9s,baz=343,slow=33
TKM2 Tokmak 2 49.06 299 *e*P **P 14 54 10.7 -1.5**
TKM2 pmax pmax
comp=Z,16nm,1.1s
TKM2 Tokmak 2 49.06 299 *e*P **P 14 54 10.7 -1.5**
comp=Z,16nm,1.1s
KZA Kyzart 49.51 298 *i* P **P 14 54 18.8 +2.9**
KZA Kyzart 49.51 298 P **P 14 54 18.8 +2.9**
SNR=7.2
KBK Karagaybulak 49.59 299 *i* P **P 14 54 18.8 +2.6**
KBK Karagaybulak 49.59 299 P **P 14 54 18.8 +2.6**
SNR=14
KSH Kashi 49.63 295 P P 14 54 21.4 +4.9
KSH pP pP 14 54 30.1 +3.8
KSH sP sP 14 54 33.5 +3.3
KSH S S 15 01 29.3 +6.5
KSH sS sS 15 01 43.1 +4.1
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH pmax pmax
comp=Z,87nm,4.7s
KSH LR LR
comp=Z,310nm,9.8s
KSH LR LR
comp=Z,310nm,7.3s
KSH LR LR
comp=Z,460nm,10.2s
USP Ospenovka 49.76 300 *i* P **P 14 54 17.9 +0.5**
USP Ospenovka 49.76 300 P **P 14 54 17.9 +0.5**
SNR=7.6
FRU Bishkek 49.78 300 *e*P **P 14 54 19.0 +1.5**
AAK Ala-Archa 49.92 299 *ce*P **P 14 54 17.9 -0.8**
AAK pmax pmax
comp=Z,25nm,1.2s
AAK Ala-Archa 49.92 299 P **P 14 54 21.2 +2.6**
SNR=7.8
AAK Ala-Archa 49.92 299 *e*P **P 14 54 16.7 -2.0**
comp=Z,6.7nm,0.9s
AAK Ala-Archa 49.92 299 P **P 14 54 19.2 +0.5**
comp=Z,4.2nm,0.7s,baz=106,slow=5.8,SNR=20
UCH Uchtor 50.00 299 *i* P **P 14 54 22.1 +2.5**
UCH Uchtor 50.00 299 P **P 14 54 22.2 +2.5**
SNR=7.1
EKS2 Erkin-Say 50.42 300 *e*P **P 14 54 21.6 -0.9**
EKS2 pmax pmax
comp=Z,2.0nm,0.6s
EKS2 Erkin-Say 50.42 300 P **P 14 54 24.7 +2.2**
SNR=6.7
EKS2 Erkin-Say 50.42 300 *e*P **P 14 54 21.6 -0.9**
comp=Z,2.4nm,0.6s
AML Almayashu 50.62 299 *i* P **P 14 54 25.5 +1.3**
AML Almayashu 50.62 299 P **P 14 54 25.5 +1.3**
SNR=26
BVAR Borovoye Array 50.68 313 P **P 14 54 24.9 +0.8**
BVAR pmax pmax
comp=Z,8.0nm,0.9s
BVAR Borovoye Array 50.68 313 P **P 14 54 24.9 +0.8**
BVAR Borovoye Array 50.68 313 P **P 14 54 24.9 +0.8**
comp=Z,7.5nm,0.9s,baz=84,slow=7.6,SNR=28
BRVK Borovoye 50.73 313 *e*P **P 14 54 21.9 -2.6**
BRVK pmax pmax
comp=Z,17nm,1.1s
BRVK Borovoye 50.73 313 *e*P **P 14 54 21.9 -2.6**
comp=Z,17nm,1.1s
GSI Gunungsitoli 51.14 238 *e*P **P 14 54 28.4 +0.4**
comp=Z,38nm,1.1s
MCK McKinley 51.41 33 *e*P **P 14 54 27.0 -2.4**
MCK McKinley 51.41 33 *e*P **P 14 54 27.0 -2.4**
COLA College 51.84 31 *e*P **P 14 54 30.4 -2.2**
COLA pmax pmax
comp=Z,14nm,2.1s
COLA College 51.84 31 *e*P **P 14 54 30.4 -2.2**
comp=Z,14nm,2.1s
ILAR Eielson Array 52.26 31 P **P 14 54 35.6 -0.1**
ILAR Eielson Array 52.26 31 P **P 14 54 35.6 -0.1**
comp=Z,2.5nm,0.8s,baz=274,slow=5.7,SNR=27
WRAB Tennant Creek 54.73 186 *e*P **P 14 54 52.2 -2.1**
WRAB pmax pmax
comp=Z,21nm,1.1s
WRAB Tennant Creek 54.73 186 *e*P **P 14 54 53.3 -1.0**
comp=Z,13nm,1.1s
WRA Warramunga Arr 54.74 186 P **P 14 54 53.0 -1.3**
WRA Warramunga Arr 54.74 186 P **P 14 54 53.0 -1.3**
comp=Z,7.0nm,0.8s,baz=1.2,slow=7.6,SNR=63
SVE Sverdlovsk 55.55 319 ⇓*i*P **P 14 55 02.2 +2.3**
SVE pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 56.48 291 *e*P **P 14 55 06.5 -0.7**
KBL pmax pmax
comp=Z,11nm,1.3s
KBL Kabul 56.48 291 *e*P **P 14 55 06.5 -0.7**
comp=Z,11nm,1.3s
ARU Arti 56.76 319 *d i*P **P 14 55 09.6 +1.1**
ARU 14 57 12.7
ARU S **S 15 03 03.9 +4.9**
ARU pmax pmax
comp=Z,25nm,1.7s
ARU Arti 56.76 319 *e*P **P 14 55 08.3 -0.2**
comp=Z,12nm,0.9s
INK Inuvik 57.10 26 *e*P **P 14 55 08.2 -2.6**
comp=Z,4.4nm,0.8s
INK Inuvik 57.10 26 P **P 14 55 10.5 -0.3**
comp=Z,2.1nm,0.7s,baz=314,slow=4.0,SNR=8.2
AS31 Alice Springs 58.46 186 *e*P **P 14 55 18.8 -2.0**
DZM Mont Dzumac 62.30 151 *e*S **S 15 04 16.4 +5.1**
comp=Z,84nm,27.4s
DZM Mont Dzumac 62.30 151 *e*LR LR 15 14 25.9
comp=Z,409nm,24.1s
APA Apatity 63.87 336 ⇑*i*P P 14 55 53.4 -3.5
APA MLR MLR
comp=Z,2µm,14.0s
ARCES ARCESS Array B 65.34 339 P **P 14 56 06.3 -0.2**
ARCES ARCESS Array B 65.34 339 P **P 14 56 06.3 -0.2**
comp=Z,14nm,1.1s,baz=65,slow=6.8,SNR=3.6
STKA Stephens Creek 66.47 178 P **P 14 56 13.7 -0.4**
STKA Stephens Creek 66.47 178 P **P 14 56 13.7 -0.4**
comp=Z,2.8nm,0.7s,baz=324,slow=7.9,SNR=4.5
STKA LR LR 15 22 38.4
comp=Z,209nm,21.9s,baz=24,slow=34
YKA Yellowknife Ar 66.56 29 P **P 14 56 14.4 0.0**
YKA Yellowknife Ar 66.56 29 P **P 14 56 14.4 0.0**
comp=Z,0.9nm,0.7s,baz=302,slow=6.5,SNR=16
OBN Obninsk 68.70 323 ⇓*e*P **P 14 56 28.9 +0.9**
OBN *e* 14 58 57.7
OBN *e*S **S 15 05 26.9 -1.8**
OBN pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 69.84 332 P **P 14 56 35.1 +0.1**
FINES FINESS Array B 69.84 332 P **P 14 56 35.1 +0.1**
comp=Z,4.4nm,0.7s,baz=66,slow=9.2,SNR=8.1
KBZ Khabaz 70.89 310 P **P 14 56 42.9 +1.1**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 70.89 310 P **P 14 56 42.9 +1.1**
KBZ Khabaz 70.89 310 P **P 14 56 42.9 +1.1**
comp=Z,4.7nm,1.1s,baz=288,slow=1.9,SNR=3.9
KIV Kislovodsk 70.91 311 *e*P **P 14 56 40.6 -1.4**

KIV pmax pmax
comp=Z,9.0nm,1.1s
EDM Edmonton 72.14 37 *e*P **P 14 56 49.0 -0.2**
EDM Edmonton 72.14 37 *e*P **P 14 56 49.0 -0.2**
SUMG Summit 72.80 359 *i* P **P 14 56 53.9 +0.7**
SUMG Summit 72.80 359 *i* P **P 14 56 53.9 +0.7**
comp=Z,8.5nm,0.9s
AKASG Malin Array Be 74.85 322 P **P 14 57 03.8 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 74.85 322 P **P 14 57 03.8 -1.3**
AKASG Malin Array Be 74.85 322 P **P 14 57 03.8 -1.3**
comp=Z,1.1nm,0.5s,baz=46,slow=5.9,SNR=7.6
KIEV Kiev 74.86 322 *e*P **P 14 57 04.7 -0.4**
NB2 NORSAR Subarra 75.43 337 P **P 14 57 08.7 +0.4**
comp=Z,2.1nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 75.43 337 P **P 14 57 08.5 +0.2**
NOA NORSAR Array B 75.43 337 P **P 14 57 08.5 +0.2**
comp=Z,2.1nm,0.7s,baz=41,slow=5.8,SNR=6.9
NOA LR LR 15 34 18.7
comp=Z,223nm,18.8s,baz=10.0,slow=39
NVAR Mina Array Bea 77.73 52 P **P 14 57 23.6 +1.6**
NVAR Mina Array Bea 77.73 52 P **P 14 57 23.6 +1.6**
comp=Z,2.5nm,0.8s,baz=297,slow=6.0,SNR=18
ELK Elko 78.32 48 P **P 14 57 27.4 +2.1**
ELK Elko 78.32 48 P **P 14 57 27.4 +2.1**
comp=Z,0.9nm,0.5s,baz=277,slow=19,SNR=5.7
BRTR Keskin Array B 78.88 311 P **P 14 57 30.2 +2.0**
BRTR Keskin Array B 78.88 311 P **P 14 57 30.2 +2.0**
comp=Z,2.1nm,0.9s,baz=77,slow=2.7,SNR=6.7
FRB Frobisher Bay 79.25 12 P **P 14 57 31.7 +2.2**
FRB Frobisher Bay 79.25 12 P **P 14 57 31.7 +2.2**
comp=Z,3.6nm,0.8s,baz=44,slow=6.3,SNR=3.8
STHS Stebnicka Huta 79.63 324 *e*P **P 14 57 30.4 -1.6**
STHS pmax pmax
comp=Z,5.0nm,1.5s
STHS Stebnicka Huta 79.63 324 *e*P **P 14 57 30.4 -1.6**
STHS *e*PCP **PcP 14 57 39.5 -0.3**
UZH Uzhgorod 79.64 323 *e*P **P 14 57 29.1 -2.9**
PDAR Pinedale Array 80.46 44 P **P 14 57 38.3 +1.4**
PDAR Pinedale Array 80.46 44 P **P 14 57 38.3 +1.4**
comp=Z,0.4nm,0.7s,baz=278,slow=0.6,SNR=2.9
URZ Urewera 80.85 151 LR LR 15 29 39.6
comp=Z,113nm,19.1s,baz=257,slow=33
DPC Dobruska-Polom 81.27 327 *e*P **P 14 57 40.2 -0.6**
DPC *e* 14 57 51.0
DPC Dobruska-Polom 81.27 327 *e*P **P 14 57 40.2 -0.6**
DPC *e*pP **PcP 14 57 42.8 -4.1**
DPC *ex* x 14 57 51.0
CCUT Cedar City 81.40 50 *e*P **P 14 57 40.7 -1.3**
comp=Z,54nm,2.8s
CLL Collm 82.01 329 *e*P **P 14 57 46.0 +1.4**
SRU San Rafael 82.19 47 *e*P **P 14 57 44.9 -1.1**
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael 82.19 47 *e*P **P 14 57 44.9 -1.1**
comp=Z,5.1nm,0.8s
ULM Lac du Bonnet 82.27 32 P **P 14 57 48.1 +2.1**
ULM Lac du Bonnet 82.27 32 P **P 14 57 48.1 +2.1**
comp=Z,2.0nm,0.7s,baz=339,slow=3.2,SNR=3.2
KHC Kasperske Hory 83.38 327 *e*P **P 14 57 50.3 -1.5**
KHC *e* 14 58 00.3
KHC Kasperske Hory 83.38 327 *e*P **P 14 57 50.3 -1.5**
KHC *ex* x 14 58 00.3
GERES GERESS Array B 83.53 327 P **P 14 57 53.0 +0.2**
GERES GERESS Array B 83.53 327 P **P 14 57 53.0 +0.2**
comp=Z,0.5nm,0.6s,baz=66,slow=6.4,SNR=3.8
GERES LR LR 15 39 24.6
comp=Z,235nm,18.7s,baz=150,slow=39
PV04 Paradox Valley 83.62 47 *e*P **P 14 57 53.4 -0.1**
PMOR Pomariorio Ree 85.04 112 *e*T T 16 31 44.7
comp=Z,53nm,0.2s
PPT2 Papeete2 85.37 115 *e*LR LR 15 24 12.7
comp=Z,690nm,35.0s
PPT2 Papeete2 85.37 115 *e*T T 16 32 10.0
comp=Z,14nm,0.3s
PAE Paea 85.41 115 *e*T T 16 32 12.2
comp=Z,3.0nm,0.3s
TIAR Tiarei 85.52 115 *e*T T 16 32 20.5
comp=Z,14nm,0.3s
MEH Mehetia 86.67 114 *e*T T 16 33 46.9
comp=Z,33nm,0.2s
SCHQ Schefferville 87.87 15 LR LR 15 39 44.4
comp=Z,260nm,18.3s,baz=99,slow=37
TBI Tubuai 89.04 119 *e*LR LR 15 26 01.1
comp=Z,145nm,24.0s
TBI Tubuai 89.04 119 *e*T T 16 36 44.3
comp=Z,25nm,0.2s
TXAR Lajitas Array 92.87 51 P **P 14 58 38.7 +0.8**
TXAR Lajitas Array 92.87 51 P **P 14 58 38.7 +0.8**
comp=Z,0.8nm,0.8s,baz=258,slow=2.3,SNR=5.3
ESDC Sonseca Array 98.35 332 LR LR 15 49 51.6
comp=Z,237nm,18.4s,baz=215,slow=39
RKT Rikitea 99.66 111 *e*LR LR 15 31 15.3
comp=Z,229nm,33.2s
H03N2 Juan Fernandez 148.57 98 T T 17 51 23.1
baz=284,slow=75,SNR=14
H03N3 Juan Fernandez 148.58 98 T T 17 51 23.9
baz=284,slow=75,SNR=14
H03N1 Juan Fernandez 148.59 98 T T 17 51 23.7
baz=284,slow=75,SNR=17
LPAZ La Paz 149.34 60 PKPbc **PKPbc 15 05 15.1 +0.4**
LPAZ La Paz 149.34 60 PKPbc **PKPbc 15 05 15.1 +0.4**
comp=Z,4.1nm,0.8s,baz=18,slow=6.9,SNR=14
SIV San Ignacio 153.85 49 PKPbc **PKPbc 15 05 23.9 -0.5**
SIV San Ignacio 153.85 49 PKPbc **PKPbc 15 05 23.9 -0.5**
comp=Z,1.3nm,0.7s,baz=244,slow=4.5,SNR=4.1

PRU 17 14:48:12.5, 49°.81N × 18°.56E, h0[km], Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.27**	**276**	*e*PG	Pg	14 48 17.6	-0.1
OKC				*e*SG	Sg	14 48 21.2	0.0
	6.3nm,0.4s						
DPC	**Dobruska-Polom**	**1.54**	**291**	*e*PG	Pn	14 48 40.3	-1.0
DPC				*e*SG	Sn	14 49 00.9	-1.2

BGS **17** *14:55:28.2±1.8, 41°.27N × 30°.96W, h10[km], mb5.2, MS5.0*
ISCJB **17** *14:55:35.0±0.9, 42°.33N±0°.02×30°.55W±0°.01, h4[km]±5[km], mb5.2/315, MS4.8/199, Error ellipse: s-maj=3.9km s-min=1.6km az=177.2*
BJI **17** *14:55:35.2, 42°.50N×30°.40W, h4[km], mB5.7/31, mb5.3/37, Ms5.4/30, Ms7 5.1/31*
MOS **17** *14:55:35.3±1.1, 42°.31N×30°.60W, h10[km], mb5.5/106, MS4.8/48, Error ellipse: s-maj=6.0km s-min=3.4km az=142.4*
NEIC **17** *14:55:36.3±0.2, 42°.45N×30°.57W, h4[km], mb5.4/207, MS4.8/122, MW5.4, Error ellipse: s-maj=6.2km s-min=2.7km az=179.0, Moment Tensor Solution. s64 Moment tensor: Scale 10[17]Nm; Mrr=1.24; Mθθ 1.59; Mϕϕ-0.35; Mrθ-0.42; Mθϕ-0.18; Mϕr-0.07; Best double couple: M0 1.50000×10[17] NP1:ϕ89.00000°, δ53.00000°, λ-98.00000°. NP2:ϕ283.00000°, δ37.00000°, λ-79.00000°. Principal axes: T 1.6600, Plg8.0000°, Azm184.0000°; N -0.3500, Plg6.0000°, Azm93.0000°; P -1.3100, Plg79.0000°, Azm325.0000°;*
IDC **17** *14:55:36.6±0.3, 42°.39N×30°.55W, h0[km], mb4.9/54, mb1 5.0/54, mb1mx5.0/56, mbtmp4.9/54, MS4.7/34, Ms1 4.7/34, ms1mx4.6/40 Error ellipse: s-maj=10.1km s-min=7.5km az=167.0*
CSEM **17** *14:55:37.1±0.1, 42°.36N×30°.60W, h10[km], mb5.3/99, Ms4.6, Mw5.5, Error ellipse: s-maj=4.4km s-min=2.4km az=178.0*
SFS **17** *14:55:38.0, 42°.50N×30°.40W, h10[km], ML5.4*
IGIL **17** *14:55:39.3, 42°.37N×30°.46W, h10[km], mb5.7*
PDA **17** *14:55:40.4±1.1, 42°.36N×30°.60W, h5[km], MD4.3, ML4.8, Error ellipse: s-maj=20.8km s-min=6.0km az=129.0*
GCMT **17** *14:55:44.9±0.1, 42°.54N×30°.45W, h17[km], MW5.5, Moment Tensor Solution. s92,c152; s99,c221; Moment tensor: Scale 10[17]Nm; Mrr-1.28±.04; Mθθ2.40±.03; Mϕϕ-1.12±.03; Mrθ-0.02±.06; Mθϕ-0.38±.02; Mϕr-0.05±.07; Best double couple: M0 1.90000×10[17] NP1:ϕ77.00000°, δ49.00000°, λ-117.00000°. NP2:ϕ295.00000°, δ48.00000°, λ-62.00000°. Principal axes: T 2.4400, Plg0.0000°, Azm186.0000°; N -1.1400, Plg20.0000°, Azm96.0000°; P -1.3000, Plg70.0000°, Azm277.0000°;*

Data Used: II IU CU IC G CN. Surface waves from 110 sta.
SZGRF **17** *14:55:49.6, 41°.79N×28°.95W, h33[km], mb5.1, MS4.6, Azores Islands region*
ISC 17 14:55:38.2±0.4, 42°.33N±0°.04×30°.53W±0°.03, h15[km]±2[km], h15[km]:pP-P, n1764, σ1.28/1757, mb5.3/326, MS4.8/202, 265C-430D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07N1	**FLORES T-PHASE**	**2.68**	**190**	Pn	**Pn**	**14 56 19.3**	**-1.5**
H07N1				Sn	**Sn**	**14 56 48.7**	**-4.2**
	SNR=8880						
H07S1	**FLORES T-PHASE**	**3.00**	**190**	Pn	**Pn**	**14 56 24.1**	**-1.0**
	SNR=1420						
H07S1				Sn	**Sn**	**14 56 56.4**	**-4.4**
PGRA	**Graciosa**	**3.83**	**149**	*e*P	**Pn**	**14 56 36.8**	**+0.3**
PGRA	**Graciosa**	**3.83**	**149**	*e*P	**Pn**	**14 56 36.8**	**+0.3**
PCED	**Cedros**	**3.96**	**159**	*e*P	**Pn**	**14 56 38.5**	**+0.2**
PCED				A	A	14 56 54.5	
	387nm,0.5s						
PCED	**Cedros**	**3.96**	**159**	*e*P	**Pn**	**14 56 38.5**	**+0.2**
CALA	**Caldeira**	**4.00**	**159**	*e*P	**Pn**	**14 56 38.3**	**-0.7**
CALA	**Caldeira**	**4.00**	**159**	*e*P	**Pn**	**14 56 38.3**	**-0.7**
ROSA	**Rosais**	**4.01**	**154**	*e*P	**Pn**	**14 56 38.3**	**-0.7**
ROSA				A	A	14 56 55.4	
	358nm,0.7s						
ROSA	**Rosais**	**4.01**	**154**	*e*P	**Pn**	**14 56 38.3**	**-0.7**
HOR	**Horta**	**4.07**	**159**	*e*P	**Pn**	**14 56 39.5**	**-0.3**
HOR	**Horta**	**4.07**	**159**	*e*P	**Pn**	**14 56 39.5**	**-0.3**
PMAN	**Manadas**	**4.14**	**153**	*e*P	**Pn**	**14 56 40.9**	**+0.1**
PMAN	**Manadas**	**4.14**	**153**	*e*P	**Pn**	**14 56 40.9**	**+0.1**
PICO	**Pico**	**4.15**	**157**	*e*P	**Pn**	**14 56 41.0**	**-0.1**
PICO	**Pico**	**4.15**	**157**	*e*P	**Pn**	**14 56 41.0**	**-0.1**
ADH	**Angra Heroismo**	**4.45**	**145**	*e*P	**Pn**	**14 56 44.0**	**-1.1**
ADH	**Angra Heroismo**	**4.45**	**145**	*e*P	**Pn**	**14 56 44.0**	**-1.1**
PSET	**Sete Cidades**	**5.82**	**139**	*e*P	**Pn**	**14 57 04.3**	**+0.4**
PSET	**Sete Cidades**	**5.82**	**139**	*e*P	**Pn**	**14 57 04.3**	**+0.4**
CMLA	**Cha da Macela**	**5.96**	**138**	*e*P	**Pn**	**14 57 06.2**	**+0.3**
CMLA	**Cha da Macela**	**5.96**	**138**	*e*P	**Pn**	**14 57 05.4**	**-0.5**
CMLA				*e*		14 58 13.3	
CMLA	**Cha da Macela**	**5.96**	**138**	*e*Pn	**Pn**	**14 57 05.4**	**-0.5**
CMLA				*e*Sn	**Sn**	**14 58 13.3**	**-0.6**
CMLA	**Cha da Macela**	**5.96**	**138**	*e*P	**Pn**	**14 57 05.4**	**-0.5**
CMLA				*e*S	**Sn**	**14 58 13.3**	**-0.6**
BART	**Pico Bartolome**	**6.13**	**136**	*e*P	**Pn**	**14 57 07.9**	**-0.4**
BART	**Pico Bartolome**	**6.13**	**136**	*e*P	**Pn**	**14 57 07.9**	**-0.4**
PSMA	**Santa Maria**	**6.76**	**140**	*e*P	**Pn**	**14 57 17.3**	**+0.4**
PSMN	**Pico do Norte,**	**6.79**	**140**	*e*P	**Pn**	**14 57 17.1**	**-0.1**
PSMN	**Pico do Norte,**	**6.79**	**140**	*e*P	**Pn**	**14 57 17.1**	**-0.1**
PTO	**Porto**	**16.41**	**87**	*e*P	**Pn**	**14 59 27.2**	**-0.6**
	169nm,1.8s						
PMAFR	**Mafra**	**16.47**	**95**	*e*P	**P**	**14 59 30.8**	**-0.4**
	308nm,1.0s						
PGAV	**Gavieira, Arco**	**16.51**	**84**	*e*P	**P**	**14 59 33.6**	**+1.8**
	289nm,1.8s						
LIS	**Lisbon**	**16.64**	**95**	*e*P	**P**	**14 59 32.3**	**-0.9**
LIS				AMb	AMB	14 59 34.3	
	comp=Z,564nm,1.6s						
PCAB	**Cabril**	**16.73**	**85**	*e*P	**P**	**14 59 35.9**	**+1.8**
	comp=Z,132nm,1.3s						
PCAS	**Casmilo, Conde**	**16.73**	**90**	*e*P	**P**	**14 59 34.7**	**+0.5**
	comp=Z,447nm,1.6s						
VAL	**Vantia**	**16.76**	**48**	*e*P	**P**	**14 59 34.0**	**-0.4**
VAL	**Valentia**	**16.76**	**48**	*i*/*i*S	**S**	**15 02 51.3**	**+2.5**
VAL	**Valentia**	**16.76**	**48**	*i*/*i*S	**S**	**15 02 51.3**	**+2.5**
POLO	**Lamas de Olo**	**16.96**	**86**	*e*P	**P**	**14 59 38.4**	**+1.6**
	comp=Z,91nm,1.4s						
PVIS	**Viseu**	**17.02**	**88**	*e*P	**P**	**14 59 37.3**	**-0.1**
	comp=Z,252nm,1.5s						
PVRL	**Vila Real**	**17.04**	**86**	*e*P	**P**	**14 59 38.3**	**+0.7**
	comp=Z,138nm,1.3s						
PMTG	**Montargil**	**17.21**	**93**	*e*P	**Pn**	**14 59 37.8**	**-0.2**
	comp=Z,163nm,1.1s						
PNCL	**Nicolau / Gran**	**17.31**	**97**	*e*P	**P**	**14 59 40.1**	**-0.4**
	comp=Z,171nm,1.5s						
MTE	**Manteigas**	**17.35**	**89**	*e*P	**P**	**14 59 41.6**	**+0.5**
	comp=Z,245nm,1.8s						
MTE	**Manteigas**	**17.35**	**89**	*e*Pn	**Pn**	**14 59 40.3**	**+0.5**
	comp=Z,111nm,1.1s						
MTE	**Manteigas**	**17.35**	**89**	*e*Pn	**Pn**	**14 59 40.3**	**+0.5**
	comp=Z,111nm,1.1s						
PTEO	**Sao Teotonio**	**17.38**	**99**	*e*P	**P**	**14 59 43.8**	**+2.5**
	comp=Z,232nm,1.3s						
EVOP	**Sao Brissos**	**17.46**	**95**	*e*P	**Pn**	**14 59 39.6**	**-1.5**
EVOP				pmax	pmax		
	comp=Z,528nm,1.7s						
EVOP	**Sao Brissos**	**17.46**	**95**	*e*P	**Pn**	**14 59 39.6**	**-1.5**
	comp=Z,528nm,1.7s						
PFVI	**Vila Bisbo**	**17.46**	**100**	*e*P	**P**	**14 59 45.3**	**+3.0**
	comp=Z,372nm,1.2s						
MORF	**Marmelete**	**17.52**	**99**	*e*P	**P**	**14 59 43.4**	**+0.4**
	comp=Z,231nm,1.2s						
EVO	**Evora**	**17.54**	**95**	*e*P	**Pn**	**14 59 39.6**	**-2.5**
	comp=Z,528nm,1.7s						
EVO				*e*R			
	comp=Z,4μm,20.0s						
EVO	**Evora**	**17.54**	**95**	*e*P	**P**	**14 59 44.4**	**+1.3**
	comp=Z,195nm,1.7s						
PCBR	**Castelo Branco**	**17.55**	**90**	*e*P	**Pn**	**14 59 41.5**	**-0.6**
	comp=Z,131nm,1.2s						
MVO	**Moncorvo**	**17.57**	**86**	*e*P	**P**	**14 59 44.2**	**+0.7**
	comp=Z,121nm,1.6s						
PBRG	**Braganca**	**17.66**	**84**	*e*P	**P**	**14 59 45.4**	**+0.9**
	comp=Z,202nm,1.4s						
PMRV	**Marv??o**	**17.72**	**92**	*e*P	**Pn**	**14 59 44.4**	**+0.1**
	comp=Z,184nm,1.7s						
PESTR	**Estremoz**	**17.75**	**94**	*e*P	**Pn**	**14 59 43.9**	**-0.7**
	comp=Z,164nm,1.4s						
PBEJ	**Beja**	**17.83**	**96**	*e*P	**P**	**14 59 46.8**	**+0.5**
	comp=Z,261nm,1.5s						
PCVE	**Castro Verde**	**17.85**	**98**	*e*P	**P**	**14 59 46.7**	**+0.2**
	comp=Z,272nm,1.9s						
PBDV	**Barranco-do-Ve**	**18.08**	**99**	*e*P	**P**	**14 59 50.7**	**+1.6**
	comp=Z,416nm,1.4s						
PVAQ	**Vaqueiros**	**18.17**	**98**	*e*P	**P**	**14 59 53.2**	**+3.1**
	comp=Z,182nm,1.4s						
PBAR	**Barrancos**	**18.39**	**95**	*e*P	**Pn**	**14 59 52.5**	**0.0**
	comp=Z,216nm,1.4s						
HTL	**Hartland**	**19.78**	**55**	AMS	AMS	15 06 17.0	
	comp=Z,5μm,15.0s						
PAB	**San Pablo**	**19.95**	**89**	*e*P	**P**	**15 00 08.6**	**-1.0**
PAB				pmax	pmax		
	comp=Z,121nm,2.3s						
PAB	**San Pablo**	**19.95**	**89**	*e*P	**P**	**15 00 08.6**	**-1.0**
	comp=Z,121nm,2.3s						
PAB	**San Pablo**	**19.95**	**89**	*e*P	**P**	**15 00 08.6**	**-1.0**
	comp=Z,121nm,2.3s						
DYA	**Yadsworthy**	**19.98**	**57**	*e*P	**P**	**15 00 09.6**	**-0.1**
DYA				AMB	AMB	15 00 21.2	
	comp=Z,140nm,2.3s						
DYA				AMS	AMS	15 05 47.2	
	comp=Z,4μm,12.6s						
DYA	**Yadsworthy**	**19.98**	**57**	*e*P	**P**	**15 00 09.6**	**-0.1**
ROSF	**Rostrenen**	**20.02**	**63**	*i*/*i*P	**P**	**15 00 10.8**	**+0.6**
	comp=Z,235nm,1.1s						
ROSF	**Rostrenen**	**20.02**	**63**	*i*/*i*P	**P**	**15 00 10.8**	**+0.6**
ROSF				pmax	pmax		
	comp=Z,235nm,1.1s						
ROSF	**Rostrenen**	**20.02**	**63**	*i*/*i*P	**P**	**15 00 10.8**	**+0.6**
	comp=Z,235nm,1.1s						
ROSF	**Rostrenen**	**20.02**	**63**	*i*/*i*P	**P**	**15 00 10.8**	**+0.6**
	comp=Z,117nm,1.1s						
QUIF	**Quistinic**	**20.04**	**64**	*e*P	**P**	**15 00 10.8**	**+0.4**
	comp=Z,228nm,1.3s						
QUIF	**Quistinic**	**20.04**	**64**	*e*P	**P**	**15 00 10.8**	**+0.4**
QUIF				pmax	pmax		
	comp=Z,228nm,1.3s						
QUIF	**Quistinic**	**20.04**	**64**	*e*P	**P**	**15 00 10.8**	**+0.4**
	comp=Z,228nm,1.3s						
QUIF	**Quistinic**	**20.04**	**64**	*e*P	**P**	**15 00 10.8**	**+0.4**
	comp=Z,114nm,1.3s						
LIJA	**Lijar**	**20.07**	**97**	*i* P	Pn	15 00 13.0	+0.2
GMM	**Mts of Mourne**	**20.11**	**45**	*e*P	**P**	**15 00 11.9**	**+0.8**
GMM	**Mts of Mourne**	**20.11**	**45**	*e*P	**P**	**15 00 11.9**	**+0.8**
ESDC	**Sonseca Array**	**20.20**	**89**	P	Pn	15 00 13.5	-0.8
ESDC	**Sonseca Array**	**20.20**	**89**	P	Pn	15 00 13.5	-0.8
ESDC	**Sonseca Array**	**20.20**	**89**	P	Pn	15 00 13.5	-0.8
	comp=Z,35nm,0.9s,baz=290,slow=9.9,SNR=67						
ESDC				LR	LR	15 06 18.5	
	comp=Z,1μm,20.2s,baz=290,slow=32						
ESLA	**Sonseca Array**	**20.20**	**89**	*e*P	**P**	**15 00 12.4**	**+0.1**
	comp=Z,40nm,1.3s						
ESLA	**Sonseca Array**	**20.20**	**89**	*e*P	**P**	**15 00 12.4**	**+0.1**
	comp=Z,40nm,1.3s						
HEX	**Exmoor**	**20.21**	**55**	*e*P	**P**	**15 00 12.7**	**+0.3**
HEX	**Exmoor**	**20.21**	**55**	*e*P	**P**	**15 00 12.6**	**+0.3**
RTC	**Rabat Centre**	**20.34**	**106**	PFAKE		15 00 30.0	+14
RTC				LR	LR		
	comp=Z,2μm,21.4s						
LPW	**Lampeter**	**20.35**	**52**	*e*P	**P**	**15 00 14.5**	**+0.7**
LPW				AMB	AMB	15 00 18.7	
	comp=Z,522nm,1.7s						
LPW				AMS	AMS	15 06 41.2	
	comp=Z,33μm,13.7s						
LPW	**Lampeter**	**20.35**	**52**	*e*P	**P**	**15 00 14.5**	**+0.7**
REAL	**Reales**	**20.38**	**98**	*i* P	Pn	15 00 16.8	+0.2
YRC	**Rhoscolyn**	**20.45**	**49**	*e*P	**P**	**15 00 15.8**	**+0.9**
YRC	**Rhoscolyn**	**20.45**	**49**	*e*P	**P**	**15 00 15.8**	**+0.9**
SGMF	**Saint Gilles**	**20.48**	**64**	*i*/*i*P	**P**	**15 00 16.1**	**+0.8**
	comp=Z,368nm,1.0s						
SGMF	**Saint Gilles**	**20.48**	**64**	*i*/*i*P	**P**	**15 00 16.1**	**+0.8**
SGMF				pmax	pmax		
	comp=Z,368nm,1.0s						
SGMF	**Saint Gilles**	**20.48**	**64**	*i*/*i*P	**P**	**15 00 16.1**	**+0.8**
	comp=Z,368nm,1.0s						
SGMF	**Saint Gilles**	**20.48**	**64**	*i*/*i*P	**P**	**15 00 16.1**	**+0.8**
	comp=Z,184nm,1.0s						
WLF1	**Llynfaes**	**20.57**	**49**	AMS	AMS	15 06 39.9	
	comp=Z,5μm,14.4s						
YLL	**Llanberis**	**20.64**	**49**	*e*P	Pn	15 00 18.5	-0.8
YLL	**Llanberis**	**20.64**	**49**	*e*P	Pn	15 00 18.5	-0.7
NRS	**Narsarsuaq**	**20.89**	**340**	*i* P	**P**	**15 00 20.4**	**+0.9**
NRS	**Narsarsuaq**	**20.89**	**340**	*i* P	**P**	**15 00 20.4**	**+0.9**
MCH1	**Michaelchurch**	**20.95**	**53**	*e*P	**P**	**15 00 20.8**	**+0.5**
MCH1				AMB	AMB	15 00 30.3	
	comp=Z,145nm,1.4s						
MCH1				AMS	AMS	15 06 17.6	
	comp=Z,4μm,14.0s						
MCH1	**Michaelchurch**	**20.95**	**53**	*e*P	**P**	**15 00 20.8**	**+0.5**
MONM	**Monmouth**	**21.02**	**54**	*e*P	**P**	**15 00 21.8**	**+0.8**
MONM				AMB	AMB	15 00 31.6	
	comp=Z,162nm,1.4s						
MONM	**Monmouth**	**21.02**	**54**	*e*P	**P**	**15 00 21.8**	**+0.8**
GAL1	**Galloway**	**21.04**	**45**	*e*P	**P**	**15 00 22.4**	**+1.2**
GAL1				AMS	AMS	15 06 54.7	
	comp=Z,3μm,12.9s						
GAL1	**Galloway**	**21.04**	**45**	*e*P	**P**	**15 00 22.4**	**+1.2**
FOEL	**Foel Wylfa**	**21.10**	**51**	*e*P	**P**	**15 00 21.9**	**-0.1**
FOEL				AMB	AMB	15 00 22.1	
	comp=Z,76nm,2.1s						
FOEL				AMS	AMS	15 06 41.6	
	comp=Z,5μm,12.8s						
FOEL	**Foel Wylfa**	**21.10**	**51**	*e*P	**P**	**15 00 21.9**	**-0.1**
HLM1	**Long Mynd**	**21.17**	**52**	*e*P	**P**	**15 00 23.3**	**+0.6**
HLM1				AMB	AMB	15 00 29.4	
	comp=Z,125nm,1.1s						
HLM1	**Long Mynd**	**21.17**	**52**	*e*P	**P**	**15 00 23.3**	**+0.6**
STRD	**Stroud**	**21.39**	**54**	*e*P	**P**	**15 00 25.9**	**+0.9**
STRD				AMB	AMB	15 00 29.5	
	comp=Z,304nm,1.1s						
STRD	**Stroud**	**21.39**	**54**	*e*P	**P**	**15 00 25.9**	**+0.9**
OSSF	**Osses**	**21.45**	**78**	*e*P	**P**	**15 00 26.1**	**+0.3**
OSSF	**Osses**	**21.45**	**78**	*e*P	**P**	**15 00 26.1**	**+0.3**
SJPF	**Ste Jean**	**21.50**	**78**	*i*/*i*P	**P**	**15 00 26.3**	**0.0**
	comp=Z,217nm,1.4s						
SJPF	**Ste Jean**	**21.50**	**78**	*i*/*i*P	**P**	**15 00 26.3**	**0.0**
SJPF				pmax	pmax		
	comp=Z,217nm,1.4s						
SJPF	**Ste Jean**	**21.50**	**78**	*i*/*i*P	**P**	**15 00 26.3**	**0.0**
	comp=Z,217nm,1.4s						
SJPF	**Ste Jean**	**21.50**	**78**	*i*/*i*P	**P**	**15 00 26.3**	**0.0**
	comp=Z,108nm,1.4s						
PGBU	**Glenifferbraes**	**21.58**	**42**	*e*P	**P**	**15 00 27.9**	**+0.9**
PGBU				AMB	AMB	15 00 35.4	
	comp=Z,116nm,1.2s						
PGBU				AMS	AMS	15 06 09.2	
	comp=Z,3μm,23.3s						
PGBU	**Glenifferbraes**	**21.58**	**42**	*e*P	**P**	**15 00 27.9**	**+0.9**
LCHF	**La Chataignera**	**21.61**	**68**	*e*P	**P**	**15 00 28.6**	**+1.1**
LCHF	**La Chataignera**	**21.61**	**68**	*e*P	**P**	**15 00 28.6**	**+1.1**
GRR	**Gorron**	**21.62**	**64**	*i*/*i*P	**P**	**15 00 27.9**	**+0.3**
	comp=Z,260nm,1.2s						
GRR	**Gorron**	**21.62**	**64**	*i*/*i*P	**P**	**15 00 27.9**	**+0.3**
GRR				pmax	pmax		
	comp=Z,260nm,1.2s						
GRR	**Gorron**	**21.62**	**64**	*i*/*i*P	**P**	**15 00 27.9**	**+0.3**
	comp=Z,260nm,1.2s						
GRR	**Gorron**	**21.62**	**64**	*i*/*i*P	**P**	**15 00 27.9**	**+0.3**
	comp=Z,130nm,1.2s						
LARF	**Larrau**	**21.68**	**78**	*e*P	**P**	**15 00 29.3**	**+1.0**
LARF	**Larrau**	**21.68**	**78**	*e*P	**P**	**15 00 29.3**	**+1.0**
STNC	**Stoke**	**21.74**	**51**	AMS	AMS	15 07 38.1	
	comp=Z,3μm,15.6s						
KESW	**Keswick, Cumbr**	**21.77**	**46**	*e*P	**P**	**15 00 29.9**	**+0.9**
KESW				AMB	AMB	15 00 45.1	
	comp=Z,216nm,1.4s						
KESW				AMS	AMS	15 08 13.1	
	comp=Z,4μm,12.7s						
KESW	**Keswick, Cumbr**	**21.77**	**46**	*e*P	**P**	**15 00 29.9**	**+0.9**
EAB	**Aberfoyle**	**21.83**	**42**	*e*P	**P**	**15 00 31.8**	**+2.1**
EAB	**Aberfoyle**	**21.83**	**42**	*e*P	**P**	**15 00 31.8**	**+2.1**
WOL	**Wolverton**	**21.85**	**56**	AMS	AMS	15 07 52.8	
	comp=Z,3μm,12.6s						
ATE	**Arette**	**21.88**	**78**	*e*P	**P**	**15 00 30.9**	**+0.5**
ATE	**Arette**	**21.88**	**78**	*e*P	**P**	**15 00 30.9**	**+0.5**
FLN	**La Foliniere**	**21.91**	**63**	*i*/*i*P	**P**	**15 00 30.8**	**+0.2**
	comp=Z,220nm,1.1s,baz=267						
FLN				*e*R			
	comp=Z,2μm,20.0s						
FLN	**La Foliniere**	**21.91**	**63**	*i*/*i*P	**P**	**15 00 30.8**	**+0.2**
FLN				pmax	pmax		
	comp=Z,220nm,1.1s						
FLN	**La Foliniere**	**21.91**	**63**	*i*/*i*P	**P**	**15 00 30.8**	**+0.2**
	comp=Z,220nm,1.1s						
FLN	**La Foliniere**	**21.91**	**63**	*i*/*i*P	**P**	**15 00 30.8**	**+0.2**
	comp=Z,110nm,1.1s					

MDT **Midelt** 22.55 106 P **P** 15 00 39.1 +1.3
MDT **Midelt** 22.55 106 P **P** 15 00 39.1 +1.3
MDT **Midelt** 22.55 106 P **P** 15 00 39.1 +1.3
comp=Z,30nm,1.1s,baz=301,slow=9.4,SNR=29
MDT LR LR 15 07 31.2
comp=Z,977nm,21.8s,baz=307,slow=32
MELI Melilla 22.56 99 *e*P **P** 15 00 37.7 0.0
EPF Esparros 22.64 78⇓*i*P **P** 15 00 38.4 -0.2
comp=Z,243nm,1.4s
EPF Esparros 22.64 78⇓*i*P **P** 15 00 38.4 -0.2
EPF pmax pmax
comp=Z,243nm,1.4s
EPF Esparros 22.64 78⇓*i*P **P** 15 00 38.4 -0.2
comp=Z,243nm,1.4s
EPF Esparros 22.64 78⇓*i*P **P** 15 00 38.4 -0.2
comp=Z,122nm,1.4s
RESF Ens 22.68 78 *e*P **P** 15 00 39.5 +0.4
RESF Ens 22.68 78 *e*P **P** 15 00 39.5 +0.4
LFF La Frestale 22.71 73⇓*i*P **P** 15 00 38.5 -0.7
comp=Z,182nm,1.2s
LFF La Frestale 22.71 73⇓*i*P **P** 15 00 38.5 -0.7
LFF pmax pmax
comp=Z,182nm,1.2s
LFF La Frestale 22.71 73⇓*i*P **P** 15 00 38.5 -0.7
comp=Z,182nm,1.2s
LFF La Frestale 22.71 73⇓*i*P **P** 15 00 38.5 -0.7
comp=Z,91nm,1.2s
MCD Coleburn Disti 23.03 39⇑*e*P **P** 15 00 43.1 +0.7
MCD Coleburn Disti 23.03 39⇑*e*P **P** 15 00 43.1 +0.7
DRUM Mains of Drumt 23.07 41 AMS AMS 15 08 16.8
comp=Z,3µm,13.2s
RJF Les Rejaudoux 23.23 72⇓*i*P **P** 15 00 44.8 +0.2
comp=Z,95nm,1.1s
RJF *e*R
comp=Z,884nm,17.8s
RJF Les Rejaudoux 23.23 72⇓*i*P **P** 15 00 44.8 +0.2
RJF pmax pmax
comp=Z,95nm,1.1s
RJF Les Rejaudoux 23.23 72⇓*i*P **P** 15 00 44.8 +0.2
comp=Z,95nm,1.1s
RJF Les Rejaudoux 23.23 72⇓*i*P **P** 15 00 44.8 +0.2
comp=Z,48nm,1.1s
CAF Calviac 23.65 73⇓*i*P **P** 15 00 47.6 -1.2
comp=Z,81nm,1.1s
CAF Calviac 23.65 73⇓*i*P **P** 15 00 47.6 -1.2
CAF pmax pmax
comp=Z,81nm,1.1s
CAF Calviac 23.65 73⇓*i*P **P** 15 00 47.6 -1.2
comp=Z,81nm,1.1s
CAF Calviac 23.65 73⇓*i*P **P** 15 00 47.6 -1.2
comp=Z,41nm,1.1s
TCF Toulx Ste Croi 23.66 69⇓*i*P **P** 15 00 48.7 -0.2
comp=Z,255nm,1.2s
TCF Toulx Ste Croi 23.66 69⇓*i*P **P** 15 00 48.7 -0.2
TCF pmax pmax
comp=Z,255nm,1.2s
TCF Toulx Ste Croi 23.66 69⇓*i*P **P** 15 00 48.7 -0.2
comp=Z,255nm,1.2s
TCF Toulx Ste Croi 23.66 69⇓*i*P **P** 15 00 48.7 -0.2
comp=Z,128nm,1.2s
MENF Mencas 23.82 59 *e*P **P** 15 00 51.0 +0.7
MENF Mencas 23.82 59 *e*P **P** 15 00 51.0 +0.7
VERF Verneugheol 23.88 70 *e*P **P** 15 00 51.0 0.0
VERF Verneugheol 23.88 70 *e*P **P** 15 00 51.0 0.0
HYF Humbligny 23.93 67 *e*P **P** 15 00 51.9 +0.4
HYF Humbligny 23.93 67 *e*P **P** 15 00 51.9 +0.4
HYF Humbligny 23.93 67 *e*P **P** 15 00 51.9 +0.4
MTLF Montolieu 23.95 76⇓*i*P **P** 15 00 51.4 -0.3
comp=Z,166nm,1.4s
MTLF Montolieu 23.95 76⇓*i*P **P** 15 00 51.4 -0.3
MTLF pmax pmax
comp=Z,166nm,1.4s
MTLF Montolieu 23.95 76⇓*i*P **P** 15 00 51.4 -0.3
comp=Z,166nm,1.4s
MTLF Montolieu 23.95 76⇓*i*P **P** 15 00 51.4 -0.3
comp=Z,83nm,1.4s
FRNF Fournols 23.96 71 *e*P **P** 15 00 53.3 +1.5
FRNF Fournols 23.96 71 *e*P **P** 15 00 53.3 +1.5
BGF Bois d'Agland 24.09 68⇓*i*P **P** 15 00 53.1 +0.2
comp=Z,420nm,0.8s
BGF Bois d'Agland 24.09 68⇓*i*P **P** 15 00 53.1 +0.2
BGF pmax pmax
comp=Z,420nm,0.8s
BGF Bois d'Agland 24.09 68⇓*i*P **P** 15 00 53.1 +0.2
comp=Z,420nm,0.8s
BGF Bois d'Agland 24.09 68⇓*i*P **P** 15 00 53.1 +0.2
comp=Z,210nm,0.8s
AGO Saint Agoulin 24.31 70 *e*P **P** 15 00 54.9 -0.1
AGO Saint Agoulin 24.31 70 *e*P **P** 15 00 54.9 -0.1
AVF Avril sur Loir 24.43 68⇓*i*P **P** 15 00 56.0 0.0
comp=Z,95nm,0.8s
AVF Avril sur Loir 24.43 68⇓*i*P **P** 15 00 56.0 0.0
AVF pmax pmax
comp=Z,95nm,0.8s
AVF Avril sur Loir 24.43 68⇓*i*P **P** 15 00 56.0 0.0
comp=Z,95nm,0.8s
AVF Avril sur Loir 24.43 68⇓*i*P **P** 15 00 56.0 0.0
comp=Z,48nm,0.8s
LBL Lubilhac 24.45 72 *e*P **P** 15 00 56.7 +0.3
LBL Lubilhac 24.45 72 *e*P **P** 15 00 56.7 +0.3
SSF Saint Saulge 24.53 67⇓*i*P **P** 15 00 57.1 +0.2
comp=Z,129nm,0.9s
SSF Saint Saulge 24.53 67⇓*i*P **P** 15 00 57.1 +0.2
SSF pmax pmax
comp=Z,129nm,0.9s
SSF Saint Saulge 24.53 67⇓*i*P **P** 15 00 57.1 +0.2
comp=Z,129nm,0.9s
SSF Saint Saulge 24.53 67⇓*i*P **P** 15 00 57.1 +0.2
comp=Z,65nm,0.9s
PLDF La Plantade 24.66 70 *e*P **P** 15 00 58.0 -0.2
PLDF La Plantade 24.66 70 *e*P **P** 15 00 58.0 -0.2
LOR Lormes 24.76 67⇓*i*P **P** 15 00 59.2 +0.1
comp=Z,150nm,0.8s,baz=276
LOR *e*R
comp=Z,2µm,17.0s
LOR Lormes 24.76 67⇓*i*P **P** 15 00 59.2 +0.1
comp=Z,150nm,0.8s
LOR Lormes 24.76 67⇓*i*P **P** 15 00 59.2 +0.1
comp=Z,75nm,0.8s
SMF Signal de Mont 24.77 68⇓*i*P **P** 15 00 59.2 0.0
comp=Z,111nm,0.8s
SMF Signal de Mont 24.77 68⇓*i*P **P** 15 00 59.2 0.0
SMF pmax pmax
comp=Z,111nm,0.8s
SMF Signal de Mont 24.77 68⇓*i*P **P** 15 00 59.2 0.0
comp=Z,111nm,0.8s
SMF Signal de Mont 24.77 68⇓*i*P **P** 15 00 59.2 0.0
comp=Z,55nm,0.8s
LASF Ste Croix 25.02 74⇓*i*P **P** 15 01 02.0 +0.5
comp=Z,89nm,1.1s
LASF Ste Croix 25.02 74⇓*i*P **P** 15 01 02.0 +0.5
comp=Z,89nm,1.1s
LASF Ste Croix 25.02 74⇓*i*P **P** 15 01 02.0 +0.5
comp=Z,44nm,1.1s
BAIF Baives 25.07 60⇓*i*P **P** 15 01 01.9 +0.1
comp=Z,166nm,1.1s
BAIF Baives 25.07 60⇓*i*P **P** 15 01 01.9 +0.1
BAIF pmax pmax
comp=Z,166nm,1.1s
BAIF Baives 25.07 60⇓*i*P **P** 15 01 01.9 +0.1
comp=Z,166nm,1.1s
BAIF Baives 25.07 60⇓*i*P **P** 15 01 01.9 +0.1
comp=Z,83nm,1.1s
SNF Seneffe 25.16 59 P **P** 15 01 03.0 +0.4
DOU Dourbes 25.33 60 P **P** 15 01 04.2 +0.1
comp=Z,34nm,1.4s
SSB Saint Sauveur 25.36 71 *e*P **P** 15 01 05.0 +0.5
SSB Saint Sauveur 25.36 71 *e*P **P** 15 01 03.4 -1.1
SSB pmax pmax
comp=Z,76nm,1.4s
SSB MLR MLR
comp=Z,865nm,22.0s
SSB Saint Sauveur 25.36 71 *e*P **P** 15 01 03.4 -1.1
comp=Z,76nm,1.4s
SSB LR LR
comp=Z,865nm,22.0s
SSB Saint Sauveur 25.36 71 *e*P **P** 15 01 05.0 +0.5
GIVF Givet 25.47 60⇓*i*P **P** 15 01 05.4 -0.1
comp=Z,182nm,1.0s
GIVF Givet 25.47 60⇓*i*P **P** 15 01 05.4 -0.1
GIVF pmax pmax
comp=Z,182nm,1.0s
GIVF Givet 25.47 60⇓*i*P **P** 15 01 05.4 -0.1
comp=Z,182nm,1.0s
GIVF Givet 25.47 60⇓*i*P **P** 15 01 05.4 -0.1
comp=Z,91nm,1.0s

VIVF Saint-Julien-l 25.50 72 *e*P **P** 15 01 06.4 +0.6
comp=Z,61nm,1.1s
VIVF Saint-Julien-l 25.50 72 *e*P **P** 15 01 06.4 +0.6
VIVF pmax pmax
comp=Z,61nm,1.1s
VIVF Saint-Julien-l 25.50 72 *e*P **P** 15 01 06.4 +0.6
comp=Z,61nm,1.1s
VIVF Saint-Julien-l 25.50 72 *e*P **P** 15 01 06.4 +0.6
comp=Z,30nm,1.1s
SFTF Sexfontaines 25.55 64⇓*i*P **P** 15 01 06.2 0.0
comp=Z,514nm,1.4s,baz=264
SFTF Sexfontaines 25.55 64⇓*i*P **P** 15 01 06.2 0.0
comp=Z,514nm,1.4s
SFTF Sexfontaines 25.55 64⇓*i*P **P** 15 01 06.2 0.0
comp=Z,257nm,1.4s
MEZF Maizieres J'vi 25.56 64⇓*i*P **P** 15 01 06.5 +0.3
comp=Z,365nm,0.9s,baz=286
MEZF Maizieres J'vi 25.56 64⇓*i*P **P** 15 01 06.5 +0.3
comp=Z,365nm,0.9s
MEZF Maizieres J'vi 25.56 64⇓*i*P **P** 15 01 06.5 +0.3
comp=Z,183nm,0.9s
BCLA Clavier 25.80 59 P **P** 15 01 08.5 0.0
comp=Z,100nm,1.4s
PAGF Fort de Pagny 26.01 64⇓*i*P **P** 15 01 10.3 0.0
comp=Z,69nm,1.0s,baz=266
PAGF Fort de Pagny 26.01 64⇓*i*P **P** 15 01 10.3 0.0
comp=Z,69nm,1.0s
PAGF Fort de Pagny 26.01 64⇓*i*P **P** 15 01 10.3 0.0
comp=Z,34nm,1.0s
BEBN Eben Emael 26.07 59 P **P** 15 01 11.7 +0.9
comp=Z,23nm,1.4s
THEF They Montfort 26.18 64 *e*P **P** 15 01 12.2 +0.3
THEF They Montfort 26.18 64 *e*P **P** 15 01 12.2 +0.3
HGN Heimansgroeve 26.23 59 *e*P **P** 15 01 12.0 -0.3
comp=Z,105nm,1.4s
HGN *e*S **S** 15 05 48.9 +5.1
HGN *e*L L 15 09 35.1
comp=Z,2µm,18.8s
SMRF Simiane la Rot 26.26 74⇓*i*P **P** 15 01 14.0 +1.3
comp=Z,256nm,1.7s
SMRF Simiane la Rot 26.26 74⇓*i*P **P** 15 01 14.0 +1.3
comp=Z,256nm,1.7s
SMRF Simiane la Rot 26.26 74⇓*i*P **P** 15 01 14.0 +1.3
comp=Z,128nm,1.7s
MEM Membach 26.27 59 P **P** 15 01 13.1 +0.5
comp=Z,26nm,1.0s
MEM Membach 26.27 59 *e*P **P** 15 01 12.8 +0.2
MEM pmax pmax
comp=Z,48nm,0.9s
MEM Membach 26.27 59 *e*P **P** 15 01 12.8 +0.2
comp=Z,48nm,0.9s
MEM Membach 26.27 59 *e*P **P** 15 01 12.8 +0.2
comp=Z,48nm,0.9s
WLF Walferdange 26.31 61 P **P** 15 01 13.6 +0.6
comp=Z,38nm,1.4s
WLF Walferdange 26.31 61 *e*P **P** 15 01 11.6 -1.4
WLF pmax pmax
comp=Z,50nm,0.9s
WLF MLR MLR
comp=Z,1µm,19.0s
WLF Walferdange 26.31 61 *e*P **P** 15 01 13.3 +0.3
comp=Z,56nm,0.9s
WLF *e*L L 15 09 48.2
comp=Z,2µm,18.3s
WLF Walferdange 26.31 61 *e*P **P** 15 01 11.6 -1.4
comp=Z,50nm,0.9s
WLF LR LR
comp=Z,1µm,19.0s
WLF Walferdange 26.31 61 *e*P **P** 15 01 11.6 -1.4
comp=Z,50nm,0.9s
CABF La Chapelle 26.32 68⇓*i*P **P** 15 01 13.7 +0.4
comp=Z,218nm,1.1s
CABF La Chapelle 26.32 68⇓*i*P **P** 15 01 13.7 +0.4
CABF pmax pmax
comp=Z,218nm,1.1s
CABF La Chapelle 26.32 68⇓*i*P **P** 15 01 13.7 +0.4
comp=Z,218nm,1.1s
CABF La Chapelle 26.32 68⇓*i*P **P** 15 01 13.7 +0.4
comp=Z,109nm,1.1s
ORIF Oris-en-Rattie 26.34 72⇓*i*P **P** 15 01 14.7 +1.2
comp=Z,199nm,1.6s
ORIF *e*R
comp=Z,562nm,18.0s
ORIF Oris-en-Rattie 26.34 72⇓*i*P **P** 15 01 14.7 +1.2
ORIF pmax pmax
comp=Z,199nm,1.6s
ORIF Oris-en-Rattie 26.34 72⇓*i*P **P** 15 01 14.7 +1.2
comp=Z,199nm,1.6s
ORIF Oris-en-Rattie 26.34 72⇓*i*P **P** 15 01 14.7 +1.2
comp=Z,99nm,1.6s
HAU Haudompre 26.43 65⇓*i*P **P** 15 01 14.1 -0.1
comp=Z,145nm,1.1s
HAU *e*R
comp=Z,1µm,20.0s
HAU Haudompre 26.43 65⇓*i*P **P** 15 01 14.1 -0.1
HAU pmax pmax
comp=Z,145nm,1.1s
HAU Haudompre 26.43 65⇓*i*P **P** 15 01 14.1 -0.1
comp=Z,145nm,1.1s
HAU Haudompre 26.43 65⇓*i*P **P** 15 01 14.1 -0.1
comp=Z,72nm,1.1s
SCHQ Schefferville 26.75 310 *e*P **P** 15 01 16.0 -1.0
comp=Z,71nm,1.2s
SCHQ Schefferville 26.75 310 *e*P **P** 15 01 16.0 -1.0
comp=Z,71nm,1.2s
SCHQ Schefferville 26.75 310 P **P** 15 01 17.3 +0.3
comp=Z,47nm,1.1s,baz=105,slow=9.1,SNR=11
SCHQ LR LR 15 09 29.7
comp=Z,2µm,20.3s,baz=266,slow=31
HINF Hinteralfeld 26.77 65⇓*i*P **P** 15 01 17.2 -0.1
comp=Z,42nm,0.8s
HINF Hinteralfeld 26.77 65⇓*i*P **P** 15 01 17.2 -0.1
HINF pmax pmax
comp=Z,42nm,0.8s
HINF Hinteralfeld 26.77 65⇓*i*P **P** 15 01 17.2 -0.1
comp=Z,42nm,0.8s
HINF Hinteralfeld 26.77 65⇓*i*P **P** 15 01 17.2 -0.1
comp=Z,21nm,0.8s
LOMF Lomont 26.78 66 *e*P **P** 15 01 17.9 +0.5
LOMF Lomont 26.78 66 *e*P **P** 15 01 17.9 +0.5
LPL La Plagne 26.87 70⇓*i*P **P** 15 01 19.1 +0.7
comp=Z,61nm,1.1s
LPL La Plagne 26.87 70⇓*i*P **P** 15 01 19.1 +0.7
LPL pmax pmax
comp=Z,61nm,1.1s
LPL La Plagne 26.87 70⇓*i*P **P** 15 01 19.1 +0.7
comp=Z,61nm,1.1s
LPL La Plagne 26.87 70⇓*i*P **P** 15 01 19.1 +0.7
comp=Z,31nm,1.1s
LPG La Plagne 26.88 70⇓*i*P **P** 15 01 19.4 +0.8
comp=Z,195nm,1.5s
LPG La Plagne 26.88 70⇓*i*P **P** 15 01 19.4 +0.8
LPG pmax pmax
comp=Z,195nm,1.5s
LPG La Plagne 26.88 70⇓*i*P **P** 15 01 19.4 +0.8
comp=Z,195nm,1.5s
LPG La Plagne 26.88 70⇓*i*P **P** 15 01 19.4 +0.8
comp=Z,97nm,1.5s
WTSB Winterswijk 26.88 56 *e*P P 15 01 25.7 +7.6
comp=Z,975nm,4.9s
BNI Bardonecchia 26.89 71 *e*P **P** 15 01 16.5 -2.0
BNI pmax pmax
comp=Z,79nm,1.4s
BNI MLR MLR
comp=Z,903nm,19.0s
BNI Bardonecchia 26.89 71 *e*P **P** 15 01 16.5 -2.0
comp=Z,79nm,1.4s
BNI LR LR
comp=Z,903nm,19.0s
BNI Bardonecchia 26.89 71 *e*P **P** 15 01 16.5 -2.0
comp=Z,79nm,1.4s
RUP Ruppelstein 26.90 61 *e*P **P** 15 01 18.8 +0.4
MOF Molkenrain 26.96 65 *e*P **P** 15 01 20.5 +1.4
MOF Molkenrain 26.96 65 *e*P **P** 15 01 20.5 +1.4
ECH Echery 26.96 64 *e*P **P** 15 01 19.3 +0.3
ECH Echery 26.96 64 *e*P **P** 15 01 18.0 -1.0
ECH pmax pmax
comp=Z,70nm,1.1s
ECH MLR MLR
comp=Z,744nm,19.0s
ECH Echery 26.96 64 *e*P **P** 15 01 18.0 -1.0
comp=Z,70nm,1.1s
ECH LR LR
comp=Z,744nm,19.0s
ECH Echery 26.96 64 *e*P **P** 15 01 19.3 +0.3
MBDF Montbardon 27.00 72⇓*i*P **P** 15 01 18.6 -0.9
comp=Z,35nm,0.9s

MBDF Montbardon 27.00 72⇓*i*P **P** 15 01 18.6 -0.9
MBDF pmax pmax
comp=Z,35nm,0.9s
MBDF Montbardon 27.00 72⇓*i*P **P** 15 01 18.6 -0.9
comp=Z,18nm,0.9s
MBDF Montbardon 27.00 72⇓*i*P **P** 15 01 18.6 -0.9
comp=Z,136nm,0.8s
CDF Champ du Feu 27.04 64⇓*i*P **P** 15 01 19.9 +0.1
comp=Z,136nm,0.8s
CDF Champ du Feu 27.04 64⇓*i*P **P** 15 01 19.9 +0.1
CDF pmax pmax
comp=Z,136nm,0.8s
CDF Champ du Feu 27.04 64⇓*i*P **P** 15 01 19.9 +0.1
comp=Z,136nm,0.8s
CDF Champ du Feu 27.04 64⇓*i*P **P** 15 01 19.9 +0.1
comp=Z,68nm,0.8s
SFJD Kangerlussuaq 27.04 343 *i* P **P** 15 01 19.7 +0.3
comp=Z,26nm,0.9s
SFJD LR LR 15 09 13.4
comp=Z,2µm,11.0s
SFJD Kangerlussuaq 27.04 343 *e*P **P** 15 01 17.9 -1.5
comp=Z,57nm,1.2s
SFJD Kangerlussuaq 27.04 343 *e*P **P** 15 01 17.9 -1.5
comp=Z,57nm,1.2s
SFJD Kangerlussuaq 27.04 343 P **P** 15 01 19.2 -0.2
comp=Z,34nm,1.1s,baz=151,slow=10,SNR=9.2
SFJD LR LR 15 09 13.4
comp=Z,2µm,19.3s,baz=146,slow=30
WLS Welschbruch 27.09 64 *e*P **P** 15 01 20.4 +0.2
WLS Welschbruch 27.09 64 *e*P **P** 15 01 20.4 +0.2
FRF La Foret Royal 27.09 75 *e*P **P** 15 01 20.6 +0.4
comp=Z,42nm,1.0s
FRF La Foret Royal 27.09 75 *e*P **P** 15 01 20.6 +0.4
FRF pmax pmax
comp=Z,42nm,1.0s
FRF La Foret Royal 27.09 75 *e*P **P** 15 01 20.6 +0.4
comp=Z,42nm,1.0s
FRF La Foret Royal 27.09 75 *e*P **P** 15 01 20.6 +0.4
comp=Z,21nm,1.0s
BUG Bochum--Univer 27.12 57 *e*L L 15 10 35.3
comp=Z,2µm,19.2s
SENIN Lac Senin/Sane 27.17 68 *e*P **P** 15 01 22.1 +1.0
comp=Z,42nm,1.0s
SENIN Lac Senin/Sane 27.17 68 *e*P **P** 15 01 22.1 +1.0
comp=Z,42nm,1.0s
ABH Alteburg 27.22 61 *e*P **P** 15 01 22.2 +0.9
BBS Basel-Blauen 27.23 66 *e*P **P** 15 01 21.8 +0.3
LIBD Limburg 27.27 64 *e*P **P** 15 01 22.0 +0.3
LANF Langenberg 27.38 63 *e*P **P** 15 01 23.2 +0.5
LANF Langenberg 27.38 63 *e*P **P** 15 01 23.2 +0.5
IBBN Ibbenburen 27.50 55 *e*L L 15 11 18.8
comp=Z,3µm,18.8s
FELD Feldberg im Sc 27.55 65 *e*P **P** 15 01 24.2 -0.2
FELD Feldberg im Sc 27.55 65 *e*P **P** 15 01 24.2 -0.2
KTD Kalmit 27.56 62 *e*P **P** 15 01 24.6 +0.2
SBF Sospel 27.60 74⇓*i*P **P** 15 01 26.0 +1.2
SBF Sospel 27.60 74⇓*i*P **P** 15 01 26.0 +1.2
SBF Sospel 27.60 74⇓*i*P **P** 15 01 26.0 +1.2
SBF Sospel 27.60 74⇓*i*P **P** 15 01 26.0 +1.2
BFO Black Forest 27.74 64 P **P** 15 01 26.8 +0.8
comp=Z,107nm,1.1s,SNR=5.2
BFO Black Forest 27.74 64 *e*P **P** 15 01 23.9 -2.1
BFO pmax pmax
comp=Z,30nm,1.2s
BFO MLR MLR
comp=Z,761nm,19.0s
BFO Black Forest 27.74 64 *e*P **P** 15 01 26.1 +0.1
comp=Z,37nm,1.3s
BFO *e*L L 15 09 51.6
comp=Z,802nm,19.3s
BFO Black Forest 27.74 64 *e*P **P** 15 01 23.9 -2.1
comp=Z,30nm,1.2s
BFO LR LR
comp=Z,761nm,19.0s
BFO Black Forest 27.74 64 *e*P **P** 15 01 23.9 -2.1
comp=Z,30nm,1.2s
SACV Santiago Islan 27.91 166 *e*P **P** 15 01 27.8 +0.1
comp=Z,59nm,1.3s
SACV Santiago Islan 27.91 166 *e*P **P** 15 01 27.8 +0.1
comp=Z,59nm,1.3s
PKME Peaks-Kenny Pk 27.95 289 *e*P **P** 15 01 27.2 -0.6
comp=Z,190nm,1.6s
PKME LR LR
comp=Z,2µm,19.0s
PKME Peaks-Kenny Pk 27.95 289 *e*P **P** 15 01 27.2 -0.6
comp=Z,190nm,1.6s
TOD Tromm 28.03 61 *e*P **P** 15 01 28.7 +0.1
STU Stuttgart 28.30 63 *e*P **P** 15 01 29.7 -1.2
STU pmax pmax
comp=Z,50nm,1.0s
STU Stuttgart 28.30 63 *e*P **P** 15 01 31.4 +0.5
comp=Z,50nm,1.0s
STU *e*L L 15 10 21.2
comp=Z,1µm,20.8s
STU Stuttgart 28.30 63 *e*P **P** 15 01 29.7 -1.2
comp=Z,50nm,1.0s
STU Stuttgart 28.30 63 *e*P **P** 15 01 29.7 -1.2
comp=Z,50nm,1.0s
SCO Scoresbysund 28.55 6 *e*P **P** 15 01 35.3 +2.4
SCO MLR MLR
comp=Z,1µm,12.0s
SCO Scoresbysund 28.55 6 *i* P **P** 15 01 35.3 +2.4
comp=Z,17nm,0.9s
SCO
comp=Z,1µm,12.0s
SCO Scoresbysund 28.55 6 *e*P **P** 15 01 35.3 +2.4
comp=Z,1µm,12.0s
TUE Stuetta 28.57 68 *e*P **P** 15 01 33.4 -0.2
comp=Z,26nm,0.9s
TUE LR LR
comp=Z,757nm,22.0s
TUE Stuetta 28.57 68 *e*P **P** 15 01 33.4 -0.2
comp=Z,26nm,0.9s
BBSR BB Station 28.76 261 PFAKE 15 01 50.0 +15
BBSR LR LR
comp=Z,2µm,20.0s
UBBA Unterbreizbach 28.81 59 *e*P **P** 15 01 35.9 +0.6
comp=Z,70nm,2.0s
UBBA *e*L L 15 10 52.0
comp=Z,2µm,18.3s
DAVOX Davos/Dischmat 28.90 67 P **P** 15 01 37.3 +0.8
DAVOX Davos/Dischmat 28.90 67 P **P** 15 01 37.3 +0.8
DAVOX Davos/Dischmat 28.90 67 P **P** 15 01 37.3 +0.8
comp=Z,14nm,0.8s,baz=281,slow=9.8,SNR=20
DAVOX LR LR 15 10 60.0
comp=Z,1µm,19.2s,baz=277,slow=32
NRDL Niedersach Rie 28.96 55 *e*P **P** 15 01 37.6 +1.0
comp=Z,30nm,1.0s
NRDL *e*L L 15 11 35.1
comp=Z,2µm,18.2s
PGF Pioggiola 28.99 76⇓*i*P **P** 15 01 37.4 +0.1
comp=Z,94nm,1.1s
PGF Pioggiola 28.99 76⇓*i*P **P** 15 01 37.4 +0.1
PGF pmax pmax
comp=Z,94nm,1.1s
PGF Pioggiola 28.99 76⇓*i*P **P** 15 01 37.4 +0.1
comp=Z,94nm,1.1s
PGF Pioggiola 28.99 76⇓*i*P **P** 15 01 37.4 +0.1
comp=Z,47nm,1.1s
ILULI Ilulissat 29.00 345 *i* P **P** 15 01 36.7 -0.2
ILULI MLR MLR
comp=Z,2µm,11.0s
ILULI Ilulissat 29.00 345 *i* P **P** 15 01 36.7 -0.2
comp=Z,45nm,0.8s
ILULI
comp=Z,2µm,10.0s
ILULI Ilulissat 29.00 345 *i* P **P** 15 01 36.7 -0.2
comp=Z,2µm,11.0s
CLZ Clausthal 29.08 57 *e*P **P** 15 01 38.7 +0.8
comp=Z,37nm,1.4s
CLZ *e*L L 15 11 57.3
comp=Z,2µm,18.0s
BSEG Bad Segeberg 29.22 52 *e*P **P** 15 01 40.1 +1.1
comp=Z,61nm,0.9s
BSEG *e*L L 15 12 17.6
comp=Z,3µm,18.1s
FETA Feichten 29.46 67 *i* sP **P** 15 01 42.4 +1.0
comp=Z,46nm,0.9s,SNR=12
VLC Villacollemand 29.64 72 PFAKE 15 01 50.0 +7.0
VLC LR LR
comp=Z,469nm,20.0s
MOTA Moosalm 29.68 66⇓*i* sP **P** 15 01 43.8 +0.5
comp=Z,27nm,0.8s,SNR=12
FUR Furstenfeldbru 29.72 64 *e*P **P** 15 01 44.3 +0.7
comp=Z,66nm,1.1s
FUR *e*L L 15 10 23.5
comp=Z,831nm,19.2s

LBNH Lisbon 29.97 288 *e*P **P 15 01 46.1 +0.3**
LBNH pmax pmax
comp=Z,47nm,0.8s
LBNH MLR MLR
comp=Z,2μm,19.0s
LBNH Lisbon 29.97 288 *e*P **P 15 01 46.1 +0.3**
comp=Z,48nm,0.8s
LBNH LR LR
comp=Z,2μm,19.0s
LBNH Lisbon 29.97 288 *e*P **P 15 01 46.1 +0.3**
comp=Z,48nm,0.8s
WATA Walderalm 30.00 66⇑*i*sP **P 15 01 47.0 +0.8**
comp=Z,13nm,0.7s
KONO Kongsberg 30.01 41 PFAKE 15 02 00.0 +14
KONO LR LR
comp=Z,3μm,22.0s
WTTA Wattenberg 30.05 66⇓*i*sP **P 15 01 47.5 +0.8**
comp=Z,38nm,0.8s,SNR=10
VSL Villasalto 30.10 82 PFAKE 15 02 00.0 +13
VSL LR LR
comp=Z,722nm,22.0s
BBTS Babate 30.11 152 LR LR 15 11 42.3
comp=Z,664nm,18.4s,baz=96,slow=32
ROTZ Rotzenmuhle 30.24 61 *e*P **P 15 01 48.8 +0.7**
comp=Z,16nm,1.0s
ROTZ *e*L L 15 13 03.7
comp=Z,1μm,18.1s
HNH Hanover 30.33 287 *e*P **P 15 01 49.5 +0.5**
HNH Hanover 30.33 287 *e*P **P 15 01 49.5 +0.5**
NKC Novy Kostel 30.38 60 *e*P **P 15 01 50.1 +0.8**
NKC *e*S **S 15 06 52.2 +3.0**
NKC Novy Kostel 30.38 60 *e*P **P 15 01 50.1 +0.8**
NKC *e*S **S 15 06 52.2 +3.0**
NKC AMS AMS 15 12 40.0
NKC Novy Kostel 30.38 60 *e*P **P 15 01 50.1 +0.8**
NKC S **S 15 06 52.2 +3.0**
TANN Tannenbergstha 30.38 60 *e*P **P 15 01 49.7 +0.3**
comp=Z,15nm,1.0s
TANN *e*L L 15 12 13.7
comp=Z,2μm,19.3s
SUMG Summit 30.57 355 *e*P P 15 01 47.4 -3.8
SUMG pmax pmax
comp=Z,50nm,1.1s
SUMG Summit 30.57 355 *i* P **P 15 01 51.1 -0.1**
comp=Z,29nm,1.1s
SUMG
comp=Z,2μm,13.0s
SUMG Summit 30.57 355 *e*P P 15 01 47.4 -3.8
comp=Z,50nm,1.1s
SUMG Summit 30.57 355 *i* P **P 15 01 51.1 -0.1**
FRB Frobisher Bay 30.60 327 P **P 15 01 51.1 0.0**
FRB PcP **PcP 15 04 49.4 +0.3**
FRB Frobisher Bay 30.60 327 P **P 15 01 51.1 0.0**
FRB Frobisher Bay 30.60 327 PcP **PcP 15 04 49.4 +0.3**
FRB Frobisher Bay 30.60 327 P **P 15 01 51.1 0.0**
comp=Z,28nm,1.0s,baz=127,slow=8.1,SNR=12
FRB PcP **PcP 15 04 49.4 +0.3**
comp=Z,12nm,1.1s,baz=47,slow=1.9,SNR=3.1
FRB LR LR 15 10 34.3
comp=Z,1μm,20.7s,baz=287,slow=29
ABTA Abfaltersbach 30.70 67⇑*i*sP **P 15 01 53.3 +0.9**
comp=Z,51nm,1.0s,SNR=13
WET Wettzell 30.71 62 *e*P **P 15 01 53.3 +1.0**
comp=Z,36nm,1.0s
WET *e*L L 15 12 38.8
comp=Z,1μm,19.0s
CLL Collm 30.71 58 *e*P **P 15 01 52.6 +0.4**
comp=Z,18nm,1.1s
CLL *e*L L 15 11 50.7
comp=Z,1μm,20.0s
CLL Collm 30.71 58⇓*i*P **P 15 01 52.6 +0.4**
comp=Z,18nm,1.1s
CLL *e*Plp 15 01 54.0
CLL *e*S **S 15 06 57.0 +2.7**
comp=N,500nm,11.6s
CLL *e*S **S 15 06 57.0 +2.7**
comp=E,700nm,15.0s
CLL *e*S **S 15 06 57.0 +2.7**
CLL L L 15 11 00.0
comp=Z,1μm,20.0s
JMIC Jan Mayen 30.77 14 LR LR 15 11 13.9
comp=Z,1μm,18.4s,baz=51,slow=30
RJOB Jochberg 30.78 65 *e*P **P 15 01 53.4 +0.4**
comp=Z,19nm,0.9s
RJOB *e*L L 15 11 09.3
comp=Z,845nm,20.1s
MDV Middlebury 30.91 288 *e*P **P 15 01 53.8 -0.2**
MDV Middlebury 30.91 288 *e*P **P 15 01 53.8 -0.2**
FRNY Flat Rock 31.03 290 *e*P **P 15 01 56.2 +1.1**
comp=Z,86nm,1.6s
FRNY Flat Rock 31.03 290 *e*P **P 15 01 56.2 +1.1**
comp=Z,86nm,1.6s
KHC Kasperske Hory 31.17 62 *i* P **P 15 01 56.9 +0.5**
KHC *e* 15 02 05.3
KHC *e*S **S 15 07 05.7 +4.1**
KHC MLR MLR
comp=Z,2μm,11.8s
KHC Kasperske Hory 31.17 62 *i* P **P 15 01 56.9 +0.5**
KHC *ex* x 15 02 05.3
KHC *e*S **S 15 07 05.7 +4.1**
KHC AMS AMS 15 13 20.0
comp=Z,2μm,11.8s
KHC Kasperske Hory 31.17 62 *e*P **P 15 01 54.8 -1.5**
comp=Z,40nm,0.9s
KHC Kasperske Hory 31.17 62 *i* P **P 15 01 56.9 +0.5**
NB2 NORSAR Subarra 31.19 39 P **P 15 01 58.3 +1.8**
comp=Z,21nm,1.4s,baz=250,slow=9.3
NB2 NORSAR Subarra 31.19 39 P **P 15 01 58.3 +1.8**
comp=Z,21nm,1.4s,SNR=6.2
NOA NORSAR Array B 31.19 39 P **P 15 01 55.5 -1.0**
NOA NORSAR Array B 31.19 39 P **P 15 01 55.5 -1.0**
NOA NORSAR Array B 31.19 39 P **P 15 01 55.4 -1.0**
comp=Z,1.8nm,0.9s,baz=261,slow=9.1,SNR=2.9
NOA LR LR 15 13 04.5
comp=Z,919nm,19.1s,baz=255,slow=34
KBA Koelnbreinsper 31.23 66⇓*i*sP **P 15 01 58.0 +0.9**
comp=Z,120nm,1.2s,SNR=8.5
GEC2 GERESS Array S 31.27 63 *e*P **P 15 01 57.3 -0.1**
GEC2 GERESS Array S 31.27 63 *e*P **P 15 01 57.6 +0.2**
comp=Z,25nm,0.9s
GEC2 *e*L L 15 12 20.2
comp=Z,840nm,18.0s
GEC2 GERESS Array S 31.27 63 *e*P **P 15 01 57.3 -0.1**
GEC2 GERESS Array S 31.27 63 *e*P **P 15 01 57.3 -0.1**
GERES GERESS Array B 31.27 63 P **P 15 01 57.6 +0.2**
GERES GERESS Array B 31.27 63 P **P 15 01 57.6 +0.2**
GERES GERESS Array B 31.27 63 P **P 15 01 57.6 +0.2**
comp=Z,10nm,0.7s,baz=276,slow=8.5,SNR=83
GERES LR LR 15 12 21.0
comp=Z,591nm,19.5s,baz=273,slow=32
BRG Berggiesshubel 31.31 59 *e*P **P 15 01 57.7 +0.2**
comp=Z,52nm,1.8s
BRG S **S 15 07 07.0 +3.3**
BRG
comp=N,3μm,11.9s
BRG
comp=E,1μm,13.2s
BRG
comp=Z,2μm,13.2s
BRG Berggiesshubel 31.31 59 *e*P **P 15 01 57.7 +0.2**
BRG S **S 15 07 07.0 +3.3**
BRG pmax pmax
comp=Z,52nm,1.8s
BRG MLR MLR
comp=N,3μm,11.9s
BRG MLR MLR
comp=E,1μm,13.2s
BRG MLR MLR
comp=Z,2μm,13.2s
BRG Berggiesshubel 31.31 59 *e*P **P 15 01 58.0 +0.5**
comp=Z,54nm,1.9s
BRG *e*L L 15 12 51.7
comp=Z,2μm,18.6s
BRG Berggiesshubel 31.31 59 *e*P **P 15 01 57.7 +0.2**
comp=Z,52nm,1.8s
ACCN Adirondack Com 31.38 287 *e*P **P 15 01 59.9 +1.6**
comp=Z,38nm,1.3s
ACCN Adirondack Com 31.38 287 *e*P **P 15 01 59.9 +1.6**
comp=Z,38nm,1.3s
YLE Yale 31.38 283 *e*P **P 15 01 59.9 +1.6**
YLE Yale 31.38 283 *e*P **P 15 01 59.9 +1.6**
KEST Kesra 31.45 89 *e*P **P 15 01 57.1 -1.9**
KEST Kesra 31.45 89 *e*P **P 15 01 57.1 -1.9**
KEST Kesra 31.45 89 P **P 15 01 59.0 0.0**
comp=Z,8.7nm,0.8s,baz=228,slow=5.7,SNR=13
KEST LR LR 15 13 50.4
comp=Z,250nm,19.4s,baz=214,slow=35
MYKA Terra Mystica 31.49 67⇓*i*sP **P 15 01 59.7 +0.5**
comp=Z,34nm,0.8s,SNR=7.3
TRY Troy 31.54 286 *e*P **P 15 02 01.8 +2.2**
TRY Troy 31.54 286 *e*P **P 15 02 01.8 +2.2**
CADS Cadrg 31.62 68 *e*P **P 15 02 00.5 +0.2**
CADS Cadrg 31.62 68 *e*P **P 15 02 00.5 +0.2**
PRA Prague 31.66 60 P **P 15 02 02.0 +1.4**
PRA S **S 15 07 10.0 +0.8**
PVCC Panska Ves 31.72 59 *e*P **P 15 02 02.0 +0.8**
PVCC *e*S S 15 07 17.7 +7.5
PVCC MLR MLR
comp=Z,2μm,13.9s
PVCC Panska Ves 31.72 59 *e*P **P 15 02 02.0 +0.8**
PVCC *e*S S 15 07 17.7 +7.5
PVCC AMS AMS 15 13 30.0
comp=Z,2μm,13.9s
PVCC Panska Ves 31.72 59 *e*P **P 15 02 02.0 +0.8**
comp=Z,2μm,13.9s
PRU Pruhonice 31.73 60 *e*P **P 15 02 02.1 +0.8**
PRU *e* 15 02 10.4
PRU *e*S **S 15 07 10.4 0.0**
PRU MLR MLR
comp=Z,2μm,13.2s
PRU Pruhonice 31.73 60 *e*P **P 15 02 02.1 +0.8**
PRU *ex* x 15 02 10.4
PRU *e*S **S 15 07 10.4 0.0**
PRU AMS AMS 15 13 30.0
comp=Z,2μm,13.2s
PRU Pruhonice 31.73 60 *e*P **P 15 02 02.1 +0.8**
PRU S **S 15 07 10.4 0.0**
MOA Molln 31.75 64⇓*i*sP **P 15 02 01.8 +0.4**
comp=Z,29nm,0.8s,SNR=9.0
LONY Lake Ozonia 31.76 289 *e*P **P 15 02 01.5 -0.1**
comp=Z,109nm,1.5s
LONY LR LR
comp=Z,2μm,20.0s
LONY Lake Ozonia 31.76 289 *e*P **P 15 02 01.5 -0.1**
comp=Z,109nm,1.5s
OBKA Obir 32.13 67⇓*i*sP **P 15 02 05.2 +0.3**
comp=Z,92nm,0.8s,SNR=20
LJU Ljubljana 32.19 68 *e*P **P 15 02 05.6 +0.3**
LJU Ljubljana 32.19 68 *e*P **P 15 02 05.6 +0.3**
TREC Trest 32.40 62 *e*P **P 15 02 07.7 +0.5**
TREC *e* 15 02 16.3
TREC MLR MLR
comp=Z,2μm,10.9s
TREC Trest 32.40 62 *e*P **P 15 02 07.7 +0.5**
TREC *ex* x 15 02 16.3
TREC AMS AMS 15 14 00.0
comp=Z,2μm,10.9s
TREC Trest 32.40 62 P **P 15 02 07.7 +0.5**
SOKA Soboth 32.43 66⇓*i*P **P 15 02 06.7 -0.8**
comp=Z,21nm,1.0s
PERS Pernice 32.49 67 *e*P **P 15 02 07.3 -0.8**
PERS Pernice 32.49 67 *e*P **P 15 02 07.3 -0.8**
UPC Upice 32.64 59 *e*P **P 15 02 09.0 -0.3**
UPC Upice 32.64 59 *e*P **P 15 02 09.0 -0.3**
UPC *ex* x 15 02 19.2
UPC Upice 32.64 59 P **P 15 02 09.0 -0.3**
ODNJ Ogdensburg 32.66 283 *e*P **P 15 02 10.5 +1.0**
comp=Z,40nm,1.2s
ODNJ Ogdensburg 32.66 283 *e*P **P 15 02 10.5 +1.0**
comp=Z,40nm,1.2s
ARSA Arzberg 32.67 65⇑*i*pP **P 15 02 09.0 -0.6**
comp=Z,34nm,1.1s,SNR=7.2
BOJS Bojanci 32.79 69 *i* P **P 15 02 10.9 +0.4**
BOJS Bojanci 32.79 69 *i* P **P 15 02 10.9 +0.4**
KSP Ksiaz 32.80 59 *e*P **P 15 02 10.1 -0.5**
KSP *e*S **S 15 07 25.0 -1.9**
KSP Ksiaz 32.80 59 *e*P **P 15 02 11.0 +0.4**
KSP Ksiaz 32.80 59 *e*P **P 15 02 10.1 -0.5**
CONA Conrad Observa 32.80 64⇓*i*pP **P 15 02 10.8 0.0**
comp=Z,20nm,0.8s,SNR=8.1
DPC Dobruska-Polom 32.85 59 *e*P **P 15 02 11.7 +0.6**
DPC *e* 15 02 20.5
DPC *e*S **S 15 07 30.5 +2.6**
DPC Dobruska-Polom 32.85 59 *e*P **P 15 02 11.7 +0.6**
DPC *ex* x 15 02 20.5
DPC *e*S **S 15 07 30.5 +2.6**
DPC AMS AMS 15 14 40.0
DPC Dobruska-Polom 32.85 59 *e*P **P 15 02 11.3 +0.2**
DPC Dobruska-Polom 32.85 59 P **P 15 02 11.7 +0.6**
DPC S **S 15 07 30.5 +2.6**
VRAC Vranov 33.12 61⇓*i*P **P 15 02 14.0 +0.5**
VRAC Vranov 33.12 61 *e*P **P 15 02 13.9 +0.5**
GKP Gorka Klasztor 33.30 54 *e*P **P 15 02 16.6 +1.7**
GKP Gorka Klasztor 33.30 54 *e*P **P 15 02 16.6 +1.7**
GKP Gorka Klasztor 33.30 54 *e*P **P 15 02 16.6 +1.7**
SOP Sopron 33.30 64⇓*e*P **P 15 02 15.2 +0.2**
BINY Binghamton 33.33 285 PFAKE 15 02 30.0 +15
BINY LR LR
comp=Z,695nm,22.0s
KSPA Keystone Colle 33.36 284 *e*P **P 15 02 18.1 +2.5**
MORC Moravsky Berou 33.69 60⇑P **P 15 02 19.1 +0.7**
MORC Moravsky Berou 33.69 60⇑*i*P **P 15 02 19.1 +0.7**
MORC Moravsky Berou 33.69 60 *e*P **P 15 02 16.6 -1.8**
comp=Z,18nm,0.9s
MORC Moravsky Berou 33.69 60 *e*P **P 15 02 18.8 +0.4**
SMOL Smolenice 33.76 63 *e*P **P 15 02 19.9 +0.8**
SMOL Smolenice 33.76 63 *e*P **P 15 02 19.8 +0.7**
SMOL Smolenice 33.76 63 *e*P **P 15 02 19.9 +0.8**
OKC Ostrava-Krasne 34.07 60 *e*P **P 15 02 21.9 +0.2**
OKC *e*S **S 15 07 47.7 +1.1**
OKC MLR MLR
comp=Z,2μm,11.3s
OKC Ostrava-Krasne 34.07 60 *e*P **P 15 02 21.9 +0.2**
OKC *e*S **S 15 07 47.7 +1.1**
OKC AMS AMS 15 15 10.0
comp=Z,2μm,11.3s
OKC Ostrava-Krasne 34.07 60 P **P 15 02 21.9 +0.2**
OKC S **S 15 07 47.7 +1.1**
PKST T˜˜s 34.36 65⇑*e*P **P 15 02 24.6 +0.3**
CSKK Cs˜žkako 34.49 65⇑*e*P **P 15 02 25.6 +0.2**
MMNY Mt. Morris Dam 34.55 287 *e*P **P 15 02 28.7 +2.7**
comp=Z,410nm,1.3s
PKSG 34.58 64⇑*e*P **P 15 02 26.3 +0.2**
CUC Castrococuco 34.64 78 PFAKE 15 02 40.0 +13
CUC LR LR
comp=Z,732nm,20.0s
PKS9 Tamasi 34.65 66⇓*e*P **P 15 02 26.8 +0.1**
SADO Sadowa 34.90 291 P **P 15 02 29.5 +0.5**
SADO Sadowa 34.90 291 P **P 15 02 29.5 +0.5**
SADO Sadowa 34.90 291 P **P 15 02 29.5 +0.5**
comp=Z,42nm,0.8s,baz=92,slow=8.6,SNR=22
SADO LR LR 15 15 36.4
comp=Z,2μm,19.3s,baz=1.7,slow=34
DAG Danmarks Havn 34.91 5 *i* P **P 15 02 29.3 +0.7**
DAG MLR MLR
comp=Z,1μm,11.0s
DAG Danmarks Havn 34.91 5 *i* P **P 15 02 29.3 +0.7**
comp=Z,29nm,1.0s
DAG
comp=Z,1μm,11.0s
DAG Danmarks Havn 34.91 5 *i* P **P 15 02 29.3 +0.7**
PKSM Moragy 34.97 66⇓*i*P **P 15 02 29.3 -0.2**
PKSM Moragy 34.97 66⇓*i*P **P 15 02 29.3 -0.2**
PKSM Moragy 34.97 66⇓*i*P **P 15 02 29.3 -0.2**
PKSM Moragy 34.97 66⇓*e*P **P 15 02 29.6 +0.1**
BUD Budapest 34.98 64⇓*e*P **P 15 02 30.3 +0.7**
OJC Ojcow 35.08 59 *e*P **P 15 02 31.2 +0.7**
OJC Ojcow 35.08 59 *e*P **P 15 02 31.2 +0.7**
OJC Ojcow 35.08 59 *e*P **P 15 02 31.2 +0.7**
CEL Celeste 35.30 81 PFAKE 15 02 40.0 +7.5
CEL LR LR
comp=Z,564nm,21.0s
PSZ Piszkesteto 35.48 63⇓P **P 15 02 34.3 +0.3**
PSZ Piszkesteto 35.48 63⇓*i*P **P 15 02 34.3 +0.3**
PSZ Piszkesteto 35.48 63 *e*P **P 15 02 32.2 -1.8**
comp=Z,48nm,1.3s
PSZ LR LR
comp=Z,640nm,20.0s
PSZ Piszkesteto 35.48 63⇓*i*P **P 15 02 34.3 +0.3**
PSZ Piszkesteto 35.48 63⇓*e*P **P 15 02 34.9 +0.9**
PKS6 Bocsa 35.51 66⇓*e*P **P 15 02 34.4 +0.2**
NIE Niedzica 35.52 61 *e*P **P 15 02 35.9 +1.6**
NIE Niedzica 35.52 61 *e*P **P 15 02 35.9 +1.6**
NIE Niedzica 35.52 61 *e*P **P 15 02 35.9 +1.6**
BEL Belsk 35.54 56 *e*P **P 15 02 36.1 +1.8**
BEL Belsk 35.54 56 *e*P **P 15 02 36.1 +1.8**
BEL Belsk 35.54 56 *e*P **P 15 02 36.1 +1.8**
TIP Timpagrande 35.60 79 PFAKE 15 02 50.0 +15
TIP LR LR
comp=Z,597nm,20.0s
CBN Corbin 35.63 279 PFAKE 15 02 50.0 +15
CBN LR LR
comp=Z,1μm,19.0s
PKSN Nyarlorinc 35.66 65⇑*e*P **P 15 02 36.2 +0.8**
TAM Tamanrasset 35.74 112 *e*P **P 15 02 35.5 -1.1**
TAM pmax pmax
comp=Z,8.0nm,0.8s
TAM MLR MLR
comp=Z,1μm,20.0s
TAM Tamanrasset 35.74 112 *e*P **P 15 02 35.5 -1.1**
comp=Z,8.0nm,0.8s
TAM LR LR
comp=Z,1μm,20.0s
TAM Tamanrasset 35.74 112 *e*P **P 15 02 35.5 -1.1**
comp=Z,8.0nm,0.8s
TEKS Tekeris 35.95 69 *e*P **P 15 02 38.3 +0.3**
BBLS Lazići 36.04 70 *e*P **P 15 02 39.1 +0.2**
STHS Stebnicka Huta 36.12 60 *e*P **P 15 02 41.2 +1.8**
STHS pmax pmax
comp=Z,16nm,0.9s
STHS Stebnicka Huta 36.12 60 *e*P **P 15 02 41.2 +1.8**
STHS *e*PP **PP 15 04 01.4 0.0**
STHS *e*PCP **PcP 15 05 07.0 +2.0**
STHS Stebnicka Huta 36.12 60 *e*P **P 15 02 41.2 +1.8**
comp=Z,16nm,0.9s
ERPA Erie 36.21 287 *e*P **P 15 02 42.6 +2.4**
comp=Z,82nm,1.3s
ERPA LR LR
comp=Z,825nm,20.0s
ANWB Willy Bob 36.22 237 PFAKE 15 02 50.0 +9.5
ANWB LR LR
comp=Z,1μm,20.0s
CRVS Cervenica-Dubn 36.34 61 *e*P **P 15 02 42.6 +1.3**
CRVS pmax pmax
comp=Z,35nm,1.4s
CRVS Cervenica-Dubn 36.34 61 *e*P **P 15 02 42.6 +1.3**
CRVS *e*PCS **PcS 15 08 55.2 +2.0**
CRVS Cervenica-Dubn 36.34 61 *e*P **P 15 02 42.6 +1.3**
comp=Z,35nm,1.4s
DIVS Divibare 36.39 70⇑*i*P **P 15 02 42.1 +0.2**
ALLY Alegheny Colle 36.46 286 *e*P **P 15 02 42.7 +0.3**
comp=Z,148nm,1.3s
ALLY Alegheny Colle 36.46 286 *e*P **P 15 02 42.7 +0.3**
comp=Z,148nm,1.3s
SUW Suwalki 36.80 53 *e*P **P 15 02 45.9 +0.8**
SUW Suwalki 36.80 53 *e*P **P 15 02 45.9 +0.8**
SUW Suwalki 36.80 53 *e*P **P 15 02 45.9 +0.8**
H05N1 Guadeloupe/Mar 36.81 234 T T 15 41 46.7
SNR=42
BANR Banloc 36.85 67⇓*i*P **P 15 02 48.4 +2.8**
BANR Banloc 36.85 67⇓*i*P **P 15 02 48.4 +2.8**
KOLS Kolonicke sedl 36.87 61 *e*P **P 15 02 46.8 +1.0**
KOLS pmax pmax
comp=Z,14nm,1.3s
KOLS Kolonicke sedl 36.87 61 *e*P **P 15 02 46.8 +1.0**
KOLS Kolonicke sedl 36.87 61 *e*P **P 15 02 46.8 +1.0**
comp=Z,14nm,1.3s
MCWV Mont Chateau 36.91 283 *e*P **P 15 02 46.9 +0.6**
comp=Z,95nm,1.3s
MCWV LR LR
comp=Z,1μm,21.0s
MCWV Mont Chateau 36.91 283 *e*P **P 15 02 46.8 +0.6**
comp=Z,95nm,1.3s
UZH Uzhgorod 36.93 62 *e*P **P 15 02 44.3 -2.0**
UZH *i* 15 02 46.3
UZH *e* 15 04 14.1
UZH *e* 15 05 14.5
UZH *e*S **S 15 08 25.5 -5.1**
UZH *e*SS **SnSn 15 11 05.3 +2.2**
UZH MLR MLR
comp=N,1μm,12.5s
UZH MLR MLR
comp=E,800nm,12.5s
UZH MLR MLR
comp=Z,1μm,12.5s
GRUS Gruza 36.95 70⇑*i*P **P 15 02 47.0 +0.5**
SIRR Siria 37.00 66⇑*i*P **P 15 02 47.2 +0.3**
SIRR Siria 37.00 66⇑*i*P **P 15 02 47.2 +0.3**
KWP Kalwaria Pacla 37.03 60⇓P **P 15 02 48.3 +1.2**
KWP Kalwaria Pacla 37.03 60 *e*P **P 15 02 48.4 +1.3**
KWP Kalwaria Pacla 37.03 60⇓*i*P **P 15 02 48.3 +1.2**
KWP Kalwaria Pacla 37.03 60 *e*P **P 15 02 45.0 -2.1**
comp=Z,68nm,1.1s
KWP LR LR
comp=Z,845nm,20.0s
KWP Kalwaria Pacla 37.03 60⇓*i*P **P 15 02 48.3 +1.2**
BZS Buzias 37.12 67⇓P **P 15 02 48.6 +0.6**
BZS Buzias 37.12 67⇓*i*P **P 15 02 48.5 +0.6**
BZS Buzias 37.12 67⇓*i*P **P 15 02 48.5 +0.6**
TRPA Tarpa 37.19 62⇓*i*P **P 15 02 49.2 +0.7**
TRPA Tarpa 37.19 62⇓*i*P **P 15 02 49.2 +0.7**
CNNC Cliffs of the 37.20 275 PFAKE 15 03 00.0 +11
CNNC LR LR
comp=Z,1μm,19.0s
SELS Selova 37.42 71 *e*P **P 15 02 50.5 -0.1**
LVV L'vov 37.84 59 *e*P **P 15 02 54.4 +0.4**
LVV *e* 15 04 17.2
LVV *e* 15 05 08.4
LVV *e*S **S 15 08 40.6 -3.8**
LVV *e* 15 11 14.4
LVV MLR MLR
comp=Z,1μm,14.0s
LVV MLR MLR
comp=N,1μm,15.0s
LVV MLR MLR
comp=E,600nm,13.0s
BMR Baia Mare 37.91 63⇑P **P 15 02 55.8 +1.2**
BMR Baia Mare 37.91 63⇑*i*P **P 15 02 55.8 +1.2**
BMR Baia Mare 37.91 63⇑*i*P **P 15 02 55.8 +1.2**
GZR Gura Zlata 37.97 67⇑P **P 15 02 55.5 +0.3**
GZR Gura Zlata 37.97 67⇑*i*P **P 15 02 55.5 +0.3**
GZR Gura Zlata 37.97 67⇑*i*P **P 15 02 55.5 +0.3**
H05S1 Guadeloupe/Mar 38.16 232 T T 15 43 14.1
SNR=8.8
CJR Cluj-Napoca 38.20 64⇑P **P 15 02 57.5 +0.4**
CJR Cluj-Napoca 38.20 64⇑*i*P **P 15 02 57.5 +0.4**
CJR Cluj-Napoca 38.20 64⇑*i*P **P 15 02 57.5 +0.4**
BLA Blacksburg 38.24 279 *e*P **P 15 02 57.4 -0.2**
BLA pmax pmax
comp=Z,65nm,1.0s
BLA MLR MLR
comp=Z,885nm,20.0s
BLA Blacksburg 38.24 279 *e*P **P 15 02 57.4 -0.2**
comp=Z,65nm,1.0s
BLA LR LR
comp=Z,885nm,20.0s
BLA Blacksburg 38.24 279 *e*P **P 15 02 57.4 -0.2**
comp=Z,65nm,1.0s
BIA Bitola 38.26 74 *e*P **P 15 02 57.3 -0.4**
BIA Bitola 38.26 74 *e*P **P 15 02 57.3 -0.4**
MTP Monte Pirata 38.31 242 *e*P **P 15 02 57.4 -0.8**
comp=Z,33nm,0.9s
MTP Monte Pirata 38.31 242 *e*P **P 15 02 57.4 -0.8**
comp=Z,33nm,0.9s
FINES FINESS Array B 38.32 40 P **P 15 02 58.5 +0.7**
FINES FINESS Array B 38.32 40 P **P 15 02 58.5 +0.7**
FINES FINESS Array B 38.32 40 P **P 15 02 58.5 +0.7**
comp=Z,9.7nm,0.7s,baz=255,slow=5.7,SNR=16
FINES LR LR 15 17 52.2
comp=Z,1μm,19.2s,baz=271,slow=35
ISAL Salakas 38.39 50 *e*P **P 15 02 57.8 -0.7**
ISAL AMB AMB 15 03 09.4
comp=Z,13nm,1.2s
ISAL Salakas 38.39 50 *e*P **P 15 02 57.8 -0.7**
comp=Z,13nm,1.2s,SNR=26
BBGH Gun Hill 38.45 229 PFAKE 15 03 10.0 +11
BBGH LR LR
comp=Z,3μm,19.0s
IIGN Ignalina 38.47 50 *e*P **P 15 02 58.7 -0.5**
IIGN AMB AMB 15 03 09.6
comp=Z,20nm,1.1s
IIGN Ignalina 38.47 50 *e*P **P 15 02 58.7 -0.5**
comp=Z,20nm,1.1s,SNR=26
KAF Kangasniemi 38.47 39 *e*P **P 15 02 59.8 +0.7**
KAF pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 38.47 39 *e*p **P 15 02 59.8 +0.7**
comp=Z,1.3nm,0.5s
KAF Kangasniemi 38.47 39 *e*P **P 15 02 59.8 +0.7**
comp=Z,1.3nm,0.5s
VSU Vasula 38.59 45 *e*P **P 15 03 00.8 +0.6**
VSU pmax pmax
comp=Z,83nm,1.0s
SJG San Juan 38.69 242 P **P 15 03 02.7 +1.3**

SJG	San Juan	38.69	242	P	P	15 03 02.7	+1.3		
SJG	San Juan	38.69	242	P	P	15 03 02.7	+1.3		
	comp=Z,18nm,0.8s,baz=270,slow=20,SNR=4.7								
SJG				LR	LR	15 15 29.1			
	comp=Z,704nm,19.8s,baz=270,slow=31								
AAM	Ann Arbor	38.74	288	PFAKE		15 03 10.0	+8.3		
AAM				LR	LR				
	comp=Z,1μm,21.0s								
IDID	Didziasalis	38.76	50	*e*P	P	15 03 01.2	-0.4		
IDID				AMB	AMB	15 03 12.5			
	comp=Z,15nm,0.9s								
ACSO	Alum Creek Sta	38.96	285	*e*P	P	15 03 02.9	-0.6		
	comp=Z,124nm,1.4s								
ACSO				LR	LR				
	comp=Z,1μm,19.0s								
ACSO	Alum Creek Sta	38.96	285	*e*P	P	15 03 02.9	-0.6		
	comp=Z,124nm,1.4s								
VAY	Valandovo	39.04	73	*e*P	P	15 03 03.6	-0.5		
BUR08	Bucovina Ar. S	39.04	63	*e*P	P	15 03 02.4	-1.9		
BUR08	Bucovina Ar. S	39.04	63	*e*P	P	15 03 02.4	-1.9		
BURAR	Bucovina Array	39.06	63	⇓*i*P	P	15 03 05.4	+1.0		
BURAR	Bucovina Array	39.06	63	⇓*i*P	P	15 03 05.4	+1.0		
BURAR	Bucovina Array	39.06	63	⇓*i*P	P	15 03 05.4	+1.0		
VTS	Vitosha	39.07	71	⇑P	P	15 03 05.0	+0.4		
VTS	Vitosha	39.07	71	⇑*i*P	P	15 03 05.0	+0.4		
VTS	Vitosha	39.07	71	⇑*i*P	P	15 03 05.0	+0.4		
ARCES	ARCESS Array B	39.30	27	P	P	15 03 06.1	+0.1		
ARCES	ARCESS Array B	39.30	27	P	P	15 03 06.1	+0.1		
ARCES	ARCESS Array B	39.30	27	P	P	15 03 06.1	+0.1		
	comp=Z,30nm,0.9s,baz=251,slow=7.6,SNR=17								
ARCES				LR	LR	15 16 34.3			
	comp=Z,1μm,19.0s,baz=259,slow=32								
ARE0	ARCESS Array S	39.30	27	*e*P	P	15 03 03.6	-2.4		
ARE0	ARCESS Array S	39.30	27	*e*P	P	15 03 03.6	-2.4		
MNK	Minsk	39.48	51	⇓*e*P	P	15 03 04.0	-3.6		
MNK				*e*PPP	PPP	15 04 40.0			
MNK				*e*S	S	15 09 01.0	-7.9		
MNK				pmax	pmax				
	comp=Z,190nm,1.0s								
MNK				MLR	MLR				
	comp=E,2μm,8.0s								
MNK				MLR	MLR				
	comp=Z,4μm,8.0s								
VOIR		39.50	66	⇑P	P	15 03 06.0	-2.2		
VOIR		39.50	66	⇑*i*P	P	15 03 05.9	-2.2		
VOIR		39.50	66	⇑*i*P	P	15 03 05.9	-2.2		
MICGM	Minsk	39.50	51	⇓*e*P	P	15 03 04.0	-3.9		
MTUR	Matau	39.57	66	⇑P	P	15 03 09.6	+0.9		
MTUR	Matau	39.57	66	⇑*i*P	P	15 03 09.6	+0.9		
MTUR	Matau	39.57	66	⇑*i*P	P	15 03 09.6	+0.9		
DOPR	Dopca	39.59	65	⇑*i*P	P	15 03 09.1	+0.4		
DOPR	Dopca	39.59	65	⇑*i*P	P	15 03 09.1	+0.4		
HUMR	Humele	39.71	67	⇓*i*P	P	15 03 10.5	+0.8		
HUMR	Humele	39.71	67	⇓*i*P	P	15 03 10.5	+0.8		
GRTK	Grand Turk	39.75	251	PFAKE		15 03 20.0	+10		
GRTK				LR	LR				
	comp=Z,1μm,20.0s								
MMB	Musomiste	39.77	72	⇓P	P	15 03 11.5	+1.2		
MMB	Musomiste	39.77	72	⇓*i*P	P	15 03 11.5	+1.2		
MMB	Musomiste	39.77	72	⇓*i*P	P	15 03 11.5	+1.2		
KMSC	Kings Mountain	39.78	277	*e*P	P	15 03 10.2	-0.2		
KMSC	Kings Mountain	39.78	277	⇓P	P	15 03 11.7	+1.3		
	baz=40,SNR=6.0								
KMSC	Kings Mountain	39.78	277	*e*P	P	15 03 10.2	-0.2		
PRAR	RASCA	39.79	63	⇑*i*P	P	15 03 11.0	+0.6		
PRAR	RASCA	39.79	63	⇑*i*P	P	15 03 11.0	+0.6		
KEV	Kevo	39.86	27	*e*P	P	15 03 11.3	+0.6		
KEV				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KEV	Kevo	39.86	27	*e*p	P	15 03 11.3	+0.6		
	comp=Z,0.6nm,0.3s								
KEV	Kevo	39.86	27	PFAKE		15 03 20.0	+9.3		
KEV				LR	LR				
	comp=Z,1μm,22.0s								
KEV	Kevo	39.86	27	*e*P	P	15 03 11.3	+0.6		
	comp=Z,0.6nm,0.3s								
MLR	Muntele Rosu	40.09	66	⇓*i*P	P	15 03 13.1	0.0		
MLR	Muntele Rosu	40.09	66	⇓*i*P	P	15 03 13.1	0.0		
JSC	Jenkinsville	40.11	276	*e*P	P	15 03 15.8	+2.7		
JSC	Jenkinsville	40.11	276	*e*P	P	15 03 15.8	+2.7		
KBS	Kingsbay	40.18	12	PFAKE		15 03 20.0	+6.8		
KBS				LR	LR				
	comp=Z,1μm,19.0s								
KBS	Kingsbay	40.18	12	*i* P	P	15 03 14.9	+1.7		
	SNR=39								
TOA0	Torodi Ar. Sit	40.30	127	*e*P	P	15 03 14.9	+0.1		
TOA0	Torodi Ar. Sit	40.30	127	*e*P	P	15 03 14.9	+0.1		
TORD	Torodi Ar. Bea	40.30	127	P	P	15 03 15.5	+0.6		
TORD	Torodi Ar. Bea	40.30	127	P	P	15 03 15.5	+0.6		
TORD	Torodi Ar. Bea	40.30	127	P	P	15 03 15.5	+0.6		
	comp=Z,26nm,0.8s,baz=317,slow=7.6,SNR=76								
SPITS	Spitsbergen Ar	40.44	13	P	P	15 03 15.7	+0.2		
SPITS	Spitsbergen Ar	40.44	13	P	P	15 03 15.6	+0.2		
SPITS	Spitsbergen Ar	40.44	13	P	P	15 03 15.7	+0.2		
	comp=Z,42nm,1.0s,baz=166,slow=13,SNR=7.1								
GRGR	Grenville	40.46	231	*e*P	P	15 03 17.1	+0.9		
	comp=Z,144nm,1.1s								
GRGR				LR	LR				
	comp=Z,758nm,22.0s								
GRGR	Grenville	40.46	231	*e*P	P	15 03 17.1	+0.9		
	comp=Z,144nm,1.1s								
ISR	Istrita	40.60	66	⇓P	P	15 03 16.9	-0.3		
ISR	Istrita	40.60	66	⇓*i*P	P	15 03 16.9	-0.3		
ISR	Istrita	40.60	66	⇓*i*P	P	15 03 16.9	-0.3		
TZTN	Tazewell	40.80	280	*e*P	P	15 03 21.2	+2.3		
	comp=Z,52nm,1.3s								
JOF	Joensuu	40.82	38	*e*P	P	15 03 19.3	+0.6		
JOF				pmax	pmax				
	comp=Z,2.0nm,0.4s								
JOF	Joensuu	40.82	38	*e*p	P	15 03 19.3	+0.6		
	comp=Z,1.5nm,0.4s								
JOF	Joensuu	40.82	38	*e*P	P	15 03 19.3	+0.6		
	comp=Z,1.5nm,0.4s								
KIEV	Kiev	40.93	57	*e*P	P	15 03 17.9	-1.9		
KIEV				pmax	pmax				
	comp=Z,31nm,0.9s								
KIEV				MLR	MLR				
	comp=Z,1μm,19.0s								
KIEV	Kiev	40.93	57	*e*P	P	15 03 17.9	-1.9		
	comp=Z,31nm,0.9s								
KIEV				LR	LR				
	comp=Z,1μm,19.0s								
KIEV	Kiev	40.93	57	*e*P	P	15 03 17.9	-1.9		
	comp=Z,31nm,0.9s								
AKASG	Malin Array Be	40.94	57	P	P	15 03 19.4	-0.4		
AKASG	Malin Array Be	40.94	57	P	P	15 03 19.4	-0.4		
AKASG	Malin Array Be	40.94	57	P	P	15 03 19.4	-0.4		
AKASG	Malin Array Be	40.94	57	P	P	15 03 19.4	-0.4		
	comp=Z,19nm,0.7s,baz=278,slow=8.4,SNR=30								
AKASG				LR	LR	15 19 44.9			
	comp=Z,2μm,18.1s,baz=290,slow=35								
TKL	Tuckaleechee C	41.35	279	P	P	15 03 23.6	+0.1		
TKL	Tuckaleechee C	41.35	279	P	P	15 03 23.5	+0.1		
TKL	Tuckaleechee C	41.35	279	P	P	15 03 23.6	+0.1		
	comp=Z,24nm,1.2s,baz=89,slow=8.4,SNR=8.2								
LEOM	Leova	41.36	63	⇓P	P	15 03 23.4	+0.1		
LEOM	Leova	41.36	63	⇓*i*P	P	15 03 23.4	+0.1		
LEOM	Leova	41.36	63	⇓*i*P	P	15 03 23.4	+0.1		
JMB	Yambol	41.47	70	⇓P	P	15 03 25.0	+0.7		
JMB	Yambol	41.47	70	⇓*i*P	P	15 03 25.0	+0.7		
JMB	Yambol	41.47	70	⇓*i*P	P	15 03 25.0	+0.7		
SDDR	Presa de Saban	41.55	249	*e*P	P	15 03 26.6	+1.4		
	comp=Z,53nm,0.9s								
SDDR				LR	LR				
	comp=Z,1μm,22.0s								
SDDR	Presa de Saban	41.55	249	*e*P	P	15 03 26.6	+1.4		
	comp=Z,53nm,0.9s								
KIS	Kishinev	41.59	63	*e*P	P	15 03 24.0	-1.2		
KIS				LRM	MLR	15 21 46.0			
	comp=Z,1μm,16.0s								
KIS	Kishinev	41.59	63	*e*P	P	15 03 24.0	-1.2		
KIS				*e*		15 05 32.0			
KIS				*e*		15 12 48.0			
KIS				MLR	MLR				
	comp=Z,1μm,13.0s								
KIS				MLR	MLR				
	comp=E,600nm,15.0s								
KIS				MLR	MLR				
	comp=Z,1μm,16.0s								
KIS	Kishinev	41.59	63	*e*P	P	15 03 24.0	-1.2		
CFR	Carcaliu	41.66	65	⇓P	P	15 03 25.2	-0.6		
CFR	Carcaliu	41.66	65	⇓*i*P	P	15 03 25.2	-0.6		
CFR	Carcaliu	41.66	65	⇓*i*P	P	15 03 25.2	-0.6		
TLB	Topalu	41.78	66	⇓P	P	15 03 25.7	-1.1		
TLB	Topalu	41.78	66	⇓*i*P	P	15 03 25.7	-1.1		
SFIN	Scholer Farm	41.84	287	*e*P	P	15 03 24.9	-2.4		
SFIN	Scholer Farm	41.84	287	⇓P	P	15 03 28.1	+0.8		
	baz=42,SNR=9.0								
SFIN	Scholer Farm	41.84	287	*e*P	P	15 03 24.9	-2.4		
FCC	Fort Churchill	41.87	316	*e*P	P	15 03 26.1	-1.2		
FCC				pmax	pmax				
	comp=Z,3.0nm,1.4s								
FCC	Fort Churchill	41.87	316	*e*P	P	15 03 26.1	-1.2		
	comp=Z,3.2nm,1.4s								
FCC	Fort Churchill	41.87	316	*e*P	P	15 03 26.1	-1.2		
	comp=Z,3.2nm,1.4s								
APA	Apatity	41.87	31	⇑*i*P	P	15 03 27.0	-0.2		
BLO	Bloomington	41.89	285	*e*P	P	15 03 27.4	-0.4		
BLO				pmax	pmax				
	comp=Z,211nm,1.5s								
BLO	Bloomington	41.89	285	*e*P	P	15 03 27.4	-0.4		
	comp=Z,211nm,1.5s								
BLO	Bloomington	41.89	285	*e*P	P	15 03 27.4	-0.4		
	comp=Z,211nm,1.5s								
CPCT	Cooper Cave	41.99	279	*e*P	P	15 03 27.1	-1.5		
CPCT	Cooper Cave	41.99	279	*e*P	P	15 03 27.1	-1.5		
TIRR	Tirgusor	42.07	66	⇑P	P	15 03 27.9	-1.3		
TIRR	Tirgusor	42.07	66	⇑*i*P	P	15 03 27.9	-1.3		
TIRR	Tirgusor	42.07	66	*e*P	P	15 03 25.5	-3.7		
	comp=Z,434nm,2.3s								
TIRR	Tirgusor	42.07	66	⇑*i*P	P	15 03 27.9	-1.3		
WCI	Wyandotte Cave	42.10	284	*e*P	P	15 03 26.3	-3.2		
WCI				pmax	pmax				
	comp=Z,128nm,1.6s								
WCI	Wyandotte Cave	42.10	284	*e*P	P	15 03 26.3	-3.2		
	comp=Z,128nm,1.6s								
WCI	Wyandotte Cave	42.10	284	*e*P	P	15 03 26.3	-3.2		
	comp=Z,128nm,1.6s								
TIC	Toumodi	42.11	140	*e*P	P	15 03 32.1	+2.3		
	comp=Z,56nm,1.0s								
GOGA	Godfrey	42.14	276	*e*P	P	15 03 30.3	+0.4		
GOGA				pmax	pmax				
	comp=Z,39nm,1.1s								
GOGA				MLR	MLR				
	comp=Z,984nm,20.0s								
GOGA	Godfrey	42.14	276	*e*P	P	15 03 30.3	+0.4		
	comp=Z,39nm,1.1s								
GOGA				LR	LR				
	comp=Z,984nm,20.0s								
GOGA	Godfrey	42.14	276	*e*P	P	15 03 30.3	+0.4		
	comp=Z,39nm,1.1s								
DBIC	Dimbokro	42.16	140	*e*P	P	15 03 31.0	+0.8		
	comp=Z,31nm,1.0s								
DBIC	Dimbokro	42.16	140	*e*P	P	15 03 31.0	+0.8		
	comp=Z,31nm,1.0s								
DBIC	Dimbokro	42.16	140	P	P	15 03 31.1	+1.0		
	comp=Z,8.6nm,0.8s,baz=313,slow=7.6,SNR=10								
DBIC				LR	LR	15 18 41.0			
	comp=Z,1μm,20.4s,baz=311,slow=33								
LVZ	Lovozero	42.36	31	PFAKE		15 03 40.0	+8.7		
LVZ				LR	LR				
	comp=Z,2μm,22.0s								
EYMN	Ely	42.39	299	*e*P	P	15 03 31.3	-0.4		
	comp=Z,57nm,0.9s								
EYMN				LR	LR				
	comp=Z,2μm,19.0s								
EYMN	Ely	42.39	299	*e*P	P	15 03 31.3	-0.4		
	comp=Z,57nm,0.9s								
LIC	Lamto	42.47	141	*e*P	P	15 03 34.4	+1.7		
	comp=Z,64nm,1.1s								
LIC	Lamto	42.47	141	*e*P	P	15 03 35.0	+2.3		
	comp=Z,52nm,1.1s,baz=330								
LIC				*e*R					
	comp=Z,2μm,18.8s								
LIC	Lamto	42.47	141	*e*P	P	15 03 35.0	+2.3		
	comp=Z,52nm,1.1s								
KIC	Kosan Boka	42.49	140	*e*P	P	15 03 35.2	+2.4		
	comp=Z,126nm,1.5s								
RES	Resolute Bay	42.94	339	*e*P	P	15 03 33.6	-2.2		
	comp=Z,18nm,0.9s								
RES	Resolute Bay	42.94	339	*e*P	P	15 03 33.6	-2.2		
	comp=Z,18nm,0.9s								
RES	Resolute Bay	42.94	339	P	P	15 03 36.0	+0.2		
	comp=Z,16nm,1.0s,baz=91,slow=7.1,SNR=22								
IDI	Anoyia	43.10	80	*e*P	P	15 03 38.8	+1.1		
	comp=Z,798nm,2.9s								
IDI	Anoyia	43.10	80	*e*P	P	15 03 38.8	+1.1		
	comp=Z,798nm,2.9s								
SWET	Sewanee	43.12	280	*e*P	P	15 03 37.1	-0.8		
	comp=Z,148nm,1.6s								
SWET	Sewanee	43.12	280	*e*P	P	15 03 37.1	-0.8		
	comp=Z,148nm,1.6s								
JFWS	Jewell Farm	43.12	292	*e*P	P	15 03 37.2	-0.6		
JFWS				pmax	pmax				
	comp=Z,48nm,0.9s								
JFWS				MLR	MLR				
	comp=Z,2μm,19.0s								
JFWS	Jewell Farm	43.12	292	*e*P	P	15 03 37.2	-0.6		
	comp=Z,48nm,0.9s								
JFWS				LR	LR				
	comp=Z,2μm,19.0s								
JFWS	Jewell Farm	43.12	292	*e*P	P	15 03 37.2	-0.6		
	comp=Z,48nm,0.9s								
TIGA	Tifton	43.19	273	⇓P	P	15 03 40.0	+1.6		
	baz=43								
HDIL	Hopedale	43.32	288	*e*P	P	15 03 38.4	-1.0		
	comp=Z,113nm,1.1s								
HDIL				LR	LR				
	comp=Z,1μm,22.0s								
HDIL	Hopedale	43.32	288	*e*P	P	15 03 38.4	-1.0		
	comp=Z,113nm,1.1s								
GTBY	Guantanamo Bay	43.60	253	PFAKE		15 03 50.0	+8.2		
GTBY				LR	LR				
	comp=Z,1μm,20.0s								
TMCR	Tamitsa	43.79	36	*e*P	P	15 03 43.7	+0.9		
TMCR				*e*		15 05 24.4			
TMCR				*e*		15 05 28.7			
TMCR				pmax	pmax				
	comp=Z,45nm,1.3s								
SPMN	St. Paul	44.07	296	*e*P	P	15 03 45.1	-0.3		
SPMN	St. Paul	44.07	296	⇓P	P	15 03 46.3	+0.9		
	baz=44,SNR=21								
SPMN	St. Paul	44.07	296	*e*P	P	15 03 45.1	-0.3		
WVT	Waverly	44.10	282	*e*P	P	15 03 44.8	-0.9		
WVT				pmax	pmax				
	comp=Z,125nm,1.7s								
WVT	Waverly	44.10	282	*e*P	P	15 03 44.8	-0.9		
	comp=Z,125nm,1.7s								
WVT	Waverly	44.10	282	*e*P	P	15 03 44.8	-0.9		
	comp=Z,125nm,1.7s								
OBN	Obninsk	44.36	49	*c i*P	P	15 03 48.4	+0.9		
OBN				*i*		15 05 32.2			
OBN				*e*S	S	15 10 27.7	+6.7		
OBN				*i* SS	SS	15 13 39.8	+0.4		
OBN				pmax	pmax				
	comp=Z,80nm,1.7s								
OBN				MLR	MLR				
	comp=Z,2μm,17.0s								
OBN	Obninsk	44.36	49	*e*P	P	15 03 45.6	-1.8		
	comp=Z,46nm,0.9s								
OBN				LR	LR				
	comp=Z,2μm,20.0s								
OBN	Obninsk	44.36	49	*e*P	P	15 03 45.7	-1.8		
	comp=Z,46nm,0.9s								
SIUC	Southern Illin	44.41	284	*e*P	P	15 03 49.9	+1.7		
	comp=Z,154nm,1.4s								
SIUC	Southern Illin	44.41	284	*e*P	P	15 03 49.9	+1.7		
	comp=Z,154nm,1.4s								
ULM	Lac du Bonnet	44.52	304	*e*P	P	15 03 47.7	-1.2		
	comp=Z,48nm,1.5s								
ULM				PcP	PcP	15 05 31.7	-0.2		
ULM	Lac du Bonnet	44.52	304	*e*P	P	15 03 47.7	-1.2		
	comp=Z,48nm,1.5s								
ULM	Lac du Bonnet	44.52	304	P	P	15 03 48.9	0.0		
	comp=Z,11nm,0.9s,baz=63,slow=10.0,SNR=13								
ULM				PcP	PcP	15 05 31.7	-0.2		
	comp=Z,12nm,1.0s,baz=55,slow=4.8,SNR=4.4								
ULM				LR	LR	15 20 59.7			
	comp=Z,1μm,19.2s,baz=239,slow=34								
UTMT	University of	44.75	283	*e*P	P	15 03 52.2	+1.3		
	comp=Z,353nm,1.4s								
UTMT	University of	44.75	283	*e*P	P	15 03 52.2	+1.3		
	comp=Z,353nm,1.4s								
SLM	Saint Louis	44.76	286	*e*P	P	15 03 51.0	+0.1		
SLM				pmax	pmax				
	comp=Z,141nm,1.4s								
SLM	Saint Louis	44.76	286	*e*P	P	15 03 51.0	+0.1		
	comp=Z,141nm,1.4s								
SLM	Saint Louis	44.76	286	*e*P	P	15 03 51.0	+0.1		
	comp=Z,141nm,1.4s								
MOS	Moscow	44.81	48	*e*P	P	15 03 48.9	-2.2		
MOS				*e*		15 05 32.4			
MOS				MLR	MLR				
	comp=Z,2μm,16.0s								
LRAL	Lakeview Retre	44.92	277	*e*P	P	15 03 54.1	+1.9		
	comp=Z,40nm,1.3s								
LRAL	Lakeview Retre	44.92	277	*e*P	P	15 03 54.2	+1.9		
	comp=Z,40nm,1.3s								
AGMN	Agassiz Nation	45.08	301	*e*P	P	15 03 51.3	-2.1		
	comp=Z,61nm,1.1s								
AGMN				LR	LR				
	comp=Z,2μm,20.0s								
AGMN	Agassiz Nation	45.08	301	*e*P	P	15 03 51.3	-2.1		
	comp=Z,61nm,1.1s								
SCIA	State Center	45.54	292	*e*P	P	15 03 56.7	-0.4		
	comp=Z,140nm,1.1s								
SCIA				LR	LR				
	comp=Z,2μm,19.0s								
SCIA	State Center	45.54	292	*e*P	P	15 03 56.7	-0.4		
	comp=Z,140nm,1.1s								
SIM	Simferopol'	45.74	64	*e*P	P	15 04 04.0	+5.4		
SIM				*e*S	S	15 10 51.0	+10		
SIM				pmax	pmax				
	comp=Z,130nm,10.7s								
SIM				MLR	MLR				
	comp=Z,380nm,10.6s								
GNAR	Gosnell	45.76	283	*e*P	P	15 03 58.1	-0.8		
	comp=Z,3μm,1.4s								
GNAR	Gosnell	45.76	283	*e*P	P	15 03 58.1	-0.8		
	comp=Z,3μm,1.4s								
BRAL	Brewton	45.97	275	PFAKE		15 04 10.0	+9.4		
BRAL				LR	LR				
	comp=Z,985nm,19.0s								
OXF	Oxford	45.98	281	*e*P	P	15 03 57.6	-3.2		
OXF				pmax	pmax				
	comp=Z,361nm,1.2s								
OXF	Oxford	45.98	281	*e*P	P	15 03 57.5	-3.2		
	comp=Z,361nm,1.2s								
OXF	Oxford	45.98	281	*e*P	P	15 03 57.5	-3.2		
	comp=Z,361nm,1.2s								
HBAR	Harrisburg	46.41	282	*e*P	P	15 04 02.3	-1.7		
HBAR	Harrisburg	46.41	282	*e*P	P	15 04 02.3	-1.7		
A30A	Hoffart Farm,	46.42	303	⇑P	P	15 04 05.1	+1.1		
	baz=46,SNR=32								
MTDJ	Mount Denham	46.44	254	*e*P	P	15 04 04.7	+0.1		
	comp=Z,78nm,1.0s								
MTDJ				LR	LR				
	comp=Z,691nm,21.0s								
MTDJ	Mount Denham	46.44	254	*e*P	P	15 04 04.7	+0.1		
	comp=Z,78nm,1.0s								
B30A	Myrvik Farm, E	46.59	302	⇓P	P	15 04 06.2	+0.9		
	baz=46,SNR=25								
VOR	Voronezh	46.75	53	P	P	15 04 05.0	-1.5		
VOR				pmax	pmax				
	comp=Z,260nm,1.6s								
ANTO	Ankara	46.79	71	PFAKE		15 04 20.0	+13		
ANTO				LR	LR				
	comp=Z,503nm,21.0s								
VSR	Storozhevoye	46.88	54	⇑*i*P	P	15 04 08.0	+0.5		
VSR				pmax	pmax				
	comp=Z,29nm,0.8s								
FFC	Flin Flon	46.89	311	PFAKE		15 04 20.0	+12		
FFC				LR	LR				
	comp=Z,2μm,19.0s								
FFC	Flin Flon	46.89	311	P	P	15 04 09.9	+2.3		
	comp=Z,177nm,1.3s,SNR=10								
C30A	Mose, Pekin	46.94	301	⇓P	P	15 04 08.7	+0.6		
	baz=47,SNR=20								
A29A	Manning Farm,	47.01	303	⇑P	P	15 04 08.9	+0.3		
	baz=47,SNR=12								
VORD	Divnogorie	47.03	54	*e*P	P	15 04 07.5	-1.2		
VORD				pmax	pmax				
	comp=Z,20nm,0.8s								
VORD				pmax	pmax				
	comp=N,40nm,0.6s								
VORD				pmax	pmax				
	comp=E,30nm,0.6s								
VORD				MLR	MLR				
	comp=Z,2μm,16.0s								
VORD				MLR	MLR				
	comp=N,1μm,14.0s								
VORD				MLR	MLR				
	comp=E,1μm,17.0s								
ECSD	EROS Data Cent	47.15	295	*e*P	P	15 04 09.2	-0.5		
	comp=E,174nm,1.3s								
ECSD				LR	LR				
	comp=Z,2μm,22.0s								
ECSD	EROS Data Cent	47.15	295	*e*P	P	15 04 09.2	-0.5		
	comp=Z,174nm,1.3s								
B29A	Wagenman Farm,	47.23	302	⇑P	P	15 04 11.3	+1.0		
	baz=47,SNR=12								
D30A	Buchanan	47.32	300	⇑P	P	15 04 11.1	0.0		
	baz=47,SNR=7.4								
BR131	Keskin Array S	47.44	70	*e*P	P	15 04 10.6	-1.7		
	comp=Z,8.7nm,0.8s								
BR131				*e*PcP	PcP	15 05 43.7	+1.2		
BR131	Keskin Array S	47.44	70	*e*P	P	15 04 10.6	-1.7		
	comp=Z,8.7nm,0.8s								
BRTR	Keskin Array B	47.44	70	P	P	15 04 12.4	+0.2		
BRTR				PcP	PcP	15 05 43.9	+1.3		
BRTR	Keskin Array B	47.44	70	P	P	15 04 12.4	+0.2		
BRTR	Keskin Array B	47.44	70	PcP	PcP	15 05 43.8	+1.3		
BRTR	Keskin Array B	47.44	70	P	P	15 04 12.4	+0.2		
	comp=Z,9.6nm,0.9s,baz=277,slow=5.4,SNR=37								
BRTR				PcP	PcP	15 05 43.9	+

SDV	Santo Domingo	48.44	238	eP		P	15 04 21.1	+0.8	
	comp=E,6.8nm,0.9s								
B27A	Peters Farms,	48.45	303	⇑P		P	15 04 20.8	+1.1	
	baz=48,SNR=6.0								
D28A	Regan	48.45	301	⇓P		P	15 04 20.8	+1.0	
	baz=48,SNR=10								
F29A	Eureka	48.47	299	⇑P		P	15 04 20.4	+0.4	
	baz=48,SNR=5.1								
A26A	Wade Farm, Ken	48.75	304	⇑P		P	15 04 22.7	+0.5	
	baz=48,SNR=10.0								
E28A	Huff	48.75	300	⇓P		P	15 04 23.0	+0.9	
	baz=48,SNR=7.9								
G29A	Hoven	48.78	298	⇑P		P	15 04 22.8	+0.4	
	baz=48								
C27A	Sayler Ranch,	48.85	302	⇓P		P	15 04 23.8	+0.9	
	baz=49,SNR=5.8								
I30A	Oacoma	48.95	297	⇑P		P	15 04 24.3	+0.6	
	baz=49								
MIAR	Mount Ida	48.99	283	eP		P	15 04 23.6	-0.5	
MIAR					pmax	pmax			
	comp=Z,214nm,1.4s								
MIAR					MLR	MLR			
	comp=Z,1µm,19.0s								
MIAR	Mount Ida	48.99	283	eP		P	15 04 23.6	-0.5	
	comp=Z,214nm,1.4s								
MIAR					LR	LR			
	comp=Z,1µm,19.0s								
MIAR	Mount Ida	48.99	283	eP		P	15 04 23.6	-0.5	
	comp=Z,214nm,1.4s								
KSU1	Kansas State U	49.05	290	eP		P	15 04 24.2	-0.3	
	comp=Z,341nm,1.6s								
KSU1					LR	LR			
	comp=Z,1µm,20.0s								
KSU1	Kansas State U	49.05	290	eP		P	15 04 24.2	-0.3	
	comp=Z,341nm,1.6s								
B26A	Jensen Ranch,	49.06	303	⇑P		P	15 04 25.8	+1.3	
	baz=49								
D27A	Center	49.08	301	⇓P		P	15 04 25.5	+0.8	
	baz=49,SNR=9.7								
F28A	McLaughlin	49.10	299	⇓P		P	15 04 25.7	+0.9	
	baz=49,SNR=8.0								
C26A	Wahner Farm, P	49.18	302	⇓P		P	15 04 26.6	+1.2	
	baz=49,SNR=8.3								
H29A	Onida	49.19	298	⇑P		P	15 04 26.5	+0.9	
	baz=49,SNR=20								
J30A	Dallas	49.23	296	⇓P		P	15 04 26.0	+0.1	
	baz=49,SNR=30								
L31A	Butterfield Fa	49.27	294	⇓P		P	15 04 26.7	+0.5	
	baz=49,SNR=10								
E27A	Carson	49.37	300	⇓P		P	15 04 28.1	+1.2	
	baz=49								
CSS	Prodhromos	49.38	76	PFAKE			15 04 40.0	+13	
CSS					LR	LR			
	comp=Z,117nm,22.0s								
A25A	Svangstu Ranch	49.40	304	⇑P		P	15 04 27.6	+0.5	
	baz=48,SNR=6.7								
G28A	Parade	49.47	299	⇑P		P	15 04 28.8	+1.1	
	baz=49,SNR=24								
I29A	Vivian Onida	49.49	297	⇓P		P	15 04 28.7	+0.8	
	baz=49,SNR=31								
N32A	Stulken Farm,	49.50	292	⇑P		P	15 04 27.9	0.0	
	baz=49,SNR=8.8								
K30A	Basset	49.58	295	⇓P		P	15 04 28.7	+0.1	
	baz=49,SNR=20								
P33A	Williams Farm,	49.66	291	⇑P		P	15 04 29.4	+0.2	
	baz=49,SNR=17								
B25A	Knox Farm, Ray	49.68	303	⇑P		P	15 04 30.3	+1.1	
	baz=49								
D26A	Manning	49.69	301	⇑P		P	15 04 30.6	+1.3	
	baz=49,SNR=19								
H28A	Mission Ridge	49.70	298	⇓P		P	15 04 30.0	+0.5	
	baz=50,SNR=12								
O32A	Brockman Farm,	49.70	292	⇑P		P	15 04 29.4	-0.1	
	baz=50,SNR=12								
M31A	Lambtecht Ranc	49.71	293	⇑P		P	15 04 29.4	-0.2	
	baz=50,SNR=12								
J29A	Okreek	49.76	296	⇑P		P	15 04 29.8	0.0	
	baz=50,SNR=7.5								
F27A	Lemmon	49.87	300	⇓P		P	15 04 31.5	+0.7	
	baz=50,SNR=18								
N31A	Bailey Ranch,	49.92	293	⇑P		P	15 04 31.0	-0.2	
	baz=50,SNR=9.9								
E26A	Carlson Angus	49.92	301	⇑P		P	15 04 31.9	+0.8	
	baz=50								
TUL1	Tulsa	49.94	286	eP		P	15 04 29.4	-1.9	
TUL1	Tulsa	49.94	286	⇓P		P	15 04 30.8	-0.5	
	baz=50,SNR=5.7								
TUL1	Tulsa	49.94	286	eP		P	15 04 29.4	-1.9	
C25A	Freed Ranch, W	49.95	303	⇑P		P	15 04 32.4	+1.1	
	baz=50								
A24A	Westby	49.95	304	⇑P		P	15 04 32.2	+0.9	
	baz=50								
Q33A	Connelly Farm,	49.95	290	⇑P		P	15 04 31.0	-0.4	
	baz=50,SNR=9.4								
L30A	Spencer Herefo	49.96	294	⇓P		P	15 04 31.0	-0.5	
	baz=50,SNR=8.9								
SOC	Sochi	49.98	63	eP		P	15 04 31.4	-0.1	
SOC				e*SP		sP	15 04 36.0	-2.1	
SOC				e			15 05 50.2		
SOC				ePPP		PPP	15 07 25.6		
SOC				eS		S	15 11 43.3	+1.9	
SOC					pmax	pmax			
	comp=Z,12nm,0.6s								
SOC					MLR	MLR			
	comp=Z,575nm,15.0s								
G27A	Dupree	50.01	299	⇑P		P	15 04 32.4	+0.6	
	baz=50,SNR=20								
K29A	Lazy Trails An	50.02	296	⇓P		P	15 04 32.0	+0.1	
	baz=50,SNR=15								
I28A	Midland	50.07	297	⇑P		P	15 04 32.9	+0.7	
	baz=50,SNR=21								
D25A	Fairfield	50.20	302	⇑P		P	15 04 34.4	+1.1	
	baz=50,SNR=17								
P32A	Huiting Farm,	50.21	291	⇓P		P	15 04 32.9	-0.5	
	baz=50,SNR=5.8								
M30A	Dale-Ortello V	50.24	294	⇓P		P	15 04 33.6	0.0	
	baz=50,SNR=7.2								
DGMT	Dagmar	50.24	304	eP		P	15 04 32.9	-0.7	
	comp=Z,93nm,1.2s								
DGMT					LR	LR			
	comp=Z,1µm,20.0s								
DGMT	Dagmar	50.24	304	⇓P		P	15 04 34.1	+0.6	
	baz=50,SNR=14								
DGMT	Dagmar	50.24	304	eP		P	15 04 32.8	-0.7	
	comp=Z,93nm,1.2s								
F26A	Lodgepole	50.30	300	⇑P		P	15 04 34.6	+0.6	
	baz=50,SNR=14								
J28A	Allard Ranch,	50.35	297	⇑P		P	15 04 35.0	+0.5	
	baz=50,SNR=47								
R33A	Olander Ranch,	50.37	289	⇑P		P	15 04 34.5	-0.1	
	baz=50,SNR=14								
H27A	Howes	50.41	298	⇑P		P	15 04 35.2	+0.4	
	baz=50								
PTGA	Pitinga	50.42	220	eP		P	15 04 35.4	+0.3	
	comp=Z,38nm,1.2s								
PTGA				ePcP		PcP	15 05 54.4	+1.0	
PTGA					LR	LR			
	comp=Z,645nm,20.0s								
PTGA	Pitinga	50.42	220	eP		P	15 04 35.4	+0.3	
	comp=Z,38nm,1.2s								
L29A	Maesberg Ranch	50.42	295	⇑P		P	15 04 34.7	-0.3	
	baz=50,SNR=9.6								
Q32A	Meitler Ranch,	50.46	290	⇓P		P	15 04 34.9	-0.3	
	baz=50,SNR=32								
O31A	Woolen Ranch,	50.47	292	⇓P		P	15 04 35.2	-0.2	
	baz=50,SNR=10								
A23A	Redstone	50.47	305	⇑P		P	15 04 36.6	+1.4	
	baz=50,SNR=6.3								
G26A	Maurine	50.48	299	⇓P		P	15 04 35.8	+0.5	
	baz=50,SNR=35								
E25A	Miller Ranch,	50.51	301	⇑P		P	15 04 36.7	+1.2	
	baz=50,SNR=14								
I27A	Quinn	50.62	298	⇓P		P	15 04 37.0	+0.5	
	baz=50,SNR=12								
S33A	Kaszmaul Farm,	50.71	289	⇓P		P	15 04 37.5	+0.3	
	baz=50,SNR=12								
N30A	Hueftle Ranch,	50.72	293	⇑P		P	15 04 37.4	+0.1	
	baz=50								
B23A	Brockton	50.73	304	⇓P		P	15 04 39.1	+1.9	
	baz=50,SNR=41								
K28A	Ten Mile Ranch	50.74	296	⇑P		P	15 04 38.1	+0.7	
	baz=50,SNR=7.2								
C24A	Savage	50.74	303	⇑P		P	15 04 38.3	+1.0	
	baz=50								
F25A	Bowman	50.77	301	⇓P		P	15 04 37.5	-0.1	
	baz=50,SNR=5.8								
P31A	Stockton	50.79	291	⇓P		P	15 04 37.6	-0.1	
	baz=51,SNR=10								
R32A	Long Quarter,	50.82	290	⇑P		P	15 04 38.1	0.0	
	baz=51,SNR=11								
M29A	Burnside Ranch	50.83	294	⇑P		P	15 04 38.2	+0.1	
	baz=51,SNR=19								
D24A	Glendive	50.85	302	⇓P		P	15 04 39.0	+0.9	
	baz=51,SNR=14								
H26A	Fairpoint	50.87	299	⇑P		P	15 04 38.4	+0.1	
	baz=51								
U34A	Anderson Ranch	50.92	287	⇑P		P	15 04 38.8	+0.1	
	baz=51,SNR=7.8								
J27A	Elkhorn Farm,	50.94	297	⇓P		P	15 04 39.6	+0.7	
	baz=51,SNR=12								
YKW3	Yellowknife Ar	50.95	324	eP		P	15 04 37.4	-1.2	
	comp=Z,0.5nm,1.4s								
YKW3	Yellowknife Ar	50.95	324	eP		P	15 04 37.4	-1.2	
	comp=Z,0.5nm,1.4s								
O30A	MW Ranch, Wils	50.96	292	⇓P		P	15 04 38.9	-0.2	
	baz=51,SNR=26								
YKA	Yellowknife Ar	50.97	324	P		P	15 04 39.0	+0.3	
YKA				PcP		PcP	15 05 55.1	+0.4	
YKA	Yellowknife Ar	50.97	324	P		P	15 04 39.0	+0.3	
YKA	Yellowknife Ar	50.97	324	PcP		PcP	15 05 55.1	+0.4	
YKA	Yellowknife Ar	50.97	324	P		P	15 04 38.9	+0.3	
	comp=Z,12nm,1.1s,baz=70,slow=7.1,SNR=53								
YKA				PcP		PcP	15 05 55.1	+0.4	
	comp=Z,9.0nm,1.0s,baz=65,slow=4.0,SNR=10								
Q31A	Ellis	51.03	291	⇓P		P	15 04 39.1	-0.5	
	baz=51,SNR=6.5								
G25A	Newell	51.05	300	⇓P		P	15 04 39.8	+0.2	
	baz=51,SNR=13								
E24A	Baker	51.06	302	⇑P		P	15 04 40.6	+0.9	
	baz=51								
N29A	Votaw Ranch, W	51.06	293	⇑P		P	15 04 40.0	+0.1	
	baz=51,SNR=11								
A22A	Carney Farms,	51.09	305	⇓P		P	15 04 40.9	+0.9	
	baz=51,SNR=11								
C23A	Lambert	51.11	303	⇑P		P	15 04 41.3	+1.2	
	baz=51,SNR=23								
T33A	Patterson Ranc	51.12	288	⇑P		P	15 04 40.4	+0.1	
	baz=51,SNR=31								
L28A	Connealy Angus	51.15	295	⇑P		P	15 04 40.6	+0.2	
	baz=51								
I26A	New Underwood	51.17	298	⇓P		P	15 04 40.8	+0.2	
	baz=51,SNR=8.1								
V34A	Guthrie	51.20	286	⇓P		P	15 04 40.9	+0.1	
	baz=51,SNR=12								
M28A	Bar X Bar Ranc	51.31	294	⇑P		P	15 04 41.4	-0.3	
	baz=51								
S32A	Newby Ranch, P	51.32	289	⇓P		P	15 04 41.8	+0.1	
	baz=51,SNR=10								
K27A	Flueckinger Fa	51.32	296	⇑P		P	15 04 42.1	+0.2	
	baz=51								
D23A	Lindsay	51.38	303	⇑P		P	15 04 43.1	+1.0	
	baz=51,SNR=15								
P30A	Selden	51.38	292	⇓P		P	15 04 42.0	-0.2	
	baz=51,SNR=20								
H25A	Fruitdale	51.40	299	⇑P		P	15 04 42.4	+0.1	
	baz=51								
B22A	Reddig Ranch S	51.41	304	⇑P		P	15 04 43.2	+0.8	
	baz=51,SNR=12								
F24A	Ekalaka	51.44	301	⇑P		P	15 04 43.1	+0.5	
	baz=51,SNR=5.3								
R31A	Burdett	51.45	290	⇓P		P	15 04 42.6	-0.2	
	baz=51,SNR=16								
O29A	4D Ranch, Gulb	51.49	293	⇑P		P	15 04 42.8	-0.2	
	baz=51,SNR=22								
T32A	Huddler Ranch,	51.55	289	⇓P		P	15 04 43.7	+0.2	
	baz=51,SNR=19								
C22A	Vida	51.56	304	⇓P		P	15 04 44.5	+1.0	
	baz=51,SNR=14								
J26A	Sides Ranch, S	51.62	297	⇓P		P	15 04 44.9	+1.0	
	baz=51,SNR=36								
Q30A	Quinter	51.62	291	⇓P		P	15 04 43.9	-0.2	
	baz=51,SNR=17								
G24A	Alzada	51.63	300	⇑P		P	15 04 43.8	-0.2	
	baz=51,SNR=6.9								
L27A	T5 Ranch, Ells	51.65	296	⇓P		P	15 04 44.4	+0.1	
	baz=51								
W34A	Bridge Creek,	51.67	286	⇑P		P	15 04 44.9	+0.5	
	baz=52,SNR=6.1								
A21A	Bergtoll Ranch	51.70	305	⇑P		P	15 04 45.4	+0.9	
	baz=51,SNR=13								
E23A	Ismay	51.71	302	⇓P		P	15 04 45.9	+1.3	
	baz=51								
S31A	Mullinville	51.74	289	⇓P		P	15 04 45.2	+0.3	
	baz=52,SNR=5.9								
I25A	Rochford	51.74	298	⇓P		P	15 04 45.4	+0.3	
	baz=52								
N28A	Pribbeno Ranch	51.74	294	⇑P		P	15 04 44.6	-0.4	
	baz=52,SNR=14								
V33A	Lossen Ranch,	51.75	287	⇑P		P	15 04 45.4	+0.4	
	baz=52,SNR=11								
KIV	Kislovodsk	51.77	62	eP		P	15 04 46.0	+0.8	
KIV				e			15 06 44.1		
KIV				eS		S	15 12 09.3	+2.8	
KIV				eSS		SS	15 15 47.6	+4.9	
KIV				pmax		pmax			
	comp=Z,15nm,1.1s								
KIV				MLR		MLR			
	comp=Z,398nm,16.0s								
KIV	Kislovodsk	51.77	62	PFAKE			15 05 00.0	+15	
KIV				LR		LR			
	comp=Z,485nm,19.0s								
P29A	Atwood	51.82	292	⇓P		P	15 04 45.6	0.0	
	baz=52,SNR=8.6								
RSSD	Black Hills	51.90	299	eP		P	15 04 42.2	-4.0	
RSSD				pmax		pmax			
	comp=Z,7.0nm,1.3s								
RSSD	Black Hills	51.90	299	eP		P	15 04 42.2	-4.0	
	comp=Z,6.6nm,1.3s								
M27A	Reverse DX Ran	51.94	295	⇓P		P	15 04 46.7	+0.3	
	baz=52								
K26A	Motz Farm, Whi	51.95	297	⇑P		P	15 04 46.8	+0.4	
	baz=52,SNR=7.5								
H24A	Dirks Ranch, A	51.96	300	⇑P		P	15 04 46.7	+0.1	
	baz=52,SNR=10								
R30A	Dighton	51.98	290	⇓P		P	15 04 47.1	+0.4	
	baz=52,SNR=33								
B21A	Ellsworth Farm	51.99	305	⇑P		P	15 04 47.8	+1.2	
	baz=52,SNR=8.6								
U32A	Winter Ranch,	51.99	288	⇑P		P	15 04 47.3	+0.5	
	baz=52,SNR=6.9								
D22A	Cohagen	51.99	303	⇓P		P	15 04 47.5	+0.9	
	baz=52,SNR=32								
KBZ	Khabaz	52.01	62	P		P	15 04 48.1	+1.3	
KBZ	Khabaz	52.01	62	P		P	15 04 48.0	+1.3	
KBZ	Khabaz	52.01	62	P		P	15 04 48.0	+1.3	
KBZ	Khabaz	52.01	62	P		P	15 04 48.0	+1.3	
	comp=Z,14nm,0.9s,baz=292,slow=6.0,SNR=16								
KBZ					LR	LR	15 28 32.8		
	comp=Z,746nm,18.7s,baz=300,slow=38								
X34A	Smith Ranch, M	52.03	285	⇑P		P	15 04 47.8	+0.7	
	baz=52,SNR=15								
J25A	Sunshine Ranch	52.06	298	⇓P		P	15 04 47.9	+0.6	
	baz=52,SNR=7.8								
F23A	Volborg	52.10	301	⇓P		P	15 04 48.2	+0.6	
	baz=52,SNR=21								
T31A	Randall Ranch,	52.12	289	⇓P		P	15 04 48.0	+0.2	
	baz=52,SNR=26								
E22A	Miles City	52.14	302	⇑P		P	15 04 49.1	+1.3	
	baz=52,SNR=16								
O28A	Krutsinger Ran	52.16	293	⇓P		P	15 04 47.9	-0.1	
	baz=52,SNR=6.1								
L26A	Underwood Farm	52.18	296	⇑P		P	15 04 48.3	+0.1	
	baz=52								
Q29A	Oakley	52.18	291	⇓P		P	15 04 48.2	-0.1	
	baz=52,SNR=52								
LAO	LASA Array	52.21	302	eP		P	15 04 46.2	-2.1	
	comp=Z,118nm,1.3s								
LAO				ePcP		PcP	15 06 01.3	+1.5	
LAO					LR	LR			
	comp=Z,1µm,19.0s								
LAO	LASA Array	52.21	302	eP		P	15 04 46.2	-2.1	
	comp=Z,118nm,1.3s								
W33A	Caddo, Fort Co	52.21	286	⇑P		P	15 04 49.1	+0.7	
	baz=52,SNR=14								
Z35A	Perchaven, San	52.25	283	⇓P		P	15 04 48.7	0.0	
	baz=52,SNR=6.8								
C21A	Desert Coulee	52.28	304	⇑P		P	15 04 50.0	+1.2	
	baz=52,SNR=28								
Y34A	Reagan Ranch,	52.30	284	⇓P		P	15 04 48.6	-0.5	
	baz=52								
G23A	Biddle	52.31	300	⇓P		P	15 04 49.4	+0.3	
	baz=52,SNR=24								
V32A	Arapaho	52.34	287	⇓P		P	15 04 50.1	+0.6	
	baz=52,SNR=6.5								
A20A	Cobblestone Ra	52.35	306	⇓P		P	15 04 50.1	+0.8	
	baz=52,SNR=11								
N27A	Anderson Farm,	52.37	294	⇑P		P	15 04 49.8	+0.2	
	baz=52,SNR=14								
I24A	Kuemmerle Ranc	52.39	299	⇓P		P	15 04 49.8	0.0	
	baz=52,SNR=8.4								
P28A	Saint Francis	52.40	293	⇓P		P	15 04 49.9	0.0	
	baz=52,SNR=15								
S30A	Montezuma	52.41	290	⇑P		P	15 04 50.3	+0.4	
	baz=52,SNR=9.4								
K25A	Mack Ranch, Ha	52.45	297	⇑P		P	15 04 50.8	+0.6	
	baz=52,SNR=16								
M26A	McRoberts Ranc	52.47	295	⇓P		P	15 04 51.2	+0.7	
	baz=52,SNR=7.8								
R29A	Marienthal	52.51	291	⇓P		P	15 04 50.8	+0.1	
	baz=52								
D21A	La Casta Ranch	52.53	303	⇓P		P	15 04 52.0	+1.3	
	baz=52,SNR=25								
X33A	Lawton	52.54	285	⇓P		P	15 04 51.2	+0.4	
	baz=52								
H23A	Clabaugh Cattl	52.59	300	⇑P		P	15 04 51.9	+0.6	
	baz=52								
B20A	Solberg Farm,	52.59	305	⇑P		P	15 04 51.8	+0.7	
	baz=52								
U31A	Nine Bar Ranch	52.59	288	⇑P		P	15 04 51.5	+0.2	
	baz=52								
O27A	Beecher Island	52.61	294	⇑P		P	15 04 51.6	+0.2	
	baz=52,SNR=12								
F22A	Rosebud	52.61	301	⇑P		P	15 04 52.2	+0.9	
	baz=52,SNR=14								
WMOK	Wichita Mounta	52.64	286	eP		P	15 04 51.0	-0.6	
WMOK					pmax	pmax			
	comp=Z,50nm,1.2s								
WMOK					MLR	MLR			
	comp=Z,850nm,20.0s								
WMOK	Wichita Mounta	52.64	286	eP		P	15 04 51.0	-0.6	
	comp=Z,50nm,1.2s								
WMOK					LR	LR			
	comp=Z,850nm,20.0s								
WMOK	Wichita Mounta	52.64	286	eP		P	15 04 51.0	-0.6	
	comp=Z,50nm,1.2s								
J24A	Dixon Ranch, L	52.65	298	⇓P		P	15 04 52.2	+0.5	
	baz=52,SNR=5.1								
Q28A	Sharon Springs	52.69	292	⇑P		P	15 04 52.2	+0.1	
	baz=52,SNR=17								
Z34A	Collier Ranch,	52.71	284	⇑P		P	15 04 52.2	0.0	
	baz=52,SNR=5.2								
L25A	Engebretsen Ra	52.71	296	⇓P		P	15 04 53.4	+1.2	
	baz=52,SNR=25								
T30A	Plains	52.74	289	⇓P		P	15 04 52.5	+0.2	
	baz=52,SNR=5.0								
135A	Vickery Place,	52.76	283	⇑P		P	15 04 52.8	+0.3	
	baz=53,SNR=5.8								
E21A	Keefer Ranch,	52.80	303	⇓P		P	15 04 53.6	+0.9	
	baz=52,SNR=16								
N26A	Koester Ranch,	52.82	295	⇓P		P	15 04 52.9	-0.1	
	baz=53								
A19A	Klindworth Far	52.83	306	⇓P		P	15 04 53.4	+0.5	
	baz=52,SNR=5.7								
G22A	Birney	52.88	301	⇓P		P	15 04 54.2	+0.8	
	baz=53,SNR=37								
S29A	Ulysses	52.88	290	⇑P		P	15 04 53.5	+0.1	
	baz=53,SNR=18								
V31A	Spring Creek L	52.88	287	⇑P		P	15 04 54.7	+1.2	
	baz=53,SNR=16								
C20A	Veseth Ranch,	52.88	304	⇓P		P	15 04 54.1	+0.8	
	baz=53,SNR=20								
I23A	Meade Ranch, G	52.89	299	⇓P		P	15 04 54.0	+0.5	
	baz=53								
Y33A	Hilltop Ranch,	52.89	285	⇑P		P	15 04 54.0	+0.5	
	baz=53,SNR=8.4								
P27A	Ficken Ranch,	52.97	293	⇓P		P	15 04 54.5	+0.3	
	baz=53,SNR=12								
TEIG	Tepich	52.98	264	P		P	15 04 55.6	+1.5	
TEIG	Tepich	52.98	264	P		P	15 04 55.7	+1.5	
TEIG	Tepich	52.98	264	P		P	15 04 55.6	+1.5	
	comp=Z,61nm,1.1s,baz=51,slow=8.9,SNR=6.2								
HKT	Hockley	52.98	279	eP		P	15 04 53.0	-1.0	
HKT					pmax	pmax			
	comp=Z,45nm,1.3s								
HKT	Hockley	52.98	279	eP		P	15 04 53.0	-1.0	
	comp=Z,45nm,1.3s								
HKT	Hockley	52.98	279	eP		P	15 04 53.0	-1.0	
	comp=Z,45nm,1.3s								
R28A	Tribune	53.01	291	⇓P		P	15 04 54.6	+0.2	
	baz=53,SNR=27								
K24A	Anderson Ranch	53.02	297	⇓P		P	15 04 55.3	+0.8	
	baz=53,SNR=17								
U30A	WK&E Inc. Balk	53.08	289	⇓P		P	15 04 55.7	+0.8	
	baz=53,SNR=15								
ZEI	Tsey	53.08	62	eP		P	15 04 56.2	+1.2	
ZEI					pmax	pmax			
	comp=Z,40nm,0.8s								
WHTX	Lake Whitney	53.08	282	eP		P	15 04 53.6	-1.3	
WHTX				ePcP		PcP	15 06 03.9	+0.7	
WHTX	Lake Whitney	53.08	282	⇓P		P	15 04 55.5	+0.6	
	baz=53,SNR=28								
WHTX	Lake Whitney	53.08	282	eP		P	15 04 53.6	-1.3	
M25A	Palm-Egli Farm	53.10	296	⇑P		P	15 04 56.0	+0.9	
	baz=53								
F21A	Absaloka Mine,	53.14	302	⇓P		P	15 04 56.0	+0.7	
	baz=53								
B19A	Brinkman Farms	53.14	305	⇓P		P	15 04 56.2	+1.0	
	baz=53,SNR=28								
O26A	Horse Wrangler	53.15	294	⇓P		P	15 04 56.0	+0.5	
	baz=53,SNR=36								
X32A	Elmer	53.16	286	⇑P		P	15 04 55.9	+0.5	
	baz=53,SNR=14								
H22A	Clearmont	53.19	300	⇓P		P	15 04 56.4	+0.7	
	baz=53,SNR=15								
J23A	Dilts Ranch, B	53.20	298	⇑P		P	15 04 56.3	+0.5	
	baz=53								
T29A	Hugoton	53.23	290

T28A **Walsh** 53.81 290 ⇑P P 15 05 00.8 +0.4
baz=54,SNR=28
133A **Hamilton Ranch** 53.82 284 ⇑P P 15 05 00.2 -0.1
baz=54,SNR=23
EGMT **Eagleton** 53.82 305 *eP* P 15 04 59.3 -0.9
comp=Z,54nm,1.0s
EGMT LR LR
comp=Z,2μm,22.0s
EGMT **Eagleton** 53.82 305 ⇓P P 15 05 01.3 +1.1
baz=54,SNR=14
EGMT **Eagleton** 53.82 305 *eP* P 15 04 59.3 -0.9
comp=Z,54nm,1.0s
Z32A **Haskell** 53.86 285 ⇓P P 15 05 00.9 +0.2
baz=54,SNR=39
ROSC **El Rosal** 53.87 239 P P 15 05 02.6 +1.3
ROSC **El Rosal** 53.87 239 P P 15 05 02.6 +1.3
ROSC **El Rosal** 53.87 239 P P 15 05 02.6 +1.3
comp=Z,6.2nm,0.4s,baz=273,slow=17,SNR=6.1
ROSC LR LR 15 24 52.1
comp=Z,530nm,21.1s,baz=13,slow=33
E19A **Rath Farm, Rou** 53.90 303 ⇓P P 15 05 01.5 +0.7
baz=54,SNR=17
Q26A **Hugo** 53.91 293 ⇓P P 15 05 02.3 +1.2
baz=54,SNR=33
N24A **Carr** 53.93 295 ⇓P P 15 05 02.7 +1.4
baz=54,SNR=13
334A **Lometa** 54.00 282 ⇑P P 15 05 01.8 +0.1
baz=54,SNR=13
V29A **Stinnett** 54.02 288 ⇓P P 15 05 02.7 +0.9
baz=54,SNR=7.7
P25A **Willow Gulch B** 54.07 294 ⇓P P 15 05 02.7 +0.3
baz=54
S27A **Las Animas** 54.08 291 ⇓P P 15 05 03.0 +0.6
baz=54,SNR=6.7
Y31A **Rekieta Farm,** 54.09 286 ⇓P P 15 05 02.9 +0.6
baz=54,SNR=31
G20A **Bridger** 54.10 302 ⇓P P 15 05 02.7 +0.4
baz=54,SNR=26
I21A **Big Trails, Te** 54.14 300 ⇓P P 15 05 02.4 -0.3
baz=54,SNR=37
R26A **Arlington** 54.16 292 ⇑P P 15 05 03.8 +0.8
baz=54,SNR=81
K22A **Casper** 54.17 298 ⇑P P 15 05 03.6 +0.6
baz=54,SNR=44
M23A **Laramie** 54.20 296 ⇑P P 15 05 04.2 +0.9
baz=54,SNR=20
U28A **Mallet** 54.26 289 ⇑P P 15 05 03.9 +0.3
baz=54,SNR=6.7
T27A **Campo** 54.27 290 ⇑P P 15 05 04.2 +0.5
baz=54,SNR=27
F19A **Roth Farm, Mol** 54.27 302 ⇓P P 15 05 04.4 +0.8
baz=54,SNR=29
X30A **Coker Ranch, T** 54.28 287 ⇑P P 15 05 04.2 +0.5
baz=54,SNR=7.5
H20A **Greybull** 54.29 301 ⇑P P 15 05 04.2 +0.5
baz=54,SNR=32
434A **Burnet** 54.29 281 ⇑P P 15 05 03.7 -0.1
baz=54,SNR=9.2
BCIP **Isla Barro Col** 54.30 247 PFAKE 15 05 20.0 +16
BCIP LR LR
comp=Z,526nm,22.0s
Z31A **Sharp Cattle R** 54.33 285 ⇑P P 15 05 04.3 +0.2
baz=54,SNR=32
ABTX **Abilene, Hawle** 54.33 284 *eP* P 15 05 02.9 -1.2
ABTX **Abilene, Hawle** 54.33 284 ⇑P P 15 05 04.1 0.0
baz=54,SNR=18
ABTX **Abilene, Hawle** 54.33 284 *eP* P 15 05 02.9 -1.2
O24A **Longmont** 54.40 295 ⇓P P 15 05 05.8 +1.2
baz=54,SNR=6.2
L22A **Ellis Ranch, M** 54.40 297 ⇑P P 15 05 05.6 +0.9
baz=54,SNR=15
Q25A **Bedland, Calha** 54.41 293 ⇑P P 15 05 05.5 +0.7
baz=54,SNR=24
J21A **Lysite** 54.45 299 ⇓P P 15 05 05.5 +0.4
baz=54,SNR=54
W29A **Amraillo** 54.48 288 ⇑P P 15 05 06.3 +1.0
baz=54,SNR=26
S26A **Kim** 54.51 291 ⇓P P 15 05 06.2 +0.7
baz=54,SNR=51
333A **Richland Sprin** 54.54 282 ⇓P P 15 05 05.3 -0.3
baz=54,SNR=20
V28A **Channing** 54.57 289 ⇓P P 15 05 06.6 +0.7
baz=54,SNR=7.0
P24A **Kohler Place,** 54.58 294 ⇑P P 15 05 06.7 +0.7
baz=54
Y30A **Stafford Cattl** 54.58 286 ⇑P P 15 05 05.7 -0.2
baz=54
N23A **Red Feather La** 54.61 296 ⇑P P 15 05 07.6 +1.3
baz=54,SNR=81
I20A **Worland** 54.62 300 ⇑P P 15 05 06.8 +0.7
baz=54,SNR=63
AMTX **Amarillo** 54.63 287 *eP* P 15 05 07.8 +1.5
comp=Z,187nm,1.3s
AMTX **Amarillo** 54.63 287 ⇓P P 15 05 07.3 +1.0
baz=54
AMTX **Amarillo** 54.63 287 *eP* P 15 05 07.8 +1.5
comp=Z,187nm,1.3s
U27A **Thompson Grove** 54.66 290 ⇓P P 15 05 07.3 +0.8
baz=54,SNR=48
K21A **Alcova** 54.66 298 ⇑P P 15 05 07.2 +0.7
baz=54,SNR=24
232A **Coleman** 54.72 283 ⇓P P 15 05 07.1 +0.1
baz=54,SNR=38
GCMT **Greycliff** 54.75 303 *eP* P 15 05 07.6 +0.5
comp=Z,62nm,1.3s
GCMT **Greycliff** 54.75 303 *eP* P 15 05 07.6 +0.5
comp=Z,62nm,1.3s
M22A **Cedar Creek Ra** 54.80 297 ⇑P P 15 05 09.0 +1.3
baz=55,SNR=12
RLMT **Red Lodge** 54.80 302 *eP* P 15 05 04.6 -3.0
comp=Z,64nm,1.3s
RLMT LR LR
comp=Z,2μm,20.0s
RLMT **Red Lodge** 54.80 302 *eP* P 15 05 04.6 -3.0
comp=Z,64nm,1.3s
W28A **Vega** 54.81 288 ⇑P P 15 05 08.5 +0.9
baz=55
R25A **Fountain Ranch** 54.81 292 ⇑P P 15 05 08.5 +0.8
baz=55,SNR=32
T26A **Comanche Natio** 54.82 291 ⇑P P 15 05 08.8 +1.0
baz=55,SNR=57
H19A **Powell** 54.83 301 ⇓P P 15 05 08.6 +0.9
baz=55,SNR=12
131A **Roby** 54.84 284 ⇑P P 15 05 07.8 0.0
baz=55,SNR=6.7
J20A **Shoshoni** 54.86 299 ⇑P P 15 05 08.5 +0.6
baz=55,SNR=119
X29A **Tulia** 54.86 287 ⇑P P 15 05 08.7 +0.7
baz=55,SNR=13
534A **Blanco** 54.87 281 ⇑P P 15 05 07.9 -0.1
baz=55,SNR=16
GNI **Garni** 54.87 65 *eP* P 15 05 04.3 -3.8
comp=Z,32nm,1.3s
ISCO **Idaho Springs** 54.91 295 *eP* P 15 05 08.3 -0.3
ISCO pmax pmax
comp=Z,45nm,1.1s
ISCO MLR MLR
comp=Z,2μm,19.0s
ISCO **Idaho Springs** 54.91 295 *eP* P 15 05 08.2 -0.3
comp=Z,44nm,1.1s
ISCO LR LR
comp=Z,2μm,19.0s
ISCO **Idaho Springs** 54.91 295 ⇓P P 15 05 09.1 +0.5
baz=55,SNR=38
ISCO **Idaho Springs** 54.91 295 *eP* P 15 05 08.2 -0.3
comp=Z,44nm,1.1s
O23A **Lake Granby, G** 54.92 295 ⇓P P 15 05 10.0 +1.4
baz=55,SNR=17
433A **Art** 54.92 282 ⇑P P 15 05 08.3 -0.1
baz=55,SNR=55
N22A **Wattenberg Ran** 55.00 296 ⇓P P 15 05 10.1 +1.0
baz=55,SNR=35
V27A **Dan Oppiter Fa** 55.00 289 ⇓P P 15 05 10.0 +1.0
baz=55,SNR=12
Q24A **Divide** 55.01 293 ⇑P P 15 05 09.9 +0.7
baz=55,SNR=59
Z30A **Sanderson Ranc** 55.05 285 ⇓P P 15 05 09.0 -0.3
baz=55,SNR=15
332A **Millersview** 55.06 283 ⇑P P 15 05 09.6 +0.2
baz=55,SNR=34
RWWY **Rawlins** 55.08 297 *eP* P 15 05 05.3 -4.3
comp=Z,107nm,1.6s
I19A **Meeteetse** 55.13 301 ⇓P P 15 05 10.4 +0.5
baz=55,SNR=22
Y29A **Porterfield Fa** 55.14 286 ⇑P P 15 05 09.9 -0.2
baz=55
S25A **Robets Cordova** 55.16 292 ⇓P P 15 05 10.4 +0.1
baz=55,SNR=30
X28A **Dimmitt** 55.18 287 ⇑P P 15 05 10.7 +0.4
baz=55
231A **Bronte** 55.18 284 ⇓P P 15 05 09.8 -0.5
baz=55,SNR=14
533A **Kerrville** 55.25 281 ⇓P P 15 05 10.8 0.0
baz=55,SNR=10
H18A **Shoshone NF, C** 55.26 301 ⇑P P 15 05 11.3 +0.4
baz=55
P23A **Jefferson** 55.27 294 ⇓P P 15 05 12.7 +1.5
baz=55,SNR=48
130A **Snyder** 55.30 285 ⇑P P 15 05 11.6 +0.5
baz=55
U26A **Atchley Ranch,** 55.31 290 ⇓P P 15 05 12.3 +0.9
baz=55,SNR=18
R24A **Sanders Place,** 55.34 293 ⇓P P 15 05 12.4 +0.8
baz=55,SNR=25
MAK **Makhachkala** 55.35 61 *eP* P 15 05 10.2 -1.1
MAK *e* 15 07 13.1
MAK *ePPP* PPP 15 08 34.7
MAK *eS* S 15 12 49.8 -5.1
MAK *eSSS* SSS 15 18 47.2
MAK pmax pmax
comp=Z,22nm,0.4s
MAK MLR MLR
comp=Z,1μm,14.0s
432A **Menard** 55.37 282 ⇓P P 15 05 11.4 -0.2
baz=55,SNR=12
O22A **Kremling** 55.37 295 ⇑P P 15 05 12.7 +0.9
baz=55,SNR=42
T25A **Trinidad** 55.40 291 ⇓P P 15 05 13.3 +1.3
baz=55,SNR=48
Z29A **Hungry Hill Ra** 55.48 286 ⇑P P 15 05 12.4 -0.1
baz=55,SNR=21
Q23A **Hartsel** 55.50 294 ⇑P P 15 05 13.5 +0.7
baz=55
W27A **Bowe Ranch, En** 55.51 288 ⇑P P 15 05 13.4 +0.7
baz=55,SNR=52
Y28A **McKinney Farm,** 55.53 287 ⇑P P 15 05 12.9 +0.1
baz=55
J19A **Crowheart** 55.53 300 ⇓P P 15 05 13.2 +0.4
baz=55,SNR=37
JCT **Junction City** 55.59 282 *eP* P 15 05 11.6 -1.6
JCT pmax pmax
comp=Z,107nm,1.3s
JCT MLR MLR
comp=Z,899nm,19.0s
JCT **Junction City** 55.59 282 *eP* P 15 05 11.6 -1.6
comp=Z,108nm,1.3s
JCT LR LR
comp=Z,899nm,19.0s
JCT **Junction City** 55.59 282 ⇑P P 15 05 13.1 -0.2
baz=55
JCT **Junction City** 55.59 282 *eP* P 15 05 11.6 -1.6
comp=Z,108nm,1.3s
331A **San Angelo** 55.59 283 ⇓P P 15 05 13.5 +0.3
baz=55,SNR=12
ARU **Arti** 55.63 42 P P 15 05 13.5 +0.4
comp=Z,199nm,1.1s,SNR=10.0
ARU **Arti** 55.63 42 *diP* P 15 05 14.3 +1.2
ARU 15 06 16.2
ARU 15 07 17.0
ARU S S 15 13 01.2 +2.9
ARU pmax pmax
comp=Z,46nm,1.2s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU **Arti** 55.63 42 *eP* P 15 05 10.8 -2.3
comp=Z,25nm,0.8s
ARU LR LR
comp=Z,1μm,19.0s
ARU **Arti** 55.63 42 *eP* P 15 05 10.8 -2.3
comp=Z,25nm,0.8s
V26A **Tequesquite Ra** 55.64 289 ⇓P P 15 05 14.5 +0.8
baz=55,SNR=51
HRY **Holter Researc** 55.67 305 *eP* P 15 05 13.1 -0.6
HRY **Holter Researc** 55.67 305 *eP* P 15 05 13.1 -0.6
S24A **Hoehn Ranch,** 55.70 292 ⇑P P 15 05 15.4 +1.1
baz=56,SNR=9.6
X27A **F and S Farms,** 55.75 288 ⇑P P 15 05 15.4 +1.0
baz=56,SNR=17
U25A **Circle Dot Ran** 55.77 290 ⇓P P 15 05 16.5 +1.8
baz=56,SNR=133
LKWY **Lake** 55.78 302 PFAKE 15 05 30.0 +15
LKWY LR LR
comp=Z,1μm,19.0s
230A **Sterling City** 55.78 284 ⇓P P 15 05 14.8 +0.2
baz=56,SNR=12
P22A **Eagle** 55.78 295 ⇓P P 15 05 15.5 +0.7
baz=56,SNR=13
KVTX **Kingsville** 55.80 278 PFAKE 15 05 30.0 +15
KVTX LR LR
comp=Z,2μm,20.0s
WALA **Waterton Lakes** 55.84 308 *eP* P 15 05 10.4 -4.4
comp=Z,2.5nm,1.2s
SDCO **Great Sand Dun** 55.85 292 *eP* P 15 05 14.8 -0.5
comp=Z,40nm,1.4s
SDCO LR LR
comp=Z,2μm,19.0s
SDCO **Great Sand Dun** 55.85 292 *eP* P 15 05 14.8 -0.5
comp=Z,40nm,1.4s
R23A **Moffat** 55.85 293 ⇓P P 15 05 16.5 +1.2
baz=56
532A **Rocksprings** 55.85 282 ⇑P P 15 05 15.5 +0.3
baz=56,SNR=28
MSTX **Muleshoe** 55.87 287 *eP* P 15 05 12.9 -2.4
MSTX **Muleshoe** 55.87 287 ⇓P P 15 05 15.7 +0.4
baz=56,SNR=34
MSTX **Muleshoe** 55.87 287 *eP* P 15 05 12.9 -2.4
INK **Inuvik** 55.88 334 P P 15 05 14.7 0.0
INK **Inuvik** 55.88 334 P P 15 05 14.7 0.0
INK **Inuvik** 55.88 334 P P 15 05 14.7 0.0
comp=Z,18nm,1.1s,baz=46,slow=9.0,SNR=30
YNR **Norris Junctio** 55.88 302 *eP* P 15 05 18.3 +2.9
comp=Z,22nm,1.2s
129A **Stewart Farms,** 55.93 285 ⇓P P 15 05 15.7 0.0
baz=56,SNR=14
Z28A **Tucker Farm, M** 55.95 286 ⇓P P 15 05 16.2 +0.3
baz=56,SNR=8.0
H17A **Grant Village** 55.97 302 *eP* P 15 05 14.0 -2.0
H17A **Grant Village** 55.97 302 ⇑P P 15 05 17.8 +1.7
baz=56,SNR=8.8
H17A **Grant Village** 55.97 302 *eP* P 15 05 14.0 -2.0
W26A **Owens Ranch, T** 55.99 289 ⇓P P 15 05 17.1 +1.0
baz=56,SNR=13
BOZ **Bozeman (W)** 56.04 303 *eP* P 15 05 15.8 -0.6
BOZ pmax pmax
comp=Z,56nm,1.1s
BOZ MLR MLR
comp=Z,1μm,19.0s
BOZ **Bozeman (W)** 56.04 303 *eP* P 15 05 15.8 -0.6
comp=Z,56nm,1.1s
BOZ LR LR
comp=Z,1μm,19.0s
BOZ **Bozeman (W)** 56.04 303 *eP* P 15 05 15.8 -0.6
comp=Z,56nm,1.1s
431A **Sonora** 56.06 282 ⇓P P 15 05 17.0 +0.4
baz=56,SNR=13
330A **Mertzon** 56.08 284 ⇓P P 15 05 17.1 +0.4
baz=56,SNR=25
YMR **Madison River** 56.08 302 *eP* P 15 05 15.7 -1.1
comp=Z,67nm,1.3s
YMR **Madison River** 56.08 302 *eP* P 15 05 15.7 -1.1
comp=Z,67nm,1.3s
BW06 **Boulder Array** 56.09 299 *eP* P 15 05 15.1 -1.8
comp=Z,62nm,1.2s
BW06 LR LR
comp=Z,867nm,19.0s
BW06 **Boulder Array** 56.09 299 *eP* P 15 05 15.1 -1.8
comp=Z,62nm,1.2s
PDAR **Pinedale Array** 56.09 299 P P 15 05 16.6 -0.3
PDAR **Pinedale Array** 56.09 299 P P 15 05 16.6 -0.3
PDAR **Pinedale Array** 56.09 299 P P 15 05 16.6 -0.3
comp=Z,36nm,1.1s,baz=65,slow=7.0,SNR=100
632A **Uvalde** 56.10 281 ⇓P P 15 05 16.9 0.0
baz=56,SNR=18
YFT **Old Faithful** 56.10 302 *eP* P 15 05 14.8 -2.2
comp=Z,66nm,1.1s
YFT **Old Faithful** 56.10 302 *eP* P 15 05 14.8 -2.2
comp=Z,66nm,1.1s
T24B **San Luis** 56.11 292 ⇓P P 15 05 19.1 +1.9
baz=56,SNR=34
SMCO **Snowmass** 56.14 294 *eP* P 15 05 18.5 +1.0
comp=Z,34nm,1.0s
SMCO **Snowmass** 56.14 294 *eP* P 15 05 18.5 +1.0
comp=Z,34nm,1.0s
N20A **Spence Gulch,** 56.18 297 ⇓P P 15 05 18.9 +1.3
baz=56
TGUH **Tegucigalpa,Un** 56.19 258 PFAKE 15 05 30.0 +12
TGUH LR LR
comp=Z,854nm,20.0s
Y27A **Causey** 56.19 287 ⇓P P 15 05 17.9 +0.3
baz=56,SNR=25
I17A **Pilgrim Ck.** 56.19 301 ⇓P P 15 05 18.9 +1.3
baz=56,SNR=23
FLWY **Flagg Ranch** 56.19 301 *eP* P 15 05 19.1 +1.5
comp=Z,43nm,1.1s
FLWY **Flagg Ranch** 56.19 301 *eP* P 15 05 19.1 +1.5
comp=Z,43nm,1.1s
V25A **Rancho No Teng** 56.20 290 ⇓P P 15 05 18.2 +0.5
baz=56,SNR=17
S23A **Nye Farm, Mont** 56.21 293 ⇑P P 15 05 19.0 +1.2
baz=56
229A **Bryant Ranch,** 56.24 284 ⇓P P 15 05 18.1 +0.2
baz=56,SNR=5.7
531A **Rocksprings** 56.30 282 ⇓P P 15 05 18.5 +0.2
baz=56,SNR=36
X26A **CR and CF Fran** 56.30 288 ⇓P P 15 05 19.2 +0.8
baz=56,SNR=22
LOHW **Long Hollow** 56.36 301 *eP* P 15 05 19.9 +1.1
comp=Z,44nm,1.3s
LOHW **Long Hollow** 56.36 301 *eP* P 15 05 19.9 +1.1
comp=Z,44nm,1.3s
U24A **Moreno Valley** 56.37 291 ⇑P P 15 05 20.7 +1.7
baz=56
128A **Castleberry Fa** 56.37 285 ⇓P P 15 05 19.3 +0.4
baz=56,SNR=20
MOOW **Moose Ponds** 56.38 301 *eP* P 15 05 19.5 +0.6
comp=Z,48nm,1.2s
MOOW **Moose Ponds** 56.38 301 *eP* P 15 05 19.5 +0.6
comp=Z,48nm,1.2s
W25A **X Bar L Ranch,** 56.41 289 ⇑P P 15 05 20.5 +1.3
baz=56,SNR=33
SLMT **Seeley Lake** 56.43 306 *eP* P 15 05 16.8 -2.4
SLMT **Seeley Lake** 56.43 306 *eP* P 15 05 16.8 -2.4
CHMT **Chamberlain Mo** 56.44 305 *eP* P 15 05 18.4 -0.9
CHMT **Chamberlain Mo** 56.44 305 *eP* P 15 05 18.4 -0.9
YBMT **Yellow Bay** 56.45 307 *eP* P 15 05 16.2 -3.0
YBMT **Yellow Bay** 56.45 307 *eP* P 15 05 16.2 -3.0
430A **Baggett Ranch,** 56.46 283 ⇓P P 15 05 19.7 +0.3
baz=56,SNR=13
LRM **Limekiln Ridge** 56.46 304 *eP* P 15 05 17.9 -1.6
LRM **Limekiln Ridge** 56.46 304 *eP* P 15 05 17.9 -1.6
SVE **Sverdlovsk** 56.48 41 ⇓*iP* P 15 05 20.8 +1.7
SVE *eS* S 15 13 04.0 -5.5
SVE pmax pmax
comp=Z,22nm,1.1s
SVE MLR MLR
comp=Z,988nm,14.0s
O20A **White River Ci** 56.51 296 *eP* P 15 05 18.1 -1.8
O20A **White River Ci** 56.51 296 ⇓P P 15 05 21.0 +1.1
baz=56,SNR=15
O20A **White River Ci** 56.51 296 *eP* P 15 05 18.1 -1.8
Z27A **Tatum** 56.53 287 ⇑P P 15 05 20.1 +0.1
baz=56,SNR=37
T23A **Casias Ranch,** 56.57 292 ⇓P P 15 05 22.0 +1.5
baz=56,SNR=9.6
BLMT **Blacktail Moun** 56.59 307 *eP* P 15 05 21.2 +0.9
BLMT **Blacktail Moun** 56.59 307 *eP* P 15 05 21.2 +0.9
SWMT **Swartz Lake** 56.61 306 *eP* P 15 05 17.4 -2.9
SWMT **Swartz Lake** 56.61 306 *eP* P 15 05 17.5 -2.9
329A **Wagon Wheel Ra** 56.62 284 ⇓P P 15 05 20.9 +0.3
baz=56,SNR=13
REDW **Red Top Meadow** 56.64 301 *eP* P 15 05 21.2 +0.4
comp=Z,118nm,1.3s
REDW **Red Top Meadow** 56.64 301 *eP* P 15 05 21.2 +0.4
comp=Z,118nm,1.3s
TPAW **Teton Pass** 56.64 301 *eP* P 15 05 21.9 +1.1
comp=Z,60nm,1.3s
TPAW **Teton Pass** 56.64 301 *eP* P 15 05 21.9 +1.1
comp=Z,60nm,1.3s
Y26A **Elida** 56.64 288 ⇓P P 15 05 21.4 +0.6
baz=56
JTMT **Jette** 56.66 307 *eP* P 15 05 20.5 -0.3
JTMT **Jette** 56.66 307 *eP* P 15 05 20.5 -0.3
732A **Laxson Ranch,** 56.67 280 ⇑P P 15 05 21.2 +0.4
baz=56
V24A **Rampart Ranch,** 56.72 290 ⇑P P 15 05 23.0 +1.5
baz=56,SNR=6.6
228A **UT Block 9, Go** 56.72 285 ⇑P P 15 05 21.0 -0.3
baz=56,SNR=6.3
631A **Perdido Creek** 56.73 281 ⇓P P 15 05 21.0 -0.3
baz=57,SNR=6.1
S22A **4UR Ranch, Cre** 56.76 293 ⇓P P 15 05 23.4 +1.6
baz=56,SNR=34
DLMT **Dillon** 56.77 303 *eP* P 15 05 23.1 +1.5
comp=Z,66nm,1.3s
DLMT **Dillon** 56.77 303 *eP* P 15 05 23.1 +1.5
comp=Z,66nm,1.3s
530A **J-C Ranch, Com** 56.88 282 ⇓P P 15 05 22.5 +0.1
baz=57,SNR=40
MSO **Missoula** 56.89 305 *eP* P 15 05 23.2 +0.8
comp=Z,44nm,1.3s
MSO **Missoula** 56.89 305 ⇓P P 15 05 22.9 +0.5
baz=57,SNR=16
MSO **Missoula** 56.89 305 *eP* P 15 05 23.2 +0.8
comp=Z,44nm,1.3s
X25A **Clemmons Ranch** 56.91 289 ⇑P P 15 05 23.5 +0.7
baz=57
127A **Arkansas Junct** 56.97 286 ⇓P P 15 05 23.2 +0.1
baz=57
429A **Davenport Ranc** 57.02 283 ⇑P P 15 05 23.7 +0.3
baz=57,SNR=12
U23A **El Rito** 57.04 291 ⇓P P 15 05 25.9 +2.1
baz=57
JTS **JuntasAbangare** 57.07 252 P P 15 05 23.6 -0.3
JTS LR LR
comp=Z,942nm,21.0s
JTS **JuntasAbangare** 57.07 252 P P 15 05 23.6 -0.3
JTS **JuntasAbangare** 57.07 252 P P 15 05 23.6 -0.3
comp=Z,9.7nm,0.8s,baz=49,slow=1,2,SNR=4.4
W24A **Lazy 6 Ranch,** 57.08 290 ⇑P P 15 05 25.3 +1.3
baz=57,SNR=54
AHID **Auburn Hatcher** 57.09 300 *eP* P 15 05 21.2 -2.8
comp=Z,73nm,1.3s
AHID LR LR
comp=Z,1μm,19.0s
AHID **Auburn Hatcher** 57.09 300 *eP* P 15 05 21.2 -2.8
comp=Z,73nm,1.3s
Z26A **Caprock** 57.09 287 ⇓P P 15 05 24.8 +0.8
baz=57,SNR=17
Y25A **Mesa, Roswell** 57.25 288 ⇑P P 15 05 26.1 +1.0
baz=57,SNR=48
328A **Wristen Ranch,** 57.27 284 ⇓P P 15 05 25.6 +0.3
baz=57,SNR=14
227A **Bennet, Jal** 57.28 285 ⇑P P 15 05 26.1 +0.8
baz=57
V23A **Ortiz Mt. (NFS** 57.34 291 ⇓P P 15 05 27.8 +1.9
baz=57,SNR=10
126A **Clayton Basin,** 57.45 286 ⇑P P 15 05 27.3 +0.7
baz=57,SNR=8.4
U22A **Llaves** 57.48 292 ⇓P P 15 05 28.7 +1.9
baz=57
529A **Stev Forest Ra** 57.53 283 ⇑P P 15 05 27.5 +0.4
baz=57,SNR=61
428A **Kincaid Ranch,** 57.54 284 ⇓P P 15 05 27.9 +0.7
baz=57,SNR=20
Z25A **Roswell** 57.61 287 ⇓P P 15 05 29.1 +1.4
baz=57,SNR=46
W23A **Werner Place,** 57.62 290 ⇑P P 15 05 29.5 +1.7
baz=57,SNR=20
V22A **San Miguel Ran** 57.75 291 ⇓P P 15 05 30.8 +2.0
baz=58,SNR=25
327A **Balmorhea Ranc** 57.77 285 ⇓P P 15 05 29.7 +0.9
baz=58
Y24A **Capitan** 57.77 288 ⇑P P 15 05 30.2 +1.3
baz=58,SNR=15
PV04 **Paradox Valley** 57.83 295 *eP* P 15 05 27.6 -1.7
PV04 **Paradox Valley** 57.83 295 *eP* P 15 05 27.6 -1.7
226B **Tecolote Peak,** 57.86 286 ⇑P P 15 05 30.3 +0.9
baz=58,SNR=34
APG **El Apazote** 57.89 261 P P 15 05 29.3 -0.6
APG **El Apazote** 57.89 261 P P 15 05 29.3 -0.6
APG **El Apazote** 57.89 261 P P 15 05 29.3 -0.6
comp=Z,6.1nm,0.8s,baz=83,slow=4.8,SNR=5.0
125A **Gardner Draw,** 57.90 287 ⇑P P 15 05 30.7 +0.9
baz=58,SNR=29
528A **Cox Ranch, San** 57.92 283 ⇑P P 15 05 30.3 +0.4
baz=58,SNR=53
ANMO **Albuquerque** 57.95 290 *eP* P 15 05 26.4 -3.8
comp=Z,68nm,1.6s
ANMO **Albuquerque** 57.95 290 P P 15 05 30.5 +0.4
comp=Z,12nm,0.9s,baz=80,slow=6.8,SNR=24
X23A **Hourglass Bar** 57.95 289 ⇑P P 15 05 32.0 +1.8

baz=58,SNR=12
427A Hayter Ranch, 57.98 284 ⇑P P 15 05 30.9 +0.6
baz=58,SNR=30
Z24A Sheeppen Canyo 58.04 288 ⇓P P 15 05 32.1 +1.3
baz=58,SNR=40
NEW Newport 58.09 308 PFAKE 15 05 40.0 +9.3
NEW LR LR
comp=Z,966nm,19.0s
NEW Newport 58.09 308 ⇓P P 15 05 31.5 +0.8
baz=58,SNR=40
AKTO Aktyubinsk 58.14 49 P P 15 05 32.1 +1.1
AKTO Aktyubinsk 58.14 49 P P 15 05 32.1 +1.1
AKTO Aktyubinsk 58.14 49 P P 15 05 32.1 +1.1
AKTO Aktyubinsk 58.14 49 P P 15 05 32.1 +1.1
comp=Z,24nm,0.9s,baz=303,slow=6.6,SNR=62
326A Caldwell Ranch 58.14 285 ⇑P P 15 05 32.2 +0.8
baz=58,SNR=48
MVCO Mesa Verde 58.17 293 *eP* P 15 05 30.3 -1.4
MVCO LR LR
comp=Z,164nm,1.5s
comp=Z,2μm,19.0s
MVCO Mesa Verde 58.17 293 ⇓P P 15 05 33.2 +1.5
baz=58,SNR=27
MVCO Mesa Verde 58.17 293 *eP* P 15 05 30.3 -1.4
comp=Z,164nm,1.5s
Y23A Lovelace Mesa, 58.21 289 ⇓P P 15 05 33.1 +1.1
baz=58,SNR=28
225A Deer Hill, Car 58.31 286 ⇓P P 15 05 33.7 +1.0
baz=58,SNR=71
DAU Daniels Canyon 58.37 298 *eP* P 15 05 34.2 +1.1
DAU Daniels Canyon 58.37 298 *eP* P 15 05 34.2 +1.1
DAU Daniels Canyon 58.37 298 *eP* P 15 05 34.2 +1.1
628A Black Gap, Mar 58.37 283 ⇑P P 15 05 33.9 +0.9
baz=58,SNR=34
JLU Jordanelle 58.40 298 *eP* P 15 05 31.7 -1.6
comp=Z,52nm,1.6s
JLU Jordanelle 58.40 298 *eP* P 15 05 31.7 -1.6
comp=Z,52nm,1.6s
LPM Los Pinos Moun 58.41 289 *eP* P 15 05 33.1 -0.2
LPM Los Pinos Moun 58.41 289 *eP* P 15 05 33.1 -0.2
124A Stringfield Ra 58.44 287 ⇓P P 15 05 34.9 +1.3
baz=58,SNR=116
BNM Barren Site 58.49 289 *eP* P 15 05 33.3 -0.7
comp=Z,62nm,1.3s
BNM Barren Site 58.49 289 *eP* P 15 05 33.3 -0.7
comp=Z,62nm,1.3s
527A Woodward Ranch 58.52 284 ⇑P P 15 05 34.8 +0.6
baz=58,SNR=37
426A McDonald Obser 58.53 284 ⇑P P 15 05 35.2 +0.9
baz=58,SNR=53
SRU San Rafael 58.55 296 *eP* P 15 05 31.4 -2.9
SRU pmax pmax
comp=Z,54nm,1.6s
SRU San Rafael 58.55 296 *eP* P 15 05 31.4 -2.9
comp=Z,54nm,1.6s
SRU San Rafael 58.55 296 *eP* P 15 05 31.4 -2.9
comp=Z,54nm,1.6s
SPUT South Promonto 58.69 299 *eP* P 15 05 33.8 -1.3
comp=Z,64nm,1.2s
SPUT South Promonto 58.69 299 *eP* P 15 05 33.8 -1.3
comp=Z,64nm,1.2s
Z23A Rita Site, Whi 58.69 288 ⇑P P 15 05 36.7 +1.5
baz=58,SNR=22
LENM Lemitar 58.73 289 *eP* P 15 05 35.6 +0.1
LENM Lemitar 58.73 289 *eP* P 15 05 35.6 +0.1
Y22D IRIS PASSCAL I 58.74 289 ⇑P P 15 05 37.3 +1.7
baz=58
627A Terlingua Ranc 58.75 283 ⇑P P 15 05 36.3 +0.6
baz=59,SNR=64
HLID Hailey 58.79 302 *eP* P 15 05 35.1 -0.8
HLID LR LR
comp=Z,1μm,19.0s
HLID Hailey 58.79 302 ⇓P P 15 05 36.9 +1.1
baz=58,SNR=37
HLID Hailey 58.79 302 *eP* P 15 05 35.1 -0.8
comp=Z,26nm,1.1s
MPU Maple Canyon 58.82 298 *eP* P 15 05 33.8 -2.3
comp=Z,52nm,1.3s
MPU Maple Canyon 58.82 298 *eP* P 15 05 33.8 -2.3
comp=Z,52nm,1.3s
325A Bean Ranch, Si 58.82 286 ⇓P P 15 05 37.0 +0.8
baz=59,SNR=18
224A Cornudas Mount 58.83 287 ⇑P P 15 05 37.0 +0.8
baz=59,SNR=25
Y22A Socorro 58.84 289 ⇓P P 15 05 38.1 +1.8
baz=59,SNR=26
TMUT Trail Mountain 58.91 297 *eP* P 15 05 34.7 -2.2
comp=Z,66nm,0.9s
TMUT Trail Mountain 58.91 297 *eP* P 15 05 34.7 -2.2
comp=Z,66nm,0.9s
526A Mary Lane Ranc 58.91 284 ⇑P P 15 05 37.9 +1.0
baz=59,SNR=52
MNTX Cornudas Mount 58.94 286 *eP* P 15 05 35.4 -1.4
comp=Z,24nm,1.3s
MNTX LR LR
comp=Z,860nm,19.0s
MNTX Cornudas Mount 58.94 286 *eP* P 15 05 35.4 -1.4
comp=Z,24nm,1.3s
C09A Chrisman Ranch 58.99 308 *eP* P 15 05 37.4 +0.4
comp=Z,28nm,1.4s
C09A Chrisman Ranch 58.99 308 *eP* P 15 05 37.4 +0.4
comp=Z,28nm,1.4s
TXAR Lajitas Array 59.02 283 P P 15 05 38.5 +1.0
TXAR Lajitas Array 59.02 283 P P 15 05 38.5 +1.0
TXAR Lajitas Array 59.02 283 P P 15 05 38.5 +1.0
comp=Z,12nm,0.6s,baz=65,slow=5.9,SNR=103
TXAR LR LR 15 32 02.6
comp=Z,621nm,18.4s,baz=90,slow=37
123A Bell Site, Whi 59.05 288 ⇑P P 15 05 38.7 +0.9
baz=59
SAML Samuel 59.13 218 PFAKE 15 05 50.0 +12
SAML LR LR
comp=Z,992nm,19.0s
NLU North Lily Min 59.14 298 *eP* P 15 05 36.0 -2.4
comp=Z,41nm,1.2s
NLU North Lily Min 59.14 298 *eP* P 15 05 36.0 -2.4
comp=Z,41nm,1.2s
324A Moseley Ranch, 59.15 286 ⇑P P 15 05 38.9 +0.4
baz=59,SNR=46
425A Indio Mountain 59.16 285 ⇓P P 15 05 39.5 +1.0
baz=59,SNR=58
MSKU Masuku 59.16 126 PFAKE 15 05 50.0 +11
MSKU LR LR
comp=Z,2.0nm,22.0s
Z22A Elephant Butte 59.21 289 ⇑P P 15 05 40.1 +1.2
baz=59,SNR=25
626A Big Bend Ranch 59.23 283 ⇓P P 15 05 40.0 +1.0
baz=59,SNR=35
BGU Big Grassy Mou 59.26 299 *eP* P 15 05 37.4 -1.7
comp=Z,25nm,1.2s
BGU Big Grassy Mou 59.26 299 *eP* P 15 05 37.4 -1.7
comp=Z,25nm,1.2s
F10A Beach Ranch, E 59.29 306 *eP* P 15 05 40.1 +0.9
comp=Z,83nm,1.9s
F10A Beach Ranch, E 59.29 306 *eP* P 15 05 40.1 +0.9
comp=Z,83nm,1.9s
B08A Colville Reser 59.32 309 *eP* P 15 05 39.8 +0.5
comp=Z,21nm,1.3s
B08A Colville Reser 59.32 309 *eP* P 15 05 39.8 +0.5
comp=Z,21nm,1.3s
OD2 Odessa Site #2 59.45 308 P P 15 05 40.3 +0.1
OD2 Odessa Site #2 59.45 308 P P 15 05 40.3 +0.1
DUG Dugway 59.50 298 *eP* P 15 05 39.7 -1.1
DUG pmax pmax
comp=Z,125nm,1.4s
DUG MLR MLR
comp=Z,865nm,19.0s
DUG Dugway 59.50 298 *eP* P 15 05 39.7 -1.1
comp=Z,125nm,1.4s
DUG LR LR
comp=Z,865nm,19.0s
DUG Dugway 59.50 298 ⇓P P 15 05 41.9 +1.1
baz=59,SNR=63
DUG Dugway 59.50 298 *eP* P 15 05 39.7 -1.1
comp=Z,125nm,1.4s
E09A Wood Farm, Sta 59.57 307 *eP* P 15 05 41.2 +0.3
comp=Z,31nm,1.3s
E09A Wood Farm, Sta 59.57 307 *eP* P 15 05 41.2 +0.3
comp=Z,31nm,1.3s
DLBC Dease Lake 59.58 323 *eP* P 15 05 38.5 -2.5
DLBC Dease Lake 59.58 323 *eP* P 15 05 38.5 -2.5
DLBC Dease Lake 59.58 323 P P 15 05 42.7 +1.7
comp=Z,11nn0.9s,baz=52,slow=7.8,SNR=10
MFID Camas Ranch 59.75 303 *eP* P 15 05 41.9 -0.5
comp=Z,19nm,1.1s
MFID Camas Ranch 59.75 303 *eP* P 15 05 41.9 -0.5
comp=Z,19nm,1.1s
BDFB Brasilia 59.90 200 *eP* P 15 05 45.3 +1.7
BDFB Brasilia 59.90 200 *eP* P 15 05 45.3 +1.7
BDFB Brasilia 59.90 200 P P 15 05 45.3 +1.7
comp=Z,20nn,0.9s,baz=16,slow=6.0,SNR=18
BDFB LR LR 15 28 25.2
comp=Z,1μm,19.0s,baz=357,slow=33
222A Williams Famil 59.94 287 ⇑P P 15 05 45.5 +1.6
baz=60
MVU Marysvale 59.99 296 *eP* P 15 05 44.3 0.0
comp=Z,80nm,1.3s
MVU Marysvale 59.99 296 *eP* P 15 05 44.3 0.0
comp=Z,80nm,1.3s
WTV Waterville 60.02 309 P P 15 05 44.1 0.0
WTV Waterville 60.02 309 P P 15 05 44.1 0.0
OTAV Otavalo 60.02 239 *eP* P 15 05 42.2 -2.8
comp=Z,16nm,1.1s
OTAV LR LR
comp=Z,569nm,20.0s
OTAV Otavalo 60.02 239 *eP* P 15 05 42.2 -2.8
comp=Z,16nm,1.1s
W18A Petrified Fore 60.13 292 *eP* P 15 05 42.3 -2.9
W18A Petrified Fore 60.13 292 ⇓P P 15 05 46.4 +1.2
baz=60,SNR=9.9
W18A Petrified Fore 60.13 292 *eP* P 15 05 42.3 -2.9
121A Cookes Peak, D 60.18 288 *eP* P 15 05 44.4 -1.3
121A Cookes Peak, D 60.18 288 ⇓P P 15 05 47.6 +1.9
baz=60,SNR=34
ETW Entiat 60.28 309 P P 15 05 46.2 +0.2
ETW Entiat 60.28 309 P P 15 05 46.2 +0.2
E07A Sunnyside 60.55 308 *eP* P 15 05 48.6 +0.9
comp=Z,13nm,0.8s
E07A Sunnyside 60.55 308 *eP* P 15 05 48.6 +0.9
comp=Z,13nm,0.8s
X18A Snowflake 60.60 291 ⇑P P 15 05 49.6 +1.2
baz=60,SNR=23
LTY Liberty 60.66 309 *eP* P 15 05 48.6 +0.1
comp=Z,55nm,1.3s
LTY Liberty 60.66 309 *eP* P 15 05 48.6 +0.1
comp=Z,55nm,1.3s
TBM Table Mountain 60.66 308 P P 15 05 49.0 +0.4
TBM Table Mountain 60.66 308 P P 15 05 49.0 +0.4
G08A Pilot Rock 60.69 306 *eP* P 15 05 49.0 +0.2
comp=Z,16nm,1.3s
G08A Pilot Rock 60.69 306 *eP* P 15 05 49.0 +0.2
comp=Z,16nm,1.3s
ELK Elko 60.78 300 *eP* P 15 05 47.9 -1.8
comp=Z,34nm,1.0s
ELK Elko 60.78 300 *eP* P 15 05 47.9 -1.8
comp=Z,34nm,1.0s
ELK Elko 60.78 300 P P 15 05 48.9 -0.8
comp=Z,35nn,1.1s,baz=3.5,slow=3.6,SNR=70
WUAZ Wupatki 61.03 293 *eP* P 15 05 51.2 -0.2
comp=Z,120nn,1.5s
WUAZ LR LR
comp=Z,1μm,21.0s
WUAZ Wupatki 61.03 293 ⇑P P 15 05 53.2 +1.8
baz=61,SNR=43
WUAZ Wupatki 61.03 293 *eP* P 15 05 51.2 -0.2
comp=Z,120nn,1.5s
BLTW Bickleton 61.08 307 P P 15 05 52.7 +1.3
BLTW Bickleton 61.08 307 P P 15 05 52.7 +1.3
U15A North Rim 61.16 294 ⇑P P 15 05 53.5 +1.1
baz=61,SNR=26
CCUT Cedar City 61.27 296 *eP* P 15 05 51.7 -1.3
comp=Z,41nn,0.9s
CCUT Cedar City 61.27 296 *eP* P 15 05 51.7 -1.3
comp=Z,41nn,0.9s
320A Kipp Ranch, An 61.37 288 ⇑P P 15 05 55.6 +1.9
baz=61,SNR=14
J08A Circle Bar Ran 61.42 304 P P 15 05 55.6 +1.8
J08A Circle Bar Ran 61.42 304 P P 15 05 55.6 +1.8
COLD Coldfoot 61.63 337 *eP* P 15 05 53.3 -1.4
comp=Z,43nn,1.1s
COLD Coldfoot 61.63 337 *eP* P 15 05 53.3 -1.4
comp=Z,43nn,1.1s
I07A Izee 61.66 305 *eP* P 15 05 56.2 +0.8
comp=Z,18nn,1.3s
I07A Izee 61.66 305 *eP* P 15 05 56.2 +0.8
comp=Z,18nn,1.3s
X16A Lo Mia Camp, P 61.69 292 ⇑P P 15 05 58.0 +2.2
baz=61,SNR=19
VTHM Trough 61.70 307 P P 15 05 56.9 +1.3
VTHM Trough 61.70 307 P P 15 05 56.9 +1.3
G06A Carlson Farm, 61.72 307 *eP* P 15 05 56.8 +1.1
comp=Z,32nn,1.3s
G06A Carlson Farm, 61.72 307 *eP* P 15 05 56.8 +1.1
comp=Z,32nn,1.3s
319A Douglas 61.88 288 ⇑P P 15 05 59.1 +2.0
baz=62,SNR=18
WVOR Wild Horse Val 62.02 303 *eP* P 15 05 56.7 -1.2
WVOR pmax pmax
comp=Z,96nn,1.3s
WVOR MLR MLR
comp=Z,1μm,21.0s
WVOR Wild Horse Val 62.02 303 *eP* P 15 05 56.7 -1.2
comp=Z,96nn,1.3s
WVOR LR LR
comp=Z,1μm,21.0s
WVOR Wild Horse Val 62.02 303 *eP* P 15 05 56.7 -1.2
comp=Z,96nn,1.3s
DOT Dot Lake 62.07 332 *eP* P 15 05 54.2 -3.6
comp=Z,28nn,1.2s
G05D Wamic, OR 62.12 307 ⇑P P 15 06 00.3 +1.9
baz=62
ILAR Eielson Array 62.28 334 P P 15 05 59.6 +0.6
ILAR PcP **PcP** 15 06 40.0 +1.2
ILAR Eielson Array 62.28 334 P P 15 05 59.7 +0.6
ILAR Eielson Array 62.28 334 PcP **PcP** 15 06 40.0 +1.2
ILAR Eielson Array 62.28 334 P P 15 05 59.6 +0.6
comp=Z,16nn,1.1s,baz=47,slow=5.2,SNR=72
ILAR PcP **PcP** 15 06 40.0 +1.2
comp=Z,5.2nn,1.1s,baz=50,slow=2.9,SNR=4.5
ILAR LR LR 15 33 34.2
comp=Z,221nm,20.1s,baz=226,slow=37
R11A Troy Canyon, C 62.30 298 *eP* P 15 05 57.3 -2.6
R11A Troy Canyon, C 62.30 298 ⇓P P 15 06 00.8 +0.9
baz=62,SNR=28
R11A Troy Canyon, C 62.30 298 *eP* P 15 05 57.3 -2.6
TUC Tucson 62.41 290 *eP* P 15 05 55.6 -5.0
TUC pmax pmax
comp=Z,46nn,1.2s
TUC Tucson 62.41 290 *eP* P 15 05 55.6 -5.0
comp=Z,46nn,1.2s
MENT Mentasta 62.41 332 *eP* P 15 05 56.2 -3.9
NLWA Neilton Lookou 62.42 310 *eP* P 15 05 56.3 -4.1
COLA College 62.52 335 *eP* P 15 05 54.8 -5.9
COLA pmax pmax
comp=Z,5.0nm,1.2s
COLA College 62.52 335 *eP* P 15 05 54.8 -5.9
comp=Z,5.3nn,1.2s
I05D Tenebonne, OR 62.63 306 ⇑P P 15 06 02.6 +0.8
baz=62
PINOR Pine Mountain 62.64 305 *eP* P 15 05 58.9 -2.8
PINOR Pine Mountain 62.64 305 *eP* P 15 05 58.9 -2.8
F04D Rainier, OR 62.65 308 ⇓P P 15 06 03.4 +1.6
baz=62
H04A Detroit Lake 62.94 307 *eP* P 15 06 04.3 +0.4
comp=Z,46nn,1.3s
H04A Detroit Lake 62.94 307 *eP* P 15 06 04.3 +0.4
comp=Z,46nn,1.3s
W13A Hualapai Mount 62.98 294 ⇓P P 15 06 05.9 +1.5
baz=63,SNR=39
Y14A Wickenburg 63.03 292 ⇓P P 15 06 06.7 +2.1
baz=63,SNR=12
SHPR Sheep Range 63.04 296 *eP* P 15 06 01.6 -3.2
SHPR Sheep Range 63.04 296 *eP* P 15 06 01.6 -3.2
F03A Seaside 63.05 309 *eP* P 15 06 06.3 +1.8
comp=Z,250nn,1.4s
F03A Seaside 63.05 309 *eP* P 15 06 06.3 +1.8
comp=Z,250nn,1.4s
J05D Fort Rock, OR 63.15 305 ⇑P P 15 06 06.7 +1.3
baz=63
BRVK Borovoye 63.19 42 P P 15 06 06.2 +0.9
comp=Z,103nm,0.9s,SNR=13
BVAR Borovoye Array 63.26 42 P P 15 06 07.7 +1.9
BVAR Borovoye Array 63.26 42 P P 15 06 07.7 +1.9
BVAR Borovoye Array 63.26 42 P P 15 06 07.7 +1.9
BVAR Borovoye Array 63.26 42 P P 15 06 07.7 +1.9
comp=Z,10nn,0.9s,baz=295,slow=5.4,SNR=35
G03D McMinnville, O 63.28 308 ⇑P P 15 06 06.4 +0.3
baz=63
Z14A Wintersburg 63.31 292 ⇑P P 15 06 08.2 +1.7
baz=63,SNR=5.2
MOD Modoc 63.34 303 *eP* P 15 06 04.2 -2.5
comp=Z,73nm,1.3s
MOD Modoc 63.34 303 *eP* P 15 06 04.2 -2.5
comp=Z,73nm,1.3s
TPNV Topopah Spring 63.52 297 *eP* P 15 06 09.0 +1.0
TPNV pmax pmax
comp=Z,42nn,1.5s
TPNV Topopah Spring 63.52 297 *eP* P 15 06 09.0 +1.0
comp=Z,42nn,1.5s
TPNV Topopah Spring 63.52 297 ⇓P P 15 06 09.2 +1.2
baz=63,SNR=12
TPNV Topopah Spring 63.52 297 *eP* P 15 06 09.0 +1.0
comp=Z,42nn,1.5s
TPH Tonopah 63.53 298 *eP* P 15 06 06.6 -1.5
TPH pmax pmax
comp=Z,83nm,1.3s
TPH Tonopah 63.53 298 *eP* P 15 06 06.6 -1.5
comp=Z,83nn,1.3s
TPH Tonopah 63.53 298 *eP* P 15 06 06.6 -1.5
comp=Z,83nn,1.3s
IM04 Indian Mountai 63.53 338 *eP* P 15 06 04.9 -2.6
IM04 Indian Mountai 63.53 338 *eP* P 15 06 04.9 -2.6
I04A Tendick Farm, 63.57 306 ⇑P P 15 06 09.4 +1.3
baz=63
PDMCI Parker Dam,Lak 63.60 293 ⇓P P 15 06 10.1 +1.8
baz=63,SNR=9.9
MCK McKinley 63.65 334 *eP* P 15 06 02.9 -5.3
MCK pmax pmax
comp=Z,31nm,1.1s
MCK McKinley 63.65 334 *eP* P 15 06 02.9 -5.3
comp=Z,31nm,1.1s
NEE2 Needles Airpor 63.66 294 ⇓P P 15 06 10.2 +1.5
baz=63
J04D Umpqua Nationa 63.70 305 ⇑P P 15 06 10.2 +1.0
baz=63
LDFC Landfair 63.81 295 *eP* P 15 06 07.9 -2.0
comp=Z,118nm,1.3s
LDFC Landfair 63.81 295 *eP* P 15 06 07.9 -2.0
comp=Z,118nn,1.3s
K04D Chiloquin, OR 63.83 305 ⇓P P 15 06 10.8 +0.9
baz=64
NV11 Mina Array Sit 63.93 299 *eP* P 15 06 07.8 -2.9
NV11 Mina Array Sit 63.93 299 *eP* P 15 06 07.8 -2.9
PAHR Pah Rah Range 64.00 301 *eP* P 15 06 09.5 -1.6
comp=Z,73nm,1.3s
PAHR Pah Rah Range 64.00 301 *eP* P 15 06 09.5 -1.6
comp=Z,73nn,1.3s
214A Organ Pipe Nat 64.02 290 *eP* P 15 06 09.9 -1.3
214A Organ Pipe Nat 64.02 290 ⇑P P 15 06 12.9 +1.7
baz=64,SNR=12
TUQ Turquoise Moun 64.16 295 ⇑P P 15 06 13.4 +1.2
baz=64,SNR=6.7
Y12C Blythe 64.17 293 ⇓P P 15 06 13.8 +1.7
baz=64,SNR=12
I03D Drain, OR 64.19 306 ⇓P P 15 06 12.9 +0.9
baz=64
FURC Furnace Creek, 64.19 297 ⇑P P 15 06 13.4 +1.2
baz=64,SNR=17
113A Mohawk Valley, 64.22 292 ⇑P P 15 06 14.1 +1.7
baz=64,SNR=11
GRAC Grapevine Rang 64.23 297 ⇓P P 15 06 13.6 +1.1
baz=64
TRF Thorofare Moun 64.28 334 *eP* P 15 06 09.6 -3.0
comp=Z,50nn,1.2s
TRF Thorofare Moun 64.28 334 *eP* P 15 06 09.9 -2.7
DIV Divide 64.33 331 *eP* P 15 06 08.5 -4.3
comp=Z,19nm,0.9s
GMRC Granite Mounta 64.36 295 ⇑P P 15 06 14.8 +1.3
baz=64,SNR=18
M04C Macdoel 64.36 304 ⇓P P 15 06 14.3 +0.9
baz=64
IRM Iron Mountain 64.36 294 ⇓P P 15 06 14.9 +1.4
baz=64,SNR=21
SIV San Ignacio 64.50 213 P P 15 06 14.9 +0.5
SIV San Ignacio 64.50 213 P P 15 06 14.9 +0.5
SIV San Ignacio 64.50 213 P P 15 06 14.9 +0.5
comp=Z,3.9nm,0.9s,baz=57,slow=6.4,SNR=6.7
BEKR Beckworth 64.53 302 *eP* P 15 06 11.6 -3.0
comp=Z,41nn,1.3s
BEKR Beckworth 64.53 302 *eP* P 15 06 11.6 -3.0
comp=Z,41nn,1.3s
WAKR Walker 64.72 300 *eP* P 15 06 15.1 -0.8
comp=Z,14nn,1.3s
WAKR Walker 64.72 300 *eP* P 15 06 15.1 -0.8
comp=Z,14nn,1.3s
TIN Tinemaha 64.76 298 ⇑P P 15 06 17.7 +1.6
baz=64,SNR=8.6
HEC Hector,Ludlow 64.78 295 ⇑P P 15 06 18.0 +1.8
baz=64,SNR=19
GLA Glamis 64.78 293 *eP* P 15 06 12.6 -3.6
GLA pmax pmax
comp=Z,21nn,1.3s
GLA Glamis 64.78 293 *eP* P 15 06 12.6 -3.6
comp=Z,21nn,1.3s
GLA Glamis 64.78 293 ⇓P P 15 06 17.9 +1.7
baz=64,SNR=7.9
GLA Glamis 64.78 293 *eP* P 15 06 12.6 -3.6
comp=Z,21nn,1.3s
GSC Goldstone 64.83 296 *eP* P 15 06 16.0 -0.5
GSC pmax pmax
comp=Z,84nn,1.2s
GSC Goldstone 64.83 296 *eP* P 15 06 16.0 -0.5
comp=Z,84nn,1.2s
GSC Goldstone 64.83 296 ⇓P P 15 06 18.0 +1.5
baz=65,SNR=30
GSC Goldstone 64.83 296 *eP* P 15 06 16.0 -0.5
comp=Z,84nn,1.2s
MLAC Mammoth Lakes 64.83 299 ⇑P P 15 06 17.8 +1.2
baz=65,SNR=10.0
MPMC Manual Prospec 64.85 297 ⇑P P 15 06 17.9 +1.2
baz=65,SNR=60
BC3 Big Chuckawall 64.86 293 ⇑P P 15 06 17.9 +1.1
baz=65,SNR=15
YBH Yreka Blue Hor 64.92 304 P P 15 06 16.9 -0.2
YBH Yreka Blue Hor 64.92 304 P P 15 06 16.9 -0.2
YBH Yreka Blue Hor 64.92 304 P P 15 06 16.9 -0.2
comp=Z,13nm,1.1s,baz=84,slow=4.8,SNR=4.4
CWC Cottonwood Cre 65.02 297 ⇑P P 15 06 19.0 +1.2
baz=65,SNR=10
BELC Belle Mtn. Jos 65.03 294 ⇓P P 15 06 19.4 +1.4
baz=65,SNR=18
PMR Palmer 65.20 332 *eP* P 15 06 16.5 -1.8
PMR pmax pmax
comp=Z,73nm,1.2s
PMR Palmer 65.20 332 *eP* P 15 06 16.5 -1.8
comp=Z,73nn,1.2s
PMR Palmer 65.20 332 *eP* P 15 06 16.5 -1.8
comp=Z,73nn,1.2s
M02C Callahan 65.21 304 ⇓P P 15 06 20.1 +1.2
baz=65
L02D Cave Junction, 65.22 305 ⇑P P 15 06 19.6 +0.8
baz=65
LRMC Laurel Mountai 65.31 296 ⇑P P 15 06 20.8 +1.1
baz=65,SNR=21
N02D Trinity Center 65.36 304 ⇓P P 15 06 20.3 +0.5
baz=65
TIXI Tiksi 65.38 7 ⇓*iP* P 15 06 21.0 +1.6
TIXI pmax pmax
comp=Z,62nn,1.2s
TIXI MLR MLR
comp=Z,588nm,24.0s
TIXI Tiksi 65.38 7 PFAKE 15 06 30.0 +11
TIXI LR LR
comp=Z,460nm,20.0s
BBRC Big Bear Solar 65.50 295 ⇓P P 15 06 22.9 +1.8
baz=65
SWSC Sam W. Stewart 65.51 293 ⇑P P 15 06 22.4 +1.6
baz=65,SNR=9.1
PFO Pinyon Flat Ob 65.57 294 *eP* P 15 06 19.0 -2.4
comp=Z,58nn,1.3s
PFO LR LR
comp=Z,2μm,20.0s
PFO Pinyon Flat Ob 65.57 294 P P 15 06 23.5 +2.1
comp=Z,197nn,1.0s,SNR=12
PFO Pinyon Flat Ob 65.57 294 ⇑P P 15 06 23.0 +1.6
baz=65,SNR=18
PFO Pinyon Flat Ob 65.57 294 *eP* P 15 06 19.0 -2.4
comp=Z,58nn,1.3s
PFO Pinyon Flat Ob 65.57 294 P P 15 06 22.4 +0.9
comp=Z,36nn,1.1s,baz=61,slow=6.4,SNR=21
CMB Columbia Colle 65.60 300 *eP* P 15 06 19.5 -1.9
CMB pmax pmax
comp=Z,47nn,1.3s
CMB Columbia Colle 65.60 300 *eP* P 15 06 19.5 -1.9
comp=Z,47nn,1.3s
CMB Columbia Colle 65.60 300 *eP* P 15 06 19.5 -1.9
comp=Z,47nn,1.3s
ISA Isabella 65.73 297 *eP* P 15 06 19.7 -2.6
ISA pmax pmax

comp=Z,13nm,1.3s
ISA Isabella 65.73 297 *e*P **P 15 06 19.7 -2.6**
comp=Z,13nm,1.3s
ISA Isabella 65.73 297 ⇓P **P 15 06 23.8 +1.4**
baz=66,SNR=25
ISA Isabella 65.73 297 *e*P **P 15 06 19.7 -2.6**
comp=Z,13nm,1.3s
ATAH Atahualpa 65.74 234 P **P 15 06 25.0 +2.0**
ATAH Atahualpa 65.74 234 P **P 15 06 25.0 +2.0**
comp=Z,7.2nm,0.9s,baz=95,slow=12,SNR=5.4
RCTC Rector, Farmer 65.86 298 ⇑P **P 15 06 24.3 +1.3**
baz=66
EDW2 Edwards Air Fo 65.86 296 ⇑P **P 15 06 24.9 +1.7**
baz=66,SNR=12
DVTC Desert V Tower 65.88 293 ⇓P **P 15 06 25.4 +2.1**
baz=66,SNR=15
MONP Monument Peak 65.96 293 ⇓P **P 15 06 26.0 +1.9**
baz=66,SNR=20
BFSC Mount Baldy Ra 66.01 295 ⇓P **P 15 06 25.4 +1.2**
baz=66,SNR=14
VES Vestal, Richgr 66.03 297 ⇓P **P 15 06 24.9 +0.8**
baz=66
MURC Murrieta 66.08 294 ⇑P **P 15 06 26.1 +1.6**
baz=66,SNR=11
BAR Barrett 66.26 293 *e*P **P 15 06 24.2 -1.5**
comp=Z,59nm,1.3s
BAR Barrett 66.26 293 *e*P **P 15 06 24.2 -1.5**
comp=Z,59nm,1.3s
MWC Mount Wilson 66.29 295 *e*P **P 15 06 25.3 -0.8**
MWC pmax pmax
comp=Z,45nm,1.3s
MWC Mount Wilson 66.29 295 *e*P **P 15 06 25.3 -0.8**
comp=Z,45nm,1.3s
MWC Mount Wilson 66.29 295 *e*P **P 15 06 25.3 -0.8**
comp=Z,45nm,1.3s
109C Camp Elliot, M 66.43 294 ⇑P **P 15 06 28.2 +1.4**
baz=66
OSI Osito Adit 66.51 296 ⇓P **P 15 06 28.9 +1.6**
baz=66
KCPM Cahto Peak 66.66 303 *e*P **P 15 06 26.4 -1.9**
comp=Z,24nm,1.1s
KCPM Cahto Peak 66.66 303 *e*P **P 15 06 26.4 -1.9**
comp=Z,24nm,1.1s
HOPS Hopland 66.75 302 *e*P **P 15 06 27.3 -1.4**
comp=Z,142nm,1.3s
HOPS Hopland 66.75 302 *e*P **P 15 06 27.3 -1.4**
comp=Z,142nm,1.3s
LPIG La Paz 66.88 282 P **P 15 06 31.2 +1.5**
LPIG La Paz 66.88 282 P **P 15 06 31.2 +1.5**
LPIG La Paz 66.88 282 P **P 15 06 31.2 +1.5**
comp=Z,51nm,0.3s,baz=195,slow=9.0,SNR=7.2
CIS Catalina Islan 67.00 295 ⇑P **P 15 06 31.1 +0.7**
baz=67
PKM Peak Mountain 67.07 297 ⇓P **P 15 06 32.4 +1.3**
baz=67,SNR=7.3
SCI San Clemente I 67.35 294 ⇑P **P 15 06 34.3 +1.6**
baz=67
SPB Sao Paulo 67.43 197 PFAKE 15 06 50.0 +17
SPB LR LR
comp=Z,914nm,20.0s
TNA Tin City 67.47 342 *e*P P 15 06 29.1 -3.7
comp=Z,14nm,0.9s
LPAZ La Paz 67.84 219 P **P 15 06 38.2 +1.7**
LPAZ La Paz 67.84 219 P **P 15 06 38.2 +1.7**
LPAZ La Paz 67.84 219 P **P 15 06 38.2 +1.7**
comp=Z,11nm,0.9s,baz=18,slow=7.5,SNR=12
LPAZ LR LR 15 34 09.9
comp=Z,440nm,19.5s,baz=216,slow=34
NVS Novosibirsk 68.00 35 ⇓*i*P **P 15 06 37.0 +0.6**
NVS pmax pmax
comp=Z,50nm,1.2s
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
KURK Kurchatov 68.69 40 *e*P **P 15 06 39.8 -1.0**
KURK pmax pmax
comp=Z,15nm,1.0s
KURK MLR MLR
comp=Z,515nm,21.0s
KURK Kurchatov 68.69 40 *e*P **P 15 06 39.8 -1.0**
comp=Z,15nm,1.0s
KURK LR LR
comp=Z,515nm,21.0s
KURK Kurchatov 68.69 40 *e*P **P 15 06 39.8 -1.0**
comp=Z,15nm,1.0s
KURBB Kurchatov Arra 68.71 40 P **P 15 06 41.6 +0.7**
comp=Z,14nm,0.9s,baz=315,slow=6.6,SNR=55
NNA Nana 68.74 229 PFAKE 15 06 50.0 +8.5
NNA LR LR
comp=Z,603nm,21.0s
ZAA0 Zalesovo Array 69.29 35 *e*P **P 15 06 42.5 -1.9**
ZAA0 Zalesovo Array 69.29 35 *e*P **P 15 06 42.5 -1.9**
ZALV Zalesovo Beam 69.29 35 P **P 15 06 45.7 +1.2**
ZALV Zalesovo Beam 69.29 35 P **P 15 06 45.7 +1.2**
ZALV Zalesovo Beam 69.29 35 P **P 15 06 45.7 +1.2**
ZALV Zalesovo Beam 69.29 35 P **P 15 06 45.7 +1.2**
comp=Z,13nm,0.9s,baz=307,slow=7.3,SNR=44
ZALV LR LR 15 36 53.5
comp=Z,841nm,18.8s,baz=297,slow=36
MBAR Mbarara 69.55 111 PFAKE 15 07 00.0 +13
MBAR LR LR
comp=Z,450nm,21.0s
GAMB Gambell 69.85 343 *e*P **P 15 06 45.2 -2.5**
comp=Z,10nm,1.2s
GAMB Gambell 69.85 343 *e*P **P 15 06 45.2 -2.5**
comp=Z,10nm,1.2s
UOSS Wadi Hilu 71.35 73 P **P 15 06 56.2 -1.3**
comp=Z,194nm,0.7s,SNR=10.0
EKS2 Erkin-Say 71.46 49 *e*P **P 15 06 56.7 -1.4**
EKS2 pmax pmax
comp=Z,59nm,1.2s
EKS2 MLR MLR
comp=Z,1μm,22.0s
EKS2 Erkin-Say 71.46 49 P **P 15 07 00.0 +1.9**
SNR=48
EKS2 Erkin-Say 71.46 49 *e*P **P 15 06 56.7 -1.4**
comp=Z,58nm,1.2s
EKS2 LR LR
comp=Z,1μm,22.0s
EKS2 Erkin-Say 71.46 49 *e*P **P 15 06 56.7 -1.4**
comp=Z,58nm,1.2s
AML Almayashu 71.76 49 *i*P **P 15 07 02.0 +1.8**
AML Almayashu 71.76 49 P **P 15 07 02.0 +1.8**
SNR=44
CHMS Chumysh 71.78 48 *i*P **P 15 07 02.1 +2.2**
CHMS Chumysh 71.78 48 P **P 15 07 02.1 +2.2**
SNR=8.0
FRU Bishkek 71.82 48 *e*P **P 15 07 01.0 +0.9**
FRU pmax pmax
comp=Z,80nm,1.6s
AAK Ala-Archa 71.88 49 P **P 15 07 02.4 +1.7**
comp=Z,77nm,1.2s,SNR=8.5
AAK Ala-Archa 71.88 49 *e*P **P 15 06 58.0 -2.7**
AAK pmax pmax
comp=Z,35nm,1.4s
AAK MLR MLR
comp=Z,605nm,19.0s
AAK Ala-Archa 71.88 49 P **P 15 07 03.2 +2.5**
SNR=14
AAK Ala-Archa 71.88 49 *e*P **P 15 06 58.0 -2.7**
comp=Z,35nm,1.4s
AAK LR LR
comp=Z,605nm,19.0s
AAK Ala-Archa 71.88 49 *e*P **P 15 06 58.0 -2.7**
comp=Z,35nm,1.4s
AAK Ala-Archa 71.88 49 P **P 15 07 01.8 +1.1**
comp=Z,12nm,1.2s,baz=238,slow=2.5,SNR=23
KBK Karagaybulak 72.12 48 *i*P **P 15 07 04.5 +2.4**
KBK Karagaybulak 72.12 48 P **P 15 07 04.5 +2.4**
SNR=9.6
UCH Uchtor 72.16 49 *i*P **P 15 07 04.8 +2.1**
UCH Uchtor 72.16 49 P **P 15 07 04.8 +2.1**
SNR=52
TKM2 Tokmak 2 72.30 48 PFAKE 15 07 10.0 +6.7
TKM2 LR LR
comp=Z,1μm,22.0s
CPUP Villa Florida 72.67 205 P **P 15 07 05.9 +0.8**
CPUP Villa Florida 72.67 205 P **P 15 07 05.9 +0.8**
CPUP Villa Florida 72.67 205 P **P 15 07 05.9 +0.8**
comp=Z,5.1nm,0.7s,baz=8.6,slow=5.7,SNR=8.1
CPUP LR LR 15 35 25.9
comp=Z,371nm,20.6s,baz=166,slow=33
KZA Kyzart 72.67 49 *i*P P 15 07 08.9 +3.2
KZA Kyzart 72.67 49 P P 15 07 08.9 +3.2
SNR=15
MK31 Makanchi Array 73.14 41 *e*P **P 15 07 08.1 +0.1**
MK31 Makanchi Array 73.14 41 *e*P **P 15 07 08.1 +0.1**
MKAR Makanchi Array 73.14 41 P **P 15 07 08.7 +0.7**
MKAR Makanchi Array 73.14 41 P **P 15 07 08.7 +0.7**
MKAR Makanchi Array 73.14 41 P **P 15 07 08.6 +0.7**
MKAR Makanchi Array 73.14 41 P **P 15 07 08.7 +0.7**
comp=Z,30nm,1.0s,baz=324,slow=5.5,SNR=106
MKAR LR LR 15 40 51.5
comp=Z,634nm,18.2s,baz=316,slow=37
LVC Limon Verde 73.71 217 *e*P **P 15 07 10.9 -0.8**
comp=Z,29nm,1.4s
LVC LR LR
comp=Z,449nm,20.0s
LVC Limon Verde 73.71 217 *e*P **P 15 07 10.9 -0.8**
comp=Z,29nm,1.4s
KBL Kabul 73.92 58 *e*P **P 15 07 10.3 -2.7**
KBL pmax pmax
comp=Z,18nm,1.0s
KBL Kabul 73.92 58 *e*P **P 15 07 10.3 -2.7**
comp=Z,18nm,1.0s
KBL Kabul 73.92 58 *e*P **P 15 07 10.3 -2.7**
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 74.50 106 *e*P **P 15 07 15.2 -1.3**
comp=Z,5.1nm,0.9s
KMBO LR LR
comp=Z,483nm,19.0s
KMBO Kilima Mbogo 74.50 106 *e*P **P 15 07 15.2 -1.3**
comp=Z,5.1nm,0.9s
KMBO Kilima Mbogo 74.50 106 P **P 15 07 17.9 +1.4**
comp=Z,1.9nm,0.7s,baz=62,slow=22,SNR=7.2
YAK Yakutsk 74.76 10 *e*P **P 15 07 16.8 -0.2**
YAK *e* 15 07 24.4
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=Z,52nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK Yakutsk 74.76 10 *e*P P 15 07 13.5 -3.5
comp=E,54nm,1.0s
YAK LR LR
comp=Z,375nm,22.0s
KSH Kashi 74.79 50 P **P 15 07 20.1 +2.3**
KSH pP **pP 15 07 23.1 +0.3**
KSH sP **sP 15 07 25.0 +0.4**
KSH PP **PP 15 10 06.1 +1.5**
KSH S **S 15 16 54.9 +0.9**
KSH sS **sS 15 16 59.0 -3.2**
KSH SKS **SKSac 15 17 21.1 -4.9**
KSH pmax pmax
comp=Z,80nm,1.1s
KSH LR LR
comp=Z,630nm,14.3s
KSH LR LR
comp=Z,430nm,13.9s
KSH LR LR
comp=Z,920nm,16.7s
HVS Khovu-Aksy 75.03 33*c i*P **P 15 07 20.3 +1.3**
SEY Seymchan 75.06 359 P **P 15 07 20.0 +1.2**
SEY Seymchan 75.06 359 P **P 15 07 19.9 +1.2**
SEY Seymchan 75.06 359 P **P 15 07 20.0 +1.2**
SEY Seymchan 75.06 359 P **P 15 07 19.9 +1.2**
comp=Z,20nm,1.0s,baz=343,slow=3.9,SNR=14
TSUM Tsumeb 75.61 133 *e*P **P 15 07 20.4 -2.2**
comp=Z,10nm,1.1s
TSUM LR LR
comp=Z,910nm,22.0s
TSUM Tsumeb 75.61 133 *e*P **P 15 07 20.4 -2.2**
comp=Z,10nm,1.1s
MOY Mondy 77.36 29 *e*P **P 15 07 33.4 +1.2**
MOY pmax pmax
comp=Z,32nm,1.8s
WMQ Urumqi 77.93 41 P **P 15 07 37.0 +1.5**
WMQ sP **sP 15 07 44.0 +1.7**
WMQ PP **PP 15 10 35.0 +4.2**
WMQ S **S 15 17 28.0 -0.1**
WMQ SKS **SKSac 15 17 45.0 -3.9**
WMQ SS **SS 15 22 31.0 +3.1**
WMQ pmax pmax
comp=Z,58nm,1.1s
WMQ pmax pmax
comp=Z,530nm,6.0s
WMQ LR LR
comp=Z,2μm,18.0s
WMQ LR LR
comp=Z,1μm,16.0s
WMQ LR LR
comp=Z,1μm,16.0s
TLY Talaya 78.26 27 PFAKE 15 07 50.0 +13
TLY LR LR
comp=Z,300nm,20.0s
LSZ Lusaka 78.70 123 *e*P **P 15 07 38.8 -1.3**
comp=Z,9.7nm,1.1s
LSZ LR LR
comp=Z,1μm,20.0s
LSZ Lusaka 78.70 123 *e*P **P 15 07 38.8 -1.3**
comp=Z,9.7nm,1.1s
ZAK Zakamensk 79.23 28 *e*P **P 15 07 44.0 +1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
LCO Las Campanas 80.07 215 *e*P **P 15 07 45.9 -1.5**
comp=Z,54nm,1.3s
LCO LR LR
comp=Z,2μm,20.0s
LCO Las Campanas 80.07 215 *e*P **P 15 07 45.9 -1.5**
comp=Z,54nm,1.3s
SONM Songino Array 82.48 28 P **P 15 08 01.4 +1.4**
SONM Songino Array 82.48 28 P **P 15 08 01.4 +1.4**
SONM Songino Array 82.48 28 P **P 15 08 01.4 +1.4**
comp=Z,7.6nm,1.0s,baz=326,slow=4.8,SNR=35
SONM LR LR 15 44 42.6
comp=Z,499nm,20.6s,baz=120,slow=36
NDI New Delhi 83.00 57 *e*P **P 15 08 04.0 +1.1**
PETK Petropavlovsk- 84.67 355 P **P 15 08 12.3 +1.3**
PETK Petropavlovsk- 84.67 355 P **P 15 08 12.3 +1.3**
PETK Petropavlovsk- 84.67 355 P **P 15 08 12.3 +1.3**
PETK Petropavlovsk- 84.67 355 P **P 15 08 12.3 +1.3**
comp=Z,15nm,1.1s,baz=63,slow=6.8,SNR=8.9
PETK LR LR 15 46 20.3
comp=Z,417nm,20.2s,baz=0.7,slow=36
PET Petropavlovsk 84.69 354 *e*P **P 15 08 10.9 -0.1**
PET *e*S **S 15 18 32.3 -5.4**
PET pmax pmax
comp=Z,17nm,0.8s
PET MLR MLR
comp=Z,2μm,18.0s
TRQA Tornquist 84.98 204 *e*P **P 15 08 12.1 -0.4**
comp=Z,7.1nm,0.8s
TRQA LR LR
comp=Z,774nm,20.0s
TRQA Tornquist 84.98 204 *e*P **P 15 08 12.1 -0.4**
comp=Z,7.1nm,0.8s
HIA Hailar 85.11 19 *e*P **P 15 08 11.1 -2.2**
comp=Z,18nm,1.1s
HIA LR LR
comp=Z,539nm,20.0s
HIA Hailar 85.11 19 *e*P **P 15 08 11.1 -2.2**
comp=Z,18nm,1.1s
GTA Gaotai 86.99 36 *e*P **P 15 08 22.8 -0.2**
GTA pP **pP 15 08 26.8 -1.2**
GTA sP **sP 15 08 29.5 -0.3**
GTA PP **PP 15 11 46.3 +1.0**
GTA S **SKKSac 15 18 57.1 -1.3**
GTA sS **S 15 19 04.8 +3.6**
GTA SS **SS 15 24 39.1 -3.5**
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,220nm,5.7s
GTA LR LR
comp=Z,510nm,20.9s
GTA LR LR
comp=Z,470nm,18.5s
GTA LR LR
comp=Z,730nm,21.9s
BOSA Boshof 87.31 133 LR LR 15 44 15.4
comp=Z,796nm,18.9s,baz=317,slow=33
SUR Sutherland 88.03 139 PFAKE 15 08 40.0 +12
SUR LR LR
comp=Z,814nm,22.0s
MSEY Mahe Island 90.16 96 PFAKE 15 08 50.0 +12
MSEY LR LR
comp=Z,257nm,20.0s
PLCA Paso Flores 90.27 209 P **P 15 08 38.6 +0.6**
PLCA Paso Flores 90.27 209 P **P 15 08 38.6 +0.6**
PLCA Paso Flores 90.27 209 P **P 15 08 38.6 +0.6**
comp=Z,5.2nm,0.9s,baz=21,slow=7.1,SNR=7.4
PLCA LR LR 15 44 51.7
comp=Z,409nm,18.5s,baz=150,slow=33
HHC Hu-ho-hao-te 90.38 28 *e*P P 15 08 33.0 -5.9
HHC sP sP 15 08 40.3 -5.5
HHC PP PP 15 12 36.6 +24
LSA Lhasa 90.46 48 *e*P **P 15 08 37.3 -2.6**
LSA pmax pmax
comp=Z,10.0nm,1.1s
LSA MLR MLR
comp=Z,595nm,20.0s
LSA Lhasa 90.46 48 *e*P **P 15 08 37.3 -2.6**
comp=Z,9.9nm,1.1s
LSA LR LR
comp=Z,595nm,20.0s
LSA Lhasa 90.46 48 *e*P **P 15 08 37.3 -2.6**
comp=Z,9.9nm,1.1s
LZH Lanzhou 91.52 35 P **P 15 08 45.8 +1.4**
LZH pP **pP 15 08 49.0 -0.4**
LZH sP **sP 15 08 50.8 -0.4**
LZH PP **PP 15 12 25.3 +3.8**
LZH SKS **SKSac 15 19 17.0 +0.4**
LZH S **S 15 19 39.6 -4.1**
LZH sS **ScS 15 19 48.0 +1.4**
LZH SS **SS 15 25 45.3 -3.1**
LZH pmax pmax
comp=Z,51nm,1.2s
LZH pmax pmax
comp=Z,250nm,6.5s
LZH LR LR
comp=Z,680nm,16.5s
LZH LR LR
comp=Z,530nm,14.3s
LZH LR LR
comp=Z,700nm,16.9s
CN2 Changchun 91.58 17 *e*P **P 15 08 41.4 -2.9**
CN2 *e*PP **PP 15 12 19.8 -1.6**
CN2 *e*S S 15 19 36.1 -7.5
MDJ Mudanjiang 91.62 14 P **P 15 08 43.6 -0.9**
MDJ PP **PP 15 12 18.8 -2.9**
MDJ S **S 15 19 40.3 -3.7**
MDJ SS **SS 15 25 46.5 -2.3**
MDJ pmax pmax
comp=Z,12nm,1.8s
MDJ pmax pmax
comp=Z,170nm,4.2s
MDJ LR LR
comp=Z,220nm,29.0s
MDJ LR LR
comp=Z,140nm,44.2s
MDJ LR LR
comp=Z,320nm,35.1s
MDJ Mudanjiang 91.62 14 PFAKE 15 09 00.0 +16
MDJ LR LR
comp=Z,285nm,19.0s
USRK Ussuriysk Arra 92.44 12 P **P 15 08 48.1 -0.1**
comp=Z,3.5nm,0.8s,baz=27,slow=4.7,SNR=4.7
USRK LR LR 15 50 40.1
comp=Z,305nm,20.7s,baz=236,slow=36
BJI Beijing 92.63 25 P **P 15 08 48.1 -1.1**
BJI S **S 15 19 49.5 -3.6**
BJI SS **SS 15 26 01.4 -2.1**
BJI pmax pmax
comp=Z,11nm,0.4s
BJI pmax pmax
comp=Z,190nm,5.5s
BJI LR LR
comp=Z,330nm,29.6s
BJI LR LR
comp=Z,380nm,23.5s
BJI LR LR
comp=Z,410nm,34.8s
BJT Baijiatuau 92.64 25 PFAKE 15 09 00.0 +11
BJT LR LR
comp=Z,317nm,19.0s
ASAJ Asahikawa 93.71 5 LR LR 15 50 17.5
comp=Z,287nm,20.1s,baz=196,slow=35
ABPO Ambohimpanom 93.93 112 PFAKE 15 09 10.0 +14
ABPO LR LR
comp=Z,561nm,20.0s
XAN Xi'an 95.39 33 P **P 15 09 00.8 -1.3**
XAN pP **pP 15 09 04.8 -2.3**
XAN PP **PP 15 12 51.3 -0.4**
XAN SKS **SKSac 15 19 34.1 -3.6**
XAN S S 15 20 10.3 -7.4
XAN pmax pmax
comp=Z,1.0nm,1.4s
XAN pmax pmax
comp=Z,30nm,7.7s
XAN LR LR
comp=Z,510nm,29.5s
XAN LR LR
comp=Z,140nm,30.5s
XAN LR LR
comp=Z,250nm,28.5s
ERM Erimo 95.84 5 PFAKE 15 09 10.0 +6.1
ERM LR LR
comp=Z,361nm,22.0s
CD2 Chengdu 95.85 38 *e*P **P 15 09 03.6 -0.6**
CD2 pP **pP 15 09 08.3 -1.0**
CD2 sP **sP 15 09 10.8 -0.3**
CD2 PP **PP 15 12 56.3 +0.9**
CD2 SKS **SKSac 15 19 38.1 -2.1**
CD2 S **S 15 20 16.5 -5.4**
CD2 sS **ScS 15 20 24.8 +2.2**
CD2 SS **SS 15 26 47.5 -2.8**
CD2 pmax pmax
comp=Z,10.0nm,1.3s
CD2 pmax pmax
comp=Z,490nm,8.2s
CD2 LR LR
comp=Z,680nm,15.6s
CD2 LR LR
comp=Z,660nm,21.4s
EFI East Falkland 96.64 197 PFAKE 15 09 20.0 +13
EFI LR LR
comp=Z,734nm,19.0s
INCN Inchon 97.88 18 PFAKE 15 09 20.0 +6.7
INCN LR LR
comp=Z,346nm,20.0s
KSRS Korea Array 98.19 17 LR LR 15 51 26.1
comp=Z,187nm,18.5s,baz=178,slow=34
ENH Enshi 98.91 34 PFAKE 15 09 30.0 +12
ENH LR LR
comp=Z,24nm,21.0s
KMI Kunming 100.22 42 P **Pdif 15 09 24.6 +0.4**
KMI pP pP 15 09 28.5 -0.8
KMI sP sP 15 09 30.8 -0.3
KMI PP **PP 15 13 32.3 +3.1**
KMI S **Sdif 15 20 58.1 -1.4**
KMI SS **SS 15 27 54.9 +2.7**
KMI pmax pmax
comp=Z,9.0nm,0.8s
KMI pmax pmax
comp=Z,300nm,12.0s
KMI LR LR
comp=Z,410nm,19.8s
KMI LR LR
comp=Z,240nm,19.8s
KMI LR LR
comp=Z,630nm,23.9s
WHN Wuhan 100.60 30 P **Pdif 15 09 26.4 +1.0**
WHN PP **PP 15 13 35.1 +3.6**
WHN S **Sdif 15 20 59.8 -2.2**
WHN LR LR
comp=Z,990nm,18.1s
NJ2 Nanjing 100.81 26 *e*P **Pdif 15 09 25.9 -0.4**
NJ2 pP pP 15 09 30.8 -0.7
NJ2 S **Sdif 15 21 00.0 -3.7**
NJ2 pmax pmax
comp=Z,210nm,10.1s
NJ2 LR LR
comp=Z,2μm,19.0s
NJ2 LR LR
comp=Z,9μm,27.2s
NJ2 LR LR
comp=Z,480nm,25.7s
GYA Guiyang 100.97 38 *e*P **Pdif 15 09 28.3 +0.9**
GYA PP **PP 15 13 36.5 +1.9**
GYA SKS **SKSac 15 20 04.3 -2.0**
GYA S **Sdif 15 21 01.8 -3.7**
GYA SS **SS 15 28 01.6 -0.7**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax

comp=Z,140nm,5.4s
GYA LR LR
comp=Z,520nm,22.2s
GYA LR LR
comp=Z,490nm,23.0s
GYA LR LR
comp=Z,540nm,21.8s
CHTO Chiang Mai 103.38 49 PFAKE 15 09 50.0 +12
CHTO LR LR
comp=Z,263nm,21.0s
CMAR Chiang Mai Arr 103.66 49 PKKPbc PKKPbc 15 25 32.8 +3.3
comp=Z,0.5nm,0.4s,baz=174,slow=3.0,SNR=5.7
DGAR Diego Garcia 104.55 87 PFAKE 15 09 50.0 +6.8
DGAR LR LR
comp=Z,176nm,22.0s
QIZ Qiongzhong 108.83 40 PFAKE 15 14 20.0
QIZ LR LR
comp=Z,469nm,21.0s
KSM Kuching 123.89 50 PFAKE 15 14 50.0 +14
KSM LR LR
comp=Z,301nm,22.0s
DAV Davao City (W) 126.21 30 PFAKE 15 14 50.0 +9.5
DAV LR LR
comp=Z,398nm,19.0s
QSPA South Pole Qui 132.22 180 *e*PKPdf **PKPdf 15 14 50.8 +0.5**
QSPA LR LR
comp=Z,423nm,20.0s
QSPA South Pole Qui 132.22 180 *e*PKIKP **PKPdf 15 14 50.8 +0.5**
KAPI Kappang 134.41 44 PFAKE 15 15 10.0 +14
KAPI LR LR
comp=Z,160nm,20.0s
VNDA Vanda 144.34 185 PKP **PKPdf 15 15 12.4 +0.3**
VNDA *e*PKPdf PKPbc 15 15 12.9 +2.3
VNDA Vanda 144.34 185 PKIKP **PKPdf 15 15 12.4 +0.3**
VNDA Vanda 144.34 185 PKP **PKPdf 15 15 12.4 +0.3**
comp=Z,14nm,1.1s,baz=212,slow=3.8,SNR=15
PMG Port Moresby 147.14 4 PKPbc **PKPab 15 15 21.9 -0.6**
PMG LR LR
comp=Z,282nm,19.0s
PMG Port Moresby 147.14 4 PKPbc **PKPab 15 15 21.9 -0.6**
PMG Port Moresby 147.14 4 PKPbc **PKPab 15 15 21.9 -0.6**
comp=Z,52nm,1.1s,baz=341,slow=3.2,SNR=11
CASY Casey 147.88 151 *e*PKPdf **PKPdf 15 15 19.5 +1.1**
CASY LR LR
comp=Z,268nm,20.0s
CASY Casey 147.88 151 *e*PKIKP **PKPdf 15 15 19.5 +1.1**
FITZ Fitzroy Crossi 148.46 47 PKPbc **PKPbc 15 15 24.3 -0.1**
FITZ Fitzroy Crossi 148.46 47 PKPbc **PKPbc 15 15 24.3 -0.1**
FITZ Fitzroy Crossi 148.46 47 PKPbc **PKPbc 15 15 24.3 -0.1**
comp=Z,18nm,0.9s,baz=61,slow=2.3,SNR=10
RAO Raoul Island 150.69 286 PFAKE 15 15 40.0 +3.4
RAO LR LR
comp=Z,1μm,20.0s
NWAO Narrogin (SRO) 152.93 80 PFAKE 15 15 40.0 +5.4
NWAO LR LR
comp=Z,1.0nm,21.0s
WRAB Tennant Creek 154.27 34 PFAKE 15 15 40.0 +2.1
WRAB LR LR
comp=Z,225nm,20.0s
WRA Warramunga Arr 154.27 34 PKPbc **PKPbc 15 15 38.3 +0.3**
WRA PKPab **PKPab 15 15 52.3 +0.5**
WRA Warramunga Arr 154.27 34 PKPbc **PKPbc 15 15 38.3 +0.3**
WRA Warramunga Arr 154.27 34 PKPab **PKPab 15 15 52.3 +0.5**
WRA Warramunga Arr 154.27 34 PKPbc **PKPbc 15 15 38.3 +0.3**
comp=Z,4.2nm,0.9s,baz=332,slow=2.5,SNR=9.4
WRA PKPab **PKPab 15 15 52.3 +0.5**
comp=Z,8.1nm,1.1s,baz=336,slow=4.2,SNR=8.0
CTAO Charters Tower 157.66 8 PFAKE 15 15 50.0 +16
CTAO LR LR
comp=Z,284nm,19.0s
URZ Urewera 158.57 272 PKP **PKPdf 15 15 34.5 -0.2**
URZ Urewera 158.57 272 PKIKP **PKPdf 15 15 34.5 -0.2**
URZ Urewera 158.57 272 PKP **PKPdf 15 15 34.5 -0.2**
comp=Z,11nm,0.9s,baz=291,slow=19,SNR=3.8

*BJI **17** 15:08:31.1, 14.°10S×168.°48E, h654km, mB4.4/1, mb4.4/8*
*AUST **17** 15:08:33.8, 12.°99S×167.°97E, h600km*
*ISCJB **17** 15:08:35.3±0.2, 13.°30S±0.°05×167.°97E±0.°05, h650km, mb4.2/45, Error ellipse: s-maj=7.9km s-min=5.3km az=137.9*
*IDC **17** 15:08:36.7±1.1, 13.°34S×167.°98E, h653km±15km, mb3.7/22, mb1 3.8/25, mb1mx3.7/31, mbtmp3.8/25, Error ellipse: s-maj=10.9km s-min=9.8km az=137.0*
*NEIC **17** 15:08:36.8±0.9, 13.°30S×167.°95E, h654km±11km, mb4.5/27, Error ellipse: s-maj=9.0km s-min=8.5km az=101.0*

ISC 17 15:08:36.3±0.4, 13°32S±0.°07×168°02E±0.°07, h650km, n118, σ1§07/121, mb4.3/46, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.81**	**295**	*e*P	**P**	**15 10 44.6**	**-0.4**
HNR	**Honiara**	**8.81**	**295**	P	**P**	**15 10 44.5**	**-0.4**
	30nm,0.3s,baz=153,slow=4.3,SNR=18						
DZM	**Mont Dzumac**	**8.83**	**190**	P	**P**	**15 10 46.2**	**+1.1**
	1.8nm,0.3s,baz=34,slow=19,SNR=14						
AFI	**Afiamalu**	**19.65**	**94**	*e*Pn	**P**	**15 12 20.9**	**-4.1**
AFI	**Afiamalu**	**19.65**	**94**	P	**P**	**15 12 24.8**	**-0.1**
	3.2nm,0.3s,baz=258,slow=14,SNR=8.4						
EIDS	**Eidsvold**	**19.95**	**231**	*e*P	**P**	**15 12 27.0**	**-0.4**
PMG	**Port Moresby**	**20.81**	**279**	*e*P	**P**	**15 12 35.4**	**+0.1**
	28nm,0.9s						
PMG				*e*		15 15 21.2	
PMG	**Port Moresby**	**20.81**	**279**	P	**P**	**15 12 35.3**	**0.0**
	18nm,0.7s,baz=94,slow=6.5,SNR=6.2						
CTA	**Charters Tower**	**21.89**	**249**	P	**P**	**15 12 44.9**	**0.0**
	1.7nm,0.4s,baz=58,slow=12,SNR=4.3						
CTAO	**Charters Tower**	**21.89**	**249**	P	**P**	**15 12 45.0**	**+0.1**
	9.4nm,0.9s						
MANU	**Manus Island**	**23.30**	**297**	P	**P**	**15 12 58.8**	**+1.3**
	baz=23,SNR=3.8						
COEN	**Coen**	**24.15**	**266**	P	**P**	**15 13 05.7**	**+0.8**
	baz=24,SNR=6.2						
QLP	**Quilpie**	**25.89**	**236**	P	P	15 13 27.2	+7.2
	baz=26,SNR=3.2						
URZ	**Urewera**	**26.12**	**164**	*e*P	**P**	**15 13 22.1**	**+0.3**
	17nm,0.5s						
URZ	**Urewera**	**26.12**	**164**	P	**P**	**15 13 22.5**	**+0.6**
	19nm,0.5s,baz=279,slow=4.0,SNR=26						
BKZ	**Black Stump Fm**	**26.81**	**165**	*e*P	**P**	**15 13 28.7**	**+0.8**
	27nm,0.6s						
CMSA	**Cobar Meteorol**	**27.37**	**225**	P	**P**	**15 13 33.6**	**+0.8**
	baz=28,SNR=7.3						
QIS	**Mount Isa**	**28.08**	**251**	P	**P**	**15 13 39.7**	**+0.5**
	baz=28,SNR=3.5						
SNZO	**South Karori**	**28.49**	**169**	*e*P	**P**	**15 13 42.7**	**+0.4**
STKA	**Stephens Creek**	**30.46**	**228**	*e*P	**P**	**15 14 00.5**	**+1.1**
	0.9nm,0.6s						
STKA	**Stephens Creek**	**30.46**	**228**	P	**P**	**15 14 00.2**	**+0.8**
	2.4nm,0.4s,baz=59,slow=9.4,SNR=17						
STKA				PcP	**PcP**	**15 16 37.5**	**+0.3**
	2.8nm,0.5s,baz=162,slow=17,SNR=6.0						
STKA	**Stephens Creek**	**30.46**	**228**	P	**P**	**15 14 00.7**	**+1.3**
	baz=31,SNR=14						
WRAB	**Tennant Creek**	**32.88**	**254**	*e*P	**P**	**15 14 19.4**	**-0.6**
	4.0nm,0.5s						
WRA	**Warramunga Arr**	**32.89**	**254**	P	**P**	**15 14 19.8**	**-0.3**
	4.7nm,0.4s,baz=84,slow=8.8,SNR=88						
WRA				PcP	**PcP**	**15 16 44.5**	**+0.2**
	2.7nm,0.6s,baz=75,slow=3.4,SNR=6.1						
WRA				S	**S**	**15 18 51.4**	**-3.2**
	5.0nm,0.9s,baz=84,slow=14,SNR=7.0						
HTT	**Hallett**	**33.19**	**228**	P	**P**	**15 14 23.6**	**+1.2**
	baz=33,SNR=5.8						
AS01	**Alice Springs**	**33.82**	**247**	*e*P	**P**	**15 14 27.8**	**0.0**
AS31	**Alice Springs**	**33.86**	**247**	*e*P	**P**	**15 14 28.2**	**+0.1**
AS31				*e*S	**S**	**15 19 06.1**	**-3.0**
ASAR	**Alice Springs**	**33.87**	**247**	S	**S**	**15 19 07.0**	**-2.1**
	5.0nm,1.0s,baz=74,slow=15,SNR=16						
KDU	**Kakadu**	**34.62**	**267**	P	**P**	**15 14 34.5**	**0.0**
	baz=35,SNR=10						
BBOO	**Buckleboo**	**35.02**	**231**	P	**P**	**15 14 38.4**	**+0.8**
	baz=35,SNR=12						
MTN	**Manton Dam**	**35.91**	**266**	P	**P**	**15 14 45.7**	**+0.6**
	baz=36,SNR=8.9						
KNRA	**Kununurra**	**38.04**	**262**	P	**P**	**15 15 02.4**	**0.0**
	baz=38,SNR=9.2						
WRKA	**Warakurna**	**39.14**	**247**	P	**P**	**15 15 11.5**	**+0.4**
	baz=39,SNR=51						
FORT	**Forrest**	**40.64**	**238**	P	**P**	**15 15 23.6**	**+0.7**
	baz=41,SNR=16						
FITZ	**Fitzroy Crossi**	**41.01**	**258**	P	**P**	**15 15 26.4**	**+0.5**
	18nm,0.9s,baz=19,slow=3.8,SNR=10						
MEEK	**Meekatharra**	**48.00**	**246**	P	**P**	**15 16 19.3**	**+0.2**
	baz=48,SNR=5.5						
NWAO	**Narrogin (SRO)**	**50.10**	**238**	P	**P**	**15 16 34.1**	**-0.2**
	6.1nm,0.6s,baz=117,slow=7.0,SNR=7.4						
MORW	**Morawa**	**50.53**	**243**	P	**P**	**15 16 37.9**	**+0.4**
	baz=51,SNR=4.3						
UGM	**Wanagama**	**56.67**	**269**	P	**P**	**15 17 20.9**	**+0.1**
	baz=57,SNR=4.5						
MJAR	**Matsushiro Arr**	**57.01**	**331**	P	**P**	**15 17 22.6**	**-0.1**
	3.9nm,0.8s,baz=164,slow=8.6,SNR=7.1						
MAJO	**Matsushiro**	**57.01**	**331**	P	**P**	**15 17 21.6**	**-1.1**
JNU	**Nakatsue**	**58.22**	**323**	P	**P**	**15 17 31.1**	**+0.2**
	3.0nm,0.6s,baz=65,slow=18,SNR=4.8						
CISI	**Cisompet, Garu**	**59.37**	**269**	*e*P	**P**	**15 17 37.5**	**-1.5**
	25nm,0.7s						
CISI	**Cisompet, Garu**	**59.37**	**269**	P	**P**	**15 17 38.3**	**-0.7**
	baz=59,SNR=4.6						
ASAJ	**Asahikawa**	**61.68**	**339**	P	**P**	**15 17 54.8**	**+1.4**
	4.6nm,0.5s,baz=204,slow=15,SNR=14						
VNDA	**Vanda**	**64.28**	**181**	P	**P**	**15 18 10.5**	**+1.1**
	0.9nm,0.6s						
CASY	**Casey**	**65.09**	**202**	*e*P	**P**	**15 18 14.4**	**-0.2**
	4.3nm,0.4s						
USRK	**Ussuriysk Arra**	**65.97**	**332**	P	**P**	**15 18 20.6**	**+0.1**
	3.5nm,0.8s,baz=119,slow=8.4,SNR=5.6						
PETK	**Petropavlovsk-**	**66.75**	**353**	P	**P**	**15 18 25.7**	**+0.6**
	7.1nm,0.5s,baz=166,slow=6.6,SNR=42						
MDJ	**Mudanjiang**	**67.40**	**331**	*e*P	**P**	**15 18 30.1**	**+0.9**
	9.7nm,0.7s						
ENH	**Enshi**	**71.05**	**309**	P	**P**	**15 18 50.6**	**-0.6**
	6.2nm,0.8s						
CM01	**Chiang Mai Arr**	**75.03**	**293**	*e*P	**P**	**15 19 15.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**75.05**	**293**	P	**P**	**15 19 15.4**	**+1.3**
	3.2nm,0.6s,baz=124,slow=4.4,SNR=31						
CHTO	**Chiang Mai**	**75.17**	**294**	*e*P	**P**	**15 19 15.9**	**+1.1**
	1.5nm,0.8s						
QSPA	**South Pole Qui**	**76.70**	**180**	P	**P**	**15 19 22.8**	**+0.3**
	4.7nm,0.5s,baz=63,slow=1.9,SNR=14						
SEY	**Seymchan**	**76.98**	**353**	P	**P**	**15 19 24.1**	**+0.4**
	5.9nm,0.6s,baz=23,slow=22,SNR=20						
GAMB	**Gambell**	**78.43**	**9**	*e*P	**P**	**15 19 31.9**	**+0.5**
	5.5nm,0.8s						
TNA	**Tin City**	**80.70**	**10**	*e*P	**P**	**15 19 44.0**	**+0.8**
	13nm,1.4s						
YAK	**Yakutsk**	**80.91**	**343**	P	**P**	**15 19 44.5**	**+0.1**
	8.8nm,0.6s						
RC01	**Rabbit Creek A**	**81.37**	**19**	*e*P	**P**	**15 19 46.9**	**+0.1**
	38nm,1.2s						
SONM	**Songino Array**	**81.81**	**323**	P	**P**	**15 19 49.8**	**+0.3**
	4.8nm,0.5s,baz=142,slow=5.9,SNR=47						
SONA1	**Songino Array**	**81.81**	**323**	*e*P	**P**	**15 19 49.6**	**0.0**
PMR	**Palmer**	**81.94**	**19**	*e*P	**P**	**15 19 49.5**	**-0.1**
	9.7nm,0.8s						
PPLA	**Purkeypile**	**82.01**	**17**	*e*P	**P**	**15 19 49.9**	**-0.3**
GTA	**Gaotai**	**82.23**	**313**	*e*P	**P**	**15 19 52.9**	**+1.1**
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
CAST	**Castle Rocks**	**82.45**	**17**	*e*P	**P**	**15 19 52.0**	**-0.2**
	10nm,0.6s						
TRF	**Thorofare Moun**	**82.99**	**18**	*e*P	**P**	**15 19 54.3**	**-0.8**
	198nm,2.6s						
MCK	**McKinley**	**83.60**	**18**	*e*P	**P**	**15 19 57.2**	**-0.7**
	34nm,1.7s						
YBH	**Yreka Blue Hor**	**83.92**	**45**	P	**P**	**15 20 00.9**	**+0.8**
	3.6nm,0.6s,baz=281,slow=2.6,SNR=6.0						
IM04	**Indian Mountai**	**84.01**	**15**	*e*P	**P**	**15 20 00.4**	**+0.5**
CMB	**Columbia Colle**	**84.14**	**49**	*e*P	**P**	**15 19 59.4**	**-1.8**
ISA	**Isabella**	**84.72**	**52**	*e*P	**P**	**15 20 04.8**	**+0.7**
	0.7nm,0.8s						
COLA	**College**	**84.77**	**17**	*e*P	**P**	**15 20 02.5**	**-1.0**
	3.3nm,1.0s						
WORM	**Onyx Ranch**	**84.90**	**52**	*e*P	**P**	**15 20 06.3**	**+1.3**
IL1	**Eielson Array**	**84.97**	**18**	*e*P	**P**	**15 20 03.3**	**-1.3**
ILAR	**Eielson Array**	**84.97**	**18**	P	**P**	**15 20 03.5**	**-1.1**
	8.4nm,0.5s,baz=239,slow=5.1,SNR=258						
PLM	**Palomar**	**85.19**	**54**	*e*PKiKP	**PKiKP**	**15 25 11.4**	**-1.0**
LSA	**Lhasa**	**85.44**	**302**	*e*P	**P**	**15 20 08.8**	**+0.6**
	3.2nm,0.6s						
NV01	**Mina Array Sit**	**85.81**	**49**	*e*P	**P**	**15 20 10.3**	**+0.9**
NV11	**Mina Array Sit**	**85.92**	**49**	*e*P	**P**	**15 20 10.5**	**+0.6**
TPH	**Tonopah**	**86.48**	**50**	P	**P**	**15 20 13.5**	**+0.9**
TPNV	**Topopah Spring**	**86.84**	**51**	*e*P	**P**	**15 20 15.6**	**+1.4**
I07A	**Izee**	**86.99**	**43**	*e*P	**P**	**15 20 16.0**	**+1.3**
	12nm,1.1s						
LDFC	**Landfair**	**87.12**	**53**	*e*P	**P**	**15 20 16.9**	**+1.4**
	18nm,1.0s						
J08A	**Circle Bar Ran**	**87.43**	**44**	*e*P	**P**	**15 20 18.1**	**+1.3**
	10nm,0.6s						
G08A	**Pilot Rock**	**87.80**	**43**	*e*P	**P**	**15 20 19.8**	**+1.4**
	6.0nm,0.8s						
ELK	**Elko**	**88.81**	**48**	P	**P**	**15 20 22.5**	**-1.0**
	1.4nm,0.9s,baz=147,slow=1.8,SNR=7.2						
NEW	**Newport**	**90.03**	**40**	P	**P**	**15 20 29.0**	**+0.3**
MVCO	**Mesa Verde**	**92.85**	**53**	*e*P	**P**	**15 20 45.0**	**+2.9**
	97nm,3.0s						
GCMT	**Greycliff**	**94.16**	**44**	*e*PKiKP	**PKiKP**	**15 25 26.6**	**-0.5**
YKA	**Yellowknife Ar**	**95.97**	**27**	P	**P**	**15 20 55.0**	**-0.3**
	3.3nm,0.6s,baz=256,slow=4.5,SNR=45						
YKB5	**Yellowknife Ar**	**95.97**	**27**	*e*P	**P**	**15 20 54.9**	**-0.4**
MK01	**Makanchi Array**	**96.68**	**316**	*e*P	**P**	**15 20 59.2**	**+0.3**
MK31	**Makanchi Array**	**96.69**	**316**	*e*P	**P**	**15 20 59.7**	**+0.7**
MKAR	**Makanchi Array**	**96.69**	**316**	P	**P**	**15 20 59.1**	**+0.1**
	5.8nm,0.7s,baz=92,slow=6.2,SNR=60						
MKAR				PKKPbc	**PKKPbc**	**15 37 37.8**	**-2.2**
	0.4nm,0.6s,baz=246,slow=2.1,SNR=4.8						
ZAA0	**Zalesovo Array**	**96.69**	**324**	P	**P**	**15 20 58.0**	**-0.8**
ZALV	**Zalesovo Beam**	**96.69**	**324**	P	**P**	**15 20 57.5**	**-1.3**
	1.4nm,0.5s,baz=126,slow=3.8,SNR=8.0						
KEV	**Kevo**	**118.56**	**346**	*ep*	**PKPdf**	**15 26 10.4**	**-1.0**
	0.8nm,0.3s						
ARCES	**ARCESS Array B**	**119.08**	**346**	PKP	**PKPdf**	**15 26 12.2**	**-0.2**
	7.9nm,0.4s,baz=69,slow=2.2,SNR=78						
JOF	**Joensuu**	**121.86**	**338**	*ep*	**PKPdf**	**15 26 17.1**	**-0.8**
	1.2nm,0.3s						
KAF	**Kangasniemi**	**124.15**	**339**	*ep*	PKPdf	15 26 16.9	-5.4
	1.2nm,0.3s						
FINES	**FINESS Array B**	**124.69**	**339**	PKP	**PKPdf**	**15 26 23.4**	**0.0**
	1.1nm,0.3s,baz=75,slow=2.4,SNR=15						
BOSA	**Boshof**	**124.91**	**220**	*e*PKP	**PKPdf**	**15 26 25.7**	**+0.7**
	2.5nm,0.5s,baz=148,slow=4.1,SNR=5.5						
NB2	**NORSAR Subarra**	**129.46**	**346**	PKPdf	**PKPdf**	**15 26 32.6**	**0.0**
	comp=Z,1.5nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.46**	**346**	PKP	**PKPdf**	**15 26 33.0**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=32,slow=2.0,SNR=5.6						
NOA				PP	PP	15 28 57.8	+5.3
	comp=Z,1.0nm,0.7s,baz=32,slow=2.9,SNR=4.0						
AKASG	**Malin Array Be**	**129.97**	**327**	PKP	**PKPdf**	**15 26 33.0**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=48,slow=2.8,SNR=6.2						
AK11	**Malin Array Si**	**130.02**	**327**	*e*PKPdf	**PKPdf**	**15 26 33.8**	**-0.1**
BRTR	**Keskin Array B**	**132.13**	**312**	PKP	**PKPdf**	**15 26 38.5**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=137,slow=5.4,SNR=5.8						
GERES	**GERESS Array B**	**138.71**	**334**	PKhKP	PKPpre	15 26 44.0	
	comp=Z,0.4nm,0.4s,baz=29,slow=3.0,SNR=4.4						
GERES				PKP	**PKiKP**	**15 26 51.2**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=63,slow=0.6,SNR=6.1						
FETA	**Feichten**	**141.38**	**335**	*i*PKPdf	**PKPdf**	**15 26 51.3**	**-4.0**
	comp=Z,1.8nm,0.5s						
TUE	**Stuetta**	**142.39**	**336**	*e*PKPpre	PKPpre	15 26 54.6	
SENIN	**Lac Senin/Sane**	**143.27**	**338**	*e*PKPbc	PKPbc	15 26 57.6	+0.1
BNI	**Bardonecchia**	**144.61**	**337**	*e*PKPdf	**PKPab**	**15 27 01.8**	**-0.5**
KEST	**Kesra**	**150.56**	**323**	*e*PKPbc	**PKPbc**	**15 27 17.4**	**+0.4**
KEST	**Kesra**	**150.56**	**323**	PKPbc	**PKPbc**	**15 27 17.8**	**+0.8**
	comp=Z,3.9nm,0.6s,baz=244,slow=1.9,SNR=9.8						
ESDC	**Sonseca Array**	**152.82**	**346**	PKPab	**PKPab**	**15 27 36.8**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=17,slow=4.0,SNR=7.4						
TOA0	**Torodi Ar. Sit**	**166.68**	**271**	*e*PKPdf	**PKPdf**	**15 27 29.2**	**-0.7**
TOA0				*e*PKPdf	PKPdf	15 27 29.5	-0.4
TOA0				*e*PKPab	**PKPab**	**15 28 37.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**166.68**	**271**	PKP	**PKPdf**	**15 27 29.6**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=344,slow=1.8,SNR=9.4						
TORD				PKPab	**PKPab**	**15 28 37.1**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=87,slow=5.4,SNR=11						

*NIED **17** 15:40:00,35.°00N×139.°10E, h5km, Mw3.8 Best double couple: M0 5.27000×10^14 NP1:φ1=82.00000°, δ1=84.00000°, λ1=-172.00000°. NP2:φ2=352.00000°, δ2=83.00000°, λ2=-6.00000°.*
*IDC **17** 15:40:34.5±1.6, 34.°87N×139.°22E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=32.7km s-min=16.3km az=72.0*
*ISCJB **17** 15:40:37.1±0.8, 34.°93N±0.°05×139.°14E±0.°08, h13km±5km, mb3.5/2, Error ellipse: s-maj=10.9km s-min=7.5km az=8.2*
*JMA **17** 15:40:38.0, 34.°96N×139.°13E, h6km±1km, M3.5*
JMA Felt III J1.

ISC 17 15:40:37.0±1.0, 34°93N±0.°05×139°15E±0.°07, h13km±6km, n17, σ0§96/14, 3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.07**	**270**	P	**Pg**	**15 40 40.0**	**+0.3**
KTJJ				S	**Sg**	**15 40 41.2**	**-0.5**
AJI	**Ajiro2**	**0.13**	**338**	P	**Pg**	**15 40 40.1**	**-0.3**
JIZS	**Izushimoda**	**0.31**	**227**	P	**Pb**	**15 40 44.2**	**-0.1**
JIM2	**Oshima 3**	**0.31**	**132**	⇓P	**Pb**	**15 40 44.8**	**+0.4**
JOD2	**Odawara 2**	**0.34**	**351**	⇓P	**Pg**	**15 40 44.0**	**0.0**
JOD2				S	**Sg**	**15 40 48.4**	**-0.3**
JYN	**Shimob**	**0.76**	**319**	⇓P	**Pg**	**15 40 51.4**	**-0.3**
MJAR	**Matsushiro Arr**	**1.79**	**335**	Pn	**Pn**	**15 41 08.4**	**+0.9**
	24nm,0.3s,baz=151,slow=15,SNR=138						
MJAR				Lg	Lg	15 41 30.9	
	39nm,0.3s,baz=119,slow=20,SNR=24						
MAT	**Matsushiro**	**1.79**	**335**	P	**Pn**	**15 41 08.5**	**+1.0**
MAT				S	**Sb**	**15 41 32.0**	**+0.1**
JNU	**Nakatsue**	**7.10**	**258**	Pn	**Pn**	**15 42 22.3**	**+1.7**
	0.3nm,0.3s,baz=85,slow=4.4,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**28.80**	**114**	T	T	16 16 45.0	
	baz=311,slow=76,SNR=547						
H11N1	**WAKE ISLAND Hy**	**28.81**	**114**	T	T	16 16 45.4	
	baz=311,slow=76,SNR=446						
H11N3	**WAKE ISLAND Hy**	**28.82**	**114**	T	T	16 16 46.3	
	baz=311,slow=76,SNR=424						
H11S3	**WAKE ISLAND Hy**	**29.41**	**117**	T	T	16 17 31.7	
	baz=313,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**29.41**	**117**	T	T	16 17 30.2	
	baz=313,slow=75,SNR=94						
H11S2	**WAKE ISLAND Hy**	**29.42**	**117**	T	T	16 17 31.6	
	baz=313,slow=75,SNR=56						
ILAR	**Eielson Array**	**52.25**	**31**	P	**P**	**15 49 47.8**	**+0.3**
	0.4nm,0.9s,baz=282,slow=5.4,SNR=4.2						
WRA	**Warramunga Arr**	**54.76**	**186**	P	**P**	**15 50 04.3**	**-2.0**
	0.4nm,0.7s,baz=0.0,slow=7.5,SNR=4.7						

*IDC **17** 15:42:14.0±1.6, 8.°76S×111.°97E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.9/22, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=65.5km s-min=18.8km az=52.0*
*ISCJB **17** 15:42:22.3±0.4, 8.°98S±0.°05×112.°07E±0.°03, h84km±6km, mb3.9/8, Error ellipse: s-maj=8.7km s-min=4.3km az=8.0*
*DJA **17** 15:42:23.6±0.8, 9.°5S±4.°×11.°2E±.°, h35km±9km, M4.5/23, mb4.7/4, mB5.5/1, MLv4.3/23, Mw(mB)5.0/1*
*AUST **17** 15:42:24.5, 8.°93S×111.°90E, h100km*

ISC 17 15:42:22.9±0.9, 8.°99S±0.°06×112.°09E±0.°04, h71km±9km, n46, σ1§50/47, mb4.0/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**0.91**	**24**	P	**Pn**	**15 42 39.2**	**-1.2**
PCJI	**Pacitan**	**1.20**	**311**	P	**Pn**	**15 42 43.7**	**-0.3**
PCJI				S	**Sn**	**15 42 58.4**	**-1.4**
GMJI	**Gumukmas**	**1.52**	**62**	P	**Pn**	**15 42 47.1**	**-1.1**
GMJI				S	**Sn**	**15 43 05.9**	**-1.4**
NGJI	**Ngawi**	**1.73**	**339**	P	**Pn**	**15 42 53.7**	**+2.7**
UGM	**Wanagama**	**1.88**	**305**	P	**Pn**	**15 42 53.7**	**+0.6**
UGM				S	**Sn**	**15 43 16.4**	**+0.4**
UGM	**Wanagama**	**1.88**	**305**	P	**Pn**	**15 42 53.8**	**+0.7**
	baz=1.7,SNR=25						
BLJI	**Banyuglugur**	**1.94**	**50**	P	**Pn**	**15 42 54.2**	**+0.4**
BLJI				S	**Sn**	**15 43 17.7**	**+0.4**
GRJI	**Gresik**	**2.10**	**11**	P	**Pn**	**15 42 56.7**	**+0.7**
ABJI	**Asem Bagus**	**2.44**	**61**	P	**Pn**	**15 43 01.4**	**+0.9**
SMRI	**Semarang**	**2.53**	**320**	P	**Pn**	**15 43 03.5**	**+1.7**
SMRI	**Semarang**	**2.53**	**320**	P	**Pn**	**15 43 03.4**	**+1.7**
	baz=2.4,SNR=27						
KMMI	**Kalianget**	**2.68**	**44**	P	Pn	15 43 14.6	+11
UWJI	**Ujung Watu**	**2.80**	**336**	P	**Pn**	**15 43 05.9**	**+0.5**
BJII	**Banjamegara**	**2.87**	**305**	P	**Pn**	**15 43 09.6**	**+3.1**
IGBI	**Denpasar**	**3.03**	**87**	P	**Pn**	**15 43 10.8**	**+2.2**
IGBI				S	**Sn**	**15 43 43.6**	**-0.1**
DNP	**Denpasar**	**3.10**	**84**	P	Pn	15 43 16.3	+6.7
DNP				S	**Sn**	**15 43 47.8**	**+2.2**
BWJI	**Bawean**	**3.17**	**10**	P	**Pn**	**15 43 11.3**	**+0.7**
SRBI	**Singaraja**	**3.22**	**74**	P	**Pn**	**15 43 11.4**	**+0.2**
KPJI	**Karang Pucung**	**3.53**	**298**	P	**Pn**	**15 43 18.4**	**+3.0**
TGJI	**Tegal**	**3.62**	**306**	P	Pn	15 43 31.6	+15
CMJI	**Cimerak**	**3.79**	**288**	P	**Pn**	**15 43 21.1**	**+2.1**
MTNI	**Mataram**	**4.05**	**85**	P	**Pn**	**15 43 22.2**	**-0.3**
CISI	**Cisompet, Garu**	**4.46**	**288**	P	**Pn**	**15 43 29.6**	**+1.4**
CISI				S	**Sn**	**15 44 17.2

ISCJB 17 15:48:35.3±0.8, 11°.61S±0°.07×166°.25E±0°.09, h59km, mb4.2/9, Error ellipse: s-maj=13.5km s-min=8.8km az=149.1

IDC 17 15:48:37.0±3.4, 11°.53S×166°.32E, h62km±28km, mb3.9/10, mb1 4.1/12, mb1mx3.9/23, mbtmp4.0/12, ML4.4/2, Error ellipse: s-maj=23.5km s-min=18.7km az=66.0

ISC 17 15:48:36.7±0.9, 11°.52S±0°.09×166°.3E±0°.1, h59km, n12, σ1§20/14, mb4.1/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.62**	**288**	P	**Pn**	**15 50 12.4**	**+0.9**
	31nm,0.3s,baz=164,slow=3.6,SNR=15						
HNR				S	**Sn**	**15 51 24.6**	**-1.0**
	6.8nm,0.3s,baz=198,slow=19,SNR=3.2						
DZM	**Mont Dzumac**	**10.49**	**179**	P	**Pn**	**15 51 06.4**	**+1.9**
	0.8nm,0.3s,baz=308,slow=21,SNR=16						
DZM				S	**Sn**	**15 52 58.7**	**-1.9**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.3						
CTA	**Charters Tower**	**21.10**	**244**	P	**P**	**15 53 17.7**	**+1.2**
	4.9nm,0.7s,baz=92,slow=14,SNR=5.8						
STKA	**Stephens Creek**	**30.51**	**225**	P	**P**	**15 54 43.2**	**-1.2**
	4.4nm,0.7s,baz=59,slow=9.9,SNR=12						
WRA	**Warramunga Arr**	**31.87**	**251**	P	**P**	**15 54 56.0**	**-0.6**
	4.4nm,0.8s,baz=82,slow=9.1,SNR=21						
FITZ	**Fitzroy Crossi**	**39.82**	**256**	P	**P**	**15 56 04.0**	**-0.7**
	4.6nm,0.8s,baz=100,slow=6.4,SNR=5.0						
NWAO	**Narrogin (SRO)**	**49.68**	**236**	P	**P**	**15 57 23.2**	**+0.2**
	15nm,1.0s,baz=88,slow=5.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**72.83**	**293**	P	**P**	**16 00 00.8**	**+1.1**
	0.6nm,0.3s,baz=122,slow=4.5,SNR=7.5						
SONM	**Songino Array**	**79.39**	**324**	P	**P**	**16 00 36.4**	**-0.2**
	0.4nm,0.6s,baz=122,slow=6.0,SNR=5.1						
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**16 00 57.8**	**-1.4**
	0.3nm,0.7s,baz=230,slow=5.3,SNR=6.5						
NVAR	**Mina Array Bea**	**85.89**	**50**	P	**P**	**16 01 11.2**	**+0.5**
	0.4nm,0.6s,baz=237,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**94.26**	**317**	P	**P**	**16 01 49.4**	**-0.3**
	1.1nm,0.5s,baz=86,slow=6.2,SNR=22						

ISCJB 17 16:06:05.2±0.5, 19°.28S±0°.04×69°.76W±0°.08, h86km±4km, mb3.9/7, Error ellipse: s-maj=13.4km s-min=6.0km az=9.0

GUC 17 16:06:06.2±0.4, 19°.36S×69°.81W, h76km±2km, ML4.7

IDC 17 16:06:06.2±0.7, 19°.41S×69°.61W, h81km±6km, mb3.7/7, mb1 4.0/10, mb1mx3.8/19, mbtmp3.8/10, MS2.9/1, Ms1 3.0/1, ms1mx2.8/27, Error ellipse: s-maj=21.2km s-min=17.4km az=92.0

ISC 17 16:06:06.0±0.6, 19°.30S±0°.05×69°.76W±0°.08, h76km±5km, n30, σ1§36/35, mb4.0/7, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.23**	**42**	*i* P	**Pn**	**16 06 18.6**	**+0.8**
MNMC				*i* S	**Sn**	**16 06 28.0**	**+1.5**
MNMC				AML	AML	16 06 31.4	
	comp=N,50μm,0.2s						
PSGC	**Pisagua**	**0.45**	**230**	⇑*i* P	**Pn**	**16 06 19.1**	**0.0**
PSGC				⇓*i* S	**Sn**	**16 06 28.4**	**-0.3**
PSGC				AML	AML	16 06 29.2	
	comp=E,51μm,0.4s						
HMBC	**Humberstone**	**0.98**	**187**	⇑*i* P	**Pn**	**16 06 24.4**	**-0.3**
HMBC				*i* S	**Sn**	**16 06 38.4**	**-0.1**
HMBC				AML	AML	16 06 41.7	
	comp=N,16μm,0.4s						
PATCX	**Punta Patache**	**1.55**	**194**	⇑*i* P	**Pn**	**16 06 31.4**	**-0.6**
PATCX				*e*S	**Sn**	**16 06 50.9**	**-0.6**
PATCX				AML	AML	16 06 56.1	
	comp=E,11μm,0.4s						
PB01	**Plate Boundary**	**1.75**	**172**	*e*P	**Pn**	**16 06 34.8**	**+0.3**
PB01				*e*S	**Sn**	**16 06 56.8**	**+0.6**
PB01				AML	AML	16 07 01.6	
	comp=N,6μm,0.3s						
PB07	**Plate Boundary**	**2.41**	**183**	⇑*i* P	**Pn**	**16 06 43.5**	**0.0**
PB07				*i* S	**Sn**	**16 07 12.2**	**0.0**
PB07				AML	AML	16 07 20.8	
	comp=N,6μm,0.5s						
PB09	**Plate Boundary**	**2.53**	**169**	*e*P	**Pn**	**16 06 45.9**	**+0.9**
PB09				*i* S	**Sn**	**16 07 16.2**	**+1.2**
PB09				AML	AML	16 07 26.1	
	comp=E,14μm,0.6s						
PB04	**Plate Boundary**	**2.96**	**175**	*e*P	**Pn**	**16 06 52.6**	**+1.9**
PB04				*i* S	**Sn**	**16 07 28.3**	**+3.2**
PB04				AML	AML	16 07 39.6	
	comp=E,3μm,0.5s						
LPAZ	**La Paz**	**3.38**	**28**	P	**Pn**	**16 06 59.6**	**+2.7**
	comp=E,12nm,0.3s,baz=211,slow=5.2,SNR=133						
LPAZ				LR	LR	16 08 38.1	
	comp=E,176nm,21.6s,baz=128,slow=44						
CEN1	**Los Morros**	**4.09**	**186**	*e*P	**Pn**	**16 07 07.7**	**+1.5**
CEN1				*i* S	**Sn**	**16 07 56.2**	**+3.4**
SIV	**San Ignacio**	**8.91**	**70**	P	**Pn**	**16 08 11.2**	**-0.8**
	comp=E,4.4nm,0.3s,baz=272,slow=10,SNR=52						
CPUP	**Villa Florida**	**13.42**	**124**	P	**Pn**	**16 09 11.2**	**-2.0**
	comp=E,0.6nm,0.3s,baz=278,slow=11,SNR=4.6						
H03N1	**Juan Fernandez**	**16.28**	**208**	T	T	16 26 18.3	
	baz=31,slow=75,SNR=51						
H03N2	**Juan Fernandez**	**16.29**	**208**	T	T	16 26 15.7	
	baz=31,slow=75,SNR=57						
H03N3	**Juan Fernandez**	**16.30**	**208**	T	T	16 26 16.8	
	baz=31,slow=75,SNR=70						
BDFB	**Brasilia**	**21.05**	**83**	P	**P**	**16 10 43.5**	**-0.6**
	comp=E,2.2nm,0.5s,baz=261,slow=14,SNR=3.3						
PLCA	**Paso Flores**	**21.37**	**182**	P	**P**	**16 10 46.5**	**-0.6**
	comp=E,1.6nm,0.6s,baz=360,slow=11,SNR=8.0						
PLCA				pP	**pP**	**16 11 02.8**	**-0.1**
	comp=E,1.6nm,0.8s,baz=6.9,slow=9.8,SNR=2.1						
DBIC	**Dimbokro**	**68.90**	**75**	pP	pP	16 17 23.0	-0.1
	comp=E,3.7nm,0.6s,baz=207,slow=5.0,SNR=5.5						
ULM	**Lac du Bonnet**	**72.99**	**343**	P	**P**	**16 17 26.2**	**-1.0**
	comp=E,1.8nm,0.6s,baz=179,slow=3.1,SNR=3.5						
NVAR	**Mina Array Bea**	**73.28**	**322**	P	**P**	**16 17 31.0**	**+1.5**
	comp=E,1.0nm,0.8s,baz=164,slow=5.7,SNR=6.0						
TORD	**Torodi Ar. Bea**	**77.39**	**71**	P	**P**	**16 17 51.7**	**-1.5**
	comp=E,0.8nm,0.4s,baz=254,slow=5.1,SNR=14						
TORD				pP	**pP**	**16 18 13.1**	**-0.4**
	comp=E,1.2nm,0.5s,baz=250,slow=5.6,SNR=4.9						
VNDA	**Vanda**	**78.86**	**190**	P	**P**	**16 17 59.5**	**-0.9**
	comp=E,2.2nm,0.8s,baz=78,slow=3.9,SNR=7.5						
YKA	**Yellowknife Ar**	**88.86**	**341**	P	**P**	**16 18 51.6**	**+0.4**
	comp=E,2.0nm,0.6s,baz=134,slow=4.8,SNR=41						
YKA				pP	**pP**	**16 19 12.9**	**+1.0**
	comp=E,1.0nm,0.6s,baz=134,slow=4.7,SNR=5.3						
H11S2	**WAKE ISLAND Hyd**	**26.78**	**279**	T	T	18 44 17.8	
	baz=104,slow=73,SNR=47						
H11S1	**WAKE ISLAND Hyd**	**26.79**	**279**	T	T	18 44 22.3	
	baz=104,slow=73,SNR=72						
H11S3	**WAKE ISLAND Hyd**	**26.80**	**279**	T	T	18 44 30.9	
	baz=104,slow=73,SNR=44						
ZALV	**Zalesovo Beam**	**140.29**	**23**	PKP	**PKPdf**		**16 25 26.6**	**+0.7**
	comp=E,2.4nm,0.7s,baz=294,slow=1.6,SNR=8.8						
MKAR	**Makanchi Array**	**144.29**	**33**	PKP	PKPbc		16 25 31.8	+0.1
	comp=E,0.4nm,0.6s,baz=310,slow=2.5,SNR=7.2						
MJAR	**Matsushiro Arr**	**150.06**	**311**	PKPbc	**PKPbc**		**16 25 47.7**	**-0.6**
	comp=E,2.1nm,0.8s,baz=96,slow=1.3,SNR=4.8						
SONM	**Songino Array**	**151.37**	**5**	PKPbc	**PKPbc**		**16 25 51.7**	**+0.6**
	comp=E,1.7nm,0.6s,baz=315,slow=1.3,SNR=14						
SONM				pPKPbc	**pPKPbc**		**16 26 14.0**	**+1.3**
	comp=E,1.2nm,0.5s,baz=318,slow=1.2,SNR=5.8						

JMA 17 16:10:04.3, 34°.96N×139°.13E, h5km±1km, M0.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.06**	**237**	P	Pg	16 10 06.0	+0.2
KTJJ				S	Sg	16 10 07.3	+0.4
AJI	**Ajiro2**	**0.09**	**340**	P	Pg	16 10 06.2	-0.1
JOD2	**Odawara 2**	**0.30**	**354**	P	Pg	16 10 10.3	0.0
JOD2				S	Sg	16 10 14.8	+0.4
JYN	**Shimob**	**0.72**	**318**	P	Pg	16 10 17.6	-0.7

IDC 17 16:46:39.0±31.0, 30°.89N×139°.03E, h208km±147km, mb2.7/2, mb1 2.9/4, mb1mx2.7/24, mbtmp2.8/4, Error ellipse: s-maj=379.3km s-min=78.1km az=163.0

JMA 17 16:46:59.9±0.3, 32°.94N×138°.40E, h301km, M3.1

ISC 17 16:47:02.1±1.7, 33°.2N±0°.2×138°.4E±0°.1, h300km, n12, σ1§20/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**2.08**	**302**	P	**Pn**	**16 47 48.6**	**-0.9**
BSO3	**Boso 3**	**2.40**	**46**	P	**Pn**	**16 47 51.9**	**0.0**
BSO3				S	**S**	**16 48 32.1**	**+0.5**
BSO1	**Boso 1**	**2.61**	**54**	P	**Pn**	**16 47 53.1**	**-0.3**
BSO1				S	**S**	**16 48 33.6**	**-0.9**
JHU	**Hanno**	**2.79**	**15**	P	**Pn**	**16 47 56.7**	**+1.0**
JRY	**Ryogami san**	**2.89**	**8**	P	**Pn**	**16 47 58.0**	**+1.3**
JRY				S	**S**	**16 48 41.1**	**+0.8**
JAG	**Ashikaga**	**3.38**	**14**	P	**Pn**	**16 48 01.4**	**-0.2**
JAG				S	**S**	**16 48 46.7**	**-2.5**
MJAR	**Matsushiro Arr**	**3.39**	**357**	P	**Pn**	**16 48 02.1**	**+0.4**
	0.7nm,0.3s,baz=172,slow=11,SNR=9.0						
JYT	**Yasato**	**3.40**	**25**	P	**Pn**	**16 48 01.1**	**-0.7**
JFT	**Otama**	**4.63**	**19**	S	**S**	**16 49 12.9**	**-1.2**
KSRS	**Korea Array**	**9.58**	**300**	P	**Pn**	**16 49 14.7**	**-0.3**
	0.2nm,0.3s,baz=114,slow=13,SNR=5.3						
SONM	**Songino Array**	**28.18**	**311**	P	**P**	**16 52 29.5**	**+2.0**
	0.4nm,0.6s,baz=121,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**44.21**	**305**	P	**P**	**16 54 41.0**	**-1.1**
	0.1nm,0.3s,baz=89,slow=9.2,SNR=3.3						

IDC 17 16:48:04.8±2.1, 16°.87S×174°.28W, h118km±20km, mb3.5/6, mb1 3.8/7, mb1mx3.6/20, mbtmp3.6/7, Error ellipse: s-maj=44.2km s-min=14.7km az=133.0

ISCJB 17 16:48:09.3±0.9, 16°.9S±0°.2×174°.4W±0°.3, h172km, mb3.6/6, Error ellipse: s-maj=43.7km s-min=18.8km az=40.4

ISC 17 16:48:10.4±1.1, 17°.0S±0°.3×174°.3W±0°.3, h172km, n7, σ0§41/6, mb3.6/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.90**	**39**	P	Pn	16 49 03.6	-6.5
	16nm,0.3s,baz=36,slow=3.7,SNR=30						
AFI				S	Sn	16 49 45.7	-11
	18nm,0.3s,baz=226,slow=23,SNR=14						
URZ	**Urewera**	**22.50**	**198**	P	**P**	**16 52 55.5**	**-0.1**
	4.8nm,0.4s,baz=294,slow=6.3,SNR=11						
STKA	**Stephens Creek**	**42.51**	**241**	P	**P**	**16 55 49.2**	**+0.2**
	4.1nm,0.8s,baz=74,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**48.66**	**258**	P	**P**	**16 56 37.2**	**-0.2**
	1.1nm,0.4s,baz=97,slow=7.0,SNR=48						
NVAR	**Mina Array Bea**	**76.07**	**42**	P	**P**	**16 59 39.8**	**+0.5**
	0.6nm,0.7s,baz=226,slow=9.8,SNR=3.2						
PDAR	**Pinedale Array**	**84.01**	**42**	P	**P**	**17 00 21.4**	**-0.4**
	0.5nm,0.9s,baz=243,slow=6.0,SNR=3.2						
ILAR	**Eielson Array**	**84.16**	**11**	P	**P**	**17 00 21.6**	**-0.1**
	0.4nm,1.0s,baz=202,slow=4.6,SNR=3.6						

JMA 17 17:21:31.4, 34°.96N×139°.14E, h5km±1km, M1.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.07**	**241**	P	Pg	17 21 33.2	+0.2
AJI	**Ajiro2**	**0.09**	**335**	P	Pg	17 21 33.4	0.0
AJI				S	Sg	17 21 35.2	+0.4
JOD2	**Odawara 2**	**0.30**	**352**	P	Pg	17 21 37.4	0.0
JYO	**Yokosk**	**0.51**	**58**	P	Pb	17 21 42.7	-0.1
JYN	**Shimob**	**0.72**	**318**	P	Pg	17 21 44.8	-0.7
SHZ3	**Shizuoka 3**	**0.77**	**278**	P	Pg	17 21 46.3	0.0
SHZ3				S	Sb	17 21 57.4	-0.9

JMA 17 17:22:34.8, 34°.97N×139°.14E, h4km±1km, M1.2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.09**	**332**	P	Pg	17 22 36.6	0.0
JOD2	**Odawara 2**	**0.30**	**352**	P	Pg	17 22 40.7	+0.1
JOD2				S	Sg	17 22 45.3	+0.8

NIED 17 17:29:00, 35°.00N×139°.10E, h5km, Mw4.0 Best double couple: M0 1.22000×10^15 NP1:φs168.00000°, δ88.00000°, λ26.00000°. NP2:φs77.00000°, δ64.00000°, λ177.00000°.

ISCJB 17 17:29:52.9±0.8, 34°.92N±0°.05×139°.18E±0°.08, h16km±6km, mb3.5/7, MS3.2/3, Error ellipse: s-maj=10.4km s-min=7.5km az=8.3

IDC 17 17:29:52.0±1.0, 34°.89N×139°.17E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.6/28, mbtmp3.6/10, ML3.3/3, MS3.2/5, Ms1 3.2/5, ms1mx2.8/38, Error ellipse: s-maj=23.3km s-min=15.3km az=71.0

JMA 17 17:29:53.9, 34°.96N×139°.13E, h4km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs73.00000°, δ59.00000°, λ119.00000°. NP2: φs205.00000°, δ41.00000°, λ50.00000°. Principal axes: T Plg63.0000°, Azm32.0000°; N Plg25.0000°, Azm237.0000°; P Plg10.0000°, Azm142.0000°;

JMA Felt III J1.

ISC 17 17:29:52.9±1.6, 34°.91N±0°.06×139°.14E±0°.06, h5km±11km, n25, σ0§73/19, mb3.5/7, MS3.2/3, 1C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.14**	**345**	⇓P	**Pg**	**17 29 55.9**	**+0.1**
JIZS	**Izushimoda**	**0.28**	**229**	⇑P	**Pb**	**17 30 00.0**	**-0.5**
JIZS				S	**Sb**	**17 30 04.9**	**-0.6**
JIM2	**Oshima 3**	**0.31**	**128**	P	**Pb**	**17 30 00.7**	**-0.2**
JOD2	**Odawara 2**	**0.36**	**354**	⇓P	**Pg**	**17 29 59.8**	**-0.1**
JYN	**Shimob**	**0.77**	**321**	⇓P	**Pg**	**17 30 07.2**	**-0.4**
MJAR	**Matsushiro Arr**	**1.80**	**335**	Pn	**Pn**	**17 30 24.5**	**-0.2**
	37nm,0.3s,baz=161,slow=16,SNR=173						
MJAR				Lg	Lg	17 30 47.6	
	102nm,0.3s,baz=119,slow=20,SNR=29						
MAT	**Matsushiro**	**1.80**	**335**	P	**Pn**	**17 30 24.6**	**-0.1**
MAT				S	**Sn**	**17 30 47.8**	**-0.2**
JNU	**Nakatsue**	**7.08**	**258**	Pn	**Pn**	**17 31 38.9**	**+1.6**
	0.4nm,0.3s,baz=65,slow=6.1,SNR=4.9						
KSRS	**Korea Array**	**9.42**	**289**	Pn	**Pn**	**17 32 10.1**	**+0.8**
	0.2nm,0.3s,baz=100,slow=14,SNR=4.3						
KSRS				LR	LR	17 35 35.6	
	comp=Z,55nm,20.0s,baz=100,slow=36						
ASAJ	**Asahikawa**	**9.58**	**15**	Pn	**Pn**	**17 32 11.2**	**-0.3**
	0.4nm,0.3s,baz=91,slow=33,SNR=5.2						
ASAJ				LR	LR	17 36 01.9	
	comp=Z,146nm,19.1s,baz=202,slow=39						
PETK	**Petropavlovsk-**	**22.45**	**30**	LR	LR	17 44 04.7	
	comp=Z,81nm,18.4s,baz=280,slow=38						
SONM	**Songino Array**	**27.54**	**308**	LR	LR	17 47 07.6	
	comp=Z,98nm,18.4s,baz=56,slow=38						
H11N2	**WAKE ISLAND Hyd**	**28.80**	**114**	T	T	18 05 59.2	
	baz=310,slow=76,SNR=719						
H11N1	**WAKE ISLAND Hyd**	**28.81**	**114**	T	T	18 06 01.1	
	baz=310,slow=76,SNR=675						
H11N3	**WAKE ISLAND Hyd**	**28.82**	**114**	T	T	18 06 02.0	
	baz=310,slow=76,SNR=878						
H11S3	**WAKE ISLAND Hyd**	**29.41**	**117**	T	T	18 06 48.1	
	baz=313,slow=75,SNR=125						
H11S1	**WAKE ISLAND Hyd**	**29.41**	**117**	T	T	18 06 45.8	
	baz=313,slow=75,SNR=184						
H11S2	**WAKE ISLAND Hyd**	**29.43**	**117**	T	T	18 06 47.1	
	baz=313,slow=75,SNR=119						
ZALV	**Zalesovo Beam**	**42.03**	**314**	P	**P**	**17 37 44.7**	**-0.4**
	0.3nm,0.4s,baz=74,slow=6.4,SNR=2.2						
MKAR	**Makanchi Array**	**43.72**	**304**	P	**P**	**17 37 59.4**	**+0.3**
	0.8nm,0.9s,baz=79,slow=12,SNR=5.4						
MKAR				LR	LR	17 54 40.1	
	comp=Z,24nm,21.3s,baz=169,slow=34						
KURBB	**Kurchatov Arra**	**45.89**	**309**	P	**P**	**17 38 16.5**	**+0.3**
	3.1nm,0.9s,baz=86,slow=8.3,SNR=18						
BVAR	**Borovoye Array**	**50.66**	**313**	P	**P**	**17 38 53.2**	**+0.2**
	0.3nm,0.6s,baz=116,slow=6.8,SNR=3.7						
ILAR	**Eielson Array**	**52.27**	**31**	P	**P**	**17 39 06.1**	**+1.2**
	0.4nm,0.7s,baz=268,slow=5.7,SNR=5.3						
WRA	**Warramunga Arr**	**54.73**	**186**	P	**P**	**17 39 22.1**	**-1.3**
	1.0nm,0.8s,baz=1.0,slow=7.7,SNR=9.0						
YKA	**Yellowknife Ar**	**66.57**	**29**	P	**P**	**17 40 43.1**	**-0.6**
	0.1nm,0.6s,baz=311,slow=9.1,SNR=3.2						

IDC 17 17:31:23.3±1.8, 2.77N×126°.80E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=148.9km s-min=25.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.76**	**162**	P	P	17 36 37.0	-0.7
	0.6nm,0.5s,baz=342,slow=11,SNR=16						
STKA	**Stephens Creek**	**37.22**	**159**	P	P	17 38 37.4	+0.8
	2.5nm,0.9s,baz=360,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**58.38**	**326**	P	P	17 41 20.5	-0.2
	0.1nm,0.4s,baz=122,slow=8.1,SNR=2.4						

IDC 17 17:45:32.1±6.4, 31°.14N×140°.91E, h0km, mb4.1/2, mb1 4.1/4, mb1mx3.4/24, mbtmp3.9/4, ML2.6/2, Error ellipse: s-maj=133.2km s-min=49.8km az=41.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**5.84**	**338**	Pn	Pn	17 46 59.8	-0.1
	0.4nm,0.3s,baz=160,slow=14,SNR=4.1						
USRK	**Ussuriysk Arra**	**14.81**	**334**	Pn	Pn	17 49 02.5	-0.3
	0.1nm,0.3s,baz=142,slow=24,SNR=2.7						
PETK	**Petropavlovsk-**	**25.12**	**24**	P	P	17 50 58.4	0.0
	5.5nm,1.0s,baz=238,slow=8.3,SNR=3.8						
PDAR	**Pinedale Array**	**82.13**	**44**	P	P	17 57 55.0	0.0
	1.4nm,1.2s,baz=319,slow=4.0,SNR=3.9						

JMA 17 17:50:10.9, 34°.97N×139°.14E, h5km, M0.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.08**	**234**	P	Pg	17 50 12.6	0.0
AJI	**Ajiro2**	**0.09**	**332**	P	Pg	17 50 12.9	+0.1
AJI				S	Sg	17 50 14.1	+0.1
JOD2	**Odawara 2**	**0.30**	**352**	P	Pg	17 50 16.8	+0.1

NIED 17 18:09:00, 35°.00N×139°.10E, h5km, Mw3.8 Best double couple: M0 5.23000×10^14 NP1:φs358.00000°, δ86.00000°, λ-18.00000°. NP2:φs90.00000°, δ72.00000°, λ-175.00000°.

IDC 17 18:09:22.3±1.4, 34°.84N×139°.04E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/24, mbtmp3.2/3, MS2.9/3, Ms1 3.0/3, ms1mx2.5/10, Error ellipse: s-maj=38.5km s-min=15.7km az=74.0

ISCJB 17 18:09:24.1±0.8, 34°.95N±0°.04×139°.15E±0°.09, h10km±4km, mb3.3/3, MS2.8/2, Error ellipse: s-maj=12.0km s-min=6.3km az=2.4

JMA 17 18:09:24.7, 34°.96N×139°.13E, h5km, M3.6

JMA Felt III J1.

ISC 17 18:09:24.8±1.1, 34°.97N±0°.04×139°.11E±0°.06, h8km±7km, n13, σ0§39/13, mb3.2/3, 1C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.08**	**348**	⇓P	**Pg**	**18 09 26.6**	**-0.3**
AJI				S	**Sg**	**18 09 28.5**	**+0.2**
JOD2	**Odawara 2**	**0.30**	**356**	⇓P	**Pg**	**18 09 30.7**	**0.0**
JOD2				S	**Sg**	**18 09 35.3**	**+0.7**
JIZS	**Izushimoda**	**0.32**	**218**	⇑P	**Pg**	**18 09 30.9**	**-0.1**
JIZS				S	**Sg**	**18 09 35.6**	**+0.4**
JIM2	**Oshima 3**	**0.36**	**133**	P	**Pg**	**18 09 31.6**	**-0.3**
JYN	**Shimob**	**0.70**	**319**	⇓P	**Pg**	**18 09 38.0**	**-0.4**
MJAR	**Matsushiro Arr**	**1.73**	**335**	Pn	**Pn**	**18 09 54.9**	**-0.5**
	32nm,0.3s,baz=158,slow=15,SNR=110						
MJAR				Lg	Lg	18 10 18.0	
	36nm,0.3s,baz=134,slow=18,SNR=20						
MAT	**Matsushiro**	**1.74**	**335**	P	**Pn**	**18 09 55.3**	**0.0**
MAT				S	**Sb**	**18 10 18.7**	**-0.3**
ASAJ	**Asahikawa**	**9.52**	**15**	LR	LR	18 15 43.5	
	comp=Z,67nm,19.4s,baz=194,slow=39						
PETK	**Petropavlovsk-**	**22.41**	**30**	LR	LR	18 23 29.8	
	comp=Z,35nm,18.5s,baz=52,slow=38						
CMAR	**Chiang Mai Arr**	**39.17**	**256**	LR	LR	18 33 38.3	
	comp=Z,13nm,18.8s,baz=175,slow=37						
MKAR	**Makanchi Array**	**43.67**	**304**	P	**P**	**18 17 30.3**	**+0.2**
	0.2nm,0.6s,baz=89,slow=13,SNR=2.6						
ILAR	**Eielson Array**	**52.23**	**31**	P	**P**	**18 18 36.2**	**+0.1**
	0.2nm,0.6s,baz=276,slow=5.4,SNR=4.5						
WRA	**Warramunga Arr**	**54.80**	**185**	P	P	18 18 51.8	-3.5
	0.3nm,0.5s,baz=1.2,slow=7.4,SNR=4.1						

CRAAG 17 18:34:57.7, 36°.24N×4°.50E, MI3.6

CSEM 17 18:35:00.8±0.3, 36°.01N×4°.51E, h10km, mb3.9, Error ellipse: s-maj=12.2km s-min=5.5km az=175.0

ISCJB 17 18:35:01.5±0.6, 36°.16N±0°.06×4°.46E±0°.05, h22km, Error ellipse: s-maj=8.8km s-min=5.8km az=176.0

MDD 17 18:35:01.8±0.9, 35°.99N×4°.49E, h8km±10km, mb3.9/14, Error ellipse: s-maj=16.3km s-min=5.3km az=0.0, PRXIMO SIN SOLUCIN

ISC 17 18:35:00.8±1.2, 35°.98N±0°.07×4°.53E±0°.03, h22km, n57, σ1§19/57, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.53**	**277**	P	**Pb**	**18 35 11.0**	**-0.5**
AKET	**Djebel Ketaf**	**0.53**	**277**	P	**Pb**	**18 35 11.0**	**-0.5**
AKET	**Djebel Ketaf**	**0.53**	**277**	P	**Pb**	**18 35 11.0**	**-0.5**
SET	**Setif**	**0.74**	**73**	P	Pb	18 35 11.0	-4.0
SET	**Setif**	**0.74**	**73**	P	Pb	18 35 11.0	-4.0
CKHR	**Kef el Ahmar**	**0.80**	**87**	P	**Pn**	**18 35 17.5**	**+0.7**
CKHR	**Kef el Ahmar**	**0.80**	**87**	P	**Pn**	**18 35 17.5**	**+0.7**
CKHR	**Kef el Ahmar**	**0.80**	**87**	P	**Pn**	**18 35 17.5**	**+0.7**
ADJB	**Djebel Djouab**	**0.90**	**281**	P

	3.0nm,0.2s,SNR=6.2							
EMIR	**Miracle**	**6.37**	**339**	P	**Pn**	**18 36 34.6**	**+1.3**
	3.0nm,0.2s,SNR=6.2							
EQUE	**Quentar**	**6.53**	**283**	P	**Pn**	**18 36 36.8**	**+1.2**
	2.1nm,0.4s,SNR=8.1							
EQUE	**Quentar**	**6.53**	**283**	P	**Pn**	**18 36 36.8**	**+1.2**
	2.1nm,0.4s,SNR=8.1							
CLLI	**Llivia**	**6.78**	**344**	P	**Pn**	**18 36 40.4**	**+1.3**
	0.5nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**6.78**	**344**	P	**Pn**	**18 36 40.4**	**+1.3**
	0.5nm,0.2s,SNR=7.9							
CSOR	**Sort**	**6.91**	**339**	P	**Pn**	**18 36 41.8**	**+1.0**
	0.5nm,0.2s,SNR=7.9							
CSOR				S	**Sn**	**18 37 56.5**	**-2.2**
	1.4nm,0.3s,SNR=7.9							
CSOR	**Sort**	**6.91**	**339**	P	**Pn**	**18 36 41.8**	**+1.0**
	0.5nm,0.2s,SNR=7.9							
CSOR				S	**Sn**	**18 37 56.5**	**-2.2**
	1.4nm,0.3s,SNR=7.9							

NEIC ***17*** *18:54:04.5±1.1,23°.24S×179°.96W,h517km±15km, mb4.7/3, Error ellipse: s-maj=17.0km s-min=12.3km az=135.0*

IDC ***17*** *18:54:05.3±2.8,23°.23S×179°.98W,h520km±31km, mb3.8/4, mb1 3.9/6, mb1mx3.4/20, mbtmp4.8/6, Error ellipse: s-maj=23.9km s-min=20.5km az=124.0*

ISC 17 18:54:06.6±1.1,23°.3S±0°.1×180°.0E±0°.2,h535km,n38, σ0:70/36,mb4.2/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.19**	**41**	P	P	18 56 44.0	-3.2
AFI	**Afiamalu**	**12.19**	**41**	P	P	18 56 44.0	-3.2
	4.0nm,0.3s,baz=122,slow=19,SNR=4.8						
URZ	**Urewera**	**15.11**	**189**	*e*P	**P**	**18 57 16.3**	**-0.9**
	13nm,0.6s						
URZ				S	**S**	**18 59 54.3**	**0.0**
URZ	**Urewera**	**15.11**	**189**	P	**P**	**18 57 18.1**	**+0.9**
	3.0nm,0.3s,baz=352,slow=2.9,SNR=18						
URZ				S	**S**	**18 59 54.3**	**0.0**
	1.4nm,0.3s,baz=68,slow=23,SNR=16						
EIDS	**Eidsvold**	**26.37**	**260**	P	**P**	**18 59 00.7**	**+0.4**
	baz=34,SNR=4.5						
RMQ	**Roma**	**28.45**	**257**	P	**P**	**18 59 20.1**	**+1.6**
	baz=36,SNR=6.9						
CMSA	**Cobar Meteorol**	**31.41**	**247**	P	**P**	**18 59 44.6**	**+0.6**
	baz=39,SNR=12						
CTA	**Charters Tower**	**31.44**	**269**	P	**P**	**18 59 44.9**	**+0.4**
CTA	**Charters Tower**	**31.44**	**269**	P	**P**	**18 59 44.9**	**+0.4**
	12nm,0.4s,baz=94,slow=11,SNR=32						
CTAO	**Charters Tower**	**31.44**	**269**	*e*P	**P**	**18 59 44.4**	**0.0**
	14nm,0.5s						
QLP	**Quilpie**	**32.49**	**257**	P	**P**	**18 59 53.8**	**+0.5**
	baz=40,SNR=8.5						
TOO	**Toolangi**	**32.74**	**236**	P	**P**	**18 59 56.6**	**+1.2**
	baz=40,SNR=7.9						
STKA	**Stephens Creek**	**34.91**	**247**	*e*P	**P**	**19 00 14.1**	**+0.5**
STKA	**Stephens Creek**	**34.91**	**247**	P	**P**	**19 00 13.7**	**+0.1**
	5.8nm,0.5s,baz=94,slow=11,SNR=22						
STKA	**Stephens Creek**	**34.91**	**247**	P	**P**	**19 00 14.3**	**+0.7**
	baz=42,SNR=14						
HTT	**Hallett**	**37.29**	**245**	P	**P**	**19 00 33.7**	**+0.5**
	baz=45,SNR=5.3						
BBOO	**Buckleboo**	**39.65**	**246**	P	**P**	**19 00 52.1**	**-0.3**
	baz=47,SNR=10.0						
AS31	**Alice Springs**	**42.10**	**260**	*e*P	**P**	**19 01 11.6**	**-0.5**
WRAB	**Tennant Creek**	**42.41**	**266**	*e*P	**P**	**19 01 13.0**	**-1.5**
	6.8nm,0.8s						
WRA	**Warramunga Arr**	**42.41**	**266**	P	**P**	**19 01 13.8**	**-0.7**
WRA	**Warramunga Arr**	**42.41**	**266**	P	**P**	**19 01 13.8**	**-0.7**
	1.9nm,0.3s,baz=90,slow=6.0,SNR=130						
KDU	**Kakadu**	**46.20**	**275**	P	**P**	**19 01 43.0**	**-0.8**
	baz=54,SNR=3.5						
FORT	**Forrest**	**46.49**	**249**	P	**P**	**19 01 45.3**	**-0.5**
	baz=54,SNR=14						
WRKA	**Warakurna**	**46.93**	**257**	P	**P**	**19 01 48.9**	**-0.3**
	baz=55,SNR=14						
KNRA	**Kununurra**	**48.66**	**269**	P	**P**	**19 02 01.9**	**-0.2**
	baz=56,SNR=3.7						
KLBR	**Kellerberrin**	**55.19**	**247**	P	**P**	**19 02 48.9**	**-0.2**
	baz=63,SNR=4.8						
MORW	**Morawa**	**57.05**	**250**	P	**P**	**19 03 01.7**	**-0.2**
	baz=65,SNR=4.3						
PETK	**Petropavlovsk-**	**78.51**	**347**	P	**P**	**19 05 12.2**	**+0.1**
PETK	**Petropavlovsk-**	**78.51**	**347**	P	**P**	**19 05 12.2**	**+0.1**
	2.6nm,0.6s,baz=140,slow=7.0,SNR=7.3						
SNAA	**Sanae**	**85.26**	**179**	P	**P**	**19 05 45.5**	**-0.9**
SNAA	**Sanae**	**85.26**	**179**	P	**P**	**19 05 45.5**	**-0.9**
	0.3nm,0.9s,baz=185,slow=13,SNR=5.6						
AKASG	**Malin Array Be**	**144.45**	**328**	PKP	PKPbc	19 12 41.1	-0.6
AKASG	**Malin Array Be**	**144.45**	**328**	PKP	PKPbc	19 12 41.1	-0.6
	1.8nm,0.5s,baz=44,slow=4.3,SNR=16						
BRTR	**Keskin Array B**	**147.19**	**308**	PKPbc	**PKPbc**	**19 12 50.0**	**-0.2**
BRTR	**Keskin Array B**	**147.19**	**308**	PKPbc	**PKPbc**	**19 12 50.0**	**-0.2**
	0.6nm,0.6s,baz=101,slow=2.5,SNR=3.9						
CLL	**Collm**	**150.28**	**343**	*e*PKPbc	**PKPbc**	**19 12 58.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**169.77**	**190**	PKPab	**PKPab**	**19 14 32.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**169.77**	**190**	PKPab	**PKPab**	**19 14 32.1**	**+0.8**
	0.6nm,0.7s,baz=181,slow=3.5,SNR=4.3						

IDC ***17*** *18:57:38.2±2.8,6°.57S×155°.51E,h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=75.1km s-min=35.6km az=121.0*

ISC 17 18:57:42.9±2.8,6°.7S±0°.4×155°.6E±0°.4,h35km,n7,σ0:41/9, mb3.7/4,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.79**	**252**	Pn	**Pn**	**18 59 47.3**	**-0.2**
	2.8nm,0.3s,baz=66,slow=6.9,SNR=12						
PMG	**Port Moresby**	**8.79**	**252**	P	**Pn**	**18 59 47.7**	**+0.2**
	baz=41,SNR=7.8						
PMG				P	**Pn**	**18 59 47.7**	**+0.2**
	baz=41,SNR=7.8						
PMG				P	**Pn**	**18 59 47.7**	**+0.2**
	baz=41,SNR=7.8						
WRA	**Warramunga Arr**	**24.48**	**235**	P	**P**	**19 02 58.5**	**-0.4**
	1.3nm,0.8s,baz=57,slow=9.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**61.20**	**295**	P	**P**	**19 07 54.8**	**+0.1**
	1.2nm,0.7s,baz=121,slow=5.4,SNR=14						
SONM	**Songino Array**	**69.42**	**327**	P	**P**	**19 08 47.6**	**+0.1**
	0.3nm,0.7s,baz=96,slow=4.3,SNR=2.4						
MKAR	**Makanchi Array**	**83.58**	**319**	P	**P**	**19 10 07.2**	**-0.4**
	0.6nm,0.8s,baz=103,slow=4.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**153.53**	**286**	PKPbc	**PKPbc**	**19 17 39.5**	**+0.7**
	0.4nm,0.8s,baz=78,slow=2.1,SNR=2.6						

IDC 17 19:02:46.5±23.0,19°.79N×145°.30E,h335km±249km, mb3.0/4,mb1 3.2/4,mb1mx2.8/24,mbtmp3.0/4,Error ellipse: s-maj=45.9km s-min=37.6km az=117.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.92**	**196**	P	P	19 09 57.2	-0.1
	0.2nm,0.4s,baz=18,slow=8.9,SNR=6.1						
MKAR	**Makanchi Array**	**57.44**	**313**	P	P	19 12 01.1	-0.1
	0.4nm,0.6s,baz=92,slow=8.5,SNR=4.6						
ILAR	**Eielson Array**	**62.84**	**26**	P	P	19 12 37.1	0.0
	0.2nm,0.5s,baz=249,slow=6.0,SNR=6.1						
FINES	**FINESS Array B**	**85.74**	**335**	P	P	19 14 48.0	-0.1
	2.7nm,1.0s,baz=73,slow=4.7,SNR=4.2						

CSEM ***17*** *19:57:12.8±0.2,36°.56N×34°.68E,h2km,MD2.6, Error ellipse: s-maj=5.2km s-min=3.3km az=139.0*

DDA ***17*** *19:57:13.7,36°.64N×34°.60E,h7km,MD2.7*

ISK 17 19:57:12.4,36°.57N×34°.65E,h5km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.31**	**341**	*e*PG	Pg	19 57 19.4	+0.8
MERS				*e*SG	Sg	19 57 24.0	+1.1
MERS	**Mersin**	**0.31**	**341**	*e*Pg	Pg	19 57 19.4	+0.8
MERS				*e*Sg	Sg	19 57 24.0	+1.2
KIZK	**Mersin**	**0.41**	**258**	*i* P	Pb	19 57 21.8	-0.5
KIZK				*i* S	Sb	19 57 27.7	-1.2
KIZK	**Mersin**	**0.41**	**258**	*i* P	Pb	19 57 21.8	-0.4
KIZK				*i* S	Sb	19 57 27.7	-1.2
GULE	**Gulek**	**0.72**	**8**	*i* P	Pb	19 57 27.2	-0.5
GULE				*i* S	Sg	19 57 35.7	-0.4
GULE	**Gulek**	**0.72**	**8**	*i* P	Pb	19 57 27.2	-0.5
GULE				*i* S	Sg	19 57 35.7	-0.3
KARA	**Karaisali**	**0.76**	**25**	*e*PG	Pg	19 57 27.1	0.0
KARA				*e*SG	Sb	19 57 38.4	-0.5
KARA	**Karaisali**	**0.76**	**25**	*e*Pg	Pg	19 57 27.1	0.0
KARA				*e*Sg	Sb	19 57 38.4	-0.5
IKL	**Isikli**	**0.84**	**247**	*e*PG	Pg	19 57 28.7	+0.1
IKL	**Isikli**	**0.84**	**247**	*e*Pg	Pg	19 57 28.7	+0.1
TAHT	**Tahtakopru-Hat**	**1.25**	**98**	*e*PN	Pn	19 57 37.3	+0.6
TAHT	**Tahtakopru-Hat**	**1.25**	**98**	*e*Pn	Pn	19 57 37.3	+0.7
KOZT	**Kozan**	**1.31**	**46**	*e*PN	Pg	19 57 38.0	+0.4
KOZT	**Kozan**	**1.31**	**46**	*e*Pn	Pg	19 57 38.0	+0.4

MEX 17 19:59:40.8±0.9,16°.41N×93°.69W,h153km±18km,MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.83**	**147**	*e*P	Pn	20 00 03.1	-1.5
PCIG				*e*S	Sn	20 00 20.7	-1.9
HUIG	**Huatulco**	**2.41**	**255**	*e*P	Pn	20 00 18.9	-2.1
HUIG				*i* S	Sn	20 00 50.7	-1.3
VHO	**Vista Hermosa**	**2.99**	**283**	*i* P	Pn	20 00 27.4	-1.1
VHO				*i* S	Sn	20 01 02.9	-2.4
PNIG	**Pinotepa**	**4.26**	**270**	*i* P	Pn	20 00 44.1	-0.5
PNIG				*i* S	Sn	20 01 32.7	-1.5

BGS ***17*** *20:01:17.4±1.2,50°.64N×178°.18W,h33km,mb6.2,MS5.4*

BJI ***17*** *20:01:18.9,51°.42N×179°.99E,h34km,mB6.0/54,mb6.4/72, Ms5.6/77,Ms7 5.4/71*

MOS ***17*** *20:01:20.1±0.9,51°.55N×179°.93W,h33km,mb6.3/137, MS5.3/70,Error ellipse: s-maj=5.9km s-min=4.7km az=93.9*

NEIC ***17*** *20:01:21.6±0.1,51°.40N×179°.96E,h35km,mb6.2/290, ME5.8,MS5.2/90,MW5.7,Error ellipse: s-maj=3.7km s-min=1.8km az=176.0,Moment Tensor Solution. s121 Moment tensor: Scale 10¹⁷Nm; Mrr3.74; Mθθ-2.68; Mφφ-1.06; Mrθ 1.95; Mrφ-1.95; Mθφ 0.97; Best double couple: M○4.40000×10¹⁷ NP1:φs232.00000°,δ31.00000°, λ83.00000°. NP2:φs60.00000°,δ60.00000°,λ94.00000°. Principal axes: T 4.3200, Plg74.0000°, Azm340.0000°; N 0.2300, Plg3.0000°, Azm238.0000°; P -4.5500, Plg14.0000°, Azm147.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt on Adak.

ISCJB ***17*** *20:01:22.5±0.3,51°.41N±0°.02×179°.94W±0°.01,h58km±2km, mb6.2/589,MS5.3/201 Error ellipse: s-maj=3.6km s-min=1.5km az=3.6*

IDC ***17*** *20:01:22.4±1.0,51°.49N×179°.92W,h41km±7km,mb5.7/35, mb1 5.8/38,mb1mx5.8/39,mbtmp5.7/38,ML5.3/3,MS5.3/42, Ms1 5.3/42,ms1mx5.3/44,Error ellipse: s-maj=12.7km s-min=8.8km az=163.0*

GCMT ***17*** *20:01:24.4±0.1,51°.28N×179°.87W,h44km,MW5.8, Moment Tensor Solution. s127,c258; s68,c79; Moment tensor: Scale 10¹⁷Nm; Mrr5.39±.05; Mθθ-4.89±.05; Mφφ-0.50±.04; Mrθ 2.58±.05; Mrφ-2.36±.03; Mθφ 2.19±.04; Best double couple: M○6.60000×10¹⁷ NP1:φs57.00000°, δ61.00000°,λ80.00000°. NP2:φs256.00000°,δ31.00000°, λ106.00000°. Principal axes: T 6.4100, Plg73.0000°, Azm304.0000°; N 0.3900, Plg8.0000°, Azm62.0000°; P -6.7900, Plg15.0000°, Azm154.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=132, comp=283, per=50.*

SZGRF ***17*** *20:01:30.9,51°.78N×178°.03E,h67km,mb6.5,Rat Islands, Aleutian Islands, United States*

ISC 17 20:01:21.9±0.2,51°.44N±0°.03×180°.00W±0°.02,h39km±1km, h39km:pP-P,n2033,σ1s15/2528,mb6.2/589,MS5.2/203, 687C-336D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.44**	**262**	P	**Pn**	**20 01 31.8**	**0.0**
AMKA				S	**Sn**	**20 01 39.0**	**+0.2**
CERAA	**Semis' Rag'd T**	**0.51**	**337**	P	**Pn**	**20 01 35.6**	**+2.8**
CESW	**Semis' Southwe**	**0.54**	**330**	P	**Pn**	**20 01 35.9**	**+2.7**
CETU	**Semis' Tuman**	**0.62**	**329**	P	Pn	20 01 37.1	+2.9
CEAP	**Semis' Anvil P**	**0.62**	**335**	P	Pn	20 01 37.3	+3.0
GANE	**Gareloi Northe**	**0.85**	**63**	P	**Pn**	**20 01 38.7**	**+1.3**
GAEA	**Gareloi East**	**0.85**	**66**	P	**Pn**	**20 01 38.8**	**+1.4**
LSPA	**Little Sitkin**	**1.03**	**301**	P	**Pn**	**20 01 42.4**	**+2.6**
LSSA	**Little Sitkin**	**1.06**	**299**	P	**Pn**	**20 01 42.6**	**+2.3**
LSNW	**Little Sitkin**	**1.07**	**301**	P	**Pn**	**20 01 42.4**	**+2.1**
TANO	**Tanaga North**	**1.26**	**67**	P	**Pn**	**20 01 44.9**	**+1.9**
TASE	**Tanaga Southea**	**1.28**	**71**	P	**Pn**	**20 01 44.6**	**+1.2**
TAFP	**Tanaga Falls P**	**1.34**	**69**	P	**Pn**	**20 01 45.6**	**+1.6**
TAFL	**Tanaga Flats**	**1.35**	**76**	P	**Pn**	**20 01 45.2**	**+1.0**
KIKV	**Kanaga Island**	**1.81**	**75**	P	**Pn**	**20 01 51.9**	**+1.3**
KINC	**Kanaga Island**	**1.85**	**73**	P	**Pn**	**20 01 52.6**	**+1.5**
KIRH	**Kanaga Island**	**1.87**	**75**	P	**Pn**	**20 01 52.7**	**+1.4**
ADAG	**Mount Adagdak**	**2.18**	**74**	P	**Pn**	**20 01 57.8**	**+2.1**
ETKA	**Kagalaska Isla**	**2.28**	**78**	P	**Pn**	**20 01 58.7**	**+1.8**
GSCK	**Great Sitkin C**	**2.45**	**75**	P	**Pn**	**20 02 01.1**	**+1.8**
GSTD	**Great Sitkin T**	**2.47**	**74**	P	**Pn**	**20 02 01.0**	**+1.3**
GSMY	**Great Sitkin M**	**2.52**	**75**	P	**Pn**	**20 02 01.6**	**+1.2**
GSTR	**Great Sitkin T**	**2.53**	**73**	*e*Pn	**Pn**	**20 02 02.3**	**+1.8**
SMY	**Shemya**	**3.87**	**292**	*e*P	**Pn**	**20 02 20.7**	**+2.0**
SMY	**Shemya**	**3.87**	**292**	*e*P	**Pn**	**20 02 20.7**	**+2.0**
FX1	**Attu Island--F**	**4.45**	**292**	*e*P	**Pn**	**20 02 28.2**	**+1.4**
FX1				S	Sn	20 03 23.9	+6.6
FX1	**Attu Island--F**	**4.45**	**292**	P	**Pn**	**20 02 28.3**	**+1.4**
	778nm,0.3s,baz=187,slow=4.6,SNR=367						
FX1				S	Sn	20 03 23.9	+6.6
	727nm,0.3s,baz=51,slow=23,SNR=7.6						
FX1				LR	LR	20 04 15.4	
	comp=Z,73μm,20.5s,baz=183,slow=39						
NIKH	**Nikolski High**	**7.02**	**73**	P	Pn	20 03 05.0	+3.0
NIKH				S	Sn	20 04 26.8	+6.3
OKTU	**Okmok Mt. Tuli**	**7.57**	**70**	P	Pn	20 03 13.8	+4.2
OKFG	**Magazine Ridge**	**7.65**	**70**	P	Pn	20 03 14.9	+4.3
SPIA	**Saint Paul Isl**	**8.09**	**41**	P	Pn	20 03 21.3	+4.6
MCIR	**Makushin Cirqu**	**8.35**	**67**	P	Pn	20 03 24.4	+4.1
MSW	**Makushin Switc**	**8.40**	**68**	P	Pn	20 03 24.7	+3.7
MREP	**Makushin Rep't**	**8.41**	**68**	P	Pn	20 03 25.0	+4.0
UNV	**Unalaska Valle**	**8.55**	**68**	P	Pn	20 03 27.0	+4.0
AKRB	**Akutan Reef Bi**	**8.86**	**67**	P	Pn	20 03 31.2	+3.9
AKGG	**Akutan Green G**	**8.92**	**66**	P	Pn	20 03 32.3	+4.2
AKUT	**Akutan**	**9.03**	**67**	*e*Pn	Pn	20 03 32.7	+3.1
	1μm,1.0s						
WESN	**West Dahl Nort**	**9.80**	**65**	P	Pn	20 03 43.7	+3.5
SSLW	**Shishaldin Wes**	**10.11**	**65**	P	Pn	20 03 47.8	+3.4
FALS	**False Pass**	**10.53**	**65**	*e*Pn	**Pn**	**20 03 50.5**	**+0.5**
	566nm,0.4s						
SDPT	**Sand Point**	**12.28**	**64**	*e*Pn	**Pn**	**20 04 14.1**	**+0.1**
	604nm,0.8s						
GAMB	**Gambell**	**13.13**	**16**	*e*Pn	Pn	20 04 29.1	+3.6
	169nm,1.1s						
PET	**Petropavlovsk**	**13.18**	**285**	⇓*i* P	Pn	20 04 29.0	+2.8
PET				*e*S	**Sn**	**20 06 52.1**	**+0.8**
PET				pmax	pmax		
	comp=Z,2μm,5.4s						
PET				pmax	pmax		
	comp=Z,192nm,1.2s						
PET				smax	smax		
	comp=N,259nm,0.8s						
PET				smax	smax		
	comp=E,318nm,0.7s						
PET				MLR	MLR		
	comp=Z,9μm,14.0s						
PET				MLR	MLR		
	comp=Z,9μm,16.0s						
PET	**Petropavlovsk**	**13.18**	**285**	*e*Pn	**Pn**	**20 04 26.8**	**+0.6**
	comp=Z,733nm,1.2s						
CHGN	**Chignik**	**13.61**	**61**	*e*Pn	**Pn**	**20 04 33.1**	**+1.1**
PEA0B	**Petropavlovsk-**	**13.75**	**286**	*e*Pn	Pn	20 04 36.9	+2.8
PETK	**Petropavlovsk-**	**13.75**	**286**	P	**Pn**	**20 04 36.0**	**+1.9**
PETK				S	**Sn**	**20 07 05.2**	**-0.1**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK				smax	smax		
	comp=N,4.0nm,0.3s						
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				pmax	pmax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**13.75**	**286**	P	**Pn**	**20 04 36.0**	**+1.9**
PETK				S	**Sn**	**20 07 05.2**	**-0.1**
PETK				PcP	**PcP**	**20 09 56.5**	**+0.8**
PETK				ScP	**ScP**	**20 13 26.5**	**+0.8**
PETK	**Petropavlovsk-**	**13.75**	**286**	P	**Pn**	**20 04 36.0**	**+1.9**
	comp=N,8.5nm,0.3s,baz=89,slow=18,SNR=61						
PETK				S	**Sn**	**20 07 05.2**	**-0.1**
	comp=N,3.7nm,0.3s,baz=92,slow=39,SNR=4.1						
PETK				PcP	**PcP**	**20 09 56.5**	**+0.8**
	comp=N,0.9nm,0.3s,baz=116,slow=5.1,SNR=5.0						
PETK				ScP	**ScP**	**20 13 26.5**	**+0.8**
	comp=N,0.9nm,0.3s,baz=122,slow=5.4,SNR=12						
SKR	**Severo-Kuril's**	**15.03**	**276**	*e*P	**Pn**	**20 04 50.0**	**-1.2**
SKR				pmax	pmax		
	comp=E,90nm,0.7s						
SKR				pmax	pmax		
	comp=Z,220nm,0.7s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				MLR	MLR		
	comp=N,8μm,20.0s						
SKR				MLR	MLR		
	comp=E,6μm,20.0s						
SKR				MLR	MLR		
	comp=Z,7μm,20.0s						
TNA	**Tin City**	**15.46**	**19**	*e*P	**P**	**20 05 01.4**	**+0.7**
	comp=Z,3μm,1.4s						
OHAK	**Old Harbor**	**16.55**	**59**	*e*P	**Pn**	**20 05 08.4**	**-2.4**
	comp=Z,492nm,0.6s						
SVW2	**Sparrevohn**	**16.55**	**45**	*e*P	**P**	**20 05 13.8**	**+0.8**
	comp=Z,365nm,0.9s						
KDAK	**Kodiak Island**	**17.02**	**57**	*e*P	**Pn**	**20 05 14.8**	**-1.8**
	comp=Z,203nm,0.6s						
RSO	**Redoubt South**	**17.61**	**49**	*e*P	**P**	**20 05 26.2**	**+1.5**
	comp=Z,2μm,1.3s						
SPU	**Mount Spurr**	**18.17**	**47**	*e*Pn	**Pn**	**20 05 33.4**	**+2.5**
SEY	**Seymchan**	**18.70**	**319**	P	**Pn**	**20 05 38.6**	**+1.4**
SEY				pmax	pmax		
	comp=Z,9.0nm,0.3s						
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY				MLR	MLR		
	comp=Z,18μm,21.8s						
SEY				pmax	pmax		
	comp=N,3.0nm,0.3s						
SEY	**Seymchan**	**18.70**	**319**	P	**Pn**	**20 05 38.6**	**+1.4**
SEY				PcP	**PcP**	**20 10 04.5**	**+1.5**
SEY				ScP	**ScP**	**20 13 34.5**	**-0.7**
SEY	**Seymchan**	**18.70**	**319**	P	**Pn**	**20 05 38.6**	**+1.4**
	comp=N,8.9nm,0.3s,baz=115,slow=9.8,SNR=130						
SEY				PcP	**PcP**	**20 10 04.5**	**+1.5**
	comp=N,1.3nm,0.3s,baz=134,slow=4.3,SNR=4.2						
SEY				LR	LR	20 12 07.7	
	comp=N,18μm,21.8s,baz=148,slow=34						
SEY				ScP	**ScP**	**20 13 34.5**	**-0.7**
	comp=N,2.6nm,0.3s,baz=99,slow=3.1,SNR=18						
PPLA	**Purkeypile**	**18.76**	**42**	*e*P	**Pn**	**20 05 40.0**	**+1.9**
	comp=N,2μm,0.8s						
CAST	**Castle Rocks**	**19.03**	**40**	*e*Pn	**Pn**	**20 05 43.1**	**+1.9**
	comp=N,459nm,0.8s						
SEW	**Seward**	**19.09**	**51**	*e*Pn	**Pn**	**20 05 42.8**	**+0.9**
	comp=N,348nm,0.9s						
RC01	**Rabbit Creek A**	**19.21**	**48**	*e*P	**P**	**20 05 42.1**	**0.0**
	comp=N,677nm,1.1s						
PMR	**Palmer**	**19.63**	**47**	*e*P	**P**	**20 05 46.8**	**+0.1**
PMR				pmax	pmax		
	comp=Z,319nm,1.0s						
PMR	**Palmer**	**19.63**	**47**	*e*P	**P**	**20 05 46.8**	**+0.1**
	comp=Z,319nm,1.0s						
IM04	**Indian Mountai**	**19.70**	**32**	*e*P	**Pn**	**20 05 49.4**	**+0.1**
TRF	**Thorofare Moun**	**19.78**	**41**	*e*P	**P**	**20 05 49.7**	**+1.1**
	comp=Z,366nm,1.4s						
MCK	**McKinley**	**20.45**	**41**	*e*P	**P**	**20 05 56.0**	**+0.4**
MCK	**McKinley**	**20.45**	**41**	*e*P	**P**	**20 05 56.0**	**+0.4**
MCK				*e*ScP	**ScP**	**20 13 38.8**	**-0.5**
MID	**Middleton Isla**	**20.51**	**54**	PFAKE		20 06 10.0	+11
MID				LR	LR		
	comp=Z,8μm,21.0s						
DIV	**Divide**	**21.08**	**49**	*e*P	**P**	**20 06 02.3**	**-0.3**
DIV				*e*ScP	**ScP**	**20 13 41.6**	**+0.7**
COLA	**College**	**21.33**	**39**	*c i*P	**P**	**20 06 06.1**	**+1.1**
COLA				pmax	pmax		
	comp=Z,2μm,1.0s						
COLA	**College**	**21.33**	**39**	*e*P	**P**	**20 06 05.5**	**+0.4**
	comp=Z,137nm,0.9s						
COLA				LR	LR		
	comp=Z,10μm,20.0s						
RAGM	**Ragged Mountai**	**21.48**	**52**	*e*P	**P**	**20 06 08.0**	**+1.2**
	comp=Z,1μm,1.2s						
RAGM				*e*ScP	**ScP**	**20 13 42.7**	**+0.8**
RAGM				LR	LR		
	comp=Z,14μm,21.9s						
COLD	**Coldfoot**	**21.59**	**32**	*e*P	**P**	**20 06 09.5**	**+1.6**
	comp=Z,330nm,0.9s						
ILAR	**Eielson Array**	**21.67**	**39**	P	**P**	**20 06 07.2**	**-1.5**
ILAR				PcP	**PcP**	**20 10 08.0**	**-0.5**
ILAR				ScP	**ScP**	**20 13 40.9**	**-1.3**
ILAR				*e*		20 39 59.3	
ILAR	**Eielson Array**	**21.67**	**39**	P	**P**	**20 06 07.2**	**-1.5**
	comp=Z,63nm,0.8s,baz=240,slow=8.9,SNR=104						
ILAR				PcP	**PcP**	**20 10 08.0**	**-0.5**
	comp=Z,30nm,0.7s,baz=290,slow=3.0,SNR=12						
ILAR				ScP	**ScP**	**20 13 40.9**	**-1.3**
	comp=Z,42nm,0.8s,baz=282,slow=3.6,SNR=34						
ILAR				LR	LR	20 15 13.6	
	comp=Z,8μm,18.9s,baz=244,slow=38						
ILAR				P3KPbc		20 39 59.3	
	comp=Z,3.4nm,0.9s,baz=62,slow=3.8,SNR=

DAWY **Dawson** 24.58 43 *e*P **P** **20 06 37.8 -0.1**
HYT **Haines Junctio** 25.04 51 *e*P **P** **20 06 42.2 +0.1**
HYT *e*ScP **ScP** **20 13 52.3 +0.9**
ASAJ **Asahikawa** 25.96 268 *e*P **P** **20 06 51.9 +1.5**
comp=Z,469nm,1.0s
ASAJ PcP **PcP** **20 10 18.7 +0.7**
ASAJ *e*PcP PcP 20 10 19.3 +1.4
ASAJ ScP **ScP** **20 13 54.9 +0.7**
ASAJ **Asahikawa** 25.96 268 P **P** **20 06 51.7 +1.3**
comp=Z,840nm,0.9s,baz=56,slow=4.5,SNR=181
ASAJ PcP **PcP** **20 10 18.7 +0.7**
comp=Z,76nm,1.0s,baz=257,slow=7.3,SNR=6.9
ASAJ ScP **ScP** **20 13 54.9 +0.7**
comp=Z,25nm,0.8s,baz=151,slow=5.8,SNR=6.1
ASAJ LR LR 20 16 10.7
comp=Z,5μm,19.4s,baz=78,slow=34
SIT **Sitka** 26.31 60 PFAKE 20 07 10.0 +17
SIT *e*ScP **ScP** **20 13 56.7 +1.8**
SIT LR LR
comp=Z,8μm,20.0s
ERM **Érimo** 26.71 264 *e*P **P** **20 06 57.1 -0.1**
ERM *e* 20 10 21.9
ERM pmax pmax
comp=Z,325nm,1.1s
ERM MLR MLR
comp=Z,4μm,21.9s
ERM **Érimo** 26.71 264 *e*P **P** **20 06 57.1 -0.1**
comp=Z,325nm,1.1s
ERM *e*PcP **PcP** **20 10 21.9 +2.2**
ERM LR LR
comp=Z,4μm,21.9s
CRAG **Craig** 27.78 63 PFAKE 20 07 20.0 +13
CRAG LR LR
comp=Z,6μm,19.5s
INK **Inuvik** 27.84 35 *e*P **P** **20 07 07.0 -0.1**
comp=Z,150nm,0.8s
INK PcP **PcP** **20 10 21.8 -0.2**
INK ScP **ScP** **20 13 58.3 -1.0**
INK **Inuvik** 27.84 35 P **P** **20 07 07.6 +0.5**
comp=Z,32nm,0.6s,baz=248,slow=8.5,SNR=50
INK PcP **PcP** **20 10 21.8 -0.2**
comp=Z,82nm,0.8s,baz=219,slow=4.4,SNR=7.6
INK ScP **ScP** **20 13 58.3 -1.0**
comp=Z,82nm,1.0s,baz=262,slow=3.4,SNR=18
INK LR LR 20 18 52.0
comp=Z,7μm,20.2s,baz=241,slow=38
HABR **Khabarovsk** 28.73 282 *c i*P **P** **20 07 15.6 +0.4**
HABR *e**PP **pP** **20 07 24.2 -1.9**
HABR *e**SP **sP** **20 07 28.5 -2.3**
HABR *e* 20 08 06.2
HABR *e* 20 10 23.6
HABR *e*S **S** **20 12 03.1 +1.6**
HABR *e**SS **sS** **20 12 19.4 -0.2**
HABR *e*SS **SnSn** **20 13 27.0 +2.6**
HABR *e*SSS SSS 20 13 42.8
HABR *e* 20 17 55.9
HABR pmax pmax
comp=E,537nm,1.7s
HABR pmax pmax
comp=N,224nm,1.7s
HABR pmax pmax
comp=Z,923nm,1.7s
HABR pmax pmax
comp=Z,2μm,2.2s
HABR smax smax
comp=N,104nm,3.6s
HABR smax smax
comp=E,150nm,3.6s
HABR smax smax
comp=Z,77nm,3.6s
HABR MLR MLR
comp=E,3μm,16.0s
HABR MLR MLR
comp=N,2μm,16.0s
HABR MLR MLR
comp=Z,2μm,16.0s
YAK **Yakutsk** 28.82 311 *c i*P **P** **20 07 15.6 -0.2**
YAK *e**PP **pP** **20 07 25.6 -1.1**
YAK *e* 20 08 06.9
YAK *e*PPP PPP 20 08 20.3
YAK *e* 20 10 24.4
YAK *e*S **S** **20 12 04.6 +2.0**
YAK *e*SS **SnSn** **20 13 26.2 0.0**
YAK *e*SSS SSS 20 13 50.2
YAK *e* 20 17 53.2
YAK pmax pmax
comp=Z,411nm,1.1s
YAK pmax pmax
comp=E,259nm,1.2s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=Z,244nm,1.3s
YAK pmax pmax
comp=N,62nm,1.3s
YAK pmax pmax
comp=E,206nm,1.3s
YAK smax smax
comp=N,410nm,13.4s
YAK smax smax
comp=E,500nm,13.4s
YAK MLR MLR
comp=Z,9μm,22.0s
YAK MLR MLR
comp=N,4μm,21.0s
YAK MLR MLR
comp=E,6μm,20.0s
YAK **Yakutsk** 28.82 311 *e*P **P** **20 07 15.6 -0.2**
comp=E,670nm,1.2s
YAK *e*ScP **ScP** **20 14 01.0 -1.4**
DLBC **Dease Lake** 28.95 56 *e*P **P** **20 07 18.1 +0.9**
DLBC PcP **PcP** **20 10 25.1 0.0**
DLBC ScP **ScP** **20 14 02.7 -0.4**
DLBC **Dease Lake** 28.95 56 P **P** **20 07 18.0 +0.9**
comp=E,37nm,1.1s,baz=285,slow=6.1,SNR=12
DLBC PcP **PcP** **20 10 25.0 0.0**
comp=E,38nm,1.0s,baz=283,slow=4.5,SNR=5.4
DLBC ScP **ScP** **20 14 02.7 -0.4**
comp=E,32nm,0.9s,baz=281,slow=2.0,SNR=10
DLBC LR LR 20 18 23.1
comp=E,7μm,21.4s,baz=286,slow=35
TIXI **Tiksi** 30.22 331 *e*P **P** **20 07 28.0 -0.1**
TIXI pmax pmax
comp=Z,255nm,1.5s
TIXI **Tiksi** 30.22 331 *e*P **P** **20 07 28.0 -0.1**
comp=Z,255nm,1.5s
KLR **Kul'dur** 30.44 285 ⇓ *i*P **P** **20 07 27.6 -2.8**
KLR pmax pmax
comp=E,2μm,7.5s
KLR pmax pmax
comp=Z,3μm,7.5s
KLR pmax pmax
comp=N,200nm,1.0s
KLR pmax pmax
comp=E,850nm,1.0s
KLR pmax pmax
comp=Z,1μm,1.0s
KLR MLR MLR
comp=E,4μm,16.5s
USRK **Ussuriysk Arra** 32.54 276 P **P** **20 07 49.2 +0.3**
comp=E,190nm,0.8s,baz=58,slow=7.7,SNR=224
USRK PcP **PcP** **20 10 35.6 +1.0**
comp=E,86nm,0.9s,baz=44,slow=1.7,SNR=14
USRK ScP **ScP** **20 14 16.7 +1.6**
comp=E,26nm,1.0s,baz=86,slow=4.3,SNR=10
USRK LR LR 20 20 08.6
comp=E,4μm,20.4s,baz=213,slow=35
MAJO **Matsushiro** 33.06 260 *e*P **P** **20 07 54.5 +1.0**
MAJO pmax pmax
comp=Z,352nm,1.0s
MAJO MLR MLR
comp=Z,8μm,22.0s
MAJO **Matsushiro** 33.06 260 *e*P **P** **20 07 54.5 +1.0**
comp=Z,352nm,1.0s
MAJO *e*ScP **ScP** **20 14 18.1 +1.1**
MAJO LR LR
comp=Z,8μm,22.0s
MJAR **Matsushiro Arr** 33.06 260 P **P** **20 07 54.4 +0.9**
MJAR PcP **PcP** **20 10 36.9 +0.7**
MJAR ScP **ScP** **20 14 18.1 +1.0**
MJAR **Matsushiro Arr** 33.06 260 P **P** **20 07 54.4 +0.9**
comp=Z,86nm,0.9s,baz=53,slow=7.7,SNR=89
MJAR PcP **PcP** **20 10 36.9 +0.7**
comp=Z,31nm,0.9s,baz=76,slow=0.6,SNR=12
MJAR ScP **ScP** **20 14 18.1 +1.0**
comp=Z,30nm,1.0s,baz=17,slow=1.0,SNR=19
MJAR LR LR 20 19 40.2
comp=Z,4μm,20.6s,baz=75,slow=33
VLA **Vladivostok** 33.16 275 *c i*P **P** **20 07 55.8 +1.5**
VLA 20 09 03.9
VLA *e* 20 10 37.1
VLA *e*S **S** **20 13 12.8 +1.9**
VLA pmax pmax
comp=Z,246nm,1.1s
H11N2 **WAKE ISLAND Hy** 33.28 203 T T 20 43 25.5
baz=19,slow=74,SNR=570
H11N3 **WAKE ISLAND Hy** 33.29 203 T T 20 43 04.1
baz=19,slow=74,SNR=50
H11N1 **WAKE ISLAND Hy** 33.30 203 T T 20 43 08.5
baz=19,slow=74,SNR=32
WAKE **Wake Island** 33.77 203 PFAKE 20 08 10.0 +10
WAKE LR LR
comp=Z,6μm,21.0s
MDJ **Mudanjiang** 33.82 279 P **P** **20 07 59.8 -0.3**
MDJ pP **pP** **20 08 08.3 -2.7**
MDJ sP **sP** **20 08 12.3 -3.4**
MDJ PP **PP** **20 09 15.3 -1.6**
MDJ PcP **PcP** **20 10 39.0 +0.8**
MDJ S **S** **20 13 20.4 -0.8**
MDJ ScP **ScP** **20 14 21.1 +1.5**
MDJ PcS **PcS** **20 14 25.3 +1.2**
MDJ ScS **ScS** **20 18 22.8 +1.7**
MDJ pmax pmax
comp=Z,200nm,0.8s
MDJ pmax pmax
comp=Z,700nm,8.1s
MDJ LR LR
comp=Z,3μm,19.8s
MDJ LR LR
comp=Z,4μm,29.7s
MDJ LR LR
comp=Z,5μm,21.0s
MDJ **Mudanjiang** 33.82 279 *e*P **P** **20 08 00.0 0.0**
comp=Z,177nm,0.9s
JHJ2 **Mitsune** 34.38 254 PFAKE 20 08 20.0 +15
JHJ2 LR LR
comp=Z,2μm,21.6s
H11S1 **WAKE ISLAND Hy** 34.51 203 T T 20 44 36.8
baz=19,slow=78,SNR=1492
KIP **Kipapa** 34.51 142 ⇑ *i*P **P** **20 08 08.2 +2.0**
KIP pmax pmax
comp=Z,228nm,2.5s
KIP **Kipapa** 34.51 142 *e*P **P** **20 08 08.1 +2.0**
comp=Z,295nm,1.5s
KIP LR LR
comp=Z,7μm,21.0s
H11S2 **WAKE ISLAND Hy** 34.52 203 T T 20 45 02.7
baz=19,slow=78,SNR=1393
H11S3 **WAKE ISLAND Hy** 34.52 203 T T 20 44 57.3
baz=19,slow=78,SNR=789
PGC **Sidney** 35.65 72 *e*P **P** **20 08 16.3 +0.5**
comp=Z,20nm,1.4s
PGC LR LR
comp=Z,200nm,20.6s
YKA **Yellowknife Ar** 35.73 46 P **P** **20 08 16.2 -0.1**
YKA PcP **PcP** **20 10 44.0 +0.5**
YKA ScP **ScP** **20 14 25.2 -0.9**
YKA *e* 20 38 57.0
YKA PKKKP 20 40 22.4
YKA **Yellowknife Ar** 35.73 46 P **P** **20 08 16.2 -0.1**
comp=Z,108nm,0.7s,baz=282,slow=8.1,SNR=647
YKA PcP **PcP** **20 10 43.9 +0.5**
comp=Z,46nm,0.8s,baz=287,slow=2.9,SNR=18
YKA ScP **ScP** **20 14 25.2 -0.9**
comp=Z,91nm,0.9s,baz=288,slow=3.2,SNR=68
YKA P3KPbc 20 38 57.0
comp=Z,0.8nm,0.8s,baz=94,slow=5.2,SNR=8.0
YKA P3KP 20 40 22.4
comp=Z,0.9nm,0.9s,baz=44,slow=2.2,SNR=5.7
NLWA **Neilton Lookou** 35.98 74 *e*P **P** **20 08 20.5 +1.8**
comp=Z,804nm,1.5s
A05A **Maple Falls** 36.31 70 *e*P **P** **20 08 23.1 +1.8**
comp=Z,144nm,0.8s
A05A LR LR
comp=Z,2μm,20.2s
E03A **Lebam** 36.56 75 *e*P **P** **20 08 26.1 +2.5**
comp=Z,621nm,1.1s
E03A *e*ScP **ScP** **20 14 30.4 +1.0**
E03A LR LR
comp=Z,5μm,21.4s
CN2 **Changchun** 36.80 280 *e*P **P** **20 08 25.5 -0.2**
CN2 *e*PP **PnPn** **20 09 50.5 +0.5**
CN2 *e*S **S** **20 14 05.5 -1.4**
CN2 sS **sS** **20 14 23.0 -2.2**
CN2 *e*SS **SnSn** **20 16 32.8 -7.5**
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,4μm,22.0s
CN2 LR LR
comp=Z,4μm,22.0s
F03A **Seaside** 36.87 76 *e*P **P** **20 08 28.7 +2.5**
comp=Z,1μm,1.4s
F03A LR LR
comp=Z,4μm,19.5s
B06A **Marblemount** 36.88 71 *e*P **P** **20 08 27.4 +1.1**
comp=Z,448nm,1.7s
B06A LR LR
comp=Z,3μm,21.8s
POHA **Pohakuloa** 37.00 140 *e*P **P** **20 08 29.3 +1.5**
comp=Z,1μm,2.6s
POHA LR LR
comp=Z,8μm,22.0s
F04D **Rainier, OR** 37.12 75 ⇑P **P** **20 08 30.4 +2.0**
baz=37
D05A **Enumclaw** 37.20 73 *e*P **P** **20 08 31.1 +2.1**
comp=Z,492nm,0.9s
D05A *e*ScP **ScP** **20 14 32.6 +0.8**
D05A LR LR
comp=Z,3μm,21.3s
G03D **McMinnville, O** 37.41 77 ⇑P **P** **20 08 32.9 +2.1**
baz=37
G03D ⇑ScP **ScP** **20 14 27.8 -4.8**
baz=37
CBIJ **Chichi jima** 37.43 244 *e*P **P** **20 08 31.8 +0.7**
comp=Z,289nm,1.3s
CBIJ LR LR
comp=Z,2μm,21.6s
TDL **Tradedollar La** 37.47 74 P **P** **20 08 33.0 +1.5**
LVP **Lakeview Peak** 37.49 75 P **P** **20 08 33.2 +1.6**
RCS **Mount Rainier-** 37.51 73 P **P** **20 08 33.6 +1.6**
LON **Longmire** 37.52 74 *e*P **P** **20 08 32.8 +1.0**
LON pmax pmax
comp=Z,99nm,0.7s
LON MLR MLR
comp=Z,3μm,21.5s
LON **Longmire** 37.52 74 *e*P **P** **20 08 32.8 +1.0**
comp=Z,98nm,0.7s
LON *e*ScP **ScP** **20 14 33.2 +0.1**
LON LR LR
comp=Z,3μm,21.5s
WRW **Wenatchee Ridg** 37.54 72 P **P** **20 08 33.4 +1.4**
F04A **Amboy** 37.56 75 *e*P **P** **20 08 33.5 +1.4**
comp=Z,984nm,1.5s
F04A LR LR
comp=Z,3μm,19.3s
HIA **Hailar** 37.57 291 *e*P **P** **20 08 32.1 0.0**
comp=Z,496nm,0.8s
COR **Corvallis** 37.70 78 *e*P **P** **20 08 35.6 +2.3**
COR pmax pmax
comp=Z,909nm,1.1s
COR MLR MLR
comp=Z,4μm,21.4s
COR **Corvallis** 37.70 78 *e*P **P** **20 08 35.6 +2.3**
comp=Z,909nm,1.1s
COR *e*ScP **ScP** **20 14 38.4 +4.6**
COR LR LR
comp=Z,4μm,21.4s
WPW **White Pass** 37.70 74 P **P** **20 08 34.7 +1.2**
TWW **Teanaway** 37.90 73 P **P** **20 08 36.5 +1.5**
LTY **Liberty** 37.95 72 *e*P **P** **20 08 36.4 +0.8**
comp=Z,720nm,1.8s
LTY *e*ScP **ScP** **20 14 34.5 -0.3**
LTY LR LR
comp=Z,3μm,21.7s
KEBM **Edson Butte** 37.98 81 *e*P **P** **20 08 37.6 +1.9**
comp=Z,583nm,1.1s
KEBM LR LR
comp=Z,3μm,18.4s
ETW **Entiat** 37.99 72 P **P** **20 08 36.7 +0.8**
TBM **Table Mountain** 38.04 72 P **P** **20 08 37.2 +0.9**
I03D **Drain, OR** 38.14 79 ⇓P **P** **20 08 39.1 +2.1**
baz=38
I03D ⇑ScP **S** **20 14 30.9 +3.7**
baz=38
B08A **Colville Reser** 38.22 70 *e*P **P** **20 08 38.2 +0.5**
comp=Z,949nm,2.0s
B08A *e*ScP **ScP** **20 14 35.1 -0.6**
B08A LR LR
comp=Z,3μm,18.3s
VLL **Laurance Lake** 38.24 75 P **P** **20 08 39.5 +1.5**
H04A **Detroit Lake** 38.33 77 *e*P **P** **20 08 40.0 +1.3**
comp=Z,741nm,1.1s
H04A *e*ScP **ScP** **20 14 35.1 -1.1**
H04A LR LR
comp=Z,3μm,20.9s
BROR **Big Rock Looko** 38.39 77 P **P** **20 08 40.9 +1.8**
KBO **Bosley Butte** 38.41 81 *e*P **P** **20 08 41.7 +2.3**
comp=Z,436nm,1.2s
KBO LR LR
comp=Z,4μm,20.7s
SAW **Saint Andrews** 38.49 71 P **P** **20 08 40.5 +0.5**
G05D **Wamic, OR** 38.57 75 ⇑P **P** **20 08 42.5 +1.9**
baz=38
G05D ⇓ScP **S** **20 14 33.8 -0.1**
baz=38
I04A **Tendick Farm,** 38.66 78 ⇓P **P** **20 08 43.4 +1.9**
baz=39
I04A ⇑ScP **S** **20 14 34.0 -1.3**
baz=39
I04A ⇑S **ScP** **20 14 37.3 -0.2**
baz=39
E07A **Sunnyside** 38.79 73 *e*P **P** **20 08 43.6 +1.2**
comp=Z,1μm,1.9s
E07A LR LR
comp=Z,3μm,21.4s
L02D **Cave Junction,** 38.82 81 ⇑P **P** **20 08 45.0 +2.2**
baz=39
L02D ⇑ScP **S** **20 14 33.9 -3.7**
baz=39
KSRS **Korea Array** 38.89 270 P **P** **20 08 44.8 +1.4**
comp=Z,270nm,0.9s,baz=59,slow=8.1,SNR=280
KSRS PcP **PcP** **20 10 54.5 +1.0**
comp=Z,50nm,0.9s,baz=63,slow=3.5,SNR=12
KSRS ScP **S** **20 14 39.6 +1.0**
comp=Z,3.8nm,0.7s,baz=50,slow=2.6,SNR=7.2
KSRS LR LR 20 23 24.8
comp=Z,2μm,20.7s,baz=55,slow=34
KSAR **Wonju Array Be** 38.92 270 P **P** **20 08 44.8 +1.2**
KSAR PcP **PcP** **20 10 54.5 +0.8**
KSAR ScP **S** **20 14 39.6 +0.5**
HUMO **Hull Mountain** 38.97 80 *e*P **P** **20 08 46.2 +2.2**
comp=Z,350nm,1.3s
HUMO *e*ScP **ScP** **20 14 38.9 +0.2**
KRMB **Red Mountain** 38.99 82 *e*P **P** **20 08 46.4 +2.1**
comp=Z,250nm,1.2s
G06A **Carlson Farm,** 38.99 75 *e*P **P** **20 08 45.3 +1.1**
comp=Z,1μm,2.2s
G06A LR LR
comp=Z,3μm,20.5s
RSW **Rattlesnake Hi** 39.03 73 P **P** **20 08 45.9 +1.4**
SNY **Shenyang** 39.03 279 ⇑P **P** **20 08 45.5 +1.1**
SNY sP **sP** **20 09 02.1 +1.9**
SNY PP **PnPn** **20 10 18.3 +1.5**
SNY S **ScP** **20 14 36.4 -2.4**
SNY pmax pmax
comp=Z,490nm,0.9s
SNY LR LR
comp=Z,3μm,19.9s
SNY LR LR
comp=Z,2μm,23.5s
SNY LR LR
comp=Z,4μm,20.2s
I05D **Terrebonne, OR** 39.03 77 ⇓P **P** **20 08 46.3 +1.7**
baz=39
I05D ⇑ScP **ScP** **20 14 36.1 -2.8**
baz=39
OD2 **Odessa Site #2** 39.05 71 P **P** **20 08 45.1 +0.4**
HAWA **Hanford** 39.06 73 *e*P **P** **20 08 45.6 +0.9**
comp=Z,591nm,1.1s
HAWA LR LR
comp=Z,4μm,22.0s
D08A **Wollman Farm,** 39.09 72 *e*P **P** **20 08 45.5 +0.6**
comp=Z,786nm,1.7s
D08A *e*ScP **ScP** **20 14 39.0 0.0**
D08A LR LR
comp=Z,2μm,18.5s
C09A **Chrisman Ranch** 39.11 70 *e*P **P** **20 08 45.6 +0.5**
comp=Z,798nm,1.8s
C09A *e*ScP **ScP** **20 14 39.0 -0.1**
C09A LR LR
comp=Z,2μm,20.0s
J04D **Umpqua Nationa** 39.15 79 ⇑P **P** **20 08 47.7 +1.9**
baz=39
J04D ⇓ScP **ScP** **20 14 36.2 -3.3**
baz=39
VIPM **Ingram Point** 39.38 76 P **P** **20 08 48.9 +1.3**
VIPM **Ingram Point** 39.38 76 P **P** **20 08 48.9 +1.3**
EDM **Edmonton** 39.44 60 *e*P **P** **20 08 46.3 -1.5**
EDM *e* 20 14 39.2
EDM **Edmonton** 39.44 60 *e*P **P** **20 08 46.3 -1.5**
EDM *e*ScP **ScP** **20 14 39.2 -1.1**
KHMM **Horse Mountain** 39.47 83 *e*P **P** **20 08 50.9 +2.6**
comp=Z,230nm,0.8s
KHMM LR LR
comp=Z,3μm,19.9s
NEW **Newport** 39.56 69 *e*P **P** **20 08 48.8 -0.2**
comp=Z,170nm,0.8s
NEW *e*ScP **ScP** **20 14 40.0 -0.9**
NEW LR LR
comp=Z,3μm,19.0s
NEW **Newport** 39.56 69 ⇑P **P** **20 08 49.1 +0.1**
baz=39,SNR=124
NEW ⇓ScP **ScP** **20 14 38.1 -2.8**
baz=39
PINOR **Pine Mountain** 39.60 77 *e*P **P** **20 08 51.0 +1.8**
PINOR *e*ScP **ScP** **20 14 43.4 +2.4**
YBH **Yreka Blue Hor** 39.61 81 *e*P **P** **20 08 52.0 +2.5**
comp=Z,221nm,1.0s
YBH **Yreka Blue Hor** 39.61 81 LR LR 20 21 43.5
comp=Z,4μm,21.8s,baz=299,slow=31
J05D **Fort Rock, OR** 39.66 78 ⇑P **P** **20 08 52.0 +2.1**
baz=40
J05D ⇑ScP **ScP** **20 14 39.0 -2.5**
baz=40
INCN **Inchon** 39.68 271 P **P** **20 08 52.1 +2.1**
SNR=18
INCN **Inchon** 39.68 271 mb 20 08 52.8
SNR=40
INCN **Inchon** 39.68 271 *e*P **P** **20 08 51.1 +1.1**
comp=Z,938nm,0.9s
INCN LR LR
comp=Z,2μm,20.0s
K04D **Chiloquin, OR** 39.70 79 ⇓P **P** **20 08 52.4 +2.1**
baz=40
M02C **Callahan** 39.72 82 ⇓P **P** **20 08 52.6 +2.3**
baz=40
M02C ⇓ScP **ScP** **20 14 37.7 -3.9**
baz=40
E09A **Wood Farm, Sta** 39.83 72 *e*P **P** **20 08 51.6 +0.5**
comp=Z,1μm,1.9s
E09A *e*ScP **ScP** **20 14 41.8 -0.1**
E09A LR LR
comp=Z,3μm,21.4s
JNU **Nakatsue** 39.84 262 *e*P **P** **20 08 52.6 +1.2**
comp=Z,257nm,1.0s
JNU LR LR
comp=Z,2μm,20.9s
CIT **Chita** 39.85 298 *e*P **P** **20 08 52.6 +1.3**
CIT *e* 20 09 09.3
CIT *e* 20 10 57.5
CIT pmax pmax
comp=Z,2μm,1.0s
G08A **Pilot Rock** 39.97 74 *e*P **P** **20 08 53.1 +0.7**
comp=Z,220nm,1.4s
G08A *e*ScP **ScP** **20 14 42.5 -0.1**
G08A LR LR
comp=Z,3μm,21.6s
RES **Resolute Bay** 40.00 24 *e*P **P** **20 08 52.7 +0.6**
comp=Z,984nm,0.9s
RES LR LR
comp=Z,7μm,20.9s
N02D **Trinity Center** 40.05 82 ⇓P **P** **20 08 55.3 +2.3**
baz=40
N02D ⇑ScP **ScP** **20 14 39.0 -3.9**
baz=40
M04C **Macdoel** 40.12 80 ⇓P **P** **20 08 55.8 +2.1**

baz=40
M04C ⇑ScP **ScP** **20 14 39.2 -4.1**
baz=40
KIPM Iron Peak 40.24 84 *e*P **P** **20 08 56.8 +2.0**
comp=Z,196nm,1.2s
KCPM Cahto Peak 40.25 84 *e*P **P** **20 08 56.6 +1.8**
KCPM comp=Z,211nm,1.5s LR LR
KCPM comp=Z,2µm,21.9s
I07A Izee 40.28 76 *e*P **P** **20 08 56.2 +1.2**
I07A *e*ScP **ScP** **20 14 44.4 +0.5**
I07A comp=Z,3µm,19.9s LR LR
WDC Whiskeytown Da 40.38 82 *e*P **P** **20 08 57.2 +1.5**
WDC comp=Z,217nm,1.0s *e*ScP **ScP** **20 14 43.7 -0.4**
WDC comp=Z,2µm,19.4s LR LR
F10A Beach Ranch, E 40.65 72 *e*P **P** **20 08 58.6 +0.5**
F10A comp=Z,156nm,1.0s LR LR
HOPS comp=Z,4µm,21.8s LR LR
HOPS Hopland 40.98 85 *e*P **P** **20 09 01.9 +1.2**
HOPS comp=Z,94nm,0.8s LR LR
MOD Modoc 41.00 79 *e*P **P** **20 09 02.4 +1.4**
MOD comp=Z,353nm,0.9s *e*ScP **ScP** **20 14 47.5 +0.7**
MOD comp=Z,4µm,20.1s LR LR
WALA Waterton Lakes 41.03 66 *e*P **P** **20 09 01.0 -0.2**
WALA comp=Z,12nm,1.4s *e*ScP **ScP** **20 14 47.8 +1.0**
WALA comp=Z,100nm,20.2s LR LR
BSMT Bassoo Peak 41.13 68 *e*P **P** **20 09 02.0 0.0**
BSMT comp=Z,162nm,0.8s *e*ScP **ScP** **20 14 47.2 0.0**
BLMT Blacktail Moun 41.30 68 *e*P **P** **20 09 03.4 -0.1**
BLMT comp=Z,216nm,0.9s *e*ScP **ScP** **20 14 47.9 0.0**
J08A Circle Bar Ran 41.30 76 *e*P P 20 08 59.9 -3.6
J08A comp=Z,443nm,1.4s *e*ScP **ScP** **20 14 48.8 +0.9**
J08A comp=Z,3µm,21.6s LR LR
JTMT Jette 41.48 68 *e*P **P** **20 09 04.8 0.0**
JTMT comp=Z,120nm,1.2s *e*ScP **ScP** **20 14 48.1 -0.4**
YBMT Yellow Bay 41.57 68 *e*P **P** **20 09 05.4 -0.2**
YBMT comp=Z,195nm,1.5s *e*ScP **ScP** **20 14 48.5 -0.4**
MCCM Marconi Confer 41.61 86 PFAKE 20 09 20.0 +14
MCCM comp=Z,4µm,21.9s LR LR
WVOR Wild Horse Val 41.72 78 *e*P **P** **20 09 07.9 +1.0**
WVOR comp=Z,336nm,0.9s pmax pmax
WVOR comp=Z,4µm,21.7s MLR MLR
WVOR Wild Horse Val 41.72 78 *e*P **P** **20 09 07.9 +1.0**
WVOR comp=Z,336nm,0.9s LR LR
SWMT Swartz Lake 41.76 68 *e*P **P** **20 09 07.2 +0.1**
SWMT comp=Z,128nm,1.4s *e*ScP **ScP** **20 14 49.2 -0.5**
OHCM Honcut 41.76 83 *e*P **P** **20 09 07.9 +0.8**
OHCM *e*ScP **ScP** **20 14 49.3 -0.3**
DL2 Dalian 41.94 276 P **P** **20 09 08.6 +0.1**
DL2 S **S** **20 15 23.9 -0.1**
DL2 comp=Z,590nm,1.0s pmax pmax
DL2 comp=Z,940nm,4.7s pmax pmax
DL2 comp=Z,1µm,15.7s LR LR
DL2 comp=Z,1µm,16.5s LR LR
BEKR Beckworth 42.15 82 *e*P **P** **20 09 11.2 +0.8**
BEKR comp=Z,69nm,1.0s LR LR
MSO Missoula 42.15 69 *e*P **P** **20 09 10.4 +0.1**
MSO comp=Z,900nm,21.4s *e*ScP **ScP** **20 14 51.9 +0.7**
MSO comp=Z,1µm,1.9s LR LR
MSO Missoula 42.15 69 ⇑P **P** **20 09 10.4 +0.1**
MSO baz=42,SNR=90 ⇓ScP **ScP** **20 14 49.4 -1.8**
SLMT Seeley Lake 42.19 68 *e*P **P** **20 09 10.2 -0.5**
SLMT comp=Z,252nm,1.2s *e*ScP **ScP** **20 14 50.8 -0.6**
SAC San Andreas 42.25 86 *e*P **P** **20 09 12.4 +1.3**
SAC baz=40 pmax pmax
SAC San Andreas 42.25 86 *e*P **P** **20 09 12.4 +1.3**
CHMT comp=Z,197nm,1.1s LR LR
CHMT Chamberlain Mo 42.51 69 *e*P **P** **20 09 12.6 -0.8**
CHMT comp=Z,56nm,1.0s *e*ScP **ScP** **20 14 51.5 -1.2**
ALE Alert 42.69 10 P **P** **20 09 15.0 +0.8**
comp=Z,2µm,0.5s,SNR=65
PAHR Pah Rah Range 42.84 81 *e*P **P** **20 09 17.0 +0.9**
PAHR comp=Z,298nm,1.1s *e*ScP **ScP** **20 14 54.7 +0.5**
PAHR comp=Z,2µm,19.1s LR LR
MFID Camas Ranch 42.88 75 *e*P **P** **20 09 16.9 +0.6**
MFID comp=Z,1µm,2.1s *e*ScP **ScP** **20 14 53.5 -0.7**
MFID comp=Z,3µm,22.0s LR LR
CMB Columbia Colle 43.23 84 *e*P **P** **20 09 20.1 +1.0**
CMB comp=Z,179nm,1.1s pmax pmax
CMB comp=Z,5µm,20.9s MLR MLR
CMB Columbia Colle 43.23 84 *e*P **P** **20 09 20.1 +1.0**
CMB comp=Z,179nm,1.1s *e*ScP **ScP** **20 14 54.7 -1.0**
CMB comp=Z,5µm,20.9s LR LR
SAO San Andreas Ge 43.36 86 *e*P **P** **20 09 21.1 +1.0**
SAO comp=Z,72nm,1.0s pmax pmax
SAO comp=Z,3µm,19.1s MLR MLR
SAO San Andreas Ge 43.36 86 *e*P **P** **20 09 21.1 +1.0**
SAO comp=Z,72nm,1.0s LR LR
HRY Holter Researc 43.44 68 *e*P **P** **20 09 20.5 -0.3**
HRY comp=Z,3µm,19.1s *e*ScP **ScP** **20 14 56.4 0.0**
WAKR Walker 43.54 83 *e*P **P** **20 09 23.0 +1.2**
WAKR comp=Z,198nm,0.7s *e*ScP **ScP** **20 14 57.5 +0.5**
LRM Limekiln Ridge 43.56 70 *e*P **P** **20 09 21.6 -0.3**
LRM comp=Z,179nm,0.9s *e*ScP **ScP** **20 14 56.3 -0.8**
HLID Hailey 43.64 74 *e*P **P** **20 09 23.2 +0.7**
HLID comp=Z,2µm,1.4s *e*ScP **ScP** **20 14 57.0 -0.4**
HLID comp=Z,289nm,1.0s LR LR
HLID Hailey 43.64 74 ⇓P **P** **20 09 23.3 +0.7**
HLID comp=Z,4µm,22.0s ⇓ScP **ScP** **20 14 55.9 -1.4**
KWAJ Kwajalein Atol 43.72 198 PFAKE 20 09 30.0 +6.9
KWAJ baz=44,SNR=15 LR LR
DLMT Dillon 43.72 70 *e*P **P** **20 09 23.1 0.0**
DLMT comp=Z,3µm,21.2s *e*ScP **ScP** **20 14 57.4 -0.2**
DLMT comp=Z,166nm,1.3s LR LR
BMN Battle Mountai 43.75 79 *e*P **P** **20 09 24.6 +1.2**
BMN comp=Z,1µm,21.7s pmax pmax
BMN Battle Mountai 43.75 79 *e*P **P** **20 09 24.6 +1.2**
BMN comp=Z,308nm,1.0s *e*ScP **ScP** **20 15 00.8 +3.0**
comp=Z,308nm,1.0s

MCMT McKenzie Canyo 43.87 71 *e*P **P** **20 09 24.3 -0.2**
comp=Z,120nm,0.7s
EGMT Eagleton 43.94 66 *e*P **P** **20 09 24.1 -0.6**
comp=Z,95nm,0.8s
EGMT *e*ScP **ScP** **20 14 58.2 -0.1**
EGMT LR LR
comp=Z,3µm,22.0s
EGMT Eagleton 43.94 66 ⇑P **P** **20 09 24.2 -0.6**
baz=44,SNR=55
EGMT ⇑ScP **ScP** **20 14 56.4 -2.0**
baz=44,SNR=10
A19A Klindworth Far 44.03 64 ⇑P **P** **20 09 24.9 -0.6**
baz=44,SNR=77
A19A ⇑ScP **ScP** **20 14 56.4 -2.4**
baz=44,SNR=19
BOZ Bozeman (W) 44.14 69 *e*P **P** **20 09 26.4 -0.1**
BOZ comp=Z,284nm,0.8s pmax pmax
BOZ comp=Z,2µm,20.2s MLR MLR
BOZ Bozeman (W) 44.14 69 *e*P **P** **20 09 26.4 -0.1**
BOZ comp=Z,284nm,0.8s LR LR
B19A Brinkman Farms 44.17 65 ⇑P **P** **20 09 26.0 -0.5**
baz=44,SNR=104
B19A ⇓ScP **ScP** **20 14 56.8 -2.5**
baz=44,SNR=9.9
MLAC Mammoth Lakes 44.45 83 ⇑P **P** **20 09 30.6 +1.5**
baz=44,SNR=12
MLAC ⇓ScP **ScP** **20 14 58.4 -2.5**
baz=44
C19A Slack Wire Ran 44.49 66 ⇑P **P** **20 09 28.6 -0.6**
baz=44,SNR=250
C19A ⇑ScP **ScP** **20 14 59.3 -1.4**
baz=44,SNR=14
A20A Cobblestone Ra 44.52 64 ⇓P **P** **20 09 28.5 -0.8**
baz=44,SNR=75
A20A ⇓ScP **ScP** **20 14 58.3 -2.4**
baz=44,SNR=21
BJI Beijing 44.63 281 P **P** **20 09 31.1 +0.9**
BJI PP **PcP** **20 11 12.3 -0.1**
BJI S **S** **20 16 03.3 -0.1**
BJI comp=Z,560nm,0.8s pmax pmax
BJI comp=Z,2µm,6.0s pmax pmax
BJI comp=Z,3µm,21.2s LR LR
BJI comp=Z,2µm,26.1s LR LR
BJI comp=Z,4µm,34.3s LR LR
BJT Baijiatuau 44.65 281 *e*P **P** **20 09 31.1 +0.8**
B20A Solberg Farm, 44.70 64 ⇓P **P** **20 09 29.6 -1.2**
baz=45,SNR=84
B20A ⇑ScP **ScP** **20 14 59.7 -1.7**
baz=45,SNR=17
QLMT Earthquake Lak 44.71 70 *e*P **P** **20 09 31.1 +0.1**
comp=Z,41nm,1.0s
QLMT *e*ScP **ScP** **20 15 01.7 0.0**
FFC Flin Flon 44.71 54 *e*P **P** **20 09 29.6 -1.1**
FFC comp=Z,46nm,0.9s pmax pmax
FFC comp=Z,7µm,21.8s MLR MLR
FFC Flin Flon 44.71 54 *e*P **P** **20 09 29.6 -1.1**
comp=Z,46nm,0.9s
FFC *e*ScP **ScP** **20 14 59.7 -1.6**
FFC LR LR
comp=Z,7µm,21.8s
IRK Irkutsk 44.77 302 *e*P **P** **20 09 31.6 +0.3**
IRK *e*S S 20 16 13.4 +8.1
IRK comp=Z,661nm,1.5s pmax pmax
ELK Elko 44.78 77 *e*P **P** **20 09 32.5 +0.8**
comp=Z,354nm,1.1s
MTUM Tungsten Hills 44.79 83 *e*P **P** **20 09 33.2 +1.4**
MTUM *e*ScP **ScP** **20 15 02.9 +0.7**
PTRM Twissleman Ran 44.84 86 *e*P **P** **20 09 33.7 +1.7**
PTRM *e*ScP **ScP** **20 15 03.4 +1.2**
D19A Cripps Ranch, 44.90 66 ⇓P **P** **20 09 31.9 -0.6**
baz=45,SNR=65
D19A ⇓ScP **ScP** **20 15 00.8 -1.5**
baz=45,SNR=14
A21A Bergtoll Ranch 45.02 63 ⇑P **P** **20 09 32.1 -1.2**
baz=45,SNR=61
A21A ⇓ScP **ScP** **20 15 01.0 -1.8**
baz=45,SNR=22
RCTC Rector, Farmer 45.03 85 ⇑P **P** **20 09 34.1 +0.7**
baz=45
YMR Madison River 45.07 70 *e*P **P** **20 09 34.2 +0.2**
comp=Z,395nm,0.9s
YMR *e*ScP **ScP** **20 15 04.0 +0.7**
YMR comp=Z,900nm,19.8s LR LR
C20A Veseth Ranch, 45.10 65 ⇓P **P** **20 09 33.5 -0.4**
baz=45,SNR=87
C20A ⇓ScP **ScP** **20 15 01.7 -1.4**
baz=45,SNR=21
TPH Tonopah 45.17 82 *e*P **P** **20 09 35.2 +0.3**
TPH comp=Z,468nm,1.3s pmax pmax
TPH Tonopah 45.17 82 *e*P **P** **20 09 35.2 +0.3**
comp=Z,468nm,1.3s
TPH *e*ScP **ScP** **20 15 03.6 -0.2**
TIN Tinemaha 45.19 83 ⇑P **P** **20 09 36.0 +1.1**
baz=45,SNR=21
SMMC Simmler 45.19 87 ⇑P **P** **20 09 35.3 +0.4**
baz=45,SNR=8.4
GCMT Greycliff 45.20 68 *e*P **P** **20 09 35.1 +0.2**
comp=Z,375nm,1.6s
YNR Norris Junctio 45.21 70 *e*P **P** **20 09 36.5 +1.4**
comp=Z,920nm,1.5s
YNR *e*ScP **ScP** **20 15 05.0 +1.1**
YNR comp=Z,3µm,20.7s LR LR
YFT Old Faithful 45.27 70 *e*P **P** **20 09 37.0 +1.4**
comp=Z,332nm,0.8s
YFT *e*ScP **ScP** **20 15 05.9 +1.8**
YFT comp=Z,2µm,19.3s LR LR
B21A Ellsworth Farm 45.27 64 ⇑P **P** **20 09 34.9 -0.4**
baz=45,SNR=50
B21A ⇑ScP **ScP** **20 15 02.0 -1.7**
baz=45,SNR=9.1
E19A Rath Farm, Rou 45.34 67 ⇑P **P** **20 09 35.8 -0.2**
baz=45,SNR=76
E19A ⇓ScP **ScP** **20 15 03.1 -1.1**
baz=45
D20A Manuel Ranch, 45.37 66 ⇓P **P** **20 09 35.9 -0.2**
baz=45,SNR=96
D20A ⇓ScP **ScP** **20 15 02.6 -1.6**
baz=45,SNR=16
TLY Talaya 45.40 302 P **P** **20 09 37.7 +1.5**
comp=Z,3µm,0.7s,SNR=32
TLY Talaya 45.40 302 *c i*P **P** **20 09 37.6 +1.4**
TLY *e* 20 11 16.3
TLY *e* 20 11 25.3
TLY *e*S **S** **20 16 15.0 +0.6**
TLY *e*SS **ScS** **20 19 27.4 -1.6**
TLY comp=Z,290nm,0.6s pmax pmax
TLY comp=Z,8µm,21.0s MLR MLR
TLY Talaya 45.40 302 P **P** **20 09 38.1 +1.9**
SNR=8.1
TLY Talaya 45.40 302 mb 20 09 38.7
SNR=26
TLY Talaya 45.40 302 *e*P **P** **20 09 37.2 +1.0**
comp=Z,349nm,0.7s
TLY *e*PcP **PcP** **20 11 16.1 +1.2**
TLY LR LR
comp=Z,8µm,21.3s
H17A Grant Village 45.45 70 *e*P **P** **20 09 38.8 +1.7**
H17A *e*ScP **ScP** **20 15 06.1 +1.2**
H17A comp=Z,3µm,19.9s LR LR
H17A Grant Village 45.45 70 ⇓P **P** **20 09 38.6 +1.5**
baz=45,SNR=120
H17A ⇑ScP **ScP** **20 15 05.0 +0.1**
baz=45
LKWY Lake 45.46 70 *e*P **P** **20 09 38.5 +1.4**
LKWY comp=Z,255nm,0.9s pmax pmax
LKWY comp=Z,2µm,20.1s MLR MLR

LKWY Lake 45.46 70 *e*P **P** **20 09 38.5 +1.4**
comp=Z,255nm,0.9s
LKWY LR LR
comp=Z,2µm,20.1s
C21A Desert Coulee 45.55 64 ⇑P **P** **20 09 37.1 -0.4**
baz=45,SNR=67
C21A ⇑ScP **ScP** **20 15 03.1 -1.9**
baz=45,SNR=18
FLWY Flagg Ranch 45.56 71 *e*P **P** **20 09 38.9 +1.0**
PKM Peak Mountain 45.57 87 ⇑P **P** **20 09 38.9 +0.9**
baz=46,SNR=33
PKM ⇑ScP **ScP** **20 15 02.4 -3.1**
baz=46
A22A Carney Farms, 45.58 62 ⇑P **P** **20 09 37.4 -0.4**
baz=45,SNR=63
A22A ⇓ScP **ScP** **20 15 02.9 -2.2**
baz=45,SNR=27
F19A Roth Farm, Mol 45.59 68 ⇑P **P** **20 09 37.8 -0.1**
baz=45,SNR=47
F19A ⇑ScP **ScP** **20 15 04.3 -0.9**
baz=45,SNR=8.0
HVU Hansel Valley 45.66 75 *e*P **P** **20 09 39.3 +0.7**
HVU pmax pmax
HVU comp=Z,272nm,0.9s MLR MLR
comp=Z,4µm,22.0s
HVU Hansel Valley 45.66 75 *e*P **P** **20 09 39.3 +0.7**
comp=Z,272nm,0.9s
HVU *e*ScP **ScP** **20 15 05.9 +0.2**
HVU LR LR
comp=Z,4µm,22.0s
CWC Cottonwood Cre 45.67 84 ⇑P **P** **20 09 39.9 +1.2**
baz=46,SNR=30
CWC ⇓ScP **ScP** **20 15 02.8 -2.9**
baz=46
E20A Meyer Farm, Mu 45.69 67 ⇓P **P** **20 09 38.8 +0.1**
baz=46,SNR=46
E20A ⇑ScP **ScP** **20 15 04.7 -0.9**
baz=46,SNR=8.7
MOOW Moose Ponds 45.73 71 *e*P **P** **20 09 39.7 +0.5**
comp=Z,224nm,1.4s
MOOW *e*ScP **ScP** **20 15 06.0 0.0**
MOOW LR LR
comp=Z,2µm,20.5s
I17A Pilgrim Ck. 45.73 71 ⇑P **P** **20 09 40.2 +1.0**
baz=46,SNR=64
I17A ⇑ScP **ScP** **20 15 05.3 -0.7**
baz=46
TPAW Teton Pass 45.75 72 *e*P **P** **20 09 40.2 +0.8**
comp=Z,755nm,1.8s
TPAW *e*ScP **ScP** **20 15 08.6 +2.5**
TPAW LR LR
comp=Z,2µm,19.4s
GRAC Grapevine Rang 45.75 83 ⇑P **P** **20 09 40.4 +1.1**
baz=46,SNR=58
GRAC ⇑ScP **ScP** **20 15 03.8 -2.1**
baz=46
RLMT Red Lodge 45.81 69 *e*P **P** **20 09 40.0 +0.2**
comp=Z,894nm,1.4s
RLMT LR LR
comp=Z,2µm,18.3s
H18A Shoshone NF, C 45.83 69 ⇑P **P** **20 09 40.1 +0.1**
baz=46,SNR=115
H18A ⇑ScP **ScP** **20 15 05.5 -0.9**
baz=46
JOW Kunigami 45.85 258 *e*P **P** **20 09 40.9 +0.9**
comp=Z,194nm,1.1s
REDW Red Top Meadow 45.88 72 *e*P **P** **20 09 41.2 +0.8**
comp=Z,705nm,1.8s
REDW *e*ScP **ScP** **20 15 06.6 -0.1**
REDW LR LR
comp=Z,3µm,20.4s
SNOW Snow King Moun 45.88 72 PFAKE 20 09 50.0 +9.5
SNOW LR LR
comp=Z,2µm,20.5s
LOHW Long Hollow 45.89 71 *e*P **P** **20 09 41.0 +0.6**
comp=Z,514nm,1.7s
LOHW *e*ScP **ScP** **20 15 08.9 +2.2**
LOHW LR LR
comp=Z,2µm,20.7s
B22A Reddig Ranch S 45.91 63 ⇑P **P** **20 09 39.9 -0.5**
baz=46,SNR=12
B22A ⇓ScP **ScP** **20 15 04.7 -1.7**
baz=46
ISA Isabella 45.92 85 *e*P **P** **20 09 40.8 +0.2**
ISA pmax pmax
ISA comp=Z,27nm,1.0s MLR MLR
comp=Z,2µm,20.0s
ISA Isabella 45.92 85 *e*P **P** **20 09 40.8 +0.2**
comp=Z,27nm,1.0s
ISA LR LR
comp=Z,2µm,20.0s
ISA Isabella 45.92 85 ⇑P **P** **20 09 40.8 +0.2**
baz=46,SNR=86
ISA ⇑ScP **ScP** **20 15 04.6 -2.2**
baz=46
SBC Santa Barbara 45.93 87 ⇓P **P** **20 09 41.6 +0.9**
baz=46
SONM Songino Array 45.95 296 P **P** **20 09 41.9 +1.2**
SONM PcP **PcP** **20 11 17.6 +0.5**
SONM ScP **ScP** **20 15 06.4 -0.3**
SONM *e* 20 38 00.3
SONM Songino Array 45.95 296 P **P** **20 09 41.9 +1.2**
comp=Z,344nm,0.7s,baz=59,slow=9.6,SNR=1892
SONM PcP **PcP** **20 11 17.6 +0.5**
comp=Z,75nm,0.8s,baz=52,slow=2.8,SNR=6.4
SONM ScP **ScP** **20 15 06.4 -0.3**
comp=Z,31nm,1.1s,baz=33,slow=3.3,SNR=11
SONM LR LR 20 30 16.5
comp=Z,11µm,18.8s,baz=60,slow=38
SONM P3KPbc 20 38 00.3
comp=Z,0.5nm,0.9s,baz=231,slow=0.9,SNR=3.6
BGU Big Grassy Mou 46.01 76 *e*P **P** **20 09 42.2 +0.8**
comp=Z,399nm,1.6s
BGU *e*ScP **ScP** **20 15 07.3 +0.1**
BGU LR LR
comp=Z,2µm,21.9s
R11A Troy Canyon, C 46.02 80 *e*P **P** **20 09 41.7 +0.2**
R11A Troy Canyon, C 46.02 80 ⇑P **P** **20 09 42.3 +0.8**
baz=46,SNR=398
R11A ⇓ScP **ScP** **20 15 06.3 -1.0**
baz=46
D21A La Casta Ranch 46.03 65 ⇑P **P** **20 09 41.0 -0.3**
baz=46,SNR=57
D21A ⇓ScP **ScP** **20 15 05.5 -1.5**
baz=46,SNR=6.8
F20A Billings 46.08 67 ⇑P **P** **20 09 41.9 +0.2**
baz=46,SNR=36
F20A ⇑ScP **ScP** **20 15 06.4 -0.9**
baz=46
AHID Auburn Hatcher 46.09 72 *e*P **P** **20 09 42.6 +0.7**
comp=Z,308nm,1.0s
SPUT South Promonto 46.13 75 *e*P **P** **20 09 43.1 +0.8**
comp=Z,705nm,1.4s
SPUT LR LR
comp=Z,2µm,19.5s
A23A Redstone 46.17 62 ⇓P **P** **20 09 41.4 -1.0**
baz=46,SNR=13
A23A ⇑ScP **ScP** **20 15 04.9 -2.6**
baz=46,SNR=7.4
H19A Powell 46.23 69 ⇑P **P** **20 09 43.4 +0.3**
baz=46,SNR=34
H19A ⇓ScP **ScP** **20 15 07.5 -0.5**
baz=46
BSC Santa Cruz Isl 46.28 88 ⇑P **P** **20 09 44.0 +0.6**
baz=46,SNR=7.2
E21A Keefer Ranch, 46.28 66 ⇓P **P** **20 09 43.6 +0.3**
baz=46
E21A ⇑ScP **ScP** **20 15 07.3 -0.7**
baz=46
MPMC Manual Prospec 46.28 84 ⇑P **P** **20 09 44.5 +0.9**
baz=46,SNR=131
MPMC ⇓ScP **ScP** **20 15 06.4 -1.9**
baz=46,SNR=7.5
ZAK Zakamensk 46.28 300 ⇓*i*P **P** **20 09 44.6 +1.3**
ZAK *e* 20 11 19.0
ZAK pmax pmax
comp=Z,267nm,1.5s
C22A Vida 46.28 64 ⇑P **P** **20 09 42.7 -0.6**
baz=46,SNR=42
C22A ⇓ScP **ScP** **20 15 06.4 -1.6**
baz=46,SNR=18
G20A Bridger 46.37 68 ⇓P **P** **20 09 44.0 -0.1**
baz=46,SNR=214
G20A ⇑ScP **ScP** **20 15 08.4 -0.1**
baz=46,SNR=9.9

B23A Brockton 46.38 63 ⇑P P 20 09 43.6 -0.5
baz=46,SNR=22
B23A ⇑ScP **ScP 20 15 07.0 -1.4**
baz=46,SNR=15
FURC Furnace Creek, 46.41 83 ⇑P P 20 09 45.3 +1.0
baz=46,SNR=160
FURC ⇑ScP **ScP 20 15 07.2 -1.3**
baz=46,SNR=7.4
TIA Tai'an 46.41 276 P P 20 09 44.9 +0.5
TIA S **S 20 16 27.6 -1.6**
TIA pmax pmax
comp=Z,3μm,4.2s
TIA LR LR
comp=Z,2μm,20.2s
TIA LR LR
comp=Z,3μm,20.8s
TIA LR LR
comp=Z,4μm,19.6s
OSI Osito Adit 46.44 86 eP P 20 09 46.0 +1.4
comp=Z,150nm,0.7s
OSI LR LR
comp=Z,3μm,21.8s
OSI Osito Adit 46.44 86 ⇑P P 20 09 45.3 +0.7
baz=46,SNR=12
D22A Cohagen 46.45 65 ⇑P P 20 09 44.8 +0.2
baz=46,SNR=90
D22A ⇑ScP **ScP 20 15 07.5 -1.2**
baz=46,SNR=11
FCC Fort Churchill 46.46 46 eP P 20 09 43.5 -0.9
FCC pmax pmax
comp=Z,9.0nm,1.3s
FCC Fort Churchill 46.46 46 eP P 20 09 43.5 -0.9
comp=Z,8.9nm,1.3s
TPNV Topopah Spring 46.48 82 eP P 20 09 45.8 +0.7
TPNV pmax pmax
comp=Z,636nm,0.9s
TPNV MLR MLR
comp=Z,5μm,20.4s
TPNV Topopah Spring 46.48 82 eP P 20 09 45.8 +0.7
comp=Z,636nm,0.9s
TPNV LR LR
comp=Z,5μm,20.4s
TPNV Topopah Spring 46.48 82 ⇓P P 20 09 46.3 +1.1
baz=46,SNR=630
TPNV ⇑ScP **ScP 20 15 07.8 -1.4**
baz=46
LRMC Laurel Mountai 46.53 85 ⇓P P 20 09 46.0 +0.5
baz=46,SNR=72
LRMC ⇑ScP **ScP 20 15 07.1 -2.3**
baz=46,SNR=7.1
DUG Dugway 46.59 76 eP P 20 09 46.6 +0.7
DUG pmax pmax
comp=Z,1μm,1.3s
DUG MLR MLR
comp=Z,2μm,18.4s
DUG Dugway 46.59 76 eP P 20 09 46.6 +0.7
comp=Z,1μm,1.3s
DUG eScP **ScP 20 15 10.1 +0.5**
DUG LR LR
comp=Z,2μm,18.4s
DUG Dugway 46.59 76 ⇑P P 20 09 46.9 +1.0
baz=46,SNR=566
DUG ⇓ScP **ScP 20 15 09.1 -0.5**
baz=46
I19A Meeteetse 46.59 70 ⇓P P 20 09 46.2 +0.3
baz=46,SNR=83
I19A ⇑ScP **ScP 20 15 08.5 -1.1**
baz=46
C23A Lambert 46.64 63 ⇑P P 20 09 46.0 -0.1
baz=46,SNR=59
C23A ⇓ScP **ScP 20 15 08.0 -1.5**
baz=46,SNR=17
F21A Absaloka Mine, 46.65 67 ⇑P P 20 09 46.0 -0.3
baz=46,SNR=9.6
A24A Westby 46.68 62 ⇓P P 20 09 45.7 -0.6
baz=46,SNR=28
A24A ⇓ScP **ScP 20 15 06.8 -2.8**
baz=46,SNR=9.4
LAO LASA Array 46.68 65 eP P 20 09 46.4 -0.1
comp=Z,334nm,1.2s
LAO LR LR
comp=Z,4μm,19.9s
EDW2 Edwards Air Fo 46.72 86 ⇑P P 20 09 47.4 +0.4
baz=47,SNR=73
EDW2 ⇓ScP **ScP 20 15 07.5 -2.6**
baz=47
MOY Mondy 46.80 303 eP P 20 09 48.9 +1.5
MOY pmax pmax
comp=Z,493nm,1.5s
DGMT Dagmar 46.82 62 eP P 20 09 47.0 -0.5
comp=Z,295nm,1.5s
DGMT ePcP **PcP 20 11 20.9 +0.9**
DGMT eScP **ScP 20 15 09.8 -0.4**
DGMT LR LR
comp=Z,2μm,19.5s
DGMT Dagmar 46.82 62 ⇓P P 20 09 46.9 -0.6
baz=47,SNR=8.9
DGMT ⇑ScP **ScP 20 15 08.2 -2.0**
baz=47,SNR=6.4
H20A Greybull 46.91 69 ⇑P P 20 09 47.9 -0.4
baz=47,SNR=39
H20A ⇓ScP **ScP 20 15 10.3 -0.5**
baz=47
DECC Green Verdugo 46.92 87 ⇑P P 20 09 48.7 +0.3
baz=47,SNR=6.1
G21A Lodge Grass 46.95 67 ⇑P P 20 09 48.2 -0.5
baz=47,SNR=47
G21A ⇑ScP **ScP 20 15 10.0 -0.9**
baz=47
HHC Hu-ho-hao-te 46.95 285 ⇑*i*P P 20 09 50.3 +1.6
HHC pP **pP 20 10 00.4 +0.4**
HHC sP **sP 20 10 04.1 -0.5**
HHC PP **PP 20 11 40.3 +1.1**
HHC S **S 20 16 33.8 -3.3**
HHC sS **sS 20 16 53.5 -2.3**
HHC ScS **ScS 20 19 36.3 -3.3**
HHC SS **SS 20 19 56.9 -6.8**
HHC pmax pmax
comp=Z,620nm,1.0s
HHC pmax pmax
comp=Z,5μm,6.6s
HHC LR LR
comp=Z,7μm,16.0s
HHC LR LR
comp=Z,9μm,16.1s
HHC LR LR
comp=Z,10μm,16.5s
E22A Miles City 46.98 65 ⇑P P 20 09 48.9 +0.2
baz=47,SNR=56
E22A ⇓ScP **ScP 20 15 09.9 -1.0**
baz=47,SNR=9.5
D23A Lindsay 46.98 64 ⇓P P 20 09 48.9 +0.1
baz=47,SNR=26
D23A ⇑ScP **ScP 20 15 09.6 -1.4**
baz=47,SNR=20
BW06 Boulder Array 47.00 72 eP P 20 09 49.4 +0.2
comp=Z,508nm,0.8s
BW06 LR LR
comp=Z,3μm,22.0s
PDAR Pinedale Array 47.00 72 P P 20 09 49.6 +0.4
PDAR ScP **ScP 20 15 10.2 -1.2**
PDAR Pinedale Array 47.00 72 P P 20 09 49.6 +0.4
comp=Z,398nm,0.7s,baz=302,slow=3.7,SNR=2113
PDAR ScP **ScP 20 15 10.2 -1.2**
comp=Z,15nm,0.8s,baz=259,slow=0.9,SNR=12
PDAR LR LR 20 29 23.8
comp=Z,2μm,19.8s,baz=315,slow=36
J19A Crowheart 47.01 71 ⇑P P 20 09 50.0 +0.8
baz=47,SNR=105
J19A ⇑ScP **ScP 20 15 11.0 -0.3**
baz=47
PASC Pasadena Art C 47.06 87 eP P 20 09 50.1 +0.6
comp=Z,96nm,0.8s
PASC LR LR
comp=Z,3μm,21.1s
MWC Mount Wilson 47.11 86 eP P 20 09 51.1 +1.0
MWC pmax pmax
comp=Z,354nm,1.2s
MWC MLR MLR
comp=Z,3μm,21.9s
MWC Mount Wilson 47.11 86 eP P 20 09 51.0 +1.0
comp=Z,354nm,1.2s
MWC LR LR
comp=Z,3μm,21.9s
I20A Worland 47.15 69 ⇓P P 20 09 50.7 +0.4
baz=47,SNR=88
I20A ⇓ScP **ScP 20 15 11.2 -0.6**
baz=47
A25A Svangstu Ranch 47.16 61 ⇑P P 20 09 49.5 -0.6
baz=47,SNR=35
A25A ⇓ScP **ScP 20 15 09.6 -2.0**
baz=47,SNR=15
JLU Jordanelle 47.16 75 eP P 20 09 51.2 +0.7
comp=Z,1μm,1.6s
JLU eScP **ScP 20 15 13.4 +1.3**
JLU LR LR
comp=Z,2μm,21.0s
F22A Rosebud 47.18 66 ⇑P P 20 09 50.2 -0.2
baz=47,SNR=53
F22A ⇑ScP **ScP 20 15 10.8 -1.0**
baz=47,SNR=13
NLU North Lily Min 47.18 76 eP P 20 09 51.5 +0.8
comp=Z,354nm,1.1s
NLU LR LR
comp=Z,3μm,18.7s
GSC Goldstone 47.19 84 eP P 20 09 51.2 +0.6
GSC pmax pmax
comp=Z,419nm,1.0s
GSC Goldstone 47.19 84 eP P 20 09 51.2 +0.6
comp=Z,419nm,1.0s
GSC eScP **ScP 20 15 12.8 +0.8**
GSC Goldstone 47.19 84 ⇑P P 20 09 51.3 +0.6
baz=47,SNR=139
GSC ⇓ScP **ScP 20 15 10.1 -2.0**
baz=47,SNR=8.5
C24A Savage 47.22 63 ⇑P P 20 09 50.8 +0.2
baz=47,SNR=9.0
C24A ⇓ScP **ScP 20 15 10.3 -1.7**
baz=47,SNR=6.3
SSE Sheshan 47.25 268 ⇑P P 20 09 50.9 0.0
SSE pP **pP 20 10 01.6 -0.6**
SSE S **S 20 16 39.5 -1.7**
SSE sS **sS 20 16 58.1 -1.9**
SSE pmax pmax
comp=Z,400nm,1.0s
SSE pmax pmax
comp=Z,780nm,3.5s
SSE LR LR
comp=Z,1μm,19.6s
SSE LR LR
comp=Z,880nm,19.6s
SSE LR LR
comp=Z,2μm,21.7s
FMP Fort Macarthur 47.30 87 ⇓P P 20 09 52.0 +0.7
baz=47
E23A Ismay 47.31 65 ⇑P P 20 09 51.3 -0.1
baz=47,SNR=40
E23A ⇑ScP **ScP 20 15 11.2 -1.1**
baz=47,SNR=9.0
RRX Edison Barstow 47.34 85 ⇓P P 20 09 52.3 +0.6
baz=47
BFSC Mount Baldy Ra 47.35 86 ⇑P P 20 09 52.3 +0.4
baz=47,SNR=60
H21A Big Horn, Sher 47.39 68 ⇑P P 20 09 51.7 -0.3
baz=47,SNR=41
H21A ⇑ScP **ScP 20 15 12.7 -0.1**
baz=47,SNR=7.1
DAU Daniels Canyon 47.40 75 eP P 20 09 53.4 +1.0
DAU pmax pmax
comp=Z,1μm,1.6s
DAU Daniels Canyon 47.40 75 eP P 20 09 53.4 +1.0
comp=Z,1μm,1.6s
DAU eScP **ScP 20 15 13.0 -0.2**
MPU Maple Canyon 47.41 76 eP P 20 09 53.1 +0.7
comp=Z,349nm,1.0s
MPU eScP **ScP 20 15 13.0 -0.1**
MPU LR LR
comp=Z,2μm,19.2s
CIS Catalina Islan 47.43 87 ⇑P P 20 09 53.1 +0.7
baz=47,SNR=6.0
SHPR Sheep Range 47.44 82 eP P 20 09 52.8 +0.2
comp=Z,113nm,1.1s
SHPR eScP **ScP 20 15 13.7 +0.5**
G22A Birney 47.48 67 ⇓P P 20 09 52.7 -0.1
baz=47,SNR=37
G22A ⇓ScP **ScP 20 15 12.2 -0.9**
baz=47,SNR=10
B25A Knox Farm, Ray 47.50 62 ⇓P P 20 09 52.6 -0.3
baz=47,SNR=19
B25A ⇑ScP **ScP 20 15 11.2 -1.9**
baz=47,SNR=7.2
D24A Glendive 47.51 64 ⇓P P 20 09 53.0 +0.2
baz=47,SNR=65
D24A ⇓ScP **ScP 20 15 11.8 -1.3**
baz=47,SNR=16
J20A Shoshoni 47.53 70 ⇑P P 20 09 54.0 +0.8
baz=47,SNR=192
J20A ⇑ScP **ScP 20 15 13.4 -0.1**
baz=47
SCI San Clemente I 47.63 88 ⇓P P 20 09 54.6 +0.7
baz=48
TUQ Turquoise Moun 47.65 84 ⇑P P 20 09 54.7 +0.5
baz=48,SNR=82
TUQ ⇓ScP **ScP 20 15 12.1 -2.0**
baz=48,SNR=6.0
ARUT Antelope Range 47.69 79 eP P 20 09 55.0 +0.5
ARUT pmax pmax
comp=Z,2μm,0.7s
ARUT Antelope Range 47.69 79 eP P 20 09 55.0 +0.5
comp=Z,2μm,0.7s
F23A Volborg 47.70 66 ⇑P P 20 09 53.9 -0.4
baz=48,SNR=73
F23A ⇓ScP **ScP 20 15 12.7 -1.3**
baz=48,SNR=11
I21A Big Trails, Te 47.72 69 ⇑P P 20 09 54.6 -0.1
baz=48,SNR=118
I21A ⇑ScP **ScP 20 15 13.0 -1.3**
baz=48,SNR=15
A26A Wade Farm, Ken 47.77 61 ⇑P P 20 09 54.2 -0.6
baz=48,SNR=19
A26A ⇑ScP **ScP 20 15 11.8 -2.4**
baz=48,SNR=16
C25A Freed Ranch, W 47.77 63 ⇓P P 20 09 54.5 -0.4
baz=48,SNR=8.0
C25A ⇑ScP **ScP 20 15 12.8 -1.4**
baz=48
HEC Hector,Ludlow 47.79 84 ⇓P P 20 09 55.4 +0.2
baz=48,SNR=113
HEC ⇑ScP **ScP 20 15 12.6 -2.0**
baz=48,SNR=8.9
BBRC Big Bear Solar 47.80 85 ⇑P P 20 09 55.6 +0.1
baz=48
H22A Clearmont 47.81 68 ⇓P P 20 09 55.4 0.0
baz=48,SNR=38
H22A ⇑ScP **ScP 20 15 13.7 -0.9**
baz=48,SNR=7.6
E24A Baker 47.84 64 ⇑P P 20 09 55.3 -0.1
baz=48,SNR=34
E24A ⇓ScP **ScP 20 15 12.8 -1.8**
baz=48,SNR=8.1
CCUT Cedar City 47.89 80 eP P 20 09 56.8 +0.7
comp=Z,156nm,0.8s
J21A Lysite 47.91 70 ⇑P P 20 09 56.1 -0.1
baz=48,SNR=126
J21A ⇓ScP **ScP 20 15 14.3 -0.9**
baz=48,SNR=12
B26A Jensen Ranch, 47.95 61 ⇑P P 20 09 55.6 -0.7
baz=48
B26A ⇑ScP **ScP 20 15 13.0 -2.0**
baz=48,SNR=7.1
MVU Marysvale 47.99 78 eP P 20 09 58.0 +1.0
comp=Z,276nm,1.0s
MVU eScP **ScP 20 15 16.7 +1.1**
G23A Biddle 48.01 67 ⇓P P 20 09 56.2 -0.6
baz=48,SNR=32
G23A ⇑ScP **ScP 20 15 14.2 -1.1**
baz=48,SNR=9.7
BTO Bactou 48.03 286 eP P 20 09 58.8 +1.7
D25A Fairfield 48.05 63 ⇓P P 20 09 56.7 -0.4
baz=48,SNR=8.0
D25A ⇑ScP **ScP 20 15 14.2 -1.2**
baz=48,SNR=7.1
NJ2 Nanjing 48.06 271 eP P 20 09 57.8 +0.6
NJ2 pP **pP 20 10 05.6 -3.0**
NJ2 sP **sP 20 10 09.4 -3.8**
NJ2 PP **PP 20 11 48.3 -1.1**
NJ2 S **S 20 16 53.0 +0.3**
NJ2 sS **sS 20 17 10.0 -1.5**
NJ2 pmax pmax
comp=Z,330nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,8.1s
NJ2 LR LR
comp=Z,4μm,24.0s
NJ2 LR LR
comp=Z,5μm,28.8s
NJ2 LR LR
comp=Z,4μm,23.8s
TMUT Trail Mountain 48.11 76 eP P 20 09 58.7 +0.7
comp=Z,472nm,0.9s
TMUT LR LR
comp=Z,2μm,19.5s
I22A 9 Mile Ranch, 48.15 69 ⇓P P 20 09 58.5 +0.5
baz=48,SNR=142
I22A ⇑ScP **ScP 20 15 15.7 -0.3**
baz=48,SNR=9.7
A27A Ledoux Ranch, 48.17 60 ⇑P P 20 09 57.4 -0.6
baz=48
F24A Ekalaka 48.17 65 ⇓P P 20 09 58.1 0.0
baz=48,SNR=33
F24A ⇓ScP **ScP 20 15 14.7 -1.4**
baz=48,SNR=15
GMRC Granite Mounta 48.24 84 ⇑P P 20 09 59.4 +0.6
baz=48,SNR=160
GMRC ⇑ScP **ScP 20 15 14.9 -1.7**
baz=48,SNR=8.6
C26A Wahner Farm, P 48.34 62 ⇓P P 20 09 58.9 -0.4
baz=48,SNR=19
C26A ⇓ScP **ScP 20 15 15.2 -1.5**
baz=48,SNR=7.9
TIY Taiyuan 48.36 281 eP P 20 10 00.9 +1.3
TIY pP **pP 20 10 11.4 +0.5**
TIY PP **PP 20 11 52.6 +0.5**
TIY S **S 20 16 56.8 -0.2**
TIY pmax pmax
comp=Z,2μm,6.0s
TIY LR LR
comp=Z,1μm,13.2s
TIY LR LR
comp=Z,3μm,19.4s
TIY LR LR
comp=Z,3μm,22.0s
H23A Clabaugh Cattl 48.38 67 ⇑P P 20 09 59.0 -0.7
baz=48
H23A ⇓ScP **ScP 20 15 16.6 -0.3**
baz=48
E25A Miller Ranch, 48.38 64 ⇑P P 20 09 59.7 0.0
baz=48,SNR=27
E25A ⇓ScP **ScP 20 15 15.8 -1.1**
baz=48,SNR=12
LDFC Landfair 48.39 83 eP P 20 10 00.2 +0.3
comp=Z,422nm,1.0s
J22A Midwest 48.43 69 ⇓P P 20 10 00.2 0.0
baz=48,SNR=282
J22A ⇓ScP **ScP 20 15 15.8 -1.5**
baz=48,SNR=16
K21A Alcova 48.45 70 ⇑P P 20 10 00.3 -0.1
baz=48,SNR=86
K21A ⇑ScP **ScP 20 15 16.9 -0.6**
baz=48
B27A Peters Farms, 48.47 61 ⇓P P 20 09 59.9 -0.4
baz=48,SNR=16
B27A ⇓ScP **ScP 20 15 14.2 -3.0**
baz=48
KRAR Krasnoyarsk 48.48 311 eP P 20 09 59.5 -0.6
KRAR pmax pmax
comp=Z,18nm,0.7s
G24A Alzada 48.49 66 ⇑P P 20 09 59.9 -0.6
baz=48,SNR=38
G24A ⇓ScP **ScP 20 15 16.1 -1.4**
baz=48,SNR=5.6
PFO Pinyon Flat Ob 48.52 86 eP P 20 10 01.2 +0.2
comp=Z,50nm,0.8s
PFO ScP **ScP 20 15 17.7 0.0**
PFO eScP ScP 20 15 17.9 +0.1
PFO Pinyon Flat Ob 48.52 86 ⇓P P 20 10 01.1 +0.2
baz=48,SNR=41
PFO ⇓ScP **ScP 20 15 15.6 -2.1**
baz=48,SNR=7.3
PFO Pinyon Flat Ob 48.52 86 ScP ScP 20 15 17.7 0.0
baz=293,slow=4.7
PFO LR LR 20 26 11.0
comp=Z,3μm,21.9s,baz=298,slow=31
BELC Belle Mtn. Jos 48.54 85 ⇓P P 20 10 01.2 0.0
baz=48,SNR=80
BELC ⇑ScP **ScP 20 15 15.3 -2.6**
baz=48
109C Camp Elliot, M 48.59 87 ⇑P P 20 10 02.2 +0.9
baz=48,SNR=6.0
D26A Manning 48.62 63 ⇑P P 20 10 00.9 -0.5
baz=48,SNR=12
D26A ⇑ScP **ScP 20 15 16.8 -1.0**
baz=48,SNR=8.9
KULLO Kullorsuaq 48.64 17⇑*i*P P 20 10 01.7 +0.6
KULLO MLR MLR
comp=Z,2μm,18.0s
KULLO Kullorsuaq 48.64 17⇑*i*P P 20 10 01.7 +0.6
comp=Z,224nm,0.7s
KULLO
comp=Z,2μm,18.0s
SRU San Rafael 48.64 76 eP P 20 10 02.7 +0.8
SRU pmax pmax
comp=Z,462nm,1.0s
SRU San Rafael 48.64 76 eP P 20 10 02.7 +0.8
comp=Z,462nm,1.0s
SRU eScP **ScP 20 15 18.5 +0.2**
F25A Bowman 48.69 65 ⇑P P 20 10 02.2 +0.1
baz=48,SNR=15
F25A ⇓ScP **ScP 20 15 16.6 -1.6**
baz=48,SNR=16
I23A Meade Ranch, G 48.70 68 ⇑P P 20 10 01.8 -0.4
baz=49
I23A ⇑P P **20 10 04.6 +2.4**
baz=49,SNR=15
I23A Meade Ranch, G 48.70 68 ⇑P P 20 10 04.6 +2.4
baz=0.2,SNR=15
A28A Rude Farm, Bot 48.72 60 ⇑P P 20 10 01.7 -0.6
baz=49,SNR=16
A28A ⇓ScP **ScP 20 15 15.2 -3.1**
baz=49,SNR=16
C27A Sayler Ranch, 48.74 62 ⇓P P 20 10 01.8 -0.5
baz=49,SNR=6.2
C27A ⇑ScP **ScP 20 15 16.8 -1.5**
baz=49,SNR=11
H24A Dirks Ranch, A 48.76 67 ⇑P P 20 10 01.6 -1.0
baz=49,SNR=44
H24A ⇑ScP **ScP 20 15 16.8 -1.7**
baz=49,SNR=11
H24A Dirks Ranch, A 48.76 67 ⇓P pP 20 10 17.3 +3.4
baz=0.9
K22A Casper 48.87 70 eP P 20 10 03.3 -0.3
K22A eScP **ScP 20 15 18.3 -0.8**
K22A Casper 48.87 70 ⇓P P 20 10 03.4 -0.1
baz=49,SNR=99
K22A ⇓ScP **ScP 20 15 18.9 -0.3**
baz=49
NEE2 Needles Airpor 48.90 83 ⇑P P 20 10 03.9 +0.3
baz=49,SNR=13
E26A Carlson Angus 48.93 64 ⇓P P 20 10 03.2 -0.6
baz=49,SNR=21
E26A ⇓ScP **ScP 20 15 17.6 -1.6**
baz=49,SNR=10
B28A Dugan Ranch, T 48.94 60 ⇑P P 20 10 03.3 -0.5
baz=49,SNR=41
B28A ⇓ScP **ScP 20 15 17.4 -1.7**
baz=49,SNR=17
N20A Spence Gulch, 48.94 73 ⇑P P 20 10 04.6 +0.4
baz=49,SNR=85
N20A ⇓ScP **ScP 20 15 19.5 -0.1**
baz=49
IRM Iron Mountain 48.97 84 ⇑P P 20 10 04.7 +0.4
baz=49,SNR=70
IRM ⇑ScP **ScP 20 15 19.2 -0.4**
baz=49,SNR=9.5
J23A Dilts Ranch, B 48.98 69 ⇑P P 20 10 04.5 +0.1
baz=49,SNR=18
J23A Dilts Ranch, B 48.98 69 ⇓P pP 20 10 15.6 -0.1
baz=0.7
BAR Barrett 49.00 87 eP P 20 10 04.7 +0.2
comp=Z,184nm,1.0s
BAR eScP **ScP 20 15 19.8 +0.1**
MONP Monument Peak 49.02 86 ⇓P P 20 10 05.1 +0.2
baz=49,SNR=75
MONP ⇓ScP **ScP 20 15 16.6 -3.4**
baz=49
RWWY Rawlins 49.04 71 eP P 20 09 59.0 -6.0
comp=Z,304nm,0.9s
RWWY eScP **ScP 20 15 14.1 -5.9**
D27A Center 49.08 62 ⇓P P 20 10 04.6 -0.4
baz=49,SNR=14
D27A ⇑ScP **ScP 20 15 18.6 -1.2**
baz=49,SNR=8.5

BC3 **Big Chuckawall** 49.11 85 ⇑P P 20 10 05.4 -0.1
baz=49,SNR=53
BC3 ⇑ScP ScP 20 15 18.5 -1.7
baz=49
W13A Hualapai Mount 49.14 82 ⇓P P 20 10 06.2 +0.4
baz=49
W13A ⇑ScP ScP 20 15 19.7 -0.8
baz=49
G25A Newell 49.14 65 ⇓P P 20 10 04.9 -0.6
baz=49,SNR=22
G25A ⇑ScP ScP 20 15 19.4 -0.7
baz=49
F26A Lodgepole 49.17 64 ⇑P P 20 10 05.3 -0.5
baz=49,SNR=12
F26A ⇑ScP ScP 20 15 20.1 -0.2
baz=49
I24A Kuemmerle Ranc 49.24 68 ⇓P P 20 10 05.8 -0.6
baz=49,SNR=14
I24A ⇓ScP ScP 20 15 19.7 -1.0
baz=49
U15A North Rim 49.26 80 ⇓P P 20 10 07.7 +0.9
baz=49,SNR=484
U15A ⇓ScP ScP 20 15 20.1 -1.0
baz=49
A29A Manning Farm, 49.27 59 ⇑P P 20 10 05.6 -0.8
baz=49,SNR=43
A29A ⇓ScP ScP 20 15 18.8 -1.8
baz=49,SNR=27
L22A Ellis Ranch, M 49.29 70 ⇓P P 20 10 07.5 +0.6
baz=49,SNR=87
L22A ⇓ScP ScP 20 15 20.9 -0.2
baz=49
K23A Bowen Ranch, D 49.33 69 ⇑P P 20 10 06.9 -0.2
baz=49,SNR=43
K23A ⇓ScP ScP 20 15 20.7 -0.4
baz=49
C28A Hausauer Farms 49.35 61 ⇑P P 20 10 06.5 -0.5
baz=49,SNR=11
C28A ⇓ScP ScP 20 15 19.6 -1.4
baz=49,SNR=8.2
DVTC Desert V Tower 49.37 86 ⇑P P 20 10 07.6 +0.1
baz=49,SNR=51
DVTC ⇓ScP ScP 20 15 19.4 -2.0
baz=49
SWSC Sam W. Stewart 49.37 86 ⇓P P 20 10 07.4 +0.1
baz=49,SNR=19
SWSC ⇓ScP ScP 20 15 19.7 -1.5
baz=49
H25A Fruitdale 49.38 66 ⇑P P 20 10 06.9 -0.4
baz=49,SNR=32
H25A ⇑ScP ScP 20 15 20.3 -0.9
baz=49,SNR=17
H25A Fruitdale 49.38 66 ⇓P sP 20 10 26.9 +3.6
baz=1.4
O20A White River Ci 49.38 74 *e*P P 20 10 07.7 +0.1
O20A White River Ci 49.38 74 ⇑P P 20 10 08.1 +0.5
baz=49,SNR=69
O20A ⇑ScP ScP 20 15 21.6 +0.2
baz=49
RSSD Black Hills 49.43 67 *e*P P 20 10 07.0 -0.9
RSSD pmax pmax
comp=Z,30nm,0.3s
RSSD Black Hills 49.43 67 *e*P P 20 10 07.0 -0.9
comp=Z,30nm,0.3s
RSSD *e*ScP ScP 20 15 20.7 -0.9
E27A Carson 49.45 63 ⇓P P 20 10 07.9 0.0
baz=49,SNR=11
E27A ⇓ScP ScP 20 15 20.7 -0.7
baz=49,SNR=9.1
B29A Wagenman Farm, 49.47 60 ⇓P P 20 10 07.3 -0.6
baz=49
B29A ⇑ScP ScP 20 15 19.6 -1.8
baz=49,SNR=16
PDMCI Parker Dam,Lak 49.50 83 ⇑P P 20 10 08.7 +0.4
baz=49,SNR=59
PDMCI ⇑ScP ScP 20 15 21.0 -0.8
baz=49
F27A Lemmon 49.53 64 ⇓P P 20 10 08.1 -0.3
baz=49,SNR=19
F27A ⇑ScP ScP 20 15 21.1 -0.7
baz=49,SNR=5.4
J24A Dixon Ranch, L 49.54 68 ⇓P P 20 10 08.2 -0.5
baz=49,SNR=27
J24A ⇑ScP ScP 20 15 21.6 -0.3
baz=49
J24A Dixon Ranch, L 49.54 68 ⇑P pP 20 10 20.1 +0.1
baz=1.0
G26A Maurine 49.55 65 ⇑P P 20 10 08.2 -0.3
baz=49,SNR=54
G26A ⇓ScP ScP 20 15 20.4 -1.5
baz=49,SNR=12
D28A Regan 49.55 62 ⇑P P 20 10 08.1 -0.5
baz=49,SNR=14
D28A ⇑ScP ScP 20 15 20.6 -1.3
baz=49
M22A Cedar Creek Ra 49.58 71 ⇓P P 20 10 09.1 0.0
baz=49,SNR=146
Y12C Blythe 49.63 84 ⇑P P 20 10 09.9 +0.7
baz=50,SNR=27
Y12C ⇑ScP ScP 20 15 20.6 -1.7
baz=50
I25A Rochford 49.66 67 ⇓P P 20 10 08.9 -0.7
baz=50,SNR=35
I25A ⇓ScP ScP 20 15 21.5 -1.0
baz=50,SNR=8.0
I25A Rochford 49.66 67 ⇓P sP 20 10 24.0 -1.6
baz=1.2
KBS Kingsbay 49.70 357 *e*P P 20 10 10.4 +1.2
KBS *e*S S 20 17 12.2 -2.5
KBS AMS AMS 20 32 34.7
comp=Z,3µm,18.2s
KBS Kingsbay 49.70 357 *e*P P 20 10 10.4 +1.2
KBS pmax pmax
comp=Z,263nm,0.9s
KBS Kingsbay 49.70 357 *e*P P 20 10 10.4 +1.2
comp=Z,263nm,0.9s
MDND Maddock 49.70 61 *e*P P 20 10 09.6 0.0
MDND *e*ScP ScP 20 15 22.2 -0.2
MDND Maddock 49.70 61 ⇑P P 20 10 09.4 -0.3
baz=50,SNR=18
MDND ⇑ScP ScP 20 15 20.8 -1.6
baz=50
A30A Hoffart Farm, 49.76 59 ⇓P P 20 10 09.2 -0.9
baz=50,SNR=59
A30A ⇑ScP ScP 20 15 20.7 -1.9
baz=50,SNR=11
K24A Anderson Ranch 49.82 69 ⇓P P 20 10 10.1 -0.8
baz=50
K24A ⇓ScP ScP 20 15 23.3 +0.1
baz=50
K24A Anderson Ranch 49.82 69 ⇓P sP 20 10 29.0 +2.1
baz=1.5,SNR=11
E28A Huff 49.85 62 ⇓P P 20 10 10.4 -0.5
baz=50,SNR=16
E28A ⇑ScP ScP 20 15 20.7 -2.4
baz=50,SNR=10
H26A Fairpoint 49.85 66 ⇑P P 20 10 10.5 -0.5
baz=50,SNR=11
H26A ⇓ScP ScP 20 15 21.9 -1.3
baz=50,SNR=15
G27A Dupree 49.87 64 ⇓P P 20 10 10.5 -0.6
baz=50,SNR=34
G27A ⇑ScP ScP 20 15 21.9 -1.4
baz=50,SNR=23
GLA Glamis 49.90 85 *e*P P 20 10 11.9 +0.5
GLA pmax pmax
comp=Z,45nm,0.7s
GLA Glamis 49.90 85 *e*P P 20 10 11.9 +0.5
comp=Z,45nm,0.7s
GLA Glamis 49.90 85 ⇑P P 20 10 11.3 -0.1
baz=50,SNR=65
J25A Sunshine Ranch 50.00 68 ⇓P P 20 10 11.2 -1.0
baz=50,SNR=16
J25A ⇑ScP ScP 20 15 22.7 -1.3
baz=50
B30A Myrvik Farm, E 50.03 59 ⇑P P 20 10 11.8 -0.4
baz=50,SNR=66
B30A ⇓ScP ScP 20 15 21.9 -2.0
baz=50,SNR=11
N22A Wattenberg Ran 50.04 72 ⇓P P 20 10 12.8 +0.2
baz=50,SNR=172
N22A ⇑ScP ScP 20 15 24.7 +0.4
baz=50
M23A Laramie 50.06 71 ⇑P P 20 10 12.8 +0.1
baz=50,SNR=50
M23A ⇓ScP ScP 20 15 25.2 +0.8
baz=50
PV04 Paradox Valley 50.08 76 *e*P P 20 10 13.1 +0.2
PV04 *e*ScP ScP 20 15 24.3 -0.2
I26A New Underwood 50.16 66 ⇓P P 20 10 12.8 -0.5
baz=50,SNR=13
I26A ⇑ScP ScP 20 15 24.2 -0.3
baz=50
D29A Pettibone, Tap 50.17 61 ⇓P P 20 10 12.5 -0.7
baz=50,SNR=7.8
D29A ⇓ScP ScP 20 15 22.2 -2.3
baz=50
L24A Wheatland 50.17 70 ⇑P P 20 10 13.8 +0.3
baz=50,SNR=30
L24A ⇑ScP ScP 20 15 25.1 +0.4
baz=50
F28A McLaughlin 50.23 63 ⇑P P 20 10 13.4 -0.3
baz=50,SNR=11
F28A ⇑ScP ScP 20 15 23.5 -1.2
baz=50
H27A Howes 50.24 65 ⇓P P 20 10 13.4 -0.4
baz=50,SNR=19
H27A ⇑ScP ScP 20 15 23.9 -0.9
baz=50,SNR=7.1
SPA0 Spitsbergen Ar 50.26 356 *e*P P 20 10 13.7 +0.2
SPA0 *e*PP PP 20 12 07.0 -1.6
ULM Lac du Bonnet 50.27 56 P P 20 10 13.1 -0.9
ULM PcP PcP 20 11 32.8 +0.4
ULM ScP ScP 20 15 22.6 -2.2
ULM Lac du Bonnet 50.27 56 P P 20 10 13.1 -0.9
comp=Z,38nm,0.5s,baz=305,slow=8.1,SNR=77
ULM PcP PcP 20 11 32.8 +0.4
comp=Z,26nm,0.7s,baz=306,slow=5.2,SNR=5.5
ULM ScP ScP 20 15 22.6 -2.2
comp=Z,39nm,1.0s,baz=309,slow=4.0,SNR=12
ULM LR LR 20 31 35.5
comp=Z,3µm,21.3s,baz=308,slow=36
N23A Red Feather La 50.28 71 ⇑P P 20 10 14.7 +0.2
baz=50,SNR=120
N23A ⇑ScP ScP 20 15 25.3 -0.1
baz=50
O22A Kremmling 50.38 72 ⇓P P 20 10 15.7 +0.4
baz=50,SNR=160
O22A ⇓ScP ScP 20 15 25.4 -0.5
baz=50
C30A Mose, Pekin 50.40 60 ⇑P P 20 10 14.2 -0.8
baz=50,SNR=8.2
C30A ⇓ScP ScP 20 15 22.1 -3.3
baz=50,SNR=11
WUAZ Wupatki 50.42 80 *e*P P 20 10 16.2 +0.8
comp=Z,375nm,1.1s
WUAZ Wupatki 50.42 80 ⇑P P 20 10 16.3 +0.8
baz=50,SNR=204
WUAZ ⇓ScP ScP 20 15 25.2 -0.7
baz=50
E29A Napoleon 50.44 62 ⇑P P 20 10 14.2 -1.1
baz=50,SNR=6.4
E29A ⇑ScP ScP 20 15 23.5 -2.1
baz=50
K25A Mack Ranch, Ha 50.44 68 ⇓P P 20 10 15.1 -0.3
baz=50,SNR=9.7
K25A ⇓ScP ScP 20 15 25.6 -0.3
baz=50
PV01 Paradox Valley 50.45 76 *e*P P 20 10 16.0 +0.2
comp=Z,13µm,0.7s
Y14A Wickenburg 50.45 83 ⇑P P 20 10 16.0 +0.4
baz=50,SNR=56
Y14A ⇓ScP ScP 20 15 24.9 -1.0
baz=50,SNR=6.4
J26A Sides Ranch, S 50.47 67 ⇑P P 20 10 15.1 -0.6
baz=50,SNR=13
J26A ⇑ScP ScP 20 15 25.1 -0.8
baz=50,SNR=6.8
J26A Sides Ranch, S 50.47 67 ⇑P sP 20 10 34.6 +2.9
baz=1.9,SNR=23
M24A Cheyenne 50.59 70 ⇑P P 20 10 17.2 +0.5
baz=50,SNR=44
M24A ⇑ScP ScP 20 15 26.2 -0.4
baz=50
I27A Quinn 50.60 66 ⇑P P 20 10 16.2 -0.3
baz=50,SNR=47
I27A ⇓ScP ScP 20 15 25.2 -1.2
baz=50,SNR=9.2
D30A Buchanan 50.60 61 ⇑P P 20 10 15.5 -1.0
baz=50,SNR=29
D30A ⇓ScP ScP 20 15 24.2 -2.1
baz=50,SNR=20
P22A Eagle 50.61 73 ⇑P P 20 10 17.4 +0.4
baz=50,SNR=73
P22A ⇓ScP ScP 20 15 26.1 -0.7
baz=50
G28A Parade 50.63 64 ⇑P P 20 10 16.3 -0.5
baz=50,SNR=26
G28A ⇑ScP ScP 20 15 25.0 -1.5
baz=50,SNR=12
L25A Engebretsen Ra 50.67 69 ⇑P P 20 10 17.5 +0.3
baz=50,SNR=25
L25A ⇓ScP ScP 20 15 26.3 -0.5
baz=50
O23A Lake Granby, G 50.73 72 ⇑P P 20 10 18.8 +0.9
baz=51,SNR=149
O23A ⇓ScP ScP 20 15 26.8 -0.5
baz=51
SMCO Snowmass 50.75 74 *e*P P 20 10 18.3 +0.1
comp=Z,188nm,1.2s
SMCO *e*ScP ScP 20 15 26.9 -0.7
113A Mohawk Valley, 50.75 85 ⇑P P 20 10 18.0 +0.2
baz=51,SNR=21
113A ⇑ScP ScP 20 15 25.4 -1.7
baz=51
F29A Eureka 50.78 63 ⇑P P 20 10 17.3 -0.6
baz=51,SNR=5.6
F29A ⇑ScP ScP 20 15 25.5 -1.6
baz=51,SNR=10
K26A Motz Farm, Whi 50.79 68 ⇓P P 20 10 17.6 -0.4
baz=51,SNR=15
K26A ⇑ScP ScP 20 15 25.9 -1.4
baz=51,SNR=5.7
H28A Mission Ridge 50.81 65 ⇓P P 20 10 17.7 -0.4
baz=51,SNR=41
H28A ⇑ScP ScP 20 15 25.5 -1.8
baz=51
YOJ Yonaguni jima 50.81 260 *e*P P 20 10 15.5 -2.8
YOJ pmax pmax
comp=Z,103nm,0.9s
YOJ Yonaguni jima 50.81 260 *e*P P 20 10 15.5 -2.8
comp=Z,103nm,0.9s
Z14A Wintersburg 50.87 83 ⇓P P 20 10 18.9 +0.3
baz=51,SNR=7.8
Z14A ⇓ScP ScP 20 15 25.9 -1.8
baz=51
HVS Khovu-Aksy 50.87 306*c* *i*P P 20 10 19.5 +0.9
E30A Jud 50.88 62 ⇓P P 20 10 17.8 -0.9
baz=51,SNR=10
E30A ⇑ScP ScP 20 15 25.8 -1.7
baz=51,SNR=9.6
N24A Carr 50.95 71 ⇓P P 20 10 20.5 +1.0
baz=51,SNR=40
N24A ⇑ScP ScP 20 15 27.9 -0.2
baz=51
M25A Palm-Egli Farm 51.06 70 ⇓P P 20 10 20.9 +0.6
baz=51,SNR=19
M25A ⇓ScP ScP 20 15 28.0 -0.6
baz=51
MVCO Mesa Verde 51.08 77 *e*P P 20 10 21.1 +0.6
comp=Z,713nm,1.4s
MVCO Mesa Verde 51.08 77 ⇓P P 20 10 20.7 +0.1
baz=51,SNR=42
MVCO ⇑ScP ScP 20 15 28.5 -0.4
baz=51
X16A Lo Mia Camp, P 51.10 81 ⇓P P 20 10 21.6 +1.0
baz=51,SNR=202
X16A ⇑ScP ScP 20 15 27.9 -1.0
baz=51
G29A Hoven 51.11 63 ⇑P P 20 10 19.5 -0.9
baz=51
J27A Elkhorn Farm, 51.12 67 ⇓P P 20 10 20.5 -0.1
baz=51,SNR=24
J27A ⇑ScP ScP 20 15 27.8 -0.9
baz=51,SNR=7.2
I28A Midland 51.14 65 ⇓P P 20 10 20.5 -0.2
baz=51,SNR=50
I28A ⇓ScP ScP 20 15 27.2 -1.5
baz=51,SNR=7.6
ISCO Idaho Springs 51.17 72 *e*P P 20 10 21.8 +0.6
ISCO pmax pmax
comp=Z,211nm,1.0s
ISCO Idaho Springs 51.17 72 *e*P P 20 10 21.8 +0.6
comp=Z,211nm,1.0s
ISCO *e*ScP ScP 20 15 32.6 +3.3
ISCO Idaho Springs 51.17 72 ⇑P P 20 10 22.1 +0.9
baz=51,SNR=157
ISCO ⇑ScP ScP 20 15 29.4 +0.1
baz=51
F30A Leola 51.22 62 ⇑P P 20 10 20.5 -0.7
baz=51,SNR=6.3
F30A ⇑ScP ScP 20 15 26.9 -2.1
baz=51,SNR=7.3
L26A Underwood Farm 51.26 68 ⇑P P 20 10 21.4 -0.2
baz=51
L26A ⇓ScP ScP 20 15 28.7 -0.7
baz=51
O24A Longmont 51.28 72 ⇓P P 20 10 23.1 +1.2
baz=51,SNR=18
O24A ⇑ScP ScP 20 15 30.1 +0.5
baz=51
H29A Onida 51.30 64 ⇑P P 20 10 21.6 -0.2
baz=51,SNR=14
H29A ⇑ScP ScP 20 15 27.7 -1.6
baz=51,SNR=9.2
P23A Jefferson 51.30 73 ⇑P P 20 10 23.8 +1.5
baz=51,SNR=44
P23A ⇑ScP ScP 20 15 29.9 0.0
baz=51
HOPEN Hopen 51.32 353 *e*P P 20 10 22.3 +0.8
HOPEN AMS AMS 20 33 34.8
comp=Z,3µm,16.2s
K27A Flueckinger Fa 51.33 67 ⇑P P 20 10 21.7 -0.5
baz=51,SNR=10
K27A ⇓ScP ScP 20 15 29.0 -0.7
baz=51
N25A Grover 51.43 70 ⇓P P 20 10 23.7 +0.7
baz=51
AGMN Agassiz Nation 51.45 58 *e*P P 20 10 21.5 -1.3
comp=Z,303nm,1.5s
AGMN *e*ScP ScP 20 15 28.2 -1.6
J28A Allard Ranch, 51.46 66 ⇓P P 20 10 23.1 +0.1
baz=51,SNR=48
J28A ⇓ScP ScP 20 15 29.3 -0.8
baz=51
DAG Danmarks Havn 51.51 5⇑*i*P P 20 10 23.2 +0.3
DAG *i* 20 10 41.1
DAG MLR MLR
comp=Z,11µm,21.0s
DAG Danmarks Havn 51.51 5⇑*i*P P 20 10 23.2 +0.3
comp=Z,70nm,0.7s
DAG *i* 20 10 41.1
DAG
comp=Z,10µm,21.0s
M26A McRoberts Ranc 51.58 69 ⇑P P 20 10 24.2 +0.2
baz=51,SNR=20
G30A Faulkton 51.59 63 ⇑P P 20 10 23.0 -1.0
baz=51,SNR=10.0
G30A ⇓ScP ScP 20 15 28.6 -2.0
baz=51,SNR=11
Q23A Hartsel 51.60 73 ⇑P P 20 10 25.4 +0.9
baz=52,SNR=20
I29A Vivian Onida 51.62 65 ⇓P P 20 10 23.6 -0.6
baz=52,SNR=17
I29A ⇓ScP ScP 20 15 29.8 -1.0
baz=52,SNR=15
L27A T5 Ranch, Ells 51.67 68 ⇓P P 20 10 24.5 -0.2
baz=52,SNR=12
L27A ⇑ScP ScP 20 15 30.3 -0.9
baz=52
YHNB Yeheng 51.67 262 *e*P P 20 10 24.3 -0.6
comp=Z,136nm,0.9s
W18A Petrified Fore 51.69 80 *e*P P 20 10 25.7 +0.7
W18A Petrified Fore 51.69 80 ⇓P P 20 10 25.9 +0.9
baz=52,SNR=32
S22A 4UR Ranch, Cre 51.75 75 ⇑P P 20 10 26.5 +0.9
baz=52,SNR=253
S22A ⇓ScP ScP 20 15 32.0 +0.2
baz=52
P24A Kohler Place, 51.77 72 ⇓P P 20 10 26.9 +1.3
baz=52,SNR=6.1
K28A Ten Mile Ranch 51.83 67 ⇑P P 20 10 25.7 -0.1
baz=52,SNR=20
K28A ⇑ScP ScP 20 15 31.1 -0.6
baz=52
O25A Wiggins 51.86 71 ⇓P P 20 10 26.9 +0.7
baz=52,SNR=16
O25A ⇓ScP ScP 20 15 31.6 -0.4
baz=52
214A Organ Pipe Nat 51.90 85 *e*P P 20 10 26.6 +0.2
214A Organ Pipe Nat 51.90 85 ⇑P P 20 10 26.5 0.0
baz=52,SNR=44
214A ⇑ScP ScP 20 15 30.2 -2.0
baz=52
NACB Ninganchiao 51.90 261 *e*P P 20 10 25.4 -1.0
comp=Z,236nm,1.0s
WHN Wuhan 51.90 273⇑*i*P P 20 10 26.9 +0.5
WHN PcP PcP 20 11 39.3 +0.6
WHN S S 20 17 45.3 -1.0
WHN pmax pmax
comp=Z,890nm,0.9s
WHN pmax pmax
comp=Z,3µm,6.4s
WHN LR LR
comp=Z,3µm,21.4s
WHN LR LR
comp=Z,3µm,13.8s
WHN LR LR
comp=Z,3µm,20.2s
N26A Koester Ranch, 51.93 70 ⇓P P 20 10 27.3 +0.6
baz=52,SNR=13
X18A Snowflake 51.95 80 ⇑P P 20 10 27.9 +0.9
baz=52,SNR=145
X18A ⇓ScP ScP 20 15 32.0 -0.6
baz=52
Q24A Divide 51.98 73 ⇓P P 20 10 28.1 +0.8
baz=52,SNR=48
M27A Reverse DX Ran 51.98 69 ⇑P P 20 10 27.2 +0.2
baz=52,SNR=15
J29A Okreek 51.99 66 ⇓P P 20 10 26.5 -0.4
baz=52,SNR=65
J29A ⇓ScP ScP 20 15 30.6 -1.8
baz=52,SNR=10
R23A Moffat 52.07 74 ⇓P P 20 10 29.0 +1.1
baz=52,SNR=83
R23A ⇓ScP ScP 20 15 32.3 -0.9
baz=52,SNR=5.9
BRSD Miller 52.12 64 *e*P P 20 10 27.3 -0.6
BRSD *e*PcP PcP 20 11 40.0 +0.7
BRSD *e*ScP ScP 20 15 32.5 -0.4
BRSD Miller 52.12 64 ⇓P P 20 10 26.9 -0.9
baz=52,SNR=7.4
BRSD ⇑ScP ScP 20 15 31.1 -1.8
baz=52,SNR=6.9
L28A Connealy Angus 52.18 68 ⇓P P 20 10 28.4 -0.1
baz=52
I30A Oacoma 52.18 64 ⇑P P 20 10 27.8 -0.6
baz=52,SNR=37
I30A ⇑ScP ScP 20 15 31.8 -1.4
baz=52,SNR=6.7
P25A Willow Gulch B 52.21 72 ⇑P P 20 10 29.9 +1.1
baz=52,SNR=183
P25A ⇑ScP ScP 20 15 33.3 -0.3
baz=52
O26A Horse Wrangler 52.25 70 ⇓P P 20 10 29.5 +0.5
baz=52,SNR=31
O26A ⇑ScP ScP 20 15 33.5 -0.2
baz=52
S23A Nye Farm, Mont 52.27 75 ⇑P P 20 10 30.5 +1.0
baz=52,SNR=16
N27A Anderson Farm, 52.35 69 ⇓P P 20 10 30.1 +0.3
baz=52,SNR=28
N27A ⇓ScP ScP 20 15 33.5 -0.6
baz=52
K29A Lazy Trails An 52.40 66 ⇓P P 20 10 30.1 +0.1
baz=52,SNR=20
K29A ⇓ScP ScP 20 15 32.8 -1.4
baz=52
R24A Sanders Place, 52.47 73 ⇓P P 20 10 31.5 +0.7
baz=52,SNR=118
R24A ⇓ScP ScP 20 15 34.2 -0.6
baz=52
J30A Dallas 52.51 65 ⇑P P 20 10 30.3 -0.5
baz=52,SNR=18
J30A ⇑ScP ScP 20 15 32.7 -2.0
baz=52,SNR=8.5
Q25A Bedland, Calha 52.55 72 ⇓P P 20 10 32.2 +0.8
baz=52,SNR=60
SDCO Great Sand Dun 52.55 74 *e*P P 20 10 32.1 +0.6
comp=Z,635nm,1.4s
OGNE Ogallala 52.55 69 *e*P P 20 10 31.8 +0.5
comp=Z,1µm,1.6s
OGNE Ogallala 52.55 69 ⇑P P 20 10 31.5 +0.2
baz=52,SNR=38

OGNE ⇑ScP **ScP** **20 15 34.5 -0.4**
baz=52
SSLB Suanglung 52.58 262 *eP* **P** **20 10 31.6 0.0**
comp=Z,436nm,1.0s
U22A Llaves 52.62 76 ⇑P **P** **20 10 32.7 +0.6**
baz=52,SNR=311
U22A ⇑ScP **ScP** **20 15 34.6 -0.9**
baz=52
M28A Bar X Bar Ranc 52.65 68 ⇑P **P** **20 10 32.1 +0.1**
baz=52,SNR=18
M28A ⇑ScP **ScP** **20 15 33.5 -1.9**
baz=52
YULB Yu-li 52.66 261 *eP* **P** **20 10 31.4 -0.7**
comp=Z,194nm,1.0s
P26A Davis Ranch, A 52.67 71 ⇓P **P** **20 10 32.9 +0.7**
baz=52,SNR=181
P26A ⇑ScP **ScP** **20 15 34.8 -0.8**
baz=52
T23A Casias Ranch, 52.69 75 ⇑P **P** **20 10 33.5 +0.9**
baz=53,SNR=45
T23A ⇓ScP **ScP** **20 15 35.2 -0.6**
baz=53
L29A Maesberg Ranch 52.75 67 ⇓P **P** **20 10 32.5 -0.2**
baz=53,SNR=16
L29A ⇑ScP **ScP** **20 15 34.2 -1.5**
baz=53
XMAS Kiritimati 52.75 151 *eP* **P** **20 10 33.6 +0.9**
comp=Z,130nm,1.1s
O27A Beecher Island 52.77 70 ⇓P **P** **20 10 33.4 +0.5**
baz=53,SNR=22
O27A ⇑ScP **ScP** **20 15 35.2 -0.7**
baz=53
S24A Houchin Ranch, 52.79 74 ⇑P **P** **20 10 34.6 +1.2**
baz=53,SNR=86
S24A ⇓ScP **ScP** **20 15 35.9 -0.4**
baz=53
K30A Basset 52.86 66 ⇓P **P** **20 10 33.6 +0.2**
baz=53,SNR=16
K30A ⇑ScP **ScP** **20 15 34.6 -1.6**
baz=53
V22A San Miguel Ran 52.90 77 ⇓P **P** **20 10 34.4 +0.4**
baz=53,SNR=187
V22A ⇑ScP **ScP** **20 15 36.4 -0.4**
baz=53
XAN Xi'an 52.91 280 P **P** **20 10 33.9 0.0**
XAN pP **pP** **20 10 44.0 -1.4**
XAN sP **sP** **20 10 48.0 -2.0**
XAN PP **PP** **20 12 32.4 -1.1**
XAN S S 20 17 52.1 -8.1
XAN pmax pmax
comp=Z,74nm,1.1s
XAN pmax pmax
comp=Z,240nm,6.2s
XAN LR LR
comp=Z,1μm,24.1s
XAN LR LR
comp=Z,770nm,21.9s
XAN LR LR
comp=Z,730nm,24.1s
TUC Tucson 52.92 83 *eP* **P** **20 10 34.5 +0.5**
TUC pmax pmax
comp=Z,236nm,1.1s
TUC Tucson 52.92 83 *eP* **P** **20 10 34.5 +0.5**
comp=Z,236nm,1.1s
Q26A Hugo 52.98 72 ⇓P **P** **20 10 35.4 +1.0**
baz=53,SNR=46
N28A Pribbeno Ranch 53.01 69 ⇑P **P** **20 10 35.0 +0.4**
baz=53,SNR=22
N28A ⇓ScP **ScP** **20 15 36.8 -0.1**
baz=53
M29A Burnside Ranch 53.02 68 ⇓P **P** **20 10 34.7 +0.1**
baz=53,SNR=16
M29A ⇑ScP **ScP** **20 15 36.0 -0.9**
baz=53
R25A Fountain Ranch 53.02 73 ⇑P **P** **20 10 35.6 +0.8**
baz=53,SNR=130
R25A ⇑ScP **ScP** **20 15 36.5 -0.6**
baz=53
U23A El Rito 53.06 76 ⇑P **P** **20 10 36.2 +1.0**
baz=53,SNR=40
U23A ⇑ScP **ScP** **20 15 37.4 0.0**
baz=53
T24B San Luis 53.07 75 ⇓P **P** **20 10 36.6 +1.3**
baz=53,SNR=238
T24B ⇓ScP **ScP** **20 15 37.5 -0.1**
baz=53
P27A Ficken Ranch, 53.12 71 ⇑P **P** **20 10 35.9 +0.4**
baz=53,SNR=32
P27A ⇓ScP **ScP** **20 15 37.6 +0.1**
baz=53
TPUB Ta-pu 53.14 261 *eP* **P** **20 10 35.4 -0.3**
comp=Z,200nm,0.9s
QZH Quanzhou 53.20 265 ⇑*iP* P 20 10 32.8 -3.3
QZH S **S** **20 18 02.1 -2.1**
QZH pmax pmax
comp=Z,830nm,0.9s
QZH pmax pmax
comp=Z,4μm,2.6s
QZH LR LR
comp=Z,3μm,22.4s
QZH LR LR
comp=Z,2μm,15.0s
QZH LR LR
comp=Z,4μm,20.1s
TWG Pinlang 53.22 261 *eP* **P** **20 10 35.3 -0.9**
comp=Z,471nm,0.9s
O28A Krutsinger Ran 53.23 70 ⇓P **P** **20 10 36.7 +0.5**
baz=53,SNR=48
O28A ⇓ScP **ScP** **20 15 37.5 -0.4**
baz=53
S25A Robets Cordova 53.25 74 ⇓P **P** **20 10 37.2 +0.6**
baz=53,SNR=221
L30A Spencer Herefo 53.26 67 ⇓P **P** **20 10 36.2 -0.2**
baz=53,SNR=8.1
L30A ⇓ScP **ScP** **20 15 37.3 -0.6**
baz=53
SUMG Summit 53.42 13 ⇑*iP* **P** **20 10 38.1 +0.6**
SUMG *i* 20 10 56.2
SUMG MLR MLR
comp=Z,2μm,21.0s
SUMG Summit 53.42 13 ⇑*iP* **P** **20 10 38.1 +0.6**
comp=Z,191nm,1.0s
SUMG *i* 20 10 56.2
SUMG
comp=Z,2μm,21.0s
SUMG Summit 53.42 13 *eP* **P** **20 10 37.7 +0.2**
comp=Z,320nm,1.0s
R26A Arlington 53.42 72 ⇓P **P** **20 10 38.4 +0.7**
baz=53,SNR=212
R26A ⇑ScP **ScP** **20 15 38.9 +0.1**
baz=53
M30A Dale-Ortello V 53.43 67 ⇑P **P** **20 10 37.5 -0.2**
baz=53,SNR=5.7
ZAA0 Zalesovo Array 53.44 313 *eP* **P** **20 10 37.0 -0.5**
ZALV Zalesovo Beam 53.44 313 P **P** **20 10 37.1 -0.4**
ZALV 20 11 44.9
ZALV pmax pmax
comp=Z,53nm,0.6s
ZALV pmax pmax
comp=Z,163nm,0.7s
ZALV pmax pmax
comp=N,16nm,0.9s
ZALV MLR MLR
comp=Z,4μm,20.5s
ZALV Zalesovo Beam 53.44 313 P **P** **20 10 37.1 -0.4**
ZALV PcP **PcP** **20 11 44.9 +0.8**
ZALV ScP **ScP** **20 15 38.0 -0.4**
ZALV *e* 20 48 00.6
ZALV Zalesovo Beam 53.44 313 P **P** **20 10 37.1 -0.4**
comp=Z,53nm,0.6s,baz=49,slow=6.9,SNR=273
ZALV PcP **PcP** **20 11 44.9 +0.8**
comp=Z,163nm,0.7s,baz=34,slow=3.5,SNR=18
ZALV ScP **ScP** **20 15 38.0 -0.4**
comp=Z,16nm,0.9s,baz=41,slow=2.7,SNR=4.9
ZALV LR LR 20 34 50.8
comp=Z,4μm,20.5s,baz=48,slow=38
ZALV P4KPbc 20 48 00.6
comp=Z,1.3nm,0.8s,baz=47,slow=4.9,SNR=6.5
KSCO Kaye Shedlock' 53.45 71 *eP* **P** **20 10 38.7 +0.8**
KSCO Kaye Shedlock' 53.45 71 ⇑P **P** **20 10 38.9 +1.0**
baz=53,SNR=23
KSCO ⇑ScP **ScP** **20 15 39.5 +0.6**
baz=53
V23A Ortiz Mt. (NFS 53.45 77 ⇑P **P** **20 10 39.2 +1.2**
baz=53,SNR=184
N29A Votaw Ranch, W 53.45 68 ⇑P **P** **20 10 38.0 +0.1**
baz=53,SNR=8.4

U24A Moreno Valley 53.56 75 ⇓P **P** **20 10 39.8 +0.9**
baz=53
NVS Novosibirsk 53.59 314 ⇑*iP* **P** **20 10 37.4 -1.2**
NVS *i* 20 11 44.6
NVS *e*PS **S** **20 18 06.4 -2.4**
NVS pmax pmax
comp=Z,128nm,0.5s
NVS pmax pmax
comp=N,54nm,0.7s
NVS pmax pmax
comp=E,83nm,0.7s
NVS pmax pmax
comp=Z,98nm,1.4s
NVS pmax pmax
comp=N,53nm,1.0s
NVS pmax pmax
comp=E,67nm,1.0s
P28A Saint Francis 53.60 70 ⇑P **P** **20 10 39.5 +0.5**
baz=53,SNR=65
P28A ⇑ScP **ScP** **20 15 38.8 -0.8**
baz=53
T25A Trinidad 53.60 74 ⇑P **P** **20 10 40.0 +0.8**
baz=54,SNR=284
L31A Butterfield Fa 53.62 66 ⇑P **P** **20 10 39.1 +0.1**
baz=54,SNR=11
L31A ⇓ScP **ScP** **20 15 38.8 -0.7**
baz=54
LAZ Ladron 53.76 78 *eP* **P** **20 10 41.5 +1.2**
comp=E,143nm,0.9s
N30A Hueftle Ranch, 53.77 68 ⇓P **P** **20 10 40.5 +0.3**
baz=54
O29A 4D Ranch, Culb 53.80 69 ⇑P **P** **20 10 40.8 +0.4**
baz=54,SNR=55
ANMO Albuquerque 53.81 77 *eP* **P** **20 10 41.4 +0.7**
comp=E,176nm,1.1s
R27A Eads 53.82 72 ⇑P **P** **20 10 41.3 +0.7**
baz=54,SNR=200
S26A Kim 53.85 73 ⇓P **P** **20 10 41.2 +0.3**
baz=54,SNR=168
W23A Werner Place, 53.86 77 ⇓P **P** **20 10 41.6 +0.6**
baz=54,SNR=81
W23A ⇑ScP **ScP** **20 15 41.1 +0.2**
baz=54
ECSD EROS Data Cent 53.88 63 *eP* **P** **20 10 39.1 -1.8**
comp=E,34nm,0.7s
ECSD *e*ScP **ScP** **20 15 39.7 -0.9**
Q28A Sharon Springs 53.88 71 ⇓P **P** **20 10 41.7 +0.6**
baz=54,SNR=64
EYMN Ely 53.96 56 *eP* **P** **20 10 40.2 -1.2**
comp=E,210nm,1.1s
EYMN *e*ScP **ScP** **20 15 39.8 -1.1**
ILULI Ilulissat 53.97 20 ⇑*iP* **P** **20 10 40.9 -0.2**
ILULI *i* 20 10 59.0
ILULI MLR MLR
comp=Z,3μm,28.0s
ILULI Ilulissat 53.97 20 ⇑*iP* **P** **20 10 40.9 -0.2**
comp=Z,107nm,0.8s
ILULI *i* 20 10 59.0
ILULI
comp=Z,3μm,27.0s
V24A Rampart Ranch, 54.02 76 ⇓P **P** **20 10 43.1 +0.9**
baz=54,SNR=238
V24A ⇑ScP **ScP** **20 15 41.1 -0.5**
baz=54
LENM Lemitar 54.02 79 *eP* **P** **20 10 43.2 +1.0**
comp=Z,274nm,1.2s
P29A Atwood 54.06 70 ⇑P **P** **20 10 43.1 +0.8**
baz=54,SNR=76
M31A Lambtecht Ranc 54.07 67 ⇓P **P** **20 10 41.9 -0.4**
baz=54,SNR=13
T26A Comanche Natio 54.07 73 ⇓P **P** **20 10 42.6 0.0**
baz=54,SNR=140
T26A ⇓ScP **ScP** **20 15 41.3 -0.5**
baz=54
U25A Circle Dot Ran 54.09 75 ⇑P **P** **20 10 43.5 +0.8**
baz=54,SNR=269
Y22D IRIS PASSCAL I 54.11 79 ⇑P **P** **20 10 44.1 +1.2**
baz=54,SNR=5.8
LPM Los Pinos Moun 54.13 78 *eP* **P** **20 10 44.0 +1.0**
comp=Z,133nm,0.9s
S27A Las Animas 54.15 73 ⇓P **P** **20 10 43.5 +0.4**
baz=54,SNR=34
Y22A Socorro 54.18 79 ⇑P **P** **20 10 44.2 +0.8**
baz=54,SNR=110
O30A MW Ranch, Wils 54.20 68 ⇓P **P** **20 10 43.8 +0.5**
baz=54,SNR=10.0
X23A Hourglass Bar 54.22 78 ⇑P **P** **20 10 44.7 +1.0**
baz=54,SNR=190
BNM Barren Site 54.24 78 *eP* **P** **20 10 44.6 +0.7**
comp=Z,167nm,1.0s
W24A Lazy 6 Ranch, 54.28 76 ⇑P **P** **20 10 45.2 +1.1**
baz=54,SNR=282
V25A Rancho No Teng 54.34 75 ⇓P **P** **20 10 45.5 +0.9**
baz=54,SNR=271
R28A Tribune 54.37 71 ⇓P **P** **20 10 45.0 +0.4**
baz=54,SNR=33
N31A Bailey Ranch, 54.42 67 ⇑P **P** **20 10 44.9 0.0**
baz=54,SNR=11
KNTN Kanton 54.47 170 *eP* P 20 10 48.1 +2.8
comp=Z,483nm,1.8s
319A Douglas 54.49 83 ⇑P **P** **20 10 46.0 +0.4**
baz=54,SNR=86
U26A Atchley Ranch, 54.50 74 ⇑P **P** **20 10 46.2 +0.5**
baz=54,SNR=249
Q29A Oakley 54.50 70 ⇑P **P** **20 10 46.1 +0.5**
baz=54,SNR=67
P30A Selden 54.50 69 ⇓P **P** **20 10 45.9 +0.4**
baz=54,SNR=56
BGNE Belgrade 54.50 66 *eP* **P** **20 10 45.1 -0.3**
BGNE Belgrade 54.50 66 ⇓P **P** **20 10 45.3 -0.2**
baz=54
BGNE ⇑ScP **ScP** **20 15 41.5 -1.9**
baz=54
121A Cookes Peak, D 54.62 81 *eP* **P** **20 10 47.5 +0.9**
121A Cookes Peak, D 54.62 81 ⇑P **P** **20 10 47.1 +0.5**
baz=54,SNR=109
Z22A Elephant Butte 54.64 79 ⇓P **P** **20 10 47.4 +0.7**
baz=54,SNR=101
O31A Woolen Ranch, 54.64 68 ⇑P **P** **20 10 46.5 0.0**
baz=54,SNR=19
LZH Lanzhou 54.65 285 ⇑P **P** **20 10 47.9 +1.2**
LZH pP **pP** **20 10 55.3 -2.9**
LZH sP **sP** **20 11 00.3 -2.5**
LZH PcP **PcP** **20 11 50.8 +1.5**
LZH PP **PP** **20 12 49.3 +0.1**
LZH ScP **ScP** **20 15 45.9 +1.6**
LZH S **S** **20 18 22.0 -1.9**
LZH sS sS 20 18 37.0 -5.9
LZH SS **SS** **20 22 03.1 -3.4**
LZH pmax pmax
comp=Z,250nm,1.0s
LZH pmax pmax
comp=Z,1μm,5.8s
LZH LR LR
comp=Z,3μm,15.5s
LZH LR LR
comp=Z,4μm,16.2s
LZH LR LR
comp=Z,4μm,16.8s
T27A Campo 54.67 73 ⇑P **P** **20 10 47.3 +0.4**
baz=54,SNR=53
X24A Lazy VL Ranch, 54.69 77 ⇑P **P** **20 10 48.0 +0.8**
baz=55
R29A Marienthal 54.71 71 ⇓P **P** **20 10 47.7 +0.7**
baz=55,SNR=114
Y23A Lovelace Mesa, 54.74 78 ⇓P **P** **20 10 48.2 +0.8**
baz=55,SNR=398
S28A Manter 54.81 72 ⇓P **P** **20 10 48.8 +0.9**
baz=55,SNR=77
N32A Stulken Farm, 54.84 67 ⇑P **P** **20 10 47.6 -0.3**
baz=55
GTA Gaotai 54.85 291 ⇑*iP* **P** **20 10 49.1 +1.0**
GTA pP **pP** **20 11 00.8 +1.2**
GTA sP **sP** **20 11 04.4 +0.2**
GTA PcP **PcP** **20 11 51.0 +1.1**
GTA PP **PP** **20 12 52.8 +1.9**
GTA ScP **ScP** **20 15 44.8 -0.2**
GTA PcS **PcS** **20 15 49.4 -0.4**
GTA S **S** **20 18 25.8 -0.6**
GTA sS **sS** **20 18 42.9 -2.5**
GTA ScS **ScS** **20 20 31.6 -2.4**
GTA pmax pmax
comp=Z,690nm,0.8s
GTA pmax pmax
comp=Z,2μm,8.1s
GTA LR LR
comp=Z,4μm,17.6s
GTA LR LR
comp=Z,3μm,15.7s
GTA LR LR
comp=Z,6μm,17.6s
W25A X Bar L Ranch, 54.85 76 ⇓P **P** **20 10 49.1 +0.9**
baz=55,SNR=394
V26A Tequesquite Ra 54.87 75 ⇓P **P** **20 10 48.8 +0.5**
baz=55,SNR=240
Q30A Quinter 54.89 70 ⇓P **P** **20 10 48.7 +0.4**
baz=55,SNR=49
320A Kipp Ranch, An 54.98 82 ⇓P **P** **20 10 49.7 +0.5**
baz=55,SNR=119
T28A Walsh 54.99 73 ⇓P **P** **20 10 49.5 +0.3**
baz=55,SNR=146
SPMN St. Paul 55.01 59 *eP* **P** **20 10 47.9 -1.1**
SPMN *e*ScP **ScP** **20 15 44.3 -1.2**
SPMN St. Paul 55.01 59 ⇑P **P** **20 10 48.5 -0.5**
baz=55,SNR=22
P31A Stockton 55.02 69 ⇑P **P** **20 10 49.4 +0.2**
baz=55,SNR=54
U27A Thompson Grove 55.03 74 ⇓P **P** **20 10 49.7 +0.2**
baz=55
Z23A Rita Site, Whi 55.09 79 ⇑P **P** **20 10 50.6 +0.7**
baz=55,SNR=97
Y24A Capitan 55.12 78 ⇑P **P** **20 10 51.0 +0.7**
baz=55,SNR=729
ENH Enshi 55.13 276 *eP* **P** **20 10 49.7 -0.4**
comp=Z,111nm,0.9s
O32A Brockman Farm, 55.18 67 ⇑P **P** **20 10 50.0 -0.4**
baz=55,SNR=14
X25A Clemmons Ranch 55.19 77 ⇑P **P** **20 10 51.4 +0.8**
baz=55,SNR=219
S29A Ulysses 55.26 71 ⇑P **P** **20 10 51.6 +0.6**
baz=55
R30A Dighton 55.31 70 ⇓P **P** **20 10 51.6 +0.2**
baz=55,SNR=185
222A Williams Famil 55.34 80 ⇑P **P** **20 10 52.2 +0.4**
baz=55,SNR=51
Q31A Ellis 55.35 69 ⇑P **P** **20 10 52.0 +0.3**
baz=55,SNR=22
W26A Owens Ranch, T 55.36 76 ⇑P **P** **20 10 52.5 +0.6**
baz=55,SNR=75
P32A Huiting Farm, 55.41 68 ⇓P **P** **20 10 51.7 -0.3**
baz=55,SNR=41
U28A Mallet 55.42 73 ⇑P **P** **20 10 52.5 +0.2**
baz=55,SNR=108
T29A Hugoton 55.46 72 ⇓P **P** **20 10 52.9 +0.5**
baz=55,SNR=6.9
V27A Dan Oppiter Fa 55.47 74 ⇓P **P** **20 10 52.7 +0.1**
baz=55
123A Bell Site, Whi 55.49 79 ⇑P **P** **20 10 53.2 +0.4**
baz=55,SNR=15
Z24A Sheeppen Canyo 55.57 78 ⇑P **P** **20 10 54.0 +0.5**
baz=55,SNR=130
Y25A Mesa, Roswell 55.58 77 ⇓P **P** **20 10 54.1 +0.7**
baz=56,SNR=390
S30A Montezuma 55.63 71 ⇓P **P** **20 10 54.3 +0.6**
baz=56,SNR=65
X26A CR and CF Fran 55.69 76 ⇑P **P** **20 10 54.5 +0.3**
baz=56,SNR=114
R31A Burdett 55.75 70 ⇓P **P** **20 10 54.7 +0.2**
baz=56,SNR=118
W27A Bowe Ranch, En 55.80 75 ⇑P **P** **20 10 55.1 +0.1**
baz=56,SNR=119
223A Chaparral, Ant 55.82 80 ⇓P **P** **20 10 55.8 +0.6**
baz=56
V28A Channing 55.84 74 ⇓P **P** **20 10 55.5 +0.2**
baz=56,SNR=38
Q32A Meitler Ranch, 55.85 69 ⇓P **P** **20 10 55.1 -0.1**
baz=56,SNR=104
SFJD Kangerlussuaq 55.87 22 ⇑*iP* **P** **20 10 54.9 0.0**
comp=Z,61nm,0.8s
SFJD
comp=Z,2μm,30.0s
SFJD Kangerlussuaq 55.87 22 *eP* **P** **20 10 54.8 0.0**
comp=Z,106nm,0.9s
U29A Oasis Ranch, S 55.94 73 ⇑P **P** **20 10 56.2 +0.2**
baz=56,SNR=52
124A Stringfield Ra 55.95 79 ⇓P **P** **20 10 56.5 +0.2**
baz=56,SNR=108
T30A Plains 55.98 72 ⇓P **P** **20 10 56.4 +0.2**
baz=56
Z25A Roswell 56.00 78 ⇑P **P** **20 10 57.2 +0.7**
baz=56,SNR=89
P33A Williams Farm, 56.06 68 ⇑P **P** **20 10 56.7 0.0**
baz=56,SNR=40
X27A F and S Farms, 56.06 75 ⇓P **P** **20 10 57.3 +0.4**
baz=56,SNR=38
Y26A Elida 56.11 77 ⇑P **P** **20 10 57.7 +0.4**
baz=56,SNR=82
R32A Long Quarter, 56.14 69 ⇑P **P** **20 10 57.4 +0.1**
baz=56,SNR=34
V29A Stinnett 56.18 73 ⇑P **P** **20 10 57.7 0.0**
baz=56,SNR=9.8
W28A Vega 56.19 74 ⇑P **P** **20 10 58.1 +0.4**
baz=56,SNR=32
S31A Mullinville 56.22 70 ⇑P **P** **20 10 57.5 -0.4**
baz=56,SNR=44
U30A WK&E Inc. Balk 56.26 72 ⇑P **P** **20 10 58.1 -0.1**
baz=56,SNR=22
Q33A Connelly Farm, 56.27 68 ⇓P **P** **20 10 58.0 -0.2**
baz=56,SNR=96
224A Cornudas Mount 56.33 79 ⇓P **P** **20 10 59.2 +0.4**
baz=56,SNR=169
T31A Randall Ranch, 56.46 71 ⇑P **P** **20 10 59.7 +0.1**
baz=56,SNR=106
Z26A Caprock 56.46 77 ⇑P **P** **20 10 59.9 +0.2**
baz=56,SNR=164
125A Gardner Draw, 56.46 78 ⇓P **P** **20 11 00.0 +0.3**
baz=56,SNR=181
S32A Newby Ranch, P 56.49 70 ⇓P **P** **20 10 59.6 -0.1**
baz=56,SNR=22
Y27A Causey 56.54 76 ⇑P **P** **20 11 00.6 +0.3**
baz=56,SNR=468
W29A Amraillo 56.61 74 ⇑P **P** **20 11 00.8 0.0**
baz=56,SNR=27
R33A Olander Ranch, 56.64 69 ⇓P **P** **20 11 00.4 -0.4**
baz=56,SNR=49
MNTX Cornudas Mount 56.68 80 *eP* **P** **20 11 01.6 +0.5**
comp=Z,224nm,1.0s
X28A Dimmitt 56.69 75 ⇓P **P** **20 11 01.5 +0.2**
baz=57,SNR=8.2
MSTX Muleshoe 56.72 76 *eP* **P** **20 11 01.2 -0.4**
MSTX Muleshoe 56.72 76 ⇑P **P** **20 11 01.9 +0.3**
baz=57,SNR=138
225A Deer Hill, Car 56.74 79 ⇓P **P** **20 11 02.4 +0.6**
baz=57,SNR=124
PALP Palanan 56.74 255 *eP* **P** **20 11 02.1 +0.4**
AMTX Amarillo 56.76 74 *eP* **P** **20 11 01.7 -0.1**
comp=Z,309nm,1.0s
AMTX *e*ScP **ScP** **20 15 54.0 +0.5**
AMTX Amarillo 56.76 74 ⇑P **P** **20 11 02.4 +0.7**
baz=57
V30A Spur Ranch, Mi 56.76 73 ⇑P **P** **20 11 01.6 -0.1**
baz=57,SNR=15
324A Moseley Ranch, 56.79 80 ⇑P **P** **20 11 02.4 +0.3**
baz=57,SNR=98
APYP Conner 56.84 257 *eP* **P** **20 11 02.1 -0.4**
U31A Nine Bar Ranch 56.84 72 ⇑P **P** **20 11 02.2 -0.1**
baz=57,SNR=12
T32A Huddler Ranch, 56.85 70 ⇑P **P** **20 11 02.1 -0.3**
baz=57,SNR=60
126A Clayton Basin, 56.86 78 ⇑P **P** **20 11 02.6 0.0**
baz=57,SNR=49
Z27A Tatum 56.89 77 ⇑P **P** **20 11 02.8 0.0**
baz=57,SNR=122
KSU1 Kansas State U 56.91 67 *eP* **P** **20 11 02.1 -0.6**
comp=Z,272nm,1.0s
KSU1 *e*ScP **ScP** **20 15 52.8 -1.2**
GDL2 Guadalupe Moun 56.96 78 *eP* **P** **20 11 03.9 +0.6**
comp=Z,46nm,0.9s
GDL2 *e*ScP ScP 20 16 03.2 +8.7
SCIA State Center 56.96 63 *eP* **P** **20 11 02.9 -0.1**
comp=Z,201nm,1.0s
SCIA *e*ScP **ScP** **20 15 50.0 -4.1**
X29A Tulia 57.04 75 ⇑P **P** **20 11 04.2 +0.4**
baz=57,SNR=22
Y28A McKinney Farm, 57.08 76 ⇓P **P** **20 11 04.1 +0.1**
baz=57,SNR=92
S33A Kaszmaul Farm, 57.11 70 ⇑P **P** **20 11 04.3 +0.1**
baz=57,SNR=28
325A Bean Ranch, Si 57.16 80 ⇑P **P** **20 11 05.3 +0.5**
baz=57,SNR=194
226B Tecolote Peak, 57.16 78 ⇓P **P** **20 11 05.0 +0.3**
baz=57,SNR=188
CAUP Cauayan 57.20 255 *eP* **P** **20 11 07.1 +2.2**
CLNB Carlsbad 57.21 78 *eP* **P** **20 11 05.4 +0.4**
comp=Z,17nm,1.3s

W30A	**Crocket Farms**	**57.22**	**73**	⇓P		**P**	**20 11 05.3 +0.3**
	baz=57,SNR=16						
127A	**Arkansas Junct**	**57.24**	**77**	⇓P		**P**	**20 11 05.5 +0.2**
	baz=57,SNR=32						
V31A	**Spring Creek L**	**57.25**	**72**	⇑P		**P**	**20 11 05.4 +0.2**
	baz=57,SNR=27						
T33A	**Patterson Ranc**	**57.31**	**70**	⇓P		**P**	**20 11 05.0 -0.6**
	baz=57,SNR=34						
ABRA	**Dolores**	**57.33**	**257**	*e*P		**P**	**20 11 06.2 +0.3**
U32A	**Winter Ranch,**	**57.34**	**71**	⇑P		**P**	**20 11 06.0 +0.2**
	baz=57,SNR=42						
SCO	**Scoresbysund**	**57.35**	**9**	⇑*i*P		**P**	**20 11 06.1 +0.8**
SCO				MLR		MLR	
	comp=Z,3µm,18.0s						
SCO	**Scoresbysund**	**57.35**	**9**	⇑*i*P		**P**	**20 11 06.1 +0.8**
	comp=Z,74nm,0.9s						
SCO							
	comp=Z,3µm,18.0s						
Z28A	**Tucker Farm, M**	**57.42**	**76**	⇑P		**P**	**20 11 06.2 -0.3**
	baz=57,SNR=23						
Y29A	**Porterfield Fa**	**57.46**	**75**	⇓P		**P**	**20 11 06.7 -0.1**
	baz=57,SNR=40						
KEV	**Kevo**	**57.52**	**349**	*e*P		**P**	**20 11 06.3 -0.2**
KEV				pmax		pmax	
	comp=Z,9.0nm,0.3s						
KEV	**Kevo**	**57.52**	**349**	*e*p		**P**	**20 11 06.3 -0.2**
	comp=Z,9.4nm,0.3s						
KEV	**Kevo**	**57.52**	**349**	*e*P		**P**	**20 11 06.0 -0.6**
	comp=Z,129nm,0.7s						
X30A	**Coker Ranch, T**	**57.54**	**74**	⇑P		**P**	**20 11 07.7 +0.5**
	baz=57,SNR=46						
425A	**Indio Mountain**	**57.55**	**80**	⇓P		**P**	**20 11 08.1 +0.6**
	baz=57,SNR=152						
SZP	**Santa**	**57.56**	**257**	*e*P		**P**	**20 11 08.4 +0.9**
W31A	**Holland Ranch,**	**57.59**	**73**	⇑P		**P**	**20 11 08.1 +0.4**
	baz=57,SNR=48						
227A	**Bennet, Jal**	**57.74**	**78**	⇓P		**P**	**20 11 08.3 -0.4**
	baz=58,SNR=11						
V32A	**Arapaho**	**57.77**	**72**	⇓P		**P**	**20 11 09.4 +0.5**
	baz=58,SNR=28						
326A	**Caldwell Ranch**	**57.80**	**79**	⇓P		**P**	**20 11 09.8 +0.6**
	baz=58,SNR=161						
128A	**Castleberry Fa**	**57.81**	**77**	⇑P		**P**	**20 11 09.5 +0.3**
	baz=58,SNR=229						
GZH	**Guangzhou**	**57.83**	**267**	P		**P**	**20 11 06.4 -2.9**
GZH				S		S	20 18 58.3 -7.7
GZH				pmax		pmax	
	comp=Z,480nm,1.0s						
GZH				LR		LR	
	comp=Z,1µm,22.0s						
GZH				LR		LR	
	comp=Z,2µm,25.1s						
GZH				LR		LR	
	comp=Z,3µm,25.7s						
U33A	**Lingo Farm, Me**	**57.83**	**71**	⇓P		**P**	**20 11 09.1 -0.2**
	baz=58						
Z29A	**Hungry Hill Ra**	**57.85**	**76**	⇑P		**P**	**20 11 09.9 +0.4**
	baz=58,SNR=155						
ARCES	**ARCESS Array B**	**57.90**	**350**	P		**P**	**20 11 08.9 -0.3**
ARCES				ScP		**ScP**	**20 15 58.9 +1.1**
ARCES				P'P'			20 40 53.8
ARCES	**ARCESS Array B**	**57.90**	**350**	P		**P**	**20 11 08.9 -0.3**
	comp=Z,252nm,0.8s,baz=31,slow=8.1,SNR=313						
ARCES				ScP		**ScP**	**20 15 58.9 +1.1**
	comp=Z,4.5nm,0.7s,baz=30,slow=7.5,SNR=4.2						
ARCES				LR		LR	20 39 01.8
	comp=Z,4µm,19.4s,baz=13,slow=39						
ARCES				PKPPKP		**P'P'df**	**20 40 53.8 -5.0**
	comp=Z,12nm,1.1s,baz=318,slow=1.6,SNR=4.2						
ARE0	**ARCESS Array S**	**57.90**	**350**	*e*P		**P**	**20 11 09.1 -0.1**
ARE0				*e*S		**S**	**20 19 03.5 -2.3**
ARE0	**ARCESS Array S**	**57.90**	**350**	*e*P		**P**	**20 11 08.8 -0.5**
Y30A	**Stafford Cattl**	**57.91**	**75**	⇑P		**P**	**20 11 10.7 +0.7**
	baz=58,SNR=147						
JFWS	**Jewell Farm**	**57.92**	**60**	*e*P		**P**	**20 11 08.3 -1.5**
JFWS				pmax		pmax	
	comp=Z,149nm,0.8s						
JFWS	**Jewell Farm**	**57.92**	**60**	*e*P		**P**	**20 11 08.2 -1.5**
	comp=Z,150nm,0.8s						
X31A	**McDonald Ranch**	**57.95**	**73**	⇑P		**P**	**20 11 10.7 +0.6**
	baz=58,SNR=96						
327A	**Balmorhea Ranc**	**58.07**	**79**	⇑P		**P**	**20 11 11.6 +0.6**
	baz=58,SNR=7.9						
228A	**UT Block 9, Go**	**58.10**	**77**	⇑P		**P**	**20 11 11.1 -0.2**
	baz=58,SNR=42						
V33A	**Lossen Ranch,**	**58.15**	**71**	⇑P		**P**	**20 11 11.5 +0.1**
	baz=58,SNR=25						
U34A	**Anderson Ranch**	**58.17**	**70**	⇑P		**P**	**20 11 11.5 -0.1**
	baz=58,SNR=100						
Z30A	**Sanderson Ranc**	**58.18**	**75**	⇑P		**P**	**20 11 12.2 +0.4**
	baz=58,SNR=243						
129A	**Stewart Farms,**	**58.19**	**76**	⇑P		**P**	**20 11 11.8 -0.1**
	baz=58,SNR=43						
LVZ	**Lovozero**	**58.20**	**345**	P		**P**	**20 11 11.7 +0.3**
	comp=Z,6µm,0.8s,SNR=48						
LVZ	**Lovozero**	**58.20**	**345**	*e*P		**P**	**20 11 11.0 -0.4**
LVZ				pmax		pmax	
	comp=Z,851nm,0.9s						
LVZ	**Lovozero**	**58.20**	**345**	*e*P		**P**	**20 11 11.0 -0.4**
	comp=Z,851nm,0.9s						
426A	**McDonald Obser**	**58.22**	**80**	⇓P		**P**	**20 11 12.4 +0.1**
	baz=58,SNR=142						
CD2	**Chengdu**	**58.23**	**281**	P		**P**	**20 11 12.4 +0.3**
CD2				pP		**pP**	**20 11 22.8 -0.9**
CD2				sP		**sP**	**20 11 27.0 -1.3**
CD2				PcP		**PcP**	**20 12 03.9 +0.8**
CD2				PP		**PP**	**20 13 22.5 +1.5**
CD2				S		**S**	**20 19 08.5 -2.7**
CD2				sS		**sS**	**20 19 26.3 -4.0**
CD2				ScS		**ScS**	**20 20 55.4 -3.1**
CD2				SS		**SS**	**20 23 01.5 -1.3**
CD2				pmax		pmax	
	comp=Z,430nm,0.9s						
CD2				pmax		pmax	
	comp=Z,1µm,11.8s						
CD2				LR		LR	
	comp=Z,1µm,16.7s						
CD2				LR		LR	
	comp=Z,3µm,17.8s						
CD2				LR		LR	
	comp=Z,3µm,20.2s						
Y31A	**Rekieta Farm,**	**58.24**	**74**	⇓P		**P**	**20 11 12.5 +0.4**
	baz=58,SNR=44						
BALP	**Baler**	**58.27**	**255**	*e*P		**P**	**20 11 12.8 +0.3**
PVCP	**Virac**	**58.41**	**251**	⇑*i*P		**P**	**20 11 14.8 +1.3**
KURK	**Kurchatov**	**58.43**	**313**	P		**P**	**20 11 13.9 +0.7**
KURK				pmax		pmax	
	comp=Z,225nm,0.8s						
KURK	**Kurchatov**	**58.43**	**313**	P		**P**	**20 11 13.4 +0.2**
	SNR=192						
KURK	**Kurchatov**	**58.43**	**313**	mb			20 11 15.9
	SNR=523						
KURK	**Kurchatov**	**58.43**	**313**	*e*P		**P**	**20 11 13.0 -0.2**
	comp=Z,339nm,1.0s						
TRO	**Tromso**	**58.45**	**352**	*e*P		**P**	**20 11 14.6 +1.6**
TRO				AMB		AMB	20 11 16.0
	comp=Z,453nm,0.7s						
TRO				*e*S		**S**	**20 19 14.8 +1.9**
TRO				AMS		AMS	20 36 10.7
	comp=Z,2µm,22.0s						
328A	**Wristen Ranch,**	**58.48**	**78**	⇑P		**P**	**20 11 14.2 +0.3**
	baz=58,SNR=222						
427A	**Hayter Ranch,**	**58.48**	**79**	⇓P		**P**	**20 11 13.9 0.0**
	baz=58,SNR=72						
W33A	**Caddo, Fort Co**	**58.49**	**72**	⇑P		**P**	**20 11 14.9 +0.9**
	baz=58,SNR=46						
X32A	**Elmer**	**58.51**	**73**	⇓P		**P**	**20 11 14.5 +0.5**
	baz=58,SNR=54						
KURBB	**Kurchatov Arra**	**58.54**	**313**	P		**P**	**20 11 13.9 -0.1**
	comp=Z,225nm,0.8s,baz=44,slow=6.5,SNR=843						
V34A	**Guthrie**	**58.59**	**71**	⇓P		**P**	**20 11 14.9 +0.3**
	baz=58,SNR=16						
WMOK	**Wichita Mounta**	**58.59**	**72**	*e*P		**P**	**20 11 14.8 +0.2**
WMOK				pmax		pmax	
	comp=Z,151nm,0.8s						
WMOK	**Wichita Mounta**	**58.59**	**72**	*e*P		**P**	**20 11 14.8 +0.2**
	comp=Z,151nm,0.8s						
526A	**Mary Lane Ranc**	**58.61**	**80**	⇓P		**P**	**20 11 15.1 +0.2**
	baz=58,SNR=175						
KTK1	**Kautokeino**	**58.65**	**350**	*e*P		**P**	**20 11 14.8 +0.4**
WMQ	**Urumqi**	**58.68**	**302**	P		**P**	**20 11 17.0 +1.9**
WMQ				pP		**pP**	**20 11 27.0 +0.3**
WMQ				sP		**sP**	**20 11 32.0 +0.7**
WMQ				PcP		**PcP**	**20 12 07.0 +2.3**
WMQ				PP		**PP**	**20 13 29.0 +4.3**
WMQ				ScP		**ScP**	**20 16 02.0 +0.2**
WMQ				S		**S**	**20 19 17.0 +0.3**
WMQ				ScS		**ScS**	**20 21 01.0 -0.5**
WMQ				SS		**SS**	**20 23 12.0 +2.6**
WMQ				pmax		pmax	
	comp=Z,700nm,1.2s						
WMQ				pmax		pmax	
	comp=Z,4µm,5.0s						
WMQ				LR		LR	
	comp=Z,6µm,18.0s						
WMQ				LR		LR	
	comp=Z,6µm,18.0s						
WMQ				LR		LR	
	comp=Z,9µm,18.0s						
229A	**Bryant Ranch,**	**58.68**	**77**	⇓P		**P**	**20 11 15.2 -0.1**
	baz=58,SNR=18						
APA	**Apatity**	**58.69**	**346**	⇓*i*P		**P**	**20 11 15.0 +0.3**
APA				*i*			20 12 00.0
APA				*i* S		**S**	**20 19 14.0 -2.1**
APA				*i* PS		**PnS**	**20 19 40.0 +8.5**
APA				pmax		pmax	
	comp=Z,1.0nm,0.8s						
APA				MLR		MLR	
	comp=Z,5µm,19.0s						
Y32A	**R-V Farms, Ver**	**58.70**	**74**	⇓P		**P**	**20 11 16.1 +0.8**
	baz=59,SNR=170						
Z31A	**Sharp Cattle R**	**58.75**	**75**	⇓P		**P**	**20 11 16.0 +0.3**
	baz=59,SNR=145						
130A	**Snyder**	**58.76**	**76**	⇓P		**P**	**20 11 16.3 +0.5**
	baz=59,SNR=93						
BOLP	**Bolinao**	**58.79**	**257**	*e*P		**P**	**20 11 15.9 -0.2**
527A	**Woodward Ranch**	**58.85**	**80**	⇓P		**P**	**20 11 16.5 -0.1**
	baz=59,SNR=100						
W34A	**Bridge Creek,**	**58.85**	**71**	⇑P		**P**	**20 11 16.7 +0.3**
	baz=59,SNR=31						
X33A	**Lawton**	**58.90**	**72**	⇑P		**P**	**20 11 16.9 +0.2**
	baz=59,SNR=14						
329A	**Wagon Wheel Ra**	**58.91**	**77**	⇑P		**P**	**20 11 17.0 +0.1**
	baz=59,SNR=31						
626A	**Big Bend Ranch**	**58.94**	**81**	⇓P		**P**	**20 11 17.2 0.0**
	baz=59,SNR=162						
LPIG	**La Paz**	**58.99**	**90**	LR		LR	20 31 00.4
	comp=Z,1µm,21.6s,baz=96,slow=30						
428A	**Kincaid Ranch,**	**59.01**	**79**	⇑P		**P**	**20 11 17.7 +0.1**
	baz=59,SNR=155						
131A	**Roby**	**59.05**	**75**	⇓P		**P**	**20 11 17.8 -0.1**
	baz=59,SNR=80						
230A	**Sterling City**	**59.16**	**76**	⇑P		**P**	**20 11 19.1 +0.4**
	baz=59,SNR=435						
Z32A	**Haskell**	**59.16**	**74**	⇓P		**P**	**20 11 18.9 +0.3**
	baz=59,SNR=183						
Y33A	**Hilltop Ranch,**	**59.19**	**73**	⇓P		**P**	**20 11 19.1 +0.4**
	baz=59,SNR=66						
X34A	**Smith Ranch, M**	**59.25**	**72**	⇑P		**P**	**20 11 19.9 +0.7**
	baz=59,SNR=48						
SCZP	**Santa Cruz**	**59.26**	**256**	*e*P		**P**	**20 11 17.9 -1.5**
528A	**Cox Ranch, San**	**59.34**	**79**	⇑P		**P**	**20 11 20.2 +0.2**
	baz=59,SNR=37						
TXAR	**Lajitas Array**	**59.38**	**80**	P		**P**	**20 11 20.2 0.0**
TXAR				ScP		**ScP**	**20 16 04.0 -1.2**
TXAR				P'P'			20 40 49.6
TXAR	**Lajitas Array**	**59.38**	**80**	P		**P**	**20 11 20.3 0.0**
	comp=Z,110nm,0.9s,baz=301,slow=4.5,SNR=191						
TXAR				ScP		**ScP**	**20 16 04.0 -1.2**
	comp=Z,2.6nm,0.8s,baz=325,slow=4.4,SNR=4.6						
TXAR				LR		LR	20 36 29.7
	comp=Z,2µm,19.4s,baz=5.0,slow=36						
TXAR				PKPPKP		**P'P'df**	**20 40 49.6 -3.6**
	comp=Z,2.0nm,1.0s,baz=123,slow=9.1,SNR=5.2						
MK31	**Makanchi Array**	**59.41**	**308**	*e*P		**P**	**20 11 19.7 -0.4**
MK31	**Makanchi Array**	**59.41**	**308**	*e*P		**P**	**20 11 19.7 -0.4**
MKAR	**Makanchi Array**	**59.41**	**308**	P		**P**	**20 11 20.1 +0.1**
MKAR				ScS		**ScS**	**20 21 08.0 +1.3**
MKAR				P'P'			20 40 50.0
MKAR				⇑*e*			20 40 58.9
MKAR				*e*			20 48 27.4
MKAR	**Makanchi Array**	**59.41**	**308**	P		**P**	**20 11 20.1 +0.1**
	comp=Z,642nm,0.7s,baz=50,slow=6.9,SNR=3537						
MKAR				ScS		**ScS**	**20 21 08.0 +1.3**
	comp=Z,1.0nm,0.7s,baz=49,slow=6.0,SNR=6.9						
MKAR				LR		LR	20 38 11.0
	comp=Z,3µm,20.1s,baz=33,slow=37						
MKAR				PKPPKP		P'P'df	20 40 50.0 -5.2
	comp=Z,2.4nm,1.0s,baz=222,slow=1.6,SNR=9.1						
MKAR				PKP2bc			20 40 58.9
	comp=Z,1.8nm,0.9s,baz=242,slow=2.6,SNR=7.4						
MKAR				P4KPbc			20 48 27.4
	comp=Z,1.5nm,0.9s,baz=61,slow=3.6,SNR=8.2						
330A	**Mertzon**	**59.46**	**77**	⇑P		**P**	**20 11 20.3 -0.4**
	baz=59,SNR=91						
627A	**Terlingua Ranc**	**59.47**	**80**	⇑P		**P**	**20 11 20.7 -0.1**
	baz=59,SNR=181						
AUQP	**San Andres**	**59.50**	**252**	*e*P		P	20 11 23.5 +2.4
ABTX	**Abilene, Hawle**	**59.54**	**75**	*e*P		**P**	**20 11 21.7 +0.5**
ABTX	**Abilene, Hawle**	**59.54**	**75**	⇑P		**P**	**20 11 21.9 +0.7**
	baz=59,SNR=201						
TUL1	**Tulsa**	**59.55**	**70**	*e*P		**P**	**20 11 21.0 -0.2**
TUL1	**Tulsa**	**59.55**	**70**	⇑P		**P**	**20 11 21.4 +0.2**
	baz=59,SNR=45						
429A	**Davenport Ranc**	**59.57**	**78**	⇓P		**P**	**20 11 21.2 -0.3**
	baz=59,SNR=89						
GYA	**Guiyang**	**59.57**	**275**	⇑*i*P		**P**	**20 11 21.3 -0.3**
GYA				pP		**pP**	**20 11 32.8 -0.4**
GYA				PcP		**PcP**	**20 12 10.3 +1.7**
GYA				PP		**PP**	**20 13 34.1 +1.0**
GYA				ScP		**ScP**	**20 16 05.0 -1.1**
GYA				S		**S**	**20 19 24.6 -4.2**
GYA				sS		**sS**	**20 19 44.8 -3.2**
GYA				SS		**SS**	**20 23 23.8 -0.4**
GYA				pmax		pmax	
	comp=Z,130nm,1.0s						
GYA				pmax		pmax	
	comp=Z,740nm,5.0s						
GYA				LR		LR	
	comp=Z,1µm,21.1s						
GYA				LR		LR	
	comp=Z,2µm,17.7s						
GYA				LR		LR	
	comp=Z,2µm,19.3s						
Z33A	**Whitaker Ranch**	**59.61**	**74**	⇑P		**P**	**20 11 21.8 +0.2**
	baz=60,SNR=69						
231A	**Bronte**	**59.61**	**76**	⇓P		**P**	**20 11 21.3 -0.4**
	baz=60,SNR=35						
529A	**Stev Forest Ra**	**59.72**	**79**	⇓P		**P**	**20 11 22.6 +0.1**
	baz=60,SNR=81						
Y34A	**Reagan Ranch,**	**59.74**	**72**	⇑P		**P**	**20 11 23.1 +0.5**
	baz=60,SNR=114						
628A	**Black Gap, Mar**	**59.76**	**80**	⇑P		**P**	**20 11 22.7 -0.1**
	baz=60,SNR=110						
430A	**Baggett Ranch,**	**59.85**	**77**	⇓P		**P**	**20 11 23.4 0.0**
	baz=60,SNR=162						
331A	**San Angelo**	**59.98**	**76**	⇑P		**P**	**20 11 23.9 -0.4**
	baz=60,SNR=63						
133A	**Hamilton Ranch**	**59.99**	**74**	⇑P		**P**	**20 11 24.8 +0.5**
	baz=60,SNR=139						
HDIL	**Hopedale**	**60.05**	**62**	*e*P		**P**	**20 11 24.2 -0.4**
	comp=Z,154nm,0.5s						
232A	**Coleman**	**60.05**	**75**	⇑P		**P**	**20 11 24.7 -0.1**
	baz=60,SNR=176						
Z34A	**Collier Ranch,**	**60.06**	**73**	⇓P		**P**	**20 11 25.0 +0.3**
	baz=60,SNR=32						
530A	**J-C Ranch, Com**	**60.24**	**78**	⇑P		**P**	**20 11 26.2 +0.1**
	baz=60,SNR=360						
431A	**Sonora**	**60.31**	**77**	⇓P		**P**	**20 11 26.5 0.0**
	baz=60,SNR=203						
LOF	**Lofoten**	**60.32**	**354**	*e*P		**P**	**20 11 25.8 -0.1**
332A	**Millersview**	**60.35**	**76**	⇓P		**P**	**20 11 27.0 +0.2**
	baz=60,SNR=155						
STEI	**Steigen**	**60.41**	**353**	*e*P		**P**	**20 11 26.5 -0.1**
SCHQ	**Schefferville**	**60.42**	**38**	P		**P**	**20 11 26.5 -0.4**
SCHQ	**Schefferville**	**60.42**	**38**	P		**P**	**20 11 26.5 -0.4**
	comp=Z,183nm,0.9s,baz=328,slow=7.1,SNR=127						
SCHQ				LR		LR	20 39 50.8
	comp=Z,3µm,18.0s,baz=319,slow=38						
Z35A	**Perchaven, San**	**60.48**	**73**	⇓P		**P**	**20 11 28.0 +0.4**
	baz=60,SNR=21						
134A	**White-Moore Ra**	**60.52**	**74**	⇑P		**P**	**20 11 28.7 +0.8**
	baz=60,SNR=119						
LUBP	**Lubang**	**60.64**	**254**	*e*P		**P**	**20 11 28.4 -0.4**
OTRP	**Odiongan**	**60.65**	**252**	*e*P		**P**	**20 11 30.2 +1.3**
432A	**Menard**	**60.67**	**76**	⇑P		**P**	**20 11 28.8 -0.2**
	baz=60,SNR=61						
531A	**Rocksprings**	**60.71**	**77**	⇑P		**P**	**20 11 28.9 -0.4**
	baz=61,SNR=80						
MSLP	**Maasin**	**60.76**	**248**	*e*P		**P**	**20 11 30.0 +0.4**
333A	**Richland Sprin**	**60.85**	**75**	⇑P		**P**	**20 11 30.2 +0.1**
	baz=61,SNR=111						
RCP	**Roxas**	**60.85**	**251**	⇑*e*P		**P**	**20 11 31.1 +0.8**
SLM	**Saint Louis**	**60.86**	**64**	*e*P		**P**	**20 11 29.3 -0.8**
SLM				pmax		pmax	
	comp=Z,156nm,0.8s						
SLM	**Saint Louis**	**60.86**	**64**	*e*P		**P**	**20 11 29.3 -0.8**
	comp=Z,156nm,0.8s						
135A	**Vickery Place,**	**60.93**	**73**	⇓P		**P**	**20 11 31.3 +0.7**
	baz=61,SNR=29						
JCT	**Junction City**	**60.95**	**77**	*e*P		**P**	**20 11 30.8 -0.1**
JCT				pmax		pmax	
	comp=Z,346nm,1.3s						
JCT	**Junction City**	**60.95**	**77**	*e*P		**P**	**20 11 30.8 -0.1**
	comp=Z,346nm,1.3s						
JCT	**Junction City**	**60.95**	**77**	⇓P		**P**	**20 11 30.7 -0.2**
	baz=61						
TMCR	**Tamitsa**	**60.99**	**342**	⇑*e*P		**P**	**20 11 30.5 0.0**
TMCR				*e*			20 13 46.3
TMCR				*e*S		**S**	**20 19 46.6 +1.0**
TMCR				pmax		pmax	
	comp=Z,418nm,0.8s						
SJMP	**San Jose**	**61.11**	**253**	*e*P		**P**	**20 11 32.5 +0.5**
532A	**Rocksprings**	**61.13**	**77**	⇑P		**P**	**20 11 31.6 -0.5**
	baz=61,SNR=65						
SVE	**Sverdlovsk**	**61.14**	**327**	*d i*P		**P**	**20 11 32.3 +0.6**
SVE				*e*			20 12 15.1
SVE				*e*PPP		PPP	20 15 12.9
SVE				*e*S		S	20 19 55.8 +8.0
SVE				*e*			20 21 16.0
SVE				pmax		pmax	
	comp=Z,126nm,0.9s						
SVE				MLR		MLR	
	comp=Z,6µm,19.0s						
433A	**Art**	**61.18**	**76**	⇓P		**P**	**20 11 32.2 -0.3**
	baz=61,SNR=168						
631A	**Perdido Creek**	**61.23**	**78**	⇑P		**P**	**20 11 32.2 -0.5**
	baz=61,SNR=28						
334A	**Lometa**	**61.29**	**75**	⇓P		**P**	**20 11 33.6 +0.5**
	baz=61,SNR=263						
WHTX	**Lake Whitney**	**61.30**	**74**	*e*P		**P**	**20 11 33.4 +0.3**
WHTX	**Lake Whitney**	**61.30**	**74**	⇓P		**P**	**20 11 33.8 +0.6**
	baz=61,SNR=77						
SFIN	**Scholer Farm**	**61.37**	**60**	*e*P		**P**	**20 11 33.1 -0.5**
SFIN	**Scholer Farm**	**61.37**	**60**	⇓P		**P**	**20 11 33.4 -0.2**
	baz=61,SNR=60						
PRGR	**Permogore**	**61.56**	**337**	⇑*i*P		**P**	**20 11 34.4 -0.1**
PRGR				*e*			20 12 15.7
PRGR				pmax		pmax	
	comp=Z,207nm,0.8s						
434A	**Burnet**	**61.64**	**75**	⇑P		**P**	**20 11 35.5 0.0**
	baz=62,SNR=178						
632A	**Uvalde**	**61.64**	**77**	⇓P		**P**	**20 11 35.1 -0.4**
	baz=62,SNR=51						
GUIM	**Jordan**	**61.69**	**250**	*e*P		**P**	**20 11 36.2 +0.3**
533A	**Kerrville**	**61.70**	**76**	⇑P		**P**	**20 11 35.7 -0.2**
	baz=62,SNR=93						
MIAR	**Mount Ida**	**61.81**	**69**	*e*P		**P**	**20 11 36.3 -0.2**
MIAR				pmax		pmax	
	comp=Z,501nm,1.1s						
MIAR	**Mount Ida**	**61.81**	**69**	*e*P		**P**	**20 11 36.3 -0.2**
	comp=Z,501nm,1.1s						
335A	**Moody**	**61.82**	**74**	⇑P		**P**	**20 11 37.0 +0.4**
	baz=62,SNR=27						
AAM	**Ann Arbor**	**61.86**	**57**	*e*P		**P**	**20 11 36.9 +0.1**
AAM				pmax		pmax	
	comp=Z,158nm,1.1s						
AAM	**Ann Arbor**	**61.86**	**57**	*e*P		**P**	**20 11 36.9 +0.1**
	comp=Z,158nm,1.1s						
KONS	**Konsvik**	**61.97**	**354**	*e*P		**P**	**20 11 37.2 +0.1**
KONS				AMB		AMB	20 11 38.9
	comp=Z,432nm,0.6s						
BUSP	**Coron**	**62.02**	**253**	*e*P		**P**	**20 11 38.2 +0.1**
NRS	**Narsarsuaq**	**62.02**	**23**	*i* P		**P**	**20 11 36.8 -0.8**
534A	**Blanco**	**62.07**	**76**	⇓P		**P**	**20 11 38.2 -0.2**
	baz=62,SNR=68						
SIUC	**Southern Illin**	**62.07**	**64**	*e*P		**P**	**20 11 37.8 -0.5**
	comp=Z,126nm,0.8s						
732A	**Laxson Ranch,**	**62.09**	**78**	⇓P		**P**	**20 11 38.8 +0.3**
	baz=62,SNR=40						
FLOS	**Flostrand**	**62.11**	**354**	*e*P		**P**	**20 11 38.0 -0.1**
ARU	**Arti**	**62.16**	**328**	P		**P**	**20 11 38.3 -0.3**
	comp=Z,919nm,0.8s,SNR=51						
ARU	**Arti**	**62.16**	**328**	*c i*P		**P**	**20 11 38.2 -0.3**
ARU				*e*			20 12 17.8
ARU				S		**S**	**20 20 01.9 +1.2**
ARU				SS		**SS**	**20 24 01.6 -1.4**
ARU				pmax		pmax	
	comp=Z,263nm,1.7s						
ARU	**Arti**	**62.16**	**328**	*e*P		**P**	**20 11 38.1 -0.4**
	comp=Z,112nm,0.8s						
MOR8	**Moi Rana**	**62.20**	**353**	*e*P		**P**	**20 11 37.2 -1.5**
MOR8				AMB		AMB	20 11 39.5
	comp=Z,351nm,0.9s						
UALR	**University of**	**62.36**	**68**	*e*P		**P**	**20 11 39.7 -0.6**
	comp=Z,796nm,1.8s						
H06N1	**SOCORRO T-PHAS**	**62.42**	**94**	T		T	21 19 17.0
	SNR=32						
BUKP	**Musuan**	**62.46**	**246**	*e*P		**P**	**20 11 41.8 +0.6**
PARMO	**Parma**	**62.51**	**65**	*e*P		**P**	**20 11 41.1 -0.2**
H06E1	**SOCORRO T-PHAS**	**62.52**	**94**	T		T	21 19 16.3
	SNR=15						
H06S1	**SOCORRO T**	**62.54**	**94**	T		T	21 19 20.1
	SNR=5.5						
HBAR	**Harrisburg**	**62.78**	**66**	*e*P		**P**	**20 11 43.2 +0.2**
DAV	**Davao City (W)**	**62.82**	**245**	P		**P**	**20 11 44.6 +1.0**
	SNR=8.0						
DAV	**Davao City (W)**	**62.82**	**245**	mb			20 11 53.7
	SNR=3.4						
GNAR	**Gosnell**	**62.86**	**66**	*e*P		**P**	**20 11 43.4 -0.1**
	comp=Z,10µm,1.8s						
DCPH	**Dipolog City**	**62.88**	**248**	⇓*e*P		**P**	**20 11 43.7 -0.2**
BORG

HKT pmax pmax
comp=Z,991nm,1.8s
HKT Hockley 63.73 74 *e*P **P 20 11 50.3 +1.0**
comp=Z,991nm,1.8s
ERPA Erie 63.88 55 *e*P **P 20 11 50.2 -0.1**
comp=Z,483nm,1.3s
WVT Waverly 63.98 64 *e*P **P 20 11 50.8 -0.2**
WVT pmax pmax
comp=Z,140nm,1.0s
WVT Waverly 63.98 64 *e*P **P 20 11 50.8 -0.2**
comp=Z,140nm,1.0s
NSS Namsos 63.99 354 *e*P **P 20 11 50.6 0.0**
ALLY Alegheny Colle 64.14 55 *e*P **P 20 11 51.9 -0.1**
comp=Z,273nm,0.9s
KVTX Kingsville 64.21 78 *e*P **P 20 11 54.5 +2.0**
comp=Z,515nm,1.4s
OXF Oxford 64.24 66 *e*P **P 20 11 52.5 -0.2**
OXF pmax pmax
comp=Z,2µm,1.1s
OXF Oxford 64.24 66 *e*P **P 20 11 52.5 -0.2**
comp=Z,2µm,1.1s
MMNY Mt. Morris Dam 64.49 53 *e*P **P 20 11 54.0 -0.2**
comp=Z,597nm,1.0s
PTN Potsdam (NY) 64.56 50 *e*P **P 20 11 53.4 -1.2**
PTN pmax pmax
comp=Z,142nm,0.8s
PTN Potsdam (NY) 64.56 50 *e*P **P 20 11 53.4 -1.2**
comp=Z,142nm,0.8s
AAA Alma-Ata 64.57 308 *i*P **P 20 11 56.3 +1.5**
AAA pmax pmax
comp=Z,3µm,0.8s
AAA MLR MLR
comp=Z,4µm,22.0s
LONY Lake Ozonia 64.72 50 *e*P **P 20 11 53.9 -1.8**
comp=Z,58nm,1.1s
KAF Kangasniemi 64.88 347 *e*P **P 20 11 55.3 -1.1**
KAF pmax pmax
comp=Z,36nm,0.4s
KAF Kangasniemi 64.88 347 *e*p **P 20 11 55.3 -1.1**
comp=Z,36nm,0.4s
SLVN Son La 65.02 273 *e*P **P 20 11 58.4 +0.4**
FRNY Flat Rock 65.03 49 *e*P **P 20 11 55.5 -2.2**
comp=Z,33nm,0.8s
TBLU Trondheim 65.37 355 *e*P **P 20 11 58.6 -0.9**
TBLU AMB AMB 20 12 00.5
comp=Z,585nm,0.0s
AFI Afiamalu 65.46 171 LR LR 20 35 44.1
comp=Z,3µm,19.4s,baz=345,slow=32
TKM2 Tokmak 2 65.49 309 *i*P **P 20 12 02.7 +1.7**
TKM2 Tokmak 2 65.49 309 P **P 20 12 02.7 +1.7**
SNR=101
TKM2 Tokmak 2 65.49 309 *e*P **P 20 12 02.4 +1.4**
comp=Z,796nm,0.9s
FIA1 FINESS Array S 65.55 347 *e*P **P 20 11 59.8 -1.0**
FINES FINESS Array B 65.56 347 P **P 20 12 00.4 -0.4**
FINES P'P' 20 40 40.7
FINES FINESS Array B 65.56 347 P **P 20 12 00.4 -0.4**
comp=Z,384nm,0.7s,baz=28,slow=8.6,SNR=497
FINES PKPPKP P'P'df 20 40 40.7 -5.6
comp=Z,4.1nm,0.8s,baz=92,slow=6.5,SNR=4.0
FINES LR LR 20 46 22.3
comp=Z,3µm,18.4s,baz=21,slow=41
ULHL Ulahol 65.68 308 *i*P **P 20 12 03.8 +1.6**
ULHL Ulahol 65.68 308 P **P 20 12 03.8 +1.6**
SNR=61
SWET Sewanee 65.71 64 *e*P **P 20 12 01.5 -0.8**
comp=Z,202nm,1.1s
MCWV Mont Chateau 65.76 56 *e*P **P 20 12 01.8 -0.7**
comp=Z,56nm,0.7s
USP Ospenovka 65.77 309 *i*P **P 20 12 03.5 +0.9**
USP Ospenovka 65.77 309 P **P 20 12 03.6 +0.9**
SNR=1479
BINY Binghamton 65.84 52 *e*P **P 20 12 02.2 -0.8**
comp=Z,337nm,1.2s
MDV Middlebury 65.85 49 *e*P **P 20 12 01.5 -1.5**
CHMS Chumysh 65.85 309 *i*P **P 20 12 04.2 +1.2**
CHMS Chumysh 65.85 309 P **P 20 12 04.3 +1.2**
SNR=326
KBK Karagaybulak 66.01 309 *i*P **P 20 12 05.4 +1.1**
KBK Karagaybulak 66.01 309 P **P 20 12 05.4 +1.1**
SNR=52
FRU Bishkek 66.04 309⇑ *i*P **P 20 12 04.0 -0.3**
FRU *e*S **S 20 20 51.8 +2.5**
FRU *e* 20 21 57.0
FRU pmax pmax
comp=Z,2µm,1.8s
FRU pmax pmax
comp=Z,3µm,2.2s
FRU smax smax
comp=E,600nm,5.2s
FRU MLR MLR
comp=Z,1µm,18.0s
ACCN Adirondack Com 66.08 50 *e*P **P 20 12 03.6 -0.9**
comp=Z,108nm,0.8s
MOL Molde 66.18 356 *e*P **P 20 12 04.9 +0.1**
MOL AMB AMB 20 12 07.2
comp=Z,654nm,1.8s
AAK Ala-Archa 66.25 309 P **P 20 12 06.3 +0.5**
comp=Z,7µm,0.7s
AAK Ala-Archa 66.25 309 *i*P **P 20 12 06.9 +1.1**
AAK Ala-Archa 66.25 309 P **P 20 12 07.0 +1.1**
SNR=58
AAK Ala-Archa 66.25 309 *e*P **P 20 12 06.4 +0.5**
comp=Z,793nm,0.8s
LBNH Lisbon 66.25 48 *e*P **P 20 12 04.3 -1.3**
LBNH pmax pmax
comp=Z,204nm,1.3s
LBNH Lisbon 66.25 48 *e*P **P 20 12 04.3 -1.3**
comp=Z,204nm,1.3s
KZA Kyzart 66.30 308 *i*P **P 20 12 07.8 +1.4**
KZA Kyzart 66.30 308 P **P 20 12 07.8 +1.4**
SNR=28
CPCT Cooper Cave 66.32 63 *e*P **P 20 12 05.5 -0.7**
KSPA Keystone Colle 66.42 53 *e*P **P 20 12 06.7 -0.1**
PUL Pulkovo 66.47 344 *d*P **P 20 12 06.9 +0.2**
PUL pmax pmax
comp=Z,400nm,0.7s
HNH Hanover 66.49 49 *e*P **P 20 12 06.8 -0.3**
UCH Uchtor 66.54 309 *i*P **P 20 12 09.2 +1.1**
UCH Uchtor 66.54 309 P **P 20 12 09.2 +1.1**
SNR=328
TRY Troy 66.57 50 *e*P **P 20 12 07.0 -0.7**
EKS2 Erkin-Say 66.57 309 *i*P **P 20 12 08.8 +1.0**
EKS2 Erkin-Say 66.57 309 P **P 20 12 08.9 +1.0**
SNR=976
EKS2 Erkin-Say 66.57 309 *e*P **P 20 12 08.6 +0.7**
comp=Z,930nm,0.8s
TKL Tuckaleechee C 66.59 62 *e*P **P 20 12 07.2 -0.7**
DOMB Dombas 66.64 355 *e*P **P 20 12 07.8 0.0**
PKME Peaks-Kenny Pk 66.68 46 *e*P **P 20 12 07.6 -0.7**
comp=Z,142nm,1.1s
LRAL Lakeview Retre 66.69 66 *e*P **P 20 12 07.7 -0.9**
comp=Z,130nm,1.0s
SOFL Sornfelli, Far 66.70 4⇑ *e*P **P 20 12 09.3 +1.0**
LSA Lhasa 66.71 289 P P 20 12 11.8 +2.5
LSA S **S 20 21 00.0 +1.3**
LSA pmax pmax
comp=Z,470nm,0.7s
LSA pmax pmax
comp=Z,1µm,5.8s
LSA LR LR
comp=Z,780nm,18.0s
LSA LR LR
comp=Z,2µm,20.0s
LSA LR LR
comp=Z,3µm,17.0s
LSA Lhasa 66.71 289 *e*P **P 20 12 10.3 +0.9**
LSA pmax pmax
comp=Z,452nm,0.6s
LSA Lhasa 66.71 289 *e*P **P 20 12 10.3 +0.9**
comp=Z,452nm,0.6s
PMG Port Moresby 66.91 216 *e*P **P 20 12 08.8 -1.2**
comp=Z,56nm,1.2s
PMG Port Moresby 66.91 216 LR LR 20 36 06.7
comp=Z,2µm,21.6s,baz=64,slow=31
AML Almayashu 67.02 309 *i*P **P 20 12 12.3 +1.3**
AML Almayashu 67.02 309 P **P 20 12 12.3 +1.3**
SNR=821
TNTI Ternate 67.03 240 *e*P **P 20 12 10.4 -0.5**
comp=Z,262nm,1.3s
WVL Waterville 67.05 47 *e*P **P 20 12 10.1 -0.6**
AKTO Aktyubinsk 67.20 324 P **P 20 12 11.4 -0.1**
AKTO pmax pmax
comp=Z,70nm,0.6s
AKTO Aktyubinsk 67.20 324 P **P 20 12 11.4 -0.1**
AKTO Aktyubinsk 67.20 324 P **P 20 12 11.4 -0.1**
comp=Z,70nm,0.6s,baz=51,slow=7.2,SNR=191
FOO Floro 67.24 357 *e*P **P 20 12 11.6 0.0**
FOO AMB AMB 20 12 13.7
comp=Z,94nm,1.9s
FOO AMS AMS 20 35 59.5
comp=Z,484nm,24.5s
BLA Blacksburg 67.26 59 *e*P **P 20 12 11.4 -0.8**
BLA pmax pmax
comp=Z,251nm,1.3s
BLA Blacksburg 67.26 59 *e*P **P 20 12 11.4 -0.8**
comp=Z,251nm,1.3s
MVL Millersville 67.30 54 *e*P **P 20 12 12.0 -0.3**
comp=Z,89nm,0.8s
ODNJ Ogdensburg 67.36 52 *e*P **P 20 12 12.5 -0.2**
comp=Z,82nm,0.9s
SDMD Soldier's Deli 67.49 55 *e*P **P 20 12 13.0 -0.6**
comp=Z,206nm,1.3s
NB2 NORSAR Subarra 67.51 354 P **P 20 12 13.7 +0.3**
comp=Z,674nm,0.9s,baz=6.6,slow=6.5
NB2 NORSAR Subarra 67.51 354 P **P 20 12 13.7 +0.3**
baz=6.6,slow=6.5
NOA NORSAR Array B 67.51 354 P **P 20 12 13.3 -0.1**
NOA P'P' 20 40 32.1
NOA NORSAR Array B 67.51 354 P **P 20 12 13.3 -0.1**
comp=Z,425nm,0.9s,baz=8.0,slow=6.4,SNR=673
NOA PKPPKP P'P'df 20 40 32.1 -11
comp=Z,2.6nm,0.9s,baz=153,slow=3.9,SNR=4.4
NOA LR LR 20 44 01.4
comp=Z,1µm,21.7s,baz=0.0,slow=38
HYA Hoyanger 67.64 357 *e*P **P 20 12 15.0 +0.9**
HYA AMB AMB 20 12 16.3
comp=Z,688nm,1.6s
BRNJ Basking Ridge 67.68 52 *e*P **P 20 12 12.8 -1.9**
comp=Z,322nm,1.2s
HRV Adam Dziewonsk 67.75 49 *e*P **P 20 12 14.4 -0.7**
HRV pmax pmax
comp=Z,156nm,1.1s
HRV Adam Dziewonsk 67.75 49 *e*P **P 20 12 14.4 -0.7**
comp=Z,156nm,1.1s
PAL Palisades 67.76 52 *e*P **P 20 12 14.1 -1.1**
PAL pmax pmax
comp=Z,428nm,1.3s
PAL Palisades 67.76 52 *e*P **P 20 12 14.1 -1.1**
comp=Z,428nm,1.3s
SUE Sulen 67.79 358 *e*P **P 20 12 12.7 -2.4**
NC602 NORSAR Array S 67.79 354⇑ *i*P **P 20 12 15.0 -0.1**
NC602 *e*S **S 20 21 12.8 +3.0**
KSH Kashi 67.86 306 P P 20 12 20.1 +4.0
KSH pP pP 20 12 30.1 +2.3
KSH sP sP 20 12 34.1 +1.7
KSH PP PP 20 14 51.4 +5.9
KSH S **S 20 21 14.0 +2.5**
KSH sS sS 20 21 32.1 +1.1
KSH ScS **ScS 20 22 13.0 +1.4**
KSH pmax pmax
comp=Z,2µm,2.0s
KSH LR LR
comp=Z,3µm,17.9s
KSH LR LR
comp=Z,2µm,16.9s
KSH LR LR
comp=Z,3µm,17.4s
CPNY Central Park 67.90 52 *e*P **P 20 12 15.7 -0.3**
comp=Z,155nm,0.7s
WES Weston 67.96 49 *e*P **P 20 12 15.9 -0.5**
WES Weston 67.96 49 *e*P **P 20 12 15.9 -0.5**
YLE Yale 68.00 51 *e*P **P 20 12 16.4 -0.3**
CRAI Chiangrai 68.05 275 P **P 20 12 17.4 +0.1**
comp=Z,317nm,1.0s,comp=Z,9µm
CBN Corbin 68.12 56 *e*P **P 20 12 16.7 -0.8**
comp=Z,74nm,0.5s
BRAL Brewton 68.14 67 *e*P **P 20 12 17.8 0.0**
comp=Z,893nm,1.3s
HFS Hagfors 68.23 353 P **P 20 12 17.4 -0.5**
HFS Hagfors 68.23 353 P **P 20 12 17.4 -0.5**
comp=Z,368nm,0.8s,baz=31,slow=6.9,SNR=270
JSRW J. Sargeant Re 68.25 57 *e*P **P 20 12 17.7 -0.6**
KMSC Kings Mountain 68.31 61 *e*P **P 20 12 18.5 -0.3**
KMSC Kings Mountain 68.31 61⇑ P **P 20 12 18.4 -0.3**
baz=68,SNR=39
VSU Vasula 68.31 345 *c i*P **P 20 12 18.2 -0.1**
GOGA Godfrey 68.41 63 *e*P **P 20 12 18.1 -1.3**
GOGA pmax pmax
comp=Z,81nm,0.9s
GOGA Godfrey 68.41 63 *e*P **P 20 12 18.1 -1.3**
comp=Z,81nm,0.9s
RUND Rundenannen 68.42 357 *e*P **P 20 12 18.3 -0.7**
RUND AMB AMB 20 12 20.8
comp=Z,501nm,1.3s
BER Bergen 68.45 357 *e*P **P 20 12 19.5 +0.3**
BER AMB AMB 20 12 21.5
comp=Z,322nm,1.7s
BER *e*S **S 20 21 18.4 +0.9**
UBPT Khong Chiam 68.57 268 P **P 20 12 21.2 +0.6**
comp=Z,268nm,1.4s,comp=Z,3µm
OSL Oslo 68.64 354 *e*P **P 20 12 21.1 +0.7**
OSL AMB AMB 20 12 22.6
comp=Z,1µm,0.4s
IMP Imphal 68.65 283 *ex* **P 20 12 20.0 -1.1**
IMP *ex* x 20 14 48.0
MOS Moscow 68.73 338 *e*P **P 20 12 20.0 -1.0**
MOS pmax pmax
comp=Z,624nm,1.2s
MOS pmax pmax
comp=Z,900nm,1.3s
MOS MLR MLR
comp=Z,4µm,18.0s
MOS MLR MLR
comp=N,3µm,17.0s
LRW Lerwick 68.78 1⇑ *e*P **P 20 12 21.4 +0.2**
LRW AMB AMB 20 12 23.0
comp=Z,266nm,1.6s
SDKM Sandakan 68.85 252 P **P 20 12 23.7 +1.3**
ODD1 Odda 68.88 356 *e*P **P 20 12 22.3 +0.3**
ODD1 AMB AMB 20 12 24.0
comp=Z,50nm,0.0s
JSC Jenkinsville 68.99 61 *e*P **P 20 12 22.8 -0.2**
JSC Jenkinsville 68.99 61 *e*P **P 20 12 22.8 -0.2**
KONO Kongsberg 69.00 355⇑ *i*P **P 20 12 22.7 +0.1**
KONO IAmB 20 12 24.1
comp=Z,646nm,0.7s
KONO AMB AMB 20 12 24.9
comp=Z,916nm,0.6s
KONO *e*S **S 20 21 26.3 +2.3**
KONO AMS AMS 20 40 17.7
comp=Z,1µm,21.6s
KONO Kongsberg 69.00 355 *e*P **P 20 12 23.5 +0.9**
KONO pmax pmax
comp=Z,138nm,0.8s
KONO Kongsberg 69.00 355 *e*P **P 20 12 23.5 +0.9**
comp=Z,138nm,0.8s
CMAI Chiengmai2 69.09 276 P **P 20 12 24.2 +0.1**
comp=Z,286nm,0.9s
TAOE Nuku Hiva Isla 69.17 137 *e*T T 21 27 20.1
comp=Z,459nm,0.3s
DLV T Lat 69.23 263 *e*P **P 20 12 24.9 0.0**
SHL Shillong 69.31 285 *e*P **P 20 12 25.9 +0.5**
SHL AMB AMB 20 12 26.4
comp=Z,603nm,0.7s
SHL *i*S **S 20 21 30.0 +0.8**
TSM Tawau 69.53 250 P **P 20 12 27.4 +0.9**
OBN Obninsk 69.54 339 P **P 20 12 26.8 +0.8**
comp=Z,2µm,0.9s,SNR=28
OBN Obninsk 69.54 339 *c i*P **P 20 12 25.8 -0.2**
OBN *i* 20 12 45.2
OBN *i* 20 14 55.4
OBN *i*S **S 20 21 25.3 -5.3**
OBN pmax pmax
comp=Z,523nm,1.2s
OBN MLR MLR
comp=Z,5µm,19.0s
OBN Obninsk 69.54 339 *e*P **P 20 12 25.6 -0.5**
comp=Z,324nm,0.9s
KMY Karmoy 69.62 357 *e*P **P 20 12 27.0 +0.5**
KMY AMB AMB 20 12 28.2
comp=Z,342nm,0.5s
LAMP Lampang 69.78 275 P **P 20 12 28.4 +0.3**
comp=Z,57nm,1.0s,comp=Z,457nm
TIGA Tifton 69.81 65 *e*P **P 20 12 26.1 -2.0**
TIGA Tifton 69.81 65⇑ P **P 20 12 27.7 -0.4**
baz=70
CMMT Chiang Mai 69.99 275 P **P 20 12 29.2 -0.2**
comp=Z,214nm,1.3s,comp=Z,3µm
CHTO Chiang Mai 69.99 275 *e*P **P 20 12 29.0 -0.4**
CHTO pmax pmax
comp=Z,192nm,1.0s
CHTO Chiang Mai 69.99 275 P **P 20 12 29.5 +0.1**
SNR=64
CHTO Chiang Mai 69.99 275 mb 20 12 31.2
SNR=146
CHTO Chiang Mai 69.99 275 *e*P **P 20 12 29.0 -0.4**
comp=Z,192nm,1.0s
CHTO Chiang Mai 69.99 275 P **P 20 12 29.3 -0.1**
comp=Z,961nm,1.4s,comp=Z,12µm
CNNC Cliffs of the 70.09 58 *e*P **P 20 12 30.0 +0.3**
comp=Z,109nm,0.7s
CM31 Chiang Mai Arr 70.26 275 *e*P **P 20 12 31.2 +0.1**
comp=Z,145nm,0.9s
CMAR Chiang Mai Arr 70.26 275 P **P 20 12 31.4 +0.4**
CMAR P'P' 20 40 30.5
CMAR Chiang Mai Arr 70.26 275 P **P 20 12 31.4 +0.4**
comp=Z,136nm,0.9s,baz=26,slow=7.1,SNR=550
CMAR PKPPKP **P'P'df 20 40 30.5 -4.0**
comp=Z,1.7nm,0.9s,baz=226,slow=4.3,SNR=4.3
CMAR LR LR 20 46 58.6
comp=Z,1µm,18.8s,baz=53,slow=39
CHAI Chaiyaphum 70.28 271 P **P 20 12 31.1 -0.1**
comp=Z,50nm,1.0s,comp=Z,477nm
PHIT Phitsanulok 70.29 273 P **P 20 12 31.7 +0.5**
comp=Z,154nm,1.0s,comp=Z,1µm
BIGH Upper Bighouse 70.38 2⇑ *e*P **P 20 12 31.9 +0.8**
BIGH AMB AMB 20 12 32.6
comp=Z,662nm,1.3s
PBKT Sadao Pong 70.41 272 P **P 20 12 32.0 0.0**
comp=Z,182nm,1.1s,comp=Z,3µm
SNART Snartemo 70.42 356 *e*P **P 20 12 32.3 +0.9**
SNART AMB AMB 20 12 35.4
comp=Z,214nm,1.2s
HOMB Homborsund 70.43 355⇑ *i*P **P 20 12 31.9 +0.5**
HOMB AMS AMS 20 37 38.4
comp=Z,1µm,26.8s
TAPN Taplejung 70.48 289 *e*P **P 20 12 33.7 +1.0**
comp=Z,2µm,1.0s
TAPN Taplejung 70.48 289 *e*P **P 20 12 33.7 +1.0**
comp=Z,2µm,1.0s
RGRS Roger Stewart 70.61 61 *e*P **P 20 12 33.8 +0.8**
CSU Charleston Sou 70.61 61 *e*P **P 20 12 33.8 +0.8**
MVH1 Achvaich 70.94 2⇑ *e*P **P 20 12 35.0 +0.5**
ODAN Odare 71.03 289 *e*P **P 20 12 36.8 +0.8**
comp=Z,978nm,0.9s
ODAN Odare 71.03 289 *e*P **P 20 12 36.8 +0.8**
comp=Z,978nm,0.9s
MHMT Maesarieng 71.10 276 P **P 20 12 36.3 +0.1**
comp=Z,141nm,1.2s,comp=Z,2µm
GUN Gumba 71.14 291 *e*P **P 20 12 37.8 +1.1**
comp=Z,1µm,0.6s
GUN Gumba 71.14 291 *e*P **P 20 12 37.8 +1.1**
comp=Z,1µm,0.6s
JIRN Jiri 71.14 291 *e*P **P 20 12 38.0 +1.2**
comp=Z,1µm,0.6s
JIRN Jiri 71.14 291 *e*P **P 20 12 38.0 +1.2**
comp=Z,1µm,0.6s
ISAL Salakas 71.17 345 *e*P **P 20 12 35.7 -0.3**
ISAL AMB AMB 20 12 37.8
comp=Z,100nm,1.1s
MCD Coleburn Disti 71.31 2⇑ *e*P **P 20 12 37.2 +0.4**
IDID Didziasalis 71.32 344 *e*P **P 20 12 36.4 -0.5**
IDID AMB AMB 20 12 38.6
comp=Z,154nm,1.0s
KAC Achnashellach 71.34 3⇑ *e*P **P 20 12 37.2 +0.2**
IIGN Ignalina 71.37 345 *e*P **P 20 12 36.5 -0.7**
IIGN AMB AMB 20 12 38.4
comp=Z,166nm,1.0s
MDO Dochfour 71.42 2⇑ *e*P **P 20 12 38.4 +0.9**
RAMN Ramite 71.43 290 *e*P **P 20 12 39.4 +1.0**
comp=Z,2µm,0.8s
RAMN Ramite 71.43 290 *e*P **P 20 12 39.4 +1.0**
comp=Z,2µm,0.8s
KPL Plockton 71.48 3⇑ *e*P **P 20 12 38.2 +0.4**
KPL AMB AMB 20 12 39.3
comp=Z,280nm,1.2s
KPL AMS AMS 20 42 14.7
comp=Z,2µm,25.6s
KKN Kakani 71.58 291 *e*P **P 20 12 40.3 +1.1**
comp=Z,1µm,0.7s
KKN Kakani 71.58 291 *e*P **P 20 12 40.3 +1.1**
KKN pmax pmax
comp=Z,1µm,0.7s
KKN Kakani 71.58 291 *e*P **P 20 12 40.3 +1.1**
comp=Z,1µm,0.7s
MME1 Meikle Cairn 71.58 2⇑ *e*P **P 20 12 38.6 +0.1**
PKI Pulchoki 71.67 291 *e*P **P 20 12 40.8 +0.9**
comp=Z,1µm,0.9s
PKI Pulchoki 71.67 291 *e*P **P 20 12 40.8 +0.9**
PKI pmax pmax
comp=Z,568nm,0.6s
PKI Pulchoki 71.67 291 *e*P **P 20 12 40.8 +0.9**
comp=Z,568nm,0.6s
PKIN Phulchoki 71.67 291 *e*P **P 20 12 40.8 +1.0**
comp=Z,568nm,0.6s
NACGM Naroch 71.71 344 *e*P P 20 12 36.0 -3.2
GKN Gorkha 71.79 292 *e*P **P 20 12 41.3 +0.9**
comp=Z,2µm,0.9s
GKN Gorkha 71.79 292 *e*P **P 20 12 41.3 +0.9**
comp=Z,2µm,0.9s
DMN Daman 71.81 291 *e*P **P 20 12 41.7 +1.0**
comp=Z,1µm,0.9s
DMN Daman 71.81 291 *e*P **P 20 12 41.7 +1.0**
comp=Z,1µm,0.9s
PMOR Pomariorio Ree 71.83 147 *e*T T 21 30 37.1
comp=Z,39nm,0.2s
MICGM Minsk 71.89 343⇓ *i*P P 20 12 34.0 -6.4
MNK Minsk 71.90 343⇓ *i*P P 20 12 34.0 -6.4
MNK *e* 20 12 53.0
MNK *e*PPP PPP 20 17 00.0
MNK *e* 20 22 44.0
MNK pmax pmax
comp=Z,2µm,1.0s
MNK pmax pmax
comp=N,940nm,1.0s
MNK pmax pmax
comp=E,230nm,1.0s
MNK MLR MLR
comp=E,4µm,16.0s
MNK MLR MLR
comp=Z,17µm,16.0s
MNK MLR MLR
comp=Z,6µm,16.0s
MNK MLR MLR
comp=N,4µm,16.0s
VRHR Novokhopersk 71.93 334 *e*P **P 20 12 38.1 -2.5**
VRHR pmax pmax
comp=N,90nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.8s
VRHR pmax pmax
comp=Z,240nm,0.8s
VRHR pmax pmax
comp=Z,240nm,0.8s
VRHR pmax pmax
comp=N,30nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR MLR MLR
comp=N,710nm,25.0s
VRHR MLR MLR
comp=E,900nm,25.0s
VRHR MLR MLR
comp=Z,3µm,25.0s
DRUM Mains of Drumt 71.99 1 *e*P **P 20 12 41.3 +0.3**
DRUM AMB AMB 20 12 42.4
comp=Z,404nm,1.2s
VOR Voronezh 72.00 336⇑ *i*P **P 20 12 39.0 -2.1**
VOR pmax pmax
comp=Z,300nm,1.2s
DANN Dangsing 72.04 293 *e*P **P 20 12 43.1 +1.0**
comp=Z,2µm,0.8s
DANN Dangsing 72.04 293 *e*P **P 20 12 43.1 +1.0**
comp=Z,2µm,0.8s
VAH Vaihoa 72.14 147 *e*T T 21 31 00.2
comp=Z,10.0nm,0.4s
MUD Monsted U'grnd 72.20 355⇑ *i*P **P 20 12 43.1 +0.9**
MUD Monsted U'grnd 72.20 355⇑ *i*P **P 20 12 43.1 +0.9**
comp=Z,284nm,1.0s
CHBT CHBT 72.46 268 P **P 20 12 44.8 +0.5**
comp=Z,149nm,1.4s,comp=Z,3µm
VSR Storozhevoye 72.48 335 *c i*P **P 20 12 43.5 -0.4**
VSR pmax pmax
comp=Z,259nm,1.2s
KOLN Koldanda 72.57 293 *e*P **P 20 12 45.8 +0.7**
comp=Z,832nm,0.9s
KOLN Koldanda 72.57 293 *e*P **P 20 12 45.8 +0.7**
comp=Z,832nm,0.9s

COEN	**Coen**	**72.57**	**218**	*e*P		**P**	**20 12 43.6**	**-1.3**
	comp=Z,493nm,1.3s							
PYUN	**Piuthan**	**72.67**	**293**	*e*P		**P**	**20 12 46.6**	**+0.9**
	comp=Z,2µm,0.9s							
PYUN	**Piuthan**	**72.67**	**293**	*e*P		**P**	**20 12 46.6**	**+0.9**
	comp=Z,2µm,0.9s							
EAB	**Aberfoyle**	**72.68**	**3**⇑	*e*P		**P**	**20 12 45.4**	**+0.4**
COP	**Copenhagen**	**72.75**	**353**⇑	*i*P		**P**	**20 12 46.2**	**+0.8**
COP				MLR	MLR			
	comp=Z,1µm,20.0s							
COP	**Copenhagen**	**72.75**	**353**⇑	*i*P		**P**	**20 12 46.2**	**+0.8**
	comp=Z,293nm,0.8s							
COP								
	comp=Z,990nm,20.0s							
EDI	**Edinburgh**	**72.97**	**2**	AMB	AMB		20 12 39.8	
	comp=Z,213nm,1.1s							
ESY	**Stoneypath**	**72.99**	**2**⇑	*e*P		**P**	**20 12 47.4**	**+0.5**
PGBU	**Glenifferbraes**	**73.05**	**3**⇑	*e*P		**P**	**20 12 47.6**	**+0.4**
PGBU				AMB	AMB		20 12 49.2	
	comp=Z,508nm,1.2s							
BSD	**Bornholm Skovb**	**73.09**	**351**⇑	*i*P		**P**	**20 12 47.4**	**-0.1**
BSD				MLR	MLR			
	comp=Z,2µm,23.0s							
BSD	**Bornholm Skovb**	**73.09**	**351**⇑	*i*P		**P**	**20 12 47.4**	**-0.1**
	comp=Z,195nm,0.8s							
BSD								
	comp=Z,2µm,22.0s							
LLD	**Lille Linde**	**73.11**	**353**	*i* P		**P**	**20 12 48.6**	**+1.0**
LLD	**Lille Linde**	**73.11**	**353**	*i* P		**P**	**20 12 48.6**	**+1.0**
	comp=Z,52nm,0.9s							
EBL	**Broad Law**	**73.12**	**2**⇑	*e*P		**P**	**20 12 47.7**	**0.0**
SUW	**Suwalki**	**73.14**	**346**	*e*P		**P**	**20 12 47.2**	**-0.6**
SUW	**Suwalki**	**73.14**	**346**	*e*P		**P**	**20 12 47.2**	**-0.6**
SUW	**Suwalki**	**73.14**	**346**	*e*P		**P**	**20 12 46.8**	**-1.1**
	comp=Z,382nm,0.8s							
DHRM	**DHARAMSHALA**	**73.23**	**301**	*e*P		**P**	**20 12 49.4**	**+0.4**
DHRM				AMB	AMB		20 12 50.7	
	comp=Z,1µm,0.3s							
KHLT	**Khaolaem Dam**	**73.24**	**273**	P		**P**	**20 12 49.5**	**+0.5**
	comp=Z,96nm,1.3s,comp=Z,1µm							
PATY	**Pattaya**	**73.24**	**270**	P		**P**	**20 12 49.2**	**+0.2**
	comp=Z,71nm,0.9s,comp=Z,645nm							
BTM	**Bintulu**	**73.25**	**254**	P		**P**	**20 12 49.4**	**+0.4**
SRDT	**SRDT**	**73.25**	**272**	P		**P**	**20 12 49.1**	**+0.1**
	comp=Z,462nm,1.4s,comp=Z,7µm							
SDNR	**Sundarnagar**	**73.45**	**300**	*e*P		**P**	**20 12 50.6**	**+0.5**
ESK	**Eskdalemuir**	**73.58**	**2**⇑	*e*P		**P**	**20 12 51.0**	**+0.6**
ESK				AMB	AMB		20 12 52.2	
	comp=Z,280nm,1.1s							
ESK	**Eskdalemuir**	**73.58**	**2**	*i* P		**P**	**20 12 51.4**	**+1.0**
ESK	**Eskdalemuir**	**73.58**	**2**	*e*P		**P**	**20 12 51.0**	**+0.6**
	comp=Z,278nm,0.9s							
SMLA	**Simla**	**73.62**	**299**	*i* P		**P**	**20 12 52.5**	**+1.4**
SMLA				*i* P		**P**	**20 12 52.5**	**+1.4**
SMLA				AMB	AMB		20 12 58.3	
	comp=Z,299nm,0.0s							
PPT	**Papeete**	**73.69**	**150**	LR	LR		20 37 20.4	
	comp=Z,2µm,21.2s,baz=354,slow=29							
PPT2	**Papeete2**	**73.70**	**150**	*e*S		**S**	**20 22 23.5**	**+4.1**
	comp=Z,6µm,29.8s							
PPT2				*e*SS		**SS**	**20 27 09.9**	**+5.9**
	comp=Z,1µm,27.5s							
PPT2				*e*LR	LR		20 35 34.0	
	comp=Z,9µm,28.2s,baz=342							
PPT2	**Papeete2**	**73.70**	**150**	*e*T	T		21 32 57.0	
	comp=Z,39nm,0.3s							
TIAR	**Tiarei**	**73.75**	**150**	*e*P	P		20 12 55.0	+3.3
	comp=Z,28nm,1.2s							
TIAR	**Tiarei**	**73.75**	**150**	*e*T	T		21 32 59.9	
	comp=Z,12nm,0.3s							
DDI	**Dehra Dun**	**73.76**	**298**	*e*P		**P**	**20 12 53.1**	**+1.2**
DDI				AMB	AMB		20 12 54.5	
	comp=Z,960nm,0.3s							
PAE	**Paea**	**73.77**	**150**	*e*P		**P**	**20 12 53.9**	**+2.1**
	comp=Z,19nm,1.3s							
PAE	**Paea**	**73.77**	**150**	*e*T	T		21 33 01.6	
	comp=Z,7.2nm,0.3s							
RGN	**Rugen**	**73.80**	**352**	*e*P		**P**	**20 12 52.8**	**+1.2**
	comp=Z,1µm,0.9s							
TVO	**Taravao**	**73.99**	**150**	*e*P	P		20 12 56.2	+3.0
	comp=Z,14nm,0.9s							
TVO	**Taravao**	**73.99**	**150**	*e*T	T		21 33 17.9	
	comp=Z,2.6nm,0.2s							
GAL1	**Galloway**	**73.99**	**3**⇑	*e*P		**P**	**20 12 53.1**	**+0.4**
GAL1				AMB	AMB		20 12 54.0	
	comp=Z,313nm,1.0s							
GAL1				AMS	AMS		20 43 49.4	
	comp=Z,2µm,23.0s							
PHET	**Kaeng Krachan**	**74.03**	**271**	P		**P**	**20 12 54.0**	**+0.4**
	comp=Z,574nm,0.9s,comp=Z,5µm							
XAL	**Allendale**	**74.05**	**1**⇑	*e*P		**P**	**20 12 53.8**	**+0.6**
DZM	**Mont Dzumac**	**74.15**	**193**	*e*P		**P**	**20 12 55.8**	**+1.7**
	comp=Z,121nm,1.2s							
DZM				*e*S		**S**	**20 22 26.0**	**+1.6**
	comp=Z,3µm,28.6s							
DZM	**Mont Dzumac**	**74.15**	**193**	*e*LR	LR		20 35 52.1	
	comp=Z,8µm,23.2s							
DZM	**Mont Dzumac**	**74.15**	**193**	LR	LR		20 39 03.9	
	comp=Z,4µm,21.9s,baz=12,slow=30							
BOK	**Bokaro**	**74.23**	**288**	*e*P		**P**	**20 12 55.9**	**+1.1**
BOK				AMB	AMB		20 12 56.6	
	comp=Z,476nm,0.9s							
KESW	**Keswick, Cumbr**	**74.31**	**2**⇑	*e*P		**P**	**20 12 54.8**	**+0.1**
KESW				AMB	AMB		20 12 56.1	
	comp=Z,481nm,1.1s							
SBUM	**Sibu**	**74.36**	**254**	P		**P**	**20 12 56.7**	**+1.2**
SBUM	**Sibu**	**74.36**	**254**	*e*P		**P**	**20 12 56.0**	**+0.4**
	comp=Z,637nm,2.0s							
MEH	**Mehetia**	**74.46**	**148**	*e*T	T		21 33 53.3	
	comp=Z,22nm,0.3s							
RAR	**Rarotonga**	**74.49**	**160**	LR	LR		20 38 30.0	
	comp=Z,4µm,20.7s,baz=34,slow=30							
HLG	**Helgoland**	**74.54**	**355**	*e*P		**P**	**20 12 57.2**	**+1.2**
	comp=Z,1µm,1.3s							
GMM	**Mts of Mourne**	**74.58**	**4**⇑	*e*P		**P**	**20 12 56.3**	**+0.1**
BSEG	**Bad Segeberg**	**74.64**	**354**	*e*P		**P**	**20 12 57.7**	**+1.1**
	comp=Z,864nm,1.0s							
BSEG				*e*pP	PcP		20 13 16.8	+6.1
GKP	**Gorka Klasztor**	**74.66**	**349**	*e*P		**P**	**20 12 56.8**	**+0.1**
GKP	**Gorka Klasztor**	**74.66**	**349**	*e*P		**P**	**20 12 56.8**	**+0.1**
HPK	**Haverah Park**	**74.97**	**1**⇑	*e*P		**P**	**20 12 59.1**	**+0.6**
HPK				AMB	AMB		20 13 00.4	
	comp=Z,436nm,1.0s							
KBL	**Kabul**	**75.21**	**307**	*e*P		**P**	**20 13 00.1**	**-0.4**
KBL				pmax	pmax			
	comp=Z,978nm,0.8s							
KBL	**Kabul**	**75.21**	**307**	*e*P		**P**	**20 13 00.1**	**-0.4**
	comp=Z,978nm,0.8s							
AKASG	**Malin Array Be**	**75.25**	**341**	P		**P**	**20 12 59.6**	**-0.6**
AKASG				pmax	pmax			
	comp=Z,255nm,0.8s							
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG				MLR	MLR			
	comp=Z,3µm,19.4s							
AKASG	**Malin Array Be**	**75.25**	**341**	P		**P**	**20 12 59.6**	**-0.6**
AKASG				PKiKP		**PKiKP**	**20 18 48.2**	**-0.8**
AKASG				P'P'			20 40 20.2	
AKASG	**Malin Array Be**	**75.25**	**341**	P		**P**	**20 12 59.6**	**-0.6**
	comp=Z,255nm,0.8s,baz=20,slow=5.8,SNR=650							
AKASG				PKiKP		**PKiKP**	**20 18 48.2**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=22,slow=2.1,SNR=4.8							
AKASG				PKPPKP		P'P'df	20 40 20.3	-8.9
	comp=Z,0.1nm,0.3s,baz=180,slow=0.9,SNR=4.6							
AKASG				LR	LR		20 50 48.7	
	comp=Z,3µm,19.4s,baz=20,slow=39							
KIEV	**Kiev**	**75.27**	**341**	*c* *i*P		**P**	**20 12 59.9**	**-0.3**
KIEV	**Kiev**	**75.27**	**341**	*e*P		**P**	**20 12 59.6**	**-0.6**
	comp=Z,342nm,0.9s							
WME	**Myndd Eilian**	**75.47**	**3**⇑	*e*P		**P**	**20 13 01.7**	**+0.3**
NDI	**New Delhi**	**75.48**	**298**	*e*P		**P**	**20 13 03.1**	**+1.2**
NDI				AMB	AMB		20 13 05.0	
	comp=Z,368nm,2.1s							
TEIG	**Tepich**	**75.50**	**76**	*e*P		**P**	**20 13 02.7**	**+0.6**
	comp=Z,160nm,1.0s							
DSB	**Dublin**	**75.55**	**4**	*e*P		**P**	**20 13 02.2**	**+0.3**
	comp=Z,348nm,0.8s							
WLF1	**Llynfaes**	**75.58**	**3**⇑	*e*P		**P**	**20 13 01.8**	**-0.1**
WLF1				AMB	AMB		20 13 03.5	
	comp=Z,163nm,1.6s							
WLF1				AMS	AMS		20 41 26.3	
	comp=Z,2µm,23.7s							
BEL	**Belsk**	**75.61**	**347**	*e*P		**P**	**20 13 02.5**	**+0.3**
BEL	**Belsk**	**75.61**	**347**	*e*P		**P**	**20 13 02.5**	**+0.3**
YRC	**Rhoscolyn**	**75.61**	**3**⇑	*e*P		**P**	**20 13 02.2**	**+0.1**
WPM1	**Penmaenmawr**	**75.62**	**2**⇑	*e*P		**P**	**20 13 02.5**	**+0.3**
KBI1	**Birley Grange**	**75.67**	**1**⇑	*e*P		**P**	**20 13 02.6**	**0.0**
YLL	**Llanberis**	**75.73**	**3**⇑	*e*P		**P**	**20 13 02.7**	**-0.2**
RUE	**Ruedersdorf**	**75.81**	**351**	*e*P		**P**	**20 13 03.9**	**+0.6**
	comp=Z,460nm,1.1s							
RUE	**Ruedersdorf**	**75.81**	**351**	*e*P		**P**	**20 13 03.8**	**+0.5**
	comp=Z,384nm,1.1s							
STNC	**Stoke**	**75.83**	**1**	*e*P		**P**	**20 13 04.0**	**+0.6**
STNC				AMB	AMB		20 13 05.0	
	comp=Z,546nm,1.0s							
YRE	**Yr Eifl**	**75.89**	**3**⇑	*e*P		**P**	**20 13 03.6**	**-0.1**
FOEL	**Foel Wylfa**	**76.01**	**2**⇑	*e*P		**P**	**20 13 04.7**	**+0.2**
FOEL				AMB	AMB		20 13 05.9	
	comp=Z,485nm,0.9s							
KAPI	**Kappang**	**76.01**	**243**	P		**P**	**20 13 06.1**	**+1.1**
	SNR=9.3							
KAPI	**Kappang**	**76.01**	**243**	mb			20 13 19.4	
	SNR=11							
KAPI	**Kappang**	**76.01**	**243**	*e*P		**P**	**20 13 05.6**	**+0.6**
	comp=Z,564nm,1.3s							
NRDL	**Niedersach Rie**	**76.09**	**354**	*e*P		**P**	**20 13 05.4**	**+0.6**
	comp=Z,479nm,1.1s							
KSM	**Kuching**	**76.29**	**255**	P		**P**	**20 13 07.5**	**+0.9**
KSM	**Kuching**	**76.29**	**255**	*e*P		**P**	**20 13 06.2**	**-0.4**
	comp=Z,205nm,1.1s							
HLM1	**Long Mynd**	**76.39**	**2**⇑	*e*P		**P**	**20 13 06.8**	**+0.1**
HLM1				AMB	AMB		20 13 07.9	
	comp=Z,255nm,1.0s							
IBBN	**Ibbenburen**	**76.42**	**355**	*e*P		**P**	**20 13 08.0**	**+1.2**
	comp=Z,1µm,1.0s							
CLZ	**Clausthal**	**76.72**	**353**	*e*P		**P**	**20 13 09.7**	**+1.1**
	comp=Z,699nm,1.0s							
CLZ				*e*pP	pP		20 13 28.5	+8.0
LPW	**Lampeter**	**76.77**	**3**⇑	*e*P		**P**	**20 13 08.7**	**-0.1**
LPW				AMB	AMB		20 13 09.6	
	comp=Z,925nm,1.4s							
LPW				AMS	AMS		20 42 07.0	
	comp=Z,19µm,29.7s							
WTSB	**Winterswijk**	**76.81**	**356**	*e*P		**P**	**20 13 09.6**	**+0.6**
	comp=Z,577nm,1.1s							
SURA	**Suratkani**	**76.89**	**268**	P		**P**	**20 13 10.7**	**+0.7**
	comp=Z,124nm,1.1s,comp=Z,10µm							
MCH1	**Michaelchurch**	**76.91**	**2**⇑	*e*P		**P**	**20 13 09.3**	**-0.3**
MCH1				AMB	AMB		20 13 10.8	
	comp=Z,435nm,0.9s							
MCH1				AMS	AMS		20 45 05.4	
	comp=Z,2µm,27.7s							
GOF	**Gofitskoye**	**76.94**	**330**⇑	*i*P		**P**	**20 13 10.5**	**+0.6**
GOF				pmax	pmax			
	comp=Z,550nm,1.3s							
CLL	**Collm**	**77.04**	**352**	*e*P		**P**	**20 13 10.3**	**0.0**
	comp=Z,181nm,0.9s							
CLL				*e*pP	pP		20 13 27.7	+5.4
CLL	**Collm**	**77.04**	**352**⇑	*i*P		**P**	**20 13 10.3**	**0.0**
	comp=Z,181nm,0.9s							
CLL				*i*			20 13 16.3	
CLL				*e*PPP	PPP		20 17 54.0	
CLL				*e*S	S		**20 22 58.0**	**+2.3**
CLL				*e*SKSac	ScS		**20 23 22.0**	**-2.0**
CLL				*e*PS	PnS		**20 23 42.0**	**+4.3**
CLL				*e*SS	SS		20 28 06.0	+14
CLL				LmV			20 49 00.0	
	comp=Z,2µm,21.3s							
LVV	**L'vov**	**77.06**	**344**⇓	*i*P		**P**	**20 13 10.6**	**+0.1**
LVV				*e*			20 16 05.2	
LVV				*e*			20 17 50.6	
LVV				*e*S	S		**20 22 55.0**	**-1.0**
LVV				*e*			20 23 51.4	
LVV				MLR	MLR			
	comp=Z,2µm,20.0s							
LVV				MLR	MLR			
	comp=N,2µm,19.0s							
LVV				MLR	MLR			
	comp=E,800nm,19.0s							
MONM	**Monmouth**	**77.07**	**2**⇑	*e*P		**P**	**20 13 11.1**	**+0.6**
MONM				AMB	AMB		20 13 11.8	
	comp=Z,611nm,1.0s							
CTA	**Charters Tower**	**77.12**	**212**	LR	LR		20 41 44.4	
	comp=Z,1µm,19.6s,baz=7.1,slow=31							
CTAO	**Charters Tower**	**77.12**	**212**	*e*P		**P**	**20 13 11.1**	**0.0**
CTAO				pmax	pmax			
	comp=Z,80nm,1.0s							
CTAO	**Charters Tower**	**77.12**	**212**	*e*P		**P**	**20 13 11.1**	**0.0**
	comp=Z,80nm,1.0s							
STRD	**Stroud**	**77.14**	**1**⇑	*e*P		**P**	**20 13 11.3**	**+0.4**
STRD				AMB	AMB		20 13 12.8	
	comp=Z,992nm,1.7s							
KSP	**Ksiaz**	**77.16**	**349**⇑	*e*P		**P**	**20 13 10.6**	**-0.4**
KSP				*e*			20 23 22.0	
KSP				*e*SS	SS		20 27 53.0	-0.6
KSP				MLR	MLR			
	comp=Z,6µm,21.5s							
KSP	**Ksiaz**	**77.16**	**349**	*e*P		**P**	**20 13 10.6**	**-0.4**
NEUB	**Neuenburg**	**77.24**	**352**	*e*P		**P**	**20 13 12.0**	**+0.5**
	comp=Z,675nm,1.0s							
OLDB	**Oldbury-Upon-S**	**77.25**	**2**	*e*P		**P**	**20 13 11.6**	**+0.1**
OLDB				AMB	AMB		20 13 13.1	
	comp=Z,303nm,1.9s							
BUG	**Bochum--Univer**	**77.31**	**355**	*e*P		**P**	**20 13 12.5**	**+0.7**
	comp=Z,575nm,1.1s							
OJC	**Ojcow**	**77.33**	**347**⇑	*i*P		**P**	**20 13 11.8**	**-0.2**
OJC				MLR	MLR			
	comp=Z,4µm,19.4s							
OJC	**Ojcow**	**77.33**	**347**	*i* P		**P**	**20 13 11.8**	**-0.2**
OJC				L	L		20 49 47.0	
	comp=Z,4µm,19.4s							
MAK	**Makhachkala**	**77.34**	**326**	*e*P		**P**	**20 13 12.3**	**+0.2**
MAK				*e*			20 16 12.4	
MAK				*e*PPP	PPP		20 17 50.9	
MAK				*e*S	S		**20 22 54.5**	**-4.7**
MAK				*e*SS	SS		**20 27 58.1**	**+1.4**
MAK				pmax	pmax			
	comp=Z,234nm,1.4s							
MAK				MLR	MLR			
	comp=Z,7µm,19.0s							
BRG	**Berggiesshubel**	**77.38**	**351**	*i* P		**P**	**20 13 12.5**	**+0.2**
	comp=Z,167nm,0.9s							
BRG				S	S		**20 23 00.0**	**+0.6**
BRG				SS	SS		20 28 08.0	+11
BRG				*e*PKPPKP	P'P'df		20 39 60.0	-25
	comp=Z,28nm,1.9s							
BRG								
	comp=E,1µm,19.9s							
BRG								
	comp=Z,3µm,21.2s							
BRG	**Berggiesshubel**	**77.38**	**351**	*i* P		**P**	**20 13 12.5**	**+0.2**
BRG				S	S		**20 23 00.0**	**+0.6**
BRG				pmax	pmax			
	comp=Z,167nm,0.9s							
BRG				pmax	pmax			
	comp=Z,28nm,1.9s							
BRG				MLR	MLR			
	comp=N,1µm,19.9s							
BRG				MLR	MLR			
	comp=Z,3µm,21.2s							
FBE	**Freiberg**	**77.39**	**351**	*e*P		**P**	**20 13 12.6**	**+0.3**
	comp=Z,379nm,1.0s							
SWN1	**Swindon**	**77.41**	**1**⇑	*e*P		**P**	**20 13 13.4**	**+1.0**
SWN1				AMB	AMB		20 13 14.5	
	comp=Z,1µm,1.0s							
KWP	**Kalwaria Pacla**	**77.46**	**345**	*e*P		**P**	**20 13 13.3**	**+0.5**
KWP	**Kalwaria Pacla**	**77.46**	**345**	*e*P		**P**	**20 13 13.3**	**+0.5**
KWP	**Kalwaria Pacla**	**77.46**	**345**⇓	*i*P		**P**	**20 13 13.6**	**+0.8**
KWP	**Kalwaria Pacla**	**77.46**	**345**	*e*P		**P**	**20 13 13.0**	**+0.3**
	comp=Z,1µm,1.0s							
UPC	**Upice**	**77.52**	**350**	*e*P		**P**	**20 13 12.9**	**-0.2**
UPC				*e*			20 13 18.9	
UPC	**Upice**	**77.52**	**350**	*e*P		**P**	**20 13 12.9**	**-0.2**
UPC				*e*x	x		20 13 18.9	
ABKT	**Ailbek**	**77.53**	**317**	P		**P**	**20 13 13.3**	**-0.1**
	comp=Z,1µm,1.0s,SNR=59							
SURT	**Suratani**	**77.58**	**269**	P		**P**	**20 13 14.3**	**+0.5**
	comp=Z,63nm,1.3s,comp=Z,994nm							
WOL	**Wolverton**	**77.62**	**1**⇑	*e*P		**P**	**20 13 13.6**	**+0.1**
WOL				AMB	AMB		20 13 14.8	
	comp=Z,868nm,0.9s							
DPC	**Dobruska-Polom**	**77.64**	**349**	*e*P		**P**	**20 13 13.7**	**-0.1**
DPC				*e*			20 13 19.2	
DPC				*e*			20 13 30.6	
DPC				*e*			20 24 01.8	
DPC	**Dobruska-Polom**	**77.64**	**349**	*e*P		**P**	**20 13 13.7**	**-0.1**
DPC				*ex*	x		20 13 19.2	
DPC				*e*sP	sP		**20 13 30.6**	**+0.4**
DPC				*ex*	x		20 22 42.9	
DPC				*ex*	x		20 24 01.8	
DPC				AMS	AMS		20 51 10.0	
DPC	**Dobruska-Polom**	**77.64**	**349**	*e*P		**P**	**20 13 13.8**	**0.0**
PVCC	**Panska Ves**	**77.66**	**351**	*e*P		**P**	**20 13 13.9**	**+0.1**
PVCC				*e*			20 13 18.8	
PVCC				*e*			20 24 01.8	
PVCC				MLR	MLR			
	comp=Z,3µm,20.8s							
PVCC	**Panska Ves**	**77.66**	**351**	*e*P		**P**	**20 13 13.9**	**+0.1**
PVCC				*ex*	x		20 13 18.8	
PVCC				*ex*	x		20 24 01.8	
PVCC				AMS	AMS		20 51 20.0	
	comp=Z,3µm,20.8s							
KTGM	**Kuala Trenggan**	**77.67**	**263**	P		**P**	**20 13 15.9**	**+1.5**
UBBA	**Unterbreizbach**	**77.77**	**354**	*e*P		**P**	**20 13 14.7**	**+0.4**
	comp=Z,473nm,1.7s							
ELSH	**Elham, Standar**	**77.78**	**359**⇑	*e*P		**P**	**20 13 15.2**	**+0.7**
ELSH				AMB	AMB		20 13 15.8	
	comp=Z,769nm,1.0s							
HEX	**Exmoor**	**77.82**	**2**⇑	*e*P		**P**	**20 13 15.0**	**+0.3**
KRLC	**Kraliky**	**77.86**	**349**	*e*P		**P**	**20 13 15.1**	**+0.1**
KRLC				*e*			20 13 21.6	
KRLC	**Kraliky**	**77.86**	**349**	*e*P		**P**	**20 13 15.1**	**+0.1**
KRLC				*ex*	x		20 13 21.6	
HTL	**Hartland**	**77.87**	**3**⇑	*e*P		**P**	**20 13 15.1**	**+0.2**
HTL				AMB	AMB		20 13 16.3	
	comp=Z,302nm,0.9s							
HTL				AMS	AMS		20 43 02.5	
	comp=Z,2µm,20.1s							
SORM	**Soroca**	**77.87**	**341**⇑	*i*P		**P**	**20 13 15.0**	**0.0**
STHS	**Stebnicka Huta**	**77.90**	**346**	*e*P		**P**	**20 13 16.6**	**+1.4**
STHS				pmax	pmax			
	comp=Z,354nm,1.4s							
STHS	**Stebnicka Huta**	**77.90**	**346**	*e*P		**P**	**20 13 16.6**	**+1.4**
STHS				*e*			20 13 22.4	
STHS				*e*pP	pP		**20 13 26.4**	**-0.8**
STHS				*e*PP	PP		**20 16 12.5**	**+2.0**
STHS				*e*			20 18 50.1	
OKC	**Ostrava-Krasne**	**77.92**	**348**	*e*P		**P**	**20 13 15.4**	**+0.1**
OKC				*e*			20 13 19.1	
OKC				*e*			20 13 33.9	
OKC				*e*			20 23 06.9	
OKC				*e*			20 24 05.3	
OKC				*e*SS	SS		20 28 10.7	+5.6
OKC				MLR	MLR			
	comp=Z,3µm,17.3s							
OKC	**Ostrava-Krasne**	**77.92**	**348**	*e*P		**P**	**20 13 15.4**	**+0.1**
OKC				*ex*	x		20 13 19.1	
OKC				*e*sP	sP		**20 13 33.9**	**+2.2**
OKC				*e*S	S		**20 23 06.9**	**+1.6**
OKC				*ex*	x		20 24 05.3	
OKC				*e*SS	SS		**20 28 10.7**	**+5.6**
OKC				AMS	AMS		20 53 00.0	
	comp=Z,3µm,17.3s							
TANN	**Tannenbergstha**	**77.97**	**352**	*e*P		**P**	**20 13 16.1**	**+0.5**
	comp=Z,401nm,1.7s							
IMYA	**Miami**	**77.98**	**314**	*e*P		**P**	**20 13 16.1**	**0.0**
DGPR	**DIGLIPUR**	**78.01**	**276**	*e*P		**P**	**20 13 16.4**	**+0.2**
DGPR				AMB	AMB		20 13 19.4	
	comp=Z,293nm,0.2s							
BEBN	**Eben Emael**	**78.03**	**356**	P		**P**	**20 13 16.1**	**+0.2**
	comp=Z,172nm,1.2s							
NIE	**Niedzica**	**78.04**	**347**⇑	*i*P		**P**	**20 13 16.4**	**+0.4**
NIE				*e**SP		**sP**	**20 13 30.0**	**-2.4**
NIE				MLR	MLR			
	comp=Z,2µm,18.5s							
NIE	**Niedzica**	**78.04**	**347**	*i* P		**P**	**20 13 16.4**	**+0.4**
NIE				*e*sP		**sP**	**20 13 30.0**	**-2.4**
NIE				L	L		20 51 11.0	
	comp=Z,2µm,18.5s							
KIV	**Kislovodsk**	**78.05**	**330**	P		**P**	**20 13 16.1**	**-0.1**
	comp=Z,654nm,1.2s,SNR=24							
KIV	**Kislovodsk**	**78.05**	**330**	*e*P		**P**	**20 13 16.5**	**+0.3**
KIV				*e*			20 16 13.4	
KIV				*e*PPP	PPP		20 18 03.1	
KIV				*e*S	S		**20 23 08.7**	**+1.7**
KIV				*e*SS	SS		**20 28 10.4**	**+2.9**
KIV				pmax	pmax			
	comp=Z,132nm,1.0s							
KIV				pmax	pmax			
	comp=Z,212nm,3.9s							
KIV				MLR	MLR			
	comp=Z,3µm,18.0s							
KIV	**Kislovodsk**	**78.05**	**330**	P		**P**	**20 13 16.6**	**+0.4**
	SNR=26							
KIV	**Kislovodsk**	**78.05**	**330**	mb			20 13 18.6	
	SNR=40							
KIV	**Kislovodsk**	**78.05**	**330**	*e*P		**P**	**20 13 16.2**	**-0.1**
	comp=Z,177nm,1.2s							
HGN	**Heimansgroeve**	**78.05**	**356**	*e*P		**P**	**20 13 16.7**	**+0.7**
	comp=Z,758nm,0.9s							
HGN				*e*S	S		**20 23 09.1**	**+2.5**
HGN				*e*SS	SS		20 28 33.2	+26
MORC	**Moravsky Berou**	**78.06**	**348**	*e*P		**P**	**20 13 15.6**	**-0.6**
MORC				pmax	pmax			
	comp=Z,134nm,0.9s							
MORC	**Moravsky Berou**	**78.06**	**348**⇑	*i*P		**P**	**20 13 16.3**	**+0.2**
MORC	**Moravsky Berou**	**78.06**	**348**	*e*P		**P**	**20 13 15.6**	**-0.6**
	comp=Z,134nm,0.9s							
HMNX	**Herstmonceux**	**78.07**	**360**⇑	*e*P		**P**	**20 13 16.8**	**+0.7**
HMNX				AMB	AMB		20 13 18.1	
	comp=Z,594nm,1.0s							
UCC	**Uccle**	**78.07**	**357**	P		**P**	**20 13 16.7**	**+0.6**
PRA	**Prague**	**78.12**	**351**	⇑P		**P**	**20 13 17.0**	**+0.6**
PRA				S	S		20 23 14.0	+6.6
PRA				SS	SS		20 28 25.0	+17
NKC	**Novy Kostel**	**78.15**	**352**	*e*P		**P**	**20 13 16.7**	**+0.1**
NKC				*e*			20 13 34.4	
NKC				MLR	MLR			
	comp=Z,1µm,22.3

IPAY **Payeh** 78.38 315 *e*P P **P** 20 13 17.9 -0.5
BCLA **Clavier** 78.42 357 P P **P** 20 13 18.2 +0.1
comp=Z,302nm,1.1s
DYA **Yadsworthy** 78.45 3⇑*e*P P **P** 20 13 18.2 0.0
DYA AMB AMB 20 13 19.3
comp=Z,533nm,1.0s
DYA AMS AMS 20 43 19.4
comp=Z,2μm,21.0s
TNS **Taunus Mts** 78.46 354 *e*P P **P** 20 13 19.0 +0.6
comp=Z,395nm,0.8s
UZH **Uzhgorod** 78.50 345*c* *i*P P **P** 20 13 19.3 +0.8
UZH *e* 20 13 24.7
UZH *e* 20 13 34.9
UZH *e* 20 16 19.5
UZH *e*PPP PPP 20 18 09.7
UZH *e*S **S** **20 23 08.7 -2.8**
UZH *e* 20 23 20.7
UZH *e*PS **PnS** **20 23 54.7 -1.6**
UZH *e*SSS SSS 20 31 38.7
IMOG **Moghan** 78.52 315 *e*P P **P** 20 13 20.0 +0.8
VRAC **Vranov** 78.64 349⇑*i*P P **P** 20 13 19.9 +0.6
ROTZ **Rotzenmuhle** 78.64 352 *e*P P **P** 20 13 20.0 +0.7
comp=Z,268nm,1.2s
PKDT **Phuket** 78.68 268 P P **P** 20 13 20.4 +0.4
comp=Z,167nm,1.0s,comp=Z,3μm
ZEI **Tsey** 78.71 329 *e*P P **P** 20 13 20.0 0.0
ZEI pmax pmax
comp=Z,175nm,1.0s
GIVF **Givet** 78.75 357⇑*i*P P **P** 20 13 20.1 +0.2
comp=Z,898nm,1.1s
GIVF **Givet** 78.75 357⇑*i*P P **P** 20 13 20.1 +0.2
GIVF pmax pmax
comp=Z,898nm,1.1s
GIVF **Givet** 78.75 357⇑*i*P P **P** 20 13 20.1 +0.2
comp=Z,898nm,1.1s
DOU **Dourbes** 78.77 357 P P **P** 20 13 20.0 +0.1
comp=Z,238nm,1.2s
TREC **Trest** 78.78 350 *e*P P **P** 20 13 20.3 +0.2
TREC *e* 20 13 23.5
TREC *e* 20 24 19.1
TREC *e*SS SS 20 28 27.2 +9.2
TREC MLR MLR
comp=Z,3μm,22.1s
TREC **Trest** 78.78 350 *e*P P **P** 20 13 20.3 +0.2
TREC *ex* x 20 13 23.5
TREC *ex* x 20 22 36.0
TREC *ex* x 20 24 19.1
TREC *e*SS SS 20 28 27.2 +9.2
TREC AMS AMS 20 51 20.0
comp=Z,3μm,22.1s
GUDG **Gudauri** 78.81 328 P P **P** 20 13 22.5 +1.9
BAIF **Baives** 78.82 357⇑*i*P P **P** 20 13 20.7 +0.5
comp=Z,1μm,0.9s
BAIF **Baives** 78.82 357⇑*i*P P **P** 20 13 20.7 +0.5
BAIF pmax pmax
comp=Z,1μm,0.9s
BAIF **Baives** 78.82 357⇑*i*P P **P** 20 13 20.7 +0.5
comp=Z,1μm,0.9s
ANN **Anapa** 78.82 334 P P **P** 20 13 18.6 -1.7
ANN 20 16 17.2
ANN PPP PPP 20 18 07.0
ANN S **S** **20 23 13.5 -1.6**
ANN *e*SS **SS** **20 28 19.7 +0.8**
ANN *e*SSS SSS 20 31 44.5
ANN pmax pmax
comp=Z,89nm,0.8s
KIS **Kishinev** 78.86 340⇑*i*P P **P** 20 13 20.0 -0.5
comp=Z,700nm,1.5s
KIS **Kishinev** 78.86 340 *e*PP PP 20 16 42.0 +23
KIS *e*S **S** **20 23 12.0 -3.4**
KIS *e*ScS **SKSac** **20 23 30.0 -2.6**
KIS **Kishinev** 78.86 340⇑*i*P P **P** 20 13 20.0 -0.5
KIS *e* 20 13 38.0
KIS *e* 20 18 15.0
KIS *e*S **S** **20 23 12.0 -3.4**
KIS *e* 20 23 30.0
KIS *e*PS **PnS** **20 24 10.0 +9.1**
KIS pmax pmax
comp=Z,700nm,1.5s
KIS pmax pmax
comp=N,400nm,1.4s
KIS pmax pmax
comp=N,400nm,2.0s
KIS pmax pmax
comp=Z,800nm,2.0s
KIS MLR MLR
comp=Z,4μm,20.0s
KIS MLR MLR
comp=N,3μm,18.0s
KIS MLR MLR
comp=Z,4μm,20.0s
KIS **Kishinev** 78.86 340⇑*i*P P **P** 20 13 20.4 -0.1
IAS **Iasi** 78.93 341⇑*i*P P **P** 20 13 20.9 0.0
TRPA **Tarpa** 78.95 345⇑*i*P P **P** 20 13 21.9 +1.0
TRPA **Tarpa** 78.95 345⇑*e*P P **P** 20 13 22.0 +1.0
BUR08 **Bucovina Ar. S** 78.95 343 *e*P P **P** 20 13 21.3 +0.1
BURAR **Bucovina Array** 78.98 343⇑*i*P P **P** 20 13 22.0 +0.7
ONI **Oni** 79.03 329 P P **P** 20 13 22.1 +0.5
WLF **Walferdange** 79.14 356 P P **P** 20 13 22.8 +0.7
comp=Z,268nm,1.3s
WLF **Walferdange** 79.14 356 *e*P P **P** 20 13 22.7 +0.7
WLF pmax pmax
comp=Z,310nm,0.9s
WLF **Walferdange** 79.14 356 *e*P P **P** 20 13 23.0 +1.0
comp=Z,412nm,1.0s
WLF **Walferdange** 79.14 356 *e*P P **P** 20 13 22.7 +0.7
comp=Z,310nm,0.9s
KHC **Kasperske Hory** 79.14 351 *e*P P **P** 20 13 22.4 +0.3
KHC *e* 20 13 26.5
KHC *e* 20 13 41.3
KHC *e* 20 23 37.2
KHC *e* 20 24 23.9
KHC MLR MLR
comp=Z,4μm,21.0s
KHC **Kasperske Hory** 79.14 351 *e*P P **P** 20 13 22.4 +0.3
KHC *ex* x 20 13 26.5
KHC *e*sP **sP** **20 13 41.3 +2.8**
KHC *e*SKS **SKKSac** **20 23 37.2 +1.2**
KHC *ex* x 20 24 23.9
KHC *e*SS SS 20 28 37.4 +14
KHC AMS AMS 20 52 10.0
comp=Z,4μm,21.0s
KHC **Kasperske Hory** 79.14 351 *e*P P **P** 20 13 22.1 0.0
comp=Z,226nm,0.9s
TBI **Tubuai** 79.16 152 *e*S **S** **20 23 20.7 +1.9**
comp=Z,1μm,33.8s
TBI *e*SS **SS** **20 28 27.3 +1.0**
comp=Z,856nm,27.8s
TBI *e*LR LR 20 37 57.2
comp=Z,7μm,23.0s,baz=336
TBI **Tubuai** 79.16 152 *e*T T 21 39 44.6
comp=Z,9.8nm,0.2s
WET **Wettzell** 79.19 351 *e*P P **P** 20 13 23.6 +1.2
comp=Z,178nm,1.1s
BMR **Baia Mare** 79.23 344⇑*i*P P **P** 20 13 23.5 +1.0
KULM **Kulim** 79.25 265 P P **P** 20 13 23.4 +0.3
KULM **Kulim** 79.25 265 *e*P P **P** 20 13 22.7 -0.4
comp=Z,99nm,1.0s
SOC **Sochi** 79.29 332*c* *i*P P **P** 20 13 22.8 -0.1
SOC *e* 20 13 31.2
SOC *e*PPP PPP 20 18 10.4
SOC *e*S **S** **20 23 19.8 -0.3**
SOC *e* 20 23 44.0
SOC *e*SS **SS** **20 28 26.8 +0.9**
SOC pmax pmax
comp=Z,103nm,0.8s
SOC pmax pmax
comp=Z,208nm,1.4s
SOC MLR MLR
comp=Z,4μm,21.0s
PBA **Port Blair** 79.29 275 *e*P P **P** 20 13 22.3 -1.0
PBA AMB AMB 20 13 24.8
comp=Z,314nm,2.1s
SMOL **Smolenice** 79.31 348 *e*P P **P** 20 13 24.0 +1.0
SMOL **Smolenice** 79.31 348 *e*P P **P** 20 13 24.0 +1.0
SEAG **Tbilisi Sea** 79.32 328 P P **P** 20 13 23.3 +0.1
CHVG **Ch'k'valeri** 79.35 330 P P **P** 20 13 23.6 +0.3
TBLG **Delisi** 79.38 328 P P **P** 20 13 24.0 +0.5
GEC2 **GERESS Array S** 79.41 351 *e*P P **P** 20 13 23.5 -0.2
GEC2 **GERESS Array S** 79.41 351 *e*P P **P** 20 13 24.0 +0.4
comp=Z,408nm,1.7s
GEC2 **GERESS Array S** 79.41 351 *e*P P **P** 20 13 23.4 -0.2
GERES **GERESS Array B** 79.41 351 P P **P** 20 13 23.4 -0.2
GERES PKKPbc **PKKPbc** **20 32 09.9 -0.6**
GERES P'P' 20 40 04.9
GERES **GERESS Array B** 79.41 351 P P **P** 20 13 23.4 -0.2
comp=Z,76nm,0.7s,baz=25,slow=5.0,SNR=685
GERES PKKPbc **PKKPbc** **20 32 09.9 -0.6**
comp=Z,0.7nm,0.8s,baz=183,slow=3.7,SNR=4.2
GERES PKPPKP P'P'df 20 40 04.9 -17
comp=Z,0.8nm,0.9s,baz=168,slow=5.0,SNR=3.3
GERES LR LR 20 52 50.8
comp=Z,4μm,21.6s,baz=14,slow=39
DGRG **David-gareji** 79.41 327 P P **P** 20 13 24.4 +0.7
LEOM **Leova** 79.48 341⇓*i*P P **P** 20 13 24.1 +0.2
PSZ **Piszkesteto** 79.56 347 *e*P P **P** 20 13 25.1 +0.7
PSZ pmax pmax
comp=Z,492nm,1.2s
PSZ **Piszkesteto** 79.56 347⇑*i*P P **P** 20 13 25.4 +1.0
PSZ **Piszkesteto** 79.56 347 *e*P P **P** 20 13 25.1 +0.7
comp=Z,492nm,1.2s
PSZ **Piszkesteto** 79.56 347⇑*e*P P **P** 20 13 25.5 +1.0
SIM **Simferopol'** 79.56 336*c* *i*P P **P** 20 13 23.9 -0.5
SIM *e*S **S** **20 23 25.2 +2.2**
SIM pmax pmax
comp=Z,72nm,1.0s
SIM pmax pmax
comp=Z,190nm,9.2s
BHPL **Bhopal** 79.59 294 *e*P P **P** 20 13 25.0 0.0
BHPL AMB AMB 20 13 27.1
comp=Z,492nm,1.4s
IPM **Ipoh** 79.64 264 P P **P** 20 13 25.2 0.0
IPM **Ipoh** 79.64 264 *e*P P **P** 20 13 24.2 -1.1
comp=Z,92nm,0.9s
JQE **Queens East** 79.72 1⇑*e*P P **P** 20 13 25.0 -0.1
JRS **Jersey** 79.73 1⇑*e*P P **P** 20 13 25.0 -0.2
LANF **Langenberg** 79.74 355 *e*P P **P** 20 13 25.9 +0.6
TESR **Tescani** 79.77 342⇓*i*P P **P** 20 13 25.5 0.0
STU **Stuttgart** 79.86 354 *e*P P **P** 20 13 25.8 -0.1
STU pmax pmax
comp=Z,273nm,0.9s
STU **Stuttgart** 79.86 354 *e*P P **P** 20 13 26.4 +0.5
comp=Z,382nm,1.0s
STU **Stuttgart** 79.86 354 *e*P P **P** 20 13 25.8 -0.1
comp=Z,273nm,0.9s
MYKOM **Kota Tinggi** 79.98 260 P P **P** 20 13 27.8 +0.8
MYKOM **Kota Tinggi** 79.98 260 *e*P P **P** 20 13 27.6 +0.5
comp=Z,111nm,1.1s
AKH **Akhalkalaki** 80.08 328 P P **P** 20 13 28.2 +0.7
CONA **Conrad Observa** 80.08 349⇑*i*P P **P** 20 13 27.8 +0.6
comp=Z,257nm,0.8s,SNR=99
BUD **Budapest** 80.11 347⇑*e*P P **P** 20 13 28.6 +1.3
STR **Strasbourg** 80.13 355 *e*P P **P** 20 13 28.2 +0.8
KGM **Kluang** 80.14 261 P P **P** 20 13 28.6 +0.7
CJR **Cluj-Napoca** 80.14 344⇑*i*P P **P** 20 13 28.5 +0.9
FLN **La Foliniere** 80.18 0⇑*i*P P **P** 20 13 27.6 0.0
comp=Z,1μm,1.0s,baz=4.7
FLN *e*R
comp=Z,2μm,19.5s
FLN **La Foliniere** 80.18 0⇑*i*P P **P** 20 13 27.6 0.0
FLN pmax pmax
comp=Z,1μm,1.0s
FLN **La Foliniere** 80.18 0⇑*i*P P **P** 20 13 27.6 0.0
comp=Z,1μm,1.0s
DRGR 80.22 344⇑*i*P P **P** 20 13 28.4 +0.4
FRIM **Kepong** 80.23 263 P P **P** 20 13 28.8 +0.3
SOP **Sopron** 80.24 349⇑*e*P P **P** 20 13 29.0 +1.0
PAGF **Fort de Pagny** 80.27 356⇑*i*P P **P** 20 13 28.7 +0.6
comp=Z,457nm,0.9s
PAGF **Fort de Pagny** 80.27 356⇑*i*P P **P** 20 13 28.7 +0.6
comp=Z,457nm,0.9s
NGP **Nagpur** 80.29 292 *e*P P **P** 20 13 28.3 -0.4
NGP AMB AMB 20 13 31.5
comp=Z,375nm,3.8s
NGP *ex* x 20 13 45.2
PKSG 80.29 347⇑*e*P P **P** 20 13 29.4 +1.1
FUR **Furstenfeldbru** 80.31 352 *e*P P **P** 20 13 29.0 +0.6
comp=Z,504nm,1.1s
WLS **Welschbruch** 80.33 355 *e*P P **P** 20 13 28.4 -0.1
CDF **Champ du Feu** 80.33 355⇑*i*P P **P** 20 13 28.5 -0.1
comp=Z,329nm,0.8s
CDF **Champ du Feu** 80.33 355⇑*i*P P **P** 20 13 28.5 -0.1
CDF pmax pmax
comp=Z,329nm,0.8s
CDF **Champ du Feu** 80.33 355⇑*i*P P **P** 20 13 28.5 -0.1
comp=Z,329nm,0.8s
CSKK **Cs˙ákako** 80.33 348⇑*e*P P **P** 20 13 29.7 +1.2
MOA **Molln** 80.34 350⇑*i*P P **P** 20 13 28.5 0.0
comp=Z,81nm,0.8s,SNR=22
MEZF **Maizieres J'vi** 80.34 357⇑*i*P P **P** 20 13 28.9 +0.4
comp=Z,1μm,1.0s,baz=1.2
MEZF **Maizieres J'vi** 80.34 357⇑*i*P P **P** 20 13 28.9 +0.4
comp=Z,1μm,1.0s
LDF **La Druitiere** 80.35 0⇑*i*P P **P** 20 13 28.4 -0.2
comp=Z,1μm,0.9s
LDF **La Druitiere** 80.35 0⇑*i*P P **P** 20 13 28.4 -0.2
LDF pmax pmax
comp=Z,1μm,0.9s
LDF **La Druitiere** 80.35 0⇑*i*P P **P** 20 13 28.4 -0.2
comp=Z,1μm,0.9s
BFO **Black Forest** 80.36 354*ce*P P **P** 20 13 28.9 +0.2
BFO **Black Forest** 80.36 354 *e*P P **P** 20 13 29.1 +0.4
comp=Z,260nm,1.1s
BFO *ep*P pP 20 13 46.6 +5.9
BFO **Black Forest** 80.36 354 *e*P P **P** 20 13 28.3 -0.3
comp=Z,203nm,0.9s
RAO **Raoul Island** 80.36 178 LR LR 20 44 38.0
comp=Z,2μm,20.5s,baz=131,slow=32
VRI **Vrincioaia** 80.37 341⇑*i*P P **P** 20 13 29.3 +0.5
PLOR **Plostina** 80.40 341⇑*i*P P **P** 20 13 29.4 +0.4
PETR **Petresti** 80.41 341⇑*i*P P **P** 20 13 30.0 +1.1
VIS **Vishakhapatnam** 80.41 286 *e*P P **P** 20 13 30.0 +0.6
VIS AMB AMB 20 13 30.8
comp=Z,271nm,3.0s
PKST **T˜'s** 80.47 348⇑*e*P P **P** 20 13 30.3 +1.0
DOPR **Dopca** 80.53 342⇓*i*P P **P** 20 13 30.7 +1.0
ECH **Echery** 80.53 355 *e*P P **P** 20 13 29.8 +0.2
ECH **Echery** 80.53 355 *e*P P **P** 20 13 29.3 -0.3
ECH pmax pmax
comp=Z,268nm,1.1s
ECH **Echery** 80.53 355 *e*P P **P** 20 13 29.3 -0.3
comp=Z,268nm,1.1s
IGLO **Ghaloghah** 80.55 319 *e*P P **P** 20 13 31.0 +0.9
GRR **Gorron** 80.55 1⇑*i*P P **P** 20 13 29.8 +0.2
comp=Z,1μm,0.9s
GRR **Gorron** 80.55 1⇑*i*P P **P** 20 13 29.8 +0.2
GRR pmax pmax
comp=Z,1μm,0.9s
GRR **Gorron** 80.55 1⇑*i*P P **P** 20 13 29.8 +0.2
comp=Z,1μm,0.9s
PKSN **Nyarlorinc** 80.56 346⇓*e*P P **P** 20 13 31.6 +1.9
ROSF **Rostrenen** 80.56 2⇑*i*P P **P** 20 13 30.0 +0.3
comp=Z,1μm,1.2s
ROSF **Rostrenen** 80.56 2⇑*i*P P **P** 20 13 30.0 +0.3
ROSF pmax pmax
comp=Z,1μm,1.2s
ROSF **Rostrenen** 80.56 2⇑*i*P P **P** 20 13 30.0 +0.3
comp=Z,1μm,1.2s
THEF **They Montfort** 80.58 356 *e*P P **P** 20 13 30.4 +0.5
TLCR 80.59 340⇓*i*P P **P** 20 13 30.0 +0.1
RJOB **Jochberg** 80.59 351 *e*P P **P** 20 13 30.7 +0.7
comp=Z,245nm,0.8s
EIDS **Eidsvold** 80.60 206 *e*P P **P** 20 13 30.6 +0.6
comp=Z,84nm,1.4s
SFTF **Sexfontaines** 80.64 357⇑*i*P P **P** 20 13 30.4 +0.2
comp=Z,2μm,0.9s,baz=8.4
SFTF **Sexfontaines** 80.64 357⇑*i*P P **P** 20 13 30.4 +0.2
comp=Z,2μm,0.9s
SGMF **Saint Gilles** 80.66 2⇑*i*P P **P** 20 13 30.5 +0.2
comp=Z,1μm,0.8s
SGMF **Saint Gilles** 80.66 2⇑*i*P P **P** 20 13 30.5 +0.2
SGMF pmax pmax
comp=Z,1μm,0.8s
SGMF **Saint Gilles** 80.66 2⇑*i*P P **P** 20 13 30.5 +0.2
comp=Z,1μm,0.8s
DBOC **Borcka** 80.72 330 *i*P P **P** 20 13 31.1 +0.3
CFR **Carcaliu** 80.74 340⇓*i*P P **P** 20 13 30.6 -0.1
GRER 80.79 341⇓*i*P P **P** 20 13 32.6 +1.6
HAU **Haudompre** 80.79 356⇑*i*P P **P** 20 13 30.9 -0.1
comp=Z,604nm,1.1s
HAU *e*R
comp=Z,4μm,21.2s
HAU **Haudompre** 80.79 356⇑*i*P P **P** 20 13 30.9 -0.1
HAU pmax pmax
comp=Z,605nm,1.1s
HAU **Haudompre** 80.79 356⇑*i*P P **P** 20 13 30.9 -0.1
comp=Z,604nm,1.1s
ARTV **Artvin** 80.79 329 *i*P P **P** 20 13 31.6 +0.2
GNI **Garni** 80.79 327 P P **P** 20 13 32.8 +1.5
SNR=23
GNI **Garni** 80.79 327 *m*b 20 13 36.2
SNR=37
GNI **Garni** 80.79 327 *e*P P **P** 20 13 32.6 +1.3
comp=Z,506nm,1.8s
ARSA **Arzberg** 80.79 349⇑*i*P P **P** 20 13 31.5 +0.5
comp=Z,215nm,0.8s,SNR=57
FELD **Feldberg im Sc** 80.83 355 *e*P P **P** 20 13 31.3 0.0
TGUH **Tegucigalpa,Un** 80.83 79 *e*P P **P** 20 13 33.0 +1.4
comp=Z,586nm,1.4s
IKIA **Kiasar** 80.86 319 *e*P P **P** 20 13 30.7 -1.2
MLR **Muntele Rosu** 80.89 342⇑*i*P P **P** 20 13 31.6 -0.1
DAGI **Agillar** 80.89 329 *i*P P **P** 20 13 31.6 -0.1
PKS6 **Bocsa** 80.90 346⇑*e*P P **P** 20 13 32.2 +0.7
MOF **Molkenrain** 80.90 355 *e*P P **P** 20 13 31.9 +0.2
SIRR **Siria** 80.90 345⇑*i*P P **P** 20 13 32.2 +0.6
HINF **Hinteralfeld** 80.95 355⇑*i*P P **P** 20 13 31.6 -0.3
comp=Z,297nm,1.0s
HINF **Hinteralfeld** 80.95 355⇑*i*P P **P** 20 13 31.6 -0.3
HINF pmax pmax
comp=Z,297nm,1.0s
HINF **Hinteralfeld** 80.95 355⇑*i*P P **P** 20 13 31.6 -0.3
comp=Z,297nm,1.0s
QUIF **Quistinic** 80.99 2⇑*i*P P **P** 20 13 32.1 +0.1
comp=Z,1μm,1.3s
QUIF **Quistinic** 80.99 2⇑*i*P P **P** 20 13 32.1 +0.1
QUIF pmax pmax
comp=Z,1μm,1.3s
QUIF **Quistinic** 80.99 2⇑*i*P P **P** 20 13 32.1 +0.1
comp=Z,1μm,1.3s
DIGO **Kars** 81.01 328 *i*P P **P** 20 13 33.2 +0.6
DBAD **Bademkaya** 81.01 329 *i*P P **P** 20 13 32.6 +0.2
RETA **Reutte** 81.02 353⇑*i*P P **P** 20 13 32.4 +0.1
comp=Z,215nm,1.2s,SNR=43
DEV **Deva** 81.06 344⇑*i*P P **P** 20 13 33.1 +0.7
IDAH **Dahanechah** 81.09 312 *e*P P **P** 20 13 33.0 -0.1
PKS9 **Tamasi** 81.09 347⇑*e*P P **P** 20 13 33.2 +0.6
WATA **Walderalm** 81.10 352⇓*i*P P **P** 20 13 33.0 +0.2
comp=Z,657nm,1.1s,SNR=180
DDEM **Demirkent** 81.11 329 *i*P P **P** 20 13 33.2 +0.3
VOIR 81.11 342⇑*i*P P **P** 20 13 33.9 +1.1
ISR **Istrita** 81.12 341⇑*i*P P **P** 20 13 33.3 +0.4
MOTA **Moosalm** 81.14 352⇑*i*P P **P** 20 13 33.1 +0.1
comp=Z,323nm,1.0s,SNR=126
WTTA **Wattenberg** 81.17 352⇑*i*P P **P** 20 13 33.6 +0.4
comp=Z,555nm,0.7s,SNR=123
KBA **Koelnbreinsper** 81.19 351⇑*i*P P **P** 20 13 34.2 +0.8
comp=Z,942nm,0.7s,SNR=144
DAVA **Damuels** 81.29 353 *i*P P **P** 20 13 33.9 +0.1
comp=Z,185nm,1.1s,SNR=34
SECR 81.30 342⇓*i*P P **P** 20 13 34.4 +0.7
MTUR **Matau** 81.31 342⇓*i*P P **P** 20 13 35.3 +1.4
TLB **Topalu** 81.32 340⇑*i*P P **P** 20 13 34.1 +0.3
LOT **Lotru** 81.33 343⇓*i*P P **P** 20 13 33.9 -0.1
ISHM **Shahmirzad** 81.37 319 *e*P P **P** 20 13 35.2 +0.6
TIRR **Tirgusor** 81.37 340 *e*P P **P** 20 13 33.9 -0.1
TIRR pmax pmax
comp=Z,120nm,0.9s
TIRR **Tirgusor** 81.37 340⇑*i*P P **P** 20 13 34.2 +0.2
TIRR **Tirgusor** 81.37 340 *e*P P **P** 20 13 33.9 -0.1
comp=Z,120nm,0.9s
IPRN **Peran** 81.38 320 *e*P P **P** 20 13 34.7 +0.2
IANJ **Anjilo** 81.40 318 *e*P P **P** 20 13 34.6 -0.1
BEHE **Becsehely** 81.41 348⇑*e*P P **P** 20 13 35.3 +1.0
SOKA **Soboth** 81.41 350⇑*i*P P **P** 20 13 34.7 +0.3
comp=Z,641nm,1.0s,SNR=177
PKSM **Moragy** 81.41 347⇑*i*P P **P** 20 13 34.1 -0.2
PKSM **Moragy** 81.41 347⇑*e*P P **P** 20 13 34.4 +0.1
LOMF **Lomont** 81.42 355 *e*P P **P** 20 13 34.9 +0.5
PERS **Pernice** 81.44 350 *i*P P **P** 20 13 35.0 +0.5
AMRR **Amara** 81.45 341⇓*i*P P **P** 20 13 35.1 +0.6
ITEG **Tejag** 81.47 313 *e*P P **P** 20 13 34.5 -0.6
FETA **Feichten** 81.49 353⇑*i*P P **P** 20 13 35.2 +0.3
comp=Z,449nm,1.0s,SNR=83
KOGS **Kog** 81.49 349 *i*P P **P** 20 13 34.9 +0.2
WRAB **Tennant Creek** 81.53 223*c* *i*P P **P** 20 13 34.7 -0.4
WRAB pmax pmax
comp=Z,362nm,1.2s
WRAB **Tennant Creek** 81.53 223 *e*P P **P** 20 13 33.9 -1.2
comp=Z,114nm,1.0s
BZS **Buzias** 81.54 345⇑*i*P P **P** 20 13 35.3 +0.3
WRA **Warramunga Arr** 81.54 223 P P **P** 20 13 34.2 -1.0
WRA PKiKP **PKiKP** **20 18 58.6 -0.8**
WRA ScS **S** **20 23 48.8 +4.8**
WRA PKKPbc **PKKPbc** **20 32 06.4 -0.6**
WRA P'P' 20 40 07.0
WRA **Warramunga Arr** 81.54 223 P P **P** 20 13 34.2 -1.0
comp=Z,51nm,0.8s,baz=36,slow=6.3,SNR=236
WRA PKiKP **PKiKP** **20 18 58.6 -0.8**
comp=Z,0.7nm,0.7s,baz=349,slow=1.0,SNR=7.0
WRA ScS **S** **20 23 48.8 +4.8**
baz=34,slow=9.1,SNR=6.3
WRA PKKPbc **PKKPbc** **20 32 06.4 -0.6**
comp=Z,4.3nm,0.9s,baz=224,slow=2.0,SNR=17
WRA PKPPKP **P'P'df** **20 40 07.0 -2.2**
comp=Z,3.4nm,1.1s,baz=225,slow=1.5,SNR=5.6
WRA LR LR 20 47 40.5
comp=Z,1μm,20.4s,baz=35,slow=34
GZR **Gura Zlata** 81.56 344⇑*i*P P **P** 20 13 35.5 +0.3
ABTA **Abfaltersbach** 81.60 351 *i*P P **P** 20 13 35.5 +0.1
comp=Z,509nm,1.0s,SNR=109
IHRS **Heris** 81.60 324 *e*P P **P** 20 13 35.9 +0.1
SULR 81.60 341⇑*i*P P **P** 20 13 35.0 -0.3
MYKA **Terra Mystica** 81.61 351⇑*i*P P **P** 20 13 35.5 0.0
comp=Z,210nm,0.9s,SNR=40
LOR **Lormes** 81.62 357⇑*i*P P **P** 20 13 35.4 0.0
comp=Z,1μm,1.3s,baz=7.4
LOR *e*R
comp=Z,2μm,21.2s
LOR **Lormes** 81.62 357⇑*i*P P **P** 20 13 35.4 0.0
comp=Z,1μm,1.3s
OBKA **Obir** 81.63 350⇑*i*P P **P** 20 13 35.8 +0.2
comp=Z,469nm,0.8s,SNR=52
HYF **Humbligny** 81.65 358⇑*i*P P **P** 20 13 36.0 +0.5
HYF **Humbligny** 81.65 358⇑*i*P P **P** 20 13 36.0 +0.5
EFOR **EFORIE** 81.68 340⇓*i*P P **P** 20 13 36.8 +1.1
DYDN **Diyadin** 81.69 327 *i*P P **P** 20 13 36.4 +0.2
IFIR **Firoozkooh** 81.73 319 *e*P P **P** 20 13 36.9 +0.4
IMRD **Marand** 81.73 326 *e*P P **P** 20 13 35.7 -0.7
DAVOX **Davos/Dischmat** 81.79 353 PKiKP **PKiKP** **20 18 59.1 -0.4**
DAVOX **Davos/Dischmat** 81.79 353 PKiKP **PKiKP** **20 18 59.1 -0.4**
comp=Z,3.1nm,0.7s,baz=0.0,slow=4.0,SNR=3.7
EATA **Eleskirt** 81.80 328 *i*P P **P** 20 13 37.0 +0.1
SSF **Saint Saulge** 81.83 358⇑*i*P P **P** 20 13 36.6 +0.1
comp=Z,684nm,1.1s
SSF **Saint Saulge** 81.83 358⇑*i*P P **P** 20 13 36.6 +0.1
SSF pmax pmax
comp=Z,684nm,1.1s
SSF **Saint Saulge** 81.83 358⇑*i*P P **P** 20 13 36.6 +0.1
comp=Z,684nm,1.1s
BANR **Banloc** 81.85 345⇑*i*P P **P** 20 13 38.3 +1.7
ILAS **Lasjerd** 81.87 319 *e*P P **P** 20 13 37.5 +0.3
CIOR **Ciorogarla** 81.90 342⇓*i*P P **P** 20 13 37.1 +0.2
FUORN **Ofenpass-Fuorn** 81.92 353 *e*P P **P** 20 13 37.7 +0.4
comp=Z,311nm,0.8s
HUMR **Humele** 82.00 342⇑*i*P P **P** 20 13 36.9 -0.5
ITBZ **Tabriz** 82.00 325 *e*P P **P** 20 13 37.7 -0.1
IDMV **Damavand** 82.08 320 *e*P P **P** 20 13 38.2 -0.2
LJU **Ljubljana** 82.09 350 *i*P P **P** 20 13 37.9 0.0
AVF **Avril sur Loir** 82.11 358⇑*i*P P **P** 20 13 37.9 0.0
comp=Z,700nm,1.0s
AVF **Avril sur Loir** 82.11 358⇑*i*P P **P** 20 13 37.9 0.0
AVF pmax pmax
comp=Z,700nm,1.0s
AVF **Avril sur Loir** 82.11 358⇑*i*P P **P** 20 13 37.9 0.0
comp=Z,700nm,1.0s
TUTA **Tutak** 82.11 328 *i*P P **P** 20 13 37.7 -0.7
CMBY **CAMPBELL BAY** 82.12 271 *e*P P **P** 20 13 36.4 -2.1
CMBY AMB AMB 20 13 38.0
comp=Z,161nm,0.0s
ERZM **Erzurum** 82.13 329 *i*P P **P** 20 13 38.5 0.0
TUE **Stuetta** 82.14 353 *e*P P **P** 20 13 38.6 +0.3
comp=Z,320nm,0.8s
GRSN **GIRESUNGRSN** 82.15 332 *i*P P **P** 20 13 38.5 +0.2
PSN **Preselentsi** 82.16 340 *i*P P **P** 20 13 39.0 +0.8
PSN **Preselentsi** 82.16 340⇑*i*P P **P** 20 13 38.3 +0.1
VOY **Vojsko** 82.17 350 *e*P P **P** 20 13 37.7 -0.7
VOY *e* 20 13 59.3
CABF **La Chapelle** 82.19 356⇑*i*P P **P** 20 13 38.8 +0.3
comp=Z,762nm,1.1s
CABF **La Chapelle** 82.19 356⇑*i*P P **P** 20 13 38.8 +0.3
CABF pmax pmax
comp=Z,762nm,1.1s
CABF **La Chapelle** 82.19 356⇑*i*P P **P** 20 13 38.8 +0.3

comp=Z,762nm,1.1s
SRE Strehaia 82.19 344⇓ *i*P **P** **20 13 38.8 +0.3**
SMF Signal de Mont 82.24 357⇑ *i*P **P** **20 13 38.7 0.0**
comp=Z,1µm,1.1s
SMF Signal de Mont 82.24 357⇑ *i*P **P** **20 13 38.7 0.0**
SMF pmax pmax
comp=Z,1µm,1.1s
SMF Signal de Mont 82.24 357⇑ *i*P **P** **20 13 38.7 0.0**
comp=Z,1µm,1.1s
LCHF La Chataignera 82.27 1 *e*P **P** **20 13 39.6 +0.8**
KOPT Kop Dagi 82.30 330 *i*P P 20 13 31.0 -8.5
MFF Saint Martin d 82.34 0⇑ *i*P **P** **20 13 39.4 +0.2**
comp=Z,880nm,1.0s
MFF Saint Martin d 82.34 0⇑ *i*P **P** **20 13 39.4 +0.2**
MFF pmax pmax
comp=Z,880nm,1.0s
MFF Saint Martin d 82.34 0⇑ *i*P **P** **20 13 39.4 +0.2**
comp=Z,880nm,1.0s
BGF Bois d'Agland 82.35 358⇑ *i*P **P** **20 13 39.3 +0.1**
comp=Z,668nm,1.1s
BGF Bois d'Agland 82.35 358⇑ *i*P **P** **20 13 39.3 +0.1**
BGF pmax pmax
comp=Z,668nm,1.1s
BGF Bois d'Agland 82.35 358⇑ *i*P **P** **20 13 39.3 +0.1**
comp=Z,668nm,1.1s
SENIN Lac Senin/Sane 82.38 355 *e*P **P** **20 13 40.3 +0.7**
comp=Z,361nm,1.7s
SISC Sisak 82.44 348 P **P** **20 13 40.6 +0.9**
OG01 Vacheresse 82.44 355 *e*P **P** **20 13 40.0 +0.2**
IMHD Mahdasht 82.53 321 *e*P **P** **20 13 40.7 +0.2**
BOJS Bojanci 82.54 349 *i*P **P** **20 13 40.6 +0.4**
KELT Kelkit 82.57 331 *i*P **P** **20 13 40.2 -0.5**
TCF Toulx Ste Croi 82.64 358⇑ *i*P **P** **20 13 40.8 0.0**
comp=Z,411nm,0.9s
TCF Toulx Ste Croi 82.64 358⇑ *i*P **P** **20 13 40.8 0.0**
TCF pmax pmax
comp=Z,411nm,0.9s
TCF Toulx Ste Croi 82.64 358⇑ *i*P **P** **20 13 40.8 0.0**
comp=Z,411nm,0.9s
BOYT Boyabat 82.65 334 *i*P **P** **20 13 43.0 +2.1**
TVAN Van 82.70 327 *i*P **P** **20 13 40.5 -1.0**
IVRN Varamin 82.71 319 *e*P **P** **20 13 40.6 -0.8**
HAVZ Havza 82.75 334 *i*P **P** **20 13 42.0 +0.6**
PRD Provadia 82.78 340 *i*P **P** **20 13 42.2 +0.7**
ERBA Erbaa 82.82 333 *i*P **P** **20 13 42.8 +0.9**
EUZM Uzumlu 82.83 330 *i*P **P** **20 13 40.9 -1.2**
AGO Saint Agoulin 82.85 358 *e*P **P** **20 13 42.7 +0.8**
PLDF La Plantade 82.92 357 *e*P **P** **20 13 43.0 +0.7**
SMRI Semarang 83.00 250 *e*P **P** **20 13 42.7 -0.3**
comp=Z,243nm,1.2s
GEVA Gevas 83.01 327 *i*P **P** **20 13 43.0 0.0**
SZH Strazhica 83.02 341 *i*P **P** **20 13 42.6 -0.2**
BNGL BINGOL 83.06 329 *i*P **P** **20 13 44.2 +0.9**
IRAZ Razeghan 83.07 321 *e*P **P** **20 13 43.3 -0.1**
RSL Roselend 83.08 355 *e*P **P** **20 13 44.1 +0.8**
VERF Verneugheol 83.17 358 *e*P **P** **20 13 43.8 +0.2**
PVL Pavlikeni 83.19 342 *i*P **P** **20 13 44.3 +0.7**
TOKA Tokat 83.23 333 *i*P **P** **20 13 44.3 +0.4**
LPL La Plagne 83.25 355⇑ *i*P **P** **20 13 45.1 +0.9**
comp=Z,156nm,0.7s
LPL La Plagne 83.25 355⇑ *i*P **P** **20 13 45.1 +0.9**
LPL pmax pmax
comp=Z,156nm,0.7s
LPL La Plagne 83.25 355⇑ *i*P **P** **20 13 45.1 +0.9**
comp=Z,156nm,0.7s
LPG La Plagne 83.27 355⇑ *i*P **P** **20 13 45.3 +0.9**
comp=Z,598nm,1.2s
LPG La Plagne 83.27 355⇑ *i*P **P** **20 13 45.3 +0.9**
LPG pmax pmax
comp=Z,598nm,1.2s
LPG La Plagne 83.27 355⇑ *i*P **P** **20 13 45.3 +0.9**
comp=Z,598nm,1.2s
DIVS Divibare 83.28 346 P **P** **20 13 43.8 -0.4**
MPEP Malo Peshtene 83.36 343 *i*P **P** **20 13 44.3 -0.2**
CTKT Corum 83.42 334 *i*P **P** **20 13 45.7 +0.6**
UDBI Udbina 83.44 349 P **P** **20 13 45.2 +0.2**
MTDJ Mount Denham 83.45 69 *e*P **P** **20 13 46.3 +0.8**
comp=Z,968nm,1.5s
HAKT HAKKARI 83.47 326 *i*P **P** **20 13 45.0 -0.4**
SCER sogukcermik 83.47 332 *i*P **P** **20 13 45.9 +0.6**
HYB Hyderabad 83.49 290⇑ *i*P **P** **20 13 45.0 -0.6**
comp=Z,136nm,0.5s
HYB *e*pP **pP** **20 13 58.0 +0.3**
HYB *e*S **S** **20 24 04.0 -0.4**
HYB Hyderabad 83.49 290 *e*P **P** **20 13 45.8 +0.2**
HYB AMB AMB 20 13 46.5
comp=Z,380nm,0.8s
GTBY Guantanamo Bay 83.52 66 *e*P **P** **20 13 46.8 +1.2**
comp=Z,136nm,1.1s
NVLJ Novalja 83.52 349 P **P** **20 13 45.0 -0.2**
FRNF Fournols 83.53 358 *e*P **P** **20 13 45.9 +0.5**
GRN Grenoble 83.57 356 *e*P **P** **20 13 46.8 +1.1**
SSB Saint Sauveur 83.58 357 *e*P **P** **20 13 46.3 +0.6**
SSB Saint Sauveur 83.58 357 *e*P **P** **20 13 45.8 +0.1**
SSB pmax pmax
comp=Z,215nm,0.9s
SSB Saint Sauveur 83.58 357 *e*P **P** **20 13 45.8 +0.1**
comp=Z,215nm,0.9s
GDM Grand'Maison 83.59 356 *e*P **P** **20 13 47.0 +1.1**
MCJ Malvern 83.60 69 *i*P **P** **20 13 47.3 +1.1**
KEMA Kemaliye 83.61 331 *i*P **P** **20 13 44.5 -1.5**
RJF Les Rejaudoux 83.63 359⇑ *i*P **P** **20 13 45.8 -0.1**
comp=Z,777nm,1.2s
RJF *e*R
comp=Z,2µm,21.2s
RJF Les Rejaudoux 83.63 359⇑ *i*P **P** **20 13 45.8 -0.1**
RJF pmax pmax
comp=Z,777nm,1.2s
RJF Les Rejaudoux 83.63 359⇑ *i*P **P** **20 13 45.8 -0.1**
comp=Z,777nm,1.2s
JMB Yambol 83.66 341 P **P** **20 13 45.7 -0.4**
JMB Yambol 83.66 341 *i*P **P** **20 13 46.8 +0.7**
JMB Yambol 83.66 341⇑ *i*P **P** **20 13 46.4 +0.3**
LBL Lubilhac 83.67 358 *e*P **P** **20 13 47.0 +0.8**
BNI Bardonecchia 83.72 355 *e*P **P** **20 13 47.8 +1.3**
BNI pmax pmax
comp=Z,422nm,0.9s
BNI Bardonecchia 83.72 355 *e*P **P** **20 13 47.8 +1.3**
comp=Z,422nm,0.9s
ORIF Oris-en-Rattie 83.89 356⇑ *i*P **P** **20 13 48.1 +0.8**
comp=Z,614nm,1.1s
ORIF *e*R
comp=Z,2µm,20.8s
ORIF Oris-en-Rattie 83.89 356⇑ *i*P **P** **20 13 48.1 +0.8**
ORIF pmax pmax
comp=Z,614nm,1.1s
ORIF Oris-en-Rattie 83.89 356⇑ *i*P **P** **20 13 48.1 +0.8**
comp=Z,614nm,1.1s
FITZ Fitzroy Crossi 83.92 231 *e*P **P** **20 13 47.5 0.0**
comp=Z,164nm,1.1s
FITZ Fitzroy Crossi 83.92 231 LR LR 20 47 12.3
comp=Z,767nm,21.0s,baz=349,slow=33
BHJ Bhuj 83.92 300 *e*P **P** **20 13 47.9 +0.2**
BHJ AMB AMB 20 13 49.2
comp=Z,546nm,1.1s
OG22 Abries 83.93 355 *e*P **P** **20 13 49.4 +1.7**
ICHK Chekchek 83.95 316 *e*P **P** **20 13 48.0 0.0**
BCAM Yenicaga 83.96 336 *i*P **P** **20 13 48.4 +0.6**
BEST Besiri 83.99 328 *i*P **P** **20 13 49.2 +1.2**
STH Stony Hill 83.99 69 *i*P **P** **20 13 48.9 +0.8**
CAF Calviac 84.00 359⇑ *i*P **P** **20 13 48.2 +0.4**
comp=Z,1µm,1.2s
CAF Calviac 84.00 359⇑ *i*P **P** **20 13 48.2 +0.4**
CAF pmax pmax
comp=Z,1µm,1.2s
CAF Calviac 84.00 359⇑ *i*P **P** **20 13 48.2 +0.4**
comp=Z,1µm,1.2s
LFF La Frestale 84.00 359⇑ *i*P **P** **20 13 48.0 +0.3**
comp=Z,2µm,1.2s
LFF La Frestale 84.00 359⇑ *i*P **P** **20 13 48.0 +0.3**
LFF pmax pmax
comp=Z,2µm,1.2s
LFF La Frestale 84.00 359⇑ *i*P **P** **20 13 48.0 +0.3**
comp=Z,2µm,1.2s
VIVF Saint-Julien-l 84.00 357⇑ *i*P **P** **20 13 48.2 +0.4**
comp=Z,408nm,0.9s
VIVF Saint-Julien-l 84.00 357⇑ *i*P **P** **20 13 48.2 +0.4**
VIVF pmax pmax
comp=Z,408nm,0.9s
VIVF Saint-Julien-l 84.00 357⇑ *i*P **P** **20 13 48.2 +0.4**
comp=Z,408nm,0.9s
IBAF Bafgh 84.00 315 *e*P **P** **20 13 47.4 -0.8**
MBDF Montbardon 84.04 355⇑ *i*P **P** **20 13 48.8 +0.7**
comp=Z,426nm,0.9s
MBDF Montbardon 84.04 355⇑ *i*P **P** **20 13 48.8 +0.7**
MBDF pmax pmax
comp=Z,426nm,0.9s
MBDF Montbardon 84.04 355⇑ *i*P **P** **20 13 48.8 +0.7**
comp=Z,426nm,0.9s
GWJ Greenwich 84.04 69 *i*P **P** **20 13 48.9 +0.4**
PCJ Portland Cotta 84.05 69 *i*P **P** **20 13 49.4 +1.0**
PGB Panagyurishte 84.06 342 *i*P **P** **20 13 48.6 +0.4**
HOJ Hope 84.08 69 *i*P **P** **20 13 48.8 +0.3**
RKT Rikitea 84.10 139 *e*S **S** **20 24 10.4 +0.5**
comp=Z,863nm,29.8s
RKT *e*SS **SS** **20 29 41.0 +1.1**
comp=Z,936nm,30.0s
RKT Rikitea 84.10 139 *e*LR LR 20 40 23.9
comp=Z,5µm,24.8s,baz=330
RKT Rikitea 84.10 139 *e*T T 21 45 58.6
comp=Z,4.1nm,0.3s
PLE Pljevlja 84.12 346⇑ *i*P **P** **20 13 48.5 -0.1**
ELZG Elazig 84.16 330 *i*P **P** **20 13 48.8 -0.1**
VTS Vitosha 84.20 343 P **P** **20 13 48.5 -0.5**
VTS Vitosha 84.20 343 *i*P **P** **20 13 48.8 -0.2**
VTS Vitosha 84.20 343⇑ *i*P **P** **20 13 49.0 0.0**
IKLH Kolahrood 84.22 319 *e*P **P** **20 13 49.7 +0.3**
OG26 St.-Nazaire-De 84.25 356 *e*P **P** **20 13 50.4 +1.3**
GSI Gunungsitoli 84.26 265 *e*P **P** **20 13 49.5 0.0**
comp=Z,141nm,0.9s
DIM Dimitrovgrad 84.28 341 *i*P **P** **20 13 49.9 +0.7**
IZEF Zefreh 84.28 318 *e*P **P** **20 13 49.5 -0.2**
SURF Saint Ours 84.28 355 *e*P **P** **20 13 50.7 +1.3**
UPM Unac-Piva 84.32 346⇑ *i*P **P** **20 13 49.2 -0.5**
DIYA Diyarbakir 84.33 329 *i*P **P** **20 13 50.4 +0.7**
VLC Villacollemand 84.36 353 *e*P **P** **20 13 49.9 +0.3**
comp=Z,173nm,0.8s
PLD Plovdiv 84.39 342 P **P** **20 13 49.3 -0.5**
PLD Plovdiv 84.39 342 *i*P **P** **20 13 49.8 0.0**
OG25 Le Caire 84.40 356 *e*P **P** **20 13 51.2 +1.1**
BTAS Taskesti 84.46 337 *i*P **P** **20 13 50.1 -0.1**
IVA Berane 84.49 345⇑ *i*P **P** **20 13 50.1 -0.3**
GRTK Grand Turk 84.50 62 *e*P **P** **20 13 51.1 +0.4**
comp=Z,358nm,1.3s
MALT Malatya 84.50 331⇑ *i*P **P** **20 13 51.4 +0.8**
ELBA Catalca 84.52 339 *i*P **P** **20 13 50.1 -0.4**
ISAD Sadrabad 84.55 317 *e*P **P** **20 13 51.3 +0.2**
BR131 Keskin Array S 84.57 335 *e*P **P** **20 13 51.2 +0.2**
comp=Z,78nm,0.8s
BRTR Keskin Array B 84.58 335 P **P** **20 13 51.0 0.0**
BRTR PKKPbc **PKKPbc** **20 31 59.5 +0.6**
BRTR P'P' 20 40 00.4
BRTR Keskin Array B 84.58 335 P **P** **20 13 51.0 0.0**
comp=Z,93nm,0.8s,baz=51,slow=3.0,SNR=332
BRTR PKKPbc **PKKPbc** **20 31 59.5 +0.6**
comp=Z,0.8nm,0.7s,baz=193,slow=5.9,SNR=3.0
BRTR PKPPKP P'P'df 20 40 00.4 -12
comp=Z,1.6nm,0.9s,baz=117,slow=0.3,SNR=4.4
BRTR LR LR 20 56 47.9
comp=Z,980nm,21.1s,baz=37,slow=39
IMEH Mehriz 84.59 316 *e*P **P** **20 13 50.5 -0.8**
ANTO Ankara 84.66 335 *e*P **P** **20 13 51.8 +0.5**
ANTO pmax pmax
comp=Z,193nm,1.1s
ANTO Ankara 84.66 335 P **P** **20 13 52.1 +0.8**
SNR=19
ANTO Ankara 84.66 335 mb 20 13 53.2
SNR=36
ANTO Ankara 84.66 335⇑ *i*P **P** **20 13 51.5 +0.2**
ANTO Ankara 84.66 335 *e*P **P** **20 13 51.8 +0.5**
comp=Z,193nm,1.1s
BRY Bratogost 84.67 346⇑ *i*P **P** **20 13 50.9 -0.5**
MARD Mardin 84.67 328 *i*P **P** **20 13 51.7 +0.2**
AKCD Akcadag 84.68 341 *i*P **P** **20 13 52.0 +0.5**
KDZ Kurdzhali 84.68 341⇑ *i*P **P** **20 13 51.6 +0.3**
NKY Niksic 84.69 346⇑ *i*P **P** **20 13 50.3 -1.1**
TOUF Mont Tournerai 84.72 355 *e*P **P** **20 13 52.0 +0.3**
AUTN L'Aution 84.73 355 *e*P **P** **20 13 52.2 +0.4**
SAOF Saorge 84.73 355 *e*P **P** **20 13 51.6 +0.1**
NKME Niksic 84.74 346⇑ *i*P **P** **20 13 50.7 -0.9**
PVY Plav 84.75 345⇑ *i*P **P** **20 13 51.6 -0.2**
PINB Pinarbasi 84.78 332 *i*P **P** **20 13 51.8 -0.3**
STOF St-Etienne Org 84.81 356 *e*P **P** **20 13 53.1 +1.2**
LASF Ste Croix 84.81 357⇑ *i*P **P** **20 13 52.4 +0.5**
comp=Z,272nm,0.9s
LASF Ste Croix 84.81 357⇑ *i*P **P** **20 13 52.4 +0.5**
comp=Z,272nm,0.9s
IGAR Gharneh 84.82 318 *e*P **P** **20 13 52.2 -0.2**
LUCF Lucerm 84.84 355 *e*P **P** **20 13 52.5 +0.4**
MVIF Mont Vial 84.84 355 *e*P **P** **20 13 52.8 +0.6**
SMRF Simiane la Rot 84.84 356⇑ *i*P **P** **20 13 53.1 +1.0**
comp=Z,1µm,1.0s
SMRF Simiane la Rot 84.84 356⇑ *i*P **P** **20 13 53.1 +1.0**
comp=Z,1µm,1.0s
SBF Sospel 84.86 355⇑ *i*P **P** **20 13 52.2 0.0**
comp=Z,1µm,1.0s
SBF Sospel 84.86 355⇑ *i*P **P** **20 13 52.2 0.0**
SBF pmax pmax
comp=Z,1µm,1.0s
SBF Sospel 84.86 355⇑ *i*P **P** **20 13 52.2 0.0**
comp=Z,1µm,1.0s
BBAL Bala 84.88 335 *i*P **P** **20 13 52.8 +0.3**
CISI Cisompet, Garu 84.95 251 *e*P P 20 13 49.0 -4.0
comp=Z,60nm,0.8s
REVF Revere 84.99 355 *e*P **P** **20 13 53.1 +0.3**
CALN Calern 85.00 355 *e*P **P** **20 13 53.4 +0.4**
PDG Podgorica 85.02 346 P **P** **20 13 52.7 -0.2**
TTG Podgorica 85.02 346⇑ *i*P **P** **20 13 52.8 -0.2**
ASAR Alice Springs 85.03 222 P **P** **20 13 52.8 -0.3**
ASAR PKiKP **PKiKP** **20 19 03.4 -1.5**
ASAR PKKPbc **PKKPbc** **20 31 58.6 -0.4**
ASAR SKKPbc SKKPbc 20 35 33.6 -2.4
ASAR P'P' 20 40 02.8
ASAR Alice Springs 85.03 222 P **P** **20 13 52.8 -0.3**
comp=Z,42nm,0.8s,baz=26,slow=5.5,SNR=309
ASAR PKiKP **PKiKP** **20 19 03.4 -1.5**
comp=Z,1.3nm,0.9s,baz=46,slow=1.0,SNR=3.9
ASAR PKKPbc **PKKPbc** **20 31 58.6 -0.4**
comp=Z,1.3nm,0.7s,baz=193,slow=2.0,SNR=7.5
ASAR SKKPbc SKKPbc 20 35 33.6 -2.4
comp=Z,1.6nm,0.9s,baz=201,slow=1.1,SNR=6.9
ASAR PKPPKP **P'P'df** **20 40 02.8 +0.1**
comp=Z,2.3nm,0.9s,baz=201,slow=2.5,SNR=7.3
ASAR LR LR 20 47 04.2
comp=Z,1µm,21.9s,baz=22,slow=32
IVIS Veis 85.03 323 *e*P **P** **20 13 51.7 -1.6**
MMB Musomiste 85.07 342⇑ *i*P **P** **20 13 53.7 +0.4**
SKO Skopje 85.11 344 P **P** **20 13 53.1 -0.4**
SKO Skopje 85.11 344 *i*P **P** **20 13 53.5 0.0**
comp=Z,261nm,1.0s
HCY Herceg Novi 85.12 346⇑ *i*P **P** **20 13 53.2 -0.3**
AVNT Avonos 85.12 333 *i*P **P** **20 13 54.3 +0.5**
JTS JuntasAbangare 85.17 80 *e*P **P** **20 13 54.0 -0.1**
comp=Z,74nm,1.5s
TREF Treveresse 85.20 356 *e*P **P** **20 13 55.5 +1.6**
BUM Brajici-Budva 85.20 346⇑ *i*P **P** **20 13 53.3 -0.7**
FRF La Foret Royal 85.20 355⇑ *i*P **P** **20 13 53.9 0.0**
comp=Z,693nm,0.9s
FRF La Foret Royal 85.20 355⇑ *i*P **P** **20 13 53.9 0.0**
FRF pmax pmax
comp=Z,693nm,0.9s
FRF La Foret Royal 85.20 355⇑ *i*P **P** **20 13 53.9 0.0**
comp=Z,693nm,0.9s
SART Tekirdag 85.23 340 *i*P **P** **20 13 53.4 -0.8**
BORA Eskisehir 85.25 337 *i*P **P** **20 13 54.0 -0.3**
ARMA Armidale 85.25 204 *e*P **P** **20 13 55.5 +1.4**
comp=Z,148nm,1.4s
ALN Alexandroupoli 85.28 340 P **P** **20 13 54.0 -0.3**
NVR Nevrokopi 85.28 342 P **P** **20 13 54.2 -0.1**
LEPF PUYLOUBIER 85.29 356 *e*P **P** **20 13 55.4 +1.1**
ULDT Uludag 85.31 338 *i*P **P** **20 13 54.9 +0.1**
ATAB Bozova 85.32 330 *i*P **P** **20 13 55.9 +1.3**
POO Poona 85.35 294⇑ *i*PS **P** **20 13 55.0 0.0**
comp=Z,239nm,0.9s
POO *e*P **P** **20 13 55.0 0.0**
POO AMB AMB 20 13 56.0
comp=Z,461nm,1.0s
POO *i*PCP pP 20 13 58.0 -9.1
POO *i*PP **PP** **20 17 14.0 +1.2**
POO *e*SS SS 20 30 01.0 +3.6
LMR La Mourre 85.44 355⇑ *i*P **P** **20 13 55.2 +0.2**
comp=Z,1µm,1.1s
LMR La Mourre 85.44 355⇑ *i*P **P** **20 13 55.2 +0.2**
LMR pmax pmax
comp=Z,1µm,1.1s
LMR La Mourre 85.44 355⇑ *i*P **P** **20 13 55.2 +0.2**
comp=Z,1µm,1.1s
GELF Grande-Etoile 85.44 356 *e*P **P** **20 13 56.0 +0.9**
ULC Ulcinj 85.48 346⇑ *i*P **P** **20 13 54.8 -0.5**
SEYT Eskypehyr 85.49 337 *i*P **P** **20 13 54.7 -0.8**
BERF Bertagne 85.50 356 *e*P **P** **20 13 56.5 +1.0**
VAY Valandovo 85.55 343 P **P** **20 13 55.1 -0.5**
VAY Valandovo 85.55 343 *i*P **P** **20 13 54.9 -0.7**
comp=Z,200nm,1.3s
SRS Serrai 85.56 342 P **P** **20 13 54.7 -1.0**
PHP Peshkopia 85.56 345 P **P** **20 13 54.6 -1.2**
MTLF Montolieu 85.58 358⇑ *i*P **P** **20 13 56.2 +0.4**
comp=Z,597nm,1.1s
MTLF Montolieu 85.58 358⇑ *i*P **P** **20 13 56.2 +0.4**
MTLF pmax pmax
comp=Z,597nm,1.1s
MTLF Montolieu 85.58 358⇑ *i*P **P** **20 13 56.2 +0.4**
comp=Z,597nm,1.1s
KNT Kendrikon 85.64 343 P **P** **20 13 55.8 -0.3**
GZT Gaziantep 85.65 331 *i*P **P** **20 13 56.7 +0.3**
OSSF Osses 85.68 1 *e*P **P** **20 13 55.8 -0.4**
ORDF Ordiarp 85.72 1 *e*P **P** **20 13 56.2 -0.3**
SJPF Ste Jean 85.82 1 *e*P **P** **20 13 57.8 +0.8**
comp=Z,222nm,0.7s
SJPF Ste Jean 85.82 1 *e*P **P** **20 13 57.8 +0.8**
SJPF pmax pmax
comp=Z,222nm,0.7s
SJPF Ste Jean 85.82 1 *e*P **P** **20 13 57.8 +0.8**
comp=Z,222nm,0.7s
ATE Arette 85.85 1 *e*P **P** **20 13 57.2 +0.1**
REYF Montagne du Re 85.87 0 *e*P **P** **20 13 57.2 -0.1**
LARF Larrau 85.90 1 *e*P **P** **20 13 58.2 +0.8**
EPF Esparros 85.91 360⇑ *i*P **P** **20 13 57.0 -0.5**
comp=Z,347nm,1.2s
EPF Esparros 85.91 360⇑ *i*P **P** **20 13 57.0 -0.5**
EPF pmax pmax
comp=Z,347nm,1.2s
EPF Esparros 85.91 360⇑ *i*P **P** **20 13 57.0 -0.5**
comp=Z,347nm,1.2s
GRG Griva 85.93 343 P **P** **20 13 57.0 -0.6**
LRDF Laroque-de-Fa 85.98 358 *e*P **P** **20 13 58.4 +0.7**
MLS Moulis 85.98 359 *e*P **P** **20 13 58.1 +0.3**
DURS Dursunbey 85.98 338 *i*P **P** **20 13 56.2 -1.7**
ETSF Etsaut 86.04 0 *e*P **P** **20 13 58.7 +0.6**
comp=Z,381nm,0.9s
ETSF Etsaut 86.04 0 *e*P **P** **20 13 58.7 +0.6**
ETSF pmax pmax
comp=Z,381nm,0.9s
ETSF Etsaut 86.04 0 *e*P **P** **20 13 58.7 +0.6**
comp=Z,381nm,0.9s
BALY Balya 86.05 339 *i*P **P** **20 13 57.6 -0.6**
BIA Bitola 86.06 344 *i*P **P** **20 13 57.0 -1.2**
MELF Melles 86.07 359 *e*P **P** **20 13 58.6 +0.3**
PGF Pioggiola 86.07 353⇑ *i*P **P** **20 13 58.3 0.0**
comp=Z,2µm,1.0s
PGF Pioggiola 86.07 353⇑ *i*P **P** **20 13 58.3 0.0**
PGF pmax pmax
comp=Z,2µm,1.0s
PGF Pioggiola 86.07 353⇑ *i*P **P** **20 13 58.3 0.0**
comp=Z,2µm,1.0s
KDHN Kadinhani 86.11 335 *i*P **P** **20 13 55.9 -2.7**
KAD Karad 86.12 293 *i*P **P** **20 13 58.9 0.0**
RESF Ens 86.13 360 *e*P **P** **20 13 59.2 +0.5**
CARF Carcanieres 86.21 358 *e*P **P** **20 13 58.6 -0.4**
BOLV Bolvadin 86.22 336 *i*P **P** **20 13 59.0 -0.2**
OUR Ouranopolis 86.24 342 P **P** **20 13 58.4 -0.6**
FNA Florina 86.28 344 P **P** **20 13 57.9 -1.4**
PLG Polygyros 86.30 342 P **P** **20 13 58.4 -1.0**
KUZU Kuzuini 86.34 331 *i*P **P** **20 13 59.2 -0.5**
FILF Fillols 86.35 358 *e*P **P** **20 14 00.2 +0.5**
SJAF Saint Jean de 86.42 358 *e*P **P** **20 13 59.9 0.0**
SDDR Presa de Saban 86.44 64 *e*P **P** **20 14 00.5 +0.1**
comp=Z,78nm,0.9s
DEMI Demirci 86.46 338 *i*P **P** **20 13 59.9 -0.4**
OUZ Omahuta 86.47 185 *e*P **P** **20 14 00.9 +1.0**
comp=Z,48nm,1.0s
VALF Valcebollere 86.52 359 *e*P **P** **20 14 00.7 +0.1**
GULE Gulek 86.54 333 *i*P **P** **20 14 00.9 0.0**
IPAR Pars 86.61 316 *e*P **P** **20 14 01.4 0.0**
PGAV Gavieira, Arco 86.70 6 *e*P **P** **20 14 01.3 -0.1**
comp=Z,132nm,1.2s
PGAV Gavieira, Arco 86.70 6 *e*SKS Sx 20 24 42.7
PGAV Gavieira, Arco 86.70 6 *e*LR LR 20 42 42.8
comp=Z,1µm,20.0s
YURE YUREGIR 86.72 332 *i*P **P** **20 13 59.8 -1.7**
AKHS Akhisar 86.82 339 *i*P **P** **20 14 01.1 -0.9**
PCED Cedros 86.86 22 *e*P **P** **20 14 02.2 +0.1**
comp=Z,432nm,0.8s
ROSA Rosais 86.88 22 *e*P **P** **20 14 01.1 -1.1**
comp=Z,935nm,1.6s
KHAL Karahalli 86.91 337 *i*P **P** **20 14 01.4 -1.2**
OSPF L'Ospedale 86.93 353 *e*P **P** **20 14 02.8 +0.3**
PBRG Braganca 86.95 5⇑ *i*P **P** **20 14 02.5 -0.1**
comp=Z,119nm,1.0s
PCAB Cabril 86.97 6 *e*P **P** **20 14 02.5 -0.1**
comp=Z,131nm,1.2s
PMAN Manadas 86.99 22 *e*P **P** **20 14 03.8 +1.0**
comp=Z,472nm,1.3s
MANT Manisa 87.02 338 *i*P **P** **20 14 02.0 -1.3**
PICO Pico 87.04 22 *e*P **P** **20 14 03.2 +0.1**
IBND Bandar-abas 87.08 312 *e*P **P** **20 14 03.4 0.0**
IKAZ Kazeroun 87.18 317 *e*P **P** **20 14 03.4 -0.9**
YAYL Yayladag 87.31 331 *i*P **P** **20 14 04.0 -0.5**
POLO Lamas de Olo 87.32 6⇑ *i*P **P** **20 14 04.3 -0.1**
comp=Z,70nm,1.0s
XOR Xorichti 87.33 342 P **P** **20 14 02.9 -1.5**
PVRL Vila Real 87.42 6⇑ *i*P **P** **20 14 04.7 -0.2**
comp=Z,220nm,1.2s
JAN Janina 87.47 344 P **P** **20 14 03.9 -1.2**
PTO Porto 87.50 6 *e*P **P** **20 14 05.1 0.0**
comp=Z,215nm,1.2s
MVO Moncorvo 87.57 5⇑ *i*P **P** **20 14 05.4 -0.2**
comp=Z,250nm,1.0s
MVO Moncorvo 87.57 5 *e*SKS Sx 20 25 06.3
MVO Moncorvo 87.57 5 *e*LR LR 20 42 58.1
comp=Z,1µm,20.0s
GOA Goa 87.77 292 *e*P **P** **20 14 06.0 -0.8**
GOA AMB AMB 20 14 06.3
comp=Z,188nm,1.9s
CUC Castrocucco 87.90 348 *e*P **P** **20 14 05.9 -1.3**
comp=Z,58nm,0.8s
PVIS Viseu 87.97 6 *e*P **P** **20 14 07.3 -0.2**
comp=Z,288nm,1.1s
AYDN Tasoluk 87.97 338 *i*P **P** **20 14 06.0 -1.5**
MTE Manteigas 88.30 6⇑ *i*P **P** **20 14 08.9 -0.2**
comp=Z,305nm,1.1s
MTE Manteigas 88.30 6 *e*SKS **S** **20 24 48.6 -2.4**
MTE Manteigas 88.30 6 *e*LR LR 20 44 05.1
comp=Z,840nm,18.0s
MTE Manteigas 88.30 6 *e*P **P** **20 14 08.7 -0.4**
comp=Z,216nm,0.9s
CMLA Cha da Macela 88.40 20 *i*P **P** **20 14 11.5 +2.0**
CMLA Cha da Macela 88.40 20 *e*P **P** **20 14 09.9 +0.4**
comp=Z,175nm,0.9s
BART Pico Bartolome 88.46 20 *e*P **P** **20 14 09.8 -0.1**
comp=Z,307nm,1.2s
PTL Penteli 88.47 341 P **P** **20 14 07.7 -2.2**
EFP Efpalio 88.48 343 P **P** **20 14 08.5 -1.4**
BANOM Banah 88.49 311 P **P** **20 14 09.9 -0.3**
SNR=39
BANOM Banah 88.49 311 mb 20 14 12.2
SNR=65
XMIS Christmas Isla 88.56 251 *e*P **P** **20 14 10.1 -0.4**
comp=Z,720nm,1.1s
TIP Timpagrande 88.58 347 P **P** **20 14 08.8 -1.6**
TIP Timpagrande 88.58 347 *e*P **P** **20 14 10.3 -0.1**
comp=Z,96nm,1.1s
PCAS Casmilo, Conde 88.58 7⇑ *i*P **P** **20 14 10.1 -0.3**
comp=Z,246nm,1.1s
PCAS Casmilo, Conde 88.58 7 *e*SKS Sx 20 25 40.9
BDRM Kayabasi 88.64 338 *i*P **P** **20 14 09.4 -1.3**
KLV Kalavryta, Ach 88.80 343 P **P** **20 14 08.6 -2.9**
PCBR Castelo Branco 88.86 6⇑ *i*P **P** **20 14 11.0 -0.7**
comp=Z,196nm,1.2s
AKAS Kas 88.91 336 *i*P **P** **20 14 11.4 -0.8**
PTOM Tomar 89.02 6⇑ *i*P **P** **20 14 11.8 -0.6**
comp=Z,329nm,1.0s
VSL Villasalto 89.07 353 *e*P **P** **20 14 11.5 -1.1**
comp=Z,100nm,0.9s
UMR Umm Al-Rimmam 89.10 320 *e*P **P** **20 14 12.0 -0.9**
UMR AMb AMB 20 14 13.5
comp=Z,217nm,0.8s
CSS Prodhromos 89.12 333 *e*P **P** **20 14 12.6 -0.4**
comp=Z,25nm,1.1s
ESDC Sonseca Array 89.20 3 P **P** **20 14 12.8 -0.5**
ESDC PP **PP** **20 17 46.4 +3.5**
ESDC PKKPbc **PKKPbc** **20 31 48.0 +0.2**
ESDC P'P' 20 39 55.1

ESDC	**Sonseca Array**	**89.20**	**3**	P		**P**		**20 14 12.8**	**-0.5**	
	comp=Z,43nm,0.9s,baz=356,slow=4.2,SNR=144									
ESDC				PP		**PP**		**20 17 46.4**	**+3.5**	
	comp=Z,6.4nm,0.9s,baz=351,slow=7.6,SNR=4.8									
ESDC				PKKPbc		**PKKPbc**		**20 31 48.0**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=177,slow=1.7,SNR=6.1									
ESDC				PKPPKP		P'P'df		20 39 55.1	-8.4	
	comp=Z,0.5nm,0.5s,baz=331,slow=1.5,SNR=3.5									
ESLA	**Sonseca Array**	**89.20**	**3**	*e*P		**P**		**20 14 12.7**	**-0.6**	
	comp=Z,64nm,1.3s									
PSMN	**Pico do Norte,**	**89.23**	**20**	*e*P		**P**		**20 14 13.1**	**-0.3**	
	comp=Z,150nm,0.8s									
PMRV	**Marv??o**	**89.28**	**6**⇑	*i*P		**P**		**20 14 12.8**	**-0.9**	
	comp=Z,226nm,1.6s									
PMRV	**Marv??o**	**89.28**	**6**	*e*SKS		Sx		20 26 24.7		
PMRV	**Marv??o**	**89.28**	**6**	*e*LR		LR		20 44 10.4		
	comp=Z,991nm,24.0s									
ARG	**Arkhangelos**	**89.29**	**338**	P		**P**		**20 14 12.2**	**-1.5**	
PAB	**San Pablo**	**89.31**	**3**	*e*P		**P**		**20 14 13.3**	**-0.6**	
PAB				pmax		pmax				
	comp=Z,20nm,1.3s									
PAB	**San Pablo**	**89.31**	**3**	*e*P		**P**		**20 14 13.3**	**-0.6**	
	comp=Z,20nm,1.3s									
URZ	**Urewera**	**89.36**	**182**	P		**P**		**20 14 12.5**	**-1.1**	
URZ				P'P'				20 40 01.1		
URZ	**Urewera**	**89.36**	**182**	P		**P**		**20 14 12.5**	**-1.1**	
	comp=Z,18nm,1.0s,baz=307,slow=5.1,SNR=3.7									
URZ				PKPPKP		P'P'df		20 40 01.1	+8.4	
	comp=Z,14nm,0.9s,baz=164,slow=4.3,SNR=5.6									
URZ				LR		LR		20 48 20.9		
	comp=Z,3μm,21.7s,baz=46,slow=32									
UOSS	**Wadi Hilu**	**89.37**	**311**	P		**P**		**20 14 13.6**	**-0.7**	
	comp=Z,320nm,0.8s,SNR=22									
LSP	**Las Mesas**	**89.42**	**61**	*e*P		**P**		**20 14 15.3**	**+0.7**	
RST	**Umm Al-Ruwaisa**	**89.43**	**320**	*e*P		**P**		**20 14 13.6**	**-0.9**	
RST				AMb		AMB		20 14 18.5		
	comp=Z,1μm,0.9s									
KBD	**Kabd**	**89.44**	**320**	*e*P		**P**		**20 14 13.8**	**-0.7**	
KBD				AMb		AMB		20 14 14.8		
	comp=Z,139nm,0.9s									
LRS	**Lares**	**89.46**	**61**	*e*P		**P**		**20 14 14.9**	**+0.1**	
AOPR	**Arecibo Observ**	**89.46**	**61**	*e*P		**P**		**20 14 15.3**	**+0.5**	
	comp=Z,171nm,1.3s									
CRPR	**Cabo Rojo, PR**	**89.54**	**61**	*e*P		**P**		**20 14 16.0**	**+0.9**	
	comp=Z,310nm,1.4s									
STKA	**Stephens Creek**	**89.58**	**212**	*e*P		**P**		**20 14 15.5**	**+0.7**	
STKA				PKKPbc		**PKKPbc**		**20 31 48.2**	**-0.1**	
STKA	**Stephens Creek**	**89.58**	**212**	P		**P**		**20 14 15.4**	**+0.6**	
	comp=Z,78nm,0.9s,baz=349,slow=5.7,SNR=72									
STKA				PKKPbc		**PKKPbc**		**20 31 48.2**	**-0.1**	
	comp=Z,2.8nm,1.0s,baz=239,slow=5.4,SNR=4.7									
STKA				LR		LR		20 52 38.1		
	comp=Z,2μm,20.3s,baz=20,slow=34									
PMTG	**Montargil**	**89.58**	**6**	*e*P		**P**		**20 14 14.4**	**-0.6**	
	comp=Z,126nm,2.0s									
PMTG	**Montargil**	**89.58**	**6**	*e*SKS		Sx		20 25 52.8		
CEL	**Celeste**	**89.60**	**348**	*e*P		**P**		**20 14 13.0**	**-2.2**	
	comp=Z,210nm,0.8s									
PMAFR	**Mafra**	**89.61**	**7**	*e*P		**P**		**20 14 15.1**	**-0.1**	
	comp=Z,459nm,1.3s									
PMAFR	**Mafra**	**89.61**	**7**	*e*SKS		Sx		20 25 08.4		
ASHO	**Ashiyiah**	**89.66**	**311**	P		**P**		**20 14 15.1**	**-0.6**	
	SNR=31									
ASHO	**Ashiyiah**	**89.66**	**311**	mb				20 14 17.1		
	SNR=41									
CELP	**Cerrillos**	**89.78**	**61**	*e*P		**P**		**20 14 16.6**	**+0.3**	
OBIP	**Obispado Ponce**	**89.79**	**61**	*e*P		**P**		**20 14 16.5**	**+0.2**	
	comp=Z,502nm,1.4s									
PESTR	**Estremoz**	**89.82**	**6**⇑	*i*P		**P**		**20 14 15.5**	**-0.7**	
	comp=Z,230nm,1.1s									
PESTR	**Estremoz**	**89.82**	**6**	*e*SKS		Sx		20 26 28.5		
PACT	**Alcochete**	**89.84**	**7**⇑	*i*P		**P**		**20 14 15.8**	**-0.4**	
	comp=Z,320nm,1.4s									
LIS	**Lisbon**	**89.86**	**7**	*e*P		**P**		**20 14 17.0**	**+0.7**	
LIS				AMS		AMS		20 51 59.4		
	comp=Z,2μm,20.9s									
SJG	**San Juan**	**89.98**	**60**	*e*P		**P**		**20 14 17.3**	**+0.1**	
	comp=Z,596nm,1.7s									
HOQ	**Hoqain**	**90.00**	**309**	P		**P**		**20 14 16.7**	**-0.5**	
	SNR=24									
WBK	**Wadi Bani Khal**	**90.00**	**308**	P		**P**		**20 14 18.2**	**+0.8**	
	SNR=16									
CBYP	**Canovanas**	**90.01**	**60**	*e*P		**P**		**20 14 16.9**	**-0.5**	
	comp=Z,61nm,0.8s									
SMDO	**Samad**	**90.08**	**309**	P		**P**		**20 14 18.1**	**+0.3**	
	SNR=25									
HUMP	**Col San Antoni**	**90.12**	**60**	*e*P		**P**		**20 14 18.5**	**+0.7**	
EVOP	**Sao Brissos**	**90.13**	**6**⇑	*i*P		**P**		**20 14 16.8**	**-0.8**	
EVOP				pmax		pmax				
	comp=Z,300nm,1.2s									
EVOP	**Sao Brissos**	**90.13**	**6**⇑	*i*P		**P**		**20 14 16.8**	**-0.8**	
	comp=Z,300nm,1.2s									
EVO	**Evora**	**90.13**	**6**⇑	*i*P		**P**		**20 14 16.8**	**-0.8**	
	comp=Z,300nm,1.2s									
EVO				*e*R						
	comp=Z,2μm,20.8s									
EVO	**Evora**	**90.13**	**6**⇑	*i*P		**P**		**20 14 17.0**	**-0.6**	
	comp=Z,136nm,1.1s									
PALK	**Pallekele**	**90.13**	**282**	P		**P**		**20 14 18.6**	**+0.6**	
	comp=Z,522nm,1.0s,SNR=16									
PALK	**Pallekele**	**90.13**	**282**	P		**P**		**20 14 19.0**	**+1.0**	
	SNR=7.4									
PALK	**Pallekele**	**90.13**	**282**	mb				20 14 20.1		
	SNR=16									
PALK	**Pallekele**	**90.13**	**282**	*e*P		**P**		**20 14 18.4**	**+0.3**	
	comp=Z,236nm,1.1s									
BKZ	**Black Stump Fm**	**90.28**	**183**	*e*P		**P**		**20 14 16.6**	**-1.4**	
	comp=Z,30nm,0.9s									
MTP	**Monte Pirata**	**90.32**	**60**	*e*P		**P**		**20 14 18.6**	**-0.2**	
	comp=Z,157nm,0.7s									
PNCL	**Nicolau / Gran**	**90.51**	**7**	*e*P		**P**		**20 14 19.0**	**-0.4**	
	comp=Z,147nm,1.6s									
PNCL	**Nicolau / Gran**	**90.51**	**7**	*e*SKS				20 26 37.7		
PBAR	**Barrancos**	**90.55**	**6**⇑	*i*P		**P**		**20 14 19.0**	**-0.6**	
	comp=Z,307nm,1.5s									
ARQ	**Araqi**	**90.58**	**310**	P		**P**		**20 14 19.8**	**-0.2**	
	SNR=39									
ARQ	**Araqi**	**90.58**	**310**	mb				20 14 20.4		
	SNR=41									
JMDO	**Jabal Madar**	**90.63**	**308**	P		**P**		**20 14 20.3**	**+0.1**	
	SNR=48									
PBEJ	**Beja**	**90.64**	**6**	*e*P		**P**		**20 14 19.9**	**-0.1**	
	comp=Z,164nm,1.1s									
MESJ	**Messejana**	**90.80**	**7**	*e*P		**P**		**20 14 21.3**	**+0.6**	
MESJ				AMS		AMS		20 52 31.9		
	comp=Z,1μm,22.3s									
LAST	**Lasithi**	**90.91**	**339**	P		**P**		**20 14 19.4**	**-2.0**	
IDI	**Anoyia**	**90.92**	**340**	*e*P		**P**		**20 14 18.5**	**-2.9**	
	comp=Z,112nm,1.4s									
IDI	**Anoyia**	**90.92**	**340**	P		**P**		**20 14 18.9**	**-2.5**	
	comp=Z,24nm,0.9s,baz=14,slow=8.3									
PCVE	**Castro Verde**	**91.02**	**6**	*e*P		**P**		**20 14 19.6**	**-2.2**	
	comp=Z,188nm,1.9s									
CDVI	**St. Croix**	**91.03**	**60**	*e*P		**P**		**20 14 22.2**	**+0.2**	
	comp=Z,211nm,0.7s									
PTEO	**Sao Teotonio**	**91.06**	**7**	*e*P		**P**		**20 14 21.8**	**-0.1**	
	comp=Z,148nm,1.1s									
PVAQ	**Vaqueiros**	**91.27**	**6**⇑	*i*P		**P**		**20 14 22.7**	**-0.2**	
	comp=Z,200nm,1.3s									
PVAQ	**Vaqueiros**	**91.27**	**6**	*e*SKS		Sx		20 25 13.6		
PVAQ	**Vaqueiros**	**91.27**	**6**	*e*LR		LR		20 45 26.4		
	comp=Z,1μm,20.0s									
MORF	**Marmelete**	**91.30**	**7**⇑	*i*P		**P**		**20 14 22.6**	**-0.6**	
	comp=Z,212nm,1.6s									
PBDV	**Barranco-do-Ve**	**91.42**	**6**	*e*P		**P**		**20 14 23.8**	**+0.1**	
	comp=Z,214nm,1.7s									
PBDV	**Barranco-do-Ve**	**91.42**	**6**	*e*SKS		Sx		20 26 41.6		
TRD	**Trivandrum**	**91.44**	**285**	AMB		AMB		20 14 14.9		
	comp=Z,75nm,1.3s									
TRD				*e*P		**P**		**20 14 22.3**	**-1.7**	
PFVI	**Vila Bisbo**	**91.46**	**7**	*e*P		**P**		**20 14 23.0**	**-0.8**	
	comp=Z,228nm,1.5s									
PFVI	**Vila Bisbo**	**91.46**	**7**	*e*SKS		Sx		20 25 16.0		
CMAH	**Djebel Manchou**	**92.07**	**354**	P		**P**		**20 14 24.1**	**-2.6**	
BBOO	**Buckleboo**	**92.35**	**216**	*e*P		**P**		**20 14 27.2**	**-0.5**	
	comp=Z,771nm,1.4s									
CASM	**Ain Smara**	**92.49**	**355**	P		**P**		**20 14 27.8**	**-0.9**	
CTEI	**Djebel Teioual**	**92.69**	**355**	P		**P**		**20 14 29.6**	**-0.1**	
CKHR	**Kef el Ahmar**	**92.78**	**356**	P		**P**		**20 14 30.2**	**+0.1**	
KEST	**Kesra**	**92.81**	**352**	*e*P		**P**		**20 14 29.6**	**-0.6**	
KEST				PP		**PP**		**20 18 10.6**	**-1.1**	
KEST				*e*PP		PP		20 18 11.2	-0.4	
KEST	**Kesra**	**92.81**	**352**	P		**P**		**20 14 29.8**	**-0.4**	
	comp=Z,25nm,0.9s,baz=262,slow=1.2,SNR=38									
KEST				PP		**PP**		**20 18 10.6**	**-1.1**	
	comp=Z,7.7nm,1.0s,baz=247,slow=7.6,SNR=3.5									
FORT	**Forrest**	**93.73**	**223**	*e*P		**P**		**20 14 33.7**	**-0.4**	
	comp=Z,100nm,1.1s									
PMOZ	**Porto Moniz, M**	**94.75**	**14**	*e*LR		LR		20 48 22.7		
	comp=Z,1μm,20.0s									
SDV	**Santo Domingo**	**94.90**	**69**	*e*P		**P**		**20 14 40.6**	**+0.4**	
	comp=Z,15nm,0.9s									
FUL	**Funchal**	**94.96**	**14**	*e*P		P		20 14 32.2	-7.8	
	comp=Z,296nm,0.3s									
RPZ	**Rata Peaks**	**95.09**	**187**	P		**P**		**20 14 40.1**	**+0.1**	
RPZ	**Rata Peaks**	**95.09**	**187**	P		**P**		**20 14 40.1**	**+0.1**	
	comp=Z,11nm,0.6s,baz=24,slow=10.0									
RPZ				LR		LR		20 52 24.2		
	comp=Z,4μm,21.4s,baz=307,slow=32									
COCO	**West Island**	**95.21**	**257**	*i* P		**P**		**20 14 42.5**	**+1.3**	
COCO	**West Island**	**95.21**	**257**	*e*P		**P**		**20 14 42.1**	**+0.9**	
	comp=Z,102nm,1.4s									
ROSC	**El Rosal**	**95.90**	**75**	*e*P		**P**		**20 14 46.1**	**+1.1**	
ROSC	**El Rosal**	**95.90**	**75**	P		**P**		**20 14 45.8**	**+0.8**	
	comp=Z,16nm,0.8s,baz=270,slow=20,SNR=4.1									
ROSC				LR		LR		21 02 37.8		
	comp=Z,358nm,18.4s,baz=354,slow=38									
MDT	**Midelt**	**96.01**	**4**	P		**P**		**20 14 44.2**	**-0.8**	
MDT	**Midelt**	**96.01**	**4**	P		**P**		**20 14 44.2**	**-0.8**	
	comp=Z,30nm,1.0s,baz=20,slow=5.3,SNR=34									
OTAV	**Otavalo**	**97.01**	**81**	*e*P		Pdif		20 14 50.6	+0.3	
	comp=Z,8.9nm,0.8s									
OTAV				*e*PP		PP		20 18 51.0	+5.0	
ABTO	**Aybut**	**97.25**	**309**	P		**P**		**20 14 50.4**	**-0.3**	
	SNR=9.2									
TAM	**Tamanrasset**	**105.94**	**355**	*e*P		**Pdif**		**20 15 28.7**	**-0.8**	
TAM				pmax		pmax				
	comp=Z,9.0nm,1.1s									
TAM	**Tamanrasset**	**105.94**	**355**	*e*P		**Pdif**		**20 15 28.7**	**-0.8**	
	comp=Z,8.5nm,1.1s									
SAML	**Samuel**	**113.55**	**74**	*e*P		**Pdif**		**20 16 03.9**	**+0.7**	
SAML				*e*PP		**PP**		**20 20 46.9**	**-0.9**	
TOA0	**Torodi Ar. Sit**	**115.67**	**358**	*e*P		**PKPdf**		**20 19 58.7**	**-1.3**	
TORD	**Torodi Ar. Bea**	**115.67**	**358**	Pdif		**Pdif**		**20 16 12.3**	**-0.4**	
TORD				PKP		**PKiKP**		**20 19 59.0**	**-1.0**	
TORD				PP		**PP**		**20 20 57.8**	**-3.9**	
TORD				SKP				20 23 29.7		
TORD				PKKPbc		**PKKPbc**		**20 30 30.0**	**-0.4**	
TORD	**Torodi Ar. Bea**	**115.67**	**358**	Pdiff		**Pdif**		**20 16 12.3**	**-0.4**	
	comp=Z,1.4nm,1.1s,baz=8.6,slow=2.9,SNR=4.8									
TORD				PKP		**PKiKP**		**20 19 59.0**	**-1.0**	
	comp=Z,28nm,0.8s,baz=349,slow=2.3,SNR=147									
TORD				PP		**PP**		**20 20 57.8**	**-3.9**	
	comp=Z,10nm,0.8s,baz=1.3,slow=7.1,SNR=4.2									
TORD				SKP				20 23 29.7		
	comp=Z,3.5nm,0.8s,baz=347,slow=2.1,SNR=5.8									
TORD				PKKPbc		**PKKPbc**		**20 30 30.0**	**-0.4**	
	comp=Z,4.1nm,0.9s,baz=163,slow=3.1,SNR=9.8									
LPAZ	**La Paz**	**116.18**	**83**	*e*PKPdf		**PKPdf**		**20 20 01.6**	**+0.1**	
LPAZ				PP		**PP**		**20 21 09.0**	**+1.8**	
LPAZ				PKKPab		**PKKPbc**		**20 32 32.2**	**+3.0**	
LPAZ	**La Paz**	**116.18**	**83**	PKP		**PKPdf**		**20 20 01.6**	**+0.1**	
	comp=Z,2.2nm,0.6s,baz=340,slow=6.2,SNR=4.8									
LPAZ				PP		**PP**		**20 21 09.0**	**+1.8**	
	comp=Z,5.1nm,1.0s,baz=45,slow=17,SNR=4.0									
LPAZ				PKKPab		**PKKPbc**		**20 30 32.2**	**+3.0**	
	comp=Z,3.2nm,0.8s,baz=136,slow=4.0,SNR=4.1									
SIV	**San Ignacio**	**120.31**	**77**	PKP		**PKPdf**		**20 20 07.8**	**-1.0**	
SIV				PP		**PP**		**20 21 33.3**	**-1.8**	
SIV				PKKPbc		**PKKPbc**		**20 30 14.7**	**+1.0**	
SIV	**San Ignacio**	**120.31**	**77**	PKP		**PKPdf**		**20 20 07.8**	**-1.0**	
	comp=Z,11nm,0.9s,baz=225,slow=0.1,SNR=16									
SIV				PP		**PP**		**20 21 33.3**	**-1.8**	
	comp=Z,12nm,1.0s,baz=330,slow=5.8,SNR=3.1									
SIV				PKKPbc		**PKKPbc**		**20 30 14.7**	**+1.0**	
	comp=Z,5.0nm,1.0s,baz=146,slow=4.9,SNR=7.2									
LVC	**Limon Verde**	**120.41**	**89**	*e*P		**PKPdf**		**20 20 08.8**	**-0.3**	
KMBO	**Kilima Mbogo**	**120.89**	**315**	P		**PKPdf**		**20 20 11.3**	**+0.9**	
	SNR=16									
KMBO	**Kilima Mbogo**	**120.89**	**315**	*e*PKPdf		**PKPdf**		**20 20 10.6**	**+0.3**	
KMBO				PKP		**PKPdf**		**20 20 10.8**	**+0.5**	
KMBO	**Kilima Mbogo**	**120.89**	**315**	PKP		**PKPdf**		**20 20 10.8**	**+0.5**	
	comp=Z,39nm,0.9s,baz=3.3,slow=3.4,SNR=64									
DRV	**Dumont d'Urvil**	**121.62**	**197**	SS		SS		20 38 12.0	-4.3	
H03N2	**Juan Fernandez**	**121.88**	**105**	T		T		22 33 31.0		
	baz=315,slow=75,SNR=164									
H03N1	**Juan Fernandez**	**121.90**	**105**	T		T		22 33 29.3		
	baz=315,slow=75,SNR=246									
H03N3	**Juan Fernandez**	**121.90**	**105**	T		T		22 33 52.6		
	baz=315,slow=75,SNR=186									
DBIC	**Dimbokro**	**121.97**	**6**	PKP		**PKPdf**		**20 20 11.3**	**-0.8**	
DBIC				*e*PKPdf		**PKiKP**		**20 20 11.4**	**-0.8**	
DBIC				P'P'ab				20 36 48.0		
DBIC	**Dimbokro**	**121.97**	**6**	PKP		**PKPdf**		**20 20 11.3**	**-0.8**	
	comp=Z,79nm,0.8s,baz=355,slow=2.1,SNR=72									
DBIC				PKP2ab				20 36 48.0		
	comp=Z,1.6nm,0.7s,baz=161,slow=6.8,SNR=4.1									
TIC	**Toumodi**	**121.99**	**6**	*e*PKIKP		**PKPdf**		**20 20 11.8**	**-0.4**	
	comp=Z,297nm,1.0s									
KIC	**Kosan Boka**	**122.29**	**6**	*e*PKIKP		**PKPdf**		**20 20 12.3**	**-0.5**	
	comp=Z,207nm,0.9s									
LIC	**Lamto**	**122.40**	**6**	*e*PKIKP		**PKPdf**		**20 20 12.5**	**-0.5**	
	comp=Z,304nm,0.9s									
LIC	**Lamto**	**122.40**	**6**	*e*PKIKP		**PKPdf**		**20 20 12.1**	**-0.9**	
	comp=Z,212nm,0.9s									
LIC				*e*R						
	comp=Z,3μm,22.2s									
LIC	**Lamto**	**122.40**	**6**	*e*PKPdf		**PKPdf**		**20 20 12.1**	**-0.9**	
MBAR	**Mbarara**	**123.10**	**322**	PKP		**PKPdf**		**20 20 14.0**	**-0.5**	
MBAR	**Mbarara**	**123.10**	**322**	PKP		**PKPdf**		**20 20 14.0**	**-0.5**	
	comp=Z,12nm,0.7s,baz=359,slow=1.5,SNR=31									
LCO	**Las Campanas**	**123.88**	**95**	*e*PKPdf		**PKPdf**		**20 20 15.7**	**0.0**	
RCBR	**Riachuelo**	**125.67**	**46**	PKP		**PKPdf**		**20 20 19.3**	**+0.1**	
RCBR	**Riachuelo**	**125.67**	**46**	PKP		**PKPdf**		**20 20 19.3**	**+0.1**	
	comp=Z,34nm,0.9s,baz=296,slow=0.9,SNR=11									
MRIV	**Mauritius Mete**	**125.78**	**283**	*e*PKPdf		**PKPdf**		**20 20 19.9**	**+0.7**	
CFAA	**Coronel Fontan**	**127.21**	**96**	PKPpre		PKPpre		20 20 17.8		
CFAA	**Coronel Fontan**	**127.21**	**96**	PKhKP		PKPpre		20 20 17.8		
	comp=Z,1.9nm,0.7s,baz=309,slow=2.0,SNR=21									
BDFB	**Brasilia**	**127.76**	**65**	*e*PKPdf		**PKPdf**		**20 20 23.5**	**+0.3**	
BDFB	**Brasilia**	**127.76**	**65**	PKP		**PKPdf**		**20 20 23.5**	**+0.3**	
	comp=Z,23nm,1.1s,baz=10,slow=2.6,SNR=16									
VNDA	**Vanda**	**129.19**	**185**	*e*PKPdf		**PKPdf**		**20 20 24.2**	**+0.3**	
VNDA				PKP		**PKPdf**		**20 20 24.5**	**+0.5**	
VNDA				PKKP		**PKKPdf**		**20 30 30.2**	**-0.5**	
VNDA	**Vanda**	**129.19**	**185**	PKP		**PKPdf**		**20 20 24.5**	**+0.5**	
	comp=Z,7.8nm,1.1s,baz=317,slow=4.2,SNR=10									
VNDA				PKKP		**PKKPdf**		**20 30 30.2**	**-0.5**	
	comp=Z,1.6nm,0.7s,baz=326,slow=3.4,SNR=5.0									
SBA	**Scott Base**	**129.28**	**184**	*e*PKIKP		**PKPdf**		**20 20 25.9**	**+1.8**	
SBA	**Scott Base**	**129.28**	**184**	*e*PKPdf		**PKPdf**		**20 20 25.9**	**+1.8**	
CPUP	**Villa Florida**	**130.33**	**82**	PKP		**PKPdf**		**20 20 27.9**	**+0.3**	
CPUP				SKPbc		**SKPab**		**20 23 46.9**	**-0.6**	
CPUP				PKKPab		**SKKSac**		**20 29 31.1**	**-3.9**	
CPUP	**Villa Florida**	**130.33**	**82**	PKP		**PKPdf**		**20 20 28.0**	**+0.3**	
	comp=Z,5.6nm,0.6s,baz=323,slow=1.8,SNR=8.0									
CPUP				SKPbc		**SKPab**		**20 23 46.9**	**-0.6**	
	comp=Z,20nm,0.8s,baz=287,slow=4.7,SNR=17									
CPUP				PKKPab		**SKKSac**		**20 29 31.1**	**-3.9**	
	comp=Z,1.1nm,0.4s,baz=296,slow=1.5,SNR=4.6									
ABPO	**Ambohimpanom**	**130.90**	**293**	*e*PKIKP		**PKPdf**		**20 20 29.7**	**+0.5**	
ABPO	**Ambohimpanom**	**130.90**	**293**	*e*PKPdf		**PKPdf**		**20 20 29.7**	**+0.5**	
PLCA	**Paso Flores**	**131.70**	**106**	PKPpre		PKPpre		20 20 22.2		
PLCA				*e*PKPdf		**PKPdf**		**20 20 30.1**	**+0.2**	
PLCA				PKP		**PKiKP**		**20 20 30.5**	**-0.4**	
PLCA				SKPbc		**SKPbc**		**20 23 51.6**	**-0.6**	
PLCA	**Paso Flores**	**131.70**	**106**	PKhKP		PKPpre		20 20 22.2		
	comp=Z,7.1nm,1.0s,baz=14,slow=3.2,SNR=3.9									
PLCA				PKP		**PKiKP**		**20 20 30.5**	**-0.4**	
	comp=Z,54nm,0.9s,baz=293,slow=3.4,SNR=30									
PLCA				SKPbc		**SKPbc**		**20 23 51.6**	**-0.6**	
	comp=Z,18nm,0.8s,baz=298,slow=3.8,SNR=12									
TRQA	**Tornquist**	**135.30**	**98**	*e*PKPdf		**PKPdf**		**20 20 35.0**	**-1.7**	
LSZ	**Lusaka**	**137.45**	**318**	P		**PKPdf**		**20 20 42.9**	**+1.4**	
	SNR=7.0									
USHA	**Ushuaia**	**140.28**	**123**	PKPpre		PKPpre		20 20 38.1		
USHA				SKPbc		**SKPbc**		**20 24 17.8**	**-0.2**	
USHA	**Ushuaia**	**140.28**	**123**	PKhKP		PKPpre		20 20 38.1		
	comp=Z,11nm,0.7s,baz=122,slow=4.3,SNR=4.5									
USHA				SKPbc		**SKPbc**		**20 24 17.8**	**-0.2**	
	comp=Z,12nm,0.8s,baz=325,slow=3.3,SNR=3.6									
QSPA	**South Pole Qui**	**141.19**	**180**	*e*PKPdf		PKPdf		20 20 40.0	-6.7	
EFI	**East Falkland**	**144.72**	**114**	*e*PKIKP		**PKPab**		**20 20 51.6**	**-0.6**	
EFI	**East Falkland**	**144.72**	**114**	*e*P		**PKPab**		**20 20 51.6**	**-0.6**	
TSUM	**Tsumeb**	**144.97**	**330**	*e*PKPdf		**PKPab**		**20 20 53.8**	**-0.4**	
TSUM				PKP		**PKPdf**		**20 20 54.6**	**-0.3**	
TSUM	**Tsumeb**	**144.97**	**330**	PKP		**PKPdf**		**20 20 54.6**	**-0.3**	
	comp=Z,269nm,0.8s,baz=359,slow=5.6,SNR=254									
MAW	**Mawson**	**146.07**	**218**	PKPbc		**PKPbc**		**20 20 55.9**	**-0.2**	
MAW	**Mawson**	**146.07**	**218**	PKPbc		**PKPbc**		**20 20 55.9**	**-0.2**	
	comp=Z,33nm,0.7s,baz=86,slow=6.9,SNR=17									
LBTB	**Lobatse**	**147.15**	**314**	*e*PKPdf		**PKPdf**		**20 20 59.0**	**+0.6**	
BOSA	**Boshof**	**150.38**	**311**	*e*PKPdf		**PKPdf**		**20 21 04.5**	**+1.0**	
BOSA				PKPbc		**PKPbc**		**20 21 09.6**	**+0.8**	
BOSA	**Boshof**	**150.38**	**311**	PKPbc		**PKPbc**		**20 21 09.6**	**+0.8**	
	comp=Z,381nm,0.9s,baz=30,slow=3.0,SNR=253									
SYO	**Syowa Base**	**154.33**	**212**⇑	*e*P		**PKPdf**		**20 21 06.0**	**-1.9**	
SYO	**Syowa Base**	**154.33**	**212**⇓	*e*P		**PKPbc**		**20 21 18.4**	**+2.2**	
SUR	**Sutherland**	**155.60**	**313**	*e*PKPdf		**PKPdf**		**20 21 13.3**	**+2.1**	
SNAA	**Sanae**	**159.66**	**177**	*e*PKPdf		**PKPdf**		**20 21 13.4**	**-1.4**	
NVL	**N'lazarevskaya**	**159.86**	**191**	*e*PKP2		**PKPab**		**20 21 53.5**	**-0.9**	

JMA 17 20:08:57.4, 34.96N×139.13E, h6km±1km, M1.5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.09**	**340**	*e*S		Sg	20 09 01.0	+0.2
JOD2	**Odawara 2**	**0.30**	**354**	P		Pg	20 09 03.5	+0.1
JOD2				*e*S		Sg	20 09 08.0	+0.5
JIZS	**Izushimoda**	**0.32**	**221**	P		Pg	20 09 03.9	+0.3

JMA 17 20:20:20.4, 34.97N×139.13E, h5km±1km, M1.4, Near south coast of eastern Honshu

| Code | Station

JHK S **Sn** **20 42 04.4 +2.3**
JFY Yanaizu 1.06 2 ⇑P **Pn** **20 41 49.6 +1.5**
JFY S **Sn** **20 42 04.4 +1.7**
JOD2 Odawara 2 1.18 203 ⇓P **Pn** **20 41 51.0 +1.4**
JOD2 S **Sn** **20 42 06.8 +1.4**
MJAR Matsushiro Arr 1.19 280 P **Pn** **20 41 51.4 +1.7**
MJAR S **Sn** **20 42 07.8 +2.3**
MJAR Matsushiro Arr 1.19 280 P **Pn** **20 41 51.4 +1.7**
1µm,0.3s,baz=93,slow=14,SNR=4714
MJAR S **Sn** **20 42 07.8 +2.3**
692nm,0.3s,baz=23,slow=23,SNR=16
MAJO Matsushiro 1.19 280*c* P **Pn** **20 41 51.6 +1.9**
MAJO Matsushiro 1.19 280 *e*Pn **Pn** **20 41 51.9 +2.2**
MAT Matsushiro 1.19 280 P **Pn** **20 41 51.8 +2.1**
MAT S **Sn** **20 42 08.5 +3.0**
MAT Matsushiro 1.19 280 P **Pn** **20 41 51.8 +2.1**
JYN Shimob 1.24 227 ⇓P **Pn** **20 41 52.8 +2.3**
JYN S **Sn** **20 42 10.1 +3.2**
JNG Nsakai 1.26 273 ⇑P **Pn** **20 41 52.8 +2.1**
JNG S **Sn** **20 42 10.7 +3.4**
JFT Otama 1.29 25 ⇑P **Pn** **20 41 52.5 +1.5**
JFT S **Sn** **20 42 09.7 +1.9**
JNT Takato 1.32 249 P Pn 20 41 54.4 +2.9
AJI Ajiro2 1.38 200 ⇓P **Pn** **20 41 53.4 +1.2**
JIZZ Izumozaki 1.40 327 ⇓P **Pn** **20 41 55.0 +2.5**
JFK Kawauchi 1.41 43 ⇑P **Pn** **20 41 53.7 +1.2**
JFK S **Sn** **20 42 11.0 +0.4**
JJN Nakama 1.42 302 ⇓P Pn 20 41 55.3 +2.7
JJN S **Sn** **20 42 14.9 +4.1**
BSO4 Boso 4 1.47 158 ⇓P **Pn** **20 41 54.4 +1.2**
JNS Sasagawa 1.49 350 P **Pn** **20 41 55.2 +1.6**
JNS S **Sn** **20 42 14.7 +2.2**
JIM2 Oshima 3 1.64 187 P **Pn** **20 41 56.2 +0.6**
BSO3 Boso 3 1.69 156 ⇓P **Pn** **20 41 56.6 +0.6**
SHZ3 Shizuoka 3 1.74 223 ⇓P **Pn** **20 41 59.8 +2.8**
JIZS Izushimoda 1.75 202 ⇓P **Pn** **20 41 58.5 +1.5**
JIZS S **Sn** **20 42 21.0 +2.5**
JMM Marumori 1.76 31 ⇓P **Pn** **20 41 58.7 +1.5**
JNY Yasuok 1.76 236 ⇓P Pn 20 42 00.2 +2.9
JTT Ttatey 1.89 278 ⇓P Pn 20 42 01.9 +3.0
JGN Niukaw 1.90 267 ⇓P **Pn** **20 42 01.8 +2.8**
BSO1 Boso 1 2.00 147 P **Pn** **20 42 00.3 +0.4**
JGF Kuroka 2.01 249 ⇓P Pn 20 42 03.4 +2.9
JSD Sado 2.02 327 ⇓P **Pn** **20 42 01.9 +1.3**
JSG Sagara 2.06 216 ⇓P **Pn** **20 42 04.0 +2.9**
JYZW Yoshizawa 2.07 230 P **Pn** **20 42 03.7 +2.4**
JAW Awa shima 2.13 351 ⇓P **Pn** **20 42 03.6 +1.6**
JSZ Suzu 2.14 301 P **Pn** **20 42 03.7 +1.5**
JOU Okura 2.17 21 ⇓P **Pn** **20 42 04.5 +1.9**
HMMJ Hamamatsu 2 2.17 227 ⇓P **Pn** **20 42 05.0 +2.4**
JKO Kozu shima 2.20 191 P **Pn** **20 42 04.5 +1.5**
JAO Obara 2.23 242 P **Pn** **20 42 06.2 +2.7**
JAO S **Sn** **20 42 33.2 +3.0**
JYA Atsumi 2.24 1 ⇓P **Pn** **20 42 05.5 +1.9**
JJH Hakui 2.38 285 ⇓P **Pn** **20 42 07.9 +2.4**
JJH S **Sn** **20 42 37.0 +3.2**
JGM Miyama 2.47 256 P Pn 20 42 09.6 +2.9
JIO Ouri 2.50 32 ⇓P **Pn** **20 42 07.8 +0.8**
JYK Kaneyama 2.62 12 ⇓P **Pn** **20 42 10.8 +2.1**
JHG Hegura jima 2.65 305 ⇓P **Pn** **20 42 10.7 +1.6**
JHG S **Sn** **20 42 42.2 +2.0**
JKG Kaga 2.69 269 P Pn 20 42 12.5 +2.9
JTB Tobi-shima 2.84 358 ⇓P **Pn** **20 42 13.4 +1.7**
JMK Ichinoseki 2.88 25 ⇓P **Pn** **20 42 13.7 +1.5**
JRG Rokugo 3.14 14 ⇓P **Pn** **20 42 18.2 +2.5**
JHJ2 Mitsune 3.23 178 *e*Pn **Pn** **20 42 17.6 +0.6**
JHJ2 *e*Sn **Sn** **20 42 53.5 -0.9**
JOM Ohasama 3.38 22 ⇓P **Pn** **20 42 20.7 +1.8**
JKN2 Miekihoku 3.48 234 ⇓P **Pn** **20 42 22.2 +1.9**
JOG2 Oga 2 3.56 2 ⇓P **Pn** **20 42 23.6 +2.2**
JWT Wachi 3.62 254 P **Pn** **20 42 24.7 +2.4**
JKZ Kuzumaki 3.86 19 ⇓P **Pn** **20 42 27.0 +1.4**
JAH Hinai 3.91 11 ⇓P **Pn** **20 42 28.5 +2.3**
JWY Kouya 3.95 239 P **Pn** **20 42 28.6 +1.8**
JTH Tanohata 3.98 25 ⇓P **Pn** **20 42 28.0 +0.8**
JKS Kasai 4.15 252 P **Pn** **20 42 31.4 +1.9**
JANG Nango 4.27 19 ⇓P **Pn** **20 42 31.8 +0.6**
JWZ Kozaga 4.29 230 ⇑P **Pn** **20 42 33.2 +1.8**
ERM Erimo 6.28 25 *e*P **Pn** **20 42 57.0 -1.4**
ERM *e* 20 44 05.0
ERM Erimo 6.28 25 *e*Pn **Pn** **20 42 57.0 -1.4**
ERM *e*Sn **Sn** **20 44 05.0 -3.7**
ERM Erimo 6.28 25 Pn **Pn** **20 42 57.2 -1.2**
3µm,0.4s
JNU Nakatsue 7.91 249 *e*Pn **Pn** **20 43 21.7 +0.8**
JNU Nakatsue 7.91 249 P **Pn** **20 43 22.5 +1.6**
1.9nm,0.3s,baz=55,slow=7.5,SNR=19
ASAJ Asahikawa 8.08 15 *e*Pn **Pn** **20 43 21.3 -1.7**
ASAJ S **Sn** **20 44 49.9 -2.9**
ASAJ Asahikawa 8.08 15 P **Pn** **20 43 22.2 -0.8**
20nm,0.3s,baz=223,slow=11,SNR=102
ASAJ S **Sn** **20 44 49.9 -2.9**
baz=329,slow=19,SNR=2.2
ASAJ LR LR 20 47 16.5
comp=Z,417nm,19.2s,baz=218,slow=43
JZO Okuchi 8.60 243 P Pn 20 43 33.7 +3.5
YUK Yuzh-Kuril'sk 9.02 30*c* *i*P **Pn** **20 43 33.5 -2.4**
YUK *i*S Sn 20 45 06.8 -9.0
YUK pmax pmax
comp=N,214nm,0.6s
YUK pmax pmax
comp=Z,436nm,0.6s
YUK pmax pmax
comp=E,184nm,0.3s
YUK smax smax
comp=E,865µm,0.8s
YUK smax smax
comp=N,3µm,2.3s
YUK MLR MLR
comp=E,2µm,14.0s
VLA Vladivostok 9.03 321 ⇑*i*P Pn 20 43 39.5 +3.5
VLA *e*S **Sn** **20 45 20.1 +4.1**
KSRS Korea Array 9.47 280 P Pn 20 43 46.6 +4.6
comp=E,4.3nm,0.3s,baz=92,slow=14,SNR=75
KSRS LR LR 20 47 29.0
comp=E,510nm,20.9s,baz=98,slow=38
CBIJ Chichi jima 9.47 166 *e*Pn Pn 20 43 38.8 -3.4
CBIJ S Sn 20 45 16.9 -10
JCJ Chichijima 9.47 166 P Pn 20 43 38.9 -3.4
comp=E,166nm,0.3s,baz=333,slow=3.9,SNR=30
JCJ S Sn 20 45 16.9 -10
comp=E,83nm,0.3s,baz=300,slow=20,SNR=4.7
KSAR Wonju Array Be 9.50 280 P Pn 20 43 46.6 +4.2
USRK Ussuriysk Arra 9.79 326 P Pn 20 43 49.4 +3.1
comp=E,8.5nm,0.3s,baz=136,slow=12,SNR=126
USRK LR LR 20 47 31.6
comp=E,291nm,21.6s,baz=316,slow=37
KUR Kuril'sk 10.83 32 *e*P **Pn** **20 43 59.9 -0.7**
KUR *e*S Sn 20 45 52.8 -7.1
KUR pmax pmax
comp=Z,240nm,0.8s
KUR smax smax
comp=N,280nm,1.0s
KUR smax smax
comp=E,170nm,0.5s
YSS Yuzh-Sakhalins 10.85 11 ⇑*i*P **Pn** **20 43 59.0 -1.8**
YSS *e*S **Sn** **20 45 57.0 -3.3**
YSS MLR MLR
comp=Z,1µm,20.0s
YSS Yuzh-Sakhalins 10.85 11 *e*Pn **Pn** **20 43 58.2 -2.5**
MDJ Mudanjiang 11.26 320 P **Pn** **20 44 07.3 +0.9**
MDJ S **Sn** **20 46 12.1 +1.7**
MDJ PcP **PcP** **20 49 56.1 +0.7**
MDJ PcS **PcS** **20 53 28.8 -0.3**
MDJ pmax pmax
comp=Z,160nm,1.5s
MDJ pmax pmax
comp=Z,380nm,2.7s
MDJ LR LR
comp=Z,710nm,18.0s
MDJ LR LR
comp=Z,770nm,21.2s
MDJ LR LR
comp=Z,2µm,26.6s
MDJ Mudanjiang 11.26 320 *e*P **Pn** **20 44 09.1 +2.7**
comp=Z,358nm,1.4s
HABR Khabarovsk 12.58 346 *e*P **Pn** **20 44 23.5 -0.9**
HABR S **Sn** **20 46 41.7 -0.8**
HABR pmax pmax
comp=E,76nm,2.2s
HABR pmax pmax
comp=Z,42nm,2.2s
HABR pmax pmax
comp=N,33nm,1.1s
HABR MLR MLR
comp=Z,626nm,18.0s
CN2 Changchun 13.17 309 *e*P **Pn** **20 44 29.8 -2.6**
CN2 *e*PP 20 44 41.4
CN2 *e*S **Sn** **20 46 53.5 -3.5**
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,700nm,15.0s
SNY Shenyang 13.63 299 ⇓P **Pn** **20 44 40.1 +1.7**
SNY S Sn 20 47 13.8 +5.7
SNY pmax pmax
comp=Z,110nm,1.6s
SNY pmax pmax
comp=Z,690nm,3.5s
SNY LR LR
comp=Z,790nm,12.5s
SNY LR LR
comp=Z,1µm,16.7s
SNY LR LR
comp=Z,1µm,15.0s
KLR Kul'dur 14.11 338 *e*P Pn 20 44 39.8 -4.9
DL2 Dalian 14.52 286 ⇓*i*P **P** **20 44 52.6 -2.0**
DL2 S **Sn** **20 47 34.3 +4.6**
DL2 pmax pmax
comp=Z,130nm,0.8s
DL2 pmax pmax
comp=Z,540nm,3.3s
DL2 LR LR
comp=Z,740nm,15.7s
DL2 LR LR
comp=Z,490nm,14.7s
NJ2 Nanjing 17.73 262 *e*P **Pn** **20 45 31.9 +1.5**
NJ2 S **Sn** **20 48 45.0 -2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,550nm,3.9s
NJ2 LR LR
comp=Z,2µm,28.8s
NJ2 LR LR
comp=Z,4µm,39.1s
NJ2 LR LR
comp=Z,300nm,14.7s
BJI Beijing 18.81 288 P **P** **20 45 42.3 +0.3**
BJI sP sP 20 46 01.3 -5.4
BJI S **S** **20 49 08.4 -3.3**
BJI sS **sS** **20 49 31.8 -4.9**
BJI pmax pmax
comp=Z,72nm,0.9s
BJT Baijiatuau 18.81 288 *e*P **P** **20 45 42.0 0.0**
comp=Z,103nm,0.6s
HIA Hailar 19.42 318 *e*P **P** **20 45 45.9 -2.8**
comp=Z,29nm,0.8s
YHNB Yeheng 19.55 239 *e*P **P** **20 45 49.9 -0.4**
SSLB Suanglung 20.42 237 *e*P **P** **20 45 58.6 -1.1**
TPUB Ta-pu 20.97 237 *e*P **P** **20 46 03.6 -1.9**
comp=Z,21nm,0.4s
PEA0B Petropavlovsk- 21.00 31 *e*P **P** **20 46 05.7 +0.1**
PETK Petropavlovsk- 21.00 31 P **P** **20 46 05.5 -0.1**
PETK pmax pmax
comp=Z,74nm,0.8s
PETK Petropavlovsk- 21.00 31 P **P** **20 46 05.5 -0.1**
PETK Petropavlovsk- 21.00 31 P **P** **20 46 05.5 -0.1**
comp=Z,74nm,0.8s,baz=216,slow=7.3,SNR=35
PET Petropavlovsk 21.34 33 *i* P **P** **20 46 09.8 +0.5**
PET pmax pmax
comp=Z,179nm,1.5s
PET Petropavlovsk 21.34 33 *e*P **P** **20 46 09.7 +0.4**
comp=Z,449nm,1.6s
WHN Wuhan 21.87 262 ⇑*i*P **P** **20 46 14.4 -0.7**
HHC Hu-ho-hao-te 22.37 290 *e*P **P** **20 46 17.6 -2.9**
HHC pP **pP** **20 46 32.4 -3.7**
HHC sP sP 20 46 39.8 -5.8
HHC PP **PnPn** **20 46 46.9 +0.2**
HHC S S 20 50 13.3 -8.1
HHC pmax pmax
comp=Z,46nm,0.6s
HHC pmax pmax
comp=Z,780nm,4.6s
HHC LR LR
comp=Z,600nm,11.7s
HHC LR LR
comp=Z,670nm,11.1s
HHC LR LR
comp=Z,440nm,12.2s
CIT Chita 24.23 318 *e*P **P** **20 46 34.9 -3.2**
CIT *e* 20 47 10.5
CIT *e* 20 47 27.3
CIT pmax pmax
comp=Z,144nm,2.2s
XAN Xi'an 25.18 274 P **P** **20 46 45.5 -1.5**
XAN pmax pmax
comp=Z,11nm,0.5s
XAN pmax pmax
comp=Z,130nm,12.0s
ENH Enshi 25.87 265 *e*P **P** **20 46 52.1 -1.1**
comp=Z,37nm,0.6s
YAK Yakutsk 26.46 349*d* *i*P **P** **20 46 56.8 -1.3**
YAK *e**PP **pP** **20 47 19.2 +3.5**
YAK *e* 20 47 43.9
YAK *e* 20 50 29.5
YAK *e*S **S** **20 51 19.6 -6.6**
YAK *e**SS **sS** **20 51 54.8 -1.8**
YAK *e* 20 57 38.8
YAK pmax pmax
comp=Z,115nm,1.1s
YAK pmax pmax
comp=N,62nm,1.1s
YAK pmax pmax
comp=E,19nm,1.2s
YAK pmax pmax
comp=Z,469nm,3.5s
YAK pmax pmax
comp=N,321nm,3.0s
YAK pmax pmax
comp=E,311nm,3.6s
YAK smax smax
comp=E,453nm,3.7s
YAK smax smax
comp=N,290nm,3.1s
YAK Yakutsk 26.46 349 *e*P **P** **20 46 56.9 -1.3**
comp=N,129nm,1.0s
YAK *e*pP **pP** **20 47 14.7 -1.0**
SONM Songino Array 27.02 306 P **P** **20 47 02.2 -1.3**
SONM PcP **PcP** **20 50 23.0 -0.1**
SONM ScP **ScP** **20 53 54.5 -2.0**
SONM Songino Array 27.02 306 P **P** **20 47 02.2 -1.3**
comp=N,19nm,0.6s,baz=104,slow=9.1,SNR=83
SONM PcP **PcP** **20 50 23.0 -0.1**
comp=N,2.0nm,0.5s,baz=128,slow=2.3,SNR=12
SONM ScP **ScP** **20 53 54.5 -2.0**
comp=N,1.8nm,1.0s,baz=113,slow=3.7,SNR=4.4
SONM LR LR 20 58 27.5
comp=N,700nm,18.0s,baz=270,slow=38
SEY Seymchan 27.75 12 P **P** **20 47 09.7 0.0**
SEY pmax pmax
comp=Z,37nm,0.7s
SEY Seymchan 27.75 12 P **P** **20 47 09.7 0.0**
SEY Seymchan 27.75 12 P **P** **20 47 09.7 0.0**
comp=Z,37nm,0.7s,baz=209,slow=6.6,SNR=39
FX1 Attu Island--F 28.67 44 *e*P **P** **20 47 19.2 +1.1**
FX1 Attu Island--F 28.67 44 P **P** **20 47 17.1 -1.0**
comp=Z,22nm,0.6s,baz=289,slow=12,SNR=7.6
LZH Lanzhou 28.80 280 P **P** **20 47 19.0 -0.6**
LZH pP **pP** **20 47 34.1 -3.2**
LZH sP **sP** **20 47 41.3 -4.8**
LZH PP **PnPn** **20 48 13.6 -0.5**
LZH *e*S **S** **20 52 00.3 -3.7**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.8s
LZH LR LR
comp=Z,730nm,12.4s
LZH LR LR
comp=Z,860nm,14.0s
LZH LR LR
comp=Z,990nm,14.5s
H11N2 WAKE ISLAND Hy 29.05 117 T T 21 17 41.5
baz=312,slow=76,SNR=110
H11N1 WAKE ISLAND Hy 29.05 117 T T 21 17 32.9
baz=312,slow=76,SNR=75
H11N3 WAKE ISLAND Hy 29.07 117 T T 21 17 43.1
baz=312,slow=76,SNR=124
ZAK Zakamensk 29.61 310 *e*P **P** **20 47 25.0 -1.5**
ZAK pmax pmax
comp=Z,12nm,1.5s
H11S1 WAKE ISLAND Hy 29.71 119 T T 21 18 30.3
baz=318,slow=75,SNR=150
H11S3 WAKE ISLAND Hy 29.71 120 T T 21 18 30.3
baz=318,slow=75,SNR=125
GYA Guiyang 29.71 260 P **P** **20 47 27.6 -0.1**
GYA pP **pP** **20 47 44.3 -1.2**
GYA sP **sP** **20 47 51.0 -3.3**
GYA PP **PnPn** **20 48 26.8 +0.6**
GYA PcP **PcP** **20 50 31.6 +1.5**
GYA S **S** **20 52 16.5 -2.0**
GYA sS **sS** **20 52 44.0 -5.0**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,660nm,16.8s
GYA LR LR
comp=Z,540nm,17.0s
GYA LR LR
comp=Z,690nm,16.6s
H11S2 WAKE ISLAND Hy 29.73 120 T T 21 18 32.0
baz=318,slow=75,SNR=138
TLY Talaya 29.73 312 *e*P P 20 47 20.6 -6.9
TLY pmax pmax
comp=Z,37nm,1.3s
TLY MLR MLR
comp=Z,428nm,14.0s
CD2 Chengdu 30.27 270 P **P** **20 47 32.1 -0.4**
CD2 sP **sP** **20 47 55.1 -4.0**
CD2 PP **PnPn** **20 48 32.0 -1.3**
CD2 PcP **PcP** **20 50 32.8 +1.4**
CD2 S **S** **20 52 24.5 -2.4**
CD2 sS sS 20 52 51.1 -6.3
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,380nm,11.9s
CD2 LR LR
comp=Z,360nm,21.4s
CD2 LR LR
comp=Z,330nm,17.8s
MOY Mondy 31.32 312 *e*P **P** **20 47 40.1 -1.5**
QIZ Qiongzhong 31.36 245 P **P** **20 47 43.8 +1.6**
QIZ S **S** **20 52 45.3 +1.2**
QIZ pmax pmax
comp=Z,29nm,1.4s
GTA Gaotai 31.42 288 P **P** **20 47 41.4 -1.3**
GTA pP **pP** **20 47 56.8 -3.7**
GTA sP **sP** **20 48 05.5 -3.8**
GTA PP **PnPn** **20 48 47.8 -0.4**
GTA S **S** **20 52 43.5 -1.5**
GTA ScS **ScS** **20 58 06.1 -2.6**
GTA pmax pmax
comp=Z,4.0nm,0.6s
GTA LR LR
comp=Z,320nm,17.1s
GTA LR LR
comp=Z,390nm,11.9s
GTA LR LR
comp=Z,390nm,18.5s
KMI Kunming 33.46 261 P **P** **20 47 59.9 -0.9**
KMI pP **pP** **20 48 17.3 -1.4**
KMI sP **sP** **20 48 25.3 -2.1**
KMI pmax pmax
comp=Z,18nm,1.2s
KMI pmax pmax
comp=Z,270nm,14.3s
KMI LR LR
comp=Z,490nm,15.1s
KMI LR LR
comp=Z,410nm,13.9s
KMI LR LR
comp=Z,480nm,15.1s
SLVN Son La 34.49 254 *e*P **P** **20 48 10.1 +0.6**
TIXI Tiksi 35.81 354*d* *i*P **P** **20 48 19.1 -1.1**
TIXI pmax pmax
comp=Z,40nm,0.9s
TIXI Tiksi 35.81 354 *e*P **P** **20 48 19.2 -1.1**
comp=Z,46nm,0.6s
MWPI Manokwari, Pap 37.46 189 P **P** **20 48 34.3 -0.5**
comp=Z,117nm,1.1s
SWI Sorong 37.84 194 P **P** **20 48 37.2 -0.8**
comp=Z,61nm,0.9s,comp=Z,834nm
CRAI Chiangrai 37.85 256 P **P** **20 48 39.6 +1.5**
comp=Z,69nm,1.0s,comp=Z,7µm
GTOI Gorontalo 38.75 207 P **P** **20 48 43.2 -2.4**
comp=Z,85nm,0.8s,comp=Z,674nm
CMAI Chiengmai2 39.05 256 P **P** **20 48 49.8 +1.4**
comp=Z,33nm,0.8s,comp=Z,4µm
CHAI Chaiyaphum 39.15 249 P **P** **20 48 49.6 +0.6**
comp=Z,8.3nm,1.1s
MRSI Marisa 39.30 209 P **P** **20 48 49.6 -0.6**
comp=Z,41nm,0.7s
LAMP Lampang 39.38 254 P P 20 48 54.4 +3.4
comp=Z,4.9nm,1.0s
PBKT Sadao Pong 39.51 250 P **P** **20 48 53.4 +1.4**
comp=Z,13nm,1.1s
FAKI Fak Fak 39.67 192 P **P** **20 48 53.3 0.0**
comp=Z,99nm,0.6s,comp=Z,1µm
CMMT Chiang Mai 39.75 255 P **P** **20 48 55.4 +1.3**
comp=Z,17nm,0.8s
CHTO Chiang Mai 39.76 255 *e*P **P** **20 48 54.3 +0.2**
CHTO pmax pmax
comp=Z,2.0nm,1.0s
CHTO Chiang Mai 39.76 255 *e*P **P** **20 48 54.3 +0.2**
comp=Z,2.0nm,1.0s
CHTO Chiang Mai 39.76 255 P **P** **20 48 55.5 +1.4**
comp=Z,58nm,1.0s
WMQ Urumqi 39.90 297 P **P** **20 48 56.0 +1.0**
WMQ pP **pP** **20 49 11.0 -2.3**
WMQ sP **sP** **20 49 19.0 -3.0**
WMQ PP **PnPn** **20 50 32.0 +0.1**
WMQ PcP **PcP** **20 51 01.0 +1.7**
WMQ S **S** **20 54 56.0 +1.6**
WMQ sS **sS** **20 55 22.0 -3.6**
WMQ SS **SS** **20 57 48.0 -5.3**
WMQ ScS **ScS** **20 58 56.0 +1.3**
WMQ pmax pmax
comp=Z,65nm,1.0s
WMQ pmax pmax
comp=Z,480nm,4.0s
WMQ LR LR
comp=Z,670nm,15.0s
WMQ LR LR
comp=Z,620nm,15.0s
WMQ LR LR
comp=Z,410nm,15.0s
CM31 Chiang Mai Arr 39.96 255 P **P** **20 48 56.3 +0.6**
comp=Z,3.8nm,0.5s
CMAR Chiang Mai Arr 39.96 255 P **P** **20 48 55.8 0.0**
CMAR ScP **ScP** **20 54 41.7 -0.3**
CMAR Chiang Mai Arr 39.96 255 P **P** **20 48 55.8 0.0**
comp=Z,2.8nm,0.5s,baz=53,slow=6.8,SNR=22
CMAR ScP **ScP** **20 54 41.7 -0.3**
comp=Z,1.4nm,1.0s,baz=4.1,slow=3.5,SNR=5.4
GAMB Gambell 40.03 31 *e*P **P** **20 48 56.3 +0.5**
comp=Z,112nm,2.0s
LUWI Luwuk 40.38 207 P P 20 48 53.6 -5.6
comp=Z,138nm,0.5s,comp=Z,8µm
LSA Lhasa 40.87 275 *e*P **P** **20 49 02.8 -0.9**
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 40.87 275 *e*P **P** **20 49 02.8 -0.9**
comp=Z,34nm,0.8s
MHMT Maesarieng 40.91 255 P P 20 49 06.8 +3.2
comp=Z,6.4nm,1.0s
CHBT CHBT 40.91 245 P **P** **20 49 04.8 +1.2**
comp=Z,24nm,0.8s
ZAA0 Zalesovo Array 41.34 313 *e*P **P** **20 49 06.2 -0.5**
ZALV Zalesovo Beam 41.34 313 P **P** **20 49 06.4 -0.3**
ZALV 20 51 03.3
ZALV pmax pmax
comp=Z,80nm,0.5s
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV pmax pmax
comp=N,2.0nm,0.6s
ZALV Zalesovo Beam 41.34 313 P **P** **20 49 06.4 -0.3**
ZALV PcP **PcP** **20 51 03.3 -0.4**
ZALV ScP **ScP** **20 54 44.6 -2.2**

ZALV	**Zalesovo Beam**	41.34	313	P		**P**		20 49 06.4	-0.3
	comp=N,80nm,0.5s,baz=100,slow=7.7,SNR=404								
ZALV				PcP		**PcP**		20 51 03.3	-0.4
	comp=N,6.7nm,0.4s,baz=96,slow=3.5,SNR=7.0								
ZALV				ScP		**ScP**		20 54 44.6	-2.2
	comp=N,1.7nm,0.6s,baz=88,slow=4.1,SNR=3.7								
SHL	**Shillong**	41.99	269	*i* P		**P**		20 49 12.0	-0.6
TNA	**Tin City**	42.14	29	*e*P		**P**		20 49 14.4	+1.3
	comp=N,87nm,1.0s								
SRDT	**SRDT**	42.27	249	P		P		20 49 23.6	+8.9
NVS	**Novosibirsk**	42.30	314	⇓*i* P		**P**		20 49 13.4	-1.1
NVS				pmax	pmax				
	comp=Z,113nm,0.6s								
NVS				pmax	pmax				
	comp=N,29nm,1.0s								
NVS				pmax	pmax				
	comp=E,74nm,1.0s								
PHET	**Kaeng Krachan**	42.80	247	P		P		20 49 22.3	+3.3
	comp=E,79nm,0.9s								
MK31	**Makanchi Array**	43.29	302	*e*P		**P**		20 49 22.4	-0.3
MK31	**Makanchi Array**	43.29	302	*e*P		**P**		20 49 22.4	-0.3
MKAR	**Makanchi Array**	43.29	302	P		**P**		20 49 22.6	-0.1
MKAR				pmax	pmax				
	comp=Z,52nm,0.7s								
MKAR				pmax	pmax				
	comp=N,4.0nm,0.9s								
MKAR	**Makanchi Array**	43.29	302	P		**P**		20 49 22.6	-0.1
MKAR				ScP		**ScP**		20 54 53.4	-1.5
MKAR	**Makanchi Array**	43.29	302	P		**P**		20 49 22.6	-0.1
	comp=N,52nm,0.7s,baz=91,slow=9.9,SNR=321								
MKAR				ScP		**ScP**		20 54 53.4	-1.5
	comp=N,4.0nm,0.9s,baz=75,slow=6.4,SNR=5.6								
KSM	**Kuching**	44.07	225	P		**P**		20 49 29.7	+0.5
	comp=N,24nm,1.3s								
KSM	**Kuching**	44.07	225	*e*P		**P**		20 49 29.7	+0.5
	comp=N,20nm,1.0s								
SPSI	**Sidrap Palu**	44.21	209	P		P		20 49 26.8	-3.5
	comp=N,16nm,0.9s								
BNSI	**Bone**	44.47	208	P		**P**		20 49 31.5	-0.9
	comp=N,70nm,1.4s								
TAPN	**Taplejung**	44.58	274	*e*P		**P**		20 49 33.8	+0.2
	comp=N,73nm,0.4s								
TAPN	**Taplejung**	44.58	274	*e*P		**P**		20 49 33.8	+0.2
	comp=N,73nm,0.4s								
ODAN	**Odare**	45.05	273	*e*P		**P**		20 49 37.3	+0.1
	comp=N,37nm,0.5s								
ODAN	**Odare**	45.05	273	*e*P		**P**		20 49 37.3	+0.1
	comp=N,37nm,0.5s								
KAPI	**Kappang**	45.17	209	P		**P**		20 49 37.5	-0.4
	SNR=5.2								
KAPI	**Kappang**	45.17	209	*e*P		**P**		20 49 37.3	-0.7
	comp=N,287nm,1.1s								
KURK	**Kurchatov**	45.25	308	*e*P		**P**		20 49 37.8	-0.4
KURK				pmax	pmax				
	comp=Z,180nm,1.2s								
KURK	**Kurchatov**	45.25	308	P		**P**		20 49 38.1	-0.1
	SNR=68								
KURK	**Kurchatov**	45.25	308	*e*P		**P**		20 49 37.8	-0.4
	comp=Z,180nm,1.2s								
KURK	**Kurchatov**	45.25	308	P		**P**		20 49 37.0	-1.2
	comp=Z,1μm,1.2s								
BKSI	**Bulukumba**	45.31	208	P		**P**		20 49 38.8	-0.2
	comp=Z,25nm,0.9s,comp=Z,417nm								
RAMN	**Ramite**	45.64	274	*e*P		**P**		20 49 42.3	+0.3
	comp=Z,280nm,0.9s								
RAMN	**Ramite**	45.64	274	*e*P		**P**		20 49 42.3	+0.3
	comp=Z,280nm,0.9s								
JIRN	**Jiri**	45.67	275	*e*P		**P**		20 49 43.1	+0.8
	comp=Z,147nm,0.7s								
JIRN	**Jiri**	45.67	275	*e*P		**P**		20 49 43.1	+0.8
	comp=Z,147nm,0.7s								
GUN	**Gumba**	45.82	275	*e*P		**P**		20 49 44.0	+0.6
	comp=Z,127nm,0.5s								
GUN	**Gumba**	45.82	275	*e*P		**P**		20 49 44.0	+0.6
	comp=Z,127nm,0.5s								
BBKI	**Banjar Baru**	45.89	216	P		**P**		20 49 43.8	+0.2
	comp=Z,48nm,1.2s								
PMG	**Port Moresby**	46.05	170	P		**P**		20 49 45.7	+0.8
	comp=Z,33nm,1.1s								
PMG	**Port Moresby**	46.05	170	*e*P		**P**		20 49 44.7	-0.1
	comp=Z,44nm,1.1s								
PMG	**Port Moresby**	46.05	170	P		**P**		20 49 45.2	+0.3
	comp=Z,21nm,0.7s,baz=306,slow=5.7,SNR=6.7								
PKI	**Pulchoki**	46.34	275	*e*P		**P**		20 49 47.5	+0.1
	comp=Z,91nm,0.7s								
PKI	**Pulchoki**	46.34	275	*e*P		**P**		20 49 47.6	+0.1
PKI				pmax	pmax				
	comp=Z,46nm,0.5s								
PKI	**Pulchoki**	46.34	275	*e*P		**P**		20 49 47.6	+0.1
	comp=Z,46nm,0.5s								
PKIN	**Phulchoki**	46.35	275	*e*P		**P**		20 49 47.6	+0.1
	comp=Z,46nm,0.5s								
KKN	**Kakani**	46.35	276	*e*P		**P**		20 49 47.8	+0.3
	comp=Z,53nm,0.6s								
KKN	**Kakani**	46.35	276	*e*P		**P**		20 49 47.8	+0.3
KKN				pmax	pmax				
	comp=Z,53nm,0.6s								
KKN	**Kakani**	46.35	276	*e*P		**P**		20 49 47.8	+0.3
	comp=Z,53nm,0.6s								
DMN	**Daman**	46.57	275	*e*P		**P**		20 49 49.4	+0.2
	comp=Z,124nm,1.1s								
DMN	**Daman**	46.57	275	*e*P		**P**		20 49 49.4	+0.2
	comp=Z,124nm,1.1s								
GKN	**Gorkha**	46.78	276	*e*P		**P**		20 49 51.2	+0.5
GKN	**Gorkha**	46.78	276	*e*P		**P**		20 49 51.2	+0.5
SVW2	**Sparrevohn**	46.92	37	*e*P		**P**		20 49 52.9	+1.7
	comp=Z,47nm,1.0s								
KULM	**Kulim**	47.26	239	P		**P**		20 49 54.7	+0.3
	comp=Z,14nm,1.4s								
DANN	**Dangsing**	47.34	277	*e*P		**P**		20 49 56.0	+0.8
	comp=Z,480nm,0.8s								
DANN	**Dangsing**	47.34	277	*e*P		**P**		20 49 56.0	+0.8
	comp=Z,480nm,0.8s								
IPM	**Ipoh**	47.58	237	P		**P**		20 49 57.6	+0.7
	comp=Z,19nm,1.6s								
IPM	**Ipoh**	47.58	237	P		**P**		20 49 56.0	-0.9
	comp=Z,76nm,1.9s								
KOLN	**Koldanda**	47.71	276	*e*P		**P**		20 49 58.4	+0.4
	comp=Z,294nm,1.2s								
KOLN	**Koldanda**	47.71	276	*e*P		**P**		20 49 58.4	+0.4
	comp=Z,294nm,1.2s								
MYKOM	**Kota Tinggi**	47.72	232	P		**P**		20 49 59.6	+1.6
	comp=Z,12nm,2.1s								
IM04	**Indian Mountai**	47.94	30	*e*P		**P**		20 49 59.6	+0.6
PYUN	**Piuthan**	48.06	277	*e*P		**P**		20 50 01.3	+0.6
	comp=Z,518nm,0.8s								
PYUN	**Piuthan**	48.06	277	*e*P		**P**		20 50 01.3	+0.6
	comp=Z,518nm,0.8s								
OHAK	**Old Harbor**	48.21	42	*e*P		**P**		20 50 01.1	-0.1
	comp=Z,56nm,0.9s								
RSO	**Redoubt South**	48.31	38	*e*P		**P**		20 50 03.4	+1.2
LBFI	**Labuhan Bajo,**	48.31	207	P		**P**		20 50 00.4	-2.0
	comp=Z,88nm,0.9s								
ULHL	**Ulaho**l	48.43	297	*i* P		**P**		20 50 04.7	+1.3
ULHL	**Ulaho**l	48.43	297	P		**P**		20 50 04.8	+1.3
	SNR=8.1								
PPLA	**Purkeypile**	48.53	35	*e*P		**P**		20 50 05.5	+1.7
	comp=Z,156nm,1.5s								
KDAK	**Kodiak Island**	48.55	41	*e*P		**P**		20 50 04.3	+0.5
	comp=Z,76nm,0.8s								
KDAK	**Kodiak Island**	48.55	41	P		**P**		20 50 04.6	+0.8
	comp=Z,616nm,0.9s,SNR=22								
CAST	**Castle Rocks**	48.58	34	*e*P		**P**		20 50 05.8	+1.8
	comp=Z,22nm,1.0s								
TKM2	**Tokmak 2**	48.72	298	*i* P		**P**		20 50 06.6	+1.0
TKM2	**Tokmak 2**	48.72	298	P		**P**		20 50 06.6	+1.0
	SNR=20								
TKM2	**Tokmak 2**	48.72	298	*e*P		**P**		20 50 06.5	+0.8
	comp=Z,211nm,1.5s								
KZA	**Kyzart**	49.19	297	*i* P		**P**		20 50 10.8	+1.4
KZA	**Kyzart**	49.19	297	P		**P**		20 50 10.9	+1.4
	SNR=53								
KBK	**Karagaybulak**	49.25	298	*i* P		**P**		20 50 10.4	+0.8
KBK	**Karagaybulak**	49.25	298	P		**P**		20 50 10.4	+0.8
	SNR=62								
CHMS	**Chumysh**	49.29	299	*i* P		**P**		20 50 10.2	+0.4
CHMS	**Chumysh**	49.29	299	P		**P**		20 50 10.3	+0.4
	SNR=27								
HNR	**Honiara**	49.38	153	P		**P**		20 50 11.2	+0.6
HNR	**Honiara**	49.38	153	P		**P**		20 50 11.1	+0.6
	comp=Z,34nm,0.4s,baz=224,slow=8.8,SNR=3.4								
TRF	**Thorofare Moun**	49.39	34	*e*P		**P**		20 50 11.1	+0.7
	comp=Z,40nm,0.9s								
KSH	**Kashi**	49.40	294	P		P		20 50 14.6	+3.8
KSH				pP		pP		20 50 31.1	+1.5
KSH				sP		sP		20 50 37.9	-0.3
KSH				PP		PP		20 52 11.3	+6.1
KSH				S		**S**		20 57 16.3	+4.2
KSH				sS		sS		20 57 44.1	-0.1
KSH				ScS		**ScS**		20 59 58.3	+2.8
KSH				pmax	pmax				
	comp=Z,18nm,1.0s								
KSH				pmax	pmax				
	comp=Z,260nm,4.2s								
KSH				LR		LR			
	comp=Z,160nm,6.7s								
KSH				LR		LR			
	comp=Z,180nm,5.9s								
KSH				LR		LR			
	comp=Z,440nm,14.4s								
USP	**Ospenovka**	49.40	299	*i* P		**P**		20 50 11.0	+0.4
USP	**Ospenovka**	49.40	299	P		**P**		20 50 11.1	+0.4
	SNR=52								
COLD	**Coldfoot**	49.43	29	*e*P		**P**		20 50 11.6	+1.2
	comp=Z,138nm,2.2s								
FRU	**Bishkek**	49.43	299	*e*P		**P**		20 50 10.5	-0.4
FRU				*e*				20 50 39.5	
FRU				pmax	pmax				
	comp=Z,220nm,2.0s								
KMMI	**Kalianget**	49.45	214	P		**P**		20 50 11.0	-0.1
	comp=Z,68nm,1.2s								
AAK	**Ala-Archa**	49.57	298	P		**P**		20 50 12.9	+0.8
	comp=Z,208nm,0.6s,SNR=29								
AAK	**Ala-Archa**	49.57	298	*i* P		**P**		20 50 12.7	+0.6
AAK	**Ala-Archa**	49.57	298	P		**P**		20 50 12.7	+0.6
	SNR=7.2								
UCH	**Uchtor**	49.67	298	*i* P		**P**		20 50 14.1	+0.9
UCH	**Uchtor**	49.67	298	P		**P**		20 50 14.2	+0.9
	SNR=22								
RC01	**Rabbit Creek A**	49.76	37	*e*P		**P**		20 50 13.7	+0.7
	comp=Z,70nm,1.1s								
MTNI	**Mataram**	49.90	211	P		**P**		20 50 13.3	-1.3
	comp=Z,72nm,1.0s								
SEW	**Seward**	49.97	38	*e*P		**P**		20 50 14.5	-0.1
	comp=Z,57nm,1.0s								
MCK	**McKinley**	49.98	33	*e*P		**P**		20 50 15.5	+0.8
MCK				pmax	pmax				
	comp=Z,594nm,2.5s								
MCK	**McKinley**	49.98	33	*e*P		**P**		20 50 15.5	+0.8
	comp=Z,594nm,2.5s								
PMR	**Palmer**	50.01	36	*e*P		**P**		20 50 14.3	-0.6
PMR				pmax	pmax				
	comp=Z,65nm,1.2s								
PMR	**Palmer**	50.01	36	*e*P		**P**		20 50 14.3	-0.6
	comp=Z,65nm,1.2s								
BRVK	**Borovoye**	50.05	313	P		**P**		20 50 15.6	+0.3
	comp=Z,437nm,0.4s,SNR=49								
EKS2	**Erkin-Say**	50.08	299	*i* P		**P**		20 50 16.2	+0.4
EKS2	**Erkin-Say**	50.08	299	P		**P**		20 50 16.3	+0.4
	SNR=17								
AML	**Almayashu**	50.28	298	*i* P		**P**		20 50 18.8	+1.0
AML	**Almayashu**	50.28	298	P		**P**		20 50 18.8	+1.0
	SNR=99								
COLA	**College**	50.41	32	*e*P		**P**		20 50 18.9	+1.1
COLA				pmax	pmax				
	comp=Z,11nm,1.0s								
COLA	**College**	50.41	32	*e*P		**P**		20 50 18.9	+1.1
	comp=Z,11nm,1.0s								
JMBI	**JAMBI**	50.51	230	P		P		20 50 26.2	+7.0
ILAR	**Eielson Array**	50.82	32	P		**P**		20 50 21.1	+0.1
ILAR	**Eielson Array**	50.82	32	P		**P**		20 50 21.1	+0.1
	comp=Z,30nm,0.8s,baz=275,slow=5.6,SNR=182								
BSI	**Banda Aceh**	50.90	244	P		P		20 50 33.1	+11
PWJI	**Pagerwojo**	51.31	216	P		**P**		20 50 24.3	-0.9
	comp=Z,46nm,0.9s								
SMLA	**Simla**	51.44	283	*i* P		**P**		20 50 26.3	+0.2
SMLA				*i* P		**P**		20 50 26.3	+0.2
DIV	**Divide**	51.67	37	*e*P		**P**		20 50 28.8	+1.3
	comp=Z,74nm,1.1s								
PCJI	**Pacitan**	51.77	217	P		**P**		20 50 28.5	-0.1
	comp=Z,36nm,1.5s								
UGM	**Wanagama**	51.84	218	P		**P**		20 50 28.5	-0.7
	comp=Z,90nm,1.4s								
DOT	**Dot Lake**	52.15	33	*e*P		**P**		20 50 31.3	+0.3
	comp=Z,28nm,0.8s								
KPJI	**Karang Pucung**	52.15	220	P		**P**		20 50 30.6	-0.9
	comp=Z,33nm,1.1s								
KKR	**Kurukshetra**	52.19	282	*e*P		**P**		20 50 31.1	-0.6
KKR				AMB		AMB		20 50 32.6	
	comp=Z,92nm,0.8s								
GSI	**Gunungsitoli**	52.24	238	*e*P		**P**		20 50 31.6	-0.6
	comp=Z,42nm,0.6s								
KLSI		52.28	226	P		**P**		20 50 32.2	-0.3
	comp=Z,49nm,1.4s								
LHSI	**Lahat**	52.31	228	P		**P**		20 50 33.8	+1.2
	comp=Z,52nm,1.0s								
MENT	**Mentasta**	52.40	34	*e*P		**P**		20 50 34.2	+1.4
NDI	**New Delhi**	52.41	281	*e*P		**P**		20 50 31.0	-2.4
MDSI	**Mara Dua**	52.44	227	P		**P**		20 50 33.0	-0.6
	comp=Z,29nm,1.0s								
AYAN	**Aya Nagar**	52.57	280	*e*P		**P**		20 50 33.6	-0.9
RTK	**Rohtak**	52.90	281	*e*P3		P		20 50 32.6	-4.4
CISI	**Cisompet, Garu**	52.93	221	P		**P**		20 50 34.7	-2.6
	comp=Z,20nm,1.1s								
KUDL	**Kundal**	53.23	280	*e*P		**P**		20 50 38.5	-0.8
KUDL				AMB		AMB		20 50 40.6	
	comp=Z,17nm,0.9s								
KHET	**Khetri**	53.80	281	*e*P		**P**		20 50 43.1	-0.4
DAWY	**Dawson**	54.14	32	*e*P		**P**		20 50 46.6	+1.0
SVE	**Sverdlovsk**	54.73	319	*ce*P		**P**		20 50 49.9	0.0
SVE				*e*				20 51 10.4	
SVE				pmax	pmax				
	comp=Z,75nm,1.1s								
INK	**Inuvik**	55.63	27	*e*P		**P**		20 50 57.0	+0.8
	comp=Z,46nm,0.9s								
HYT	**Haines Junctio**	55.68	36	*e*P		**P**		20 50 59.2	+2.4
FITZ	**Fitzroy Crossi**	55.76	196	*e*P		**P**		20 50 58.3	+0.7
	comp=Z,78nm,0.8s								
FITZ	**Fitzroy Crossi**	55.76	196	P		**P**		20 50 58.3	+0.7
	comp=Z,58nm,0.7s,baz=19,slow=7.1,SNR=92								
ARU	**Arti**	55.94	319	P		**P**		20 50 58.7	+0.1
	comp=Z,322nm,0.5s,SNR=21								
ARU	**Arti**	55.94	319	*di* P		**P**		20 50 58.1	-0.5
ARU				*e**PP		**pP**		20 51 17.5	-0.2
ARU								20 51 55.6	
ARU				S		**S**		20 58 42.4	+1.9
ARU								21 00 37.3	
ARU				pmax	pmax				
	comp=Z,79nm,1.2s								
ARU	**Arti**	55.94	319	*e*P		**P**		20 50 58.0	-0.5
	comp=Z,124nm,1.1s								
WRAB	**Tennant Creek**	56.20	186	*c* P		**P**		20 51 00.5	-0.3
WRAB				pmax	pmax				
	comp=Z,167nm,1.2s								
WRAB	**Tennant Creek**	56.20	186	*e*P		**P**		20 51 00.4	-0.3
	comp=Z,51nm,0.9s								
WRAB	**Tennant Creek**	56.20	186	P		**P**		20 51 00.9	+0.1
	comp=Z,375nm,0.5s								
WRA	**Warramunga Arr**	56.21	186	P		**P**		20 51 00.6	-0.3
WRA	**Warramunga Arr**	56.21	186	P		**P**		20 51 00.6	-0.3
	comp=Z,39nm,0.5s,baz=2.7,slow=7.6,SNR=284								
KBL	**Kabul**	56.34	291	*e*P		**P**		20 51 00.8	-1.3
KBL				pmax	pmax				
	comp=Z,49nm,1.4s								
KBL	**Kabul**	56.34	291	*e*P		**P**		20 51 00.8	-1.3
	comp=Z,49nm,1.4s								
CTA	**Charters Tower**	56.48	173	P		**P**		20 51 02.8	0.0
CTA	**Charters Tower**	56.48	173	P		**P**		20 51 02.8	0.0
	comp=Z,13nm,0.9s,baz=7.8,slow=8.6,SNR=9.6								
CTAO	**Charters Tower**	56.48	173	*e*P		**P**		20 51 02.4	-0.3
CTAO				pmax	pmax				
	comp=Z,19nm,1.0s								
CTAO	**Charters Tower**	56.48	173	*e*P		**P**		20 51 02.4	-0.3
	comp=Z,20nm,1.0s								
XMIS	**Christmas Isla**	56.53	221	*e*P		**P**		20 51 01.4	-1.8
	comp=Z,144nm,1.1s								
HYB	**Hyderabad**	56.77	268	*i* P		**P**		20 51 05.0	-0.1
AS31	**Alice Springs**	59.94	186	*e*P		**P**		20 51 26.7	-0.2
ASAR	**Alice Springs**	59.94	186	P		**P**		20 51 26.8	-0.1
ASAR	**Alice Springs**	59.94	186	P		**P**		20 51 26.8	-0.1
	comp=Z,17nm,0.9s,baz=9.7,slow=5.8,SNR=108								
POO	**Poona**	59.98	272	⇓*i* P		**P**		20 51 27.0	-0.5
	comp=Z,50nm,1.0s								
DLBC	**Dease Lake**	60.03	37	*e*P		**P**		20 51 29.4	+2.1
PRGR	**Permogore**	60.57	327	⇓*i* P		**P**		20 51 30.4	-0.3
PRGR								20 52 13.3	
PRGR				pmax	pmax				
	comp=Z,60nm,1.3s								
ALE	**Alert**	60.88	3	P		**P**		20 51 33.0	+0.4
	comp=Z,229nm,1.1s,SNR=5.9								
SPA0	**Spitsbergen Ar**	60.92	349	*e*P		**P**		20 51 31.8	-1.1
KBS	**Kingsbay**	61.09	350	*e*P		**P**		20 51 34.5	+0.5
IMYA	**Miami**	62.20	296	*e*P		**P**		20 51 42.4	-0.1
EIDS	**Eidsvold**	62.33	168	*e*P		**P**		20 51 43.6	+0.6
	comp=Z,81nm,1.8s								
TMCR	**Tamitsa**	62.67	331	*e*P		**P**		20 51 43.2	-1.6
TMCR				*e*				20 52 21.3	
TMCR				pmax	pmax				
	comp=Z,111nm,1.3s								
APA	**Apatity**	62.73	336	⇓*i* P		**P**		20 51 45.0	-0.2
APA				MLR	MLR				
	comp=Z,1μm,14.0s								
ABKT	**Ailbek**	62.92	299	P		**P**		20 51 47.0	-0.1
	comp=Z,176nm,0.8s,SNR=11								
COCO	**West Island**	62.93	228	*i* P		**P**		20 51 48.8	+1.7
IKRD	**Kardeh**	63.16	297	*e*P		P		20 51 43.8	-5.1
DZM	**Mont Dzumac**	63.38	152	P		**P**		20 51 51.9	+1.8
DZM	**Mont Dzumac**	63.38	152	P		**P**		20 51 51.9	+1.8
	comp=Z,32nm,0.9s,baz=17,slow=8.6,SNR=15								
KEV	**Kevo**	63.58	339	*e*P		**P**		20 51 50.5	-0.2
KEV				pmax	pmax				
	comp=Z,38nm,1.0s								
KEV	**Kevo**	63.58	339	*e*p		**P**		20 51 50.1	-0.6
	comp=Z,2.6nm,0.4s								
KEV	**Kevo**	63.58	339	*e*P		**P**		20 51 50.5	-0.2
	comp=Z,38nm,1.0s								
ARCES	**ARCESS Array B**	64.14	339	P		**P**		20 51 54.2	-0.2
ARCES	**ARCESS Array B**	64.14	339	P		**P**		20 51 54.2	-0.2
	comp=Z,16nm,0.8s,baz=55,slow=7.5,SNR=45								
ARE0	**ARCESS Array S**	64.14	339	*e*P		**P**		20 51 54.2	-0.2
ARE0	**ARCESS Array S**	64.14	339	*e*P		**P**		20 51 54.3	-0.2
YKA	**Yellowknife Ar**	65.10	30	P		**P**		20 52 00.9	+0.1
YKA	**Yellowknife Ar**	65.10	30	P		**P**		20 52 00.9	+0.1
	comp=Z,9.7nm,0.8s,baz=302,slow=6.6,SNR=114								
JOF	**Joensuu**	65.90	332	*e*P		**P**		20 52 05.4	-0.5
JOF				pmax	pmax				
	comp=Z,18nm,0.4s								
JOF	**Joensuu**	65.90	332	*e*p		**P**		20 52 05.4	-0.5
	comp=Z,18nm,0.4s								
DAG	**Danmarks Havn**	66.33	355	*i* P		**P**		20 52 08.7	+0.2
DAG	**Danmarks Havn**	66.33	355	*i* P		**P**		20 52 08.7	+0.2
	comp=Z,31nm,0.9s								
MOS	**Moscow**	66.95	323	*e*P		**P**		20 52 11.2	-1.6
MOS				*i* *PP		**pP**		20 52 32.1	-0.4
MOS				*e*				20 52 40.8	
MOS				*e*				20 54 38.9	
MOS				*eS*		**S**		21 00 56.9	-3.0
MOS				pmax	pmax				
	comp=Z,68nm,1.0s								
IANJ	**Anjilo**	67.06	298	*e*P		**P**		20 52 14.2	0.0
VRHR	**Novokhopersk**	67.24	317	*e*P		**P**		20 52 12.1	-2.6
VRHR				pmax	pmax				
	comp=Z,40nm,0.8s								
VRHR				pmax	pmax				
	comp=N,3.0nm,0.4s								
VRHR				pmax	pmax				
	comp=E,2.0nm,0.4s								
ISHM	**Shahmirzad**	67.34	298	*e*P		**P**		20 52 17.3	+1.3
FORT	**Forrest**	67.66	191	*e*P		**P**		20 52 17.6	+0.2
	comp=E,67nm,0.8s								
ILAS	**Lasjerd**	67.78	298	*e*P		**P**		20 52 19.1	+0.4
OBN	**Obninsk**	67.79	323	⇓*i* P		**P**		20 52 17.5	-0.6
OBN				*i* *PP		**pP**		20 52 38.5	+0.7
OBN				*e*				20 54 46.4	
OBN				*eS*		**S**		21 01 08.4	-1.6
OBN				pmax	pmax				
	comp=Z,70nm,1.2s								
OBN	**Obninsk**	67.79	323	*e*P		**P**		20 52 17.1	-0.9
	comp=Z,104nm,1.4s								
AFI	**Afiamalu**	67.80	128	LR		LR		21 18 19.3	
	comp=Z,136nm,21.3s,baz=297,slow=33								
STKA	**Stephens Creek**	67.89	178	*e*P		**P**		20 52 18.9	0.0
	comp=Z,6.9nm,1.4s								

baz=71
IKAZ **Kazeroun** 71.44 294 *e*P P 20 52 38.9 -2.5
NEW **Newport** 71.60 43 *e*P P 20 52 42.5 +0.8
comp=Z,64nm,2.0s
NEW *e*pP pP 20 53 03.9 +2.3
NEW **Newport** 71.60 43 ⇓P P 20 52 42.5 +0.8
baz=71
YBH **Yreka Blue Hor** 71.87 51 *e*P P 20 52 45.6 +2.0
comp=Z,35nm,1.7s
PINOR **Pine Mountain** 71.88 49 *e*P P 20 52 45.4 +2.0
J05D **Fort Rock, OR** 71.95 49 ⇓P P 20 52 45.5 +1.4
baz=72
M02C **Callahan** 71.97 52 ⇑P P 20 52 45.8 +1.7
baz=72
E09A **Wood Farm, Sta** 72.00 45 *e*P P 20 52 45.2 +1.2
comp=Z,18nm,0.8s
G08A **Pilot Rock** 72.21 47 *e*P P 20 52 46.5 +1.0
comp=Z,61nm,2.3s
IDID **Didziasalis** 72.27 326 *e*P P 20 52 45.2 -0.3
IDID AMB AMB 20 52 46.6
comp=Z,25nm,0.8s
N02D **Trinity Center** 72.29 52 ⇑P P 20 52 47.7 +1.7
baz=72
SOC **Sochi** 72.30 311 *e*P P 20 52 46.0 +0.1
SOC pmax pmax
comp=Z,24nm,0.6s
DBOC **Borcka** 72.31 308 *i* P P 20 52 44.8 -1.3
ISAL **Salakas** 72.39 327 *e*P P 20 52 46.0 -0.2
ISAL AMB AMB 20 52 47.4
comp=Z,29nm,0.8s
M04C **Macdoel** 72.39 51 ⇓P P 20 52 48.0 +1.3
baz=72
DBAD **Bademkaya** 72.47 308 *i* P P 20 52 44.0 -3.1
IIGN **Ignalina** 72.48 327 *e*P P 20 52 46.0 -0.8
IIGN AMB AMB 20 52 47.3
comp=Z,24nm,0.8s
DDEM **Demirkent** 72.50 308 *i* P P 20 52 45.5 -1.8
I07A **Izee** 72.56 48 *e*P P 20 52 49.1 +1.5
comp=Z,115nm,2.6s
WDC **Whiskeytown Da** 72.61 52 *e*P P 20 52 49.3 +1.5
WDC pmax pmax
comp=Z,91nm,2.5s
WDC **Whiskeytown Da** 72.61 52 *e*P P 20 52 49.3 +1.5
comp=Z,91nm,2.5s
SCO **Scoresbysund** 72.64 354 *i* P P 20 52 48.3 +0.9
SCO *i* 20 53 09.3
SCO **Scoresbysund** 72.64 354 *i* P P 20 52 48.3 +0.9
comp=Z,12nm,0.9s
SCO *i* 20 53 09.3
WALA **Waterton Lakes** 72.89 41 *e*P P 20 52 50.3 +0.8
ANN **Anapa** 72.98 313 *e*P P 20 52 48.4 -1.5
ANN pmax pmax
comp=Z,81nm,1.5s
BSMT **Bassoo Peak** 73.12 43 *e*P P 20 52 52.1 +1.1
MOD **Modoc** 73.28 50 *e*P P 20 52 53.2 +1.2
comp=Z,7.0nm,0.8s
JTMT **Jette** 73.46 43 *e*P P 20 52 54.0 +1.1
YBMT **Yellow Bay** 73.53 42 *e*P P 20 52 54.5 +1.1
J08A **Circle Bar Ran** 73.58 48 *e*P P 20 52 55.3 +1.6
comp=Z,28nm,1.4s
SWMT **Swartz Lake** 73.75 43 *e*P P 20 52 55.5 +0.9
AKASG **Malin Array Be** 73.97 322 P P 20 52 54.9 -0.7
AKASG pmax pmax
comp=Z,23nm,0.6s
AKASG MLR MLR
comp=Z,262nm,21.8s
AKASG **Malin Array Be** 73.97 322 P P 20 52 54.9 -0.7
AKASG **Malin Array Be** 73.97 322 P P 20 52 54.9 -0.7
comp=Z,23nm,0.6s,baz=48,slow=6.0,SNR=160
AKASG LR LR 21 26 21.0
comp=Z,262nm,21.8s,baz=55,slow=36
OHCM **Honcut** 73.97 53 *e*P P 20 52 56.9 +1.1
KIEV **Kiev** 73.98 322 *e*P P 20 52 54.6 -1.1
KIEV *e* 20 53 15.9
KIEV pmax pmax
comp=Z,37nm,0.8s
KIEV **Kiev** 73.98 322 *e*P P 20 52 54.6 -1.1
comp=Z,37nm,0.8s
KIEV *e* 20 53 15.9
WVOR **Wild Horse Val** 74.01 49 *e*P P 20 52 57.5 +1.3
WVOR pmax pmax
comp=Z,141nm,2.6s
WVOR **Wild Horse Val** 74.01 49 *e*P P 20 52 57.5 +1.3
comp=Z,141nm,2.6s
MSO **Missoula** 74.19 43 *e*P P 20 52 57.6 +0.5
comp=Z,64nm,2.3s
MSO **Missoula** 74.19 43 ⇑P P 20 52 57.2 +0.1
baz=74
SLMT **Seeley Lake** 74.19 43 *e*P P 20 52 57.8 +0.6
NB2 **NORSAR Subarra** 74.26 337 P P 20 52 56.5 -0.7
comp=Z,107nm,1.2s,baz=41,slow=5.9
NB2 **NORSAR Subarra** 74.26 337 P P 20 52 56.5 -0.7
baz=41,slow=5.9
NOA **NORSAR Array B** 74.26 337 P P 20 52 56.8 -0.5
NOA pP pP 20 53 17.8 +0.6
NOA PP PP 20 55 42.3 -0.9
NOA **NORSAR Array B** 74.26 337 P P 20 52 56.8 -0.5
comp=Z,15nm,0.5s,baz=40,slow=5.8,SNR=82
NOA pP pP 20 53 17.8 +0.6
comp=Z,19nm,0.8s,baz=40,slow=5.8,SNR=7.2
NOA PP PP 20 55 42.3 -0.9
comp=Z,9.6nm,0.8s,baz=43,slow=8.8,SNR=10
NC602 **NORSAR Array S** 74.39 336 *e*P P 20 52 56.5 -1.4
BEKR **Beckworth** 74.39 52 *e*P P 20 52 58.9 +0.4
comp=Z,504nm,0.3s
ILULI **Ilulissat** 74.45 4 *i* P P 20 52 58.1 0.0
ILULI **Ilulissat** 74.45 4 *i* P P 20 52 58.1 0.0
comp=Z,20nm,0.8s
CHMT **Chamberlain Mo** 74.51 43 *e*P P 20 52 59.2 0.0
SUW **Suwalki** 74.70 327 *e*P P 20 53 00.2 +0.4
SUW pmax pmax
comp=Z,53nm,1.0s
SUW **Suwalki** 74.70 327 *e*P P 20 53 00.2 +0.4
comp=Z,52nm,1.0s
SIM **Simferopol'** 74.82 315 *e*P P 20 53 00.9 +0.2
SIM *e* 20 53 18.0
SIM pmax pmax
comp=Z,32nm,0.9s
FFC **Flin Flon** 75.04 32 *e*P P 20 53 02.0 +0.3
FFC pmax pmax
comp=Z,16nm,0.9s
FFC **Flin Flon** 75.04 32 *e*P P 20 53 02.0 +0.3
comp=Z,16nm,0.9s
FFC **Flin Flon** 75.04 32 P P 20 53 02.3 +0.6
comp=Z,108nm,0.8s,SNR=8.1
PAHR **Pah Rah Range** 75.10 52 *e*P P 20 53 03.3 +0.7
MFID **Camas Ranch** 75.12 47 *e*P P 20 53 03.8 +1.2
comp=Z,74nm,2.0s
FCC **Fort Churchill** 75.23 26 *e*P P 20 53 03.0 +0.2
FCC **Fort Churchill** 75.23 26 *e*P P 20 53 03.0 +0.2
HRY **Holter Researc** 75.41 42 *e*P P 20 53 05.1 +0.9
LRM **Limekiln Ridge** 75.62 43 *e*P P 20 53 06.5 +0.9
A19A **Klindworth Far** 75.66 39 ⇓P P 20 53 06.0 +0.5
baz=76,SNR=12
EGMT **Eagleton** 75.71 40 *e*P P 20 53 05.9 +0.1
comp=Z,30nm,0.9s
EGMT **Eagleton** 75.71 40 ⇑P P 20 53 06.6 +0.7
baz=76,SNR=8.4
WAKR **Walker** 75.75 53 *e*P P 20 53 08.2 +1.8
DLMT **Dillon** 75.81 44 *e*P P 20 53 07.7 +1.1
comp=Z,20nm,0.6s
KONO **Kongsberg** 75.85 336 *e*P P 20 53 06.4 +0.1
B19A **Brinkman Farms** 75.86 40 ⇓P P 20 53 07.6 +1.0
baz=76,SNR=12
HLID **Hailey** 75.86 46 *e*P P 20 53 08.2 +1.3
comp=Z,7.9nm,0.9s
HLID **Hailey** 75.86 46 ⇑P P 20 53 08.0 +1.1
baz=76
BMN **Battle Mountai** 76.03 50 *e*P P 20 53 09.3 +1.4
BMN **Battle Mountai** 76.03 50 *e*P P 20 53 09.3 +1.4
MALT **Malatya** 76.08 307 ⇓*i*P P 20 53 08.8 +0.7
A20A **Cobblestone Ra** 76.11 39 ⇑P P 20 53 09.0 +1.0
baz=76
BOZ **Bozeman (W)** 76.18 43 *e*P P 20 53 09.8 +1.2
BOZ pmax pmax
comp=Z,19nm,1.0s
BOZ **Bozeman (W)** 76.18 43 *e*P P 20 53 09.8 +1.2
comp=Z,19nm,1.0s
C19A **Slack Wire Ran** 76.26 40 ⇑P P 20 53 10.2 +1.2
baz=76,SNR=16
B20A **Solberg Farm,** 76.34 39 ⇓P P 20 53 10.3 +0.9
baz=76
AKCD **Akcadag** 76.41 308 *i* P P 20 53 09.2 -0.9
A21A **Bergtoll Ranch** 76.54 38 ⇓P P 20 53 11.5 +1.0
baz=76,SNR=7.1
RUND **Rundenannen** 76.55 339 *e*P P 20 53 09.8 -0.5
ODD1 **Odda** 76.58 338 *e*P P 20 53 11.5 +1.0
BER **Bergen** 76.58 339 *e*P P 20 53 11.0 +0.6
MLAC **Mammoth Lakes** 76.65 53 ⇓P P 20 53 12.5 +1.0
baz=76
SFJD **Kangerlussuaq** 76.68 4 ⇓*i*P P 20 53 10.8 0.0
comp=Z,12nm,0.9s
D19A **Cripps Ranch,** 76.71 41 ⇓P P 20 53 13.0 +1.5
baz=76,SNR=10
QLMT **Earthquake Lak** 76.79 44 *e*P P 20 53 13.4 +1.1
comp=Z,1.1nm,0.8s
C20A **Veseth Ranch,** 76.82 40 ⇓P P 20 53 13.2 +1.1
baz=77,SNR=7.8
B21A **Ellsworth Farm** 76.86 39 ⇑P P 20 53 13.1 +0.7
baz=77,SNR=5.6
MTUM **Tungsten Hills** 76.98 53 *e*P P 20 53 14.9 +1.5
CTKT **Corum** 77.00 311 *i* P P 20 53 13.6 +0.2
A22A **Carney Farms,** 77.05 38 ⇓P P 20 53 13.8 +0.5
baz=77,SNR=13
ELK **Elko** 77.06 49 *e*P P 20 53 15.3 +1.5
LVV **L'vov** 77.09 323 *e*P P 20 53 13.8 +0.3
LVV *e* 20 53 34.4
D20A **Manuel Ranch,** 77.15 40 ⇓P P 20 53 15.2 +1.2
baz=77,SNR=15
GZT **Gaziantep** 77.19 307 *i* P P 20 53 15.2 +0.7
E19A **Rath Farm, Rou** 77.21 41 ⇓P P 20 53 15.7 +1.3
baz=77,SNR=27
BEL **Belsk** 77.23 326 *e*P P 20 53 14.6 +0.4
BEL **Belsk** 77.23 326 *e*P P 20 53 14.6 +0.4
YFT **Old Faithful** 77.36 44 *e*P P 20 53 17.5 +2.1
comp=Z,190nm,2.6s
BSD **Bornholm Skovb** 77.37 331 *i* P P 20 53 14.9 0.0
BSD **Bornholm Skovb** 77.37 331 *i* P P 20 53 14.9 0.0
comp=Z,8.8nm,0.3s
TIN **Tinemaha** 77.38 53 ⇑P P 20 53 16.9 +1.4
baz=77
B22A **Reddig Ranch S** 77.46 39 ⇑P P 20 53 16.6 +1.0
baz=77
F19A **Roth Farm, Mol** 77.51 42 ⇓P P 20 53 17.0 +0.9
baz=77,SNR=7.1
VES **Vestal, Richgr** 77.53 55 ⇓P P 20 53 16.5 +0.3
baz=77
E20A **Meyer Farm, Mu** 77.53 41 ⇓P P 20 53 17.3 +1.2
baz=77,SNR=13
H17A **Grant Village** 77.54 44 ⇓P P 20 53 18.4 +1.9
baz=77
PKM **Peak Mountain** 77.59 56 ⇓P P 20 53 17.8 +1.0
baz=78
TLCR 77.64 317 ⇓*i*P P 20 53 16.6 0.0
SNART **Snartemo** 77.65 337 *e*P P 20 53 16.8 +0.4
D21A **La Casta Ranch** 77.76 40 ⇓P P 20 53 18.2 +0.8
baz=78
RLMT **Red Lodge** 77.80 43 *e*P P 20 53 18.8 +1.0
comp=Z,7.7nm,0.5s
CWC **Cottonwood Cre** 77.83 54 ⇑P P 20 53 18.7 +0.6
baz=78
I17A **Pilgrim Ck.** 77.84 44 ⇓P P 20 53 20.0 +1.9
baz=78,SNR=8.5
KWP **Kalwaria Pacla** 77.85 324 *e*P P 20 53 18.4 +0.6
KWP **Kalwaria Pacla** 77.85 324 *e*P P 20 53 18.3 +0.5
KWP **Kalwaria Pacla** 77.85 324 ⇓*i*P P 20 53 18.1 +0.3
MOOW **Moose Ponds** 77.85 44 *e*P P 20 53 20.0 +1.8
B23A **Brockton** 77.86 38 ⇑P P 20 53 18.9 +1.1
baz=78,SNR=9.6
H18A **Shoshone NF, C** 77.87 43 ⇑P P 20 53 19.3 +1.0
baz=78,SNR=6.2
C22A **Vida** 77.88 39 ⇓P P 20 53 18.4 +0.4
baz=78
TPAW **Teton Pass** 77.90 45 *e*P P 20 53 20.4 +2.0
OUZ **Omahuta** 77.90 152 *e*P P 20 53 20.9 +3.0
comp=Z,35nm,1.3s
HVU **Hansel Valley** 77.91 47 *e*P P 20 53 19.6 +1.2
HVU pmax pmax
comp=Z,14nm,0.8s
HVU **Hansel Valley** 77.91 47 *e*P P 20 53 19.6 +1.2
comp=Z,14nm,0.8s
TESR **Tescani** 77.95 319 ⇑*i*P P 20 53 18.1 -0.2
GRAC **Grapevine Rang** 77.96 53 ⇑P P 20 53 19.9 +1.2
baz=78
BURAR **Bucovina Array** 77.96 321 ⇓*i*P P 20 53 18.6 +0.1
F20A **Billings** 77.97 41 ⇑P P 20 53 19.0 +0.3
baz=78
CFR **Carcaliu** 78.01 318 ⇑*i*P P 20 53 18.5 -0.2
LOHW **Long Hollow** 78.02 44 *e*P P 20 53 20.7 +1.6
comp=Z,45nm,2.3s
ISA **Isabella** 78.03 55 *e*P P 20 53 19.6 +0.5
ISA **Isabella** 78.03 55 *e*P P 20 53 19.6 +0.5
ISA **Isabella** 78.03 55 ⇓P P 20 53 19.5 +0.3
baz=78
AVNT **Avonos** 78.06 309 *i* P P 20 53 18.0 -1.3
E21A **Keefer Ranch,** 78.06 40 ⇓P P 20 53 19.3 +0.2
baz=78
D22A **Cohagen** 78.13 40 ⇓P P 20 53 20.1 +0.7
baz=78,SNR=6.0
PETR **Petresti** 78.15 319 ⇑*i*P P 20 53 20.7 +1.3
C23A **Lambert** 78.20 39 ⇓P P 20 53 20.2 +0.5
baz=78,SNR=5.8
BRTR **Keskin Array B** 78.24 311 P P 20 53 20.2 -0.1
BRTR pP pP 20 53 42.2 +1.7
BRTR PP PP 20 56 16.3 -1.1
BRTR **Keskin Array B** 78.24 311 P P 20 53 20.2 -0.1
comp=Z,5.8nm,0.5s,baz=121,slow=3.7,SNR=50
BRTR pP pP 20 53 42.2 +1.7
comp=Z,8.1nm,0.9s,baz=58,slow=4.7,SNR=4.6
BRTR PP PP 20 56 16.3 -1.1
comp=Z,4.8nm,0.9s,baz=68,slow=7.7,SNR=5.8
BGU **Big Grassy Mou** 78.28 48 *e*P P 20 53 22.1 +1.6
R11A **Troy Canyon, C** 78.29 51 *e*P P 20 53 21.9 +1.2
R11A **Troy Canyon, C** 78.29 51 ⇓P P 20 53 21.6 +1.0
baz=78,SNR=17
G20A **Bridger** 78.31 42 ⇓P P 20 53 21.1 +0.5
baz=78,SNR=6.7
TIRR **Tirgusor** 78.32 317 ⇑*i*P P 20 53 20.7 +0.3
VRI **Vrincioaia** 78.32 319 ⇓*i*P P 20 53 20.8 +0.3
PLOR **Plostina** 78.38 319 ⇓*i*P P 20 53 21.4 +0.6
MPMC **Manual Prospec** 78.44 54 ⇑P P 20 53 22.6 +1.0
baz=78,SNR=9.0
TLB **Topalu** 78.44 317 ⇓*i*P P 20 53 21.0 -0.1
A25A **Svangstu Ranch** 78.46 37 ⇓P P 20 53 21.9 +0.7
baz=78
MUD **Monsted U'grnd** 78.47 334 *e*P P 20 53 19.6 -1.4
MUD **Monsted U'grnd** 78.47 334 *i* P P 20 53 19.6 -1.4
comp=Z,19nm,0.9s
F21A **Absaloka Mine,** 78.50 41 ⇑P P 20 53 22.4 +0.8
baz=78
KOLS **Kolonicke sedl** 78.54 323 *e*P P 20 53 21.3 -0.3
KOLS pmax pmax
comp=Z,15nm,1.1s
KOLS **Kolonicke sedl** 78.54 323 *e*P P 20 53 21.3 -0.3
KOLS *e*PCP PcP 20 53 29.7 -0.7
KOLS *e* 20 53 40.5
KOLS *e* 20 53 51.3
KOLS *e*PP PP 20 56 19.9 +0.5
FURC **Furnace Creek,** 78.61 53 ⇑P P 20 53 23.3 +1.2
baz=78
D23A **Lindsay** 78.61 39 ⇓P P 20 53 23.0 +0.9
baz=78
I19A **Meeteetse** 78.65 43 ⇑P P 20 53 23.4 +0.8
baz=78
LRMC **Laurel Mountai** 78.66 54 ⇓P P 20 53 23.5 +0.9
baz=79
ANTO **Ankara** 78.67 311 P P 20 53 20.7 -1.8
ANTO **Ankara** 78.67 311 ⇑*i*P P 20 53 22.9 +0.4
ANTO **Ankara** 78.67 311 P P 20 53 20.7 -1.8
STHS **Stebnicka Huta** 78.70 324 *e*P P 20 53 23.0 +0.6
STHS pmax pmax
comp=Z,22nm,1.3s
STHS **Stebnicka Huta** 78.70 324 *e*P P 20 53 23.0 +0.6
STHS *e*PCP PcP 20 53 30.3 -0.8
STHS *e* 20 53 40.7
STHS *e* 20 53 50.5
STHS *e*PP PP 20 56 18.4 -2.4
TPNV **Topopah Spring** 78.71 52 *e*P P 20 53 24.1 +1.1
TPNV pmax pmax
comp=Z,27nm,1.1s
TPNV **Topopah Spring** 78.71 52 *e*P P 20 53 24.1 +1.1
comp=Z,27nm,1.1s
TPNV **Topopah Spring** 78.71 52 ⇓P P 20 53 24.1 +1.1
baz=79,SNR=17
E22A **Miles City** 78.72 40 ⇑P P 20 53 23.7 +1.1
baz=78
UZH **Uzhgorod** 78.73 323 *e*P P 20 53 22.7 +0.1
UZH *e* 20 53 26.1
C24A **Savage** 78.76 38 ⇓P P 20 53 23.7 +0.8
baz=79
OJC **Ojcow** 78.81 325 *e*P P 20 53 23.2 +0.2
OJC **Ojcow** 78.81 325 *e*P P 20 53 23.2 +0.2
EDW2 **Edwards Air Fo** 78.81 55 ⇓P P 20 53 24.5 +1.1
baz=79
G21A **Lodge Grass** 78.85 41 ⇑P P 20 53 24.2 +0.7
baz=79,SNR=5.2
DUG **Dugway** 78.86 48 *e*P P 20 53 25.2 +1.5
DUG pmax pmax
comp=Z,12nm,0.8s
DUG **Dugway** 78.86 48 *e*P P 20 53 25.2 +1.5
comp=Z,12nm,0.8s
DUG **Dugway** 78.86 48 ⇑P P 20 53 24.7 +1.0
baz=79,SNR=5.8
MSAB **Monastry St. A** 78.88 317 ⇓*i*P P 20 53 24.0 +0.5
B25A **Knox Farm, Ray** 78.89 37 ⇑P P 20 53 24.5 +0.9
baz=79
H20A **Greybull** 78.90 42 ⇑P P 20 53 24.2 +0.4
baz=79
ISR **Istrita** 78.91 318 ⇓*i*P P 20 53 24.6 +0.9
CRVS **Cervenica-Dubn** 78.95 324 *e*P P 20 53 23.9 +0.1
CRVS pmax pmax
comp=Z,13nm,1.0s
CRVS **Cervenica-Dubn** 78.95 324 *e*P P 20 53 23.9 +0.1
CRVS *e* 20 53 41.5
CRVS *e*PP PP 20 56 19.0 -3.9
TRPA **Tarpa** 78.95 323 ⇓*i*P P 20 53 24.3 +0.5
TRPA **Tarpa** 78.95 323 ⇓*e*P P 20 53 24.7 +0.9
DOPR **Dopca** 78.96 320 ⇑*i*P P 20 53 24.9 +0.9
MLR **Muntele Rosu** 78.98 319 ⇑*i*P P 20 53 24.2 0.0
F22A **Rosebud** 78.99 41 ⇓P P 20 53 24.7 +0.5
baz=79
A26A **Wade Farm, Ken** 79.00 36 ⇓P P 20 53 24.6 +0.5
baz=79
E23A **Ismay** 79.01 40 ⇑P P 20 53 25.0 +0.7
baz=79
J19A **Crowheart** 79.11 44 ⇓P P 20 53 26.0 +1.0
baz=79,SNR=6.9
NIE **Niedzica** 79.13 325 *e*P P 20 53 25.4 +0.5
NIE **Niedzica** 79.13 325 *e*P P 20 53 25.4 +0.5
BW06 **Boulder Array** 79.15 45 *e*P P 20 53 25.8 +0.5
comp=Z,10nm,1.0s
PDAR **Pinedale Array** 79.15 45 P P 20 53 25.6 +0.3
PDAR **Pinedale Array** 79.15 45 P P 20 53 25.6 +0.3
comp=Z,5.1nm,0.7s,baz=86,slow=1.3,SNR=42
I20A **Worland** 79.18 43 ⇓P P 20 53 26.5 +1.2
baz=79
B26A **Jensen Ranch,** 79.27 37 ⇓P P 20 53 26.4 +0.8
baz=79
H21A **Big Horn, Sher** 79.33 42 ⇓P P 20 53 26.7 +0.5
baz=79,SNR=6.3
G22A **Birney** 79.34 41 ⇓P P 20 53 26.1 -0.1
baz=79
CIS **Catalina Islan** 79.41 56 ⇑P P 20 53 28.2 +1.5
baz=79
BFSC **Mount Baldy Ra** 79.42 55 ⇓P P 20 53 27.7 +0.9
baz=79
JLU **Jordanelle** 79.42 47 *e*P P 20 53 28.3 +1.4
NLU **North Lily Min** 79.46 48 *e*P P 20 53 29.0 +2.0
comp=Z,10.0nm,0.8s
F23A **Volborg** 79.47 40 ⇓P P 20 53 27.2 +0.3
baz=79
E24A **Baker** 79.48 39 ⇑P P 20 53 27.4 +0.6
baz=79
VOIR 79.49 319 ⇓*i*P P 20 53 27.8 +0.8
J20A **Shoshoni** 79.59 43 ⇑P P 20 53 28.1 +0.5
baz=79,SNR=6.8
SHPR **Sheep Range** 79.68 52 *e*P P 20 53 29.9 +1.7
MPU **Maple Canyon** 79.68 48 *e*P P 20 53 29.6 +1.4
comp=Z,15nm,0.7s
MPU *e*pP pP 20 53 50.8 +2.3
C26A **Wahner Farm, P** 79.71 37 ⇓P P 20 53 28.4 +0.3
baz=80
H22A **Clearmont** 79.72 42 ⇓P P 20 53 28.4 +0.2
baz=80
I21A **Big Trails, Te** 79.73 43 ⇑P P 20 53 28.9 +0.5
baz=80,SNR=10
DRGR 79.78 322 ⇓*i*P P 20 53 28.5 0.0
G23A **Biddle** 79.83 41 ⇑P P 20 53 29.2 +0.4
baz=80
A28A **Rude Farm, Bot** 79.83 35 ⇑P P 20 53 29.1 +0.4
baz=80
OKC **Ostrava-Krasne** 79.83 326 *e*P P 20 53 28.6 0.0
OKC *e* 20 53 50.1
OKC *e* 20 53 58.5
OKC *e* 20 56 30.7
OKC **Ostrava-Krasne** 79.83 326 *e*P P 20 53 28.6 0.0
OKC *e*pP pP 20 53 50.1 +1.3
OKC *ex* x 20 53 58.5
OKC *e*PP PP 20 56 30.7 +0.6
TUQ **Turquoise Moun** 79.83 53 ⇓P P 20 53 30.0 +1.0
baz=80
F24A **Ekalaka** 79.89 40 ⇓P P 20 53 29.8 +0.7
baz=80
KSP **Ksiaz** 79.93 327 ⇓*e*P P 20 53 29.3 +0.2
KSP *e*'PP pP 20 53 50.4 +1.0
KSP **Ksiaz** 79.93 327 *e*P P 20 53 29.3 +0.2
HEC **Hector,Ludlow** 79.94 54 ⇓P P 20 53 30.3 +0.8
baz=80,SNR=6.6
J21A **Lysite** 79.95 43 ⇓P P 20 53 30.2 +0.6
baz=80
E25A **Miller Ranch,** 79.98 39 ⇑P P 20 53 30.3 +0.8
baz=80
BSEG **Bad Segeberg** 80.02 332 *e*P P 20 53 29.6 +0.1
comp=Z,40nm,1.0s
BSEG *e*pP pP 20 53 51.1 +1.4
C27A **Sayler Ranch,** 80.08 37 ⇑P P 20 53 30.6 +0.6
baz=80
D26A **Manning** 80.10 38 ⇓P P 20 53 30.8 +0.7
baz=80
MURC **Murrieta** 80.10 56 ⇓P P 20 53 31.3 +0.9
baz=80
B28A **Dugan Ranch, T** 80.11 36 ⇓P P 20 53 30.7 +0.6
baz=80
I22A **9 Mile Ranch,** 80.12 42 ⇑P P 20 53 30.9 +0.5
baz=80
HUMR **Humele** 80.14 319 ⇑*i*P P 20 53 30.6 +0.3
MORC **Moravsky Berou** 80.15 326 ⇓*i*P P 20 53 30.5 +0.1
LOT **Lotru** 80.15 320 ⇑*i*P P 20 53 30.7 +0.1
CCUT **Cedar City** 80.17 50 *e*P P 20 53 32.6 +1.6
H23A **Clabaugh Cattl** 80.25 41 ⇑P P 20 53 31.5 +0.4
baz=80
G24A **Alzada** 80.25 40 ⇓P P 20 53 31.4 +0.3
baz=80
KRLC **Kraliky** 80.27 327 *e*P P 20 53 30.1 -0.9
KRLC *e* 20 53 52.6
KRLC *e* 20 54 01.0
KRLC **Kraliky** 80.27 327 *e*P P 20 53 30.1 -0.9
KRLC *e*pP pP 20 53 52.6 +1.3
KRLC *ex* x 20 54 01.0
DPC **Dobruska-Polom** 80.28 327 *e*P P 20 53 31.4 +0.4
DPC *e* 20 53 52.5
DPC *e* 20 54 00.7
DPC *e* 20 56 31.9
DPC **Dobruska-Polom** 80.28 327 *e*P P 20 53 31.4 +0.4
DPC *e*pP pP 20 53 52.5 +1.2
DPC *ex* x 20 54 00.7
DPC *e*PP PP 20 56 31.9 -1.9
DPC **Dobruska-Polom** 80.28 327 *e*P P 20 53 31.5 +0.4
MVU **Marysvale** 80.28 49 *e*P P 20 53 32.8 +1.2
UPC **Upice** 80.30 327 *e*P P 20 53 31.4 +0.3
UPC *e* 20 53 52.7
UPC *e* 20 54 01.1
UPC **Upice** 80.30 327 *e*P P 20 53 31.4 +0.3
UPC *e*pP pP 20 53 52.7 +1.3
UPC *ex* x 20 54 01.1
A29A **Manning Farm,** 80.30 35 ⇑P P 20 53 31.5 +0.3
baz=80
F25A **Bowman** 80.34 39 ⇑P P 20 53 31.9 +0.4
baz=80
PSZ **Piszkesteto** 80.38 324 *e*P P 20 53 31.5 -0.2
PSZ **Piszkesteto** 80.38 324 ⇓*i*P P 20 53 31.9 +0.3
PSZ **Piszkesteto** 80.38 324 *e*P P 20 53 31.5 -0.2
PSZ **Piszkesteto** 80.38 324 ⇓*e*P P 20 53 32.0 +0.3
GMRC **Granite Mounta** 80.41 54 ⇑P P 20 53 33.0 +0.8
baz=80,SNR=10
J22A **Midwest** 80.44 43 ⇓P P 20 53 32.7 +0.5
baz=80,SNR=8.4
E26A **Carlson Angus** 80.47 38 ⇑P P 20 53 32.3 +0.2
baz=80
D27A **Center** 80.49 37 ⇑P P 20 53 32.3 +0.1
baz=80
K21A **Alcova** 80.53 43 ⇑P P 20 53 32.9 +0.2
baz=80,SNR=8.2
B29A **Wagenman Farm,** 80.57 35 ⇑P P 20 53 32.7 +0.1
baz=80
H24A **Dirks Ranch, A** 80.58 41 ⇓P P 20 53 33.1 +0.3

baz=80,SNR=6.4
LDFC Landfair 80.58 53 *e*P P 20 53 34.1 +1.1
PFO Pinyon Flat Ob 80.59 55 *e*P P 20 53 34.0 +0.8
PFO Pinyon Flat Ob 80.59 55 ⇓P P 20 53 33.2 0.0
baz=80
C28A Hausauer Farms 80.62 36 ⇓P P 20 53 33.3 +0.4
baz=80
JMB Yambol 80.63 316⇑*i*P P 20 53 33.9 +0.9
BELC Belle Mtn. Jos 80.66 55 ⇓P P 20 53 34.0 +0.5
baz=80,SNR=5.6
SIRR Siria 80.67 322⇑*i*P P 20 53 32.9 -0.3
GZR Gura Zlata 80.70 320⇑*i*P P 20 53 33.6 +0.1
A30A Hoffart Farm, 80.72 34 ⇓P P 20 53 33.4 +0.1
baz=80
F26A Lodgepole 80.79 39 ⇑P P 20 53 34.3 +0.4
baz=81
ULM Lac du Bonnet 80.84 32 *e*P P 20 53 34.1 +0.1
comp=Z,80nm,2.1s
ULM Lac du Bonnet 80.84 32 P P 20 53 33.6 -0.4
comp=Z,4.8nm,0.6s,baz=317,slow=6.3,SNR=9.9
MDND Maddock 80.89 36 *e*P P 20 53 35.0 +0.6
MDND Maddock 80.89 36 ⇓P P 20 53 34.7 +0.3
baz=81
D28A Regan 80.90 37 ⇓P P 20 53 34.8 +0.4
baz=81
PVCC Panska Ves 80.90 328 *e*P P 20 53 34.3 0.0
PVCC *e* 20 53 56.1
PVCC *e* 20 54 04.7
PVCC Panska Ves 80.90 328 *e*P P 20 53 34.3 0.0
PVCC *e*pP pP 20 53 56.1 +1.5
PVCC *ex* x 20 54 04.7
BRG Berggiesshubel 80.91 329 *i* P P 20 53 34.0 -0.3
comp=Z,22nm,1.0s
BRG *i* pP pP 20 53 55.9 +1.2
comp=Z,39nm,1.4s
BRG Berggiesshubel 80.91 329 *i* P P 20 53 34.0 -0.3
BRG *i* *PP pP 20 53 55.8 +1.2
BRG pmax pmax
comp=Z,22nm,1.0s
BRG pmax pmax
comp=Z,39nm,1.4s
BRG Berggiesshubel 80.91 329 *e*P P 20 53 34.3 -0.1
comp=Z,22nm,1.0s
BRG *e*pP pP 20 53 55.8 +1.2
VRAC Vranov 80.92 326⇑*i*P P 20 53 34.0 -0.4
K22A Casper 80.92 43 *e*P P 20 53 35.1 +0.4
K22A Casper 80.92 43 ⇑P P 20 53 34.9 +0.1
baz=81
SRU San Rafael 80.92 48 *e*P P 20 53 35.9 +1.0
SRU San Rafael 80.92 48 *e*P P 20 53 35.9 +1.0
E27A Carson 80.94 38 ⇑P P 20 53 35.4 +0.7
baz=81
J23A Dilts Ranch, B 80.95 42 ⇓P P 20 53 35.0 +0.1
baz=81
CLL Collm 80.98 329 *e*P P 20 53 34.4 -0.3
comp=Z,41nm,1.0s
CLL *e*pP pP 20 53 55.9 +0.9
CLL Collm 80.98 329⇓*i*P P 20 53 34.1 -0.6
comp=Z,41nm,1.0s
CLL *i* PcP PcP 20 53 40.5 -0.5
CLL *e* 20 53 50.0
CLL *i* pP pP 20 53 55.4 +0.4
CLL *e*PP PP 20 56 39.0 -0.5
comp=Z,12nm,1.0s
CLL *e*S S 21 03 38.0 +0.6
CLL *e*PS PnS 21 04 32.0 -0.7
BAR Barrett 81.01 56 *e*P P 20 53 36.1 +0.8
MONP Monument Peak 81.05 56 ⇓P P 20 53 36.4 +0.7
baz=81
B30A Myrvik Farm, E 81.06 35 ⇓P P 20 53 35.4 +0.2
baz=81
F27A Lemmon 81.11 39 ⇓P P 20 53 36.0 +0.4
baz=81
SMOL Smolenice 81.11 325 *e*P P 20 53 36.3 +0.8
SMOL Smolenice 81.11 325 *e*P P 20 53 36.3 +0.8
PKSN Nyarlorinc 81.11 323⇓*e*P P 20 53 36.0 +0.5
IRM Iron Mountain 81.12 54 ⇑P P 20 53 36.8 +1.0
baz=81,SNR=6.8
I24A Kuemmerle Ranc 81.14 41 ⇑P P 20 53 35.9 0.0
baz=81
BZS Buzias 81.14 321⇓*i*P P 20 53 35.3 -0.4
H25A Fruitdale 81.16 40 ⇑P P 20 53 36.0 +0.1
baz=81
G26A Maurine 81.21 39 ⇓P P 20 53 36.8 +0.7
baz=81,SNR=5.5
BC3 Big Chuckawall 81.23 55 ⇑P P 20 53 37.4 +0.9
baz=81
E28A Huff 81.27 37 ⇑P P 20 53 36.7 +0.3
baz=81
RSSD Black Hills 81.27 41 *e*P P 20 53 36.9 +0.2
RSSD Black Hills 81.27 41 *e*P P 20 53 36.9 +0.2
PRA Prague 81.30 328 ⇓P P 20 53 37.0 +0.6
PRA pP pP 20 53 59.0 +2.3
PRA PP PP 20 56 40.0 -2.2
PRU Pruhonice 81.32 328 *e*P P 20 53 36.6 +0.1
PRU *e* 20 53 58.1
PRU *e* 20 54 06.5
PRU *e* 20 56 39.4
PRU Pruhonice 81.32 328 *e*P P 20 53 36.6 +0.1
PRU *e*pP pP 20 53 58.1 +1.3
PRU *ex* x 20 54 06.5
PRU *e*PP PP 20 56 39.4 -3.0
K23A Bowen Ranch, D 81.34 43 ⇓P P 20 53 37.4 +0.3
baz=81
W13A Hualapai Mount 81.36 53 ⇓P P 20 53 37.8 +0.5
baz=81
DVTC Desert V Tower 81.41 56 ⇑P P 20 53 38.0 +0.6
baz=81
TREC Trest 81.42 327 *e*P P 20 53 37.0 -0.1
TREC *e* 20 53 58.7
TREC *e* 20 54 07.1
TREC Trest 81.42 327 *e*P P 20 53 37.0 -0.1
TREC *e*pP pP 20 53 58.7 +1.3
TREC *ex* x 20 54 07.1
SWSC Sam W. Stewart 81.44 55 ⇑P P 20 53 37.7 +0.2
baz=81
PKSG 81.47 324⇓*e*P P 20 53 37.5 +0.1
J24A Dixon Ranch, L 81.48 42 ⇑P P 20 53 37.6 -0.1
baz=81
G27A Dupree 81.49 39 ⇑P P 20 53 37.9 +0.3
baz=81
I25A Rochford 81.50 41 ⇑P P 20 53 37.9 0.0
baz=81
C30A Mose, Pekin 81.53 35 ⇓P P 20 53 37.5 -0.2
baz=81
U15A North Rim 81.54 51 ⇑P P 20 53 39.5 +1.2
baz=81,SNR=12
H26A Fairpoint 81.59 40 ⇓P P 20 53 38.7 +0.6
baz=81,SNR=5.9
CLZ Clausthal 81.62 331 *e*P P 20 53 38.3 +0.1
comp=Z,60nm,1.3s
CLZ *e*pP pP 20 53 59.9 +1.4
CLZ *es*P sP 20 54 08.2 +1.5
PDMCI Parker Dam,Lak 81.69 53 ⇓P P 20 53 40.0 +1.3
baz=82,SNR=7.0
PKST T"s 81.74 324⇓*e*P P 20 53 39.0 +0.2
Y12C Blythe 81.78 54 ⇓P P 20 53 39.9 +0.7
baz=82
K24A Anderson Ranch 81.80 42 ⇑P P 20 53 39.2 -0.3
baz=82
KDZ Kurdzhali 81.82 316⇑*i*P P 20 53 39.8 +0.4
D30A Buchanan 81.83 36 ⇑P P 20 53 39.2 -0.1
baz=82
J25A Sunshine Ranch 81.89 41 ⇑P P 20 53 40.0 +0.1
baz=82
H27A Howes 81.94 39 ⇓P P 20 53 40.3 +0.3
baz=82
I26A New Underwood 81.95 40 ⇑P P 20 53 40.5 +0.4
baz=82
NKC Novy Kostel 82.02 329 *e*P P 20 53 40.4 +0.1
NKC *e* 20 54 01.6
NKC Novy Kostel 82.02 329 *e*P P 20 53 40.4 +0.1
NKC *e*pP pP 20 54 01.6 +1.0
PKS9 Tamasi 82.10 324⇑*e*P P 20 53 40.8 +0.1
SOP Sopron 82.12 325⇓*e*P P 20 53 41.2 +0.4
N22A Wattenberg Ran 82.19 44 ⇑P P 20 53 42.4 +0.7
baz=82
E30A Jud 82.19 37 ⇑P P 20 53 41.5 +0.3
baz=82
PKSM Moragy 82.20 323⇑*i*P P 20 53 40.8 -0.4
PKSM Moragy 82.20 323⇑*e*P P 20 53 40.6 -0.6
G28A Parade 82.22 39 ⇑P P 20 53 42.1 +0.7
baz=82
IBBN Ibbenburen 82.26 333 *e*P P 20 53 41.0 -0.4
comp=Z,37nm,0.9s
IBBN *e*pP pP 20 54 02.7 +1.0
CONA Conrad Observa 82.26 326⇑*i*PcP P 20 53 42.5 +0.8
comp=Z,37nm,1.8s,SNR=7.1
J26A Sides Ranch, S 82.33 41 ⇓P P 20 53 43.0 +0.9
baz=82,SNR=5.7
I27A Quinn 82.34 40 ⇑P P 20 53 42.6 +0.4
baz=82
KHC Kasperske Hory 82.38 328 *e*P P 20 53 42.1 -0.1
KHC *e* 20 54 03.7
KHC *e* 20 54 11.9
KHC Kasperske Hory 82.38 328 *e*P P 20 53 42.1 -0.1
KHC *e*pP pP 20 54 03.7 +1.2
KHC *ex* x 20 54 11.9
KHC *e*PP PP 20 56 45.2 -6.0
KHC Kasperske Hory 82.38 328 *e*P P 20 53 41.8 -0.3
K25A Mack Ranch, Ha 82.39 42 ⇓P P 20 53 43.0 +0.5
baz=82
N23A Red Feather La 82.41 44 ⇓P P 20 53 43.7 +0.8
baz=82
H28A Mission Ridge 82.45 39 ⇑P P 20 53 43.6 +0.9
baz=82,SNR=6.0
ROTZ Rotzenmuhle 82.48 329 *e*P P 20 53 43.0 +0.4
comp=Z,52nm,1.5s
ROTZ *e*pP pP 20 54 04.7 +1.7
ROTZ *es*P sP 20 54 13.0 +1.8
GEC2 GERESS Array S 82.54 327 *e*P P 20 53 43.0 -0.1
GEC2 GERESS Array S 82.54 327 *e*P P 20 53 42.8 -0.3
comp=Z,25nm,1.3s
GEC2 GERESS Array S 82.54 327 *e*P P 20 53 43.0 -0.1
GERES GERESS Array B 82.54 327 P P 20 53 42.6 -0.5
GERES pP pP 20 54 04.1 +0.7
GERES PP PP 20 56 51.8 -0.7
GERES GERESS Array B 82.54 327 P P 20 53 42.6 -0.5
comp=Z,4.8nm,0.4s,baz=39,slow=5.7,SNR=83
GERES pP pP 20 54 04.1 +0.7
comp=Z,3.1nm,0.6s,baz=39,slow=5.1,SNR=4.7
GERES PP PP 20 56 51.8 -0.7
comp=Z,1.3nm,0.7s,baz=44,slow=5.9,SNR=5.6
O22A Kremmling 82.56 45 ⇓P P 20 53 44.5 +0.8
baz=82
M24A Cheyenne 82.65 43 ⇑P P 20 53 44.4 +0.4
baz=82
Y14A Wickenburg 82.65 53 ⇓P P 20 53 44.7 +0.8
baz=82
WET Wettzell 82.67 328 *e*P P 20 53 44.5 +0.8
comp=Z,37nm,1.4s
WET *e*pP pP 20 54 06.1 +2.1
WUAZ Wupatki 82.69 51 *e*P P 20 53 45.6 +1.4
WUAZ Wupatki 82.69 51 ⇑P P 20 53 45.3 +1.1
baz=83,SNR=8.8
K26A Motz Farm, Whi 82.70 41 ⇑P P 20 53 44.7 +0.6
baz=82
MMB Musomiste 82.80 317⇓*i*P P 20 53 44.7 +0.2
P22A Eagle 82.81 46 ⇓P P 20 53 46.2 +1.3
baz=83,SNR=6.2
I28A Midland 82.85 39 ⇓P P 20 53 45.0 +0.3
baz=83
113A Mohawk Valley, 82.89 54 ⇓P P 20 53 45.8 +0.8
baz=83
O23A Lake Granby, G 82.89 45 ⇓P P 20 53 46.4 +1.1
baz=83
H29A Onida 82.89 38 ⇑P P 20 53 45.4 +0.4
baz=83
ARSA Arzberg 82.91 325⇑*i*P P 20 53 45.3 +0.3
comp=Z,16nm,1.2s
SMCO Snowmass 82.97 46 *e*P P 20 53 47.3 +1.4
N24A Carr 83.05 44 ⇓P P 20 53 45.5 -0.5
baz=83
G30A Faulkton 83.06 38 ⇓P P 20 53 46.3 +0.6
baz=83
BUG Bochum--Univer 83.13 332 *e*P P 20 53 45.2 -0.7
comp=Z,39nm,1.4s
BUG *es*P sP 20 54 15.4 +0.9
J28A Allard Ranch, 83.22 40 ⇓P P 20 53 47.0 +0.3
baz=83
I29A Vivian Onida 83.27 39 ⇑P P 20 53 47.3 +0.4
baz=83
ISCO Idaho Springs 83.33 45 ⇑P P 20 53 48.2 +0.6
baz=83
X16A Lo Mia Camp, P 83.35 52 ⇑P P 20 53 49.4 +1.7
baz=83,SNR=13
MVCO Mesa Verde 83.36 48 *e*P P 20 53 48.6 +0.9
MVCO Mesa Verde 83.36 48 ⇑P P 20 53 48.5 +0.7
baz=83
P23A Jefferson 83.49 45 ⇑P P 20 53 49.4 +0.9
baz=83
PERS Pernice 83.56 325 *e*P P 20 53 48.4 +0.1
SOKA Soboth 83.56 325⇑*i*P P 20 53 48.6 +0.1
comp=Z,42nm,1.0s,SNR=8.5
L27A T5 Ranch, Ells 83.59 41 ⇓P P 20 53 49.0 +0.4
baz=83
VAY Valandovo 83.61 318 *e*P P 20 53 48.0 -0.6
K28A Ten Mile Ranch 83.65 40 ⇑P P 20 53 49.3 +0.4
baz=84
TNS Taunus Mts 83.65 331 *e*P P 20 53 48.4 -0.3
comp=Z,30nm,1.5s
J29A Okreek 83.70 39 ⇓P P 20 53 49.7 +0.6
baz=84
SKO Skopje 83.77 319 *e*P P 20 53 49.1 -0.3
RJOB Jochberg 83.77 327 *e*P P 20 53 49.5 +0.1
comp=Z,28nm,1.1s
RJOB *e*pP pP 20 54 11.3 +1.5
I30A Oacoma 83.79 39 ⇓P P 20 53 50.1 +0.6
baz=84
GCIS Gornji Cirnik 83.89 324 *e*P P 20 53 49.8 -0.2
IVA Berane 83.95 320⇑*i*P P 20 53 51.1 +0.6
W18A Petrified Fore 83.97 50 ⇓P P 20 53 51.2 +0.3
baz=84
S22A 4UR Ranch, Cre 84.01 47 ⇑P P 20 53 52.3 +1.2
baz=84,SNR=10
214A Organ Pipe Nat 84.02 55 ⇑P P 20 53 52.2 +1.2
baz=84
FUR Furstenfeldbru 84.10 328 *e*P P 20 53 51.1 +0.1
comp=Z,51nm,1.1s
FUR *e*pP pP 20 54 12.9 +1.4
PVY Plav 84.11 320⇑*i*P P 20 53 51.7 +0.4
K29A Lazy Trails An 84.16 40 ⇑P P 20 53 52.2 +0.7
baz=84
Q24A Divide 84.16 45 ⇓P P 20 53 52.1 +0.2
baz=84
HGN Heimansgroeve 84.18 333 *e*L L 20 53 39.3
comp=Z,2µm,20.5s
J30A Dallas 84.18 39 ⇓P P 20 53 51.7 +0.2
baz=84
X18A Snowflake 84.22 51 ⇑P P 20 53 53.2 +1.1
baz=84
UPM Unac-Piva 84.22 321⇑*i*P P 20 53 51.8 -0.2
MEM Membach 84.27 332 P P 20 53 52.1 +0.3
R23A Moffat 84.30 46 ⇑P P 20 53 53.8 +1.2
baz=84,SNR=6.5
P25A Willow Gulch B 84.35 44 ⇑P P 20 53 53.5 +0.8
baz=84
N27A Anderson Farm, 84.36 42 ⇓P P 20 53 53.2 +0.6
baz=84
NKY Niksic 84.46 321⇑*i*P P 20 53 52.7 -0.3
EYMN Ely 84.47 32 *e*P P 20 53 52.5 -0.4
STU Stuttgart 84.50 330 *e*P P 20 53 52.7 -0.3
STU Stuttgart 84.50 330 *e*P P 20 53 53.0 0.0
comp=Z,49nm,1.1s
STU *e*pP pP 20 54 14.5 +1.1
STU Stuttgart 84.50 330 *e*P P 20 53 52.7 -0.3
OGNE Ogallala 84.53 42 ⇑P P 20 53 53.7 +0.3
baz=84
L29A Maesberg Ranch 84.57 40 ⇓P P 20 53 54.3 +0.6
baz=84
TTG Podgorica 84.59 320⇑*i*P P 20 53 53.5 -0.1
BRY Bratogost 84.62 321⇑*i*P P 20 53 53.3 -0.6
R24A Sanders Place, 84.68 46 ⇑P P 20 53 55.9 +1.4
baz=84,SNR=8.7
BCLA Clavier 84.69 333 P P 20 53 53.6 -0.3
comp=Z,20nm,2.0s
Q25A Bedland, Calha 84.71 45 ⇑P P 20 53 55.1 +0.5
baz=84
P26A Davis Ranch, A 84.78 44 ⇓P P 20 53 55.3 +0.5
baz=85
SDCO Great Sand Dun 84.78 46 *e*P P 20 53 56.2 +1.1
MOTA Moosalm 84.81 328⇓*i*PcP P 20 53 54.7 -0.1
comp=Z,5.9nm,0.9s
UDBI Udbina 84.81 323 P P 20 53 54.1 -0.6
O27A Beecher Island 84.82 43 ⇑P P 20 53 55.8 +0.9
baz=85
APE Apeiranthos 84.82 313⇓*i*P P 20 53 53.5 -1.4
BUM Brajici-Budva 84.87 320⇑*i*P P 20 53 54.8 -0.3
LANF Langenberg 84.89 330 *e*P P 20 53 53.5 -1.5
U22A Llaves 84.90 48 ⇓P P 20 53 57.0 +1.4
baz=85,SNR=6.2
ULC Ulcinj 84.93 320⇑*i*P P 20 53 54.9 -0.5
T23A Casias Ranch, 84.95 47 ⇓P P 20 53 57.1 +1.2
baz=85,SNR=10
HCY Herceg Novi 84.97 321⇑*i*P P 20 53 55.2 -0.3
S24A Houchin Ranch, 85.02 46 ⇑P P 20 53 57.3 +1.1
baz=85,SNR=7.0
Q26A Hugo 85.12 44 ⇑P P 20 53 57.1 +0.6
baz=85
TUC Tucson 85.12 53 *e*P P 20 53 57.6 +1.1
TUC Tucson 85.12 53 *e*P P 20 53 57.6 +1.1
V22A San Miguel Ran 85.18 48 ⇓P P 20 53 57.8 +0.8
baz=85
BFO Black Forest 85.20 330 P P 20 53 56.3 -0.3
comp=Z,154nm,1.4s,SNR=6.4
BFO Black Forest 85.20 330 *e*P P 20 53 56.1 -0.5
BFO *e*PP pP 20 54 17.6 +0.6
BFO pmax pmax
comp=Z,36nm,1.1s
BFO Black Forest 85.20 330 *e*P P 20 53 56.2 -0.3
comp=Z,72nm,1.5s
BFO *e*pP pP 20 54 17.9 +0.9
BFO *es*P sP 20 54 26.2 +1.0
BFO Black Forest 85.20 330 *e*P P 20 53 56.0 -0.5
comp=Z,36nm,1.1s
BFO *e*pP pP 20 54 17.6 +0.6
NVLJ Novalja 85.22 324 P P 20 53 55.5 -1.1
R25A Fountain Ranch 85.22 45 ⇑P P 20 53 57.6 +0.6
baz=85
DOU Dourbes 85.22 333 P P 20 53 56.3 -0.3
T24B San Luis 85.32 47 ⇑P P 20 53 59.1 +1.3
baz=85,SNR=12
ECSD EROS Data Cent 85.32 37 *e*P P 20 53 57.5 +0.3
U23A El Rito 85.33 48 ⇑P P 20 53 59.2 +1.4
baz=85
L31A Butterfield Fa 85.34 39 ⇓P P 20 53 58.0 +0.5
baz=85
DAVA Damuels 85.38 328⇑*i*PcP P 20 53 57.5 -0.1
comp=Z,26nm,1.0s,SNR=5.8
N29A Votaw Ranch, W 85.38 41 ⇓P P 20 53 57.8 +0.2
baz=85
BAIF Baives 85.39 333 *e*P P 20 53 56.6 -0.8
BAIF Baives 85.39 333 *e*P P 20 53 56.6 -0.8
BAIF Baives 85.39 333 *e*P P 20 53 56.6 -0.8
S25A Robets Cordova 85.46 46 ⇑P P 20 53 58.6 +0.3
baz=85
CDF Champ du Feu 85.56 330⇓*i*P P 20 53 57.7 -0.7
comp=Z,119nm,1.4s
CDF *e*pP pP 20 54 18.9 0.0
CDF Champ du Feu 85.56 330⇓*i*P P 20 53 57.7 -0.7
CDF *e**PP pP 20 54 18.9 0.0
CDF pmax pmax
comp=Z,119nm,1.4s
CDF Champ du Feu 85.56 330⇓*i*P P 20 53 57.7 -0.7
comp=Z,119nm,1.4s
CDF *e*pP pP 20 54 18.9 0.0
R26A Arlington 85.59 45 ⇓P P 20 53 59.5 +0.6
baz=85,SNR=16
FUORN Ofenpass-Fuorn 85.73 328 *e*P P 20 53 59.3 -0.2
ECH Echery 85.76 330 *e*P P 20 53 58.1 -1.2
ECH pmax pmax
comp=Z,20nm,1.2s
ECH Echery 85.76 330 *e*P P 20 53 58.1 -1.2
comp=Z,20nm,1.2s
O29A 4D Ranch, Culb 85.78 42 ⇑P P 20 53 59.8 +0.2
baz=86
T25A Trinidad 85.83 46 ⇓P P 20 54 01.1 +0.9
baz=86,SNR=9.8
M31A Lambtecht Ranc 85.87 40 ⇑P P 20 54 00.2 +0.2
baz=86
Q28A Sharon Springs 85.97 43 ⇓P P 20 54 00.9 +0.3
baz=86
R27A Eads 85.97 44 ⇑P P 20 54 00.8 +0.1
baz=86
SPMN St. Paul 85.99 34 ⇓P P 20 54 00.8 +0.3
baz=86
S26A Kim 86.04 45 ⇑P P 20 54 01.2 +0.1
baz=86
PAGF Fort de Pagny 86.05 331⇓*i*P P 20 54 00.3 -0.4
comp=Z,13nm,0.5s
PAGF *e*pP pP 20 54 21.3 +0.1
PAGF Fort de Pagny 86.05 331⇓*i*P P 20 54 00.3 -0.4
comp=Z,13nm,0.5s
PAGF *e*pP pP 20 54 21.3 +0.1
MOF Molkenrain 86.06 330 *e*P P 20 54 00.3 -0.6
ANMO Albuquerque 86.10 49 *e*P P 20 54 02.6 +1.0
HINF Hinteralfeld 86.20 330⇓*i*P P 20 54 00.5 -1.1
HINF Hinteralfeld 86.20 330⇓*i*P P 20 54 00.5 -1.1
HINF Hinteralfeld 86.20 330⇓*i*P P 20 54 00.5 -1.1
THEF They Montfort 86.22 331 *e*P P 20 54 01.0 -0.6
TUE Stuetta 86.24 328 *e*P P 20 54 01.3 -0.7
HAU Haudompre 86.25 331 *e*P P 20 54 00.7 -1.1
comp=Z,9.5nm,0.6s
HAU *e*pP pP 20 54 21.8 -0.5
HAU Haudompre 86.25 331 *e*P P 20 54 00.7 -1.1
HAU *e**PP pP 20 54 21.8 -0.5
HAU pmax pmax
comp=Z,10.0nm,0.6s
HAU Haudompre 86.25 331 *e*P P 20 54 00.7 -1.1
comp=Z,9.5nm,0.6s
HAU *e*pP pP 20 54 21.8 -0.5
BGNE Belgrade 86.25 40 *e*P P 20 54 01.8 -0.2
BGNE Belgrade 86.25 40 ⇓P P 20 54 02.0 0.0
baz=86
T26A Comanche Natio 86.28 46 ⇑P P 20 54 02.7 +0.3
baz=86,SNR=8.8
V24A Rampart Ranch, 86.29 48 ⇓P P 20 54 03.9 +1.4
baz=86,SNR=10
S27A Las Animas 86.33 45 ⇑P P 20 54 02.5 0.0
baz=86
U25A Circle Dot Ran 86.34 47 ⇑P P 20 54 03.4 +0.7
baz=86,SNR=5.5
MEZF Maizieres J'vi 86.35 332⇓*i*P P 20 54 01.6 -0.6
MEZF Maizieres J'vi 86.35 332⇓*i*P P 20 54 01.6 -0.6
SCHQ Schefferville 86.37 15 P P 20 54 02.4 +0.2
SCHQ Schefferville 86.37 15 P P 20 54 02.4 +0.2
comp=Z,6.0nm,0.8s,baz=4.5,slow=7.4,SNR=11
Y22A Socorro 86.47 50 ⇑P P 20 54 03.4 0.0
baz=86
R28A Tribune 86.48 44 ⇓P P 20 54 03.1 -0.1
baz=86
P30A Selden 86.49 42 ⇑P P 20 54 03.2 +0.1
baz=86
O31A Woolen Ranch, 86.55 41 ⇑P P 20 54 03.7 +0.3
baz=86
Q29A Oakley 86.56 43 ⇓P P 20 54 03.7 +0.2
baz=86
W24A Lazy 6 Ranch, 86.56 48 ⇓P P 20 54 04.5 +0.7
baz=86
LOMF Lomont 86.59 330 *e*P P 20 54 03.3 -0.2
SFTF Sexfontaines 86.60 332⇓*i*P P 20 54 02.7 -0.8
comp=Z,47nm,0.9s
SFTF *e*pP pP 20 54 23.9 -0.1
SFTF Sexfontaines 86.60 332⇓*i*P P 20 54 02.7 -0.8
comp=Z,47nm,0.9s
SFTF *e*pP pP 20 54 23.9 -0.1
V25A Rancho No Teng 86.60 47 ⇑P P 20 54 04.8 +0.8
baz=86,SNR=12
U26A Atchley Ranch, 86.73 46 ⇑P P 20 54 05.0 +0.4
baz=87,SNR=9.2
R29A Marienthal 86.80 43 ⇑P P 20 54 05.0 +0.3
baz=87
T27A Campo 86.86 45 ⇑P P 20 54 05.6 +0.5
baz=87
Q30A Quinter 86.91 42 ⇑P P 20 54 04.3 -0.9
baz=87
Z22A Elephant Butte 86.92 50 ⇓P P 20 54 06.3 +0.8
baz=87
S28A Manter 86.96 44 ⇓P P 20 54 05.8 +0.3
baz=87
P31A Stockton 86.97 42 ⇓P P 20 54 05.5 -0.1
baz=87
Y23A Lovelace Mesa, 87.03 49 ⇓P P 20 54 06.8 +0.8
baz=87
W25A X Bar L Ranch, 87.12 48 ⇑P P 20 54 07.2 +0.8
baz=87,SNR=6.4
V26A Tequesquite Ra 87.12 47 ⇓P P 20 54 06.9 +0.5
baz=87,SNR=6.0
U27A Thompson Grove 87.25 46 ⇑P P 20 54 07.5 +0.5
baz=87
P32A Huiting Farm, 87.32 41 ⇑P P 20 54 07.0 -0.2
baz=87
S29A Ulysses 87.38 44 ⇓P P 20 54 07.7 +0.2
baz=87
Y24A Capitan 87.41 49 ⇑P P 20 54 07.8 -0.1
baz=87
CABF La Chapelle 87.48 330 *e*P P 20 54 07.5 -0.4

CABF	La Chapelle	87.48	330	*e*P		P	20 54 07.5	-0.4	
CABF	La Chapelle	87.48	330	*e*P		P	20 54 07.5	-0.4	
S30A	Montezuma	87.73	44	⇑P		P	20 54 09.5	+0.3	
	baz=88								
R31A	Burdett	87.78	43	⇑P		P	20 54 09.1	-0.3	
	baz=88								
Q32A	Meitler Ranch,	87.80	42	⇓P		P	20 54 09.7	+0.2	
	baz=88								
LOR	Lormes	87.82	332	*e*P		P	20 54 08.5	-0.9	
LOR	Lormes	87.82	332	*e*P		P	20 54 08.5	-0.9	
Y25A	Mesa, Roswell	87.86	49	⇑P		P	20 54 10.1	+0.1	
	baz=88								
P33A	Williams Farm,	87.93	41	⇑P		P	20 54 09.6	-0.4	
	baz=88								
X26A	CR and CF Fran	87.97	48	⇓P		P	20 54 10.5	0.0	
	baz=88								
W27A	Bowe Ranch, En	88.05	47	⇓P		P	20 54 11.4	+0.5	
	baz=88,SNR=6.9								
LPL	La Plagne	88.11	329	⇓*i*P		P	20 54 10.2	-0.8	
	comp=Z,5.5nm,0.5s								
LPL	La Plagne	88.11	329	⇓*i*P		P	20 54 10.2	-0.8	
LPL					pmax	pmax			
	comp=Z,6.0nm,0.5s								
LPL	La Plagne	88.11	329	⇓*i*P		P	20 54 10.2	-0.8	
	comp=Z,5.5nm,0.5s								
LPG	La Plagne	88.11	329	⇓*i*P		P	20 54 10.3	-0.9	
	comp=Z,7.0nm,0.5s								
LPG					*e*pP	pP	20 54 31.4	-0.3	
LPG	La Plagne	88.11	329	⇓*i*P		P	20 54 10.3	-0.9	
LPG					*e**PP	pP	20 54 31.4	-0.3	
LPG					pmax	pmax			
	comp=Z,7.0nm,0.5s								
LPG	La Plagne	88.11	329	⇓*i*P		P	20 54 10.3	-0.9	
	comp=Z,7.0nm,0.5s								
LPG					*e*pP	pP	20 54 31.4	-0.3	
SSF	Saint Saulge	88.13	332	*e*P		P	20 54 09.6	-1.2	
SSF	Saint Saulge	88.13	332	*e*P		P	20 54 09.6	-1.2	
SSF	Saint Saulge	88.13	332	*e*P		P	20 54 09.6	-1.2	
FLN	La Foliniere	88.14	335	*e*P		P	20 54 10.2	-0.6	
FLN	La Foliniere	88.14	335	*e*P		P	20 54 10.2	-0.6	
FLN	La Foliniere	88.14	335	*e*P		P	20 54 10.2	-0.6	
LDF	La Druitiere	88.16	335	*e*P		P	20 54 10.2	-0.7	
LDF	La Druitiere	88.16	335	*e*P		P	20 54 10.2	-0.7	
LDF	La Druitiere	88.16	335	*e*P		P	20 54 10.2	-0.7	
Q33A	Connelly Farm,	88.18	41	⇑P		P	20 54 11.2	0.0	
	baz=88								
124A	Stringfield Ra	88.23	50	⇓P		P	20 54 11.4	-0.5	
	baz=88								
S31A	Mullinville	88.29	43	⇓P		P	20 54 11.8	-0.1	
	baz=88								
Z25A	Roswell	88.29	49	⇑P		P	20 54 12.5	+0.5	
	baz=88								
X27A	F and S Farms,	88.32	47	⇑P		P	20 54 12.8	+0.7	
	baz=88								
SMF	Signal de Mont	88.35	331	*e*P		P	20 54 11.3	-0.6	
SMF	Signal de Mont	88.35	331	*e*P		P	20 54 11.3	-0.6	
SMF	Signal de Mont	88.35	331	*e*P		P	20 54 11.3	-0.6	
AVF	Avril sur Loir	88.41	332	⇓*i*P		P	20 54 11.3	-0.9	
	comp=Z,12nm,0.5s								
AVF	Avril sur Loir	88.41	332	⇓*i*P		P	20 54 11.3	-0.9	
AVF					pmax	pmax			
	comp=Z,12nm,0.5s								
AVF	Avril sur Loir	88.41	332	⇓*i*P		P	20 54 11.3	-0.9	
	comp=Z,12nm,0.5s								
U30A	WK&E Inc. Balk	88.41	44	⇑P		P	20 54 12.5	+0.1	
	baz=88								
T31A	Randall Ranch,	88.55	43	⇑P		P	20 54 13.5	+0.5	
	baz=88								
GRR	Gorron	88.59	335	*e*P		P	20 54 12.3	-0.7	
GRR	Gorron	88.59	335	*e*P		P	20 54 12.3	-0.7	
GRR	Gorron	88.59	335	*e*P		P	20 54 12.3	-0.7	
R33A	Olander Ranch,	88.60	42	⇓P		P	20 54 13.8	+0.6	
	baz=88								
224A	Cornudas Mount	88.61	50	⇓P		P	20 54 14.2	+0.6	
	baz=88								
MBDF	Montbardon	88.73	329	⇓*i*P		P	20 54 13.8	-0.1	
MBDF	Montbardon	88.73	329	⇓*i*P		P	20 54 13.8	-0.1	
MBDF	Montbardon	88.73	329	⇓*i*P		P	20 54 13.8	-0.1	
Z26A	Caprock	88.74	49	⇑P		P	20 54 14.8	+0.7	
	baz=89								
KSU1	Kansas State U	88.75	40	*e*P		P	20 54 14.0	+0.1	
125A	Gardner Draw,	88.75	49	⇑P		P	20 54 14.9	+0.7	
	baz=89								
BGF	Bois d'Agland	88.80	332	*e*P		P	20 54 13.1	-0.9	
BGF	Bois d'Agland	88.80	332	*e*P		P	20 54 13.1	-0.9	
BGF	Bois d'Agland	88.80	332	*e*P		P	20 54 13.1	-0.9	
Y27A	Causey	88.81	48	⇑P		P	20 54 14.9	+0.4	
	baz=89								
T32A	Huddler Ranch,	88.91	43	⇑P		P	20 54 15.0	+0.2	
	baz=89								
V30A	Spur Ranch, Mi	88.94	45	⇑P		P	20 54 15.3	+0.3	
	baz=89								
ORIF	Oris-en-Rattie	88.94	329	⇓*i*P		P	20 54 13.8	-1.0	
ORIF	Oris-en-Rattie	88.94	329	⇓*i*P		P	20 54 13.8	-1.0	
ORIF	Oris-en-Rattie	88.94	329	⇓*i*P		P	20 54 13.8	-1.0	
AMTX	Amarillo	88.99	46	*e*P		P	20 54 16.4	+1.2	
AMTX	Amarillo	88.99	46	⇑P		P	20 54 16.0	+0.8	
	baz=89								
324A	Moseley Ranch,	89.07	51	⇑P		P	20 54 15.9	+0.2	
	baz=89								
SBF	Sospel	89.14	328	*e*P		P	20 54 14.9	-0.8	
SBF					*e*pP	pP	20 54 36.5	+0.2	
SBF	Sospel	89.14	328	*e*P		P	20 54 14.9	-0.8	
SBF					*e**PP	pP	20 54 36.5	+0.2	
SBF	Sospel	89.14	328	*e*P		P	20 54 14.9	-0.8	
SBF					*e*pP	pP	20 54 36.5	+0.2	
Z27A	Tatum	89.18	48	⇑P		P	20 54 16.2	+0.1	
	baz=89								
TCF	Toulx Ste Croi	89.27	332	*e*P		P	20 54 16.1	-0.1	
TCF	Toulx Ste Croi	89.27	332	*e*P		P	20 54 16.1	-0.1	
TCF	Toulx Ste Croi	89.27	332	*e*P		P	20 54 16.1	-0.1	
SGMF	Saint Gilles	89.28	336	*e*P		P	20 54 15.8	-0.4	
SGMF	Saint Gilles	89.28	336	*e*P		P	20 54 15.8	-0.4	
SGMF	Saint Gilles	89.28	336	*e*P		P	20 54 15.8	-0.4	
X29A	Tulia	89.28	46	⇓P		P	20 54 16.9	+0.3	
	baz=89								
Y28A	McKinney Farm,	89.34	47	⇓P		P	20 54 17.5	+0.6	
	baz=89								
ROSF	Rostrenen	89.44	336	*e*P		P	20 54 16.8	-0.2	
ROSF	Rostrenen	89.44	336	*e*P		P	20 54 16.8	-0.2	
ROSF	Rostrenen	89.44	336	*e*P		P	20 54 16.8	-0.2	
U32A	Winter Ranch,	89.45	44	⇓P		P	20 54 18.0	+0.7	
	baz=89								
226B	Tecolote Peak,	89.45	50	⇓P		P	20 54 17.9	+0.5	
	baz=89								
VIVF	Saint-Julien-l	89.49	330	*e*P		P	20 54 16.4	-0.9	
	comp=Z,3.6nm,0.5s								
VIVF	Saint-Julien-l	89.49	330	*e*P		P	20 54 16.4	-0.9	
VIVF					pmax	pmax			
	comp=Z,4.0nm,0.5s								
VIVF	Saint-Julien-l	89.49	330	*e*P		P	20 54 16.4	-0.9	
	comp=Z,3.6nm,0.5s								
FRF	La Foret Royal	89.72	328	*e*P		P	20 54 17.6	-0.8	
FRF	La Foret Royal	89.72	328	*e*P		P	20 54 17.6	-0.8	
FRF	La Foret Royal	89.72	328	*e*P		P	20 54 17.6	-0.8	
W31A	Holland Ranch,	89.78	45	⇓P		P	20 54 19.3	+0.5	
	baz=90								
425A	Indio Mountain	89.83	51	⇑P		P	20 54 19.9	+0.6	
	baz=90								
SMRF	Simiane la Rot	89.84	329	*e*P		P	20 54 18.6	-0.4	
SMRF	Simiane la Rot	89.84	329	*e*P		P	20 54 18.6	-0.4	
MFF	Saint Martin d	89.87	334	*e*P		P	20 54 18.4	-0.6	
MFF	Saint Martin d	89.87	334	*e*P		P	20 54 18.4	-0.6	
MFF	Saint Martin d	89.87	334	*e*P		P	20 54 18.4	-0.6	
V32A	Arapaho	89.90	44	⇑P		P	20 54 20.4	+1.0	
	baz=90								
LMR	La Mourre	89.96	328	*e*P		P	20 54 18.5	-1.0	
LMR	La Mourre	89.96	328	*e*P		P	20 54 18.5	-1.0	
LMR	La Mourre	89.96	328	*e*P		P	20 54 18.5	-1.0	
227A	Bennet, Jal	90.03	49	⇑P		P	20 54 21.4	+1.2	
	baz=90								
326A	Caldwell Ranch	90.09	50	⇓P		P	20 54 21.1	+0.6	
	baz=90								
128A	Castleberry Fa	90.10	48	⇓P		P	20 54 20.9	+0.5	
	baz=90								
Z29A	Hungry Hill Ra	90.12	47	⇓P		P	20 54 21.2	+0.7	
	baz=90								
X31A	McDonald Ranch	90.15	45	⇑P		P	20 54 21.0	+0.4	
	baz=90								
Y30A	Stafford Cattl	90.16	46	⇓P		P	20 54 21.5	+0.8	
	baz=90								
U34A	Anderson Ranch	90.22	43	⇑P		P	20 54 21.4	+0.6	
	baz=90								
Z30A	Sanderson Ranc	90.44	47	⇑P		P	20 54 22.6	+0.6	
	baz=90								
426A	McDonald Obser	90.50	51	⇓P		P	20 54 23.1	+0.6	
	baz=90								
W33A	Caddo, Fort Co	90.64	44	⇓P		P	20 54 23.5	+0.7	
	baz=90								
V34A	Guthrie	90.67	43	⇓P		P	20 54 23.3	+0.3	
	baz=90								
X32A	Elmer	90.70	45	⇑P		P	20 54 23.5	+0.4	
	baz=90								
328A	Wristen Ranch,	90.77	49	⇑P		P	20 54 23.9	+0.4	
	baz=91								
427A	Hayter Ranch,	90.77	50	⇑P		P	20 54 24.5	+0.8	
	baz=91								
526A	Mary Lane Ranc	90.89	51	⇑P		P	20 54 25.2	+0.9	
	baz=91								
LFF	La Frestale	90.96	332	*e*P		P	20 54 23.6	-0.5	
LFF	La Frestale	90.96	332	*e*P		P	20 54 23.6	-0.5	
LFF	La Frestale	90.96	332	*e*P		P	20 54 23.6	-0.5	
Z31A	Sharp Cattle R	91.00	46	⇓P		P	20 54 25.2	+0.6	
	baz=91								
130A	Snyder	91.03	47	⇓P		P	20 54 25.1	+0.4	
	baz=91								
329A	Wagon Wheel Ra	91.20	49	⇓P		P	20 54 26.2	+0.6	
	baz=91								
626A	Big Bend Ranch	91.21	51	⇓P		P	20 54 26.3	+0.6	
	baz=91								
131A	Roby	91.31	47	⇑P		P	20 54 26.6	+0.6	
	baz=91								
Y33A	Hilltop Ranch,	91.38	45	⇑P		P	20 54 26.5	+0.2	
	baz=91								
Z32A	Haskell	91.39	46	⇓P		P	20 54 26.9	+0.5	
	baz=91								
X34A	Smith Ranch, M	91.39	44	⇑P		P	20 54 26.6	+0.2	
	baz=91								
230A	Sterling City	91.44	48	⇓P		P	20 54 27.0	+0.3	
	baz=91								
TUL1	Tulsa	91.55	42	⇓P		P	20 54 27.5	+0.4	
	baz=91								
528A	Cox Ranch, San	91.63	50	⇑P		P	20 54 28.2	+0.6	
	baz=92								
TXAR	Lajitas Array	91.65	51	P		P	20 54 28.7	+1.0	
TXAR	Lajitas Array	91.65	51	P		P	20 54 28.7	+1.0	
	comp=Z,2.9nm,0.7s,baz=298,slow=2.7,SNR=16								
MTLF	Montolieu	91.73	330	*e*P		P	20 54 27.5	-0.2	
MTLF	Montolieu	91.73	330	*e*P		P	20 54 27.5	-0.2	
MTLF	Montolieu	91.73	330	*e*P		P	20 54 27.5	-0.2	
330A	Mertzon	91.74	48	⇑P		P	20 54 28.7	+0.6	
	baz=92								
627A	Terlingua Ranc	91.74	51	⇓P		P	20 54 28.9	+0.7	
	baz=92								
ABTX	Abilene, Hawle	91.78	47	P		P	20 54 28.6	+0.4	
ABTX	Abilene, Hawle	91.78	47	⇑P		P	20 54 28.7	+0.4	
	baz=92								
Z33A	Whitaker Ranch	91.82	46	⇓P		P	20 54 29.1	+0.7	
	baz=92								
429A	Davenport Ranc	91.86	49	⇓P		P	20 54 28.9	+0.2	
	baz=92								
Y34A	Reagan Ranch,	91.91	44	⇑P		P	20 54 28.9	+0.2	
	baz=92								
529A	Stev Forest Ra	92.00	50	⇓P		P	20 54 29.4	+0.1	
	baz=92								
628A	Black Gap, Mar	92.03	51	⇑P		P	20 54 29.7	+0.3	
	baz=92								
430A	Baggett Ranch,	92.14	49	⇓P		P	20 54 30.2	+0.2	
	baz=92								
Z34A	Collier Ranch,	92.24	45	⇓P		P	20 54 30.3	0.0	
	baz=92								
232A	Coleman	92.31	47	⇓P		P	20 54 31.4	+0.7	
	baz=92								
SFIN	Scholer Farm	92.39	34	⇑P		P	20 54 30.4	-0.4	
	baz=92								
530A	J-C Ranch, Com	92.53	49	⇓P		P	20 54 32.5	+0.7	
	baz=92								
332A	Millersview	92.62	47	⇓P		P	20 54 32.4	+0.4	
	baz=92								
Z35A	Perchaven, San	92.65	45	⇓P		P	20 54 32.5	+0.3	
	baz=92								
134A	White-Moore Ra	92.73	46	⇓P		P	20 54 32.9	+0.4	
	baz=93								
EPF	Esparros	92.73	331	*e*P		P	20 54 31.3	-1.1	
EPF	Esparros	92.73	331	*e*P		P	20 54 31.3	-1.1	
EPF	Esparros	92.73	331	*e*P		P	20 54 31.3	-1.1	
432A	Menard	92.95	48	⇑P		P	20 54 33.9	+0.2	
	baz=93								
531A	Rocksprings	93.00	49	⇓P		P	20 54 34.4	+0.5	
	baz=93								
333A	Richland Sprin	93.11	47	⇓P		P	20 54 35.1	+0.7	
	baz=93								
ETSF	Etsaut	93.19	332	*e*P		P	20 54 34.3	-0.3	
ETSF	Etsaut	93.19	332	*e*P		P	20 54 34.3	-0.3	
ETSF	Etsaut	93.19	332	*e*P		P	20 54 34.3	-0.3	
JCT	Junction City	93.23	48	⇓P		P	20 54 35.5	+0.6	
	baz=93								
532A	Rocksprings	93.42	48	⇓P		P	20 54 36.4	+0.6	
	baz=93								
WHTX	Lake Whitney	93.52	46	*e*P		P	20 54 38.0	+1.8	
	comp=Z,7.9nm,0.7s								
WHTX	Lake Whitney	93.52	46	⇑P		P	20 54 37.1	+1.0	
	baz=93								
631A	Perdido Creek	93.52	49	⇑P		P	20 54 36.4	+0.2	
	baz=93								
334A	Lometa	93.54	47	⇑P		P	20 54 36.8	+0.5	
	baz=93								
KEST	Kesra	94.69	322	P		P	20 54 41.0	-0.6	
KEST	Kesra	94.69	322	P		P	20 54 41.0	-0.6	
	comp=Z,3.5nm,1.0s,baz=221,slow=9.0,SNR=15								
ESDC	Sonseca Array	97.26	333	P		P	20 54 52.2	-1.0	
ESDC				PP		PP	20 58 41.8	-7.7	
ESDC	Sonseca Array	97.26	333	P		P	20 54 52.2	-1.0	
	comp=Z,0.2nm,0.4s,baz=19,slow=4.1,SNR=3.6								
ESDC				PP		PP	20 58 41.8	-7.7	
	comp=Z,1.5nm,0.7s,baz=20,slow=6.8,SNR=4.0								
VNDA	Vanda	114.42	175	PKP		PKPdf	20 59 58.5	+0.2	
VNDA				PKKP		**PKKPdf**	**21 11 03.4**	**+0.4**	
VNDA	Vanda	114.42	175	PKP		PKPdf	20 59 58.5	+0.2	
	comp=Z,1.7nm,0.9s,baz=105,slow=0.8,SNR=3.0								
VNDA				PKKP		**PKKPdf**	**21 11 03.4**	**+0.4**	
	comp=Z,2.1nm,1.1s,baz=74,slow=15,SNR=8.7								
TORD	Torodi Ar. Bea	116.79	313	PKP		**PKPdf**	**21 00 04.1**	**-0.8**	
TORD				pPKP		pPKPdf	21 00 26.1	-0.2	
TORD				PP		PP	21 01 07.6	-5.6	
TORD				PKKPbc		**PKKPbc**	**21 10 31.4**	**+1.4**	
TORD				PKKPab		**PKKPab**	**21 10 36.9**	**-0.6**	
TORD				PKKP		**PKKPdf**	**21 10 58.3**	**+2.4**	
TORD	Torodi Ar. Bea	116.79	313	PKP		**PKPdf**	**21 00 04.1**	**-0.8**	
	comp=Z,0.9nm,0.5s,baz=13,slow=1.4,SNR=32								
TORD				pPKP		pPKPdf	21 00 26.1	-0.2	
	comp=Z,0.6nm,0.5s,baz=57,slow=1.3,SNR=2.6								
TORD				PP		PP	21 01 07.6	-5.6	
	comp=Z,2.8nm,1.0s,baz=32,slow=7.1,SNR=4.6								
TORD				PKKPbc		**PKKPbc**	**21 10 31.4**	**+1.4**	
	comp=Z,0.8nm,0.8s,baz=232,slow=2.7,SNR=8.8								
TORD				PKKPab		**PKKPab**	**21 10 36.9**	**-0.6**	
	comp=Z,1.5nm,0.8s,baz=233,slow=3.3,SNR=8.5								
TORD				PKKP		**PKKPdf**	**21 10 58.3**	**+2.4**	
	comp=Z,0.8nm,0.8s,baz=226,slow=2.8,SNR=3.6								
BOSA	Boshof	125.06	258	PKP		**PKPdf**	**21 00 20.7**	**+0.3**	
BOSA	Boshof	125.06	258	PKP		**PKPdf**	**21 00 20.7**	**+0.3**	
	comp=Z,1.4nm,0.6s,baz=126,slow=5.6,SNR=4.5								
DBIC	Dimbokro	125.80	315	PKP		**PKPdf**	**21 00 21.9**	**-0.2**	
DBIC	Dimbokro	125.80	315	PKP		**PKPdf**	**21 00 21.9**	**-0.2**	
	comp=Z,3.1nm,0.5s,baz=35,slow=1.9,SNR=13								
QSPA	South Pole Qui	126.09	180	*e*PKPdf		**PKPdf**	**21 00 21.0**	**-0.1**	
SDV	Santo Domingo	126.75	38	*e*PKPdf		**PKPdf**	**21 00 24.2**	**0.0**	
SAML	Samuel	145.72	43	*e*PKPdf		**PKPbc**	**21 00 59.5**	**+0.2**	
LPAZ	La Paz	148.25	58	*e*PKPbc		**PKPbc**	**21 01 08.0**	**+0.7**	
LPAZ	La Paz	148.25	58	PKPbc		**PKPbc**	**21 01 07.7**	**+0.5**	
	comp=Z,4.9nm,0.7s,baz=306,slow=2.8,SNR=20								
H03N2	Juan Fernandez	148.35	96	T		T	23 46 33.4		
	baz=288,slow=75,SNR=58								
H03N3	Juan Fernandez	148.36	96	T		T	23 46 34.3		
	baz=288,slow=75,SNR=81								
H03N1	Juan Fernandez	148.37	96	T		T	23 46 34.7		
	baz=288,slow=75,SNR=72								
LVC	Limon Verde	151.73	69	*e*PKPbc		**PKPbc**	**21 01 16.0**	**+1.0**	
SIV	San Ignacio	152.59	48	PKP		**PKPdf**	**21 01 11.1**	**+1.2**	
SIV				PKPbc		**PKiKP**	**21 01 17.4**	**+0.3**	
SIV	San Ignacio	152.59	48	PKP		**PKPdf**	**21 01 11.1**	**+1.2**	
	comp=Z,1.9nm,0.6s,baz=284,slow=2.7,SNR=7.1								
SIV				PKPbc		**PKiKP**	**21 01 17.4**	**+0.3**	
	comp=Z,5.0nm,0.5s,baz=287,slow=3.5,SNR=14								
USHA	Ushuaia	153.30	143	PKPbc		**PKPbc**	**21 01 19.0**	**+1.8**	
USHA	Ushuaia	153.30	143	PKPbc		**PKPbc**	**21 01 19.0**	**+1.8**	
	comp=Z,8.0nm,0.8s,baz=292,slow=2.4,SNR=3.5								
LCO	Las Campanas	153.49	83	*e*PKPbc		**PKPbc**	**21 01 19.4**	**+0.5**	
PLCA	Paso Flores	156.03	110	PKPab		**PKPab**	**21 01 37.6**	**-4.1**	
	comp=Z,2.7nm,0.9s,baz=202,slow=6.0,SNR=3.8								
CFAA	Coronel Fontan	156.43	87	PKPab		**PKPab**	**21 01 44.0**	**+0.4**	
CFAA				pPKPab		**pPKPab**	**21 02 06.3**	**+1.8**	
CFAA	Coronel Fontan	156.43	87	PKPab		**PKPab**	**21 01 44.0**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=257,slow=4.1,SNR=18								
CFAA				pPKPab		**pPKPab**	**21 02 06.3**	**+1.8**	
	comp=Z,1.0nm,0.7s,baz=262,slow=3.9,SNR=6.8								
BDFB	Brasilia	158.27	20	PKPab		**PKPab**	**21 01 52.3**	**+0.5**	
BDFB	Brasilia	158.27	20	PKPab		**PKPab**	**21 01 52.3**	**+0.5**	
	comp=Z,2.6nm,0.6s,baz=316,slow=9.3,SNR=3.9								

ISCJB ***17*** *20:53:13.4±0.9, 45°.9N±0°.1×152°.0E±0°.1, h30km, mb3.5/7, Error ellipse: s-maj=19.0km s-min=5.5km az=141.0*
IDC ***17*** *20:53:17.6±3.5, 47°.14N×151°.37E, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.6/25, mbtmp3.7/8, ML3.4/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/42, Error ellipse: s-maj=92.4km s-min=28.4km az=156.0*
MOS ***17*** *20:53:19.1±1.2, 46°.10N×151°.68E, h74km, mb4.4/2, Error ellipse: s-maj=27.8km s-min=18.6km az=139.0*
SKHL ***17*** *20:53:19.0±5.2, 45°.93N×151°.76E, h80km±5km, mb5.3/3, msh5.7/4*

ISC 17 20:53:14.2±1.2, 45°.8N±0°.1×152°.1E±0°.1, h30km, n35, σ1§92/32, mb3.7/7.1, D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.02	261	PN		Pn	20 54 03.0	+3.0
KUR				*e*S		Sn	20 54 36.0	+0.8
KUR				smax		smax		
	comp=E,160nm,0.5s							
KUR				smax		smax		
	comp=N,300nm,0.6s							
KUR	Kuril'sk	3.02	261	*e*P		Pn	20 54 03.0	+3.0
KUR				*e*S		Sn	20 54 36.0	+0.8
KUR				A		A	20 54 45.0	
	comp=N,160nm,0.5s							
KUR				A		A	20 54 45.0	
	comp=N,300nm,0.5s							
SHO	Shikotan	4.20	245	*e*P		Pn	20 54 16.9	+0.8
SHO				AMB		AMB	20 54 22.4	
	comp=N,157nm,0.1s							
SHO				*e*S		Sn	20 54 59.0	-5.2
SHO				A		A	20 55 09.7	
	comp=N,368nm,0.1s							
YUK	Yuzh-Kuril'sk	4.76	251	*d i* PN		Pn	20 54 26.3	+2.5
YUK				*i* S		Sn	20 55 17.2	-0.7
YUK				pmax		pmax		
	comp=N,10.0nm,0.2s							
YUK				pmax		pmax		
	comp=E,20nm,0.2s							
YUK				pmax		pmax		
	comp=Z,79nm,0.2s							
YUK				smax		smax		
	comp=N,154nm,0.3s							
YUK				smax		smax		
	comp=E,196nm,0.6s							
YUK	Yuzh-Kuril'sk	4.76	251	*e*P		Pn	20 54 26.3	+2.5
YUK				AMB		AMB	20 54 30.2	
	comp=E,80nm,0.2s							
YUK				*e*S		Sn	20 55 17.2	-0.7
YUK				A		A	20 55 31.2	
	comp=E,150nm,0.4s							
YUK				A		A	20 55 31.2	
	comp=E,200nm,0.4s							
JRA	Rausu	5.29	252	P		Pn	20 54 33.9	+2.8
SKR	Severo-Kuril's	5.61	27	*e*P		Pb	20 54 49.0	-2.2
SKR				*e*S		Sn	20 55 40.0	+1.2
SKR				A		A	20 55 48.6	
	comp=E,70nm,0.3s							
JAR	Ashorobuto	6.45	250	P		Pn	20 54 49.5	+2.5
JKA	Kamikawa-asahi	6.94	260	*e*P		Pn	20 54 59.0	+5.2
ASAJ	Asahikawa	6.94	260	Pn		Pn	20 54 59.0	+5.1
	comp=E,0.7nm,0.3s,baz=88,slow=14,SNR=4.7							
MYR	Moyori	7.24	245	*e*P		Pn	20 54 59.2	+1.3
MYR				*e*S		Sn	20 56 15.1	-3.9
TYV	Tymovskoe	8.10	312	*e*P		Pn	20 55 11.8	+2.1
TYV				AMB		AMB	20 55 12.2	
	comp=E,50nm,1.0s							
JNB	Noboribetsu	8.61	251	P		Pn	20 55 18.5	+1.8
JKB	Kayabe	8.89	248	P		Pn	20 55

YAIG				*i*	S		Sn	21 29 01.2	-5.2
ZIIG	**Zihuatanejo**	**1.92**	**282**	*i*	P		Pn	21 28 44.3	-3.2
ZIIG				*i*	S		Sn	21 29 06.2	-5.5
PPM	**Popocatepetl**	**2.02**	**24**	*i*	P		Pn	21 28 46.8	-2.8
PPM				*i*	S		Sn	21 29 10.8	-4.6

WEL 17 21:45:26.4±0.3, 38.04S×176.37E, h148km±2km, ML3.8/16, 18C-3D, Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARZ	**Mount Tarawera**	**0.22**	**150**	PN	Pn	21 45 46.9	+0.3
OPRZ	**Ohinepanea**	**0.25**	**37**	⇓PN	Pn	21 45 46.3	-0.2
OPRZ				SN	Sn	21 46 02.2	+0.5
URZ	**Urewera**	**0.62**	**110**	PN	Pn	21 45 47.3	-0.8
URZ				SN	Sn	21 46 04.3	-0.4
URZ				AML	AML	21 46 05.0	
WATZ	**Wairara**	**0.83**	**217**	⇑PN	Pn	21 45 49.8	+0.2
RATZ	**Rangitukua**	**0.95**	**209**	PN	Pn	21 45 50.6	+0.1
MWZ	**Matawai**	**0.96**	**108**	PN	Pn	21 45 50.3	-0.4
MWZ				SN	Sn	21 46 08.9	-0.2
MWZ				AML	AML	21 46 10.0	
MWZ				AML	AML	21 46 10.3	
RITZ	**Rihia Road**	**1.01**	**203**	PN	Pn	21 45 51.4	+0.4
RAHZ	**Arahi**	**1.04**	**147**	⇑PN	Pn	21 45 51.6	+0.3
NMHZ	**Naumai**	**1.11**	**162**	⇑PN	Pn	21 45 52.6	+0.6
BKZ	**Black Stump Fm**	**1.13**	**175**	PN	Pn	21 45 51.8	-0.3
BKZ				SN	Sn	21 46 10.7	-1.1
BKZ				AML	AML	21 46 11.6	
KRVZ	**Karewarewa**	**1.20**	**208**	PN	Pn	21 45 52.7	-0.1
WTVZ	**West Tongariro**	**1.23**	**209**	⇑PN	Pn	21 45 53.1	-0.1
WHHZ	**Waihua**	**1.23**	**147**	⇑PN	Pn	21 45 53.3	+0.2
TWVZ	**Taurewa**	**1.26**	**215**	PN	Pn	21 45 53.3	-0.2
RIGZ	**Rimuhau**	**1.28**	**122**	⇑PN	Pn	21 45 53.7	+0.1
NGZ	**Ngauruhoe**	**1.28**	**208**	PN	Pn	21 45 53.7	0.0
COVZ	**Chateau Observ**	**1.32**	**209**	PN	Pn	21 45 53.9	-0.1
WPVZ	**Whakapapa**	**1.33**	**209**	⇑PN	Pn	21 45 54.1	0.0
MKAZ	**Moumakai**	**1.33**	**314**	⇓PN	Pn	21 45 53.9	-0.1
TUVZ	**Tukino**	**1.34**	**204**	⇑PN	Pn	21 45 54.3	-0.1
FWVZ	**Far West T-bar**	**1.37**	**208**	⇑PN	Pn	21 45 54.2	-0.5
WHVZ	**Whangaehu Hut**	**1.38**	**206**	PN	Pn	21 45 54.5	-0.3
DRZ	**Dome Shelter**	**1.38**	**207**	PN	Pn	21 45 55.0	+0.1
KNZ	**Kokohu**	**1.42**	**134**	PN	Pn	21 45 54.6	-0.2
WNVZ	**Wahianoa**	**1.42**	**205**	PN	Pn	21 45 54.9	-0.2
MCHZ	**McNeill Hill**	**1.42**	**170**	PN	Pn	21 45 55.3	+0.4
MOVZ	**Moawhango**	**1.45**	**199**	PN	Pn	21 45 54.6	-0.7
BHHZ	**Black Hill Sta**	**1.46**	**189**	⇑PN	Pn	21 45 54.9	-0.5
PRGZ	**Paritu Road**	**1.48**	**127**	PN	Pn	21 45 55.5	-0.1
PUZ	**Puketiti**	**1.49**	**92**	⇑PN	Pn	21 45 55.0	-0.7
PUZ				AML	AML	21 46 19.3	
PUZ				AML	AML	21 46 19.4	
MTVZ	**Mangateitei**	**1.51**	**207**	PN	Pn	21 45 55.8	-0.2
CNGZ	**Carnagh Statio**	**1.51**	**107**	PN	Pn	21 45 56.2	+0.3
MXZ	**Matakaoa Point**	**1.61**	**73**	PN	Pn	21 45 56.6	-0.3
MHGZ	**Mahia Peninsul**	**1.64**	**133**	⇑PN	Pn	21 45 57.3	0.0
CKHZ	**Cape Kidnapper**	**1.71**	**161**	⇑PN	Pn	21 45 57.9	0.0
KAHZ	**Kahuranaki**	**1.79**	**167**	⇑PN	Pn	21 45 58.8	-0.2
PNHZ	**Pukenui**	**1.87**	**184**	⇓PN	Pn	21 45 59.0	-0.9
WPHZ	**Waipukurau**	**2.02**	**178**	PN	Pn	21 46 00.6	-1.0
WPHZ				SN	Sn	21 46 26.5	-2.2
WAZ	**Wanganui**	**2.02**	**212**	PN	Pn	21 46 00.9	-0.8
PXZ	**Pawanui**	**2.02**	**169**	PN	Pn	21 46 00.8	-0.8
PXZ				AML	AML	21 46 28.4	
PXZ				AML	AML	21 46 30.7	
TSZ	**Takapari Road**	**2.04**	**189**	PN	Pn	21 46 00.5	-1.3
TSZ				AML	AML	21 46 29.6	
TSZ				AML	AML	21 46 29.7	
PRHZ	**Porangahau**	**2.23**	**175**	PN	Pn	21 46 03.0	-1.1
DVHZ	**Dannevirke**	**2.26**	**184**	PN	Pn	21 46 02.9	-1.6
POWZ	**Post Office Ro**	**2.39**	**191**	PN	Pn	21 46 04.5	-1.5
ANWZ	**Angora Road**	**2.42**	**178**	⇑PN	Pn	21 46 05.1	-1.1
ANWZ				SN	Sn	21 46 34.5	-2.6
PRWZ	**Pori Road**	**2.53**	**187**	PN	Pn	21 46 06.4	-1.3
MRZ	**Mangatainoka R**	**2.69**	**193**	⇑PN	Pn	21 46 07.5	-2.1
MRZ				AML	AML	21 46 41.7	
MRZ				AML	AML	21 46 42.0	
OGWZ	**Otaki Gorge**	**2.92**	**198**	PN	Pn	21 46 10.3	-2.3
HOWZ	**Holdsworth Sta**	**2.93**	**193**	⇑PN	Pn	21 46 10.2	-2.5
KIW	**Kapiti Island**	**3.03**	**201**	PN	Pn	21 46 11.4	-2.7
KIW				AML	AML	21 46 49.4	
TMWZ	**Te Maipa**	**3.08**	**187**	PN	Pn	21 46 12.1	-2.5
MTW	**Mount Morrison**	**3.18**	**192**	PN	Pn	21 46 13.0	-2.9
MTW				AML	AML	21 46 52.0	
CAW	**Cannon Point**	**3.22**	**198**	PN	Pn	21 46 13.6	-2.8
CAW				AML	AML	21 46 52.9	
CAW				AML	AML	21 46 55.0	
TRWZ	**Traveller**	**3.39**	**189**	PN	Pn	21 46 15.7	-2.9
TRWZ				AML	AML	21 46 56.7	
PAWZ	**Paruwai Farm**	**3.41**	**192**	AML	AML	21 46 55.8	
PAWZ				AML	AML	21 46 56.2	
MSWZ	**Moikau Station**	**3.48**	**194**	PN	Pn	21 46 16.4	-3.4
MSWZ				AML	AML	21 46 57.4	
MSWZ				AML	AML	21 46 59.6	
SNZO	**South Karori**	**3.50**	**201**	PN	Pn	21 46 16.8	-3.3
SNZO				AML	AML	21 46 58.5	
SNZO				AML	AML	21 47 00.4	
TCW	**Tory Channel**	**3.55**	**206**	PN	Pn	21 46 17.5	-3.2
TCW				AML	AML	21 47 00.6	
TCW				AML	AML	21 47 02.5	
PLWZ	**Palliser**	**3.62**	**193**	PN	Pn	21 46 18.1	-3.6
TUWZ	**Tuamarina**	**3.87**	**208**	PN	Pn	21 46 21.3	-3.4
TUWZ				AML	AML	21 47 08.3	
TUWZ				AML	AML	21 47 08.4	
NNZ	**Nelson**	**3.92**	**215**	⇑PN	Pn	21 46 22.2	-3.3
BSWZ	**Blackbirch Sta**	**4.14**	**207**	PN	Pn	21 46 24.9	-3.4
THZ	**Tophouse**	**4.57**	**215**	PN	Pn	21 46 30.1	-4.0
KHZ	**Kahutara**	**4.88**	**205**	PN	Pn	21 46 33.8	-4.2
DSZ	**Denniston Nort**	**5.10**	**222**	SN	Sn	21 47 33.6	-5.7
MQZ	**McQueen's Vall**	**6.32**	**205**	PN	Pn	21 46 50.9	-6.3
MQZ				SN	Sn	21 47 57.2	-11
ODZ	**Otahua Downs**	**8.20**	**210**	*e*PN	Pn	21 47 17.0	-5.3

JMA 17 21:57:02.2±0.1, 34.97N×139.14E, h6km±1km, M0.4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.09**	**332**	*e*S	Sg	21 57 05.9	+0.4
JOD2	**Odawara 2**	**0.30**	**352**	P	Pg	21 57 08.3	+0.2

*IDC **17** 22:17:46.1±2.8, 3.90S×135.16E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=102.8km s-min=16.1km az=85.0*
*AUST **17** 22:17:52.6±7.0, 4.30S×134.86E, h0km, Error ellipse: s-maj=1.6km s-min=1.2km az=31.0*

ISC 17 22:17:51.6±1.3, 4.13S±0.09×134.5E±0.1, h21km, n12, σ2.995/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.57**	**298**	P	**Pn**	**22 18 32.4**	**+0.3**
	baz=2.9,SNR=55						
KDU	**Kakadu**	**8.74**	**193**	P	Pn	22 20 00.3	+3.5
	baz=8.7,SNR=15						
MTN	**Manton Dam**	**9.28**	**201**	P	Pn	22 20 09.3	+4.9
	baz=9.3,SNR=6.7						
KNRA	**Kununurra**	**12.79**	**206**	P	**Pn**	**22 20 54.8**	**+2.4**
	baz=13,SNR=8.9						
COEN	**Coen**	**12.97**	**139**	P	**Pn**	**22 20 55.1**	**+0.2**
	baz=13,SNR=8.0						
WRA	**Warramunga Arr**	**15.72**	**181**	Pn	**Pn**	**22 21 30.4**	**-1.6**
	0.2nm,0.3s,baz=3.2,slow=13,SNR=8.2						
WRA				Sn	**Sn**	**22 24 20.5**	**-5.1**
	0.1nm,0.3s,baz=3.4,slow=23,SNR=3.9						
FITZ	**Fitzroy Crossi**	**16.38**	**211**	Pn	**P**	**22 21 43.0**	**-0.2**
	0.4nm,0.3s,baz=34,slow=13,SNR=8.8						
FITZ				Sn	**Sn**	**22 24 39.3**	**-2.4**
	0.1nm,0.3s,baz=216,slow=18,SNR=3.4						
FITZ	**Fitzroy Crossi**	**16.38**	**211**	P	**P**	**22 21 42.9**	**-0.2**
	baz=16,SNR=5.0						
ASAR	**Alice Springs**	**19.43**	**182**	P	**Pn**	**22 22 18.1**	**0.0**
	0.3nm,0.3s,baz=7.4,slow=10,SNR=43						
ASAR				S	**Sn**	**22 26 00.9**	**+5.3**
	0.0nm,0.3s,baz=4.2,slow=28,SNR=4.2						
WRKA	**Warakurna**	**21.63**	**195**	P	P	22 22 47.1	+6.5
	baz=22,SNR=8.0						
MKAR	**Makanchi Array**	**68.42**	**324**	P	**P**	**22 28 51.2**	**-0.9**
	0.2nm,0.6s,baz=114,slow=7.6,SNR=3.7						
MAW	**Mawson**	**79.25**	**202**	P	P	22 30 04.7	+10
	baz=79,SNR=10						

*MOS **17** 22:19:36.2±1.9, 53.02N×107.10E, h11km, mb4.3/1, Error ellipse: s-maj=41.5km s-min=18.4km az=56.1*
*BYKL **17** 22:19:37.2±0.2, 52.98N×107.07E*

ISC 17 22:19:36.0±1.2, 52.96N±0.02×107.14E±0.02, h2km±10km, n31, σ1.951/71, 8C-11D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRG	**Tyrgan**	**0.52**	**248**	⇑*i*PG	**Pb**	**22 19 47.4**	**-0.4**
TRG				*e*		22 19 54.7	
TRG				pmax	pmax		
	comp=Z,312nm,0.1s						
TRG				smax	smax		
	comp=N,2μm,0.1s						
TRG	**Tyrgan**	**0.52**	**248**	⇓*i*Pg	**Pb**	**22 19 47.4**	**-0.4**
	comp=N,14nm,0.2s						
TRG				⇓*i*Pg	**Pb**	**22 19 47.4**	**-0.4**
	comp=N,23nm,0.2s						
TRG				⇑*i*Pg	**Pb**	**22 19 47.4**	**-0.4**
	comp=N,49nm,0.2s						
TRG				*e*Sg	**Sb**	**22 19 54.5**	**-1.3**
TRG				Pmax			
	comp=N,312nm,0.1s						
TRG				Smax			
	comp=N,2μm,0.1s						
KAB	**Kabansk**	**0.95**	**198**	⇑PG	**Pg**	**22 19 55.1**	**+0.8**
KAB				*e*		22 20 08.4	
KAB				pmax	pmax		
	comp=Z,225nm,0.3s						
KAB				smax	smax		
	comp=E,2μm,0.9s						
KAB	**Kabansk**	**0.95**	**198**	⇓*i*Pg	**Pg**	**22 19 55.0**	**+0.8**
KAB				*e*Pb	**Pn**	**22 19 56.9**	**+0.5**
KAB				*i* Sg	**Sg**	**22 20 08.6**	**+2.0**
KAB				Pmax			
	comp=E,227nm,0.3s						
KAB				Smax			
	comp=E,2μm,0.3s						
MXMB	**Maximikha**	**1.01**	**72**	⇓*i*Pg	**Pg**	**22 19 56.0**	**+0.6**
MXMB				*e*Pb	**Pn**	**22 19 57.2**	**0.0**
MXMB				*e*Sg	**Sg**	**22 20 10.1**	**+1.6**
MXMB				max			
	comp=E,68nm,0.1s						
MXMB				Smax			
	comp=E,1μm,0.7s						
UUDB	**Ulan-Yde**	**1.14**	**163**	⇓*i*Pg	**Pb**	**22 19 58.2**	**-0.1**
	comp=E,351nm,0.5s						
UUDB				⇑*i*Pg	**Pb**	**22 19 58.2**	**-0.1**
	comp=E,90nm,0.5s						
UUDB				⇑*i*Pg	**Pb**	**22 19 58.2**	**-0.1**
	comp=E,448nm,0.5s						
UUDB				*e*Sg	**Sb**	**22 20 13.4**	**-0.1**
UUDB				Pmax			
	comp=E,490nm,0.5s						
UUDB				Smax			
	comp=E,638nm,0.3s						
HRMR	**Khuramsha**	**1.33**	**185**	⇓*i*Pg	**Pn**	**22 20 01.1**	**-0.5**
HRMR				*e*Pb	**Pg**	**22 20 03.0**	**+1.5**
HRMR				*e*Sg	**Sn**	**22 20 19.3**	**-0.6**
HRMR				*e*Sb	**Sg**	**22 20 20.7**	**+1.9**
LSTR	**Listvyanka**	**1.79**	**233**	⇑*i*Pg	**Pn**	**22 20 07.7**	**-0.1**
LSTR				*e*Sg	**Sn**	**22 20 30.9**	**-0.1**
LSTR				Pmax			
	comp=E,22nm,0.1s						
LSTR				Smax			
	comp=E,94nm,0.2s						
SYVR	**Suvo**	**1.85**	**67**	⇓*i*Pn	**Pb**	**22 20 10.2**	**-0.3**
SYVR				Pg	**Pb**	**22 20 10.2**	**-0.3**
SYVR				*e*		22 20 14.7	
SYVR				*e*Sn	**Sn**	**22 20 31.8**	**-0.9**
SYVR				*i* Sg	**Sb**	**22 20 35.1**	**+0.9**
SYVR				max			
	comp=E,16nm,0.4s						
SYVR				Smax			
	comp=E,84nm,0.3s						
IRK	**Irkutsk**	**1.89**	**249**	*e*PN	**Pg**	**22 20 11.9**	**-0.3**
IRK				*e*		22 20 35.2	
IRK				pmax	pmax		
	comp=Z,41nm,0.1s						
IRK				smax	smax		
	comp=N,965nm,0.5s						
IRK	**Irkutsk**	**1.89**	**249**	Pg	**Pb**	**22 20 11.5**	**+0.3**
IRK				*e*		22 20 24.6	
IRK				*i* Sg	**Sb**	**22 20 35.2**	**0.0**
IRK				Pmax			
	comp=N,39nm,0.1s						
IRK				Smax			
	comp=N,961nm,0.5s						
TLY	**Talaya**	**2.50**	**241**	*e*Pn	**Pn**	**22 20 18.4**	**+0.8**
TLY				*e*Pg	**Pb**	**22 20 21.0**	**-0.5**
TLY				*i* Sn	**Sn**	**22 20 48.5**	**-0.1**
TLY				*i* Sg	**Sb**	**22 20 53.1**	**+0.4**
TLY				Pmax			
	comp=N,19nm,0.1s						
TLY				Smax			
	comp=N,81nm,0.2s						
YLYR	**Ulyunkhan**	**3.06**	**49**	⇓*i*Pn	**Pn**	**22 20 25.1**	**-0.2**
YLYR				*e*Pg	**Pb**	**22 20 31.5**	**+0.4**
YLYR				*e*		22 20 37.3	
YLYR				*e*Sg	**Sb**	**22 21 11.4**	**+2.6**
YLYR				max			
	comp=N,7.0nm,0.4s						
YLYR				Smax			
	comp=N,32nm,0.5s						
ARS	**Arshan**	**3.07**	**252**	*e*PN	**Pn**	**22 20 26.6**	**+1.1**
ARS				*e*		22 20 30.9	
ARS				*e*		22 21 09.8	
ARS				pmax	pmax		
	comp=Z,28nm,0.3s						
ARS				smax	smax		
	comp=N,432nm,0.4s						
ARS	**Arshan**	**3.07**	**252**	*e*	**Pn**	**22 20 26.4**	**+0.9**
ARS				*e*Pg	**Pb**	**22 20 31.2**	**-0.1**
ARS				*i* Sg	**Sb**	**22 21 09.8**	**+0.6**
ARS				*e*		22 21 13.0	
ARS				Pmax			
	comp=N,30nm,0.4s						
ARS				max			
	comp=N,497nm,0.8s						
NIZ	**Nizh Angarsk**	**3.15**	**25**	*e*PN	**Pn**	**22 20 27.1**	**+0.5**
NIZ				*e*		22 20 34.2	
NIZ				*e*S	**Sn**	**22 21 05.2**	**+0.4**
NIZ				*e*		22 21 14.0	
NIZ				pmax	pmax		
	comp=Z,19nm,0.4s						
NIZ				smax	smax		
	comp=E,87nm,0.4s						
NIZ	**Nizh Angarsk**	**3.15**	**25**	⇑*i*Pn	**Pn**	**22 20 27.1**	**+0.5**
NIZ				*e*Pg	**Pb**	**22 20 34.1**	**+1.4**
NIZ				*e*Sn	**Sn**	**22 21 04.3**	**-0.5**
NIZ				*e*Sg	**Sb**	**22 21 13.8**	**+2.2**
NIZ				Pmax			
	comp=E,19nm,0.4s						
NIZ				Smax			
	comp=E,88nm,0.4s						
ZAK	**Zakamensk**	**3.52**	**225**	*e*Pn	**Pn**	**22 20 32.0**	**+0.2**
ZAK				*e*Pg	**Pb**	**22 20 39.8**	**+0.7**
ZAK				*e*Sn	**Sn**	**22 21 13.2**	**-0.8**
ZAK				*e*Sg	**Sg**	**22 21 26.6**	**-2.5**
ZAK				Pmax			
	comp=E,2.0nm,0.1s						
ZAK				Smax			
	comp=E,24nm,0.3s						
KMO	**Kumora**	**3.77**	**37**	⇓*i*Pn	**Pn**	**22 20 35.6**	**+0.5**
KMO				*e*Pg	**Pb**	**22 20 44.4**	**+1.1**
KMO				*e*		22 20 47.1	
KMO				*e*Sg	**Sb**	**22 21 32.8**	**+3.4**
KMO				max			
	comp=E,11nm,0.4s						
KMO				Smax			
	comp=E,57nm,0.8s						
MOY	**Mondy**	**3.99**	**254**	⇑*i*	Pn	22 20 40.8	+2.6
MOY				*e*Pg	**Pb**	**22 20 48.6**	**+1.6**
MOY				*e*Sn	**Sn**	**22 21 26.5**	**+1.0**
MOY				*e*Sg	**Sg**	**22 21 40.8**	**-3.2**
MOY				Pmax			
	comp=E,11nm,0.7s						
MOY				Smax			
	comp=E,71nm,1.0s						
CIT	**Chita**	**4.03**	**101**	*e*Sg	**Sg**	**22 21 42.8**	**-2.5**
CIT				Smax			
	comp=E,137nm,0.4s						
YOA	**Uoyan**	**4.15**	**38**	*e*Sg	**Sg**	**22 21 47.3**	**-2.0**
YOA				*e*		22 21 55.7	
YOA				max			
	comp=E,78nm,0.4s						
ORL	**Orlik**	**4.47**	**268**	*e*PN	**Pn**	**22 20 43.4**	**-1.4**
ORL				*e*		22 20 55.2	
ORL				*e*		22 21 54.9	
ORL				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ORL				smax	smax		
	comp=N,74nm,1.1s						
ORL	**Orlik**	**4.47**	**268**	⇓*i*Pn	**Pn**	**22 20 43.3**	**-1.5**
ORL				⇓*i*		22 20 47.2	
ORL				*e*Pg	**Pb**	**22 20 56.7**	**+1.4**
ORL				*e*Sn	**Sn**	**22 21 38.1**	**+0.6**
ORL				*e*Sg	**Sg**	**22 21 55.0**	**-4.6**
ORL				Pmax			
	comp=N,4.0nm,1.0s						
ORL				Smax			
	comp=N,74nm,1.0s						
UKT	**Uakit**	**4.57**	**54**	*e*Pg	Pb	22 21 00.2	+3.3
UKT				*e*		22 21 08.9	
UKT				*e*Pn	**Sn**	**22 21 39.1**	**-0.8**
UKT				*e*Sg	**Sg**	**22 22 00.4**	**-2.4**
UKT				max			
	comp=N,8.0nm,1.1s						
UKT				Smax			
	comp=N,11nm,0.5s						
KPC	**Khapcheranga**	**4.62**	**133**	*e*Pn	**Pn**	**22 20 47.2**	**+0.3**
KPC				*e*Pg	**Pb**	**22 21 00.2**	**+2.4**
KPC				*e*		22 21 04.6	
KPC				*e*Sn	**Sn**	**22 21 37.4**	**-3.7**
KPC				*e*Sg	Sb	22 22 00.5	+6.6
KPC				max			
	comp=N,7.0nm,0.3s						
KPC				Smax			
	comp=N,31nm,0.7s						
SVKR	**Severomuysk**	**4.90**	**47**	*e*Sg	**Sg**	**22 22 10.3**	**-2.9**
SVKR				Smax			
	comp=N,75nm,1.6s						
NLYR	**Nelyaty**	**6.09**	**51**	*e*	Pn	22 21 03.2	-3.8
NLYR				*e*		22 21 21.5	
NLYR				*e*Sg	**Sg**	**22 22 48.7**	**-2.8**
NLYR				Smax			
	comp=N,19nm,0.9s						
BOD	**Bodaibo**	**6.25**	**36**	*e*Sg	Sg	22 22 50.5	-5.9
BOD				Smax			
	comp=N,9.0nm,0.7s						
CRS	**Chara**	**7.53**	**54**	*e*Sg	Sg	22 23 31.8	-5.7
CRS				*e*		22 23 38.0	
CRS				Smax			
	comp=N,56nm,0.7s						
TUP	**Tupik**	**7.75**	**74**	*e*Pn	**Pn**	**22 21 29.3**	**-0.4**
TUP				*e*		22 21 55.1	
TUP				*e*Sg	Sg	22 23 38.1	-6.5
TUP				max			
	comp=N,1.0nm,0.2s						
TUP				Smax			
	comp=N,17nm,0.9s						

*ISCJB **17** 22:26:57.3±0.4, 6.26N±0.09×33.43W±0.08, h10km, mb4.1/21, MS3.9/16, Error ellipse: s-maj=14.4km s-min=8.4km az=141.8*
*IDC **17** 22:26:57.8±0.6, 6.37N×33.47W, h0km, mb4.1/19, mb1 4.3/21, mb1mx4.2/32, mbtmp4.2/21, ML4.3/2, MS3.9/18, Ms1 3.9/18, ms1mx3.8/39, Error ellipse: s-maj=20.3km s-min=13.1km az=144.0*
*NEIC **17** 22:26:59.1±0.3, 6.30N×33.47W, h10km, mb4.5/3, Error ellipse: s-maj=12.2km s-min=7.2km az=141.0*

ISC 17 22:26:59.0±0.5, 6.31N±0.10×33.46W±0.09, h10km, n65, σ0.991/50, mb4.2/21, MS3.9/16, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**12.30**	**191**	*e*Pn	**Pn**	**22 29 53.4**	**-1.0**
RCBR				Sn	Sn	22 32 00.8	-11
RCBR	**Riachuelo**	**12.30**	**191**	Pn	**Pn**	**22 29 53.9**	**-0.5**
	1.6nm,0.3s,baz=0.9,slow=14,SNR=9.9						
RCBR				Sn	Sn	22 32 00.8	-11
	0.5nm,0.3s,baz=319,slow=9.3,SNR=4.1						
RCBR				LR	LR	22 33 33.4	
	comp=Z,554nm,20.4s,baz=185,slow=32						
SACV	**Santiago Islan**	**12.95**	**48**	*e*Pn	Pn	22 29 57.3	-6.0
BBTS	**Babate**	**18.59**	**62**	P	**Pn**	**22 31 16.7**	**0.0**
BBTS	**Babate**	**18.59**	**62**	P	**Pn**	**22 31 16.7**	**0.0**
	1.2nm,0.3s,baz=271,slow=10,SNR=3.6						
BBTS				LR	LR	22 36 37.6	
	comp=Z,512nm,20.9s,baz=66,slow=31						
H10N3	**ASCENSION HYDR**	**23.56**	**126**	T	T	22 56 37.8	
	baz=306,slow=75,SNR=52						
H10N2	**ASCENSION HYDR**	**23.56**	**126**	T	T	22 56 38.1	
	baz=306,slow=75,SNR=76						
H10N1	**ASCENSION HYDR**	**23.58**	**126**	T	T	22 56 39.3	
	baz=306,slow=75,SNR=76						
H10S3	**ASCENSION HYDR**	**24.10**	**129**	T	T	22 57 27.3	
	baz=308,slow=75,SNR=43						
H10S1	**ASCENSION HYDR**	**24.11**	**129**	T	T	22 57 21.8	
	baz=308,slow=75,SNR=52						
H10S2	**ASCENSION HYDR**	**24.12**	**129**	T	T	22 57 28.6	
	baz=308,slow=75,SNR=54						
BDFB	**Brasilia**	**26.14**	**213**	P	**P**	**22 32 34.2**	**+0.5**
BDFB	**Brasilia**	**26.14**	**213**	P	**P**	**22 32 34.2**	**+0.5**
	5.3nm,0.9s,baz=24,slow=11,SNR=5.6						
BDFB				LR	LR	22 41 50.4	
	comp=Z,566nm,20.0s,baz=44,slow=34						
PTGA	**Pitinga**	**27.37**	**256**	*e*P	**P**	**22 32 43.6**	**-1.2**
	1.9nm,0.8s						
H05S1	**Guadeloupe/Mar**	**28.09**	**289**	T	T	23 02 15.2	
	SNR=13						
DBIC	**Dimbokro**	**28.42**	**88**	P	**P**	**22 32 54.1**	**-0.1**
DBIC	**Dimbokro**	**28.42**	**88**	P	**P**	**22 32 54.1**	**-0.1**
	4.0nm,1.1s,baz=265,slow=7.3,SNR=3.5						
DBIC				LR	LR	22 41 51.3	
	comp=Z,196nm,18.6s,baz=244,slow=31						
SAML	**Samuel**	**33.28**	**243**	*e*P	**P**	**22 33 36.7**	**-0.3**
	7.8nm,1.3s						
SJG	**San Juan**	**33.97**	**293**	LR	LR	22 43 18.7	
	comp=Z,154nm,19.9s,baz=90,slow=29						
SIV	**San Ignacio**	**35.19**	**231**	P	**P**	**22 33 55.2**	**+1.6**
SIV	**San Ignacio**	**35.19**	**231**	P	**P**	**22 33 55.2**	**+1.6**
	12nm,0.9s,baz=88,slow=9.9,SNR=24						
TORD	**Torodi Ar. Bea**	**35.28**	**76**	P	**P**	**22 33 53.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**35.28**	**76**	P	**P**	**22 33 53.9**	**-0.6**
	2.8nm,1.0s,baz=272,slow=8.0,SNR=11						
TORD				LR	LR	22 46 17.3	
	comp=Z,258nm,20.8s,baz=275,slow=33						
MDT	**Midelt**	**37.62**	**42**	LR	LR	22 48 15.9	
	comp=Z,206nm,18.6s,baz=230,slow=34

MLR	**Muntele Rosu**	**64.31**	**42**	P		**P**	**22 37 35.6 +0.5**
MLR	**Muntele Rosu**	**64.31**	**42**	P		**P**	**22 37 35.6 +0.5**
	comp=Z,1.2nm,0.9s,baz=139,slow=8.6,SNR=7.1						
HFS	**Hagfors**	**64.36**	**24**	P		**P**	**22 37 33.8 -1.0**
HFS	**Hagfors**	**64.36**	**24**	P		**P**	**22 37 33.8 -1.0**
	comp=Z,10nm,1.1s,baz=164,slow=7.5,SNR=3.1						
BOSA	**Boshof**	**66.31**	**125**	P		**P**	**22 37 48.3 0.0**
BOSA	**Boshof**	**66.31**	**125**	P		**P**	**22 37 48.3 0.0**
	comp=Z,4.0nm,0.8s,baz=40,slow=5.2,SNR=5.3						
AKASG	**Malin Array Be**	**68.02**	**38**	P		**P**	**22 37 58.6 0.0**
AKASG	**Malin Array Be**	**68.02**	**38**	P		**P**	**22 37 58.6 0.0**
	comp=Z,0.2nm,0.3s,baz=249,slow=7.3,SNR=6.0						
BRTR	**Keskin Array B**	**68.42**	**50**	P		**P**	**22 38 03.0 +1.4**
BRTR	**Keskin Array B**	**68.42**	**50**	P		**P**	**22 38 03.0 +1.4**
	comp=Z,1.7nm,1.0s,baz=205,slow=5.5,SNR=6.0						
BRTR				LR		LR	23 06 33.9
	comp=Z,58nm,18.9s,baz=76,slow=35						
TXAR	**Lajitas Array**	**69.69**	**299**	P		**P**	**22 38 09.3 -0.2**
TXAR	**Lajitas Array**	**69.69**	**299**	P		**P**	**22 38 09.3 -0.2**
	comp=Z,0.9nm,0.9s,baz=102,slow=5.3,SNR=6.2						
TXAR				LR		LR	23 09 21.0
	comp=Z,67nm,19.1s,baz=5.0,slow=36						
FINES	**FINESS Array B**	**70.25**	**26**	LR		LR	23 05 55.7
	comp=Z,101nm,18.2s,baz=210,slow=33						
PDAR	**Pinedale Array**	**75.54**	**312**	P		**P**	**22 38 43.6 -0.7**
PDAR	**Pinedale Array**	**75.54**	**312**	P		**P**	**22 38 43.6 -0.7**
	comp=Z,2.2nm,1.0s,baz=85,slow=6.7,SNR=9.1						
YKA	**Yellowknife Ar**	**80.35**	**332**	P		**P**	**22 39 09.1 -1.2**
YKA	**Yellowknife Ar**	**80.35**	**332**	P		**P**	**22 39 09.1 -1.2**
	comp=Z,0.6nm,0.8s,baz=97,slow=5.6,SNR=8.6						
NVAR	**Mina Array Bea**	**82.08**	**308**	P		**P**	**22 39 21.4 +1.0**
NVAR	**Mina Array Bea**	**82.08**	**308**	P		**P**	**22 39 21.4 +1.0**
	comp=Z,1.3nm,0.9s,baz=101,slow=4.8,SNR=4.2						
INK	**Inuvik**	**87.89**	**339**	P		**P**	**22 39 49.0 +0.4**
INK	**Inuvik**	**87.89**	**339**	P		**P**	**22 39 49.0 +0.4**
	comp=Z,0.9nm,0.8s,baz=46,slow=4.3,SNR=3.9						
ILAR	**Eielson Array**	**94.06**	**337**	P		**P**	**22 40 16.9 -0.6**
ILAR	**Eielson Array**	**94.06**	**337**	P		**P**	**22 40 16.9 -0.6**
	comp=Z,1.1nm,1.1s,baz=80,slow=2.5,SNR=6.1						
PETK	**Petropavlovsk-**	**120.06**	**352**	PKP		**PKPdf**	**22 45 49.2 -1.0**
PETK	**Petropavlovsk-**	**120.06**	**352**	PKP		**PKPdf**	**22 45 49.2 -1.0**
	comp=Z,2.1nm,0.7s,baz=44,slow=6.6,SNR=2.4						
CMAR	**Chiang Mai Arr**	**127.01**	**61**	PKP		**PKPdf**	**22 46 05.0 +0.5**
CMAR	**Chiang Mai Arr**	**127.01**	**61**	PKP		**PKPdf**	**22 46 05.0 +0.5**
	comp=Z,0.6nm,0.3s,baz=318,slow=5.8,SNR=5.4						

IDC 17 22:43:59.1±6.0, 15.40S×173.17W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/21, mbtmp4.1/3, Error ellipse: s-maj=303.1km s-min=25.8km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**42**	Pn	Pn	22 44 32.7	-1.6
	39nm,0.3s,baz=33,slow=1.8,SNR=18						
AFI				Sn	Sn	22 44 52.6	-7.5
	144nm,0.3s,baz=42,slow=22,SNR=17						
H11S2	**WAKE ISLAND Hy**	**39.08**	**329**	T	T	23 33 04.2	
	baz=152,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**39.09**	**329**	T	T	23 33 02.3	
	baz=152,slow=76,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**39.10**	**329**	T	T	23 33 26.1	
	baz=152,slow=76,SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**40.02**	**330**	T	T	23 34 15.7	
	baz=152,slow=77,SNR=2.6						
H11N1	**WAKE ISLAND Hy**	**40.03**	**330**	T	T	23 34 17.9	
	baz=152,slow=77,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**40.04**	**330**	T	T	23 34 21.3	
	baz=152,slow=77,SNR=2.6						
WRA	**Warramunga Ar**	**50.06**	**257**	P	P	22 52 55.0	-1.0
	0.8nm,0.5s,baz=92,slow=6.7,SNR=28						
ASAR	**Alice Springs**	**50.32**	**252**	P	P	22 52 57.6	-0.4
	2.3nm,0.6s,baz=88,slow=8.4,SNR=42						
BRTR	**Keskin Array B**	**146.30**	**321**	PKPbc	PKPab	23 03 43.7	+0.7
	0.6nm,0.7s,baz=47,slow=1.6,SNR=3.6						

ISCJB 17 22:56:55.2±0.8, 21.93S±0.05×68.4W±0.1, h122km±10km, mb3.5/2, Error ellipse: s-maj=17.4km s-min=7.3km az=6.9
GUC 17 22:56:56.8±0.4, 21.94S×68.61W, h122km±3km, ML4.0
IDC 17 22:57:00.5±2.8, 21.68S×67.97W, h139km±26km, mb3.3/2, mb1 3.5/5, mb1mx3.3/17, mbtmp3.8/5, Error ellipse: s-maj=36.4km s-min=25.1km az=122.0

ISC 17 22:56:55.0±1.0, 21.90S±0.05×68.22W±0.09, h102km±12km, n18, σ1§55/23, 6C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.96**	**276**	↑*i*P	**Pn**	**22 57 16.6**	**+1.3**
PB09				*i* S	**Sn**	**22 57 31.0**	**+0.4**
PB09				AML	AML	22 57 34.5	
	comp=E,5μm,0.2s						
PB04	**Plate Boundary**	**1.23**	**253**	↑*i*P	Pn	22 57 25.0	+6.9
PB04				*i* S	Sn	22 57 46.5	+11
PB04				AML	AML	22 57 52.5	
	comp=E,1μm,0.3s						
MACH	**Maria Elena**	**1.46**	**258**	↑*i*P	**Pn**	**22 57 20.9**	**-0.2**
MACH				*i* S	**Sn**	**22 57 39.4**	**-1.5**
PB01	**Plate Boundary**	**1.46**	**306**	↓*i*P	**Pn**	**22 57 21.6**	**+0.6**
PB01				*i* S	**Sn**	**22 57 40.8**	**+0.2**
PB01				AML	AML	22 57 43.7	
	comp=E,3μm,0.4s						
PB06	**Plate Boundary**	**1.49**	**237**	↑*i*P	**Pn**	**22 57 21.6**	**+0.3**
PB06				*i* S	**Sn**	**22 57 40.5**	**-0.9**
PB06				AML	AML	22 57 41.5	
	comp=N,2μm,0.2s						
PB07	**Plate Boundary**	**1.56**	**276**	↑*i*P	**Pn**	**22 57 22.2**	**-0.1**
PB07				*i* S	**Sn**	**22 57 41.1**	**-1.9**
PB07				AML	AML	22 57 44.0	
	comp=E,3μm,0.3s						
HMBC	**Humberstone**	**2.25**	**316**	↑*i*P	**Pn**	**22 57 31.1**	**+0.1**
HMBC				*i* S	**Sn**	**22 57 57.7**	**-0.8**
HMBC				AML	AML	22 57 59.7	
	comp=E,3μm,0.3s						
PB11	**Plate Boundary**	**2.52**	**327**	↓*i*P	**Pn**	**22 57 35.5**	**+0.9**
PB11				*i* S	**Sn**	**22 58 05.6**	**+0.7**
PB10	**Plate Boundary**	**2.69**	**233**	*i* P	**Pn**	**22 57 36.1**	**-0.5**
PB10				*i* S	**Sn**	**22 58 06.0**	**-2.7**
PB10				AML	AML	22 58 17.6	
	comp=N,1μm,0.4s						
PSGC	**Pisagua**	**2.91**	**322**	*e*P	**Pn**	**22 57 39.0**	**-0.7**
PSGC				*i* S	**Sn**	**22 58 12.5**	**-1.6**
PSGC				AML	AML	22 58 14.6	
	comp=E,527nm,0.3s						
LPAZ	**La Paz**	**5.59**	**1**	P	Pn	22 58 20.0	+3.7
	comp=E,3.9nm,0.3s,baz=175,slow=6.8,SNR=49						
SIV	**San Ignacio**	**8.96**	**50**	P	**Pn**	**22 59 02.8**	**+1.2**
	comp=E,0.9nm,0.3s,baz=242,slow=14,SNR=9.9						
SIV				S	**Sn**	**23 00 37.3**	**-3.5**
	comp=E,0.5nm,0.3s,baz=310,slow=22,SNR=9.2						
H03N1	**Juan Fernandez**	**14.88**	**217**	T	T	23 15 19.4	
	baz=34						
H03N2	**Juan Fernandez**	**14.89**	**217**	T	T	23 15 23.8	
	baz=34						
H03N3	**Juan Fernandez**	**14.90**	**217**	T	T	23 15 26.0	
	baz=34						
PLCA	**Paso Flores**	**18.88**	**185**	P	**Pn**	**23 01 12.4**	**+3.4**
	comp=E,0.1nm,0.3s,baz=17,slow=4.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.89**	**70**	P	**P**	**23 08 36.6**	**+0.1**
	comp=E,0.7nm,0.5s,baz=252,slow=5.2,SNR=14						
YKA	**Yellowknife Ar**	**91.78**	**340**	P	**P**	**23 09 50.4**	**-0.3**
	comp=E,0.1nm,0.5s,baz=129,slow=4.9,SNR=3.5						

IDC 17 22:57:24.0±0.5, 55.53S×26.95W, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.6/26, mbtmp4.6/19, ML3.7/1, MS4.1/17, Ms1 4.1/17, ms1mx4.0/22, Error ellipse: s-maj=16.1km s-min=13.1km az=33.0
ISCJB 17 22:57:26.0±0.3, 55.49S±0.06×26.89W±0.10, h25km, mb4.8/28, MS3.9/23, Error ellipse: s-maj=9.2km s-min=7.6km az=19.9
NEIC 17 22:57:25.8±0.2, 55.48S×26.91W, h10km, mb5.1/14, Error ellipse: s-maj=8.8km s-min=6.8km az=197.0
GCMT 17 22:57:30.9±0.3, 55.55S×26.81W, h19km±1km, MW4.9, Moment Tensor Solution. s29,c34; s67,c90; Moment tensor: Scale 10^16 Nm; Mrr 1.69±.18; Mθθ -0.71±.15; Mϕϕ-0.99±.13; Mrθ -0.35±.27; Mϕϕ 3.14±.10; Mϕr 0.42±.26; Best double couple: M0 3.20000×10^16 NP1:ϕs 181.00000°, δ 89.00000°, λ -173.00000°. NP2:ϕs 91.00000°, δ 83.00000°, λ -1.00000°. Principal axes: T 2.3000, Plg 4.0000°, Azm 316.0000°; N 1.7400, Plg 83.0000°, Azm 191.0000°; P -4.0400, Plg 5.0000°, Azm 46.0000°; Data Used: ll lU G lC CN CU.

ISC 17 22:57:27.8±0.3, 55.51S±0.09×26.96W±0.06, h25km, n133, σ1§44/143, mb5.0/27, MS4.2/23, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.64**	**279**	*e*Pn	**Pn**	**22 58 49.8**	**-0.1**
HOPE				*e*Sn	**Sn**	**22 59 52.0**	**-1.8**
EFI	**East Falkland**	**18.77**	**269**	*e*P	**P**	**23 01 42.7**	**-2.1**
	24nm,1.0s						
SNAA	**Sanae**	**19.19**	**157**	P	**P**	**23 01 48.7**	**-0.6**
SNAA	**Sanae**	**19.19**	**157**	P	**P**	**23 01 48.7**	**-0.6**
	0.2nm,0.3s,baz=315,slow=8.5,SNR=26						
PMSA	**Palmer Station**	**20.36**	**228**	*e*P	Pn	23 02 04.1	0.0
	316nm,1.7s						
USHA	**Ushuaia**	**23.45**	**254**	P	**P**	**23 02 34.0**	**-0.9**
USHA	**Ushuaia**	**23.45**	**254**	P	**P**	**23 02 34.0**	**-0.9**
	8.5nm,0.8s,baz=52,slow=9.2,SNR=3.6						
TRQA	**Tornquist**	**29.24**	**292**	*e*P	**P**	**23 03 28.8**	**+1.3**
	21nm,1.4s						
SYO	**Syowa Base**	**31.92**	**141**	↓*e*P	**P**	**23 03 49.4**	**-1.4**
PLCA	**Paso Flores**	**32.04**	**279**	LR	LR	23 16 34.0	
	comp=Z,16nm,28.6s,baz=132,slow=36						
QSPA	**South Pole Qui**	**34.74**	**180**	P	**P**	**23 04 15.6**	**-0.1**
QSPA	**South Pole Qui**	**34.74**	**180**	P	**P**	**23 04 15.6**	**-0.1**
	26nm,0.8s,baz=208,slow=4.3,SNR=45						
CPUP	**Villa Florida**	**36.56**	**310**	*e*P	**P**	**23 04 31.9**	**+0.5**
CPUP	**Villa Florida**	**36.56**	**310**	P	**P**	**23 04 31.8**	**+0.5**
	4.6nm,0.6s,baz=144,slow=7.2,SNR=8.4						
CPUP				LR	LR	23 18 33.3	
	comp=Z,425nm,20.1s,baz=139,slow=35						
CFAA	**Coronel Fontan**	**37.47**	**292**	P	**P**	**23 04 39.3**	**+0.1**
CFAA	**Coronel Fontan**	**37.47**	**292**	P	**P**	**23 04 39.3**	**+0.1**
	2.5nm,0.7s,baz=147,slow=9.5,SNR=16						
CFAA				LR	LR	23 20 09.7	
	comp=Z,15nm,28.6s,baz=140,slow=36						
SUR	**Sutherland**	**40.37**	**75**	*e*P	**P**	**23 05 04.7**	**+1.1**
	468nm,2.5s						
SUR	**Sutherland**	**40.37**	**75**	P	**P**	**23 05 04.2**	**+0.6**
	13nm,1.0s,baz=202,slow=11,SNR=4.6						
MAW	**Mawson**	**40.51**	**144**	*e*P	**P**	**23 05 04.7**	**+0.7**
	54nm,2.2s						
MAW	**Mawson**	**40.51**	**144**	P	**P**	**23 05 04.3**	**+0.2**
	13nm,0.7s,baz=225,slow=6.8,SNR=8.2						
MAW				LR	LR	23 20 26.5	
	comp=Z,304nm,19.2s,baz=257,slow=34						
BDFB	**Brasilia**	**42.96**	**329**	P	**P**	**23 05 25.5**	**+0.7**
BDFB	**Brasilia**	**42.96**	**329**	P	**P**	**23 05 25.5**	**+0.7**
	2.2nm,0.5s,baz=176,slow=10,SNR=4.5						
BDFB				LR	LR	23 22 09.5	
	comp=Z,447nm,18.4s,baz=154,slow=35						
LVC	**Limon Verde**	**45.15**	**299**	*e*P	**P**	**23 05 44.1**	**+1.7**
	27nm,0.7s						
BOSA	**Boshof**	**45.71**	**76**	*e*P	**P**	**23 05 46.2**	**-0.5**
	39nm,1.6s						
BOSA	**Boshof**	**45.71**	**76**	P	**P**	**23 05 46.3**	**-0.5**
	6.3nm,0.7s,baz=219,slow=7.5,SNR=12						
BOSA				LR	LR	23 23 01.5	
	comp=Z,16nm,28.6s,baz=219,slow=34						
SBA	**Scott Base**	**46.63**	**184**	*e*P	**P**	**23 05 55.0**	**+1.7**
	20nm,1.0s						
VNDA	**Vanda**	**47.12**	**183**	*e*P	**P**	**23 05 57.8**	**+0.7**
	23nm,0.7s						
VNDA	**Vanda**	**47.12**	**183**	P	**P**	**23 05 56.7**	**-0.4**
	23nm,0.7s,baz=185,slow=6.0,SNR=80						
VNDA				LR	LR	23 24 01.5	
	comp=Z,16nm,28.6s,baz=168,slow=34						
SIV	**San Ignacio**	**47.30**	**313**	P	**P**	**23 05 59.0**	**-0.2**
SIV	**San Ignacio**	**47.30**	**313**	P	**P**	**23 05 59.0**	**-0.2**
	2.1nm,0.6s,baz=166,slow=8.7,SNR=5.1						
SIV				LR	LR	23 23 57.9	
	comp=Z,16nm,28.6s,baz=134,slow=34						
H10S2	**ASCENSION HYDR**	**47.44**	**17**	T	T	23 58 01.1	
	baz=189,slow=75						
H10S3	**ASCENSION HYDR**	**47.45**	**17**	T	T	23 58 18.2	
	baz=189,slow=75						
H10S1	**ASCENSION HYDR**	**47.46**	**17**	T	T	23 58 30.8	
	baz=189						
H10N1	**ASCENSION HYDR**	**48.56**	**17**	T	T	23 59 47.8	
	baz=4.9						
H10N3	**ASCENSION HYDR**	**48.56**	**17**	T	T	23 59 41.2	
	baz=4.9						
H10N2	**ASCENSION HYDR**	**48.58**	**17**	T	T	23 59 38.9	
	baz=4.9						
LBTB	**Lobtse**	**48.73**	**73**	*e*P	**P**	**23 06 10.2**	**-0.1**
	26nm,1.3s						
TSUM	**Tsumeb**	**49.30**	**61**	P	**P**	**23 06 14.8**	**+0.1**
TSUM	**Tsumeb**	**49.30**	**61**	P	**P**	**23 06 14.8**	**+0.1**
	2.6nm,0.8s,baz=229,slow=7.0,SNR=5.6						
RCBR	**Riachuelo**	**50.06**	**348**	LR	LR	23 23 42.9	
	comp=Z,16nm,28.6s,baz=158,slow=32						
LPAZ	**La Paz**	**50.17**	**305**	*e*P	**P**	**23 06 22.2**	**+0.2**
	79nm,1.8s						
LPAZ	**La Paz**	**50.17**	**305**	P	**P**	**23 06 22.1**	**+0.2**
	18nm,1.0s,baz=152,slow=5.9,SNR=30						
LPAZ				LR	LR	23 27 59.0	
	comp=Z,16nm,28.6s,baz=180,slow=37						
SAML	**Samuel**	**54.52**	**314**	*e*P	**P**	**23 06 53.8**	**+0.3**
	27nm,1.4s						
LSZ	**Lusaka**	**58.05**	**69**	P	**P**	**23 07 18.7**	**-0.2**
LSZ	**Lusaka**	**58.05**	**69**	P	**P**	**23 07 18.7**	**-0.2**
	2.1nm,0.8s,baz=89,slow=9.0,SNR=7.4						
ATAH	**Atahualpa**	**63.04**	**299**	P	**P**	**23 07 54.3**	**+1.1**
ATAH	**Atahualpa**	**63.04**	**299**	P	**P**	**23 07 54.3**	**+1.1**
	3.2nm,0.6s,baz=115,slow=4.4,SNR=3.3						
ATAH				LR	LR	23 36 58.8	
	comp=Z,16nm,28.6s,baz=162,slow=38						
LIC	**Lamto**	**64.15**	**24**	*e*P	**P**	**23 07 59.3**	**-0.6**
	22nm,0.7s						
KIC	**Kosan Boka**	**64.35**	**25**	*e*P	**P**	**23 08 00.3**	**-1.0**
	19nm,1.0s						
TIC	**Toumodi**	**64.56**	**24**	*e*P	**P**	**23 08 01.9**	**-0.7**
	6.0nm,0.2s						
DBIC	**Dimbokro**	**64.62**	**24**	P	**P**	**23 08 02.9**	**-0.1**
DBIC	**Dimbokro**	**64.62**	**24**	P	**P**	**23 08 02.9**	**-0.1**
	6.6nm,0.9s,baz=171,slow=7.7,SNR=8.3						
DBIC				LR	LR	23 30 29.9	
	comp=Z,16nm,28.6s,baz=180,slow=31						
OTAV	**Otavalo**	**69.47**	**303**	*e*P	**P**	**23 08 37.2**	**+2.7**
	21nm,1.4s						
ROSC	**El Rosal**	**71.66**	**309**	LR	LR	23 41 42.2	
	comp=Z,103nm,20.2s,baz=160,slow=37						
TOA0	**Torodi Ar. Sit**	**72.52**	**29**	*e*P	**P**	**23 08 52.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.52**	**29**	P	**P**	**23 08 52.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**72.52**	**29**	P	**P**	**23 08 52.6**	**+0.3**
	17nm,0.7s,baz=197,slow=6.4,SNR=94						
TORD				LR	LR	23 34 31.6	
	comp=Z,144nm,21.4s,baz=175,slow=31						
SDV	**Santo Domingo**	**73.72**	**315**	*e*P	**P**	**23 09 00.0**	**+0.3**
	2.5nm,0.9s						
RKT	**Rikitea**	**80.84**	**242**	*e*LR	LR	23 34 56.7	
	232nm,28.8s						
TBI	**Tubuai**	**87.53**	**231**	*e*LR	LR	23 38 00.1	
	244nm,28.0s						
APG	**El Apazote**	**88.07**	**300**	P	**P**	**23 10 14.7**	**-1.5**
APG	**El Apazote**	**88.07**	**300**	P	**P**	**23 10 14.7**	**-1.5**
	4.9nm,0.7s,baz=115,slow=7.8,SNR=6.4						
KEST	**Kesra**	**96.04**	**29**	LR	LR	23 50 08.6	
	comp=Z,16nm,28.6s,baz=213,slow=33						
ESDC	**Sonseca Array**	**96.82**	**18**	LR	LR	23 49 44.4	
	comp=Z,73nm,20.4s,baz=325,slow=32						
ASAR	**Alice Springs**	**99.47**	**162**	P	**Pdif**	**23 11 08.7**	**+0.3**
ASAR				PP	PP	23 14 56.2	-15
ASAR	**Alice Springs**	**99.47**	**162**	P	**Pdif**	**23 11 08.7**	**+0.3**
	1.8nm,0.6s,baz=183,slow=4.0,SNR=16						
ASAR				PP	PP	23 14 56.2	-15
	0.2nm,0.4s,baz=168,slow=9.4,SNR=3.4						
AS01	**Alice Springs**	**99.48**	**162**	*e*P	**Pdif**	**23 11 11.3**	**+2.9**
EIL	**Elat**	**99.90**	**51**	LR	LR	23 53 08.2	
	comp=Z,107nm,18.9s,baz=206,slow=34						
DZM	**Mont Dzumac**	**101.89**	**193**	*e*LR	LR	23 44 44.4	
	169nm,23.6s						
WRA	**Warramunga Ar**	**103.18**	**162**	Pdif	**Pdif**	**23 11 24.2**	**-0.7**
WRA	**Warramunga Ar**	**103.18**	**162**	Pdiff	**Pdif**	**23 11 24.2**	**-0.7**
	0.3nm,0.6s,baz=189,slow=4.5,SNR=4.8						
PDAR	**Pinedale Array**	**120.17**	**302**	PKP	**PKPdf**	**23 16 15.4**	**-0.5**
PDAR	**Pinedale Array**	**120.17**	**302**	PKP	**PKPdf**	**23 16 15.4**	**-0.5**
	0.3nm,0.6s,baz=152,slow=4.1,SNR=3.4						
FRB	**Frobisher Bay**	**123.19**	**339**	PKP	**PKPdf**	**23 16 20.3**	**-0.4**
FRB	**Frobisher Bay**	**123.19**	**339**	PKP	**PKPdf**	**23 16 20.3**	**-0.4**
	2.3nm,0.7s,baz=151,slow=8.5,SNR=5.7						
PYUN	**Piuthan**	**123.83**	**89**	*e*P	**PKPdf**	**23 16 22.9**	**-0.5**
	21nm,0.9s						
FINES	**FINESS Array B**	**123.84**	**28**	PKP	**PKPdf**	**23 16 21.9**	**-0.1**
FINES	**FINESS Array B**	**123.84**	**28**	PKP	**PKPdf**	**23 16 21.9**	**-0.1**
	1.6nm,0.6s,baz=129,slow=2.7,SNR=8.0						
KOLN	**Koldanda**	**123.93**	**89**	*e*P	**PKPdf**	**23 16 23.4**	**-0.1**
	17nm,0.7s						
DANN	**Dangsing**	**124.46**	**89**	*e*P	**PKPdf**	**23 16 24.7**	**0.0**
	23nm,0.7s						
DMN	**Daman**	**124.66**	**91**	*e*P	**PKPdf**	**23 16 25.1**	**+0.1**
GKN	**Gorkha**	**124.70**	**90**	*e*P	**PKPdf**	**23 16 24.7**	**-0.2**
	24nm,1.0s						
PKIN	**Phulchoki**	**124.80**	**91**	*e*P	**PKPdf**	**23 16 25.4**	**+0.1**
PKI	**Pulchoki**	**124.81**	**91**	*e*P	**PKPdf**	**23 16 25.2**	**-0.2**
	9.0nm,0.6s						
KKN	**Kakani**	**124.90**	**91**	*e*P	**PKPdf**	**23 16 25.3**	**-0.1**
	8.8nm,0.7s						
RAMN	**Ramite**	**125.01**	**93**	*e*P	**PKPdf**	**23 16 26.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**125.13**	**110**	PKP	**PKPdf**	**23 16 25.8**	**0.0**
CMAR	**Chiang Mai Arr**	**125.13**	**110**	PKP	**PKPdf**	**23 16 25.8**	**0.0**
	2.9nm,0.6s,baz=226,slow=3.9,SNR=7.4						
JIRN	**Jiri**	**125.32**	**92**	*e*P	**PKPdf**	**23 16 26.6**	**+0.2**
	23nm,0.6s						
GUN	**Gumba**	**125.33**	**91**	*e*P	**PKPdf**	**23 16 26.6**	**+0.2**
	11nm,0.6s						
ODAN	**Odare**	**125.39**	**93**	*e*P	**PKPdf**	**23 16 26.9**	**+0.5**
TAPN	**Taplejung**	**125.94**	**93**	*e*P	**PKPdf**	**23 16 27.8**	**+0.3**
KSH	**Kashi**	**128.29**	**74**	PKP	**PKPdf**	**23 16 32.3**	**+0.9**
KSH				sPKP		23 16 44.1	
KSH				SKS	**SKSdf**	**23 23 36.3**	**-4.9**
KSH				SKKS	**SKKSac**	**23 25 25.0**	**-6.3**
KSH				SS	**SS**	**23 35 45.1**	**-5.2**
KSH				AMB	AMB		
	comp=Z,100nm,4.1s						
KSH				LR	LR		
	comp=N,740nm,14.2s						
KSH				LR	LR		
	comp=E,450nm,10.5s						
KSH				LR	LR		
	comp=Z,630nm,15.5s						
AAK	**Ala-Archa**	**129.67**	**70**	*e*PKPdf	**PKPdf**	**23 16 33.9**	**-0.1**
LSA	**Lhasa**	**129.69**	**94**	*e*PKPdf	**PKPdf**	**23 16 35.7**	**+0.8**
ARCES	**ARCESS Array B**	**130.39**	**21**	PKP	**PKPdf**	**23 16 34.0**	**-0.3**
ARCES	**ARCESS Array B**	**130.39**	**21**	PKP	**PKPdf**	**23 16 34.0**	**-0.3**
	5.7nm,0.8s,baz=349,slow=1.2,SNR=8.6						
KMI	**Kunming**	**132.58**	**109**	PKP	**PKPdf**	**23 16 40.8**	**+0.7**
GYA	**Guiyang**	**135.75**	**112**	*e*Pdif	**Pdif**	**23 13 50.3**	**+0.8**
GYA				PKP	**PKiKP**	**23 16 46.8**	**-0.7**
GYA				sPKP		23 17 01.0	
GYA				PP	**PP**	**23 19 28.4**	**+4.1**
GYA				PKS	**PKSdf**	**23 20 21.4**	**-1.0**
GYA				SKKS		23 26 15.6	
GYA				SS	**SS**	**23 37 22.0**	**+1.2**
GYA				AMB	AMB		
	comp=Z,120nm,7.7s						
GYA				LR	LR		
	comp=N,120nm,20.8s						
GYA				LR	LR		
	comp=E,110nm,22.0s						
GYA				LR	LR		
	comp=Z,130nm,21.6s						
YKA	**Yellowknife Ar**	**135.86**	**318**	PKP	**PKPdf**	**23 16 44.4**	**-0.3**
YKA				PP	**PP**	**23 19 27.7**	**+3.1**
YKA				SKPbc	**SKPab**	**23 20 17.9**	**-1.6**
YKA	**Yellowknife Ar**	**135.86**	**318**	PKP	**PKPdf**	**23 16 44.4**	**-0.3**
	1.1nm,0.7s,baz=127,slow=2.0,SNR=15						
YKA				PP	**PP**	**23 19 27.7**	**+3.1**
	0.5nm,0.9s,baz=122,slow=6.6,SNR=5.0						
YKA				SKPbc	**SKPab**	**23 20 17.9**	**-1.6**
	0.7nm,1.0s,baz=122,slow=1.8,SNR=3.5						
YKB5	**Yellowknife Ar**	**135.86**	**318**	*e*PKPdf	**PKPdf**	**23 16 44.1**	**-0.6**
MK01	**Makanchi Array**	**136.58**	**71**	*e*PKPdf	**PKPdf**	**23 16 46.2**	**-0.5**
MKAR	**Makanchi Array**	**136.59**	**71**	PKPpre	PKPpre	23 16 41.1	
MKAR				PKP	**PKPdf**	**23 16 46.9**	**+0.2**
MKAR	**Makanchi Array**	**136.59**	**71**	PKhKP	PKPpre	23 16 41.1	
	0.6nm,0.9s,baz=240,slow=2.4,SNR=3.6						
MKAR				PKP	**PKPdf**	**23 16 46.9**	**+0.2**
	1.2nm,0.7s,baz=225,slow=2.7,SNR=10						
WMQ	**Urumqi**	**137.66**	**78**	*e*PKP	**PKPdf**	**23 16 49.8**	**+1.0**
CD2	**Chengdu**	**137.67**	**

az=177.2
*NEIC **17**23:05:22.8, 51.34N×179.93W, h26km, ML3.1(AEIC), After AEIC.*

ISC 17 23:05:23.4±1.5, 51.4N±0.2×180.00E±0.05, h46km, n18, σ1§12/21, mb3.5/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CESW	**Semis' Southwe**	**0.62**	**334**	P		**Pn**	**23 05 35.8**	**-0.1**
GALAA	**Gareloi Lava P**	**0.87**	**61**	P		**Pn**	**23 05 38.4**	**-0.9**
GALAA				S		**Sn**	**23 05 50.3**	**-0.7**
GAEA	**Gareloi East**	**0.90**	**60**	P		**Pn**	**23 05 38.6**	**-1.0**
GANE	**Gareloi Northe**	**0.90**	**58**	P		**Pn**	**23 05 38.5**	**-1.2**
LSPA	**Little Sitkin**	**1.08**	**305**	P		**Pn**	**23 05 42.4**	**+0.3**
TASE	**Tanaga Southea**	**1.32**	**67**	P		**Pn**	**23 05 44.5**	**-0.9**
TAFP	**Tanaga Falls P**	**1.38**	**65**	P		**Pn**	**23 05 45.8**	**-0.4**
TAFP				S		**Sn**	**23 06 03.0**	**-0.2**
TAPA	**Tanaga Point A**	**1.45**	**70**	P		**Pn**	**23 05 46.0**	**-1.2**
KIRH	**Kanaga Island**	**1.90**	**72**	P		**Pn**	**23 05 53.6**	**+0.4**
ADAG	**Mount Adagdak**	**2.21**	**72**	P		**Pn**	**23 05 58.2**	**+0.7**
ETKA	**Kagalaska Isla**	**2.30**	**76**	P		**Pn**	**23 05 58.9**	**+0.1**
GSCK	**Great Sitkin C**	**2.48**	**73**	P		**Pn**	**23 06 01.8**	**+0.5**
GSTD	**Great Sitkin T**	**2.50**	**72**	P		**Pn**	**23 06 02.3**	**+0.6**
GSTD				S		**Sn**	**23 06 34.3**	**+3.0**
GSMY	**Great Sitkin M**	**2.55**	**73**	P		**Pn**	**23 06 02.5**	**+0.2**
ILAR	**Eielson Array**	**21.74**	**39**	P		**P**	**23 10 12.6**	**+2.1**
	0.2nm,0.7s,baz=261,slow=12,SNR=3.2							
SONM	**Songino Array**	**45.98**	**296**	P		**P**	**23 13 41.8**	**-0.1**
	0.2nm,0.6s,baz=42,slow=8.2,SNR=2.4							
PDAR	**Pinedale Array**	**47.04**	**71**	P		**P**	**23 13 49.5**	**-0.8**
	0.7nm,0.6s,baz=315,slow=3.3,SNR=6.3							
MKAR	**Makanchi Array**	**59.46**	**308**	P		**P**	**23 15 20.2**	**-1.0**
	0.4nm,0.4s,baz=51,slow=6.1,SNR=16							

IDC 17 23:13:16.2±4.8, 2.99S×139.07E, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=190.7km s-min=29.8km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.48**	**195**	P		P	23 17 22.4	-0.4
	0.3nm,0.3s,baz=15,slow=12,SNR=21							
ASAR	**Alice Springs**	**21.16**	**193**	P		P	23 18 02.5	-0.7
	0.5nm,0.4s,baz=24,slow=12,SNR=6.8							
MKAR	**Makanchi Array**	**70.23**	**322**	P		P	23 24 31.4	+0.2
	0.2nm,0.5s,baz=129,slow=6.6,SNR=3.4							

IDC 17 23:14:11.0±2.8, 22.66S×175.12W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/20, mbtmp4.1/5, Error ellipse: s-maj=241.0km s-min=30.8km az=163.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**35.99**	**267**	P		P	23 21 14.8	+0.8
	3.8nm,0.4s,baz=94,slow=10,SNR=6.3							
ASAR	**Alice Springs**	**46.67**	**258**	P		P	23 22 41.7	-0.1
	1.0nm,0.4s,baz=91,slow=6.6,SNR=17							
WRA	**Warramunga Arr**	**46.99**	**263**	P		P	23 22 43.6	-0.6
	0.9nm,0.5s,baz=102,slow=8.7,SNR=36							
FITZ	**Fitzroy Crossi**	**55.41**	**263**	P		P	23 23 47.3	-0.3
	1.7nm,0.6s,baz=114,slow=9.4,SNR=3.9							
TXAR	**Lajitas Array**	**86.00**	**56**	P		P	23 26 53.8	0.0
	0.7nm,0.9s,baz=188,slow=5.5,SNR=5.1							

*IDC **17**23:18:36.4±1.4, 44.39N×7.28E, h0km, mb3.2/1, mb1 3.6/6, mb1mx3.3/31, mbtmp3.4/6, ML3.8/4, Error ellipse: s-maj=36.1km s-min=13.9km az=124.0*
*ROM **17**23:18:37.6±0.2, 44.34N×7.25E, h17km±2km, Ml3.2/15, Error ellipse: s-maj=3.0km s-min=1.4km az=48.0*
*ISCJB **17**23:18:38.3±0.2, 44.36N±0.01×7.28E±0.02, h21km±2km, mb3.2/1, Error ellipse: s-maj=2.1km s-min=1.9km az=16.3*
*VIE **17**23:18:38.1±0.5, 44.36N×7.27E, h10km, mb2.7/4, ML3.1/5, Error ellipse: s-maj=4.4km s-min=2.5km az=16.0 71 km N of Monaco*
*GEN **17**23:18:38.6, 44.35N×7.28E, h12km, ML3.1*
*CSEM **17**23:18:38.3±0.1, 44.36N×7.31E, h10km, ML3.5/35, Error ellipse: s-maj=1.9km s-min=1.8km az=103.0*
*LDG **17**23:18:39.3±0.1, 44.33N×7.33E, h5km, Md3.2/2, Ml3.4/35, Error ellipse: s-maj=1.7km s-min=1.3km az=76.0*
*STR **17**23:18:39.2±0.1, 44.32N×7.26E, h5km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **17**23:18:40.1, 44.48N×7.39E, h0km*

ISC 17 23:18:38.2±0.7, 44.36N±0.01×7.30E±0.01, h16km±4km, n227, σ1§13/355, 11C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STV	**Sant Anna di V**	**0.12**	**172**	Pg		**Pg**	**23 18 41.6**	**-0.2**
STV				Sg		**Sg**	**23 18 43.6**	**-0.6**
	5μm,0.4s							
STV	**Sant Anna di V**	**0.12**	**172**	P		**Pg**	**23 18 41.6**	**-0.2**
STV				S		**Sg**	**23 18 43.6**	**-0.6**
DOI	**San Damiano**	**0.15**	**344**	⇑*i*Pg		**Pg**	**23 18 42.6**	**+0.3**
DOI				Sg		**Sg**	**23 18 45.3**	**+0.3**
	11μm,0.3s							
DOI	**San Damiano**	**0.15**	**344**	⇑*i*Pg		**Pg**	**23 18 42.6**	**+0.3**
DOI				Sg		**Sg**	**23 18 45.3**	**+0.3**
	11μm,0.3s							
ENR	**Entracque**	**0.16**	**148**	P		**Pg**	**23 18 42.4**	**0.0**
ENR				S		**Sg**	**23 18 44.8**	**-0.3**
PZZ	**Stroppo**	**0.20**	**318**	Pg		**Pg**	**23 18 43.1**	**+0.1**
PZZ				Sg		**Sg**	**23 18 46.0**	**-0.2**
	9μm,0.3s							
PZZ	**Stroppo**	**0.20**	**318**	P		**Pg**	**23 18 43.1**	**+0.1**
PZZ				Sg		**Sg**	**23 18 46.0**	**-0.2**
	9μm,0.3s							
TOUF	**Mont Tournerai**	**0.35**	**186**	Pg		**Pg**	**23 18 45.5**	**0.0**
TOUF				Sg		**Sg**	**23 18 49.9**	**-0.5**
TOUF	**Mont Tournerai**	**0.35**	**186**	Pg		**Pg**	**23 18 45.5**	**0.0**
TOUF				Sg		**Sg**	**23 18 49.9**	**-0.5**
SURF	**Saint Ours**	**0.37**	**289**	Pg		**Pg**	**23 18 45.9**	**0.0**
SURF				Sg		**Sg**	**23 18 51.1**	**0.0**
SURF	**Saint Ours**	**0.37**	**289**	Pg		**Pg**	**23 18 45.9**	**0.0**
SURF				Sg		**Sg**	**23 18 51.1**	**0.0**
AUTN	**L'Aution**	**0.38**	**166**	Pg		**Pg**	**23 18 46.2**	**+0.3**
AUTN				Sg		**Sg**	**23 18 50.9**	**-0.3**
AUTN	**L'Aution**	**0.38**	**166**	Pg		**Pg**	**23 18 46.2**	**+0.3**
SAOF	**Saorge**	**0.41**	**154**	Pg		**Pg**	**23 18 46.9**	**+0.3**
SAOF				Sg		**Sg**	**23 18 52.3**	**0.0**
SAOF	**Saorge**	**0.41**	**154**	Pg		**Pg**	**23 18 46.9**	**+0.3**
LUCF	**Luceram**	**0.47**	**176**	Pg		**Pg**	**23 18 47.8**	**+0.2**
LUCF				Sg		**Sg**	**23 18 53.8**	**-0.1**
LUCF	**Luceram**	**0.47**	**176**	Pg		**Pg**	**23 18 47.8**	**+0.2**
MVIF	**Mont Vial**	**0.48**	**193**	Pg		**Pg**	**23 18 47.8**	**+0.1**
MVIF				Sg		**Sg**	**23 18 53.8**	**-0.4**
MVIF	**Mont Vial**	**0.48**	**193**	Pg		**Pg**	**23 18 47.8**	**+0.1**
BHB	**Bricherasio**	**0.48**	**357**	P		**Pg**	**23 18 47.3**	**-0.5**
BHB				S		**Sg**	**23 18 53.8**	**-0.6**
SBF	**Sospel**	**0.51**	**169**	*e*Pg		**Pg**	**23 18 48.5**	**+0.2**
	SNR=1.0							
SBF				*e*Sg		**Sg**	**23 18 55.0**	**0.0**
	1μm,0.2s							
SBF	**Sospel**	**0.51**	**169**	*e*Pg		**Pg**	**23 18 48.5**	**+0.2**
	SNR=1.0							
MBDF	**Montbardon**	**0.53**	**314**	*e*Pg		**Pg**	**23 18 48.7**	**0.0**
	SNR=1.0							
MBDF				*e*Sg		**Sg**	**23 18 55.9**	**+0.1**
	3μm,0.4s,SNR=1.0							
MBDF	**Montbardon**	**0.53**	**314**	*e*Pg		**Pg**	**23 18 48.7**	**0.0**
	SNR=1.0							
MBDF				*e*Sg		**Sg**	**23 18 55.9**	**+0.1**
	1μm,0.4s,SNR=1.0							
OG22	**Abries**	**0.53**	**331**	Pg		**Pb**	**23 18 49.3**	**+0.1**
OG22				Sg		**Sb**	**23 18 57.3**	**+0.6**
OG22	**Abries**	**0.53**	**331**	Pg		**Pb**	**23 18 49.3**	**+0.1**
OG22				Sg		**Sb**	**23 18 57.3**	**+0.6**
NEGI	**Seborga**	**0.59**	**150**	P		**Pg**	**23 18 49.9**	**+0.1**
NEGI				S		**Sg**	**23 18 57.6**	**0.0**
RORO	**Rocca Rossa**	**0.60**	**114**	Pg		**Pg**	**23 18 50.2**	**+0.2**
RORO				Sg		**Sg**	**23 18 58.5**	**+0.5**
	2μm,0.4s							
RORO	**Rocca Rossa**	**0.60**	**114**	Pg		**Pg**	**23 18 50.2**	**+0.2**
RORO				S		**Sg**	**23 18 58.2**	**+0.2**
RORO				Sg		**Sg**	**23 18 58.5**	**+0.5**
	2μm,0.4s							
REVF	**Revere**	**0.62**	**176**	Pg		**Pg**	**23 18 50.6**	**+0.2**
REVF				Sg		**Sg**	**23 18 58.7**	**0.0**
REVF	**Revere**	**0.62**	**176**	Pg		**Pg**	**23 18 50.6**	**+0.2**
CALN	**Calern**	**0.68**	**206**	Pg		**Pg**	**23 18 51.6**	**+0.1**
CALN				Sg		**Sg**	**23 19 00.2**	**-0.2**
CALN	**Calern**	**0.68**	**206**	Pg		**Pg**	**23 18 51.6**	**+0.1**
QLNO	**Quiliano**	**0.75**	**92**	⇑*i*Pg		**Pg**	**23 18 53.1**	**+0.3**
QLNO				Sg		**Sg**	**23 19 02.9**	**+0.2**
	999nm,0.3s							
QLNO	**Quiliano**	**0.75**	**92**	⇑*i*Pg		**Pg**	**23 18 53.1**	**+0.3**
QLNO				Sg		**Sg**	**23 19 02.9**	**+0.2**
	999nm,0.3s							
FINB	**Finale Ligure**	**0.76**	**104**	⇑*i*Pg		**Pg**	**23 18 53.2**	**+0.3**
FINB				Sg		**Sg**	**23 19 03.5**	**+0.6**
	3μm,0.4s							
FINB	**Finale Ligure**	**0.76**	**104**	⇑*i*Pg		**Pg**	**23 18 53.2**	**+0.3**
FINB				Sg		**Sg**	**23 19 03.5**	**+0.6**
	3μm,0.4s							
RSP	**Reno Superiore**	**0.79**	**358**	Pg		**Pg**	**23 18 52.1**	**-1.5**
RSP				Sg		**Sg**	**23 19 04.2**	**+0.2**
	208nm,0.3s							
RSP	**Reno Superiore**	**0.79**	**358**	P		**Pg**	**23 18 52.2**	**-1.4**
RSP				Sg		**Sg**	**23 19 04.2**	**+0.2**
	208nm,0.3s							
BNI	**Bardonecchia**	**0.82**	**327**	Pg		**Pg**	**23 18 54.0**	**-0.2**
BNI				Sg		**Sg**	**23 19 04.4**	**-0.7**
	141nm,0.6s							
BNI	**Bardonecchia**	**0.82**	**327**	Pg		**Pg**	**23 18 54.0**	**-0.2**
BNI				Sg		**Sg**	**23 19 04.4**	**-0.7**
	141nm,0.6s							
MONC	**Moncucco Torin**	**0.84**	**32**	Pg		**Pg**	**23 18 54.7**	**+0.2**
	930nm,0.4s							
MONC	**Moncucco Torin**	**0.84**	**32**	Pg		**Pg**	**23 18 54.7**	**+0.2**
	930nm,0.4s							
OG25	**Le Caire**	**0.88**	**271**	Pg		**Pg**	**23 18 55.3**	**0.0**
OG25				Sg		**Sb**	**23 19 07.1**	**+0.3**
OG25	**Le Caire**	**0.88**	**271**	Pg		**Pg**	**23 18 55.3**	**0.0**
OG25				Sg		**Sb**	**23 19 07.1**	**+0.3**
ROTM	**Rocchetta Tana**	**0.90**	**57**	P		**Pb**	**23 18 56.0**	**+0.6**
PCP	**Piancastagn**	**0.91**	**78**	Pg		**Pb**	**23 18 55.9**	**+0.3**
PCP				Sg		**Sg**	**23 19 08.6**	**+0.9**
	589nm,0.5s							
PCP	**Piancastagn**	**0.91**	**78**	Pg		**Pb**	**23 18 55.9**	**+0.3**
PCP				Sg		**Sg**	**23 19 08.6**	**+0.9**
	589nm,0.5s							
FRF	**La Foret Royal**	**0.93**	**211**	*e*Pg		**Pb**	**23 18 55.7**	**-0.2**
	SNR=1.0							
FRF				*e*Sg		**Sb**	**23 19 07.9**	**-0.1**
	388nm,0.2s							
FRF	**La Foret Royal**	**0.93**	**211**	*e*Pg		**Pb**	**23 18 55.7**	**-0.2**
	SNR=1.0							
FRF				*e*Sg		**Sb**	**23 19 07.9**	**-0.1**
	194nm,0.2s							
STOF	**St-Etienne Org**	**1.07**	**251**	Pg		**Pg**	**23 19 00.3**	**+1.5**
STOF	**St-Etienne Org**	**1.07**	**251**	Pg		**Pg**	**23 19 00.3**	**+1.5**
ORIF	**Oris-en-Rattie**	**1.16**	**299**	*e*Pn		**Pb**	**23 18 59.9**	**0.0**
	SNR=1.0							
ORIF				*e*Sn		**Sb**	**23 19 15.3**	**+0.5**
	226nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.16**	**299**	*e*Pn		**Pb**	**23 18 59.9**	**0.0**
	SNR=1.0							
ORIF				*e*Sn		**Sb**	**23 19 15.3**	**+0.5**
	113nm,0.3s							
TAVF	**Tavernes**	**1.17**	**231**	Pn		**Pn**	**23 19 00.1**	**+0.2**
TAVF				Sg		**Sg**	**23 19 16.3**	**+0.4**
TAVF	**Tavernes**	**1.17**	**231**	Pn		**Pn**	**23 19 00.1**	**+0.2**
TAVF				Sg		**Sg**	**23 19 16.3**	**+0.4**
LMR	**La Mourre**	**1.18**	**210**	*e*Pn		**Pn**	**23 19 00.1**	**+0.1**
	SNR=1.0							
LMR	**La Mourre**	**1.18**	**210**	*e*Pg		**Pn**	**23 19 00.5**	**+0.5**
LMR				*e*Sg		**Sb**	**23 19 15.4**	**+0.3**
	820nm,0.2s							
LMR	**La Mourre**	**1.18**	**210**	*e*Pn		**Pn**	**23 19 00.1**	**+0.1**
	SNR=1.0							
LMR	**La Mourre**	**1.18**	**210**	*e*Pg		**Pn**	**23 19 00.5**	**+0.5**
LMR				*e*Sg		**Sb**	**23 19 15.4**	**+0.3**
	410nm,0.2s							
GDM	**Grand'Maison**	**1.19**	**315**	Pg		**Pn**	**23 19 00.9**	**+0.5**
GDM	**Grand'Maison**	**1.19**	**315**	Pg		**Pn**	**23 19 00.9**	**+0.5**
TRAV	**Traversella**	**1.20**	**15**	Pg		**Pn**	**23 18 58.6**	**-1.8**
	62nm,0.4s							
TRAV	**Traversella**	**1.20**	**15**	P		**Pn**	**23 18 58.7**	**-1.7**
LPG	**La Plagne**	**1.20**	**341**	*e*Pn		**Pn**	**23 19 00.4**	**-0.3**
	SNR=1.0							
LPG	**La Plagne**	**1.20**	**341**	*e*Pg		**Pg**	**23 19 02.2**	**+0.8**
LPG				*e*Sn		**Sg**	**23 19 17.5**	**+0.3**
	223nm,0.4s,SNR=1.0							
LPG	**La Plagne**	**1.20**	**341**	*e*Pn		**Pn**	**23 19 00.4**	**-0.3**
	SNR=1.0							
LPG	**La Plagne**	**1.20**	**341**	*e*Pg		**Pg**	**23 19 02.2**	**+0.8**
LPG				*e*Sn		**Sg**	**23 19 17.5**	**+0.3**
	112nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**1.23**	**341**	*e*Pn		**Pn**	**23 19 00.8**	**-0.1**
	SNR=1.0							
LPL	**La Plagne**	**1.23**	**341**	*e*Pg		**Pg**	**23 19 02.2**	**+0.3**
	SNR=1.0							
LPL				*e*Sn		**Sg**	**23 19 18.0**	**+0.1**
	SNR=1.0							
LPL	**La Plagne**	**1.23**	**341**	*e*Pn		**Pn**	**23 19 00.8**	**-0.1**
	SNR=1.0							
LPL	**La Plagne**	**1.23**	**341**	*e*Pg		**Pg**	**23 19 02.2**	**+0.3**
	SNR=1.0							
LPL				*e*Sn		**Sg**	**23 19 18.0**	**+0.1**
	SNR=1.0							
CIRO	**Champorcher**	**1.26**	**9**	P		**Pn**	**23 18 59.2**	**-2.2**
SMRF	**Simiane la Rot**	**1.30**	**253**	*e*Pn		**Pb**	**23 19 02.7**	**+0.4**
	SNR=1.0							
SMRF	**Simiane la Rot**	**1.30**	**253**	*e*Pg		**Pg**	**23 19 04.0**	**+0.8**
SMRF				*e*Sg		**Sg**	**23 19 21.0**	**+0.8**
	576nm,0.5s,SNR=1.0							
SMRF	**Simiane la Rot**	**1.30**	**253**	*e*Pn		**Pb**	**23 19 02.7**	**+0.4**
	SNR=1.0							
SMRF	**Simiane la Rot**	**1.30**	**253**	*e*Pg		**Pg**	**23 19 04.0**	**+0.8**
SMRF				*e*Sg		**Sg**	**23 19 21.0**	**+0.8**
	288nm,0.5s,SNR=1.0							
RSL	**Roselend**	**1.41**	**340**	Pn		**Pb**	**23 19 05.2**	**+0.9**
RSL	**Roselend**	**1.41**	**340**	Pg		**Pg**	**23 19 06.9**	**+1.5**
RSL	**Roselend**	**1.41**	**340**	Pn		**Pb**	**23 19 05.2**	**+0.9**
RSL	**Roselend**	**1.41**	**340**	Pg		**Pg**	**23 19 06.9**	**+1.5**
GRN	**Grenoble**	**1.42**	**309**	Pg		**Pg**	**23 19 05.4**	**-0.1**
GRN	**Grenoble**	**1.42**	**309**	Pg		**Pg**	**23 19 05.4**	**-0.1**
MRGE	**Morge**	**1.42**	**353**	Pn		**Pn**	**23 19 03.1**	**-0.4**
	101nm,0.5s							
MRGE	**Morge**	**1.42**	**353**	Pn		**Pn**	**23 19 03.1**	**-0.4**
	101nm,0.5s							
OG26	**St.-Nazaire-De**	**1.45**	**279**	Pg		**Pg**	**23 19 06.3**	**+0.2**
OG26	**St.-Nazaire-De**	**1.45**	**279**	Pg		**Pg**	**23 19 06.3**	**+0.2**
BERF	**Bertagne**	**1.57**	**229**	Pg		**Pb**	**23 19 07.4**	**+0.5**
BERF				Sg		**Sg**	**23 19 28.6**	**-0.1**
BERF	**Bertagne**	**1.57**	**229**	Pg		**Pb**	**23 19 07.4**	**+0.5**
BERF				Sg		**Sg**	**23 19 28.6**	**-0.1**
TREF	**Trevaresse**	**1.57**	**243**	Pn		**Pn**	**23 19 05.0**	**-0.4**
TREF	**Trevaresse**	**1.57**	**243**	Pg		**Pg**	**23 19 08.1**	**-0.2**
TREF				Sg		**Sg**	**23 19 28.8**	**+0.1**
TREF	**Trevaresse**	**1.57**	**243**	Pn		**Pn**	**23 19 05.0**	**-0.4**
TREF	**Trevaresse**	**1.57**	**243**	Pg		**Pg**	**23 19 08.1**	**-0.2**
TREF				Sg		**Sg**	**23 19 28.8**	**+0.1**
BOB	**Bobbio (Coli)**	**1.59**	**74**	Pn		**Pb**	**23 19 07.5**	**+0.3**
	330nm,0.8s							
BOB	**Bobbio (Coli)**	**1.59**	**74**	Pn		**Pb**	**23 19 07.5**	**+0.3**
	330nm,0.8s							
SC2M	**Scurtabo**	**1.60**	**88**	Pn		**Pn**	**23 19 05.7**	**-0.2**
	222nm,0.5s							
SC2M	**Scurtabo**	**1.60**	**88**	Pn		**Pn**	**23 19 05.7**	**-0.2**
	222nm,0.5s							
DIX	**Grande Dixence**	**1.72**	**2**	Pn		**Pn**	**23 19 07.2**	**-0.6**
DIX	**Grande Dixence**	**1.72**	**2**	Pn		**Pn**	**23 19 07.2**	**-0.6**
MMK	**Mattmark**	**1.75**	**15**	Pn		**Pn**	**23 19 07.5**	**-0.7**
MMK	**Mattmark**	**1.75**	**15**	Pn		**Pn**	**23 19 07.5**	**-0.7**
VARE	**Varese**	**1.83**	**34**	Pn		**Pn**	**23 19 09.3**	**+0.2**
	94nm,0.5s							
VARE	**Varese**	**1.83**	**34**	Pn		**Pn**	**23 19 09.3**	**+0.2**
	94nm,0.5s							
VIVF	**Saint-Julien-l**	**1.94**	**286**	*e*Pn		**Pn**	**23 19 11.7**	**+1.1**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.94**	**286**	*e*Pg		**Pg**	**23 19 15.5**	**0.0**
VIVF				*e*Sn		**Sn**	**23 19 35.1**	**+0.4**
	73nm,0.4s,SNR=1.0							
VIVF				*e*Sg		**Sg**	**23 19 41.3**	**+0.6**
	79nm,0.4s							
VIVF	**Saint-Julien-l**	**1.94**	**286**	*e*Pn		**Pn**	**23 19 11.7**	**+1.1**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.94**	**286**	*e*Pg		**Pg**	**23 19 15.5**	**0.0**
VIVF				*e*Sn		**Sn**	**23 19 35.1**	**+0.4**
	36nm,0.4s,SNR=1.0							
VIVF				*e*Sg		**Sg**	**23 19 41.3**	**+0.6**
	40nm,0.4s							
MUGIO	**Muggio**	**1.99**	**38**	Pn		**Pn**	**23 19 11.3**	**0.0**
MUGIO	**Muggio**	**1.99**	**38**	Pn		**Pn**	**23 19 11.3**	**0.0**
OG01	**Vacheresse**	**2.02**	**348**	Pn		**Pn**	**23 19 13.6**	**+1.9**
OG01	**Vacheresse**	**2.02**	**348**	Pn		**Pn**	**23 19 13.6**	**+1.9**
SSB	**Saint Sauveur**	**2.17**	**296**	Pn		**Pn**	**23 19 15.1**	**+1.4**
SSB	**Saint Sauveur**	**2.17**	**296**	Pn		**Pn**	**23 19 15.1**	**+1.4**
PGF	**Pioggiola**	**2.19**	**145**	*e*Pn		**Pn**	**23 19 13.0**	**-1.1**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**23 19 39.5**	**-1.5**
	34nm,0.2s							
PGF	**Pioggiola**	**2.19**	**145**	*e*Pn		**Pn**	**23 19 13.0**	**-1.1**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**23 19 39.5**	**-1.5**
	17nm,0.2s							
MDI	**Monti di Nese**	**2.22**	**49**	Pn		**Pn**	**23 19 14.7**	**+0.3**
MDI	**Monti di Nese**	**2.22**	**49**	Pn		**Pn**	**23 19 14.7**	**+0.3**
BDI	**Bagni Di Lucca**	**2.39**	**96**	Pn		**Pn**	**23 19 17.1**	**+0.4**
BDI	**Bagni Di Lucca**	**2.39**	**96**	Pn		**Pn**	**23 19 17.1**	**+0.4**
CABF	**La Chapelle**	**2.41**	**340**	*e*Pn		**Pn**	**23 19 18.0**	**+1.0**
	SNR=1.0							
CABF	**La Chapelle**	**2.41**	**340**	*e*P		**Pb**	**23 19 20.4**	**-0.8**
CABF	**La Chapelle**	**2.41**	**340**	*e*Pg		**Pg**	**23 19 24.3**	**-0.1**
CABF				*e*Sn		**Sn**	**23 19 46.3**	**0.0**
	67nm,0.7s,SNR=1.0							
CABF				*e*Sg		**Sg**	**23 19 55.9**	**+0.3**
	78nm,0.7s							
CABF	**La Chapelle**	**2.41**	**340**	*e*Pn		**Pn**	**23 19 18.0**	**+1.0**
	SNR=1.0							
CABF	**La Chapelle**	**2.41**	**340**	*e*P		**Pb**	**23 19 20.4**	**-0.8**
CABF	**La Chapelle**	**2.41**	**340**	*e*Pg		**Pg**	**23 19 24.3**	**-0.1**
CABF				*e*Sn		**Sn**	**23 19 46.3**	**0.0**
	34nm,0.7s,SNR=1.0							
CABF				*e*Sg		**Sg**	**23 19 55.9**	**+0.3**
	39nm,0.7s							
LASF	**Ste Croix**	**2.49**	**265**	*e*Pn		**Pn**	**23 19 18.8**	**+0.6**
	SNR=1.0							
LASF	**Ste Croix**	**2.49**	**265**	*e*Pg		**Pg**	**23 19 25.7**	**-0.3**
LASF				*e*Sn		**Sn**	**23 19 47.6**	**-0.7**
	37nm,0.3s							
LASF	**Ste Croix**	**2.49**	**265**	*e*Pn		**Pn**	**23 19 18.8**	**+0.6**
	SNR=1.0							
LASF	**Ste Croix**	**2.49**	**265**	*e*Pg		**Pg**	**23 19 25.7**	**-0.3**
LASF				*e*Sn		**Sn**	**23 19 47.6**	**-0.7**
	18nm,0.3s							
TUE	**Stuetta**	**2.56**	**34**	Pn		**Pn**	**23 19 19.5**	**+0.3**
TUE	**Stuetta**	**2.56**	**34**	Pn		**Pn**	**23 19 19.5**	**+0.3**
LBL	**Lubilhac**	**3.02**	**288**	Pn		**Pn**	**23 19 26.0**	**+0.6**
LBL	**Lubilhac**	**3.02**	**288**	Pn		**Pn**	**23 19 26.0**	**+0.6**
DAVOX	**Davos/Dischmat**	**3.02**	**36**	Pn		**Pn**	**23 19 27.1**	**+1.5**
	2.7nm,0.3s,baz=225,slow=7.4,SNR=32							
PLDF	**La Plantade**	**3.06**	**303**	Pn		**Pn**	**23 19 27.0**	**+1.0**
PLDF	**La Plantade**	**3.06**	**303**	Pn		**Pn**	**23 19 27.0**	**+1.0**
BBS	**Basel-Blauen**	**3.11**	**3**	Pn		**Pn**	**23 19 27.2**	**+0.6**
SMF	**Signal de Mont**	**3.34**	**314**	*e*Pn		**Pn**	**23 19 31.5**	**+1.7**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**23 20 08.1**	**-1.0**
	38nm,0.4s,SNR=1.0							
SMF				*e*Sg		**Sg**	**23 20 25.0**	**-0.4**
	26nm,0.4s							
SMF	**Signal de Mont**	**3.34**	**314**	*e*Pn		**Pn**	**23 19 31.5**	**+1.7**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**23 20 08.1**	**-1.0**
	19nm,0.4s,SNR=1.0							
SMF				*e*Sg		**Sg**	**23 20 25.0**	**-0.4**
	13nm,0.4s							
AGO	**Saint Agoulin**	**3.40**	**301**	Pn		**Pn**	**23 19 32.0**	**+1.4**
AGO	**Saint

	SNR=1.0							
CDF				*e*Sn	**Sn**	**23 20 25.2**	**-1.6**
	7.3nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**4.05**	**360**	*e*Pn	**Pn**	**23 19 40.0**	**+0.3**
	SNR=1.0							
CDF				*e*Sn	**Sn**	**23 20 25.2**	**-1.6**
	3.7nm,0.2s,SNR=1.0							
WLS	**Welschbruch**	**4.05**	**0**	Pn	**Pn**	**23 19 39.7**	**+0.1**
WLS	**Welschbruch**	**4.05**	**0**	Pn	**Pn**	**23 19 39.7**	**+0.1**
TCF	**Toulx Ste Croi**	**4.08**	**300**	*e*Pn	**Pn**	**23 19 41.8**	**+1.9**
	SNR=1.0							
TCF				*e*Sn	**Sn**	**23 20 26.7**	**-0.6**
	10nm,0.4s,SNR=1.0							
TCF	**Toulx Ste Croi**	**4.08**	**300**	*e*Pn	**Pn**	**23 19 41.8**	**+1.9**
	SNR=1.0							
TCF				*e*Sn	**Sn**	**23 20 26.7**	**-0.6**
	5.2nm,0.4s,SNR=1.0							
SFTF	**Sexfontaines**	**4.15**	**339**	*e*Pn	**Pn**	**23 19 42.7**	**+1.8**
	baz=151							
SFTF				*e*Sn	**Sn**	**23 20 28.4**	**-0.8**
	13nm,0.3s							
SFTF	**Sexfontaines**	**4.15**	**339**	*e*Pn	**Pn**	**23 19 42.7**	**+1.8**
SFTF				*e*Sn	**Sn**	**23 20 28.4**	**-0.8**
	6.4nm,0.3s							
RJF	**Les Rejaudoux**	**4.22**	**285**	*e*Pn	**Pn**	**23 19 43.6**	**+1.7**
	SNR=1.0							
RJF				*e*Sn	**Sn**	**23 20 30.1**	**-0.8**
	18nm,0.6s,SNR=1.0							
RJF	**Les Rejaudoux**	**4.22**	**285**	*e*Pn	**Pn**	**23 19 43.6**	**+1.7**
	SNR=1.0							
RJF				*e*Sn	**Sn**	**23 20 30.1**	**-0.8**
	9.2nm,0.6s,SNR=1.0							
CLLI	**Llivia**	**4.31**	**246**	P	**Pn**	**23 19 45.0**	**+1.7**
	0.8nm,0.1s,SNR=30							
CLLI				S	**Sn**	**23 20 34.1**	**+0.8**
	3.4nm,0.2s,SNR=6.4							
PAGF	**Fort de Pagny**	**4.34**	**346**	*e*Pn	**Pn**	**23 19 45.1**	**+1.7**
	baz=167							
PAGF				*e*Sn	**Sn**	**23 20 32.5**	**-1.2**
	5.4nm,0.5s							
PAGF	**Fort de Pagny**	**4.34**	**346**	*e*Pn	**Pn**	**23 19 45.1**	**+1.7**
PAGF				*e*Sn	**Sn**	**23 20 32.5**	**-1.2**
	2.7nm,0.5s							
HYF	**Humbligny**	**4.37**	**313**	*e*Pn	**Pn**	**23 19 45.7**	**+1.8**
HYF				*e*Sn	**Sn**	**23 20 34.0**	**-0.5**
HYF	**Humbligny**	**4.37**	**313**	*e*Pn	**Pn**	**23 19 45.7**	**+1.8**
HYF				*e*Sn	**Sn**	**23 20 34.0**	**-0.5**
CFON	**Fontmartina**	**4.41**	**236**	P	**Pn**	**23 19 45.9**	**+1.3**
	1.4nm,0.1s,SNR=11							
CFON				S	**Sn**	**23 20 34.2**	**-1.4**
	11nm,0.2s,SNR=7.9							
MEZF	**Maizieres J'vi**	**4.42**	**340**	*e*Pn	**Pn**	**23 19 46.8**	**+2.1**
	SNR=1.0							
MEZF				*e*Sn	**Sn**	**23 20 34.7**	**-1.1**
	16nm,0.4s,SNR=1.0							
MEZF	**Maizieres J'vi**	**4.42**	**340**	*e*Pn	**Pn**	**23 19 46.8**	**+2.1**
	SNR=1.0							
MEZF				*e*Sn	**Sn**	**23 20 34.7**	**-1.1**
	8.1nm,0.4s,SNR=1.0							
LFF	**La Frestale**	**4.72**	**279**	*e*Pn	**Pn**	**23 19 50.4**	**+1.7**
	SNR=1.0							
LFF				*e*Sn	**Sn**	**23 20 42.3**	**-0.8**
	13nm,0.4s,SNR=1.0							
LFF	**La Frestale**	**4.72**	**279**	*e*Pn	**Pn**	**23 19 50.4**	**+1.7**
	SNR=1.0							
LFF				*e*Sn	**Sn**	**23 20 42.3**	**-0.8**
	6.7nm,0.4s,SNR=1.0							
EMIR	**Miracle**	**4.88**	**242**	P	**Pn**	**23 19 53.4**	**+2.4**
	1.6nm,0.1s,SNR=7.1							
EMIR				S	**Sn**	**23 20 49.1**	**+1.8**
	SNR=7.9							
CSOR	**Sort**	**4.92**	**248**	P	Pn	23 19 55.1	+3.6
	2.4nm,0.2s,SNR=26							
CSOR				S	**Sn**	**23 20 50.0**	**+1.9**
	4.4nm,0.2s,SNR=7.9							
EPF	**Esparros**	**5.22**	**258**	*e*Pn	**Pn**	**23 19 56.5**	**+0.8**
	SNR=1.0							
EPF				*e*Sn	**Sn**	**23 20 53.5**	**-2.1**
	SNR=1.0							
EPF				*e*Sg	**Sg**	**23 21 22.4**	**-3.3**
	11nm,0.5s,SNR=1.0							
EPF	**Esparros**	**5.22**	**258**	*e*Pn	**Pn**	**23 19 56.5**	**+0.8**
	SNR=1.0							
EPF				*e*Sn	**Sn**	**23 20 53.5**	**-2.1**
	SNR=1.0							
EPF				*e*Sg	**Sg**	**23 21 22.4**	**-3.3**
	5.3nm,0.5s,SNR=1.0							
EBIE	**Bielsa**	**5.47**	**255**	S	**Sn**	**23 21 03.0**	**+1.1**
	0.3nm,0.2s,SNR=7.9							
MFF	**Saint Martin d**	**5.70**	**296**	*e*Pn	**Pn**	**23 20 04.6**	**+2.5**
	SNR=1.0							
MFF				*e*Sn	**Sn**	**23 21 05.8**	**-1.4**
	12nm,0.6s,SNR=1.0							
MFF	**Saint Martin d**	**5.70**	**296**	*e*Pn	**Pn**	**23 20 04.6**	**+2.5**
	SNR=1.0							
MFF				*e*Sn	**Sn**	**23 21 05.8**	**-1.4**
	6.1nm,0.6s,SNR=1.0							
ETSF	**Etsaut**	**5.89**	**258**	*e*P	Pn	23 20 09.3	+4.4
	SNR=1.0							
ETSF				*e*Sn	**Sn**	**23 21 10.1**	**-2.0**
	12nm,0.4s,SNR=1.0							
ATE	**Arette**	**5.94**	**260**	P	**Pn**	**23 20 07.1**	**+1.6**
	0.1nm,0.1s,SNR=4.0							
ATE				S	**Sn**	**23 21 13.4**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
BAIF	**Baives**	**6.08**	**341**	*e*Pn	**Pn**	**23 20 10.1**	**+2.8**
	SNR=1.0							
BAIF	**Baives**	**6.08**	**341**	*e*Pn	**Pn**	**23 20 10.1**	**+2.8**
	SNR=1.0							
GERES	**GERESS Array B**	**6.29**	**42**	Pn	**Pn**	**23 20 10.3**	**0.0**
	1.2nm,0.3s,baz=227,slow=13,SNR=53							
GERES				S	**Sn**	**23 21 18.6**	**-3.3**
	0.9nm,0.3s,baz=234,slow=24,SNR=9.1							
SJPF	**Ste Jean**	**6.30**	**262**	*e*Pn	**Pn**	**23 20 11.2**	**+0.7**
	SNR=1.0							
SJPF	**Ste Jean**	**6.30**	**262**	*e*Pn	**Pn**	**23 20 11.2**	**+0.7**
	SNR=1.0							
IELO	**Elcoad**	**6.38**	**259**	P	**Pn**	**23 20 14.3**	**+2.7**
	0.2nm,0.2s,SNR=7.9							
IELO				S	**Sn**	**23 21 25.3**	**+1.1**
	0.4nm,0.3s,SNR=7.9							
IEPA	**Eparoz**	**6.42**	**259**	S	**Sn**	**23 21 26.8**	**+1.6**
	0.7nm,0.2s,SNR=7.9							
KHC	**Kasperske Hory**	**6.43**	**40**	*e*PN	**Pn**	**23 20 12.3**	**+0.1**
KHC				*ex*	x	23 20 19.8	
KHC				*e*SN	**Sn**	**23 21 22.7**	**-2.6**
KHC	**Kasperske Hory**	**6.43**	**40**	Pn	**Pn**	**23 20 12.3**	**+0.1**
LDF	**La Druitiere**	**6.65**	**312**	*e*Pn	**Pn**	**23 20 17.2**	**+2.0**
	SNR=1.0							
LDF	**La Druitiere**	**6.65**	**312**	*e*Pn	**Pn**	**23 20 17.2**	**+2.0**
	SNR=1.0							
GRR	**Gorron**	**6.93**	**308**	*e*Pn	**Pn**	**23 20 20.7**	**+1.6**
	SNR=1.0							
GRR	**Gorron**	**6.93**	**308**	*e*Pn	**Pn**	**23 20 20.7**	**+1.6**
	SNR=1.0							
FLN	**La Foliniere**	**6.94**	**312**	*e*Pn	**Pn**	**23 20 21.3**	**+2.1**
FLN	**La Foliniere**	**6.94**	**312**	*e*Pn	**Pn**	**23 20 21.3**	**+2.1**
ETOR	**Torete**	**7.76**	**246**	P	**Pn**	**23 20 33.0**	**+2.5**
	2.4nm,0.3s,SNR=5.9							
SGMF	**Saint Gilles**	**7.86**	**303**	*e*Pn	**Pn**	**23 20 34.0**	**+2.2**
	SNR=1.0							
SGMF	**Saint Gilles**	**7.86**	**303**	*e*Pn	**Pn**	**23 20 34.0**	**+2.2**
	SNR=1.0							
ROSF	**Rostrenen**	**8.33**	**302**	*e*Pn	**Pn**	**23 20 40.4**	**+2.2**
	SNR=1.0							
ROSF	**Rostrenen**	**8.33**	**302**	*e*Pn	**Pn**	**23 20 40.4**	**+2.2**
	SNR=1.0							
KEST	**Kesra**	**8.76**	**169**	Pn	**Pn**	**23 20 43.3**	**-0.9**
	0.0nm,0.3s,baz=39,slow=15,SNR=2.1							
EARI	**Arriondas**	**9.11**	**268**	P	**Pn**	**23 20 50.8**	**+1.8**
	0.2nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**9.60**	**245**	Pn	**Pn**	**23 20 54.1**	**-1.7**
	0.3nm,0.3s,baz=60,slow=14,SNR=5.6							
EKA	**Eskdalemuir Ar**	**12.87**	**332**	Pn	**Pn**	**23 21 41.6**	**+1.2**
	baz=146,slow=13,SNR=3.5							
TORD	**Torodi Ar. Bea**	**31.47**	**191**	P	**P**	**23 25 00.1**	**+1.0**
	0.4nm,0.9s,baz=10,slow=10,SNR=2.1							

*ISCJB **17** 23:20:32.5±0.8,21°.94S±0°.05×68°.4W±0°.1, h118km±11km, mb3.6/2, Error ellipse: s-maj=18.1km s-min=8.4km az=0.9*
*GUC **17** 23:20:34.2±0.4,21°.94S×68°.59W, h123km±3km, ML3.9*
*IDC **17** 23:20:43.4±9.4,21°.27S×67°.84W, h176km±64km, mb3.3/2, mb1 3.5/4, mb1mx3.2/16, mbtmp3.3/4, MS4.0/2, Ms1 4.0/2, ms1mx3.2/9, Error ellipse: s-maj=110.5km s-min=30.9km az=8.0*

ISC 17 23:20:31.7±1.3,21°.9S±0°.1×68°.17W±0°.09, h99km±12km, n17, σ1§35/19, 7C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**1.00**	**278**	*i* P	**Pn**	**23 20 54.1**	**+1.8**
PB09				*i* S	**Sn**	**23 21 08.8**	**+1.0**
PB09				AML	AML	23 21 12.1	
	comp=E,3μm,0.1s						
PB04	**Plate Boundary**	**1.26**	**255**	⇑ *i* P	Pn	23 21 02.6	+7.5
PB04				*i* S	Sn	23 21 24.3	+12
PB04				AML	AML	23 21 28.6	
	comp=N,941nm,0.2s						
MACH	**Maria Elena**	**1.49**	**260**	⇑ *i* P	Pn	23 20 58.5	+0.4
MACH				*i* S	Sn	23 21 16.9	-1.2
PB06	**Plate Boundary**	**1.51**	**239**	⇓ *i* P	Pn	23 20 59.1	+0.9
PB06				*i* S	Sn	23 21 18.2	0.0
PB06				AML	AML	23 21 19.0	
	comp=N,2μm,0.1s						
PB01	**Plate Boundary**	**1.51**	**306**	⇑ *i* P	**Pn**	**23 20 59.3**	**+1.0**
PB01				*i* S	**Sn**	**23 21 18.3**	**0.0**
PB01				AML	AML	23 21 21.2	
	comp=E,948nm,0.3s						
PB07	**Plate Boundary**	**1.61**	**277**	⇑ *i* P	**Pn**	**23 20 59.8**	**+0.3**
PB07				*i* S	**Sn**	**23 21 18.9**	**-1.5**
PB07				AML	AML	23 21 20.2	
	comp=N,2μm,0.2s						
PATCX	**Punta Patache**	**2.15**	**301**	⇑ *i* P	**Pn**	**23 21 06.5**	**+0.1**
PATCX				*i* S	**Sn**	**23 21 31.3**	**-1.5**
PATCX				AML	AML	23 21 33.6	
	comp=N,971nm,0.3s						
HMBC	**Humberstone**	**2.30**	**316**	⇑ *i* P	**Pn**	**23 21 08.6**	**+0.2**
HMBC				*i* S	**Sn**	**23 21 35.2**	**-1.1**
HMBC				AML	AML	23 21 37.8	
	comp=E,1μm,0.9s						
PB11	**Plate Boundary**	**2.57**	**327**	⇑ *i* P	**Pn**	**23 21 12.9**	**+1.0**
PB11				*i* S	**Sn**	**23 21 43.0**	**+0.2**
PB11				AML	AML	23 21 44.3	
	comp=E,3μm,0.4s						
MNMC	**Minimini**	**3.09**	**334**	*e*P	**Pn**	**23 21 20.6**	**+1.6**
MNMC				*i* S	**Sn**	**23 21 56.6**	**+1.2**
MNMC				AML	AML	23 22 00.2	
	comp=N,478nm,0.1s						
LPAZ	**La Paz**	**5.62**	**0**	P	Pn	23 21 57.8	+4.3
	comp=N,2.6nm,0.3s,baz=174,slow=6.8,SNR=34						
SIV	**San Ignacio**	**8.95**	**50**	P	**Pn**	**23 22 40.1**	**+1.9**
	comp=N,1.3nm,0.3s,baz=250,slow=13,SNR=14						
SIV				S	**Sn**	**23 24 14.7**	**-2.6**
	comp=N,0.3nm,0.3s,baz=310,slow=22,SNR=8.8						
TKL	**Tuckaleechee C**	**59.16**	**345**	LR	LR	23 55 37.1	
	comp=N,166nm,21.1s,baz=122,slow=36						
TXAR	**Lajitas Array**	**61.38**	**325**	LR	LR	23 59 00.0	
	comp=N,95nm,19.2s,baz=185,slow=38						
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P	**P**	**23 32 13.5**	**+0.1**
	comp=N,0.3nm,0.4s,baz=260,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	**91.83**	**340**	P	**P**	**23 33 28.0**	**-0.1**
	comp=N,0.3nm,0.5s,baz=137,slow=4.3,SNR=6.7						
MKAR	**Makanchi Array**	**145.57**	**37**	PKP	**PKPbc**	**23 39 59.5**	**+0.8**
	comp=N,0.2nm,0.6s,baz=326,slow=3.5,SNR=4.1						

*IDC **17** 23:33:09.2±1.3,3°.39S×127°.74E, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.9/23, mbtmp4.0/6, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/24, Error ellipse: s-maj=139.6km s-min=22.1km az=69.0*
*ISCJB **17** 23:33:13.3±0.9,3°.58S±0°.09×127°.09E±0°.07, h42km, mb4.1/5, MS3.6/1, Error ellipse: s-maj=13.2km s-min=9.9km az=20.8*
*DJA **17** 23:33:15.5±0.7,4°.S±7°×12°.7E±°, h10km, M3.8/3, mb4.4/2, mB4.7/1, MLv3.4/3, Mw(mB)3.9/1*

ISC 17 23:33:14.6±1.1,3°.6S±0°.1×127°.09E±0°.10, h42km, n12, σ1§90/11, mb4.0/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.34**	**2**	P	**Pn**	**23 33 21.8**	**-1.7**
NLAI				S	**Sn**	**23 33 27.7**	**-2.0**
MSAI	**Masohi**	**1.85**	**83**	P	**Pn**	**23 33 43.4**	**-0.5**
MSAI				S	**Sn**	**23 34 06.7**	**+0.6**
LBMI	**Labuha**	**2.95**	**8**	P	Pn	23 34 04.8	+5.7
SWI	**Sorong**	**4.97**	**57**	P	**Pn**	**23 34 25.9**	**-0.8**
APSI	**Ampana**	**6.05**	**296**	P	Pn	23 34 47.3	+5.7
WRA	**Warramunga Arr**	**17.73**	**157**	P	**Pn**	**23 37 15.3**	**-3.3**
	0.2nm,0.3s,baz=343,slow=13,SNR=13						
ASAR	**Alice Springs**	**21.03**	**162**	P	**P**	**23 37 55.8**	**+0.8**
	11nm,0.7s,baz=343,slow=10,SNR=108						
DZM	**Mont Dzumac**	**42.35**	**119**	LR	LR	23 57 29.4	
	comp=Z,80nm,19.7s,baz=194,slow=35						
SONM	**Songino Array**	**54.32**	**343**	P	**P**	**23 42 38.9**	**+1.9**
	0.6nm,1.0s,baz=158,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**63.80**	**327**	P	**P**	**23 43 44.4**	**+1.8**
	1.0nm,0.7s,baz=128,slow=8.2,SNR=9.9						
ZALV	**Zalesovo Beam**	**67.26**	**334**	P	**P**	**23 44 05.2**	**+0.5**
	0.9nm,0.6s,baz=110,slow=3.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**68.10**	**329**	P	**P**	**23 44 11.5**	**+1.4**
	2.9nm,0.2s,baz=123,slow=5.4,SNR=6.6						

*NIED **17** 23:45:00,35°.00N×139°.10E, h5km, Mw4.9 Best double couple: M0 2.81000×10^16 NP1:φ168.00000°,δ90.00000°, λ12.00000°. NP2:φ78.00000°,δ78.00000°,λ180.00000°.*
*BJI **17** 23:45:32.5,34°.86N×139°.66E, h10km, mB5.1/38, mb4.7/45, Ms5.0/48, Ms7 4.7/44*
*ISCJB **17** 23:45:35.6±0.5,34°.94N±0°.02×139°.23E±0°.02, h9km±3km, mb4.6/65, MS4.6/37, Error ellipse: s-maj=3.3km s-min=3.2km az=30.5*
*IDC **17** 23:45:35.1±0.5,34°.86N×139°.33E, h0km, mb4.3/28, mb1 4.4/33, mb1mx4.4/37, mbtmp4.3/33, ML4.0/4, MS4.4/24, Ms1 4.4/24, ms1mx4.3/34, Error ellipse: s-maj=13.2km s-min=12.3km az=74.0*
*NEIC **17** 23:45:36.4±0.7,34°.92N×139°.26E, h7km±4km, mb4.9/15, MW4.9(NIED), Error ellipse: s-maj=6.0km s-min=4.9km az=137.0*
NEIC At least 7 people injured and 20 homes damaged in the Ito area. Felt at Ayase, Fujisawa, Mitaka, Shimoda, Yokohama and Zushi. Recorded [5L JMA] in Shizuoka; [3 JMA] in Kanagawa; [2 JMA] in Chiba, Tokyo and Yamanashi; [1 JMA] in Nagano and Saitama. Also recorded [2 JMA] on O-shima and [1 JMA] on Miyake-jima, Nii-jima, Shikine-jima and To-shima.
*JMA **17** 23:45:36.7,34°.96N×139°.13E, h5km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φ167.00000°,δ80.00000°,λ14.00000°. NP2:φ74.00000°, δ77.00000°,λ169.00000°. Principal axes: T Plg17.0000°, Azm31.0000°; N Plg73.0000°, Azm203.0000°; P Plg2.0000°, Azm300.0000°;*
*MOS **17** 23:45:38.5±1.4,34°.83N×139°.38E, h35km, mb4.7/32, MS4.5/21 Error ellipse: s-maj=10.1km s-min=5.8km az=116.3*
*GCMT **17** 23:45:41.1±0.3,34°.96N×139°.16E, h15km±1km, MW5.0, Moment Tensor Solution. s34,c40; s98,c151; Moment tensor: Scale 10^16Nm; Mrr-0.39±.13; Mθφ1.84±.12; Mφφ-1.45±.12; Mrθ0.45±.36; Mθθ-3.66±.10; Mφr0.01±.36; Best double couple: M0 4.00000×10^16 NP1:φ78.00000°, δ90.00000°,λ174.00000°. NP2:φ168.00000°,δ84.00000°, λ0.00000°. Principal axes: T 4.2400, Plg5.0000°, Azm33.0000°; N -0.4000, Plg84.0000°, Azm255.0000°; P -3.8400, Plg4.0000°, Azm123.0000°; Data Used: IU CU II IC G CN.*

ISC 17 23:45:38.8±0.4,34°.95N±0°.03×139°.24E±0°.03, h19km±1km, h18km:pP-P, n262, σ1§82/301, mb4.7/65, MS4.6/37, 12C-14D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.15**	**308**	⇓ P	Pb	23 45 38.7	-3.0
JIM2	**Oshima 3**	**0.28**	**145**	⇓ P	**Pg**	**23 45 43.6**	**-1.6**
JOD2	**Odawara 2**	**0.33**	**339**	⇓ P	Pg	23 45 42.7	-3.3
JOD2				S	**Sg**	**23 45 47.6**	**-3.3**
JIZS	**Izushimoda**	**0.38**	**231**	⇑ P	Pg	23 45 43.0	-3.7
JKO	**Kozu shima**	**0.77**	**186**	P	**Pb**	**23 45 50.9**	**-2.7**
JYN	**Shimob**	**0.78**	**314**	⇓ P	Pb	23 45 50.1	-3.8
TOK	**Tokyo**	**0.85**	**30**	⇑ P	**Pb**	**23 45 54.4**	**-0.5**
SHZ3	**Shizuoka 3**	**0.85**	**278**	P	Pb	23 45 51.6	-3.4
BSO4	**Boso 4**	**0.91**	**87**	⇓ P	**Pb**	**23 45 55.2**	**-0.7**
JSG	**Sagara**	**0.91**	**252**	P	**Pb**	**23 45 53.6**	**-2.4**
JSG				S	**Sb**	**23 46 06.6**	**-1.1**
BSO3	**Boso 3**	**1.06**	**98**	P	**Pb**	**23 45 57.2**	**-1.2**
JRY	**Ryogami san**	**1.09**	**346**	P	**Pb**	**23 45 56.2**	**-3.0**
JRY				S	**Sb**	**23 46 10.2**	**-3.0**
HMMJ	**Hamamatsu 2**	**1.25**	**266**	⇓ P	**Pn**	**23 45 58.5**	**-2.8**
HMMJ				S	**Sn**	**23 46 14.8**	**-2.8**
JNT	**Takato**	**1.28**	**316**	P	**Pn**	**23 45 58.9**	**-3.0**
JNT				S	**Sn**	**23 46 15.1**	**-3.6**
BSO1	**Boso 1**	**1.47**	**101**	⇓ P	**Pn**	**23 46 01.8**	**-2.0**
JAG	**Ashikaga**	**1.48**	**7**	⇑ P	**Pn**	**23 46 03.0**	**-1.5**
JAG				S	**Sb**	**23 46 23.4**	**-0.8**
JAO	**Obara**	**1.65**	**281**	⇓ P	**Pn**	**23 46 04.6**	**-2.3**
JAO				S	**Sn**	**23 46 25.7**	**-1.9**
JGF	**Kuroka**	**1.67**	**293**	⇓ P	**Pn**	**23 46 05.4**	**-1.7**
JGK	**Kuni**	**1.68**	**343**	P	**Pn**	**23 46 07.9**	**+0.7**
JNG	**Nsakai**	**1.72**	**328**	⇓ P	**Pn**	**23 46 06.5**	**-1.4**
JAA	**Atsumi**	**1.75**	**260**	P	**Pn**	**23 46 06.1**	**-2.1**
MJAR	**Matsushiro Arr**	**1.79**	**333**	Pn	**Pn**	**23 46 07.2**	**-1.6**
MJAR				Sn	**Sn**	**23 46 30.5**	**-0.6**
MJAR	**Matsushiro Arr**	**1.79**	**333**	Pn	**Pn**	**23 46 07.2**	**-1.6**
	215nm,0.3s,baz=145,slow=15,SNR=323						
MJAR				Sn	**Sn**	**23 46 30.5**	**-0.6**
	438nm,0.3s,baz=26,slow=29,SNR=17						
MAJO	**Matsushiro**	**1.79**	**332**	*d* iP	**Pn**	**23 46 07.6**	**-1.2**
MAJO	**Matsushiro**	**1.79**	**332**	*e*Pn	**Pn**	**23 46 07.8**	**-1.0**
MAJO				*e*Sn	**Sn**	**23 46 31.1**	**0.0**
MAT	**Matsushiro**	**1.79**	**332**	P	**Pn**	**23 46 07.6**	**-1.2**
MAT				S	**Sn**	**23 46 30.6**	**-0.5**
MAT	**Matsushiro**	**1.79**	**332**	P	**Pn**	**23 46 07.6**	**-1.2**
MAT				S	**Sn**	**23 46 30.7**	**-0.4**
JKT	**Katashina**	**1.81**	**0**	P	**Pn**	**23 46 07.8**	**-1.3**
JHJ2	**Mitsune**	**1.90**	**165**	P	**Pn**	**23 46 09.6**	**-0.6**
JHJ2				S	**Sb**	**23 46 35.5**	**-0.7**
JHO	**Hitachi**	**1.98**	**33**	P	**Pn**	**23 46 09.3**	**-2.0**
JGN	**Niukaw**	**2.01**	**310**	⇓ P	**Pn**	**23 46 11.5**	**-0.4**
JSB	**Shiboa**	**2.09**	**15**	P	**Pn**	**23 46 11.7**	**-1.2**
JIE	**Ise**	**2.16**	**256**	P	**Pn**	**23 46 11.3**	**-2.5**
JGM	**Miyama**	**2.19**	**291**	⇓ P	**Pn**	**23 46 13.1**	**-1.2**
JHK	**Hiroka**	**2.30**	**356**	P	**Pn**	**23 46 15.2**	**-0.5**
JFM	**Mihama**	**2.72**	**283**	P	**Pn**	**23 46 20.3**	**-1.3**
JNU	**Nakatsue**	**7.17**	**258**	*e*Pn	**Pn**	**23 47 21.9**	**-0.8**
JNU				*e*Sn	**Sn**	**23 48 46.3**	**+2.5**
JNU	**Nakatsue**	**7.17**	**258**	Pn	**Pn**	**23 47 22.2**	**-0.5**
	3.0nm,0.3s,baz=66,slow=12,SNR=7.4						
JNU				LR	LR	23 50 12.5	
	comp=Z,4μm,18.9s,baz=78,slow=38						
ERM	**Erimo**	**7.69**	**22**	*e*P	**Pn**	**23 47 27.5**	**-2.3**
ERM	**Erimo**	**7.69**	**22**	*e*Pn	**Pn**	**23 47 27.5**	**-2.3**
ERM				*e*Sn	Sn	23 48 48.2	-8.1
CBIJ	**Chichi jima**	**8.23**	**161**	Pn	**Pn**	**23 47 36.0**	**-1.2**
JCJ	**Chichijima**	**8.23**	**161**	Pn	**Pn**	**23 47 36.0**	**-1.2**
	10nm,0.3s,baz=292,slow=19,SNR=4.3						
KSRS	**Korea Array**	**9.48**	**289**	Pn	**Pn**	**23 47 55.1**	**+0.8**
	0.4nm,0.3s,baz=104,slow=14,SNR=11						
KSRS				LR	LR	23 51 19.7	
	comp=Z,1μm,21.3s,baz=101,slow=36						
KSAR	**Wonju Array Be**	**9.50**	**288**	Pn	**Pn**	**23 47 55.1**	**+0.5**
ASAJ	**Asahikawa**	**9.51**	**15**	*e*Pn	**Pn**	**23 47 53.2**	**-1.5**
ASAJ	**Asahikawa**	**9.51**	**15**	Pn	**Pn**	**23 47 53.2**	**-1.5**
	1.4nm,0.3s,baz=335,slow=6.6,SNR=5.1						
ASAJ				LR	LR	23 51 45.7	
	comp=Z,4μm,19.4s,baz=50,slow=39						
YUK	**Yuzh-Kuril'sk**	**10.41**	**27**	⇑ *i* P	**Pn**	**23 48 06.3**	**-0.7**
YUK				*i* S	Sn	23 49 56.6	-6.5
YUK				MLR	MLR		
	comp=E,2μm,14.0s						
YUK				MLR	MLR		
	comp=Z,2μm,14.0s						
USRK	**Ussuriysk Arra**	**10.79**	**331**	Pn	**Pn**	**23 48 14.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=140,slow=11,SNR=6.1						
USRK				LR	LR	23 52 01.8	
	comp=Z,990nm,18.3s,baz=138,slow=35						
MDJ	**Mudanjiang**	**12.16**	**325**	P	**Pn**	**23 48 30.9**	**-0.1**
MDJ				S	**Sn**	**23 50 48.4**	**+2.3**
MDJ				PcP	**PcP**	**23 54 14.9**	**+0.7**
MDJ				ScP	**ScP**	**23 57 49.4**	**+3.2**
MDJ				pmax	pmax		
	comp=Z,200nm,6.7s						
MDJ				LR	LR		
	comp=Z,3μm,18.5s						
MDJ				LR	LR		
	comp=Z,3μm,15.8s						
MDJ				LR	LR		
	comp=Z,2μm,18.5s						
YSS	**Yuzh-Sakhalins**	**12.28**	**11**	*e*P	Pn	23 48 28.8	-3.8
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS				MLR	MLR		
	comp=N,2μm,14.0s						
JOW	**Kunigami**	**12.41**	**232**	*e*Pn	**Pn**	**23 48 35.0**	**+0.5**
CN2	**Changchun**	**13.83**	**314**	*e*P	**Pn**	**23 48 57.0**	**+3.1**
CN2				*es*P		23 49 05.3	
CN2				*e*S	**Sn**	**23 51 30.9**	**+4.0**
CN2

comp=Z,910nm,21.2s
BJT Baijiatuau 18.97 292 *e*P **P 23 49 57.8 -1.2**
comp=Z,173nm,1.8s
HIA Hailar 20.25 321 *e*P **P 23 50 09.4 -3.6**
comp=Z,53nm,1.8s
QZH Quanzhou 20.45 246⇑ *i*P **P 23 50 12.8 -2.4**
QZH S **S 23 53 58.0 -5.4**
QZH LR LR
comp=Z,2μm,12.0s
QZH LR LR
comp=Z,3μm,14.2s
QZH LR LR
comp=Z,4μm,20.7s
WHN Wuhan 21.37 265⇑ P **P 23 50 26.8 +1.7**
WHN S **S 23 54 25.3 +3.7**
WHN LR LR
comp=Z,2μm,8.9s
WHN LR LR
comp=Z,4μm,10.3s
WHN LR LR
comp=Z,4μm,12.4s
PEA0 Petropavlovsk- 22.37 30 *e*P **P 23 50 36.2 +0.5**
PETK Petropavlovsk- 22.37 30 P **P 23 50 35.5 -0.2**
PETK pmax pmax
comp=Z,38nm,1.1s
PETK MLR MLR
comp=Z,785nm,20.0s
PETK Petropavlovsk- 22.37 30 P **P 23 50 35.5 -0.2**
PETK Petropavlovsk- 22.37 30 P **P 23 50 35.5 -0.2**
comp=Z,38nm,1.1s,baz=209,slow=11,SNR=6.3
PETK LR LR 23 58 54.9
comp=Z,785nm,20.0s,baz=217,slow=36
HHC Hu-ho-hao-te 22.56 293 *e*P **P 23 50 36.3 -1.7**
HHC sP **sP 23 50 47.3 +1.5**
HHC PP **PnPn 23 51 07.0 +5.5**
HHC S **S 23 54 40.4 -4.2**
HHC sS **sS 23 54 50.3 -3.3**
HHC SS **SnSn 23 55 22.3 +8.4**
HHC pmax pmax
comp=Z,33nm,0.7s
HHC pmax pmax
comp=Z,220nm,4.3s
HHC LR LR
comp=Z,4μm,12.1s
HHC LR LR
comp=Z,3μm,12.3s
HHC LR LR
comp=Z,3μm,11.6s
PET Petropavlovsk 22.71 31 *e*P **P 23 50 37.9 -1.4**
PET *e* 23 51 06.3
PET *e*S S 23 54 39.3 -7.4
PET pmax pmax
comp=Z,24nm,0.8s
PET pmax pmax
comp=Z,200nm,13.8s
PET pmax pmax
comp=Z,100nm,18.4s
PET MLR MLR
comp=Z,2μm,16.0s
CLNS Chul'man 23.96 340 *e*P **P 23 50 51.1 -0.7**
CLNS *e**PP **pP 23 50 57.3 -0.2**
CLNS *e* 23 51 26.7
CLNS *e*PPP PPP 23 51 35.3
CLNS *e* 00 01 58.4
CLNS pmax pmax
comp=Z,32nm,1.5s
CLNS pmax pmax
comp=E,7.0nm,1.2s
CLNS pmax pmax
comp=N,38nm,1.6s
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.5s
CLNS pmax pmax
comp=N,27nm,1.9s
CLNS MLR MLR
comp=Z,598nm,12.0s
CLNS MLR MLR
comp=E,562nm,11.0s
CLNS MLR MLR
comp=N,271nm,11.0s
ENH Enshi 25.44 268 *e*P **P 23 51 03.8 -1.8**
comp=N,12nm,1.1s
SONA1 Songino Array 27.57 308 *e*P **P 23 51 23.5 -1.3**
SONM Songino Array 27.57 308 P **P 23 51 24.5 -0.3**
SONM PcP **PcP 23 54 42.1 -0.1**
SONM Songino Array 27.57 308 P **P 23 51 24.5 -0.3**
comp=N,1.3nm,0.9s,baz=112,slow=9.5,SNR=8.6
SONM PcP **PcP 23 54 42.1 -0.1**
comp=N,0.6nm,0.6s,baz=86,slow=1.8,SNR=4.3
SONM LR LR 00 02 42.7
comp=N,2μm,18.8s,baz=279,slow=37
YAK Yakutsk 27.77 350 *e*P **P 23 51 23.8 -2.3**
YAK pmax pmax
comp=Z,45nm,1.3s
YAK pmax pmax
comp=N,41nm,1.4s
YAK pmax pmax
comp=E,13nm,1.3s
YAK MLR MLR
comp=Z,1μm,21.0s
YAK MLR MLR
comp=E,884nm,14.0s
YAK MLR MLR
comp=N,777nm,14.0s
LZH Lanzhou 28.73 283 P **P 23 51 37.3 +2.0**
LZH pP **pP 23 51 43.8 +2.8**
LZH sP **sP 23 51 46.3 +3.0**
LZH PP **PnPn 23 52 30.1 +4.2**
LZH *e*S **S 23 56 22.5 -1.3**
LZH sS **sS 23 56 33.4 +0.2**
LZH pmax pmax
comp=N,39nm,1.0s
LZH pmax pmax
comp=N,150nm,4.1s
LZH LR LR
comp=N,1μm,12.7s
LZH LR LR
comp=N,1μm,12.8s
LZH LR LR
comp=N,1μm,13.2s
H11N2 WAKE ISLAND Hy 28.75 115 T T 00 21 42.9
baz=315
H11N1 WAKE ISLAND Hy 28.75 115 T T 00 21 43.5
baz=315
H11N3 WAKE ISLAND Hy 28.77 115 T T 00 21 44.3
baz=315
GYA Guiyang 29.16 262 P **P 23 51 39.8 +0.7**
GYA PP **PnPn 23 52 32.0 +0.2**
GYA PcP **PcP 23 54 48.6 +2.2**
GYA S **S 23 56 30.8 +0.3**
GYA ScP **ScP 23 58 28.9 +1.8**
GYA ScS **ScS 00 02 21.0 -0.5**
GYA pmax pmax
comp=N,10.0nm,0.8s
GYA pmax pmax
comp=N,90nm,4.8s
GYA LR LR
comp=N,480nm,16.8s
GYA LR LR
comp=N,450nm,17.0s
GYA LR LR
comp=N,470nm,17.6s
SEY Seymchan 29.18 12 P **P 23 51 39.3 +0.6**
SEY pmax pmax
comp=Z,3.0nm,0.2s
SEY Seymchan 29.18 12 P **P 23 51 39.3 +0.6**
SEY Seymchan 29.18 12 P **P 23 51 39.3 +0.6**
comp=Z,2.7nm,0.2s,baz=353,slow=23,SNR=4.7
H11S3 WAKE ISLAND Hy 29.36 117 T T 00 22 29.2
baz=313,slow=75,SNR=3034
H11S1 WAKE ISLAND Hy 29.36 117 T T 00 22 29.2
baz=313,slow=75,SNR=3845
H11S2 WAKE ISLAND Hy 29.38 117 T T 00 22 30.4
baz=313,slow=75,SNR=4091
CD2 Chengdu 29.95 272 *e*P **P 23 51 45.8 -0.2**
CD2 pP **pP 23 51 50.3 -1.4**
CD2 sP **sP 23 51 53.3 -0.7**
CD2 PP **PnPn 23 52 42.8 +0.3**
CD2 S **S 23 56 48.3 +5.5**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=Z,3μm,17.8s
CD2 LR LR
comp=Z,2μm,13.0s
CD2 LR LR
comp=Z,3μm,14.2s
QIZ Qiongzhong 30.47 246 P **P 23 51 50.6 0.0**
QIZ S **S 23 56 52.5 +1.5**
QIZ pmax pmax
comp=Z,39nm,2.3s
QIZ pmax pmax
comp=Z,150nm,3.6s
QIZ LR LR
comp=Z,1μm,16.8s
QIZ LR LR
comp=Z,330nm,14.7s
QIZ LR LR
comp=Z,1μm,15.0s
GTA Gaotai 31.55 290 *e*P **P 23 52 00.0 -0.1**
GTA pP **pP 23 52 06.0 +0.2**
GTA sP **sP 23 52 09.5 +1.4**
GTA PP **PnPn 23 53 05.5 +2.1**
GTA S **S 23 57 06.8 -1.0**
GTA sS **sS 23 57 16.8 -0.4**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,73nm,2.8s
GTA LR LR
comp=Z,1μm,16.2s
GTA LR LR
comp=Z,1μm,13.8s
GTA LR LR
comp=Z,1μm,13.8s
KMI Kunming 32.92 263 P **P 23 52 15.3 +2.9**
KMI pP **pP 23 52 19.3 +1.2**
KMI sP **sP 23 52 21.5 +1.0**
KMI S **S 23 57 28.5 -1.2**
KMI sS **sS 23 57 39.9 +0.8**
KMI pmax pmax
comp=Z,5.0nm,2.0s
KMI pmax pmax
comp=Z,150nm,4.3s
KMI LR LR
comp=Z,1μm,13.9s
KMI LR LR
comp=Z,1μm,12.8s
KMI LR LR
comp=Z,1μm,13.7s
TIXI Tiksi 37.17 355 *e*P **P 23 52 46.5 -1.6**
TIXI pmax pmax
comp=Z,26nm,1.7s
CHTO Chiang Mai 39.08 256 *e*P **P 23 53 05.3 +0.4**
CHTO pmax pmax
comp=Z,11nm,1.5s
CHTO Chiang Mai 39.08 256 *e*P **P 23 53 05.3 +0.4**
comp=Z,10nm,1.5s
CMAR Chiang Mai Arr 39.27 256 P **P 23 53 06.8 +0.3**
CMAR Chiang Mai Arr 39.27 256 P **P 23 53 06.8 +0.3**
comp=Z,0.9nm,0.5s,baz=57,slow=6.6,SNR=3.5
CMAR LR LR 00 11 08.2
comp=Z,374nm,20.7s,baz=249,slow=39
CM01 Chiang Mai Arr 39.28 256 *e*P **P 23 53 06.4 -0.2**
WMQ Urumqi 40.24 299 P **P 23 53 16.0 +1.6**
WMQ PP **PnPn 23 54 52.0 +1.3**
WMQ PcP **PcP 23 55 21.0 +2.9**
WMQ ScP **ScP 23 59 10.0 +3.7**
WMQ S **S 23 59 24.0 +3.3**
WMQ SS **SS 00 02 15.0 -3.9**
WMQ ScS **ScS 00 03 22.0 +2.0**
WMQ pmax pmax
comp=Z,18nm,1.2s
WMQ pmax pmax
comp=Z,140nm,4.0s
WMQ LR LR
comp=Z,910nm,15.0s
WMQ LR LR
comp=Z,670nm,15.0s
WMQ LR LR
comp=Z,640nm,15.0s
LSA Lhasa 40.66 276 *e*P **P 23 53 16.6 -1.9**
LSA pmax pmax
comp=Z,11nm,1.3s
LSA Lhasa 40.66 276 *e*P **P 23 53 16.6 -1.9**
comp=Z,11nm,1.3s
ZAA0 Zalesovo Array 42.05 314 *e*P **P 23 53 28.0 -1.1**
ZALV Zalesovo Beam 42.05 314 P **P 23 53 29.8 +0.7**
ZALV 23 55 22.4
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,565nm,18.5s
ZALV Zalesovo Beam 42.05 314 P **P 23 53 29.8 +0.7**
ZALV PcP **PcP 23 55 22.4 -1.3**
ZALV Zalesovo Beam 42.05 314 P **P 23 53 29.8 +0.7**
comp=Z,3.4nm,0.7s,baz=85,slow=6.7,SNR=24
ZALV PcP **PcP 23 55 22.4 -1.3**
comp=Z,0.8nm,0.5s,baz=112,slow=3.0,SNR=4.1
ZALV LR LR 00 11 38.1
comp=Z,565nm,18.5s,baz=74,slow=37
NVS Novosibirsk 43.04 315⇓ *i*P **P 23 53 35.7 -1.3**
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=Z,15nm,1.1s
NVS pmax pmax
comp=E,18nm,1.0s
TNA Tin City 43.53 29 *e*P **P 23 53 41.1 +0.2**
comp=E,15nm,1.2s
MK01 Makanchi Array 43.76 304 *e*P **P 23 53 42.2 -0.9**
MKAR Makanchi Array 43.76 304 P **P 23 53 42.4 -0.7**
MKAR 23 55 29.3
MKAR pmax pmax
comp=Z,7.0nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR pmax pmax
comp=N,2.0nm,1.1s
MKAR Makanchi Array 43.76 304 P **P 23 53 42.4 -0.7**
MKAR PcP **PcP 23 55 29.3 -0.3**
MKAR ScP **ScP 23 59 26.2 +5.9**
MKAR Makanchi Array 43.76 304 P **P 23 53 42.4 -0.7**
comp=N,7.0nm,1.0s,baz=89,slow=9.8,SNR=27
MKAR PcP **PcP 23 55 29.3 -0.3**
comp=N,1.2nm,0.9s,baz=69,slow=4.8,SNR=2.3
MKAR ScP **ScP 23 59 26.2 +5.9**
comp=N,1.7nm,1.1s,baz=76,slow=5.1,SNR=4.9
TAPN Taplejung 44.34 275 *e*P **P 23 53 48.6 +0.3**
ODAN Odare 44.79 274 *e*P **P 23 53 51.8 -0.1**
RAMN Ramite 45.41 275 *e*P **P 23 53 55.9 -0.8**
JIRN Jiri 45.46 276 *e*P **P 23 53 57.1 -0.2**
GUN Gumba 45.62 277 *e*P **P 23 53 58.7 +0.2**
comp=N,38nm,1.2s
KURK Kurchatov 45.85 309 P **P 23 53 59.0 -0.6**
KURK pmax pmax
comp=Z,57nm,1.1s
KURK Kurchatov 45.85 309 *e*P **P 23 53 59.0 -0.6**
comp=Z,48nm,1.0s
KURBB Kurchatov Arra 45.92 309 P **P 23 53 59.0 -1.1**
comp=Z,57nm,1.1s,baz=86,slow=8.2,SNR=146
PKI Pulchoki 46.13 276 *e*P **P 23 54 02.3 -0.3**
comp=Z,10.0nm,0.8s
KKN Kakani 46.15 277 *e*P **P 23 54 02.5 -0.1**
GKN Gorkha 46.60 277 *e*P **P 23 54 05.8 -0.2**
comp=Z,60nm,1.2s
DANN Dangsing 47.18 278 *e*P **P 23 54 10.2 -0.5**
comp=Z,61nm,1.0s
KOLN Koldanda 47.53 277 *e*P **P 23 54 12.4 -1.0**
comp=Z,52nm,1.3s
PYUN Piuthan 47.90 278 *e*P **P 23 54 15.5 -0.7**
comp=Z,111nm,1.2s
HNR Honiara 48.30 152 LR LR 00 14 11.1
comp=Z,535nm,18.1s,baz=308,slow=36
TKM2 Tokmak 2 49.09 299 *e*P **P 23 54 26.0 +0.8**
TKM2 pmax pmax
comp=Z,39nm,1.2s
TKM2 Tokmak 2 49.09 299 P **P 23 54 26.3 +1.1**
SNR=9.7
TKM2 Tokmak 2 49.09 299 *e*P **P 23 54 26.0 +0.8**
comp=Z,39nm,1.2s
KZA Kyzart 49.53 298 *i* P **P 23 54 31.3 +2.5**
KZA Kyzart 49.53 298 P **P 23 54 31.4 +2.5**
SNR=8.2
KBK Karagaybulak 49.61 299 *i* P **P 23 54 31.0 +1.8**
KBK Karagaybulak 49.61 299 P **P 23 54 31.0 +1.8**
SNR=20
KSH Kashi 49.66 295 P **P 23 54 34.1 +4.6**
KSH pP pP 23 54 41.1 +5.7
KSH sP sP 23 54 44.1 +6.4
KSH PcP **PcP 23 55 55.1 +4.4**
KSH S **S 00 01 42.1 +4.8**
KSH sS sS 00 01 54.1 +7.1
KSH pmax pmax
comp=Z,14nm,1.1s
KSH pmax pmax
comp=Z,110nm,3.9s
KSH LR LR
comp=Z,750nm,14.2s
KSH LR LR
comp=Z,450nm,10.5s
KSH LR LR
comp=Z,630nm,15.5s
CHMS Chumysh 49.67 300 *i* P **P 23 54 30.8 +1.4**
CHMS Chumysh 49.67 300 P **P 23 54 30.8 +1.4**
SNR=6.0
USP Ospenovka 49.79 300 *i* P **P 23 54 31.8 +1.5**
USP Ospenovka 49.79 300 P **P 23 54 31.8 +1.5**
SNR=13
AAK Ala-Archa 49.94 299 *e*P **P 23 54 32.1 +0.4**
AAK pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 49.94 299 P **P 23 54 33.2 +1.5**
SNR=9.0
AAK Ala-Archa 49.94 299 *e*P **P 23 54 32.1 +0.4**
comp=Z,11nm,1.0s
AAK Ala-Archa 49.94 299 P **P 23 54 31.7 +0.1**
comp=Z,5.4nm,0.8s,baz=107,slow=4.8,SNR=17
UCH Uchtor 50.03 299 *i* P **P 23 54 34.7 +2.0**
UCH Uchtor 50.03 299 P **P 23 54 34.7 +2.0**
SNR=6.0
EKS2 Erkin-Say 50.45 300 *e*P **P 23 54 35.2 -0.3**
EKS2 pmax pmax
comp=Z,7.0nm,1.0s
EKS2 Erkin-Say 50.45 300 *e*P **P 23 54 35.2 -0.3**
comp=Z,6.6nm,1.0s
AML Almayashu 50.64 299 *i* P **P 23 54 39.5 +2.2**
AML Almayashu 50.64 299 P **P 23 54 39.5 +2.2**
SNR=30
BVAR Borovoye Array 50.69 313 P **P 23 54 38.0 +1.1**
BVAR pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 50.69 313 P **P 23 54 38.0 +1.1**
BVAR Borovoye Array 50.69 313 P **P 23 54 38.0 +1.1**
comp=Z,11nm,0.9s,baz=90,slow=7.4,SNR=35
GSI Gunungsitoli 51.21 238 *e*P **P 23 54 39.5 -1.8**
comp=Z,7.1nm,1.1s
IL1 Eielson Array 52.19 31 *e*P **P 23 54 46.9 -1.1**
ILAR Eielson Array 52.19 31 P **P 23 54 47.8 -0.2**
ILAR Eielson Array 52.19 31 P **P 23 54 47.8 -0.2**
comp=Z,3.8nm,1.0s,baz=274,slow=5.8,SNR=26
ILAR LR LR 00 18 07.9
comp=Z,263nm,21.2s,baz=81,slow=37
WRAB Tennant Creek 54.78 186 *e*P **P 23 55 06.3 -1.2**
WRAB pmax pmax
comp=Z,24nm,1.2s
WRAB Tennant Creek 54.78 186 *e*P **P 23 55 06.3 -1.2**
comp=Z,24nm,1.2s
WRA Warramunga Arr 54.79 186 P **P 23 55 05.0 -2.5**
WRA Warramunga Arr 54.79 186 P **P 23 55 05.0 -2.5**
comp=Z,7.3nm,0.9s,baz=1.4,slow=7.5,SNR=28
SVE Sverdlovsk 55.55 319 *e*P **P 23 55 12.7 0.0**
SVE *e*S S 00 03 03.4 +6.4
SVE pmax pmax
comp=Z,29nm,1.6s
SVE MLR MLR
comp=Z,619nm,14.0s
HYB Hyderabad 56.38 268 *i* P **P 23 55 20.0 +0.8**
KBL Kabul 56.52 291 *e*P **P 23 55 20.3 +0.1**
KBL pmax pmax
comp=Z,18nm,1.3s
KBL Kabul 56.52 291 *e*P **P 23 55 20.2 +0.1**
comp=Z,18nm,1.3s
ARU Arti 56.76 319*c i*P **P 23 55 21.1 -0.2**
ARU 23 56 16.3
ARU 23 57 25.5
ARU S **S 00 03 13.7 +0.6**
ARU pmax pmax
comp=Z,34nm,1.7s
ARU MLR MLR
comp=Z,594nm,17.0s
INK Inuvik 57.03 26 *e*P **P 23 55 22.8 -0.3**
comp=Z,87nm,2.8s
INK Inuvik 57.03 26 P **P 23 55 22.7 -0.4**
comp=Z,3.3nm,0.7s,baz=264,slow=7.4,SNR=8.2
INK LR LR 00 21 20.3
comp=Z,222nm,20.1s,baz=159,slow=38
AS01 Alice Springs 58.51 186 *e*P **P 23 55 32.8 -1.2**
ASAR Alice Springs 58.52 186 P **P 23 55 31.4 -2.6**
ASAR Alice Springs 58.52 186 P **P 23 55 31.4 -2.6**
comp=Z,4.1nm,1.0s,baz=8.0,slow=6.5,SNR=17
AKTO Aktyubinsk 58.76 312 P **P 23 55 35.8 +0.3**
AKTO pmax pmax
comp=Z,7.0nm,1.1s
AKTO Aktyubinsk 58.76 312 P **P 23 55 35.8 +0.3**
AKTO Aktyubinsk 58.76 312 P **P 23 55 35.8 +0.3**
comp=Z,6.9nm,1.1s,baz=71,slow=12,SNR=11
PRGR Permogore 61.55 327 *e*P **P 23 55 54.2 -0.2**
PRGR pmax pmax
comp=Z,43nm,1.7s
DZM Mont Dzumac 62.32 151 *e*LR LR 00 14 28.5
comp=Z,626nm,23.9s
KEV Kevo 64.75 339 *e*P P 23 56 19.1 +3.6
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 64.75 339 *ep* P 23 56 19.1 +3.6
comp=Z,0.6nm,0.3s
RES Resolute Bay 65.04 14 *e*P **P 23 56 16.7 -0.6**
comp=Z,74nm,2.3s
RES Resolute Bay 65.04 14 LR LR 00 26 02.5
comp=Z,298nm,20.3s,baz=294,slow=37
ARCES ARCESS Array B 65.31 339 P **P 23 56 17.9 -1.3**
ARCES ARCESS Array B 65.31 339 P **P 23 56 17.9 -1.3**
comp=Z,2.1nm,0.8s,baz=34,slow=9.9,SNR=3.0
ARCES LR LR 00 26 13.4
comp=Z,356nm,18.0s,baz=249,slow=37
YKA Yellowknife Ar 66.49 29 P **P 23 56 25.9 -0.9**
YKA Yellowknife Ar 66.49 29 P **P 23 56 25.9 -0.9**
comp=Z,2.0nm,0.9s,baz=299,slow=6.4,SNR=11
YKB5 Yellowknife Ar 66.49 29 *e*P **P 23 56 26.3 -0.5**
STKA Stephens Creek 66.52 178 P **P 23 56 26.5 -0.7**
STKA Stephens Creek 66.52 178 P **P 23 56 26.5 -0.7**
comp=Z,6.7nm,1.2s,baz=9.2,slow=8.6,SNR=4.3
STKA LR LR 00 24 59.1
comp=Z,369nm,20.0s,baz=121,slow=36
JOF Joensuu 66.96 332 *e*P **P 23 56 30.6 +0.8**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 66.96 332 *ep* **P 23 56 30.6 +0.8**
comp=Z,0.9nm,0.3s
OBN Obninsk 68.70 323⇑ *e*P **P 23 56 42.3 +1.4**
OBN *e* 23 59 12.7
OBN *i* S **S 00 05 38.9 -3.9**
OBN pmax pmax
comp=Z,12nm,1.2s
OBN MLR MLR
comp=Z,700nm,18.0s
KAF Kangasniemi 69.34 332 *e*P **P 23 56 42.0 -2.7**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 69.34 332 *ep* **P 23 56 42.0 -2.7**
comp=Z,0.6nm,0.3s
FINES FINESS Array B 69.82 332 P **P 23 56 46.7 -1.0**
FINES FINESS Array B 69.82 332 P **P 23 56 46.7 -1.0**
comp=Z,1.4nm,0.4s,baz=52,slow=7.5,SNR=10
FINES LR LR 00 27 46.3
comp=Z,367nm,18.7s,baz=226,slow=36
NWAO Narrogin (SRO) 70.61 200 LR LR 00 25 46.1
comp=Z,124nm,21.8s,baz=219,slow=34
KBZ Khabaz 70.91 310 P **P 23 56 55.8 +1.1**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 70.91 310 P **P 23 56 55.8 +1.1**
KBZ Khabaz 70.91 310 P **P 23 56 55.8 +1.1**
comp=Z,3.9nm,0.9s,baz=97,slow=2.4,SNR=5.0
KIV Kislovodsk 70.92 311 *e*P **P 23 56 55.6 +0.6**
KIV pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 72.75 359 *i* P **P 23 57 08.7 +2.9**
SUMG Summit 72.75 359 *i* P **P 23 57 08.7 +2.9**
comp=Z,6.4nm,0.9s
SOC Sochi 72.96 311 *e*P **P 23 57 08.9 +1.9**

SOC					*e*PPP	PPP	00 01 40.4		
SOC					*e*S	**SKiKP**	**00 06 37.1**	**-1.9**	
SOC					*e*SS	SS	00 11 22.2	+10	
SOC					*e*SSS	SSS	00 14 17.7		
YBH	**Yreka Blue Hor**	**73.02**	**51**	P		**P**	**23 57 07.7**	**+0.1**	
YBH	**Yreka Blue Hor**	**73.02**	**51**	P		**P**	**23 57 07.7**	**+0.1**	
	comp=Z,2.0nm,0.9s,baz=221,slow=7.2,SNR=3.6								
AKASG	**Malin Array Be**	**74.85**	**322**	P		**P**	**23 57 17.4**	**-0.6**	
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**74.85**	**322**	P		**P**	**23 57 17.4**	**-0.6**	
AKASG	**Malin Array Be**	**74.85**	**322**	P		**P**	**23 57 17.4**	**-0.6**	
	comp=Z,0.5nm,0.4s,baz=45,slow=6.1,SNR=11								
NB2	**NORSAR Subarra**	**75.41**	**337**	P		**P**	**23 57 19.5**	**-1.6**	
	comp=Z,6.0nm,0.9s,baz=42,slow=5.9								
NOA	**NORSAR Array B**	**75.41**	**337**	P		**P**	**23 57 20.8**	**-0.2**	
NOA	**NORSAR Array B**	**75.41**	**337**	P		**P**	**23 57 20.8**	**-0.2**	
	comp=Z,4.6nm,1.0s,baz=39,slow=5.8,SNR=5.1								
NOA				LR		LR	00 34 30.7		
	comp=Z,343nm,18.9s,baz=20,slow=39								
LRM	**Limekiln Ridge**	**76.87**	**43**	*e*P		**P**	**23 57 30.8**	**+0.8**	
NV01	**Mina Array Sit**	**77.65**	**52**	*e*P		**P**	**23 57 34.7**	**+0.3**	
NVAR	**Mina Array Bea**	**77.65**	**52**	P		**P**	**23 57 34.2**	**-0.3**	
NVAR	**Mina Array Bea**	**77.65**	**52**	P		**P**	**23 57 34.2**	**-0.3**	
	comp=Z,1.5nm,0.6s,baz=318,slow=6.6,SNR=11								
BRTR	**Keskin Array B**	**78.89**	**311**	P		**P**	**23 57 42.9**	**+1.8**	
BRTR	**Keskin Array B**	**78.89**	**311**	P		**P**	**23 57 42.9**	**+1.8**	
	comp=Z,2.6nm,1.0s,baz=144,slow=3.1,SNR=5.9								
BR231	**Keskin MP Arra**	**79.35**	**311**	*e*P		**P**	**23 57 43.0**	**-0.6**	
BW06	**Boulder Array**	**80.38**	**44**	*e*P		**P**	**23 57 47.8**	**-1.5**	
PDAR	**Pinedale Array**	**80.38**	**44**	P		**P**	**23 57 48.0**	**-1.4**	
PDAR	**Pinedale Array**	**80.38**	**44**	P		**P**	**23 57 48.0**	**-1.4**	
	comp=Z,0.6nm,0.6s,baz=225,slow=1.5,SNR=4.0								
DPC	**Dobruska-Polom**	**81.26**	**327**	*e*P		**P**	**23 57 53.3**	**-0.3**	
DPC				*e*			23 58 04.8		
DPC				*e*			23 58 11.3		
DPC	**Dobruska-Polom**	**81.26**	**327**	*e*P		**P**	**23 57 53.3**	**-0.3**	
DPC				*ex*		x	23 58 04.8		
DPC				*ex*		x	23 58 11.3		
BRG	**Berggiesshubel**	**81.92**	**329**	*e*P		**P**	**23 57 56.5**	**-0.5**	
	comp=Z,31nm,1.9s								
BRG	**Berggiesshubel**	**81.92**	**329**	*e*P		**P**	**23 57 56.5**	**-0.5**	
BRG				pmax		pmax			
	comp=Z,31nm,1.9s								
CLL	**Collm**	**82.00**	**329**	*i* P		**P**	**23 57 57.8**	**+0.4**	
	comp=Z,13nm,1.2s								
CLL					*e*PcP	**pP**	**23 58 04.0**	**+0.4**	
CLL				LmH			00 30 00.0		
	comp=N,200nm,20.5s								
CLL				LmH			00 30 00.0		
	comp=E,500nm,20.9s								
CLL				LmV			00 33 00.0		
	comp=Z,300nm,18.6s								
ULM	**Lac du Bonnet**	**82.20**	**32**	LR		LR	00 32 52.4		
	comp=Z,203nm,19.3s,baz=4,6,slow=34								
PRU	**Pruhonice**	**82.31**	**328**	*e*P		**P**	**23 58 00.6**	**+1.5**	
PRU	**Pruhonice**	**82.31**	**328**	*e*P		**P**	**23 58 00.6**	**+1.5**	
TREC	**Trest**	**82.39**	**327**	*e*P		**P**	**23 58 00.7**	**+1.1**	
TREC				*e*			23 58 06.3		
TREC	**Trest**	**82.39**	**327**	*e*P		**P**	**23 58 00.7**	**+1.1**	
TREC				*ex*		x	23 58 06.3		
NKC	**Novy Kostel**	**83.03**	**329**	*e*P		**P**	**23 58 04.5**	**+1.6**	
NKC	**Novy Kostel**	**83.03**	**329**	*e*P		**P**	**23 58 04.5**	**+1.6**	
CONA	**Conrad Observa**	**83.21**	**326**	*i* PcP		**PcP**	**23 58 06.2**	**-2.3**	
	comp=Z,11nm,1.5s								
KHC	**Kasperske Hory**	**83.37**	**328**	*e*P		**P**	**23 58 05.9**	**+1.2**	
KHC				*e*			23 58 13.2		
KHC				*e*			23 58 18.6		
KHC	**Kasperske Hory**	**83.37**	**328**	*e*P		**P**	**23 58 05.9**	**+1.2**	
KHC				*ex*		x	23 58 13.2		
KHC				*ex*		x	23 58 18.6		
PV10	**Paradox Valley**	**83.48**	**47**	*e*P		**P**	**23 58 06.1**	**+0.3**	
GERES	**GERESS Array B**	**83.52**	**327**	P		**P**	**23 58 06.0**	**+0.4**	
GERES	**GERESS Array B**	**83.52**	**327**	P		**P**	**23 58 06.0**	**+0.4**	
	comp=Z,0.8nm,0.8s,baz=46,slow=5.8,SNR=7.7								
GERES				LR		LR	00 39 09.9		
	comp=Z,404nm,18.2s,baz=216,slow=38								
PV05	**Paradox Valley**	**83.63**	**48**	*e*P		**P**	**23 58 06.7**	**+0.2**	
SOKA	**Soboth**	**84.51**	**325**	*i* P		**P**	**23 58 09.0**	**-1.6**	
	comp=Z,14nm,1.1s								
PPT	**Papeete**	**85.32**	**115**	LR		LR	00 30 09.4		
	comp=Z,172nm,20.1s,baz=3,2,slow=31								
PPT2	**Papeete2**	**85.33**	**115**	*e*SS		SS	00 14 22.0	+1.5	
	comp=Z,190nm,27.5s								
PPT2	**Papeete2**	**85.33**	**115**	*e*LR		LR	00 24 59.9		
	comp=Z,552nm,32.2s								
PPT2	**Papeete2**	**85.33**	**115**	*e*T		T	01 32 20.2		
	comp=Z,22nm,0.3s								
PAE	**Paea**	**85.38**	**115**	*e*T		T	01 32 23.0		
	comp=Z,4.8nm,0.3s								
TIAR	**Tiarei**	**85.49**	**115**	*e*T		T	01 32 23.5		
	comp=Z,14nm,0.3s								
TVO	**Taravao**	**85.70**	**115**	*e*T		T	01 32 37.5		
	comp=Z,1.7nm,0.3s								
BFO	**Black Forest**	**86.23**	**330**	*ce*P		**P**	**23 58 21.7**	**+2.6**	
MEH	**Mehetia**	**86.64**	**114**	*e*T		T	01 34 03.1		
	comp=Z,69nm,0.2s								
SCHQ	**Schefferville**	**87.81**	**15**	P		**P**	**23 58 26.8**	**+0.2**	
SCHQ	**Schefferville**	**87.81**	**15**	P		**P**	**23 58 26.8**	**+0.2**	
	comp=Z,4.6nm,0.8s,baz=288,slow=9.7,SNR=3.1								
SCHQ				LR		LR	00 39 00.1		
	comp=Z,316nm,18.2s,baz=329,slow=36								
TBI	**Tubuai**	**89.01**	**119**	*e*LR		LR	00 26 33.0		
	comp=Z,217nm,25.8s								
TBI	**Tubuai**	**89.01**	**119**	*e*T		T	01 36 59.7		
	comp=Z,45nm,0.3s								
TXAR	**Lajitas Array**	**92.79**	**51**	P		**P**	**23 58 50.1**	**-0.4**	
TXAR	**Lajitas Array**	**92.79**	**51**	P		**P**	**23 58 50.1**	**-0.4**	
	comp=Z,0.3nm,0.6s,baz=284,slow=0.4,SNR=4.4								
TXAR				LR		LR	00 34 07.7		
	comp=Z,156nm,20.4s,baz=245,slow=31								
KEST	**Kesra**	**95.57**	**321**	LR		LR	00 42 37.3		
	comp=Z,91nm,18.4s,baz=296,slow=36								
ESDC	**Sonseca Array**	**98.33**	**332**	LR		LR	00 46 27.9		
	comp=Z,197nm,20.4s,baz=0.0,slow=37								
RKT	**Rikitea**	**99.62**	**111**	*e*LR		LR	00 31 41.3		
	comp=Z,319nm,31.8s								
TORD	**Torodi Ar. Bea**	**117.48**	**312**	PKP		**PKPdf**	**00 04 24.2**	**+0.3**	
TORD	**Torodi Ar. Bea**	**117.48**	**312**	PKP		**PKPdf**	**00 04 24.2**	**+0.3**	
	comp=Z,1.5nm,1.0s,baz=25,slow=1.6,SNR=8.5								
SAML	**Samuel**	**146.97**	**44**	*e*PKPdf		**PKPdf**	**00 05 19.1**	**+0.3**	
H03N2	**Juan Fernandez**	**148.52**	**98**	T		T	02 51 32.6		
	baz=278,slow=75,SNR=20								
H03N3	**Juan Fernandez**	**148.53**	**98**	T		T	02 51 38.5		
	baz=278,slow=75,SNR=22								
H03N1	**Juan Fernandez**	**148.54**	**98**	T		T	02 51 37.5		
	baz=278,slow=75,SNR=22								
LPAZ	**La Paz**	**149.27**	**60**	*ep*PKPdf		**PKPbc**	**00 05 25.5**	**-2.0**	
LPAZ	**La Paz**	**149.27**	**60**	PKPbc		**PKPbc**	**00 05 26.7**	**-0.8**	
	comp=Z,4.1nm,1.0s,baz=269,slow=3.6,SNR=5.1								
LPAZ				PKPab		**PKiKP**	**00 05 29.8**	**+1.1**	
	comp=Z,2.3nm,0.8s,baz=354,slow=7.2,SNR=7.4								

IDC 17 23:53:43.0±4.9, 2.73S×139.68E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=192.9km s-min=30.3km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.89**	**197**	P		P	23 57 54.0	-0.2
	0.3nm,0.3s,baz=16,slow=12,SNR=6.3							
ASAR	**Alice Springs**	**21.55**	**195**	P		P	23 58 33.4	-0.8
	0.9nm,0.5s,baz=22,slow=10,SNR=14							
MKAR	**Makanchi Array**	**70.40**	**322**	P		P	00 04 59.3	+0.3
	0.3nm,0.6s,baz=103,slow=9.7,SNR=4.8							

*CSEM **18** 00:01:04.7±0.2, 37.06N×28.56E, h1km, MD3.1, Error ellipse: s-maj=5.5km s-min=4.7km az=42.0*
*ISK **18** 00:01:04.5, 37.02N×28.56E, h13km, MD3.1*
*DDA **18** 00:01:04.6, 37.03N×28.54E, h7km, MD3.1*
*ATH **18** 00:01:05.9, 37.00N×28.35E, h8km, MD3.0/4*

ISC 18 00:01:04.8±0.8, 37.05N±0.02×28.53E±0.02, h0km, n44, σ0.983/60, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TURN	**Turunc**	**0.19**	**161**	*i* P		Pg	00 01 11.0	+2.6
TURN				*i* S		Sg	00 01 16.3	+5.5
TURN	**Turunc**	**0.19**	**161**	*i* P		Pg	00 01 11.0	+2.6
DALY	**Dalyan (Mu¨la**	**0.25**	**156**	*e*Pg		**Pg**	**00 01 09.7**	**0.0**
DALY				*e*SG		**Sg**	**00 01 13.5**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.25**	**156**	*e*Pg		**Pg**	**00 01 09.7**	**0.0**
DALY				*e*Sg		**Sg**	**00 01 13.5**	**+0.5**
AYDN	**Tasoluk**	**0.80**	**320**	*i* P		**Pg**	**00 01 20.2**	**0.0**
AYDN				*i* P		**Sb**	**00 01 33.0**	**0.0**
AYDN	**Tasoluk**	**0.80**	**320**	*i* P		**Pg**	**00 01 20.2**	**0.0**
AYDN				*i* S		**Sb**	**00 01 33.0**	**0.0**
GOLH	**Golhisar**	**0.85**	**77**	*i* P		**Pb**	**00 01 21.7**	**-0.8**
GOLH				*i* S		**Sn**	**00 01 36.6**	**-0.7**
GOLH	**Golhisar**	**0.85**	**77**	*i* P		**Pb**	**00 01 21.7**	**-0.8**
BDRM	**Kayabasi**	**0.87**	**271**	*i* P		**Pg**	**00 01 21.4**	**0.0**
BDRM				*i* S		**Sb**	**00 01 35.7**	**+0.8**
BDRM	**Kayabasi**	**0.87**	**271**	*i* P		**Pg**	**00 01 21.4**	**0.0**
BDRM				*i* S		**Sb**	**00 01 35.7**	**+0.8**
ARG	**Arkhangelos**	**0.89**	**201**	*e*PB		**Pg**	**00 01 21.1**	**-0.8**
ARG	**Arkhangelos**	**0.89**	**201**	*e*Pb		**Pg**	**00 01 21.1**	**-0.8**
BODT	**Bodrum**	**0.97**	**271**	*e*PG		**Pb**	**00 01 24.4**	**-0.1**
BODT				*e*SG		**Sb**	**00 01 38.6**	**+0.7**
BODT	**Bodrum**	**0.97**	**271**	*e*Pg		**Pb**	**00 01 24.4**	**-0.1**
BODT				*e*Sg		**Sb**	**00 01 38.6**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**331**	*e*PG		**Pg**	**00 01 24.9**	**+0.4**
AYDB				*e*SG		**Sb**	**00 01 40.8**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**331**	*e*Pg		**Pg**	**00 01 24.9**	**+0.4**
AYDB				*e*Sg		**Sb**	**00 01 40.8**	**+1.1**
ELL	**Elmali**	**1.15**	**105**	*e*PN		**Pg**	**00 01 26.6**	**-0.2**
ELL	**Elmali**	**1.15**	**105**	*e*Pn		**Pg**	**00 01 26.6**	**-0.2**
AKAS	**Kas**	**1.19**	**133**	*i* P		**Pn**	**00 01 28.4**	**-0.5**
AKAS				*i* S		**Sn**	**00 01 48.5**	**+2.7**
AKAS	**Kas**	**1.19**	**133**	*i* P		**Pn**	**00 01 28.4**	**-0.5**
GCAM	**G?zelcaml?**	**1.22**	**303**	*i* P		**Pg**	**00 01 27.8**	**-0.4**
GCAM				*i* S		**Sn**	**00 01 46.4**	**+0.1**
GCAM	**G?zelcaml?**	**1.22**	**303**	*i* P		**Pg**	**00 01 27.8**	**-0.4**
GCAM				*i* S		**Sn**	**00 01 46.4**	**+0.1**
MANT	**Manisa**	**1.44**	**1**	*i* P		**Pn**	**00 01 31.7**	**-0.6**
MANT				*i* S		**Sb**	**00 01 52.5**	**+0.9**
MANT	**Manisa**	**1.44**	**1**	*i* P		**Pn**	**00 01 31.7**	**-0.6**
MANT				*i* S		**Sb**	**00 01 52.5**	**+0.9**
KULA	**Kula-Manisa**	**1.47**	**4**	*e*PN		**Pn**	**00 01 31.5**	**-1.1**
KULA	**Kula-Manisa**	**1.47**	**4**	*e*Pn		**Pn**	**00 01 31.5**	**-1.1**
KHL	**Karahalli**	**1.50**	**32**	*e*PN		**Pn**	**00 01 32.1**	**-0.9**
KHL	**Karahalli**	**1.50**	**32**	*e*Pn		**Pn**	**00 01 32.1**	**-0.9**
SMG	**Samos**	**1.50**	**297**	*e*PB		**Pn**	**00 01 32.2**	**-0.8**
SMG	**Samos**	**1.50**	**297**	*e*Pb		**Pn**	**00 01 32.2**	**-0.8**
KHAL	**Karahalli**	**1.52**	**30**	*i* P		**Pn**	**00 01 32.7**	**-0.8**
KHAL				*i* S		**Sg**	**00 01 54.9**	**+1.1**
KHAL	**Karahalli**	**1.52**	**30**	*i* P		**Pn**	**00 01 32.7**	**-0.8**
KHAL				*i* S		**Sg**	**00 01 54.9**	**+1.1**
BLCB	**Balcova**	**1.78**	**319**	*e*PN		**Pn**	**00 01 35.5**	**-1.3**
BLCB	**Balcova**	**1.78**	**319**	*e*Pn		**Pn**	**00 01 35.5**	**-1.3**
KARP	**Karpathos**	**1.86**	**217**	*e*PN		**Pb**	**00 01 38.9**	**-0.8**
KARP	**Karpathos**	**1.86**	**217**	*e*Pn		**Pb**	**00 01 38.9**	**-0.8**
AKS	**Akhisar**	**1.91**	**343**	*e*PN		**Pn**	**00 01 37.2**	**-1.5**
AKS	**Akhisar**	**1.91**	**343**	*e*Pn		**Pn**	**00 01 37.2**	**-1.5**
SUTC	**Sutluce-Ispart**	**2.02**	**77**	*e*PN		**Pn**	**00 01 39.5**	**-0.8**
SUTC	**Sutluce-Ispart**	**2.02**	**77**	*e*Pn		**Pn**	**00 01 39.5**	**-0.8**
SHUT	**Suhut-Afyon**	**2.20**	**46**	*e*PN		**Pn**	**00 01 42.1**	**-0.6**
SHUT	**Suhut-Afyon**	**2.20**	**46**	*e*Pn		**Pn**	**00 01 42.1**	**-0.6**
NPS	**Neapolis**	**2.96**	**234**	*e*PN		**Pn**	**00 01 53.1**	**+0.1**
NPS	**Neapolis**	**2.96**	**234**	*e*Pn		**Pn**	**00 01 53.1**	**+0.1**

*IDC **18** 00:12:32.9±5.8, 9.06S×117.47E, h71km±56km, mb3.6/7, mb1 3.6/9, mb1mx3.5/25, mbtmp3.5/9, ML3.4/2, Error ellipse: s-maj=87.2km s-min=25.5km az=55.0*
*ISCJB **18** 00:12:36.2±0.4, 9.04S±0.05×117.67E±0.03, h129km, mb3.7/7, Error ellipse: s-maj=7.7km s-min=3.9km az=8.2*
*AUST **18** 00:12:37.0, 9.48S×117.44E, h35km*
*DJA **18** 00:12:36.4±0.5, 9°S±5'×11°8E±', h121km±7km, M4.3/9, mb4.1/4, MLv4.3/9*

ISC 18 00:12:37.8±0.7, 9.10S±0.07×117.69E±0.04, h129km, n30, σ1.975/33, mb3.8/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MTNI	**Mataram**	**1.57**	**287**	P		**Pn**	**00 13 06.8**	**+0.2**
MTNI				S		**Sn**	**00 13 28.2**	**-0.4**
LBFI	**Labuhan Bajo,**	**2.26**	**74**	P		**Pn**	**00 13 14.8**	**-0.2**
LBFI				S		**Sn**	**00 13 40.4**	**-3.1**
DNP	**Denpasar**	**2.48**	**280**	S		**Sn**	**00 13 48.1**	**-0.3**
IGBI	**Denpasar**	**2.53**	**276**	P		**Pn**	**00 13 17.0**	**-1.3**
IGBI				S		**Sn**	**00 13 47.9**	**-1.5**
WSI	**Waingapu**	**2.64**	**103**	S		**Sn**	**00 13 51.0**	**-0.9**
BLJI	**Banyuglugur**	**4.27**	**288**	P		**Pn**	**00 13 38.7**	**-2.4**
GMJI	**Gumukmas**	**4.28**	**281**	P		**Pn**	**00 13 39.6**	**-1.6**
GMJI				S		**Sn**	**00 14 26.3**	**-4.1**
BKSI	**Bulukumba**	**4.46**	**33**	P		**Pn**	**00 13 44.5**	**+0.7**
BKSI				S		**Sn**	**00 14 32.8**	**-2.2**
PWJI	**Pagerwojo**	**5.92**	**280**	P		**Pn**	**00 14 01.1**	**-2.1**
	14nm,1.2s,0.2nm							
PCJI	**Pacitan**	**6.50**	**277**	P		**Pn**	**00 14 08.3**	**-2.8**
	28nm,1.2s,0.2nm							
SOEI	**Soe**	**6.53**	**96**	P		**Pn**	**00 14 11.8**	**+0.2**
	baz=6.7,SNR=3.6							
UGM	**Wanagama**	**7.18**	**279**	P		**Pn**	**00 14 19.8**	**-0.5**
	60nm,1.5s,0.3nm							
UGM	**Wanagama**	**7.18**	**279**	P		**Pn**	**00 14 21.2**	**+0.9**
	baz=7.0,SNR=4.7							
CMJI	**Cimerak**	**9.23**	**277**	P		Pn	00 14 44.1	-3.8
FITZ	**Fitzroy Crossi**	**11.82**	**140**	P		**Pn**	**00 15 20.9**	**-1.5**
	0.4nm,0.3s,baz=308,slow=19,SNR=20							
FITZ				S		Sn	00 17 23.8	-8.9
	1.0nm,0.3s,baz=16,slow=23,SNR=9.7							
FITZ	**Fitzroy Crossi**	**11.82**	**140**	P		**Pn**	**00 15 21.6**	**-0.8**
	baz=12,SNR=4.7							
MTN	**Manton Dam**	**13.71**	**107**	P		**Pn**	**00 15 46.1**	**-0.9**
	baz=14,SNR=7.3							
GIRL	**Giralia**	**13.87**	**193**	P		**Pn**	**00 15 48.8**	**-0.1**
	baz=14,SNR=3.3							
MEEK	**Meekatharra**	**17.46**	**177**	P		Pn	00 16 38.5	+5.0
	baz=17,SNR=7.4							
WRKA	**Warakurna**	**18.80**	**149**	P		**Pn**	**00 16 52.3**	**+3.0**
	baz=19,SNR=3.8							
WRA	**Warramunga Arr**	**19.37**	**126**	P		**Pn**	**00 16 54.5**	**-1.5**
	0.1nm,0.3s,baz=302,slow=12,SNR=7.2							
WRA				S		**S**	**00 20 23.3**	**-2.7**
	0.1nm,0.3s,baz=296,slow=26,SNR=4.5							
ASAR	**Alice Springs**	**21.22**	**135**	P		**P**	**00 17 15.6**	**+2.0**
	1.4nm,0.5s,baz=311,slow=8.4,SNR=24							
SONM	**Songino Array**	**57.56**	**351**	P		**P**	**00 22 15.2**	**+1.2**
	1.2nm,0.5s,baz=169,slow=8.4,SNR=16							
MKAR	**Makanchi Array**	**63.97**	**334**	P		**P**	**00 22 57.9**	**+0.6**
	1.0nm,0.6s,baz=154,slow=7.0,SNR=16							
AAK	**Ala-Archa**	**64.83**	**326**	P		**P**	**00 23 03.5**	**+0.4**
	0.4nm,0.3s,baz=139,slow=5.5,SNR=5.3							
KURBB	**Kurchatov Arra**	**68.49**	**334**	P		**P**	**00 23 26.4**	**+0.3**
	0.6nm,0.8s,baz=150,slow=5.1,SNR=7.1							
ZALV	**Zalesovo Beam**	**68.68**	**340**	P		**P**	**00 23 27.0**	**-0.1**
	0.5nm,0.3s,baz=141,slow=6.3,SNR=5.3							
BVAR	**Borovoye Array**	**73.78**	**332**	P		**P**	**00 23 58.9**	**+1.1**
	0.7nm,0.6s,baz=126,slow=6.2,SNR=5.8							
YKA	**Yellowknife Ar**	**114.81**	**24**	PKP		PKPdf	00 31 04.7	+1.9
	0.1nm,0.4s,baz=302,slow=2.3,SNR=6.2							
TORD	**Torodi Ar. Bea**	**117.20**	**280**	PKP		**PKPdf**	**00 31 10.7**	**+1.9**
	0.2nm,0.5s,baz=94,slow=1.4,SNR=3.0							

MAN 18 00:25:17, 11.00N×125.53E, h33km, mb4.3, ML3.2, MS3.0, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.56**	**287**	*ie*P		Pn	00 25 29.1	+0.4
PLP				*i* S		Sn	00 25 37.2	+0.3
BESP	**Borongan**	**0.60**	**352**	*e*P		Pb	00 25 30.0	+0.8
BESP				*e*S		Sn	00 25 40.0	+2.2
OCLP	**Ormoc**	**0.90**	**273**	*e*P		Pb	00 25 35.6	+1.3
MSLP	**Maasin**	**1.09**	**217**	*e*P		Pb	00 25 38.5	+1.2
SCPH	**Surigao**	**1.22**	**182**	*ie*P		Pn	00 25 38.2	+0.5
SCPH				*e*S		Sn	00 25 53.9	+0.8
CNP	**Catarman**	**1.72**	**331**	*e*P		Pb	00 25 46.5	-1.5
PVCP	**Virac**	**2.91**	**333**	*e*P		Pb	00 26 07.3	-0.9
GUIM	**Jordan**	**2.91**	**263**	*e*P		Pn	00 26 01.8	+0.8

JMA 18 00:26:27.6±0.1, 34.97N×139.15E, h1km±3km, M0.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AJI	**Ajiro2**	**0.09**	**327**	P		Pg	00 26 29.4	+0.1
AJI				*e*S		Sg	00 26 30.9	+0.4
JOD2	**Odawara 2**	**0.30**	**350**	P		Pg	00 26 33.3	-0.1
JOD2				S		Sg	00 26 37.8	+0.5

*NIED **18** 01:13:00, 39.30N×141.00E, h107km, Mw3.8 Best double couple: M0w4.95000×10^14 NP1:φ1=138.00000°, δ1=77.00000°, λ1=-80.00000°. NP2:φ2=281.00000°, δ2=16.00000°, λ2=-126.00000°.*
*IDC **18** 01:13:49.9±3.6, 39.28N×141.12E, h74km±36km, mb3.2/8, mb1 3.5/10, mb1mx3.4/25, mbtmp3.2/10, ML3.4/2, Error ellipse: s-maj=25.7km s-min=25.2km az=44.0*
*ISCJB **18** 01:13:52.7±0.5, 39.30N±0.04×141.03E±0.08, h136km±3km, mb3.3/8, Error ellipse: s-maj=10.9km s-min=5.6km az=21.5*
*JMA **18** 01:13:54.1±0.1, 39.28N×141.01E, h132km±1km, M3.5*

ISC 18 01:13:53.7±0.7, 39.29N±0.05×141.04E±0.07, h135km±5km, n26, σ0.957/35, mb3.4/8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOM	**Ohasama**	**0.27**	**48**	P		**Pn**	**01 14 12.4**	**+0.2**
JOM				*e*S		**Sn**	**01 14 26.4**	**0.0**
JRG	**Rokugo**	**0.33**	**288**	P		**Pn**	**01 14 12.7**	**+0.3**
JRG				*e*S		**Sn**	**01 14 26.8**	**+0.1**
JMK	**Ichinoseki**	**0.37**	**157**	P		**Pn**	**01 14 12.5**	**-0.1**
JMK				S		**Sn**	**01 14 26.5**	**-0.4**
JYK	**Kaneyama**	**0.65**	**235**	P		**Pn**	**01 14 14.2**	**0.0**
JYK				S		**Sn**	**01 14 29.9**	**+0.3**
JIO	**Ouri**	**0.87**	**164**	P		**Pn**	**01 14 15.8**	**-0.1**
JIO				*e*S		**Sn**	**01 14 31.8**	**-0.9**
JAH	**Hinai**	**0.95**	**341**	P		**Pn**	**01 14 16.7**	**+0.2**
JAH				S		**Sn**	**01 14 33.9**	**0.0**
JOU	**Okura**	**0.97**	**198**	P		**Pn**	**01 14 17.0**	**+0.2**
JOU				S		**Sn**	**01 14 34.4**	**+0.1**
JANG	**Nango**	**1.14**	**19**	P		**Pn**	**01 14 18.4**	**+0.1**
JANG				*e*S		**Sn**	**01 14 36.3**	**-0.8**
JAW	**Awa shima**	**1.63**	**240**	P		**Pn**	**01 14 23.4**	**-0.1**
JAW				S		**Sn**	**01 14 45.2**	**-1.0**
JFT	**Otama**	**1.85**	**197**	P		**Pn**	**01 14 26.4**	**+0.2**
JFT				S		**Sn**	**01 14 51.1**	**+0.1**
JNS	**Sasagawa**	**2.00**	**223**	P		**Pn**	**01 14 27.8**	**0.0**
JNS				*e*S		**Sn**	**01 14 52.8**	**-1.2**
JOT	**Ohata**	**2.09**	**0**	P		**Pn**	**01 14 28.8**	**-0.1**
JOT				*e*S		**Sn**	**01 14 55.5**	**-0.4**
MJAR	**Matsushiro Arr**	**3.54**	**220**	P		**Pn**	**01 14 47.6**	**+0.1**
	3.4nm,0.3s,baz=31,slow=12,SNR=30							
KSRS	**Korea Array**	**10.46**	**264**	P		**Pn**	**01 16 20.7**	**+0.8**
	0.3nm,0.3s,baz=76,slow=14,SNR=4.7							
SONM	**Songino Array**	**26.33**	**300**	P		**P**	**01 19 17.8**	**+0.9**
	0.5nm,1.0s,baz=101,slow=7.5,SNR=2.3							
H11N2	**WAKE ISLAND Hy**	**29.60**	**124**	T		T	01 50 37.8	
	baz=320,slow=76,SNR=31							
H11N1	**WAKE ISLAND Hy**	**29.61**	**124**	T		T	01 50 44.5	
	baz=320,slow=76,SNR=23							
H11N3	**WAKE ISLAND Hy**	**29.62**	**124**	T		T	01 50 36.1	
	baz=320,slow=76,SNR=18							
ZALV	**Zalesovo Beam**	**40.20**	**310**	P		**P**	**

mb1 4.0/4, mb1mx3.6/23, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=227.7km s-min=117.8km az=141.0
*ISCJB **18** 02:29:34.5±0.6, 0.°19S±0.°07×122.°73E±0.°09, h157km, mb3.7/3, Error ellipse: s-maj=12.3km s-min=9.5km az=163.9*
*DJA **18** 02:29:38.5±1.1, 0.°S±5.°×12.°3E±.°, h122km±8km, M4.1/5, MLv4.1/5*

ISC 18 02:29:35.0±1.0, 0.°14S±0.°07×122.°75E±0.°10, h157km, n10, σ1§37/13, mb3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.81**	**19**	P	**Pn**	**02 29 59.7**	**+0.7**
GTOI				S	**Sn**	**02 30 18.1**	**+0.7**
LUWI	**Luwuk**	**0.90**	**179**	P	**Pn**	**02 29 59.9**	**+0.3**
LUWI				S	**Sn**	**02 30 17.4**	**-1.1**
MRSI	**Marisa**	**1.01**	**307**	P	**Pn**	**02 30 00.5**	**0.0**
MRSI				S	**Sn**	**02 30 19.0**	**-1.1**
APSI	**Ampana**	**1.34**	**235**	P	**Pn**	**02 30 04.6**	**+1.1**
APSI				S	**Sn**	**02 30 23.2**	**-2.2**
KMSI	**Cibinong**	**1.42**	**60**	P	Pn	02 30 11.6	+7.4
TTSI	**Tana Toraja**	**4.11**	**225**	P	**Pn**	**02 30 39.1**	**+2.2**
FITZ	**Fitzroy Crossi**	**18.08**	**171**	P	**Pn**	**02 33 35.8**	**-0.6**
	0.2nm,0.3s,baz=338,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**22.72**	**151**	P	**P**	**02 34 22.5**	**-1.2**
	3.2nm,1.1s,baz=336,slow=12,SNR=13						
ASAR	**Alice Springs**	**25.77**	**156**	P	**P**	**02 34 53.0**	**+1.6**
	0.4nm,0.5s,baz=342,slow=15,SNR=4.9						
STKA	**Stephens Creek**	**36.25**	**152**	P	**P**	**02 36 22.9**	**-0.2**
	3.5nm,1.0s,baz=312,slow=12,SNR=3.1						

*CASC **18** 02:43:10.2±1.7, 13.°48N×91.°65W, h15km, MD3.9, ML3.7*
*IDC **18** 02:43:17.4±3.1, 13.°83N×91.°26W, h68km±26km, mb3.5/7, mb1 3.8/10, mb1mx3.6/27, mbtmp3.6/10, MS2.8/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=36.4km s-min=18.0km az=58.0*

ISC 18 02:43:10.8±2.2, 13.°63N±0.°07×91.°63W±0.°07, h15km±12km, n27, σ1§24/37, mb3.9/7, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.69**	**359**	*i*P	**Pn**	**02 43 26.9**	**+0.8**
FUG	**Fuego 3**	**1.12**	**43**	*e*P	**Pn**	**02 43 32.9**	**+0.8**
FUG				*e*S	**Sn**	**02 43 49.2**	**+1.9**
NBG	**Las Nubes**	**1.57**	**52**	*e*P	**Pg**	**02 43 40.5**	**-0.5**
NBG				*e*S	**Sg**	**02 44 02.2**	**+0.7**
APG	**El Apazote**	**1.77**	**39**	P	**Pn**	**02 43 39.5**	**-1.7**
	41nm,0.3s,baz=225,slow=16,SNR=247						
APG				S	**Sn**	**02 44 01.8**	**-1.9**
	21nm,0.3s,baz=179,slow=23,SNR=7.0						
RTR	**El Retiro**	**1.95**	**82**	*e*P	**Pn**	**02 43 43.1**	**-0.4**
RBDL	**Robledal**	**1.95**	**75**	*e*P	**Pn**	**02 43 43.3**	**-0.2**
RBDL				*e*S	**Sn**	**02 44 07.9**	**+0.1**
SBLS	**San Blas**	**1.96**	**84**	*e*P	**Pn**	**02 43 42.6**	**-1.1**
SNJE	**San Jose**	**1.98**	**83**	*e*P	**Pn**	**02 43 43.2**	**-0.8**
BOQS	**Boqueron**	**2.29**	**87**	*e*P	**Pn**	**02 43 47.7**	**-0.5**
SNET	**Serv Nac Est T**	**2.33**	**88**	AML	AML	02 44 24.6	
	comp=Z,572nm,0.8s						
MRL	**Marmol**	**2.36**	**53**	*e*PD		02 43 50.0	
MRL				*e*S	**Sn**	**02 44 21.1**	**+3.0**
LFU	**La Fuente**	**2.45**	**87**	*e*P	**Pn**	**02 43 50.3**	**0.0**
LFU				*e*S	**Sn**	**02 44 21.1**	**+1.0**
LFRS	**El Faro**	**2.50**	**90**	*e*P	**Pn**	**02 43 50.5**	**-0.6**
LFRS				*e*S	**Sn**	**02 44 21.8**	**+0.5**
LBRS	**Las Brisas**	**2.52**	**87**	*e*P	**Pn**	**02 43 51.2**	**-0.1**
LBRS				*e*S	**Sn**	**02 44 23.2**	**+1.5**
SNVI	**San Vicente**	**2.71**	**90**	*e*P	**Pn**	**02 43 53.8**	**-0.2**
SNVI				*e*S	**Sn**	**02 44 28.4**	**+1.7**
CNCH	**Conchagua**	**3.71**	**95**	*e*P	**Pn**	**02 44 07.5**	**-0.3**
CNCH				*e*S	**Sn**	**02 44 53.0**	**+1.8**
TEIG	**Tepich**	**7.30**	**26**	P	**Pn**	**02 44 57.6**	**+0.6**
	comp=Z,6.0nm,0.3s,baz=219,slow=1.7,SNR=37						
TEIG				S	**Sn**	**02 46 17.6**	**-2.1**
	baz=60,slow=20,SNR=2.2						
JTS	**JuntasAbangare**	**7.33**	**116**	P	**Pn**	**02 44 58.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=317,slow=19,SNR=3.7						
JTS				S	**Sn**	**02 46 20.5**	**+0.2**
	baz=342,slow=20,SNR=1.8						
JTS				LR	LR	02 47 52.8	
	comp=Z,80nm,19.2s,baz=301,slow=39						
TXAR	**Lajitas Array**	**19.20**	**326**	P	**Pn**	**02 47 38.0**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=19						
TKL	**Tuckaleechee C**	**23.05**	**17**	P	**P**	**02 48 14.5**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=214,slow=9.9,SNR=6.3						
ANMO	**Albuquerque**	**25.10**	**330**	P	**P**	**02 48 36.5**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=142,slow=9.8,SNR=6.9						
PDAR	**Pinedale Array**	**32.91**	**335**	P	**P**	**02 49 45.3**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=134,slow=9.9,SNR=4.3						
YKA	**Yellowknife Ar**	**51.47**	**347**	P	**P**	**02 52 14.2**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=152,slow=7.9,SNR=24						
YKA				PcP	**PcP**	**02 53 29.4**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=152,slow=3.9,SNR=4.5						
FRB	**Frobisher Bay**	**52.59**	**13**	P	P	02 52 19.9	-3.8
	comp=Z,2.0nm,0.8s,baz=226,slow=11,SNR=3.8						
INK	**Inuvik**	**60.90**	**343**	P	**P**	**02 53 21.7**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=130,slow=7.6,SNR=4.3						
ILAR	**Eielson Array**	**63.32**	**337**	P	**P**	**02 53 38.8**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=173,slow=4.6,SNR=18						
CMAR	**Chiang Mai Arr**	**146.46**	**342**	PKPbc	**PKPdf**	**03 02 50.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=340,slow=3.5,SNR=5.1						

MEX 18 02:45:07.7±0.9, 17.°21N×100.°42W, h32km±22km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.61**	**123**	*i*P	Pb	02 45 17.4	-2.6
ACP2				*i*S	Sb	02 45 26.3	-2.2
ARIG	**Puente Sto Nin**	**1.07**	**4**	*i*P	Pn	02 45 24.2	-2.3
ARIG				*i*S	Sn	02 45 38.2	-2.1
ZIIG	**Zihuatanejo**	**1.07**	**292**	*e*P	Pn	02 45 25.0	-1.4
ZIIG				*i*S	Sn	02 45 37.2	-3.0
PLIG	**Platanillo**	**1.47**	**36**	*e*P	Pn	02 45 29.9	-2.2
PLIG				*i*S	Sn	02 45 48.4	-1.9
TLIG	**Tlapa**	**1.81**	**78**	*e*P	Pn	02 45 35.6	-1.2
TLIG				*i*S	Sn	02 45 56.1	-2.6
YAIG	**Yautepec**	**2.09**	**38**	*i*P	Pn	02 45 38.1	-2.7
YAIG				*i*S	Sn	02 46 03.5	-2.3
PNIG	**Pinotepa**	**2.34**	**110**	*i*P	Pn	02 45 42.7	-1.3
PNIG				*i*S	Sn	02 46 09.0	-2.7
PPM	**Popocatepetl**	**2.52**	**42**	*i*P	Pn	02 45 44.3	-2.7
PPM				*i*S	Sn	02 46 13.6	-3.5
MOIG	**Morelia**	**2.56**	**344**	*i*P	Pn	02 45 44.8	-2.6

IDC 18 03:14:16.4±15.0, 56.°01S×25.°82W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.4/16, mbtmp3.6/1, Error ellipse: s-maj=978.5km s-min=69.2km az=141.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**72.65**	**28**	P	P	03 25 45.6	0.0
	0.4nm,0.5s,baz=201,slow=6.8,SNR=8.2						
YKA	**Yellowknife Ar**	**136.65**	**317**	PKP	PKPdf	03 33 38.3	-0.7
	0.1nm,0.6s,baz=129,slow=2.2,SNR=2.9						
ILAR	**Eielson Array**	**150.66**	**311**	PKPbc	PKPbc	03 34 08.6	-0.2
	0.2nm,0.5s,baz=130,slow=3.6,SNR=5.8						

*IDC **18** 03:24:14.6±4.6, 4.°31S×152.°63E, h132km±42km, mb3.6/9, mb1 3.7/10, mb1mx3.6/21, mbtmp3.6/10, Error ellipse: s-maj=26.7km s-min=23.9km az=5.0*
*ISCJB **18** 03:24:15.1±0.7, 4.°3S±0.°1×152.°5E±0.°1, h150km, mb3.7/9, Error ellipse: s-maj=21.0km s-min=10.1km az=40.0*

ISC 18 03:24:16.2±0.9, 4.°4S±0.°1×152.°5E±0.°2, h150km, n13, σ1§69/13, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.26**	**227**	P	**Pn**	**03 26 00.9**	**+1.1**
	2.1nm,0.3s,baz=59,slow=5.9,SNR=3.3						
PMG				S	**Sn**	**03 27 20.5**	**-0.6**
	0.7nm,0.3s,baz=27,slow=17,SNR=3.4						
DZM	**Mont Dzumac**	**22.13**	**144**	P	**P**	**03 29 00.0**	**0.0**
	8.8nm,0.5s,baz=319,slow=22,SNR=15						
WRA	**Warramunga Arr**	**23.48**	**227**	P	**P**	**03 29 14.4**	**+1.8**
	0.9nm,0.4s,baz=53,slow=9.7,SNR=25						
WRA				pP	**pP**	**03 29 37.4**	**-4.3**
	3.2nm,0.5s,baz=53,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**26.24**	**221**	P	**P**	**03 29 38.7**	**+1.2**
	0.1nm,0.4s,baz=55,slow=8.2,SNR=3.0						
ASAR				pP	pP	03 30 02.8	-6.0
	3.2nm,1.0s,baz=55,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**29.59**	**241**	P	**P**	**03 30 08.0**	**+0.7**
	2.4nm,0.9s,baz=54,slow=4.0,SNR=10						
SONM	**Songino Array**	**65.86**	**328**	P	**P**	**03 34 46.5**	**+0.7**
	0.2nm,0.5s,baz=134,slow=8.4,SNR=2.3						
MKAR	**Makanchi Array**	**79.86**	**319**	P	**P**	**03 36 08.3**	**+0.1**
	0.4nm,0.8s,baz=96,slow=6.5,SNR=5.0						
YKA	**Yellowknife Ar**	**95.23**	**28**	P	**P**	**03 37 21.5**	**-1.0**
	0.2nm,0.6s,baz=268,slow=4.9,SNR=8.7						
AKTO	**Aktyubinsk**	**96.26**	**320**	P	**P**	**03 37 26.6**	**-0.9**
	0.7nm,0.5s,baz=72,slow=4.5,SNR=4.3						
PDAR	**Pinedale Array**	**98.81**	**48**	P	Pdif	03 37 38.7	-0.9
	0.5nm,0.9s,baz=270,slow=0.5,SNR=2.8						
BRTR	**Keskin Array B**	**114.84**	**312**	PKP	PKPdf	03 42 40.8	+1.2
	0.4nm,0.7s,baz=46,slow=6.2,SNR=3.1						
GERES	**GERESS Array B**	**123.59**	**329**	PKP	**PKPdf**	**03 42 57.1**	**+1.0**
	0.3nm,0.6s,baz=96,slow=2.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.92**	**289**	PKPbc	**PKPbc**	**03 43 50.5**	**+0.7**
	1.4nm,0.3s,baz=72,slow=2.1,SNR=78						

*MDD **18** 03:29:29.9±1.7, 36.°55N×9.°92W, h45km, mb4.1/5, Error ellipse: s-maj=15.2km s-min=10.8km az=35.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
*IGIL **18** 03:29:30.6, 36.°56N×9.°92W, h30km, ML2.1*
*CSEM **18** 03:29:31.2±0.4, 36.°63N×9.°72W, h30km, ML2.9/14, Error ellipse: s-maj=6.8km s-min=4.9km az=43.0*
*INMG **18** 03:29:31.1±1.2, 36.°59N×9.°78W, h17km±4km, ML2.0, Error ellipse: s-maj=5.3km s-min=4.1km az=56.0*

ISC 18 03:29:26.4±2.3, 36.°53N±0.°08×9.°84W±0.°08, h10km, n83, σ1§79/142, 7C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.01**	**53**	⇑P	**Pn**	**03 29 47.8**	**+1.2**
	9.6nm,0.1s,SNR=18						
PFVI				S	**Sb**	**03 30 00.3**	**+0.9**
	50nm,0.2s,SNR=14						
PFVI	**Vila Bisbo**	**1.01**	**53**	⇑*i*P	**Pn**	**03 29 47.9**	**+1.2**
PFVI				*e*S	**Sb**	**03 30 00.6**	**+1.2**
PFVI				A	A	03 30 01.1	
	23nm,0.2s						
PFVI	**Vila Bisbo**	**1.01**	**53**	⇑*i*P	**Pn**	**03 29 47.9**	**+1.2**
PFVI				*e*S	**Sb**	**03 30 00.6**	**+1.2**
	23nm,0.2s						
MORF	**Marmelete**	**1.23**	**50**	P	**Pb**	**03 29 50.5**	**+0.7**
	SNR=7.9						
MORF				S	**Sb**	**03 30 05.3**	**-0.4**
	SNR=7.9						
MORF	**Marmelete**	**1.23**	**50**	*e*P	**Pg**	**03 29 51.2**	**+1.2**
MORF				*e*S	**Sb**	**03 30 05.8**	**+0.1**
MORF				A	A	03 30 06.5	
	29nm,0.1s						
MORF	**Marmelete**	**1.23**	**50**	*e*P	**Pg**	**03 29 51.2**	**+1.2**
MORF				*e*S	**Sb**	**03 30 05.8**	**+0.1**
	29nm,0.1s						
PTEO	**Sao Teotonio**	**1.35**	**41**	*e*P	**Pb**	**03 29 52.8**	**+1.0**
PTEO				*e*S	**Sb**	**03 30 08.4**	**-0.8**
PTEO				A	A	03 30 09.4	
	12nm,0.3s						
PTEO	**Sao Teotonio**	**1.35**	**41**	*e*P	**Pb**	**03 29 52.8**	**+1.0**
PTEO				*e*S	**Sb**	**03 30 08.4**	**-0.8**
	12nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.69**	**64**	⇑*i*P	**Pn**	**03 29 57.4**	**+1.4**
PBDV				*e*S	**Sn**	**03 30 16.7**	**-1.0**
PBDV				A	A	03 30 20.5	
	6.0nm,0.8s						
PBDV	**Barranco-do-Ve**	**1.69**	**64**	⇑*i*P	**Pn**	**03 29 57.4**	**+1.4**
PBDV				*e*S	**Sn**	**03 30 16.7**	**-1.0**
	6.0nm,0.8s						
PCVE	**Castro Verde**	**1.81**	**52**	*e*Pn	**Pn**	**03 29 59.2**	**+1.5**
PCVE				*e*Sn	**Sn**	**03 30 20.5**	**-0.2**
PCVE				A	A	03 30 22.3	
	8.7nm,0.6s						
PCVE	**Castro Verde**	**1.81**	**52**	*e*Pn	**Pn**	**03 29 59.2**	**+1.5**
PCVE				*e*Sn	**Sn**	**03 30 20.5**	**-0.2**
	8.7nm,0.6s						
MESJ	**Messejana**	**1.84**	**44**	*e*P	**Pn**	**03 29 59.2**	**+1.2**
MESJ				*e*S	**Sn**	**03 30 20.1**	**-1.3**
MESJ				AML	AML	03 30 21.8	
	comp=N,8.0nm,0.3s						
MESJ	**Messejana**	**1.84**	**44**	P	**Pn**	**03 29 59.6**	**+1.5**
	SNR=7.9						
MESJ				S	**Sn**	**03 30 19.7**	**-1.7**
	SNR=7.9						
MESJ	**Messejana**	**1.84**	**44**	P	**Pn**	**03 29 59.6**	**+1.5**
	SNR=7.9						
MESJ				S	**Sn**	**03 30 19.7**	**-1.7**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**1.89**	**33**	*e*Pn	**Pn**	**03 29 59.8**	**+1.0**
PNCL				*e*Sn	**Sn**	**03 30 21.5**	**-1.2**
PNCL				A	A	03 30 22.3	
	comp=N,8.7nm,0.1s						
PNCL	**Nicolau / Gran**	**1.89**	**33**	*e*Pn	**Pn**	**03 29 59.8**	**+1.0**
PNCL				*e*Sn	**Sn**	**03 30 21.5**	**-1.2**
	comp=N,8.7nm,0.1s						
PVAQ	**Vaqueiros**	**1.91**	**62**	⇑*e*Pn	**Pn**	**03 30 00.3**	**+1.3**
PVAQ				*e*Sn	**Sn**	**03 30 22.1**	**-1.0**
PVAQ				A	A	03 30 23.6	
	comp=N,6.1nm,0.2s						
PVAQ	**Vaqueiros**	**1.91**	**62**	⇑*e*Pn	**Pn**	**03 30 00.3**	**+1.3**
PVAQ				*e*Sn	**Sn**	**03 30 22.1**	**-1.0**
	comp=N,6.1nm,0.2s						
EGRO	**El Granado**	**2.13**	**61**	P	**Pn**	**03 30 03.4**	**+1.3**
	comp=N,1.5nm,0.1s,SNR=15						
EGRO				S	**Sn**	**03 30 27.4**	**-1.3**
	comp=N,5.9nm,0.1s,SNR=11						
EGRO	**El Granado**	**2.13**	**61**	P	**Pn**	**03 30 03.4**	**+1.3**
	comp=N,1.5nm,0.1s,SNR=15						
EGRO				S	**Sn**	**03 30 27.4**	**-1.3**
	comp=N,5.9nm,0.1s,SNR=11						
PBEJ	**Beja**	**2.17**	**46**	*e*Pn	**Pn**	**03 30 04.0**	**+1.4**
PBEJ				*e*Sn	**Sn**	**03 30 28.5**	**-1.1**
PBEJ				A	A	03 30 30.1	
	comp=N,5.5nm,0.2s						
PBEJ	**Beja**	**2.17**	**46**	*e*Pn	**Pn**	**03 30 04.0**	**+1.4**
PBEJ				*e*Sn	**Sn**	**03 30 28.5**	**-1.1**
	comp=N,5.5nm,0.2s						
PACT	**Alcochete**	**2.37**	**19**	*e*Sn	**Sn**	**03 30 34.4**	**-0.2**
PACT				A	A	03 30 43.9	
	comp=N,20nm,0.7s						
PACT	**Alcochete**	**2.37**	**19**	*e*Sn	**Sn**	**03 30 34.4**	**-0.2**
	comp=N,20nm,0.7s						
PMAFR	**Mafra**	**2.46**	**10**	P	**Pn**	**03 30 07.0**	**+0.4**
	comp=N,2.1nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**03 30 34.3**	**-2.5**
	comp=N,6.7nm,0.2s,SNR=8.9						
PMAFR	**Mafra**	**2.46**	**10**	*e*Pn	**Pn**	**03 30 07.4**	**+0.7**
PMAFR				*e*Sn	**Sn**	**03 30 35.5**	**-1.3**
PMAFR				A	A	03 30 41.6	
	comp=N,12nm,0.8s						
PMAFR	**Mafra**	**2.46**	**10**	P	**Pn**	**03 30 07.0**	**+0.4**
	comp=N,2.1nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.46**	**10**	*e*Pn	**Pn**	**03 30 07.4**	**+0.7**
PMAFR				S	**Sn**	**03 30 34.3**	**-2.5**
	comp=N,6.7nm,0.2s,SNR=8.9						
PMAFR				*e*Sn	**Sn**	**03 30 35.5**	**-1.3**
	comp=N,12nm,0.8s						
EVO	**Evora**	**2.47**	**35**	*e*Pn	**Pn**	**03 30 07.5**	**+0.7**
EVO				*e*Sn	**Sn**	**03 30 35.1**	**-1.9**
EVO				A	A	03 30 35.8	
	comp=N,13nm,0.1s						
EVO	**Evora**	**2.47**	**35**	*e*Pn	**Pn**	**03 30 07.5**	**+0.7**
EVO				*e*Sn	**Sn**	**03 30 35.1**	**-1.9**
	comp=N,13nm,0.1s						
PBAR	**Barrancos**	**2.77**	**53**	*e*Pn	**Pn**	**03 30 12.0**	**+1.1**
PBAR				*e*Sn	**Sn**	**03 30 43.3**	**-1.1**
PBAR				A	A	03 30 45.6	
	comp=N,3.3nm,0.2s						
PBAR	**Barrancos**	**2.77**	**53**	*e*Pn	**Pn**	**03 30 12.0**	**+1.1**
PBAR				*e*Sn	**Sn**	**03 30 43.3**	**-1.1**
	comp=N,3.3nm,0.2s						
EMIN	**Mina Concepcio**	**2.81**	**63**	P	**Pn**	**03 30 12.2**	**+0.7**
	comp=N,0.7nm,0.1s,SNR=10						
EMIN				S	**Sn**	**03 30 43.8**	**-1.7**
	comp=N,1.1nm,0.1s,SNR=9.7						
EMIN	**Mina Concepcio**	**2.81**	**63**	P	**Pn**	**03 30 12.2**	**+0.7**
	comp=N,0.7nm,0.1s,SNR=10						
EMIN				S	**Sn**	**03 30 43.8**	**-1.7**
	comp=N,1.1nm,0.1s,SNR=9.7						
PMTG	**Montargil**	**2.84**	**26**	*e*Pn	**Pn**	**03 30 12.8**	**+1.0**
PMTG				*e*Sn	**Sn**	**03 30 44.2**	**-1.9**
PMTG				A	A	03 30 45.8	
	comp=N,3.9nm,0.2s						
PMTG	**Montargil**	**2.84**	**26**	*e*Pn	**Pn**	**03 30 12.8**	**+1.0**
PMTG				*e*Sn	**Sn**	**03 30 44.2**	**-1.9**
	comp=N,3.9nm,0.2s						
PESTR	**Estremoz**	**2.94**	**37**	*e*Sn	**Sn**	**03 30 46.6**	**-1.9**
PESTR				A	A	03 30 48.2	
	comp=N,2.4nm,0.5s						
PESTR	**Estremoz**	**2.94**	**37**	*e*Sn	**Sn**	**03 30 46.6**	**-1.9**
	comp=N,2.4nm,0.5s						
EBAD	**Badajoz**	**3.16**	**44**	P	**Pn**	**03 30 16.7**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=7.2						
EBAD				S	**Sn**	**03 30 51.6**	**-2.3**
	comp=N,2.3nm,0.0s,SNR=8.3						
EBAD	**Badajoz**	**3.16**	**44**	P	**Pn**	**03 30 16.7**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=7.2						
EBAD				S	**Sn**	**03 30 51.7**	**-2.3**
	comp=N,2.3nm,0.0s,SNR=8.3						
ESPR	**Espera**	**3.22**	**83**	P	**Pn**	**03 30 18.3**	**+1.3**
	comp=N,2.8nm,0.1s,SNR=5.3						
ESPR				S	**Sn**	**03 30 53.5**	**-1.9**
	comp=N,23nm,0.3s						
ESPR	**Espera**	**3.22**	**83**	P	**Pn**	**03 30 18.3**	**+1.3**
	comp=N,2.8nm,0.1s,SNR=5.3						
ESPR				S	**Sn**	**03 30 53.5**	**-1.9**
	comp=N,23nm,0.3s						
PTOM	**Tomar**	**3.28**	**20**	*e*Pn	**Pn**	**03 30 18.7**	**+0.8**
PTOM				*e*Sn	**Sn**	**03 30 55.1**	**-1.9**
PTOM				A	A	03 30 56.0	
	comp=N,4.0nm,0.6s						
PTOM	**Tomar**	**3.28**	**20**	*e*Pn	**Pn**	**03 30 18.7**	**+0.8**
PTOM				*e*Sn	**Sn**	**03 30 55.1**	**-1.9**
	comp=N,4.0nm,0.6s						
PMRV	**Marv??o**	**3.48**	**33**	*e*Pn	**Pn**	**03 30 21.8**	**+1.1**
PMRV				*e*Sn	**Sn**	**03 30 59.1**	**-2.8**
PMRV				A	A	03 31 02.0	
	comp=N,3.7nm,0.2s						
PMRV	**Marv??o**	**3.48**	**33**	*e*Pn	**Pn**	**03 30 21.8**	**+1.1**
PMRV				*e*Sn	**Sn**	**03 30 59.1**	**-2.8**
	comp=N,3.7nm,0.2s						
PCAS	**Casmilo, Conde**	**3.67**	**16**	*e*Sn	**Sn**	**03 31 05.0**	**-1.7**
PCAS				A	A	03 31 06.3	
	comp=N,4.8nm,0.7s						
PCAS	**Casmilo, Conde**	**3.67**	**16**	*e*Sn	**Sn**	**03 31 05.0**	**-1.7**
	comp=N,4.8nm,0.7s						
PCBR	**Castelo Branco**	**3.79**	**29**	*e*Sn	**Sn**	**03 31 07.1**	**-2.5**
PCBR				A	A	03 31 13.8	
	comp=N,1.0nm,0.5s						
PCBR	**Castelo Branco**	**3.79**	**29**	*e*Sn	**Sn**	**03 31 07.1**	**-2.5**
	comp=N,1.0nm,0.5s						
ECAB	**El Cabril**	**3.85**	**65**	P	**Pn**	**03 30 26.8**	**+1.1**
	comp=N,0.6nm,0.1s,SNR=9.7						
ECAB				S	**Sn**	**03 31 07.7**	**-3.3**
	comp=N,0.7nm,0.1s,SNR=6.6						
ECAB	**El Cabril**	**3.85**	**65**	P	**Pn**	**03 30 26.8**	**+1.1**
	comp=N,0.6nm,0.1s,SNR=9.7						
ECAB				S	**Sn**	**03 31 07.7**	**-3.3**
	comp=N,0.7nm,0.1s,SNR=6.6						
EMIJ	**Mijas**	**4.08**	**88**	P	**Pn**	**03 30 29.3**	**+0.4**
	comp=N,0.3nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**03 31 13.6**	**-3.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.08**	**88**	P	**Pn**	**03 30 29.3**	**+0.4**
	comp=N,0.3nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**03 31 13.6**	**-3.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.26**	**24**	*e*Pn	**Pn**	**03 30 32.2**	**+0.7**
MTE				*e*Sn	**Sn**	**03 31 20.3**	**-1.0**
MTE	**Manteigas**	**4.26**	**24**	*e*Pn	**Pn**	**03 30 32.2**	**+0.7**
MTE				*e*Sn	**Sn**	**03 31 20.3**	**-1.0**
PVIS	**Viseu**	**4.45**	**19**	*e*Pn	**Pn**	**03 30 35.9**	**+1.9**
PVIS				A	A	03 31 23.8	
	comp=N,2.8nm,0.5s						
PVIS				*e*Sn	**Sn**	**03 31 24.7**	**-1.2**
PVIS	**Viseu**	**4.45**	**19**	*e*Pn	**Pn**	**03 30 35.9**	**+1.9**
	comp=N,2.8nm,0.5s						
PVIS				*e*Sn	**Sn**	**03 31 24.7**	**-1.2**
EADA	**Adamuz**	**4.50**	**67**	P	**Pn**	**03 30 35.7**	**+1.0**
	comp=N,0.2nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**03 31 23.2**	**-3.9**
	comp=N,1.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.50**	**67**	P	**Pn**	**03 30 35.7**	**+1.0**
	comp=N,0.2nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**03 31 23.2**	**-3.9**
	comp=N,1.3nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.60**	**39**	P	**Pn**	**03 30 38.8**	**+2.7**
	comp=N,0.3nm,0.1s,SNR=7.9						
EPLA	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUM	**Mont Dore**	**3.48**	**266**	*eP*	**Pn**	**03 32 02.6**	**-0.8**
PLUM				*eS*	**Sn**	**03 32 42.5**	**-0.9**
PLUM				AMP		03 32 45.1	
	comp=Z,116nm,0.0s						
NORM	**Noumea**	**3.62**	**267**	*eP*	**Pn**	**03 32 03.3**	**-2.1**
NORM				*eP*	**Pn**	**03 32 04.8**	**-0.6**
NORM				AMP		03 32 47.8	
	comp=Z,119nm,0.6s						
DZM	**Mont Dzumac**	**3.66**	**270**	Pn	**Pn**	**03 32 05.4**	**-0.5**
	comp=Z,21nm,0.3s,baz=131,slow=14,SNR=512						
DZM				Sn	**Sn**	**03 32 47.7**	**-0.3**
	comp=Z,14nm,0.3s,baz=127,slow=24,SNR=7.8						
NOUC	**Port Laguerre**	**3.79**	**269**	*eP*	**Pn**	**03 32 08.9**	**+1.2**
NOUC				*eS*	**Sn**	**03 32 52.3**	**+1.3**
NOUC				AMP		03 32 53.1	
	comp=Z,29nm,2.4s						
STKA	**Stephens Creek**	**27.38**	**243**	LR	LR	03 48 15.2	
	comp=Z,34nm,18.2s,baz=24,slow=38						
ASAR	**Alice Springs**	**33.60**	**260**	P	**P**	**03 37 48.5**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=108,slow=7.9,SNR=3.4						
WRA	**Warramunga Arr**	**33.67**	**267**	P	**P**	**03 37 48.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=97,slow=8.5,SNR=5.8						
GERES	**GERESS Array B**	**147.50**	**331**	PKPbc	**PKPab**	**03 50 51.6**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=24,slow=3.3,SNR=2.8						

*ISCJB **18** 03:33:12.5±0.2,59.22N±0.01×153.63W±0.02, h89km±1km, mb5.2/340, Error ellipse: s-maj=2.3km s-min=1.7km az=19.0*

*MOS **18** 03:33:12.4±0.8,59.23N×153.64W, h91km, mb5.3/90, MS4.0/5, Error ellipse: s-maj=7.1km s-min=3.9km az=90.2*

*BJI **18** 03:33:12.3,59.61N×153.70W, h87km, mB5.2/33, mb5.4/52, Ms5.1/28, Ms7 5.0/13*

*IDC **18** 03:33:13.5±0.4,59.26N×153.53W, h87km±2km, mb4.7/40, mb1 4.8/46, mb1mx4.8/47, mbtmp5.1/46, MS3.9/34, Ms1 3.9/34, ms1mx3.8/45, Error ellipse: s-maj=9.6km s-min=5.9km az=6.0*

*NEIC **18** 03:33:14.2,59.04N×153.40W, h81km, mb5.4/206, After AEIC.*

NEIC Felt [II] at Homer and Kodiak. Also felt at Anchor Point, Palmer and Pedro Bay.

*GCMT **18** 03:33:15.4±0.2,59.02N×153.49W, h94km±1km, MW5.1, Moment Tensor Solution. s72,c110; s99,c170; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.55±.15; $M_{\theta\theta}$0.89±.19; $M_{\phi\phi}$1.66±.17; $M_{r\theta}$3.93±.11; $M_{r\phi}$1.95±.14; $M_{\theta\phi}$3.83±.09; Best double couple: M_o6.20000×10^{16} NP1:ϕ_s225.00000°, δ76.00000°, λ-86.00000°. NP2:ϕ_s30.00000°, δ14.00000°, λ-105.00000°. Principal axes: T 6.5500, Plg31.0000°, Azm312.0000°; N -0.6700, Plg4.0000°, Azm44.0000°; P -5.8800, Plg59.0000°, Azm141.0000°; Data Used: II IU IC G CN CU. Surface waves from 103 sta.*

ISC 18 03:33:13.3±0.2,59.12N±0.03×153.55W±0.02, h89km±1km, h88km:pP-P,n1369,σ1921/1752, mb5.3/340, 240C-246D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUI	**Augustine Isla**	**0.22**	**16**	P	**Pn**	**03 33 26.1**	**-0.1**
AUH	**Augustine H**	**0.25**	**13**	P	**Pn**	**03 33 26.5**	**+0.1**
AUL	**Augustine Lava**	**0.27**	**13**	P	**Pn**	**03 33 26.5**	**+0.1**
AUL				S	**Sn**	**03 33 36.4**	**+0.3**
MCNL	**McNeil River**	**0.41**	**279**	P	**Pn**	**03 33 27.2**	**0.0**
OPT	**Oil Point**	**0.56**	**17**	P	**Pn**	**03 33 28.8**	**+0.4**
PDB	**Pedro Bay**	**0.74**	**334**	P	**Pn**	**03 33 30.6**	**+0.5**
PDB	**Pedro Bay**	**0.74**	**334**	P	**Pn**	**03 33 30.6**	**+0.5**
ILW	**Iliamna West**	**0.96**	**12**	P	**Pn**	**03 33 33.0**	**+0.4**
INE	**Iliamna NE**	**0.97**	**15**	P	**Pn**	**03 33 33.1**	**+0.4**
HOM	**Homer**	**1.11**	**60**	P	**Pn**	**03 33 34.5**	**+0.4**
HOM				S	**Sn**	**03 33 50.7**	**+0.8**
KAKN	**Katmai Knife C**	**1.14**	**224**	P	**Pn**	**03 33 34.2**	**-0.4**
KAKN				S	**Sn**	**03 33 50.4**	**-0.2**
KABU	**Katmai Buttres**	**1.24**	**227**	P	**Pn**	**03 33 36.0**	**+0.2**
KABU				S	**Sn**	**03 33 54.1**	**+1.3**
RSO	**Redoubt South**	**1.40**	**16**	*e*Pn	**Pn**	**03 33 38.5**	**+0.6**
KDAK	**Kodiak Island**	**1.44**	**159**	P	**Pn**	**03 33 37.3**	**-0.8**
KDAK				S	**Sn**	**03 33 54.4**	**-2.4**
KDAK	**Kodiak Island**	**1.44**	**159**	Pn	**Pn**	**03 33 36.8**	**-1.3**
	202µm,0.5s						
RDN	**Redoubt North**	**1.45**	**16**	P	**Pn**	**03 33 39.3**	**+0.8**
NCT	**North Crescent**	**1.48**	**12**	P	**Pn**	**03 33 39.5**	**+0.7**
BRLK	**Bradley Lake**	**1.51**	**63**	P	**Pn**	**03 33 38.0**	**-1.0**
BRLK				S	**Sn**	**03 33 56.5**	**-1.9**
DFR	**Drift River**	**1.54**	**16**	P	**Pn**	**03 33 40.2**	**+0.7**
PLWL	**Peulik Whale M**	**1.82**	**235**	P	**Pn**	**03 33 43.0**	**+0.1**
OHAK	**Old Harbor**	**1.91**	**176**	P	**Pn**	**03 33 42.5**	**-1.7**
PLK3	**Peulik 3**	**2.03**	**226**	P	**Pn**	**03 33 46.5**	**+0.5**
PLK1	**Peulik 1**	**2.08**	**232**	P	**Pn**	**03 33 47.0**	**+0.6**
PLK4	**Peulik 4**	**2.10**	**226**	P	**Pn**	**03 33 47.2**	**+0.4**
CKL	**Chakachamna La**	**2.17**	**16**	P	**Pn**	**03 33 48.6**	**+0.9**
SLKM	**Skilak Lake**	**2.18**	**49**	P	**Pn**	**03 33 47.5**	**-0.3**
SLKM	**Skilak Lake**	**2.18**	**49**	P	**Pn**	**03 33 47.5**	**-0.3**
SPU	**Mount Spurr**	**2.20**	**19**	P	**Pn**	**03 33 48.9**	**+0.9**
SPBG	**Spurr Blockage**	**2.23**	**15**	P	**Pn**	**03 33 49.5**	**+1.1**
BGL	**Barrier Glacie**	**2.23**	**15**	P	**Pn**	**03 33 49.6**	**+1.1**
SVW2	**Sparrevohn**	**2.23**	**334**	P	**Pn**	**03 33 49.4**	**+1.0**
SEW	**Seward**	**2.31**	**63**	P	**Pn**	**03 33 48.2**	**-1.2**
SEW				S	**Sn**	**03 34 15.4**	**-1.6**
CGLM	**Capps Glacier**	**2.33**	**19**	P	**Pn**	**03 33 50.6**	**+0.8**
STLK	**Strandline Lak**	**2.53**	**19**	P	**Pn**	**03 33 53.4**	**+0.9**
SII	**Sitkinak Islan**	**2.59**	**188**	P	**Pn**	**03 33 51.9**	**-1.4**
FIB	**Fire Island**	**2.66**	**38**	P	**Pn**	**03 33 55.3**	**+1.2**
FIB				S	**Sn**	**03 34 27.9**	**+2.5**
FIB	**Fire Island**	**2.66**	**38**	P	**Pn**	**03 33 55.3**	**+1.2**
FIB				S	**Sn**	**03 34 27.9**	**+2.5**
SUA	**Susitna One**	**2.73**	**30**	P	**Pn**	**03 33 56.3**	**+1.1**
RC01	**Rabbit Creek A**	**2.75**	**42**	P	**Pn**	**03 33 55.1**	**-0.2**
SKT	**Skwentna**	**3.04**	**18**	P	**Pn**	**03 33 60.0**	**+0.7**
PWL	**Port Wells**	**3.15**	**54**	P	**Pn**	**03 33 59.9**	**-0.8**
PMR	**Palmer**	**3.31**	**40**	P	**Pn**	**03 34 02.4**	**-0.4**
PMR	**Palmer**	**3.31**	**40**	P	**Pn**	**03 34 02.4**	**-0.4**
ANPB	**Aniakchak Plen**	**3.43**	**229**	P	**Pn**	**03 34 05.0**	**+0.5**
CHIR	**Chirikof Islan**	**3.49**	**200**	P	**Pn**	**03 34 04.1**	**-1.3**
GLI	**Glacier Island**	**3.69**	**59**	P	**Pn**	**03 34 06.4**	**-1.6**
MID	**Middleton Isla**	**3.71**	**82**	P	**Pn**	**03 34 07.3**	**-1.0**
MID	**Middleton Isla**	**3.71**	**82**	P	**Pn**	**03 34 07.3**	**-1.0**
HIN	**Hinchinbrook I**	**3.79**	**67**	P	**Pn**	**03 34 08.1**	**-1.2**
CHGN	**Chignik**	**3.85**	**225**	P	**Pn**	**03 34 10.4**	**+0.3**
PPLA	**Purkeypile**	**3.85**	**9**	P	**Pn**	**03 34 11.9**	**+1.7**
FID	**Port Fidalgo**	**3.91**	**62**	P	**Pn**	**03 34 09.3**	**-1.7**
TT01	**Tatalina**	**3.98**	**343**	P	**Pn**	**03 34 13.1**	**+1.1**
JPK	**Jack Peak**	**3.98**	**58**	P	**Pn**	**03 34 11.1**	**-0.9**
SCM	**Sheep Creek Mo**	**4.11**	**46**	P	**Pn**	**03 34 13.3**	**-0.4**
SCM	**Sheep Creek Mo**	**4.11**	**46**	P	**Pn**	**03 34 13.3**	**-0.4**
VLZ	**Valdez**	**4.13**	**58**	P	**Pn**	**03 34 13.1**	**-0.9**
VNHG	**Veniaminof 1**	**4.19**	**228**	P	**Pn**	**03 34 16.3**	**+1.5**
EYAK	**Cordova Ski Ar**	**4.19**	**67**	P	**Pn**	**03 34 13.3**	**-1.4**
HUR	**Hurricane**	**4.31**	**24**	P	**Pn**	**03 34 18.3**	**+1.8**
CAST	**Castle Rocks**	**4.37**	**9**	P	**Pn**	**03 34 18.9**	**+1.7**
DIV	**Divide**	**4.38**	**59**	P	**Pn**	**03 34 16.4**	**-1.0**
SGAM	**Sherman Glacie**	**4.43**	**68**	P	**Pn**	**03 34 16.6**	**-1.4**
KLU	**Klutina**	**4.48**	**55**	P	**Pn**	**03 34 18.3**	**-0.4**
TRF	**Thorofare Moun**	**4.62**	**19**	P	**Pn**	**03 34 21.1**	**+0.3**
KTH	**Kantishna Hill**	**4.62**	**15**	P	**Pn**	**03 34 21.2**	**+0.5**
RAGM	**Ragged Mountai**	**4.66**	**70**	P	**Pn**	**03 34 20.3**	**-0.9**
GOAT	**Goat Mountain**	**4.68**	**68**	P	**Pn**	**03 34 20.3**	**-1.2**
CHUM	**Lake Minchumin**	**4.81**	**7**	P	**Pn**	**03 34 25.2**	**+2.0**
RND	**Reindeer**	**4.86**	**26**	P	**Pn**	**03 34 24.4**	**+0.5**
RND	**Reindeer**	**4.86**	**26**	P	**Pn**	**03 34 24.4**	**+0.5**
DHY	**Denali Highway**	**4.97**	**34**	P	**Pn**	**03 34 25.7**	**+0.2**
NICHA	**Nichawak Mount**	**4.98**	**73**	P	**Pn**	**03 34 24.7**	**-0.8**
SUCK	**Suckling Hills**	**5.06**	**75**	P	**Pn**	**03 34 25.9**	**-0.7**
MCK	**McKinley**	**5.13**	**24**	P	**Pn**	**03 34 28.2**	**+0.7**
MCK	**McKinley**	**5.13**	**24**	P	**Pn**	**03 34 28.2**	**+0.7**
BERG	**Berg Lake**	**5.14**	**71**	P	**Pn**	**03 34 26.4**	**-1.2**
HARP	**HAARP**	**5.27**	**48**	P	**Pn**	**03 34 29.4**	**0.0**
BGLC	**Bering Glacier**	**5.31**	**75**	P	**Pn**	**03 34 29.1**	**-0.8**
GRIN	**Grindle Hills**	**5.31**	**73**	P	**Pn**	**03 34 29.4**	**-0.6**
SDPT	**Sand Point**	**5.33**	**228**	P	**Pn**	**03 34 29.7**	**-0.6**
KHIT	**Khitrov Hills**	**5.37**	**71**	P	**Pn**	**03 34 29.8**	**-1.1**
GLB	**Gilahina Butte**	**5.38**	**60**	P	**Pn**	**03 34 29.9**	**-1.1**
WASW	**Wrangell South**	**5.42**	**55**	P	**Pn**	**03 34 31.5**	**-0.2**
BWN	**Browne**	**5.43**	**19**	P	**Pn**	**03 34 32.6**	**+1.0**
VRDI	**Verde Repeater**	**5.46**	**63**	P	**Pn**	**03 34 31.1**	**-1.2**
PAX	**Paxson**	**5.50**	**42**	P	**Pn**	**03 34 32.6**	**-0.1**
PAX	**Paxson**	**5.50**	**42**	P	**Pn**	**03 34 32.6**	**-0.1**
KULT	**Kultieth River**	**5.60**	**74**	P	**Pn**	**03 34 33.4**	**-0.6**
MCARA	**McCarthy VSAT**	**5.71**	**62**	P	**Pn**	**03 34 34.9**	**-0.5**
BARK	**Barkley Ridge**	**5.74**	**72**	P	**Pn**	**03 34 35.2**	**-0.6**
ISLE	**Juniper Island**	**5.84**	**70**	P	**Pn**	**03 34 36.4**	**-0.9**
PVV	**Pavlof Volcano**	**5.84**	**234**	P	**Pn**	**03 34 37.8**	**+0.6**
GCSA	**Galena City Sc**	**5.86**	**346**	P	**Pn**	**03 34 38.6**	**+1.2**
PS4A	**Pavlof South-4**	**5.89**	**234**	P	**Pn**	**03 34 38.5**	**+0.7**
KIAG	**Kiagna River**	**5.89**	**67**	P	**Pn**	**03 34 36.9**	**-1.2**
PTPK	**Patty Peak**	**5.91**	**65**	P	**Pn**	**03 34 37.7**	**-0.6**
BALM	**Baldy**	**5.93**	**66**	P	**Pn**	**03 34 37.5**	**-1.0**
BALM	**Baldy**	**5.93**	**66**	P	**Pn**	**03 34 37.5**	**-1.0**
WRH	**Wood River Hil**	**5.96**	**23**	P	**Pn**	**03 34 38.5**	**-0.3**
DOL	**Dolgoi Island**	**6.03**	**232**	P	**Pn**	**03 34 39.5**	**-0.3**
MLY	**Manley**	**6.08**	**11**	P	**Pn**	**03 34 40.4**	**0.0**
GRNC	**Granite Creek**	**6.15**	**70**	P	**Pn**	**03 34 40.5**	**-1.1**
HDA	**Harding Lake**	**6.16**	**28**	P	**Pn**	**03 34 41.5**	**+0.1**
CCB	**Clear Creek Bu**	**6.17**	**24**	P	**Pn**	**03 34 41.3**	**-0.3**
DTNA	**Dutton South F**	**6.19**	**234**	P	**Pn**	**03 34 42.0**	**+0.1**
BARN	**Barnard Glacie**	**6.26**	**67**	P	**Pn**	**03 34 42.3**	**-0.7**
DRIA	**Deer Island**	**6.32**	**233**	P	**Pn**	**03 34 43.2**	**-0.5**
COLA	**College**	**6.36**	**22**	*d*P	**Pn**	**03 34 44.5**	**+0.3**
COLA	**College**	**6.36**	**22**	P	**Pn**	**03 34 44.1**	**-0.2**
MDM	**Murphy Dome**	**6.37**	**21**	P	**Pn**	**03 34 44.0**	**-0.3**
CHX	**Chaix Hills**	**6.38**	**76**	P	**Pn**	**03 34 43.5**	**-1.1**
DOT	**Dot Lake**	**6.43**	**41**	P	**Pn**	**03 34 45.4**	**+0.1**
ILAR	**Eielson Array**	**6.48**	**26**	P	**Pn**	**03 34 45.2**	**-0.7**
ILAR				S	**Sn**	**03 35 55.2**	**-3.0**
ILAR				ScP	**ScP**	**03 44 56.8**	**0.0**
ILAR	**Eielson Array**	**6.48**	**26**	P	**Pn**	**03 34 45.2**	**-0.7**
	41nm,0.3s,baz=217,slow=13,SNR=1300						
ILAR				S	**Sn**	**03 35 55.2**	**-3.0**
	46nm,0.3s,baz=213,slow=20,SNR=5.7						
ILAR				ScP	**ScP**	**03 44 56.8**	**0.0**
	0.3nm,0.3s,baz=276,slow=2.5,SNR=23						
ILB	**Eielson Array**	**6.48**	**26**	P	**Pn**	**03 34 45.1**	**-0.7**
IL1	**Eielson Array**	**6.48**	**26**	P	**Pn**	**03 34 45.5**	**-0.4**
LOGN	**Logan Glacier**	**6.53**	**69**	P	**Pn**	**03 34 46.0**	**-0.7**
GLM	**Gilmore Dome**	**6.56**	**24**	P	**Pn**	**03 34 46.9**	**-0.1**
SCRK	**Sand Creek**	**6.67**	**39**	P	**Pn**	**03 34 48.0**	**-0.6**
FALS	**False Pass**	**6.88**	**236**	*e*Pn	**Pn**	**03 34 52.5**	**+1.2**
IM04	**Indian Mountai**	**6.88**	**359**	*e*Pn	**Pn**	**03 34 52.0**	**+0.6**
IM04				*e*ScP	**ScP**	**03 44 57.7**	**+0.6**
IM3	**Indian Mountai**	**6.89**	**359**	P	**Pn**	**03 34 52.5**	**+1.1**
BCA3	**Beaver Creek A**	**6.94**	**50**	P	**Pn**	**03 34 52.2**	**+0.1**
SSLW	**Shishaldin Wes**	**7.24**	**238**	P	**Pn**	**03 34 56.6**	**+0.3**
WESE	**West Dahl East**	**7.64**	**237**	P	**Pn**	**03 35 01.7**	**-0.1**
HYT	**Haines Junctio**	**8.23**	**71**	P	**Pn**	**03 35 08.5**	**-1.3**
COLD	**Coldfoot**	**8.28**	**9**	P	**Pn**	**03 35 10.6**	**+0.3**
DAWY	**Dawson**	**8.36**	**48**	P	**Pn**	**03 35 12.2**	**+0.6**
AKUT	**Akutan**	**8.38**	**239**	*e*Pn	**Pn**	**03 35 13.0**	**+1.2**
UNV	**Unalaska Valle**	**8.90**	**239**	P	**Pn**	**03 35 18.9**	**+0.1**
MSW	**Makushin Switc**	**8.98**	**240**	P	**Pn**	**03 35 19.6**	**-0.3**
SPIA	**Saint Paul Isl**	**9.04**	**265**	*e*Pn	**Pn**	**03 35 23.5**	**+2.8**
BM3	**Burnt Mountain**	**9.24**	**22**	P	**Pn**	**03 35 21.9**	**-1.6**
TNA	**Tin City**	**9.28**	**320**	*e*Pn	**Pn**	**03 35 26.4**	**+2.5**
WHY	**Whitehorse**	**9.50**	**73**	P	**Pn**	**03 35 26.3**	**-0.9**
BESE	**Bessie Mountai**	**9.70**	**85**	P	**Pn**	**03 35 28.7**	**-1.1**
GAMB	**Gambell**	**9.85**	**306**	*e*Pn	**Pn**	**03 35 34.5**	**+2.8**
SIT	**Sitka**	**9.87**	**94**	P	**Pn**	**03 35 29.4**	**-2.6**
SIT	**Sitka**	**9.87**	**94**	P	**Pn**	**03 35 29.4**	**-2.6**
OKTU	**Okmok Mt. Tuli**	**9.89**	**241**	P	**Pn**	**03 35 31.2**	**-1.2**
CRAG	**Craig**	**11.62**	**99**	*e*Pn	Pn	03 35 52.2	-3.7
	69nm,0.5s						
CRAG				*e*Sn	**Sn**	**03 37 58.3**	**-5.2**
WRAK	**Wrangell Islan**	**11.63**	**94**	*e*Pn	**Pn**	**03 35 54.6**	**-1.3**
WRAK				*e*Sn	Sn	03 37 55.2	-8.3
DLBC	**Dease Lake**	**12.21**	**83**	*e*Pn	**Pn**	**03 36 03.4**	**-0.4**
DLBC				*e*Sn	**Sn**	**03 38 14.2**	**-3.6**
DLBC	**Dease Lake**	**12.21**	**83**	P	**Pn**	**03 36 04.0**	**+0.3**
	11nm,0.3s,baz=271,slow=11,SNR=90						
DLBC				S	**Sn**	**03 38 14.2**	**-3.6**
	8.6nm,0.3s,baz=113,slow=24,SNR=9.4						
DLBC				LR	LR	03 40 38.2	
	comp=Z,603nm,20.9s,baz=320,slow=36						
INK	**Inuvik**	**12.72**	**35**	*e*Pn	**Pn**	**03 36 09.6**	**-0.8**
	84nm,0.8s						
INK				*e*ScP	**ScP**	**03 45 04.3**	**+0.3**
INK	**Inuvik**	**12.72**	**35**	P	**Pn**	**03 36 10.1**	**-0.3**
	2.8nm,0.3s,baz=229,slow=15,SNR=49						
INK				LR	LR	03 41 20.2	
	comp=Z,428nm,20.2s,baz=26,slow=39						
INK				ScP	**ScP**	**03 45 04.6**	**+0.6**
	0.3nm,0.3s,baz=195,slow=2.9,SNR=11						
BBB	**Bella Bella**	**15.87**	**105**	P	**Pn**	**03 36 51.7**	**+0.5**
BBB				S	Sn	03 39 39.2	-7.2
BBB	**Bella Bella**	**15.87**	**105**	P	**Pn**	**03 36 51.7**	**+0.5**
	3.1nm,0.3s,baz=297,slow=10,SNR=8.1						
BBB				S	Sn	03 39 39.2	-7.2
	2.4nm,0.3s,baz=165,slow=9.9,SNR=7.4						
BBB				LR	LR	03 42 20.1	
	comp=Z,620nm,18.9s,baz=68,slow=34						
YKW3	**Yellowknife Ar**	**19.07**	**63**	*e*P	**P**	**03 37 28.5**	**+0.3**
YKW3				*e*PcP	**PcP**	**03 41 48.7**	**-0.1**
YKA	**Yellowknife Ar**	**19.08**	**63**	P	**P**	**03 37 28.4**	**0.0**
YKA				PcP	**PcP**	**03 47 49.3**	**+0.5**
YKA				ScP	**ScP**	**03 45 16.8**	**+0.6**
YKA				*e*		04 11 55.6	
YKA	**Yellowknife Ar**	**19.08**	**63**	P	**P**	**03 37 28.4**	**0.0**
	6.6nm,0.3s,baz=275,slow=9.8,SNR=1110						
YKA				PcP	**PcP**	**03 41 49.3**	**+0.5**
	0.6nm,0.3s,baz=284,slow=1.6,SNR=14						
YKA				ScP	**ScP**	**03 45 16.8**	**+0.6**
	0.3nm,0.3s,baz=284,slow=2.6,SNR=13						
YKA				P3KPbc		04 11 55.6	
	0.0nm,0.3s,baz=99,slow=5.4,SNR=3.2						
FX1	**Attu Island--F**	**19.48**	**266**	*e*P	**P**	**03 37 33.1**	**+0.3**
FX1				S	**Sn**	**03 41 12.1**	**-1.1**
FX1	**Attu Island--F**	**19.48**	**266**	P	**P**	**03 37 33.3**	**+0.5**
	66nm,0.3s,baz=274,slow=3.0,SNR=74						
FX1				S	**Sn**	**03 41 12.1**	**-1.1**
	1.7nm,0.3s,baz=78,slow=20,SNR=5.5						
FX1				LR	LR	03 44 58.8	
	comp=Z,258nm,18.8s,baz=298,slow=36						
PGC	**Sidney**	**20.42**	**108**	*e*P	Pn	03 37 44.6	-1.2
	9.9nm,1.0s						
STW	**Stripnd Peak**	**20.65**	**109**	P	Pn	03 37 47.8	-0.8
VDB	**Vedder Mountai**	**20.84**	**105**	P	**P**	**03 37 49.2**	**+1.7**
A05A	**Maple Falls**	**20.86**	**105**	*e*P	**P**	**03 37 49.4**	**+1.7**
	343nm,0.9s						
NLWA	**Neilton Lookou**	**21.08**	**111**	*e*P	**P**	**03 37 52.4**	**+2.2**
	171nm,1.1s						
NLWA				*e*S	**S**	**03 41 40.1**	**+0.4**
MBW	**Mount Baker**	**21.10**	**105**	P	**P**	**03 37 52.2**	**+1.7**
JCW	**Jim Creek**	**21.48**	**107**	P	**P**	**03 37 56.3**	**+1.9**
B06A	**Marblemount**	**21.48**	**105**	*e*P	**P**	**03 37 56.0**	**+1.6**
	154nm,0.9s						
RPW	**Rockport**	**21.51**	**106**	P	**P**	**03 37 56.2**	**+1.4**
E03A	**Leban**	**21.83**	**112**	*e*P	**P**	**03 38 00.2**	**+2.2**
	156nm,1.1s						
D05A	**Enumclaw**	**22.14**	**109**	*e*P	**P**	**03 38 03.6**	**+2.3**
	334nm,1.1s						
F03A	**Seaside**	**22.28**	**113**	*e*P	**P**	**03 38 05.0**	**+2.0**
	142nm,1.0s						
F04D	**Rainier, OR**	**22.43**	**112**	⇑P	**P**	**03 38 06.0**	**+1.6**
	baz=22						
LON	**Longmire**	**22.53**	**109**	*e*P	**P**	**03 38 07.0**	**+1.4**
LON				pmax	pmax		
	comp=Z,29nm,1.0s						
LON	**Longmire**	**22.53**	**109**	*e*P	**P**	**03 38 07.0**	**+1.4**
	comp=Z,29nm,1.0s						
B08A	**Colville Reser**	**22.66**	**103**	*e*P	**P**	**03 38 08.0**	**+1.1**
	comp=Z,305nm,1.4s						
WPW	**White Pass**	**22.70**	**109**	P	**P**	**03 38 08.9**	**+1.5**
LTY	**Liberty**	**22.74**	**107**	*e*P	**P**	**03 38 08.9**	**+1.1**
	comp=Z,122nm,1.2s						
WTV	**Waterville**	**22.79**	**105**	P	**P**	**03 38 09.4**	**+1.1**
EDM	**Edmonton**	**22.86**	**87**	*e*P	**P**	**03 38 09.3**	**+0.4**
EDM				*e**PP	**pP**	**03 38 27.7**	**+0.9**
EDM				*e**SP	**sP**	**03 38 39.3**	**+1.5**
EDM				*e*		03 41 56.5	
EDM	**Edmonton**	**22.86**	**87**	*e*P	**P**	**03 38 09.3**	**+0.4**
EDM				*ep*P	**pP**	**03 38 27.7**	**+0.9**
EDM				*es*P	**sP**	**03 38 39.3**	**+1.5**
EDM				*e*PcP	**PcP**	**03 41 56.5**	**+0.2**
G03D	**McMinnville, O**	**22.95**	**114**	⇑P	**P**	**03 38 11.6**	**+1.7**
	baz=23						
NAC	**Naches**	**23.02**	**108**	P	**P**	**03 38 12.2**	**+1.7**
SAW	**Saint Andrews**	**23.06**	**105**	P	**P**	**03 38 12.2**	**+1.3**
COR	**Corvallis**	**23.40**	**115**	*e*P	**P**	**03 38 16.6**	**+2.6**
COR				pmax	pmax		
	comp=Z,20nm,0.8s						
COR	**Corvallis**	**23.40**	**115**	*e*P	**P**	**03 38 16.6**	**+2.6**
	comp=Z,20nm,0.8s						
C09A	**Chrisman Ranch**	**23.56**	**103**	*e*P	**P**	**03 38 16.8**	**+1.3**
	comp=Z,66nm,0.9s						
OD2	**Odessa Site #2**	**23.62**	**104**	P	**P**	**03 38 17.3**	**+1.3**
E07A	**Sunnyside**	**23.62**	**107**	*e*P	**P**	**03 38 17.8**	**+1.7**
	comp=Z,139nm,1.0s						
D08A	**Wollman Farm,**	**23.74**	**105**	*e*P	**P**	**03 38 18.5**	**+1.4**
	comp=Z,118nm,0.8s						
NEW	**Newport**	**23.84**	**101**	*e*P	**P**	**03 38 19.4**	**+1.5**
	comp=Z,178nm,0.8s						
NEW	**Newport**	**23.84**	**101**	⇓P	**P**	**03 38 19.5**	**+1.5**
	baz=24						
G05D	**Wamic, OR**	**23.86**	**111**	⇑P	**P**	**03 38 19.8**	**+1.6**
	baz=24						
HAWA	**Hanford**	**23.90**	**107**	*e*P	**P**	**03 38 20.1**	**+1.6**
	comp=Z,85nm,0.9s						
HAWA				*e*PcP	**PcP**	**03 41 59.4**	**+0.9**
I03D	**Drain, OR**	**24.06**	**117**	⇓P	**P**	**03 38 22.1**	**+2.1**
	baz=24						
G06A	**Carlson Farm,**	**24.19**	**110**	*e*P	**P**	**03 38 22.6**	**+1.4**
	comp=Z,38nm,1.0s						
KEBM	**Edson Butte**	**24.26**	**119**	*e*P	**P**	**03 38 23.9**	**+2.1**
	comp=Z,256nm,1.0s						
I04A	**Tendick Farm,**	**24.42**	**115**	⇓P	**P**	**03 38 25.0**	**+1.7**
	baz=24						
E09A	**Wood Farm, Sta**	**24.50**	**105**	*e*P	**P**	**03 38 25.2**	**+1.2**
	comp=Z,244nm,1.2s						
I05D	**Terrebonne, OR**	**24.52**	**113**	⇓P	**P**	**03 38 25.9**	**+1.8**
	baz=24						
VIPM	**Ingram Point**	**24.73**	**112**	P	**P**	**03 38 28.0**	**+1.7**
VIPM	**Ingram Point**	**24.73**	**112**	P	**P**	**03 38 28.0**	**+1.7**
KBO	**Bosley Butte**	**24.83**	**120**	*e*P	**P**	**03 38 29.4**	**+2.3**
	comp=Z,234nm,1.5s						
G08A	**Pilot Rock**	**24.97**	**108**	*e*P	**P**	**03 38 29.4**	**+1.1**
	comp=Z,84nm,1.0s						
WALA	**Waterton Lakes**	**24.97**	**96**	*e*P	**P**	**03 38 29.4**	**+1.0**
J04D	**Umpqua Nationa**	**24.99**	**116**	⇓P	**P**	**03 38 30.8**	**+2.1**
	baz=25						
PINOR	**Pine Mountain**	**25.14**	**113**	*e*P	**P**	**03 38 32.1**	**+2.4**
L02D	**Cave Junction,**	**25.15**	**119**	⇑P	**P**	**03 38 32.0**	**+2.1**
	baz=25						
BSMT	**Bassoo Peak**	**25.29**	**99**	*e*P	**P**	**03 38 32.5**	**+1.1**
BSMT				*e*PcP	**PcP**	**03 42 02.1**	**+0.2**
BSMT				*e*ScP	**ScP**	**03 45 33.3**	**+0.6**
F10A	**Beach Ranch, E**	**25.34**	**105**	*e*P	**P**	**03 38 32.9**	**+1.3**
	comp=Z,118nm,0.8s						
J05D	**Fort Rock, O

MFID ePcP PcP 03 42 08.5 +0.6
FFC Flin Flon 27.89 76 eP P 03 38 54.9 +0.5
FFC e 03 42 07.8
FFC pmax pmax
comp=Z,13nm,0.8s
FFC Flin Flon 27.89 76 eP P 03 38 54.9 +0.5
comp=Z,13nm,0.8s
FFC ePcP PcP 03 42 07.8 +0.2
FFC eScP ScP 03 45 40.4 +0.4
FFC Flin Flon 27.89 76 P P 03 38 55.6 +1.2
comp=Z,236nm,0.8s,SNR=13
B19A Brinkman Farms 27.90 93 ⇑P P 03 38 55.4 +0.7
baz=28,SNR=50
HOPS Hopland 27.96 123 eP P 03 38 56.2 +1.1
comp=Z,28nm,1.0s
DLMT Dillon 28.09 101 eP P 03 38 57.6 +1.2
A20A Cobblestone Ra 28.16 91 ⇓P P 03 38 57.4 +0.5
baz=28,SNR=22
C19A Slack Wire Ran 28.31 94 ⇑P P 03 38 59.2 +1.0
baz=28,SNR=54
MCMT McKenzie Canyo 28.34 102 eP P 03 38 59.9 +1.2
comp=Z,29nm,0.9s
OHCM Honcut 28.38 120 eP P 03 38 59.7 +0.8
BOZ Bozeman (W) 28.38 100 eP P 03 39 00.5 +1.5
BOZ e 03 42 09.0
BOZ pmax pmax
comp=Z,56nm,0.8s
BOZ Bozeman (W) 28.38 100 eP P 03 39 00.5 +1.5
comp=Z,56nm,0.8s
BOZ ePcP PcP 03 42 09.0 -0.2
B20A Solberg Farm, 28.39 92 ⇑P P 03 38 59.3 +0.3
baz=28,SNR=9.3
BEKR Beckworth 28.45 118 eP P 03 39 01.0 +1.2
comp=Z,34nm,1.0s
BEKR ePcP PcP 03 42 09.5 0.0
HLID Hailey 28.46 106 eP P 03 39 01.1 +1.3
comp=Z,44nm,1.3s
HLID ePcP PcP 03 42 10.0 +0.6
HLID Hailey 28.46 106 ⇑P P 03 39 01.1 +1.3
baz=28,SNR=38
A21A Bergtoll Ranch 28.61 90 ⇓P P 03 39 01.7 +0.9
baz=28,SNR=18
D19A Cripps Ranch, 28.77 95 ⇓P P 03 39 03.1 +0.7
baz=29,SNR=40
C20A Veseth Ranch, 28.86 93 ⇑P P 03 39 04.0 +0.8
baz=29,SNR=41
B21A Ellsworth Farm 28.91 91 ⇓P P 03 39 04.2 +0.6
baz=29,SNR=16
PAHR Pah Rah Range 29.03 117 eP P 03 39 06.4 +1.6
comp=Z,91nm,1.0s
QLMT Earthquake Lak 29.05 101 eP P 03 39 06.8 +1.7
A22A Carney Farms, 29.12 89 ⇓P P 03 39 06.1 +0.6
baz=29,SNR=7.9
D20A Manuel Ranch, 29.20 94 ⇓P P 03 39 07.2 +1.1
baz=29,SNR=36
C21A Desert Coulee 29.25 92 ⇓P P 03 39 07.6 +0.9
baz=29,SNR=18
E19A Rath Farm, Rou 29.28 96 ⇑P P 03 39 08.3 +1.4
baz=29,SNR=81
GCMT Greycliff 29.28 97 eP P 03 39 09.2 +2.2
comp=Z,151nm,0.9s
YMR Madison River 29.40 100 eP P 03 39 10.1 +2.0
comp=Z,184nm,0.9s
YMR ePcP PcP 03 42 13.0 +1.1
YMR eScP ScP 03 45 47.0 +1.7
BMN Battle Mountai 29.47 113 eP P 03 39 10.3 +1.6
BMN e 03 42 13.0
BMN pmax pmax
comp=Z,45nm,1.1s
BMN Battle Mountai 29.47 113 eP P 03 39 10.3 +1.6
comp=Z,45nm,1.1s
BMN ePcP PcP 03 42 13.0 +1.0
YNR Norris Junctio 29.51 100 eP P 03 39 11.6 +2.5
comp=Z,91nm,0.8s
B22A Reddig Ranch S 29.52 90 ⇑P P 03 39 09.7 +0.7
baz=29
E20A Meyer Farm, Mu 29.59 95 ⇓P P 03 39 10.7 +1.1
baz=29,SNR=36
F19A Roth Farm, Mol 29.61 97 ⇑P P 03 39 11.6 +1.8
baz=29,SNR=140
YFT Old Faithful 29.62 101 eP P 03 39 13.1 +3.0
comp=Z,96nm,1.1s
YFT ePcP PcP 03 42 14.7 +2.3
YFT eScP ScP 03 45 48.1 +2.1
A23A Redstone 29.68 88 ⇓P P 03 39 11.1 +0.7
baz=30
LKWY Lake 29.76 100 eP P 03 39 14.2 +2.8
LKWY e 03 42 14.0
LKWY pmax pmax
comp=Z,94nm,0.8s
LKWY Lake 29.76 100 eP P 03 39 14.2 +2.8
comp=Z,94nm,0.8s
LKWY ePcP PcP 03 42 14.0 +1.1
H17A Grant Village 29.79 100 eP P 03 39 14.8 +3.1
H17A ePcP PcP 03 42 14.5 +1.6
H17A Grant Village 29.79 100 ⇑P P 03 39 14.7 +3.1
baz=30,SNR=66
FCC Fort Churchill 29.80 65 eP P 03 39 12.2 +1.0
FCC pmax pmax
comp=Z,6.0nm,1.4s
FCC Fort Churchill 29.80 65 eP P 03 39 12.2 +1.0
comp=Z,5.9nm,1.4s
D21A La Casta Ranch 29.80 93 ⇑P P 03 39 12.5 +1.0
baz=30,SNR=26
C22A Vida 29.93 91 ⇑P P 03 39 13.0 +0.4
baz=30,SNR=7.2
B23A Brockton 29.93 89 ⇓P P 03 39 13.2 +0.6
baz=30,SNR=13
CMB Columbia Colle 29.93 120 eP P 03 39 14.1 +1.4
CMB e 03 42 13.3
CMB pmax pmax
comp=Z,14nm,0.7s
CMB Columbia Colle 29.93 120 eP P 03 39 14.1 +1.4
comp=Z,14nm,0.7s
CMB ePcP PcP 03 42 13.2 +0.1
RLMT Red Lodge 29.95 98 eP P 03 39 14.7 +1.7
comp=Z,115nm,0.9s
RLMT ePcP PcP 03 42 15.1 +1.8
FLWY Flagg Ranch 29.95 101 eP P 03 39 15.6 +2.6
comp=Z,374nm,0.8s
WAKR Walker 29.98 118 eP P 03 39 15.0 +1.7
comp=Z,50nm,0.9s
WAKR ePcP PcP 03 42 13.8 +0.4
F20A Billings 30.06 96 ⇓P P 03 39 15.3 +1.5
baz=30,SNR=60
H18A Shoshone NF, C 30.06 99 ⇓P P 03 39 15.7 +1.8
baz=30
E21A Keefer Ranch, 30.11 94 ⇓P P 03 39 15.5 +1.3
baz=30,SNR=15
I17A Pilgrim Ck. 30.13 101 ⇓P P 03 39 17.2 +2.6
baz=30,SNR=136
A24A Westby 30.15 88 ⇑P P 03 39 15.6 +1.0
baz=30,SNR=16
MOOW Moose Ponds 30.16 101 eP P 03 39 16.8 +1.9
comp=Z,61nm,1.0s
D22A Cohagen 30.17 92 ⇓P P 03 39 15.9 +1.2
baz=30,SNR=46
ELK Elko 30.17 110 eP P 03 39 17.1 +2.1
comp=Z,57nm,0.9s
ELK ePcP PcP 03 42 15.6 +1.7
ELK Elko 30.17 110 LR LR 03 49 59.4
comp=Z,369nm,21.8s,baz=178,slow=33
TPAW Teton Pass 30.25 102 eP P 03 39 12.0 -3.7
comp=Z,155nm,0.8s
C23A Lambert 30.26 90 ⇑P P 03 39 16.4 +1.0
baz=30,SNR=29
LOHW Long Hollow 30.33 102 eP P 03 39 18.4 +2.0
comp=Z,156nm,0.8s
DGMT Dagmar 30.34 88 eP P 03 39 17.0 +0.8
comp=Z,26nm,0.8s
DGMT ePcP PcP 03 42 14.3 +0.4
DGMT Dagmar 30.34 88 ⇓P P 03 39 16.9 +0.8
baz=30,SNR=6.3
REDW Red Top Meadow 30.39 102 eP P 03 39 18.8 +1.9
comp=Z,92nm,0.9s
H19A Powell 30.41 98 ⇑P P 03 39 19.1 +2.2
baz=30,SNR=71
G20A Bridger 30.42 97 ⇑P P 03 39 18.4 +1.4
baz=30,SNR=46
LAO LASA Array 30.45 93 eP P 03 39 18.4 +1.2
comp=Z,93nm,1.2s
LAO ePcP PcP 03 42 15.2 +0.9
SAO San Andreas Ge 30.52 123 eP P 03 39 19.7 +1.8
SAO San Andreas Ge 30.52 123 eP P 03 39 19.7 +1.8
F21A Absaloka Mine, 30.57 95 ⇓P P 03 39 19.6 +1.3
baz=30

HVU Hansel Valley 30.59 106 eP P 03 39 20.7 +2.1
HVU pmax pmax
comp=Z,122nm,1.2s
HVU Hansel Valley 30.59 106 eP P 03 39 20.7 +2.1
comp=Z,122nm,1.2s
A25A Svangstu Ranch 30.60 87 ⇑P P 03 39 19.5 +1.0
baz=30,SNR=24
NV11 Mina Array Sit 30.62 117 eP P 03 39 20.4 +1.5
NV11 ePcP PcP 03 42 15.8 +0.8
NV11 eScP ScP 03 45 50.2 +1.0
D23A Lindsay 30.65 91 ⇓P P 03 39 20.4 +1.4
baz=30,SNR=34
AHID Auburn Hatcher 30.70 103 eP P 03 39 21.1 +1.5
comp=Z,21nm,1.0s
E22A Miles City 30.76 93 ⇓P P 03 39 21.3 +1.4
baz=31,SNR=14
C24A Savage 30.82 90 ⇑P P 03 39 22.0 +1.6
baz=31,SNR=14
I19A Meeteetse 30.85 99 ⇓P P 03 39 22.5 +1.6
baz=31,SNR=61
G21A Lodge Grass 30.93 96 ⇑P P 03 39 22.7 +1.2
baz=31,SNR=17
MLAC Mammoth Lakes 30.96 119 ⇑P P 03 39 24.5 +2.5
baz=31,SNR=9.3
B25A Knox Farm, Ray 31.00 88 ⇓P P 03 39 22.9 +0.9
baz=31,SNR=9.7
H20A Greybull 31.04 98 ⇑P P 03 39 23.8 +1.4
baz=31,SNR=36
F22A Rosebud 31.04 94 ⇓P P 03 39 23.5 +1.1
baz=31,SNR=31
E23A Ismay 31.05 92 ⇓P P 03 39 23.9 +1.5
baz=31,SNR=16
SPUT South Promonto 31.11 107 eP P 03 39 24.9 +1.7
comp=Z,61nm,1.1s
SPUT epP pP 03 39 45.8 +2.4
BGU Big Grassy Mou 31.11 108 eP P 03 39 25.0 +1.8
comp=Z,17nm,1.3s
D24A Glendive 31.14 91 ⇑P P 03 39 25.3 +2.0
baz=31,SNR=21
A26A Wade Farm, Ken 31.18 86 ⇓P P 03 39 24.4 +0.8
baz=31,SNR=23
C25A Freed Ranch, W 31.31 89 ⇓P P 03 39 26.1 +1.4
baz=31,SNR=14
MTUM Tungsten Hills 31.31 118 eP P 03 39 27.3 +2.2
TPH Tonopah 31.34 116 eP P 03 39 26.6 +1.3
TPH e 03 42 17.6
TPH pmax pmax
comp=Z,72nm,1.1s
TPH Tonopah 31.34 116 eP P 03 39 26.6 +1.3
comp=Z,72nm,1.1s
TPH ePcP PcP 03 42 17.6 +0.5
I20A Worland 31.35 99 ⇓P P 03 39 27.1 +1.8
baz=31,SNR=58
J19A Crowheart 31.37 100 ⇑P P 03 39 27.4 +1.9
baz=31,SNR=55
G22A Birney 31.41 95 ⇓P P 03 39 27.0 +1.3
baz=31,SNR=28
B26A Jensen Ranch, 31.41 87 ⇑P P 03 39 26.7 +1.0
baz=31,SNR=25
H21A Big Horn, Sher 31.43 97 ⇓P P 03 39 27.3 +1.3
baz=31,SNR=25
BW06 Boulder Array 31.47 102 eP P 03 39 27.9 +1.5
comp=Z,56nm,0.8s
BW06 ePcP PcP 03 42 16.9 -0.5
PDAR Pinedale Array 31.47 102 P P 03 39 27.8 +1.3
PDAR PcP PcP 03 42 16.6 -0.8
PDAR ScP ScP 03 45 50.8 -1.3
PDAR e 04 11 01.6
PDAR Pinedale Array 31.47 102 P P 03 39 27.8 +1.3
comp=Z,45nm,0.7s,baz=313,slow=4.9,SNR=332
PDAR PcP PcP 03 42 16.6 -0.8
comp=Z,2.8nm,0.9s,baz=242,slow=1.9,SNR=3.3
PDAR ScP ScP 03 45 50.8 -1.3
comp=Z,0.9nm,0.9s,baz=307,slow=0.5,SNR=3.1
PDAR LR LR 03 50 46.5
comp=Z,271nm,21.4s,baz=337,slow=33
PDAR P3KPbc 04 11 01.6
comp=Z,0.4nm,0.6s,baz=147,slow=5.2,SNR=3.7
F23A Volborg 31.52 94 ⇑P P 03 39 27.8 +1.1
baz=31,SNR=49
E24A Baker 31.52 91 ⇓P P 03 39 28.1 +1.5
baz=31,SNR=15
A27A Ledoux Ranch, 31.56 85 ⇑P P 03 39 27.6 +0.7
baz=31,SNR=7.5
D25A Fairfield 31.64 90 ⇓P P 03 39 29.2 +1.5
baz=31,SNR=17
TIN Tinemaha 31.71 118 ⇑P P 03 39 30.9 +2.5
baz=32,SNR=15
DUG Dugway 31.78 108 eP P 03 39 30.6 +1.5
DUG e 03 42 18.7
DUG pmax pmax
comp=Z,49nm,1.1s
DUG Dugway 31.78 108 eP P 03 39 30.6 +1.5
comp=Z,49nm,1.1s
DUG ePcP PcP 03 42 18.7 +0.6
DUG eScP ScP 03 45 54.0 +1.0
DUG Dugway 31.78 108 ⇓P P 03 39 30.5 +1.5
baz=32,SNR=37
J20A Shoshoni 31.80 99 ⇓P P 03 39 31.4 +2.2
baz=32,SNR=108
H22A Clearmont 31.81 96 ⇓P P 03 39 30.7 +1.5
baz=32,SNR=26
C26A Wahner Farm, P 31.83 88 ⇓P P 03 39 30.5 +1.2
baz=32,SNR=28
RCTC Rector, Farmer 31.87 120 ⇑P P 03 39 31.3 +1.6
baz=32,SNR=19
I21A Big Trails, Te 31.88 98 ⇑P P 03 39 31.0 +1.1
baz=32,SNR=96
G23A Biddle 31.88 94 ⇓P P 03 39 31.2 +1.4
baz=32,SNR=47
R11A Troy Canyon, C 31.89 114 eP P 03 39 31.4 +1.4
R11A ePcP PcP 03 42 19.2 +0.7
R11A eScP ScP 03 45 53.9 +0.4
R11A Troy Canyon, C 31.89 114 ⇑P P 03 39 31.6 +1.5
baz=32,SNR=151
B27A Peters Farms, 31.89 86 ⇓P P 03 39 30.9 +1.1
baz=32,SNR=9.2
F24A Ekalaka 31.93 93 ⇓P P 03 39 31.8 +1.6
baz=32,SNR=82
PTRM Twissleman Ran 32.00 122 eP P 03 39 33.0 +2.1
ALE Alert 32.02 14 P P 03 39 29.0 -1.5
comp=Z,96nm,0.5s,SNR=5.6
E25A Miller Ranch, 32.03 91 ⇑P P 03 39 32.4 +1.3
baz=32,SNR=25
TIXI Tiksi 32.03 324 eP P 03 39 30.7 0.0
TIXI pmax pmax
comp=Z,21nm,0.7s
TIXI MLR MLR
comp=Z,199nm,23.0s
TIXI Tiksi 32.03 324 eP P 03 39 30.5 -0.2
comp=Z,21nm,0.6s
TIXI ePcP PcP 03 42 17.7 -0.3
TIXI eScP ScP 03 45 52.1 -1.1
A28A Rude Farm, Bot 32.09 85 ⇓P P 03 39 32.4 +0.9
baz=32,SNR=24
J21A Lysite 32.13 99 ⇓P P 03 39 33.9 +1.7
baz=32,SNR=150
JLU Jordanelle 32.14 106 eP P 03 39 33.8 +1.5
comp=Z,65nm,1.2s
JLU ePcP PcP 03 42 18.1 -1.1
GRAC Grapevine Rang 32.15 117 ⇓P P 03 39 34.6 +2.4
baz=32,SNR=18
D26A Manning 32.18 89 ⇓P P 03 39 33.6 +1.2
baz=32,SNR=28
C27A Sayler Ranch, 32.21 87 ⇓P P 03 39 34.1 +1.4
baz=32,SNR=14
I22A 9 Mile Ranch, 32.23 97 ⇑P P 03 39 34.6 +1.7
baz=32,SNR=97
CWC Cottonwood Cre 32.29 119 ⇑P P 03 39 35.6 +2.0
baz=32
G24A Alzada 32.30 93 ⇓P P 03 39 34.3 +0.9
baz=32,SNR=13
H23A Clabaugh Cattl 32.32 95 ⇓P P 03 39 34.9 +1.2
baz=32,SNR=6.1
NLU North Lily Min 32.32 108 eP P 03 39 35.4 +1.5
comp=Z,48nm,1.0s
NLU ePcP PcP 03 42 20.6 +1.0
B28A Dugan Ranch, T 32.33 85 ⇓P P 03 39 34.6 +1.0
baz=32,SNR=41
DAU Daniels Canyon 32.38 106 eP P 03 39 36.4 +1.9
DAU Daniels Canyon 32.38 106 eP P 03 39 36.4 +1.9
SMMC Simmler 32.38 122 ⇓P P 03 39 36.4 +2.2
baz=32,SNR=5.6
F25A Bowman 32.38 92 ⇓P P 03 39 35.7 +1.4
baz=32,SNR=11
MPU Maple Canyon 32.49 107 eP P 03 39 37.4 +2.0
comp=Z,55nm,1.1s

E26A Carlson Angus 32.53 90 ⇓P P 03 39 36.3 +0.8
baz=32,SNR=14
J22A Midwest 32.58 98 ⇓P P 03 39 37.3 +1.3
baz=32,SNR=57
D27A Center 32.59 88 ⇓P P 03 39 37.3 +1.3
baz=32,SNR=8.1
A29A Manning Farm, 32.61 84 ⇑P P 03 39 36.7 +0.6
baz=32,SNR=37
H24A Dirks Ranch, A 32.63 94 ⇑P P 03 39 37.3 +1.0
baz=32,SNR=57
TPNV Topopah Spring 32.71 116 eP P 03 39 38.9 +1.7
TPNV pmax pmax
comp=Z,63nm,0.7s
TPNV Topopah Spring 32.71 116 eP P 03 39 38.9 +1.7
comp=Z,63nm,0.7s
TPNV Topopah Spring 32.71 116 ⇓P P 03 39 38.9 +1.7
baz=32,SNR=72
I23A Meade Ranch, G 32.71 96 ⇑P P 03 39 38.6 +1.4
baz=32
K21A Alcova 32.74 99 ⇓P P 03 39 38.6 +1.1
baz=32,SNR=145
ISA Isabella 32.76 120 eP P 03 39 38.8 +1.3
ISA e 03 42 20.6
ISA pmax pmax
comp=Z,12nm,1.0s
ISA Isabella 32.76 120 eP P 03 39 38.8 +1.3
comp=Z,12nm,1.0s
ISA ePcP PcP 03 42 20.6 -0.2
ISA Isabella 32.76 120 ⇑P P 03 39 38.8 +1.3
baz=33,SNR=35
C28A Hausauer Farms 32.78 86 ⇓P P 03 39 38.9 +1.3
baz=33,SNR=19
PKM Peak Mountain 32.81 123 ⇑P P 03 39 40.4 +2.3
baz=33,SNR=27
FURC Furnace Creek, 32.82 117 ⇑P P 03 39 40.0 +2.1
baz=33,SNR=39
B29A Wagenman Farm, 32.84 85 ⇑P P 03 39 38.8 +0.7
baz=33,SNR=40
F26A Lodgepole 32.84 91 ⇓P P 03 39 39.2 +1.0
baz=33,SNR=11
MPMC Manual Prospec 32.87 118 ⇑P P 03 39 40.5 +1.9
baz=33,SNR=53
G25A Newell 32.90 92 ⇑P P 03 39 40.0 +1.3
baz=33,SNR=29
E27A Carson 33.02 89 ⇓P P 03 39 40.7 +1.0
baz=33,SNR=12
D28A Regan 33.03 87 ⇓P P 03 39 41.0 +1.2
baz=33,SNR=9.1
J23A Dilts Ranch, B 33.05 97 ⇑P P 03 39 41.3 +1.1
baz=33
A30A Hoffart Farm, 33.07 83 ⇓P P 03 39 40.8 +0.7
baz=33,SNR=52
K22A Casper 33.10 99 eP P 03 39 41.5 +1.0
K22A eScP ScP 03 45 57.4 -0.1
K22A Casper 33.10 99 ⇑P P 03 39 41.7 +1.1
baz=33,SNR=44
MDND Maddock 33.10 86 eP P 03 39 41.6 +1.2
MDND ePcP PcP 03 42 21.8 +0.4
MDND Maddock 33.10 86 ⇑P P 03 39 41.6 +1.2
baz=33,SNR=28
F27A Lemmon 33.16 90 ⇓P P 03 39 41.9 +0.9
baz=33,SNR=14
H25A Fruitdale 33.20 93 ⇓P P 03 39 42.7 +1.3
baz=33,SNR=65
I24A Kuemmerle Ranc 33.21 95 ⇑P P 03 39 42.5 +1.0
baz=33,SNR=38
SBC Santa Barbara 33.24 123 ⇓P P 03 39 43.8 +2.2
baz=33
G26A Maurine 33.26 92 ⇑P P 03 39 42.8 +1.0
baz=33,SNR=30
TMUT Trail Mountain 33.26 108 eP P 03 39 44.1 +2.0
comp=Z,106nm,1.1s
TMUT ePcP PcP 03 42 22.9 +0.5
TMUT eScP ScP 03 45 58.5 +0.1
LRMC Laurel Mountai 33.26 119 ⇓P P 03 39 43.7 +1.7
baz=33,SNR=23
RSSD Black Hills 33.33 94 eP P 03 39 44.0 +1.4
RSSD e 03 42 22.6
RSSD pmax pmax
comp=Z,41nm,1.1s
RSSD Black Hills 33.33 94 eP P 03 39 44.0 +1.4
comp=Z,41nm,1.1s
RSSD ePcP PcP 03 42 22.6 +0.2
RSSD eScP ScP 03 45 59.0 +0.6
ARUT Antelope Range 33.35 112 eP P 03 39 44.0 +1.1
ARUT pmax pmax
comp=Z,548nm,0.9s
ARUT Antelope Range 33.35 112 eP P 03 39 44.0 +1.1
comp=Z,548nm,0.9s
B30A Myrvik Farm, E 33.37 84 ⇓P P 03 39 43.4 +0.7
baz=33,SNR=48
E28A Huff 33.38 88 ⇑P P 03 39 44.2 +1.5
baz=33,SNR=27
MVU Marysvale 33.38 110 eP P 03 39 44.9 +1.7
comp=Z,72nm,1.0s
MVU ePcP PcP 03 42 24.2 +1.5
MVU eScP ScP 03 45 59.9 +1.2
RWWY Rawlins 33.45 101 eP P 03 39 39.0 -4.8
K23A Bowen Ranch, D 33.48 98 ⇑P P 03 39 45.0 +1.1
baz=33,SNR=41
ULM Lac du Bonnet 33.49 79 eP P 03 39 44.4 +0.7
comp=Z,78nm,0.9s
ULM PcP PcP 03 42 22.1 -0.4
ULM ePcP PcP 03 42 22.2 -0.2
ULM ScP ScP 03 45 57.8 -0.8
ULM eScP ScP 03 45 58.5 -0.1
ULM Lac du Bonnet 33.49 79 P P 03 39 44.4 +0.7
comp=Z,73nm,0.9s,baz=308,slow=8.7,SNR=84
ULM PcP PcP 03 42 22.1 -0.4
comp=Z,12nm,0.7s,baz=310,slow=2.3,SNR=5.3
ULM ScP ScP 03 45 57.8 -0.8
comp=Z,5.5nm,0.8s,baz=335,slow=6.2,SNR=3.4
ULM LR LR 03 53 40.0
comp=Z,160nm,20.0s,baz=198,slow=37
OSI Osito Adit 33.52 121 ⇓P P 03 39 45.9 +1.7
baz=33
G27A Dupree 33.54 91 ⇑P P 03 39 45.1 +0.8
baz=33,SNR=25
N20A Spence Gulch, 33.55 103 ⇓P P 03 39 46.5 +1.9
baz=33,SNR=119
I25A Rochford 33.55 94 ⇑P P 03 39 45.7 +1.2
baz=33,SNR=41
J24A Dixon Ranch, L 33.56 96 ⇓P P 03 39 45.5 +0.9
baz=33,SNR=7.9
SHPR Sheep Range 33.57 115 eP P 03 39 46.0 +1.2
SHPR ePcP PcP 03 42 24.3 +1.1
SHPR eScP ScP 03 46 00.6 +1.2
CCUT Cedar City 33.58 112 eP P 03 39 46.6 +1.7
comp=Z,31nm,0.9s
CCUT ePcP PcP 03 42 24.1 +0.9
L22A Ellis Ranch, M 33.59 99 ⇓P P 03 39 47.0 +2.0
baz=33,SNR=151
D29A Pettibone, Tap 33.62 87 ⇑P P 03 39 46.0 +1.1
baz=33,SNR=21
EDW2 Edwards Air Fo 33.62 120 ⇑P P 03 39 46.1 +1.0
baz=34,SNR=19
H26A Fairpoint 33.63 93 ⇓P P 03 39 46.3 +1.2
baz=33,SNR=53
BSC Santa Cruz Isl 33.65 123 ⇓P P 03 39 46.9 +1.6
baz=34
SRU San Rafael 33.74 107 eP P 03 39 48.3 +2.1
SRU e*PP pP 03 40 09.2 +2.6
SRU pmax pmax
comp=Z,370nm,1.1s
SRU San Rafael 33.74 107 eP P 03 39 48.2 +2.1
comp=Z,370nm,1.1s
SRU epP pP 03 40 09.2 +2.6
C30A Mose, Pekin 33.77 85 ⇑P P 03 39 47.0 +0.7
baz=34,SNR=22
BLG Laguna Peak 33.80 122 ⇑P P 03 39 47.9 +1.4
baz=34
GSC Goldstone 33.81 118 eP P 03 39 48.3 +1.6
GSC e 03 42 24.7
GSC pmax pmax
comp=Z,94nm,1.3s
GSC Goldstone 33.81 118 eP P 03 39 48.3 +1.6
comp=Z,94nm,1.3s
GSC ePcP PcP 03 42 24.6 +0.9
GSC Goldstone 33.81 118 ⇓P P 03 39 48.4 +1.7
baz=34,SNR=38
F28A McLaughlin 33.81 89 ⇓P P 03 39 47.8 +1.2
baz=34,SNR=47
K24A Anderson Ranch 33.92 97 ⇓P P 03 39 48.3 +0.6
baz=34,SNR=5.9
E29A Napoleon 33.92 87 ⇑P P 03 39 48.5 +1.0
baz=34,SNR=17
J25A Sunshine Ranch 33.96 95 ⇓P P 03 39 48.8 +0.8

baz=34,SNR=25
M22A Cedar Creek Ra 33.97 100 ⇓P P 03 39 49.4 +1.1
baz=34,SNR=72
H27A Howes 33.98 92 ⇑P P 03 39 49.3 +1.2
baz=34,SNR=48
I26A New Underwood 34.00 94 ⇑P P 03 39 49.4 +1.2
baz=34,SNR=6.9
DECC Green Verdugo 34.01 121 ⇓P P 03 39 49.9 +1.6
baz=34
D30A Buchanan 34.02 86 ⇓P P 03 39 49.1 +0.8
baz=34,SNR=23
RRX Edison Barstow 34.07 119 ⇓P P 03 39 50.6 +1.7
baz=34
O20A White River Ci 34.09 103 *e*P P 03 39 50.7 +1.5
O20A *e*PcP PcP 03 42 24.9 +0.3
O20A *e*ScP ScP 03 46 01.9 +0.8
O20A White River Ci 34.09 103 ⇑P P 03 39 50.6 +1.3
baz=34,SNR=97
TUQ Turquoise Moun 34.10 117 ⇑P P 03 39 51.0 +1.7
baz=34,SNR=16
PASC Pasadena Art C 34.13 121 *e*P P 03 39 50.2 +0.7
comp=Z,79nm,1.2s
MWC Mount Wilson 34.15 121 *e*P P 03 39 51.3 +1.5
MWC pmax pmax
comp=Z,130nm,1.1s
MWC Mount Wilson 34.15 121 *e*P P 03 39 51.3 +1.5
comp=Z,130nm,1.1s
G28A Parade 34.27 90 ⇓P P 03 39 51.5 +0.9
baz=34,SNR=11
BFSC Mount Baldy Ra 34.31 121 ⇓P P 03 39 53.0 +1.8
baz=34,SNR=44
F29A Eureka 34.32 89 ⇑P P 03 39 51.8 +0.8
baz=34,SNR=10.0
E30A Jud 34.34 87 ⇓P P 03 39 52.0 +0.8
baz=34,SNR=15
L24A Wheatland 34.35 98 ⇑P P 03 39 52.8 +1.4
baz=34,SNR=30
M23A Laramie 34.37 99 ⇓P P 03 39 52.9 +1.2
baz=34
I27A Quinn 34.38 93 ⇑P P 03 39 52.8 +1.2
baz=34,SNR=38
J26A Sides Ranch, S 34.39 95 ⇑P P 03 39 52.6 +0.9
baz=34,SNR=40
HEC Hector,Ludlow 34.41 118 ⇓P P 03 39 53.7 +1.7
baz=34
FMP Fort Macarthur 34.48 122 ⇑P P 03 39 53.6 +1.2
baz=34
K25A Mack Ranch, Ha 34.48 96 ⇓P P 03 39 53.5 +1.0
baz=34
N22A Wattenberg Ran 34.49 101 ⇓P P 03 39 54.4 +1.6
baz=34,SNR=84
H28A Mission Ridge 34.49 91 ⇑P P 03 39 53.5 +1.0
baz=34,SNR=26
BBRC Big Bear Solar 34.62 120 ⇑P P 03 39 55.2 +1.3
baz=34
N23A Red Feather La 34.68 100 ⇑P P 03 39 55.8 +1.4
baz=34,SNR=49
CIS Catalina Islan 34.69 122 ⇓P P 03 39 55.5 +1.2
baz=34
G29A Hoven 34.70 89 ⇑P P 03 39 54.9 +0.6
baz=34,SNR=10
AGMN Agassiz Nation 34.73 82 *e*P P 03 39 55.0 +0.6
comp=Z,93nm,0.8s
AGMN *e*PcP PcP 03 42 25.4 -0.6
AGMN *e*ScP ScP 03 46 02.3 -0.7
F30A Leola 34.73 88 ⇓P P 03 39 55.0 +0.5
baz=34,SNR=5.1
GMRC Granite Mounta 34.76 118 ⇑P P 03 39 56.5 +1.5
baz=35,SNR=26
L25A Engebretsen Ra 34.76 97 ⇑P P 03 39 56.0 +1.0
baz=35,SNR=20
K26A Motz Farm, Whi 34.77 95 ⇑P P 03 39 55.5 +0.5
baz=35,SNR=19
M24A Cheyenne 34.83 99 ⇓P P 03 39 57.3 +1.7
baz=35,SNR=28
I28A Midland 34.89 92 ⇓P P 03 39 56.9 +1.0
baz=35,SNR=41
O22A Kremmling 34.92 102 ⇓P P 03 39 57.8 +1.2
baz=35,SNR=30
H29A Onida 34.95 90 ⇑P P 03 39 57.3 +0.9
baz=35,SNR=6.4
J27A Elkhorn Farm, 34.98 94 ⇑P P 03 39 58.1 +1.3
baz=35,SNR=18
SCI San Clemente I 34.99 123 ⇑P P 03 39 58.2 +1.4
baz=35
U15A North Rim 34.99 112 ⇑P P 03 39 58.9 +1.8
baz=35,SNR=74
MURC Murrieta 35.05 121 ⇑P P 03 39 58.4 +1.0
baz=35,SNR=6.8
PV04 Paradox Valley 35.09 106 *e*P P 03 39 59.4 +1.5
PV04 *e*PcP PcP 03 42 28.1 +0.6
PV04 *e*ScP ScP 03 46 06.0 +1.2
G30A Faulkton 35.15 89 ⇑P P 03 39 58.9 +0.8
baz=35,SNR=25
O23A Lake Granby, G 35.20 101 ⇓P P 03 40 01.0 +2.0
baz=35,SNR=37
P22A Eagle 35.24 103 ⇓P P 03 40 00.7 +1.5
baz=35,SNR=96
M25A Palm-Egli Farm 35.24 98 ⇑P P 03 40 00.9 +1.7
baz=35,SNR=28
NEE2 Needles Airpor 35.25 116 ⇑P P 03 40 00.6 +1.6
baz=35,SNR=9.0
BELC Belle Mtn. Jos 35.26 119 ⇑P P 03 40 00.6 +1.3
baz=35,SNR=20
K27A Flueckinger Fa 35.26 95 ⇑P P 03 40 00.1 +1.0
baz=35,SNR=23
J28A Allard Ranch, 35.26 93 ⇑P P 03 40 00.4 +1.3
baz=35,SNR=60
N24A Carr 35.27 99 ⇓P P 03 40 00.9 +1.5
baz=35,SNR=13
L26A Underwood Farm 35.30 96 ⇑P P 03 40 00.5 +0.9
baz=35
W13A Hualapai Mount 35.32 115 ⇑P P 03 40 01.5 +1.6
baz=35
I29A Vivian Onida 35.32 91 ⇑P P 03 40 00.5 +0.9
baz=35,SNR=44
PFO Pinyon Flat Ob 35.38 120 *e*P P 03 40 01.3 +1.0
comp=Z,64nm,1.3s
PFO PcP PcP 03 42 28.6 +0.2
PFO *e*PcP PcP 03 42 29.1 +0.8
PFO ScP ScP 03 46 06.3 +0.6
PFO Pinyon Flat Ob 35.38 120 P P 03 40 01.9 +1.6
comp=Z,177nm,1.4s,SNR=14
PFO Pinyon Flat Ob 35.38 120 ⇓P P 03 40 01.3 +1.0
baz=35,SNR=18
PFO Pinyon Flat Ob 35.38 120 PcP PcP 03 42 28.6 +0.2
comp=Z,5.5nm,1.0s,baz=14,slow=3.9,SNR=4.1
PFO ScP ScP 03 46 06.3 +0.6
comp=Z,7.8nm,1.1s,baz=335,slow=3.8,SNR=5.2
PFO LR LR 03 52 38.7
comp=Z,205nm,18.8s,baz=319,slow=33
SMCO Snowmass 35.45 103 *e*P P 03 40 02.2 +1.0
comp=Z,59nm,1.1s
PV01 Paradox Valley 35.46 106 *e*P P 03 40 02.3 +1.2
PV01 *e*PcP PcP 03 42 29.3 +0.6
PV01 *e*ScP ScP 03 46 06.3 +0.2
IRM Iron Mountain 35.51 118 ⇓P P 03 40 03.0 +1.7
baz=35,SNR=49
L27A T5 Ranch, Ells 35.66 95 ⇑P P 03 40 03.1 +0.5
baz=36
ISCO Idaho Springs 35.67 101 *e*P P 03 40 04.3 +1.4
ISCO pmax pmax
comp=Z,24nm,1.0s
ISCO Idaho Springs 35.67 101 *e*P P 03 40 04.3 +1.4
comp=Z,24nm,1.0s
ISCO Idaho Springs 35.67 101 ⇓P P 03 40 04.4 +1.4
baz=36,SNR=27
N25A Grover 35.69 99 ⇑P P 03 40 04.4 +1.5
baz=36
M26A McRoberts Ranc 35.69 97 ⇑P P 03 40 04.0 +1.1
baz=36
K28A Ten Mile Ranch 35.70 94 ⇑P P 03 40 04.1 +1.3
baz=36,SNR=24
O24A Longmont 35.70 100 ⇓P P 03 40 05.0 +2.0
baz=36,SNR=14
109C Camp Elliot, M 35.70 121 ⇑P P 03 40 04.5 +1.7
baz=36,SNR=12
BRSD Miller 35.72 90 *e*P P 03 40 04.0 +1.0
BRSD Miller 35.72 90 ⇑P P 03 40 03.6 +0.6
baz=36,SNR=5.4
J29A Okreek 35.74 92 ⇓P P 03 40 04.1 +0.9
baz=36,SNR=44
YAK Yakutsk 35.79 308 *e*P P 03 40 02.7 -0.6
YAK *e**PP pP 03 40 23.6 -0.2
YAK *e* 03 41 27.9
YAK *e*S S 03 45 29.5 -4.2
YAK *e* 03 50 07.1
YAK pmax pmax
comp=Z,181nm,0.8s
YAK pmax pmax
comp=N,30nm,1.1s
YAK pmax pmax
comp=E,69nm,1.1s
YAK pmax pmax
comp=Z,92nm,1.3s
YAK smax smax
comp=E,416nm,3.8s
YAK smax smax
comp=N,334nm,3.7s
YAK Yakutsk 35.79 308 *e*P P 03 40 02.8 -0.5
comp=N,270nm,0.7s
YAK *e*pP pP 03 40 24.4 +0.6
BC3 Big Chuckawall 35.79 118 ⇓P P 03 40 04.8 +1.0
baz=36,SNR=13
I30A Oacoma 35.85 91 ⇓P P 03 40 04.8 +0.7
baz=36,SNR=25
PDMCI Parker Dam,Lak 35.86 116 ⇑P P 03 40 05.6 +1.4
baz=36,SNR=14
P23A Jefferson 35.87 102 ⇓P P 03 40 07.1 +2.3
baz=36,SNR=52
MONP Monument Peak 36.00 120 ⇓P P 03 40 07.3 +1.6
baz=36,SNR=26
M27A Reverse DX Ran 36.03 96 ⇑P P 03 40 06.4 +0.7
baz=36
BAR Barrett 36.07 121 *e*P P 03 40 07.5 +1.4
comp=N,86nm,1.5s
BAR *e*PcP PcP 03 42 30.9 +0.7
BAR *e*ScP ScP 03 46 09.1 +0.9
N26A Koester Ranch, 36.12 98 ⇑P P 03 40 08.2 +1.7
baz=36,SNR=26
L28A Connealy Angus 36.13 95 ⇓P P 03 40 07.7 +1.1
baz=36,SNR=8.2
Y12C Blythe 36.14 117 ⇓P P 03 40 08.3 +1.7
baz=36,SNR=41
WUAZ Wupatki 36.16 112 *e*P P 03 40 09.0 +1.9
comp=N,192nm,1.3s
WUAZ *e*PcP PcP 03 42 31.6 +0.8
WUAZ *e*ScP ScP 03 46 08.9 +0.2
WUAZ Wupatki 36.16 112 ⇑P P 03 40 08.9 +1.8
baz=36,SNR=61
O25A Wiggins 36.19 99 ⇑P P 03 40 08.7 +1.5
baz=36,SNR=24
K29A Lazy Trails An 36.20 93 ⇑P P 03 40 08.4 +1.2
baz=36,SNR=28
MVCO Mesa Verde 36.22 107 *e*P P 03 40 08.7 +1.1
comp=N,103nm,1.4s
MVCO *e*PcP PcP 03 42 31.6 +0.6
MVCO Mesa Verde 36.22 107 ⇑P P 03 40 08.6 +1.1
baz=36,SNR=33
J30A Dallas 36.23 91 ⇑P P 03 40 08.0 +0.6
baz=36,SNR=26
Q23A Hartsel 36.23 102 ⇑P P 03 40 09.7 +1.9
baz=36,SNR=7.2
SWSC Sam W. Stewart 36.24 119 ⇓P P 03 40 08.6 +1.1
baz=36,SNR=16
P24A Kohler Place, 36.24 101 ⇑P P 03 40 09.7 +2.0
baz=36,SNR=6.5
DVTC Desert V Tower 36.34 120 ⇑P P 03 40 10.2 +1.8
baz=36,SNR=17
N27A Anderson Farm, 36.48 97 ⇓P P 03 40 11.1 +1.5
baz=36,SNR=73
O26A Horse Wrangler 36.50 98 ⇓P P 03 40 11.3 +1.4
baz=36,SNR=29
Q24A Divide 36.53 102 ⇑P P 03 40 12.2 +1.9
baz=36,SNR=69
GLA Glamis 36.58 118 *e*P P 03 40 11.9 +1.4
GLA *e**PP pP 03 40 32.6 +1.6
GLA *e* 03 42 32.5
GLA pmax pmax
comp=Z,15nm,1.1s
GLA Glamis 36.58 118 *e*P P 03 40 11.9 +1.4
comp=Z,15nm,1.1s
GLA *e*pP pP 03 40 32.6 +1.6
GLA *e*PcP PcP 03 42 32.5 +0.7
GLA Glamis 36.58 118 ⇓P P 03 40 11.9 +1.4
baz=36,SNR=13
P25A Willow Gulch B 36.62 100 ⇑P P 03 40 13.0 +2.1
baz=36,SNR=78
L29A Maesberg Ranch 36.62 94 ⇓P P 03 40 12.2 +1.4
baz=36,SNR=8.8
S22A 4UR Ranch, Cre 36.62 105 ⇑P P 03 40 13.1 +2.0
baz=36,SNR=54
K30A Basset 36.63 92 ⇓P P 03 40 12.1 +1.3
baz=36,SNR=40
OGNE Ogallala 36.64 96 *e*P P 03 40 12.0 +1.1
comp=Z,199nm,1.4s
OGNE Ogallala 36.64 96 ⇓P P 03 40 12.0 +1.1
baz=36,SNR=13
M28A Bar X Bar Ranc 36.65 95 ⇑P P 03 40 12.1 +1.1
baz=36,SNR=9.9
Y14A Wickenburg 36.68 115 ⇑P P 03 40 12.9 +1.6
baz=36,SNR=49
R23A Mat 36.78 103 ⇓P P 03 40 14.5 +2.1
baz=37
M29A Burnside Ranch 36.96 95 ⇑P P 03 40 14.7 +1.1
baz=37,SNR=14
O27A Beecher Island 36.97 98 ⇓P P 03 40 15.0 +1.3
baz=37,SNR=15
P26A Davis Ranch, A 37.00 99 ⇑P P 03 40 15.6 +1.6
baz=37,SNR=36
X16A Lo Mia Camp, P 37.03 113 ⇑P P 03 40 16.5 +2.1
baz=37,SNR=40
Q25A Bedland, Calha 37.03 101 ⇓P P 03 40 16.2 +1.8
baz=37,SNR=98
S23A Nye Farm, Mont 37.07 104 ⇑P P 03 40 17.2 +2.3
baz=37,SNR=25
N28A Pribbeno Ranch 37.08 96 ⇓P P 03 40 15.9 +1.2
baz=37,SNR=30
L30A Spencer Herefo 37.09 93 ⇑P P 03 40 15.8 +1.1
baz=37,SNR=14
R24A Sanders Place, 37.11 102 ⇑P P 03 40 17.2 +2.0
baz=37,SNR=51
EYMN Ely 37.18 79 *e*P P 03 40 16.1 +0.8
comp=Z,218nm,0.8s
EYMN *e*PcP PcP 03 42 33.9 +0.5
Z14A Wintersburg 37.19 116 ⇓P P 03 40 17.2 +1.6
baz=37,SNR=21
W18A Petrified Fore 37.27 110 *e*P P 03 40 17.8 +1.2
W18A *e*PcP PcP 03 42 35.2 +1.1
W18A Petrified Fore 37.27 110 ⇑P P 03 40 18.2 +1.6
baz=37,SNR=9.6
SDCO Great Sand Dun 37.29 103 *e*P P 03 40 18.4 +1.6
comp=Z,92nm,0.8s
SDCO *e*PcP PcP 03 42 34.5 +0.3
113A Mohawk Valley, 37.30 117 ⇑P P 03 40 17.8 +1.3
baz=37,SNR=10
M30A Dale-Ortello V 37.31 94 ⇓P P 03 40 17.6 +1.0
baz=37,SNR=5.2
O28A Krutsinger Ran 37.38 97 ⇑P P 03 40 18.2 +1.0
baz=37,SNR=22
L31A Butterfield Fa 37.38 92 ⇑P P 03 40 18.0 +0.8
baz=37
Q26A Hugo 37.39 100 ⇓P P 03 40 19.2 +1.8
baz=37,SNR=82
P27A Ficken Ranch, 37.39 99 ⇑P P 03 40 18.4 +1.0
baz=37,SNR=23
ECSD EROS Data Cent 37.42 88 *e*P P 03 40 17.4 -0.1
comp=Z,374nm,2.6s
ECSD *e*PcP PcP 03 42 34.2 0.0
ECSD *e*ScP ScP 03 46 12.9 -0.2
N29A Votaw Ranch, W 37.45 95 ⇑P P 03 40 18.8 +1.0
baz=37,SNR=17
S24A Houchin Ranch, 37.52 103 ⇓P P 03 40 20.8 +2.2
baz=37,SNR=112
T23A Casias Ranch, 37.57 105 ⇓P P 03 40 21.0 +1.9
baz=37,SNR=31
R25A Fountain Ranch 37.59 102 ⇑P P 03 40 21.1 +2.0
baz=37,SNR=45
X18A Snowflake 37.65 111 ⇓P P 03 40 21.6 +1.9
baz=38,SNR=42
U22A Llaves 37.68 106 ⇑P P 03 40 21.9 +1.9
baz=38,SNR=10
N30A Hueftle Ranch, 37.74 95 ⇓P P 03 40 21.4 +1.2
baz=38,SNR=5.9
KSCO Kaye Shedlock' 37.78 99 *e*P P 03 40 22.3 +1.7
KSCO Kaye Shedlock' 37.78 99 ⇑P P 03 40 22.3 +1.7
baz=38,SNR=70
KIP Kipapa 37.80 187 *e*P P 03 40 22.0 +1.3
KIP pmax pmax
comp=Z,130nm,2.5s
P28A Saint Francis 37.80 98 ⇑P P 03 40 21.9 +1.1
baz=38,SNR=45
O29A 4D Ranch, Culb 37.88 96 ⇑P P 03 40 22.4 +1.0
baz=38,SNR=17
T24B San Luis 37.88 104 ⇓P P 03 40 24.0 +2.3
baz=38,SNR=50
S25A Robets Cordova 37.89 102 ⇓P P 03 40 23.5 +1.8
baz=38
R26A Arlington 37.90 101 ⇓P P 03 40 23.1 +1.5
baz=38,SNR=25
M31A Lambtecht Ranc 37.92 93 ⇓P P 03 40 22.5 +0.8
baz=38,SNR=26
V22A San Miguel Ran 38.02 107 ⇑P P 03 40 24.7 +1.8
baz=38,SNR=134
U23A El Rito 38.05 105 ⇓P P 03 40 25.3 +2.3
baz=38,SNR=192
Q28A Sharon Springs 38.14 98 ⇑P P 03 40 24.8 +1.1
baz=38,SNR=13
P29A Atwood 38.20 97 ⇑P P 03 40 25.4 +1.3
baz=38,SNR=32
O30A MW Ranch, Wils 38.22 95 ⇑P P 03 40 25.1 +0.8
baz=38
R27A Eads 38.24 100 ⇓P P 03 40 26.0 +1.5
baz=38,SNR=52
BGNE Belgrade 38.30 92 *e*P P 03 40 25.4 +0.6
BGNE *e*PcP PcP 03 42 36.8 -0.2
BGNE Belgrade 38.30 92 ⇓P P 03 40 25.8 +1.0
baz=38
T25A Trinidad 38.31 103 ⇑P P 03 40 27.0 +1.8
baz=38,SNR=54
N31A Bailey Ranch, 38.31 94 ⇑P P 03 40 26.0 +1.0
baz=38
SPMN St. Paul 38.35 84 *e*P P 03 40 26.2 +1.0
SPMN St. Paul 38.35 84 ⇓P P 03 40 26.2 +1.0
baz=38,SNR=37
S26A Kim 38.41 101 ⇓P P 03 40 27.7 +1.7
baz=38,SNR=76
214A Organ Pipe Nat 38.42 117 *e*P P 03 40 27.4 +1.3
214A *e*PcP PcP 03 42 38.3 +0.8
214A Organ Pipe Nat 38.42 117 ⇑P P 03 40 27.6 +1.6
baz=38,SNR=22
U24A Moreno Valley 38.44 104 ⇑P P 03 40 28.7 +2.3
baz=38,SNR=25
V23A Ortiz Mt. (NFS 38.51 106 ⇓P P 03 40 29.5 +2.5
baz=38,SNR=53
P30A Selden 38.59 96 ⇓P P 03 40 28.6 +1.2
baz=38,SNR=31
O31A Woolen Ranch, 38.61 95 ⇓P P 03 40 28.4 +0.9
baz=38,SNR=20
S27A Las Animas 38.65 101 ⇓P P 03 40 29.5 +1.5
baz=38,SNR=94
YSS Yuzh-Sakhalins 38.67 281 *e*P P 03 40 28.9 +1.0
YSS Yuzh-Sakhalins 38.67 281 ⇓P P 03 40 29.0 +1.1
comp=Z,96nm,1.2s
N32A Stulken Farm, 38.69 93 ⇓P P 03 40 28.9 +0.7
baz=38,SNR=8.6
T26A Comanche Natio 38.69 102 ⇑P P 03 40 29.8 +1.4
baz=38,SNR=154
R28A Tribune 38.70 99 ⇓P P 03 40 29.6 +1.3
baz=38,SNR=20
Q29A Oakley 38.71 98 ⇓P P 03 40 29.7 +1.3
baz=38,SNR=44
U25A Circle Dot Ran 38.88 104 ⇑P P 03 40 31.9 +1.9
baz=39,SNR=133
R29A Marienthal 38.98 98 ⇑P P 03 40 32.1 +1.4
baz=39,SNR=30
V24A Rampart Ranch, 38.98 105 ⇓P P 03 40 33.1 +2.2
baz=39,SNR=43
W23A Werner Place, 38.99 107 ⇓P P 03 40 32.9 +1.9
baz=39,SNR=40
ANMO Albuquerque 39.01 107 *e*P P 03 40 32.5 +1.4
comp=Z,91nm,1.6s
ANMO PcP PcP 03 42 40.3 +0.8
ANMO *e*PcP PcP 03 42 40.5 +1.0
ANMO ScP ScP 03 46 20.4 +0.9
ANMO *e*ScP ScP 03 46 20.8 +1.3
ANMO Albuquerque 39.01 107 P P 03 40 32.6 +1.4
comp=Z,16nm,0.8s,baz=327,slow=10,SNR=9.7
ANMO PcP PcP 03 42 40.3 +0.8
comp=Z,10.0nm,0.8s,baz=284,slow=2.9,SNR=6.5
ANMO ScP ScP 03 46 20.4 +0.9
comp=Z,4.1nm,1.0s,baz=312,slow=5.0,SNR=6.2
Q30A Quinter 39.03 97 ⇓P P 03 40 32.4 +1.3
baz=39,SNR=11
P31A Stockton 39.05 96 ⇑P P 03 40 32.1 +0.9
baz=39,SNR=19
TUC Tucson 39.07 114 *e*P P 03 40 33.3 +1.8
TUC *e* 03 42 40.4
TUC *e* 03 46 20.8
TUC pmax pmax
comp=Z,72nm,1.7s
TUC Tucson 39.07 114 *e*P P 03 40 33.3 +1.8
comp=Z,72nm,1.7s
TUC *e*PcP PcP 03 42 40.4 +0.9
TUC *e*ScP ScP 03 46 20.8 +1.2
O32A Brockman Farm, 39.07 94 ⇓P P 03 40 31.7 +0.4
baz=39,SNR=11
LAZ Ladron 39.12 108 *e*P P 03 40 33.4 +1.5
comp=Z,25nm,1.1s
T27A Campo 39.22 101 ⇓P P 03 40 34.5 +1.7
baz=39,SNR=97
V25A Rancho No Teng 39.22 104 ⇑P P 03 40 34.9 +2.0
baz=39,SNR=93
U26A Atchley Ranch, 39.22 103 ⇑P P 03 40 34.7 +1.9
baz=39,SNR=108
S28A Manter 39.23 100 ⇑P P 03 40 34.4 +1.6
baz=39,SNR=81
W24A Lazy 6 Ranch, 39.32 106 ⇓P P 03 40 35.7 +2.0
baz=39,SNR=68
P32A Huiting Farm, 39.38 95 ⇑P P 03 40 34.5 +0.6
baz=39,SNR=48
LENM Lemitar 39.39 108 *e*P P 03 40 36.2 +2.0
LENM *e*pP pP 03 40 57.6 +2.7
Q31A Ellis 39.43 96 ⇑P P 03 40 35.5 +1.2
baz=39,SNR=28
LPM Los Pinos Moun 39.44 108 *e*P P 03 40 36.4 +1.7
LPM *e*PcP PcP 03 42 41.5 +0.7
LPM *e*ScP ScP 03 46 22.2 +1.1
X23A Hourglass Bar 39.44 107 ⇑P P 03 40 35.9 +1.3
baz=39
T28A Walsh 39.48 101 ⇓P P 03 40 36.5 +1.6
baz=39,SNR=44
Y22D IRIS PASSCAL I 39.49 108 ⇓P P 03 40 37.2 +2.2
baz=39
R30A Dighton 39.53 98 ⇑P P 03 40 36.7 +1.6
baz=39,SNR=94
BNM Barren Site 39.57 108 *e*P P 03 40 37.4 +1.6
comp=Z,58nm,1.2s
BNM *e*PcP PcP 03 42 42.2 +0.9
BNM *e*ScP ScP 03 46 22.5 +0.8
Y22A Socorro 39.57 109 ⇑P P 03 40 37.7 +2.0
baz=39,SNR=57
S29A Ulysses 39.60 99 ⇓P P 03 40 37.3 +1.4
baz=39,SNR=24
U27A Thompson Grove 39.66 102 ⇓P P 03 40 38.1 +1.6
baz=40,SNR=57
V26A Tequesquite Ra 39.67 104 ⇑P P 03 40 38.4 +1.9
baz=40,SNR=206
W25A X Bar L Ranch, 39.79 105 ⇑P P 03 40 39.2 +1.7
baz=40,SNR=88
X24A Lazy VL Ranch, 39.82 106 ⇑P P 03 40 39.5 +1.6
baz=40
T29A Hugoton 39.87 100 ⇓P P 03 40 39.4 +1.3
baz=40,SNR=9.5
Q32A Meitler Ranch, 39.87 95 ⇓P P 03 40 38.9 +0.8
baz=40,SNR=23
R31A Burdett 39.91 97 ⇑P P 03 40 39.4 +1.1
baz=40,SNR=53
S30A Montezuma 39.92 98 ⇑P P 03 40 39.7 +1.2
baz=40,SNR=12
P33A Williams Farm, 39.98 94 ⇓P P 03 40 39.9 +1.0
baz=40,SNR=32
U28A Mallet 40.00 101 ⇑P P 03 40 40.6 +1.4
baz=40,SNR=38
Y23A Lovelace Mesa, 40.02 108 ⇑P P 03 40 41.4 +1.9
baz=40,SNR=72
Z22A Elephant Butte 40.13 109 ⇓P P 03 40 42.3 +2.0
baz=40,SNR=100
V27A Dan Oppiter Fa 40.18 103 ⇑P P 03 40 42.2 +1.6
baz=40,SNR=28
R32A Long Quarter, 40.22 96 ⇓P P 03 40 41.9 +1.0
baz=40,SNR=25
W26A Owens Ranch, T 40.24 104 ⇓P P 03 40 43.0 +1.8
baz=40,SNR=45
X25A Clemmons Ranch 40.24 106 ⇓P P 03 40 43.1 +1.9
baz=40,SNR=13
Q33A Connelly Farm, 40.24 95 ⇓P P 03 40 41.9 +0.8
baz=40,SNR=39
121A Cookes Peak, D 40.32 111 *e*P P 03 40 43.5 +1.6
121A *e*PcP PcP 03 42 44.8 +1.1
121A *e*ScP ScP 03 46 24.4 -0.2

121A **Cookes Peak, D** 40.32 111 ⇓P P 03 40 44.0 +2.1
baz=40,SNR=33
Y24A **Capitan** 40.34 107 ⇓P P 03 40 44.0 +2.0
baz=40,SNR=92
T30A **Plains** 40.34 99 ⇑P P 03 40 43.1 +1.2
baz=40,SNR=11
U29A **Oasis Ranch, S** 40.43 100 ⇑P P 03 40 44.1 +1.4
baz=40,SNR=14
S31A **Mullinville** 40.44 98 ⇓P P 03 40 43.7 +1.0
baz=40,SNR=22
SCIA **State Center** 40.48 88 eP P 03 40 43.5 +0.6
comp=Z,98nm,1.1s
Z23A **Rita Site, Whi** 40.48 108 ⇑P P 03 40 45.1 +2.0
baz=40,SNR=22
V28A **Channing** 40.49 102 ⇓P P 03 40 44.6 +1.3
baz=40,SNR=26
319A **Douglas** 40.56 113 ⇓P P 03 40 45.5 +1.7
baz=40,SNR=10
W27A **Bowe Ranch, En** 40.61 104 ⇓P P 03 40 45.3 +1.1
baz=40,SNR=31
X26A **CR and CF Fran** 40.64 105 ⇓P P 03 40 46.0 +1.5
baz=40,SNR=36
S32A **Newby Ranch, P** 40.66 97 ⇓P P 03 40 45.5 +1.0
baz=40,SNR=12
U30A **WK&E Inc. Balk** 40.68 100 ⇓P P 03 40 46.1 +1.4
baz=40,SNR=46
R33A **Olander Ranch,** 40.68 96 ⇑P P 03 40 45.5 +0.8
baz=40,SNR=40
Y25A **Mesa, Roswell** 40.70 106 ⇑P P 03 40 46.9 +1.8
baz=40,SNR=187
ASAJ **Asahikawa** 40.71 278 eP P 03 40 45.9 +1.1
comp=Z,15nm,0.9s
ASAJ **Asahikawa** 40.71 278 P P 03 40 45.4 +0.6
comp=Z,28nm,0.8s,baz=314,slow=2.4,SNR=14
ASAJ LR LR 03 55 29.4
comp=Z,134nm,21.8s,baz=22,slow=33
T31A **Randall Ranch,** 40.74 98 ⇓P P 03 40 46.3 +1.2
baz=40,SNR=51
V29A **Stinnett** 40.75 101 ⇑P P 03 40 46.6 +1.3
baz=41,SNR=30
CLNS **Chul'man** 40.77 304 eP P 03 40 44.5 -0.7
CLNS pmax pmax
comp=Z,49nm,0.7s
CLNS pmax pmax
comp=E,35nm,0.9s
CLNS pmax pmax
comp=N,34nm,0.9s
KSU1 **Kansas State U** 40.79 93 eP P 03 40 46.1 +0.5
comp=N,218nm,1.4s
KSU1 ePcP PcP 03 42 44.9 0.0
KSU1 eScP ScP 03 46 25.9 -0.2
Z24A **Sheeppen Canyo** 40.85 107 ⇑P P 03 40 48.2 +1.9
baz=41,SNR=99
W28A **Vega** 40.89 102 ⇓P P 03 40 47.9 +1.4
baz=41,SNR=20
X27A **F and S Farms,** 40.92 104 ⇓P P 03 40 48.3 +1.5
baz=41,SNR=90
320A **Kipp Ranch, An** 40.95 113 ⇓P P 03 40 48.9 +1.9
baz=41,SNR=17
123A **Bell Site, Whi** 40.97 109 ⇓P P 03 40 49.3 +2.0
baz=41,SNR=8.9
222A **Williams Famil** 41.00 110 ⇑P P 03 40 49.2 +1.7
baz=41,SNR=14
T32A **Huddler Ranch,** 41.06 98 ⇑P P 03 40 48.6 +0.7
baz=41,SNR=14
Y26A **Elida** 41.13 105 ⇓P P 03 40 50.0 +1.4
baz=41,SNR=18
Z25A **Roswell** 41.21 107 ⇑P P 03 40 50.7 +1.5
baz=41,SNR=61
U31A **Nine Bar Ranch** 41.21 99 ⇓P P 03 40 50.5 +1.4
baz=41,SNR=17
S33A **Kaszmaul Farm,** 41.22 96 ⇓P P 03 40 49.9 +0.8
baz=41
V30A **Spur Ranch, Mi** 41.26 101 ⇓P P 03 40 50.6 +1.1
baz=41,SNR=5.5
W29A **Amraillo** 41.28 102 ⇑P P 03 40 50.9 +1.2
baz=41,SNR=21
JFWS **Jewell Farm** 41.28 84 eP P 03 40 49.6 +0.1
JFWS e 03 42 46.0
JFWS pmax pmax
comp=Z,195nm,0.7s
JFWS **Jewell Farm** 41.28 84 eP P 03 40 49.6 +0.1
comp=Z,195nm,0.7s
JFWS ePcP PcP 03 42 46.0 -0.5
124A **Stringfield Ra** 41.31 108 ⇓P P 03 40 51.6 +1.4
baz=41,SNR=40
SUMG **Summit** 41.32 24 i P P 03 40 50.2 +0.3
SUMG **Summit** 41.32 24 i P P 03 40 50.2 +0.3
comp=Z,9.9nm,0.7s
SUMG **Summit** 41.32 24 eP P 03 40 50.1 +0.1
223A **Chaparral, Ant** 41.41 110 ⇓P P 03 40 52.8 +2.0
baz=41
AMTX **Amarillo** 41.45 102 eP P 03 40 52.4 +1.4
AMTX **Amarillo** 41.45 102 ⇑P P 03 40 52.5 +1.4
baz=41
X28A **Dimmitt** 41.48 103 ⇓P P 03 40 52.5 +1.2
baz=41,SNR=29
T33A **Patterson Ranc** 41.48 97 ⇑P P 03 40 52.0 +0.8
baz=41,SNR=17
Y27A **Causey** 41.50 105 ⇓P P 03 40 53.0 +1.5
baz=41,SNR=191
HABR **Khabarovsk** 41.50 288 ceP P 03 40 50.1 -1.1
HABR e*PP pP 03 41 11.1 -1.0
HABR e*SP sP 03 41 21.7 -0.5
HABR PPP PPP 03 42 59.4
HABR S S 03 46 59.9 +0.1
HABR e*SS sS 03 47 36.3 +0.6
HABR eSS SS 03 50 08.0 +1.0
HABR e 03 50 43.9
HABR pmax pmax
comp=Z,146nm,1.4s
HABR pmax pmax
comp=N,48nm,1.7s
HABR pmax pmax
comp=E,125nm,1.7s
HABR MLR MLR
comp=Z,192nm,16.0s
Z26A **Caprock** 41.58 106 ⇑P P 03 40 53.5 +1.3
baz=41,SNR=104
MSTX **Muleshoe** 41.62 104 eP P 03 40 53.7 +1.2
MSTX epP pP 03 41 15.1 +1.6
MSTX ePcP PcP 03 42 48.0 +0.2
MSTX **Muleshoe** 41.62 104 ⇓P P 03 40 53.8 +1.3
baz=41,SNR=77
U32A **Winter Ranch,** 41.64 98 ⇑P P 03 40 53.6 +1.1
baz=41,SNR=21
V31A **Spring Creek L** 41.68 100 ⇓P P 03 40 54.4 +1.5
baz=42,SNR=58
125A **Gardner Draw,** 41.74 107 ⇑P P 03 40 55.3 +1.8
baz=42,SNR=141
W30A **Crocket Farms** 41.77 101 ⇑P P 03 40 54.9 +1.2
baz=42,SNR=7.5
X29A **Tulia** 41.78 103 ⇓P P 03 40 55.1 +1.3
baz=42,SNR=55
224A **Cornudas Mount** 41.79 109 ⇓P P 03 40 55.6 +1.6
baz=42,SNR=61
ERM **Erimo** 41.92 275 eP P 03 40 55.3 +0.6
ERM e 03 42 49.6
ERM pmax pmax
comp=Z,77nm,1.1s
ERM **Erimo** 41.92 275 eP P 03 40 55.3 +0.6
comp=Z,77nm,1.1s
ERM ePcP PcP 03 42 49.6 +1.1
ERM **Erimo** 41.92 275 P P 03 40 55.9 +1.2
comp=Z,386nm,0.5s,SNR=8.8
Z27A **Tatum** 41.92 105 ⇓P P 03 40 55.9 +0.9
baz=42,SNR=70
Y28A **McKinney Farm,** 41.93 104 ⇑P P 03 40 56.0 +0.9
baz=42,SNR=87
SFJD **Kangerlussuaq** 42.06 35 i P P 03 40 56.3 +0.8
comp=Z,10nm,0.7s
126A **Clayton Basin,** 42.06 107 ⇑P P 03 40 57.3 +1.2
baz=42,SNR=19
W31A **Holland Ranch,** 42.09 100 ⇑P P 03 40 57.1 +0.9
baz=42,SNR=41
225A **Deer Hill, Car** 42.10 108 ⇑P P 03 40 58.1 +1.5
baz=42,SNR=41
V32A **Arapaho** 42.13 99 ⇑P P 03 40 57.6 +1.0
baz=42,SNR=17
MNTX **Cornudas Mount** 42.17 109 eP P 03 40 58.4 +1.5
comp=Z,75nm,0.9s
MNTX ePcP PcP 03 42 50.0 +0.5
MNTX eScP ScP 03 46 32.1 +0.4
X30A **Coker Ranch, T** 42.20 102 ⇓P P 03 40 58.4 +1.2
baz=42,SNR=58
GDL2 **Guadalupe Moun** 42.26 107 eP P 03 40 59.3 +1.6
GDL2 ePcP PcP 03 42 50.3 +0.4

Y29A **Porterfield Fa** 42.26 103 ⇓P P 03 40 58.9 +1.2
baz=42,SNR=158
324A **Moseley Ranch,** 42.33 109 ⇑P P 03 40 59.9 +1.6
baz=42,SNR=59
U34A **Anderson Ranch** 42.34 97 ⇑P P 03 40 58.8 +0.6
baz=42,SNR=44
Z28A **Tucker Farm, M** 42.36 104 ⇑P P 03 40 59.0 +0.5
baz=42,SNR=18
127A **Arkansas Junct** 42.37 106 ⇓P P 03 40 59.5 +0.9
baz=42,SNR=18
V33A **Lossen Ranch,** 42.44 98 ⇓P P 03 40 59.5 +0.5
baz=42,SNR=15
226B **Tecolote Peak,** 42.45 107 ⇑P P 03 41 00.9 +1.6
baz=42
X31A **McDonald Ranch** 42.51 101 ⇓P P 03 41 01.0 +1.4
baz=42,SNR=61
KLR **Kul'dur** 42.59 291 ⇓iP P 03 40 57.6 -2.5
KLR e 03 41 17.9
KLR e 03 47 13.8
KLR pmax pmax
comp=N,43nm,1.2s
KLR pmax pmax
comp=E,110nm,1.2s
KLR pmax pmax
comp=Z,330nm,1.2s
325A **Bean Ranch, Si** 42.63 109 ⇓P P 03 41 02.6 +1.7
baz=42,SNR=87
Y30A **StaffCattl** 42.64 102 ⇑P P 03 41 01.8 +1.1
baz=42,SNR=37
Z29A **Hungry Hill Ra** 42.72 104 ⇓P P 03 41 02.4 +1.0
baz=42,SNR=95
SPITS **Spitsbergen Ar** 42.81 3 P P 03 40 59.9 -1.6
SPITS PcP PcP 03 42 51.0 +0.1
SPITS **Spitsbergen Ar** 42.81 3 P P 03 40 59.9 -1.6
comp=Z,6.9nm,0.5s,baz=15,slow=6.0,SNR=21
SPITS PcP PcP 03 42 51.0 +0.1
comp=Z,9.5nm,0.5s,baz=322,slow=4.4,SNR=8.4
V34A **Guthrie** 42.82 97 ⇑P P 03 41 02.7 +0.6
baz=43,SNR=32
128A **Castleberry Fa** 42.85 105 ⇓P P 03 41 03.4 +1.0
baz=43,SNR=102
W33A **Caddo, Fort Co** 42.86 99 ⇓P P 03 41 03.7 +1.2
baz=43,SNR=22
Y31A **Rekieta Farm,** 42.89 102 ⇓P P 03 41 03.4 +0.7
baz=43,SNR=18
227A **Bennet, Jal** 42.94 106 ⇑P P 03 41 04.3 +1.1
baz=43,SNR=19
Z30A **Sanderson Ranc** 42.99 103 ⇓P P 03 41 04.3 +0.7
baz=43,SNR=98
X32A **Elmer** 43.02 100 ⇓P P 03 41 04.9 +1.1
baz=43,SNR=21
WMOK **Wichita Mounta** 43.03 100 eP P 03 41 04.9 +1.1
WMOK **Wichita Mounta** 43.03 100 eP P 03 41 04.9 +1.1
425A **Indio Mountain** 43.11 109 ⇓P P 03 41 06.7 +2.1
baz=43,SNR=145
129A **Stewart Farms,** 43.15 105 ⇑P P 03 41 05.6 +0.7
baz=43,SNR=30
W34A **Bridge Creek,** 43.15 98 ⇓P P 03 41 05.6 +0.8
baz=43,SNR=13
326A **Caldwell Ranch** 43.16 108 ⇑P P 03 41 06.5 +1.5
baz=43,SNR=88
228A **UT Block 9, Go** 43.20 106 ⇑P P 03 41 06.4 +1.1
baz=43,SNR=39
Y32A **R-V Farms, Ver** 43.27 101 ⇑P P 03 41 06.9 +1.1
baz=43,SNR=77
X33A **Lawton** 43.33 100 ⇓P P 03 41 07.2 +1.0
baz=43,SNR=52
327A **Balmorhea Ranc** 43.36 107 ⇓P P 03 41 08.1 +1.5
baz=43,SNR=5.6
Z31A **Sharp Cattle R** 43.46 102 ⇑P P 03 41 07.8 +0.5
baz=43,SNR=46
X34A **Smith Ranch, M** 43.62 99 ⇓P P 03 41 09.5 +0.9
baz=43,SNR=12
130A **Snyder** 43.62 104 ⇑P P 03 41 09.8 +1.1
baz=43,SNR=52
TUL1 **Tulsa** 43.64 96 eP P 03 41 08.5 -0.2
TUL1 **Tulsa** 43.64 96 ⇑P P 03 41 09.0 +0.3
baz=43,SNR=28
426A **McDonald Obser** 43.67 108 ⇓P P 03 41 10.6 +1.4
baz=44,SNR=84
Y33A **Hilltop Ranch,** 43.68 100 ⇑P P 03 41 09.9 +0.9
baz=44,SNR=29
328A **Wristen Ranch,** 43.69 107 ⇑P P 03 41 09.8 +0.6
baz=44,SNR=38
229A **Bryant Ranch,** 43.71 105 ⇓P P 03 41 10.3 +0.9
baz=44,SNR=26
Z32A **Haskell** 43.81 102 ⇓P P 03 41 10.6 +0.6
baz=44,SNR=60
427A **Hayter Ranch,** 43.83 108 ⇓P P 03 41 11.6 +1.2
baz=44,SNR=65
131A **Roby** 43.85 103 ⇑P P 03 41 11.5 +1.0
baz=44,SNR=38
329A **Wagon Wheel Ra** 44.01 106 ⇑P P 03 41 12.9 +1.1
baz=44,SNR=89
230A **Sterling City** 44.12 104 ⇑P P 03 41 13.5 +0.9
baz=44,SNR=58
526A **Mary Lane Ranc** 44.14 109 ⇓P P 03 41 14.6 +1.7
baz=44,SNR=63
Y34A **Reagan Ranch,** 44.16 99 ⇓P P 03 41 14.0 +1.1
baz=44,SNR=57
Z33A **Whitaker Ranch** 44.18 101 ⇓P P 03 41 13.6 +0.5
baz=44,SNR=62
ABTX **Abilene, Hawle** 44.27 102 eP P 03 41 14.5 +0.7
ABTX epP pP 03 41 37.1 +2.2
ABTX ePcP PcP 03 42 57.0 +0.3
ABTX **Abilene, Hawle** 44.27 102 ⇓P P 03 41 14.6 +0.8
baz=44,SNR=52
428A **Kincaid Ranch,** 44.28 107 ⇓P P 03 41 16.0 +2.0
baz=44,SNR=338
SCHQ **Schefferville** 44.28 56 eP P 03 41 13.8 +0.2
comp=Z,38nm,1.0s
SCHQ ScP ScP 03 46 40.1 +0.2
SCHQ **Schefferville** 44.28 56 P P 03 41 13.9 +0.3
comp=Z,29nm,0.9s,baz=319,slow=8.6,SNR=32
SCHQ ScP ScP 03 46 40.1 +0.2
comp=Z,7.4nm,1.0s,baz=287,slow=4.2,SNR=4.2
SCHQ LR LR 04 00 21.9
comp=Z,187nm,21.8s,baz=330,slow=37
527A **Woodward Ranch** 44.30 108 ⇑P P 03 41 15.5 +1.3
baz=44,SNR=88
SLM **Saint Louis** 44.43 88 eP P 03 41 14.3 -0.6
SLM pmax pmax
comp=Z,170nm,1.4s
SLM **Saint Louis** 44.43 88 eP P 03 41 14.3 -0.6
comp=Z,170nm,1.4s
330A **Mertzon** 44.48 105 ⇑P P 03 41 16.5 +0.9
baz=44,SNR=249
231A **Bronte** 44.48 104 ⇓P P 03 41 16.2 +0.7
baz=44,SNR=72
626A **Big Bend Ranch** 44.54 109 ⇓P P 03 41 17.4 +1.4
baz=44,SNR=59
Z34A **Collier Ranch,** 44.55 100 ⇓P P 03 41 16.8 +0.8
baz=44,SNR=36
133A **Hamilton Ranch** 44.65 102 ⇑P P 03 41 17.6 +0.8
baz=44,SNR=64
528A **Cox Ranch, San** 44.70 108 ⇑P P 03 41 19.0 +1.7
baz=44,SNR=186
SFIN **Scholer Farm** 44.74 84 eP P 03 41 17.6 +0.2
SFIN **Scholer Farm** 44.74 84 ⇓P P 03 41 17.9 +0.5
baz=44,SNR=22
429A **Davenport Ranc** 44.76 106 ⇑P P 03 41 18.7 +0.9
baz=45,SNR=110
232A **Coleman** 44.86 103 ⇑P P 03 41 19.4 +0.9
baz=45,SNR=114
Z35A **Perchaven, San** 44.91 99 ⇓P P 03 41 19.7 +0.8
baz=45,SNR=32
331A **San Angelo** 44.93 104 ⇑P P 03 41 19.6 +0.5
baz=45,SNR=29
TXAR **Lajitas Array** 44.95 109 P P 03 41 20.6 +1.3
TXAR ScP ScP 03 46 43.5 +0.4
TXAR **Lajitas Array** 44.95 109 P P 03 41 20.6 +1.3
comp=Z,50nm,0.8s,baz=328,slow=4.6,SNR=381
TXAR ScP ScP 03 46 43.5 +0.4
comp=Z,1.0nm,0.8s,baz=298,slow=1.9,SNR=4.4
TXAR LR LR 03 59 12.6
comp=Z,156nm,19.6s,baz=0.0,slow=35
430A **Baggett Ranch,** 44.95 105 ⇓P P 03 41 20.4 +1.1
baz=45,SNR=120
627A **Terlingua Ranc** 44.98 109 ⇓P P 03 41 21.0 +1.4
baz=45,SNR=125
529A **Stev Forest Ra** 45.01 107 ⇑P P 03 41 21.0 +1.3
baz=45,SNR=16
AAM **Ann Arbor** 45.09 80 eP P 03 41 21.1 +1.0
AAM pmax pmax
comp=Z,117nm,0.7s
AAM **Ann Arbor** 45.09 80 eP P 03 41 21.1 +1.0
comp=Z,118nm,0.7s

134A **White-Moore Ra** 45.10 101 ⇑P P 03 41 21.1 +0.7
baz=45,SNR=38
628A **Black Gap, Mar** 45.20 108 ⇓P P 03 41 22.8 +1.6
baz=45,SNR=231
332A **Millersview** 45.22 103 ⇓P P 03 41 22.0 +0.7
baz=45
431A **Sonora** 45.35 105 ⇓P P 03 41 23.5 +1.1
baz=45,SNR=124
530A **J-C Ranch, Com** 45.42 106 ⇑P P 03 41 24.2 +1.2
baz=45,SNR=105
135A **Vickery Place,** 45.45 100 ⇓P P 03 41 24.2 +1.1
baz=45,SNR=19
SADO **Sadowa** 45.57 74 P P 03 41 23.9 0.0
SADO PcP PcP 03 43 00.4 -0.5
SADO ScP ScP 03 46 45.2 -0.2
SADO **Sadowa** 45.57 74 P P 03 41 23.9 0.0
baz=299,slow=6.3
SADO PcP PcP 03 43 00.4 -0.5
comp=Z,12nm,0.8s,baz=294,slow=4.2,SNR=3.4
SADO ScP ScP 03 46 45.2 -0.2
comp=Z,12nm,1.1s,baz=248,slow=1.7,SNR=3.3
SADO LR LR 04 00 48.3
comp=Z,138nm,18.3s,baz=6.8,slow=36
432A **Menard** 45.60 104 ⇑P P 03 41 25.1 +0.7
baz=45,SNR=83
333A **Richland Sprin** 45.64 103 ⇑P P 03 41 25.5 +0.8
baz=46,SNR=69
SIUC **Southern Illin** 45.65 88 eP P 03 41 24.4 -0.2
comp=Z,148nm,1.0s
SIUC ePcP PcP 03 43 01.3 0.0
531A **Rocksprings** 45.80 105 ⇑P P 03 41 27.1 +1.1
baz=46,SNR=135
MIAR **Mount Ida** 45.84 95 eP P 03 41 26.1 -0.1
MIAR e 03 43 01.8
MIAR pmax pmax
comp=Z,72nm,1.0s
MIAR **Mount Ida** 45.84 95 eP P 03 41 26.1 -0.1
comp=Z,72nm,1.0s
MIAR ePcP PcP 03 43 01.8 -0.3
MIAR eScP ScP 03 46 47.3 +0.6
WHTX **Lake Whitney** 45.88 101 eP P 03 41 27.2 +0.7
WHTX ePcP PcP 03 43 03.0 +0.8
WHTX **Lake Whitney** 45.88 101 ⇑P P 03 41 27.4 +0.9
baz=46,SNR=41
JCT **Junction City** 45.92 104 eP P 03 41 28.1 +1.2
JCT e 03 43 03.5
JCT pmax pmax
comp=Z,878nm,0.8s
JCT **Junction City** 45.92 104 eP P 03 41 28.1 +1.2
comp=Z,878nm,0.8s
JCT ePcP PcP 03 43 03.5 +1.1
JCT eScP ScP 03 46 47.4 +0.3
JCT **Junction City** 45.92 104 ⇓P P 03 41 28.2 +1.2
baz=46,SNR=434
USRK **Ussuriysk Arra** 46.01 286 P P 03 41 26.7 -0.6
comp=Z,20nm,0.8s,baz=57,slow=7.0,SNR=44
USRK ScP ScP 03 46 47.0 -0.1
comp=Z,3.3nm,0.7s,baz=68,slow=3.7,SNR=7.5
USRK LR LR 03 59 30.0
comp=Z,199nm,22.0s,baz=31,slow=34
334A **Lometa** 46.01 102 ⇑P P 03 41 28.5 +0.9
baz=46,SNR=76
433A **Art** 46.05 103 ⇑P P 03 41 28.5 +0.6
baz=46,SNR=61
532A **Rocksprings** 46.15 105 ⇑P P 03 41 29.5 +0.8
baz=46,SNR=52
SCO **Scoresbysund** 46.23 20 i P P 03 41 29.7 +1.0
SCO **Scoresbysund** 46.23 20 i P P 03 41 29.7 +1.0
comp=Z,7.0nm,0.8s
LPIG **La Paz** 46.27 120 LR LR 03 59 07.7
comp=Z,92nm,20.0s,baz=113,slow=34
UALR **University of** 46.30 94 eP P 03 41 29.6 -0.1
comp=Z,35nm,0.9s
631A **Perdido Creek** 46.40 106 ⇓P P 03 41 31.3 +0.7
baz=46,SNR=228
434A **Burnet** 46.41 103 ⇓P P 03 41 31.8 +1.1
baz=46,SNR=106
335A **Moody** 46.46 101 ⇓P P 03 41 32.1 +1.0
baz=46,SNR=22
GNAR **Gosnell** 46.57 91 eP P 03 41 32.1 +0.2
comp=Z,2μm,1.3s
533A **Kerrville** 46.63 104 ⇑P P 03 41 33.5 +1.0
baz=46,SNR=102
GLAT **Glass** 46.72 90 eP P 03 41 33.5 +0.5
632A **Uvalde** 46.72 105 ⇑P P 03 41 33.8 +0.7
baz=46,SNR=126
WCI **Wyandotte Cave** 46.76 86 eP P 03 41 33.0 -0.4
WCI e 03 43 05.4
WCI pmax pmax
comp=Z,144nm,1.0s
WCI **Wyandotte Cave** 46.76 86 eP P 03 41 33.0 -0.4
comp=Z,144nm,1.0s
WCI ePcP PcP 03 43 05.4 +0.1
VLA **Vladivostok** 46.84 285 ⇑eP P 03 41 32.7 -1.2
VLA e 03 43 04.1
VLA S S 03 48 17.8 +0.3
VLA pmax pmax
comp=Z,42nm,1.0s
UTMT **University of** 46.88 89 eP P 03 41 34.5 +0.3
comp=Z,294nm,1.0s
MDJ **Mudanjiang** 46.89 288 P P 03 41 34.0 -0.3
MDJ pP pP 03 41 53.6 -1.9
MDJ sP sP 03 42 03.0 -2.6
MDJ PP PP 03 43 20.9 -4.2
MDJ S S 03 48 15.4 -2.7
MDJ sS sS 03 48 50.3 -4.3
MDJ pmax pmax
comp=Z,41nm,1.0s
MDJ pmax pmax
comp=Z,68nm,3.3s
MDJ LR LR
comp=Z,160nm,25.7s
MDJ LR LR
comp=Z,180nm,29.7s
MDJ **Mudanjiang** 46.89 288 eP P 03 41 34.3 0.0
comp=Z,46nm,1.1s
534A **Blanco** 46.95 103 ⇓P P 03 41 35.8 +0.9
baz=47,SNR=75
ACSO **Alum Creek Sta** 46.96 81 eP P 03 41 34.8 0.0
comp=Z,69nm,0.8s
ACSO ePcP PcP 03 43 05.8 -0.1
ACSO eScP ScP 03 46 51.9 +0.7
HALT **Halls** 46.97 90 eP P 03 41 35.2 +0.3
ERPA **Erie** 47.08 77 eP P 03 41 36.3 +0.5
comp=Z,168nm,0.7s
732A **Laxson Ranch,** 47.26 106 ⇑P P 03 41 38.3 +1.0
baz=47,SNR=74
ALLY **Alegheny Colle** 47.34 78 eP P 03 41 38.6 +0.7
comp=Z,213nm,0.7s
WVT **Waverly** 47.58 89 eP P 03 41 39.6 -0.1
WVT e 03 43 08.3
WVT e 03 43 30.4
WVT pmax pmax
comp=Z,72nm,0.8s
WVT **Waverly** 47.58 89 eP P 03 41 39.6 -0.1
comp=Z,72nm,0.8s
WVT ePcP PcP 03 43 08.3 +0.2
WVT ePP PP 03 43 30.4 -1.3
WVT eScP ScP 03 46 53.6 -0.3
NRS **Narsarsuaq** 47.82 38 i P P 03 41 35.4 -5.8
OXF **Oxford** 48.01 91 eP P 03 41 43.7 +0.6
OXF e 03 43 10.1
OXF pmax pmax
comp=Z,639nm,1.0s
OXF **Oxford** 48.01 91 eP P 03 41 43.7 +0.6
comp=Z,639nm,1.0s
OXF ePcP PcP 03 43 10.1 +0.4
OXF eScP ScP 03 46 56.0 +0.3
HIA **Hailar** 48.19 299 eP P 03 41 44.5 +0.2
comp=Z,85nm,0.8s
HIA epP pP 03 42 05.7 +0.1
FRNY **Flat Rock** 48.24 70 eP P 03 41 44.2 -0.5
comp=Z,62nm,0.8s
FRNY ePcP PcP 03 43 10.5 +0.1
HKT **Hockley** 48.34 101 eP P 03 41 46.9 +1.3
HKT pmax pmax
comp=Z,231nm,1.4s
HKT **Hockley** 48.34 101 eP P 03 41 46.9 +1.3
comp=Z,231nm,1.4s
MJAR **Matsushiro Arr** 48.56 274 P P 03 41 47.4 +0.1
MJAR pP pP 03 42 09.2 +0.5
MJAR ScP ScP 03 46 58.5 +0.4
MJAR **Matsushiro Arr** 48.56 274 P P 03 41 47.4 +0.1
comp=Z,9.9nm,0.8s,baz=18,slow=7.1,SNR=17
MJAR pP pP 03 42 09.2 +0.5
comp=Z,17nm,1.0s,baz=17,slow=6.7,SNR=8.3

MJAR ScP **ScP** **03 46 58.5 +0.4**
comp=Z,8.2nm,0.9s,baz=46,slow=2.9,SNR=11
MAJO **Matsushiro** **48.56 274** *e*P **P** **03 41 47.4 +0.1**
MAJO *e**PP **pP** **03 42 08.5 -0.2**
MAJO pmax pmax
comp=Z,59nm,0.9s
MAJO **Matsushiro** **48.56 274** *e*P **P** **03 41 47.4 +0.1**
comp=Z,59nm,0.9s
MAJO *e*pP **pP** **03 42 08.5 -0.2**
MAT **Matsushiro** **48.56 274** P **P** **03 41 47.4 +0.1**
CIT **Chita** **48.89 305** *e*P **P** **03 41 51.0 +1.3**
CIT *e* 03 42 11.7
CIT pmax pmax
comp=Z,256nm,1.5s
MCWV **Mont Chateau** **48.98 79** *e*P **P** **03 41 50.4 -0.1**
comp=Z,159nm,0.9s
MCWV *e*PcP **PcP** **03 43 13.5 +0.3**
BINY **Binghamton** **49.01 74** *e*P **P** **03 41 51.2 +0.6**
comp=Z,200nm,0.8s
MDV **Middlebury** **49.05 70** *e*P **P** **03 41 50.7 -0.2**
SWET **Sewanee** **49.26 88** *e*P **P** **03 41 52.5 -0.2**
comp=Z,98nm,0.9s
SWET *e*PcP **PcP** **03 43 13.6 -0.7**
SWET *e*ScP **ScP** **03 47 00.7 -0.4**
KVTX **Kingsville** **49.27 105** *e*P **P** **03 41 55.2 +2.4**
comp=Z,220nm,1.2s
ACCN **Adirondack Com** **49.27 71** *e*P **P** **03 41 52.6 0.0**
comp=Z,44nm,0.7s
LBNH **Lisbon** **49.48 69** *e*P **P** **03 41 54.4 +0.2**
LBNH pmax pmax
comp=Z,19nm,0.7s
LBNH **Lisbon** **49.48 69** *e*P **P** **03 41 54.4 +0.2**
comp=Z,19nm,0.7s
CN2 **Changchun** **49.51 290** ⇑P **P** **03 41 54.8 +0.4**
CN2 *e*pP **pP** **03 42 14.9 -1.0**
CN2 *e*S **S** **03 48 51.8 -3.3**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,400nm,17.0s
CPCT **Cooper Cave** **49.80 86** *e*P **P** **03 41 56.7 -0.1**
CPCT *e*PcP **PcP** **03 43 16.4 +0.1**
TKL **Tuckaleechee C** **50.03 86** *e*P **P** **03 41 58.3 -0.1**
TKL *e*PcP **PcP** **03 43 17.1 +0.1**
TKL **Tuckaleechee C** **50.03 86** P **P** **03 41 58.6 +0.1**
comp=Z,28nm,0.6s,baz=306,slow=2.0,SNR=41
TKL PcP **PcP** **03 43 17.0 0.0**
comp=Z,15nm,0.6s,baz=175,slow=5.0,SNR=5.5
TKL LR LR 04 04 16.8
comp=Z,274nm,18.3s,baz=173,slow=37
LRAL **Lakeview Retre** **50.41 90** *e*P **P** **03 42 00.8 -0.5**
comp=Z,42nm,1.0s
BLA **Blacksburg** **50.55 82** *e*P **P** **03 42 02.3 -0.1**
BLA pmax pmax
comp=Z,41nm,0.7s
BLA **Blacksburg** **50.55 82** *e*P **P** **03 42 02.3 -0.1**
comp=Z,41nm,0.7s
SDMD **Soldier's Deli** **50.68 77** *e*P **P** **03 42 03.5 +0.1**
comp=Z,124nm,1.2s
SDMD *e*pP **pP** **03 42 24.9 0.0**
SDMD *e*PcP **PcP** **03 43 19.1 -0.3**
PAL **Palisades** **50.94 74** *e*P **P** **03 42 05.6 +0.4**
PAL *e* 03 43 20.4
PAL pmax pmax
comp=Z,118nm,0.8s
PAL **Palisades** **50.94 74** *e*P **P** **03 42 05.6 +0.4**
comp=Z,118nm,0.8s
PAL *e*PcP **PcP** **03 43 20.4 +0.1**
CPNY **Central Park** **51.07 74** *e*P **P** **03 42 06.5 +0.2**
comp=Z,132nm,0.9s
CBN **Corbin** **51.34 78** *e*P **P** **03 42 08.3 +0.1**
comp=Z,97nm,1.0s
KEV **Kevo** **51.42 360** *e*P **P** **03 42 06.5 -1.9**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV **Kevo** **51.42 360** *e*p **P** **03 42 06.5 -1.9**
comp=Z,1.3nm,0.3s
JSRW **J. Sargeant Re** **51.47 79** *e*P **P** **03 42 09.4 +0.1**
ARCES **ARCESS Array B** **51.64 0** P **P** **03 42 08.1 -2.0**
ARCES PcP **PcP** **03 43 22.0 -0.4**
ARCES **ARCESS Array B** **51.64 0** P **P** **03 42 08.1 -2.0**
comp=Z,5.7nm,0.7s,baz=1.5,slow=7.5,SNR=9.9
ARCES PcP **PcP** **03 43 22.0 -0.4**
comp=Z,7.3nm,0.7s,baz=355,slow=6.1,SNR=5.1
ARCES LR LR 04 04 28.2
comp=Z,120nm,18.5s,baz=121,slow=36
KMSC **Kings Mountain** **51.68 84** *e*P **P** **03 42 10.7 -0.1**
KMSC *e*PcP **PcP** **03 43 22.7 -0.5**
KMSC **Kings Mountain** **51.68 84** ⇑P **P** **03 42 10.8 -0.1**
baz=52
SNY **Shenyang** **51.90 290** ⇓P **P** **03 42 13.8 +1.4**
SNY pP **pP** **03 42 32.3 -1.7**
SNY sP **sP** **03 42 43.0 -0.9**
SNY S **S** **03 49 27.3 -0.8**
SNY pmax pmax
comp=Z,90nm,1.2s
SNY pmax pmax
comp=Z,430nm,5.5s
GOGA **Godfrey** **51.94 87** *e*P **P** **03 42 12.4 -0.4**
GOGA *e* 03 43 24.4
GOGA pmax pmax
comp=Z,27nm,0.9s
GOGA **Godfrey** **51.94 87** *e*P **P** **03 42 12.4 -0.4**
comp=Z,27nm,0.9s
GOGA *e*PcP **PcP** **03 43 24.4 +0.2**
BRAL **Brewton** **51.99 92** *e*P **P** **03 42 12.9 -0.2**
comp=Z,198nm,1.1s
KSRS **Korea Array** **53.10 283** P **P** **03 42 22.2 +0.9**
comp=Z,43nm,0.9s,baz=40,slow=6.8,SNR=49
KSRS pP **pP** **03 42 43.1 +0.2**
comp=Z,9.5nm,0.7s,baz=40,slow=7.1,SNR=3.7
KSRS ScP **ScP** **03 47 19.1 +1.6**
comp=Z,6.8nm,0.9s,baz=48,slow=3.7,SNR=9.4
KSRS LR LR 04 03 34.7
comp=Z,30nm,20.7s,baz=244,slow=34
KSAR **Wonju Array Be** **53.13 283** P **P** **03 42 22.2 +0.7**
KSAR pP **pP** **03 42 43.1 -0.1**
KSAR ScP **ScP** **03 47 19.1 +1.4**
LVZ **Lovozero** **53.14 356** *e*P **P** **03 42 20.6 -0.6**
LVZ pmax pmax
comp=Z,67nm,1.2s
LVZ **Lovozero** **53.14 356** *e*P **P** **03 42 20.6 -0.6**
comp=Z,67nm,1.2s
TLY **Talaya** **53.19 311** *e*P **P** **03 42 22.3 +0.5**
TLY *e*S S 03 49 36.6 -8.9
TLY pmax pmax
comp=Z,71nm,1.7s
TLY MLR MLR
comp=Z,348nm,20.0s
CNNC **Cliffs of the** **53.37 81** *e*P **P** **03 42 23.6 +0.4**
comp=Z,115nm,1.1s
TIGA **Tifton** **53.43 89** ⇑P **P** **03 42 22.8 -1.0**
baz=53
CBIJ **Chichi jima** **54.00 263** P **P** **03 42 27.9 -0.1**
JCJ **Chichijima** **54.00 263** P **P** **03 42 27.9 -0.2**
comp=Z,74nm,0.5s,baz=275,slow=23,SNR=6.4
JCJ LR LR 04 06 08.8
comp=Z,167nm,18.5s,baz=138,slow=37
MOY **Mondy** **54.22 312** *e*P **P** **03 42 30.7 +1.3**
MOY pmax pmax
comp=Z,51nm,2.6s
ZAK **Zakamensk** **54.34 310** *e*P **P** **03 42 30.2 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
ULN **Ulaanbaatar** **54.78 306** *e*P **P** **03 42 33.8 +0.2**
comp=Z,32nm,0.9s
ULN *e*pP **pP** **03 42 55.7 +0.3**
ULN *e*ScP **ScP** **03 47 25.9 +0.9**
JNU **Nakatsue** **54.99 277** P **P** **03 42 34.9 -0.3**
JNU **Nakatsue** **54.99 277** P **P** **03 42 34.9 -0.3**
comp=Z,11nm,0.8s,baz=87,slow=6.0,SNR=3.6
SONM **Songino Array** **55.08 306** P **P** **03 42 36.8 +1.0**
SONM pP **pP** **03 42 58.8 +1.2**
SONM ScP **ScP** **03 47 27.6 +1.3**
SONM S **S** **03 50 11.9 +0.5**
SONM **Songino Array** **55.08 306** P **P** **03 42 36.8 +1.0**
comp=Z,45nm,0.8s,baz=43,slow=6.6,SNR=231
SONM pP **pP** **03 42 58.8 +1.2**
comp=Z,36nm,0.8s,baz=46,slow=7.7,SNR=12
SONM ScP **ScP** **03 47 27.6 +1.3**
comp=Z,8.1nm,0.8s,baz=24,slow=5.7,SNR=16
SONM S **S** **03 50 11.9 +0.5**
comp=Z,0.5nm,1.0s,baz=9.2,slow=19,SNR=3.3

SONM LR LR 04 07 33.2
comp=Z,266nm,20.1s,baz=24,slow=37
TMCR **Tamitsa** **56.72 354** *e*P **P** **03 42 47.3 +0.3**
TMCR *e* 03 43 41.3
TMCR *e* 03 44 53.6
TMCR pmax pmax
comp=Z,15nm,0.8s
BJI **Beijing** **56.83 293** P **P** **03 42 49.1 +1.0**
BJI pP **pP** **03 43 10.4 +0.3**
BJI S **S** **03 50 36.4 +2.0**
BJI sS **sS** **03 51 07.6 -4.3**
BJI SS **SS** **03 54 26.5 +3.5**
BJI pmax pmax
comp=Z,140nm,0.9s
BJT **Baijiatuau** **56.85 293** *e*P **P** **03 42 49.1 +0.8**
comp=Z,51nm,0.4s
XMAS **Kiritimati** **57.00 185** *e*P **P** **03 42 50.3 +0.8**
comp=Z,60nm,1.2s
HVS **Khovu-Aksy** **57.34 316** *e*P **P** **03 42 52.5 +0.8**
HVS pmax pmax
comp=Z,314nm,1.7s
NVS **Novosibirsk** **57.63 325** ⇓*i*P **P** **03 42 52.9 -0.6**
NVS *i* 03 43 15.0
NVS pmax pmax
comp=Z,21nm,0.5s
NVS pmax pmax
comp=N,10.0nm,0.7s
NVS pmax pmax
comp=E,10.0nm,0.5s
ZAA0 **Zalesovo Array** **57.92 324** *e*P **P** **03 42 55.2 -0.3**
ZAA0 *e*pP **pP** **03 43 17.8 +0.2**
ZAA0 *e*ScP **ScP** **03 47 37.1 -1.3**
ZALV P **P** **03 42 55.3 -0.3**
ZALV *e*PP **pP** **03 43 18.2 +0.6**
ZALV **Zalesovo Beam** **57.92 324** P **P** **03 42 55.2 -0.3**
ZALV pP **pP** **03 43 18.2 +0.6**
ZALV ScP **ScP** **03 47 38.0 -0.5**
ZALV **Zalesovo Beam** **57.92 324** P **P** **03 42 55.2 -0.3**
comp=E,13nm,0.5s,baz=32,slow=6.9,SNR=49
ZALV pP **pP** **03 43 18.2 +0.6**
comp=E,33nm,0.6s,baz=27,slow=7.3,SNR=18
ZALV ScP **ScP** **03 47 38.0 -0.5**
comp=E,4.8nm,0.8s,baz=22,slow=4.8,SNR=8.2
ZALV LR LR 04 11 24.1
comp=E,102nm,18.8s,baz=248,slow=40
JOF **Joensuu** **58.23 357** *e*P **P** **03 42 55.0 -2.6**
JOF pmax pmax
comp=Z,8.0nm,0.6s
JOF **Joensuu** **58.23 357** *e*p **P** **03 42 55.0 -2.6**
comp=Z,8.0nm,0.6s
JOF **Joensuu** **58.23 357** *e*pkp **ScP** **03 47 38.6 -1.1**
HHC **Hu-ho-hao-te** **58.34 297** *e*P **P** **03 42 59.4 +0.5**
HHC pP **pP** **03 43 23.0 +2.1**
HHC sP **sP** **03 43 34.3 +3.5**
HHC PP **PP** **03 45 11.6 +3.2**
HHC S **S** **03 50 50.8 -3.6**
HHC sS **sS** **03 51 31.3 -0.7**
HHC SS **SS** **03 54 43.8 -3.1**
HHC pmax pmax
comp=Z,150nm,1.2s
HHC pmax pmax
comp=Z,470nm,6.8s
HHC LR LR
comp=Z,250nm,16.4s
HHC LR LR
comp=Z,580nm,16.7s
HHC LR LR
comp=Z,480nm,16.6s
PRGR **Permogore** **58.66 349** *e*P **P** **03 42 59.5 -1.1**
PRGR *e**PP **pP** **03 43 21.8 -0.9**
PRGR pmax pmax
comp=Z,20nm,0.9s
KAF **Kangasniemi** **59.09 0** *e*P **P** **03 43 01.6 -2.0**
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF **Kangasniemi** **59.09 0** *e*p **P** **03 43 01.6 -2.0**
comp=Z,9.4nm,0.6s
KAF **Kangasniemi** **59.09 0** *e*pkp **ScP** **03 47 42.1 -1.4**
NB2 **NORSAR Subarra** **59.59 9** P **P** **03 43 07.2 +0.1**
comp=Z,11nm,0.9s,baz=351,slow=6.9
NOA **NORSAR Array B** **59.59 9** P **P** **03 43 06.2 -0.8**
NOA pP **pP** **03 43 29.2 0.0**
NOA ScP **ScP** **03 47 44.8 -1.0**
NOA **NORSAR Array B** **59.59 9** P **P** **03 43 06.2 -0.8**
comp=Z,4.9nm,0.7s,baz=352,slow=6.9,SNR=4.5
NOA pP **pP** **03 43 29.2 0.0**
comp=Z,5.0nm,0.7s,baz=352,slow=6.9,SNR=4.4
NOA ScP **ScP** **03 47 44.8 -1.0**
comp=Z,3.2nm,0.9s,baz=352,slow=5.2,SNR=4.5
NOA LR LR 04 09 33.9
comp=Z,40nm,18.0s,baz=355,slow=37
FINES **FINESS Array B** **59.77 0** P **P** **03 43 07.2 -1.0**
FINES pP **pP** **03 43 29.3 -1.0**
FINES ScP **ScP** **03 47 45.2 -1.3**
FINES **FINESS Array B** **59.77 0** P **P** **03 43 07.2 -1.0**
comp=Z,12nm,0.7s,baz=15,slow=7.9,SNR=18
FINES pP **pP** **03 43 29.3 -1.0**
comp=Z,13nm,0.8s,baz=12,slow=9.9,SNR=6.4
FINES ScP **ScP** **03 47 45.2 -1.3**
comp=Z,8.3nm,0.7s,baz=23,slow=6.2,SNR=11
TEIG **Tepich** **60.20 101** *e*P **P** **03 43 11.3 -0.4**
comp=Z,48nm,0.7s
TEIG **Tepich** **60.20 101** P **P** **03 43 11.7 0.0**
comp=Z,45nm,0.6s,baz=328,slow=15,SNR=44
SVE **Sverdlovsk** **61.24 339** *e*P **P** **03 43 17.7 -0.6**
SVE pmax pmax
comp=Z,16nm,1.0s
NJ2 **Nanjing** **61.91 286** *e*P **P** **03 43 23.9 +0.7**
NJ2 pP **pP** **03 43 44.3 -1.2**
NJ2 sP **sP** **03 43 52.6 -2.6**
NJ2 PP **PP** **03 45 39.9 -0.1**
NJ2 S **S** **03 51 43.5 +3.5**
NJ2 sS **sS** **03 52 17.5 -0.6**
NJ2 pmax pmax
comp=Z,90nm,1.1s
NJ2 pmax pmax
comp=Z,690nm,7.3s
NJ2 LR LR
comp=Z,440nm,24.0s
NJ2 LR LR
comp=Z,490nm,25.5s
ARU **Arti** **61.99 340** *d*iP **P** **03 43 22.2 -1.2**
ARU *e**PP **pP** **03 43 44.3 -1.3**
ARU 03 44 02.6
ARU 03 45 36.7
ARU S **S** **03 51 39.3 -1.0**
ARU pmax pmax
comp=Z,28nm,1.7s
ARU **Arti** **61.99 340** *e*P **P** **03 43 22.1 -1.3**
comp=Z,47nm,0.8s
ARU *e*pP **pP** **03 43 44.6 -1.0**
KURK **Kurchatov** **62.60 326** P **P** **03 43 27.5 0.0**
KURK *e**PP **pP** **03 43 49.0 -0.8**
KURK **Kurchatov** **62.60 326** P **P** **03 43 27.5 0.0**
KURK pP **pP** **03 43 49.0 -0.8**
KURK PP PP 03 45 34.6 -11
KURK ScP **ScP** **03 47 58.4 -0.9**
KURK **Kurchatov** **62.60 326** P **P** **03 43 27.8 +0.3**
comp=Z,96nm,0.5s,SNR=10
KURBB **Kurchatov Arra** **62.71 326** P **P** **03 43 27.5 -0.8**
comp=Z,5.3nm,0.5s,baz=28,slow=6.7,SNR=56
KURBB pP **pP** **03 43 48.9 -1.6**
comp=Z,7.9nm,0.8s,baz=26,slow=6.1,SNR=6.4
KURBB PP PP 03 45 34.6 -12
comp=Z,1.5nm,0.8s,baz=40,slow=11,SNR=2.8
KURBB ScP **ScP** **03 47 58.4 -1.4**
comp=Z,2.8nm,0.9s,baz=26,slow=4.7,SNR=5.1
BRVK **Borovoye** **62.71 332** P **P** **03 43 27.3 -0.9**
comp=Z,145nm,0.7s,SNR=9.3
BVAR **Borovoye Array** **62.72 332** P **P** **03 43 27.5 -0.8**
BVAR *e**PP **pP** **03 43 49.4 -1.2**
BVAR **Borovoye Array** **62.72 332** P **P** **03 43 27.5 -0.8**
BVAR pP **pP** **03 43 49.4 -1.2**
BVAR ScP **ScP** **03 47 58.2 -1.6**
BVAR **Borovoye Array** **62.72 332** P **P** **03 43 27.5 -0.8**
comp=Z,18nm,0.6s,baz=26,slow=5.6,SNR=118
BVAR pP **pP** **03 43 49.4 -1.2**
comp=Z,15nm,0.7s,baz=36,slow=5.8,SNR=8.1
BVAR ScP **ScP** **03 47 58.2 -1.6**
comp=Z,3.3nm,0.8s,baz=48,slow=2.2,SNR=5.4
ESK **Eskdalemuir** **63.46 18** *e*P **P** **03 43 33.5 +0.3**
ESK pmax pmax
comp=Z,28nm,0.9s
ESK **Eskdalemuir** **63.46 18** *e*P **P** **03 43 33.5 +0.3**
comp=Z,28nm,0.9s

GTA **Gaotai** **64.70 305** P **P** **03 43 41.8 +0.1**
GTA pP **pP** **03 44 04.0 -0.1**
GTA sP **sP** **03 44 16.8 +2.9**
GTA S **S** **03 52 15.0 +0.1**
GTA sS **sS** **03 52 55.8 +2.6**
GTA pmax pmax
comp=Z,32nm,1.3s
GTA pmax pmax
comp=Z,130nm,4.3s
GTA LR LR
comp=Z,160nm,19.5s
GTA LR LR
comp=Z,200nm,18.5s
MK31 **Makanchi Array** **64.94 321** *e*P **P** **03 43 42.1 -0.9**
MK31 *e**PP **pP** **03 44 05.7 +0.2**
MK31 **Makanchi Array** **64.94 321** *e*P **P** **03 43 42.1 -0.9**
MK31 *e*pP **pP** **03 44 05.7 +0.2**
MKAR **Makanchi Array** **64.94 321** P **P** **03 43 42.3 -0.7**
MKAR *PP **pP** **03 44 04.3 -1.2**
MKAR **Makanchi Array** **64.94 321** P **P** **03 43 42.3 -0.7**
MKAR pP **pP** **03 44 04.2 -1.2**
MKAR PP PP 03 45 54.3 -12
MKAR P'P' 04 12 27.1
MKAR **Makanchi Array** **64.94 321** P **P** **03 43 42.3 -0.7**
comp=Z,3.7nm,0.5s,baz=33,slow=5.6,SNR=50
MKAR pP **pP** **03 44 04.2 -1.2**
comp=Z,3.7nm,0.8s,baz=41,slow=8.2,SNR=4.1
MKAR PP PP 03 45 54.3 -12
comp=Z,3.0nm,0.7s,baz=34,slow=10,SNR=4.4
MKAR PKPPKP **P'P'df** **04 12 27.1 -2.2**
comp=Z,1.3nm,0.9s,baz=240,slow=4.1,SNR=6.9
MKAR LR LR 04 17 16.3
comp=Z,103nm,19.0s,baz=2.8,slow=41
XAN **Xi'an** **65.09 295** P **P** **03 43 43.6 -0.6**
WHN **Wuhan** **65.36 288** P **P** **03 43 42.8 -3.1**
WMQ **Urumqi** **65.70 316** P **P** **03 43 49.0 +1.0**
WMQ pP **pP** **03 44 12.0 +1.5**
WMQ PcP **PcP** **03 44 19.0 +0.3**
WMQ sP **sP** **03 44 24.0 +3.8**
WMQ PP **PP** **03 46 16.0 +3.0**
WMQ ScP 03 48 11.0
WMQ S **S** **03 52 25.0 -1.8**
WMQ ScS **SKSac** **03 53 31.0 -4.1**
WMQ SS **SS** **03 56 43.0 +1.5**
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,130nm,5.0s
WMQ LR LR
comp=Z,240nm,18.0s
WMQ LR LR
comp=Z,110nm,18.0s
LZH **Lanzhou** **65.72 300** *e*P **P** **03 43 48.8 +0.4**
LZH pP **pP** **03 44 10.8 0.0**
LZH sP **sP** **03 44 19.6 -1.0**
LZH PP **PP** **03 46 14.4 +0.9**
LZH *e*S S 03 52 21.3 -6.2
LZH SS **SS** **03 56 40.1 -2.3**
LZH pmax pmax
comp=Z,34nm,1.0s
LZH pmax pmax
comp=Z,150nm,6.3s
LZH LR LR
comp=Z,430nm,14.9s
LZH LR LR
comp=Z,600nm,15.4s
LZH LR LR
comp=Z,610nm,16.6s
OBN **Obninsk** **65.83 354** *e*P **P** **03 43 48.5 0.0**
OBN *i**PP **pP** **03 44 10.7 -0.3**
OBN *e* 03 44 20.0
OBN *i*S **S** **03 52 28.9 +1.1**
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,100nm,16.0s
TGUH **Tegucigalpa,Un** **65.91 103** *e*P **P** **03 43 50.0 +0.5**
comp=Z,151nm,1.0s
MTDJ **Mount Denham** **67.37 92** *e*P **P** **03 43 59.2 +0.3**
comp=Z,220nm,1.1s
AKTO **Aktyubinsk** **67.81 339** LR LR 04 14 02.6
comp=Z,74nm,21.3s,baz=11,slow=36
MEM **Membach** **69.37 14** P **P** **03 44 11.8 +0.9**
CLL **Collm** **69.39 9** *e*P **P** **03 44 10.0 -1.0**
CLL *e*S **S** **03 53 10.0 -0.5**
CLL pmax pmax
comp=Z,24nm,1.5s
CLL **Collm** **69.39 9** *e*P **P** **03 44 10.0 -1.0**
comp=Z,24nm,1.5s
CLL *i* 03 44 16.3
comp=Z,11nm,1.0s
CLL *e*S **S** **03 53 10.0 -0.5**
CLL *e*sS **SKiKP** **03 53 53.0 +2.3**
BCLA **Clavier** **69.47 14** P **P** **03 44 12.3 +0.8**
comp=Z,18nm,1.9s
VSR **Storozhevoye** **69.53 352** *e*P **P** **03 44 10.3 -1.6**
BAIF **Baives** **69.67 15** *e*P **P** **03 44 12.9 +0.1**
comp=Z,72nm,1.2s
BAIF **Baives** **69.67 15** *e*P **P** **03 44 12.9 +0.1**
BAIF pmax pmax
comp=Z,72nm,1.2s
BAIF **Baives** **69.67 15** *e*P **P** **03 44 12.9 +0.1**
comp=Z,72nm,1.2s
DOU **Dourbes** **69.69 15** P **P** **03 44 13.8 +0.9**
GIVF **Givet** **69.71 15** *e*P **P** **03 44 12.8 -0.2**
comp=Z,28nm,0.8s
GIVF **Givet** **69.71 15** *e*P **P** **03 44 12.8 -0.2**
GIVF pmax pmax
comp=Z,28nm,0.8s
GIVF **Givet** **69.71 15** *e*P **P** **03 44 12.8 -0.2**
comp=Z,28nm,0.8s
BRG **Berggiesshubel** **69.89 8** *e*P **P** **03 44 14.7 +0.6**
comp=Z,7.9nm,1.0s
BRG *e* 03 44 18.7
comp=Z,12nm,1.0s
BRG **Berggiesshubel** **69.89 8** *e*P **P** **03 44 14.7 +0.6**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.0s
SDDR **Presa de Saban** **69.96 86** *e*P **P** **03 44 15.1 +0.1**
comp=Z,49nm,0.9s
KSP **Ksiaz** **70.08 7** ⇑*e*P **P** **03 44 14.9 -0.4**
KSP *e**PP **PcP** **03 44 36.8 0.0**
KSP **Ksiaz** **70.08 7** *e*P **P** **03 44 15.4 +0.1**
CD2 **Chengdu** **70.09 297** P **P** **03 44 16.1 +0.4**
CD2 pP **pP** **03 44 39.5 +1.1**
CD2 sP **sP** **03 44 49.6 +1.5**
CD2 PP **PP** **03 46 53.6 +2.3**
CD2 S **S** **03 53 16.8 -2.7**
CD2 sS **sS** **03 53 57.0 -1.3**
CD2 ScS **SKSac** **03 54 06.1 -2.6**
CD2 SS **SS** **03 57 48.5 -1.4**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,120nm,11.8s
CD2 LR LR
comp=Z,240nm,15.5s
CD2 LR LR
comp=Z,180nm,19.0s
FLN **La Foliniere** **70.24 19** *e*P **P** **03 44 15.7 -0.5**
FLN *e*R
comp=Z,107nm,21.0s
FLN **La Foliniere** **70.24 19** *e*P **P** **03 44 15.7 -0.5**
FLN **La Foliniere** **70.24 19** *e*P **P** **03 44 15.7 -0.5**
PVCC **Panska Ves** **70.28 8** *i*P **P** **03 44 15.6 -0.9**
PVCC **Panska Ves** **70.28 8** *i*P **P** **03 44 15.6 -0.9**
WLF **Walferdange** **70.31 14** P **P** **03 44 17.7 +1.0**
WLF **Walferdange** **70.31 14** *e*P **P** **03 44 16.9 +0.2**
WLF pmax pmax
comp=Z,36nm,1.3s
WLF **Walferdange** **70.31 14** *e*P **P** **03 44 16.9 +0.2**
comp=Z,36nm,1.3s
SGMF **Saint Gilles** **70.38 20** *e*P **P** **03 44 16.9 -0.2**
comp=Z,150nm,1.5s
SGMF **Saint Gilles** **70.38 20** *e*P **P** **03 44 16.9 -0.2**
SGMF pmax pmax
comp=Z,150nm,1.5s
SGMF **Saint Gilles** **70.38 20** *e*P **P** **03 44 16.9 -0.2**
comp=Z,150nm,1.5s
UPC **Upice** **70.40 7** *i*P **P** **03 44 17.4 +0.2**
UPC *e* 03 44 40.3
UPC **Upice** **70.40 7** *i*P **P** **03 44 17.4 +0.2**

UPC ep P **pP** **03 44 40.3 +0.4**
NKC Novy Kostel 70.41 9 *i* P **P** **03 44 17.6 +0.3**
NKC Novy Kostel 70.41 9 *i* P **P** **03 44 17.6 +0.3**
LDF La Druitiere 70.46 18 *e* P **P** **03 44 17.7 +0.1**
LDF La Druitiere 70.46 18 *e* P **P** **03 44 17.7 +0.1**
LDF La Druitiere 70.46 18 *e* P **P** **03 44 17.7 +0.1**
AKASG Malin Array Be 70.51 358 P **P** **03 44 16.5 -1.4**
AKASG *PP **PcP** **03 44 39.2 +0.6**
AKASG Malin Array Be 70.51 358 P **P** **03 44 16.5 -1.4**
AKASG pP **PcP** **03 44 39.1 +0.6**
AKASG Malin Array Be 70.51 358 P **P** **03 44 16.5 -1.4**
comp=Z,3.5nm,0.4s,baz=4.6,slow=6.2,SNR=43
AKASG pP **PcP** **03 44 39.1 +0.6**
comp=Z,19nm,0.8s,baz=0.7,slow=5.8,SNR=7.6
AKASG LR LR 04 13 13.2
comp=Z,94nm,20.4s,baz=350,slow=34
KIEV Kiev 70.52 358 *e* P **P** **03 44 16.5 -1.4**
KIEV *e*PP **pP** **03 44 39.8 -0.8**
KIEV pmax pmax
comp=Z,30nm,1.0s
KIEV Kiev 70.52 358 *e* P **P** **03 44 16.5 -1.4**
comp=Z,30nm,1.0s
KIEV ep P **pP** **03 44 39.8 -0.8**
TKM2 Tokmak 2 70.52 324 *e* P **P** **03 44 18.1 -0.2**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s
TKM2 Tokmak 2 70.52 324 *e* P **P** **03 44 18.1 -0.2**
comp=Z,9.3nm,1.0s
GRR Gorron 70.54 19 *e* P **P** **03 44 17.8 -0.3**
comp=Z,65nm,1.1s
GRR Gorron 70.54 19 *e* P **P** **03 44 17.8 -0.3**
GRR pmax pmax
comp=Z,65nm,1.1s
GRR Gorron 70.54 19 *e* P **P** **03 44 17.8 -0.3**
comp=Z,65nm,1.1s
DPC Dobruska-Polom 70.58 7 *i* P **P** **03 44 18.7 +0.4**
DPC *e* 03 44 41.1
DPC Dobruska-Polom 70.58 7 *i* P **P** **03 44 18.7 +0.4**
DPC ep P **pP** **03 44 41.1 0.0**
PRA Prague 70.73 8 P **P** **03 44 20.0 +0.8**
PRA pP **PcP** **03 44 40.0 +0.5**
PRU Pruhonice 70.82 8 *i* P **P** **03 44 19.8 +0.1**
PRU *e* 03 44 39.8
PRU Pruhonice 70.82 8 *i* P **P** **03 44 19.8 +0.1**
PRU *ex* x 03 44 24.7
PRU ep P **PcP** **03 44 39.8 -0.1**
KRLC Kraliky 70.88 7 *i* P **P** **03 44 20.2 0.0**
KRLC *e* 03 44 43.0
KRLC Kraliky 70.88 7 *i* P **P** **03 44 20.2 0.0**
KRLC ep P **pP** **03 44 43.0 +0.1**
FRU Bishkek 70.89 325 *e* P **P** **03 44 20.0 -0.4**
AAK Ala-Archa 71.11 325 P **P** **03 44 21.5 -0.4**
comp=Z,45nm,0.5s,SNR=5.9
AAK Ala-Archa 71.11 325 *e* P **P** **03 44 21.2 -0.7**
AAK *e* 03 46 57.3
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 71.11 325 *e* P **P** **03 44 21.2 -0.7**
comp=Z,6.2nm,0.8s
AAK ePP **PP** **03 46 57.3 -2.6**
AAK Ala-Archa 71.11 325 P **P** **03 44 21.2 -0.7**
comp=Z,4.4nm,0.7s,baz=137,slow=2.1,SNR=11
LANF Langenberg 71.18 13 *e* P **P** **03 44 21.5 -0.5**
OKC Ostrava-Krasne 71.19 6 *i* P **P** **03 44 21.8 -0.2**
OKC *e* 03 44 44.2
OKC Ostrava-Krasne 71.19 6 *i* P **P** **03 44 21.8 -0.2**
OKC ep P **pP** **03 44 44.2 -0.6**
MORC Moravsky Berou 71.22 6 *e* P **P** **03 44 21.5 -0.7**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 71.22 6⇑ *i* P **P** **03 44 22.0 -0.2**
MORC Moravsky Berou 71.22 6 *e* P **P** **03 44 21.5 -0.7**
comp=Z,3.8nm,0.8s
EKS2 Erkin-Say 71.30 325 *e* P **P** **03 44 22.3 -0.7**
EKS2 *e**PP **pP** **03 44 45.0 -0.7**
EKS2 *e**SP **sP** **03 44 54.9 -0.5**
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 71.30 325 *e* P **P** **03 44 22.3 -0.7**
comp=Z,12nm,0.8s
EKS2 ep P **pP** **03 44 45.0 -0.7**
EKS2 *es* P **sP** **03 44 54.9 -0.5**
MEZF Maizieres J'vi 71.31 15 *e* P **P** **03 44 21.9 -0.9**
comp=Z,34nm,1.0s
MEZF Maizieres J'vi 71.31 15 *e* P **P** **03 44 21.9 -0.9**
comp=Z,34nm,1.0s
PAGF Fort de Pagny 71.35 14 *e* P **P** **03 44 23.3 +0.3**
comp=Z,15nm,1.0s
PAGF Fort de Pagny 71.35 14 *e* P **P** **03 44 23.3 +0.3**
comp=Z,15nm,1.0s
STU Stuttgart 71.54 12 *e* P **P** **03 44 24.2 0.0**
STU pmax pmax
comp=Z,14nm,0.9s
STU Stuttgart 71.54 12 *e* P **P** **03 44 24.2 0.0**
comp=Z,14nm,0.9s
KWP Kalwaria Pacla 71.56 3 *e* P **P** **03 44 25.2 +0.9**
KWP *e**PP **pP** **03 44 47.0 -0.1**
KWP pmax pmax
comp=Z,25nm,1.0s
KWP Kalwaria Pacla 71.56 3 *e* P **P** **03 44 25.8 +1.5**
KWP Kalwaria Pacla 71.56 3⇓ *i* P **P** **03 44 24.2 -0.1**
KWP Kalwaria Pacla 71.56 3 *e* P **P** **03 44 25.2 +0.9**
comp=Z,25nm,1.0s
KWP ep P **pP** **03 44 47.0 -0.1**
TREC Trest 71.57 8 *i* P **P** **03 44 24.0 -0.4**
TREC Trest 71.57 8 *i* P **P** **03 44 24.0 -0.4**
KHC Kasperske Hory 71.59 9 *i* P **P** **03 44 24.3 -0.2**
KHC Kasperske Hory 71.59 9 *i* P **P** **03 44 24.3 -0.2**
KHC *ex* x 03 44 29.8
KHC Kasperske Hory 71.59 9 *e* P **P** **03 44 24.3 -0.2**
comp=Z,9.4nm,1.0s
SFTF Sexfontaines 71.60 15 *e* P **P** **03 44 24.3 -0.2**
comp=Z,58nm,1.2s
SFTF Sexfontaines 71.60 15 *e* P **P** **03 44 24.3 -0.2**
comp=Z,58nm,1.2s
VRAC Vranov 71.63 7⇓ *i* P **P** **03 44 25.3 +0.6**
CDF Champ du Feu 71.68 13 *e* P **P** **03 44 25.0 -0.1**
CDF Champ du Feu 71.68 13 *e* P **P** **03 44 25.0 -0.1**
CDF Champ du Feu 71.68 13 *e* P **P** **03 44 25.0 -0.1**
WLS Welschbruch 71.69 13 *e* P **P** **03 44 25.5 +0.4**
STHS Stebnicka Huta 71.74 4 *e* P **P** **03 44 25.3 0.0**
STHS pmax pmax
comp=Z,5.0nm,0.6s
STHS Stebnicka Huta 71.74 4 *e* P **P** **03 44 25.3 0.0**
STHS *e* 03 44 41.0
ECH Echery 71.86 13 *e* P **P** **03 44 26.6 +0.5**
ECH pmax pmax
comp=Z,19nm,0.9s
ECH Echery 71.86 13 *e* P **P** **03 44 26.6 +0.5**
comp=Z,19nm,0.9s
BFO Black Forest 71.88 13 *i* P **P** **03 44 28.3 +2.1**
BFO Black Forest 71.88 13 *e* P **P** **03 44 26.6 +0.3**
comp=Z,9.4nm,0.9s
GERES GERESS Array B 71.89 9 P **P** **03 44 26.3 0.0**
GERES GERESS Array B 71.89 9 P **P** **03 44 26.3 0.0**
comp=Z,2.4nm,0.6s,baz=352,slow=4.5,SNR=24
GERES LR LR 04 15 10.6
comp=Z,87nm,19.2s,baz=87,slow=35
HAU Haudompre 71.97 14 *e* P **P** **03 44 26.7 -0.1**
comp=Z,23nm,0.7s
HAU *e*R
comp=Z,107nm,18.2s
HAU Haudompre 71.97 14 *e* P **P** **03 44 26.7 -0.1**
HAU pmax pmax
comp=Z,23nm,0.7s
HAU Haudompre 71.97 14 *e* P **P** **03 44 26.7 -0.1**
comp=Z,23nm,0.7s
HYF Humbligny 72.18 17 *e* P **P** **03 44 28.2 +0.2**
HYF Humbligny 72.18 17 *e* P **P** **03 44 28.2 +0.2**
MOF Molkenrain 72.22 14 *e* P **P** **03 44 28.2 -0.1**
HINF Hinteralfeld 72.22 14 *e* P **P** **03 44 28.0 -0.3**
comp=Z,15nm,0.8s
HINF Hinteralfeld 72.22 14 *e* P **P** **03 44 28.0 -0.3**
HINF pmax pmax
comp=Z,15nm,0.8s
HINF Hinteralfeld 72.22 14 *e* P **P** **03 44 28.0 -0.3**
comp=Z,15nm,0.8s
KOLS Kolonicke sedl 72.25 3 *e* P P 03 44 33.4 +5.0
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 72.25 3 *e* P P 03 44 33.4 +5.0
KOLS *e* 03 44 44.9
CRVS Cervenica-Dubn 72.26 3 *e* P P 03 44 24.6 -3.9
CRVS pmax pmax
comp=Z,57nm,2.6s
CRVS Cervenica-Dubn 72.26 3 *e* P **P** 03 44 24.6 -3.9
FELD Feldberg im Sc 72.29 13 *e* P **P** **03 44 27.4 -1.4**
LOR Lormes 72.36 16 *e* P **P** **03 44 28.9 -0.2**
comp=Z,26nm,0.8s
LOR *e*R
comp=Z,113nm,21.5s
LOR Lormes 72.36 16 *e* P **P** **03 44 28.9 -0.2**
comp=Z,26nm,0.8s
MFF Saint Martin d 72.39 19 *e* P **P** **03 44 29.1 -0.1**
MFF Saint Martin d 72.39 19 *e* P **P** **03 44 29.1 -0.1**
MFF Saint Martin d 72.39 19 *e* P **P** **03 44 29.1 -0.1**
GYA Guiyang 72.48 292⇑ *i* P **P** **03 44 31.1 +0.9**
GYA pP **pP** **03 44 53.8 +0.7**
GYA sP **sP** **03 45 03.8 +1.1**
GYA PP **PP** **03 47 14.0 +2.0**
GYA S **S** **03 53 44.3 -3.0**
GYA sS **sS** **03 54 24.3 -2.0**
GYA SS **SS** **03 58 26.0 -0.8**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.3s
GYA LR LR
comp=Z,880nm,19.4s
GYA LR LR
comp=Z,650nm,20.0s
GYA LR LR
comp=Z,770nm,18.8s
SSF Saint Saulge 72.51 16 *e* P **P** **03 44 29.9 -0.1**
comp=Z,57nm,1.0s
SSF Saint Saulge 72.51 16 *e* P **P** **03 44 29.9 -0.1**
SSF pmax pmax
comp=Z,57nm,1.0s
SSF Saint Saulge 72.51 16 *e* P **P** **03 44 29.9 -0.1**
comp=Z,57nm,1.0s
AGPR Aguadilla, PR 72.53 83 *e* P **P** **03 44 30.5 0.0**
comp=Z,265nm,1.2s
AGPR ep P **pP** **03 44 53.5 +0.2**
UZH Uzhgorod 72.56 3 *e* P **P** **03 44 29.9 -0.3**
UZH *e* 03 44 52.3
AVF Avril sur Loir 72.75 16 *e* P **P** **03 44 31.1 -0.3**
comp=Z,34nm,0.9s
AVF Avril sur Loir 72.75 16 *e* P **P** **03 44 31.1 -0.3**
AVF pmax pmax
comp=Z,35nm,0.9s
AVF Avril sur Loir 72.75 16 *e* P **P** **03 44 31.1 -0.3**
comp=Z,34nm,0.9s
LRS Lares 72.82 83 *e* P **P** **03 44 31.9 -0.3**
LRS ep P **pP** **03 44 54.6 -0.4**
BGF Bois d'Agland 72.91 17 *e* P **P** **03 44 32.1 -0.2**
comp=Z,52nm,1.0s
BGF Bois d'Agland 72.91 17 *e* P **P** **03 44 32.1 -0.2**
BGF pmax pmax
comp=Z,52nm,1.0s
BGF Bois d'Agland 72.91 17 *e* P **P** **03 44 32.1 -0.2**
comp=Z,52nm,1.0s
CONA Conrad Observa 72.96 7⇑ *i* P **P** **03 44 32.7 0.0**
comp=Z,9.6nm,0.9s,SNR=8.2
SMF Signal de Mont 72.97 16 *e* P **P** **03 44 32.3 -0.4**
comp=Z,52nm,1.1s
SMF Signal de Mont 72.97 16 *e* P **P** **03 44 32.3 -0.4**
SMF pmax pmax
comp=Z,52nm,1.1s
SMF Signal de Mont 72.97 16 *e* P **P** **03 44 32.3 -0.4**
comp=Z,52nm,1.1s
TRPA Tarpa 73.06 3⇓ *i* P **P** **03 44 32.7 -0.5**
TCF Toulx Ste Croi 73.07 17 *e* P **P** **03 44 32.9 -0.4**
TCF Toulx Ste Croi 73.07 17 *e* P **P** **03 44 32.9 -0.4**
TCF Toulx Ste Croi 73.07 17 *e* P **P** **03 44 32.9 -0.4**
CELP Cerrillos 73.13 83 *e* P **P** **03 44 33.5 -0.5**
OBIP Obispado Ponce 73.15 83 *e* P **P** **03 44 34.1 0.0**
comp=Z,32nm,0.8s
PSZ Piszkesteto 73.19 5 *e* P **P** **03 44 33.6 -0.4**
PSZ pmax pmax
comp=Z,12nm,0.9s
PSZ Piszkesteto 73.19 5⇑ *i* P **P** **03 44 34.4 +0.4**
PSZ Piszkesteto 73.19 5 *e* P **P** **03 44 33.6 -0.4**
comp=Z,12nm,0.9s
WTTA Wattenberg 73.28 10⇑ *i* P **P** **03 44 34.5 -0.2**
comp=Z,28nm,1.0s
CABF La Chapelle 73.31 15 *e* P **P** **03 44 35.0 +0.2**
comp=Z,55nm,1.1s
CABF La Chapelle 73.31 15 *e* P **P** **03 44 35.0 +0.2**
CABF pmax pmax
comp=Z,55nm,1.1s
CABF La Chapelle 73.31 15 *e* P **P** **03 44 35.0 +0.2**
comp=Z,55nm,1.1s
SJG San Juan 73.32 83 *e* P **P** **03 44 34.8 -0.4**
comp=Z,31nm,0.8s
SJG San Juan 73.32 83 P **P** **03 44 34.9 -0.3**
comp=Z,32nm,0.7s,baz=20,slow=4.1,SNR=9.2
CBYP Canovanas 73.34 82 *e* P **P** **03 44 34.5 -0.8**
comp=Z,28nm,0.9s
FETA Feichten 73.43 11⇑ *i* P **P** **03 44 36.9 +1.3**
comp=Z,16nm,1.0s
AGO Saint Agoulin 73.44 17 *e* P **P** **03 44 35.5 0.0**
KSH Kashi 73.50 322 P **P** **03 44 38.8 +2.7**
KSH pP **pP** **03 45 03.1 +4.1**
KSH sP 03 45 14.1 +5.5
KSH S **SKiKP** **03 53 57.6 +0.3**
KSH SKS **SKSac** **03 54 31.1 -3.3**
KSH sS sS 03 54 43.1 +5.5
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,83nm,4.6s
KSH LR LR
comp=Z,140nm,5.0s
KSH LR LR
comp=Z,170nm,5.8s
KSH LR LR
comp=Z,200nm,5.2s
BUR08 Bucovina Ar. S 73.59 1 *e* P **P** **03 44 35.6 -0.9**
PLDF La Plantade 73.59 16 *e* P **P** **03 44 37.0 +0.5**
KBA Koelnbreinsper 73.61 9⇑ *i* P **P** **03 44 36.5 -0.2**
comp=Z,24nm,0.9s
BURAR Bucovina Array 73.62 1⇑ *i* P **P** **03 44 35.9 -0.7**
MTP Monte Pirata 73.64 82 *e* P **P** **03 44 36.7 -0.3**
comp=Z,36nm,0.9s
TUE Stuetta 73.83 12 *e* P **P** **03 44 38.5 +0.4**
comp=Z,12nm,0.9s
RJF Les Rejaudoux 73.92 18 *e* P **P** **03 44 37.7 -0.6**
RJF *e*R
comp=Z,117nm,19.5s
RJF Les Rejaudoux 73.92 18 *e* P **P** **03 44 37.7 -0.6**
RJF Les Rejaudoux 73.92 18 *e* P **P** **03 44 37.7 -0.6**
PMOR Pomariorio Ree 74.00 174 *e* P **P** **03 44 39.3 +0.4**
comp=Z,194nm,1.3s
SOKA Soboth 74.14 8 *i* P **P** **03 44 40.1 +0.4**
comp=Z,12nm,1.0s,SNR=4.8
LFF La Frestale 74.15 19 *e* P **P** **03 44 39.7 +0.1**
comp=Z,72nm,1.1s
LFF La Frestale 74.15 19 *e* P **P** **03 44 39.7 +0.1**
LFF pmax pmax
comp=Z,72nm,1.1s
LFF La Frestale 74.15 19 *e* P **P** **03 44 39.7 +0.1**
comp=Z,72nm,1.1s
PERS Pernice 74.19 8 *i* P **P** **03 44 40.0 +0.1**
VAH Vaihoa 74.25 174 *e* P **P** **03 44 40.7 +0.4**
comp=Z,156nm,1.0s
VAH ep P **pP** **03 45 03.1 -0.2**
comp=Z,111nm,1.0s
LBL Lubilhac 74.26 17 *e* P **P** **03 44 40.4 0.0**
OBKA Obir 74.28 9 *i* P **P** **03 44 40.6 +0.2**
comp=Z,16nm,0.4s,SNR=17
RSL Roselend 74.28 14 *e* P **P** **03 44 41.6 +1.0**
CAF Calviac 74.38 18 *e* P **P** **03 44 40.8 -0.2**
comp=Z,39nm,1.1s
CAF Calviac 74.38 18 *e* P **P** **03 44 40.8 -0.2**
CAF pmax pmax
comp=Z,39nm,1.0s
CAF Calviac 74.38 18 *e* P **P** **03 44 40.8 -0.2**
comp=Z,39nm,1.0s
DRGR 74.40 3⇑ *i* P **P** **03 44 40.7 -0.5**
GORS Gorjuse 74.42 9 *i* P **P** **03 44 41.1 -0.3**
LPL La Plagne 74.46 14 *e* P **P** **03 44 42.4 +0.7**
comp=Z,32nm,1.1s
LPL La Plagne 74.46 14 *e* P **P** **03 44 42.4 +0.7**
LPL pmax pmax
comp=Z,32nm,1.1s
LPL La Plagne 74.46 14 *e* P **P** **03 44 42.4 +0.7**
comp=Z,32nm,1.1s
LPG La Plagne 74.48 14 *e* P **P** **03 44 42.4 +0.5**
comp=Z,30nm,1.1s
LPG La Plagne 74.48 14 *e* P **P** **03 44 42.4 +0.5**
LPG pmax pmax
comp=Z,31nm,1.1s
LPG La Plagne 74.48 14 *e* P **P** **03 44 42.4 +0.5**
comp=Z,30nm,1.1s
VIVF Saint-Julien-l 74.84 16 *e* P **P** **03 44 43.7 +0.1**
comp=Z,20nm,0.7s
VIVF Saint-Julien-l 74.84 16 *e* P **P** **03 44 43.7 +0.1**
VIVF pmax pmax
comp=Z,20nm,0.7s
VIVF Saint-Julien-l 74.84 16 *e* P **P** **03 44 43.7 +0.1**
comp=Z,20nm,0.7s
JAVS Javornik 74.85 9 *i* P **P** **03 44 43.2 -0.6**
BNI Bardonecchia 74.91 14 *e* P **P** **03 44 43.6 -0.6**
BNI pmax pmax
comp=Z,53nm,1.7s
BNI Bardonecchia 74.91 14 *e* P **P** **03 44 43.6 -0.6**
comp=Z,53nm,1.7s
ORIF Oris-en-Rattie 74.94 15 *e* P **P** **03 44 44.5 +0.2**
comp=Z,9.2nm,0.7s
ORIF *e*R
comp=Z,92nm,19.5s
ORIF Oris-en-Rattie 74.94 15 *e* P **P** **03 44 44.5 +0.2**
ORIF pmax pmax
comp=Z,9.0nm,0.7s
ORIF Oris-en-Rattie 74.94 15 *e* P **P** **03 44 44.5 +0.2**
comp=Z,9.2nm,0.7s
MBDF Montbardon 75.25 14 *e* P **P** **03 44 46.6 +0.5**
comp=Z,52nm,1.2s
MBDF Montbardon 75.25 14 *e* P **P** **03 44 46.6 +0.5**
MBDF pmax pmax
comp=Z,52nm,1.2s
MBDF Montbardon 75.25 14 *e* P **P** **03 44 46.6 +0.5**
comp=Z,52nm,1.2s
PGAV Gavieira, Arco 75.25 26 *e* P **P** **03 44 47.1 +0.9**
comp=Z,48nm,1.3s
DOPR Dopca 75.27 1⇑ *i* P **P** **03 44 46.2 +0.1**
GOF Gofitskoye 75.28 348 *e* P **P** **03 44 46.4 +0.2**
GOF pmax pmax
comp=Z,40nm,1.2s
VRI Vrincioaia 75.37 360⇑ *i* P **P** **03 44 45.7 -1.0**
PLOR Plostina 75.39 360⇓ *i* P **P** **03 44 48.3 +1.5**
KMI Kunming 75.47 295 P **P** **03 44 50.4 +2.6**
KMI S **S** **03 54 24.3 +3.3**
KMI sS **sS** **03 55 00.4 +0.1**
KMI pmax pmax
comp=Z,11nm,1.1s
KMI LR LR
comp=Z,170nm,20.2s
KMI LR LR
comp=Z,130nm,20.8s
LASF Ste Croix 75.48 17 *e* P **P** **03 44 47.5 +0.1**
comp=Z,34nm,1.3s
LASF Ste Croix 75.48 17 *e* P **P** **03 44 47.5 +0.1**
comp=Z,34nm,1.3s
BZS Buzias 75.55 4⇓ *i* P **P** **03 44 47.1 -0.6**
PCAB Cabril 75.55 26 *e* P **P** **03 44 49.0 +1.2**
comp=Z,42nm,1.8s
TGY Tagaytay City 75.73 274 P **P** **03 44 50.3 +1.2**
TGY Tagaytay City 75.73 274 P **P** **03 44 50.3 +1.2**
comp=Z,129nm,0.3s,baz=95,slow=5.8,SNR=4.1
PBRG Braganca 75.74 25 *e* P **P** **03 44 50.1 +1.2**
comp=Z,32nm,1.7s
VOIR 75.80 1⇓ *i* P **P** **03 44 50.0 +0.8**
GZR Gura Zlata 75.80 3⇓ *i* P **P** **03 44 48.8 -0.4**
SMRF Simiane la Rot 75.83 15 *e* P **P** **03 44 50.1 +0.8**
SMRF Simiane la Rot 75.83 15 *e* P **P** **03 44 50.1 +0.8**
ETSF Etsaut 75.91 20 *e* P **P** **03 44 50.4 +0.5**
comp=Z,25nm,0.8s
ETSF Etsaut 75.91 20 *e* P **P** **03 44 50.4 +0.5**
ETSF pmax pmax
comp=Z,25nm,0.8s
ETSF Etsaut 75.91 20 *e* P **P** **03 44 50.4 +0.5**
comp=Z,25nm,0.8s
POLO Lamas de Olo 75.92 26 *e* P **P** **03 44 50.8 +0.8**
comp=Z,12nm,1.5s
EPF Esparros 75.94 19 *e* P **P** **03 44 49.4 -0.6**
EPF Esparros 75.94 19 *e* P **P** **03 44 49.4 -0.6**
EPF Esparros 75.94 19 *e* P **P** **03 44 49.4 -0.6**
MTLF Montolieu 75.95 18 *e* P **P** **03 44 50.1 +0.1**
comp=Z,44nm,1.1s
MTLF Montolieu 75.95 18 *e* P **P** **03 44 50.1 +0.1**
MTLF pmax pmax
comp=Z,45nm,1.1s
MTLF Montolieu 75.95 18 *e* P **P** **03 44 50.1 +0.1**
comp=Z,44nm,1.1s
PTO Porto 75.96 27 *e* P **P** **03 44 51.3 +1.2**
comp=Z,51nm,1.3s
PVRL Vila Real 76.03 26 *e* P **P** **03 44 51.7 +1.1**
comp=Z,23nm,1.7s
CFR Carcaliu 76.05 359⇑ *i* P **P** **03 44 49.9 -0.6**
SBF Sospel 76.18 14 *e* P **P** **03 44 51.4 0.0**
comp=Z,66nm,1.0s
SBF Sospel 76.18 14 *e* P **P** **03 44 51.4 0.0**
SBF pmax pmax
comp=Z,66nm,1.0s
SBF Sospel 76.18 14 *e* P **P** **03 44 51.4 0.0**
comp=Z,66nm,1.0s
MVO Moncorvo 76.29 25 *e* P **P** **03 44 53.1 +1.0**
comp=Z,66nm,1.6s
FRF La Foret Royal 76.38 15 *e* P **P** **03 44 52.5 +0.1**
FRF La Foret Royal 76.38 15 *e* P **P** **03 44 52.5 +0.1**
FRF La Foret Royal 76.38 15 *e* P **P** **03 44 52.5 +0.1**
KIV Kislovodsk 76.41 348 *e* P **P** **03 44 53.1 +0.4**
KIV *e* 03 45 03.6
KIV *i* *PP **pP** **03 45 15.7 0.0**
KIV pmax pmax
comp=Z,15nm,1.3s
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 76.41 348 *e* P **P** **03 44 52.2 -0.5**
comp=Z,26nm,0.8s
TIAR Tiarei 76.48 176 *e* P **P** **03 44 53.5 +0.4**
comp=Z,28nm,1.0s
PPT Papeete 76.48 176 LR LR 04 11 47.1
comp=Z,123nm,21.6s,baz=2.2,slow=30
PPT2 Papeete2 76.50 176 *e* P **P** **03 44 53.8 +0.5**
comp=Z,45nm,1.3s
PPT2 Papeete2 76.50 176 *e*LR LR 04 08 17.9
comp=Z,497nm,37.0s
PVIS Viseu 76.53 26 *e* P **P** **03 44 54.3 +0.9**
comp=Z,28nm,2.0s
PAE Paea 76.57 176 *e* P **P** **03 44 53.8 +0.2**
comp=Z,7.8nm,1.2s
LMR La Mourre 76.58 15 *e* P **P** **03 44 53.7 +0.1**
LMR La Mourre 76.58 15 *e* P **P** **03 44 53.7 +0.1**
LMR La Mourre 76.58 15 *e* P **P** **03 44 53.7 +0.1**
KBZ Khabaz 76.61 348 P **P** **03 44 53.8 +0.1**
KBZ *PP **pP** **03 45 16.9 +0.1**
KBZ Khabaz 76.61 348 P **P** **03 44 53.8 +0.1**
KBZ pP **pP** **03 45 16.9 +0.1**
KBZ Khabaz 76.61 348 P **P** **03 44 53.8 +0.1**
comp=Z,5.8nm,1.0s,baz=339,slow=3.1,SNR=12
KBZ pP **pP** **03 45 16.9 +0.1**
comp=Z,20nm,0.9s,baz=343,slow=4.4,SNR=12
KBZ LR LR 04 22 40.2
comp=Z,52nm,20.1s,baz=201,slow=39
LSA Lhasa 76.67 306 *e* P **P** **03 44 55.7 +0.8**
LSA *e**PP **pP** **03 45 16.8 -1.1**
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 76.67 306 *e* P **P** **03 44 55.7 +0.8**
comp=Z,14nm,0.6s
LSA ep P **pP** **03 45 16.8 -1.1**
TVO Taravao 76.70 176 *e* P **P** **03 44 54.8 +0.4**
comp=Z,17nm,1.0s
MTE Manteigas 76.91 26 *e* P **P** **03 44 56.7 +1.2**
comp=Z,31nm,0.7s
PCAS Casmilo, Conde 77.02 27 *e* P **P** **03 44 56.6 +0.5**
comp=Z,51nm,1.7s
MSAB Monastry St. A 77.14 359⇓ *i* P **P** **03 44 56.6 -0.1**
QIZ Qiongzhong 77.20 285 P **P** **03 44 59.3 +1.9**
QIZ sP **sP** **03 45 28.0 -2.0**
QIZ S **S** **03 54 39.9 +0.2**
QIZ sS **sS** **03 55 14.3 -4.8**
QIZ pmax pmax
comp=Z,28nm,2.2s
QIZ pmax pmax
comp=Z,160nm,5.5s
QIZ LR LR
comp=Z,200nm,44.1s
ZEI Tsey 77.43 347 *e* P **P** **03 44 57.6 -1.0**
ZEI pmax pmax
comp=Z,11nm,1.4s
PTOM Tomar 77.45 27 *e* P **P** **03 44 59.4 +0.9**
comp=Z,58nm,1.9s
PCBR Castelo Branco 77.46 26 *e* P **P** **03 44 59.2 +0.7**

comp=Z,26nm,1.6s
PGF Pioggiola 77.67 13 *e*P P **03 44 59.7 -0.1**
PGF Pioggiola 77.67 13 *e*P P **03 44 59.7 -0.1**
PGF Pioggiola 77.67 13 *e*P P **03 44 59.7 -0.1**
PMRV Marv??o 77.87 26 *e*P P **03 45 01.2 +0.3**
comp=Z,36nm,1.8s
PMAFR Mafra 77.88 28 *e*P P **03 45 01.9 +1.0**
comp=Z,100nm,0.7s
PMTG Montargil 78.02 27 *e*P P **03 45 02.0 +0.3**
comp=Z,37nm,1.4s
PESTR Estremoz 78.36 26 *e*P P **03 45 04.3 +0.7**
comp=Z,44nm,1.4s
ESDC Sonseca Array 78.38 24 P P **03 45 03.9 +0.1**
ESDC Sonseca Array 78.38 24 P P **03 45 03.9 +0.1**
comp=Z,8.6nm,0.7s,baz=342,slow=5.3,SNR=41
EVOP Sao Brissos 78.56 27 *e*P P **03 45 05.1 +0.5**
EVOP pmax pmax
comp=Z,26nm,1.0s
EVOP Sao Brissos 78.56 27 *e*P P **03 45 05.1 +0.5**
comp=Z,26nm,1.0s
EVO Evora 78.58 27 *e*P P **03 45 05.1 +0.3**
comp=Z,26nm,1.0s
EVO *e*R
comp=Z,142nm,19.5s
EVO Evora 78.58 27 *e*P P **03 45 05.5 +0.7**
comp=Z,26nm,1.2s
SDV Santo Domingo 78.79 91 *e*P P **03 45 06.1 -0.4**
comp=Z,6.8nm,0.7s
PNCL Nicolau / Gran 78.86 27 *e*P P **03 45 07.3 +1.0**
comp=Z,41nm,0.7s
PBEJ Beja 79.10 27 *e*P P **03 45 08.5 +0.9**
comp=Z,20nm,1.9s
PBAR Barrancos 79.15 26 *e*P P **03 45 09.0 +1.1**
comp=Z,25nm,1.5s
MESJ Messejana 79.19 27 *e*P P **03 45 08.6 +0.5**
PTEO Sao Teotonio 79.35 28 *e*P P **03 45 09.7 +0.7**
comp=Z,38nm,1.4s
PCVE Castro Verde 79.43 27 *e*P P **03 45 10.5 +1.1**
comp=Z,52nm,1.8s
SLB Belfond 79.54 81 *e* P **03 45 13.0 +2.6**
MORF Marmelete 79.60 28 *e*P P **03 45 11.2 +0.8**
comp=Z,49nm,1.6s
PVAQ Vaqueiros 79.72 27 *e*P P **03 45 12.3 +1.3**
comp=Z,68nm,1.5s
PBDV Barranco-do-Ve 79.83 27 *e*P P **03 45 13.4 +1.8**
comp=Z,78nm,1.9s
SVV Soufriere Volc 79.88 81 *e* P **03 45 13.4 +1.2**
SSV Crater Summit 79.89 81 *e* P **03 45 13.4 +1.1**
GNI Garni 79.93 346 *e*P P **03 45 13.0 +0.7**
comp=Z,23nm,1.1s
BHS Barnard House 79.95 81 *e* P **03 45 13.6 +1.1**
FCV Fort Charlotte 80.00 81 *e* P **03 45 13.6 +0.8**
TAPN Taplejung 80.16 308 *e*P P **03 45 14.1 +0.2**
comp=Z,32nm,0.6s
TAPN Taplejung 80.16 308 *e*P P **03 45 14.1 +0.2**
comp=Z,32nm,0.6s
KBL Kabul 80.21 325 *e*P P **03 45 12.0 -2.0**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 80.21 325 *e*P P **03 45 11.9 -2.0**
comp=Z,5.0nm,0.6s
ROSC El Rosal 80.32 97 *e*P P **03 45 14.9 0.0**
ROSC El Rosal 80.32 97 P P **03 45 15.1 +0.1**
comp=Z,15nm,0.9s,baz=270,slow=23,SNR=13
ROSC LR LR 04 22 07.2
comp=Z,54nm,18.4s,baz=5.8,slow=36
GUN Gumba 80.40 309 *e*P P **03 45 15.4 +0.2**
comp=Z,27nm,0.7s
GUN Gumba 80.40 309 *e*P P **03 45 15.4 +0.2**
comp=Z,27nm,0.7s
JIRN Jiri 80.50 309 *e*P P **03 45 16.3 +0.5**
comp=Z,79nm,0.5s
JIRN Jiri 80.50 309 *e*P P **03 45 16.3 +0.5**
comp=Z,79nm,0.5s
ODAN Odare 80.72 308 *e*P P **03 45 16.8 0.0**
comp=Z,69nm,1.0s
ODAN Odare 80.72 308 *e*P P **03 45 16.8 0.0**
comp=Z,69nm,1.0s
KKN Kakani 80.75 310 *e*P P **03 45 17.2 +0.3**
comp=Z,23nm,0.5s
KKN Kakani 80.75 310 *e*P P **03 45 17.2 +0.3**
KKN pmax pmax
comp=Z,23nm,0.5s
KKN Kakani 80.75 310 *e*P P **03 45 17.2 +0.3**
comp=Z,23nm,0.5s
SMLA Simla 80.75 318 *e*P P **03 45 15.6 -1.0**
GKN Gorkha 80.81 310 *e*P P **03 45 17.3 +0.1**
comp=Z,15nm,0.4s
GKN Gorkha 80.81 310 *e*P P **03 45 17.3 +0.1**
comp=Z,15nm,0.4s
DANN Dangsing 80.84 311 *e*P P **03 45 17.8 +0.3**
comp=Z,119nm,0.7s
DANN Dangsing 80.84 311 *e*P P **03 45 17.8 +0.3**
comp=Z,119nm,0.7s
PKI Pulchoki 80.89 310 *e*P P **03 45 17.7 -0.1**
comp=Z,24nm,0.6s
PKI Pulchoki 80.89 310 *e*P P **03 45 17.7 -0.1**
PKI pmax pmax
comp=Z,25nm,0.6s
PKI Pulchoki 80.89 310 *e*P P **03 45 17.7 -0.1**
comp=Z,24nm,0.6s
PKIN Phulchoki 80.89 310 *e*P P **03 45 17.7 -0.1**
comp=Z,17nm,0.6s
RAMN Ramite 80.96 308 *e*P P **03 45 18.2 +0.1**
comp=Z,51nm,0.6s
RAMN Ramite 80.96 308 *e*P P **03 45 18.2 +0.1**
comp=Z,51nm,0.6s
DMN Daman 80.97 310 *e*P P **03 45 18.2 0.0**
comp=Z,29nm,0.6s
DMN Daman 80.97 310 *e*P P **03 45 18.2 0.0**
comp=Z,29nm,0.6s
BR131 Keskin Array S 81.33 354 *e*P P **03 45 18.8 -1.0**
comp=Z,5.8nm,0.8s
BR131 *e*pP **pP** **03 45 42.6 -0.4**
BRTR Keskin Array B 81.33 354 P P **03 45 18.8 -1.0**
BRTR pP **pP** **03 45 42.3 -0.7**
BRTR PKKPbc **PKKPbc** **04 03 52.0 +1.4**
BRTR Keskin Array B 81.33 354 P P **03 45 18.8 -1.0**
comp=Z,1.6nm,0.6s,baz=12,slow=2.7,SNR=11
BRTR pP **pP** **03 45 42.3 -0.7**
comp=Z,7.4nm,0.9s,baz=22,slow=3.5,SNR=8.1
BRTR PKKPbc **PKKPbc** **04 03 52.0 +1.4**
comp=Z,1.2nm,0.7s,baz=172,slow=4.4,SNR=7.2
BRTR LR LR 04 26 48.9
comp=Z,35nm,19.5s,baz=5.4,slow=40
PYUN Piuthan 81.36 312 *e*P P **03 45 20.3 +0.1**
comp=Z,83nm,0.8s
PYUN Piuthan 81.36 312 *e*P P **03 45 20.3 +0.1**
comp=Z,83nm,0.8s
KOLN Koldanda 81.42 311 *e*P P **03 45 20.4 -0.1**
comp=Z,32nm,0.7s
KOLN Koldanda 81.42 311 *e*P P **03 45 20.4 -0.1**
comp=Z,32nm,0.7s
CMAI Chiengmai2 81.65 295 P P **03 45 22.3 +0.5**
comp=Z,9.0nm,0.9s
OTAV Otavalo 82.17 103 *e*P P **03 45 24.8 -0.1**
comp=Z,29nm,0.8s
TBI Tubuai 82.23 176 *e*LR LR 04 11 06.8
comp=Z,251nm,36.8s
MALT Malatya 82.41 351 ||*i*P P **03 45 25.5 +0.1**
CMMT Chiang Mai 82.67 294 P P **03 45 28.1 +1.2**
comp=Z,9.8nm,1.3s
CHTO Chiang Mai 82.67 294 *e*P P **03 45 25.6 -1.2**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 82.67 294 *e*P P **03 45 25.6 -1.2**
comp=Z,2.8nm,0.6s
CHTO Chiang Mai 82.67 294 P P **03 45 28.1 +1.2**
comp=Z,33nm,1.4s
CMAR Chiang Mai Arr 82.97 294 P P **03 45 27.1 -1.4**
CMAR Chiang Mai Arr 82.97 294 P P **03 45 27.1 -1.4**
comp=Z,4.9nm,0.6s,baz=6.9,slow=4.5,SNR=14
CMAR LR LR 04 24 30.8
comp=Z,95nm,18.4s,baz=139,slow=37
PMG Port Moresby 83.06 239 *e*P P **03 45 29.5 +0.7**
comp=Z,48nm,1.2s
PMG *e*pP **pP** **03 45 51.5 -0.7**
PBKT Sadao Pong 83.64 292 P P **03 45 33.1 +1.3**
comp=Z,14nm,0.5s,comp=Z,936nm
KEST Kesra 84.43 14 *e*P P **03 45 36.1 +0.3**
KEST Kesra 84.43 14 P P **03 45 36.8 +1.0**
comp=Z,9.6nm,0.9s,baz=254,slow=2.0,SNR=13
DZM Mont Dzumac 87.34 217 *e*LR LR 04 13 32.4
comp=Z,122nm,27.2s
ATAH Atahualpa 88.54 106 P P **03 45 57.5 +1.1**
ATAH Atahualpa 88.54 106 P P **03 45 57.5 +1.1**
comp=Z,37nm,0.9s,baz=350,slow=2.7,SNR=28

COEN Coen 88.86 240 *e*P P **03 45 56.9 -0.4**
KSM Kuching 91.91 276 *e*P P **03 46 13.5 +1.9**
comp=Z,11nm,0.9s
PTGA Pitinga 92.47 87 *e*P P **03 46 13.9 -0.3**
comp=Z,53nm,0.9s
KAPI Kappang 92.57 265 *e*P P **03 46 14.8 +0.2**
comp=Z,95nm,1.0s
CTA Charters Tower 92.96 235 P P **03 46 16.4 +0.2**
CTA Charters Tower 92.96 235 P P **03 46 16.4 +0.2**
comp=Z,11nm,0.8s,baz=19,slow=7.4,SNR=7.5
CTAO Charters Tower 92.96 235 *e*P P **03 46 16.5 +0.2**
CTAO *e*PP **pP** **03 46 38.9 -1.0**
CTAO pmax pmax
comp=Z,11nm,0.8s
CTAO Charters Tower 92.96 235 *e*P P **03 46 16.4 +0.2**
comp=Z,11nm,0.8s
CTAO *e*pP **pP** **03 46 38.9 -1.0**
NNA Nana 93.48 107 *e*P P **03 46 19.7 +0.8**
comp=Z,16nm,1.1s
PSI Prapat 96.52 287 P P **03 46 33.1 +0.1**
PSI Prapat 96.52 287 P P **03 46 33.1 +0.1**
comp=Z,4.8nm,0.5s,baz=57,slow=5.9,SNR=3.5
TAM Tamanrasset 96.58 19 *e*P P **03 46 33.3 +0.1**
TAM Tamanrasset 96.58 19 *e*P P **03 46 33.3 +0.1**
SAML Samuel 97.80 94 *e*P P **03 46 37.1 -1.4**
comp=Z,9.7nm,0.9s
SAML *e*PP **PP** **03 50 33.9 -3.8**
WRA Warramunga Arr 98.13 245 P P **03 46 38.7 -1.2**
WRA pP **pP** **03 47 01.8 -1.7**
WRA Warramunga Arr 98.13 245 P P **03 46 38.7 -1.2**
comp=Z,0.9nm,0.5s,baz=35,slow=5.2,SNR=12
WRA pP **pP** **03 47 01.8 -1.7**
comp=Z,2.3nm,0.9s,baz=38,slow=4.8,SNR=6.3
WRA LR LR 04 27 28.6
comp=Z,46nm,21.6s,baz=270,slow=33
PALK Pallekele 101.02 305 *e*Pdif **Pdif** **03 46 53.3 +0.3**
LPAZ La Paz 101.49 102 *e*Pdif **Pdif** **03 46 53.6 -2.0**
LPAZ La Paz 101.49 102 P **Pdif** **03 46 53.5 -2.1**
comp=Z,1.0nm,0.6s,baz=7.6,slow=8.9,SNR=4.0
ASAR Alice Springs 101.55 243 P **Pdif** **03 46 55.0 0.0**
ASAR Alice Springs 101.55 243 P **Pdif** **03 46 55.0 0.0**
comp=Z,0.6nm,0.6s,baz=28,slow=4.5,SNR=3.9
SIV San Ignacio 104.83 96 Pdif **Pdif** **03 47 09.3 -0.5**
SIV San Ignacio 104.83 96 Pdiff **Pdif** **03 47 09.3 -0.5**
comp=Z,1.9nm,0.7s,baz=348,slow=3.9,SNR=5.1
TOA0 Torodi Ar. Sit 105.22 25 *e*PKP **PKiKP** **03 51 26.2 +0.8**
TORD Torodi Ar. Bea 105.22 25 Pdif **Pdif** **03 47 11.0 -0.7**
TORD PKiKP **PKiKP** **03 51 24.6 -0.8**
TORD PKKPbc **PKKPbc** **04 02 48.6 +0.1**
TORD Torodi Ar. Bea 105.22 25 Pdiff **Pdif** **03 47 11.0 -0.7**
comp=Z,0.1nm,0.4s,baz=339,slow=5.0,SNR=6.0
TORD PKiKP **PKiKP** **03 51 24.6 -0.8**
comp=Z,0.8nm,1.1s,baz=338,slow=3.1,SNR=5.1
TORD PKKPbc **PKKPbc** **04 02 48.6 +0.1**
comp=Z,1.9nm,0.7s,baz=162,slow=3.0,SNR=9.4
FORT Forrest 110.30 244 *e*PKP **PKiKP** **03 51 34.5 +0.2**
CPUP Villa Florida 115.35 99 *e*PKPdf **PKPdf** **03 51 42.8 -1.1**
KMBO Kilima Mbogo 121.55 347 *e*PKPdf **PKPdf** **03 51 57.2 +0.5**
KMBO *e*SKPdf **SKiKP** **03 55 24.3 -0.1**
KMBO Kilima Mbogo 121.55 347 PKP **PKPdf** **03 51 57.0 +0.2**
comp=Z,2.9nm,0.7s,baz=18,slow=6.0,SNR=9.5
KMBO pPKP **pPKPdf** **03 52 20.9 -0.5**
comp=Z,2.3nm,0.7s,baz=21,slow=6.2,SNR=3.4
KMBO SKP 03 55 24.1
comp=Z,3.0nm,0.4s,baz=359,slow=6.5,SNR=6.7
TRQA Tornquist 122.48 111 *e*PKPdf **PKPdf** **03 51 56.8 -0.6**
LSZ Lusaka 136.21 358 *e*PKPdf **PKPdf** **03 52 23.0 -1.2**
LSZ *e*SKPbc **SKPbc** **03 55 48.5 +0.4**
LSZ Lusaka 136.21 358 PKP **PKPdf** **03 52 23.2 -1.1**
comp=Z,1.9nm,0.6s,baz=21,slow=4.7,SNR=6.2
LSZ SKPbc **SKPbc** **03 55 48.6 +0.5**
comp=Z,12nm,0.8s,baz=28,slow=6.1,SNR=22
OPO Ambohidratompo 136.78 331 SKP **SKPdf** **03 55 49.9 -2.1**
comp=Z,4.3nm,1.0s,baz=344,slow=7.4,SNR=4.0
VNDA Vanda 139.14 194 PKP **PKPdf** **03 52 28.0 +0.4**
VNDA *e*PKPdf **PKiKP** **03 52 28.9 -1.0**
VNDA Vanda 139.14 194 PKP **PKPdf** **03 52 28.0 +0.4**
comp=Z,1.1nm,0.9s,baz=18,slow=5.4,SNR=3.6
TSUM Tsumeb 139.61 13 *e*PKPdf **PKPdf** **03 52 30.8 +0.3**
TSUM pPKP **pPKPdf** **03 52 54.5 -0.5**
TSUM *e*SKP 03 55 57.5
TSUM Tsumeb 139.61 13 PKhKP PKPpre 03 52 27.0
comp=Z,3.2nm,0.7s,baz=316,slow=5.4,SNR=5.5
TSUM PKP **PKiKP** **03 52 32.2 -0.6**
comp=Z,3.2nm,0.7s,baz=340,slow=4.8,SNR=5.7
TSUM pPKP pPKPdf 03 52 54.5 -0.5
comp=Z,7.4nm,0.8s,baz=353,slow=4.7,SNR=7.8
TSUM SKPbc **SKPbc** **03 55 58.5 +0.7**
comp=Z,7.5nm,1.0s,baz=20,slow=4.2,SNR=5.7
LBTB Lobatse 145.91 1 *e*PKPbc **PKPab** **03 52 42.6 -0.2**
LBTB *e*SKPbc **SKPbc** **03 56 13.3 +0.2**
QSPA South Pole Qui 148.92 180 PKP **PKPdf** **03 52 42.5 -2.5**
QSPA PKPbc **PKPbc** **03 52 47.8 -1.3**
QSPA *e*PKPbc **PKiKP** **03 52 49.0 -1.3**
QSPA *e*PKPab **PKPab** **03 52 53.5 0.0**
QSPA *e*SKPdf **SKPdf** **03 56 12.5 +2.2**
QSPA *e*SKPbc **SKPbc** **03 56 18.2 +0.1**
QSPA South Pole Qui 148.92 180 PKP **PKPdf** **03 52 42.4 -2.5**
comp=Z,4.7nm,0.9s,baz=344,slow=2.3,SNR=10
QSPA PKPbc **PKPbc** **03 52 47.8 -1.3**
comp=Z,66nm,0.8s,baz=39,slow=0.6,SNR=59
BOSA Boshof 149.49 2 *e*PKPbc **PKPbc** **03 52 51.5 -0.3**
BOSA *e*PKPab **PKPab** **03 52 57.1 +0.2**
BOSA pPKPbc **pPKPbc** **03 53 15.1 -1.2**
BOSA Boshof 149.49 2 PKP **PKPdf** **03 52 46.6 -0.6**
comp=Z,2.2nm,0.7s,baz=28,slow=2.8,SNR=4.3
BOSA PKPbc **PKPbc** **03 52 51.7 -0.1**
comp=Z,10nm,0.6s,baz=321,slow=0.9,SNR=9.8
BOSA pPKPbc **pPKPbc** **03 53 15.1 -1.2**
comp=Z,14nm,0.6s,baz=46,slow=1.9,SNR=5.4
SUR Sutherland 152.99 11 PKPbc **PKPbc** **03 53 00.2 +0.3**
SUR *e*PKPab **PKPab** **03 53 11.8 +0.3**
SUR Sutherland 152.99 11 PKPbc **PKPbc** **03 53 00.2 +0.3**
comp=Z,5.5nm,0.9s,baz=146,slow=3.6,SNR=4.0
MAW Mawson 161.87 227 PKPab **PKPab** **03 53 48.7 0.0**
MAW Mawson 161.87 227 PKPab **PKPab** **03 53 48.7 0.0**
comp=Z,6.1nm,0.7s,baz=265,slow=16,SNR=4.6
SNAA Sanae 162.75 149 PKPab **PKPab** **03 53 51.6 -1.0**
SNAA Sanae 162.75 149 PKPab **PKPab** **03 53 51.6 -1.0**
comp=Z,2.1nm,0.8s,baz=251,slow=4.5,SNR=14

*ISCJB **18** 03:33:21.1±0.6, 13°.61N±0°.07×120°.70E±0°.10, h128km±4km, mb3.5/7, Error ellipse: s-maj=15.7km s-min=10.6km az=164.3*
*MAN **18** 03:33:21, 13°.67N×120°.65E, h107km, mb4.2, ML3.0, MS2.7*
*IDC **18** 03:33:21.4±0.7, 13°.66N×121°.14E, h126km±4km, mb3.4/7, mb1 3.5/7, mb1mx3.3/27, mbtmp3.4/7, Error ellipse: s-maj=31.3km s-min=14.7km az=62.0*
ISC 18 03:33:22.3±0.8, 13°.61N±0°.07×120°.74E±0°.08, h120km±7km, n17, σ1s60/18, mb3.6/7, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.24**	**116**	*i*P		**Pn**	**03 33 39.1**	**0.0**
LUBP	**Lubang**	**0.49**	**285**	*e*P		**Pn**	**03 33 40.0**	**-0.2**
LUBP				*e*S		**Sn**	**03 33 52.4**	**-1.4**
TGY	**Tagaytay City**	**0.53**	**22**	*i*P		Pn	03 33 38.1	-2.5
TGY	**Tagaytay City**	**0.53**	**22**	P		**Pn**	**03 33 40.2**	**-0.3**
TGY	207nm,0.3s,baz=225,slow=1.4,SNR=9.4			S		**Sn**	**03 33 55.6**	**+1.2**
	334nm,0.3s,baz=120,slow=21,SNR=28							
BOAC	**Boac**	**1.09**	**98**	*e*P		**Pn**	**03 33 46.2**	**+1.0**
SJMP	**San Jose**	**1.20**	**162**	*e*P		**Pn**	**03 33 46.8**	**+0.5**
BUSP	**Coron**	**1.68**	**198**	*e*P		**Pn**	**03 33 51.6**	**-0.3**
OTRP	**Odiongan**	**1.76**	**135**	*e*P		**Pn**	**03 33 53.2**	**+0.4**
ENPP	**El Nido**	**2.71**	**208**	*e*P		**Pn**	**03 34 05.2**	**+0.4**
CUYO	**Cuyo Island**	**2.75**	**174**	*e*P		**Pn**	**03 34 05.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**21.49**	**286**	P		**P**	**03 38 02.8**	**+1.2**
	3.4nm,0.7s,baz=94,slow=7.9,SNR=16							
PSI	**Prapat**	**24.08**	**245**	P		**P**	**03 38 31.1**	**+4.2**
	6.1nm,0.5s,baz=40,slow=5.2,SNR=5.6							
WRA	**Warramunga Arr**	**35.93**	**158**	P		**P**	**03 40 08.6**	**-2.7**
	0.5nm,0.3s,baz=327,slow=11,SNR=20							
SONM	**Songino Array**	**36.16**	**344**	P		**P**	**03 40 12.6**	**-0.4**
	0.3nm,0.6s,baz=157,slow=7.8,SNR=3.0							
ASAR	**Alice Springs**	**39.22**	**161**	P		**P**	**03 40 37.0**	**-2.0**
	0.4nm,0.4s,baz=334,slow=6.6,SNR=9.8							
MKAR	**Makanchi Array**	**46.13**	**324**	P		**P**	**03 41 33.9**	**-0.7**
	0.2nm,0.3s,baz=108,slow=8.5,SNR=5.2							
KURBB	**Kurchatov Arra**	**50.28**	**326**	P		**P**	**03 42 06.2**	**-0.2**
	0.3nm,0.5s,baz=133,slow=7.5,SNR=5.6							

*ISCJB **18** 03:41:27.6±0.5, 17°.10N±0°.06×94°.01W±0°.04, h177km±5km, mb4.0/4, Error ellipse: s-maj=10.5km s-min=6.6km az=17.2*
*MEX **18** 03:41:29.2±0.9, 16°.98N×93°.92W, h172km±11km, MD4.0*
*IDC **18** 03:41:29.8±3.0, 17°.22N×93°.76W, h178km±33km, mb3.7/4, mb1 3.7/7, mb1mx3.4/25, mbtmp4.0/7, Error ellipse: s-maj=51.1km s-min=26.7km az=59.0*
ISC 18 03:41:29.0±0.8, 17°.12N±0°.07×94°.00W±0°.05, h175km±7km, n14, σ1s34/21, mb4.0/4, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.85**	**268**	*e*P		**Pn**	**03 41 54.6**	**-0.5**
CMIG				*i*S		**Sn**	**03 42 13.3**	**-2.0**
TUIG	**Tuzandepetl**	**0.99**	**336**	*i*P		**Pn**	**03 41 56.1**	**-0.1**
TUIG				*i*S		**Sn**	**03 42 16.1**	**-1.1**
PCIG		**1.59**	**152**	*e*P		**Pn**	**03 42 02.6**	**+1.2**
PCIG				*i*S		**Sn**	**03 42 26.4**	**-0.2**
HUIG	**Huatulco**	**2.43**	**237**	*e*P		**Pn**	**03 42 08.4**	**-2.2**
HUIG				*i*S		**Sn**	**03 42 41.2**	**-1.8**
VHO	**Vista Hermosa**	**2.62**	**269**	*i*P		**Pn**	**03 42 13.0**	**0.0**
VHO				*i*S		**Sn**	**03 42 46.5**	**-0.7**
APG	**El Apazote**	**4.00**	**121**	P		**Pn**	**03 42 28.3**	**-1.8**
	0.7nm,0.3s,baz=320,slow=18,SNR=3.6							
APG				S		**Sn**	**03 43 15.8**	**-2.1**
	2.4nm,0.3s,baz=318,slow=18,SNR=5.9							
PNIG	**Pinotepa**	**4.02**	**260**	*i*P		**Pn**	**03 42 29.0**	**-1.3**
PNIG				*i*S		**Sn**	**03 43 17.1**	**-1.1**
TEIG	**Tepich**	**6.24**	**59**	P		**Pn**	**03 42 57.6**	**-1.5**
	1.2nm,0.3s,baz=31,slow=22,SNR=9.0							
JTS	**JuntasAbangare**	**11.10**	**127**	P		**Pn**	**03 44 04.3**	**+1.2**
	0.7nm,0.3s,baz=300,slow=20,SNR=5.7							
TXAR	**Lajitas Array**	**15.05**	**326**	P		**P**	**03 44 55.1**	**+1.1**
	baz=134,slow=12,SNR=3.1							
YKA	**Yellowknife Ar**	**47.57**	**347**	P		**P**	**03 49 46.4**	**-0.1**
	1.2nm,0.6s,baz=152,slow=7.4,SNR=15							
INK	**Inuvik**	**56.92**	**344**	P		**P**	**03 50 55.4**	**+0.1**
	3.2nm,0.6s,baz=124,slow=5.9,SNR=16							
ILAR	**Eielson Array**	**59.23**	**337**	P		**P**	**03 51 11.7**	**+0.2**
	0.3nm,0.5s,baz=125,slow=5.1,SNR=10							
ARCES	**ARCESS Array B**	**83.78**	**18**	P		**P**	**03 53 38.1**	**-0.1**
	8.5nm,1.1s,baz=312,slow=6.8,SNR=3.9							

*IDC **18** 03:42:54.1±3.2, 21°.95S×170°.33E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.8/17, mbtmp3.7/5, ML4.3/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/22, Error ellipse: s-maj=128.1km s-min=29.1km az=158.0*
*NOU **18** 03:42:55.5±0.6, 21°.38S×170°.55E, h30km, MD2.9, ML2.9*
ISC 18 03:42:59.7±2.1, 22°.2S±0°.5×170°.4E±0°.1, h51km, n14, σ0s98/12, mb3.6/4, MS3.5/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PLUM	**Mont Dore**	**3.44**	**269**	*e*P		**Pn**	**03 43 50.1**	**-0.6**
PLUM				*e*S		**Sn**	**03 44 30.0**	**-0.3**
NORM	**Noumea**	**3.58**	**270**	*e*P		**Pn**	**03 43 51.9**	**-0.9**
NORM				AMP			03 44 35.9	
	comp=Z,119nm,1.1s							
DZM	**Mont Dzumac**	**3.63**	**272**	Pn		**Pn**	**03 43 52.7**	**-0.7**
	comp=Z,27nm,0.3s,baz=122,slow=17,SNR=504							
DZM				Sn		**Sn**	**03 44 34.5**	**-0.5**
	comp=Z,15nm,0.3s,baz=306,slow=23,SNR=10							
NOUC	**Port Laguerre**	**3.75**	**271**	*e*P		**Pn**	**03 43 54.7**	**-0.4**
NOUC				*e*S		**Sn**	**03 44 39.5**	**+1.4**
NOUC				AMP			03 44 40.5	
	comp=Z,27nm,1.3s							
URZ	**Urewera**	**16.99**	**162**	LR		LR	03 52 25.8	
	comp=Z,81nm,20.3s,baz=259,slow=33							
STKA	**Stephens Creek**	**27.28**	**243**	LR		LR	03 58 18.9	
	comp=Z,111nm,19.0s,baz=297,slow=34							
ASAR	**Alice Springs**	**33.53**	**260**	P		**P**	**03 49 35.5**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=83,slow=8.5,SNR=5.4							
WRA	**Warramunga Arr**	**33.63**	**267**	P		**P**	**03 49 35.8**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=96,slow=8.3,SNR=3.7							
FITZ	**Fitzroy Crossi**	**42.06**	**267**	LR		LR	04 08 55.2	
	comp=Z,56nm,20.9s,baz=324,slow=37							
KSRS	**Korea Array**	**71.56**	**326**	LR		LR	04 23 46.5	
	comp=Z,16nm,18.0s,baz=15,slow=34							
SONM	**Songino Array**	**90.23**	**323**	P		**P**	**03 55 56.4**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=121,slow=5.7,SNR=4.7							
ILAR	**Eielson Array**	**92.78**	**17**	P		**P**	**03 56 05.5**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=234,slow=5.5,SNR=3.1							
ILAR				LR		LR	04 34 36.8	
	comp=Z,57nm,18.8s,baz=293,slow=34							
TXAR	**Lajitas Array**	**97.28**	**61**	LR		LR	04 33 33.4	
	comp=Z,57nm,18.8s,baz=15,slow=31							
GERES	**GERESS Array B**	**147.61**	**331**	PKPbc		**PKPab**	**04 02 39.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=31,slow=4.0,SNR=7.7							

IDC 18 03:44:19.0±14.0, 18°.11S×167°.22E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/18, mbtmp4.2/5, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/20, Error ellipse: s-maj=239.8km s-min=38.1km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.00**	**190**	Pn		Pn	03 45 22.6	+0.8
	5.7nm,0.3s,baz=342,slow=20,SNR=2.3							
DZM				Sn		Sn	03 46 10.0	+0.5
	51nm,0.3s,baz=164,slow=21,SNR=15							
STKA	**Stephens Creek**	**26.88**	**234**	P		P	03 50 00.8	-0.8
	1.4nm,0.8s,baz=66,slow=10.0,SNR=2.9							
WRA	**Warramunga Arr**	**31.11**	**261**	P		P	03 50 39.5	0.0
	0.5nm,0.5s,baz=82,slow=6.1,SNR=11							
ASAR	**Alice Springs**	**31.56**	**254**	P		P	03 50 43.6	+0.2
	3.6nm,0.4s,baz=84,slow=8.5,SNR=30							
ASAR				LR		LR	04 03 10.3	
	comp=Z,91nm,18.1s,baz=49,slow=36							
FITZ	**Fitzroy Crossi**	**39.46**	**263**	P		P	03 51 51.2	-0.1
	11nm,1.2s,baz=55,slow=12,SNR=3.6							

*IDC **18** 03:49:53.0±0.8, 55°.41S×26°.74W, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, ML3.5/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/22, Error ellipse: s-maj=39.3km s-min=24.7km az=86.0*
*ISCJB **18** 03:49:54.7±0.6, 55°.5S±0°.1×26°.7W±0°.2, h25km, mb4.3/11, MS2.3/1, Error ellipse: s-maj=16.9km s-min=13.6km az=30.4*
*NEIC **18** 03:49:54.1±0.4, 55°.55S×26°.78W, h10km, mb4.4/10, Error ellipse: s-maj=14.4km s-min=11.6km az=209.0*
ISC 18 03:49:56.5±0.6, 55°.5S±0°.1×26°.8W±0°.1, h25km, n30, σ0s88/29, mb4.3/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.16**	**157**	*e*P		**P**	**03 54 16.2**	**-1.6**
	9.3nm,1.0s							
SNAA	**Sanae**	**19.16**	**157**	P		**P**	**03 54 18.1**	**+0.3**
	0.1nm,0.3s,baz=291,slow=8.6,SNR=5.6							
CFAA	**Coronel Fontan**	**37.55**	**292**	LR		LR	04 09 53.7	
	comp=Z,5.4nm,22.0s,baz=102,slow=32							
LCO	**Las Campanas**	**40.89**	**292**	*e*P		**P**	**03 57 36.5**	**-0.2**
	22nm,1.3s							
LVC	**Limon Verde**	**45.21**	**299**	*e*P		**P**	**03 58 13.2**	**+1.4**
	4.8nm,0.6s							
VNDA	**Vanda**	**47.14**	**183**	*e*P		**P**	**03 58 26.9**	**+1.0**
	5.7nm,1.1s							
VNDA	**Vanda**	**47.14**	**183**	P		**P**	**03 58 27.1**	**+1.2**
	2.0nm,0.7s,baz=205,

PMG	**Port Moresby**	**115.14**	**173**	*e*PKPdf	**PKPdf**	**04 08 33.5**	**-2.1**
BRVK	**Borovoye**	**134.27**	**57**	*e*PKPdf	**PKPdf**	**04 09 10.6**	**-0.3**
YKA	**Yellowknife Ar**	**135.90**	**318**	PKP	**PKPdf**	**04 09 14.7**	**+1.1**
YKA	**Yellowknife Ar**	**135.90**	**318**	PKP	**PKPdf**	**04 09 14.7**	**+1.1**
	0.1nm,0.5s,baz=127,slow=2.3,SNR=5.1						
INK	**Inuvik**	**145.51**	**321**	*e*PKPbc	**PKPab**	**04 09 31.2**	**+0.1**
INK	**Inuvik**	**145.51**	**321**	*e*PKPbc	**PKPab**	**04 09 31.2**	**+0.1**
	1.3nm,0.6s,baz=84,slow=3.1,SNR=13						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**04 09 42.2**	**-0.7**
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**04 09 42.2**	**-0.7**
	0.5nm,0.7s,baz=127,slow=4.1,SNR=14						
SONM	**Songino Array**	**150.47**	**85**	PKPbc	**PKPbc**	**04 09 44.8**	**-0.2**
SONM	**Songino Array**	**150.47**	**85**	PKPbc	**PKPbc**	**04 09 44.8**	**-0.2**
	1.1nm,0.8s,baz=209,slow=3.7,SNR=6.1						
MCK	**McKinley**	**150.59**	**310**	*e*PKPbc	**PKPbc**	**04 09 44.4**	**-0.2**

IDC 18 04:02:29.6±4.7, 3°02'S×148°15'E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/16, mbtmp3.6/2, Error ellipse: s-maj=171.5km s-min=52.6km az=107.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.92**	**219**	P	P	04 07 24.2	-0.5
	1.9nm,0.9s,baz=43,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**25.04**	**214**	P	P	04 07 56.0	+0.3
	1.8nm,1.0s,baz=51,slow=8.2,SNR=10						
TORD	**Torodi Ar. Bea**	**145.91**	**289**	PKPbc	PKPdf	04 22 11.3	-0.3
	0.4nm,0.9s,baz=70,slow=1.6,SNR=1.6						

TIF ***18*** *04:42:19.8, 42°.16N×45°.96E, h15km±4km*
CSEM ***18*** *04:42:20.8±0.2, 42°.10N×46°.00E, h2km, mb3.9, Error ellipse: s-maj=4.2km s-min=3.7km az=43.0*
MOS ***18*** *04:42:21.4±0.8, 42°.11N×46°.00E, h14km, mb3.9/1, Error ellipse: s-maj=10.8km s-min=8.9km az=63.9*

ISC 18 04:42:20.9±0.9, 42°12'N±0'.02×45°98'E±0'.02, h17km±8km, n50, σ1s02/80, 3C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.57**	**18**	*i*Pg	**Pg**	**04 42 32.0**	**-0.3**
BTLR				*i*S	**Sg**	**04 42 40.0**	**-0.1**
BTLR				pmax	pmax		
	comp=Z,79nm,0.2s						
BTLR	**Botlikh**	**0.57**	**18**	*i*Pg	**Pg**	**04 42 32.0**	**-0.3**
	comp=Z,79nm,0.2s						
BTLR				*i*Sg	**Sg**	**04 42 40.0**	**-0.1**
XNZR	**Khunzakh**	**0.68**	**52**	*e*Pg	**Pg**	**04 42 34.0**	**-0.4**
XNZR				*e*S	**Sb**	**04 42 44.0**	**+0.3**
XNZR	**Khunzakh**	**0.68**	**52**	*e*Pg	**Pg**	**04 42 34.0**	**-0.4**
XNZR				*e*Sg	**Sb**	**04 42 44.0**	**+0.3**
DGRG	**David-gareji**	**0.81**	**214**	P	**Pn**	**04 42 37.5**	**0.0**
DGRG				S	**Sn**	**04 42 51.1**	**+2.0**
KMKR	**Kumukh**	**0.83**	**89**	*i*Pg	**Pg**	**04 42 37.0**	**-0.2**
KMKR				*e*S	**Sn**	**04 42 49.0**	**-0.9**
KMKR				pmax	pmax		
	comp=Z,97nm,0.3s						
KMKR	**Kumukh**	**0.83**	**89**	*i*Pg	**Pg**	**04 42 37.0**	**-0.2**
	comp=Z,97nm,0.3s						
KMKR				*e*Sg	**Sn**	**04 42 49.0**	**-0.9**
ARKR	**Arakani**	**0.89**	**57**	*e*Pg	**Pn**	**04 42 38.4**	**-0.3**
ARKR				*e*S	**Sn**	**04 42 51.0**	**-0.2**
ARKR				pmax	pmax		
	comp=Z,43nm,0.1s						
ARKR	**Arakani**	**0.89**	**57**	*e*Pg	**Pn**	**04 42 38.4**	**-0.3**
	comp=Z,43nm,0.1s						
ARKR				*e*Sg	**Sn**	**04 42 51.0**	**-0.2**
SEAG	**Tbilisi Sea**	**0.95**	**248**	P	**Pb**	**04 42 37.5**	**-1.3**
SEAG				S	**Sb**	**04 42 51.0**	**0.0**
DUS	**Dusheti**	**0.95**	**269**	P	**Pb**	**04 42 38.8**	**-0.1**
DUS				S	**Sg**	**04 42 52.4**	**+0.5**
KRNR	**Karanay**	**0.99**	**44**	*e*PG	**Pb**	**04 42 39.5**	**0.0**
KRNR				*e*S	**Sg**	**04 42 53.0**	**0.0**
KRNR				pmax	pmax		
	comp=Z,29nm,0.2s						
KRNR	**Karanay**	**0.99**	**44**	*e*Pg	**Pb**	**04 42 39.5**	**0.0**
	comp=Z,29nm,0.2s						
KRNR				*e*Sg	**Sg**	**04 42 53.0**	**0.0**
TBLG	**Delisi**	**1.00**	**248**	P	**Pb**	**04 42 39.3**	**-0.5**
TBLG				S	**Sg**	**04 42 53.8**	**+0.2**
DLMR	**Dylym**	**1.06**	**27**	*e*PG	Pg	04 42 44.5	+3.0
DLMR				*e*S	**Sg**	**04 42 57.0**	**+1.5**
DLMR	**Dylym**	**1.06**	**27**	*e*Sg	**Sg**	**04 42 57.0**	**+1.5**
DBC	**Dubki**	**1.10**	**35**	*i*PG	**Pg**	**04 42 42.1**	**-0.1**
DBC				*i*S	**Sg**	**04 42 57.6**	**+1.0**
DBC	**Dubki**	**1.10**	**35**	*i*Pg	**Pg**	**04 42 42.1**	**-0.1**
DBC				*i*Sg	**Sg**	**04 42 57.6**	**+1.0**
URKR	**Urkarakh**	**1.23**	**87**	*e*PG	**Pg**	**04 42 45.5**	**+0.8**
URKR				*e*S	**Sg**	**04 43 01.5**	**+0.7**
URKR	**Urkarakh**	**1.23**	**87**	*e*Pg	**Pg**	**04 42 45.5**	**+0.8**
URKR				*e*Sg	**Sg**	**04 43 01.5**	**+0.7**
SEKA	**Sheki**	**1.29**	**134**	Pg	**Pg**	**04 42 45.4**	**-0.3**
SEKA				Sg	**Sg**	**04 43 03.6**	**+1.0**
KZR	**Kazreti**	**1.38**	**238**	P	**Pn**	**04 42 45.0**	**-0.4**
KZR				S	**Sb**	**04 43 04.3**	**+0.6**
LACR	**Lac**	**1.43**	**300**	*e*PG	**Pn**	**04 42 46.5**	**+0.4**
LACR				pmax	pmax		
	comp=Z,36nm,0.2s						
LACR	**Lac**	**1.43**	**300**	*e*Pg	**Pn**	**04 42 46.5**	**+0.4**
	comp=Z,36nm,0.2s						
GANJ	**Ganja**	**1.49**	**170**	Pg	**Pb**	**04 42 47.8**	**-0.3**
GANJ				Sg	**Sg**	**04 43 09.1**	**0.0**
ZEI	**Tsey**	**1.68**	**294**	*e*PN	**Pb**	**04 42 51.4**	**0.0**
ZEI	**Tsey**	**1.68**	**294**	*e*Pn	**Pb**	**04 42 51.4**	**0.0**
KORR	**Kora**	**1.71**	**305**	*e*PN	**Pb**	**04 42 51.5**	**-0.4**
KORR				pmax	pmax		
	comp=Z,34nm,0.4s						
KORR	**Kora**	**1.71**	**305**	*e*Pn	**Pb**	**04 42 51.5**	**-0.4**
	comp=Z,34nm,0.4s						
ONI	**Oni**	**1.93**	**285**	P	**Pb**	**04 42 55.3**	**-0.4**
ONI				S	**Sb**	**04 43 21.1**	**+1.7**
DIGR	**Digorskoe uzhe**	**1.94**	**295**	*e*PN	**Pb**	**04 42 55.6**	**-0.2**
DIGR				pmax	pmax		
	comp=Z,3.0nm,0.1s						
DIGR	**Digorskoe uzhe**	**1.94**	**295**	*e*Pn	**Pb**	**04 42 55.6**	**-0.2**
	comp=Z,3.0nm,0.1s						
AKH	**Akhalkalaki**	**1.99**	**250**	P	**Pn**	**04 42 55.2**	**+1.3**
AKH				S	**Sb**	**04 43 21.2**	**0.0**
QUBA	**Quba, Azerbaij**	**2.03**	**111**	Pg	**Pb**	**04 42 58.1**	**+0.8**
QUBA				Sg	**Sg**	**04 43 23.9**	**-2.3**
BRDA	**Brd**	**2.06**	**154**	Sg	**Sg**	**04 43 28.6**	**+1.3**
IML	**Ismayilli**	**2.12**	**128**	Pg	**Pb**	**04 42 59.9**	**+1.1**
IML				Sg	**Sg**	**04 43 28.8**	**-0.3**
GNI	**Garni**	**2.18**	**206**	*i*Pn	**Pb**	**04 42 59.4**	**-0.5**
PQL	**Pirkuli**	**2.37**	**123**	Pg	**Pb**	**04 43 04.1**	**+0.9**
PQL				Sg	**Sg**	**04 43 36.6**	**-0.5**
SIZA	**Siyzn**	**2.42**	**114**	Pg	**Pg**	**04 43 06.6**	**-0.2**
SIZA				Sg	**Sg**	**04 43 37.4**	**-1.4**
DIGO	**Kars**	**2.60**	**230**	*i*P	**Pb**	**04 43 05.7**	**-1.4**
DIGO				*i*S	**Sb**	**04 43 38.7**	**-0.2**
DIGO	**Kars**	**2.60**	**230**	*i*P	**Pb**	**04 43 05.7**	**-1.4**
DIGO				*i*S	**Sb**	**04 43 38.7**	**-0.2**
CHVG	**Ch'k'valeri**	**2.95**	**283**	P	**Sb**	**04 43 51.3**	**+2.7**
KIV	**Kislovodsk**	**3.03**	**308**	*e*PN	**Pb**	**04 43 12.0**	**-2.4**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**3.03**	**308**	*e*Pn	**Pb**	**04 43 12.0**	**-2.4**
	comp=Z,3.0nm,0.6s						
DAGI	**Agillar**	**3.22**	**253**	*i*P	**Pn**	**04 43 13.6**	**+2.9**
DBOC	**Borcka**	**3.32**	**258**	*i*P	**Pb**	**04 43 17.8**	**-1.5**
DBOC				*i*S	**Sb**	**04 44 00.4**	**+1.0**
DBOC	**Borcka**	**3.32**	**258**	*i*P	**Pb**	**04 43 17.8**	**-1.5**
DBAD	**Bademkaya**	**3.40**	**253**	*i*P	**Pb**	**04 43 19.8**	**-0.9**
DBAD				*i*S	**Sb**	**04 44 03.0**	**+1.3**
KIEV	**Kiev**	**14.38**	**312**	*e*P	**Pn**	**04 45 42.2**	**-1.2**
OBN	**Obninsk**	**14.40**	**338**	*e*P	Pn	04 45 36.7	-6.9
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s						

NIED ***18*** *04:43:00, 37°.40N×143°.00E, h11km, Mw3.6 Best double couple: M0≏2.66000×10^14 NP1:φs≏32.00000°, δ≏85.00000°, λ≏162.00000°. NP2:φs≏124.00000°, δ≏72.00000°, λ≏6.00000°.*
IDC ***18*** *04:43:19.2±3.9, 37°.54N×143°.09E, h0km, mb3.2/4, mb1 3.4/6, mb1mx3.3/26, mbtmp3.3/6, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/17, Error ellipse: s-maj=79.3km s-min=32.5km az=152.0*
ISCJB ***18*** *04:43:20.5±1.1, 37°.43N±0'.08×142°.96E±0'.08, h24km, mb3.2/4, Error ellipse: s-maj=13.0km s-min=7.3km az=146.2*

JMA ***18*** *04:43:20.9±0.2, 37°.40N×142°.95E, h38km, MJ3.5*
ISC 18 04:43:22.6±1.4, 37°50'N±0'.08×142°89'E±0'.09, h24km, n20, σ0s98/20, mb3.1/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.54**	**308**	P	**Pn**	**04 43 48.5**	**-0.1**
JIO				S	**Sb**	**04 44 08.8**	**-0.8**
JFK	**Kawauchi**	**1.61**	**266**	P	**Pn**	**04 43 48.7**	**-0.9**
JFK				S	**Sn**	**04 44 08.6**	**-1.0**
JMM	**Marumori**	**1.70**	**283**	P	**Pn**	**04 43 50.1**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.71**	**257**	P	**Pn**	**04 43 49.8**	**-1.2**
ONAJ				S	**Sn**	**04 44 10.9**	**-1.3**
JMK	**Ichinoseki**	**1.96**	**318**	P	**Pn**	**04 43 54.2**	**-0.1**
JFT	**Otama**	**2.03**	**271**	P	**Pn**	**04 43 55.4**	**+0.1**
JFT				*e*S	**Sn**	**04 44 20.9**	**+1.0**
JOM	**Ohasama**	**2.33**	**328**	P	**Pn**	**04 43 59.6**	**+0.1**
JAG	**Ashikaga**	**2.95**	**250**	P	**Pn**	**04 44 07.4**	**-0.6**
JAG				S	**Sn**	**04 44 41.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.87**	**257**	Pn	**Pn**	**04 44 22.0**	**+1.4**
	0.9nm,0.3s,baz=80,slow=6.0,SNR=2.3						
MJAR				Sn	**Sb**	**04 45 15.9**	**-0.5**
	0.5nm,0.3s,baz=82,slow=25,SNR=1.4						
ASAJ	**Asahikawa**	**6.61**	**358**	Pn	**Pn**	**04 44 57.1**	**-1.2**
	1.2nm,0.3s,baz=156,slow=18,SNR=1.8						
ASAJ				LR	LR	04 48 13.0	
	comp=Z,46nm,19.6s,baz=213,slow=45						
H11N2	**WAKE ISLAND Hy**	**27.40**	**124**	T	T	05 18 02.1	
	baz=318,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**27.41**	**124**	T	T	05 17 57.6	
H11N3	**WAKE ISLAND Hy**	**27.42**	**124**	T	T	05 17 58.9	
	baz=321,slow=75,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**28.15**	**126**	T	T	05 18 53.4	
	baz=320,slow=76,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**28.15**	**126**	T	T	05 18 55.7	
	baz=320,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**28.17**	**126**	T	T	05 18 55.9	
	baz=320,slow=76,SNR=3.3						
SONM	**Songino Array**	**28.51**	**303**	P	**P**	**04 49 17.0**	**+0.8**
	0.1nm,0.3s,baz=106,slow=8.6,SNR=1.5						
MKAR	**Makanchi Array**	**44.87**	**302**	P	**P**	**04 51 36.7**	**+1.7**
	0.2nm,0.6s,baz=92,slow=9.4,SNR=1.4						
KURBB	**Kurchatov Arra**	**46.64**	**308**	P	**P**	**04 51 49.6**	**+0.7**
	0.3nm,0.4s,baz=82,slow=7.8,SNR=3.6						
ILAR	**Eielson Array**	**48.47**	**33**	P	**P**	**04 52 02.1**	**-0.7**
	0.1nm,0.7s,baz=260,slow=5.8,SNR=1.1						

IDC 18 05:07:31.0±2.4, 17°.84S×177°.78W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.4/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=129.1km s-min=34.0km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.23**	**259**	P	P	05 15 50.3	-0.1
	0.2nm,0.4s,baz=98,slow=6.7,SNR=8.8						
ASAR	**Alice Springs**	**45.39**	**254**	LR	LR	05 33 28.1	
	comp=Z,54nm,21.4s,baz=330,slow=34						
TXAR	**Lajitas Array**	**85.45**	**57**	P	P	05 20 11.5	+0.4
	0.2nm,0.7s,baz=190,slow=3.7,SNR=2.9						
ILAR	**Eielson Array**	**85.69**	**13**	P	P	05 20 10.8	-0.4
	0.2nm,0.4s,baz=219,slow=4.9,SNR=9.3						

IDC 18 05:08:30.5±1.7, 11°.61S×165°.98E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=62.9km s-min=29.9km az=122.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.41**	**178**	Pn	Pn	05 11 01.0	-0.3
	0.2nm,0.3s,baz=96,slow=21,SNR=1.9						
DZM				Sn	Sn	05 12 49.6	-9.3
	0.1nm,0.3s,baz=103,slow=19,SNR=1.1						
STKA	**Stephens Creek**	**30.19**	**224**	P	P	05 14 42.8	0.0
	1.9nm,0.6s,baz=45,slow=7.6,SNR=4.8						
ASAR	**Alice Springs**	**32.75**	**244**	P	P	05 15 05.3	0.0
	1.0nm,0.7s,baz=69,slow=9.6,SNR=11						
ILAR	**Eielson Array**	**83.97**	**18**	P	P	05 21 02.3	0.0
	0.3nm,0.6s,baz=238,slow=4.8,SNR=7.5						

DDA ***18*** *05:19:10.0, 37°.00N×29°.18E, h22km, ML3.8*
CSEM ***18*** *05:19:10.9±0.1, 37°.00N×29°.14E, h2km, ML3.8, Error ellipse: s-maj=2.4km s-min=2.1km az=18.0*
ISK ***18*** *05:19:10.3, 37°.05N×29°.15E, h7km, ML3.9*
ISCJB ***18*** *05:19:11.0±0.5, 37°.00N±0'.02×29°.18E±0'.02, h15km±4km, mb3.8/12, MS3.3/3, Error ellipse: s-maj=3.0km s-min=2.4km az=5.6*
THE ***18*** *05:19:13.0, 37°.00N×29°.20E, h7km±3km, ML4.0/2, Error ellipse: s-maj=3.3km s-min=1.3km az=45.0*
IDC ***18*** *05:19:14.6±2.9, 37°.01N×29°.22E, h34km±27km, mb3.7/11, mb1 3.8/17, mb1mx3.7/32, mbtmp3.8/17, ML3.8/6, MS3.1/8, Ms1 3.2/8, ms1mx2.8/37, Error ellipse: s-maj=16.4km s-min=13.6km az=171.0*
HLW ***18*** *05:19:22.7, 36°.36N×29°.28E, h30km±26km, Md0.0, MI3.9*
ISC 18 05:19:11.2±1.0, 37°01'N±0'.02×29°18'E±0'.02, h9km±7km, n263, σ1s07/305, mb3.8/12, MS3.3/3, 9C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.38**	**53**	*i*P	**Pg**	**05 19 18.2**	**-0.6**
GOLH				*i*S	**Sg**	**05 19 24.8**	**+1.0**
GOLH	**Golhisar**	**0.38**	**53**	*i*P	**Pg**	**05 19 18.2**	**-0.6**
GOLH				*i*S	**Sg**	**05 19 24.8**	**+1.0**
DALY	**Dalyan (Mu¨la**	**0.46**	**246**	*e*PG	**Pg**	**05 19 19.9**	**-0.4**
DALY				*e*SG	**Sg**	**05 19 26.9**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.46**	**246**	*e*Pg	**Pg**	**05 19 19.9**	**-0.4**
DALY				*e*Sg	**Sg**	**05 19 26.9**	**+0.5**
TURN	**Turunc**	**0.48**	**254**	*i*P	**Pn**	**05 19 25.1**	**+0.9**
TURN				*i*S	Sb	05 19 36.2	+7.2
TURN	**Turunc**	**0.48**	**254**	*i*P	**Pn**	**05 19 25.1**	**+0.9**
TURN				*i*S	Sb	05 19 36.2	+7.2
ELL	**Elmali**	**0.64**	**114**	*e*PG	**Pg**	**05 19 22.8**	**-0.9**
ELL				*e*SG	**Sb**	**05 19 33.6**	**-0.1**
ELL	**Elmali**	**0.64**	**114**	*e*Pg	**Pg**	**05 19 22.8**	**-0.9**
ELL				*e*Sg	**Sb**	**05 19 33.6**	**-0.1**
AKAS	**Kas**	**0.85**	**156**	*i*P	**Pg**	**05 19 26.5**	**-1.1**
AKAS				*i*S	**Sn**	**05 19 44.4**	**+2.3**
AKAS	**Kas**	**0.85**	**156**	*i*P	**Pg**	**05 19 26.5**	**-1.1**
AKAS				*i*S	**Sn**	**05 19 44.4**	**+2.3**
ARG	**Arkhangelos**	**1.16**	**227**	P	**Pb**	**05 19 32.3**	**-1.1**
ARG				S	**Sn**	**05 19 49.8**	**+0.3**
ARG	**Arkhangelos**	**1.16**	**227**	*e*P	**Pb**	**05 19 32.5**	**-0.9**
ARG	**Arkhangelos**	**1.16**	**227**	*i*P	**Pb**	**05 19 32.3**	**-1.1**
ARG				*i*S	**Sn**	**05 19 49.8**	**+0.3**
ANTB	**Antalya**	**1.19**	**95**	*e*PN	**Pg**	**05 19 34.0**	**+0.1**
ANTB	**Antalya**	**1.19**	**95**	*e*Pn	**Pg**	**05 19 34.1**	**+0.1**
BCK	**Bucak**	**1.21**	**68**	*e*PN	**Pb**	**05 19 34.0**	**-0.4**
BCK	**Bucak**	**1.21**	**68**	*e*Pn	**Pb**	**05 19 34.0**	**-0.4**
AYDN	**Tasoluk**	**1.22**	**302**	*i*P	**Pn**	**05 19 33.1**	**-1.4**
AYDN				*i*S	**Sb**	**05 19 49.7**	**-0.7**
AYDN	**Tasoluk**	**1.22**	**302**	*i*P	**Pn**	**05 19 33.1**	**-1.4**
AYDN				*i*S	**Sb**	**05 19 49.7**	**-0.7**
KHL	**Karahalli**	**1.34**	**12**	*e*PN	**Pn**	**05 19 35.6**	**-0.5**
KHL	**Karahalli**	**1.34**	**12**	*e*Pn	**Pn**	**05 19 35.6**	**-0.5**
KHAL	**Karahalli**	**1.38**	**10**	*i*P	**Pn**	**05 19 36.8**	**+0.1**
KHAL				*i*S	**Sn**	**05 19 55.3**	**+0.1**
KHAL	**Karahalli**	**1.38**	**10**	*i*P	**Pn**	**05 19 36.8**	**+0.1**
KHAL				*i*S	**Sn**	**05 19 55.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.39**	**313**	*e*PN	**Pn**	**05 19 35.8**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**1.39**	**313**	*e*Pn	**Pn**	**05 19 35.8**	**-1.0**
BDRM	**Kayabasi**	**1.39**	**273**	*i*P	**Pn**	**05 19 37.0**	**+0.2**
BDRM				*i*S	**Sg**	**05 19 56.9**	**+1.0**
BDRM	**Kayabasi**	**1.39**	**273**	*i*P	**Pn**	**05 19 37.0**	**+0.2**
BDRM				*i*S	**Sg**	**05 19 56.9**	**+1.0**
BODT	**Bodrum**	**1.50**	**273**	*e*PN	**Pn**	**05 19 37.9**	**-0.3**
BODT	**Bodrum**	**1.50**	**273**	*e*Pn	**Pn**	**05 19 37.9**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.52**	**72**	*e*PN	**Pg**	**05 19 40.3**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.52**	**72**	*e*Pn	**Pg**	**05 19 40.3**	**-0.2**
KULA	**Kula-Manisa**	**1.56**	**345**	*e*PN	**Pn**	**05 19 38.5**	**-0.6**
KULA	**Kula-Manisa**	**1.56**	**345**	*e*Pn	**Pn**	**05 19 38.6**	**-0.6**
MANT	**Manisa**	**1.56**	**342**	*i*P	**Pn**	**05 19 39.0**	**-0.3**
MANT				*i*S	**Sb**	**05 20 01.0**	**+0.8**
MANT	**Manisa**	**1.56**	**342**	*i*P	**Pn**	**05 19 39.0**	**-0.3**
MANT				*i*S	**Sb**	**05 20 01.0**	**+0.8**
GCAM	**G?zelcaml?**	**1.70**	**295**	*i*P	**Pn**	**05 19 41.0**	**+0.1**
GCAM				*i*S	**Sn**	**05 20 01.8**	**-0.9**
GCAM	**G?zelcaml?**	**1.70**	**295**	*i*P	**Pn**	**05 19 41.0**	**+0.1**
GCAM				*i*S	**Sn**	**05 20 01.8**	**-0.9**

SHUT	**Suhut-Afyon**	**1.89**	**35**	*e*PN	**Pn**	**05 19 43.7**	**0.0**
SHUT	**Suhut-Afyon**	**1.89**	**35**	*e*Pn	**Pn**	**05 19 43.7**	**0.0**
SMG	**Samos**	**1.99**	**291**	P	**Pn**	**05 19 45.2**	**+0.2**
SMG				S	**Sn**	**05 20 10.6**	**+0.5**
SMG	**Samos**	**1.99**	**291**	*e*P	**Pn**	**05 19 45.4**	**+0.4**
SMG	**Samos**	**1.99**	**291**	P	**Pn**	**05 19 45.2**	**+0.2**
SMG				S	**Sn**	**05 20 10.6**	**+0.5**
IZM	**Izmir**	**2.06**	**313**	*e*PN	**Pn**	**05 19 46.2**	**+0.2**
IZM	**Izmir**	**2.06**	**313**	*e*Pn	**Pn**	**05 19 46.2**	**+0.2**
DEMI	**Demirci**	**2.06**	**350**	*i*P	**Pn**	**05 19 46.1**	**0.0**
DEMI				*i*S	**Sn**	**05 20 11.3**	**-0.6**
DEMI	**Demirci**	**2.06**	**350**	*i*P	**Pn**	**05 19 46.1**	**0.0**
DEMI				*i*S	**Sn**	**05 20 11.3**	**-0.6**
AKHS	**Akhisar**	**2.15**	**330**	*i*P	**Pn**	**05 19 47.2**	**-0.1**
AKHS				*i*S	**Sn**	**05 20 14.3**	**+0.2**
AKHS	**Akhisar**	**2.15**	**330**	*i*P	**Pn**	**05 19 47.2**	**-0.1**
AKHS				*i*S	**Sn**	**05 20 14.3**	**+0.2**
AKS	**Akhisar**	**2.15**	**330**	*e*PN	**Pn**	**05 19 47.1**	**-0.2**
AKS	**Akhisar**	**2.15**	**330**	*e*Pn	**Pn**	**05 19 47.1**	**-0.2**
BLCB	**Balcova**	**2.18**	**310**	*e*PN	**Pn**	**05 19 47.4**	**-0.2**
BLCB	**Balcova**	**2.18**	**310**	*e*Pn	**Pn**	**05 19 47.4**	**-0.2**
KARP	**Karpathos**	**2.19**	**229**	P	**Pn**	**05 19 49.1**	**+1.3**
KARP				S	**Sn**	**05 20 16.0**	**+1.0**
KARP	**Karpathos**	**2.19**	**229**	P	**Pn**	**05 19 49.1**	**+1.3**
KARP				S	**Sn**	**05 20 16.0**	**+1.0**
BOLV	**Bolvadin**	**2.21**	**39**	*i*P	**Pn**	**05 19 49.3**	**+1.2**
BOLV	**Bolvadin**	**2.21**	**39**	*i*P	**Pn**	**05 19 49.3**	**+1.2**
TVSB	**Tavsanli**	**2.44**	**5**	*e*PN	**Pn**	**05 19 51.5**	**+0.1**
TVSB	**Tavsanli**	**2.44**	**5**	*e*Pn	**Pn**	**05 19 51.5**	**+0.1**
GAZI	**Gazipasa**	**2.64**	**106**	*i*P	**Pb**	**05 19 56.5**	**-2.1**
GAZI				*i*S	**Sb**	**05 20 30.4**	**-0.7**
GAZI	**Gazipasa**	**2.64**	**106**	*i*P	**Pb**	**05 19 56.5**	**-2.1**
GAZI				*i*S	**Sb**	**05 20 30.4**	**-0.7**
DURS	**Dursunbey**	**2.65**	**348**	*i*P	**Pn**	**05 19 54.3**	**+0.2**
DURS	**Dursunbey**	**2.65**	**348**	*i*P	**Pn**	**05 19 54.3**	**+0.2**
LADK	**Ladik-KONYA**	**2.79**	**64**	*e*PN	**Pn**	**05 19 57.0**	**+0.8**
LADK	**Ladik-KONYA**	**2.79**	**64**	*e*Pn	**Pn**	**05 19 57.0**	**+0.8**
BALB	**Balikesir**	**2.82**	**339**	*e*PN	**Pn**	**05 19 56.6**	**+0.2**
BALB	**Balikesir**	**2.82**	**339**	*e*Pn	**Pn**	**05 19 56.6**	**+0.2**
CHOS	**Chios island**	**2.83**	**300**	*e*PN	**Pn**	**05 19 56.7**	**0.0**
CHOS	**Chios island**	**2.83**	**300**	P	**Pn**	**05 19 57.4**	**+0.8**
CHOS	**Chios island**	**2.83**	**300**	*e*P	**Pn**	**05 19 57.5**	**+0.8**
CHOS	**Chios island**	**2.83**	**300**	*e*Pn	**Pn**	**05 19 56.7**	**0.0**
CHOS	**Chios island**	**2.83**	**300**	P	**Pn**	**05 19 57.4**	**+0.8**
APE	**Apeiranthos**	**2.92**	**272**	*e*PN	**Pn**	**05 19 58.7**	**+0.8**
APE	**Apeiranthos**	**2.92**	**272**	P	**Pn**	**05 19 58.5**	**+0.7**
APE				S	**Sn**	**05 20 33.8**	**+0.8**
APE	**Apeiranthos**	**2.92**	**272**	*e*P	**Pn**	**05 19 58.5**	**+0.7**
APE	**Apeiranthos**	**2.92**	**272**	P	**Pn**	**05 19 58.5**	**+0.7**
APE				S	**Sn**	**05 20 33.8**	**+0.8**
BALY	**Balya**	**2.99**	**336**	*i*P	**Pn**	**05 19 59.0**	**+0.2**
BALY	**Balya**	**2.99**	**336**	*i*P	**Pn**	**05 19 59.0**	**+0.2**
ERMK	**Ermenek**	**3.

BRTR				Sn	Sn	05 21 09.2	-1.2
	0.9nm,0.3s,baz=221,slow=15,SNR=3.7						
NIG	Nigde	4.45	74	ePn	Pn	05 20 20.7	+1.6
NIG	Nigde	4.45	74	ePn	Pn	05 20 20.7	+1.6
SMTH	Samothraki Isl	4.48	322	eP	Pn	05 20 20.0	+0.8
ALN	Alexandroupoli	4.58	329	ePN	Pn	05 20 21.3	+0.6
ALN	Alexandroupoli	4.58	329	eP	Pn	05 20 20.0	-0.7
ALN	Alexandroupoli	4.58	329	ePn	Pn	05 20 21.3	+0.6
KARA	Karaisali	4.70	85	ePN	Pn	05 20 24.4	+2.2
KARA	Karaisali	4.70	85	ePn	Pn	05 20 24.5	+2.2
AOS	Alonnisos	4.70	299	eP	Pn	05 20 24.0	+1.7
PHSR	Pinarhisar	4.79	345	ePN	Pn	05 20 23.6	+0.1
PHSR	Pinarhisar	4.79	345	ePn	Pn	05 20 23.6	+0.1
SAFT	Safranbolu	5.03	32	ePN	Pn	05 20 28.2	+1.4
SAFT	Safranbolu	5.03	32	ePn	Pn	05 20 28.2	+1.4
EDRB	Edirne	5.18	339	ePN	Pn	05 20 29.8	+0.9
EDRB	Edirne	5.18	339	ePn	Pn	05 20 29.8	+0.9
OUR	Ouranopolis	5.25	311	ePN	Pn	05 20 30.9	+1.1
OUR	Ouranopolis	5.25	311	ePn	Pn	05 20 30.9	+1.1
CEYT	Ceyhan	5.26	88	ePN	Pn	05 20 32.1	+2.2
CEYT	Ceyhan	5.26	88	ePn	Pn	05 20 32.1	+2.2
CORM	Corum	5.31	52	ePN	Pn	05 20 32.5	+1.7
CORM	Corum	5.31	52	ePn	Pn	05 20 32.5	+1.7
KOZT	Kozan	5.32	83	ePN	Pn	05 20 32.8	+2.0
KOZT	Kozan	5.32	83	ePn	Pn	05 20 32.8	+2.0
KDZ	Kurdzhali	5.47	329	||iP	Pn	05 20 33.8	+0.9
KDZ	Kurdzhali	5.47	329	||iP	Pn	05 20 33.8	+0.9
YOZ	Yozgat	5.50	60	ePN	Pn	05 20 35.2	+1.9
YOZ	Yozgat	5.50	60	ePn	Pn	05 20 35.2	+1.9
TOS	Tosya	5.51	42	ePN	Pn	05 20 35.0	+1.5
TOS	Tosya	5.51	42	ePn	Pn	05 20 35.0	+1.5
PLG	Polygyros	5.60	309	eP	Pn	05 20 35.0	+0.3
TAHT	Tahtakopru-Hat	5.67	94	ePN	Pn	05 20 38.0	+2.5
TAHT	Tahtakopru-Hat	5.67	94	ePn	Pn	05 20 38.0	+2.5
NVR	Nevrokopi	5.99	318	eP	Pn	05 20 41.0	+1.0
MMB	Musomiste	6.23	319	||iP	Pn	05 20 44.1	+0.8
MMB	Musomiste	6.23	319	||iP	Pn	05 20 44.1	+0.8
MMAI	Mount Meron Ar	6.48	126	Pn	Pn	05 20 47.0	+0.3
	8.3nm,0.3s,baz=325,slow=11,SNR=17						
MMAI				Sn	Sn	05 21 58.1	-2.7
	7.9nm,0.3s,baz=310,slow=26,SNR=5.4						
VTS	Vitosha	7.22	322	||iP	Pn	05 20 57.4	+0.4
VTS	Vitosha	7.22	322	||iP	Pn	05 20 57.4	+0.4
SQR		7.31	166	P	Pn	05 20 57.2	-0.9
KOT	Kottamia	7.40	162	P	Pn	05 20 57.7	-1.7
	baz=160						
KOT				AMP		05 22 00.0	
	comp=E,60μm,0.5s,logA/T=5.1,baz=160						
KOT	Kottamia	7.40	162	P	Pn	05 20 57.7	-1.7
HHAG	Hagoal	7.45	160	P	Pn	05 20 59.0	-1.1
	baz=158						
HHAG	Hagoal	7.45	160	P	Pn	05 20 59.0	-1.1
MALT	Malatya	7.45	77	||iP	Pn	05 21 04.8	+4.7
TIRR	Tirgusor	7.46	356	||iP	Pn	05 21 01.0	+0.8
TIRR	Tirgusor	7.46	356	||iP	Pn	05 21 01.0	+0.8
TLB	Topalu	7.62	354	||iP	Pn	05 21 03.5	+1.2
TLB	Topalu	7.62	354	||iP	Pn	05 21 03.5	+1.2
HSAF	As Saff	7.63	164	P	Pn	05 21 01.0	-1.6
	baz=163						
HSAF	As Saff	7.63	164	P	Pn	05 21 01.0	-1.6
GLL	Jalalah	7.71	163	P	Pn	05 21 02.4	-1.2
	baz=162						
GLL	Jalalah	7.71	163	P	Pn	05 21 02.4	-1.2
SUZ		7.78	156	P	Pn	05 21 03.8	-0.7
	baz=154						
SUZ		7.78	156	P	Pn	05 21 03.8	-0.7
ASF	Jabal al Asfar	7.99	125	Pn	Pn	05 21 09.0	+1.6
	comp=E,0.3nm,0.3s,baz=264,slow=19,SNR=2.1						
ASF				Sn	Sn	05 22 38.4	+0.5
	comp=E,0.1nm,0.3s,baz=124,slow=22,SNR=1.8						
EIL	Elat	8.77	145	Pn	Pn	05 21 17.7	-0.4
	comp=E,2.1nm,0.3s,baz=336,slow=11,SNR=8.1						
EIL				Sn	Sn	05 22 52.8	-4.3
	comp=E,1.9nm,0.3s,baz=57,slow=15,SNR=6.5						
EIL				LR	LR	05 26 01.3	
	comp=E,60nm,18.3s,baz=53,slow=46						
MLR	Muntele Rosu	8.81	345	||iP	Pn	05 21 20.2	+1.4
MLR	Muntele Rosu	8.81	345	||iP	Pn	05 21 20.2	+1.4
MLR	Muntele Rosu	8.81	345	Pn	Pn	05 21 20.5	+1.7
	comp=E,0.2nm,0.3s,baz=316,slow=1.6,SNR=9.6						
MLR				LR	LR	05 25 24.0	
	comp=E,39nm,18.7s,baz=66,slow=42						
VOIR		8.97	341	||iP	Pn	05 21 23.3	+2.3
VOIR		8.97	341	||iP	Pn	05 21 23.3	+2.3
VRI	Vrincioaia	9.04	349	||iP	Pn	05 21 23.8	+2.0
VRI	Vrincioaia	9.04	349	||iP	Pn	05 21 23.8	+2.0
DOPR	Dopca	9.39	344	||iP	Pn	05 21 28.0	+1.4
DOPR	Dopca	9.39	344	||iP	Pn	05 21 28.0	+1.4
VRAC	Vranov	15.31	327	LR	LR	05 28 25.8	
	comp=E,48nm,19.2s,baz=267,slow=36						
GERES	GERESS Array B	16.34	321	Pn	P	05 23 05.7	+1.9
	comp=E,0.1nm,0.3s,baz=136,slow=12,SNR=8.2						
GERES				LR	LR	05 29 55.9	
	comp=E,76nm,18.4s,baz=282,slow=39						
DAVOX	Davos/Dischmat	17.33	310	LR	LR	05 30 33.1	
	comp=E,134nm,18.1s,baz=265,slow=39						
MBDF	Montbardon	18.58	301	eP	P	05 23 28.2	-0.4
	comp=E,9.6nm,0.7s						
LPG	La Plagne	18.83	304	eP	P	05 23 30.8	-0.7
LPG	La Plagne	18.83	304	eP	P	05 23 30.8	-0.7
LPL	La Plagne	18.85	304	eP	P	05 23 31.5	-0.1
LPL	La Plagne	18.85	304	eP	P	05 23 31.5	-0.1
ORIF	Oris-en-Rattie	19.24	301	eP	P	05 23 33.0	-2.8
VIVF	Saint-Julien-l	20.05	301	eP	P	05 23 44.9	+0.3
	comp=E,12nm,0.8s						
VIVF	Saint-Julien-l	20.05	301	eP	P	05 23 44.9	+0.3
	comp=E,12nm,0.8s						
SMF	Signal de Mont	21.11	305	eP	P	05 23 55.9	-0.1
	comp=E,5.9nm,0.6s						
SMF	Signal de Mont	21.11	305	eP	P	05 23 55.9	-0.1
	comp=E,5.0nm,0.6s						
SSF	Saint Saulge	21.46	306	eP	P	05 23 59.4	-0.4
SSF	Saint Saulge	21.46	306	eP	P	05 23 59.4	-0.4
FINES	FINESS Array B	24.53	356	P	P	05 24 30.7	-0.1
	comp=E,3.0nm,0.8s,baz=191,slow=7.8,SNR=5.9						
AKTO	Aktyubinsk	24.60	48	P	P	05 24 31.1	-0.5
	comp=E,2.8nm,0.7s,baz=248,slow=7.9,SNR=11						
HFS	Hagfors	25.18	342	P	P	05 24 37.4	+0.8
	comp=E,2.5nm,0.6s,baz=94,slow=12,SNR=4.2						
HFS				LR	LR	05 35 43.6	
	comp=E,94nm,18.2s,baz=73,slow=39						
ESDC	Sonseca Array	26.05	286	P	P	05 24 44.5	-0.3
	comp=E,1.0nm,0.7s,baz=83,slow=9.6,SNR=5.8						
NOA	NORSAR Array B	26.59	340	P	P	05 24 48.3	-1.2
	comp=E,0.8nm,0.7s,baz=144,slow=8.4,SNR=4.0						
NOA				LR	LR	05 36 23.6	
	comp=E,34nm,18.1s,baz=5.0,slow=39						
ARCES	ARCESS Array B	32.64	358	LR	LR	05 40 32.6	
	comp=E,94nm,19.8s,baz=307,slow=39						
TORD	Torodi Ar. Bea	34.19	233	P	P	05 25 56.8	-0.2
	comp=E,3.7nm,0.6s,baz=35,slow=8.5,SNR=46						
KURBB	Kurchatov Arra	37.42	53	P	P	05 26 24.2	-0.2
	comp=E,1.1nm,0.6s,baz=278,slow=8.9,SNR=5.7						
MKAR	Makanchi Array	40.04	59	P	P	05 26 45.8	-0.7
	comp=E,1.4nm,0.7s,baz=283,slow=5.8,SNR=7.1						
ZALV	Zalesovo Beam	41.37	48	P	P	05 26 56.6	-0.7
	comp=E,0.5nm,0.4s,baz=264,slow=13,SNR=2.1						
SONM	Songino Array	55.79	53	P	P	05 28 48.0	-0.6
	comp=E,0.4nm,0.6s,baz=300,slow=10,SNR=4.1						
YKA	Yellowknife Ar	76.64	344	P	P	05 31 02.1	+0.3
	comp=E,0.6nm,1.0s,baz=26,slow=5.5,SNR=5.8						

*ISCJB **18** 05:19:28.6±0.3,32.°65N±0.°04×92.°73E±0.°06,h10km, mb4.3/26,MS3.2/5,Error ellipse: s-maj=8.1km s-min=5.8km az=148.9*

*IDC **18** 05:19:28.1±0.6,32.°55N×92.°72E,h0km,mb4.2/20, mb1 4.3/24,mb1mx4.2/35,mbtmp4.2/24,ML3.9/4,MS3.3/7, Ms1 3.3/7,ms1mx2.9/36,Error ellipse: s-maj=23.3km s-min=12.1km az=48.0*

*BJI **18** 05:19:28.6,32.°58N×92.°55E,h11km,mB4.6/6,mb4.5/13, ML4.2/5,Ms4.1/6,Ms7 3.9/5*

*NEIC **18** 05:19:30.1±0.4,32.°64N×92.°84E,h10km,mb4.6/12,Error ellipse: s-maj=11.7km s-min=8.1km az=61.0*

ISC 18 05:19:29.5±0.4,**32.°54N**±0.°05×**92.°72E**±0.°07,**h10km**,**n81**, σ1♀**17**/**75**,**mb4.5**/**26**,**MS3.2**/**5**,**Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	Lhasa	3.13	206	ePn	Pb			05 20 25.2	-0.4
LSA				eSn	Sg			05 21 09.6	-0.6
SHL	Shillong	6.98	186	i	P	Pn		05 21 17.0	+4.9
SHL				i	S	Sb		05 22 44.0	-11

GTA	Gaotai	8.95	38	eP	Pn	05 21 41.0	+2.1
GTA				pP	pP	05 21 44.3	
GTA				sP		05 21 46.1	
GTA				S	Sn	05 23 24.3	+4.5
GTA				pmax	pmax		
	comp=Z,14nm,0.9s						
GTA				pmax	pmax		
	comp=Z,150nm,4.3s						
GTA				LR	LR		
	comp=N,320nm,15.2s						
GTA				LR	LR		
	comp=E,340nm,14.2s						
GTA				LR	LR		
	comp=Z,310nm,10.9s						
LZH	Lanzhou	9.86	66	eP	Pn	05 21 54.1	+2.7
LZH				pP		05 21 57.5	
LZH				sP		05 21 59.9	
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
CMAI	Chiengmai2	13.77	154	P	P	05 22 51.5	-2.1
	50nm,0.8s,3μm						
CRAI	Chiangrai	14.04	149	P	P	05 22 53.6	-2.9
	11nm,1.1s,455nm						
ENH	Enshi	14.50	95	ePn	P	05 23 02.5	+1.0
	33nm,0.6s						
MHMT	Maesarieng	15.05	161	P	P	05 23 09.9	+2.2
	8.1nm,0.8s,598nm						
CMAR	Chiang Mai Arr	15.10	157	Pn	Pn	05 23 03.6	+0.7
CMAR	Chiang Mai Arr	15.10	157	Pn	Pn	05 23 03.6	+0.7
	0.3nm,0.3s,baz=330,slow=12,SNR=18						
MK31	Makanchi Array	16.32	334	eP	P	05 23 19.4	-2.3
MKAR	Makanchi Array	16.32	334	Pn	Pn	05 23 16.8	-2.0
MKAR	Makanchi Array	16.32	334	Pn	Pn	05 23 16.8	-2.0
	0.5nm,0.3s,baz=142,slow=13,SNR=18						
MKAR				LR	LR	05 30 25.0	
	comp=Z,89nm,21.9s,baz=161,slow=40						
TKM2	Tokmak 2	17.03	312	eP	P	05 23 28.7	-1.1
	15nm,1.4s						
PBKT	Sadao Pong	17.57	153	P	P	05 23 39.8	+4.2
	14nm,1.6s						
AAK	Ala-Archa	17.58	310	eP	P	05 23 36.7	+0.9
	19nm,1.4s						
AAK	Ala-Archa	17.58	310	Pn	P	05 23 36.8	+0.9
	0.2nm,0.3s,baz=114,slow=7.7,SNR=9.4						
AAK				LR	LR	05 31 27.7	
	comp=Z,109nm,19.6s,baz=87,slow=41						
KHLT	Khaolaem Dam	18.45	162	P	Pn	05 23 49.8	+4.4
	8.3nm,0.9s						
SONM	Songino Array	18.46	30	P	Pn	05 23 45.3	-0.3
SONM	Songino Array	18.46	30	P	Pn	05 23 45.3	-0.3
	0.2nm,0.3s,baz=210,slow=13,SNR=14						
ULN	Ulaanbaatar	18.77	31	eP	Pn	05 23 48.4	-1.0
	2.1nm,0.6s						
SRDT	SRDT	19.02	161	P	Pn	05 23 59.4	+7.0
	30nm,1.1s						
KBL	Kabul	19.83	282	eP	Pn	05 24 04.0	+1.8
	22nm,1.3s						
KURBB	Kurchatov Arra	20.89	334	P	Pn	05 24 12.0	-2.3
	14nm,1.0s,baz=145,slow=10,SNR=52						
KURK	Kurchatov	20.94	334	eP	P	05 24 11.0	-1.3
	18nm,1.1s						
ZAA0	Zalesovo Array	22.14	348	eP	P	05 24 26.2	+1.1
ZALV	Zalesovo Beam	22.14	348	P	P	05 24 26.1	+0.9
ZALV	Zalesovo Beam	22.14	348	P	P	05 24 26.1	+0.9
	2.9nm,0.6s,baz=161,slow=10,SNR=11						
BVAR	Borovoye Array	26.03	328	P	P	05 25 04.4	+1.7
BVAR	Borovoye Array	26.03	328	P	P	05 25 04.4	+1.7
	4.0nm,0.7s,baz=127,slow=12,SNR=16						
BVAR				LR	LR	05 35 22.1	
	comp=Z,72nm,18.9s,baz=20,slow=37						
BRVK	Borovoye	26.10	328	eP	P	05 25 05.8	+2.4
	14nm,1.2s						
KSAR	Wonju Array Be	29.11	70	P	P	05 25 31.4	+1.0
KSRS	Korea Array	29.14	70	P	P	05 25 31.4	+0.7
	2.7nm,0.7s,baz=267,slow=8.0,SNR=6.6						
KSRS				LR	LR	05 37 47.3	
	comp=Z,30nm,20.2s,baz=185,slow=38						
AKTO	Aktyubinsk	31.18	315	LR	LR	05 38 47.9	
	comp=Z,36nm,19.5s,baz=285,slow=37						
BR131	Keskin Array S	47.51	296	eP	P	05 28 06.4	+1.3
	4.1nm,1.0s						
BRTR	Keskin Array B	47.51	296	P	P	05 28 04.5	-0.5
BRTR	Keskin Array B	47.51	296	P	P	05 28 04.5	-0.5
	1.6nm,0.8s,baz=88,slow=6.8,SNR=7.9						
AKASG	Malin Array Be	49.25	311	P	P	05 28 16.6	-1.5
AKASG				PcP	PcP	05 29 42.6	+1.7
AKASG	Malin Array Be	49.25	311	P	P	05 28 16.6	-1.5
	0.4nm,0.6s,baz=75,slow=7.2,SNR=4.9						
AKASG				PcP	PcP	05 29 42.6	+1.7
	0.8nm,0.6s,baz=74,slow=4.0,SNR=6.2						
FINES	FINESS Array B	50.93	325	P	P	05 28 29.9	-0.7
FINES	FINESS Array B	50.93	325	P	P	05 28 29.9	-0.7
	2.1nm,0.6s,baz=98,slow=8.3,SNR=9.6						
ARCES	ARCESS Array B	51.97	336	P	P	05 28 38.4	0.0
ARCES				PcP	PcP	05 29 50.8	+0.1
ARCES	ARCESS Array B	51.97	336	P	P	05 28 38.4	0.0
	4.7nm,0.9s,baz=40,slow=8.0,SNR=4.1						
ARCES				PcP	PcP	05 29 50.8	+0.1
	5.4nm,0.9s,baz=80,slow=1.5,SNR=3.9						
MLR	Muntele Rosu	52.07	305	P	P	05 28 41.3	+1.7
MLR	Muntele Rosu	52.07	305	P	P	05 28 41.3	+1.7
	1.0nm,0.5s,baz=128,slow=8.1,SNR=5.8						
HFS	Hagfors	57.05	324	P	P	05 29 15.1	-0.3
HFS	Hagfors	57.05	324	P	P	05 29 15.1	-0.3
	8.0nm,0.9s,baz=73,slow=13,SNR=9.0						
NB2	NORSAR Subarra	58.11	325	P	P	05 29 19.7	-3.2
	comp=Z,4.9nm,0.8s,baz=80,slow=6.9						
NOA	NORSAR Array B	58.11	325	P	P	05 29 22.1	-0.9
NOA	NORSAR Array B	58.11	325	P	P	05 29 22.1	-0.9
	comp=Z,3.9nm,0.7s,baz=80,slow=7.0,SNR=9.4						
NOA				LR	LR	05 56 20.7	
	comp=Z,28nm,18.4s,baz=315,slow=38						
FITZ	Fitzroy Crossi	59.40	143	P	P	05 29 32.2	-0.1
FITZ	Fitzroy Crossi	59.40	143	P	P	05 29 32.2	-0.1
	comp=Z,4.2nm,1.0s,baz=350,slow=6.1,SNR=1.9						
GERES	GERESS Array B	59.46	311	P	P	05 29 33.5	+0.9
GERES	GERESS Array B	59.46	311	P	P	05 29 33.5	+0.9
	comp=Z,2.0nm,0.9s,baz=69,slow=4.4,SNR=5.9						
GERES				LR	LR	06 00 39.8	
	comp=Z,45nm,18.9s,baz=92,slow=42						
DAVOX	Davos/Dischmat	62.54	310	P	P	05 29 53.9	+0.2
DAVOX	Davos/Dischmat	62.54	310	P	P	05 29 53.9	+0.2
	comp=Z,1.6nm,0.5s,baz=331,slow=24,SNR=3.0						
LPG	La Plagne	65.02	309	eP	P	05 30 10.8	+0.6
	comp=Z,24nm,1.2s						
LPG	La Plagne	65.02	309	eP	P	05 30 10.8	+0.6
	comp=Z,24nm,1.2s						
LPL	La Plagne	65.03	309	eP	P	05 30 11.0	+0.8
LPL	La Plagne	65.03	309	eP	P	05 30 11.0	+0.8
WRAB	Tennant Creek	65.63	137	eP	P	05 30 14.8	+0.8
	comp=Z,11nm,1.3s						
WRA	Warramunga Arr	65.63	137	P	P	05 30 14.7	+0.6
WRA	Warramunga Arr	65.63	137	P	P	05 30 14.7	+0.6
	comp=Z,2.9nm,0.8s,baz=330,slow=6.7,SNR=17						
ORIF	Oris-en-Rattie	65.81	309	eP	P	05 30 15.9	+0.8
	comp=Z,8.7nm,0.9s						
ORIF	Oris-en-Rattie	65.81	309	eP	P	05 30 15.9	+0.8
	comp=Z,8.7nm,0.9s						
ASAR	Alice Springs	68.33	139	P	P	05 30 31.9	+0.8
ASAR	Alice Springs	68.33	139	P	P	05 30 31.9	+0.8
	comp=Z,2.8nm,0.7s,baz=327,slow=6.2,SNR=26						
COLA	College	72.13	23	eP	P	05 30 53.8	-0.1
	comp=Z,6.0nm,0.9s						
ILAR	Eielson Array	72.51	23	P	P	05 30 55.5	-0.7
ILAR	Eielson Array	72.51	23	P	P	05 30 55.5	-0.7
	comp=Z,1.3nm,0.8s,baz=289,slow=5.5,SNR=18						
INK	Inuvik	73.76	16	eP	P	05 31 03.0	-0.4
	comp=Z,5.7nm,1.1s						
STKA	Stephens Creek	78.97	139	P	P	05 31 33.2	-0.3
STKA	Stephens Creek	78.97	139	P	P	05 31 33.2	-0.3
	comp=Z,1.6nm,0.9s,baz=17,slow=7.3,SNR=3.3						
YKA	Yellowknife Ar	82.78	12	P	P	05 31 52.7	-0.8
YKA	Yellowknife Ar	82.78	12	P	P	05 31 52.7	-0.8
	comp=Z,1.5nm,0.9s,baz=332,slow=5.0,SNR=13						
TOA0	Torodi Ar. Sit	83.90	282	eP	P	05 31 59.2	-0.9
TORD	Torodi Ar. Bea	83.90	282	P	P	05 31 59.3	-0.8
TORD	Torodi Ar. Bea	83.90	282	P	P	05 31 59.3	-0.8
	comp=Z,4.3nm,0.7s,baz=48,slow=4.8,SNR=21						
LBTB	Lobatse	85.82	237	eP	P	05 32 08.9	-0.7
	comp=Z,4.1nm,0.7s						
SAML	Samuel	147.62	311	ePKPbc	PKPbc	05 39 13.8	-1.0
LPAZ	La Paz	156.28	308	ePKPdf	PKPdf	05 39 29.2	+3.4

*ISCJB **18** 05:30:11.1±0.3,6.°55S±0.°04×127.°78E±0.°08,h353km, mb4.1/24,Error ellipse: s-maj=11.9km s-min=4.4km az=162.6*

*NEIC **18** 05:30:16.4±0.9,6.°68S×127.°74E,h403km±12km,mb4.3/11, Error ellipse: s-maj=12.8km s-min=6.6km az=54.0*

*IDC **18** 05:30:16.5±1.9,6.°69S×127.°69E,h402km±21km,mb3.9/15, mb1 3.9/19,mb1mx3.8/26,mbtmp3.9/19,Error ellipse: s-maj=18.3km s-min=8.6km az=69.0*

*DJA **18** 05:30:16.5±0.3,7.°5S×12.°8E±.°,h394km±9km,M4.4/16, mb4.4/16,mB4.7/8,MLv4.9/6,Mw(mB)3.9/8*

*AUST **18** 05:30:18.1,6.°49S×128.°03E,h450km*

ISC 18 05:30:12.6±0.4,**6.°61S**±0.°05×**127.°84E**±0.°07,**h353**km,**n87**, σ1♀**85**/**83**,**mb4.2**/**24**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NLAI	Namlea	3.43	348	P		P	Pn	05 31 24.2	+8.0
BBSI	Bau Bau	5.36	282	P		P	Pn	05 31 43.7	+7.4
	330nm,1.0s,3μm1.0nm								
FAKI	Fak Fak	5.72	50	P		P	Pn	05 31 45.5	+5.1
	73nm,0.6s,2μm1.1nm								
FAKI				S		S		05 32 55.0	+3.4
	73nm,0.6s,2μm1.1nm								
FAKI	Fak Fak	5.72	50	P		P	Pn	05 31 45.6	+5.1
	baz=5.5,SNR=54								
SWI	Sorong	6.65	31	P		P	P	05 31 56.3	+3.9
	83nm,0.5s,2μm0.4nm								
MTN	Manton Dam	6.99	153	P		P	P	05 32 00.3	+3.9
	baz=7.1,SNR=40								
KDU	Kakadu	7.57	143	P		P	P	05 32 06.7	+3.7
	baz=7.6,SNR=26								
BKSI	Bulukumba	7.78	279	P		P	P	05 32 09.1	+3.6
	69nm,0.6s,703nm0.2nm								
BNSI	Bone	8.01	286	P		P	P	05 32 12.5	+2.7
	73nm,0.9s								
LBFI	Labuhan Bajo,	8.10	256	P		P	P	05 32 12.3	+1.5
	42nm,1.3s								
KAPI	Kappang	8.20	281	ePn		P	P	05 32 13.7	+1.7
	274nm,0.9s								
APSI	Ampana	8.38	312	P		P	P	05 32 16.8	+2.9
	27nm,1.0s,529nm								
SPSI	Sidrap Palu	8.46	288	P		P	P	05 32 16.8	+2.0
	45nm,0.8s								
GTOI	Gorontalo	8.66	326	P		P	P	05 32 21.6	+4.5
	148nm,0.8s,1μm								
TTSI	Tana Toraja	8.74	294	P		P	P	05 32 21.2	+3.2
	31nm,1.4s,1μm								
KNRA	Kununurra	9.05	174	P		P	P	05 32 23.5	+2.2
	baz=9.2,SNR=8.0								
MRSI	Marisa	9.18	320	P		P	P	05 32 26.8	+4.0
	29nm,0.8s								
FITZ	Fitzroy Crossi	11.62	190	ePn		Pn	Pn	05 32 50.2	+0.4
FITZ	Fitzroy Crossi	11.62	190	P		P	P	05 32 50.9	+1.0
	1.0nm,0.3s,baz=19,slow=9.9,SNR=19								
FITZ	Fitzroy Crossi	11.62	190	P		P	P	05 32 51.5	+1.6
	baz=12,SNR=11								
BBKI	Banjar Baru	13.32	283	P		P	Pn	05 33 12.6	+2.6
	85nm,0.9s								
WRAB	Tennant Creek	14.67	155	ePn		P	P	05 33 24.9	+1.3
	17nm,0.6s								
WRAB				eSn		S	S	05 35 58.1	-3.8
WRA	Warramunga Arr	14.68	155	P		P	P	05 33 25.1	+1.5
WRA				S		S	S	05 35 58.5	-3.5
WRA	Warramunga Arr	14.68	155	P		P	P	05 33 25.1	+1.5
	4.7nm,0.3s,baz=332,slow=11,SNR=312								
WRA				S		S	S	05 35 58.5	-3.5
	1.4nm,0.3s,baz=331,slow=18,SNR=11								
PALU	Palau	15.36	26	P		P	Pn	05 33 33.5	-0.2
	baz=15,SNR=3.6								
COEN	Coen	16.75	117	eP		P	P	05 33 47.8	+1.6
	142nm,0.6s								
COEN	Coen	16.75	117	P		P	P	05 33 47.9	+1.8
	baz=17,SNR=80								
AS31	Alice Springs	17.93	162	eP		P	P	05 34 00.2	+1.4
AS31				eS		S	S	05 37 03.5	-2.8
ASAR	Alice Springs	17.93	162	P		P	P	05 34 00.1	+1.4
ASAR				S		S	S	05 37 04.7	-1.5
ASAR				ScP		ScP	ScP	05 41 11.2	-6.3
ASAR	Alice Springs	17.93	162	P		P	P	05 34 00.1	+1.4
	4.7nm,0.3s,baz=346,slow=12,SNR=221								
ASAR				S		S	S	05 37 04.7	-1.5
	0.8nm,0.3s,baz=348,slow=21,SNR=25								
ASAR				ScP		ScP	ScP	05 41 11.2	-6.3
	0.2nm,0.3s,baz=356,slow=2.0,SNR=4.6

3.1nm,0.7s,baz=134,slow=4.3,SNR=18
BRVK Borovoye 76.67 328 *e*P **P 05 41 24.4 -0.9**
9.8nm,1.4s
TIXI Tiksi 78.10 0 *e*P **P 05 41 31.1 -1.6**
3.6nm,0.5s
AKTO Aktyubinsk 82.46 323 P **P 05 41 55.1 -1.1**
AKTO Aktyubinsk 82.46 323 P **P 05 41 55.1 -1.1**
3.0nm,0.7s,baz=94,slow=7.3,SNR=14
QSPA South Pole Qui 83.36 180 *e*P **P 05 41 59.1 -1.6**
1.3nm,0.6s
ARU Arti 84.25 329 *e*P **P 05 42 03.2 -1.9**
7.1nm,1.1s
ILAR Eielson Array 93.91 25 P P 05 42 47.4 -3.0
ILAR Eielson Array 93.91 25 P P 05 42 47.4 -3.0
0.4nm,0.9s,baz=227,slow=5.1,SNR=6.1
TORD Torodi Ar. Bea 126.63 281 PKP **PKPdf 05 48 33.6 -1.8**
TORD Torodi Ar. Bea 126.63 281 PKP **PKPdf 05 48 33.6 -1.8**
0.8nm,0.9s,baz=74,slow=1.2,SNR=4.0

ISCJB ***18*** *05:38:44.3±0.7, 11°.15N±0°.03×62°.22W±0°.04, h111km±8km, Error ellipse: s-maj=6.6km s-min=4.5km az=43.6*
TRN ***18*** *05:38:46.4, 11°.17N×62°.07W, h113km, MD3.5*
FUNV ***18*** *05:38:49.1, 10°.80N×62°.22W, h99km, MW2.9*
ISC 18 05:38:41.5±1.4, 11°.06N±0°.04×62°.20W±0°.04, h140km±9km, n20, σ2s09/32, 5C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.41**	**183**	⇑*i*P	**Pn**	**05 39 02.2**	**+1.0**
GUIV				*e*S	**Sn**	**05 39 13.6**	**-2.7**
TCE	**Chacachacare**	**0.57**	**129**	*e*P	**Pn**	**05 39 04.0**	**+1.9**
TCE				*e*S	**Sn**	**05 39 16.5**	**-1.2**
TRN	**Trinidad (W)**	**0.88**	**118**	⇑*i*P	Pn	05 39 06.8	+2.5
TRN				*e*S	**Sn**	**05 39 20.4**	**-1.2**
TPP	**Pointe-a-Pierr**	**1.04**	**135**	*e*P	Pn	05 39 09.2	+3.5
TPP				*e*S	**Sn**	**05 39 25.7**	**+1.6**
CRUV	**Carupano**	**1.09**	**249**	*e*P	**Pn**	**05 39 07.9**	**+1.8**
CRUV				*e*S	**Sn**	**05 39 22.8**	**-2.0**
GRW	**Mount Saint Ca**	**1.21**	**26**	*e*P	**Pn**	**05 39 09.0**	**+1.5**
GRW				*e*S	**Sn**	**05 39 24.9**	**-2.3**
TBH	**Brigand Hill**	**1.25**	**117**	*e*P	Pn	05 39 10.8	+3.1
TBH				*e*S	**Sn**	**05 39 27.0**	**-0.6**
GRHS	**Sauteurs**	**1.28**	**25**	*e*P	**Pn**	**05 39 08.5**	**+0.5**
GRHS				*e*S	**Sn**	**05 39 26.3**	**-1.9**
GRSS	**Sisters**	**1.36**	**25**	*e*P	**Pn**	**05 39 09.7**	**+0.9**
GRSS				*e*S	**Sn**	**05 39 28.3**	**-1.3**
TPR	**Prospect**	**1.40**	**85**	*e*P	**Pn**	**05 39 11.4**	**+2.2**
TPR				*e*S	**Sn**	**05 39 29.0**	**-1.4**
BOT	**Bacolet**	**1.46**	**86**	⇑*i*P	**Pn**	**05 39 11.9**	**+2.1**
TOSP	**Speyside**	**1.65**	**82**	⇑*i*P	**Pn**	**05 39 12.8**	**+0.9**
TOSP				*e*S	**Sn**	**05 39 33.2**	**-2.0**
SVB	**Belmont**	**2.39**	**23**	*e*P	**Pn**	**05 39 22.0**	**+1.2**
SVB				*e*S	**Sn**	**05 39 49.6**	**-1.3**
PCRV	**Puerto La Cruz**	**2.55**	**250**	*e*P	Pn	05 39 27.1	+4.3
PCRV				*e*S	**Sn**	**05 39 54.9**	**+0.3**
MCLT	**Moule a Chique**	**2.91**	**25**	*e*P	**Pn**	**05 39 28.7**	**+1.4**
MCLT				*e*S	**Sn**	**05 40 01.4**	**-1.2**
RIOV	**Rio Grande**	**3.00**	**173**	*e*P	**Pn**	**05 39 30.7**	**+2.2**
RIOV				*e*S	**Sn**	**05 40 01.6**	**-3.1**
PRGV	**PARIAGUAN**	**3.32**	**227**	*e*S	**Sn**	**05 40 09.4**	**-2.8**
CUPV	**Cœpira**	**3.67**	**255**	*e*P	Pn	05 39 41.8	+4.6
CUPV				*e*S	**Sn**	**05 40 21.7**	**+1.4**
LUEV	**Luepa**	**5.24**	**172**	*e*P	**Pn**	**05 40 00.2**	**+2.1**
LUEV				*e*S	**Sn**	**05 40 53.1**	**-4.7**
BAUV	**El Baul**	**6.13**	**250**	*e*P	Pn	05 40 13.4	+3.6
BAUV				*e*S	**Sn**	**05 41 15.9**	**-3.0**

JMA 18 05:48:09.8, 34°.96N×139°.14E, h5km±1km, M1.5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**0.30**	**352**	P	Pg	05 48 16.0	+0.2
JIZS	**Izushimoda**	**0.32**	**222**	P	Pg	05 48 16.3	+0.2
JYN	**Shimob**	**0.72**	**318**	P	Pg	05 48 23.2	-0.7

JMA 18 05:48:37.1±0.1, 34°.96N×139°.14E, h5km±1km, M1.2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.09**	**335**	P	Pg	05 48 39.2	+0.1
JOD2	**Odawara 2**	**0.30**	**352**	P	Pg	05 48 43.3	+0.2
JOD2				S	Sg	05 48 47.7	+0.5
JIZS	**Izushimoda**	**0.32**	**222**	P	Pg	05 48 44.1	+0.7
JIZS				S	Sg	05 48 48.1	+0.4

IDC 18 05:58:06.7±12.0, 19°.40S×167°.55E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=213.4km s-min=39.1km az=81.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.85**	**201**	Pn	Pn	05 58 53.7	+0.1
	2.4nm,0.3s,baz=42,slow=17,SNR=20						
DZM				Sn	Sn	05 59 27.8	-1.1
	6.4nm,0.3s,baz=320,slow=22,SNR=7.7						
STKA	**Stephens Creek**	**26.42**	**237**	P	P	06 03 44.1	-1.1
	0.6nm,0.3s,baz=63,slow=16,SNR=6.3						
WRA	**Warramunga Arr**	**31.25**	**263**	P	P	06 04 28.8	+0.3
	0.3nm,0.5s,baz=86,slow=9.1,SNR=6.7						
ASAR	**Alice Springs**	**31.55**	**256**	P	P	06 04 31.8	+0.7
	0.7nm,0.6s,baz=88,slow=8.8,SNR=9.6						

IDC ***18*** *06:28:56.8±1.9, 5°.54N×127°.35E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/26, mbtmp3.9/6, Error ellipse: s-maj=133.7km s-min=20.4km az=72.0*
ISC 18 06:29:04.3±2.1, 5°.54N±0°.3×127°.1E±0°.9, h53km, n6, σ0s65/6, mb4.0/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.39**	**183**	P	**P**	**06 34 08.3**	**-0.3**
	3.7nm,1.0s,baz=0.0,slow=7.1,SNR=2.1						
WRA	**Warramunga Arr**	**26.18**	**164**	P	**P**	**06 34 34.3**	**+0.3**
	0.6nm,0.5s,baz=346,slow=9.9,SNR=7.8						
MKAR	**Makanchi Array**	**56.38**	**324**	P	**P**	**06 38 41.0**	**+0.7**
	1.5nm,0.5s,baz=118,slow=7.6,SNR=19						
ZALV	**Zalesovo Beam**	**59.26**	**332**	P	**P**	**06 38 59.6**	**-0.6**
	0.4nm,0.3s,baz=115,slow=6.5,SNR=2.0						
KURBB	**Kurchatov Arra**	**60.52**	**327**	P	**P**	**06 39 09.3**	**+0.3**
	1.6nm,0.6s,baz=126,slow=6.2,SNR=22						
BVAR	**Borovoye Array**	**66.11**	**327**	P	**P**	**06 39 45.6**	**-0.3**
	1.0nm,0.6s,baz=107,slow=7.7,SNR=6.2						

MEX 18 06:32:54.8±0.3, 16°.91N×100°.13W, h12km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.46**	**299**	*e*P	Pn	06 33 17.5	-3.5
ZIIG				*i* S	Sn	06 33 35.0	-5.0
PLIG	**Platanillo**	**1.59**	**22**	*e*P	Pn	06 33 19.4	-3.6
PLIG				*i* S	Sn	06 33 38.7	-5.0
TLIG	**Tlapa**	**1.63**	**66**	*i* P	Pn	06 33 19.8	-3.7
TLIG				*e*S	Sn	06 33 39.9	-4.7
YAIG	**Yautepec**	**2.19**	**27**	*i* P	Pn	06 33 28.5	-2.8
YAIG				*i* S	Sn	06 33 53.7	-4.9

IDC 18 06:33:10.9±2.0, 3°.31S×149°.03E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.7/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/26, Error ellipse: s-maj=120.4km s-min=29.9km az=120.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.34**	**197**	LR	LR	06 37 26.1	
	comp=Z,300nm,19.7s,baz=32,slow=40						
WRA	**Warramunga Arr**	**21.89**	**220**	P	P	06 38 05.3	-0.4
	4.6nm,0.7s,baz=43,slow=11,SNR=24						
WRA				LR	LR	06 45 52.2	
	comp=Z,36nm,20.2s,baz=165,slow=35						
ASAR	**Alice Springs**	**24.97**	**215**	P	P	06 38 36.4	-0.1
	0.9nm,0.6s,baz=50,slow=8.4,SNR=11						
STKA	**Stephens Creek**	**29.27**	**193**	LR	LR	06 49 50.2	
	comp=Z,90nm,18.9s,baz=23,slow=34						
KSRS	**Korea Array**	**45.05**	**336**	LR	LR	06 58 18.8	
	comp=Z,25nm,19.9s,baz=309,slow=34						
ILAR	**Eielson Array**	**82.23**	**23**	P	P	06 45 33.3	-0.4
	0.3nm,0.9s,baz=240,slow=5.1,SNR=1.6						
TORD	**Torodi Ar. Bea**	**146.27**	**289**	PKPbc	PKPbc	06 52 54.6	0.0
	1.1nm,0.9s,baz=56,slow=2.3,SNR=4.9						

ISCJB ***18*** *06:45:01.5±0.2, 8°.38S±0°.03×120°.67E±0°.03, h200km, mb4.4/33, Error ellipse: s-maj=5.0km s-min=3.2km az=140.7*
NEIC ***18*** *06:45:01.4±0.7, 8°.32S×120°.71E, h188km±7km, mb4.7/12, Error ellipse: s-maj=11.5km s-min=5.8km az=48.0*
IDC ***18*** *06:45:01.2±2.7, 8°.14S×121°.00E, h190km±26km, mb4.0/13, mb1 4.1/16, mb1mx3.9/28, mbtmp4.0/16, Error ellipse: s-maj=24.7km s-min=7.9km az=62.0*
DJA ***18*** *06:45:02.2±0.2, 9°.3S×121°.1E±°, h156km±3km, M4.6/32, mb4.8/32, mB5.2/12, MLv4.7/14, Mw(mB)4.5/12*
AUST ***18*** *06:45:03.1±0.4, 8°.47S×120°.69E, h194km, Error ellipse: s-maj=1.0km s-min=0.6km az=22.0*
ISC 18 06:45:01.9±0.3, 8°.50S±0°.04×120°.78E±0°.06, h200km, n152, σ1s85/155, mb4.5/33, 1C, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBFI	**Labuhan Bajo,**	**0.88**	**271**	P	Pn	06 45 26.9	-4.1
LBFI				S	Sn	06 45 45.6	-7.8
MMRI	**Maumere**	**1.44**	**95**	P	**Pn**	**06 45 33.8**	**-1.4**
MMRI				S	**Sn**	**06 45 57.9**	**-3.0**
MMRI	**Maumere**	**1.44**	**95**	*e*Pn	**Pn**	**06 45 33.7**	**-1.4**
MMRI				*e*Sn	**Sn**	**06 45 58.1**	**-2.8**
BKSI	**Bulukumba**	**3.23**	**348**	P	**Pn**	**06 45 51.5**	**-2.8**
KAPI	**Kappang**	**3.61**	**343**	*e*Pn	**Pn**	**06 45 57.0**	**-2.0**
KAPI				*e*Sn	**Sn**	**06 46 41.2**	**-2.6**
BNSI	**Bone**	**4.13**	**351**	P	**Pn**	**06 46 04.1**	**-1.3**
KKSI	**Kolaka, Sulawe**	**4.39**	**11**	P	Pn	06 46 17.4	+8.7
MTNI	**Mataram**	**4.56**	**268**	P	**Pn**	**06 46 08.5**	**-2.3**
SPSI	**Sidrap Palu**	**4.62**	**347**	P	**Pn**	**06 46 10.1**	**-1.5**
TTSI	**Tana Toraja**	**5.51**	**350**	P	**Pn**	**06 46 22.4**	**-0.5**
	158nm,0.8s,1μm0.5nm						
SRBI	**Singaraja**	**5.53**	**274**	P	**Pn**	**06 46 20.2**	**-3.0**
	73nm,0.9s,1μm0.5nm						
MMSI	**Mamuju**	**6.07**	**342**	P	**Pn**	**06 46 28.9**	**-1.3**
	100nm,0.7s,1μm0.3nm						
KMMI	**Kalianget**	**6.91**	**282**	P	**Pn**	**06 46 40.8**	**-0.2**
	98nm,0.9s,0.4nm						
KBKI	**Kotabaru**	**6.91**	**318**	P	Pn	06 46 46.6	+5.5
BLJI	**Banyuglugur**	**7.16**	**276**	P	**Pn**	**06 46 43.7**	**-0.6**
	109nm,0.7s,0.5nm						
APSI	**Ampana**	**7.59**	**7**	P	**Pn**	**06 46 49.7**	**-0.2**
	61nm,1.1s,732nm0.2nm						
BBKI	**Banjar Baru**	**7.75**	**310**	P	**Pn**	**06 46 51.6**	**-0.4**
	82nm,1.0s,7μm0.4nm						
GRJI	**Gresik**	**8.38**	**280**	P	**Pn**	**06 46 59.9**	**-0.3**
	145nm,1.0s,1μm0.5nm						
PWJI	**Pagerwojo**	**8.90**	**272**	P	**Pn**	**06 47 06.6**	**-0.4**
	72nm,0.5s,2μm						
MRSI	**Marisa**	**8.99**	**7**	P	**Pn**	**06 47 08.3**	**+0.1**
	26nm,1.2s						
GTOI	**Gorontalo**	**9.35**	**14**	P	**Pn**	**06 47 14.0**	**+1.2**
	40nm,1.4s						
PCJI	**Pacitan**	**9.51**	**271**	P	**Pn**	**06 47 12.1**	**-2.8**
	120nm,0.7s,3μm						
UGM	**Wanagama**	**10.17**	**273**	*e*Pn	Pn	06 47 20.0	-3.6
UGM	**Wanagama**	**10.17**	**273**	P	**Pn**	**06 47 20.4**	**-3.1**
	baz=10,SNR=6.1						
SMRI	**Semarang**	**10.35**	**277**	P	**Pn**	**06 47 24.9**	**-0.9**
	182nm,0.8s,4μm						
SMRI	**Semarang**	**10.35**	**277**	*e*Pn	**Pn**	**06 47 24.6**	**-1.2**
SMRI	**Semarang**	**10.35**	**277**	P	**Pn**	**06 47 24.7**	**-1.1**
	baz=10,SNR=3.4						
KNRA	**Kununurra**	**10.57**	**133**	P	**Pn**	**06 47 27.5**	**-1.1**
	baz=11,SNR=142						
FITZ	**Fitzroy Crossi**	**10.65**	**154**	*e*Pn	**Pn**	**06 47 30.3**	**+0.7**
FITZ				S	**Sn**	**06 49 24.7**	**-3.8**
FITZ	**Fitzroy Crossi**	**10.65**	**154**	P	**Pn**	**06 47 30.0**	**+0.4**
	6.8nm,0.3s,baz=343,slow=7.8,SNR=94						
FITZ				S	**Sn**	**06 49 24.7**	**-3.8**
	2.8nm,0.3s,baz=288,slow=13,SNR=2.0						
FITZ	**Fitzroy Crossi**	**10.65**	**154**	P	**Pn**	**06 47 29.9**	**+0.4**
	baz=11,SNR=110						
BJII	**Banjamegara**	**11.03**	**275**	P	**Pn**	**06 47 33.9**	**-0.7**
	35nm,0.8s						
MTN	**Manton Dam**	**11.05**	**114**	P	**Pn**	**06 47 34.1**	**-0.6**
	baz=11,SNR=727						
TGJI	**Tegal**	**11.67**	**277**	P	**Pn**	**06 47 40.3**	**-2.5**
	68nm,0.9s						
KPJI	**Karang Pucung**	**11.80**	**275**	P	**Pn**	**06 47 42.9**	**-1.5**
	34nm,0.6s						
KDU	**Kakadu**	**12.22**	**111**	P	**Pn**	**06 47 49.0**	**-0.7**
	baz=12,SNR=122						
CMJI	**Cimerak**	**12.23**	**272**	P	Pn	06 47 44.4	-5.5
	43nm,1.1s						
FAKI	**Fak Fak**	**12.68**	**65**	P	**P**	**06 47 57.9**	**-1.4**
	baz=13,SNR=9.8						
CISI	**Cisompet, Garu**	**12.88**	**273**	P	**Pn**	**06 47 55.1**	**-3.0**
	61nm,0.5s,5μm						
CISI	**Cisompet, Garu**	**12.88**	**273**	*e*Pn	Pn	06 47 54.7	-3.3
CISI	**Cisompet, Garu**	**12.88**	**273**	P	**Pn**	**06 47 55.1**	**-3.0**
	baz=13,SNR=4.4						
SWI	**Sorong**	**12.90**	**55**	P	P	06 48 12.9	+11
LEM	**Lembang**	**13.15**	**276**	P	**P**	**06 48 02.5**	**-2.2**
	46nm,0.7s						
SBUM	**Sibu**	**13.83**	**322**	P	**P**	**06 48 12.8**	**+0.8**
	34nm,0.9s						
SBUM	**Sibu**	**13.83**	**322**	*e*Pn	**Pn**	**06 48 09.3**	**-0.7**
KSM	**Kuching**	**14.40**	**313**	P	**P**	**06 48 18.6**	**+0.3**
	26nm,0.8s						
KSM	**Kuching**	**14.40**	**313**	*e*Pn	**P**	**06 48 18.4**	**+0.2**
KSM	**Kuching**	**14.40**	**313**	P	**P**	**06 48 18.5**	**+0.3**
	baz=14,SNR=5.0						
XMIS	**Christmas Isla**	**15.05**	**261**	*e*Pn	**P**	**06 48 26.5**	**+0.9**
	136nm,0.6s						
XMIS	**Christmas Isla**	**15.05**	**261**	P	**P**	**06 48 26.5**	**+0.9**
	baz=15,SNR=5.7						
GIRL	**Giralia**	**15.40**	**203**	P	P	06 48 34.7	+5.3
	baz=16,SNR=32						
KLSI		**16.39**	**282**	P	**Pn**	**06 48 42.9**	**+1.8**
	37nm,1.4s						
KASI	**Kota Agung**	**16.43**	**279**	P	**Pn**	**06 48 41.7**	**+0.1**
	50nm,0.6s,768nm						
MDSI	**Maura Dua**	**16.97**	**283**	P	**Pn**	**06 48 46.9**	**-1.1**
	14nm,1.0s						
WRA	**Warramunga Arr**	**17.36**	**132**	P	**Pn**	**06 48 52.6**	**0.0**
WRA				S	**S**	**06 52 01.2**	**0.0**
WRA	**Warramunga Arr**	**17.36**	**132**	P	**Pn**	**06 48 52.6**	**0.0**
	2.3nm,0.3s,baz=310,slow=12,SNR=103						
WRA				S	**S**	**06 52 01.2**	**0.0**
	2.8nm,0.3s,baz=307,slow=20,SNR=12						
WRAB	**Tennant Creek**	**17.36**	**132**	*e*P	**Pn**	**06 48 53.4**	**+0.7**
	43nm,0.6s						
WRKA	**Warakurna**	**17.94**	**157**	P	**Pn**	**06 49 00.6**	**+1.3**
	baz=18,SNR=172						
MEEK	**Meekatharra**	**18.15**	**186**	P	**Pn**	**06 49 02.5**	**+0.7**
	baz=18,SNR=10						
MNAI	**Manna**	**18.18**	**282**	P	**Pn**	**06 49 01.6**	**-0.7**
	baz=18,SNR=5.2						
ASAR	**Alice Springs**	**19.63**	**142**	P	**Pn**	**06 49 18.1**	**-1.3**
ASAR				S	**S**	**06 52 48.5**	**+2.3**
ASAR	**Alice Springs**	**19.63**	**142**	P	**Pn**	**06 49 18.1**	**-1.3**
	3.3nm,0.3s,baz=326,slow=11,SNR=144						
ASAR				S	**S**	**06 52 48.5**	**+2.3**
	0.4nm,0.3s,baz=305,slow=17,SNR=7.5						
AS01	**Alice Springs**	**19.66**	**142**	*e*P	**Pn**	**06 49 17.8**	**-1.9**
MORW	**Morawa**	**20.94**	**192**	P	Pn	06 49 31.4	-4.2
	baz=21,SNR=19						
QIS	**Mount Isa**	**21.78**	**125**	P	**P**	**06 49 40.2**	**+2.1**
	baz=22,SNR=61						
BLDU	**Ballidu**	**22.33**	**189**	P	**P**	**06 49 45.1**	**+1.9**
	baz=22,SNR=76						
COEN	**Coen**	**22.61**	**106**	*e*P	**P**	**06 49 48.2**	**+2.1**
	165nm,0.6s						
COEN	**Coen**	**22.61**	**106**	P	**P**	**06 49 48.1**	**+2.1**
	baz=23,SNR=85						
KMBL	**Kambalda**	**22.77**	**178**	P	**P**	**06 49 49.4**	**+2.1**
	baz=23,SNR=24						
KLBR	**Kellerberrin**	**23.15**	**187**	P	**P**	**06 49 53.0**	**+2.4**
	baz=23,SNR=23						
FORT	**Forrest**	**23.18**	**164**	*e*P	**P**	**06 49 53.3**	**+2.4**
	36nm,0.8s						
FORT	**Forrest**	**23.18**	**164**	P	**P**	**06 49 53.6**	**+2.6**
	baz=23,SNR=14						
IPM	**Ipoh**	**23.55**	**302**	*e*P	**P**	**06 49 54.5**	**0.0**
	14nm,0.6s						
NWAO	**Narrogin (SRO)**	**24.53**	**187**	P	**P**	**06 50 05.3**	**+2.2**
	15nm,0.5s,baz=10.0,slow=9.9,SNR=15						
RKGY	**Rocky Gully**	**26.22**	**187**	P	P	06 50 22.2	+3.8
	baz=26,SNR=15						
BBOO	**Buckleboo**	**28.02**	**152**	*e*P	P	06 50 37.1	+2.6
	209nm,0.6s						
BBOO	**Buckleboo**	**28.02**	**152**	P	P	06 50 37.1	+2.6
	baz=28,SNR=92						
QLP	**Quilpie**	**28.60**	**132**	P	P	06 50 43.3	+3.6
	baz=29,SNR=4.4						
QIZ	**Qiongzhong**	**29.41**	**339**	P	**P**	**06 50 44.8**	**-2.1**
QIZ				S	**S**	**06 55 30.3**	**+4.3**
QIZ				pmax	pmax		
	comp=Z,26nm,2.4s						
QIZ				pmax	pmax		
	comp=Z,200nm,3.9s						
HTT	**Hallett**	**29.93**	**149**	P	P	06 50 55.0	+3.5
	baz=30,SNR=15						
STKA	**Stephens Creek**	**30.25**	**143**	*e*P	P	06 50 57.5	+3.2
	3.1nm,0.9s						
STKA				PcP	**PcP**	**06 53 49.6**	**-0.3**
STKA	**Stephens Creek**	**30.25**	**143**	P	P	06 50 57.4	+3.2
	12nm,0.3s,baz=323,slow=7.9,SNR=70						
STKA				PcP	**PcP**	**06 53 49.6**	**-0.3**
	2.4nm,0.4s,baz=308,slow=3.5,SNR=3.2						
STKA	**Stephens Creek**	**30.25**	**143**	P	P	06 50 57.5	+3.2
	baz=30,SNR=22						
CMSA	**Cobar Meteorol**	**32.60**	**138**	P	P	06 51 18.6	+3.8
	baz=33,SNR=16						
ARPS	**Mount Arapiles**	**34.03**	**149**	P	P	06 51 30.8	+3.8
	baz=34,SNR=13						
CMAR	**Chiang Mai Arr**	**34.38**	**321**	P	**P**	**06 51 30.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**34.38**	**321**	P	**P**	**06 51 30.6**	**+0.3**
	2.3nm,0.3s,baz=143,slow=7.2,SNR=6.2						
CHTO	**Chiang Mai**	**34.65**	**322**	*e*P	**P**	**06 51 32.5**	**-0.1**
	3.6nm,0.6s						
YNG	**Young**	**36.10**	**139**	P	P	06 51 49.1	+4.3
	baz=36,SNR=9.4						
ARMA	**Armidale**	**36.14**	**131**	P	P	06 51 50.4	+5.1
	baz=36,SNR=6.8						
TOO	**Toolangi**	**36.56**	**146**	P	P	06 51 53.3	+4.6
	baz=37,SNR=6.9						
MGCD	**Mangrove Creek**	**37.26**	**136**	P	P	06 51 59.7	+5.1
	baz=37,SNR=16						
GYA	**Guiyang**	**37.36**	**339**	*e*P	**P**	**06 51 57.8**	**+2.2**
GYA				pP	**pP**	**06 52 38.8**	**+1.3**
GYA				sP	**sP**	**06 53 01.4**	**+1.1**
GYA				PP	**PnPn**	**06 53 31.0**	**+2.3**
GYA				PcP	**PcP**	**06 54 12.6**	**+2.2**
GYA				S	**S**	**06 57 30.8**	**+2.1**
GYA				ScP	**ScP**	**06 57 41.0**	**+2.3**
GYA				PcS	**PcS**	**06 58 01.5**	**+2.2**
GYA				ScS	**ScS**	**07 01 48.3**	**+0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
NJ2	**Nanjing**	**40.37**	**357**	*e*P	P	06 52 23.1	+2.8
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2	**Chengdu**	**42.45**	**338**	*e*P	**P**	**06 52 38.8**	**+1.4**
CD2				sP	**sP**	**06 53 42.0**	**-0.8**
CD2				PP	**PcP**	**06 54 23.1**	**-3.5**
CD2				S	**S**	**06 58 46.5**	**+2.4**
CD2				sS	**sS**	**06 59 58.3**	**-1.2**
CD2				SS	**SS**	**07 01 56.3**	**-5.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,100nm,6.2s						
LSA	**Lhasa**	**47.49**	**324**	*e*P	**P**	**06 53 18.2**	**+0.6**
	6.6nm,0.9s						
ODAN	**Odare**	**47.80**	**318**	*e*P	**P**	**06 53 18.2**	**-1.5**
ODAN	**Odare**	**47.80**	**318**	*e*P	**P**	**06 53 18.2**	**-1.5**
TAPN	**Taplejung**	**47.92**	**319**	*e*P	**P**	**06 53 19.8**	**-1.0**
TAPN	**Taplejung**	**47.92**	**319**	*e*P	**P**	**06 53 19.8**	**-1.0**
RAMN	**Ramite**	**48.38**	**318**	*e*P	**P**	**06 53 23.1**	**-1.1**
	12nm,0.6s						
RAMN	**Ramite**	**48.38**	**318**	*e*P	**P**	**06 53 23.1**	**-1.1**
	12nm,0.6s						
BJI	**Beijing**	**48.49**	**355**	P	P	06 53 27.0	+2.6
BJI				S	**S**	**07 00 15.3**	**+5.3**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
JIRN	**Jiri**	**49.12**	**318**	*e*P	**P**	**06 53 29.0**	**-1.0**
	16nm,0.6s						
JIRN	**Jiri**	**49.12**	**318**	*e*P	**P**	**06 53 29.0**	**-1.0**
	16nm,0.6s						
GUN	**Gumba**	**49.49**	**318**	*e*P	**P**	**06 53 31.9**	**-0.9**
	23nm,0.7s						
GUN	**Gumba**	**49.49**	**318**	*e*P	**P**	**06 53 31.9**	**-0.9**
	23nm,0.7s						
PKI	**Pulchoki**	**49.58**	**318**	*e*P	**P**	**06 53 32.1**	**-1.3**
	14nm,0.6s						
PKI	**Pulchoki**	**49.58**	**318**	*e*P	**P**	**06 53 32.1**	**-1.3**
	14nm,0.6s						
PKIN	**Phulchoki**	**49.59**	**318**	*e*P	**P**	**06 53 31.7**	**-1.8**
	9.9nm,0.5s						
DMN	**Daman**	**49.81**	**317**	*e*P	**P**	**06 53 33.2**	**-1.9**
	7.7nm,0.5s						
HHC	**Hu-ho-hao-te**	**49.84**	**351**	*e*P	P	06 53 37.3	+2.5
HHC				pP	pP	06 54 20.6	+1.6
HHC				sP	sP	06 54 41.6	+0.4
HHC				PP	PP	06 55 37.1	+5.3
HHC				S	**S**	**07 00 33.0**	**+3.9**
HHC				sS	sS	07 01 47.0	+0.5
HHC				S

KURK	Kurchatov	69.35	333	P	P	06 55 44.8	-2.9
MAW	Mawson	70.30	200	P	P	06 55 56.2	+2.9
MAW	Mawson	70.30	200	P	P	06 55 56.2	+2.9
	2.9nm,0.6s,baz=344,slow=9.5,SNR=6.2						
VNDA	Vanda	72.21	171	*e*P	P	06 56 08.0	+3.4
	26nm,2.1s						
VNDA	Vanda	72.21	171	P	P	06 56 08.0	+3.4
	3.0nm,0.5s,baz=313,slow=7.1,SNR=38						
BVAR	Borovoye Array	74.70	331	P	P	06 56 18.3	-1.3
BVAR	Borovoye Array	74.70	331	P	P	06 56 18.3	-1.3
	0.8nm,0.6s,baz=117,slow=6.5,SNR=5.7						
SYO	Syowa Base	78.95	201	⇑*e*P	P	06 56 44.3	+1.3
AKTO	Aktyubinsk	79.83	325	P	P	06 56 46.9	-1.2
AKTO	Aktyubinsk	79.83	325	P	P	06 56 46.9	-1.2
	1.5nm,0.6s,baz=88,slow=7.3,SNR=7.1						
BOSA	Boshof	90.79	241	P	P	06 57 44.7	+1.6
BOSA	Boshof	90.79	241	P	P	06 57 44.7	+1.6
	1.9nm,0.4s,baz=116,slow=7.5,SNR=8.9						
TOA0	Torodi Ar. Sit	120.11	280	*e*PKPdf	PKPdf	07 03 30.1	+0.2
TORD	Torodi Ar. Bea	120.11	280	PKP	PKPdf	07 03 30.0	+0.1
TORD	Torodi Ar. Bea	120.11	280	PKP	PKPdf	07 03 30.0	+0.1
	0.8nm,0.5s,baz=59,slow=2.0,SNR=11						
TXAR	Lajitas Array	133.48	57	PKP	PKPdf	07 03 55.5	+0.3
TXAR				SKPbc	SKPbc	07 07 05.0	0.0
TXAR	Lajitas Array	133.48	57	PKP	PKPdf	07 03 55.5	+0.3
	0.2nm,0.6s,baz=37,slow=0.5,SNR=3.4						
TXAR				SKPbc	SKPbc	07 07 05.0	0.0
	0.2nm,0.6s,baz=266,slow=1.9,SNR=3.9						
CPUP	Villa Florida	145.33	183	PKPbc	PKPab	07 04 19.6	+2.4
CPUP	Villa Florida	145.33	183	PKPbc	PKPab	07 04 19.6	+2.4
	1.6nm,0.4s,baz=102,slow=2.4,SNR=10						

IDC ***18*** *07:04:51.6±1.8,34°.42N×73°.80E,h0km,mb3.6/6, mb1 3.8/9,mb1mx3.6/30,mbtmp3.7/9,ML4.0/2,Error ellipse: s-maj=45.8km s-min=28.7km az=54.0*

ISCJB ***18*** *07:04:55.3±1.2,34°.7N±0°.1×73°.9E±0°.2,h26km,mb3.4/5, Error ellipse: s-maj=25.4km s-min=11.8km az=149.0*

NNC ***18*** *07:05:00.8±5.3,34°.76N×73°.97E,h52km±44km,mb3.7, mpv3.8,Error ellipse: s-maj=50.5km s-min=37.0km az=61.0*

ISC 18 07:04:56.6±1.4,34°.6N±0°.2×73°.9E±0°.2,h26km,n17, σ0s77/16,mb3.2/5,5C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SDNR	Sundarnagar	3.99	140	*e*P		Pb	07 06 11.0	+4.9
KK31	Karatay Array	8.92	344	⇑P		Pn	07 07 04.9	+1.2
	1.3nm,0.3s,baz=152,slow=12,SNR=44							
KK31				⇑S		Sn	07 08 42.7	-0.7
	0.9nm,0.3s,baz=172,slow=24,SNR=9.7							
MKAR	Makanchi Array	13.74	25	Pn		P	07 08 14.4	-3.6
	0.1nm,0.3s,baz=205,slow=12,SNR=6.6							
KURBB	Kurchatov Arra	16.38	10	Pn		Pn	07 08 43.7	-0.9
	0.1nm,0.3s,baz=200,slow=11,SNR=7.0							
KURBB	Kurchatov Arra	16.38	10	⇓P		Pn	07 08 43.7	-0.9
	2.4nm,0.8s							
AB31	Akbulak array	17.94	329	⇑P		P	07 09 04.4	-0.1
	0.4nm,0.3s,baz=336,slow=9.2,SNR=18							
BVA0	Borovoye Array	18.61	353	P		Pn	07 09 12.5	+0.3
	2.7nm,0.5s,baz=159,slow=10.0,SNR=18							
BVAR	Borovoye Array	18.61	353	P		Pn	07 09 12.9	+0.6
	0.9nm,0.3s,baz=158,slow=10,SNR=28							
BRVK	Borovoye	18.66	353	⇑P		Pn	07 09 12.8	+0.1
	5.5nm,0.6s							
AKTO	Aktyubinsk	19.65	329	P		P	07 09 23.4	+0.1
	0.5nm,0.3s,baz=124,slow=9.9,SNR=12							
AKTO	Aktyubinsk	19.65	329	⇑P		P	07 09 23.4	+0.1
	4.2nm,0.8s							
ZALV	Zalesovo Beam	20.83	18	P		P	07 09 35.9	0.0
	1.0nm,0.3s,baz=215,slow=6.8,SNR=5.3							
SONM	Songino Array	27.55	51	P		P	07 10 42.8	+1.5
	0.2nm,0.5s,baz=246,slow=7.2,SNR=2.5							
FINES	FINESS Array B	40.41	327	P		P	07 12 31.8	-0.4
	3.7nm,1.1s,baz=104,slow=12,SNR=1.3							
ILAR	Eielson Array	75.94	17	P		P	07 16 39.5	-1.2
	0.2nm,0.8s,baz=305,slow=5.7,SNR=5.1							
WRA	Warramunga Arr	78.94	124	P		P	07 16 58.0	0.0
	0.1nm,0.4s,baz=314,slow=4.6,SNR=1.4							
YKA	Yellowknife Ar	83.02	4	P		P	07 17 19.2	0.0
	0.2nm,0.4s,baz=346,slow=5.7,SNR=6.6							

IDC 18 07:06:31.9±2.2,31°.49S×177°.80W,h0km,mb4.0/2, mb1 4.2/3,mb1mx3.9/18,mbtmp4.0/3,ML3.5/1,MS3.2/1, Ms1 3.2/1,ms1mx2.4/31,Error ellipse: s-maj=62.2km s-min=33.9km az=125.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	Raoul Island	2.23	357	LR		LR	07 07 39.2	
	comp=Z,461nm,19.3s,baz=160,slow=30							
URZ	Urewera	7.94	210	Pn		Pn	07 08 29.1	+0.5
	0.6nm,0.3s,baz=0.0,slow=11,SNR=1.4							
URZ				Sn		Sn	07 09 57.8	-1.3
	0.9nm,0.3s,baz=221,slow=11,SNR=5.9							
ASAR	Alice Springs	43.23	268	P		P	07 14 35.1	0.0
	1.1nm,0.5s,baz=106,slow=7.8,SNR=9.0							
WRA	Warramunga Arr	44.31	273	P		P	07 14 43.8	-0.1
	1.0nm,0.3s,baz=111,slow=8.1,SNR=22							
FINES	FINESS Array B	146.22	340	PKPbc		PKPdf	07 26 12.6	+0.1
	1.7nm,0.4s,baz=43,slow=4.6,SNR=10							
AKASG	Malin Array Be	152.26	322	PKPbc		PKPbc	07 26 28.9	-0.2
	1.4nm,0.9s,baz=60,slow=2.5,SNR=4.5							

IDC 18 07:13:49.1±1.9,0°.89N×124°.84E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/22,mbtmp3.3/3,Error ellipse: s-maj=198.2km s-min=25.0km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	Warramunga Arr	22.70	156	P		P	07 18 51.3	-1.3
	0.8nm,0.7s,baz=334,slow=10,SNR=8.3							
ASAR	Alice Springs	25.95	161	P		P	07 19 24.4	+0.9
	0.3nm,0.5s,baz=341,slow=10,SNR=5.4							
MKAR	Makanchi Array	58.85	327	P		P	07 23 49.7	0.0
	0.2nm,0.5s,baz=113,slow=8.3,SNR=4.2							

IDC 18 07:19:01.4±50.0,16°.26S×176°.59W,h0km,mb4.2/3, mb1 4.3/3,mb1mx3.8/18,mbtmp4.2/3,Error ellipse: s-maj=929.2km s-min=163.4km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	Stephens Creek	40.95	240	P		P	07 26 46.1	0.0
	1.6nm,0.7s,baz=84,slow=9.2,SNR=4.8							
WRA	Warramunga Arr	46.66	258	P		P	07 27 32.1	-0.1
	0.8nm,0.5s,baz=91,slow=8.1,SNR=21							
ASAR	Alice Springs	46.93	253	P		P	07 27 34.0	-0.2
	5.5nm,0.5s,baz=88,slow=8.4,SNR=115							

ISCJB ***18*** *07:22:43.9±1.0,4°.2N±0°.3×122°.7E±0°.7,h573km,mb3.4/6, Error ellipse: s-maj=103.5km s-min=15.6km az=158.8*

IDC ***18*** *07:22:44.6±10.0,4°.22N×122°.78E,h558km±166km, mb2.8/6,mb1 3.0/6,mb1mx2.8/25,mbtmp2.8/6,Error ellipse: s-maj=84.3km s-min=25.0km az=66.0*

ISC 18 07:22:45.5±1.1,4°.2N±0°.3×122°.8E±0°.8,h573km,n6, σ0s38/6,mb3.5/6,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	Fitzroy Crossi	22.34	173	P		P	07 27 01.2	-0.3
	2.7nm,0.9s,baz=5.2,slow=11,SNR=3.6							
WRA	Warramunga Arr	26.55	155	P		P	07 27 38.3	-0.4
	0.2nm,0.3s,baz=335,slow=9.0,SNR=4.8							
ASAR	Alice Springs	29.75	159	P		P	07 28 07.0	+0.4
	0.9nm,0.5s,baz=338,slow=7.1,SNR=14							
STKA	Stephens Creek	40.10	155	P		P	07 29 32.5	0.0
	0.7nm,0.4s,baz=336,slow=12,SNR=2.9							
SONM	Songino Array	45.70	345	P		P	07 30 15.9	0.0
	0.1nm,0.3s,baz=163,slow=11,SNR=2.3							
MKAR	Makanchi Array	54.97	327	P		P	07 31 23.4	0.0
	0.5nm,0.3s,baz=123,slow=7.5,SNR=10							

IDC ***18*** *07:32:58.0±0.5,17°.73S×65°.91E,h0km,mb4.3/23, mb1 4.4/24,mb1mx4.3/31,mbtmp4.3/24,ML4.1/1,MS5.0/35, Ms1 5.0/35,ms1mx4.9/43,Error ellipse: s-maj=15.0km s-min=14.0km az=29.0*

BJI ***18*** *07:32:57.1,17°.94S×65°.34E,h6km,mB5.1/29,mb4.7/39, Ms5.3/35,Ms7 5.0/35*

MOS ***18*** *07:32:58.3±1.9,17°.74S×65°.94E,h10km,mb5.0/20, MS4.8/6,Error ellipse: s-maj=10.6km s-min=7.6km az=100.6*

ISCJB ***18*** *07:32:58.3±0.3,17°.84S±0°.05×65°.85E±0°.05,h10km, mb4.7/71,MS5.2/175,Error ellipse: s-maj=7.8km s-min=6.0km az=147.3*

NEIC ***18*** *07:32:59.7±0.3,17°.73S×65°.87E,h10km,mb5.0/23, MS5.2/129,MW5.7,MW5.8,Error ellipse: s-maj=8.4km s-min=7.2km az=185.0,Moment Tensor Solution. s24 Moment tensor: Scale 10¹⁷Nm; Mrr=0.50; Mθθ-5.07; Mφφ4.57; Mrθ-0.95; Mrφ1.35; Mθφ0.56; Best double couple: M=5.10000×10¹⁷ NP1:φs143.00000°,δ87.00000°, λ-169.00000°. NP2:φs52.00000°,δ79.00000°,λ-3.00000°. Principal axes: T 4.8000, Plg5.0000°, Azm277.0000°; N 0.6300, Plg78.0000°, Azm156.0000°; P -5.4300, Plg9.0000°, Azm8.0000°;*

GCMT ***18*** *07:33:04.4±0.1,17°.55S×65°.78E,h20km,MW5.7,Moment Tensor Solution. s108,c196; s76,c88; Moment tensor: Scale 10¹⁷Nm; Mrr-0.51±.05; Mθθ-4.26±.05; Mφφ4.77±.05; Mrθ-0.89±.11; Mθφ2.47±.04; Mφr-0.44±.10; Best double couple: M=5.30000×10¹⁷ NP1:φs59.00000°,δ88.00000°, λ-11.00000°. NP2:φs150.00000°,δ79.00000°, λ-178.00000°. Principal axes: T 5.4700, Plg6.0000°, Azm105.0000°; N -0.4600, Plg79.0000°, Azm227.0000°; P -5.0200, Plg10.0000°, Azm14.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=116, comp=257, per=50.*

NEIC ***18*** *07:33:13.6±0.0,17°.87S×65°.91E,h30km,Moment Tensor Solution. s138 Moment tensor: Scale 10¹⁷Nm; Mrr-0.97; Mθθ-4.62; Mφφ5.59; Mrθ-1.00; Mθφ2.83; Mφr-2.05; Best double couple: M=6.20000×10¹⁷ NP1:φs148.00000°, δ74.00000°,λ173.00000°. NP2:φs240.00000°,δ84.00000°, λ16.00000°. Principal axes: T 6.9500, Plg15.0000°, Azm105.0000°; N -1.5500, Plg72.0000°, Azm261.0000°; P -5.4000, Plg6.0000°, Azm13.0000°;*

ISC 18 07:33:01.6±0.5,17°.89S±0°.05×65°.64E±0°.05,h19km±1km, n393,σ1s83/260,mb4.8/76,MS5.2/176,11C-6D,Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRIV	Mauritius Mete	8.07	251	*e*Pn		Pn	07 34 52.7	-5.1
RER	Riviere de l'E	9.88	249	Pn		Pn	07 35 20.8	-2.0
H08S1	Diego Garcia H	12.16	34	T		T	07 47 42.5	
	baz=327,slow=75,SNR=7400							
H08S2	Diego Garcia H	12.17	34	T		T	07 47 46.9	
	baz=213,slow=75,SNR=3345							
H08S3	Diego Garcia H	12.18	34	T		T	07 47 44.3	
	SNR=19							
DGAR	Diego Garcia	12.35	33	*e*P		Pn	07 35 50.7	-5.8
DGAR				*e*			07 38 11.0	
DGAR	Diego Garcia	12.35	33	*e*Pn		Pn	07 35 50.7	-5.8
DGAR				*e*Sn		Sn	07 38 11.0	-2.6
H08N3	Diego Garcia H	12.61	25	T		T	07 48 17.0	
	baz=204,slow=76,SNR=3933							
H08N1	Diego Garcia H	12.62	25	T		T	07 48 20.0	
	baz=204,slow=76,SNR=1550							
H08N2	Diego Garcia H	12.63	25	T		T	07 48 18.7	
	baz=204,slow=76,SNR=2377							
MSEY	Mate Island	16.48	322	*e*P		Pn	07 36 48.8	-3.1
	57nm,1.3s							
OPO	Ambohidratompo	17.55	265	P		P	07 37 07.9	+1.4
OPO	Ambohidratompo	17.55	265	P		P	07 37 07.9	+1.4
	0.7nm,0.3s,baz=85,slow=13,SNR=5.8							
OPO					LR	LR	07 42 17.6	
	comp=Z,5μm,19.8s,baz=85,slow=31							
COCO	West Island	30.62	84		PFAKE		07 39 20.0	+5.2
COCO					LR	LR		
	comp=Z,5μm,20.0s							
KMBO	Kilima Mbogo	32.49	298	*e*P		P	07 39 31.2	-0.3
	comp=Z,33nm,1.9s							
KMBO	Kilima Mbogo	32.49	298	P		P	07 39 32.6	+1.1
	comp=Z,3.3nm,0.7s,baz=249,slow=23,SNR=9.3							
KMBO					LR	LR	07 51 02.3	
	comp=Z,4μm,18.1s,baz=101,slow=33							
LSZ	Lusaka	35.95	268	*e*P		P	07 40 03.1	+1.6
	comp=Z,17nm,1.1s							
LSZ					LR	LR		
	comp=Z,2μm,21.0s							
HYB	Hyderabad	37.31	21	*i* P		P	07 40 11.0	-1.9
HYB				*e*S		S	07 45 58.0	-1.8
LBTB	Lobatse	37.84	252	*e*P		P	07 40 18.1	+0.6
	comp=Z,26nm,1.4s							
BOSA	Boshof	38.45	246	P		P	07 40 24.3	+1.7
BOSA	Boshof	38.45	246	P		P	07 40 24.3	+1.7
	comp=Z,3.6nm,0.9s,baz=106,slow=9.6,SNR=3.9							
BOSA					LR	LR	07 53 22.4	
	comp=Z,2μm,20.0s,baz=88,slow=32							
PSI	Prapat	38.71	61	P		P	07 40 22.0	-2.9
PSI	Prapat	38.71	61	P		P	07 40 22.0	-2.9
	comp=Z,2.4nm,0.4s,baz=202,slow=5.4,SNR=2.3							
PSI					LR	LR	07 52 52.3	
	comp=Z,3μm,18.6s,baz=244,slow=31							
IPM	Ipoh	41.38	61	*e*P		P	07 40 45.5	-1.4
	comp=Z,38nm,1.2s							
KULM	Kulim	41.52	60	*e*P		P	07 40 46.9	-1.1
	comp=Z,38nm,1.2s							
KULM					LR	LR		
	comp=Z,3μm,21.0s							
SUR	Sutherland	42.77	241		PFAKE		07 41 10.0	+12
SUR					LR	LR		
	comp=Z,2μm,22.0s							
TSUM	Tsumeb	45.47	260	*e*P		P	07 41 23.9	+3.9
	comp=Z,2.9nm,0.9s							
TSUM					LR	LR		
	comp=Z,1μm,21.0s							
H01W2	Cape Leeuwin H	46.16	121	T		T	08 30 45.4	
	baz=279,slow=75,SNR=250							
H01W3	Cape Leeuwin H	46.16	121	T		T	08 30 44.2	
	baz=279,slow=75,SNR=269							
H01W1	Cape Leeuwin H	46.18	121	T		T	08 30 45.4	
	baz=279,slow=75,SNR=230							
KSM	Kuching	47.99	71		PFAKE		07 41 50.0	+10
KSM					LR	LR		
	comp=Z,1μm,19.0s							
NWAO	Narrogin (SRO)	48.49	118	P		P	07 41 41.5	-1.9
NWAO	Narrogin (SRO)	48.49	118	P		P	07 41 41.5	-1.9
	comp=Z,6.5nm,0.8s,baz=306,slow=8.7,SNR=2.4							
NWAO					LR	LR	07 57 18.5	
	comp=Z,2μm,20.8s,baz=291,slow=30							
CMAR	Chiang Mai Arr	48.75	44	P		P	07 41 43.9	-1.5
CMAR	Chiang Mai Arr	48.75	44	P		P	07 41 43.9	-1.5
	comp=Z,5.7nm,0.9s,baz=230,slow=8.0,SNR=18							
CMAR					LR	LR	07 59 30.5	
	comp=Z,2μm,18.2s,baz=229,slow=33							
PBKT	Sadao Pong	48.81	47	P		P	07 41 47.0	+1.1
	comp=Z,20nm,0.8s							
CHTO	Chiang Mai	49.00	44		PFAKE		07 42 00.0	+13
CHTO					LR	LR		
	comp=Z,2μm,19.0s							
CHAI	Chaiyaphum	49.09	49	P		P	07 41 48.9	+0.8
	comp=Z,6.7nm,1.1s							
MAW	Mawson	49.72	181	P		P	07 41 53.5	+1.3
MAW	Mawson	49.72	181	P		P	07 41 53.5	+1.3
	comp=Z,3.7nm,0.8s,baz=352,slow=6.8,SNR=2.5							
MAW					LR	LR	07 57 45.9	
	comp=Z,1μm,21.1s,baz=0.4,slow=30							
CMAI	Chiengmai2	49.88	43	P		P	07 41 57.0	+2.8
	comp=Z,18nm,1.2s							
CRAI	Chiangrai	50.95	44	P		P	07 42 03.8	+1.6
KBL	Kabul	52.24	4	*e*P		P	07 42 09.4	-2.4
KBL					pmax	pmax		
	comp=Z,9.0nm,0.8s							
KBL	Kabul	52.24	4	*e*P		P	07 42 09.4	-2.4
	comp=Z,8.7nm,0.8s							
LSA	Lhasa	53.33	28		PFAKE		07 42 30.0	+10
LSA					LR	LR		
	comp=Z,2μm,22.0s							
SYO	Syowa Base	53.62	191	⇓*e*X		P	07 42 26.0	+4.7
KAPI	Kappang	54.36	83		PFAKE		07 42 40.0	+12
KAPI					LR	LR		
	comp=Z,2μm,22.0s							
KMI	Kunming	55.97	41	S		S	07 50 23.6	-3.2
KMI					LR	LR		
	comp=N,890nm,18.3s							
KMI					LR	LR		
	comp=E,2μm,19.7s							
KMI					LR	LR		
	comp=Z,2μm,29.3s							
KMI	Kunming	55.97	41	P		P	07 42 43.1	+3.9
KMI				sP		sP	07 42 49.4	+1.8
KMI				S		S	07 50 25.8	-1.0
KMI				SS		SS	07 54 12.6	-0.7
KMI				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KMI					LR	LR		
	comp=Z,610nm,21.2s							
KMI					LR	LR		
	comp=Z,1μm,23.8s							
KMI					LR	LR		
	comp=Z,2μm,27.3s							
CASY	Casey	56.49	160		PFAKE		07 42 50.0	+7.9
CASY					LR	LR		
	comp=Z,1μm,19.0s							
FITZ	Fitzroy Crossi	56.83	100	P		P	07 42 43.2	-2.1
FITZ	Fitzroy Crossi	56.83	100	P		P	07 42 43.2	-2.1
	comp=Z,6.5nm,0.8s,baz=277,slow=8.1,SNR=4.4							
FITZ					LR	LR	08 04 25.0	
	comp=Z,3μm,19.2s,baz=268,slow=33							
QIZ	Qiongzhong	56.85	52	P		P	07 42 45.8	+0.5
QIZ				S		S	07 50 41.4	+3.2
QIZ				pmax		pmax		
	comp=Z,23nm,1.6s							
QIZ					LR	LR		
	comp=Z,2μm,13.7s							
QIZ					LR	LR		
	comp=Z,710nm,16.2s							
QIZ					LR	LR		
	comp=Z,1μm,18.8s							
QIZ	Qiongzhong	56.85	52		PFAKE		07 43 00.0	+15
QIZ					LR	LR		
	comp=Z,1μm,20.0s							
FORT	Forrest	57.66	115	*e*P		P	07 42 49.4	-1.6
	comp=Z,35nm,1.3s							
KSH	Kashi	57.92	9	P		P	07 42 49.6	-3.0
KSH				pP		pP	07 42 57.1	-1.6
KSH				sP		sP	07 43 00.3	-0.7
KSH				PP		PP	07 45 03.1	+1.8
KSH				S		S	07 50 43.5	-8.3
KSH				sS		sS	07 51 02.1	+0.3
KSH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KSH				pmax		pmax		
	comp=Z,86nm,3.2s							
KSH					LR	LR		
	comp=Z,2μm,15.2s							
KSH					LR	LR		
	comp=Z,1μm,10.5s							
KSH					LR	LR		
	comp=Z,3μm,20.7s							
GYA	Guiyang	59.42	43	*e*P		P	07 43 06.0	+2.6
GYA				PP		PP	07 45 20.3	+5.4
GYA				ScP		ScP	07 47 51.5	+0.4
GYA				S		S	07 51 16.8	+5.0
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.0s							
GYA					LR	LR		
	comp=Z,460nm,18.4s							
GYA					LR	LR		
	comp=Z,380nm,19.0s							
GYA					LR	LR		
	comp=Z,470nm,18.8s							
EKS2	Erkin-Say	60.71	7	P		P	07 43 09.2	-2.7
EKS2				pmax		pmax		
	comp=Z,8.0nm,0.9s							
EKS2					MLR	MLR		
	comp=Z,1μm,22.0s							
EKS2	Erkin-Say	60.71	7	P		P	07 43 09.2	-2.7
	comp=Z,7.8nm,0.9s							
EKS2					LR	LR		
	comp=Z,1μm,22.0s							
AAK	Ala-Archa	60.77	7	⇓*e*P		P	07 43 11.6	-0.8
AAK				pmax		pmax		
	comp=Z,20nm,1.5s							
AAK	Ala-Archa	60.77	7	*e*P		P	07 43 11.7	-0.6
	comp=Z,7.3nm,1.0s							
AAK	Ala-Archa	60.77	7	LR		LR	08 08 14.7	
	comp=Z,1μm,18.1s,baz=186,slow=35							
CD2	Chengdu	60.80	37	*e*P		P	07 43 14.3	+1.6
CD2				pP		pP	07 43 19.3	+0.5
CD2				sP		sP	07 43 21.9	+0.8
CD2				PP		PP	07 45 31.8	+4.9
CD2				S		S	07 51 33.0	+3.7
CD2				sS		sS	07 51 40.3	+1.0
CD2				pmax		pmax		
	comp=Z,30nm,1.2s							
CD2				pmax		pmax		
	comp=Z,100nm,7.1s							
CD2					LR	LR		
	comp=Z,900nm,21.4s							
CD2					LR	LR		
	comp=Z,950nm,20.2s							
CSS	Prodhromos	60.87	330		PFAKE		07 43 20.0	+7.0
CSS					LR	LR		
	comp=Z,314nm,20.0s							
GNI	Garni	60.94	342	P		P	07 43 13.3	-0.2
	comp=Z,32nm,1.1s							
GNI					LR	LR		
	comp=Z,686nm,20.0s							
FRU	Bishkek	60.98	8	*e*P		P	07 43 22.0	+8.4
TKM2	Tokmak 2	61.20	8	*e*P		P	07 43 15.3	0.0
TKM2				pmax		pmax		
	comp=Z,9.0nm,0.9s							
TKM2				MLR		MLR		
	comp=Z,2μm,20.0s							
TKM2	Tokmak 2	61.20	8	*e*P		P	07 43 15.3	0.0
	comp=Z,9.2nm,0.9s							
TKM2					LR	LR		
	comp=Z,2μm,20.0s							
MAK	Makhachkala	62.81	345	*e*P		P	07 43 22.7	-3.1
MAK				*e*			07 44 01.8	
MAK				*e*			07 45 43.0	
MAK				*e*PPP		PPP	07 47 10.0	
MAK				*e*S		S	07 51 53.2	-0.8
MAK				*e*			07 53 10.1	
MAK				*e*SS		SS	07 55 54.0	-5.7
MAK				pmax		pmax		
	comp=Z,195nm,2.1s							
ASAR	Alice Springs	63.56	108	P		P	07 43 27.7	-3.8
ASAR	Alice Springs	63.56	108	P		P	07 43 27.7	-3.8
	comp=Z,3.0nm,0.9s,baz=272,slow=5.8,SNR=6.1							
ASAR					LR	LR	08 07 10.9	
	comp=Z,6μm,20.3s,baz=271,slow=32							
AS31	Alice Springs	63.56	108	*e*P		P	07 43 28.2	-3.3
DAV	Davao City (W)	64.14	73		PFAKE		07 43 50.0	+15
DAV					LR	LR		
	comp=Z,1μm,20.0s							
WRA	Warramunga Arr	64.60	104	P		P	07 43 34.9	-3.4
WRA	Warramunga Arr	64.60	104	P		P	07 43 34.9	-3.4
	comp=Z,6.7nm,1.1s,baz=267,slow=5.6,SNR=30							
WRA					LR	LR	08 11 08.6	
	comp=Z,2μm,18.0s,baz=275,slow=36							
WRAB	Tennant Creek	64.61	104	⇑*e*P		P	07 43 34.7	-3.7
WRAB				pmax		pmax		
	comp=Z,74nm,1.4s							
WRAB	Tennant Creek	64.61	104	*e*P		P	07 43 35.3	-3.0
	comp=Z,75nm,1.8s							
WRAB					LR	LR		
	comp=Z,2μm,19.0s

comp=Z,723nm,20.2s,baz=326,slow=35
KIV Kislovodsk 65.03 342 *e*P **P 07 43 41.6 +1.0**
KIV *i* S **S 07 52 25.8 +3.9**
KIV pmax pmax
comp=Z,13nm,1.8s
KIV Kislovodsk 65.03 342 PFAKE 07 43 50.0 +9.4
KIV LR LR
comp=Z,729nm,21.0s
ANTO Ankara 65.12 333 PFAKE 07 43 50.0 +8.8
ANTO LR LR
comp=Z,1μm,21.0s
GTA Gaotai 65.34 29 *e*P **P 07 43 40.3 -2.4**
GTA S **S 07 52 21.1 -4.8**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,200nm,6.7s
GTA LR LR
comp=Z,850nm,19.5s
GTA LR LR
comp=Z,780nm,25.6s
GTA LR LR
comp=Z,1μm,24.7s
IDI Anoyia 65.51 324 LR LR 08 12 04.7
comp=Z,532nm,21.8s,baz=84,slow=36
SOC Sochi 65.63 340 *e*P P 07 43 41.0 -3.4
SOC *e*PPP PPP 07 47 41.1
SOC *e*S **S 07 52 27.4 -1.7**
SOC *e* 07 53 35.5
SOC *e*SS **SS 07 56 39.0 -4.8**
SOC *e*SSS SSS 07 59 36.8
SOC MLR MLR
comp=Z,201nm,13.0s
SANT Santorini 65.99 325 PFAKE 07 44 00.0 +13
SANT LR LR
comp=Z,915nm,22.0s
XAN Xi'an 66.07 39 P **P 07 43 45.6 -1.9**
XAN pmax pmax
comp=Z,2.0nm,0.9s
XAN pmax pmax
comp=Z,16nm,4.7s
XAN LR LR
comp=Z,820nm,16.0s
XAN LR LR
comp=Z,220nm,14.9s
XAN LR LR
comp=Z,250nm,15.7s
MK31 Makanchi Array 66.11 12 *e*P **P 07 43 45.4 -2.0**
MK31 Makanchi Array 66.11 12 *e*P **P 07 43 45.4 -2.0**
MKAR Makanchi Array 66.11 12 P **P 07 43 45.2 -2.2**
MKAR Makanchi Array 66.11 12 P **P 07 43 45.2 -2.2**
MKAR Makanchi Array 66.11 12 P **P 07 43 45.2 -2.2**
comp=Z,2.2nm,0.8s,baz=211,slow=6.8,SNR=12
MKAR LR LR 08 10 45.9
comp=Z,736nm,20.6s,baz=194,slow=34
SNAA Sanae 66.41 199 P **P 07 43 51.1 +1.9**
SNAA Sanae 66.41 199 P **P 07 43 51.1 +1.9**
comp=Z,1.3nm,0.8s,baz=98,slow=5.4,SNR=13
ANN Anapa 67.48 339 *e*P P 07 43 52.1 -4.0
ANN *e**PP pP 07 43 55.8 -6.5
ANN *e*S **S 07 52 49.2 -2.2**
ANN pmax pmax
comp=Z,59nm,1.0s
DRV Dumont d'Urvil 67.53 155 S **S 07 52 51.0 -0.5**
DRV L L 08 00 00.0
DRV R 08 04 00.0
SHEL Horse Pasture 67.93 260 PFAKE 07 44 10.0 +10
SHEL LR LR
comp=Z,2μm,19.0s
SIM Simferopol' 68.81 337 *e*P P 07 44 18.0 +13
SIM *e*S **S 07 53 07.0 -0.3**
SIM MLR MLR
comp=Z,500nm,18.0s
YHNB Yeheng 68.83 54 PFAKE 07 44 20.0 +15
YHNB LR LR
comp=Z,2μm,20.0s
STKA Stephens Creek 69.08 118 P **P 07 44 06.6 -0.1**
STKA Stephens Creek 69.08 118 P **P 07 44 06.6 -0.1**
comp=Z,2.6nm,0.9s,baz=271,slow=23,SNR=3.4
STKA LR LR 08 10 47.3
comp=Z,1μm,19.3s,baz=255,slow=33
TATO Taipei 69.08 54 PFAKE 07 44 20.0 +13
TATO LR LR
comp=Z,1μm,19.0s
KURK Kurchatov 69.25 9 PFAKE 07 44 20.0 +13
KURK LR LR
comp=Z,754nm,19.0s
TORD Torodi Ar. Bea 70.22 292 P **P 07 44 13.4 -0.5**
TORD Torodi Ar. Bea 70.22 292 P **P 07 44 13.4 -0.5**
comp=Z,1.4nm,0.9s,baz=116,slow=4.7,SNR=6.9
TORD LR LR 08 13 53.1
comp=Z,993nm,18.8s,baz=115,slow=35
BVAR Borovoye Array 70.74 3 P P 07 44 11.3 -4.9
BVAR Borovoye Array 70.74 3 P P 07 44 11.3 -4.9
BVAR Borovoye Array 70.74 3 P P 07 44 11.3 -4.9
comp=Z,0.6nm,0.7s,baz=163,slow=5.6,SNR=3.2
BRVK Borovoye 70.76 3 PFAKE 07 44 30.0 +14
BRVK LR LR
comp=Z,1μm,22.0s
NJ2 Nanjing 71.15 46 *e*P **P 07 44 20.0 +0.8**
NJ2 S **S 07 53 40.0 +4.7**
NJ2 sS **sS 07 53 47.0 +1.5**
NJ2 SS **SS 07 58 15.5 +5.9**
NJ2 pmax pmax
comp=Z,20nm,1.1s
NJ2 pmax pmax
comp=Z,270nm,4.0s
NJ2 LR LR
comp=Z,860nm,28.5s
NJ2 LR LR
comp=Z,1μm,23.6s
NJ2 LR LR
comp=Z,950nm,25.6s
TAM Tamanrasset 71.33 302 PFAKE 07 44 30.0 +9.3
TAM LR LR
comp=Z,1μm,19.0s
VRHR Novokhopersk 71.85 344 *e*P **P 07 44 25.0 +2.1**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,9.0nm,0.9s
WDD Wield Dalam 72.10 318 PFAKE 07 44 40.0 +15
WDD LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 72.21 180 P **P 07 44 25.3 0.0**
QSPA LR LR
comp=Z,1μm,21.0s
QSPA South Pole Qui 72.21 180 P **P 07 44 25.3 0.0**
comp=Z,3.2nm,0.5s,baz=280,slow=8.1,SNR=8.0
SSE Sheshan 72.23 48 *e*P **P 07 44 27.0 +1.3**
SSE S **S 07 53 50.8 +3.1**
SSE pmax pmax
comp=Z,27nm,0.7s
SSE pmax pmax
comp=Z,120nm,5.5s
SSE LR LR
comp=Z,590nm,22.9s
SSE LR LR
comp=Z,680nm,22.9s
SSE LR LR
comp=Z,670nm,23.3s
HHC Hu-ho-hao-te 72.33 35 *e*P **P 07 44 27.6 +1.4**
HHC PP PP 07 47 12.8 +5.4
HHC S **S 07 53 52.4 +3.7**
HHC SKS **SKSac 07 54 29.1 -0.9**
HHC SS **SS 07 58 32.1 +4.6**
HHC pmax pmax
comp=Z,35nm,1.3s
HHC pmax pmax
comp=Z,250nm,8.0s
HHC LR LR
comp=Z,750nm,17.7s
HHC LR LR
comp=Z,1μm,17.3s
HHC LR LR
comp=Z,910nm,17.5s
VORD Divnogorie 72.36 343 *e*P **P 07 44 29.0 +3.0**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,30nm,1.1s

VRI Vrincioaia 72.58 333 *i*P P 07 44 31.0 +3.5
VSR Storozhevoye 72.62 343 *e*P **P 07 44 30.1 +2.5**
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=E,5.0nm,1.0s
MLR Muntele Rosu 72.64 332 *i*P **P 07 44 30.0 +2.0**
CEL Celeste 72.78 321 PFAKE 07 44 40.0 +11
CEL LR LR
comp=Z,575nm,21.0s
TIP Timpagrande 72.87 322 PFAKE 07 44 40.0 +11
TIP LR LR
comp=Z,329nm,20.0s
HVS Khovu-Aksy 73.00 18⇑ *e*P **P 07 44 31.3 +1.3**
VOIR 73.00 331⇑ *i*P **P 07 44 29.4 -0.7**
ZAA0 Zalesovo Array 73.42 12 *e*P **P 07 44 29.3 -3.0**
ZALV Zalesovo Beam 73.42 12 P **P 07 44 29.6 -2.6**
ZALV Zalesovo Beam 73.42 12 P **P 07 44 29.6 -2.6**
ZALV Zalesovo Beam 73.42 12 P **P 07 44 29.6 -2.6**
comp=Z,2.1nm,0.6s,baz=200,slow=5.2,SNR=10.0
ZALV LR LR 08 14 26.7
comp=Z,1μm,21.4s,baz=66,slow=34
KIC Kosan Boka 73.49 282 *e*P **P 07 44 32.5 -1.1**
comp=Z,54nm,1.5s
DBIC Dimbokro 73.71 283 *e*P **P 07 44 34.4 -0.5**
comp=Z,12nm,1.1s
DBIC Dimbokro 73.71 283 P **P 07 44 34.9 0.0**
comp=Z,4.9nm,0.9s,baz=104,slow=6.5,SNR=2.7
DBIC LR LR 08 15 38.6
comp=Z,1μm,20.1s,baz=91,slow=35
LIC Lamto 73.71 282 *e*P **P 07 44 35.6 +0.7**
comp=Z,23nm,1.1s,baz=108
LIC Lamto 73.71 282 *e*P **P 07 44 35.9 +1.0**
comp=Z,28nm,1.1s
LIC Lamto 73.71 282 *e*P **P 07 44 35.6 +0.7**
comp=Z,23nm,1.1s
TIC Toumodi 73.85 283 *e*P **P 07 44 36.7 +1.0**
comp=Z,5.8nm,0.2s
CUC Castrocucco 73.95 322 PFAKE 07 44 50.0 +14
CUC LR LR
comp=Z,522nm,21.0s
NVS Novosibirsk 73.98 10 *e*P **P 07 44 35.4 -0.1**
NVS pmax pmax
comp=Z,45nm,2.3s
NVS pmax pmax
comp=N,9.0nm,1.2s
NVS pmax pmax
comp=E,2.0nm,0.6s
CLTB Caltabellotta 73.98 319 PFAKE 07 44 50.0 +14
CLTB LR LR
comp=Z,685nm,22.0s
VNDA Vanda 74.00 167 P **P 07 44 35.0 -0.5**
VNDA Vanda 74.00 167 P **P 07 44 35.0 -0.5**
comp=Z,2.2nm,1.0s,baz=278,slow=5.0,SNR=4.6
VNDA LR LR 08 14 11.4
comp=Z,690nm,18.4s,baz=262,slow=33
ARU Arti 74.27 356 *c i*P P 07 44 40.9 +3.7
ARU 07 47 28.6
ARU SS SS 07 59 01.0 +4.7
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 74.27 356 *e*P **P 07 44 37.5 +0.3**
comp=Z,15nm,1.2s
ARU LR LR
comp=Z,673nm,20.0s
BJT Baijiatuau 74.37 38 PFAKE 07 44 50.0 +12
BJT LR LR
comp=Z,643nm,19.0s
BJI Beijing 74.39 38 P **P 07 44 38.3 +0.1**
BJI PP **PP 07 47 26.8 +1.9**
BJI S **S 07 54 09.5 -2.4**
BJI pmax pmax
comp=Z,14nm,0.6s
BJI LR LR
comp=Z,760nm,25.4s
BJI LR LR
comp=Z,960nm,24.3s
BJI LR LR
comp=Z,530nm,23.1s
SONM Songino Array 74.91 27 P **P 07 44 38.9 -2.3**
SONM Songino Array 74.91 27 P **P 07 44 38.9 -2.3**
comp=Z,2.1nm,0.9s,baz=227,slow=6.1,SNR=11
SONM LR LR 08 16 06.1
comp=Z,2μm,20.6s,baz=18,slow=35
SBA Scott Base 74.96 168 PFAKE 07 44 50.0 +9.0
SBA LR LR
comp=Z,1μm,22.0s
ULN Ulaanbaatar 75.22 27 *e*P **P 07 44 42.2 -0.8**
comp=Z,19nm,1.6s
ULN LR LR
comp=Z,2μm,22.0s
KEST Kesra 75.38 316 LR LR 08 17 18.0
comp=Z,527nm,19.7s,baz=285,slow=35
AKASG Malin Array Be 75.42 337 P **P 07 44 41.7 -2.3**
AKASG Malin Array Be 75.42 337 P **P 07 44 41.7 -2.3**
AKASG Malin Array Be 75.42 337 P **P 07 44 41.7 -2.3**
comp=Z,1.2nm,0.7s,baz=141,slow=5.1,SNR=9.1
AKASG LR LR 08 15 59.7
comp=Z,190nm,21.4s,baz=110,slow=34
KIEV Kiev 75.42 337⇓ *e*P **P 07 44 41.8 -2.2**
KIEV Kiev 75.42 337 *e*P **P 07 44 42.0 -2.0**
comp=Z,35nm,1.8s
KIEV LR LR
comp=Z,714nm,22.0s
CTA Charters Tower 75.51 107 LR LR 08 15 27.1
comp=Z,2μm,19.5s,baz=222,slow=34
CTAO Charters Tower 75.51 107 PFAKE 07 45 00.0 +15
CTAO LR LR
comp=Z,3μm,19.0s
UZH Uzhgorod 76.65 332 *e*P **P 07 44 51.7 +0.7**
UZH *e* 07 44 52.9
UZH *e* 07 44 56.9
UZH *e* 07 45 02.9
UZH *e*S **S 07 54 38.1 +1.6**
OBN Obninsk 76.81 343 *ce*P **P 07 44 54.3 +2.6**
OBN *i* S **S 07 54 40.3 +2.4**
OBN *e*SS SS 07 59 43.1 +8.3
OBN pmax pmax
comp=Z,60nm,2.3s
OBN MLR MLR
comp=Z,600nm,21.0s
OBN Obninsk 76.81 343 PFAKE 07 45 00.0 +8.3
OBN LR LR
comp=Z,761nm,21.0s
TLY Talaya 76.81 23 PFAKE 07 45 00.0 +8.1
TLY LR LR
comp=Z,1μm,20.0s
MOS Moscow 77.08 344 *e*P P 07 45 04.2 +11
MOS pmax pmax
comp=Z,68nm,1.3s
KWP Kalwaria Pacla 77.21 333 PFAKE 07 45 10.0 +16
KWP LR LR
comp=Z,635nm,19.0s
PSZ Piszkesteto 77.23 330 PFAKE 07 45 10.0 +16
PSZ LR LR
comp=Z,432nm,20.0s
VSL Villasalto 77.54 319 PFAKE 07 45 10.0 +14
VSL LR LR
comp=Z,604nm,21.0s
ASCN Ascension 78.14 265 PFAKE 07 45 10.0 +10
ASCN LR LR
comp=Z,974nm,21.0s
PMG Port Moresby 79.15 96 LR LR 08 19 53.2
comp=Z,996nm,18.5s,baz=82,slow=36
CSNA Conrad Observa 79.19 328⇑ *ip*P **P 07 45 07.8 +2.5**
comp=Z,6.3nm,1.0s
OKC Ostrava-Krasne 79.40 331 *e*S **S 07 55 07.6 +1.4**
INCN Inchon 79.49 45 PFAKE 07 45 20.0 +13
INCN LR LR
comp=Z,1μm,21.0s
VLC Villacollemand 79.71 323 PFAKE 07 45 20.0 +12
VLC LR LR
comp=Z,455nm,22.0s
MOA Molln 79.94 328⇑ *ip*P **P 07 45 12.0 +2.7**
comp=Z,12nm,1.2s
ABTA Abfaltersbach 80.14 326⇑ *ip*P **P 07 45 13.3 +2.8**
comp=Z,10nm,1.0s
TREC Trest 80.29 329 AMS AMS 08 20 30.0
comp=Z,300nm,22.5s
KSAR Wonju Array Be 80.32 46 P **P 07 45 11.1 -0.5**
KSRS Korea Array 80.35 46 P **P 07 45 11.1 -0.6**
comp=Z,1.5nm,0.8s,baz=249,slow=6.2,SNR=2.9
KSRS LR LR 08 18 24.1
comp=Z,798nm,19.5s,baz=237,slow=34

DPC Dobruska-Polom 80.61 330 *e*P P 07 45 18.3 +5.4
DPC *e* 07 55 16.6
DPC Dobruska-Polom 80.61 330 *e*P P 07 45 18.3 +5.4
DPC *e*S **S 07 55 16.6 -2.4**
GERES GERESS Array B 80.88 328 LR LR 08 23 35.9
comp=Z,190nm,18.4s,baz=299,slow=38
WTTA Wattenberg 80.93 326⇑ *ip*P **P 07 45 17.1 +2.2**
comp=Z,14nm,1.1s
KHC Kasperske Hory 81.12 328 *e*P P 07 45 21.6 +5.9
KHC Kasperske Hory 81.12 328 *e*P P 07 45 21.6 +5.9
PRU Pruhonice 81.21 329 *e*S S 07 55 16.5 -8.7
PRU AMS AMS 08 22 30.0
comp=Z,300nm,19.0s
FETA Feichten 81.27 325⇑ *ip*P **P 07 45 18.9 +2.2**
comp=Z,4.5nm,0.9s
PVCC Panska Ves 81.56 330 *e*P **P 07 45 21.0 +3.1**
PVCC Panska Ves 81.56 330 *e*P **P 07 45 21.0 +3.1**
TUE Stuetta 81.69 324 PFAKE 07 45 30.0 +11
TUE LR LR
comp=Z,366nm,21.0s
BRG Berggiesshubel 82.08 330 *e*(S) **S 07 55 34.0 -0.2**
BRG *e* 08 00 55.0
BRG
comp=N,485nm,23.9s
BRG
comp=E,295nm,18.5s
BRG
comp=Z,415nm,15.3s
MBDF Montbardon 82.14 322 *e*P **P 07 45 21.3 0.0**
comp=Z,25nm,1.1s
MBDF Montbardon 82.14 322 *e*P **P 07 45 21.3 0.0**
MBDF pmax pmax
comp=Z,25nm,1.1s
MBDF Montbardon 82.14 322 *e*P **P 07 45 21.3 0.0**
comp=Z,25nm,1.1s
HIA Hailar 82.24 32 PFAKE 07 45 30.0 +8.5
HIA LR LR
comp=Z,754nm,19.0s
BNI Bardonecchia 82.38 322 PFAKE 07 45 30.0 +7.5
BNI LR LR
comp=Z,566nm,20.0s
LPG La Plagne 82.59 323 *e*P **P 07 45 23.9 +0.1**
LPG La Plagne 82.59 323 *e*P **P 07 45 23.9 +0.1**
LPG La Plagne 82.59 323 *e*P **P 07 45 23.9 +0.1**
LPL La Plagne 82.61 323 *e*P **P 07 45 23.9 +0.1**
LPL La Plagne 82.61 323 *e*P **P 07 45 23.9 +0.1**
LPL La Plagne 82.61 323 *e*P **P 07 45 23.9 +0.1**
ORIF Oris-en-Rattie 82.77 322 *e*P **P 07 45 24.7 +0.2**
ORIF Oris-en-Rattie 82.77 322 *e*P **P 07 45 24.7 +0.2**
ORIF Oris-en-Rattie 82.77 322 *e*P **P 07 45 24.7 +0.2**
CLL Collm 82.82 330 *e*P P 07 45 28.0 +3.6
CLL *e* 07 45 36.0
CLL *e*S **S 07 55 45.0 +3.3**
CLL MLR MLR
comp=Z,200nm,20.1s
CLL Collm 82.82 330 *e*(P) P 07 45 28.0 +3.6
CLL *e* 07 45 36.0
CLL *e*S **S 07 55 45.0 +3.3**
CLL *e*SS **SS 08 01 10.0 +4.9**
CLL *e*SSS SSS 08 04 36.0
CLL LmV 08 27 00.0
comp=Z,200nm,20.1s
BFO Black Forest 83.35 326 PFAKE 07 45 40.0 +13
BFO LR LR
comp=Z,394nm,21.0s
CABF La Chapelle 83.60 323 *e*P **P 07 45 27.8 -0.9**
comp=Z,51nm,1.3s
CABF La Chapelle 83.60 323 *e*P **P 07 45 27.8 -0.9**
CABF pmax pmax
comp=Z,51nm,1.3s
CABF La Chapelle 83.60 323 *e*P **P 07 45 27.8 -0.9**
comp=Z,51nm,1.3s
SSB Saint Sauveur 83.76 322 PFAKE 07 45 40.0 +10
SSB LR LR
comp=Z,476nm,20.0s
HINF Hinteralfeld 83.86 325 *e*P **P 07 45 32.2 +2.2**
HINF Hinteralfeld 83.86 325 *e*P **P 07 45 32.2 +2.2**
HINF Hinteralfeld 83.86 325 *e*P **P 07 45 32.2 +2.2**
ECH Echery 83.92 325 PFAKE 07 45 40.0 +10
ECH LR LR
comp=Z,305nm,19.0s
FINES FINESS Array B 85.13 342 LR LR 08 24 49.3
comp=Z,300nm,20.8s,baz=340,slow=37
MDJ Mudanjiang 85.13 40 P **P 07 45 37.1 +0.7**
MDJ PP **PP 07 48 54.5 +0.4**
MDJ S **S 07 56 05.4 +0.2**
MDJ pmax pmax
comp=Z,6.0nm,0.5s
MDJ pmax pmax
comp=Z,60nm,2.9s
MDJ LR LR
comp=Z,1μm,35.9s
MDJ LR LR
comp=Z,710nm,33.1s
MDJ LR LR
comp=Z,830nm,26.2s
MDJ Mudanjiang 85.13 40 PFAKE 07 45 50.0 +14
MDJ LR LR
comp=Z,626nm,22.0s
LOR Lormes 85.24 323 *e*P **P 07 45 36.4 -0.5**
comp=Z,52nm,1.4s
LOR Lormes 85.24 323 *e*P **P 07 45 36.4 -0.5**
comp=Z,52nm,1.4s
WLF Walferdange 85.29 326 PFAKE 07 45 50.0 +13
WLF LR LR
comp=Z,328nm,20.0s
SSF Saint Saulge 85.33 323 *e*P **P 07 45 37.1 -0.3**
comp=Z,19nm,1.1s
SSF Saint Saulge 85.33 323 *e*P **P 07 45 37.1 -0.3**
SSF pmax pmax
comp=Z,19nm,1.1s
SSF Saint Saulge 85.33 323 *e*P **P 07 45 37.1 -0.3**
comp=Z,19nm,1.1s
RTC Rabat Centre 86.10 307 PFAKE 07 45 50.0 +8.5
RTC LR LR
comp=Z,2μm,20.0s
USRK Ussuriysk Arra 86.41 41 LR LR 08 25 00.4
comp=Z,510nm,19.1s,baz=229,slow=36
ESDC Sonseca Array 86.45 314 P **P 07 45 43.5 +0.4**
ESDC Sonseca Array 86.45 314 P **P 07 45 43.5 +0.4**
comp=Z,0.2nm,0.3s,baz=108,slow=3.9,SNR=5.4
ESDC LR LR 08 20 38.8
comp=Z,675nm,21.9s,baz=140,slow=33
JCJ Chichijima 86.60 60 LR LR 08 19 37.3
comp=Z,433nm,21.9s,baz=210,slow=32
PAB San Pablo 86.66 313 PFAKE 07 46 00.0 +16
PAB LR LR
comp=Z,953nm,19.0s
MAJO Matsushiro 87.20 50⇑ *e*P **P 07 45 45.4 -1.5**
MAJO Matsushiro 87.20 50 PFAKE 07 46 00.0 +13
MAJO LR LR
comp=Z,461nm,20.0s
MJAR Matsushiro Arr 87.20 50 P **P 07 45 45.1 -1.7**
MJAR Matsushiro Arr 87.20 50 P **P 07 45 45.1 -1.7**
comp=Z,2.3nm,0.9s,baz=233,slow=5.6,SNR=2.7
MJAR LR LR 08 24 28.1
comp=Z,623nm,18.9s,baz=220,slow=36
KLR Kul'dur 88.72 37 *e*P P 07 46 02.2 +8.4
KLR MLR MLR
comp=Z,1μm,11.5s
MTE Manteigas 89.24 313 PFAKE 07 46 10.0 +13
MTE LR LR
comp=Z,897nm,19.0s
KONO Kongsberg 89.59 335 PFAKE 07 46 10.0 +12
KONO LR LR
comp=Z,508nm,19.0s
KEV Kevo 91.56 347 PFAKE 07 46 20.0 +13
KEV LR LR
comp=Z,977nm,19.0s
SNZO South Karori 91.92 135 PFAKE 07 46 20.0 +11
SNZO LR LR
comp=Z,584nm,20.0s
ERM Erimo 92.88 47 PFAKE 07 46 20.0 +6.7
ERM LR LR
comp=Z,642nm,20.0s
DZM Mont Dzumac 92.95 114 *e*PP PP 07 49 49.4 -7.5
comp=Z,80nm,25.1s
DZM Mont Dzumac 92.95 114 *e*SS SS 08 03 33.2 -0.6
comp=Z,1μm,28.1s
DZM Mont Dzumac 92.95 114 *e*LR LR 08 15 59.7
comp=Z,3μm,21.4s
DZM Mont Dzumac 92.95 114 LR LR 08 25 07.5
comp=Z,2μm,20.8s,baz=209,slow=34
ASAJ Asahikawa 93.27 45 LR LR 08 28 01.1
comp=Z,516nm,19.1s,baz=348,slow=36

SACV Santiago Islan 93.81 284 PFAKE 07 46 30.0 +12
SACV LR LR
comp=Z,1µm,20.0s
YAK Yakutsk 94.17 25 PFAKE 07 46 30.0 +11
YAK LR LR
comp=Z,1µm,21.0s
URZ Urewera 94.94 133 LR LR 08 21 11.4
comp=Z,586nm,20.6s,baz=246,slow=30
EFI East Falkland 95.17 211 PFAKE 07 46 40.0 +16
EFI LR LR
comp=Z,755nm,20.0s
TIXI Tiksi 98.84 17 PFAKE 07 46 50.0 +10
TIXI LR LR
comp=Z,880nm,22.0s
RCBR Riachuelo 99.14 261 PFAKE 07 46 50.0 +7.5
RCBR LR LR
comp=Z,1µm,22.0s
SPB Sao Paulo 102.76 240 PFAKE 07 47 10.0 +12
SPB LR LR
comp=Z,414nm,20.0s
TRQA Tornquist 105.75 221 PFAKE 07 51 40.0
TRQA LR LR
comp=Z,727nm,19.0s
SFJD Kangerlussuaq 116.51 337 PFAKE 07 51 50.0 +6.4
SFJD LR LR
comp=Z,575nm,22.0s
LCO Las Campanas 117.14 223 PFAKE 07 52 00.0 +14
LCO LR LR
comp=Z,449nm,19.0s
LVC Limon Verde 120.04 230 PFAKE 07 52 00.0 +7.8
LVC LR LR
comp=Z,455nm,22.0s
SAML Samuel 122.87 246 PFAKE 07 52 10.0 +13
SAML LR LR
comp=Z,623nm,19.0s
PTGA Pitinga 123.41 257 PFAKE 07 52 10.0 +11
PTGA LR LR
comp=Z,682nm,19.0s
TBI Tubuai 126.56 139 *e*SS SS 08 11 01.4 -2.0
comp=Z,836nm,43.0s
TBI Tubuai 126.56 139 *e*LQ LQ 08 26 10.2
comp=Z,981nm,36.8s
TBI *e*LR LR 08 31 26.8
comp=Z,772nm,33.0s
BBGH Gun Hill 127.14 273 PFAKE 07 52 20.0 +14
BBGH LR LR
comp=Z,708nm,20.0s
COLA College 127.96 17 PFAKE 07 52 20.0 +14
COLA LR LR
comp=Z,718nm,21.0s
ILAR Eielson Array 128.31 17 PKP **PKPdf 07 52 07.2 +0.8**
ILAR Eielson Array 128.31 17 PKP **PKPdf 07 52 07.2 +0.8**
comp=Z,0.8nm,1.0s,baz=289,slow=2.7,SNR=6.3
GRGR Grenville 128.91 271 PFAKE 07 52 20.0 +11
GRGR LR LR
comp=Z,458nm,19.0s
ANWB Willy Bob 130.08 278 PFAKE 07 52 20.0 +8.9
ANWB LR LR
comp=Z,458nm,19.0s
PPT2 Papeete2 130.57 134 *e*SS SS 08 11 54.9 +1.3
comp=Z,450nm,25.8s
PPT2 Papeete2 130.57 134 *e*LR LR 08 33 19.2
comp=Z,2µm,30.0s
NNA Nana 132.54 234 PFAKE 07 52 30.0 +14
NNA LR LR
comp=Z,450nm,19.0s
BBSR BB Station 133.18 298 PFAKE 07 52 30.0 +13
BBSR LR LR
comp=Z,952nm,22.0s
PKME Peaks-Kenny Pk 133.72 316 PFAKE 07 52 30.0 +13
PKME LR LR
comp=Z,597nm,20.0s
SJG San Juan 134.26 278 PFAKE 07 52 30.0 +11
SJG LR LR
comp=Z,452nm,22.0s
RKT Rikitea 134.53 153 *e*LQ LQ 08 29 42.8
comp=Z,1µm,37.5s
RKT *e*LR LR 08 35 10.7
comp=Z,661nm,28.2s
YKA Yellowknife Ar 135.44 0 PKP **PKPdf 07 52 19.9 0.0**
YKA Yellowknife Ar 135.44 0 PKP **PKPdf 07 52 19.9 0.0**
comp=Z,0.7nm,1.0s,baz=348,slow=2.2,SNR=4.5
LBNH Lisbon 135.84 316 PFAKE 07 52 30.0 +8.8
LBNH LR LR
comp=Z,1µm,20.0s
LONY Lake Ozonia 137.42 318 PFAKE 07 52 40.0 +16
LONY LR LR
comp=Z,894nm,19.0s
SDDR Presa de Saban 139.20 279 PFAKE 07 52 40.0 +12
SDDR LR LR
comp=Z,489nm,20.0s
GRTK Grand Turk 139.24 282 PFAKE 07 52 40.0 +12
GRTK LR LR
comp=Z,840nm,20.0s
BINY Binghamton 139.38 315 PFAKE 07 52 40.0 +12
BINY LR LR
comp=Z,871nm,19.0s
OTAV Otavalo 140.58 247 PFAKE 07 52 40.0 +8.6
OTAV LR LR
comp=Z,586nm,22.0s
CBN Corbin 141.94 310 PFAKE 07 52 40.0 +7.5
CBN LR LR
comp=Z,965nm,22.0s
FFC Flin Flon 142.02 348 PFAKE 07 52 40.0 +7.8
FFC LR LR
comp=Z,440nm,22.0s
ERPA Erie 142.07 317 PFAKE 07 52 40.0 +7.3
ERPA LR LR
comp=Z,773nm,19.0s
GTBY Guantanamo Bay 142.87 280 PFAKE 07 52 50.0 +15
GTBY LR LR
comp=Z,601nm,22.0s
MCWV Mont Chateau 143.11 313 PFAKE 07 52 50.0 +15
MCWV LR LR
comp=Z,2µm,19.0s
CNNC Cliffs of the 143.34 305 PFAKE 07 52 50.0 +15
CNNC LR LR
comp=Z,574nm,21.0s
AAM Ann Arbor 144.31 320 PFAKE 07 52 50.0 +13
AAM LR LR
comp=Z,1µm,21.0s
ULM Lac du Bonnet 144.48 339 PKP **PKPdf 07 52 36.8 +0.1**
ULM Lac du Bonnet 144.48 339 PKP **PKPdf 07 52 36.8 +0.1**
comp=Z,2.2nm,0.8s,baz=29,slow=3.1,SNR=3.5
BLA Blacksburg 144.55 310 PFAKE 07 52 50.0 +13
BLA LR LR
comp=Z,868nm,22.0s
EYMN Ely 144.68 333 PFAKE 07 52 50.0 +13
EYMN LR LR
comp=Z,813nm,21.0s
ACSO Alum Creek Sta 144.97 316 *e*PKPdf **PKPdf 07 52 38.6 +0.8**
ACSO LR LR
comp=Z,1µm,20.0s
MTDJ Mount Denham 145.03 276 PFAKE 07 52 50.0 +11
MTDJ LR LR
comp=Z,478nm,21.0s
BCIP Isla Barro Col 145.39 260 PFAKE 07 52 50.0 +11
BCIP LR LR
comp=Z,773nm,21.0s
KMSC Kings Mountain 146.03 307 P **PKPbc 07 52 40.4 -0.2**
baz=146
AGMN Agassiz Nation 146.13 338 PFAKE 07 52 50.0 +8.9
AGMN LR LR
comp=Z,587nm,20.0s
A30A Hoffart Farm, 146.40 341 P **PKPab 07 52 41.8 -0.4**
baz=146
A29A Manning Farm, 146.70 342 P **PKPbc 07 52 42.2 +0.1**
baz=147
B30A Myrvik Farm, E 146.84 340 P **PKPbc 07 52 42.5 -0.1**
baz=147
A26A Wade Farm, Ken 147.49 345 P **PKPbc 07 52 43.8 -0.7**
baz=147
C30A Mose, Pekin 147.54 340 P **PKPbc 07 52 43.9 -0.7**
baz=147
JFWS Jewell Farm 147.75 326 PFAKE 07 52 50.0 +2.4
JFWS LR LR
comp=Z,997nm,20.0s
D30A Buchanan 148.16 340 P **PKPbc 07 52 46.0 -0.2**
baz=148
A22A Carney Farms, 148.23 349 P **PKPbc 07 52 46.3 -0.2**
baz=148
GOGA Godfrey 148.30 305 PFAKE 07 52 50.0 -0.2
GOGA LR LR
comp=Z,685nm,20.0s
DGMT Dagmar 148.39 347 *e*PKPbc **PKPbc 07 52 47.7 +0.9**
DGMT LR LR
comp=Z,360nm,19.0s
A21A Bergtoll Ranch 148.40 351 P **PKPbc 07 52 47.7 +0.8**
baz=148
D29A Pettibone, Tap 148.47 341 P **PKPbc 07 52 46.4 -0.7**
baz=148
A20A Cobblestone Ra 148.65 352 P **PKPbc 07 52 47.3 -0.2**
baz=148
A19A Klindworth Far 148.71 353 P **PKPbc 07 52 47.5 -0.2**
baz=148
E30A Jud 148.74 339 P **PKPbc 07 52 48.6 +0.8**
baz=149
C25A Freed Ranch, W 148.90 345 P **PKPbc 07 52 48.7 +0.5**
baz=149
B20A Solberg Farm, 149.09 352 P **PKPbc 07 52 49.4 +0.8**
baz=149
B19A Brinkman Farms 149.19 353 P **PKPbc 07 52 49.8 +0.9**
baz=149
C24A Savage 149.33 347 P **PKPbc 07 52 50.2 +0.9**
baz=149
NEW Newport 149.62 4 *e*PKPbc **PKPbc 07 52 49.3 -0.7**
NEW LR LR
comp=Z,831nm,19.0s
NEW Newport 149.62 4 P **PKPbc 07 52 50.1 +0.1**
baz=149
EGMT Eagleton 149.71 354 *e*PKPbc **PKPbc 07 52 48.3 -2.0**
EGMT LR LR
comp=Z,991nm,22.0s
EGMT Eagleton 149.71 354 P **PKPbc 07 52 49.0 -1.3**
baz=150
C20A Veseth Ranch, 149.80 351 P **PKPbc 07 52 49.6 -0.8**
baz=150
C19A Slack Wire Ran 149.92 353 P **PKPbc 07 52 50.3 -0.5**
baz=150
PAYG Puerto Ayora 149.98 235 PFAKE 07 53 00.0 +2.5
PAYG LR LR
comp=Z,525nm,22.0s
SCIA State Center 150.01 327 PFAKE 07 53 00.0 +3.2
SCIA LR LR
comp=Z,982nm,20.0s
D22A Cohagen 150.05 349 P **PKPbc 07 52 50.8 -0.3**
baz=150
YBMT Yellow Bay 150.10 360 *e*PKPbc **PKPbc 07 52 48.9 -2.4**
BSMT Bassoo Peak 150.12 1 *e*PKPbc **PKPbc 07 52 53.3 +1.9**
ECSD EROS Data Cent 150.20 334 *e*PKPbc **PKPbc 07 52 50.9 -0.6**
ECSD LR LR
comp=Z,882nm,22.0s
JTMT Jette 150.22 360 *e*PKPbc **PKPbc 07 52 53.0 +1.4**
F27A Lemmon 150.27 342 P **PKPbc 07 52 51.1 -0.6**
baz=150
D20A Manuel Ranch, 150.43 351 P **PKPbc 07 52 51.7 -0.4**
baz=150
D19A Cripps Ranch, 150.46 352 P **PKPbc 07 52 50.8 -1.3**
baz=150
SWMT Swartz Lake 150.46 360 *e*PKPbc **PKPbc 07 52 51.2 -0.9**
F26A Lodgepole 150.47 343 P **PKPbc 07 52 52.2 0.0**
baz=150
LAO LASA Array 150.50 349 *e*PKPbc **PKPbc 07 52 55.4 +3.2**
LAO LR LR
comp=Z,750nm,22.0s
JTS JuntasAbangare 150.53 259 PFAKE 07 53 00.0 +0.2
JTS LR LR
comp=Z,475nm,21.0s
BRSD Miller 150.53 337 *e*PKPbc **PKPbc 07 52 52.8 +0.5**
LON Longmire 150.57 10 *e*PKIKP **PKPbc 07 52 52.8 +0.4**
LON Longmire 150.57 10 *e*PKPbc **PKPbc 07 52 52.8 +0.4**
G28A Parade 150.66 340 P **PKPbc 07 52 51.4 -1.2**
baz=150
G27A Dupree 150.69 342 P **PKPbc 07 52 51.8 -0.9**
baz=150
SLMT Seeley Lake 150.72 359 *e*PKPbc **PKPbc 07 52 51.8 -1.0**
E21A Keefer Ranch, 150.80 350 P **PKPbc 07 52 52.3 -0.6**
baz=151
F24A Ekalaka 150.93 346 P **PKPbc 07 52 51.4 -1.9**
baz=151
G26A Maurine 150.96 343 P **PKPbc 07 52 52.9 -0.4**
baz=151
E20A Meyer Farm, Mu 151.00 351 P **PKPbc 07 52 52.1 -1.3**
baz=151
CHMT Chamberlain Mo 151.04 358 *e*PKPbc **PKPbc 07 52 54.3 +0.7**
E19A Rath Farm, Rou 151.14 352 P **PKPbc 07 52 53.4 -0.3**
baz=151
MSO Missoula 151.14 359 P **PKPbc 07 52 52.2 -1.5**
baz=151
I30A Oacoma 151.16 337 P **PKPbc 07 52 54.1 +0.4**
baz=151
HRY Holter Researc 151.18 356 *e*PKPbc **PKPbc 07 52 54.6 +0.7**
HAWA Hanford 151.25 7 PFAKE 07 53 00.0 -1.7
HAWA LR LR
comp=Z,763nm,22.0s
F19A Roth Farm, Mol 151.75 352 P **PKPbc 07 52 55.1 -0.1**
baz=152
H25A Fruitdale 151.86 344 P **PKPbc 07 52 55.2 -0.2**
baz=152
I27A Quinn 151.92 341 P **PKPbc 07 52 55.2 -0.4**
baz=152
J29A Okreek 151.93 338 P **PKPbc 07 52 55.6 0.0**
baz=152
G22A Birney 151.93 348 P **PKPbc 07 52 54.6 -1.0**
baz=152
H24A Dirks Ranch, A 151.99 345 P **PKPbc 07 52 54.8 -0.9**
baz=152
BRAL Brewton 152.01 303 PFAKE 07 53 00.0 +3.9
BRAL LR LR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 152.23 356 PFAKE 07 53 00.0 +3.7
BOZ LR LR
comp=Z,913nm,20.0s
G20A Bridger 152.27 351 P **PKPbc 07 52 56.2 -0.2**
baz=152
RSSD Black Hills 152.44 344 *e*PKIKP **PKPdf 07 52 50.3 +0.2**
RSSD *e* 07 52 57.1
RSSD Black Hills 152.44 344 *e*PKPdf **PKPdf 07 52 50.3 +0.2**
RSSD *e*PKPbc **PkiKP 07 52 57.1 -0.1**
I25A Rochford 152.45 343 P **PKPbc 07 52 55.7 -1.2**
baz=152
RLMT Red Lodge 152.51 352 PFAKE 07 53 00.0 +2.9
RLMT LR LR
comp=Z,771nm,21.0s
J26A Sides Ranch, S 152.91 342 P **PKPbc 07 52 58.2 +0.3**
baz=153
H18A Shoshone NF, C 153.00 353 P **PKPbc 07 52 57.9 -0.3**
baz=153
TGUH Tegucigalpa,Un 153.70 266 PFAKE 07 53 00.0 -0.2
TGUH LR LR
comp=Z,458nm,20.0s
KSU1 Kansas State U 153.83 327 PFAKE 07 53 00.0 +0.1
KSU1 LR LR
comp=Z,830nm,19.0s
HLID Hailey 154.41 0 *e*PKPbc **PKPbc 07 53 03.0 +1.8**
HLID LR LR
comp=Z,952nm,19.0s
OGNE Ogallala 154.69 338 PFAKE 07 53 00.0 -1.8
OGNE LR LR
comp=Z,880nm,20.0s
BW06 Boulder Array 154.87 352 PFAKE 07 53 00.0 -2.3
BW06 LR LR
comp=Z,761nm,19.0s
PDAR Pinedale Array 154.87 352 PKPbc **PKPbc 07 53 03.6 +1.3**
PDAR Pinedale Array 154.87 352 PKPbc **PKPbc 07 53 03.6 +1.3**
comp=Z,0.8nm,0.7s,baz=33,slow=1.2,SNR=5.2
AHID Auburn Hatcher 155.05 354 PFAKE 07 53 00.0 +6.2
AHID LR LR
comp=Z,666nm,22.0s
MIAR Mount Ida 155.12 316 PFAKE 07 53 00.0 +6.1
MIAR LR LR
comp=Z,757nm,22.0s
TEIG Tepich 155.25 280 PFAKE 07 53 10.0 -9.5
TEIG LR LR
comp=Z,773nm,20.0s
WVOR Wild Horse Val 155.26 8 PFAKE 07 53 00.0 +6.0
WVOR LR LR
comp=Z,562nm,19.0s
ISCO Idaho Springs 156.89 343 PFAKE 07 53 10.0 +13
ISCO LR LR
comp=Z,675nm,21.0s
DUG Dugway 157.73 357 PFAKE 07 53 10.0 +13
DUG LR LR
comp=Z,567nm,20.0s
WMOK Wichita Mounta 158.22 323 PFAKE 07 53 10.0 +12
WMOK LR LR
comp=Z,663nm,19.0s
SDCO Great Sand Dun 158.75 340 PFAKE 07 53 10.0 +11
SDCO LR LR
comp=Z,916nm,22.0s
MVCO Mesa Verde 160.07 346 PFAKE 07 53 10.0 +10
MVCO LR LR
comp=Z,967nm,21.0s
ANMO Albuquerque 161.61 339 PFAKE 07 53 10.0 +8.0
ANMO LR LR
comp=Z,639nm,22.0s
JCT Junction City 161.77 316 PFAKE 07 53 10.0 +7.9
JCT LR LR
comp=Z,606nm,21.0s
KVTX Kingsville 162.04 305 PFAKE 07 53 10.0 +7.7
KVTX LR LR
comp=Z,1µm,20.0s
WUAZ Wupatki 162.24 352 PFAKE 07 53 10.0 +7.4
WUAZ LR LR
comp=Z,907nm,22.0s
MNTX Cornudas Mount 164.03 331 PFAKE 07 53 10.0 +5.8
MNTX LR LR
comp=Z,679nm,22.0s
PFO Pinyon Flat Ob 164.23 6 PFAKE 07 53 10.0 +5.5
PFO LR LR
comp=Z,827nm,22.0s
TXAR Lajitas Array 164.99 321 PKPab **PKPab 07 54 03.2 +1.6**
TXAR Lajitas Array 164.99 321 PKPab **PKPab 07 54 03.2 +1.6**
comp=Z,0.4nm,0.8s,baz=64,slow=4.1,SNR=2.1
TUC Tucson 165.28 348 PFAKE 07 53 20.0 +15
TUC LR LR
comp=Z,817nm,19.0s

NIED ***18*** *07:39:00,35.00N×139.10E,h5km,Mw3.8 Best double couple: M₀5.49000×10¹⁴ NP1:ϕ₈2.00000°,δ89.00000°, λ-26.00000°. NP2:ϕ₈93.00000°,δ64.00000°, λ-178.00000°.*

IDC ***18*** *07:39:24.6±1.0,34.88N×138.95E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/25,mbtmp3.5/5,MS2.9/1,Ms1 2.9/1, ms1mx2.4/31,Error ellipse: s-maj=34.8km s-min=12.9km az=77.0*

ISCJB ***18*** *07:39:25.5±0.8,34.93N±0.05×139.18E±0.08,h14km±5km, mb3.5/5,MS2.8/1,Error ellipse: s-maj=10.6km s-min=8.3km az=179.3*

JMA ***18*** *07:39:26.3,34.97N×139.13E,h4km±1km,M3.9 Broadband fault plane solution: P waves. NP1: ϕ₈196.00000°,δ74.00000°,λ23.00000°. NP2: ϕ₈100.00000°,δ68.00000°,λ163.00000°. Principal axes: T Plg27.0000°, Azm59.0000°; N Plg63.0000°, Azm229.0000°; P Plg4.0000°, Azm327.0000°;*

JMA Felt III J1.

ISC 18 07:39:26.1±1.3,34°95N±0.04×139°10E±0.06,h9km±8km, n20,σ0s89/15,mb3.6/5,1C-5D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.10**	**358**	↓P	**Pg**	**07 39 28.3**	**-0.2**
JIZS	**Izushimoda**	**0.29**	**218**	↑P	**Pg**	**07 39 32.6**	**+0.7**
JIZS				S	**Sb**	**07 39 37.3**	**-1.1**
JOD2	**Odawara 2**	**0.31**	**359**	↓P	**Pg**	**07 39 32.3**	**-0.1**
JIM2	**Oshima 3**	**0.36**	**130**	↓P	**Pg**	**07 39 33.2**	**0.0**
JYN	**Shimob**	**0.71**	**321**	↓P	**Pg**	**07 39 39.6**	**-0.2**
SHZ3	**Shizuoka 3**	**0.74**	**279**	↓P	**Pb**	**07 39 41.3**	**+0.2**
MJAR	**Matsushiro Arr**	**1.75**	**336**	Pg	**Pn**	**07 39 56.6**	**0.0**
	43nm,0.3s,baz=145,slow=16,SNR=175						
MJAR				Lg	Lg	07 40 19.2	
	58nm,0.3s,baz=135,slow=31,SNR=8.1						
MAT	**Matsushiro**	**1.75**	**336**	P	**Pn**	**07 39 57.1**	**+0.5**
MAT				S	**Sb**	**07 40 20.6**	**+0.2**
PETK	**Petropavlovsk-**	**22.43**	**30**	LR	LR	07 53 29.2	
	comp=Z,34nm,20.9s,baz=344,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.85**	**114**	T	T	08 15 32.1	
	baz=310,slow=76,SNR=694						
H11N1	**WAKE ISLAND Hy**	**28.86**	**114**	T	T	08 15 32.6	
	baz=310,slow=76,SNR=909						
H11N3	**WAKE ISLAND Hy**	**28.87**	**114**	T	T	08 15 33.5	
	baz=310,slow=76,SNR=939						
H11S3	**WAKE ISLAND Hy**	**29.46**	**117**	T	T	08 16 18.5	
	baz=313,slow=75,SNR=125						
H11S1	**WAKE ISLAND Hy**	**29.46**	**117**	T	T	08 16 17.9	
	baz=313,slow=75,SNR=213						
H11S2	**WAKE ISLAND Hy**	**29.48**	**117**	T	T	08 16 19.3	
	baz=313,slow=75,SNR=175						
KURBB	**Kurchatov Arra**	**45.83**	**309**	P	**P**	**07 47 47.8**	**-0.5**
	0.9nm,0.8s,baz=86,slow=8.1,SNR=7.5						
ILAR	**Eielson Array**	**52.25**	**31**	P	**P**	**07 48 37.4**	**+0.2**
	0.7nm,1.0s,baz=270,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**54.77**	**185**	P	**P**	**07 48 54.1**	**-2.1**
	1.0nm,0.9s,baz=0.9,slow=7.6,SNR=6.1						
ASAR	**Alice Springs**	**58.50**	**186**	P	**P**	**07 49 23.3**	**+0.6**
	0.4nm,0.7s,baz=5.7,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**66.55**	**29**	P	**P**	**07 50 17.2**	**+1.2**
	0.1nm,0.6s,baz=293,slow=6.6,SNR=3.4						

CASC ***18*** *07:42:53.9±2.1, 13.54N×91.45W,h13km±16km,MD4.0, mb4.3(NEIC)*

NEIC ***18*** *07:42:54.3±3.6, 13.82N×91.51W,h17km±24km,mb4.3/25, MD4.1(MEX),Error ellipse: s-maj=17.6km s-min=9.1km az=194.0*

MEX ***18*** *07:42:55.8±0.7, 13.70N×91.68W,h15km±97km,MD4.2*

IDC ***18*** *07:42:59.6±2.8, 13.92N×91.13W,h69km±23km,mb3.8/6, mb1 4.1/9,mb1mx3.8/24,mbtmp3.9/9,MS3.2/2,Ms1 3.2/2, ms1mx2.8/33,Error ellipse: s-maj=34.4km s-min=17.5km az=58.0*

ISC 18 07:42:52.0±0.6,13°49N±0.05×91°50W±0.04,h28km,n229, σ1s63/235,mb4.2/29,MS4.9/3,77C-72D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.84**	**351**	*e*P	**Pn**	**07 43 08.5**	**+0.6**
PCG	**Pacaya**	**1.25**	**44**	*e*P	**Pb**	**07 43 15.5**	**+0.4**
PCG				*e*S	**Sb**	**07 43 31.3**	**+0.3**
NBG	**Las Nubes**	**1.56**	**45**	*e*P	**Pb**	**07 43 20.9**	**+0.4**
NBG				*e*S	**Sb**	**07 43 42.1**	**+2.1**
THIG		**1.60**	**332**	*i* P	**Pn**	**07 43 16.6**	**-1.8**
THIG				*i* S	Sn	07 43 32.1	-6.0
THIG		**1.60**	**332**	*i* P	**Pn**	**07 43 16.6**	**-1.8**
THIG				*i* S	Sn	07 43 32.1	-6.0
APG	**El Apazote**	**1.81**	**33**	P	**Pn**	**07 43 20.8**	**-0.7**
APG				S	**Sn**	**07 43 42.0**	**-1.7**
APG	**El Apazote**	**1.81**	**33**	P	**Pn**	**07 43 20.8**	**-0.7**
	126nm,0.3s,baz=210,slow=4.6,SNR=838						
APG				S	**Sn**	**07 43 42.0**	**-1.7**
	106nm,0.3s,baz=200,slow=16,SNR=7.3						
RTR	**El Retiro**	**1.85**	**77**	*e*P	**Pb**	**07 43 24.5**	**-0.7**
SBLS	**San Blas**	**1.86**	**79**	*e*P	**Pb**	**07 43 24.3**	**-1.1**
RBDL	**Robledal**	**1.87**	**70**	*e*P	**Pb**	**07 43 24.8**	**-0.8**
SNJE	**San Jose**	**1.88**	**78**	*e*P	**Pb**	**07 43 24.7**	**-1.1**
BOQS	**Boqueron**	**2.17**	**83**	*e*P	**Pb**	**07 43 29.0**	**-1.7**
BOQS				*e*S	**Sb**	**07 43 55.5**	**-1.9**
SNET	**Serv Nac Est T**	**2.21**	**85**	*e*P	**Pn**	**07 43 29.4**	**+2.4**
SNET				*e*S	**Sb**	**07 43 56.4**	**-2.1**
LFU	**La Fuente**	**2.33**	**83**	*e*P	**Pb**	**07 43 31.7**	**-1.7**
MRL	**Marmol**	**2.35**	**48**	*e*P	**Pb**	**07 43 32.4**	**-1.4**
MRL				*e*S	**Sb**	**07 44 02.2**	**-0.4**
LFRS	**El Faro**	**2.37**	**86**	*e*P	**Pb**	**07 43 32.2**	**-2.0**
LBRS	**Las Brisas**	**2.40**	**84**	*e*P	**Pb**	**07 43 32.7**	**-1.9**
SNVI	**San Vicente**	**2.59**	**87**	*e*P	**Pb**	**07 43 35.7**	**-2.1**
SNVI				*e*S	**Sb**	**07 44 06.1**	**-3.2**
PCIG		**2.76**	**323**	*e*P	**Pn**	**07 43 32.1**	**-2.4**
PCIG				*i* S	**Sn**	**07 44 02.5**	**-4.5**
PCIG		**2.76**	**323**	*e*P	**Pn**	**07 43 32.1**	**-2.4**
PCIG				*i* S	**Sn**	**07 44 02.5**	**-4.5**
TGUH	**Tegucigalpa,Un**	**4.14**	**82**	*e*Pn	Pn	07 43 57.4	+4.0
HUIG	**Huatulco**	**5.01**	**298**	*e*P	**Pn**	**07 44 05.1**	**-0.2**
HUIG				*i* S	**Sn**	**07 44 58.1**	**-4.1**
HUIG	**Huatulco**	**5.01**	**298**	*e*P	**Pn**	**07 44 05.1**	**-0.2**
HUIG				*i* S	**Sn**	**07 44 58.1**	**-4.1**
VHO	**Vista Hermosa**	**6.18**	**306**	*i* P	**Pn**	**07 44 22.1**	**+0.4**
VHO				*i* S	**Sn**	**07 45 28.4**	**-3.2**
VHO	**Vista Hermosa**	**6.18**	**306**	*i* P	**Pn**	**07 44 22.1**	**+0.4**
VHO				*i* S	**Sn**	**07 45 28.4**	**-3.2**
PNIG	**Pinotepa**	**7.03**	**295**	*e*P	**Pn**	**07 44 33.6**	**+0.4**
PNIG				*i* S	**Sn**	**07 45 49.0**	**-3.2**
PNIG	**Pinotepa**	**7.03**	**295**	*e*P	**Pn**	**07 44 33.6**	**+0.4**
PNIG				*i* S	Sn	07 45 47.6	-4.6
JTS	**JuntasAbangare**	**7.15**	**116**	*e*Pn	Pn	07 44 40.8	+6.0
JTS				S	**Sn**	**07 45 57.8**	**+2.6**
JTS	**JuntasAbangare**	**7.15**	**116**	P	Pn	07 44 41.4	+6.6
	1.1nm,0.3s,baz=302,slow=18,SNR=8.2						
JTS				S	**Sn**	**07 45 57.8**	**+2.6**
	0.4nm,0.3s,baz=68,slow=23,SNR=0.8						
JTS				LR	LR	07 47 36.2	

comp=Z,117nm,21.1s,baz=124,slow=39
TEIG Tepich 7.38 24 *e*Pn **Pn** 07 44 39.5 +1.6
TEIG S Sn 07 45 54.1 -6.6
TEIG Tepich 7.38 24 P **Pn** 07 44 39.1 +1.3
14nm,0.3s,baz=210,slow=1.1,SNR=212
TEIG S Sn 07 45 54.1 -6.6
baz=180,slow=16,SNR=0.7
TPIG Tehuac#an 7.47 312 *i* P Pn 07 44 35.0 -4.4
TPIG Tehuac#an 7.47 312 *i* P Pn 07 44 35.0 -4.4
534A Blanco 17.68 340 ⇑P **P** 07 46 59.0 +1.9
baz=17
632A Uvalde 17.70 336 ⇑P **P** 07 46 59.5 +2.2
baz=18
631A Perdido Creek 17.94 333 ⇓P **P** 07 47 01.2 +1.3
baz=18
532A Rocksprings 18.29 336 ⇑P **Pn** 07 47 05.5 +1.6
baz=18
434A Burnet 18.34 341 ⇑P **Pn** 07 47 05.6 +1.2
baz=18
335A Moody 18.53 344 ⇑P **Pn** 07 47 08.4 +1.6
baz=18
433A Art 18.56 339 ⇑P **Pn** 07 47 09.3 +2.2
baz=18
JCT Junction City 18.57 337 ⇓P **Pn** 07 47 09.6 +2.3
baz=18
531A Rocksprings 18.59 335 ⇓P **Pn** 07 47 10.7 +3.2
baz=18
334A Lometa 18.81 342 ⇑P **Pn** 07 47 11.1 +1.0
baz=19
530A J-C Ranch, Com 18.91 333 ⇑P **Pn** 07 47 12.7 +1.3
baz=19
432A Menard 18.92 338 ⇓P **Pn** 07 47 13.0 +1.5
baz=19
333A Richland Sprin 19.04 340 ⇑P **Pn** 07 47 13.7 +0.7
baz=19
431A Sonora 19.07 335 ⇑P **Pn** 07 47 14.8 +1.5
baz=19
628A Black Gap, Mar 19.10 328 ⇑P **Pn** 07 47 15.1 +1.4
baz=19
WHTX Lake Whitney 19.21 344 *e*P **Pn** 07 47 15.7 +0.8
WHTX Lake Whitney 19.21 344 ⇑P **Pn** 07 47 15.5 +0.6
baz=19
529A Stev Forest Ra 19.30 331 ⇑P **Pn** 07 47 17.2 +1.1
baz=19,SNR=5.5
627A Terlingua Ranc 19.34 327 ⇓P **Pn** 07 47 18.3 +1.7
baz=19,SNR=7.8
332A Millersview 19.36 338 ⇓P **Pn** 07 47 17.1 +0.4
baz=19
H06E1 SOCORRO T-PHAS 19.39 288 T T 08 07 06.1
SNR=15
TXAR Lajitas Array 19.39 326 P **Pn** 07 47 18.2 +1.0
TXAR Lajitas Array 19.39 326 P **Pn** 07 47 18.2 +1.0
0.2nm,0.3s,baz=153,slow=12,SNR=53
430A Baggett Ranch, 19.42 334 ⇓P **Pn** 07 47 18.2 +0.7
baz=19
331A San Angelo 19.55 337 ⇑P **Pn** 07 47 20.0 +1.0
baz=19,SNR=6.9
429A Davenport Ranc 19.57 332 ⇑P **Pn** 07 47 19.5 +0.2
baz=19
528A Cox Ranch, San 19.60 330 ⇓P **Pn** 07 47 20.7 +1.0
baz=19,SNR=6.1
135A Vickery Place, 19.74 345 ⇓P **P** 07 47 20.4 +0.7
baz=20
232A Coleman 19.78 339 ⇓P **Pn** 07 47 21.9 +0.1
baz=20,SNR=6.0
626A Big Bend Ranch 19.82 326 ⇓P **Pn** 07 47 23.5 +1.2
baz=20,SNR=17
330A Mertzon 19.93 335 ⇓P **Pn** 07 47 24.0 +0.4
baz=20,SNR=9.0
527A Woodward Ranch 20.00 328 ⇓P **Pn** 07 47 25.7 +1.2
baz=20,SNR=5.2
428A Kincaid Ranch, 20.02 331 ⇓P **Pn** 07 47 24.6 0.0
baz=20
231A Bronte 20.07 338 ⇑P **P** 07 47 24.4 +1.1
baz=20
526A Mary Lane Ranc 20.19 327 ⇑P Pn 07 47 26.6 -0.2
baz=20
133A Hamilton Ranch 20.21 342 ⇓P **P** 07 47 25.6 +0.9
baz=20,SNR=7.8
230A Sterling City 20.33 336 ⇑P **P** 07 47 26.9 +0.7
baz=20
329A Wagon Wheel Ra 20.34 333 ⇑P **P** 07 47 27.9 +1.7
baz=20,SNR=5.3
ABTX Abilene, Hawle 20.45 340 *e*P **P** 07 47 28.0 +0.6
5.0nm,0.5s
ABTX Abilene, Hawle 20.45 340 ⇑P **P** 07 47 28.3 +0.8
baz=20,SNR=6.2
427A Hayter Ranch, 20.47 330 ⇓P Pn 07 47 29.6 -0.3
baz=20
328A Wristen Ranch, 20.62 332 ⇓P Pn 07 47 31.3 -0.5
baz=20,SNR=8.8
426A McDonald Obser 20.64 328 ⇑P Pn 07 47 31.8 -0.2
baz=20,SNR=6.7
Z34A Collier Ranch, 20.64 345 ⇑P **P** 07 47 30.2 +0.8
baz=20
229A Bryant Ranch, 20.68 334 ⇓P **P** 07 47 31.4 +1.4
baz=20
131A Roby 20.76 338 ⇓P **P** 07 47 32.3 +1.5
baz=20
Z33A Whitaker Ranch 20.79 343 ⇑P **P** 07 47 31.9 +0.8
baz=21,SNR=6.3
327A Balmorhea Ranc 20.94 330 ⇓P **P** 07 47 33.9 +1.1
baz=21
Z32A Haskell 21.03 341 ⇑P **P** 07 47 34.5 +0.9
baz=21,SNR=8.1
MIAR Mount Ida 21.05 355 *e*P **P** 07 47 32.7 -1.1
10nm,1.3s
326A Caldwell Ranch 21.13 329 ⇓P **P** 07 47 36.6 +1.7
baz=21,SNR=12
228A UT Block 9, Go 21.15 333 ⇓P **P** 07 47 36.2 +1.1
baz=21
Y34A Reagan Ranch, 21.16 345 ⇑P **P** 07 47 35.2 +0.2
baz=21
425A Indio Mountain 21.24 326 ⇑P **P** 07 47 38.4 +2.4
baz=21,SNR=15
Z31A Sharp Cattle R 21.26 340 ⇓P **P** 07 47 36.8 +0.7
baz=21,SNR=10.0
129A Stewart Farms, 21.28 335 ⇓P **P** 07 47 37.6 +1.1
baz=21,SNR=8.5
227A Bennet, Jal 21.38 332 ⇑P **P** 07 47 39.0 +1.5
baz=21,SNR=5.6
Y33A Hilltop Ranch, 21.43 344 ⇑P **P** 07 47 38.4 +0.5
baz=21
128A Castleberry Fa 21.53 334 ⇑P **P** 07 47 39.5 +0.3
baz=21,SNR=8.0
Z30A Sanderson Ranc 21.58 338 ⇓P **P** 07 47 39.8 +0.2
baz=21
Y32A R-V Farms, Ver 21.66 342 ⇓P **P** 07 47 40.8 +0.3
baz=21
325A Bean Ranch, Si 21.69 327 ⇑P **P** 07 47 42.2 +1.3
baz=22,SNR=7.1
Z29A Hungry Hill Ra 21.77 336 ⇓P **P** 07 47 42.1 +0.4
baz=22,SNR=6.0
226B Tecolote Peak, 21.84 330 ⇑P **P** 07 47 43.9 +1.4
baz=22,SNR=14
Y31A Rekieta Farm, 21.89 340 ⇑P **P** 07 47 43.1 +0.3
baz=22,SNR=10.0
X33A Lawton 21.90 344 ⇑P **P** 07 47 43.0 0.0
baz=22,SNR=5.7
127A Arkansas Junct 21.96 332 ⇓P **P** 07 47 44.7 +0.9
baz=22
X32A Elmer 22.01 343 ⇑P **P** 07 47 44.5 +0.4
baz=22
324A Moseley Ranch, 22.01 327 ⇓P **P** 07 47 45.8 +1.4
baz=22,SNR=9.8
Y30A Stafford Cattl 22.02 339 ⇑P **P** 07 47 44.8 +0.5
baz=22
GDL2 Guadalupe Moun 22.04 330 *e*P **P** 07 47 46.5 +1.9
Z28A Tucker Farm, M 22.07 335 ⇓P **P** 07 47 44.7 -0.2
baz=22
MNTX Cornudas Mount 22.16 327 *e*P **P** 07 47 47.4 +1.6
6.5nm,0.8s
WMOK Wichita Mounta 22.16 344 *e*P **P** 07 47 45.3 -0.5
3.5nm,0.9s
225A Deer Hill, Car 22.20 329 ⇑P **P** 07 47 47.8 +1.4
baz=22,SNR=17
126A Clayton Basin, 22.24 331 ⇓P **P** 07 47 47.4 +0.6
baz=22
Y29A Porterfield Fa 22.29 337 ⇓P **P** 07 47 47.8 +0.5
baz=22
W34A Bridge Creek, 22.38 346 ⇓P **P** 07 47 47.7 -0.4
baz=22
X31A McDonald Ranch 22.41 341 ⇑P **P** 07 47 48.6 +0.1
baz=22,SNR=12
Z27A Tatum 22.44 334 ⇑P **P** 07 47 48.7 -0.3
baz=22,SNR=6.7
W33A Caddo, Fort Co 22.47 345 ⇓P **P** 07 47 48.6 -0.5
baz=22
224A Cornudas Mount 22.53 328 ⇑P **P** 07 47 51.7 +1.7
baz=22,SNR=18
X30A Coker Ranch, T 22.53 339 ⇑P **P** 07 47 49.9 +0.1
baz=22,SNR=14
Y28A McKinney Farm, 22.56 336 ⇑P **P** 07 47 50.4 +0.3
baz=22
125A Gardner Draw, 22.56 330 ⇓P **P** 07 47 51.0 +0.9
baz=22,SNR=9.3
Z26A Caprock 22.75 332 ⇓P **P** 07 47 53.0 +0.8
baz=22,SNR=12
WVT Waverly 22.79 8 *e*P **P** 07 47 52.1 -0.3
3.8nm,0.8s
MSTX Muleshoe 22.82 335 *e*P **P** 07 47 54.3 +1.4
5.8nm,0.6s
MSTX Muleshoe 22.82 335 ⇑P **P** 07 47 53.4 +0.5
baz=23
X29A Tulia 22.82 338 ⇓P **P** 07 47 53.3 +0.3
baz=23
V34A Guthrie 22.90 347 ⇑P **P** 07 47 52.9 -0.7
baz=23
Y27A Causey 22.91 334 ⇓P **P** 07 47 54.4 +0.5
baz=23,SNR=6.7
124A Stringfield Ra 22.99 329 ⇑P **P** 07 47 57.2 +2.3
baz=23,SNR=37
V33A Lossen Ranch, 23.06 346 ⇓P **P** 07 47 55.8 +0.5
baz=23
Z25A Roswell 23.09 331 ⇑P **P** 07 47 56.9 +1.2
baz=23
W30A Crocket Farms 23.11 341 ⇓P **P** 07 47 56.5 +0.7
baz=23
TKL Tuckaleechee C 23.15 16 *e*P **P** 07 47 56.3 +0.1
TKL Tuckaleechee C 23.15 16 P **P** 07 47 55.7 -0.5
5.1nm,0.5s,baz=173,slow=9.8,SNR=10.0
V32A Arapaho 23.16 344 ⇑P **P** 07 47 56.5 +0.3
baz=23
AMTX Amarillo 23.21 338 *e*P **P** 07 47 56.4 -0.5
12nm,0.5s
AMTX Amarillo 23.21 338 ⇓P **P** 07 47 57.1 +0.3
baz=23
Y26A Elida 23.23 333 ⇑P **P** 07 47 57.6 +0.5
baz=23
W29A Amraillo 23.41 339 ⇑P **P** 07 47 59.3 +0.4
baz=23
V31A Spring Creek L 23.43 343 ⇓P **P** 07 47 59.9 +0.9
baz=23
Z24A Sheeppen Canyo 23.45 330 ⇓P **P** 07 48 01.5 +2.1
baz=23,SNR=21
Y25A Mesa, Roswell 23.61 332 ⇓P **P** 07 48 02.5 +1.6
baz=23,SNR=12
W28A Vega 23.73 338 ⇑P **P** 07 48 02.1 +0.1
baz=24
X26A CR and CF Fran 23.75 334 ⇑P **P** 07 48 02.5 +0.3
baz=24
Z23A Rita Site, Whi 23.83 328 ⇓P **P** 07 48 05.5 +2.5
baz=24,SNR=14
W27A Bowe Ranch, En 23.89 336 ⇓P **P** 07 48 04.0 +0.5
baz=24
Y24A Capitan 23.97 330 ⇑P **P** 07 48 05.8 +1.5
baz=24
121A Cookes Peak, D 24.11 325 *e*P **P** 07 48 08.8 +3.2
8.9nm,0.9s
121A Cookes Peak, D 24.11 325 ⇑P **P** 07 48 09.0 +3.3
baz=24,SNR=7.0
319A Douglas 24.17 320 ⇑P **P** 07 48 08.7 +2.5
baz=24
V28A Channing 24.18 338 ⇓P **P** 07 48 07.1 +0.9
baz=24,SNR=5.3
W26A Owens Ranch, T 24.20 335 ⇑P **P** 07 48 07.4 +1.0
baz=24
Z22A Elephant Butte 24.21 327 ⇓P **P** 07 48 08.0 +1.5
baz=24
SIUC Southern Illin 24.21 4 *e*P **P** 07 48 06.5 +0.1
12nm,0.6s
Y23A Lovelace Mesa, 24.27 329 ⇑P **P** 07 48 09.9 +2.7
baz=24,SNR=6.3
U30A WK&E Inc. Balk 24.37 342 ⇓P **P** 07 48 09.3 +1.4
baz=24
X24A Lazy VL Ranch, 24.49 331 ⇓P **P** 07 48 10.6 +1.5
baz=24
U29A Oasis Ranch, S 24.49 341 ⇑P **P** 07 48 10.1 +1.1
baz=24
Y22A Socorro 24.74 328 ⇓P **P** 07 48 13.4 +2.0
baz=24
SJG San Juan 24.81 76 LR LR 07 56 18.4
comp=Z,107nm,20.2s,baz=90,slow=33
V26A Tequesquite Ra 24.82 336 ⇑P **P** 07 48 13.6 +1.6
baz=25
U27A Thompson Grove 25.00 338 ⇑P **P** 07 48 14.5 +0.8
baz=25
W24A Lazy 6 Ranch, 25.01 332 ⇓P **P** 07 48 15.5 +1.6
baz=25
T29A Hugoton 25.15 341 ⇓P **P** 07 48 15.5 +0.6
baz=25
V25A Rancho No Teng 25.19 334 ⇑P **P** 07 48 16.7 +1.2
baz=25
ANMO Albuquerque 25.29 330 *e*P **P** 07 48 18.0 +1.7
2.6nm,0.7s
ANMO Albuquerque 25.29 330 P **P** 07 48 18.4 +2.0
2.1nm,0.6s,baz=141,slow=11,SNR=12
W23A Werner Place, 25.31 331 ⇓P **P** 07 48 18.3 +1.7
baz=25
U26A Atchley Ranch, 25.32 336 ⇓P **P** 07 48 18.7 +2.1
baz=25,SNR=6.0
T28A Walsh 25.38 340 ⇓P **P** 07 48 17.8 +0.8
baz=25
V24A Rampart Ranch, 25.38 333 ⇑P **P** 07 48 19.8 +2.5
baz=25
S29A Ulysses 25.52 342 ⇓P **P** 07 48 19.1 +0.8
baz=25
U25A Circle Dot Ran 25.59 335 ⇑P **P** 07 48 20.5 +1.4
baz=25
TUC Tucson 25.74 320 *e*P **P** 07 48 24.1 +3.8
5.3nm,1.1s
V23A Ortiz Mt. (NFS 25.81 332 ⇑P **P** 07 48 23.1 +2.0
baz=26
R30A Dighton 25.90 344 ⇑P **P** 07 48 23.0 +1.3
baz=26
Q32A Meitler Ranch, 26.16 347 ⇑P **P** 07 48 25.3 +1.3
baz=26
T25A Trinidad 26.23 336 ⇓P **P** 07 48 26.3 +1.3
baz=26
V22A San Miguel Ran 26.29 331 ⇑P **P** 07 48 27.4 +2.0
baz=26
U23A El Rito 26.29 332 ⇑P **P** 07 48 27.1 +1.5
baz=26
R28A Tribune 26.40 342 ⇓P **P** 07 48 26.9 +0.7
baz=26
S25A Roberts Cordova 26.70 337 ⇓P **P** 07 48 29.4 +0.3
baz=26
SDCO Great Sand Dun 27.19 335 *e*P **P** 07 48 36.4 +2.7
1.9nm,1.1s
S23A Nye Farm, Mont 27.36 334 ⇑P **P** 07 48 37.4 +2.3
baz=27
R24A Sanders Place, 27.45 336 ⇑P **P** 07 48 38.1 +2.2
baz=27
X16A Lo Mia Camp, P 27.58 322 ⇓P **P** 07 48 39.1 +2.0
baz=28
S22A 4UR Ranch, Cre 27.75 333 ⇓P **P** 07 48 40.4 +1.6
baz=28
MVCO Mesa Verde 28.09 330 ⇓P **P** 07 48 43.6 +2.0
baz=28
Y14A Wickenburg 28.21 320 ⇓P **P** 07 48 44.8 +2.2
baz=28
P23A Jefferson 28.73 336 ⇑P **P** 07 48 49.1 +1.7
baz=28
ISCO Idaho Springs 29.01 337 ⇓P **P** 07 48 51.5 +1.6
baz=29
U15A North Rim 29.49 324 ⇓P **P** 07 48 56.8 +2.7
baz=29
BC3 Big Chuckawall 29.62 317 ⇑P **P** 07 48 58.3 +3.2
baz=29
N22A Wattenberg Ran 30.20 337 ⇓P **P** 07 49 01.7 +1.3
baz=30
O20A White River Ci 30.35 334 ⇑P **P** 07 49 03.8 +2.2
baz=30
CCUT Cedar City 30.89 325 *e*P **P** 07 49 09.0 +2.5
4.1nm,1.1s
N20A Spence Gulch, 30.94 335 ⇑P **P** 07 49 09.2 +2.3
baz=31
BFSC Mount Baldy Ra 31.45 316 ⇓P **P** 07 49 14.2 +2.9
baz=31
K23A Bowen Ranch, D 31.62 340 ⇓P **P** 07 49 14.6 +1.9
baz=31
J21A Lysite 32.77 338 ⇑P **P** 07 49 23.8 +0.9
baz=32
J20A Shoshoni 33.01 338 ⇓P **P** 07 49 26.3 +1.4
baz=33
PDAR Pinedale Array 33.09 335 P **P** 07 49 26.7 +1.0
0.9nm,0.6s,baz=130,slow=11,SNR=8.3
I20A Worland 33.54 338 ⇑P **P** 07 49 30.9 +1.4
baz=33
I19A Meeteetse 33.94 337 ⇑P **P** 07 49 34.9 +1.8
baz=34
REDW Red Top Meadow 34.11 334 *e*P **P** 07 49 36.3 +1.7
3.5nm,0.8s
LOHW Long Hollow 34.22 335 *e*P **P** 07 49 36.9 +1.4
21nm,2.0s
TPAW Teton Pass 34.26 334 *e*P **P** 07 49 37.6 +1.6
14nm,1.6s
H18A Shoshone NF, C 34.73 337 ⇑P **P** 07 49 41.1 +1.1
baz=34
D22A Cohagen 35.74 343 ⇓P **P** 07 49 49.4 +1.0
baz=36
HLID Hailey 35.86 331 *e*P **P** 07 49 51.7 +2.1
3.4nm,1.1s
HLID Hailey 35.86 331 ⇑P **P** 07 49 51.3 +1.7
baz=36
MCMT McKenzie Canyo 36.15 334 *e*P **P** 07 49 54.3 +2.2
1.9nm,0.7s
MFID Camas Ranch 36.43 330 *e*P **P** 07 49 57.1 +2.7
2.3nm,0.6s
WVOR Wild Horse Val 37.19 326 *e*P **P** 07 50 03.4 +2.4
2.4nm,0.7s
J08A Circle Bar Ran 37.73 327 *e*P **P** 07 50 07.8 +2.3
25nm,1.4s
F10A Beach Ranch, E 38.99 331 *e*P **P** 07 50 17.2 +1.2
11nm,0.8s
C09A Chrisman Ranch 40.83 332 *e*P **P** 07 50 33.4 +2.2
5.3nm,0.6s
LON Longmire 41.78 329 *e*P **P** 07 50 40.9 +1.9
89nm,3.0s
FCC Fort Churchill 45.23 358 *e*P **P** 07 51 05.0 -1.6
SCHQ Schefferville 45.53 20 P **P** 07 51 07.3 -1.7
SCHQ Schefferville 45.53 20 P **P** 07 51 07.3 -1.7
3.5nm,0.8s,baz=220,slow=13,SNR=1.8
YKA Yellowknife Ar 51.63 347 P **P** 07 51 55.5 -0.4
YKA Yellowknife Ar 51.63 347 P **P** 07 51 55.5 -0.4
1.2nm,0.5s,baz=153,slow=7.9,SNR=45
INK Inuvik 61.07 343 *e*P **P** 07 53 02.9 -0.1
2.8nm,0.9s
ILAR Eielson Array 63.50 337 P **P** 07 53 20.0 +0.6
ILAR Eielson Array 63.50 337 P **P** 07 53 20.0 +0.6
0.8nm,0.4s,baz=171,slow=4.9,SNR=29
HHC Hu-ho-hao-te 121.87 340 *e*PKP **PKPdf** 08 01 41.6 -2.5
HHC sPKP 08 02 20.6
HHC PP **PP** 08 03 18.4 +1.9
HHC SKS SKSdf 08 08 43.8 -11
HHC SKKS SKKSac 08 10 00.6 -15
HHC Hu-ho-hao-te 121.87 340 SS SS 08 19 42.0 -10
HHC AMB AMB
comp=Z,200nm,9.4s
HHC LR LR
comp=N,270nm,20.8s
HHC LR LR
comp=E,400nm,20.9s
HHC LR LR
comp=Z,180nm,20.9s
LZH Lanzhou 128.61 344 *e*PKP **PKPdf** 08 01 55.8 -1.4
LZH sPKP 08 02 32.6
LZH LR LR
comp=N,150nm,16.1s
LZH LR LR
comp=E,170nm,18.0s
LZH LR LR
comp=Z,190nm,19.2s
CMAR Chiang Mai Arr 146.63 342 PKPbc **PKPab** 08 02 33.8 +0.8
CMAR Chiang Mai Arr 146.63 342 PKPbc **PKPab** 08 02 33.8 +0.8
comp=Z,1.7nm,0.5s,baz=345,slow=3.7,SNR=14

IDC 18 07:52:20.9±3.6, 6°50.5S×147°48.5E, h0km, mb2.7/1, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, ML2.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/3, Error ellipse: s-maj=93.5km s-min=43.4km az=96.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.91**	**186**	Pn	Pn		07 53 09.9	+1.4
	8.1nm,0.3s,baz=339,slow=6.4,SNR=11							
PMG				Sn	Sn		07 53 42.3	-2.0
	4.9nm,0.3s,baz=178,slow=20,SNR=5.9							
HNR	**Honiara**	**12.69**	**104**	LR	LR		07 58 53.6	
	comp=Z,182nm,18.9s,baz=159,slow=31							
WRA	**Warramunga Arr**	**18.48**	**222**	P	P		07 56 37.6	-1.1
	0.1nm,0.3s,baz=51,slow=11,SNR=2.0							
ASAR	**Alice Springs**	**21.49**	**216**	P	P		07 57 10.3	-1.2
	0.2nm,0.5s,baz=50,slow=9.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**145.67**	**284**	PKPbc	PKPdf		08 12 02.5	-0.1
	0.2nm,0.5s,baz=69,slow=4.1,SNR=1.7							

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*ISCJB **18** 08:05:25.4±0.8, 19°4S±0.2°×44°.94E±0°.09, h10km, mb3.5/6, Error ellipse: s-maj=29.9km s-min=10.8km az=170.7*
*IDC **18** 08:05:25.5±0.9, 19°.40S×44°.89E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.7/27, mbtmp3.7/9, ML4.0/2, Error ellipse: s-maj=38.1km s-min=13.0km az=166.0*

ISC 18 08:05:26.6±0.9, 19°4S±0°2×45°.01E±0°.09, h10km, n10, σ1°02/11, mb3.6/6, Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**2.20**	**70**	Pn	**Pb**		**08 06 06.3**	**-0.4**
	27nm,0.3s,baz=254,slow=14,SNR=96							
OPO				Pg	**Pg**		**08 06 08.4**	**-0.5**
	31nm,0.3s,baz=246,slow=16,SNR=39							
OPO				Lg	Lg		08 06 39.9	
	46nm,0.3s,baz=338,slow=22,SNR=6.3							
LSZ	**Lusaka**	**16.57**	**282**	Pn	**Pn**		**08 09 19.8**	**+0.6**
	0.2nm,0.3s,baz=115,slow=9.8,SNR=3.9							
BOSA	**Boshof**	**20.24**	**239**	P	**P**		**08 10 00.3**	**-1.9**
	3.4nm,0.6s,baz=64,slow=9.5,SNR=9.8							
TSUM	**Tsumeb**	**25.88**	**266**	P	**P**		**08 10 59.6**	**+0.6**
	1.1nm,0.6s,baz=38,slow=5.6,SNR=6.1							
TORD	**Torodi Ar. Bea**	**53.51**	**304**	P	**P**		**08 14 47.0**	**-0.7**
	0.1nm,0.3s,baz=117,slow=8.2,SNR=1.9							
MKAR	**Makanchi Array**	**73.93**	**26**	P	**P**		**08 17 01.7**	**-0.3**
	0.3nm,0.7s,baz=207,slow=6.1,SNR=1.7							
ZALV	**Zalesovo Beam**	**80.62**	**23**	P	**P**		**08 17 40.4**	**+1.1**
	0.4nm,0.3s,baz=191,slow=4.4,SNR=1.9							
ASAR	**Ice Springs**	**81.47**	**112**	P	**P**		**08 17 45.9**	**+1.2**
	0.5nm,0.8s,baz=254,slow=3.4,SNR=4.6							
WRA	**Warramunga Arr**	**82.98**	**109**	P	**P**		**08 17 53.4**	**+0.7**
	0.3nm,0.7s,baz=250,slow=3.1,SNR=5.0							
TXAR	**Lajitas Array**	**149.87**	**295**	PKPbc	**PKPbc**		**08 25 17.9**	**+0.2**
	0.5nm,0.9s,baz=74,slow=3.3,SNR=4.3							

MEX 18 08:12:38.8±0.3, 16°.87N×95°.59W, h64km±15km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.11**	**281**	*i* P		Pn	08 12 56.8	-1.9
VHO				*i* S		Sn	08 13 11.6	-1.9
HUIG	**Huatulco**	**1.20**	**204**	*i* P		Pn	08 12 58.0	-1.6
HUIG				*i* S		Sn	08 13 13.2	-1.8
PNIG	**Pinotepa**	**2.47**	**259**	*e*P		Pn	08 13 15.7	-1.1
PNIG				*i* S		Sn	08 13 44.0	-1.9
PCIG		**2.56**	**116**	*i* P		Pn	08 13 19.2	+1.3

MEX 18 08:20:48.6±0.6, 16°.97N×100°.22W, h3km±10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**1.31**	**355**	*e*P		Pg	08 21 10.4	-3.5
ARIG				*i* S		Sg	08 21 26.6	-4.3
ZIIG	**Zihuatanejo**	**1.35**	**298**	*i* P		Pn	08 21 09.9	-4.4
ZIIG				*i* S		Sg	08 21 28.0	-3.9
PLIG	**Platanillo**	**1.58**	**26**	*e*P		Pn	08 21 14.2	-3.5
PLIG				*i* S		Sn	08 21 33.5	-5.1
TLIG	**Tlapa**	**1.69**	**69**	*i* P		Pn	08 21 15.9	-3.4
TLIG				*i* S		Sn	08 21 36.6	-5.0
PNIG	**Pinotepa**	**2.09**	**106**	*i* P		Pn	08 21 20.3	-4.4
PNIG				*i* S		Sn	08 21 46.6	-4.6
YAIG	**Yautepec**	**2.18**	**30**	*i* P		Pn	08 21 22.1	-4.0
YAIG				*i* S		Sn	08 21 49.7	-4.1

IDC 18 08:48:58.1±1.2, 55°.45S×26°.75W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse:

s-maj=91.0km s-min=34.3km az=102.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.19**	**183**	P	P	08 57 31.6	-0.1
	0.6nm,0.6s,baz=176,slow=4.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**72.41**	**29**	P	P	09 00 25.9	0.0
	0.4nm,0.5s,baz=202,slow=7.3,SNR=5.0						
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc	PKPbc	09 08 48.2	-0.4
	0.2nm,0.8s,baz=141,slow=4.7,SNR=3.8						
SONM	**Songino Array**	**150.44**	**85**	PKPbc	PKPbc	09 08 50.2	-0.4
	0.2nm,0.5s,baz=277,slow=2.5,SNR=3.2						

IDC ***18*** *09:00:35.1±2.3, 52.°18N×36.°01E, h0km, mb3.4/2, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, ML3.4/5, MS2.5/1, Ms1 2.5/1, ms1mx2.2/34, Error ellipse: s-maj=33.1km s-min=15.3km az=117.0*

ISCJB ***18*** *09:00:37.6±1.8, 52.°7N±0.°1×34.°8E±0.°3, h10km, mb3.5/2, Error ellipse: s-maj=26.3km s-min=10.5km az=33.2*

ISC 18 09:00:38.8±1.5, 52.°55N±0.°10×34.°9E±0.°1, h10km, n10, σ1s95/11, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.01**	**245**	Pn	**Pn**	**09 01 43.2**	**+2.9**
	1.3nm,0.3s,baz=56,slow=14,SNR=5.5						
AKASG				Pg	**Pg**	**09 01 53.2**	**-2.3**
	3.1nm,0.3s,baz=58,slow=15,SNR=13						
AKASG				Sn	**Sn**	**09 02 28.0**	**+0.7**
	1.5nm,0.3s,baz=62,slow=22,SNR=3.2						
AKASG				Lg	Lg	09 02 46.6	
	2.6nm,0.3s,baz=69,slow=29,SNR=4.8						
MICGM	**Minsk**	**4.64**	**298**	*e*	**Sg**	**09 03 09.0**	**+1.3**
MLR	**Muntele Rosu**	**9.20**	**223**	LR	LR	09 06 09.9	
	comp=Z,27nm,18.6s,baz=263,slow=36						
FINES	**FINESS Array B**	**10.13**	**335**	Pn	**Pn**	**09 03 04.5**	**+0.4**
	0.3nm,0.3s,baz=161,slow=13,SNR=7.1						
HFS	**Hagfors**	**13.97**	**311**	Pn	**Pn**	**09 03 55.7**	**-0.8**
	0.2nm,0.3s,baz=109,slow=17,SNR=3.2						
NB2	**NORSAR Subarra**	**15.45**	**313**	P	**Pn**	**09 04 13.8**	**-2.8**
	comp=Z,2.9nm,1.0s,baz=105,slow=8.6						
NOA	**NORSAR Array B**	**15.45**	**313**	Pn	**Pn**	**09 04 14.6**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=113,slow=13,SNR=4.5						
ARCES	**ARCESS Array B**	**17.61**	**349**	Pn	**Pn**	**09 04 43.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=128,slow=7.9,SNR=11						
TORD	**Torodi Ar. Bea**	**47.43**	**226**	P	**P**	**09 09 13.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=20,slow=9.3,SNR=2.1						
YKA	**Yellowknife Ar**	**62.81**	**345**	P	**P**	**09 11 04.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=10,slow=6.4,SNR=4.4						

MEX 18 09:09:10.4±0.5, 16.°43N×99.°59W, h12km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.52**	**328**	*e*P	Pg	09 09 18.3	-2.5
ACP2				*e*S	Sg	09 09 24.4	-3.3
PNIG	**Pinotepa**	**1.41**	**91**	*i* P	Pn	09 09 32.6	-3.3
PNIG				*i* S	Sn	09 09 49.0	-5.4
TLIG	**Tlapa**	**1.50**	**41**	*e*P	Pn	09 09 33.5	-3.7
TLIG				*i* S	Sn	09 09 52.0	-4.8
PLIG	**Platanillo**	**1.95**	**3**	*e*P	Pn	09 09 39.9	-3.7
PLIG				*i* S	Sn	09 10 03.5	-4.6
ARIG	**Puente Sto Nin**	**1.98**	**339**	*e*P	Pn	09 09 40.5	-3.3
ARIG				*i* S	Sn	09 10 03.2	-5.3
ZIIG	**Zihuatanejo**	**2.14**	**303**	*i* P	Pn	09 09 42.4	-3.5
ZIIG				*i* S	Sn	09 10 08.6	-3.8
YAIG	**Yautepec**	**2.47**	**12**	*i* P	Pn	09 09 46.9	-3.8
YAIG				*i* S	Sn	09 10 17.6	-3.4
PPM	**Popocatepetl**	**2.78**	**19**	*i* P	Pn	09 09 51.6	-3.8
PPM				*i* S	Sn	09 10 25.4	-4.0
VHO	**Vista Hermosa**	**2.81**	**76**	*e*P	Pn	09 09 52.6	-2.9
VHO				*i* S	Sn	09 10 25.8	-3.8
MOIG	**Morelia**	**3.57**	**335**	*i* P	Pn	09 10 08.4	+2.5
MMIG	**Aquila**	**4.03**	**298**	*i* P	Pn	09 10 09.5	-2.4
MMIG				*i* S	Sn	09 10 55.2	-3.9

MEX 18 09:33:39.8±1.0, 16.°86N×94.°95W, h122km±15km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.27**	**23**	*i* P	Pn	09 34 03.7	-1.1
TUIG				*i* S	Sn	09 34 21.8	-2.0
HUIG	**Huatulco**	**1.55**	**226**	*e*P	Pn	09 34 06.1	-1.9
HUIG				*i* S	Sn	09 34 28.1	-1.2
VHO	**Vista Hermosa**	**1.72**	**277**	*e*P	Pn	09 34 09.5	-0.7
VHO				*e*S	Sn	09 34 31.2	-2.2
PCIG		**2.02**	**124**	*e*P	Pn	09 34 14.1	+0.6
PCIG				*i* S	Sn	09 34 38.8	-0.6
PNIG	**Pinotepa**	**3.08**	**262**	*i* P	Pn	09 34 25.2	-2.0
PNIG				*i* S	Sn	09 35 02.3	-1.6

AUST ***18*** *09:45:37.7±0.2, 20.°03S×173.°23W, h0km, Error ellipse: s-maj=8.0km s-min=4.2km az=164.0*

ISCJB ***18*** *09:45:40.2±0.1, 20.°09S±0.°05×173.°67W±0.°03, h10km, mb5.1/60, MS4.3/28, Error ellipse: s-maj=8.2km s-min=3.3km az=157.2*

IDC ***18*** *09:45:40.4±0.5, 20.°05S×173.°62W, h0km, mb4.8/17, mb1 4.9/19, mb1mx4.9/23, mbtmp4.8/19, ML4.3/2, MS4.2/22, Ms1 4.3/22, ms1mx4.2/32, Error ellipse: s-maj=19.9km s-min=15.9km az=136.0*

NEIC ***18*** *09:45:41.9±0.3, 19.°94S×173.°66W, h10km, mb5.2/17, Error ellipse: s-maj=11.8km s-min=7.5km az=131.0*

BJI ***18*** *09:45:41.6, 20.°08S×174.°02W, h9km, mB5.5/23, mb5.2/29, Ms5.3/13, Ms7 5.0/12*

GCMT ***18*** *09:45:44.5±0.3, 20.°19S×173.°04W, h19km, MW5.0, Moment Tensor Solution. s34,c38; s77,c100; Moment tensor: Scale 10^16 Nm; Mrr 4.30±.25; Mθθ -1.15±.16; Mφφ -3.14±.16; Mrθ 1.04±.41; Mrφ -1.67±.11; Mθφ 1.49±.31; Best double couple: M0 4.60000×10^16 NP1: φs 32.00000°, δ57.00000°, λ92.00000°. NP2: φs 208.00000°, δ33.00000°, λ87.00000°. Principal axes: T 4.6800, Plg78.0000°, Azm309.0000°; N -0.2100, Plg2.0000°, Azm210.0000°; P -4.4600, Plg12.0000°, Azm120.0000°; Data Used: II IU CU IC G CN.*

SZGRF ***18*** *09:45:45.1, 20.°08S×172.°37W, h33km, Tonga Islands region*

MOS ***18*** *09:45:46.6±1.7, 19.°85S×174.°03W, h33km, mb5.5/16, Error ellipse: s-maj=13.3km s-min=12.6km az=124.2*

ISC 18 09:45:43.0±0.6, 19.°99S±0.°05×173.°50W±0.°05, h18km±2km, n546, σ1s23/578, mb5.1/58, MS4.3/28, 184C-153D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.49**	**76**	⇓P	Pn	09 46 29.0	-7.4
	baz=3.3,SNR=21						
AFI	**Afiamalu**	**6.26**	**16**	*e*Pn	**Pn**	**09 47 12.2**	**-2.4**
AFI				*e*Sn	**Sn**	**09 48 23.4**	**-2.4**
AFI	**Afiamalu**	**6.26**	**16**	Pn	Pn	09 47 11.0	-3.6
	17nm,0.3s,baz=12,slow=4.8,SNR=21						
AFI				Sn	**Sn**	**09 48 21.6**	**-4.2**
	4.9nm,0.3s,baz=25,slow=21,SNR=2.6						
RAR	**Rarotonga**	**12.92**	**98**	*e*Pn	Pn	09 48 39.8	-5.9
RAR	**Rarotonga**	**12.92**	**98**	Pn	Pn	09 48 38.5	-7.2
	7.3nm,0.3s,baz=11,slow=0.0,SNR=12						
RAR				LR	LR	09 52 52.6	
	comp=Z,1μm,18.5s,baz=45,slow=33						
KNTN	**Kanton**	**17.20**	**6**	*e*Pn	**Pn**	**09 49 40.1**	**-2.2**
	706nm,2.2s						
DZM	**Mont Dzumac**	**18.84**	**260**	*e*P	**P**	**09 50 02.3**	**+0.3**
	204nm,1.4s						
DZM				*e*LR	LR	09 54 24.4	
	1μm,23.9s						
DZM	**Mont Dzumac**	**18.84**	**260**	P	**Pn**	**09 50 02.5**	**-0.2**
DZM	**Mont Dzumac**	**18.84**	**260**	P	**Pn**	**09 50 02.5**	**-0.2**
	1.3nm,0.3s,baz=68,slow=18,SNR=10						
URZ	**Urewera**	**19.95**	**202**	*e*P	**P**	**09 50 14.5**	**+0.5**
URZ				*e*S	**Sn**	**09 53 59.0**	**-0.6**
URZ	**Urewera**	**19.95**	**202**	P	**P**	**09 50 13.6**	**-0.4**
	0.7nm,0.3s,baz=22,slow=7.1,SNR=6.3						
BKZ	**Black Stump Fm**	**20.98**	**202**	*e*Pn	Pn	09 50 27.8	0.0
	88nm,1.7s						
BKZ				LR	LR		
	comp=Z,600nm,19.4s						
TBI	**Tubuai**	**22.59**	**103**	*e*P	**P**	**09 50 43.3**	**+0.8**
	comp=Z,141nm,1.2s						
TBI				*e*S	**S**	**09 54 46.9**	**-2.5**
	comp=Z,440nm,25.2s						
TBI				*e*LR	LR	09 55 42.1	
	comp=Z,1μm,31.2s						
PPT2	**Papeete2**	**22.77**	**88**	*e*S	**S**	**09 54 48.3**	**-4.7**
	comp=Z,1μm,24.5s						
PPT2				*e*LR	LR	09 55 58.9	
	comp=Z,1μm,27.0s						
PPT	**Papeete**	**22.78**	**88**	LR	LR	09 57 53.4	
	comp=Z,1μm,18.8s,baz=240,slow=32						
TIAR	**Tiarei**	**23.00**	**88**	*e*P	**P**	**09 50 46.4**	**-0.5**
	comp=Z,8.8nm,0.9s						
PMOR	**Pomariorio Ree**	**24.91**	**83**	*e*P	**P**	**09 51 04.1**	**-1.0**
	comp=Z,141nm,1.1s						
RPZ	**Rata Peaks**	**26.96**	**205**	*e*P	P	09 51 29.2	+5.7
RPZ	**Rata Peaks**	**26.96**	**205**	P	**P**	**09 51 25.2**	**+1.7**
	comp=Z,14nm,0.6s,baz=45,slow=5.7,SNR=3.3						
HNR	**Honiara**	**27.70**	**288**	LR	LR	10 01 08.3	
	comp=Z,296nm,19.7s,baz=317,slow=34						
EIDS	**Eidsvold**	**33.05**	**254**	⇓P	**P**	**09 52 16.5**	**-1.0**
	baz=33						
ARMA	**Armidale**	**33.10**	**245**	⇑P	**P**	**09 52 17.2**	**-0.9**
	baz=33,SNR=4.4						
MGCD	**Mangrove Creek**	**34.10**	**240**	⇑P	**P**	**09 52 25.8**	**-0.9**
	baz=34						
RMQ	**Roma**	**35.19**	**252**	⇓P	**P**	**09 52 35.4**	**-0.7**
	baz=35,SNR=6.9						
RKT	**Rikitea**	**35.90**	**102**	*e*LR	LR	10 01 50.3	
	comp=Z,1μm,29.5s,baz=276						
CNB	**Canberra Magne**	**36.03**	**237**	⇓P	**P**	**09 52 42.3**	**-1.1**
	baz=36,SNR=9.5						
CAN	**Canberra**	**36.32**	**237**	*e*P	**P**	**09 52 44.6**	**-1.2**
CAN				pmax	pmax		
	comp=Z,35nm,1.1s						
CAN	**Canberra**	**36.32**	**237**	*e*P	**P**	**09 52 44.6**	**-1.2**
	comp=Z,35nm,1.1s						
CAN	**Canberra**	**36.32**	**237**	⇑P	**P**	**09 52 44.7**	**-1.2**
	baz=36						
MILA	**Mila**	**36.67**	**234**	⇑P	**P**	**09 52 47.9**	**-0.9**
	baz=37,SNR=6.0						
CTA	**Charters Tower**	**37.74**	**263**	⇓P	**P**	**09 52 56.4**	**-1.7**
	baz=38						
QLP	**Quilpie**	**39.24**	**252**	P	**P**	**09 53 08.9**	**-1.6**
	baz=39,SNR=6.6						
PMG	**Port Moresby**	**39.38**	**280**	*e*P	**P**	**09 53 09.8**	**-2.1**
	comp=Z,78nm,1.1s						
PMG	**Port Moresby**	**39.38**	**280**	P	**P**	**09 53 10.8**	**-1.1**
	comp=Z,59nm,1.0s,baz=166,slow=3.5,SNR=8.5						
PMG	**Port Moresby**	**39.38**	**280**	⇑P	**P**	**09 53 11.3**	**-0.6**
	baz=40,SNR=6.6						
PMG				⇑P	**P**	**09 53 11.3**	**-0.6**
	baz=40,SNR=6.6						
PMG				⇑P	**P**	**09 53 11.3**	**-0.6**
	baz=40,SNR=6.6						
TOO	**Toolangi**	**39.62**	**235**	⇑P	**P**	**09 53 12.6**	**-1.0**
	baz=40,SNR=12						
COEN	**Coen**	**41.78**	**271**	P	**P**	**09 53 30.2**	**-1.4**
	baz=42,SNR=9.2						
STKA	**Stephens Creek**	**41.81**	**244**	*e*P	**P**	**09 53 30.3**	**-1.5**
STKA	**Stephens Creek**	**41.81**	**244**	P	**P**	**09 53 29.9**	**-1.9**
	comp=Z,20nm,1.0s,baz=90,slow=8.5,SNR=15						
STKA				LR	LR	10 08 35.2	
	comp=Z,410nm,18.1s,baz=45,slow=33						
STKA	**Stephens Creek**	**41.81**	**244**	⇑P	**P**	**09 53 30.3**	**-1.5**
	baz=42,SNR=6.0						
KIP	**Kipapa**	**43.85**	**21**	⇑*e*P	**P**	**09 53 49.2**	**+0.9**
KIP				pmax	pmax		
	comp=Z,139nm,1.9s						
QIS	**Mount Isa**	**43.87**	**261**	⇑P	**P**	**09 53 47.3**	**-1.3**
	baz=44						
HTT	**Hallett**	**44.20**	**242**	⇓P	**P**	**09 53 49.6**	**-1.6**
	baz=44,SNR=6.8						
BBOO	**Buckleboo**	**46.55**	**243**	⇑P	**P**	**09 54 08.0**	**-1.8**
	baz=47						
JAY	**Jayapura**	**47.94**	**285**	⇑P	**P**	**09 54 20.6**	**-0.2**
	baz=48,SNR=5.7						
AS07	**Alice Springs**	**48.68**	**256**	⇓P	**P**	**09 54 24.6**	**-1.8**
	baz=49						
AS06	**Alice Springs**	**48.68**	**256**	⇑P	**P**	**09 54 24.7**	**-1.8**
	baz=49						
AS05	**Alice Springs**	**48.70**	**256**	⇑P	**P**	**09 54 24.8**	**-1.9**
	baz=49						
AS31	**Alice Springs**	**48.74**	**256**	*e*P	**P**	**09 54 24.8**	**-2.2**
ASAR	**Alice Springs**	**48.74**	**256**	P	**P**	**09 54 24.8**	**-2.1**
ASAR				PcP	**PcP**	**09 55 52.5**	**+0.5**
ASAR	**Alice Springs**	**48.74**	**256**	P	**P**	**09 54 24.8**	**-2.1**
	comp=Z,14nm,1.0s,baz=87,slow=8.3,SNR=76						
ASAR				PcP	**PcP**	**09 55 52.5**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=99,slow=4.5,SNR=7.0						
ASAR				LR	LR	10 14 06.5	
	comp=Z,434nm,20.2s,baz=93,slow=35						
ASPA	**Alice Springs**	**48.74**	**256**	⇓P	**P**	**09 54 25.1**	**-1.8**
	baz=49						
WRAB	**Tennant Creek**	**48.84**	**261**	*c*eP	P	09 54 24.3	-3.4
WRAB				pmax	pmax		
	comp=Z,140nm,1.2s						
WRAB	**Tennant Creek**	**48.84**	**261**	*e*P	**P**	**09 54 24.9**	**-2.8**
	comp=Z,46nm,1.1s						
WRAB	**Tennant Creek**	**48.84**	**261**	P	**P**	**09 54 25.5**	**-2.2**
	comp=Z,201nm,1.1s,SNR=13						
WRA	**Warramunga Arr**	**48.85**	**261**	P	**P**	**09 54 25.2**	**-2.6**
WRA				PcP	**PcP**	**09 55 52.5**	**+0.2**
WRA	**Warramunga Arr**	**48.85**	**261**	P	**P**	**09 54 25.2**	**-2.6**
	comp=Z,16nm,1.0s,baz=94,slow=5.3,SNR=58						
WRA				PcP	**PcP**	**09 55 52.5**	**+0.2**
	comp=Z,8.8nm,1.0s,baz=95,slow=3.8,SNR=6.5						
KDU	**Kakadu**	**52.17**	**269**	⇑P	**P**	**09 54 50.9**	**-2.0**
	baz=52,SNR=3.8						
FORT	**Forrest**	**53.37**	**246**	⇓P	**P**	**09 54 59.5**	**-2.1**
	baz=54,SNR=6.8						
MTN	**Manton Dam**	**53.39**	**269**	P	**P**	**09 55 00.8**	**-1.1**
	baz=54,SNR=5.1						
WRKA	**Warakurna**	**53.66**	**253**	⇑P	**P**	**09 55 02.0**	**-1.9**
	baz=54,SNR=34						
KNRA	**Kununurra**	**54.91**	**265**	⇓P	**P**	**09 55 11.7**	**-1.3**
	baz=55,SNR=3.9						
FAKI	**Fak Fak**	**55.53**	**281**	⇑P	**P**	**09 55 16.7**	**-0.8**
	baz=56,SNR=4.7						
FITZ	**Fitzroy Crossi**	**57.28**	**261**	*e*P	**P**	**09 55 28.7**	**-1.2**
	comp=Z,28nm,1.3s						
FITZ	**Fitzroy Crossi**	**57.28**	**261**	LR	LR	10 20 26.3	
	comp=Z,226nm,18.4s,baz=97,slow=36						
FITZ	**Fitzroy Crossi**	**57.28**	**261**	⇑P	**P**	**09 55 28.7**	**-1.2**
	baz=58,SNR=3.6						
VNDA	**Vanda**	**58.83**	**186**	P	**P**	**09 55 41.4**	**+1.5**
	comp=Z,4.7nm,0.9s,baz=3.5,slow=7.3,SNR=14						
VNDA				LR	LR	10 17 47.2	
	comp=Z,173nm,18.2s,baz=342,slow=33						
MEEK	**Meekatharra**	**62.07**	**250**	⇓P	**P**	**09 56 01.4**	**-1.5**
	baz=62,SNR=5.3						
KLBR	**Kelberrin**	**62.09**	**244**	⇑P	**P**	**09 56 02.1**	**-0.9**
	baz=62,SNR=9.9						
BLDU	**Ballidu**	**63.11**	**245**	P	**P**	**09 56 09.0**	**-0.8**
	baz=63,SNR=6.1						
JCJ	**Chichijima**	**63.51**	**316**	LR	LR	10 17 28.7	
	comp=Z,177nm,21.1s,baz=183,slow=30						
MORW	**Morawa**	**63.92**	**247**	⇑P	**P**	**09 56 14.4**	**-0.7**
	baz=64						
KAPI	**Kappang**	**66.46**	**273**	*e*P	**P**	**09 56 31.6**	**-0.2**
	comp=Z,117nm,1.1s						
QSPA	**South Pole Qui**	**70.08**	**180**	*e*P	**P**	**09 56 54.2**	**+0.4**
	comp=Z,11nm,1.0s						
MJAR	**Matsushiro Arr**	**72.39**	**321**	P	**P**	**09 57 08.3**	**+0.2**
MJAR	**Matsushiro Arr**	**72.39**	**321**	P	**P**	**09 57 08.3**	**+0.2**
	comp=Z,15nm,1.0s,baz=158,slow=5.6,SNR=8.5						
MJAR				LR	LR	10 24 02.8	
	comp=Z,121nm,18.7s,baz=60,slow=32						
MAJO	**Matsushiro**	**72.39**	**321**	⇑*e*P	**P**	**09 57 07.5**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,243nm,1.2s						
MAT	**Matsushiro**	**72.39**	**321**	P	**P**	**09 57 07.6**	**-0.4**
BSC	**Santa Cruz Isl**	**74.24**	**44**	⇓P	**P**	**09 57 18.9**	**-0.1**
	baz=74						
SBC	**Santa Barbara**	**74.46**	**44**	⇓P	**P**	**09 57 21.3**	**+1.1**
	baz=75						
CIS	**Catalina Islan**	**74.70**	**45**	⇑P	**P**	**09 57 22.1**	**+0.5**
	baz=75						
ASAJ	**Asahikawa**	**75.38**	**329**	LR	LR	10 23 39.5	
	comp=Z,107nm,20.6s,baz=156,slow=30						
MURC	**Murrieta**	**75.62**	**46**	⇓P	**P**	**09 57 28.0**	**+1.0**
	baz=76						
BFSC	**Mount Baldy Ra**	**75.69**	**45**	⇓P	**P**	**09 57 28.3**	**+0.8**
	baz=76						
MONP	**Monument Peak**	**75.73**	**47**	⇓P	**P**	**09 57 28.6**	**+0.6**
	baz=76						
DVTC	**Desert V Tower**	**75.82**	**47**	⇑P	**P**	**09 57 29.3**	**+1.0**
	baz=76						
EDW2	**Edwards Air Fo**	**75.85**	**44**	⇓P	**P**	**09 57 29.6**	**+1.2**
	baz=76						
ISA	**Isabella**	**76.01**	**43**	⇑P	**P**	**09 57 30.0**	**+0.7**
	baz=76,SNR=6.4						
PFO	**Pinyon Flat Ob**	**76.13**	**46**	⇑P	**P**	**09 57 31.3**	**+1.2**
	baz=76						
SWSC	**Sam W. Stewart**	**76.19**	**47**	⇓P	**P**	**09 57 31.7**	**+1.4**
	baz=76						
CWC	**Cottonwood Cre**	**76.73**	**43**	⇓P	**P**	**09 57 34.2**	**+0.7**
	baz=77,SNR=5.5						
N02D	**Trinity Center**	**76.81**	**37**	⇑P	**P**	**09 57 34.7**	**+1.0**
	baz=77						
BC3	**Big Chuckawall**	**76.84**	**47**	⇓P	**P**	**09 57 35.0**	**+1.0**
	baz=77						
GSC	**Goldstone**	**76.88**	**45**	⇓P	**P**	**09 57 35.4**	**+1.2**
	baz=77						
MPMC	**Manual Prospec**	**76.89**	**44**	⇑P	**P**	**09 57 35.0**	**+0.7**
	baz=77,SNR=5.3						
HEC	**Hector,Ludlow**	**76.92**	**45**	⇑P	**P**	**09 57 35.2**	**+0.8**
	baz=77,SNR=5.2						
GLA	**Glamis**	**76.93**	**47**	⇑P	**P**	**09 57 35.3**	**+0.8**
	baz=77						
NACB	**Ninganchiao**	**76.94**	**302**	*e*P	**P**	**09 57 34.8**	**+0.1**
	comp=Z,121nm,1.2s						
NACB				*e*PcP	**PcP**	**09 57 46.0**	**+0.3**
PETK	**Petropavlovsk-**	**76.95**	**343**	P	**P**	**09 57 35.2**	**+1.1**
PETK	**Petropavlovsk-**	**76.95**	**343**	P	**P**	**09 57 35.1**	**+1.1**
PETK	**Petropavlovsk-**	**76.95**	**343**	P	**P**	**09 57 35.1**	**+1.1**
	comp=Z,20nm,0.9s,baz=132,slow=8.2,SNR=12						
PETK				LR	LR	10 27 20.3	
	comp=Z,61nm,19.3s,baz=335,slow=32						
M02C	**Callahan**	**77.00**	**37**	⇑P	**P**	**09 57 35.8**	**+1.0**
	baz=77						
TPUB	**Ta-pu**	**77.30**	**301**	*e*P	**P**	**09 57 36.4**	**-0.4**
	comp=Z,120nm,1.1s						
TPUB				*e*PcP	**PcP**	**09 57 47.4**	**+0.1**
IRM	**Iron Mountain**	**77.33**	**46**	⇓P	**P**	**09 57 37.7**	**+1.0**
	baz=78,SNR=5.7						
GMRC	**Granite Mounta**	**77.34**	**46**	⇓P	**P**	**09 57 37.8**	**+0.9**
	baz=78						
YHNB	**Yeheng**	**77.35**	**302**	*e*P	**P**	**09 57 37.9**	**+0.8**
	comp=Z,65nm,1.3s						
YSS	**Yuzh-Sakhalins**	**77.41**	**331**	*e*P	**P**	**09 57 38.0**	**+1.2**
YSS				*e*		09 57 46.0	
113A	**Mohawk Valley,**	**77.51**	**48**	⇓P	**P**	**09 57 38.9**	**+1.3**
	baz=78						
Y12C	**Blythe**	**77.53**	**47**	⇓P	**P**	**09 57 38.9**	**+1.1**
	baz=78						
FURC	**Furnace Creek,**	**77.54**	**44**	⇓P	**P**	**09 57 38.4**	**+0.7**
	baz=78						
KSM	**Kuching**	**77.54**	**276**	⇓P	**P**	**09 57 38.8**	**+0.5**
	baz=78						
TUQ	**Turquoise Moun**	**77.55**	**45**	⇑P	**P**	**09 57 38.9**	**+0.9**
	baz=78						
214A	**Organ Pipe Nat**	**77.74**	**49**	⇑P	**P**	**09 57 39.8**	**+0.8**
	baz=78						
M04C	**Macdoel**	**77.83**	**37**	⇓P	**P**	**09 57 40.4**	**+1.0**
	baz=78						
PDMCI	**Parker Dam,Lak**	**78.10**	**47**	⇑P	**P**	**09 57 41.7**	**+0.8**
	baz=78						
TPNV	**Topopah Spring**	**78.22**	**43**	⇑P	**P**	**09 57 42.5**	**+0.7**
	baz=78,SNR=5.8						
TPH	**Tonopah**	**78.26**	**42**	*e*P	**P**	**09 57 42.9**	**+0.9**
TPH				pmax	pmax		
	comp=Z,16nm,1.3s						
TPH	**Tonopah**	**78.26**	**42**	*e*P	**P**	**09 57 42.9**	**+0.9**
	comp=Z,16nm,1.3s						
Z14A	**Wintersburg**	**78.41**	**48**	⇓P	**P**	**09 57 43.9**	**+1.2**
	baz=79						
Y14A	**Wickenburg**	**78.68**	**48**	⇑P	**P**	**09 57 45.4**	**+1.2**
	baz=79,SNR=6.5						
W13A	**Hualapai Mount**	**78.72**	**46**	⇓P	**P**	**09 57 45.2**	**+0.6**
	baz=79,SNR=5.2						
I04A	**Tendick Farm,**	**78.85**	**35**	⇑P	**P**	**09 57 45.4**	**+0.5**
	baz=79						
J05D	**Fort Rock, OR**	**79.15**	**36**	⇑P	**P**	**09 57 47.8**	**+1.1**
	baz=79						
KSRS	**Korea Array**	**79.37**	**316**	P	**P**	**09 57 49.5**	**+1.7**
	comp=Z,13nm,1.1s,baz=129,slow=6.5,SNR=14						
KSRS				LR	LR	10 30 33.5	
	comp=Z,104nm,18.7s,baz=285,slow=34						
KSAR	**Wonju Array Be**	**79.39**	**316**	P	**P**	**09 57 49.5**	**+1.6**
R11A	**Troy Canyon, C**	**79.46**	**43**	⇓P	**P**	**09 57 49.4**	**+0.8**
	baz=80,SNR=6.7						
I05D	**Terrebonne, OR**	**79.78**	**35**	⇑P	**P**	**09 57 51.3**	**+1.3**
	baz=80						
319A	**Douglas**	**79.99**	**51**	⇑P	**P**	**09 57 53.0**	**+1.5**
	baz=80						
X16A	**Lo Mia Camp, P**	**80.03**	**48**	⇓P	**P**	**09 57 53.2**	**+1.4**
	baz=80,SNR=7.8						
320A	**Kipp Ranch, An**	**80.53**	**52**	⇓P	**P**	**09 57 56.0**	**+1.6**
	baz=81,SNR=6.6						
U15A	**North Rim**	**80.54**	**46**	⇓P	**P**	**09 57 56.2**	**+1.6**
	baz=81,SNR=12						
WUAZ	**Wupatki**	**80.67**	**47**	⇓P	**P**	**09 57 56.2**	**+1.1**
	baz=81						
USRK	**Ussuriysk Arra**	**80.98**	**324**	P	**P**	**09 57 57.9**	**+1.5**
	comp=Z,2.9nm,1.0s,baz=90,slow=5.7,SNR=4.2						

527A	Woodward Ranch baz=84	83.67	55	⇑P		P	09 58 11.8	+0.8
Z24A	Sheeppen Canyo baz=84,SNR=5.5	83.83	51	⇑P		P	09 58 13.1	+1.3
326A	Caldwell Ranch baz=84	83.92	54	⇑P		P	09 58 13.2	+1.0
628A	Black Gap, Mar baz=84	83.93	56	⇓P		P	09 58 13.4	+1.2
PV01	Paradox Valley comp=Z,1μm,1.0s	83.96	46	eP		P	09 58 13.4	+1.1
V22A	San Miguel Ran baz=84	83.98	49	⇓P		P	09 58 13.6	+1.0
125A	Gardner Draw, baz=84	84.04	52	⇑P		P	09 58 13.9	+1.1
Y24A	Capitan baz=84,SNR=14	84.07	51	⇑P		P	09 58 14.3	+1.3
226B	Tecolote Peak, baz=84	84.14	53	⇓P		P	09 58 14.0	+0.8
W23A	Werner Place, baz=84,SNR=11	84.15	49	⇓P		P	09 58 14.7	+1.3
427A	Hayter Ranch, baz=84,SNR=7.0	84.15	54	⇓P		P	09 58 14.5	+1.1
U22A	Llaves baz=84,SNR=7.4	84.25	48	⇑P		P	09 58 15.0	+1.0
Z25A	Roswell baz=84,SNR=7.9	84.29	52	⇑P		P	09 58 15.3	+1.3
KLR	Kul'dur	84.30	327	eP		P	09 58 11.3	-2.3
528A	Cox Ranch, San baz=84	84.31	55	⇑P		P	09 58 14.9	+0.7
X24A	Lazy VL Ranch, baz=85	84.37	50	⇓P		P	09 58 15.6	+1.0
V23A	Ortiz Mt. (NFS baz=85,SNR=17	84.41	49	⇓P		P	09 58 16.8	+2.0
126A	Clayton Basin, baz=85	84.51	53	⇑P		P	09 58 15.8	+0.6
CN2	Changchun	84.53	320	eP		P	09 58 16.4	+1.5
QIZ	Qiongzhong	84.53	292	P		P	09 58 13.3	-2.1
QIZ				S		S	10 08 38.8	-3.0
QIZ	comp=Z,12nm,1.1s			pmax		pmax		
QIZ	comp=Z,160nm,5.9s			pmax		pmax		
NEW	Newport baz=85	84.54	34	⇑P		P	09 58 15.1	+0.2
Y25A	Mesa, Roswell baz=85,SNR=14	84.61	51	⇓P		P	09 58 16.9	+1.2
428A	Kincaid Ranch, baz=85	84.64	55	⇓P		P	09 58 17.0	+1.1
U23A	El Rito baz=85,SNR=18	84.69	48	⇓P		P	09 58 17.5	+1.4
W24A	Lazy 6 Ranch, baz=85,SNR=11	84.70	50	⇓P		P	09 58 17.3	+1.0
529A	Stev Forest Ra baz=85,SNR=5.9	84.73	55	⇑P		P	09 58 17.0	+0.8
227A	Bennet, Jal baz=85	84.76	53	⇓P		P	09 58 17.3	+0.9
Z26A	Caprock baz=85,SNR=13	84.83	52	⇓P		P	09 58 17.8	+1.0
328A	Wristen Ranch, baz=85	84.84	54	⇓P		P	09 58 17.5	+0.7
MCMT	McKenzie Canyo comp=Z,3.8nm,1.0s	84.88	39	eP		P	09 58 17.8	+0.9
X25A	Clemmons Ranch baz=85,SNR=17	84.92	51	⇓P		P	09 58 18.1	+0.8
S22A	4UR Ranch, Cre baz=85,SNR=19	84.94	47	⇓P		P	09 58 18.8	+1.3
127A	Arkansas Junct baz=85	85.02	53	⇓P		P	09 58 18.6	+0.9
V24A	Rampart Ranch, baz=85,SNR=11	85.05	49	⇓P		P	09 58 19.2	+1.2
T23A	Casias Ranch, baz=85,SNR=8.6	85.14	48	⇓P		P	09 58 19.4	+1.0
O20A	White River Ci baz=86	85.20	44	⇓P		P	09 58 19.3	+0.7
429A	Davenport Ranc baz=85,SNR=10	85.21	55	⇑P		P	09 58 19.3	+0.6
Y26A	Elida baz=86,SNR=5.7	85.25	51	⇓P		P	09 58 19.8	+1.0
228A	UT Block 9, Go baz=86	85.34	54	⇑P		P	09 58 20.2	+0.9
U24A	Moreno Valley baz=86,SNR=5.6	85.37	49	⇑P		P	09 58 21.2	+1.5
W25A	X Bar L Ranch, baz=86,SNR=14	85.39	50	⇓P		P	09 58 20.4	+0.8
MSO	Missoula baz=86	85.40	36	⇓P		P	09 58 19.5	+0.2
Z27A	Tatum baz=86,SNR=7.1	85.42	52	⇓P		P	09 58 20.2	+0.5
530A	J-C Ranch, Com baz=86	85.43	56	⇑P		P	09 58 20.1	+0.4
S23A	Nye Farm, Mont baz=86	85.50	47	⇑P		P	09 58 20.9	+0.7
329A	Wagon Wheel Ra baz=86	85.52	54	⇓P		P	09 58 21.0	+0.7
X26A	CR and CF Fran baz=86,SNR=11	85.55	51	⇑P		P	09 58 21.2	+0.8
N20A	Spence Gulch, baz=86	85.55	44	⇑P		P	09 58 20.7	+0.3
V25A	Rancho No Teng baz=86,SNR=16	85.57	49	⇑P		P	09 58 21.6	+1.0
T24B	San Luis baz=86,SNR=6.5	85.61	48	⇑P		P	09 58 22.2	+1.3
128A	Castleberry Fa baz=86,SNR=6.6	85.65	53	⇓P		P	09 58 21.6	+0.7
631A	Perdido Creek baz=86,SNR=8.2	85.70	57	⇓P		P	09 58 21.9	+0.8
Y27A	Causey baz=86,SNR=12	85.72	52	⇑P		P	09 58 22.2	+1.0
I17A	Pilgrim Ck. baz=86	85.73	40	⇓P		P	09 58 21.8	+0.6
PDAR	Pinedale Array	85.74	42	P		P	09 58 21.5	+0.3
PDAR	Pinedale Array comp=Z,3.3nm,0.9s,baz=212,slow=3.6,SNR=22	85.74	42	P		P	09 58 21.5	+0.3
PDAR	comp=Z,138nm,19.0s,baz=176,slow=33			LR		LR	10 32 21.1	
430A	Baggett Ranch, baz=86	85.78	55	⇑P		P	09 58 21.9	+0.4
CHMT	Chamberlain Mo comp=Z,8.2nm,1.6s	85.84	37	eP		P	09 58 21.7	+0.1
R23A	Moffat baz=86	85.85	47	⇑P		P	09 58 22.8	+0.8
229A	Bryant Ranch, baz=86	85.87	54	⇓P		P	09 58 22.8	+0.9
732A	Laxson Ranch, baz=86	85.89	58	⇓P		P	09 58 23.2	+1.2
P22A	Eagle baz=86	85.91	45	⇓P		P	09 58 23.0	+0.8
U25A	Circle Dot Ran baz=86,SNR=6.7	85.98	49	⇑P		P	09 58 23.6	+1.0
H17A	Grant Village baz=86	85.99	40	⇑P		P	09 58 24.2	+1.7
S24A	Houchin Ranch, baz=86,SNR=5.1	86.01	48	⇑P		P	09 58 24.0	+1.2
Z28A	Tucker Farm, M baz=86,SNR=9.5	86.02	53	⇓P		P	09 58 23.7	+1.0
MSTX	Muleshoe baz=86,SNR=9.0	86.04	52	⇑P		P	09 58 23.8	+1.0
531A	Rocksprings baz=86,SNR=7.3	86.05	56	⇑P		P	09 58 23.7	+0.9
330A	Mertzon baz=86	86.10	55	⇑P		P	09 58 23.0	-0.1
X27A	F and S Farms, baz=86,SNR=7.2	86.11	51	⇓P		P	09 58 24.3	+1.1
129A	Stewart Farms, baz=86	86.12	53	⇓P		P	09 58 24.2	+1.0
V26A	Tequesquite Ra baz=86,SNR=7.9	86.15	50	⇓P		P	09 58 24.0	+0.7
J19A	Crowheart baz=87	86.31	41	⇓P		P	09 58 24.4	+0.4
W27A	Bowe Ranch, En baz=87,SNR=7.1	86.33	51	⇑P		P	09 58 25.2	+1.0
T25A	Trinidad baz=87	86.33	48	⇓P		P	09 58 24.8	+0.5
O22A	Kremmling baz=87	86.34	45	⇑P		P	09 58 24.6	+0.2
632A	Uvalde baz=87,SNR=6.3	86.37	57	⇑P		P	09 58 25.0	+0.6
R24A	Sanders Place, baz=87	86.37	47	⇑P		P	09 58 25.4	+0.9
Y28A	McKinney Farm, baz=87,SNR=5.1	86.41	52	⇑P		P	09 58 25.3	+0.7
P23A	Jefferson baz=87	86.42	46	⇑P		P	09 58 25.4	+0.5
U26A	Atchley Ranch, baz=87,SNR=7.5	86.45	49	⇓P		P	09 58 25.7	+0.8
Z29A	Hungry Hill Ra baz=87,SNR=8.9	86.52	53	⇑P		P	09 58 25.4	+0.2
PLCA	Paso Flores	86.52	132	eP		P	09 58 26.3	+1.1
PLCA	Paso Flores comp=Z,5.1nm,1.0s,baz=256,slow=9.5,SNR=4.7	86.52	132	P		P	09 58 25.6	+0.5
PLCA	comp=Z,336nm,18.8s,baz=282,slow=32			LR		LR	10 31 11.1	
532A	Rocksprings baz=87,SNR=9.3	86.54	56	⇓P		P	09 58 25.7	+0.5
S25A	Robets Cordova baz=87	86.56	48	⇑P		P	09 58 26.1	+0.7
331A	San Angelo baz=87	86.64	55	⇓P		P	09 58 25.7	0.0
Q24A	Divide baz=87	86.69	47	⇓P		P	09 58 26.7	+0.5
X28A	Dimmitt baz=87,SNR=5.0	86.72	52	⇓P		P	09 58 26.8	+0.7
N22A	Wattenberg Ran baz=87	86.72	44	⇓P		P	09 58 26.7	+0.5
I19A	Meeteetse baz=87	86.76	41	⇑P		P	09 58 27.1	+0.9
JCT	Junction City baz=87	86.77	56	⇓P		P	09 58 27.0	+0.6
O23A	Lake Granby, G baz=87	86.78	45	⇑P		P	09 58 27.3	+0.8
ISCO	Idaho Springs baz=87	86.78	46	⇑P		P	09 58 27.4	+0.8
130A	Snyder baz=87	86.78	54	⇓P		P	09 58 27.3	+0.9
Y29A	Porterfield Fa baz=87,SNR=9.0	86.81	52	⇑P		P	09 58 27.2	+0.6
V27A	Dan Oppiter Fa baz=87	86.81	50	⇑P		P	09 58 27.4	+0.8
COLA	College	86.86	11	⇓eP		P	09 58 26.0	+0.1
COLA	comp=Z,65nm,1.0s			pmax		pmax		
R25A	Fountain Ranch baz=87	86.90	48	⇑P		P	09 58 27.8	+0.8
SEY	Seymchan	86.90	345	P		P	09 58 27.2	+1.1
SEY	Seymchan	86.90	345	P		P	09 58 27.2	+1.1
SEY	Seymchan	86.90	345	P		P	09 58 27.2	+1.1
M22A	comp=Z,13nm,0.9s,baz=148,slow=6.5,SNR=11 Cedar Creek Ra baz=87	86.92	44	⇓P		P	09 58 27.7	+0.5
T26A	Comanche Natio baz=87	86.93	49	⇑P		P	09 58 27.7	+0.5
ILAR	Eielson Array	86.94	11	P		P	09 58 26.4	+0.1
ILAR	Eielson Array comp=Z,5.2nm,1.2s,baz=204,slow=5.6,SNR=16	86.94	11	P		P	09 58 26.4	+0.1
ILAR	comp=Z,156nm,18.4s,baz=145,slow=36			LR		LR	10 38 27.1	
432A	Menard baz=87	86.94	56	⇑P		P	09 58 27.7	+0.5
J20A	Shoshoni baz=87	86.96	42	⇑P		P	09 58 27.6	+0.4
Z30A	Sanderson Ranc baz=87,SNR=6.1	86.97	53	⇑P		P	09 58 27.5	+0.2
IM04	Indian Mountai	86.99	8	eP		P	09 58 26.8	+0.2
231A	Bronte baz=87	86.99	55	⇓P		P	09 58 27.3	-0.1
X29A	Tulia baz=87	87.05	52	⇑P		P	09 58 28.3	+0.6
H19A	Powell baz=87	87.09	40	⇑P		P	09 58 28.6	+0.8
N23A	Red Feather La baz=87	87.10	45	⇓P		P	09 58 28.3	+0.2
K21A	Alcova baz=87	87.12	43	⇓P		P	09 58 28.5	+0.5
U27A	Thompson Grove baz=87	87.12	50	⇑P		P	09 58 28.4	+0.3
533A	Kerrville baz=87,SNR=7.8	87.19	57	⇓P		P	09 58 28.9	+0.5
332A	Millersview baz=87	87.20	55	⇓P		P	09 58 28.8	+0.4
S26A	Kim baz=88	87.22	48	⇓P		P	09 58 28.9	+0.3
131A	Roby baz=88	87.26	54	⇑P		P	09 58 29.2	+0.5
AMTX	Amarillo baz=88	87.26	51	⇑P		P	09 58 29.3	+0.6
Q25A	Bedland, Calha baz=88	87.29	47	⇓P		P	09 58 28.8	-0.1
O24A	Longmont baz=88	87.30	46	⇓P		P	09 58 29.6	+0.7
L22A	Ellis Ranch, M baz=88	87.34	43	⇑P		P	09 58 29.9	+0.8
J21A	Lysite baz=88	87.36	42	⇓P		P	09 58 30.0	+0.8
W29A	Amraillo baz=88	87.39	51	⇓P		P	09 58 29.8	+0.5
433A	Art baz=88,SNR=9.0	87.44	56	⇑P		P	09 58 29.8	+0.2
232A	Coleman baz=88,SNR=6.9	87.49	55	⇑P		P	09 58 30.2	+0.3
M23A	Laramie baz=88	87.53	44	⇑P		P	09 58 30.4	+0.4
R26A	Arlington baz=88	87.55	48	⇑P		P	09 58 30.4	+0.3
K22A	Casper baz=88	87.59	43	⇓P		P	09 58 30.7	+0.5
534A	Blanco baz=88,SNR=5.4	87.62	57	⇓P		P	09 58 30.8	+0.3
P25A	Willow Gulch B baz=88	87.62	46	⇑P		P	09 58 30.9	+0.4
X30A	Coker Ranch, T baz=88	87.66	52	⇓P		P	09 58 31.0	+0.4
I21A	Big Trails, Te baz=88	87.69	42	⇓P		P	09 58 30.8	+0.1
Z31A	Sharp Cattle R baz=88,SNR=5.3	87.72	53	⇑P		P	09 58 31.1	+0.2
F19A	Roth Farm, Mol baz=88	87.74	39	⇑P		P	09 58 30.7	-0.2
333A	Richland Sprin baz=88	87.76	56	⇑P		P	09 58 31.6	+0.5
N24A	Carr baz=88	87.77	45	⇑P		P	09 58 31.5	+0.3
Q26A	Hugo baz=88	87.79	47	⇑P		P	09 58 31.8	+0.5
ABTX	Abilene, Hawle baz=88,SNR=7.1	87.80	54	⇓P		P	09 58 31.8	+0.5
Y31A	Rekieta Farm, baz=88	87.91	53	⇑P		P	09 58 32.3	+0.5
R27A	Eads baz=88	88.00	48	⇓P		P	09 58 32.8	+0.6
J22A	Midwest baz=88	88.00	42	⇑P		P	09 58 32.3	+0.1
434A	Burnet baz=88	88.11	56	⇑P		P	09 58 33.0	+0.2
SYO	Syowa Base	88.11	191	⇓eP		P	09 58 30.0	-2.1
M24A	Cheyenne baz=88	88.12	44	⇓P		P	09 58 33.0	+0.2
E19A	Rath Farm, Rou baz=88	88.16	39	⇑P		P	09 58 33.5	+0.7
Z32A	Haskell baz=88,SNR=11	88.22	54	⇑P		P	09 58 34.1	+0.9
K23A	Bowen Ranch, D baz=88	88.22	43	⇓P		P	09 58 33.4	+0.2
I22A	9 Mile Ranch, baz=88	88.24	42	⇑P		P	09 58 33.9	+0.6
334A	Lometa baz=89,SNR=5.9	88.34	56	⇑P		P	09 58 34.7	+0.8
133A	Hamilton Ranch baz=89	88.35	54	⇑P		P	09 58 34.5	+0.6
SNAA	Sanae comp=Z,9.0nm,1.3s	88.36	177	eP		P	09 58 33.3	-0.1
EGMT	Eagleton baz=89	88.43	37	⇑P		P	09 58 35.7	+1.7
Y32A	R-V Farms, Ver baz=89,SNR=5.8	88.54	53	⇓P		P	09 58 36.0	+1.2
BJI	Beijing	88.54	314	P		P	09 58 35.8	+1.2
BJI				S		S	10 09 23.3	+3.4
BJI	comp=Z,22nm,1.4s			pmax		pmax		
BJI	comp=Z,170nm,5.0s			pmax		pmax		
O26A	Horse Wrangler baz=89	88.55	46	⇓P		P	09 58 35.7	+0.9
H22A	Clearmont baz=89	88.67	41	⇑P		P	09 58 35.7	+0.4
C19A	Slack Wire Ran baz=89	88.67	38	⇑P		P	09 58 36.0	+0.9
W31A	Holland Ranch, baz=89	88.67	52	⇑P		P	09 58 36.3	+0.8
R28A	Tribune baz=89	88.72	48	⇑P		P	09 58 36.5	+1.0
P27A	Ficken Ranch, baz=89	88.73	47	⇑P		P	09 58 36.5	+0.8
Z33A	Whitaker Ranch baz=89	88.75	54	⇓P		P	09 58 37.0	+1.2
X32A	Elmer baz=89	88.84	53	⇓P		P	09 58 37.4	+1.2
134A	White-Moore Ra baz=89	88.98	55	⇑P		P	09 58 37.9	+1.1
G22A	Birney baz=89	89.02	41	⇑P		P	09 58 37.5	+0.7
ENH	Enshi comp=Z,27nm,1.1s	89.29	303	eP		P	09 58 40.4	+2.0
P28A	Saint Francis baz=89	89.31	47	⇓P		P	09 58 39.2	+0.8
F22A	Rosebud baz=90	89.32	40	⇓P		P	09 58 39.3	+1.1
A19A	Klindworth Far baz=90	89.48	37	⇑P		P	09 58 39.5	+0.6
L26A	Underwood Farm baz=90	89.54	45	⇓P		P	09 58 40.2	+0.9
Q29A	Oakley baz=90	89.54	48	⇓P		P	09 58 40.3	+0.9
W33A	Caddo, Fort Co baz=90	89.75	52	⇓P		P	09 58 41.3	+0.9
K26A	Motz Farm, Whi baz=90	89.78	44	⇑P		P	09 58 41.5	+1.0
H24A	Dirks Ranch, A baz=90	89.87	42	⇑P		P	09 58 41.2	+0.4
A20A	Cobblestone Ra baz=90	89.91	37	⇓P		P	09 58 41.4	+0.5
N28A	Pribbeno Ranch baz=90	89.95	46	⇓P		P	09 58 41.8	+0.5
X34A	Smith Ranch, M baz=90	90.00	53	⇑P		P	09 58 42.6	+1.0
I25A	Rochford baz=90	90.04	43	⇑P		P	09 58 42.0	+0.3
D22A	Cohagen baz=90	90.05	39	⇑P		P	09 58 42.2	+0.6
GYA	Guiyang	90.10	298	P		P	09 58 42.0	-0.4
GYA				PP		PP	10 02 17.5	+1.4
GYA				SKS		SKSac	10 09 11.0	-2.0
GYA				S		S	10 09 32.4	-3.0
GYA				SS		SS	10 15 33.6	-1.1
GYA	comp=Z,20nm,1.0s			pmax		pmax		
GYA	comp=Z,130nm,5.1s			pmax		pmax		
GYA	comp=Z,550nm,19.2s			LR		LR		
GYA	comp=Z,480nm,20.1s			LR		LR		
GYA	comp=Z,520nm,19.9s			LR		LR		
Q30A	Quinter baz=90	90.11	48	⇓P		P	09 58 43.1	+1.0
J26A	Sides Ranch, S baz=90	90.13	43	⇓P		P	09 58 43.0	+0.9
V33A	Lossen Ranch, baz=90	90.17	52	⇑P		P	09 58 43.2	+0.9
B21A	Ellsworth Farm baz=90	90.20	38	⇓P		P	09 58 42.9	+0.7
E23A	Ismay baz=90	90.25	40	⇑P		P	09 58 43.5	+1.0
R31A	Burdett baz=90	90.31	49	⇓P		P	09 58 43.8	+0.9
W34A	Bridge Creek, baz=90	90.31	53	⇑P		P	09 58 43.5	+0.5
G25A	Newell baz=91	90.79	42	⇓P		P	09 58 45.5	+0.4
J27A	Elkhorn Farm, baz=91	90.80	44	⇑P		P	09 58 46.1	+0.9
R32A	Long Quarter, baz=91	90.94	49	⇓P		P	09 58 46.9	+1.0
C23A	Lambert baz=91	90.96	39	⇑P		P	09 58 46.6	+0.9
U34A	Anderson Ranch baz=91	90.97	51	⇑P		P	09 58 47.2	+1.1
D24A	Glendive baz=91	91.14	40	⇓P		P	09 58 48.0	+1.3
XAN	Xi'an	91.22	306	P		P	09 58 48.5	+1.2
XAN	comp=Z,6.0nm,1.3s			pmax		pmax		
XAN	comp=Z,12nm,3.5s			pmax		pmax		
O31A	Woolen Ranch, baz=92	91.24	48	⇑P		P	09 58 48.5	+1.3
C24A	Savage baz=92	91.28	39	⇓P		P	09 58 48.5	+1.2
Q32A	Meitler Ranch, baz=92	91.29	49	⇓P		P	09 58 48.1	+0.6
G26A	Maurine baz=92	91.35	42	⇓P		P	09 58 48.5	+0.8
B23A	Brockton baz=92	91.39	38	⇑P		P	09 58 48.8	+1.0
R33A	Olander Ranch, baz=92	91.42	50	⇓P		P	09 58 48.9	+0.7
PHET	Kaeng Krachan comp=Z,74nm,1.0s	91.45	283	P		P	09 58 52.5	+3.8
PBKT	Sadao Pong comp=Z,15nm,1.2s	91.49	287	P		P	09 58 52.4	+3.6
F26A	Lodgepole baz=92	91.56	41	⇑P		P	09 58 49.1	+0.4
I28A	Midland baz=92	91.67	43	⇑P		P	09 58 50.1	+0.9
K29A	Lazy Trails An baz=92	91.69	45	⇓P		P	09 58 50.2	+0.9
G27A	Dupree baz=92	91.80	42	⇑P		P	09 58 50.7	+0.9
Q33A	Connelly Farm, baz=92	91.81	49	⇓P		P	09 58 51.0	+1.1
DGMT	Dagmar baz=92	91.86	39	⇑P		P	09 58 50.8	+0.9
CFAA	Coronel Fontan comp=Z,32nm,18.1s,baz=277,slow=32	91.95	125	LR		LR	10 34 52.8	
J29A	Okreek baz=92	91.96	44	⇓P		P	09 58 51.2	+0.7
E26A	Carlson Angus baz=92	91.97	41	⇑P		P	09 58 51.6	+1.1
F27A	Lemmon baz=92	91.97	42	⇑P		P	09 58 51.7	+1.2
M31A	Lambtecht Ranc baz=92	91.99	47	⇓P		P	09 58 51.8	+1.1
TUL1	Tulsa baz=92	92.06	53	⇓P		P	09 58 51.8	+0.7
HHC	Hu-ho-hao-te	92.06	313	eP		P	09 58 52.6	+1.5
HHC				sP		sP	09 58 58.6	-0.9
HHC				PP		PP	10 02 35.4	+4.1
HHC				SKS		SKSac	10 09 22.4	-1.1
HHC				S		S	10 09 51.3	-1.3
HHC				SS		SS	10 16 03.3	+0.9
HHC	comp=Z,40nm,1.3s			pmax		pmax		
HHC	comp=Z,350nm,8.0s			pmax		pmax		
HHC	comp=Z,310nm,17.3s			LR		LR		
HHC	comp=Z,340nm,18.5s			LR		LR		
HHC	comp=Z,170nm,18.5s			LR		LR		
K30A	Basset baz=92	92.12	45	⇓P		P	09 58 52.3	+1.0
PHIT	Phitsanulok comp=Z,12nm,1.1s	92.20	287	P		P	09 58 55.3	+3.2
D26A	Manning baz=92	92.24	40	⇓P		P	09 58 52.3	+0.6
SRDT	SRDT comp=Z,37nm,1.1s	92.40	284	P		P	09 58 56.4	+3.3
J30A	Dallas baz=93	92.48	45	⇑P		P	09 58 53.2	+0.3
E27A	Carson baz=93	92.50	41	⇑P		P	09 58 53.3	+0.3
KMI	Kunming	92.91	296	P		P	09 58 52.1	-3.5
KMI				pP		pP	09 59 01.8	+0.1
KMI				sP		sP	09 59 06.3	+2.4
KMI				pmax		pmax		
KMI	comp=Z,13nm,1.3s			LR		LR		
KMI	comp=Z,200nm,20.3s			LR		LR		
KMI	comp=Z,140nm,19.7s			LR		LR		
KMI	comp=Z,180nm,25.6s			LR		LR		
KHLT	Khaolaem Dam comp=Z,5.6nm,1.2s	93.04	285	P		P	09 59 00.1	+4.0
CRAI	Chiangrai comp=Z,4.8nm,0.8s	93.27	290	P		P	09 59 00.9	+3.8
A26A	Wade Farm, Ken baz=94	93.32	39	⇑P		P	09 58 57.1	+0.5
F29A	Eureka baz=94	93.33	42	⇑P		P	09 58 57.2	+0.4
LAMP	Lampang comp=Z,7.8nm,0.9s	93.35	288	P		P	09 58 59.8	+2.3
E29A	Napoleon	93.76	42	⇓P		P	09 58 59.7	+0.9

baz=94
CMAR Chiang Mai Arr 93.95 288 P **P** 09 59 01.5 +1.3
CMAR PP **PP** 10 02 48.8 +2.3
CMAR Chiang Mai Arr 93.95 288 P **P** 09 59 01.5 +1.3
comp=Z,7.8nm,1.0s,baz=119,slow=2.4,SNR=30
CMAR PP **PP** 10 02 48.8 +2.3
comp=Z,0.9nm,0.3s,baz=128,slow=5.4,SNR=5.0
CMAR LR LR 10 40 17.2
comp=Z,57nm,19.9s,baz=349,slow=35
CMMT Chiang Mai 94.06 288 P **P** 09 59 03.4 +2.6
comp=Z,10nm,1.0s
CHTO Chiang Mai 94.06 288 P **P** 09 59 03.5 +2.7
comp=Z,47nm,2.0s
CD2 Chengdu 94.10 301 *e*P **P** 09 59 01.3 +0.6
CD2 pP **pP** 09 59 06.0 -0.9
CD2 sP **sP** 09 59 08.3 -0.8
CD2 PP **PP** 10 02 50.1 +2.6
CD2 SKS **SKSac** 10 09 34.5 -0.6
CD2 S **S** 10 10 08.5 -2.5
CD2 sS **ScS** 10 10 16.3 +4.0
CD2 SS **SS** 10 16 32.1 +0.1
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,100nm,8.2s
CD2 LR LR
comp=Z,170nm,16.6s
CD2 LR LR
comp=Z,150nm,20.3s
B28A Dugan Ranch, T 94.12 40 ⇓P **P** 09 59 00.7 +0.3
baz=94
E30A Jud 94.19 42 ⇑P **P** 09 59 00.5 -0.2
baz=94
YKA Yellowknife Ar 94.32 23 P **P** 09 59 01.3 +0.4
YKA Yellowknife Ar 94.32 23 P **P** 09 59 01.3 +0.4
comp=Z,0.7nm,0.8s,baz=240,slow=4.2,SNR=13
CMAI Chiengmai2 94.35 290 P **P** 09 59 04.5 +2.3
A28A Rude Farm, Bot 94.38 39 ⇓P **P** 09 59 02.2 +0.7
baz=95
D30A Buchanan 94.54 41 ⇑P **P** 09 59 02.6 +0.3
baz=95
C30A Mose, Pekin 94.96 41 ⇑P **P** 09 59 04.2 0.0
baz=95
A29A Manning Farm, 95.00 40 ⇑P **P** 09 59 04.8 +0.4
baz=95
B30A Myrvik Farm, E 95.35 40 ⇓P **P** 09 59 06.3 +0.3
baz=96
A30A Hoffart Farm, 95.57 40 ⇑P **P** 09 59 07.2 +0.3
baz=96
ULM Lac du Bonnet 97.53 39 LR LR 10 38 19.4
comp=Z,378nm,19.5s,baz=250,slow=32
SPMN St. Paul 97.64 45 ⇑P Pdif 09 59 17.3 +0.8
baz=98
SONM Songino Array 98.17 318 P Pdif 09 59 20.5 +1.5
SONM PP **PP** **10 03 23.2 +4.5**
SONM Songino Array 98.17 318 P Pdif 09 59 20.5 +1.6
comp=Z,1.0nm,0.9s,baz=126,slow=2.6,SNR=5.0
SONM PP **PP** **10 03 23.2 +4.5**
comp=Z,1.4nm,1.1s,baz=164,slow=5.9,SNR=5.6
SONM LR LR 10 38 54.2
comp=Z,93nm,18.6s,baz=180,slow=32
LPAZ La Paz 98.32 111 *e*P Pdif 09 59 22.8 +1.8
comp=Z,1.0nm,0.9s
LPAZ La Paz 98.32 111 LR LR 10 33 10.3
comp=Z,198nm,18.3s,baz=211,slow=29
TIXI Tiksi 99.37 344 ⇓*e*P **Pdif** 09 59 23.5 0.0
TIXI pmax pmax
comp=Z,12nm,2.5s
GTA Gaotai 99.94 308 *e*P **Pdif** **09 59 28.1 +1.0**
GTA pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 109.79 311 Pdif **Pdif** **10 00 11.0 +0.3**
WMQ PP **PP** **10 04 48.0 +2.7**
WMQ S **Sdif** **10 12 20.0 -2.7**
WMQ SS **SS** **10 20 08.0 -0.9**
WMQ AMB AMB
comp=Z,45nm,8.0s
WMQ LR LR
comp=Z,52nm,22.0s
WMQ LR LR
comp=Z,88nm,24.0s
WMQ LR LR
comp=Z,59nm,22.0s
MKAR Makanchi Array 113.92 313 P **Pdif** **10 00 29.1 +0.2**
MKAR *i* 10 04 19.9
MKAR Makanchi Array 113.92 313 Pdif **Pdif** **10 00 29.1 +0.2**
MKAR PKiKP **PKiKP** **10 04 19.9 -0.8**
MKAR Makanchi Array 113.92 313 Pdiff **Pdif** **10 00 29.1 +0.2**
comp=Z,0.8nm,0.7s,baz=120,slow=4.8,SNR=4.2
MKAR PKiKP **PKiKP** **10 04 19.9 -0.8**
comp=Z,1.0nm,0.8s,baz=264,slow=1.2,SNR=5.1
KURK Kurchatov 116.48 317 PKIKP **PKPdf** **10 04 24.6 -0.9**
KURK 10 05 34.8
KURK Kurchatov 116.48 317 PKP **PKPdf** **10 04 24.6 -0.9**
KURK *e*PKPdf **PKiKP** **10 04 25.4 0.0**
KURK PP **PP** **10 05 34.8 +2.2**
KURBB Kurchatov Arra 116.53 317 PKP **PKPdf** **10 04 24.6 -1.0**
comp=Z,1.2nm,0.9s,baz=95,slow=1.6,SNR=9.8
KURBB PP **PP** **10 05 34.8 +1.8**
comp=Z,2.1nm,1.1s,baz=87,slow=7.3,SNR=5.9
AAK Ala-Archa 119.30 308 ⇑*i*PKIKP **PKPdf** **10 04 31.8 +0.4**
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 119.30 308 PKP **PKPdf** **10 04 31.2 -0.3**
AAK Ala-Archa 119.30 308 PKP **PKPdf** **10 04 31.2 -0.3**
comp=Z,0.7nm,0.5s,baz=179,slow=9.1,SNR=4.2
BVAR Borovoye Array 121.39 321 PKIKP **PKPdf** **10 04 34.9 0.0**
BVAR 10 06 09.5
BVAR Borovoye Array 121.39 321 PKP **PKPdf** **10 04 34.9 0.0**
BVAR PP **PP** **10 06 09.5 +3.1**
BVAR Borovoye Array 121.39 321 PKP **PKPdf** **10 04 34.9 0.0**
comp=Z,1.3nm,0.6s,baz=52,slow=2.4,SNR=10
BVAR PP **PP** **10 06 09.5 +3.1**
comp=Z,1.3nm,0.9s,baz=95,slow=6.6,SNR=4.2
ARU Arti 127.14 327 *i* PKIKP **PKPdf** **10 04 44.8 -1.0**
OBN Obninsk 138.22 334 ⇓*i*PKIKP **PKPdf** **10 05 09.6 +3.0**
OBN *e* 10 07 53.4
OBN pmax pmax
comp=Z,75nm,2.3s
VOR Voronezh 139.31 329 P **Pdif** **10 02 30.0 +8.4**
VOR pmax pmax
comp=Z,300nm,2.0s
VSR Storozhevoye 139.65 328 *e*PKIKP **PKPdf** **10 05 07.7 -1.7**
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 139.74 328 *e*P **Pdif** **10 02 22.4 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.7s
KIV Kislovodsk 141.56 317 *i* PKIKP **PKPdf** **10 05 15.0 +1.7**
KIV pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 144.47 335 PKIKP PKPbc 10 05 16.7 +0.1
AKASG Malin Array Be 144.47 335 PKP PKPbc 10 05 16.7 +0.2
AKASG Malin Array Be 144.47 335 PKP PKPbc 10 05 16.7 +0.2
comp=Z,14nm,0.9s,baz=36,slow=4.1,SNR=49
KIEV Kiev 144.49 335 *e*PKIKP PKPbc 10 05 16.7 +0.1
KIEV Kiev 144.49 335 *e*PKPdf PKPbc 10 05 16.7 +0.1
GKP Gorka Klasztor 145.76 349 *e*PKP **PKPab** **10 05 21.3 +0.3**
GKP Gorka Klasztor 145.76 349 *e*PKP **PKPab** **10 05 21.2 +0.3**
BSEG Bad Segeberg 145.98 356 *e*PKPbc **PKPab** **10 05 22.1 +0.3**
SIM Simferopol' 146.20 324 *e*PKHKP PKPpre 10 05 00.5
SIM pmax pmax
comp=Z,29nm,0.6s
MALT Malatya 146.90 310 ⇓*i*P **PKPab** **10 05 26.4 +0.4**
RUE Ruedersdorf 147.08 352 *e*PKPbc **PKPab** **10 05 25.4 -0.6**
LVV L'vov 147.11 339 *e*PKHKP PKPpre 10 05 15.0
NRDL Niedersach Rie 147.43 356 *e*PKPbc **PKPbc** **10 05 26.1 +0.7**
KIS Kishinev 147.48 331 *e*P **PKPbc** **10 05 26.0 +0.2**
KIS Kishinev 147.48 331 *e*PKP2 **PKPbc** **10 05 26.0 +0.2**
KWP Kalwaria Pacla 147.71 340 *e*PKIKP **PKPbc** **10 05 26.1 -0.3**
KWP *e* 10 05 28.5
KWP Kalwaria Pacla 147.71 340 *e*PKP **PKPbc** **10 05 27.6 +1.2**
KWP Kalwaria Pacla 147.71 340 ⇑*i*P **PKPab** **10 05 27.8 -0.9**
KWP Kalwaria Pacla 147.71 340 *e*PKPbc **PKPbc** **10 05 26.1 -0.3**
KWP *e*PKPab **PKiKP** **10 05 28.5 +0.1**
IBBN Ibbenburen 147.73 359 *e*PKPbc **PKPbc** **10 05 27.1 +0.8**
OJC Ojcow 148.03 344 *e*PKP2 **PKPbc** **10 05 28.3 +1.1**
OJC Ojcow 148.03 344 *e*PKP **PKPbc** **10 05 28.3 +1.1**
CLZ Clausthal 148.06 355 *e*PKPbc **PKPbc** **10 05 28.2 +0.9**
KSP Ksiaz 148.25 348 *e*PKP2 **PKPbc** **10 05 28.7 +0.9**
KSP Ksiaz 148.25 348 *e*PKP **PKPbc** **10 05 28.9 +1.1**
CLL Collm 148.33 352 ⇓*i*PKP2 **PKPbc** **10 05 29.0 +1.1**
CLL pmax pmax
comp=Z,29nm,1.0s
CLL Collm 148.33 352 *e*PKPbc **PKPbc** **10 05 28.6 +0.7**
CLL Collm 148.33 352 ⇓*i*PKPbc **PKPbc** **10 05 29.0 +1.1**
comp=Z,29nm,1.0s
CLL *e*(pPKPab) 10 05 34.0
CLL *e* 10 05 42.0
CLL LmV 11 19 00.0
comp=Z,100nm,18.3s
STHS Stebnicka Huta 148.35 342 *e*PKP2 **PKPbc** **10 05 29.4 +1.3**
STHS Stebnicka Huta 148.35 342 *e*PKP **PKPbc** **10 05 29.4 +1.3**
KOLS Kolonicke sedl 148.46 340 *e*PKIKP **PKPdf** **10 05 25.9 +1.0**
KOLS Kolonicke sedl 148.46 340 *e*PKP **PKPdf** **10 05 25.9 +1.0**
BUR08 Bucovina Ar. S 148.51 335 *e*PKPbc **PKPbc** **10 05 27.3 -1.4**
BUR08 *e*PKPab **PKPab** **10 05 31.8 -0.3**
BURAR Bucovina Array 148.52 335 ⇑*i*P **PKPab** **10 05 30.6 -1.5**
NEUB Neuenburg 148.57 354 *e*PKPbc **PKPbc** **10 05 29.4 +0.8**
BUG Bochum--Univer 148.60 359 *e*PKPbc **PKPbc** **10 05 29.1 +0.5**
NIE Niedzica 148.62 343 *e*PKP2 **PKPbc** **10 05 29.9 +1.1**
NIE Niedzica 148.62 343 *e*PKP **PKPbc** **10 05 29.9 +1.1**
BRG Berggiesshubel 148.62 351 *e*PKP **PKPbc** **10 05 29.3 +0.5**
comp=Z,38nm,1.4s
BRG Berggiesshubel 148.62 351 *e*PKP2 **PKPbc** **10 05 29.3 +0.5**
BRG pmax pmax
comp=Z,38nm,1.4s
BRG Berggiesshubel 148.62 351 *e*PKPbc **PKPbc** **10 05 29.5 +0.8**
UPC Upice 148.62 348 *e*PKP2 **PKPbc** **10 05 29.9 +1.1**
UPC Upice 148.62 348 ⇑*e*PKP **PKPbc** **10 05 29.9 +1.1**
FBE Freiberg 148.66 352 *e*PKPbc **PKPbc** **10 05 30.0 +1.2**
DPC Dobruska-Polom 148.71 348 *e*PKP2 **PKPbc** **10 05 30.4 +1.3**
DPC Dobruska-Polom 148.71 348 *e*PKPbc **PKPbc** **10 05 30.4 +1.3**
DPC ⇑*e*PKP **PKPab** **10 05 34.2 +1.5**
DPC *ex* x 10 05 42.8
UZH Uzhgorod 148.72 340 *d* PKP2 **PKPbc** **10 05 29.5 +0.5**
CRVS Cervenica-Dubn 148.74 341 *e*PKP2 **PKPbc** **10 05 30.1 +1.0**
CRVS Cervenica-Dubn 148.74 341 *e*PKP **PKPbc** **10 05 30.1 +1.0**
OKC Ostrava-Krasne 148.80 345 *e*PKP2 **PKPbc** **10 05 29.8 +0.6**
OKC Ostrava-Krasne 148.80 345 ⇑*e*PKP **PKPbc** **10 05 29.8 +0.6**
PVCC Panska Ves 148.86 350 *e*PKP2 **PKPbc** **10 05 30.7 +1.3**
PVCC Panska Ves 148.86 350 ⇑*e*PKP **PKPbc** **10 05 30.7 +1.3**
PVCC *ex* x 10 05 41.4
MORC Moravsky Berou 149.00 346 *e*PKHKP PKPpre 10 05 25.4
MORC *e* 10 05 29.7
MORC *e* 10 05 33.8
MORC Moravsky Berou 149.00 346 ⇑*i*P **PKPbc** **10 05 31.4 +1.6**
MORC Moravsky Berou 149.00 346 *e*PKPdf **PKPdf** **10 05 25.4 -0.3**
MORC *e*PKPbc **PKPbc** **10 05 29.7 -0.1**
MORC *e*PKPab **PKPab** **10 05 33.8 -0.1**
UBBA Unterbreizbach 149.11 356 *e*PKPbc **PKPbc** **10 05 30.3 +0.5**
CFR Carcaliu 149.15 329 ⇓*i*P **PKPbc** **10 05 30.5 +0.3**
PLN Plauen 149.24 353 *e*PKPbc **PKPbc** **10 05 31.2 +0.9**
WERD Werda 149.26 353 *e*PKPbc **PKPbc** **10 05 31.2 +0.8**
TANN Tannenbergstha 149.27 353 *e*PKPbc **PKPbc** **10 05 31.4 +0.9**
VRI Vrincioaia 149.28 332 ⇑*i*P **PKPbc** **10 05 31.8 +1.2**
GUNZ Gunzen 149.34 353 *e*PKPbc **PKPbc** **10 05 31.6 +1.0**
PRU Pruhonice 149.38 350 *e*PKP2 **PKPbc** **10 05 31.8 +1.1**
PRU Pruhonice 149.38 350 ⇑*e*PKP **PKPbc** **10 05 31.8 +1.1**
PRU *e*PKPAB **PKPab** **10 05 34.7 -0.7**
WERN Wernitzgruen 149.41 353 *e*PKPbc **PKPbc** **10 05 32.0 +1.2**
MEM Membach 149.44 1 PKPbc **PKPbc** **10 05 31.7 +0.9**
NKC Novy Kostel 149.45 352 ⇑*e*PKP **PKPbc** **10 05 31.4 +0.5**
BR131 Keskin Array S 149.51 316 *e*PKPdf **PKPdf** **10 05 26.9 -0.2**
BR131 *e*PKPbc **PKiKP** **10 05 32.2 -0.5**
BR131 *e*PKPab **PKPab** **10 05 36.1 -0.4**
BRTR Keskin Array B 149.51 316 PKP **PKPdf** **10 05 26.9 -0.2**
BRTR PKPbc **PKPbc** **10 05 31.9 +0.3**
BRTR Keskin Array B 149.51 316 PKP **PKPdf** **10 05 26.9 -0.2**
comp=Z,3.3nm,1.1s,baz=134,slow=3.6,SNR=4.3
BRTR PKPbc **PKPbc** **10 05 31.9 +0.3**
comp=Z,8.0nm,1.0s,baz=141,slow=1.4,SNR=22
VRAC Vranov 149.65 347 PKPbc **PKPbc** **10 05 32.0 +0.6**
VRAC Vranov 149.65 347 PKPbc **PKPbc** **10 05 32.0 +0.6**
comp=Z,2.3nm,0.4s,baz=124,slow=3.0,SNR=7.9
MANZ Manzenberg 149.73 353 *e*PKPbc **PKPbc** **10 05 32.4 +0.8**
DOPR Dopca 149.78 333 ⇓*i*P **PKPbc** **10 05 33.5 +1.6**
TNS Taunus Mts 149.79 358 *e*PKPbc **PKPbc** **10 05 32.5 +0.7**
TREC Trest 149.88 348 ⇑*e*PKP **PKPbc** **10 05 32.9 +0.9**
DOU Dourbes 149.92 2 PKPbc **PKPbc** **10 05 32.8 +0.8**
MLR Muntele Rosu 149.92 332 ⇑*i*P **PKPbc** **10 05 33.0 +0.7**
MLR Muntele Rosu 149.92 332 PKPbc **PKPbc** **10 05 33.2 +0.8**
MLR Muntele Rosu 149.92 332 PKPbc **PKPbc** **10 05 33.2 +0.8**
comp=Z,4.7nm,1.0s,baz=27,slow=2.7,SNR=12
ROTZ Rotzenmuhle 149.94 353 *e*PKPbc **PKPbc** **10 05 33.0 +0.9**
ANTO Ankara 149.98 317 *e*PKIKP **PKPdf** **10 05 27.5 -0.2**
ANTO *e* 10 05 33.5
ANTO *e* 10 05 37.9
ANTO Ankara 149.98 317 *e*PKPdf **PKPdf** **10 05 27.5 -0.2**
ANTO *e*PKPbc **PKiKP** **10 05 33.5 -0.1**
ANTO *e*PKPab **PKPab** **10 05 37.9 -0.4**
PSZ Piszkesteto 150.09 342 *e*PKIKP **PKPdf** **10 05 28.3 +0.7**
PSZ *e* 10 05 33.5
PSZ *e* 10 05 38.7
PSZ Piszkesteto 150.09 342 *e*PKPdf **PKPdf** **10 05 28.3 +0.7**
PSZ *e*PKPbc **PKiKP** **10 05 33.5 0.0**
PSZ *e*PKPab **PKPab** **10 05 38.7 +0.2**
DRGR 150.16 337 ⇓*i*P **PKPbc** **10 05 33.8 +1.0**
VOIR 150.35 333 ⇑*i*P **PKPbc** **10 05 34.7 +1.4**
KHC Kasperske Hory 150.37 351 *e*PKIKP **PKPdf** **10 05 28.6 +0.7**
KHC *e* 10 05 34.3
KHC *e* 10 05 39.0
KHC Kasperske Hory 150.37 351 ⇑*e*PKP **PKPbc** **10 05 34.2 +1.0**
KHC *e*pPKP PKPab 10 05 45.4 +5.9
KHC Kasperske Hory 150.37 351 *e*PKPdf **PKPdf** **10 05 28.6 +0.7**
KHC *e*PKPbc **PKPbc** **10 05 34.3 +1.0**
KHC *e*PKPab **PKPab** **10 05 39.0 -0.5**
WLF Walferdange 150.39 0 PKPbc **PKPbc** **10 05 34.7 +1.5**
WLF Walferdange 150.39 0 *e*PKPbc **PKPbc** **10 05 34.4 +1.3**
WET Wettzell 150.46 351 *e*PKPbc **PKPbc** **10 05 34.6 +1.2**
ARR Arges 150.58 333 ⇓*i*P **PKPbc** **10 05 35.9 +2.0**
GEC2 GERESS Array S 150.63 350 *e*PKPbc **PKPbc** **10 05 34.3 +0.4**
GERES GERESS Array B 150.63 350 PKPbc **PKPbc** **10 05 34.5 +0.6**
GERES GERESS Array B 150.63 350 PKPbc **PKPbc** **10 05 34.5 +0.6**
comp=Z,6.0nm,0.9s,baz=163,slow=4.9,SNR=14
SIRR Siria 150.98 338 ⇑*i*P **PKPbc** **10 05 36.0 +1.3**
CONA Conrad Observa 151.11 347 ⇓*i*PKiKP **PKiKP** **10 05 35.7 +0.1**
comp=Z,20nm,1.1s
GZR Gura Zlata 151.31 336 ⇓*i*P **PKPbc** **10 05 36.1 +0.5**
BZS Buzias 151.56 337 ⇑*i*P **PKPbc** **10 05 36.7 +0.7**
FUR Furstenfeldbru 151.62 353 *e*PKPbc **PKPbc** **10 05 37.0 +0.9**
BFO Black Forest 151.69 357 *e*PKIKP **PKPdf** **10 05 31.5 +1.5**
BFO *e* 10 05 37.0
BFO *e* 10 05 45.4
BFO Black Forest 151.69 357 *e*PKPbc **PKPbc** **10 05 36.6 +0.3**
BFO Black Forest 151.69 357 *e*PKPdf **PKPdf** **10 05 31.5 +1.5**
BFO *e*PKPbc **PKiKP** **10 05 37.0 +0.3**
BFO *e*PKPab **PKPab** **10 05 45.4 +0.5**
RJOB Jochberg 151.85 351 *e*PKPbc **PKPbc** **10 05 36.9 +0.2**
MOTA Moosalm 152.45 353 ⇑*i*PKiKP **PKPbc** **10 05 38.2 0.0**
comp=Z,13nm,1.0s
WTTA Wattenberg 152.47 352 ⇑*i*PKiKP **PKiKP** **10 05 38.9 +0.3**
comp=Z,17nm,1.1s
DAVA Damuels 152.63 355 ⇑*i*PKiKP **PKiKP** **10 05 39.9 +1.0**
comp=Z,13nm,1.0s
FETA Feichten 152.81 354 ⇑*i*PKiKP **PKiKP** **10 05 40.0 +0.8**
comp=Z,9.5nm,1.0s
ABTA Abfaltersbach 152.86 351 ⇓*i*sPKPdf **PKPbc** **10 05 37.1 -2.0**
comp=Z,20nm,1.1s
TORD Torodi Ar. Bea 171.79 145 PKP **PKPdf** **10 05 50.0 -1.4**
TORD PKPab **PKPab** **10 07 13.2 0.0**
TORD Torodi Ar. Bea 171.79 145 PKP **PKPdf** **10 05 50.0 -1.4**
comp=Z,2.2nm,1.1s,baz=125,slow=0.5,SNR=6.6
TORD PKPab **PKPab** **10 07 13.2 0.0**
comp=Z,1.9nm,1.1s,baz=222,slow=1.5,SNR=4.7

SKO 18 10:04:03.2, 41.63N×22.40E, h15km, M0.8, ML1.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.33**	**157**	*i* Pg	Pg	10 04 10.1	0.0
VAY				*i* Sg	Sb	10 04 15.6	-0.4
VAY				*e*Lg	Lg	10 04 16.2	
	comp=N,30nm,0.8s						
VAY				*e*Lg	Lg	10 04 16.4	
	comp=E,14nm,0.5s						
SKO	**Skopje**	**0.80**	**296**	*e*Pg	Pn	10 04 19.5	-0.4
SKO				*i* Sg	Sn	10 04 31.6	0.0
SKO				*e*Lg	Lg	10 04 32.0	
	comp=E,10nm,0.7s						
SKO				*e*Lg	Lg	10 04 32.3	
	comp=N,12nm,0.4s						
BIA	**Bitola**	**1.01**	**233**	*e*Pg	Pb	10 04 22.1	-0.4
BIA				*i* Sg	Sn	10 04 36.7	-0.3

MEX 18 10:19:41.5±0.6, 16.54N×96.47W, h57km±11km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.59**	**335**	*e*P	Pn	10 19 53.1	-1.4
VHO				*i* S	Sn	10 20 02.3	-1.8
HUIG	**Huatulco**	**0.84**	**155**	*e*P	Pn	10 19 56.1	-1.3
HUIG				*i* S	Sn	10 20 07.0	-2.1
PNIG	**Pinotepa**	**1.59**	**265**	*i* P	Pn	10 20 05.9	-1.6
PNIG				*i* S	Sn	10 20 25.5	-1.5

*ISCJB **18** 10:30:23.5±0.4, 19.58S±0.03×70.08W±0.07, h70km±4km, mb4.0/6, Error ellipse: s-maj=11.4km s-min=4.7km az=179.1*
*GUC **18** 10:30:24.2±0.6, 19.64S×70.06W, h61km±3km, ML4.4*
*NEIC **18** 10:30:24.2, 19.64S×70.06W, h61km, MG4.4(GUC), After GUC.*
NEIC Felt [II] at Alto Hospicio, Camina, Cuya, Huara, Iquique, Pica and Pozo Almonte.
*IDC **18** 10:30:24.1±0.8, 19.59S×70.14W, h61km±6km, mb3.9/6, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, MS3.4/2, Ms1 3.4/2, ms1mx2.9/25, Error ellipse: s-maj=30.6km s-min=17.6km az=83.0*
ISC 18 10:30:24.2±0.6, 19.59S±0.03×70.12W±0.07, h60km±4km, n49,σ1s91/64, mb4.3/6, 2C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.01**	**209**	⇓*i*P	**Pn**	**10 30 33.8**	**+0.6**
PSGC				*i* S	**Sn**	**10 30 40.4**	**+0.6**
PSGC	**Pisagua**	**0.01**	**209**	⇓*i*P	**Pn**	**10 30 33.8**	**+0.6**
PSGC				*i* S	**Sn**	**10 30 40.4**	**+0.6**
MNMC	**Minimini**	**0.68**	**47**	⇑*i*P	**Pn**	**10 30 38.9**	**+0.5**
MNMC				*i* S	**Sn**	**10 30 49.5**	**+0.7**
MNMC	**Minimini**	**0.68**	**47**	⇑*i*P	**Pn**	**10 30 38.9**	**+0.5**
MNMC				*i* S	**Sn**	**10 30 49.5**	**+0.7**
HMBC	**Humberstone**	**0.72**	**162**	⇓*i*P	**Pn**	**10 30 38.7**	**0.0**
HMBC				*i* S	**Sn**	**10 30 49.2**	**-0.2**
HMBC				AML	AML	10 30 50.4	
	comp=N,17μm,0.2s						
HMBC	**Humberstone**	**0.72**	**162**	⇓*i*P	**Pn**	**10 30 38.7**	**0.0**
HMBC				*i* S	**Sn**	**10 30 49.2**	**-0.2**
PATCX	**Punta Patache**	**1.22**	**181**	⇓*i*P	**Pn**	**10 30 45.2**	**0.0**
PATCX				*i* S	**Sn**	**10 31 01.1**	**+0.2**
PATCX				AML	AML	10 31 06.1	
	comp=N,5μm,0.3s						
PB01	**Plate Boundary**	**1.56**	**158**	*i* P	**Pn**	**10 30 49.7**	**-0.1**
PB01				*i* S	**Sn**	**10 31 09.1**	**0.0**
PB01				AML	AML	10 31 10.3	
	comp=N,5μm,0.5s						
PB01	**Plate Boundary**	**1.56**	**158**	*i* P	**Pn**	**10 30 49.7**	**-0.1**
PB01				*i* S	**Sn**	**10 31 09.1**	**0.0**
PB07	**Plate Boundary**	**2.13**	**174**	⇓*i*P	**Pn**	**10 30 57.8**	**+0.1**
PB07				*i* S	**Sn**	**10 31 23.9**	**+0.7**
PB07				AML	AML	10 31 29.3	
	comp=E,5μm,0.6s						
PB07	**Plate Boundary**	**2.13**	**174**	⇓*i*P	**Pn**	**10 30 57.8**	**+0.1**
PB07				*i* S	**Sn**	**10 31 23.9**	**+0.7**
PB09	**Plate Boundary**	**2.34**	**160**	*e*P	**Pn**	**10 31 00.8**	**+0.3**
PB09				*i* S	**Sn**	**10 31 28.7**	**+0.5**
PB09				AML	AML	10 31 38.4	
	comp=N,11μm,0.7s						
PB09	**Plate Boundary**	**2.34**	**160**	*e*P	**Pn**	**10 31 00.8**	**+0.3**
PB09				*i* S	**Sn**	**10 31 28.7**	**+0.5**
PB04	**Plate Boundary**	**2.73**	**168**	AML	AML	10 31 49.4	
	comp=E,2μm,0.8s						
PB06	**Plate Boundary**	**3.14**	**171**	AML	AML	10 32 06.6	
	comp=E,1μm,0.5s						
LVC	**Limon Verde**	**3.21**	**160**	*e*Pn	**Pn**	**10 31 13.2**	**+0.8**
LVC				*e*Sn	**Sn**	**10 31 55.2**	**+5.6**
ARE	**Arequipa**	**3.38**	**337**	*e*P	**Pn**	**10 31 15.0**	**+0.3**
ARE				*e*S	**Sn**	**10 31 55.0**	**+1.3**
LPAZ	**La Paz**	**3.79**	**30**	*e*Pn	Pn	10 31 24.6	+3.9
LPAZ	**La Paz**	**3.79**	**30**	P	**Pn**	**10 31 22.6**	**+1.9**
	comp=E,4.3nm,0.3s,baz=203,slow=7.4,SNR=73						
SIV	**San Ignacio**	**9.33**	**69**	P	**Pn**	**10 32 34.5**	**-1.5**
SIV	**San Ignacio**	**9.33**	**69**	P	**Pn**	**10 32 34.5**	**-1.5**
	comp=E,2.7nm,0.3s,baz=266,slow=12,SNR=39						
SIV				LR	LR	10 36 46.3	
	comp=E,296nm,20.8s,slow=41						
SAML	**Samuel**	**12.53**	**33**	*e*Pn	**Pn**	**10 33 18.1**	**-1.7**
	comp=E,3.6nm,0.8s						
SAML				*e*Sn	**Sn**	**10 35 38.6**	**+0.8**
CPUP	**Villa Florida**	**13.55**	**122**	LR	LR	10 39 24.0	
	comp=E,149nm,20.7s,baz=301,slow=40						
H03N1	**Juan Fernandez**	**15.87**	**208**	T	T	10 50 27.4	
	baz=31,slow=75,SNR=458						
H03N2	**Juan Fernandez**	**15.88**	**208**	T	T	10 50 25.3	
	baz=31,slow=75,SNR=486						
H03N3	**Juan Fernandez**	**15.88**	**208**	T	T	10 50 28.7	
	baz=31,slow=75,SNR=504						
PLCA	**Paso Flores**	**21.07**	**181**	P	**P**	**10 35 04.6**	**+1.1**
PLCA	**Paso Flores**	**21.07**	**181**	P	**P**	**10 35 04.6**	**+1.1**
	comp=E,12nm,0.7s,baz=357,slow=11,SNR=32						
TXAR	**Lajitas Array**	**58.42**	**326**	P	**P**	**10 40 13.4**	**-0.5**
TXAR				pP	**pP**	**10 40 29.2**	**-0.8**
TXAR	**Lajitas Array**	**58.42**	**326**	P	**P**	**10 40 13.4**	**-0.5**
	comp=E,0.2nm,0.7s,baz=150,slow=7.3,SNR=3.1						
TXAR				pP	**pP**	**10 40 29.2**	**-0.8**
	comp=E,1.0nm,1.0s,baz=152,slow=6.4,SNR=4.9						
SNAA	**Sanae**	**64.44**	**161**	*e*P	**P**	**10 40 53.8**	**-0.1**
SNAA	**Sanae**	**64.44**	**161**	P	**P**	**10 40 53.3**	**-0.7**
	comp=E,1.9nm,0.8s,baz=279,slow=6.5,SNR=16						
VNDA	**Vanda**	**78.52**	**190**	P	**P**	**10 42 18.9**	**+0.4**
VNDA	**Vanda**	**78.52**	**190**	P	**P**	**10 42 18.9**	**+0.4**
	comp=E,1.3nm,0.8s,baz=134,slow=1.3,SNR=4.2						
FRB	**Frobisher Bay**	**83.07**	**1**	P	**P**	**10 42 43.5**	**+0.8**
FRB	**Frobisher Bay**	**83.07**	**1**	P	**P**	**10 42 43.5**	**+0.8**
	comp=E,5.5nm,1.1s,baz=207,slow=8.1,SNR=3.1						
YKA	**Yellowknife Ar**	**89.02**	**341**	P	**P**	**10 43 11.7**	**-0.4**
YKA				pP	**pP**	**10 43 28.8**	**-0.2**
YKA	**Yellowknife Ar**	**89.02**	**341**	P	**P**	**10 43 11.6**	**-0.4**
	comp=E,2.5nm,0.7s,baz=135,slow=4.7,SNR=59						
YKA				pP	**pP**	**10 43 28.8**	**-0.2**
	comp=E,1.2nm,0.8s,baz=136,slow=4.8,SNR=8.3						
ASAR	**Alice Springs**	**131.03**	**210**	PKP	**PKPdf**	**10 49 29.1**	**-0.8**
ASAR	**Alice Springs**	**131.03**	**210**	PKP	**PKPdf**	**10 49 29.1**	**-0.8**
	comp=E,0.9nm,0.9s,baz=161,slow=4.0,SNR=5.9						
WRA	**Warramunga Arr**	**133.97**	**213**	PKP	**PKPdf**	**10 49 34.4**	**-1.1**
WRA	**Warramunga Arr**	**133.97**	**213**	PKP	**PKPdf**	**10 49 34.4**	**-1.1**
	comp=E,0.3nm,0.3s,baz=152,slow=1.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**140.69**	**23**	PKPpre	PKPpre	10 49 42.6	
ZALV				PKP	**PKPdf**	**10 49 46.9

SNAA	**Sanae**	**19.12**	**158**	P		**Pn**	**10 35**	**22.3**	**+0.5**
	baz=319,slow=12								
BDFB	**Brasilia**	**43.17**	**327**	P		**P**	**10 38**	**58.5**	**-0.6**
	1.9nm,0.4s,baz=176,slow=13,SNR=3.0								
VNDA	**Vanda**	**47.44**	**182**	P		**P**	**10 39**	**31.6**	**-0.7**
	1.4nm,0.8s,baz=122,slow=1.4,SNR=6.3								
LPAZ	**La Paz**	**50.74**	**303**	P		**P**	**10 39**	**59.7**	**+0.8**
	0.8nm,0.7s,baz=217,slow=22,SNR=4.0								
TORD	**Torodi Ar. Bea**	**71.85**	**28**	P		**P**	**10 42**	**21.1**	**0.0**
	1.7nm,0.9s,baz=256,slow=5.7								
YKA	**Yellowknife Ar**	**136.22**	**318**	PKP		**PKPdf**	**10 50**	**20.1**	**+1.8**
	0.1nm,0.5s,baz=129,slow=2.2,SNR=4.2								
ILAR	**Eielson Array**	**150.30**	**312**	PKPbc		**PKPbc**	**10 50**	**46.5**	**-1.5**
	1.7nm,0.9s,baz=126,slow=3.6,SNR=15								

*IDC **18** 10:36:12.9±0.7, 71°.40N×4°.37W, h0km, mb3.7/11, mb1 3.9/17,mb1mx3.8/33,mbtmp3.7/17,ML3.4/6,MS3.3/7, Ms1 3.3/7,ms1mx3.0/45,Error ellipse: s-maj=20.4km s-min=14.2km az=45.0*

*ISCJB **18** 10:36:13.5±0.6, 71°.54N±0°.06×3°.8W±0°.2, h12km, mb4.0/23, MS3.2/3, Error ellipse: s-maj=10.7km s-min=9.0km az=10.9*

ISC 18 10:36:14.8±0.7, **71°.45N**±0°.09×**4°.13W**±0°.10, **h12**km, **n39, σ1°50'37, mb4.2/23, MS3.2/3, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SPITS	**Spitsbergen Ar**	**8.56**	**29**	Pn		**Pn**		**10 38 16.0**	**-2.3**
	baz=203,slow=14,SNR=3.1								
ARCES	**ARCESS Array B**	**10.03**	**87**	Pn		**Pn**		**10 38 38.0**	**-0.5**
	0.4nm,0.3s,baz=295,slow=12,SNR=10								
ARCES				LR		LR		10 42 08.4	
	comp=Z,83nm,19.7s,baz=267,slow=35								
KEV	**Kevo**	**10.42**	**84**	*ep*		**Pn**		**10 38 41.8**	**-2.0**
	1.2nm,0.3s								
NOA	**NORSAR Array B**	**12.09**	**142**	Pn		**Pn**		**10 39 04.7**	**-2.0**
	0.2nm,0.3s,baz=321,slow=12,SNR=2.8								
NOA				LR		LR		10 43 31.3	
	comp=Z,151nm,20.3s,baz=335,slow=36								
HFS	**Hagfors**	**13.42**	**139**	Pn		**Pn**		**10 39 24.0**	**-0.7**
	0.5nm,0.3s,baz=331,slow=12,SNR=15								
HFS				LR		LR		10 44 34.1	
	comp=Z,172nm,19.4s,baz=258,slow=37								
KAF	**Kangasniemi**	**15.01**	**113**	*ep*		**Pn**		**10 39 44.8**	**-1.6**
	2.7nm,0.8s								
FINES	**FINESS Array B**	**15.47**	**115**	Pn		**Pn**		**10 39 50.8**	**-1.7**
	0.1nm,0.3s,baz=320,slow=9.7,SNR=2.6								
FINES				LR		LR		10 45 30.4	
	comp=Z,90nm,18.4s,baz=80,slow=36								
JOF	**Joensuu**	**15.91**	**105**	*ep*		**P**		**10 40 00.7**	**-1.1**
	7.5nm,0.8s								
EKA	**Eskdalemuir Ar**	**16.19**	**178**	Pn		**Pn**		**10 40 00.3**	**-1.5**
	baz=354,slow=12,SNR=3.5								
CLL	**Collm**	**21.65**	**150**	*eP*		**P**		**10 41 07.0**	**+2.4**
	comp=Z,5.0nm,0.8s								
BRG	**Berggiesshubel**	**22.22**	**149**	*eP*		P		10 41 17.5	+6.7
	comp=Z,10nm,1.1s								
SFTF	**Sexfontaines**	**23.71**	**165**	*eP*		**P**		**10 41 25.4**	**-0.8**
CDF	**Champ du Feu**	**23.72**	**161**	*eP*		**P**		**10 41 26.9**	**+0.5**
GERES	**GERESS Array B**	**24.15**	**150**	P		**P**		**10 41 30.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=336,slow=8.8,SNR=4.0								
GERES				LR		LR		10 50 12.5	
	comp=Z,48nm,19.5s,baz=304,slow=35								
VRAC	**Vranov**	**24.19**	**146**	P		**P**		**10 41 30.7**	**0.0**
	comp=Z,2.9nm,0.6s,baz=183,slow=19,SNR=2.8								
VRAC				LR		LR		10 50 28.6	
	comp=Z,75nm,18.9s,baz=351,slow=35								
LOR	**Lormes**	**24.55**	**167**	*eP*		**P**		**10 41 34.3**	**+0.2**
	comp=Z,13nm,0.7s								
SSF	**Saint Saulge**	**24.73**	**167**	*eP*		**P**		**10 41 35.0**	**-0.7**
AVF	**Avril sur Loir**	**24.99**	**168**	*eP*		**P**		**10 41 37.7**	**-0.3**
	comp=Z,22nm,1.2s								
MFF	**Saint Martin d**	**25.00**	**173**	*eP*		**P**		**10 41 37.8**	**-0.2**
SMF	**Signal de Mont**	**25.17**	**167**	*eP*		**P**		**10 41 39.9**	**+0.3**
	comp=Z,36nm,1.0s								
BGF	**Bois d'Agland**	**25.19**	**169**	*eP*		**P**		**10 41 41.4**	**+1.6**
	comp=Z,25nm,0.8s								
TCF	**Toulx Ste Croi**	**25.42**	**170**	*eP*		**P**		**10 41 42.4**	**+0.5**
	comp=Z,26nm,0.9s								
AKASG	**Malin Array Be**	**25.69**	**126**	P		**P**		**10 41 44.3**	**0.0**
	comp=Z,5.0nm,0.8s,baz=335,slow=9.3,SNR=7.4								
RJF	**Les Rejaudoux**	**26.36**	**171**	*eP*		**P**		**10 41 51.1**	**+0.6**
	comp=Z,42nm,1.0s								
CAF	**Calviac**	**26.77**	**170**	*eP*		**P**		**10 41 56.8**	**+2.6**
	comp=Z,24nm,1.0s								
ORIF	**Oris-en-Rattie**	**27.05**	**164**	*eP*		**P**		**10 41 59.1**	**+2.4**
	comp=Z,34nm,1.1s								
MBDF	**Montbardon**	**27.32**	**163**	*eP*		**P**		**10 42 01.7**	**+2.5**
	comp=Z,20nm,1.1s								
EPF	**Esparros**	**28.58**	**173**	*eP*		**P**		**10 42 12.0**	**+1.6**
	comp=Z,13nm,0.8s								
BVAR	**Borovoye Array**	**36.23**	**80**	P		**P**		**10 43 19.0**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=308,slow=7.4,SNR=4.4								
BRTR	**Keskin Array B**	**37.04**	**128**	P		**P**		**10 43 26.3**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=345,slow=9.0,SNR=3.7								
YKA	**Yellowknife Ar**	**38.08**	**315**	PcP		**PcP**		**10 45 48.0**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=25,slow=2.7,SNR=3.8								
ZALV	**Zalesovo Beam**	**39.86**	**67**	LR		LR		11 03 52.3	
	comp=Z,51nm,18.6s,baz=72,slow=42								
ILAR	**Eielson Array**	**41.69**	**337**	P		**P**		**10 44 03.4**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=14,slow=5.0,SNR=4.9								
SONM	**Songino Array**	**51.35**	**54**	P		**P**		**10 45 21.3**	**+2.5**
	comp=Z,0.3nm,0.9s,baz=324,slow=8.9,SNR=2.9								
PDAR	**Pinedale Array**	**54.67**	**300**	P		**P**		**10 45 41.6**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=96,slow=1.8,SNR=3.7								
TORD	**Torodi Ar. Bea**	**58.38**	**173**	P		**P**		**10 46 09.8**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=344,slow=7.7,SNR=4.4								
TXAR	**Lajitas Array**	**65.45**	**289**	P		**P**		**10 46 57.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=54,slow=4.3,SNR=6.7								
CMAR	**Chiang Mai Arr**	**76.74**	**72**	P		**P**		**10 48 05.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=323,slow=7.1,SNR=5.8								
ASAR	**Alice Springs**	**126.61**	**50**	PKP		**PKPdf**		**10 55 15.5**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=3.7,slow=3.2,SNR=4.8								

*IDC **18** 11:02:35.8±2.3, 50°.41N×179°.89W, h0km, mb3.5/4, mb1 3.8/5,mb1mx3.5/28,mbtmp3.5/5,ML3.1/1,Error ellipse: s-maj=71.4km s-min=16.9km az=12.0*

*ISCJB **18** 11:02:42.6±1.0, 51°.07N±0°.09×179°.99E±0°.06, h39km, mb3.6/4, Error ellipse: s-maj=13.2km s-min=5.2km az=10.7*

*NEIC **18** 11:02:44.3, 51°.27N×179°.94W, h21km, ML3.2(AEIC), After AEIC.*

ISC 18 11:02:44.1±1.2, **51°.2N**±0°.1×**180°.00W**±0°.04, **h39**km, **n19, σ0s99/23, mb3.7/4, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AMKA	**Amchitka**	**0.48**	**294**	P		P	**Pn**	**11 02 54.5**	**+0.1**
AMKA				S		S	**Sn**	**11 03 01.7**	**-0.1**
CESW	**Semis' Southwe**	**0.77**	**339**	P		P	**Pn**	**11 02 58.0**	**-0.4**
CERB	**Semis' Cerberu**	**0.78**	**343**	P		P	**Pn**	**11 02 58.3**	**-0.3**
CERB				S		S	**Sn**	**11 03 09.2**	**+0.1**
CETU	**Semis' Tuman**	**0.84**	**338**	P		P	**Pn**	**11 02 59.3**	**-0.1**
CEAP	**Semis' Anvil P**	**0.86**	**342**	P		P	**Pn**	**11 02 59.5**	**-0.1**
GANE	**Gareloi Northe**	**0.99**	**50**	P		P	**Pn**	**11 03 00.8**	**-0.7**
LSSE	**Little Sitkin**	**1.17**	**311**	P		P	**Pn**	**11 03 04.8**	**+0.9**
LSPA	**Little Sitkin**	**1.18**	**312**	P		P	**Pn**	**11 03 04.9**	**+0.8**
LSPA				S		S	**Sn**	**11 03 19.8**	**+0.9**
LSSA	**Little Sitkin**	**1.20**	**310**	P		P	**Pn**	**11 03 05.2**	**+0.8**
LSNW	**Little Sitkin**	**1.22**	**311**	P		P	**Pn**	**11 03 05.3**	**+0.8**
TANO	**Tanaga North**	**1.38**	**57**	P		P	**Pn**	**11 03 07.1**	**+0.3**
TASE	**Tanaga Southea**	**1.39**	**61**	P		P	**Pn**	**11 03 06.9**	**0.0**
TAFP	**Tanaga Falls P**	**1.45**	**60**	P		P	**Pn**	**11 03 07.5**	**-0.2**
TAFP				S		S	**Sn**	**11 03 27.7**	**+2.2**
GSMY	**Great Sitkin M**	**2.60**	**69**	P		P	**Pn**	**11 03 25.0**	**+1.4**
FX1	**Attu Island--F**	**4.55**	**295**	Pn		**Pn**		**11 03 51.2**	**+0.9**
	2.8nm,0.3s,baz=17,slow=19,SNR=2.4								
ILAR	**Eielson Array**	**21.87**	**39**	P		**P**		**11 07 34.9**	**+1.8**
	0.3nm,0.7s,baz=258,slow=11,SNR=4.9								
PDAR	**Pinedale Array**	**47.09**	**71**	P		**P**		**11 11 11.7**	**-0.4**
	1.5nm,0.7s,baz=330,slow=5.2,SNR=13								
TXAR	**Lajitas Array**	**59.43**	**80**	P		**P**		**11 12 40.9**	**-1.8**
	0.1nm,0.3s,baz=282,slow=4.3,SNR=2.8								
MKAR	**Makanchi Array**	**59.56**	**308**	P		**P**		**11 12 42.7**	**-0.6**
	0.6nm,0.3s,baz=51,slow=6.3,SNR=22								

*IDC **18** 11:16:03.3±1.7, 8°.79S×121°.81E, h0km, mb3.4/2, mb1 3.9/5,mb1mx3.7/21,mbtmp3.7/5,ML3.9/2,MS2.8/2, Ms1 2.8/2,ms1mx2.6/18,Error ellipse: s-maj=131.1km s-min=23.0km az=62.0*

*ISCJB **18** 11:16:06.9±0.5, 8°.70S±0°.04×122°.14E±0°.05, h31km, mb3.5/2,MS2.8/1,Error ellipse: s-maj=6.8km s-min=5.7km az=160.3*

*DJA **18** 11:16:07.5±0.4, 9°.5S×4°×12°.2E±°, h15km±5km, M4.3/6, mb4.7/4,mB4.9/1,MLv4.1/6,Mw(mB)4.2/1*

ISC 18 11:16:07.9±0.8, **8°.73S**±0°.06×**122°.12E**±0°.07, **h31**km, **n14, σ2s16/17, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MMRI	**Maumere**	**0.15**	**50**	P		P	**Pb**	**11 16 12.9**	**-0.8**
MMRI				S		S	**Sb**	**11 16 17.2**	**-0.6**
WSI	**Waingapu**	**2.02**	**243**	P		P	**Pn**	**11 16 40.5**	**+0.6**
WSI				S		S	**Sb**	**11 17 07.1**	**-1.7**
LBFI	**Labuhan Bajo,**	**2.22**	**276**	P		P	**Pn**	**11 16 43.5**	**+0.9**
LBFI				S		Sn		11 16 51.3	-18
BKSI	**Bulukumba**	**3.93**	**330**	P		P	**Pn**	**11 17 04.1**	**-2.0**
BNSI	**Bone**	**4.75**	**335**	P		P	**Pn**	**11 17 18.6**	**+1.3**
TTSI	**Tana Toraja**	**6.10**	**338**	P		P	**Pn**	**11 17 37.9**	**+2.0**
	17nm,0.8s,1μm0.1nm								
MRSI	**Marisa**	**9.15**	**359**	P		Pn		11 18 08.9	-9.0
	36nm,0.7s								
GTOI	**Gorontalo**	**9.35**	**5**	P		**Pn**		**11 18 22.2**	**+1.6**
	24nm,0.8s								
FITZ	**Fitzroy Crossi**	**9.92**	**160**	Pn		**Pn**		**11 18 29.2**	**+0.8**
	baz=0.4,slow=8.9,SNR=3.6								
FITZ				Sn		**Sn**		**11 20 22.5**	**+3.8**
	0.7nm,0.3s,baz=92,slow=16,SNR=4.1								
FITZ				LR		LR		11 23 12.5	
	comp=Z,48nm,18.9s,baz=248,slow=43								
WRA	**Warramunga Arr**	**16.24**	**135**	Pn		**Pn**		**11 19 53.7**	**-0.3**
	0.4nm,0.3s,baz=308,slow=15,SNR=7.8								
WRA				Sn		**Sn**		**11 22 48.0**	**-5.3**
	0.2nm,0.3s,baz=302,slow=20,SNR=6.6								
ASAR	**Alice Springs**	**18.65**	**144**	P		**Pn**		**11 20 24.5**	**+0.7**
	0.5nm,0.3s,baz=323,slow=12,SNR=38								
ASAR				S		**Sn**		**11 23 49.9**	**-1.7**
	0.1nm,0.3s,baz=336,slow=24,SNR=6.4								
PMG	**Port Moresby**	**24.73**	**94**	LR		LR		11 31 08.4	
	comp=Z,28nm,19.4s,baz=88,slow=36								
SONM	**Songino Array**	**58.02**	**348**	P		**P**		**11 25 58.5**	**+0.6**
	0.3nm,0.7s,baz=165,slow=11,SNR=2.3								
MKAR	**Makanchi Array**	**65.67**	**331**	P		**P**		**11 26 48.1**	**-1.1**
	0.3nm,0.5s,baz=143,slow=7.3,SNR=4.0								

MAN 18 11:16:50, 8°.88N×126°.50E, h21km, mb4.8, ML3.7, MS3.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BIPH	**Bislig**	**0.71**	**191**	*iP*		Pn		11 17 04.5	-0.3
BIPH				*i*	S	Sb		11 17 13.5	+0.6
BUTP	**Butuan**	**0.87**	**276**	*eP*		Pn		11 17 07.0	0.0
BUTP				*eS*		Sn		11 17 20.3	+1.2
SCPH	**Surigao**	**1.34**	**312**	*eP*		Pn		11 17 13.3	-0.2
BUKP	**Musuan**	**1.73**	**235**	*eP*		Pb		11 17 21.7	+0.5
CGP	**Cagayan de Oro**	**1.83**	**257**	*eP*		Pn		11 17 20.9	+0.6
CGP				*i*	S	Sb		11 17 44.4	-1.0
MATI	**Mati**	**1.94**	**187**	*eP*		Pn		11 17 22.3	+0.5
MSLP	**Maasin**	**2.04**	**308**	*eP*		Pb		11 17 25.6	-0.8
PAGZ	**Pagadian**	**3.25**	**252**	*eP*		Pb		11 17 44.1	-2.8
GUIM	**Jordan**	**4.22**	**295**	*eP*		Pn		11 17 55.0	+1.8

*IDC **18** 11:26:44.7±1.1, 35°.97S×179°.94E, h0km, mb4.1/3, mb1 4.3/4,mb1mx4.0/17,mbtmp4.1/4,ML4.0/1,MS3.2/1, Ms1 3.2/1,ms1mx2.0/24,Error ellipse: s-maj=35.4km s-min=30.7km az=64.0*

*ISCJB **18** 11:26:49.9±1.1, 36°.38S±0°.07×179°.97W±0°.10, h64km±12km, mb4.1/7,Error ellipse: s-maj=12.8km s-min=11.3km az=4.2*

*NEIC **18** 11:26:51.5, 36°.29S×179°.97E, h33km, mb4.1/4, ML4.2(WEL), After WEL.*

*WEL **18** 11:26:51.5±0.4, 36°.29S×179°.97E, h33km, ML4.2/9, Error ellipse: s-maj=3.6km s-min=2.0km az=90.0*

ISC 18 11:26:52.4±2.0, **36°.4S**±0°.1×**179°.8E**±0°.1, **h69**km±16km, **n67, σ1s53/55, mb4.2/7, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MXZ	**Matakaoa Point**	**1.72**	**225**	PN		Pn		11 27 19.9	-0.3
MXZ				*e*SN		**Sn**		**11 27 42.5**	**+1.2**
MXZ				AML		AML		11 27 43.5	
MXZ				AML		AML		11 27 43.5	
MXZ				AML		AML		11 27 43.5	
PUZ	**Puketiti**	**2.13**	**216**	PN		**Pn**		**11 27 26.0**	**+0.2**
PUZ				*e*SN		**Sn**		**11 27 52.5**	**+1.3**
PUZ				AML		AML		11 27 54.1	
CNGZ	**Carnagh Statio**	**2.49**	**211**	PN		**Pn**		**11 27 31.5**	**+0.8**
MWZ	**Matawai**	**2.70**	**222**	PN		**Pn**		**11 27 34.0**	**+0.5**
MWZ				*e*SN		**Sn**		**11 28 04.4**	**-0.7**
MWZ				AML		AML		11 28 08.3	
MWZ				AML		AML		11 28 08.3	
MWZ				AML		AML		11 28 10.6	
RIGZ	**Rimuhau**	**2.87**	**215**	*e*PN		**Pn**		**11 27 35.4**	**-0.4**
URZ	**Urewera**	**2.89**	**228**	PN		**Pn**		**11 27 36.1**	**+0.1**
URZ				*e*SN		**Sn**		**11 28 10.1**	**+0.5**
URZ				AML		AML		11 28 12.3	
URZ	**Urewera**	**2.89**	**228**	*e*Pn		**Pn**		**11 27 36.4**	**+0.4**
URZ				*e*Sn		**Sn**		**11 28 12.1**	**+2.5**
URZ	**Urewera**	**2.89**	**228**	Pn		**Pn**		**11 27 36.5**	**+0.4**
	16nm,0.3s,baz=29,slow=4.0,SNR=80								
URZ				Sn		**Sn**		**11 28 09.2**	**-0.4**
	20nm,0.3s,baz=104,slow=12,SNR=7.9								
PRGZ	**Paritu Road**	**3.00**	**211**	PN		**Pn**		**11 27 37.1**	**-0.4**
OPRZ	**Ohinepanea**	**3.02**	**240**	PN		**Pn**		**11 27 37.7**	**-0.1**
SNGZ	**Shannon Statio**	**3.13**	**219**	*e*PN		**Pn**		**11 27 39.5**	**+0.1**
KNZ	**Kokohu**	**3.17**	**212**	PN		**Pn**		**11 27 38.9**	**-0.9**
KNZ				*e*SN		**Sn**		**11 28 16.2**	**-0.2**
MHGZ	**Mahia Peninsul**	**3.18**	**208**	PN		**Pn**		**11 27 40.3**	**+0.2**
RRRZ	**Republican Roa**	**3.31**	**232**	*e*PN		**Pn**		**11 27 42.5**	**+0.7**
KUZ	**Kuaotunu**	**3.34**	**262**	PN		Pn		11 27 42.3	+0.1
RAHZ	**Arahi**	**3.36**	**220**	PN		**Pn**		**11 27 43.3**	**+0.8**
WHHZ	**Waihua**	**3.41**	**217**	*e*PN		**Pn**		**11 27 43.4**	**+0.3**
PRRZ	**Plateau Road**	**3.48**	**231**	PN		**Pn**		**11 27 44.8**	**+0.7**
NMHZ	**Naumai**	**3.64**	**220**	PN		**Pn**		**11 27 46.6**	**+0.1**
TOZ	**Tahuroa Road**	**3.73**	**247**	PN		**Pn**		**11 27 47.9**	**+0.4**
MKAZ	**Moumakai**	**3.83**	**257**	PN		**Pn**		**11 27 49.6**	**+0.8**
BKZ	**Black Stump Fm**	**3.86**	**222**	PN		**Pn**		**11 27 49.1**	**-0.3**
BKZ				AML		AML		11 28 41.1	
BKZ				AML		AML		11 28 42.6	
CKHZ	**Cape Kidnapper**	**3.95**	**213**	*e*PN		**Pn**		**11 27 49.3**	**-1.3**
MCHZ	**McNeill Hill**	**3.96**	**218**	PN		**Pn**		**11 27 51.0**	**+0.3**
KAHZ	**Kahuranaki**	**4.15**	**215**	PN		Pn		11 27 51.6	-1.8
BHHZ	**Black Hill Sta**	**4.32**	**223**	*e*PN		**Pn**		**11 27 55.8**	**+0.1**
PXZ	**Pawanui**	**4.35**	**212**	*e*PN		Pn		11 27 54.3	-1.7
PXZ				AML		AML		11 28 47.8	
NGZ	**Ngauruhoe**	**4.38**	**229**	PN		**Pn**		**11 27 57.0**	**+0.5**
MOVZ	**Moawhango**	**4.44**	**226**	*e*PN		**Pn**		**11 27 57.1**	**-0.2**
MOVZ				AML		AML		11 28 46.7	
VRZ	**Vera Road**	**4.88**	**234**	PN		**Pn**		**11 28 04.1**	**+0.8**
WAZ	**Wanganui**	**5.12**	**227**	PN		**Pn**		**11 28 06.9**	**+0.4**
OUZ	**Omahuta**	**5.20**	**281**	*e*Pn		**Pn**		**11 28 08.6**	**+1.0**
OUZ				*e*Sn		Sn		11 29 02.8	-3.5
HOWZ	**Holdsworth Sta**	**5.66**	**215**	PN		Pn		11 28 11.7	-2.2
KIW	**Kapiti Island**	**5.93**	**219**	AML		AML		11 29 21.8	
SNZO	**South Karori**	**6.36**	**217**	*e*Pn		**Pn**		**11 28 25.0**	**+1.5**
TUWZ	**Tuamarina**	**6.84**	**220**	PN		**Pn**		**11 28 27.9**	**-2.1**
NNZ	**Nelson**	**7.00**	**224**	*e*PN		**Pn**		**11 28 33.6**	**+1.4**
THZ	**Tophouse**	**7.63**	**223**	PN		Pn		11 28 37.8	-3.0
THZ				AML		AML		11 30 04.6	
THZ				AML		AML		11 30 08.8	
KHZ	**Kahutara**	**7.77**	**217**	PN		Pn		11 28 37.4	-5.3
CTZ	**Chatham Island**	**7.85**	**161**	*e*PN		Pn		11 28 42.3	-1.5
DZM	**Mont Dzumac**	**18.39**	**317**	LR		LR		11 36 44.5	
	comp=Z,62nm,18.1s,baz=180,slow=33								
AFI	**Afiamalu**	**23.59**	**21**	*eP*		P		11 31 55.3	-1.8
	33nm,1.0s								
STKA	**Stephens Creek**	**31.84**	**267**	*eP*		P		11 33 16.6	+5.9
	0.4nm,0.2s								
ASAR	**Alice Springs**	**41.38**	**275**	P		P		11 34 33.2	+1.2
ASAR	**Alice Springs**	**41.38**	**275**	P		P		11 34 33.2	+1.2
	1.6nm,0.4s,baz=117,slow=7.8,SNR=58								
SBA	**Scott Base**	**41.98**	**184**	*eP*		P		11 34 36.1	0.0
	2.1nm,0.9s								
WRAB	**Tennant Creek**	**42.91**	**280**	*eP*		**P**		**11 34 45.3**	**+0.8**
	2.0nm,0.5s								
WRA	**Warramunga Arr**	**42.91**	**280**	P		**P**		**11 34 45.1**	**+0.7**
WRA	**Warramunga Arr**	**42.91**	**280**	P		**P**		**11 34 45.1**	**+0.7**
	2.1nm,0.5s,baz=119,slow=7.5,SNR=14								
QSPA	**South Pole Qui**	**53.76**	**180**	*eP*		P		11 36 12.3	+4.8
QSPA	**South Pole Qui**	**53.76**	**180**	P		P		11 36 11.8	+4.4
	1.2nm,0.7s,baz=328,slow=2.3,SNR=8.4								
KURK	**Kurchatov**	**123.75**	**311**	PKP		**PKPdf**		**11 45 42.9**	**+1.2**
KURBB	**Kurchatov Arra**	**123.77**	**311**	PKP		**PKPdf**		**11 45 42.9**	**+1.1**
	0.7nm,0.7s,baz=119,slow=2.0,SNR=5.7								
ARCES	**ARCESS Array B**	**143.94**	**345**	PKP		**PKPdf**		**11 46 19.6**	**+0.8**
ARCES	**ARCESS Array B**	**143.94**	**345**	PKP		**PKPdf**		**11 46 19.6**	**+0.8**
	3.5nm,0.9s,baz=355,slow=4.1,SNR=3.7								
JOF	**Joensuu**	**147.13**	**334**	*e*pkp		**PKPbc**		**11 46 26.5**	**-0.2**
KAF	**Kangasniemi**	**149.40**	**336**	*e*pkp		**PKPbc**		**11 46 33.0**	**+0.4**
FINES	**FINESS Array B**	**149.95**	**335**	PKPbc		**PKPab**		**11 46 35.7**	**-4.2**
FINES	**FINESS Array B**	**149.95**	**335**	PKPbc		**PKPab**		**11 46 35.7**	**-4.2**
	3.2nm,0.6s,baz=42,slow=3.1,SNR=11								
MMAI	**Mount Meron Ar**	**150.67**	**274**	PKPbc		**PKPab**		**11 46 39.3**	**-4.6**
MMAI	**Mount Meron Ar**	**150.67**	**274**	PKPbc		**PKPab**		**11 46 39.3**	**-4.6**
	5.4nm,0.8s,baz=73,slow=6.3,SNR=3.3								
BRTR	**Keskin Array B**	**153.26**	**288**	PKPbc		**PKPbc**		**11 46 44.2**	**+1.7**
BRTR	**Keskin Array B**	**153.26**	**288**	PKPbc		**PKPbc**		**11 46 44.2**	**+1.7**
	1.7nm,0.8s,baz=146,slow=3.6,SNR=6.8								
AKASG	**Malin Array Be**	**154.53**	**313**	PKPbc		**PKPbc**		**11 46 45.7**	**+1.0**
AKASG	**Malin Array Be**	**154.53**	**313**	PKPbc		**PKPbc**		**11 46 45.7**	**+1.0**
	0.5nm,0.4s,baz=50,slow=3.5,SNR=4.2								
TORD	**Torodi Ar. Bea**	**156.83**	**185**	PKPab		PKPab		11 47 12.4	+2.3
TORD	**Torodi Ar. Bea**	**156.83**	**185**	PKPab		PKPab		11 47 12.4	+2.3
	0.8nm,1.0s,baz=171,slow=3.0,SNR=4.2								

*ISCJB **18** 11:30:36.2±0.6, 51°.51N±0°.03×16°.04E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=3.0km az=13.3*

*IPEC **18** 11:30:36.9±0.3, 51°.61N×16°.15E, h0km, ML2.5/3, Error ellipse: s-maj=3.4km s-min=1.7km az=66.0*

*CSEM **18** 11:30:37.5±0.3, 51°.53N×16°.02E, h2km, ML3.5/11, Error ellipse: s-maj=4.9km s-min=3.1km az=178.0*

*PRU **18** 11:30:38.2, 51°.53N×16°.02E, h0km*

*WAR **18** 11:30:38.3, 51°.56N×16°.02E*

*VIE **18** 11:30:39.5±0.6, 51°.35N×16°.05E, h0km, mb2.7/5, ML3.0/5, Error ellipse: s-maj=4.4km s-min=2.9km az=7.0 73 km WNW of Wroclaw Suspected Mining induced.*

*IDC **18** 11:30:39.1±0.8, 51°.48N×16°.09E, h0km, mb1 3.6/7, mb1mx3.4/28,mbtmp3.5/7,ML3.0/6,Error ellipse: s-maj=13.1km s-min=7.6km az=109.0*

ISC 18 11:30:36.6±0.8, **51°.58N**±0°.04×**16°.05E**±0°.02, **h0**km, **n48, σ0s75/89, 3C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KSP	**Ksiaz**	**0.75**	**168**	*e*Pg		**Pb**		**11 30 52

comp=Z,0.3nm,0.3s,baz=308,slow=19,SNR=2.7
AKASG Malin Array Be 8.34 91 Pn **Pn 11 32 37.5 -1.1**
comp=Z,1.1nm,0.3s,baz=280,slow=12,SNR=7.9
HFS Hagfors 8.68 352 Pn **Pn 11 32 44.6 +1.3**
baz=174,slow=14,SNR=2.4
FINES FINESS Array B 11.32 25 Pn **Pn 11 33 18.3 -1.1**
comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=5.4
ARCES ARCESS Array B 18.57 10 Pn **P 11 34 52.2 -2.5**
comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=2.8

*ISCJB **18** 11:45:38.9±0.4, 15°.51N±0°.06×93°.83W±0°.04, h83km±5km, mb3.8/8, Error ellipse: s-maj=10.8km s-min=3.7km az=26.5*
*IDC **18** 11:45:38.9±0.8, 15°.53N×93°.58W, h79km±6km, mb3.5/8, mb1 3.8/11, mb1mx3.6/28, mbtmp3.8/11, MS3.1/3, Ms1 3.1/3, ms1mx2.9/20, Error ellipse: s-maj=17.4km s-min=9.7km az=28.0*
*MEX **18** 11:45:40.1±0.7, 15°.32N×93°.88W, h10km±7km, MD4.2*
*CASC **18** 11:45:41.8±2.2, 15°.67N×93°.67W, h34km±999km, MD4.5*
ISC 18 11:45:39.4±0.7, **15°.58N**±0°.06×**93°.77W**±0°.04, **h77**km±6km, **n30**, σ2**s12**/46, **mb3.9**/8, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCIG		**0.55**	**77**	*e*P	**Pn**		**11 45 52.5**	**-0.7**
PCIG				*e*S	**Sn**		**11 46 02.7**	**-0.8**
THIG		**1.60**	**114**	*e*P	**Pn**		**11 46 05.3**	**-0.6**
THIG				*i* S	**Sn**		**11 46 24.7**	**-1.2**
HUIG	**Huatulco**	**2.26**	**275**	*e*P	**Pn**		**11 46 12.7**	**-2.0**
HUIG				*i* S	**Sn**		**11 46 39.6**	**-2.0**
JAT	**Jato**	**2.41**	**121**	*e*P	**Pn**		**11 46 17.7**	**+1.0**
TUIG	**Tuzandepetl**	**2.52**	**346**	*e*P	**Pn**		**11 46 19.1**	**+0.9**
TUIG				*i* S	**Sn**		**11 46 50.7**	**+2.8**
VHO	**Vista Hermosa**	**3.21**	**298**	*e*P	**Pn**		**11 46 29.4**	**+1.7**
VHO				*i* S	**Sn**		**11 47 06.9**	**+2.0**
APG	**El Apazote**	**3.24**	**100**	P	**Pn**		**11 46 25.8**	**-2.4**
	23nm,0.3s,baz=253,slow=6.6,SNR=114							
APG				S	**Sn**		**11 47 01.2**	**-4.6**
	86nm,0.3s,baz=36,slow=17,SNR=11							
MRL	**Marmol**	**3.97**	**97**	*e*P	**Pn**		**11 46 39.0**	**+0.9**
RBDL	**Robledal**	**4.21**	**110**	*e*P	**Pn**		**11 46 44.1**	**+2.8**
PNIG	**Pinotepa**	**4.27**	**282**	*e*P	**Pn**		**11 46 42.6**	**+0.6**
PNIG				*e*S	**Sn**		**11 47 30.7**	**+0.1**
RTR	**El Retiro**	**4.33**	**112**	*e*P	**Pn**		**11 46 45.7**	**+2.8**
RTR				*e*S	**Sn**		**11 47 37.4**	**+5.1**
SBLS	**San Blas**	**4.37**	**113**	*e*P	**Pn**		**11 46 45.7**	**+2.1**
SBLS				*e*S	**Sn**		**11 47 35.2**	**+1.8**
SNJE	**San Jose**	**4.37**	**112**	*e*P	**Pn**		**11 46 46.4**	**+2.8**
TPIG	**Tehuac#an**	**4.45**	**310**	*e*P	**Pn**		**11 46 46.5**	**+1.9**
TPIG				*i* S	**Sn**		**11 47 38.1**	**+2.9**
BOQS	**Boqueron**	**4.72**	**112**	*e*P	**Pn**		**11 46 50.6**	**+2.3**
BOQS				*e*S	**Sn**		**11 47 45.6**	**+3.8**
LFRS	**El Faro**	**4.96**	**112**	*e*P	**Pn**		**11 46 54.0**	**+2.5**
LFRS				*e*S	**Sn**		**11 47 50.1**	**+2.5**
CNCH	**Conchagua**	**6.19**	**111**	*e*P	**Pn**		**11 47 10.2**	**+1.8**
TEIG	**Tepich**	**6.98**	**48**	P	**Pn**		**11 47 17.3**	**-1.7**
	14nm,0.3s,baz=242,slow=7.3,SNR=129							
TEIG				S	**Sn**		**11 48 33.8**	**-3.1**
	25nm,0.3s,baz=312,slow=23,SNR=16							
TEIG				LR	LR		11 50 39.2	
	comp=Z,101nm,21.1s,baz=262,slow=44							
JTS	**JuntasAbangare**	**10.07**	**120**	P	**Pn**		**11 47 59.7**	**-1.6**
	0.6nm,0.3s,baz=324,slow=17,SNR=3.3							
TXAR	**Lajitas Array**	**16.45**	**328**	P	**P**		**11 49 27.1**	**+0.1**
	0.1nm,0.3s,baz=144,slow=13,SNR=16							
LPIG	**La Paz**	**17.70**	**301**	LR	LR		11 57 06.4	
	comp=Z,63nm,21.2s,baz=175,slow=38							
TKL	**Tuckaleechee C**	**21.91**	**22**	P	**P**		**11 50 27.3**	**+1.0**
	3.4nm,0.9s,baz=148,slow=9.5,SNR=2.2							
TKL				LR	LR		11 58 36.9	
	comp=Z,114nm,21.9s,baz=314,slow=36							
ANMO	**Albuquerque**	**22.40**	**332**	P	**P**		**11 50 33.6**	**+1.8**
	0.6nm,0.7s,baz=150,slow=8.8,SNR=5.3							
PDAR	**Pinedale Array**	**30.29**	**337**	P	**P**		**11 51 43.7**	**+0.1**
	0.4nm,0.8s,baz=136,slow=5.3,SNR=3.7							
YKA	**Yellowknife Ar**	**49.11**	**347**	P	**P**		**11 54 18.8**	**0.0**
	1.2nm,0.6s,baz=152,slow=7.4,SNR=28							
YKA				pP	**pP**		**11 54 38.1**	**+0.2**
	2.4nm,0.9s,baz=150,slow=7.7,SNR=8.6							
YKA				PcP	**PcP**		**11 55 38.6**	**-2.6**
	0.4nm,0.9s,baz=129,slow=5.8,SNR=4.1							
INK	**Inuvik**	**58.45**	**344**	P	**P**		**11 55 27.4**	**+0.6**
	1.7nm,0.8s,baz=143,slow=5.5,SNR=11							
INK				pP	**pP**		**11 55 46.6**	**+0.1**
	4.1nm,0.9s,baz=119,slow=8.6,SNR=6.4							
RES	**Resolute Bay**	**59.11**	**360**	P	**P**		**11 55 30.7**	**-0.7**
	1.4nm,0.8s,baz=162,slow=4.3,SNR=7.4							
PLCA	**Paso Flores**	**60.03**	**160**	P	**P**		**11 55 37.2**	**-1.0**
	3.5nm,0.9s,baz=348,slow=10,SNR=4.4							
PLCA				pP	**pP**		**11 55 57.3**	**-0.7**
	2.6nm,0.8s,baz=340,slow=7.3,SNR=3.5							
ILAR	**Eielson Array**	**60.72**	**337**	P	**P**		**11 55 42.5**	**-0.1**
	0.5nm,0.8s,baz=160,slow=4.9,SNR=9.5							
ILAR				pP	**pP**		**11 56 02.5**	**+0.1**
	0.7nm,0.6s,baz=145,slow=5.1,SNR=5.6							
CMAR	**Chiang Mai Arr**	**143.94**	**339**	PKP	PKPbc		12 05 04.7	-0.1
	0.8nm,0.8s,baz=327,slow=2.6,SNR=5.3							

*NIED **18** 11:48:00.33°.70N×141°.30E, h38km, Mw5.2 Best double couple: M0 6.30000×10^16 NP1:φ330.0000°, δ85.00000°, λ-6.00000°. NP2:φ60.00000°, δ84.00000°, λ-175.00000°.*
*BJI **18** 11:48:24.7, 33°.58N×141°.52E, h10km, mB5.1/40, mb5.2/61, Ms4.8/61, Ms7 4.6/45*
*MOS **18** 11:48:31.3±0.9, 33°.51N×141°.10E, h30km, mb5.5/87, MS4.6/44, Error ellipse: s-maj=7.4km s-min=4.1km az=116.0*
*ISCJB **18** 11:48:32.2±0.7, 33°.52N±0°.02×141°.16E±0°.02, h33km±4km, mb5.2/278, MS4.6/123, Error ellipse: s-maj=2.9km s-min=2.4km az=164.8*
*NEIC **18** 11:48:32.7±1.4, 33°.57N×141°.08E, h26km±10km, mb5.4/107, MW5.1(NIED), Error ellipse: s-maj=3.9km s-min=3.1km az=135.0*
NEIC Felt at Gotemba, Maebashi, Midaka, Mishima, Niiza and Yokohama. Recorded [2 JMA] in Chiba, Kanagawa, Shizuoka and Tokyo; [1 JMA] in Fukushima, Gumma, Ibaraki, Miyagi, Nagano, Saitama, Tochigi and Yamanashi. Also recorded [1 JMA] on Hachijo-jima, Kozu-shima, Mikura-jima, Miyake-jima, O-shima, Shikine-jima and To-shima.
*JMA **18** 11:48:32.7±0.2, 33°.70N×141°.30E, h63km, M5.2*
JMA Felt II J1.
*IDC **18** 11:48:33.4±1.7, 33°.58N×141°.18E, h33km±12km, mb4.8/32, mb1 4.9/37, mb1mx4.9/39, mbtmp5.0/37, ML4.5/2, MS4.4/31, Ms1 4.4/31, ms1mx4.3/40, Error ellipse: s-maj=11.0km s-min=8.7km az=89.0*
*GCMT **18** 11:48:35.3±0.2, 33°.63N×141°.37E, h28km±1km, MW5.2, Moment Tensor Solution. s49,c72; s98,c162; Moment tensor: Scale 10^16Nm; Mrr0.30±.17; Mθθ6.01±.14; Mφφ-6.31±.15; Mrθ-2.31±.27; Mθφ-2.80±.12; Mφr0.42±.25; Best double couple: M0 7.20000×10^16 NP1:φ236.00000°, δ78.00000°, λ166.00000°. NP2:φ329.00000°, δ77.00000°, λ13.00000°. Principal axes: T 7.3900, Plg18.0000°, Azm192.0000°; N -0.4800, Plg72.0000°, Azm14.0000°; P -6.9200, Plg1.0000°, Azm282.0000°; Data Used: II IU CU G CN IC.*
*SZGRF **18** 11:48:43.6, 35°.70N×141°.41E, h33km, mb5.3, Near east coast of eastern Honshu, Japan*
*DJA **18** 11:49:16.8±3.6, 32°N±20°×14°0E±1°3, h313km±34km, M5.0/43, mb5.2/43, mB5.5/19, Mw(mB)4.9/19*
ISC 18 11:48:31.3±0.4, **33°.61N**±0°.03×**141°.21E**±0°.03, **h19**km±1km, **h18**km:**pP-P, n1050**, σ1**s15**/1055, **mb5.3**/280, **MS4.6**/124, **145C-194D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.06**	**350**	P	**Pn**		**11 48 51.0**	**+0.3**
JHJ2	**Mitsune**	**1.27**	**247**	P	**Pg**		**11 48 56.3**	**+0.5**
JHJ2				S	**Sg**		**11 49 13.1**	**+0.8**
JHJ2	**Mitsune**	**1.27**	**247**	*e*Pn	**Pg**		**11 48 56.7**	**+0.9**
JHJ2				*e*Sn	**Sg**		**11 49 14.9**	**+2.6**
JHCJ	**Hachijojimakas**	**1.30**	**246**	P	**Pg**		**11 48 56.4**	**0.0**
JHCJ				S	**Sg**		**11 49 14.1**	**+0.8**
BSO3	**Boso 3**	**1.32**	**334**	P	**Pb**		**11 48 55.1**	**-0.3**
JMY	**Miyakejima3**	**1.48**	**289**	P	**Pb**		**11 48 58.5**	**+0.2**
BSO4	**Boso 4**	**1.55**	**333**	⇓P	**Pb**		**11 48 58.7**	**-0.7**
KTR	**Katsuura**	**1.70**	**335**	⇓P	**Pn**		**11 49 00.5**	**+0.5**
KTR				S	**Sn**		**11 49 21.4**	**+0.1**
JKO	**Kozu shima**	**1.81**	**289**	P	**Pb**		**11 49 03.4**	**-0.5**
JIM2	**Oshima 3**	**1.84**	**307**	P	**Pn**		**11 49 02.4**	**+0.4**
JIZS	**Izushimoda**	**2.22**	**300**	⇓P	**Pn**		**11 49 08.8**	**+1.6**
JIZS				*e*S	**Sn**		**11 49 35.1**	**+0.9**
AJI	**Ajiro2**	**2.26**	**310**	P	**Pn**		**11 49 08.4**	**+0.7**
JOD2	**Odawara 2**	**2.41**	**314**	P	**Pn**		**11 49 10.3**	**+0.6**
JSG	**Sagara**	**2.72**	**294**	⇓P	**Pb**		**11 49 17.2**	**-2.2**
SHZ3	**Shizuoka 3**	**2.87**	**301**	⇓P	**Pn**		**11 49 18.8**	**+2.6**
JYN	**Shimob**	**2.89**	**311**	P	**Pn**		**11 49 17.9**	**+1.4**
JHO	**Hitachi**	**3.04**	**350**	⇑P	**Pn**		**11 49 18.0**	**-0.4**
JHO				S	**Sn**		**11 49 53.0**	**-1.3**
JRY	**Ryogami san**	**3.06**	**322**	P	**Pn**		**11 49 19.2**	**+0.5**
HMMJ	**Hamamatsu 2**	**3.14**	**294**	⇓P	**Pn**		**11 49 22.3**	**+2.5**
JAG	**Ashikaga**	**3.15**	**333**	⇓P	**Pn**		**11 49 20.2**	**+0.2**
JYZW	**Yoshizawa**	**3.19**	**297**	P	**Pn**		**11 49 22.9**	**+2.4**
JNY	**Yasuok**	**3.27**	**303**	⇓P	**Pn**		**11 49 24.5**	**+2.9**
JNT	**Takato**	**3.39**	**313**	P	**Pn**		**11 49 25.9**	**+2.6**
JAA	**Atsumi**	**3.52**	**288**	P	**Pn**		**11 49 27.5**	**+2.5**
JKT	**Katashina**	**3.53**	**334**	P	**Pn**		**11 49 25.9**	**+0.6**
JGK	**Kuni**	**3.62**	**325**	P	**Pn**		**11 49 27.7**	**+1.3**
JAO	**Obara**	**3.66**	**298**	⇓P	**Pn**		**11 49 29.9**	**+2.9**
JGF	**Kuroka**	**3.74**	**303**	P	**Pn**		11 49 31.5	+3.3
JNG	**Nsakai**	**3.78**	**318**	P	**Pn**		**11 49 30.7**	**+2.0**
JIE	**Ise**	**3.82**	**283**	⇓P	**Pn**		**11 49 31.6**	**+2.5**
MJAR	**Matsushiro Arr**	**3.82**	**321**	Pn	**Pn**		**11 49 29.4**	**+0.2**
MJAR				Sn	**Sn**		**11 50 13.8**	**+0.2**
MJAR	**Matsushiro Arr**	**3.82**	**321**	Pn	**Pn**		**11 49 29.4**	**+0.2**
	258nm,0.3s,baz=185,slow=17,SNR=816							
MJAR				Sn	**Sn**		**11 50 13.8**	**+0.2**
	330nm,0.3s,baz=135,slow=22,SNR=13							
MAJO	**Matsushiro**	**3.82**	**321**	*e*P	**Pn**		**11 49 31.4**	**+2.2**
MAJO				*e*			11 50 15.8	
MAJO	**Matsushiro**	**3.82**	**321**	*e*Pn	**Pn**		**11 49 31.4**	**+2.2**
MAJO				*e*Sn	**Sn**		**11 50 15.8**	**+2.2**
TSUJ	**Tsu 2**	**4.12**	**287**	P	**Pn**		**11 49 36.0**	**+2.8**
JKN2	**Miekihoku**	**4.15**	**280**	⇓P	**Pn**		**11 49 36.4**	**+2.7**
JMM	**Marumori**	**4.26**	**356**	⇑P	**Pn**		**11 49 34.1**	**-1.1**
JNS	**Sasagawa**	**4.47**	**340**	P	**Pn**		**11 49 39.2**	**+1.1**
JNS				S	**Sn**		**11 50 28.9**	**-0.7**
JWY	**Kouya**	**4.71**	**279**	⇓P	**Pn**		**11 49 44.6**	**+3.2**
JFM	**Mihama**	**4.71**	**295**	P	**Pn**		**11 49 44.6**	**+3.2**
JKG	**Kaga**	**4.81**	**305**	P	Pn		11 49 46.9	+4.2
JIO	**Ouri**	**4.83**	**1**	⇑P	**Pn**		**11 49 41.5**	**-1.6**
JWM	**Minabe**	**4.88**	**274**	⇓P	Pn		11 49 47.0	+3.2
JSD	**Sado**	**5.02**	**332**	⇑P	**Pn**		**11 49 46.6**	**+0.9**
JMIK	**Miki**	**5.24**	**285**	P	Pn		11 49 52.5	+3.9
JMK	**Ichinoseki**	**5.33**	**0**	P	**Pn**		**11 49 48.3**	**-1.6**
JKY	**Yasaka**	**5.42**	**294**	P	**Pn**		**11 49 54.2**	**+3.1**
JKS	**Kasai**	**5.44**	**286**	⇓P	**Pn**		**11 49 54.5**	**+3.1**
OFUJ	**Ofunato**	**5.47**	**4**	⇑P	**Pn**		**11 49 49.6**	**-2.2**
JOM	**Ohasama**	**5.85**	**1**	P	**Pn**		**11 49 55.4**	**-1.7**
JAD	**Aida**	**5.98**	**285**	P	**Pn**		**11 50 01.9**	**+3.1**
JJS	**Sakaide**	**6.09**	**279**	P	**Pn**		**11 50 03.5**	**+3.1**
CBIJ	**Chichi jima**	**6.55**	**172**	*e*Pn	**Pn**		**11 50 06.1**	**-0.6**
CBIJ				*e*Sn	**Sn**		**11 51 17.2**	**-3.7**
JCJ	**Chichijima**	**6.55**	**172**	Pn	**Pn**		**11 50 06.2**	**-0.4**
	281nm,0.3s,baz=339,slow=4.5,SNR=76							
JCJ				Sn	Sn		11 51 14.2	-6.7
	153nm,0.3s,baz=288,slow=20,SNR=4.0							
JCJ				LR	LR		11 51 51.0	
	comp=Z,517nm,19.2s,baz=171,slow=30							
JTO	**Tosashimizu**	**7.08**	**266**	P	Pn		11 50 17.3	+3.3
UWA2	**Uwa jima 2**	**7.19**	**269**	P	Pn		11 50 19.2	+3.7
JTSN	**Tsuno**	**8.27**	**263**	P	Pn		11 50 34.4	+4.1
JTY	**Toyota**	**8.45**	**277**	P	Pn		11 50 38.5	+5.7
ERM	**Erimo**	**8.53**	**10**	*e*P	**Pn**		**11 50 31.0**	**-2.8**
ERM	**Erimo**	**8.53**	**10**	*e*Pn	**Pn**		**11 50 31.0**	**-2.8**
ERM				*e*Sn	Sn		11 51 59.1	-10
ERM	**Erimo**	**8.53**	**10**	Pn	**Pn**		**11 50 30.7**	**-3.1**
	2µm,0.5s,SNR=43							
JNU	**Nakatsue**	**8.65**	**270**	*e*Pn	Pn		11 50 39.3	+3.7
JNU	**Nakatsue**	**8.65**	**270**	Pn	**Pn**		**11 50 37.2**	**+1.6**
	4.5nm,0.3s,baz=84,slow=6.1,SNR=21							
JNU				LR	LR		11 52 55.5	
	comp=Z,413nm,21.9s,baz=87,slow=30							
JFA	**Akaike**	**8.68**	**274**	P	Pn		11 50 39.6	+3.7
JIU2	**Izumi 2**	**8.79**	**266**	P	Pn		11 50 42.0	+4.6
ASAJ	**Asahikawa**	**10.55**	**5**	*e*Pn	**Pn**		**11 50 58.6**	**-2.8**
ASAJ				*e*Sn	Sn		11 52 49.3	-10
ASAJ	**Asahikawa**	**10.55**	**5**	Pn	Pn		11 50 57.5	-3.9
	20nm,0.3s,baz=219,slow=11,SNR=86							
YUK	**Yuzh-Kuril'sk**	**11.02**	**18**	*d* iP	Pn		11 51 03.6	-4.3
YUK				pmax	pmax			
	comp=N,137nm,0.3s							
YUK				pmax	pmax			
	comp=E,102nm,0.3s							
YUK				pmax	pmax			
	comp=Z,398nm,0.3s							
YUK				MLR	MLR			
	comp=Z,998nm,18.0s							
YUK				MLR	MLR			
	comp=E,2µm,14.0s							
YUK				MLR	MLR			
	comp=N,2µm,18.0s							
KSRS	**Korea Array**	**11.48**	**293**	Pn	**Pn**		**11 51 17.0**	**+2.8**
	comp=N,3.0nm,0.3s,baz=105,slow=14,SNR=59							
KSRS				LR	LR		11 55 45.3	
	comp=N,1µm,19.1s,baz=103,slow=38							
KSAR	**Wonju Array Be**	**11.51**	**293**	Pn	**Pn**		**11 51 17.0**	**+2.4**
VLA	**Vladivostok**	**11.98**	**325**	*e*P	Pn		11 51 24.3	+3.3
VLA				*e*S	Sn		11 53 40.8	+6.8
INCN	**Inchon**	**12.48**	**292**	Pn	**Pn**		**11 51 28.9**	**+0.9**
KUR	**Kuril'sk**	**12.69**	**22**	P	**Pn**		**11 51 28.0**	**-2.7**
KUR				pmax	pmax			
	comp=N,250nm,1.0s							
KUR				pmax	pmax			
	comp=Z,380nm,1.0s							
USRK	**Ussuriysk Arra**	**12.77**	**329**	Pn	**Pn**		**11 51 32.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=134,slow=12,SNR=29							
USRK				LR	LR		11 56 46.0	
	comp=Z,983nm,19.7s,baz=134,slow=38							
YSS	**Yuzh-Sakhalins**	**13.38**	**5**	⇓*e*P	**Pn**		**11 51 37.0**	**-3.1**
YSS				pmax	pmax			
	comp=Z,110nm,0.9s							
YSS				MLR	MLR			
	comp=Z,2µm,16.0s							
YSS				MLR	MLR			
	comp=N,900nm,13.0s							
YSS				MLR	MLR			
	comp=E,1µm,16.0s							
YSS	**Yuzh-Sakhalins**	**13.38**	**5**	*e*Pn	**Pn**		**11 51 37.3**	**-2.8**
YSS				*e*Sn	**Sn**		**11 54 04.6**	**-3.6**
MDJ	**Mudanjiang**	**14.20**	**324**	P	**Pn**		**11 51 51.6**	**+0.3**
MDJ				S	**Sn**		**11 54 30.1**	**+1.8**
MDJ				PcP	**PcP**		**11 57 10.1**	**+0.9**
MDJ				pmax	pmax			
	comp=E,37nm,1.0s							
MDJ				pmax	pmax			
	comp=E,210nm,4.2s							
MDJ				LR	LR			
	comp=E,2µm,21.0s							
MDJ				LR	LR			
	comp=E,2µm,19.1s							
MDJ	**Mudanjiang**	**14.20**	**324**	*e*Pn	**Pn**		**11 51 50.9**	**-0.4**
	comp=E,41nm,0.8s							
UGL	**Uglegorsk**	**15.47**	**2**	*e*P	**P**		**11 52 11.0**	**-1.7**
UGL				pmax	pmax			
	comp=Z,79nm,0.7s							
UGL				MLR	MLR			
	comp=Z,2µm,19.0s							
UGL				MLR	MLR			
	comp=N,1µm,17.0s							
UGL				MLR	MLR			
	comp=E,4µm,21.0s							
HABR	**Khabarovsk**	**15.55**	**345**	*ce*P	**Pn**		**11 52 05.3**	**-4.1**
HABR				*e*S	**Sn**		**11 54 58.4**	**-2.7**
HABR				pmax	pmax			
	comp=Z,74nm,1.1s							
HABR				MLR	MLR			
	comp=E,1µm,12.0s							
HABR				MLR	MLR			
	comp=N,1µm,15.0s							
HABR				MLR	MLR			
	comp=Z,2µm,18.0s							
CN2	**Changchun**	**15.94**	**314**	*e*P	**Pn**		**11 52 14.3**	**-0.2**
CN2				*es*P	*s*P		11 52 21.3	-4.4
CN2				*e*S	**Sn**		**11 55 09.5**	**-1.1**
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,2µm,13.0s							
CN2				LR	LR			
	comp=Z,2µm,13.0s							
SNY	**Shenyang**	**16.16**	**306**	⇑P	**Pn**		**11 52 18.3**	**+0.9**
SNY				S	**S**		**11 55 28.0**	**-1.1**
SNY				pmax	pmax			
	comp=Z,16nm,1.0s							
SNY				pmax	pmax			
	comp=Z,420nm,5.1s							
SNY				LR	LR			
	comp=Z,1µm,19.2s							
SNY				LR	LR			
	comp=Z,810nm,12.7s							
DL2	**Dalian**	**16.64**	**294**	P	P		11 52 32.8	+7.0
DL2				S	**S**		**11 55 45.5**	**+6.5**
DL2				pmax	pmax			
	comp=Z,82nm,0.7s							
DL2				pmax	pmax			
	comp=Z,490nm,4.7s							
DL2				LR	LR			
	comp=N,920nm,12.7s							
DL2				LR	LR			
	comp=E,860nm,15.7s							
DL2				LR	LR			
	comp=Z,970nm,13.2s							
SSE	**Sheshan**	**17.10**	**267**	*e*P	**Pn**		**11 52 29.0**	**-0.3**
SSE				S	**Sn**		**11 55 34.5**	**-4.5**
SSE				pmax	pmax			
	comp=Z,39nm,0.7s							
SSE				pmax	pmax			
	comp=Z,130nm,4.0s							
SSE				LR	LR			
	comp=Z,2µm,16.4s							
SSE				LR	LR			
	comp=Z,910nm,16.3s							
SSE				LR	LR			
	comp=Z,1µm,12.7s							
KLR	**Kul'dur**	**17.12**	**339**	*e*P	Pn		11 52 23.6	-5.8
NJ2	**Nanjing**	**18.85**	**271**	*e*P	**P**		**11 52 48.8**	**-1.4**
NJ2				pP	**Pn**		**11 52 52.3**	**+1.5**
NJ2				sP	**sP**		**11 52 54.1**	**-3.8**
NJ2				S	**Sn**		**11 56 18.5**	**-2.8**
NJ2				sS	**S**		**11 56 28.0**	**+4.2**
NJ2				pmax	pmax			
	comp=Z,30nm,0.9s							
NJ2				pmax	pmax			
	comp=Z,180nm,5.8s							
NJ2				LR	LR			
	comp=Z,2µm,20.2s							
NJ2				LR	LR			
	comp=Z,1µm,24.6s							
YHNB	**Yeheng**	**19.45**	**248**	*e*P	**P**		**11 52 56.9**	**-0.1**
	comp=Z,84nm,1.0s							
NACB	**Ninganchiao**	**19.55**	**246**	*e*P	**P**		**11 52 57.0**	**-0.9**
	comp=Z,20nm,0.6s							
TIA	**Tai'an**	**19.91**	**284**	⇑P	**P**		**11 53 02.1**	**+0.2**
TIA				S	**S**		**11 56 42.3**	**-2.9**
TIA				pmax	pmax			
	comp=Z,20nm,0.6s							
TIA				LR	LR			
	comp=Z,1µm,16.2s							
TIA				LR	LR			
	comp=Z,3µm,15.7s							
TIA				LR	LR			
	comp=Z,3µm,16.2s							
GUMO	**Guam**	**20.21**	**170**	*e*P	**P**		**11 53 04.7**	**-0.5**
	comp=Z,444nm,1.0s							
GUMO				LR	LR			
	comp=Z,1µm,22.0s							
YULB	**Yu-li**	**20.21**	**245**	*e*P	**P**		**11 53 03.4**	**-1.8**
	comp=Z,45nm,0.8s							
YULB				*e*S	**S**		**11 56 52.6**	**+1.3**
SSLB	**Suanglung**	**20.25**	**246**	*e*P	**P**		**11 53 05.2**	**-0.5**
	comp=Z,64nm,1.0s							
TWG	**Pinlang**	**20.71**	**244**	*e*P	**P**		**11 53 09.7**	**-0.9**
	comp=Z,147nm,0.6s							
TPUB	**Ta-pu**	**20.77**	**246**	*e*P	**P**		**11 53 09.9**	**-1.4**
	comp=Z,50nm,0.8s							
BJI	**Beijing**	**21.00**	**295**	P	**P**		**11 53 13.5**	**-0.1**
BJI				S	**S**		**11 57 06.0**	**-0.8**
BJI				pmax	pmax			
	comp=Z,42nm,0.5s							
BJI				LR	LR			
	comp=Z,910nm,17.5s							
BJI				LR	LR			
	comp=Z,650nm,21.3s							
BJT	**Baijiatuau**	**21.00**	**295**	*e*P	**P**		**11 53 13.3**	**-0.4**
	comp=Z,44nm,0.6s							
BJT				LR	LR			
	comp=Z,877nm,22.0s							
HIA	**Hailar**	**22.32**	**321**	*e*P	**P**		**11 53 24.8**	**-3.0**
	comp=Z,85nm,0.6s							
HIA				LR	LR			
	comp=Z,1µm,19.0s							
PEA0B	**Petropavlovsk-**	**22.78**	**26**	*e*P	**P**		**11 53 31.5**	**-1.0**
PETK	**Petropavlovsk-**	**22.78**	**26**	P	**P**		**11 53 33.0**	**+0.4**
PETK				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PETK				MLR	MLR			
	comp=Z,676nm,21.8s							
PETK	**Petropavlovsk-**	**22.78**	**26**	P	**P**		**11 53 33.0**	**+0.4**
PETK	**Petropavlovsk-**	**22.78**	**26**	P	**P**		**11 53 33.0**	**+0.4**
	comp=Z,10nm,0.8s,baz=216,slow=7.3,SNR=8.8							
PETK				LR	LR		12 01 15.7	
	comp=Z,676nm,21.8s,baz=220,slow=33							
WHN	**Wuhan**	**22.94**	**270**	P	**P**		**11 53 34.1**	**-0.3**
WHN				S	S		11 57 35.3	-8.4
WHN				pmax	pmax			
	comp=Z,160nm,0.7s							
WHN				LR	LR			
	comp=Z,

CLNS MLR MLR
comp=E,498nm,12.0s
comp=Z,987nm,15.0s
TGY Tagaytay City 26.75 228 P **P** **11 54 10.6 +0.5**
TGY Tagaytay City 26.75 228 P **P** **11 54 10.6 +0.5**
comp=Z,135nm,0.4s,baz=83,slow=11,SNR=3.0
XAN Xi'an 26.77 280 P **P** **11 54 08.8 -1.3**
XAN pP **pP** **11 54 12.8 -2.9**
XAN pmax pmax
comp=Z,9.0nm,0.7s
XAN pmax pmax
comp=Z,28nm,5.1s
XAN LR LR
comp=Z,1μm,19.9s
XAN LR LR
comp=Z,420nm,20.8s
ENH Enshi 27.07 272 *e*P **P** **11 54 11.2 -1.6**
comp=Z,49nm,0.7s
ENH LR LR
comp=Z,66nm,22.0s
ULN Ulaanbaatar 29.27 309 P **P** **11 54 33.9 +1.6**
SNR=30
ULN Ulaanbaatar 29.27 309 *e*P **P** **11 54 33.6 +1.2**
comp=Z,84nm,0.7s
ULN LR LR
comp=Z,1μm,19.0s
YAK Yakutsk 29.38 349 *e*P **P** **11 54 31.7 -1.3**
YAK *e**PP pP 11 54 44.7 +6.0
YAK *e* 11 55 23.4
YAK *e*PPP PPP 11 55 39.8
YAK *e*S **S** **11 59 22.5 -3.0**
YAK *e*SSS SSS 12 01 00.3
YAK *e* 12 05 14.4
YAK pmax pmax
comp=Z,31nm,1.2s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,25nm,0.7s
YAK pmax pmax
comp=E,44nm,1.1s
YAK smax smax
comp=N,205nm,14.1s
YAK smax smax
comp=E,233nm,10.9s
YAK MLR MLR
comp=E,667nm,17.0s
YAK MLR MLR
comp=Z,2μm,23.0s
YAK MLR MLR
comp=N,1μm,21.0s
YAK Yakutsk 29.38 349 *e*P **P** **11 54 33.0 +0.1**
comp=N,51nm,0.7s
YAK LR LR
comp=Z,2μm,20.0s
SONM Songino Array 29.68 309 P **P** **11 54 37.0 +1.0**
SONM Songino Array 29.68 309 P **P** **11 54 37.0 +1.0**
comp=Z,73nm,0.9s,baz=107,slow=8.7,SNR=353
SONM LR LR 12 07 14.1
comp=Z,1μm,18.9s,baz=313,slow=38
FX1 Attu Island--F 29.85 40 P **P** **11 54 38.2 +1.0**
FX1 Attu Island--F 29.85 40 P **P** **11 54 38.2 +1.0**
comp=Z,49nm,0.7s,baz=246,slow=4.2,SNR=3.7
FX1 LR LR 12 04 22.9
comp=Z,741nm,20.7s,baz=153,slow=32
DAV Davao City (W) 30.12 212 PFAKE 11 54 50.0 +10
DAV LR LR
comp=Z,727nm,20.0s
SEY Seymchan 30.18 10 P **P** **11 54 41.2 +1.1**
SEY pmax pmax
comp=Z,14nm,0.9s
SEY Seymchan 30.18 10 P **P** **11 54 41.1 +1.1**
SEY Seymchan 30.18 10 P **P** **11 54 41.1 +1.1**
comp=Z,14nm,0.9s,baz=199,slow=6.8,SNR=11
GYA Guiyang 30.64 266 ⇑ *i*P **P** **11 54 42.4 -2.3**
GYA PP **PnPn** **11 55 46.5 +2.2**
GYA S **S** **11 59 46.0 -0.3**
GYA ScS **ScS** **12 05 21.3 +0.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,750nm,17.6s
GYA LR LR
comp=Z,680nm,18.0s
GYA LR LR
comp=Z,790nm,17.8s
LZH Lanzhou 30.64 285 *e*P **P** **11 54 44.1 -0.6**
LZH pP **pP** **11 54 49.0 -1.4**
LZH sP **sP** **11 54 50.1 -2.6**
LZH PP **PnPn** **11 55 44.0 -0.2**
LZH *e*S **S** **11 59 43.3 -3.0**
LZH sS **sS** **11 59 58.1 +2.4**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.2s
LZH LR LR
comp=Z,640nm,13.2s
LZH LR LR
comp=Z,820nm,13.0s
LZH LR LR
comp=Z,930nm,14.5s
QIZ Qiongzhong 31.49 250 P **P** **11 54 51.8 -0.3**
QIZ S **S** **12 00 00.9 +1.3**
QIZ pmax pmax
comp=Z,27nm,2.3s
QIZ pmax pmax
comp=Z,190nm,4.2s
QIZ LR LR
comp=Z,650nm,18.2s
QIZ LR LR
comp=Z,420nm,20.2s
QIZ Qiongzhong 31.49 250 PFAKE 11 55 00.0 +7.8
QIZ LR LR
comp=Z,795nm,22.0s
CD2 Chengdu 31.67 276 ⇑ *i*P **P** **11 54 52.3 -1.4**
CD2 pP **pP** **11 54 56.9 -2.5**
CD2 sP **sP** **11 55 00.1 -1.6**
CD2 PP **PnPn** **11 55 56.8 -0.8**
CD2 PcP **PcP** **11 57 45.5 +0.1**
CD2 S **S** **12 00 00.1 -2.2**
CD2 pmax pmax
comp=Z,110nm,0.5s
CD2 pmax pmax
comp=Z,120nm,7.1s
CD2 LR LR
comp=Z,3μm,20.2s
CD2 LR LR
comp=Z,1μm,7.8s
CD2 LR LR
comp=Z,2μm,16.7s
ZAK Zakamensk 32.36 313 *e*P **P** **11 55 00.1 +0.5**
ZAK *e* 11 55 12.8
ZAK pmax pmax
comp=Z,40nm,1.1s
IRK Irkutsk 32.36 316 *e*P **P** **11 54 59.7 +0.2**
IRK pmax pmax
comp=Z,89nm,1.5s
TLY Talaya 32.54 315 P **P** **11 55 02.8 +1.8**
comp=Z,729nm,0.8s,SNR=23
TLY Talaya 32.54 315 *e*P **P** **11 55 02.5 +1.5**
TLY *e* 11 55 16.0
TLY *e* 11 56 20.0
TLY *e*SS SS 12 02 14.2 -21
TLY pmax pmax
comp=Z,126nm,1.0s
TLY MLR MLR
comp=Z,872nm,20.0s
TLY Talaya 32.54 315 P **P** **11 55 02.8 +1.8**
SNR=13
TLY Talaya 32.54 315 *e*P **P** **11 55 01.8 +0.8**
comp=Z,138nm,0.9s
TLY LR LR
comp=Z,944nm,19.0s
GTA Gaotai 33.55 292 *e*P **P** **11 55 10.0 -0.2**
GTA pP **pP** **11 55 13.6 -2.3**
GTA sP **sP** **11 55 15.5 -2.7**
GTA S **S** **12 00 29.6 -1.9**
GTA ScP **ScP** **12 01 32.3 -1.8**
GTA ScS **ScS** **12 05 30.0 -5.4**
GTA pmax pmax
comp=Z,16nm,0.6s
GTA pmax pmax
comp=Z,110nm,4.3s
GTA LR LR
comp=Z,760nm,20.4s
GTA LR LR
comp=Z,630nm,17.6s
GTA LR LR
comp=Z,770nm,15.7s
MOY Mondy 34.11 314 *e*P **P** **11 55 15.6 +0.8**
MOY pmax pmax
comp=Z,41nm,1.7s
KMI Kunming 34.42 266 P **P** **11 55 16.8 -1.1**
KMI S **S** **12 00 47.1 +1.7**
KMI pmax pmax
comp=Z,14nm,0.7s
KMI LR LR
comp=Z,500nm,19.5s
KMI LR LR
comp=Z,1μm,16.3s
KMI LR LR
comp=Z,1μm,16.7s
KDM Kudat 34.86 226 P **P** **11 55 21.4 -0.1**
TNTI Ternate 35.16 205 P **P** **11 55 23.2 -0.8**
comp=Z,221nm,1.1s,comp=Z,2μm
TNTI Ternate 35.16 205 *e*P **P** **11 55 22.6 -1.4**
comp=Z,208nm,1.0s
SWI Sorong 35.55 197 P **P** **11 55 26.8 -0.6**
comp=Z,88nm,1.0s,comp=Z,1μm
SDKM Sandakan 35.66 224 P **P** **11 55 28.1 -0.4**
GENI Genyem 36.02 182 P **P** **11 55 33.1 +1.6**
comp=Z,215nm,1.1s,comp=Z,2μm
TSM Tawau 36.38 222 P **P** **11 55 34.0 -0.6**
LBMI Labuha 36.43 204 P **P** **11 55 34.5 -0.4**
comp=Z,131nm,0.9s,comp=Z,1μm
KMSI Cibinong 36.63 210 P **P** **11 55 36.3 -0.3**
comp=Z,398nm,0.9s,comp=Z,4μm
DLV T Lat 36.83 242 *e*P **P** **11 55 37.8 -0.9**
GTOI Gorontalo 36.98 211 P **P** **11 55 37.8 -1.9**
FAKI Fak Fak 37.30 195 P **P** **11 55 41.8 -0.6**
comp=Z,49nm,1.8s,comp=Z,849nm
MRSI Marisa 37.60 213 P **P** **11 55 44.2 -0.7**
comp=Z,230nm,1.2s,comp=Z,2μm
HVS Khovu-Aksy 38.46 312 *de*P **P** **11 55 52.9 +0.9**
HVS pmax pmax
comp=Z,589nm,1.1s
CRAI Chiangrai 38.53 260 P **P** **11 55 53.3 +0.5**
comp=Z,90nm,1.3s,comp=Z,9μm
LUWI Luwuk 38.59 210 P **P** **11 55 52.1 -1.2**
comp=Z,121nm,1.0s,comp=Z,2μm
TIXI Tiksi 38.66 354 ⇑ *e*P **P** **11 55 53.1 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
TIXI Tiksi 38.66 354 *e*P **P** **11 55 53.3 0.0**
TIXI LR LR
comp=Z,705nm,19.0s
BNDI Bandanaira 39.41 198 P **P** **11 55 59.7 -0.4**
comp=Z,209nm,1.0s
CHAI Chaiyaphum 39.45 253 P **P** **11 55 59.8 -0.8**
comp=Z,14nm,0.7s,comp=Z,127nm
CMAI Chiengmai2 39.76 261 P **P** **11 56 05.3 +2.0**
comp=Z,21nm,0.9s
PBKT Sadao Pong 39.91 255 P **P** **11 56 03.8 -0.5**
comp=Z,38nm,1.1s
LAMP Lampang 39.97 259 P **P** **11 56 05.0 +0.1**
comp=Z,8.8nm,0.7s
PHIT Phitsanulok 40.02 256 P **P** **11 56 06.7 +1.4**
comp=Z,21nm,0.9s
BTM Bintulu 40.06 227 P **P** **11 56 05.6 0.0**
CMMT Chiang Mai 40.39 259 P **P** **11 56 07.7 -0.7**
comp=Z,14nm,0.9s
CHTO Chiang Mai 40.39 259 *e*P **P** **11 56 07.2 -1.1**
CHTO pmax pmax
comp=Z,2.0nm,0.8s
CHTO MLR MLR
comp=Z,310nm,20.0s
CHTO Chiang Mai 40.39 259 *e*P **P** **11 56 07.2 -1.1**
comp=Z,2.5nm,0.8s
CHTO LR LR
comp=Z,310nm,20.0s
CHTO Chiang Mai 40.39 259 P **P** **11 56 07.8 -0.6**
comp=Z,62nm,0.9s
CM31 Chiang Mai Arr 40.57 259 *e*P **P** **11 56 09.3 -0.5**
comp=Z,6.6nm,0.6s
CMAR Chiang Mai Arr 40.57 259 P **P** **11 56 08.4 -1.4**
CMAR ScP **ScP** **12 01 59.1 -1.3**
CMAR Chiang Mai Arr 40.57 259 P **P** **11 56 08.4 -1.4**
comp=Z,5.9nm,0.8s,baz=48,slow=7.6,SNR=44
CMAR ScP **ScP** **12 01 59.1 -1.3**
comp=Z,0.9nm,0.5s,baz=24,slow=3.3,SNR=5.8
CMAR LR LR 12 14 15.7
comp=Z,338nm,18.5s,baz=260,slow=38
SBUM Sibu 41.17 227 P **P** **11 56 14.8 0.0**
SBUM Sibu 41.17 227 P **P** **11 56 14.4 -0.4**
comp=Z,19nm,1.1s
SBUM Sibu 41.17 227 *e*P **P** **11 56 14.2 -0.6**
TTSI Tana Toraja 41.68 213 P **P** **11 56 17.3 -1.6**
comp=Z,31nm,1.0s,comp=Z,1μm
UNV Unalaska Valle 41.73 45 *e*P P 11 56 24.1 +5.2
GAMB Gambell 41.75 29 *e*P **P** **11 56 17.4 -1.6**
comp=Z,120nm,2.0s
MMSI Mamuju 41.79 215 P **P** **11 56 18.5 -1.3**
comp=Z,79nm,0.9s
WMQ Urumqi 42.32 300 P **P** **11 56 25.0 +1.0**
WMQ sP **sP** **11 56 32.0 -0.1**
WMQ PP **PP** **11 58 06.0 +4.0**
WMQ ScP **ScP** **12 02 07.0 -0.1**
WMQ sS **sS** **12 02 53.0 -0.7**
WMQ SS **SS** **12 05 49.0 -3.7**
WMQ ScS **ScS** **12 06 25.0 -0.2**
WMQ pmax pmax
comp=Z,170nm,0.9s
WMQ pmax pmax
comp=Z,420nm,3.5s
WMQ LR LR
comp=Z,730nm,16.0s
WMQ LR LR
comp=Z,550nm,15.0s
WMQ LR LR
comp=Z,280nm,15.0s
LSA Lhasa 42.46 279 PFAKE 11 56 40.0 +14
LSA LR LR
comp=Z,589nm,19.0s
SPSI Sidrap Palu 42.51 213 P **P** **11 56 24.2 -1.5**
comp=Z,57nm,1.2s
SRDT SRDT 42.61 254 P **P** **11 56 28.9 +2.3**
comp=Z,72nm,1.2s,comp=Z,10μm
BNSI Bone 42.75 212 P **P** **11 56 27.2 -0.4**
comp=Z,149nm,1.1s,comp=Z,1μm
KHLT Khaolaem Dam 42.79 255 P **P** **11 56 29.1 +1.1**
comp=Z,6.5nm,1.2s
PHET Kaeng Krachan 43.03 251 P **P** **11 56 31.4 +1.4**
comp=Z,101nm,0.8s
KSM Kuching 43.12 229 P **P** **11 56 30.9 +0.2**
KSM Kuching 43.12 229 P **P** **11 56 30.7 0.0**
comp=Z,55nm,1.4s
KSM Kuching 43.12 229 *e*P **P** **11 56 30.5 -0.2**
comp=Z,38nm,0.8s
KSM LR LR
comp=Z,239nm,21.0s
PMG Port Moresby 43.15 171 P **P** **11 56 31.8 +1.0**
comp=Z,62nm,1.1s
PMG Port Moresby 43.15 171 *e*P **P** **11 56 31.0 +0.1**
comp=Z,35nm,0.8s
PMG Port Moresby 43.15 171 P **P** **11 56 30.0 -0.8**
comp=Z,52nm,0.9s,baz=316,slow=5.5,SNR=11
PMG LR LR 12 12 43.1
comp=Z,280nm,19.9s,baz=21,slow=34
KAPI Kappang 43.45 212 P **P** **11 56 33.2 -0.2**
SNR=6.8
KAPI Kappang 43.45 212 *e*P **P** **11 56 32.8 -0.6**
comp=Z,417nm,1.1s
KAPI LR LR
comp=Z,225nm,21.0s
KAPI Kappang 43.45 212 P **P** **11 56 32.7 -0.6**
comp=Z,404nm,1.4s,SNR=6.4
BKSI Bulukumba 43.57 211 P **P** **11 56 32.9 -1.3**
comp=Z,44nm,1.1s
KBKI Kotabaru 43.67 218 P **P** **11 56 37.9 +2.8**
comp=Z,36nm,1.0s,comp=Z,978nm
TNA Tin City 43.93 28 *e*P **P** **11 56 38.7 +2.1**
comp=Z,18nm,0.9s
ZAA0 Zalesovo Array 44.15 315 *e*P **P** **11 56 38.0 -0.5**
ZAA0 *e*PcP **PcP** **11 58 23.7 +0.5**
ZALV Zalesovo Beam 44.15 315 P **P** **11 56 38.3 -0.3**
ZALV 11 58 23.7
ZALV pmax pmax
comp=Z,19nm,0.5s
ZALV pmax pmax
comp=Z,11nm,0.6s
ZALV MLR MLR
comp=Z,313nm,19.2s
ZALV Zalesovo Beam 44.15 315 P **P** **11 56 38.3 -0.3**
ZALV PcP **PcP** **11 58 23.7 +0.4**
ZALV Zalesovo Beam 44.15 315 P **P** **11 56 38.3 -0.3**
comp=Z,19nm,0.5s,baz=97,slow=6.8,SNR=84
ZALV PcP **PcP** **11 58 23.7 +0.4**
comp=Z,11nm,0.6s,baz=118,slow=3.2,SNR=5.2
ZALV LR LR 12 16 34.4
comp=Z,313nm,19.2s,baz=76,slow=38
NVS Novosibirsk 45.13 316 ⇑ *i*P **P** **11 56 45.1 -1.3**
NVS *e**PP pP 11 56 59.0 +6.8
NVS *e*S **S** **12 03 21.9 -2.8**
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,28nm,0.7s
NVS pmax pmax
comp=Z,37nm,0.7s
NVS smax smax
comp=N,7.0nm,1.8s
NVS smax smax
comp=E,17nm,2.0s
KTGM Kuala Trenggan 45.17 240 P **P** **11 56 47.1 -0.1**
MK31 Makanchi Array 45.86 305 *e*P **P** **11 56 52.5 +0.2**
MK31 Makanchi Array 45.86 305 *e*P **P** **11 56 52.5 +0.2**
MKAR Makanchi Array 45.86 305 P **P** **11 56 52.6 +0.2**
MKAR pmax pmax
comp=Z,47nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,0.8s
MKAR MLR MLR
comp=Z,445nm,18.5s
MKAR Makanchi Array 45.86 305 P **P** **11 56 52.6 +0.2**
MKAR ScP **ScP** **12 02 18.5 -3.0**
MKAR Makanchi Array 45.86 305 P **P** **11 56 52.6 +0.2**
comp=Z,47nm,0.7s,baz=90,slow=10.0,SNR=324
MKAR ScP **ScP** **12 02 18.5 -3.0**
comp=Z,1.1nm,0.8s,baz=85,slow=3.6,SNR=2.6
MKAR LR LR 12 18 13.4
comp=Z,445nm,18.5s,baz=270,slow=39
SURT Suratani 46.06 248 P **P** **11 56 55.7 +1.6**
comp=Z,9.4nm,1.2s,comp=Z,540nm
TAPN Taplejung 46.10 277 *e*P **P** **11 56 53.9 -0.9**
comp=Z,23nm,0.4s
TAPN Taplejung 46.10 277 *e*P **P** **11 56 53.9 -0.9**
comp=Z,23nm,0.4s
HNR Honiara 46.37 154 LR LR 12 14 20.9
comp=Z,737nm,21.2s,baz=242,slow=33
LBFI Labuhan Bajo, 46.50 210 P **P** **11 56 56.6 -1.0**
comp=Z,153nm,0.8s
ODAN Odare 46.55 277 *e*P **P** **11 56 57.4 -0.8**
comp=Z,28nm,0.4s
ODAN Odare 46.55 277 *e*P **P** **11 56 57.4 -0.8**
comp=Z,28nm,0.4s
KULM Kulim 47.01 242 P **P** **11 57 03.9 +2.3**
KULM Kulim 47.01 242 *e*P **P** **11 57 01.0 -0.7**
comp=Z,8.4nm,0.8s
KULM LR LR
comp=Z,303nm,19.0s
MYKOM Kota Tinggi 47.15 236 P P 11 57 06.1 +3.4
RAMN Ramite 47.17 277 *e*P **P** **11 57 02.2 -0.9**
comp=Z,121nm,0.6s
RAMN Ramite 47.17 277 *e*P **P** **11 57 02.2 -0.9**
comp=Z,121nm,0.6s
JIRN Jiri 47.25 278 *e*P **P** **11 57 03.5 -0.4**
comp=Z,145nm,0.7s
JIRN Jiri 47.25 278 *e*P **P** **11 57 03.5 -0.4**
comp=Z,145nm,0.7s
IPM Ipoh 47.28 241 P **P** **11 57 03.5 -0.2**
IPM Ipoh 47.28 241 P **P** **11 57 03.6 -0.2**
comp=Z,25nm,1.1s
IPM Ipoh 47.28 241 *e*P **P** **11 57 02.5 -1.3**
comp=Z,18nm,0.9s
COEN Coen 47.34 177 *e*P **P** **11 57 04.9 +0.9**
comp=Z,212nm,0.8s
KGM Kluang 47.35 237 P **P** **11 57 05.0 +0.6**
WSI Waingapu 47.41 209 P **P** **11 57 01.9 -2.8**
comp=Z,409nm,0.5s
GUN Gumba 47.41 279 *e*P **P** **11 57 04.6 -0.5**
comp=Z,157nm,0.8s
GUN Gumba 47.41 279 *e*P **P** **11 57 04.6 -0.5**
comp=Z,157nm,0.8s
FRIM Kepong 47.70 239 P **P** **11 57 06.6 -0.3**
PKI Pulchoki 47.93 278 *e*P **P** **11 57 08.2 -0.9**
comp=Z,65nm,0.8s
PKI Pulchoki 47.93 278 *e*P **P** **11 57 08.2 -0.9**
PKI pmax pmax
comp=Z,65nm,0.8s
PKI Pulchoki 47.93 278 *e*P **P** **11 57 08.2 -0.9**
comp=Z,65nm,0.8s
PKIN Phulchoki 47.93 278 *e*P **P** **11 57 07.9 -1.2**
comp=Z,56nm,0.7s
KKN Kakani 47.95 279 *e*P **P** **11 57 08.5 -0.7**
comp=Z,102nm,0.8s
KKN Kakani 47.95 279 *e*P **P** **11 57 08.5 -0.7**
KKN pmax pmax
comp=Z,102nm,0.8s
KKN Kakani 47.95 279 *e*P **P** **11 57 08.5 -0.7**
comp=Z,102nm,0.8s
KURK Kurchatov 47.97 311 P **P** **11 57 08.7 0.0**
KURK pmax pmax
comp=Z,27nm,0.7s
KURK Kurchatov 47.97 311 P **P** **11 57 08.7 0.0**
SNR=27
KURK Kurchatov 47.97 311 *e*P **P** **11 57 08.5 -0.1**
KURK LR LR
comp=Z,347nm,20.0s
KURK Kurchatov 47.97 311 P **P** **11 57 08.4 -0.3**
comp=Z,590nm,0.7s,SNR=56
KMMI Kalianget 47.99 218 P **P** **11 57 09.1 -0.1**
comp=Z,66nm,1.1s
KURBB Kurchatov Arra 48.03 310 P **P** **11 57 08.7 -0.5**
comp=Z,27nm,0.7s,baz=85,slow=7.3,SNR=260
TPI Tanjungpandan 48.06 228 P **P** **11 57 11.9 +2.1**
comp=Z,45nm,1.1s
DMN Daman 48.16 279 *e*P **P** **11 57 10.1 -0.7**
comp=Z,74nm,0.8s
DMN Daman 48.16 279 *e*P **P** **11 57 10.1 -0.7**
comp=Z,74nm,0.8s
SRBI Singaraja 48.26 216 P **P** **11 57 11.1 -0.1**
comp=Z,93nm,1.1s
MTNI Mataram 48.28 214 P **P** **11 57 09.7 -1.7**
comp=Z,180nm,1.1s,comp=Z,2μm
GKN Gorkha 48.40 279 *e*P **P** **11 57 12.0 -0.6**
comp=Z,118nm,0.7s
GKN Gorkha 48.40 279 *e*P **P** **11 57 12.0 -0.6**
comp=Z,118nm,0.7s
ABJI Asem Bagus 48.49 217 P **P** **11 57 13.1 +0.1**
comp=Z,62nm,1.1s
DNP Denpasar 48.77 215 P **P** **11 57 16.1 +0.9**
comp=Z,378nm,0.3s
DANN Dangsing 49.00 280 *e*P **P** **11 57 17.0 -0.3**
comp=Z,272nm,0.8s
DANN Dangsing 49.00 280 *e*P **P** **11 57 17.0 -0.3**
comp=Z,272nm,0.8s
KOLN Koldanda 49.34 280 *e*P **P** **11 57 19.4 -0.4**
comp=Z,101nm,0.7s
KOLN Koldanda 49.34 280 *e*P **P** **11 57 19.4 -0.4**
comp=Z,101nm,0.7s
NGJI Ngawi 49.57 220 P P 11 57 27.8 +6.5
IM04 Indian Mountai 49.68 29 *e*P **P** **11 57 22.1 +0.4**
KRKI Karangkates 49.71 219 P **P** **11 57 22.7 +0.3**
comp=Z,170nm,0.5s
PYUN Piuthan 49.72 280 *e*P **P** **11 57 21.8 -0.9**
comp=Z,170nm,0.5s
PYUN Piuthan 49.72 280 *e*P **P** **11 57 21.8 -0.9**
comp=Z,170nm,0.5s
KDAK Kodiak Island 49.79 40 PFAKE 11 57 40.0 +17
KDAK LR LR
comp=Z,747nm,20.0s
SPU Mount Spurr 50.08 35 *e*P P 11 57 33.2 +8.4
PPLA Purkeypile 50.09 33 *e*P **P** **11 57 26.2 +1.2**
comp=Z,5.2nm,0.6s
BKNI Bangkinang 50.15 237 P **P** **11 57 28.9 +3.1**
comp=Z,89nm,0.8s,comp=Z,6μm
TGJI Tegal 50.46 223 P **P** **11 57 29.2 +1.1**
comp=Z,116nm,1.0s
BJII Banjamegara 50.51 222 P **P** **11 57 29.9 +1.4**
comp=Z,25nm,0.8s
UGM Wanagama 50.54 221 P **P** **11 57 28.7 0.0**
comp=Z,157nm,1.1s
MNSI Mandailing Nat 50.85 239 P P 11 57 34.4 +3.3
comp=Z,24nm,1.0s
ULHL Ulahol 50.86 300 *i*P **P** **11 57 31.3 +0.2**

ULHL Ulahol 50.86 300 P **P** **11 57 31.4 +0.2**
SNR=25

KPJI Karang Pucung 50.95 223 P **P** **11 57 31.0 -0.8**
comp=Z,80nm,1.0s

TRF Thorofare Moun 50.98 33 *e*P P 11 57 37.4 +5.7
comp=Z,13nm,0.9s

PPI Padang Panjang 51.15 237 P P 11 57 37.8 +4.4
comp=Z,21nm,1.1s,comp=Z,621nm

TKM2 Tokmak 2 51.17 301 *e*P **P** **11 57 34.1 +0.6**
TKM2 MLR MLR
comp=Z,540nm,19.0s

TKM2 Tokmak 2 51.17 301 P **P** **11 57 34.2 +0.6**
SNR=118

TKM2 Tokmak 2 51.17 301 *e*P **P** **11 57 34.1 +0.6**
TKM2 LR LR
comp=Z,540nm,19.0s

RC01 Rabbit Creek A 51.21 36 *e*P P 11 57 38.4 +5.2
comp=Z,27nm,1.1s

COLD Coldfoot 51.24 28 *e*P P 11 57 37.1 +3.7

LEM Lembang 51.30 225 P **P** **11 57 34.2 -0.4**
comp=Z,126nm,0.9s,comp=Z,1μm

SEW Seward 51.37 37 *e*P P 11 57 43.1 +8.7

KLSI 51.39 229 P **P** **11 57 34.5 -0.6**
comp=Z,88nm,0.9s

PMR Palmer 51.49 35 *e*P **P** **11 57 36.1 +0.8**
PMR pmax pmax
comp=Z,8.0nm,0.5s

PMR Palmer 51.49 35 *e*P **P** **11 57 36.1 +0.8**
comp=Z,8.4nm,0.5s

LHSI Lahat 51.50 231 P **P** **11 57 37.0 +1.0**
comp=Z,84nm,1.0s,comp=Z,2μm

MDSI Maura Dua 51.58 230 P **P** **11 57 35.4 -1.1**
comp=Z,58nm,0.9s,comp=Z,961nm

MCK McKinley 51.59 32 *e*P P 11 57 39.9 +3.8
MCK pmax pmax
comp=Z,28nm,1.1s

MCK McKinley 51.59 32 *e*P P 11 57 39.9 +3.8
comp=Z,28nm,1.1s

KZA Kyzart 51.61 300 *i*P **P** **11 57 38.0 +1.0**

KZA Kyzart 51.61 300 P **P** **11 57 38.1 +1.0**
SNR=30

KBK Karagaybulak 51.70 301 *i*P **P** **11 57 38.1 +0.7**

KBK Karagaybulak 51.70 301 P **P** **11 57 38.1 +0.7**
SNR=41

KSH Kashi 51.71 297 P P 11 57 41.1 +3.6
KSH pP pP 11 57 45.1 +1.7
KSH sP sP 11 57 48.4 +2.7
KSH PcP **PcP** **11 58 54.3 +3.5**
KSH S **S** **12 05 01.3 +3.0**
KSH sS sS 12 05 11.1 +3.1
KSH SS **SS** **12 08 38.0 +3.5**
KSH pmax pmax
comp=Z,24nm,0.7s
KSH pmax pmax
comp=Z,180nm,2.8s
KSH LR LR
comp=Z,210nm,5.5s
KSH LR LR
comp=Z,190nm,5.7s
KSH LR LR
comp=Z,280nm,5.8s

CHMS Chumysh 51.76 301 *i*P **P** **11 57 39.1 +1.4**

CHMS Chumysh 51.76 301 P **P** **11 57 39.1 +1.4**
SNR=10

CISI Cisompet, Garu 51.77 224 P **P** **11 57 37.0 -1.0**

CISI Cisompet, Garu 51.77 224 *e*P **P** **11 57 35.9 -2.2**

USP Ospenovka 51.88 301 *i*P **P** **11 57 38.9 +0.3**

USP Ospenovka 51.88 301 P **P** **11 57 38.9 +0.3**
SNR=12

FRU Bishkek 51.89 301 *e*P **P** **11 57 38.0 -0.7**
FRU *e* 11 58 55.0
FRU *e*S **S** **12 05 00.0 -0.5**
FRU *e* 12 07 24.0
FRU pmax pmax
comp=Z,140nm,1.9s
FRU smax smax
comp=E,240nm,3.8s

GSI Gunungsitoli 51.95 241 *e*P **P** **11 57 37.9 -1.5**
comp=E,122nm,1.1s

AAK Ala-Archa 52.03 301 P **P** **11 57 39.9 +0.1**
comp=E,237nm,0.8s,SNR=29

AAK Ala-Archa 52.03 301 *d i*P **P** **11 57 39.8 -0.1**
AAK pmax pmax
comp=Z,77nm,0.8s

AAK Ala-Archa 52.03 301 P **P** **11 57 40.4 +0.6**
SNR=14

AAK Ala-Archa 52.03 301 P **P** **11 57 40.1 +0.3**
SNR=39

AAK Ala-Archa 52.03 301 *e*P **P** **11 57 40.0 +0.1**
comp=Z,32nm,0.8s

AAK Ala-Archa 52.03 301 P **P** **11 57 40.0 +0.1**
comp=Z,27nm,0.7s,baz=112,slow=4.8,SNR=44
AAK LR LR 12 22 44.0
comp=Z,490nm,19.1s,baz=60,slow=39

COLA College 52.08 31⇑ *e*P **P** **11 57 41.2 +1.6**

COLA College 52.08 31 *e*P **P** **11 57 40.6 +1.0**
comp=Z,4.2nm,1.0s

UCH Uchtor 52.11 300 *i*P **P** **11 57 41.6 +0.8**

UCH Uchtor 52.11 300 P **P** **11 57 41.6 +0.8**
SNR=31

ILAR Eielson Array 52.49 31 P **P** **11 57 42.2 -0.5**

ILAR Eielson Array 52.49 31 P **P** **11 57 42.2 -0.5**
comp=Z,5.3nm,0.8s,baz=266,slow=4.7,SNR=39
ILAR LR LR 12 21 16.5
comp=Z,344nm,18.9s,baz=162,slow=37

EKS2 Erkin-Say 52.53 301 *i*P **P** **11 57 43.8 +0.2**

EKS2 Erkin-Say 52.53 301 P **P** **11 57 43.8 +0.2**
SNR=27

EKS2 Erkin-Say 52.53 301 *e*P **P** **11 57 43.6 +0.1**
comp=Z,16nm,0.6s
EKS2 LR LR
comp=Z,495nm,21.0s

AML Almayashu 52.72 300 *i*P **P** **11 57 46.2 +0.9**

AML Almayashu 52.72 300 P **P** **11 57 46.2 +0.9**
SNR=94

BVAR Borovoye Array 52.79 314 P **P** **11 57 45.2 0.0**
BVAR S **S** **12 05 10.9 -1.6**
BVAR pmax pmax
comp=Z,31nm,0.8s
BVAR smax smax
comp=N,1.0nm,0.8s

BVAR Borovoye Array 52.79 314 P **P** **11 57 45.2 0.0**
BVAR S **S** **12 05 10.9 -1.6**

BVAR Borovoye Array 52.79 314 P **P** **11 57 45.2 0.0**
comp=N,31nm,0.8s,baz=95,slow=7.4,SNR=80
BVAR S **S** **12 05 10.9 -1.6**
comp=N,1.0nm,0.8s,baz=104,slow=18,SNR=3.9

BRVK Borovoye 52.85 314 *e*P **P** **11 57 45.8 +0.3**
BRVK pmax pmax
comp=Z,56nm,0.8s
BRVK MLR MLR
comp=Z,411nm,19.0s

BRVK Borovoye 52.85 314 *e*P **P** **11 57 45.8 +0.3**
comp=Z,56nm,0.8s
BRVK LR LR
comp=Z,411nm,19.0s

BRVK Borovoye 52.85 314 P **P** **11 57 45.1 -0.5**
comp=Z,233nm,0.8s,SNR=15

DIV Divide 53.13 35 *e*P **P** **11 57 48.8 +1.1**

FITZ Fitzroy Crossi 53.53 199 *e*P **P** **11 57 51.1 +0.3**
comp=Z,60nm,0.5s

FITZ Fitzroy Crossi 53.53 199 LR LR 12 20 35.8
comp=Z,126nm,20.8s,baz=26,slow=36

CTAO Charters Tower 53.62 174 *e*P **P** **11 57 51.0 -0.5**
CTAO pmax pmax
comp=Z,25nm,1.1s
CTAO MLR MLR
comp=Z,433nm,20.0s

CTAO Charters Tower 53.62 174 *e*P **P** **11 57 51.0 -0.5**
comp=Z,25nm,1.1s
CTAO LR LR
comp=Z,433nm,20.0s

WRAB Tennant Creek 53.65 188 *e*P **P** **11 57 50.9 -0.8**
WRAB pmax pmax
comp=Z,95nm,0.7s
WRAB MLR MLR
comp=Z,737nm,22.0s

WRAB Tennant Creek 53.65 188 *e*P **P** **11 57 50.9 -0.8**
comp=Z,95nm,0.7s
WRAB LR LR
comp=Z,737nm,22.0s

WRAB Tennant Creek 53.65 188 P **P** **11 57 51.6 -0.1**
comp=Z,924nm,0.5s

WRA Warramunga Arr 53.66 188 P **P** **11 57 51.1 -0.7**
WRA S **S** **12 05 23.8 -0.9**

WRA Warramunga Arr 53.66 188 P **P** **11 57 51.1 -0.7**
comp=Z,92nm,0.8s,baz=4.9,slow=7.6,SNR=168
WRA S **S** **12 05 23.8 -0.9**

WRA Warramunga Arr 53.66 188 P **P** **11 57 51.1 -0.7**
comp=Z,1.2nm,0.4s,baz=6.8,slow=14,SNR=11
WRA LR LR 12 18 51.6
comp=Z,654nm,21.9s,baz=15,slow=34

AS31 Alice Springs 57.38 188 *e*P **P** **11 58 18.1 -0.5**

ASAR Alice Springs 57.38 188 P **P** **11 58 18.0 -0.6**
ASAR S **S** **12 06 13.2 -1.3**

ASAR Alice Springs 57.38 188 P **P** **11 58 18.0 -0.6**
comp=Z,39nm,0.9s,baz=1.2,slow=6.4,SNR=340
ASAR S **S** **12 06 13.2 -1.3**
comp=Z,1.7nm,0.9s,baz=18,slow=20,SNR=7.8
ASAR LR LR 12 21 17.2
comp=Z,685nm,21.8s,baz=9.9,slow=34

INK Inuvik 57.52 26 P **P** **11 58 19.3 +0.3**

INK Inuvik 57.52 26 P **P** **11 58 19.3 +0.3**
comp=Z,2.1nm,0.6s,baz=288,slow=7.7,SNR=14

SVE Sverdlovsk 57.63 320 *e*P **P** **11 58 20.2 +0.2**
SVE pmax pmax
comp=Z,51nm,0.9s
SVE MLR MLR
comp=Z,472nm,17.0s

HYB Hyderabad 58.00 270 *i*P **P** **11 58 21.5 -1.7**
HYB *e*PcP **PcP** **11 59 15.0 -0.2**

ARU Arti 58.84 320 P **P** **11 58 28.0 -0.4**
comp=Z,623nm,0.5s,SNR=24

ARU Arti 58.84 320 *d i*P **P** **11 58 28.1 -0.4**
ARU 11 59 14.9
ARU 12 00 37.0
ARU S **S** **12 06 35.9 +3.1**
ARU pmax pmax
comp=Z,81nm,1.0s
ARU MLR MLR
comp=Z,321nm,19.0s

ARU Arti 58.84 320 *e*P **P** **11 58 28.2 -0.2**
comp=Z,74nm,0.7s
ARU LR LR
comp=Z,337nm,19.0s

AKTO Aktyubinsk 60.87 313 P **P** **11 58 42.3 -0.2**
AKTO pmax pmax
comp=Z,23nm,0.7s
AKTO MLR MLR
comp=Z,266nm,19.2s

AKTO Aktyubinsk 60.87 313 P **P** **11 58 42.3 -0.2**

AKTO Aktyubinsk 60.87 313 P **P** **11 58 42.3 -0.2**
comp=Z,23nm,0.7s,baz=81,slow=12,SNR=48
AKTO LR LR 12 26 37.9
comp=Z,266nm,19.1s,baz=248,slow=38

PALK Pallekele 61.52 259 *e*P **P** **11 58 47.8 +0.3**
comp=Z,65nm,0.8s

ALE Alert 63.53 3 P **P** **11 59 01.9 +2.0**
comp=Z,115nm,0.8s,SNR=7.5

PRGR Permogore 63.55 328 *e*P **P** **11 58 59.5 -0.8**
PRGR *e* 11 59 33.4
PRGR pmax pmax
comp=Z,29nm,0.8s

SPITS Spitsbergen Ar 63.84 349 P **P** **11 59 01.5 -0.5**

SPITS Spitsbergen Ar 63.84 349 P **P** **11 59 01.5 -0.5**
comp=Z,11nm,0.8s,baz=107,slow=7.8,SNR=4.6

IMYA Miami 64.58 298 *e*P **P** **11 59 08.0 +0.3**

ISRO Mashad 65.06 298 *e*P **P** **11 59 13.7 +3.0**

STKA Stephens Creek 65.14 180 *e*P **P** **11 59 10.9 0.0**
comp=Z,3.1nm,0.6s

STKA Stephens Creek 65.14 180 P **P** **11 59 10.9 0.0**
comp=Z,21nm,0.7s,baz=340,slow=5.9,SNR=29
STKA LR LR 12 26 03.8
comp=Z,319nm,20.4s,baz=13,slow=35

LVZ Lovozero 65.17 336⇓ *e*P **P** **11 59 11.9 +1.1**
LVZ pmax pmax
comp=Z,133nm,2.8s

FORT Forrest 65.24 192 *e*P **P** **11 59 11.6 +0.1**
comp=Z,101nm,0.5s

IPAY Payeh 65.35 298 *e*P **P** **11 59 13.7 +0.9**

IKRD Kardeh 65.56 299 *e*P P 11 59 10.7 -3.5

TMCR Tamitsa 65.67 332 *e*P **P** **11 59 11.3 -2.7**
TMCR *e* 11 59 42.0
TMCR pmax pmax
comp=Z,20nm,1.0s

APA Apatity 65.74 336⇓ *i*P **P** **11 59 14.4 -0.1**
APA pmax pmax
comp=Z,16nm,0.8s
APA MLR MLR
comp=Z,1μm,13.0s

RES Resolute Bay 65.95 14 P **P** **11 59 15.8 0.0**

RES Resolute Bay 65.95 14 P **P** **11 59 15.8 0.0**
comp=Z,19nm,0.8s,baz=322,slow=5.2,SNR=32

BBOO Buckleboo 66.25 185 *e*P **P** **11 59 18.1 +0.1**
comp=Z,682nm,0.8s

KEV Kevo 66.58 340 *e*P P 11 59 15.0 -4.8
KEV pmax pmax
comp=Z,6.0nm,0.8s

KEV Kevo 66.58 340 *e*p P 11 59 15.0 -4.8
comp=Z,5.9nm,0.8s

YKA Yellowknife Ar 66.86 29 P **P** **11 59 21.1 -0.5**

YKA Yellowknife Ar 66.86 29 P **P** **11 59 21.1 -0.5**
comp=Z,2.7nm,0.8s,baz=294,slow=6.3,SNR=22

ARCES ARCESS Array B 67.14 340 P **P** **11 59 23.6 +0.1**

ARCES ARCESS Array B 67.14 340 P **P** **11 59 23.6 +0.1**
comp=Z,7.8nm,0.8s,baz=47,slow=6.3,SNR=11
ARCES LR LR 12 34 32.5
comp=Z,614nm,18.0s,baz=170,slow=41

ARE0 ARCESS Array S 67.14 340 *e*P **P** **11 59 24.2 +0.8**

JOF Joensuu 68.91 333 *e*P **P** **11 59 33.6 -1.0**
JOF pmax pmax
comp=Z,15nm,0.6s

JOF Joensuu 68.91 333 *e*p **P** **11 59 33.6 -1.0**
comp=Z,15nm,0.6s

CAN Canberra 68.96 173 *e*P **P** **11 59 36.3 +1.1**
CAN pmax pmax
comp=Z,22nm,1.2s

CAN Canberra 68.96 173 *e*P **P** **11 59 36.3 +1.1**
comp=Z,22nm,1.2s

IANJ Anjilo 69.48 299 *e*P **P** **11 59 39.8 +0.8**

ISHM Shahmirzad 69.78 300 *e*P **P** **11 59 42.1 +1.2**

MOS Moscow 69.91 324 *e*P **P** **11 59 41.4 +0.5**
MOS *e* 11 59 54.9
MOS pmax pmax
comp=Z,85nm,1.3s

NWAO Narrogin (SRO) 69.93 201 LR LR 12 29 04.1
comp=Z,92nm,18.4s,baz=239,slow=35

IBAF Bafgh 70.04 295 *e*P **P** **11 59 42.4 0.0**

VRHR Novokhopersk 70.12 319 *e*P **P** **11 59 40.4 -1.9**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s

ILAS Lasjerd 70.22 300 *e*P **P** **11 59 44.3 +0.8**

MAK Makhachkala 70.45 309 *e*P P 11 59 40.4 -4.1
MAK *e* 11 59 59.0
MAK *e*PPP PPP 12 03 57.7
MAK *e*S **S** **12 08 52.6 -3.9**
MAK *e*SS **SS** **12 13 27.7 +0.8**
MAK pmax pmax
comp=Z,174nm,1.2s
MAK MLR MLR
comp=Z,850nm,17.0s

G03D McMinnville, O 70.56 48⇓ **P** **11 59 46.3 +1.2**
baz=70

LON Longmire 70.71 46 *e*P **P** **11 59 47.0 +0.9**

LON Longmire 70.71 46 *e*P **P** **11 59 47.0 +0.9**

OBN Obninsk 70.74 324⇑ *e*P **P** **11 59 44.2 -1.8**
OBN *i* 12 02 23.8
OBN *i*S **S** **12 08 57.7 -1.7**
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,438nm,21.0s

OBN Obninsk 70.74 324 PFAKE 12 00 00.0 +14
OBN LR LR
comp=Z,386nm,20.0s

LTY Liberty 71.15 45 *e*P P 11 59 52.3 +3.5

KAF Kangasniemi 71.27 333 *e*P **P** **11 59 47.9 -1.2**
KAF pmax pmax
comp=Z,10.0nm,0.7s

KAF Kangasniemi 71.27 333 *e*p **P** **11 59 47.9 -1.2**
comp=Z,10nm,0.7s

IVRN Varamin 71.29 300 *e*P **P** **11 59 49.4 -0.4**

ISAD Sadrabad 71.30 296 *e*P **P** **11 59 51.4 +1.2**

KULLO Kullorsuaq 71.39 5 *e*P **P** **11 59 50.8 +1.2**

KULLO Kullorsuaq 71.39 5 *i*P **P** **11 59 50.8 +1.2**
comp=Z,25nm,0.8s

B08A Colville Reser 71.39 44 *e*P **P** **11 59 50.8 +0.6**

VSR Storozhevoye 71.41 320 *e*P **P** **11 59 49.0 -1.1**
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,9.0nm,0.7s
VSR pmax pmax
comp=Z,20nm,0.7s
VSR MLR MLR
comp=N,1μm,19.0s
VSR MLR MLR
comp=E,340nm,19.0s
VSR MLR MLR
comp=Z,590nm,19.0s

VORD Divnogorie 71.46 319 *e*P **P** **11 59 49.2 -1.2**
VORD pmax pmax
comp=N,2.0nm,0.7s
VORD pmax pmax
comp=E,5.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s

H04A Detroit Lake 71.48 48 *e*P **P** **11 59 52.0 +1.3**

IR3 Iran Long-Peri 71.57 301 *e*P **P** **11 59 51.9 +0.4**

IMHD Mahdasht 71.72 301 *e*P **P** **11 59 53.1 +0.6**

G05D Wamic, OR 71.75 48⇓ **P** **11 59 53.0 +0.7**
baz=72

FIA1 FINESS Array S 71.76 333 *e*P **P** **11 59 51.9 -0.1**

FINES FINESS Array B 71.77 333 P **P** **11 59 52.0 -0.1**

FINES FINESS Array B 71.77 333 P **P** **11 59 52.0 -0.1**
comp=Z,18nm,0.7s,baz=76,slow=8.0,SNR=36
FINES LR LR 12 34 43.6
comp=Z,440nm,18.1s,baz=50,slow=39

I04A Tendick Farm, 71.77 49⇑ **P** **P** **11 59 52.9 +0.4**
baz=72

IZEF Zefreh 71.85 298 *e*P **P** **11 59 53.8 +0.3**

E07A Sunnyside 71.98 46 *e*P P 11 59 57.1 +3.4

G06A Carlson Farm, 72.17 47 *e*P **P** **11 59 56.2 +1.3**

I05D Terrebonne, OR 72.18 48⇓ **P** **11 59 55.4 +0.4**
baz=72

J04D Umpqua Nationa 72.23 50⇓ **P** **11 59 55.9 +0.3**
baz=72

GOF Gofitskoye 72.26 313 *e*P **P** **11 59 56.0 +0.6**
GOF pmax pmax
comp=Z,50nm,0.8s

D08A Wollman Farm, 72.29 45 *e*P **P** **11 59 56.1 +0.6**

IRAZ Razeghan 72.39 301 *e*P **P** **11 59 57.1 +0.5**

HOQ Hoqain 72.51 287 P **P** **11 59 57.7 +0.5**
SNR=8.1

YBH Yreka Blue Hor 72.59 51 *e*P **P** **11 59 58.8 +1.3**

M02C Callahan 72.67 52⇓ **P** **11 59 58.2 +0.2**
baz=73

NEW Newport 72.72 43 *e*P **P** **11 59 58.8 +0.6**

NEW Newport 72.72 43⇓ **P** **11 59 58.2 +0.1**
baz=73

UOSS Wadi Hilu 72.72 289 P **P** **11 59 58.6 +0.2**
comp=Z,183nm,1.2s,SNR=5.9

PINOR Pine Mountain 72.73 49 *e*P **P** **11 59 59.6 +1.5**

J05D Fort Rock, OR 72.77 49⇑ **P** **11 59 58.9 +0.3**
baz=73

ISRB Sarab 72.80 304 *e*P **P** **11 59 59.4 +0.4**

ZEI Tsey 72.86 310 *e*P **P** **11 59 58.0 -1.2**
ZEI pmax pmax
comp=Z,21nm,0.5s

ASHO Ashiyiah 72.96 289 P **P** **12 00 02.1 +2.2**
SNR=7.7

N02D Trinity Center 72.97 52⇓ **P** **12 00 00.4 +0.6**
baz=73

IHRS Heris 72.99 305 *e*P **P** **12 00 00.2 +0.1**

KBZ Khabaz 73.02 311 P **P** **12 00 00.7 +0.8**
KBZ pmax pmax
comp=Z,39nm,0.8s
KBZ MLR MLR
comp=Z,312nm,18.6s

KBZ Khabaz 73.02 311 P **P** **12 00 00.7 +0.8**

KBZ Khabaz 73.02 311 P **P** **12 00 00.7 +0.8**
comp=Z,39nm,0.8s,baz=76,slow=3.7,SNR=83
KBZ LR LR 12 32 57.1
comp=Z,312nm,18.6s,baz=58,slow=36

E09A Wood Farm, Sta 73.02 45 *e*P **P** **12 00 00.8 +0.9**

KIV Kislovodsk 73.03 312 P **P** **12 00 01.0 +0.9**
comp=Z,643nm,0.6s,SNR=5.5

KIV Kislovodsk 73.03 312 *e*P **P** **12 00 01.0 +0.9**
KIV *i* 12 00 16.0
KIV *e*S **SKiKP** **12 09 33.2 +1.4**
KIV pmax pmax
comp=Z,46nm,0.7s
KIV MLR MLR
comp=Z,200nm,16.0s

KIV Kislovodsk 73.03 312 *e*P **P** **12 00 00.8 +0.7**
comp=Z,66nm,0.6s
KIV LR LR
comp=Z,347nm,19.0s

M04C Macdoel 73.13 51⇓ **P** **12 00 01.2 +0.4**
baz=73

G08A Pilot Rock 73.16 47 *e*P P 12 00 04.8 +3.9

ARQ Araqi 73.26 287 P **P** **12 00 02.5 +0.8**
SNR=9.2

WDC Whiskeytown Da 73.27 52 *e*P P 12 00 05.0 +3.5
WDC pmax pmax
comp=Z,4.0nm,0.8s

WDC Whiskeytown Da 73.27 52 *e*P P 12 00 05.0 +3.5
comp=Z,4.4nm,0.8s

VSU Vasula 73.32 330 *d i*P **P** **12 00 00.7 -0.7**
VSU pmax pmax
comp=Z,59nm,0.8s

GNI Garni 73.63 307 *e*P **P** **12 00 04.7 +0.8**
comp=Z,44nm,1.0s
GNI LR LR
comp=Z,376nm,19.0s

IMRD Marand 73.71 306 *e*P **P** **12 00 04.5 +0.2**

F10A Beach Ranch, E 73.85 45 *e*P P 12 00 09.0 +4.1

WALA Waterton Lakes 74.10 41 *e*P **P** **12 00 06.9 +0.6**
comp=Z,0.7nm,1.3s

SUMG Summit 74.10 360 *i*P **P** **12 00 08.1 +1.8**

SUMG Summit 74.10 360 *i*P **P** **12 00 08.1 +1.8**
comp=Z,25nm,0.9s

SUMG Summit 74.10 360 *e*P **P** **12 00 06.9 +0.7**
comp=Z,29nm,0.9s

BSMT Bassoo Peak 74.26 43 *e*P **P** **12 00 08.2 +0.8**
comp=Z,5.2nm,1.0s

JTMT Jette 74.61 43 *e*P **P** **12 00 10.2 +0.9**

YBMT Yellow Bay 74.69 42 *e*P **P** **12 00 10.7 +0.8**
comp=Z,6.2nm,0.8s
YBMT *e*PcP **PcP** **12 00 25.1 +1.0**

WVOR Wild Horse Val 74.84 49 *e*P **P** **12 00 11.5 +0.7**
WVOR pmax pmax
comp=Z,1.0nm,0.5s
WVOR MLR MLR
comp=Z,228nm,21.0s

WVOR Wild Horse Val 74.84 49 *e*P **P** **12 00 11.5 +0.7**
comp=Z,1.4nm,0.5s
WVOR LR LR
comp=Z,228nm,21.0s

SWMT Swartz Lake 74.90 43 *e*P **P** **12 00 11.6 +0.6**

IVIS Veis 75.02 302 *e*P **P** **12 00 11.4 -0.5**

BEKR Beckworth 75.07 52 *e*P **P** **12 00 12.7 +0.4**
comp=Z,6.0nm,0.9s

MICGM Minsk 75.24 326 *e* P 12 00 08.0 -4.6

MNK Minsk 75.26 326 *e*P P 12 00 08.0 -4.8

MSO Missoula 75.30 43⇓ **P** **12 00 13.4 0.0**
baz=75

SLMT Seeley Lake 75.33 43 *e*P **P** **12 00 13.8 +0.2**
comp=Z,13nm,0.8s

ISAL Salakas 75.37 328 *e*P **P** **12 00 13.0 -0.4**
ISAL AMB AMB 12 00 22.9
comp=Z,23nm,1.1s

IIGN Ignalina 75.47 328 *e*P **P** **12 00 12.9 -1.1**
IIGN AMB AMB 12 00 28.6
comp=Z,15nm,0.8s

SCO Scoresbysund 75.49 354 *i*P **P** **12 00 16.2 +2.4**

SCO Scoresbysund 75.49 354 *i*P **P** **12 00 16.2 +2.4**
comp=Z,11nm,0.9s

NACGM Naroch 75.50 327 *e* **P** **12 00 12.0 -2.1**

WCN Washoe City 75.77 52 *e*P **P** **12 00 18.6 +2.4**
WCN pmax pmax
comp=Z,1.0nm,0.6s

WCN Washoe City 75.77 52 *e*P **P** **12 00 18.6 +2.4**
comp=Z,1.0nm,0.6s

ANN Anapa 75.79 314 *e*P P 12 00 24.4 +8.4
ANN pmax pmax
comp=Z,104nm,1.2s

CMB Columbia Colle 76.01 54 *e*P **P** **12 00 18.1 +0.6**
CMB pmax pmax
comp=Z,13nm,1.1s

CMB Columbia Colle 76.01 54 *e*P **P** **12 00 18.1 +0.6**
comp=Z,13nm,1.1s

MFID Camas Ranch 76.06 47 *e*P **P** **12 00 18.6 +0.8**
comp=Z,16nm,1.0s

WAKR	Walker	76.40	53	eP		P		12 00 20.9	+1.0
	comp=Z,14nm,1.2s									
HRY	Holter Researc	76.57	43	eP		P		12 00 21.4	+0.8
	comp=Z,12nm,0.8s									
FFC	Flin Flon	76.68	32	eP		P		12 00 20.7	-0.2
FFC					pmax	pmax				
	comp=Z,16nm,0.9s									
FFC	Flin Flon	76.68	32	eP		P		12 00 20.7	-0.2
	comp=Z,16nm,0.9s									
LRM	Limekiln Ridge	76.72	44	eP		P		12 00 22.6	+0.9
	comp=Z,191nm,0.7s									
DGAR	Diego Garcia	76.74	252		PFAKE			12 00 30.0	+8.2
DGAR					LR	LR				
	comp=Z,300nm,22.0s									
HLID	Hailey	76.84	46	eP		P		12 00 23.2	+1.0
	comp=Z,10nm,1.1s									
HLID	Hailey	76.84	46	⇑P		P		12 00 22.2	-0.1
	baz=77,SNR=11									
AKASG	Malin Array Be	76.91	323		P	P		12 00 21.8	-0.4
AKASG					pmax	pmax				
	comp=Z,18nm,0.6s									
AKASG					MLR	MLR				
	comp=Z,718nm,20.0s									
AKASG	Malin Array Be	76.91	323		P	P		12 00 21.8	-0.4
AKASG	Malin Array Be	76.91	323		P	P		12 00 21.8	-0.4
	comp=Z,18nm,0.6s,baz=47,slow=6.1,SNR=98									
AKASG					LR	LR		12 37 55.1		
	comp=Z,718nm,19.9s,baz=30,slow=38									
KIEV	Kiev	76.92	323	ceP		P		12 00 21.9	-0.4
KIEV	Kiev	76.92	323	eP		P		12 00 21.8	-0.5
	comp=Z,24nm,0.6s									
KIEV					LR	LR				
	comp=Z,752nm,20.0s									
EGMT	Eagleton	76.96	41	eP		P		12 00 23.0	+0.3
	comp=Z,38nm,1.3s									
EGMT	Eagleton	76.96	41	⇑P		P		12 00 23.0	+0.3
	baz=77									
A19A	Klindworth Far	76.97	39	⇑P		P		12 00 22.6	-0.1
	baz=77									
MCMT	McKenzie Canyo	77.06	45	eP		P		12 00 23.8	+0.2
	comp=Z,1.5nm,0.3s									
FCC	Fort Churchill	77.14	26	eP		P		12 00 22.8	-0.5
FCC					pmax	pmax				
	comp=Z,1.0nm,1.0s									
FCC	Fort Churchill	77.14	26	eP		P		12 00 22.8	-0.5
	comp=Z,0.6nm,1.0s									
B19A	Brinkman Farms	77.14	40	⇑P		P		12 00 23.6	-0.1
	baz=77									
NB2	NORSAR Subarra	77.27	338		P	P		12 00 23.9	-0.3
	comp=Z,35nm,1.1s,baz=40,slow=5.9									
NB2	NORSAR Subarra	77.27	338		P	P		12 00 23.9	-0.3
	baz=40,slow=5.9									
NOA	NORSAR Array B	77.27	338		P	P		12 00 23.4	-0.8
NOA	NORSAR Array B	77.27	338		P	P		12 00 23.4	-0.8
	comp=Z,11nm,0.8s,baz=40,slow=5.7,SNR=4.4									
BOZ	Bozeman (W)	77.30	43	eP		P		12 00 25.6	+0.9
BOZ					pmax	pmax				
	comp=Z,11nm,0.8s									
BOZ					MLR	MLR				
	comp=Z,568nm,19.0s									
BOZ	Bozeman (W)	77.30	43	eP		P		12 00 25.6	+0.9
	comp=Z,11nm,0.8s									
BOZ					LR	LR				
	comp=Z,568nm,19.0s									
A20A	Cobblestone Ra	77.43	39	⇓P		P		12 00 25.2	-0.1
	baz=77									
C19A	Slack Wire Ran	77.52	41	⇓P		P		12 00 25.7	-0.1
	baz=77									
SIM	Simferopol'	77.66	316	eP		P		12 00 26.7	+0.1
SIM				eS		S		12 10 14.0	-3.5
SIM					pmax	pmax				
	comp=Z,31nm,0.8s									
RCTC	Rector, Farmer	77.70	55	⇓P		P		12 00 26.8	-0.1
	baz=78									
QLMT	Earthquake Lak	77.88	44	eP		P		12 00 29.7	+1.6
	comp=Z,2.7nm,1.1s									
A21A	Bergtoll Ranch	77.89	39	⇓P		P		12 00 27.5	-0.3
	baz=78									
ELK	Elko	77.90	49	eP		P		12 00 29.1	+0.7
	comp=Z,14nm,1.2s									
D19A	Cripps Ranch,	77.95	41	⇑P		P		12 00 28.4	+0.1
	baz=78,SNR=12									
PKM	Peak Mountain	78.07	56	⇓P		P		12 00 29.7	+0.4
	baz=78									
C20A	Veseth Ranch,	78.09	40	⇑P		P		12 00 28.9	-0.1
	baz=78,SNR=5.5									
RBK	Rabkut	78.09	283		P	P		12 00 30.2	+0.7
	SNR=6.1									
TPH	Tonopah	78.10	52	eP		P		12 00 30.0	+0.6
TPH					pmax	pmax				
	comp=Z,18nm,1.3s									
TPH	Tonopah	78.10	52	eP		P		12 00 30.0	+0.6
	comp=Z,18nm,1.3s									
B21A	Ellsworth Farm	78.19	39	⇓P		P		12 00 29.4	-0.1
	baz=78,SNR=7.5									
YMR	Madison River	78.25	44	eP		P		12 00 31.4	+1.3
	comp=Z,19nm,0.8s									
GCMT	Greycliff	78.33	42	eP		P		12 00 32.7	+2.3
	comp=Z,13nm,1.1s									
D20A	Manuel Ranch,	78.40	41	⇓P		P		12 00 30.7	0.0
	baz=78,SNR=11									
A22A	Carney Farms,	78.41	38	⇓P		P		12 00 30.5	-0.2
	baz=78,SNR=26									
E19A	Rath Farm, Rou	78.42	42	⇓P		P		12 00 31.1	+0.2
	baz=78,SNR=18									
YFT	Old Faithful	78.45	44	eP		P		12 00 35.9	+4.6
	comp=Z,17nm,0.9s									
C21A	Desert Coulee	78.51	40	⇑P		P		12 00 31.5	+0.1
	baz=78,SNR=6.9									
ISA	Isabella	78.58	55	eP		P		12 00 31.5	-0.4
ISA					pmax	pmax				
	comp=Z,1.0nm,0.9s									
ISA	Isabella	78.58	55	eP		P		12 00 31.5	-0.4
	comp=Z,1.0nm,0.9s									
ISA	Isabella	78.58	55	⇑P		P		12 00 31.7	-0.3
	baz=78									
H17A	Grant Village	78.63	44	eP		P		12 00 34.8	+2.5
H17A	Grant Village	78.63	44	⇓P		P		12 00 34.2	+1.9
	baz=78,SNR=24									
F19A	Roth Farm, Mol	78.69	42	⇑P		P		12 00 31.9	-0.5
	baz=78									
E20A	Meyer Farm, Mu	78.75	41	⇑P		P		12 00 33.3	+0.6
	baz=79,SNR=11									
MALT	Malatya	78.76	309	⇓iP		P		12 00 34.1	+1.2
KONO	Kongsberg	78.86	337		PFAKE			12 00 40.0	+7.1
KONO					LR	LR				
	comp=Z,730nm,19.0s									
I17A	Pilgrim Ck.	78.91	44	⇑P		P		12 00 35.1	+1.3
	baz=79,SNR=22									
RLMT	Red Lodge	78.95	43	eP		P		12 00 34.8	+0.8
	comp=Z,11nm,1.0s									
A23A	Redstone	78.97	38	⇑P		P		12 00 33.9	+0.2
	baz=79									
H18A	Shoshone NF, C	78.99	43	⇓P		P		12 00 34.9	+0.7
	baz=79									
R11A	Troy Canyon, C	79.02	51	eP		P		12 00 35.0	+0.6
R11A	Troy Canyon, C	79.02	51	⇓P		P		12 00 34.5	+0.1
	baz=79									
MPMC	Manual Prospec	79.03	54	⇑P		P		12 00 34.5	-0.1
	baz=79,SNR=7.3									
D21A	La Casta Ranch	79.03	40	⇓P		P		12 00 34.6	+0.4
	baz=79									
F20A	Billings	79.17	42	⇓P		P		12 00 34.5	-0.5
	baz=79									
C22A	Vida	79.20	39	⇑P		P		12 00 34.9	-0.2
	baz=79									
LRMC	Laurel Mountai	79.21	55	⇓P		P		12 00 35.6	+0.1
	baz=79									
B23A	Brockton	79.22	38	⇓P		P		12 00 35.6	+0.4
	baz=79,SNR=24									
FURC	Furnace Creek,	79.22	53	⇓P		P		12 00 35.7	+0.4
	baz=79									
AHID	Auburn Hatcher	79.28	46	eP		P		12 00 39.2	+3.4
	comp=Z,6.7nm,0.6s									
SFJD	Kangerlussuaq	79.30	5	iP		P		12 00 37.6	+2.4
	comp=Z,12nm,0.7s									
SFJD	Kangerlussuaq	79.30	5		PFAKE			12 00 50.0	+15
SFJD					LR	LR				
	comp=Z,413nm,19.0s									
E21A	Keefer Ranch,	79.31	41	⇑P		P		12 00 36.1	+0.4
	baz=79									
EDW2	Edwards Air Fo	79.34	55	⇓P		P		12 00 36.6	+0.5
	baz=79									
TPNV	Topopah Spring	79.36	53	⇑P		P		12 00 36.7	+0.3
	baz=79,SNR=6.8									
H19A	Powell	79.38	43	⇓P		P		12 00 36.6	+0.3
	baz=79									
KIS	Kishinev	79.39	320	eP		P		12 00 31.0	-5.1
KIS					LRM	MLR		12 39 10.0		
	comp=Z,300nm,20.0s									
KIS	Kishinev	79.39	320	eP		P		12 00 31.0	-5.1
KIS					MLR	MLR				
	comp=Z,300nm,17.0s									
KIS					MLR	MLR				
	comp=Z,300nm,20.0s									
D22A	Cohagen	79.42	40	⇑P		P		12 00 36.3	0.0
	baz=79,SNR=10									
A24A	Westby	79.44	38	⇑P		P		12 00 36.0	-0.4
	baz=79									
G20A	Bridger	79.49	42	⇑P		P		12 00 36.9	0.0
	baz=79									
C23A	Lambert	79.54	39	⇑P		P		12 00 37.1	+0.1
	baz=79,SNR=7.8									
DGMT	Dagmar	79.63	38	⇑P		P		12 00 37.3	-0.1
	baz=80									
LAO	LASA Array	79.68	40	eP		P		12 00 38.4	+0.6
	comp=Z,25nm,1.2s									
DUG	Dugway	79.73	48	eP		P		12 00 39.3	+1.0
DUG					pmax	pmax				
	comp=Z,14nm,1.0s									
DUG	Dugway	79.73	48	eP		P		12 00 39.3	+1.0
	comp=Z,14nm,1.0s									
DUG	Dugway	79.73	48	⇑P		P		12 00 39.0	+0.7
	baz=80									
I19A	Meeteetse	79.76	44	⇑P		P		12 00 38.6	+0.2
	baz=80,SNR=6.1									
A25A	Svangstu Ranch	79.88	37	⇓P		P		12 00 38.3	-0.5
	baz=80									
GSC	Goldstone	79.91	54	⇑P		P		12 00 39.0	-0.3
	baz=80									
BFSC	Mount Baldy Ra	79.92	56	⇓P		P		12 00 39.0	-0.3
	baz=80									
D23A	Lindsay	79.92	39	⇑P		P		12 00 39.3	+0.2
	baz=80,SNR=8.2									
E22A	Miles City	79.98	40	⇓P		P		12 00 39.7	+0.3
	baz=80,SNR=9.4									
LVV	L'vov	80.04	324	eP		P		12 00 48.4	+8.8
G21A	Lodge Grass	80.05	42	⇓P		P		12 00 39.4	-0.4
	baz=80									
J19A	Crowheart	80.19	44	⇑P		P		12 00 41.1	+0.4
	baz=80,SNR=15									
BW06	Boulder Array	80.19	45	eP		P		12 00 41.1	+0.3
	comp=Z,6.7nm,0.8s									
PDAR	Pinedale Array	80.19	45	P		P		12 00 40.8	0.0
PDAR	Pinedale Array	80.19	45	P		P		12 00 40.8	0.0
	comp=Z,7.4nm,0.7s,baz=266,slow=2.5,SNR=21									
BEL	Belsk	80.22	327	eP		P		12 00 41.3	+0.8
BEL	Belsk	80.22	327	eP		P		12 00 41.2	+0.8
F22A	Rosebud	80.23	41	⇓P		P		12 00 40.6	-0.1
	baz=80,SNR=8.4									
B25A	Knox Farm, Ray	80.28	38	⇓P		P		12 00 41.0	0.0
	baz=80									
E23A	Ismay	80.29	40	⇓P		P		12 00 41.3	+0.3
	baz=80,SNR=9.4									
I20A	Worland	80.31	43	⇓P		P		12 00 41.6	+0.3
	baz=80,SNR=8.7									
SHPR	Sheep Range	80.34	53	eP		P		12 00 42.4	+0.7
	comp=Z,21nm,1.2s									
JLU	Jordanelle	80.34	47	eP		P		12 00 42.6	+0.9
	comp=Z,25nm,1.3s									
BBRC	Big Bear Solar	80.41	55	⇑P		P		12 00 42.2	0.0
	baz=80									
D24A	Glendive	80.42	39	⇓P		P		12 00 42.1	+0.4
	baz=80,SNR=14									
TUQ	Turquoise Moun	80.43	54	⇑P		P		12 00 42.2	+0.1
	baz=80									
A26A	Wade Farm, Ken	80.44	37	⇑P		P		12 00 41.8	0.0
	baz=80,SNR=7.0									
H21A	Big Horn, Sher	80.51	42	⇓P		P		12 00 42.0	-0.3
	baz=80									
G22A	Birney	80.56	41	⇑P		P		12 00 42.5	-0.1
	baz=80									
DAU	Daniels Canyon	80.57	48	eP		P		12 00 44.0	+1.0
DAU					pmax	pmax				
	comp=Z,21nm,1.0s									
DAU	Daniels Canyon	80.57	48	eP		P		12 00 44.0	+1.0
	comp=Z,21nm,1.0s									
MPU	Maple Canyon	80.57	48	eP		P		12 00 43.7	+0.8
	comp=Z,27nm,1.3s									
MURC	Murrieta	80.59	56	⇓P		P		12 00 42.5	-0.3
	baz=80									
B26A	Jensen Ranch,	80.69	37	⇓P		P		12 00 43.2	+0.1
	baz=80,SNR=7.3									
J20A	Shoshoni	80.70	44	⇓P		P		12 00 43.6	+0.1
	baz=81,SNR=6.6									
F23A	Volborg	80.73	41	⇓P		P		12 00 43.5	+0.1
	baz=81,SNR=8.9									
E24A	Baker	80.79	40	⇓P		P		12 00 43.6	-0.2
	baz=81									
A27A	Ledoux Ranch,	80.80	36	⇓P		P		12 00 43.6	-0.1
	baz=81									
KWP	Kalwaria Pacla	80.81	325	eP		P		12 00 44.5	+0.7
KWP	Kalwaria Pacla	80.81	325	eP		P		12 00 44.4	+0.7
KWP	Kalwaria Pacla	80.81	325	⇓iP		P		12 00 44.5	+0.7
KWP	Kalwaria Pacla	80.81	325	eP		P		12 00 44.4	+0.7
	comp=Z,61nm,1.0s									
KWP					LR	LR				
	comp=Z,461nm,19.0s									
TESR	Tescani	80.86	320	⇓iP		P		12 00 44.4	+0.4
I21A	Big Trails, Te	80.87	43	⇑P		P		12 00 44.5	+0.1
	baz=81,SNR=6.5									
BUR08	Bucovina Ar. S	80.88	322	eP		P		12 00 44.5	+0.3
BURAR	Bucovina Array	80.89	322	⇓iP		P		12 00 44.3	0.0
CFR	Carcaliu	80.90	319	⇓iP		P		12 00 44.2	0.0
H22A	Clearmont	80.92	42	⇓P		P		12 00 44.4	-0.1
	baz=81									
GMRC	Granite Mounta	80.98	54	⇑P		P		12 00 44.9	-0.1
	baz=81									
BR131	Keskin Array S	81.00	312	eP		P		12 00 45.1	0.0
	comp=Z,14nm,0.8s									
BRTR	Keskin Array B	81.00	312	P		P		12 00 45.4	+0.3
BRTR	Keskin Array B	81.00	312	P		P		12 00 45.4	+0.3
	comp=Z,12nm,0.8s,baz=117,slow=4.1,SNR=38									
BRTR					LR	LR		12 43 12.6		
	comp=Z,137nm,19.9s,baz=30,slow=40									
109C	Camp Elliot, M	81.05	57	⇓P		P		12 00 45.4	+0.1
	baz=81									
G23A	Biddle	81.06	41	⇑P		P		12 00 45.0	-0.3
	baz=81,SNR=6.2									
J21A	Lysite	81.07	43	⇓P		P		12 00 45.2	-0.3
	baz=81									
MVU	Marysvale	81.10	50	eP		P		12 00 46.8	+1.0
	comp=Z,15nm,1.0s									
PFO	Pinon Flat Ob	81.10	56	eP		P		12 00 46.0	+0.2
	comp=Z,26nm,1.1s									
PFO					LR	LR				
	comp=Z,703nm,20.0s									
PFO	Pinyon Flat Ob	81.10	56	P		P		12 00 45.9	+0.2
	comp=Z,71nm,0.7s,SNR=7.1									
PFO	Pinyon Flat Ob	81.10	56	⇓P		P		12 00 45.7	0.0
	baz=81,SNR=8.2									
PFO	Pinyon Flat Ob	81.10	56	P		P		12 00 45.0	-0.7
	comp=Z,5.3nm,0.7s,baz=304,slow=2.9,SNR=11									
F24A	Ekalaka	81.17	40	⇓P		P		12 00 45.9	+0.1
	baz=81									
VRI	Vrincioaia	81.23	320	⇑iP		P		12 00 46.8	+0.8
PLOR	Plostina	81.28	320	⇑iP		P		12 00 48.5	+2.2
I22A	9 Mile Ranch,	81.28	43	⇓P		P		12 00 46.4	-0.1
	baz=81									
E25A	Miller Ranch,	81.30	39	⇓P		P		12 00 46.6	+0.1
	baz=81,SNR=7.3									
A28A	Rude Farm, Bot	81.31	36	⇑P		P		12 00 45.9	-0.5
	baz=81									
RGN	Rugen	81.42	332	eP		P		12 00 46.6	-0.2
	comp=Z,376nm,1.6s									
ANTO	Ankara	81.44	312	eP		P		12 00 48.0	+0.7
ANTO					pmax	pmax				
	comp=Z,20nm,0.6s									
ANTO					MLR	MLR				
	comp=Z,184nm,20.0s									
ANTO	Ankara	81.44	312	⇑iP		P		12 00 47.7	+0.4
ANTO	Ankara	81.44	312	eP		P		12 00 48.0	+0.7
	comp=Z,20nm,0.6s									
ANTO					LR	LR				
	comp=Z,184nm,20.0s									
D26A	Manning	81.46	38	⇓P		P		12 00 47.0	-0.3
	baz=81									
BAR	Barrett	81.47	56	eP		P		12 00 47.4	-0.1
	comp=Z,7.8nm,0.8s									
MUD	Monsted U'grnd	81.49	335	eP		P		12 00 47.9	+0.8
MUD	Monsted U'grnd	81.49	335	iP		P		12 00 47.9	+0.8
	comp=Z,13nm,0.9s									
KOLS	Kolonicke sedl	81.49	324	eP		P		12 00 47.9	+0.5
KOLS					pmax	pmax				
	comp=Z,59nm,2.8s									
KOLS	Kolonicke sedl	81.49	324	eP		P		12 00 47.9	+0.5
MONP	Monument Peak	81.53	56	⇑P		P		12 00 47.6	-0.5
	baz=81									
B28A	Dugan Ranch, T	81.57	36	⇓P		P		12 00 48.1	+0.3
	baz=81,SNR=7.8									
J22A	Midwest	81.58	43	⇑P		P		12 00 48.1	0.0
	baz=81,SNR=14									
K21A	Alcova	81.62	44	⇓P		P		12 00 48.5	+0.1
	baz=82,SNR=12									
F25A	Bowman	81.65	40	⇑P		P		12 00 48.0	-0.3
	baz=82									
STHS	Stebnicka Huta	81.66	325	eP		P		12 00 51.4	+3.1
STHS					pmax	pmax				
	comp=Z,8.0nm,1.1s									
STHS	Stebnicka Huta	81.66	325	e		P		12 00 51.4	+3.1
IRM	Iron Mountain	81.68	55	⇓P		P		12 00 48.6	-0.1
	baz=82									
UZH	Uzhgorod	81.69	324	eP		P		12 00 46.7	-1.6
UZH				e				12 00 52.7		
UZH				e				12 01 00.5		
BC3	Big Chuckawall	81.76	55	⇓P		P		12 00 49.0	-0.2
	baz=82									
OJC	Ojcow	81.78	326	eP		P		12 00 48.9	0.0
OJC	Ojcow	81.78	326	eP		P		12 00 48.9	0.0
SRU	San Rafael	81.80	48	eP		P		12 00 49.8	+0.4
SRU					pmax	pmax				
	comp=Z,24nm,0.7s									
SRU	San Rafael	81.80	48	eP		P		12 00 49.8	+0.4
	comp=Z,24nm,0.7s									
A29A	Manning Farm,	81.80	35	⇓P		P		12 00 49.1	+0.1
	baz=82									
I23A	Meade Ranch, G	81.81	42	⇑P		P		12 00 48.7	-0.6
	baz=82									
H24A	Dirks Ranch, A	81.81	41	⇓P		P		12 00 48.9	-0.3
	baz=82,SNR=6.6									
E26A	Carlson Angus	81.82	39	⇓P		P		12 00 48.9	-0.3
	baz=82,SNR=6.1									
DOPR	Dopca	81.88	321	⇑iP		P		12 00 50.8	+1.3
D27A	Center	81.88	38	⇑P		P		12 00 49.2	-0.3
	baz=82									
DVTC	Desert V Tower	81.88	56	⇓P		P		12 00 49.5	-0.3
	baz=82									
MLR	Muntele Rosu	81.89	320	⇑iP		P		12 00 49.6	-0.1
TRPA	Tarpa	81.90	324	⇓iP		P		12 00 49.9	+0.4
TRPA	Tarpa	81.90	324	⇓eP		P		12 00 52.3	+2.8
CRVS	Cervenica-Dubn	81.91	325	eP		P		12 00 48.2	-1.4
CRVS					pmax	pmax				
	comp=Z,85nm,2.3s									
CRVS	Cervenica-Dubn	81.91	325	eP		P		12 00 48.2	-1.4
SWSC	Sam W. Stewart	81.93	56	P		P		12 00 49.5	-0.4
	baz=82									
W13A	Hualapai Mount	81.99	53	⇑P		P		12 00 50.3	-0.3
	baz=82									
K22A	Casper	82.03	44	eP		P		12 00 53.2	+2.7
K22A	Casper	82.03	44	⇓P		P		12 00 50.0	-0.5
	baz=82									
C28A	Hausauer Farms	82.05	37	⇑P		P		12 00 50.3	0.0
	baz=82,SNR=5.1									
B29A	Wagenman Farm,	82.06	36	⇓P		P		12 00 50.5	+0.1
	baz=82,SNR=6.7									
F26A	Lodgepole	82.11	39	⇑P		P		12 00 50.8	+0.1
	baz=82,SNR=8.4									
N20A	Spence Gulch,	82.14	46	⇑P		P		12 00 51.6	+0.4
	baz=82									
G25A	Newell	82.14	40	⇑P		P		12 00 50.8	-0.2
	baz=82									
A30A	Hoffart Farm,	82.24	35	⇑P		P		12 00 51.3	0.0
	baz=82,SNR=7.6									
U15A	North Rim	82.27	51	⇑P		P		12 00 52.2	+0.1
	baz=82									
PDMCI	Parker Dam,Lak	82.28	54	⇓P		P		12 00 51.8	0.0
	baz=82									
D28A	Regan	82.31	37	⇑P		P		12 00 51.6	-0.1
	baz=82									
E27A	Carson	82.31	38	⇓P		P		12 00 51.7	0.0
	baz=82,SNR=8.2									
Y12C	Blythe	82.34	55	⇑P		P		12 00 52.1	+0.1
	baz=82									
MDND	Maddock	82.35	36	eP		P		12 00 52.1	+0.1
MDND	Maddock	82.35	36	⇓P		P		12 00 51.3	-0.6
	baz=82									
VOIR		82.40	320	⇓iP		P		12 00 52.8	+0.5
H25A	Fruitdale	82.42	41	⇑P		P		12 00 52.6	+0.2
	baz=82									
ULM	Lac du Bonnet	82.46	33	P		P		12 00 52.7	+0.4
ULM	Lac du Bonnet	82.46	33	P		P		12 00 52.7	+0.4
	comp=Z,6.4nm,0.8s,baz=305,slow=6.1,SNR=10									
ULM					LR	LR		12 34 36.1		
	comp=Z,238nm,22.0s,baz=312,slow=34									
L22A	Ellis Ranch, M	82.47	44	⇑P		P		12 00 52.9	0.0
	baz=82									
RSSD	Black Hills	82.50	41	eP		P		12 00 56.0	+3.0
RSSD					pmax	pmax				
	comp=Z,3.0nm,0.7s									
RSSD	Black Hills	82.50	41	eP		P		12 00 56.0	+3.0
	comp=Z,3.5nm,0.7s									
G26A	Maurine	82.52	40	⇓P		P		12 00 52.8	0.0
	baz=82,SNR=6.8									
GLA	Glamis	82.53	55	eP		P		12 00 54.0	+0.8
GLA					pmax	pmax				
	comp=Z,4.0nm,0.8s									
GLA	Glamis	82.53	55	eP		P		12 00 54.0	+0.8
	comp=Z,3.6nm,0.8s									
GLA	Glamis	82.53	55	⇓P		P		12 00 53.2	0.0
	baz=82									
B30A	Myrvik Farm, E	82.56	35	⇓P		P

comp=Z,310nm,23.8s
PPT2 Papeete2 83.28 116 *e*T T 13 32 07.7
comp=Z,2.0nm,0.3s
UPC Upice 83.29 328 *e*P **P** **12 00 56.0 -0.7**
UPC Upice 83.29 328 *e*P **P** **12 00 56.0 -0.7**
PSZ Piszkesteto 83.34 325 *e*P **P** **12 00 57.9 +0.7**
PSZ pmax pmax
comp=Z,42nm,1.0s
PSZ MLR MLR
comp=Z,451nm,19.0s
PSZ Piszkesteto 83.34 325⇑ *i*P **P** **12 00 57.8 +0.7**
PSZ Piszkesteto 83.34 325 *e*P **P** **12 00 57.9 +0.7**
comp=Z,42nm,1.0s
PSZ LR LR
comp=Z,451nm,19.0s
PSZ Piszkesteto 83.34 325⇓ *e*P **P** **12 01 00.2 +3.1**
WUAZ Wupatki 83.41 52 *e*P **P** **12 00 58.9 +1.1**
comp=Z,16nm,1.1s
WUAZ Wupatki 83.41 52 ⇑P **P** **12 00 57.7 -0.1**
baz=83
113A Mohawk Valley, 83.42 55 ⇓P **P** **12 00 57.8 +0.1**
baz=83
N23A Red Feather La 83.47 45 ⇓P **P** **12 00 58.0 -0.2**
baz=83
G28A Parade 83.55 39 ⇓P **P** **12 00 58.2 0.0**
baz=83
J26A Sides Ranch, S 83.55 41 ⇑P **P** **12 00 58.1 -0.2**
baz=83,SNR=5.4
O22A Kremmling 83.58 46 ⇓P **P** **12 00 58.6 -0.2**
baz=83
PV01 Paradox Valley 83.61 48 *e*P **P** **12 00 59.5 +0.6**
comp=Z,2µm,1.0s
E30A Jud 83.62 37 ⇓P **P** **12 00 58.3 -0.2**
baz=83,SNR=6.5
M24A Cheyenne 83.76 44 ⇓P **P** **12 00 59.5 -0.1**
baz=84
H28A Mission Ridge 83.76 39 ⇓P **P** **12 00 59.1 -0.2**
baz=84
P22A Eagle 83.81 46 ⇑P **P** **12 00 59.9 0.0**
baz=84
AGMN Agassiz Nation 83.85 34 *e*P **P** **12 01 01.1 +1.5**
comp=Z,16nm,1.4s
K26A Motz Farm, Whi 83.89 42 ⇓P **P** **12 01 00.5 +0.4**
baz=84
PVCC Panska Ves 83.90 329 *e*P **P** **12 00 59.9 +0.1**
PVCC *e* 12 01 06.6
PVCC MLR MLR
comp=Z,500nm,19.4s
PVCC Panska Ves 83.90 329 *e*P **P** **12 00 59.9 +0.1**
PVCC *ep*P **pP** **12 01 06.6 +0.6**
PVCC AMS AMS 12 45 20.0
comp=Z,500nm,19.4s
VRAC Vranov 83.90 327⇑ *i*P **P** **12 00 59.2 -0.7**
BRG Berggiesshubel 83.91 330 *e*P **P** **12 00 60.0 +0.1**
comp=Z,7.0nm,0.9s
BRG
comp=N,537nm,28.0s
BRG
comp=E,358nm,15.0s
BRG
comp=Z,514nm,18.1s
BRG Berggiesshubel 83.91 330 *e*P **P** **12 01 00.5 +0.6**
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG MLR MLR
comp=N,537nm,28.0s
BRG MLR MLR
comp=E,358nm,15.0s
BRG MLR MLR
comp=Z,514nm,18.1s
BRG Berggiesshubel 83.91 330 *e*P **P** **12 00 59.9 +0.1**
comp=Z,19nm,1.2s
O23A Lake Granby, G 83.92 45 ⇑P **P** **12 01 00.6 0.0**
baz=84
CLL Collm 83.98 330 *e*P **P** **12 01 00.0 -0.2**
CLL *i* 12 01 12.1
CLL *e*S **SKKSac** **12 11 29.0 +1.6**
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 83.98 330 *e*P **P** **12 00 59.9 -0.2**
CLL Collm 83.98 330 *e*P **P** **12 01 00.0 -0.2**
comp=Z,15nm,0.9s
CLL *i* sP **sP** **12 01 12.1 +3.5**
CLL *e* 12 01 26.0
CLL *e*S **SKKSac** **12 11 29.0 +1.6**
CLL *e*SS **SS** **12 16 54.0 +3.9**
CLL *e*SSSS 12 23 06.0
CLL LmH 12 35 00.0
comp=N,400nm,19.0s
CLL LmH 12 35 00.0
comp=E,400nm,19.3s
X16A Lo Mia Camp, P 84.02 53 ⇑P **P** **12 01 01.1 +0.1**
baz=84
CSS Prodhromos 84.04 308 *e*P **P** **12 01 01.2 +0.4**
comp=E,11nm,0.8s
CSS LR LR
comp=Z,115nm,19.0s
PKSN Nyarlorinc 84.07 324 *e*P **P** **12 01 02.3 +1.6**
BZS Buzias 84.07 322⇑ *i*P **P** **12 01 00.6 -0.2**
FBE Freiberg 84.12 330 *e*P **P** **12 01 01.2 +0.3**
comp=Z,16nm,0.8s
I28A Midland 84.14 40 ⇓P **P** **12 01 01.2 0.0**
baz=84,SNR=6.8
J27A Elkhorn Farm, 84.18 41 ⇓P **P** **12 01 01.4 -0.1**
baz=84,SNR=5.4
MVCO Mesa Verde 84.22 49 *e*P **P** **12 01 03.6 +1.6**
comp=Z,8.5nm,0.8s
MVCO Mesa Verde 84.22 49 ⇑P **P** **12 01 02.3 +0.3**
baz=84
PRA Prague 84.30 329 P **P** **12 01 02.0 +0.2**
PRU Pruhonice 84.31 329 *e*P **P** **12 01 02.3 +0.4**
PRU *e* 12 01 07.9
PRU MLR MLR
comp=Z,500nm,17.0s
PRU Pruhonice 84.31 329 *e*P **P** **12 01 02.3 +0.4**
PRU *ep*P **pP** **12 01 07.9 -0.2**
PRU AMS AMS 12 45 10.0
comp=Z,500nm,17.0s
ISCO Idaho Springs 84.36 45 *e*P **P** **12 01 03.6 +0.8**
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 84.36 45 *e*P **P** **12 01 03.5 +0.8**
comp=Z,4.9nm,0.8s
ISCO Idaho Springs 84.36 45 ⇓P **P** **12 01 03.0 +0.1**
baz=84
TREC Trest 84.40 328 *e*P **P** **12 01 03.0 +0.5**
TREC MLR MLR
comp=Z,500nm,15.7s
TREC Trest 84.40 328 *e*P **P** **12 01 03.0 +0.5**
TREC AMS AMS 12 44 40.0
comp=Z,500nm,15.7s
K27A Flueckinger Fa 84.42 41 ⇑P **P** **12 01 02.8 0.0**
baz=84
G30A Faulkton 84.44 38 ⇑P **P** **12 01 02.4 -0.3**
baz=84
O24A Longmont 84.48 45 ⇑P **P** **12 01 02.5 -0.7**
baz=84
J28A Allard Ranch, 84.49 40 ⇓P **P** **12 01 03.2 +0.2**
baz=84,SNR=5.9
P23A Jefferson 84.50 46 ⇓P **P** **12 01 02.8 -0.8**
baz=84
CSKK Cs˘ˇkako 84.52 325⇓ *e*P **P** **12 01 03.9 +0.9**
214A Organ Pipe Nat 84.56 55 *e*P **P** **12 01 02.7 -0.8**
214A Organ Pipe Nat 84.56 55 ⇓P **P** **12 01 03.4 -0.2**
baz=84
NEUB Neuenburg 84.56 331 *e*P **P** **12 01 03.1 0.0**
comp=Z,28nm,1.1s
I29A Vivian Onida 84.58 40 ⇓P **P** **12 01 03.7 +0.2**
baz=84
CLZ Clausthal 84.63 332 *e*P **P** **12 01 03.9 +0.3**
comp=Z,28nm,1.4s
PKST T˘s 84.70 325 *e*P **P** **12 01 04.1 +0.1**
TANN Tannenbergstha 84.88 330 *e*P **P** **12 01 04.8 -0.1**
comp=Z,93nm,2.5s
K28A Ten Mile Ranch 84.89 41 ⇑P **P** **12 01 05.1 0.0**
baz=85,SNR=7.0
WERD Werda 84.92 330 *e*P **P** **12 01 04.9 -0.1**
comp=Z,91nm,2.5s
S22A 4UR Ranch, Cre 84.93 48 ⇑P **P** **12 01 06.0 +0.3**
baz=85,SNR=6.9
X18A Snowflake 84.93 52 ⇓P **P** **12 01 05.5 -0.2**
baz=85
PLN Plauen 84.95 330 *e*P **P** **12 01 05.2 0.0**
comp=Z,122nm,1.5s
P24A Kohler Place, 84.96 45 ⇓P **P** **12 01 06.0 +0.3**
baz=85
GUNZ Gunzen 84.97 330 *e*P **P** **12 01 05.3 0.0**
comp=Z,14nm,1.1s
J29A Okreek 84.99 40 ⇑P **P** **12 01 05.7 +0.2**
baz=85
BRSD Miller 85.01 39 *e*P **P** **12 01 07.8 +2.2**
WERN Wernitzgruen 85.01 330 *e*P **P** **12 01 05.7 +0.2**
comp=Z,10.0nm,0.8s
NKC Novy Kostel 85.02 330 *e*P **P** **12 01 05.6 +0.1**
NKC *e* 12 01 11.6
NKC *e* 12 01 17.9
NKC Novy Kostel 85.02 330 *e*P **P** **12 01 05.6 +0.1**
NKC *ep*P **pP** **12 01 11.6 -0.1**
NKC *ex* x 12 01 17.9
O25A Wiggins 85.04 44 ⇑P **P** **12 01 06.6 +0.6**
baz=85
PKS9 Tamasi 85.06 324 *e*P **P** **12 01 05.7 -0.1**
SOP Sopron 85.09 326⇓ *e*P **P** **12 01 06.0 +0.1**
I30A Oacoma 85.12 39 ⇑P **P** **12 01 06.4 +0.2**
baz=85,SNR=9.6
PKSM Moragy 85.15 324⇑ *i*P **P** **12 01 05.8 -0.4**
PKSM Moragy 85.15 324⇓ *e*P **P** **12 01 08.3 +2.1**
Q24A Divide 85.17 46 ⇓P **P** **12 01 07.5 +0.6**
baz=85
CONA Conrad Observa 85.23 327⇑ *i*PcP **P** **12 01 07.4 +0.7**
comp=Z,39nm,1.3s
R23A Moffat 85.26 47 ⇓P **P** **12 01 07.6 +0.3**
baz=85
VTS Vitosha 85.28 319⇑ *i*P **P** **12 01 07.7 +0.5**
MANZ Manzenberg 85.35 330 *e*P **P** **12 01 07.3 +0.1**
comp=Z,7.0nm,0.7s
KHC Kasperske Hory 85.37 329 *e*P **P** **12 01 07.5 +0.2**
KHC *e* 12 01 13.1
KHC MLR MLR
comp=Z,400nm,15.6s
KHC Kasperske Hory 85.37 329 *e*P **P** **12 01 07.5 +0.2**
KHC *ep*P **pP** **12 01 13.1 -0.4**
KHC AMS AMS 12 45 30.0
comp=Z,400nm,15.6s
KHC Kasperske Hory 85.37 329 *e*P **P** **12 01 07.4 +0.2**
comp=Z,18nm,0.9s
P25A Willow Gulch B 85.40 45 ⇓P **P** **12 01 07.8 -0.1**
baz=85
K29A Lazy Trails An 85.43 40 ⇓P **P** **12 01 07.3 -0.5**
baz=85,SNR=6.0
ROTZ Rotzenmuhle 85.47 330 *e*P **P** **12 01 08.3 +0.5**
comp=Z,138nm,2.6s
J30A Dallas 85.49 40 ⇑P **P** **12 01 08.1 +0.1**
baz=85,SNR=7.0
GEC2 GERESS Array S 85.53 328 *e*P **P** **12 01 07.9 -0.3**
comp=Z,6.0nm,0.8s
GERES GERESS Array B 85.53 328 P **P** **12 01 07.9 -0.3**
GERES GERESS Array B 85.53 328 P **P** **12 01 07.9 -0.3**
comp=Z,3.0nm,0.6s,baz=38,slow=5.5,SNR=27
GERES LR LR 12 46 47.2
comp=Z,310nm,19.0s,baz=233,slow=41
UBBA Unterbreizbach 85.57 331 *e*P **P** **12 01 08.0 -0.1**
comp=Z,17nm,1.4s
WET Wettzell 85.66 329 *e*P **P** **12 01 09.6 +0.8**
comp=Z,14nm,1.4s
R24A Sanders Place, 85.67 46 ⇑P **P** **12 01 10.0 +0.7**
baz=86,SNR=9.0
MMB Musomiste 85.67 318⇓ *i*P **P** **12 01 08.9 -0.1**
TUC Tucson 85.72 54 *e*P **P** **12 01 10.3 +0.8**
TUC pmax pmax
comp=Z,17nm,1.4s
TUC MLR MLR
comp=Z,535nm,21.0s
TUC Tucson 85.72 54 *e*P **P** **12 01 10.3 +0.8**
comp=Z,17nm,1.4s
TUC LR LR
comp=Z,535nm,21.0s
SDCO Great Sand Dun 85.74 47 *e*P **P** **12 01 10.8 +1.0**
comp=Z,14nm,1.4s
Q25A Bedland, Calha 85.74 45 ⇑P **P** **12 01 09.6 0.0**
baz=86
U22A Llaves 85.77 49 ⇓P **P** **12 01 09.7 -0.1**
baz=86
P26A Davis Ranch, A 85.85 44 ⇓P **P** **12 01 10.3 +0.2**
baz=86
T23A Casias Ranch, 85.86 48 ⇑P **P** **12 01 11.0 +0.7**
baz=86,SNR=6.4
K30A Basset 85.87 40 ⇑P **P** **12 01 10.5 +0.5**
baz=86
S24A Houchin Ranch, 85.98 47 ⇑P **P** **12 01 10.9 -0.1**
baz=86
V22A San Miguel Ran 86.03 49 ⇓P **P** **12 01 11.1 0.0**
baz=86
BUG Bochum--Univer 86.14 333 *e*P **P** **12 01 10.6 -0.4**
comp=Z,18nm,0.9s
N28A Pribbeno Ranch 86.15 43 ⇑P **P** **12 01 11.4 0.0**
baz=86
U23A El Rito 86.22 48 ⇓P **P** **12 01 12.3 +0.2**
baz=86,SNR=10
R25A Fountain Ranch 86.22 46 ⇓P **P** **12 01 12.2 +0.3**
baz=86
T24B San Luis 86.25 47 ⇓P **P** **12 01 12.3 0.0**
baz=86
P27A Ficken Ranch, 86.30 44 ⇓P **P** **12 01 12.6 +0.3**
baz=86
L30A Spencer Herefo 86.31 41 ⇑P **P** **12 01 12.3 +0.2**
baz=86
ESK Eskdalemuir 86.32 341 PFAKE 12 01 20.0 +8.1
ESK LR LR
comp=Z,342nm,20.0s
S25A Robets Cordova 86.44 46 ⇑P **P** **12 01 13.1 0.0**
baz=86
PERS Pernice 86.53 326 *i* P **P** **12 01 13.5 +0.4**
SOKA Soboth 86.54 326⇓ *i*PcP **P** **12 01 13.7 +0.4**
comp=Z,34nm,1.0s
V23A Ortiz Mt. (NFS 86.59 49 ⇑P **P** **12 01 13.9 0.0**
baz=86
R26A Arlington 86.62 45 ⇓P **P** **12 01 13.7 -0.2**
baz=86
L31A Butterfield Fa 86.63 40 ⇓P **P** **12 01 14.1 +0.4**
baz=86,SNR=7.4
KSCO Kaye Shedlock' 86.63 44 ⇓P **P** **12 01 14.0 +0.1**
baz=86
TNS Taunus Mts 86.66 332 *e*P **P** **12 01 13.6 -0.1**
comp=Z,14nm,1.1s
ECSD EROS Data Cent 86.71 38 *e*P **P** **12 01 13.7 -0.4**
comp=Z,9.0nm,0.7s
U24A Moreno Valley 86.73 48 ⇓P **P** **12 01 14.7 0.0**
baz=87
RJOB Jochberg 86.76 328 *e*P **P** **12 01 14.4 +0.1**
comp=Z,30nm,1.8s
P28A Saint Francis 86.77 44 ⇑P **P** **12 01 14.4 -0.1**
baz=87,SNR=5.7
T25A Trinidad 86.79 47 ⇑P **P** **12 01 14.7 -0.1**
baz=87
ANMO Albuquerque 86.92 50 *e*P **P** **12 01 16.0 +0.5**
comp=Z,6.4nm,1.2s
ANMO LR LR
comp=Z,244nm,19.0s
ANMO Albuquerque 86.92 50 P **P** **12 01 16.5 +1.0**
comp=Z,0.6nm,0.4s,baz=246,slow=1.7,SNR=6.2
TBI Tubuai 86.93 121 *e*LR LR 12 28 49.5
comp=Z,259nm,23.0s
TBI Tubuai 86.93 121 *e*T T 13 36 42.1
comp=Z,4.8nm,0.3s
O29A 4D Ranch, Culb 86.94 43 ⇑P **P** **12 01 15.3 0.0**
baz=87
W23A Werner Place, 86.98 49 ⇓P **P** **12 01 15.8 0.0**
baz=87
KBA Koelnbreinsper 87.01 327⇑ *i*PcP **PcP** **12 01 17.7 -0.1**
comp=Z,19nm,0.9s
R27A Eads 87.01 45 ⇓P **P** **12 01 16.0 +0.2**
baz=87
V24A Rampart Ranch, 87.17 48 ⇓P **P** **12 01 16.5 -0.3**
baz=87
P29A Atwood 87.22 43 ⇑P **P** **12 01 16.8 +0.1**
baz=87
T26A Comanche Natio 87.27 46 ⇑P **P** **12 01 17.1 0.0**
baz=87
VISS Visnje 87.27 326 *i* P **P** 12 01 21.4 +4.7
U25A Circle Dot Ran 87.27 47 ⇓P **P** **12 01 16.9 -0.2**
baz=87
MEM Membach 87.28 333 P **P** **12 01 16.8 +0.1**
comp=Z,17nm,1.5s
BOJS Bojanci 87.30 325 *i* P **P** **12 01 15.8 -1.0**
W24A Lazy 6 Ranch, 87.42 49 ⇓P **P** **12 01 18.3 +0.4**
baz=87
V25A Rancho No Teng 87.51 48 ⇑P **P** **12 01 18.3 0.0**
baz=87
R28A Tribune 87.56 45 ⇓P **P** **12 01 18.5 +0.1**
baz=87
JAVS Javornik 87.57 326 *e*P **P** **12 01 16.3 -2.0**
121A Cookes Peak, D 87.58 52 *e*P **P** **12 01 20.3 +1.6**
P30A Selden 87.65 43 ⇓P **P** **12 01 18.8 0.0**
baz=88
Z22A Elephant Butte 87.67 51 ⇑P **P** **12 01 19.7 +0.6**
baz=88
Q29A Oakley 87.67 44 ⇓P **P** **12 01 18.9 0.0**
baz=88
U26A Atchley Ranch, 87.69 47 ⇓P **P** **12 01 19.7 +0.5**
baz=88
BCLA Clavier 87.70 334 P **P** **12 01 18.4 -0.3**
comp=Z,20nm,1.5s
WLF Walferdange 87.99 333 *e*P **P** **12 01 20.3 +0.2**
comp=Z,6.0nm,0.9s
WLF Walferdange 87.99 333 PFAKE 12 01 30.0 +10
WLF LR LR
comp=Z,529nm,19.0s
Q30A Quinter 88.05 43 ⇑P **P** **12 01 20.8 +0.1**
baz=88,SNR=6.0
P31A Stockton 88.16 42 ⇑P **P** **12 01 21.0 -0.1**
baz=88
BFO Black Forest 88.20 331 *e*P **P** **12 01 21.1 -0.1**
BFO pmax pmax
comp=Z,34nm,1.4s
BFO MLR MLR
comp=Z,353nm,19.0s
BFO Black Forest 88.20 331 *e*P **P** **12 01 21.1 -0.1**
comp=Z,34nm,1.4s
BFO LR LR
comp=Z,353nm,19.0s
U27A Thompson Grove 88.23 47 ⇓P **P** **12 01 21.8 +0.2**
baz=88
DOU Dourbes 88.23 334 P **P** **12 01 21.2 0.0**
R30A Dighton 88.49 44 ⇓P **P** **12 01 22.5 -0.2**
baz=88
P32A Huiting Farm, 88.52 42 ⇓P **P** **12 01 23.1 +0.3**
baz=88
CDF Champ du Feu 88.56 331 *e*P **P** **12 01 22.4 -0.5**
comp=Z,42nm,1.3s
CDF Champ du Feu 88.56 331 *e*P **P** **12 01 22.4 -0.5**
CDF pmax pmax
comp=Z,42nm,1.3s
CDF Champ du Feu 88.56 331 *e*P **P** **12 01 22.4 -0.5**
comp=Z,42nm,1.3s
SCHQ Schefferville 88.67 16 P **P** **12 01 24.2 +1.0**
SCHQ Schefferville 88.67 16 P **P** **12 01 24.2 +1.0**
comp=Z,7.1nm,0.7s,baz=19,slow=4.6,SNR=7.2
SCHQ LR LR 12 50 50.0
comp=Z,250nm,18.0s,baz=17,slow=42
ECH Echery 88.77 331 PFAKE 12 01 40.0 +16
ECH LR LR
comp=Z,246nm,20.0s
R31A Burdett 88.92 43 ⇑P **P** **12 01 24.9 +0.1**
baz=89
W27A Bowe Ranch, En 88.97 48 ⇓P **P** **12 01 25.4 +0.2**
baz=89
Q32A Meitler Ranch, 88.98 42 ⇑P **P** **12 01 25.4 +0.4**
baz=89
MSEY Mahe Island 89.00 264 PFAKE 12 01 40.0 +15
MSEY LR LR
comp=Z,176nm,19.0s
PAGF Fort de Pagny 89.06 332 *e*P **P** **12 01 25.0 -0.1**
comp=Z,8.3nm,0.9s
PAGF Fort de Pagny 89.06 332 *e*P **P** **12 01 25.0 -0.1**
comp=Z,8.3nm,0.9s
Z25A Roswell 89.10 50 ⇑P **P** **12 01 26.4 +0.6**
baz=89
TUE Stuetta 89.24 329 *e*P **P** **12 01 25.0 -1.3**
comp=Z,8.9nm,0.8s
TUE LR LR
comp=Z,445nm,19.0s
224A Cornudas Mount 89.35 51 ⇓P **P** **12 01 27.3 +0.2**
baz=89
Q33A Connelly Farm, 89.38 42 ⇑P **P** **12 01 27.1 +0.2**
baz=89
S31A Mullinville 89.40 44 ⇓P **P** **12 01 27.2 +0.1**
baz=89
125A Gardner Draw, 89.54 50 ⇑P **P** **12 01 27.7 -0.1**
baz=89
Z26A Caprock 89.57 50 ⇑P **P** **12 01 28.4 +0.4**
baz=89
MNTX Cornudas Mount 89.69 51 PFAKE 12 01 40.0 +12
MNTX LR LR
comp=Z,274nm,19.0s
SCIA State Center 89.76 37 *e*P **P** **12 01 29.4 +0.9**
comp=Z,20nm,0.9s
AMTX Amarillo 89.94 47 ⇑P **P** **12 01 30.7 +1.0**
baz=90
126A Clayton Basin, 89.95 50 ⇓P **P** **12 01 31.0 +1.2**
baz=90
KSU1 Kansas State U 89.99 41 PFAKE 12 01 40.0 +10
KSU1 LR LR
comp=Z,279nm,19.0s
GDL2 Guadalupe Moun 90.02 51 *e*P **P** **12 01 31.1 +0.9**
comp=Z,2.5nm,0.7s
Z27A Tatum 90.03 49 ⇓P **P** **12 01 31.5 +1.3**
baz=90
X29A Tulia 90.22 47 ⇑P **P** **12 01 32.5 +1.5**
baz=90
226B Tecolote Peak, 90.23 51 ⇓P **P** **12 01 31.6 +0.5**
baz=90
425A Indio Mountain 90.53 52 ⇑P **P** **12 01 33.8 +1.2**
baz=90
Z28A Tucker Farm, M 90.57 49 ⇓P **P** **12 01 34.0 +1.3**
baz=90
VLC Villacollemand 90.58 327 PFAKE 12 01 40.0 +7.6
VLC LR LR
comp=Z,455nm,19.0s
LOR Lormes 90.83 333 *e*P **P** **12 01 34.7 +1.2**
comp=Z,58nm,1.4s
LOR *e*R
comp=Z,324nm,22.5s
LOR Lormes 90.83 333 *e*P **P** **12 01 34.7 +1.2**
comp=Z,58nm,1.4s
326A Caldwell Ranch 90.85 51 ⇓P **P** **12 01 35.0 +1.0**
baz=91
Z29A Hungry Hill Ra 91.01 48 ⇓P **P** **12 01 34.8 +0.1**
baz=91
LPL La Plagne 91.11 330 *e*P **P** **12 01 34.8 -0.2**
comp=Z,42nm,1.1s
LPL La Plagne 91.11 330 *e*P **P** **12 01 34.8 -0.2**
LPL pmax pmax
comp=Z,42nm,1.1s
LPL La Plagne 91.11 330 *e*P **P** **12 01 34.8 -0.2**
comp=Z,42nm,1.1s
LPG La Plagne 91.11 330 *e*P **P** **12 01 35.0 -0.2**
comp=Z,42nm,1.0s
LPG La Plagne 91.11 330 *e*P **P** **12 01 35.0 -0.2**
LPG pmax pmax
comp=Z,43nm,1.0s
LPG La Plagne 91.11 330 *e*P **P** **12 01 35.0 -0.2**
comp=Z,42nm,1.0s
SSF Saint Saulge 91.14 333 *e*P **P** **12 01 35.5 +0.6**
comp=Z,42nm,1.3s
SSF Saint Saulge 91.14 333 *e*P **P** **12 01 35.5 +0.6**
SSF pmax pmax
comp=Z,42nm,1.3s
SSF Saint Saulge 91.14 333 *e*P **P** **12 01 35.5 +0.6**
comp=Z,42nm,1.3s
X31A McDonald Ranch 91.14 46 ⇓P **P** **12 01 35.5 +0.3**
baz=91
FLN La Foliniere 91.16 336 *e*P **P** **12 01 35.4 +0.5**
comp=Z,199nm,1.5s
FLN *e*R
comp=Z,614nm,21.2s
FLN La Foliniere 91.16 336 *e*P **P** **12 01 35.4 +0.5**
FLN pmax pmax
comp=Z,199nm,1.5s
FLN La Foliniere 91.16 336 *e*P **P** **12 01 35.4 +0.5**
comp=Z,199nm,1.5s
TIP Timpagrande 91.16 320 PFAKE 12 01 50.0 +15
TIP LR LR
comp=Z,350nm,21.0s
426A McDonald Obser 91.23 51 ⇓P **P** **12 01 36.2 +0.2**
baz=91
Z30A Sanderson Ranc 91.35 48 ⇑P **P** **12 01 36.5 +0.3**
baz=91
SMF Signal de Mont 91.35 332 *e*P **P** **12 01 35.5 -0.4**
comp=Z,53nm,1.5s
SMF Signal de Mont 91.35 332 *e*P **P** **12 01 35.5 -0.4**
SMF pmax pmax
comp=Z,53nm,1.5s
SMF Signal de Mont 91.35 332 *e*P **P** **12 01 35.5 -0.4**
comp=Z,53nm,1.5s
AVF Avril sur Loir 91.42 333 *e*P **P** **12 01 36.1 -0.1**
comp=Z,60nm,1.2s
AVF Avril sur Loir 91.42 333 *e*P **P** **12 01 36.1 -0.1**
AVF pmax pmax
comp=Z,60nm,1.2s
AVF Avril sur Loir 91.42 333 *e*P **P** **12 01 36.1 -0.1**
comp=Z,60nm,1.2s

Y31A	**Rekieta Farm,**	**91.43**	**47**	⇓P		**P**	**12 01 36.7**	**+0.2**	
	baz=91								
BNI	**Bardonecchia**	**91.50**	**330**	*e*P		**P**	**12 01 36.9**	**+0.1**	
BNI					pmax	pmax			
	comp=Z,36nm,1.3s								
BNI					MLR	MLR			
	comp=Z,541nm,22.0s								
BNI	**Bardonecchia**	**91.50**	**330**	*e*P		**P**	**12 01 36.9**	**+0.1**	
	comp=Z,36nm,1.3s								
BNI					LR	LR			
	comp=Z,541nm,22.0s								
427A	**Hayter Ranch,**	**91.53**	**51**	⇑P		**P**	**12 01 37.1**	**0.0**	
	baz=91								
328A	**Wristen Ranch,**	**91.56**	**50**	⇓P		**P**	**12 01 37.5**	**+0.3**	
	baz=91								
526A	**Mary Lane Ranc**	**91.59**	**52**	⇓P		**P**	**12 01 37.7**	**+0.2**	
	baz=92								
GRR	**Gorron**	**91.61**	**336**	*e*P		**P**	**12 01 37.0**	**0.0**	
GRR	**Gorron**	**91.61**	**336**	*e*P		**P**	**12 01 37.0**	**0.0**	
GRR	**Gorron**	**91.61**	**336**	*e*P		**P**	**12 01 37.0**	**0.0**	
X32A	**Elmer**	**91.71**	**46**	⇓P		**P**	**12 01 37.3**	**-0.5**	
	baz=92								
MBDF	**Montbardon**	**91.72**	**329**	*e*P		**P**	**12 01 37.1**	**-0.7**	
	comp=Z,22nm,0.7s								
MBDF	**Montbardon**	**91.72**	**329**	*e*P		**P**	**12 01 37.1**	**-0.7**	
MBDF					pmax	pmax			
	comp=Z,22nm,0.7s								
MBDF	**Montbardon**	**91.72**	**329**	*e*P		**P**	**12 01 37.1**	**-0.7**	
	comp=Z,22nm,0.7s								
527A	**Woodward Ranch**	**91.85**	**52**	⇓P		**P**	**12 01 38.6**	**-0.1**	
	baz=92								
626A	**Big Bend Ranch**	**91.89**	**52**	⇓P		**P**	**12 01 39.1**	**+0.3**	
	baz=92								
Y32A	**R-V Farms, Ver**	**91.90**	**46**	⇑P		**P**	**12 01 39.2**	**+0.5**	
	baz=92								
Z31A	**Sharp Cattle R**	**91.94**	**47**	⇓P		**P**	**12 01 39.1**	**+0.2**	
	baz=92								
ORIF	**Oris-en-Rattie**	**91.94**	**330**	*e*P		**P**	**12 01 38.6**	**-0.2**	
ORIF				*e*R					
	comp=Z,370nm,22.0s								
ORIF	**Oris-en-Rattie**	**91.94**	**330**	*e*P		**P**	**12 01 38.6**	**-0.2**	
ORIF	**Oris-en-Rattie**	**91.94**	**330**	*e*P		**P**	**12 01 38.6**	**-0.2**	
329A	**Wagon Wheel Ra**	**92.02**	**50**	⇓P		**P**	**12 01 39.4**	**0.0**	
	baz=92								
W34A	**Bridge Creek,**	**92.04**	**45**	⇑P		**P**	**12 01 39.7**	**+0.4**	
	baz=92								
428A	**Kincaid Ranch,**	**92.07**	**51**	⇑P		**P**	**12 01 40.5**	**+0.9**	
	baz=92								
SBF	**Sospel**	**92.13**	**328**	*e*P		**P**	**12 01 41.0**	**+1.4**	
	comp=Z,107nm,1.0s								
SBF	**Sospel**	**92.13**	**328**	*e*P		**P**	**12 01 41.0**	**+1.4**	
SBF					pmax	pmax			
	comp=Z,107nm,1.0s								
SBF	**Sospel**	**92.13**	**328**	*e*P		**P**	**12 01 41.0**	**+1.4**	
	comp=Z,107nm,1.0s								
SSB	**Saint Sauveur**	**92.20**	**331**		PFAKE		12 01 50.0	+10	
SSB					LR	LR			
	comp=Z,258nm,21.0s								
TCF	**Toulx Ste Croi**	**92.28**	**333**	*e*P		**P**	**12 01 40.2**	**0.0**	
	comp=Z,32nm,1.1s								
TCF	**Toulx Ste Croi**	**92.28**	**333**	*e*P		**P**	**12 01 40.2**	**0.0**	
TCF					pmax	pmax			
	comp=Z,32nm,1.1s								
TCF	**Toulx Ste Croi**	**92.28**	**333**	*e*P		**P**	**12 01 40.2**	**0.0**	
	comp=Z,32nm,1.1s								
TXAR	**Lajitas Array**	**92.34**	**52**	P		**P**	**12 01 40.9**	**0.0**	
TXAR	**Lajitas Array**	**92.34**	**52**	P		**P**	**12 01 40.9**	**0.0**	
	comp=Z,2.2nm,0.6s,baz=303,slow=3.9,SNR=18								
TXAR					LR	LR	12 42 33.2		
	comp=Z,306nm,19.6s,baz=5.0,slow=35								
Z32A	**Haskell**	**92.35**	**47**	⇑P		**P**	**12 01 41.0**	**+0.2**	
	baz=92								
528A	**Cox Ranch, San**	**92.38**	**51**	⇑P		**P**	**12 01 41.2**	**+0.1**	
	baz=92								
Y33A	**Hilltop Ranch,**	**92.39**	**46**	⇑P		**P**	**12 01 41.1**	**+0.2**	
	baz=92								
X34A	**Smith Ranch, M**	**92.45**	**45**	⇓P		**P**	**12 01 40.9**	**-0.3**	
	baz=92								
627A	**Terlingua Ranc**	**92.45**	**52**	⇓P		**P**	**12 01 41.7**	**+0.2**	
	baz=92								
VIVF	**Saint-Julien-l**	**92.49**	**331**	*e*P		**P**	**12 01 41.0**	**-0.2**	
	comp=Z,53nm,1.4s								
VIVF	**Saint-Julien-l**	**92.49**	**331**	*e*P		**P**	**12 01 41.0**	**-0.2**	
VIVF					pmax	pmax			
	comp=Z,53nm,1.4s								
VIVF	**Saint-Julien-l**	**92.49**	**331**	*e*P		**P**	**12 01 41.0**	**-0.2**	
	comp=Z,53nm,1.4s								
330A	**Mertzon**	**92.58**	**49**	⇓P		**P**	**12 01 41.8**	**-0.1**	
	baz=92								
429A	**Davenport Ranc**	**92.65**	**50**	⇓P		**P**	**12 01 41.9**	**-0.4**	
	baz=92								
TUL1	**Tulsa**	**92.71**	**43**	*e*P		**P**	**12 01 43.3**	**+1.0**	
TUL1	**Tulsa**	**92.71**	**43**	⇓P		**P**	**12 01 42.3**	**-0.1**	
	baz=92								
ABTX	**Abilene, Hawle**	**92.72**	**48**	*e*P		**P**	**12 01 44.5**	**+2.0**	
ABTX	**Abilene, Hawle**	**92.72**	**48**	⇑P		**P**	**12 01 42.4**	**-0.1**	
	baz=93								
628A	**Black Gap, Mar**	**92.75**	**52**	⇑P		**P**	**12 01 43.1**	**+0.3**	
	baz=93								
529A	**Stev Forest Ra**	**92.77**	**51**	⇓P		**P**	**12 01 43.1**	**+0.3**	
	baz=93								
Z33A	**Whitaker Ranch**	**92.80**	**47**	⇑P		**P**	**12 01 43.4**	**+0.5**	
	baz=93								
MFF	**Saint Martin d**	**92.88**	**334**	*e*P		**P**	**12 01 43.0**	**0.0**	
	comp=Z,117nm,1.6s								
MFF	**Saint Martin d**	**92.88**	**334**	*e*P		**P**	**12 01 43.0**	**0.0**	
MFF					pmax	pmax			
	comp=Z,117nm,1.6s								
MFF	**Saint Martin d**	**92.88**	**334**	*e*P		**P**	**12 01 43.0**	**0.0**	
	comp=Z,117nm,1.6s								
430A	**Baggett Ranch,**	**92.96**	**50**	⇓P		**P**	**12 01 43.6**	**-0.1**	
	baz=93								
232A	**Coleman**	**93.22**	**48**	⇓P		**P**	**12 01 45.1**	**+0.2**	
	baz=93								
530A	**J-C Ranch, Com**	**93.32**	**50**	⇓P		**P**	**12 01 45.5**	**+0.1**	
	baz=93								
CAF	**Calviac**	**93.47**	**332**	*e*P		**P**	**12 01 46.3**	**+0.5**	
CAF	**Calviac**	**93.47**	**332**	*e*P		**P**	**12 01 46.3**	**+0.5**	
CAF	**Calviac**	**93.47**	**332**	*e*P		**P**	**12 01 46.3**	**+0.5**	
332A	**Millersview**	**93.50**	**49**	⇑P		**P**	**12 01 46.3**	**+0.1**	
	baz=93								
Z35A	**Perchaven, San**	**93.68**	**46**	⇓P		**P**	**12 01 46.7**	**-0.2**	
	baz=94								
134A	**White-Moore Ra**	**93.71**	**47**	⇑P		**P**	**12 01 46.9**	**-0.1**	
	baz=94								
531A	**Rocksprings**	**93.82**	**50**	⇓P		**P**	**12 01 47.8**	**+0.1**	
	baz=94								
333A	**Richland Sprin**	**94.01**	**48**	⇓P		**P**	**12 01 48.1**	**-0.4**	
	baz=94								
JCT	**Junction City**	**94.08**	**49**		PFAKE		12 02 00.0	+11	
JCT					LR	LR			
	comp=Z,250nm,19.0s								
CLTB	**Caltabellotta**	**94.22**	**321**		PFAKE		12 02 00.0	+11	
CLTB					LR	LR			
	comp=Z,329nm,22.0s								
631A	**Perdido Creek**	**94.31**	**50**	⇑P		**P**	**12 01 49.9**	**0.0**	
	baz=94								
433A	**Art**	**94.34**	**49**	⇓P		**P**	**12 01 49.7**	**-0.2**	
	baz=94								
334A	**Lometa**	**94.47**	**48**	⇓P		**P**	**12 01 50.5**	**-0.1**	
	baz=94								
WHTX	**Lake Whitney**	**94.49**	**47**	⇓P		**P**	**12 01 51.0**	**+0.4**	
	baz=94								
632A	**Uvalde**	**94.75**	**50**	⇓P		**P**	**12 01 51.5**	**-0.4**	
	baz=95								
434A	**Burnet**	**94.81**	**48**	⇓P		**P**	**12 01 51.5**	**-0.6**	
	baz=95								
MIAR	**Mount Ida**	**94.95**	**43**	*e*P		**P**	**12 01 54.6**	**+1.9**	
MIAR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
MIAR	**Mount Ida**	**94.95**	**43**	*e*P		**P**	**12 01 54.6**	**+1.9**	
	comp=Z,9.9nm,0.9s								
732A	**Laxson Ranch,**	**95.16**	**51**	⇓P		**P**	**12 01 53.9**	**+0.2**	
	baz=95								
534A	**Blanco**	**95.22**	**49**	⇑P		**P**	**12 01 54.0**	**0.0**	
	baz=95								
ERPA	**Erie**	**95.69**	**30**		PFAKE		12 02 10.0	+14	
ERPA					LR	LR			
	comp=Z,344nm,19.0s								
BINY	**Binghamton**	**97.19**	**27**		PFAKE		12 02 10.0	+7.1	
BINY					LR	LR			
	comp=Z,1μm,19.0s								
KVTX	**Kingsville**	**97.30**	**50**		PFAKE		12 02 20.0	+16	
KVTX					LR	LR			
	comp=Z,913nm,22.0s								
RKT	**Rikitea**	**97.61**	**113**	*e*LR		LR	12 33 42.3		
	comp=Z,196nm,24.0s								

KEST	**Kesra**	**97.63**	**322**		LR	LR	12 53 10.8		
	comp=Z,124nm,19.6s,baz=306,slow=40								
CBN	**Corbin**	**100.06**	**30**		PFAKE		12 02 30.0	+14	
CBN					LR	LR			
	comp=Z,295nm,19.0s								
PAB	**San Pablo**	**100.53**	**334**		PFAKE		12 02 30.0	+12	
PAB					LR	LR			
	comp=Z,627nm,22.0s								
GOGA	**Godfrey**	**101.21**	**37**		PFAKE		12 02 30.0	+9.1	
GOGA					LR	LR			
	comp=Z,616nm,22.0s								
KMBO	**Kilima Mbogo**	**102.24**	**277**		PFAKE		12 02 40.0	+14	
KMBO					LR	LR			
	comp=Z,123nm,22.0s								
CASY	**Casey**	**102.33**	**192**		PFAKE		12 02 40.0	+15	
CASY					LR	LR			
	comp=Z,238nm,19.0s								
RTC	**Rabat Centre**	**106.37**	**333**		PFAKE		12 07 10.0		
RTC					LR	LR			
	comp=Z,421nm,20.0s								
TAM	**Tamanrasset**	**109.80**	**317**		PFAKE		12 07 10.0		
TAM					LR	LR			
	comp=Z,163nm,20.0s								
LSZ	**Lusaka**	**117.34**	**269**		PFAKE		12 07 30.0	+14	
LSZ					LR	LR			
	comp=Z,138nm,19.0s								
JTS	**JuntasAbangare**	**118.10**	**54**		PFAKE		12 07 30.0	+12	
JTS					LR	LR			
	comp=Z,189nm,21.0s								
SDDR	**Presa de Saban**	**119.20**	**36**		PFAKE		12 07 30.0	+10	
SDDR					LR	LR			
	comp=Z,280nm,19.0s								
TORD	**Torodi Ar. Bea**	**119.59**	**313**		PKP	**PKPdf**	**12 07 20.0**	**-0.6**	
TORD					PP	**PP**	**12 08 43.5**	**+1.4**	
TORD					PKKPbc	**PKKPab**	**12 17 35.9**	**+0.8**	
TORD	**Torodi Ar. Bea**	**119.59**	**313**		PKP	**PKPdf**	**12 07 20.0**	**-0.6**	
	comp=Z,0.8nm,0.6s,baz=6.6,slow=2.6,SNR=4.8								
TORD					PP	**PP**	**12 08 43.5**	**+1.4**	
	comp=Z,2.8nm,0.9s,baz=42,slow=5.7,SNR=5.1								
TORD					PKKPbc	**PKKPab**	**12 17 35.9**	**+0.8**	
	comp=Z,1.2nm,1.0s,baz=213,slow=3.0,SNR=5.1								
SJG	**San Juan**	**122.32**	**31**		PFAKE		12 07 40.0	+14	
SJG					LR	LR			
	comp=Z,163nm,21.0s								
QSPA	**South Pole Qui**	**123.36**	**180**	*e*PKPdf		**PKPdf**	**12 07 25.7**	**-0.6**	
QSPA					LR	LR			
	comp=Z,377nm,22.0s								
FDF	**Fort de France**	**127.41**	**28**		PFAKE		12 07 50.0	+14	
FDF					LR	LR			
	comp=Z,135nm,21.0s								
SDV	**Santo Domingo**	**128.03**	**41**	*e*PKPdf		**PKPdf**	**12 07 37.0**	**0.0**	
SDV					LR	LR			
	comp=Z,98nm,20.0s								
TSUM	**Tsumeb**	**128.09**	**271**		PFAKE		12 07 50.0	+13	
TSUM					LR	LR			
	comp=Z,61nm,21.0s								
DBIC	**Dimbokro**	**128.62**	**315**		PKP	**PKPdf**	**12 07 38.9**	**+1.0**	
DBIC	**Dimbokro**	**128.62**	**315**		PKP	**PKPdf**	**12 07 38.9**	**+1.0**	
	comp=Z,1.2nm,0.4s,baz=146,slow=3.6,SNR=3.2								
GRGR	**Grenville**	**129.57**	**30**		PFAKE		12 07 50.0	+10	
GRGR					LR	LR			
	comp=Z,245nm,20.0s								
OTAV	**Otavalo**	**129.81**	**56**		PFAKE		12 07 50.0	+9.2	
OTAV					LR	LR			
	comp=Z,164nm,21.0s								
PTGA	**Pitinga**	**141.73**	**36**		PFAKE		12 08 10.0	+7.7	
PTGA					LR	LR			
	comp=Z,167nm,19.0s								
SAML	**Samuel**	**146.73**	**48**	*e*PKPbc		**PKPbc**	**12 08 12.3**	**-0.3**	
SAML					LR	LR			
	comp=Z,160nm,20.0s								
LPAZ	**La Paz**	**148.46**	**64**	*e*PKPdf		**PKPdf**	**12 08 15.4**	**+0.9**	
LPAZ				PKPbc		**PKPbc**	**12 08 18.2**	**+0.1**	
LPAZ				*e*PKPbc		**PKiKP**	**12 08 20.6**	**+0.9**	
LPAZ				*e*PKPab		**PKPab**	**12 08 22.0**	**+0.7**	
LPAZ	**La Paz**	**148.46**	**64**	PKPbc		**PKPbc**	**12 08 18.2**	**+0.1**	
	comp=Z,14nm,0.6s,baz=346,slow=2.5,SNR=44								
LVC	**Limon Verde**	**151.36**	**75**	*e*PKPbc		**PKPbc**	**12 08 25.5**	**+1.0**	
LVC				*e*PKPab		**PKPab**	**12 08 33.0**	**+0.2**	
LCO	**Las Campanas**	**152.42**	**89**	*e*PKPbc		**PKPbc**	**12 08 27.1**	**+0.3**	
LCO				*e*PKPab		**PKPab**	**12 08 37.6**	**+0.5**	
PLCA	**Paso Flores**	**153.81**	**115**	PKPbc		**PKPbc**	**12 08 29.6**	**+0.3**	
PLCA	**Paso Flores**	**153.81**	**115**	PKPbc		**PKPbc**	**12 08 29.6**	**+0.3**	
	comp=Z,1.8nm,0.7s,baz=30,slow=2.0,SNR=4.4								
BDFB	**Brasilia**	**160.26**	**27**	PKPab		**PKPab**	**12 09 12.5**	**+2.0**	
BDFB	**Brasilia**	**160.26**	**27**	PKPab		**PKPab**	**12 09 12.5**	**+2.0**	
	comp=Z,1.8nm,0.5s,baz=265,slow=5.6,SNR=3.6								

JMA 18 11:48:52.1, 34.96N×139.14E, h3km±1km, M0.9, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.07**	**241**	P	Pg	11 48 53.6	0.0
AJI	**Ajiro2**	**0.09**	**335**	P	Pg	11 48 54.0	0.0
JOD2	**Odawara 2**	**0.30**	**352**	P	Pg	11 48 58.1	0.0
JOD2				S	Sg	11 49 02.7	+0.6

*IDC **18** 12:11:08.9±2.0, 9.96S×119.79E, h0km, mb3.8/3, mb1 3.7/6, mb1mx3.6/21, mbtmp3.6/6, ML3.2/3, Error ellipse: s-maj=182.0km s-min=21.7km az=53.0*
*ISCJB **18** 12:11:11.3±0.8, 10.27S±0.10×119.5E±0.1, h33km, mb3.7/3, Error ellipse: s-maj=18.3km s-min=11.1km az=144.5*
*AUST **18** 12:11:17.0, 10.49S×119.96E, h20km*

ISC 18 12:11:13.8±1.2, 10.2S±0.1×119.5E±0.1, h35km, n13, σ1.9s04/12, mb4.0/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.96**	**55**	P	**Pn**	**12 11 31.6**	**+0.9**
	baz=0.9,SNR=3.8						
SOEI	**Soe**	**4.71**	**85**	P	Pn	12 12 25.9	+3.4
	baz=4.3,SNR=4.1						
FITZ	**Fitzroy Crossi**	**9.83**	**143**	Pn	**Pn**	**12 13 31.1**	**-1.7**
	0.2nm,0.3s,baz=330,slow=8.1,SNR=9.5						
FITZ				Sn	Sn	12 15 12.4	-10
	0.9nm,0.3s,baz=9.1,slow=21,SNR=9.3						
FITZ	**Fitzroy Crossi**	**9.83**	**143**	P	**Pn**	**12 13 32.7**	**0.0**
	baz=9.4,SNR=4.6						
KNRA	**Kununurra**	**10.52**	**122**	P	**Pn**	**12 13 42.4**	**+0.2**
	baz=10.0,SNR=5.4						
MTN	**Manton Dam**	**11.69**	**104**	P	**Pn**	**12 13 56.8**	**-1.4**
	baz=11,SNR=7.7						
MEEK	**Meekatharra**	**16.35**	**183**	P	**Pn**	**12 15 00.9**	**+0.2**
	baz=16,SNR=4.7						
WRKA	**Warakurna**	**16.93**	**152**	P	**P**	**12 15 11.3**	**+1.4**
	baz=17,SNR=3.9						
WRA	**Warramunga Arr**	**17.26**	**126**	P	**Pn**	**12 15 11.2**	**-1.1**
	0.1nm,0.3s,baz=302,slow=12,SNR=4.2						
WRA				S	Sn	12 18 06.5	-17
	0.1nm,0.3s,baz=294,slow=25,SNR=3.1						
ASAR	**Alice Springs**	**19.17**	**136**	P	**Pn**	**12 15 35.0**	**-0.5**
	0.1nm,0.3s,baz=315,slow=12,SNR=9.0						
ASAR				S	Sn	12 18 54.6	-15
	0.0nm,0.3s,baz=321,slow=28,SNR=2.9						
MKAR	**Makanchi Array**	**65.77**	**333**	P	**P**	**12 21 55.4**	**+0.1**
	0.9nm,0.6s,baz=146,slow=7.4,SNR=8.6						
KURBB	**Kurchatov Arra**	**70.28**	**334**	P	**P**	**12 22 23.2**	**-0.3**
	0.2nm,0.5s,baz=146,slow=5.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**70.36**	**339**	P	**P**	**12 22 23.1**	**-0.8**
	0.6nm,0.4s,baz=128,slow=5.0,SNR=4.0						

*AUST **18** 12:20:59.6±4.0, 4.19S×127.46E, h53km±1km, Error ellipse: s-maj=3.3km s-min=1.4km az=326.0*
*IDC **18** 12:21:30.4±1.4, 6.90S×128.57E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, ML3.7/3, Error ellipse: s-maj=85.0km s-min=23.4km az=77.0*

ISC 18 12:21:42.9±1.1, 7.57S±0.08×128.8E±0.2, h131km, n11, σ2.5s3/11, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.72**	**156**	P	Pn	12 23 12.2	+6.5
	baz=9.4,SNR=22						
KDU	**Kakadu**	**6.24**	**145**	P	Pn	12 23 18.8	+6.1
	baz=9.8,SNR=37						
KNRA	**Kununurra**	**8.05**	**180**	P	Pn	12 23 41.6	+4.5
	baz=12,SNR=15						
FITZ	**Fitzroy Crossi**	**10.91**	**196**	Pn	**Pn**	**12 24 17.0**	**+1.6**
	0.6nm,0.3s,baz=20,slow=11,SNR=31						
FITZ				Sn	**Sn**	**12 26 12.9**	**-2.8**
	1.3nm,0.3s,baz=150,slow=15,SNR=6.4						
FITZ	**Fitzroy Crossi**	**10.91**	**196**	P	**Pn**	**12 24 17.2**	**+1.8**
	baz=14,SNR=11						
WRA	**Warramunga Arr**	**13.42**	**157**	Pn	**P**	**12 24 52.5**	**-0.4**
	0.3nm,0.3s,baz=340,slow=13,SNR=9.4						
WRA				Sn	**Sn**	**12 27 13.6**	**-3.0**
	0.7nm,0.3s,baz=333,slow=22,SNR=8.4						
ASAR	**Alice Springs**	**16.74**	**164**	P	**Pn**	**12 25 34.2**	**+4.5**
	0.1nm,0.3s,baz=340,slow=9.8,SNR=15						
ASAR				S	**Sn**	**12 28 34.1**	**-2.2**
	0.2nm,0.3s,baz=314,slow=21,SNR=6.5						
SONM	**Songino Array**	**58.61**	**342**	P	**P**	**12 31 26.1**	**-0.1**
	0.2nm,0.5s,baz=164,slow=5.7,SNR=2.8						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**12 32 27.2**	**-1.1**
	0.5nm,0.8s,baz=114,slow=7.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**71.57**	**334**	P	**P**	**12 32 48.7**	**-0.9**
	0.4nm,0.4s,baz=131,slow=6.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**72.38**	**329**	P	**P**	**12 32 53.2**	**-1.2**
	1.1nm,0.6s,baz=119,slow=5.0,SNR=8.3						

*NIED **18** 12:26:00, 35.00N×139.10E, h8km, Mw3.7 Best double couple: M0:4.27000×10^14 NP1:φs176.00000°, δ81.00000°, λ19.00000°. NP2:φs83.00000°, δ72.00000°, λ171.00000°.*
*IDC **18** 12:26:53.2±1.2, 34.80N×138.66E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=49.6km s-min=13.6km az=84.0*
*ISCJB **18** 12:26:55.1±0.8, 34.96N±0.04×139.14E±0.08, h9km±4km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=6.0km az=4.8*
*JMA **18** 12:26:55.4, 34.96N×139.13E, h4km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs256.00000°, δ88.00000°, λ169.00000°. NP2: φs347.00000°, δ79.00000°, λ2.00000°. Principal axes: T Plg9.0000°, Azm211.0000°; N Plg79.0000°, Azm65.0000°; P Plg6.0000°, Azm302.0000°;*
JMA Felt IV J1.

ISC 18 12:26:54.0±1.1, 34.95N±0.04×139.13E±0.07, h14km±7km, n17, σ0.940/14, mb3.5/3, 2C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.10**	**342**	⇓P	**Pg**	**12 26 57.3**	**+0.2**
AJI				S	**Sg**	**12 26 58.9**	**-0.3**
JIZS	**Izushimoda**	**0.31**	**222**	⇑P	**Pb**	**12 27 01.6**	**+0.2**
JIZS				S	**Sb**	**12 27 06.3**	**-0.1**
JOD2	**Odawara 2**	**0.31**	**354**	⇑P	**Pb**	**12 27 01.4**	**-0.1**
JOD2				S	**Sb**	**12 27 06.1**	**-0.4**
JIM2	**Oshima 3**	**0.34**	**133**	P	**Pb**	**12 27 02.2**	**+0.3**
JYN	**Shimob**	**0.72**	**319**	⇓P	**Pb**	**12 27 08.7**	**+0.2**
SHZ3	**Shizuoka 3**	**0.76**	**279**	P	**Pn**	**12 27 10.3**	**-0.2**
MJAR	**Matsushiro Arr**	**1.75**	**335**	Pn	**Pb**	**12 27 26.1**	**0.0**
	29nm,0.3s,baz=165,slow=13,SNR=231						
MJAR				Lg	Lg	12 27 48.0	
	43nm,0.3s,baz=157,slow=12,SNR=21						
MAT	**Matsushiro**	**1.76**	**335**	P	**Pb**	**12 27 26.4**	**+0.3**
MAT				S	**Sb**	**12 27 49.0**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**28.83**	**114**	T	T	13 03 01.2	
	baz=311,slow=76,SNR=893						
H11N1	**WAKE ISLAND Hy**	**28.83**	**115**	T	T	13 03 01.6	
	baz=311,slow=76,SNR=1173						
H11N3	**WAKE ISLAND Hy**	**28.84**	**114**	T	T	13 03 02.5	
	baz=311,slow=76,SNR=1541						
H11S3	**WAKE ISLAND Hy**	**29.43**	**117**	T	T	13 03 48.2	
	baz=313,slow=75,SNR=231						
H11S1	**WAKE ISLAND Hy**	**29.44**	**117**	T	T	13 03 48.3	
	baz=313,slow=75,SNR=468						
H11S2	**WAKE ISLAND Hy**	**29.45**	**117**	T	T	13 03 48.2	
	baz=313,slow=75,SNR=258						
ILAR	**Eielson Array**	**52.24**	**31**	P	P	12 36 08.0	+3.6
	0.3nm,0.9s,baz=257,slow=8.2,SNR=3.6						
WRA	**Warramunga Arr**	**54.78**	**186**	P	**P**	**12 36 23.2**	**-0.2**
	1.0nm,0.8s,baz=0.4,slow=7.5,SNR=7.7						
ASAR	**Alice Springs**	**58.51**	**186**	P	**P**	**12 36 49.9**	**-0.1**
	0.3nm,0.8s,baz=14,slow=14,SNR=4.8						

IDC 18 12:33:26.1±2.9, 30.55S×177.63W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/19, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=67.7km s-min=23.7km az=107.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.32**	**349**	Pn	Pg	12 33 51.4	0.0
	118nm,0.3s,baz=67,slow=22,SNR=10						
RAO				Sn	Sg	12 34 04.0	-4.4
	176nm,0.3s,baz=144,slow=22,SNR=8.1						
URZ	**Urewera**	**8.83**	**208**	Pn	Pn	12 35 34.3	-0.7
	0.1nm,0.3s,baz=330,slow=20,SNR=4.4						
URZ				Sn	Sn	12 37 14.1	-1.2
	0.2nm,0.3s,baz=306,slow=19,SNR=5.0						
ASAR	**Alice Springs**	**43.42**	**267**	P	P	12 41 31.3	+0.4
	0.1nm,0.3s,baz=105,slow=7.5,SNR=9.0						
WRA	**Warramunga Arr**	**44.42**	**272**	P	P	12 41 38.8

3.3nm,0.3s,baz=176,slow=21,SNR=16
WRA Warramunga Arr 18.73 219 P P 13 20 60.0 +0.5
0.5nm,0.3s,baz=38,slow=11,SNR=34
ASAR Alice Springs 21.88 213 P P 13 21 33.6 +0.3
1.3nm,0.8s,baz=44,slow=8.0,SNR=11
FITZ Fitzroy Crossi 24.05 237 P P 13 21 53.2 -0.4
2.2nm,0.5s,baz=45,slow=11,SNR=13
ILAR Eielson Array 85.11 23 P P 13 29 10.9 -0.1
0.3nm,0.6s,baz=250,slow=5.0,SNR=7.7

JMA 18 13:28:47.3, 34.97N×139.14E, h4km±1km, M0.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTJJ	**Kamata 2**	**0.08**	**234**	S	Sg	13 28 50.6	+0.5
AJI	**Ajiro2**	**0.09**	**332**	P	Pg	13 28 49.2	+0.1
AJI				*e*S	Sg	13 28 50.8	+0.5
JOD2	**Odawara 2**	**0.30**	**352**	P	Pg	13 28 53.4	+0.3

SKO 18 13:30:33.1, 41.63N×22.34E, h15km, M1.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.35**	**151**	*i* P	Pg	13 30 40.4	0.0
VAY				*i* Sg	Sb	13 30 46.2	-0.3
VAY				*e*Lg	Lg	13 30 46.3	
	comp=E,30nm,0.3s						
VAY				*e*Lg	Lg	13 30 46.3	
	comp=N,55nm,0.7s						

*ISCJB **18** 13:34:52.2±1.1, 5.38S±0.08×147.3E±0.2, h200km, mb3.4/5, Error ellipse: s-maj=32.6km s-min=11.1km az=0.8*
*IDC **18** 13:34:53.7±2.5, 5.48S×147.43E, h204km±31km, mb3.1/5, mb1 3.3/7, mb1mx3.2/18, mbtmp3.2/7, Error ellipse: s-maj=51.4km s-min=19.6km az=120.0*
ISC 18 13:34:53.0±1.3, 5.45S±0.1×147.4E±0.3, h200km, n8, σ1°00/8, mb3.3/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.01**	**183**	P	**Pn**	**13 35 56.2**	**+1.3**
	3.7nm,0.3s,baz=325,slow=4.9,SNR=23						
PMG				S	**Sn**	**13 36 42.0**	**-1.6**
	5.0nm,0.3s,baz=29,slow=23,SNR=14						
WRA	**Warramunga Arr**	**19.23**	**220**	P	**P**	**13 39 02.3**	**0.0**
	0.5nm,0.3s,baz=43,slow=11,SNR=23						
ASAR	**Alice Springs**	**22.32**	**214**	P	**P**	**13 39 35.0**	**+0.6**
	1.0nm,0.7s,baz=48,slow=8.2,SNR=12						
FITZ	**Fitzroy Crossi**	**24.69**	**237**	P	**P**	**13 39 55.5**	**-0.4**
	2.8nm,0.9s,baz=332,slow=12,SNR=12						
SONM	**Songino Array**	**64.03**	**331**	P	P	13 45 07.4	+1.9
	0.2nm,0.4s,baz=150,slow=6.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**78.67**	**328**	P	**P**	**13 46 32.7**	**-0.1**
	0.4nm,0.6s,baz=128,slow=9.3,SNR=2.7						
ILAR	**Eielson Array**	**84.78**	**23**	P	**P**	**13 47 04.1**	**-0.4**
	0.6nm,0.9s,baz=250,slow=4.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc	**PKPab**	**13 54 08.3**	**-0.1**
	0.4nm,0.4s,baz=72,slow=3.4,SNR=10						

IDC 18 13:36:01.1±1.8, 20.65S×67.25W, h193km±16km, mb3.1/4, mb1 3.6/7, mb1mx3.4/19, mbtmp3.3/7, Error ellipse: s-maj=21.9km s-min=15.5km az=55.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.42**	**349**	P	Pn	13 37 09.7	+0.9
	6.3nm,0.3s,baz=155,slow=7.2,SNR=119						
LPAZ				S	Sn	13 38 01.4	-0.6
	1.0nm,0.3s,baz=27,slow=14,SNR=4.7						
SIV	**San Ignacio**	**7.47**	**53**	P	Pn	13 37 47.5	-0.2
	18nm,0.3s,baz=250,slow=11,SNR=205						
SIV				S	Sn	13 39 12.5	+0.4
	baz=134,slow=20,SNR=3.6						
CPUP	**Villa Florida**	**10.71**	**124**	P	Pn	13 38 30.4	+0.7
	1.5nm,0.3s,baz=287,slow=11,SNR=7.3						
PLCA	**Paso Flores**	**20.22**	**187**	P	P	13 40 20.6	-0.8
	2.3nm,0.7s,baz=0.6,slow=11,SNR=4.6						
TXAR	**Lajitas Array**	**60.84**	**324**	P	P	13 45 53.0	-0.4
	0.4nm,1.0s,baz=157,slow=4.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**75.60**	**70**	P	P	13 47 24.9	-0.3
	0.3nm,0.6s,baz=243,slow=7.1,SNR=5.6						
YKA	**Yellowknife Ar**	**90.91**	**340**	P	P	13 48 43.0	+0.7
	0.3nm,0.5s,baz=131,slow=4.3,SNR=8.7						
WRA	**Warramunga Arr**	**134.46**	**209**	PKP	PKPdf	13 54 58.0	+0.9
	0.1nm,0.4s,baz=145,slow=1.6,SNR=5.1						

*NIED **18** 13:52:00, 35.00N×139.10E, h5km, Mw3.7 Best double couple: M₀4.70000×10¹⁴ NP1:φs182.00000°, δ85.00000°, λ12.00000°. NP2:φs91.00000°, δ78.00000°, λ175.00000°.*
*IDC **18** 13:52:23.2±1.0, 34.85N×139.05E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.5/26, mbtmp3.5/5, ML3.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/28, Error ellipse: s-maj=27.5km s-min=13.9km az=78.0*
*ISCJB **18** 13:52:24.9±0.8, 34.92N±0.04×139.16E±0.08, h18km±6km, mb3.4/4, Error ellipse: s-maj=11.3km s-min=6.7km az=2.4*
*JMA **18** 13:52:25.8, 34.96N×139.13E, h4km±1km, M3.9 Broadband fault plane solution; P waves. NP1: φs194.00000°, δ76.00000°, λ27.00000°. NP2:φs97.00000°, δ64.00000°, λ164.00000°. Principal axes: T Plg29.0000°, Azm58.0000°; N Plg60.0000°, Azm220.0000°; P Plg8.0000°, Azm324.0000°;*
JMA Felt III J1.
ISC 18 13:52:24.6±1.5, 34.89N±0.06×139.13E±0.06, h7km±10km, n19, σ0°66/15, mb3.5/4, 1C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	**Ajiro2**	**0.16**	**349**	⇓P	**Pg**	**13 52 27.7**	**-0.1**
JIZS	**Izushimoda**	**0.27**	**230**	⇑P	**Pb**	**13 52 32.1**	**+0.4**
JIZS				S	**Sb**	**13 52 36.9**	**+0.4**
JIM2	**Oshima 3**	**0.30**	**125**	P	**Pb**	**13 52 32.7**	**+0.3**
JOD2	**Odawara 2**	**0.37**	**355**	⇓P	**Pg**	**13 52 31.9**	**+0.1**
JOD2				S	**Sg**	**13 52 36.5**	**-0.3**
JYN	**Shimob**	**0.77**	**322**	⇓P	**Pg**	**13 52 39.2**	**-0.2**
MJAR	**Matsushiro Arr**	**1.81**	**336**	Pn	**Pn**	**13 52 56.1**	**-0.1**
	32nm,0.3s,baz=157,slow=15,SNR=209						
MJAR				Lg	Lg	13 53 19.2	
	59nm,0.3s,baz=118,slow=20,SNR=25						
MAT	**Matsushiro**	**1.81**	**336**	P	**Pn**	**13 52 56.6**	**+0.4**
MAT				S	**Sn**	**13 53 19.5**	**+0.1**
JNU	**Nakatsue**	**7.07**	**258**	Pn	**Pn**	**13 54 08.8**	**+0.2**
	0.2nm,0.3s,baz=68,slow=16,SNR=2.8						
ASAJ	**Asahikawa**	**9.59**	**15**	LR	LR	13 58 24.8	
	comp=Z,64nm,20.8s,baz=163,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.80**	**114**	T	T	14 28 32.8	
	baz=310,slow=76,SNR=270						
H11N1	**WAKE ISLAND Hy**	**28.81**	**114**	T	T	14 28 33.3	
	baz=310,slow=76,SNR=279						
H11N3	**WAKE ISLAND Hy**	**28.82**	**114**	T	T	14 28 34.1	
	baz=310,slow=76,SNR=340						
H11S3	**WAKE ISLAND Hy**	**29.41**	**117**	T	T	14 29 18.7	
	baz=313,slow=75,SNR=89						
H11S1	**WAKE ISLAND Hy**	**29.41**	**117**	T	T	14 29 18.4	
	baz=313,slow=75,SNR=129						
H11S2	**WAKE ISLAND Hy**	**29.43**	**117**	T	T	14 29 19.2	
	baz=313,slow=75,SNR=90						
ILAR	**Eielson Array**	**52.29**	**31**	P	**P**	**14 01 36.1**	**-0.2**
	0.3nm,0.8s,baz=268,slow=5.7,SNR=6.1						
WRA	**Warramunga Arr**	**54.72**	**186**	P	**P**	**14 01 52.9**	**-1.8**
	0.4nm,0.6s,baz=0.9,slow=7.6,SNR=7.1						
ASAR	**Alice Springs**	**58.45**	**186**	P	**P**	**14 02 20.9**	**-0.3**
	0.3nm,0.8s,baz=7.1,slow=11,SNR=3.3						
NVAR	**Mina Array Bea**	**77.76**	**52**	P	**P**	**14 04 23.6**	**+0.9**
	0.3nm,0.6s,baz=296,slow=4.8,SNR=3.3						

IDC 18 14:01:58.3±3.1, 19.75S×178.02W, h451km±32km, mb3.0/6, mb1 3.3/7, mb1mx3.1/20, mbtmp3.1/7, Error ellipse: s-maj=84.4km s-min=15.9km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.33**	**47**	P	P	14 03 58.5	+0.9
	2.4nm,0.3s,baz=117,slow=2.3,SNR=4.7						
AFI				S	S	14 05 34.2	-1.2
	3.2nm,0.3s,baz=72,slow=22,SNR=6.5						
CTA	**Charters Tower**	**33.55**	**263**	P	P	14 08 00.3	+0.9
	1.2nm,0.4s,baz=102,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**38.10**	**243**	P	P	14 08 37.0	-0.3
	1.7nm,0.9s,baz=101,slow=16,SNR=3.8						
ASAR	**Alice Springs**	**44.68**	**256**	P	P	14 09 29.6	-0.3
	2.0nm,0.7s,baz=90,slow=8.4,SNR=30						
ASAR				PcP	PcP	14 11 02.4	-0.9
	0.4nm,0.7s,baz=112,slow=4.4,SNR=5.0						
WRA	**Warramunga Arr**	**44.69**	**261**	P	P	14 09 29.2	-0.8
	0.8nm,0.7s,baz=95,slow=7.9,SNR=16						
TXAR	**Lajitas Array**	**86.67**	**57**	P	P	14 13 53.7	+0.2
	0.3nm,0.8s,baz=237,slow=9.5,SNR=3.6						
ILAR	**Eielson Array**	**87.59**	**13**	P	P	14 13 57.4	+0.5
	0.4nm,0.9s,baz=203,slow=4.7,SNR=4.4						

*IDC **18** 14:12:48.4±0.8, 55.40S×26.96W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/17, mbtmp4.2/5, ML2.8/1, Error ellipse: s-maj=41.4km s-min=21.9km az=81.0*
*ISCJB **18** 14:12:50.6±1.0, 55.45S±0.1×27.0W±0.5, h25km, mb4.1/5, Error ellipse: s-maj=40.7km s-min=18.5km az=162.6*
ISC 18 14:12:52.1±0.9, 55.45S±0.2×27.0W±0.3, h25km, n9, σ0°64/9, mb4.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.25**	**157**	P	**Pn**	**14 17 15.6**	**+0.2**
	0.0nm,0.3s,baz=300,slow=9.9,SNR=6.2						
QSPA	**South Pole Qui**	**34.81**	**180**	P	**P**	**14 19 40.4**	**-0.1**
	1.4nm,0.4s,baz=231,slow=3.5,SNR=5.3						
VNDA	**Vanda**	**47.19**	**183**	P	P	14 21 21.7	-0.2
	1.7nm,0.7s,baz=197,slow=7.6,SNR=7.7						
LPAZ	**La Paz**	**50.13**	**305**	P	**P**	**14 21 46.0**	**0.0**
	0.9nm,0.4s,baz=219,slow=5.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**72.46**	**29**	P	**P**	**14 24 16.3**	**0.0**
	2.1nm,0.9s,baz=197,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**99.53**	**162**	P	**Pdif**	**14 26 34.4**	**+1.4**
	0.3nm,0.7s,baz=184,slow=4.6,SNR=4.6						
YKA	**Yellowknife Ar**	**135.80**	**318**	PKP	**PKPdf**	**14 32 09.0**	**+0.1**
	0.2nm,0.6s,baz=121,slow=2.5,SNR=5.8						
ILAR	**Eielson Array**	**149.80**	**312**	PKPbc	**PKPbc**	**14 32 38.5**	**+0.2**
	1.8nm,0.8s,baz=149,slow=1.3,SNR=15						
SONM	**Songino Array**	**150.56**	**85**	PKPbc	**PKPbc**	**14 32 40.2**	**-0.6**
	0.7nm,0.8s,baz=270,slow=1.2,SNR=4.3						

*CSEM **18** 14:26:04.1±0.8, 50.03N×18.52E, h2km, Error ellipse: s-maj=14.2km s-min=8.4km az=80.0*
PRU 18 14:26:05.1, 50.00N×18.49E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**234**	*e*PG	Pg	14 26 09.9	-0.5
OKC				*e*SG	Sg	14 26 13.8	-0.2
	7.0nm,0.6s						
OKC	**Ostrava-Krasne**	**0.28**	**234**	Pg	Pg	14 26 09.9	-0.5
OKC				Sg	Sg	14 26 13.8	-0.2
	7.0nm,0.6s						
MORC	**Moravsky Berou**	**0.65**	**250**	*e*Pg	Pg	14 26 17.8	+0.1
MORC				*e*Sg	Sg	14 26 25.9	-0.3
DPC	**Dobruska-Polom**	**1.44**	**285**	*e*PG	Pn	14 26 31.7	-0.8
DPC				*e*SG	Sg	14 26 51.0	-0.5
DPC	**Dobruska-Polom**	**1.44**	**285**	Pg	Pn	14 26 31.7	-0.8
DPC				Sg	Sg	14 26 51.0	-0.5

*MOS **18** 14:30:00.9±1.0, 3.17N×76.25W, h150km, mb5.1/71, Error ellipse: s-maj=7.3km s-min=4.7km az=103.7*
*ISCJB **18** 14:30:02.3±0.5, 3.15N±0.02×76.22W±0.02, h165km±4km, mb5.1/235, Error ellipse: s-maj=4.3km s-min=2.8km az=25.6*
*NEIC **18** 14:30:03.4±0.1, 3.05N×76.23W, mb5.2/199, Error ellipse: s-maj=4.0km s-min=2.9km az=214.0*
NEIC Felt [IV] at Cali. Also felt at Armenia and Jamundi.
*IDC **18** 14:30:03.6±0.5, 3.10N×76.23W, h166km±3km, mb4.6/30, mb1 4.7/34, mb1mx4.7/36, mbtmp4.7/34, MS3.8/13, Ms1 3.8/13, ms1mx3.6/36, Error ellipse: s-maj=8.8km s-min=7.3km az=53.0*
*GCMT **18** 14:30:06.4±0.3, 3.08N×76.30W, h169km±2km, MW5.1, Moment Tensor Solution. s36,c42; s97,c135; Moment tensor: Scale 10¹⁶Nm; Mrr-0.91±.17; Mθθ-2.09±.19; Mφφ3.00±.21; Mrθ-1.60±.13; Mθφ-3.87±.20; Mφr-4.18±.16; Best double couple: M₀6.50000×10¹⁶ NP1:φs14.00000°, δ84.00000°, λ-44.00000°. NP2:φs110.00000°, δ46.00000°, λ-172.00000°. Principal axes: T 6.4500, Plg25.0000°, Azm70.0000°; N 0.0900, Plg45.0000°, Azm188.0000°; P -6.5300, Plg34.0000°, Azm322.0000°; Data Used: II IU CN IC G CU.*
ISC 18 14:30:03.0±0.3, 3.05N±0.03×76.25W±0.04, h163km±2km, h163km:pP-P, n1068, σ0°94/1145, mb5.2/238, 322C-229D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.62**	**47**	*e*Pn	**Pn**	**14 30 48.0**	**+1.3**
ROSC				*e*Sn	**Sn**	**14 31 20.3**	**-0.1**
ROSC				S	**Sn**	**14 31 21.4**	**+1.0**
ROSC	**El Rosal**	**2.62**	**47**	P	**Pn**	**14 30 47.9**	**+1.3**
	283nm,0.3s,baz=204,slow=1.8,SNR=472						
ROSC				S	**Sn**	**14 31 21.4**	**+1.0**
	249nm,0.3s,baz=67,slow=22,SNR=21						
ROSC				LR	LR	14 31 49.5	
	comp=Z,2μm,21.6s,baz=226,slow=41						
OTAV	**Otavalo**	**3.56**	**218**	*e*Pn	**Pn**	**14 30 56.0**	**-2.3**
OTAV				*e*Sn	**Sn**	**14 31 39.1**	**-2.3**
BCIP	**Isla Barro Col**	**7.04**	**330**	*e*Pn	**Pn**	**14 31 42.4**	**-1.2**
BCIP				*e*Sn	**Sn**	**14 33 00.3**	**-2.5**
SDV	**Santo Domingo**	**8.05**	**44**	*e*Pn	**Pn**	**14 31 55.7**	**-1.5**
SDV				*e*Sn	**Sn**	**14 33 24.7**	**-2.5**
ATAH	**Atahualpa**	**10.35**	**192**	P	**Pn**	**14 32 28.8**	**+1.0**
ATAH	**Atahualpa**	**10.35**	**192**	P	**Pn**	**14 32 28.8**	**+1.0**
	2.0nm,0.3s,baz=21,slow=7.4,SNR=44						
ATAH				LR	LR	14 36 54.5	
	comp=Z,300nm,21.2s,baz=359,slow=40						
JTS	**JuntasAbangare**	**11.24**	**310**	*e*Pn	**Pn**	**14 32 38.6**	**-0.5**
JTS				*e*Sn	**Sn**	**14 34 43.4**	**-0.3**
JTS	**JuntasAbangare**	**11.24**	**310**	Pn	**Pn**	**14 32 39.5**	**+0.4**
	767nm,1.0s,SNR=9.0						
JTS	**JuntasAbangare**	**11.24**	**310**	P	**Pn**	**14 32 38.6**	**-0.5**
	1.6nm,0.3s,baz=112,slow=8.1,SNR=16						
JTS				LR	LR	14 37 06.2	
	comp=Z,569nm,18.6s,baz=140,slow=38						
YHJ	**Yallahs**	**14.75**	**359**	*i* P	**P**	**14 33 25.6**	**0.0**
MCJ	**Malvern**	**14.85**	**355**	*i* P	**Pn**	**14 33 25.4**	**+0.3**
HOJ	**Hope**	**14.87**	**358**	*i* P	**P**	**14 33 27.9**	**+1.0**
GWJ	**Greenwich**	**14.94**	**358**	*i* P	**P**	**14 33 27.5**	**-0.3**
STH	**Stony Hill**	**14.94**	**358**	*i* P	**P**	**14 33 27.6**	**-0.1**
NNA	**Nana**	**14.95**	**182**	P	**P**	**14 33 29.2**	**+1.2**
	466nm,1.0s,SNR=9.7						
NNA	**Nana**	**14.95**	**182**	*e*P	**P**	**14 33 28.5**	**+0.6**
MTDJ	**Mount Denham**	**15.13**	**355**	*e*P	**P**	**14 33 30.0**	**+0.1**
	744nm,0.8s						
TGUH	**Tegucigalpa,Un**	**15.43**	**316**	*e*P	**P**	**14 33 33.0**	**-0.1**
	969nm,1.8s						
SDDR	**Presa de Saban**	**16.56**	**17**	*e*Pn	**Pn**	**14 33 46.3**	**+0.3**
	59nm,0.8s						
SDDR				*e*S	**S**	**14 36 46.7**	**-2.7**
PTGA	**Pitinga**	**16.71**	**103**	*e*Pn	**Pn**	**14 33 47.8**	**0.0**
	570nm,1.2s						
GTBY	**Guantanamo Bay**	**16.81**	**4**	*e*P	**Pn**	**14 33 48.8**	**-0.1**
	167nm,0.9s						
GRGR	**Grenville**	**17.04**	**57**	*e*P	**P**	**14 33 50.1**	**-0.9**
	237nm,0.7s						
GRSS	**Sisters**	**17.16**	**57**	*e*	**Pn**	**14 33 53.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**17.35**	**30**	*e*P	**P**	**14 33 54.2**	**-0.1**
	130nm,0.7s						
LSP	**Las Mesas**	**17.51**	**30**	*e*P	**Pn**	**14 33 57.0**	**-0.4**
OBIP	**Obispado Ponce**	**17.64**	**32**	*e*P	**P**	**14 33 57.4**	**-0.1**
	188nm,0.8s						
SAML	**Samuel**	**17.66**	**133**	*e*P	**P**	**14 33 58.0**	**+0.3**
	38nm,0.5s						
SAML				*e*pP	**pP**	**14 34 23.7**	**-1.7**
AGP	**Aguadilla**	**17.68**	**30**	*e*Pn	Pn	14 34 07.8	+8.4
CELP	**Cerrillos**	**17.68**	**32**	*e*P	**P**	**14 33 57.1**	**-0.8**
LRS	**Lares**	**17.73**	**31**	*e*P	**P**	**14 33 57.9**	**-0.6**
AGPR	**Aguadilla, PR**	**17.74**	**30**	*e*P	**P**	**14 33 58.9**	**+0.2**
	122nm,0.8s						
AOPR	**Arecibo Observ**	**17.82**	**31**	*e*P	**Pn**	**14 34 00.8**	**-0.3**
	260nm,0.6s						
SJG	**San Juan**	**17.94**	**33**	P	**P**	**14 34 01.1**	**+0.3**
	0.7nm,0.3s,baz=196,slow=7.8,SNR=22						
SVV	**Soufriere Volc**	**18.03**	**55**	*e*	**Pn**	**14 34 03.1**	**-0.4**
SSV	**Crater Summit**	**18.05**	**55**	*e*	**Pn**	**14 34 04.0**	**+0.2**
BHS	**Barnard House**	**18.09**	**55**	*e*	**Pn**	**14 34 04.7**	**+0.5**
HUMP	**Col San Antoni**	**18.13**	**33**	*e*P	**Pn**	**14 34 03.9**	**-0.8**
CBYP	**Canovanas**	**18.23**	**33**	*e*P	**P**	**14 34 04.2**	**+0.2**
	232nm,0.6s						
MTP	**Monte Pirata**	**18.26**	**34**	*e*P	**P**	**14 34 03.8**	**-0.5**
	115nm,0.6s						
CDVI	**St. Croix**	**18.45**	**37**	*e*P	**P**	**14 34 06.7**	**+0.5**
	534nm,0.6s						
SLB	**Belfond**	**18.45**	**54**	*e*	**Pn**	**14 34 07.9**	**-0.6**
BIM	**Bigot**	**18.82**	**52**	*e*P	**P**	**14 34 10.0**	**-0.4**
TRMF	**Trois Ilets**	**18.84**	**52**	*e*P	**P**	**14 34 10.3**	**-0.4**
FDF	**Fort de France**	**18.88**	**51**	*e*P	**P**	**14 34 10.1**	**-1.0**
FDF				pmax	pmax		
	comp=Z,409nm,0.5s						
FDF	**Fort de France**	**18.88**	**51**	*e*P	**P**	**14 34 10.7**	**-0.4**
FDF	**Fort de France**	**18.88**	**51**	*e*P	**P**	**14 34 10.1**	**-1.0**
	comp=Z,409nm,0.5s						
ZAM	**Aeronautique**	**18.88**	**52**	*e*P	**P**	**14 34 10.6**	**-0.4**
LPMF	**Morne Lapointe**	**18.93**	**52**	*e*P	**P**	**14 34 11.3**	**-0.3**
BVM	**Bellevue**	**18.95**	**51**	*e*P	**P**	**14 34 11.0**	**-0.9**
MVM	**Montagne Vaucl**	**18.98**	**52**	*e*P	**P**	**14 34 11.6**	**-0.5**
TBG	**Guadaloupe-3**	**19.20**	**48**	*e*P	**P**	**14 34 14.3**	**-0.1**
SABA	**Saba**	**19.30**	**41**	*e*P	**P**	**14 34 16.4**	**+0.8**
	comp=Z,131nm,0.8s						
PHG	**Guadaloupe-2**	**19.30**	**47**	*e*P	**P**	**14 34 15.4**	**-0.3**
ECG	**Echelle**	**19.31**	**47**	*e*P	**P**	**14 34 15.3**	**-0.5**
SSG	**Sans Toucher**	**19.32**	**47**	*e*P	**P**	**14 34 15.5**	**-0.5**
MGG	**Marie-Galante**	**19.48**	**48**	*e*P	**P**	**14 34 16.7**	**-0.8**
SEG	**Port Louis**	**19.65**	**47**	*e*P	**P**	**14 34 19.5**	**+0.1**
ARE	**Arequipa**	**19.95**	**167**	*e*P	**Pn**	**14 34 26.0**	**-0.5**
ARE	**Arequipa**	**19.95**	**167**	*e*P	**Pn**	**14 34 26.0**	**-0.5**
ANWB	**Willy Bob**	**20.31**	**43**	*e*P	**P**	**14 34 23.0**	**-3.4**
	comp=Z,512nm,0.8s						
TEIG	**Tepich**	**20.71**	**326**	*e*P	**P**	**14 34 30.2**	**-0.5**
	comp=Z,137nm,1.0s						
TEIG	**Tepich**	**20.71**	**326**	P	**P**	**14 34 31.2**	**+0.6**
	comp=Z,102nm,0.4s,baz=106,slow=4.5,SNR=26						
LPAZ	**La Paz**	**20.83**	**158**	*e*P	**P**	**14 34 31.4**	**-1.2**
	comp=Z,32nm,0.7s						
LPAZ	**La Paz**	**20.83**	**158**	P	**P**	**14 34 31.8**	**-0.9**
	comp=Z,23nm,0.8s,baz=339,slow=11,SNR=25						
LPAZ				LR	LR	14 43 52.0	
	comp=Z,253nm,21.3s,baz=72,slow=40						
MNMC	**Minimini**	**23.00**	**164**	⇑*i*P	**P**	**14 34 55.5**	**+1.6**
PSGC	**Pisagua**	**23.30**	**165**	⇓*i*P	**P**	**14 34 56.5**	**0.0**
PB11	**Plate Boundary**	**23.58**	**164**	*e*P	**P**	**14 35 00.1**	**+0.9**
HMBC	**Humberstone**	**24.01**	**165**	⇑*i*P	**P**	**14 35 04.0**	**+0.9**
SIV	**San Ignacio**	**24.16**	**142**	P	**P**	**14 35 04.0**	**-0.3**
SIV				pP	**pP**	**14 35 36.5**	**-0.1**
SIV	**San Ignacio**	**24.16**	**142**	P	**P**	**14 35 04.0**	**-0.3**
	comp=Z,36nm,0.8s,baz=331,slow=10,SNR=90						
SIV				pP	**pP**	**14 35 36.5**	**-0.1**
	comp=Z,78nm,0.9s,baz=327,slow=11,SNR=12						
SIV				LR	LR	14 44 10.4	
	comp=Z,170nm,18.4s,slow=35						
PB01	**Plate Boundary**	**24.85**	**165**	⇑*i*P	**P**	**14 35 12.0**	**+1.4**
PB07	**Plate Boundary**	**25.40**	**166**	⇑*i*P	**P**	**14 35 18.2**	**+2.5**
PB04	**Plate Boundary**	**26.02**	**166**	⇓*i*P	**P**	**14 35 22.1**	**+1.1**
PB06	**Plate Boundary**	**26.42**	**166**	*e*P	**P**	**14 35 26.7**	**+1.8**
LVC	**Limon Verde**	**26.50**	**165**	*e*P	**P**	**14 35 26.0**	**+0.3**
	comp=Z,62nm,0.7s						
TIGA	**Tifton**	**29.07**	**347**	⇑P	**P**	**14 35 48.1**	**0.0**
	baz=29						
GOGA	**Godfrey**	**30.95**	**348**	*e*P	**P**	**14 36 04.4**	**-0.2**
GOGA				pmax	pmax		
	comp=Z,94nm,1.3s						
GOGA	**Godfrey**	**30.95**	**348**	*e*P	**P**	**14 36 04.4**	**-0.2**
	comp=Z,94nm,1.3s						
JSC	**Jenkinsville**	**31.42**	**352**	*e*P	**P**	**14 36 10.5**	**+1.7**
JSC	**Jenkinsville**	**31.42**	**352**	*e*P	**P**	**14 36 10.5**	**+1.7**
LRAL	**Lakeview Retre**	**31.48**	**343**	*e*P	**P**	**14 36 10.4**	**+1.0**
	comp=Z,164nm,1.1s						
KVTX	**Kingsville**	**31.95**	**322**	*e*P	**P**	**14 36 14.8**	**+1.2**
	comp=Z,171nm,1.1s						
KMSC	**Kings Mountain**	**32.27**	**352**	*e*P	**P**	**14 36 15.1**	**-1.2**
KMSC	**Kings Mountain**	**32.27**	**352**	⇑P	**P**	**14 36 17.0**	**+0.7**
	baz=32						
HKT	**Hockley**	**32.56**	**327**	*e*P	**P**	**14 36 17.3**	**-1.4**
HKT				pmax	pmax		
	comp=Z,51nm,1.3s						
HKT	**Hockley**	**32.56**	**327**	*e*P	**P**	**14 36 17.3**	**-1.4**
	comp=Z,51nm,1.3s						
CPCT	**Cooper Cave**	**33.13**	**348**	*e*P	**P**	**14 36 25.3**	**+1.5**
TKL	**Tuckaleechee C**	**33.18**	**349**	*e*P	**P**	**14 36 23.1**	**-1.0**
TKL				epP	**pP**	**14 36 58.8**	**+0.1**
TKL	**Tuckaleechee C**	**33.18**	**349**	P	**P**	**14 36 23.8**	**-0.4**
	comp=Z,23nm,0.8s,baz=161,slow=12,SNR=16						
TKL				LR	LR	14 49 33.9	
	comp=Z,124nm,20.9s,baz=123,slow=35						
SWET	**Sewanee**	**33.24**	**345**	*e*P	**P**	**14 36 24.8**	**0.0**
	comp=Z,68nm,0.7s						
SWET				epP	**pP**	**14 37 00.1**	**+0.9**
BDFB	**Brasilia

baz=35,SNR=7.5
MIAR **Mount Ida** 35.24 335 *e*P P 14 36 40.5 -1.4
MIAR pmax pmax
comp=Z,36nm,0.9s
MIAR **Mount Ida** 35.24 335 *e*P P 14 36 40.5 -1.4
comp=Z,36nm,0.9s
333A **Richland Sprin** 35.36 325 ⇓P P 14 36 42.2 -0.8
baz=36,SNR=27
135A **Vickery Place,** 35.43 328 ⇑P P 14 36 43.1 -0.5
baz=36
531A **Rocksprings** 35.44 322 ⇓P P 14 36 43.8 0.0
baz=36,SNR=35
432A **Menard** 35.50 324 ⇑P P 14 36 43.3 -0.9
baz=36,SNR=11
PARMO **Parma** 35.69 341 *e*P P 14 36 46.0 +0.3
PARMO *e*pP pP 14 37 19.1 -1.4
134A **White-Moore Ra** 35.80 328 ⇓P P 14 36 46.2 -0.6
baz=36,SNR=11
332A **Millersview** 35.84 324 ⇓P P 14 36 46.3 -0.8
baz=36
431A **Sonora** 35.84 323 ⇓P P 14 36 46.8 -0.4
baz=36,SNR=24
530A **J-C Ranch, Com** 35.92 321 ⇑P P 14 36 48.1 +0.2
baz=36,SNR=45
Z35A **Perchaven, San** 35.96 329 ⇓P P 14 36 48.2 +0.1
baz=36,SNR=18
232A **Coleman** 36.15 325 ⇓P P 14 36 49.1 -0.7
baz=36,SNR=15
331A **San Angelo** 36.18 324 ⇑P P 14 36 49.5 -0.6
baz=36,SNR=12
SDMD **Soldier's Deli** 36.19 359 *e*P P 14 36 48.7 -1.2
comp=Z,26nm,0.7s
WCI **Wyandotte Cave** 36.19 347 *e*P P 14 36 50.2 +0.1
WCI *e**PP pP 14 37 24.6 -0.3
WCI pmax pmax
comp=Z,99nm,1.0s
WCI **Wyandotte Cave** 36.19 347 *e*P P 14 36 50.1 +0.1
comp=Z,99nm,1.0s
WCI *e*pP pP 14 37 24.6 -0.3
133A **Hamilton Ranch** 36.28 327 ⇓P P 14 36 50.8 -0.1
baz=36,SNR=12
430A **Baggett Ranch,** 36.30 322 ⇑P P 14 36 50.7 -0.4
baz=36,SNR=10
Z34A **Collier Ranch,** 36.33 329 ⇓P P 14 36 51.4 +0.1
baz=36,SNR=14
529A **Stev Forest Ra** 36.46 320 ⇑P P 14 36 52.6 +0.1
baz=37,SNR=42
628A **Black Gap, Mar** 36.47 319 ⇓P P 14 36 53.4 +0.9
baz=37,SNR=62
SIUC **Southern Illin** 36.49 343 *e*P P 14 36 50.9 -1.6
comp=Z,199nm,0.8s
231A **Bronte** 36.57 324 ⇑P P 14 36 52.5 -0.8
baz=37,SNR=7.3
MCWV **Mont Chateau** 36.58 355 *e*P P 14 36 53.2 0.0
comp=Z,67nm,1.0s
429A **Davenport Ranc** 36.60 321 ⇓P P 14 36 53.5 -0.1
baz=37,SNR=38
ABTX **Abilene, Hawle** 36.70 326 *e*P P 14 36 52.6 -1.8
ABTX *e*pP pP 14 37 28.5 -0.8
ABTX **Abilene, Hawle** 36.70 326 ⇓P P 14 36 54.0 -0.4
baz=37,SNR=20
330A **Mertzon** 36.70 323 ⇓P P 14 36 53.8 -0.7
baz=37,SNR=14
Y34A **Reagan Ranch,** 36.71 329 ⇑P P 14 36 54.3 -0.1
baz=37,SNR=36
Z33A **Whitaker Ranch** 36.72 328 ⇓P P 14 36 54.3 -0.2
baz=37,SNR=14
MVL **Millersville** 36.78 360 *e*P P 14 36 56.8 +1.9
comp=Z,54nm,0.9s
MVL *e*ScP ScP 14 42 47.0 +1.7
627A **Terlingua Ranc** 36.78 318 ⇑P P 14 36 56.3 +1.1
baz=37,SNR=192
528A **Cox Ranch, San** 36.85 320 ⇑P P 14 36 56.1 +0.2
baz=37,SNR=16
TXAR **Lajitas Array** 36.89 318 P P 14 36 56.9 +0.7
TXAR PcP PcP 14 39 13.9 -0.5
TXAR **Lajitas Array** 36.89 318 P P 14 36 56.9 +0.7
comp=Z,36nm,0.8s,baz=143,slow=9.1,SNR=357
TXAR PcP PcP 14 39 13.9 -0.5
comp=Z,8.2nm,0.7s,baz=147,slow=6.3,SNR=10
230A **Sterling City** 37.01 324 ⇑P P 14 36 56.4 -0.6
baz=37,SNR=9.1
Z32A **Haskell** 37.12 327 ⇓P P 14 36 57.9 0.0
baz=37,SNR=26
131A **Roby** 37.15 325 ⇓P P 14 36 58.0 -0.3
baz=37,SNR=10
428A **Kincaid Ranch,** 37.16 321 ⇓P P 14 36 59.1 +0.7
baz=37,SNR=32
Y33A **Hilltop Ranch,** 37.20 328 ⇓P P 14 36 58.5 0.0
baz=37,SNR=28
329A **Wagon Wheel Ra** 37.25 322 ⇓P P 14 36 58.8 -0.3
baz=37,SNR=10
X34A **Smith Ranch, M** 37.26 330 ⇓P P 14 36 59.0 -0.1
baz=37,SNR=25
626A **Big Bend Ranch** 37.34 318 ⇑P P 14 37 00.9 +1.0
baz=37,SNR=130
TUL1 **Tulsa** 37.36 333 ⇓P P 14 36 59.5 -0.4
baz=38,SNR=37
527A **Woodward Ranch** 37.38 319 ⇓P P 14 37 00.8 +0.5
baz=38,SNR=78
130A **Snyder** 37.43 325 ⇓P P 14 37 00.2 -0.4
baz=38,SNR=7.7
229A **Bryant Ranch,** 37.48 323 ⇑P P 14 37 00.7 -0.3
baz=38,SNR=8.5
Z31A **Sharp Cattle R** 37.49 326 ⇑P P 14 37 00.7 -0.4
baz=38,SNR=12
ACSO **Alum Creek Sta** 37.51 352 *e*P P 14 36 59.6 -1.4
comp=Z,46nm,0.8s
X33A **Lawton** 37.55 329 ⇓P P 14 37 01.0 -0.5
baz=38,SNR=30
Y32A **R-V Farms, Ver** 37.63 328 ⇑P P 14 37 02.0 -0.2
baz=38,SNR=15
526A **Mary Lane Ranc** 37.63 318 ⇓P P 14 37 03.2 +0.8
baz=38,SNR=65
328A **Wristen Ranch,** 37.69 321 ⇓P P 14 37 02.7 -0.1
baz=38,SNR=46
427A **Hayter Ranch,** 37.70 320 ⇑P P 14 37 03.2 +0.2
baz=38,SNR=44
W34A **Bridge Creek,** 37.73 331 ⇓P P 14 37 02.5 -0.6
baz=38,SNR=16
PAL **Palisades** 37.84 3 *e*P P 14 37 03.4 -0.4
PAL pmax pmax
comp=Z,60nm,0.7s
PAL **Palisades** 37.84 3 *e*P P 14 37 03.4 -0.4
comp=Z,60nm,0.7s
WMOK **Wichita Mounta** 37.85 329 *e*P P 14 37 02.5 -1.6
WMOK pmax pmax
comp=Z,77nm,0.9s
WMOK **Wichita Mounta** 37.85 329 *e*P P 14 37 02.5 -1.6
comp=Z,77nm,0.9s
WMOK *e*pP pP 14 37 40.9 +1.8
X32A **Elmer** 37.86 328 ⇓P P 14 37 04.1 -0.1
baz=38,SNR=24
ODNJ **Ogdensburg** 37.89 2 *e*P P 14 37 05.9 +1.6
comp=Z,17nm,0.6s
129A **Stewart Farms,** 37.98 324 ⇓P P 14 37 05.0 -0.3
baz=38,SNR=6.2
426A **McDonald Obser** 37.99 319 ⇑P P 14 37 06.2 +0.6
baz=38,SNR=94
W33A **Caddo, Fort Co** 38.01 330 ⇑P P 14 37 05.3 -0.1
baz=38,SNR=20
Z30A **Sanderson Ranc** 38.02 325 ⇓P P 14 37 05.4 -0.2
baz=38,SNR=28
Y31A **Rekieta Farm,** 38.04 327 ⇓P P 14 37 05.7 0.0
baz=38,SNR=20
228A **UT Block 9, Go** 38.06 322 ⇓P P 14 37 05.3 -0.7
baz=38,SNR=7.6
V34A **Guthrie** 38.09 331 ⇓P P 14 37 05.4 -0.6
baz=38,SNR=37
327A **Balmorhea Ranc** 38.11 321 ⇓P P 14 37 06.8 +0.5
baz=38
Y30A **Stafford Cattl** 38.33 326 ⇑P P 14 37 08.1 -0.1
baz=38,SNR=16
KSPA **Keystone Colle** 38.34 1 *e*P P 14 37 09.8 +1.8
Z29A **Hungry Hill Ra** 38.34 325 ⇑P P 14 37 07.9 -0.4
baz=38,SNR=17
128A **Castleberry Fa** 38.34 323 ⇑P P 14 37 08.0 -0.3
baz=38,SNR=8.5
326A **Caldwell Ranch** 38.38 320 ⇑P P 14 37 08.9 +0.3
baz=38,SNR=32
X31A **McDonald Ranch** 38.39 328 ⇓P P 14 37 08.4 -0.2
baz=38,SNR=26
227A **Bennet, Jal** 38.42 322 ⇓P P 14 37 08.9 0.0
baz=38,SNR=8.3
SFIN **Scholer Farm** 38.43 347 ⇓P P 14 37 07.9 -0.8
baz=39,SNR=27
V33A **Lossen Ranch,** 38.45 331 ⇓P P 14 37 08.4 -0.7
baz=39,SNR=28

ALLY **Alegheny Colle** 38.58 355 *e*P P 14 37 09.9 -0.1
comp=Z,174nm,0.9s
U34A **Anderson Ranch** 38.59 332 ⇑P P 14 37 09.7 -0.4
baz=39,SNR=42
SPB **Sao Paulo** 38.59 135 *e*P P 14 37 08.2 -2.1
comp=Z,44nm,0.8s
425A **Indio Mountain** 38.69 319 ⇓P P 14 37 12.1 +0.7
baz=39,SNR=139
X30A **Coker Ranch, T** 38.74 327 ⇓P P 14 37 11.5 -0.1
baz=39,SNR=22
V32A **Arapaho** 38.75 330 ⇑P P 14 37 11.3 -0.2
baz=39,SNR=35
Y29A **Porterfield Fa** 38.75 325 ⇑P P 14 37 11.9 +0.2
baz=39,SNR=46
Z28A **Tucker Farm, M** 38.76 324 ⇓P P 14 37 11.3 -0.4
baz=39,SNR=6.7
W31A **Holland Ranch,** 38.80 328 ⇓P P 14 37 11.4 -0.6
baz=39,SNR=19
127A **Arkansas Junct** 38.91 322 ⇑P P 14 37 12.1 -1.0
baz=39
LPIG **La Paz** 38.96 306 P P 14 37 15.0 +1.5
LPIG **La Paz** 38.96 306 P P 14 37 15.0 +1.5
comp=Z,66nm,0.8s,baz=270,slow=2.6,SNR=6.4
BINY **Binghamton** 38.98 0 *e*P P 14 37 14.5 +1.1
comp=Z,52nm,0.8s
226B **Tecolote Peak,** 39.01 321 ⇑P P 14 37 14.5 +0.7
baz=39,SNR=52
ERPA **Erie** 39.04 356 *e*P P 14 37 15.2 +1.3
comp=Z,149nm,1.1s
325A **Bean Ranch, Si** 39.06 319 ⇓P P 14 37 14.9 +0.5
baz=39,SNR=124
Y28A **McKinney Farm,** 39.12 325 ⇓P P 14 37 14.9 +0.1
baz=39
W30A **Crocket Farms** 39.13 328 ⇓P P 14 37 15.0 +0.2
baz=39,SNR=7.0
X29A **Tulia** 39.20 326 ⇑P P 14 37 15.0 -0.4
baz=39,SNR=7.7
V31A **Spring Creek L** 39.20 329 ⇓P P 14 37 15.7 +0.3
baz=39,SNR=44
U32A **Winter Ranch,** 39.25 330 ⇓P P 14 37 15.4 -0.3
baz=39,SNR=20
Z27A **Tatum** 39.27 323 ⇑P P 14 37 15.5 -0.6
baz=39,SNR=35
126A **Clayton Basin,** 39.30 322 ⇑P P 14 37 17.0 +0.8
baz=39,SNR=13
324A **Moseley Ranch,** 39.44 319 ⇑P P 14 37 18.2 +0.6
baz=40,SNR=288
T33A **Patterson Ranc** 39.44 332 ⇑P P 14 37 16.7 -0.6
baz=40,SNR=12
225A **Deer Hill, Car** 39.45 320 ⇑P P 14 37 18.6 +1.0
baz=40,SNR=60
MSTX **Muleshoe** 39.47 324 *e*P P 14 37 17.0 -0.6
MSTX **Muleshoe** 39.47 324 ⇓P P 14 37 17.4 -0.3
baz=40,SNR=35
AMTX **Amarillo** 39.51 326 *e*P P 14 37 17.9 -0.1
comp=Z,105nm,1.3s
AMTX **Amarillo** 39.51 326 ⇑P P 14 37 17.9 -0.1
baz=40
X28A **Dimmitt** 39.53 325 ⇑P P 14 37 17.9 -0.3
baz=40,SNR=5.9
MMNY **Mt. Morris Dam** 39.53 358 *e*P P 14 37 19.3 +1.4
comp=Z,150nm,0.5s
MNTX **Cornudas Mount** 39.54 319 *e*P P 14 37 18.8 +0.7
comp=Z,165nm,1.1s
TRY **Troy** 39.57 3 *e*P P 14 37 20.2 +2.0
V30A **Spur Ranch, Mi** 39.63 328 ⇑P P 14 37 19.1 +0.1
baz=40
AAM **Ann Arbor** 39.63 351 *e*P P 14 37 18.8 +0.1
AAM pmax pmax
comp=Z,49nm,0.6s
AAM **Ann Arbor** 39.63 351 *e*P P 14 37 18.8 +0.1
comp=Z,49nm,0.6s
Y27A **Causey** 39.63 324 ⇓P P 14 37 18.9 -0.1
baz=40,SNR=43
U31A **Nine Bar Ranch** 39.66 330 ⇑P P 14 37 18.8 -0.4
baz=40
W29A **Amraillo** 39.66 327 ⇓P P 14 37 19.1 -0.1
baz=40,SNR=15
Z26A **Caprock** 39.70 322 ⇓P P 14 37 19.5 -0.1
baz=40,SNR=45
125A **Gardner Draw,** 39.70 321 ⇓P P 14 37 20.2 +0.6
baz=40,SNR=86
S33A **Kaszmaul Farm,** 39.74 333 ⇓P P 14 37 19.5 -0.3
baz=40,SNR=7.4
T32A **Huddler Ranch,** 39.84 331 ⇓P P 14 37 20.4 -0.2
baz=40,SNR=16
224A **Cornudas Mount** 39.87 320 ⇑P P 14 37 21.8 +0.7
baz=40,SNR=168
Y26A **Elida** 40.05 323 ⇓P P 14 37 22.6 +0.1
baz=40,SNR=23
W28A **Vega** 40.07 326 ⇑P P 14 37 22.5 -0.1
baz=40
X27A **F and S Farms,** 40.14 325 ⇓P P 14 37 23.4 +0.2
baz=40,SNR=6.1
T31A **Randall Ranch,** 40.15 330 ⇓P P 14 37 22.9 -0.2
baz=40,SNR=16
V29A **Stinnett** 40.15 327 ⇑P P 14 37 23.9 +0.6
baz=40,SNR=15
Z25A **Roswell** 40.16 322 ⇑P P 14 37 24.3 +0.9
baz=40,SNR=68
U30A **WK&E Inc. Balk** 40.20 329 ⇑P P 14 37 23.9 +0.3
baz=40,SNR=14
ACCN **Adirondack Com** 40.23 3 *e*ScP ScP 14 43 00.2 +1.8
124A **Stringfield Ra** 40.23 320 ⇑P P 14 37 25.5 +1.3
baz=40,SNR=251
S32A **Newby Ranch, P** 40.27 332 ⇑P P 14 37 24.1 0.0
baz=40,SNR=9.3
R33A **Olander Ranch,** 40.32 333 ⇓P P 14 37 24.1 -0.5
baz=40,SNR=17
KSU1 **Kansas State U** 40.38 335 *e*P P 14 37 23.4 -1.6
comp=Z,180nm,0.8s
W27A **Bowe Ranch, En** 40.41 325 ⇑P P 14 37 25.5 +0.1
baz=40,SNR=26
223A **Chaparral, Ant** 40.42 319 ⇓P P 14 37 26.1 +0.6
baz=40,SNR=5.4
V28A **Channing** 40.45 327 ⇑P P 14 37 25.7 0.0
baz=41,SNR=6.8
U29A **Oasis Ranch, S** 40.46 328 ⇓P P 14 37 26.2 +0.5
baz=41,SNR=5.3
S31A **Mullinville** 40.46 331 ⇑P P 14 37 26.0 +0.2
baz=41,SNR=33
X26A **CR and CF Fran** 40.48 324 ⇑P P 14 37 26.3 +0.3
baz=41,SNR=21
T30A **Plains** 40.53 330 ⇓P P 14 37 26.8 +0.5
baz=41,SNR=13
Y25A **Mesa, Roswell** 40.58 322 ⇑P P 14 37 27.7 +0.9
baz=41,SNR=62
Z24A **Sheeppen Canyo** 40.59 321 ⇓P P 14 37 28.1 +1.1
baz=41,SNR=75
123A **Bell Site, Whi** 40.71 320 ⇓P P 14 37 29.4 +1.5
baz=41,SNR=7.6
R32A **Long Quarter,** 40.74 333 ⇑P P 14 37 27.5 -0.5
baz=41,SNR=9.5
V27A **Dan Oppiter Fa** 40.79 326 ⇑P P 14 37 29.0 +0.5
baz=41,SNR=7.0
Q33A **Connelly Farm,** 40.82 334 ⇑P P 14 37 28.2 -0.4
baz=41,SNR=35
W26A **Owens Ranch, T** 40.84 325 ⇑P P 14 37 29.3 +0.3
baz=41,SNR=15
U28A **Mallet** 40.91 327 ⇑P P 14 37 29.3 -0.2
baz=41
222A **Williams Famil** 40.92 318 ⇓P P 14 37 30.8 +1.1
baz=41,SNR=28
S30A **Montezuma** 40.96 330 ⇓P P 14 37 30.2 +0.3
baz=41,SNR=11
X25A **Clemmons Ranch** 40.97 323 ⇓P P 14 37 31.0 +0.9
baz=41,SNR=45
T29A **Hugoton** 41.01 329 ⇑P P 14 37 30.9 +0.7
baz=41
R31A **Burdett** 41.02 332 ⇓P P 14 37 30.2 -0.1
baz=41,SNR=29
Y24A **Capitan** 41.03 322 ⇑P P 14 37 31.6 +0.9
baz=41,SNR=102
Z23A **Rita Site, Whi** 41.09 320 ⇑P P 14 37 32.7 +1.6
baz=41,SNR=63
P33A **Williams Farm,** 41.12 335 ⇑P P 14 37 30.6 -0.5
baz=41,SNR=11
Q32A **Meitler Ranch,** 41.14 333 ⇓P P 14 37 30.7 -0.5
baz=41,SNR=20
RCBR **Riachuelo** 41.25 102 *e*P P 14 37 32.8 +0.2
comp=Z,23nm,0.9s
U27A **Thompson Grove** 41.27 327 ⇓P P 14 37 32.8 +0.4
baz=41,SNR=40
S29A **Ulysses** 41.27 330 ⇑P P 14 37 33.1 +0.7
baz=41,SNR=18
W25A **X Bar L Ranch,** 41.33 324 ⇓P P 14 37 33.8 +0.8
baz=42,SNR=83
V26A **Tequesquite Ra** 41.35 325 ⇑P P 14 37 33.7 +0.6
baz=42,SNR=54
PTN **Potsdam (NY)** 41.36 1 *e*P P 14 37 34.2 +1.3
PTN pmax pmax
comp=Z,108nm,0.9s
PTN **Potsdam (NY)** 41.36 1 *e*P P 14 37 34.1 +1.3
comp=Z,108nm,0.9s
R30A **Dighton** 41.37 331 ⇑P P 14 37 33.7 +0.5
baz=42,SNR=44
T28A **Walsh** 41.41 328 ⇓P P 14 37 33.4 -0.2
baz=42,SNR=11
LONY **Lake Ozonia** 41.42 2 *e*P P 14 37 33.9 +0.5
comp=Z,29nm,0.6s
Y23A **Lovelace Mesa,** 41.42 321 ⇓P P 14 37 34.7 +0.9
baz=42,SNR=66
320A **Kipp Ranch, An** 41.42 316 ⇑P P 14 37 35.5 +1.7
baz=42,SNR=45
X24A **Lazy VL Ranch,** 41.46 323 ⇓P P 14 37 34.8 +0.6
baz=42
Q31A **Ellis** 41.53 332 ⇑P P 14 37 34.2 -0.2
baz=42,SNR=13
Z22A **Elephant Butte** 41.56 320 ⇓P P 14 37 36.4 +1.5
baz=42,SNR=48
SCIA **State Center** 41.57 341 *e*P P 14 37 33.1 -1.5
comp=Z,113nm,0.8s
JFWS **Jewell Farm** 41.60 344 *e*P P 14 37 33.4 -1.5
JFWS pmax pmax
comp=Z,140nm,0.6s
JFWS **Jewell Farm** 41.60 344 *e*P P 14 37 33.4 -1.5
comp=Z,140nm,0.6s
JFWS *e*ScP ScP 14 43 06.0 +2.1
121A **Cookes Peak, D** 41.64 318 *e*P P 14 37 37.2 +1.5
comp=Z,108nm,0.8s
121A *e*pP pP 14 38 12.3 +1.1
121A **Cookes Peak, D** 41.64 318 ⇑P P 14 37 37.5 +1.9
baz=42,SNR=77
S28A **Manter** 41.65 329 ⇑P P 14 37 35.9 +0.4
baz=42,SNR=33
P32A **Huiting Farm,** 41.67 334 ⇑P P 14 37 34.8 -0.7
baz=42,SNR=16
FRNY **Flat Rock** 41.67 3 *e*P P 14 37 37.0 +1.5
comp=Z,44nm,1.0s
T27A **Campo** 41.68 328 ⇓P P 14 37 35.9 +0.1
baz=42,SNR=25
U26A **Atchley Ranch,** 41.76 326 ⇓P P 14 37 37.1 +0.6
baz=42,SNR=58
V25A **Rancho Ni Teng** 41.85 325 ⇓P P 14 37 38.2 +0.9
baz=42,SNR=76
W24A **Lazy 6 Ranch,** 41.88 323 ⇑P P 14 37 38.5 +0.9
baz=42,SNR=42
Q30A **Quinter** 41.89 332 ⇑P P 14 37 37.6 +0.2
baz=42,SNR=44
R29A **Marienthal** 41.90 330 ⇑P P 14 37 37.9 +0.3
baz=42,SNR=6.9
BNM **Barren Site** 41.92 321 *e*P P 14 37 38.2 +0.2
comp=Z,23nm,0.6s
X23A **Hourglass Bar** 41.93 322 ⇓P P 14 37 38.9 +0.9
baz=42,SNR=11
P31A **Stockton** 41.94 333 ⇓P P 14 37 37.2 -0.5
baz=42,SNR=16
319A **Douglas** 41.97 316 ⇑P P 14 37 39.6 +1.4
baz=42,SNR=37
Y22A **Socorro** 42.00 321 ⇓P P 14 37 39.7 +1.2
baz=42,SNR=54
LPM **Los Pinos Moun** 42.03 321 *e*P P 14 37 39.7 +0.9
O32A **Brockman Farm,** 42.06 335 ⇑P P 14 37 39.7 -0.8
baz=42,SNR=24
Y22D **IRIS PASSCAL I** 42.06 321 ⇓P P 14 37 40.3 +1.4
baz=42
U25A **Circle Dot Ran** 42.13 325 ⇓P P 14 37 40.5 +1.0
baz=42,SNR=57
LENM **Lemitar** 42.15 321 *e*P P 14 37 40.8 +1.1
V24A **Rampart Ranch,** 42.16 324 ⇑P P 14 37 41.0 +1.2
baz=42,SNR=81
R28A **Tribune** 42.17 330 ⇑P P 14 37 40.3 +0.5
baz=42,SNR=64
Q29A **Oakley** 42.19 331 ⇓P P 14 37 40.1 +0.3
baz=42,SNR=31
T26A **Comanche Natio** 42.24 327 ⇑P P 14 37 40.8 +0.4
baz=42,SNR=10
S27A **Las Animas** 42.24 328 ⇑P P 14 37 40.6 +0.3
baz=42
W23A **Werner Place,** 42.30 323 ⇓P P 14 37 42.0 +1.1
baz=42,SNR=53
ANMO **Albuquerque** 42.34 322 P P 14 37 42.4 +1.1
comp=Z,155nm,0.8s,baz=128,slow=8.6,SNR=329
P30A **Selden** 42.36 332 ⇓P P 14 37 40.9 -0.3
baz=42,SNR=19
LAZ **Ladron** 42.41 321 *e*P P 14 37 42.0 +0.2
comp=Z,54nm,0.9s
O31A **Woolen Ranch,** 42.43 334 ⇓P P 14 37 40.9 -0.8
baz=43,SNR=11
N32A **Stulken Farm,** 42.48 335 ⇑P P 14 37 41.3 -0.8
baz=43,SNR=6.1
S26A **Kim** 42.50 327 ⇑P P 14 37 43.3 +0.9
baz=43,SNR=69
U24A **Moreno Valley** 42.64 325 ⇑P P 14 37 45.1 +1.3
baz=43
R27A **Eads** 42.64 329 ⇑P P 14 37 43.8 +0.3
baz=43,SNR=75
T25A **Trinidad** 42.66 326 ⇑P P 14 37 45.2 +1.4
baz=43,SNR=40
V23A **Ortiz Mt. (NFS** 42.71 323 ⇓P P 14 37 45.7 +1.4
baz=43,SNR=56
P29A **Atwood** 42.72 332 ⇑P P 14 37 44.1 -0.1
baz=43,SNR=12
Q28A **Sharon Springs** 42.74 330 ⇑P P 14 37 44.6 +0.4
baz=43,SNR=24
O30A **MW Ranch, Wils** 42.78 333 ⇑P P 14 37 44.0 -0.5
baz=43,SNR=12
N31A **Bailey Ranch,** 42.81 334 ⇑P P 14 37 44.2 -0.6
baz=43
BGNE **Belgrade** 42.96 336 *e*P P 14 37 43.7 -2.3
comp=Z,170nm,0.8s
BGNE *e*pP pP 14 38 21.6 -0.1
BGNE **Belgrade** 42.96 336 ⇓P P 14 37 45.1 -0.9
baz=43
R26A **Arlington** 42.99 328 ⇓P P 14 37 46.8 +0.5
baz=43,SNR=43
S25A **Robets Cordova** 43.05 327 ⇓P P 14 37 48.0 +1.1
baz=43
O29A **4D Ranch, Culb** 43.07 332 ⇑P P 14 37 46.7 -0.2
baz=43,SNR=8.0
P28A **Saint Francis** 43.10 331 ⇑P P 14 37 47.7 +0.6
baz=43,SNR=45
KSCO **Kaye Shedlock'** 43.10 330 *e*P P 14 37 47.7 +0.5
KSCO **Kaye Shedlock'** 43.10 330 ⇓P P 14 37 47.7 +0.5
baz=43,SNR=9.8
U23A **El Rito** 43.11 324 ⇑P P 14 37 48.9 +1.4
baz=43,SNR=46
T24B **San Luis** 43.15 325 ⇑P P 14 37 49.5 +1.6
baz=43,SNR=49
M31A **Lambtecht Ranc** 43.25 335 ⇓P P 14 37 47.7 -0.6
baz=43,SNR=17
V22A **San Miguel Ran** 43.26 323 ⇓P P 14 37 50.0 +1.3
baz=43,SNR=84
N30A **Hueftle Ranch,** 43.29 333 ⇓P P 14 37 48.2 -0.5
baz=43,SNR=10
R25A **Fountain Ranch** 43.32 327 ⇓P P 14 37 49.9 +0.8
baz=44,SNR=19
S24A **Houchin Ranch,** 43.47 326 ⇓P P 14 37 51.9 +1.5
baz=44,SNR=52
P27A **Ficken Ranch,** 43.49 330 ⇑P P 14 37 51.0 +0.6
baz=44,SNR=16
Q26A **Hugo** 43.49 329 ⇓P P 14 37 51.2 +0.8
baz=44,SNR=21
T23A **Casias Ranch,** 43.51 325 ⇓P P 14 37 52.2 +1.5
baz=44,SNR=73
O28A **Krutsinger Ran** 43.54 331 ⇑P P 14 37 51.1 +0.4
baz=44,SNR=14
U22A **Llaves** 43.54 323 ⇓P P 14 37 52.4 +1.4
baz=44,SNR=50
N29A **Votaw Ranch, W** 43.55 333 ⇑P P 14 37 50.4 -0.4
baz=44,SNR=7.5
TUC **Tucson** 43.55 316 *e*P P 14 37 51.8 +0.9
TUC pmax pmax
comp=Z,49nm,0.9s
TUC **Tucson** 43.55 316 *e*P P 14 37 51.8 +0.9
comp=Z,49nm,0.9s
SDCO **Great Sand Dun** 43.70 326 *e*P P 14 37 53.4 +1.2
comp=Z,80nm,0.8s
M30A **Dale-Ortello V** 43.79 334 ⇓P P 14 37 51.7 -1.0
baz=44
R24A **Sanders Place,** 43.83 327 ⇑P P 14 37 54.6 +1.4
baz=44,SNR=43
Q25A **Bedland, Calha** 43.86 328 ⇑P P 14 37 53.9 +0.5
baz=44,SNR=18
N28A **Pribbeno Ranch** 43.87 332 ⇑P P 14 37 53.2 -0.1
baz=44,SNR=9.3

P26A **Davis Ranch, A** 43.88 329 ⇓P P 14 37 53.8 +0.3
baz=44,SNR=14
L31A **Butterfield Fa** 43.88 336 ⇑P P 14 37 52.5 -0.8
baz=44,SNR=30
PLCA **Paso Flores** 43.89 174 eP P 14 37 53.1 -0.3
comp=Z,14nm,0.9s
PLCA ePP pP 14 38 28.3 -1.1
PLCA **Paso Flores** 43.89 174 P P 14 37 54.9 +1.5
comp=Z,13nm,0.9s,baz=348,slow=8.9,SNR=20
O27A **Beecher Island** 43.93 331 ⇓P P 14 37 54.6 +0.8
baz=44,SNR=36
S23A **Nye Farm, Mont** 43.96 325 ⇑P P 14 37 55.8 +1.5
baz=44,SNR=18
L30A **Spencer Herefo** 44.06 335 ⇑P P 14 37 54.3 -0.5
baz=44,SNR=6.1
M29A **Burnside Ranch** 44.08 333 ⇓P P 14 37 54.4 -0.5
baz=44,SNR=12
R23A **Moffat** 44.20 326 ⇓P P 14 37 57.4 +1.2
baz=44
P25A **Willow Gulch B** 44.26 329 ⇓P P 14 37 57.5 +0.9
baz=44,SNR=74
X18A **Snowflake** 44.29 319 ⇓P P 14 37 58.3 +1.4
baz=44,SNR=28
M28A **Bar X Bar Ranc** 44.35 333 ⇑P P 14 37 56.8 -0.3
baz=44
ECSD **EROS Data Cent** 44.35 339 eScP ScP 14 43 16.8 +1.7
O26A **Horse Wrangler** 44.38 330 ⇓P P 14 37 58.0 +0.5
baz=44,SNR=19
Q24A **Divide** 44.38 327 ⇓P P 14 37 58.2 +0.5
baz=44,SNR=15
N27A **Anderson Farm,** 44.43 331 ⇓P P 14 37 57.9 +0.1
baz=45,SNR=14
SPMN **St. Paul** 44.45 343 eP P 14 37 56.5 -1.3
SPMN **St. Paul** 44.45 343 ⇓P P 14 37 56.4 -1.3
baz=45,SNR=17
S22A **4UR Ranch, Cre** 44.46 325 ⇑P P 14 37 59.6 +1.3
baz=45,SNR=99
L29A **Maesberg Ranch** 44.49 334 ⇓P P 14 37 57.6 -0.6
baz=45,SNR=28
W18A **Petrified Fore** 44.51 320 eP P 14 38 00.0 +1.4
W18A **Petrified Fore** 44.51 320 ⇑P P 14 38 00.0 +1.4
baz=45,SNR=36
K30A **Basset** 44.62 335 ⇑P P 14 37 58.5 -0.7
baz=45,SNR=21
O25A **Wiggins** 44.69 329 ⇓P P 14 38 00.3 +0.5
baz=45
Q23A **Hartsel** 44.71 327 ⇓P P 14 38 01.1 +0.8
baz=45
N26A **Koester Ranch,** 44.78 331 ⇓P P 14 38 01.0 +0.4
baz=45
214A **Organ Pipe Nat** 44.79 314 eP P 14 38 01.1 +0.4
comp=Z,101nm,1.0s
214A **Organ Pipe Nat** 44.79 314 ⇑P P 14 38 02.0 +1.3
baz=45,SNR=38
L28A **Connealy Angus** 44.90 333 ⇓P P 14 38 01.2 -0.3
baz=45,SNR=10
M27A **Reverse DX Ran** 44.92 332 ⇑P P 14 38 01.9 +0.2
baz=45,SNR=7.6
K29A **Lazy Trails An** 44.98 335 ⇓P P 14 38 01.1 -1.0
baz=45,SNR=10
P23A **Jefferson** 45.05 327 ⇓P P 14 38 04.2 +1.2
baz=45,SNR=29
MVCO **Mesa Verde** 45.08 323 ⇓P P 14 38 03.9 +0.8
baz=45,SNR=47
J30A **Dallas** 45.11 336 ⇓P P 14 38 01.6 -1.4
baz=45,SNR=7.7
O24A **Longmont** 45.18 329 ⇑P P 14 38 04.8 +1.0
baz=45,SNR=5.8
N25A **Grover** 45.19 330 ⇓P P 14 38 04.3 +0.3
baz=45
X16A **Lo Mia Camp, P** 45.21 318 ⇓P P 14 38 05.5 +1.3
baz=45,SNR=63
M26A **McRoberts Ranc** 45.23 331 ⇑P P 14 38 04.5 +0.3
baz=45,SNR=5.2
ISCO **Idaho Springs** 45.23 328 eP P 14 38 05.3 +0.9
ISCO pmax pmax
comp=Z,29nm,0.7s
ISCO **Idaho Springs** 45.23 328 eP P 14 38 05.3 +0.9
comp=Z,29nm,0.7s
ISCO **Idaho Springs** 45.23 328 ⇓P P 14 38 05.2 +0.9
baz=45,SNR=50
L27A **T5 Ranch, Ells** 45.32 333 ⇓P P 14 38 04.6 -0.2
baz=46
K28A **Ten Mile Ranch** 45.40 334 ⇑P P 14 38 05.0 -0.4
baz=46,SNR=6.2
J29A **Okreek** 45.52 335 ⇓P P 14 38 05.2 -1.0
baz=46,SNR=41
SMCO **Snowmass** 45.53 326 eP P 14 38 07.6 +0.7
comp=Z,31nm,0.6s
I30A **Oacoma** 45.57 337 ⇓P P 14 38 04.9 -1.7
baz=46
N24A **Carr** 45.60 329 ⇑P P 14 38 08.5 +1.3
baz=46,SNR=36
L26A **Underwood Farm** 45.64 332 ⇑P P 14 38 07.5 +0.1
baz=46
Z14A **Wintersburg** 45.65 316 ⇑P P 14 38 08.6 +1.2
baz=46,SNR=21
M25A **Palm-Egli Farm** 45.65 331 ⇑P P 14 38 08.1 +0.6
baz=46,SNR=12
O23A **Lake Granby, G** 45.69 328 ⇓P P 14 38 08.9 +0.9
baz=46,SNR=39
P22A **Eagle** 45.70 327 ⇓P P 14 38 08.8 +0.8
baz=46,SNR=65
PV01 **Paradox Valley** 45.73 324 eP P 14 38 08.1 -0.2
comp=Z,6µm,0.8s
K27A **Flueckinger Fa** 45.78 333 ⇑P P 14 38 07.8 -0.6
baz=46
WUAZ **Wupatki** 45.82 319 eP P 14 38 10.2 +1.2
comp=Z,76nm,0.8s
WUAZ eScP ScP 14 43 23.4 +1.9
WUAZ **Wupatki** 45.82 319 ⇓P P 14 38 10.1 +1.2
baz=46,SNR=71
BRSD **Miller** 45.83 337 eP P 14 38 07.4 -1.3
BRSD **Miller** 45.83 337 ⇓P P 14 38 07.2 -1.5
baz=46,SNR=7.0
113A **Mohawk Valley,** 45.91 314 ⇓P P 14 38 10.2 +0.8
baz=46,SNR=6.4
J28A **Allard Ranch,** 45.91 335 ⇓P P 14 38 08.7 -0.7
baz=46,SNR=24
O22A **Kremmling** 45.99 327 ⇑P P 14 38 10.9 +0.5
baz=46,SNR=72
Y14A **Wickenburg** 46.01 316 ⇑P P 14 38 11.2 +0.9
baz=46,SNR=8.9
I29A **Vivian Onida** 46.01 336 ⇓P P 14 38 08.5 -1.6
baz=46,SNR=6.2
M24A **Cheyenne** 46.05 330 ⇑P P 14 38 11.4 +0.8
baz=46,SNR=24
PV04 **Paradox Valley** 46.10 324 eP P 14 38 12.0 +0.9
J27A **Elkhorn Farm,** 46.11 334 ⇓P P 14 38 10.8 -0.2
baz=46,SNR=22
L25A **Engebretsen Ra** 46.15 331 ⇑P P 14 38 12.0 +0.6
baz=46,SNR=13
N23A **Red Feather La** 46.20 329 ⇑P P 14 38 12.7 +0.8
baz=46,SNR=24
K26A **Motz Farm, Whi** 46.20 332 ⇑P P 14 38 11.8 +0.1
baz=46,SNR=8.7
I28A **Midland** 46.35 335 ⇓P P 14 38 11.7 -1.1
baz=46,SNR=41
N22A **Wattenberg Ran** 46.40 328 ⇑P P 14 38 14.3 +0.8
baz=46,SNR=21
K25A **Mack Ranch, Ha** 46.46 332 ⇓P P 14 38 14.4 +0.7
baz=47,SNR=8.2
H29A **Onida** 46.48 336 ⇓P P 14 38 11.8 -1.9
baz=47,SNR=5.2
G30A **Faulkton** 46.48 338 ⇓P P 14 38 12.2 -1.5
baz=47,SNR=9.1
M23A **Laramie** 46.51 329 ⇑P P 14 38 15.0 +0.8
baz=47,SNR=38
L24A **Wheatland** 46.54 330 ⇓P P 14 38 15.2 +0.8
baz=47,SNR=15
EYMN **Ely** 46.61 346 eP P 14 38 13.7 -1.0
comp=Z,67nm,0.6s
J26A **Sides Ranch, S** 46.63 333 ⇑P P 14 38 15.4 +0.4
baz=47,SNR=54
I27A **Quinn** 46.78 335 ⇑P P 14 38 15.7 -0.5
baz=47,SNR=20
GLA **Glamis** 46.81 314 eP P 14 38 17.6 +1.1
GLA pmax pmax
comp=Z,24nm,1.4s
GLA **Glamis** 46.81 314 eP P 14 38 17.6 +1.1
comp=Z,24nm,1.4s
GLA **Glamis** 46.81 314 ⇑P P 14 38 17.5 +0.9
baz=47,SNR=12
G29A **Hoven** 46.83 337 ⇓P P 14 38 15.0 -1.5
baz=47
H28A **Mission Ridge** 46.84 336 ⇓P P 14 38 15.3 -1.3
baz=47
O20A **White River Ci** 46.90 326 eP P 14 38 18.2 +0.9
baz=47,SNR=43
O20A **White River Ci** 46.90 326 ⇑P P 14 38 18.2 +0.9
baz=47,SNR=43
M22A **Cedar Creek Ra** 46.91 329 ⇑P P 14 38 18.2 +0.8
baz=47,SNR=26
U15A **North Rim** 46.96 320 ⇑P P 14 38 19.1 +1.2
baz=47,SNR=31
Y12C **Blythe** 46.96 315 ⇑P P 14 38 18.7 +1.0
baz=47,SNR=11
PDMCI **Parker Dam,Lak** 46.99 316 ⇓P P 14 38 18.7 +0.8
baz=47,SNR=12
K24A **Anderson Ranch** 46.99 331 ⇓P P 14 38 18.3 +0.4
baz=47
J25A **Sunshine Ranch** 47.03 333 ⇑P P 14 38 18.6 +0.5
baz=47,SNR=57
F30A **Leola** 47.03 338 ⇓P P 14 38 16.7 -1.3
baz=47
I26A **New Underwood** 47.10 334 ⇑P P 14 38 18.5 -0.2
baz=47,SNR=14
G28A **Parade** 47.13 336 ⇑P P 14 38 17.5 -1.3
baz=47,SNR=11
H27A **Howes** 47.25 335 ⇓P P 14 38 18.9 -0.8
baz=47,SNR=42
W13A **Hualapai Mount** 47.25 317 ⇑P P 14 38 21.3 +1.1
baz=47,SNR=31
L22A **Ellis Ranch, M** 47.28 329 ⇑P P 14 38 21.4 +1.2
baz=47,SNR=30
F29A **Eureka** 47.33 338 ⇑P P 14 38 18.7 -1.7
baz=48,SNR=7.4
J24A **Dixon Ranch, L** 47.38 332 ⇓P P 14 38 21.7 +0.8
baz=48,SNR=13
N20A **Spence Gulch,** 47.39 327 ⇑P P 14 38 21.8 +0.6
baz=48
K23A **Bowen Ranch, D** 47.41 331 ⇓P P 14 38 21.7 +0.5
baz=48,SNR=17
RWWY **Rawlins** 47.43 328 eP P 14 38 16.3 -5.2
comp=Z,72nm,0.9s
SWSC **Sam W. Stewart** 47.45 313 ⇓P P 14 38 22.4 +1.0
baz=48,SNR=11
I25A **Rochford** 47.48 333 ⇑P P 14 38 22.4 +0.7
baz=48
SRU **San Rafael** 47.52 324 eP P 14 38 22.8 +0.6
SRU pmax pmax
comp=Z,126nm,0.9s
SRU **San Rafael** 47.52 324 eP P 14 38 22.8 +0.6
comp=Z,126nm,0.9s
H26A **Fairpoint** 47.53 334 ⇓P P 14 38 21.1 -0.9
baz=48
DVTC **Desert V Tower** 47.53 313 ⇓P P 14 38 23.3 +1.1
baz=48,SNR=8.7
E30A **Jud** 47.56 339 ⇓P P 14 38 20.9 -1.2
baz=48,SNR=8.5
BC3 **Big Chuckawall** 47.57 314 ⇓P P 14 38 23.5 +1.0
baz=48,SNR=17
NEE2 **Needles Airpor** 47.58 316 ⇓P P 14 38 23.1 +0.7
baz=48
IRM **Iron Mountain** 47.62 315 ⇓P P 14 38 23.8 +1.1
baz=48,SNR=41
RSSD **Black Hills** 47.70 333 eP P 14 38 23.9 +0.4
RSSD pmax pmax
comp=Z,38nm,0.8s
RSSD **Black Hills** 47.70 333 eP P 14 38 23.9 +0.4
comp=Z,38nm,0.8s
F28A **McLaughlin** 47.72 337 ⇓P P 14 38 22.5 -0.8
baz=48,SNR=13
I24A **Kuemerle Ranc** 47.77 332 ⇓P P 14 38 24.5 +0.7
baz=48,SNR=16
K22A **Casper** 47.78 330 eP P 14 38 24.5 +0.4
K22A **Casper** 47.78 330 ⇑P P 14 38 24.5 +0.4
baz=48,SNR=28
G27A **Dupree** 47.79 336 ⇑P P 14 38 23.0 -0.9
baz=48
J23A **Dilts Ranch, B** 47.86 331 ⇑P P 14 38 25.4 +0.8
baz=48,SNR=6.1
E29A **Napoleon** 47.88 338 ⇓P P 14 38 23.6 -1.0
baz=48,SNR=16
MONP **Monument Peak** 47.88 313 ⇑P P 14 38 26.0 +0.9
baz=48,SNR=9.9
H25A **Fruitdale** 47.90 334 ⇑P P 14 38 24.6 -0.2
baz=48,SNR=7.7
BAR **Barrett** 47.97 313 eP P 14 38 26.2 +0.8
comp=Z,11nm,1.0s
G26A **Maurine** 48.00 335 ⇑P P 14 38 24.5 -1.0
baz=48,SNR=22
D30A **Buhanan** 48.02 339 ⇑P P 14 38 24.4 -1.2
baz=48,SNR=16
TMUT **Trail Mountain** 48.05 323 eP P 14 38 27.0 +0.7
comp=Z,46nm,0.8s
LDFC **Landfair** 48.08 316 eP P 14 38 28.2 +1.8
comp=Z,61nm,0.9s
AGMN **Agassiz Nation** 48.12 342 eP P 14 38 19.4 -7.0
comp=Z,97nm,0.9s
K21A **Alcova** 48.13 329 ⇓P P 14 38 27.4 +0.6
baz=48,SNR=54
BELC **Belle Mtn. Jos** 48.14 315 ⇓P P 14 38 27.8 +0.9
baz=48,SNR=25
MVU **Marysvale** 48.16 322 eP P 14 38 28.2 +1.1
comp=Z,56nm,0.8s
MVU eScP ScP 14 43 34.1 +2.7
F27A **Lemmon** 48.23 336 ⇑P P 14 38 26.6 -0.6
baz=48,SNR=28
I23A **Meade Ranch, G** 48.24 332 ⇑P P 14 38 27.8 +0.3
baz=48
PFO **Pinyon Flat Ob** 48.27 314 eP P 14 38 28.8 +0.9
comp=Z,19nm,0.9s
PFO PcP PcP 14 39 53.7 +1.4
PFO **Pinyon Flat Ob** 48.27 314 P P 14 38 28.3 +0.4
comp=Z,105nm,0.8s,SNR=8.9
PFO **Pinyon Flat Ob** 48.27 314 ⇓P P 14 38 28.8 +0.9
baz=48,SNR=12
PFO **Pinyon Flat Ob** 48.27 314 P P 14 38 28.8 +0.9
comp=Z,13nm,0.8s,baz=109,slow=5.1,SNR=19
PFO PcP PcP 14 39 53.7 +1.4
comp=Z,3.5nm,0.6s,baz=80,slow=1.8,SNR=4.3
PFO LR LR 15 00 00.9
comp=Z,110nm,18.2s,baz=334,slow=37
G25A **Newell** 48.27 334 ⇑P P 14 38 27.0 -0.6
baz=48,SNR=13
D29A **Pettibone, Tap** 48.28 339 ⇑P P 14 38 26.5 -1.1
baz=48,SNR=17
E28A **Huff** 48.28 338 ⇓P P 14 38 27.1 -0.6
baz=48,SNR=31
GMRC **Granite Mounta** 48.31 316 ⇓P P 14 38 29.1 +0.9
baz=48,SNR=25
CCUT **Cedar City** 48.31 320 eP P 14 38 29.5 +1.2
comp=Z,22nm,0.8s
CCUT eScP ScP 14 43 34.2 +2.2
J22A **Midwest** 48.32 331 ⇑P P 14 38 28.3 +0.2
baz=48,SNR=74
H24A **Dirks Ranch, A** 48.42 333 ⇑P P 14 38 28.6 -0.2
baz=49,SNR=40
C30A **Mose, Pekin** 48.44 340 ⇑P P 14 38 27.8 -1.0
baz=49,SNR=15
F26A **Lodgepole** 48.48 335 ⇑P P 14 38 28.4 -0.7
baz=49,SNR=19
E27A **Carson** 48.50 337 ⇓P P 14 38 29.2 -0.1
baz=49,SNR=21
ARUT **Antelope Range** 48.50 320 eP P 14 38 29.9 +0.2
ARUT e*PP pP 14 39 05.3 -1.0
ARUT pmax pmax
comp=Z,1µm,0.7s
ARUT **Antelope Range** 48.50 320 eP P 14 38 29.9 +0.2
comp=Z,1µm,0.7s
ARUT epP pP 14 39 05.3 -1.0
H23A **Clabaugh Cattl** 48.67 332 ⇓P P 14 38 30.3 -0.4
baz=49
I22A **9 Mile Ranch,** 48.67 331 ⇑P P 14 38 31.0 +0.1
baz=49,SNR=50
J21A **Lysite** 48.75 330 ⇑P P 14 38 32.2 +0.7
baz=49,SNR=48
D28A **Regan** 48.75 338 ⇑P P 14 38 30.6 -0.6
baz=49,SNR=15
MPU **Maple Canyon** 48.76 324 eP P 14 38 32.3 +0.7
comp=Z,96nm,0.7s
DAU **Daniels Canyon** 48.80 324 eP P 14 38 32.9 +0.9
DAU **Daniels Canyon** 48.80 324 eP P 14 38 32.9 +0.9
HEC **Hector,Ludlow** 48.80 315 ⇑P P 14 38 33.1 +1.3
baz=49,SNR=15
MURC **Murrieta** 48.80 313 ⇑P P 14 38 32.9 +1.1
baz=49,SNR=16
G24A **Alzada** 48.81 334 ⇑P P 14 38 31.6 -0.2
baz=49
TUQ **Turquoise Moun** 48.84 316 ⇓P P 14 38 32.9 +0.7
baz=49,SNR=17
F25A **Bowman** 48.87 335 ⇑P P 14 38 31.8 -0.4
baz=49,SNR=8.3
E26A **Carlson Angus** 48.89 336 ⇓P P 14 38 31.9 -0.5
baz=49,SNR=8.9
SHPR **Sheep Range** 48.90 318 eP P 14 38 33.4 +0.7
SHPR eScP ScP 14 43 36.1 +1.7
BBRC **Big Bear Solar** 48.93 314 ⇑P P 14 38 34.5 +1.5
baz=49,SNR=10
MDND **Maddock** 48.95 339 ⇑P P 14 38 32.1 -0.6
baz=49,SNR=8.8
NLU **North Lily Min** 48.99 323 eP P 14 38 34.1 +0.7
comp=Z,49nm,1.3s
I21A **Big Trails, Te** 49.01 330 ⇑P P 14 38 33.4 0.0
baz=49,SNR=39
JLU **Jordanelle** 49.03 324 eP P 14 38 34.4 +0.6
comp=Z,58nm,0.8s
B30A **Myrvik Farm, E** 49.04 341 ⇑P P 14 38 32.3 -1.0
baz=49,SNR=34
D27A **Center** 49.05 337 ⇓P P 14 38 33.3 -0.1
baz=49,SNR=10
J20A **Shoshoni** 49.08 329 ⇑P P 14 38 34.7 +0.9
baz=49,SNR=72
C28A **Hausauer Farms** 49.12 339 ⇑P P 14 38 33.4 -0.7
baz=49,SNR=12
H22A **Clearmont** 49.14 332 ⇓P P 14 38 34.2 -0.1
baz=49,SNR=21
G23A **Biddle** 49.15 333 ⇑P P 14 38 34.3 0.0
baz=49,SNR=20
F24A **Ekalaka** 49.23 334 ⇑P P 14 38 34.6 -0.3
baz=49,SNR=12
RRX **Edison Barstow** 49.30 315 ⇓P P 14 38 36.5 +0.9
baz=49
E25A **Miller Ranch,** 49.30 335 ⇓P P 14 38 35.2 -0.2
baz=50,SNR=19
D26A **Manning** 49.34 337 ⇓P P 14 38 35.3 -0.4
baz=50,SNR=15
GSC **Goldstone** 49.38 316 eP P 14 38 37.3 +1.0
GSC pmax pmax
comp=Z,36nm,0.8s
GSC **Goldstone** 49.38 316 eP P 14 38 37.3 +1.0
comp=Z,36nm,0.8s
GSC **Goldstone** 49.38 316 ⇑P P 14 38 37.3 +1.0
baz=50,SNR=29
B29A **Wagenman Farm,** 49.40 340 ⇓P P 14 38 35.7 -0.4
baz=50,SNR=53
PDAR **Pinedale Array** 49.43 328 P P 14 38 36.6 -0.1
PDAR ScP ScP 14 43 36.6 -0.1
PDAR **Pinedale Array** 49.43 328 P P 14 38 36.6 -0.1
comp=Z,32nm,0.8s,baz=129,slow=8.3,SNR=141
PDAR ScP ScP 14 43 36.6 -0.1
comp=Z,2.1nm,1.0s,baz=126,slow=6.3,SNR=3.6
PDAR LR LR 15 01 55.3
comp=Z,114nm,20.1s,baz=337,slow=39
BW06 **Boulder Array** 49.43 328 eP P 14 38 36.6 -0.1
comp=Z,77nm,1.3s
BFSC **Mount Baldy Ra** 49.45 314 ⇓P P 14 38 37.4 +0.5
baz=50
A30A **Hoffart Farm,** 49.45 341 ⇓P P 14 38 35.6 -0.8
baz=50,SNR=51
H21A **Big Horn, Sher** 49.49 331 ⇓P P 14 38 36.6 -0.4
baz=50,SNR=18
SCI **San Clemente I** 49.49 312 ⇑P P 14 38 38.1 +1.0
baz=50
J19A **Crowheart** 49.51 329 ⇑P P 14 38 37.5 +0.2
baz=50,SNR=83
I20A **Worland** 49.53 330 ⇑P P 14 38 37.7 +0.4
baz=50,SNR=50
C27A **Sayler Ranch,** 49.54 338 ⇓P P 14 38 36.9 -0.2
baz=50,SNR=7.3
F23A **Volborg** 49.56 333 ⇓P P 14 38 37.2 -0.2
baz=50,SNR=46
G22A **Birney** 49.58 332 ⇑P P 14 38 37.6 0.0
baz=50,SNR=65
DUG **Dugway** 49.58 323 eP P 14 38 38.4 +0.6
DUG pmax pmax
comp=Z,69nm,0.8s
DUG **Dugway** 49.58 323 eP P 14 38 38.4 +0.6
comp=Z,69nm,0.8s
DUG **Dugway** 49.58 323 ⇑P P 14 38 38.7 +0.9
baz=50,SNR=47
CIS **Catalina Islan** 49.59 313 ⇓P P 14 38 38.8 +1.0
baz=50,SNR=6.8
MWC **Mount Wilson** 49.73 314 eP P 14 38 40.3 +1.3
MWC pmax pmax
comp=Z,199nm,2.0s
MWC **Mount Wilson** 49.73 314 eP P 14 38 40.3 +1.3
comp=Z,198nm,2.0s
E24A **Baker** 49.73 335 ⇓P P 14 38 38.6 -0.1
baz=50,SNR=19
B28A **Dugan Ranch, T** 49.73 339 ⇑P P 14 38 38.2 -0.5
baz=50,SNR=10
A29A **Manning Farm,** 49.75 340 ⇑P P 14 38 38.1 -0.6
baz=50,SNR=88
D25A **Fairfield** 49.79 336 ⇑P P 14 38 39.1 0.0
baz=50,SNR=9.1
PASC **Pasadena Art C** 49.80 313 eP P 14 38 40.5 +1.1
comp=Z,73nm,1.4s
H20A **Greybull** 49.85 330 ⇑P P 14 38 39.5 -0.2
baz=50,SNR=11
C26A **Wahner Farm, P** 49.86 337 ⇓P P 14 38 39.4 -0.2
baz=50,SNR=14
TPNV **Topopah Spring** 49.87 318 eP P 14 38 41.4 +1.3
TPNV pmax pmax
comp=Z,42nm,1.0s
TPNV **Topopah Spring** 49.87 318 eP P 14 38 41.4 +1.3
comp=Z,42nm,1.0s
TPNV **Topopah Spring** 49.87 318 ⇓P P 14 38 41.3 +1.3
baz=50,SNR=45
ULM **Lac du Bonnet** 49.88 344 P P 14 38 38.2 -1.4
comp=Z,24nm,1.0s
ULM ScP ScP 14 43 39.0 +1.0
ULM **Lac du Bonnet** 49.88 344 P P 14 38 38.2 -1.4
comp=Z,47nm,0.7s,baz=155,slow=8.0,SNR=84
ULM ScP ScP 14 43 39.0 +1.0
comp=Z,2.4nm,0.8s,baz=73,slow=2.5,SNR=3.4
ULM LR LR 14 58 59.5
comp=Z,154nm,21.3s,baz=275,slow=35
DECC **Green Verdugo** 49.94 314 ⇑P P 14 38 41.4 +0.9
baz=50
F22A **Rosebud** 49.98 333 ⇑P P 14 38 40.2 -0.4
baz=50,SNR=12
EDW2 **Edwards Air Fo** 50.00 314 ⇓P P 14 38 41.7 +0.7
baz=50,SNR=32
G21A **Lodge Grass** 50.01 332 ⇑P P 14 38 40.6 -0.3
baz=50,SNR=16
B27A **Peters Farms,** 50.02 338 ⇓P P 14 38 40.5 -0.3
baz=50,SNR=5.6
I19A **Meeteetse** 50.03 329 ⇓P P 14 38 41.5 +0.4
baz=50,SNR=42
FURC **Furnace Creek,** 50.03 317 ⇑P P 14 38 42.0 +1.1
baz=50,SNR=6.5
SPUT **South Promonto** 50.07 325 eP P 14 38 41.4 -0.1
comp=Z,93nm,0.8s
SPUT epP pP 14 39 18.7 +0.5
LRMC **Laurel Mountai** 50.09 315 ⇑P P 14 38 42.4 +0.7
baz=50,SNR=20
A28A **Rude Farm, Bot** 50.09 340 ⇑P P 14 38 40.7 -0.6
baz=50,SNR=18
E23A **Ismay** 50.11 334 ⇓P P 14 38 41.1 -0.5
baz=50
BGU **Big Grassy Mou** 50.16 324 eP P 14 38 42.6 +0.4
comp=Z,33nm,1.1s
BGU eScP ScP 14 43 41.8 +2.0
D24A **Glendive** 50.18 335 ⇑P P 14 38 42.5 +0.4
baz=50,SNR=40
R11A **Troy Canyon, C** 50.21 320 eP P 14 38 43.6 +1.0
R11A **Troy Canyon, C** 50.21 320 ⇑P P 14 38 43.6 +1.0
baz=50,SNR=42
C25A **Freed Ranch, W** 50.22 336 ⇓P P 14 38 42.4 +0.1
baz=50,SNR=7.1
MPMC **Manual Prospec** 50.25 316 ⇓P P 14 38 43.3 +0.4
baz=50,SNR=17
AHID **Auburn Hatcher** 50.26 327 eP P 14 38 40.5 -2.5
comp=Z,80nm,0.9s
AHID epP pP 14 39 17.8 -2.0
E22A **Miles City** 50.35 334 ⇓P P 14 38 42.9 -0.4
baz=50,SNR=18
B26A **Jensen Ranch,** 50.36 338 ⇓P P 14 38 43.3 -0.1
baz=50,SNR=18
OSI **Osito Adit** 50.40 314 ⇑P P 14 38 44.5 +0.5
baz=50
BLG **Laguna Peak** 50.41 313 ⇓P P 14 38 44.6 +0.7
baz=50
F21A **Absaloka Mine,** 50.42 332 ⇑P P 14 38 43.6 -0.3
baz=51,SNR=6.0
H19A **Powell** 50.47 330 ⇑P P 14 38 44.3 -0.1
baz=51
A27A **Ledoux Ranch,** 50.47 339 ⇓P P 14 38 44.1 0.0
baz=51
G20A **Bridger** 50.49 331 ⇑P P 14 38 44.1 -0.4
baz=51,SNR=60
REDW **Red Top Meadow** 50.53 328 eP P 14 38 40.6 -4.4
comp=Z,143nm,0.8s

C24A Savage 50.55 336 ⇑P P 14 38 45.0 +0.3
baz=51,SNR=24
HVU Hansel Valley 50.55 325 eP P 14 38 45.0 -0.1
HVU pmax pmax
comp=Z,37nm,0.7s
HVU Hansel Valley 50.55 325 eP P 14 38 45.0 -0.1
comp=Z,38nm,0.7s
LOHW Long Hollow 50.57 328 eP P 14 38 45.6 +0.4
comp=Z,65nm,0.8s
D23A Lindsay 50.59 335 ⇑P P 14 38 45.5 +0.3
baz=51,SNR=30
B25A Knox Farm, Ray 50.63 337 ⇓P P 14 38 45.9 +0.5
baz=51,SNR=20
GRAC Grapevine Rang 50.66 317 ⇓P P 14 38 47.1 +1.3
baz=51,SNR=5.3
LAO LASA Array 50.66 334 eP P 14 38 44.3 -1.4
comp=Z,16nm,0.6s
LAO epP pP 14 39 22.9 +0.3
TPAW Teton Pass 50.67 328 eP P 14 38 46.5 +0.4
comp=Z,66nm,0.6s
A26A Wade Farm, Ken 50.72 338 ⇑P P 14 38 45.8 -0.2
baz=51,SNR=20
MOOW Moose Ponds 50.73 328 eP P 14 38 45.8 -0.7
comp=Z,64nm,0.8s
ISA Isabella 50.73 315 eP P 14 38 47.5 +1.0
ISA pmax pmax
comp=Z,7.0nm,1.1s
ISA Isabella 50.73 315 eP P 14 38 47.5 +1.0
comp=Z,7.0nm,1.1s
ISA Isabella 50.73 315 ⇑P P 14 38 47.4 +1.0
baz=51,SNR=25
I17A Pilgrim Ck. 50.76 328 ⇑P P 14 38 47.6 +0.9
baz=51,SNR=60
BSC Santa Cruz Isl 50.77 313 ⇑P P 14 38 47.3 +0.6
baz=51
H18A Shoshone NF, C 50.82 330 ⇓P P 14 38 46.5 -0.7
baz=51
CWC Cottonwood Cre 50.85 316 ⇑P P 14 38 48.3 +0.8
baz=51,SNR=18
F20A Billings 50.88 332 ⇑P P 14 38 47.3 -0.1
baz=51,SNR=39
E21A Keefer Ranch, 50.93 333 ⇑P P 14 38 47.6 -0.1
baz=51,SNR=16
RLMT Red Lodge 50.94 330 eP P 14 38 48.0 0.0
comp=Z,55nm,0.8s
RLMT epP pP 14 39 24.0 -0.9
FLWY Flagg Ranch 50.94 328 eP P 14 38 48.6 +0.6
comp=Z,63nm,0.9s
D22A Cohagen 51.00 334 ⇓P P 14 38 48.7 +0.5
baz=51,SNR=32
C23A Lambert 51.08 335 ⇓P P 14 38 49.0 +0.3
baz=51,SNR=37
H17A Grant Village 51.09 329 eP P 14 38 50.1 +1.0
H17A Grant Village 51.09 329 ⇑P P 14 38 49.8 +0.6
baz=51,SNR=17
TPH Tonopah 51.13 318 eP P 14 38 50.5 +1.0
TPH pmax pmax
comp=Z,59nm,0.9s
TPH Tonopah 51.13 318 eP P 14 38 50.5 +1.0
comp=Z,59nm,0.9s
A25A Svangstu Ranch 51.16 338 ⇑P P 14 38 49.5 +0.2
baz=51,SNR=32
DGMT Dagmar 51.20 336 eP P 14 38 49.9 +0.2
comp=Z,79nm,1.0s
DGMT Dagmar 51.20 336 ⇓P P 14 38 49.8 +0.2
baz=51,SNR=11
YFT Old Faithful 51.26 329 eP P 14 38 52.2 +1.8
comp=Z,31nm,0.7s
TIN Tinemaha 51.27 317 ⇓P P 14 38 51.7 +1.2
baz=51
D21A La Casta Ranch 51.29 333 ⇓P P 14 38 50.8 +0.4
baz=51
F19A Roth Farm, Mol 51.30 331 ⇓P P 14 38 50.5 -0.1
baz=51,SNR=39
PKM Peak Mountain 51.33 313 ⇑P P 14 38 51.9 +0.9
baz=51,SNR=9.2
C22A Vida 51.33 335 ⇓P P 14 38 51.0 +0.4
baz=52,SNR=25
YNR Norris Junctio 51.36 329 eP P 14 38 52.6 +1.4
comp=Z,21nm,1.1s
ELK Elko 51.38 322 eP P 14 38 51.8 +0.4
comp=Z,18nm,0.8s
ELK eScP ScP 14 43 47.2 +2.1
E20A Meyer Farm, Mu 51.39 332 ⇓P P 14 38 51.6 +0.5
baz=52,SNR=55
YMR Madison River 51.48 329 eP P 14 38 53.3 +1.2
comp=Z,106nm,1.0s
A24A Westby 51.49 337 ⇑P P 14 38 52.4 +0.6
baz=52,SNR=13
B23A Brockton 51.52 336 ⇓P P 14 38 52.7 +0.7
baz=52,SNR=27
RCTC Rector, Farmer 51.59 315 ⇑P P 14 38 53.3 +0.6
baz=52
GCMT Greycliff 51.61 331 eP P 14 38 53.1 +0.3
comp=Z,133nm,0.6s
SMMC Simmler 51.65 314 ⇑P P 14 38 54.5 +1.2
baz=52,SNR=5.8
MTUM Tungsten Hills 51.65 317 eP P 14 38 54.3 +0.9
E19A Rath Farm, Rou 51.67 332 ⇑P P 14 38 53.5 +0.3
baz=52,SNR=39
B22A Reddig Ranch S 51.81 335 ⇓P P 14 38 54.6 +0.4
baz=52,SNR=9.0
D20A Manuel Ranch, 51.83 333 ⇓P P 14 38 54.8 +0.4
baz=52,SNR=39
A23A Redstone 51.87 336 ⇑P P 14 38 55.3 +0.8
baz=52,SNR=6.9
C21A Desert Coulee 51.91 334 ⇓P P 14 38 55.2 +0.2
baz=52,SNR=21
NV11 Mina Array Sit 51.94 318 eP P 14 38 53.9 -1.6
NV11 epP pP 14 39 33.6 +1.0
NV11 ePcP PcP 14 40 05.7 -0.1
SCHQ Schefferville 52.18 7 P P 14 38 55.4 -1.4
SCHQ Schefferville 52.18 7 P P 14 38 55.4 -1.4
comp=Z,16nm,0.7s,baz=197,slow=8.3,SNR=21
D19A Cripps Ranch, 52.23 332 ⇑P P 14 38 57.7 +0.4
baz=52,SNR=66
C20A Veseth Ranch, 52.23 333 ⇓P P 14 38 57.5 +0.2
baz=52,SNR=17
A22A Carney Farms, 52.31 336 ⇓P P 14 38 58.6 +0.7
baz=52,SNR=42
B21A Ellsworth Farm 52.34 335 ⇓P P 14 38 58.5 +0.4
baz=52
BMN Battle Mountai 52.43 321 eP P 14 38 59.6 +0.5
BMN pmax pmax
comp=Z,86nm,0.9s
BMN Battle Mountai 52.43 321 eP P 14 38 59.6 +0.5
comp=Z,86nm,0.9s
BOZ Bozeman (W) 52.49 329 eP P 14 38 59.9 +0.5
BOZ pmax pmax
comp=Z,94nm,0.8s
BOZ Bozeman (W) 52.49 329 eP P 14 38 59.9 +0.5
comp=Z,94nm,0.8s
HLID Hailey 52.62 326 eP P 14 39 01.1 +0.6
comp=Z,42nm,0.8s
HLID Hailey 52.62 326 ⇓P P 14 39 01.0 +0.6
baz=53,SNR=71
C19A Slack Wire Ran 52.72 333 ⇑P P 14 39 01.3 +0.4
baz=53,SNR=31
A21A Bergtoll Ranch 52.73 335 ⇓P P 14 39 01.5 +0.5
baz=53,SNR=20
B20A Solberg Farm, 52.78 334 ⇓P P 14 39 02.0 +0.6
baz=53
DLMT Dillon 52.80 328 eP P 14 39 02.3 +0.7
comp=Z,37nm,1.0s
WAKR Walker 52.84 318 eP P 14 39 03.2 +1.0
LRM Limekiln Ridge 53.03 329 eP P 14 39 03.8 +0.3
A20A Cobblestone Ra 53.07 334 ⇑P P 14 39 03.8 +0.3
baz=53,SNR=20
B19A Brinkman Farms 53.20 333 ⇓P P 14 39 04.7 +0.3
baz=53,SNR=7.7
CMB Columbia Colle 53.24 317 eP P 14 39 05.4 +0.5
CMB pmax pmax
comp=Z,11nm,1.1s
CMB Columbia Colle 53.24 317 eP P 14 39 05.4 +0.5
comp=Z,11nm,1.1s
EGMT Eagleton 53.26 332 eP P 14 39 05.0 +0.1
comp=Z,27nm,0.6s
EGMT Eagleton 53.26 332 ⇑P P 14 39 05.0 +0.1
baz=53,SNR=5.8
HRY Holter Researc 53.33 330 eP P 14 39 05.7 +0.2
MFID Camas Ranch 53.34 325 eP P 14 39 06.3 +0.7
comp=Z,152nm,1.4s
SAO San Andreas Ge 53.37 315 eP P 14 39 06.7 +0.9
SAO pmax pmax
comp=Z,18nm,0.8s
SAO San Andreas Ge 53.37 315 eP P 14 39 06.7 +0.9
comp=Z,18nm,0.8s

PAHR Pah Rah Range 53.43 319 eP P 14 39 07.0 +0.7
comp=Z,51nm,1.2s
A19A Klindworth Far 53.47 334 ⇑P P 14 39 06.7 +0.3
baz=54,SNR=17
BEKR Beckworth 54.15 319 eP P 14 39 10.7 -1.0
comp=Z,4.9nm,0.8s
CHMT Chamberlain Mo 54.18 329 eP P 14 39 11.0 -0.8
WVOR Wild Horse Val 54.44 322 eP P 14 39 13.8 +0.2
WVOR pmax pmax
comp=Z,91nm,1.1s
WVOR Wild Horse Val 54.44 322 eP P 14 39 13.8 +0.2
comp=Z,91nm,1.1s
MSO Missoula 54.48 329 eP P 14 39 14.0 +0.3
comp=Z,71nm,1.5s
MSO Missoula 54.48 329 ⇓P P 14 39 14.1 +0.3
baz=55,SNR=22
SLMT Seeley Lake 54.52 330 eP P 14 39 14.2 0.0
OHCM Honcut 54.63 318 eP P 14 39 15.6 +0.7
J08A Circle Bar Ran 54.86 323 eP P 14 39 16.8 +0.2
comp=Z,48nm,0.9s
SWMT Swartz Lake 54.96 330 eP P 14 39 17.9 +0.6
YBMT Yellow Bay 55.20 330 eP P 14 39 19.8 +0.8
JTMT Jette 55.26 330 eP P 14 39 20.1 +0.7
BLMT Blacktail Moun 55.47 330 eP P 14 39 21.8 +0.8
BSMT Bassoo Peak 55.58 329 eP P 14 39 22.6 +0.8
FFC Flin Flon 55.60 342 eP P 14 39 20.8 -0.8
FFC pmax pmax
comp=Z,21nm,1.0s
FFC Flin Flon 55.60 342 eP P 14 39 20.8 -0.8
comp=Z,21nm,1.0s
FFC Flin Flon 55.60 342 P P 14 39 20.9 -0.7
comp=Z,267nm,1.1s,SNR=15
F10A Beach Ranch, E 55.69 326 eP P 14 39 22.4 0.0
comp=Z,35nm,1.0s
I07A Izee 55.88 323 eP P 14 39 24.1 +0.2
comp=Z,20nm,0.8s
WALA Waterton Lakes 55.95 331 eP P 14 39 24.6 +0.3
comp=Z,0.7nm,1.1s
WDC Whiskeytown Da 55.95 318 eP P 14 39 22.7 -1.6
WDC pmax pmax
comp=Z,24nm,0.6s
WDC Whiskeytown Da 55.95 318 eP P 14 39 22.7 -1.6
comp=Z,24nm,0.6s
M04C Macdoel 56.10 320 ⇑P P 14 39 25.8 +0.3
baz=56
KCPM Cahto Peak 56.23 317 eP P 14 39 26.8 +0.3
comp=Z,67nm,1.2s
N02D Trinity Center 56.26 319 ⇑P P 14 39 25.3 -1.3
baz=56
G08A Pilot Rock 56.26 325 eP P 14 39 27.0 +0.4
comp=Z,52nm,0.8s
K04D Chiloquin, OR 56.48 321 ⇑P P 14 39 28.3 +0.1
baz=57
J05D Fort Rock, OR 56.50 322 ⇑P P 14 39 28.8 +0.5
baz=57
E09A Wood Farm, Sta 56.52 326 eP P 14 39 28.6 +0.3
comp=Z,42nm,0.9s
M02C Callahan 56.56 319 ⇓P P 14 39 27.7 -1.1
baz=57
PINOR Pine Mountain 56.56 322 eP P 14 39 29.8 +1.3
YBH Yreka Blue Hor 56.63 319 eP P 14 39 27.5 -1.8
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 56.63 319 P P 14 39 28.3 -1.0
comp=Z,14nm,0.5s,baz=104,slow=3.3,SNR=48
EFI East Falkland 56.68 167 eP P 14 39 29.7 +0.5
EFI pmax pmax
comp=Z,245nm,2.5s
KHMM Horse Mountain 56.89 318 eP P 14 39 32.0 +0.9
comp=Z,113nm,0.8s
J04D Umpqua Nationa 57.02 321 ⇑P P 14 39 32.5 +0.4
baz=57
NEW Newport 57.05 329 ⇑P P 14 39 32.0 0.0
baz=57,SNR=19
I05D Terrebonne, OR 57.13 323 ⇓P P 14 39 33.6 +1.0
baz=57
G06A Carlson Farm, 57.20 324 eP P 14 39 34.4 +1.3
comp=Z,39nm,0.8s
HAWA Hanford 57.22 326 eP P 14 39 33.3 +0.1
comp=Z,14nm,0.7s
D08A Wollman Farm, 57.27 327 eP P 14 39 34.0 +0.4
comp=Z,34nm,1.0s
KRMB Red Mountain 57.31 319 eP P 14 39 34.9 +0.8
comp=Z,505nm,1.8s
C09A Chrisman Ranch 57.37 328 eP P 14 39 34.6 +0.4
comp=Z,22nm,0.9s
I04A Tendick Farm, 57.49 322 ⇑P P 14 39 35.1 -0.2
baz=58
E07A Sunnyside 57.50 326 eP P 14 39 35.8 +0.6
comp=Z,27nm,0.8s
G05D Wamic, OR 57.60 324 ⇑P P 14 39 37.4 +1.4
baz=58
VFP Flag Point 57.73 324 P P 14 39 38.3 +1.3
TRW Toppenish Ridg 57.74 325 P P 14 39 38.1 +1.2
BROR Big Rock Looko 57.77 322 P P 14 39 37.1 +0.1
H04A Detroit Lake 57.82 323 eP P 14 39 37.8 +0.3
comp=Z,90nm,1.4s
SAW Saint Andrews 57.92 327 P P 14 39 38.6 +0.5
WTV Waterville 58.22 327 P P 14 39 40.7 +0.5
KEBM Edson Butte 58.24 320 eP P 14 39 42.3 +1.8
comp=Z,209nm,1.3s
B08A Colville Reser 58.27 328 eP P 14 39 40.8 +0.2
comp=Z,92nm,1.3s
LTY Liberty 58.36 326 eP P 14 39 41.7 +0.5
comp=Z,34nm,0.8s
RNO Roman Nose 58.38 321 P P 14 39 42.3 +0.8
COR Corvallis 58.45 322 eP P 14 39 42.6 +0.8
COR pmax pmax
comp=Z,39nm,0.8s
COR Corvallis 58.45 322 eP P 14 39 42.6 +0.8
comp=Z,39nm,0.8s
WPW White Pass 58.54 325 P P 14 39 43.3 +0.8
EDM Edmonton 58.59 335 eP P 14 39 42.0 -0.6
EDM Edmonton 58.59 335 eP P 14 39 42.0 -0.6
LON Longmire 58.72 325 eP P 14 39 44.1 +0.4
LON pmax pmax
comp=Z,33nm,0.8s
LON Longmire 58.72 325 eP P 14 39 44.1 +0.4
comp=Z,33nm,0.8s
G03D McMinnville, O 58.75 323 ⇓P P 14 39 44.8 +1.0
baz=59
F04D Rainier, OR 59.06 324 ⇓P P 14 39 46.6 +0.6
baz=59
D05A Enumclaw 59.06 325 eP P 14 39 46.5 +0.5
comp=Z,63nm,0.8s
B06A Marblemount 59.53 327 eP P 14 39 49.2 +0.1
comp=Z,41nm,0.8s
E03A Lebam 59.63 324 eP P 14 39 50.9 +1.0
comp=Z,75nm,0.9s
A05A Maple Falls 60.13 327 eP P 14 39 53.2 0.0
comp=Z,28nm,0.6s
NLWA Neilton Lookou 60.25 325 eP P 14 39 55.3 +1.2
comp=Z,56nm,0.9s
PGC Sidney 60.69 326 eP P 14 39 57.4 +0.4
comp=Z,1.3nm,0.6s
BBB Bella Bella 65.08 328 P P 14 40 26.5 +0.6
BBB Bella Bella 65.08 328 P P 14 40 26.5 +0.6
comp=Z,38nm,1.0s,baz=63,slow=6.6,SNR=4.5
YKA Yellowknife Ar 65.77 342 P P 14 40 29.3 -0.8
YKA S S 14 49 01.2 -2.0
YKA Yellowknife Ar 65.77 342 P P 14 40 29.3 -0.8
comp=Z,20nm,0.5s,baz=136,slow=6.2,SNR=705
YKA S S 14 49 01.2 -2.0
comp=Z,1.2nm,1.1s,baz=132,slow=12,SNR=7.6
YKW3 Yellowknife Ar 65.82 342 eP P 14 40 29.4 -1.0
comp=Z,0.8nm,0.8s
DLBC Dease Lake 69.18 333 P P 14 40 52.4 +0.6
DLBC Dease Lake 69.18 333 P P 14 40 52.4 +0.6
comp=Z,29nm,0.8s,baz=128,slow=2.7,SNR=44
MORF Marmelete 70.41 51 eP P 14 41 01.3 +1.6
comp=Z,126nm,1.5s
PNCL Nicolau / Gran 70.66 51 eP P 14 41 02.5 +1.4
comp=Z,102nm,1.7s
MESJ Messejana 70.85 51 eP P 14 41 03.8 +1.5
PCVE Castro Verde 70.95 51 eP P 14 41 04.2 +1.3
comp=Z,94nm,1.6s
PBDV Barranco-do-Ve 70.96 52 eP P 14 41 04.6 +1.6
comp=Z,162nm,1.5s
LIC Lamto 71.02 85⇑ iP P 14 41 03.6 -0.2
comp=Z,151nm,0.7s,baz=266
LIC Lamto 71.02 85⇑ iP P 14 41 03.6 -0.2
comp=Z,252nm,0.7s
LIC Lamto 71.02 85⇑ iP P 14 41 03.6 -0.2
comp=Z,151nm,0.7s
TIC Toumodi 71.02 84⇑ iP P 14 41 03.4 -0.4
comp=Z,105nm,0.6s
EVOP Sao Brissos 71.06 50 eP P 14 41 04.1 +0.6
EVOP pmax pmax
comp=Z,39nm,0.7s
EVOP Sao Brissos 71.06 50 eP P 14 41 04.1 +0.6
comp=Z,39nm,0.7s
PCAS Casmilo, Conde 71.09 49 eP P 14 41 04.6 +0.9
comp=Z,21nm,0.8s
PMTG Montargil 71.09 50 eP P 14 41 04.5 +0.8
comp=Z,53nm,1.6s
EVO Evora 71.14 50 eP P 14 41 04.1 0.0
comp=Z,39nm,0.7s
EVO Evora 71.14 50 eP P 14 41 04.8 +0.7
comp=Z,72nm,2.0s
DBIC Dimbokro 71.18 84 eP P 14 41 04.6 -0.1
comp=Z,116nm,0.6s
DBIC Dimbokro 71.18 84 P P 14 41 04.6 -0.1
comp=Z,96nm,0.6s,baz=254,slow=6.4,SNR=183
DBIC LR LR 15 09 02.8
comp=Z,34nm,18.1s,baz=243,slow=33
KIC Kosan Boka 71.30 84⇑ iP P 14 41 05.4 -0.1
comp=Z,225nm,0.7s
TRIS Tristan da Cun 71.39 131 eP P 14 40 59.0 -6.5
comp=Z,315nm,0.3s
PESTR Estremoz 71.53 50 eP P 14 41 07.5 +1.1
comp=Z,68nm,0.9s
PMRV Marv??o 71.80 50 eP P 14 41 08.3 +0.3
comp=Z,44nm,1.6s
PBAR Barrancos 71.83 51 eP P 14 41 09.2 +1.0
comp=Z,64nm,2.0s
MTE Manteigas 71.88 48 eP P 14 41 09.1 +0.6
comp=Z,48nm,1.3s
POLO Lamas de Olo 71.89 47 eP P 14 41 09.4 +0.8
comp=Z,28nm,1.6s
RES Resolute Bay 72.39 355 P P 14 41 09.8 -0.9
RES Resolute Bay 72.39 355 P P 14 41 09.8 -0.9
comp=Z,10nm,0.9s,baz=183,slow=8.7,SNR=24
MVO Moncorvo 72.41 48 eP P 14 41 12.5 +0.8
comp=Z,22nm,1.0s
PBRG Braganca 72.75 47 eP P 14 41 14.2 +0.5
comp=Z,41nm,1.8s
SUMG Summit 73.25 11⇓ iP P 14 41 16.6 +0.2
SUMG Summit 73.25 11⇓ iP P 14 41 16.6 +0.2
comp=Z,11nm,0.7s
SUMG Summit 73.25 11 eP P 14 41 16.7 +0.2
comp=Z,18nm,0.9s
HYT Haines Junctio 73.65 333 eP P 14 41 20.2 +1.6
PAB San Pablo 74.13 50 eP P 14 41 22.9 +1.1
PAB pmax pmax
comp=Z,16nm,1.7s
PAB San Pablo 74.13 50 eP P 14 41 22.9 +1.1
comp=Z,16nm,1.7s
ESDC Sonseca Array 74.45 50 P P 14 41 24.5 +0.9
ESDC Sonseca Array 74.45 50 P P 14 41 24.5 +0.9
comp=Z,8.9nm,0.7s,baz=258,slow=6.0,SNR=36
INK Inuvik 75.53 341 P P 14 41 29.2 +0.1
INK Inuvik 75.53 341 P P 14 41 29.2 +0.1
comp=Z,24nm,0.8s,baz=103,slow=6.3,SNR=104
DAWY Dawson 75.76 336 eP P 14 41 30.8 +0.2
QUIF Quistinic 76.43 41⇑ iP P 14 41 35.3 +0.7
comp=Z,96nm,1.3s
QUIF Quistinic 76.43 41⇑ iP P 14 41 35.3 +0.7
QUIF pmax pmax
comp=Z,96nm,1.3s
QUIF Quistinic 76.43 41⇑ iP P 14 41 35.3 +0.7
comp=Z,96nm,1.3s
ROSF Rostrenen 76.44 41⇑ iP P 14 41 35.3 +0.6
comp=Z,30nm,0.7s
ROSF Rostrenen 76.44 41⇑ iP P 14 41 35.3 +0.6
ROSF pmax pmax
comp=Z,30nm,0.6s
ROSF Rostrenen 76.44 41⇑ iP P 14 41 35.3 +0.6
comp=Z,30nm,0.6s
RAGM Ragged Mountai 76.80 332 eP P 14 41 37.8 +1.3
comp=Z,105nm,1.2s
SGMF Saint Gilles 76.89 41⇑ iP P 14 41 37.8 +0.6
comp=Z,20nm,0.7s
SGMF Saint Gilles 76.89 41⇑ iP P 14 41 37.8 +0.6
SGMF pmax pmax
comp=Z,21nm,0.7s
SGMF Saint Gilles 76.89 41⇑ iP P 14 41 37.8 +0.6
comp=Z,20nm,0.7s
SJPF Ste Jean 77.00 47⇑ iP P 14 41 39.0 +1.0
comp=Z,17nm,0.6s
SJPF Ste Jean 77.00 47⇑ iP P 14 41 39.0 +1.0
SJPF pmax pmax
comp=Z,17nm,0.6s
SJPF Ste Jean 77.00 47⇑ iP P 14 41 39.0 +1.0
comp=Z,17nm,0.6s
ETSF Etsaut 77.45 47 eP P 14 41 40.8 +0.2
ETSF Etsaut 77.45 47 eP P 14 41 40.8 +0.2
ETSF Etsaut 77.45 47 eP P 14 41 40.8 +0.2
DIV Divide 77.53 332 eP P 14 41 41.2 +0.6
comp=Z,16nm,0.9s
TOA0 Torodi Ar. Sit 77.58 77 eP P 14 41 41.0 -0.7
TORD Torodi Ar. Bea 77.58 77 P P 14 41 41.3 -0.4
TORD S S 14 51 18.8 -1.5
TORD Torodi Ar. Bea 77.58 77 P P 14 41 41.3 -0.4
comp=Z,33nm,0.6s,baz=282,slow=6.4,SNR=370
TORD S S 14 51 18.8 -1.5
comp=Z,2.6nm,1.1s,baz=273,slow=9.7,SNR=8.3
EKA Eskdalemuir Ar 77.92 34 P P 14 41 42.0 -0.7
EKA Eskdalemuir Ar 77.92 34 P P 14 41 42.0 -0.7
comp=Z,2.8nm,0.6s,baz=250,slow=4.1,SNR=12
GRR Gorron 78.04 41⇑ iP P 14 41 44.0 +0.4
comp=Z,38nm,0.7s
GRR Gorron 78.04 41⇑ iP P 14 41 44.0 +0.4
GRR pmax pmax
comp=Z,38nm,0.7s
GRR Gorron 78.04 41⇑ iP P 14 41 44.0 +0.4
comp=Z,38nm,0.7s
EPF Esparros 78.12 47⇑ iP P 14 41 45.2 +0.9
comp=Z,22nm,0.6s
EPF Esparros 78.12 47⇑ iP P 14 41 45.2 +0.9
EPF pmax pmax
comp=Z,22nm,0.6s
EPF Esparros 78.12 47⇑ iP P 14 41 45.2 +0.9
comp=Z,22nm,0.6s
MFF Saint Martin d 78.25 43⇑ iP P 14 41 45.4 +0.6
comp=Z,31nm,0.7s
MFF Saint Martin d 78.25 43⇑ iP P 14 41 45.4 +0.6
MFF pmax pmax
comp=Z,31nm,0.7s
MFF Saint Martin d 78.25 43⇑ iP P 14 41 45.4 +0.6
comp=Z,31nm,0.7s
FLN La Foliniere 78.34 41⇑ iP P 14 41 45.9 +0.7
comp=Z,28nm,0.7s
FLN La Foliniere 78.34 41⇑ iP P 14 41 45.9 +0.7
FLN pmax pmax
comp=Z,28nm,0.6s
FLN La Foliniere 78.34 41⇑ iP P 14 41 45.9 +0.7
comp=Z,28nm,0.6s
LDF La Druitiere 78.55 41⇑ iP P 14 41 46.9 +0.5
comp=Z,32nm,0.8s
LDF La Druitiere 78.55 41⇑ iP P 14 41 46.9 +0.5
LDF pmax pmax
comp=Z,32nm,0.8s
LDF La Druitiere 78.55 41⇑ iP P 14 41 46.9 +0.5
comp=Z,32nm,0.8s
LFF La Frestale 78.64 45⇑ iP P 14 41 47.5 +0.5
comp=Z,24nm,0.7s
LFF La Frestale 78.64 45⇑ iP P 14 41 47.5 +0.5
LFF pmax pmax
comp=Z,24nm,0.7s
LFF La Frestale 78.64 45⇑ iP P 14 41 47.5 +0.5
comp=Z,24nm,0.7s
SEW Seward 79.02 331 eP P 14 41 49.2 +0.6
comp=Z,32nm,1.0s
ILAR Eielson Array 79.06 336 P P 14 41 48.6 -0.2
ILAR PP PP 14 44 49.2 -0.9
ILAR Eielson Array 79.06 336 P P 14 41 48.6 -0.2
comp=Z,13nm,0.6s,baz=115,slow=3.9,SNR=378
ILAR PP PP 14 44 49.2 -0.9
comp=Z,4.5nm,0.8s,baz=110,slow=6.6,SNR=12
PMR Palmer 79.22 332 eP P 14 41 50.0 +0.3
PMR pmax pmax
comp=Z,108nm,2.3s
PMR Palmer 79.22 332 eP P 14 41 50.0 +0.3
comp=Z,108nm,2.3s
RJF Les Rejaudoux 79.23 45⇑ iP P 14 41 50.6 +0.4
comp=Z,18nm,0.8s
RJF Les Rejaudoux 79.23 45⇑ iP P 14 41 50.6 +0.4
RJF pmax pmax
comp=Z,18nm,0.8s
RJF Les Rejaudoux 79.23 45⇑ iP P 14 41 50.6 +0.4
comp=Z,18nm,0.8s
RC01 Rabbit Creek A 79.39 332 eP P 14 41 51.1 +0.5
comp=Z,86nm,1.6s
COLA College 79.49 336 c iP P 14 41 51.4 +0.3
COLA pmax pmax

comp=Z,89nm,0.8s
COLA College 79.49 336 *e*P **P 14 41 50.9 -0.2**
comp=Z,6.9nm,1.0s
MTLF Montolieu 79.52 47⇑*i*P **P 14 41 52.2 +0.4**
comp=Z,22nm,0.8s
MTLF Montolieu 79.52 47⇑*i*P **P 14 41 52.2 +0.4**
MTLF pmax pmax
comp=Z,22nm,0.8s
MTLF Montolieu 79.52 47⇑*i*P **P 14 41 52.2 +0.4**
comp=Z,22nm,0.8s
CAF Calviac 79.58 45⇑*i*P **P 14 41 52.6 +0.5**
CAF Calviac 79.58 45⇑*i*P **P 14 41 52.6 +0.5**
CAF Calviac 79.58 45⇑*i*P **P 14 41 52.6 +0.5**
MCK McKinley 79.65 334 *e*P **P 14 41 52.2 +0.1**
MCK pmax pmax
comp=Z,38nm,1.2s
MCK McKinley 79.65 334 *e*P **P 14 41 52.2 +0.1**
comp=Z,38nm,1.2s
TCF Toulx Ste Croi 79.83 44⇑*i*P **P 14 41 53.5 +0.1**
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 79.83 44⇑*i*P **P 14 41 53.5 +0.1**
TCF pmax pmax
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 79.83 44⇑*i*P **P 14 41 53.5 +0.1**
comp=Z,26nm,1.0s
TRF Thorofare Moun 80.17 334 *e*P **P 14 41 55.2 +0.1**
comp=Z,15nm,0.8s
BGF Bois d'Agland 80.29 43⇑*i*P **P 14 41 56.2 +0.3**
comp=Z,34nm,1.0s
BGF Bois d'Agland 80.29 43⇑*i*P **P 14 41 56.2 +0.3**
BGF pmax pmax
comp=Z,34nm,1.0s
BGF Bois d'Agland 80.29 43⇑*i*P **P 14 41 56.2 +0.3**
comp=Z,34nm,1.0s
SPU Mount Spurr 80.50 332 *e*P **P 14 41 56.9 +0.2**
AVF Avril sur Loir 80.66 43⇑*i*P **P 14 41 57.8 0.0**
comp=Z,16nm,1.0s
AVF Avril sur Loir 80.66 43⇑*i*P **P 14 41 57.8 0.0**
AVF pmax pmax
comp=Z,16nm,1.0s
AVF Avril sur Loir 80.66 43⇑*i*P **P 14 41 57.8 0.0**
comp=Z,16nm,1.0s
RSO Redoubt South 80.71 331 *e*P **P 14 41 58.2 +0.2**
LASF Ste Croix 80.78 46⇑*i*P **P 14 41 59.4 +0.9**
comp=Z,14nm,0.7s
LASF Ste Croix 80.78 46⇑*i*P **P 14 41 59.4 +0.9**
comp=Z,14nm,0.7s
SSF Saint Saulge 80.79 43⇑*i*P **P 14 41 58.5 0.0**
comp=Z,14nm,0.9s
SSF Saint Saulge 80.79 43⇑*i*P **P 14 41 58.5 0.0**
SSF pmax pmax
comp=Z,14nm,0.9s
SSF Saint Saulge 80.79 43⇑*i*P **P 14 41 58.5 0.0**
comp=Z,14nm,0.9s
PPLA Purkeypile 80.90 333 *e*P **P 14 41 58.9 0.0**
comp=Z,42nm,0.6s
CAST Castle Rocks 80.95 334 *e*P **P 14 41 59.0 0.0**
comp=Z,25nm,0.8s
SMF Signal de Mont 80.98 43 *e*P **P 14 41 59.7 +0.1**
comp=Z,23nm,0.8s
SMF Signal de Mont 80.98 43 *e*P **P 14 41 59.7 +0.1**
SMF pmax pmax
comp=Z,23nm,0.8s
SMF Signal de Mont 80.98 43 *e*P **P 14 41 59.7 +0.1**
comp=Z,23nm,0.8s
COLD Coldfoot 81.01 338 *e*P **P 14 42 00.2 +1.0**
comp=Z,18nm,1.0s
LOR Lormes 81.05 43⇑*i*P **P 14 41 59.9 0.0**
comp=Z,20nm,1.0s
LOR Lormes 81.05 43⇑*i*P **P 14 41 59.9 0.0**
comp=Z,20nm,1.0s
TAM Tamanrasset 81.25 68 *e*P **P 14 42 01.4 -0.2**
TAM *e**PP **pP 14 42 42.9 +1.0**
TAM pmax pmax
comp=Z,21nm,0.8s
TAM Tamanrasset 81.25 68 *e*P **P 14 42 01.4 -0.2**
comp=Z,21nm,0.8s
TAM *e*pP **pP 14 42 42.9 +1.0**
VIVF Saint-Julien-l 81.42 45⇑*i*P **P 14 42 02.9 +1.0**
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 81.42 45⇑*i*P **P 14 42 02.9 +1.0**
VIVF pmax pmax
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 81.42 45⇑*i*P **P 14 42 02.9 +1.0**
comp=Z,26nm,0.9s
BAIF Baives 81.54 40 *e*P **P 14 42 01.8 -0.6**
comp=Z,11nm,0.8s
BAIF Baives 81.54 40 *e*P **P 14 42 01.8 -0.6**
BAIF pmax pmax
comp=Z,11nm,0.8s
BAIF Baives 81.54 40 *e*P **P 14 42 01.8 -0.6**
comp=Z,11nm,0.8s
DOU Dourbes 81.79 40 P **P 14 42 04.0 +0.3**
SFTF Sexfontaines 81.92 42⇑*i*P **P 14 42 04.7 +0.2**
comp=Z,14nm,0.6s
SFTF Sexfontaines 81.92 42⇑*i*P **P 14 42 04.7 +0.2**
comp=Z,14nm,0.6s
GIVF Givet 81.94 40⇑*i*P **P 14 42 04.9 +0.4**
comp=Z,22nm,0.7s
GIVF Givet 81.94 40⇑*i*P **P 14 42 04.9 +0.4**
GIVF pmax pmax
comp=Z,22nm,0.7s
GIVF Givet 81.94 40⇑*i*P **P 14 42 04.9 +0.4**
comp=Z,22nm,0.7s
MEZF Maizieres J'vi 81.96 42⇑*i*P **P 14 42 05.0 +0.4**
MEZF Maizieres J'vi 81.96 42⇑*i*P **P 14 42 05.0 +0.4**
SMRF Simiane la Rot 82.00 46 *e*P **P 14 42 05.4 +0.4**
comp=Z,41nm,1.2s
SMRF Simiane la Rot 82.00 46 *e*P **P 14 42 05.4 +0.4**
comp=Z,41nm,1.3s
IM04 Indian Mountai 82.15 336 *e*P **P 14 42 04.0 -1.3**
ORIF Oris-en-Rattie 82.28 45⇑*i*P **P 14 42 07.7 +1.2**
comp=Z,16nm,0.7s
ORIF Oris-en-Rattie 82.28 45⇑*i*P **P 14 42 07.7 +1.2**
ORIF pmax pmax
comp=Z,16nm,0.7s
ORIF Oris-en-Rattie 82.28 45⇑*i*P **P 14 42 07.7 +1.2**
comp=Z,16nm,0.7s
PAGF Fort de Pagny 82.41 42⇑*i*P **P 14 42 07.4 +0.4**
comp=Z,5.3nm,0.8s
PAGF Fort de Pagny 82.41 42⇑*i*P **P 14 42 07.4 +0.4**
comp=Z,5.3nm,0.8s
CABF La Chapelle 82.53 44⇑*i*P **P 14 42 08.2 +0.5**
comp=Z,14nm,0.8s
CABF La Chapelle 82.53 44⇑*i*P **P 14 42 08.2 +0.5**
CABF pmax pmax
comp=Z,14nm,0.8s
CABF La Chapelle 82.53 44⇑*i*P **P 14 42 08.2 +0.5**
comp=Z,14nm,0.8s
FRF La Foret Royal 82.76 47 *e*P **P 14 42 08.7 -0.2**
comp=Z,26nm,0.8s
FRF La Foret Royal 82.76 47 *e*P **P 14 42 08.7 -0.2**
FRF pmax pmax
comp=Z,26nm,0.8s
FRF La Foret Royal 82.76 47 *e*P **P 14 42 08.7 -0.2**
comp=Z,26nm,0.8s
WLF Walferdange 82.76 40 P **P 14 42 10.0 +1.3**
comp=Z,22nm,2.7s
HAU Haudompre 82.79 42 *e*P **P 14 42 09.2 +0.2**
HAU Haudompre 82.79 42 *e*P **P 14 42 09.2 +0.2**
HAU Haudompre 82.79 42 *e*P **P 14 42 09.2 +0.2**
MBDF Montbardon 82.90 45 *e*P **P 14 42 09.9 +0.1**
MBDF Montbardon 82.90 45 *e*P **P 14 42 09.9 +0.1**
MBDF Montbardon 82.90 45 *e*P **P 14 42 09.9 +0.1**
LPL La Plagne 82.91 45 *e*P **P 14 42 10.2 +0.3**
LPL La Plagne 82.91 45 *e*P **P 14 42 10.2 +0.3**
LPL La Plagne 82.91 45 *e*P **P 14 42 10.2 +0.3**
LPG La Plagne 82.92 45 *e*P **P 14 42 10.4 +0.3**
LPG La Plagne 82.92 45 *e*P **P 14 42 10.4 +0.3**
LPG La Plagne 82.92 45 *e*P **P 14 42 10.4 +0.3**
HINF Hinteralfeld 83.11 42⇑*i*P **P 14 42 10.5 -0.2**
comp=Z,7.7nm,0.7s
HINF Hinteralfeld 83.11 42⇑*i*P **P 14 42 10.5 -0.2**
HINF pmax pmax
comp=Z,8.0nm,0.7s
HINF Hinteralfeld 83.11 42⇑*i*P **P 14 42 10.5 -0.2**
comp=Z,7.7nm,0.7s
ECH Echery 83.34 42 *e*P **P 14 42 08.7 -3.1**
ECH pmax pmax
comp=Z,12nm,1.1s
ECH Echery 83.34 42 *e*P **P 14 42 08.7 -3.1**
comp=Z,12nm,1.1s
SBF Sospel 83.34 46 *e*P **P 14 42 12.3 +0.3**
comp=Z,32nm,0.8s
SBF Sospel 83.34 46 *e*P **P 14 42 12.3 +0.3**
SBF pmax pmax
comp=Z,32nm,0.8s
SBF Sospel 83.34 46 *e*P **P 14 42 12.3 +0.3**
comp=Z,32nm,0.8s
CDF Champ du Feu 83.43 42⇑*i*P **P 14 42 12.6 +0.3**
comp=Z,16nm,1.0s
CDF Champ du Feu 83.43 42⇑*i*P **P 14 42 12.6 +0.3**
CDF pmax pmax
comp=Z,16nm,1.0s
CDF Champ du Feu 83.43 42⇑*i*P **P 14 42 12.6 +0.3**
comp=Z,16nm,1.0s
KEST Kesra 84.66 55 P **P 14 42 19.8 +1.0**
KEST Kesra 84.66 55 P **P 14 42 19.8 +1.0**
comp=Z,2.5nm,0.8s,baz=286,slow=5.1,SNR=4.4
TUE Stuetta 84.77 44 *e*P **P 14 42 19.8 +0.5**
comp=Z,11nm,0.8s
DAVA Damuels 85.15 43 *i* PcP **P 14 42 22.1 +1.0**
comp=Z,17nm,0.7s,SNR=5.1
FETA Feichten 85.72 43⇑*i*P **P 14 42 24.7 +0.7**
comp=Z,13nm,0.9s
MOTA Moosalm 85.98 43⇑*i*P **P 14 42 25.5 +0.3**
comp=Z,7.2nm,0.8s
NB2 NORSAR Subarra 86.12 29 P **P 14 42 26.2 +0.8**
comp=Z,2.2nm,0.8s,baz=268,slow=5.1
NOA NORSAR Array B 86.12 29 P **P 14 42 26.2 +0.8**
NOA pP **pP 14 43 07.7 +1.5**
NOA sP **sP 14 43 25.5 +2.2**
NOA NORSAR Array B 86.12 29 P **P 14 42 26.2 +0.8**
comp=Z,3.8nm,0.9s,baz=270,slow=4.9,SNR=5.5
NOA pP **pP 14 43 07.7 +1.5**
comp=Z,4.0nm,0.8s,baz=272,slow=4.9,SNR=4.4
NOA sP **sP 14 43 25.5 +2.2**
comp=Z,4.4nm,0.9s,baz=269,slow=4.9,SNR=4.1
WTTA Wattenberg 86.34 43⇑*i*P **P 14 42 27.6 +0.6**
comp=Z,13nm,0.8s
ABTA Abfaltersbach 86.95 44⇑*i*PcP **P 14 42 30.6 +0.7**
comp=Z,22nm,0.9s
CLL Collm 87.17 39⇓*i*P **P 14 42 31.8 +1.1**
CLL *e**PP **pP 14 43 11.0 -0.5**
CLL *e**SP **sP 14 43 26.0 -2.6**
CLL *e*S **S 14 52 55.0 -1.5**
CLL pmax pmax
comp=Z,19nm,1.5s
CLL Collm 87.17 39⇓*i*P **P 14 42 31.8 +1.1**
comp=Z,19nm,1.5s
CLL *e*pP **pP 14 43 11.0 -0.5**
CLL *e*sP **sP 14 43 26.0 -2.6**
CLL *e*PP **PP 14 45 56.0 -0.7**
CLL *e*S **S 14 52 55.0 -1.5**
CLL *e*PPS PPS 14 54 42.0
CLL *e*SS **SS 14 58 42.0 -1.8**
HFS Hagfors 87.35 30 P **P 14 42 32.0 +0.7**
HFS Hagfors 87.35 30 P **P 14 42 32.0 +0.7**
comp=Z,2.3nm,0.6s,baz=250,slow=3.0,SNR=5.8
KBA Koelnbreinsper 87.51 43⇑*i*PcP **P 14 42 33.3 +0.6**
comp=Z,11nm,1.1s
KHC Kasperske Hory 87.60 41 *e*P **P 14 42 34.0 +1.1**
KHC *e* 14 43 15.7
KHC Kasperske Hory 87.60 41 *e*P **P 14 42 34.0 +1.1**
KHC *ex* x 14 42 39.3
KHC *e*pP **pP 14 43 15.7 +2.0**
KHC Kasperske Hory 87.60 41 *e*P **P 14 42 33.3 +0.4**
comp=Z,8.6nm,1.1s
GERES GERESS Array B 87.69 41 P **P 14 42 33.6 +0.2**
GERES pP **pP 14 43 16.1 +1.9**
GERES GERESS Array B 87.69 41 P **P 14 42 33.6 +0.2**
comp=Z,2.5nm,0.7s,baz=272,slow=3.5,SNR=19
GERES pP **pP 14 43 16.1 +1.9**
comp=Z,2.6nm,0.9s,baz=266,slow=4.0,SNR=3.9
GERES LR LR 15 21 47.4
comp=Z,37nm,18.1s,baz=79,slow=35
SNAA Sanae 87.71 162 *e*P **P 14 42 31.9 -1.0**
comp=Z,5.1nm,0.6s
BRG Berggiesshubel 87.78 39 *e*P **P 14 42 34.4 +0.8**
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 87.78 39 *e*P **P 14 42 34.4 +0.8**
BRG pmax pmax
comp=Z,5.0nm,0.9s
TNA Tin City 87.94 335 *e*P **P 14 42 35.3 +1.3**
comp=Z,35nm,1.2s
PRA Prague 88.12 40 P **P 14 42 37.0 +1.8**
PVCC Panska Ves 88.19 40 *e*P **P 14 42 36.9 +1.3**
PVCC Panska Ves 88.19 40 *e*P **P 14 42 36.9 +1.3**
PRU Pruhonice 88.20 40 *e*P **P 14 42 36.8 +1.2**
PRU Pruhonice 88.20 40 *e*P **P 14 42 36.8 +1.2**
PRU *ex* x 14 42 42.7
CONA Conrad Observa 89.18 42⇑*i*PcP **PcP 14 42 41.1 -0.6**
comp=Z,8.0nm,1.1s
DPC Dobruska-Polom 89.32 40 *e*P **P 14 42 40.9 0.0**
DPC Dobruska-Polom 89.32 40 *e*P **P 14 42 40.9 0.0**
DPC *ex* x 14 42 46.4
GAMB Gambell 89.70 334 *e*P **P 14 42 43.8 +1.5**
comp=Z,21nm,1.0s
ARCES ARCESS Array B 91.26 20 P **P 14 42 51.3 +1.8**
ARCES ARCESS Array B 91.26 20 P **P 14 42 51.3 +1.8**
comp=Z,20nm,1.3s,baz=271,slow=3.0,SNR=11
FINES FINESS Array B 93.21 28 P **P 14 42 59.0 +0.4**
FINES FINESS Array B 93.21 28 P **P 14 42 59.0 +0.4**
comp=Z,14nm,0.7s,baz=267,slow=2.5,SNR=2.6
TSUM Tsumeb 94.61 109 *e*P **P 14 43 06.4 +0.2**
TSUM Tsumeb 94.61 109 LR LR 15 21 53.3
comp=Z,53nm,18.5s,baz=319,slow=33
AKASG Malin Array Be 97.39 38 PP PP 14 47 16.1 -0.6
AKASG Malin Array Be 97.39 38 PP PP 14 47 16.1 -0.6
comp=Z,1.2nm,0.9s,baz=275,slow=7.7,SNR=4.5
BOSA Boshof 101.56 118 P **Pdif 14 43 37.2 +0.1**
BOSA Boshof 101.56 118 P **Pdif 14 43 37.2 +0.1**
comp=Z,2.4nm,0.9s,baz=9.1,slow=0.6,SNR=3.7
ZALV Zalesovo Beam 121.04 13 PKIKP **PKPdf 14 48 35.8 -0.4**
ZALV Zalesovo Beam 121.04 13 PKP **PKPdf 14 48 35.8 -0.4**
ZALV SKP 14 51 57.6
ZALV Zalesovo Beam 121.04 13 PKP **PKPdf 14 48 35.8 -0.4**
comp=Z,1.2nm,0.4s,baz=268,slow=2.8,SNR=9.3
ZALV SKP 14 51 57.6
comp=Z,1.1nm,0.7s,baz=321,slow=2.1,SNR=3.7
KURK Kurchatov 122.27 19 PKIKP **PKPdf 14 48 38.6 0.0**
KURK 14 49 21.3
KURK Kurchatov 122.27 19 PKP **PKPdf 14 48 38.6 0.0**
KURK pPKP **pPKPdf 14 49 21.3 -0.2**
KURK SKP 14 52 00.1
KURBB Kurchatov Arra 122.32 19 PKP **PKPdf 14 48 38.6 -0.2**
comp=Z,0.8nm,0.6s,baz=320,slow=2.3,SNR=13
KURBB pPKP **pPKPdf 14 49 21.3 -0.3**
comp=Z,1.3nm,0.6s,baz=323,slow=2.2,SNR=5.2
KURBB SKP 14 52 00.1
comp=Z,1.0nm,0.8s,baz=328,slow=2.7,SNR=5.8
USRK Ussuriysk Arra 126.58 335 PKP **PKPdf 14 48 47.4 +0.3**
comp=Z,2.5nm,0.6s,baz=256,slow=3.1,SNR=8.0
USRK pPKP **pPKPdf 14 49 29.1 -0.9**
comp=Z,3.3nm,0.8s,baz=274,slow=1.1,SNR=4.0
MKAR Makanchi Array 126.88 18 PKIKP **PKPdf 14 48 47.6 0.0**
MKAR 14 49 30.1
MKAR Makanchi Array 126.88 18 PKP **PKPdf 14 48 47.6 0.0**
MKAR pPKP **pPKPdf 14 49 30.1 -0.5**
MKAR Makanchi Array 126.88 18 PKP **PKPdf 14 48 47.6 0.0**
comp=Z,0.8nm,0.5s,baz=291,slow=2.3,SNR=12
MKAR pPKP **pPKPdf 14 49 30.1 -0.5**
comp=Z,1.0nm,0.7s,baz=10,slow=2.6,SNR=2.8
AAK Ala-Archa 127.39 27⇓*i*PKIKP **PKPdf 14 48 50.5 +1.5**
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 127.39 27 PKP **PKPdf 14 48 47.7 -1.2**
AAK Ala-Archa 127.39 27 PKP **PKPdf 14 48 47.7 -1.2**
comp=Z,0.7nm,0.4s,baz=355,slow=2.9,SNR=4.2
MJAR Matsushiro Arr 129.18 324 SKPbc SKPab 14 51 57.8 0.0
comp=Z,3.5nm,0.9s,baz=41,slow=7.1,SNR=4.2
ULN Ulaanbaatar 129.21 357 *e*PKPdf **PKPdf 14 48 51.6 -0.6**
SONM Songino Array 129.27 358 PKP **PKPdf 14 48 53.4 +1.0**
SONM SKPbc SKPbc 14 52 00.2 +1.4
SONM Songino Array 129.27 358 PKP **PKPdf 14 48 53.4 +1.0**
comp=Z,2.3nm,0.9s,baz=322,slow=0.8,SNR=13
SONM SKPbc SKPbc 14 52 00.2 +1.4
comp=Z,2.1nm,0.9s,baz=330,slow=3.4,SNR=5.7
WMQ Urumqi 131.16 15 PKP **PKPdf 14 48 55.1 -0.9**
KSRS Korea Array 133.86 333 PKP **PKPdf 14 49 01.6 +0.5**
comp=Z,3.6nm,0.7s,baz=17,slow=2.2,SNR=8.9
KSRS pPKP **pPKPdf 14 49 45.0 +1.0**
comp=Z,2.6nm,0.7s,baz=31,slow=2.3,SNR=3.9
KSAR Wonju Array Be 133.89 333 PKP **PKPdf 14 49 01.6 +0.5**
KSAR pPKP **pPKPdf 14 49 45.0 +0.9**
STKA Stephens Creek 134.32 227 PKP **PKPdf 14 49 03.0 +0.9**
STKA Stephens Creek 134.32 227 PKP **PKPdf 14 49 03.0 +0.9**
comp=Z,1.2nm,0.6s,baz=59,slow=6.7,SNR=4.0
BJI Beijing 135.62 346 PKP **PKPdf 14 49 02.6 -1.7**
HHC Hu-ho-hao-te 135.73 352 *e*PKP **PKPdf 14 49 02.1 -2.6**
HHC sPKP 14 50 02.1
HHC PP **PP 14 51 45.8 +2.8**
HHC SKS **SKSdf 14 55 56.0 -4.7**
HHC SKKS **SKKSac 14 58 19.8 -3.6**
HHC SS **SS 15 09 26.8 -0.2**
HHC AMB AMB
comp=Z,140nm,10.0s
HHC LR LR
comp=Z,640nm,21.5s
HHC LR LR
comp=Z,680nm,20.8s
HHC LR LR
comp=Z,280nm,20.9s
GTA Gaotai 137.59 5 PKP **PKPdf 14 49 09.3 +1.1**
GTA AMB AMB
comp=Z,130nm,9.0s
LZH Lanzhou 141.06 360 *e*PKP **PKPdf 14 49 12.5 -2.2**
LZH sPKP 14 50 11.8
LZH LR LR
comp=Z,140nm,17.6s
LZH LR LR
comp=Z,160nm,18.2s
LZH LR LR
comp=Z,180nm,20.1s
NJ2 Nanjing 142.25 339 *e*PKP **PKPdf 14 49 16.3 -0.4**
PYUN Piuthan 143.14 31 *e*P PKPab 14 49 14.8 +0.3
PYUN Piuthan 143.14 31 *e*P PKPab 14 49 14.8 +0.3
DANN Dangsing 143.34 30 *e*P PKPab 14 49 15.9 +0.5
comp=Z,11nm,0.6s
DANN Dangsing 143.34 30 *e*P PKPab 14 49 15.9 +0.5
KOLN Koldanda 143.73 31 *e*P PKPab 14 49 17.0 +0.2
KOLN Koldanda 143.73 31 *e*P PKPab 14 49 17.0 +0.2
GKN Gorkha 144.06 30 *e*P **PKPab 14 49 18.1 +0.1**
GKN Gorkha 144.06 30 *e*P **PKPab 14 49 18.1 +0.1**
AS31 Alice Springs 144.37 232 *e*PKPdf **PKPab 14 49 19.0 -0.2**
ASAR Alice Springs 144.37 232 PKP **PKPab 14 49 19.1 -0.1**
ASAR Alice Springs 144.37 232 PKP **PKPab 14 49 19.1 -0.1**
comp=Z,30nm,0.5s,baz=119,slow=3.9,SNR=1903
KKN Kakani 144.55 29 *e*P PKPbc 14 49 20.1 0.0
comp=Z,28nm,0.6s
KKN Kakani 144.55 29 *e*PKIKP PKPbc 14 49 20.1 0.0
KKN Kakani 144.55 29 *e*P PKPbc 14 49 20.1 0.0
DMN Daman 144.61 29 *e*P PKPbc 14 49 20.4 0.0
comp=Z,33nm,0.6s
DMN Daman 144.61 29 *e*P PKPbc 14 49 20.4 0.0
GUN Gumba 144.73 28 *e*P PKPbc 14 49 21.1 +0.2
comp=Z,46nm,0.5s
GUN Gumba 144.73 28 *e*P PKPbc 14 49 21.1 +0.2
PKIN Phulchoki 144.78 29 *e*P **PKPab 14 49 20.7 -0.2**
comp=Z,10nm,0.4s
PKI Pulchoki 144.79 29 *e*P **PKPab 14 49 20.8 -0.2**
PKI Pulchoki 144.79 29 *e*PKIKP **PKPab 14 49 20.8 -0.2**
PKI Pulchoki 144.79 29 *e*P **PKPab 14 49 20.8 -0.2**
JIRN Jiri 145.09 28 *e*P **PKPbc 14 49 21.9 -0.1**
comp=Z,19nm,0.6s
JIRN Jiri 145.09 28 *e*P **PKPbc 14 49 21.9 -0.1**
WHN Wuhan 145.09 344 PKPbc **PKPbc 14 49 21.1 -0.3**
LSA Lhasa 145.27 19 *e*PKIKP **PKPab 14 49 23.0 +0.4**
LSA Lhasa 145.27 19 *e*PKPdf **PKPab 14 49 23.3 +0.4**
WRAB Tennant Creek 145.75 238 *d*iPKP2 **PKPbc 14 49 23.6 -0.3**
WRAB pmax pmax
comp=Z,105nm,1.0s
WRAB Tennant Creek 145.75 238 *e*PKPdf **PKPbc 14 49 23.5 -0.3**
WRA Warramunga Arr 145.75 238 PKPbc **PKPbc 14 49 23.6 -0.3**
WRA Warramunga Arr 145.75 238 PKPbc **PKPbc 14 49 23.6 -0.3**
comp=Z,34nm,0.8s,baz=116,slow=2.8,SNR=266
RAMN Ramite 145.88 28 *e*P **PKPbc 14 49 24.0 -0.3**
comp=Z,11nm,0.4s
RAMN Ramite 145.88 28 *e*P **PKPbc 14 49 24.0 -0.3**
TAPN Taplejung 146.04 26 *e*P **PKPbc 14 49 25.0 +0.1**
TAPN Taplejung 146.04 26 *e*P **PKPbc 14 49 25.0 +0.1**
CD2 Chengdu 146.23 360 *e*PKPbc **PKPdf 14 49 23.1 -0.6**
CD2 sPKP 14 50 19.5
CD2 PP **PP 14 52 51.3 +4.5**
CD2 SKS **SKSdf 14 56 14.9 -2.8**
CD2 SKKS **SKKSac 14 59 24.1 -0.5**
CD2 SS **SS 15 11 31.5 +2.6**
CD2 AMB AMB
comp=Z,200nm,9.6s
ODAN Odare 146.32 27 *e*P **PKPbc 14 49 25.5 -0.1**
comp=Z,11nm,0.4s
ODAN Odare 146.32 27 *e*P **PKPbc 14 49 25.5 -0.1**
ENH Enshi 146.41 351 *e*PKPdf **PKPdf 14 49 24.4 +0.4**
HYB Hyderabad 147.88 50 *i* P **PKPbc 14 49 26.0 -0.8**
SHL Shillong 149.31 21 *e*P **PKPbc 14 49 35.0 +1.4**
GYA Guiyang 150.53 355 *i* PKPbc **PKPbc 14 49 36.5 +0.1**
GYA PKPab **PKPab 14 49 44.0 +0.6**
GYA pPKP **pPKPdf 14 50 09.8 -4.2**
GYA sPKP 14 50 25.4
GYA PKS **PKSdf 14 53 03.0 -2.9**
GYA PP **PP 14 53 15.8 +3.9**
GYA AMB AMB
comp=Z,140nm,7.9s
KMI Kunming 151.97 2 PKPbc **PKPdf 14 49 31.1 -2.2**
FITZ Fitzroy Crossi 153.85 234 PKPbc **PKPbc 14 49 43.7 -0.2**
FITZ Fitzroy Crossi 153.85 234 PKPbc **PKPbc 14 49 43.7 -0.2**
comp=Z,2.9nm,0.5s,baz=290,slow=13,SNR=16
CMAR Chiang Mai Arr 158.11 12 PKP **PKPdf 14 49 42.1 +0.6**
CMAR pPKPab **PKPab 14 50 14.8 -0.8**
CMAR pPKPab **pPKPab 14 50 56.4 -0.6**
CMAR Chiang Mai Arr 158.11 12 PKP **PKPdf 14 49 42.1 +0.6**
comp=Z,0.3nm,0.6s,baz=332,slow=2.3,SNR=5.7
CMAR PKPab **PKPab 14 50 14.8 -0.8**
comp=Z,1.1nm,0.7s,baz=332,slow=5.4,SNR=7.3
CMAR pPKPab **pPKPab 14 50 56.4 -0.6**
comp=Z,2.5nm,0.9s,baz=331,slow=5.2,SNR=4.6

IDC 18 14:35:19.1±1.6, 4.°10S×143.°37E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML2.4/1, Error ellipse: s-maj=46.0km s-min=21.3km az=93.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.48**	**145**	Pn	Pn	14 36 55.8	0.0
	0.5nm,0.3s,baz=270,slow=13,SNR=2.7						
PMG				Sn	Sn	14 38 05.4	-5.2
	1.0nm,0.3s,baz=342,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**18.05**	**208**	P	P	14 39 32.6	+0.5
	1.1nm,0.3s,baz=32,slow=12,SNR=66						
ASAR	**Alice Springs**	**21.50**	**204**	P	P	14 40 09.3	-0.4
	1.9nm,0.7s,baz=20,slow=12,SNR=37						
FITZ	**Fitzroy Crossi**	**22.25**	**230**	P	P	14 40 17.6	-0.2
	2.2nm,0.6s,baz=53,slow=9.4,SNR=24						
KSRS	**Korea Array**	**43.77**	**342**	P	P	14 43 26.1	-0.5
	1.2nm,0.6s,baz=156,slow=8.1,SNR=4.5						
SONM	**Songino Array**	**61.02**	**332**	P	P	14 45 35.0	+0.3
	0.2nm,0.4s,baz=130,slow=4.5,SNR=2.6						

*IDC **18** 14:37:10.5±1.6, 10.°40N×125.°29E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.6/6, Error ellipse: s-maj=82.1km s-min=18.1km az=59.0*
*ISCJB **18** 14:37:15.7±1.0, 10.°57N±0.°08×126.°11E±0.°07, h44km, mb3.6/6, Error ellipse: s-maj=12.2km s-min=8.2km az=30.3*
*MAN **18** 14:37:21, 10.°56N×125.°66E, h61km, mb4.4, ML3.3, MS3.1*
ISC 18 14:37:16.7±1.2, 10.°63N±0.°07×126.°01E±0.°09, h44km, n16, σ1.°91/18, mb3.8/6, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.99**	**211**	*e*P	**Pn**	**14 37 36.7**	**+2.6**
BESP	**Borongan**	**1.12**	**330**	*e*P	Pn	14 37 41.6	+5.7
PLP	**Palo**	**1.15**	**298**	*e*P	**Pn**	**14 37 38.9**	**+2.7**
PLP				*i* S	**Sn**	**14 37 52.6**	**+1.8**
MSLP	**Maasin**	**1.24**	**247**	*e*P	**Pn**	**14 37 39.2**	**+1.7**
MSLP				*e*S	**Sn**	**14 37 53.2**	**+0.2**
OCLP	**Ormoc**	**1.44**	**287**	*e*P	**Pn**	**14 37 42.6**	**+2.3**
LLP	**Lapu-Lapu**	**2.04**	**261**	*e*P	**Pn**	**14 37 49.0**	**+0.5**
LLP				*e*S	**Sn**	**14 38 10.2**	**-2.5**
TBP	**Tagbilaran**	**2.31**	**246**	*e*P	**Pn**	**14 37 53.9**	**+1.6**
TBP				*i* S	**Sn**	**14 38 18.7**	**-0.8**
CGP	**Cagayan de Oro**	**2.52**	**211**	*e*P	**Pn**	**14 37 57.8**	**+2.6**
GUIM	**Jordan**	**3.36**	**270**	*e*P	**Pn**	**14 38 08.1**	**+1.4**
PAGZ	**Pagadian**	**3.79**	**223**	*e*P	**Pn**	**14 38 14.6**	**+2.0**
CMAR	**Chiang Mai Arr**	**27.30**	**290**	P	P	14 42 51.4	-6.0
	0.1nm,0.3s,baz=98,slow=5.6,SNR=3.0						
WRA	**Warramunga Arr**	**31.47**	**165**	P	**P**	**14 43 33.0**	**-1.3**
	0.5nm,0.6s,baz=346,slow=7.4,SNR=3.6						
ASAR	**Alice Springs**	**34.95**	**167**	P	**P**	**14 44 04.6**	**-0.1**
	0.5nm,0.4s,baz=349,slow=6.9,SNR=17						
STKA	**Stephens Creek**	**44.82**	**161**	P	**P**	**14 45 26.4**	**-0.1**

1.0nm,0.3s,baz=335,slow=10,SNR=7.5
MKAR Makanchi Array 51.59 323 P **P** **14 46 17.7 -0.9**
0.3nm,0.3s,baz=120,slow=7.9,SNR=6.3
KURBB Kurchatov Arra 55.63 325 P **P** **14 46 46.0 -2.1**
0.3nm,0.4s,baz=125,slow=6.8,SNR=5.8

CSEM ***18*** *14:46:12.1±0.3,39°.45N×43°.13E,h15km,ML3.5,Error ellipse: s-maj=10.3km s-min=5.7km az=14.0*
DDA ***18*** *14:46:12.8,39°.48N×43°.17E,h7km,ML3.5*
ISK ***18*** *14:46:12.0,39°.48N×43°.15E,h15km, MD2.6*
ISC 18 14:46:12.7±1.0,39°.47N±0°.04×43°.15E±0°.02,h12km±7km, n17,σ0.95/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.16**	**310**	*eP*	G		**Pg**	**14 46 16.5**	**0.0**
AGRB				*eS*	G		**Sg**	**14 46 19.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.16**	**310**	*eP*	g		**Pg**	**14 46 16.5**	**0.0**
AGRB				*eS*	g		**Sg**	**14 46 19.3**	**+0.1**
DYDN	**Diyadin**	**0.42**	**80**	*i P*			**Pg**	**14 46 21.2**	**0.0**
DYDN				*i S*			**Sg**	**14 46 26.7**	**-0.1**
DYDN	**Diyadin**	**0.42**	**80**	*i P*			**Pg**	**14 46 21.2**	**0.0**
DYDN				*i S*			**Sg**	**14 46 26.7**	**-0.1**
EATA	**Eleskirt**	**0.64**	**308**	*i P*			**Pg**	**14 46 25.1**	**-0.1**
EATA				*i S*			**Sg**	**14 46 33.4**	**-0.3**
EATA	**Eleskirt**	**0.64**	**308**	*i P*			**Pg**	**14 46 25.1**	**-0.1**
EATA				*i S*			**Sg**	**14 46 33.4**	**-0.3**
CLDR	**Caldiran**	**0.68**	**119**	*e*PG			**Pg**	**14 46 25.9**	**0.0**
CLDR				*e*SG			**Sg**	**14 46 35.5**	**+0.5**
CLDR	**Caldiran**	**0.68**	**119**	*e*Pg			**Pg**	**14 46 26.0**	**0.0**
CLDR				*e*Sg			**Sg**	**14 46 35.5**	**+0.5**
EKAR	**Karacoban**	**0.87**	**256**	*i P*			**Pn**	**14 46 30.3**	**-0.7**
EKAR	**Karacoban**	**0.87**	**256**	*i P*			**Pn**	**14 46 30.3**	**-0.7**
DIGO	**Kars**	**0.96**	**10**	*i P*			**Pn**	**14 46 31.6**	**-0.7**
DIGO				*i S*			**Sn**	**14 46 46.8**	**+0.8**
DIGO	**Kars**	**0.96**	**10**	*i P*			**Pn**	**14 46 31.6**	**-0.7**
HOMI	**Horasan**	**1.11**	**301**	*e*P			**Pn**	**14 46 34.1**	**-0.4**
HOMI				*i S*			**Sn**	**14 46 50.4**	**+0.5**
BNGL	**BINGOL**	**1.64**	**252**	*i P*			**Pg**	**14 46 43.7**	**-0.5**
BNGL				*i S*			**Sg**	**14 47 08.4**	**+2.9**
DAGI	**Agillar**	**1.86**	**330**	*i P*			**Pb**	**14 46 47.3**	**+0.6**
BNGB	**Bing¶ll**	**1.98**	**257**	*e*PN			**Pb**	**14 46 45.7**	**-0.5**
BINT	**Bingol**	**2.15**	**255**	*e*Pn			**Pn**	**14 46 45.7**	**-2.9**

IDC 18 14:58:52.5±3.2,10°.94S×118°.37E,h0km,mb3.6/1, mb1 3.6/4,mb1mx3.4/20,mbtmpg3.4/4,ML3.4/3,Error ellipse: s-maj=231.0km s-min=26.3km az=49.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.01**	**136**	Pn			Pn	15 01 16.4	-1.3
	0.3nm,0.3s,baz=326,slow=14,SNR=18								
FITZ				Sn			Sn	15 02 59.0	-12
	0.6nm,0.3s,baz=184,slow=23,SNR=7.0								
WRA	**Warramunga Arr**	**17.80**	**122**	P			Pn	15 03 00.6	-1.2
	0.1nm,0.3s,baz=292,slow=13,SNR=5.4								
WRA				S			Sn	15 06 05.9	-15
	0.1nm,0.3s,baz=292,slow=25,SNR=3.2								
ASAR	**Alice Springs**	**19.48**	**133**	P			Pn	15 03 22.9	+0.7
	0.1nm,0.3s,baz=306,slow=13,SNR=9.2								
ASAR				S			Sn	15 06 47.6	-14
	0.1nm,0.3s,baz=298,slow=22,SNR=4.6								
MKAR	**Makanchi Array**	**65.90**	**334**	P			P	15 09 40.0	-0.2
	0.6nm,0.9s,baz=134,slow=8.3,SNR=4.3								

ISCJB ***18*** *15:12:32.6±0.6,26°.25S±0°.03×28°.28E±0°.04,h8km±3km, mb3.9/8,Error ellipse: s-maj=6.2km s-min=4.5km az=13.7*
IDC ***18*** *15:12:32.4±1.6,26°.29S×28°.24E,h0km,mb3.9/4, mb1 3.9/8,mb1mx3.7/28,mbtmpg3.8/8,ML2.9/3,Error ellipse: s-maj=40.7km s-min=14.6km az=127.0*
PRE ***18*** *15:12:34.6±2.8,26°.23S×28°.21E,h2km,ML3.4*
NEIC ***18*** *15:12:34.6,26°.23S×28°.21E,h2km,mb4.2/4,After PRE.*
ISC 18 15:12:33.2±0.9,26°.25S±0°.02×28°.24E±0°.03,h5km±6km, n41,σ1.29/63,mb4.1/8,9C-3D,South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERPM	**east rang prop**	**0.09**	**177**	⇑*iP*			**Pg**	**15 12 35.2**	**-0.1**
ERPM				*eS*			**Sg**	**15 12 35.6**	**-1.2**
ERPM				AML			AML	15 12 36.1	
	comp=Z,55μm,0.5s								
ERPM	**east rang prop**	**0.09**	**177**	⇑*iP*			**Pg**	**15 12 35.2**	**-0.1**
ERPM				*eS*			**Sg**	**15 12 35.6**	**-1.2**
OBSV	**Observatory**	**0.16**	**293**	⇑*iP*			**Pg**	**15 12 37.1**	**+0.7**
OBSV				*eS*			**Sg**	**15 12 39.5**	**+0.9**
OBSV				AML			AML	15 12 41.2	
	comp=Z,12μm,0.5s								
OBSV	**Observatory**	**0.16**	**293**	⇑*iP*			**Pg**	**15 12 37.1**	**+0.7**
OBSV				*eS*			**Sg**	**15 12 39.5**	**+0.9**
SLR	**Silverton**	**0.51**	**5**	⇓*iP*			**Pg**	**15 12 43.3**	**+0.2**
SLR				*eS*			**Sg**	**15 12 49.8**	**0.0**
SLR				AML			AML	15 12 55.2	
	comp=Z,6μm,0.6s								
SLR	**Silverton**	**0.51**	**5**	⇓*iP*			**Pg**	**15 12 43.3**	**+0.2**
SLR				*eS*			**Sg**	**15 12 49.8**	**0.0**
WDLM	**Western Deep L**	**0.75**	**256**	⇑*iP*			**Pg**	**15 12 48.3**	**+0.7**
WDLM				*eS*			**Sg**	**15 12 57.4**	**0.0**
WDLM				AML			AML	15 12 59.1	
	comp=Z,766nm,0.3s								
KSR	**Koster**	**1.27**	**288**	*eP*			**Pb**	**15 12 57.7**	**0.0**
KSR				*eS*			**Sb**	**15 13 14.3**	**-0.2**
KSR				AML			AML	15 13 18.4	
	comp=Z,528nm,0.5s								
KSR	**Koster**	**1.27**	**288**	*eP*			**Pb**	**15 12 57.7**	**0.0**
KSR				*eS*			**Sb**	**15 13 14.3**	**-0.2**
SEK	**Senekal**	**2.14**	**195**	*eP*			**Pb**	**15 13 12.3**	**-0.3**
SEK				*eS*			**Sb**	**15 13 40.7**	**+1.3**
SEK				AML			AML	15 13 43.0	
	comp=Z,205nm,0.4s								
SEK	**Senekal**	**2.14**	**195**	*eP*			**Pb**	**15 13 12.3**	**-0.3**
SEK				*eS*			**Sb**	**15 13 40.7**	**+1.3**
LBTB	**Lobatse**	**2.68**	**297**	⇑*iP*			**Pn**	**15 13 19.6**	**+2.4**
LBTB				*eS*			**Sb**	**15 13 54.9**	**-0.2**
LBTB				AML			AML	15 14 01.4	
	comp=Z,148nm,0.5s								
LBTB	**Lobatse**	**2.68**	**297**	*ePn*			**Pn**	**15 13 18.9**	**+1.8**
LBTB				*eSg*			**Sg**	**15 13 57.3**	**-2.1**
BOSA	**Boshof**	**3.54**	**228**	⇓*iP*			**Pn**	**15 13 30.0**	**+0.9**
BOSA				*eS*			**Sn**	**15 14 13.9**	**+2.5**
BOSA				AML			AML	15 14 26.7	
	comp=Z,68nm,0.6s								
BOSA	**Boshof**	**3.54**	**228**	Pn			**Pn**	**15 13 29.6**	**+0.5**
BOSA				Lg			Lg	15 14 23.2	
BOSA	**Boshof**	**3.54**	**228**	Pn			**Pn**	**15 13 29.6**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=54,slow=14,SNR=6.2								
BOSA				Pg			**Pb**	**15 13 37.0**	**+0.4**
	comp=Z,8.9nm,0.3s,baz=55,slow=15,SNR=30								
BOSA				Lg			Lg	15 14 23.2	
	comp=Z,13nm,0.3s,baz=320,slow=16,SNR=22								
MSNA	**Messina**	**4.21**	**23**	⇑*iP*			**Pn**	**15 13 38.8**	**+0.6**
MSNA				*eS*			**Sn**	**15 14 28.0**	**+0.2**
MSNA				AML			AML	15 14 48.8	
	comp=Z,60nm,0.5s								
MSNA	**Messina**	**4.21**	**23**	⇑*iP*			**Pn**	**15 13 38.8**	**+0.6**
MSNA				*eS*			**Sn**	**15 14 28.0**	**+0.2**
KSD	**Kokstad**	**4.40**	**167**	*eP*			**Pn**	**15 13 43.6**	**+2.7**
KSD				*eS*			**Sn**	**15 14 32.4**	**-0.2**
KSD				AML			AML	15 14 53.9	
	comp=Z,21nm,0.7s								
KSD	**Kokstad**	**4.40**	**167**	*eP*			**Pn**	**15 13 43.6**	**+2.7**
KSD				*eS*			**Sn**	**15 14 32.4**	**-0.2**
SUR	**Sutherland**	**8.90**	**225**	⇑*iP*			**Pn**	**15 14 45.4**	**+2.7**
SUR				*eS*			**Sn**	**15 16 20.3**	**-3.3**
SUR				AML			AML	15 17 19.4	
	comp=Z,8.8nm,0.5s								
SUR	**Sutherland**	**8.90**	**225**	Pn			**Pn**	**15 14 43.9**	**+1.2**
SUR				Sn			**Sn**	**15 16 20.3**	**-3.3**
SUR				Lg			Lg	15 17 11.2	
SUR	**Sutherland**	**8.90**	**225**	Pn			**Pn**	**15 14 43.9**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=49,slow=13,SNR=9.2								
SUR				Sn			**Sn**	**15 16 20.3**	**-3.3**
	comp=Z,0.7nm,0.3s,baz=96,slow=14,SNR=3.0								
SUR				Lg			Lg	15 17 11.2	
	comp=Z,1.4nm,0.3s,baz=332,slow=23,SNR=5.5								
LSZ	**Lusaka**	**10.92**	**360**	Pn			**Pn**	**15 15 09.3**	**-1.0**
LSZ				Lg			Lg	15 18 10.8	
LSZ	**Lusaka**	**10.92**	**360**	Pn			**Pn**	**15 15 09.3**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=185,slow=11,SNR=9.2								
LSZ				Lg			Lg	15 18 10.8	
	comp=Z,0.3nm,0.3s,baz=68,slow=23,SNR=4.0								
TSUM	**Tsumeb**	**12.07**	**303**	Pn			**Pn**	**15 15 25.5**	**-0.6**
TSUM				Lg			Lg	15 18 48.4	
TSUM	**Tsumeb**	**12.07**	**303**	Pn			**Pn**	**15 15 25.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=125,slow=12,SNR=9.3								
TSUM				Lg			Lg	15 18 48.4	
	comp=Z,0.4nm,0.3s,baz=64,slow=18,SNR=5.0								
DBIC	**Dimbokro**	**45.84**	**311**	P			**P**	**15 20 54.9**	**-1.7**
	comp=Z,1.0nm,0.5s								
TOA0	**Torodi Ar. Sit**	**46.91**	**323**	*e*P			**P**	**15 21 05.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**46.91**	**323**	P			**P**	**15 21 05.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**46.91**	**323**	P			**P**	**15 21 05.4**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=142,slow=7.4,SNR=8.0								
SNAA	**Sanae**	**48.65**	**193**	*e*P			**P**	**15 21 17.7**	**-0.2**
	comp=Z,2.1nm,0.9s								
QSPA	**South Pole Qui**	**63.94**	**180**	*e*P			**P**	**15 23 07.6**	**+0.5**
	comp=Z,2.1nm,1.1s								
ESDC	**Sonseca Array**	**72.13**	**334**	P			**P**	**15 23 59.4**	**+0.6**
ESDC	**Sonseca Array**	**72.13**	**334**	P			**P**	**15 23 59.4**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=153,slow=7.3,SNR=3.2								
AKASG	**Malin Array Be**	**76.61**	**1**	P			**P**	**15 24 24.1**	**-0.4**
AKASG	**Malin Array Be**	**76.61**	**1**	P			**P**	**15 24 24.1**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=173,slow=5.0,SNR=3.5								
TKM2	**Tokmak 2**	**81.47**	**33**	P			**P**	**15 24 52.5**	**+0.9**
	comp=Z,1.1nm,0.8s								
MK31	**Makanchi Array**	**87.56**	**34**	*e*P			**P**	**15 25 23.3**	**+1.2**
MKAR	**Makanchi Array**	**87.56**	**34**	P			**P**	**15 25 22.6**	**+0.5**
MKAR	**Makanchi Array**	**87.56**	**34**	P			**P**	**15 25 22.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=243,slow=6.3,SNR=4.3								

IDC ***18*** *15:28:28.0±35.0,1°.91S×105°.19E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/24,mbtmpg3.7/3,Error ellipse: s-maj=635.5km s-min=229.0km az=145.0*
ISCJB ***18*** *15:29:36.7±0.7,7°.4S±0°.2×108°.37E±0°.06,h205km±5km, mb3.4/3,Error ellipse: s-maj=26.4km s-min=8.0km az=10.8*
DJA ***18*** *15:29:37.4±0.6,8°.5S±9°.×10°.8E±°,h199km±5km,M3.2/12, MLv3.2/12*
ISC 18 15:29:38.0±1.1,7°.4S±0°.2×108°.35E±0°.06,h200km±8km, n15,σ0.99/22,mb3.3/3,Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.40**	**166**	P			**Pn**	**15 30 03.9**	**-0.9**
CMJI				S			**S**	**15 30 25.8**	**0.0**
CISI	**Cisompet, Garu**	**0.55**	**253**	P			**Pn**	**15 30 05.0**	**-0.4**
CISI				S			**S**	**15 30 27.4**	**+0.8**
KPJI	**Karang Pucung**	**0.58**	**84**	P			**Pn**	**15 30 05.9**	**+0.5**
KPJI				S			**S**	**15 30 27.8**	**+1.2**
LEM	**Lembang**	**0.92**	**308**	P			**Pn**	**15 30 07.2**	**-0.3**
LEM				S			**S**	**15 30 28.7**	**-1.5**
TGJI	**Tegal**	**0.93**	**56**	P			**Pn**	**15 30 06.7**	**-0.6**
BJII	**Banjamegara**	**1.35**	**87**	P			**Pn**	**15 30 10.0**	**-0.5**
BJII				S			**S**	**15 30 35.7**	**+0.4**
DBJI	**Dramaga**	**1.79**	**298**	P			**Pn**	**15 30 14.0**	**-0.5**
SKJI	**Sukabumi**	**1.82**	**282**	P			**Pn**	**15 30 12.9**	**-1.9**
SKJI				S			**S**	**15 30 43.7**	**+1.0**
SMRI	**Semarang**	**2.10**	**81**	P			**Pn**	**15 30 17.1**	**-0.5**
UGM	**Wanagama**	**2.21**	**104**	P			**Pn**	**15 30 17.9**	**-0.9**
UGM				S			**S**	**15 30 49.3**	**-0.6**
PCJI	**Pacitan**	**2.91**	**106**	P			**Pn**	**15 30 25.3**	**-1.3**
PWJI	**Pagerwojo**	**3.48**	**101**	P			**Pn**	**15 30 32.2**	**-1.2**
WRA	**Warramunga Arr**	**28.11**	**119**	P			**P**	**15 35 11.0**	**-0.5**
	0.3nm,0.8s,baz=302,slow=8.9,SNR=4.7								
ASAR	**Alice Springs**	**29.37**	**126**	P			**P**	**15 35 23.8**	**+1.1**
	0.4nm,0.6s,baz=305,slow=9.1,SNR=8.6								
STKA	**Stephens Creek**	**39.39**	**133**	P			**P**	**15 36 49.1**	**+0.7**
	2.3nm,0.4s,baz=316,slow=8.9,SNR=16								

IDC 18 15:36:39.6±26.0,20°.78S×174°.45W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.8/20,mbtmpg3.9/4,MS3.0/2,Ms1 3.0/2, ms1mx2.6/30,Error ellipse: s-maj=473.5km s-min=145.9km az=76.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.00**	**200**	LR			LR	15 41 53.9	
	comp=Z,100nm,20.0s,baz=212,slow=35								
CTA	**Charters Tower**	**36.77**	**264**	P			P	15 43 49.5	+0.2
	0.7nm,0.3s,baz=85,slow=12,SNR=3.4								
STKA	**Stephens Creek**	**40.67**	**245**	P			P	15 44 22.7	+0.7
	2.2nm,0.9s,baz=87,slow=12,SNR=3.6								
ASAR	**Alice Springs**	**47.69**	**256**	P			P	15 45 18.4	+0.1
	0.6nm,0.5s,baz=95,slow=8.2,SNR=21								
WRA	**Warramunga Arr**	**47.85**	**262**	P			P	15 45 18.6	-1.1
	0.7nm,0.5s,baz=101,slow=8.3,SNR=18								
TGY	**Tagaytay City**	**72.31**	**293**	LR			LR	16 14 59.9	
	comp=Z,7.1nm,19.2s,baz=29,slow=32								

IDC ***18*** *15:40:14.8±2.1,6°.84N×126°.21E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/24,mbtmpg3.6/3,Error ellipse: s-maj=164.4km s-min=24.3km az=65.0*
ISCJB ***18*** *15:40:22.6±1.1,6°.86N±0°.07×126°.95E±0°.09,h66km±13km, mb3.5/3,Error ellipse: s-maj=14.3km s-min=11.6km az=179.1*
MAN ***18*** *15:40:24.7,04N×126°.87E,h30km,mb4.8,ML3.7,MS3.7*
ISC 18 15:40:22.7±1.7,6°.82N±0°.07×127°.0E±0°.1,h66km±15km, n12,σ1.84/19,mb3.3/3,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.70**	**280**	*eP*			**Pn**	**15 40 37.5**	**+0.2**
MATI				*eS*			**Sn**	**15 40 47.0**	**-1.1**
DMPH	**Davao City--Mi**	**1.46**	**280**	⇑*eP*			**Pn**	**15 40 48.6**	**+1.7**
DMPH				*eS*			**Sn**	**15 41 07.4**	**+2.2**
BIPH	**Bislig**	**1.48**	**337**	⇓*iP*			**Pn**	**15 40 47.1**	**-0.1**
BIPH				*i S*			**Sn**	**15 41 04.0**	**-1.7**
KCP	**Kidapawan**	**1.86**	**276**	⇓*eP*			**Pn**	**15 40 53.5**	**+1.1**
KCP				*i S*			**Sn**	**15 41 15.4**	**+0.5**
GSPH	**General Santos**	**2.12**	**250**	⇓*iP*			**Pn**	**15 40 55.7**	**-0.3**
GSPH				*i S*			**Sn**	**15 41 18.5**	**-2.9**
BUKP	**Musuan**	**2.15**	**299**	*eP*			**Pn**	**15 40 57.4**	**+1.1**
BUKP				*eS*			**Sn**	**15 41 22.0**	**0.0**
BUTP	**Butuan**	**2.51**	**328**	*eP*			**Pn**	**15 41 03.8**	**+2.6**
CGP	**Cagayan de Oro**	**2.77**	**306**	*eP*			**Pn**	**15 41 05.0**	**+0.4**
CGP				*eS*			**Sn**	**15 41 35.8**	**-1.1**
PAGZ	**Pagadian**	**3.69**	**286**	*eP*			**Pn**	**15 41 18.7**	**+1.5**
WRA	**Warramunga Arr**	**27.57**	**165**	P			**P**	**15 46 07.0**	**+3.3**
	0.2nm,0.3s,baz=344,slow=11,SNR=11								
ASAR	**Alice Springs**	**31.05**	**168**	P			**P**	**15 46 35.1**	**+0.6**
	0.2nm,0.3s,baz=344,slow=7.2,SNR=10								
MKAR	**Makanchi Array**	**55.18**	**324**	P			**P**	**15 49 46.1**	**-2.5**
	0.5nm,0.4s,baz=113,slow=7.7,SNR=15								

AUST ***18*** *15:46:47.1±2.5, 17°.35S×179°.19W,h378km,Error ellipse: s-maj=2.0km s-min=1.5km az=282.0*
NEIC ***18*** *15:46:53.6±0.8, 17°.54S×178°.54W,h523km±8km,mb4.5/15, Error ellipse: s-maj=16.8km s-min=6.5km az=158.0*
ISCJB ***18*** *15:46:54.5±0.2, 17°.63S±0°.08×178°.57W±0°.04,h547km, mb4.4/42,Error ellipse: s-maj=10.4km s-min=4.6km az=163.0*
IDC ***18*** *15:46:54.9±1.5, 17°.58S×178°.63W,h531km±16km, mb3.9/21,mb1 4.0/22,mb1mx3.9/27,mbtmp4.7/22,Error ellipse: s-maj=19.3km s-min=8.9km az=160.0*
ISC 18 15:46:55.8±0.4, 17°.65S±0°.1×178°.56W±0°.06,h547km,n117, σ1.18/131,mb4.4/42,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.49**	**62**	P			P	15 48 43.8	-4.8
AFI				S			**S**	**15 50 19.2**	**-1.8**
AFI	**Afiamalu**	**7.49**	**62**	P			P	15 48 43.8	-4.8
	6.9nm,0.3s,baz=74,slow=9.0,SNR=13								
AFI				S			**S**	**15 50 19.2**	**-1.8**
	3.4nm,0.3s,baz=12,slow=18,SNR=4.1								
NIUE	**Niue**	**8.32**	**101**	P			**P**	**15 48 55.8**	**-0.9**
	baz=9.0,SNR=7.6								
DZM	**Mont Dzumac**	**14.79**	**250**	*eP*			**P**	**15 50 05.5**	**+2.1**
	23nm,0.7s								
DZM	**Mont Dzumac**	**14.79**	**250**	P			**P**	**15 50 03.9**	**+0.6**
DZM	**Mont Dzumac**	**14.79**	**250**	P			**P**	**15 50 03.9**	**+0.6**
	1.3nm,0.3s,baz=63,slow=15,SNR=12								
HNR	**Honiara**	**22.41**	**288**	P			**P**	**15 51 12.8**	**-1.1**
HNR	**Honiara**	**22.41**	**288**	P			**P**	**15 51 12.8**	**-1.1**
	23nm,0.5s,baz=70,slow=3.3,SNR=3.8								
PAE	**Paea**	**27.60**	**95**	*eP*			**P**	**15 51 59.7**	**-0.1**
	5.0nm,0.5s								

PPT2	**Papeete2**	**27.61**	**94**	*e*P			**P**	**15 52 00.1**	**+0.1**
	22nm,0.6s								
PPT	**Papeete**	**27.61**	**94**	P			**P**	**15 52 00.1**	**+0.2**
PPT	**Papeete**	**27.61**	**94**	P			**P**	**15 52 00.1**	**+0.2**
	35nm,0.6s,baz=69,slow=2.6,SNR=12								
TBI	**Tubuai**	**27.82**	**107**	*e*P			**P**	**15 52 02.4**	**+0.8**
	40nm,0.7s								
TIAR	**Tiarei**	**27.83**	**94**	*e*P			**P**	**15 52 01.8**	**0.0**
	8.1nm,0.5s								
TVO	**Taravao**	**27.91**	**95**	*e*P			**P**	**15 52 02.7**	**+0.2**
	6.5nm,0.6s								
EIDS	**Eidsvold**	**29.24**	**249**	*e*P			**P**	**15 52 12.9**	**-1.1**
	17nm,0.7s								
EIDS	**Eidsvold**	**29.24**	**249**	P			**P**	**15 52 13.4**	**-0.5**
	baz=29,SNR=12								
ARMA	**Armidale**	**29.97**	**239**	P			**P**	**15 52 20.8**	**+0.4**
	baz=30,SNR=37								
MGCD	**Mangrove Creek**	**31.35**	**234**	P			**P**	**15 52 32.6**	**+0.6**
	baz=31,SNR=11								
RMQ	**Roma**	**31.49**	**248**	P			**P**	**15 52 33.6**	**+0.3**
	baz=31,SNR=19								
RABL	**Rabaul**	**31.62**	**292**	P			**P**	**15 52 33.5**	**-1.1**
	baz=31,SNR=5.5								
CTA	**Charters Tower**	**33.36**	**260**	P			**P**	**15 52 48.8**	**-0.5**
CTA	**Charters Tower**	**33.36**	**260**	P			**P**	**15 52 48.8**	**-0.5**
	13nm,0.7s,baz=94,slow=12,SNR=20								
CNB	**Canberra Nagne**	**33.50**	**232**	P			**P**	**15 52 50.7**	**+0.4**
	baz=33,SNR=27								
PMG	**Port Moresby**	**34.27**	**279**	*e*P			**P**	**15 52 56.3**	**-0.7**
	46nm,0.8s								
PMG	**Port Moresby**	**34.27**	**279**	P			**P**	**15 52 56.6**	**-0.3**
	43nm,0.8s,baz=88,slow=3.3,SNR=15								
PMG	**Port Moresby**	**34.27**	**279**	P			**P**	**15 52 57.9**	**+0.9**
	baz=34,SNR=4.6								
PMG							**P**	**15 52 57.9**	**+0.9**
	baz=34,SNR=4.6								
PMG							**P**	**15 52 57.9**	**+0.9**
	baz=34,SNR=4.6								
CMSA	**Cobar Meteorol**	**35.18**	**240**	P			**P**	**15 53 04.3**	**0.0**
	baz=35,SNR=48								
QLP	**Quilpie**	**35.51**	**249**	P			**P**	**15 53 06.6**	**-0.5**
	baz=35,SNR=28								
MANU	**Manus Island**	**36.86**	**291**	P			**P**	**15 53 19.7**	**+1.3**
	baz=36,SNR=4.3								
COEN	**Coen**	**36.96**	**270**	*e*P			**P**	**15 53 18.4**	**-0.9**
	164nm,0.9s								
COEN	**Coen**	**36.96**	**270**	P			**P**	**15 53 19.6**	**+0.3**
	baz=36,SNR=28								
TOO	**Toolangi**	**37.25**	**230**	P			**P**	**15 53 21.9**	**+0.5**
	baz=37,SNR=14								
STKA	**Stephens Creek**	**38.65**	**241**	P			**P**	**15 53 33.2**	**+0.4**
STKA	**Stephens Creek**	**38.65**	**241**	P			**P**	**15 53 33.2**	**+0.4**
	14nm,0.5s,baz=90,slow=9.5,SNR=88								
STKA	**Stephens Creek**	**38.65**	**241**	P			**P**	**15 53 33.2**	**+0.4**
	baz=38,SNR=56								
HTT	**Hallett**	**41.18**	**239**	P			**P**	**15 53 53.3**	**+0.2**
	baz=41,SNR=29								
JAY	**Jayapura**	**42.69**	**286**	P			**P**	**15 54 06.1**	**+0.9**
	baz=42,SNR=8.4								
BBOO	**Buckleboo**	**43.43**	**241**	*e*P			**P**	**15 54 10.4**	**-0.3**
BBOO	**Buckleboo**	**43.43**	**241**	P			**P**	**15 54 10.7**	**-0.1**
	baz=43,SNR=56								
WRAB	**Tennant Creek**	**44.54**	**259**	*e*P			**P**	**15 54 18.0**	**-1.5**
	7.5nm,0.6s								
WRA	**Warramunga Arr**	**44.55**	**259**	P			**P**	**15 54 18.3**	**-1.3**
WRA						PcP	**PcP**	**15 55 51.1**	**+0.3**
WRA						ScP	**ScP**	**15 58 54.5**	**+3.3**
WRA							**S**	**16 00 12.0**	**-3.9**
	8.6nm,0.6s,baz=96,slow=7.4,SNR=216								
WRA						PcP	**PcP**	**15 55 51.1**	**+0.3**
	3.1nm,0.7s,baz=90,slow=3.7,SNR=7.9								
WRA						ScP	**ScP**	**15 58 54.5**	**+3.3**
	1.6nm,0.7s,baz=90,slow=3.7,SNR=8.0

1.3nm,0.5s,baz=224,slow=5.3,SNR=31
TXAR Lajitas Array 85.95 58 P **P** 15 58 40.4 **+1.7**
TXAR Lajitas Array 85.95 58 P **P** 15 58 40.4 **+1.7**
5.4nm,0.8s,baz=217,slow=6.1,SNR=64
YMR Madison River 87.20 41 *eP* **P** 15 58 42.5 **-1.9**
27nm,1.6s
PDAR Pinedale Array 87.23 43 P **P** 15 58 45.0 **+0.4**
PDAR Pinedale Array 87.23 43 P **P** 15 58 45.0 **+0.4**
3.7nm,0.7s,baz=210,slow=3.5,SNR=37
CMAR Chiang Mai Arr 88.65 290 P **P** 15 58 52.8 **+1.3**
CMAR Chiang Mai Arr 88.65 290 P **P** 15 58 52.8 **+1.3**
3.0nm,0.9s,baz=110,slow=2.6,SNR=21
INK Inuvik 91.63 15 P **P** 15 59 03.1 **-1.0**
INK Inuvik 91.63 15 P **P** 15 59 03.1 **-1.0**
1.6nm,0.7s,baz=344,slow=0.2
PLCA Paso Flores 91.64 134 P **P** 15 59 04.6 **-0.5**
PLCA Paso Flores 91.64 134 P **P** 15 59 04.6 **-0.5**
1.6nm,1.0s,baz=50,slow=18,SNR=3.1
SONM Songino Array 93.23 319 P **P** 15 59 13.6 **+1.4**
SONM Songino Array 93.23 319 P **P** 15 59 13.6 **+1.4**
0.4nm,0.7s,baz=106,slow=4.7,SNR=2.8
YKA Yellowknife Ar 94.12 25 P **P** 15 59 15.2 **-0.4**
YKA Yellowknife Ar 94.12 25 P **P** 15 59 15.2 **-0.4**
1.2nm,0.7s,baz=246,slow=4.4,SNR=17
MKAR Makanchi Array 108.83 314 PKiKP **PKiKP** 16 04 22.2 **-0.9**
MKAR Makanchi Array 108.83 314 PKiKP **PKiKP** 16 04 22.2 **-0.9**
0.3nm,0.5s,baz=64,slow=2.8,SNR=4.5
FINES FINESS Array B 132.86 344 SKPbc **SKPab** 16 07 46.5 **-1.1**
FINES FINESS Array B 132.86 344 SKPbc **SKPab** 16 07 46.5 **-1.1**
1.0nm,0.5s,baz=0.0,slow=2.7,SNR=6.5
AKASG Malin Array Be 140.23 332 PKP **PKPdf** 16 05 24.4 **+2.0**
AKASG Malin Array Be 140.23 332 PKP **PKPdf** 16 05 24.4 **+2.0**
0.5nm,0.5s,baz=44,slow=4.0,SNR=4.1
BR131 Keskin Array S 144.47 315 *e*PKPdf **PKPdf** 16 05 30.5 **0.0**
BRTR Keskin Array B 144.47 315 PKP **PKPab** 16 05 30.9 **-0.1**
BRTR Keskin Array B 144.47 315 PKP **PKPab** 16 05 30.9 **-0.1**
4.5nm,0.9s,baz=99,slow=2.7,SNR=15
CLL Collm 145.14 347 ↓*i* PKPbc **PKPbc** 16 05 32.4 **+0.4**
comp=Z,4.0nm,0.6s
GERES GERESS Array B 147.28 345 PKPbc **PKPbc** 16 05 38.5 **+0.4**
GERES GERESS Array B 147.28 345 PKPbc **PKPbc** 16 05 38.5 **+0.4**
comp=Z,1.2nm,0.5s,baz=24,slow=2.9,SNR=14

WEL 18 15:47:08.7±0.1, 40.07S×176.56E, h51km±1km, ML3.5/15, 20C-7D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WPHZ	**Waipukurau**	**0.09**	**273**	↓P	Pn	15 47 16.2	-0.5
WPHZ				S	Sn	15 47 21.7	-0.7
PXZ	**Pawanui**	**0.24**	**81**	↓P	Pn	15 47 17.2	-0.2
PXZ				S	Sn	15 47 24.3	+0.6
PXZ				AML	AML	15 47 24.5	
PXZ				AML	AML	15 47 25.7	
PXZ				AML	AML	15 47 25.7	
PNHZ	**Pukenui**	**0.31**	**299**	↑P	Pn	15 47 17.5	-0.6
PNHZ				S	Sn	15 47 23.8	-1.1
KAHZ	**Kahuranaki**	**0.37**	**42**	↓P	Pn	15 47 18.7	0.0
KAHZ				S	Sn	15 47 26.4	+0.6
DVHZ	**Dannevirke**	**0.38**	**232**	↑P	Pn	15 47 18.8	0.0
DVHZ				S	Sn	15 47 26.1	+0.2
ANWZ	**Angora Road**	**0.40**	**189**	↑P	Pn	15 47 19.5	+0.6
TSZ	**Takapari Road**	**0.46**	**271**	↑P	Pn	15 47 19.3	-0.3
TSZ				S	Sn	15 47 26.8	-0.7
TSZ				AML	AML	15 47 27.0	
CKHZ	**Cape Kidnapper**	**0.57**	**45**	↓P	Pn	15 47 20.9	-0.1
MCHZ	**McNeill Hill**	**0.64**	**10**	↑P	Pn	15 47 21.9	+0.1
BFZ	**Birch Farm**	**0.66**	**201**	P	Pn	15 47 22.4	+0.4
PRWZ	**Pori Road**	**0.66**	**222**	↓P	Pn	15 47 22.8	+0.8
POWZ	**Post Office Ro**	**0.68**	**242**	P	Pn	15 47 22.8	+0.4
BHHZ	**Black Hill Sta**	**0.69**	**327**	↑P	Pn	15 47 22.4	-0.2
TIWZ	**Tintock**	**0.87**	**216**	P	Pn	15 47 25.3	+0.4
TIWZ				AML	AML	15 47 40.3	
TIWZ				AML	AML	15 47 56.9	
CPWZ	**Castlepoint**	**0.88**	**198**	↑P	Pn	15 47 25.9	+1.0
BKZ	**Black Stump Fm**	**0.90**	**357**	↑P	Pn	15 47 25.2	-0.1
BKZ				S	Sn	15 47 36.9	-0.5
BKZ				AML	AML	15 47 37.2	
MOVZ	**Moawhango**	**0.91**	**317**	↑P	Pn	15 47 25.8	+0.5
MRZ	**Mangatainoka R**	**0.95**	**231**	↓P	Pn	15 47 26.1	+0.2
MRZ				AML	AML	15 47 39.8	
MRZ				AML	AML	15 47 39.9	
NMHZ	**Naumai**	**0.99**	**11**	↑P	Pn	15 47 26.7	+0.2
WNVZ	**Wahianoa**	**1.05**	**315**	↑P	Pn	15 47 28.3	+1.0
TUVZ	**Tukino**	**1.06**	**319**	↑P	Pn	15 47 28.5	+1.1
MTVZ	**Mangateitei**	**1.08**	**309**	P	Pn	15 47 28.7	+1.0
WHVZ	**Whangaehu Hut**	**1.08**	**316**	P	Pn	15 47 28.8	+0.9
TRVZ	**Turoa**	**1.09**	**314**	P	Pn	15 47 29.0	+0.9
DRZ	**Dome Shelter**	**1.10**	**316**	↑P	Pn	15 47 29.3	+1.1
FWVZ	**Far West T-bar**	**1.12**	**316**	↑P	Pn	15 47 29.2	+0.8
WHHZ	**Waihua**	**1.12**	**28**	P	Pn	15 47 28.2	0.0
OTVZ	**Oturere**	**1.14**	**322**	P	Pn	15 47 29.4	+0.8
HOWZ	**Holdsworth Sta**	**1.15**	**223**	P	Pn	15 47 28.2	-0.3
TMWZ	**Te Maipa**	**1.15**	**206**	P	Pn	15 47 28.6	0.0
NGZ	**Ngauruhoe**	**1.16**	**320**	↑P	Pn	15 47 29.6	+0.8
WPVZ	**Whakapapa**	**1.16**	**318**	P	Pn	15 47 29.7	+0.9
COVZ	**Chateau Observ**	**1.17**	**318**	P	Pn	15 47 29.7	+0.8
KRVZ	**Karewarewa**	**1.20**	**324**	P	Pn	15 47 30.1	+0.8
WTVZ	**West Tongariro**	**1.21**	**322**	P	Pn	15 47 30.2	+0.8
PKVZ	**Pokaka**	**1.22**	**309**	↑P	Pn	15 47 30.3	+0.9
RITZ	**Rihia Road**	**1.22**	**333**	P	Pn	15 47 30.3	+0.9
RAHZ	**Arahi**	**1.22**	**20**	P	Pn	15 47 29.4	-0.2
HATZ	**Hinemaiaia**	**1.23**	**343**	P	Pn	15 47 30.1	+0.5
WAZ	**Wanganui**	**1.25**	**284**	↑P	Pn	15 47 31.4	+1.5
KATZ	**Kakaramea**	**1.28**	**328**	P	Pn	15 47 32.0	+1.5
OGWZ	**Otaki Gorge**	**1.29**	**234**	↓P	Pn	15 47 30.5	0.0
TWVZ	**Taurewa**	**1.32**	**319**	P	Pn	15 47 31.5	+0.5
RATZ	**Rangitukua**	**1.34**	**333**	P	Pn	15 47 32.9	+1.7
MTW	**Mount Morrison**	**1.35**	**216**	P	Pn	15 47 30.8	-0.5
MTW				AML	AML	15 47 48.8	
MTW				AML	AML	15 47 48.8	
KNZ	**Kokohu**	**1.36**	**40**	↑P	Pn	15 47 30.9	-0.4
MHGZ	**Mahia Peninsul**	**1.39**	**49**	P	Pn	15 47 31.4	-0.4
WHTZ	**Whakaora**	**1.48**	**342**	P	Pn	15 47 33.6	+0.6
TRWZ	**Traveller**	**1.48**	**206**	P	Pn	15 47 32.5	-0.5
TRWZ				AML	AML	15 47 52.1	
TRWZ				AML	AML	15 47 52.2	
KIW	**Kapiti Island**	**1.48**	**237**	P	Pn	15 47 33.1	0.0
KIW				AML	AML	15 47 52.2	
KIW				AML	AML	15 47 53.1	
WATZ	**Wairara**	**1.50**	**335**	P	Pn	15 47 33.4	+0.1
ALRZ	**Allen Road**	**1.51**	**354**	P	Pn	15 47 33.3	-0.1
CAW	**Cannon Point**	**1.54**	**227**	P	Pn	15 47 33.3	-0.4
CAW				AML	AML	15 47 54.5	
CAW				AML	AML	15 47 54.5	
PRGZ	**Paritu Road**	**1.54**	**42**	P	Pn	15 47 33.3	-0.5
PAWZ	**Paruwai Farm**	**1.57**	**213**	P	Pn	15 47 33.8	-0.4
PAWZ				AML	AML	15 47 54.4	
PAWZ				AML	AML	15 47 54.6	
PRRZ	**Plateau Road**	**1.57**	**355**	P	Pn	15 47 34.3	0.0
RIGZ	**Rimuhau**	**1.65**	**35**	P	Pn	15 47 34.8	-0.6
MSWZ	**Moikau Station**	**1.67**	**216**	P	Pn	15 47 34.6	-1.0
MSWZ				AML	AML	15 47 55.8	
VRZ	**Vera Road**	**1.68**	**304**	P	Pn	15 47 36.0	-0.4
RRRZ	**Republican Roa**	**1.73**	**359**	*e*Pn	Pn	15 47 36.0	-0.4
PLWZ	**Palliser**	**1.79**	**213**	P	Pn	15 47 36.1	-1.3
BHW	**Baring Head**	**1.85**	**223**	P	Pn	15 47 36.3	-1.7
BHW				AML	AML	15 48 00.4	
BHW				AML	AML	15 48 00.6	
URZ	**Urewera**	**1.86**	**14**	P	Pn	15 47 37.3	-0.9
URZ				AML	AML	15 48 01.4	
URZ				AML	AML	15 48 25.6	
MWZ	**Matawai**	**1.89**	**24**	↑P	Pn	15 47 37.7	-0.9
MWZ				AML	AML	15 48 02.9	
MWZ				AML	AML	15 48 02.9	
MWZ				AML	AML	15 48 04.1	
MWZ				AML	AML	15 48 04.1	
TLZ	**Tolley Road**	**1.91**	**335**	P	Pn	15 47 38.7	-0.2
DREZ	**Durham Road**	**2.02**	**295**	P	Pn	15 47 45.8	+5.5
CNGZ	**Carnagh Statio**	**2.04**	**40**	*e*P	Pn	15 47 40.1	-0.5
HIZ	**Hauiti**	**2.04**	**319**	P	Pn	15 47 40.9	+0.3
NEZ	**North Egmont**	**2.06**	**292**	P	Pn	15 47 43.4	+2.4
TCW	**Tory Channel**	**2.08**	**236**	P	Pn	15 47 40.3	-0.8
TCW				AML	AML	15 48 06.8	
TCW				AML	AML	15 48 07.9	
KHEZ	**Kahui Hut**	**2.11**	**291**	P	Pn	15 47 44.3	+2.7
OPRZ	**Ohinepanea**	**2.22**	**0**	P	Pn	15 47 43.1	0.0
PUZ	**Puketiti**	**2.39**	**34**	P	Pn	15 47 44.1	-1.4
TUWZ	**Tuamarina**	**2.41**	**235**	P	Pn	15 47 44.3	-1.3
TOZ	**Tahuroa Road**	**2.48**	**340**	P	Pn	15 47 46.6	0.0
BSWZ	**Blackbirch Sta**	**2.61**	**230**	P	Pn	15 47 47.2	-1.2
NNZ	**Nelson**	**2.67**	**244**	P	Pn	15 47 48.8	-0.4
MXZ	**Matakaoa Point**	**2.85**	**29**	P	Pn	15 47 51.3	-0.5
MKAZ	**Moumakai**	**3.15**	**339**	P	Pn	15 47 56.4	+0.6
QRZ	**Quartz Range**	**3.16**	**255**	P	Pn	15 47 55.5	-0.5
THZ	**Tophouse**	**3.24**	**237**	⇑P	Pn	15 47 55.7	-1.5
LTZ	**Lake Taylor**	**4.21**	**229**	P	Pn	15 48 08.1	-2.3
CRLZ	**Canterbury Las**	**4.57**	**219**	P	Pn	15 48 13.8	-1.5
MQZ	**McQueen's Vall**	**4.66**	**217**	P	Pn	15 48 14.1	-2.3
OXZ	**Oxford**	**4.69**	**225**	P	Pn	15 48 15.2	-1.8
CTZ	**Chatham Island**	**6.27**	**128**	P	Pn	15 48 38.7	+0.1
ODZ	**Otahua Downs**	**6.61**	**219**	P	Pn	15 48 41.1	-2.2

WEL 18 15:48:45.7±0.1, 40.08S×173.16E, h5km, ML3.5/19, Error ellipse: s-maj=2.0km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.89**	**212**	P*	Pg	15 49 02.7	-0.1
QRZ				S*	Sb	15 49 15.3	-0.5
DUWZ	**D'Urville Isla**	**0.93**	**141**	P*	Pg	15 49 03.8	+0.2
DUWZ				AML	AML	15 49 18.2	
DUWZ				AML	AML	15 49 20.3	
NWEZ	**Newall Road**	**0.97**	**35**	P*	Pg	15 49 04.2	-0.1
NWEZ				S*	Sb	15 49 18.0	-0.2
KHEZ	**Kahui Hut**	**1.03**	**41**	P*	Pg	15 49 05.1	-0.4
KHEZ				S*	Sb	15 49 19.5	-0.4
DFE	**Dawson Falls**	**1.05**	**45**	P*	Pg	15 49 05.4	-0.5
NEZ	**North Egmont**	**1.08**	**42**	P*	Pg	15 49 05.8	-0.8
NNZ	**Nelson**	**1.15**	**172**	P*	Pg	15 49 07.1	-0.7
NNZ				AML	AML	15 49 24.3	
NNZ				AML	AML	15 49 24.3	
DREZ	**Durham Road**	**1.20**	**43**	P*	Pg	15 49 08.0	-0.7
TCW	**Tory Channel**	**1.42**	**143**	PN	Pn	15 49 11.8	-0.3
TCW				AML	AML	15 49 32.9	
TCW				AML	AML	15 49 34.1	
WAZ	**Wanganui**	**1.44**	**78**	*e*PN	Pn	15 49 11.9	-0.6
TUWZ	**Tuamarina**	**1.48**	**156**	PN	Pn	15 49 12.0	-1.0
TUWZ				AML	AML	15 49 34.6	
TUWZ				AML	AML	15 49 35.7	
KIW	**Kapiti Island**	**1.55**	**121**	*e*PN	Pb	15 49 14.6	-0.3
KIW				AML	AML	15 49 37.0	
KIW				AML	AML	15 49 37.8	
VRZ	**Vera Road**	**1.56**	**53**	PN	Pn	15 49 12.6	-1.4
VRZ				AML	AML	15 49 36.7	
VRZ				AML	AML	15 49 38.1	
THZ	**Tophouse**	**1.69**	**186**	PN	Pn	15 49 16.3	+0.3
THZ				AML	AML	15 49 41.4	
THZ				AML	AML	15 49 42.6	
OGWZ	**Otaki Gorge**	**1.71**	**116**	*e*PN	Pn	15 49 16.2	+0.1
BSWZ	**Blackbirch Sta**	**1.73**	**162**	*e*PN	Pn	15 49 16.6	+0.2
BSWZ				AML	AML	15 49 42.5	
CAW	**Cannon Point**	**1.78**	**126**	PN	Pb	15 49 18.6	-0.3
CAW				AML	AML	15 49 45.5	
CAW				AML	AML	15 49 45.5	
BHW	**Baring Head**	**1.86**	**136**	PN	Pn	15 49 17.8	-0.4
BHW				AML	AML	15 49 46.4	
BHW				AML	AML	15 49 47.3	
PKVZ	**Pokaka**	**1.86**	**66**	*e*PN	Pn	15 49 17.3	-1.0
MTVZ	**Mangateitei**	**1.91**	**70**	PN	Pn	15 49 18.3	-0.8
MTVZ				AML	AML	15 49 47.5	
MTVZ				AML	AML	15 49 47.5	
MRZ	**Mangatainoka R**	**1.94**	**108**	*e*PN	Pn	15 49 20.4	+1.0
MRZ				AML	AML	15 49 47.9	
MRZ				AML	AML	15 49 50.3	
HOWZ	**Holdsworth Sta**	**1.98**	**115**	*e*PN	Pb	15 49 21.5	-0.7
TRVZ	**Turoa**	**2.00**	**68**	PN	Pn	15 49 19.4	-1.1
TRVZ				AML	AML	15 49 48.6	
TRVZ				AML	AML	15 49 48.7	
FWVZ	**Far West T-bar**	**2.02**	**67**	PN	Pn	15 49 19.8	-0.9
FWVZ				AML	AML	15 49 51.7	
FWVZ				AML	AML	15 49 51.7	
COVZ	**Chateau Observ**	**2.04**	**65**	PN	Pn	15 49 19.7	-1.2
WPVZ	**Whakapapa**	**2.04**	**66**	PN	Pn	15 49 19.9	-0.9
HIZ	**Hauiti**	**2.04**	**41**	*e*PN	Pn	15 49 18.4	-2.3
MSWZ	**Moikau Station**	**2.08**	**131**	PN	Pg	15 49 25.3	-0.3
MSWZ				AML	AML	15 49 54.5	
MSWZ				AML	AML	15 49 54.8	
MTW	**Mount Morrison**	**2.09**	**122**	*e*PN	Pb	15 49 22.9	-1.2
MTW				AML	AML	15 49 54.1	
MTW				AML	AML	15 49 54.4	
TUVZ	**Tukino**	**2.09**	**68**	*e*PN	Pn	15 49 20.1	-1.4
NGZ	**Ngauruhoe**	**2.09**	**65**	*e*PN	Pn	15 49 20.3	-1.3
NGZ				AML	AML	15 49 53.8	
MOVZ	**Moawhango**	**2.11**	**72**	PN	Pn	15 49 22.5	+0.8
MOVZ				AML	AML	15 49 51.6	
WTVZ	**West Tongariro**	**2.11**	**64**	PN	Pn	15 49 18.9	-2.9
TSZ	**Takapari Road**	**2.15**	**90**	*e*PN	Pn	15 49 22.7	+0.4
PAWZ	**Paruwai Farm**	**2.16**	**128**	PN	Pg	15 49 27.1	-0.1
PAWZ				AML	AML	15 49 56.9	
PAWZ				AML	AML	15 49 57.1	
PLWZ	**Palliser**	**2.18**	**134**	PN	Pg	15 49 28.0	+0.3
BHHZ	**Black Hill Sta**	**2.32**	**76**	PN	Pb	15 49 26.3	-1.7
PNHZ	**Pukenui**	**2.34**	**87**	PN	Pb	15 49 28.0	-0.5

NIED ***18*** *15:53:00.35˚00N×139˚10E, h5km, Mw4.3 Best double couple: M0 2.95000×10^15 NP1:*ϕ_S*94.00000°,*δ*89.00000°,*λ*165.00000°. NP2:*ϕ_S*184.00000°,*δ*75.00000°,*λ*1.00000°.*

IDC ***18*** *15:53:12.1±0.6, 34.93N×139.17E, h0km, mb3.9/13, mb1 4.1/16, mb1mx4.0/28, mbtmp3.9/16, ML3.5/3, MS3.6/15, Ms1 3.6/15, ms1mx3.4/36, Error ellipse: s-maj=17.1km s-min=11.8km az=82.0*

ISCJB ***18*** *15:53:13.2±0.6, 34.93N±0.03×139.16E±0.07, h18km±4km, mb4.1/17, MS3.6/11, Error ellipse: s-maj=9.4km s-min=5.1km az=163.0*

JMA ***18*** *15:53:14.2, 34.96N×139.12E, h4km±1km, M4.5 Broadband fault plane solution: P waves. NP1:*ϕ_S*93.00000°,*δ*84.00000°,*λ*159.00000°. NP2:*ϕ_S*186.00000°,*δ*69.00000°,*λ*7.00000°. Principal axes: T Plg19.0000°, Azm48.0000°; N Plg68.0000°, Azm257.0000°; P Plg10.0000°, Azm141.0000°;*

JMA Felt IV J1.

NEIC ***18*** *15:53:15.1±2.9, 34.95N×139.17E, h19km±19km, mb4.6/3, MW4.3(NIED) Error ellipse: s-maj=8.8km s-min=7.1km az=101.0*

NEIC Recorded [4 JMA] in Shizuoka, [3 JMA] in Kanagawa, [2 JMA] in Tokyo and [1 JMA] in Chiba, Gumma, Saitama and Yamanshi. Also recorded [1 JMA] on O-shima and Shikine-jima.

ISC 18 15:53:13.5±1.2, 34.94N±0.04×139.19E±0.07, h9km±7km, n62, σ0.89/54, mb4.1/17, MS3.6/11, 1C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.13**	**322**	↓P	**Pg**	**15 53 16.1**	**-0.4**
JIM2	**Oshima 3**	**0.30**	**138**	↓P	**Pb**	**15 53 21.2**	**+0.2**
JOD2	**Odawara 2**	**0.33**	**345**	↓P	**Pg**	**15 53 21.0**	**-0.1**
JOD2				S	**Sg**	**15 53 24.7**	**+0.1**
JIZS	**Izushimoda**	**0.34**	**229**	↑P	**Pg**	**15 53 20.4**	**+0.1**
JYN	**Shimob**	**0.77**	**317**	↓P	**Pg**	**15 53 27.5**	**-0.9**
MJAR	**Matsushiro Arr**	**1.79**	**334**	Pn	**Pn**	**15 53 44.4**	**-0.1**
MJAR				Lg	Lg	15 54 06.4	
MJAR	**Matsushiro Arr**	**1.79**	**334**	Pn	**Pn**	**15 53 44.4**	**-0.1**
	79nm,0.3s,baz=167,slow=12,SNR=249						
MJAR				Lg	Lg	15 54 06.4	
	278nm,0.3s,baz=162,slow=34,SNR=28						
MAJO	**Matsushiro**	**1.79**	**334**	*e*Pn	**Pn**	**15 53 45.1**	**+0.5**
MAJO				*e*Sn	**Sn**	**15 54 06.2**	**-1.1**
MAT	**Matsushiro**	**1.79**	**334**	P	**Pn**	**15 53 44.8**	**+0.2**
MAT				S	**Sn**	**15 54 07.7**	**+0.3**
JHJ2	**Mitsune**	**1.90**	**164**	*e*Pn	**Pn**	**15 53 46.8**	**+0.8**
JHJ2				*e*Sn	**Sn**	**15 54 08.3**	**-1.7**
JNU	**Nakatsue**	**7.13**	**258**	Pn	**Pn**	**15 54 58.5**	**+0.5**
JNU	**Nakatsue**	**7.13**	**258**	Pn	**Pn**	**15 54 58.5**	**+0.5**
	1.0nm,0.3s,baz=248,slow=12,SNR=12						
JCJ	**Chichijima**	**8.23**	**161**	LR	LR	15 57 59.5	
	comp=Z,190nm,19.9s,baz=0.2,slow=35						
KSRS	**Korea Array**	**9.45**	**289**	Pn	**Pn**	**15 55 30.9**	**+1.3**
	0.2nm,0.3s,baz=101,slow=14,SNR=4.5						
KSRS				LR	LR	15 58 42.1	
	comp=Z,90nm,21.7s,baz=116,slow=35						
KSAR	**Wonju Array Be**	**9.47**	**289**	Pn	**Pn**	**15 55 30.9**	**+0.9**
ASAJ	**Asahikawa**	**9.53**	**15**	Pn	**Pn**	**15 55 30.2**	**-0.6**
ASAJ	**Asahikawa**	**9.53**	**15**	Pn	**Pn**	**15 55 30.2**	**-0.6**
	0.9nm,0.3s,baz=145,slow=9.7,SNR=12						
ASAJ				LR	LR	15 59 12.7	
	comp=Z,341nm,18.6s,baz=120,slow=38						
USRK	**Ussuriysk Arra**	**10.78**	**331**	LR	LR	15 59 37.8	
	comp=Z,217nm,20.2s,baz=244,slow=36						
PETK	**Petropavlovsk-**	**22.40**	**30**	P	**P**	**15 58 13.3**	**+1.3**
PETK	**Petropavlovsk-**	**22.40**	**30**	P	**P**	**15 58 13.3**	**+1.3**
	6.1nm,0.9s,baz=215,slow=8.6,SNR=6.8						
PETK				LR	LR	16 07 14.3	
	comp=Z,86nm,21.2s,baz=132,slow=38						
SONM	**Songino Array**	**27.55**	**308**	LR	LR	16 10 10.9	
	comp=Z,150nm,20.9s,baz=16,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.78**	**115**	T	T	16 29 20.0	
	baz=311,slow=76,SNR=690						
H11N1	**WAKE ISLAND Hy**	**28.78**	**115**	T	T	16 29 20.5	
	baz=311,slow=76,SNR=603						
H11N3	**WAKE ISLAND Hy**	**28.79**	**115**	T	T	16 29 21.4	
	baz=311,slow=76,SNR=722						
H11S3	**WAKE ISLAND Hy**	**29.39**	**117**	T	T	16 30 06.3	
	baz=313,slow=75,SNR=124						
H11S2	**WAKE ISLAND Hy**	**29.40**	**117**	T	T	16 30 08.7	
	baz=257,slow=75,SNR=101						
CMAR	**Chiang Mai Arr**	**39.23**	**256**	P	**P**	**16 00 44.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**39.23**	**256**	P	**P**	**16 00 44.0**	**+1.7**
	0.3nm,0.7s,baz=66,slow=9.2,SNR=4.3						
CMAR				LR	LR	16 18 44.2	
	comp=Z,64nm,20.6s,baz=27,slow=39						
ZALV	**Zalesovo Beam**	**42.03**	**314**	P	**P**	**16 01 05.0**	**-0.1**
ZALV				PcP	**PcP**	**16 02 57.9**	**-2.0**
ZALV	**Zalesovo Beam**	**42.03**	**314**	P	**P**	**16 01 05.0**	**-0.1**
	1.0nm,0.7s,baz=98,slow=6.1,SNR=6.1						
ZALV				PcP	**PcP**	**16 02 57.9**	**-2.0**
	0.6nm,0.6s,baz=99,slow=4.7,SNR=3.7						
ZALV				LR	LR	16 18 30.3	
	comp=Z,38nm,20.3s,baz=73,slow=36						
MKAR	**Makanchi Array**	**43.74**	**304**	P	**P**	**16 01 19.0**	**-0.1**
MKAR	**Makanchi Array**	**43.74**	**304**	P	**P**	**16 01 19.0**	**-0.1**
	1.2nm,0.9s,baz=89,slow=8.4,SNR=5.0						
MKAR				LR	LR	16 20 01.0	
	comp=Z,82nm,19.2s,baz=176,slow=37						
KURK	**Kurchatov**	**45.84**	**309**	*e*P	**P**	**16 01 34.9**	**-0.8**
	6.4nm,0.8s						
RSO	**Redoubt South**	**49.66**	**37**	*e*P	**P**	**16 02 04.4**	**-1.1**
	115nm,0.6s						
AAK	**Ala-Archa**	**49.92**	**299**	*e*P	**P**	**16 02 06.8**	**-0.8**
	2.5nm,1.0s						
RC01	**Rabbit Creek A**	**51.11**	**36**	*e*P	**P**	**16 02 17.6**	**+1.4**
	12nm,0.5s						
ILAR	**Eielson Array**	**52.22**	**31**	P	**P**	**16 02 24.7**	**+0.3**
ILAR	**Eielson Array**	**52.22**	**31**	P	**P**	**16 02 24.7**	**+0.3**
	1.5nm,0.7s,baz=274,slow=5.6,SNR=25						
WRA	**Warramunga Arr**	**54.77**	**186**	P	**P**	**16 02 42.5**	**-1.1**
WRA	**Warramunga Arr**	**54.77**	**186**	P	**P**	**16 02 42.5**	**-1.1**
	3.7nm,0.6s,baz=0.5,slow=7.6,SNR=49						
INK	**Inuvik**	**57.06**	**26**	P	**P**	**16 02 59.6**	**+0.2**
INK	**Inuvik**	**57.06**	**26**	P	**P**	**16 02 59.6**	**+0.2**
	1.4nm,0.7s,baz=284,slow=1.1,SNR=6.9						
ASAR	**Alice Springs**	**58.50**	**186**	P	**P**	**16 03 09.2**	**-0.8**
ASAR	**Alice Springs**	**58.50**	**186**	P	**P**	**16 03 09.2**	**-0.8**
	1.3nm,0.8s,baz=16,slow=11,SNR=18						
ASAR				LR	LR	16 28 10.1	
	comp=Z,59nm,21.8s,baz=203,slow=36						
STKA	**Stephens Creek**	**66.50**	**178**	P	**P**	**16 04 03.6**	**+0.2**
STKA	**Stephens Creek**	**66.50**	**178**	P	**P**	**16 04 03.6**	**+0.2**
	2.5nm,0.8s,baz=331,slow=5.4,SNR=3.7						
YKA	**Yellowknife Ar**	**66.51**	**29**	P	**P**	**16 04 03.5**	**+0.3**
YKA	**Yellowknife Ar**	**66.51**	**29**	P	**P**	**16 04 03.5**	**+0.3**
	2.7nm,0.8s,baz=302,slow=6.6,SNR=11						
FINES	**FINESS Array B**	**69.81**	**332**	P	**P**	**16 04 24.1**	**+0.2**
FINES	**FINESS Array B**	**69.81**	**332**	P	**P**	**16 04 24.1**	**+0.2**
	0.9nm,0.7s,baz=56,slow=4.8,SNR=5.6						
FINES				LR	LR	16 36 20.3	
	comp=Z,93nm,18.2s,baz=295,slow=37						
AKASG	**Malin Array Be**	**74.83**	**322**	P	**P**	**16 04 53.1**	**-1.0**
AKASG	**Malin Array Be**	**74.83**	**322**	P	**P**	**16 04 53.1**	**-1.0**
	0.4nm,0.5s,baz=49,slow=5.6,SNR=4.

baz=37,SNR=6.9
HTT Hallett 37.66 245 P P 16 22 54.7 -0.4
baz=38,SNR=5.3
BBOO Buckleboo 40.03 247 P P 16 23 13.2 -1.1
baz=40,SNR=10
ASAR Alice Springs 42.59 260 P P 16 23 33.9 -0.9
5.2nm,0.5s,baz=96,slow=7.5,SNR=200
ASAR ScP **ScP 16 28 18.8 +4.1**
0.5nm,0.8s,baz=104,slow=5.1,SNR=4.6
WRA Warramunga Arr 42.94 266 P P 16 23 36.2 -1.3
6.9nm,0.3s,baz=94,slow=8.5,SNR=194
KDU Kakadu 46.78 275 P P 16 24 06.0 -1.0
baz=47,SNR=6.2
FORT Forrest 46.89 249 P P 16 24 06.7 -1.0
baz=47,SNR=17
WRKA Warakurna 47.40 257 P P 16 24 10.9 -0.8
baz=48,SNR=13
MTN Manton Dam 47.95 274 P P 16 24 14.6 -1.2
baz=48,SNR=3.3
KNRA Kununurra 49.20 269 P P 16 24 24.5 -0.6
baz=50,SNR=4.7
FITZ Fitzroy Crossi 51.37 265 P P 16 24 40.5 -0.4
3.1nm,0.5s,baz=130,slow=6.2,SNR=29
FITZ Fitzroy Crossi 51.37 265 P P 16 24 40.6 -0.3
baz=52,SNR=8.4
MEEK Meekatharra 55.69 253 P P 16 25 10.8 -0.7
baz=56,SNR=4.8
MORW Morawa 57.46 250 P P 16 25 23.1 -0.5
baz=58,SNR=7.7
PETK Petropavlovsk- 78.95 346 P P 16 27 35.2 +2.0
6.4nm,1.1s,baz=127,slow=11,SNR=4.2
TXAR Lajitas Array 89.84 58 P P 16 28 32.6 +5.0
0.2nm,0.8s,baz=219,slow=5.8,SNR=4.2
CMAR Chiang Mai Arr 89.91 290 P P 16 28 30.6 +2.6
1.0nm,0.8s,baz=146,slow=3.5,SNR=6.4
AKASG Malin Array Be 145.01 328 PKP **PKPab 16 35 02.7 -0.4**
0.9nm,0.3s,baz=46,slow=4.6,SNR=11
BRTR Keskin Array B 147.81 308 PKPbc **PKPbc 16 35 11.1 +0.6**
0.8nm,0.7s,baz=133,slow=4.4,SNR=3.4

*IDC **18** 16:29:60.0±5.5,21.61S×179.30W,h576km±58km, mb3.0/7, mb1 3.2/8, mb1mx3.1/18, mbtmp3.1/8, Error ellipse: s-maj=38.8km s-min=27.4km az=97.0*
*ISCJB **18** 16:30:00.7±1.2,21.7S±0.2×179.3W±0.2, h604km, mb3.5/7, Error ellipse: s-maj=30.5km s-min=21.9km az=136.0*
ISC 18 16:30:02.5±1.2,21.6S±0.2×179.4W±0.2, h604km, n10, σ1§07/10, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.14**	**265**	P	**P**	**16 32 52.1**	**-0.8**
	0.3nm,0.3s,baz=147,slow=17,SNR=3.6						
STKA	**Stephens Creek**	**36.12**	**245**	P	**P**	**16 36 15.6**	**+0.2**
	0.9nm,0.4s,baz=105,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**42.99**	**258**	P	**P**	**16 37 10.0**	**-0.4**
	2.6nm,0.6s,baz=95,slow=8.2,SNR=69						
ASAR				PcP	**PcP**	**16 38 46.9**	**+0.2**
	0.1nm,0.5s,baz=108,slow=3.0,SNR=3.1						
WRA	**Warramunga Arr**	**43.15**	**264**	P	**P**	**16 37 11.0**	**-0.7**
	1.4nm,0.3s,baz=96,slow=7.7,SNR=69						
VNDA	**Vanda**	**56.70**	**185**	P	**P**	**16 38 49.4**	**0.0**
	0.5nm,0.7s,baz=36,slow=10.0,SNR=3.3						
PETK	**Petropavlovsk-**	**77.01**	**346**	P	**P**	**16 40 54.7**	**+0.7**
	3.8nm,1.1s,baz=109,slow=5.4,SNR=7.8						
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P	**P**	**16 41 57.7**	**+1.9**
	0.6nm,0.8s,baz=132,slow=3.4,SNR=6.2						
ILAR	**Eielson Array**	**89.69**	**13**	P	**P**	**16 41 55.1**	**-1.6**
	0.1nm,0.7s,baz=214,slow=5.0,SNR=3.3						
AKASG	**Malin Array Be**	**143.31**	**329**	PKP	PKPab	16 48 26.7	-0.6
	0.6nm,0.3s,baz=40,slow=4.2,SNR=12						
BRTR	**Keskin Array B**	**146.57**	**310**	PKPbc	**PKPbc**	**16 48 37.9**	**+0.2**
	0.5nm,0.7s,baz=90,slow=1.4,SNR=3.1						

*IDC **18** 16:31:53.6±1.9,22.32S×178.27W,h298km±20km, mb3.4/10, mb1 3.6/12, mb1mx3.5/21, mbtmp4.2/12, Error ellipse: s-maj=28.6km s-min=15.0km az=142.0*
*ISCJB **18** 16:31:55.3±0.7,22.52S±0.07×178.0W±0.1, h352km, mb3.6/10, Error ellipse: s-maj=15.4km s-min=9.8km az=12.3*
*AUST **18** 16:32:01.7±28.0,21.72S×178.17W, h410km±3km, Error ellipse: s-maj=5.5km s-min=3.6km az=286.0*
ISC 18 16:31:57.9±0.7,22.66S±0.10×177.98W±0.10, h352km, n27, σ1§96/28, mb3.5/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.57**	**180**	P	**Pn**	**16 33 35.0**	**-0.2**
	38nm,0.3s,baz=41,slow=20,SNR=4.5						
NIUE	**Niue**	**8.33**	**66**	P	**P**	**16 33 58.5**	**-0.2**
	baz=8.2,SNR=6.2						
AFI	**Afiamalu**	**10.51**	**35**	P	Pn	16 34 17.0	-5.1
	2.8nm,0.3s,baz=282,slow=21,SNR=7.7						
AFI				S	S	16 36 04.1	-16
	4.2nm,0.3s,baz=232,slow=22,SNR=1.7						
DZM	**Mont Dzumac**	**14.42**	**269**	*e*P	**Pn**	**16 35 09.1**	**+1.0**
	1.1nm,0.3s,baz=77,slow=19,SNR=12						
DZM	**Mont Dzumac**	**14.42**	**269**	*e*P	**P**	**16 35 07.9**	**+1.6**
DZM	**Mont Dzumac**	**14.42**	**269**	*e*P	**P**	**16 35 07.9**	**+1.6**
URZ	**Urewera**	**16.11**	**194**	P	**P**	**16 35 24.8**	**+0.5**
	2.2nm,0.3s,baz=337,slow=2.0,SNR=22						
URZ				S	**S**	**16 38 14.9**	**-0.7**
	3.3nm,0.3s,baz=260,slow=22,SNR=17						
CTA	**Charters Tower**	**33.35**	**268**	P	**P**	**16 38 03.4**	**-1.1**
	5.4nm,0.5s,baz=96,slow=11,SNR=14						
CMSA	**Cobar Meteorol**	**33.40**	**247**	P	**P**	**16 38 04.2**	**-0.5**
	baz=34,SNR=7.3						
QLP	**Quilpie**	**34.49**	**256**	P	**P**	**16 38 13.1**	**-1.0**
	baz=34,SNR=5.4						
STKA	**Stephens Creek**	**36.91**	**247**	P	**P**	**16 38 33.1**	**-1.3**
	1.7nm,0.8s,baz=79,slow=16,SNR=4.9						
STKA	**Stephens Creek**	**36.91**	**247**	P	**P**	**16 38 34.7**	**+0.3**
	baz=37,SNR=4.4						
HTT	**Hallett**	**39.28**	**244**	P	**P**	**16 38 53.7**	**-0.3**
	baz=40,SNR=3.2						
ASAR	**Alice Springs**	**44.08**	**259**	P	**P**	**16 39 31.0**	**-1.7**
	2.2nm,0.8s,baz=91,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**44.36**	**264**	P	**P**	**16 39 32.5**	**-2.4**
	0.8nm,0.6s,baz=99,slow=5.0,SNR=15						
WRA				ScP	**ScP**	**16 44 36.8**	**+6.9**
	0.3nm,0.8s,baz=94,slow=3.7,SNR=3.9						
KDU	**Kakadu**	**48.05**	**273**	P	**P**	**16 40 01.0**	**-2.3**
	baz=48,SNR=4.4						
WRKA	**Warakurna**	**48.93**	**256**	P	**P**	**16 40 08.3**	**-1.7**
	baz=49,SNR=7.8						
KNRA	**Kununurra**	**50.57**	**268**	P	**P**	**16 40 20.5**	**-1.7**
	baz=50,SNR=5.4						
FITZ	**Fitzroy Crossi**	**52.79**	**264**	P	**P**	**16 40 37.4**	**-1.0**
	3.9nm,0.9s,baz=86,slow=5.4,SNR=7.7						
FITZ	**Fitzroy Crossi**	**52.79**	**264**	P	**P**	**16 40 37.6**	**-0.8**
	baz=53,SNR=3.5						
MJAR	**Matsushiro Arr**	**71.95**	**324**	P	**P**	**16 42 43.4**	**-0.5**
	0.7nm,0.4s,baz=158,slow=7.1,SNR=3.5						
PETK	**Petropavlovsk-**	**78.35**	**345**	P	**P**	**16 43 17.9**	**-1.8**
	6.0nm,1.1s,baz=179,slow=7.2,SNR=3.8						
ILAR	**Eielson Array**	**90.40**	**13**	P	**P**	**16 44 18.4**	**-1.0**
	0.3nm,0.5s,baz=215,slow=5.4,SNR=8.3						
PDAR	**Pinedale Array**	**90.52**	**43**	P	**P**	**16 44 22.2**	**+1.5**
	0.5nm,0.8s,baz=202,slow=3.2,SNR=3.5						
CMAR	**Chiang Mai Arr**	**90.85**	**290**	P	**P**	**16 44 23.9**	**+1.3**
	0.2nm,0.6s,baz=114,slow=4.0,SNR=2.8						
AKASG	**Malin Array Be**	**144.89**	**330**	PKP	**PKPdf**	**16 50 52.0**	**-1.2**
	1.2nm,0.4s,baz=44,slow=4.3,SNR=7.4						
GERES	**GERESS Array B**	**152.27**	**343**	PKPbc	**PKPbc**	**16 51 14.6**	**+2.3**
	0.4nm,0.6s,baz=24,slow=1.2,SNR=3.5						

IDC 18 16:40:31.7±1.9,17.69S×167.20E,h0km, mb3.4/4, mb1 3.7/5, mb1mx3.6/18, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=49.5km s-min=32.2km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.42**	**189**	Pn	Pn	16 41 39.1	-1.1
	0.9nm,0.3s,baz=271,slow=22,SNR=16						
DZM				Sn	Sn	16 42 25.8	-6.6
	0.2nm,0.3s,baz=291,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**31.16**	**261**	P	P	16 46 53.6	+0.9
	0.4nm,0.8s,baz=89,slow=7.6,SNR=3.5						
ASAR	**Alice Springs**	**31.67**	**254**	P	P	16 46 57.8	+0.6
	0.3nm,0.7s,baz=80,slow=8.3,SNR=6.7						
CMAR	**Chiang Mai Arr**	**76.11**	**295**	P	P	16 52 20.4	-1.5
	0.3nm,0.8s,baz=116,slow=4.1,SNR=2.9						
ILAR	**Eielson Array**	**89.35**	**18**	P	P	16 53 30.5	+0.8
	0.2nm,0.8s,baz=234,slow=5.4,SNR=3.2						

*NIED **18** 16:52:00,35.00N×139.10E,h5km, Mw3.7 Best double couple: M◎3.56000×10^14 NP1:φ◎180.00000°, δ89.00000°, λ19.00000°. NP2:φ◎89.00000°, δ71.00000°, λ179.00000°.*
*ISCJB **18** 16:52:40.9±1.2,34.90N±0.04×139.29E±0.09, h10km±6km, mb3.4/3, Error ellipse: s-maj=11.9km s-min=7.0km az=4.5*
*IDC **18** 16:52:41.2±1.2,34.88N×139.10E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.3/25, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=42.7km s-min=18.4km az=88.0*
*JMA **18** 16:52:43.6,34.97N×139.13E, h4km±1km, M3.7*
JMA Felt III J1.
ISC 18 16:52:42.9±0.9,34.92N±0.04×139.13E±0.05, h11km±5km, n22, σ0§45/18, mb3.3/3, 1C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.05**	**275**	P	**Pg**	**16 52 45.1**	**0.0**
KTJJ				S	**Sg**	**16 52 46.8**	**+0.1**
AJI	**Ajiro2**	**0.13**	**347**	||P	**Pg**	**16 52 45.5**	**-0.5**
JIZS	**Izushimoda**	**0.29**	**225**	||P	**Pb**	**16 52 49.9**	**-0.1**
JIZS				S	**Sb**	**16 52 54.6**	**-0.2**
JIM2	**Oshima 3**	**0.32**	**129**	P	**Pb**	**16 52 50.6**	**-0.1**
JOD2	**Odawara 2**	**0.34**	**355**	||P	**Pg**	**16 52 49.6**	**-0.2**
JOD2				S	**Sg**	**16 52 54.2**	**-0.2**
JYN	**Shimob**	**0.75**	**321**	||P	**Pg**	**16 52 56.9**	**-0.5**
SHZ3	**Shizuoka 3**	**0.77**	**281**	||P	**Pb**	**16 52 58.4**	**+0.2**
MJAR	**Matsushiro Arr**	**1.78**	**336**	Pn	**Pn**	**16 53 14.1**	**+0.5**
	17nm,0.3s,baz=160,slow=14,SNR=121						
MJAR				Sn	**Sn**	**16 53 36.5**	**+0.2**
	36nm,0.3s,baz=114,slow=20,SNR=22						
MAT	**Matsushiro**	**1.78**	**335**	P	**Pn**	**16 53 14.4**	**+0.8**
MAT				S	**Sb**	**16 53 37.5**	**-0.4**
ASAJ	**Asahikawa**	**9.57**	**15**	Pn	**Pn**	**16 55 01.4**	**+1.0**
	0.3nm,0.3s,baz=225,slow=10.0,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**28.82**	**114**	T	T	17 28 49.5	
	baz=311,slow=76,SNR=787						
H11N1	**WAKE ISLAND Hy**	**28.82**	**114**	T	T	17 28 49.8	
	baz=311,slow=76,SNR=764						
H11N3	**WAKE ISLAND Hy**	**28.83**	**114**	T	T	17 28 50.7	
	baz=311,slow=76,SNR=989						
H11S3	**WAKE ISLAND Hy**	**29.42**	**117**	T	T	17 29 34.9	
	baz=313,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**29.43**	**117**	T	T	17 29 35.3	
	baz=313,slow=75,SNR=72						
H11S2	**WAKE ISLAND Hy**	**29.44**	**117**	T	T	17 29 37.2	
	baz=313,slow=75,SNR=44						
ILAR	**Eielson Array**	**52.27**	**31**	P	**P**	**17 01 53.5**	**-0.3**
	0.3nm,0.8s,baz=270,slow=5.4,SNR=3.6						
WRA	**Warramunga Arr**	**54.75**	**186**	P	**P**	**17 02 12.2**	**-0.3**
	0.5nm,0.9s,baz=0.8,slow=7.5,SNR=5.1						
ASAR	**Alice Springs**	**58.48**	**186**	P	**P**	**17 02 38.9**	**-0.1**
	0.2nm,0.7s,baz=19,slow=12,SNR=3.0						
H03N2	**Juan Fernandez**	**148.60**	**98**	T	T	19 58 38.4	
	baz=280						
H03N3	**Juan Fernandez**	**148.61**	**98**	T	T	19 58 38.2	
	baz=280						
H03N1	**Juan Fernandez**	**148.62**	**98**	T	T	19 58 39.6	
	baz=280						

IDC 18 16:53:48.1±1.2,8.56S×157.69E,h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=38.7km s-min=23.1km az=9.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.39**	**111**	Pn	Pn	16 54 28.4	-0.2
	5.2nm,0.3s,baz=233,slow=5.1,SNR=4.1						
HNR				Sn	Sn	16 55 00.2	+1.6
	28nm,0.3s,baz=323,slow=20,SNR=4.5						
WRA	**Warramunga Arr**	**25.26**	**241**	P	P	16 59 16.0	-0.2
	1.1nm,0.7s,baz=67,slow=9.3,SNR=15						
CMAR	**Chiang Mai Arr**	**63.86**	**295**	P	P	17 04 23.2	+0.2
	0.5nm,0.8s,baz=116,slow=6.1,SNR=5.2						
ILAR	**Eielson Array**	**83.86**	**21**	P	P	17 06 19.1	-0.3
	0.2nm,0.5s,baz=258,slow=5.1,SNR=6.1						
MKAR	**Makanchi Array**	**86.34**	**318**	P	P	17 06 32.7	+0.4
	0.2nm,0.5s,baz=110,slow=6.3,SNR=2.3						

*ISCJB **18** 17:14:57.9±2.0,27.8N±0.3×52.6E±0.3, h15km, mb3.7/6, Error ellipse: s-maj=52.4km s-min=25.5km az=155.1*
*IDC **18** 17:14:57.3±2.3,27.82N×52.59E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/26, mbtmp3.7/6, Error ellipse: s-maj=58.4km s-min=30.2km az=157.0*
ISC 18 17:14:59.6±2.2,27.8N±0.4×52.6E±0.2, h15km, n6, σ0§17/6, mb3.7/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**35.18**	**33**	P	**P**	**17 21 52.5**	**-0.2**
	0.6nm,0.4s,baz=242,slow=8.7,SNR=4.2						
FINES	**FINESS Array B**	**37.99**	**340**	P	**P**	**17 22 16.6**	**0.0**
	1.0nm,0.7s,baz=139,slow=8.3,SNR=4.5						
ARCES	**ARCESS Array B**	**44.60**	**347**	P	**P**	**17 23 11.0**	**+0.2**
	2.1nm,0.7s,baz=144,slow=7.8,SNR=2.8						
SONM	**Songino Array**	**45.94**	**49**	P	**P**	**17 23 22.0**	**+0.1**
	0.2nm,0.6s,baz=302,slow=8.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**49.52**	**264**	P	**P**	**17 23 50.0**	**0.0**
	0.5nm,0.6s,baz=58,slow=7.1,SNR=4.3						
YKA	**Yellowknife Ar**	**89.41**	**354**	P	**P**	**17 27 55.5**	**0.0**
	0.2nm,0.6s,baz=6.6,slow=5.1,SNR=4.6						

*CSEM **18** 17:33:59.9±0.1,39.27N×20.95E, h0km, MD3.5, Error ellipse: s-maj=3.1km s-min=2.1km az=54.0*
*BEO **18** 17:33:59.5±1.2,39.18N×20.67E, h0km, ML3.0/3*
*THE **18** 17:34:00.2,39.25N×20.97E, h0km±2km, ML3.3/6, Error ellipse: s-maj=2.7km s-min=0.7km az=91.0*
*ATH **18** 17:34:00.0,39.29N×20.99E, h1km±1km, MD3.5/37, ML3.3*
*IDC **18** 17:34:08.2±0.8,39.52N×20.85E, h64km±9km, mb3.2/4, mb1 3.2/8, mb1mx3.1/29, mbtmp3.1/8, Error ellipse: s-maj=9.4km s-min=5.9km az=164.0*
ISC 18 17:33:59.9±1.0,39.27N±0.01×20.93E±0.02, h7km±8km, n186, σ1§10/223, mb3.5/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.39**	**351**	P	**Pg**	**17 34 07.3**	**-0.2**
JAN				S	**Sb**	**17 34 14.4**	**-1.0**
JAN	**Janina**	**0.39**	**351**	*e*PB	**Pg**	**17 34 07.3**	**-0.2**
JAN				*e*SB	**Sg**	**17 34 13.1**	**+0.5**
JAN	**Janina**	**0.39**	**351**	P	**Pg**	**17 34 07.3**	**-0.2**
JAN				S	**Sb**	**17 34 14.4**	**-1.0**
LKD2	**Lefkada island**	**0.53**	**203**	P	**Pb**	**17 34 11.0**	**-0.5**
LKD2				S	**Sg**	**17 34 17.4**	**+0.5**
LKD2	**Lefkada island**	**0.53**	**203**	*e*PB	**Pb**	**17 34 11.1**	**-0.5**
LKD2				*e*SB	**Sb**	**17 34 19.3**	**0.0**
LKD2	**Lefkada island**	**0.53**	**203**	P	**Pb**	**17 34 11.0**	**-0.5**
LKD2				S	**Sg**	**17 34 17.4**	**+0.5**
LKD2				*e*SB	**Sb**	**17 34 19.3**	**0.0**
IGT	**Igoumenitsa**	**0.53**	**300**	P	**Pg**	**17 34 10.1**	**0.0**
IGT				S	**Sb**	**17 34 19.1**	**-0.3**
IGT	**Igoumenitsa**	**0.53**	**300**	*e*PB	**Pg**	**17 34 10.3**	**+0.2**
IGT				*e*SB	**Sb**	**17 34 19.1**	**-0.3**
IGT	**Igoumenitsa**	**0.53**	**300**	*e*Pb	**Pg**	**17 34 10.3**	**+0.2**
IGT				S	**Sb**	**17 34 19.1**	**-0.3**
MEV	**Metsovon**	**0.56**	**24**	P	**Pg**	**17 34 10.1**	**-0.7**
MEV	**Metsovon**	**0.56**	**24**	P	**Pg**	**17 34 10.1**	**-0.7**
PDO	**Prodromos**	**0.70**	**163**	P	**Pg**	**17 34 13.7**	**+0.4**
PDO				S	**Sg**	**17 34 22.7**	**+0.2**
PDO	**Prodromos**	**0.70**	**163**	*e*PB	**Pg**	**17 34 13.8**	**+0.4**
PDO				*e*SG	**Sg**	**17 34 22.6**	**+0.1**
PDO	**Prodromos**	**0.70**	**163**	*e*Pb	**Pg**	**17 34 13.8**	**+0.4**
PDO				*e*Sg	**Sg**	**17 34 22.6**	**+0.1**
EVR	**Evrytania**	**0.77**	**117**	P	**Pg**	**17 34 14.0**	**-0.8**
EVR				S	**Sg**	**17 34 24.5**	**-0.3**
EVR	**Evrytania**	**0.77**	**117**	*e*PG	**Pg**	**17 34 13.6**	**-1.2**
EVR				*e*SB	**Sb**	**17 34 27.9**	**+1.4**
EVR	**Evrytania**	**0.77**	**117**	P	**Pg**	**17 34 14.0**	**-0.8**
EVR				S	**Sg**	**17 34 24.5**	**-0.3**
EVR				*e*Sb	**Sb**	**17 34 27.9**	**+1.4**
PVO	**Paravola**	**0.80**	**144**	P	**Pg**	**17 34 14.4**	**-1.0**
PVO	**Paravola**	**0.80**	**144**	P	**Pg**	**17 34 14.4**	**-1.0**
THL	**Klokotos Trika**	**0.89**	**71**	P	**Pg**	**17 34 16.1**	**-0.9**
THL	**Klokotos Trika**	**0.89**	**71**	*e*PB	**Pg**	**17 34 16.7**	**-0.3**
THL	**Klokotos Trika**	**0.89**	**71**	P	**Pg**	**17 34 16.1**	**-0.9**
SRN	**Sarande**	**0.94**	**311**	P	**Pg**	**17 34 18.2**	**+0.3**
SRN				S	**Sn**	**17 34 32.5**	**-0.7**
SRN	**Sarande**	**0.94**	**311**	P	**Pg**	**17 34 18.2**	**+0.3**
SRN				S	**Sn**	**17 34 32.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.97**	**105**	P	**Pg**	**17 34 17.3**	**-1.3**
MAKR	**Makrakomi, Fth**	**0.97**	**105**	*e*PG	**Pg**	**17 34 17.5**	**-1.1**
MAKR				*e*SB	**Sg**	**17 34 31.3**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.97**	**105**	P	**Pg**	**17 34 17.3**	**-1.3**
MAKR				*e*Sb	**Sg**	**17 34 31.3**	**+0.1**
KEK	**Kerkira**	**0.98**	**297**	P	**Pg**	**17 34 18.5**	**-0.2**
KEK				S	**Sn**	**17 34 35.0**	**+0.8**
KEK	**Kerkira**	**0.98**	**297**	*e*PG	**Pg**	**17 34 18.9**	**+0.2**
KEK	**Kerkira**	**0.98**	**297**	P	**Pg**	**17 34 18.5**	**-0.2**
KEK	**Kerkira**	**0.98**	**297**	*e*Pg	**Pg**	**17 34 18.9**	**+0.2**
KEK				S	**Sn**	**17 34 35.0**	**+0.8**
AGG	**Agios Georgios**	**1.12**	**102**	P	**Pg**	**17 34 20.0**	**-1.4**
AGG	**Agios Georgios**	**1.12**	**102**	*e*PG	**Pg**	**17 34 20.0**	**-1.4**
AGG	**Agios Georgios**	**1.12**	**102**	P	**Pg**	**17 34 20.0**	**-1.4**
VLS	**Valsamata**	**1.12**	**194**	P	**Pg**	**17 34 20.7**	**-0.7**
VLS				S	**Sn**	**17 34 37.5**	**-0.3**
VLS	**Valsamata**	**1.12**	**194**	*e*PG	**Pg**	**17 34 20.8**	**-0.7**
VLS	**Valsamata**	**1.12**	**194**	*e*Pg	**Pg**	**17 34 20.8**	**-0.7**
VLS				S	**Sn**	**17 34 37.5**	**-0.3**
EFP	**Efpalio**	**1.14**	**137**	P	**Pg**	**17 34 20.4**	**-1.3**
EFP	**Efpalio**	**1.14**	**137**	*e*PG	**Pg**	**17 34 20.2**	**-1.5**
EFP	**Efpalio**	**1.14**	**137**	P	**Pg**	**17 34 20.4**	**-1.3**
NEST	**Nestorio**	**1.15**	**5**	P	**Pg**	**17 34 21.4**	**-0.5**
NEST	**Nestorio**	**1.15**	**5**	*e*PB	**Pg**	**17 34 21.3**	**-0.6**
NEST	**Nestorio**	**1.15**	**5**	P	**Pg**	**17 34 21.4**	**-0.5**
KFL	**Anninata**	**1.17**	**185**	P	**Pg**	**17 34 21.9**	**-0.4**
KFL				S	**Sn**	**17 34 39.7**	**+0.9**
KFL	**Anninata**	**1.17**	**185**	P	**Pg**	**17 34 21.9**	**-0.4**
KFL				S	**Sn**	**17 34 39.7**	**+0.9**
KZN	**Kozani**	**1.22**	**32**	P	**Pb**	**17 34 23.0**	**-0.4**
KZN	**Kozani**	**1.22**	**32**	*e*PB	**Pb**	**17 34 23.3**	**-0.1**
KZN	**Kozani**	**1.22**	**32**	P	**Pb**	**17 34 23.0**	**-0.4**
KZN	**Kozani**	**1.22**	**32**	*e*Pb	**Pb**	**17 34 23.3**	**-0.1**
RLS	**Riolos of Patr**	**1.28**	**161**	P	**Pg**	**17 34 24.5**	**0.0**
RLS	**Riolos of Patr**	**1.28**	**161**	*e*PG	**Pn**	**17 34 24.0**	**-0.3**
RLS	**Riolos of Patr**	**1.28**	**161**	*e*Pg	**Pn**	**17 34 24.0**	**-0.3**
RLS	**Riolos of Patr**	**1.28**	**161**	P	**Pg**	**17 34 24.5**	**0.0**
KALE	**Kalithea**	**1.29**	**132**	P	**Pb**	**17 34 24.6**	**0.0**
KALE	**Kalithea**	**1.29**	**132**	*e*PG	**Pn**	**17 34 23.6**	**-0.9**
KALE	**Kalithea**	**1.29**	**132**	*e*Pg	**Pn**	**17 34 23.6**	**-0.9**
KALE	**Kalithea**	**1.29**	**132**	P	**Pb**	**17 34 24.6**	**0.0**
LAKA	**Lakka**	**1.32**	**141**	*e*PB	**Pn**	**17 34 24.8**	**0.0**
LAKA	**Lakka**	**1.32**	**141**	*e*Pb	**Pn**	**17 34 24.8**	**0.0**
AXAR	**Agios Charalam**	**1.44**	**110**	P	**Pg**	**17 34 27.9**	**+0.4**
AXAR	**Agios Charalam**	**1.44**	**110**	P	**Pg**	**17 34 27.9**	**+0.4**
DRO	**Drossia**	**1.45**	**155**	P	**Pb**	**17 34 27.2**	**-0.1**
DRO	**Drossia**	**1.45**	**155**	*e*PG	**Pn**	**17 34 26.6**	**0.0**
DRO	**Drossia**	**1.45**	**155**	*e*Pg	**Pn**	**17 34 26.6**	**0.0**
DRO	**Drossia**	**1.45**	**155**	P	**Pb**	**17 34 27.2**	**-0.1**
LIT	**Litokhoron**	**1.46**	**55**	P	**Pb**	**17 34 27.4**	**-0.1**
LIT				S	**Sg**	**17 34 47.6**	**+0.6**
LIT	**Litokhoron**	**1.46**	**55**	*e*PB	**Pb**	**17 34 27.3**	**-0.2**
LIT	**Litokhoron**	**1.46**	**55**	*e*Pb	**Pb**	**17 34 27.3**	**-0.2**
LIT				S	**Sg**	**17 34 47.6**	**+0.6**
DSF	**Desfina**	**1.52**	**124**	P	**Pb**	**17 34 28.3**	**-0.1**
DSF	**Desfina**	**1.52**	**124**	*e*PB	**Pn**	**17 34 27.9**	**+0.4**
DSF	**Desfina**	**1.52**	**124**	*e*Pb	**Pn**	**17 34 27.9**	**+0.4**
DSF	**Desfina**	**1.52**	**124**	P	**Pb**	**17 34 28.3**	**-0.1**
FNA	**Florina**	**1.55**	**13**	P	**Pb**	**17 34 29.3**	**+0.3**
FNA	**Florina**	**1.55**	**13**	*e*PB	**Pg**	**17 34 29.5**	**-0.1**
FNA	**Florina**	**1.55**	**13**	*e*Pb	**Pg**	**17 34 29.5**	**-0.1**
KLV	**Kalavryta, Ach**	**1.56**	**142**	*e*PB	**Pb**	**17 34 29.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.56**	**142**	*e*Pb	**Pb**	**17 34 29.0**	**-0.1**
LKR	**Lokris**	**1.73**	**110**	P	**Pn**	**17 34 31.0**	**+0.6**
LKR	**Lokris**	**1.73**	**110**	*e*PG	**Pb**	**17 34 31.3**	**-0.7**
LKR	**Lokris**	**1.73**	**110**	P	**Pn**	**17 34 31.0**	**+0.6**
LKR	**Lokris**	**1.73**	**110**	*e*Pg	**Pb**	**17 34 31.3**	**-0.7**
GUR	**Goura**	**1.73**	**140**	*e*PN	**Pb**	**17 34 32.5**	**+0.3**
GUR	**Goura**	**1.73**	**140**	*e*Pn	**Pb**	**17 34 32.5**	**+0.3**
XOR	**Xorichti**	**1.76**	**86**	P	**Pn**	**17 34 31.5**	**+0.6**
XOR	**Xorichti**

GRUS	**Gruza**	**4.62**	**358**	*e*Pn	**Pn**	17 35 11.6	**+1.5**
DIVS	**Divibare**	**4.87**	**352**	*e*Pn	**Pn**	17 35 14.7	**+1.0**
DIVS	**Divibare**	**4.87**	**352**	*e*Pn	**Pn**	17 35 14.7	**+1.0**
FGSL	**Fruska Gora**	**5.94**	**352**	*e*Pn	**Pn**	17 35 28.9	**+0.6**
FRGS	**Fruska Gora**	**5.94**	**352**	*e*Pn	**Pn**	17 35 28.9	**+0.6**
NVLJ	**Novalja**	**6.95**	**321**	*e*Pn	**Pn**	17 35 43.0	**+0.8**
NVLJ				*e*Sn	**Sn**	17 36 57.1	**-4.3**
NVLJ	**Novalja**	**6.95**	**321**	*e*Pn	**Pn**	17 35 42.9	**+0.8**
BOJS	**Bojanci**	**7.51**	**328**	*i* Pn	**Pn**	17 35 50.4	**+0.6**
BOJS	**Bojanci**	**7.51**	**328**	Pn	**Pn**	17 35 50.4	**+0.6**
CRES	**Cresnjev**	**7.69**	**330**	*i* Pn	**Pn**	17 35 52.7	**+0.4**
CRES				*i* Sn	**Sn**	17 37 16.0	**-3.7**
CRES	**Cresnjev**	**7.69**	**330**	*i* Pn	**Pn**	17 35 52.7	**+0.4**
GBRS	**Gornja Briga**	**7.72**	**326**	*i* Pn	**Pn**	17 35 53.6	**+0.9**
GBRS				*i* Sn	**Sn**	17 37 18.9	**-1.5**
VISS	**Visnje**	**7.92**	**327**	*i* Pn	**Pn**	17 35 56.1	**+0.6**
VISS				*i* Sn	**Sn**	17 37 22.5	**-2.9**
VISS	**Visnje**	**7.92**	**327**	*i* Pn	**Pn**	17 35 56.1	**+0.6**
JAVS	**Javornik**	**8.33**	**325**	*i* Pn	**Pn**	17 36 01.4	**+0.3**
JAVS				*i* Sn	**Sn**	17 37 33.2	**-2.3**
JAVS	**Javornik**	**8.33**	**325**	*i* Pn	**Pn**	17 36 01.4	**+0.3**
JAVS				*i* Sn	**Sn**	17 37 33.2	**-2.3**
BRTR	**Keskin Array B**	**9.84**	**83**	P	Pn	17 36 27.9	+6.0
	0.1nm,0.3s,baz=261,slow=12,SNR=3.5						
KEST	**Kesra**	**9.86**	**253**	P	Pn	17 36 25.6	+3.5
	0.1nm,0.3s,baz=55,slow=12,SNR=1.6						
GERES	**GERESS Array B**	**10.88**	**334**	P	**Pn**	**17 36 37.0**	**+0.9**
	0.1nm,0.3s,baz=158,slow=14,SNR=4.1						
ESDC	**Sonseca Array**	**19.21**	**279**	P	**Pn**	**17 38 26.1**	**+0.7**
	0.2nm,0.3s,baz=81,slow=9.9,SNR=3.1						
FINES	**FINESS Array B**	**22.43**	**6**	P	**P**	**17 39 00.0**	**+1.1**
	1.6nm,0.8s,baz=198,slow=8.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**31.08**	**218**	P	P	17 40 22.5	+3.7
	0.3nm,0.6s,baz=31,slow=9.7,SNR=2.8						
MKAR	**Makanchi Array**	**44.47**	**59**	P	**P**	**17 42 11.4**	**-0.2**
	0.5nm,0.9s,baz=272,slow=8.3,SNR=3.1						
ZALV	**Zalesovo Beam**	**44.73**	**49**	P	**P**	**17 42 13.0**	**-0.5**
	0.3nm,0.3s,baz=292,slow=7.6,SNR=2.3						

IDC 18 17:55:19.8±7.5,**30°.54S**×**178°.12W**,**h0**km,**mb3.2**/2,
mb1 3.5/2,**mb1mx3.4**/17,**mbtmp3.2**/2,**Error ellipse:**
s-maj=307.6km s-min=62.5km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.00**	**267**	P	P	18 03 20.8	-0.4
	0.2nm,0.7s,baz=106,slow=7.8,SNR=5.8						
WRA	**Warramunga Arr**	**44.00**	**272**	P	P	18 03 29.3	0.0
	0.2nm,0.4s,baz=111,slow=8.1,SNR=5.9						
FINES	**FINESS Array B**	**145.24**	**340**	PKPbc	PKPbc	18 14 57.5	-0.8
	2.8nm,1.0s,baz=67,slow=4.7,SNR=3.5						

*AUST **18** 18:15:19.0±2.9, 17°.53S×179°.15W, h442km, Error ellipse: s-maj=2.1km s-min=1.9km az=5.0*
*ISCJB **18** 18:15:19.3±0.6, 17°.6S±0°.2×178°.4W±0°.1, h547km, mb3.7/6, Error ellipse: s-maj=28.0km s-min=11.2km az=153.0*
*IDC **18** 18:15:19.1±2.0, 17°.84S×178°.25W, h529km±23km, mb3.3/7, mb1 3.5/9, mb1mx3.3/21, mbtmp3.3/9, Error ellipse: s-maj=23.1km s-min=15.2km az=147.0*

ISC 18 18:15:20.5±0.8,**17°.8S**±0°.2×**178°.3W**±0°.1,**h547**km,**n25,**
σ0s88/26,mb3.6/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.38**	**59**	P	P	18 17 10.1	-2.1
	4.0nm,0.3s,baz=193,slow=4.1,SNR=2.7						
DZM	**Mont Dzumac**	**14.96**	**251**	P	**P**	**18 18 30.3**	**+0.6**
	0.3nm,0.3s,baz=119,slow=19,SNR=3.5						
URZ	**Urewera**	**20.76**	**190**	P	**P**	**18 19 21.0**	**-2.4**
	3.9nm,0.4s,baz=268,slow=5.6,SNR=12						
ARMA	**Armidale**	**30.08**	**240**	P	**P**	**18 20 47.2**	**+1.3**
	baz=30,SNR=5.3						
CNB	**Canberra Magne**	**33.57**	**232**	P	**P**	**18 21 16.7**	**+1.2**
	baz=33,SNR=10						
CMSA	**Cobar Meteorol**	**35.29**	**240**	P	**P**	**18 21 30.5**	**+0.6**
	baz=35,SNR=15						
QLP	**Quilpie**	**35.67**	**249**	P	**P**	**18 21 33.4**	**+0.3**
	baz=35,SNR=4.4						
TOO	**Toolangi**	**37.31**	**231**	P	**P**	**18 21 47.9**	**+1.4**
	baz=37,SNR=4.5						
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**18 21 59.3**	**+0.9**
	4.9nm,0.5s,baz=93,slow=9.2,SNR=31						
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**18 21 59.3**	**+0.9**
	baz=38,SNR=23						
HTT	**Hallett**	**41.28**	**239**	P	**P**	**18 22 19.3**	**+0.7**
	baz=41,SNR=7.6						
BBOO	**Buckleboo**	**43.55**	**241**	P	**P**	**18 22 36.5**	**+0.3**
	baz=43,SNR=15						
WRA	**Warramunga Arr**	**44.76**	**259**	P	**P**	**18 22 45.1**	**-0.7**
	1.9nm,0.7s,baz=96,slow=7.7,SNR=49						
WRA				PcP	**PcP**	**18 24 16.0**	**-0.3**
	1.1nm,1.0s,baz=93,slow=3.4,SNR=4.6						
ASAR	**Alice Springs**	**44.92**	**254**	P	**P**	**18 22 47.0**	**-0.1**
	16nm,0.7s,baz=88,slow=8.4,SNR=441						
ASAR				PcP	**PcP**	**18 24 16.4**	**-0.4**
	0.7nm,0.5s,baz=107,slow=3.3,SNR=6.1						
KDU	**Kakadu**	**47.67**	**269**	P	**P**	**18 23 07.8**	**-0.1**
	baz=47,SNR=3.1						
MTN	**Manton Dam**	**48.91**	**268**	P	**P**	**18 23 16.7**	**-0.4**
	baz=48,SNR=4.0						
WRKA	**Warakurna**	**49.98**	**252**	P	**P**	**18 23 24.8**	**-0.1**
	baz=49,SNR=13						
KNRA	**Kununurra**	**50.61**	**264**	P	**P**	**18 23 29.6**	**0.0**
	baz=50,SNR=3.9						
MEEK	**Meekatharra**	**58.57**	**249**	P	**P**	**18 24 24.4**	**-0.9**
	baz=58,SNR=4.1						
VNDA	**Vanda**	**60.54**	**185**	P	**P**	**18 24 38.6**	**+1.1**
	0.5nm,0.5s,baz=1.4,slow=8.5,SNR=3.2						
UGM	**Wanaggama**	**69.76**	**268**	P	**P**	**18 25 36.3**	**-0.2**
	baz=69,SNR=4.2						
TXAR	**Lajitas Array**	**85.86**	**58**	P	**P**	**18 27 03.9**	**+1.0**
	0.6nm,0.8s,baz=232,slow=6.2,SNR=6.0						
PDAR	**Pinedale Array**	**87.21**	**43**	P	**P**	**18 27 08.9**	**-0.3**
	0.3nm,0.7s,baz=213,slow=4.2,SNR=3.1						
BRTR	**Keskin Array B**	**144.79**	**315**	PKP	**PKPdf**	**18 33 55.5**	**-0.2**
	0.4nm,0.5s,baz=139,slow=5.9,SNR=2.5						
GERES	**GERESS Array B**	**147.55**	**345**	PKPbc	**PKPbc**	**18 34 03.0**	**-0.5**
	0.3nm,0.5s,baz=48,slow=2.9,SNR=2.9						

*ISCJB **18** 18:19:52.5±1.1, 25°.89S±0°.09×178°.6W±0°.2, h342km, mb3.6/7, Error ellipse: s-maj=27.8km s-min=11.4km az=9.6*
*IDC **18** 18:19:52.6±8.4, 25°.95S×178°.52W, h336km±81km, mb3.5/7, mb1 3.7/8, mb1mx3.5/17, mbtmp3.6/8, Error ellipse: s-maj=41.4km s-min=33.3km az=3.0*

ISC 18 18:19:52.9±1.0,**26°.0S**±0°.1×**178°.4W**±0°.2,**h342**km,**n12,**
σ0s96/13,mb3.5/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.78**	**196**	P	**Pn**	**18 22 44.2**	**+0.3**
	3.0nm,0.3s,baz=261,slow=1.4,SNR=15						
URZ				S	**S**	**18 25 04.1**	**-0.4**
	0.7nm,0.3s,baz=154,slow=22,SNR=7.8						
STKA	**Stephens Creek**	**35.31**	**251**	P	**P**	**18 26 17.4**	**+0.5**
	0.9nm,0.3s,baz=81,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**43.12**	**262**	P	**P**	**18 27 20.5**	**-0.5**
	1.3nm,0.5s,baz=90,slow=7.1,SNR=33						
WRA	**Warramunga Arr**	**43.71**	**268**	P	**P**	**18 27 24.3**	**-1.3**
	1.3nm,0.5s,baz=104,slow=7.8,SNR=27						
PETK	**Petropavlovsk-**	**81.47**	**346**	P	**P**	**18 31 31.3**	**-1.0**
	4.4nm,0.9s,baz=164,slow=5.7,SNR=5.2						
USRK	**Ussuriysk Arra**	**83.29**	**327**	P	**P**	**18 31 43.4**	**+1.6**
	0.8nm,0.5s,baz=152,slow=6.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**91.57**	**290**	P	**P**	**18 32 23.0**	**+1.0**
	0.3nm,0.3s,baz=114,slow=2.3,SNR=4.2						
PDAR	**Pinedale Array**	**93.23**	**43**	P	**P**	**18 32 29.6**	**+0.2**
	0.3nm,0.9s,baz=230,slow=4.2,SNR=3.2						
NB2	**NORSAR Subarra**	**144.36**	**352**	PKP	**PKPab**	**18 38 46.3**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=12,slow=3.4						
NOA	**NORSAR Array B**	**144.36**	**352**	PKP	**PKPab**	**18 38 46.7**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=12,slow=2.4,SNR=5.1						
AKASG	**Malin Array Be**	**147.50**	**327**	PKPbc	**PKPbc**	**18 38 56.0**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=46,slow=4.4,SNR=12						
BRTR	**Keskin Array B**	**149.96**	**305**	PKPbc	**PKPbc**	**18 39 03.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=120,slow=2.5,SNR=3.9						

*NIED **18** 18:36:00, 35°.00N×139°.10E, h5km, Mw3.7 Best double couple: M0≈4.02000×10^14 NP1:ϕs184.00000°, δ86.00000°, λ8.00000°. NP2:ϕs94.00000°, δ82.00000°, λ176.00000°.*
*IDC **18** 18:36:23.9±1.1, 34°.83N×139°.43E, h0km, mb3.3/5, mb1 3.6/7, mb1mx3.4/26, mbtmp3.4/7, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/16, Error ellipse: s-maj=27.2km s-min=21.4km az=87.0*
*ISCJB **18** 18:36:24.4±0.8, 34°.93N±0°.04×139°.21E±0°.07, h13km±4km, mb3.4/5, MS3.3/1, Error ellipse: s-maj=10.0km s-min=6.2km az=179.1*
*JMA **18** 18:36:25.6, 34°.97N×139°.13E, h3km±1km, M3.6 Broadband fault plane solution: P waves. NP1: ϕs108.00000°, δ84.00000°, λ167.00000°. NP2: ϕs199.00000°, δ77.00000°, λ6.00000°. Principal axes: T Plg13.0000°, Azm63.0000°; N Plg76.0000°, Azm265.0000°; P Plg5.0000°, Azm154.0000°;*
JMA Felt III J1.

ISC 18 18:36:24.7±1.5,**34°.95N**±0°.04×**139°.25E**±0°.08,**h3**km±10km,
n23,σ1s20/20,mb3.5/5,2C-4D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTJJ	**Kamata 2**	**0.15**	**260**	P	**Pg**	**18 36 27.1**	**-0.6**
AJI	**Ajiro2**	**0.16**	**306**	⇓P	**Pg**	**18 36 27.5**	**-0.3**
JIM2	**Oshima 3**	**0.28**	**147**	⇓P	**Pb**	**18 36 32.6**	**+0.2**
JOD2	**Odawara 2**	**0.34**	**337**	⇓P	**Pg**	**18 36 31.6**	**+0.3**
JOD2				S	**Sg**	**18 36 36.1**	**+0.4**
JIZS	**Izushimoda**	**0.38**	**233**	⇑P	**Pg**	**18 36 31.9**	**-0.2**
JIZS				S	**Sg**	**18 36 36.7**	**-0.4**
JYN	**Shimodate**	**0.79**	**314**	⇓P	**Pg**	**18 36 38.9**	**-1.1**
SHZ3	**Shizuoka 3**	**0.86**	**278**	⇑P	**Pg**	**18 36 40.4**	**-0.8**
MJAR	**Matsushiro Arr**	**1.80**	**332**	Pn	**Pn**	**18 36 56.2**	**-0.5**
	24nm,0.3s,baz=160,slow=14,SNR=142						
MJAR				Sn	**Sn**	**18 37 18.3**	**-1.8**
	69nm,0.3s,baz=72,slow=19,SNR=28						
MJAR				LR	LR	18 37 24.1	
	comp=Z,542nm,18.7s,baz=175,slow=31						
MAT	**Matsushiro**	**1.80**	**332**	P	**Pn**	**18 36 56.3**	**-0.4**
MAT				S	**Sn**	**18 37 19.2**	**-0.9**
JNU	**Nakatsue**	**7.18**	**258**	Pn	**Pn**	**18 38 11.6**	**+0.9**
	0.3nm,0.3s,baz=34,slow=6.7,SNR=4.2						
KSRS	**Korea Array**	**9.49**	**289**	Pn	**Pn**	**18 38 44.3**	**+2.0**
	0.1nm,0.3s,baz=100,slow=14,SNR=2.8						
SONM	**Songino Array**	**27.58**	**308**	LR	LR	18 53 39.9	
	comp=Z,76nm,18.1s,baz=258,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.74**	**115**	T	T	19 12 31.1	
	baz=310,slow=76,SNR=430						
H11N1	**WAKE ISLAND Hy**	**28.74**	**115**	T	T	19 12 31.8	
	baz=310,slow=76,SNR=2432						
H11N3	**WAKE ISLAND Hy**	**28.76**	**115**	T	T	19 12 32.6	
	baz=310,slow=76,SNR=2584						
H11S3	**WAKE ISLAND Hy**	**29.35**	**117**	T	T	19 13 17.6	
	baz=313,slow=75,SNR=154						
H11S1	**WAKE ISLAND Hy**	**29.35**	**117**	T	T	19 13 17.0	
	baz=313,slow=75,SNR=244						
H11S2	**WAKE ISLAND Hy**	**29.36**	**117**	T	T	19 13 18.3	
	baz=313,slow=75,SNR=179						
MKAR	**Makanchi Array**	**43.77**	**304**	P	**P**	**18 44 34.0**	**+2.5**
	0.2nm,0.7s,baz=68,slow=9.4,SNR=2.6						
ILAR	**Eielson Array**	**52.19**	**31**	P	**P**	**18 45 36.9**	**+0.5**
	0.6nm,0.9s,baz=264,slow=6.2,SNR=5.7						
WRA	**Warramunga Arr**	**54.79**	**186**	P	**P**	**18 45 54.2**	**-1.8**
	0.6nm,0.8s,baz=1.3,slow=7.5,SNR=7.6						
ASAR	**Alice Springs**	**58.52**	**186**	P	**P**	**18 46 21.4**	**-1.1**
	0.3nm,0.9s,baz=16,slow=9.0,SNR=3.3						
YKA	**Yellowknife Ar**	**66.48**	**29**	P	**P**	**18 47 14.7**	**-0.6**
	0.3nm,0.8s,baz=300,slow=6.7,SNR=4.4						

*CNRM **18** 19:10:21.3, 32°.35N×0°.53E, h30km, MD4.2*
*IDC **18** 19:10:25.1±0.8, 32°.97N×0°.17W, h0km, mb3.9/12, mb1 4.0/16, mb1mx3.9/33, mbtmp3.9/16, ML3.6/5, MS2.9/4, Ms1 2.9/4, ms1mx2.5/43, Error ellipse: s-maj=19.3km s-min=14.9km az=153.0*
*CSEM **18** 19:10:25.5±0.7, 32°.68N×0°.01W, h10km, ML4.8, Error ellipse: s-maj=16.8km s-min=7.7km az=169.0*
*LDG **18** 19:10:25.7±0.3, 32°.88N×0°.08E, h10km, Ml3.5/4, Error ellipse: s-maj=10.7km s-min=7.8km az=119.0*
*ISCJB **18** 19:10:27.0±1.5, 32°.95N±0°.04×0°.22W±0°.04, h28km±12km, mb3.8/11, Error ellipse: s-maj=7.0km s-min=5.3km az=166.0*
*MDD **18** 19:10:32.8±1.7, 33°.06N×0°.03W, h60km, mb3.9/7, Error ellipse: s-maj=20.7km s-min=9.6km az=174.0, PRXIMO*
*CRAAG **18** 19:10:36.3, 34°.00N×0°.07E, Ml4.8*

ISC 18 19:10:27.6±1.6,**33°.01N**±0°.05×**0°.27W**±0°.04,**h16**km±10km,
n129,σ1s41/126,mb4.0/11,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**2.32**	**2**	P	**Pb**	**19 11 10.0**	**+1.0**
ODJA	**Bouhanifia**	**2.32**	**2**	P	**Pb**	**19 11 10.0**	**+1.0**
ODJA	**Bouhanifia**	**2.32**	**2**	P	**Pb**	**19 11 10.0**	**+1.0**
OLHC	**Oulhaca**	**2.43**	**337**	P	**Pb**	**19 11 11.0**	**+0.1**
OLHC	**Oulhaca**	**2.43**	**337**	P	**Pb**	**19 11 11.0**	**+0.1**
OLHC	**Oulhaca**	**2.43**	**337**	P	**Pb**	**19 11 11.0**	**+0.1**
OJGS	**Djebel Guires**	**2.63**	**18**	P	**Pn**	**19 11 12.0**	**+2.6**
OJGS	**Djebel Guires**	**2.63**	**18**	P	**Pn**	**19 11 12.0**	**+2.6**
OJGS	**Djebel Guires**	**2.63**	**18**	P	**Pn**	**19 11 12.0**	**+2.6**
ETRT	**Tiaret**	**2.71**	**28**	P	**Pn**	**19 11 10.9**	**+0.4**
ETRT	**Tiaret**	**2.71**	**28**	P	**Pn**	**19 11 10.9**	**+0.4**
ETRT	**Tiaret**	**2.71**	**28**	P	**Pn**	**19 11 10.9**	**+0.4**
USTO	**Oran**	**2.73**	**355**	P	**Pg**	**19 11 21.0**	**+1.1**
USTO	**Oran**	**2.73**	**355**	P	**Pg**	**19 11 21.0**	**+1.1**
ZAI	**Zaio**	**2.84**	**314**	P	**Pb**	**19 11 16.0**	**-1.9**
ZAI				S	**Sg**	**19 11 57.0**	**-1.9**
ZAI	**Zaio**	**2.84**	**314**	P	**Pb**	**19 11 16.0**	**-1.9**
ZAI				S	**Sg**	**19 11 57.0**	**-1.9**
OKGL	**Djebel Kef Gue**	**3.11**	**14**	P	Pn	19 11 13.0	-3.0
OKGL	**Djebel Kef Gue**	**3.11**	**14**	P	Pn	19 11 13.0	-3.0
OKGL	**Djebel Kef Gue**	**3.11**	**14**	P	Pn	19 11 13.0	-3.0
EANR	**'Ain N'Sour**	**3.14**	**21**	P	**Pn**	**19 11 17.1**	**+0.7**
EANR	**'Ain N'Sour**	**3.14**	**21**	P	**Pn**	**19 11 17.1**	**+0.7**
EANR	**'Ain N'Sour**	**3.14**	**21**	P	**Pn**	**19 11 17.1**	**+0.7**
ECHF	**Ech Chlef**	**3.41**	**22**	P	**Pn**	**19 11 20.8**	**+0.8**
ECHF	**Ech Chlef**	**3.41**	**22**	P	**Pn**	**19 11 20.8**	**+0.8**
ECHA	**Ech Chlef**	**3.41**	**23**	P	**Pn**	**19 11 20.8**	**+0.8**
ECHA	**Ech Chlef**	**3.41**	**23**	P	**Pn**	**19 11 20.8**	**+0.8**
TOU	**Touzarine**	**3.49**	**305**	P	**Pb**	**19 11 27.0**	**-2.0**
TOU				S	**Sb**	**19 12 14.0**	**+2.7**
TOU	**Touzarine**	**3.49**	**305**	P	**Pb**	**19 11 27.0**	**-2.0**
TOU				S	**Sb**	**19 12 14.0**	**+2.7**
EBNR	**Beni Rached**	**3.59**	**24**	P	**Pn**	**19 11 23.7**	**+1.1**
EBNR	**Beni Rached**	**3.59**	**24**	P	**Pn**	**19 11 23.7**	**+1.1**
MDT	**Midelt**	**3.66**	**268**	Pn	**Pn**	**19 11 23.3**	**-0.3**
	7.1nm,0.3s,baz=86,slow=16,SNR=220						
MDT				Lg	Lg	19 12 24.6	
	8.3nm,0.3s,baz=182,slow=20,SNR=8.3						
MDT				LR	LR	19 13 17.6	
	comp=Z,207nm,21.3s,baz=247,slow=46						
EMHD	**Djebel Mahouad**	**4.14**	**39**	P	Pn	19 11 34.4	+4.1
EMHD	**Djebel Mahouad**	**4.14**	**39**	P	Pn	19 11 34.4	+4.1
EMHD	**Djebel Mahouad**	**4.14**	**39**	P	Pn	19 11 34.4	+4.1
ADJB	**Djebel Djouab**	**4.38**	**43**	P	**Pn**	**19 11 33.8**	**+0.3**
ADJB	**Djebel Djouab**	**4.38**	**43**	P	**Pn**	**19 11 33.8**	**+0.3**
ADJB	**Djebel Djouab**	**4.38**	**43**	P	**Pn**	**19 11 33.8**	**+0.3**
EBER	**Berja**	**4.44**	**332**	P	Pn	**19 11 34.0**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**19 12 25.1**	**-0.7**
	3.9nm,0.4s,SNR=7.9						
EBER	**Berja**	**4.44**	**332**	P	Pn	**19 11 34.0**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**19 12 25.1**	**-0.7**
	3.9nm,0.4s,SNR=7.9						
ABA	**Alger-Bouzarea**	**4.66**	**35**	P	**Pn**	**19 11 36.3**	**-0.9**
ABA	**Alger-Bouzarea**	**4.66**	**35**	P	**Pn**	**19 11 36.3**	**-0.9**
ABA	**Alger-Bouzarea**	**4.66**	**35**	P	**Pn**	**19 11 36.3**	**-0.9**
KIB	**El Ksiba**	**4.88**	**266**	P	**Pn**	**19 11 41.0**	**+0.6**
KIB				S	**Sn**	**19 12 41.0**	**+4.4**
KIB	**El Ksiba**	**4.88**	**266**	P	**Pn**	**19 11 41.0**	**+0.6**
KIB				S	**Sn**	**19 12 41.0**	**+4.4**
EQUE	**Quentar**	**4.93**	**329**	P	**Pn**	**19 11 41.5**	**+0.5**
	2.3nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**19 12 35.3**	**-2.4**
	1.1nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.93**	**329**	P	**Pn**	**19 11 41.5**	**+0.5**
	2.3nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**19 12 35.3**	**-2.4**
	1.1nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.16**	**339**	P	**Pn**	**19 11 45.8**	**+1.6**
	1.5nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**19 12 44.9**	**+1.6**
	1.2nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.16**	**339**	P	**Pn**	**19 11 45.8**	**+1.6**
	1.5nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**19 12 44.9**	**+1.6**
	1.2nm,0.2s,SNR=7.9						
CKHR	**Kef el Ahmar**	**5.63**	**56**	P	**Pn**	**19 11 51.3**	**+0.5**
CKHR	**Kef el Ahmar**	**5.63**	**56**	P	**Pn**	**19 11 51.3**	**+0.5**
CKHR	**Kef el Ahmar**	**5.63**	**56**	P	**Pn**	**19 11 51.3**	**+0.5**
SET	**Setif**	**5.65**	**54**	P	**Pn**	**19 11 51.0**	**0.0**
SET	**Setif**	**5.65**	**54**	P	**Pn**	**19 11 51.0**	**0.0**
SET	**Setif**	**5.65**	**54**	P	**Pn**	**19 11 51.0**	**0.0**
EBEN	**Beniarda**	**5.68**	**0**	P	**Pn**	**19 11 51.7**	**+0.4**
	0.6nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**19 12 55.9**	**-0.3**
	0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**5.68**	**0**	P	**Pn**	**19 11 51.7**	**+0.4**
	0.6nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**19 12 55.9**	**-0.3**
	0.5nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**5.90**	**343**	P	Pn	19 12 00.5	+6.1
	2.6nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**19 12 59.6**	**-2.1**
	13nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**5.90**	**343**	P	Pn	19 12 00.5	+6.1
	2.6nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**19 12 59.6**	**-2.1**
	13nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**6.14**	**12**	P	**Pn**	**19 11 58.4**	**+0.8**
	2.6nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**19 13 05.4**	**-2.2**
	3.5nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**6.14**	**12**	P	Pn	**19 11 58.4**	**+0.8**
	2.6nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**19 13 05.4**	**-2.2**
	3.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.23**	**327**	P	Pn	19 12 02.8	+4.0
	0.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.23**	**327**	P	Pn	19 12 02.8	+4.0
	0.9nm,0.3s,SNR=7.9						
CTEI	**Djebel Teioual**	**6.29**	**59**	P	**Pn**	**19 12 00.0**	**+0.2**
CTEI	**Djebel Teioual**	**6.29**	**59**	P	**Pn**	**19 12 00.0**	**+0.2**
CTEI	**Djebel Teioual**	**6.29**	**59**	P	**Pn**	**19 12 00.0**	**+0.2**
CASM	**Ain Smara**	**6.44**	**58**	P	**Pn**	**19 12 04.0**	**+2.2**
CASM	**Ain Smara**	**6.44**	**58**	P	**Pn**	**19 12 04.0**	**+2.2**
CASM	**Ain Smara**	**6.44**	**58**	P	**Pn**	**19 12 04.0**	**+2.2**
CKFL	**Kef-Lekhel**	**6.67**	**58**	P	**Pn**	**19 12 05.0**	**0.0**
CKFL	**Kef-Lekhel**	**6.67**	**58**	P	**Pn**	**19 12 05.0**	**0.0**
CKFL	**Kef-Lekhel**	**6.67**	**58**	P	**Pn**	**19 12 05.0**	**0.0**
OUK	**Oukaimeden**	**6.70**	**256**	P	Pn	**19 12 05.0**	**-0.5**
OUK				S	**Sn**	**19 13 21.0**	**-0.6**
OUK	**Oukaimeden**	**6.70**	**256**	P	Pn	**19 12 05.0**	**-0.5**
OUK				*i* S	**Sn**	**19 13 21.0**	**-0.6**
EMIN	**Mina Concepcio**	**7.06**	**314**	P	**Pn**	**19 12 09.5**	**-0.8**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.06**	**314**	P	**Pn**	**19 12 09.5**	**-0.8**
	0.2nm,0.2s,SNR=7.9						
CMAH	**Djebel Manchou**	**7.28**	**58**	P	**Pn**	**19 12 12.0**	**-1.2**
CMAH	**Djebel Manchou**	**7.28**	**58**	P	**Pn**	**19 12 12.0**	**-1.2**
CMAH	**Djebel Manchou**	**7.28**	**58**	P	**Pn**	**19 12 12.0**	**-1.2**
ESDC	**Sonseca Array**	**7.29**	**337**	Pn	**Pn**	**19 12 11.9**	**-1.5**
	0.1nm,0.3s,baz=159,slow=12,SNR=2.8						
ESDC				Sn	Sn	19 13 44.5	+8.7
	0.6nm,0.3s,baz=245,slow=21,SNR=3.3						
ESDC		

mb3.7/3, Error ellipse: s-maj=13.4km s-min=7.1km az=1.1
IDC ***18*** *19:23:34.1±1.2, 34.°99N×139.°46E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/25, mbtmp3.7/4, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/35, Error ellipse: s-maj=29.6km s-min=20.3km az=80.0*
JMA ***18*** *19:23:36.7, 34.°97N×139.°13E, h3km±1km, M3.5*
JMA Felt III J1.
ISC 18 19:23:36.1±1.1**, 34.°97N**±0.°04×**139.°19E**±0.°06**, h10**km±8km**, n22**, σ1°02/16**, mb3.7/3, 1C-3D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AJI	**Ajiro2**	**0.11**	**313**	⇓P		**Pg**		**19 23 38.4**	**-0.4**
JOD2	**Odawara 2**	**0.30**	**344**	⇓P		**Pg**		**19 23 42.5**	**+0.3**
JOD2				S		**Sg**		**19 23 47.2**	**+0.9**
JIM2	**Oshima 3**	**0.32**	**142**	P		**Pb**		**19 23 44.0**	**0.0**
JIZS	**Izushimoda**	**0.36**	**225**	⇑P		**Pg**		**19 23 43.0**	**-0.2**
JIZS				*e*S		**Sg**		**19 23 47.9**	**-0.1**
JYN	**Shimob**	**0.74**	**315**	⇓P		**Pg**		**19 23 49.9**	**-0.6**
SHZ3	**Shizuoka 3**	**0.81**	**277**	P		**Pb**		**19 23 51.5**	**-0.8**
MJAR	**Matsushiro Arr**	**1.76**	**333**	Pn		**Pn**		**19 24 06.9**	**+0.2**
	32nm,0.3s,baz=159,slow=14,SNR=122								
MJAR				Sn		**Sn**		**19 24 30.0**	**+0.9**
	33nm,0.3s,baz=166,slow=22,SNR=9.5								
MAT	**Matsushiro**	**1.76**	**333**	P		**Pn**		**19 24 07.3**	**+0.6**
MAT				S		**Sb**		**19 24 30.5**	**-0.1**
JNU	**Nakatsue**	**7.14**	**257**	Pn		**Pn**		**19 25 22.9**	**+2.2**
	0.3nm,0.3s,baz=281,slow=19,SNR=1.9								
JNU				Sn		Sn		19 26 49.8	+7.9
	0.3nm,0.3s,baz=42,slow=19,SNR=2.3								
ASAJ	**Asahikawa**	**9.50**	**15**	LR		LR		19 29 43.0	
	comp=Z,110nm,18.7s,baz=336,slow=39								
H11N2	**WAKE ISLAND Hy**	**28.79**	**115**	T		T		19 59 43.1	
	baz=310,slow=76,SNR=3482								
H11N1	**WAKE ISLAND Hy**	**28.80**	**115**	T		T		19 59 42.6	
	baz=310,slow=76,SNR=1999								
H11N3	**WAKE ISLAND Hy**	**28.81**	**115**	T		T		19 59 44.5	
	baz=310,slow=76,SNR=3086								
H11S3	**WAKE ISLAND Hy**	**29.40**	**117**	T		T		20 00 29.0	
	baz=313,slow=76,SNR=332								
H11S1	**WAKE ISLAND Hy**	**29.40**	**117**	T		T		20 00 29.1	
	baz=313,slow=76,SNR=371								
H11S2	**WAKE ISLAND Hy**	**29.42**	**117**	T		T		20 00 29.6	
	baz=313,slow=76,SNR=224								
ILAR	**Eielson Array**	**52.19**	**31**	P		**P**		**19 32 45.4**	**-1.3**
	0.9nm,0.9s,baz=255,slow=5.6,SNR=7.8								
WRA	**Warramunga Arr**	**54.81**	**186**	P		**P**		**19 33 05.1**	**-1.2**
	1.2nm,0.8s,baz=3.5,slow=7.5,SNR=9.6								
ASAR	**Alice Springs**	**58.53**	**186**	P		**P**		**19 33 33.6**	**+0.8**
	0.4nm,0.8s,baz=21,slow=13,SNR=4.1								
H03N2	**Juan Fernandez**	**148.56**	**98**	T		T		22 29 32.5	
	baz=289								
H03N3	**Juan Fernandez**	**148.57**	**98**	T		T		22 29 31.2	
	baz=289								
H03N1	**Juan Fernandez**	**148.58**	**98**	T		T		22 29 33.7	
	baz=289								

NIED ***18*** *19:30:00, 38.°00N×141.°90E, h44km, Mw4.6 Best double couple: M0 7.86000×10^15 NP1:φs317.00000°, δ81.00000°, λ-95.00000°. NP2:φs166.00000°, δ10.00000°, λ-61.00000°.*
BJI ***18*** *19:30:48.5, 38.°07N×141.°85E, h37km, mB4.9/35, mb4.9/49, Ms4.5/24, Ms7 4.4/16*
MOS ***18*** *19:30:48.8±1.1, 38.°09N×141.°88E, h33km, mb4.8/46, Error ellipse: s-maj=7.9km s-min=5.6km az=93.5*
ISCJB ***18*** *19:30:51.0±0.4, 38.°04N±0.°03×141.°85E±0.°03, h51km±3km, mb4.7/105, MS4.0/18, Error ellipse: s-maj=5.1km s-min=3.1km az=137.9*
JMA ***18*** *19:30:50.9±0.1, 38.°03N×141.°88E, h45km±1km, M4.6*
JMA Felt III J1.
NEIC ***18*** *19:30:51.0±0.6, 38.°04N×141.°83E, h37km±5km, mb5.0/50, MW4.5(NIED), Error ellipse: s-maj=6.0km s-min=3.6km az=134.0*
NEIC Felt at Ichinoseki and Sendai. Recorded [3 JMA] in Miyagi; [2 JMA] in Fukushima and Iwate; [1 JMA] in Akita and Yamagata.
IDC ***18*** *19:30:52.6±1.5, 38.°06N×141.°94E, h52km±12km, mb4.1/26, mb1 4.3/32, mb1mx4.2/36, mbtmp4.1/32, ML4.2/5, MS3.8/15, Ms1 3.8/15, ms1mx3.6/39, Error ellipse: s-maj=13.9km s-min=8.9km az=128.0*
ISC 18 19:30:50.5±0.4**, 38.°05N**±0.°04×**141.°89E**±0.°04**, h37**km±1km**, n317, σ1°32/372, mb4.7/105, MS4.1/18, 13C-10D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.59**	**314**	⇑P		**Pn**		**19 31 03.2**	**+0.7**
JIO				S		**Sn**		**19 31 11.6**	**+0.8**
JMM	**Marumori**	**0.89**	**258**	⇑P		**Pn**		**19 31 06.8**	**+0.4**
JMM				S		**Sn**		**19 31 18.4**	**+0.3**
JOU	**Okura**	**1.01**	**288**	P		**Pn**		**19 31 09.2**	**+1.0**
JOU				*e*S		**Sn**		**19 31 23.3**	**+2.0**
JMK	**Ichinoseki**	**1.04**	**330**	⇓P		**Pn**		**19 31 09.5**	**+0.9**
JMK				S		**Sn**		**19 31 22.9**	**+1.1**
OFUJ	**Ofunato**	**1.04**	**351**	⇓P		**Pn**		**19 31 09.2**	**+0.6**
OFUJ				*e*S		**Sn**		**19 31 22.2**	**+0.3**
JFK	**Kawauchi**	**1.06**	**230**	P		**Pn**		**19 31 08.9**	**+0.1**
JFK				*e*S		**Sn**		**19 31 21.6**	**-0.7**
JFT	**Otama**	**1.34**	**247**	⇑P		**Pn**		**19 31 13.8**	**+1.1**
JFT				S		**Sn**		**19 31 30.9**	**+1.6**
JYS	**Shirataka**	**1.45**	**277**	⇑P		**Pn**		**19 31 15.8**	**+1.6**
JYS				S		**Sn**		**19 31 34.2**	**+2.3**
JYK	**Kaneyama**	**1.48**	**306**	P		**Pn**		**19 31 15.7**	**+1.1**
JYK				*e*S		**Sn**		**19 31 34.2**	**+1.5**
JOM	**Ohasama**	**1.49**	**342**	⇓P		**Pn**		**19 31 16.1**	**+1.3**
JOM				*e*S		**Sn**		**19 31 35.2**	**+2.2**
JRG	**Rokugo**	**1.66**	**324**	P		**Pn**		**19 31 19.1**	**+2.0**
JRG				S		**Sn**		**19 31 40.6**	**+3.4**
JYA	**Atsumi**	**1.79**	**288**	P		**Pn**		**19 31 20.2**	**+1.3**
JYA				S		**Sn**		**19 31 43.0**	**+2.6**
JFY	**Yanaizu**	**1.85**	**250**	⇑P		**Pn**		**19 31 20.8**	**+1.1**
JFY				*e*S		**Sn**		**19 31 43.3**	**+1.5**
MJAR	**Matsushiro Arr**	**3.30**	**244**	P		**Pn**		**19 31 41.6**	**+2.0**
MJAR				S		**Sn**		**19 32 22.9**	**+5.3**
MJAR	**Matsushiro Arr**	**3.30**	**244**	P		**Pn**		**19 31 41.6**	**+2.0**
	26nm,0.3s,baz=62,slow=10,SNR=107								
MJAR				S		**Sn**		**19 32 22.9**	**+5.3**
	16nm,0.3s,baz=90,slow=15,SNR=2.4								
MJAR				LR		LR		19 33 13.8	
	comp=Z,2μm,19.7s,baz=100,slow=43								
MAJO	**Matsushiro**	**3.30**	**244**	⇑*e*P		**Pn**		**19 31 40.7**	**+1.1**
MAJO	**Matsushiro**	**3.30**	**244**	*e*Pn		**Pn**		**19 31 41.5**	**+1.9**
MAT	**Matsushiro**	**3.30**	**244**	P		**Pn**		**19 31 41.5**	**+1.9**
MAT				*e*S		**Sn**		**19 32 20.0**	**+2.4**
ERM	**Erimo**	**4.08**	**13**	*de*P		**Pn**		**19 31 51.2**	**+0.9**
ERM				pmax		pmax			
	comp=Z,192nm,1.0s								
ERM	**Erimo**	**4.08**	**13**	*e*Pn		**Pn**		**19 31 50.6**	**+0.3**
JHJ2	**Mitsune**	**5.21**	**200**	*e*Pn		**Pn**		**19 32 06.5**	**+0.7**
	comp=Z,529nm,1.3s								
ASAJ	**Asahikawa**	**6.08**	**5**	*e*Pn		**Pn**		**19 32 18.5**	**+0.7**
ASAJ				S		**Sn**		**19 33 25.9**	**-0.2**
ASAJ	**Asahikawa**	**6.08**	**5**	P		**Pn**		**19 32 18.8**	**+1.0**
	comp=Z,12nm,0.3s,baz=216,slow=12,SNR=95								
ASAJ				S		**Sn**		**19 33 25.9**	**-0.2**
	comp=Z,7.0nm,0.3s,baz=192,slow=24,SNR=1.9								
YUK	**Yuzh-Kuril'sk**	**6.69**	**25**	*d*iP		**Pn**		**19 32 25.3**	**-0.8**
YUK				*i* S		**Sn**		**19 33 37.9**	**-3.1**
YUK				pmax		pmax			
	comp=N,109nm,0.3s								
YUK				pmax		pmax			
	comp=E,134nm,0.3s								
YUK				pmax		pmax			
	comp=Z,275nm,0.3s								
YUK				smax		smax			
	comp=N,1μm,2.6s								
YUK				smax		smax			
	comp=E,1μm,2.6s								
YUK				MLR		MLR			
	comp=Z,833nm,16.0s								
YSS	**Yuzh-Sakhalins**	**8.92**	**4**	*e*P		**Pn**		**19 32 57.1**	**+0.4**
YSS				*e*S		**Sn**		**19 34 38.0**	**+2.2**
YSS				pmax		pmax			
	comp=Z,30nm,1.0s								
YSS	**Yuzh-Sakhalins**	**8.92**	**4**	*e*Pn		**Pn**		**19 32 56.2**	**-0.5**
USRK	**Ussuriysk Arra**	**9.67**	**313**	P		**Pn**		**19 33 09.5**	**+2.5**
	comp=Z,1.5nm,0.3s,baz=122,slow=14,SNR=26								
USRK				LR		LR		19 36 30.0	
	comp=Z,92nm,20.9s,baz=312,slow=35								
JNU	**Nakatsue**	**10.22**	**245**	*e*Pn		Pn		19 33 18.2	+3.5
JNU	**Nakatsue**	**10.22**	**245**	P		Pn		19 33 18.9	+4.2
	comp=Z,1.5nm,0.3s,baz=98,slow=6.3,SNR=12								
JNU				LR		LR		19 37 36.7	
	comp=Z,1μm,19.4s,baz=59,slow=39								
KSRS	**Korea Array**	**11.08**	**271**	P		Pn		19 33 30.8	+4.5
	comp=Z,0.6nm,0.3s,baz=86,slow=14,SNR=15								
KSRS				LR		LR		19 37 24.6	
	comp=Z,326nm,20.1s,baz=73,slow=35								
KSAR	**Wonju Array Be**	**11.11**	**271**	P		Pn		19 33 30.8	+4.1
MDJ	**Mudanjiang**	**11.33**	**309**	P		**Pn**		**19 33 29.8**	**+0.1**
MDJ				pmax		pmax			
	comp=Z,12nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,120nm,4.8s								
MDJ	**Mudanjiang**	**11.33**	**309**	*e*Pn		**Pn**		**19 33 29.2**	**-0.5**
	comp=Z,9.7nm,0.6s								
HABR	**Khabarovsk**	**11.54**	**337**	*e*P		**Pn**		**19 33 30.7**	**-1.9**
HABR				*e*S		**Sn**		**19 35 38.5**	**-1.6**
HABR				pmax		pmax			
	comp=Z,36nm,2.0s								
HABR				MLR		MLR			
	comp=Z,145nm,16.0s								
KLR	**Kul'dur**	**13.36**	**330**	*e*P		**P**		**19 34 06.8**	**+0.5**
SNY	**Shenyang**	**14.54**	**291**	⇑P		P		19 34 23.3	+3.7
SNY				S		**S**		**19 37 11.8**	**0.0**
SNY				pmax		pmax			
	comp=Z,14nm,0.6s								
SNY				pmax		pmax			
	comp=Z,270nm,3.6s								
SNY				LR		LR			
	comp=N,510nm,19.2s								
SNY				LR		LR			
	comp=Z,500nm,15.4s								
SSE	**Sheshan**	**18.39**	**254**	*e*P		**Pn**		**19 35 04.3**	**+1.9**
SSE				pmax		pmax			
	comp=Z,71nm,0.7s								
SSE				pmax		pmax			
	comp=Z,200nm,4.3s								
PETK	**Petropavlovsk-**	**18.62**	**31**	P		**P**		**19 35 03.7**	**-0.9**
PETK				MLR		MLR			
	comp=Z,105nm,18.0s								
PETK	**Petropavlovsk-**	**18.62**	**31**	P		**P**		**19 35 03.7**	**-0.9**
PETK	**Petropavlovsk-**	**18.62**	**31**	P		**P**		**19 35 03.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=187,slow=10,SNR=6.5								
PETK				LR		LR		19 43 26.4	
	comp=Z,105nm,18.0s,baz=203,slow=40								
NJ2	**Nanjing**	**19.76**	**259**	*e*P		**P**		**19 35 17.4**	**+0.1**
NJ2				pP		**pP**		**19 35 25.1**	**-1.8**
NJ2				S		**S**		**19 38 55.5**	**-2.4**
NJ2				sS		**sS**		**19 39 11.0**	**-2.3**
NJ2				pmax		pmax			
	comp=Z,40nm,1.0s								
NJ2				pmax		pmax			
	comp=Z,280nm,4.0s								
NJ2				LR		LR			
	comp=Z,330nm,20.0s								
NJ2				LR		LR			
	comp=Z,370nm,15.7s								
TIA	**Tai'an**	**19.82**	**272**	*e*P		**P**		**19 35 17.6**	**-0.3**
BJI	**Beijing**	**20.05**	**284**	P		**P**		**19 35 20.3**	**0.0**
BJI				S		**S**		**19 39 03.6**	**0.0**
BJI				pmax		pmax			
	comp=Z,17nm,0.9s								
BJI				pmax		pmax			
	comp=Z,50nm,3.8s								
BJT	**Baijiatuan**	**20.06**	**284**	*e*P		**P**		**19 35 18.9**	**-1.6**
	comp=Z,38nm,0.5s								
YHNB	**Yeheng**	**21.96**	**239**	*e*P		**P**		**19 35 39.7**	**-1.4**
	comp=Z,24nm,0.7s								
NACB	**Ninganchiao**	**22.15**	**237**	*e*P		**P**		**19 35 41.7**	**-1.3**
TPUB	**Ta-pu**	**23.39**	**237**	*e*P		**P**		**19 35 53.3**	**-2.6**
	comp=Z,175nm,1.5s								
TWG	**Pinlang**	**23.43**	**236**	*e*P		**P**		**19 35 58.2**	**+1.8**
	comp=Z,186nm,0.9s								
HHC	**Hu-ho-hao-te**	**23.53**	**286**	*e*P		**P**		**19 35 56.3**	**-1.0**
HHC				pP		**pP**		**19 36 05.8**	**-1.6**
HHC				sP		**sP**		**19 36 09.5**	**-2.6**
HHC				PP		**PnPn**		**19 36 28.3**	**+3.5**
HHC				S		**S**		**19 40 03.6**	**-5.1**
HHC				sS		sS		19 40 21.1	-5.0
HHC				SS		**SnSn**		**19 40 51.5**	**+4.8**
HHC				pmax		pmax			
	comp=Z,37nm,0.7s								
HHC				pmax		pmax			
	comp=Z,250nm,5.0s								
HHC				LR		LR			
	comp=Z,220nm,12.3s								
HHC				LR		LR			
	comp=Z,340nm,12.6s								
WHN	**Wuhan**	**23.89**	**260**	P		**P**		**19 35 59.8**	**-0.9**
WHN				LR		LR			
	comp=Z,840nm,18.1s								
YAK	**Yakutsk**	**25.17**	**346**	*e*P		**P**		**19 36 09.7**	**-2.2**
YAK				*e*				19 40 31.8	
YAK				pmax		pmax			
	comp=Z,15nm,0.9s								
YAK				pmax		pmax			
	comp=N,14nm,1.4s								
YAK	**Yakutsk**	**25.17**	**346**	*e*P		**P**		**19 36 11.2**	**-0.7**
	comp=N,19nm,0.7s								
SEY	**Seymchan**	**25.72**	**11**	P		**P**		**19 36 18.7**	**+1.7**
SEY				pmax		pmax			
	comp=Z,12nm,0.9s								
SEY	**Seymchan**	**25.72**	**11**	P		**P**		**19 36 18.7**	**+1.7**
SEY	**Seymchan**	**25.72**	**11**	P		**P**		**19 36 18.7**	**+1.7**
	comp=Z,12nm,0.9s,baz=203,slow=10,SNR=11								
FX1	**Attu Island--F**	**26.21**	**45**	LR		LR		19 46 00.8	
	comp=Z,233nm,18.2s,baz=45,slow=35								
XAN	**Xi'an**	**26.88**	**272**	P		**P**		**19 36 27.5**	**-0.3**
XAN				pmax		pmax			
	comp=Z,4.0nm,0.7s								
XAN				pmax		pmax			
	comp=Z,38nm,5.8s								
ULN	**Ulaanbaatar**	**27.11**	**302**	*e*P		**P**		**19 36 30.2**	**+0.3**
	comp=Z,4.5nm,0.8s								
SONM	**Songino Array**	**27.55**	**302**	P		**P**		**19 36 34.7**	**+0.9**
SONM				ScP		**ScP**		**19 43 28.3**	**-0.3**
SONM	**Songino Array**	**27.55**	**302**	P		**P**		**19 36 34.7**	**+0.9**
	comp=Z,5.1nm,0.7s,baz=99,slow=8.9,SNR=42								
SONM				ScP		**ScP**		**19 43 28.3**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=90,slow=0.6,SNR=4.0								
SONM				LR		LR		19 48 19.3	
	comp=Z,95nm,18.4s,baz=312,slow=38								
ENH	**Enshi**	**27.81**	**264**	*e*P		**P**		**19 36 35.9**	**-0.3**
	comp=Z,62nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**28.36**	**123**	T		T		20 06 53.7	
	baz=318,slow=76,SNR=2709								
H11N1	**WAKE ISLAND Hy**	**28.37**	**123**	T		T		20 06 54.9	
	baz=318,slow=76,SNR=4143								
H11N3	**WAKE ISLAND Hy**	**28.38**	**123**	T		T		20 06 55.6	
	baz=318,slow=76,SNR=1578								
H11S1	**WAKE ISLAND Hy**	**29.11**	**125**	T		T		20 07 56.8	
	baz=321,slow=76,SNR=1287								
H11S3	**WAKE ISLAND Hy**	**29.11**	**125**	T		T		20 07 56.1	
	baz=321,slow=76,SNR=1872								
H11S2	**WAKE ISLAND Hy**	**29.13**	**125**	T		T		20 07 57.0	
	baz=321,slow=76,SNR=1052								
ZAK	**Zakamensk**	**29.95**	**307**	*e*P		**P**		**19 36 54.7**	**-0.4**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.2s								
LZH	**Lanzhou**	**30.28**	**278**	*e*P		**P**		**19 36 58.0**	**-0.3**
LZH				pP		**pP**		**19 37 06.8**	**-2.0**
LZH				PP		**PnPn**		**19 37 55.0**	**-1.9**
LZH				*e*S		**S**		**19 41 51.3**	**-4.5**
LZH				SS		**SnSn**		**19 43 30.3**	**-1.5**
LZH				pmax		pmax			
	comp=Z,22nm,1.0s								
LZH				pmax		pmax			
	comp=Z,110nm,4.4s								
LZH				LR		LR			
	comp=Z,640nm,11.7s								
LZH				LR		LR			
	comp=Z,690nm,12.5s								
LZH				LR		LR			
	comp=Z,730nm,13.2s								
GYA	**Guiyang**	**31.77**	**259**	⇑*i*P		**P**		**19 37 11.3**	**-0.1**
GYA				pP		**pP**		**19 37 22.6**	**+0.6**
GYA				PP		**PnPn**		**19 38 18.0**	**+1.6**
GYA				PcP		**PcP**		**19 40 03.5**	**+1.4**
GYA				S		**S**		**19 42 17.9**	**-1.2**
GYA				sS		**sS**		**19 42 35.8**	**-0.9**
GYA				ScP		**ScP**		**19 43 42.0**	**-0.5**
GYA				ScS		**ScS**		**19 47 40.5**	**-0.5**
GYA				pmax		pmax			
	comp=Z,30nm,0.9s								
GYA				pmax		pmax			
	comp=Z,120nm,4.8s								
GYA				LR		LR			
	comp=Z,550nm,17.6s								
GYA				LR		LR			
	comp=Z,480nm,18.2s								
GYA				LR		LR			
	comp=Z,510nm,17.8s								
CD2	**Chengdu**	**32.06**	**269**	P		**P**		**19 37 13.6**	**-0.2**
CD2				pP		**pP**		**19 37 24.5**	**+0.1**
CD2				sP		**sP**		**19 37 29.1**	**+0.2**
CD2				PP		**PnPn**		**19 38 20.1**	**+0.1**
CD2				S		**S**		**19 42 20.8**	**-2.6**
CD2				sS		**sS**		**19 42 38.8**	**-2.2**
CD2				SS		**SnSn**		**19 44 13.3**	**-1.6**
CD2				pmax		pmax			
	comp=Z,30nm,0.8s								
CD2				pmax		pmax			
	comp=Z,100nm,5.9s								
CD2				LR		LR			
	comp=Z,300nm,15.4s								
CD2				LR		LR			
	comp=Z,270nm,14.4s								
GTA	**Gaotai**	**32.64**	**286**	*e*P		**P**		**19 37 19.3**	**+0.4**
GTA				pP		**pP**		**19 37 28.6**	**-0.9**
GTA				sP		**sP**		**19 37 33.5**	**-0.5**
GTA				S		**S**		**19 42 33.4**	**+1.0**
GTA				SS		**SnSn**		**19 44 33.6**	**+4.7**
GTA				pmax		pmax			
	comp=Z,6.0nm,0.6s								
GTA				pmax		pmax			
	comp=Z,97nm,5.2s								
GTA				LR		LR			
	comp=Z,260nm,18.1s								
GTA				LR		LR			
	comp=Z,190nm,20.9s								
QIZ	**Qiongzhong**	**33.70**	**245**	P		**P**		**19 37 29.9**	**+1.7**
QIZ				S		**S**		**19 42 49.3**	**+0.4**
QIZ				pmax		pmax			
	comp=Z,42nm,2.4s								
QIZ	**Qiongzhong**	**33.70**	**245**	P		**P**		**19 37 28.2**	**0.0**
	comp=Z,11nm,0.7s								
TIXI	**Tiksi**	**34.33**	**353**	⇑*e*P		**P**		**19 37 32.3**	**-0.7**
TIXI				pmax		pmax			
	comp=Z,8.0nm,2.7s								
KMI	**Kunming**	**35.50**	**260**	P		**P**		**19 37 44.3**	**+0.4**
KMI				pP		**pP**		**19 37 56.0**	**+1.4**
KMI				sP		**sP**		**19 37 59.8**	**+0.7**
KMI				pmax		pmax			
	comp=Z,14nm,1.0s								
KMI				LR		LR			
	comp=Z,160nm,10.8s								
KMI				LR		LR			
	comp=Z,190nm,10.5s								
KMI				LR		LR			
	comp=Z,190nm,12.9s								
HVS	**Khovu-Aksy**	**36.07**	**307**	⇑*e*P		**P**		**19 37 49.2**	**+0.8**
HVS				pmax		pmax			
	comp=Z,35nm,1.2s								
TNA	**Tin City**	**39.78**	**30**	*e*P		**P**		**19 38 20.2**	**+0.8**
	comp=Z,24nm,1.8s								
CRAI	**Chiangrai**	**40.00**	**256**	P		**P**		**19 38 22.7**	**+1.0**
	comp=Z,247nm,0.7s,comp=Z,7μm								
WMQ	**Urumqi**	**40.73**	**296**	P		**P**		**19 38 28.0**	**+0.4**
WMQ				pP		**pP**		**19 38 38.0**	**-0.4**
WMQ				sP		**sP**		**19 38 42.0**	**-0.9**
WMQ				PP		**PnPn**		**19 40 06.0**	**0.0**
WMQ				PcP		**PcP**		**19 40 30.0**	**+1.5**
WMQ				ScP		**ScP**		**19 44 16.0**	**+1.0**
WMQ				S		**S**		**19 44 35.0**	**-0.5**
WMQ				SS		**SS**		**19 47 31.0**	**-5.7**
WMQ				ScS		**ScS**		**19 48 28.0**	**-1.8**
WMQ				pmax		pmax			
	comp=Z,26nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,160nm,3.0s								
WMQ				LR		LR			
	comp=Z,210nm,15.0s								
WMQ				LR		LR			
	comp=Z,52nm,15.0s								
CMAI	**Chiengmai2**	**41.18**	**256**	P		**P**		**19 38 32.6**	**+0.9**
	comp=Z,76nm,1.2s,comp=Z,4μm								
ZAA0	**Zalesovo Array**	**41.52**	**312**	*e*P		**P**		**19 38 34.2**	**+0.3**
ZALV	**Zalesovo Beam**	**41.52**	**312**	P		**P**		**19 38 34.1**	**+0.2**
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.3s								
ZALV				pmax		pmax			
	comp=N,2.0nm,0.9s								
ZALV	**Zalesovo Beam**	**41.52**	**312**	P		**P**		**19 38 34.1**	**+0.2**
ZALV				ScP		**ScP**		**19 44 17.0**	**-0.9**
ZALV	**Zalesovo Beam**	**41.52**	**312**	P		**P**		**19 38 34.1**	**+0.2**
	comp=N,2.5nm,0.3s,baz=87,slow=7.8,SNR=25								
ZALV				ScP		**ScP**		**19 44 17.0**	**-0.9**
	comp=N,1.5nm,0.9s,baz=64,slow=3.4,SNR=4.7								
LAMP	**Lampang**	**41.56**	**254**	P		**P**		**19 38 36.4**	**+1.7**
	comp=N,5.4nm,0.9s								
CMMT	**Chiang Mai**	**41.91**	**255**	P		**P**		**19 38 38.0**	**+0.5**
	comp=N,14nm,0.9s								
CHTO	**Chiang Mai**	**41.91**	**255**	*e*P		**P**		**19 38 37.5**	**-0.1**
CHTO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
CHTO	**Chiang Mai**	**41.91**	**255**	*e*P		**P**		**19 38 37.5**	**-0.1**
	comp=Z,2.1nm,0.9s								
CHTO	**Chiang Mai**	**41.91**	**255**	P		**P**		**19 38 38.1**	**+0.6**
	comp=Z,42nm,1.0s								
CM31	**Chiang Mai Arr**	**42.13**	**255**	*e*P		**P**		**19 38 39.6**	**+0.3**
	comp=Z,2.1nm,0.6s								
CMAR	**Chiang Mai Arr**	**42.13**	**255**	P		**P**		**19 38 39.6**	**+0.3**
CMAR				ScP		**ScP**		**19 44 20.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.13**	**255**	P		**P**		**19 38 39.6**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=42,slow=4.9,SNR=24								
CMAR				ScP		**ScP**		**19 44 20.6**	**-0.3**
	comp=Z,0.6nm,0.8s,ba

comp=Z,1.2nm,0.4s
JIRN Jiri 47.31 275 *e*P P 19 39 21.3 +0.4
JIRN Jiri 47.31 275 *e*P P 19 39 21.3 +0.4
RAMN Ramite 47.31 273 *e*P P 19 39 21.0 +0.1
comp=Z,45nm,0.8s
RAMN Ramite 47.31 273 *e*P P 19 39 21.0 +0.1
comp=Z,45nm,0.8s
GUN Gumba 47.44 275 *e*P P 19 39 22.3 +0.4
comp=Z,79nm,1.0s
GUN Gumba 47.44 275 *e*P P 19 39 22.3 +0.4
comp=Z,79nm,1.0s
MCK McKinley 47.58 34 *e*P P 19 39 23.1 +1.0
MCK pmax pmax
comp=Z,8.0nm,0.9s
MCK McKinley 47.58 34 *e*P P 19 39 23.1 +1.0
comp=Z,7.6nm,0.9s
PMR Palmer 47.59 37 *e*P P 19 39 22.7 +0.6
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 47.59 37 *e*P P 19 39 22.7 +0.6
comp=Z,8.4nm,0.8s
KKN Kakani 47.96 275 *e*P P 19 39 26.5 +0.6
comp=Z,50nm,0.8s
KKN Kakani 47.96 275 *e*P P 19 39 26.5 +0.6
KKN pmax pmax
comp=Z,50nm,0.8s
KKN Kakani 47.96 275 *e*P P 19 39 26.5 +0.6
comp=Z,50nm,0.8s
PKI Pulchoki 47.96 275 *e*P P 19 39 26.1 +0.1
comp=Z,25nm,0.8s
PKI Pulchoki 47.96 275 *e*P P 19 39 26.1 +0.1
PKI pmax pmax
comp=Z,25nm,0.8s
PKI Pulchoki 47.96 275 *e*P P 19 39 26.1 +0.1
comp=Z,25nm,0.8s
PKIN Phulchoki 47.97 275 *e*P P 19 39 26.1 +0.1
comp=Z,13nm,0.7s
COLA College 48.02 33⇑ *e*P P 19 39 26.7 +1.3
COLA pmax pmax
comp=Z,15nm,0.7s
COLA College 48.02 33 *e*P P 19 39 27.0 +1.5
comp=Z,3.7nm,0.7s
DMN Daman 48.19 275 *e*P P 19 39 28.0 +0.4
comp=Z,17nm,0.7s
DMN Daman 48.19 275 *e*P P 19 39 28.0 +0.4
comp=Z,17nm,0.7s
GKN Gorkha 48.37 276 *e*P P 19 39 29.3 +0.4
comp=Z,100nm,0.9s
GKN Gorkha 48.37 276 *e*P P 19 39 29.3 +0.4
comp=Z,100nm,0.9s
ILAR Eielson Array 48.43 33 P P 19 39 29.5 +0.8
ILAR Eielson Array 48.43 33 P P 19 39 29.5 +0.8
comp=Z,5.2nm,0.8s,baz=268,slow=6.5,SNR=62
DANN Dangsing 48.90 277 *e*P P 19 39 34.1 +0.9
comp=Z,152nm,0.7s
DANN Dangsing 48.90 277 *e*P P 19 39 34.1 +0.9
comp=Z,152nm,0.7s
KOLN Koldanda 49.29 276 *e*P P 19 39 36.6 +0.5
comp=Z,66nm,1.0s
KOLN Koldanda 49.29 276 *e*P P 19 39 36.6 +0.5
comp=Z,66nm,1.0s
PYUN Piuthan 49.62 277 *e*P P 19 39 39.2 +0.6
comp=Z,144nm,1.0s
PYUN Piuthan 49.62 277 *e*P P 19 39 39.2 +0.6
comp=Z,144nm,1.0s
KULM Kulim 49.66 239 P P 19 39 39.4 +0.7
comp=Z,16nm,1.2s
IPM Ipoh 49.99 238 *e*P P 19 39 41.1 -0.1
comp=Z,16nm,0.9s
BVAR Borovoye Array 50.17 312 P P 19 39 42.4 +0.2
BVAR 19 41 00.9
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 50.17 312 P P 19 39 42.4 +0.2
BVAR PcP PcP 19 41 00.9 -0.1
BVAR Borovoye Array 50.17 312 P P 19 39 42.4 +0.2
comp=Z,1.5nm,0.6s,baz=67,slow=7.7,SNR=12
BVAR PcP PcP 19 41 00.9 -0.1
comp=Z,1.0nm,0.6s,baz=144,slow=2.8,SNR=3.9
KSH Kashi 50.34 293 P P 19 39 47.0 +3.2
KSH pP pP 19 39 57.1 +2.3
KSH sP sP 19 40 01.1 +1.9
KSH PcP PcP **19 41 05.1 +3.0**
KSH S S **19 46 54.9 +0.7**
KSH SS SS **19 50 28.1 +0.3**
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH pmax pmax
comp=Z,150nm,4.8s
KSH LR LR
comp=Z,150nm,4.9s
KSH LR LR
comp=Z,150nm,5.1s
KSH LR LR
comp=Z,220nm,6.6s
AAK Ala-Archa 50.35 298*c i*P P 19 39 44.5 +0.7
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 50.35 298 *e*P P 19 39 43.9 0.0
comp=Z,3.5nm,0.6s
EKS2 Erkin-Say 50.84 298 *e*P P 19 39 47.6 +0.1
EKS2 pmax pmax
comp=Z,3.0nm,0.6s
EKS2 Erkin-Say 50.84 298 *e*P P 19 39 47.6 +0.1
comp=Z,3.4nm,0.6s
COEN Coen 51.75 178 *e*P P 19 39 52.4 -1.9
comp=Z,159nm,1.4s
INK Inuvik 53.31 27 *e*P P 19 40 06.3 +1.1
comp=Z,12nm,1.9s
INK Inuvik 53.31 27 P P 19 40 06.7 +1.5
comp=Z,3.5nm,0.8s,baz=277,slow=5.9,SNR=10.0
SVE Sverdlovsk 54.64 318⇓ *i*P P 19 40 16.2 +1.0
SVE pmax pmax
comp=Z,11nm,0.8s
ARU Arti 55.85 318*d i*P P 19 40 24.3 +0.4
ARU S S 19 48 11.1 +2.7
ARU SS SS 19 51 56.1 +2.3
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 55.85 318 *e*P P 19 40 24.0 0.0
comp=Z,53nm,1.8s
KBL Kabul 57.41 291 *e*P P 19 40 35.3 -0.3
KBL pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 57.41 291 *e*P P 19 40 35.3 -0.3
comp=Z,17nm,0.9s
DLBC Dease Lake 57.59 39 P P 19 40 38.4 +2.0
DLBC Dease Lake 57.59 39 P P 19 40 38.4 +2.0
comp=Z,6.1nm,1.1s,baz=262,slow=3.7,SNR=3.7
WRAB Tennant Creek 58.11 188*de*P P 19 40 39.8 -0.4
WRAB pmax pmax
comp=Z,28nm,0.8s
WRAB Tennant Creek 58.11 188 *e*P P 19 40 39.6 -0.7
comp=Z,18nm,0.9s
WRA Warramunga Arr 58.12 188 P P 19 40 39.8 -0.5
WRA Warramunga Arr 58.12 188 P P 19 40 39.8 -0.5
comp=Z,14nm,0.8s,baz=5.5,slow=7.3,SNR=85
HYB Hyderabad 58.61 268 *i*P P 19 40 44.0 0.0
RES Resolute Bay 61.52 15 P P 19 41 03.5 +0.5
RES Resolute Bay 61.52 15 P P 19 41 03.5 +0.5
comp=Z,1.6nm,0.7s,baz=332,slow=7.1,SNR=13
AS31 Alice Springs 61.85 188 *e*P P 19 41 05.7 -0.1
ASAR Alice Springs 61.85 188 P P 19 41 05.8 -0.1
ASAR Alice Springs 61.85 188 P P 19 41 05.8 -0.1
comp=Z,4.4nm,0.9s,baz=9.0,slow=6.2,SNR=36
KEV Kevo 62.63 339 *e*P P 19 41 10.8 +0.3
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 62.63 339 *ep* P 19 41 10.8 +0.3
comp=Z,0.6nm,0.3s
YKA Yellowknife Ar 62.74 31 P P 19 41 12.2 +0.9
YKA Yellowknife Ar 62.74 31 P P 19 41 12.2 +0.9
comp=Z,1.8nm,0.8s,baz=302,slow=6.8,SNR=18
ARCES ARCESS Array B 63.18 339 P P 19 41 15.3 +1.0
ARCES ARCESS Array B 63.18 339 P P 19 41 15.3 +1.0
comp=Z,1.7nm,0.5s,baz=37,slow=9.1,SNR=7.5
ARCES LR LR 20 17 02.3
comp=Z,167nm,18.7s,baz=148,slow=44
DZM Mont Dzumac 64.10 155 LR LR 20 06 13.1
comp=Z,70nm,19.0s,baz=26,slow=33
JOF Joensuu 65.25 332 *e*P P 19 41 28.7 +0.9
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 65.25 332 *ep* P 19 41 28.7 +0.9
comp=Z,0.5nm,0.3s
VRHR Novokhopersk 67.19 318 *e*P P 19 41 39.0 -1.5
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,8.0nm,0.7s
OBN Obninsk 67.51 323 *e*P P 19 41 43.2 +0.8
OBN pmax pmax
comp=Z,6.0nm,1.3s
KAF Kangasniemi 67.58 333 *e*P P 19 41 42.2 -0.6
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 67.58 333 *ep* P 19 41 42.2 -0.6
comp=Z,2.4nm,0.7s
FINES FINESS Array B 68.09 332 P P 19 41 46.6 +0.6
FINES FINESS Array B 68.09 332 P P 19 41 46.6 +0.6
comp=Z,2.2nm,0.7s,baz=42,slow=8.8,SNR=7.4
VSR Storozhevoye 68.42 319 *e*P P 19 41 47.8 -0.4
VSR pmax pmax
comp=Z,7.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.8s
VORD Divnogorie 68.49 318 *e*P P 19 41 48.1 -0.6
VORD pmax pmax
comp=N,4.0nm,0.7s
VORD pmax pmax
comp=E,6.0nm,0.7s
VORD pmax pmax
comp=Z,7.0nm,0.7s
I04A Tendick Farm, 68.50 51 P P 19 41 50.3 +1.3
baz=68
NEW Newport 69.14 45 P P 19 41 53.7 +0.8
baz=69
J05D Fort Rock, OR 69.49 51 P P 19 41 56.3 +1.0
baz=69
STKA Stephens Creek 69.57 180 P P 19 41 54.5 -1.0
STKA Stephens Creek 69.57 180 P P 19 41 54.5 -1.0
comp=Z,2.7nm,0.8s,baz=344,slow=10.0,SNR=4.9
FORT Forrest 69.68 193 *e*P P 19 41 56.7 +0.6
comp=Z,28nm,0.8s
N02D Trinity Center 69.84 53 P P 19 41 58.3 +0.9
baz=70
M04C Macdoel 69.94 52 P P 19 41 58.9 +0.8
baz=70
WALA Waterton Lakes 70.43 43 P P 19 42 01.9 +1.0
comp=Z,0.1nm,0.7s
KIV Kislovodsk 70.53 311*ce*P P 19 42 02.7 +1.2
KIV pmax pmax
comp=Z,24nm,1.6s
KIV Kislovodsk 70.53 311 *e*P P 19 42 02.8 +1.3
comp=Z,16nm,1.0s
KBZ Khabaz 70.53 311 P P 19 42 02.3 +0.9
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.53 311 P P 19 42 02.2 +0.9
KBZ Khabaz 70.53 311 P P 19 42 02.2 +0.9
comp=Z,4.6nm,0.8s,baz=100,slow=2.6,SNR=9.0
FFC Flin Flon 72.65 33 *e*P P 19 42 14.5 +0.5
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 72.65 33 *e*P P 19 42 14.5 +0.5
comp=Z,6.4nm,0.9s
FCC Fort Churchill 72.92 27 P P 19 42 15.7 +0.2
FCC Fort Churchill 72.92 27 P P 19 42 15.7 +0.2
HRY Holter Resourc 72.96 44 *e*P P 19 42 17.4 +1.3
comp=Z,4.0nm,0.7s
A19A Klindworth Far 73.22 41 P P 19 42 18.3 +0.7
baz=73
EGMT Eagleton 73.26 42 P P 19 42 18.6 +0.7
baz=73
NB2 NORSAR Subarra 73.39 337 P P 19 42 18.7 +0.4
comp=Z,38nm,2.0s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.39 337 P P 19 42 18.7 +0.4
baz=39,slow=6.2
NOA NORSAR Array B 73.39 337 P P 19 42 18.4 +0.1
NOA NORSAR Array B 73.39 337 P P 19 42 18.4 +0.1
comp=Z,0.7nm,0.6s,baz=30,slow=4.2,SNR=4.1
NOA LR LR 20 22 24.7
comp=Z,56nm,18.7s,baz=25,slow=42
HLID Hailey 73.40 47 *e*P P 19 42 21.1 +2.3
comp=Z,32nm,2.3s
HLID Hailey 73.40 47 P P 19 42 19.6 +0.7
baz=73
B19A Brinkman Farms 73.41 41 P P 19 42 19.4 +0.8
baz=73
BOZ Bozeman (W) 73.72 44 *e*P P 19 42 22.4 +1.7
BOZ pmax pmax
comp=Z,20nm,1.8s
BOZ Bozeman (W) 73.72 44 *e*P P 19 42 22.4 +1.7
comp=Z,20nm,1.8s
AKASG Malin Array Be 73.72 322 P P 19 42 20.4 0.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 73.72 322 P P 19 42 20.4 0.0
AKASG Malin Array Be 73.72 322 P P 19 42 20.4 0.0
comp=Z,0.8nm,0.3s,baz=46,slow=6.1,SNR=19
KIEV Kiev 73.74 322⇓ *e*P P 19 42 20.3 -0.1
C19A Slack Wire Ran 73.81 42 P P 19 42 22.4 +1.3
baz=74
A21A Bergtoll Ranch 74.10 40 P P 19 42 24.1 +1.4
baz=74
D19A Cripps Ranch, 74.26 42 P P 19 42 25.2 +1.5
baz=74
C20A Veseth Ranch, 74.37 41 P P 19 42 25.5 +1.2
baz=74
A22A Carney Farms, 74.61 39 P P 19 42 26.5 +0.9
baz=74
D20A Manuel Ranch, 74.70 42 P P 19 42 27.2 +0.9
baz=74
E19A Rath Farm, Rou 74.76 43 P P 19 42 27.5 +0.9
baz=74
F19A Roth Farm, Mol 75.06 43 P P 19 42 29.5 +1.1
baz=75
E20A Meyer Farm, Mu 75.08 42 P P 19 42 29.3 +0.8
baz=75
H17A Grant Village 75.08 45 *e*P P 19 42 31.5 +2.7
FXWY Fox Creek 75.30 46 *e*P P 19 42 32.2 +2.2
comp=Z,60nm,2.8s
I17A Pilgrim Ck. 75.38 45 P P 19 42 32.3 +1.9
baz=75
H18A Shoshone NF, C 75.41 44 P P 19 42 31.9 +1.3
baz=75
B23A Brockton 75.42 39 P P 19 42 31.3 +0.9
baz=75
HVU Hansel Valley 75.45 48 *e*P P 19 42 32.3 +1.5
HVU pmax pmax
comp=Z,4.0nm,0.9s
HVU Hansel Valley 75.45 48 *e*P P 19 42 32.3 +1.5
comp=Z,4.4nm,0.9s
D22A Cohagen 75.68 41 P P 19 42 32.5 +0.7
baz=76
FRB Frobisher Bay 75.70 13 P P 19 42 31.1 -0.4
FRB Frobisher Bay 75.70 13 P P 19 42 31.1 -0.4
comp=Z,6.1nm,0.8s,baz=342,slow=3.3,SNR=6.0
C23A Lambert 75.76 40 P P 19 42 33.0 +0.7
baz=76
R11A Troy Canyon, C 75.84 52 P P 19 42 34.0 +0.8
baz=76
D23A Lindsay 76.16 40 P P 19 42 36.1 +1.5
baz=76
TPNV Topopah Spring 76.27 54 *e*P P 19 42 37.2 +1.6
TPNV pmax pmax
comp=Z,31nm,2.0s
TPNV Topopah Spring 76.27 54 *e*P P 19 42 37.2 +1.6
comp=Z,31nm,2.0s
TPNV Topopah Spring 76.27 54 P P 19 42 36.6 +1.0
baz=76
G21A Lodge Grass 76.40 43 P P 19 42 36.9 +0.8
baz=76
DUG Dugway 76.41 49 P P 19 42 37.6 +1.4
baz=76
A26A Wade Farm, Ken 76.57 38 P P 19 42 38.0 +1.1
baz=76
D24A Glendive 76.65 40 P P 19 42 38.4 +1.0
baz=76
J19A Crowheart 76.65 45 P P 19 42 38.8 +1.2
baz=76
BW06 Boulder Array 76.69 46 *e*P P 19 42 39.0 +1.1
comp=Z,2.8nm,0.8s
PDAR Pinedale Array 76.69 46 P P 19 42 38.0 +0.1
PDAR Pinedale Array 76.69 46 P P 19 42 38.0 +0.1
comp=Z,4.4nm,0.8s,baz=282,slow=2.2,SNR=20
I20A Worland 76.72 44 P P 19 42 39.6 +1.6
baz=76
B26A Jensen Ranch, 76.83 38 P P 19 42 40.0 +1.7
baz=77
H21A Big Horn, Sher 76.87 43 P P 19 42 40.2 +1.4
baz=77
GSC Goldstone 76.91 55 P P 19 42 40.3 +1.2
baz=77
F23A Volborg 77.02 42 P P 19 42 40.7 +1.2
baz=77
J20A Shoshoni 77.13 45 P P 19 42 41.6 +1.3
baz=77
I21A Big Trails, Te 77.27 44 P P 19 42 42.8 +1.7
baz=77
G23A Biddle 77.38 42 P P 19 42 43.0 +1.4
baz=77
A28A Rude Farm, Bot 77.41 37 P P 19 42 43.0 +1.4
baz=77
J21A Lysite 77.49 44 P P 19 42 43.4 +1.1
baz=77
HEC Hector,Ludlow 77.50 56 P P 19 42 43.6 +1.2
baz=77
B28A Dugan Ranch, T 77.69 37 P P 19 42 44.3 +1.2
baz=77
A29A Manning Farm, 77.89 36 P P 19 42 45.3 +1.1
baz=78
J22A Midwest 77.98 44 P P 19 42 45.9 +0.9
baz=78
K21A Alcova 78.07 45 P P 19 42 46.5 +0.9
baz=78
H24A Dirks Ranch, A 78.12 42 P P 19 42 46.3 +0.6
baz=78
ULM Lac du Bonnet 78.45 34 P P 19 42 47.8 +0.5
ULM Lac du Bonnet 78.45 34 P P 19 42 47.8 +0.5
comp=Z,2.0nm,0.7s,baz=334,slow=3.8,SNR=3.5
BRTR Keskin Array B 78.46 312 P P 19 42 47.7 0.0
BRTR Keskin Array B 78.46 312 P P 19 42 47.7 0.0
comp=Z,1.8nm,1.0s,baz=166,slow=6.4,SNR=4.8
WUAZ Wupatki 80.24 52 P P 19 42 59.6 +2.1
baz=80
P22A Eagle 80.35 47 P P 19 42 59.8 +1.6
baz=80
PVCC Panska Ves 80.38 329 *e*P P 19 42 56.4 -1.4
PVCC Panska Ves 80.38 329 *e*P P 19 42 56.4 -1.4
CLL Collm 80.40 330 *e*P P 19 42 59.0 +1.1
CLL Collm 80.40 330 *e*P P 19 42 59.0 +1.1
G30A Faulkton 80.62 39 P P 19 42 59.7 +0.4
baz=80
X16A Lo Mia Camp, P 80.90 53 P P 19 43 03.0 +1.8
baz=81
KHC Kasperske Hory 81.87 329 *e*P P 19 43 06.4 +0.6
KHC Kasperske Hory 81.87 329 *e*P P 19 43 06.4 +0.6
GERES GERESS Array B 82.05 328 P P 19 43 06.9 +0.1
GERES GERESS Array B 82.05 328 P P 19 43 06.9 +0.1
comp=Z,0.2nm,0.3s,baz=46,slow=5.8,SNR=4.5
GERES LR LR 20 24 31.0
comp=Z,72nm,18.0s,baz=4.5,slow=39
SCHQ Schefferville 84.26 16 LR LR 20 23 27.0
comp=Z,244nm,18.8s,baz=337,slow=37
CDF Champ du Feu 84.93 332 *e*P P 19 43 22.3 +0.7
comp=Z,24nm,1.2s
CDF Champ du Feu 84.93 332 *e*P P 19 43 22.3 +0.7
CDF pmax pmax
comp=Z,24nm,1.2s
CDF Champ du Feu 84.93 332 *e*P P 19 43 22.3 +0.7
comp=Z,24nm,1.2s
PAGF Fort de Pagny 85.39 333 *e*P P 19 43 24.2 +0.4
PAGF Fort de Pagny 85.39 333 *e*P P 19 43 24.2 +0.4
SFTF Sexfontaines 85.93 333 *e*P P 19 43 26.6 +0.1
SFTF Sexfontaines 85.93 333 *e*P P 19 43 26.6 +0.1
LOR Lormes 87.15 333 *e*P P 19 43 32.5 0.0
comp=Z,18nm,1.3s
LOR Lormes 87.15 333 *e*P P 19 43 32.5 0.0
comp=Z,18nm,1.3s
AVF Avril sur Loir 87.74 333 *e*P P 19 43 36.8 +1.5
comp=Z,22nm,1.1s
AVF Avril sur Loir 87.74 333 *e*P P 19 43 36.8 +1.5
AVF pmax pmax
comp=Z,22nm,1.1s
AVF Avril sur Loir 87.74 333 *e*P P 19 43 36.8 +1.5
comp=Z,22nm,1.1s
ORIF Oris-en-Rattie 88.37 330 *e*P P 19 43 37.9 -0.6
ORIF Oris-en-Rattie 88.37 330 *e*P P 19 43 37.9 -0.6
ORIF Oris-en-Rattie 88.37 330 *e*P P 19 43 37.9 -0.6
TXAR Lajitas Array 89.20 53 P P 19 43 43.7 +1.0
TXAR Lajitas Array 89.20 53 P P 19 43 43.7 +1.0
comp=Z,0.8nm,0.8s,baz=308,slow=2.9,SNR=8.8
TXAR LR LR 20 17 59.5
comp=Z,89nm,21.7s,baz=5.0,slow=32
H06N1 SOCORRO T-PHAS 91.31 65 T T 21 25 49.9
SNR=14
H06E1 SOCORRO T-PHAS 91.41 65 T T 21 25 48.1
SNR=29
LPAZ La Paz 145.85 59 *e*PKPdf **PKPdf 19 50 26.9 +0.6**
LPAZ PKPbc **PKPab 19 50 28.0 +0.6**
LPAZ La Paz 145.85 59 PKPbc **PKPab 19 50 28.0 +0.6**
comp=Z,4.3nm,0.8s,baz=8.5,slow=6.0,SNR=9.7
H03N2 Juan Fernandez 146.74 95 T T 22 35 01.9
baz=286,slow=74,SNR=15
H03N3 Juan Fernandez 146.75 95 T T 22 34 58.1
baz=286,slow=74,SNR=18
H03N1 Juan Fernandez 146.76 95 T T 22 35 11.4
baz=286,slow=74,SNR=13

ISCJB ***18*** *19:50:01.9±0.2, 43.48N±0.01×105.43W±0.02, h0km, Error ellipse: s-maj=1.9km s-min=1.8km az=161.4*
NEIC ***18*** *19:50:02.7±0.4, 43.50N×105.33W, h0km, ML3.3, Error ellipse: s-maj=5.7km s-min=4.5km az=139.0, Suspected Mining explosion.*
NEIC 75 km [50 miles] E of Midwest.
IDC ***18*** *19:50:03.7±1.1, 43.92N×105.92W, h0km, mb1 3.6/3, mb1mx3.3/29, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=21.8km s-min=9.6km az=147.0*

ISC 18 19:50:02.2±0.6, 43.52N±0.02×105.45W±0.02, h0km, n111,
σ0.99/127, 43C-49D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	**0.14**	**213**	⇓P	**Pg**	**19 50 05.4**	**+0.5**
	baz=0.2						
J23A				⇑S	**Sg**	**19 50 07.1**	**+0.5**
	baz=0.2						
I23A	**Meade Ranch, G**	**0.44**	**359**	⇓P	**Pb**	**19 50 12.0**	**-1.1**
	baz=0.5,SNR=16						
I23A				⇓S	**Sb**	**19 50 18.2**	**-2.0**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.60**	**108**	⇑P	**Pg**	**19 50 13.2**	**-0.6**
	baz=0.5						
J24A				⇑S	**Sg**	**19 50 21.1**	**-0.5**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.69**	**60**	⇓P	**Pg**	**19 50 14.8**	**-0.6**
	baz=0.6						
I24A				⇓S	**Sg**	**19 50 25.3**	**+1.0**
	baz=0.6						
J22A	**Midwest**	**0.76**	**262**	⇓P	**Pb**	**19 50 16.9**	**-1.5**
	baz=0.8,SNR=92						
K23A	**Bowen Ranch, D**	**0.78**	**190**	⇓P	**Pg**	**19 50 16.3**	**-0.8**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.84**	**297**	⇓P	**Pb**	**19 50 19.1**	**-0.7**
	baz=0.9,SNR=62						
K24A	**Anderson Ranch**	**0.92**	**150**	⇑P	**Pg**	**19 50 18.5**	**-1.4**
	baz=0.9,SNR=43						
H23A	**Clabaugh Cattl**	**1.04**	**2**	⇓P	**Pb**	**19 50 22.3**	**-0.9**
	baz=1.1,SNR=37						
K22A	**Casper**	**1.17**	**223**	⇓P	**Pg**	**19 50 23.5**	**-1.2**
	baz=1.2,SNR=66						
RSSD	**Black Hills**	**1.19**	**59**	*e*Pg	**Pg**	**19 50 23.4**	**-1.6**
J25A	**Sunshine Ranch**	**1.21**	**96**	⇑P	**Pg**	**19 50 24.4**	**-1.0**
	baz=1.1,SNR=202						
H22A	**Clearmont**	**1.26**	**329**	⇓P	**Pn**	**19 50 27.0**	**-0.2**
	baz=1.3,SNR=120						
I25A	**Rochford**	**1.34**	**68**	⇑P	**Pg**	**19 50 26.4**	**-1.5**
	baz=1.3,SNR=64						
I21A	**Big Trails, Te**	**1.37**	**283**	P	**Pn**	**19 50 28.0**	**-0.8**
	baz=1.5,SNR=119						
H24A	**Dirks Ranch, A**	**1.39**	**27**	⇓P	**Pg**	**19 50 28.1**	**-0.8**
	baz=1.4						
H24A				⇓S	**Sn**	**19 50 48.3**	**+0.2**
	baz=1.4						
J21A	**Lysite**	**1.47**	**264**	⇓P	**Pn**	**19 50 29.2**	**-0.9**
	baz=1.5,SNR=132						
J21A				⇓S	**Sn**	**19 50 50.3**	**+0.1**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.47**	**128**	P	**Pn**	**19 50 29.2**	**-0.9**
	baz=1.4,SNR=127						
K25A				⇑S	**Sn**	**19 50 49.3**	**-0.9**

baz=1.4
L24A Wheatland 1.52 165 ⇑P Pn 19 50 29.0 -1.9
baz=1.5,SNR=25
L24A ⇑S Sn 19 50 50.0 -1.5
baz=1.5
K21A Alcova 1.59 237 ⇓P Pn 19 50 31.3 -0.6
baz=1.7,SNR=252
K21A ⇑S Sg 19 50 53.3 0.0
baz=1.7
H21A Big Horn, Sher 1.60 314 ⇓Pb Pg 19 50 32.9 0.0
baz=1.7,SNR=82
L22A Ellis Ranch, M 1.66 206 P Pn 19 50 31.9 -0.9
baz=1.7,SNR=72
G23A Biddle 1.68 1 P Pg 19 50 33.6 -0.9
baz=1.7,SNR=297
H25A Fruitdale 1.73 50 ⇓P Pn 19 50 34.2 +0.5
baz=1.7,SNR=54
J26A Sides Ranch, S 1.74 96 ⇓P Pn 19 50 33.2 -0.7
baz=1.6,SNR=54
L25A Engebretsen Ra 1.75 141 ⇑Pb Pn 19 50 33.7 -0.2
baz=1.7,SNR=71
L25A ⇓S Sn 19 50 55.9 -1.1
baz=1.7
G22A Birney 1.80 341 ⇑P Pg 19 50 35.5 -1.3
baz=1.9,SNR=42
K26A Motz Farm, Whi 1.85 115 ⇓P Pn 19 50 34.9 -0.5
baz=1.8,SNR=58
J20A Shoshoni 1.93 266 ⇑Pb Pg 19 50 38.2 -0.9
baz=2.0
J20A ⇑Sb Sg 19 51 04.9 +0.8
baz=2.0
I26A New Underwood 1.94 74 ⇓Pb Pn 19 50 37.5 +0.9
baz=1.9
G24A Alzada 1.95 22 ⇑P Pb 19 50 37.5 -1.2
baz=1.9,SNR=23
G24A ⇑Sb Sg 19 51 06.0 +1.1
baz=1.9
I20A Worland 1.99 283 ⇑P Pb 19 50 38.5 -0.9
baz=2.1,SNR=259
I20A ⇑Sb Sg 19 51 06.3 +0.2
baz=2.1
M23A Laramie 2.06 186 ⇑P Pn 19 50 38.0 -0.3
baz=2.1,SNR=50
M23A ⇑Sb Sn 19 51 06.6 +1.7
baz=2.1
H20A Greybull 2.08 299 ⇑P Pb 19 50 39.3 -1.6
baz=2.2,SNR=152
H20A ⇑Sb Sg 19 51 09.3 +0.2
baz=2.2
M24A Cheyenne 2.10 167 ⇑Pb Pn 19 50 39.9 +1.0
baz=2.1
M24A ⇓Sb Sn 19 51 07.4 +1.6
baz=2.1
G21A Lodge Grass 2.12 324 ⇓P Pb 19 50 39.9 -1.7
baz=2.2,SNR=74
G21A ⇑Sb Sg 19 51 11.7 +1.3
baz=2.2
F23A Volborg 2.20 1 ⇑P Pn 19 50 40.4 +0.3
baz=2.2,SNR=91
F23A ⇓Sb Sg 19 51 12.9 -0.1
baz=2.2
G25A Newell 2.22 40 ⇓P Pn 19 50 41.1 +0.7
baz=2.2,SNR=51
G25A ⇓Sb Sg 19 51 13.3 -0.2
baz=2.2
H26A Fairpoint 2.22 59 ⇓Sb Sb 19 51 12.5 +1.2
baz=2.1
M22A Cedar Creek Ra 2.28 202 ⇑Sb Sb 19 51 13.7 +0.5
baz=2.3
L26A Underwood Farm 2.29 130 ⇓Sb Sb 19 51 13.5 +0.2
baz=2.2
M25A Palm-Egli Farm 2.33 153 ⇑Sb Sb 19 51 14.9 +0.5
baz=2.3
F22A Rosebud 2.33 346 ⇑P Pn 19 50 42.3 +0.4
baz=2.4,SNR=38
F24A Ekalaka 2.43 17 ⇑Sb Sg 19 51 19.6 -0.7
baz=2.4
K27A Flueckinger Fa 2.49 108 ⇓P Pn 19 50 44.3 +0.2
baz=2.4,SNR=21
K27A ⇓Sb Sb 19 51 19.5 +0.3
baz=2.4
I27A Quinn 2.52 76 ⇑Sb Sb 19 51 20.8 +0.9
baz=2.4
J27A Elkhorn Farm, 2.52 95 ⇓Sb Sb 19 51 20.5 +0.4
baz=2.4
G20A Bridger 2.61 312 ⇓P Pn 19 50 46.0 +0.2
baz=2.7,SNR=26
N23A Red Feather La 2.65 188 ⇑Sb Sb 19 51 22.9 -1.0
baz=2.6
M26A McRoberts Ranc 2.67 140 ⇓P Pn 19 50 46.4 -0.2
baz=2.6,SNR=20
M26A ⇑Sb Sb 19 51 24.6 +0.3
baz=2.6
G26A Maurine 2.70 48 ⇓P Pn 19 50 47.7 +0.6
baz=2.6,SNR=29
F25A Bowman 2.79 30 ⇓P Pn 19 50 49.3 +1.0
baz=2.8,SNR=8.2
E22A Miles City 2.94 353 ⇓P Pn 19 50 50.3 0.0
baz=3.0,SNR=12
F20A Billings 2.98 321 ⇓P Pn 19 50 51.1 +0.2
baz=3.1,SNR=32
BW06 Boulder Array 3.10 257 *e*Pn Pn 19 50 53.3 +0.6
PDAR Pinedale Array 3.10 257 Pn Pn 19 50 53.5 +0.9
PDAR Lg Lg 19 51 35.7
PDAR Pinedale Array 3.10 257 Pn Pn 19 50 53.5 +0.9
2.5nm,0.3s,baz=72,slow=17,SNR=36
PDAR Lg Lg 19 51 35.7
4.4nm,0.3s,baz=82,slow=26,SNR=3.6
G27A Dupree 3.13 52 ⇓P Pn 19 50 53.2 +0.3
baz=3.1,SNR=9.4
E24A Baker 3.15 14 ⇓P Pn 19 50 54.3 +1.2
baz=3.1,SNR=12
RLMT Red Lodge 3.17 302 *e*Pn Pn 19 50 54.5 +0.8
LAO LASA Array 3.22 350 *e*Pn Pn 19 50 55.0 +1.0
E21A Keefer Ranch, 3.23 340 ⇑P Pn 19 50 54.2 -0.1
baz=3.3,SNR=6.6
F19A Roth Farm, Mol 3.41 314 ⇑P Pn 19 50 57.6 +0.8
baz=3.5,SNR=11
OGNE Ogallala 3.61 134 *e*Pn Pn 19 50 59.3 -0.3
D23A Lindsay 3.66 3 ⇑P Pn 19 51 01.5 +1.3
baz=3.7,SNR=31
D22A Cohagen 3.67 352 ⇓P Pn 19 51 01.4 +1.1
baz=3.7,SNR=7.2
D24A Glendive 3.68 12 ⇓P Pn 19 51 01.8 +1.3
baz=3.7,SNR=14
M28A Bar X Bar Ranc 3.69 124 ⇑P Pn 19 51 00.6 0.0
baz=3.6,SNR=9.1
D21A La Casta Ranch 3.71 343 ⇑P Pn 19 51 01.3 +0.5
baz=3.8,SNR=11
ISCO Idaho Springs 3.72 182 *e*Pn Pn 19 51 02.0 +0.8
GCMT Greycliff 3.77 308 *e*Pn Pn 19 51 03.2 +1.4
E19A Rath Farm, Rou 3.77 322 ⇑P Pn 19 51 02.3 +0.5
baz=3.8,SNR=8.5
H17A Grant Village 3.81 285 *e*Pn Pn 19 51 05.1 +2.7
YNR Norris Junctio 3.95 289 Pn Pb 19 51 11.5 -1.4
YFT Old Faithful 4.00 285 *e*Pn Pg 19 51 15.8 -3.0
D20A Manuel Ranch, 4.04 333 ⇑P Pn 19 51 06.1 +0.7
baz=4.1,SNR=12
YMR Madison River 4.14 288 Pn Pn 19 51 07.5 +0.6
AHID Auburn Hatcher 4.20 262 *e*Pn Pn 19 51 10.3 +2.6
P26A Davis Ranch, A 4.26 158 ⇑P Pn 19 51 08.1 -0.4
baz=4.2,SNR=33
C23A Lambert 4.29 2 ⇓P Pn 19 51 09.7 +0.9
baz=4.3,SNR=22
QLMT Earthquake Lak 4.50 289 Pn Pn 19 51 14.4 +2.6
L30A Spencer Herefo 4.50 108 ⇓P Pn 19 51 11.5 -0.2
baz=4.4,SNR=8.1
P27A Ficken Ranch, 4.51 150 ⇓P Pn 19 51 11.3 -0.6
baz=4.4,SNR=9.2
E28A Huff 4.55 46 ⇑P Pn 19 51 12.3 -0.1
baz=4.5,SNR=8.2
Q26A Hugo 4.82 162 ⇓P Pn 19 51 15.6 -0.6
baz=4.8,SNR=10
HWUT Hardware Ranch 4.91 249 *e*Pn Pn 19 51 18.5 +1.1
DGMT Dagmar 5.03 10 *e*Pn Pn 19 51 19.8 +0.9
44nm,0.4s
JLU Jordanelle 5.33 239 Pn Pn 19 51 23.9 +0.5
7.2nm,0.5s
R26A Arlington 5.43 163 ⇑P Pn 19 51 23.9 -0.7
baz=5.4,SNR=9.9
R25A Fountain Ranch 5.44 170 ⇑P Pn 19 51 23.9 -0.8
baz=5.4,SNR=12
MCMT McKenzie Canyo 5.48 286 *e*Pn Pb 19 51 41.6 +2.6
HRY Holter Researc 5.53 307 *e*Pn Pn 19 51 26.8 +0.9
10.0nm,0.5s
R27A Eads 5.60 158 ⇓P Pn 19 51 26.5 -0.4
baz=5.6,SNR=14
HVU Hansel Valley 5.68 255 *e*Pn Pn 19 51 28.5 +0.5
4.6nm,0.5s
PV04 Paradox Valley 5.75 208 Pn Pn 19 51 29.6 +0.6
MPU Maple Canyon 5.80 235 Pn Pb 19 51 38.5 -5.9
9.7nm,0.9s
SRU San Rafael 5.83 223 *e*Pn Pn 19 51 29.9 -0.2
10nm,0.6s
PV01 Paradox Valley 5.88 205 Pn Pn 19 51 31.9 +1.1
707nm,0.8s
TMUT Trail Mountain 6.04 228 *e*Pn Pn 19 51 34.4 +1.2
6.5nm,0.5s
S26A Kim 6.08 165 ⇓P Pn 19 51 32.7 -0.8
baz=6.0,SNR=20
BGU Big Grassy Mou 6.20 248 Pn Pn 19 51 36.0 +0.9
1.5nm,0.8s
ECSD EROS Data Cent 6.42 85 *e*Pn Pn 19 51 36.7 -1.3
5.1nm,0.4s
CHMT Chamberlain Mo 6.47 304 *e*Pn Pn 19 51 39.8 +0.9
1.6nm,0.5s
T27A Campo 6.78 161 ⇓P Pn 19 51 42.1 -1.0
baz=6.7,SNR=7.2
MVU Marysvale 7.16 228 *e*Pn Pn 19 51 50.6 +2.2
3.5nm,0.8s
ULM Lac du Bonnet 9.39 41 Pn Pn 19 52 17.4 -1.3
ULM Lg Lg 19 54 52.3
ULM Lac du Bonnet 9.39 41 Pn Pn 19 52 17.4 -1.3
0.7nm,0.3s,baz=231,slow=9.1,SNR=6.1
ULM Lg Lg 19 54 52.3
0.3nm,0.3s,baz=149,slow=17,SNR=1.9
TXAR Lajitas Array 14.23 174 Pn P 19 53 34.4 +1.7
TXAR Pg 19 54 30.7
TXAR Lg Lg 19 57 38.6
TXAR Lajitas Array 14.23 174 Pn P 19 53 34.4 +1.7
0.1nm,0.3s,baz=5.6,slow=10,SNR=2.6
TXAR Pg 19 54 30.7
0.1nm,0.3s,baz=4.4,slow=15,SNR=5.2
TXAR Lg Lg 19 57 38.6
0.1nm,0.3s,baz=356,slow=27,SNR=3.9
YKA Yellowknife Ar 19.75 347 P Pn 19 54 36.4 +1.6
YKA S S 19 58 05.3 -11
YKA Yellowknife Ar 19.75 347 P Pn 19 54 36.3 +1.6
0.1nm,0.3s,baz=165,slow=8.9,SNR=4.0
YKA S S 19 58 05.3 -11
0.1nm,0.3s,baz=140,slow=24,SNR=4.5

ISCJB ***18*** *20:05:59.3±1.1, 0.°5N±0.°2×30.°1E±0.°2, h14km, mb3.4/3, Error ellipse: s-maj=31.2km s-min=12.9km az=38.7*
IDC ***18*** *20:06:00.0±2.5, 0.°54N×30.°01E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/26, mbtmp3.5/4, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=68.1km s-min=26.1km az=16.0*
ISC 18 20:06:01.8±1.2, 0.°5N±0.°2×30.°1E±0.°2, h14km, n6, σ1s18/6, mb3.5/3, Uganda

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**7.34**	**103**	Pn	**Pn**	**20 07 48.6**	**-0.2**
	1.4nm,0.3s,baz=267,slow=16,SNR=14						
KMBO				Pg	Pg	20 08 16.5	-5.9
	2.1nm,0.3s,baz=224,slow=22,SNR=5.6						
KMBO				Lg	Lg	20 09 44.8	
	5.0nm,0.3s,baz=209,slow=19,SNR=10						
KMBO				LR	LR	20 10 46.4	
	comp=Z,149nm,20.3s,baz=313,slow=38						
MAUS	**Longido**	**7.35**	**116**	*i* P	**Pn**	**20 07 47.9**	**-1.0**
MAUS				*i* S	Sb	20 09 47.0	+10
DODT	**Dodoma, Tanzan**	**8.73**	**140**	*i* P	**Pn**	**20 08 08.1**	**+0.3**
DODT				*i* S	Sn	20 09 38.0	-8.2
TORD	**Torodi Ar. Bea**	**30.81**	**295**	P	**P**	**20 12 17.2**	**-0.3**
	0.4nm,0.5s,baz=110,slow=7.8,SNR=6.8						
AKASG	**Malin Array Be**	**50.01**	**359**	P	**P**	**20 14 54.8**	**-0.8**
	0.1nm,0.3s,baz=178,slow=6.8,SNR=2.6						
MKAR	**Makanchi Array**	**64.68**	**37**	P	**P**	**20 16 41.0**	**+1.5**
	0.3nm,0.7s,baz=233,slow=6.1,SNR=3.6						

IDC ***18*** *20:10:43.9±8.5, 6.°44S×129.°91E, h130km±87km, mb3.5/5, mb1 3.6/8, mb1mx3.4/21, mbtmp3.4/8, Error ellipse: s-maj=66.8km s-min=22.1km az=44.0*
ISCJB ***18*** *20:10:44.1±0.6, 6.°51S±0.°06×129.°8E±0.°1, h146km, mb3.6/4, Error ellipse: s-maj=14.8km s-min=7.9km az=170.7*
AUST ***18*** *20:10:44.2, 6.°48S×130.°03E, h100km*
ISC 18 20:10:45.6±0.8, 6.°55S±0.°08×130.°0E±0.°1, h146km, n20, σ1s94/19, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.25**	**32**	P	**Pn**	**20 11 49.2**	**+0.1**
	baz=4.2,SNR=6.7						
MTN	**Manton Dam**	**6.36**	**170**	P	**Pn**	**20 12 19.0**	**+1.9**
	baz=6.5,SNR=47						
SOEI	**Soe**	**6.50**	**240**	P	Pn	20 12 22.5	+3.4
	baz=6.6,SNR=4.7						
KDU	**Kakadu**	**6.57**	**158**	P	**Pn**	**20 12 21.1**	**+1.2**
	baz=6.7,SNR=138						
KNRA	**Kununurra**	**9.15**	**187**	P	**Pn**	**20 12 55.5**	**+1.1**
	baz=9.3,SNR=11						
WSI	**Waingapu**	**10.08**	**251**	P	Pn	20 12 58.5	-8.3
	baz=10,SNR=3.1						
FITZ	**Fitzroy Crossi**	**12.24**	**200**	P	**Pn**	**20 13 34.9**	**-0.3**
	0.2nm,0.3s,baz=37,slow=12,SNR=17						
FITZ				S	Sn	20 15 44.1	-6.4
	0.5nm,0.3s,baz=230,slow=6.3,SNR=2.0						
FITZ	**Fitzroy Crossi**	**12.24**	**200**	P	**Pn**	**20 13 37.4**	**+2.2**
	baz=12,SNR=5.8						
WRA	**Warramunga Arr**	**13.97**	**163**	P	**Pn**	**20 13 56.0**	**-1.3**
	0.8nm,0.3s,baz=345,slow=13,SNR=18						
WRA				S	Sn	20 16 22.3	-10
	1.8nm,0.3s,baz=337,slow=22,SNR=12						
COEN	**Coen**	**14.91**	**121**	P	**P**	**20 14 11.5**	**+0.3**
	baz=15,SNR=13						
QIS	**Mount Isa**	**16.76**	**147**	P	**Pn**	**20 14 33.1**	**+1.2**
	baz=17,SNR=9.2						
ASAR	**Alice Springs**	**17.43**	**168**	P	**Pn**	**20 14 40.5**	**+0.5**
	0.7nm,0.3s,baz=346,slow=10,SNR=49						
ASAR				S	**S**	**20 17 47.3**	**-5.9**
	0.4nm,0.3s,baz=347,slow=25,SNR=5.5						
WRKA	**Warakurna**	**18.46**	**185**	P	**Pn**	**20 14 51.7**	**-0.4**
	baz=19,SNR=3.2						
CTA	**Charters Tower**	**20.75**	**132**	P	**P**	**20 15 16.9**	**+2.0**
	1.6nm,0.4s,baz=319,slow=11,SNR=3.2						
QLP	**Quilpie**	**24.11**	**147**	P	**P**	**20 15 48.9**	**+1.0**
	baz=24,SNR=3.8						
STKA	**Stephens Creek**	**27.43**	**158**	P	**P**	**20 16 18.5**	**+0.7**
	1.1nm,0.3s,baz=332,slow=11,SNR=5.9						
CMSA	**Cobar Meteorol**	**28.88**	**151**	P	**P**	**20 16 31.9**	**+1.3**
	baz=29,SNR=6.8						
CMAR	**Chiang Mai Arr**	**39.44**	**310**	P	**P**	**20 18 01.2**	**-0.5**
	0.5nm,0.7s,baz=138,slow=7.2,SNR=6.3						
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**20 21 27.6**	**-0.4**
	1.2nm,0.6s,baz=116,slow=8.1,SNR=24						
ZALV	**Zalesovo Beam**	**71.17**	**334**	P	**P**	**20 21 46.7**	**-1.6**
	0.3nm,0.3s,baz=81,slow=4.5,SNR=2.5						

CSEM ***18*** *20:20:44.7, 43.°16N×21.°01E, h0km, ML1.8, After BEO*
BEO 18 20:20:44.7±0.5, 43.°16N×21.°01E, h0km, ML1.8/6, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SELS	**Selova**	**0.10**	**53**	⇓*i*Pg	Pg	20 20 46.0	-0.7
SELS				*i* Sg	Sg	20 20 47.4	-0.7
SELS	**Selova**	**0.10**	**53**	⇓*i*Pg	Pg	20 20 46.0	-0.7
SELS				*i* Sg	Sg	20 20 47.4	-0.7
IVAS	**Ivanjica**	**0.75**	**304**	*e*Pg	Pg	20 20 58.0	-1.2
IVAS				*i* Sg	Sg	20 21 08.6	-0.5
IVAS	**Ivanjica**	**0.75**	**304**	*e*Pg	Pg	20 20 58.0	-1.2
IVAS				*i* Sg	Sg	20 21 08.6	-0.5
GRUS	**Gruza**	**0.76**	**344**	*e*Pg	Pg	20 20 57.8	-1.5
GRUS				*i* Sg	Sg	20 21 09.5	+0.3
GRUS	**Gruza**	**0.76**	**344**	*e*Pg	Pg	20 20 57.8	-1.5
GRUS				*i* Sg	Sg	20 21 09.5	+0.3
SJES	**Sjenica**	**0.77**	**278**	*e*Pg	Pg	20 20 57.7	-1.9
SJES				*e*Sg	Sg	20 21 08.2	-1.4
SVIS	**Svilajnac**	**1.11**	**8**	*e*Pg	Pg	20 21 05.2	-0.9
SVIS				*i* Sg	Sg	20 21 20.1	-0.5
TRUS	**Trudelj**	**1.15**	**338**	⇑*i*Pg	Pg	20 21 05.5	-1.3
TRUS				*i* Sg	Sg	20 21 20.5	-1.2
TRUS	**Trudelj**	**1.15**	**338**	⇑*i*Pg	Pg	20 21 05.5	-1.3
TRUS				*i* Sg	Sg	20 21 20.5	-1.2
ZAPS	**Zavoj**	**1.19**	**84**	*e*Pg	Pg	20 21 07.3	-0.4
ZAPS				*i* Sg	Sg	20 21 22.2	-1.0
DIVS	**Divibare**	**1.19**	**322**	*e*Pg	Pg	20 21 06.9	-0.9
DIVS				*i* Sg	Sg	20 21 23.0	-0.4
DIVS	**Divibare**	**1.19**	**322**	*e*Pg	Pg	20 21 06.9	-0.9
DIVS				*i* Sg	Sg	20 21 23.0	-0.4
BBLS	**Lazi?i**	**1.36**	**302**	*e*Pg	Pg	20 21 10.3	-0.7
BBLS				*e*Sg	Sg	20 21 28.5	-0.3
BBLS	**Lazi?i**	**1.36**	**302**	*e*Pg	Pg	20 21 10.3	-0.7
BBLS				*e*Sg	Sg	20 21 28.5	-0.3

ISCJB ***18*** *20:22:00.4±0.2, 45.°51N±0.°01×26.°18E±0.°02, h81km±2km, mb3.6/6, Error ellipse: s-maj=2.5km s-min=2.1km az=43.0*
CSEM ***18*** *20:22:01.7±0.1, 45.°52N×26.°19E, h70km±1km, MD3.9, Error ellipse: s-maj=2.0km s-min=1.5km az=44.0*
SOF ***18*** *20:22:01.5, 45.°46N×26.°11E, h53km, MD3.4*
BUC ***18*** *20:22:01.4±0.4, 45.°51N×26.°21E, h71km±7km, MD3.9/3, Error ellipse: s-maj=3.8km s-min=3.3km az=52.0*
BEO ***18*** *20:22:01.4±1.7, 45.°44N×26.°33E, h68km, ML3.3/9*
IDC ***18*** *20:22:01.2±0.6, 45.°67N×26.°10E, h55km±8km, mb3.4/6, mb1 3.6/11, mb1mx3.4/28, mbtmp3.5/11, Error ellipse: s-maj=23.0km s-min=12.8km az=114.0*
PRU ***18*** *20:22:05.8, 45.°54N×25.°72E, h33km*
ISC 18 20:22:01.6±0.7, 45.°52N±0.°02×26.°18E±0.°02, h71km±4km, n308, σ1s90/406, mb3.6/6, 56C-94D, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.17**	**261**	⇑*i*P		**Pn**	**20 22 11.9**	**-0.5**
MLR	**Muntele Rosu**	**0.17**	**261**	⇑*i*P		**Pn**	**20 22 11.9**	**-0.5**
MLR				*i* S		Sn	20 22 19.0	-1.2
MLR	**Muntele Rosu**	**0.17**	**261**	⇑*i*P		Pn	20 22 11.9	-0.5
MLR				*i* S		Sn	20 22 19.0	-1.2
MLR	**Muntele Rosu**	**0.17**	**261**	P		**Pn**	**20 22 11.7**	**-0.6**
	298nm,0.3s,baz=5.2,slow=11							
MLR				S		Sn	20 22 19.0	-1.2
	298nm,0.3s,baz=71,slow=18,SNR=26							
PLOR	**Plostina**	**0.47**	**45**	⇓*i*P		**Pn**	**20 22 13.7**	**-0.6**
PLOR				S		Sn	20 22 22.8	-0.8
PLOR	**Plostina**	**0.47**	**45**	⇓*i*P		Pn	20 22 13.7	-0.6
PLOR				*i* S		Sn	20 22 22.8	-0.8
PLOR	**Plostina**	**0.47**	**45**	⇓*i*P		Pn	20 22 13.7	-0.6
PLOR				*i* S		Sn	20 22 22.8	-0.8
ISR	**Istrita**	**0.47**	**147**	⇑*i*P		**Pn**	**20 22 14.5**	**+0.1**
ISR	**Istrita**	**0.47**	**147**	⇑*i*P		Pn	20 22 14.5	+0.1
ISR	**Istrita**	**0.47**	**147**	⇑*i*P		Pn	20 22 14.5	+0.1
SECR		**0.49**	**189**	⇑*i*P		**Pn**	**20 22 14.9**	**+0.5**
SECR		**0.49**	**189**	⇑*i*P		Pn	20 22 14.9	+0.5
SECR				*i* S		Sn	20 22 25.7	+1.9
SECR		**0.49**	**189**	⇑*i*P		Pn	20 22 14.9	+0.5
SECR				*i* S		Sn	20 22 25.7	+1.9
VRI	**Vrincioaia**	**0.52**	**48**	⇓*i*P		**Pn**	**20 22 14.3**	**-0.4**
VRI	**Vrincioaia**	**0.52**	**48**	⇓*i*P		Pn	20 22 14.3	-0.4
VRI				*i* S		Sn	20 22 24.2	-0.2
VRI	**Vrincioaia**	**0.52**	**48**	⇓*i*P		Pn	20 22 14.3	-0.4
VRI				*i* S		Sn	20 22 24.2	-0.2
GRER		**0.58**	**104**	⇓*i*P		Pn	20 22 16.5	+1.2
GRER		**0.58**	**104**	⇓*i*P		Pn	20 22 16.5	+1.2
GRER				*i* S		Sn	20 22 25.7	+0.4
GRER		**0.58**	**104**	⇓*i*P		Pn	20 22 16.5	+1.2
GRER				*i* S		Sn	20 22 25.7	+0.4
PLAR	**PLOIESTI**	**0.61**	**190**	⇓*i*P		Pn	20 22 16.4	+0.8
PLAR	**PLOIESTI**	**0.61**	**190**	⇓*i*P		Pn	20 22 16.4	+0.8
PLAR				*i* S		Sn	20 22 25.0	-0.9
PLAR	**PLOIESTI**	**0.61**	**190**	⇓*i*P		Pn	20 22 16.4	+0.8
PLAR				*i* S		Sn	20 22 25.0	-0.9
DOPR	**Dopca**	**0.71**	**309**	⇓*i*P		Pn	20 22 16.5	-0.3
DOPR	**Dopca**	**0.71**	**309**	⇓*i*P		Pn	20 22 16.5	-0.3
DOPR				*i* S		Sn	20 22 26.8	-1.1
DOPR	**Dopca**	**0.71**	**309**	⇓*i*P		Pn	20 22 16.5	-0.3
DOPR				*i* S		Sn	20 22 26.8	-1.1
PETR	**Petresti**	**0.77**	**74**	⇑*i*P		Pn	20 22 18.1	+0.8
PETR	**Petresti**	**0.77**	**74**	⇑*i*P		Pn	20 22 18.1	+0.8
PETR				*i* S		Sn	20 22 30.7	+1.8
PETR	**Petresti**	**0.77**	**74**	⇑*i*P		Pn	20 22 18.1	+0.8
PETR				*i* S		Sn	20 22 30.7	+1.8
VOIR		**0.80**	**265**	⇓*i*P		Pn	20 22 17.7	-0.1
VOIR		**0.80**	**265**	⇓*i*P		Pn	20 22 17.7	-0.1
VOIR				*i* S		Sn	20 22 29.0	-0.8
VOIR		**0.80**	**265**	⇓*i*P		Pn	20 22 17.7	-0.1
VOIR				*i* S		Sn	20 22 29.0	-0.8
PGOR	**Pogoanele**	**0.83**	**137**	⇓*i*P		Pn	20 22 18.5	+0.4
PGOR	**Pogoanele**	**0.83**	**137**	⇓*i*P		Pn	20 22 18.5	+0.4
PGOR				*i* S		Sn	20 22 30.0	-0.3
PGOR	**Pogoanele**	**0.83**	**137**	⇓*i*P		Pn	20 22 18.5	+0.4
PGOR				*i* S		Sn	20 22 30.0	-0.3
MTUR	**Matau**	**0.84**	**250**	⇓*i*P		Pn	20 22 19.8	+1.5
MTUR	**Matau**	**0.84**	**250**	⇓*i*P		Pn	20 22 19.8	+1.5
MTUR	**Matau**	**0.84**	**250**	⇓*i*P		Pn	20 22 19.8	+1.5
SULR		**0.84**	**176**	⇓*i*P		Pn	20 22 18.8	+0.6
SULR		**0.84**	**176**	⇓*i*P		Pn	20 22 18.8	+0.6
SULR				*i* S		Sn	20 22 30.2	-0.3
SULR		**0.84**	**176**	⇓*i*P		Pn	20 22 18.8	+0.6
SULR				*i* S		Sn	20 22 30.2	-0.3
TESR	**Tescani**	**1.05**	**18**	⇓*i*P		Pn	20 22 20.6	-0.2
TESR	**Tescani**	**1.05**	**18**	⇓*i*P		Pn	20 22 20.6	-0.2
TESR				*i* S		Sn	20 22 34.0	-1.0
TESR	**Tescani**	**1.05**	**18**	⇓*i*P		Pn	20 22 20.6	-0.2
TESR				*i* S		Sn	20 22 34.0	-1.0
BTMR	**Bucharest-Geot**	**1.08**	**183**	⇓*i*P		Pn	20 22 21.3	+0.1
BTMR				*i* S		Sn	20 22 36.3	+0.6
CIOR	**Ciorogarla**	**1.09**	**191**	⇓*i*P		Pn	20 22 21.6	+0.3
CIOR	**Ciorogarla**	**1.09**	**191**	⇓*i*P		Pn	20 22 21.6	+0.3
CIOR				*i* S		Sn	20 22 37.0	+1.1
CIOR	**Ciorogarla**	**1.09**	**191**	⇓*i*P		Pn	20 22 21.6	+0.3
CIOR				*i* S		Sn	20 22 37.0	+1.1
GOLR		**1.09**	**232**	⇓*i*P		Pn	20 22 22.9	+1.6
GOLR				S		Sn	20 22 35.0	-1.1
GOLR		**1.09**	**232**	⇓*i*P		Pn	20 22 22.9	+1.6
GOLR				*i* S		Sn	20 22 35.0	-1.1
GOLR		**1.09**	**232**	⇓*i*P		Pn	20 22 22.9	+1.6
GOLR				*i* S		Sn	20 22 35.0	-1.1
ARR	**Arges**	**1.10**	**263**	⇓*i*P		Pn	20 22 22.0	+0.6
ARR	**Arges**	**1.10**	**263**	⇓*i*P		Pn	20 22 22.0	+0.6
ARR				*i* S		Sn	20 22 38.3	+2.1
ARR	**Arges**	**1.10**	**263**	⇓*i*P		Pn	20 22 22.0	+0.6
ARR				*i* S		Sn	20 22 38.3	+2.1
BUC	**Bucharest**	**1.11**	**183**	⇓*i*P		Pn	20 22 21.7	+0.2
BUC	**Bucharest**	**1.11**	**183**	⇓*i*P		Pn	20 22 21.7	+0.2
BUC				*i* S		Sn	20 22 37.4	+1.1
BUC	**Bucharest**	**1.11**	**183**	⇓*i*P		Pn	20 22 21.7	+0.2
BUC				*i* S		Sn	20 22 37.4	+1.1
AMRR	**Amara**	**1.22**	**137**	⇓*i*P		Pn	20 22 23.1	+0.1
AMRR	**Amara**	**1.22**	**137**	⇓*i*P		Pn	20 22 23.1	+0.1
AMRR				*i* S		Sn	20 22 39.4	+0.5
AMRR	**Amara**	**1.22**	**137**	⇓*i*P		Pn	20 22 23.1	+0.1
AMRR				*i* S		Sn	20 22 39.4	+0.5
HUMR	**Humele**	**1.30**	**221**	⇓*i*P		Pn	20 22 24.2	+0.2
HUMR	**Humele**	**1.30**	**221**	⇓*i*P		Pn	20 22 24.2	+0.2
HUMR				*i* S		Sn	20 22 42.0	+1.2
HUMR	**Humele**	**1.30**	**221**	⇓*i*P		Pn	20 22 24.2	+0.2
HUMR				*i* S		Sn	20 22 42.0	+1.2
MDB	**Medias**	**1.40**	**297**	⇑*i*

PRAR	RASCA	1.84	1	⇓*iP*	Pn	20 22 32.3 +1.1
PRAR	RASCA	1.84	1	⇓*iP*	Pn	20 22 32.3 +1.1
PRAR	RASCA	1.84	1	⇓*iP*	Pn	20 22 32.3 +1.1
MSAB	Monastry St. A	1.85	140	⇓*iP*	Pn	20 22 31.2 0.0
MSAB	Monastry St. A	1.85	140	⇓*iP*	Pn	20 22 31.2 0.0
MSAB				*i* S	Sn	20 22 52.4 -1.3
MSAB	Monastry St. A	1.85	140	⇓*iP*	Pn	20 22 31.2 0.0
MSAB				*i* S	Sn	20 22 52.4 -1.3
TLCR		1.89	99	⇓*iP*	Pn	20 22 32.1 +0.4
TLCR		1.89	99	⇓*iP*	Pn	20 22 32.1 +0.4
TLCR				*i* S	Sn	20 22 55.4 +0.7
TLCR		1.89	99	⇓*iP*	Pn	20 22 32.1 +0.4
TLCR				*i* S	Sn	20 22 55.4 +0.7
TIRR	Tirgusor	1.91	123	⇓*iP*	Pn	20 22 31.6 -0.4
TIRR	Tirgusor	1.91	123	⇓*iP*	Pn	20 22 31.6 -0.4
TIRR				*i* S	Sn	20 22 52.9 -2.2
TIRR	Tirgusor	1.91	123	⇓*iP*	Pn	20 22 31.6 -0.4
TIRR				*i* S	Sn	20 22 52.9 -2.2
IAS	Iasi	1.93	29	⇓*iP*	Pn	20 22 32.5 +0.2
IAS	Iasi	1.93	29	⇓*iP*	Pn	20 22 32.5 +0.2
IAS				*i* S	Sn	20 22 55.5 -0.2
IAS	Iasi	1.93	29	⇓*iP*	Pn	20 22 32.5 +0.2
IAS				*i* S	Sn	20 22 55.5 -0.2
ZIMR		1.95	198	⇑*iP*	Pn	20 22 32.3 -0.3
ZIMR		1.95	198	⇑*iP*	Pn	20 22 32.3 -0.3
ZIMR				*i* S	Sn	20 22 54.9 -1.2
CJR	Cluj-Napoca	2.16	305	⇑*iP*	Pn	20 22 35.8 +0.4
CJR	Cluj-Napoca	2.16	305	⇑*iP*	Pn	20 22 35.8 +0.4
CJR				*i* S	Sn	20 23 02.7 +1.5
CJR	Cluj-Napoca	2.16	305	⇑*iP*	Pn	20 22 35.8 +0.4
CJR				*i* S	Sn	20 23 02.7 +1.5
BURAR	Bucovina Array	2.20	343	⇓*iP*	Pn	20 22 37.3 +1.2
BURAR	Bucovina Array	2.20	343	⇓*iP*	Pn	20 22 37.3 +1.2
BURAR	Bucovina Array	2.20	343	⇓*iP*	Pn	20 22 37.3 +1.2
SZH	Strazhica	2.26	185	*i* P	Pn	20 22 36.6 -0.2
SZH	Strazhica	2.26	185	*i* P	Pn	20 22 36.6 -0.2
EFOR	EFORIE	2.26	129	⇓*iP*	Pn	20 22 36.7 -0.1
EFOR	EFORIE	2.26	129	⇓*iP*	Pn	20 22 36.7 -0.1
EFOR				*i* S	Sn	20 23 01.6 -2.1
EFOR	EFORIE	2.26	129	⇓*iP*	Pn	20 22 36.7 -0.1
EFOR				*i* S	Sn	20 23 01.6 -2.1
SRE	Strehaia	2.27	249	⇓*iP*	Pn	20 22 37.2 +0.3
SRE	Strehaia	2.27	249	⇓*iP*	Pn	20 22 37.2 +0.3
SRE	Strehaia	2.27	249	⇓*iP*	Pn	20 22 37.2 +0.3
DEV	Deva	2.32	280	⇓*iP*	Pn	20 22 38.5 +0.9
DEV	Deva	2.32	280	⇓*iP*	Pn	20 22 38.5 +0.9
DEV				*i* S	Sn	20 23 06.4 +1.2
DEV	Deva	2.32	280	⇓*iP*	Pn	20 22 38.5 +0.9
DEV				*i* S	Sn	20 23 06.4 +1.2
PSN	Preselentsi	2.33	141	*i* P	Pn	20 22 37.9 +0.2
PSN	Preselentsi	2.33	141	⇓*iP*	Pn	20 22 37.9 +0.2
PSN				S	Sn	20 23 04.4 -0.9
PSN	Preselentsi	2.33	141	⇓*iP*	Pn	20 22 37.9 +0.2
PSN				*i* S	Sn	20 23 04.4 -0.9
PSN	Preselentsi	2.33	141	⇓*iP*	Pn	20 22 37.9 +0.2
PSN				*i* S	Sn	20 23 04.4 -0.9
KIS	Kishinev	2.35	50	*eP*	Pn	20 22 39.0 +1.0
KIS				*i* S	Sn	20 23 06.0 +0.1
	400nm,0.6s					
KIS	Kishinev	2.35	50	*eP*	Pn	20 22 39.0 +1.0
KIS				*i* S	Sn	20 23 06.0 +0.1
	400nm,0.6s					
PVL	Pavlikeni	2.38	195	*i* P	Pn	20 22 40.5 +2.1
PVL	Pavlikeni	2.38	195	*i* P	Pn	20 22 40.5 +2.1
GZR	Gura Zlata	2.40	268	*e*Pn	Pn	20 22 39.5 +0.8
GZR	Gura Zlata	2.40	268	⇑*iP*	Pn	20 22 39.5 +0.8
GZR	Gura Zlata	2.40	268	⇑*iP*	Pn	20 22 39.5 +0.8
GZR	Gura Zlata	2.40	268	⇑*iP*	Pn	20 22 39.5 +0.8
MANR	Mangalia	2.42	134	⇑*iP*	Pn	20 22 39.2 +0.3
MANR	Mangalia	2.42	134	⇑*iP*	Pn	20 22 39.2 +0.3
MANR				*i* S	Sn	20 23 06.6 -0.8
MANR	Mangalia	2.42	134	⇑*iP*	Pn	20 22 39.2 +0.3
MANR				*i* S	Sn	20 23 06.6 -0.8
PRD	Provadia	2.48	159	*i* P	Pn	20 22 40.7 +1.0
PRD	Provadia	2.48	159	*i* P	Pn	20 22 40.7 +1.0
DRGR		2.73	299	*e*Pn	Pn	20 22 43.2 +0.1
DRGR				*e*Sn	Sn	20 23 13.4 -1.6
DRGR		2.73	299	⇓*iP*	Pn	20 22 43.1 0.0
DRGR		2.73	299	⇓*iP*	Pn	20 22 43.1 0.0
DRGR				*i* S	Sn	20 23 15.2 +0.2
DRGR		2.73	299	*e*Pn	Pn	20 22 43.2 +0.1
DRGR				*e*Sn	Sn	20 23 13.4 -1.6
DRGR				*i* S	Sn	20 23 15.2 +0.2
DJES	Djerdap	2.73	253	*e*Pn	Pn	20 22 43.2 +0.1
DJES	Djerdap	2.73	253	*e*Pn	Pn	20 22 43.2 +0.1
MPEP	Malo Peshtene	2.78	220	*i* P	Pn	20 22 43.5 -0.3
BMR	Baia Mare	2.84	320	⇑*iP*	Pn	20 22 45.0 +0.4
BMR	Baia Mare	2.84	320	⇑*iP*	Pn	20 22 45.0 +0.4
BMR	Baia Mare	2.84	320	⇑*iP*	Pn	20 22 45.0 +0.4
SORM	Soroca	3.01	29	⇑*iP*	Pn	20 22 47.0 +0.1
SORM				S	Sn	20 23 19.7 -2.2
SORM	Soroca	3.01	29	⇑*iP*	Pn	20 22 47.0 +0.1
SORM				*i* S	Sn	20 23 19.7 -2.2
SORM	Soroca	3.01	29	⇑*iP*	Pn	20 22 47.0 +0.1
SORM				*i* S	Sn	20 23 19.7 -2.2
JMB	Yambol	3.06	174	P	Pn	20 22 47.8 +0.1
JMB	Yambol	3.06	174	*i* P	Pn	20 22 48.1 +0.4
JMB	Yambol	3.06	174	⇑*iP*	Pn	20 22 47.8 +0.1
JMB				S	Sn	20 23 21.7 -1.5
JMB	Yambol	3.06	174	⇑*iP*	Pn	20 22 47.8 +0.1
JMB				*i* S	Sn	20 23 21.7 -1.5
JMB	Yambol	3.06	174	⇑*iP*	Pn	20 22 47.8 +0.1
JMB				*i* S	Sn	20 23 21.7 -1.5
BZS	Buzias	3.21	273	*e*Pn	Pn	20 22 49.5 -0.1
BZS				*e*Sn	Sn	20 23 25.0 -1.6
BZS	Buzias	3.21	273	⇓*iP*	Pn	20 22 49.4 -0.1
BZS	Buzias	3.21	273	⇓*iP*	Pn	20 22 49.4 -0.1
BZS	Buzias	3.21	273	*e*Pn	Pn	20 22 49.5 -0.1
BZS				*e*Sn	Sn	20 23 25.0 -1.6
SIRR	Siria	3.24	285	⇓*iP*	Pn	20 22 50.5 +0.4
SIRR	Siria	3.24	285	⇓*iP*	Pn	20 22 50.5 +0.4
SIRR	Siria	3.24	285	⇓*iP*	Pn	20 22 50.5 +0.4
PGB	Panagyurishte	3.30	207	*i* P	Pn	20 22 51.8 +0.8
PGB	Panagyurishte	3.30	207	*i* P	Pn	20 22 51.8 +0.8
ZAPS	Zavoj	3.39	230	*e*Pn	Pn	20 22 51.9 -0.3
ZAPS				*e*Sn	Sn	20 23 26.9 -4.3
ZAPS	Zavoj	3.39	230	*e*Pn	Pn	20 22 51.9 -0.3
BOLS	Boljevac	3.45	242	*e*Pn	Pn	20 22 53.2 +0.2
BOLS	Boljevac	3.45	242	*e*Pn	Pn	20 22 53.2 +0.2
DIM	Dimitrovgrad	3.50	188	*i* P	Pn	20 22 53.5 -0.1
DIM	Dimitrovgrad	3.50	188	*i* P	Pn	20 22 53.5 -0.1
PLD	Plovdiv	3.58	198	P	Pn	20 22 54.0 -0.7
PLD	Plovdiv	3.58	198	*i* P	Pn	20 22 53.9 -0.7
PLD	Plovdiv	3.58	198	*i* P	Pn	20 22 53.9 -0.7
TRPA	Tarpa	3.62	318	⇑*iP*	Pn	20 22 54.5 -0.6
TRPA	Tarpa	3.62	318	⇑*iP*	Pn	20 22 54.5 -0.6
TRPA				*i* S	Sn	20 23 34.5 -2.1
TRPA	Tarpa	3.62	318	⇑*iP*	Pn	20 22 54.5 -0.6
TRPA				*i* S	Sn	20 23 34.5 -2.1
VTS	Vitosha	3.62	217	*eP*	Pn	20 22 54.6 -0.8
VTS	Vitosha	3.62	217	P	Pn	20 22 55.0 -0.4
VTS	Vitosha	3.62	217	*i* P	Pn	20 22 55.1 -0.4
VTS	Vitosha	3.62	217	*e*Pn	Pn	20 22 55.2 -0.3
VTS				*e*Sn	Sn	20 22 29.8 -7.3
VTS	Vitosha	3.62	217	⇓*iP*	Pn	20 22 54.8 -0.7
VTS	Vitosha	3.62	217	⇓*iP*	Pn	20 22 54.8 -0.7
VTS	Vitosha	3.62	217	*e*Pn	Pn	20 22 55.2 -0.3
VTS				S	Sn	20 23 33.3 -3.8
EDRB	Edirne	3.69	173	*eP*	Pn	20 22 56.7 +0.5
EDRB	Edirne	3.69	173	*eP*	Pn	20 22 56.7 +0.5
SVIS	Svilajnac	3.74	252	*e*Pn	Pn	20 22 56.8 -0.1
KDZ	Kurdzhali	3.91	188	⇑*iP*	Pn	20 22 59.9 +0.7
KDZ	Kurdzhali	3.91	188	⇑*iP*	Pn	20 22 59.9 +0.7
KDZ				*i* S	Sn	20 23 40.8 -3.0
KDZ	Kurdzhali	3.91	188	⇑*iP*	Pn	20 22 59.9 +0.7
KDZ				S	Sn	20 23 40.8 -3.0
RZN	Rozhen	3.97	196	*i* P	Pn	20 23 00.6 +0.3
RZN	Rozhen	3.97	196	*i* P	Pn	20 23 00.6 +0.3
PHSR	Pinarhisar	4.01	165	*eP*	Pn	20 23 00.9 +0.3
PHSR	Pinarhisar	4.01	165	*eP*	Pn	20 23 00.9 +0.3
GRUS	Gruza	4.22	249	*e*Pn	Pn	20 23 02.6 -0.8
GRUS				*e*Sn	Sn	20 23 47.3 -4.2
GRUS	Gruza	4.22	249	*e*Pn	Pn	20 23 02.6 -0.8
GRUS				*e*Sn	Sn	20 23 47.3 -4.2
KKB	Krupnik	4.28	213	*i* P	Pn	20 23 04.9 +0.6
KKB	Krupnik	4.28	213	*i* P	Pn	20 23 04.9 +0.6
TRUS	Trudelj	4.30	255	*e*Pn	Pn	20 23 03.9 -0.7
TRUS	Trudelj	4.30	255	*e*Pn	Pn	20 23 03.9 -0.7
MMB	Musomiste	4.31	205	⇑*iP*	Pn	20 23 05.6 +0.9
MMB	Musomiste	4.31	205	⇑*iP*	Pn	20 23 05.6 +0.9
CTYL	Yal??k??y-??at	4.32	158	*eP*	Pn	20 23 05.2 +0.3
CTYL	Yal??k??y-??at	4.32	158	*eP*	Pn	20 23 05.2 +0.3
KOLS	Kolonicke sedl	4.33	324	*eP*	Pn	20 23 05.5 +0.6
KOLS	Kolonicke sedl	4.33	324	*eP*	Pn	20 23 05.5 +0.6
NVR	Nevrokopi	4.50	203	P	Pn	20 23 07.2 0.0
NVR	Nevrokopi	4.50	203	P	Pn	20 23 07.2 0.0
FGSL	Fruska Gora	4.50	268	*e*Pn	Pn	20 23 07.0 -0.3
FRGS	Fruska Gora	4.50	268	*e*Pn	Pn	20 23 07.0 -0.3
CRLT	Corlu	4.53	165	*eP*	Pn	20 23 07.1 -0.6
CRLT	Corlu	4.53	165	*eP*	Pn	20 23 07.1 -0.6
SLVT	Silivri	4.54	160	*eP*	Pn	20 23 07.8 +0.1
SLVT	Silivri	4.54	160	*eP*	Pn	20 23 07.8 +0.1
CTKS	Kestanelik-??a	4.60	158	*eP*	Pn	20 23 08.2 -0.5
CTKS	Kestanelik-??a	4.60	158	*eP*	Pn	20 23 08.2 -0.5
ALN	Alexandroupoli	4.62	181	P	Pn	20 23 08.9 0.0
ALN	Alexandroupoli	4.62	181	P	Pn	20 23 08.9 0.0
DIVS	Divibare	4.62	254	*e*Pn	Pn	20 23 07.2 -1.8
DIVS	Divibare	4.62	254	*e*Pn	Pn	20 23 07.2 -1.8
CRVS	Cervenica-Dubn	4.67	318	*eP*	Pn	20 23 09.6 +0.1
CRVS				*eS*	Sn	20 24 02.4 +0.1
CRVS	Cervenica-Dubn	4.67	318	*eP*	Pn	20 23 09.6 +0.1
CRVS				*eS*	Sn	20 24 02.5 +0.1
KAVA	Kavala	4.68	196	P	Pn	20 23 09.9 +0.2
KAVA	Kavala	4.68	196	P	Pn	20 23 09.9 +0.2
IVAS	Ivanjica	4.72	248	*e*Pn	Pn	20 23 09.8 -0.6
IVAS	Ivanjica	4.72	248	*e*Pn	Pn	20 23 09.8 -0.6
BGKT	Bogazkoy	4.73	156	*eP*	Pn	20 23 09.9 -0.5
BGKT	Bogazkoy	4.73	156	*eP*	Pn	20 23 09.9 -0.5
KWP	Kalwaria Pacla	4.74	332	*e*Pn	Pn	20 23 12.0 +1.5
KWP	Kalwaria Pacla	4.74	332	*e*Pn	Pn	20 23 12.0 +1.5
ENEZ	Enez	4.78	180	*eP*	Pn	20 23 10.8 -0.3
ENEZ	Enez	4.78	180	*eP*	Pn	20 23 10.8 -0.3
TEKS	Tekeris	4.81	261	*e*Pn	Pn	20 23 12.1 +0.6
TEKS	Tekeris	4.81	261	*e*Pn	Pn	20 23 12.1 +0.6
ERIK	Erikli-Kesan	4.85	177	*eP*	Pn	20 23 11.6 -0.5
ERIK	Erikli-Kesan	4.85	177	*eP*	Pn	20 23 11.6 -0.5
RKY	Sarkoy-Tekirda	4.88	171	*eP*	Pn	20 23 12.1 -0.4
RKY	Sarkoy-Tekirda	4.88	171	*eP*	Pn	20 23 12.1 -0.4
PSZ	Piszkesteto	4.94	301	⇑*iP*	Pn	20 23 13.1 -0.3
PSZ	Piszkesteto	4.94	301	⇑*iP*	Pn	20 23 13.1 -0.3
PSZ	Piszkesteto	4.94	301	⇑*iP*	Pn	20 23 13.1 -0.3
VAY	Valandovo	4.95	213	P	Pn	20 23 13.4 0.0
VAY	Valandovo	4.95	213	*i* Pn	Pn	20 23 13.2 -0.2
VAY	Valandovo	4.95	213	*i* Pn	Pn	20 23 13.6 +0.2
KNT	Kendrikon	4.97	210	P	Pn	20 23 14.1 +0.4
KNT	Kendrikon	4.97	210	P	Pn	20 23 14.1 +0.4
SJES	Sjenica	4.98	245	*e*Pn	Pn	20 23 14.3 +0.3
SILT	Sile	5.04	149	*eP*	Pn	20 23 14.3 -0.4
SILT	Sile	5.04	149	*eP*	Pn	20 23 14.3 -0.4
BBLS	Lazići	5.10	254	*e*Pn	Pn	20 23 16.1 +0.5
BBLS	Lazići	5.10	254	*e*Pn	Pn	20 23 16.1 +0.5
GELI	Tayfur-Gelibol	5.12	177	*eP*	Pn	20 23 15.5 -0.3
GELI	Tayfur-Gelibol	5.12	177	*eP*	Pn	20 23 15.5 -0.3
SOH	Sokhos	5.13	205	P	Pn	20 23 16.0 +0.1
SOH	Sokhos	5.13	205	P	Pn	20 23 16.0 +0.1
STHS	Stebnicka Huta	5.14	321	*eP*	Pn	20 23 16.9 +0.9
STHS				*eS*	Sn	20 24 13.3 -0.6
STHS	Stebnicka Huta	5.14	321	*eP*	Pn	20 23 16.9 +0.9
STHS				*eS*	Sn	20 24 13.3 -0.6
LPK	Lapseki	5.16	175	*eP*	Pn	20 23 16.8 +0.5
LPK	Lapseki	5.16	175	*eP*	Pn	20 23 16.8 +0.5
KRBG	Karabiga-Canak	5.19	170	*eP*	Pn	20 23 16.9 +0.3
KRBG	Karabiga-Canak	5.19	170	*eP*	Pn	20 23 16.9 +0.3
EDC	Edincik	5.32	166	*eP*	Pn	20 23 18.3 -0.1
EDC	Edincik	5.32	166	*eP*	Pn	20 23 18.3 -0.1
HRT	Hereke	5.34	150	*eP*	Pn	20 23 18.8 0.0
HRT	Hereke	5.34	150	*eP*	Pn	20 23 18.8 0.0
OUR	Ouranopolis	5.43	198	P	Pn	20 23 19.8 -0.1
OUR	Ouranopolis	5.43	198	P	Pn	20 23 19.8 -0.1
KCTX	Karacabey (Bur	5.49	162	*eP*	Pn	20 23 20.8 0.0
KCTX	Karacabey (Bur	5.49	162	*eP*	Pn	20 23 20.8 0.0
GEMT	Gemlik	5.54	155	*eP*	Pn	20 23 21.3 -0.2
GEMT	Gemlik	5.54	155	*eP*	Pn	20 23 21.3 -0.2
AKASG	Malin Array Be	5.57	20	P	Pn	20 23 21.3 -0.5
	6.2nm,0.3s,baz=202,slow=13,SNR=19					
AKASG				S	Sn	20 24 20.3 -4.2
	30nm,0.3s,baz=206,slow=22,SNR=20					
GONE	Gonen-Balikesi	5.58	168	*eP*	Pn	20 23 22.8 +0.8
GONE	Gonen-Balikesi	5.58	168	*eP*	Pn	20 23 22.8 +0.8
KDZE	Karadeniz Ereo	5.69	136	*eP*	Pn	20 23 23.5 0.0
KDZE	Karadeniz Ereo	5.69	136	*eP*	Pn	20 23 23.5 0.0
SPNC	Sapanca-Adapaz	5.70	147	*eP*	Pn	20 23 24.1 +0.5
SPNC	Sapanca-Adapaz	5.70	147	*eP*	Pn	20 23 24.1 +0.5
ORLT	Orhaneli	5.82	159	*eP*	Pn	20 23 25.5 +0.1
ORLT	Orhaneli	5.82	159	*eP*	Pn	20 23 25.5 +0.1
PAIG	Paliouri	5.88	199	P	Pn	20 23 25.4 -0.8
PAIG	Paliouri	5.88	199	P	Pn	20 23 25.4 -0.8
GULT	Gulveren	6.00	146	*eP*	Pn	20 23 28.6 +0.8
GULT	Gulveren	6.00	146	*eP*	Pn	20 23 28.6 +0.8
GPA	Golpazari	6.04	148	*eP*	Pn	20 23 28.6 +0.2
GPA	Golpazari	6.04	148	*eP*	Pn	20 23 28.6 +0.2
MDUB	Mudurnu	6.24	142	*eP*	Pn	20 23 32.0 +0.8
MDUB	Mudurnu	6.24	142	*eP*	Pn	20 23 32.0 +0.8
TREB	Trebinje	6.29	246	*e*Pn	Pn	20 23 31.9 +0.2
TREB	Trebinje	6.29	246	*e*Pn	Pn	20 23 31.9 +0.2
SAFT	Safranbolu	6.38	130	*eP*	Pn	20 23 32.1 -0.9
SAFT	Safranbolu	6.38	130	*eP*	Pn	20 23 32.1 -0.9
TVSB	Tavsanli	6.53	157	*eP*	Pn	20 23 35.1 -0.5
TVSB	Tavsanli	6.53	157	*eP*	Pn	20 23 35.1 0.0
SVRH	Sivrihisar-ESK	7.24	145	*eP*	Pn	20 23 44.7 -0.1
SVRH	Sivrihisar-ESK	7.24	145	*eP*	Pn	20 23 44.7 -0.1
VRAC	Vranov	7.53	304	S	Sn	20 25 11.9 -0.4
	0.2nm,0.3s,baz=39,slow=21,SNR=1.5					
KRLC	Kraliky	7.80	309	*e*PN	Pn	20 23 52.9 +0.6
KRLC				*ex*	x	20 23 59.1
KRLC	Kraliky	7.80	309	Pn	Pn	20 23 52.9 +0.6
BRTR	Keskin Array B	7.98	134	P	Pn	20 23 54.8 -0.2
	0.4nm,0.3s,baz=332,slow=13,SNR=18					
BRTR				S	Sn	20 25 17.5 -6.3
	0.4nm,0.3s,baz=69,slow=27,SNR=5.6					
DPC	Dobruska-Polom	8.19	310	*e*PN	Pn	20 23 57.9 +0.2
DPC				*ex*	x	20 24 05.2
DPC	Dobruska-Polom	8.19	310	Pn	Pn	20 23 57.9 +0.2
SVSK	Karacayir	9.73	121	*eP*	Pn	20 24 17.9 -0.8
SVSK	Karacayir	9.73	121	*eP*	Pn	20 24 17.9 -0.8
KBZ	Khabaz	12.05	93	P	Pn	20 24 50.1 -0.2
	0.1nm,0.3s,baz=265,slow=13,SNR=2.5					
KBZ				S	Sn	20 26 57.6 -5.1
	0.1nm,0.3s,baz=212,slow=22,SNR=2.1					
FINES	FINESS Array B	15.96	360	P	Pn	20 25 35.7 -5.8
	0.7nm,0.3s,baz=176,slow=12,SNR=2.1					
FINES				S	Sn	20 28 23.0 -14
	0.3nm,0.3s,baz=180,slow=17,SNR=1.8					
HFS	Hagfors	16.42	338	P	Pn	20 25 45.0 -2.3
	0.2nm,0.3s,baz=145,slow=13,SNR=6.5					
NOA	NORSAR Array B	17.86	336	P	P	20 26 03.2 -1.6
	0.3nm,0.3s,baz=149,slow=12,SNR=5.2					
AKTO	Aktyubinsk	21.77	65	P	P	20 26 48.0 +0.7
	2.1nm,0.7s,baz=277,slow=11,SNR=9.8					
ZALV	Zalesovo Beam	37.83	55	P	P	20 29 12.0 +1.1
	0.6nm,0.3s,baz=278,slow=8.2,SNR=3.8					
MKAR	Makanchi Array	38.18	67	P	P	20 29 15.9 +1.8
	0.5nm,0.4s,baz=274,slow=8.1,SNR=15					
TORD	Torodi Ar. Bea	38.37	221	P	P	20 29 16.9 +1.0
	0.4nm,0.5s,baz=30,slow=8.9,SNR=6.0					
SONM	Songino Array	52.70	57	P	P	20 31 10.7 +1.9
	0.3nm,0.6s,baz=356,slow=5.9,SNR=3.4					
CMAR	Chiang Mai Arr	65.07	89	P	P	20 32 35.9 +1.2
	0.6nm,0.7s,baz=305,slow=8.2,SNR=6.4					

MEX 18 20:33:42.6±0.6, 18°.19N×103°.57W, h4km±7km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.23	65	*eP*	Pg	20 33 46.7	-0.4
MMIG				*eS*	Sg	20 33 50.2	+0.1
R15V		1.05	338	*eP*	Pg	20 34 00.1	-2.8
R15V				*i* S	Sg	20 34 13.8	-2.7
EZ5V		1.28	358	*eP*	Pg	20 34 04.6	-3.0
EZ5V				*i* S	Sg	20 34 19.7	-4.8
ZIIG	Zihuatanejo	2.08	106	*eP*	Pn	20 34 14.9	-3.5
ZIIG				*i* S	Sn	20 34 40.0	-4.8
SFJM	Santa Fe	2.34	12	*i* P	Pn	20 34 11.3	-11
SFJM				*i* S	Sn	20 34 39.0	-12
MOIG	Morelia	2.69	56	*i* P	Pn	20 34 24.5	-2.6
MOIG				*i* S	Sn	20 34 56.8	-3.7
ARIG	Puente Sto Nin	3.06	88	*i* P	Pn	20 34 29.4	-2.4
ARIG				*i* S	Sn	20 35 05.2	-3.8
PLIG	Platanillo	3.87	86	*i* P	Pn	20 34 40.1	-3.0

IDC ***18*** *20:38:54.2±0.7, 0°.43S×125°.70E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.1/26, mbtmp4.2/16, ML3.7/1, Error ellipse: s-maj=33.2km s-min=14.2km az=71.0*
ISCJB ***18*** *20:38:59.4±0.4, 0°.51S±0°.07×125°.7E±0°.1, h57km, mb4.3/24, Error ellipse: s-maj=20.5km s-min=8.1km az=160.7*
NEIC ***18*** *20:38:59.2±0.3, 0°.49S×125°.69E, h35km, mb4.5/10, Error ellipse: s-maj=17.6km s-min=6.2km az=69.0*

ISC 18 20:39:01.5±0.6, 0°.51S±0°.09×125°.7E±0°.2, h57km, n47, σ0s90/48, mb4.4/24, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.48	180	P	P	20 42 59.6	-1.8
FITZ	Fitzroy Crossi	17.48	180	P	Pn	20 42 59.6	-1.8
	0.2nm,0.3s,baz=35,slow=16,SNR=4.0						
WRAB	Tennant Creek	21.08	157	*eP*	P	20 43 40.5	-0.7
WRA	Warramunga Arr	21.08	157	P	P	20 43 40.2	-1.0
WRA	Warramunga Arr	21.08	157	P	P	20 43 40.2	-1.0
	3.8nm,0.7s,baz=336,slow=11,SNR=29						
ASAR	Alice Springs	24.35	162	P	P	20 44 15.1	+0.8
ASAR	Alice Springs	24.35	162	P	P	20 44 15.1	+0.8
	2.9nm,0.8s,baz=338,slow=9.6,SNR=24						
CMAR	Chiang Mai Arr	32.37	307	P	P	20 45 25.8	-0.1
CMAR				PcP	PcP	20 48 12.1	-0.6
CMAR	Chiang Mai Arr	32.37	307	P	P	20 45 25.8	-0.1
	0.4nm,0.8s,baz=142,slow=5.7,SNR=5.6						
CMAR				PcP	PcP	20 48 12.1	-0.6
	0.2nm,0.4s,baz=192,slow=1.7,SNR=4.2						
CHTO	Chiang Mai	32.56	308	P	P	20 45 26.5	-1.0
ENH	Enshi	34.29	335	*eP*	P	20 45 43.5	+1.0
	3.1nm,0.7s						
STKA	Stephens Creek	34.62	156	*eP*	P	20 45 47.4	+2.1
	0.8nm,0.9s						
STKA	Stephens Creek	34.62	156	P	P	20 45 47.6	+2.3
	2.7nm,0.9s,baz=50,slow=12,SNR=3.8						
KSAR	Wonju Array Be	37.82	3	P	P	20 46 12.7	+0.2
KSRS	Korea Array	37.83	3	P	P	20 46 12.7	+0.1
	3.0nm,0.6s,baz=180,slow=9.6,SNR=15						
USRK	Ussuriysk Arra	44.86	6	P	P	20 47 09.9	-0.3
	2.0nm,0.6s,baz=181,slow=7.9,SNR=6.6						
ULN	Ulaanbaatar	50.85	344	*eP*	P	20 47 56.3	-0.3
	4.2nm,1.0s						
SONM	Songino Array	51.00	343	P	P	20 47 57.6	-0.2
SONM	Songino Array	51.00	343	P	P	20 47

572nm,0.3s,baz=115,slow=16,SNR=31
DZM Mont Dzumac 20.49 247 *e*LR LR 21 26 02.6
153nm,24.5s
PPT2 Papeete2 22.90 100 *e*LR LR 21 26 10.0
243nm,33.0s
TBI Tubuai 23.98 114 *e*LR LR 21 26 59.3
130nm,26.0s
URZ Urewera 24.75 198 P **P 21 21 29.4 +0.9**
7.3nm,0.8s,baz=320,slow=5.2,SNR=3.3
HNR Honiara 26.73 279 LR LR 21 31 05.2
comp=Z,63nm,18.8s,baz=207,slow=34
H11S2 WAKE ISLAND Hy 38.63 329 T T 22 05 13.4
baz=152,slow=76,SNR=21
H11S3 WAKE ISLAND Hy 38.64 329 T T 22 05 15.0
baz=152,slow=76,SNR=24
H11S1 WAKE ISLAND Hy 38.64 329 T T 22 05 13.4
baz=152,slow=76,SNR=27
H11N3 WAKE ISLAND Hy 39.57 330 T T 22 06 13.8
baz=152,slow=77,SNR=38
H11N1 WAKE ISLAND Hy 39.57 330 T T 22 06 17.3
baz=152,slow=77,SNR=23
H11N2 WAKE ISLAND Hy 39.58 330 T T 22 06 15.1
baz=152,slow=77,SNR=39
STKA Stephens Creek 44.38 240 P **P 21 24 15.9 -1.7**
3.8nm,0.9s,baz=93,slow=9.0,SNR=4.0
STKA LR LR 21 41 10.2
comp=Z,70nm,19.5s,baz=24,slow=34
WRA Warramunga Arr 50.07 256 P **P 21 25 01.1 -1.1**
1.6nm,0.6s,baz=94,slow=6.7,SNR=33
WRA PcP **PcP 21 26 22.4 +0.7**
0.5nm,0.7s,baz=92,slow=3.4,SNR=5.6
ASAR Alice Springs 50.37 252 P **P 21 25 03.0 -1.4**
4.7nm,0.5s,baz=88,slow=8.4,SNR=84
YBH Yreka Blue Hor 73.15 37 P P 21 27 41.4 +3.9
2.1nm,0.9s,baz=270,slow=4.5,SNR=4.2
KSRS Korea Array 75.91 315 LR LR 21 57 03.3
comp=Z,18nm,18.1s,baz=62,slow=32
PDAR Pinedale Array 81.83 42 P **P 21 28 28.1 +1.8**
0.2nm,0.4s,baz=243,slow=6.0,SNR=3.1
ILAR Eielson Array 81.96 11 P P 21 28 29.6 +3.4
0.3nm,0.6s,baz=228,slow=6.8,SNR=5.6
KMBO Kilima Mbogo 145.85 245 PKPbc **PKPab 21 35 48.3 +0.5**
0.9nm,0.6s,baz=41,slow=24,SNR=3.5
BRTR Keskin Array B 145.87 322 PKPbc **PKPab 21 35 49.2 +2.2**
1.2nm,0.7s,baz=123,slow=3.0,SNR=5.5

*IGQ **18** 21:25:14.8, 1.°75S×81.°83W, h17km±177km, Mb4.5, Ms4.3, Error ellipse: s-maj=5.8km s-min=2.8km az=5.1*
*IDC **18** 21:25:18.6±1.5, 1.°25S×81.°10W, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.9/22, mbtmp3.8/8, ML3.7/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/33, Error ellipse: s-maj=83.2km s-min=19.2km az=56.0*
*ISCJB **18** 21:25:19.9±0.7, 1.°68S±0.°06×81.°70W±0.°05, h33km, mb3.7/8, MS3.6/3, Error ellipse: s-maj=8.0km s-min=6.6km az=177.3*
*NEIC **18** 21:25:22.8±0.9, 1.°59S×81.°49W, h35km, mb4.5/4, Error ellipse: s-maj=20.2km s-min=12.9km az=59.0*
ISC 18 21:25:21.9±0.8, 1.°68S±0.°05×81.°64W±0.°07, h35km, n64, σ1§41/59, mb3.7/8, MS3.6/3, 3C, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**0.70**	**53**	P	Pn	21 25 31.2	-4.1
ISPT	**Isla de la Pla**	**0.70**	**53**	S	**Sn**	**21 25 42.4**	**-2.5**
JAMA	**Jama**	**2.01**	**45**	P	**Pn**	**21 25 51.8**	**-1.6**
ARNL	**Arenillas**	**2.43**	**140**	S	**Sn**	**21 26 24.4**	**-3.1**
ARNL	**Arenillas**	**2.43**	**140**	P	**Pn**	**21 25 56.3**	**-2.7**
MAG1	**Magdalena**	**2.46**	**49**	P	**Pn**	**21 25 58.1**	**-1.4**
IGUA	**Igualata**	**3.00**	**86**	P	**Pn**	**21 26 06.4**	**-1.1**
PAST	**Pastocalle**	**3.15**	**72**	P	**Pn**	**21 26 09.7**	**+0.3**
BMAS	**Trigal station**	**3.16**	**87**	P	**Pn**	**21 26 08.6**	**-0.8**
JUI6	**Juive**	**3.18**	**85**	P	**Pn**	**21 26 09.6**	**0.0**
ARRY	**Arrayan**	**3.18**	**87**	P	**Pn**	**21 26 09.2**	**-0.7**
RETU	**Refugio**	**3.20**	**86**	S	**Sn**	**21 26 51.1**	**+3.8**
RETU	**Refugio**	**3.20**	**86**	P	**Pn**	**21 26 10.4**	**+0.3**
PAT1	**Patacocha**	**3.20**	**87**	S	**Sn**	**21 26 49.3**	**+1.9**
PAT1	**Patacocha**	**3.20**	**87**	P	**Pn**	**21 26 09.9**	**-0.3**
BPAT	**Tungurahua Vol**	**3.21**	**87**	S	**Sn**	**21 26 48.5**	**+1.0**
BPAT	**Tungurahua Vol**	**3.21**	**87**	P	**Pn**	**21 26 09.5**	**-0.7**
BULB	**Ulba Tungurahu**	**3.23**	**86**	⇑P	**Pn**	**21 26 10.3**	**-0.2**
BULB	**Ulba Tungurahu**	**3.23**	**86**	⇑S	**Sn**	**21 26 51.1**	**+3.1**
ULBA	**Ulba**	**3.23**	**86**	P	**Pn**	**21 26 10.5**	**0.0**
PISA	**Pisayambo**	**3.31**	**79**	P	**Pn**	**21 26 11.9**	**+0.3**
BNAS	**Cotopaxi Volca**	**3.31**	**72**	P	**Pn**	**21 26 12.2**	**+0.5**
BMOR	**Cotopaxi Volca**	**3.31**	**73**	P	**Pn**	**21 26 12.0**	**+0.2**
NAS2	**Nasa**	**3.33**	**72**	P	**Pn**	**21 26 13.2**	**+1.2**
BREF	**Cotopaxi Volca**	**3.35**	**73**	P	**Pn**	**21 26 12.4**	**+0.1**
JUA2	**San Juan 2**	**3.36**	**64**	P	**Pn**	**21 26 11.8**	**-0.6**
BVC2	**Cotopaxi Volca**	**3.38**	**72**	P	**Pn**	**21 26 12.6**	**-0.1**
TERV	**Terraza Guagua**	**3.38**	**64**	P	**Pn**	**21 26 14.0**	**+1.3**
PINO	**Pino**	**3.38**	**63**	P	**Pn**	**21 26 11.5**	**-1.3**
BTAM	**Cotopaxi Volca**	**3.39**	**73**	P	**Pn**	**21 26 13.8**	**+1.0**
GGP	**Refugio Guagua**	**3.39**	**64**	P	**Pn**	**21 26 11.9**	**-0.9**
PITA	**Cotopaxi Volc**	**3.39**	**71**	P	**Pn**	**21 26 14.1**	**+1.4**
VC1	**Cotopaxi 1**	**3.39**	**72**	P	**Pn**	**21 26 13.8**	**+0.9**
COV1	**Cotopaxi Volc**	**3.44**	**73**	P	**Pn**	**21 26 13.5**	**-0.1**
MACE	**Macas**	**3.48**	**99**	P	**Pn**	**21 26 12.5**	**-1.3**
ANTI	**Antisana**	**3.68**	**71**	P	**Pn**	**21 26 17.4**	**+0.5**
OTAV	**Otavalo**	**3.71**	**59**	⇑P	**Pn**	**21 26 15.7**	**-1.5**
OTAV	**Otavalo**	**3.71**	**59**	*e*Pn	**Pn**	**21 26 15.7**	**-1.5**
OTAV				*e*Sn	**Sn**	**21 26 57.4**	**-2.5**
CAYR	**Refugio Cayamb**	**4.00**	**65**	P	**Pn**	**21 26 22.9**	**+1.6**
CAYA	**Cayambe**	**4.04**	**64**	P	**Pn**	**21 26 22.4**	**+0.7**
ATAH	**Atahualpa**	**6.31**	**149**	Pn	**Pn**	**21 26 54.6**	**+1.8**
ATAH	**Atahualpa**	**6.31**	**149**	Pn	**Pn**	**21 26 54.6**	**+1.8**
	1.1nm,0.3s,baz=323,slow=10.0,SNR=8.0						
JTS	**JuntasAbangare**	**12.35**	**345**	LR	LR	21 31 48.8	
	comp=Z,122nm,19.8s,baz=340,slow=32						
SDV	**Santo Domingo**	**15.18**	**46**	*e*P	**Pn**	**21 28 55.2**	**+1.2**
	5.4nm,1.3s						
LPAZ	**La Paz**	**19.69**	**138**	*e*P	**Pn**	**21 29 49.8**	**-0.7**
	9.8nm,1.4s						
LPAZ	**La Paz**	**19.69**	**138**	P	**Pn**	**21 29 51.4**	**+0.9**
	0.1nm,0.3s,baz=329,slow=12,SNR=6.5						
SAML	**Samuel**	**19.73**	**112**	*e*P	**P**	**21 29 47.1**	**-1.6**
	11nm,1.0s						
PTGA	**Pitinga**	**21.68**	**88**	*e*Pn	**P**	**21 30 07.9**	**-2.0**
	7.5nm,0.9s						
SIV	**San Ignacio**	**24.75**	**126**	P	**P**	**21 30 39.5**	**-0.9**
SIV	**San Ignacio**	**24.75**	**126**	P	**P**	**21 30 39.5**	**-0.9**
	1.0nm,0.6s,baz=309,slow=16,SNR=3.2						
SIV				LR	LR	21 40 56.7	
	comp=Z,158nm,21.6s,slow=38						
BDFB	**Brasilia**	**35.93**	**115**	LR	LR	21 48 04.6	
	comp=Z,104nm,21.6s,baz=109,slow=38						
ANMO	**Albuquerque**	**43.23**	**330**	P	**P**	**21 33 21.3**	**+1.2**
ANMO	**Albuquerque**	**43.23**	**330**	P	**P**	**21 33 21.3**	**+1.2**
	1.4nm,0.7s,baz=121,slow=12,SNR=2.9						
PDAR	**Pinedale Array**	**50.90**	**334**	P	P	21 34 25.4	+5.5
PDAR	**Pinedale Array**	**50.90**	**334**	P	P	21 34 25.4	+5.5
	0.6nm,0.9s,baz=111,slow=8.1,SNR=4.4						
ULM	**Lac du Bonnet**	**53.16**	**349**	P	**P**	**21 34 35.9**	**-0.3**
ULM	**Lac du Bonnet**	**53.16**	**349**	P	**P**	**21 34 35.9**	**-0.3**
	2.8nm,0.7s,baz=152,slow=8.9,SNR=4.2						
YKA	**Yellowknife Ar**	**68.68**	**344**	P	**P**	**21 36 21.4**	**-0.1**
YKA	**Yellowknife Ar**	**68.68**	**344**	P	**P**	**21 36 21.4**	**-0.1**
	0.2nm,0.5s,baz=147,slow=6.2,SNR=3.1						
DBIC	**Dimbokro**	**77.07**	**83**	LR	LR	22 11 58.7	
	comp=Z,40nm,19.0s,baz=145,slow=37						
ILAR	**Eielson Array**	**81.20**	**337**	P	**P**	**21 37 35.3**	**+1.5**
ILAR	**Eielson Array**	**81.20**	**337**	P	**P**	**21 37 35.3**	**+1.5**
	0.6nm,0.9s,baz=142,slow=4.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**83.89**	**77**	P	**P**	**21 37 48.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**83.89**	**77**	P	**P**	**21 37 48.4**	**-0.5**
	0.9nm,1.0s,baz=274,slow=6.9,SNR=3.6						

IDC 18 21:57:39.1±12.0, 11.°42S×166.°09E, h89km±79km, mb3.8/4, mb1 4.0/5, mb1mx3.6/19, mbtmp4.0/5, ML4.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/31, Error ellipse: s-maj=117.4km s-min=40.5km az=105.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.36**	**288**	P	Pn	21 59 10.3	0.0
	26nm,0.3s,baz=163,slow=3.7,SNR=9.3						
DZM	**Mont Dzumac**	**10.60**	**178**	LR	LR	22 03 44.4	
	comp=Z,87nm,20.6s,baz=26,slow=34						
PMG	**Port Moresby**	**18.73**	**274**	LR	LR	22 08 19.9	
	comp=Z,41nm,19.4s,baz=92,slow=34						
CTA	**Charters Tower**	**20.93**	**243**	P	Pn	22 02 19.4	+1.2
	4.2nm,1.0s,baz=68,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**30.41**	**224**	P	P	22 03 43.5	+0.4
	2.4nm,0.7s,baz=92,slow=8.6,SNR=5.6						
WRA	**Warramunga Arr**	**31.68**	**251**	P	P	22 03 54.5	0.0
	1.6nm,0.8s,baz=82,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**32.93**	**244**	P	P	22 04 05.0	-0.5
	1.8nm,0.7s,baz=71,slow=9.7,SNR=19						
ASAR				PcP	PcP	22 06 47.5	-0.5
	0.4nm,0.8s,baz=65,slow=2.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**39.62**	**255**	LR	LR	22 20 26.6	
	comp=Z,255nm,20.6s,baz=134,slow=34						
MKAR	**Makanchi Array**	**94.03**	**317**	P	P	22 10 47.5	0.0
	0.6nm,0.6s,baz=97,slow=4.5,SNR=6.6						

*IDC **18** 21:57:39.0±2.5, 2.°42S×100.°62E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/24, mbtmp3.8/5, Error ellipse: s-maj=118.3km s-min=21.5km az=58.0*
*ISCJB **18** 21:57:49.2±1.0, 2.°48S±0.°05×100.°73E±0.°09, h96km±10km, mb3.8/5, Error ellipse: s-maj=16.3km s-min=5.7km az=154.7*
*DJA **18** 21:57:51.6±0.5, 2.°5S±3.°×10.°1E±.°, h63km±6km, M4.5/11, mb5.4/1, mB5.3/1, MLv4.1/11, Mw(mB)4.7/1*
ISC 18 21:57:49.2±1.6, 2.49S±0.07×100.6E±0.1, h80km±14km, n18, σ1§23/25, mb4.0/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**2.04**	**353**	P	**Pn**	**21 58 19.5**	**-2.1**
PPI				S	Sn	21 58 57.0	+11
RGRI	**Rengat**	**2.72**	**38**	P	**Pn**	**21 58 31.1**	**+0.3**
RGRI				S	**Sn**	**21 59 01.1**	**-1.6**
BKNI	**Bangkinang**	**2.83**	**8**	P	**Pn**	**21 58 34.4**	**+2.1**
BKNI				S	**Sn**	**21 59 07.9**	**+2.5**
MNAI	**Manna**	**2.96**	**129**	P	**Pn**	**21 58 34.6**	**+0.5**
MNAI				S	**Sn**	**21 59 08.0**	**-0.7**
JMBI	**JAMBI**	**3.12**	**74**	P	Pn	21 58 39.8	+3.6
JMBI				S	**Sn**	**21 59 11.4**	**-1.0**
LHSI	**Lahat**	**3.17**	**115**	P	**Pn**	**21 58 36.6**	**-0.3**
LHSI				S	**Sn**	**21 59 14.9**	**+1.3**
MNSI	**Mandailing Nat**	**3.43**	**342**	P	**Pn**	**21 58 41.3**	**+0.8**
MDSI	**Maura Dua**	**4.05**	**119**	P	**Pn**	**21 58 49.3**	**+0.5**
LWLI	**Liwa**	**4.23**	**126**	P	**Pn**	**21 58 52.0**	**+0.5**
LWLI				S	**Sn**	**21 59 39.8**	**0.0**
KLSI		**4.63**	**118**	P	**Pn**	**21 58 57.4**	**+0.7**
KASI	**Kota Agung**	**4.88**	**128**	P	**Pn**	**21 59 00.2**	**0.0**
KASI				S	**Sn**	**21 59 54.0**	**-1.5**
BLSI	**Bandar Lampung**	**5.41**	**122**	P	**Pn**	**21 59 09.4**	**+2.0**
WRA	**Warramunga Arr**	**37.19**	**120**	P	**P**	**22 04 52.1**	**-0.9**
	0.9nm,0.5s,baz=301,slow=9.0,SNR=13						
ASAR	**Alice Springs**	**38.45**	**126**	P	**P**	**22 05 03.7**	**+0.2**
	3.3nm,0.6s,baz=302,slow=7.9,SNR=40						
ASAR				PcP	**PcP**	**22 07 15.9**	**+0.4**
	0.4nm,0.5s,baz=291,slow=2.0,SNR=4.1						
STKA	**Stephens Creek**	**48.34**	**132**	P	**P**	**22 06 23.9**	**+0.8**
	1.4nm,0.6s,baz=302,slow=11,SNR=4.3						
SONM	**Songino Array**	**50.37**	**5**	P	**P**	**22 06 37.5**	**-0.8**
	0.2nm,0.6s,baz=188,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**51.67**	**344**	P	**P**	**22 06 47.5**	**-0.5**
	0.3nm,0.5s,baz=152,slow=7.8,SNR=7.0						
TXAR	**Lajitas Array**	**144.69**	**38**	PKP	**PKPab**	**22 17 16.6**	**+0.1**
	0.3nm,0.5s,baz=329,slow=1.1,SNR=4.9						

*MDD **18** 22:07:56.7±1.6, 36.°57N×9.°93W, h50km, mb4.1/9, Error ellipse: s-maj=14.8km s-min=10.8km az=35.0, PRXIMO*
*IGIL **18** 22:07:56.7, 36.°57N×9.°92W, h20km, ML2.5*
*INMG **18** 22:07:57.7±1.0, 36.°61N×9.°80W, h17km±3km, ML2.3, Error ellipse: s-maj=4.0km s-min=2.7km az=48.0*
*CSEM **18** 22:07:58.2±0.4, 36.°72N×9.°67W, h20km, ML3.2/18, Error ellipse: s-maj=6.9km s-min=4.6km az=41.0*
ISC 18 22:07:55.1±2.5, 36.60N±0.08×9.84W±0.08, h31km±12km, n92, σ1§52/172, 5C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.98**	**56**	⇑P	**Pn**	**22 08 14.5**	**+1.9**
	15nm,0.1s,SNR=18						
PFVI				S	**Sn**	**22 08 27.0**	**+1.6**
	87nm,0.1s,SNR=23						
PFVI	**Vila Bisbo**	**0.98**	**56**	⇑*e*P	**Pn**	**22 08 14.6**	**+1.9**
PFVI				*e*S	**Sn**	**22 08 27.2**	**+1.7**
PFVI				A	A	22 08 28.0	
	65nm,0.3s						
PFVI	**Vila Bisbo**	**0.98**	**56**	⇑*e*P	**Pn**	**22 08 14.6**	**+1.9**
PFVI				*e*S	**Sn**	**22 08 27.2**	**+1.7**
	65nm,0.3s						
MORF	**Marmelete**	**1.19**	**53**	P	**Pb**	**22 08 17.5**	**+0.4**
	SNR=7.9						
MORF				S	**Sb**	**22 08 32.0**	**-0.2**
	SNR=7.9						
MORF	**Marmelete**	**1.19**	**53**	*e*P	**Pb**	**22 08 17.6**	**+0.4**
MORF				*e*S	**Sb**	**22 08 32.8**	**+0.6**
MORF				A	A	22 08 33.3	
	56nm,0.1s						
MORF	**Marmelete**	**1.19**	**53**	*e*P	**Pb**	**22 08 17.6**	**+0.4**
MORF				*e*S	**Sb**	**22 08 32.8**	**+0.6**
	56nm,0.1s						
PTEO	**Sao Teotonio**	**1.30**	**43**	*e*P	**Pb**	**22 08 19.3**	**+0.3**
PTEO				*e*S	**Sb**	**22 08 35.6**	**+0.2**
PTEO				A	A	22 08 36.9	
	23nm,0.2s						
PTEO	**Sao Teotonio**	**1.30**	**43**	*e*P	**Pb**	**22 08 19.3**	**+0.3**
PTEO				*e*S	**Sb**	**22 08 35.6**	**+0.2**
	23nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.66**	**67**	⇑*e*P	**Pb**	**22 08 24.1**	**-1.0**
PBDV				*e*S	**Sn**	**22 08 43.7**	**+1.2**
PBDV				A	A	22 08 48.0	
	16nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.66**	**67**	⇑*e*P	**Pb**	**22 08 24.1**	**-1.0**
PBDV				*e*S	**Sn**	**22 08 43.7**	**+1.2**
	16nm,0.2s						
PCVE	**Castro Verde**	**1.77**	**54**	*e*Pn	**Pb**	**22 08 25.9**	**-1.1**
PCVE				*e*Sn	**Sb**	**22 08 47.0**	**-1.9**
PCVE				A	A	22 08 48.9	
	28nm,0.4s						
PCVE	**Castro Verde**	**1.77**	**54**	*e*Pn	**Pb**	**22 08 25.9**	**-1.1**
PCVE				*e*Sn	**Sb**	**22 08 47.0**	**-1.9**
	28nm,0.4s						
MESJ	**Messejana**	**1.79**	**46**	*e*P	**Pn**	**22 08 25.9**	**+1.9**
MESJ				*e*S	**Sn**	**22 08 47.1**	**+1.5**
MESJ				AML	AML	22 08 48.6	
	comp=N,25nm,0.2s						
MESJ	**Messejana**	**1.79**	**46**	P	**Pn**	**22 08 25.4**	**+1.5**
	SNR=7.9						
MESJ				S	**Sn**	**22 08 47.0**	**+1.3**
	SNR=7.9						
MESJ	**Messejana**	**1.79**	**46**	P	**Pn**	**22 08 25.4**	**+1.5**
	SNR=7.9						
MESJ				S	**Sn**	**22 08 47.0**	**+1.3**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**1.84**	**34**	*e*Pn	**Pn**	**22 08 26.5**	**+1.9**
PNCL				*e*Sn	**Sn**	**22 08 48.3**	**+1.5**
PNCL				A	A	22 08 52.4	
	comp=N,13nm,0.1s						
PNCL	**Nicolau / Gran**	**1.84**	**34**	*e*Pn	**Pn**	**22 08 26.5**	**+1.9**
PNCL				*e*Sn	**Sn**	**22 08 48.3**	**+1.5**
	comp=N,13nm,0.1s						
PVAQ	**Vaqueiros**	**1.88**	**64**	*e*Pn	**Pn**	**22 08 27.0**	**+1.8**
PVAQ				*e*Sn	**Sn**	**22 08 48.8**	**+0.9**
PVAQ				A	A	22 08 50.9	
	comp=N,25nm,0.4s						
PVAQ	**Vaqueiros**	**1.88**	**64**	*e*Pn	**Pn**	**22 08 27.0**	**+1.8**
PVAQ				*e*Sn	**Sn**	**22 08 48.8**	**+0.9**
	comp=N,25nm,0.4s						
EGRO	**El Granado**	**2.11**	**63**	P	**Pn**	**22 08 30.3**	**+2.1**
	comp=N,4.6nm,0.1s,SNR=17						
EGRO				S	**Sn**	**22 08 54.1**	**+0.8**
	comp=N,20nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**2.11**	**63**	P	**Pn**	**22 08 30.3**	**+2.1**
	comp=N,4.6nm,0.1s,SNR=17						
EGRO				S	**Sn**	**22 08 54.2**	**+0.8**
	comp=N,20nm,0.1s,SNR=5.0						
PBEJ	**Beja**	**2.13**	**47**	*e*Pn	**Pn**	**22 08 30.1**	**+1.6**
PBEJ				*e*Sn	**Sn**	**22 08 54.6**	**+0.7**
PBEJ				A	A	22 08 57.9	
	comp=N,10.0nm,0.2s						
PBEJ	**Beja**	**2.13**	**47**	*e*Pn	**Pn**	**22 08 30.1**	**+1.6**
PBEJ				*e*Sn	**Sn**	**22 08 54.6**	**+0.7**
	comp=N,10.0nm,0.2s						
PACT	**Alcochete**	**2.31**	**20**	*e*Pn	**Pb**	**22 08 34.0**	**-2.1**
PACT				*e*Sn	**Sn**	**22 09 01.2**	**+2.8**
PACT				A	A	22 09 03.1	
	comp=N,14nm,0.2s						
PACT	**Alcochete**	**2.31**	**20**	*e*Pn	**Pb**	**22 08 34.0**	**-2.1**
	comp=N,14nm,0.2s						
PMAFR	**Mafra**	**2.40**	**11**	P	**Pn**	**22 08 34.0**	**+1.8**
	comp=N,4.8nm,0.1s,SNR=6.9						
PMAFR				S	**Sn**	**22 09 00.9**	**+0.4**
	comp=N,8.7nm,0.1s						
PMAFR	**Mafra**	**2.40**	**11**	*e*Pn	**Pn**	**22 08 34.0**	**+1.8**
PMAFR				*e*Sn	**Sn**	**22 09 01.7**	**+1.2**
PMAFR				A	A	22 09 04.2	
	comp=N,16nm,0.4s						
PMAFR	**Mafra**	**2.40**	**11**	P	**Pn**	**22 08 34.0**	**+1.8**
	comp=N,4.8nm,0.1s,SNR=6.9						
PMAFR				S	**Sn**	**22 09 00.9**	**+0.4**
	comp=N,8.7nm,0.1s						
PMAFR				*e*Sn	**Sn**	**22 09 01.7**	**+1.2**
	comp=N,16nm,0.4s						
EVO	**Evora**	**2.42**	**36**	*e*Pn	**Pn**	**22 08 34.2**	**+1.7**
EVO				*e*Sn	**Sn**	**22 09 01.9**	**+0.8**
EVO				A	A	22 09 03.7	
	comp=N,13nm,0.1s						
EVO	**Evora**	**2.42**	**36**	*e*Pn	**Pn**	**22 08 34.2**	**+1.7**
EVO				*e*Sn	**Sn**	**22 09 01.9**	**+0.8**
	comp=N,13nm,0.1s						
PBAR	**Barrancos**	**2.73**	**54**	*e*Pn	**Pn**	**22 08 38.6**	**+1.8**
PBAR				*e*Sn	**Sn**	**22 09 09.7**	**+0.9**
PBAR				A	A	22 09 12.5	
	comp=N,8.6nm,0.2s						
PBAR	**Barrancos**	**2.73**	**54**	*e*Pn	**Pn**	**22 08 38.6**	**+1.8**
PBAR				*e*Sn	**Sn**	**22 09 09.7**	**+0.9**
	comp=N,8.6nm,0.2s						
PMTG	**Montargil**	**2.78**	**27**	*e*Pn	**Pn**	**22 08 39.5**	**+2.0**
PMTG				*e*Sn	**Sn**	**22 09 10.5**	**+0.5**
PMTG				A	A	22 09 12.8	
	comp=N,9.9nm,0.4s						
PMTG	**Montargil**	**2.78**	**27**	*e*Pn	**Pn**	**22 08 39.5**	**+2.0**
PMTG				*e*Sn	**Sn**	**22 09 10.5**	**+0.5**
	comp=N,9.9nm,0.4s						
EMIN	**Mina Concepcio**	**2.79**	**64**	P	**Pn**	**22 08 38.9**	**+1.3**
	comp=N,4.9nm,0.2s,SNR=10						
EMIN				S	**Sn**	**22 09 10.4**	**+0.2**
	comp=N,7.4nm,0.1s,SNR=7.8						
EMIN	**Mina Concepcio**	**2.79**	**64**	P	**Pn**	**22 08 38.9**	**+1.3**
	comp=N,4.9nm,0.2s,SNR=10						
EMIN				S	**Sn**	**22 09 10.4**	**+0.2**
	comp=N,7.4nm,0.1s,SNR=7.8						
PESTR	**Estremoz**	**2.89**	**38**	*e*Pn	Pn	22 08 42.2	+3.2
PESTR				*e*Sn	**Sn**	**22 09 13.2**	**+0.6**
PESTR				A	A	22 09 13.9	
	comp=N,3.5nm,0.2s						
PESTR	**Estremoz**	**2.89**	**38**	*e*Pn	Pn	22 08 42.2	+3.2
PESTR				*e*Sn	**Sn**	**22 09 13.2**	**+0.6**
	comp=N,3.5nm,0.2s						
EBAD	**Badajoz**	**3.11**	**45**	P	**Pn**	**22 08 43.3**	**+1.3**
	comp=N,2.5nm,0.1s,SNR=15						
EBAD				S	**Sn**	**22 09 18.3**	**+0.1**
	comp=N,35nm,0.3s						
EBAD	**Badajoz**	**3.11**	**45**	P	**Pn**	**22 08 43.3**	**+1.3**
	comp=N,2.5nm,0.1s,SNR=15						
EBAD				S	**Sn**	**22 09 18.3**	**+0.1**
	comp=N,35nm,0.3s						
ESPR	**Espera**	**3.21**	**84**	P	**Pn**	**22 08 45.1**	**+1.6**
	comp=N,1.4nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**22 09 20.6**	**-0.1**
	comp=N,83nm,0.3s,SNR=7.3						
ESPR	**Espera**	**3.21**	**84**	P	**Pn**	**22 08 45.1**	**+1.6**
	comp=N,1.4nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**22 09 20.6**	**-0.1**
	comp=N,83nm,0.3s,SNR=7.3						
PTOM	**Tomar**	**3.22**	**20**	*e*Pn	**Pn**	**22 08 45.6**	**+2.0**
PTOM				*e*Sn	**Sn**	**22 09 21.2**	**+0.3**
PTOM				A	A	22 09 23.6	
	comp=N,8.9nm,0.2s						
PTOM	**Tomar**	**3.22**	**20**	*e*Pn	**Pn**	**22 08 45.6**	**+2.0**
PTOM				*e*Sn	**Sn**	**22 09 21.2**	**+0.3**
	comp=N,8.9nm,0.2s						
PMRV	**Marv??o**	**3.43**	**34**	*e*Pn	**Pn**	**22 08 48.3**	**+1.9**
PMRV				*e*Sn	**Sn**	**22 09 25.7**	**-0.3**
PMRV				A	A	22 09 28.4	
	comp=N,7.3nm,0.2s						
PMRV	**Marv??o**	**3.43**	**34**	*e*Pn	**Pn**	**22 08 48.3**	**+1.9**
PMRV				*e*Sn	**Sn**	**22 09 25.7**	**-0.3**
	comp=N,7.3nm,0.2s						
PCAS	**Casmilo, Conde**	**3.61**	**17**	*e*Pn	**Pn**	**22 08 51.0**	**+2.1**
PCAS				*e*Sn	**Sn**	**22 09 30.3**	**-0.1**
PCAS				A	A	22 09 33.8	
	comp=N,1.9nm,0.2s						
PCAS	**Casmilo, Conde**	**3.61**	**17**	*e*Pn	**Pn**	**22 08 51.0**	**+2.1**
PCAS				*e*Sn	**Sn**	**22 09 30.3**	**-0.1**
	comp=N,1.9nm,0.2s						
PCBR	**Castelo Branco**	**3.74**	**29**	*e*Pn	**Pn**	**22 08 52.4**	**+1.8**
PCBR				*e*Sn	**Sn**	**22 09 33.5**	**

	comp=N,0.8nm,0.1s,SNR=7.9								
ELOB				S		**Sn**	**22 10 11.8**	**-3.9**
	comp=N,3.0nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**5.44**	**14**	P		**Pn**	**22 09 15.2**	**+1.0**
	comp=N,0.8nm,0.1s,SNR=7.9								
ELOB				S		**Sn**	**22 10 11.9**	**-3.9**
	comp=N,3.0nm,0.2s,SNR=7.9								
PGAV	**Gavieira, Arco**	**5.50**	**12**	*e*Pn		**Pn**	**22 09 16.4**	**+1.5**
PGAV				*e*Sn		**Sn**	**22 10 15.2**	**-1.9**
PGAV				A		A	22 10 18.2	
	comp=N,3.4nm,0.5s								
PGAV	**Gavieira, Arco**	**5.50**	**12**	*e*Pn		**Pn**	**22 09 16.4**	**+1.5**
PGAV				*e*Sn		**Sn**	**22 10 15.2**	**-1.9**
	comp=N,3.4nm,0.5s								
EQES	**Quesada**	**5.54**	**75**	P		**Pn**	**22 09 16.7**	**+1.2**
	comp=N,1.0nm,0.2s,SNR=7.9								
EQES				S		**Sn**	**22 10 16.4**	**-1.8**
	comp=N,3.9nm,0.3s,SNR=8.5								
EQES	**Quesada**	**5.54**	**75**	P		**Pn**	**22 09 16.7**	**+1.2**
	comp=N,1.0nm,0.2s,SNR=7.9								
EQES				S		**Sn**	**22 10 16.4**	**-1.8**
	comp=N,3.9nm,0.3s,SNR=8.5								
ESDC	**Sonseca Array**	**5.56**	**55**	P		**Pn**	**22 09 17.3**	**+1.5**
	comp=N,4.1nm,0.1s,baz=239,slow=14,SNR=13								
ESDC				S		**Sn**	**22 10 17.6**	**-1.0**
	comp=N,1.9nm,0.1s,baz=240,slow=24,SNR=21								
ESDC	**Sonseca Array**	**5.56**	**55**	P		**Pn**	**22 09 17.3**	**+1.5**
	comp=N,4.1nm,0.1s,SNR=13								
ESDC				S		**Sn**	**22 10 17.6**	**-1.0**
	comp=N,1.9nm,0.1s,SNR=21								
EBER	**Berja**	**5.59**	**85**	S		**Sn**	**22 10 19.6**	**0.0**
	comp=N,3.4nm,0.3s,SNR=7.9								
EBER	**Berja**	**5.59**	**85**	S		**Sn**	**22 10 19.6**	**0.0**
	comp=N,3.4nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**5.86**	**23**	P		**Pn**	**22 09 20.4**	**+0.6**
	comp=N,1.1nm,0.3s,SNR=7.9								
ECAL				S		**Sn**	**22 10 24.0**	**-1.9**
	comp=N,4.2nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**5.86**	**23**	P		**Pn**	**22 09 20.4**	**+0.6**
	comp=N,1.1nm,0.3s,SNR=7.9								
ECAL				S		**Sn**	**22 10 24.0**	**-1.9**
	comp=N,4.2nm,0.3s,SNR=7.9								
EHUE	**Huescar**	**5.91**	**76**	P		**Pn**	**22 09 21.4**	**+0.8**
	comp=N,0.2nm,0.1s,SNR=7.9								
EHUE				S		**Sn**	**22 10 26.0**	**-1.4**
	comp=N,2.2nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**5.91**	**76**	P		**Pn**	**22 09 21.4**	**+0.8**
	comp=N,0.2nm,0.1s,SNR=7.9								
EHUE				S		**Sn**	**22 10 26.0**	**-1.4**
	comp=N,2.2nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**6.01**	**46**	P		**Pn**	**22 09 23.7**	**+1.6**
	comp=N,0.3nm,0.2s,SNR=7.9								
GUD				S		**Sn**	**22 10 27.9**	**-2.0**
	comp=N,1.7nm,0.3s,SNR=8.5								
GUD	**Guadarrama**	**6.01**	**46**	P		**Pn**	**22 09 23.7**	**+1.6**
	comp=N,0.3nm,0.2s,SNR=7.9								
GUD				S		**Sn**	**22 10 27.9**	**-2.0**
	comp=N,1.7nm,0.3s,SNR=8.5								
EVIA	**Vianos**	**6.17**	**69**	S		**Sn**	**22 10 29.7**	**-4.1**
	comp=N,2.9nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**6.89**	**70**	P		**Pn**	**22 09 35.4**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=7.9								
ETOB				S		**Sn**	**22 10 48.1**	**-3.4**
	comp=N,0.6nm,0.1s,SNR=7.9								
ETOR	**Torete**	**7.41**	**53**	P		**Pn**	**22 09 42.8**	**+1.7**
	comp=N,1.0nm,0.3s,SNR=7.9								
ETOR				S		**Sn**	**22 11 01.7**	**-2.4**
	comp=N,3.1nm,0.2s,SNR=7.9								
ETOR	**Torete**	**7.41**	**53**	P		**Pn**	**22 09 42.8**	**+1.7**
	comp=N,1.0nm,0.3s,SNR=7.9								
ETOR				S		**Sn**	**22 11 01.7**	**-2.4**
	comp=N,3.1nm,0.2s,SNR=7.9								

CSEM ***18*** *22:15:19.4, 38.°60N×29.°34W, h3km, ML3.6, After PDA*
PDA 18 22:15:19.4±1.0, 38.°60N×29.°34W, h3km±10km, MD3.7, ML3.6, Error ellipse: s-maj=7.9km s-min=6.7km az=83.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CALA	**Caldeira**	**0.50**	**91**	*e*P		Pg	22 15 28.4	-0.7
CALA				*e*S		Sg	22 15 34.8	-0.9
CALA	**Caldeira**	**0.50**	**91**	*e*P		Pg	22 15 28.4	-0.7
CALA				*e*S		Sg	22 15 34.8	-0.9
PCED	**Cedros**	**0.50**	**86**	*i* P		Pg	22 15 28.2	-0.8
PCED				*i* S		Sg	22 15 34.9	-0.6
PCED				A		A	22 15 37.2	
	1µm,0.4s							
PCED	**Cedros**	**0.50**	**86**	*i* P		Pg	22 15 28.2	-0.8
PCED				*i* S		Sg	22 15 34.9	-0.6
HOR	**Horta**	**0.56**	**97**	*e*P		Pg	22 15 29.1	-1.0
HOR				*e*S		Sg	22 15 36.3	-1.1
HOR	**Horta**	**0.56**	**97**	*e*P		Pg	22 15 29.1	-1.0
HOR				*e*S		Sg	22 15 36.3	-1.1
PCAN	**Candelaria**	**0.68**	**101**	*e*P		Pg	22 15 30.6	-1.9
PCAN				*e*S		Sg	22 15 39.4	-2.0
PCAN				A		A	22 15 43.0	
	644nm,0.2s							
PCAN	**Candelaria**	**0.68**	**101**	*e*P		Pg	22 15 30.6	-1.9
PCAN				*e*S		Sg	22 15 39.4	-2.0
PICO	**Pico**	**0.72**	**97**	*e*P		Pg	22 15 31.7	-1.7
PICO	**Pico**	**0.72**	**97**	*e*P		Pg	22 15 31.7	-1.7
ROSA	**Rosais**	**0.87**	**81**	*i* P		Pg	22 15 33.6	-2.5
ROSA				*e*S		Sg	22 15 44.0	-3.4
ROSA				A		A	22 15 44.6	
	1µm,0.2s							
ROSA	**Rosais**	**0.87**	**81**	*i* P		Pg	22 15 33.6	-2.5
ROSA				*e*S		Sg	22 15 44.0	-3.4
PID	**Ribeirinha**	**0.97**	**99**	*e*P		Pg	22 15 35.2	-2.8
PID	**Ribeirinha**	**0.97**	**99**	*e*P		Pg	22 15 35.2	-2.8
PMAN	**Manadas**	**0.98**	**87**	*e*P		Pg	22 15 35.2	-3.0
PMAN				*e*S		Sg	22 15 47.0	-3.9
PMAN				A		A	22 15 48.8	
	405nm,0.3s							
PMAN	**Manadas**	**0.98**	**87**	*e*P		Pg	22 15 35.2	-3.0
PMAN				*e*S		Sg	22 15 47.0	-3.9
TOPO	**Topo**	**1.11**	**90**	*e*P		Pg	22 15 36.8	-4.0
TOPO				*e*S		Sg	22 15 50.4	-4.9
TOPO	**Topo**	**1.11**	**90**	*e*P		Pg	22 15 36.8	-4.0
TOPO				*e*S		Sg	22 15 50.4	-4.9
PGRA	**Graciosa**	**1.15**	**67**	*e*P		Pg	22 15 36.8	-4.6
PGRA				*e*S		Sg	22 15 51.0	-5.3
PGRA				A		A	22 16 00.6	
	227nm,0.4s							
PGRA	**Graciosa**	**1.15**	**67**	*e*P		Pg	22 15 36.8	-4.6
PGRA				*e*S		Sg	22 15 51.0	-5.3
ADH	**Angra Heroismo**	**1.65**	**87**	*e*P		Pn	22 15 44.7	-4.6
ADH				*e*S		Sn	22 16 03.3	-7.7
ADH				A		A	22 16 04.9	
	180nm,0.2s							
ADH	**Angra Heroismo**	**1.65**	**87**	*e*P		Pn	22 15 44.7	-4.6
ADH				*e*S		Sn	22 16 03.3	-7.7
PSET	**Sete Cidades**	**2.95**	**104**	*e*P		Pn	22 16 03.0	-4.3
PSET	**Sete Cidades**	**2.95**	**104**	*e*P		Pn	22 16 03.0	-4.3
PDA	**Ponta Delgada**	**3.02**	**105**	*e*P		Pn	22 16 03.6	-4.5
PDA	**Ponta Delgada**	**3.02**	**105**	*e*P		Pn	22 16 03.6	-4.5
GRON	**Grota Negra**	**3.11**	**104**	*e*P		Pn	22 16 06.4	-3.1
CMLA	**Cha da Macela**	**3.12**	**104**	*e*P		Pn	22 16 04.7	-4.8
CMLA	**Cha da Macela**	**3.12**	**104**	*e*P		Pn	22 16 04.7	-4.8
BART	**Pico Bartolome**	**3.38**	**103**	*e*P		Pn	22 16 08.9	-4.4
BART	**Pico Bartolome**	**3.38**	**103**	*e*P		Pn	22 16 08.9	-4.4
PSMA	**Santa Maria**	**3.70**	**114**	*e*P		Pn	22 16 12.6	-4.8
PSMN	**Pico do Norte,**	**3.74**	**114**	*e*P		Pn	22 16 13.2	-4.8
PSMN	**Pico do Norte,**	**3.74**	**114**	*e*P		Pn	22 16 13.2	-4.8

IDC ***18*** *22:47:25.8±0.8, 33.°19S×179.°08W, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.2/19, mbtmp4.4/6, ML4.2/1, MS3.8/13, Ms1 3.8/13, ms1mx3.6/28, Error ellipse: s-maj=31.0km s-min=24.1km az=33.0*
NEIC ***18*** *22:47:30.8±0.6, 33.°36S×179.°07W, h35km, mb4.6/3, Error ellipse: s-maj=17.6km s-min=15.2km az=173.0*
ISCJB ***18*** *22:47:33.2±0.8, 33.°59S±0.°08×179.°4W±0.°1, h55km, mb4.3/7, MS3.8/11, Error ellipse: s-maj=13.0km s-min=10.3km az=30.3*
AUST ***18*** *22:47:37.6, 33.°58S×179.°20W, h100km*
ISC 18 22:47:33.8±0.7, 33.°54S±0.°09×179.°26W±0.°10, h55km, n62, σ1§24/40, mb4.2/7, MS3.9/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**5.56**	**211**	*e*Pn		**Pn**	**22 48 52.6**	**-1.4**
URZ				*e*Sn		**Sn**	**22 49 55.8**	**-0.7**
URZ	**Urewera**	**5.56**	**211**	Pn		**Pn**	**22 48 53.1**	**-0.8**
	6.5nm,0.3s,baz=0.4,slow=3.0,SNR=48							
URZ				Sn		**Sn**	**22 49 55.4**	**-1.1**
	5.1nm,0.3s,baz=253,slow=19,SNR=3.6							
URZ				LR		LR	22 51 18.8	
	comp=Z,286nm,19.5s,baz=27,slow=39							
OUZ	**Omahuta**	**6.14**	**252**	*e*Pn		**Pn**	**22 49 04.0**	**+2.1**
OUZ				*e*Sn		**Sn**	**22 50 09.8**	**-1.1**
RPZ	**Rata Peaks**	**12.67**	**214**	Pn		Pn	22 50 25.5	-5.6
RPZ				Sn		Sn	22 52 38.2	-12
RPZ	**Rata Peaks**	**12.67**	**214**	Pn		Pn	22 50 25.5	-5.6
	0.6nm,0.3s,baz=281,slow=5.2,SNR=3.3							
RPZ				Sn		Sn	22 52 38.2	-12
	1.2nm,0.3s,baz=174,slow=18,SNR=5.3							
RPZ				LR		LR	22 55 25.0	
	comp=Z,301nm,21.4s,baz=64,slow=37							
DZM	**Mont Dzumac**	**17.02**	**308**	*e*LR		LR	22 54 53.3	
	879nm,25.3s							
RAR	**Rarotonga**	**21.17**	**60**	LR		LR	22 58 45.1	
	comp=Z,132nm,20.0s,baz=316,slow=33							
MCQ	**Macquarie Isla**	**25.97**	**210**	P		**P**	**22 53 03.9**	**+2.9**
	baz=26,SNR=3.4							
TBI	**Tubuai**	**28.01**	**77**	*e*LR		LR	23 00 29.3	
	369nm,28.8s							
TBI	**Tubuai**	**28.01**	**77**	*e*T		T	23 22 10.8	
	12nm,0.3s							
PAE	**Paea**	**30.94**	**67**	*e*T		T	23 25 32.2	
	6.8nm,0.2s							
PPT2	**Papeete2**	**30.98**	**67**	*e*LR		LR	23 01 43.3	
	347nm,27.5s							
TVO	**Taravao**	**31.12**	**67**	*e*T		T	23 25 47.0	
	1.4nm,0.4s							
MEH	**Mehetia**	**31.98**	**69**	*e*T		T	23 26 54.4	
	8.0nm,0.2s							
STKA	**Stephens Creek**	**32.85**	**262**	LR		LR	23 05 02.4	
	comp=Z,224nm,19.7s,baz=288,slow=32							
CTA	**Charters Tower**	**33.40**	**285**	P		**P**	**22 54 08.7**	**+1.4**
CTA	**Charters Tower**	**33.40**	**285**	P		**P**	**22 54 08.7**	**+1.4**
	3.1nm,0.6s,baz=141,slow=6.5,SNR=5.3							
VAH	**Vaihoa**	**33.89**	**65**	*e*T		T	23 29 10.7	
	16nm,0.2s							
PMG	**Port Moresby**	**39.12**	**300**	LR		LR	23 08 53.4	
	comp=Z,129nm,18.6s,baz=130,slow=33							
COEN	**Coen**	**39.24**	**291**	P		**P**	**22 54 58.1**	**+1.0**
	baz=39,SNR=6.0							
RKT	**Rikitea**	**40.08**	**87**	*e*LR		LR	23 06 04.3	
	360nm,27.5s							
RKT	**Rikitea**	**40.08**	**87**	*e*T		T	23 37 34.3	
	2.2nm,0.3s							
ASAR	**Alice Springs**	**41.98**	**271**	P		**P**	**22 55 19.7**	**0.0**
ASAR	**Alice Springs**	**41.98**	**271**	P		**P**	**22 55 19.7**	**0.0**
	1.6nm,0.6s,baz=107,slow=7.5,SNR=20							
ASAR				LR		LR	23 13 03.3	
	comp=Z,98nm,20.7s,baz=179,slow=36							
WRAB	**Tennant Creek**	**43.25**	**276**	*e*P		**P**	**22 55 29.4**	**-0.6**
	1.7nm,0.4s							
WRA	**Warramunga Arr**	**43.26**	**276**	P		**P**	**22 55 29.6**	**-0.5**
WRA	**Warramunga Arr**	**43.26**	**276**	P		**P**	**22 55 29.6**	**-0.5**
	1.8nm,0.4s,baz=117,slow=7.7,SNR=40							
WRA				LR		LR	23 12 26.6	
	comp=Z,159nm,20.0s,baz=100,slow=35							
VNDA	**Vanda**	**44.88**	**186**	LR		LR	23 09 56.4	
	comp=Z,55nm,20.3s,baz=72,slow=30							
WRKA	**Warakurna**	**46.11**	**266**	P		**P**	**22 55 52.1**	**-0.7**
	baz=46,SNR=5.0							
KNRA	**Kununurra**	**49.97**	**278**	P		**P**	**22 56 22.4**	**-0.2**
	baz=50,SNR=3.9							
FITZ	**Fitzroy Crossi**	**51.37**	**273**	*e*P		**P**	**22 56 32.7**	**-0.5**
	22nm,1.3s							
FITZ	**Fitzroy Crossi**	**51.37**	**273**	P		**P**	**22 56 33.1**	**0.0**
	baz=51,SNR=3.3							
MEEK	**Meekatharra**	**53.51**	**260**	P		**P**	**22 56 47.0**	**-1.9**
	baz=54,SNR=3.4							
QSPA	**South Pole Qui**	**56.58**	**180**	*e*P		**P**	**22 57 11.0**	**+0.3**
	6.8nm,0.9s							
QSPA	**South Pole Qui**	**56.58**	**180**	P		**P**	**22 57 13.7**	**+3.0**
	1.3nm,0.3s,baz=346,slow=1.5,SNR=4.4							
MAW	**Mawson**	**69.00**	**201**	LR		LR	23 25 46.0	
	comp=Z,84nm,19.2s,baz=286,slow=33							
H03N3	**Juan Fernandez**	**79.84**	**123**	T		T	00 28 00.9	
	baz=236,slow=75,SNR=38							
H03N2	**Juan Fernandez**	**79.84**	**123**	T		T	00 28 12.6	
	baz=236,slow=75,SNR=14							
H03N1	**Juan Fernandez**	**79.85**	**123**	T		T	00 28 07.4	
	baz=236,slow=75,SNR=29							
PLCA	**Paso Flores**	**81.15**	**133**	P		**P**	**22 59 44.9**	**+1.3**
PLCA	**Paso Flores**	**81.15**	**133**	P		**P**	**22 59 44.9**	**+1.3**
	3.1nm,1.1s,baz=278,slow=8.3,SNR=3.2							
PPI	**Padang Panjang**	**81.70**	**275**	P		P	22 59 42.4	-4.4
	baz=82,SNR=5.4							
CMAR	**Chiang Mai Arr**	**93.44**	**290**	LR		LR	23 38 57.9	
	comp=Z,23nm,18.3s,baz=25,slow=33							
ELK	**Elko**	**94.56**	**43**	LR		LR	23 35 56.0	
	comp=Z,104nm,18.3s,baz=360,slow=31							
TXAR	**Lajitas Array**	**94.96**	**58**	LR		LR	23 32 52.7	
	comp=Z,81nm,19.6s,baz=355,slow=29							
APG	**El Apazote**	**97.15**	**77**	LR		LR	23 34 34.9	
	comp=Z,59nm,20.7s,baz=257,slow=29							
KURK	**Kurchatov**	**122.41**	**313**	*e*PKPdf		**PKPdf**	**23 06 20.6**	**-1.7**
JOF	**Joensuu**	**144.89**	**336**	*e*pkp		**PKPab**	**23 07 01.6**	**-1.5**
KAF	**Kangasniemi**	**147.10**	**338**	*e*pkp		**PKPdf**	**23 07 07.8**	**+0.2**
FINES	**FINESS Array B**	**147.67**	**337**	PKPbc		**PKPbc**	**23 07 10.5**	**-0.9**
FINES	**FINESS Array B**	**147.67**	**337**	PKPbc		**PKPbc**	**23 07 10.5**	**-0.9**
	2.5nm,0.4s,baz=42,slow=5.0,SNR=30							
NB2	**NORAR Subarra151.65**	**349**		PKP		**PKPbc**	**23 07 20.5**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=12,slow=2.5							
NOA	**NORSAR Array B151.65**	**349**		PKPbc		**PKPbc**	**23 07 20.5**	**-0.8**
NOA	**NORSAR Array B151.65**	**349**		PKPbc		**PKPbc**	**23 07 20.5**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=14,slow=4.1,SNR=4.8							
HFS	**Hagfors**	**152.06**	**346**	PKPbc		**PKPbc**	**23 07 20.9**	**-1.3**
HFS	**Hagfors**	**152.06**	**346**	PKPbc		**PKPbc**	**23 07 20.9**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=74,slow=6.3,SNR=13							
DBIC	**Dimbokro**	**152.77**	**168**	PKPbc		**PKPbc**	**23 07 25.4**	**+0.3**
DBIC	**Dimbokro**	**152.77**	**168**	PKPbc		**PKPbc**	**23 07 25.4**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=129,slow=6.4,SNR=13							
AKASG	**Malin Array Be**	**153.03**	**318**	PKPbc		**PKPbc**	**23 07 23.2**	**-1.4**
AKASG	**Malin Array Be**	**153.03**	**318**	PKPbc		**PKPbc**	**23 07 23.2**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=52,slow=3.1,SNR=5.2							
TORD	**Torodi Ar. Bea**	**159.69**	**183**	PKPab		**PKPab**	**23 08 06.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**159.69**	**183**	PKPab		**PKPab**	**23 08 06.0**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=170,slow=5.3,SNR=5.8							

IDC ***18*** *22:57:59.7±1.3, 34.°87N×139.°41E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/25, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=38.2km s-min=23.8km az=89.0*
ISCJB ***18*** *22:58:00.6±0.8, 34.°94N±0.°04×139.°20E±0.°08, h14km±4km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=6.3km az=177.6*
JMA ***18*** *22:58:01.6, 34.°96N×139.°14E, h4km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕ±96.00000°, δ76.00000°, λ131.00000°. NP2: ϕ±202.00000°, δ43.00000°, λ22.00000°. Principal axes: T Plg44.0000°, Azm46.0000°; N Plg39.0000°, Azm264.0000°; P Plg20.0000°, Azm157.0000°;*
JMA Felt III J1.
ISC 18 22:58:01.1±1.2, 34.°95N±0.°04×139.°18E±0.°09, h10km±8km, n17, σ0.970/14, mb3.5/3, 1C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AJI	**Ajiro2**	**0.12**	**323**	⇓P		**Pg**	**22 58 03.6**	**-0.4**
JIM2	**Oshima 3**	**0.31**	**138**	⇓P		**Pb**	**22 58 08.5**	**-0.2**
JOD2	**Odawara 2**	**0.32**	**346**	⇓P		**Pg**	**22 58 07.6**	**0.0**
JOD2				S		**Sg**	**22 58 12.3**	**+0.4**
JIZS	**Izushimoda**	**0.34**	**227**	⇑P		**Pg**	**22 58 07.9**	**+0.1**
JIZS				S		**Sg**	**22 58 12.6**	**+0.3**
JYN	**Shimob**	**0.76**	**317**	⇓P		**Pg**	**22 58 15.0**	**-0.7**
MJAR	**Matsushiro Arr**	**1.78**	**334**	Pn		**Pn**	**22 58 32.5**	**+0.6**
	22nm,0.3s,baz=167,slow=13,SNR=144							
MJAR				Sn		**Sn**	**22 58 53.7**	**-0.9**
	29nm,0.3s,baz=199,slow=41,SNR=20							
MAT	**Matsushiro**	**1.78**	**334**	P		**Pn**	**22 58 32.5**	**+0.6**
MAT				S		**Sn**	**22 58 55.3**	**+0.7**
JNU	**Nakatsue**	**7.13**	**258**	Pn		Pn	22 59 49.4	+3.9
	0.4nm,0.3s,baz=90,slow=9.1,SNR=3.1							
H11N2	**WAKE ISLAND Hy 28.79**	**115**		T		T	23 34 08.5	
	baz=311,slow=76,SNR=1239							
H11N1	**WAKE ISLAND Hy 28.79**	**115**		T		T	23 34 09.1	
	baz=311,slow=76,SNR=674							
H11N3	**WAKE ISLAND Hy 28.80**	**115**		T		T	23 34 09.7	
	baz=311,slow=76,SNR=929							
H11S3	**WAKE ISLAND Hy 29.40**	**117**		T		T	23 34 54.0	
	baz=313,slow=75,SNR=156							
H11S1	**WAKE ISLAND Hy 29.40**	**117**		T		T	23 34 53.6	
	baz=313,slow=75,SNR=238							
H11S2	**WAKE ISLAND Hy 29.41**	**117**		T		T	23 34 55.5	
	baz=313,slow=75,SNR=76							
ILAR	**Eielson Array**	**52.22**	**31**	P		**P**	**23 07 12.2**	**+0.4**
	0.4nm,0.8s,baz=278,slow=7.7,SNR=4.5							
WRA	**Warramunga Arr**	**54.78**	**186**	P		**P**	**23 07 29.8**	**-1.3**
	0.7nm,0.8s,baz=1.0,slow=7.4,SNR=6.5							
ASAR	**Alice Springs**	**58.51**	**186**	P		**P**	**23 07 58.0**	**+0.3**
	0.4nm,0.9s,baz=12,slow=14,SNR=4.1							

FUNV 18 23:31:02.2, 7.°12N×72.°79W, h140km, MW3.6, 3C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CAPV	**Capacho**	**0.88**	**33**	⇓*i*P		Pn	23 31 25.1	-0.2
CAPV				*e*S		Sn	23 31 41.1	-1.8
SOCV	**Socops**	**2.24**	**59**	⇑*i*P		Pn	23 31 39.2	-0.5
SOCV				*e*S		Sn	23 32 05.8	-2.7
ELOV	**Elorza**	**3.29**	**92**	⇑*e*P		Pn	23 31 51.1	-1.7
ELOV				*e*S		Sn	23 32 27.9	-4.2
VIRV	**Villa del Rosa**	**3.38**	**6**	⇓*i*P		Pn	23 31 52.0	-2.1
VIRV				*e*S		Sn	23 32 29.9	-4.5
QARV	**Quebrada Arrib**	**3.80**	**36**	*e*S		Sn	23 32 39.7	-4.5
SANV	**Sanarito**	**4.00**	**54**	*e*P		Pn	23 32 01.2	-1.2
CURV	**Curarigua**	**4.01**	**44**	*e*P		Pn	23 32 01.2	-1.3
DABV	**Dabajuro**	**4.33**	**29**	⇓*e*P		Pn	23 32 05.0	-1.6
TEPV	**Terepaima**	**4.54**	**51**	*e*P		Pn	23 32 07.9	-1.6
SIQV	**Siquisique**	**4.58**	**40**	⇓*e*P		Pn	23 32 08.8	-1.2
BAUV	**El Baul**	**5.04**	**69**	⇑*i*P		Pn	23 32 13.2	-2.8
MAPV	**Macapo**	**5.06**	**58**	*e*P		Pn	23 32 14.9	-1.4
MONV	**Montecano**	**5.55**	**30**	*e*P		Pn	23 32 21.0	-1.8
TURV	**Turiamo**	**5.91**	**56**	*e*P		Pn	23 32 25.7	-1.9
CUPV	**Cœpira**	**7.51**	**67**	*e*P		Pn	23 32 46.5	-2.7

IDC ***18*** *23:31:48.1±4.5, 36.°23N×71.°38E, h67km±38km, mb3.8/10, mb1 3.8/15, mb1mx3.6/34, mbtmp3.8/15, ML4.3/4, Error ellipse: s-maj=31.8km s-min=21.5km az=8.0*
ISCJB ***18*** *23:31:51.6±0.3, 36.°44N±0.°03×71.°79E±0.°05, h114km, mb3.9/12, Error ellipse: s-maj=5.3km s-min=3.7km az=161.9*
NEIC ***18*** *23:31:51.8±0.7, 36.°40N×71.°72E, h103km±9km, mb4.6/8, Error ellipse: s-maj=8.3km s-min=5.2km az=55.0*
NNC ***18*** *23:31:52.1±4.5, 36.°89N×70.°37E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=40.7km s-min=33.4km az=49.0*
NDI ***18*** *23:32:56.5±1.9, 34.°12N×73.°87E, h10km, ML3.6*
ISC 18 23:31:52.7±0.5, 36.°51N±0.°05×71.°74E±0.°06, h114km, n89, σ1§59/91, mb4.0/12, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.68**	**177**	P		**Pn**	**23 32 36.1**	**+1.3**
CEP				S		Sn	23 33 23.0	+16
KBL	**Kabul**	**2.94**	**229**	*e*Pn		**Pn**	**23 32 36.5**	**-1.8**
KBL				*e*Sn		**Sn**	**23 33 14.1**	**-0.3**
CHCP	**Chirah Chowk**	**3.10**	**156**	P		**Pn**	**23 32 43.1**	**+2.8**
THW	**Thamme Wali**	**3.70**	**180**	P		**Pn**	**23 32 48.8**	**+0.6**
AML	**Almayashu**	**5.82**	**15**	P		**Pn**	**23 33 17.6**	**+0.7**
	SNR=77							
UCH	**Uchtor**	**6.11**	**20**	P		**Pn**	**23 33 21.8**	**+0.9**
	SNR=28							
KZA	**Kyzart**	**6.20**	**25**	P		**Pn**	**23 33 23.1**	**+1.0**
	SNR=11							
EKS2	**Erkin-Say**	**6.35**	**14**	P		**Pn**	**23 33 24.9**	**+1.0**
	SNR=18							
EKS2	**Erkin-Say**	**6.35**	**14**	*e*Pn		**Pn**	**23 33 24.4**	**+0.6**

AB31	**Akbulak array**	**15.37**	**330**	⇓P		**Pn**	**23 35 19.5**	**-3.8**
	comp=N,0.7nm,0.4s,baz=141,slow=13,SNR=39							
AB31				⇓S		Sn	23 37 58.3	-15
	comp=N,0.5nm,0.3s,baz=152,slow=24,SNR=4.1							
RAMN	**Ramite**	**15.82**	**123**	*e*P		**Pn**	**23 35 28.1**	**-1.2**
RAMN	**Ramite**	**15.82**	**123**	*e*P		**Pn**	**23 35 28.1**	**-1.2**
TAPN	**Taplejung**	**16.33**	**119**	*e*P		**Pn**	**23 35 34.5**	**-1.2**
	comp=N,20nm,0.4s							
ODAN	**Odare**	**16.41**	**121**	*e*P		**Pn**	**23 35 35.6**	**-1.0**
	comp=N,17nm,0.6s							
ODAN	**Odare**	**16.41**	**121**	*e*P		**Pn**	**23 35 35.6**	**-1.0**
	comp=N,17nm,0.6s							
BVA0	**Borovoye Array**	**16.55**	**357**	⇑P		**P**	**23 35 38.5**	**+0.1**
	comp=N,2.0nm,0.8s,baz=163,slow=11,SNR=7.1							
BVAR	**Borovoye Array**	**16.55**	**357**	P		**P**	**23 35 38.6**	**+0.3**
BVAR	**Borovoye Array**	**16.55**	**357**	P		**P**	**23 35 38.6**	**+0.3**
	comp=N,0.4nm,0.3s,baz=155,slow=9.4,SNR=7.6							
AKTO	**Aktyubinsk**	**17.08**	**329**	P		**P**	**23 35 43.0**	**-1.2**
AKTO	**Aktyubinsk**	**17.08**	**329**	P		**P**	**23 35 43.0**	**-1.2**
	comp=N,0.9nm,0.3s,baz=141,slow=10,SNR=15							
AKTO	**Aktyubinsk**	**17.08**	**329**	⇓P		**P**	**23 35 42.7**	**-1.6**
	comp=N,2.3nm,0.5s							
AKTO				⇑S		Sn	23 38 38.9	-15
	comp=N,6.9nm,1.4s							
LSA	**Lhasa**	**17.61**	**107**	*e*P		**P**	**23 35 49.5**	**-1.3**
	comp=N,5.3nm,0.8s							
ZAA0	**Zalesovo Array**	**19.67**	**23**	*e*P		**P**	**23 36 13.6**	**+1.1**
ZALV	**Zalesovo Beam**	**19.67**	**23**	P		**Pn**	**23 36 14.0**	**-1.0**
ZALV	**Zalesovo Beam**	**19.67**	**23**	P		**Pn**	**23 36 14.0**	**-1.0**
	comp=N,5.6nm,0.3s,baz=209,slow=9.6,SNR=44							
GNI	**Garni**	**21.46**	**288**	P		**P**	**23 36 34.0**	**+1.9**
GNI	**Garni**	**21.46**	**288**	P		**P**	**23 36 34.0**	**+1.9**
	comp=N,3.2nm,0.6s,baz=350,slow=4.1,SNR=5.6							
KBZ	**Khabaz**	**23.13**	**297**	P		**P**	**23 36 47.6**	**-1.1**
KBZ	**Khabaz**	**23.13**	**297**	P		**P**	**23 36 47.6**	**-1.1**
	comp=N,2.0nm,0.8s,baz=134,slow=5.1,SNR=5.1							
AKASG	**Malin Array Be**	**33.41**	**309**	P		**P**	**23 38 20.1**	**-0.1**
AKASG	**Malin Array Be**	**33.41**	**309**	P		**P**	**23 38 20.1**	**-0.1**
	comp=N,0.9nm,0.4s,baz=80,slow=7.2,SNR=18							
MLR	**Muntele Rosu**	**35.30**	**299**	P		**P**	**23 38 39.3**	**+2.5**
MLR	**Muntele Rosu**	**35.30**	**299**	P		**P**	**23 38 39.3**	**+2.5**
	comp=N,0.7nm,0.8s,baz=117,slow=14,SNR=3.8							
JOF	**Joensuu**	**36.16**	**330**	*ep*		**P**	**23 38 44.6**	**+0.9**
	comp=N,1.3nm,0.3s							
FINES	**FINESS Array B**	**37.81**	**326**	P		**P**	**23 38 58.2**	**+0.5**
FINES	**FINESS Array B**	**37.81**	**326**	P		**P**	**23 38 58.2**	**+0.5**
	comp=N,1.2nm,0.4s,baz=116,slow=9.7,SNR=14							
ARCES	**ARCESS Array B**	**41.37**	**337**	P		**P**	**23 39 27.7**	**+0.6**
ARCES	**ARCESS Array B**	**41.37**	**337**	P		**P**	**23 39 27.7**	**+0.6**
	comp=N,6.5nm,1.0s,baz=98,slow=8.7,SNR=6.9							
HFS	**Hagfors**	**43.43**	**322**	P		**P**	**23 39 44.5**	**+0.6**
HFS	**Hagfors**	**43.43**	**322**	P		**P**	**23 39 44.5**	**+0.6**
	comp=N,4.1nm,0.6s,baz=86,slow=11,SNR=13							
NB2	**NORSAR Subarra**	**44.73**	**323**	P		**P**	**23 39 54.7**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.73**	**323**	P		**P**	**23 39 54.7**	**+0.4**
NOA	**NORSAR Array B**	**44.73**	**323**	P		**P**	**23 39 54.7**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=95,slow=7.8,SNR=8.6							
TORD	**Torodi Ar. Bea**	**66.31**	**269**	P		**P**	**23 42 27.4**	**-1.9**
TORD	**Torodi Ar. Bea**	**66.31**	**269**	P		**P**	**23 42 27.4**	**-1.9**
	comp=Z,0.9nm,0.4s,baz=50,slow=5.8,SNR=28							
INK	**Inuvik**	**73.80**	**10**	P		**P**	**23 43 17.1**	**+3.0**
INK	**Inuvik**	**73.80**	**10**	P		**P**	**23 43 17.1**	**+3.0**
	comp=Z,0.6nm,0.8s,baz=309,slow=2.2,SNR=3.4							
WRA	**Warramunga Arr**	**81.49**	**122**	P		**P**	**23 43 59.2**	**+1.6**
WRA	**Warramunga Arr**	**81.49**	**122**	P		**P**	**23 43 59.2**	**+1.6**
	comp=Z,0.5nm,1.0s,baz=324,slow=4.9,SNR=5.0							

AUST ***18*** *23:43:44.0±99.0, 9.6°*Ɛ*×118.4°E±180°, h35km, Error ellipse: s-maj=2.5km s-min=1.0km az=13.0*
ISCJB ***18*** *23:45:56.9±0.9, 8.17°S±0.07°×107.35°E±0.05, h62km, Error ellipse: s-maj=9.6km s-min=7.5km az=1.3*
DJA ***18*** *23:45:57.0±0.6, 8°S±4°×107°E±°, h25km±7km, M3.7/8, MLv3.7/8*
ISC 18 23:45:57.5±1.5, 8°15S±0°.07×107°36E±0°.05, h62km, n9, σ1s16/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.74**	**37**	P		**Pn**	**23 46 11.7**	**-0.8**
CISI				S		**Sn**	**23 46 21.2**	**-2.3**
CISI	**Cisompet, Garu**	**0.74**	**37**	P		**Pn**	**23 46 11.7**	**-0.8**
	baz=11,SNR=34							
CMJI	**Cimerak**	**1.14**	**71**	P		**Pn**	**23 46 17.3**	**-0.2**
CMJI				S		**Sn**	**23 46 31.2**	**-1.1**
LEM	**Lembang**	**1.34**	**11**	P		**Pn**	**23 46 21.1**	**+0.7**
LEM				S		**Sn**	**23 46 38.5**	**+1.1**
LEM	**Lembang**	**1.34**	**11**	P		**Pn**	**23 46 21.1**	**+0.7**
	baz=11,SNR=14							
SKJI	**Sukabumi**	**1.39**	**325**	P		**Pn**	**23 46 21.0**	**+0.1**
SKJI				S		**Sn**	**23 46 37.6**	**-0.8**
KPJI	**Karang Pucung**	**1.76**	**62**	P		**Pn**	**23 46 26.6**	**+0.9**
KPJI				S		**Sn**	**23 46 48.9**	**+1.8**
XMIS	**Christmas Isla**	**2.86**	**216**	P		**Pn**	**23 46 41.0**	**+0.2**
	baz=13,SNR=3.7							
UGM	**Wanagama**	**3.14**	**86**	P		**Pn**	**23 46 44.9**	**+0.3**

IDC 18 23:48:53.7±1.8, 11°06S×164°71E, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.7/20, mbtmp4.0/5, ML4.4/2, MS4.5/1, Ms1 4.5/1, ms1mx2.8/21, Error ellipse: s-maj=39.2km s-min=33.0km az=130.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**4.96**	**289**	Pn		Pn	23 50 11.4	+1.9
	41nm,0.3s,baz=141,slow=7.3,SNR=5.3							
DZM	**Mont Dzumac**	**11.07**	**172**	Pn		Pn	23 51 33.5	-0.1
	0.9nm,0.3s,baz=145,slow=22,SNR=11							
DZM				Sn		Sn	23 53 28.7	-10
	0.2nm,0.3s,baz=150,slow=20,SNR=2.2							
WRA	**Warramunga Arr**	**30.53**	**249**	P		P	23 55 09.2	+0.2
	1.3nm,0.6s,baz=78,slow=9.1,SNR=13							
ASAR	**Alice Springs**	**31.88**	**243**	P		P	23 55 20.1	-0.9
	0.3nm,0.5s,baz=64,slow=9.9,SNR=3.9							
RPZ	**Rata Peaks**	**32.99**	**172**	LR		LR	00 06 37.2	
	comp=Z,862nm,19.5s,baz=167,slow=32							
ILAR	**Eielson Array**	**83.85**	**19**	P		P	00 01 25.0	+0.1
	0.4nm,0.9s,baz=235,slow=6.0,SNR=4.3							

IDC 18 23:56:50.0±2.1, 7°59S×130°55E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=110.8km s-min=28.3km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.82**	**164**	Pn		Pn	23 59 54.5	+0.7
	0.2nm,0.3s,baz=348,slow=13,SNR=21							
WRA				Sn		Sn	00 02 20.5	+3.2
	0.3nm,0.3s,baz=342,slow=22,SNR=9.5							
ASAR	**Alice Springs**	**16.31**	**169**	Pn		Pn	00 00 38.9	-1.8
	0.1nm,0.3s,baz=347,slow=11,SNR=5.6							
MKAR	**Makanchi Array**	**69.01**	**327**	P		P	00 07 57.5	+0.1
	0.2nm,0.4s,baz=120,slow=6.4,SNR=5.9							

MEX 19 00:09:41.4±0.7, 18°19N×103°56W, h4km±7km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMIG	**Aquila**	**0.23**	**63**	*e*P		Pg	00 09 45.4	-0.4
MMIG				*e*S		Sg	00 09 48.8	0.0
R15V		**1.06**	**338**	*e*P		Pg	00 09 58.9	-2.9
R15V				*i* S		Sg	00 10 12.5	-3.1
EZ5V		**1.29**	**358**	*e*P		Pg	00 10 03.2	-3.3
EZ5V				*i* S		Sg	00 10 19.6	-3.9
ZIIG	**Zihuatanejo**	**2.07**	**106**	*e*P		Pn	00 10 13.5	-3.5
ZIIG				*i* S		Sn	00 10 38.4	-4.9
MOIG	**Morelia**	**2.69**	**56**	*e*P		Pn	00 10 22.3	-3.5
MOIG				*i* S		Sn	00 10 54.5	-4.6
PLIG	**Platanillo**	**3.86**	**86**	*i* P		Pn	00 10 39.2	-2.5
PLIG				*i* S		Sn	00 11 24.5	-3.1

NIED ***19*** *00:10:00, 33.3°*N*×132.1°E, h56km, Mw3.6 Best double couple: M0 2.40000×10^14 NP1:φs 148.00000°, δ71.00000°, λ-81.00000°. NP2:φs 301.00000°, δ21.00000°, λ-115.00000°.*
JMA 19 00:10:25.1, 33°31N×132°12E, h48km±1km, M3.5, 3C-3D Broadband fault plane solution: P waves. NP1: φs 160.00000°, δ59.00000°, λ-56.00000°. **NP2:** φs 288.00000°, δ44.00000°, λ-133.00000°. **Principal axes:** T Plg8.0000°, Azm227.0000°; N Plg29.0000°, Azm321.0000°; P Plg60.0000°, Azm122.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNA	**Nagahama**	**0.39**	**50**	⇑P		Pn	00 10 34.8	-0.2
JNA				S		Sn	00 10 42.0	0.0
JUS	**Usuki**	**0.39**	**232**	⇓P		Pn	00 10 34.9	-0.1
JUS				S		Sn	00 10 42.0	0.0
UWA2	**Uwa jima 2**	**0.43**	**103**	⇑P		Pn	00 10 35.2	-0.3
UWA2				S		Sn	00 10 42.7	-0.2
OIT2	**Oita 2**	**0.56**	**267**	⇓P		Pn	00 10 37.5	+0.5
OIT2				S		Sn	00 10 45.9	+0.3
JTO	**Tosashimizu**	**0.73**	**128**	⇓P		Pn	00 10 39.0	-0.1
JTO				S		Sn	00 10 49.5	+0.2
JKU	**Kubokawa**	**0.79**	**90**	P		Pn	00 10 39.7	-0.3
JKU				S		Sn	00 10 50.5	-0.3
JHM	**Kurahashi**	**0.90**	**22**	⇑P		Pn	00 10 41.2	-0.2
JHM				S		Sn	00 10 53.6	+0.3
JET	**Tanbara**	**0.91**	**59**	P		Pn	00 10 41.2	-0.4
JET				S		Sn	00 10 53.0	-0.6

IDC ***19*** *00:19:15.2±1.5, 2°70S×139°17E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML3.5/1 Error ellipse: s-maj=70.8km s-min=26.4km az=97.0*
ISCJB ***19*** *00:19:20.2±1.2, 2°.8S±0°.1×138°.9E±0°.3, h46km, mb3.5/3, Error ellipse: s-maj=41.9km s-min=14.3km az=16.7*
ISC 19 00:19:21.3±1.4, 2°9S±0°.1×139°1E±0°.3, h46km, n7, σ1s11/8, mb3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDU	**Kakadu**	**11.76**	**214**	P		**Pn**	**00 22 07.0**	**+0.5**
	baz=1.6,SNR=11							
MTN	**Manton Dam**	**12.66**	**218**	P		**Pn**	**00 22 19.7**	**+0.8**
	baz=2.8,SNR=5.1							
KNRA	**Kununurra**	**16.30**	**218**	P		**P**	**00 23 08.1**	**-1.5**
	baz=6.2,SNR=4.4							
WRA	**Warramunga Arr**	**17.60**	**195**	P		**P**	**00 23 24.4**	**+0.5**
	0.2nm,0.3s,baz=16,slow=13,SNR=12							
WRA				S		Sn	00 26 27.7	-11
	0.1nm,0.3s,baz=8.6,slow=22,SNR=4.7							
ASAR	**Alice Springs**	**21.28**	**193**	P		**P**	**00 24 05.2**	**+1.1**
	0.5nm,0.5s,baz=18,slow=11,SNR=10							
ASAR				S		**S**	**00 27 56.9**	**-1.3**
	0.4nm,0.7s,baz=9.0,slow=24,SNR=3.8							
MKAR	**Makanchi Array**	**70.14**	**322**	P		**P**	**00 30 29.3**	**+0.1**
	0.2nm,0.3s,baz=100,slow=7.9,SNR=7.5							
ILAR	**Eielson Array**	**85.81**	**24**	P		**P**	**00 31 55.4**	**-0.3**
	0.9nm,0.7s,baz=264,slow=4.4,SNR=8.2							

AUST ***19*** *00:38:20.7, 29°.87S×176°.72W, h100km*
NEIC ***19*** *00:38:28.0±1.3, 29°.88S×177°.78W, mb4.5/2, Error ellipse: s-maj=33.1km s-min=15.5km az=105.0*
IDC ***19*** *00:38:29.8±0.5, 29°.27S×178°.09W, h122km±7km, mb4.0/5, mb1 4.1/5, mb1mx3.8/18, mbtmp4.4/5, Error ellipse: s-maj=36.7km s-min=20.2km az=27.0*
ISC 19 00:38:29.8±0.8, 29°4S±0°.2×178°1W±0°.1, h125km±6km, n31, σ0s93/35, mb4.3/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.20**	**37**	*e*Pn		**Pn**	**00 38 46.8**	**-0.2**
RAO				*e*Sn		**Sn**	**00 38 59.5**	**-0.4**
RAO				S		**Sn**	**00 39 00.2**	**+0.4**
RAO	**Raoul Island**	**0.20**	**37**	P		**Pn**	**00 38 47.0**	**+0.1**
	574nm,0.3s,baz=96,slow=18,SNR=30							
RAO				S		**Sn**	**00 39 00.2**	**+0.4**
	8μm,0.3s,baz=90,slow=20,SNR=60							
URZ	**Urewera**	**9.70**	**203**	P		Pn	00 40 40.8	-5.2
URZ				S		Sn	00 42 18.2	-15
URZ	**Urewera**	**9.70**	**203**	P		Pn	00 40 40.8	-5.2
	2.0nm,0.3s,baz=30,slow=3.0,SNR=11							
URZ				S		Sn	00 42 18.2	-15
	5.1nm,0.3s,baz=162,slow=20,SNR=24							
RPZ	**Rata Peaks**	**16.72**	**208**	*e*Pn		Pn	00 42 09.4	-7.1
	12nm,0.7s							
RPZ	**Rata Peaks**	**16.72**	**208**	P		Pn	00 42 09.9	-6.6
	1.9nm,0.3s,baz=27,slow=15,SNR=7.3							
RMQ	**Roma**	**29.41**	**268**	P		P	00 44 24.8	+3.3
	baz=30,SNR=6.8							
MCQ	**Macquarie Isla**	**30.07**	**207**	P		**P**	**00 44 24.3**	**-2.6**
	baz=30,SNR=4.0							
QLP	**Quilpie**	**33.32**	**266**	P		**P**	**00 44 57.4**	**+1.5**
	baz=34,SNR=3.4							
CTA	**Charters Tower**	**33.60**	**278**	P		**P**	**00 44 59.1**	**+0.7**
CTA	**Charters Tower**	**33.60**	**278**	P		**P**	**00 44 59.1**	**+0.7**
	3.1nm,0.4s,baz=102,slow=9.1,SNR=7.1							
STKA	**Stephens Creek**	**34.66**	**256**	P		**P**	**00 45 08.6**	**+1.2**
STKA	**Stephens Creek**	**34.66**	**256**	P		**P**	**00 45 08.6**	**+1.2**
	1.5nm,0.3s,baz=86,slow=11,SNR=3.9							
HTT	**Hallett**	**36.74**	**253**	P		**P**	**00 45 26.4**	**+1.2**
	baz=38,SNR=4.8							
BBOO	**Buckleboo**	**39.20**	**253**	P		**P**	**00 45 46.4**	**+0.6**
	baz=40,SNR=5.8							
ASAR	**Alice Springs**	**43.12**	**266**	P		**P**	**00 46 17.5**	**-0.5**
ASAR				pP		**pP**	**00 46 45.6**	**-0.6**
ASAR	**Alice Springs**	**43.12**	**266**	P		**P**	**00 46 17.5**	**-0.5**
	1.2nm,0.4s,baz=102,slow=7.2,SNR=27							
ASAR				pP		**pP**	**00 46 45.6**	**-0.6**
	0.7nm,0.6s,baz=103,slow=8.1,SNR=3.2							
WRAB	**Tennant Creek**	**44.02**	**271**	*e*P		**P**	**00 46 25.2**	**0.0**
WRA	**Warramunga Arr**	**44.02**	**271**	P		**P**	**00 46 24.9**	**-0.4**
WRA				pP		**pP**	**00 46 54.0**	**+0.4**
WRA				S		**S**	**00 52 48.1**	**-0.1**
WRA	**Warramunga Arr**	**44.02**	**271**	P		**P**	**00 46 24.9**	**-0.4**
	1.8nm,0.4s,baz=108,slow=8.1,SNR=61							
WRA				pP		**pP**	**00 46 54.0**	**+0.4**
	1.5nm,0.8s,baz=110,slow=7.8,SNR=6.0							
WRA				S		**S**	**00 52 48.1**	**-0.1**
	0.8nm,0.8s,baz=109,slow=14,SNR=4.6							
WRKA	**Warakurna**	**47.56**	**262**	P		**P**	**00 46 53.2**	**+0.2**
	baz=49,SNR=4.0							
QSPA	**South Pole Qui**	**60.69**	**180**	*e*P		**P**	**00 48 29.6**	**+1.9**
	6.4nm,0.8s							
QSPA	**South Pole Qui**	**60.69**	**180**	P		**P**	**00 48 28.8**	**+1.1**
	4.5nm,0.5s,baz=16,slow=1.3,SNR=20							
FINES	**FINESS Array B**	**144.20**	**340**	PKP		**PKPdf**	**00 57 49.5**	**-0.7**
FINES	**FINESS Array B**	**144.20**	**340**	PKP		**PKPdf**	**00 57 49.5**	**-0.7**
	1.6nm,0.3s,baz=47,slow=3.4,SNR=24							
AKASG	**Malin Array Be**	**150.48**	**324**	PKPbc		**PKPbc**	**00 58 06.3**	**0.0**
AKASG	**Malin Array Be**	**150.48**	**324**	PKPbc		**PKPbc**	**00 58 06.3**	**0.0**
	1.3nm,0.7s,baz=45,slow=3.1,SNR=3.2							
BRTR	**Keskin Array B**	**152.08**	**300**	PKPab		**PKPab**	**00 58 19.4**	**-1.2**
BRTR	**Keskin Array B**	**152.08**	**300**	PKPab		**PKPab**	**00 58 19.4**	**-1.2**
	1.2nm,1.0s,baz=15,slow=6.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**163.81**	**179**	PKPab		**PKPab**	**00 59 12.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**163.81**	**179**	PKPab		**PKPab**	**00 59 12.2**	**+0.7**
	0.4nm,0.7s,baz=170,slow=3.2,SNR=4.7							

IDC 19 00:50:11.7±1.6, 0°47N×127°92E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.8/4, Error ellipse: s-maj=124.6km s-min=21.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.24**	**163**	P		P	00 54 58.4	-1.1
	4.0nm,0.7s,baz=343,slow=11,SNR=29							
ASAR	**Alice Springs**	**24.68**	**167**	P		P	00 55 35.4	+0.8
	3.0nm,0.7s,baz=348,slow=9.0,SNR=29							
MKAR	**Makanchi Array**	**60.90**	**326**	P		P	01 00 26.6	+0.2
	0.5nm,0.8s,baz=123,slow=7.8,SNR=3.1							
KURBB	**Kurchatov Arra**	**65.11**	**328**	P		P	01 00 54.0	-0.3
	0.3nm,0.6s,baz=127,slow=6.1,SNR=3.8							

IDC ***19*** *00:55:35.3±1.2, 11°.17S×165°.58E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, ML3.8/1, MS3.6/10, Ms1 3.7/10, ms1mx3.4/25, Error ellipse: s-maj=42.5km s-min=21.4km az=128.0*
NEIC ***19*** *00:55:42.0±1.7, 11°.34S×165°.63E, h51km±15km, mb4.7/2, Error ellipse: s-maj=16.4km s-min=14.4km az=56.0*
ISC 19 00:55:40.6±0.8, 11°2S±0°.1×165°4E±0°.1, h30km, n29, σ1s25/20, mb4.1/9, MS3.3/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.66**	**287**	Pn		Pn	00 57 07.0	+4.3
HNR	**Honiara**	**5.66**	**287**	Pn		Pn	00 57 07.0	+4.3
	11nm,0.3s,baz=118,slow=9.4,SNR=4.3							
HNR				LR		LR	00 59 17.9	
	comp=Z,784nm,19.6s,baz=120,slow=38							
DZM	**Mont Dzumac**	**10.87**	**175**	*e*P		**Pn**	**00 58 16.1**	**+1.8**
	4.1nm,0.3s							
DZM				*e*LR		LR	01 00 46.8	
	472nm,25.8s							
DZM	**Mont Dzumac**	**10.87**	**175**	Pn		**Pn**	**00 58 12.6**	**-1.8**
DZM	**Mont Dzumac**	**10.87**	**175**	Pn		**Pn**	**00 58 12.6**	**-1.8**
	0.7nm,0.3s,baz=32,slow=15,SNR=8.8							
DZM				LR		LR	01 01 51.2	
	comp=Z,16nm,28.6s,baz=29,slow=35							
PMG	**Port Moresby**	**18.05**	**274**	LR		LR	01 06 15.0	
	comp=Z,313nm,18.0s,baz=98,slow=35							
CTA	**Charters Tower**	**20.45**	**242**	P		Pn	01 00 17.9	-0.2
CTA	**Charters Tower**	**20.45**	**242**	P		Pn	01 00 17.9	-0.2
	7.3nm,1.0s,baz=67,slow=12,SNR=6.7							
COEN	**Coen**	**21.88**	**260**	*e*P		**P**	**01 00 32.5**	**+1.1**
	52nm,0.9s							
URZ	**Urewera**	**28.93**	**161**	LR		LR	01 11 06.7	
	comp=Z,99nm,18.1s,baz=6.5,slow=32							
STKA	**Stephens Creek**	**30.12**	**223**	P		**P**	**01 01 48.2**	**+0.4**
STKA	**Stephens Creek**	**30.12**	**223**	P		**P**	**01 01 48.2**	**+0.4**
	1.4nm,0.7s,baz=15,slow=12,SNR=1.7							
STKA				LR		LR	01 13 07.6	
	comp=Z,261nm,19.4s,baz=28,slow=35							
WRAB	**Tennant Creek**	**31.12**	**250**	*e*P		**P**	**01 01 56.6**	**-0.2**
	9.0nm,1.1s							
WRA	**Warramunga Arr**	**31.14**	**250**	P		**P**	**01 01 57.0**	**+0.1**
WRA	**Warramunga Arr**	**31.14**	**250**	P		**P**	**01 01 57.0**	**+0.1**
	2.8nm,0.9s,baz=82,slow=8.6,SNR=14							
ASAR	**Alice Springs**	**32.45**	**243**	P		**P**	**01 02 07.5**	**-0.9**
ASAR	**Alice Springs**	**32.45**	**243**	P		**P**	**01 02 07.5**	**-0.9**
	0.3nm,0.6s,baz=77,slow=9.8,SNR=5.2							
ASAR				LR		LR	01 14 39.9	
	comp=Z,82nm,18.2s,baz=68,slow=35							
PPT2	**Papeete2**	**43.98**	**104**	*e*S		**S**	**01 10 18.2**	**+2.2**
	37nm,27.2s							
PPT2				*e*LR		LR	01 16 44.3	
	82nm,23.2s							
KSRS	**Korea Array**	**59.81**	**326**	LR		LR	01 30 43.9	
	comp=Z,18nm,18.1s,baz=132,slow=35							
VNDA	**Vanda**	**66.35**	**181**	LR		LR	01 31 19.1	
	comp=Z,15nm,28.6s,baz=296,slow=32							
CMAR	**Chiang Mai Arr**	**71.87**	**294**	P		**P**	**01 07 01.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**71.87**	**294**	P		**P**	**01 07 01.2**	**-0.1**
	0.3nm,0.3s,baz=121,slow=3.5,SNR=2.4							
CMAR				LR		LR	01 36 19.9	
	comp=Z,15nm,28.6s,baz=125,slow=34							
ILAR	**Eielson Array**	**83.74**	**19**	P		**P**	**01 08 05.5**	**-1.0**
ILAR	**Eielson Array**	**83.74**	**19**	P		**P**	**01 08 05.5**	**-1.0**
	1.1nm,0.6s,baz=240,slow=5.2,SNR=21							
MKAR	**Makanchi Array**	**93.40**	**317**	P		**P**	**01 08 54.5**	**+1.4**
MKAR	**Makanchi Array**	**93.40**	**317**	P		**P**	**01 08 54.5**	**+1.4**
	0.8nm,1.0s,baz=74,slow=6.3,SNR=3.2							
YKA	**Yellowknife Ar**	**95.24**	**27**	P		**P**	**01 08 59.9**	**-1.2**
YKA	**Yellowknife Ar**	**95.24**	**27**	P		**P**	**01 08 59.9**	**-1.2**
	0.3nm,0.8s,baz=260,slow=3.9,SNR=3.5							
TXAR	**Lajitas Array**	**96.18**	**61**	LR		LR	01 48 08.6	
	comp=Z,16nm,28.6s,baz=0.0,slow=33							

ISCJB ***19*** *01:33:06.9±0.6, 38°.07N±0°.03×38°.16E±0°.03, h0km±6km, Error ellipse: s-maj=4.4km s-min=4.0km az=7.6*
DDA ***19*** *01:33:06.5, 38°.10N×38°.21E, h7km, MD3.6, ML3.8*
ISK ***19*** *01:33:06.9, 38°.08N×38°.15E, h5km, MD3.8*
CSEM ***19*** *01:33:07.5±0.1, 38°.06N×38°.15E, h2km, MD3.8, Error ellipse: s-maj=5.2km s-min=3.4km az=159.0*
ISC 19 01:33:06.7±1.1, 38°11N±0°.03×38°19E±0°.02, h9km±11km, n64, σ1s46/66, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MALT	**Malatya**	**0.28**	**42**	*e*PG		**Pb**	**01 33 13.8**	**-0.1**
MALT				*e*SG		**Sb**	**01 33 18.1**	**-0.6**
MALT	**Malatya**	**0.28**	**42**

AUST ***19*** *01:59:07.1,21.59S×173.86W,h5km*
BJI ***19*** *01:59:11.1,21.60S×174.50W,h35km,mB5.5/18, mb5.1/25,Ms5.3/9,Ms7 5.0/10*
ISCJB ***19*** *01:59:13.3±0.2,21.71S±0.08×174.50W±0.05,h33km, mb4.8/57,MS4.0/13,Error ellipse: s-maj=11.8km s-min=5.3km az=155.4*
NEIC ***19*** *01:59:15.0±0.2,21.62S×174.52W,h35km,mb5.1/32, Error ellipse: s-maj=11.3km s-min=6.3km az=147.0*
IDC ***19*** *01:59:15.7±3.1,21.74S×174.49W,h46km±29km,mb4.3/14, mb1 4.4/16,mb1mx4.3/23,mbtmp4.5/16,ML4.0/2,MS4.1/8, Ms1 4.0/8,ms1mx3.6/27,Error ellipse: s-maj=31.2km s-min=15.1km az=142.0*

ISC 19 01:59:14.7±0.5,21.80S±0.07×174.46W±0.07,h35km±2km, h35km:pP-P,n164,σ1§23/191,mb5.0/57,MS4.1/13,9C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.04**	**58**	P	Pn	02 00 15.4	-12
	baz=4.5,SNR=9.0						
RAO	**Raoul Island**	**8.05**	**202**	*e*Pn	Pn	02 01 03.4	-5.7
RAO				S	**Sn**	**02 02 35.7**	**-3.1**
RAO	**Raoul Island**	**8.05**	**202**	S	**Sn**	**02 02 35.7**	**-3.1**
	61nm,0.3s,baz=85,slow=24,SNR=4.2						
AFI	**Afiamalu**	**8.26**	**18**	*e*Pn	Pn	02 01 02.7	-9.4
AFI				S	Sn	02 02 23.1	-21
AFI	**Afiamalu**	**8.26**	**18**	P	Pn	02 01 02.7	-9.4
	5.2nm,0.3s,baz=251,slow=19,SNR=5.0						
AFI				S	Sn	02 02 23.1	-21
	4.3nm,0.3s,baz=41,slow=20,SNR=2.5						
RAR	**Rarotonga**	**13.69**	**90**	P	Pn	02 02 13.3	-13
RAR	**Rarotonga**	**13.69**	**90**	P	Pn	02 02 13.3	-13
	7.4nm,0.3s,baz=244,slow=0.0,SNR=19						
DZM	**Mont Dzumac**	**17.72**	**266**	*e*Pn	**P**	**02 03 23.6**	**+4.2**
	42nm,0.9s						
DZM				*e*LR	LR	02 07 36.8	
	293nm,21.3s						
DZM	**Mont Dzumac**	**17.72**	**266**	P	**P**	**02 03 20.6**	**+1.1**
DZM	**Mont Dzumac**	**17.72**	**266**	P	**P**	**02 03 20.6**	**+1.1**
	0.6nm,0.3s,baz=78,slow=17,SNR=13						
URZ	**Urewera**	**17.94**	**202**	*e*Pn	**P**	**02 03 23.3**	**+1.7**
URZ				S	Sn	02 06 28.6	-12
URZ	**Urewera**	**17.94**	**202**	P	**P**	**02 03 22.7**	**+1.1**
	0.4nm,0.3s,baz=356,slow=13,SNR=1.7						
URZ				S	Sn	02 06 28.6	-12
	1.2nm,0.3s,baz=217,slow=23,SNR=6.4						
TBI	**Tubuai**	**23.13**	**99**	*e*S	S	02 07 59.4	-28
	400nm,25.8s						
TBI				*e*LR	LR	02 09 27.0	
	334nm,22.0s,baz=280						
PPT2	**Papeete2**	**23.79**	**84**	*e*S	S	02 08 15.4	-23
	385nm,24.2s						
PPT2				*e*LR	LR	02 09 47.2	
	304nm,20.8s,baz=258						
PPT	**Papeete**	**23.80**	**84**	LR	LR	02 11 52.9	
	comp=Z,16nm,28.6s,baz=242,slow=32						
RPZ	**Rata Peaks**	**24.94**	**205**	*e*P	**P**	**02 04 38.2**	**+3.5**
RPZ	**Rata Peaks**	**24.94**	**205**	P	**P**	**02 04 34.8**	**+0.1**
	16nm,0.8s,baz=312,slow=14,SNR=2.3						
ODZ	**Otahua Downs**	**26.22**	**204**	*e*P	**P**	**02 04 48.5**	**+2.3**
	11nm,0.8s						
EIDS	**Eidsvold**	**31.72**	**257**	*e*P	**P**	**02 05 36.8**	**+1.3**
	6.2nm,1.1s						
RMQ	**Roma**	**33.81**	**255**	P	**P**	**02 05 55.4**	**+1.8**
	baz=34,SNR=4.9						
QLP	**Quilpie**	**37.86**	**254**	P	**P**	**02 06 28.6**	**+0.3**
	baz=38,SNR=7.1						
PMG	**Port Moresby**	**38.85**	**282**	*e*P	**P**	**02 06 36.4**	**-0.4**
	25nm,1.1s						
STKA	**Stephens Creek**	**40.24**	**246**	P	**P**	**02 06 47.3**	**-0.9**
STKA	**Stephens Creek**	**40.24**	**246**	P	**P**	**02 06 47.3**	**-0.9**
	3.1nm,0.7s,baz=90,slow=9.6,SNR=8.4						
STKA	**Stephens Creek**	**40.24**	**246**	P	**P**	**02 06 48.5**	**+0.3**
	baz=41,SNR=5.3						
COEN	**Coen**	**40.96**	**274**	*e*P	**P**	**02 06 53.9**	**-0.5**
COEN	**Coen**	**40.96**	**274**	P	**P**	**02 06 55.8**	**+1.5**
	baz=42,SNR=4.9						
AS31	**Alice Springs**	**47.45**	**257**	*e*P	**P**	**02 07 45.6**	**-0.7**
ASAR	**Alice Springs**	**47.45**	**257**	P	**P**	**02 07 45.7**	**-0.6**
ASAR				PcP	**PcP**	**02 09 17.4**	**+0.9**
ASAR				S	**S**	**02 14 37.6**	**-1.0**
ASAR	**Alice Springs**	**47.45**	**257**	P	**P**	**02 07 45.7**	**-0.6**
	11nm,0.9s,baz=100,slow=7.7,SNR=76						
ASAR				PcP	**PcP**	**02 09 17.4**	**+0.9**
	1.0nm,0.6s,baz=106,slow=3.4,SNR=4.4						
ASAR				S	**S**	**02 14 37.6**	**-1.0**
	1.5nm,1.2s,baz=84,slow=16,SNR=4.2						
WRAB	**Tennant Creek**	**47.69**	**262**	*e*P	**P**	**02 07 46.9**	**-1.3**
	13nm,0.9s						
WRAB	**Tennant Creek**	**47.69**	**262**	P	**P**	**02 07 46.5**	**-1.7**
	107nm,1.0s,SNR=6.2						
WRA	**Warramunga Arr**	**47.70**	**262**	P	**P**	**02 07 46.8**	**-1.5**
WRA				PcP	**PcP**	**02 09 17.5**	**+0.1**
WRA	**Warramunga Arr**	**47.70**	**262**	P	**P**	**02 07 46.8**	**-1.5**
	11nm,0.9s,baz=101,slow=8.1,SNR=51						
WRA				PcP	**PcP**	**02 09 17.5**	**+0.1**
	1.6nm,0.8s,baz=94,slow=3.6,SNR=3.8						
KDU	**Kakadu**	**51.28**	**271**	P	**P**	**02 08 15.0**	**-0.6**
	baz=52,SNR=3.2						
FORT	**Forrest**	**51.83**	**247**	*e*P	**P**	**02 08 19.1**	**-0.5**
	35nm,0.8s						
FORT	**Forrest**	**51.83**	**247**	P	**P**	**02 08 19.4**	**-0.1**
	baz=52,SNR=14						
WRKA	**Warakurna**	**52.30**	**255**	P	**P**	**02 08 22.6**	**-0.5**
	baz=53,SNR=8.9						
KNRA	**Kununurra**	**53.87**	**266**	P	**P**	**02 08 35.0**	**+0.2**
	baz=54,SNR=4.3						
VNDA	**Vanda**	**56.94**	**186**	LR	LR	02 29 15.5	
	comp=Z,88nm,20.7s,baz=14,slow=32						
KLBR	**Kellerberrin**	**60.50**	**245**	P	**P**	**02 09 22.4**	**+0.9**
	baz=61,SNR=5.6						
MJAR	**Matsushiro Arr**	**73.24**	**322**	P	**P**	**02 10 41.1**	**-1.2**
MJAR	**Matsushiro Arr**	**73.24**	**322**	P	**P**	**02 10 41.1**	**-1.2**
	6.0nm,0.7s,baz=142,slow=5.9,SNR=12						
MAJO	**Matsushiro**	**73.24**	**322**	*e*P	**P**	**02 10 42.0**	**-0.4**
	9.9nm,0.6s						
ASAJ	**Asahikawa**	**76.48**	**330**	LR	LR	02 36 04.5	
	comp=Z,16nm,28.6s,baz=294,slow=29						
EDW2	**Edwards Air Fo**	**77.77**	**45**	P	**P**	**02 11 07.9**	**-0.5**
	baz=78						
ISA	**Isabella**	**77.94**	**44**	P	**P**	**02 11 09.2**	**-0.2**
	baz=78						
PETK	**Petropavlovsk-**	**78.42**	**343**	P	**P**	**02 11 10.2**	**-1.2**
PETK	**Petropavlovsk-**	**78.42**	**343**	P	**P**	**02 11 10.2**	**-1.2**
	6.4nm,0.7s,baz=148,slow=8.5,SNR=6.4						
N02D	**Trinity Center**	**78.79**	**37**	P	**P**	**02 11 14.5**	**+0.6**
	baz=79						
M02C	**Callahan**	**78.99**	**37**	P	**P**	**02 11 16.4**	**+1.4**
	baz=79						
KSRS	**Korea Array**	**80.07**	**317**	P	**P**	**02 11 20.6**	**-0.2**
	2.5nm,0.7s,baz=133,slow=5.6,SNR=5.5						
KSAR	**Wonju Array Be**	**80.08**	**317**	P	**P**	**02 11 20.6**	**-0.3**
TPH	**Tonopah**	**80.21**	**42**	*e*P	**P**	**02 11 22.1**	**+0.2**
	63nm,2.6s						
TUC	**Tucson**	**81.23**	**50**	*e*P	**P**	**02 11 26.9**	**-0.4**
	3.5nm,1.2s						
MAW	**Mawson**	**81.44**	**199**	LR	LR	02 46 20.6	
	comp=Z,122nm,19.5s,baz=130,slow=35						
USRK	**Ussuriysk Arra**	**81.92**	**324**	P	**P**	**02 11 31.4**	**+0.8**
	3.0nm,0.9s,baz=152,slow=6.4,SNR=4.5						
USRK				LR	LR	02 43 39.5	
	comp=Z,111nm,20.0s,baz=134,slow=32						
WVOR	**Wild Horse Val**	**82.06**	**38**	*e*P	**P**	**02 11 31.8**	**+0.3**
	15nm,1.7s						
U15A	**North Rim**	**82.44**	**46**	P	**P**	**02 11 34.3**	**+0.4**
	baz=82						
J08A	**Circle Bar Ran**	**82.73**	**38**	*e*P	**P**	**02 11 36.3**	**+1.3**
	48nm,2.2s						
ELK	**Elko**	**83.04**	**41**	*e*P	**P**	**02 11 36.5**	**-0.3**
	2.2nm,1.0s						
LON	**Longmire**	**83.13**	**33**	*e*P	**P**	**02 11 38.8**	**+1.8**
	54nm,2.2s						
NJ2	**Nanjing**	**83.26**	**308**	*e*P	**P**	**02 11 37.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
D05A	**Enumclaw**	**83.34**	**33**	*e*P	**P**	**02 11 39.6**	**+1.7**
	63nm,1.5s						
D05A				*e*pP	**pP**	**02 11 50.1**	**+1.2**
MDJ	**Mudanjiang**	**83.50**	**323**	P	**P**	**02 11 40.8**	**+2.0**
MDJ				pP	**pP**	**02 11 50.3**	**+0.5**
MDJ				sP	**sP**	**02 11 53.9**	**+0.1**
MDJ				S	**SKKSac**	**02 22 01.5**	**-1.6**
MDJ				sS	**sS**	**02 22 17.8**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ				LR	LR		
	comp=Z,83nm,20.6s						
MVU	**Marysvale**	**83.65**	**44**	*e*P	**P**	**02 11 40.2**	**+0.2**
	27nm,2.0s						
G08A	**Pilot Rock**	**83.69**	**36**	*e*P	**P**	**02 11 39.4**	**-0.5**
	13nm,1.4s						
E07A	**Sunnyside**	**84.02**	**34**	*e*P	**P**	**02 11 42.3**	**+0.9**
	13nm,1.1s						
DUG	**Dugway**	**84.22**	**43**	*e*P	**P**	**02 11 42.7**	**-0.1**
	11nm,1.6s						
DUG	**Dugway**	**84.22**	**43**	P	**P**	**02 11 43.3**	**+0.5**
	baz=84						
QIZ	**Qiongzhong**	**84.40**	**293**	P	**P**	**02 11 43.8**	**-0.2**
QIZ				S	**S**	**02 22 08.9**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,27nm,1.8s						
Z22A	**Elephant Butte**	**84.47**	**51**	P	**P**	**02 11 44.5**	**+0.3**
	baz=85						
324A	**Moseley Ranch,**	**84.65**	**53**	P	**P**	**02 11 45.2**	**0.0**
	baz=85						
425A	**Indio Mountain**	**84.70**	**54**	P	**P**	**02 11 45.1**	**-0.3**
	baz=85						
TMUT	**Trail Mountain**	**84.75**	**44**	*e*P	**P**	**02 11 45.8**	**+0.1**
	4.4nm,1.0s						
626A	**Big Bend Ranch**	**84.76**	**55**	P	**P**	**02 11 45.3**	**-0.4**
	baz=85						
Y22A	**Socorro**	**84.81**	**50**	P	**P**	**02 11 45.1**	**-0.9**
	baz=85						
224A	**Cornudas Mount**	**84.93**	**53**	P	**P**	**02 11 46.5**	**-0.1**
	baz=85						
325A	**Bean Ranch, Si**	**85.00**	**54**	P	**P**	**02 11 46.5**	**-0.5**
	baz=85						
TXAR	**Lajitas Array**	**85.01**	**56**	P	**P**	**02 11 47.5**	**+0.5**
TXAR	**Lajitas Array**	**85.01**	**56**	P	**P**	**02 11 47.5**	**+0.5**
	0.1nm,0.5s,baz=243,slow=4.0,SNR=3.9						
TXAR				LR	LR	02 42 50.4	
	comp=Z,15nm,28.6s,baz=0.0,slow=31						
F10A	**Beach Ranch, E**	**85.06**	**36**	*e*P	**P**	**02 11 45.6**	**-1.2**
	133nm,2.9s						
SRU	**San Rafael**	**85.09**	**45**	*e*P	**P**	**02 11 47.8**	**+0.5**
	59nm,2.3s						
HLID	**Hailey**	**85.20**	**39**	*e*P	**P**	**02 11 47.1**	**-0.6**
	31nm,2.1s						
HLID	**Hailey**	**85.20**	**39**	P	**P**	**02 11 47.4**	**-0.3**
	baz=85						
627A	**Terlingua Ranc**	**85.28**	**56**	P	**P**	**02 11 48.0**	**-0.3**
	baz=85						
CN2	**Changchun**	**85.36**	**321**	*e*P	**P**	**02 11 50.1**	**+1.9**
CN2				*e*S	**S**	**02 22 17.3**	**+0.7**
CN2				LR	LR		
	comp=N,700nm,20.0s						
CN2				LR	LR		
	comp=E,500nm,20.0s						
426A	**McDonald Obser**	**85.37**	**55**	P	**P**	**02 11 48.5**	**-0.4**
	baz=86						
527A	**Woodward Ranch**	**85.44**	**55**	P	**P**	**02 11 48.7**	**-0.5**
	baz=86						
ANMO	**Albuquerque**	**85.68**	**50**	*e*P	**P**	**02 11 49.9**	**-0.4**
	48nm,2.4s						
125A	**Gardner Draw,**	**85.85**	**53**	P	**P**	**02 11 50.4**	**-0.7**
	baz=86						
Y24A	**Capitan**	**85.90**	**51**	P	**P**	**02 11 50.7**	**-0.8**
	baz=86						
427A	**Hayter Ranch,**	**85.93**	**55**	P	**P**	**02 11 51.2**	**-0.3**
	baz=86						
226B	**Tecolote Peak,**	**85.94**	**53**	P	**P**	**02 11 51.0**	**-0.5**
	baz=86						
PLCA	**Paso Flores**	**85.97**	**132**	LR	LR	02 42 21.6	
	comp=Z,84nm,19.8s,baz=222,slow=30						
V23A	**Ortiz Mt. (NFS**	**86.27**	**49**	P	**P**	**02 11 53.4**	**+0.2**
	baz=86						
Y25A	**Mesa, Roswell**	**86.44**	**51**	P	**P**	**02 11 54.5**	**+0.5**
	baz=86						
W24A	**Lazy 6 Ranch,**	**86.56**	**50**	P	**P**	**02 11 54.7**	**0.0**
	baz=87						
U23A	**El Rito**	**86.56**	**49**	P	**P**	**02 11 54.5**	**-0.1**
	baz=87						
IPM	**Ipoh**	**86.56**	**276**	*e*P	**P**	**02 11 55.7**	**+0.8**
	24nm,1.1s						
SNAA	**Sanae**	**86.59**	**177**	*e*P	**P**	**02 11 55.1**	**+1.0**
	5.8nm,1.2s						
Z26A	**Capr ck**	**86.65**	**52**	P	**P**	**02 11 54.5**	**-0.5**
	baz=87						
S22A	**4UR Ranch, Cre**	**86.83**	**47**	P	**P**	**02 11 56.0**	**0.0**
	baz=87						
429A	**Davenport Ranc**	**86.97**	**55**	P	**P**	**02 11 56.3**	**-0.3**
	baz=87						
KULM	**Kulim**	**87.21**	**277**	*e*P	**P**	**02 11 58.9**	**+0.9**
	14nm,1.0s						
W25A	**X Bar L Ranch,**	**87.24**	**50**	P	**P**	**02 11 57.5**	**-0.4**
	baz=87						
X26A	**CR and CF Fran**	**87.38**	**51**	P	**P**	**02 11 58.0**	**-0.6**
	baz=88						
832A	**Faith Ranch, C**	**87.41**	**58**	P	**P**	**02 11 57.7**	**-1.0**
	baz=88						
N20A	**Spence Gulch,**	**87.48**	**44**	P	**P**	**02 11 59.1**	**+0.1**
	baz=88						
Y27A	**Causey**	**87.54**	**52**	P	**P**	**02 11 58.8**	**-0.6**
	baz=88						
MCK	**McKinley**	**87.57**	**11**	*e*P	**P**	**02 11 57.4**	**-1.3**
	48nm,1.9s						
PDAR	**Pinedale Array**	**87.68**	**42**	P	**P**	**02 11 57.8**	**-2.2**
PDAR	**Pinedale Array**	**87.68**	**42**	P	**P**	**02 11 57.8**	**-2.2**
	0.8nm,0.8s,baz=205,slow=4.0,SNR=6.2						
MSTX	**Muleshoe**	**87.86**	**52**	*e*P	**P**	**02 12 00.8**	**0.0**
	93nm,2.5s						
MSTX	**Muleshoe**	**87.86**	**52**	P	**P**	**02 11 60.0**	**-0.9**
	baz=88						
PSI	**Prapat**	**87.89**	**274**	P	**P**	**02 12 00.5**	**-1.0**
PSI	**Prapat**	**87.89**	**274**	P	**P**	**02 12 00.5**	**-1.0**
	6.9nm,0.8s,baz=84,slow=2.7,SNR=4.6						
PSI	**Prapat**	**87.89**	**274**	P	**P**	**02 12 02.1**	**+0.7**
	baz=88,SNR=4.2						
SEY	**Seymchan**	**88.42**	**346**	P	**P**	**02 12 01.9**	**-0.8**
SEY	**Seymchan**	**88.42**	**346**	P	**P**	**02 12 01.9**	**-0.8**
	3.1nm,0.7s,baz=122,slow=24,SNR=4.1						
COLA	**College**	**88.81**	**11**	*e*P	**P**	**02 12 02.6**	**-1.8**
	5.3nm,0.8s						
ILAR	**Eielson Array**	**88.89**	**11**	P	**P**	**02 12 04.2**	**-0.6**
ILAR	**Eielson Array**	**88.89**	**11**	P	**P**	**02 12 04.2**	**-0.6**
	0.5nm,0.9s,baz=214,slow=5.3,SNR=7.6						
BJI	**Beijing**	**89.15**	**314**	P	**P**	**02 12 07.4**	**+0.8**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ENH	**Enshi**	**89.51**	**303**	*e*P	**P**	**02 12 09.6**	**+1.0**
	4.4nm,0.6s						
GYA	**Guiyang**	**90.17**	**298**	*e*P	**P**	**02 12 12.0**	**+0.1**
GYA				pP	**pP**	**02 12 23.3**	**+0.3**
GYA				sP	**sP**	**02 12 27.8**	**+0.8**
GYA				PP	**PP**	**02 15 48.8**	**+2.8**
GYA				SKS	**SKSac**	**02 22 39.0**	**-1.7**
GYA				S	**S**	**02 23 01.5**	**-2.0**
GYA				sS	**sS**	**02 23 19.8**	**-2.1**
GYA				SS	**SS**	**02 29 03.3**	**-0.2**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=N,590nm,18.4s						
GYA				LR	LR		
	comp=E,520nm,19.9s						
GYA				LR	LR		
	comp=Z,550nm,18.8s						
XAN	**Xi'an**	**91.55**	**306**	P	**P**	**02 12 18.6**	**+0.5**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,19nm,6.1s						
RSSD	**Black Hills**	**91.83**	**43**	*e*P	**P**	**02 12 18.8**	**-0.5**
	12nm,1.7s						
NNA	**Nana**	**92.54**	**104**	*e*P	**P**	**02 12 24.1**	**+1.0**
	15nm,1.2s						
HHC	**Hu-ho-hao-te**	**92.63**	**313**	*e*P	**P**	**02 12 23.0**	**0.0**
HHC				pP	**pP**	**02 12 33.6**	**-0.5**
HHC				sP	**sP**	**02 12 37.5**	**-0.6**
HHC				PP	**PP**	**02 16 07.8**	**+2.5**
HHC				SKS	**SKSac**	**02 22 52.4**	**-1.7**
HHC				S	**S**	**02 23 22.8**	**-2.4**
HHC				sS	**sS**	**02 23 40.4**	**-3.4**
HHC				pmax	pmax		
	comp=Z,36nm,1.3s						
HHC				pmax	pmax		
	comp=Z,190nm,8.0s						
HHC				LR	LR		
	comp=N,220nm,17.5s						
HHC				LR	LR		
	comp=E,170nm,18.3s						
HHC				LR	LR		
	comp=Z,170nm,17.3s						
KMI	**Kunming**	**92.88**	**296**	P	**P**	**02 12 26.3**	**+1.7**
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
JTS	**JuntasAbangare**	**93.31**	**80**	*e*P	**P**	**02 12 26.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**93.66**	**288**	P	**P**	**02 12 29.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.66**	**288**	P	**P**	**02 12 29.0**	**+0.9**
	2.2nm,0.4s,baz=113,slow=2.9,SNR=15						
CHTO	**Chiang Mai**	**93.79**	**289**	*e*P	**P**	**02 12 30.8**	**+2.1**
	3.5nm,0.6s						
CD2	**Chengdu**	**94.28**	**301**	*e*P	**P**	**02 12 31.5**	**+0.8**
CD2				pP	**pP**	**02 12 42.6**	**+0.7**
CD2				sP	**sP**	**02 12 46.8**	**+1.0**
CD2				PP	**PP**	**02 16 21.4**	**+3.1**
CD2				SKS	**SKSac**	**02 23 02.3**	**-1.1**
CD2				S	**S**	**02 23 37.4**	**-2.6**
CD2				sS	**sS**	**02 23 56.0**	**-2.6**
CD2				pmax	pmax		
	comp=Z,20nm,1.4s						
CD2				pmax	pmax		
	comp=Z,120nm,8.3s						
CD2				LR	LR		
	comp=N,210nm,9.4s						
CD2				LR	LR		
	comp=E,220nm,11.6s						
CD2				LR	LR		
	comp=Z,130nm,10.8s						
LZH	**Lanzhou**	**96.19**	**306**	*e*P	**P**	**02 12 40.8**	**+1.3**
LZH				pP	**pP**	**02 12 51.4**	**+0.8**
LZH				sP	**sP**	**02 12 55.6**	**+1.0**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
YKA	**Yellowknife Ar**	**96.34**	**24**	P	**P**	**02 12 37.9**	**-1.4**
YKA	**Yellowknife Ar**	**96.34**	**24**	P	**P**	**02 12 37.9**	**-1.4**
	0.3nm,0.7s,baz=236,slow=4.2,SNR=6.5						
ULM	**Lac du Bonnet**	**99.50**	**40**	LR	LR	02 52 51.8	
	comp=Z,16nm,28.6s,baz=262,slow=32						
EKS2	**Erkin-Say**	**120.23**	**308**	*e*PKPdf	**PKPdf**	**02 18 02.2**	**-0.1**
ASCN	**Ascension**	**144.58**	**144**	*e*PKPdf	**PKPdf**	**02 18 47.9**	**-0.6**
AKASG	**Malin Array Be**	**145.71**	**333**	PKPbc	**PKPdf**	**02 18 48.7**	**-0.6**
AKASG	**Malin Array Be**	**145.71**	**333**	PKPbc	**PKPdf**	**02 18 48.7**	**-0.6**
	2.4nm,0.5s,baz=35,slow=3.7,SNR=32						
AKBB	**Malin Array Si**	**145.71**	**333**	*e*PKPbc	**PKPdf**	**02 18 49.1**	**-0.2**
BUR08	**Bucovina Ar. S**	**149.75**	**333**	*e*PKPbc	**PKPbc**	**02 19 00.5**	**-0.4**
CLL	**Collm**	**149.98**	**351**	*i*PKPbc	**PKPbc**	**02 19 00.6**	**-0.6**
	comp=Z,61nm,1.8s						
CLL				*i* pPKPbc	**pPKPbc**	**02 19 12.2**	**-0.4**
BR131	**Keskin Array S**	**150.15**	**313**	*e*PKPdf	**PKPdf**	**02 18 56.8**	**-0.3**
BR131				*e*PKPbc	**PKPbc**	**02 19 01.6**	**-0.7**
BR131				*e*PKPab	**PKPab**	**02 19 07.5**	**-0.7**
BRTR	**Keskin Array B**	**150.15**	**313**	PKPbc	**PKPbc**	**02 19 01.3**	**-0.9**
BRTR	**Keskin Array B**	**150.15**	**313**	PKPbc	**PKPbc**	**02 19 01.3**	**-0.9**
	comp=Z,4.0nm,1.2s,baz=3.8,slow=4.3,SNR=5.3						
UPC	**Upice**	**150.19**	**346**	*i*PKP	**PKPbc**	**02 19 02.1**	**+0.3**
BRG	**Berggiesshubel**	**150.25**	**349**	*e*PKP	**PKPbc**	**02 19 02.2**	**+0.3**
	comp=Z,48nm,1.8s						
DPC	**Dobruska-Polom**	**150.27**	**346**	*i*PKP	**PKPbc**	**02 19 02.5**	**+0.5**
DPC				*e*pPKP	**PKPab**	**02 19 13.2**	**+5.0**
OKC	**Ostrava-Krasne**	**150.30**	**343**	*i*PKP	**PKPbc**	**02 19 02.3**	**+0.3**
KRLC	**Kraliky**	**150.42**	**345**	*i*PKP	**PKPbc**	**02 19 02.8**	**+0.4**
PVCC	**Panska Ves**	**150.47**	**348**	*i*PKP	**PKPbc**	**02 19 02.7**	**+0.3**
MORC	**Moravsky Berou**	**150.51**	**344**	*e*PKPbc	**PKPbc**	**02 19 02.3**	**-0.3**
PRU	**Pruhonice**	**150.99**	**348**	*i*PKP	**PKPbc**	**02 19 03.6**	**-0.1**
PRU				*e*PKPAB	**PKPab**	**02 19 11.6**	**+0.5**
NKC	**Novy Kostel**	**151.11**	**351**	*i*PKP	**PKPbc**	**02 19 04.2**	**+0.2**
BCLA	**Clavier**	**151.44**	**0**	PKPbc	**PKPbc**	**02 19 04.5**	**-0.2**
KHC	**Kasperske Hory**	**151.99**	**349**	*i*PKP	**PKPbc**	**02 19 06.2**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**02 19 17.6**	**+2.2**
GERES	**GERESS Array B**	**152.24**	**348**	PKPbc	**PKPbc**	**02 19 06.0**	**-0.7**
GERES	**GERESS Array B**	**152.24**	**348**	PKPbc	**PKPbc**	**02 19 06.0**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=5.7,slow=2.0,SNR=7.3						
TOA0	**Torodi Ar. Sit**	**170.65**	**156**	*e*PKPab	**PKPab**	**02 20 38.1**	**+0.8**

IDC 19 02:05:28.2±1.5,32.00N×92.01E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/26,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=106.4km s-min=31.2km az=43.0,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.55**	**336**	P	Pn	02 09 19.2	-2.4
	0.1nm,0.3s,baz=151,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**65.67**	**136**	P	P	02 16 14.9	+0.4
	0.5nm,1.0s,baz=331,slow=6.8,SNR=3.9						
ASAR	**Alice Springs**	**68.33**	**139**	P	P	02 16 30.9	-0.5
	0.2nm,0.4s,baz=321,slow=6.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**83.42**	**281**	P	P	02 17 58.0	0.0
	0.4nm,0.6s,baz=57,slow=4.4,SNR=5.0						

NOU ***19*** *02:28:12.6±1.5,16.02S×168.42E,h30km,MD3.7,ML3.8*
IDC ***19*** *02:28:15.9±1.0,16.10S×167.80E,h74km±7km,mb4.1/12, mb1 4.3/13,mb1mx4.1/21,mbtmp4.5/13,MS3.3/5, Ms1 3.3/5,ms1mx3.0/27,Error ellipse: s-maj=21.1km s-min=16.2km az=117.0*
ISCJB ***19*** *02:28:16.5±0.6,16.31S±0.04×167.88E±0.09,h100km, mb4.4/19,Error ellipse: s-maj=13.0km s-min=5.5km az=179.1*
NEIC ***19*** *02:28:16.9±0.7,16.14S×167.78E,h84km±6km,mb4.6/12

URZ	Urewera	23.44 161	P		P	02 33 20.4	+1.4
URZ	Urewera	23.44 161	P		P	02 33 20.4	+1.4
	comp=Z,7.4nm,0.8s,baz=153,slow=2.3,SNR=5.8						
COEN	Coen	23.75 272	eP		P	02 33 22.8	+0.7
COEN	Coen	23.75 272	P		P	02 33 23.1	+1.0
	baz=24,SNR=9.2						
QLP	Quilpie	24.07 241	P		P	02 33 26.5	+1.6
	baz=24,SNR=5.3						
CMSA	Cobar Meteorol	25.13 229	P		P	02 33 36.9	+2.5
	baz=25,SNR=7.5						
QIS	Mount Isa	26.95 257	P		P	02 33 56.0	+5.0
	baz=27,SNR=4.2						
STKA	Stephens Creek	28.33 232	P		P	02 34 04.8	+1.6
STKA	Stephens Creek	28.33 232	P		P	02 34 04.8	+1.6
	comp=Z,3.6nm,0.7s,baz=47,slow=7.7,SNR=7.1						
STKA			LR		LR	02 43 10.5	
	comp=Z,92nm,21.2s,baz=32,slow=31						
STKA	Stephens Creek	28.33 232	P		P	02 34 05.2	+2.1
	baz=28,SNR=4.4						
WRAB	Tennant Creek	31.85 258	eP		P	02 34 34.2	-0.2
	comp=Z,6.5nm,0.9s						
WRA	Warramunga Arr	31.86 258	P		P	02 34 33.8	-0.7
WRA	Warramunga Arr	31.86 258	P		P	02 34 33.8	-0.7
	comp=Z,3.3nm,0.9s,baz=88,slow=9.0,SNR=29						
AS31	Alice Springs	32.52 251	eP		P	02 34 40.7	+0.5
ASAR	Alice Springs	32.52 251	P		P	02 34 40.8	+0.5
ASAR			pP		pP	02 35 00.6	-2.2
ASAR			ScP		ScP	02 41 05.7	+5.8
ASAR	Alice Springs	32.52 251	P		P	02 34 40.8	+0.5
	comp=Z,20nm,1.0s,baz=79,slow=9.1,SNR=98						
ASAR			pP		pP	02 35 00.6	-2.2
	comp=Z,6.0nm,0.8s,baz=79,slow=9.0,SNR=4.8						
ASAR			ScP		ScP	02 41 05.7	+5.8
	comp=Z,1.6nm,1.0s,baz=87,slow=2.7,SNR=6.2						
BBOO	Buckleboo	32.98 234	P		P	02 34 45.5	+1.4
	baz=33,SNR=4.9						
KNRA	Kununurra	37.37 265	P		P	02 35 22.3	+0.4
	baz=37,SNR=3.4						
WRKA	Warakurna	37.75 250	P		P	02 35 26.0	+0.8
	baz=37,SNR=9.0						
FORT	Forrest	38.87 241	eP		P	02 35 35.3	+0.9
	comp=Z,39nm,1.1s						
FORT	Forrest	38.87 241	P		P	02 35 36.0	+1.5
	baz=38,SNR=10.0						
FITZ	Fitzroy Crossi	40.14 261	LR		LR	02 51 18.8	
	comp=Z,16nm,28.6s,slow=34						
FITZ	Fitzroy Crossi	40.14 261	P		P	02 35 45.9	+0.8
	baz=40,SNR=6.2						
TBI	Tubuai	40.83 107	eLR		LR	02 47 37.4	
	comp=Z,72nm,26.0s						
PPT2	Papeete2	40.86 98	eLR		LR	02 47 41.1	
	comp=Z,137nm,27.5s						
KMBL	Kambalda	44.19 242	P		P	02 36 18.8	+0.9
	baz=44,SNR=5.7						
MEEK	Meekatharra	46.57 249	P		P	02 36 38.1	+1.4
	baz=46,SNR=7.6						
KLBR	Kellerberrin	47.71 242	P		P	02 36 46.3	+0.8
	baz=47,SNR=8.5						
KAPI	Kappang	48.28 278	eP		P	02 36 49.8	-0.3
MORW	Morawa	48.97 245	P		P	02 36 56.4	+1.2
	baz=49,SNR=3.3						
MJAR	Matsushiro Arr	59.43 333	P		P	02 38 09.3	-1.6
MJAR	Matsushiro Arr	59.43 333	P		P	02 38 09.3	-1.6
	comp=Z,5.6nm,1.0s,baz=169,slow=7.9,SNR=6.4						
VNDA	Vanda	61.35 181	eP		P	02 38 22.1	-1.3
	comp=Z,6.9nm,1.5s						
YSS	Yuzh-Sakhalins	66.79 342	eP		P	02 38 59.7	+0.4
USRK	Ussuriysk Arra	68.41 333	P		P	02 39 10.1	+0.5
	comp=Z,4.9nm,0.7s,baz=130,slow=6.3,SNR=10						
PETK	Petropavlovsk-	69.61 354	pP		pP	02 39 38.5	-3.6
PETK	Petropavlovsk-	69.61 354	pP		pP	02 39 38.5	-3.6
	comp=Z,5.3nm,0.9s,baz=152,slow=6.7,SNR=3.5						
MDJ	Mudanjiang	69.80 332	eP		P	02 39 18.1	-0.1
	comp=Z,15nm,0.9s						
BJT	Baijiatuan	73.68 321	eP		P	02 39 42.0	+0.5
	comp=Z,14nm,0.6s						
CMAR	Chiang Mai Arr	75.92 294	P		P	02 39 56.2	+1.2
CMAR	Chiang Mai Arr	75.92 294	P		P	02 39 56.2	+1.2
	comp=Z,1.0nm,0.3s,baz=120,slow=4.6,SNR=10						
CHTO	Chiang Mai	76.06 295	eP		P	02 39 55.8	+0.1
	comp=Z,3.0nm,0.6s						
ULN	Ulaanbaatar	83.59 324	eP		P	02 40 36.0	+0.1
	comp=Z,10nm,1.1s						
YAK	Yakutsk	83.59 343	eP		P	02 40 35.3	-0.1
SONM	Songino Array	83.95 324	P		P	02 40 37.9	+0.2
SONM			pP		pP	02 40 57.4	-6.4
SONM	Songino Array	83.95 324	P		P	02 40 37.9	+0.2
	comp=Z,4.2nm,1.0s,baz=132,slow=4.1,SNR=19						
SONM			pP		pP	02 40 57.4	-6.4
	comp=Z,1.2nm,1.0s,baz=154,slow=6.1,SNR=3.2						
ILAR	Eielson Array	87.85 18	P		P	02 40 54.9	-1.5
ILAR			pP		pP	02 41 16.3	-6.4
ILAR	Eielson Array	87.85 18	P		P	02 40 54.9	-1.5
	comp=Z,0.6nm,0.6s,baz=235,slow=5.1,SNR=22						
ILAR			pP		pP	02 41 16.3	-6.4
	comp=Z,0.8nm,0.8s,baz=233,slow=5.8,SNR=4.1						
SNAA	Sanae	92.05 183	eP		P	02 41 16.6	+0.4
	comp=Z,2.5nm,1.2s						
MK31	Makanchi Array	98.57 316	eP		Pdif	02 41 47.4	+1.2
MKAR	Makanchi Array	98.57 316	P		Pdif	02 41 46.5	+0.3
MKAR	Makanchi Array	98.57 316	P		Pdif	02 41 46.5	+0.3
	comp=Z,0.6nm,0.7s,baz=103,slow=3.3,SNR=3.5						
ARCES	ARCESS Array B	121.82 345	PKP		PKPdf	02 46 59.9	-0.5
ARCES	ARCESS Array B	121.82 345	PKP		PKPdf	02 46 59.9	-0.5
	comp=Z,2.4nm,0.5s,baz=62,slow=2.9,SNR=14						
AKASG	Malin Array Be	132.20 325	PKP		PKPdf	02 47 20.9	+0.2
AKASG	Malin Array Be	132.20 325	PKP		PKPdf	02 47 20.9	+0.2
	comp=Z,1.0nm,0.6s,baz=59,slow=2.0,SNR=9.2						
BRTR	Keskin Array B	133.78 310	PKP		PKPdf	02 47 24.9	+0.6
BRTR	Keskin Array B	133.78 310	PKP		PKPdf	02 47 24.9	+0.6
	comp=Z,0.9nm,1.0s,baz=113,slow=3.3,SNR=3.9						
TSUM	Tsumeb	134.09 221	ePKPdf		PKPdf	02 47 26.7	+1.2
BUR08	Bucovina Ar. S	136.06 324	ePKPdf		PKPdf	02 47 28.4	+0.2
MORC	Moravsky Berou	138.74 331	ePKPdf		PKPdf	02 47 33.6	+0.5
GERES	GERESS Array B	141.17 332	PKP		PKPdf	02 47 39.0	+1.4
GERES	GERESS Array B	141.17 332	PKP		PKPdf	02 47 39.0	+1.4
	comp=Z,1.3nm,0.8s,baz=40,slow=1.7,SNR=8.7						
MOTA	Moosalm	143.44 333	⇑iPKPdf		PKPdf	02 47 40.0	-1.8
	comp=Z,8.8nm,0.9s,SNR=7.3						
WLF	Walferdange	143.46 340	ePKPdf		PKPdf	02 47 40.3	-1.2
FETA	Feichten	143.86 333	⇓iPKPdf		PKPdf	02 47 41.3	-1.2
	comp=Z,15nm,0.8s						
DAVOX	Davos/Dischmat	144.41 333	PKP		PKPdf	02 47 43.0	-0.5
DAVOX	Davos/Dischmat	144.41 333	PKP		PKPdf	02 47 43.0	-0.5
	comp=Z,16nm,0.7s,baz=51,slow=1.1,SNR=54						
TUE	Stuetta	144.88 334	ePKPdf		PKPdf	02 47 43.9	-0.4
TIP	Timpagrande	145.84 318	ePKPbc		PKPab	02 47 47.2	-0.1
BNI	Bardonecchia	147.13 335	ePKPbc		PKPab	02 47 50.7	-1.5
KEST	Kesra	152.62 319	ePKPdf		PKPdf	02 47 57.1	+0.2
KEST			ePKPbc		PKPbc	02 48 04.7	+0.7
KEST			PKPbc		PKPbc	02 48 04.8	+0.7
KEST	Kesra	152.62 319	PKPbc		PKPbc	02 48 04.8	+0.7
	comp=Z,2.1nm,0.7s,baz=103,slow=5.1,SNR=6.2						
TORD	Torodi Ar. Bea	166.08 259	PKP		PKPdf	02 48 12.5	-0.4
TORD	Torodi Ar. Bea	166.08 259	PKP		PKPdf	02 48 12.5	-0.4
	comp=Z,0.5nm,0.7s,baz=87,slow=0.6,SNR=4.2						

IDC 19 02:44:27.2±3.3, 6.77S×148.74E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=96.1km s-min=34.0km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.06	211	Pn		Pn	02 45 18.7	+1.9
	9.2nm,0.3s,baz=51,slow=5.7,SNR=20							
PMG				Sn		Sn	02 45 56.6	+2.5
	7.0nm,0.3s,baz=70,slow=20,SNR=11							
WRA	Warramunga Arr	19.16	225	P		P	02 48 51.8	-0.7
	0.1nm,0.3s,baz=51,slow=11,SNR=6.1							
ASAR	Alice Springs	22.04	219	P		P	02 49 22.1	-1.6
	0.3nm,0.6s,baz=54,slow=9.6,SNR=6.2							
FITZ	Fitzroy Crossi	25.18	241	P		P	02 49 55.2	+0.6
	5.9nm,1.0s,baz=65,slow=11,SNR=4.8							
TORD	Torodi Ar. Bea	146.96	284	PKPbc		PKPbc	03 04 12.1	-0.9
	0.4nm,0.8s,baz=79,slow=2.9,SNR=3.4							

NEIC 19 03:28:45.2±0.7, 37.06N×72.78E, h150km±7km, mb4.4/17, Error ellipse: s-maj=8.5km s-min=7.9km az=162.0
ISCJB 19 03:28:46.3±0.2, 37.34N±0.02×72.11E±0.03, h130km, mb4.2/45, Error ellipse: s-maj=4.1km s-min=2.6km az=142.7
MOS 19 03:28:46.6±0.8, 37.40N×72.05E, h129km, mb4.5/30, Error ellipse: s-maj=10.1km s-min=5.6km az=121.7
IDC 19 03:28:49.3±2.9, 37.52N×71.84E, h124km±25km, mb3.6/16, mb1 3.8/20, mb1mx3.7/31, mbtmp4.1/20, Error ellipse: s-maj=20.4km s-min=12.4km az=5.0
NNC 19 03:28:55.7±3.8, 38.06N×71.58E, h192km±28km, mb3.6, mpv4.8, Error ellipse: s-maj=38.7km s-min=25.9km az=47.0

ISC 19 03:28:47.6±0.4, 37.39N±0.04×72.23E±0.05, h130km, n205, σ1s49/213, mb4.5/45, 6C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	Cherat	3.57	184	P		Pn	03 29 43.1	+1.3
CEP				S		Sn	03 30 27.0	+3.3
CHCP	Chirah Chowk	3.82	167	P		Pn	03 29 48.3	+3.3
KBL	Kabul	3.84	223	ePN		Pn	03 29 44.2	-1.3
KBL	Kabul	3.84	223	ePn		Pn	03 29 44.2	-1.3
KBL				eSn		Sn	03 30 26.7	-3.5
THW	Thamme Wali	4.60	185	P		Pn	03 29 55.6	+0.2
AML	Almayashu	4.87	13	P		Pn	03 30 00.3	+1.1
	SNR=454							
UCH	Uchtor	5.14	19	P		Pn	03 30 04.6	+1.7
	SNR=52							
KZA	Kyzart	5.23	25	P		Pn	03 30 05.9	+1.8
	SNR=28							
EKS2	Erkin-Say	5.40	12	ePN		Pn	03 30 07.1	+1.1
EKS2				pmax		pmax		
	comp=Z,62nm,0.4s							
EKS2	Erkin-Say	5.40	12	P		Pn	03 30 07.4	+1.4
	SNR=81							
EKS2	Erkin-Say	5.40	12	ePn		Pn	03 30 07.1	+1.1
	comp=Z,62nm,0.4s							
EKS2				eSn		Sn	03 31 03.8	-3.4
SARP	Sargodha	5.47	176	P		Pn	03 30 07.1	+0.1
SARP				S		Sn	03 31 06.0	-2.8
AAK	Ala-Archa	5.52	18	PN		Pn	03 30 09.7	+2.0
AAK				pmax		pmax		
	comp=Z,26nm,0.3s							
AAK	Ala-Archa	5.52	18	P		Pn	03 30 09.8	+2.1
	SNR=112							
AAK	Ala-Archa	5.52	18	ePn		Pn	03 30 09.4	+1.7
	comp=Z,69nm,0.4s							
AAK				eSn		Sn	03 31 06.3	-3.8
AAK	Ala-Archa	5.52	18	P		Pn	03 30 09.7	+2.0
	comp=Z,26nm,0.3s,baz=167,slow=6.0,SNR=317							
AAK				S		Sn	03 31 10.1	-0.1
	comp=Z,13nm,0.3s,baz=322,slow=19,SNR=14							
KBK	Karagaybulak	5.66	21	P		Pn	03 30 11.9	+2.3
	SNR=22							
ULHL	Ulahol	5.75	31	P		Pn	03 30 12.9	+2.1
	SNR=24							
KK31	Karatay Array	5.86	348	⇑P		Pn	03 30 10.9	-1.3
	comp=Z,53nm,0.3s,baz=174,slow=15,SNR=1469							
KK31				⇑S		Sn	03 31 11.6	-6.5
	comp=Z,56nm,0.3s,baz=166,slow=21,SNR=12							
CHMS	Chumysh	5.92	18	P		Pn	03 30 15.0	+1.9
	SNR=57							
TKM2	Tokmak 2	6.10	24	ePN		Pn	03 30 16.7	+1.2
TKM2				pmax		pmax		
	comp=Z,21nm,0.6s							
TKM2	Tokmak 2	6.10	24	P		Pn	03 30 17.9	+2.4
	SNR=37							
TKM2	Tokmak 2	6.10	24	ePn		Pn	03 30 16.7	+1.2
	comp=Z,21nm,0.6s							
USP	Ospenovka	6.12	16	P		Pn	03 30 16.8	+1.1
	SNR=38							
DHRM	DHARAMSHALA	6.12	146	eP		Pn	03 30 18.2	+2.2
DHRM				eS		Sn	03 31 23.2	-1.7
BHK	Bhakra	6.89	149	eS		Sn	03 31 40.0	-3.1
SDNR	Sundarnagar	7.06	145	eP		Pn	03 30 29.6	+1.2
SDNR				eS		Sn	03 31 43.0	-4.3
SMLA	Simla	7.46	145	iP		Pn	03 30 35.7	+1.9
SMLA				eS		Sn	03 31 54.2	-2.7
DDI	Dehra Dun	8.55	144	eP		Pn	03 30 50.4	+1.9
DDI				e			03 32 16.0	
NDI	New Delhi	9.64	153	eP		Pn	03 31 02.2	-0.9
NDI				eS		Sn	03 32 42.9	-6.6
NDI				AML		AML	03 32 52.8	
	comp=N,112nm,0.9s							
NDI				AML		AML	03 32 52.8	
	comp=E,116nm,0.6s							
MK31	Makanchi Array	11.99	35	⇓P		Pn	03 31 36.7	+2.4
	comp=E,6.9nm,1.4s,baz=218,slow=9.2,SNR=5.1							
MKAR	Makanchi Array	11.99	35	P		Pn	03 31 36.9	+2.6
MKAR	Makanchi Array	11.99	35	P		Pn	03 31 36.9	+2.6
	comp=E,0.2nm,0.3s,baz=223,slow=14,SNR=11							
PYUN	Piuthan	12.95	133	eP		Pn	03 31 47.1	+0.1
PYUN	Piuthan	12.95	133	eP		Pn	03 31 47.1	+0.1
DANN	Dangsing	13.22	130	eP		Pn	03 31 50.8	+0.1
	comp=E,80nm,0.3s							
DANN	Dangsing	13.22	130	eP		Pn	03 31 50.8	+0.1
KOLN	Koldanda	13.55	132	eP		Pn	03 31 55.3	+0.5
	comp=E,47nm,0.3s							
KOLN	Koldanda	13.55	132	eP		Pn	03 31 55.3	+0.5
KURBB	Kurchatov Arra	13.98	17	P		Pn	03 31 58.1	-1.7
	comp=E,0.2nm,0.3s,baz=209,slow=11,SNR=7.0							
GKN	Gorkha	14.01	128	eP		Pn	03 32 01.1	+0.5
	comp=E,88nm,0.3s							
GKN	Gorkha	14.01	128	eP		Pn	03 32 01.1	+0.5
KURK	Kurchatov	14.08	17	P		Pn	03 31 58.1	-3.0
KKN	Kakani	14.57	127	eP		Pn	03 32 07.6	-0.1
	comp=E,59nm,0.5s							
KKN				eS		Sn	03 34 44.5	-4.5
KKN	Kakani	14.57	127	eP		Pn	03 32 07.6	-0.1
KKN				eS		Sn	03 34 44.5	-4.5
KKN	Kakani	14.57	127	eP		Pn	03 32 07.6	-0.1
KKN				eS		Sn	03 34 44.5	-4.5
DMN	Daman	14.59	128	eP		Pn	03 32 08.3	+0.3
	comp=E,32nm,0.3s							
DMN	Daman	14.59	128	eP		Pn	03 32 08.3	+0.3
PKIN	Phulchoki	14.79	128	eP		Pn	03 32 10.8	+0.2
	comp=E,46nm,0.4s							
PKIN				eS		Sn	03 34 50.1	-4.3
BHPL	Bhopal	14.79	161	eP		P	03 32 13.1	+0.1
BHPL				e			03 34 43.9	
PKI	Pulchoki	14.80	128	eP		Pn	03 32 10.6	-0.2
PKI	Pulchoki	14.80	128	eP		Pn	03 32 10.8	0.0
PKI				eS		Sn	03 34 50.1	-4.7
PKI	Pulchoki	14.80	128	eP		Pn	03 32 10.8	0.0
PKI				eS		Sn	03 34 50.1	-4.7
AB31	Akbulak array	14.83	327	P		Pn	03 32 06.2	-4.3
	comp=E,8.7nm,0.8s,baz=142,slow=12,SNR=164							
AB31				S		Sn	03 34 35.9	-19
	comp=E,18nm,0.6s,baz=152,slow=21,SNR=14							
GUN	Gumba	14.87	126	eP		Pn	03 32 11.4	-0.2
	comp=E,68nm,0.5s							
GUN	Gumba	14.87	126	eP		Pn	03 32 11.4	-0.2
	comp=E,68nm,0.5s							
JIRN	Jiri	15.24	126	eP		Pn	03 32 16.6	+0.3
	comp=E,110nm,0.4s							
JIRN				eS		Sn	03 35 00.3	-5.1
JIRN	Jiri	15.24	126	eP		Pn	03 32 16.6	+0.3
JIRN				eS		Sn	03 35 00.3	-5.1
BVA0	Borovoye Array	15.69	356	P		Pn	03 32 18.9	-2.4
	comp=E,2.7nm,0.8s,baz=156,slow=12,SNR=24							
BVA0				⇑S		Sn	03 35 05.4	-10
	comp=E,3.1nm,0.7s,baz=167,slow=23,SNR=6.9							
BVAR	Borovoye Array	15.69	356	P		Pn	03 32 20.3	-1.0
BVAR				S		Sn	03 35 04.4	-11
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BVAR				smax		smax		
	comp=N,1.0nm,0.3s							
BVAR	Borovoye Array	15.69	356	P		Pn	03 32 20.3	-1.0
	comp=N,0.9nm,0.3s,baz=156,slow=10,SNR=21							
BVAR				S		Sn	03 35 04.4	-11
	comp=N,0.5nm,0.3s,baz=168,slow=24,SNR=7.5							
BRVK	Borovoye	15.73	356	eP		Pn	03 32 21.0	-0.7
BRVK				eS		Sn	03 35 03.8	-12
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
BRVK	Borovoye	15.73	356	ePn		Pn	03 32 21.0	-0.7
	comp=Z,3.8nm,0.6s							
BRVK				eS		Sn	03 35 03.8	-12
BRVK	Borovoye	15.73	356	P		Pn	03 32 18.6	-3.1
BRVK				S		Sn	03 35 05.6	-11
RAMN	Ramite	15.99	126	eP		Pn	03 32 25.3	-0.2
	comp=Z,61nm,0.5s							
RAMN				eS		Sn	03 35 17.2	-6.1
RAMN	Ramite	15.99	126	eP		Pn	03 32 25.3	-0.2
	comp=Z,61nm,0.5s							
RAMN				eS		Sn	03 35 17.2	-6.1
TAPN	Taplejung	16.45	123	eP		Pn	03 32 31.5	+0.4
	comp=Z,32nm,0.4s							
TAPN	Taplejung	16.45	123	eP		Pn	03 32 31.5	+0.4
AKTO	Aktyubinsk	16.54	327	P		Pn	03 32 31.0	-0.8
AKTO				S		Sn	03 35 20.5	-15
AKTO				pmax		pmax		
	comp=Z,8.0nm,0.3s							
AKTO				smax		smax		
	comp=N,1.0nm,0.3s							
AKTO	Aktyubinsk	16.54	327	P		Pn	03 32 30.9	-0.8
	comp=N,8.4nm,0.3s,baz=133,slow=12,SNR=113							
AKTO				S		Sn	03 35 20.5	-15
	comp=N,1.0nm,0.3s,baz=8.4,slow=23,SNR=11							
AKTO	Aktyubinsk	16.54	327	⇑P		Pn	03 32 28.5	-3.3
	comp=N,38nm,0.6s							
AKTO				⇑S		Sn	03 35 22.2	-14
	comp=N,13nm,0.7s							
ODAN	Odare	16.57	125	eP		Pn	03 32 32.8	+0.3
	comp=N,25nm,0.4s							
ODAN	Odare	16.57	125	eP		Pn	03 32 32.8	+0.3
NGP	Nagpur	17.23	158	ex		P	03 32 41.0	+1.1
NGP				e			03 35 38.4	
LSA	Lhasa	17.52	110	eP		P	03 32 34.9	-8.6
LSA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
LSA	Lhasa	17.52	110	eP		P	03 32 34.9	-8.6
	comp=Z,8.2nm,0.6s							
BOK	Bokaro	17.91	135	eP		Pn	03 32 52.7	+4.2
ZAA0	Zalesovo Array	18.70	24	eP		Pn	03 32 57.0	-0.5
ZALV	Zalesovo Beam	18.70	24	P		Pn	03 32 58.2	+0.7
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZALV	Zalesovo Beam	18.70	24	P		Pn	03 32 58.2	+0.7
	comp=Z,1.0nm,0.3s,baz=223,slow=11,SNR=13							
ARU	Arti	21.14	339	c iP		P	03 33 21.6	-0.3
ARU				S		S	03 37 12.0	+2.6
ARU				pmax		pmax		
	comp=Z,15nm,1.2s							
ARU	Arti	21.14	339	eP		P	03 33 21.9	+0.1
	comp=Z,8.0nm,0.7s							
GNI	Garni	21.58	286	eP		P	03 33 27.7	+0.7
	comp=Z,14nm,0.8s							
GNI	Garni	21.58	286	P		P	03 33 26.7	-0.3
	comp=Z,10nm,0.6s,baz=23,slow=4.9,SNR=12							
ZEI	Tsey	22.28	293	eP		P	03 33 32.9	-1.4
ZEI				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KBZ	Khabaz	23.09	295	P		P	03 33 40.8	-1.0
KBZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KBZ	Khabaz	23.09	295	P		P	03 33 40.8	-1.0
	comp=Z,2.7nm,0.8s,baz=170,slow=6.7,SNR=5.2							
KIV	Kislovodsk	23.27	296	eP		P	03 33 42.9	-0.7
KIV				pmax		pmax		
	comp=Z,14nm,0.8s							
KIV	Kislovodsk	23.27	296	eP		P	03 33 42.9	-0.7
	comp=Z,14nm,0.8s							
SONM	Songino Array	27.02	56	P		P	03 34 22.9	+5.4
	comp=Z,0.3nm,0.4s,baz=254,slow=10,SNR=5.7							
ULN	Ulaanbaatar	27.46	56	eP		P	03 34 13.6	-7.9
	comp=Z,1.2nm,0.5s							
CMAR	Chiang Mai Arr	30.05	122	P		P	03 34 50.7	+6.2
	comp=Z,1.1nm,0.3s,baz=321,slow=11,SNR=4.8							
BRTR	Keskin Array B	30.11	287	P		P	03 34 45.1	+0.1
	comp=Z,1.9nm,0.6s,baz=100,slow=8.3,SNR=16							
AKASG	Malin Array Be	33.17	308	P		P	03 35 10.7	-0.8
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	33.17	308	P		P	03 35 10.7	-0.8
	comp=Z,1.2nm,0.4s,baz=106,slow=9.7,SNR=18							
KIEV	Kiev	33.18	308	eP		P	03 35 10.4	-1.1
KIEV				pmax		pmax		
	comp=Z,7.0nm,0.8s							
KIEV	Kiev	33.18	308	eP		P	03 35 10.4	-1.1
	comp=Z,6.6nm,0.8s							
JOF	Joensuu	35.60	329	eP		P	03 35 32.7	+0.5
JOF				pmax		pmax		
	comp=Z,6.0nm,0.5s							
JOF	Joensuu	35.60	329	ep		P	03 35 32.7	+0.5
	comp=Z,6.2nm,0.5s							
BUR08	Bucovina Ar. S	35.65	302	eP		P	03 35 32.9	-0.1
FINES	FINESS Array B	37.31	325	P		P	03 35 47.1	+0.4
	comp=Z,3.9nm,0.3s,baz=118,slow=8.9,SNR=51							
KAF	Kangasniemi	37.42	326	eP		P	03 35 47.7	0.0
KAF	Kangasniemi	37.42	326	ep		P	03 35 47.7	0.0
ARCES	ARCESS Array B	40.71	337	P		P	03 36 15.7	+0.7
	comp=Z,3.0nm,0.5s,baz=116,slow=8.8,SNR=18							
KULM	Kulim	41.16	134	eP		P	03 36 09.5	-10
	comp=Z,10nm,0.9s							
BRG	Berggiesshubel	42.85	308	i PKP		P	03 36 33.1	+0.5
	comp=Z,9.0nm,0.9s							
BRG	Berggiesshubel	42.85	308	i P		P	03 36 33.1	+0.5
BRG				pmax		pmax		
	comp=Z,9.0nm,0.8s							
GERES	GERESS Array B	43.23	305	P		P	03 36 35.9	+0.1
	comp=Z,0.3nm,0.5s,baz=75,slow=7.4,SNR=5.8							
NB2	NORSAR Subarra	44.27	322	P		P	03 36 43.6	-0.3

VIVF	**Saint-Julien-l**	**50.11**	**301**	*eP*		**P**		**03 37 29.2**	**-0.2**
	comp=Z,6.7nm,0.8s								
VIVF	**Saint-Julien-l**	**50.11**	**301**	*eP*		**P**		**03 37 29.2**	**-0.2**
VIVF					pmax	pmax			
	comp=Z,7.0nm,0.8s								
VIVF	**Saint-Julien-l**	**50.11**	**301**	*eP*		**P**		**03 37 29.2**	**-0.2**
	comp=Z,6.7nm,0.8s								
KMBO	**Kilima Mbogo**	**50.16**	**228**	*eP*		**P**		**03 37 32.6**	**+2.4**
	comp=Z,1.2nm,0.6s								
SMF	**Signal de Mont**	**50.18**	**303**	*eP*		**P**		**03 37 29.2**	**-0.6**
	comp=Z,15nm,0.9s								
SMF	**Signal de Mont**	**50.18**	**303**	*eP*		**P**		**03 37 29.2**	**-0.6**
SMF					pmax	pmax			
	comp=Z,15nm,0.9s								
SMF	**Signal de Mont**	**50.18**	**303**	*eP*		**P**		**03 37 29.2**	**-0.6**
	comp=Z,15nm,0.9s								
SSF	**Saint Saulge**	**50.29**	**304**	*eP*		**P**		**03 37 30.2**	**-0.5**
SSF	**Saint Saulge**	**50.29**	**304**	*eP*		**P**		**03 37 30.2**	**-0.5**
SSF	**Saint Saulge**	**50.29**	**304**	*eP*		**P**		**03 37 30.2**	**-0.5**
AVF	**Avril sur Loir**	**50.47**	**304**	*eP*		**P**		**03 37 31.7**	**-0.2**
	comp=Z,18nm,0.8s								
AVF	**Avril sur Loir**	**50.47**	**304**	*eP*		**P**		**03 37 31.7**	**-0.2**
AVF					pmax	pmax			
	comp=Z,18nm,0.8s								
AVF	**Avril sur Loir**	**50.47**	**304**	*eP*		**P**		**03 37 31.7**	**-0.2**
	comp=Z,18nm,0.8s								
LASF	**Ste Croix**	**50.90**	**300**	*eP*		**P**		**03 37 35.5**	**+0.2**
	comp=Z,9.6nm,0.8s								
LASF	**Ste Croix**	**50.90**	**300**	*eP*		**P**		**03 37 35.5**	**+0.2**
	comp=Z,9.6nm,0.8s								
TCF	**Toulx Ste Croi**	**51.36**	**303**	*eP*		**P**		**03 37 38.8**	**+0.1**
	comp=Z,9.1nm,0.7s								
TCF	**Toulx Ste Croi**	**51.36**	**303**	*eP*		**P**		**03 37 38.8**	**+0.1**
TCF					pmax	pmax			
	comp=Z,9.0nm,0.7s								
TCF	**Toulx Ste Croi**	**51.36**	**303**	*eP*		**P**		**03 37 38.8**	**+0.1**
	comp=Z,9.1nm,0.7s								
CAF	**Calviac**	**51.86**	**302**	*eP*		**P**		**03 37 42.6**	**+0.1**
CAF	**Calviac**	**51.86**	**302**	*eP*		**P**		**03 37 42.6**	**+0.1**
CAF	**Calviac**	**51.86**	**302**	*eP*		**P**		**03 37 42.6**	**+0.1**
LDF	**La Druitiere**	**52.23**	**307**	*eP*		**P**		**03 37 44.6**	**-0.5**
	comp=Z,8.0nm,0.6s								
LDF	**La Druitiere**	**52.23**	**307**	*eP*		**P**		**03 37 44.6**	**-0.5**
LDF					pmax	pmax			
	comp=Z,8.0nm,0.6s								
LDF	**La Druitiere**	**52.23**	**307**	*eP*		**P**		**03 37 44.6**	**-0.5**
	comp=Z,8.0nm,0.6s								
FLN	**La Foliniere**	**52.41**	**307**	*eP*		**P**		**03 37 46.4**	**0.0**
FLN	**La Foliniere**	**52.41**	**307**	*eP*		**P**		**03 37 46.4**	**0.0**
FLN	**La Foliniere**	**52.41**	**307**	*eP*		**P**		**03 37 46.4**	**0.0**
LFF	**La Frestale**	**52.75**	**302**	*eP*		**P**		**03 37 49.1**	**+0.1**
LFF	**La Frestale**	**52.75**	**302**	*eP*		**P**		**03 37 49.1**	**+0.1**
LFF	**La Frestale**	**52.75**	**302**	*eP*		**P**		**03 37 49.1**	**+0.1**
GRR	**Gorron**	**52.76**	**307**	*eP*		**P**		**03 37 49.0**	**+0.1**
	comp=Z,15nm,0.7s								
GRR	**Gorron**	**52.76**	**307**	*eP*		**P**		**03 37 49.0**	**+0.1**
GRR					pmax	pmax			
	comp=Z,15nm,0.7s								
GRR	**Gorron**	**52.76**	**307**	*eP*		**P**		**03 37 49.0**	**+0.1**
	comp=Z,15nm,0.7s								
MFF	**Saint Martin d**	**52.83**	**304**	*eP*		**P**		**03 37 49.8**	**+0.3**
MFF	**Saint Martin d**	**52.83**	**304**	*eP*		**P**		**03 37 49.8**	**+0.3**
MFF	**Saint Martin d**	**52.83**	**304**	*eP*		**P**		**03 37 49.8**	**+0.3**
SGMF	**Saint Gilles**	**53.88**	**307**	*eP*		**P**		**03 37 56.9**	**-0.2**
	comp=Z,11nm,0.6s								
SGMF	**Saint Gilles**	**53.88**	**307**	*eP*		**P**		**03 37 56.9**	**-0.2**
SGMF					pmax	pmax			
	comp=Z,11nm,0.6s								
SGMF	**Saint Gilles**	**53.88**	**307**	*eP*		**P**		**03 37 56.9**	**-0.2**
	comp=Z,11nm,0.6s								
ROSF	**Rostrenen**	**54.31**	**307**	*eP*		**P**		**03 37 59.9**	**-0.4**
	comp=Z,11nm,0.6s								
ROSF	**Rostrenen**	**54.31**	**307**	*eP*		**P**		**03 37 59.9**	**-0.4**
ROSF					pmax	pmax			
	comp=Z,11nm,0.6s								
ROSF	**Rostrenen**	**54.31**	**307**	*eP*		**P**		**03 37 59.9**	**-0.4**
	comp=Z,11nm,0.6s								
ETSF	**Etsaut**	**54.32**	**300**	*eP*		**P**		**03 38 00.6**	**+0.1**
	comp=Z,5.8nm,0.5s								
ETSF	**Etsaut**	**54.32**	**300**	*eP*		**P**		**03 38 00.6**	**+0.1**
ETSF					pmax	pmax			
	comp=Z,6.0nm,0.5s								
ETSF	**Etsaut**	**54.32**	**300**	*eP*		**P**		**03 38 00.6**	**+0.1**
	comp=Z,5.8nm,0.5s								
QUIF	**Quistinic**	**54.37**	**307**	*eP*		**P**		**03 38 00.1**	**-0.6**
QUIF	**Quistinic**	**54.37**	**307**	*eP*		**P**		**03 38 00.1**	**-0.6**
QUIF	**Quistinic**	**54.37**	**307**	*eP*		**P**		**03 38 00.1**	**-0.6**
ESDC	**Sonseca Array**	**57.91**	**298**	P		**P**		**03 38 26.0**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=55,slow=7.3,SNR=14								
TAM	**Tamanrasset**	**58.43**	**276**	*eP*		**P**		**03 38 30.0**	**0.0**
TAM					pmax	pmax			
	comp=Z,1.0nm,0.4s								
TAM	**Tamanrasset**	**58.43**	**276**	*eP*		**P**		**03 38 30.0**	**0.0**
	comp=Z,1.0nm,0.4s								
TOA0	**Torodi Ar. Sit**	**66.72**	**269**	*eP*		**P**		**03 39 23.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**66.72**	**269**	P		**P**		**03 39 23.7**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=49,slow=6.0,SNR=30								
ILAR	**Eielson Array**	**73.65**	**16**	P		**P**		**03 40 07.8**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=342,slow=8.5,SNR=3.4								
YKA	**Yellowknife Ar**	**80.31**	**3**	P		**P**		**03 40 45.6**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=350,slow=5.6,SNR=12								
WRA	**Warramunga Arr**	**81.63**	**123**	P		P		03 40 54.7	+3.4
	comp=Z,1.1nm,1.1s,baz=322,slow=4.8,SNR=6.8								

*ISCJB **19** 03:29:37.7±0.7, 14°.37N±0°.03×61°.2W±0°.2, h160km±6km, mb3.2/3, Error ellipse: s-maj=25.8km s-min=5.4km az=179.4*

*IDC **19** 03:29:38.0±0.8, 14°.45N×61°.13W, h154km±22km, mb3.1/3, mb1 3.5/3, mb1mx3.0/25, mbtmp3.5/3, Error ellipse: s-maj=110.4km s-min=10.7km az=82.0*

*TRN **19** 03:29:39.4, 14°.33N×61°.58W, h131km, MD3.6, M3.7(FDF)*

ISC 19 03:29:38.0±1.0, 14°.39N±0°.04×61°.2W±0°.2, h157km±8km, n37, σ1$08/47, mb3.4/3, 12C-4D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BIM	**Bigot**	**0.18**	**48**	*eP*		**Pn**	**03 30 00.2**	**+1.0**
TRMF	**Trois Ilets**	**0.21**	**47**	*eP*		**Pn**	**03 29 59.6**	**+0.4**
ZAM	**Aeronautique**	**0.25**	**44**	⇓*eP*		**Pn**	**03 30 00.2**	**+0.9**
LPMF	**Morne Lapointe**	**0.30**	**53**	⇓*eP*		**Pn**	**03 30 00.3**	**+0.9**
FDF	**Fort de France**	**0.34**	**10**	*eP*		**Pn**	**03 30 00.2**	**+0.6**
FDF				*eS*		**Sn**	**03 30 16.0**	**-0.3**
MVM	**Montagne Vaucl**	**0.34**	**62**	⇑*eP*		**Pn**	**03 30 00.6**	**+1.0**
H05S1	**Guadeloupe/Mar**	**0.36**	**85**	P		**Pn**	**03 30 00.4**	**+0.8**
H05S1				S		**Sn**	**03 30 16.1**	**+0.1**
	SNR=4350							
BVM	**Bellevue**	**0.37**	**23**	*eP*		**Pn**	**03 30 00.9**	**+1.1**
SLB	**Belfond**	**0.58**	**164**	⇑*eP*		**Pn**	**03 30 01.8**	**+1.1**
SLB				*eS*		**Sn**	**03 30 18.0**	**-0.1**
SLPE	**Piton Saint Es**	**0.58**	**159**	*eP*		**Pn**	**03 30 01.8**	**+1.1**
SLPE				*eS*		**Sn**	**03 30 17.3**	**-0.7**
MCLT	**Moule a Chique**	**0.73**	**159**	*eP*		**Pn**	**03 30 01.8**	**+0.3**
MCLT				*eS*		**Sn**	**03 30 18.8**	**-0.7**
SSV	**Crater Summit**	**1.06**	**179**	⇓*eP*		**Pn**	**03 30 04.6**	**+0.5**
SVV	**Soufriere Volc**	**1.07**	**180**	*eP*		**Pn**	**03 30 04.7**	**+0.6**
SVV				*eS*		**Sn**	**03 30 21.3**	**-2.8**
BHS	**Barnard House**	**1.09**	**176**	*eP*		**Pn**	**03 30 05.6**	**+1.3**
BHS				*eS*		**Sn**	**03 30 23.2**	**-1.3**
SVB	**Belmont**	**1.11**	**182**	⇓*iP*		**Pn**	**03 30 04.9**	**+0.4**
SVB				*eS*		**Sn**	**03 30 22.1**	**-2.7**
FCV	**Fort Charlotte**	**1.23**	**182**	*eP*		**Pn**	**03 30 06.4**	**+0.9**
FCV				*eS*		**Sn**	**03 30 23.9**	**-2.7**
TBG	**Guadaloupe-3**	**1.51**	**344**	⇑*iP*		**Pn**	**03 30 08.8**	**+0.6**
MGG	**Marie-Galante**	**1.52**	**356**	⇑*iP*		**Pn**	**03 30 08.8**	**+0.5**
HMG	**Houelmont**	**1.65**	**343**	⇑*iP*		**Pn**	**03 30 10.6**	**+0.9**
PHG	**Guadaloupe-2**	**1.67**	**346**	⇑*iP*		**Pn**	**03 30 11.1**	**+1.1**
DOG	**Dongo Capester**	**1.68**	**346**	*eP*		**Pn**	**03 30 10.8**	**+0.8**
SCG	**Saint Claude**	**1.69**	**344**	⇑*iP*		**Pn**	**03 30 11.2**	**+1.0**
ECG	**Echelle**	**1.69**	**345**	⇑*iP*		**Pn**	**03 30 11.3**	**+1.0**
TAG	**Tarade**	**1.70**	**345**	*eP*		**Pn**	**03 30 11.3**	**+1.0**
LKG	**Breislack**	**1.70**	**345**	⇑*iP*		**Pn**	**03 30 11.2**	**+0.8**
FNG	**Fond-Bernard**	**1.72**	**345**	⇑*iP*		**Pn**	**03 30 11.4**	**+0.9**
BCG	**Bois Riant Cap**	**1.73**	**347**	*eP*		**Pn**	**03 30 11.3**	**+0.7**
MLG	**Mont-d'or**	**1.73**	**344**	⇑*iP*		**Pn**	**03 30 11.5**	**+0.9**
LZG	**Guadaloupe-1**	**1.82**	**343**	⇑*iP*		**Pn**	**03 30 12.3**	**+0.8**
DEG	**La Desirade**	**1.92**	**4**	*eP*		**Pn**	**03 30 12.4**	**-0.3**
H05N1	**Guadeloupe/Mar**	**1.92**	**4**	P		**Pn**	**03 30 12.5**	**-0.1**
	SNR=129							
H05N1				S		**Sn**	**03 30 38.1**	**-1.3**
SEG	**Port Louis**	**2.02**	**352**	*eP*		**Pn**	**03 30 14.4**	**+0.7**
GRGR	**Grenville**	**2.29**	**191**	*eP*		Pn	03 30 20.3	+3.3
GRGR				*eS*		**Sn**	**03 30 47.8**	**+0.7**
ANWB	**Willy Bob**	**3.30**	**350**	*eP*		**Pn**	**03 30 28.8**	**-0.7**
PDAR	**Pinedale Array**	**50.11**	**314**	P		**P**	**03 38 17.5**	**+0.1**
	0.6nm,0.6s,baz=119,slow=9.4,SNR=6.9							
YKA	**Yellowknife Ar**	**60.85**	**335**	P		**P**	**03 39 33.5**	**+0.1**
	0.3nm,0.6s,baz=106,slow=7.2,SNR=6.5							
ILAR	**Eielson Array**	**75.26**	**334**	P		**P**	**03 41 03.5**	**+0.3**
	0.2nm,0.5s,baz=81,slow=5.1,SNR=5.8							

*IDC **19** 04:00:23.0±1.7, 39°.20N×73°.41E, h0km, mb3.8/5, mb1 3.7/10, mb1mx3.5/33, mbtmp3.6/10, ML3.3/5, MS2.9/1, Ms1 2.9/1, ms1mx2.2/35, Error ellipse: s-maj=31.6km s-min=15.0km az=133.0*

*ISCJB **19** 04:00:26.6±1.1, 39°.16N±0°.08×72°.92E±0°.10, h33km, mb3.7/5, Error ellipse: s-maj=12.6km s-min=9.7km az=146.2*

*NNC **19** 04:00:31.1±3.0, 39°.24N×71°.80E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=38.7km s-min=21.5km az=80.0*

ISC 19 04:00:29.2±1.3, 39°.3N±0°.1×72°.88E±0°.09, h33km, n24, σ2$02/30, mb3.7/5, 6C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.88**	**12**	P		**Pn**	**04 01 13.2**	**+0.2**
	SNR=37							
UCH	**Uchtor**	**3.16**	**23**	P		**Pn**	**04 01 17.0**	**0.0**
	SNR=23							
KZA	**Kyzart**	**3.29**	**32**	P		**Pn**	**04 01 19.4**	**+0.6**
	SNR=9.6							
EKS2	**Erkin-Say**	**3.41**	**11**	P		**Pn**	**04 01 21.2**	**+1.1**
	SNR=12							
AAK	**Ala-Archa**	**3.53**	**20**	P		**Pn**	**04 01 22.6**	**+0.7**
	SNR=39							
AAK	**Ala-Archa**	**3.53**	**20**	Pn		**Pn**	**04 01 22.3**	**+0.5**
	8.0nm,0.3s,baz=22,slow=8.1,SNR=70							
AAK				Sn		**Sn**	**04 02 05.7**	**+3.2**
	5.6nm,0.3s,baz=69,slow=11,SNR=10							
KBK	**Karagaybulak**	**3.68**	**24**	P		**Pn**	**04 01 24.9**	**+1.0**
	SNR=12							
ULHL	**Ulahol**	**3.88**	**40**	P		**Pn**	**04 01 27.6**	**+0.9**
	SNR=7.9							
CHMS	**Chumysh**	**3.94**	**20**	P		**Pn**	**04 01 27.8**	**+0.5**
	SNR=23							
USP	**Ospenovka**	**4.13**	**17**	P		**Pn**	**04 01 30.2**	**+0.3**
	SNR=8.2							
KK31	**Karatay Array**	**4.18**	**335**	Pn		**Pn**	**04 01 33.2**	**+2.6**
	1.1nm,0.3s,baz=136,slow=12,SNR=102							
KK31				⇑Pg		**Pb**	**04 01 43.1**	**+1.1**
	5.9nm,0.5s,baz=140,slow=12,SNR=31							
KK31				⇑Sn		**Sn**	**04 02 22.4**	**+4.0**
	16nm,0.5s,baz=144,slow=21,SNR=6.1							
KK31				⇓Lg		Lg	04 02 36.9	
	18nm,0.5s,baz=154,slow=27,SNR=3.8							
MKAR	**Makanchi Array**	**10.15**	**40**	Pn		**Pn**	**04 02 51.1**	**-1.5**
	0.1nm,0.3s,baz=218,slow=14,SNR=3.1							
MKAR				Sn		Sn	04 04 37.8	-7.5
	baz=212,slow=24,SNR=3.0							
MKAR				Lg		Lg	04 05 38.5	
	0.1nm,0.3s,baz=225,slow=28,SNR=2.7							
AB31	**Akbulak array**	**13.56**	**321**	⇓Pn		**Pn**	**04 03 38.7**	**-0.4**
	0.3nm,0.5s,baz=130,slow=13,SNR=9.2							
AB31				⇑Sn		**Sn**	**04 06 05.0**	**-3.6**
	baz=132,slow=23,SNR=3.8							
BVA0	**Borovoye Array**	**13.82**	**354**	Pn		**P**	**04 03 49.2**	**-1.4**
	0.5nm,0.6s,baz=155,slow=10,SNR=5.9							
BVA0				⇑Sn		Sn	04 06 24.3	+10
	1.6nm,0.6s,baz=253,slow=41,SNR=3.5							
BVAR	**Borovoye Array**	**13.82**	**354**	Pn		**Pn**	**04 03 41.5**	**-1.1**
	0.1nm,0.3s,baz=164,slow=11,SNR=3.9							
BVAR				Lg		Lg	04 07 45.6	
	0.1nm,0.3s,baz=160,slow=23,SNR=4.0							
BRVK	**Borovoye**	**13.86**	**353**	Pn		**P**	**04 03 49.2**	**-1.7**
	2.6nm,1.2s							
BRVK				⇓Sn		Sn	04 06 24.8	+9.1
	4.3nm,1.5s							
AKTO	**Aktyubinsk**	**15.28**	**322**	Pn		**Pn**	**04 04 03.8**	**+1.5**
	0.2nm,0.3s,baz=116,slow=16,SNR=2.6							
AKTO				Sn		**Sn**	**04 06 45.2**	**-5.1**
	0.1nm,0.3s,baz=139,slow=20,SNR=3.1							
AKTO				LR		LR	04 10 35.3	
	comp=Z,14nm,28.6s,baz=340,slow=39							
AKTO	**Aktyubinsk**	**15.28**	**322**	⇑Pn		**Pn**	**04 04 02.6**	**+0.3**
	3.2nm,1.1s							
AKTO				⇑Sn		**Sn**	**04 06 46.8**	**-3.5**
	2.0nm,1.0s							
ZALV	**Zalesovo Beam**	**16.74**	**25**	Pn		**Pn**	**04 04 18.3**	**-2.6**
	0.1nm,0.3s,baz=213,slow=11,SNR=2.7							
FINES	**FINESS Array B**	**36.04**	**323**	P		**P**	**04 07 28.5**	**+1.4**
	5.5nm,1.1s,baz=123,slow=15,SNR=3.1							
ARCES	**ARCESS Array B**	**39.15**	**336**	P		**P**	**04 07 53.9**	**+0.6**
	3.6nm,0.9s,baz=110,slow=7.8,SNR=2.3							
TORD	**Torodi Ar. Bea**	**67.27**	**269**	P		**P**	**04 11 21.2**	**+0.5**
	0.4nm,1.0s,baz=52,slow=5.8,SNR=2.7							
INK	**Inuvik**	**70.88**	**10**	P		**P**	**04 11 42.0**	**-0.2**
	0.4nm,0.5s,baz=324,slow=3.8,SNR=3.6							
YKA	**Yellowknife Ar**	**78.36**	**4**	P		**P**	**04 12 25.5**	**-0.2**
	0.2nm,0.7s,baz=349,slow=5.5,SNR=4.2							

IDC 19 04:07:58.0±6.2, 21°.21S×178°.23W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=179.5km s-min=98.7km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.29**	**245**	P		P	04 15 10.5	-1.5
	0.4nm,0.3s,baz=89,slow=9.4,SNR=3.9							
ASAR	**Alice Springs**	**44.15**	**257**	P		P	04 16 08.7	-0.2
	0.5nm,0.3s,baz=98,slow=7.2,SNR=12							
WRA	**Warramunga Arr**	**44.30**	**263**	P		P	04 16 10.8	+0.8
	1.0nm,0.6s,baz=93,slow=8.5,SNR=49							
HFS	**Hagfors**	**140.20**	**351**	PKP		PKPdf	04 27 27.7	-0.7
	1.9nm,0.7s,baz=31,slow=3.4,SNR=7.3							

*IDC **19** 04:10:23.2±1.7, 36°.27N×54°.58E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/30, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=31.3km s-min=18.2km az=156.0*

*CSEM **19** 04:10:23.1±0.2, 36°.37N×54°.57E, h2km, ML3.9, Error ellipse: s-maj=6.2km s-min=4.6km az=174.0*

*TEH **19** 04:10:23.7, 36°.35N×54°.54E, h7km, ML3.9*

*AZER **19** 04:10:26.7±1.6, 36°.30N×54°.33E, h19km, Error ellipse: s-maj=23.8km s-min=15.8km az=47.0*

*NNC **19** 04:10:35.7±2.6, 37°.34N×55°.18E, h0km, mb3.7, Error ellipse: s-maj=25.3km s-min=18.8km az=48.0*

ISC 19 04:10:23.4±1.2, 36°.34N±0°.05×54°.52E±0°.03, h9km±9km, n77, σ1$37/91, mb3.6/4, 18C-8D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.58**	**286**	⇑*ePg*		**Pg**	**04 10 34.3**	**-0.4**
IGLO				*eSg*		**Sb**	**04 10 44.4**	**+0.1**
IGLO				*e*			04 10 51.4	
	comp=Z,58μm,0.1s							
IKIA	**Kiasar**	**0.69**	**259**	*ePg*		**Pg**	**04 10 36.2**	**-0.6**
IKIA				*eSg*		**Sb**	**04 10 47.0**	**-0.4**
IKIA				*e*			04 10 54.4	
	comp=Z,24μm,0.1s							
IKIA	**Kiasar**	**0.69**	**259**	*ePg*		**Pg**	**04 10 36.2**	**-0.6**
IKIA				*eSg*		**Sb**	**04 10 47.0**	**-0.4**
IANJ	**Anjilo**	**1.00**	**210**	⇑*ePg*		**Pb**	**04 10 41.9**	**-1.1**
IANJ				*e*			04 10 58.5	
	comp=Z,22μm,0.1s							
IANJ	**Anjilo**	**1.00**	**210**	⇑*ePg*		**Pb**	**04 10 41.9**	**-1.1**
ISHM	**Shahmirzad**	**1.13**	**242**	⇑*ePg*		**Pb**	**04 10 44.3**	**-0.9**
ISHM				*e*			04 11 06.3	
	comp=Z,44μm,0.2s							
ISHM	**Shahmirzad**	**1.13**	**242**	⇑*ePg*		**Pb**	**04 10 44.3**	**-0.9**
SHRO	**Shahrood**	**1.25**	**106**	*ePg*		**Pn**	**04 10 45.7**	**-1.4**
IALA	**Alasht**	**1.41**	**260**	*ePn*		**Pb**	**04 10 50.0**	**0.0**
IALA				*e*			04 11 16.1	
	comp=Z,21μm,0.1s							
IALA	**Alasht**	**1.41**	**260**	*ePn*		**Pb**	**04 10 50.0**	**0.0**
IFIR	**Firoozkooh**	**1.60**	**245**	*ePn*		**Pn**	**04 10 52.4**	**+0.4**
IFIR				*e*			04 10 56.8	
	comp=Z,21μm,0.1s							
IFIR	**Firoozkooh**	**1.60**	**245**	*ePn*		**Pn**	**04 10 52.4**	**+0.4**
IPRN	**Peran**	**1.77**	**267**	⇑*ePn*		**Pb**	**04 10 55.4**	**-0.6**
IPRN				*e*			04 11 29.5	
	comp=Z,24μm,0.2s							
MRVT	**Maraveh tapeh**	**1.82**	**43**	*ePg*		**Pn**	**04 10 53.8**	**-1.1**
IDMV	**Damavand**	**2.16**	**250**	*e*		**Pg**	**04 11 06.9**	**+2.1**
	comp=Z,10μm,0.3s							
IDMV				*ePn*		**Pb**	**04 11 02.3**	**-0.5**
IVRN	**Varamin**	**2.64**	**240**	*eSg*		**Sg**	**04 11 47.3**	**-1.0**
IVRN				*ePn*		**Pn**	**04 11 07.5**	**+1.3**
IVRN	**Varamin**	**2.64**	**240**	*ePn*		**Pn**	**04 11 07.5**	**+1.3**
IVRN				*eSg*		**Sg**	**04 11 47.3**	**-1.0**
CHTH	**Charan**	**2.78**	**262**	*ePn*		**Pb**	**04 11 12.0**	**-1.4**
ISHV	**Shirvan**	**2.81**	**64**	*e*		**Sg**	**04 11 58.1**	**+4.3**
	comp=Z,14μm,0.3s							
ISHV				*ePn*		**Pn**	**04 11 09.3**	**+0.7**
ISFR	**Sfrayin**	**2.88**	**75**	*ePn*		**Pn**	**04 11 09.9**	**+0.2**
ISFR				*e*			04 12 06.3	
	comp=Z,6μm,0.3s							
ISFR	**Sfrayin**	**2.88**	**75**	*ePn*		**Pn**	**04 11 09.9**	**+0.2**
IR3	**Iran Long-Peri**	**2.97**	**254**	*ePn*		**Pn**	**04 11 12.0**	**+1.3**
IR3				*eSg*		**Sg**	**04 11 57.5**	**-1.2**
IR3	**Iran Long-Peri**	**2.97**	**254**	*ePn*		**Pn**	**04 11 12.0**	**+1.3**
IR3				*eSg*		**Sg**	**04 11 57.5**	**-1.2**
IMHD	**Mahdasht**	**3.19**	**259**	*ePn*		**Pn**	**04 11 16.7**	**+2.9**
IMHD	**Mahdasht**	**3.19**	**259**	*ePn*		**Pn**	**04 11 16.7**	**+2.9**
GHVR	**GHOM**	**3.22**	**236**	*ePn*		**Pb**	**04 11 18.5**	**-2.3**
IKRD	**Kardeh**	**3.24**	**81**	*ePn*		**Pg**	**04 11 25.8**	**+0.3**
IKRD				*e*			04 12 50.5	
	comp=Z,1μm,0.4s							
IAKL	**Akhelmad**	**3.42**	**84**	*ePn*		**Pn**	**04 11 17.5**	**+0.4**
IAKL				*e*			04 12 35.7	
	comp=Z,2μm,0.4s							
IPAY	**Payeh**	**3.61**	**87**	*ePn*		**Pn**	**04 11 19.9**	**+0.3**
IPAY				*e*			04 12 20.3	
	comp=Z,1μm,0.4s							
IPAY	**Payeh**	**3.61**	**87**	*ePn*		**Pn**	**04 11 19.9**	**+0.3**
NASN	**Na'in**	**3.81**	**202**	*ePn*		Pn	04 11 26.0	+3.6
KHMZ	**Khomeyn**	**4.56**	**237**	*ePn*		Pn	04 11 36.5	+3.9
ZNJK	**Zanjan**	**4.71**	**276**	*ePn*		Pn	04 11 38.3	+3.5
IBAF	**Bafgh**	**4.82**	**169**	*ePn*		**Pn**	**04 11 36.4**	**+0.2**
IBAF	**Bafgh**	**4.82**	**169**	*ePn*		**Pn**	**04 11 36.4**	**+0.2**
LKRN	**Lenkeran, Azer**	**5.14**	**299**	⇑Pn		**Pn**	**04 11 41.3**	**+0.8**
LKRN				⇑Sn		**Sn**	**04 12 38.8**	**-1.1**
LKRN	**Lenkeran, Azer**	**5.14**	**299**	Pn		**Pn**	**04 11 41.3**	**+0.8**
LKRN				Sn		**Sn**	**04 12 38.8**	**-1.1**
IKOO	**Kooshah**	**5.38**	**135**	*ePn*		**Pn**	**04 11 44.0**	**0.0**
IKOO	**Kooshah**	**5.38**	**135**	*ePn*		**Pn**	**04 11 44.0**	**0.0**
LRK	**Lerik**	**5.43**	**297**	⇑Pn		**Pn**	**04 11 45.0**	**+0.4**
LRK				⇑Sn		**Sn**	**04 12 47.1**	**-0.1**
LRK	**Lerik**	**5.43**	**297**	Pn		**Pn**	**04 11 45.0**	**+0.4**
LRK				Sn		**Sn**	**04 12 47.1**	**-0.1**
SHRT	**Shahrakht**	**5.44**	**118**	*ePn*		**Pn**	**04 11 45.7**	**+1.0**
ALIB	**Äli-Bayra**	**5.65**	**311**	Pn		**Pn**	**04 11 50.0**	**+2.5**
	SNR=4.0							
ALIB	**Äli-Bayra**	**5.65**	**311**	Pn		**Pn**	**04 11 50.0**	**+2.5**
	SNR=4.0							
GLBA	**Clilabad**	**5.65**	**303**	Pn		**Pn**	**04 11 48.3**	**+0.8**
	SNR=6.2							
GLBA				⇑Sn		**Sn**	**04 12 53.8**	**

ESK **Eskdalemuir** 17.62 70 *e*Pn P 04 20 45.7 -0.4
30nm,0.9s
EKA **Eskdalemuir Ar** 17.65 70 P Pn 04 20 45.7 +0.2
EKA **Eskdalemuir Ar** 17.65 70 P Pn 04 20 45.7 +0.2
EKA **Eskdalemuir Ar** 17.65 70 P Pn 04 20 45.7 +0.2
baz=270,slow=9.6,SNR=44
ILULI **Ilulissat** 18.61 340 *i* P Pn 04 20 58.7 +1.6
13nm,0.7s
QUIF **Quistinic** 19.55 92 *e*P P 04 21 07.9 +0.6
QUIF **Quistinic** 19.55 92 *e*P P 04 21 07.9 +0.6
QUIF **Quistinic** 19.55 92 *e*P P 04 21 07.9 +0.6
SCHQ **Schefferville** 20.02 290 P P 04 21 12.3 -0.1
SCHQ **Schefferville** 20.02 290 P P 04 21 12.3 -0.1
SCHQ **Schefferville** 20.02 290 P P 04 21 12.3 -0.1
4.9nm,0.8s,baz=82,slow=14,SNR=3.6
SCHQ LR LR 04 27 05.7
comp=Z,16nm,28.6s,baz=89,slow=31
SUMG **Summit** 20.08 355 *i* P Pn 04 21 14.9 -0.4
15nm,1.0s
SUMG **Summit** 20.08 355 *e*P P 04 21 14.3 +1.0
31nm,1.0s
SUMG **Summit** 20.08 355 *e*P P 04 21 14.3 +1.0
31nm,1.0s
GRR **Gorron** 20.75 89 *e*P P 04 21 19.9 -0.5
40nm,0.9s
GRR **Gorron** 20.75 89 *e*P P 04 21 19.9 -0.5
40nm,0.9s
GRR **Gorron** 20.75 89 *e*P P 04 21 19.9 -0.5
20nm,0.9s
FLN **La Foliniere** 20.83 88 *e*P P 04 21 20.6 -0.7
40nm,0.7s
FLN *e*R
136nm,22.5s
FLN **La Foliniere** 20.83 88 *e*P P 04 21 20.6 -0.7
40nm,0.7s
FLN **La Foliniere** 20.83 88 *e*P P 04 21 20.6 -0.7
20nm,0.7s
LDF **La Druitiere** 21.12 88 *e*P P 04 21 23.8 -0.6
58nm,1.1s
LDF **La Druitiere** 21.12 88 *e*P P 04 21 23.8 -0.6
58nm,1.1s
LDF **La Druitiere** 21.12 88 *e*P P 04 21 23.8 -0.6
29nm,1.1s
FRB **Frobisher Bay** 21.43 315 P P 04 21 27.8 +0.3
FRB **Frobisher Bay** 21.43 315 P P 04 21 27.8 +0.3
FRB **Frobisher Bay** 21.43 315 P P 04 21 27.8 +0.3
17nm,0.9s,baz=95,slow=9.5,SNR=14
FRB LR LR 04 28 04.3
comp=Z,15nm,28.6s,baz=168,slow=32
MENF **Mencas** 21.78 82 *e*P P 04 21 33.8 +2.4
MENF **Mencas** 21.78 82 *e*P P 04 21 33.8 +2.4
MFF **Saint Martin d** 21.98 93 *e*P P 04 21 33.3 -0.3
36nm,0.9s
MFF **Saint Martin d** 21.98 93 *e*P P 04 21 33.3 -0.3
36nm,0.9s
MFF **Saint Martin d** 21.98 93 *e*P P 04 21 33.3 -0.3
18nm,0.9s
EVOP **Sao Brissos** 22.28 120 *e*P P 04 21 37.8 +0.9
183nm,1.8s
EVOP **Sao Brissos** 22.28 120 *e*P P 04 21 37.8 +0.9
91nm,1.8s
EVO **Evora** 22.34 119 *e*P P 04 21 37.8 +0.3
183nm,1.8s
EVO *e*R
153nm,19.0s
BAIF **Baives** 23.19 82 *e*P P 04 21 45.6 -0.7
64nm,1.0s
BAIF **Baives** 23.19 82 *e*P P 04 21 45.6 -0.7
64nm,1.0s
BAIF **Baives** 23.19 82 *e*P P 04 21 45.6 -0.7
32nm,1.0s
HYF **Humbligny** 23.36 89 *e*P P 04 21 47.4 -0.8
HYF **Humbligny** 23.36 89 *e*P P 04 21 47.4 -0.8
HYF **Humbligny** 23.36 89 *e*P P 04 21 47.4 -0.8
DOU **Dourbes** 23.41 81 P P 04 21 48.3 -0.2
GIVF **Givet** 23.54 81 *e*P P 04 21 49.1 -0.8
22nm,0.6s
GIVF **Givet** 23.54 81 *e*P P 04 21 49.1 -0.8
22nm,0.6s
GIVF **Givet** 23.54 81 *e*P P 04 21 49.1 -0.8
11nm,0.6s
TCF **Toulx Ste Croi** 23.56 92 *e*P P 04 21 50.0 -0.1
18nm,0.8s
TCF **Toulx Ste Croi** 23.56 92 *e*P P 04 21 50.0 -0.1
18nm,0.8s
TCF **Toulx Ste Croi** 23.56 92 *e*P P 04 21 50.0 -0.1
9.2nm,0.8s
ETSF **Etsaut** 23.69 101 *e*P P 04 21 51.3 -0.2
14nm,0.9s
ETSF **Etsaut** 23.69 101 *e*P P 04 21 51.3 -0.2
14nm,0.9s
ETSF **Etsaut** 23.69 101 *e*P P 04 21 51.3 -0.2
7.2nm,0.9s
BCLA **Clavier** 23.72 80 P P 04 21 51.5 -0.1
comp=Z,10nm,1.8s
ESDC **Sonseca Array** 23.75 112 P P 04 21 51.0 -1.0
ESDC **Sonseca Array** 23.75 112 P P 04 21 51.0 -1.0
ESDC **Sonseca Array** 23.75 112 P P 04 21 51.0 -1.0
comp=Z,2.3nm,0.7s,baz=314,slow=8.8,SNR=11
ESDC LR LR 04 29 15.9
comp=Z,174nm,19.2s,baz=305,slow=32
BGF **Bois d'Agland** 23.82 91 *e*P P 04 21 51.9 -0.7
comp=Z,44nm,0.7s
BGF **Bois d'Agland** 23.82 91 *e*P P 04 21 51.9 -0.7
comp=Z,44nm,0.7s
BGF **Bois d'Agland** 23.82 91 *e*P P 04 21 51.9 -0.7
comp=Z,22nm,0.7s
SSF **Saint Saulge** 23.99 89 *e*P P 04 21 53.5 -0.7
comp=Z,18nm,0.7s
SSF **Saint Saulge** 23.99 89 *e*P P 04 21 53.5 -0.7
comp=Z,18nm,0.7s
SSF **Saint Saulge** 23.99 89 *e*P P 04 21 53.5 -0.7
comp=Z,9.2nm,0.7s
AVF **Avril sur Loir** 24.02 90 *e*P P 04 21 53.7 -0.7
comp=Z,30nm,0.9s
AVF **Avril sur Loir** 24.02 90 *e*P P 04 21 53.7 -0.7
comp=Z,30nm,0.9s
AVF **Avril sur Loir** 24.02 90 *e*P P 04 21 53.7 -0.7
comp=Z,15nm,0.9s
MEM **Membach** 24.07 79 P P 04 21 54.8 -0.1
comp=Z,8.4nm,0.9s
MEM **Membach** 24.07 79 *e*P P 04 21 55.2 +0.3
comp=Z,16nm,0.8s
MEM **Membach** 24.07 79 *e*P P 04 21 55.2 +0.3
comp=Z,16nm,0.8s
LOR **Lormes** 24.11 88 *e*P P 04 21 54.6 -0.7
comp=Z,16nm,0.6s
LOR *e*R
comp=Z,157nm,22.1s
LOR **Lormes** 24.11 88 *e*P P 04 21 54.6 -0.7
comp=Z,16nm,0.6s
LOR **Lormes** 24.11 88 *e*P P 04 21 54.6 -0.7
comp=Z,7.9nm,0.6s
AGO **Saint Agoulin** 24.23 91 *e*P P 04 21 55.6 -0.9
AGO **Saint Agoulin** 24.23 91 *e*P P 04 21 55.6 -0.9
MEZF **Maizieres J'vi** 24.30 85 *e*P P 04 21 56.9 -0.1
comp=Z,48nm,0.6s
MEZF **Maizieres J'vi** 24.30 85 *e*P P 04 21 56.9 -0.1
comp=Z,48nm,0.6s
MEZF **Maizieres J'vi** 24.30 85 *e*P P 04 21 56.9 -0.1
comp=Z,24nm,0.6s
SMF **Signal de Mont** 24.38 90 *e*P P 04 21 57.3 -0.5
SMF **Signal de Mont** 24.38 90 *e*P P 04 21 57.3 -0.5
SMF **Signal de Mont** 24.38 90 *e*P P 04 21 57.3 -0.5
SFTF **Sexfontaines** 24.41 85 *e*P P 04 21 57.3 -0.8
comp=Z,56nm,0.6s
SFTF **Sexfontaines** 24.41 85 *e*P P 04 21 57.3 -0.8
comp=Z,56nm,0.6s
SFTF **Sexfontaines** 24.41 85 *e*P P 04 21 57.3 -0.8
comp=Z,28nm,0.6s
MUD **Monsted U'grnd** 24.42 64 *i* P P 04 22 00.5 +2.5
comp=Z,13nm,0.7s
MUD **Monsted U'grnd** 24.42 64 *e*P P 04 22 00.5 +2.5
WLF **Walferdange** 24.50 81 *e*P P 04 21 59.9 +1.0
comp=Z,14nm,1.0s
WLF **Walferdange** 24.50 81 *e*P P 04 21 59.9 +1.0
comp=Z,14nm,1.0s
PLDF **La Plantade** 24.57 91 *e*P P 04 21 59.6 0.0
PLDF **La Plantade** 24.57 91 *e*P P 04 21 59.6 0.0
PAGF **Fort de Pagny** 24.68 84 *e*P P 04 21 59.9 -0.6
comp=Z,7.1nm,0.9s
PAGF **Fort de Pagny** 24.68 84 *e*P P 04 21 59.9 -0.6
comp=Z,7.1nm,0.9s
PAGF **Fort de Pagny** 24.68 84 *e*P P 04 21 59.9 -0.6
comp=Z,3.5nm,0.9s
NAO01 **NORSAR Array S** 24.93 54 *e*P P 04 22 04.3 +1.6
comp=Z,23nm,1.1s

NAO01 **NORSAR Array S** 24.93 54 *e*P P 04 22 04.3 +1.6
comp=Z,23nm,1.1s
THEF **They Montfort** 24.98 85 *e*P P 04 22 04.1 +0.9
THEF **They Montfort** 24.98 85 *e*P P 04 22 04.1 +0.9
RUP **Ruppelstein** 25.03 81 *e*P P 04 22 05.3 +1.6
NB2 **NORSAR Subarra** 25.09 53 P P 04 22 04.7 +0.5
comp=Z,2.8nm,0.7s,baz=275,slow=9.3
NB2 **NORSAR Subarra** 25.09 53 P P 04 22 04.7 +0.5
comp=Z,2.8nm,0.7s,SNR=6.4
NOA **NORSAR Array B** 25.09 53 P P 04 22 04.7 +0.5
NOA **NORSAR Array B** 25.09 53 P P 04 22 04.7 +0.5
NOA **NORSAR Array B** 25.09 53 P P 04 22 04.7 +0.5
comp=Z,8.5nm,0.9s,baz=272,slow=9.1,SNR=8.0
NOA LR LR 04 30 37.5
comp=Z,16nm,28.6s,baz=270,slow=33
ABH **Alteburg** 25.26 80 *e*P P 04 22 06.9 +1.2
HAU **Haudompre** 25.29 85 *e*P P 04 22 05.6 -0.5
comp=Z,49nm,0.8s
HAU *e*R
comp=Z,101nm,20.2s
HAU **Haudompre** 25.29 85 *e*P P 04 22 05.6 -0.5
comp=Z,49nm,0.8s
HAU **Haudompre** 25.29 85 *e*P P 04 22 05.6 -0.5
comp=Z,24nm,0.8s
CDF **Champ du Feu** 25.68 83 *e*P P 04 22 09.5 -0.2
comp=Z,13nm,0.9s
CDF **Champ du Feu** 25.68 83 *e*P P 04 22 09.5 -0.2
comp=Z,13nm,0.9s
CDF **Champ du Feu** 25.68 83 *e*P P 04 22 09.5 -0.2
comp=Z,6.6nm,0.9s
HINF **Hinteralfeld** 25.68 85 *e*P P 04 22 09.1 -0.5
comp=Z,16nm,0.6s
HINF **Hinteralfeld** 25.68 85 *e*P P 04 22 09.1 -0.5
comp=Z,16nm,0.6s
HINF **Hinteralfeld** 25.68 85 *e*P P 04 22 09.1 -0.5
comp=Z,8.1nm,0.6s
ECH **Echery** 25.69 84 *e*P P 04 22 12.8 +3.1
ECH **Echery** 25.69 84 *e*P P 04 22 09.5 -0.2
comp=Z,14nm,1.1s
ECH **Echery** 25.69 84 *e*P P 04 22 09.5 -0.2
comp=Z,14nm,1.1s
WLS **Welschbruch** 25.73 83 *e*P P 04 22 10.6 +0.6
WLS **Welschbruch** 25.73 83 *e*P P 04 22 10.6 +0.6
CABF **La Chapelle** 25.77 88 *e*P P 04 22 11.3 +0.9
comp=Z,53nm,1.2s
CABF **La Chapelle** 25.77 88 *e*P P 04 22 11.3 +0.9
comp=Z,53nm,1.2s
CABF **La Chapelle** 25.77 88 *e*P P 04 22 11.3 +0.9
comp=Z,27nm,1.2s
LANF **Langenberg** 25.77 82 *e*P P 04 22 11.0 +0.7
LANF **Langenberg** 25.77 82 *e*P P 04 22 11.0 +0.7
VIVF **Saint-Julien-l** 25.77 93 *e*P P 04 22 10.4 -0.1
comp=Z,31nm,1.2s
VIVF **Saint-Julien-l** 25.77 93 *e*P P 04 22 10.4 -0.1
comp=Z,31nm,1.2s
VIVF **Saint-Julien-l** 25.77 93 *e*P P 04 22 10.4 -0.1
comp=Z,16nm,1.2s
KTD **Kalmit** 25.80 81 *e*P P 04 22 11.3 +0.7
MOF **Molkenrain** 25.84 85 *e*P P 04 22 12.2 +1.1
MOF **Molkenrain** 25.84 85 *e*P P 04 22 12.2 +1.1
TOD **Trom** 26.12 80 *e*P P 04 22 13.6 +0.1
BBS **Basel-Blauen** 26.23 85 *e*P P 04 22 13.7 -0.9
FELD **Feldberg im Sc** 26.35 84 *e*P P 04 22 15.9 +0.1
FELD **Feldberg im Sc** 26.35 84 *e*P P 04 22 15.9 +0.1
BFO **Black Forest** 26.35 83 *e*P P 04 22 16.0 +0.3
comp=Z,10nm,0.9s
BFO **Black Forest** 26.35 83 *e*P P 04 22 16.0 +0.3
comp=Z,10nm,0.9s
HFS **Hagfors** 26.36 55 P P 04 22 16.5 +0.9
HFS **Hagfors** 26.36 55 P P 04 22 16.5 +0.9
HFS **Hagfors** 26.36 55 P P 04 22 16.5 +0.9
comp=Z,3.3nm,0.6s,baz=263,slow=5.8,SNR=13
HFS LR LR 04 30 54.0
comp=Z,63nm,18.8s,baz=258,slow=32
STU **Stuttgart** 26.69 81 *e*P P 04 22 18.7 0.0
comp=Z,17nm,1.0s
STU **Stuttgart** 26.69 81 *e*P P 04 22 18.7 0.0
comp=Z,17nm,1.0s
MBDF **Montbardon** 27.12 91 *e*P P 04 22 22.7 0.0
comp=Z,44nm,1.3s
MBDF **Montbardon** 27.12 91 *e*P P 04 22 22.7 0.0
comp=Z,44nm,1.3s
MBDF **Montbardon** 27.12 91 *e*P P 04 22 22.7 0.0
comp=Z,22nm,1.3s
TUE **Stuetta** 27.81 86 *e*P P 04 22 30.5 +1.5
TUE **Stuetta** 27.81 86 *e*P P 04 22 30.5 +1.5
CLL **Collm** 27.97 74 *e*P P 04 22 30.0 -0.1
comp=Z,11nm,1.4s
CLL *e*(sP) sP 04 22 34.0 -2.5
SBF **Sospel** 27.98 92 *e*P P 04 22 30.6 +0.2
comp=Z,109nm,1.2s
SBF **Sospel** 27.98 92 *e*P P 04 22 30.6 +0.2
comp=Z,109nm,1.2s
SBF **Sospel** 27.98 92 *e*P P 04 22 30.6 +0.2
comp=Z,55nm,1.2s
DAVOX **Davos/Dischmat** 27.99 85 P P 04 22 31.7 +1.2
DAVOX **Davos/Dischmat** 27.99 85 P P 04 22 31.7 +1.2
DAVOX **Davos/Dischmat** 27.99 85 P P 04 22 31.7 +1.2
comp=Z,5.9nm,0.7s,baz=316,slow=9.8,SNR=13
DAVOX LR LR 04 32 20.6
comp=Z,51nm,18.7s,baz=322,slow=34
RETA **Reutte** 28.19 83⇑*i*P P 04 22 33.0 +0.7
comp=Z,9.4nm,0.8s,SNR=5.6
FETA **Feichten** 28.39 84⇑*i*pP P 04 22 36.0 +1.9
comp=Z,4.0nm,0.7s
MDT **Midelt** 28.49 123 LR LR 04 31 46.5
comp=Z,30nm,19.6s,baz=334,slow=32
BRG **Berggiesshubel** 28.68 75 *e*P P 04 22 37.3 +0.9
comp=Z,18nm,1.5s
KHC **Kasperske Hory** 29.16 78 *e*P P 04 22 39.9 -0.9
KHC *e*pP pP 04 22 46.7 +1.4
KHC **Kasperske Hory** 29.16 78 P P 04 22 39.9 -0.9
GEC2 **GERESS Array S** 29.36 79 *e*P P 04 22 43.5 +0.8
GEC2 **GERESS Array S** 29.36 79 *e*P P 04 22 43.5 +0.8
GERES **GERESS Array B** 29.36 79 P P 04 22 43.4 +0.8
GERES **GERESS Array B** 29.36 79 P P 04 22 43.4 +0.8
GERES **GERESS Array B** 29.36 79 P P 04 22 43.4 +0.8
comp=Z,3.2nm,0.8s,baz=297,slow=8.7,SNR=30
GERES LR LR 04 32 53.7
comp=Z,77nm,19.2s,baz=292,slow=33
PRU **Pruhonice** 29.38 76 *e*P P 04 22 44.2 +1.5
PRU **Pruhonice** 29.38 76 P P 04 22 44.2 +1.5
UPC **Upice** 30.03 74 *e*P P 04 22 49.0 +0.5
UPC *e*pP pP 04 22 54.1 +1.1
UPC **Upice** 30.03 74 P P 04 22 49.0 +0.5
TREC **Trest** 30.23 77 *e*P P 04 22 50.6 +0.4
TREC **Trest** 30.23 77 P P 04 22 50.6 +0.4
DPC **Dobruska-Polom** 30.28 74 *e*P P 04 22 51.0 +0.3
DPC *e*pP pP 04 22 55.9 +0.7
DPC **Dobruska-Polom** 30.28 74 P P 04 22 51.0 +0.3
MYKA **Terra Mystica** 30.33 83⇑*i*pP P 04 22 52.0 +0.8
comp=Z,17nm,0.6s
SPITS **Spitsbergen Ar** 30.87 18 LR LR 04 31 59.8
comp=Z,15nm,28.6s,baz=270,slow=30
OBKA **Obir** 30.94 82⇓*i*P P 04 22 56.6 -0.1
comp=Z,15nm,0.8s
MORC **Moravsky Berou** 31.23 75 *e*P P 04 22 58.9 -0.2
comp=Z,11nm,1.4s
MORC **Moravsky Berou** 31.23 75 *e*P P 04 22 58.9 -0.2
comp=Z,11nm,1.4s
ARCES **ARCESS Array B** 31.26 35 P P 04 22 60.0 +0.9
ARCES **ARCESS Array B** 31.26 35 P P 04 23 00.0 +0.9
ARCES **ARCESS Array B** 31.26 35 P P 04 22 60.0 +0.9
comp=Z,4.9nm,1.0s,baz=258,slow=5.8,SNR=6.1
ARCES LR LR 04 32 37.5
comp=Z,51nm,18.9s,baz=299,slow=31
OKC **Ostrava-Krasne** 31.56 74 *e*P P 04 23 02.4 +0.5
OKC **Ostrava-Krasne** 31.56 74 P P 04 23 02.4 +0.5
FINES **FINESS Array B** 32.18 51 P P 04 23 08.0 +0.7
FINES **FINESS Array B** 32.18 51 P P 04 23 08.0 +0.7
FINES **FINESS Array B** 32.18 51 P P 04 23 08.0 +0.7
comp=Z,4.3nm,0.6s,baz=283,slow=7.9,SNR=22
RES **Resolute Bay** 32.74 334 P P 04 23 12.1 +0.1
RES **Resolute Bay** 32.74 334 P P 04 23 12.1 +0.1
RES **Resolute Bay** 32.74 334 P P 04 23 12.1 +0.1
comp=Z,6.8nm,0.9s,baz=82,slow=9.1,SNR=17
SUW **Suwalki** 32.79 65 *e*P P 04 23 12.9 +0.3
comp=Z,50nm,1.2s
SUW **Suwalki** 32.79 65 *e*P P 04 23 12.9 +0.3
comp=Z,50nm,1.2s
FCC **Fort Churchill** 33.85 305 *e*P P 04 23 22.4 +0.6
FCC **Fort Churchill** 33.85 305 *e*P P 04 23 22.4 +0.6
KEST **Kesra** 34.16 103 *e*P P 04 23 24.7 -0.2
KEST **Kesra** 34.16 103 *e*P P 04 23 24.7 -0.2
KEST **Kesra** 34.16 103 P P 04 23 24.6 -0.2
comp=Z,3.5nm,0.9s,baz=313,slow=6.7,SNR=4.1
KEST LR LR 04 35 46.6
comp=Z,15nm,28.6s,baz=230,slow=34
FGSL **Fruska Gora** 34.79 81 *e*P P 04 23 30.4 +0.2
TEKS **Tekeris** 34.95 82 *e*P P 04 23 29.5 -2.1
BBLS **Lazići** 35.25 83 *e*P P 04 23 35.1 +0.9
DIVS **Divibare** 35.47 82 *e*P P 04 23 36.7 +0.5
IVAS **Ivanjica** 35.86 83 *e*P P 04 23 40.0 +0.6
GRUS **Gruza** 36.02 82 *e*P P 04 23 41.9 +1.1
BUR08 **Bucovina Ar. S** 36.71 74 *e*P P 04 23 47.8 +1.1
BUR08 **Bucovina Ar. S** 36.71 74 *e*P P 04 23 47.8 +1.1
KIEV **Kiev** 37.53 67 *e*P P 04 23 53.2 -0.3
comp=Z,10nm,0.8s
KIEV **Kiev** 37.53 67 *e*P P 04 23 53.2 -0.3
comp=Z,10nm,0.8s
AKASG **Malin Array Be** 37.54 67 P P 04 23 53.2 -0.3
AKASG **Malin Array Be** 37.54 67 P P 04 23 53.2 -0.3
AKASG **Malin Array Be** 37.54 67 P P 04 23 53.2 -0.3
comp=Z,5.5nm,0.7s,baz=300,slow=8.4,SNR=30
AKASG LR LR 04 39 22.6
comp=Z,29nm,18.2s,baz=355,slow=36
ULM **Lac du Bonnet** 38.15 292 *e*P P 04 23 59.5 +0.7
comp=Z,4.2nm,0.8s
ULM **Lac du Bonnet** 38.15 292 *e*P P 04 23 59.5 +0.7
comp=Z,4.2nm,0.8s
ULM **Lac du Bonnet** 38.15 292 P P 04 23 57.9 -0.8
comp=Z,0.7nm,0.3s,baz=101,slow=5.2,SNR=2.2
ULM LR LR 04 37 44.8
comp=Z,141nm,19.4s,baz=26,slow=33
OBN **Obninsk** 39.49 58 *e*P P 04 24 10.5 +0.6
comp=Z,48nm,0.8s
OBN **Obninsk** 39.49 58 *e*P P 04 24 10.5 +0.6
comp=Z,48nm,0.8s
TAM **Tamanrasset** 41.83 121 *e*P P 04 24 31.4 +1.7
comp=Z,9.0nm,1.5s
TAM **Tamanrasset** 41.83 121 *e*P P 04 24 31.4 +1.7
comp=Z,9.0nm,1.5s
YKW3 **Yellowknife Ar** 41.90 317 *e*P P 04 24 29.7 0.0
YKW3 **Yellowknife Ar** 41.90 317 *e*P P 04 24 29.7 0.0
YKA **Yellowknife Ar** 41.93 317 P P 04 24 29.6 -0.4
YKA PcP PcP 04 26 24.1 -1.0
YKA **Yellowknife Ar** 41.93 317 P P 04 24 29.5 -0.4
YKA **Yellowknife Ar** 41.93 317 P P 04 24 29.5 -0.4
comp=Z,2.1nm,0.9s,baz=61,slow=8.8,SNR=12
YKA PcP PcP 04 26 24.1 -1.0
comp=Z,0.4nm,0.8s,baz=59,slow=3.2,SNR=4.1
IDI **Anoyia** 43.85 90 P P 04 24 46.2 +0.3
IDI **Anoyia** 43.85 90 P P 04 24 46.2 +0.3
IDI **Anoyia** 43.85 90 P P 04 24 46.2 +0.3
comp=Z,6.9nm,0.7s,baz=302,slow=13,SNR=3.1
INK **Inuvik** 45.95 329 *e*P P 04 25 02.0 -0.1
comp=Z,3.8nm,0.9s
INK **Inuvik** 45.95 329 *e*P P 04 25 02.0 -0.1
comp=Z,3.8nm,0.9s
BR131 **Keskin Array S** 46.25 78 *e*P P 04 25 06.2 +1.1
comp=Z,5.7nm,0.9s
BR131 **Keskin Array S** 46.25 78 *e*P P 04 25 06.2 +1.1
comp=Z,5.7nm,0.9s
BRTR **Keskin Array B** 46.25 78 P P 04 25 05.0 -0.1
BRTR **Keskin Array B** 46.25 78 P P 04 25 05.0 -0.1
BRTR **Keskin Array B** 46.25 78 P P 04 25 05.0 -0.1
comp=Z,5.4nm,0.7s,baz=302,slow=6.0,SNR=18
BRTR LR LR 04 46 12.7
comp=Z,15nm,28.6s,baz=301,slow=38
TOA0 **Torodi Ar. Sit** 48.18 132 *e*P P 04 25 19.4 -0.7
TOA0 **Torodi Ar. Sit** 48.18 132 *e*P P 04 25 19.4 -0.7
TORD **Torodi Ar. Bea** 48.18 132 P P 04 25 19.2 -0.9
TORD **Torodi Ar. Bea** 48.18 132 P P 04 25 19.2 -0.9
TORD **Torodi Ar. Bea** 48.18 132 P P 04 25 19.2 -0.9
comp=Z,2.2nm,0.6s,baz=338,slow=6.6,SNR=13
KBZ **Khabaz** 49.13 68 P P 04 25 26.7 -0.4
KBZ **Khabaz** 49.13 68 P P 04 25 26.7 -0.4
KBZ **Khabaz** 49.13 68 P P 04 25 26.7 -0.4
comp=Z,2.0nm,0.8s,baz=285,slow=11,SNR=3.7
ARU **Arti** 49.40 47 *e*P P 04 25 29.6 +0.6
comp=Z,15nm,1.0s
ARU **Arti** 49.40 47 *e*P P 04 25 29.6 +0.6
comp=Z,15nm,1.0s
BOZ **Bozeman (W)** 49.49 295 *e*P P 04 25 30.7 +0.6
comp=Z,2.6nm,0.8s
BOZ **Bozeman (W)** 49.49 295 *e*P P 04 25 30.7 +0.6
comp=Z,2.6nm,0.8s
PDAR **Pinedale Array** 50.14 291 P P 04 25 34.2 -1.0
PDAR **Pinedale Array** 50.14 291 P P 04 25 34.2 -1.0
PDAR **Pinedale Array** 50.14 291 P P 04 25 34.2 -1.0
comp=Z,0.9nm,0.9s,baz=55,slow=7.8,SNR=5.6
PDAR LR LR 04 44 20.7
comp=Z,97nm,18.1s,baz=58,slow=33
BW06 **Boulder Array** 50.15 291 *e*P P 04 25 35.8 +0.6
comp=Z,2.3nm,0.7s
BW06 **Boulder Array** 50.15 291 *e*P P 04 25 35.8 +0.6
comp=Z,2.3nm,0.7s
NEW **Newport** 50.81 301 *e*P P 04 25 39.7 -0.2
comp=Z,7.5nm,1.5s
NEW **Newport** 50.81 301 *e*P P 04 25 39.7 -0.2
comp=Z,7.5nm,1.5s
DBIC **Dimbokro** 51.35 143 *e*P P 04 25 43.1 -1.0
comp=Z,9.7nm,0.9s
DBIC **Dimbokro** 51.35 143 *e*P P 04 25 43.2 -1.0
comp=Z,9.7nm,0.9s
DBIC **Dimbokro** 51.35 143 P P 04 25 43.5 -0.7
comp=Z,6.6nm,0.8s,baz=322,slow=6.9,SNR=7.0
DBIC LR LR 04 45 18.3
comp=Z,113nm,18.8s,baz=328,slow=34
LIC **Lamto** 51.70 144 *e*P P 04 25 46.2 -0.6
comp=Z,10nm,0.7s
LIC *e*R
comp=Z,177nm,18.5s
LIC **Lamto** 51.70 144 *e*P P 04 25 46.2 -0.6
comp=Z,10nm,0.7s
LIC **Lamto** 51.70 144 *e*P P 04 25 46.2 -0.6
comp=Z,5.2nm,0.7s
ILAR **Eielson Array** 52.31 330 P P 04 25 51.2 +0.3
ILAR **Eielson Array** 52.31 330 P P 04 25 51.2 +0.3
ILAR **Eielson Array** 52.31 330 P P 04 25 51.2 +0.3
comp=Z,1.4nm,0.8s,baz=46,slow=5.9,SNR=19
ILAR LR LR 04 47 07.7
comp=Z,16nm,28.6s,baz=78,slow=35
HLID **Hailey** 52.35 295 *e*P P 04 25 52.1 +0.4
comp=Z,2.3nm,1.0s
HLID **Hailey** 52.35 295 *e*P P 04 25 52.1 +0.4
comp=Z,2.3nm,1.0s
COLA **College** 52.53 331 *e*P P 04 25 53.5 +1.1
comp=Z,3.4nm,0.8s
COLA **College** 52.53 331 *e*P P 04 25 53.5 +1.1
comp=Z,3.4nm,0.8s
JCT **Junction City** 52.61 273 *e*P P 04 25 53.6 0.0
JCT **Junction City** 52.61 273 *e*P P 04 25 53.6 0.0
ANMO **Albuquerque** 53.52 282 *e*P P 04 26 00.4 0.0
comp=Z,1.1nm,0.6s
ANMO **Albuquerque** 53.52 282 *e*P P 04 26 00.4 0.0
comp=Z,1.1nm,0.6s
DUG **Dugway** 53.67 291 *e*P P 04 26 02.0 +0.6
comp=Z,1.9nm,0.6s
DUG **Dugway** 53.67 291 *e*P P 04 26 02.0 +0.6
comp=Z,1.9nm,0.6s
MCK **McKinley** 53.69 330 *e*P P 04 26 02.0 +1.0
comp=Z,15nm,1.3s
MCK **McKinley** 53.69 330 *e*P P 04 26 02.0 +1.0
comp=Z,15nm,1.3s
ELK **Elko** 54.68 293 *e*P P 04 26 09.2 +0.3
comp=Z,1.9nm,0.8s
ELK **Elko** 54.68 293 *e*P P 04 26 09.2 +0.3
comp=Z,1.9nm,0.8s
TIXI **Tiksi** 55.27 7 *e*P P 04 26 13.4 +1.0
comp=Z,6.9nm,0.8s
TIXI **Tiksi** 55.27 7 *e*P P 04 26 13.4 +1.0
comp=Z,6.9nm,0.8s
WVOR **Wild Horse Val** 55.42 296 *e*P P 04 26 14.4 +0.3
comp=Z,3.5nm,0.9s
WVOR **Wild Horse Val** 55.42 296 *e*P P 04 26 14.4 +0.3
comp=Z,3.5nm,0.9s
TXAR **Lajitas Array** 55.78 275 LR LR 04 47 18.5
comp=Z,15nm,28.6s,baz=0.0,slow=33
ROSC **El Rosal** 58.55 231 *e*P P 04 26 37.4 +0.6
ROSC **El Rosal** 58.55 231 *e*P P 04 26 37.4 +0.6
ROSC **El Rosal** 58.55 231 P P 04 26 36.8 0.0
comp=Z,13nm,0.8s,baz=14,slow=12,SNR=9.7
ROSC LR LR 04 55 09.1
comp=Z,13nm,18.0s,baz=4.5,slow=40
ZALV **Zalesovo Beam** 61.81 36 P P 04 26 57.8 -0.4
ZALV **Zalesovo Beam** 61.81 36 P P 04 26 57.8 -0.4
ZALV **Zalesovo Beam** 61.81 36 P P 04 26 57.8 -0.4
comp=Z,0.6nm,0.3s,baz=309,slow=5.2,SNR=6.1
KURK **Kurchatov** 61.95 42 *e*P P 04 26 59.8 +0.6
comp=Z,2.4nm,0.8s

KURK	**Kurchatov**	**61.95**	**42**	*eP*		**P**	**04 26 59.8**	**+0.6**
	comp=Z,2.4nm,0.8s							
OTAV	**Otavalo**	**64.54**	**232**	*eP*		**P**	**04 27 16.3**	**-1.0**
	comp=Z,2.9nm,1.0s							
OTAV	**Otavalo**	**64.54**	**232**	*eP*		**P**	**04 27 16.3**	**-1.0**
	comp=Z,2.9nm,1.0s							
EKS2	**Erkin-Say**	**66.01**	**51**	*eP*		**P**	**04 27 27.3**	**+1.1**
	comp=Z,16nm,1.3s							
EKS2	**Erkin-Say**	**66.01**	**51**	*eP*		**P**	**04 27 27.3**	**+1.1**
	comp=Z,16nm,1.3s							
AAK	**Ala-Archa**	**66.37**	**50**	*eP*		**P**	**04 27 28.1**	**-0.5**
	comp=Z,3.3nm,1.1s							
AAK	**Ala-Archa**	**66.37**	**50**	*eP*		**P**	**04 27 28.1**	**-0.5**
	comp=Z,3.3nm,1.1s							
MK31	**Makanchi Array**	**66.53**	**43**	*eP*		**P**	**04 27 29.9**	**+0.5**
MK31	**Makanchi Array**	**66.53**	**43**	*eP*		**P**	**04 27 29.9**	**+0.5**
MKAR	**Makanchi Array**	**66.53**	**43**	P		**P**	**04 27 29.8**	**+0.4**
MKAR	**Makanchi Array**	**66.53**	**43**	P		**P**	**04 27 29.8**	**+0.4**
MKAR	**Makanchi Array**	**66.53**	**43**	P		**P**	**04 27 29.8**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=329,slow=5.3,SNR=23							
SAML	**Samuel**	**66.62**	**213**	*eP*		**P**	**04 27 27.9**	**-2.2**
	comp=Z,1.0nm,0.7s							
SAML	**Samuel**	**66.62**	**213**	*eP*		**P**	**04 27 27.9**	**-2.2**
	comp=Z,1.0nm,0.7s							
TKM2	**Tokmak 2**	**66.66**	**49**	*eP*		**P**	**04 27 31.6**	**+1.0**
	comp=Z,3.2nm,0.9s							
TKM2	**Tokmak 2**	**66.66**	**49**	*eP*		**P**	**04 27 31.5**	**+1.0**
	comp=Z,3.2nm,0.9s							
BDFB	**Brasilia**	**69.30**	**196**	LR		LR	04 53 02.5	
	comp=Z,33nm,21.8s,baz=276,slow=32							
KSH	**Kashi**	**69.50**	**51**	*eP*		**P**	**04 27 50.1**	**+1.8**
KSH				*epP*		**pP**	**04 27 54.1**	**+1.0**
KSH				*esP*		**sP**	**04 27 56.3**	**+1.4**
KSH				*eS*		**S**	**04 36 55.1**	**-0.2**
KSH				*es*S		**sS**	**04 37 02.1**	**-1.1**
KSH				pmax		pmax		
	comp=Z,210nm,5.8s							
KSH				LR		LR		
	comp=Z,220nm,6.7s							
KSH				LR		LR		
	comp=Z,130nm,6.9s							
KSH				LR		LR		
	comp=Z,270nm,5.6s							
WMQ	**Urumqi**	**71.16**	**41**	P		**P**	**04 28 01.1**	**+2.9**
WMQ				pmax		pmax		
	comp=Z,10.0nm,1.0s							
SONM	**Songino Array**	**74.02**	**27**	P		**P**	**04 28 16.6**	**+1.3**
SONM	**Songino Array**	**74.02**	**27**	P		**P**	**04 28 16.6**	**+1.3**
SONM	**Songino Array**	**74.02**	**27**	P		**P**	**04 28 16.6**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=328,slow=6.7,SNR=8.8							
ULN	**Ulaanbaatar**	**74.17**	**27**	*eP*		**P**	**04 28 17.1**	**+0.9**
	comp=Z,7.2nm,1.2s							
ULN	**Ulaanbaatar**	**74.17**	**27**	*eP*		**P**	**04 28 17.1**	**+0.9**
	comp=Z,7.2nm,1.2s							
NNA	**Nana**	**74.61**	**225**	*eP*		**P**	**04 28 18.6**	**-0.3**
	comp=Z,23nm,1.3s							
NNA	**Nana**	**74.61**	**225**	*eP*		**P**	**04 28 18.6**	**-0.3**
	comp=Z,23nm,1.3s							
LPAZ	**La Paz**	**75.14**	**215**	*eP*		**P**	**04 28 23.0**	**+0.4**
	comp=Z,7.9nm,1.4s							
LPAZ	**La Paz**	**75.14**	**215**	*eP*		**P**	**04 28 23.0**	**+0.4**
	comp=Z,7.9nm,1.4s							
GTA	**Gaotai**	**79.53**	**35**	*eP*		**P**	**04 28 48.0**	**+1.4**
GTA				pP		**pP**	**04 28 52.1**	**+0.6**
GTA				sP		**sP**	**04 28 55.1**	**+1.9**
GTA				PP		**PP**	**04 31 49.4**	**+3.1**
GTA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
LVC	**Limon Verde**	**81.27**	**213**	*eP*		**P**	**04 28 56.9**	**+0.9**
	comp=Z,10nm,1.2s							
LVC	**Limon Verde**	**81.27**	**213**	*eP*		**P**	**04 28 56.9**	**+0.9**
	comp=Z,10nm,1.2s							
HHC	**Hu-ho-hao-te**	**81.88**	**26**	*eP*		**P**	**04 28 57.8**	**-1.3**
HHC				pP		**pP**	**04 29 02.5**	**-1.5**
HHC				sP		**sP**	**04 29 04.8**	**-1.0**
HHC				PP		**PP**	**04 32 06.5**	**+0.9**
HHC				S		**S**	**04 39 08.1**	**-3.9**
HHC				SKS		**SKSac**	**04 39 12.5**	**-6.2**
HHC				sS		**sS**	**04 39 16.1**	**-4.0**
HHC				SS		**SS**	**04 44 28.4**	**-0.5**
HHC				pmax		pmax		
	comp=Z,38nm,1.3s							
HHC				pmax		pmax		
	comp=Z,220nm,8.0s							
HHC				LR		LR		
	comp=Z,250nm,17.6s							
HHC				LR		LR		
	comp=Z,290nm,17.7s							
HHC				LR		LR		
	comp=Z,180nm,17.6s							
MDJ	**Mudanjiang**	**81.90**	**12**	P		**P**	**04 28 56.4**	**-2.5**
MDJ				pmax		pmax		
	comp=Z,10.0nm,1.4s							
BJI	**Beijing**	**83.83**	**23**	P		**P**	**04 29 08.6**	**-0.4**
BJI				pmax		pmax		
	comp=Z,4.0nm,0.7s							
LZH	**Lanzhou**	**83.91**	**34**	*eP*		**P**	**04 29 09.1**	**-0.7**
LZH				pP		**pP**	**04 29 15.0**	**+0.3**
LZH				sP		**sP**	**04 29 17.1**	**+0.6**
LZH				pmax		pmax		
	comp=Z,12nm,1.0s							
LSZ	**Lusaka**	**85.67**	**122**	*eP*		**P**	**04 29 19.8**	**+1.2**
	comp=Z,1.2nm,0.6s							
LSZ	**Lusaka**	**85.67**	**122**	*eP*		**P**	**04 29 19.8**	**+1.2**
	comp=Z,1.2nm,0.6s							
CD2	**Chengdu**	**88.57**	**36**	*eP*		**P**	**04 29 32.8**	**+0.2**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.4s							
NJ2	**Nanjing**	**92.08**	**24**	*eP*		**P**	**04 29 48.9**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
GYA	**Guiyang**	**93.66**	**36**	*eP*		**P**	**04 29 56.0**	**-0.4**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BOSA	**Boshof**	**95.53**	**131**	LR		LR	05 12 27.0	
	comp=Z,16nm,28.6s,baz=332,slow=35							
CMAR	**Chiang Mai Arr**	**97.82**	**45**	LR		LR	05 15 36.1	
	comp=Z,15nm,28.6s,baz=70,slow=36							
PALK	**Pallekele**	**98.19**	**67**	*eP*		**P**	**04 30 17.1**	**0.0**
PALK	**Pallekele**	**98.19**	**67**	*eP*		**P**	**04 30 17.1**	**0.0**
QIZ	**Qiongzhong**	**101.61**	**36**	P		**Pdif**	**04 30 31.6**	**-0.6**
QIZ				S		**Sdif**	**04 42 11.0**	**-1.7**
QIZ				pmax		pmax		
	comp=Z,21nm,1.4s							
WRA	**Warramunga Arr**	**145.84**	**22**	PKPbc		**PKPab**	**04 36 19.3**	**-0.1**
WRA	**Warramunga Arr**	**145.84**	**22**	PKPbc		**PKPab**	**04 36 19.3**	**-0.1**
WRA	**Warramunga Arr**	**145.84**	**22**	PKPbc		**PKPab**	**04 36 19.3**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=345,slow=2.8,SNR=10							
ASAR	**Alice Springs**	**149.32**	**24**	PKPbc		**PKPbc**	**04 36 28.4**	**-0.1**
ASAR	**Alice Springs**	**149.32**	**24**	PKPbc		**PKPbc**	**04 36 28.4**	**-0.1**
ASAR	**Alice Springs**	**149.32**	**24**	PKPbc		**PKPbc**	**04 36 28.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=357,slow=2.4,SNR=12							

IDC 19 04:17:47.6±3.5, 1.50N×99.07E, h97km±18km, mb3.0/4, mb1 3.2/4, mb1mx3.0/25, mbtmpb3.4/4, Error ellipse: s-maj=91.2km s-min=20.9km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.31**	**354**	P	Pn	04 18 10.7	-0.8
	17nm,0.3s,baz=180,slow=13,SNR=44						
PSI				S	Sn	04 18 27.2	-2.3
	7.9nm,0.3s,baz=83,slow=21,SNR=12						
H08S2	**Diego Garcia H**	**28.02**	**251**	T	T	04 50 44.8	
	baz=66						
H08S3	**Diego Garcia H**	**28.02**	**251**	T	T	04 50 44.7	
	baz=66						
H08S1	**Diego Carcia H**	**28.04**	**251**	T	T	04 50 41.8	
	baz=66						
WRA	**Warramunga Arr**	**40.62**	**123**	P	P	04 25 18.2	-0.2
	0.6nm,0.5s,baz=302,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**42.10**	**129**	P	P	04 25 30.1	-0.4
	0.1nm,0.4s,baz=311,slow=8.1,SNR=2.0						
SONM	**Songino Array**	**46.59**	**7**	P	P	04 26 06.8	+0.7
	0.2nm,0.5s,baz=188,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**47.44**	**344**	P	P	04 26 11.9	-0.6
	0.2nm,0.4s,baz=161,slow=8.1,SNR=7.3						

*IDC **19** 04:32:57.3±6.0, 30.83N×131.33E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/24, mbtmpb3.9/5, Error ellipse: s-maj=160.3km s-min=133.4km az=56.0*
*ISCJB **19** 04:33:20.7±0.7, 31.22N±0.08×130.4E±0.2, h166km±7km, mb3.6/5, Error ellipse: s-maj=35.2km s-min=12.5km az=5.7*
*JMA **19** 04:33:23.0±0.1, 31.18N×130.40E, h152km±1km, M3.3*

ISC 19 04:33:21.6±0.9, 31.19N±0.08×130.4E±0.2, h161km±9km, n12, σ0.967/17, mb3.6/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.32**	**11**	P	**Pn**	**04 33 44.0**	**+0.5**
JSU				S	**Sn**	**04 34 00.1**	**-0.3**
JTSR	**Tashiro 2**	**0.46**	**93**	P	**Pn**	**04 33 44.5**	**+0.5**
JTSR				S	**Sn**	**04 34 00.3**	**-0.9**
JTN	**Tanegashima 3**	**0.74**	**136**	P	**Pn**	**04 33 46.1**	**+0.6**
JTN				S	**Sn**	**04 34 03.8**	**0.0**
JKC	**Kuchinoerabu**	**0.75**	**193**	P	**Pn**	**04 33 45.9**	**+0.3**
JTZ	**Takazaki**	**0.93**	**40**	P	**Pn**	**04 33 47.4**	**+0.6**
JTZ				S	**Sn**	**04 34 05.5**	**-0.7**
JIU2	**Izumi 2**	**1.40**	**15**	P	**Pn**	**04 33 51.8**	**+0.9**
JIU2				S	**Sn**	**04 34 13.3**	**-0.4**
JNN	**Nakanoshima**	**1.42**	**198**	P	**Pn**	**04 33 51.7**	**+0.5**
SONM	**Songino Array**	**24.72**	**319**	P	**P**	**04 38 27.5**	**-0.5**
	0.4nm,0.6s,baz=134,slow=9.1,SNR=3.9						
KBZ	**Khabaz**	**67.53**	**308**	P	**P**	**04 44 01.5**	**+1.2**
	1.6nm,0.7s,baz=58,slow=4.6,SNR=3.2						
FINES	**FINESS Array B**	**69.50**	**330**	P	**P**	**04 44 11.9**	**-0.3**
	1.2nm,0.4s,baz=79,slow=7.2,SNR=12						
AKASG	**Malin Array Be**	**73.01**	**319**	P	**P**	**04 44 33.0**	**-0.6**
	0.4nm,0.3s,baz=56,slow=6.3,SNR=5.8						
BRTR	**Keskin Array B**	**75.50**	**308**	P	**P**	**04 44 48.5**	**+0.1**
	1.0nm,0.9s,baz=23,slow=8.1,SNR=3.8						

IDC 19 04:45:31.4±9.0, 1.19S×99.80E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.5/3, Error ellipse: s-maj=465.2km s-min=27.5km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.58**	**121**	P	P	04 52 55.6	-0.8
	0.4nm,0.3s,baz=286,slow=9.5,SNR=6.4						
ASAR	**Alice Springs**	**39.89**	**127**	P	P	04 53 08.0	+0.6
	0.3nm,0.5s,baz=298,slow=8.0,SNR=4.6						
MKAR	**Makanchi Array**	**50.20**	**344**	P	P	04 54 28.9	-0.1
	0.3nm,0.3s,baz=160,slow=9.0,SNR=9.8						

*NIED **19** 05:03:00, 35.00N×139.10E, h5km, Mw3.9 Best double couple: M0 7.39000×1014 NP1:φ=287.00000°, δ=85.00000°, λ=170.00000°. NP2:φ=18.00000°, δ=80.00000°, λ=5.00000°.*
*IDC **19** 05:03:06.8±0.9, 34.89N×139.04E, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.6/25, mbtmpb3.6/6, MS3.0/4, Ms1 3.1/4, ms1mx2.8/44, Error ellipse: s-maj=34.5km s-min=13.4km az=77.0*
*ISCJB **19** 05:03:07.9±0.7, 34.95N±0.04×139.18E±0.08, h12km±4km, mb3.6/6, MS2.9/3, Error ellipse: s-maj=11.3km s-min=6.1km az=177.8*
*JMA **19** 05:03:09.1, 34.98N×139.12E, h4km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φ=7.00000°, δ=82.00000°, λ=35.00000°. NP2:φ=271.00000°, δ=55.00000°, λ=171.00000°. Principal axes: T Plg=30.0000°, Azm=235.0000°; N Plg=54.0000°, Azm=17.0000°; P Plg=18.0000°, Azm=134.0000°;*
JMA Felt III J1.

ISC 19 05:03:07.8±1.4, 34.91N±0.06×139.12E±0.06, h5km±9km, n23, σ0.961/17, mb3.7/6, MS2.9/3, 1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.13**	**350**	⇓P	**Pg**	**05 03 10.7**	**+0.2**
AJI				*eS*	**Sg**	**05 03 11.1**	**-1.2**
JIZS	**Izushimoda**	**0.28**	**226**	P	**Pb**	**05 03 15.6**	**+0.3**
JIZS				*eS*	**Sb**	**05 03 20.4**	**+0.1**
JIM2	**Oshima 3**	**0.32**	**127**	P	**Pb**	**05 03 16.3**	**+0.3**
JOD2	**Odawara 2**	**0.35**	**356**	P	**Pg**	**05 03 14.8**	**+0.3**
JOD2				*eS*	**Sg**	**05 03 19.5**	**+0.3**
JYN	**Shimob**	**0.75**	**321**	P	**Pg**	**05 03 22.4**	**+0.2**
MJAR	**Matsushiro Arr**	**1.79**	**336**	Pn	**Pn**	**05 03 39.4**	**+0.1**
	38nm,0.3s,baz=160,slow=14,SNR=131						
MJAR				Lg	Lg	05 04 01.7	
	59nm,0.3s,baz=161,slow=27,SNR=24						
MAT	**Matsushiro**	**1.79**	**336**	P	**Pn**	**05 03 39.6**	**+0.2**
MAT				S	**Sn**	**05 04 02.3**	**-0.2**
JNU	**Nakatsue**	**7.07**	**258**	LR	LR	05 07 22.0	
	comp=Z,15nm,28.6s,baz=62,slow=36						
PETK	**Petropavlovsk-**	**22.45**	**30**	LR	LR	05 15 25.8	
	comp=Z,50nm,20.9s,baz=98,slow=33						
H11N2	**WAKE ISLAND Hy**	**28.82**	**114**	T	T	05 39 17.2	
	baz=310,slow=76,SNR=913						
H11N1	**WAKE ISLAND Hy**	**28.82**	**114**	T	T	05 39 16.5	
	baz=310,slow=76,SNR=1135						
H11N3	**WAKE ISLAND Hy**	**28.84**	**114**	T	T	05 39 17.4	
	baz=310,slow=76,SNR=1370						
H11S3	**WAKE ISLAND Hy**	**29.42**	**117**	T	T	05 40 00.7	
	baz=313,slow=75,SNR=145						
H11S1	**WAKE ISLAND Hy**	**29.43**	**117**	T	T	05 40 01.7	
	baz=313,slow=75,SNR=195						
H11S2	**WAKE ISLAND Hy**	**29.44**	**117**	T	T	05 40 02.0	
	baz=313,slow=75,SNR=133						
CMAR	**Chiang Mai Arr**	**39.17**	**256**	LR	LR	05 28 47.6	
	comp=Z,24nm,20.7s,baz=354,slow=39						
MKAR	**Makanchi Array**	**43.70**	**304**	LR	LR	05 30 08.1	
	comp=Z,15nm,28.6s,baz=357,slow=37						
ILAR	**Eielson Array**	**52.27**	**31**	P	**P**	**05 12 19.5**	**-0.3**
	0.7nm,0.9s,baz=281,slow=8.9,SNR=7.8						
WRA	**Warramunga Arr**	**54.74**	**186**	P	**P**	**05 12 37.4**	**-1.0**
	1.3nm,0.8s,baz=1.4,slow=7.5,SNR=6.7						
ASAR	**Alice Springs**	**58.47**	**186**	P	**P**	**05 13 04.3**	**-0.6**
	0.6nm,0.8s,baz=14,slow=12,SNR=11						
YKA	**Yellowknife Ar**	**66.56**	**29**	P	**P**	**05 13 58.0**	**-0.6**
	0.2nm,0.8s,baz=304,slow=6.8,SNR=3.3						
NOA	**NORSAR Array B**	**75.40**	**337**	P	**P**	**05 14 53.0**	**+0.6**
	1.2nm,0.9s,baz=58,slow=5.0,SNR=3.2						
NVAR	**Mina Array Bea**	**77.75**	**52**	P	**P**	**05 15 07.1**	**+0.8**
	0.3nm,0.6s,baz=304,slow=6.4,SNR=3.1						

MEX 19 05:06:22.1±0.7, 15.87N×99.00W, h5km±20km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.99**	**58**	*eP*	Pg	05 06 39.0	-2.2
PNIG				*i* S	Sg	05 06 51.2	-2.9
ACX	**Acapulco**	**1.29**	**321**	*i* P	Pn	05 06 39.9	-6.9
ACX				*i* S	Sg	05 06 56.3	-7.4
TLIG	**Tlapa**	**1.74**	**14**	*eP*	Pn	05 06 48.8	-4.3
TLIG				*eS*	Sn	05 07 11.3	-4.5
VHO	**Vista Hermosa**	**2.48**	**61**	*i* P	Pn	05 07 00.7	-2.7
VHO				*i* S	Sn	05 07 30.3	-4.0
PLIG	**Platanillo**	**2.56**	**349**	*i* P	Pn	05 07 01.5	-2.8
PLIG				*i* S	Sn	05 07 32.3	-3.6
ARIG	**Puente Sto Nin**	**2.72**	**332**	*eP*	Pn	05 07 04.2	-2.4
ARIG				*i* S	Sn	05 07 35.6	-4.3
HUIG	**Huatulco**	**2.79**	**92**	*eP*	Pn	05 07 03.5	-3.8
HUIG				*eS*	Sn	05 07 36.6	-4.8
YAIG	**Yautepec**	**2.98**	**359**	*i* P	Pn	05 07 07.7	-2.5
YAIG				*i* S	Sn	05 07 43.4	-3.1

*CSEM **19** 05:09:04.8±0.2, 43.01N×22.59E, h2km, ML2.2, Error ellipse: s-maj=6.5km s-min=3.2km az=48.0*
*SOF **19** 05:09:05.8, 43.02N×22.75E, h2km, MD2.6*
*BEO **19** 05:09:05.5±0.2, 42.98N×22.61E, h5km±2km, ML2.2/1*
*SKO **19** 05:09:07.8, 42.87N×22.66E, h2km*

ISC 19 05:09:05.1±1.2, 42.99N±0.03×22.59E±0.03, h1km±11km, n35, σ0.983/57, 3D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAPS	**Zavoj**	**0.29**	**6**	⇓*i*Pg	**Pg**	**05 09 11.1**	**+0.5**
VTS	**Vitosha**	**0.60**	**131**	*i* P	**Pg**	**05 09 15.8**	**-0.9**
VTS	**Vitosha**	**0.60**	**131**	*ePg*	**Pg**	**05 09 15.5**	**-1.2**
VTS				*i* Sg	**Sg**	**05 09 25.2**	**+0.7**
VTS	**Vitosha**	**0.60**	**131**	*ePg*	**Pg**	**05 09 15.5**	**-1.2**
VTS	**Vitosha**	**0.60**	**131**	*i* P	**Pg**	**05 09 15.8**	**-0.9**
VTS				*i* Sg	**Sg**	**05 09 25.2**	**+0.7**
BOVS	**Bovan**	**0.91**	**315**	*ePg*	**Pg**	**05 09 22.3**	**-0.3**
BOVS				*i* Sg	**Sg**	**05 09 36.7**	**+2.2**
MPEP	**Malo Peshtene**	**0.92**	**66**	*i* P	**Pg**	**05 09 21.2**	**-1.5**
BOLS	**Boljevac**	**0.96**	**331**	*ePg*	**Pg**	**05 09 22.1**	**-1.4**
BOLS				*eSg*	**Sg**	**05 09 36.5**	**+0.6**
BOLS	**Boljevac**	**0.96**	**331**	*ePg*	**Pg**	**05 09 22.1**	**-1.4**
BOLS				*eSg*	**Sg**	**05 09 36.5**	**+0.6**
SELS	**Selova**	**1.10**	**283**	*ePg*	**Pg**	**05 09 25.3**	**-0.9**
SELS				*eSg*	**Sg**	**05 09 42.2**	**+1.7**
SELS	**Selova**	**1.10**	**283**	*ePg*	**Pg**	**05 09 25.3**	**-0.9**
SELS				*eSg*	**Sg**	**05 09 42.2**	**+1.7**
KKB	**Krupnik**	**1.18**	**162**	*i* P	**Pn**	**05 09 30.0**	**+1.2**
KKB	**Krupnik**	**1.18**	**162**	*i* P	**Pn**	**05 09 30.0**	**+1.2**
PGB	**Panagyurishte**	**1.24**	**110**	*i* P	**Pg**	**05 09 29.1**	**+0.3**
PGB	**Panagyurishte**	**1.24**	**110**	*i* P	**Pg**	**05 09 29.1**	**+0.3**
SVIS	**Svilajnac**	**1.62**	**322**	*ePn*	**Pn**	**05 09 34.2**	**-0.6**
SVIS				*i* Sn	**Sn**	**05 09 57.3**	**+0.9**
MMB	**Musomiste**	**1.63**	**149**	*i* P	**Pb**	**05 09 36.0**	**-0.1**
MMB	**Musomiste**	**1.63**	**149**	*i* P	**Pb**	**05 09 36.0**	**-0.1**
GRUS	**Gruza**	**1.64**	**304**	⇓*i*Pg	**Pn**	**05 09 34.5**	**-0.6**
GRUS				*i* Sg	**Sn**	**05 09 56.8**	**0.0**
GRUS	**Gruza**	**1.64**	**304**	⇓*i*Pg	**Pn**	**05 09 34.5**	**-0.6**
GRUS				*i* Sg	**Sn**	**05 09 56.8**	**0.0**
VAY	**Valandovo**	**1.67**	**181**	*ePg*	**Pn**	**05 09 36.1**	**+0.6**
VAY				*i* Sg	**Sn**	**05 09 57.0**	**-0.5**
VAY	**Valandovo**	**1.67**	**181**	*ePn*	**Pn**	**05 09 35.2**	**-0.3**
VAY				*eSg*	**Sn**	**05 09 56.9**	**-0.7**
VAY	**Valandovo**	**1.67**	**181**	*ePn*	**Pn**	**05 09 35.6**	**+0.1**
VAY	**Valandovo**	**1.67**	**181**	*ePg*	**Pn**	**05 09 36.1**	**+0.6**
VAY				*i* Sg	**Sn**	**05 09 57.0**	**-0.5**
DJES	**Djerdap**	**1.68**	**358**	*ePg*	**Pn**	**05 09 35.7**	**+0.1**
DJES				*i* Sg	**Sn**	**05 09 58.0**	**+0.2**
PLD	**Plovdiv**	**1.79**	**119**	*ePn*	**Pn**	**05 09 37.8**	**+0.6**
PLD				*i* Sg	**Sg**	**05 10 02.4**	**-0.3**
PLD	**Plovdiv**	**1.79**	**119**	*ePn*	**Pn**	**05 09 37.8**	**+0.6**
PLD				*i* Sg	**Sg**	**05 10 02.4**	**-0.3**
IVAS	**Ivanjica**	**1.88**	**289**	*ePn*	**Pn**	**05 09 38.3**	**-0.1**
IVAS				*eSn*	**Sn**	**05 10 03.2**	**+0.4**
IVAS	**Ivanjica**	**1.88**	**289**	*ePn*	**Pn**	**05 09 38.3**	**-0.1**
IVAS				*eSn*	**Sn**	**05 10 03.2**	**+0.4**
DIVS	**Divibare**	**2.19**	**301**	*ePn*	**Pn**	**05 09 42.2**	**-0.6**
DIVS				*eSn*	**Sn**	**05 10 10.0**	**-0.6**
DIVS	**Divibare**	**2.19**	**301**	*ePn*	**Pn**	**05 09 42.2**	**-0.6**
DIVS				*eSn*	**Sn**	**05 10 10.0**	**-0.6**
BBLS	**Lazići**	**2.48**	**292**	*ePn*	**Pn**	**05 09 46.1**	**-0.7**
BBLS				*eSn*	**Sn**	**05 10 18.4**	**+0.6**
BBLS	**Lazići**	**2.48**	**292**	*ePn*	**Pn**	**05 09 46.1**	**-0.7**
BBLS				*eSn*	**Sn**	**05 10 18.4**	**+0.6**
TEKS	**Tekeris**	**2.71**	**306**	*ePn*	**Pn**	**05 09 49.4**	**-0.5**
TEKS	**Tekeris**	**2.71**	**306**	*ePn*	**Pn**	**05 09 49.4**	**-0.5**

WEL 19 05:19:08.6±0.2, 39.04S×174.72E, h161km±3km, ML3.6/7, Error ellipse: s-maj=3.0km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	**1.39**	**96**	PN	Pn	05 19 37.9	0.0
BKZ				SN	Sn	05 20 00.0	-0.5
MRZ	**Mangatainoka R**	**1.75**	**158**	*ePN*	Pn	05 19 41.6	0.0
MRZ				SN	Sn	05 20 06.4	-0.8
OGWZ	**Otaki Gorge**	**1.81**	**169**	PN	Pn	05 19 42.4	+0.2
KIW	**Kapiti Island**	**1.83**	**175**	PN	Pn	05 19 42.4	0.0
KAHZ	**Kahuranaki**	**1.84**	**115**	PN	Pn	05 19 42.6	-0.1
CKHZ	**Cape Kidnapper**	**1.93**	**109**	PN	Pn	05 19 43.4	-0.2
PXZ	**Pawanui**	**1.93**	**122**	PN	Pn	05 19 43.3	-0.3
PXZ				SN	Sn	05 20 10.0	-0.5
HOWZ	**Holdsworth Sta**	**1.96**	**162**	PN	Pn	05 19 43.4	-0.5
HOWZ				SN	Sn	05 20 09.8	-1.4
ANWZ	**Angora Road**	**1.96**	**137**	PN	Pn	05 19 43.7	-0.1
CAW	**Cannon Point**	**2.09**	**173**	PN	Pn	05 19 44.9	-0.4
TCW	**Tory Channel**	**2.20**	**189**	PN	Pn	05 19 46.5	-0.1
MTW	**Mount Morrison**	**2.20**	**164**	PN	Pn	05 19 45.6	-1.0
SNZO	**South Karori**	**2.27**	**180**	PN	Pn	05 19 46.7	-0.7
SNZO				SN	Sn	05 20 15.8	-1.8
NNZ	**Nelson**	**2.41**	**205**	PN	Pn	05 19 48.2	-0.8
QRZ	**Quartz Range**	**2.46**	**223**	PN	Pn	05 19 48.7	-1.0
TUWZ	**Tuamarina**	**2.46**	**194**	PN	Pn	05 19 49.2	-0.5
BSWZ	**Blackbirch Sta**	**2.75**	**193**	PN	Pn	05 19 52.5	-0.7
THZ	**Tophouse**	**3.06**	**206**	PN	Pn	05 19 55.9	-1.1
MQZ	**McQueen's Vall**	**4.92**	**198**	PN	Pn	05 20 16.5	-4.5
MQZ				SN	Sn	05 21 10.3	-7.3

*ROM **19** 05:36:19.0±0.1, 37.77N×14.94E, h28km±3km, Ml3.1/2, Error ellipse: s-maj=2.1km s-min=1.9km az=119.0*
*CSEM **19** 05:36:19.0, 37.77N×14.94E, h28km, ML3.1, After ROM*
*IDC **19** 05:36:22.7±0.9, 37.62N×14.79E, h0km, mb3.7/10, mb1 3.8/18, mb1mx3.7/

VRAC	**Vranov**	**11.58**	**5**	LR	LR	05 44 32.1	
	comp=Z,90nm,18.4s,baz=195,slow=42						
BRTR	**Keskin Array B**	**14.73**	**77**	Pn	**P**	**05 39 53.9**	**-1.1**
	0.0nm,0.3s,baz=262,slow=11,SNR=2.6						
AKASG	**Malin Array Be**	**16.45**	**34**	Pn	**P**	**05 40 16.8**	**+3.1**
	0.5nm,0.3s,baz=229,slow=10,SNR=9.5						
MMAI	**Mount Meron Ar**	**17.35**	**100**	P	**P**	**05 40 25.9**	**+1.9**
	0.6nm,0.3s,baz=278,slow=10.0,SNR=2.9						
EIL	**Elat**	**18.50**	**110**	P	**Pn**	**05 40 39.6**	**+2.9**
	0.7nm,0.3s,baz=204,slow=7.9,SNR=4.7						
EIL				LR	LR	05 50 18.5	
	comp=Z,15nm,28.6s,baz=280,slow=45						
EKA	**Eskdalemuir Ar**	**21.40**	**331**	P	P	05 41 12.7	+4.7
	1.5nm,0.6s,baz=140,slow=11,SNR=3.5						
KBZ	**Khabaz**	**21.95**	**65**	P	P	05 41 19.7	+5.8
	1.5nm,0.7s,baz=256,slow=14,SNR=3.6						
HFS	**Hagfors**	**22.38**	**358**	P	P	05 41 23.6	+5.1
	2.7nm,0.7s,baz=153,slow=10.0,SNR=7.3						
HFS				LR	LR	05 51 37.1	
	comp=Z,59nm,18.6s,baz=161,slow=41						
NOA	**NORSAR Array B**	**23.39**	**355**	P	**P**	**05 41 32.7**	**+3.6**
	1.2nm,0.8s,baz=184,slow=7.9,SNR=3.0						
FINES	**FINESS Array B**	**24.69**	**13**	P	P	05 41 45.2	+4.1
	2.9nm,0.5s,baz=188,slow=8.2,SNR=23						
TORD	**Torodi Ar. Bea**	**27.22**	**209**	P	**P**	**05 42 06.4**	**+2.0**
	0.5nm,0.8s,baz=13,slow=9.4,SNR=3.1						
TORD				LR	LR	05 54 23.8	
	comp=Z,15nm,28.6s,baz=330,slow=40						
ARCES	**ARCESS Array B**	**32.32**	**7**	P	P	05 42 56.8	+7.6
	3.5nm,0.9s,baz=201,slow=9.7,SNR=3.4						
ARCES				LR	LR	05 57 58.4	
	comp=Z,15nm,28.6s,baz=329,slow=40						
AKTO	**Aktyubinsk**	**32.96**	**53**	P	P	05 43 00.7	+5.7
	1.1nm,0.4s,baz=282,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**49.25**	**57**	P	P	05 45 14.5	+5.6
	1.1nm,0.5s,baz=279,slow=7.0,SNR=26						
RES	**Resolute Bay**	**58.88**	**343**	LR	LR	06 12 01.2	
	comp=Z,45nm,18.9s,baz=62,slow=36						
SONM	**Songino Array**	**64.08**	**48**	P	P	05 46 59.2	+4.8
	0.7nm,0.7s,baz=297,slow=9.2,SNR=5.6						
YKA	**Yellowknife Ar**	**72.17**	**338**	P	P	05 47 50.9	+6.3
	0.1nm,0.6s,baz=34,slow=7.4,SNR=3.4						
WRA	**Warramunga Arr**	**124.96**	**89**	PKP	PKPdf	05 55 26.1	+5.3
	0.4nm,0.8s,baz=320,slow=2.2,SNR=7.2						
ASAR	**Alice Springs**	**126.55**	**93**	PKP	PKPdf	05 55 29.8	+6.0
	0.2nm,0.6s,baz=319,slow=2.4,SNR=3.2						

CSEM ***19*** *05:36:28.7±0.1,37.°77N×14.°95E,h24km±2km, ML4.5/6, Error ellipse: s-maj=3.5km s-min=2.7km az=152.0*
ROM ***19*** *05:36:28.7±0.1,37.°77N×14.°95E,h25km±3km, Ml4.3/20, Error ellipse: s-maj=2.2km s-min=1.8km az=103.0*
PDG ***19*** *05:36:28.4±0.5,37.°75N×14.°99E,h33km±1km, ML4.3/11, Error ellipse: s-maj=1.1km s-min=1.8km az=0.0*
LDG ***19*** *05:36:29.7±0.1,37.°70N×14.°96E,h16km, Ml3.6/2, Error ellipse: s-maj=3.0km s-min=2.5km az=114.0*
NEIC ***19*** *05:36:29.0,37.°72N×14.°98E,h16km, ML4.3(ROM), After ROM.*
NEIC Felt [V] at Linguaglossa; [IV] at Augusta, Massa Annunziata, Randazzo and Santa Venerina, [III] at Catania, Giarre, Patti and Siracusa; [II] at Messina and Reggio di Calabria. Felt in eastern Sicily and southern Calabria.
BEO ***19*** *05:36:30.9±0.7,38.°04N×15.°03E,h0km, ML4.2/1*

ISC 19 05:36:28.7±0.7,37.°79N±0.°02×14.°99E±0.°02,h27km±5km, n152,σ1°28/221,8C-10D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.10**	**185**	Pg	**Pb**	**05 36 33.0**	**-0.8**
ESLN				Sg	**Sb**	**05 36 36.8**	**-0.5**
	2µm,0.4s						
ESLN	**Serra La Nave**	**0.10**	**185**	Pg	**Pb**	**05 36 33.0**	**-0.8**
ESLN				Sg	**Sb**	**05 36 36.8**	**-0.5**
	2µm,0.4s						
ECNV	**Catenanuova**	**0.29**	**228**	Pg	**Pb**	**05 36 35.7**	**0.0**
ECNV				Sg	**Sb**	**05 36 40.9**	**+0.4**
	6µm,0.8s						
ECNV	**Catenanuova**	**0.29**	**228**	Pg	**Pb**	**05 36 35.7**	**0.0**
ECNV				Sg	**Sb**	**05 36 40.9**	**+0.4**
	6µm,0.8s						
GALF	**Gagliano Caste**	**0.34**	**257**	Pg	**Pb**	**05 36 35.6**	**-0.9**
GALF				Sg	**Sb**	**05 36 42.1**	**+0.3**
	36µm,0.8s						
GALF	**Gagliano Caste**	**0.34**	**257**	Pg	**Pb**	**05 36 35.6**	**-0.9**
GALF				Sg	**Sb**	**05 36 42.1**	**+0.3**
	36µm,0.8s						
HCRL	**Carlentini**	**0.51**	**176**	Pg	**Pb**	**05 36 38.5**	**-0.6**
HCRL				Sg	**Sb**	**05 36 46.5**	**+0.4**
	38µm,0.4s						
HCRL	**Carlentini**	**0.51**	**176**	Pg	**Pb**	**05 36 38.5**	**-0.6**
HCRL				Sg	**Sb**	**05 36 46.5**	**+0.4**
	38µm,0.4s						
AGST	**Augusta-Monte**	**0.56**	**160**	P	**Pb**	**05 36 38.4**	**-1.6**
AGST				S	**Sn**	**05 36 48.5**	**-0.9**
AGST	**Augusta-Monte**	**0.56**	**160**	Pg	**Pb**	**05 36 39.5**	**-0.6**
AGST				Sg	**Sn**	**05 36 48.6**	**-0.9**
	35µm,0.6s						
AGST	**Augusta-Monte**	**0.56**	**160**	P	**Pb**	**05 36 38.4**	**-1.6**
AGST	**Augusta-Monte**	**0.56**	**160**	Pg	**Pb**	**05 36 39.5**	**-0.6**
AGST				S	**Sn**	**05 36 48.5**	**-0.9**
VPL	**Vulcano Piano**	**0.59**	**360**	Pg	**Pb**	**05 36 39.9**	**-0.6**
VPL				Sg	**Sn**	**05 36 49.8**	**-0.3**
VPL	**Vulcano Piano**	**0.59**	**360**	Pg	**Pb**	**05 36 39.9**	**-0.6**
VPL				Sg	**Sn**	**05 36 49.8**	**-0.3**
MTTG	**Motta San Giov**	**0.60**	**69**	P	**Pn**	**05 36 41.4**	**-0.1**
MTTG	**Motta San Giov**	**0.60**	**69**	Pg	**Pn**	**05 36 41.4**	**-0.1**
MTTG				Sg	**Sn**	**05 36 51.9**	**+1.5**
	6µm,0.5s						
MTTG	**Motta San Giov**	**0.60**	**69**	Pg	**Pn**	**05 36 41.4**	**-0.1**
MTTG				Sg	**Sn**	**05 36 51.9**	**+1.5**
	6µm,0.5s						
MSRU	**Castanea**	**0.63**	**41**	Pg	**Pn**	**05 36 41.7**	**-0.2**
MSRU				Sg	**Sn**	**05 36 51.6**	**+0.5**
	9µm,0.4s						
MSRU	**Castanea**	**0.63**	**41**	Pg	**Pn**	**05 36 41.7**	**-0.2**
MSRU				Sg	**Sn**	**05 36 51.6**	**+0.5**
	9µm,0.4s						
SSY	**Sortino**	**0.64**	**174**	Pg	**Pb**	**05 36 40.7**	**-0.6**
SSY				Sg	**Sn**	**05 36 50.4**	**-0.9**
	30µm,0.5s						
SSY	**Sortino**	**0.64**	**174**	Pg	**Pb**	**05 36 40.7**	**-0.6**
SSY				Sg	**Sn**	**05 36 50.4**	**-0.9**
	30µm,0.5s						
HVZN	**Vizzini**	**0.65**	**199**	P	**Pb**	**05 36 41.1**	**-0.4**
HVZN				S	**Sb**	**05 36 49.9**	**-0.3**
HVZN	**Vizzini**	**0.65**	**199**	Pg	**Pb**	**05 36 40.7**	**-0.8**
HVZN				Sg	**Sb**	**05 36 50.0**	**-0.1**
	23µm,0.8s						
HVZN	**Vizzini**	**0.65**	**199**	Pg	**Pb**	**05 36 40.7**	**-0.8**
HVZN	**Vizzini**	**0.65**	**199**	P	**Pb**	**05 36 41.1**	**-0.4**
HVZN				Sg	**Sb**	**05 36 50.0**	**-0.1**
	23µm,0.8s						
LLI	**Lipari**	**0.66**	**357**	Pg	**Pb**	**05 36 41.7**	**+0.1**
	25µm,0.5s						
LLI	**Lipari**	**0.66**	**357**	Pg	**Pb**	**05 36 41.7**	**+0.1**
	25µm,0.5s						
CSLB	**Castelbuono**	**0.75**	**282**	P	**Pb**	**05 36 41.8**	**-1.3**
CSLB	**Castelbuono**	**0.75**	**282**	Pg	**Pb**	**05 36 41.9**	**-1.3**
CSLB	**Castelbuono**	**0.75**	**282**	Pg	**Pb**	**05 36 41.9**	**-1.3**
RESU	**Resuttano**	**0.75**	**259**	P	**Pn**	**05 36 44.4**	**+0.8**
RESU	**Resuttano**	**0.75**	**259**	Pg	**Pn**	**05 36 44.4**	**+0.8**
	8µm,0.8s						
RESU	**Resuttano**	**0.75**	**259**	Pg	**Pn**	**05 36 44.4**	**+0.8**
	8µm,0.8s						
RAFF	**Raffo Rosso**	**0.75**	**221**	P	**Pb**	**05 36 42.9**	**-0.3**
RAFF				S	**Sn**	**05 36 54.5**	**+0.4**
RAFF	**Raffo Rosso**	**0.75**	**221**	Pg	**Pb**	**05 36 42.4**	**-0.8**
RAFF				Sg	**Sn**	**05 36 54.5**	**+0.4**
RAFF	**Raffo Rosso**	**0.75**	**221**	Pg	**Pb**	**05 36 42.4**	**-0.8**
RAFF	**Raffo Rosso**	**0.75**	**221**	P	**Pb**	**05 36 42.9**	**-0.3**
GIB	**Gibilmanna**	**0.78**	**285**	Pg	**Pb**	**05 36 42.8**	**-1.0**
	31µm,1.0s						
GIB	**Gibilmanna**	**0.78**	**285**	Pg	**Pb**	**05 36 42.8**	**-1.0**
	31µm,1.0s						
MPAZ	**Palizzi**	**0.82**	**78**	Pg	**Pn**	**05 36 45.3**	**+0.7**
	10µm,0.4s						
MPAZ	**Palizzi**	**0.82**	**78**	Pg	**Pn**	**05 36 45.3**	**+0.7**
	10µm,0.4s						
HAVL	**Avola**	**0.83**	**172**	P	**Pb**	**05 36 42.9**	**-1.7**
HAVL				S	**Sn**	**05 36 56.0**	**-0.2**
HAVL	**Avola**	**0.83**	**172**	Pg	**Pb**	**05 36 43.7**	**-0.9**
	11µm,0.3s						
HAVL	**Avola**	**0.83**	**172**	P	**Pb**	**05 36 42.9**	**-1.7**
HAVL	**Avola**	**0.83**	**172**	Pg	**Pb**	**05 36 43.7**	**-0.9**
	11µm,0.3s						
HAVL				S	**Sn**	**05 36 56.0**	**-0.2**
CEL	**Celeste**	**0.86**	**57**	*e*Pg	**Pn**	**05 36 45.6**	**+0.5**
CEL				*e*Sg	**Sn**	**05 37 00.5**	**+3.7**
CEL	**Celeste**	**0.86**	**57**	Pg	**Pn**	**05 36 45.5**	**+0.5**
	3µm,0.4s						
CEL	**Celeste**	**0.86**	**57**	*e*Pg	**Pn**	**05 36 45.6**	**+0.5**
CEL				*e*Sg	**Sn**	**05 37 00.5**	**+3.7**
SOI	**Samo**	**0.89**	**71**	Pg	**Pb**	**05 36 46.2**	**+0.6**
	6µm,0.4s						
SOI	**Samo**	**0.89**	**71**	Pg	**Pb**	**05 36 46.2**	**+0.6**
	6µm,0.4s						
IACL	**Alicudi**	**0.89**	**327**	Pg	**Pb**	**05 36 44.5**	**-1.1**
	15µm,0.6s						
IACL	**Alicudi**	**0.89**	**327**	Pg	**Pb**	**05 36 44.5**	**-1.1**
	15µm,0.6s						
ALJA	**Alia**	**0.98**	**268**	Pg	**Pb**	**05 36 47.3**	**+0.3**
	8µm,0.8s						
ALJA	**Alia**	**0.98**	**268**	Pg	**Pb**	**05 36 47.3**	**+0.3**
	8µm,0.8s						
PLAC	**Placanica**	**1.32**	**60**	Pg	**Pb**	**05 36 53.7**	**+0.8**
	2µm,0.6s						
PLAC	**Placanica**	**1.32**	**60**	Pg	**Pb**	**05 36 53.7**	**+0.8**
	2µm,0.6s						
CORL	**Corleone**	**1.33**	**275**	Pg	**Pb**	**05 36 53.2**	**+0.1**
	6µm,1.0s						
CLTB	**Caltabellotta**	**1.42**	**262**	*e*Pn	**Pn**	**05 36 52.8**	**0.0**
CLTB	**Caltabellotta**	**1.42**	**262**	*e*Pn	**Pn**	**05 36 52.8**	**0.0**
TIP	**Timpagrande**	**1.96**	**45**	*e*Pn	**Pb**	**05 37 02.6**	**-1.2**
TIP	**Timpagrande**	**1.96**	**45**	*e*Pn	**Pb**	**05 37 02.6**	**-1.2**
CUC	**Castrocucco**	**2.29**	**16**	*e*Pn	**Pn**	**05 37 05.0**	**+0.1**
CUC	**Castrocucco**	**2.29**	**16**	Pg	**Pn**	**05 37 05.3**	**+0.5**
	651nm,0.6s						
CUC	**Castrocucco**	**2.29**	**16**	*e*Pn	**Pn**	**05 37 05.0**	**+0.1**
CUC	**Castrocucco**	**2.29**	**16**	Pg	**Pn**	**05 37 05.3**	**+0.5**
	651nm,0.6s						
TAR1	**Taranto**	**3.27**	**32**	*e*Pn	**Pn**	**05 37 18.9**	**+0.8**
TAR1				*e*Sn	**Sn**	**05 37 58.8**	**+2.7**
CDT	**Castel del Mon**	**3.44**	**16**	*e*Pn	**Pn**	**05 37 22.1**	**+1.6**
CDT				*e*Sn	**Sn**	**05 38 04.1**	**+3.7**
PE1	**Pezze di Greco**	**3.56**	**31**	*e*Pn	**Pn**	**05 37 22.8**	**+0.7**
PE1				*e*Sn	**Sn**	**05 38 05.8**	**+2.5**
BAI	**Bari**	**3.62**	**23**	*e*Pn	**Pn**	**05 37 23.6**	**+0.6**
BAI				*e*Sn	**Sb**	**05 38 10.4**	**-5.1**
VSL	**Villasalto**	**4.71**	**293**	*e*Pn	**Pn**	**05 37 36.5**	**-1.5**
VSL				*e*Sn	**Sn**	**05 38 31.2**	**-0.5**
VSL	**Villasalto**	**4.71**	**293**	*e*Pn	**Pn**	**05 37 36.5**	**-1.5**
VSL				*e*Sn	**Sn**	**05 38 31.2**	**-0.5**
JAN	**Janina**	**4.95**	**66**	*e*PN	**Pn**	**05 37 41.8**	**+0.5**
KEST	**Kesra**	**4.97**	**247**	*e*Pn	**Pn**	**05 37 42.5**	**+0.8**
KEST	**Kesra**	**4.97**	**247**	*e*Pn	**Pn**	**05 37 42.5**	**+0.8**
ULC	**Ulcinj**	**5.30**	**37**	⇓*i*Pn	**Pn**	**05 37 46.8**	**+0.7**
ULC				*e*Sn	**Sn**	**05 38 45.8**	**-0.6**
ULC	**Ulcinj**	**5.30**	**37**	⇓*i*Pn	**Pn**	**05 37 46.8**	**+0.7**
ULC				*e*Sn	**Sn**	**05 38 45.8**	**-0.6**
HCY	**Herceg Novi**	**5.37**	**29**	⇑*i*Pn	**Pn**	**05 37 47.1**	**0.0**
HCY				*e*Sn	**Sn**	**05 38 47.5**	**-0.6**
HCY	**Herceg Novi**	**5.37**	**29**	⇑*i*Pn	**Pn**	**05 37 47.1**	**0.0**
HCY				*e*Sn	**Sn**	**05 38 47.5**	**-0.6**
BUM	**Brajici-Budva**	**5.41**	**32**	⇓*i*Pn	**Pn**	**05 37 48.1**	**+0.4**
BUM				*e*Sn	**Sn**	**05 38 48.8**	**-0.3**
BUM	**Brajici-Budva**	**5.41**	**32**	⇓*i*Pn	**Pn**	**05 37 48.1**	**+0.4**
BUM				*e*Sn	**Sn**	**05 38 48.8**	**-0.3**
EVR	**Evrytania**	**5.48**	**76**	*e*PN	**Pn**	**05 37 50.4**	**+1.7**
STON	**Ston**	**5.48**	**21**	*e*Pn	**Pn**	**05 37 48.9**	**+0.3**
STON				Sn	**Sn**	**05 38 49.5**	**-1.3**
STON	**Ston**	**5.48**	**21**	*e*Pn	**Pn**	**05 37 49.9**	**+1.3**
STON	**Ston**	**5.48**	**21**	*e*Pn	**Pn**	**05 37 48.8**	**+0.3**
STON				Sn	**Sn**	**05 38 49.4**	**-1.3**
ITM	**Ithomi**	**5.55**	**94**	*e*PN	**Pn**	**05 37 49.8**	**+0.2**
TREB	**Trebinje**	**5.55**	**27**	*e*Pn	**Pn**	**05 37 50.8**	**+1.2**
TREB				*e*Sn	**Sn**	**05 38 50.7**	**-1.8**
TREB	**Trebinje**	**5.55**	**27**	*e*Pn	**Pn**	**05 37 50.8**	**+1.2**
TREB				*e*Sn	**Sn**	**05 38 50.7**	**-1.8**
PDG	**Podgorica**	**5.67**	**34**	*e*Pn	**Pn**	**05 37 52.1**	**+0.9**
PDG				*e*Sn	**Sn**	**05 38 54.7**	**-0.7**
PDG	**Podgorica**	**5.67**	**34**	⇑*i*Pn	**Pn**	**05 37 51.6**	**+0.4**
PDG				*e*Sn	**Sn**	**05 38 55.2**	**-0.2**
TTG	**Podgorica**	**5.67**	**34**	⇑*i*Pn	**Pn**	**05 37 51.6**	**+0.4**
TTG				*e*Sn	**Sn**	**05 38 55.2**	**-0.2**
BRY	**Bratogost**	**5.78**	**27**	*e*Pn	**Pn**	**05 37 53.1**	**+0.2**
BRY				*e*Sn	**Sn**	**05 38 58.0**	**-0.4**
BRY	**Bratogost**	**5.78**	**27**	*e*Pn	**Pn**	**05 37 53.1**	**+0.2**
BRY				*e*Sn	**Sn**	**05 38 58.0**	**-0.4**
NKME	**Niksic**	**5.82**	**30**	⇑*i*Pn	**Pn**	**05 37 53.8**	**+0.5**
NKME				*e*Sn	**Sn**	**05 38 58.4**	**-0.8**
NKME	**Niksic**	**5.82**	**30**	⇑*i*Pn	**Pn**	**05 37 53.8**	**+0.5**
NKME				*e*Sn	**Sn**	**05 38 58.4**	**-0.8**
KZN	**Kozani**	**5.85**	**62**	*e*PN	Pn	05 37 58.0	+4.3
NKY	**Niksic**	**5.88**	**30**	⇓*i*Pn	**Pn**	**05 37 55.0**	**+0.9**
NKY				*e*Sn	**Sn**	**05 38 59.9**	**-0.8**
NKY	**Niksic**	**5.88**	**30**	⇓*i*Pn	**Pn**	**05 37 55.0**	**+0.9**
NKY				*e*Sn	**Sn**	**05 38 59.9**	**-0.8**
PVY	**Plav**	**6.13**	**37**	*e*Pn	**Pn**	**05 37 57.8**	**+0.8**
PVY				*e*Sn	**Sn**	**05 39 06.4**	**-0.4**
PVY	**Plav**	**6.13**	**37**	*e*Pn	**Pn**	**05 37 57.8**	**+0.8**
PVY				*e*Sn	**Sn**	**05 39 06.4**	**-0.4**
UPM	**Unac-Piva**	**6.18**	**28**	⇑*i*Pn	**Pn**	**05 37 59.5**	**+1.2**
UPM				*e*Sn	**Sn**	**05 39 06.5**	**-1.7**
UPM	**Unac-Piva**	**6.18**	**28**	⇑*i*Pn	**Pn**	**05 37 59.5**	**+1.2**
UPM				*e*Sn	**Sn**	**05 39 06.5**	**-1.7**
BEY	**Berane**	**6.31**	**35**	⇓*i*Pn	**Pn**	**05 38 01.9**	**+1.8**
BEY				*e*Sn	**Sn**	**05 39 10.3**	**-1.0**
IVA	**Berane**	**6.31**	**35**	⇓*i*Pn	**Pn**	**05 38 01.9**	**+1.8**
IVA				*e*Sn	**Sn**	**05 39 10.3**	**-1.0**
PLE	**Pljevlja**	**6.47**	**30**	⇓*i*Pn	**Pn**	**05 38 04.0**	**+1.7**
PLE				*e*Sn	**Sn**	**05 39 14.4**	**-0.9**
PLE	**Pljevlja**	**6.47**	**30**	⇓*i*Pn	**Pn**	**05 38 04.0**	**+1.7**
PLE				*e*Sn	**Sn**	**05 39 14.4**	**-0.9**
PGF	**Pioggiola**	**6.60**	**318**	*e*Pn	**Pn**	**05 38 05.8**	**+1.7**
PGF				*e*Sn	**Sn**	**05 39 16.2**	**-2.3**
	10nm,0.5s						
PGF	**Pioggiola**	**6.60**	**318**	*e*Pn	**Pn**	**05 38 05.8**	**+1.7**
PGF				*e*Sn	**Sn**	**05 39 16.2**	**-2.3**
	5.2nm,0.5s						
SJES	**Sjenica**	**6.66**	**33**	*e*Pn	**Pn**	**05 38 05.9**	**+1.1**
SJES				*e*Sn	**Sn**	**05 39 17.1**	**-2.7**
SJES	**Sjenica**	**6.66**	**33**	*e*Pn	**Pn**	**05 38 05.9**	**+1.1**
UDBI	**Udbina**	**6.76**	**5**	*e*Pn	Pn	05 38 09.8	+3.6
UDBI				Sn	**Sn**	**05 39 26.2**	**+4.0**
BBLS	**Lazići**	**6.93**	**28**	*e*Pn	**Pn**	**05 38 09.5**	**+0.9**
BBLS				*e*Sn	**Sn**	**05 39 23.1**	**-3.5**
BBLS	**Lazići**	**6.93**	**28**	*e*Pn	**Pn**	**05 38 09.5**	**+0.9**
IVAS	**Ivanjica**	**6.99**	**33**	*e*Pn	**Pn**	**05 38 11.0**	**+1.7**
IVAS	**Ivanjica**	**6.99**	**33**	*e*Pn	**Pn**	**05 38 11.0**	**+1.7**
BLY	**Banja Luka**	**7.15**	**13**	*e*Pn	**Pn**	**05 38 12.9**	**+1.5**
BLY	**Banja Luka**	**7.15**	**13**	*e*Pn	**Pn**	**05 38 12.9**	**+1.5**
SELS	**Selova**	**7.16**	**39**	*e*Pn	**Pn**	**05 38 13.5**	**+1.9**
SELS	**Selova**	**7.16**	**39**	*e*Pn	**Pn**	**05 38 13.5**	**+1.9**
DIVS	**Divibare**	**7.35**	**29**	*e*Pn	**Pn**	**05 38 15.2**	**+0.8**
DIVS				*e*Sn	**Sn**	**05 39 33.3**	**-3.6**
DIVS	**Divibare**	**7.35**	**29**	*e*Pn	**Pn**	**05 38 15.2**	**+0.8**
GRUS	**Gruza**	**7.48**	**34**	*e*Pn	**Pn**	**05 38 17.0**	**+1.0**
GRUS				*e*Sn	**Sn**	**05 39 36.9**	**-3.1**
GRUS	**Gruza**	**7.48**	**34**	*e*Pn	**Pn**	**05 38 17.0**	**+1.0**
VTS	**Vitosha**	**7.91**	**50**	*e*Pn	**Pn**	**05 38 22.7**	**+0.6**
VTS				*e*Sn	**Sn**	**05 39 48.7**	**-2.1**
VTS	**Vitosha**	**7.91**	**50**	*e*Pn	**Pn**	**05 38 22.7**	**+0.6**
VTS				*e*Sn	**Sn**	**05 39 48.7**	**-2.1**
ZAPS	**Zavoj**	**7.99**	**44**	*e*Pn	**Pn**	**05 38 24.5**	**+1.4**
ZAPS				*e*Sn	**Sn**	**05 39 49.9**	**-2.7**
ZAPS	**Zavoj**	**7.99**	**44**	*e*Pn	**Pn**	**05 38 24.5**	**+1.4**
BOLS	**Boljevac**	**8.02**	**39**	*e*Pn	**Pn**	**05 38 24.9**	**+1.5**
BOLS	**Boljevac**	**8.02**	**39**	*e*Pn	**Pn**	**05 38 24.9**	**+1.5**
FGSL	**Fruska Gora**	**8.20**	**25**	*e*Pn	**Pn**	**05 38 25.9**	**0.0**
FRGS	**Fruska Gora**	**8.20**	**25**	*e*Pn	**Pn**	**05 38 25.9**	**0.0**
FRGS				*e*Sn	**Sn**	**05 39 54.7**	**-3.0**
SBF	**Sospel**	**8.34**	**319**	*e*Pn	**Pn**	**05 38 27.5**	**-0.3**
SBF				*e*Sn	**Sn**	**05 39 57.2**	**-3.9**
	4.5nm,0.4s						
SBF	**Sospel**	**8.34**	**319**	*e*Pn	**Pn**	**05 38 27.5**	**-0.3**
LMR	**La Mourre**	**8.50**	**313**	*e*Pn	**Pn**	**05 38 29.2**	**-0.8**
LMR	**La Mourre**	**8.50**	**313**	*e*Pn	**Pn**	**05 38 29.2**	**-0.8**
FRF	**La Foret Royal**	**8.56**	**315**	*e*Pn	**Pn**	**05 38 31.0**	**+0.1**
FRF	**La Foret Royal**	**8.56**	**315**	*e*Pn	**Pn**	**05 38 31.0**	**+0.1**
MBDF	**Montbardon**	**9.29**	**321**	*e*P	Pn	05 38 46.5	+5.6
SMRF	**Simiane la Rot**	**9.43**	**314**	*e*Pn	**Pn**	**05 38 43.3**	**+0.5**
SMRF	**Simiane la Rot**	**9.43**	**314**	*e*Pn	**Pn**	**05 38 43.3**	**+0.5**
ORIF	**Oris-en-Rattie**	**9.87**	**319**	*e*Pn	**Pn**	**05 38 50.3**	**+1.4**
ORIF	**Oris-en-Rattie**	**9.87**	**319**	*e*Pn	**Pn**	**05 38 50.3**	**+1.4**
VIVF	**Saint-Julien-l**	**10.48**	**316**	*e*Pn	**Pn**	**05 38 58.5**	**+1.3**
VIVF	**Saint-Julien-l**	**10.48**	**316**	*e*Pn	**Pn**	**05 38 58.5**	**+1.3**
LASF	**Ste Croix**	**10.50**	**310**	*e*Pn	**Pn**	**05 38 57.2**	**-0.2**
LASF	**Ste Croix**	**10.50**	**310**	*e*P	Pn	05 39 03.6	+6.2
LASF	**Ste Croix**	**10.50**	**310**	*e*Pn	**Pn**	**05 38 57.2**	**-0.2**
CABF	**La Chapelle**	**11.00**	**326**	*e*Pn	**Pn**	**05 39 05.0**	**+0.6**
CABF	**La Chapelle**	**11.00**	**326**	*e*Pn	**Pn**	**05 39 05.0**	**+0.6**
CAF	**Calviac**	**12.04**	**310**	*e*Pn	**Pn**	**05 39 18.8**	**+0.4**
CAF	**Calviac**	**12.04**	**310**	*e*Pn	**Pn**	**05 39 18.8**	**+0.4**
NB2	**NORSAR Subarra**	**23.39**	**355**	P	**P**	**05 41 34.2**	**-0.9**
	comp=Z,9.1nm,1.4s,baz=173,slow=9.3						
NB2	**NORSAR Subarra**	**23.39**	**355**	P	**P**	**05 41 34.2**	**-0.9**
	comp=Z,9.1nm,1.4s,baz=173,slow=9.2,SNR=3.9						

IDC ***19*** *05:37:58.9±1.2, 19.°81N×147.°64E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/23, mbtmp3.7/7, MS3.7/1, Ms1 3.7/1, ms1mx2.6/41, Error ellipse: s-maj=45.4km s-min=21.7km az=83.0*
ISCJB ***19*** *05:38:02.1±1.2, 19.°8N±0.°1×147.°6E±0.°3, h34km, mb3.7/7, MS2.7/1, Error ellipse: s-maj=40.3km s-min=17.4km az=172.5*

ISC 19 05:38:04.1±1.3,19.°8N±0.°2×147.°6E±0.°3,h34km,n14, σ0°44/8,mb3.6/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**18.08**	**91**	T	T	06 01 36.2	
	baz=282,slow=72,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**18.09**	**91**	T	T	06 01 35.6	
	baz=282,slow=72,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**18.10**	**91**	T	T	06 01 38.2	
	baz=282,slow=72,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**18.16**	**87**	T	T	06 01 32.8	
	baz=278,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**18.18**	**87**	T	T	06 01 35.7	
	baz=278,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**18.18**	**87**	T	T	06 01 37.0	
	baz=278,slow=75,SNR=5.5						
KSRS	**Korea Array**	**24.57**	**320**	P	**P**	**05 43 21.4**	**+0.5**
	0.9nm,0.6s,baz=151,slow=10.0,SNR=4.3						
CTA	**Charters Tower**	**39.65**	**182**	LR	LR	06 02 16.3	
	comp=Z,16nm,28.6s,baz=210,slow=37						
WRA	**Warramunga Arr**	**41.57**	**199**	P	**P**	**05 45 48.4**	**-0.4**
	1.2nm,1.1s,baz=20,slow=8.2,SNR=4.8						
WRA				PcP	**PcP**	**05 47 46.4**	**

SPITS				Sn	Sn	05 59 35.5	-2.0	
	baz=313,slow=16,SNR=2.5							
SPITS				LR	LR	06 00 41.3		
	comp=Z,187nm,19.7s,baz=110,slow=39							
DAG	**Danmarks Havn**	**5.50**	**217**	*i* P	**Pn**	**05 58 48.2**	**+0.5**	
DAG				*i* S	**Sn**	**05 59 48.5**	**-2.3**	
SUMG	**Summit**	**11.50**	**238**	*i* P	Pn	06 00 05.9	-4.4	
SUMG				*i* S	Sn	06 02 09.3	-9.5	
ARCES	**ARCESS Array B**	**13.85**	**133**	Pn	**Pn**	**06 00 42.3**	**+0.3**	
	0.1nm,0.3s,baz=355,slow=10,SNR=2.7							
RES	**Resolute Bay**	**17.62**	**299**	P	**Pn**	**06 01 29.0**	**-2.0**	
	0.1nm,0.3s,baz=30,slow=14,SNR=3.6							
SFJD	**Kangerlussuaq**	**18.28**	**245**	LR	LR	06 08 55.6		
	comp=Z,15nm,28.6s,baz=44,slow=38							
NOA	**NORSAR Array B**	**21.05**	**159**	P	**P**	**06 02 11.3**	**+1.7**	
	0.9nm,0.8s,baz=349,slow=11,SNR=3.0							
FINES	**FINESS Array B**	**21.78**	**139**	LR	LR	06 10 31.3		
	comp=Z,30nm,19.7s,baz=344,slow=36							
FRB	**Frobisher Bay**	**23.88**	**262**	LR	LR	06 10 36.6		
	comp=Z,113nm,18.4s,baz=220,slow=33							
ILAR	**Eielson Array**	**32.51**	**331**	P	**P**	**06 03 56.9**	**+0.7**	
	0.5nm,1.0s,baz=16,slow=6.7,SNR=4.8							
BVAR	**Borovoye Array**	**35.73**	**94**	LR	LR	06 21 30.5		
	comp=Z,71nm,19.2s,baz=16,slow=40							
ULM	**Lac du Bonnet**	**40.91**	**281**	LR	LR	06 24 08.9		
	comp=Z,96nm,19.0s,baz=60,slow=39							
ESDC	**Sonseca Array**	**42.02**	**180**	P	**P**	**06 05 18.6**	**+1.6**	
	1.4nm,0.9s,baz=358,slow=7.5,SNR=4.7							
MKAR	**Makanchi Array**	**43.56**	**84**	LR	LR	06 26 46.6		
	comp=Z,15nm,28.6s,baz=355,slow=40							
SONM	**Songino Array**	**45.92**	**61**	LR	LR	06 25 39.4		
	comp=Z,52nm,18.5s,baz=90,slow=37							
AAK	**Ala-Archa**	**46.48**	**93**	LR	LR	06 29 04.3		
	comp=Z,15nm,28.6s,baz=54,slow=41							
PDAR	**Pinedale Array**	**50.17**	**292**	LR	LR	06 27 31.9		
	comp=Z,68nm,19.5s,baz=38,slow=36							
KSRS	**Korea Array**	**58.67**	**44**	LR	LR	06 32 14.3		
	comp=Z,15nm,18.4s,baz=40,slow=36							
TXAR	**Lajitas Array**	**62.54**	**284**	LR	LR	06 38 34.7		
	comp=Z,60nm,18.2s,baz=0.0,slow=40							
TORD	**Torodi Ar. Bea**	**68.49**	**174**	P	**P**	**06 08 27.4**	**-0.6**	
	0.6nm,0.7s,baz=350,slow=6.9,SNR=4.1							
CMAR	**Chiang Mai Arr**	**73.80**	**74**	LR	LR	06 43 48.4		
	comp=Z,10.0nm,19.1s,baz=130,slow=38							

*CSEM **19** 06:10:29.6,51°.43N×16°.34E,h0km, After GFU*
PRU 19 06:10:28.1,51°.48N×16°.35E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	**Upice**	**1.00**	**192**	*e*PG	Pg	06 10 46.9	-0.3
UPC	**Upice**	**1.00**	**192**	Pg	Pg	06 10 46.9	-0.3
DPC	**Dobruska-Polom**	**1.13**	**181**	*e*PG	Pg	06 10 48.7	-1.2
DPC				*e*SG	Sg	06 11 03.4	-1.2
DPC	**Dobruska-Polom**	**1.13**	**181**	Pg	Pg	06 10 48.7	-1.2
DPC				Sg	Sg	06 11 03.4	-1.2
KRLC	**Kraliky**	**1.43**	**169**	*e*PG	Pn	06 10 54.2	-1.2
KRLC				*e*SG	Sg	06 11 14.1	-0.2
KRLC	**Kraliky**	**1.43**	**169**	Pg	Pn	06 10 54.2	-1.2
KRLC				Sg	Sg	06 11 14.1	-0.2
BRG	**Berggiesshubel**	**1.63**	**249**	SG	Sn	06 11 15.7	-4.1
	3.0nm,0.3s						
PRU	**Pruhonice**	**1.88**	**218**	*e*SG	Sg	06 11 28.3	-0.4
PRU	**Pruhonice**	**1.88**	**218**	Sg	Sg	06 11 28.3	-0.4

*BUC **19** 06:12:00.5±0.4,45°.47N×26°.27E,h148km±4km,MD3.6/3, Error ellipse: s-maj=3.4km s-min=2.3km az=0.0*
*CSEM **19** 06:12:01.3±0.2,45°.45N×26°.28E,h139km±2km,MD3.6, Error ellipse: s-maj=3.8km s-min=2.8km az=1.0*
*ISCJB **19** 06:12:02.0±0.3,45°.45N±0°.03×26°.29E±0°.03,h132km, Error ellipse: s-maj=4.6km s-min=3.4km az=175.1*
ISC 19 06:12:02.3±1.2,45°.46N±0°.03×26°.28E±0°.03,h132km,n82, σ0s70/119,47C-18D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.24**	**278**	⇑*i*P	**Pn**	**06 12 20.8**	**+0.1**
MLR	**Muntele Rosu**	**0.24**	**278**	⇑*i*P	**Pn**	**06 12 20.8**	**+0.1**
MLR				*i* S	**Sn**	**06 12 35.6**	**+1.0**
MLR	**Muntele Rosu**	**0.24**	**278**	⇑*i*P	**Pn**	**06 12 20.8**	**+0.1**
MLR				*i* S	**Sn**	**06 12 35.6**	**+1.0**
SECR		**0.45**	**200**	S	**Sn**	**06 12 37.3**	**+1.5**
SECR		**0.45**	**200**	*i* S	**Sn**	**06 12 37.3**	**+1.5**
SECR		**0.45**	**200**	*i* S	**Sn**	**06 12 37.3**	**+1.5**
PLOR	**Plostina**	**0.47**	**33**	⇑*i*P	**Pn**	**06 12 21.7**	**+0.2**
PLOR	**Plostina**	**0.47**	**33**	⇑*i*P	**Pn**	**06 12 21.7**	**+0.2**
PLOR				*i* S	**Sn**	**06 12 36.6**	**+0.5**
PLOR	**Plostina**	**0.47**	**33**	⇑*i*P	**Pn**	**06 12 21.7**	**+0.2**
PLOR				*i* S	**Sn**	**06 12 36.6**	**+0.5**
GRF		**0.49**	**99**	⇑*i*P	**Pn**	**06 12 23.1**	**+1.5**
GRER		**0.49**	**99**	⇑*i*P	**Pn**	**06 12 23.1**	**+1.5**
VRI	**Vrincioaia**	**0.52**	**37**	⇑*i*P	**Pn**	**06 12 22.1**	**+0.4**
VRI	**Vrincioaia**	**0.52**	**37**	⇑*i*P	**Pn**	**06 12 22.1**	**+0.4**
VRI				*i* S	**Sn**	**06 12 37.4**	**+0.9**
VRI	**Vrincioaia**	**0.52**	**37**	⇑*i*P	**Pn**	**06 12 22.1**	**+0.4**
VRI				*i* S	**Sn**	**06 12 37.4**	**+0.9**
ODBI	**Odobesti**	**0.62**	**60**	S	**Sn**	**06 12 39.3**	**+1.8**
ODBI	**Odobesti**	**0.62**	**60**	*i* S	**Sn**	**06 12 39.3**	**+1.8**
ODBI	**Odobesti**	**0.62**	**60**	*i* S	**Sn**	**06 12 39.3**	**+1.8**
PETR	**Petresti**	**0.72**	**68**	⇓*i*P	**Pn**	**06 12 22.7**	**-0.3**
PETR	**Petresti**	**0.72**	**68**	⇓*i*P	**Pn**	**06 12 22.7**	**-0.3**
PETR				*i* S	**Sn**	**06 12 39.7**	**+1.0**
PETR	**Petresti**	**0.72**	**68**	⇓*i*P	**Pn**	**06 12 22.7**	**-0.3**
PETR				*i* S	**Sn**	**06 12 39.7**	**+1.0**
SULR		**0.78**	**181**	⇑*i*P	**Pn**	**06 12 23.6**	**+0.1**
SULR		**0.78**	**181**	⇑*i*P	**Pn**	**06 12 23.6**	**+0.1**
SULR				*i* S	**Sn**	**06 12 40.8**	**+1.3**
SULR		**0.78**	**181**	⇑*i*P	**Pn**	**06 12 23.6**	**+0.1**
SULR				*i* S	**Sn**	**06 12 40.8**	**+1.3**
DOPR	**Dopca**	**0.81**	**309**	⇓*i*P	**Pn**	**06 12 23.6**	**-0.2**
DOPR	**Dopca**	**0.81**	**309**	⇓*i*P	**Pn**	**06 12 23.6**	**-0.2**
DOPR				*i* S	**Sn**	**06 12 40.0**	**0.0**
DOPR	**Dopca**	**0.81**	**309**	⇓*i*P	**Pn**	**06 12 23.6**	**-0.2**
DOPR				*i* S	**Sn**	**06 12 40.0**	**0.0**
VOIR		**0.87**	**269**	⇑*i*P	**Pn**	**06 12 24.1**	**-0.2**
VOIR		**0.87**	**269**	⇑*i*P	**Pn**	**06 12 24.1**	**-0.2**
VOIR				*i* S	**Sn**	**06 12 41.2**	**+0.2**
VOIR		**0.87**	**269**	⇑*i*P	**Pn**	**06 12 24.1**	**-0.2**
VOIR				*i* S	**Sn**	**06 12 41.2**	**+0.2**
MTUR	**Matau**	**0.89**	**255**	⇓*i*P	**Pn**	**06 12 24.6**	**+0.1**
MTUR	**Matau**	**0.89**	**255**	⇓*i*P	**Pn**	**06 12 24.6**	**+0.1**
MTUR	**Matau**	**0.89**	**255**	⇓*i*P	**Pn**	**06 12 24.6**	**+0.1**
TESR	**Tescani**	**1.08**	**14**	⇑*i*P	**Pn**	**06 12 26.0**	**-0.2**
TESR	**Tescani**	**1.08**	**14**	⇑*i*P	**Pn**	**06 12 26.0**	**-0.2**
TESR				*i* S	**Sn**	**06 12 43.8**	**-0.6**
TESR	**Tescani**	**1.08**	**14**	⇑*i*P	**Pn**	**06 12 26.0**	**-0.2**
TESR				*i* S	**Sn**	**06 12 43.8**	**-0.6**
GOLR		**1.12**	**237**	S	**Sn**	**06 12 45.9**	**+1.0**
GOLR		**1.12**	**237**	*i* S	**Sn**	**06 12 45.9**	**+1.0**
GOLR		**1.12**	**237**	*i* S	**Sn**	**06 12 45.9**	**+1.0**
BUC1	**Bucharest**	**1.12**	**189**	S	**Sn**	**06 12 45.6**	**+0.6**
BUC1	**Bucharest**	**1.12**	**189**	*i* S	**Sn**	**06 12 45.6**	**+0.6**
BUC1	**Bucharest**	**1.12**	**189**	*i* S	**Sn**	**06 12 45.6**	**+0.6**
AMRR	**Amara**	**1.13**	**138**	S	**Sn**	**06 12 45.8**	**+0.7**
AMRR	**Amara**	**1.13**	**138**	*i* S	**Sn**	**06 12 45.8**	**+0.7**
AMRR	**Amara**	**1.13**	**138**	*i* S	**Sn**	**06 12 45.8**	**+0.7**
HUMR	**Humele**	**1.31**	**225**	⇓*i*P	**Pn**	**06 12 28.3**	**-0.2**
HUMR	**Humele**	**1.31**	**225**	⇓*i*P	**Pn**	**06 12 28.3**	**-0.2**
HUMR				*i* S	**Sn**	**06 12 48.4**	**0.0**
HUMR	**Humele**	**1.31**	**225**	⇓*i*P	**Pn**	**06 12 28.3**	**-0.2**
HUMR				*i* S	**Sn**	**06 12 48.4**	**0.0**
CFR	**Carcaliu**	**1.34**	**101**	⇑*i*P	**Pn**	**06 12 28.4**	**-0.3**
CFR	**Carcaliu**	**1.34**	**101**	⇑*i*P	**Pn**	**06 12 28.4**	**-0.3**
CFR				*i* S	**Sn**	**06 12 48.7**	**-0.1**
CFR	**Carcaliu**	**1.34**	**101**	⇑*i*P	**Pn**	**06 12 28.4**	**-0.3**
CFR				*i* S	**Sn**	**06 12 48.7**	**-0.1**
HARR	**Harsova**	**1.40**	**123**	⇑*i*P	**Pn**	**06 12 29.4**	**0.0**
HARR	**Harsova**	**1.40**	**123**	⇑*i*P	**Pn**	**06 12 29.4**	**0.0**
HARR	**Harsova**	**1.40**	**123**	⇑*i*P	**Pn**	**06 12 29.4**	**0.0**
CVD	**Cernavoda**	**1.69**	**132**	⇑*i*P	**Pn**	**06 12 32.5**	**-0.2**
CVD	**Cernavoda**	**1.69**	**132**	⇑*i*P	**Pn**	**06 12 32.5**	**-0.2**
CVD				*i* S	**Sn**	**06 12 55.2**	**-0.7**
CVD	**Cernavoda**	**1.69**	**132**	⇑*i*P	**Pn**	**06 12 32.5**	**-0.2**
CVD				*i* S	**Sn**	**06 12 55.2**	**-0.7**
LEOM	**Leova**	**1.71**	**53**	⇓*i*P	**Pn**	**06 12 32.6**	**-0.2**
LEOM	**Leova**	**1.71**	**53**	⇓*i*P	**Pn**	**06 12 32.6**	**-0.2**
LEOM				*i* S	**Sn**	**06 12 55.7**	**-0.5**
LEOM	**Leova**	**1.71**	**53**	⇓*i*P	**Pn**	**06 12 32.6**	**-0.2**
LEOM				*i* S	**Sn**	**06 12 55.7**	**-0.5**
MSAB	**Monastry St. A**	**1.75**	**141**	⇑*i*P	**Pn**	**06 12 33.4**	**-0.1**
MSAB				*i* S	**Sn**	**06 12 57.4**	**+0.2**
MSAB	**Monastry St. A**	**1.75**	**141**	⇑*i*P	**Pn**	**06 12 33.4**	**-0.1**
MSAB				*i* S	**Sn**	**06 12 57.4**	**+0.2**
MSAB	**Monastry St. A**	**1.75**	**141**	⇑*i*P	**Pn**	**06 12 33.4**	**-0.1**
MSAB				*i* S	**Sn**	**06 12 57.4**	**+0.2**
LOT	**Lotru**	**1.77**	**271**	⇑*i*P	**Pn**	**06 12 33.0**	**-0.7**
LOT	**Lotru**	**1.77**	**271**	⇑*i*P	**Pn**	**06 12 33.0**	**-0.7**
LOT				*i* S	**Sn**	**06 12 58.1**	**+0.4**
LOT	**Lotru**	**1.77**	**271**	⇑*i*P	**Pn**	**06 12 33.0**	**-0.7**
LOT				*i* S	**Sn**	**06 12 58.1**	**+0.4**
TLCR		**1.81**	**98**	⇑*i*P	**Pn**	**06 12 33.9**	**-0.2**
TLCR		**1.81**	**98**	⇑*i*P	**Pn**	**06 12 33.9**	**-0.2**
TLCR				*i* S	**Sn**	**06 12 58.0**	**-0.3**
TLCR		**1.81**	**98**	⇑*i*P	**Pn**	**06 12 33.9**	**-0.2**
TLCR				*i* S	**Sn**	**06 12 58.0**	**-0.3**
TIRR	**Tirgusor**	**1.81**	**123**	⇓*i*P	**Pn**	**06 12 33.9**	**-0.2**
TIRR	**Tirgusor**	**1.81**	**123**	⇓*i*P	**Pn**	**06 12 33.9**	**-0.2**
TIRR				*i* S	**Sn**	**06 12 57.0**	**-1.4**
TIRR	**Tirgusor**	**1.81**	**123**	⇓*i*P	**Pn**	**06 12 33.9**	**-0.2**
TIRR				*i* S	**Sn**	**06 12 57.0**	**-1.4**
BURAR	**Bucovina Array**	**2.28**	**342**	⇑*i*P	**Pn**	**06 12 41.0**	**+1.1**
BURAR	**Bucovina Array**	**2.28**	**342**	⇑*i*P	**Pn**	**06 12 41.0**	**+1.1**
BURAR	**Bucovina Array**	**2.28**	**342**	⇑*i*P	**Pn**	**06 12 41.0**	**+1.1**
SRE	**Strehaia**	**2.32**	**251**	⇑*i*P	**Pn**	**06 12 39.7**	**-0.6**
SRE	**Strehaia**	**2.32**	**251**	⇑*i*P	**Pn**	**06 12 39.7**	**-0.6**
SRE				*i* S	**Sn**	**06 13 08.7**	**-0.8**
SRE	**Strehaia**	**2.32**	**251**	⇑*i*P	**Pn**	**06 12 39.7**	**-0.6**
SRE				*i* S	**Sn**	**06 13 08.7**	**-0.8**
KIS	**Kishinev**	**2.34**	**48**	*i* S	**Sn**	**06 13 09.0**	**-0.9**
KIS	**Kishinev**	**2.34**	**48**	*i* S	**Sn**	**06 13 09.0**	**-0.9**
GZR	**Gura Zlata**	**2.47**	**270**	⇑*i*P	**Pn**	**06 12 41.5**	**-0.8**
GZR	**Gura Zlata**	**2.47**	**270**	⇑*i*P	**Pn**	**06 12 41.5**	**-0.8**
GZR				*i* S	**Sn**	**06 13 12.5**	**-0.4**
GZR	**Gura Zlata**	**2.47**	**270**	⇑*i*P	**Pn**	**06 12 41.5**	**-0.8**
GZR				*i* S	**Sn**	**06 13 12.5**	**-0.4**

*ISCJB **19** 06:18:12.8±0.4,23°.65N±0°.06×94°.18E±0°.05,h73km, mb4.2/30, Error ellipse: s-maj=9.9km s-min=4.2km az=31.5*
*NEIC **19** 06:18:14.1±0.6,23°.73N×94°.43E,h74km±6km, mb4.5/9, Error ellipse: s-maj=10.5km s-min=5.6km az=220.0*
*IDC **19** 06:18:17.4±0.9,23°.79N×94°.57E,h108km±7km, mb3.9/22, mb1 3.9/23,mb1mx3.8/34,mbtmp4.2/23, MS2.7/2, Ms1 2.8/2, ms1mx2.5/48, Error ellipse: s-maj=25.2km s-min=10.4km az=54.0*
ISC 19 06:18:13.9±0.5,23°.67N±0°.08×94°.25E±0°.06,h73km,n92, σ2s11/131,mb4.3/30,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.15**	**345**	*e*P	**Pn**	**06 18 35.0**	**+0.5**
IMP				*e*S	Sn	06 18 43.0	-6.9
SHL	**Shillong**	**2.86**	**312**	*e*P	Pn	06 19 01.0	+3.5
SHL				*e*S	**Sn**	**06 19 31.5**	**+0.5**
LSA	**Lhasa**	**6.61**	**336**	*e*Pn	**Pn**	**06 19 50.5**	**+1.5**
	31nm,0.2s						
LSA				*e*Sn	**Sn**	**06 21 02.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**6.79**	**139**	P	**Pn**	**06 19 52.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**6.79**	**139**	P	**Pn**	**06 19 52.4**	**+1.4**
	0.7nm,0.3s,baz=318,slow=13,SNR=5.4						
CMAR				LR	LR	06 22 38.7	
	comp=Z,18nm,20.6s,baz=340,slow=39						
TAPN	**Taplejung**	**6.95**	**303**	*e*Pn	**Pn**	**06 19 55.5**	**+2.1**
TAPN				*e*Sn	**Sn**	**06 21 10.1**	**-1.1**
	422nm,0.5s						
TAPN	**Taplejung**	**6.95**	**303**	*e*Pn	**Pn**	**06 19 55.5**	**+2.1**
TAPN				*e*Sn	**Sn**	**06 21 10.1**	**-1.1**
ODAN	**Odare**	**6.97**	**299**	*e*Pn	**Pn**	**06 19 55.8**	**+2.1**
ODAN				*e*Sn	**Sn**	**06 21 10.7**	**-1.0**
	782nm,0.4s						
ODAN	**Odare**	**6.97**	**299**	*e*Pn	**Pn**	**06 19 55.8**	**+2.1**
ODAN				*e*Sn	**Sn**	**06 21 10.7**	**-1.0**
RAMN	**Ramite**	**7.65**	**297**	*e*Pn	**Pn**	**06 20 05.0**	**+2.0**
RAMN				*e*Sn	**Sn**	**06 21 27.0**	**-1.3**
	489nm,0.5s						
RAMN	**Ramite**	**7.65**	**297**	*e*Pn	**Pn**	**06 20 05.0**	**+2.0**
RAMN				*e*Sn	**Sn**	**06 21 27.0**	**-1.3**
JIRN	**Jiri**	**8.29**	**300**	*e*Pn	**Pn**	**06 20 13.7**	**+2.0**
JIRN				*e*Sn	**Sn**	**06 21 42.3**	**-1.7**
	597nm,0.3s						
JIRN	**Jiri**	**8.29**	**300**	*e*Pn	**Pn**	**06 20 13.7**	**+2.0**
JIRN				*e*Sn	**Sn**	**06 21 42.3**	**-1.7**
GUN	**Gumba**	**8.64**	**301**	*e*Pn	**Pn**	**06 20 18.3**	**+1.7**
GUN				*e*Sn	**Sn**	**06 21 50.1**	**-2.6**
	445nm,0.6s						
GUN	**Gumba**	**8.64**	**301**	*e*Pn	**Pn**	**06 20 18.3**	**+1.7**
GUN				*e*Sn	**Sn**	**06 21 50.1**	**-2.6**
PKI	**Pulchoki**	**8.87**	**298**	*e*Pn	**Pn**	**06 20 21.2**	**+1.5**
PKI				*e*Sn	**Sn**	**06 21 56.4**	**-1.8**
	216nm,0.4s						
PKI	**Pulchoki**	**8.87**	**298**	*e*Pn	**Pn**	**06 20 21.8**	**+2.1**
PKI				*e*Sn	**Sn**	**06 21 56.5**	**-1.8**
PKIN	**Phulchoki**	**8.89**	**298**	*e*Pn	**Pn**	**06 20 21.8**	**+2.0**
PKIN				*e*Sn	**Sn**	**06 21 56.5**	**-2.0**
	376nm,0.4s						
KKN	**Kakani**	**9.07**	**299**	*e*Pn	**Pn**	**06 20 23.7**	**+1.4**
KKN				*e*Sn	**Sn**	**06 22 01.2**	**-1.7**
	177nm,0.3s						
KKN	**Kakani**	**9.07**	**299**	*e*Pn	**Pn**	**06 20 23.7**	**+1.4**
KKN				*e*Sn	**Sn**	**06 22 01.2**	**-1.7**
DMN	**Daman**	**9.13**	**297**	*e*Pn	**Pn**	**06 20 25.2**	**+2.0**
DMN				*e*Sn	**Sn**	**06 22 02.1**	**-2.5**
	132nm,0.4s						
DMN	**Daman**	**9.13**	**297**	*e*Pn	**Pn**	**06 20 25.2**	**+2.0**
DMN				*e*Sn	**Sn**	**06 22 02.1**	**-2.5**
GKN	**Gorkha**	**9.67**	**299**	*e*Pn	**Pn**	**06 20 31.7**	**+1.2**
GKN				*e*Sn	**Sn**	**06 22 14.8**	**-2.8**
	288nm,0.3s						
GKN	**Gorkha**	**9.67**	**299**	*e*Pn	**Pn**	**06 20 31.7**	**+1.2**
GKN				*e*Sn	**Sn**	**06 22 14.8**	**-2.8**
KOLN	**Koldanda**	**10.43**	**295**	*e*Pn	**Pn**	**06 20 41.7**	**+0.8**
KOLN				*e*Sn	**Sn**	**06 22 33.3**	**-2.9**
	163nm,0.4s						
KOLN	**Koldanda**	**10.43**	**295**	*e*Pn	**Pn**	**06 20 41.7**	**+0.8**
KOLN				*e*Sn	**Sn**	**06 22 33.3**	**-2.9**
DANN	**Dangsing**	**10.52**	**299**	*e*Pn	**Pn**	**06 20 42.2**	**0.0**
DANN				*e*Sn	**Sn**	**06 22 34.4**	**-4.1**
	81nm,0.3s						
DANN	**Dangsing**	**10.52**	**299**	*e*Pn	**Pn**	**06 20 42.2**	**0.0**
DANN				*e*Sn	**Sn**	**06 22 34.4**	**-4.1**
PYUN	**Piuthan**	**11.05**	**296**	*e*Pn	**Pn**	**06 20 49.3**	**-0.1**
PYUN				*e*Sn	**Sn**	**06 22 47.0**	**-4.4**
	172nm,0.5s						
PYUN	**Piuthan**	**11.05**	**296**	*e*Pn	**Pn**	**06 20 49.3**	**-0.1**
PYUN				*e*Sn	**Sn**	**06 22 47.0**	**-4.4**
ENH	**Enshi**	**15.09**	**61**	*e*Pn	**Pn**	**06 21 39.9**	**-3.1**
ULHL	**Ulahol**	**23.82**	**325**	P	**P**	**06 23 22.3**	**+1.9**
	SNR=9.3						
KBL	**Kabul**	**24.48**	**302**	*e*P	**P**	**06 23 28.5**	**+2.0**
	8.1nm,0.6s						
TKM2	**Tokmak 2**	**24.63**	**326**	P	**P**	**06 23 29.7**	**+1.9**
	SNR=15						
TKM2	**Tokmak 2**	**24.63**	**326**	*e*P	**P**	**06 23 29.3**	**+1.5**
	19nm,0.7s						
UCH	**Uchtor**	**24.73**	**323**	P	**P**	**06 23 30.6**	**+1.6**
	SNR=9.3						
KBK	**Karagaybulak**	**24.79**	**324**	P	**P**	**06 23 31.3**	**+2.1**
	SNR=14						
MK31	**Makanchi Array**	**25.00**	**340**	*e*P	**P**	**06 23 31.4**	**+0.5**
MKAR	**Makanchi Array**	**25.00**	**340**	P	**P**	**06 23 31.3**	**+0.4**
MKAR				pP	pP	06 23 55.6	+7.7
MKAR				PcP	**PcP**	**06 27 03.6**	**-0.6**
MKAR				ScP	**ScP**	**06 30 33.1**	**-3.7**
MKAR	**Makanchi Array**	**25.00**	**340**	P	**P**	**06 23 31.3**	**+0.4**
	17nm,0.5s,baz=152,slow=9.3,SNR=186						
MKAR				pP	pP	06 23 55.6	+7.7
	2.7nm,0.5s,baz=149,slow=10,SNR=3.5						
MKAR				PcP	**PcP**	**06 27 03.6**	**-0.6**
	0.2nm,0.5s,baz=140,slow=3.3,SNR=3.6						
MKAR				ScP	**ScP**	**06 30 33.1**	**-3.7**
	0.4nm,0.7s,baz=166,slow=2.6,SNR=6.4						
AAK	**Ala-Archa**	**25.02**	**324**	P	**P**	**06 23 33.4**	**+2.2**
	SNR=8.3						
AAK	**Ala-Archa**	**25.02**	**324**	*e*P	**P**	**06 23 33.2**	**+2.0**
	4.2nm,0.6s						
AAK	**Ala-Archa**	**25.02**	**324**	P	**P**	**06 23 33.3**	**+2.0**
	6.2nm,0.6s,baz=129,slow=6.6,SNR=19						
AML	**Almayashu**	**25.12**	**322**	P	**P**	**06 23 34.4**	**+1.9**
	SNR=6.3						
EKS2	**Erkin-Say**	**25.43**	**323**	P	**P**	**06 23 37.4**	**+2.5**
	SNR=7.5						
EKS2	**Erkin-Say**	**25.43**	**323**	*e*P	**P**	**06 23 36.7**	**+1.8**
	6.1nm,0.8s						
SONM	**Songino Array**	**25.98**	**19**	P	**P**	**06 23 38.7**	**-1.2**
SONM				pP	**pP**	**06 24 01.6**	**+4.6**
SONM				ScP	**ScP**	**06 30 34.8**	**-5.0**
SONM	**Songino Array**	**25.98**	**19**	P	**P**	**06 23 38.7**	**-1.2**
	0.3nm,0.5s,baz=205,slow=9.3,SNR=3.5						
SONM				pP	**pP**	**06 24 01.6**	**+4.6**
	0.9nm,0.7s,baz=202,slow=7.5,SNR=4.1						
SONM				ScP	**ScP**	**06 30 34.8**	**-5.0**
	0.5nm,0.6s,baz=207,slow=1.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**29.55**	**340**	P	**P**	**06 24 11.6**	**0.0**
	4.1nm,0.7s,baz=140,slow=10,SNR=24						
KURBB				ScP	**ScP**	**06 30 43.9**	**-6.6**
	0.8nm,0.4s,baz=141,slow=3.4,SNR=7.2						
KURK	**Kurchatov**	**29.60**	**340**	*e*P	**P**	**06 24 12.1**	**+0.1**
	2.4nm,0.4s						
KURK				ScP	**ScP**	**06 30 43.9**	**-6.7**
ZALV	**Zalesovo Beam**	**31.06**	**349**	P	**P**	**06 24 24.4**	**-0.5**
ZALV				pP	pP	06 24 48.2	+6.0
ZALV	**Zalesovo Beam**	**31.06**	**349**	P	**P**	**06 24 24.4**	**-0.5**
	0.7nm,0.3s,baz=169,slow=9.8,SNR=5.0						
ZALV				pP	pP	06 24 48.2	+6.0
	0.3nm,0.3s,baz=153,slow=10.0,SNR=2.4						
BVAR	**Borovoye Array**	**34.45**	**334**	P	**P**	**06 24 54.6**	**+0.2**
BVAR				PcP	**PcP**	**06 27 27.6**	**-0.6**
BVAR	**Borovoye Array**	**34.45**	**334**	P	**P**	**06 24 54.6**	**+0.2**
	4.3nm,0.5s,baz=140,slow=12,SNR=30						
BVAR				PcP	**PcP**	**06 27 27.7**	**-0.6**
	0.4nm,0.3s,baz=158,slow=3.5,SNR=4.3						
BRVK	**Borovoye**	**34.52**	**334**	*e*P	**P**	**06 24 55.1**	**+0.1**
	2.6nm,0.6s						
AKTO	**Aktyubinsk**	**38.75**	**323**	P	**P**	**06 25 32.0**	**+0.9**
AKTO	**Aktyubinsk**	**38.75**	**323**	P	**P**	**06 25 32.0**	**+0.9**
	1.7nm,0.4s,baz=115,slow=7.8						
ARU	**Arti**	**41.79**	**331**	*e*P	**P**	**06 25 56.5**	**+0.5**
	6.0nm,0.5s						
KBZ	**Khabaz**	**46.36**	**309**	P	**P**	**06 26 35.6**	**+2.8**
KBZ	**Khabaz**	**46.36**	**309**	P	**P**	**06 26 35.6**	**+2.8**
	0.6nm,0.4s,baz=114,slow=12,SNR=4.6						
KIV	**Kislovodsk**	**46.55**	**309**	*e*P	**P**	**06 26 36.8**	**+2.3**
	12nm,0.7s						
BRTR	**Keskin Array B**	**53.05**	**303**	P	**P**	**06 27 25.1**	**+1.3**
BRTR	**Keskin Array B**	**53.05**	**303**	P	**P**	**06 27 25.1**	**+1.3**
	1.4nm,0.5s,baz=115,slow=7.1,SNR=11						
AKASG	**Malin Array Be**	**56.34**	**316**	P	**P**	**06 27 46.6**	**-0.7**
AKASG	**Malin Array Be**	**56.34**	**316**	P	**P**	**06 27 46.6**	**-0.

NPS				S	Sn	06 26 45.9	-1.8		
NPS	**Neapolis**	**1.55**	**242**	*e*P	Pn	06 26 27.5	+0.5		
NPS	**Neapolis**	**1.55**	**242**	*e*P	Pn	06 26 27.5	+0.5		
GCAM	**G?zelcaml?**	**1.69**	**359**	*i* P	Pn	06 26 29.3	+0.6		
GCAM				*i* S	Sn	06 26 48.6	-2.1		
GCAM	**G?zelcaml?**	**1.69**	**359**	*i* P	Pn	06 26 29.3	+0.6		
GCAM				*i* S	Sn	06 26 48.6	-2.1		
LAST	**Lasithi**	**1.70**	**241**	P	Pn	06 26 29.6	+0.7		
LAST				S	Sn	06 26 50.0	-1.0		
LAST	**Lasithi**	**1.70**	**241**	*e*P	Pn	06 26 29.5	+0.7		
LAST	**Lasithi**	**1.70**	**241**	*e*P	Pn	06 26 29.5	+0.7		
AYDN	**Tasoluk**	**1.72**	**16**	*i* P	Pn	06 26 29.1	0.0		
AYDN				*i* S	Sn	06 26 48.3	-3.2		
AYDN	**Tasoluk**	**1.72**	**16**	*i* P	Pn	06 26 29.1	0.0		
SMG	**Samos**	**1.74**	**348**	P	Pn	06 26 29.6	+0.3		
SMG	**Samos**	**1.74**	**348**	*e*P	Pn	06 26 29.6	+0.3		
SMG	**Samos**	**1.74**	**348**	P	Pn	06 26 29.6	+0.3		
APE	**Apeiranthos**	**1.77**	**307**	*e*PN	Pn	06 26 29.8	+0.1		
APE	**Apeiranthos**	**1.77**	**307**	P	Pn	06 26 29.8	+0.1		
APE				S	Sn	06 26 50.6	-1.9		
APE	**Apeiranthos**	**1.77**	**307**	*e*P	Pn	06 26 29.8	+0.1		
APE	**Apeiranthos**	**1.77**	**307**	P	Pn	06 26 29.8	+0.1		
AKAS	**Kas**	**1.89**	**82**	*i* P	Pn	06 26 32.7	+1.3		
AKAS				*i* S	Sn	06 26 53.7	-1.7		
AKAS	**Kas**	**1.89**	**82**	*i* P	Pn	06 26 32.7	+1.3		
AKAS				*i* S	Sn	06 26 53.7	-1.7		
IDI	**Anoyia**	**2.08**	**251**	*e*PN	Pn	06 26 33.8	+0.2		
IDI	**Anoyia**	**2.08**	**251**	P	Pn	06 26 33.6	-0.1		
IDI				S	Sn	06 26 59.2	-0.3		
IDI	**Anoyia**	**2.08**	**251**	*e*Pn	Pn	06 26 33.6	-0.1		
IDI				S	Sn	06 26 57.2	-2.3		
IDI				*e*Sn	Sn	06 26 57.6	-1.9		
IDI	**Anoyia**	**2.08**	**251**	*e*Pn	Pn	06 26 33.8	+0.2		
IDI				S	Sn	06 26 59.2	-0.3		
IDI	**Anoyia**	**2.08**	**251**	P	Pn	06 26 33.8	+0.2		
	62nm,0.3s,baz=72,slow=4.9,SNR=215								
IDI				S	Sn	06 26 57.2	-2.3		
	677nm,0.3s,baz=73,slow=13,SNR=80								
GOLH	**Golhisar**	**2.21**	**55**	*i* P	Pn	06 26 36.9	+1.6		
GOLH				*e*S	Sn	06 27 02.0	-0.5		
GOLH	**Golhisar**	**2.21**	**55**	*i* P	Pn	06 26 36.9	+1.6		
GOLH				*e*S	Sn	06 27 02.0	-0.5		
DENT	**Denizli**	**2.24**	**38**	*e*PN	Pn	06 26 36.5	+0.8		
DENT	**Denizli**	**2.24**	**38**	*e*Pn	Pn	06 26 36.5	+0.8		
ELL	**Elmali**	**2.24**	**70**	*e*PN	Pn	06 26 37.8	+2.0		
ELL	**Elmali**	**2.24**	**70**	*e*Pn	Pn	06 26 37.8	+2.0		
SIVA	**Sivas**	**2.25**	**245**	P	Pn	06 26 37.5	+1.8		
SIVA				S	Sn	06 27 02.8	-0.5		
SIVA	**Sivas**	**2.25**	**245**	*e*P	Pn	06 26 37.5	+1.8		
SIVA	**Sivas**	**2.25**	**245**	P	Pn	06 26 37.5	+1.8		
SIVA				S	Sn	06 27 02.8	-0.5		
BLCB	**Balcova**	**2.38**	**355**	*e*PN	Pn	06 26 37.5	0.0		
BLCB	**Balcova**	**2.38**	**355**	*e*Pn	Pn	06 26 37.5	0.0		
IZM	**Izmir**	**2.39**	**360**	*e*PN	Pn	06 26 37.7	+0.1		
IZM	**Izmir**	**2.39**	**360**	*e*Pn	Pn	06 26 37.7	+0.1		
CHOS	**Chios island**	**2.57**	**338**	P	Pn	06 26 40.4	+0.3		
CHOS	**Chios island**	**2.57**	**338**	P	Pn	06 26 40.4	+0.3		
VAM	**Vamos**	**2.58**	**258**	P	Pn	06 26 40.4	+0.3		
VAM				S	Sn	06 27 09.2	-1.9		
VAM	**Vamos**	**2.58**	**258**	*e*P	Pn	06 26 41.4	+1.3		
VAM	**Vamos**	**2.58**	**258**	P	Pn	06 26 40.4	+0.3		
KULA	**Kula-Manisa**	**2.74**	**23**	*e*PN	Pn	06 26 42.5	+0.4		
KULA	**Kula-Manisa**	**2.74**	**23**	*e*Pn	Pn	06 26 42.6	+0.4		
KARN	**Karanos**	**2.81**	**259**	P	Pn	06 26 43.7	+0.6		
KARN				S	Sn	06 27 14.7	-1.8		
KARN	**Karanos**	**2.81**	**259**	*e*P	Pn	06 26 44.0	+0.9		
KARN	**Karanos**	**2.81**	**259**	P	Pn	06 26 43.7	+0.6		
ANTB	**Antalya**	**2.86**	**71**	*e*PN	Pn	06 26 45.9	+2.1		
ANTB	**Antalya**	**2.86**	**71**	*e*PN	Pn	06 26 45.9	+2.1		
AKS	**Akhisar**	**2.90**	**8**	*e*PN	Pn	06 26 44.4	+0.1		
AKS	**Akhisar**	**2.90**	**8**	*e*Pn	Pn	06 26 44.4	+0.1		
KHL	**Karahalli**	**2.92**	**37**	*e*PN	Pn	06 26 45.8	+1.1		
KHL	**Karahalli**	**2.92**	**37**	*e*Pn	Pn	06 26 45.8	+1.1		
MRMA	**Marmari**	**3.10**	**312**	P	Pn	06 26 47.9	+0.9		
MRMA	**Marmari**	**3.10**	**312**	P	Pn	06 26 47.9	+0.9		
ANKY	**Antikythira Is**	**3.24**	**269**	P	Pn	06 26 48.9	+0.1		
ANKY				S	Sn	06 27 24.3	-2.3		
ANKY	**Antikythira Is**	**3.24**	**269**	*e*P	Pn	06 26 49.8	+1.0		
ANKY	**Antikythira Is**	**3.24**	**269**	P	Pn	06 26 48.9	+0.1		
SUTC	**Sutluce-Ispart**	**3.33**	**63**	*e*PN	Pn	06 26 51.7	+1.6		
SUTC	**Sutluce-Ispart**	**3.33**	**63**	*e*Pn	Pn	06 26 51.7	+1.6		
PRK	**Paraskevi**	**3.33**	**346**	P	Pn	06 26 50.8	+0.7		
PRK	**Paraskevi**	**3.33**	**346**	*e*P	Pn	06 26 50.8	+0.7		
PRK	**Paraskevi**	**3.33**	**346**	P	Pn	06 26 50.8	+0.7		
SIGR	**SIGRI**	**3.40**	**341**	P	Pn	06 26 51.8	+0.9		
SIGR	**SIGRI**	**3.40**	**341**	P	Pn	06 26 51.8	+0.9		
PTL	**Penteli**	**3.41**	**308**	P	Pn	06 26 52.3	+1.1		
PTL	**Penteli**	**3.41**	**308**	P	Pn	06 26 52.3	+1.1		
KYTH	**Kithira**	**3.45**	**276**	P	Pn	06 26 51.7	0.0		
KYTH	**Kithira**	**3.45**	**276**	*e*P	Pn	06 26 52.5	+0.8		
KYTH	**Kithira**	**3.45**	**276**	P	Pn	06 26 51.7	0.0		
ATH	**Athens Observa**	**3.47**	**306**	*e*P	Pn	06 26 53.0	+1.2		
ATH	**Athens Observa**	**3.47**	**306**	*e*P	Pn	06 26 53.0	+1.2		
NAIG	**Nisos Aigina**	**3.51**	**301**	*e*P	Pn	06 26 53.2	+0.8		
NAIG	**Nisos Aigina**	**3.51**	**301**	*e*P	Pn	06 26 53.2	+0.8		
DID	**Didima**	**3.58**	**296**	P	Pn	06 26 54.2	+0.8		
DID	**Didima**	**3.58**	**296**	*e*P	Pn	06 26 54.2	+0.8		
DID	**Didima**	**3.58**	**296**	P	Pn	06 26 54.2	+0.8		
VLI	**Veliai**	**3.58**	**283**	P	Pn	06 26 53.5	+0.1		
VLI				S	Sn	06 27 32.4	-2.5		
VLI	**Veliai**	**3.58**	**283**	*e*P	Pn	06 26 53.9	+0.5		
VLI	**Veliai**	**3.58**	**283**	P	Pn	06 26 53.5	+0.1		
SHUT	**Suhut-Afyon**	**3.64**	**45**	*e*PN	Pn	06 26 55.0	+0.7		
SHUT	**Suhut-Afyon**	**3.64**	**45**	*e*Pn	Pn	06 26 55.0	+0.7		
BALB	**Balikesir**	**3.66**	**7**	*e*PN	Pn	06 26 54.5	+0.1		
BALB	**Balikesir**	**3.66**	**7**	*e*Pn	Pn	06 26 54.5	+0.1		
ERET	**Eretria**	**3.69**	**312**	P	Pn	06 26 55.9	+1.0		
ERET	**Eretria**	**3.69**	**312**	P	Pn	06 26 55.9	+1.0		
TVSB	**Tavsanli**	**3.85**	**26**	*e*PN	Pn	06 26 57.7	+0.6		
TVSB	**Tavsanli**	**3.85**	**26**	*e*Pn	Pn	06 26 57.7	+0.6		
MRKA	**Markates**	**3.99**	**314**	P	Pn	06 27 00.1	+1.2		
MRKA	**Markates**	**3.99**	**314**	P	Pn	06 27 00.1	+1.2		
LTK	**Loutraki**	**4.00**	**302**	P	Pn	06 27 00.0	+1.0		
LTK	**Loutraki**	**4.00**	**302**	*e*P	Pn	06 27 00.1	+1.0		
LTK	**Loutraki**	**4.00**	**302**	P	Pn	06 27 00.0	+1.0		
GONE	**Gonen-Balikesi**	**4.05**	**4**	*e*PN	Pn	06 26 59.8	+0.2		
GONE	**Gonen-Balikesi**	**4.05**	**4**	*e*Pn	Pn	06 26 59.8	+0.2		
VLX	**Vlachokerasia**	**4.17**	**291**	P	Pn	06 27 01.7	+0.3		
VLX	**Vlachokerasia**	**4.17**	**291**	P	Pn	06 27 01.7	+0.3		
LKR	**Lokris**	**4.32**	**309**	P	Pn	06 27 04.6	+1.3		
LKR	**Lokris**	**4.32**	**309**	P	Pn	06 27 04.6	+1.3		
KCTX	**Karacabey (Bur**	**4.34**	**11**	*e*PN	Pn	06 27 03.4	-0.2		
KCTX	**Karacabey (Bur**	**4.34**	**11**	*e*Pn	Pn	06 27 03.4	-0.2		
EDC	**Edincik**	**4.36**	**6**	*e*PN	Pn	06 27 03.4	-0.5		
EDC	**Edincik**	**4.36**	**6**	*e*Pn	Pn	06 27 03.4	-0.5		
KRBG	**Karabiga-Canak**	**4.38**	**0**	*e*PN	Pn	06 27 04.3	+0.2		
KRBG	**Karabiga-Canak**	**4.38**	**0**	*e*Pn	Pn	06 27 04.3	+0.2		
LPK	**Lapseki**	**4.38**	**355**	*e*PN	Pn	06 27 03.8	-0.3		
LPK	**Lapseki**	**4.38**	**355**	*e*Pn	Pn	06 27 03.8	-0.3		
GUR	**Goura**	**4.40**	**297**	P	Pn	06 27 05.4	+0.9		
GUR				S	Sn	06 27 51.7	-3.1		
GUR	**Goura**	**4.40**	**297**	*e*P	Pn	06 27 05.7	+1.2		
GUR	**Goura**	**4.40**	**297**	P	Pn	06 27 05.4	+0.9		
ALFC	**Alevga**	**4.41**	**99**	P	Pn	06 27 04.4	-0.2		
	baz=284								
ALFC				S	Sn	06 27 50.5	-4.5		
ALFC	**Alevga**	**4.41**	**99**	P	Pn	06 27 04.4	-0.2		
ALFC				S	Sn	06 27 50.5	-4.5		
GELI	**Tayfur-Gelibol**	**4.43**	**352**	*e*PN	Pn	06 27 04.8	0.0		
GELI	**Tayfur-Gelibol**	**4.43**	**352**	*e*Pn	Pn	06 27 04.8	0.0		
ITM	**Ithomi**	**4.47**	**287**	P	Pn	06 27 06.2	+0.9		
ITM				S	Sn	06 27 54.2	-2.1		
ITM	**Ithomi**	**4.47**	**287**	*e*P	Pn	06 27 06.4	+1.1		
ITM	**Ithomi**	**4.47**	**287**	P	Pn	06 27 06.2	+0.9		
DSF	**Desfina**	**4.49**	**304**	P	Pn	06 27 06.7	+1.0		
DSF	**Desfina**	**4.49**	**304**	*e*P	Pn	06 27 07.0	+1.3		
DSF	**Desfina**	**4.49**	**304**	P	Pn	06 27 06.7	+1.0		
PYL	**PYLOS**	**4.56**	**283**	P	Pn	06 27 06.1	-0.4		
PYL				S	Sn	06 27 56.5	-1.9		
PYL	**PYLOS**	**4.56**	**283**	*e*P	Pn	06 27 07.6	+1.1		
PYL	**PYLOS**	**4.56**	**283**	P	Pn	06 27 06.1	-0.4		
KLV	**Kalavryta, Ach**	**4.58**	**298**	P	Pn	06 27 07.9	+0.9		
KLV	**Kalavryta, Ach**	**4.58**	**298**	*e*P	Pn	06 27 07.9	+0.9		
KLV	**Kalavryta, Ach**	**4.58**	**298**	P	Pn	06 27 07.9	+0.9		
NEO	**Neokhori**	**4.61**	**317**	P	Pn	06 27 08.5	+1.2		
NEO	**Neokhori**	**4.61**	**317**	P	Pn	06 27 08.5	+1.2		
LADK	**Ladik-KONYA**	**4.61**	**60**	*e*PN	Pn	06 27 08.5	+1.1		
LADK	**Ladik-KONYA**	**4.61**	**60**	*e*Pn	Pn	06 27 08.5	+1.1		
RKY	**Sarkoy-Tekirda**	**4.68**	**359**	*e*PN	Pn	06 27 08.4	+0.2		
RKY	**Sarkoy-Tekirda**	**4.68**	**359**	*e*Pn	Pn	06 27 08.4	+0.2		
SZAC	**Souni-Zanaja**	**4.74**	**104**	P	Pn	06 27 08.3	-0.7		
	baz=288								
SZAC				S	Sn	06 27 59.5	-3.4		
SZAC	**Souni-Zanaja**	**4.74**	**104**	P	Pn	06 27 08.3	-0.7		
SZAC				S	Sn	06 27 59.5	-3.4		
KALE	**Kalithea**	**4.75**	**302**	P	Pn	06 27 10.5	+1.3		
KALE	**Kalithea**	**4.75**	**302**	P	Pn	06 27 10.5	+1.3		
SVRH	**Sivrihisar-ESK**	**4.81**	**43**	*e*PN	Pn	06 27 11.5	+1.6		
SVRH	**Sivrihisar-ESK**	**4.81**	**43**	*e*Pn	Pn	06 27 11.5	+1.6		
LTBQ	**Tobruq**	**4.83**	**216**	*i* P	Pn	06 27 10.9	+0.7		
	SNR=23								
DRO	**Drossia**	**4.87**	**295**	P	Pn	06 27 12.0	+1.3		
DRO	**Drossia**	**4.87**	**295**	P	Pn	06 27 12.0	+1.3		
MAMC	**Mammari**	**4.91**	**98**	P	Pn	06 27 10.7	-0.5		
	baz=283								
MAMC	**Mammari**	**4.91**	**98**	P	Pn	06 27 10.7	-0.5		
EFP	**Efpalio**	**4.93**	**301**	P	Pn	06 27 12.9	+1.4		
EFP	**Efpalio**	**4.93**	**301**	*e*P	Pn	06 27 12.9	+1.4		
EFP	**Efpalio**	**4.93**	**301**	P	Pn	06 27 12.9	+1.4		
AGG	**Agios Georgios**	**4.96**	**309**	P	Pn	06 27 13.8	+1.8		
AGG	**Agios Georgios**	**4.96**	**309**	P	Pn	06 27 13.8	+1.8		
CSS	**Prodhromos**	**5.04**	**100**	P	Pn	06 27 12.2	-0.8		
	baz=285								
CSS	**Prodhromos**	**5.04**	**100**	*e*Pn	Pn	06 27 11.9	-1.1		
CSS				*e*Sn	Sn	06 28 01.9	-8.3		
CSS	**Prodhromos**	**5.04**	**100**	Pn	Pn	06 27 12.3	-0.8		
CSS				Sn	Sn	06 28 05.2	-5.0		
RLS	**Riolos of Patr**	**5.09**	**295**	P	Pn	06 27 15.5	+1.9		
RLS	**Riolos of Patr**	**5.09**	**295**	P	Pn	06 27 15.5	+1.9		
GULT	**Gulveren**	**5.10**	**29**	*e*PN	Pn	06 27 15.2	+1.3		
GULT	**Gulveren**	**5.10**	**29**	*e*Pn	Pn	06 27 15.2	+1.3		
THL	**Klokotos Trika**	**5.48**	**312**	P	Pn	06 27 20.3	+1.3		
THL	**Klokotos Trika**	**5.48**	**312**	P	Pn	06 27 20.3	+1.3		
PDO	**Prodromos**	**5.51**	**300**	P	Pn	06 27 20.4	+1.0		
PDO	**Prodromos**	**5.51**	**300**	P	Pn	06 27 20.4	+1.0		
KFL	**Anninata**	**5.61**	**294**	P	Pn	06 27 20.8	+0.1		
KFL				S	Sn	06 28 21.4	-2.4		
KFL	**Anninata**	**5.61**	**294**	P	Pn	06 27 20.8	+0.1		
BRTR	**Keskin Array B**	**6.25**	**52**	P	Pn	06 27 31.0	+1.5		
BRTR				S	Sn	06 28 39.7	+0.1		
BRTR	**Keskin Array B**	**6.25**	**52**	P	Pn	06 27 31.0	+1.5		
BRTR				S	Sn	06 28 39.7	+0.1		
BRTR	**Keskin Array B**	**6.25**	**52**	P	Pn	06 27 31.0	+1.5		
	1.2nm,0.3s,baz=224,slow=12,SNR=26								
BRTR				S	Sn	06 28 39.7	+0.1		
	0.9nm,0.3s,baz=206,slow=28,SNR=9.3								
BR131	**Keskin Array S**	**6.25**	**52**	*e*Pn	Pn	06 27 24.9	-4.7		
	3.2nm,0.4s								
BIA	**Bitola**	**6.85**	**319**	*e*Pn	Pn	06 27 40.7	+3.2		
HMYD	**Mayadein**	**6.86**	**153**	P	Pn	06 27 37.2	-0.6		
SQR		**6.93**	**151**	P	Pn	06 27 38.7	0.0		
	baz=150								
SQR		**6.93**	**151**	P	Pn	06 27 38.7	0.0		
KEK	**Kerkira**	**6.98**	**304**	P	Pn	06 27 39.0	-0.4		
KEK	**Kerkira**	**6.98**	**304**	P	Pn	06 27 39.0	-0.4		
HLW	**Helwan**	**7.01**	**150**	P	Pn	06 27 39.2	-0.6		
	baz=149								
HLW				S	Sn	06 28 54.0	-4.0		
	baz=149								
HLW	**Helwan**	**7.01**	**150**	P	Pn	06 27 39.2	-0.6		
AYT	**Al 'Ayyat**	**7.07**	**152**	P	Pn	06 27 40.9	+0.2		
	baz=151								
AYT	**Al 'Ayyat**	**7.07**	**152**	P	Pn	06 27 40.9	+0.2		
HNTI	**Hanita**	**7.13**	**112**	Pn	Pn	06 27 40.1	-1.3		
BHL	**Bhannes**	**7.18**	**105**	*e*P	Pn	06 27 40.1	-2.1		
BHL	**Bhannes**	**7.18**	**105**	*e*P	Pn	06 27 40.1	-2.1		
OFRI	**'Ofer**	**7.21**	**116**	Pn	Pn	06 27 40.4	-2.1		
BLGI	**Bet Lehem HaGe**	**7.30**	**114**	Pn	Pn	06 27 42.6	-1.2		
HSAF	**As Saff**	**7.31**	**149**	P	Pn	06 27 43.2	-0.7		
	baz=149								
HSAF	**As Saff**	**7.31**	**149**	P	Pn	06 27 43.2	-0.7		
MMA0	**Mount Meron ar**	**7.33**	**112**	Pn	Pn	06 27 43.0	-1.2		
MMAI	**Mount Meron Ar**	**7.33**	**112**	P	Pn	06 27 42.5	-1.7		
MMAI				S	Sn	06 29 02.0	-3.9		
MMAI	**Mount Meron Ar**	**7.33**	**112**	P	Pn	06 27 42.5	-1.7		
MMAI	**Mount Meron Ar**	**7.33**	**112**	P	Pn	06 27 42.5	-1.7		
	20nm,0.3s,baz=329,slow=13,SNR=118								
MMAI				S	Sn	06 29 02.0	-3.9		
	67nm,0.3s,baz=308,slow=27,SNR=21								
GLL	**Jalalah**	**7.41**	**149**	P	Pn	06 27 44.9	-0.5		
	baz=148								
GLL	**Jalalah**	**7.41**	**149**	P	Pn	06 27 44.8	-0.5		
SLTI	**Sal'it**	**7.45**	**118**	Pn	Pn	06 27 44.0	-1.7		
KSDI	**Kefar Szold**	**7.45**	**110**	Pn	Pn	06 27 44.3	-1.5		
RCY	**Rachaya**	**7.47**	**107**	*e*P	Pn	06 27 45.2	-0.9		
RCY	**Rachaya**	**7.47**	**107**	*e*P	Pn	06 27 45.2	-0.9		
BRBR	**Barbar**	**7.59**	**107**	*e*P	Pn	06 27 47.5	-0.3		
BRBR				*e*S	Sn	06 29 07.8	-4.5		
BRBR				AML	AML	06 29 11.4			
	comp=E,344nm,0.5s								
BRBR				AML	AML	06 29 12.7			
	comp=N,130nm,0.3s								
BRBR	**Barbar**	**7.59**	**107**	*e*P	Pn	06 27 47.5	-0.3		
	SNR=45								
HAWK	**Haweek**	**7.61**	**99**	*e*P	Pn	06 27 46.6	-1.3		
HAWK				*e*S	Sn	06 29 07.2	-5.3		
HAWK				AML	AML	06 29 09.6			
	comp=N,247nm,0.4s								
HAWK				AML	AML	06 29 13.6			
	comp=E,94nm,0.4s								
HAWK	**Haweek**	**7.61**	**99**	*e*P	Pn	06 27 46.6	-1.3		
	SNR=45								
MMLI	**Mount Malkishu**	**7.62**	**115**	Pn	Pn	06 27 46.4	-1.7		
SUZ		**7.71**	**141**	P	Pn	06 27 49.4	0.0		
	baz=141								
SUZ		**7.71**	**141**	P	Pn	06 27 49.4	0.0		
HMDT	**Nahal Hemdat**	**7.79**	**116**	Pn	Pn	06 27 48.9	-1.4		
LJBD	**Adjabya**	**7.80**	**231**	*i* P	Pn	06 27 49.3	-1.2		
	SNR=22								
QASN	**Qassioun**	**7.80**	**106**	*e*P	Pn	06 27 46.7	-3.9		
QASN				*e*S	Sn	06 29 10.0	-7.2		
QASN				AML	AML	06 29 14.6			
	comp=N,279nm,0.5s								
QASN				AML	AML	06 29 20.1			
	comp=E,452nm,0.4s								
KZIT	**Kziot**	**7.82**	**129**	Pn	Pn	06 27 49.4	-1.4		
TOTH	**TOTAH**	**7.98**	**107**	*e*P	Pn	06 27 49.0	-4.0		
TOTH				*e*S	Sn	06 29 12.7	-8.9		
TOTH				AML	AML	06 29 16.8			
	comp=N,82nm,0.4s								
TOTH				AML	AML	06 29 20.2			
	comp=E,92nm,0.6s								
ZAF		**8.04**	**145**	P	Pn	06 27 53.1	-0.7		
	baz=145								
ZAF		**8.04**	**145**	P	Pn	06 27 53.1	-0.7		
ZNM		**8.11**	**143**	P	Pn	06 27 54.9	+0.1		
	baz=143								
ZNM		**8.11**	**143**	P	Pn	06 27 54.9	+0.1		
MZDA	**Masada**	**8.20**	**123**	Pn	Pn	06 27 54.9	-1.0		
RMNI	**Mount Ramon**	**8.26**	**129**	Pn	Pn	06 27 55.6	-1.2		
ZFRI	**Zfri**	**8.55**	**127**	Pn	Pn	06 27 59.3	-1.4		
KRMI	**Paran Flat**	**8.57**	**131**	Pn	Pn	06 27 59.3	-1.7		
PRNI	**Paran**	**8.58**	**129**	Pn	Pn	06 27 59.8	-1.3		
HRFI	**Mount Harif**	**8.82**	**130**	Pn	Pn	06 28 02.7	-1.6		
ASF	**Jabal al Asfar**	**8.84**	**113**	P	Pn	06 28 04.5	-0.2		
ASF				S	Sn	06 29 45.7	+3.1		
ASF	**Jabal al Asfar**	**8.84**	**113**	P	Pn	06 28 04.5	-0.2		
	comp=E,1.8nm,0.3s,baz=286,slow=8.6,SNR=13								
ASF				S	Sn	06 29 45.7	+3.1		
	comp=E,3.8nm,0.3s,baz=132,slow=23,SNR=4.2								
MBRI	**Mt Berech**	**8.91**	**132**	Pn	Pn	06 28 04.4	-1.3		
TIP	**Timpagrande**	**8.94**	**294**	*e*Pn	Pn	06 28 03.6	-2.3		
TIP				*e*Sn	Sn	06 29 33.6	-11		
TIP	**Timpagrande**	**8.94**	**294**	*e*Pn	Pn	06 28 03.6	-2.3		
EIL	**Elat**	**9.02**	**132**	P	Pn	06 28 06.2	-1.0		
EIL				S	Sn	06 29 41.0	-6.0		
EIL	**Elat**	**9.02**	**132**	P	Pn	06 28 06.2	-1.0		
EIL	**Elat**	**9.02**	**132**	P	Pn	06 28 06.2	-1.0		
	comp=E,2.9nm,0.3s,baz=344,slow=8.0,SNR=35								
EIL				S	Sn	06 29 41.0	-6.0		
	comp=E,20nm,0.3s,baz=14,slow=12,SNR=12								
GRUS	**Gruza**	**9.35**	**329**	*e*Pn	Pn	06 28 13.0	+1.6		
CEL	**Celeste**	**9.37**	**287**	*e*Pn	Pn	06 28 08.6	-3.2		
	comp=E,90nm,0.2s								
CEL				*e*Sn	Sn	06 29 44.2	-11		
DIVS	**Divibare**	**9.82**	**328**	*e*Pn	Pn	06 28 18.8	+0.8		
CUC	**Castrocucco**	**9.89**	**297**	*e*Pn	Pn	06 28 16.7	-2.2		
CUC	**Castrocucco**	**9.89**	**297**	*e*Pn	Pn	06 28 16.7	-2.2		
BBLS	**Lazići**	**9.91**	**325**	*e*Pn	Pn	06 28 19.8	+0.7		
STON	**Ston**	**10.09**	**316**	*e*Pn	Pn	06 28 19.0	-2.5		
STON				Sn	Sn	06 30 04.3	-8.5		
STON	**Ston**	**10.09**	**316**	*e*Pn	Pn	06 28 19.0	-2.5		
TEKS	**Tekeris**	**10.38**	**328**	*e*Pn	Pn	06 28 26.4	+0.9		
NVLJ	**Novalja**	**12.75**	**316**	*e*Pn	Pn	06 28 55.2	-1.9		
NVLJ				Sn	Sn	06 31 06.5	-11		
NVLJ	**Novalja**	**12.75**	**316**	*e*Pn	Pn	06 28 55.1	-1.9		
BOJS	**Bojanci**	**13.15**	**320**	*i* Pn	Pn	06 29 01.2	-1.0		
BOJS	**Bojanci**	**13.15**	**320**	*i* Pn	Pn	06 29 01.2	-1.0		
CRES	**Cresnjev**	**13.26**	**321**	*i* Pn	Pn	06 29 03.1	-0.7		
CRES	**Cresnjev**	**13.26**	**321**	*i* Pn	Pn	06 29 03.1	-0.7		
GBRS	**Gornja Briga**	**13.40**	**319**	*i* Pn	Pn	06 29 04.6	-0.9		
LEGS	**Legarje**	**13.42**	**321**	*i* Pn	Pn	06 29 05.0	-0.7		
LEGS	**Legarje**	**13.42**	**321**	*i* Pn	Pn	06 29 05.0	-0.7		
KOLS	**Kolonicke sedl**	**13.44**	**346**	*e*P	P	06 29 13.0	+1.5		
VISS	**Visnje**	**13.56**	**320**	*i* Pn	Pn	06 29 06.3	-1.3		
VISS	**Visnje**	**13.56**	**320**	*i* Pn	Pn	06 29 06.3	-1.3		
CRVS	**Cervenica-Dubn**	**13.58**	**343**	*e*P	P	06 29 14.1	+1.0		
CRVS	**Cervenica-Dubn**	**13.58**	**343**	*e*P	P	06 29 14.1	+1.0		
PDKS	**Podkum**	**13.66**	**321**	*i* Pn	Pn	06 29 08.4	-0.5		
PDKS	**Podkum**	**13.66**	**321**	*i* Pn	Pn	06 29 08.4	-0.5		
SOKA	**Soboth**	**14.07**	**

comp=Z,5.8nm,0.8s
LANF Langenberg 19.28 318 *e*P **Pn 06 30 17.8 -0.3**
VIVF Saint-Julien-l 19.30 304 *e*P **P 06 30 14.2 -2.1**
comp=Z,15nm,0.5s
VIVF Saint-Julien-l 19.30 304 *e*P **P 06 30 14.2 -2.1**
comp=Z,15nm,0.5s
VIVF Saint-Julien-l 19.30 304 *e*P **P 06 30 14.2 -2.1**
comp=Z,7.3nm,0.5s
HAU Haudompre 19.57 314 *e*P **P 06 30 18.8 -0.4**
HAU Haudompre 19.57 314 *e*P **P 06 30 18.8 -0.4**
HAU Haudompre 19.57 314 *e*P **P 06 30 18.8 -0.4**
LASF Ste Croix 19.62 301 *e*P **P 06 30 17.8 -1.9**
LASF Ste Croix 19.62 301 *e*P **P 06 30 17.8 -1.9**
LASF Ste Croix 19.62 301 *e*P **P 06 30 17.8 -1.9**
THEF They Montfort 19.89 314 *e*P **Pn 06 30 24.1 -1.1**
PLDF La Plantade 20.38 307 *e*P **P 06 30 26.3 -1.7**
PLDF La Plantade 20.38 307 *e*P **P 06 30 26.3 -1.7**
SFTF Sexfontaines 20.44 314 *e*P **P 06 30 27.3 -1.1**
comp=Z,19nm,0.7s
SFTF Sexfontaines 20.44 314 *e*P **P 06 30 27.3 -1.1**
comp=Z,19nm,0.7s
SFTF Sexfontaines 20.44 314 *e*P **P 06 30 27.3 -1.1**
comp=Z,9.6nm,0.7s
SMF Signal de Mont 20.49 308 *e*P **P 06 30 27.4 -1.7**
comp=Z,37nm,1.0s
SMF Signal de Mont 20.49 308 *e*P **P 06 30 27.4 -1.7**
comp=Z,37nm,1.0s
SMF Signal de Mont 20.49 308 *e*P **P 06 30 27.4 -1.7**
comp=Z,18nm,1.0s
MEZF Maizieres J'vi 20.57 314 *e*P **P 06 30 27.4 -2.5**
comp=Z,18nm,0.7s
MEZF Maizieres J'vi 20.57 314 *e*P **P 06 30 27.4 -2.5**
comp=Z,18nm,0.7s
MEZF Maizieres J'vi 20.57 314 *e*P **P 06 30 27.4 -2.5**
comp=Z,9.0nm,0.7s
MTLF Montolieu 20.59 298 *e*P **P 06 30 26.8 -3.4**
comp=Z,6.5nm,0.5s
MTLF Montolieu 20.59 298 *e*P **P 06 30 26.8 -3.4**
comp=Z,6.5nm,0.5s
MTLF Montolieu 20.59 298 *e*P **P 06 30 26.8 -3.4**
comp=Z,3.2nm,0.5s
AGO Saint Agoulin 20.73 306 *e*P **P 06 30 31.5 -0.2**
AGO Saint Agoulin 20.73 306 *e*P **P 06 30 31.5 -0.2**
LOR Lormes 20.73 310 *e*P **P 06 30 30.3 -1.4**
comp=Z,7.0nm,0.4s
LOR Lormes 20.73 310 *e*P **P 06 30 30.3 -1.4**
comp=Z,7.0nm,0.4s
LOR Lormes 20.73 310 *e*P **P 06 30 30.3 -1.4**
comp=Z,3.5nm,0.4s
AVF Avril sur Loir 20.86 308 *e*P **P 06 30 31.5 -1.5**
comp=Z,21nm,0.8s
AVF Avril sur Loir 20.86 308 *e*P **P 06 30 31.5 -1.5**
comp=Z,21nm,0.8s
AVF Avril sur Loir 20.86 308 *e*P **P 06 30 31.5 -1.5**
comp=Z,10nm,0.8s
SSF Saint Saulge 20.87 309 *e*P **P 06 30 31.8 -1.3**
comp=Z,24nm,0.6s
SSF Saint Saulge 20.87 309 *e*P **P 06 30 31.8 -1.3**
comp=Z,24nm,0.6s
SSF Saint Saulge 20.87 309 *e*P **P 06 30 31.8 -1.3**
comp=Z,12nm,0.6s
CAF Calviac 21.09 303 *e*P **P 06 30 33.8 -1.7**
CAF Calviac 21.09 303 *e*P **P 06 30 33.8 -1.7**
CAF Calviac 21.09 303 *e*P **P 06 30 33.8 -1.7**
BGF Bois d'Agland 21.10 308 *e*P **P 06 30 34.4 -1.2**
comp=Z,22nm,0.7s
BGF Bois d'Agland 21.10 308 *e*P **P 06 30 34.4 -1.2**
comp=Z,22nm,0.7s
BGF Bois d'Agland 21.10 308 *e*P **P 06 30 34.4 -1.2**
comp=Z,11nm,0.7s
TCF Toulx Ste Croi 21.41 306 *e*P **P 06 30 37.7 -1.3**
comp=Z,8.8nm,0.7s
TCF Toulx Ste Croi 21.41 306 *e*P **P 06 30 37.7 -1.3**
comp=Z,8.8nm,0.7s
TCF Toulx Ste Croi 21.41 306 *e*P **P 06 30 37.7 -1.3**
comp=Z,4.4nm,0.7s
RJF Les Rejaudoux 21.57 303 *e*P **P 06 30 38.9 -1.7**
comp=Z,6.7nm,0.6s
RJF Les Rejaudoux 21.57 303 *e*P **P 06 30 38.9 -1.7**
comp=Z,6.7nm,0.6s
RJF Les Rejaudoux 21.57 303 *e*P **P 06 30 38.9 -1.7**
comp=Z,3.3nm,0.6s
BAIF Baives 21.83 317 *e*P **P 06 30 41.8 -1.5**
BAIF Baives 21.83 317 *e*P **P 06 30 41.8 -1.5**
BAIF Baives 21.83 317 *e*P **P 06 30 41.8 -1.5**
EPF Esparros 21.88 297 *e*P **P 06 30 42.3 -1.7**
comp=Z,4.0nm,0.5s
EPF Esparros 21.88 297 *e*P **P 06 30 42.3 -1.7**
comp=Z,4.0nm,0.4s
EPF Esparros 21.88 297 *e*P **P 06 30 42.3 -1.7**
comp=Z,2.0nm,0.5s
LFF La Frestale 22.00 302 *e*P **P 06 30 42.1 -3.1**
comp=Z,16nm,0.8s
LFF La Frestale 22.00 302 *e*P **P 06 30 42.1 -3.1**
comp=Z,16nm,0.8s
LFF La Frestale 22.00 302 *e*P **P 06 30 42.1 -3.1**
comp=Z,8.1nm,0.8s
ETSF Etsaut 22.51 296 *e*P **P 06 30 49.4 -1.2**
comp=Z,5.8nm,0.4s
ETSF Etsaut 22.51 296 *e*P **P 06 30 49.4 -1.2**
comp=Z,5.8nm,0.4s
ETSF Etsaut 22.51 296 *e*P **P 06 30 49.4 -1.2**
comp=Z,2.9nm,0.4s
SJPF Ste Jean 23.03 297 *e*P **P 06 30 52.1 -3.5**
comp=Z,29nm,1.0s
SJPF Ste Jean 23.03 297 *e*P **P 06 30 52.1 -3.5**
comp=Z,29nm,1.0s
SJPF Ste Jean 23.03 297 *e*P **P 06 30 52.1 -3.5**
comp=Z,14nm,1.0s
MFF Saint Martin d 23.06 306 *e*P **P 06 30 54.1 -1.7**
MFF Saint Martin d 23.06 306 *e*P **P 06 30 54.1 -1.7**
MFF Saint Martin d 23.06 306 *e*P **P 06 30 54.1 -1.7**
LDF La Druitiere 23.71 311 *e*P **P 06 31 00.1 -1.7**
LDF La Druitiere 23.71 311 *e*P **P 06 31 00.1 -1.7**
LDF La Druitiere 23.71 311 *e*P **P 06 31 00.1 -1.7**
FLN La Foliniere 24.00 311 *e*P **P 06 31 02.8 -1.6**
FLN La Foliniere 24.00 311 *e*P **P 06 31 02.8 -1.6**
FLN La Foliniere 24.00 311 *e*P **P 06 31 02.8 -1.6**
GRR Gorron 24.10 310 *e*P **P 06 31 03.6 -1.6**
comp=Z,7.8nm,0.3s
GRR Gorron 24.10 310 *e*P **P 06 31 03.6 -1.6**
comp=Z,7.8nm,0.3s
GRR Gorron 24.10 310 *e*P **P 06 31 03.6 -1.6**
comp=Z,3.9nm,0.3s
ESDC Sonseca Array 24.88 288 P **P 06 31 12.1 -0.5**
ESDC Sonseca Array 24.88 288 P **P 06 31 12.1 -0.5**
ESDC Sonseca Array 24.88 288 P **P 06 31 12.1 -0.5**
comp=Z,5.0nm,0.5s,baz=82,slow=9.3,SNR=52
ESLA Sonseca Array 24.88 288 *e*P **P 06 31 12.5 -0.1**
comp=Z,2.6nm,0.8s
ESLA Sonseca Array 24.88 288 *e*P **P 06 31 12.5 -0.1**
comp=Z,2.6nm,0.8s
SGMF Saint Gilles 25.12 308 *e*P **P 06 31 14.1 -0.5**
SGMF Saint Gilles 25.12 308 *e*P **P 06 31 14.1 -0.5**
SGMF Saint Gilles 25.12 308 *e*P **P 06 31 14.1 -0.5**
QUIF Quistinic 25.41 307 *e*P **P 06 31 15.5 -1.7**
QUIF Quistinic 25.41 307 *e*P **P 06 31 15.5 -1.7**
QUIF Quistinic 25.41 307 *e*P **P 06 31 15.5 -1.7**
FINES FINESS Array B 25.47 359 P **P 06 31 16.4 -1.1**
FINES FINESS Array B 25.47 359 P **P 06 31 16.5 -1.1**
FINES FINESS Array B 25.47 359 P **P 06 31 16.4 -1.1**
comp=Z,5.5nm,1.1s,baz=170,slow=10,SNR=6.5
ROSF Rostrenen 25.60 308 *e*P **P 06 31 17.2 -1.7**
ROSF Rostrenen 25.60 308 *e*P **P 06 31 17.2 -1.7**
ROSF Rostrenen 25.60 308 *e*P **P 06 31 17.2 -1.7**
HFS Hagfors 25.69 344 P **P 06 31 18.8 -0.8**
HFS Hagfors 25.69 344 P **P 06 31 18.8 -0.8**
HFS Hagfors 25.69 344 P **P 06 31 18.8 -0.8**
comp=Z,1.5nm,0.6s,baz=146,slow=16,SNR=4.8
HFS LR LR 06 44 17.0
comp=Z,15nm,28.6s,baz=264,slow=43
AKTO Aktyubinsk 26.41 47 P **P 06 31 26.8 +0.6**
AKTO Aktyubinsk 26.41 47 P **P 06 31 26.8 +0.6**
comp=Z,1.4nm,0.6s,baz=248,slow=9.9,SNR=5.2
EKA Eskdalemuir Ar 28.39 322 P **P 06 31 43.8 0.0**
EKA Eskdalemuir Ar 28.39 322 P **P 06 31 43.8 0.0**
EKA Eskdalemuir Ar 28.39 322 P **P 06 31 43.8 0.0**
comp=Z,1.3nm,0.7s,baz=118,slow=10.0,SNR=3.4
TORD Torodi Ar. Bea 32.36 232 P **P 06 32 20.3 +1.1**
TORD Torodi Ar. Bea 32.36 232 P **P 06 32 20.3 +1.1**
comp=Z,0.6nm,0.3s,baz=34,slow=8.4,SNR=12
ARCES ARCESS Array B 33.60 359 P **P 06 32 28.5 -0.9**
ARCES ARCESS Array B 33.60 359 P **P 06 32 28.5 -0.9**
ARCES ARCESS Array B 33.60 359 P **P 06 32 28.5 -0.9**
comp=Z,2.2nm,0.7s,baz=173,slow=8.2,SNR=6.8
BVAR Borovoye Array 34.51 47 P **P 06 32 39.0 +1.5**
BVAR Borovoye Array 34.51 47 P **P 06 32 39.0 +1.5**
comp=Z,0.6nm,0.7s,baz=240,slow=8.1,SNR=4.5
KURBB Kurchatov Arra 39.24 52 P **P 06 33 18.7 +1.1**
comp=Z,2.0nm,0.4s,baz=277,slow=8.4,SNR=12
KURK Kurchatov 39.30 52 P **P 06 33 18.7 +0.7**
DBIC Dimbokro 41.45 233 P **P 06 33 37.0 +0.9**
DBIC Dimbokro 41.45 233 P **P 06 33 37.0 +0.9**
comp=Z,2.8nm,1.0s,baz=29,slow=9.0,SNR=4.2
MK31 Makanchi Array 41.86 58 *e*P **P 06 33 40.4 +1.2**
MKAR Makanchi Array 41.86 58 P **P 06 33 40.5 +1.3**
MKAR ScP **ScP 06 39 13.5 0.0**
MKAR Makanchi Array 41.86 58 P **P 06 33 40.5 +1.3**
comp=Z,2.6nm,0.5s,baz=270,slow=8.1,SNR=42
MKAR ScP **ScP 06 39 13.5 0.0**
comp=Z,0.7nm,0.7s,baz=274,slow=4.4,SNR=4.9
LIC Lamto 41.90 233 *e*P P 06 33 36.4 -3.4
comp=Z,21nm,1.1s
LIC Lamto 41.90 233 *e*P P 06 33 36.4 -3.4
comp=Z,21nm,1.1s
LIC Lamto 41.90 233 *e*P P 06 33 36.4 -3.4
comp=Z,11nm,1.1s
SPITS Spitsbergen Ar 42.54 357 P **P 06 33 43.9 -0.3**
SPITS Spitsbergen Ar 42.54 357 P **P 06 33 43.9 -0.3**
SPITS Spitsbergen Ar 42.54 357 P **P 06 33 43.9 -0.3**
comp=Z,13nm,1.0s,baz=161,slow=9.2,SNR=4.1
ZALV Zalesovo Beam 43.17 47 P **P 06 33 50.1 +0.5**
ZALV Zalesovo Beam 43.17 47 P **P 06 33 50.1 +0.5**
ZALV Zalesovo Beam 43.17 47 P **P 06 33 50.1 +0.5**
comp=Z,2.7nm,0.4s,baz=270,slow=8.8,SNR=11
WMQ Urumqi 46.08 61 *e*P **P 06 34 14.8 +1.8**
SONM Songino Array 57.61 52 P **P 06 35 39.9 +1.3**
SONM Songino Array 57.61 52 P **P 06 35 39.9 +1.3**
SONM Songino Array 57.61 52 P **P 06 35 39.9 +1.3**
comp=Z,1.5nm,0.4s,baz=288,slow=7.8,SNR=12
LBTB Lobatse 60.71 182 *e*P **P 06 36 02.5 +2.4**
comp=Z,4.3nm,0.6s
SCHQ Schefferville 63.66 320 P **P 06 36 18.5 -0.9**
SCHQ Schefferville 63.66 320 P **P 06 36 18.5 -0.9**
SCHQ Schefferville 63.66 320 P **P 06 36 18.5 -0.9**
comp=Z,4.4nm,0.5s,baz=78,slow=7.4,SNR=14
HHC Hu-ho-hao-te 63.73 57 *e*P **P 06 36 21.4 +1.2**
HHC S **S 06 44 46.9 +0.4**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,340nm,6.6s
BOSA Boshof 64.30 182 *e*P **P 06 36 25.5 +1.6**
comp=Z,2.8nm,0.3s
BOSA Boshof 64.30 182 P **P 06 36 25.6 +1.6**
comp=Z,2.6nm,0.3s,baz=348,slow=6.6,SNR=17
CMAR Chiang Mai Arr 64.76 85 P **P 06 36 28.0 +0.9**
CMAR Chiang Mai Arr 64.76 85 P **P 06 36 28.0 +0.9**
CMAR Chiang Mai Arr 64.76 85 P **P 06 36 28.0 +0.9**
comp=Z,1.7nm,0.4s,baz=296,slow=7.7,SNR=11
MDJ Mudanjiang 73.37 47 P **P 06 37 19.4 -0.5**
MDJ pmax pmax
comp=Z,9.0nm,1.8s
MDJ pmax pmax
comp=Z,96nm,3.7s
KSAR Wonju Array Be 76.37 54 P **P 06 37 38.4 +1.1**
KSAR Wonju Array Be 76.37 54 P **P 06 37 38.4 +1.1**
KSRS Korea Array 76.39 54 P **P 06 37 38.4 +1.0**
comp=Z,1.7nm,0.5s,baz=320,slow=4.5,SNR=4.4
YKA Yellowknife Ar 77.17 343 P **P 06 37 40.2 -1.1**
YKA Yellowknife Ar 77.17 343 P **P 06 37 40.2 -1.1**
YKA Yellowknife Ar 77.17 343 P **P 06 37 40.2 -1.1**
comp=Z,0.3nm,0.6s,baz=36,slow=5.2,SNR=6.9
MJAR Matsushiro Arr 83.47 49 P **P 06 38 16.9 +1.3**
MJAR Matsushiro Arr 83.47 49 P **P 06 38 16.9 +1.3**
MJAR Matsushiro Arr 83.47 49 P **P 06 38 16.9 +1.3**
comp=Z,0.8nm,0.4s,baz=305,slow=4.3,SNR=2.4
WRA Warramunga Arr 114.97 97 PKP **PKPdf 06 44 26.9 -1.7**
WRA Warramunga Arr 114.97 97 PKP **PKPdf 06 44 26.9 -1.7**
comp=Z,0.6nm,1.1s,baz=335,slow=2.1,SNR=4.6
ASAR Alice Springs 116.50 101 PKP **PKPdf 06 44 31.4 0.0**
ASAR Alice Springs 116.50 101 PKIKP **PKPdf 06 44 31.4 0.0**
ASAR Alice Springs 116.50 101 PKP **PKPdf 06 44 31.4 0.0**
comp=Z,0.3nm,0.3s,baz=302,slow=1.2,SNR=5.6

IDC 19 06:53:30.4±3.6, 11°.63N×91°.85E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, Error ellipse: s-maj=143.2km s-min=24.4km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**27.15**	**226**	T	T	07 27 29.6	
	baz=45,slow=75,SNR=22						
H08S2	**Diego Garcia H**	**27.15**	**226**	T	T	07 27 34.2	
	baz=45,slow=75,SNR=30						
H08S1	**Diego Garcia H**	**27.17**	**226**	T	T	07 27 35.2	
	baz=45,slow=75,SNR=27						
MKAR	**Makanchi Array**	**35.97**	**349**	P	P	07 00 32.8	-0.1
	0.9nm,1.0s,baz=165,slow=9.3,SNR=2.9						
SONM	**Songino Array**	**38.10**	**16**	P	P	07 00 51.0	-0.2
	1.2nm,1.3s,baz=212,slow=7.6,SNR=3.8						
WRA	**Warramunga Arr**	**52.28**	**127**	P	P	07 02 43.7	-0.4
	0.5nm,0.7s,baz=303,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**54.05**	**131**	P	P	07 02 57.2	+0.2
	0.1nm,0.4s,baz=300,slow=7.4,SNR=3.0						

IDC 19 07:02:42.4±0.7, 55°.39S×26°.88W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/16, mbtmp4.0/7, Error ellipse: s-maj=28.4km s-min=21.4km az=46.0
ISCJB 19 07:02:43.9±0.7, 55°.5S±0°.1×27°.0W±0°.2, h25km, mb4.0/8, Error ellipse: s-maj=19.2km s-min=12.5km az=36.9
NEIC 19 07:02:43.7±0.4, 55°.45S×26°.89W, h10km, mb4.0/3, Error ellipse: s-maj=15.1km s-min=10.1km az=220.0
ISC 19 07:02:45.9±0.6, 55°.5S±0°.1×26°.9W±0°.1, h25km, n25, σ0s90/25, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.64**	**278**	*e*P	**Pn**	**07 04 07.5**	**-0.5**
SNAA	**Sanae**	**19.23**	**157**	*e*P	**P**	**07 07 06.6**	**-1.4**
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**34.80**	**180**	*e*P	**P**	**07 09 34.3**	**0.0**
	8.1nm,1.4s						
CFAA	**Coronel Fontan**	**37.46**	**292**	P	**P**	**07 09 56.1**	**-1.0**
CFAA	**Coronel Fontan**	**37.46**	**292**	P	**P**	**07 09 56.1**	**-1.0**
	0.2nm,0.6s,baz=170,slow=12,SNR=5.5						
MAW	**Mawson**	**40.55**	**144**	P	**P**	**07 10 22.7**	**+0.3**
MAW	**Mawson**	**40.55**	**144**	P	**P**	**07 10 22.7**	**+0.3**
	3.8nm,1.0s,baz=234,slow=12,SNR=4.0						
BOSA	**Boshof**	**45.68**	**76**	P	**P**	**07 11 03.7**	**-0.9**
BOSA	**Boshof**	**45.68**	**76**	P	**P**	**07 11 03.7**	**-0.9**
	1.4nm,0.7s,baz=246,slow=5.8,SNR=4.2						
VNDA	**Vanda**	**47.18**	**183**	P	**P**	**07 11 16.0**	**+0.4**
VNDA	**Vanda**	**47.18**	**183**	P	**P**	**07 11 16.0**	**+0.4**
	2.4nm,0.8s,baz=196,slow=8.2,SNR=4.6						
LPAZ	**La Paz**	**50.15**	**305**	*e*P	**P**	**07 11 40.4**	**+0.5**
	1.5nm,0.6s						
LPAZ	**La Paz**	**50.15**	**305**	P	**P**	**07 11 39.9**	**0.0**
	1.6nm,0.7s,baz=203,slow=7.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**72.46**	**29**	P	**P**	**07 14 10.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.46**	**29**	P	**P**	**07 14 10.2**	**+0.1**
	2.4nm,0.6s,baz=197,slow=6.6,SNR=27						
ASAR	**Alice Springs**	**99.52**	**162**	P	**Pdif**	**07 16 28.4**	**+1.7**
ASAR	**Alice Springs**	**99.52**	**162**	P	**Pdif**	**07 16 28.4**	**+1.7**
	0.3nm,0.7s,baz=185,slow=3.8,SNR=4.1						
YKA	**Yellowknife Ar**	**135.82**	**318**	PKP	**PKPdf**	**07 22 04.1**	**+1.4**
YKA	**Yellowknife Ar**	**135.82**	**318**	PKP	**PKPdf**	**07 22 04.1**	**+1.4**
	0.4nm,1.0s,baz=136,slow=2.0,SNR=4.5						
INK	**Inuvik**	**145.43**	**321**	*e*PKPdf	**PKPab**	**07 22 20.5**	**+0.3**
INK	**Inuvik**	**145.43**	**321**	PKPbc	**PKPab**	**07 22 20.6**	**+0.4**
	3.2nm,0.9s,baz=90,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**149.82**	**312**	PKPbc	**PKPbc**	**07 22 32.9**	**+0.7**
ILAR	**Eielson Array**	**149.82**	**312**	PKPbc	**PKPbc**	**07 22 32.9**	**+0.7**
	2.9nm,1.0s,baz=136,slow=1.8,SNR=14						
SONM	**Songino Array**	**150.54**	**85**	PKPbc	**PKPbc**	**07 22 34.2**	**-0.4**
SONM	**Songino Array**	**150.54**	**85**	PKPbc	**PKPbc**	**07 22 34.2**	**-0.4**
	1.0nm,0.9s,baz=222,slow=4.5,SNR=5.5						

IDC 19 07:13:18.6±52.0, 25°.35S×176°.39W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/16, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx3.0/16, Error ellipse: s-maj=959.3km s-min=168.9km az=90.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**26.10**	**78**	LR	LR	07 25 49.0	
	comp=Z,122nm,21.6s,baz=177,slow=29						
STKA Stephens Creek 37.28 250 P **P 07 20 31.2 -1.1**
0.5nm,0.4s,baz=100,slow=11,SNR=4.2
ASAR Alice Springs 45.05 261 P **P 07 21 35.7 -0.8**
0.2nm,0.4s,baz=95,slow=7.4,SNR=5.8
WRA Warramunga Arr 45.59 266 P **P 07 21 41.9 +1.2**
0.3nm,0.4s,baz=104,slow=8.1,SNR=9.3

IDC 19 07:18:38.8±16.0, 34°.60N×74°.06E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/28, mbtmp3.4/4, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/26, Error ellipse: s-maj=584.1km s-min=30.6km az=84.0
ISC 19 07:18:43.3±2.6, 35°.0N±0°.3×74°.4E±0°.6, h26km, n7, σ1s16/5, 1D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array 8.62 341**			P	**Pn**	**07 20 47.1**	**+0.8**
	0.7nm,0.3s,baz=164,slow=13,SNR=40						
KK31	⇓S				**Sn**	**07 22 21.4**	**-1.2**
	1.0nm,0.5s,baz=166,slow=22,SNR=4.0						
KURBB	**Kurchatov Arra 15.88 10**			Pn	**P**	**07 22 28.7**	**+0.3**
	0.0nm,0.3s,baz=203,slow=9.9,SNR=2.6						
ZALV	**Zalesovo Beam 20.30 18**			P	Pn	07 23 20.3	+1.3
	0.9nm,0.3s,baz=213,slow=10,SNR=4.1						
GNI	**Garni 23.98 291**			LR	LR	07 34 14.6	
	comp=Z,28nm,20.0s,baz=85,slow=39						
PETK	**Petropavlovsk- 59.11 44**			LR	LR	07 57 02.7	
	comp=Z,50nm,18.1s,baz=248,slow=39						
WRA	**Warramunga Arr 78.87 124**			P	**P**	**07 30 44.5**	**+0.1**
	0.2nm,0.5s,baz=324,slow=4.9,SNR=7.5						
ASAR	**Alice Springs 81.16 127**			P	**P**	**07 30 56.0**	**-0.7**
	0.2nm,0.5s,baz=308,slow=5.6,SNR=5.8						

IDC 19 07:25:40.1±6.8, 16°.52S×179°.90W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=302.8km s-min=36.2km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 43.50 258**			P	**P**	07 33 45.9	+0.2
	0.7nm,0.9s,baz=91,slow=6.9,SNR=14						
ASAR	**Alice Springs 43.82 253**			P	P	07 33 47.8	-0.5
	1.7nm,0.5s,baz=89,slow=7.7,SNR=52						
ILAR	**Eielson Array 84.87 14**			P	P	07 38 16.4	+0.1
	0.6nm,0.9s,baz=224,slow=3.8,SNR=5.2						

IDC 19 07:40:49.6±2.1, 64°.46S×175°.87E, h0km, mb4.5/3, mb1 4.5/4, mb1mx4.2/11, mbtmp4.3/4, ML3.5/1, MS4.0/16, Ms1 4.0/16, ms1mx3.9/19, Error ellipse: s-maj=81.1km s-min=24.9km az=70.0
ISC 19 07:40:51.4±1.8, 64°.6S±0°.2×175°.6E±0°.5, h10km, n30, σ1s35/6, mb4.3/3, MS3.9/15, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda 13.69 193**			Pn	**Pn**	**07 44 04.5**	**-0.7**
	0.2nm,0.3s,baz=30,slow=14,SNR=14						
VNDA				LR	LR	07 48 00.1	
	comp=Z,699nm,21.6s,baz=25,slow=31						
RPZ	**Rata Peaks 21.04 351**			LR	LR	07 51 57.6	
	comp=Z,461nm,19.7s,baz=337,slow=32						
QSPA	**South Pole Qui 25.53 180**			P	**P**	**07 46 21.7**	**+1.8**
	7.6nm,1.0s,baz=35,slow=4.8,SNR=17						
QSPA				LR	LR	07 55 12.3	
	comp=Z,361nm,19.2s,baz=39,slow=34						
URZ	**Urewera 26.35 3**			LR	LR	07 54 51.1	
	comp=Z,288nm,18.3s,baz=352,slow=32						
STKA	**Stephens Creek 38.85 311**			LR	LR	08 03 21.9	
	comp=Z,172nm,20.2s,baz=205,slow=35						
MAW	**Mawson 39.72 214**			LR	LR	08 03 44.7	
	comp=Z,77nm,19.2s,baz=5.3,slow=34						
DZM	**Mont Dzumac 42.90 348**			LR	LR	08 03 21.0	
	comp=Z,154nm,21.5s,baz=359,slow=32						
H01W1	**Cape Leeuwin H 46.88 279**			T	T	08 40 16.1	
	baz=148,slow=76,SNR=11						
H01W2	**Cape Leeuwin H 46.88 279**			T	T	08 40 19.2	
	baz=148,slow=76,SNR=9.2						
H01W3	**Cape Leeuwin H 46.90 279**			T	T	08 40 17.6	
	baz=148,slow=76,SNR=8.6						
TBI	**Tubuai 47.10 46**			*e*LR	LR	08 02 16.6	
	129nm,28.2s						
TBI	**Tubuai 47.10 46**			*e*T	T	08 39 22.7	
	20nm,0.3s						
NWAO	**Narrogin (SRO) 47.26 283**			LR	LR	08 04 54.6	
	comp=Z,167nm,20.9s,baz=331,slow=30						
ASAR	**Alice Springs 49.01 306**			P	**P**	**07 49 38.7**	**+0.5**
	8.1nm,0.4s,baz=150,slow=7.8,SNR=6.9						
ASAR				LR	LR	08 09 27.4	
	comp=Z,82nm,19.3s,baz=156,slow=35						
WRA	**Warramunga Arr 52.31 308**			P	**P**	**07 50 03.2**	**+0.2**
	1.7nm,0.8s,baz=157,slow=6.6,SNR=13						
WRA				LR	LR	08 08 35.5	
	comp=Z,264nm,20.5s,baz=165,slow=32						
RKT	**Rikitea 52.37 62**			*e*T	T	08 45 55.1	
	4.2nm,0.4s						
TVO	**Taravao 52.40 44**			*e*T	T	08 46 00.9	
	1.3nm,0.3s						
PAE	**Paea 52.42 43**			*e*T	T	08 46 02.0	
	0.8nm,0.3s						
PPT2	**Papeete2 52.49 43**			*e*LR	LR	08 04 55.2	
	145nm,26.0s						
PPT2	**Papeete2 52.49 43**			*e*T	T	08 46 07.7	
	2.0nm,0.3s						
MEH	**Mehetia 52.67 45**			*e*T	T	08 46 21.4	
	10nm,0.3s						
VAH	**Vaihoa 55.30 45**			*e*T	T	08 49 37.5	
	71nm,0.3s						
HNR	**Honiara 56.13 341**			LR	LR	08 10 14.6	
	comp=Z,206nm,18.9s,baz=7.9,slow=32						
FITZ	**Fitzroy Crossi 57.11 300**			LR	LR	08 14 36.9	
	comp=Z,110nm,20.1s,baz=148,slow=36						
PMG	**Port Moresby 58.58 327**			LR	LR	08 10 38.1	
	comp=Z,152nm,20.0s,baz=348,slow=30						
PLCA	**Paso Flores 63.04 129**			LR	LR	08 13 36.0	
	comp=Z,76nm,18.9s,baz=133,slow=31						
BOSA	**Boshof 84.27 206**			LR	LR	08 27 46.9	
	comp=Z,144nm,18.3s,baz=173,slow=33						
LPAZ	**La Paz 86.13 120**			LR	LR	08 22 18.5	
	comp=Z,68nm,20.1s,baz=343,slow=29						
ILAR	**Eielson Array 131.92 21**			PKP	**PKPdf**	**08 00 02.7**	**-0.4**
	0.8nm,1.0s,baz=247,slow=2.8,SNR=5.2						
BRTR	**Keskin Array B 146.75 240**			PKPbc	**PKPdf**	**08 00 29.9**	**-1.1**
	1.3nm,0.9s,baz=170,slow=8.7,SNR=3.6						

CSEM 19 07:42:26.9, 37°.76N×14°.94E, h24km, After ROM
ROM 19 07:42:26.9±0.1, 37°.76N×14°.94E, h24km±2km, MI3.5/21, 2D, Error ellipse: s-maj=1.9km s-min=1.6km az=121.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave 0.07 161**			⇓*i*Pg	Pb	07 42 31.1	-0.5
ESLN				Sg	Sb	07 42 35.0	+0.3
	7μm,0.3s						
ESLN	**Serra La Nave 0.07 161**			⇓*i*Pg	Pb	07 42 31.1	-0.5
ESLN				Sg	Sb	07 42 35.0	+0.3
	7μm,

VPL	**Vulcano Piano**	**0.61**	**3**	Pg	Pb	07 42 38.2	-0.9
VPL				Sg	Sb	07 42 48.3	+0.9
	5μm,0.6s						
VPL	**Vulcano Piano**	**0.61**	**3**	Pg	Pb	07 42 38.2	-0.9
VPL				Sg	Sb	07 42 48.3	+0.9
	5μm,0.6s						
SSY	**Sortino**	**0.62**	**170**	Pg	Pb	07 42 38.6	-0.6
SSY				Sg	Sn	07 42 48.6	-0.8
	4μm,0.3s						
SSY	**Sortino**	**0.62**	**170**	Pg	Pb	07 42 38.6	-0.6
SSY				Sg	Sn	07 42 48.6	-0.8
	4μm,0.3s						
MTTG	**Motta San Giov**	**0.64**	**68**	Pg	Pb	07 42 40.0	+0.5
	1μm,0.6s						
MTTG	**Motta San Giov**	**0.64**	**68**	Pg	Pb	07 42 40.0	+0.5
	1μm,0.6s						
MSRU	**Castanea**	**0.67**	**42**	Pg	Pb	07 42 39.7	-0.3
MSRU				Sg	Sn	07 42 50.1	-0.5
	2μm,0.5s						
MSRU	**Castanea**	**0.67**	**42**	Pg	Pb	07 42 39.7	-0.3
MSRU				Sg	Sn	07 42 50.1	-0.5
	2μm,0.5s						
LLI	**Lipari**	**0.68**	**0**	Pg	Pn	07 42 41.0	0.0
	7μm,1.0s						
LLI	**Lipari**	**0.68**	**0**	Pg	Pn	07 42 41.0	0.0
	7μm,1.0s						
RAFF	**Raffo Rosso**	**0.71**	**221**	Pg	Pb	07 42 40.4	-0.3
	496nm,0.3s						
RAFF	**Raffo Rosso**	**0.71**	**221**	Pg	Pb	07 42 40.4	-0.3
	496nm,0.3s						
RESU	**Resuttano**	**0.71**	**261**	Pg	Pn	07 42 41.5	-0.1
	1μm,0.8s						
RESU	**Resuttano**	**0.71**	**261**	Pg	Pn	07 42 41.5	-0.1
	1μm,0.8s						
CSLB	**Castelbuono**	**0.72**	**284**	Pg	Pb	07 42 40.0	-0.9
	220nm,0.4s						
CSLB	**Castelbuono**	**0.72**	**284**	Pg	Pb	07 42 40.0	-0.9
	220nm,0.4s						
GIB	**Gibilmanna**	**0.76**	**288**	Pg	Pb	07 42 41.3	-0.3
	5μm,0.8s						
GIB	**Gibilmanna**	**0.76**	**288**	Pg	Pb	07 42 41.3	-0.3
	5μm,0.8s						
HAVL	**Avola**	**0.81**	**170**	Pg	Pb	07 42 41.8	-0.7
HAVL				Sg	Sn	07 42 54.2	0.0
	2μm,0.2s						
HAVL	**Avola**	**0.81**	**170**	Pg	Pb	07 42 41.8	-0.7
HAVL				Sg	Sn	07 42 54.2	0.0
	2μm,0.2s						
MPAZ	**Palizzi**	**0.86**	**77**	Pg	Pb	07 42 43.3	0.0
	939nm,0.4s						
MPAZ	**Palizzi**	**0.86**	**77**	Pg	Pb	07 42 43.3	0.0
	939nm,0.4s						
IACL	**Alicudi**	**0.90**	**329**	Pg	Pb	07 42 42.9	-0.9
IACL				Sg	Sn	07 42 56.5	+0.3
	2μm,0.4s						
IACL	**Alicudi**	**0.90**	**329**	Pg	Pb	07 42 42.9	-0.9
IACL				Sg	Sn	07 42 56.5	+0.3
	2μm,0.4s						
CEL	**Celeste**	**0.90**	**56**	Pg	Pb	07 42 43.6	-0.3
	515nm,0.5s						
CEL	**Celeste**	**0.90**	**56**	Pg	Pb	07 42 43.6	-0.3
	515nm,0.5s						
SOI	**Samo**	**0.93**	**70**	Pg	Pn	07 42 44.7	+0.2
	684nm,0.6s						
SOI	**Samo**	**0.93**	**70**	Pg	Pn	07 42 44.7	+0.2
	684nm,0.6s						
FAVR	**Favara**	**1.13**	**244**	Pg	Pb	07 42 48.6	+0.8
	131nm,0.6s						
FAVR	**Favara**	**1.13**	**244**	Pg	Pb	07 42 48.6	+0.8
	131nm,0.6s						
CORL	**Corleone**	**1.30**	**276**	Pg	Pb	07 42 50.6	-0.2
	2μm,1.5s						
CORL	**Corleone**	**1.30**	**276**	Pg	Pb	07 42 50.6	-0.2
	2μm,1.5s						
PLAC	**Placanica**	**1.36**	**59**	Pg	Pb	07 42 51.8	0.0
	495nm,0.8s						
PLAC	**Placanica**	**1.36**	**59**	Pg	Pb	07 42 51.8	0.0
	495nm,0.8s						
MMGO	**Monte Magaggia**	**1.56**	**267**	Pg	Pn	07 42 53.6	+0.4
	53nm,0.2s						
MMGO	**Monte Magaggia**	**1.56**	**267**	Pg	Pn	07 42 53.6	+0.4
	53nm,0.2s						
SERS	**Sersale**	**1.87**	**47**	Pg	Pn	07 42 59.0	+1.5
	107nm,0.7s						
SERS	**Sersale**	**1.87**	**47**	Pg	Pn	07 42 59.0	+1.5
	107nm,0.7s						
TIP	**Timpagrande**	**2.01**	**45**	Pg	Pn	07 43 00.8	+1.5
	164nm,0.8s						
TIP	**Timpagrande**	**2.01**	**45**	Pg	Pn	07 43 00.8	+1.5
	164nm,0.8s						

IDC ***19*** *07:55:31.1±0.7,13°.47N×121°.67E,h0km,mb3.9/11, mb1 4.1/11,mb1mx4.0/26,mbtmp3.9/11,MS3.2/3, Ms1 3.3/3,ms1mx3.0/39,Error ellipse: s-maj=25.7km s-min=11.7km az=61.0*
MAN ***19*** *07:55:33,13°.51N×121°.56E,h6km,mb4.6,ML3.5,MS3.5*
NEIC ***19*** *07:55:36.1±0.5,13°.49N×121°.57E,h35km,mb4.4/8,Error ellipse: s-maj=22.4km s-min=9.1km az=62.0*

ISC 19 07:55:31.3±1.5,13°.46N±0°.03×121°.55E±0°.03,h0km±10km, n43,σ1s01/47,mb4.1/17,MS3.0/3,2C-3D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOAC	**Boac**	**0.29**	**90**	*eP*	**Pb**	**07 55 39.4**	**-0.1**
PGP	**Puerto Galera**	**0.58**	**274**	⇓*eP*	**Pb**	**07 55 45.3**	**+0.9**
TGY	**Tagaytay City**	**0.87**	**317**	Pg	**Pb**	**07 55 49.3**	**-0.1**
TGY	**Tagaytay City**	**0.87**	**317**	⇓*iP*	**Pb**	**07 55 49.5**	**+0.1**
TGY				*i* S	Sn	07 56 11.2	+6.9
TGY	**Tagaytay City**	**0.87**	**317**	Pg	**Pb**	**07 55 49.3**	**-0.1**
	236nm,0.3s,baz=145,slow=5.0,SNR=47						
GQP	**Guinayangan**	**0.98**	**63**	⇑*eP*	**Pg**	**07 55 50.3**	**+0.1**
GQP				*eS*	**Sg**	**07 56 02.1**	**-0.8**
SJMP	**San Jose**	**1.07**	**203**	*eP*	**Pn**	**07 55 54.5**	**+0.9**
AUQP	**San Andres**	**1.11**	**97**	*eP*	**Pn**	**07 55 55.7**	**+1.6**
AUQP				*eS*	**Sn**	**07 56 09.8**	**-0.2**
OTRP	**Odiongan**	**1.18**	**157**	*eP*	**Pn**	**07 55 56.0**	**+0.8**
OTRP				*eS*	**Sn**	**07 56 13.0**	**+1.1**
LUBP	**Lubang**	**1.29**	**282**	*eP*	**Pb**	**07 55 56.2**	**-0.3**
BUSP	**Coron**	**1.95**	**222**	*eP*	**Pb**	**07 56 08.0**	**+0.1**
PCPH	**Palayan**	**2.14**	**348**	⇓*eP*	**Pn**	**07 56 08.8**	**+0.6**
PCPH				*eS*	**Sn**	**07 56 36.2**	**+0.7**
RCP	**Roxas**	**2.22**	**148**	⇑*eP*	**Pb**	**07 56 12.1**	**-0.3**
PVCP	**Virac**	**2.54**	**87**	*eP*	**Pn**	**07 56 15.7**	**+1.8**
CUYO	**Cuyo Island**	**2.64**	**191**	*eP*	**Pn**	**07 56 15.8**	**+0.5**
ENPP	**El Nido**	**3.05**	**223**	*eP*	**Pg**	**07 56 29.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**22.29**	**286**	P	**P**	**08 00 32.5**	**+2.1**
CMAR	**Chiang Mai Arr**	**22.29**	**286**	P	**P**	**08 00 32.5**	**+2.1**
	0.9nm,0.3s,baz=94,slow=8.2,SNR=10						
CMAR				LR	LR	08 08 49.4	
	comp=Z,47nm,18.0s,baz=148,slow=36						
KSAR	**Wonju Array Be**	**24.55**	**12**	P	**P**	**08 00 53.6**	**+0.9**
KSRS	**Korea Array**	**24.57**	**12**	P	**P**	**08 00 53.6**	**+0.7**
	2.3nm,0.7s,baz=199,slow=8.6,SNR=5.1						
KSRS				LR	LR	08 12 35.9	
	comp=Z,42nm,18.6s,baz=186,slow=42						
FITZ	**Fitzroy Crossi**	**31.62**	**173**	*eP*	**P**	**08 01 56.1**	**-0.1**
	26nm,1.6s						
FITZ	**Fitzroy Crossi**	**31.62**	**173**	P	**P**	**08 01 55.9**	**-0.3**
	3.0nm,1.0s,baz=11,slow=5.2,SNR=3.4						
USRK	**Ussuriysk Arra**	**31.92**	**14**	P	**P**	**08 01 59.5**	**+0.9**
	2.8nm,0.7s,baz=187,slow=10,SNR=5.3						
COEN	**Coen**	**34.65**	**141**	*eP*	**P**	**08 02 23.6**	**+0.8**
	48nm,1.2s						
WRAB	**Tennant Creek**	**35.49**	**159**	*eP*	**P**	**08 02 29.8**	**-0.1**
	3.5nm,0.8s						
WRA	**Warramunga Arr**	**35.50**	**159**	P	**P**	**08 02 28.5**	**-1.5**
WRA	**Warramunga Arr**	**35.50**	**159**	P	**P**	**08 02 28.5**	**-1.5**
	3.1nm,0.9s,baz=336,slow=9.7,SNR=15						
SONM	**Songino Array**	**36.53**	**343**	P	**P**	**08 02 38.6**	**0.0**
SONM	**Songino Array**	**36.53**	**343**	P	**P**	**08 02 38.6**	**0.0**
	1.3nm,1.0s,baz=156,slow=9.1,SNR=4.7						
SONM				LR	LR	08 16 54.6	
	comp=Z,61nm,18.9s,baz=338,slow=35						
ASAR	**Alice Springs**	**38.83**	**162**	P	**P**	**08 02 58.4**	**+0.1**
ASAR	**Alice Springs**	**38.83**	**162**	P	**P**	**08 02 58.4**	**+0.1**
	2.5nm,0.8s,baz=341,slow=7.6,SNR=18						
MKAR	**Makanchi Array**	**46.72**	**323**	P	**P**	**08 04 01.6**	**-0.5**
MKAR	**Makanchi Array**	**46.72**	**323**	P	**P**	**08 04 01.6**	**-0.5**
	1.2nm,0.9s,baz=123,slow=8.8,SNR=4.2						
STKA	**Stephens Creek**	**49.00**	**157**	*eP*	**P**	**08 04 19.6**	**-0.3**
	1.6nm,1.2s						
STKA	**Stephens Creek**	**49.00**	**157**	P	**P**	**08 04 19.8**	**-0.2**
	4.6nm,1.0s,baz=332,slow=11,SNR=6.7						
ZALV	**Zalesovo Beam**	**49.65**	**332**	P	**P**	**08 04 23.2**	**-1.5**
ZALV	**Zalesovo Beam**	**49.65**	**332**	P	**P**	**08 04 23.2**	**-1.5**
	0.3nm,0.3s,baz=154,slow=7.7,SNR=3.1						
KKAR	**Karatay Array**	**52.73**	**314**	*eP*	**P**	**08 04 49.3**	**+1.3**
	1.5nm,0.9s						
BRVK	**Borovoye**	**56.51**	**326**	*eP*	**P**	**08 05 15.3**	**+0.1**
	5.6nm,1.1s						
TIXI	**Tiksi**	**58.33**	**3**	*eP*	**P**	**08 05 26.7**	**-1.1**
	1.4nm,0.6s						
ABKAR	**Akbulak array**	**61.45**	**319**	*eP*	**P**	**08 05 48.5**	**-1.2**
	4.3nm,1.2s						
ILAR	**Eielson Array**	**78.61**	**26**	P	**P**	**08 07 32.9**	**-1.9**
ILAR	**Eielson Array**	**78.61**	**26**	P	**P**	**08 07 32.9**	**-1.9**
	0.3nm,0.7s,baz=251,slow=4.5,SNR=5.8						

CSEM ***19*** *08:01:11.5,37°.77N×14°.93E,h28km,After ROM*
ROM 19 08:01:11.5±0.1,37°.77N×14°.93E,h28km±2km,MI3.5/13, 2C-10D,Error ellipse: s-maj=1.9km s-min=1.4km az=116.0,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.09**	**158**	⇓*iPg*	**Pb**	08 01 16.2	-0.6
ESLN				Sg	Sb	08 01 20.1	-0.3
	9μm,0.5s						
ESLN	**Serra La Nave**	**0.09**	**158**	⇓*iPg*	**Pb**	08 01 16.2	-0.6
ESLN				Sg	Sb	08 01 20.1	-0.3
	9μm,0.5s						
ECNV	**Catenanuova**	**0.25**	**225**	Pg	Pn	08 01 19.1	-0.2
ECNV				Sg	Sb	08 01 23.6	+0.9
	5μm,0.6s						
ECNV	**Catenanuova**	**0.25**	**225**	Pg	Pn	08 01 19.1	-0.2
ECNV				Sg	Sb	08 01 23.6	+0.9
	5μm,0.6s						
GALF	**Gagliano Caste**	**0.30**	**258**	⇓*iPg*	**Pb**	08 01 18.8	-0.1
GALF				Sg	Sn	08 01 24.9	-0.7
	396nm,0.7s						
GALF	**Gagliano Caste**	**0.30**	**258**	⇓*iPg*	**Pb**	08 01 18.8	-0.1
GALF				Sg	Sn	08 01 24.9	-0.7
	396nm,0.7s						
HCRL	**Carlentini**	**0.49**	**171**	⇓*iPg*	**Pb**	08 01 21.5	-0.3
HCRL				Sg	Sn	08 01 29.7	-0.6
	8μm,0.5s						
HCRL	**Carlentini**	**0.49**	**171**	⇓*iPg*	**Pb**	08 01 21.5	-0.3
HCRL				Sg	Sn	08 01 29.7	-0.6
	8μm,0.5s						
VPL	**Vulcano Piano**	**0.61**	**4**	⇓*iPg*	**Pb**	08 01 23.4	-0.3
VPL	**Vulcano Piano**	**0.61**	**4**	⇓*iPg*	**Pb**	08 01 23.4	-0.3
HVZN	**Vizzini**	**0.62**	**196**	Pg	**Pb**	08 01 23.5	-0.4
HVZN				Sg	Sn	08 01 33.3	-0.2
	4μm,0.4s						
HVZN	**Vizzini**	**0.62**	**196**	Pg	**Pb**	08 01 23.5	-0.4
HVZN				Sg	Sn	08 01 33.3	-0.2
	4μm,0.4s						
SSY	**Sortino**	**0.63**	**170**	⇓*iPg*	**Pb**	08 01 23.7	-0.3
SSY				Sg	Sn	08 01 33.6	-0.1
	6μm,0.6s						
SSY	**Sortino**	**0.63**	**170**	⇓*iPg*	**Pb**	08 01 23.7	-0.3
SSY				Sg	Sn	08 01 33.6	-0.1
	6μm,0.6s						
MTTG	**Motta San Giov**	**0.64**	**69**	Pg	Pn	08 01 24.8	0.0
	548nm,0.5s						
MTTG	**Motta San Giov**	**0.64**	**69**	Pg	Pn	08 01 24.8	0.0
	548nm,0.5s						
MSRU	**Castanea**	**0.67**	**43**	⇑*iPg*	**Pb**	08 01 24.8	+0.1
	1μm,0.5s						
MSRU	**Castanea**	**0.67**	**43**	⇑*iPg*	**Pb**	08 01 24.8	+0.1
	1μm,0.5s						
LLI	**Lipari**	**0.67**	**1**	Pg	Pn	08 01 25.5	+0.4
	3μm,0.6s						
LLI	**Lipari**	**0.67**	**1**	Pg	Pn	08 01 25.5	+0.4
	3μm,0.6s						
RAFF	**Raffo Rosso**	**0.71**	**220**	Pg	Pb	08 01 25.5	+0.1
	1μm,0.4s						
RAFF	**Raffo Rosso**	**0.71**	**220**	Pg	Pb	08 01 25.5	+0.1
	1μm,0.4s						
GIB	**Gibilmanna**	**0.75**	**287**	Pg	Pn	08 01 26.3	0.0
	3μm,0.6s						
GIB	**Gibilmanna**	**0.75**	**287**	Pg	Pn	08 01 26.3	0.0
	3μm,0.6s						
HAVL	**Avola**	**0.82**	**169**	Pg	Pn	08 01 26.8	-0.5
HAVL				Sg	Sn	08 01 39.2	+0.7
	2μm,0.2s						
HAVL	**Avola**	**0.82**	**169**	Pg	Pn	08 01 26.8	-0.5
HAVL				Sg	Sn	08 01 39.2	+0.7
	2μm,0.2s						
MPAZ	**Palizzi**	**0.87**	**78**	Pg	Pb	08 01 28.5	+0.4
MPAZ	**Palizzi**	**0.87**	**78**	Pg	Pb	08 01 28.5	+0.4
IACL	**Alicudi**	**0.89**	**329**	Pg	Pn	08 01 27.5	-0.6
	2μm,0.3s						
IACL	**Alicudi**	**0.89**	**329**	Pg	Pn	08 01 27.5	-0.6
	2μm,0.3s						
CEL	**Celeste**	**0.90**	**57**	Pg	Pb	08 01 28.8	+0.1
	479nm,0.6s						
CEL	**Celeste**	**0.90**	**57**	Pg	Pb	08 01 28.8	+0.1
	479nm,0.6s						
SOI	**Samo**	**0.94**	**71**	Pg	Pb	08 01 29.4	+0.2
SOI	**Samo**	**0.94**	**71**	Pg	Pb	08 01 29.4	+0.2

JMA 19 08:09:16.6±0.1,34°.96N×139°.13E,h7km±1km,M0.8,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	**Kamata 2**	**0.06**	**237**	P	Pg	08 09 18.4	0.0
KTJJ				S	Sg	08 09 19.9	+0.3
JOD2	**Odawara 2**	**0.30**	**354**	P	Pg	08 09 22.9	+0.2

JMA 19 08:11:42.9,34°.97N×139°.13E,h4km,M1.3,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.08**	**337**	P	Pg	08 11 44.7	+0.1
JOD2	**Odawara 2**	**0.29**	**353**	P	Pg	08 11 48.7	0.0
JIZS	**Izushimoda**	**0.33**	**220**	P	Pg	08 11 49.5	+0.3

IDC 19 08:14:17.6±5.3,64°.54S×175°.10E,h0km,mb4.0/3, mb1 4.1/4,mb1mx3.9/11,mbtmp3.9/4,ML3.2/1,MS4.0/14, Ms1 4.0/14,ms1mx3.8/20,Error ellipse: s-maj=188.2km s-min=24.8km az=70.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.66**	**192**	Pn	Pn	08 17 30.5	-1.7
	0.1nm,0.3s,baz=43,slow=14,SNR=7.4						
VNDA				LR	LR	08 21 36.4	
	comp=Z,408nm,18.7s,baz=33,slow=32						
RPZ	**Rata Peaks**	**21.00**	**352**	LR	LR	08 25 13.0	
	comp=Z,372nm,20.3s,baz=29,slow=31						
QSPA	**South Pole Qui**	**25.54**	**180**	P	P	08 19 48.1	+0.4
	4.7nm,0.9s,baz=18,slow=5.2,SNR=14						
QSPA				LR	LR	08 28 29.1	
	comp=Z,314nm,18.5s,baz=226,slow=33						
URZ	**Urewera**	**26.35**	**4**	LR	LR	08 27 57.6	
	comp=Z,290nm,21.3s,baz=196,slow=31						
STKA	**Stephens Creek**	**38.69**	**311**	LR	LR	08 36 24.9	
	comp=Z,127nm,20.0s,baz=204,slow=34						
DZM	**Mont Dzumac**	**42.84**	**348**	*e*LR	LR	08 34 46.6	
	416nm,28.9s						
H01W1	**Cape Leeuwin H**	**46.68**	**279**	T	T	09 13 44.1	
	baz=148,slow=76,SNR=6.5						
H01W2	**Cape Leeuwin H**	**46.69**	**279**	T	T	09 13 44.8	
	baz=148,slow=76,SNR=7.1						
H01W3	**Cape Leeuwin H**	**46.70**	**279**	T	T	09 13 44.5	
	baz=148,slow=76,SNR=7.4						
TBI	**Tubuai**	**47.23**	**47**	*e*LR	LR	08 35 41.7	
	108nm,29.5s						
TBI	**Tubuai**	**47.23**	**47**	*e*T	T	09 12 48.3	
	18nm,0.4s						
ASAR	**Alice Springs**	**48.84**	**307**	P	P	08 23 04.8	+0.2
	1.4nm,0.8s,baz=156,slow=7.6,SNR=15						
ASAR				LR	LR	08 42 44.8	
	comp=Z,98nm,21.4s,baz=184,slow=35						
WRA	**Warramunga Arr**	**52.14**	**309**	P	P	08 23 29.0	-0.5
	1.0nm,0.7s,baz=157,slow=6.5,SNR=9.4						
TVO	**Taravao**	**52.53**	**44**	*e*T	T	09 19 25.5	
	1.3nm,0.4s						
RKT	**Rikitea**	**52.54**	**63**	*e*T	T	09 19 25.5	
	2.2nm,0.2s						
PAE	**Paea**	**52.54**	**44**	*e*T	T	09 19 26.2	
	0.8nm,0.3s						
PPT2	**Papeete2**	**52.61**	**44**	*e*LR	LR	08 38 05.4	
	126nm,27.5s						
PPT2	**Papeete2**	**52.61**	**44**	*e*T	T	09 19 31.9	
	1.6nm,0.3s						
MEH	**Mehetia**	**52.80**	**46**	*e*T	T	09 19 46.8	
	8.8nm,0.3s						
HNR	**Honiara**	**56.05**	**342**	LR	LR	08 42 22.3	
	comp=Z,169nm,21.2s,baz=4.0,slow=30						
FITZ	**Fitzroy Crossi**	**56.93**	**300**	LR	LR	08 47 44.9	
	comp=Z,90nm,18.6s,baz=358,slow=35						
PMG	**Port Moresby**	**58.46**	**327**	LR	LR	08 43 16.7	
	comp=Z,127nm,20.5s,baz=184,slow=30						
PLCA	**Paso Flores**	**63.21**	**129**	LR	LR	08 48 29.6	
	comp=Z,75nm,19.1s,baz=280,slow=32						
SUR	**Sutherland**	**81.31**	**202**	LR	LR	09 00 45.2	
	comp=Z,152nm,18.8s,baz=356,slow=34						
BOSA	**Boshof**	**84.20**	**206**	LR	LR	09 00 51.7	
	comp=Z,123nm,18.3s,baz=176,slow=33						
LPAZ	**La Paz**	**86.31**	**121**	LR	LR	08 59 17.6	
	comp=Z,40nm,18.0s,baz=39,slow=31						
TSUM	**Tsumeb**	**94.74**	**201**	LR	LR	09 07 18.1	
	comp=Z,116nm,18.4s,baz=40,slow=34						

CSEM ***19*** *08:24:57.9,37°.77N×14°.94E,h23km,After ROM*
ROM 19 08:24:57.9±0.1,37°.77N×14°.94E,h23km±2km,MI3.7/23,4D, Error ellipse: s-maj=1.6km s-min=1.2km az=114.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.08**	**161**	⇓*iPg*	**Pb**	08 25 02.0	-0.4
ESLN				Sg	Sb	08 25 05.7	+0.3
	9μm,0.7s						
ESLN	**Serra La Nave**	**0.08**	**161**	⇓*iPg*	**Pb**	08 25 02.0	-0.4
ESLN				Sg	Sb	08 25 05.7	+0.3
	9μm,0.7s						
ECNV	**Catenanuova**	**0.25**	**227**	Pg	Pb	08 25 04.6	+0.5
ECNV				Sg	Sb	08 25 09.3	+1.0
	16μm,1.5s						
ECNV	**Catenanuova**	**0.25**	**227**	Pg	Pb	08 25 04.6	+0.5
ECNV				Sg	Sb	08 25 09.3	+1.0
	16μm,1.5s						
MMME	**Mongiuffi-Meli**	**0.30**	**56**	Pg	Pb	08 25 04.7	-0.2
MMME				Sg	Sb	08 25 10.5	+0.9
	17μm,0.8s						
MMME	**Mongiuffi-Meli**	**0.30**	**56**	Pg	Pb	08 25 04.7	-0.2
MMME				Sg	Sb	08 25 10.5	+0.9
	17μm,0.8s						
GALF	**Gagliano Caste**	**0.30**	**259**	Pg	Pb	08 25 04.7	-0.2
GALF				Sg	Sb	08 25 11.0	+1.3
	9μm,0.5s						
GALF	**Gagliano Caste**	**0.30**	**259**	Pg	Pb	08 25 04.7	-0.2
GALF				Sg	Sb	08 25 11.0	+1.3
	9μm,0.5s						
HCRL	**Carlentini**	**0.49**	**172**	Pg	Pb	08 25 07.3	-0.6
HCRL				Sg	Sb	08 25 15.7	+1.0
	6μm,0.6s						
HCRL	**Carlentini**	**0.49**	**172**	Pg	Pb	08 25 07.3	-0.6
HCRL				Sg	Sb	08 25 15.7	+1.0
	6μm,0.6s						
VPL	**Vulcano Piano**	**0.61**	**3**	Pg	Pb	08 25 09.2	-0.8
VPL				Sg	Sn	08 25 19.6	-0.8
	9μm,0.6s						
VPL	**Vulcano Piano**	**0.61**	**3**	Pg	Pb	08 25 09.2	-0.8
VPL				Sg	Sn	08 25 19.6	-0.8
	9μm,0.6s						
HVZN	**Vizzini**	**0.62**	**197**	Pg	Pb	08 25 09.5	-0.6
HVZN				Sg	Sb	08 25 19.3	+0.8
	4μm,0.6s						
HVZN	**Vizzini**	**0.62**	**197**	Pg	Pb	08 25 09.5	-0.6
HVZN				Sg	Sb	08 25 19.3	+0.8
	4μm,0.6s						
SSY	**Sortino**	**0.62**	**170**	⇓*iPg*	**Pb**	08 25 09.6	-0.6
SSY				Sg	Sb	08 25 19.6	+1.0
	6μm,0.4s						
SSY	**Sortino**	**0.62**	**170**	⇓*iPg*	**Pb**	08 25 09.6	-0.6
SSY				Sg	Sb	08 25 19.6	+1.0
	6μm,0.4s						
MTTG	**Motta San Giov**	**0.64**	**68**	Pg	Pb	08 25 10.6	+0.1
MTTG				Sg	Sn	08 25 20.6	-0.5
MTTG	**Motta San Giov**	**0.64**	**68**	Pg	Pb	08 25 10.6	+0.1
MTTG				Sg	Sn	08 25 20.6	-0.5
MSRU	**Castanea**	**0.67**	**42**	Pg	Pb	08 25 10.7	-0.2
MSRU				Sg	Sn	08 25 20.9	-0.9
	4μm,0.4s						
MSRU	**Castanea**	**0.67**	**42**	Pg	Pb	08 25 10.7	-0.2
MSRU				Sg	Sn	08 25 20.9	-0.9
	4μm,0.4s						
LLI	**Lipari**	**0.68**	**0**	Pg	Pb	08 25 10.9	-0.2
	8μm,0.6s						
LLI	**Lipari**	**0.68**	**0**	Pg	Pb	08 25 10.9	-0.2
	8μm,0.6s						
RESU	**Resuttano**	**0.71**	**260**	Pg	Pn	08 25 12.6	-0.1
	2μm,0.9s						
RESU	**Resuttano**	**0.71**	**260**	Pg	Pn	08 25 12.6	-0.1
	2μm,0.9s						
RAFF	**Raffo Rosso**	**0.71**	**220**	Pg	Pb	08 25 11.4	-0.3
	1μm,0.7s						
RAFF	**Raffo Rosso**	**0.71**	**220**	Pg	Pb	08 25 11.4	-0.3
	1μm,0.7s						
CSLB	**Castelbuono**	**0.72**	**284**	Pg	Pb	08 25 10.8	-1.1
	1μm,1.1s						
CSLB	**Castelbuono**	**0.72**	**284**	Pg	Pb	08 25 10.8	-1.1
	1μm,1.1s						
GIB	**Gibilmanna**	**0.76**	**287**	Pg	Pb	08 25 12.2	-0.4
	16μm,1.3s						
GIB	**Gibilmanna**	**0.76**	**287**	Pg	Pb	08 25 12.2	-0.4
	16μm,1.3s						
HAVL	**

PRU **19** *09:01:10.6,37.′27N×15.′13E,h0km,M4.3*
STR **19** *09:01:11.7±0.6,36.′29N×13.′59E,h10km,Ml3.7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
MOS **19** *09:01:13.3±1.2,37.′79N×14.′98E,h10km,mb4.3/21,Error ellipse: s-maj=8.1km s-min=4.5km az=57.3*
BJI **19** *09:01:13.2,37.′80N×15.′00E,h15km,mB5.0/4,mb4.7/6*
IDC **19** *09:01:14.2±0.7,38.′03N×15.′07E,h0km,mb3.9/14, mb1 4.0/20,mb1mx3.9/36,mbtmp4.0/20,ML3.9/6,MS3.7/11, Ms1 3.7/11,ms1mx3.3/41,Error ellipse: s-maj=16.7km s-min=15.4km az=77.0*
LDG **19** *09:01:15.7±0.2,37.′80N×15.′21E,h14km,Ml3.7/3,Error ellipse: s-maj=4.3km s-min=2.9km az=9.0*
ROM **19** *09:01:16.4±0.1,37.′78N×14.′97E,h27km±2km,Ml4.4/23, Error ellipse: s-maj=2.2km s-min=1.6km az=111.0*
CSEM **19** *09:01:16.8±0.1,37.′76N×15.′06E,h20km,mb4.1/6,ML5.3/8, Mw4.2,Error ellipse: s-maj=2.5km s-min=2.2km az=163.0*
PDG **19** *09:01:17.1±0.5,37.′76N×15.′09E,h33km±1km,ML4.5/11, Error ellipse: s-maj=0.9km s-min=1.1km az=0.0*
NEIC **19** *09:01:17.0,37.′78N×14.′94E,h14km,mb4.3/1, MW4.3(ROM),After ROM.*
NEIC Felt [V] at Bronte, Maletto and Santa Venerina; [IV] at Acireale, Adriano, Augusta, Biancavilla, Catania, Fiumefreddo di Sicilia, Giarre, Massa Annunziata, Randazzo and Riposto; [III] at Marina di Patti, Messina and Siracusa. Felt in much of Sicily and in southern Calabria.
BEO **19** *09:01:17.6±0.7,37.′92N×15.′08E,h0km,ML4.4/1*
THE **19** *09:01:19.1,37.′74N×15.′25E,h32km±40km,ML4.5/13, Error ellipse: s-maj=40.9km s-min=1.4km az=0.0*

ISC 19 09:01:16.3±0.6,37.81N±0.02×15.00E±0.02,h17km±3km, n476,σ1§43/606,mb4.2/28,MS3.8/8,31C-19D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.12**	**190**	Pg	**Pb**	**09 01 20.9**	**+0.6**
	6μm,0.8s						
ESLN	**Serra La Nave**	**0.12**	**190**	Pg	**Pb**	**09 01 20.9**	**+0.6**
	6μm,0.8s						
MMME	**Mongiuffi-Meli**	**0.23**	**59**	Pg	**Pb**	**09 01 23.2**	**+1.1**
MMME				Sg	**Sb**	**09 01 29.4**	**+3.3**
	76μm,0.6s						
MMME	**Mongiuffi-Meli**	**0.23**	**59**	Pg	**Pb**	**09 01 23.2**	**+1.1**
ECNV	**Catenanuova**	**0.32**	**227**	Pg	**Pb**	**09 01 24.1**	**+0.6**
ECNV				Sg	**Sb**	**09 01 28.7**	**+0.4**
ECNV	**Catenanuova**	**0.32**	**227**	Pg	**Pb**	**09 01 24.1**	**+0.6**
ECNV				Sg	**Sb**	**09 01 28.7**	**+0.4**
GALF	**Gagliano Caste**	**0.36**	**254**	Pg	**Pg**	**09 01 23.7**	**-0.1**
GALF				Sg	**Sb**	**09 01 30.6**	**+1.0**
	91μm,0.6s						
GALF	**Gagliano Caste**	**0.36**	**254**	Pg	**Pg**	**09 01 23.7**	**-0.1**
GALF				Sg	**Sb**	**09 01 30.6**	**+1.0**
	91μm,0.6s						
HCRL	**Carlentini**	**0.53**	**177**	Pg	**Pg**	**09 01 26.4**	**-0.4**
HCRL				Sg	**Sb**	**09 01 34.8**	**+0.3**
	75μm,1.0s						
HCRL	**Carlentini**	**0.53**	**177**	Pg	**Pg**	**09 01 26.4**	**-0.4**
HCRL				Sg	**Sb**	**09 01 34.8**	**+0.3**
	75μm,1.0s						
VPL	**Vulcano Piano**	**0.56**	**359**	Pg	**Pb**	**09 01 28.0**	**+0.2**
VPL				Sg	**Sn**	**09 01 39.0**	**+0.4**
	58μm,0.8s						
VPL	**Vulcano Piano**	**0.56**	**359**	Pg	**Pb**	**09 01 28.0**	**+0.2**
VPL				Sg	**Sn**	**09 01 39.0**	**+0.4**
	58μm,0.8s						
MTTG	**Motta San Giov**	**0.58**	**71**	Pg	**Pb**	**09 01 28.8**	**+0.8**
	8μm,0.9s						
MTTG	**Motta San Giov**	**0.58**	**71**	Pg	**Pb**	**09 01 28.8**	**+0.8**
	8μm,0.9s						
MSRU	**Castanea**	**0.60**	**42**	Pg	**Pb**	**09 01 28.9**	**+0.5**
MSRU				Sg	**Sn**	**09 01 39.9**	**+0.4**
	16μm,0.9s						
MSRU	**Castanea**	**0.60**	**42**	Pg	**Pb**	**09 01 28.9**	**+0.5**
MSRU				Sg	**Sn**	**09 01 39.9**	**+0.4**
	16μm,0.9s						
LLI	**Lipari**	**0.63**	**356**	Pg	**Pb**	**09 01 29.3**	**+0.4**
	41μm,0.8s						
LLI	**Lipari**	**0.63**	**356**	Pg	**Pb**	**09 01 29.3**	**+0.4**
	41μm,0.8s						
SSY	**Sortino**	**0.66**	**175**	Pg	**Pg**	**09 01 28.7**	**-0.6**
SSY				Sg	**Sb**	**09 01 38.6**	**+0.3**
	50μm,0.5s						
SSY	**Sortino**	**0.66**	**175**	Pg	**Pg**	**09 01 28.7**	**-0.6**
SSY				Sg	**Sb**	**09 01 38.6**	**+0.3**
	50μm,0.5s						
HVZN	**Vizzini**	**0.67**	**200**	Pg	**Pg**	**09 01 28.3**	**-1.2**
HVZN				Sg	**Sg**	**09 01 38.7**	**+0.2**
	32μm,0.6s						
HVZN	**Vizzini**	**0.67**	**200**	Pg	**Pg**	**09 01 28.3**	**-1.2**
HVZN				Sg	**Sg**	**09 01 38.7**	**+0.2**
	32μm,0.6s						
CSLB	**Castelbuono**	**0.76**	**280**	Pg	**Pb**	**09 01 29.8**	**-1.2**
RESU	**Resuttano**	**0.77**	**258**	Pg	**Pg**	**09 01 32.0**	**+0.7**
	18μm,1.3s						
RESU	**Resuttano**	**0.77**	**258**	Pg	**Pg**	**09 01 32.0**	**+0.7**
	18μm,1.3s						
RAFF	**Raffo Rosso**	**0.78**	**221**	Pg	**Pb**	**09 01 30.7**	**-0.7**
	8μm,0.4s						
RAFF	**Raffo Rosso**	**0.78**	**221**	Pg	**Pb**	**09 01 30.7**	**-0.7**
	8μm,0.4s						
GIB	**Gibilmanna**	**0.79**	**283**	Pg	**Pb**	**09 01 31.0**	**-0.6**
GIB				Sg	**Sn**	**09 01 43.8**	**-0.4**
	61μm,0.7s						
GIB	**Gibilmanna**	**0.79**	**283**	Pg	**Pb**	**09 01 31.0**	**-0.6**
GIB				Sg	**Sn**	**09 01 43.8**	**-0.4**
	61μm,0.7s						
MPAZ	**Palizzi**	**0.81**	**80**	Pg	**Pn**	**09 01 32.8**	**-0.1**
MPAZ	**Palizzi**	**0.81**	**80**	Pg	**Pn**	**09 01 32.8**	**-0.1**
CEL	**Celeste**	**0.83**	**57**	*e*Pn	**Pn**	**09 01 33.5**	**+0.2**
CEL	**Celeste**	**0.83**	**57**	Pg	**Pg**	**09 01 32.8**	**+0.3**
CEL	**Celeste**	**0.83**	**57**	Pg	**Pg**	**09 01 32.8**	**+0.3**
CEL	**Celeste**	**0.83**	**57**	*e*Pn	**Pn**	**09 01 33.5**	**+0.2**
HAVL	**Avola**	**0.86**	**173**	Pg	**Pb**	**09 01 31.8**	**-0.9**
HAVL				Sg	**Sg**	**09 01 44.5**	**+0.2**
	21μm,0.3s						
HAVL	**Avola**	**0.86**	**173**	Pg	**Pb**	**09 01 31.8**	**-0.9**
HAVL				Sg	**Sg**	**09 01 44.5**	**+0.2**
	21μm,0.3s						
SOI	**Samo**	**0.87**	**72**	P	**Pn**	**09 01 33.5**	**-0.3**
SOI				S	**Sn**	**09 01 50.0**	**+3.9**
SOI	**Samo**	**0.87**	**72**	P	**Pn**	**09 01 33.5**	**-0.3**
SOI				S	**Sn**	**09 01 50.0**	**+3.9**
SOI	**Samo**	**0.87**	**72**	Pg	**Pn**	**09 01 33.4**	**-0.3**
	5μm,0.4s						
SOI	**Samo**	**0.87**	**72**	Pg	**Pn**	**09 01 33.4**	**-0.3**
	5μm,0.4s						
IACL	**Alicudi**	**0.88**	**325**	Pg	**Pb**	**09 01 32.2**	**-0.9**
	26μm,0.8s						
STR4	**STROMBOLI 4**	**0.97**	**10**	Pg	**Pb**	**09 01 34.7**	**0.0**
STR4	**STROMBOLI 4**	**0.97**	**10**	Pg	**Pb**	**09 01 34.7**	**0.0**
STR3	**STROMBOLI 3**	**1.00**	**10**	Pg	**Pb**	**09 01 34.9**	**-0.2**
FAVR	**Favara**	**1.19**	**243**	P	**Pb**	**09 01 39.0**	**+0.6**
FAVR	**Favara**	**1.19**	**243**	Pg	**Pb**	**09 01 38.8**	**+0.4**
FAVR	**Favara**	**1.19**	**243**	Pg	**Pb**	**09 01 38.8**	**+0.4**
PLAC	**Placanica**	**1.30**	**60**	Pg	**Pn**	**09 01 39.8**	**+0.1**
	7μm,0.9s						
PLAC	**Placanica**	**1.30**	**60**	Pg	**Pn**	**09 01 39.8**	**+0.1**
	7μm,0.9s						
CORL	**Corleone**	**1.35**	**274**	P	**Pn**	**09 01 40.3**	**0.0**
CORL				S	**Sg**	**09 02 00.5**	**+0.7**
CORL	**Corleone**	**1.35**	**274**	Pg	**Pn**	**09 01 40.9**	**+0.6**
CORL	**Corleone**	**1.35**	**274**	P	**Pn**	**09 01 40.3**	**0.0**
CORL	**Corleone**	**1.35**	**274**	Pg	**Pn**	**09 01 40.9**	**+0.6**
GRI	**Girifalco**	**1.50**	**47**	P	**Pb**	**09 01 43.3**	**-0.4**
GRI	**Girifalco**	**1.50**	**47**	P	**Pb**	**09 01 43.3**	**-0.4**
GRI	**Girifalco**	**1.50**	**47**	P	**Pb**	**09 01 43.3**	**-0.4**
MMGO	**Monte Magaggia**	**1.61**	**265**	Pg	**Pn**	**09 01 43.8**	**-0.2**
MMGO	**Monte Magaggia**	**1.61**	**265**	Pg	**Pn**	**09 01 43.8**	**-0.2**
MTGR	**Montagna Grand**	**1.78**	**273**	Pg	**Pn**	**09 01 46.2**	**-0.1**
	264nm,0.3s						
MTGR	**Montagna Grand**	**1.78**	**273**	Pg	**Pn**	**09 01 46.2**	**-0.1**
	264nm,0.3s						
SERS	**Sersale**	**1.80**	**47**	Pg	**Pn**	**09 01 47.6**	**+0.9**
	1μm,0.5s						
SERS	**Sersale**	**1.80**	**47**	Pg	**Pn**	**09 01 47.6**	**+0.9**
	1μm,0.5s						
TIP	**Timpagrande**	**1.94**	**45**	P	**Pn**	**09 01 49.4**	**+0.9**
TIP	**Timpagrande**	**1.94**	**45**	*e*Pn	**Pb**	**09 01 49.9**	**-1.3**
TIP	**Timpagrande**	**1.94**	**45**	P	**Pn**	**09 01 49.4**	**+0.9**
TIP	**Timpagrande**	**1.94**	**45**	*e*Pn	**Pb**	**09 01 49.9**	**-1.3**
WDD	**Wield Dalam**	**1.98**	**191**	*e*Pn	**Pn**	**09 01 48.8**	**-0.2**
WDD	**Wield Dalam**	**1.98**	**191**	*e*Pn	**Pn**	**09 01 48.8**	**-0.2**
TDS	**Terranova Siba**	**2.12**	**29**	P	Pn	09 01 46.9	-4.0
TDS	**Terranova Siba**	**2.12**	**29**	P	Pn	09 01 46.9	-4.0
TDS	**Terranova Siba**	**2.12**	**29**	P	Pn	09 01 46.9	-4.0
CUC	**Castrocucco**	**2.27**	**16**	*e*Pn	**Pn**	**09 01 52.9**	**-0.1**
CUC				S	**Sn**	**09 02 22.4**	**+1.8**
CUC	**Castrocucco**	**2.27**	**16**	Pg	**Pn**	**09 01 52.9**	**-0.1**
CUC	**Castrocucco**	**2.27**	**16**	Pg	**Pn**	**09 01 52.9**	**-0.1**
CUC				S	**Sn**	**09 02 22.4**	**+1.8**
SALB	**San Lorenzo Be**	**2.31**	**27**	Pg	**Pn**	**09 01 54.6**	**+0.9**
	2μm,0.7s						
SALB	**San Lorenzo Be**	**2.31**	**27**	Pg	**Pn**	**09 01 54.6**	**+0.9**
	2μm,0.7s						
MGR	**Morigerati**	**2.36**	**10**	P	**Pn**	**09 01 54.2**	**0.0**
MGR	**Morigerati**	**2.36**	**10**	Pg	**Pn**	**09 01 53.8**	**-0.5**
	846nm,0.6s						
MGR	**Morigerati**	**2.36**	**10**	Pg	**Pn**	**09 01 53.8**	**-0.5**
	846nm,0.6s						
MGR	**Morigerati**	**2.36**	**10**	P	**Pn**	**09 01 54.2**	**0.0**
SIRI	**Monte Sirino -**	**2.46**	**16**	P	**Pn**	**09 01 56.6**	**+0.9**
SIRI	**Monte Sirino -**	**2.46**	**16**	Pg	**Pn**	**09 01 56.4**	**+0.7**
SIRI	**Monte Sirino -**	**2.46**	**16**	P	**Pn**	**09 01 56.6**	**+0.9**
CMPR	**Campora**	**2.51**	**5**	Pg	**Pn**	**09 01 55.8**	**-0.6**
	481nm,0.5s						
CMPR	**Campora**	**2.51**	**5**	Pg	**Pn**	**09 01 55.8**	**-0.6**
	481nm,0.5s						
ORI	**Oriolo Calabro**	**2.52**	**26**	P	**Pn**	**09 01 58.0**	**+1.6**
ORI	**Oriolo Calabro**	**2.52**	**26**	P	**Pn**	**09 01 58.0**	**+1.6**
ORI	**Oriolo Calabro**	**2.52**	**26**	P	**Pn**	**09 01 58.0**	**+1.6**
MTSN	**Montesano sull**	**2.52**	**13**	P	**Pn**	**09 01 57.7**	**+1.2**
MTSN				S	**Sn**	**09 02 27.7**	**+0.8**
MTSN	**Montesano sull**	**2.52**	**13**	P	**Pn**	**09 01 57.7**	**+1.2**
MTSN				S	**Sn**	**09 02 27.7**	**+0.8**
MCEL	**Monticello**	**2.58**	**14**	P	**Pn**	**09 01 59.8**	**+2.4**
MCEL				S	**Sn**	**09 02 29.1**	**+0.6**
MCEL	**Monticello**	**2.58**	**14**	P	**Pn**	**09 01 59.8**	**+2.4**
MCEL				S	**Sn**	**09 02 29.1**	**+0.6**
LTRZ	**Laterza**	**3.12**	**26**	Pg	**Pn**	**09 02 06.0**	**+1.2**
LTRZ	**Laterza**	**3.12**	**26**	Pg	**Pn**	**09 02 06.0**	**+1.2**
MATE	**Matera**	**3.13**	**25**	Pg	**Pn**	**09 02 05.8**	**+1.1**
	694nm,0.7s						
MATE	**Matera**	**3.13**	**25**	Pg	**Pn**	**09 02 05.8**	**+1.1**
	694nm,0.7s						
PALZ	**Palazzo San Ge**	**3.21**	**13**	Pg	**Pn**	**09 02 08.5**	**+2.5**
PALZ	**Palazzo San Ge**	**3.21**	**13**	Pg	**Pn**	**09 02 08.5**	**+2.5**
TAR1	**Taranto**	**3.24**	**33**	*e*Pn	**Pn**	**09 02 06.9**	**+0.6**
TAR1				*e*Sn	**Sb**	**09 02 48.6**	**-3.8**
AMUR	**Altamura**	**3.33**	**21**	Pg	**Pn**	**09 02 08.3**	**+0.7**
AMUR	**Altamura**	**3.33**	**21**	Pg	**Pn**	**09 02 08.3**	**+0.7**
NOCI	**Noci**	**3.38**	**28**	Pg	**Pn**	**09 02 08.9**	**+0.7**
	463nm,0.5s						
NOCI	**Noci**	**3.38**	**28**	Pg	**Pn**	**09 02 08.9**	**+0.7**
	463nm,0.5s						
CDT	**Castel del Mon**	**3.41**	**16**	*e*Pn	**Pn**	**09 02 09.2**	**+0.5**
CDT				*e*Sn	**Sn**	**09 02 51.3**	**+2.5**
PE1	**Pezze di Greco**	**3.53**	**31**	*e*Pn	**Pn**	**09 02 10.6**	**+0.3**
PE1				*e*Sn	**Sn**	**09 02 53.7**	**+2.1**
MESG	**Mesagne**	**3.55**	**38**	Pg	**Pn**	**09 02 10.6**	**+0.1**
	597nm,0.5s						
MESG	**Mesagne**	**3.55**	**38**	Pg	**Pn**	**09 02 10.6**	**+0.1**
	597nm,0.5s						
BAI	**Bari**	**3.60**	**23**	*e*Pn	**Pn**	**09 02 12.3**	**+1.1**
BAI				*e*Sn	**Sn**	**09 02 57.0**	**+3.7**
MS1	**Monte Sant'Ang**	**3.95**	**10**	*e*Pn	**Pn**	**09 02 18.1**	**+1.9**
MS1				*e*Sn	**Sn**	**09 03 05.3**	**+3.1**
KEK	**Kerkira**	**4.20**	**62**	P	**Pn**	**09 02 18.8**	**-0.8**
KEK				S	**Sn**	**09 03 06.6**	**-1.7**
KEK	**Kerkira**	**4.20**	**62**	*e*PN	**Pn**	**09 02 18.0**	**-1.6**
KEK	**Kerkira**	**4.20**	**62**	P	**Pn**	**09 02 18.8**	**-0.8**
KEK	**Kerkira**	**4.20**	**62**	P	**Pn**	**09 02 18.8**	**-0.8**
KEK				S	**Sn**	**09 03 06.6**	**-1.7**
VLS	**Valsamata**	**4.43**	**84**	P	**Pn**	**09 02 21.3**	**-1.4**
VLS				S	**Sn**	**09 03 10.5**	**-3.4**
VLS	**Valsamata**	**4.43**	**84**	P	**Pn**	**09 02 21.3**	**-1.4**
VLS				S	**Sn**	**09 03 10.5**	**-3.4**
VLS	**Valsamata**	**4.43**	**84**	*e*PN	**Pn**	**09 02 21.4**	**-1.3**
VLS	**Valsamata**	**4.43**	**84**	P	**Pn**	**09 02 21.3**	**-1.4**
VLS				S	**Sn**	**09 03 10.5**	**-3.4**
VLS	**Valsamata**	**4.43**	**84**	P	**Pn**	**09 02 21.3**	**-1.4**
VLS				S	**Sn**	**09 03 10.5**	**-3.4**
LKD2	**Lefkada island**	**4.55**	**76**	P	**Pn**	**09 02 24.3**	**-0.1**
LKD2				S	**Sn**	**09 03 14.8**	**-2.2**
LKD2	**Lefkada island**	**4.55**	**76**	P	**Pn**	**09 02 24.3**	**-0.1**
LKD2				S	**Sn**	**09 03 14.8**	**-2.2**
LKD2	**Lefkada island**	**4.55**	**76**	P	**Pn**	**09 02 24.3**	**-0.1**
LKD2				S	**Sn**	**09 03 14.8**	**-2.2**
JAN	**Janina**	**4.93**	**66**	P	**Pn**	**09 02 29.1**	**-0.5**
JAN				S	**Sn**	**09 03 24.4**	**-1.9**
JAN	**Janina**	**4.93**	**66**	P	**Pn**	**09 02 29.1**	**-0.5**
JAN				S	**Sn**	**09 03 24.4**	**-1.9**
JAN	**Janina**	**4.93**	**66**	*e*PN	**Pn**	**09 02 29.2**	**-0.4**
JAN	**Janina**	**4.93**	**66**	P	**Pn**	**09 02 29.1**	**-0.5**
JAN				S	**Sn**	**09 03 24.4**	**-1.9**
JAN	**Janina**	**4.93**	**66**	P	**Pn**	**09 02 29.1**	**-0.5**
JAN				S	**Sn**	**09 03 24.4**	**-1.9**
PDO	**Prodromos**	**4.93**	**79**	P	**Pn**	**09 02 29.3**	**-0.3**
PDO				S	**Sn**	**09 03 23.7**	**-2.6**
PDO	**Prodromos**	**4.93**	**79**	*e*PN	**Pn**	**09 02 29.2**	**-0.3**
PDO	**Prodromos**	**4.93**	**79**	P	**Pn**	**09 02 29.3**	**-0.3**
PDO				S	**Sn**	**09 03 23.7**	**-2.6**
KEST	**Kesra**	**4.99**	**247**	*e*Pn	**Pn**	**09 02 31.2**	**+0.7**
KEST				Sn	**Sn**	**09 03 28.5**	**+0.7**
KEST	**Kesra**	**4.99**	**247**	*e*Pn	**Pn**	**09 02 31.2**	**+0.7**
KEST	**Kesra**	**4.99**	**247**	Pn	**Pn**	**09 02 31.5**	**+1.0**
	1.4nm,0.3s,baz=359,slow=4.6,SNR=20						
KEST				Sn	**Sn**	**09 03 28.5**	**+0.7**
	1.3nm,0.3s,baz=40,slow=19,SNR=2.7						
RLS	**Riolos of Patr**	**5.12**	**85**	P	**Pn**	**09 02 31.9**	**-0.2**
RLS				S	**Sn**	**09 03 28.6**	**-2.2**
RLS	**Riolos of Patr**	**5.12**	**85**	*e*PN	**Pn**	**09 02 31.4**	**-0.7**
RLS	**Riolos of Patr**	**5.12**	**85**	P	**Pn**	**09 02 31.9**	**-0.2**
RLS				S	**Sn**	**09 03 28.6**	**-2.2**
RLS	**Riolos of Patr**	**5.12**	**85**	P	**Pn**	**09 02 31.9**	**-0.2**
RLS				S	**Sn**	**09 03 28.6**	**-2.2**
MEV	**Metsovon**	**5.25**	**66**	P	**Pn**	**09 02 34.4**	**+0.3**
MEV				S	**Sn**	**09 03 32.2**	**-2.1**
MEV	**Metsovon**	**5.25**	**66**	P	**Pn**	**09 02 34.4**	**+0.3**
MEV				S	**Sn**	**09 03 32.2**	**-2.1**
MEV	**Metsovon**	**5.25**	**66**	P	**Pn**	**09 02 34.4**	**+0.3**
MEV				S	**Sn**	**09 03 32.2**	**-2.1**
ULC	**Ulcinj**	**5.28**	**37**	*i*Pn	**Pn**	**09 02 35.3**	**+1.0**
ULC				*e*Sn	**Sn**	**09 03 33.3**	**-1.4**
ULC	**Ulcinj**	**5.28**	**37**	*i*Pn	**Pn**	**09 02 35.3**	**+1.0**
ULC				*e*Sn	**Sn**	**09 03 33.3**	**-1.4**
DRO	**Drossia**	**5.31**	**86**	P	**Pn**	**09 02 34.3**	**-0.5**
DRO				S	**Sn**	**09 03 33.7**	**-1.9**
DRO	**Drossia**	**5.31**	**86**	*e*PN	**Pn**	**09 02 34.3**	**-0.5**
DRO	**Drossia**	**5.31**	**86**	P	**Pn**	**09 02 34.3**	**-0.5**
DRO				S	**Sn**	**09 03 33.7**	**-1.9**
AMT	**Artemida-Makis**	**5.33**	**91**	P	**Pn**	**09 02 35.2**	**+0.1**
AMT				S	**Sn**	**09 03 32.7**	**-3.4**
AMT	**Artemida-Makis**	**5.33**	**91**	P	**Pn**	**09 02 35.2**	**+0.1**
AMT				S	**Sn**	**09 03 32.7**	**-3.4**
HCY	**Herceg Novi**	**5.35**	**29**	*i*Pn	**Pn**	**09 02 35.3**	**0.0**
HCY				*e*Sn	**Sn**	**09 03 35.6**	**-0.9**
HCY	**Herceg Novi**	**5.35**	**29**	*i*Pn	**Pn**	**09 02 35.3**	**0.0**
HCY				*e*Sn	**Sn**	**09 03 35.6**	**-0.9**
NEST	**Nestorio**	**5.37**	**59**	P	**Pn**	**09 02 36.5**	**+0.8**
NEST	**Nestorio**	**5.37**	**59**	P	**Pn**	**09 02 36.5**	**+0.8**
BUM	**Brajici-Budva**	**5.38**	**32**	*i*Pn	**Pn**	**09 02 35.8**	**-0.1**
BUM				*e*Sn	**Sn**	**09 03 36.6**	**-0.9**
BUM	**Brajici-Budva**	**5.38**	**32**	*i*Pn	**Pn**	**09 02 35.8**	**-0.1**
BUM				*e*Sn	**Sn**	**09 03 36.6**	**-0.9**
PYL	**PYLOS**	**5.45**	**98**	P	**Pn**	**09 02 35.7**	**-1.0**
PYL				S	**Sn**	**09 03 35.7**	**-3.3**
PYL	**PYLOS**	**5.45**	**98**	P	**Pn**	**09 02 35.7**	**-1.0**
PYL				S	**Sn**	**09 03 35.7**	**-3.3**
PYL	**PYLOS**	**5.45**	**98**	P	**Pn**	**09 02 35.7**	**-1.0**
PYL				S	**Sn**	**09 03 35.7**	**-3.3**
STON	**Ston**	**5.46**	**21**	*e*Pn	**Pn**	**09 02 35.3**	**-1.4**
STON				Sn	**Sn**	**09 03 38.1**	**-1.1**
STON	**Ston**	**5.46**	**21**	*e*Pn	**Pn**	**09 02 38.5**	**+1.7**
STON	**Ston**	**5.46**	**21**	*e*Pn	**Pn**	**09 02 38.5**	**+1.7**
STON				Sn	**Sn**	**09 03 38.0**	**-1.1**
EVR	**Evrytania**	**5.46**	**76**	P	**Pn**	**09 02 37.8**	**+0.8**
EVR				S	**Sn**	**09 03 37.1**	**-2.4**
EVR	**Evrytania**	**5.46**	**76**	*e*PN	**Pn**	**09 02 37.1**	**+0.1**
EVR	**Evrytania**	**5.46**	**76**	P	**Pn**	**09 02 37.8**	**+0.8**
EVR				S	**Sn**	**09 03 37.1**	**-2.4**
EVR	**Evrytania**	**5.46**	**76**	P	**Pn**	**09 02 37.8**	**+0.8**
EVR				S	**Sn**	**09 03 37.1**	**-2.4**
EFP	**Efpalio**	**5.48**	**81**	P	**Pn**	**09 02 36.9**	**-0.2**
EFP				S	**Sn**	**09 03 37.7**	**-2.0**
EFP	**Efpalio**	**5.48**	**81**	*e*PN	**Pn**	**09 02 36.9**	**-0.2**
EFP	**Efpalio**	**5.48**	**81**	P	**Pn**	**09 02 36.9**	**-0.2**
EFP				S	**Sn**	**09 03 37.7**	**-2.0**
TREB	**Trebinje**	**5.53**	**27**	*i*Pn	**Pn**	**09 02 37.9**	**+0.1**
TREB				*i* Sn	**Sn**	**09 03 41.3**	**+0.4**
TREB	**Trebinje**	**5.53**	**27**	*i*Pn	**Pn**	**09 02 37.9**	**+0.1**
TREB				*i* Sn	**Sn**	**09 03 41.3**	**+0.4**
ITM	**Ithomi**	**5.54**	**94**	P	**Pn**	**09 02 37.4**	**-0.6**
ITM	**Ithomi**	**5.54**	**94**	P	**Pn**	**09 02 37.4**	**-0.6**
ITM	**Ithomi**	**5.54**	**94**	P	**Pn**	**09 02 37.4**	**-0.6**
PDG	**Podgorica**	**5.65**	**34**	P	**Pn**	**09 02 39.3**	**-0.1**
PDG				S	**Sn**	**09 03 42.3**	**-1.5**
PDG	**Podgorica**	**5.65**	**34**	*i*Pn	**Pn**	**09 02 39.4**	**+0.1**
PDG				*e*Sn	**Sn**	**09 03 41.3**	**-2.5**
PDG	**Podgorica**	**5.65**	**34**	*i*Pn	**Pn**	**09 02 39.5**	**+0.1**
PDG				S	**Sn**	**09 03 42.3**	**-1.5**
TTG	**Podgorica**	**5.65**	**34**	*i*Pn	**Pn**	**09 02 39.5**	**+0.1**
TTG				*e*Sn	**Sn**	**09 03 42.7**	**-1.1**
TTG	**Podgorica**	**5.65**	**34**	P	**Pn**	**09 02 39.3**	**-0.1**
TTG				S	**Sn**	**09 03 42.3**	**-1.5**
TTG	**Podgorica**	**5.65**	**34**	P	**Pn**	**09 02 39.3**	**-0.1**
TTG				S	**Sn**	**09 03 42.3**	**-1.5**
TTG	**Podgorica**	**5.65**	**34**	P	**Pn**	**09 02 39.3**	**-0.1**
TTG				S	**Sn**	**09 03 42.3**	**-1.5**
KLV	**Kalavryta, Ach**	**5.66**	**85**	P	**Pn**	**09 02 39.3**	**-0.3**
KLV				S	**Sn**	**09 03 41.2**	**-3.0**
KLV	**Kalavryta, Ach**	**5.66**	**85**	*e*PN	**Pn**	**09 02 38.9**	**-0.7**
KLV	**Kalavryta, Ach**	**5.66**	**85**	P	**Pn**	**09 02 39.3**	**-0.3**
KLV				S	**Sn**	**09 03 41.2**	**-3.0**
KLV	**Kalavryta, Ach**	**5.66**	**85**	P	**Pn**	**09 02 39.3**	**-0.3**
KLV				S	**Sn**	**09 03 41.2**	**-3.0**
KALE	**Kalithea**	**5.66**	**82**	P	**Pn**	**09 02 39.7**	**0.0**
KALE				S	**Sn**	**09 03 42.8**	**-1.5**
KALE	**Kalithea**	**5.66**	**82**	P	**Pn**	**09 02 39.7**	**0.0**
KALE				S	**Sn**	**09 03 42.8**	**-1.5**
KALE	**Kalithea**	**5.66**	**82**	P	**Pn**	**09 02 39.7**	**0.0**
KALE				S	**Sn**	**09 03 42.8**	**-1.5**
PHP	**Peshkopia**	**5.70**	**46**	P	**Pn**	**09 02 40.6**	**+0.4**
PHP	**Peshkopia**	**5.70**	**46**	P	**Pn**	**09 02 40.6**	**+0.4**
PHP	**Peshkopia**	**5.70**	**46**	P	**Pn**	**09 02 40.6**	**+0.4**
PHP	**Peshkopia**	**5.70**	**46**	P	**Pn**	**09 02 40.6**	**+0.4**
MAKR	**Makrakomi, Fth**	**5.73**	**76**	P	**Pn**	**09 02 41.7**	**+1.2**
MAKR	**Makrakomi, Fth**	**5.73**	**76**	P	**Pn**	**09 02 41.7**	**+1.2**
MAKR	**Makrakomi, Fth**	**5.73**	**76**	P	**Pn**	**09 02 41.7**	**+1.2**
BRY	**Bratogost**	**5.76**	**27**	*i*Pn	**Pn**	**09 02 41.7**	**+0.7**
BRY				*e*Sn	**Sn**	**09 03 45.5**	**-1.2**
BRY	**Bratogost**	**5.76**	**27**	*i*Pn	**Pn**	**09 02 41.7**	**+0.7**
BRY				*e*Sn	**Sn**	**09 03 45.5**	**-1.2**
THL	**Klokotos Trika**	**5.76**	**70**	P	**Pn**	**09 02 41.5**	**+0.6**
THL				S	**

PLG	**Polygyros**	**7.05**	**66**	*e*PN	**Pn**	**09 02 57.4**	**-1.3**
PAIG	**Paliouri**	**7.09**	**70**	P	**Pn**	**09 02 59.0**	**-0.2**
PAIG	**Paliouri**	**7.09**	**70**	P	**Pn**	**09 02 59.0**	**-0.2**
PAIG	**Paliouri**	**7.09**	**70**	P	**Pn**	**09 02 59.0**	**-0.2**
PAIG	**Paliouri**	**7.09**	**70**	P	**Pn**	**09 02 59.0**	**-0.2**
AOS	**Alonnisos**	**7.09**	**76**	P	**Pn**	**09 02 59.1**	**-0.2**
AOS	**Alonnisos**	**7.09**	**76**	P	**Pn**	**09 02 59.1**	**-0.2**
AOS	**Alonnisos**	**7.09**	**76**	P	**Pn**	**09 02 59.1**	**-0.2**
BLY	**Banja Luka**	**7.12**	**13**	*e*Pn	**Pn**	**09 03 02.3**	**+2.7**
BLY				*e*Sn	**Sn**	**09 04 18.8**	**-1.3**
BLY	**Banja Luka**	**7.12**	**13**	*e*Pn	**Pn**	**09 03 02.3**	**+2.7**
SELS	**Selova**	**7.13**	**39**	*e*Pn	**Pn**	**09 03 00.3**	**+0.5**
SELS				*i* Sn	**Sn**	**09 04 18.3**	**-2.2**
SELS	**Selova**	**7.13**	**39**	*e*Pn	**Pn**	**09 03 00.3**	**+0.5**
SELS				*i* Sn	**Sn**	**09 04 18.3**	**-2.2**
DIVS	**Divibare**	**7.33**	**29** ⇑	*i*Pn	**Pn**	**09 03 02.8**	**+0.3**
DIVS				*i* Sn	**Sn**	**09 04 21.9**	**-3.4**
DIVS	**Divibare**	**7.33**	**29** ⇑	*i*Pn	**Pn**	**09 03 02.8**	**+0.3**
GRUS	**Gruza**	**7.45**	**34** ⇓	*i*Pn	**Pn**	**09 03 05.1**	**+0.9**
GRUS				*e*Sn	**Sn**	**09 04 26.8**	**-1.5**
GRUS	**Gruza**	**7.45**	**34** ⇓	*i*Pn	**Pn**	**09 03 05.1**	**+0.9**
GRUS				*e*Sn	**Sn**	**09 04 26.8**	**-1.5**
TEKS	**Tekeris**	**7.54**	**25**	*e*Sn	**Sn**	**09 04 28.7**	**-1.9**
MMB	**Musomiste**	**7.71**	**58** ⇓	*i*P	**Pn**	**09 03 08.5**	**+0.7**
VAM	**Vamos**	**7.78**	**105**	P	**Pn**	**09 03 09.0**	**+0.3**
VAM	**Vamos**	**7.78**	**105**	P	**Pn**	**09 03 09.0**	**+0.3**
VAM	**Vamos**	**7.78**	**105**	P	**Pn**	**09 03 09.0**	**+0.3**
VAM	**Vamos**	**7.78**	**105**	P	**Pn**	**09 03 09.0**	**+0.3**
VTS	**Vitosha**	**7.89**	**50**	*e*Pn	**Pn**	**09 03 10.5**	**+0.2**
VTS				*e*Sn	**Sn**	**09 04 37.6**	**-1.6**
VTS	**Vitosha**	**7.89**	**50** ⇑	*i*P	**Pn**	**09 03 11.3**	**+1.0**
VTS	**Vitosha**	**7.89**	**50**	*e*Pn	**Pn**	**09 03 10.5**	**+0.2**
VTS				*e*Sn	**Sn**	**09 04 37.6**	**-1.6**
ZAPS	**Zavoj**	**7.97**	**44**	*e*Pn	**Pn**	**09 03 11.8**	**+0.5**
ZAPS				*i* Sn	**Sn**	**09 04 37.9**	**-3.1**
ZAPS	**Zavoj**	**7.97**	**44**	*e*Pn	**Pn**	**09 03 11.8**	**+0.5**
SVIS	**Svilajnac**	**7.97**	**34**	*e*Sn	**Sn**	**09 04 37.5**	**-3.6**
BOLS	**Boljevac**	**7.99**	**39**	*e*Pn	**Pn**	**09 03 11.7**	**+0.1**
BOLS				*e*Sn	**Sn**	**09 04 38.2**	**-3.3**
BOLS	**Boljevac**	**7.99**	**39**	*e*Pn	**Pn**	**09 03 11.7**	**+0.1**
LJBD	**Adjabya** SNR=90	**8.11**	**147**	*i* P	**Pn**	**09 03 12.4**	**-0.9**
FGSL	**Fruska Gora**	**8.18**	**25**	*e*Pn	**Pn**	**09 03 13.2**	**-0.9**
FRGS	**Fruska Gora**	**8.18**	**25**	*e*Pn	**Pn**	**09 03 13.2**	**-0.9**
FRGS				*e*Sn	**Sn**	**09 04 41.8**	**-4.3**
SBF	**Sospel**	**8.33**	**319**	*e*Pn	**Pn**	**09 03 15.1**	**-1.2**
SBF				*e*Sn	**Sn**	**09 04 45.1**	**-4.8**
	12nm,0.5s						
IDI	**Anoyia**	**8.35**	**105**	P	**Pn**	**09 03 16.7**	**+0.1**
IDI	**Anoyia**	**8.35**	**105**	*e*Pn	**Pn**	**09 03 16.7**	**+0.1**
IDI				*e*Sn	**Sn**	**09 04 45.3**	**-5.1**
IDI	**Anoyia**	**8.35**	**105**	P	**Pn**	**09 03 16.7**	**+0.1**
IDI	**Anoyia**	**8.35**	**105**	Pn	**Pn**	**09 03 16.8**	**+0.3**
	2.5nm,0.3s,baz=273,slow=16,SNR=12						
IDI				Sn	**Sn**	**09 04 44.9**	**-5.6**
	18nm,0.3s,baz=334,slow=17,SNR=13						
APE	**Apeiranthos**	**8.41**	**92**	P	**Pn**	**09 03 16.6**	**-0.8**
APE	**Apeiranthos**	**8.41**	**92**	*e*P	**Pn**	**09 03 15.7**	**-1.7**
APE	**Apeiranthos**	**8.41**	**92** ⇑	*i*P	**Pn**	**09 03 18.4**	**+1.0**
APE	**Apeiranthos**	**8.41**	**92**	P	**Pn**	**09 03 16.6**	**-0.8**
APE	**Apeiranthos**	**8.41**	**92**	P	**Pn**	**09 03 16.6**	**-0.8**
LMR	**La Mourre**	**8.49**	**313**	*e*Pn	**Pn**	**09 03 17.3**	**-1.1**
FRF	**La Foret Royal**	**8.55**	**315**	*e*Pn	**Pn**	**09 03 18.1**	**-1.2**
FRF				*e*Sn	**Sn**	**09 04 50.7**	**-4.7**
	1.3nm,0.4s						
OBKA	**Obir**	**8.70**	**358** ⇑	*i*Pn	**Pn**	**09 03 21.1**	**-0.2**
OBKA	**Obir**	**8.70**	**358**	Pn	**Pn**	**09 03 21.1**	**-0.2**
MYKA	**Terra Mystica**	**8.87**	**354** ⇑	*i*Pn	**Pn**	**09 03 25.5**	**+1.9**
MYKA	**Terra Mystica**	**8.87**	**354**	Pn	**Pn**	**09 03 25.5**	**+1.9**
TAVF	**Tavernes**	**8.93**	**313**	P	**Pn**	**09 03 25.6**	**+1.2**
TAVF	**Tavernes**	**8.93**	**313**	P	**Pn**	**09 03 25.6**	**+1.2**
BERF	**Bertagne**	**8.96**	**311**	P	**Pn**	**09 03 24.7**	**-0.3**
BERF				S	Sn	09 05 17.8	+12
BERF	**Bertagne**	**8.96**	**311**	P	**Pn**	**09 03 24.7**	**-0.3**
BERF				S	Sn	09 05 17.8	+12
LEPF	**PUYLOUBIER**	**9.08**	**312**	P	**Pn**	**09 03 26.3**	**-0.2**
LEPF				S	Sn	09 05 20.7	+12
LEPF	**PUYLOUBIER**	**9.08**	**312**	P	**Pn**	**09 03 26.3**	**-0.2**
LEPF				S	Sn	09 05 20.7	+12
BZS	**Buzias**	**9.23**	**30** ⇑	*i*P	**Pn**	**09 03 28.5**	**0.0**
STOF	**St-Etienne Org**	**9.24**	**315**	P	Pn	09 03 32.2	+3.4
STOF	**St-Etienne Org**	**9.24**	**315**	P	Pn	09 03 32.2	+3.4
MBDF	**Montbardon**	**9.28**	**321**	*e*P	Pn	09 03 33.4	+4.1
MBDF	**Montbardon**	**9.28**	**321**	*e*P	Pn	09 03 33.4	+4.1
TREF	**Trevaresse**	**9.32**	**312**	P	**Pn**	**09 03 30.4**	**+0.5**
TREF	**Trevaresse**	**9.32**	**312**	P	**Pn**	**09 03 30.4**	**+0.5**
SMRF	**Simiane la Rot**	**9.42**	**314**	*e*Pn	**Pn**	**09 03 30.0**	**-1.2**
GZR	**Gura Zlata**	**9.55**	**35** ⇑	*i*P	**Pn**	**09 03 33.5**	**+0.5**
PRAF	**Pradon**	**9.55**	**312**	P	**Pn**	**09 03 33.8**	**+0.7**
PRAF	**Pradon**	**9.55**	**312**	P	**Pn**	**09 03 33.8**	**+0.7**
TUE	**Stuetta**	**9.61**	**336**	*e*Pn	**Pn**	**09 03 35.8**	**+1.8**
TUE	**Stuetta**	**9.61**	**336**	*e*Pn	**Pn**	**09 03 35.8**	**+1.8**
FETA	**Feichten**	**9.73**	**342** ⇓	*i*Pn	**Pn**	**09 03 37.6**	**+2.1**
FETA	**Feichten**	**9.73**	**342**	Pn	**Pn**	**09 03 37.6**	**+2.1**
DAVOX	**Davos/Dischmat**	**9.73**	**339**	Pn	Pn	09 03 39.1	+3.5
DAVOX	**Davos/Dischmat** 408nm,21.8s	**9.73**	**339**	P	Pn	09 03 39.1	+3.5
DAVOX	**Davos/Dischmat** 0.8nm,0.3s,baz=140,slow=22,SNR=7.6	**9.73**	**339**	Pn	**Pn**	09 03 39.1	+3.5
DAVOX				LR	LR	09 07 43.5	
	comp=Z,408nm,21.8s,baz=164,slow=41						
ORIF	**Oris-en-Rattie**	**9.86**	**319**	*e*P	Pn	09 03 41.4	+4.1
ORIF	**Oris-en-Rattie**	**9.86**	**319**	*e*P	Pn	09 03 41.4	+4.1
MOA	**Molln**	**10.05**	**357** ⇑	*i*Pn	**Pn**	**09 03 41.8**	**+2.0**
MOA	**Molln**	**10.05**	**357**	Pn	**Pn**	**09 03 41.8**	**+2.0**
LOT	**Lotru**	**10.06**	**38** ⇑	*i*P	**Pn**	**09 03 41.0**	**+1.0**
CONA	**Conrad Observa**	**10.13**	**3** ⇑	*i*Pn	**Pn**	**09 03 42.4**	**+1.5**
CONA	**Conrad Observa**	**10.13**	**3**	Pn	**Pn**	**09 03 42.4**	**+1.5**
SENIN	**Lac Senin/Sane**	**10.28**	**329**	*e*Pn	**Pn**	**09 03 45.1**	**+2.0**
SENIN	**Lac Senin/Sane**	**10.28**	**329**	*e*Pn	**Pn**	**09 03 45.1**	**+2.0**
ARR	**Arges**	**10.43**	**41** ⇑	*i*P	**Pn**	**09 03 45.9**	**+0.8**
VIVF	**Saint-Julien-l**	**10.47**	**315**	*e*Pn	**Pn**	**09 03 44.3**	**-1.3**
LASF	**Ste Croix**	**10.49**	**310**	*e*Pn	**Pn**	**09 03 44.8**	**-1.1**
MTUR	**Matau**	**10.56**	**42** ⇑	*i*P	**Pn**	**09 03 48.6**	**+1.7**
DRGR		**10.63**	**30** ⇓	*i*P	**Pn**	**09 03 48.3**	**+0.5**
VOIR		**10.70**	**41** ⇓	*i*P	**Pn**	**09 03 49.5**	**+0.8**
CABF	**La Chapelle**	**10.99**	**326**	*e*P	Pn	09 03 57.0	+4.2
GEC2	**GERESS Array S**	**11.07**	**356**	*e*P	**Pn**	**09 03 55.3**	**+1.5**
GEC2	**GERESS Array S**	**11.07**	**356**	*e*Pn	**Pn**	**09 03 55.3**	**+1.5**
GEC2	**GERESS Array S**	**11.07**	**356**	*e*P	**Pn**	**09 03 55.3**	**+1.5**
GERES	**GERESS Array B**	**11.07**	**356**	Pn	**Pn**	**09 03 55.1**	**+1.3**
GERES	**GERESS Array B** 142nm,19.9s	**11.07**	**356**	P	**Pn**	**09 03 55.1**	**+1.3**
GERES	**GERESS Array B** 0.5nm,0.3s,baz=175,slow=14,SNR=8.9	**11.07**	**356**	Pn	**Pn**	**09 03 55.1**	**+1.3**
GERES				LR	LR	09 08 31.0	
	comp=Z,142nm,19.9s,baz=260,slow=40						
MLR	**Muntele Rosu**	**11.21**	**43** ⇑	*i*P	**Pn**	**09 03 56.8**	**+1.0**
MLR	**Muntele Rosu**	**11.21**	**43**	Pn	**Pn**	**09 03 58.4**	**+2.6**
MLR	**Muntele Rosu**	**11.21**	**43**	P	**Pn**	**09 03 58.4**	**+2.6**
MLR	**Muntele Rosu**	**11.21**	**43**	Pn	**Pn**	**09 03 58.4**	**+2.6**
	0.1nm,0.3s,baz=96,slow=6.2,SNR=3.2						
KHC	**Kasperske Hory**	**11.36**	**355**	*e*P	**Pn**	**09 03 59.4**	**+1.7**
KHC	**Kasperske Hory**	**11.36**	**355**	*e*P	**Pn**	**09 03 59.4**	**+1.7**
KHC	**Kasperske Hory**	**11.36**	**355**	Pn	**Pn**	**09 03 59.4**	**+1.7**
HINF	**Hinteralfeld**	**11.64**	**332**	*e*P	Pn	09 04 06.1	+4.5
PLOR	**Plostina**	**11.82**	**44** ⇑	*i*P	**Pn**	**09 04 04.9**	**+0.8**
VRI	**Vrincioaia**	**11.87**	**44** ⇓	*i*P	**Pn**	**09 04 06.1**	**+1.3**
HAU	**Haudompre**	**11.99**	**331**	*e*Pn	**Pn**	**09 04 04.5**	**-1.9**
HAU	**Haudompre**	**11.99**	**331**	*e*P	Pn	09 04 10.4	+4.0
HAU	**Haudompre**	**11.99**	**331**	*e*P	Pn	09 04 10.4	+4.0
CAF	**Calviac**	**12.03**	**310**	*e*Pn	**Pn**	**09 04 06.3**	**-0.6**
CAF	**Calviac**	**12.03**	**310**	*e*Pn	**Pn**	**09 04 06.3**	**-0.6**
UZH	**Uzhgorod**	**12.04**	**24**	*e*P	Pn	09 04 11.8	+4.8
UZH				*e*S	**Sn**	**09 06 25.2**	**+4.4**
KOLS	**Kolonicke sedl**	**12.30**	**23**	*e*P	**Pn**	**09 04 13.0**	**+2.4**
KOLS	**Kolonicke sedl**	**12.30**	**23**	*e*PN	**Pn**	**09 04 13.0**	**+2.4**
KOLS	**Kolonicke sedl**	**12.30**	**23**	*e*P	**Pn**	**09 04 13.0**	**+2.4**
KRLC	**Kraliky**	**12.32**	**5**	*e*P	**Pn**	**09 04 12.3**	**+1.4**
KRLC	**Kraliky**	**12.32**	**5**	*e*P	**Pn**	**09 04 12.3**	**+1.4**
KRLC	**Kraliky**	**12.32**	**5**	Pn	**Pn**	**09 04 12.3**	**+1.4**
BURAR	**Bucovina Array**	**12.33**	**34** ⇓	*i*P	**Pn**	**09 04 11.8**	**+0.7**
STHS	**Stebnicka Huta**	**12.44**	**19**	*e*P	**Pn**	**09 04 14.7**	**+2.2**
STHS	**Stebnicka Huta**	**12.44**	**19**	*e*PN	**Pn**	**09 04 14.7**	**+2.2**
STHS	**Stebnicka Huta**	**12.44**	**19**	*e*P	**Pn**	**09 04 14.7**	**+2.2**
CLL	**Collm**	**13.57**	**355**	*e*P	P	09 04 42.0	+5.2
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
CLL	**Collm**	**13.57**	**355**	*e*P	**Pn**	**09 04 30.0**	**+2.2**
CLL				*e*PP	**P**	**09 04 37.0**	**+0.2**
CLL				*es*PP		09 04 42.0	
	comp=Z,11nm,1.1s						
CLL				*i*		09 04 46.3	
	comp=Z,22nm,1.5s						
CLL				Lmax		09 10 00.0	
BRTR	**Keskin Array B**	**14.67**	**77**	Pn	**Pn**	**09 04 43.0**	**-0.1**
BRTR	**Keskin Array B**	**14.67**	**77**	Pn	**Pn**	**09 04 43.0**	**-0.1**
BRTR	**Keskin Array B**	**14.67**	**77**	Pn	**Pn**	**09 04 43.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=238,slow=11,SNR=4.3						
ESDC	**Sonseca Array**	**14.92**	**283**	Pn	**P**	**09 04 51.6**	**-0.4**
ESDC	**Sonseca Array**	**14.92**	**283**	Pn	**P**	**09 04 51.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=93,slow=12,SNR=4.4						
ESDC				LR	LR	09 10 06.8	
	comp=Z,170nm,19.8s,baz=100,slow=36						
KIEV	**Kiev**	**16.38**	**34**	*e*P	**Pn**	**09 05 05.0**	**-0.2**
AKASG	**Malin Array Be**	**16.39**	**34**	P	**Pn**	**09 05 04.9**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**16.39**	**34**	Pn	**Pn**	**09 05 04.9**	**-0.4**
AKASG	**Malin Array Be**	**16.39**	**34**	Pn	**Pn**	**09 05 04.9**	**-0.4**
AKASG	**Malin Array Be**	**16.39**	**34**	Pn	**Pn**	**09 05 04.9**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=226,slow=11,SNR=6.4						
MMAI	**Mount Meron Ar**	**17.30**	**100**	P	**Pn**	**09 05 15.8**	**-1.3**
MMAI	**Mount Meron Ar**	**17.30**	**100**	P	**Pn**	**09 05 15.8**	**-1.3**
MMAI	**Mount Meron Ar**	**17.30**	**100**	P	**Pn**	**09 05 15.8**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=301,slow=11,SNR=6.4						
EIL	**Elat**	**18.45**	**110**	P	**P**	**09 05 30.7**	**-0.3**
EIL	**Elat**	**18.45**	**110**	P	**P**	**09 05 30.7**	**-0.3**
EIL	**Elat**	**18.45**	**110**	P	**P**	**09 05 30.7**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=293,slow=7.8,SNR=8.8						
ASF	**Jabal al Asfar**	**18.79**	**101**	P	**Pn**	**09 05 36.8**	**+1.5**
ASF	**Jabal al Asfar**	**18.79**	**101**	P	**Pn**	**09 05 36.8**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=244,slow=7.5,SNR=4.4						
EKA	**Eskdalemuir Ar**	**21.40**	**331**	P	**P**	**09 06 02.4**	**-0.6**
EKA	**Eskdalemuir Ar**	**21.40**	**331**	P	**P**	**09 06 02.4**	**-0.6**
	comp=Z,4.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**21.40**	**331**	P	**P**	**09 06 02.4**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=138,slow=11,SNR=8.0						
VORD	**Divnogorie**	**21.65**	**45**	*e*P	**P**	**09 06 04.4**	**-1.3**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
VORD	**Divnogorie**	**21.65**	**45**	*e*P	**P**	**09 06 04.4**	**-1.3**
	comp=E,6.0nm,0.8s						
VSR	**Storozhevoye**	**21.70**	**44**	*e*P	**P**	**09 06 05.2**	**-1.0**
VSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**21.70**	**44**	*e*P	**P**	**09 06 05.2**	**-1.0**
KIV	**Kislovodsk**	**21.75**	**65** ⇑	*e*P	**P**	**09 06 07.6**	**+0.6**
KIV				*PP	**pP**	**09 06 11.0**	**-0.8**
KIV				*e*		09 06 27.3	
KIV				*e*		09 10 05.8	
KIV				pmax	pmax		
	comp=Z,15nm,1.4s						
KIV	**Kislovodsk**	**21.75**	**65**	*e*P	**P**	**09 06 07.6**	**+0.6**
	comp=Z,15nm,1.4s						
KBZ	**Khabaz**	**21.88**	**66**	P	**P**	**09 06 08.7**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBZ	**Khabaz**	**21.88**	**66**	P	**P**	**09 06 08.7**	**+0.5**
KBZ	**Khabaz**	**21.88**	**66**	P	**P**	**09 06 08.7**	**+0.5**
	comp=Z,3.0nm,0.6s						
KBZ	**Khabaz**	**21.88**	**66**	P	**P**	**09 06 08.7**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=273,slow=8.2,SNR=8.5						
VSU	**Vasula**	**22.03**	**17**	*e*P	**P**	**09 06 10.7**	**+1.0**
VSU				pmax	pmax		
	comp=Z,27nm,0.8s						
VSU	**Vasula**	**22.03**	**17**	*e*P	**P**	**09 06 10.7**	**+1.0**
	comp=Z,27nm,0.8s						
HFS	**Hagfors**	**22.36**	**358**	P	**P**	**09 06 10.9**	**-2.3**
HFS	**Hagfors**	**22.36**	**358**	P	**P**	**09 06 10.9**	**-2.3**
	comp=Z,7.4nm,0.6s,baz=169,slow=8.8,SNR=17						
HFS				LR	LR	09 14 56.6	
	comp=Z,156nm,18.4s,baz=73,slow=37						
ZEI	**Tsey**	**22.54**	**68**	*e*P	**P**	**09 06 16.8**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,22nm,1.5s						
OBN	**Obninsk**	**22.65**	**33**	*e*P	**P**	**09 06 17.6**	**+1.3**
OBN				pmax	pmax		
	comp=Z,12nm,1.4s						
VRHR	**Novokhopersk**	**23.03**	**46**	*e*P	**P**	**09 06 22.4**	**+2.1**
VRHR				pmax	pmax		
	comp=N,20nm,0.7s						
VRHR				pmax	pmax		
	comp=E,20nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NB2	**NORSAR Subarra**	**23.37**	**355**	P	**P**	**09 06 22.2**	**-1.6**
	comp=Z,6.6nm,1.0s,baz=169,slow=11						
NB2	**NORSAR Subarra**	**23.37**	**355**	P	**P**	**09 06 22.2**	**-1.6**
	comp=Z,6.6nm,1.0s,SNR=5.5						
NOA	**NORSAR Array B**	**23.37**	**355**	P	**P**	**09 06 22.0**	**-1.8**
NOA	**NORSAR Array B**	**23.37**	**355**	P	**P**	**09 06 22.0**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=184,slow=12,SNR=4.7						
NOA				LR	LR	09 16 46.3	
	comp=Z,140nm,18.4s,baz=170,slow=40						
FINES	**FINESS Array B**	**24.65**	**13**	P	**P**	**09 06 34.0**	**-1.6**
FINES	**FINESS Array B**	**24.65**	**13**	P	**P**	**09 06 34.0**	**-1.6**
	comp=Z,3.7nm,0.5s,baz=187,slow=8.0,SNR=36						
TORD	**Torodi Ar. Bea**	**27.28**	**209**	P	**P**	**09 07 02.8**	**+2.9**
TORD	**Torodi Ar. Bea**	**27.28**	**209**	P	**P**	**09 07 02.8**	**+2.9**
	comp=Z,0.4nm,0.7s,baz=10,slow=8.9,SNR=2.6						
TORD				LR	LR	09 19 42.6	
	comp=Z,251nm,18.6s,baz=0.0,slow=40						
ARCES	**ARCESS Array B**	**32.29**	**7**	P	**P**	**09 07 41.9**	**-1.8**
ARCES	**ARCESS Array B**	**32.29**	**7**	P	**P**	**09 07 41.9**	**-1.8**
	comp=Z,3.8nm,1.0s,baz=189,slow=10.0,SNR=4.5						
ARCES				LR	LR	09 22 19.7	
	comp=Z,144nm,19.2s,baz=169,slow=40						
AKTO	**Aktyubinsk**	**32.89**	**53**	P	**P**	**09 07 49.1**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKTO				MLR	MLR		
	comp=Z,76nm,18.7s						
AKTO	**Aktyubinsk**	**32.89**	**53**	P	**P**	**09 07 49.0**	**-0.2**
AKTO	**Aktyubinsk**	**32.89**	**53**	P	**P**	**09 07 49.0**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=270,slow=7.9,SNR=4.0						
AKTO				LR	LR	09 23 55.9	
	comp=Z,76nm,18.7s,baz=269,slow=42						
SVE	**Sverdlovsk**	**35.47**	**43**	*e*P	P	09 08 07.2	-4.3
KMBO	**Kilima Mbogo**	**43.87**	**147**	P	**P**	**09 09 23.7**	**+1.5**
KMBO	**Kilima Mbogo**	**43.87**	**147**	P	**P**	**09 09 23.7**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=349,slow=10,SNR=4.6						
EKS2	**Erkin-Say**	**44.35**	**64**	*e*P	**P**	**09 09 25.2**	**-0.5**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**44.35**	**64**	*e*P	**P**	**09 09 25.2**	**-0.5**
	comp=Z,3.6nm,0.8s						
AAK	**Ala-Archa**	**44.87**	**64**	*e*P	**P**	**09 09 28.9**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURBB	**Kurchatov Arra**	**45.93**	**53**	P	**P**	**09 09 37.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=286,slow=8.4,SNR=3.7						
KURK	**Kurchatov**	**45.97**	**52**	P	**P**	**09 09 37.1**	**-1.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**45.97**	**52**	P	**P**	**09 09 37.1**	**-1.1**
ZAA0	**Zalesovo Array**	**49.16**	**47**	*e*P	**P**	**09 10 01.9**	**-1.1**
ZALV	**Zalesovo Beam**	**49.16**	**47**	*e*P	**P**	**09 10 01.8**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**49.16**	**47**	P	**P**	**09 10 01.9**	**-1.1**
ZALV	**Zalesovo Beam**	**49.16**	**47**	P	**P**	**09 10 01.9**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=278,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**49.18**	**57**	P	**P**	**09 10 02.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**49.18**	**57**	P	**P**	**09 10 02.7**	**-0.6**
MKAR	**Makanchi Array**	**49.18**	**57**	P	**P**	**09 10 02.7**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=281,slow=7.0,SNR=16						
MK01	**Makanchi Array**	**49.19**	**57**	*e*P	**P**	**09 10 02.8**	**-0.6**
WMQ	**Urumqi**	**53.72**	**59**	*e*P	**P**	**09 10 40.0**	**+2.6**
WMQ				PP	**PP**	**09 12 42.0**	**+3.9**
WMQ				S	**S**	**09 18 12.0**	**+1.2**
WMQ				ScS	**ScS**	**09 20 23.0**	**-3.1**
WMQ				SS	**SS**	**09 21 53.0**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,15nm,4.0s						
SONM	**Songino Array**	**64.01**	**49**	P	**P**	**09 11 47.6**	**-1.4**
SONM	**Songino Array**	**64.01**	**49**	P	**P**	**09 11 47.6**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=273,slow=7.6,SNR=5.9						
BOSA	**Boshof**	**66.77**	**170**	LR	LR	09 45 17.8	
	comp=Z,96nm,19.2s,baz=170,slow=40						
LZH	**Lanzhou**	**68.22**	**61**	*e*P	**P**	**09 12 16.8**	**+0.6**
LZH				pP	**pP**	**09 12 21.6**	**-0.1**
LZH				sP	**sP**	**09 12 23.8**	**+0.1**
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC	**Hu-ho-hao-te**	**70.78**	**53**	*e*P	**P**	**09 12 31.6**	**-0.3**
HHC				S	**S**	**09 21 44.0**	**-2.0**
HHC				pmax	pmax		
	comp=Z,32nm,1.3s						
HHC				pmax	pmax		
	comp=Z,190nm,8.5s						
YKA	**Yellowknife Ar**	**72.16**	**338**	P	**P**	**09 12 40.1**	**+0.5**
YKA	**Yellowknife Ar**	**72.16**	**338**	P	**P**	**09 12 40.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=43,slow=6.0,SNR=10						
ULM	**Lac du Bonnet**	**73.33**	**321**	LR	LR	09 45 38.7	
	comp=Z,129nm,18.7s,baz=9.5,slow=36						
MDJ	**Mudanjiang**	**78.93**	**41**	P	**P**	**09 13 18.0**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,50nm,3.5s						
PDAR	**Pinedale Array**	**85.28**	**323**	LR	LR	09 49 14.4	
	comp=Z,90nm,19.0s,baz=71,slow=34						
WRA	**Warramunga Arr**	**124.89**	**89**	PKP	**PKPdf**	**09 20 14.6**	**-1.1**
WRA	**Warramunga Arr**	**124.89**	**89**	PKP	**PKPdf**	**09 20 14.6**	**-1.1**
	comp=Z,0.4nm,1.0s,baz=314,slow=2.0,SNR=2.6						
ASAR	**Alice Springs**	**126.49**	**93**	PKP	**PKPdf**	**09 20 17.6**	**-1.0**
ASAR	**Alice Springs**	**126.49**	**93**	PKP	**PKPdf**	**09 20 17.6**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=314,slow=1.8,SNR=4.5						
QSPA	**South Pole Qui**	**127.67**	**180**	PKP	**P

BRTR	**Keskin Array B**	**29.70**	**287**	P		**P**	**09 16 29.2**	**+0.9**
	1.0nm,0.7s,baz=100,slow=9.4,SNR=3.1							
AKASG	**Malin Array Be**	**33.07**	**308**	P		**P**	**09 16 57.8**	**+0.3**
	1.0nm,0.3s,baz=81,slow=7.5,SNR=5.9							
FINES	**FINESS Array B**	**37.48**	**326**	P		**P**	**09 17 35.4**	**+0.3**
	1.1nm,0.4s,baz=129,slow=8.9,SNR=9.4							
ARCES	**ARCESS Array B**	**41.06**	**337**	P		**P**	**09 18 05.2**	**+0.5**
	23nm 1.4s,baz=110,slow=7.8,SNR=6.1							
HFS	**Hagfors**	**43.10**	**322**	P		**P**	**09 18 22.1**	**+0.9**
	1.3nm,0.4s,baz=98,slow=11,SNR=11							
NB2	**NORSAR Subarra**	**44.40**	**323**	P		**P**	**09 18 32.4**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=86,slow=7.4							
NOA	**NORSAR Array B**	**44.40**	**323**	P		**P**	**09 18 31.1**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.7,SNR=5.9							
JCJ	**Chichijima**	**59.60**	**77**	LR	LR		09 49 12.1	
	comp=Z,263nm,21.6s,baz=134,slow=39							
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P		**P**	**09 21 04.8**	**-2.8**
	comp=Z,2.0nm,0.6s,baz=51,slow=5.9,SNR=13							
YKA	**Yellowknife Ar**	**80.98**	**3**	P		**P**	**09 22 33.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=351,slow=5.5,SNR=10							
WRA	**Warramunga Ar**	**81.81**	**122**	P		**P**	**09 22 36.9**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=324,slow=4.9,SNR=5.2							
ASAR	**Alice Springs**	**84.10**	**125**	P		**P**	**09 22 48.8**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=301,slow=4.7,SNR=7.0							

NIED ***19*** *09:11:00, 35.00N× 139.10E, h8km, Mw4.0 Best double couple: M₀1.02000×10¹⁵ NP1:φs 107.00000°, δ87.00000°, λ177.00000°. NP2:φs 197.00000°, δ87.00000°, λ3.00000°.*
IDC ***19*** *09:11:40.5±1.1, 34.83N× 139.17E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/27, mbtmp3.8/6, ML3.6/2, MS3.1/3, Ms1 3.2/3, ms1mx2.9/35, Error ellipse: s-maj=30.6km s-min=18.9km az=91.0*
ISCJB ***19*** *09:11:42.1±0.8, 34.95N±0.03× 139.18E±0.08, h15km±6km, mb3.8/4, MS3.2/1, Error ellipse: s-maj=10.5km s-min=5.6km az=173.8*
JMA ***19*** *09:11:42.8, 34.97N× 139.13E, h4km± 1km, M3.9 Broadband fault plane solution: P waves. NP1: φs 290.00000°, δ72.00000°, λ-136.00000°. NP2: φs 184.00000°, δ49.00000°, λ-24.00000°. Principal axes: T Plg14.0000°, Azm52.0000°; N Plg44.0000°, Azm308.0000°; P Plg43.0000°, Azm156.0000°;*
JMA Felt III J1.

ISC 19 09:11:41.9±1.2, 34.93N±0.05× 139.14E±0.05, h9km±8km, n23, σ0²80/19, mb3.9/4, 1C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AJI	**Ajiro2**	**0.12**	**341**	⇓P		**Pg**	**09 11 44.5**	**-0.2**
JIZS	**Izushimoda**	**0.30**	**225**	⇑P		**Pb**	**09 11 49.2**	**-0.3**
JIZS				S		**Sb**	**09 11 54.0**	**-0.6**
JIM2	**Oshima 3**	**0.32**	**132**	⇓P		**Pb**	**09 11 49.9**	**0.0**
JOD2	**Odawara 2**	**0.33**	**353**	⇓P		**Pg**	**09 11 48.7**	**+0.2**
JOD2				S		**Sg**	**09 11 53.2**	**+0.2**
JYN	**Shimob**	**0.74**	**319**	⇓P		**Pg**	**09 11 56.1**	**-0.2**
SHZ3	**Shizuoka 3**	**0.77**	**280**	P		**Pb**	**09 11 57.6**	**0.0**
JMY	**Miyakejima3**	**0.91**	**160**	P		**Pb**	**09 12 00.2**	**+0.2**
MJAR	**Matsushiro Arr**	**1.77**	**335**	Pn		**Pn**	**09 12 13.2**	**+0.4**
	36nm,0.3s,baz=159,slow=15,SNR=158							
MJAR				Sn		**Sn**	**09 12 35.3**	**-0.3**
	132nm,0.3s,baz=136,slow=18,SNR=25							
MAT	**Matsushiro**	**1.77**	**335**	P		**Pn**	**09 12 13.5**	**+0.6**
MAT				S		**Sb**	**09 12 36.2**	**-0.9**
JNU	**Nakatsue**	**7.09**	**258**	Pn		**Pn**	**09 13 27.6**	**+1.6**
	0.8nm,0.3s,baz=170,slow=22,SNR=8.8							
ASAJ	**Asahikawa**	**9.55**	**15**	Pn		**Pn**	**09 13 58.5**	**-1.1**
	0.8nm,0.3s,baz=226,slow=8.4,SNR=8.5							
ASAJ				LR		LR	09 17 40.5	
	comp=Z,98nm,18.1s,baz=199,slow=37							
USRK	**Ussuriysk Arra**	**10.77**	**331**	LR		LR	09 18 05.3	
	comp=Z,63nm,18.7s,baz=155,slow=35							
H11N2	**WAKE ISLAND Hy**	**28.81**	**114**	T		T	09 47 49.1	
	baz=311,slow=76,SNR=1493							
H11N1	**WAKE ISLAND Hy**	**28.82**	**114**	T		T	09 47 49.6	
	baz=311,slow=76,SNR=1297							
H11N3	**WAKE ISLAND Hy**	**28.83**	**114**	T		T	09 47 50.5	
	baz=311,slow=76,SNR=1447							
H11S3	**WAKE ISLAND Hy**	**29.42**	**117**	T		T	09 48 35.0	
	baz=314,slow=75,SNR=322							
H11S1	**WAKE ISLAND Hy**	**29.42**	**117**	T		T	09 48 35.0	
	baz=314,slow=75,SNR=477							
H11S2	**WAKE ISLAND Hy**	**29.44**	**117**	T		T	09 48 36.2	
	baz=314,slow=75,SNR=340							
CMAR	**Chiang Mai Arr**	**39.19**	**256**	LR		LR	09 37 05.0	
	comp=Z,34nm,18.8s,baz=349,slow=39							
KURBB	**Kurchatov Arra**	**45.87**	**309**	P		**P**	**09 20 05.0**	**+0.5**
	1.6nm,0.8s,baz=85,slow=7.7,SNR=8.8							
ILAR	**Eielson Array**	**52.25**	**31**	P		**P**	**09 20 54.1**	**+1.0**
	0.9nm,1.0s,baz=273,slow=5.2,SNR=6.1							
WRA	**Warramunga Arr**	**54.76**	**186**	P		**P**	**09 21 11.1**	**-0.9**
	0.8nm,0.5s,baz=0.7,slow=7.6,SNR=27							
ASAR	**Alice Springs**	**58.49**	**186**	P		**P**	**09 21 37.4**	**-1.1**
	0.2nm,0.6s,baz=10,slow=9.1,SNR=8.0							

IDC 19 09:31:12.1±5.1, 21.80S× 174.52W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/19, mbtmp4.2/4, Error ellipse: s-maj=154.7km s-min=35.9km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs**	**47.40**	**257**	P		P	09 39 48.7	+0.2
	2.1nm,0.8s,baz=101,slow=7.6,SNR=22							
WRA	**Warramunga Arr**	**47.65**	**262**	P		P	09 39 50.1	-0.4
	3.0nm,0.9s,baz=101,slow=8.3,SNR=17							
MJAR	**Matsushiro Arr**	**73.20**	**322**	P		P	09 42 44.7	-0.2
	1.0nm,0.6s,baz=148,slow=6.0,SNR=4.0							
PETK	**Petropavlovsk-**	**78.39**	**343**	P		P	09 43 14.1	-0.1
	2.5nm,0.7s,baz=128,slow=8.8,SNR=4.9							
AKASG	**Malin Array Be**	**145.68**	**333**	PKPbc		PKPdf	09 50 52.0	-0.3
	2.5nm,0.8s,baz=40,slow=4.1,SNR=6.5							

IDC 19 09:39:55.8±27.0, 20.02N× 146.61E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/24, mbtmp3.8/4, Error ellipse: s-maj=512.1km s-min=124.5km az=9.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**41.49**	**198**	P		P	09 47 45.4	+0.5
	1.5nm,0.6s,baz=21,slow=9.1,SNR=23							
FITZ	**Fitzroy Crossi**	**43.11**	**210**	P		P	09 47 57.4	-0.7
	3.2nm,0.9s,baz=32,slow=7.8,SNR=8.9							
ASAR	**Alice Springs**	**45.15**	**197**	P		P	09 48 13.6	-0.9
	0.3nm,0.6s,baz=13,slow=5.8,SNR=7.4							
STKA	**Stephens Creek**	**51.82**	**185**	P		P	09 49 06.0	+0.3
	1.5nm,0.9s,baz=344,slow=7.4,SNR=2.6							

NIED ***19*** *10:03:00, 45.40N× 151.00E, h26km, Mw3.7 Best double couple: M₀4.41000×10¹⁴ NP1:φs 22.00000°, δ63.00000°, λ74.00000°. NP2:φs 234.00000°, δ31.00000°, λ118.00000°.*
JMA ***19*** *10:03:43.6±0.4, 45.41N× 150.96E, h30km, M4.1*
SKHL ***19*** *10:03:44.3±0.1, 44.87N× 150.97E, h33km±4km, mb4.7/2*

ISC 19 10:03:45.9±4.3, 44.8N±0.1× 151.0E±0.2, h35km, n18, σ1⁹78/28, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**2.25**	**283**	*e*P		**Pn**	**10 04 19.0**	**-1.6**
KUR				AMB		AMB	10 04 19.5	
	80nm,0.6s							
KUR				*e*S		**Sn**	**10 04 45.0**	**-2.2**
KUR				A		A	10 04 47.5	
	200nm,0.4s							
KUR				A		A	10 04 47.5	
	110nm,0.4s							
SHO	**Shikotan**	**3.10**	**255**	*e*P		**Pn**	**10 04 31.7**	**-0.6**
SHO				AMB		AMB	10 04 35.2	
	110nm,0.2s							
SHO				*e*S		**Sn**	**10 05 07.3**	**-0.8**
SHO				A		A	10 05 18.9	
	360nm,0.3s							
NEM2	**Nemuro 2**	**4.02**	**252**	P		**Pn**	**10 04 45.7**	**+0.8**
NEM2				eS		**Sn**	**10 05 31.3**	**+0.6**
JNK	**Nakash**	**4.65**	**258**	P		**Pn**	**10 04 54.9**	**+1.4**
JNK				eS		**Sn**	**10 05 48.1**	**+1.8**
JAK	**Akkeshi**	**4.87**	**251**	P		**Pn**	**10 04 57.1**	**+0.6**
JAK				eS		**Sn**	**10 05 51.4**	**-0.2**
JTKR	**Abashiri--Toko**	**5.13**	**264**	P		**Pn**	**10 05 01.9**	**+1.8**
JAR	**Ashorobuto**	**5.39**	**257**	P		**Pn**	**10 05 05.9**	**+2.1**
JAR				*e*S		**Sn**	**10 06 06.5**	**+1.9**
JOB	**Onbets**	**5.49**	**253**	P		**Pn**	**10 05 06.2**	**+1.2**
JOB				*e*S		**Sn**	**10 06 07.3**	**+0.4**
JMP	**Maruseppu**	**5.51**	**265**	P		**Pn**	**10 05 07.4**	**+2.0**
JCH	**Churui**	**5.92**	**251**	P		**Pn**	**10 05 11.5**	**+0.5**
JCH				*e*S		**Sn**	**10 06 18.2**	**+0.7**
JKK2	**Kamakawa 2**	**5.97**	**264**	P		**Pn**	**10 05 13.5**	**+1.8**
MYR	**Moyori**	**6.11**	**249**	*e*P		**Pn**	**10 05 15.2**	**+1.6**
MYR				*e*S		**Sn**	**10 06 23.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**6.47**	**250**	P		**Pn**	**10 05 19.2**	**+0.7**
JBT2	**Biratori 2**	**6.54**	**255**	P		**Pn**	**10 05 20.6**	**+1.1**
JKB	**Kayabe**	**7.79**	**252**	P		**Pn**	**10 05 37.4**	**+0.7**
JKB				eS		**Sn**	**10 07 00.4**	**-3.3**
JANG	**Nango**	**8.24**	**241**	*e*S		**Sn**	**10 07 11.0**	**-3.7**
JTH	**Tanohata**	**8.29**	**238**	*e*S		**Sn**	**10 07 12.4**	**-3.4**
OFUJ	**Ofunato**	**8.96**	**234**	*e*S		**Sn**	**10 07 31.0**	**-1.3**

IDC ***19*** *10:22:13.3±1.1, 2.08S× 100.01E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/24, mbtmp3.9/8, Error ellipse: s-maj=50.3km s-min=18.4km az=51.0*
ISCJB ***19*** *10:22:17.4±1.2, 1.9S±0.2× 100.2E±0.3, h34km, mb4.0/7, Error ellipse: s-maj=43.5km s-min=16.5km az=143.6*

ISC 19 10:22:18.6±1.2, 2.0S±0.2× 100.1E±0.3, h34km, n12, σ0⁹90/10, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**20.40**	**357**	P		**P**	**10 26 53.0**	**+0.2**
	1.2nm,0.7s,baz=184,slow=10,SNR=8.6							
H08S2	**Diego Garcia H**	**28.05**	**258**	T		T	10 57 09.5	
	baz=80,slow=75,SNR=18							
H08S3	**Diego Garcia H**	**28.06**	**258**	T		T	10 57 05.4	
	baz=80,slow=75,SNR=13							
H08S1	**Diego Garcia H**	**28.07**	**258**	T		T	10 57 00.3	
	baz=80,slow=75,SNR=17							
WRA	**Warramunga Arr**	**37.89**	**120**	P		**P**	**10 29 33.5**	**+0.7**
	0.4nm,0.6s,baz=304,slow=9.4,SNR=8.5							
WRA				PcP		**PcP**	**10 31 47.1**	**-1.6**
	0.3nm,0.5s,baz=318,slow=2.5,SNR=3.2							
ASAR	**Alice Springs**	**39.15**	**126**	P		**P**	**10 29 43.9**	**+0.4**
	0.9nm,0.6s,baz=307,slow=7.9,SNR=15							
USRK	**Ussuriysk Arra**	**54.14**	**28**	P		**P**	**10 31 39.9**	**-0.6**
	1.6nm,0.7s,baz=208,slow=5.9,SNR=5.0							
ZALV	**Zalesovo Beam**	**57.22**	**349**	P		**P**	**10 32 02.3**	**0.0**
	4.1nm,0.8s,baz=173,slow=7.1,SNR=7.4							
BVAR	**Borovoye Array**	**60.25**	**340**	P		**P**	**10 32 23.7**	**+0.3**
	1.0nm,0.7s,baz=132,slow=8.6,SNR=3.2							
BRTR	**Keskin Array B**	**73.42**	**312**	P		**P**	**10 33 47.1**	**-0.7**
	1.6nm,1.0s,baz=107,slow=4.8,SNR=2.6							
FINES	**FINESS Array B**	**84.19**	**332**	P		**P**	**10 34 47.5**	**+1.3**
	1.4nm,0.7s,baz=107,slow=8.9,SNR=2.9							
TXAR	**Lajitas Array**	**144.67**	**37**	PKP		**PKPdf**	**10 41 52.6**	**0.0**
	0.3nm,0.5s,baz=176,slow=0.2,SNR=5.1							

NIED ***19*** *10:22:00, 21.90N× 123.20E, h32km, Mw4.0 Best double couple: M₀1.21000×10¹⁵ NP1:φs 51.00000°, δ83.00000°, λ116.00000°. NP2:φs 155.00000°, δ27.00000°, λ15.00000°.*
IDC ***19*** *10:22:15.2±0.9, 21.77N× 123.48E, h0km, mb3.8/9, mb1 4.1/12, mb1mx3.9/28, mbtmp3.9/12, ML3.9/3, MS2.9/3, Ms1 3.0/3, ms1mx2.8/43, Error ellipse: s-maj=24.9km s-min=17.9km az=101.0*
ISCJB ***19*** *10:22:17.7±0.3, 21.80N±0.03× 123.59E±0.06, h33km, mb3.8/9, MS3.0/1, Error ellipse: s-maj=9.0km s-min=3.0km az=20.7*
JMA ***19*** *10:22:19.4±0.5, 21.91N× 123.22E, h48km, M4.8*
MAN ***19*** *10:22:43, 20.07N× 122.57E, h68km, mb5.1, ML4.1, MS4.3*

ISC 19 10:22:19.6±0.6, 21.78N±0.05× 123.57E±0.08, h35km, n40, σ1⁹84/53, mb3.7/9, 3D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HATJ	**Hateruma jima**	**2.27**	**6**	P		**Pn**	**10 22 54.7**	**+0.1**
HATJ				eS		**Sn**	**10 23 19.7**	**-1.7**
JKRS	**Kuro-shima**	**2.48**	**9**	P		**Pn**	**10 22 57.6**	**+0.2**
JKRS				eS		**Sn**	**10 23 25.4**	**-1.0**
IRIF	**Iriomote-Funau**	**2.54**	**3**	P		**Pn**	**10 22 58.4**	**+0.1**
IRIF				eS		**Sn**	**10 23 26.7**	**-1.4**
JIJ	**Ishigaki jima**	**2.62**	**12**	P		**Pn**	**10 22 59.3**	**-0.1**
JIJ				eS		**Sn**	**10 23 27.4**	**-2.6**
YOJ	**Yonaguni jima**	**2.71**	**349**	P		**Pn**	**10 23 00.2**	**-0.5**
YOJ				eS		**Sn**	**10 23 29.4**	**-2.9**
JTJ	**Tarama**	**3.03**	**20**	P		**Pn**	**10 23 05.3**	**+0.3**
JTJ				eS		**Sn**	**10 23 38.9**	**-1.2**
JMJ	**Miyako jima 2**	**3.41**	**27**	P		**Pn**	**10 23 11.6**	**+1.4**
JMJ				eS		**Sn**	**10 23 49.1**	**-0.4**
JOGS	**Gusukube**	**3.41**	**29**	P		**Pn**	**10 23 11.4**	**+1.1**
JOGS				eS		**Sn**	**10 23 50.3**	**+0.8**
SGCP	**Mt. Cagua**	**3.80**	**202**	*e*P		**Pn**	**10 23 15.2**	**-0.5**
CVP	**Callao Caves**	**4.38**	**202**	⇓P		**Pn**	**10 23 23.2**	**-0.4**
PIP	**Pasuquin**	**4.42**	**219**	⇓P		**Pn**	**10 23 23.0**	**-1.1**
APYP	**Conner**	**4.47**	**210**	*e*P		**Pn**	**10 23 24.2**	**-0.7**
APYP				eS		Sn	10 23 53.9	-22
PALP	**Palanan**	**4.82**	**193**	*e*P		**Pn**	**10 23 29.8**	**+0.1**
ABRA	**Dolores**	**4.91**	**214**	*e*P		**Pn**	**10 23 31.1**	**+0.1**
CAUP	**Cauayan**	**5.09**	**199**	*e*P		**Pn**	**10 23 35.2**	**+1.9**
JKE	**Kume jima 2**	**5.39**	**32**	P		**Pn**	**10 23 37.4**	**-0.1**
JKE				eS		**Sn**	**10 24 35.7**	**-2.7**
JJT2	**Tamagusuku 2**	**5.78**	**41**	P		**Pn**	**10 23 44.4**	**+1.6**
JJT2				eS		**Sn**	**10 24 46.2**	**-1.8**
JAGN	**Aguni-jima**	**5.84**	**34**	P		**Pn**	**10 23 44.4**	**+0.7**
JAGN				eS		**Sn**	**10 24 49.8**	**+0.3**
BALP	**Baler**	**6.30**	**198**	*e*P		**Pn**	**10 23 50.6**	**+0.6**
JIH	**Iheya**	**6.59**	**37**	P		**Pn**	**10 23 54.2**	**+0.3**
JIH				eS		**Sn**	**10 25 04.1**	**-3.7**
JOW	**Kunigami**	**6.61**	**40**	P		**Pn**	**10 23 54.7**	**+0.4**
JOW				eS		**Sn**	**10 25 04.4**	**-4.0**
JTK	**Tokunoshima**	**7.72**	**38**	P		**Pn**	**10 24 30.6**	**-0.9**
JTK				eS		**Sn**	**10 25 30.5**	**-5.3**
GQP	**Guinayangan**	**7.91**	**188**	⇓*e*P		**Pn**	**10 24 13.0**	**+0.9**
GQP				eS		**Sn**	**10 25 36.8**	**-3.6**
JAMN	**Amaminishikomi**	**8.20**	**37**	P		**Pn**	**10 24 15.2**	**-0.8**
JAMN				eS		**Sn**	**10 25 41.9**	**-5.6**
JAM	**Amami Oshima**	**8.57**	**38**	P		**Pn**	**10 24 20.3**	**-0.9**
JAM				eS		Sn	10 25 49.4	-7.2
JNU	**Nakatsue**	**13.02**	**28**	Pn		**Pn**	**10 25 20.9**	**-1.2**
	0.7nm,0.3s,baz=180,slow=7.6,SNR=9.2							
JNU				LR		LR	10 29 21.1	
	comp=Z,38nm,21.0s,baz=229,slow=33							
KSRS	**Korea Array**	**16.07**	**13**	Pn		**Pn**	**10 26 02.5**	**-0.3**
	0.3nm,0.3s,baz=192,slow=12,SNR=11							
KSRS				LR		LR	10 32 29.7	
	comp=Z,48nm,22.0s,baz=340,slow=38							
MJAR	**Matsushiro Arr**	**19.45**	**38**	P		**Pn**	**10 26 44.4**	**-0.1**
	0.2nm,0.3s,baz=226,slow=9.6,SNR=6.8							
CMAR	**Chiang Mai Arr**	**23.35**	**266**	P		**P**	**10 27 25.1**	**+0.1**
	1.7nm,0.7s,baz=73,slow=7.8,SNR=9.6							
CMAR				LR		LR	10 37 37.4	
	comp=Z,59nm,19.6s,baz=117,slow=40							
USRK	**Ussuriysk Arra**	**23.42**	**15**	P		**P**	**10 27 26.9**	**+1.5**
	8.4nm,1.8s,baz=196,slow=9.3,SNR=8.8							
ASAJ	**Asahikawa**	**27.28**	**31**	P		**P**	**10 28 03.4**	**+2.8**
	7.4nm,0.7s,baz=170,slow=6.1,SNR=6.3							
H11S3	**WAKE ISLAND Hy**	**40.52**	**87**	T		T	11 14 00.9	
	baz=285,slow=73,SNR=9.7							
H11S1	**WAKE ISLAND Hy**	**40.53**	**87**	T		T	11 13 54.4	
	baz=285,slow=73,SNR=9.6							
H11S2	**WAKE ISLAND Hy**	**40.54**	**87**	T		T	11 14 02.3	
	baz=285,slow=73,SNR=8.4							
WRA	**Warramunga Arr**	**42.79**	**165**	P		**P**	**10 30 14.0**	**0.0**
	0.8nm,0.6s,baz=346,slow=9.0,SNR=2.7							
ZALV	**Zalesovo Beam**	**43.44**	**327**	P		**P**	**10 30 18.5**	**-0.4**
	0.7nm,0.5s,baz=107,slow=7.7,SNR=3.2							
ASAR	**Alice Springs**	**46.28**	**167**	P		**P**	**10 30 43.5**	**+1.6**
	0.2nm,0.3s,baz=346,slow=11,SNR=4.2							
BVAR	**Borovoye Array**	**50.91**	**321**	P		**P**	**10 31 18.0**	**+0.8**
	0.4nm,0.5s,baz=120,slow=8.5,SNR=2.5							
ILAR	**Eielson Array**	**70.34**	**27**	P		**P**	**10 33 29.6**	**+0.3**
	0.5nm,0.7s,baz=279,slow=4.4,SNR=7.5							
YKA	**Yellowknife Ar**	**84.31**	**23**	P		**P**	**10 34 49.2**	**+1.6**
	0.7nm,0.8s,baz=307,slow=4.7,SNR=8.7							

IDC 19 10:23:41.0±1.6, 3.74N× 127.16E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/23, mbtmp3.9/4, Error ellipse: s-maj=146.2km s-min=23.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.57**	**164**	P		P	10 29 01.2	-1.7
	2.3nm,0.8s,baz=343,slow=10,SNR=14							
ASAR	**Alice Springs**	**28.02**	**167**	P		P	10 29 35.8	+1.7
	0.2nm,0.4s,baz=349,slow=8.5,SNR=7.0							
ASAR				PcP		PcP	10 32 49.2	0.0
	0.2nm,0.5s,baz=348,slow=2.3,SNR=3.2							
STKA	**Stephens Creek**	**37.99**	**160**	P		P	10 31 00.6	-0.2
	1.1nm,0.4s,baz=349,slow=9.1,SNR=3.9							
KURBB	**Kurchatov Arra**	**61.96**	**327**	P		P	10 34 02.6	-0.2
	0.5nm,0.2s,baz=123,slow=6.3,SNR=3.5							

IDC ***19*** *10:25:55.5±0.8, 38.50N× 101.48E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/30, mbtmp3.8/11, ML3.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/41, Error ellipse: s-maj=27.6km s-min=17.0km az=46.0*
BJI ***19*** *10:25:59.0, 38.53N× 101.58E, h8km, mb4.0/3, ML4.3/8, Ms3.8/3, Ms7 3.5/1*

ISC 19 10:25:57.5±0.6, 38.70N±0.07× 101.66E±0.05, h10km, n18, σ1⁹60/19, mb3.9/6, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GTA	**Gaotai**	**1.60**	**297**	Pg		**Pb**	**10 26 26.9**	**-0.4**
GTA				Sg		**Sg**	**10 26 48.0**	**-1.0**
GTA				smax		smax		
	comp=N,2μm,0.6s							
GTA				smax		smax		
	comp=E,2μm,0.6s							
LZH	**Lanzhou**	**3.14**	**146**	Pn		**Pn**	**10 26 47.5**	**+0.3**
LZH				Pg		**Pb**	**10 26 54.3**	**+0.8**
LZH				Sg		**Sb**	**10 27 32.3**	**+0.4**
LZH				smax		smax		
	comp=N,1μm,0.6s							
LZH				smax		smax		
	comp=E,1μm,0.7s							
LZH				LR		LR		
	comp=N,2μm,6.2s							
LZH				LR		LR		
	comp=E,2μm,6.0s							
BTO	**Baotou**	**6.73**	**71**	*e*P		**Pg**	**10 28 07.3**	**+0.9**
XAN	**Xi'an**	**7.48**	**126**	Pn		**Pn**	**10 27 44.3**	**-2.5**
XAN				Pg		Pb	10 28 12.3	+4.9
XAN				Sn		Sn	10 29 19.5	+7.8
XAN				Sg		Sg	10 29 49.1	-8.5
HHC	**Hu-ho-hao-te**	**7.92**	**71**	*e*Pg		Pg	10 28 25.8	-3.4
HHC				Sg		**Sg**	**10 30 07.8**	**-4.0**
HHC				smax		smax		
	comp=N,240nm,0.5s							
HHC				smax		smax		
	comp=E,180nm,0.5s							
SONM	**Songino Array**	**9.76**	**19**	Pn		**Pn**	**10 28 20.0**	**+2.0**
	comp=E,1.3nm,0.3s,baz=203,slow=15,SNR=46							
SONM				Lg		Lg	10 31 07.0	
	comp=E,1.1nm,0.3s,baz=212,slow=27,SNR=4.0							
SONM				LR		LR	10 32 50.1	
	comp=E,43nm,18.4s,baz=197,slow=42							
ZALV	**Zalesovo Beam**	**19.10**	**328**	P		**Pn**	**10 30 22.2**	**+1.1**
	comp=E,0.3nm,0.3s,baz=120,slow=8.5,SNR=8.4							
KURBB	**Kurchatov Arra**	**20.22**	**314**	P		**P**	**10 30 31.9**	**-0.5**
	comp=E,1.5nm,0.6s,baz=115,slow=12,SNR=3.0							
KSRS	**Korea Array**	**20.70**	**85**	P		**P**	**10 30 39.0**	**+1.3**
	comp=E,5.0nm,0.7s,baz=280,slow=8.6,SNR=18							
AAK	**Ala-Archa**	**20.94**	**289**	P		**P**	**10 30 38.4**	**-2.2**
	comp=E,0.7nm,0.4s,baz=180,slow=2.0,SNR=3.3							
MJAR	**Matsushiro Arr**	**28.91**	**83**	LR		LR	10 44 09.7	
	comp=E,39nm,19.4s,baz=65,slow=38							
PSI	**Prapat**	**35.82**	**185**	LR		LR	10 50 09.6	
	comp=E,82nm,19.9s,baz=150,slow=41							
FINES	**FINESS Array B**	**50.23**	**323**	P		**P**	**10 34 53.4**	**0.0**
	comp=E,0.9nm,0.5s,baz=108,slow=8.9,SNR=4.0							
AKASG	**Malin Array Be**	**50.89**	**309**	P		**P**	**10 34 58.8**	**+0.2**
	comp=E,0.3nm,0.4s,baz=72,slow=7.9,SNR=3.3							
ILAR	**Eielson Array**	**63.90**	**26**	P		**P**	**10 36 31.0**	**+0.9**
	comp=E,0.6nm,0.6s,baz=286,slow=6.1,SNR=8.3							
WRA	**Warramunga Arr**	**65.89**	**146**	P		**P**	**10 36 42.1**	**-1.5**
	comp=E,1.0nm,0.9s,baz=346,slow=6.8,SNR=6.5							
ASAR	**Alice Springs**	**69.01**	**148**	P		**P**	**10 37 02.8**	**-0.5**
	comp=E,0.5

BOSA Boshof 45.74 76 P **P** **10 53 30.0 -0.5**
BOSA Boshof 45.74 76 P **P** **10 53 30.0 -0.5**
3.5nm,1.0s,baz=220,slow=9.2,SNR=6.5
VNDA Vanda 47.18 183 P **P** **10 53 41.6 +0.6**
VNDA Vanda 47.18 183 P **P** **10 53 41.6 +0.6**
4.8nm,1.0s,baz=155,slow=3.5,SNR=5.6
LPAZ La Paz 50.11 305 *e*P **P** **10 54 05.4 +0.5**
3.0nm,0.8s
LPAZ La Paz 50.11 305 P **P** **10 54 05.8 +0.8**
2.9nm,0.8s,baz=130,slow=6.2,SNR=9.7
LPAZ LR LR 11 13 04.2
comp=Z,49nm,19.1s,baz=253,slow=34
SAML Samuel 54.45 314 *e*P **P** **10 54 36.0 -0.5**
1.4nm,0.8s
DBIC Dimbokro 64.58 25 LR LR 11 16 48.9
comp=Z,23nm,19.6s,baz=56,slow=29
TOA0 Torodi Ar. Sit 72.49 29 *e*P **P** **10 56 35.8 +0.2**
TORD Torodi Ar. Bea 72.49 29 P **P** **10 56 36.0 +0.3**
TORD Torodi Ar. Bea 72.49 29 P **P** **10 56 36.0 +0.3**
5.8nm,0.6s,baz=197,slow=6.6,SNR=47
TORD LR LR 11 22 17.2
comp=Z,55nm,20.6s,baz=260,slow=31
ASAR Alice Springs 99.53 162 P **Pdif** **10 58 52.4 +0.2**
ASAR Alice Springs 99.53 162 P **Pdif** **10 58 52.4 +0.2**
0.2nm,0.8s,baz=184,slow=3.7,SNR=2.9
YKA Yellowknife Ar 135.78 318 PKP **PKPdf** **11 04 27.8 -0.3**
YKA Yellowknife Ar 135.78 318 PKP **PKPdf** **11 04 27.7 -0.3**
0.2nm,0.6s,baz=124,slow=2.4,SNR=4.9
ILAR Eielson Array 149.78 312 PKPbc **PKPbc** **11 04 57.9 +0.4**
ILAR Eielson Array 149.78 312 PKPbc **PKPbc** **11 04 57.9 +0.4**
2.4nm,0.8s,baz=129,slow=3.1,SNR=26
SONM Songino Array 150.59 85 PKPbc **PKPbc** **11 05 00.4 +0.3**
SONM Songino Array 150.59 85 PKPbc **PKPbc** **11 05 00.4 +0.3**
2.0nm,0.8s,baz=220,slow=2.7,SNR=17

IDC ***19*** *11:14:20.0±0.5, 14°.00N×146°.59E, h0km, mb4.6/22, mb1 4.7/22, mb1mx4.6/30, mbtmp4.6/22, MS4.0/12, Ms1 4.0/12, ms1mx3.7/34, Error ellipse: s-maj=20.1km s-min=12.8km az=91.0*
MOS ***19*** *11:14:23.9±0.9, 14°.00N×146°.44E, h33km, mb5.1/26, Error ellipse: s-maj=12.1km s-min=7.8km az=107.8*
BJI ***19*** *11:14:24.7, 13°.90N×146°.81E, h62km, mB5.0/33, mb4.7/43, Ms4.7/32, Ms7 4.4/32*
ISCJB ***19*** *11:14:25.0±1.0, 14°.02N±0°.05×146°.42E±0°.03, h39km±9km, mb4.9/103, MS4.2/24, Error ellipse: s-maj=7.8km s-min=5.0km az=7.3*
NEIC ***19*** *11:14:28.8±0.1, 14°.01N×146°.44E, mb5.1/46, Error ellipse: s-maj=5.3km s-min=4.1km az=149.0*
ISC 19 11:14:28.6±0.4, 14°.03N±0°.06×146°.46E±0°.05, h60km±2km, h60km:pP-P, n282, σ1s22/338, mb4.9/105, MS4.2/24, 3C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res	ISC
GUMO	**Guam**	**1.61**	**254**	*e*Pn			**Pn**	**11 14 53.3**	**-1.5**	
JOW	**Kunigami**	**21.24**	**310**	*e*P			**P**	**11 19 05.2**	**-4.5**	
	32nm,1.0s									
DAV	**Davao City (W)**	**21.65**	**254**	*e*P			**P**	**11 19 14.1**	**-0.2**	
	112nm,0.4s									
PMG	**Port Moresby**	**23.30**	**178**	*e*P			**P**	**11 19 30.2**	**-1.2**	
	34nm,1.0s									
PMG	**Port Moresby**	**23.30**	**178**	P			**P**	**11 19 29.6**	**-1.8**	
	14nm,0.8s,baz=342,slow=12,SNR=4.9									
MJAR	**Matsushiro Arr**	**23.60**	**343**	P			**P**	**11 19 30.0**	**-4.1**	
MJAR	**Matsushiro Arr**	**23.60**	**343**	P			**P**	**11 19 30.0**	**-4.1**	
	3.1nm,0.8s,baz=169,slow=9.5,SNR=6.9									
MAJO	**Matsushiro**	**23.60**	**343**	*e*P			**P**	**11 19 34.4**	**+0.2**	
MAJO	**Matsushiro**	**23.60**	**343**	*e*P			**P**	**11 19 34.4**	**+0.2**	
JNU	**Nakatsue**	**23.71**	**326**	*e*P			**P**	**11 19 35.1**	**-0.2**	
	70nm,1.1s									
JNU	**Nakatsue**	**23.71**	**326**	P			**P**	**11 19 34.8**	**-0.5**	
	16nm,0.7s,baz=89,slow=5.2,SNR=11									
HNR	**Honiara**	**26.88**	**149**	LR			LR	11 29 25.9		
	comp=Z,167nm,18.9s,baz=324,slow=34									
COEN	**Coen**	**28.00**	**187**	*e*P			**P**	**11 20 13.8**	**-0.3**	
KSRS	**Korea Array**	**28.57**	**328**	P			**P**	**11 20 18.4**	**-0.5**	
	12nm,0.9s,baz=144,slow=10,SNR=13									
KSAR	**Wonju Array Be**	**28.59**	**328**	P			**P**	**11 20 18.4**	**-0.7**	
KS01	**Wonju Array Si**	**28.61**	**328**	*e*P			**P**	**11 20 19.4**	**+0.1**	
NJ2	**Nanjing**	**30.95**	**310**	*e*P			**P**	**11 20 39.5**	**-0.6**	
NJ2				S			**S**	**11 25 40.5**	**0.0**	
NJ2				pmax			pmax			
	comp=Z,10.0nm,0.6s									
NJ2				LR			LR			
	comp=N,250nm,14.7s									
NJ2				LR			LR			
	comp=E,270nm,16.2s									
NJ2				LR			LR			
	comp=Z,360nm,14.0s									
MDJ	**Mudanjiang**	**33.70**	**338**	P			**P**	**11 21 04.9**	**+0.9**	
MDJ				pP			**pP**	**11 21 17.8**	**-1.0**	
MDJ				sP			**sP**	**11 21 24.0**	**-1.9**	
MDJ				S			**S**	**11 26 25.6**	**+2.7**	
MDJ				sS			**sS**	**11 26 48.3**	**+0.1**	
MDJ				ScP			**ScP**	**11 27 23.3**	**+1.0**	
MDJ				PcS			**PcS**	**11 27 29.1**	**+0.7**	
MDJ				pmax			pmax			
	comp=Z,7.0nm,1.9s									
MDJ				LR			LR			
	comp=N,80nm,17.8s									
MDJ				LR			LR			
	comp=E,120nm,19.5s									
MDJ				LR			LR			
	comp=Z,170nm,17.8s									
CN2	**Changchun**	**34.70**	**333**	*e*P			**P**	**11 21 15.8**	**+3.2**	
CN2				*e*S			**S**	**11 26 40.3**	**+2.0**	
CN2				LR			LR			
	comp=N,500nm,15.0s									
CN2				LR			LR			
	comp=E,300nm,15.0s									
CN2				LR			LR			
	comp=Z,300nm,18.0s									
QIZ	**Qiongzhong**	**35.41**	**283**	P			**P**	**11 21 19.3**	**+0.2**	
QIZ				S			**S**	**11 26 49.6**	**-0.3**	
QIZ				pmax			pmax			
	comp=Z,28nm,1.4s									
QIZ				pmax			pmax			
	comp=Z,160nm,4.9s									
HABR	**Khabarovsk**	**35.62**	**347**	*c*e*i*P			**P**	**11 21 17.5**	**-2.9**	
HABR				*e*				11 23 43.2		
HABR				*e*S			**S**	**11 26 47.6**	**-4.7**	
HABR				*e*SS			**SnSn**	**11 29 20.7**	**+2.4**	
HABR				pmax			pmax			
	comp=Z,58nm,2.2s									
HABR				pmax			pmax			
	comp=N,20nm,2.2s									
HABR				pmax			pmax			
	comp=E,16nm,1.5s									
HABR				MLR			MLR			
	comp=Z,220nm,16.0s									
SBUM	**Sibu**	**35.73**	**254**	*e*P			**P**	**11 21 22.4**	**+0.6**	
	comp=Z,37nm,1.2s									
WRAB	**Tennant Creek**	**35.80**	**200**	⇓*i*P			**P**	**11 21 21.4**	**-0.9**	
WRAB				pmax			pmax			
	comp=Z,69nm,1.2s									
WRAB	**Tennant Creek**	**35.80**	**200**	*e*P			**P**	**11 21 21.6**	**-0.7**	
	comp=Z,18nm,0.8s									
WRAB	**Tennant Creek**	**35.80**	**200**	P			**P**	**11 21 21.6**	**-0.7**	
	comp=Z,132nm,0.7s,SNR=12									
WRA	**Warramunga Arr**	**35.81**	**200**	P			**P**	**11 21 21.9**	**-0.5**	
WRA	**Warramunga Arr**	**35.81**	**200**	P			**P**	**11 21 21.9**	**-0.5**	
	comp=Z,12nm,0.7s,baz=22,slow=9.4,SNR=47									
BJI	**Beijing**	**37.08**	**320**	P			**P**	**11 21 32.8**	**-0.3**	
BJI				PP			**PP**	**11 22 58.3**	**-0.2**	
BJI				S			**S**	**11 27 16.3**	**+1.4**	
BJI				pmax			pmax			
	comp=Z,18nm,1.3s									
BJI				LR			LR			
	comp=Z,450nm,18.4s									
BJI				LR			LR			
	comp=Z,290nm,19.1s									
BJI				LR			LR			
	comp=Z,190nm,16.9s									
KLR	**Kul'dur**	**37.12**	**344**	*e*P			P	11 21 29.0	-4.3	
KSM	**Kuching**	**37.86**	**254**	*e*P			**P**	**11 21 40.0**	**0.0**	
	comp=Z,28nm,0.9s									
FITZ	**Fitzroy Crossi**	**37.97**	**213**	P			**P**	**11 21 41.0**	**+0.3**	
FITZ	**Fitzroy Crossi**	**37.97**	**213**	P			**P**	**11 21 41.0**	**+0.3**	
	comp=Z,4.5nm,0.7s,baz=31,slow=15,SNR=7.4									
GYA	**Guiyang**	**39.17**	**295**	P			**P**	**11 21 51.0**	**-0.1**	
GYA				pP			**pP**	**11 22 07.3**	**+1.1**	
GYA				sP			**sP**	**11 22 13.6**	**+0.5**	
GYA				PP			**PnPn**	**11 23 24.0**	**-0.9**	
GYA				PcP			**PcP**	**11 24 01.8**	**+2.2**	
GYA				ScP			**ScP**	**11 27 42.5**	**-0.6**	
GYA				S			**S**	**11 27 48.0**	**+0.8**	
GYA				sS			**sS**	**11 28 11.6**	**-1.2**	
GYA				pmax			pmax			
	comp=Z,20nm,1.0s									
GYA				pmax			pmax			
	comp=Z,130nm,4.9s									
GYA				LR			LR			
	comp=Z,560nm,15.8s									
GYA				LR			LR			
	comp=Z,550nm,16.0s									
GYA				LR			LR			
	comp=Z,580nm,15.4s									
XAN	**Xi'an**	**39.35**	**307**	P			**P**	**11 21 52.4**	**+0.1**	
XAN				pmax			pmax			
	comp=Z,2.0nm,1.4s									
XAN				pmax			pmax			
	comp=Z,16nm,4.2s									
AS01	**Alice Springs**	**39.41**	**198**	*e*P			**P**	**11 21 51.9**	**-1.0**	
AS31	**Alice Springs**	**39.43**	**198**	*e*P			**P**	**11 21 52.5**	**-0.5**	
ASAR	**Alice Springs**	**39.43**	**198**	P			**P**	**11 21 52.5**	**-0.6**	
ASAR	**Alice Springs**	**39.43**	**198**	P			**P**	**11 21 52.5**	**-0.6**	
	comp=Z,5.6nm,1.0s,baz=17,slow=8.7,SNR=31									
HHC	**Hu-ho-hao-te**	**40.46**	**318**	*e*P			**P**	**11 22 02.3**	**+0.8**	
HHC				pP			**pP**	**11 22 17.9**	**+1.2**	
HHC				sP			**sP**	**11 22 25.1**	**+1.5**	
HHC				PP			**PnPn**	**11 23 40.5**	**+0.6**	
HHC				PcS			**PcS**	**11 27 55.4**	**+1.3**	
HHC				S			**S**	**11 28 07.0**	**+0.9**	
HHC				sS			**sS**	**11 28 33.1**	**+1.4**	
HHC				SS			**SS**	**11 31 03.3**	**-4.0**	
HHC				ScS			**ScS**	**11 32 00.6**	**-1.5**	
HHC				pmax			pmax			
	comp=Z,25nm,0.9s									
HHC				pmax			pmax			
	comp=Z,220nm,4.6s									
HHC				LR			LR			
	comp=Z,380nm,14.5s									
HHC				LR			LR			
	comp=Z,420nm,14.5s									
HHC				LR			LR			
	comp=Z,420nm,14.6s									
KMI	**Kunming**	**42.48**	**292**	P			**P**	**11 22 20.8**	**+2.4**	
KMI				pP			**pP**	**11 22 35.4**	**+1.7**	
KMI				S			**S**	**11 28 37.1**	**+0.5**	
KMI				sS			**sS**	**11 29 02.3**	**-0.1**	
KMI				SS			**SS**	**11 31 42.1**	**-5.7**	
KMI				pmax			pmax			
	comp=Z,6.0nm,0.9s									
KMI				pmax			pmax			
	comp=Z,76nm,3.6s									
KMI				LR			LR			
	comp=Z,190nm,20.0s									
KMI				LR			LR			
	comp=Z,180nm,20.8s									
KMI				LR			LR			
	comp=Z,140nm,18.5s									
CD2	**Chengdu**	**42.59**	**301**	*e*P			**P**	**11 22 19.5**	**+0.4**	
CD2				pP			**pP**	**11 22 34.1**	**-0.2**	
CD2				sP			**sP**	**11 22 40.5**	**-0.7**	
CD2				PP			**PP**	**11 24 01.8**	**+3.0**	
CD2				S			**S**	**11 28 37.8**	**0.0**	
CD2				sS			**sS**	**11 29 02.1**	**-1.5**	
CD2				SS			**SS**	**11 31 42.8**	**-6.9**	
CD2				pmax			pmax			
	comp=Z,10.0nm,1.2s									
CD2				pmax			pmax			
	comp=Z,120nm,9.4s									
CD2				LR			LR			
	comp=Z,380nm,17.8s									
CD2				LR			LR			
	comp=Z,310nm,17.8s									
CD2				LR			LR			
	comp=Z,390nm,17.6s									
LZH	**Lanzhou**	**43.96**	**308**	P			**P**	**11 22 31.8**	**+1.6**	
LZH				pP			**pP**	**11 22 43.6**	**-1.9**	
LZH				sP			**sP**	**11 22 53.0**	**+0.6**	
LZH				eS			**S**	**11 29 00.1**	**+2.2**	
LZH				sS			**sS**	**11 29 26.0**	**+2.2**	
LZH				pmax			pmax			
	comp=Z,32nm,1.2s									
LZH				pmax			pmax			
	comp=Z,87nm,4.2s									
LZH				LR			LR			
	comp=Z,630nm,14.0s									
LZH				LR			LR			
	comp=Z,690nm,15.2s									
LZH				LR			LR			
	comp=Z,890nm,15.4s									
CM01	**Chiang Mai Arr**	**45.72**	**282**	*e*P			**P**	**11 22 44.3**	**+0.1**	
CM31	**Chiang Mai Arr**	**45.73**	**282**	*e*P			**P**	**11 22 45.2**	**+0.9**	
	comp=Z,1.5nm,0.4s									
CMAR	**Chiang Mai Arr**	**45.73**	**282**	P			**P**	**11 22 45.6**	**+1.3**	
CMAR				PcP			**PcP**	**11 24 24.6**	**+3.2**	
CMAR	**Chiang Mai Arr**	**45.73**	**282**	P			**P**	**11 22 45.6**	**+1.3**	
	comp=Z,3.8nm,0.7s,baz=84,slow=6.2,SNR=22									
CMAR				PcP			**PcP**	**11 24 24.6**	**+3.2**	
	comp=Z,1.8nm,0.8s,baz=92,slow=1.8,SNR=4.7									
CMAR				LR			LR	11 42 11.4		
	comp=Z,78nm,18.9s,baz=158,slow=36									
STKA	**Stephens Creek**	**45.89**	**186**	P			**P**	**11 22 43.9**	**-1.3**	
STKA	**Stephens Creek**	**45.89**	**186**	P			**P**	**11 22 43.9**	**-1.3**	
	comp=Z,3.4nm,1.0s,baz=331,slow=13,SNR=3.6									
STKA				LR			LR	11 42 43.2		
	comp=Z,236nm,20.9s,baz=22,slow=37									
ULN	**Ulaanbaatar**	**46.92**	**324**	*e*P			**P**	**11 22 53.6**	**+0.3**	
	comp=Z,9.1nm,0.8s									
SONM	**Songino Array**	**47.27**	**324**	P			**P**	**11 22 57.0**	**+0.9**	
SONM	**Songino Array**	**47.27**	**324**	P			**P**	**11 22 57.0**	**+0.9**	
	comp=Z,7.4nm,0.7s,baz=136,slow=6.9,SNR=45									
SONA1	**Songino Array**	**47.28**	**324**	*e*P			**P**	**11 22 56.5**	**+0.4**	
GTA	**Gaotai**	**48.05**	**311**	*e*P			**P**	**11 23 03.3**	**+1.1**	
GTA				pP			**pP**	**11 23 15.8**	**-1.9**	
GTA				sP			**sP**	**11 23 21.1**	**-3.5**	
GTA				PP			**PP**	**11 24 55.5**	**+0.7**	
GTA				S			**S**	**11 29 56.8**	**+0.4**	
GTA				sS			**sS**	**11 30 24.3**	**+1.7**	
GTA				pmax			pmax			
	comp=Z,5.0nm,1.0s									
GTA				pmax			pmax			
	comp=Z,100nm,5.2s									
GTA				LR			LR			
	comp=Z,150nm,16.1s									
GTA				LR			LR			
	comp=Z,170nm,14.7s									
GTA				LR			LR			
	comp=Z,210nm,17.1s									
SEY	**Seymchan**	**49.01**	**4**	P			**P**	**11 23 09.4**	**+0.3**	
SEY	**Seymchan**	**49.01**	**4**	P			**P**	**11 23 09.4**	**+0.3**	
SEY	**Seymchan**	**49.01**	**4**	P			**P**	**11 23 09.4**	**+0.3**	
	comp=Z,9.4nm,0.9s,baz=158,slow=6.2,SNR=8.2									
YAK	**Yakutsk**	**49.41**	**350**	*e*P			P	11 23 08.4	-3.7	
YAK				pmax			pmax			
	comp=Z,18nm,1.1s									
YAK				pmax			pmax			
	comp=N,7.0nm,1.5s									
YAK				pmax			pmax			
	comp=E,3.0nm,1.3s									
ZAK	**Zakamensk**	**50.34**	**325**	*e*P			**P**	**11 23 18.9**	**-0.7**	
ZAK				pmax			pmax			
	comp=Z,7.0nm,1.0s									
TLY	**Talaya**	**50.82**	**327**	*i*P			**P**	**11 23 23.0**	**0.0**	
LSA	**Lhasa**	**53.18**	**297**	*e*P			**P**	**11 23 43.6**	**+2.1**	
LSA				pmax			pmax			
	comp=Z,8.0nm,0.6s									
LSA	**Lhasa**	**53.18**	**297**	*e*P			**P**	**11 23 43.5**	**+2.1**	
	comp=Z,8.0nm,0.6s									
NWAO	**Narrogin (SRO)**	**54.41**	**210**	LR			LR	11 48 15.7		
	comp=Z,175nm,18.0s,baz=99,slow=37									
HVS	**Khovu-Aksy**	**56.14**	**323**	*d*i*P*			**P**	**11 24 03.4**	**+1.3**	
HVS				pmax			pmax			
	comp=Z,61nm,1.1s									
GAMB	**Gambell**	**57.51**	**21**	*e*P			**P**	**11 24 10.7**	**-0.7**	
	comp=Z,0.7nm,0.6s									
WMQ	**Urumqi**	**57.96**	**313**	P			**P**	**11 24 16.0**	**+0.9**	
WMQ				pP			**pP**	**11 24 32.0**	**+1.0**	
WMQ				sP			**sP**	**11 24 39.0**	**+1.3**	
WMQ				PcP			**PcP**	**11 25 07.0**	**+0.3**	
WMQ				PP			**PP**	**11 26 26.0**	**+2.0**	
WMQ				ScP			**ScP**	**11 29 01.0**	**-0.9**	
WMQ				S			**S**	**11 32 10.0**	**-1.1**	
WMQ				sS			**sS**	**11 32 38.0**	**+0.1**	
WMQ				ScS			**ScS**	**11 33 56.0**	**-3.6**	
WMQ				SS			**SS**	**11 36 04.0**	**+1.2**	
WMQ				pmax			pmax			
	comp=Z,15nm,1.0s									
WMQ				pmax			pmax			
	comp=Z,190nm,5.0s									
WMQ				LR			LR			
	comp=Z,110nm,16.0s									
WMQ				LR			LR			
	comp=Z,120nm,16.0s									
WMQ				LR			LR			
	comp=Z,140nm,17.0s									
TIXI	**Tiksi**	**58.56**	**354**	*i*P			**P**	**11 24 16.3**	**-2.4**	
TIXI				pmax			pmax			
	comp=Z,10.0nm,2.7s									
ZAA0	**Zalesovo Array**	**62.17**	**324**	*e*P			**P**	**11 24 43.5**	**-0.1**	
ZALV	**Zalesovo Beam**	**62.17**	**324**	P			**P**	**11 24 43.2**	**-0.4**	
ZALV	**Zalesovo Beam**	**62.17**	**324**	P			**P**	**11 24 43.2**	**-0.4**	
ZALV	**Zalesovo Beam**	**62.17**	**324**	P			**P**	**11 24 43.2**	**-0.4**	
	comp=Z,6.1nm,0.7s,baz=96,slow=6.4,SNR=33									
ZALV				LR			LR	11 54 26.6		
	comp=Z,102nm,18.2s,baz=250,slow=39									
MK01	**Makanchi Array**	**62.24**	**316**	*e*P			**P**	**11 24 44.8**	**+0.6**	
MK31	**Makanchi Array**	**62.25**	**316**	*e*P			**P**	**11 24 43.7**	**-0.7**	
MK31	**Makanchi Array**	**62.25**	**316**	*e*P			**P**	**11 24 43.7**	**-0.7**	
MKAR	**Makanchi Array**	**62.25**	**316**	*e*P			**P**	**11 24 44.9**	**+0.5**	
MKAR	**Makanchi Array**	**62.25**	**316**	*e*P			**P**	**11 24 44.9**	**+0.5**	
NVS	**Novosibirsk**	**63.29**	**325**	*e*P			**P**	**11 24 49.0**	**-2.0**	
NVS				pmax			pmax			
	comp=N,5.0nm,1.0s									
NVS				pmax			pmax			
	comp=E,13nm,1.0s									
NVS				pmax			pmax			
	comp=Z,20nm,1.0s									
RC01	**Rabbit Creek A**	**65.24**	**29**	*e*P			**P**	**11 25 03.4**	**-0.3**	
	comp=Z,60nm,1.8s									
KURK	**Kurchatov**	**65.25**	**320**	*e*P			**P**	**11 25 04.2**	**+0.2**	
KURK				pmax			pmax			
	comp=Z,14nm,1.0s									
KURK	**Kurchatov**	**65.25**	**320**	*e*P			**P**	**11 25 04.2**	**+0.2**	
	comp=Z,14nm,1.0s									
KURK	**Kurchatov**	**65.25**	**320**	P			**P**	**11 25 04.8**	**+0.9**	
	comp=Z,164nm,0.7s,SNR=8.6									
KURBB	**Kurchatov Arra**	**65.29**	**319**	P			**P**	**11 25 04.4**	**+0.2**	
	comp=Z,16nm,0.8s,baz=99,slow=6.6,SNR=101									
KSH	**Kashi**	**66.21**	**307**	P			P	11 25 14.0	+3.5	
KSH				pP			pP	11 25 29.1	+2.4	
KSH				sP			sP	11 25 36.1	+2.7	
KSH				PcP			**PcP**	**11 25 42.0**	**+1.7**	
KSH				S			**S**	**11 33 57.3**	**+2.0**	
KSH				sS			sS	11 34 25.3	+2.7	
KSH				SS			**SS**	**11 38 16.0**	**+4.0**	
KSH				pmax			pmax			
	comp=Z,4.0nm,0.4s									
KSH				pmax			pmax			
	comp=Z,140nm,5.0s									
KSH				LR			LR			
	comp=Z,140nm,7.2s									
KSH				LR			LR			
	comp=Z,180nm,5.9s									
KSH				LR			LR			
	comp=Z,140nm,9.5s									
TKM2	**Tokmak 2**	**66.60**	**311**	*e*P			**P**	**11 25 13.7**	**+0.6**	
TKM2				pmax			pmax			
	comp=Z,6.0nm,1.1s									
TKM2	**Tokmak 2**	**66.60**	**311**	*e*P			**P**	**11 25 13.7**	**+0.6**	
	comp=Z,6.0nm,1.1s									
COLD	**Coldfoot**	**66.95**	**22**	*e*P			**P**	**11 25 14.8**	**+0.2**	
	comp=Z,107nm,2.7s									
AAK	**Ala-Archa**	**67.40**	**311**	*c*e*i*P			**P**	**11 25 18.0**	**-0.1**	
AAK				pmax			pmax			
	comp=Z,12nm,1.7s									
AAK	**Ala-Archa**	**67.40**	**311**	*e*P			**P**	**11 25 18.4**	**+0.3**	
	comp=Z,4.3nm,1.1s									
IL1	**Eielson Array**	**67.51**	**25**	*e*P			**P**	**11 25 16.5**	**-1.6**	
ILAR	**Eielson Array**	**67.51**	**25**	P			**P**	**11 25 16.4**	**-1.8**	
ILAR	**Eielson Array**	**67.51**	**25**	P			**P**	**11 25 16.4**	**-1.8**	
	comp=Z,1.7nm,0.5s,baz=252,slow=5.7,SNR=35									
ILAR				LR			LR	11 53 03.3		
	comp=Z,136nm,18.4s,baz=292,slow=34									
PAX	**Paxson**	**67.67**	**27**	*e*P			**P**	**11 25 19.2**	**-0.1**	
PAX				pmax			pmax			
	comp=Z,6.0nm,0.8s									
PAX	**Paxson**	**67.67**	**27**	*e*P			**P**	**11 25 19.2**	**-0.1**	
	comp=Z,5.5nm,0.8s									
EKS2	**Erkin-Say**	**67.93**	**311**	*e*P			**P**	**11 25 22.5**	**+1.1**	
EKS2				pmax			pmax			
	comp=Z,32nm,2.2s									
EKS2	**Erkin-Say**	**67.93**	**311**	*e*P			**P**	**11 25 22.4**	**+1.1**	
	comp=Z,32nm,2.2s									
KKAR	**Karatay Array**	**70.33**	**311**	*e*P			**P**	**11 25 36.8**	**+0.7**	
KKAR	**Karatay Array**	**70.33**	**311**	*e*P			**P**	**11 25 36.8**	**+0.7**	
BVAR	**Borovoye Array**	**70.54**	**322**	P			**P**	**11 25 37.4**	**+0.2**	
BVAR	**Borovoye Array**	**70.54**	**322**	P			**P**	**11 25 37.4**	**+0.2**	
BVAR	**Borovoye Array**	**70.54**	**322**	P			**P**	**11 25 37.4**	**+0.2**	
	comp=Z,12nm,0.8s,baz=99,slow=6.6,SNR=45									
DAWY	**Dawson**	**70.55**	**27**	*e*P			**P**	**11 25 37.2**	**+0.1**	
DAWY				*e*pP			**pP**	**11 25 55.2**	**+1.8**	
BRVK	**Borovoye**	**70.61**	**322**	*e*P			**P**	**11 25 37.8**	**+0.2**	
BRVK				pmax			pmax			
	comp=Z,14nm,0.9s									
BRVK	**Borovoye**	**70.61**	**322**	*e*P			**P**	**11 25 37.8**	**+0.2**	
	comp=Z,14nm,0.9s									
BRVK	**Borovoye**	**70.61**	**322**	P			**P**	**11 25 37.7**	**+0.2**	
	comp=Z,96nm,0.9s,SNR=7.3									
HYT	**Haines Junctio**	**71.05**	**30**	*e*P			**P**	**11 25 40.1**	**-0.1**	
KBL	**Kabul**	**71.91**	**302**	*e*P			**P**	**11 25 46.1**	**0.0**	
KBL	**Kabul**	**71.91**	**302**	*e*P			**P**	**11 25 46.1**	**0.0**	
INK	**Inuvik**	**73.37**	**22**	*e*P			**P**	**11 25 53.6**	**-0.1**	
	comp=Z,100nm,2.8s									
DLBC	**Dease Lake**	**74.77**	**33**	*e*P			**P**	**11 26 02.8**	**+0.5**	
SVE	**Sverdlovsk**	**76.11**	**326**	⇓*e*P			**P**	**11 26 10.2**	**+0.4**	
SVE				pmax			pmax			

	comp=Z,88nm,2.8s								
NEW	**Newport**	**83.87**	**42**	*e*P		**P**	**11 26 52.0**	**0.0**
	comp=Z,8.0nm,1.0s								
NEW	**Newport**	**83.87**	**42**	P		**P**	**11 26 52.0**	**0.0**
	baz=84								
CMB	**Columbia Colle**	**83.93**	**52**	*e*P		**P**	**11 26 52.7**	**+0.2**
CMB				pmax	pmax				
	comp=Z,6.0nm,0.9s								
CMB	**Columbia Colle**	**83.93**	**52**	*e*P		**P**	**11 26 52.7**	**+0.2**
	comp=Z,5.8nm,0.9s								
J08A	**Circle Bar Ran**	**84.12**	**47**	*e*P		**P**	**11 26 54.2**	**+0.7**
	comp=Z,158nm,3.0s								
WVOR	**Wild Horse Val**	**84.23**	**48**	*e*P		**P**	**11 26 53.9**	**-0.1**
WVOR				pmax	pmax				
	comp=Z,6.0nm,0.9s								
WVOR	**Wild Horse Val**	**84.23**	**48**	*e*P		**P**	**11 26 53.9**	**-0.1**
	comp=Z,6.3nm,0.9s								
PAHR	**Pah Rah Range**	**84.31**	**51**	*e*P		**P**	**11 26 54.2**	**-0.4**
	comp=Z,7.1nm,1.0s								
WAKR	**Walker**	**84.55**	**52**	*e*P		**P**	**11 26 56.7**	**+0.8**
	comp=Z,2.9nm,0.8s								
SMMC	**Simmler**	**84.86**	**55**	P		**P**	**11 26 57.5**	**+0.3**
	baz=85								
EDM	**Edmonton**	**84.88**	**36**	*e*P		**P**	**11 26 57.3**	**+0.3**
EDM	**Edmonton**	**84.88**	**36**	*e*P		**P**	**11 26 57.3**	**+0.3**
NV01	**Mina Array Sit**	**85.43**	**52**	*e*P		**P**	**11 27 00.4**	**+0.1**
NVAR	**Mina Array Bea**	**85.43**	**52**	P		**P**	**11 27 00.7**	**+0.4**
NVAR	**Mina Array Bea**	**85.43**	**52**	P		**P**	**11 27 00.7**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=270,slow=6.2,SNR=28								
BSMT	**Bassoo Peak**	**85.49**	**42**	*e*P		**P**	**11 27 00.9**	**+0.5**
NV11	**Mina Array Sit**	**85.55**	**52**	*e*P		**P**	**11 27 01.3**	**+0.5**
BLMT	**Blacktail Moun**	**85.72**	**42**	*e*P		**P**	**11 27 02.4**	**+0.8**
MFID	**Camas Ranch**	**85.98**	**46**	*e*P		**P**	**11 27 03.6**	**+0.8**
	comp=Z,9.9nm,0.9s								
ISA	**Isabella**	**85.98**	**54**	P		**P**	**11 27 02.5**	**-0.4**
	baz=86								
YBMT	**Yellow Bay**	**85.99**	**42**	*e*P		**P**	**11 27 02.1**	**-0.6**
SWMT	**Swartz Lake**	**86.10**	**42**	*e*P		**P**	**11 27 02.3**	**-0.9**
TPH	**Tonopah**	**86.35**	**52**	*e*P		**P**	**11 27 05.5**	**+0.7**
TPH				pmax	pmax				
	comp=Z,9.0nm,1.3s								
TPH	**Tonopah**	**86.35**	**52**	*e*P		**P**	**11 27 05.5**	**+0.7**
	comp=Z,9.0nm,1.3s								
SLMT	**Seeley Lake**	**86.50**	**42**	*e*P		**P**	**11 27 04.9**	**-0.4**
	comp=Z,3.6nm,0.9s								
EDW2	**Edwards Air Fo**	**86.56**	**55**	P		**P**	**11 27 05.6**	**-0.2**
	baz=86								
LRMC	**Laurel Mountai**	**86.65**	**54**	P		**P**	**11 27 06.2**	**0.0**
	baz=87								
MPMC	**Manual Prospec**	**86.66**	**54**	P		**P**	**11 27 06.2**	**-0.2**
	baz=87								
HLID	**Hailey**	**86.93**	**46**	*e*P		**P**	**11 27 08.0**	**+0.4**
	comp=Z,4.7nm,1.0s								
HLID	**Hailey**	**86.93**	**46**	P		**P**	**11 27 07.3**	**-0.2**
	baz=87								
FURC	**Furnace Creek,**	**87.04**	**53**	P		**P**	**11 27 08.6**	**+0.6**
	baz=87								
ELK	**Elko**	**87.12**	**49**	*e*P		**P**	**11 27 08.6**	**-0.1**
	comp=Z,7.2nm,0.9s								
ARCES	**ARCESS Array B**	**87.14**	**342**	P		**P**	**11 27 06.7**	**-1.1**
ARCES	**ARCESS Array B**	**87.14**	**342**	P		**P**	**11 27 06.7**	**-1.1**
	comp=Z,9.5nm,0.9s,baz=64,slow=6.9,SNR=9.3								
ARCES				LR		LR	12 10 36.5		
	comp=Z,109nm,22.0s,baz=166,slow=39								
TPNV	**Topopah Spring**	**87.39**	**53**	*e*P		**P**	**11 27 09.8**	**-0.1**
TPNV	**Topopah Spring**	**87.39**	**53**	*e*P		**P**	**11 27 09.8**	**-0.1**
TPNV	**Topopah Spring**	**87.39**	**53**	P		**P**	**11 27 10.1**	**+0.3**
	baz=87								
GSC	**Goldstone**	**87.39**	**54**	*e*P		**P**	**11 27 10.0**	**+0.2**
GSC				*e**PP		**pP**	**11 27 26.6**	**-0.1**
GSC				pmax	pmax				
	comp=Z,32nm,1.0s								
GSC	**Goldstone**	**87.39**	**54**	*e*P		**P**	**11 27 10.0**	**+0.2**
	comp=Z,32nm,1.0s								
GSC				*e*pP		**pP**	**11 27 26.6**	**-0.1**
GSC	**Goldstone**	**87.39**	**54**	P		**P**	**11 27 10.2**	**+0.4**
	baz=87								
R11A	**Troy Canyon, C**	**87.52**	**51**	P		**P**	**11 27 10.7**	**+0.2**
	baz=87								
LRM	**Limekiln Ridge**	**87.61**	**43**	*e*P		**P**	**11 27 10.2**	**-0.7**
DLMT	**Dillon**	**87.65**	**44**	*e*P		**P**	**11 27 11.1**	**+0.1**
	comp=Z,81nm,2.8s								
HRY	**Holter Researc**	**87.75**	**42**	*e*P		**P**	**11 27 11.2**	**-0.1**
MONP	**Monument Peak**	**88.34**	**57**	P		**P**	**11 27 14.1**	**-0.5**
	baz=88								
SHPR	**Sheep Range**	**88.35**	**53**	*e*P		**P**	**11 27 15.8**	**+1.3**
GMRC	**Granite Mounta**	**88.43**	**55**	P		**P**	**11 27 14.8**	**0.0**
	baz=88								
HVU	**Hansel Valley**	**88.60**	**47**	*e*P		**P**	**11 27 15.8**	**+0.3**
HVU				pmax	pmax				
	comp=Z,8.0nm,0.9s								
HVU	**Hansel Valley**	**88.60**	**47**	*e*P		**P**	**11 27 15.8**	**+0.3**
	comp=Z,7.9nm,0.9s								
BGU	**Big Grassy Mou**	**88.68**	**48**	*e*P		**P**	**11 27 16.8**	**+0.9**
	comp=Z,27nm,2.8s								
YMR	**Madison River**	**88.97**	**44**	*e*P		**P**	**11 27 17.9**	**+0.6**
	comp=Z,9.9nm,0.9s								
DUG	**Dugway**	**89.05**	**49**	*e*P		**P**	**11 27 18.1**	**+0.4**
DUG				pmax	pmax				
	comp=Z,7.0nm,0.9s								
DUG	**Dugway**	**89.05**	**49**	*e*P		**P**	**11 27 18.1**	**+0.4**
	comp=Z,7.1nm,0.9s								
DUG	**Dugway**	**89.05**	**49**	P		**P**	**11 27 17.7**	**0.0**
	baz=89								
YFT	**Old Faithful**	**89.12**	**44**	*e*P		**P**	**11 27 20.4**	**+2.3**
	comp=Z,6.5nm,0.8s								
C19A	**Slack Wire Ran**	**89.21**	**41**	P		**P**	**11 27 18.3**	**+0.1**
	baz=89								
ARUT	**Antelope Range**	**89.30**	**51**	*e*P		**P**	**11 27 18.9**	**0.0**
ARUT	**Antelope Range**	**89.30**	**51**	*e*P		**P**	**11 27 18.9**	**0.0**
H17A	**Grant Village**	**89.32**	**44**	*e*P		P	11 27 24.0	+5.1
	comp=Z,6.8nm,1.1s								
FLWY	**Flagg Ranch**	**89.33**	**45**	*e*P		**P**	**11 27 20.2**	**+1.2**
	comp=Z,110nm,2.7s								
TPAW	**Teton Pass**	**89.35**	**45**	*e*P		**P**	**11 27 22.0**	**+2.8**
	comp=Z,48nm,2.3s								
CCUT	**Cedar City**	**89.43**	**51**	*e*P		**P**	**11 27 20.4**	**+0.8**
	comp=Z,65nm,2.6s								
Y12C	**Blythe**	**89.62**	**55**	P		**P**	**11 27 20.3**	**0.0**
	baz=90								
NLU	**North Lily Min**	**89.66**	**49**	*e*P		**P**	**11 27 21.4**	**+0.7**
	comp=Z,6.5nm,0.9s								
PDMCI	**Parker Dam,Lak**	**89.77**	**55**	P		**P**	**11 27 21.3**	**+0.3**
	baz=90								
C20A	**Veseth Ranch,**	**89.88**	**41**	P		**P**	**11 27 21.9**	**+0.6**
	baz=90								
JLU	**Jordanelle**	**89.92**	**48**	*e*P		**P**	**11 27 22.6**	**+0.8**
	comp=Z,7.1nm,0.9s								
KBZ	**Khabaz**	**89.94**	**315**	P		**P**	**11 27 20.0**	**-1.5**
KBZ	**Khabaz**	**89.94**	**315**	P		**P**	**11 27 20.0**	**-1.5**
KBZ	**Khabaz**	**89.94**	**315**	P		**P**	**11 27 20.0**	**-1.5**
	comp=Z,3.6nm,0.9s,baz=45,slow=4.3,SNR=3.6								
KBZ				LR		LR	12 15 02.5		
	comp=Z,104nm,18.4s,baz=271,slow=40								
MVU	**Marysvale**	**90.01**	**50**	*e*P		**P**	**11 27 23.5**	**+1.2**
	comp=Z,38nm,2.3s								
KIV	**Kislovodsk**	**90.01**	**315**	P		**P**	**11 27 22.0**	**0.0**
KIV				*e*			11 27 27.4		
KIV							11 30 55.0		
E20A	**Meyer Farm, Mu**	**90.22**	**42**	P		**P**	**11 27 23.5**	**+0.6**
	baz=90								
H19A	**Powell**	**90.30**	**44**	P		**P**	**11 27 24.1**	**+0.7**
	baz=90								
TMUT	**Trail Mountain**	**90.51**	**49**	*e*P		**P**	**11 27 23.6**	**-1.1**
	comp=Z,21nm,1.4s								
TMUT				*e*PP		**PP**	**11 31 00.2**	**+0.5**
113A	**Mohawk Valley,**	**90.52**	**56**	P		**P**	**11 27 24.5**	**+0.1**
	baz=90								
PDAR	**Pinedale Array**	**90.55**	**46**	P		**P**	**11 27 24.4**	**-0.3**
PDAR	**Pinedale Array**	**90.55**	**46**	P		**P**	**11 27 24.4**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=216,slow=2.8,SNR=6.3								
U15A	**North Rim**	**90.58**	**52**	P		**P**	**11 27 25.3**	**+0.3**
	baz=90								
G20A	**Bridger**	**90.62**	**43**	P		**P**	**11 27 25.5**	**+0.6**
	baz=90								
J19A	**Crowheart**	**90.73**	**45**	P		**P**	**11 27 25.8**	**+0.3**
	baz=91								
D21A	**La Casta Ranch**	**90.75**	**41**	P		**P**	**11 27 25.2**	**-0.1**
	baz=91								
Y14A	**Wickenburg**	**90.78**	**55**	P		**P**	**11 27 25.8**	**0.0**
	baz=91								
SRU	**San Rafael**	**91.07**	**49**	*e*P		**P**	**11 27 27.2**	**+0.1**
SRU				pmax	pmax				
	comp=Z,6.0nm,1.0s								
SRU	**San Rafael**	**91.07**	**49**	*e*P		**P**	**11 27 27.2**	**+0.1**
	comp=Z,5.9nm,1.0s								
G21A	**Lodge Grass**	**91.28**	**43**	P		**P**	**11 27 28.6**	**+0.7**
	baz=91								
LAO	**LASA Array**	**91.38**	**41**	*e*P		**P**	**11 27 28.7**	**+0.4**
	comp=Z,206nm,2.5s								
FINES	**FINESS Array B**	**91.41**	**336**	P		**P**	**11 27 26.7**	**-1.3**
FINES	**FINESS Array B**	**91.41**	**336**	P		**P**	**11 27 26.7**	**-1.3**
	comp=Z,9.0nm,0.9s,baz=63,slow=4.3,SNR=18								
FINES				LR		LR	12 09 15.5		
	comp=Z,87nm,18.1s,baz=162,slow=36								
B23A	**Brockton**	**91.47**	**39**	P		**P**	**11 27 29.4**	**+0.8**
	baz=91								
214A	**Organ Pipe Nat**	**91.53**	**57**	P		**P**	**11 27 30.2**	**+1.0**
	baz=92								
WUAZ	**Wupatki**	**91.58**	**53**	*e*P		**P**	**11 27 31.0**	**+1.5**
	comp=Z,11nm,1.0s								
WUAZ				*e*pP		**pP**	**11 27 47.6**	**+1.2**
WUAZ	**Wupatki**	**91.58**	**53**	P		**P**	**11 27 30.6**	**+1.0**
	baz=92								
C23A	**Lambert**	**91.61**	**40**	P		**P**	**11 27 30.2**	**+1.0**
	baz=92								
H21A	**Big Horn, Sher**	**91.61**	**43**	P		**P**	**11 27 30.3**	**+0.9**
	baz=92								
I21A	**Big Trails, Te**	**91.74**	**44**	P		**P**	**11 27 30.1**	**0.0**
	baz=92								
J21A	**Lysite**	**91.80**	**45**	P		**P**	**11 27 30.8**	**+0.3**
	baz=92								
VNDA	**Vanda**	**91.81**	**177**	LR		LR	12 04 47.5		
	comp=Z,57nm,20.9s,baz=343,slow=33								
C24A	**Savage**	**92.19**	**40**	P		**P**	**11 27 32.2**	**+0.3**
	baz=92								
K21A	**Alcova**	**92.19**	**45**	P		**P**	**11 27 32.1**	**-0.2**
	baz=92								
F23A	**Volborg**	**92.27**	**42**	P		**P**	**11 27 32.4**	**-0.1**
	baz=92								
O20A	**White River Ci**	**92.38**	**48**	P		**P**	**11 27 33.3**	**0.0**
	baz=92								
PV10	**Paradox Valley**	**92.41**	**50**	*e*P		**P**	**11 27 33.6**	**+0.2**
D24A	**Glendive**	**92.41**	**40**	P		**P**	**11 27 33.5**	**+0.5**
	baz=92								
J22A	**Midwest**	**92.44**	**44**	P		**P**	**11 27 33.4**	**0.0**
	baz=92								
G23A	**Biddle**	**92.48**	**42**	P		**P**	**11 27 33.6**	**+0.1**
	baz=92								
PV04	**Paradox Valley**	**92.50**	**50**	*e*P		**P**	**11 27 34.1**	**+0.3**
E24A	**Baker**	**92.65**	**41**	P		**P**	**11 27 34.3**	**+0.2**
	baz=92								
PV01	**Paradox Valley**	**92.84**	**50**	*e*P		**P**	**11 27 35.7**	**+0.3**
	comp=Z,260nm,0.9s								
O22A	**Kremmling**	**93.59**	**47**	P		**P**	**11 27 39.1**	**+0.2**
	baz=94								
SMCO	**Snowmass**	**93.64**	**48**	*e*P		**P**	**11 27 39.3**	**0.0**
	comp=Z,7.0nm,1.1s								
P22A	**Eagle**	**93.64**	**48**	P		**P**	**11 27 40.0**	**+1.0**
	baz=94								
G25A	**Newell**	**93.77**	**42**	P		**P**	**11 27 39.3**	**0.0**
	baz=94								
E26A	**Carlson Angus**	**93.85**	**40**	P		**P**	**11 27 39.6**	**-0.1**
	baz=94								
H25A	**Fruitdale**	**93.88**	**42**	P		**P**	**11 27 39.7**	**-0.1**
	baz=94								
F26A	**Lodgepole**	**93.97**	**41**	P		**P**	**11 27 40.4**	**+0.1**
	baz=94								
I25A	**Rochford**	**94.04**	**43**	P		**P**	**11 27 40.5**	**-0.3**
	baz=94								
G26A	**Maurine**	**94.25**	**41**	P		**P**	**11 27 41.1**	**-0.5**
	baz=94								
S22A	**4UR Ranch, Cre**	**94.26**	**50**	P		**P**	**11 27 41.3**	**-0.8**
	baz=94								
B28A	**Dugan Ranch, T**	**94.27**	**38**	P		**P**	**11 27 41.1**	**-0.4**
	baz=94								
E27A	**Carson**	**94.43**	**40**	P		**P**	**11 27 42.3**	**0.0**
	baz=94								
G27A	**Dupree**	**94.64**	**41**	P		**P**	**11 27 43.0**	**-0.3**
	baz=94								
U23A	**El Rito**	**95.25**	**51**	P		**P**	**11 27 46.4**	**-0.1**
	baz=95								
A30A	**Hoffart Farm,**	**95.26**	**37**	P		**P**	**11 27 45.9**	**-0.1**
	baz=95								
G28A	**Parade**	**95.42**	**41**	P		**P**	**11 27 46.1**	**-0.7**
	baz=95								
Z22A	**Elephant Butte**	**95.77**	**54**	P		**P**	**11 27 49.3**	**+0.5**
	baz=96								
ULM	**Lac du Bonnet**	**96.00**	**35**	P		**P**	**11 27 49.0**	**-0.3**
ULM	**Lac du Bonnet**	**96.00**	**35**	P		**P**	**11 27 49.0**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=322,slow=7.2,SNR=4.1								
NOA	**NORSAR Array B**	**97.18**	**340**	LR		LR	12 14 04.5		
	comp=Z,42nm,18.3s,baz=255,slow=37								
224A	**Cornudas Mount**	**97.32**	**54**	P		Pdif	11 27 56.1	+0.1	
	baz=97								
325A	**Bean Ranch, Si**	**98.02**	**55**	P		Pdif	11 28 00.4	+1.2	
	baz=98								
TXAR	**Lajitas Array**	**99.82**	**56**	LR		LR	12 09 58.6		
	comp=Z,94nm,18.2s,baz=5.0,slow=34								
TORD	**Torodi Ar. Bea**	**135.87**	**306**	PKP		**PKPdf**	**11 33 44.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**135.87**	**306**	PKP		**PKPdf**	**11 33 44.0**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=60,slow=2.4,SNR=4.0								
DBIC	**Dimbokro**	**144.88**	**304**	*e*PKPbc		**PKPdf**	**11 33 59.9**	**-0.1**
DBIC	**Dimbokro**	**144.88**	**304**	PKPbc		**PKPdf**	**11 34 00.1**	**+0.1**
	comp=Z,36nm,0.8s,baz=41,slow=4.3,SNR=36								
KIC	**Kosan Boka**	**144.97**	**303**	*e*PKP1		**PKPdf**	**11 34 00.3**	**+0.2**
	comp=Z,71nm,1.0s								
TIC	**Toumodi**	**145.03**	**304**	*e*PKP1		**PKPdf**	**11 34 00.5**	**+0.2**
	comp=Z,73nm,1.0s								
LIC	**Lito**	**145.28**	**304**	*e*PKP1		**PKPdf**	**11 34 01.3**	**+0.6**
	comp=Z,135nm,1.0s								
LVC	**Limon Verde**	**145.43**	**110**	*e*PKPbc		**PKPab**	**11 34 03.8**	**+2.6**
LPAZ	**La Paz**	**146.56**	**98**	*e*PKPdf		**PKPab**	**11 34 05.7**	**-0.5**
LPAZ	**La Paz**	**146.56**	**98**	PKPbc		**PKPbc**	**11 34 05.6**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=297,slow=5.8,SNR=12								
SAML	**Samuel**	**150.53**	**83**	*e*PKPbc		**PKPbc**	**11 34 15.0**	**+0.3**
PTGA	**Pitinga**	**150.70**	**65**	*e*PKPbc		**PKPbc**	**11 34 15.7**	**+0.6**

IDC ***19*** *11:35:03.2±3.5, 42.˚61S×120.˚30E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.7/15, mbtmp3.7/5, ML1.4/1, Error ellipse: s-maj=64.8km s-min=40.0km az=7.0*

ISC 19 11:35:04.6±2.5, 42.˚6S±0.˚3×120.˚2E±0.˚2, h10km, n6, σ1§11/6, mb3.5/3, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**9.90**	**345**	Pn		**Pn**	**11 37 26.1**	**-0.8**
	0.2nm,0.3s,baz=160,slow=14,SNR=2.5							
NWAO				Sn		Sn	11 39 08.1	-10
	0.3nm,0.3s,baz=66,slow=12,SNR=3.1							
STKA	**Stephens Creek**	**20.02**	**65**	P		**P**	**11 39 37.2**	**-0.3**
	2.9nm,1.0s,baz=219,slow=6.5,SNR=3.7							
ASAR	**Alice Springs**	**21.99**	**35**	P		**P**	**11 39 59.7**	**+0.8**
	2.2nm,1.0s,baz=205,slow=9.8,SNR=16							
WRA	**Warramunga Arr**	**25.50**	**32**	P		**P**	**11 40 33.3**	**+0.3**
	1.2nm,1.0s,baz=202,slow=12,SNR=5.8							
CMAR	**Chiang Mai Arr**	**63.81**	**337**	P		**P**	**11 45 38.0**	**+1.1**
	0.4nm,0.3s,baz=183,slow=7.1,SNR=4.4							
PDAR	**Pinedale Array**	**143.82**	**72**	PKP		**PKPdf**	**11 54 38.8**	**-1.0**
	0.3nm,0.6s,baz=237,slow=3.1,SNR=3.3							

SZGRF ***19*** *11:39:55.3, 43.˚58N×17.˚42E, h10km, mb3.9, Northwestern Balkan Peninsula*

BEO ***19*** *11:39:55.8±0.6, 43.˚79N×16.˚25E, h0km, ML3.3/1*

PDG ***19*** *11:39:57.4±0.5, 43.˚74N×16.˚48E, h0km±11km, ML3.4/10, Error ellipse: s-maj=0.9km s-min=1.3km az=0.0*

PRU ***19*** *11:39:58.4, 43.˚81N×16.˚47E, h0km*

CSEM ***19*** *11:39:58.0±0.2, 43.˚70N×16.˚29E, h10km, ML3.3, Error ellipse: s-maj=6.4km s-min=3.0km az=30.0*

VIE ***19*** *11:39:58.6±0.4, 43.˚85N×16.˚80E, h10km, mb3.1/5, ML3.2/6, Error ellipse: s-maj=4.2km s-min=3.1km az=81.0 46 km NE of Split*

LDG ***19*** *11:39:59.3±0.1, 43.˚70N×16.˚33E, h10km, Ml3.6/8, Error ellipse: s-maj=5.0km s-min=2.2km az=25.0*

ISC 19 11:39:56.9±1.0, 43.˚69N±0.˚03×16.˚36E±0.˚02, h14km±8km, n111, σ1§76/176, 15C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
UDBI	**Udbina**	**0.94**	**333**	*i* Pg		**Pb**	**11 40 14.8**	**-0.2**
UDBI					Sg	**Sn**	**11 40 28.8**	**-0.3**
BLY	**Banja Luka**	**1.21**	**29**	*e*Pg		**Pn**	**11 40 17.6**	**-1.8**
BLY				*e*Sg		**Sb**	**11 40 33.7**	**-1.5**
STON	**Ston**	**1.28**	**129**	*e*Pn		**Pn**	**11 40 20.0**	**-0.2**
STON				Sn		**Sg**	**11 40 39.6**	**+1.5**
NVLJ	**Novalja**	**1.38**	**310**	*i* Pn		**Pg**	**11 40 24.0**	**+0.4**
NVLJ				Sn		**Sg**	**11 40 45.1**	**+3.6**
NVLJ	**Novalja**	**1.38**	**310**	*i* Pn		**Pg**	**11 40 23.9**	**+0.4**
NVLJ				Sn		**Sg**	**11 40 45.1**	**+3.6**
TREB	**Trebinje**	**1.75**	**123**	*e*Pn		**Pb**	**11 40 28.2**	**-0.6**
TREB				*e*Sn		**Sg**	**11 40 53.4**	**+0.2**
TREB	**Trebinje**	**1.75**	**123**	*e*Pn		**Pb**	**11 40 28.2**	**-0.6**
TREB				*e*Sn		**Sg**	**11 40 53.4**	**+0.2**
BRY	**Bratogost**	**1.78**	**116**	⇓*i*Pn		**Pb**	**11 40 29.1**	**-0.2**
BRY				*e*Sn		**Sg**	**11 40 55.0**	**+0.9**
BRY	**Bratogost**	**1.78**	**116**	⇓*i*Pn		**Pb**	**11 40 29.1**	**-0.2**
BRY				*e*Sn		**Sg**	**11 40 55.0**	**+0.9**
SISC	**Sisak**	**1.78**	**0**	Sn		**Sg**	**11 40 52.8**	**-1.5**
SISC	**Sisak**	**1.78**	**0**	Sn		**Sg**	**11 40 52.7**	**-1.5**
UPM	**Unac-Piva**	**1.92**	**104**	⇓*i*Pn		**Pb**	**11 40 32.0**	**+0.3**
UPM				*e*Sn		**Sg**	**11 40 58.5**	**-0.1**
UPM	**Unac-Piva**	**1.92**	**104**	⇓*i*Pn		**Pb**	**11 40 32.0**	**+0.3**
UPM				*e*Sn		**Sg**	**11 40 58.5**	**-0.1**
BOJS	**Bojanci**	**1.98**	**337**	*i* Pn		**Pb**	**11 40 32.5**	**-0.2**
BOJS				*e*Sn		**Sb**	**11 40 58.8**	**+1.6**
BOJS								
	comp=Z,80nm,0.2s							
BOJS	**Bojanci**	**1.98**	**337**	*i* Pn		**Pb**	**11 40 32.5**	**-0.2**
BOJS				*e*Sn		**Sb**	**11 40 58.8**	**+1.6**
	comp=Z,80nm,0.2s							
HCY	**Herceg Novi**	**2.00**	**128**	⇓*i*Pn		**Pb**	**11 40 32.6**	**-0.4**
HCY				*e*Sn		**Sg**	**11 41 00.6**	**-0.5**
HCY	**Herceg Novi**	**2.00**	**128**	⇓*i*Pn		**Pb**	**11 40 32.6**	**-0.4**
HCY				*e*Sn		**Sg**	**11 41 00.6**	**-0.5**
NKME	**Niksic**	**2.11**	**115**	⇓*i*Pn		**Pb**	**11 40 34.4**	**-0.5**
NKME				*e*Sn		**Sg**	**11 41 03.5**	**-1.2**
NKME	**Niksic**	**2.11**	**115**	⇓*i*Pn		**Pb**	**11 40 34.4**	**-0.5**
NKME				*e*Sn		**Sg**	**11 41 03.5**	**-1.2**
GBRS	**Gornja Briga**	**2.15**	**330**	*i* Pn		**Pb**	**11 40 36.3**	**+0.7**
GBRS				*i* Sn		**Sg**	**11 41 05.1**	**-0.9**
BBLS	**Lazići**	**2.21**	**84**	*e*Pn		**Pn**	**11 40 34.8**	**+1.6**
BBLS				*e*Sn		**Sb**	**11 41 03.2**	**-0.8**
BBLS	**Lazići**	**2.21**	**84**	*e*Pn		**Pn**	**11 40 34.8**	**+1.6**
BBLS				*e*Sn		**Sb**	**11 41 03.2**	**-0.8**
CRES	**Cresnjev**	**2.23**	**344**	*i* Pn		**Pn**	**11 40 35.1**	**+1.7**
CRES				*e*Sn		**Sb**	**11 41 03.3**	**-1.1**
CRES								
	comp=Z,210nm,0.7s							
CRES	**Cresnjev**	**2.23**	**344**	*i* Pn		**Pn**	**11 40 35.1**	**+1.7**
CRES				*e*Sn		**Sb**	**11 41 03.3**	**-1.1**
	comp=Z,210nm,0.7s							
PLE	**Pljevlja**	**2.23**	**98**	*e*Pn		**Pb**	**11 40 36.2**	**-0.9**
PLE				*e*Sn		**Sb**	**11 41 05.9**	**+1.3**
PLE	**Pljevlja**	**2.23**	**98**	*e*Pn		**Pb**	**11 40 36.2**	**-0.9**
PLE				*e*Sn		**Sb**	**11 41 05.9**	**+1.3**
GCIS	**Gornji Cirnik**	**2.24**	**347**	*i* Pn		**Pn**	**11 40 35.0**	**+1.5**
GCIS	**Gornji Cirnik**	**2.24**	**347**	*i* Pn		**Pn**	**11 40 35.0**	**+1.5**
BUM	**Brajici-Budva**	**2.32**	**126**	⇑*i*Pn		**Pb**	**11 40 37.9**	**-0.6**
BUM				*e*Sn		**Sb**	**11 41 08.9**	**+1.8**
BUM	**Brajici-Budva**	**2.32**	**126**	⇑*i*Pn		**Pb**	**11 40 37.9**	**-0.6**
BUM				*e*Sn		**Sb**	**11 41 08.9**	**+1.8**
VISS	**Visnje**	**2.38**	**333**	*e*Sn		**Sb**	**11 41 08.6**	**0.0**
VISS	**Visnje**	**2.38**	**333**	*e*Sn		**Sb**	**11 41 08.6**	**0.0**
TEKS	**Tekeris**	**2.44**	**68**	*e*Pn		**Pn**	**11 40 36.7**	**+0.4**
TEKS	**Tekeris**	**2.44**	**68**	*e*Pn		**Pn**	**11 40 36.7**	**+0.4**
PDG	**Podgorica**	**2.47**	**120**	*e*Pn		**Pb**	**11 40 39.7**	**-1.3**
PDG				*e*Sn		**Sb**	**11 41 11.6**	**+0.4**
PDG	**Podgorica**	**2.47**	**120**	⇑*i*Pn		**Pb**	**11 40 39.5**	**-1.5**
PDG				*e*Sn		**Sb**	**11 41 11.6**	**+0.4**
TTG	**Podgorica**	**2.47**	**120**	⇑*i*Pn

	comp=Z,12nm,0.4s						
MBDF	**Montbardon**	**6.97 282**	*e*P	Pn	11 41 44.1	+5.5	
MBDF			e Sn	**Sn**	**11 42 54.0**	**-3.7**	
	comp=Z,9.3nm,0.5s						
FRF	**La Foret Royal**	**7.05 272**	*e*Pn	**Pn**	**11 41 39.8**	**+0.2**	
FRF	**La Foret Royal**	**7.05 272**	*e*P	Pn	11 41 44.5	+4.9	
FRF	**La Foret Royal**	**7.05 272**	*e*Pn	**Pn**	**11 41 39.8**	**+0.2**	
LPG	**La Plagne**	**7.09 288**	*e*Pn	**Pn**	**11 41 40.7**	**+0.2**	
LPG			e Sn	**Sn**	**11 42 57.0**	**-4.0**	
	comp=Z,8.5nm,0.4s						
LPG	**La Plagne**	**7.09 288**	*e*Pn	**Pn**	**11 41 40.7**	**+0.2**	
LPL	**La Plagne**	**7.11 288**	*e*Pn	**Pn**	**11 41 41.2**	**+0.6**	
LPL			e Sn	**Sn**	**11 42 57.9**	**-3.4**	
	comp=Z,9.4nm,0.4s						
LPL	**La Plagne**	**7.11 288**	*e*Pn	**Pn**	**11 41 41.2**	**+0.6**	
LPL			e Sn	**Sn**	**11 42 57.9**	**-3.4**	
	comp=Z,4.7nm,0.4s						
ORIF	**Oris-en-Rattie**	**7.62 283**	*e*Pn	**Pn**	**11 41 47.4**	**-0.1**	
ORIF			e Sn	**Sn**	**11 43 09.0**	**-4.6**	
	comp=Z,6.2nm,0.5s						
ORIF	**Oris-en-Rattie**	**7.62 283**	*e*Pn	**Pn**	**11 41 47.4**	**-0.1**	
HINF	**Hinteralfeld**	**7.82 305**	*e*Pn	**Pn**	**11 41 50.3**	**+0.1**	
HINF			e Sn	**Sn**	**11 43 14.6**	**-4.0**	
	comp=Z,9.3nm,0.5s						
HINF	**Hinteralfeld**	**7.82 305**	*e*Pn	**Pn**	**11 41 50.3**	**+0.1**	
HINF			e Sn	**Sn**	**11 43 14.6**	**-4.0**	
	comp=Z,4.7nm,0.5s						
CABF	**La Chapelle**	**7.83 295**	*e*Pn	**Pn**	**11 41 51.1**	**+0.8**	
CABF	**La Chapelle**	**7.83 295**	*e*Pn	**Pn**	**11 41 51.1**	**+0.8**	
CDF	**Champ du Feu**	**7.89 310**	*e*Pn	**Pn**	**11 41 52.3**	**+1.2**	
CDF	**Champ du Feu**	**7.89 310**	*e*Pn	**Pn**	**11 41 52.3**	**+1.2**	
CLL	**Colm**	**7.95 345**	*e*Sn	Sn	11 43 15.0	-6.6	
CLL			*e*		11 43 50.0		
CLL			e Sg	**Sg**	**11 44 14.0**	**+2.1**	
HAU	**Haudompre**	**8.21 305**	*e*Pn	**Pn**	**11 41 55.5**	**-0.1**	
HAU			e Sn	**Sn**	**11 43 23.2**	**-4.9**	
	comp=Z,12nm,0.5s						
HAU	**Haudompre**	**8.21 305**	*e*Pn	**Pn**	**11 41 55.5**	**-0.1**	
VIVF	**Saint-Julien-l**	**8.47 282**	*e*Pn	**Pn**	**11 41 59.3**	**+0.2**	
VIVF	**Saint-Julien-l**	**8.47 282**	*e*Pn	**Pn**	**11 41 59.3**	**+0.2**	
LOR	**Lormes**	**9.48 297**	*e*Pn	**Pn**	**11 42 13.5**	**+0.5**	
LOR	**Lormes**	**9.48 297**	*e*Pn	**Pn**	**11 42 13.5**	**+0.5**	

*ISCJB **19** 11:57:39.9±0.7,22.2°75S±0.0°7×66.0°W±0.1,h251km, mb3.7/3, Error ellipse: s-maj=17.7km s-min=9.1km az=175.3*

*IDC **19** 11:57:41.0±1.6,22.2°64S×66.2°11W,h251km±23km,mb3.5/3, mb1 3.3/8,mb1mx3.2/21,mbtmp3.3/8, Error ellipse: s-maj=32.6km s-min=14.3km az=106.0*

ISC 19 11:57:40.8±0.9,22°68S±0.0°8×66°1W±0.1,h251km,n8, σ1§17/9,mb4.0/3,Jujuy Province

Code	Station Name	Δ° AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.63 343**	P		**Pn**	**11 59 18.8**	**+1.2**
	0.6nm,0.3s,baz=169,slow=13,SNR=9.5						
LPAZ			S		**S**	**12 00 33.8**	**-1.2**
	0.4nm,0.3s,baz=302,slow=20,SNR=7.9						
SIV	**San Ignacio**	**8.19 37**	P		**Pn**	**11 59 37.3**	**+0.6**
	1.3nm,0.3s,baz=236,slow=9.7,SNR=24						
CFAA	**Coronel Fontan**	**9.08 191**	P		**Pn**	**11 59 46.7**	**-1.2**
	0.2nm,0.3s,baz=26,slow=15,SNR=9.5						
CFAA			S		S	12 01 20.7	-10
	0.2nm,0.3s,baz=309,slow=23,SNR=10						
PLCA	**Paso Flores**	**18.38 191**	P		**P**	**12 01 37.7**	**+0.2**
	0.2nm,0.3s,baz=4.9,slow=14,SNR=6.2						
BDFB	**Brasilia**	**18.49 71**	P		**P**	**12 01 38.9**	**0.0**
	0.6nm,0.3s,baz=227,slow=11,SNR=9.1						
SNAA	**Sanae**	**60.33 161**	P		**P**	**12 07 24.7**	**+1.7**
	0.7nm,1.1s,baz=300,slow=8.1,SNR=2.5						
DBIC	**Dimbokro**	**66.63 72**	P		**P**	**12 08 04.1**	**-0.9**
	2.1nm,0.7s,baz=204,slow=8.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**75.36 69**	P		**P**	**12 08 57.1**	**-0.2**
	1.9nm,0.5s,baz=256,slow=5.8,SNR=19						

*CSEM **19** 12:43:11.3,37.7°79N×14.9°96E,h24km, After ROM*

ROM 19 12:43:11.3±0.1,37.7°79N×14.9°96E,h24km±3km,MI3.6/23,2D, Error ellipse: s-maj=1.9km s-min=1.3km az=126.0, Sicily

Code	Station Name	Δ° AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.09 174**	⇓*i*P		Pb	12 43 15.9	-0.2
ESLN					Sb	12 43 19.7	+0.4
	7µm,0.6s						
ESLN	**Serra La Nave**	**0.09 174**	⇓*i*Pg		Pb	12 43 15.9	-0.2
ESLN					Sb	12 43 19.7	+0.4
	7µm,0.6s						
MMME	**Mongiuffi-Meli**	**0.27 57**	Pg		Pb	12 43 18.1	+0.1
MMME					Sb	12 43 23.7	+1.1
	6µm,0.6s						
MMME	**Mongiuffi-Meli**	**0.27 57**	Pg		Pb	12 43 18.1	+0.1
MMME					Sb	12 43 23.7	+1.1
	6µm,0.6s						
ECNV	**Catenanuova**	**0.28 226**	Pg		Pb	12 43 18.8	+0.8
ECNV					Sb	12 43 23.0	+0.5
	10µm,0.6s						
ECNV	**Catenanuova**	**0.28 226**	Pg		Pb	12 43 18.8	+0.8
ECNV					Sb	12 43 23.0	+0.5
	10µm,0.6s						
GALF	**Gagliano Caste**	**0.32 256**	Pg		Pb	12 43 18.7	0.0
GALF					Sb	12 43 25.1	+1.3
	13µm,0.7s						
GALF	**Gagliano Caste**	**0.32 256**	Pg		Pb	12 43 18.7	0.0
GALF					Sb	12 43 25.1	+1.3
	13µm,0.7s						
HCRL	**Carlentini**	**0.51 174**	Pg		Pb	12 43 21.4	-0.2
HCRL					Sb	12 43 29.7	+1.1
	10µm,0.4s						
HCRL	**Carlentini**	**0.51 174**	Pg		Pb	12 43 21.4	-0.2
HCRL					Sb	12 43 29.7	+1.1
	10µm,0.4s						
AGST	**Augusta-Monte**	**0.57 158**	Pg		Pb	12 43 22.4	-0.3
AGST					Sb	12 43 31.4	+1.0
	4µm,0.5s						
AGST	**Augusta-Monte**	**0.57 158**	Pg		Pb	12 43 22.4	-0.3
AGST					Sb	12 43 31.4	+1.0
	4µm,0.5s						
MTTG	**Motta San Giov**	**0.62 69**	Pg		Pb	12 43 23.7	+0.2
	2µm,0.5s						
MTTG	**Motta San Giov**	**0.62 69**	Pg		Pb	12 43 23.7	+0.2
	2µm,0.5s						
SSY	**Sortino**	**0.64 172**	Pg		Pb	12 43 23.5	-0.4
SSY					Sn	12 43 33.4	-0.9
	5µm,0.4s						
SSY	**Sortino**	**0.64 172**	Pg		Pb	12 43 23.5	-0.4
SSY					Sn	12 43 33.4	-0.9
	5µm,0.4s						
HVZN	**Vizzini**	**0.64 198**	Pg		Pb	12 43 23.4	-0.5
HVZN					Sb	12 43 33.3	+0.8
	5µm,0.5s						
HVZN	**Vizzini**	**0.64 198**	Pg		Pb	12 43 23.4	-0.5
HVZN					Sb	12 43 33.3	+0.8
	5µm,0.5s						
MSRU	**Castanea**	**0.64 42**	Pg		Pb	12 43 23.8	-0.1
MSRU					Sn	12 43 34.0	-0.4
	2µm,0.5s						
MSRU	**Castanea**	**0.64 42**	Pg		Pb	12 43 23.8	-0.1
MSRU					Sn	12 43 34.0	-0.4
	2µm,0.5s						
LLI	**Lipari**	**0.66 359**	Pg		Pb	12 43 24.4	+0.2
	8µm,0.5s						
LLI	**Lipari**	**0.66 359**	Pg		Pb	12 43 24.4	+0.2
	8µm,0.5s						
CSLB	**Castelbuono**	**0.73 282**	Pg		Pb	12 43 24.8	-0.7
	570nm,0.6s						
CSLB	**Castelbuono**	**0.73 282**	Pg		Pb	12 43 24.8	-0.7
	570nm,0.6s						
RESU	**Resuttano**	**0.73 259**	Pg		Pn	12 43 26.5	+0.3
	2µm,0.6s						
RESU	**Resuttano**	**0.73 259**	Pg		Pn	12 43 26.5	+0.3
	2µm,0.6s						
RAFF	**Raffo Rosso**	**0.74 220**	Pg		Pb	12 43 25.4	-0.1
	3µm,0.8s						
RAFF	**Raffo Rosso**	**0.74 220**	Pg		Pb	12 43 25.4	-0.1
	3µm,0.8s						
GIB	**Gibilmanna**	**0.77 286**	Pg		Pb	12 43 25.9	-0.2
	6µm,0.7s						
GIB	**Gibilmanna**	**0.77 286**	Pg		Pb	12 43 25.9	-0.2
	6µm,0.7s						
HAVL	**Avola**	**0.84 171**	Pg		Pb	12 43 26.4	-0.8
HAVL					Sg	12 43 39.3	+0.1
	2µm,0.4s						
HAVL	**Avola**	**0.84 171**	Pg		Pb	12 43 26.4	-0.8
HAVL					Sg	12 43 39.3	+0.1
	2µm,0.4s						
HMDC	**Modica**	**0.84 190**	Pg		Pb	12 43 26.7	-0.6
HMDC					Sg	12 43 39.1	-0.2
	6µm,0.6s						
HMDC	**Modica**	**0.84 190**	Pg		Pb	12 43 26.7	-0.6
HMDC					Sg	12 43 39.1	-0.2
	6µm,0.6s						
MPAZ	**Palizzi**	**0.84 78**	Pg		Pb	12 43 27.4	0.0
	837nm,0.6s						
MPAZ	**Palizzi**	**0.84 78**	Pg		Pb	12 43 27.4	0.0
	837nm,0.6s						
CEL	**Celeste**	**0.87 57**	Pg		Pb	12 43 27.7	-0.2
	696nm,0.9s						
CEL	**Celeste**	**0.87 57**	Pg		Pb	12 43 27.7	-0.2
	696nm,0.9s						
IACL	**Alicudi**	**0.89 328**	Pg		Pb	12 43 26.8	-1.2
	2µm,0.6s						
IACL	**Alicudi**	**0.89 328**	Pg		Pb	12 43 26.8	-1.2
	2µm,0.6s						
SOI	**Samo**	**0.91 71**	Pg		Pn	12 43 28.6	0.0
	524nm,0.6s						
SOI	**Samo**	**0.91 71**	Pg		Pn	12 43 28.6	0.0
	524nm,0.6s						
ALJA	**Alia**	**0.96 268**	Pg		Pb	12 43 29.9	+0.6
	2µm,0.7s						
ALJA	**Alia**	**0.96 268**	Pg		Pb	12 43 29.9	+0.6
	2µm,0.7s						
STR4	**STROMBOLI 4**	**1.00 11**	Pg		Pn	12 43 29.5	-0.4
STR4	**STROMBOLI 4**	**1.00 11**	Pg		Pn	12 43 29.5	-0.4
FAVR	**Favara**	**1.15 244**	Pg		Pb	12 43 33.5	+0.9
	215nm,0.4s						
FAVR	**Favara**	**1.15 244**	Pg		Pb	12 43 33.5	+0.9
	215nm,0.4s						
CORL	**Corleone**	**1.32 275**	Pg		Pb	12 43 35.3	-0.1
	1µm,0.7s						
CORL	**Corleone**	**1.32 275**	Pg		Pb	12 43 35.3	-0.1
	1µm,0.7s						
PLAC	**Placanica**	**1.34 60**	Pg		Pb	12 43 36.2	+0.4
	437nm,0.9s						
PLAC	**Placanica**	**1.34 60**	Pg		Pb	12 43 36.2	+0.4
	437nm,0.9s						

*ISCJB **19** 12:59:48.5±0.5,24.5°53N±0.0°09×94.5°55E±0.0°05,h82km, mb3.9/18, Error ellipse: s-maj=13.0km s-min=4.5km az=20.8*

*IDC **19** 12:59:50.7±0.8,24.5°59N×94.5°93E,h93km±7km, mb3.7/18, mb1 3.7/19,mb1mx3.6/35,mbtmp3.7/19, Error ellipse: s-maj=29.7km s-min=10.7km az=58.0*

ISC 19 12:59:50.1±0.6,24.5°N±0.1°×94.6°0E±0.0°09,h82km,n37, σ1§37/51,mb4.0/18,Myanmar-India border region

Code	Station Name	Δ° AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**6.82 296**	*e*Pn		**Pn**	**13 01 29.1**	**+1.4**
TAPN			*e* Sn		**Sn**	**13 02 44.3**	**+0.3**
	246nm,1.0s						
ODAN	**Odare**	**6.91 291**	*e*Pn		**Pn**	**13 01 30.0**	**+1.0**
ODAN			*e* Sn		**Sn**	**13 02 46.0**	**-0.3**
	144nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.25 145**	P		**Pn**	**13 01 32.9**	**-0.6**
	0.2nm,0.3s,baz=318,slow=15,SNR=5.8						
RAMN	**Ramite**	**7.61 290**	*e*Pn		**Pn**	**13 01 39.5**	**+1.0**
RAMN			*e* Sn		**Sn**	**13 03 01.9**	**-1.5**
	82nm,0.5s						
JIRN	**Jiri**	**8.19 294**	*e*Pn		**Pn**	**13 01 47.3**	**+0.8**
JIRN			*e* Sn		**Sn**	**13 03 16.6**	**-1.0**
	90nm,0.3s						
GUN	**Gumba**	**8.53 295**	*e*Pn		**Pn**	**13 01 51.7**	**+0.5**
GUN			*e* Sn		**Sn**	**13 03 26.0**	**0.0**
	101nm,0.6s						
PKI	**Pulchoki**	**8.81 292**	*e*Pn		**Pn**	**13 01 55.5**	**+0.5**
PKI			*e* Sn		**Sn**	**13 03 30.8**	**-2.0**
	41nm,0.7s						
PKIN	**Phulchoki**	**8.82 292**	*e*Pn		**Pn**	**13 01 55.8**	**+0.7**
PKIN			*e* Sn		**Sn**	**13 03 30.8**	**-2.2**
	68nm,0.7s						
KKN	**Kakani**	**8.99 293**	*e*Pn		**Pn**	**13 01 57.9**	**+0.6**
KKN			*e* Sn		**Sn**	**13 03 36.0**	**-1.0**
	60nm,0.7s						
DMN	**Daman**	**9.08 292**	*e*Sn		**Sn**	**13 03 38.1**	**-1.1**
	48nm,0.7s						
GKN	**Gorkha**	**9.60 293**	*e*Pn		**Pn**	**13 02 05.6**	**+0.1**
GKN			*e* Sn		**Sn**	**13 03 49.7**	**-2.0**
	39nm,0.3s						
KOLN	**Koldanda**	**10.40 291**	*e*Pn		**Pn**	**13 02 17.3**	**+0.7**
KOLN			*e* Sn		**Sn**	**13 04 08.3**	**-3.2**
	26nm,0.4s						
DANN	**Dangsing**	**10.44 294**	*e*Pn		**Pn**	**13 02 16.7**	**-0.5**
DANN			*e* Sn		**Sn**	**13 04 09.5**	**-3.0**
	29nm,0.5s						
PSI	**Prapat**	**21.98 168**	P		**P**	**13 04 39.3**	**+1.7**
	4.3nm,0.6s,baz=331,slow=9.0,SNR=4.6						
TKM2	**Tokmak 2**	**24.14 324**	P		**P**	**13 05 00.2**	**+1.7**
	SNR=10.0						
UCH	**Uchtor**	**24.27 322**	P		**P**	**13 05 02.0**	**+2.0**
	SNR=6.9						
KBK	**Karagaybulak**	**24.31 323**	P		**P**	**13 05 02.3**	**+2.2**
	SNR=5.1						
AAK	**Ala-Archa**	**24.54 322**	P		**P**	**13 05 04.3**	**+2.1**
	SNR=5.5						
AAK	**Ala-Archa**	**24.54 322**	P		**P**	**13 05 03.9**	**+1.7**
	4.1nm,0.8s,baz=131,slow=7.0,SNR=14						
AML	**Almayashu**	**24.67 321**	P		**P**	**13 05 05.9**	**+2.2**
	SNR=5.4						
EKS2	**Erkin-Say**	**24.96 322**	P		**P**	**13 05 04.6**	**-1.4**
	SNR=7.4						
SONM	**Songino Array**	**25.09 19**	P		**P**	**13 05 05.2**	**-2.0**
	2.3nm,0.8s,baz=198,slow=9.4,SNR=18						
KURBB	**Kurchatov Arra**	**28.89 339**	P		**P**	**13 05 40.8**	**-0.1**
	2.8nm,0.7s,baz=150,slow=8.5,SNR=27						
KURBB			pP		**pP**	**13 06 02.1**	**+2.2**
	0.5nm,0.8s,baz=148,slow=9.0,SNR=1.9						
ZALV	**Zalesovo Beam**	**30.30 349**	P		**P**	**13 05 53.0**	**-0.4**
	1.0nm,0.4s,baz=165,slow=8.8,SNR=6.5						
BVAR	**Borovoye Array**	**33.84 334**	P		**P**	**13 06 24.6**	**+0.1**
	1.2nm,0.6s,baz=138,slow=11,SNR=8.5						
AKTO	**Aktyubinsk**	**38.29 322**	P		**P**	**13 07 02.8**	**+0.3**
	1.1nm,0.3s,baz=130,slow=8.0,SNR=5.4						
BRTR	**Keskin Array B**	**52.87 302**	P		**P**	**13 08 59.0**	**+1.2**
	1.8nm,1.1s,baz=42,slow=6.6,SNR=2.6						
AKASG	**Main Array Be**	**55.96 316**	P		**P**	**13 09 19.4**	**-0.4**
	0.5nm,0.4s,baz=79,slow=6.5,SNR=5.0						
FINES	**FINESS Array B**	**58.53 328**	P		**P**	**13 09 38.1**	**+0.4**
	2.1nm,0.8s,baz=72,slow=6.4,SNR=4.8						
WRA	**Warramunga Arr**	**58.73 135**	P		**P**	**13 09 37.9**	**-1.7**
	1.0nm,0.5s,baz=323,slow=7.4,SNR=26						
WRA			pP		**pP**	**13 10 00.9**	**+0.5**
	1.2nm,0.8s,baz=330,slow=7.7,SNR=6.0						
ARCES	**ARCESS Array B**	**59.97 338**	P		**P**	**13 09 47.0**	**-0.5**
	5.9nm,1.1s,baz=82,slow=8.3,SNR=3.7						
ASAR	**Alice Springs**	**61.21 138**	P		**P**	**13 09 55.2**	**-1.3**
	1.2nm,0.6s,baz=322,slow=6.7,SNR=38						
ASAR			pP		**pP**	**13 10 18.1**	**+0.6**
	1.3nm,0.9s,baz=318,slow=6.6,SNR=6.5						
HFS	**Hagfors**	**64.58 327**	P		**P**	**13 10 18.4**	**-0.1**
	1.5nm,0.5s,baz=99,slow=8.9,SNR=5.9						
NOA	**NORSAR Array B**	**65.71 328**	P		**P**	**13 10 25.3**	**-0.5**
	1.0nm,0.8s,baz=67,slow=4.5,SNR=2.5						
GERES	**GERESS Array B**	**66.12 314**	P		**P**	**13 10 28.6**	**-0.1**
	0.3nm,0.6s,baz=53,slow=6.9,SNR=5.0						
EKA	**Eskdalemuir Ar**	**74.44 324**	P		**P**	**13 11 19.2**	**0.0**
	1.0nm,0.6s,baz=74,slow=6.0,SNR=3.7						
RES	**Resolute Bay**	**80.86 3**	P		**P**	**13 11 53.6**	**-0.9**
	0.6nm,0.5s,baz=22,slow=5.4,SNR=4.9						

*NIED **19** 13:02:00,23.8°80N×121.7°0E,h47km,Mw6.5 Best double couple: M0 5.71000×10^18 NP1:φs27.00000°,δ70.00000°, λ74.00000°. NP2:φs248.00000°,δ26.00000°,λ128.00000°.*

*BGS **19** 13:02:03.8±1.8,21.9°7N×124.2°3E,h57km,mb5.8,MS6.8*

*MOS **19** 13:02:12.8±1.0,23.8°7N×121.7°5E,h33km,mb6.4/138, MS6.4/87, Error ellipse: s-maj=6.7km s-min=3.7km az=120.0*

*SZGRF **19** 13:02:14.3,23.9°98N×122.3°6E,h33km,mb6.3,MS6.6, Taiwan region*

*BJI **19** 13:02:15.0,23.8°8N×121.6°4E,h48km,mB6.5/51,mb6.0/68, ML6.4/10,Ms6.6/74,Ms7 6.5/66*

*NEIC **19** 13:02:15.6±0.3,23.8°0N×121.6°1E,h43km,mb6.2/238, ME6.4,MW6.4,MW6.4, Error ellipse: s-maj=4.7km s-min=3.6km az=225.0,Moment Tensor Solution. s81 Moment tensor: Scale 10^18 Nm; Mrr 3.59; Mθθ 0.86; Mφφ-4.45; Mrθ-0.79; Mθφ-0.09; Mφr 4.17; Best double couple: Ms 5.90000×10^18 NP1:φs194.00000°,δ23.00000°, λ111.00000°. NP2:φs352.00000°,δ69.00000°,λ82.00000°. Principal axes: T 5.4900, Plg65.0000°, Azm247.0000°; N 0.7400, Plg7.0000°, Azm354.0000°; P -6.2300, Plg23.0000°, Azm88.0000°; Broadband fault plane solution: P waves. NP1:φs251.00000°,δ29.00000°, λ148.00000°. NP2:φs10.00000°,δ75.00000°,λ65.00000°. Principal axes: T Plg53.0000°, Azm250.0000°; N Plg0.0000°, Azm0.0000°; P Plg26.0000°, Azm119.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Fourteen people injured at Hua-lien and a few buildings damaged at Taipei. Felt [VI] at Hua-lien; [V] at Chang-hua, Chia-i, Hsin-chu, Hsin-tien and Yung-k'ang; [IV] at Chung-ho, Chu-pei, Kao-hsiung, P'ing-tung, T'ai-chung, T'ai-nan, T'ao-yuan and in the Taipei area. Felt [IV] at Fuzhou and [III] at Quanzhou, Xiamen and Zhangzhou, Fujian. Also felt at Basco, Philippines and on Ishigaki-jima, Ryukyu Islands. Recorded [7 TAP] in Hua-lien; [5 TAP] in Chang-hua, Chia-i, I-lan, T'ai-chung, T'ai-tung and Yun-lin; [4 TAP] in Hsin-chu, Kao-hsiung, Miao-li, P'eng-hu, T'ai-nan, T'ai-pei and T'ao-yuan; [3 TAP] in Nan-t'ou and P'ing-tung, Taiwan. Recorded [3 JMA] on Iriomote-jima and Yonaguni-jima; [2 JMA] on Hateruma-jima and Ishigaki-jima; [1 JMA] on Miyake-jima and Tarama-shima, Ryukyu Islands.

*JMA **19** 13:02:15.5±0.1,23.7°8N×121.7°65E,h32km±2km,M6.7*

JMA Felt III J1.

*TAP **19** 13:02:16.3,23.7°9N×121.7°66E,h44km,ML6.9,B*

*ISCJB **19** 13:02:16.0±0.1,23.7°82N±0.0°009×121.7°68E±0.0°01, h57km±1km,mb6.2/479,MS6.3/261,Error ellipse: s-maj=1.7km s-min=1.5km az=27.3*

*AUST **19** 13:02:17.9±2.7,23.5°58N×121.7°3E,h65km±25km,Error ellipse: s-maj=8.9km s-min=5.9km az=57.0*

*IDC **19** 13:02:18.0±0.9,23.8°83N×121.7°1E,h63km±7km,mb5.5/53, mb1 5.6/58,mb1mx5.6/58,mbtmp5.6/58,MS6.2/41, Ms1 6.2/41,ms1mx6.2/52,Error ellipse: s-maj=7.9km s-min=5.8km az=52.0*

*DJA **19** 13:02:19.1±1.6,24.°N±6.°×12.°2E±.°,h53km±14km,M6.5/113, mb6.4/113,mB6.7/110,Mw(mB)6.5/110,Mwp6.3/46*

*GCMT **19** 13:02:20.3±0.1,23.°70N×121.°66E,h48km,MW6.4, Moment Tensor Solution. s135,c334; s99,c186; Moment tensor: Scale 10^18 Nm; Mrr 2.76±.03; Mθθ-0.70±.02; Mφφ-2.06±.02; Mrθ 0.28±.02; Mrφ-2.83±.02; Mθφ 4.17±.04; Best double couple: Mo 5.60000×10^18 NP1:φs11.00000°,δ73.00000°,λ64.00000°. NP2: φs249.00000°,δ31.00000°,λ144.00000°. Principal axes: T 5.4200, Plg55.0000°, Azm249.0000°; N 0.4000, Plg24.0000°, Azm19.0000°; P -5.8100, Plg24.0000°, Azm120.0000°; Data Used: II IU CU CN IC G. Mantle waves from 103 sta. Surface waves: sta=136, comp=326, per= 50.*

*NEIC **19** 13:02:31.6±0.0,23.7°3N×121.7°69E,h48km,Moment Tensor Solution. s155 Moment tensor: Scale 10^18 Nm; Mrr 2.99; Mθθ-0.80; Mφφ-2.20; Mrθ 0.43; Mrφ-2.43; Mθr 3.14; Best double couple: Mo 4.80000×10^18 NP1:φs241.00000°, δ30.00000°,λ131.00000°. NP2:φs16.00000°,δ68.00000°, λ69.00000°. Principal axes: T 4.5600, Plg61.0000°, Azm253.0000°; N 0.4700, Plg19.0000°, Azm24.0000°; P -5.0300, Plg19.0000°, Azm121.0000°;*

ISC 19 13:02:16.4±0.2,23.7°9N±0.0°02×121.7°0E±0.0°02,h50km±1km, h50km:pP-P,n2127,σ1§35/2454,mb6.2/472,MS6.3/262, 446C-235D,Taiwan

Code	Station Name	Δ° AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.17 241**	⇑P		**Pn**	**13 02 24.0**	**-0.5**
	baz=230						
TEGC			*e* S		**Sn**	**13 02 30.3**	**0.0**
	baz=230						
ESF	**Shoufeng Towns**	**0.20 293**	⇑P		**Pn**	**13 02 23.9**	**-0.8**
	baz=300						
ESF			S		**Sn**	**13 02 29.4**	**-1.2**
	baz=300						
HWA	**Hwalien**	**0.20 334**	⇓P		**Pn**	**13 02 24.1**	**-0.6**
	baz=346						
ESL	**Shilin**	**0.25 275**	⇑*i*P		**Pn**	**13 02 23.9**	**-1.2**
	baz=277						
TWD	**Chiawan**	**0.30 341**	⇓*i*P		**Pn**	**13 02 25.0**	**-0.6**
	baz=356						
TWD			*e* S		**Sn**	**13 02 31.7**	**-0.4**
	baz=356						
NACB	**Ninganchiao**	**0.39 345**	*e*Pn		**Pn**	**13 02 25.6**	**-0.8**
EHY	**Hungye**	**0.45 231**	⇑*i*P		**Pn**	**13 02 25.9**	**-1.2**
	baz=236						
EHP	**Heping Village**	**0.52 4**	⇑*i*P		**Pn**	**13 02 27.9**	**0.0**
	baz=15						
EHP			S		**Sn**	**13 02 36.5**	**+0.4**
	baz=15						
YULB	**Yu-li**	**0.55 223**	*e*Pn		**Pn**	**13 02 27.0**	**-1.2**
YULB			*e* Sn		**Sn**	**13 02 36.8**	**0.0**
TWF1	**Yuli**	**0.58 220**	⇑*i*P		**Pn**	**13 02 27.6**	**-1.0**
	baz=225						
TWF1			*e* S		**Sn**	**13 02 36.5**	**-0.9**
	baz=225						
ENA	**Nanau**	**0.63 3**	⇓*i*P		**Pn**	**13 02 29.2**	**-0.1**
	baz=16						
TWT	**Tachien**	**0.67 314**	⇑*i*P		**Pn**	**13 02 29.8**	**0.0**
	baz=317						
SSLB	**Suanglung**	**0.69 270**	*e*Pn		**Pn**	**13 02 29.1**	**-0.9**
SSLB			*e* Sn		**Sn**	**13 02 38.2**	**-1.7**
NNS	**Nan Shan**	**0.71 335**	⇑*i*P		**Pn**	**13 02 30.0**	**-0.4**
	baz=339						
NNS			*e* S		**Sn**	**13 02 40.6**	**+0.1**
	baz=339						
SMLT	**Sun Moon Lake**	**0.74 277**	⇑*i*P		**Pn**	**13 02 30.5**	**-0.2**
	baz=279						
SMLT			*e* S		**Sn**	**13 02 40.9**	**-0.4**
	baz=279						
YUS	**Yu-Shan**	**0.75 246**	⇑*i*P		**Pn**	**13 02 31.1**	**-0.1**
	baz=252						
CHKT	**Chengkung**	**0.76 204**	⇑*i*P		**Pn**	**13 02 30.3**	**-0.5**
	baz=192						
TYC	**Yuchr**	**0.78

TWG	**Pinlang**	**1.13**	**211**	⇓P	**Pn**	**13 02 34.4**	**-1.5**
	baz=199								
TWG	**Pinlang**	**1.13**	**211**	*e*Pn	**Pn**	**13 02 34.3**	**-1.5**
TWG				*e*Sn	**Sn**	**13 02 48.2**	**-2.1**
WTP	**Ta-pu**	**1.14**	**242**	⇓*i*P	**Pn**	**13 02 36.8**	**+0.8**
	baz=240								
TTN	**Taitung**	**1.15**	**206**	⇓P	**Pn**	**13 02 35.6**	**-0.5**
	baz=204								
TATO	**Taipei**	**1.19**	**351**	P	**Pn**	**13 02 37.3**	**+0.5**
	SNR=794								
TATO	**Taipei**	**1.19**	**351**	*e*Pn	**Pn**	**13 02 37.1**	**+0.4**
TATO				*e*Sn	**Sn**	**13 02 53.9**	**+2.0**
HSN	**Hsinchu**	**1.21**	**326**	⇑*i*P	**Pn**	**13 02 38.2**	**+1.3**
	baz=331								
HSN				S	**Sn**	**13 02 54.7**	**+2.5**
	baz=331								
CHY	**Chiayi**	**1.21**	**256**	⇓*i*P	**Pn**	**13 02 37.8**	**+0.9**
	baz=256								
TWK	**Hsinying**	**1.23**	**245**	⇓*i*P	**Pn**	**13 02 38.0**	**+0.7**
	baz=243								
TWK				*e*S	**Sn**	**13 02 53.4**	**+0.5**
	baz=243								
CHN1	**Nanshi**	**1.24**	**241**	⇓*i*P	**Pn**	**13 02 38.2**	**+0.8**
	baz=240								
TWB1	**Santiao Chiao**	**1.24**	**12**	⇓*i*P	**Pn**	**13 02 38.7**	**+1.4**
	baz=32								
TWB1				*e*S	**Sn**	**13 02 54.9**	**+1.9**
	baz=32								
SGST	**Jiashian**	**1.25**	**236**	⇓*i*P	**Pn**	**13 02 38.6**	**+1.2**
	baz=233								
SGST				*e*S	**Sn**	**13 02 54.4**	**+1.2**
	baz=233								
TAP1	**Taipei**	**1.25**	**352**	⇑*i*P	**Pn**	**13 02 37.9**	**+0.4**
	baz=355								
TAP	**Taipei**	**1.25**	**352**	⇑P	**Pn**	**13 02 38.0**	**+0.4**
	baz=354								
NCU	**National Centr**	**1.26**	**338**	⇑*i*P	**Pn**	**13 02 38.6**	**+1.0**
	baz=340								
NWF	**Wu-fen Shan**	**1.27**	**3**	⇑*i*P	**Pn**	**13 02 38.8**	**+0.9**
	baz=355								
WTCT	**Ta-ch'eng**	**1.30**	**273**	⇑*i*P	**Pn**	**13 02 39.0**	**+0.8**
	baz=273								
TWS1	**Kuangyinshan**	**1.33**	**349**	⇑*i*P	**Pn**	**13 02 39.3**	**+0.7**
	baz=351								
WSF	**Szhu**	**1.37**	**264**	⇓*i*P	**Pn**	**13 02 39.7**	**+0.7**
	baz=263								
WSF				*e*S	**Sn**	**13 02 58.5**	**+2.5**
	baz=263								
YOJ	**Yonaguni jima**	**1.37**	**61**	*e*P	**Pn**	**13 02 40.0**	**+0.9**
YOJ				*e*		13 02 57.8			
YOJ	**Yonaguni jima**	**1.37**	**61**	⇑P	**Pn**	**13 02 40.0**	**+0.9**
YOJ				S	**Sn**	**13 02 57.6**	**+1.5**
YOJ	**Yonaguni jima**	**1.37**	**61**	⇑*i*P	**Pn**	**13 02 40.0**	**+0.9**
	baz=63								
YOJ				S	**Sn**	**13 02 57.3**	**+1.2**
	baz=63								
YOJ	**Yonaguni jima**	**1.37**	**61**	*e*Pn	**Pn**	**13 02 40.0**	**+0.9**
YOJ				*e*Sn	**Sn**	**13 02 57.8**	**+1.7**
ECL	**Taimali**	**1.38**	**210**	⇓*i*P	**Pn**	**13 02 37.4**	**-1.8**
	baz=201								
CHN3	**Shinhua**	**1.42**	**240**	⇓*i*P	**Pn**	**13 02 41.5**	**+1.6**
	baz=253								
SSD	**Sandimen**	**1.43**	**224**	⇓P	**Pn**	**13 02 40.1**	**+0.1**
	baz=206								
SSD				*e*S	**Sn**	**13 03 00.0**	**+2.3**
	baz=206								
CHN8	**Yiju**	**1.44**	**252**	⇓*i*P	**Pn**	**13 02 40.6**	**+0.6**
	baz=252								
TWY	**Chenhua**	**1.48**	**356**	⇑P	**Pn**	**13 02 41.1**	**+0.5**
	baz=359								
SCLT	**Jiali**	**1.52**	**246**	⇓*i*P	**Pn**	**13 02 42.1**	**+1.0**
	baz=245								
TWM1	**Shoushan**	**1.52**	**231**	⇓*i*P	**Pn**	**13 02 43.3**	**+2.0**
	baz=229								
SGLT	**Jiouru**	**1.54**	**227**	⇓*i*P	**Pn**	**13 02 43.9**	**+2.5**
	baz=214								
TAI1	**Yung-k'ang**	**1.55**	**241**	⇓*i*P	**Pn**	**13 02 42.9**	**+1.4**
	baz=241								
EAST	**Anshuo**	**1.61**	**209**	⇓P	**Pn**	**13 02 41.3**	**-1.1**
	baz=201								
TAW	**Tawu**	**1.61**	**208**	*e*P	**Pn**	**13 02 41.1**	**-1.3**
	baz=199								
SCZT	**Fangliau**	**1.73**	**215**	⇓*e*P	**Pn**	**13 02 44.3**	**+0.3**
	baz=211								
SCZT				*e*S	**Sn**	**13 03 08.2**	**+3.2**
	baz=211								
LAY	**Lan-yu**	**1.75**	**185**	⇑*i*P	**Pn**	**13 02 43.4**	**-1.0**
	baz=174								
PCYT	**Pengchaiyu**	**1.86**	**10**	⇑*e*P	**Pn**	**13 02 46.7**	**+0.9**
	baz=13								
TWP	**Hsiaoliuchiu**	**1.90**	**221**	⇓*e*P	**Pn**	**13 02 48.5**	**+2.2**
	baz=219								
IRIF	**Iriomote-Funau**	**1.93**	**73**	⇑P	**Pn**	**13 02 47.9**	**+1.2**
IRIF				S	**Sn**	**13 03 11.4**	**+1.6**
HATJ	**Hateruma jima**	**1.94**	**82**	⇑P	**Pn**	**13 02 47.9**	**+1.0**
HATJ				S	**Sn**	**13 03 11.8**	**+1.7**
WDGT	**Dungji**	**1.95**	**255**	⇓P	**Pn**	**13 02 46.9**	**-0.1**
	baz=255								
HEN	**Hengchun**	**1.99**	**207**	*e*P	**Pn**	**13 02 48.1**	**+0.5**
	baz=195								
TWK1	**Hengchun**	**2.02**	**204**	⇓P	**Pn**	**13 02 47.5**	**-0.5**
	baz=194								
TSEB	**Hengchuen, Pin**	**2.02**	**202**	*e*P	**Pn**	**13 02 48.0**	**0.0**
	baz=193								
JIJ	**Ishigaki jima**	**2.30**	**75**	⇑P	**Pn**	**13 02 52.6**	**+0.8**
JIJ				S	**Sn**	**13 03 19.6**	**+0.6**
JTJ	**Tarama**	**2.87**	**72**	⇑P	**Pn**	**13 03 00.6**	**+1.0**
JTJ				S	**Sn**	**13 03 34.0**	**+1.2**
KNM	**Kinmen**	**3.05**	**282**	⇓*e*P	**Pn**	**13 03 03.2**	**+1.1**
	baz=282								
QZH	**Quanzhou**	**3.06**	**293**	⇓*i*P	Pn	13 02 57.3	-4.9
QZH				S	Sn	13 03 30.5	-7.1
QZH				smax	smax		
	comp=N,236μm,1.0s						
QZH				smax	smax		
	comp=E,206μm,0.9s						
QZH				LR	LR		
	comp=N,1170μm,8.6s						
QZH				LR	LR		
	comp=E,3911μm,21.0s						
QZH				LR	LR		
	comp=Z,2833μm,21.4s						
JMJ	**Miyako jima 2**	**3.43**	**72**	P	**Pn**	**13 03 08.4**	**+1.1**
JMJ				S	**Sn**	**13 03 49.1**	**+2.4**
JMJ	**Miyako jima 2**	**3.43**	**72**	⇓*e*P	**Pn**	**13 03 08.4**	**+1.1**
	baz=74								
JMJ				*e*S	**Sn**	**13 03 46.0**	**-0.8**
	baz=74								
JOGS	**Gusukube**	**3.51**	**73**	P	**Pn**	**13 03 09.7**	**+1.2**
JOGS				S	**Sn**	**13 03 51.3**	**+2.5**
JKE	**Kume jima 2**	**5.25**	**60**	P	**Pn**	**13 03 32.9**	**+0.6**
JKE				*e*S	**Sn**	**13 04 32.3**	**+0.7**
SGCP	**Mt. Cagua**	**5.53**	**177**	*e*P	**Pn**	**13 03 36.5**	**+0.3**
SGCP				*e*S	**Sn**	**13 04 35.9**	**-2.7**
PIP	**Pasuquin**	**5.53**	**191**	⇓*i*P	**Pn**	**13 03 36.5**	**+0.3**
PIP				*i* S	**Sn**	**13 04 38.8**	**+0.2**
JAGN	**Aguni-jima**	**5.74**	**60**	P	**Pn**	**13 03 39.8**	**+0.8**
JAGN				*e*S	**Sn**	**13 04 43.3**	**-0.2**
APYP	**Conner**	**5.92**	**184**	*e*P	**Pn**	**13 03 43.5**	**+2.1**
SIPP	**Brgy, Tapao**	**5.96**	**192**	⇓*i*P	Pn	13 03 34.5	-7.5
SIPP				*e*S	Sn	13 04 35.7	-13
JJT2	**Tamagusuku 2**	**5.96**	**66**	P	**Pn**	**13 03 42.8**	**+0.7**
JJT2				*e*S	**Sn**	**13 04 49.8**	**+0.8**
CVP	**Callao Caves**	**6.06**	**179**	⇑*i*P	**Pn**	**13 03 44.2**	**+0.8**
CVP				*i* S	**Sn**	**13 04 51.6**	**+0.1**
ABRA	**Dolores**	**6.18**	**189**	*e*P	**Pn**	**13 03 47.3**	**+2.1**
SZP	**Santa**	**6.32**	**191**	*e*Pn	**Pn**	**13 03 48.4**	**+1.4**
	6μm,0.8s								
SZP				*e*Sn	**Sn**	**13 04 58.5**	**+0.6**
JIH	**Iheya**	**6.52**	**59**	P	**Pn**	**13 03 49.6**	**-0.1**
JIH				*e*S	**Sn**	**13 05 00.8**	**-1.9**
JOW	**Kunigami**	**6.67**	**62**	P	**Pn**	**13 03 50.9**	**-0.9**
JOW				*e*S	**Sn**	**13 05 04.4**	**-2.1**
JOW	**Kunigami**	**6.67**	**62**	⇓*e*P	**Pn**	**13 03 50.9**	**-0.9**
	baz=60								
JOW	**Kunigami**	**6.67**	**62**	*e*Pn	**Pn**	**13 03 51.0**	**-0.9**
JOW				*e*Sn	**Sn**	**13 05 07.9**	**+1.3**
PALP	**Palanan**	**6.73**	**174**	*e*P	**Pn**	**13 03 53.4**	**+0.8**
CAUP	**Cauayan**	**6.81**	**179**	*e*P	**Pn**	**13 03 56.6**	**+2.8**
HKC	**Hong Kong Obse**	**7.09**	**259**	⇑*i*P	**Pn**	**13 03 58.0**	**+0.4**
SSE	**Sheshan**	**7.29**	**357**	P	**Pn**	**13 03 58.8**	**-1.4**
SSE				S	**Sn**	**13 05 17.8**	**-3.8**
SSE				smax	smax		
	comp=N,6μm,1.1s						
SSE				smax	smax		
	comp=E,9μm,1.1s						
SSE				LR	LR		
	comp=N,82μm,14.3s						
SSE				LR	LR		
	comp=E,172μm,14.2s						
SSE				LR	LR		
	comp=Z,128μm,10.4s						
JTK	**Tokunoshima**	**7.65**	**57**	P	**Pn**	**13 04 03.3**	**-1.9**
JTK				*e*S	**Sn**	**13 05 26.5**	**-3.9**
GZH	**Guangzhou**	**7.71**	**266**	P	Pn	13 04 01.0	-5.0
GZH				S	Sn	13 05 17.8	-14
GZH				smax	smax		
	comp=N,60μm,1.1s						
GZH				smax	smax		
	comp=E,50μm,1.0s						
BALP	**Baler**	**8.01**	**181**	*e*P	**Pn**	**13 04 11.5**	**+1.3**
JAMN	**Amaminishikomi**	**8.05**	**55**	P	**Pn**	**13 04 08.9**	**-1.8**
JAMN				*e*S	**Sn**	**13 05 39.0**	**-1.3**
PCPH	**Palayan**	**8.21**	**184**	⇓*e*P	**Pn**	**13 04 14.8**	**+1.9**
PCPH				*e*S	**Sn**	**13 05 48.7**	**+4.3**
JAM	**Amami Oshima**	**8.46**	**55**	P	**Pn**	**13 04 14.7**	**-1.6**
JAM				*e*S	**Sn**	**13 05 46.0**	**-4.4**
NJ2	**Nanjing**	**8.60**	**344**	*e*P	**Pn**	**13 04 17.3**	**-1.0**
NJ2				pP		13 04 22.8			
NJ2				sP		13 04 29.5			
NJ2				S	**Sn**	**13 05 51.3**	**-2.6**
NJ2				sS		13 06 03.8			
NJ2				pmax	pmax		
	comp=E,400nm,0.8s						
NJ2				pmax	pmax		
	comp=E,880nm,4.2s						
NJ2				smax	smax		
	comp=E,18μm,1.0s						
NJ2				smax	smax		
	comp=E,11μm,0.9s						
NJ2				LR	LR		
	comp=E,157μm,18.1s						
NJ2				LR	LR		
	comp=E,345μm,18.5s						
NJ2				LR	LR		
	comp=E,306μm,16.0s						
JZK	**Kikaishima**	**8.69**	**57**	P	**Pn**	**13 04 18.7**	**-0.8**
JZK				*e*S	**Sn**	**13 05 52.9**	**-3.2**
JMZ	**Minamidaito 2**	**8.88**	**75**	P	Pn	13 04 18.7	-3.4
JMZ				*e*S	Sn	13 05 53.2	-7.5
WHN	**Wuhan**	**9.38**	**317**	⇑P	**Pn**	**13 04 27.8**	**-1.1**
WHN				sP		13 04 44.1			
WHN				S	Sn	13 06 06.5	-6.5
WHN				LR	LR		
	comp=E,375μm,8.6s						
WHN				LR	LR		
	comp=E,442μm,9.0s						
WHN				LR	LR		
	comp=E,716μm,16.6s						
TGY	**Tagaytay City**	**9.67**	**184**	P	**Pn**	**13 04 35.4**	**+2.4**
TGY	**Tagaytay City**	**9.67**	**184**	⇓*i*P	Pn	13 04 38.2	+5.2
TGY	**Tagaytay City**	**9.67**	**184**	P	**Pn**	**13 04 35.4**	**+2.4**
	comp=E,54nm,0.3s,baz=326,slow=4.7,SNR=26						
GQP	**Guinayangan**	**9.86**	**176**	⇑*e*P	**Pn**	**13 04 37.1**	**+1.6**
GQP				*e*S	**Sn**	**13 06 22.0**	**-2.9**
PVCP	**Virac**	**10.40**	**167**	⇑*i*P	**Pn**	**13 04 45.9**	**+2.9**
PVCP				*i* S	**Sn**	**13 06 34.7**	**-3.5**
JSJ	**Shimokoshiki**	**10.58**	**40**	P	**Pn**	**13 04 48.0**	**+2.6**
NGSJ	**Nagasakinomoza**	**11.33**	**37**	P	Pn	13 04 59.5	+3.9
JHD	**Hondo**	**11.40**	**39**	P	**Pn**	**13 04 59.6**	**+3.1**
JTZ	**Takazaki**	**11.58**	**44**	P	**Pn**	**13 04 57.9**	**-1.1**
JUR	**Ureshino**	**11.76**	**36**	P	Pn	13 05 05.0	+3.5
JIU2	**Izumi 2**	**11.85**	**41**	P	**Pn**	**13 05 04.0**	**+1.3**
QIZ	**Qiongzhong**	**12.02**	**249**	P	**Pn**	**13 05 05.4**	**+0.3**
QIZ				S	**Sn**	**13 07 18.8**	**+1.1**
QIZ				pmax	pmax		
	comp=E,190nm,2.5s						
QIZ				pmax	pmax		
	comp=E,12μm,11.4s						
QIZ				LR	LR		
	comp=E,227μm,18.2s						
QIZ				LR	LR		
	comp=E,115μm,21.8s						
QIZ				LR	LR		
	comp=E,258μm,27.1s						
QIZ	**Qiongzhong**	**12.02**	**249**	*e*Pn	**Pn**	**13 05 05.2**	**+0.2**
	comp=E,514nm,0.8s						
QIZ				*e*Sn	**Sn**	**13 07 17.3**	**-0.4**
JII	**Iki**	**12.20**	**33**	P	Pn	13 05 11.4	+4.0
RCP	**Roxas**	**12.21**	**175**	⇑*e*P	**Pn**	**13 05 09.1**	**+1.5**
JKIT	**Kitakata**	**12.29**	**42**	P	**Pn**	**13 05 08.4**	**-0.3**
JNU	**Nakatsue**	**12.30**	**39**	*e*Pn	**Pn**	**13 05 10.8**	**+1.9**
JNU				*e*Sn	**Sn**	**13 07 27.0**	**+2.5**
JNU	**Nakatsue**	**12.30**	**39**	P	**Pn**	**13 05 10.7**	**+1.8**
	comp=E,5.1nm,0.3s,baz=213,slow=11,SNR=66						
JNU				LR	LR	13 10 50.0			
	comp=E,83μm,19.6s,baz=16,slow=42						
ENH	**Enshi**	**12.65**	**303**	*e*Pn	**Pn**	**13 05 14.8**	**+1.1**
	comp=E,149nm,1.5s						
ENH				*e*Sn	**Sn**	**13 07 29.5**	**-3.6**
PLP	**Palo**	**12.94**	**165**	⇓*e*P	**Pn**	**13 05 18.8**	**+1.1**
OCLP	**Ormoc**	**12.97**	**167**	*e*P	**Pn**	**13 05 20.5**	**+2.4**
GUIM	**Jordan**	**13.12**	**176**	*e*P	**Pn**	**13 05 23.3**	**+3.1**
LLP	**Lapu-Lapu**	**13.57**	**170**	*e*P	**Pn**	**13 05 27.1**	**+0.8**
LLP				*e*S	**S**	**13 08 16.1**	**-0.6**
GYA	**Guiyang**	**13.88**	**284**	⇑*i*P	**Pn**	**13 05 30.3**	**-0.2**
GYA				pP	P	13 05 41.3	+3.9
GYA				S	**Sn**	**13 08 05.4**	**+2.2**
GYA				sS	**S**	**13 08 19.0**	**-4.0**
GYA				pmax	pmax		
	comp=E,920nm,0.9s						
GYA				pmax	pmax		
	comp=E,20μm,10.2s						
GYA				LR	LR		
	comp=E,133μm,11.2s						
GYA				LR	LR		
	comp=E,340μm,18.9s						
GYA				LR	LR		
	comp=E,434μm,16.5s						
MSLP	**Maasin**	**13.91**	**167**	*e*P	**Pn**	**13 05 32.8**	**+1.8**
TBP	**Tagbilaran**	**14.18**	**171**	*e*P	**P**	**13 05 38.8**	**-1.8**
INCN	**Inchon**	**14.29**	**16**	P	**P**	**13 05 39.6**	**-2.1**
	SNR=35								
INCN	**Inchon**	**14.29**	**16**	*e*Pn	**P**	**13 05 39.3**	**-2.5**
SCPH	**Surigao**	**14.39**	**165**	⇓*e*P	**Pn**	**13 05 36.9**	**-0.5**
SNPH	**Sibulan**	**14.44**	**174**	⇑*e*P	Pn	13 05 31.8	-6.3
KSAR	**Wonju Array Be**	**14.60**	**20**	P	**Pn**	**13 05 41.1**	**+1.1**
KSAR				S	**Sn**	**13 08 23.7**	**+3.3**
KSRS	**Korea Array**	**14.62**	**20**	P	**Pn**	**13 05 41.1**	**+0.9**
	comp=E,11nm,0.3s,baz=200,slow=12,SNR=212						
KSRS				S	**Sn**	**13 08 23.7**	**+2.7**
	comp=E,2.9nm,0.3s,baz=209,slow=24,SNR=3.5						
KSRS				LR	LR	13 12 13.9			
	comp=E,73μm,19.0s,baz=205,slow=41						
DL2	**Dalian**	**15.07**	**360**	⇓*i*P	**P**	**13 05 48.3**	**-2.1**
DL2				sP	sP	13 06 01.8	-6.3
DL2				S	S	13 08 39.4	-7.5
DL2				pmax	pmax		
	comp=E,2μm,1.2s						
DL2				pmax	pmax		
	comp=E,4μm,6.3s						
DL2				LR	LR		
	comp=E,61μm,24.5s						
DL2				LR	LR		
	comp=E,49μm,16.2s						
XAN	**Xi'an**	**15.13**	**315**	P	**Pn**	**13 05 47.0**	**0.0**
XAN				pP	**P**	**13 05 55.6**	**+4.3**
XAN				S	**Sn**	**13 08 29.6**	**-3.9**
XAN				sS	**S**	**13 08 42.1**	**-6.4**
XAN				pmax	pmax		
	comp=E,150nm,1.1s						
XAN				pmax	pmax		
	comp=E,1μm,6.1s						
XAN				LR	LR		
	comp=E,103μm,14.8s						
XAN				LR	LR		
	comp=E,69μm,16.3s						
XAN				LR	LR		
	comp=E,83μm,17.5s						
CGP	**Cagayan de Oro**	**15.52**	**169**	*e*P	**P**	**13 05 55.0**	**-0.5**
TIY	**Taiyuan**	**15.98**	**332**	*e*P	**P**	**13 06 01.0**	**+0.3**
TIY				PP	**pP**	**13 06 15.0**	**+3.0**
TIY				S	**Sn**	**13 08 58.6**	**+4.4**
TIY				pmax	pmax		
	comp=E,11μm,4.6s						
TIY				LR	LR		
	comp=E,75μm,12.5s						
TIY				LR	LR		
	comp=E,40μm,13.0s						
TIY				LR	LR		
	comp=E,148μm,22.5s						
BUKP	**Musuan**	**16.15**	**168**	*e*P	**P**	**13 06 02.5**	**-0.1**
SLVN	**Son La**	**16.62**	**265**	*e*Pn	**Pn**	**13 06 05.7**	**-0.4**
	comp=E,607nm,1.0s						
CTBH	**Cotabato--PC H**	**16.66**	**171**	*e*P	**P**	**13 06 08.7**	**+0.5**
BJT	**Baijiatuao**	**16.84**	**345**	*e*Pn	**P**	**13 06 09.8**	**-0.3**
	comp=E,2μm,1.3s						
BJI	**Beijing**	**16.86**	**345**	P	**P**	**13 06 10.9**	**+0.7**
BJI				sP	**sP**	**13 06 28.3**	**+0.3**
BJI				pmax	pmax		
	comp=E,620nm,1.3s						
BJI				pmax	pmax		
	comp=E,13μm,6.6s						
BJI				LR	LR		
	comp=E,28μm,19.1s						
BJI				LR	LR		
	comp=E,154μm,22.7s						
BJI				LR	LR		
	comp=E,76μm,24.1s						
DAV	**Davao City (W)**	**17.04**	**167**	P	**P**	**13 06 17.2**	**+4.7**
	SNR=14								
DAV	**Davao City (W)**	**17.04**	**167**	*e*Pn	**Pn**	**13 06 10.9**	**-0.3**
	comp=E,3μm,1.6s						
DAV	**Davao City (W)**	**17.04**	**167**	⇓*e*P	**Pn**	**13 06 09.5**	**-1.7**
DLV	**T Lat**	**17.22**	**229**	*e*Pn	**Pn**	**13 06 14.0**	**+0.3**
	comp=E,1μm,1.4s						
MATI	**Mati**	**17.31**	**165**	*e*P	**P**	**13 06 17.1**	**+1.6**
KMI	**Kunming**	**17.32**	**278**	P	**Pn**	**13 06 14.5**	**-0.4**
KMI				S	**Sn**	**13 09 22.3**	**-4.6**
KMI				sS	**S**	**13 09 37.8**	**+4.3**
KMI				pmax	pmax		
	comp=E,380nm,1.4s						
KMI				pmax	pmax		
	comp=E,16μm,6.8s						
KMI				LR	LR		
	comp=E,80μm,20.0s						
KMI				LR	LR		
	comp=E,253μm,16.8s						
KMI				LR	LR		
	comp=E,289μm,17.4s						
KDM	**Kudat**	**17.42**	**196**	P	**P**	**13 06 19.7**	**+3.1**
CD2	**Chengdu**	**17.44**	**298**	⇑*i*P	**Pn**	**13 06 15.4**	**-0.7**
CD2				sP	sP	13 06 27.1	-7.4
CD2				PP	**pP**	**13 06 31.4**	**+3.2**
CD2				S	**Sn**	**13 09 27.1**	**-2.3**
CD2				sS	**S**	**13 09 38.3**	**+2.8**
CD2				SS	**SnSn**	**13 09 48.8**	**+5.5**
CD2				pmax	pmax		
	comp=E,1μm,1.6s						
CD2				pmax	pmax		
	comp=E,26μm,8.3s						
CD2				LR	LR		
	comp=E,315μm,16.6s						
CD2				LR	LR		
	comp=E,427μm,16.7s						
CD2				LR	LR		
	comp=E,426μm,15.5s						
UBPT	**Khong Chiam**	**17.48**	**244**	P	**P**	**13 06 19.6**	**+2.4**
	comp=E,3μm,2.4s						
SNY	**Shenyang**	**18.05**	**5**	⇑P	**Pn**	**13 06 24.0**	**+0.5**
SNY				S	**S**	**13 09 48.0**	**+0.3**
SNY				pmax	pmax		
	comp=E,49nm,2.3s						
SNY				pmax	pmax		
	comp=E,13μm,12.4s						
SNY				LR	LR		
	comp=E,44μm,20.8s						
SNY				LR	LR		
	comp=E,141μm,22.5s						
SNY				LR	LR		
	comp=E,83μm,17.2s						
SDKM	**Sandakan**	**18.56**	**194**	P	**Pn**	**13 06 31.1**	**+1.1**
CBIJ	**Chichi jima**	**18.79**	**76**	P	**Pn**	**13 06 32.9**	**+0.3**
CBIJ				*e*Pn	**P**	**13 06 33.3**	**+1.7**
CBIJ				S	**S**	**13 10 03.0**	**+0.2**
JCJ	**Chichijima**	**18.79**	**76**	P	**Pn**	**13 06 32.9**	**+0.3**
	comp=E,74nm,0.3s,baz=268,slow=4.9,SNR=52						
JCJ				S	**S**	**13 10 03.0**	**+0.2**
	comp=E,8.1nm,0.3s,baz=287,slow=19,SNR=2.2						
JCJ				LR	LR	13 13 09.4			
	comp=E,86μm,20.5s,baz=247,slow=35						
HHC	**Hu-ho-hao-te**	**19.02**	**336**	*e*P	**Pn**	**13 06 37.1**	**+1.8**
HHC				pP	**pP**	**13 06 46.8**	**+1.2**
HHC				sP	**sP**	**13 06 53.1**	**+1.1**
HHC				PP	**PnPn**	**13 06 54.8**	**+5.8**
HHC				sS	sS	13 10 19.9	-6.0
HHC				pmax	pmax		
	comp=E,2μm,1.2s						
HHC				pmax	pmax		
	comp=E,34μm,6.2s						
HHC				LR	LR		
	comp=E,158μm,14.3s						
HHC				LR	LR		
	comp=E,149μm,13.2s						
HHC				LR	LR		
	comp=E,212μm,13.9s						
MAT	**Matsushiro**	**19.07**	**44**	P	**P**	**13 06 33.2**	**-1.5**
MAT				S	**S**	**13 10 08.2**	**-0.2**
MJAR	**Matsushiro Arr**	**19.07**	**44**	P	**P**	**13 06 33.8**	**-0.9**
MJAR	**Matsushiro Arr**	**19.07**	**44**	P	**P**	**13 06 33.8**	**-0.9**
	baz=243,slow=12,SNR=4.5								
MJAR				LR	LR	13 14 31.0			
	comp=E,64μm,21.0s,baz=225,slow=38						
BTO	**Baotou**	**19.43**	**332**	*e*P	**Pn**	**13 06 40.4**	**+0.2**
BTO				S	S	13 10 08.3	-7.4
BTO				LR	LR		
	comp=E,47μm,15.5s						
BTO				LR	LR		
	comp=E,27μm,12.7s						
LZH	**Lanzhou**	**19.70**	**313**	⇑P	**Pn**	**13 06 44.3**	**+0.8**
LZH				pP	**pP**	**13 06 52.8**	**-0.4**
LZH				sP	**sP**	**13 06 56.5**	**-3.1**
LZH				PP	**PnPn**	**13 07 02.4**	**+4.0**
LZH				S	**S**	**13 10 17.5**	**-3.8**
LZH				sS	sS	13 10 34.4	-5.5
LZH				pmax	pmax		
	comp=E,4μm,1.3s						
LZH				pmax	pmax		
	comp=E,14μm,5.4s						
LZH				LR	LR		
	comp=E,158μm,14.4s						
LZH				LR	LR		
	comp=E,200μm,15.0s						
LZH				LR	LR		
	comp=E,337μm,16.1s						
TSM	**Tawau**	**19.74**	**191**	P	**Pn**	**13 06 43.5**	**-0.4**
CRAI	**Chiangrai**	**20.09**	**264**	P	Pn	13 06 48.1	0.0
	comp=E,1μm,0.7s,comp=E,25μm						
CHAI	**Chaiyaphum**	**20.12**	**251**	P	Pn	13 06 47.8	-0.7
	comp=E,200nm,1.3s,comp=E,2μm						
CN2	**Changchun**	**20.19**	**8**	⇓P	Pn	13 06 48.1	-1.0
CN2				*e*pP	pP	13 06 58.8	+0.4
CN2				*e*sP	sP	13 07 04.8	+0.1
CN2				*e*S	**S**	**13 10 27.3**	**-3.4**
CN2				PcP	**PcP**	**13

MDJ sP **sP** **13 07 18.9 -2.6**
MDJ S **S** **13 11 01.8 +0.4**
MDJ sS **sS** **13 11 18.4 -1.8**
MDJ ScP **ScP** **13 14 37.4 +1.7**
MDJ PcS **PcS** **13 14 42.3 +1.5**
MDJ pmax pmax
comp=E,110nm,1.4s
MDJ pmax pmax
comp=E,4μm,13.1s
MDJ LR LR
comp=E,63μm,17.1s
MDJ LR LR
comp=E,129μm,18.2s
MDJ LR LR
comp=E,82μm,17.1s
MDJ Mudanjiang 21.75 15 *e*P **P** **13 07 03.7 +0.1**
comp=E,406nm,1.0s
MDJ LR LR
comp=Z,54μm,22.0s
CMMT Chiang Mai 21.76 261 P **P** **13 07 05.2 +1.2**
comp=Z,1μm,1.2s,comp=Z,24μm
CHTO Chiang Mai 21.77 261 *e*P **P** **13 07 05.5 +1.5**
CHTO pmax pmax
comp=Z,391nm,1.2s
CHTO MLR MLR
comp=Z,118μm,20.0s
CHTO Chiang Mai 21.77 261 P **P** **13 07 06.0 +2.0**
SNR=294
CHTO Chiang Mai 21.77 261 *e*P **P** **13 07 05.5 +1.5**
comp=Z,391nm,1.2s
CHTO LR LR
comp=Z,118μm,20.0s
CHTO Chiang Mai 21.77 261 P **P** **13 07 05.3 +1.3**
comp=Z,5μm,1.2s,comp=Z,105μm
CM31 Chiang Mai Arr 21.87 260 *e*P **P** **13 07 04.8 -0.4**
comp=Z,722nm,1.1s
CMAR Chiang Mai Arr 21.87 260 P **P** **13 07 06.4 +1.3**
CMAR PcP **PcP** **13 11 03.6 +0.3**
CMAR Chiang Mai Arr 21.87 260 P **P** **13 07 06.4 +1.3**
comp=Z,638nm,1.0s,baz=64,slow=8.0,SNR=321
CMAR PcP **PcP** **13 11 03.6 +0.3**
comp=Z,16nm,0.8s,baz=41,slow=1.0,SNR=6.6
CMAR LR LR 13 16 18.7
comp=Z,135μm,19.2s,baz=78,slow=38
USRK Ussuriysk Arra 22.03 20 P **P** **13 07 06.8 +0.2**
comp=Z,76nm,0.7s,baz=204,slow=9.7,SNR=176
USRK S **S** **13 11 06.2 -0.5**
comp=Z,12nm,1.0s,baz=214,slow=30,SNR=2.5
USRK LR LR 13 16 53.1
comp=Z,31μm,18.2s,baz=188,slow=40
BTM Bintulu 22.10 203 P **P** **13 07 08.4 +0.9**
PATY Pattaya 22.51 245 P **P** **13 07 15.7 +3.8**
comp=Z,186nm,0.8s,comp=Z,2μm
TOLI Toli-Toli 22.55 182 P **P** **13 07 13.2 +0.8**
comp=Z,1μm,1.3s,comp=Z,15μmcomp=Z,77μm
MHMT Maesarieng 22.88 260 P **P** **13 07 17.1 +1.3**
comp=Z,626nm,0.8s,comp=Z,13μm
GTOI Gorontalo 23.05 177 P **P** **13 07 15.8 -1.8**
comp=Z,2μm,0.9s,comp=Z,28μmcomp=Z,89μm
SBUM Sibu 23.12 205 P **P** **13 07 17.9 -0.3**
SBUM Sibu 23.12 205 P **P** **13 07 18.9 +0.7**
SBUM Sibu 23.12 205 P **P** **13 07 17.6 -0.6**
comp=Z,1μm,1.1s,comp=Z,15μmcomp=Z,101μm
SBUM Sibu 23.12 205 *e*P **P** **13 07 17.0 -1.2**
comp=Z,892nm,1.0s
MRSI Marisa 23.18 179 P **P** **13 07 20.4 +1.6**
comp=Z,872nm,1.0s,comp=Z,16μm
KMSI Cibinong 23.19 174 P **P** **13 07 18.7 -0.2**
comp=Z,3μm,1.0s,comp=Z,39μm
SRDT SRDT 23.29 250 P **P** **13 07 21.2 +1.3**
comp=Z,3μm,2.9s,comp=Z,72μm
TNTI Ternate 23.54 166 P **P** **13 07 22.1 -0.1**
comp=Z,1μm,1.1s,comp=Z,25μmcomp=Z,82μm
TNTI Ternate 23.54 166 *e*P **P** **13 07 21.4 -0.9**
comp=Z,2μm,1.3s
PHET Kaeng Krachan 23.55 247 P **P** **13 07 24.3 +1.9**
comp=Z,2μm,0.9s,comp=Z,17μm
KHLT Khaolaem Dam 23.55 252 P **P** **13 07 24.5 +2.1**
comp=Z,841nm,1.2s,comp=Z,10μm
GUMO Guam 24.14 111 *e*P **P** **13 07 28.6 +0.8**
comp=Z,168nm,1.3s
GTA Gaotai 24.20 315 ⇑*i*P **P** **13 07 29.1 +0.8**
GTA pP **pP** **13 07 41.1 -0.1**
GTA sP **sP** **13 07 46.3 -0.9**
GTA PP **PnPn** **13 08 05.3 +5.4**
GTA S **S** **13 11 42.8 -0.5**
GTA sS **sS** **13 12 02.4 -2.5**
GTA pmax pmax
comp=Z,1μm,1.5s
GTA pmax pmax
comp=Z,16μm,5.2s
GTA LR LR
comp=Z,91μm,14.3s
GTA LR LR
comp=Z,143μm,16.1s
GTA LR LR
comp=Z,180μm,16.6s
SGKI Sangatta, Kali 24.50 190 P P 13 07 24.0 -7.1
LUWI Luwuk 24.71 177 P **P** **13 07 33.3 +0.3**
comp=Z,3μm,1.3s,comp=Z,34μmcomp=Z,64μm
LUWI Luwuk 24.71 177 ⇑P **P** **13 07 31.6 -1.4**
baz=25,SNR=35
KSM Kuching 24.78 208 P **P** **13 07 35.6 +1.9**
KSM Kuching 24.78 208 P **P** **13 07 34.0 +0.3**
comp=Z,2μm,1.1s,comp=Z,22μmcomp=Z,90μm
KSM Kuching 24.78 208 *e*P **P** **13 07 34.0 +0.3**
comp=Z,2μm,1.0s
KSM LR LR
comp=Z,51μm,22.0s
KSM Kuching 24.78 208 ⇑P **P** **13 07 34.3 +0.6**
baz=25,SNR=302
LBMI Labuha 24.93 166 P **P** **13 07 35.5 +0.5**
comp=Z,2μm,1.0s,comp=Z,18μmcomp=Z,35μm
BKB Balikpapan 25.34 191 P **P** **13 07 40.6 +1.9**
comp=Z,2μm,1.1s,comp=Z,29μmcomp=Z,80μm
MTKI Muara Teweh, K 25.46 196 P **P** **13 07 41.1 +1.3**
comp=Z,1μm,1.1s,comp=Z,14μm
ERM Erimo 25.47 39 *c*e P **P** **13 07 38.4 -1.3**
ERM pmax pmax
comp=Z,252nm,1.0s
ERM MLR MLR
comp=Z,66μm,20.0s
ERM Erimo 25.47 39 *e*P **P** **13 07 37.0 -2.6**
comp=Z,195nm,0.7s
HIA Hailar 25.47 357 *e*P **P** **13 07 38.9 -0.8**
comp=Z,624nm,1.0s
HIA LR LR
comp=Z,56μm,20.0s
STKI Sintang 25.59 204 P **P** **13 07 42.7 +1.7**
comp=Z,953nm,1.1s,comp=Z,19μmcomp=Z,41μm
KTGM Kuala Trenggan 25.63 227 P **P** **13 07 43.9 +2.6**
SWI Sorong 26.21 158 P **P** **13 07 47.5 +0.9**
comp=Z,349nm,1.2s,comp=Z,8μmcomp=Z,59μm
SURT Suratani 26.41 240 P **P** **13 07 50.1 +1.7**
comp=Z,256nm,0.9s,comp=Z,4μm
MMSI Mamuju 26.46 186 P **P** **13 07 50.5 +1.6**
comp=Z,2μm,1.1s,comp=Z,17μmcomp=Z,48μm
ASAJ Asahikawa 26.53 35 *e*P **P** **13 07 48.1 -1.2**
comp=Z,125nm,1.1s
ASAJ Asahikawa 26.53 35 P **P** **13 07 48.9 -0.4**
comp=Z,78nm,0.5s,baz=245,slow=8.9,SNR=147
ASAJ LR LR 13 19 32.5
comp=Z,86μm,19.3s,baz=230,slow=39
KLR Kul'dur 26.59 15 ⇓*i*P **P** **13 07 46.9 -2.9**
KLR *e*S S 13 12 11.5 -9.4
KLR pmax pmax
comp=N,130nm,1.4s
KLR pmax pmax
comp=E,170nm,1.4s
KLR pmax pmax
comp=Z,630nm,1.4s
KLR pmax pmax
comp=E,2μm,8.0s
KLR pmax pmax
comp=Z,4μm,8.0s
ULN Ulaanbaatar 26.70 338 P **P** **13 07 51.4 +0.4**
SNR=350
ULN Ulaanbaatar 26.70 338 *e*P **P** **13 07 51.1 +0.1**
comp=Z,2μm,1.5s
ULN LR LR
comp=Z,92μm,20.0s
TTSI Tana Toraja 26.74 184 P **P** **13 07 51.8 +0.4**
comp=Z,458nm,1.0s,comp=Z,9μm
HABR Khabarovsk 26.80 20 *e*P **P** **13 07 49.6 -2.1**
HABR *e**PP **pP** **13 08 01.8 -2.7**
HABR 13 08 31.9
HABR *e* 13 11 11.1
HABR *e*S **S** **13 12 22.1 -2.1**
HABR *e*SS **SnSn** **13 13 29.3 -3.0**
HABR *e* 13 18 37.9
HABR pmax pmax
comp=E,13nm,1.3s
HABR pmax pmax
comp=N,11nm,1.3s
HABR pmax pmax
comp=Z,52nm,1.3s
HABR pmax pmax
comp=Z,445nm,1.6s
HABR MLR MLR
comp=E,34μm,14.0s
HABR MLR MLR
comp=N,27μm,15.0s
HABR MLR MLR
comp=Z,64μm,18.0s
SONM Songino Array 26.91 337 P **P** **13 07 52.8 -0.1**
SONM PcP **PcP** **13 11 14.1 +0.1**
SONM ScP **ScP** **13 14 49.4 -0.6**
SONM *e* 13 40 28.4
SONM Songino Array 26.91 337 P **P** **13 07 52.8 -0.1**
comp=Z,213nm,0.7s,baz=154,slow=9.4,SNR=830
SONM PcP **PcP** **13 11 14.1 +0.1**
comp=Z,44nm,1.1s,baz=165,slow=4.0,SNR=5.6
SONM ScP **ScP** **13 14 49.4 -0.6**
comp=Z,8.3nm,1.0s,baz=175,slow=3.1,SNR=3.3
SONM LR LR 13 19 54.5
comp=Z,130μm,18.3s,baz=147,slow=39
SONM P3KPbc 13 40 28.4
comp=Z,0.2nm,0.4s,baz=326,slow=2.1,SNR=2.6
SHL Shillong 27.13 280 *e*P **P** **13 07 55.2 +0.1**
SHL AMB AMB 13 08 01.9
comp=Z,609nm,0.4s
SHL *i* x x 13 13 04.0
MJSI Majene 27.31 186 P **P** **13 07 57.4 +0.9**
comp=Z,615nm,1.4s,comp=Z,11μm
MWPI Manokwari, Pap 27.34 152 P **P** **13 07 58.6 +1.8**
comp=Z,1μm,1.1s,comp=Z,50μmcomp=Z,74μm
KULM Kulim 27.38 231 P **P** **13 07 59.2 +2.0**
KULM Kulim 27.38 231 P **P** **13 07 58.7 +1.5**
comp=Z,328nm,1.6s,comp=Z,10μm
KULM Kulim 27.38 231 *e*P **P** **13 07 58.2 +1.1**
comp=Z,1μm,1.7s
KULM LR LR
comp=Z,120μm,21.0s
NLAI Namlea 27.38 168 P **P** **13 07 59.0 +1.9**
comp=Z,2μm,0.8s,comp=Z,12μmcomp=Z,29μm
PKDT Phuket 27.41 239 P **P** **13 07 59.2 +1.7**
comp=Z,851nm,1.7s
KBKI Kotabaru 27.46 192 P **P** **13 07 59.5 +1.6**
comp=Z,310nm,1.2s,comp=Z,6μm
SPSI Sidrap Palu 27.65 184 P **P** **13 08 00.3 +0.7**
comp=Z,274nm,1.1s,comp=Z,8μm
IPM Ipoh 27.68 229 P **P** **13 08 01.1 +1.1**
IPM Ipoh 27.68 229 P **P** **13 08 00.4 +0.5**
comp=Z,556nm,1.6s,comp=Z,10μmcomp=Z,77μm
IPM Ipoh 27.68 229 *e*P **P** **13 08 00.1 +0.1**
comp=Z,573nm,1.1s
KKSI Kolaka, Sulawe 27.80 180 P **P** **13 08 02.0 +1.1**
comp=Z,223nm,1.5s
LSA Lhasa 27.86 289 *e*P **P** **13 08 03.8 +1.9**
LSA MLR MLR
comp=Z,290μm,19.0s
LSA Lhasa 27.86 289 *e*P **P** **13 08 03.8 +1.9**
LSA LR LR
comp=Z,290μm,19.0s
MSAI Masohi 27.88 164 P **P** **13 08 03.5 +1.9**
comp=Z,153nm,1.4s,comp=Z,2μm
MYKOM Kota Tinggi 27.88 221 P **P** **13 08 03.8 +2.1**
MYKOM Kota Tinggi 27.88 221 P **P** **13 08 03.0 +1.4**
comp=Z,444nm,1.1s,comp=Z,11μmcomp=Z,83μm
MYKOM Kota Tinggi 27.88 221 *e*P **P** **13 08 02.5 +0.9**
comp=Z,449nm,1.1s
BBKI Banjar Baru 27.90 195 P **P** **13 08 02.4 +0.6**
comp=Z,951nm,1.5s,comp=Z,13μm
KGM Kluang 28.03 222 P **P** **13 08 04.9 +1.9**
BNSI Bone 28.07 183 P **P** **13 08 04.1 +0.9**
comp=Z,289nm,1.1s,comp=Z,8μmcomp=Z,26μm
PBKI Pangkalan Bun 28.09 202 P **P** **13 08 04.6 +1.1**
comp=Z,588nm,1.0s,comp=Z,6μmcomp=Z,37μm
BTDF Bukit Timah Da 28.27 221 ⇓P **P** **13 08 05.6 +0.5**
baz=28,SNR=18
BTDF ⇓P **P** **13 08 05.6 +0.5**
baz=28,SNR=18
YUK Yuzh-Kuril'sk 28.27 39 *c*i P **P** **13 08 01.7 -3.2**
YUK *i* 13 08 50.7
YUK *i* 13 11 14.1
YUK *i* S **S** **13 12 45.1 -2.4**
YUK *i* SS **SnSn** **13 14 11.9 +3.7**
YUK pmax pmax
comp=E,667nm,1.3s
YUK pmax pmax
comp=Z,853nm,1.3s
YUK pmax pmax
comp=N,195nm,0.7s
YUK pmax pmax
comp=Z,927nm,1.3s
YUK MLR MLR
comp=N,26μm,19.0s
YUK MLR MLR
comp=E,27μm,19.0s
YUK MLR MLR
comp=Z,35μm,19.0s
FAKI Fak Fak 28.47 157 P **P** **13 08 07.6 +0.7**
comp=Z,472nm,1.0s,comp=Z,7μm
FAKI Fak Fak 28.47 157 ⇑P **P** **13 08 07.2 +0.3**
baz=28,SNR=33
BAKI Biak 28.51 149 P **P** **13 08 09.5 +2.3**
comp=Z,551nm,1.8s,comp=Z,12μm
YSS Yuzh-Sakhalins 28.61 31 *α*i P **P** **13 08 06.5 -1.4**
YSS *e**PP **pP** **13 08 21.0 +0.2**
YSS *e*PPP PPP 13 09 18.0
YSS *e*S S 13 12 44.0 -8.8
YSS pmax pmax
comp=N,190nm,1.0s
YSS pmax pmax
comp=E,190nm,1.0s
YSS pmax pmax
comp=Z,400nm,1.0s
YSS pmax pmax
comp=Z,2μm,9.0s
YSS MLR MLR
comp=N,31μm,20.0s
YSS MLR MLR
comp=E,43μm,20.0s
YSS MLR MLR
comp=Z,40μm,20.0s
YSS Yuzh-Sakhalins 28.61 31 *e*P **P** **13 08 07.2 -0.7**
YSS LR LR
comp=Z,14μm,20.0s
KAPI Kappang 28.70 184 P **P** **13 08 09.9 +1.0**
SNR=9.5
KAPI Kappang 28.70 184 *e*P **P** **13 08 07.3 -1.5**
comp=Z,440nm,1.3s
KAPI LR LR
comp=Z,29μm,21.0s
CIT Chita 28.87 350 *e*P **P** **13 08 09.3 -0.9**
CIT *e* 13 09 00.2
CIT *e* 13 09 16.6
CIT pmax pmax
comp=Z,500nm,1.7s
BKSI Bulukumba 28.98 183 P **P** **13 08 11.1 -0.3**
comp=Z,106nm,1.1s,comp=Z,3μm
BBSI Bau Bau 29.11 178 P pP 13 08 28.0 +2.5
SRPI Serui, Papua 29.17 149 P **P** **13 08 14.2 +1.1**
comp=Z,704nm,1.1s,comp=Z,13μm
DGPR DIGLIPUR 29.20 254 *e*P **P** **13 08 14.6 +1.2**
DGPR AMB AMB 13 08 17.7
comp=Z,212nm,1.3s
BNDI Bandanaira 29.26 163 P **P** **13 08 14.0 +0.1**
comp=Z,776nm,1.6s,comp=Z,12μm
TPI Tanjungpandan 29.72 209 P **P** **13 08 19.2 +1.2**
comp=Z,995nm,1.1s,comp=Z,10μmcomp=Z,57μm
PBA Port Blair 30.04 251 *e*P **P** **13 08 21.4 +0.6**
PBA *ex* x 13 10 41.9
PBA *ex* x 13 18 46.0
TSI Tuntungan 30.11 231 P **P** **13 08 22.8 +1.4**
comp=Z,766nm,1.0s,comp=Z,18μm
LHMI Lhok Sumawe 30.15 236 P **P** **13 08 24.7 +2.9**
comp=Z,826nm,0.9s,comp=Z,14μmcomp=Z,89μm
LHMI Lhok Sumawe 30.15 236 ⇑P **P** **13 08 20.5 -1.3**
baz=30,SNR=4.6
ZAK Zakamensk 30.17 336 ⇓*i*P **P** **13 08 20.7 -1.1**
ZAK *e* 13 11 22.7
ZAK pmax pmax
comp=Z,92nm,1.3s
PSI Prapat 30.34 230 P **P** **13 08 24.4 +0.8**
comp=Z,424nm,1.5s,comp=Z,10μmcomp=Z,60μm
PSI Prapat 30.34 230 P **P** **13 08 24.6 +1.0**
PSI PcP **PcP** **13 11 23.3 +0.3**
PSI S **S** **13 13 21.6 +0.9**
PSI ScP **ScP** **13 14 59.4 -1.9**
PSI Prapat 30.34 230 P **P** **13 08 24.6 +1.0**
comp=Z,202nm,0.9s,baz=39,slow=11,SNR=80
PSI PcP **PcP** **13 11 23.3 +0.3**
comp=Z,22nm,0.8s,baz=307,slow=4.9,SNR=4.5
PSI S **S** **13 13 21.6 +0.9**
comp=Z,7.6nm,0.8s,baz=261,slow=19,SNR=5.5
PSI ScP **ScP** **13 14 59.4 -1.9**
comp=Z,32nm,1.0s,baz=244,slow=3.3,SNR=6.1
PSI LR LR 13 20 08.7
comp=Z,81μm,21.5s,baz=77,slow=35
PSI Prapat 30.34 230 ⇓P **P** **13 08 23.3 -0.4**
baz=30,SNR=76
RGRI Rengat 30.49 221 P **P** **13 08 26.9 +2.1**
comp=Z,369nm,1.2s
KCSI Kotacane, Aceh 30.66 233 P **P** **13 08 26.2 -0.2**
comp=Z,217nm,1.2s,comp=Z,7μmcomp=Z,51μm
BKNI Bangkinang 30.76 224 P **P** **13 08 28.4 +1.2**
comp=Z,648nm,1.1s,comp=Z,9μmcomp=Z,64μm
BKNI Bangkinang 30.76 224 ⇓P **P** **13 08 28.1 +1.0**
baz=31,SNR=9.6
JMBI JAMBI 30.78 217 P **P** **13 08 30.2 +2.9**
comp=Z,3μm,0.9s,comp=Z,25μmcomp=Z,78μm
TAPN Taplejung 30.81 284 *e*P **P** **13 08 29.7 +1.7**
comp=Z,5μm,1.3s
TAPN Taplejung 30.81 284 *e*P **P** **13 08 29.7 +1.7**
comp=Z,5μm,1.3s
ODAN Odare 31.11 283 *e*P **P** **13 08 32.0 +1.5**
comp=Z,3μm,1.2s
ODAN Odare 31.11 283 *e*P **P** **13 08 32.0 +1.5**
comp=Z,3μm,1.2s
TLY Talaya 31.11 338 *e*P **P** **13 08 30.1 +0.1**
TLY pmax pmax
comp=Z,174nm,0.8s
TLY MLR MLR
comp=Z,74μm,19.0s
TLY Talaya 31.11 338 P **P** **13 08 30.3 +0.3**
SNR=58
TLY Talaya 31.11 338 *e*P **P** **13 08 30.1 +0.1**
comp=Z,174nm,0.8s
TLY LR LR
comp=Z,74μm,19.0s
PMBI Palembang 31.26 214 P **P** **13 08 33.7 +2.1**
comp=Z,1μm,1.0s,comp=Z,36μm
TPTI 31.27 233 P **P** **13 08 30.6 -1.1**
comp=Z,70nm,0.9s,comp=Z,44μm
MNSI Mandailing Nat 31.35 226 P **P** **13 08 32.6 +0.2**
comp=Z,857nm,0.8s,comp=Z,10μm
IRK Irkutsk 31.38 339 *e*P **P** **13 08 31.4 -0.9**
IRK *e* 13 18 55.1
IRK pmax pmax
comp=Z,4μm,1.6s
CMBY CAMPBELL BAY 31.45 242 *e*P **P** **13 08 33.4 +0.1**
CMBY AMB AMB 13 08 38.8
comp=Z,514nm,1.8s
KMMI Kalianget 31.57 195 P **P** **13 08 35.7 +1.4**
comp=Z,296nm,1.0s,comp=Z,7μm
PPI Padang Panjang 31.77 224 P **P** **13 08 37.2 +1.1**
comp=Z,521nm,1.3s,comp=Z,11μmcomp=Z,77μm
PPI Padang Panjang 31.77 224 ⇑P **P** **13 08 37.2 +1.1**
baz=32,SNR=9.8
GENI Genyem 31.79 143 P **P** **13 08 37.7 +1.4**
comp=Z,520nm,0.8s,comp=Z,11μm
UWJI Ujung Watu 31.81 201 P **P** **13 08 38.8 +2.4**
comp=Z,456nm,1.5s,comp=Z,8μmcomp=Z,30μm
RAMN Ramite 31.81 283 *e*P **P** **13 08 38.1 +1.4**
comp=Z,4μm,1.2s
RAMN Ramite 31.81 283 *e*P **P** **13 08 38.1 +1.4**
comp=Z,4μm,1.2s
GRJI Gresik 31.82 198 P **P** **13 08 38.2 +1.7**
comp=Z,512nm,0.9s,comp=Z,4μm
JAY Jayapura 32.03 142 ⇓P **P** **13 08 39.1 +0.7**
baz=32,SNR=22
MOY Mondy 32.06 335 *e*P **P** **13 08 37.9 -0.5**
MOY pmax pmax
comp=Z,335nm,2.5s
LBFI Labuhan Bajo, 32.12 183 P **P** **13 08 39.4 +0.3**
comp=Z,1μm,0.9s,comp=Z,12μm
JIRN Jiri 32.16 285 *e*P **P** **13 08 41.3 +1.4**
comp=Z,3μm,1.0s
JIRN Jiri 32.16 285 *e*P **P** **13 08 41.3 +1.4**
comp=Z,3μm,1.0s
ABJI Asem Bagus 32.23 194 P **P** **13 08 41.4 +1.3**
comp=Z,242nm,1.1s,comp=Z,5μm
MMRI Maumere 32.23 179 P **P** **13 08 40.6 +0.5**
comp=Z,826nm,1.0s,comp=Z,8μmcomp=Z,30μm
SRBI Singaraja 32.31 192 P **P** **13 08 41.8 +1.0**
comp=Z,211nm,0.9s,comp=Z,4μmcomp=Z,24μm
BLJI Banyuglugur 32.33 195 P **P** **13 08 41.8 +0.9**
comp=Z,838nm,0.9s,comp=Z,8μm
GUN Gumba 32.43 285 *e*P **P** **13 08 43.6 +1.4**
GUN Gumba 32.43 285 *e*P **P** **13 08 43.6 +1.4**
SNSI Sinabang, Aceh 32.47 233 P **P** **13 08 42.1 -0.2**
comp=Z,711nm,0.8s,comp=Z,14μm
NGJI Ngawi 32.55 199 P **P** **13 08 45.2 +2.4**
comp=Z,1μm,0.9s,comp=Z,14μm
SMRI Semarang 32.57 201 P **P** **13 08 44.9 +1.8**
comp=Z,931nm,0.9s,comp=Z,14μmcomp=Z,57μm
SMRI Semarang 32.57 201 *e*P **P** **13 08 44.6 +1.5**
comp=Z,712nm,0.9s
SMRI Semarang 32.57 201 ⇓P **P** **13 08 44.2 +1.1**
baz=33,SNR=18
LHSI Lahat 32.67 215 P **P** **13 08 45.3 +1.3**
comp=Z,888nm,0.8s,comp=Z,14μmcomp=Z,38μm
MTNI Mataram 32.68 190 P **P** **13 08 43.1 -0.9**
comp=Z,389nm,1.1s,comp=Z,5μm
BOK Bokaro 32.72 277 *e*P **P** **13 08 45.3 +0.9**
BOK AMB AMB 13 08 47.0
comp=Z,724nm,0.6s
KLSI 32.79 212 P **P** **13 08 46.5 +1.5**
comp=Z,2μm,1.0s,comp=Z,20μm
PKI Pulchoki 32.85 284 *e*P **P** **13 08 46.7 +0.8**
comp=Z,4μm,1.3s
PKI Pulchoki 32.85 284 *e*P **P** **13 08 46.7 +0.8**
PKI pmax pmax
comp=Z,4μm,1.3s
PKI Pulchoki 32.85 284 *e*P **P** **13 08 46.7 +0.8**
comp=Z,4μm,1.3s
TGJI Tegal 32.86 203 P **P** **13 08 48.1 +2.5**
comp=Z,1μm,1.0s,comp=Z,14μm
PKIN Phulchoki 32.86 284 *e*P **P** **13 08 46.4 +0.5**
comp=Z,2μm,1.3s
GMJI Gumukmas 32.88 195 P **P** **13 08 46.2 +0.5**
comp=Z,251nm,0.9s,comp=Z,5μm
DNP Denpasar 32.89 192 P **P** **13 08 47.7 +1.9**
comp=Z,2μm,1.4s,comp=Z,29μm
MDSI Maura Dua 32.89 214 P **P** **13 08 46.5 +0.6**
comp=Z,1μm,1.0s,comp=Z,11μm
SAUI Saumlaki 32.94 162 P **P** **13 08 45.9 -0.4**
comp=Z,748nm,0.8s,comp=Z,9μmcomp=Z,27μm
KKN Kakani 32.96 285 *e*P **P** **13 08 47.8 +1.1**
comp=Z,2μm,1.0s
KKN Kakani 32.96 285 *e*P **P** **13 08 47.8 +1.1**
KKN pmax pmax
comp=Z,2μm,1.0s
KKN Kakani 32.96 285 *e*P **P** **13 08 47.8 +1.1**
comp=Z,2μm,1.0s
KRKI Karangkates 33.02 197 P **P** **13 08 47.7 +0.7**
comp=Z,875nm,1.3s,comp=Z,14μmcomp=Z,50μm
IGBI Denpasar 33.04 192 P **P** **13 08 49.0 +1.9**
comp=Z,620nm,1.4s,comp=Z,8μmcomp=Z,16μm
BJII Banjamegara 33.08 202 P **P** **13 08 49.4 +1.8**
comp=Z,870nm,0.8s,comp=Z,14μmcomp=Z,78μm
CLNS Chul'man 33.09 3 *e*P **P** **13 08 45.5 -1.8**
CLNS *e**PP **pP** **13 08 55.9 -4.4**
CLNS *e* 13 09 54.2
CLNS *e* 13 11 28.8
CLNS *e*S **S** **13 13 59.8 -2.9**
CLNS *e*SS **SnSn** **13 16 01.6 -3.5**
CLNS pmax pmax
comp=Z,35nm,1.2s
CLNS pmax pmax
comp=E,16nm,1.5s
CLNS pmax pmax
comp=N,31nm,1.4s
CLNS pmax pmax
comp=N,86nm,1.3s
CLNS pmax pmax

comp=Z,30nm,1.0s
CLNS pmax pmax
comp=E,46nm,1.2s
CLNS smax smax
comp=N,1µm,13.2s
CLNS smax smax
comp=E,2µm,13.3s
CLNS MLR MLR
comp=Z,27µm,17.0s
CLNS MLR MLR
comp=N,33µm,18.0s
CLNS MLR MLR
comp=E,42µm,19.0s
DMN Daman 33.12 284 *e*P **P** **13 08 49.2 +1.0**
comp=E,2µm,1.0s
DMN Daman 33.12 284 *e*P **P** **13 08 49.2 +1.0**
comp=E,2µm,1.0s
BLSI Bandar Lampung 33.13 211 P **P** **13 08 49.6 +1.6**
comp=E,1µm,0.8s,comp=E,13µmcomp=E,33µm
TNG Tangerang 33.21 208 P P 13 08 52.2 +3.5
comp=E,3µm,1.3s,comp=E,34µmcomp=E,52µm
WSI Waingapu 33.28 183 P **P** **13 08 47.5 -1.8**
comp=E,552nm,0.7s,comp=E,7µm
UGM Wanagama 33.35 200 P **P** **13 08 51.8 +1.9**
comp=E,1µm,1.1s,comp=E,17µm
UGM Wanagama 33.35 200 ⇑P **P** **13 08 50.7 +0.8**
baz=33,SNR=23
KPJI Karang Pucung 33.36 204 P **P** **13 08 51.4 +1.5**
comp=E,867nm,1.1s,comp=E,13µm
LEM Lembang 33.40 206 P **P** **13 08 52.3 +1.8**
comp=E,1µm,1.0s,comp=E,16µm
LEM Lembang 33.40 206 P **P** **13 08 52.2 +1.8**
baz=33,SNR=63
BWNR Bhubaneshwar 33.40 271 *ex* P 13 08 40.0 -10
LWLI Liwa 33.41 213 P **P** **13 08 51.6 +1.1**
comp=E,3µm,0.9s,comp=E,18µm
PCJI Pacitan 33.41 199 P **P** **13 08 51.8 +1.4**
comp=E,535nm,1.1s,comp=E,7µm
MNAI Manna 33.42 216 P **P** **13 08 51.9 +1.3**
comp=E,2µm,0.8s,comp=E,17µm
MNAI Manna 33.42 216 *e*P **P** **13 08 51.1 +0.5**
MNAI Manna 33.42 216 ⇓P **P** **13 08 49.7 -0.8**
baz=33,SNR=26
SOEI Soe 33.44 175 P **P** **13 08 49.4 -1.4**
comp=E,298nm,0.9s,comp=E,5µm
SOEI Soe 33.44 175 ⇑P **P** **13 08 48.6 -2.1**
baz=33,SNR=23
GKN Gorkha 33.52 285 *e*P **P** **13 08 52.2 +0.6**
GKN Gorkha 33.52 285 *e*P **P** **13 08 52.2 +0.6**
KASI Kota Agung 33.63 212 P **P** **13 08 52.5 +0.2**
comp=E,930nm,1.0s,comp=E,8µm
CLJI Cilicap 33.68 203 P **P** **13 08 53.5 +0.7**
comp=E,545nm,1.0s,comp=E,8µm
CMJI Cimerak 33.95 204 P **P** **13 08 56.8 +1.7**
comp=E,294nm,0.9s,comp=E,5µm
CISI Cisompet, Garu 33.98 205 P **P** **13 08 55.7 +0.2**
comp=E,1µm,1.1s,comp=E,10µmcomp=E,38µm
CISI Cisompet, Garu 33.98 205 *e*P **P** **13 08 54.9 -0.6**
comp=E,1µm,1.1s
CISI Cisompet, Garu 33.98 205 ⇓P **P** **13 08 54.9 -0.6**
baz=34,SNR=33
SKJI Sukabumi 34.00 208 P **P** **13 08 57.2 +1.7**
comp=E,643nm,1.1s,comp=E,11µm
WMQ Urumqi 34.27 314 P **P** **13 08 59.0 +1.3**
WMQ pP **pP** **13 09 11.0 +0.2**
WMQ sP **sP** **13 09 17.0 +0.3**
WMQ PP **PP** **13 10 15.0 -1.0**
WMQ PcP **PcP** **13 11 34.0 +0.7**
WMQ S S 13 14 11.0 -10
WMQ sS **sS** **13 14 43.0 -0.3**
WMQ ScP **ScP** **13 15 14.0 -0.2**
WMQ SS **SnSn** **13 16 35.0 +1.1**
WMQ ScS **ScS** **13 19 15.0 -1.7**
WMQ pmax pmax
comp=E,610nm,1.2s
WMQ pmax pmax
comp=E,5µm,2.0s
WMQ LR LR
comp=E,62µm,14.0s
WMQ LR LR
comp=E,76µm,15.0s
WMQ LR LR
comp=E,54µm,15.0s
DANN Dangsing 34.29 286 *e*P **P** **13 08 59.5 +1.1**
DANN Dangsing 34.29 286 *e*P **P** **13 08 59.5 +1.1**
KOLN Koldanda 34.45 285 *e*P **P** **13 09 00.5 +0.9**
KOLN Koldanda 34.45 285 *e*P **P** **13 09 00.5 +0.9**
HVS Khovu-Aksy 34.81 329*c* *i*P **P** **13 09 02.3 0.0**
HVS pmax pmax
comp=Z,2µm,1.3s
HVS MLR MLR
comp=Z,205µm,15.0s
PYUN Piuthan 34.98 285 *e*P **P** **13 09 05.4 +1.2**
comp=Z,2µm,1.0s
PYUN Piuthan 34.98 285 *e*P **P** **13 09 05.4 +1.2**
comp=Z,2µm,1.0s
MANU Manus Island 35.81 132 ⇑P **P** **13 09 12.4 +1.2**
baz=36,SNR=10
ALBI Allahabad 36.23 281 *ex* P 13 09 09.5 -5.2
VIS Vishakhapatnam 36.31 268 *i*P **P** **13 09 14.1 -1.4**
VIS *i*x x 13 14 56.6
MMPI Merauke 36.90 148 P **P** **13 09 22.3 +1.9**
comp=Z,1µm,0.8s,comp=Z,16µm
LGTI Lohaghat 37.34 288 *ex* pP 13 09 33.9 -3.4
PTH Pithoragarh 37.37 288 *ex* P 13 09 17.9 -6.7
PTH *ex* x 13 11 27.3
XMI Christmas Isla 37.46 206 ⇓P **P** **13 09 24.0 -1.2**
baz=38,SNR=12
XMIS Christmas Isla 37.51 207 *e*P **P** **13 09 24.6 -1.0**
XMIS Christmas Isla 37.51 207 ⇓P **P** **13 09 24.1 -1.5**
baz=38,SNR=16
KDU Kakadu 37.76 163 ⇓P **P** **13 09 25.5 -2.1**
baz=38,SNR=93
SKR Severo-Kuril's 37.79 36 *e*P P 13 09 21.0 -6.6
SKR *e* 13 11 40.0
SKR *e* 13 17 56.0
SKR pmax pmax
comp=Z,260nm,0.9s
SKR pmax pmax
comp=N,110nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,6µm,16.0s
SKR pmax pmax
comp=N,4µm,14.0s
SKR pmax pmax
comp=E,3µm,14.0s
SKR MLR MLR
comp=N,19µm,20.0s
SKR MLR MLR
comp=E,28µm,20.0s
SKR MLR MLR
comp=Z,69µm,20.0s
YAK Yakutsk 38.60 6*c* *i*P **P** **13 09 32.9 -1.4**
YAK *e**PP **pP** **13 09 46.8 -0.7**
YAK *e* 13 11 46.8
YAK *e*S **S** **13 15 24.7 -2.1**
YAK *e* 13 15 36.4
YAK *e*SS SnSn 13 18 39.6 +22
YAK pmax pmax
comp=Z,296nm,0.9s
YAK pmax pmax
comp=E,63nm,1.1s
YAK pmax pmax
comp=N,219nm,1.3s
YAK pmax pmax
comp=N,589nm,2.5s
YAK pmax pmax
comp=Z,457nm,2.3s
YAK pmax pmax
comp=E,175nm,1.5s
YAK smax smax
comp=N,529nm,3.3s
YAK smax smax
comp=E,83nm,1.6s
YAK MLR MLR
comp=Z,35µm,16.0s
YAK MLR MLR
comp=N,28µm,20.0s
YAK MLR MLR
comp=E,17µm,16.0s
YAK Yakutsk 38.60 6 *e*P **P** **13 09 33.1 -1.2**
YAK LR LR
comp=Z,35µm,19.0s
MK31 Makanchi Array 38.95 316 *e*P **P** **13 09 38.1 +0.6**
MK31 *e* 13 11 47.0
MK31 Makanchi Array 38.95 316 *e*P **P** **13 09 38.0 +0.6**
MK31 *e*PcP **PcP** **13 11 47.0 -0.2**
MKAR Makanchi Array 38.95 316 LR LR 13 27 16.6
comp=Z,94µm,18.8s,baz=103,slow=38
MKAR P4KPbc 13 47 51.3
comp=Z,0.8nm,0.6s,baz=105,slow=4.9,SNR=6.7
PATS Pohnpei 38.96 110 ⇓P **P** **13 09 38.9 +1.0**
baz=39,SNR=37
DDI Dehra Dun 39.23 289 *e*P **P** **13 09 41.6 +1.5**
DDI AMB AMB 13 09 43.5
comp=Z,3µm,1.6s
NGP Nagpur 39.40 275 *e*P **P** **13 09 40.7 -0.8**
NGP *ex* x 13 09 44.9
comp=Z,1µm,1.4s
NGP *ex* x 13 15 42.0
KNRA Kununurra 39.83 169 ⇓P **P** **13 09 43.5 -1.5**
baz=40,SNR=72
PEA0B Petropavlovsk- 39.93 34 *e*P **P** **13 09 45.9 +0.4**
PETK Petropavlovsk- 39.93 34 P **P** **13 09 45.2 -0.3**
PETK pmax pmax
comp=Z,18nm,0.7s
PETK MLR MLR
comp=Z,33µm,21.3s
PETK Petropavlovsk- 39.93 34 P **P** **13 09 45.2 -0.3**
PETK Petropavlovsk- 39.93 34 P **P** **13 09 45.2 -0.3**
comp=Z,18nm,0.7s,baz=232,slow=9.0,SNR=32
PETK LR LR 13 26 07.5
comp=Z,33µm,21.3s,baz=229,slow=36
SMLA Simla 39.98 291 *e*P **P** **13 09 47.8 +1.6**
SMLA AMB AMB 13 09 49.5
comp=Z,2µm,0.5s
NDI New Delhi 40.03 287 *e*P **P** **13 09 46.0 -0.7**
NDI *e*P **P** **13 09 46.9 +0.2**
NDI AMB AMB 13 09 49.4
comp=Z,1µm,2.1s
NDI *e*S **S** **13 15 47.5 -1.6**
SDNR Sundarnagar 40.14 291 *e*P **P** **13 09 49.0 +1.3**
SDNR *ex* x 13 15 05.0
PET Petropavlovsk 40.37 34 *e*P **P** **13 09 49.1 0.0**
PET *e* 13 11 50.1
PET pmax pmax
comp=Z,397nm,1.3s
PET MLR MLR
comp=Z,51µm,22.0s
PET Petropavlovsk 40.37 34 *e*P **P** **13 09 49.0 0.0**
comp=Z,397nm,1.3s
PET *e*PcP **PcP** **13 11 50.1 -1.4**
PET LR LR
comp=Z,51µm,22.0s
BHPL Bhopal 40.48 278 *e*P **P** **13 09 50.9 +0.4**
BHPL AMB AMB 13 09 51.9
comp=Z,390nm,1.9s
BHK Bhakra 40.62 291 *ex* **P** **13 09 52.7 +1.1**
MDRS Chennai 40.62 262 *e*P **P** **13 09 53.4 +1.8**
MDRS AMB AMB 13 09 54.1
comp=Z,364nm,1.9s
DHRM DHARAMSHALA 40.71 292 *e*P **P** **13 09 53.1 +0.6**
DHRM AMB AMB 13 09 55.2
comp=Z,1µm,1.1s
HYB Hyderabad 40.77 269⇑ *i*P **P** **13 09 53.0 0.0**
comp=Z,86nm,0.5s
HYB *e*pP **pP** **13 10 05.5 -0.7**
HYB *e*sP **sP** **13 10 16.0 +3.9**
HYB *e*PP **PnPn** **13 11 32.0 -0.1**
HYB *e*PcP **PcP** **13 11 54.0 +0.4**
HYB *e*S **S** **13 15 58.0 -2.4**
HYB LR LR 13 24 00.0
comp=Z,28nm,20.0s
HYB Hyderabad 40.77 269 *e*P **P** **13 09 54.2 +1.2**
HYB AMB AMB 13 10 13.3
comp=Z,399nm,0.3s
ZAA0 Zalesovo Array 40.83 327 *e*P **P** **13 09 52.2 -0.8**
ZALV Zalesovo Beam 40.83 327 P **P** **13 09 52.4 -0.6**
ZALV 13 11 53.8
ZALV S **S** **13 15 56.7 -3.6**
ZALV pmax pmax
comp=Z,454nm,0.8s
ZALV pmax pmax
comp=Z,56nm,0.8s
ZALV pmax pmax
comp=N,37nm,1.0s
ZALV smax smax
comp=N,11nm,1.0s
ZALV MLR MLR
comp=Z,70µm,19.5s
ZALV Zalesovo Beam 40.83 327 P **P** **13 09 52.4 -0.6**
ZALV PcP **PcP** **13 11 53.8 +0.8**
ZALV ScP **ScP** **13 15 37.0 -1.6**
ZALV S **S** **13 15 56.7 -3.6**
ZALV P'P' 13 41 44.0
ZALV Zalesovo Beam 40.83 327 P **P** **13 09 52.4 -0.6**
comp=Z,454nm,0.8s,baz=113,slow=7.9,SNR=1030
ZALV PcP **PcP** **13 11 53.8 +0.8**
comp=Z,56nm,0.8s,baz=119,slow=3.2,SNR=3.0
ZALV ScP **ScP** **13 15 37.0 -1.6**
comp=Z,37nm,1.0s,baz=131,slow=4.1,SNR=5.5
ZALV S **S** **13 15 56.7 -3.6**
comp=Z,11nm,1.0s,baz=177,slow=8.7,SNR=2.0
ZALV LR LR 13 28 09.4
comp=Z,70µm,19.5s,baz=132,slow=38
ZALV PKPPKP P'P'df 13 41 44.0 -29
comp=Z,1.4nm,1.0s,baz=318,slow=1.9,SNR=4.5
PMG Port Moresby 41.33 140 P **P** **13 09 58.4 +1.0**
comp=Z,513nm,1.5s,comp=Z,9µmcomp=Z,21µm
PMG Port Moresby 41.33 140 *e*P **P** **13 09 58.0 +0.5**
comp=Z,427nm,1.5s
PMG *e*PcP **PcP** **13 11 54.2 -1.1**
PMG S **S** **13 16 09.8 +1.3**
PMG Port Moresby 41.33 140 P **P** **13 09 58.5 +1.0**
comp=Z,232nm,0.7s,baz=337,slow=10,SNR=111
PMG S **S** **13 16 09.8 +1.3**
comp=Z,11nm,1.0s,baz=202,slow=19,SNR=5.5
PMG LR LR 13 26 49.7
comp=Z,20µm,19.4s,baz=136,slow=36
PMG Port Moresby 41.33 140 ⇓P **P** **13 09 58.2 +0.8**
baz=41,SNR=70
PMG ⇓P **P** **13 09 58.2 +0.8**
baz=41,SNR=70
PMG ⇓P **P** **13 09 58.2 +0.8**
baz=41,SNR=70
AAA Alma-Ata 41.49 309 *e*P **P** **13 10 00.3 +1.7**
AAA *e*S **S** **13 16 09.0 -1.6**
AAA pmax pmax
comp=Z,12µm,9.2s
AAA smax smax
comp=E,23µm,15.9s
AAA MLR MLR
comp=Z,48µm,17.0s
KSH Kashi 41.51 303⇑ *i*P P 13 10 03.0 +4.1
KSH pP pP 13 10 15.1 +2.9
KSH sP sP 13 10 21.0 +2.9
KSH PP **PnPn** **13 11 44.1 +3.6**
KSH S **S** **13 16 15.4 +4.2**
KSH sS sS 13 16 39.3 +5.8
KSH SS **SS** **13 19 20.1 +3.0**
KSH pmax pmax
comp=Z,1µm,1.1s
KSH pmax pmax
comp=Z,7µm,5.8s
KSH LR LR
comp=Z,88µm,15.7s
KSH LR LR
comp=Z,120µm,16.7s
KSH LR LR
comp=Z,164µm,19.2s
ULHL Ulahol 41.77 307 *i*P **P** **13 10 03.8 +2.7**
ULHL Ulahol 41.77 307 P **P** **13 10 03.9 +2.7**
SNR=20
FITZ Fitzroy Crossi 41.82 174 *e*P **P** **13 09 59.9 -1.4**
comp=Z,204nm,1.1s
FITZ *e*PcP **PcP** **13 11 56.8 0.0**
FITZ Fitzroy Crossi 41.82 174 ⇑P **P** **13 09 59.7 -1.6**
baz=42,SNR=44
WAKE Wake Island 41.92 87 *e*P **P** **13 10 03.3 +1.0**
comp=Z,4µm,1.3s
WAKE LR LR
comp=Z,22µm,22.0s
H11N1 WAKE ISLAND Hy 42.04 87 T T 13 55 17.2
baz=286,slow=75,SNR=371
H11N2 WAKE ISLAND Hy 42.04 86 T T 13 55 17.2
baz=286,slow=75,SNR=391
H11N3 WAKE ISLAND Hy 42.05 86 T T 13 55 18.3
baz=286,slow=75,SNR=351
NVS Novosibirsk 42.09 328⇑ *i*P **P** **13 10 01.4 -1.8**
NVS *e* 13 11 43.0
NVS *e*SS SS 13 19 21.2 -6.6
NVS pmax pmax
comp=N,282nm,1.4s
NVS pmax pmax
comp=E,384nm,1.4s
NVS pmax pmax
comp=Z,594nm,1.4s
NVS pmax pmax
comp=Z,388nm,1.7s
NVS pmax pmax
comp=N,234nm,1.7s
NVS pmax pmax
comp=E,258nm,1.7s
H11S3 WAKE ISLAND Hy 42.16 88 T T 13 55 22.9
baz=287,slow=73,SNR=1369
H11S1 WAKE ISLAND Hy 42.16 88 T T 13 55 32.2
baz=287,slow=73,SNR=1078
H11S2 WAKE ISLAND Hy 42.17 88 T T 13 55 24.3
baz=287,slow=73,SNR=1499
TKM2 Tokmak 2 42.38 308 *e*P **P** **13 10 07.7 +1.6**
TKM2 pmax pmax
comp=Z,121nm,1.3s
TKM2 MLR MLR
comp=Z,102µm,19.0s
TKM2 Tokmak 2 42.38 308 P **P** **13 10 07.5 +1.4**
SNR=1847
TKM2 Tokmak 2 42.38 308 *e*P **P** **13 10 07.7 +1.6**
comp=Z,121nm,1.3s
TKM2 LR LR
comp=Z,102µm,19.0s
KZA Kyzart 42.47 307 *i*P **P** **13 10 09.1 +2.1**
KZA Kyzart 42.47 307 P **P** **13 10 09.1 +2.1**
SNR=1139
PALK Pallekele 42.59 254 P **P** **13 10 10.9 +3.0**
comp=Z,564nm,1.1s,SNR=13
PALK Pallekele 42.59 254 P **P** **13 10 10.7 +2.8**
SNR=9.0
PALK Pallekele 42.59 254 *e*P **P** **13 10 07.5 -0.4**
comp=Z,199nm,1.3s
PALK *e*PcP **PcP** **13 12 00.6 +1.0**
KURK Kurchatov 42.70 320 *e*P **P** **13 10 08.3 +0.1**
KURK *e**PP **pP** **13 10 20.9 -0.7**
KURK 13 11 59.3
KURK pmax pmax
comp=Z,46nm,0.8s
KURK MLR MLR
comp=Z,21µm,21.0s
KURK Kurchatov 42.70 320 P **P** **13 10 08.5 +0.3**
SNR=374
KURK Kurchatov 42.70 320 *e*P **P** **13 10 08.3 +0.1**
comp=Z,92nm,0.8s
KURK *e*pP **pP** **13 10 20.9 -0.7**
KURK *e*PcP **PcP** **13 11 57.5 -1.8**
KURK PcP **PcP** **13 11 59.3 +0.1**
KURK ScP **ScP** **13 15 43.7 -2.4**
KURK P'P' 13 42 01.9
KURK LR LR
comp=Z,42µm,21.0s
KURBB Kurchatov Arra 42.71 320 P **P** **13 10 08.6 +0.2**
comp=Z,260nm,0.9s,baz=116,slow=7.5,SNR=450
KURBB PcP **PcP** **13 11 59.3 0.0**
comp=Z,29nm,0.9s,baz=114,slow=3.3,SNR=4.1
KURBB ScP **ScP** **13 15 43.7 -2.4**
comp=Z,24nm,1.1s,baz=103,slow=3.7,SNR=4.2
KURBB PKPPKP P'P'df 13 42 01.9 -9.1
comp=Z,1.1nm,1.0s,baz=256,slow=3.0,SNR=4.7
KBK Karagaybulak 42.79 308 *i*P **P** **13 10 11.2 +1.8**
KBK Karagaybulak 42.79 308 P **P** **13 10 11.2 +1.8**
SNR=667
COEN Coen 42.99 149 *e*P **P** **13 10 11.6 +0.6**
comp=Z,1µm,1.1s
COEN *e*pP **pP** **13 10 23.8 -0.5**
COEN Coen 42.99 149⇑ P **P** **13 10 11.5 +0.5**
baz=43,SNR=369
CHMS Chumysh 43.00 308 *i*P **P** **13 10 12.2 +1.3**
CHMS Chumysh 43.00 308 P **P** **13 10 12.2 +1.3**
SNR=842
UCH Uchtor 43.03 307 *i*P **P** **13 10 13.8 +2.1**
UCH Uchtor 43.03 307 P **P** **13 10 13.8 +2.1**
SNR=2128
FRU Bishkek 43.07 308⇑ *i*P **P** **13 10 11.2 -0.2**
FRU *i*S **S** **13 16 33.0 -0.9**
FRU pmax pmax
comp=Z,2µm,1.6s
FRU smax smax
comp=N,816nm,3.0s
FRU MLR MLR
comp=Z,70µm,19.0s
AAK Ala-Archa 43.12 308 *e*P **P** **13 10 13.3 +1.3**
AAK *e* 13 12 00.1
AAK 13 12 00.8
AAK S **S** **13 16 37.6 +2.7**
AAK Ala-Archa 43.12 308 P **P** **13 10 13.7 +1.7**
SNR=279
AAK Ala-Archa 43.12 308 P **P** **13 10 13.9 +1.9**
SNR=9.4
AAK Ala-Archa 43.12 308 *e*P **P** **13 10 13.3 +1.3**
AAK *e*PcP **PcP** **13 12 00.1 -1.0**
AAK PcP **PcP** **13 12 00.8 -0.3**
AAK S **S** **13 16 37.6 +2.7**
AAK *e* 13 48 08.9
AAK Ala-Archa 43.12 308 P **P** **13 10 12.4 +0.4**
comp=Z,492nm,1.1s,baz=97,slow=7.3,SNR=305
AAK PcP **PcP** **13 12 00.8 -0.3**
comp=Z,39nm,0.5s,baz=119,slow=4.2,SNR=13
AAK S **S** **13 16 37.6 +2.7**
comp=Z,15nm,1.2s,baz=246,slow=20,SNR=3.2
AAK LR LR 13 30 11.9
comp=Z,59µm,19.6s,baz=75,slow=39
AAK P4KPbc 13 48 08.9
comp=Z,0.4nm,0.3s,baz=135,slow=7.1,SNR=3.8
USP Ospenovka 43.23 309 *i*P **P** **13 10 13.7 +1.0**
USP Ospenovka 43.23 309 P **P** **13 10 13.8 +1.0**
SNR=318
COCO West Island 43.25 217 *i*P **P** **13 10 14.0 +1.0**
COCO West Island 43.25 217 P **P** **13 10 14.1 +1.1**
SNR=56
COCO West Island 43.25 217 *e*P **P** **13 10 13.5 +0.4**
comp=Z,1µm,1.0s
COCO LR LR
comp=Z,12µm,19.0s
AML Almayashu 43.62 307 *i*P **P** **13 10 18.2 +1.9**
AML Almayashu 43.62 307 P **P** **13 10 18.2 +1.9**
SNR=1866
EKS2 Erkin-Say 43.65 308 *e*P **P** **13 10 17.5 +1.3**
EKS2 *e* 13 12 03.6
EKS2 pmax pmax
comp=Z,594nm,1.1s
EKS2 MLR MLR
comp=Z,59µm,19.0s
EKS2 Erkin-Say 43.65 308 P **P** **13 10 17.7 +1.5**
SNR=364
EKS2 Erkin-Say 43.65 308 *e*P **P** **13 10 17.5 +1.3**
comp=Z,594nm,1.1s
EKS2 *e*PcP **PcP** **13 12 03.6 +0.7**
EKS2 LR LR
comp=Z,59µm,19.0s
SEY Seymchan 44.18 20 P **P** **13 10 20.3 +0.2**
SEY 13 12 04.4
SEY pmax pmax
comp=Z,33nm,0.8s
SEY pmax pmax
comp=Z,47nm,0.9s
SEY MLR MLR
comp=Z,43µm,18.6s
SEY Seymchan 44.18 20 P **P** **13 10 20.2 +0.2**
SEY PcP **PcP** **13 12 04.3 +0.3**
SEY Seymchan 44.18 20 P **P** **13 10 20.2 +0.2**
comp=Z,33nm,0.8s,baz=234,slow=8.2,SNR=34
SEY PcP **PcP** **13 12 04.3 +0.3**
comp=Z,47nm,0.9s,baz=212,slow=3.8,SNR=3.6
SEY LR LR 13 31 32.4
comp=Z,43µm,18.6s,baz=161,slow=40
POO Poona 44.77 273 *e*P **P** **13 10 26.1 +0.7**
POO AMB AMB 13 10 28.2
comp=Z,594nm,0.2s
POO *i*PP **PP** **13 12 11.0 +0.3**
POO *i*S **S** **13 16 59.0 -0.3**
KAD Karad 44.80 271 *i*P **P** **13 10 25.0 -0.7**
WRAB Tennant Creek 45.18 163 *e*P **P** **13 10 27.5 -0.9**
WRAB *e**PP **pP** **13 10 41.3 -0.6**
WRAB pmax pmax
comp=Z,225nm,0.8s
WRAB MLR MLR
comp=Z,11µm,22.0s

WRAB Tennant Creek 45.18 163 *e*P **P** **13 10 27.5 -0.9**
comp=Z,225nm,0.8s
WRAB *e*pP **pP** **13 10 41.3 -0.6**
WRAB LR LR
comp=Z,11μm,22.0s
WRA Warramunga Arr 45.18 163 P **P** **13 10 28.2 -0.3**
WRA S S 13 16 57.8 -7.0
WRA P'P' 13 41 41.3
WRA *e* 13 48 17.1
WRA Warramunga Arr 45.18 163 P **P** **13 10 28.2 -0.3**
comp=Z,214nm,0.7s,baz=344,slow=8.6,SNR=506
WRA S S 13 16 57.8 -7.0
comp=Z,6.0nm,0.9s,baz=343,slow=15,SNR=8.5
WRA LR LR 13 29 08.7
comp=Z,8μm,21.5s,baz=350,slow=36
WRA PKPPKP P'P'df 13 41 41.3 -18
comp=Z,4.4nm,1.2s,baz=128,slow=1.6,SNR=5.5
WRA P4KPbc 13 48 17.1
comp=Z,1.3nm,1.1s,baz=346,slow=4.5,SNR=3.6
TRD Trivandrum 45.37 258 *e*P **P** **13 10 30.5 +0.4**
GOA Goa 45.67 269 *e*P **P** **13 10 32.6 +0.1**
GOA AMB AMB 13 10 34.9
comp=Z,410nm,2.2s
KWAJ Kwajalein Atol 46.30 101 *e*P **P** **13 10 38.6 +1.2**
KWAJ *e**PP **pP** **13 10 51.8 +0.9**
KWAJ pmax pmax
comp=Z,658nm,1.2s
KWAJ Kwajalein Atol 46.30 101 *e*P **P** **13 10 38.6 +1.2**
comp=Z,658nm,1.2s
KWAJ *e*pP **pP** **13 10 51.8 +0.9**
GIRL Giralia 46.73 189 ⇑P **P** **13 10 39.6 -0.9**
baz=47,SNR=29
KBL Kabul 46.76 296 *e*P **P** **13 10 42.2 +1.1**
KBL *e**PP **pP** **13 10 53.6 -1.0**
KBL *e* 13 12 13.6
KBL pmax pmax
comp=Z,3μm,1.2s
KBL Kabul 46.76 296 *e*P **P** **13 10 42.2 +1.1**
comp=Z,3μm,1.2s
KBL *e*pP **pP** **13 10 53.5 -1.0**
KBL *e*PcP **PcP** **13 12 13.6 -0.3**
KBL Kabul 46.76 296 ⇓P **P** **13 10 41.7 +0.5**
baz=47,SNR=312
QIS Mount Isa 47.41 157 ⇓P **P** **13 10 46.0 +0.1**
baz=47,SNR=184
BHJ Bhuj 47.50 280 *e*P **P** **13 10 48.3 +1.5**
BHJ AMB AMB 13 10 49.3
comp=Z,650nm,1.8s
TIXI Tiksi 48.06 3*c i*P **P** **13 10 49.2 -1.1**
TIXI pmax pmax
comp=Z,544nm,1.2s
TIXI MLR MLR
comp=Z,29μm,17.0s
TIXI Tiksi 48.06 3 *e*P **P** **13 10 48.9 -1.5**
comp=Z,425nm,1.1s
TIXI *e*pP **pP** **13 11 03.7 -0.2**
TIXI LR LR
comp=Z,31μm,21.0s
BVAR Borovoye Array 48.27 321 P **P** **13 10 52.6 +0.3**
BVAR 13 12 18.7
BVAR S **S** **13 17 46.7 -1.8**
BVAR pmax pmax
comp=Z,130nm,0.7s
BVAR pmax pmax
comp=Z,52nm,0.6s
BVAR pmax pmax
comp=N,30nm,1.0s
BVAR smax smax
comp=N,6.0nm,1.1s
BVAR MLR MLR
comp=Z,13μm,21.7s
BVAR Borovoye Array 48.27 321 P **P** **13 10 52.6 +0.3**
BVAR PcP **PcP** **13 12 18.7 +0.1**
BVAR ScP **ScP** **13 16 08.1 -1.1**
BVAR S **S** **13 17 46.7 -1.8**
BVAR P'P' 13 41 39.2
BVAR *e* 13 48 30.4
BVAR Borovoye Array 48.27 321 P **P** **13 10 52.6 +0.3**
comp=Z,130nm,0.7s,baz=112,slow=8.6,SNR=254
BVAR PcP **PcP** **13 12 18.7 +0.1**
comp=Z,52nm,0.6s,baz=129,slow=3.2,SNR=7.5
BVAR ScP **ScP** **13 16 08.1 -1.1**
comp=Z,30nm,1.0s,baz=155,slow=4.9,SNR=4.7
BVAR S **S** **13 17 46.7 -1.8**
comp=Z,6.0nm,1.1s,baz=137,slow=22,SNR=1.7
BVAR LR LR 13 30 46.4
comp=Z,13μm,21.7s,baz=102,slow=35
BVAR PKPPKP P'P'df 13 41 39.2 -25
comp=Z,1.2nm,0.9s,baz=270,slow=3.0,SNR=3.6
BVAR P4KPbc 13 48 30.4
comp=Z,1.3nm,0.5s,baz=106,slow=6.6,SNR=9.4
FX1 Attu Island--F 48.32 39 *e*P **P** **13 10 54.1 +1.4**
FX1 *e*PcP **PcP** **13 12 19.7 +0.9**
FX1 Attu Island--F 48.32 39 LR LR 13 34 10.8
comp=Z,10μm,18.6s,baz=279,slow=40
BRVK Borovoye 48.35 321 *e*P **P** **13 10 53.0 +0.1**
BRVK *e* 13 12 18.2
BRVK pmax pmax
comp=Z,724nm,1.0s
BRVK Borovoye 48.35 321 *e*P **P** **13 10 53.0 +0.1**
comp=Z,724nm,1.0s
BRVK *e*PcP **PcP** **13 12 18.2 -0.7**
AS31 Alice Springs 48.64 165 *e*P **P** **13 10 55.2 -0.3**
AS31 *e*pP **pP** **13 11 08.6 -0.5**
AS31 *e*PcP **PcP** **13 12 20.1 -0.2**
ASAR Alice Springs 48.64 165 P **P** **13 10 55.2 -0.3**
ASAR ScP **ScP** **13 16 09.7 -1.4**
ASAR S **S** **13 17 50.0 -4.1**
ASAR P'P' 13 41 40.0
ASAR *e* 13 48 31.7
ASAR Alice Springs 48.64 165 P **P** **13 10 55.2 -0.3**
comp=Z,136nm,0.9s,baz=340,slow=7.0,SNR=367
ASAR ScP **ScP** **13 16 09.7 -1.4**
comp=Z,5.7nm,0.7s,baz=352,slow=3.3,SNR=5.2
ASAR S **S** **13 17 50.0 -4.1**
comp=Z,2.1nm,0.9s,baz=354,slow=17,SNR=2.5
ASAR LR LR 13 31 34.6
comp=Z,8μm,21.9s,baz=339,slow=36
ASAR PKPPKP P'P'df 13 41 40.0 -15
comp=Z,1.8nm,0.9s,baz=158,slow=2.6,SNR=6.2
ASAR P4KPbc 13 48 31.7
comp=Z,0.8nm,0.7s,baz=345,slow=4.1,SNR=14
WRKA Warakurna 48.96 172 ⇑P **P** **13 10 56.8 -1.0**
baz=49,SNR=305
CTA Charters Tower 49.75 149 P **P** **13 11 04.3 +0.4**
CTA Charters Tower 49.75 149 P **P** **13 11 04.3 +0.4**
comp=Z,96nm,0.6s,baz=331,slow=9.9,SNR=221
CTAO Charters Tower 49.75 149 *e*P **P** **13 11 04.7 +0.7**
CTAO *e**PP **pP** **13 11 17.6 0.0**
CTAO pmax pmax
comp=Z,113nm,0.6s
CTAO MLR MLR
comp=Z,34μm,21.0s
CTAO Charters Tower 49.75 149 *e*P **P** **13 11 04.7 +0.7**
comp=Z,113nm,0.6s
CTAO *e*pP **pP** **13 11 17.6 0.0**
CTAO LR LR
comp=Z,34μm,21.0s
HNR Honiara 49.87 127 P **P** **13 11 05.5 +0.5**
HNR Honiara 49.87 127 P **P** **13 11 05.4 +0.5**
comp=Z,47nm,0.4s,baz=297,slow=9.0,SNR=14
MEEK Meekatharra 50.22 184 ⇑P **P** **13 11 05.9 -1.6**
baz=50,SNR=76
KAAM Kaadhehdhoo 52.56 251 P **P** **13 11 28.4 +3.1**
comp=Z,348nm,1.2s,comp=Z,11μm
MORW Morawa 52.84 186 ⇓P **P** **13 11 25.8 -1.1**
baz=53,SNR=62
IMYA Miami 53.95 299 *e*P **P** **13 11 36.9 +1.5**
ABKAR Akbulak array 54.05 315 *e*P **P** **13 11 36.0 +0.3**
comp=Z,446nm,0.9s
ABKAR *e*pP **pP** **13 11 48.3 -1.1**
BLDU Ballidu 54.31 185 ⇓P **P** **13 11 36.5 -1.2**
baz=54,SNR=20
TARA Tarawa 54.34 106 *e*P **P** **13 11 39.0 +0.7**
comp=Z,796nm,1.3s
TARA *e*pP **pP** **13 11 51.3 -0.7**
MIDW Midway 54.45 71 *e*P **P** **13 11 38.8 -0.1**
comp=Z,934nm,1.4s
MIDW *e*pP **pP** **13 11 52.8 +0.2**
MIDW *e*PcP **PcP** **13 12 40.9 -1.1**
MIDW LR LR
comp=Z,13μm,21.0s
ISRO Mashad 54.47 299 *e*P **P** **13 11 41.1 +2.0**
IDAH Dahanechah 54.53 294 *e*P **P** **13 11 40.8 +1.0**
FORT Forrest 54.60 173 *e*P **P** **13 11 39.5 -0.3**
comp=Z,354nm,0.6s
FORT Forrest 54.60 173 ⇓P **P** **13 11 38.9 -0.8**
baz=55,SNR=205
QLP Quilpie 54.61 155 ⇑P **P** **13 11 39.9 0.0**
baz=55,SNR=127
SVE Sverdlovsk 54.64 324*d i*P **P** **13 11 40.0 +0.2**
SVE *e* 13 12 39.4
SVE *e*S **S** **13 19 11.4 -4.5**
SVE *e* 13 21 20.8
SVE pmax pmax
comp=Z,1μm,1.5s
SVE pmax pmax
comp=Z,3μm,14.4s
SVE smax smax
comp=N,7μm,15.0s
SVE MLR MLR
comp=Z,50μm,16.0s
SVE MLR MLR
comp=N,13μm,18.0s
SVE MLR MLR
comp=E,33μm,16.0s
IPAY Payeh 54.83 299 *e*P **P** **13 11 43.8 +1.9**
KMBL Kambalda 54.85 180 ⇓P **P** **13 11 40.6 -1.0**
baz=55,SNR=41
IKRD Kardeh 55.19 299 *e*P **P** 13 11 40.9 -3.6
KLBR Kellerberrin 55.20 184 ⇓P **P** **13 11 43.0 -1.2**
baz=55,SNR=28
IKOO Kooshah 55.29 294 *e*P **P** **13 11 46.6 +1.3**
AKTO Aktyubinsk 55.38 316 P **P** **13 11 45.6 +0.3**
AKTO S **S** **13 19 23.7 -2.5**
AKTO pmax pmax
comp=Z,287nm,1.1s
AKTO smax smax
comp=N,4.0nm,0.9s
AKTO MLR MLR
comp=Z,59μm,19.8s
AKTO Aktyubinsk 55.38 316 P **P** **13 11 45.6 +0.3**
AKTO S **S** **13 19 23.7 -2.5**
AKTO Aktyubinsk 55.38 316 P **P** **13 11 45.6 +0.3**
comp=Z,287nm,1.1s,baz=92,slow=7.7,SNR=170
AKTO S **S** **13 19 23.7 -2.5**
comp=Z,3.6nm,0.9s,baz=270,slow=20,SNR=2.0
AKTO LR LR 13 37 21.8
comp=Z,59μm,19.8s,baz=97,slow=38
ISFR Sfrayin 55.57 300 *e*P **P** **13 11 49.1 +1.8**
ARU Arti 55.70 323*c i*P **P** **13 11 47.0 -0.5**
ARU *PP **pP** **13 12 02.6 +1.3**
ARU 13 12 45.3
ARU 13 13 46.4
ARU PPP PPP 13 15 14.4
ARU *e*S **S** **13 19 29.6 -0.6**
ARU *SS sS 13 19 47.9 -5.4
ARU 13 21 30.6
ARU SS **SS** **13 23 20.5 +4.8**
ARU pmax pmax
comp=Z,814nm,1.2s
ARU MLR MLR
comp=Z,43μm,25.0s
ARU Arti 55.70 323 *e*P **P** **13 11 47.0 -0.5**
comp=Z,783nm,1.2s
ARU *e*pP **pP** **13 11 59.7 -1.7**
ARU *e*PcP **PcP** **13 12 45.3 -1.1**
ARU LR LR
comp=Z,24μm,21.0s
ISHV Shirvan 55.77 300 *e*P **P** **13 11 50.3 +1.7**
RMQ Roma 56.41 151 ⇓P **P** **13 11 53.5 +0.6**
baz=56,SNR=156
EIDS Eidsvold 56.55 148 *e*P **P** **13 11 54.0 +0.1**
comp=Z,359nm,1.4s
EIDS *e*pP **pP** **13 12 06.7 -1.0**
EIDS Eidsvold 56.55 148 ⇑P **P** **13 11 54.2 +0.2**
baz=57,SNR=30
SOKR Solikamsk 57.12 327*c i*P **P** **13 11 57.4 -0.1**
SOKR 13 14 02.4
SOKR PPP PPP 13 15 23.1
SOKR S S 13 19 40.1 -8.6
SOKR pmax pmax
comp=Z,680nm,1.6s
SOKR MLR MLR
comp=Z,72μm,21.0s
DGAR Diego Garcia 57.21 243 *e*P **P** **13 11 58.3 -0.5**
DGAR *e**PP **pP** **13 12 12.5 -0.1**
DGAR pmax pmax
comp=Z,599nm,1.8s
DGAR MLR MLR
comp=Z,5μm,19.0s
DGAR Diego Garcia 57.21 243 *e*P **P** **13 11 58.3 -0.5**
comp=Z,599nm,1.8s
DGAR *e*pP **pP** **13 12 12.5 -0.1**
DGAR LR LR
comp=Z,5μm,19.0s
WBK Wadi Bani Khal 57.24 282 P **P** **13 12 00.9 +1.9**
SNR=26
BBOO Buckleboo 57.93 166 *e*P **P** **13 12 03.2 -0.3**
BBOO Buckleboo 57.93 166 ⇑P **P** **13 12 03.0 -0.5**
baz=58,SNR=126
SMDO Samad 57.95 283 P **P** **13 12 05.1 +0.9**
SNR=35
JMDO Jabal Madar 58.08 282 P **P** **13 12 05.5 +0.7**
SNR=27
IBAF Bafgh 58.31 293 *e*P **P** **13 12 07.5 +0.9**
HOQ Hoqain 58.48 284 P **P** **13 12 08.7 +1.0**
SNR=66
STKA Stephens Creek 58.53 160 *e*P **P** **13 12 07.4 -0.4**
comp=Z,24nm,0.5s
STKA *e*pP **pP** **13 12 21.5 -0.1**
STKA S **S** **13 20 06.7 -1.2**
STKA ⇑*e* 13 41 52.6
STKA Stephens Creek 58.53 160 P **P** **13 12 07.9 +0.2**
comp=Z,124nm,0.5s,baz=338,slow=6.4,SNR=453
STKA S **S** **13 20 06.7 -1.2**
comp=Z,10nm,1.2s,baz=155,slow=22,SNR=3.5
STKA LR LR 13 37 25.8
comp=Z,14μm,21.1s,baz=336,slow=36
STKA PKP2bc 13 41 52.6
comp=Z,6.5nm,1.1s,baz=135,slow=1.4,SNR=5.6
STKA Stephens Creek 58.53 160 ⇑P **P** **13 12 07.2 -0.5**
baz=59,SNR=569
GAMB Gambell 58.60 29 *e*P **P** **13 12 09.1 +1.3**
comp=Z,78nm,0.9s
BANOM Banah 58.82 287 P **P** **13 12 12.3 +2.3**
SNR=9.6
IANJ Anjilo 59.04 298 *e*P **P** **13 12 12.9 +1.2**
UOSS Wadi Hilu 59.13 286 P **P** **13 12 12.0 -0.2**
comp=Z,454nm,1.1s,SNR=6.2
IMEH Mehriz 59.14 293 *e*P **P** **13 12 12.4 -0.1**
ICHK Chekchek 59.16 294 *e*P **P** **13 12 13.3 +0.7**
HTT Hallett 59.22 163 ⇑P **P** **13 12 12.1 -0.4**
baz=59,SNR=59
ARQ Araqi 59.24 284 P **P** **13 12 14.0 +1.0**
SNR=35
ASHO Ashiyiah 59.32 286 P **P** **13 12 14.8 +1.3**
SNR=31
ISHM Shahmirzad 59.49 299 *e*P **P** **13 12 16.2 +1.3**
CMSA Cobar Meteorol 59.62 156 ⇓P **P** **13 12 15.6 +0.4**
baz=60,SNR=58
ISAD Sadrabad 59.83 294 *e*P **P** **13 12 17.3 +0.1**
ILAS Lasjerd 59.83 298 *e*P **P** **13 12 18.0 +0.8**
IFIR Firoozkooh 59.95 299 *e*P **P** **13 12 19.5 +1.5**
TNA Tin City 60.47 27 *e*P **P** **13 12 21.5 +0.8**
comp=Z,178nm,1.0s
TNA *e*PcP **PcP** **13 13 07.2 +2.2**
UNV Unalaska Valle 60.48 40 *e*P **P** **13 12 20.4 -0.6**
comp=Z,116nm,0.9s
UNV *e*pP **pP** **13 12 35.2 +0.3**
IDMV Damavand 60.54 299 *e*P **P** **13 12 22.9 +0.8**
IZEF Zefreh 60.77 296 *e*P **P** **13 12 23.8 +0.1**
IPAR Pars 60.77 292 *e*P **P** **13 12 22.9 -0.9**
ISRV Sarvestan 60.81 291 *e*P **P** **13 12 25.1 +1.0**
IVRN Varamin 60.89 298 *e*P **P** **13 12 24.5 +0.3**
ARMA Armidale 61.08 151 *e*P **P** **13 12 25.4 0.0**
comp=Z,115nm,1.0s
ARMA *e*pP **pP** **13 12 39.1 -0.2**
ARMA Armidale 61.08 151 ⇑P **P** **13 12 25.7 +0.4**
baz=61,SNR=66
IKLH Kolahrood 61.31 296 *e*P **P** **13 12 28.6 +1.3**
IR3 Iran Long-Peri 61.37 299 *e*P **P** **13 12 28.5 +1.0**
IMHD Mahdasht 61.62 299 *e*P **P** **13 12 30.3 +1.1**
IKAZ Kazeroun 61.81 292 *e*P **P** **13 12 30.9 +0.1**
IRAZ Razeghan 62.26 299 *e*P **P** **13 12 34.6 +1.0**
PRGR Permogore 62.76 329 ⇑*i*P **P** **13 12 34.5 -1.7**
PRGR pmax pmax
comp=Z,276nm,1.2s
MAK Makhachkala 62.90 307 *i*P **P** **13 12 38.4 +1.0**
MAK *e* 13 13 14.9
MAK *i*S **S** **13 21 05.7 +2.1**
MAK *e* 13 22 19.6
MAK *e*SS SS 13 25 16.7 +7.5
MAK pmax pmax
comp=Z,500nm,1.2s
MAK pmax pmax
comp=E,653nm,1.4s
MAK pmax pmax
comp=N,601nm,1.7s
MAK pmax pmax
comp=Z,4μm,7.6s
MAK MLR MLR
comp=Z,47μm,22.0s
RBK Rabkut 62.97 278 P **P** **13 12 38.4 0.0**
SNR=53
DZM Mont Dzumac 63.02 133 *e*P **P** **13 12 39.9 +1.3**
comp=Z,361nm,1.1s
DZM *e*S **S** **13 21 06.5 +0.8**
DZM *e*SS **SS** **13 25 17.4 +5.0**
comp=Z,38μm,30.4s
DZM *e*LR LR 13 31 27.1
comp=Z,21μm,25.5s
DZM *e*LR LR 13 31 27.1
comp=Z,92μm,23.9s
DZM Mont Dzumac 63.02 133 P **P** **13 12 39.2 +0.6**
DZM S **S** **13 21 05.7 0.0**
DZM Mont Dzumac 63.02 133 P **P** **13 12 39.2 +0.6**
comp=Z,69nm,0.6s,baz=329,slow=6.2,SNR=35
DZM S **S** **13 21 05.7 0.0**
comp=Z,5.0nm,0.9s,baz=217,slow=20,SNR=2.2
YNG Young 63.10 155 ⇓P **P** **13 12 39.1 +0.4**
baz=63,SNR=11
ARPS Mount Arapiles 63.16 162 ⇑P **P** **13 12 38.3 -0.8**
baz=63,SNR=134
MGCD Mangrove Creek 63.24 153 ⇑P **P** **13 12 41.0 +1.4**
baz=63,SNR=7.1
ABTO Aybut 63.84 278 P **P** **13 12 44.2 +0.1**
SNR=38
IHRS Heris 64.00 302 *e*P **P** **13 12 45.8 +0.6**
CAN Canberra 64.23 155 *e*P **P** **13 12 46.9 +0.7**
CAN pmax pmax
comp=Z,110nm,1.0s
CAN MLR MLR
comp=Z,10μm,19.0s
CAN Canberra 64.23 155 *e*P **P** **13 12 46.9 +0.7**
comp=Z,110nm,1.0s
CAN LR LR
comp=Z,10μm,19.0s
IBST Bostanabad 64.24 302 *e*P **P** **13 12 47.0 +0.3**
CNB Canberra Magne 64.36 155 ⇓P **P** **13 12 47.6 +0.5**
baz=64,SNR=23
DGRG David-gareji 64.70 306 P **P** **13 12 50.4 +0.9**
IMRD Marand 64.96 303 *e*P **P** **13 12 52.0 +0.7**
TOO Toolangi 65.01 159 ⇓P **P** **13 12 51.2 0.0**
baz=65,SNR=80
DUS Dusheti 65.08 307 P **P** **13 12 54.7 +2.8**
TBLG Delisi 65.12 307 P **P** **13 12 52.2 0.0**
UMR Umm Al-Rimmam 65.35 293 *e*P **P** **13 12 53.4 -0.4**
UMR AMb AMB 13 12 56.1
comp=Z,1μm,1.6s
GNI Garni 65.42 305 P **P** **13 12 55.9 +1.7**
SNR=47
GNI Garni 65.42 305 *e*P **P** **13 12 54.0 -0.3**
comp=Z,1μm,1.4s
GNI LR LR
comp=Z,22μm,20.0s
GNI Garni 65.42 305 P **P** **13 12 55.6 +1.4**
comp=Z,243nm,1.1s,baz=157,slow=7.1,SNR=53
KZR Kazreti 65.42 306 P **P** **13 12 56.1 +1.9**
KBD Kabd 65.47 292 *e*P **P** **13 12 54.5 -0.1**
KBD AMb AMB 13 12 56.2
comp=Z,597nm,1.2s
ZEI Tsey 65.54 308 *e*P **P** **13 12 55.2 +0.1**
ZEI pmax pmax
comp=Z,869nm,1.3s
LHI Lord Howe Isla 65.60 145 ⇓P **P** **13 12 56.4 +1.3**
baz=66,SNR=4.8
RDF Al-Radifah 65.65 292 *e*P **P** **13 12 56.1 +0.3**
RDF AMb AMB 13 12 58.0
comp=Z,1μm,1.2s
VRHR Novokhopersk 65.74 317 *e*P P 13 12 52.6 -3.3
VRHR *e*S **S** **13 21 35.1 -3.3**
VRHR pmax pmax
comp=Z,670nm,0.9s
VRHR pmax pmax
comp=N,490nm,1.3s
VRHR pmax pmax
comp=E,1μm,1.4s
VRHR pmax pmax
comp=Z,1μm,1.5s
VRHR pmax pmax
comp=N,580nm,1.3s
VRHR pmax pmax
comp=E,1μm,1.4s
VRHR smax smax
comp=E,1μm,2.7s
VRHR smax smax
comp=Z,220nm,2.0s
VRHR smax smax
comp=N,960nm,2.4s
VRHR MLR MLR
comp=Z,20μm,24.0s
VRHR MLR MLR
comp=N,8μm,25.0s
VRHR MLR MLR
comp=E,7μm,18.0s
GOF Gofitskoye 65.75 310⇑*i*P **P** **13 12 56.6 +0.5**
GOF *i*S **S** **13 21 40.0 +1.2**
GOF pmax pmax
comp=Z,760nm,1.2s
GOF smax smax
comp=N,120nm,1.4s
GOF smax smax
comp=E,110nm,1.4s
MILA Mila 65.82 156 ⇑P **P** **13 12 56.5 -0.1**
baz=66,SNR=9.3
ONI Oni 65.91 308 P **P** **13 12 58.8 +1.6**
KBZ Khabaz 66.09 309 P **P** **13 12 58.8 +0.5**
KBZ S **S** **13 21 43.6 +0.7**
KBZ pmax pmax
comp=Z,392nm,1.1s
KBZ smax smax
comp=N,4.0nm,1.0s
KBZ MLR MLR
comp=Z,33μm,18.3s
KBZ Khabaz 66.09 309 P **P** **13 12 58.8 +0.5**
KBZ S **S** **13 21 43.6 +0.7**
KBZ Khabaz 66.09 309 P **P** **13 12 58.8 +0.5**
comp=Z,392nm,1.1s,baz=91,slow=5.3,SNR=125
KBZ S **S** **13 21 43.6 +0.7**
comp=Z,4.2nm,1.0s,baz=32,slow=19,SNR=2.6
KBZ LR LR 13 46 17.0
comp=Z,33μm,18.3s,baz=251,slow=40
AKH Akhalkalaki 66.10 306 P **P** **13 13 00.4 +1.8**
TMCR Tamitsa 66.12 332 *e*P **P** **13 12 57.3 -0.7**
TMCR *e* 13 15 21.5
TMCR *e*S **S** **13 21 41.5 -1.0**
TMCR pmax pmax
comp=Z,531nm,1.5s
KIV Kislovodsk 66.20 309α*i*P **P** **13 12 59.7 +0.6**
KIV *e* 13 13 04.8
KIV *e**PP **pP** **13 13 14.9 +1.7**
KIV 13 13 29.3
KIV *e* 13 15 28.5
KIV *i*S **S** **13 21 45.8 +1.3**
KIV *i*PS **PnS** **13 22 08.9 -1.6**
KIV *i* 13 22 50.3
KIV pmax pmax
comp=Z,2μm,1.2s
KIV MLR MLR
comp=Z,23μm,17.0s
KIV Kislovodsk 66.20 309 P **P** **13 13 00.2 +1.1**
SNR=105
KIV Kislovodsk 66.20 309 *e*P **P** **13 12 59.8 +0.6**
comp=Z,1μm,1.2s
KIV LR LR
comp=Z,31μm,21.0s
IM04 Indian Mountai 66.31 26 *e*P **P** **13 12 58.5 -0.8**
DYDN Diyadin 66.33 304 *i*P **P** **13 13 01.8 +1.6**
DIGO Kars 66.39 305 *i*P **P** **13 13 01.5 +0.9**
KARS Kars 66.56 306 *e*P **P** **13 13 03.1 +1.6**
HAKT HAKKARI 66.74 302 *i*P **P** **13 13 03.3 +0.4**
TVAN Van 66.76 303 *i*P **P** **13 13 04.0 +1.0**
AGRB Hanur-Agry 66.85 304 *e*P **P** **13 13 04.6 +1.1**
CHVG Ch'k'valeri 66.87 308 P **P** **13 13 04.8 +1.5**
CUKT Cukurca 66.89 302 *e*P **P** **13 13 04.4 +0.7**
GEVA Gevas 67.07 303 *i*P **P** **13 13 05.5 +0.6**

LVZ	**Lovozero**	67.10 336	*e*P	**P**	**13 13 03.4**	**-0.9**
LVZ			*e**PP	**pP**	**13 13 18.5**	**0.0**
LVZ			*e*		13 13 32.4	
LVZ			pmax	pmax		
	comp=Z,181nm,1.1s					
LVZ			MLR	MLR		
	comp=Z,22μm,19.0s					
LVZ	**Lovozero**	67.10 336	*e*P	**P**	**13 13 03.4**	**-0.9**
	comp=Z,181nm,1.1s					
LVZ			*e*pP	**pP**	**13 13 18.5**	**0.0**
LVZ			*e*PcP	**PcP**	**13 13 32.4**	**+0.2**
LVZ			LR	LR		
	comp=Z,22μm,19.0s					
VOR	**Voronezh**	67.14 318	*e*P	**P**	**13 13 05.0**	**+0.2**
VOR			pmax	pmax		
	comp=Z,1μm,1.4s					
EATA	**Eleskirt**	67.17 305	*i* P	**P**	**13 13 07.1**	**+1.5**
VORD	**Divnogorie**	67.21 317	*e*P	**P**	**13 13 03.6**	**-1.7**
VORD			*e*S	**S**	**13 21 53.0**	**-3.2**
VORD			pmax	pmax		
	comp=Z,290nm,1.0s					
VORD			pmax	pmax		
	comp=N,60nm,1.9s					
VORD			pmax	pmax		
	comp=E,310nm,1.1s					
VORD			pmax	pmax		
	comp=Z,430nm,1.5s					
VORD			pmax	pmax		
	comp=N,190nm,1.8s					
VORD			pmax	pmax		
	comp=E,530nm,1.6s					
VORD			smax	smax		
	comp=N,1μm,5.3s					
VORD			smax	smax		
	comp=Z,300nm,3.7s					
VORD			smax	smax		
	comp=E,390nm,3.8s					
VORD			MLR	MLR		
	comp=Z,23μm,24.0s					
VORD			MLR	MLR		
	comp=N,22μm,22.0s					
VORD			MLR	MLR		
	comp=E,23μm,24.0s					
VSR	**Storozhevoye**	67.25 317	*e*P	**P**	**13 13 03.5**	**-2.0**
VSR			*e*S	**S**	**13 21 53.4**	**-3.3**
VSR			pmax	pmax		
	comp=N,180nm,1.1s					
VSR			pmax	pmax		
	comp=E,630nm,1.1s					
VSR			pmax	pmax		
	comp=Z,610nm,1.1s					
VSR			pmax	pmax		
	comp=Z,690nm,1.1s					
VSR			pmax	pmax		
	comp=N,240nm,1.3s					
VSR			pmax	pmax		
	comp=E,690nm,1.1s					
VSR			smax	smax		
	comp=N,910nm,6.6s					
VSR			smax	smax		
	comp=Z,400nm,4.9s					
VSR			smax	smax		
	comp=E,460nm,6.0s					
VSR			MLR	MLR		
	comp=Z,23μm,25.0s					
VSR			MLR	MLR		
	comp=N,11μm,19.0s					
VSR			MLR	MLR		
	comp=E,18μm,28.0s					
ARTV	**Artvin**	67.30 306	*i* P	**P**	**13 13 07.0**	**+0.6**
DAGI	**Agillar**	67.33 306	*i* P	**P**	**13 13 07.5**	**+1.0**
PPLA	**Purkeypile**	67.35 30	*e*P	**P**	**13 13 07.4**	**+1.3**
	comp=E,2μm,1.7s					
PPLA			*e*pP	**pP**	**13 13 20.1**	**-0.3**
MOS	**Moscow**	67.40 322α	*i* P	**P**	**13 13 05.9**	**-0.5**
MOS			*e*		13 13 19.7	
MOS			*e*		13 13 33.0	
MOS			*e*		13 15 32.2	
MOS			*e*PPP	PPP	13 17 15.9	
MOS			*i* S	**S**	**13 21 55.6**	**-2.7**
MOS			pmax	pmax		
	comp=Z,738nm,1.4s					
MOS			pmax	pmax		
	comp=N,137nm,1.2s					
MOS			pmax	pmax		
	comp=E,202nm,1.2s					
MOS			pmax	pmax		
	comp=Z,2μm,1.8s					
MOS			smax	smax		
	comp=N,3μm,5.4s					
MOS			smax	smax		
	comp=E,2μm,5.3s					
MOS			MLR	MLR		
	comp=Z,35μm,16.0s					
MOS			MLR	MLR		
	comp=E,26μm,17.0s					
RSO	**Redoubt South**	67.44 32	*e*P	**P**	**13 13 07.1**	**+0.3**
	comp=E,514nm,0.9s					
RSO			*e*pP	**pP**	**13 13 21.0**	**0.0**
DBOC	**Borcka**	67.46 307	*i* P	**P**	**13 13 07.9**	**+0.8**
DDEM	**Demirkent**	67.50 306	*i* P	**P**	**13 13 07.9**	**+0.4**
DBAD	**Bademkaya**	67.51 306	*i* P	**P**	**13 13 07.2**	**-0.4**
HOMI	**Horasan**	67.56 305	*i* P	**P**	**13 13 09.0**	**+1.0**
COLD	**Coldfoot**	67.58 25	*e*P	**P**	**13 13 08.8**	**+1.4**
	comp=E,134nm,0.7s					
COLD			*e*pP	**pP**	**13 13 21.1**	**-0.5**
COLD			*e*PcP	**PcP**	**13 13 33.5**	**-0.6**
APA	**Apatity**	67.61 335⇑	*i* P	**P**	**13 13 07.8**	**+0.3**
APA			*i* S	**S**	**13 21 57.0**	**-3.5**
APA			*i* SS	**SS**	**13 26 18.0**	**-3.3**
APA			*i* SSS	SSS	13 29 26.0	
APA			pmax	pmax		
	comp=Z,143nm,1.0s					
APA			MLR	MLR		
	comp=Z,3μm,20.0s					
EKAR	**Karacoban**	67.62 304	*i* P	**P**	**13 13 10.0**	**+1.6**
KTH	**Kantishna Hill**	67.82 29	*e*P	**P**	**13 13 10.2**	**+1.1**
	comp=Z,240nm,0.7s					
KTH			*e*pP	**pP**	**13 13 23.2**	**0.0**
KTH			*e*PcP	**PcP**	**13 13 34.1**	**-1.2**
KDAK	**Kodiak Island**	67.95 35	*e*P	**P**	**13 13 10.2**	**+0.4**
	comp=Z,299nm,0.8s					
KDAK			*e*pP	**pP**	**13 13 24.8**	**+0.8**
KDAK			*e*PcP	**PcP**	**13 13 37.0**	**+1.1**
KDAK			LR	LR		
	comp=Z,17μm,21.0s					
ERZM	**Erzurum**	68.00 305	*i* P	**P**	**13 13 12.3**	**+1.5**
EZM	**Erzurum**	68.00 305	*e*P	**P**	**13 13 12.4**	**+1.6**
OBN	**Obninsk**	68.10 322α	*i* P	**P**	**13 13 10.0**	**-0.8**
OBN			*i*		13 13 15.5	
OBN			*i* *PP	**pP**	**13 13 25.6**	**+0.7**
OBN			*i*		13 13 36.6	
OBN			*i*		13 15 39.9	
OBN			*e*PPP	PPP	13 17 25.5	
OBN			*i* S	**S**	**13 22 02.2**	**-4.5**
OBN			*i* PPS	PPS	13 22 59.3	
OBN			pmax	pmax		
	comp=Z,853nm,1.6s					
OBN			MLR	MLR		
	comp=Z,24μm,20.0s					
OBN	**Obninsk**	68.10 322	*e*P	**P**	**13 13 10.0**	**-0.8**
	comp=Z,1μm,1.5s					
OBN			*e*pP	**pP**	**13 13 24.6**	**-0.3**
OBN			*e*PcP	**PcP**	**13 13 37.1**	**+0.5**
OBN			LR	LR		
	comp=Z,23μm,19.0s					
VRTB	**Varto-Mus**	68.10 304	*e*P	**P**	**13 13 13.2**	**+1.8**
TRF	**Thorofare Moun**	68.12 29	*e*P	**P**	**13 13 12.4**	**+1.4**
	comp=Z,149nm,0.6s					
TRF			*e*pP	**pP**	**13 13 24.7**	**-0.5**
BNGL	**BINGOL**	68.38 304	*i* P	**P**	**13 13 14.4**	**+1.2**
SOC	**Sochi**	68.38 309*c*	*i* P	**P**	**13 13 12.6**	**-0.2**
SOC			*e**PP	**pP**	**13 13 26.0**	**-1.0**
SOC			*e*		13 13 36.6	
SOC			*e*		13 15 45.9	
SOC			*e*PPP	PPP	13 17 19.4	
SOC			*i* S	**S**	**13 22 10.0**	**-0.5**
SOC			*e**SS	**sS**	**13 22 36.0**	**+1.7**
SOC			*e*SS	**SS**	**13 26 36.6**	**+2.3**
SOC			pmax	pmax		
	comp=Z,314nm,1.1s					
SOC			pmax	pmax		
	comp=Z,978nm,1.5s					
SOC			MLR	MLR		
	comp=Z,37μm,18.0s					
SOC			MLR	MLR		
	comp=N,18μm,18.0s					
SOC			MLR	MLR		
	comp=E,26μm,18.0s					
BEST	**Besiri**	68.54 303	*i* P	**P**	**13 13 14.9**	**+0.8**
HOPEN	**Hopen**	68.60 345	*e*P	**P**	**13 13 15.3**	**+1.7**
HOPEN			*e*S	**S**	**13 22 12.0**	**0.0**
HOPEN			AMS	AMS	13 48 44.9	
	comp=Z,26μm,17.9s					
MCK	**McKinley**	68.67 29	*e*P	**P**	**13 13 15.0**	**+0.7**
MCK			*e**PP	**pP**	**13 13 28.6**	**+0.2**
MCK			*e*		13 13 40.1	
MCK			pmax	pmax		
	comp=Z,270nm,0.8s					
MCK	**McKinley**	68.67 29	*e*P	**P**	**13 13 15.0**	**+0.7**
	comp=Z,270nm,0.8s					
MCK			*e*pP	**pP**	**13 13 28.6**	**+0.2**
MCK			*e*PcP	**PcP**	**13 13 40.1**	**+1.2**
BNGB	**Bingˆ¶l**	68.73 304	*e*P	**P**	**13 13 16.6**	**+1.3**
RC01	**Rabbit Creek A**	68.79 31	*e*P	**P**	**13 13 15.8**	**+0.8**
	comp=Z,515nm,1.4s					
RC01			*e*pP	**pP**	**13 13 29.3**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	68.80 306	*e*P	**P**	**13 13 17.0**	**+1.3**
NFK	**Norfolk Island**	68.84 137	⇑P	**P**	**13 13 17.0**	**+1.3**
	baz=69,SNR=3.8					
COLA	**College**	68.92 27	*e*P	**P**	**13 13 16.5**	**+0.8**
COLA			pmax	pmax		
	comp=Z,186nm,0.6s					
COLA			MLR	MLR		
	comp=Z,11μm,20.0s					
COLA	**College**	68.92 27	*e*P	**P**	**13 13 16.5**	**+0.8**
	comp=Z,186nm,0.6s					
COLA			LR	LR		
	comp=Z,11μm,20.0s					
KTUT	**Trabzon**	68.94 307	*e*P	**P**	**13 13 16.7**	**+0.4**
MACK	**Trabzon**	68.95 307	*i* P	**P**	**13 13 16.8**	**+0.4**
MARD	**Mardin**	69.06 303	*i* P	**P**	**13 13 18.0**	**+0.6**
SEW	**Seward**	69.12 32	*e*P	**P**	**13 13 17.5**	**+0.5**
	comp=Z,581nm,1.2s					
SEW			*e*pP	**pP**	**13 13 29.9**	**-1.3**
GUMT	**Gumushane**	69.28 306	*e*P	**P**	**13 13 19.5**	**+0.9**
JOF	**Joensuu**	69.28 331	*e*P	**P**	**13 13 17.5**	**-0.5**
JOF			pmax	pmax		
	comp=Z,45nm,0.4s					
JOF	**Joensuu**	69.28 331	*e*p	**P**	**13 13 17.5**	**-0.5**
	comp=Z,45nm,0.4s					
MAZI	**Mazidag**	69.28 303	*e*P	**P**	**13 13 19.2**	**+0.5**
EUZM	**Uzumlu**	69.30 305	*i* P	**P**	**13 13 20.0**	**+1.3**
ERZN	**Erzincan**	69.31 305	*e*P	**P**	**13 13 20.1**	**+1.3**
KBSD	**Kabsdagh**	69.32 302	*e*P	**P**	**13 13 20.2**	**+1.4**
ILAR	**Eielson Array**	69.34 27	P	**P**	**13 13 18.3**	**-0.1**
ILAR			S	**S**	**13 22 19.6**	**-1.5**
ILAR			⇑*e*		13 41 21.8	
ILAR	**Eielson Array**	69.34 27	P	**P**	**13 13 18.3**	**-0.1**
	comp=Z,60nm,0.6s,baz=271,slow=4.4,SNR=249					
ILAR			S	**S**	**13 22 19.6**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=250,slow=7.6,SNR=3.0					
ILAR			PKP2bc		13 41 21.8	
	comp=Z,2.5nm,1.0s,baz=111,slow=1.9,SNR=7.8					
DIYA	**Diyarbakir**	69.42 303	*i* P	**P**	**13 13 20.5**	**+1.1**
KEV	**Kevo**	69.51 338	*e*P	**P**	**13 13 18.7**	**-0.6**
KEV			*e**PP	**pP**	**13 13 32.6**	**-0.9**
KEV			*e*		13 13 42.4	
KEV			pmax	pmax		
	comp=Z,98nm,0.8s					
KEV			MLR	MLR		
	comp=Z,17μm,20.0s					
KEV	**Kevo**	69.51 338	*e*P	**P**	**13 13 20.1**	**+0.8**
KEV			pmax	pmax		
	comp=Z,62nm,0.7s					
KEV	**Kevo**	69.51 338	*e*p	**P**	**13 13 20.1**	**+0.8**
	comp=Z,62nm,0.7s					
KEV	**Kevo**	69.51 338	*e*P	**P**	**13 13 18.7**	**-0.6**
	comp=Z,98nm,0.8s					
KEV			*e*pP	**pP**	**13 13 32.6**	**-0.9**
KEV			*e*PcP	**PcP**	**13 13 42.4**	**+0.2**
KEV			LR	LR		
	comp=Z,17μm,20.0s					
KELT	**Kelkit**	69.52 306	*i* P	**P**	**13 13 21.0**	**+0.8**
MZRK	**Al-Mazaregh**	69.54 301	*e*P	**P**	**13 13 22.7**	**+2.5**
ANN	**Anapa**	69.71 311	*e*P	**P**	**13 13 19.6**	**-1.4**
ANN			*e**PP	**pP**	**13 13 34.3**	**-0.9**
ANN			*e*S	**S**	**13 22 26.1**	**0.0**
ANN			pmax	pmax		
	comp=N,337nm,1.4s					
ANN			pmax	pmax		
	comp=E,242nm,1.4s					
ANN			pmax	pmax		
	comp=Z,2μm,1.4s					
ANN			pmax	pmax		
	comp=N,470nm,1.6s					
ANN			pmax	pmax		
	comp=E,381nm,1.6s					
ANN			pmax	pmax		
	comp=Z,2μm,1.6s					
ANN			MLR	MLR		
	comp=N,6μm,15.0s					
ANN			MLR	MLR		
	comp=Z,21μm,15.0s					
ANN			MLR	MLR		
	comp=E,6μm,15.0s					
ESPY	**Espiye-Giresun**	69.72 307	*e*P	**P**	**13 13 20.7**	**-0.5**
SFNV	**Sufian**	69.81 302	*e*P	**P**	**13 13 22.4**	**+0.5**
SPITS	**Spitsbergen Ar**	69.96 348	P	**P**	**13 13 21.9**	**-0.2**
SPITS	**Spitsbergen Ar**	69.96 348	P	**P**	**13 13 21.8**	**-0.2**
	comp=E,25nm,0.6s,baz=77,slow=7.6,SNR=31					
MOO	**Moorlands**	69.98 160	⇓P	**P**	**13 13 23.1**	**+0.6**
	baz=70,SNR=6.0					
ARCES	**ARCESS Array B**	70.08 338	P	**P**	**13 13 22.8**	**0.0**
ARCES			S	**S**	**13 22 32.3**	**+2.6**
ARCES	**ARCESS Array B**	70.08 338	P	**P**	**13 13 22.8**	**0.0**
	comp=E,236nm,1.2s,baz=66,slow=4.9,SNR=59					
ARCES			S	**S**	**13 22 32.3**	**+2.6**
	comp=E,3.0nm,0.8s,baz=78,slow=22,SNR=2.0					
ARCES			LR	LR	13 51 14.0	
	comp=E,19μm,19.1s,baz=64,slow=42					
ARE0	**ARCESS Array S**	70.08 338	*e*P	**P**	**13 13 22.2**	**-0.7**
ARE0			*e*PcP	**PcP**	**13 13 45.3**	**+0.7**
ELZG	**Elazig**	70.14 304	*i* P	**P**	**13 13 25.0**	**+1.0**
ILIC	**ilic-Erzincan**	70.20 305	*e*P	**P**	**13 13 26.8**	**+2.4**
SUSE	**Susehri**	70.28 306	*i* P	**P**	**13 13 25.6**	**+0.8**
KEMA	**Kemaliye**	70.31 305	*i* P	**P**	**13 13 25.6**	**+0.6**
PAX	**Paxson**	70.35 29	*e*P	**P**	**13 13 25.6**	**+0.8**
PAX			*e**PP	**pP**	**13 13 39.1**	**+0.1**
PAX			pmax	pmax		
	comp=Z,143nm,0.8s					
PAX	**Paxson**	70.35 29	*e*P	**P**	**13 13 25.6**	**+0.8**
	comp=Z,143nm,0.8s					
PAX			*e*pP	**pP**	**13 13 39.1**	**+0.1**
MSEY	**Mahe Island**	70.39 256	P	**P**	**13 13 27.5**	**+1.8**
	SNR=6.9					
MSEY	**Mahe Island**	70.39 256	*e*P	**P**	**13 13 25.1**	**-0.6**
	comp=Z,132nm,0.9s					
MSEY			LR	LR		
	comp=Z,26μm,22.0s					
PUL	**Pulkovo**	70.44 328⇓	*i* P	**P**	**13 13 25.8**	**+0.6**
PUL			pmax	pmax		
	comp=Z,608nm,1.7s					
PUL			MLR	MLR		
	comp=Z,45μm,18.0s					
TAU	**Tasmania Unive**	70.45 160	*e*P	**P**	**13 13 25.8**	**+0.5**
TAU			*e**PP	**pP**	**13 13 39.4**	**-0.1**
TAU			pmax	pmax		
	comp=Z,310nm,1.2s					
TAU			MLR	MLR		
	comp=Z,12μm,20.0s					
TAU	**Tasmania Unive**	70.45 160	*e*P	**P**	**13 13 25.8**	**+0.5**
	comp=Z,312nm,1.2s					
TAU			*e*pP	**pP**	**13 13 39.4**	**-0.1**
TAU			LR	LR		
	comp=Z,12μm,20.0s					
URFA	**Urfa**	70.54 303	*e*P	**P**	**13 13 27.6**	**+1.2**
MNKR	**ALMNKUR**	70.59 301	*e*P	**P**	**13 13 24.7**	**-1.9**
MALT	**Malatya**	70.61 304	*e*P	**P**	**13 13 27.8**	**+1.1**
MALT	**Malatya**	70.61 304	*i* P	**P**	**13 13 28.2**	**+1.4**
DOT	**Dot Lake**	70.80 28	*e*P	**P**	**13 13 27.7**	**+0.3**
	comp=Z,302nm,1.0s					
DOT			*e*pP	**pP**	**13 13 41.4**	**-0.3**
DOT			*e*PcP	**PcP**	**13 13 48.5**	**+0.6**
KSRV	**Kasrt alli**	70.82 301	*e*P	**P**	**13 13 29.2**	**+1.2**
RSDY	**Resadiye-TOKAT**	70.88 306	*e*P	**P**	**13 13 29.0**	**+0.6**
ATAB	**Bozova**	70.93 303	*i* P	**P**	**13 13 29.9**	**+1.2**
AKCD	**Akcadag**	70.99 304	*i* P	**P**	**13 13 30.1**	**+1.0**
KTK1	**Kautokeino**	71.00 338	*e*P	**P**	**13 13 29.4**	**+1.0**
SCER	**sogukcermik**	71.17 306	*i* P	**P**	**13 13 30.9**	**+0.7**
ERBA	**Erbaa**	71.23 307	*i* P	**P**	**13 13 30.8**	**+0.4**
DARE	**Darende-Malaty**	71.25 305	*e*P	**P**	**13 13 31.9**	**+1.2**
SVSK	**Karacayir**	71.25 306	*e*P	**P**	**13 13 31.5**	**+1.0**
GZT	**Gaziantep**	71.52 303	*i* P	**P**	**13 13 33.0**	**+0.6**
TOKA	**Tokat**	71.53 307	*i* P	**P**	**13 13 32.8**	**+0.6**
KAF	**Kangasniemi**	71.73 330	*e*P	**P**	**13 13 33.2**	**+0.3**
KAF			pmax	pmax		
	comp=Z,70nm,0.8s					
KAF	**Kangasniemi**	71.73 330	*e*p	**P**	**13 13 33.2**	**+0.3**
	comp=Z,70nm,0.8s					
HAVZ	**Havza**	71.88 307	*i* P	**P**	**13 13 35.1**	**+0.8**
SIM	**Simferopol'**	71.95 312*c*	*e*P	**P**	**13 13 34.7**	**+0.1**
SIM			*e*		13 16 16.0	
SIM			*e*S	**S**	**13 22 52.0**	**-0.2**
SIM			*e*SS	**SS**	**13 27 26.0**	**-3.1**
SIM			pmax	pmax		
	comp=Z,450nm,1.1s					
SIM			pmax	pmax		
	comp=Z,1μm,9.8s					
SIM			pmax	pmax		
	comp=Z,2μm,10.0s					
FIA1	**FINESS Array S**	72.02 330	*e*P	**P**	**13 13 34.0**	**-0.7**
FIA1			*e*PcP	**PcP**	**13 13 53.1**	**+0.1**
FINES	**FINESS Array B**	72.02 330	P	**P**	**13 13 34.6**	**-0.1**
FINES			S	**S**	**13 22 51.4**	**-0.9**
FINES	**FINESS Array B**	72.02 330	P	**P**	**13 13 34.6**	**-0.1**
	comp=Z,45nm,0.6s,baz=74,slow=6.2,SNR=124					
FINES			S	**S**	**13 22 51.4**	**-0.9**
	comp=Z,8.1nm,1.1s,baz=95,slow=34,SNR=4.2					
FINES			LR	LR	13 48 25.4	
	comp=Z,46μm,18.1s,baz=75,slow=38					
PINB	**Pinarbasi**	72.04 305	*i* P	**P**	**13 13 36.5**	**+0.8**
DIKM	**Dikmen**	72.05 308	*e*P	**P**	**13 13 34.4**	**-0.9**
KUZU	**Kuzuini**	72.06 303	*i* P	**P**	**13 13 36.0**	**+0.5**
TRO	**Tromso**	72.25 339	*e*P	**P**	**13 13 37.9**	**+2.0**
TRO			*e*S	**S**	**13 22 54.6**	**-0.1**
TRO			AMS	AMS	13 46 36.1	
	comp=Z,18μm,21.3s					
BOYT	**Boyabat**	72.37 308	*i* P	**P**	**13 13 39.0**	**+1.7**
BNN	**Bunyan**	72.40 305	*e*P	**P**	**13 13 38.4**	**+0.7**
VSU	**Vasula**	72.57 327*c*	*i* P	**P**	**13 13 38.0**	**0.0**
VSU			pmax	pmax		
	comp=Z,1μm,1.5s					
VSU			MLR	MLR		
	comp=Z,131μm,20.0s					
RABH	**Abou Rabah**	72.64 300	*e*P	P	13 13 44.0	+5.0
RODS	**tl alrsos**	72.65 300	*e*P	**P**	**13 13 39.7**	**+0.6**
DAWY	**Dawson**	72.67 27	*e*P	**P**	**13 13 39.0**	**+0.4**
CTKT	**Corum**	72.68 307	*i* P	**P**	**13 13 39.5**	**+0.2**
BTCH	**Batrach**	72.75 302	*e*P	**P**	**13 13 39.7**	**0.0**
KOZT	**Kozan**	72.81 304	*e*P	**P**	**13 13 40.6**	**+0.7**
DAMY	**Dhamar**	72.84 279	⇓P	**P**	**13 13 41.7**	**+0.9**
	baz=73,SNR=6.3					
BZK	**Bozkurt**	72.86 309	*e*P	**P**	**13 13 40.5**	**+0.4**
TAHT	**Tahtakopru-Hat**	72.86 303	*e*P	**P**	**13 13 40.4**	**+0.2**
CORM	**Corum**	72.92 307	*e*P	**P**	**13 13 41.3**	**+0.6**
ZALF	**Zalf**	72.99 299	*e*P	**P**	**13 13 43.1**	**+2.1**
CEYT	**Ceyhan**	73.01 303	*e*P	**P**	**13 13 42.0**	**+1.0**
TOS	**Tosya**	73.12 308	*e*P	**P**	**13 13 43.1**	**+1.3**
MICGM	**Minsk**	73.13 323⇑	*i*P	P	13 13 37.0	-4.4
MNK	**Minsk**	73.15 323⇑	*i*P	P	13 13 37.0	-4.6
MNK			*e*		13 13 48.0	
MNK			*e**PP	**PcP**	**13 13 58.0**	**0.0**
MNK			*e*PPP	PPP	13 18 04.0	
MNK			*e*S	**S**	**13 23 00.0**	**-5.5**
MNK			*e*SS	**SS**	**13 27 43.0**	**-3.9**
MNK			pmax	pmax		
	comp=Z,1μm,1.0s					
MNK			pmax	pmax		
	comp=N,590nm,1.5s					
MNK			pmax	pmax		
	comp=E,1μm,1.5s					
YURE	**YUREGIR**	73.16 303	*i* P	**P**	**13 13 43.1**	**+1.1**
KIP	**Kipapa**	73.16 74	*e*P	**P**	**13 13 43.4**	**+1.2**
KIP			*e*		13 13 59.2	
KIP			pmax	pmax		
	comp=Z,66nm,0.8s					
KIP			MLR	MLR		
	comp=Z,26μm,21.0s					
KIP	**Kipapa**	73.16 74	*e*P	**P**	**13 13 43.4**	**+1.2**
	comp=Z,66nm,0.8s					
KIP			*e*PcP	**PcP**	**13 13 59.2**	**+0.5**
KIP			LR	LR		
	comp=Z,26μm,21.0s					
AVNT	**Avonos**	73.17 305	*i* P	**P**	**13 13 42.3**	**+0.1**
ARNB	**Al Arnab**	73.18 302	*e*P	**P**	**13 13 43.3**	**+1.1**
HAWK	**Haweek**	73.24 301	*e*P	**P**	**13 13 42.6**	**0.0**
MARH	**Ras Al Marh**	73.33 300	*e*P	**P**	**13 13 42.6**	**-0.8**
INK	**Inuvik**	73.41 22	*e*P	**P**	**13 13 43.0**	**+0.2**
	comp=Z,413nm,0.8s					
INK			*e*pP	**pP**	**13 13 57.1**	**0.0**
INK	**Inuvik**	73.41 22	LR	LR	13 48 41.1	
	comp=Z,16μm,21.0s,baz=294,slow=38					
KARA	**Karaisali**	73.47 304	*e*P	**P**	**13 13 44.7**	**+0.9**
AKASG	**Malin Array Be**	73.48 318	P	**P**	**13 13 42.8**	**-0.8**
AKASG			S	**S**	**13 23 04.9**	**-4.4**
AKASG			pmax	pmax		
	comp=Z,102nm,0.9s					
AKASG			smax	smax		
	comp=N,1.0nm,0.6s					
AKASG	**Malin Array Be**	73.48 318	P	**P**	**13 13 42.8**	**-0.8**
AKASG			S	**S**	**13 23 04.9**	**-4.4**
AKASG	**Malin Array Be**	73.48 318	P	**P**	**13 13 42.8**	**-0.8**
	comp=N,102nm,0.9s,baz=70,slow=6.1,SNR=216					
AKASG			S	**S**	**13 23 04.9**	**-4.4**
	comp=N,0.9nm,0.6s,baz=71,slow=11,SNR=5.1					
KIEV	**Kiev**	73.49 318	*e*P	**P**	**13 13 42.4**	**-1.2**
KIEV			*e**PP	**pP**	**13 13 56.9**	**-1.0**
KIEV			*e*		13 13 59.7	
KIEV			pmax	pmax		
	comp=Z,173nm,1.0s					
KIEV			MLR	MLR		
	comp=Z,38μm,22.0s					
KIEV	**Kiev**	73.49 318	*e*P	**P**	**13 13 42.4**	**-1.2**
	comp=Z,173nm,1.0s					
KIEV			*e*pP	**pP**	**13 13 56.9**	**-1.0**
KIEV			*e*PcP	**PcP**	**13 13 59.7**	**+0.2**
KIEV			LR	LR		
	comp=Z,38μm,22.0s					
IDID	**Didziasalis**	73.51 324	*e*P	**P**	**13 13 43.9**	**+0.2**
IDID			AMB	AMB	13 13 50.4	
	comp=Z,184nm,0.9s					
CANT	**Cankiri**	73.54 307	*e*P	**P**	**13 13 44.9**	**+0.7**
NIG	**Nigde**	73.55 305	*e*P	**P**	**13 13 45.9**	**+1.3**
TRBA	**At Turbah**	73.56 277	*e*P	**P**	**13 13 45.2**	**+0.3**
ASF	**Jabal al Asfar**	73.57 298	P	**P**	**13 13 45.0**	**+0.4**
ASF			S	**S**	**13 23 11.0**	**-0.2**
ASF	**Jabal al Asfar**	73.57 298	P	**P**	**13 13 45.0**	**+0.4**
	comp=Z,213nm,1.1s,baz=55,slow=3.1,SNR=80					
ASF			S	**S**	**13 23 11.0**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=109,slow=18,SNR=2.0					
TOTH	**TOTAH**	73.58 300	*e*P	**P**	**13 13 47.5**	**+2.9**
NACGM	**Naroch**	73.62 323	*e*P	P	13 13 41.0	-3.3
GULE	**Gulek**	73.67 304	*i* P	**P**	**13 13 45.9**	**+0.7**
ISAL	**Salakas**	73.76 324	*e*P	**P**	**13 13 45.3**	**+0.1**
ISAL			AMB	AMB	13 13 51.8	
	comp=Z,124nm,1.0s					
IIGN	**Ignalina**	73.78 324	*e*P	**P**	**13 13 44.7**	**-0.6**
IIGN			AMB	AMB	13 13 47.2	
	comp=Z,110nm,1.2s					
BR131	**Keskin Array S**	73.78 307	*e*P	**P**	**13 13 45.8**	**0.0**
	comp=Z,648nm,1.3s					
BRTR	**Keskin Array B**	73.79 307	P	**P**	**13 13 46.0**	**+0.2**
BRTR			PP	**PP**	**13 16 31.7**	**+1.1**
BRTR			S	**S**	**13 23 13.3**	**-0.2**
BRTR	**Keskin Array B**	73.79 307	P	**P**	**13 13 46.0**	**+0.2**
	comp=Z,166nm,0.8s,baz=106,slow=4.0,SNR=223					
BRTR			PP	**PP**	**13 16

ANTO Ankara 74.36 307 *e*P **P** 13 13 49.6 +0.5
ANTO Ankara 74.36 307 *e*P **P** 13 13 49.1 0.0
ANTO pmax pmax
comp=Z,590nm,1.1s
ANTO MLR MLR
comp=Z,11µm,20.0s
ANTO Ankara 74.36 307 P **P** 13 13 49.3 +0.2
SNR=43
ANTO Ankara 74.36 307 *e*P **P** 13 13 49.1 0.0
comp=Z,590nm,1.1s
ANTO LR LR
comp=Z,11µm,20.0s
LOD Lodumlu 74.38 307 *e*P **P** 13 13 49.6 +0.5
KIZK Mersin 74.40 303 *i* P **P** 13 13 48.5 -0.8
MMAI Mount Meron Ar 74.50 300 P **P** 13 13 50.5 +0.5
MMAI S **S** 13 23 21.0 -0.7
MMAI Mount Meron Ar 74.50 300 P **P** 13 13 50.5 +0.5
comp=Z,127nm,0.9s,baz=79,slow=7.5,SNR=31
MMAI S **S** 13 23 21.0 -0.7
comp=Z,1.8nm,0.6s,baz=164,slow=37,SNR=2.8
HYT Haines Junctio 74.59 30 *e*P **P** 13 13 51.6 +1.6
HYT *e*PcP **PcP** 13 14 03.6 -0.7
BCAM Yenicaga 74.60 308 *i* P **P** 13 13 50.4 -0.1
LOF Lofoten 74.63 338 *e*P **P** 13 13 50.8 +0.9
LOF AMS AMS 13 51 48.7
comp=Z,20µm,16.4s
IKL Isikli 74.83 303 *e*P **P** 13 13 51.1 -0.6
KIS Kishinev 74.88 315 *i* P **P** 13 13 51.0 -0.8
comp=Z,500nm,1.6s
KIS *i* pP **pP** 13 14 11.0 +4.9
KIS Kishinev 74.88 315 *e*PP PP 13 16 39.0 -0.4
KIS Kishinev 74.88 315 *e*PPP PPP 13 18 38.0
KIS *e*S **S** **13 23 21.0 -4.2**
KIS Kishinev 74.88 315 *e*PS 13 23 40.0
KIS *e*SS SS 13 28 19.0 +5.5
KIS *e*SSS SSS 13 31 54.0
KIS *e*LQ LQ 13 40 46.0
KIS *e*LR LR 13 43 24.0
comp=Z,25µm,20.0s
KIS Kishinev 74.88 315α *i*P **P** 13 13 51.0 -0.8
KIS *e* 13 14 04.0
KIS *e* 13 16 39.0
KIS *e*S **S** **13 23 21.0 -4.2**
KIS *e* 13 24 15.0
KIS *e*SS **SS** **13 28 19.0 +5.5**
KIS pmax pmax
comp=Z,540nm,1.6s
KIS pmax pmax
comp=Z,3µm,13.0s
KIS pmax pmax
comp=Z,4µm,14.0s
KIS MLR MLR
comp=Z,24µm,18.0s
KIS MLR MLR
comp=N,8µm,17.0s
KIS MLR MLR
comp=E,4µm,17.0s
KIS MLR MLR
comp=Z,25µm,20.0s
AFI Afiamalu 75.02 113 *e*P **P** 13 13 52.8 -0.3
AFI *e*PcP **PcP** 13 14 06.5 -0.2
AFI LR LR
comp=Z,6µm,20.0s
AFI Afiamalu 75.02 113 P **P** 13 13 52.7 -0.5
comp=Z,120nm,1.0s,baz=278,slow=5.1,SNR=11
MOR8 Moi Rana 75.16 336 *e*P **P** 13 13 52.4 -0.7
MOR8 AMB AMB 13 13 59.4
comp=Z,271nm,1.1s
LADK Ladik-KONYA 75.20 305 *e*P **P** 13 13 53.6 -0.4
LFK Lefkose 75.25 302 *e*P **P** 13 13 54.6 +0.3
KDHN Kadinhani 75.28 306 *i* P **P** 13 13 53.6 -0.9
MDUB Mudurnu 75.33 308 *e*P **P** 13 13 54.9 +0.1
SVRH Sivrihisar-ESK 75.43 307 *e*P **P** 13 13 55.4 +0.1
BTAS Taskesti 75.44 308 *i* P **P** 13 13 55.0 -0.3
TLCR 75.46 313⇑ *i*P **P** 13 13 55.5 +0.3
FLOS Flostrand 75.48 337 *e*P **P** 13 13 55.2 +0.3
KONS Konsvik 75.50 337 *e*P **P** 13 13 56.5 +1.6
CSS Prodhromos 75.51 302 P **P** 13 13 55.0 -0.7
CSS Prodhromos 75.51 302 *e*P **P** 13 13 55.4 -0.4
comp=Z,120nm,1.1s
CSS LR LR
comp=Z,4µm,21.0s
STOK Stokkvaagen 75.61 337 *e*P **P** 13 13 56.0 +0.4
LEF Lefka 75.80 302 *e*P **P** 13 13 57.2 -0.1
GULT Gulveren 75.84 308 *e*P **P** 13 13 57.7 +0.2
GAZI Gazipasa 75.88 304 *i* P **P** 13 13 56.7 -1.1
SUW Suwalki 75.89 323 *e*P **P** 13 13 57.7 +0.2
SUW *e* 13 14 09.9
SUW pmax pmax
comp=Z,1µm,1.0s
SUW Suwalki 75.89 323 *e*P **P** 13 13 56.9 -0.6
SUW *e*S **S** **13 23 33.4 -2.8**
SUW LMZ LR 13 50 10.9
SUW Suwalki 75.89 323 *e*P **P** 13 13 57.7 +0.2
comp=Z,1µm,1.0s
SUW *e*PcP **PcP** 13 14 09.9 +0.1
POHA Pohakuloa 75.91 74 *e*P **P** 13 13 58.9 +0.4
comp=Z,215nm,0.8s
POHA LR LR
comp=Z,11µm,20.0s
CFR Carcaliu 75.92 313⇑ *i*P **P** 13 13 57.3 -0.5
EIL Elat 75.95 296 P **P** 13 13 58.5 +0.2
EIL S **S** 13 23 36.9 -0.8
EIL Elat 75.95 296 P **P** 13 13 58.5 +0.2
comp=Z,197nm,1.1s,baz=83,slow=4.5,SNR=60
EIL S **S** 13 23 36.9 -0.8
comp=Z,2.7nm,0.6s,baz=59,slow=12,SNR=2.2
EIL Elat 75.95 296 ⇓P **P** 13 13 58.7 +0.4
baz=76,SNR=6.1
TIRR Tirgusor 75.97 313 *e*P **P** 13 13 58.0 -0.1
TIRR Tirgusor 75.97 313 *e*P **P** 13 13 55.9 -2.2
TIRR pmax pmax
comp=Z,273nm,1.1s
TIRR Tirgusor 75.97 313⇑ *i*P **P** 13 13 57.9 -0.2
TIRR Tirgusor 75.97 313 *e*P **P** 13 13 55.9 -2.2
comp=Z,273nm,1.1s
BORA Eskisehir 76.06 308 *i* P **P** 13 13 58.5 -0.3
BOLV Bolvadin 76.08 306 *i* P **P** 13 13 59.2 +0.1
TLB Topalu 76.18 313⇑ *i*P **P** 13 13 59.2 -0.1
HARR Harsova 76.22 313 ⇓ *i*P **P** 13 13 59.6 +0.1
ADVT Abdulvahap 76.40 308 *e*P **P** 13 14 00.8 +0.1
CAVI Cavuskoy 76.40 308 *e*P **P** 13 14 00.8 +0.1
SHUT Suhut-Afyon 76.44 306 *e*P **P** 13 14 01.6 +0.5
TESR Tescani 76.44 315⇑ *i*P **P** 13 14 00.5 -0.3
SUTC Sutluce-Ispart 76.46 305 *e*P **P** 13 13 59.6 -1.6
OUZ Omahuta 76.56 139 *e*P **P** 13 13 59.8 -1.6
comp=Z,52nm,1.4s
VRI Vrincioaia 76.62 314⇑ *i*P **P** 13 14 02.2 +0.4
KLYT Kilyos 76.62 309 *e*P **P** 13 14 01.6 -0.2
GRER 76.62 314⇑ *i*P **P** 13 14 02.7 +0.9
AMRR Amara 76.65 313⇑ *i*P **P** 13 14 02.6 +0.7
PLOR Plostina 76.67 314 ⇓ *i*P **P** 13 14 02.5 +0.4
GEMT Gemlik 76.79 308 *e*P **P** 13 14 02.5 -0.3
DAG Danmarks Havn 76.82 351⇑ *i*P **P** 13 14 00.8 -1.6
DAG MLR MLR
comp=Z,9µm,20.0s
DAG Danmarks Havn 76.82 351⇑ *i*P **P** 13 14 00.8 -1.6
comp=Z,24nm,1.0s
DAG
comp=Z,9µm,20.0s
LVV L'vov 76.91 319⇓ *i*P **P** 13 14 02.5 -0.9
LVV *e* 13 14 13.7
LVV *e* 13 16 54.3
LVV *e*S S 13 23 41.5 -6.0
LVV *e* 13 24 12.1
LVV *e* 13 28 46.3
LVV pmax pmax
comp=Z,700nm,1.5s
TVSB Tavsanli 76.93 307 *e*P **P** 13 14 04.1 +0.3
BUR08 Bucovina Ar. S 76.97 316 *e*P **P** 13 14 03.7 -0.2
BUR08 *e*PcP **PcP** 13 14 15.1 +0.3
BUR08 *e*pP **pP** 13 14 17.1 -1.2
BURAR Bucovina Array 76.97 316⇑ *i*P **P** 13 14 03.6 -0.3
ARMT Armutlu 76.98 309 *e*P **P** 13 14 03.8 -0.2
ELBA Catalca 77.09 309 *i* P **P** 13 14 03.9 -0.7
SLVT Silivri 77.21 309 *e*P **P** 13 14 05.3 +0.1
MLR Muntele Rosu 77.26 314⇑ *i*P **P** 13 14 05.6 0.0
MLR Muntele Rosu 77.26 314 P **P** 13 14 05.5 -0.1
MLR S **S** **13 23 50.9 -0.9**
MLR Muntele Rosu 77.26 314 P **P** 13 14 05.5 -0.1
comp=Z,35nm,0.8s,baz=8.3,slow=5.3,SNR=114
MLR S **S** **13 23 50.9 -0.9**
comp=Z,1.7nm,1.2s,baz=61,slow=19,SNR=4.6

KHAL Karahalli 77.28 306 *i* P **P** 13 14 03.8 -2.0
SECR 77.34 314⇑ *i*P P 13 13 58.8 -7.1
SULR 77.35 313⇓ *i*P **P** 13 14 06.4 +0.5
KCTX Karacabey (Bur 77.45 309 *e*P **P** 13 14 06.4 -0.2
DOPR Dopca 77.45 315⇑ *i*P **P** 13 14 06.9 +0.4
PHSR Pinarhisar 77.56 310 *e*P **P** 13 14 07.1 -0.1
DURS Dursunbey 77.59 308 *i* P **P** 13 14 07.1 -0.4
DEMI Demirci 77.61 307 *i* P **P** 13 14 06.9 -0.7
GOLH Golhisar 77.62 305 *i* P **P** 13 14 06.9 -0.8
BNT Bandirma 77.73 309 *e*P **P** 13 14 08.1 0.0
EDC Edincik 77.77 309 *e*P **P** 13 14 08.2 -0.2
KWP Kalwaria Pacla 77.78 319⇑ *e*P **P** 13 14 08.5 +0.2
KWP *e*S **S** **13 23 56.1 -0.9**
KWP pmax pmax
comp=Z,1µm,1.4s
KWP MLR MLR
comp=Z,33µm,25.2s
KWP Kalwaria Pacla 77.78 319 *e*P **P** 13 14 08.5 +0.2
KWP *e*S **S** **13 23 56.1 -0.9**
KWP LMZ LR 13 48 49.2
KWP Kalwaria Pacla 77.78 319⇑ *i*P **P** 13 14 08.4 +0.2
KWP Kalwaria Pacla 77.78 319 PFAKE 13 14 20.0 +12
KWP LR LR
comp=Z,31µm,21.0s
KULA Kula-Manisa 77.84 307 *e*P **P** 13 14 08.8 -0.1
VOIR 77.87 314⇑ *i*P **P** 13 14 08.4 -0.5
JMB Yambol 77.91 311 P **P** 13 14 09.9 +0.8
JMB Yambol 77.91 311 P **P** 13 14 09.9 +0.8
JMB Yambol 77.91 311 P **P** 13 14 09.9 +0.8
MTUR Matau 77.94 314⇑ *i*P **P** 13 14 09.3 0.0
AKAS Kas 77.94 304 *i* P **P** 13 14 08.1 -1.4
GONE Gonen-Balikesi 78.00 308 *e*P **P** 13 14 09.7 0.0
BMR Baia Mare 78.03 317⇓ *i*P **P** 13 14 10.2 +0.5
BEL Belsk 78.05 321⇑ *e*P **P** 13 14 10.0 +0.3
BEL *e*S **S** **13 23 59.7 0.0**
BEL pmax pmax
comp=Z,1µm,1.2s
BEL MLR MLR
comp=Z,26µm,23.0s
BEL Belsk 78.05 321 *e*P **P** 13 14 10.0 +0.3
BEL *e*S **S** **13 23 59.6 -0.1**
BEL LMZ LR 13 51 28.9
SART Tekirdag 78.14 309 *i* P **P** 13 14 10.2 -0.3
HFS Hagfors 78.14 331 P **P** 13 14 09.6 -0.4
HFS S **S** **13 23 54.7 -5.7**
HFS Hagfors 78.14 331 P **P** 13 14 09.6 -0.4
comp=Z,48nm,0.7s,baz=64,slow=6.8,SNR=82
HFS S **S** **13 23 54.7 -5.7**
comp=Z,5.5nm,1.1s,baz=199,slow=7.6,SNR=2.0
HFS LR LR 13 52 03.9
comp=Z,81µm,18.7s,baz=64,slow=38
BALY Balya 78.16 308 *i* P **P** 13 14 09.8 -0.8
RER Riviere de l'E 78.21 241 *e*P **P** 13 14 10.7 -0.3
comp=Z,272nm,0.9s
RER *e*pP **pP** 13 14 24.9 -0.6
RER LR LR
comp=Z,14µm,19.0s
KOLS Kolonicke sedl 78.31 318 *e*P **P** 13 14 10.9 -0.3
KOLS pmax pmax
comp=Z,55nm,1.3s
KOLS Kolonicke sedl 78.31 318 *e*P **P** 13 14 10.9 -0.3
AKHS Akhisar 78.33 307 *i* P **P** 13 14 10.1 -1.4
CJR Cluj-Napoca 78.33 316⇑ *i*P **P** 13 14 12.1 +0.7
UZH Uzhgorod 78.42 318 *e*P **P** 13 14 12.0 +0.3
UZH *e* 13 14 15.8
UZH *e* 13 17 08.6
UZH *e*S **S** **13 24 01.0 -2.8**
UZH *e*PS **sS** **13 24 27.2 -0.8**
UZH *i* 13 25 14.6
RAO Raoul Island 78.43 129 LR LR 13 43 01.5
comp=Z,8µm,21.6s,baz=324,slow=31
TRPA Tarpa 78.46 318⇑ *e*P **P** 13 14 12.5 +0.5
TURN Turunc 78.47 305 *i* P **P** 13 14 12.4 +0.1
LOT Lotru 78.70 315⇑ *i*P **P** 13 14 13.8 +0.2
AYDN Tasoluk 78.72 306 *i* P **P** 13 14 13.3 -0.4
STHS Stebnicka Huta 78.74 319 *e*P **P** 13 14 14.2 +0.6
STHS pmax pmax
comp=Z,70nm,1.5s
STHS Stebnicka Huta 78.74 319 *e*P **P** 13 14 14.2 +0.6
NB2 NORSAR Subarra 78.79 332 P **P** 13 14 12.9 -0.7
comp=Z,18nm,0.5s,baz=54,slow=5.9
NB2 NORSAR Subarra 78.79 332 P **P** 13 14 12.9 -0.7
baz=54,slow=5.9
NOA NORSAR Array B 78.79 332 P **P** 13 14 13.2 -0.5
NOA S **S** **13 24 07.1 -0.3**
NOA PKKPbc **PKKPbc** **13 33 07.2 -1.4**
NOA NORSAR Array B 78.79 332 P **P** 13 14 13.2 -0.5
comp=Z,29nm,0.5s,baz=56,slow=5.6,SNR=89
NOA S **S** **13 24 07.1 -0.3**
comp=Z,1.7nm,0.9s,baz=90,slow=13,SNR=3.3
NOA PKKPbc **PKKPbc** **13 33 07.2 -1.4**
comp=Z,0.7nm,0.6s,baz=251,slow=2.3,SNR=2.7
NOA LR LR 13 52 35.1
comp=Z,60µm,19.4s,baz=65,slow=38
CRVS Cervenica-Dubn 78.82 319 *e*P **P** 13 14 14.4 +0.4
CRVS pmax pmax
comp=Z,346nm,1.9s
CRVS Cervenica-Dubn 78.82 319 *e*P **P** 13 14 14.4 +0.4
WRAK Wrangell Islan 78.83 33 *e*P **P** 13 14 15.3 +1.4
comp=Z,207nm,0.8s
WRAK *e*PcP **PcP** 13 14 24.2 +1.7
WRAK *e*pP **pP** 13 14 28.9 +0.6
WRAK LR LR
comp=Z,8µm,19.0s
ALN Alexandroupoli 78.86 310 P **P** 13 14 13.9 -0.4
ALN Alexandroupoli 78.86 310 P **P** 13 14 13.9 -0.4
ALN Alexandroupoli 78.86 310 *e*P **P** 13 14 14.4 +0.1
ALN Alexandroupoli 78.86 310 P **P** 13 14 13.9 -0.4
DRGR 78.87 316⇑ *i*P **P** 13 14 14.6 +0.2
RES Resolute Bay 78.97 9 P **P** 13 14 13.9 -0.4
RES Resolute Bay 78.97 9 P **P** 13 14 13.9 -0.4
comp=Z,54nm,0.7s,baz=326,slow=7.1,SNR=142
NAO01 NORSAR Array S 79.03 332 *e*P **P** 13 14 13.1 -1.8
comp=Z,108nm,1.0s
NAO01 *e*PcP **PcP** 13 14 23.3 +0.1
NAO01 *e*pP **pP** 13 14 29.3 0.0
DLBC Dease Lake 79.04 31 *e*P **P** 13 14 15.4 +0.4
DLBC *e*pP **pP** 13 14 30.3 +0.8
ARG Arkhangelos 79.06 305 P **P** 13 14 15.2 -0.3
ARG Arkhangelos 79.06 305 P **P** 13 14 15.2 -0.3
ARG Arkhangelos 79.06 305 P **P** 13 14 15.2 -0.3
DEV Deva 79.09 315⇑ *i*P **P** 13 14 16.2 +0.7
RDO Rodhopi 79.13 310 P **P** 13 14 14.4 -1.4
RDO Rodhopi 79.13 310 *e*P **P** 13 14 15.5 -0.3
RDO Rodhopi 79.13 310 P **P** 13 14 14.4 -1.4
GCAM G?zelcaml? 79.18 306 *i* P **P** 13 14 16.4 +0.2
BDRM Kayabasi 79.26 306 *i* P **P** 13 14 15.9 -0.8
OJC Ojcow 79.28 320⇑ *i*P **P** 13 14 16.4 -0.1
OJC *i* 13 14 24.1
OJC *i*S **S** **13 24 09.2 -3.7**
OJC *i* 13 24 27.7
OJC MLR MLR
comp=Z,27µm,20.8s
OJC Ojcow 79.28 320 *i* P **P** 13 14 16.4 -0.1
OJC *i* PcP **PcP** 13 14 24.1 -0.5
OJC *i*S **S** **13 24 09.2 -3.7**
OJC *i* SKKSac **SKSac** **13 24 27.7 -0.8**
OJC L L 13 49 32.0
comp=Z,27µm,20.8s
NIE Niedzica 79.30 319⇑ *i*P **P** 13 14 17.2 +0.6
NIE *i* 13 14 24.9
NIE *i*S **S** **13 24 12.8 -0.5**
NIE *i* 13 24 30.0
NIE Niedzica 79.30 319 *i* P **P** 13 14 17.2 +0.6
NIE *i* PcP **PcP** 13 14 24.9 +0.2
NIE *i*S **S** **13 24 12.8 -0.5**
NIE *i* SKKSac **SKKSac** **13 24 30.0 -0.3**
NIE L L 13 54 25.0
comp=Z,25µm,18.7s
PRK Paraskevi 79.31 308 P **P** 13 14 16.3 -0.5
PRK Paraskevi 79.31 308 P **P** 13 14 16.3 -0.5
PRK Paraskevi 79.31 308 *e*P **P** 13 14 16.8 0.0
PRK Paraskevi 79.31 308 P **P** 13 14 16.3 -0.5
JMIC Jan Mayen 79.33 345 AMS AMS 13 49 45.7
comp=Z,15µm,27.1s
JMIC Jan Mayen 79.33 345 LR LR 13 54 39.2
comp=Z,14µm,19.1s,baz=48,slow=40
PLD Plovdiv 79.34 311 P **P** 13 14 17.1 +0.1
PLD Plovdiv 79.34 311 P **P** 13 14 17.1 +0.1
PLD Plovdiv 79.34 311 P **P** 13 14 17.1 +0.1
GZR Gura Zlata 79.37 315⇓ *i*P **P** 13 14 17.2 +0.1
SRE Strehaia 79.37 314⇑ *i*P **P** 13 14 18.3 +1.2

SMTH Samothraki Isl 79.38 309 P **P** 13 14 15.5 -1.8
SMTH Samothraki Isl 79.38 309 *e*P **P** 13 14 17.0 -0.3
SMTH Samothraki Isl 79.38 309 P **P** 13 14 15.5 -1.8
GKP Gorka Klasztor 79.44 324⇑ *e*P **P** 13 14 17.0 -0.2
GKP *e* 13 14 22.5
GKP *e**PP **pP** **13 14 32.6 +0.9**
GKP *e*S **S** **13 24 12.9 -1.6**
GKP pmax pmax
comp=Z,300nm,1.2s
GKP MLR MLR
comp=Z,60µm,19.5s
GKP Gorka Klasztor 79.44 324 *e*P **P** 13 14 17.0 -0.2
GKP *e*PcP **PcP** 13 14 22.4 -2.8
GKP *e*pP **pP** 13 14 32.5 +0.9
GKP *e*S **S** **13 24 12.9 -1.6**
GKP LMZ LR 13 53 03.1
SMG Samos 79.47 307 P **P** 13 14 17.7 -0.1
SMG Samos 79.47 307 *e*P **P** 13 14 17.7 -0.1
SMG Samos 79.47 307 P **P** 13 14 17.7 -0.1
MOL Molde 79.52 335 *e*P **P** 13 14 18.5 +1.0
MOL AMS AMS 13 53 11.0
comp=Z,21µm,19.3s
OSL Oslo 79.54 331 *e*P **P** 13 14 18.1 +0.5
OSL AMB AMB 13 14 42.3
comp=Z,255nm,2.4s
SIGR SIGRI 79.62 308 P **P** 13 14 18.0 -0.5
SIGR SIGRI 79.62 308 *e*P **P** 13 14 18.5 0.0
SIGR SIGRI 79.62 308 P **P** 13 14 18.0 -0.5
SIRR Siria 79.74 316⇓ *i*P **P** 13 14 19.3 +0.2
CHOS Chios island 79.79 307 P **P** 13 14 19.2 -0.4
CHOS Chios island 79.79 307 *e*P **P** 13 14 19.8 +0.2
CHOS Chios island 79.79 307 P **P** 13 14 19.2 -0.4
BSD Bornholm Skovb 79.84 326⇑ *i*P **P** 13 14 18.6 -0.8
BSD MLR MLR
comp=Z,30µm,18.0s
BSD Bornholm Skovb 79.84 326⇑ *i*P **P** 13 14 18.6 -0.8
comp=Z,110nm,1.0s
BSD
comp=Z,30µm,18.0s
LIA Limnos Island 79.85 309 P **P** 13 14 17.8 -1.9
LIA Limnos Island 79.85 309 P **P** 13 14 17.8 -1.9
KAVA Kavala 79.90 310 P **P** 13 14 19.0 -1.0
KAVA Kavala 79.90 310 *e*P **P** 13 14 20.1 +0.1
KAVA Kavala 79.90 310 P **P** 13 14 19.0 -1.0
BZS Buzias 80.03 315⇑ *i*P **P** 13 14 20.1 -0.5
KARP Karpathos 80.03 304 P **P** 13 14 19.9 -1.0
KARP Karpathos 80.03 304 *e*P **P** 13 14 20.5 -0.4
KARP Karpathos 80.03 304 P **P** 13 14 19.9 -1.0
PSZ Piszkesteto 80.17 318 *e*P **P** 13 14 21.0 -0.4
PSZ pmax pmax
comp=Z,355nm,1.3s
PSZ MLR MLR
comp=Z,19µm,20.0s
PSZ Piszkesteto 80.17 318⇓ *i*P **P** 13 14 21.3 -0.1
PSZ Piszkesteto 80.17 318 *e*P **P** 13 14 21.0 -0.4
comp=Z,355nm,1.3s
PSZ LR LR
comp=Z,19µm,20.0s
PSZ Piszkesteto 80.17 318⇑ *e*P **P** 13 14 21.5 +0.1
VTS Vitosha 80.18 312 P **P** 13 14 21.7 0.0
VTS Vitosha 80.18 312 P **P** 13 14 21.7 0.0
VTS Vitosha 80.18 312⇑ *i*P **P** 13 14 21.9 +0.2
VTS Vitosha 80.18 312 P **P** 13 14 21.7 0.0
KONO Kongsberg 80.18 331 *e*P **P** 13 14 22.6 +1.4
KONO *e*S **S** **13 24 22.4 +0.3**
KONO AMS AMS 13 53 19.0
comp=Z,74µm,16.9s
KONO Kongsberg 80.18 331 *e*P **P** 13 14 20.5 -0.6
KONO pmax pmax
comp=Z,108nm,1.3s
KONO MLR MLR
comp=Z,72µm,19.0s
KONO Kongsberg 80.18 331 *e*P **P** 13 14 20.5 -0.6
comp=Z,108nm,1.3s
KONO LR LR
comp=Z,72µm,19.0s
MMB Musomiste 80.22 311⇑ *i*P **P** 13 14 21.4 -0.4
NVR Nevrokopi 80.22 311 P **P** 13 14 21.1 -0.7
NVR Nevrokopi 80.22 311 *e*P **P** 13 14 21.3 -0.5
NVR Nevrokopi 80.22 311 P **P** 13 14 21.1 -0.7
RAC Raciborz 80.27 321 *e*P **P** 13 14 22.5 +0.7
RAC *e*S **S** **13 24 23.2 -0.2**
RAC MLR MLR
comp=E,30µm,20.7s
RAC MLR MLR
comp=Z,28µm,19.6s
RAC MLR MLR
comp=N,24µm,17.8s
OKC Ostrava-Krasne 80.40 320 *i* P **P** 13 14 22.5 -0.1
OKC *e* 13 17 28.4
OKC *e*S **S** **13 24 22.7 -2.1**
OKC *e*SS SS 13 29 45.9 +9.4
OKC MLR MLR
comp=Z,18µm,17.8s
OKC Ostrava-Krasne 80.40 320⇑ *i*P **P** 13 14 22.5 -0.1
OKC *e*PP **PP** **13 17 28.4 +2.8**
OKC *e*S **S** **13 24 22.7 -2.1**
OKC *e*SS SS 13 29 45.9 +9.4
OKC AMS AMS 13 52 40.0
comp=Z,18µm,17.8s
SRS Serrai 80.49 311 P **P** 13 14 22.3 -0.9
SRS Serrai 80.49 311 P **P** 13 14 22.3 -0.9
SRS Serrai 80.49 311 *e*P **P** 13 14 22.6 -0.6
SRS Serrai 80.49 311 P **P** 13 14 22.3 -0.9
OUR Ouranopolis 80.53 310 P **P** 13 14 22.2 -1.2
OUR Ouranopolis 80.53 310 P **P** 13 14 22.2 -1.2
OUR Ouranopolis 80.53 310 *e*P **P** 13 14 22.8 -0.6
OUR Ouranopolis 80.53 310 P **P** 13 14 22.2 -1.2
PKSN Nyarlorinc 80.61 317⇓ *e*P **P** 13 14 24.5 +0.8
URZ Urewera 80.68 139 *e*P **P** 13 14 23.2 -0.8
comp=Z,589nm,1.8s
URZ *e*PcP **PcP** 13 14 30.0 -0.6
URZ Urewera 80.68 139 P **P** 13 14 23.3 -0.8
comp=Z,20nm,0.6s,baz=348,slow=3.3,SNR=23
APE Apeiranthos 80.68 306 P P 13 14 20.5 -3.8
APE Apeiranthos 80.68 306 P P 13 14 20.5 -3.8
APE Apeiranthos 80.68 306 *e*P **P** 13 14 23.3 -1.0
APE Apeiranthos 80.68 306⇑ *i*P **P** 13 14 24.1 -0.2
APE Apeiranthos 80.68 306 P P 13 14 20.5 -3.8
SOH Sokhos 80.78 310 P **P** 13 14 23.8 -1.0
SOH Sokhos 80.78 310 P **P** 13 14 23.8 -1.0
SOH Sokhos 80.78 310 *e*P **P** 13 14 24.7 -0.1
SOH Sokhos 80.78 310 P **P** 13 14 23.8 -1.0
MORC Moravsky Berou 80.78 320 *e*P **P** 13 14 24.1 -0.6
MORC *e* 13 14 32.0
MORC pmax pmax
comp=Z,205nm,1.3s
MORC Moravsky Berou 80.78 320⇑ *i*P **P** 13 14 24.6 -0.1
MORC Moravsky Berou 80.78 320 *e*P **P** 13 14 24.1 -0.6
comp=Z,205nm,1.3s
MORC *e*PcP **PcP** 13 14 32.0 +0.8
XMAS Kiritimati 80.81 92 *e*P **P** 13 14 26.0 +0.7
comp=Z,935nm,1.4s
XMAS LR LR
comp=Z,11µm,20.0s
COP Copenhagen 80.83 327⇑ *i*P **P** 13 14 24.5 -0.1
COP MLR MLR
comp=Z,13µm,24.0s
COP Copenhagen 80.83 327⇑ *i*P **P** 13 14 24.5 -0.1
comp=Z,60nm,1.0s
COP
comp=Z,13µm,23.0s
BUD Budapest 80.89 316⇑ *e*P **P** 13 14 25.4 +0.2
PLG Polygyros 80.89 310 P **P** 13 14 24.3 -1.1
PLG Polygyros 80.89 310 P **P** 13 14 24.3 -1.1
PLG Polygyros 80.89 310 *e*P **P** 13 14 24.7 -0.7
PLG Polygyros 80.89 310 P **P** 13 14 24.3 -1.1
PAIG Paliouri 80.90 310 P **P** 13 14 24.3 -1.1
PAIG Paliouri 80.90 310 P **P** 13 14 24.3 -1.1
PAIG Paliouri 80.90 310 *e*P **P** 13 14 25.0 -0.4
PAIG Paliouri 80.90 310 P **P** 13 14 24.3 -1.1
ZKR Zakros 80.91 304 P **P** 13 14 24.3 -1.3
ZKR Zakros 80.91 304 P **P** 13 14 24.3 -1.3
RGN Rugen 80.92 326 *e*P **P** 13 14 25.5 +0.3
comp=Z,235nm,1.3s
KNT Kendrikon 80.96 311 P **P** 13 14 25.0 -0.7
KNT Kendrikon 80.96 311 P **P** 13 14 25.0 -0.7
KNT Kendrikon 80.96 311 *e*P **P** 13 14 25.2 -0.5
KNT Kendrikon 80.96 311 P **P** 13 14 25.0 -0.7
SANT Santorini 81.00 306 P **P** 13 14 24.1 -2.0
SANT Santorini 81.00 306 *e*P **P** 13 14 24.1 -2.0
comp=Z,2µm,1.2s
SANT *e*PcP **PcP** 13 14 31.9 -0.5

SANT LR LR
comp=Z,13µm,20.0s
RPZ Rata Peaks 81.00 146 *e*P **P** **13 14 25.6 0.0**
RPZ Rata Peaks 81.00 146 P P **13 14 25.4 -0.3**
comp=Z,70nm,0.9s,baz=315,slow=4.2,SNR=13
KSP Ksiaz 81.03 322⇑ *e*P **P** **13 14 26.0 +0.1**
KSP *e* 13 17 30.0
KSP *e*S **S** **13 24 29.6 -1.7**
KSP *e*SS **SS** **13 29 48.0 +2.2**
KSP MLR MLR
comp=Z,49µm,22.0s
KSP Ksiaz 81.03 322 *e*P **P** **13 14 25.7 -0.2**
KSP *e*PcP **PcP** **13 14 31.5 -0.7**
KSP *e*pP **pP** **13 14 41.4 +1.0**
KSP *e*S **S** **13 24 30.1 -1.2**
KSP LMZ LR 13 54 24.2
FOO Floro 81.03 334 *e*P **P** **13 14 27.1 +1.5**
FOO AMS AMS 13 53 55.6
comp=Z,8µm,19.9s
HORT Hortiatis 81.04 310 P **P** **13 14 24.9 -1.4**
HORT Hortiatis 81.04 310 *e*P **P** **13 14 24.9 -1.4**
HORT Hortiatis 81.04 310 P **P** **13 14 24.9 -1.4**
AOS Alonnisos 81.06 309 P **P** **13 14 24.4 -1.9**
AOS Alonnisos 81.06 309 *e*P **P** **13 14 25.4 -0.9**
AOS Alonnisos 81.06 309 P **P** **13 14 24.4 -1.9**
KRLC Kraliky 81.09 321⇑ *i*P **P** **13 14 26.2 -0.1**
KRLC Kraliky 81.09 321⇑ *i*P **P** **13 14 26.2 -0.1**
VAY Valandovo 81.12 311 P **P** **13 14 25.2 -1.3**
VAY Valandovo 81.12 311 P **P** **13 14 25.2 -1.3**
VAY Valandovo 81.12 311 P **P** **13 14 25.2 -1.3**
VAY Valandovo 81.12 311 *i* P **P** **13 14 25.2 -1.3**
THE Thessaloniki 81.12 310 P **P** **13 14 25.3 -1.3**
THE Thessaloniki 81.12 310 P **P** **13 14 25.3 -1.3**
THE Thessaloniki 81.12 310 *e*P **P** **13 14 26.0 -0.6**
THE Thessaloniki 81.12 310 P **P** **13 14 25.3 -1.3**
MRMA Marmari 81.14 308 P **P** **13 14 25.7 -1.0**
DPC Dobruska-Polom 81.23 321⇑ *i*P **P** **13 14 27.1 0.0**
DPC *e* 13 17 35.1
DPC *e*S **S** **13 24 31.1 -2.5**
DPC Dobruska-Polom 81.23 321⇑ *i*P **P** **13 14 27.1 0.0**
DPC *e*PP **PP** **13 17 35.1 +2.6**
DPC *e*S **S** **13 24 31.1 -2.5**
DPC *ex* x 13 30 06.2
DPC AMS AMS 13 57 40.0
SNZO South Karori 81.29 143 PFAKE 13 14 40.0 +13
SNZO LR LR
comp=Z,12µm,22.0s
NPS Neapolis 81.31 305 P **P** **13 14 26.4 -1.3**
NPS Neapolis 81.31 305 P **P** **13 14 26.4 -1.3**
NPS Neapolis 81.31 305 *e*P **P** **13 14 27.3 -0.4**
NPS Neapolis 81.31 305 P **P** **13 14 26.4 -1.3**
PKSG 81.31 318⇓ *e*P **P** **13 14 28.0 +0.6**
ODD1 Odda 81.32 333 *e*P **P** **13 14 28.1 +0.8**
ODD1 AMS AMS 13 53 58.1
comp=Z,9µm,17.1s
UPC Upice 81.34 322 *i* P **P** **13 14 28.3 +0.7**
UPC Upice 81.34 322⇑ *i*P **P** **13 14 28.3 +0.7**
SKIA Skiathos 81.35 309 P **P** **13 14 26.4 -1.5**
SKIA Skiathos 81.35 309 *e*P **P** **13 14 27.2 -0.7**
GRG Griva 81.38 311 P **P** **13 14 26.8 -1.2**
GRG Griva 81.38 311 P **P** **13 14 26.8 -1.2**
GRG Griva 81.38 311 *e*P **P** **13 14 27.0 -1.0**
GRG Griva 81.38 311 P **P** **13 14 26.8 -1.2**
CSKK Cs˙tkako 81.41 318⇓ *e*P **P** **13 14 28.5 +0.5**
MRKA Markates 81.45 308 P **P** **13 14 26.6 -1.8**
MRKA Markates 81.45 308 *e*P **P** **13 14 27.9 -0.5**
LAST Lasithi 81.45 305 P **P** **13 14 27.2 -1.4**
LAST Lasithi 81.45 305 P **P** **13 14 27.2 -1.4**
XOR Xorichti 81.47 309 P **P** **13 14 26.9 -1.6**
XOR Xorichti 81.47 309 *e*P **P** **13 14 27.2 -1.3**
XOR Xorichti 81.47 309 P **P** **13 14 26.9 -1.6**
NEO Neokhori 81.47 309 P **P** **13 14 27.1 -1.4**
NEO Neokhori 81.47 309 *e*P **P** **13 14 27.3 -1.2**
NEO Neokhori 81.47 309 P **P** **13 14 27.1 -1.4**
PTL Penteli 81.51 308 P **P** **13 14 25.6 -3.1**
PTL Penteli 81.51 308 *e*P **P** **13 14 27.7 -1.0**
PTL Penteli 81.51 308 P **P** **13 14 25.6 -3.1**
VRAC Vranov 81.55 320⇑ *i*P **P** **13 14 29.0 +0.3**
VRAC Vranov 81.55 320 P **P** **13 14 28.7 0.0**
VRAC S **S** **13 24 36.2 -0.6**
VRAC Vranov 81.55 320 P **P** **13 14 28.7 0.0**
comp=Z,166nm,1.1s,baz=72,slow=5.8,SNR=74
VRAC S **S** **13 24 36.2 -0.6**
comp=Z,1.5nm,0.5s,baz=45,slow=20,SNR=3.2
PKST T˙s 81.59 318⇑ *e*P **P** **13 14 28.7 -0.3**
BER Bergen 81.60 333 *e*P P 13 14 32.0 +3.4
BER *e*S **S** **13 24 38.1 +1.3**
BER AMS AMS 13 54 25.5
comp=Z,44µm,16.9s
ATHU Athens Univers 81.60 308 P **P** **13 14 27.2 -2.0**
ATHU Athens Univers 81.60 308 P **P** **13 14 27.2 -2.0**
SKO Skopje 81.63 312 P **P** **13 14 27.2 -2.1**
SKO Skopje 81.63 312 P **P** **13 14 27.2 -2.1**
SKO Skopje 81.63 312 P **P** **13 14 27.2 -2.1**
SKO Skopje 81.63 312 *i* P **P** **13 14 28.3 -1.0**
FYTO Fytoko, Volos 81.63 309 P **P** **13 14 28.0 -1.3**
FYTO Fytoko, Volos 81.63 309 P **P** **13 14 28.0 -1.3**
ATH Athens Observa 81.65 308 P **P** **13 14 27.7 -1.7**
ATH Athens Observa 81.65 308 P **P** **13 14 27.7 -1.7**
ATH Athens Observa 81.65 308 *e*P **P** **13 14 29.0 -0.4**
ATH Athens Observa 81.65 308 P **P** **13 14 27.7 -1.7**
SMIA Simia 81.65 309 P **P** **13 14 28.2 -1.3**
SMIA Simia 81.65 309 *e*P **P** **13 14 29.1 -0.4**
RUE Ruedersdorf 81.66 324 *e*P **P** **13 14 29.4 +0.2**
comp=Z,246nm,1.1s
RUE Ruedersdorf 81.66 324 *e*P **P** **13 14 29.4 +0.2**
comp=Z,357nm,1.0s
RUE *e*pP **pP** **13 14 43.2 -0.4**
PKSM Moragy 81.67 317⇑ *i*P **P** **13 14 29.1 -0.2**
PKSM Moragy 81.67 317⇑ *e*P **P** **13 14 29.3 0.0**
LIT Litokhoron 81.67 310 P **P** **13 14 28.4 -1.1**
LIT Litokhoron 81.67 310 P **P** **13 14 28.4 -1.1**
LIT Litokhoron 81.67 310 *e*P **P** **13 14 28.5 -1.1**
LIT Litokhoron 81.67 310 P **P** **13 14 28.4 -1.1**
DIVS Divibare 81.71 315 P **P** **13 14 29.2 -0.5**
PKS9 Tamasi 81.73 317⇓ *e*P **P** **13 14 30.1 +0.4**
IDI Anoyia 81.85 305 P **P** **13 14 29.2 -1.4**
IDI Anoyia 81.85 305 *e*P **P** **13 14 29.6 -1.0**
IDI Anoyia 81.85 305 *e*P **P** **13 14 29.5 -1.1**
comp=Z,314nm,1.2s
IDI *e*PcP **PcP** **13 14 35.4 -0.7**
IDI Anoyia 81.85 305 P **P** **13 14 30.3 -0.3**
comp=Z,79nm,0.6s,baz=51,slow=9.0,SNR=47
IDI LR LR 13 57 43.6
comp=Z,7µm,21.2s,baz=68,slow=41
LKR Lokris 81.89 309 P **P** **13 14 28.3 -2.4**
LKR Lokris 81.89 309 *e*P **P** **13 14 29.9 -0.8**
LKR Lokris 81.89 309 P **P** **13 14 28.3 -2.4**
NAIG Nisos Aigina 81.90 308 *e*P **P** **13 14 29.3 -1.5**
SNART Snartemo 81.92 331 *e*P **P** **13 14 31.4 +0.9**
SNART AMS AMS 13 54 12.4
comp=Z,43µm,15.6s
SIVA Sivas 82.01 305 P **P** **13 14 30.8 -0.6**
SIVA Sivas 82.01 305 *e*P **P** **13 14 31.5 +0.1**
SIVA Sivas 82.01 305 P **P** **13 14 30.8 -0.6**
MUD Monsted U'grnd 82.02 329 *e*P **P** **13 14 30.9 -0.1**
MUD MLR MLR
comp=Z,37µm,18.0s
MUD Monsted U'grnd 82.02 329 *i* P **P** **13 14 30.9 -0.1**
comp=Z,91nm,1.1s
MUD
comp=Z,37µm,18.0s
KZN Kozani 82.09 310 P **P** **13 14 30.5 -1.3**
KZN Kozani 82.09 310 P **P** **13 14 30.5 -1.3**
KZN Kozani 82.09 310 *e*P **P** **13 14 31.0 -0.8**
KZN Kozani 82.09 310 P **P** **13 14 30.5 -1.3**
AXAR Agios Charalam 82.09 309 P **P** **13 14 29.8 -2.0**
AXAR Agios Charalam 82.09 309 P **P** **13 14 29.8 -2.0**
BIA Bitola 82.10 311 P **P** **13 14 29.0 -2.8**
BIA Bitola 82.10 311 P **P** **13 14 29.0 -2.8**
BIA Bitola 82.10 311 *i* P **P** **13 14 30.6 -1.2**
PVCC Panska Ves 82.15 322⇑ *i*P **P** **13 14 32.0 +0.2**
PVCC *e*S **S** **13 24 42.1 -0.8**
PVCC MLR MLR
comp=Z,22µm,22.6s
PVCC Panska Ves 82.15 322⇑ *i*P **P** **13 14 32.0 +0.2**
PVCC *e*PP PP 13 17 32.9 -7.1
PVCC *e*S **S** **13 24 42.1 -0.8**
PVCC *ex* x 13 30 24.1
PVCC AMS AMS 13 55 00.0
comp=Z,22µm,22.6s

FNA Florina 82.16 311 P **P** **13 14 30.5 -1.7**
FNA Florina 82.16 311 P **P** **13 14 30.5 -1.7**
FNA Florina 82.16 311 *e*P P 13 14 22.5 -10
FNA Florina 82.16 311 P **P** **13 14 30.5 -1.7**
LTK Loutraki 82.17 308 P **P** **13 14 29.6 -2.6**
LTK Loutraki 82.17 308 *e*P **P** **13 14 30.5 -1.7**
LTK Loutraki 82.17 308 P **P** **13 14 29.6 -2.6**
DID Didima 82.19 307 P **P** **13 14 29.5 -2.8**
DID Didima 82.19 307 *e*P **P** **13 14 30.4 -1.9**
DID Didima 82.19 307 P **P** **13 14 29.5 -2.8**
TREC Trest 82.20 321 *i* P **P** **13 14 32.8 +0.7**
TREC *e* 13 17 40.3
TREC MLR MLR
comp=Z,30µm,19.4s
TREC Trest 82.20 321⇑ *i*P **P** **13 14 32.8 +0.7**
TREC *e*PP **PP** **13 17 40.3 -0.1**
TREC AMS AMS 13 54 00.0
comp=Z,30µm,19.4s
AGG Agios Georgios 82.22 309 P **P** **13 14 30.4 -2.1**
AGG Agios Georgios 82.22 309 P **P** **13 14 30.4 -2.1**
AGG Agios Georgios 82.22 309 *e*P **P** **13 14 30.8 -1.7**
AGG Agios Georgios 82.22 309 P **P** **13 14 30.4 -2.1**
THL Klokotos Trika 82.22 310 P **P** **13 14 30.2 -2.2**
THL Klokotos Trika 82.22 310 *e*P **P** **13 14 30.1 -2.3**
KMY Karmoy 82.29 332 *e*P **P** **13 14 34.5 +2.2**
KMY AMS AMS 13 54 44.3
comp=Z,52µm,17.1s
SOP Sopron 82.30 319⇑ *e*P **P** **13 14 32.8 +0.2**
VAM Vamos 82.32 305 P **P** **13 14 32.5 -0.5**
VAM Vamos 82.32 305 P **P** **13 14 32.5 -0.5**
VAM Vamos 82.32 305 *e*P **P** **13 14 33.8 +0.8**
VAM Vamos 82.32 305 P **P** **13 14 32.5 -0.5**
DESF Desfina 82.33 309 *e*P P 13 14 25.6 -7.5
DSF Desfina 82.33 309 P **P** **13 14 30.4 -2.7**
DSF Desfina 82.33 309 *e*P **P** **13 14 31.6 -1.5**
DSF Desfina 82.33 309 P **P** **13 14 30.4 -2.7**
BRG Berggiesshubel 82.34 322 *i* P **P** **13 14 32.5 -0.3**
comp=Z,207nm,1.6s
BRG *i* 13 14 40.0
comp=Z,265nm,1.3s
BRG PP **PP** **13 17 43.0 +1.5**
BRG SKS **S** **13 24 43.0 -1.8**
BRG S ScS 13 25 11.0 +11
BRG SS **SS** **13 30 12.0 +6.8**
BRG
comp=N,18µm,21.4s
BRG
comp=E,25µm,20.9s
BRG
comp=Z,29µm,20.0s
BRG Berggiesshubel 82.34 322 *i* P **P** **13 14 32.5 -0.3**
BRG *i* 13 14 40.0
BRG 13 17 43.0
BRG 13 24 43.0
BRG SS SS 13 30 12.0 +6.8
BRG pmax pmax
comp=Z,207nm,1.6s
BRG pmax pmax
comp=Z,265nm,1.3s
BRG MLR MLR
comp=N,18µm,21.4s
BRG MLR MLR
comp=E,25µm,20.9s
BRG MLR MLR
comp=Z,29µm,20.0s
BRG Berggiesshubel 82.34 322 *e*P **P** **13 14 32.8 0.0**
comp=Z,156nm,1.3s
MAKR Makrakomi, Fth 82.37 309 P **P** **13 14 31.1 -2.1**
MAKR Makrakomi, Fth 82.37 309 *e*P **P** **13 14 31.6 -1.6**
MAKR Makrakomi, Fth 82.37 309 P **P** **13 14 31.1 -2.1**
PRU Pruhonice 82.42 322⇑ *i*P **P** **13 14 33.1 -0.1**
PRU *e* 13 17 41.7
PRU *e*S **S** **13 24 43.8 -1.9**
PRU *e*S **S** **13 24 45.0 -0.7**
PRU MLR MLR
comp=Z,18µm,21.9s
PRU Pruhonice 82.42 322⇑ *i*P **P** **13 14 33.1 -0.1**
PRU *e*PP **PP** **13 17 41.7 -0.5**
PRU *e*S **S** **13 24 45.0 -0.7**
PRU *e*SS **SS** **13 30 01.3 -5.2**
PRU AMS AMS 13 54 50.0
comp=Z,18µm,21.9s
PRA Prague 82.44 322 ⇑P **P** **13 14 33.0 -0.3**
PRA PP **PP** **13 17 42.0 -0.4**
PRA S **S** **13 24 46.0 +0.1**
KARN Karanos 82.53 305 P **P** **13 14 33.5 -0.6**
KARN Karanos 82.53 305 P **P** **13 14 33.5 -0.6**
SCO Scoresbysund 82.54 348 *i* P **P** **13 14 34.0 +0.6**
SCO MLR MLR
comp=Z,11µm,25.0s
SCO Scoresbysund 82.54 348 *i* P **P** **13 14 34.0 +0.6**
SCO
comp=Z,11µm,25.0s
NEST Nestorio 82.54 311 P **P** **13 14 32.8 -1.4**
CONA Conrad Observa 82.60 319 *i* P **P** **13 14 34.9 +0.5**
comp=Z,320nm,1.4s,SNR=50
KALE Kalithea 82.62 309 P **P** **13 14 32.5 -2.1**
KALE Kalithea 82.62 309 *e*P **P** **13 14 33.5 -1.1**
KALE Kalithea 82.62 309 P **P** **13 14 32.5 -2.1**
EVR Evrytania 82.64 309 P **P** **13 14 32.9 -1.8**
EVR Evrytania 82.64 309 *e*P **P** **13 14 34.1 -0.6**
EVR Evrytania 82.64 309 P **P** **13 14 32.9 -1.8**
KBN Korca 82.64 311 P **P** **13 14 33.1 -1.6**
KBN Korca 82.64 311 P **P** **13 14 33.1 -1.6**
KBN Korca 82.64 311 P **P** **13 14 33.1 -1.6**
FBE Freiberg 82.64 323 *e*P **P** **13 14 34.7 +0.3**
comp=Z,339nm,1.1s
CLL Collm 82.65 323⇑ *i*P **P** **13 14 34.0 -0.4**
CLL *i* 13 14 39.0
CLL *e*S **SKSac** **13 24 51.0 -0.5**
CLL pmax pmax
comp=Z,229nm,1.1s
CLL MLR MLR
comp=Z,44µm,21.5s
CLL Collm 82.65 323 *e*P **P** **13 14 34.0 -0.4**
comp=Z,228nm,1.1s
CLL Collm 82.65 323⇑ *i*P **P** **13 14 34.0 -0.4**
comp=Z,229nm,1.1s
CLL *i* PcP **PcP** **13 14 39.0 -0.3**
CLL *e*sP **sP** **13 14 54.0 -0.5**
CLL *e*PP **PP** **13 17 42.0 -2.0**
CLL *e* 13 17 49.0
CLL *e*PPPP 13 21 18.0
CLL *e*S **SKSac** **13 24 51.0 -0.5**
CLL *e*sS **sS** **13 25 14.0 +1.6**
CLL *e*PPS PPS 13 26 06.0
CLL *e*SS **SS** **13 30 12.0 +2.2**
CLL *e* 13 31 24.0
CLL *e*pPKKPbc 13 32 15.0
CLL *e*SSSS 13 36 12.0
CLL Lm MLR 13 55 00.0
comp=N,22µm,20.5s
CLL Lm MLR 13 55 00.0
comp=E,27µm,21.2s
CLL Lm MLR 13 55 00.0
comp=Z,44µm,21.5s
GUR Goura 82.66 308 P **P** **13 14 32.5 -2.3**
GUR Goura 82.66 308 *e*P **P** **13 14 32.6 -2.3**
GUR Goura 82.66 308 P **P** **13 14 32.5 -2.3**
BEHE Becsehely 82.71 318⇓ *e*P **P** **13 14 35.0 +0.2**
VLI Veliai 82.72 307 P **P** **13 14 31.9 -3.2**
VLI Veliai 82.72 307 *e*P P 13 14 30.4 -4.7
VLI Veliai 82.72 307 P **P** **13 14 31.9 -3.2**
KLV Kalavryta, Ach 82.75 308 P **P** **13 14 33.2 -2.1**
KLV Kalavryta, Ach 82.75 308 *e*P **P** **13 14 34.4 -0.9**
KLV Kalavryta, Ach 82.75 308 P **P** **13 14 33.2 -2.1**
BSEG Bad Segeberg 82.76 326 *e*P **P** **13 14 35.0 +0.1**
comp=Z,147nm,1.5s
EFP Efpalio 82.77 309 P **P** **13 14 33.8 -1.5**
EFP Efpalio 82.77 309 *e*P **P** **13 14 34.7 -0.6**
LAKA Lakka 82.79 309 P **P** **13 14 33.7 -1.8**
LAKA Lakka 82.79 309 *e*P **P** **13 14 35.1 -0.4**
LAKA Lakka 82.79 309 P **P** **13 14 33.7 -1.8**
ANKY Antikythira Is 82.80 306 P **P** **13 14 34.4 -1.1**
ANKY Antikythira Is 82.80 306 P **P** **13 14 34.4 -1.1**
PSA1 Psathopyrgos 82.83 309 *e*P **P** **13 14 34.7 -0.8**
KYTH Kithira 82.83 306 P **P** **13 14 34.5 -1.2**
KYTH Kithira 82.83 306 *e*P **P** **13 14 35.4 -0.3**
KYTH Kithira 82.83 306 P **P** **13 14 34.5 -1.2**
VLX Vlachokerasia 82.86 308 P **P** **13 14 33.1 -2.8**
VLX Vlachokerasia 82.86 308 *e*P **P** **13 14 35.1 -0.8**
VLX Vlachokerasia 82.86 308 P **P** **13 14 33.1 -2.8**

PDG Podgorica 82.91 313 P **P** **13 14 35.4 -0.5**
TTG Podgorica 82.91 313 P **P** **13 14 35.4 -0.5**
TTG Podgorica 82.91 313 *e*P **P** **13 14 35.4 -0.5**
SUMG Summit 82.94 354 *i* P **P** **13 14 35.3 -0.7**
SUMG MLR MLR
comp=Z,9µm,18.0s
SUMG Summit 82.94 354 *i* P **P** **13 14 35.3 -0.7**
comp=Z,56nm,0.7s
SUMG
comp=Z,9µm,18.0s
SUMG Summit 82.94 354 *e*P **P** **13 14 34.4 -1.6**
comp=Z,82nm,0.9s
JAN Janina 83.00 310 P **P** **13 14 34.7 -1.8**
JAN Janina 83.00 310 P **P** **13 14 34.7 -1.8**
JAN Janina 83.00 310 P **P** **13 14 34.7 -1.8**
KOGS Kog 83.05 318 *e*P **P** **13 14 36.3 -0.2**
YKW3 Yellowknife Ar 83.10 23 *e*P **P** **13 14 36.2 -0.2**
comp=Z,4.6nm,0.7s
YKW3 *e*PcP **PcP** **13 14 40.7 -0.3**
YKW3 *e*pP **pP** **13 14 50.4 -0.6**
DRO Drossia 83.11 308 P **P** **13 14 36.4 -0.7**
DRO Drossia 83.11 308 *e*P **P** **13 14 37.2 +0.1**
ARSA Arzberg 83.12 319⇑ *i*P **P** **13 14 37.0 0.0**
comp=Z,160nm,1.3s,SNR=20
YKA Yellowknife Ar 83.14 23 P **P** **13 14 36.6 -0.1**
YKA S **S** **13 24 51.9 -0.7**
YKA PKKP **PKKPdf** **13 32 44.2 -4.3**
YKA PKKPbc **PKKPbc** **13 32 55.4 -3.5**
YKA P'P' 13 40 53.0
YKA Yellowknife Ar 83.14 23 P **P** **13 14 36.6 -0.1**
comp=Z,131nm,0.6s,baz=312,slow=5.0,SNR=788
YKA S **S** **13 24 51.9 -0.7**
comp=Z,1.7nm,0.9s,baz=308,slow=9.1,SNR=4.6
YKA PKKP **PKKPdf** **13 32 44.2 -4.3**
comp=Z,0.2nm,0.6s,baz=147,slow=2.0,SNR=3.8
YKA PKKPbc **PKKPbc** **13 32 55.3 -3.5**
comp=Z,0.8nm,0.4s,baz=134,slow=2.3,SNR=31
YKA PKPPKP P'P'df 13 40 53.0 -13
comp=Z,0.2nm,0.6s,baz=157,slow=2.3,SNR=4.0
PDO Prodromos 83.21 309 P **P** **13 14 36.3 -1.3**
PDO Prodromos 83.21 309 *e*P **P** **13 14 36.3 -1.3**
RLS Riolos of Patr 83.24 309 P **P** **13 14 36.9 -0.8**
RLS Riolos of Patr 83.24 309 *e*P **P** **13 14 36.9 -0.8**
RLS Riolos of Patr 83.24 309 P **P** **13 14 36.9 -0.8**
ITM Ithomi 83.27 308 P **P** **13 14 36.5 -1.4**
ITM Ithomi 83.27 308 *e*P **P** **13 14 36.9 -1.0**
ITM Ithomi 83.27 308 P **P** **13 14 36.5 -1.4**
AMT Artemida-Makis 83.28 308 P **P** **13 14 36.3 -1.7**
AMT Artemida-Makis 83.28 308 *e*P **P** **13 14 37.9 -0.1**
NEUB Neuenburg 83.37 323 *e*P **P** **13 14 38.0 -0.1**
comp=Z,386nm,1.1s
KHC Kasperske Hory 83.38 321⇑ *i*P **P** **13 14 38.0 -0.3**
KHC *e* 13 17 47.3
KHC *e*SS SS 13 30 22.1 +1.3
KHC MLR MLR
comp=Z,30µm,19.2s
KHC Kasperske Hory 83.38 321⇑ *i*P **P** **13 14 38.0 -0.3**
KHC *e*PP **PP** **13 17 47.3 -2.8**
KHC *e*SS SS 13 30 22.1 +1.3
KHC AMS AMS 13 59 10.0
comp=Z,30µm,19.2s
KHC Kasperske Hory 83.38 321 *e*P **P** **13 14 38.0 -0.3**
comp=Z,347nm,1.4s
KHC *e*PcP **PcP** **13 14 42.4 -0.2**
TANN Tannenbergstha 83.39 323 *e*P **P** **13 14 38.2 -0.1**
comp=Z,193nm,1.4s
IGT Igoumenitsa 83.42 310 P **P** **13 14 37.3 -1.3**
IGT Igoumenitsa 83.42 310 P **P** **13 14 37.3 -1.3**
IGT Igoumenitsa 83.42 310 *e*P **P** **13 14 37.4 -1.2**
IGT Igoumenitsa 83.42 310 P **P** **13 14 37.3 -1.3**
SISC Sisak 83.42 317 P **P** **13 14 38.5 0.0**
GEC2 GERESS Array S 83.44 321 *e*P **P** **13 14 38.7 0.0**
comp=Z,282nm,1.1s
GERES GERESS Array B 83.44 321 P **P** **13 14 38.5 -0.2**
GERES PKiKP **PKiKP** **13 19 55.4 -0.4**
GERES S S 13 24 49.7 -6.7
GERES PKKPbc **PKKPbc** **13 32 57.3 -0.6**
GERES GERESS Array B 83.44 321 P **P** **13 14 38.5 -0.2**
comp=Z,122nm,0.8s,baz=63,slow=4.5,SNR=205
GERES PKiKP **PKiKP** **13 19 55.4 -0.4**
comp=Z,2.4nm,0.9s,baz=129,slow=0.9,SNR=4.2
GERES S S 13 24 49.7 -6.7
comp=Z,0.8nm,1.0s,baz=187,slow=1.7,SNR=2.3
GERES PKKPbc **PKKPbc** **13 32 57.3 -0.6**
comp=Z,0.8nm,0.7s,baz=234,slow=1.1,SNR=5.3
GERES LR LR 13 57 59.3
comp=Z,27µm,20.5s,baz=61,slow=40
WERD Werda 83.45 323 *e*P **P** **13 14 38.5 -0.1**
comp=Z,183nm,1.1s
NKC Novy Kostel 83.48 322⇑ *i*P **P** **13 14 38.6 -0.2**
NKC *e*S **S** **13 24 55.4 -1.1**
NKC MLR MLR
comp=Z,15µm,19.3s
NKC Novy Kostel 83.48 322⇑ *i*P **P** **13 14 38.6 -0.2**
NKC *e*S **S** **13 24 55.4 -1.1**
NKC AMS AMS 13 55 00.0
comp=Z,15µm,19.3s
GUNZ Gunzen 83.48 323 *e*P **P** **13 14 38.8 0.0**
comp=Z,293nm,1.1s
WERN Wernitzgruen 83.50 322 *e*P **P** **13 14 38.9 +0.1**
comp=Z,261nm,1.1s
SRN Sarande 83.50 311 P **P** **13 14 37.0 -2.0**
SRN Sarande 83.50 311 P **P** **13 14 37.0 -2.0**
PLN Plauen 83.52 323 *e*P **P** **13 14 39.0 +0.1**
comp=Z,829nm,1.1s
PYL PYLOS 83.52 307 P **P** **13 14 37.4 -1.8**
PYL PYLOS 83.52 307 *e*P **P** **13 14 37.3 -1.9**
PYL PYLOS 83.52 307 P **P** **13 14 37.4 -1.8**
MOA Molln 83.59 320⇑ *i*P **P** **13 14 39.6 +0.2**
comp=Z,365nm,1.1s,SNR=33
NRDL Niedersach Rie 83.61 325 *e*P **P** **13 14 39.5 +0.3**
comp=Z,271nm,1.4s
PERS Pernice 83.65 318 *e*P **P** **13 14 39.5 -0.2**
PERS *e*S **S** **13 24 56.2 -2.2**
PERS *e* 13 25 19.4
PERS *e*SS SS 13 30 49.2 +24
SOKA Soboth 83.68 318⇑ *i*P **P** **13 14 39.9 -0.1**
comp=Z,268nm,1.3s,SNR=18
KFL Anninata 83.70 309 P **P** **13 14 38.9 -1.2**
KEK Kerkira 83.71 311 P **P** **13 14 38.4 -1.7**
KEK Kerkira 83.71 311 *e*P **P** **13 14 39.3 -0.8**
KEK Kerkira 83.71 311 P **P** **13 14 38.4 -1.7**
STON Ston 83.74 314 P **P** **13 14 39.1 -1.1**
WET Wettzell 83.77 321 *e*P **P** **13 14 41.2 +0.9**
comp=Z,232nm,1.3s
MANZ Manzenberg 83.79 322 *e*P **P** **13 14 40.5 +0.1**
comp=Z,225nm,1.3s
CLZ Clausthal 83.81 324 *e*P **P** **13 14 40.8 +0.4**
comp=Z,366nm,1.2s
VLS Valsamata 83.81 309 P **P** **13 14 39.3 -1.4**
VLS Valsamata 83.81 309 P **P** **13 14 39.3 -1.4**
VLS Valsamata 83.81 309 *e*P **P** **13 14 40.6 -0.1**
VLS Valsamata 83.81 309 P **P** **13 14 39.3 -1.4**
ROTZ Rotzenmuhle 83.85 322 *e*P **P** **13 14 41.0 +0.4**
comp=Z,291nm,1.1s
OPO Ambohidratompo 83.97 247 P **P** **13 14 42.3 +0.4**
OPO S **S** **13 24 59.6 -3.0**
OPO Ambohidratompo 83.97 247 P **P** **13 14 42.3 +0.4**
comp=Z,106nm,0.8s,baz=62,slow=5.3,SNR=71
OPO S **S** **13 24 59.6 -3.0**
comp=Z,1.0nm,0.6s,baz=32,slow=19,SNR=1.8
OPO LR LR 13 48 13.6
comp=Z,21µm,22.0s,baz=49,slow=33
OBKA Obir 84.06 318⇑ *i*P **P** **13 14 41.5 -0.4**
comp=Z,205nm,0.9s,SNR=12
BOJS Bojanci 84.10 317 *e*P **P** **13 14 42.2 +0.2**
ABPO Ambohimpanom 84.14 246 *e*P **P** **13 14 43.1 +0.3**
ABPO pmax pmax
comp=Z,209nm,1.0s
ABPO MLR MLR
comp=Z,11µm,19.0s
ABPO Ambohimpanom 84.14 246 *e*P **P** **13 14 43.1 +0.3**
comp=Z,209nm,1.0s
ABPO LR LR
comp=Z,11µm,19.0s
UDBI Udbina 84.23 316 P **P** **13 14 42.4 -0.3**
LJU Ljubljana 84.29 318 *e*P **P** **13 14 42.6 -0.4**
LJU *e*S **S** **13 25 02.8 -2.0**
LRW Lerwick 84.35 335 AMS AMS 13 56 08.7
comp=Z,21µm,18.9s
GRF Grafenberg Arr 84.44 322 *e*P **P** **13 14 44.0 +0.4**
comp=Z,480nm,1.3s
GRF *e*S S 13 25 22.0 +16
GRF *e*L L 13 55 55.2

comp=Z,28µm,21.7s
KBA **Koelnbreinsper** **84.51 319**⇓*i*P **P** **13 14 43.9 -0.4**
comp=Z,401nm,1.3s,SNR=34
RJOB **Jochberg** **84.51 320** *e*P **P** **13 14 44.0 -0.1**
comp=Z,245nm,1.3s
MYKA **Terra Mystica** **84.55 319**⇑*i*P **P** **13 14 43.7 -0.7**
comp=Z,114nm,1.3s,SNR=10
VOY **Vojsko** **84.69 318** *e*(P) **P** **13 14 43.8 -1.3**
CADS **Cadrg** **84.69 318** *e*P **P** **13 14 43.4 -1.6**
NVLJ **Novalja** **84.78 317** P **P** **13 14 42.3 -3.1**
IBBN **Ibbenburen** **84.93 326** *e*P **P** **13 14 46.0 0.0**
comp=Z,408nm,1.2s
ABTA **Abfaltersbach** **85.17 319** *i* P **P** **13 14 46.2 -1.2**
comp=Z,222nm,0.9s,SNR=40
FUR **Furstenfeldbru** **85.18 321** *e*P **P** **13 14 47.8 +0.4**
comp=Z,707nm,1.1s
WIT **Witteveen** **85.21 327** *e*P **P** **13 14 48.4 +1.1**
comp=Z,1µm,1.1s
KMBO **Kilima Mbogo** **85.37 267** P **P** **13 14 50.7 +1.5**
SNR=100
KMBO **Kilima Mbogo** **85.37 267** P **P** **13 14 49.5 +0.3**
KMBO S S 13 25 09.7 -7.4
KMBO **Kilima Mbogo** **85.37 267** P **P** **13 14 49.5 +0.3**
comp=Z,65nm,1.0s,baz=46,slow=6.6,SNR=119
KMBO S S 13 25 09.6 -7.4
comp=Z,0.5nm,0.3s,baz=66,slow=15,SNR=3.3
KMBO LR LR 13 51 45.9
comp=Z,8µm,21.7s,baz=58,slow=35
KMBO **Kilima Mbogo** **85.37 267** ⇑P **P** **13 14 49.6 +0.4**
baz=85,SNR=16
WTSB **Winterswijk** **85.61 326** *e*P **P** **13 14 49.1 -0.3**
comp=Z,351nm,1.4s
BUG **Bochum--Univer** **85.66 325** *e*P **P** **13 14 49.5 -0.1**
comp=Z,501nm,1.2s
RETA **Reutte** **85.83 321**⇓*i*P **P** **13 14 50.0 -0.7**
comp=Z,95nm,1.1s,SNR=13
PAF **Port-aux-Franc** **86.02 211** PFAKE 13 15 00.0 +8.8
PAF LR LR
comp=Z,6µm,21.0s
STU **Stuttgart** **86.05 322** *e*P **P** **13 14 51.6 -0.1**
STU *e**PP **pP** **13 15 05.3 -1.0**
STU pmax pmax
comp=Z,183nm,1.1s
STU **Stuttgart** **86.05 322** *e*P **P** **13 14 51.4 -0.3**
comp=Z,198nm,1.3s
STU **Stuttgart** **86.05 322** *e*P **P** **13 14 51.6 -0.1**
comp=Z,183nm,1.1s
STU *e*PcP **PcP** **13 14 54.6 +0.3**
STU *e*pP **pP** **13 15 05.3 -1.0**
TIP **Timpagrande** **86.06 311** P **P** **13 14 51.4 -0.6**
TIP **Timpagrande** **86.06 311** *e*P **P** **13 14 51.9 -0.1**
comp=Z,325nm,1.3s
TIP *e*pP **pP** **13 15 06.4 -0.2**
TIP LR LR
comp=Z,7µm,22.0s
FETA **Feichten** **86.09 320**⇑*i*PcP **P** **13 14 51.8 -0.4**
comp=Z,214nm,1.2s,SNR=36
CUC **Castrocucco** **86.32 312** *e*P **P** **13 14 52.5 -0.8**
comp=Z,239nm,1.4s
CUC LR LR
comp=Z,11µm,22.0s
DAVA **Damuels** **86.44 321**⇑*i*PcP **P** **13 14 53.3 -0.5**
comp=Z,128nm,1.1s,SNR=17
DAVOX **Davos/Dischmat** **86.71 320** P **P** **13 14 55.3 +0.1**
DAVOX PP **PP** **13 18 17.8 +0.4**
DAVOX S **SKSac** **13 25 13.5 -4.7**
DAVOX **Davos/Dischmat** **86.71 320** P **P** **13 14 55.3 +0.1**
comp=Z,72nm,0.9s,baz=56,slow=2.0,SNR=61
DAVOX PP **PP** **13 18 17.8 +0.4**
comp=Z,47nm,1.2s,baz=1.9,slow=4.7,SNR=4.0
DAVOX S **SKSac** **13 25 13.5 -4.7**
comp=Z,4.4nm,1.0s,baz=126,slow=21,SNR=3.4
DAVOX LR LR 13 57 30.5
comp=Z,21µm,20.0s,baz=46,slow=38
LANF **Langenberg** **86.71 323**⇑*e*P **P** **13 14 54.8 -0.2**
HGN **Heimansgroeve** **86.73 325** *e*P **P** **13 14 54.4 -0.6**
comp=Z,215nm,1.3s
HGN *e*S S 13 24 49.0 -40
HGN *e*SS SS 13 31 34.8 +25
BFO **Black Forest** **86.77 322** *e*P **P** **13 14 53.9 -1.4**
BFO *e* 13 18 18.7
BFO pmax pmax
comp=Z,130nm,1.3s
BFO MLR MLR
comp=Z,4µm,21.0s
BFO **Black Forest** **86.77 322** *e*P **P** **13 14 54.8 -0.5**
comp=Z,160nm,1.5s
BFO **Black Forest** **86.77 322** *e*P **P** **13 14 53.9 -1.4**
comp=Z,130nm,1.3s
BFO *e*PP **PP** **13 18 18.7 +1.1**
BFO LR LR
comp=Z,4µm,21.0s
MEM **Membach** **86.78 325** P **P** **13 14 54.4 -0.8**
comp=Z,121nm,1.3s
BEBN **Eben Emael** **86.85 325** P **P** **13 14 54.9 -0.6**
comp=Z,43nm,1.4s
DRUM **Mains of Drumt** **86.95 333** AMS AMS 13 58 15.1
comp=Z,36µm,15.7s
CEL **Celeste** **87.08 311** *e*P **P** **13 14 56.8 -0.2**
comp=Z,1µm,1.2s
CEL LR LR
comp=Z,11µm,22.0s
ILULI **Ilulissat** **87.12 357**⇑*i*P **P** **13 14 55.2 -1.3**
ILULI MLR MLR
comp=Z,9µm,19.0s
ILULI **Ilulissat** **87.12 357**⇑*i*P **P** **13 14 55.2 -1.3**
comp=Z,28nm,0.9s
ILULI
comp=Z,9µm,18.0s
TUE **Stuetta** **87.18 320** *e*P **P** **13 14 56.7 -0.8**
comp=Z,237nm,1.3s
TUE *e*pP **pP** **13 15 11.3 -0.8**
TUE LR LR
comp=Z,28µm,21.0s
FELD **Feldberg im Sc** **87.20 322**⇑*e*P **P** **13 14 56.8 -0.7**
BORG **Borgarnes** **87.22 345** LR LR 13 57 15.3
comp=Z,22µm,20.5s,baz=232,slow=38
WLF **Walferdange** **87.24 324** P **P** **13 14 57.4 -0.1**
comp=Z,346nm,1.2s
WLF **Walferdange** **87.24 324** *e*P **P** **13 14 57.3 -0.1**
WLF pmax pmax
comp=Z,545nm,1.1s
WLF MLR MLR
comp=Z,23µm,20.0s
WLF **Walferdange** **87.24 324** *e*P **P** **13 14 57.7 +0.2**
comp=Z,481nm,1.1s
WLF **Walferdange** **87.24 324** *e*P **P** **13 14 57.3 -0.2**
comp=Z,545nm,1.1s
WLF LR LR
comp=Z,23µm,20.0s
BCLA **Clavier** **87.26 325** P **P** **13 14 57.0 -0.5**
comp=Z,110nm,1.3s
WLS **Welschbruch** **87.28 323** *e*P **P** **13 14 57.2 -0.5**
CDF **Champ du Feu** **87.32 323**⇑*i*P **P** **13 14 57.3 -0.7**
comp=Z,610nm,1.4s
CDF **Champ du Feu** **87.32 323**⇑*i*P **P** **13 14 57.3 -0.7**
CDF pmax pmax
comp=Z,610nm,1.4s
CDF **Champ du Feu** **87.32 323**⇑*i*P **P** **13 14 57.3 -0.7**
comp=Z,610nm,1.4s
PGC **Sidney** **87.42 37** *e*P **P** **13 14 58.3 0.0**
comp=Z,177nm,0.8s
PGC *e*pP **pP** **13 15 12.3 -0.7**
ECH **Echery** **87.49 322**⇑*e*P **P** **13 14 58.1 -0.7**
ECH **Echery** **87.49 322** *e*P **P** **13 14 56.9 -1.9**
ECH pmax pmax
comp=Z,137nm,1.4s
ECH MLR MLR
comp=Z,26µm,22.0s
ECH **Echery** **87.49 322** *e*P **P** **13 14 56.9 -1.9**
comp=Z,137nm,1.4s
ECH LR LR
comp=Z,26µm,22.0s
UCC **Uccle** **87.53 326** P **P** **13 14 58.5 -0.3**
GIVF **Givet** **87.69 325**⇑*i*P **P** **13 14 58.9 -0.7**
comp=Z,397nm,1.1s
GIVF **Givet** **87.69 325**⇑*i*P **P** **13 14 58.9 -0.7**
GIVF pmax pmax
comp=Z,397nm,1.1s
GIVF **Givet** **87.69 325**⇑*i*P **P** **13 14 58.9 -0.7**
comp=Z,397nm,1.1s
MOF **Molkenrain** **87.71 322**⇑*e*P **P** **13 14 59.2 -0.7**
SNF **Seneffe** **87.74 325** P **P** **13 14 59.9 +0.1**
VLC **Villacollemand** **87.77 318** *e*P **P** **13 15 01.1 +0.9**
comp=Z,138nm,1.1s
VLC *e*pP **pP** **13 15 14.8 -0.1**
VLC LR LR
comp=Z,13µm,20.0s
DOU **Dourbes** **87.82 325** P **P** **13 14 59.6 -0.7**
comp=Z,98nm,1.1s
NLWA **Neilton Lookou** **87.88 38** *e*P **P** **13 15 01.8 +1.1**
comp=Z,198nm,0.9s
NLWA *e*pP **pP** **13 15 15.4 +0.1**
NLWA LR LR
comp=Z,8µm,21.0s
HINF **Hinteralfeld** **87.88 322**⇑*i*P **P** **13 14 59.5 -1.2**
comp=Z,217nm,1.3s
HINF **Hinteralfeld** **87.88 322**⇑*i*P **P** **13 14 59.5 -1.2**
HINF pmax pmax
comp=Z,217nm,1.3s
HINF **Hinteralfeld** **87.88 322**⇑*i*P **P** **13 14 59.5 -1.2**
comp=Z,217nm,1.3s
EDI **Edinburgh** **87.90 332** AMS AMS 13 58 28.4
comp=Z,46µm,17.2s
KPL **Plockton** **87.95 334** AMS AMS 13 58 02.6
comp=Z,17µm,19.1s
BAIF **Baives** **88.04 325**⇑*i*P **P** **13 15 00.6 -0.7**
comp=Z,274nm,1.1s
BAIF **Baives** **88.04 325**⇑*i*P **P** **13 15 00.6 -0.7**
BAIF pmax pmax
comp=Z,274nm,1.1s
BAIF **Baives** **88.04 325**⇑*i*P **P** **13 15 00.6 -0.7**
comp=Z,274nm,1.1s
HAU **Haudompre** **88.06 323**⇑*i*P **P** **13 15 00.4 -1.1**
HAU *e*R
comp=Z,40µm,22.0s
HAU **Haudompre** **88.06 323**⇑*i*P **P** **13 15 00.4 -1.1**
HAU pmax pmax
comp=Z,156nm,1.0s
HAU **Haudompre** **88.06 323**⇑*i*P **P** **13 15 00.4 -1.1**
comp=Z,156nm,1.0s
PAGF **Fort de Pagny** **88.09 323**⇑*i*P **P** **13 15 01.1 -0.5**
comp=Z,147nm,1.2s
PAGF **Fort de Pagny** **88.09 323**⇑*i*P **P** **13 15 01.1 -0.5**
comp=Z,147nm,1.2s
THEF **They Montfort** **88.14 323**⇑*e*P **P** **13 15 01.2 -0.6**
LOMF **Lomont** **88.16 322**⇑*e*P **P** **13 15 01.4 -0.6**
LMK **Market Rasen** **88.22 330** *e*P **P** **13 15 01.8 -0.3**
LMK AMB AMB 13 15 08.8
comp=Z,360nm,1.1s
LMK AMS AMS 13 58 11.5
comp=Z,45µm,19.7s
EKA **Eskdalemuir Ar** **88.28 332** P **P** **13 15 02.1 -0.2**
EKA PP **PP** **13 18 29.4 0.0**
EKA **Eskdalemuir Ar** **88.28 332** P **P** **13 15 02.1 -0.2**
comp=Z,12nm,0.6s,baz=46,slow=3.1,SNR=51
EKA PP **PP** **13 18 29.5 0.0**
comp=Z,6.8nm,0.8s,baz=50,slow=7.0,SNR=3.2
ESK **Eskdalemuir** **88.31 332** *e*P **P** **13 15 01.8 -0.7**
ESK AMB AMB 13 15 08.2
comp=Z,125nm,2.5s
ESK AMS AMS 13 58 50.5
comp=Z,42µm,18.9s
ESK **Eskdalemuir** **88.31 332** *i* P **P** **13 15 03.6 +1.2**
ESK **Eskdalemuir** **88.31 332** *e*P **P** **13 15 01.0 -1.4**
comp=Z,32nm,1.4s
ESK LR LR
comp=Z,57µm,19.0s
MEZF **Maizieres J'vi** **88.49 324**⇑*i*P **P** **13 15 03.0 -0.5**
comp=Z,532nm,1.2s
MEZF **Maizieres J'vi** **88.49 324**⇑*i*P **P** **13 15 03.0 -0.5**
comp=Z,532nm,1.2s
HPK **Haverah Park** **88.50 330** *e*P **P** **13 15 02.6 -0.8**
HPK AMB AMB 13 15 08.8
comp=Z,152nm,1.8s
HPK AMS AMS 13 58 38.0
comp=Z,21µm,21.3s
PGBU **Glenifferbraes** **88.52 333** AMS AMS 13 58 47.8
comp=Z,33µm,17.7s
RAR **Rarotonga** **88.53 114** P **P** **13 15 05.0 +1.0**
RAR **Rarotonga** **88.53 114** P **P** **13 15 04.9 +1.0**
comp=Z,21nm,0.9s,baz=291,slow=0.0,SNR=4.1
RAR LR LR 13 55 12.4
comp=Z,2µm,18.2s,baz=131,slow=36
SFTF **Sexfontaines** **88.67 323**⇑*i*P **P** **13 15 03.4 -0.9**
comp=Z,650nm,1.1s
SFTF **Sexfontaines** **88.67 323**⇑*i*P **P** **13 15 03.4 -0.9**
comp=Z,650nm,1.1s
KESW **Keswick, Cumbr** **88.75 331** *e*P **P** **13 15 03.9 -0.6**
KESW AMB AMB 13 15 05.7
comp=Z,167nm,2.5s
KESW AMS AMS 13 59 40.4
comp=Z,33µm,15.8s
BMW **Boistfort Moun** **88.75 39** P **P** **13 15 07.2 +2.4**
BMW **Boistfort Moun** **88.75 39** P **P** **13 15 07.2 +2.4**
MENF **Mencas** **88.81 326** *e*P **P** **13 15 04.5 -0.4**
KBI1 **Birley Grange** **88.91 330** *e*P **P** **13 15 04.3 -1.0**
ELSH **Elham, Standar** **88.96 327** AMS AMS 13 59 38.1
comp=Z,30µm,18.0s
CABF **La Chapelle** **88.99 322**⇑*i*P **P** **13 15 05.1 -0.9**
comp=Z,175nm,1.2s
CABF **La Chapelle** **88.99 322**⇑*i*P **P** **13 15 05.1 -0.9**
CABF pmax pmax
comp=Z,175nm,1.2s
CABF **La Chapelle** **88.99 322**⇑*i*P **P** **13 15 05.1 -0.9**
comp=Z,175nm,1.2s
F04D **Rainier, OR** **89.10 39** ⇑P **P** **13 15 08.6 +2.2**
baz=89
WDD **Wield Dalam** **89.18 309** PFAKE 13 15 20.0 +13
WDD LR LR
comp=Z,6µm,22.0s
RVC **Mount Rainier-** **89.20 38** P **P** **13 15 09.5 +2.5**
LPG **La Plagne** **89.23 320**⇑*i*P **P** **13 15 06.9 -0.5**
comp=Z,269nm,0.6s
LPG **La Plagne** **89.23 320**⇑*i*P **P** **13 15 06.9 -0.5**
LPG pmax pmax
comp=Z,269nm,0.6s
LPG **La Plagne** **89.23 320**⇑*i*P **P** **13 15 06.9 -0.5**
comp=Z,269nm,0.6s
LPL **La Plagne** **89.23 320**⇑*i*P **P** **13 15 06.8 -0.5**
comp=Z,316nm,0.6s
LPL **La Plagne** **89.23 320**⇑*i*P **P** **13 15 06.8 -0.5**
LPL pmax pmax
comp=Z,316nm,0.6s
LPL **La Plagne** **89.23 320**⇑*i*P **P** **13 15 06.8 -0.5**
comp=Z,316nm,0.6s
GAL1 **Galloway** **89.25 332** AMS AMS 13 59 26.6
comp=Z,39µm,17.5s
CLTB **Caltabellotta** **89.26 311** PFAKE 13 15 20.0 +13
CLTB LR LR
comp=Z,4µm,22.0s
SFJD **Kangerlussuaq** **89.31 357** *i* P **P** **13 15 06.0 -0.9**
comp=Z,22nm,0.8s
SFJD
comp=Z,7µm,20.0s
SFJD **Kangerlussuaq** **89.31 357** *e*P **P** **13 15 05.5 -1.3**
comp=Z,139nm,1.4s
SFJD *e*pP **pP** **13 15 21.1 -0.4**
SFJD LR LR
comp=Z,10µm,21.0s
SFJD **Kangerlussuaq** **89.31 357** P **P** **13 15 07.4 +0.6**
comp=Z,17nm,0.8s,baz=31,slow=4.2,SNR=9.5
STNC **Stoke** **89.33 330** *e*P **P** **13 15 07.4 +0.1**
STNC AMS AMS 13 59 04.4
comp=Z,31µm,19.6s
ERK **Elk Rock** **89.36 39** P **P** **13 15 09.8 +2.0**
LON **Longmire** **89.41 38** *e*P **P** **13 15 08.9 +1.0**
LON *e**PP **pP** **13 15 21.8 -0.7**
LON pmax pmax
comp=Z,177nm,1.0s
LON **Longmire** **89.41 38** *e*P **P** **13 15 08.9 +1.0**
comp=Z,177nm,1.0s
LON *e*pP **pP** **13 15 21.8 -0.7**
G03D **McMinnville, O** **89.44 40** ⇑P **P** **13 15 10.2 +2.2**
baz=89
NLW **Nelson Butte** **89.45 36** P **P** **13 15 10.1 +1.9**
LVP **Lakeview Peak** **89.45 39** P **P** **13 15 10.4 +2.3**
PGF **Pioggiola** **89.48 317**⇑*i*P **P** **13 15 07.9 -0.5**
comp=Z,511nm,0.9s
PGF **Pioggiola** **89.48 317**⇑*i*P **P** **13 15 07.9 -0.5**
PGF pmax pmax
comp=Z,511nm,0.9s
PGF **Pioggiola** **89.48 317**⇑*i*P **P** **13 15 07.9 -0.5**
comp=Z,511nm,0.9s
BNI **Bardonecchia** **89.52 320** *e*P **P** **13 15 07.6 -1.0**
BNI pmax pmax
comp=Z,151nm,0.9s
BNI MLR MLR
comp=Z,44µm,21.0s
BNI **Bardonecchia** **89.52 320** *e*P **P** **13 15 07.6 -1.0**
comp=Z,151nm,0.9s
BNI LR LR
comp=Z,44µm,21.0s
WPW **White Pass** **89.58 38** P **P** **13 15 10.9 +2.1**
SAOF **Saorge** **89.59 319**⇑*e*P **P** **13 15 08.2 -0.6**
MBDF **Montbardon** **89.65 320**⇑*i*P **P** **13 15 07.8 -1.4**
comp=Z,244nm,1.0s
MBDF **Montbardon** **89.65 320**⇑*i*P **P** **13 15 07.8 -1.4**
MBDF pmax pmax
comp=Z,244nm,1.0s
MBDF **Montbardon** **89.65 320**⇑*i*P **P** **13 15 07.8 -1.4**
comp=Z,244nm,1.0s
AUTN **L'Aution** **89.66 319**⇑*e*P **P** **13 15 11.3 +1.9**
EDM **Edmonton** **89.71 30** *e*P **P** **13 15 10.0 +0.8**
EDM *e**PP **pP** **13 15 23.4 -0.4**
EDM **Edmonton** **89.71 30** *e*P **P** **13 15 10.0 +0.8**
EDM *e*pP **pP** **13 15 23.4 -0.4**
SBF **Sospel** **89.73 319**⇑*i*P **P** **13 15 08.3 -1.2**
comp=Z,452nm,1.0s
SBF **Sospel** **89.73 319**⇑*i*P **P** **13 15 08.3 -1.2**
SBF pmax pmax
comp=Z,453nm,1.0s
SBF **Sospel** **89.73 319**⇑*i*P **P** **13 15 08.3 -1.2**
comp=Z,452nm,1.0s
TOUF **Mont Tournerai** **89.76 319**⇑*e*P **P** **13 15 08.8 -1.0**
SURF **Saint Ours** **89.76 320** *e*P **P** **13 15 09.3 -0.5**
COR **Corvallis** **89.77 40** *e*P **P** **13 15 10.4 +0.9**
COR pmax pmax
comp=Z,393nm,0.9s
COR **Corvallis** **89.77 40** *e*P **P** **13 15 10.3 +0.9**
comp=Z,393nm,0.9s
GDM **Grand'Maison** **89.77 320** *e*P **P** **13 15 09.5 -0.2**
OSPF **L'Ospedale** **89.83 316**⇑*e*P **P** **13 15 10.0 0.0**
REVF **Revere** **89.84 319**⇑*e*P **P** **13 15 09.6 -0.4**
TBM **Table Mountain** **89.84 37** P **P** **13 15 12.0 +2.1**
LOR **Lormes** **89.86 323**⇑*i*P **P** **13 15 08.8 -1.2**
comp=Z,452nm,1.1s
LOR *e*R
comp=Z,24µm,19.2s
LOR **Lormes** **89.86 323**⇑*i*P **P** **13 15 08.8 -1.2**
comp=Z,452nm,1.1s
WTV **Waterville** **89.88 36** P **P** **13 15 11.7 +1.6**
MVIF **Mont Vial** **89.88 319**⇑*e*P **P** **13 15 09.3 -1.0**
FOEL **Foel Wylfa** **89.91 330** *e*P **P** **13 15 09.6 -0.5**
FOEL AMB AMB 13 15 10.3
comp=Z,129nm,3.4s
FOEL AMS AMS 13 59 40.8
comp=Z,22µm,18.5s
GRN **Grenoble** **89.96 321** *e*P **P** **13 15 10.3 -0.3**
NAC **Naches** **89.97 38** P **P** **13 15 12.6 +2.1**
HLM1 **Long Mynd** **90.01 330** *e*P **P** **13 15 09.1 -1.4**
HLM1 AMB AMB 13 15 12.8
comp=Z,70nm,1.2s
WOL **Wolverton** **90.01 328** AMS AMS 14 00 36.1
comp=Z,30µm,17.1s
ORIF **Oris-en-Rattie** **90.07 320**⇑*i*P **P** **13 15 10.5 -0.6**
comp=Z,201nm,1.0s
ORIF *e*R
comp=Z,35µm,22.8s
ORIF **Oris-en-Rattie** **90.07 320**⇑*i*P **P** **13 15 10.5 -0.6**
ORIF pmax pmax
comp=Z,201nm,1.0s
ORIF **Oris-en-Rattie** **90.07 320**⇑*i*P **P** **13 15 10.5 -0.6**
comp=Z,201nm,1.0s
WME **Myndd Eilian** **90.07 331** *e*P **P** **13 15 09.5 -1.2**
KEBM **Edson Butte** **90.09 42** *e*P **P** **13 15 11.7 +0.5**
comp=Z,774nm,1.2s
CALN **Calern** **90.12 319** *e*P **P** **13 15 10.9 -0.5**
SWN1 **Swindon** **90.16 329** AMS AMS 13 57 52.4
comp=Z,31µm,26.1s
STRD **Stroud** **90.16 329** *e*P **P** **13 15 10.7 -0.5**
STRD AMB AMB 13 15 17.7
comp=Z,158nm,1.5s
SSF **Saint Saulge** **90.18 323**⇑*i*P **P** **13 15 10.4 -1.0**
comp=Z,368nm,1.1s
SSF **Saint Saulge** **90.18 323**⇑*i*P **P** **13 15 10.4 -1.0**
SSF pmax pmax
comp=Z,368nm,1.1s
SSF **Saint Saulge** **90.18 323**⇑*i*P **P** **13 15 10.4 -1.0**
comp=Z,368nm,1.1s
WLF1 **Llynfaes** **90.18 331** *e*P **P** **13 15 10.8 -0.5**
WLF1 AMB AMB 13 15 12.7
comp=Z,92nm,0.9s
WLF1 AMS AMS 14 01 05.3
comp=Z,27µm,15.4s
CASY **Casey** **90.19 184** *e*P **P** **13 15 10.3 -0.5**
comp=Z,136nm,1.3s
CASY *e*pP **pP** **13 15 25.0 -0.4**
CASY LR LR
comp=Z,4µm,19.0s
SMF **Signal de Mont** **90.24 322**⇑*i*P **P** **13 15 10.8 -0.9**
comp=Z,874nm,1.1s
SMF **Signal de Mont** **90.24 322**⇑*i*P **P** **13 15 10.8 -0.9**
SMF pmax pmax
comp=Z,875nm,1.1s
SMF **Signal de Mont** **90.24 322**⇑*i*P **P** **13 15 10.8 -0.9**
comp=Z,874nm,1.1s
YRC **Rhoscolyn** **90.29 331** *e*P **P** **13 15 10.9 -0.9**
FRF **La Foret Royal** **90.37 319**⇑*i*P **P** **13 15 11.5 -0.9**
comp=Z,410nm,1.3s
FRF **La Foret Royal** **90.37 319**⇑*i*P **P** **13 15 11.5 -0.9**
FRF pmax pmax
comp=Z,410nm,1.3s
FRF **La Foret Royal** **90.37 319**⇑*i*P **P** **13 15 11.5 -0.9**
comp=Z,410nm,1.3s
TRW **Toppenish Ridg** **90.39 38** P **P** **13 15 14.7 +2.3**
MCH1 **Michaelchurch** **90.41 329** *e*P **P** **13 15 11.7 -0.6**
MCH1 AMB AMB 13 15 19.7
comp=Z,115nm,1.0s
MCH1 AMS AMS 13 59 28.0
comp=Z,42µm,20.5s
MONM **Monmouth** **90.42 329** *e*P **P** **13 15 11.3 -1.1**
MONM AMB AMB 13 15 22.1
comp=Z,79nm,2.1s
AVF **Avril sur Loir** **90.42 323**⇑*i*P **P** **13 15 11.6 -0.9**
comp=Z,808nm,1.2s
AVF **Avril sur Loir** **90.42 323**⇑*i*P **P** **13 15 11.6 -0.9**
AVF pmax pmax
comp=Z,808nm,1.2s
AVF **Avril sur Loir** **90.42 323**⇑*i*P **P** **13 15 11.6 -0.9**
comp=Z,808nm,1.2s
BATH **Bath** **90.46 329** *e*P **P** **13 15 12.1 -0.5**
BATH AMB AMB 13 15 19.6
comp=Z,108nm,1.0s
KBO **Bosley Butte** **90.52 43** *e*P **P** **13 15 14.0 +0.8**
comp=Z,246nm,1.1s
KBO *e*pP **pP** **13 15 27.0 -0.9**
HYF **Humbligny** **90.53 323** *e*P **P** **13 15 12.7 -0.4**
HYF **Humbligny** **90.53 323** *e*P **P** **13 15 12.7 -0.4**
G05D **Wamic, OR** **90.56 39** ⇑P **P** **13 15 15.2 +2.0**
baz=90
LMR **La Mourre** **90.58 319**⇑*i*P **P** **13 15 12.7 -0.7**
comp=Z,598nm,1.3s
LMR **La Mourre** **90.58 319**⇑*i*P **P** **13 15 12.7 -0.7**
LMR pmax pmax
comp=Z,599nm,1.3s
LMR **La Mourre** **90.58 319**⇑*i*P **P** **13 15 12.7 -0.7**
comp=Z,598nm,1.3s
SSB **Saint Sauveur** **90.64 321**⇑*e*P **P** **13 15 12.9 -0.7**
SSB **Saint Sauveur** **90.64 321** *e*P **P** **13 15 13.0 -0.7**
SSB pmax pmax
comp=Z,131nm,1.1s
SSB MLR MLR
comp=Z,20µm,19.0s
SSB **Saint Sauveur** **90.64 321** *e*P **P** **13 15 13.0 -0.6**
comp=Z,131nm,1.1s
SSB LR LR
comp=Z,20µm,19.0s
I04A **Tendick Farm,** **90.74 41** ⇓P **P** **13 15 15.7 +1.6**
baz=91
OD2 **Odessa Site #2** **90.74 36** P **P** **13 15 15.8 +1.7**
PLDF **La Plantade** **90.76 322**⇑*e*P **P** **13 15 14.6 +0.4**
SMRF **Simiane la Rot** **90.78 320**⇑*i*P **P** **13 15 13.8 -0.5**
comp=Z,285nm,1.3s
SMRF **Simiane la Rot** **90.78 320**⇑*i*P **P** **13 15 13.8 -0.5**
comp=Z,285nm,1.3s
VIVF **Saint-Julien-l** **90.81 321**⇑*i*P **P** **13 15 13.7 -0.7**
comp=Z,302nm,1.1s
VIVF **Saint-Julien-l** **90.81 321**⇑*i*P **P** **13 15 13.7 -0.7**
VIVF pmax pmax
comp=Z,302nm,1.1s
VIVF **Saint-Julien-l** **90.81 321**⇑*i*P **P** **13 15 13.7 -0.7**
comp=Z,302nm,1.1s
BLTW **Bickleton** **90.81 38** P **P** **13 15 16.8 +2.3**
LPW **Lampeter** **90.82 330** *e*P **P** **13 15 13.9 -0.4**
LPW AMB AMB 13 15 14.3
comp=Z,413nm,1.6s

| | | |

baz=98
TBI Tubuai 98.11 112 *e*PP PP 13 19 49.5 +1.5
comp=Z,1µm,33.7s
TBI *e*SKSac **SKSac 13 26 24.5 +2.6**
comp=Z,5µm,27.3s
TBI *e*S **ScS 13 27 12.3 +0.5**
comp=Z,6µm,28.8s
TBI *e*SP **SP 13 28 38.8 +3.1**
comp=Z,7µm,33.5s
TBI *e*SS **SS 13 33 56.9 +1.3**
comp=Z,8µm,27.2s
TBI Tubuai 98.11 112 *e*LR LR 13 47 46.8
comp=Z,27µm,33.5s,baz=294
D24A Glendive 98.12 30 ⇓P Pdif 13 15 47.9 0.0
baz=98,SNR=27
R11A Troy Canyon, C 98.12 42 *e*P **P 13 15 48.0 -0.3**
comp=Z,19nm,1.2s
R11A Troy Canyon, C 98.12 42 ⇓P Pdif 13 15 48.5 +0.2
baz=98,SNR=30
E23A Ismay 98.13 31 ⇓P Pdif 13 15 48.0 0.0
baz=98,SNR=9.1
G21A Lodge Grass 98.14 33 ⇓P Pdif 13 15 48.4 +0.3
baz=98
BSC Santa Cruz Isl 98.15 47 ⇑P **P 13 15 48.2 -0.1**
baz=98
C25A Freed Ranch, W 98.16 29 ⇑P Pdif 13 15 48.4 +0.4
baz=98,SNR=12
F22A Rosebud 98.20 32 ⇑P **P 13 15 48.3 0.0**
baz=98,SNR=9.7
H20A Greybull 98.27 33 ⇓P Pdif 13 15 48.9 +0.2
baz=98,SNR=15
MPMC Manual Prospec 98.34 45 ⇓P **P 13 15 49.2 0.0**
baz=98,SNR=30
OSI Osito Adit 98.40 46 ⇓P Pdif 13 15 50.6 +1.2
baz=98
B27A Peters Farms, 98.48 27 ⇑P Pdif 13 15 50.2 +0.8
baz=98
FURC Furnace Creek, 98.49 44 ⇑Pdiff Pdif 13 15 50.5 +0.9
baz=98
A28A Rude Farm, Bot 98.50 26 ⇑P Pdif 13 15 50.6 +1.0
baz=98
E24A Baker 98.55 30 ⇓Pdiff Pdif 13 15 50.4 +0.6
baz=98
D25A Fairfield 98.55 29 ⇑Pdiff Pdif 13 15 49.9 +0.1
baz=98
LRMC Laurel Mountai 98.56 45 ⇑Pdiff Pdif 13 15 51.2 +1.0
baz=98
C26A Wahner Farm, P 98.58 28 ⇑Pdiff Pdif 13 15 50.4 +0.5
baz=98
TPNV Topopah Spring 98.58 43 ⇓Pdiff Pdif 13 15 51.0 +0.7
baz=98
I20A Worland 98.59 34 ⇓Pdiff Pdif 13 15 50.5 +0.4
baz=98
J19A Crowheart 98.59 35 ⇑Pdiff Pdif 13 15 50.8 +0.6
baz=98
DUG Dugway 98.59 39 *e*P Pdif 13 15 50.4 +0.1
DUG *e**PP pP 13 16 06.3 +1.3
DUG pmax pmax
comp=Z,40nm,1.2s
DUG MLR MLR
comp=Z,7µm,20.0s
DUG Dugway 98.59 39 *e*P Pdif 13 15 50.4 +0.1
comp=Z,40nm,1.2s
DUG *ep*P pP 13 16 06.3 +1.3
DUG LR LR
comp=Z,7µm,20.0s
DUG Dugway 98.59 39 ⇑Pdiff Pdif 13 15 51.1 +0.8
baz=98
G22A Birney 98.59 32 ⇑Pdiff Pdif 13 15 50.8 +0.7
baz=98
H21A Big Horn, Sher 98.65 33 ⇓Pdiff Pdif 13 15 50.8 +0.4
baz=98
F23A Volborg 98.65 31 ⇓Pdiff Pdif 13 15 50.8 +0.5
baz=98
BW06 Boulder Array 98.67 36 *e*P **P 13 15 50.1 -0.6**
comp=Z,9.6nm,0.9s
BW06 LR LR
comp=Z,5µm,19.0s
PDAR Pinedale Array 98.67 36 P **P 13 15 50.6 0.0**
PDAR PP **PP 13 19 52.2 +1.0**
PDAR PKKPbc **PKKPbc 13 32 18.4 -1.1**
PDAR Pinedale Array 98.67 36 P **P 13 15 50.6 0.0**
comp=Z,7.0nm,0.9s,baz=300,slow=1.9,SNR=22
PDAR PP **PP 13 19 52.2 +1.0**
comp=Z,4.4nm,1.0s,baz=312,slow=3.5,SNR=3.7
PDAR PKKPbc **PKKPbc 13 32 18.4 -1.1**
comp=Z,1.8nm,1.0s,baz=134,slow=6.4,SNR=5.1
EDW2 Edwards Air Fo 98.72 46 ⇑Pdiff Pdif 13 15 52.1 +1.2
baz=99
B28A Dugan Ranch, T 98.83 27 ⇑Pdiff Pdif 13 15 52.0 +1.0
baz=99
DECC Green Verdugo 98.87 47 ⇓Pdiff Pdif 13 15 52.2 +0.7
baz=99
A29A Manning Farm, 98.91 26 ⇑Pdiff Pdif 13 15 52.1 +0.8
baz=99
C27A Sayler Ranch, 98.92 28 ⇓Pdiff Pdif 13 15 52.0 +0.6
baz=99
E25A Miller Ranch, 99.00 30 ⇓Pdiff **Pdif 13 15 52.6 +0.7**
baz=99
F24A Ekalaka 99.02 31 ⇓Pdiff **Pdif 13 15 52.5 +0.5**
baz=99
PASC Pasadena Art C 99.02 47 *e*P **Pdif 13 15 52.2 +0.1**
comp=Z,22nm,1.0s
PASC *ep*P **pP 13 16 07.9 +1.1**
D26A Manning 99.04 29 ⇑Pdiff **Pdif 13 15 52.6 +0.6**
baz=99
ESDC Sonseca Array 99.04 321 P **Pdif 13 15 51.8 -0.3**
ESDC PP PP 13 19 43.4 -11
ESDC Sonseca Array 99.04 321 P **Pdif 13 15 51.8 -0.3**
comp=Z,2.9nm,0.9s,baz=34,slow=3.5,SNR=10
ESDC PP PP 13 19 43.4 -11
comp=Z,9.3nm,1.1s,baz=54,slow=9.8,SNR=5.8
ESDC LR LR 14 05 06.5
comp=Z,11µm,21.6s,baz=20,slow=38
G23A Biddle 99.04 32 ⇑Pdiff **Pdif 13 15 52.8 +0.7**
baz=99
MWC Mount Wilson 99.07 46 *e*P **Pdif 13 15 52.1 -0.5**
MWC *e**PP **pP 13 16 09.1 +1.8**
MWC pmax pmax
comp=Z,55nm,1.4s
MWC Mount Wilson 99.07 46 *e*P **Pdif 13 15 52.1 -0.5**
comp=Z,55nm,1.4s
MWC *ep*P **pP 13 16 09.1 +1.8**
I21A Big Trails, Te 99.11 34 ⇑Pdiff **Pdif 13 15 53.2 +0.7**
baz=99
ULM Lac du Bonnet 99.12 23 P **Pdif 13 15 51.7 -0.5**
ULM PKKP **PKKPdf 13 32 21.1 +0.4**
ULM Lac du Bonnet 99.12 23 P **Pdif 13 15 51.7 -0.5**
comp=Z,6.1nm,0.6s,baz=321,slow=7.0,SNR=8.7
ULM PKKP **PKKPdf 13 32 21.1 +0.4**
comp=Z,2.5nm,0.7s,baz=149,slow=2.8,SNR=3.7
LSZ Lusaka 99.16 257 P **Pdif 13 15 53.0 -0.2**
SNR=9.1
LSZ Lusaka 99.16 257 *e*P **Pdif 13 15 51.6 -1.6**
comp=Z,37nm,1.1s
LSZ *ep*P **pP 13 16 09.1 +1.3**
LSZ LR LR
comp=Z,24µm,22.0s
PBRG Braganca 99.17 324 *e*Pdif **Pdif 13 15 52.3 -0.4**
PBRG Braganca 99.17 324 *e*PP PP 13 19 54.0 -0.9
NLU North Lily Min 99.17 39 *e*P **Pdif 13 15 53.5 +0.6**
comp=Z,20nm,1.1s
FMP Fort Macarthur 99.22 47 ⇑Pdiff **Pdif 13 15 53.8 +0.8**
baz=99
B29A Wagenman Farm, 99.22 26 ⇓Pdiff **Pdif 13 15 53.6 +0.9**
baz=99
GSC Goldstone 99.24 45 ⇓Pdiff **Pdif 13 15 53.9 +0.7**
baz=99
A30A Hoffart Farm, 99.27 25 ⇑Pdiff **Pdif 13 15 53.7 +0.8**
baz=99
CIS Catalina Islan 99.33 47 ⇓Pdiff **Pdif 13 15 54.3 +0.7**
baz=99
BFSC Mount Baldy Ra 99.33 46 ⇑Pdiff **Pdif 13 15 54.6 +1.0**
baz=99
DAU Daniels Canyon 99.34 38 *e*P **Pdif 13 15 54.8 +1.0**
DAU pmax pmax
comp=Z,35nm,1.2s
DAU Daniels Canyon 99.34 38 *e*P **Pdif 13 15 54.8 +1.0**
comp=Z,2.2nm,1.2s
PAB San Pablo 99.35 321 PFAKE 13 16 00.0 +6.4
PAB LR LR
comp=Z,13µm,20.0s
J21A Lysite 99.36 34 ⇑Pdiff **Pdif 13 15 54.1 +0.4**
baz=99
RRX Edison Barstow 99.37 45 ⇑Pdiff **Pdif 13 15 54.8 +1.2**
baz=99
D27A Center 99.38 28 ⇑Pdiff **Pdif 13 15 54.4 +1.0**
baz=99
MPU Maple Canyon 99.39 39 *e*PcP **Pdif 13 15 54.1 +0.2**
comp=Z,23nm,1.1s
C28A Hausauer Farms 99.39 27 ⇓Pdiff **Pdif 13 15 54.4 +0.9**
baz=99
F25A Bowman 99.41 30 ⇓Pdiff **Pdif 13 15 54.5 +0.8**
baz=99
G24A Alzada 99.41 31 ⇑Pdiff **Pdif 13 15 54.2 +0.4**
baz=99
E26A Carlson Angus 99.45 29 ⇓Pdiff **Pdif 13 15 54.8 +1.0**
baz=99
I22A 9 Mile Ranch, 99.46 33 ⇓Pdiff **Pdif 13 15 54.9 +0.8**
baz=99
SCI San Clemente I 99.48 48 ⇑Pdiff **Pdif 13 15 55.0 +0.8**
baz=99
H23A Clabaugh Cattl 99.51 32 ⇑Pdiff **Pdif 13 15 54.7 +0.5**
baz=99
SHPR Sheep Range 99.54 43 *e*Pdif **Pdif 13 15 54.8 +0.2**
comp=Z,24nm,1.0s
MDND Maddock 99.61 27 *e*Pdif **Pdif 13 15 54.9 +0.4**
comp=Z,320nm,1.2s
MDND Maddock 99.61 27 ⇓Pdiff **Pdif 13 15 55.0 +0.5**
baz=99
B30A Myrvik Farm, E 99.65 26 ⇓Pdiff **Pdif 13 15 55.2 +0.6**
baz=99
D28A Regan 99.72 28 ⇓Pdiff **Pdif 13 15 55.3 +0.4**
baz=100
TUQ Turquoise Moun 99.73 44 ⇓Pdiff **Pdif 13 15 55.6 +0.2**
baz=100
MVO Moncorvo 99.77 323 *e*Pdif **Pdif 13 15 55.6 +0.2**
MVO Moncorvo 99.77 323 *e*PP PP 13 20 00.9 +1.4
MVO *e*SKSac SKSac 13 26 39.7 +10
MVO *e*SS SS 13 34 52.6 +36
MVO Moncorvo 99.77 323 *e*LQ LQ 13 51 24.9
MVO *e*LR LR 13 55 24.8
comp=Z,15µm,22.0s
H24A Dirks Ranch, A 99.78 31 ⇓Pdiff **Pdif 13 15 55.9 +0.5**
baz=100
BBRC Big Bear Solar 99.80 46 ⇑Pdiff **Pdif 13 15 56.0 +0.1**
baz=100
J22A Midwest 99.81 33 ⇓Pdiff **Pdif 13 15 55.9 +0.3**
baz=100
F26A Lodgepole 99.83 30 ⇓Pdiff **Pdif 13 15 56.0 +0.4**
baz=100
HEC Hector,Ludlow 99.84 45 ⇑Pdiff **Pdif 13 15 56.5 +0.7**
baz=100
PGAV Gavieira, Arco 99.88 325 *e*Pdif **Pdif 13 15 56.8 +0.9**
PGAV Gavieira, Arco 99.88 325 *e*PP PP 13 19 59.5 -0.9
PGAV *e*SKSac **SKSac 13 26 37.0 +6.3**
PGAV *e*SS **SS 13 34 23.3 +5.1**
PGAV Gavieira, Arco 99.88 325 *e*LQ LQ 13 49 06.4
PGAV *e*LR LR 13 54 59.2
comp=Z,21µm,22.0s
E27A Carson 99.88 29 ⇓Pdiff **Pdif 13 15 56.2 +0.5**
baz=100
K21A Alcova 99.97 34 ⇑Pdiff **Pdif 13 15 57.0 +0.6**
baz=100
G25A Newell 99.98 31 ⇑Pdiff **Pdif 13 15 56.7 +0.4**
baz=100
CCUT Cedar City 99.99 41 *e*Pdif **Pdif 13 15 57.8 +1.1**
comp=Z,9.3nm,1.0s
MURC Murrieta 100.01 47 ⇑Pdiff **Pdif 13 15 57.6 +1.0**
baz=100
POLO Lamas de Olo 100.04 324 *e*Pdif **Pdif 13 15 56.2 -0.4**
POLO Lamas de Olo 100.04 324 *e*PP PP 13 20 03.2 +1.6
MVU Marysvale 100.05 40 *e*Pdif **Pdif 13 15 57.3 +0.4**
comp=Z,18nm,1.1s
F27A Lemmon 100.11 29 ⇑Pdiff **Pdif 13 15 57.9 +1.2**
baz=100
TMUT Trail Mountain 100.11 39 *e*Pdif **Pdif 13 15 55.6 -1.6**
comp=Z,20nm,1.1s
E28A Huff 100.15 28 ⇓Pdiff **Pdif 13 15 57.7 +0.8**
baz=100
C30A Mose, Pekin 100.19 26 ⇑Pdiff **Pdif 13 15 57.8 +0.7**
baz=100
D29A Pettibone, Tap 100.24 27 ⇓Pdiff **Pdif 13 15 58.0 +0.7**
baz=100
G26A Maurine 100.28 30 ⇓Pdiff **Pdif 13 15 58.4 +0.8**
baz=100
GMRC Granite Mounta 100.30 45 ⇓Pdiff **Pdif 13 15 58.7 +0.7**
baz=100
H25A Fruitdale 100.33 31 ⇓Pdiff **Pdif 13 15 58.5 +0.6**
baz=100
K22A Casper 100.33 34 *e*Pdif **Pdif 13 15 58.0 0.0**
comp=Z,22nm,1.0s
K22A Casper 100.33 34 ⇓Pdiff **Pdif 13 15 58.8 +0.8**
baz=100
I24A Kummerle Ranc 100.40 32 ⇑Pdiff **Pdif 13 15 59.0 +0.8**
baz=100
RSSD Black Hills 100.49 32 *e*P **Pdif 13 15 57.9 -0.8**
RSSD pmax pmax
comp=Z,17nm,0.8s
RSSD Black Hills 100.49 32 *e*Pdif **Pdif 13 15 57.9 -0.8**
comp=Z,17nm,0.8s
PFO Pinyon Flat Ob 100.50 46 P **Pdif 13 16 00.0 +1.1**
comp=Z,10nm,1.0s
PFO PP **PP 13 20 05.1 -0.3**
PFO LR LR
comp=Z,12µm,21.0s
PFO Pinyon Flat Ob 100.50 46 ⇓Pdiff **Pdif 13 15 59.7 +0.8**
baz=100
PFO Pinyon Flat Ob 100.50 46 P **Pdif 13 16 00.0 +1.1**
comp=Z,12nm,1.0s,baz=324,slow=3.0,SNR=3.2
PFO PP **PP 13 20 05.1 -0.3**
comp=Z,7.8nm,1.0s,baz=333,slow=7.6,SNR=4.1
109C Camp Elliot, M 100.51 47 ⇑Pdiff **Pdif 13 15 59.6 +0.9**
baz=100
G27A Dupree 100.53 30 ⇓Pdiff **Pdif 13 15 59.4 +0.8**
baz=100
D30A Buchanan 100.55 27 ⇓Pdiff **Pdif 13 15 59.2 +0.6**
baz=100
BELC Belle Mtn. Jos 100.56 46 ⇑Pdiff **Pdif 13 15 59.7 +0.6**
baz=100
MTE Manteigas 100.58 323 *e*Pdif **Pdif 13 15 59.8 +0.8**
MTE Manteigas 100.58 323 *e*SKSac **SKSac 13 26 39.5 +5.4**
MTE *e*SS SS 13 35 01.5 +34
MTE Manteigas 100.58 323 *e*LQ LQ 13 51 08.4
MTE *e*LR LR 13 55 10.3
comp=Z,13µm,18.0s
MTE Manteigas 100.58 323 PFAKE 13 16 10.0 +11
MTE LR LR
comp=Z,14µm,19.0s
E29A Napoleon 100.61 28 ⇑Pdiff **Pdif 13 15 59.5 +0.6**
baz=100
SRU San Rafael 100.63 39 *e*P **Pdif 13 15 59.5 +0.1**
SRU pmax pmax
comp=Z,19nm,0.8s
SRU San Rafael 100.63 39 *e*Pdif **Pdif 13 15 59.5 +0.1**
comp=Z,19nm,0.8s
F28A McLaughlin 100.67 29 ⇑Pdiff **Pdif 13 16 00.1 +0.8**
baz=100
N20A Spence Gulch, 100.71 36 ⇓Pdiff **Pdif 13 16 00.2 +0.4**
baz=100
I25A Rochford 100.71 32 ⇑Pdiff **Pdif 13 16 00.4 +0.7**
baz=100
K23A Bowen Ranch, D 100.72 33 ⇓Pdiff **Pdif 13 16 00.2 +0.5**
baz=100
H26A Fairpoint 100.72 31 ⇓Pdiff **Pdif 13 16 00.3 +0.8**
baz=100
AGMN Agassiz Nation 100.73 24 PFAKE 13 16 10.0 +11
AGMN LR LR
comp=Z,8µm,21.0s
J24A Dixon Ranch, L 100.77 33 ⇓Pdiff **Pdif 13 16 00.6 +0.7**
baz=101
L22A Ellis Ranch, M 100.83 34 ⇓Pdiff **Pdif 13 16 01.1 +0.8**
baz=101
MAW Mawson 100.89 200 P **Pdif 13 15 59.2 -0.2**
MAW Mawson 100.89 200 P **Pdif 13 15 59.2 -0.2**
comp=Z,7.3nm,1.0s,baz=50,slow=9.2,SNR=7.7
MAW Mawson 100.89 200 ⇓P **Pdif 13 15 58.5 -0.9**
baz=101,SNR=4.9
BAR Barrett 100.92 47 *e*Pdif **Pdif 13 16 00.6 -0.1**
comp=Z,3.8nm,0.8s
MONP Monument Peak 100.96 47 ⇓Pdiff **Pdif 13 16 02.1 +1.1**
baz=101
E30A Jud 100.97 27 ⇓Pdiff **Pdif 13 16 01.6 +1.1**
baz=101
IRM Iron Mountain 101.02 45 ⇑Pdiff **Pdif 13 16 02.5 +1.5**
baz=101
H27A Howes 101.03 30 ⇑Pdiff **Pdif 13 16 02.2 +1.3**
baz=101
F29A Eureka 101.10 28 ⇓Pdiff **Pdif 13 16 02.2 +1.1**
baz=101
I26A New Underwood 101.12 31 ⇓Pdiff **Pdif 13 16 02.6 +1.2**
baz=101
BC3 Big Chuckawall 101.13 46 ⇓Pdiff **Pdif 13 16 02.5 +0.9**
baz=101
L23A Garrett 101.14 34 ⇓Pdiff **Pdif 13 16 02.6 +0.9**
baz=101
K24A Anderson Ranch 101.15 33 ⇑Pdiff **Pdif 13 16 02.6 +1.0**
baz=101
J25A Sunshine Ranch 101.15 32 ⇓Pdiff **Pdif 13 16 02.6 +1.1**
baz=101
PMRV Marv??o 101.16 322 *e*PP PP 13 20 07.4 -2.6
PMRV *e*SKSac SKSac 13 26 45.4 +8.5
PMRV *e*SS SS 13 34 49.6 +14
PMRV Marv??o 101.16 322 *e*LR LR 13 56 07.5
comp=Z,18µm,22.0s
M22A Cedar Creek Ra 101.19 35 ⇓Pdiff **Pdif 13 16 02.8 +0.9**
baz=101
O20A White River Ci 101.21 37 *e*Pdif **Pdif 13 16 01.4 -0.6**
comp=Z,21nm,1.0s
O20A White River Ci 101.21 37 ⇓Pdiff **Pdif 13 16 02.7 +0.7**
baz=101
G28A Parade 101.22 29 ⇓Pdiff **Pdif 13 16 02.6 +0.9**
baz=101
W13A Hualapai Mount 101.23 44 ⇓Pdiff **Pdif 13 16 03.6 +1.3**
baz=101
DVTC Desert V Tower 101.32 47 ⇓Pdiff **Pdif 13 16 04.1 +1.6**
baz=101
PCAS Casmilo, Conde 101.34 323 *e*PP PP 13 20 12.2 +0.8
SWSC Sam W. Stewart 101.35 46 ⇑Pdiff **Pdif 13 16 03.9 +1.4**
baz=101
SCHQ Schefferville 101.36 5 PP PP 13 20 14.3 +3.6
comp=Z,9.4nm,0.8s,baz=339,slow=8.6,SNR=4.8
SCHQ PKKPbc **PKKPbc 13 32 08.1 -4.0**
comp=Z,4.9nm,0.6s,baz=194,slow=4.9,SNR=6.7
U15A North Rim 101.37 42 ⇓Pdiff **Pdif 13 16 04.4 +1.5**
baz=101
F30A Leola 101.45 28 ⇑Pdiff **Pdif 13 16 03.2 +0.5**
baz=101
I27A Quinn 101.47 31 ⇑Pdiff **Pdif 13 16 03.5 +0.6**
baz=101
H28A Mission Ridge 101.48 30 ⇑Pdiff **Pdif 13 16 03.8 +0.9**
baz=101
J26A Sides Ranch, S 101.56 32 ⇓Pdiff **Pdif 13 16 04.7 +1.3**
baz=101
G29A Hoven 101.56 29 ⇓Pdiff **Pdif 13 16 04.3 +1.0**
baz=101
PDMCI Parker Dam,Lak 101.58 44 ⇓Pdiff **Pdif 13 16 04.6 +1.1**
baz=101
M23A Laramie 101.60 34 ⇓Pdiff **Pdif 13 16 04.6 +0.9**
baz=101
PESTR Estremoz 101.66 322 *e*PP PP 13 20 12.8 -1.0
Y12C Blythe 101.68 45 ⇑Pdiff **Pdif 13 16 05.3 +1.4**
baz=102
N22A Wattenberg Ran 101.70 35 ⇑Pdiff **Pdif 13 16 04.7 +0.5**
baz=102
PBAR Barrancos 101.82 321 *e*PP PP 13 20 13.5 -1.5
PMTG Montargil 101.88 322 *e*PP PP 13 20 10.3 -5.1
H29A Onida 101.88 29 ⇑Pdiff **Pdif 13 16 05.6 +0.9**
baz=102
N23A Red Feather La 101.90 35 ⇓Pdiff **Pdif 13 16 06.1 +1.0**
baz=102
GLA Glamis 101.92 46 *e*P **Pdif 13 16 05.9 +0.8**
GLA pmax pmax
comp=Z,7.0nm,1.1s
GLA Glamis 101.92 46 *e*Pdif **Pdif 13 16 05.9 +0.8**
comp=Z,6.9nm,1.1s
GLA Glamis 101.92 46 ⇓Pdiff **Pdif 13 16 06.3 +1.2**
baz=102
I28A Midland 101.93 30 ⇓Pdiff **Pdif 13 16 05.7 +0.8**
baz=102
G30A Faulkton 101.95 28 ⇑Pdiff **Pdif 13 16 05.9 +0.9**
baz=102
K26A Motz Farm, Whi 101.97 32 ⇓Pdiff **Pdif 13 16 06.1 +0.9**
baz=102
PV04 Paradox Valley 102.04 38 *e*Pdif **Pdif 13 16 05.9 +0.1**
M24A Cheyenne 102.06 34 ⇓Pdiff **Pdif 13 16 06.8 +1.1**
baz=102
O22A Kremmling 102.11 36 ⇑Pdiff **Pdif 13 16 07.2 +1.0**
baz=102
J27A Elkhorn Farm, 102.11 31 ⇑Pdiff **Pdif 13 16 07.1 +1.3**
baz=102
I29A Vivian Onida 102.31 30 ⇑Pdiff **Pdif 13 16 07.5 +0.9**
baz=102
J28A Allard Ranch, 102.34 31 ⇓Pdiff **Pdif 13 16 08.0 +1.2**
baz=102
P22A Eagle 102.39 36 ⇑Pdiff **Pdif 13 16 08.9 +1.6**
baz=102
PBEJ Beja 102.40 321 *e*PP PP 13 20 20.5 +1.2
O23A Lake Granby, G 102.41 35 ⇓Pdiff **Pdif 13 16 09.0 +1.5**
baz=102
PV01 Paradox Valley 102.41 38 *e*Pdif **Pdif 13 16 07.5 +0.1**
comp=Z,300nm,0.9s
K27A Flueckinger Fa 102.42 32 ⇑Pdiff **Pdif 13 16 08.2 +1.0**
baz=102
WUAZ Wupatki 102.53 42 *e*Pdif **Pdif 13 16 08.1 +0.1**
comp=Z,26nm,1.0s
WUAZ LR LR
comp=Z,6µm,21.0s
WUAZ Wupatki 102.53 42 ⇑Pdiff **Pdif 13 16 09.1 +1.2**
baz=102
Y14A Wickenburg 102.53 44 ⇑Pdiff **Pdif 13 16 09.1 +1.3**
baz=102
BRSD Miller 102.58 29 *e*Pdif **Pdif 13 16 07.2 -0.6**
comp=Z,48nm,0.9s
BRSD Miller 102.58 29 ⇓Pdiff **Pdif 13 16 08.7 +0.9**
baz=102
EYMN Ely 102.61 22 PFAKE 13 16 20.0 +12
EYMN LR LR
comp=Z,12µm,20.0s
TAM Tamanrasset 102.62 302 *e*P **Pdif 13 16 07.0 -1.5**
TAM pmax pmax
comp=Z,12nm,1.3s
TAM MLR MLR
comp=Z,13µm,21.0s
TAM Tamanrasset 102.62 302 *e*Pdif **Pdif 13 16 07.0 -1.5**
comp=Z,12nm,1.3s
TAM LR LR
comp=Z,13µm,21.0s
PNCL Nicolau / Gran 102.72 322 *e*Pdif **Pdif 13 16 16.3 +7.9**
PNCL Nicolau / Gran 102.72 322 *e*PP PP 13 20 23.1 +1.4
MESJ Messejana 102.73 322 *e*P **Pdif 13 16 09.5 +1.0**
MESJ AMS AMS 14 09 01.0
comp=Z,14µm,19.3s
PVAQ Vaqueiros 102.74 321 *e*SKSac **SKSac 13 26 50.6 +6.2**
PVAQ *e*SS SS 13 35 06.5 +8.6
PVAQ Vaqueiros 102.74 321 *e*LQ LQ 13 53 13.0
PVAQ *e*LR LR 13 59 45.9
comp=Z,13µm,20.0s
J29A Okreek 102.78 30 ⇑Pdiff **Pdif 13 16 09.8 +1.1**
baz=102
113A Mohawk Valley, 102.79 45 ⇓Pdiff **Pdif 13 16 10.1 +1.2**
baz=103
I30A Oacoma 102.79 29 ⇑Pdiff **Pdif 13 16 10.0 +1.3**
baz=103
K28A Ten Mile Ranch 102.83 31 ⇓Pdiff **Pdif 13 16 10.4 +1.4**
baz=103
ISCO Idaho Springs 102.86 36 PFAKE 13 16 20.0 +10
ISCO LR LR
comp=Z,9µm,22.0s
ISCO Idaho Springs 102.86 36 ⇓Pdiff **Pdif 13 16 10.9 +1.4**
baz=103
P23A Jefferson 103.05 36 ⇓Pdiff **Pdif 13 16 11.5 +1.1**
baz=103
MVCO Mesa Verde 103.09 39 *e*Pdif **Pdif 13 16 10.8 +0.3**
comp=Z,12nm,0.8s
MVCO LR LR
comp=Z,6µm,20.0s
MVCO Mesa Verde 103.09 39 ⇓Pdiff **Pdif 13 16 11.5 +1.0**
baz=103
X16A Lo Mia Camp, P 103.21 43 ⇑Pdiff **Pdif 13 16 12.2 +1.2**
baz=103
J30A Dallas 103.22 30 ⇑Pdiff **Pdif 13 16 11.5 +0.9**
baz=103
K29A Lazy Trails An 103.28 30 ⇑Pdiff **Pdif 13 16 12.7 +1.7**
baz=103
S22A 4UR Ranch, Cre 103.67 38 ⇓Pdiff **Pdif 13 16 14.2 +1.1**
baz=104
K30A Basset 103.68 30 ⇓Pdiff **Pdif 13 16 13.3 +0.6**
baz=103
L29A Maesberg Ranch 103.75 31 ⇑Pdiff **Pdif 13 16 14.6 +1.5**
baz=104
P25A Willow Gulch B 103.84 35 ⇓Pdiff **Pdif 13 16 14.6 +0.9**
baz=104
VNDA Vanda 103.84 172 Pdif **Pdif 13 16 14.6 +2.2**
VNDA PP **PKiKP 13 20 28.7 -1.2**
VNDA Vanda 103.84 172 Pdiff **Pdif 13 16 14.6 +2.2**
comp=Z,1.6nm,0.8s,baz=39,slow=4.5,SNR=4.0
VNDA PP **PKiKP 13 20 28.7 -1.2**
comp=Z,35nm,1.1s,baz=319,slow=9.0,SNR=8.6
OGNE Ogallala 103.86 33 PFAKE 13 16 20.0 +6.4
OGNE LR LR

comp=Z,6µm,22.0s
OGNE Ogallala 103.86 33 ⇑Pdiff Pdif 13 16 15.2 +1.6
baz=104
R23A Moffat 103.91 37 ⇓Pdiff Pdif 13 16 15.3 +1.1
baz=104
214A Organ Pipe Nat 103.93 45 *e*Pdif Pdif 13 16 14.6 +0.6
comp=Z,15nm,1.1s
214A Organ Pipe Nat 103.93 45 ⇓Pdiff Pdif 13 16 15.7 +1.6
baz=104
M29A Burnside Ranch 104.13 32 ⇑Pdiff Pdif 13 16 15.8 +1.0
baz=104
S23A Nye Farm, Mont 104.16 37 ⇓Pdiff Pdif 13 16 15.9 +0.7
baz=104
ECSD EROS Data Cent 104.16 28 PFAKE 13 16 30.0 +15
ECSD LR LR
comp=Z,9µm,19.0s
L30A Spencer Herefo 104.19 31 ⇓Pdiff Pdif 13 16 16.1 +1.0
baz=104
P26A Davis Ranch, A 104.23 34 ⇓Pdiff Pdif 13 16 16.3 +0.9
baz=104
Q25A Bedland, Calha 104.23 35 ⇑Pdiff Pdif 13 16 16.7 +1.2
baz=104
R24A Sanders Place, 104.27 36 ⇑Pdiff Pdif 13 16 16.9 +1.2
baz=104
SDCO Great Sand Dun 104.41 37 *e*Pdif Pdif 13 16 16.2 -0.2
comp=Z,2.7nm,0.8s
SDCO LR LR
comp=Z,11µm,21.0s
L31A Butterfield Fa 104.42 30 ⇓Pdiff Pdif 13 16 17.5 +1.4
baz=104
SPMN St. Paul 104.45 24 ⇓Pdiff Pdif 13 16 17.5 +1.5
baz=104
RTC Rabat Centre 104.55 318 PFAKE 13 16 30.0 +13
RTC LR LR
comp=Z,13µm,22.0s
O28A Krutsinger Ran 104.60 33 ⇓Pdiff Pdif 13 16 18.2 +1.2
baz=104
Q26A Hugo 104.61 35 ⇑Pdiff Pdif 13 16 18.3 +1.2
baz=104
T23A Casias Ranch, 104.61 38 ⇓Pdiff Pdif 13 16 18.7 +1.4
baz=104
U22A Llaves 104.62 39 ⇑Pdiff Pdif 13 16 18.4 +1.1
baz=104
S24A Houchin Ranch, 104.64 37 ⇓Pdiff Pdif 13 16 18.4 +1.0
baz=104
SBA Scott Base 104.77 171 PFAKE 13 16 30.0 +13
SBA LR LR
comp=Z,3µm,21.0s
R25A Fountain Ranch 104.78 36 ⇑Pdiff Pdif 13 16 18.9 +1.1
baz=105
LBTB Lobatse 104.90 249 *e*Pdif Pdif 13 16 18.1 -0.3
comp=Z,12nm,1.0s
V22A San Miguel Ran 104.91 39 ⇑Pdiff Pdif 13 16 19.4 +0.8
baz=105
TUC Tucson 105.01 44 *e*P Pdif 13 16 19.5 +0.6
TUC *e* 13 20 33.7
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC MLR MLR
comp=Z,11µm,21.0s
TUC Tucson 105.01 44 *e*Pdif Pdif 13 16 19.4 +0.6
comp=Z,4.5nm,0.9s
TUC *e*PKPdf **PKiKP** 13 20 33.6 +0.1
TUC LR LR
comp=Z,11µm,21.0s
M31A Lambtecht Ranc 105.01 31 ⇑Pdiff Pdif 13 16 19.6 +0.9
baz=105
U23A El Rito 105.03 38 ⇓Pdiff Pdif 13 16 20.6 +1.4
baz=105
P28A Saint Francis 105.03 33 ⇓Pdiff Pdif 13 16 19.7 +0.8
baz=105
R26A Arlington 105.11 35 ⇓Pdiff Pdif 13 16 20.0 +0.7
baz=105
P29A Atwood 105.42 33 ⇑Pdiff Pdif 13 16 22.3 +1.7
baz=105
V23A Ortiz Mt. (NFS 105.45 39 ⇑Pdiff Pdif 13 16 22.0 +1.0
baz=105
R27A Eads 105.46 35 ⇑Pdiff Pdif 13 16 21.5 +0.7
baz=105
S26A Kim 105.60 36 ⇓Pdiff Pdif 13 16 22.2 +0.7
baz=105
ANMO Albuquerque 105.85 40 PFAKE 13 20 50.0
ANMO LR LR
comp=Z,9µm,19.0s
T26A Comanche Natio 105.86 36 ⇓Pdiff Pdif 13 16 23.7 +1.0
baz=106
U25A Circle Dot Ran 105.98 37 ⇓Pdiff Pdif 13 16 24.3 +1.0
baz=106
V24A Rampart Ranch, 105.98 38 ⇓Pdiff Pdif 13 16 25.2 +1.8
baz=106
P31A Stockton 106.25 32 ⇓Pdiff Pdif 13 16 24.4 +0.2
baz=106
Q30A Quinter 106.25 33 ⇑Pdiff Pdif 13 16 24.9 +0.6
baz=106
V25A Rancho No Teng 106.27 38 ⇑Pdiff Pdif 13 16 25.1 +0.5
baz=106
W24A Lazy 6 Ranch, 106.27 39 ⇓Pdiff Pdif 13 16 25.1 +0.5
baz=106
BNM Barren Site 106.31 40 *e*Pdif Pdif 13 16 25.1 +0.3
comp=Z,3.4nm,0.7s
U26A Atchley Ranch, 106.35 37 ⇑Pdiff Pdif 13 16 25.5 +0.6
baz=106
BOSA Boshof 106.35 246 Pdif Pdif 13 16 26.0 +1.1
BOSA PKiKP **PKiKP** 13 20 35.9 -0.2
BOSA PKKPab **PKKPab** 13 32 10.9 -0.6
BOSA Boshof 106.35 246 Pdiff Pdif 13 16 26.0 +1.1
comp=Z,2.6nm,0.8s,baz=60,slow=4.1,SNR=4.9
BOSA PKiKP **PKiKP** 13 20 35.9 -0.2
comp=Z,5.6nm,1.1s,baz=113,slow=3.7,SNR=3.2
BOSA PKKPab **PKKPab** 13 32 10.9 -0.6
comp=Z,6.1nm,0.8s,baz=257,slow=3.8,SNR=7.2
T27A Campo 106.41 36 ⇑Pdiff Pdif 13 16 25.6 +0.5
baz=106
S28A Manter 106.45 35 ⇓Pdiff Pdif 13 16 25.9 +0.6
baz=106
P32A Huiting Farm, 106.54 31 ⇓Pdiff Pdif 13 16 26.2 +0.7
baz=106
T28A Walsh 106.69 35 ⇑Pdiff Pdif 13 16 26.6 +0.3
baz=106
121A Cookes Peak, D 106.73 42 ⇓Pdiff Pdif 13 16 26.0 -0.7
baz=107
Z22A Elephant Butte 106.73 41 ⇑Pdiff Pdif 13 16 27.2 +0.5
baz=107
R30A Dighton 106.76 33 ⇑Pdiff Pdif 13 16 27.0 +0.5
baz=106
V26A Tequesquite Ra 106.76 37 ⇑Pdiff Pdif 13 16 26.9 +0.2
baz=107
Y23A Lovelace Mesa, 106.80 40 ⇑Pdiff Pdif 13 16 26.4 -0.6
baz=107
W25A X Bar L Ranch, 106.81 38 ⇓Pdiff Pdif 13 16 26.8 -0.1
baz=107
U27A Thompson Grove 106.83 36 ⇓Pdiff Pdif 13 16 26.9 -0.1
baz=107
SCIA State Center 107.08 27 PFAKE 13 20 50.0
SCIA LR LR
comp=Z,10µm,21.0s
R31A Burdett 107.13 33 ⇑Pdiff Pdif 13 16 27.8 -0.3
baz=107
MSKU Masuku 107.21 276 PFAKE 13 20 50.0
MSKU LR LR
comp=Z,2.0nm,21.0s
W26A Owens Ranch, T 107.29 38 ⇓Pdiff Pdif 13 16 30.3 +1.2
baz=107
JFWS Jewell Farm 107.39 24 PFAKE 13 20 50.0
JFWS LR LR
comp=Z,8µm,19.0s
Y25A Mesa, Roswell 107.61 39 ⇓Pdiff Pdif 13 16 30.7 +0.2
baz=107
W27A Bowe Ranch, En 107.70 37 ⇓Pdiff Pdif 13 16 32.4 +1.5
baz=108
R33A Olander Ranch, 107.87 32 ⇑Pdiff Pdif 13 16 33.1 +1.6
baz=108
KSU1 Kansas State U 107.89 30 PFAKE 13 20 50.0
KSU1 LR LR
comp=Z,11µm,22.0s
124A Stringfield Ra 108.03 41 ⇑Pdiff Pdif 13 16 33.3 +0.8
baz=108
Z25A Roswell 108.05 40 ⇑Pdiff Pdif 13 16 33.6 +1.2
baz=108
224A Cornudas Mount 108.43 41 ⇓Pdiff Pdif 13 16 35.4 +1.2
baz=108
Z26A Caprock 108.49 39 ⇓Pdiff Pdif 13 16 35.3 +0.9
baz=108
125A Gardner Draw, 108.53 40 ⇓Pdiff Pdif 13 16 35.8 +1.2
baz=108
MNTX Cornudas Mount 108.78 41 *e*PKPdf **PKiKP** 13 20 40.1 -0.4
MNTX LR LR
comp=Z,8µm,22.0s

Z27A Tatum 108.89 39 ⇓Pdiff Pdif 13 16 37.0 +0.8
baz=109
226B Tecolote Peak, 109.23 40 ⇓Pdiff Pdif 13 16 39.0 +1.2
baz=109
425A Indio Mountain 109.66 42 ⇓Pdiff Pdif 13 16 39.3 -0.4
baz=110
Z29A Hungry Hill Ra 109.79 38 ⇑Pdiff Pdif 13 16 40.7 +0.6
baz=110
TSUM Tsumeb 110.02 257 PFAKE 13 20 50.0
TSUM LR LR
comp=Z,15µm,22.0s
Z30A Sanderson Ranc 110.09 37 ⇑Pdiff Pdif 13 16 40.7 -0.8
baz=110
AAM Ann Arbor 110.19 20 PFAKE 13 20 50.0
AAM LR LR
comp=Z,16µm,22.0s
WMOK Wichita Mounta 110.26 35 PFAKE 13 20 50.0
WMOK LR LR
comp=Z,8µm,20.0s
LONY Lake Ozonia 110.31 12 PFAKE 13 20 50.0
LONY LR LR
comp=Z,11µm,22.0s
426A McDonald Obser 110.32 41 ⇑Pdiff Pdif 13 16 42.6 -0.1
baz=110
RKT Rikitea 110.55 107 *e*Pdif Pdif 13 16 48.3 +4.9
comp=Z,456nm,30.5s
RKT Rikitea 110.55 107 *e*PP PP 13 21 24.1 +3.5
comp=Z,986nm,32.2s
RKT *e*SKSac **SKSac** 13 27 21.4 +2.4
comp=Z,3µm,31.5s
RKT Rikitea 110.55 107 *e*PS PS 13 30 52.6 +1.2
comp=Z,7µm,32.0s
RKT *e*SS SS 13 36 51.1 +4.8
comp=Z,6µm,31.8s
RKT Rikitea 110.55 107 *e*LR LR 13 53 14.2
comp=Z,26µm,27.8s,baz=292
PKME Peaks-Kenny Pk 110.55 8 PFAKE 13 20 50.0
PKME LR LR
comp=Z,12µm,19.0s
526A Mary Lane Ranc 110.72 42 ⇓Pdiff Pdif 13 16 44.0 -0.4
baz=110
TORD Torodi Ar. Bea 110.83 296 Pdif Pdif 13 16 43.9 -1.1
TORD PKiKP **PKiKP** 13 20 44.3 -0.4
TORD PP **PP** 13 21 19.6 -2.7
TORD PKKPbc **PKKPbc** 13 31 40.8 -1.2
TORD PKKPab **PKKPab** 13 31 53.8 -0.2
TORD Torodi Ar. Bea 110.83 296 Pdiff Pdif 13 16 43.9 -1.1
comp=Z,2.8nm,1.2s,baz=50,slow=3.6,SNR=8.5
TORD PKiKP **PKiKP** 13 20 44.3 -0.4
comp=Z,3.8nm,0.6s,baz=77,slow=1.0,SNR=32
TORD PP **PP** 13 21 19.6 -2.7
comp=Z,26nm,1.1s,baz=46,slow=5.2,SNR=5.2
TORD PKKPbc **PKKPbc** 13 31 40.8 -1.2
comp=Z,1.1nm,0.6s,baz=234,slow=1.3,SNR=11
TORD PKKPab **PKKPab** 13 31 53.8 -0.2
comp=Z,2.5nm,0.8s,baz=228,slow=3.0,SNR=6.3
Z32A Haskell 110.98 36 ⇓Pdiff Pdif 13 16 45.3 0.0
baz=111
626A Big Bend Ranch 111.05 42 ⇓Pdiff Pdif 13 16 45.1 -0.8
baz=111
428A Kincaid Ranch, 111.08 40 ⇓Pdiff Pdif 13 16 45.0 -1.0
baz=111
SUR Sutherland 111.12 243 PFAKE 13 20 50.0
SUR LR LR
comp=Z,15µm,22.0s
LBNH Lisbon 111.16 10 PFAKE 13 20 50.0
LBNH LR LR
comp=Z,9µm,20.0s
ABTX Abilene, Hawle 111.41 37 *e*PKPdf **PKiKP** 13 20 45.4 0.0
ERPA Erie 111.42 17 PFAKE 13 21 00.0
ERPA LR LR
comp=Z,9µm,20.0s
CMLA Cha da Macela 111.45 333 PFAKE 13 21 00.0
CMLA LR LR
comp=Z,32µm,21.0s
TXAR Lajitas Array 111.49 42 Pdif Pdif 13 16 46.5 -1.3
TXAR PKiKP **PKiKP** 13 20 45.3 -0.4
TXAR PP **PP** 13 21 27.7 +1.3
TXAR PKKPbc **PKKPbc** 13 31 39.3 -1.0
TXAR Lajitas Array 111.49 42 Pdiff Pdif 13 16 46.5 -1.3
comp=Z,1.6nm,1.0s,baz=207,slow=1.6,SNR=3.2
TXAR PKiKP **PKiKP** 13 20 45.3 -0.4
comp=Z,4.7nm,0.9s,baz=292,slow=1.4,SNR=8.3
TXAR PP **PP** 13 21 27.7 +1.3
comp=Z,6.0nm,0.9s,baz=309,slow=6.0,SNR=4.5
TXAR PKKPbc **PKKPbc** 13 31 39.3 -1.0
comp=Z,0.4nm,0.4s,baz=147,slow=5.9,SNR=5.7
ACSO Alum Creek Sta 112.28 20 PFAKE 13 21 00.0
ACSO LR LR
comp=Z,12µm,22.0s
332A Millersview 112.29 38 ⇑Pdiff Pdif 13 16 51.5 +0.3
baz=112
530A J-C Ranch, Com 112.30 40 ⇑Pdiff Pdif 13 16 50.7 -0.6
baz=112
BINY Binghamton 112.33 14 PFAKE 13 21 00.0
BINY LR LR
comp=Z,14µm,22.0s
JCT Junction City 112.94 38 *e*PKiKP **PKiKP** 13 20 47.1 -1.3
JCT MLR MLR
comp=Z,7µm,20.0s
JCT Junction City 112.94 38 *e*PKPdf **PKiKP** 13 20 47.1 -1.3
JCT LR LR
comp=Z,7µm,20.0s
MIAR Mount Ida 113.00 31 PFAKE 13 21 00.0
MIAR LR LR
comp=Z,10µm,22.0s
QSPA South Pole Qui 113.58 180 *e*PKPdf **PKiKP** 13 20 48.0 -0.5
QSPA LR LR
comp=Z,6µm,20.0s
MCWV Mont Chateau 113.75 18 PFAKE 13 21 00.0
MCWV LR LR
comp=Z,16µm,19.0s
WVT Waverly 114.19 26 *e*PKiKP PKPdf 13 20 48.2 -2.4
WVT Waverly 114.19 26 *e*PKPdf PKPdf 13 20 48.2 -2.4
PTCN Pitcairn Islan 115.38 108 PFAKE 13 21 00.0 +7.0
PTCN LR LR
comp=Z,10µm,20.0s
CBN Corbin 115.78 17 PFAKE 13 21 00.0 +6.4
CBN LR LR
comp=Z,11µm,20.0s
BLA Blacksburg 115.84 20 PFAKE 13 21 00.0 +6.2
BLA LR LR
comp=Z,9µm,22.0s
KVTX Kingsville 116.24 39 PFAKE 13 21 00.0 +5.3
KVTX LR LR
comp=Z,9µm,20.0s
LRAL Lakeview Retre 117.21 27 *e*PKPdf **PKPdf** 13 20 56.2 -0.3
GOGA Godfrey 118.27 24 PFAKE 13 21 10.0 +11
GOGA LR LR
comp=Z,13µm,21.0s
CNNC Cliffs of the 118.42 18 PFAKE 13 21 10.0 +11
CNNC LR LR
comp=Z,11µm,20.0s
NVL N'lazarevskaya 118.80 201 *e*PKiKP **PKPdf** 13 20 59.0 +0.8
NVL *e* 13 27 43.5
NVL *e* 13 31 54.2
NVL *e*PS **PS** 13 32 02.9 -2.2
NVL MLR MLR
comp=Z,3µm,17.0s
BRAL Brewton 118.93 28 *e*PKPdf **PKPdf** 13 21 00.1 +0.2
BRAL LR LR
comp=Z,8µm,22.0s
NHSC New Hope 119.69 21 PFAKE 13 21 10.0 +8.8
NHSC LR LR
comp=Z,17µm,22.0s
DBIC Dimbokro 119.72 293 PKP **PKPdf** 13 21 01.1 -0.7
DBIC PKKPbc **PKKPbc** 13 31 11.7 +0.4
DBIC Dimbokro 119.72 293 PKP **PKPdf** 13 21 01.1 -0.7
comp=Z,26nm,1.1s,baz=43,slow=2.2,SNR=18
DBIC PKKPbc **PKKPbc** 13 31 11.7 +0.4
comp=Z,3.6nm,0.7s,baz=227,slow=1.6,SNR=7.4
KIC Kosan Boka 119.78 293 *e*PKiKP **PKPdf** 13 21 01.0 -0.9
comp=Z,112nm,1.0s
TIC Toumodi 119.87 293 *e*PKiKP **PKPdf** 13 21 01.0 -1.1
comp=Z,32nm,0.5s
LIC Lamto 120.09 293 ⇑*i*PKiKP **PKPdf** 13 21 01.4 -1.1
comp=Z,129nm,1.2s
LIC *e*R
comp=Z,19µm,22.8s
LIC Lamto 120.09 293 *e*PKiKP **PKPdf** 13 21 01.4 -1.1
comp=Z,147nm,1.2s
LIC Lamto 120.09 293 ⇑*i*PKPdf **PKPdf** 13 21 01.4 -1.1
SNAA Sanae 123.02 198 *e*PKPdf **PKPdf** 13 21 06.0 -0.5
SNAA PKKPab **PKKPab** 13 30 57.0 +0.5
SNAA Sanae 123.02 198 PKKPab PKKPab 13 30 57.0 +0.5
comp=Z,1.9nm,1.1s,baz=288,slow=5.4,SNR=3.6

BBSR BB Station 123.82 7 PFAKE 13 21 20.0 +11
BBSR LR LR
comp=Z,5µm,22.0s
TEIG Tepich 127.39 36 PFAKE 13 21 30.0 +14
TEIG LR LR
comp=Z,5µm,21.0s
SACV Santiago Islan 128.68 315 *e*PKPdf **PKPdf** 13 21 18.9 -0.1
SACV LR LR
comp=Z,5µm,21.0s
SHEL Horse Pasture 130.20 269 PFAKE 13 21 30.0 +8.3
SHEL LR LR
comp=Z,7µm,19.0s
APG El Apazote 130.25 42 PKP **PKPdf** 13 21 19.7 -2.4
APG El Apazote 130.25 42 PKP **PKPdf** 13 21 19.7 -2.4
comp=Z,3.4nm,0.5s
TGUH Tegucigalpa,Un 132.91 40 PFAKE 13 21 40.0 +13
TGUH LR LR
comp=Z,4µm,22.0s
GRTK Grand Turk 133.27 17 PFAKE 13 21 40.0 +13
GRTK LR LR
comp=Z,6µm,20.0s
GTBY Guantanamo Bay 133.56 22 PFAKE 13 21 40.0 +12
GTBY LR LR
comp=Z,7µm,20.0s
RPN Rapa Nui 134.05 105 PFAKE 13 21 40.0 +11
RPN LR LR
comp=Z,6µm,22.0s
MTDJ Mount Denham 134.21 26 PFAKE 13 21 40.0 +11
MTDJ LR LR
comp=Z,6µm,19.0s
ASCN Ascension 135.10 283 PFAKE 13 21 40.0 +9.0
ASCN LR LR
comp=Z,9µm,21.0s
SDDR Presa de Saban 135.64 18 PFAKE 13 21 40.0 +8.0
SDDR LR LR
comp=Z,10µm,22.0s
JTS JuntasAbangare 137.26 41 PKP **PKPdf** 13 21 33.6 -1.5
JTS LR LR
comp=Z,5µm,22.0s
JTS JuntasAbangare 137.26 41 PKP **PKPdf** 13 21 33.6 -1.5
comp=Z,4.3nm,0.6s,baz=240,slow=12,SNR=3.6
CELP Cerrillos 137.61 12 *e*PKPdf **PKPdf** 13 21 36.2 +0.5
TRIS Tristan da Cun 138.58 240 PFAKE 13 21 50.0 +13
TRIS LR LR
comp=Z,21.0s
ANWB Willy Bob 138.65 5 PFAKE 13 21 50.0 +12
ANWB LR LR
comp=Z,5µm,22.0s
PMSA Palmer Station 138.85 176 PFAKE 13 21 50.0 +14
PMSA LR LR
comp=Z,5µm,22.0s
BCIP Isla Barro Col 141.06 35 PFAKE 13 21 50.0 +8.0
BCIP LR LR
comp=Z,21.0s
PAYG Puerto Ayora 141.40 58 PFAKE 13 21 50.0 +7.3
PAYG LR LR
comp=Z,6µm,22.0s
FDF Fort de France 141.61 4 *e*PKiKP **PKPdf** 13 21 43.6 +0.6
FDF MLR MLR
comp=Z,5µm,21.0s
FDF Fort de France 141.61 4 *e*PKPdf **PKPdf** 13 21 43.6 +0.6
FDF LR LR
comp=Z,5µm,21.0s
BBGH Gun Hill 143.27 2 PFAKE 13 22 00.0 +14
BBGH LR LR
comp=Z,8µm,21.0s
GRGR Grenville 144.14 6 *e*PKPdf PKPbc 13 21 46.3 +0.8
GRGR LR LR
comp=Z,6µm,21.0s
SDV Santo Domingo 145.35 22 *e*PKPdf **PKPbc** 13 21 49.1 -0.6
SDV LR LR
comp=Z,2µm,21.0s
ROSC El Rosal 147.51 31 PKPbc **PKPbc** 13 21 55.3 -1.0
ROSC El Rosal 147.51 31 PKPbc **PKPbc** 13 21 55.3 -1.0
comp=Z,24nm,0.6s,baz=46,slow=3.2,SNR=13
USHA Ushuaia 148.09 169 PKPbc **PKPbc** 13 21 55.7 -0.4
USHA Ushuaia 148.09 169 PKPbc **PKPbc** 13 21 55.7 -0.4
baz=177,slow=3.0
OTAV Otavalo 149.12 42 *e*PKPdf **PKPdf** 13 21 56.4 -0.1
OTAV *e*PKPab **PKPab** 13 22 05.1 +0.2
OTAV LR LR
comp=Z,8µm,22.0s
RCBR Riachuelo 152.01 306 *e*PKPbc **PKPbc** 13 22 06.8 -0.1
RCBR LR LR
comp=Z,11µm,20.0s
RCBR Riachuelo 152.01 306 PKPbc **PKPbc** 13 22 06.9 -0.1
comp=Z,146nm,0.9s,baz=30,slow=2.6,SNR=43
EFI East Falkland 152.16 180 *e*PKiKP **PKPdf** 13 21 59.7 +0.3
EFI *e* 13 22 06.3
EFI MLR MLR
comp=Z,5µm,22.0s
EFI East Falkland 152.16 180 *e*PKPdf **PKPdf** 13 21 59.7 +0.3
EFI *e*PKPbc **PKiKP** 13 22 06.3 -0.1
EFI LR LR
comp=Z,5µm,22.0s
ATAH Atahualpa 154.58 53 PKP **PKPdf** 13 22 05.8 +1.2
ATAH Atahualpa 154.58 53 PKP **PKPdf** 13 22 05.8 +1.2
comp=Z,18nm,1.1s,baz=342,slow=2.5,SNR=12
PTGA Pitinga 157.02 4 *e*PKPdf **PKPdf** 13 22 07.2 -0.1
PTGA LR LR
comp=Z,6µm,20.0s
NNA Nana 158.83 60 PFAKE 13 22 20.0 +10
NNA LR LR
comp=Z,5µm,21.0s
PLCA Paso Flores 160.22 152 *e*PKPdf **PKPdf** 13 22 10.2 -0.3
PLCA PKP **PKPdf** 13 22 11.8 +1.4
PLCA PKPab **PKPab** 13 22 50.8 -0.1
PLCA Paso Flores 160.22 152 PKP **PKPdf** 13 22 11.8 +1.4
comp=Z,3.5nm,0.8s,baz=136,slow=0.7,SNR=7.8
PLCA PKPab **PKPab** 13 22 50.8 -0.1
comp=Z,19nm,0.9s,baz=205,slow=4.1,SNR=5.8
SAML Samuel 164.52 18 *e*PKPdf **PKPdf** 13 22 14.3 -1.0
SAML LR LR
comp=Z,11µm,21.0s
TRQA Tornquist 165.44 168 *e*PKPdf **PKPdf** 13 22 15.0 -0.5
TRQA LR LR
comp=Z,13µm,22.0s
BDFB Brasilia 167.38 308 PKP **PKPdf** 13 22 17.2 -0.5
BDFB PKPab **PKPab** 13 23 22.9 -0.1
BDFB Brasilia 167.38 308 PKP **PKPdf** 13 22 17.2 -0.5
comp=Z,8.4nm,0.7s,baz=340,slow=1.7,SNR=11
BDFB PKPab **PKPab** 13 23 22.9 -0.1
comp=Z,134nm,1.0s,baz=45,slow=3.5,SNR=24
LCO Las Campanas 167.73 118 *e*PKPdf **PKPdf** 13 22 17.8 -0.1
LCO LR LR
comp=Z,8µm,22.0s
LPAZ La Paz 168.12 53 PKP **PKPdf** 13 22 18.5 -0.4
LPAZ *e*PKPdf PKPdf 13 22 19.4 +0.5
LPAZ PKPab **PKPab** 13 23 26.9 0.0
LPAZ La Paz 168.12 53 PKP **PKPdf** 13 22 18.5 -0.4
comp=Z,13nm,1.0s,baz=23,slow=2.4,SNR=27
LPAZ PKPab **PKPab** 13 23 26.9 0.0
comp=Z,36nm,0.9s,baz=321,slow=5.8,SNR=7.2
CFAA Coronel Fontan 168.25 134 PKP **PKPdf** 13 22 19.2 +1.3
CFAA Coronel Fontan 168.25 134 PKP **PKPdf** 13 22 19.2 +1.3
comp=Z,0.5nm,0.5s,baz=238,slow=1.6,SNR=7.8
LPA La Plata 168.92 182 *de*PKiKP **PKPdf** 13 22 19.0 +0.9
LPA pPP 13 29 18.0
LPA SS SS 13 48 09.0 +2.4
SPB Sao Paulo 170.04 269 PFAKE 13 22 30.0 +11
SPB LR LR
comp=Z,8µm,22.0s
LVC Limon Verde 170.17 85 *e*PKPdf **PKPdf** 13 22 18.5 -1.1
LVC LR LR
comp=Z,6µm,22.0s
SIV San Ignacio 171.81 19 PKP **PKPdf** 13 22 20.0 -0.3
SIV PKPab **PKPab** 13 23 41.9 -0.4
SIV PP **PP** 13 27 31.8 -0.3
SIV San Ignacio 171.81 19 PKP **PKPdf** 13 22 20.0 -0.3
comp=Z,11nm,0.9s,baz=36,slow=0.7,SNR=28
SIV PKPab **PKPab** 13 23 41.9 -0.4
comp=Z,10nm,0.9s,baz=358,slow=4.2,SNR=3.4
SIV PP **PP** 13 27 31.8 -0.3
comp=Z,15nm,1.0s,baz=334,slow=5.1,SNR=5.2
CPUP Villa Florida 177.33 199 PKP **PKPdf** 13 22 21.5 -0.2
CPUP PKPab PKPab 13 24 06.5 0.0
CPUP Villa Florida 177.33 199 PKP **PKPdf** 13 22 21.5 -0.2
comp=Z,5.5nm,0.8s,baz=350,slow=3.7,SNR=5.8
CPUP PKPab PKPab 13 24 06.5 0.0
comp=Z,6.2nm,0.7s,baz=152,slow=4.4,SNR=4.7

TAP 19 13:04:24.7, 23.85N×121.59E, h47km±1km, ML4.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESF	**Shoufeng Towns** baz=289	**0.08**	**289**	P	Pn	13 04 31.9	-0.2
ESF				S	Sn	13 04 37.0	-0.3
TEGC	**Jichi Village** baz=203	**0.14**	**197**	*e*P	Pn	13 04 32.4	0.0
TEGC				*e*S	Sn	13 04 38.8	+1.1
ESL	**Shilin** baz=264	**0.14**	**257**	P	Pn	13 04 32.4	0.0
ESL				*e*S	Sn	13 04 36.3	-1.5
TWD	**Chiawan** baz=354	**0.23**	**2**	P	Pn	13 04 32.9	-0.1
TWD				*i* S	Sn	13 04 38.9	+0.1
WHF	**Hehuan Shan** baz=319	**0.42**	**316**	*e*P	Pn	13 04 36.4	+1.0
EHP	**Heping Village** baz=22	**0.48**	**17**	P	Pn	13 04 35.1	-0.6
EHP				S	Sn	13 04 44.2	+0.8
TWT	**Tachien** baz=316	**0.55**	**317**	*e*P	Pn	13 04 37.3	+0.6
TWT				*e*S	Sn	13 04 45.7	+0.4
ENA	**Nanau** baz=5.0	**0.60**	**14**	*e*P	Pn	13 04 37.1	+0.1
ENA				*e*S	Sn	13 04 46.0	+0.1
SMLT	**Sun Moon Lake** baz=273	**0.63**	**273**	*e*P	Pn	13 04 38.3	+0.8
YUS	**Yu-Shan** baz=238	**0.68**	**239**	*e*P	Pn	13 04 39.6	+0.9
ENTT	**Nioudou** baz=5.0	**0.79**	**359**	*e*P	Pn	13 04 40.1	+0.5
TWC	**Suao** baz=9.0	**0.80**	**18**	*e*P	Pn	13 04 41.3	+1.7
NSK	**Sanguang** baz=354	**0.85**	**346**	*e*P	Pn	13 04 41.4	+0.9

JMA 19 13:04:53.1, 34.97N×139.11E, h4km±1km, M4.3, 1C, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.08**	**349**	P	Pg	13 04 54.8	+0.1
JIZS	**Izushimoda**	**0.32**	**217**	⇑P	Pg	13 04 59.3	+0.1
JIZS				S	Sg	13 05 04.0	+0.6
JIM2	**Oshima 3**	**0.36**	**134**	P	Pg	13 05 00.0	-0.2
JYN	**Shimob**	**0.70**	**319**	P	Pg	13 05 06.3	-0.4
SHZ3	**Shizuoka 3**	**0.74**	**278**	P	Pg	13 05 07.8	+0.3
MAT	**Matsushiro**	**1.73**	**335**	P	Pn	13 05 20.0	-4.0

TAP 19 13:05:49.3, 23.79N×121.55E, h31km, ML4.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village** baz=181	**0.09**	**186**	P	Pb	13 05 55.1	+0.4
TEGC				*e*S	Sb	13 05 58.8	+0.4
ESF	**Shoufeng Towns** baz=332	**0.09**	**333**	P	Pb	13 05 55.3	+0.6
ESF				S	Sb	13 05 59.5	+1.2
ESL	**Shilin** baz=280	**0.11**	**281**	*i* P	Pn	13 05 55.0	+0.1
ESL				S	Sb	13 05 59.0	+0.3
TWD	**Chiawan** baz=9.0	**0.29**	**8**	*e*P	Pn	13 05 57.3	-0.1
TWD				*e*S	Sn	13 06 02.4	-0.3
TWT	**Tachien** baz=321	**0.57**	**323**	*e*P	Pb	13 06 00.8	-0.3
TWT				*e*S	Sn	13 06 10.5	+0.5
SMLT	**Sun Moon Lake** baz=278	**0.60**	**279**	*e*P	Pn	13 06 02.3	+0.5
YUS	**Yu-Shan** baz=240	**0.63**	**241**	*e*P	Pb	13 06 02.0	-0.5
YUS				*e*S	Sb	13 06 11.6	+0.1
ENA	**Nanau** baz=16	**0.66**	**15**	*e*P	Pb	13 06 02.3	0.0
NNS	**Nan Shan** baz=346	**0.66**	**346**	*e*P	Pb	13 06 02.6	0.0
ENTT	**Nioudou** baz=1.0	**0.84**	**1**	*e*P	Pn	13 06 04.7	-0.4

TAP 19 13:06:45.5, 23.85N×121.61E, h47km, ML4.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESF	**Shoufeng Towns** baz=282	**0.10**	**282**	*e*P	Pn	13 06 52.7	-0.3
ESF				*e*S	Sn	13 06 58.2	0.0
TEGC	**Jichi Village** baz=211	**0.15**	**204**	*e*P	Pn	13 06 53.5	+0.2
TEGC				*e*S	Sn	13 06 59.7	+1.1
ESL	**Shilin** baz=263	**0.17**	**257**	*e*P	Pn	13 06 53.2	-0.1
ESL				*e*S	Sn	13 06 57.5	-1.3
TWD	**Chiawan** baz=348	**0.23**	**357**	*e*P	Pn	13 06 53.8	0.0
TWD				*e*S	Sn	13 06 59.7	+0.2
EHP	**Heping Village** baz=21	**0.47**	**15**	*e*P	Pn	13 06 55.3	-1.0
TWT	**Tachien** baz=314	**0.56**	**315**	*e*P	Pn	13 06 58.1	+0.5
TWT				S	Sn	13 07 06.8	+0.4
ENA	**Nanau** baz=3.0	**0.59**	**12**	*e*P	Pn	13 06 57.7	0.0
ENA				*e*S	Sn	13 07 06.6	+0.2
NNS	**Nan Shan** baz=345	**0.62**	**340**	*e*P	Pn	13 06 58.4	0.0
SMLT	**Sun Moon Lake** baz=273	**0.65**	**273**	*e*P	Pn	13 06 59.0	+0.3
TYC	**Yuchr** baz=279	**0.69**	**275**	*e*P	Pn	13 06 59.6	+0.6
YUS	**Yu-Shan** baz=239	**0.70**	**239**	*e*P	Pn	13 06 59.6	-0.2
TWC	**Suao** baz=5.0	**0.79**	**16**	*e*P	Pn	13 07 01.4	+1.1
TWC				*e*S	Sn	13 07 14.5	+3.4
ENTT	**Nioudou** baz=356	**0.79**	**357**	*e*P	Pn	13 07 01.5	+1.1
ENTT				*e*S	Sn	13 07 11.8	+0.6
ALS	**Alishan** baz=245	**0.81**	**245**	*e*P	Pn	13 07 03.3	+2.2
NSK	**Sanguang** baz=344	**0.85**	**344**	*e*P	Pn	13 07 00.9	-0.4

TAP 19 13:08:13.0, 23.78N×121.72E, h44km, ML3.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village** baz=248	**0.18**	**248**	*i* P	Pn	13 08 20.8	+0.3
TEGC				S	Sn	13 08 26.4	+0.7
ESF	**Shoufeng Towns** baz=296	**0.22**	**296**	P	Pn	13 08 20.9	+0.1
ESF				S	Sn	13 08 27.1	+0.8
ESL	**Shilin** baz=278	**0.27**	**278**	*i* P	Pn	13 08 21.1	-0.2
ESL				*e*S	Sn	13 08 26.9	-0.2
TWD	**Chiawan** baz=344	**0.32**	**340**	P	Pn	13 08 21.7	-0.1
TWD				S	Sn	13 08 28.1	+0.1
ENA	**Nanau** baz=2.0	**0.65**	**2**	*e*P	Pn	13 08 25.6	-0.3
TWT	**Tachien** baz=313	**0.69**	**314**	P	Pn	13 08 27.2	+0.6
TWT				S	Sn	13 08 36.9	+0.4
NNS	**Nan Shan** baz=334	**0.73**	**335**	*e*P	Pn	13 08 27.5	+0.3
SMLT	**Sun Moon Lake** baz=274	**0.76**	**278**	*e*P	Pn	13 08 28.1	+0.6
YUS	**Yu-Shan** baz=243	**0.76**	**248**	*e*P	Pn	13 08 28.2	+0.2
TWC	**Suao** baz=8.0	**0.84**	**8**	*e*P	Pn	13 08 28.8	+0.4
ELDTW	**Lidau** baz=228	**0.87**	**228**	*e*P	Pn	13 08 27.3	-1.7
ENTT	**Nioudou** baz=350	**0.87**	**351**	*e*P	Pn	13 08 29.7	+0.8
ALS	**Alishan** baz=253	**0.88**	**253**	*e*P	Pn	13 08 31.0	+1.6
CHN5	**Tsauling** baz=260	**0.97**	**260**	*e*P	Pn	13 08 31.9	+1.5

*JMA **19** 13:09:10.9, 23.70N×121.72E, h38km±3km, M3.8*
*ISCJB **19** 13:09:11.5±0.3, 23.70N±0.02×121.75E±0.02, h39km±6km,*
Error ellipse: s-maj=4.2km s-min=2.6km az=44.2
*TAP **19** 13:09:11.2, 23.72N×121.68E, h45km, ML4.1, C*
ISC 19 13:09:11.7±1.0, 23.70N±0.02×121.73E±0.03, h34km±2km, n51, σ0.974/86, 6C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village** baz=265	**0.17**	**275**	*i* P	Pb	13 09 18.9	+0.7
TEGC				*i* S	Sb	13 09 24.7	+2.2
ESF	**Shoufeng Towns** baz=301	**0.27**	**311**	P	Pn	13 09 19.2	+0.2
ESF				S	Sb	13 09 25.3	+1.0
ESL	**Shilin** baz=283	**0.30**	**294**	*e*P	Pb	13 09 19.0	-0.5
ESL				*e*S	Sn	13 09 24.6	+0.6
HWA	**Hwalien** baz=351	**0.30**	**338**	P	Pb	13 09 19.6	0.0
HWA				*e*S	Sb	13 09 26.2	+1.2
TWD	**Chiawan** baz=353	**0.40**	**342**	P	Pb	13 09 20.3	-0.6
TWD				S	Sn	13 09 27.6	+0.1
TWF1	**Yuli** baz=233	**0.52**	**229**	P	Pn	13 09 22.1	-0.7
TWF1				*e*S	Sb	13 09 30.1	-0.3
EHP	**Heping Village** baz=13	**0.61**	**1**	*e*P	Pn	13 09 23.1	-0.9
EHP				*e*S	Sb	13 09 32.8	0.0
WHF	**Hehuan Shan** baz=312	**0.62**	**317**	*e*P	Pn	13 09 23.6	-0.9
WHF				*e*S	Sn	13 09 32.9	-0.6
CHKT	**Chengkung** baz=197	**0.68**	**210**	*e*P	Pn	13 09 23.9	-1.0
CHKT				*e*S	Sn	13 09 33.7	-0.6
ENA	**Nanau** baz=13	**0.73**	**1**	*e*P	Pn	13 09 24.8	-0.9
ENA				*e*S	Sn	13 09 35.0	-0.6
YUS	**Yu-Shan** baz=251	**0.74**	**254**	⇑*i*P	Pn	13 09 26.0	-0.3
YUS				*i* S	Sn	13 09 35.5	-1.1
TWT	**Tachien** baz=318	**0.75**	**318**	P	Pn	13 09 25.8	-0.4
TWT				S	Sn	13 09 35.6	-0.9
SMLT	**Sun Moon Lake** baz=286	**0.78**	**284**	P	Pn	13 09 26.0	-0.5
SMLT				S	Sn	13 09 36.6	-0.5
NNS	**Nan Shan** baz=340	**0.81**	**336**	*e*P	Pn	13 09 26.1	-0.8
NNS				*e*S	Sn	13 09 36.9	-0.9
ELDTW	**Lidau** baz=225	**0.83**	**233**	*e*P	Pn	13 09 26.1	-1.0
ELDTW				*e*S	Sn	13 09 36.7	-1.4
TYC	**Yuchr** baz=287	**0.83**	**285**	⇑P	Pn	13 09 26.5	-0.4
TYC				*e*S	Sn	13 09 37.5	-0.4
ALS	**Alishan** baz=261	**0.87**	**258**	⇑*i*P	Pn	13 09 27.7	-0.1
ALS				*e*S	Sn	13 09 38.6	-0.8
TWC	**Suao** baz=10.0	**0.92**	**7**	*e*P	Pn	13 09 27.9	-0.4
TWC				*e*S	Sn	13 09 39.8	-0.5
ENTT	**Nioudou** baz=354	**0.95**	**351**	*e*P	Pn	13 09 28.0	-0.7
CHN5	**Tsauling** baz=263	**0.97**	**264**	*e*P	Pn	13 09 29.0	-0.1
CHN5				*e*S	Sn	13 09 42.1	+0.4
WNT	**Mingjian** baz=280	**0.97**	**281**	⇑*i*P	Pn	13 09 29.5	+0.5
WNT				S	Sb	13 09 42.9	+0.1
NSK	**Sanguang** baz=344	**1.03**	**341**	*e*P	Pn	13 09 29.6	-0.3
NSK				*e*S	Sn	13 09 42.0	-1.3
STYT	**Tauyuan** baz=232	**1.04**	**240**	*e*P	Pn	13 09 29.8	-0.2
STYT				*e*S	Sn	13 09 43.1	-0.3
TWG	**Pinlang** baz=212	**1.06**	**215**	*e*P	Pn	13 09 29.2	-1.0
WGK	**Gukeng** baz=269	**1.07**	**270**	*e*P	Pn	13 09 30.4	0.0
WGK				*e*S	Sb	13 09 45.6	0.0
TWQ1	**Liyutan** baz=308	**1.09**	**307**	⇑*i*P	Pn	13 09 30.9	+0.3
TWQ1				*e*S	Sn	13 09 45.2	+0.6
WTP	**Ta-pu** baz=244	**1.12**	**247**	*e*P	Pn	13 09 31.4	+0.4
WTP				*e*S	Sn	13 09 46.4	+1.1
NSY	**Sanyi** baz=310	**1.14**	**309**	⇑P	Pn	13 09 31.7	+0.4
NSTT	**Nanjuang** baz=327	**1.15**	**325**	P	Pn	13 09 31.8	+0.4
NSTT				*e*S	Sn	13 09 46.1	+0.1
CHN1	**Nanshi** baz=244	**1.22**	**246**	P	Pn	13 09 32.6	+0.2
CHN1				*e*S	Sn	13 09 49.1	+1.4
TWK	**Hsinying** baz=248	**1.22**	**250**	*e*P	Pn	13 09 33.2	+0.8
SGST	**Jiashian** baz=238	**1.22**	**240**	*e*P	Pn	13 09 33.3	+0.9
SGST				*e*S	Sb	13 09 49.9	+0.1
ECL	**Taimali** baz=211	**1.30**	**213**	*e*P	Pn	13 09 32.2	-1.3
TWB1	**Santiao Chiao** baz=13	**1.33**	**10**	*e*P	Pn	13 09 33.8	-0.1
TWB1				*e*S	Sn	13 09 50.4	-0.1
WTCT	**Ta-ch'eng** baz=277	**1.34**	**278**	*e*P	Pn	13 09 34.2	+0.2
WTCT				*e*S	Sb	13 09 52.3	-0.8
NCU	**National Centr** baz=341	**1.36**	**339**	*e*P	Pn	13 09 35.0	+0.6
NWF	**Wu-fen Shan** baz=353	**1.37**	**2**	*e*P	Pn	13 09 34.8	+0.2
SSD	**Sandimen** baz=224	**1.38**	**227**	*e*P	Pn	13 09 34.9	+0.2
SSD				*e*S	Sn	13 09 53.4	+1.7
WSF	**Szhu** baz=267	**1.38**	**268**	*e*P	Pn	13 09 34.9	+0.2
CHN3	**Shinhua** baz=243	**1.40**	**244**	*e*P	Pn	13 09 36.1	+1.3
YOJ	**Yonaguni jima**	**1.40**	**57**	P	Pn	13 09 35.1	+0.3
YOJ				*e*S	Sn	13 09 52.8	+0.7
YOJ	**Yonaguni jima** baz=57	**1.40**	**57**	*e*P	Pn	13 09 35.0	+0.1
TWS1	**Kuangyinshan** baz=351	**1.43**	**349**	*e*P	Pn	13 09 35.8	+0.5
TWM1	**Shoushan** baz=246	**1.48**	**234**	*e*P	Pb	13 09 38.4	-0.4
SGLT	**Jiouru** baz=218	**1.49**	**230**	*e*P	Pb	13 09 38.2	-0.7
SCLT	**Jiali** baz=249	**1.50**	**250**	*e*P	Pn	13 09 36.5	+0.3
EAST	**Anshuo** baz=203	**1.54**	**212**	*e*P	Pn	13 09 37.5	+0.6
SCZT	**Fangliau** baz=216	**1.67**	**218**	*e*P	Pn	13 09 39.5	+0.9
IRIF	**Iriomote-Funau**	**1.94**	**70**	P	Pn	13 09 42.8	+0.5
IRIF				*e*S	Sn	13 10 06.6	+1.2
JIJ	**Ishigaki jima**	**2.30**	**73**	P	Pn	13 09 47.2	-0.1
JIJ				*e*S	Sn	13 10 14.3	-0.2
JTJ	**Tarama**	**2.87**	**70**	P	Pn	13 09 54.9	-0.2
JTJ				*e*S	Sn	13 10 27.9	-0.6

JMA 19 13:09:39.1, 34.97N×139.12E, h4km±1km, M4.5, 2C-4D
Broadband fault plane solution: P waves. NP1: ϕ_s256.00000°, δ77.00000°, λ-157.00000°. **NP2:** ϕ_s161.00000°, δ68.00000°, λ-14.00000°. **Principal axes:** T Plg6.0000°, Azm27.0000°; N Plg64.0000°, Azm284.0000°; P Plg25.0000°, Azm120.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJI	**Ajiro2**	**0.08**	**343**	⇓P	Pg	13 09 40.9	+0.1
JOD2	**Odawara 2**	**0.29**	**355**	⇑P	Pg	13 09 45.0	+0.1
JIZS	**Izushimoda**	**0.32**	**218**	⇑P	Pg	13 09 45.4	+0.1
JIZS				S	Sg	13 09 50.0	+0.5
JIM2	**Oshima 3**	**0.36**	**134**	⇓P	Pg	13 09 46.1	0.0
JYN	**Shimob**	**0.71**	**318**	⇓P	Pg	13 09 52.4	-0.4
SHZ3	**Shizuoka 3**	**0.75**	**278**	⇓P	Pg	13 09 53.9	+0.2
JMY	**Miyakejima3**	**0.95**	**160**	P	Pg	13 09 56.4	-1.1
MAT	**Matsushiro**	**1.74**	**335**	P	Pn	13 10 09.8	-0.3
MAT				S	Sn	13 10 32.6	-0.1

TAP 19 13:09:42.9, 23.76N×121.60E, h36km, ML3.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village** baz=221	**0.07**	**225**	*e*P	Pn	13 09 49.0	+0.1
TEGC				*e*S	Sn	13 09 55.2	+2.2
ESF	**Shoufeng Towns** baz=311	**0.14**	**324**	*e*P	Pn	13 09 49.3	-3.6
ESF				*e*S	Sn	13 09 53.9	-8.2
ESL	**Shilin** baz=290	**0.16**	**290**	P	Pn	13 09 49.3	-3.0
ESL				S	Sn	13 09 53.6	-7.3
HWA	**Hwalien** baz=10.0	**0.22**	**2**	*e*P	Pn	13 09 49.9	-1.3
TWD	**Chiawan** baz=351	**0.32**	**0**	*e*P	Pn	13 09 51.1	0.0
TWD				*e*S	Sn	13 09 57.4	-0.2
TWF1	**Yuli** baz=224	**0.49**	**214**	P	Pn	13 09 52.8	-0.6
TWF1				*e*S	Sn	13 10 00.2	-0.5
TWT	**Tachien** baz=314	**0.62**	**322**	*e*P	Pn	13 09 55.8	+0.2
TWT				*e*S	Sn	13 10 04.2	-0.3
SMLT	**Sun Moon Lake** baz=283	**0.65**	**281**	*e*P	Pn	13 09 55.8	-0.1
SMLT				*e*S	Sn	13 10 05.5	+0.6
YUS	**Yu-Shan** baz=246	**0.65**	**246**	*i* P	Pn	13 09 56.4	+0.1
YUS				S	Sn	13 10 05.3	-0.5
CHKT	**Chengkung** baz=187	**0.69**	**198**	*e*P	Pn	13 09 55.9	-0.3
NNS	**Nan Shan** baz=348	**0.71**	**343**	*e*P	Pn	13 09 57.0	+0.4
NNS				*e*S	Sn	13 10 05.6	-0.7
ALS	**Alishan** baz=251	**0.77**	**251**	*e*P	Pn	13 09 58.1	+0.5
ALS				*e*S	Sn	13 10 08.5	+0.3
ELDTW	**Lidau** baz=218	**0.78**	**223**	*e*P	Pn	13 09 56.9	-0.6
CHN5	**Tsauling** baz=259	**0.86**	**259**	*e*P	Pn	13 09 59.3	+0.7
TWQ1	**Liyutan** baz=308	**0.95**	**308**	*e*P	Pn	13 10 00.9	+1.1
STYT	**Tauyuan** baz=226	**0.97**	**233**	*e*P	Pn	13 10 01.1	+1.0
NSY	**Sanyi** baz=310	**1.00**	**311**	*e*P	Pn	13 10 02.3	+1.8
WTCT	**Ta-ch'eng** baz=275	**1.21**	**275**	*e*P	Pn	13 10 04.9	+1.7

*JMA **19** 13:15:56.8±0.1, 23.74N×121.59E, h47km±3km, M3.8*
*ISCJB **19** 13:15:57.5±0.2, 23.77N±0.02×121.68E±0.02, h44km±3km,*
mb3.7/12, Error ellipse: s-maj=3.1km s-min=2.1km
az=42.8
*TAP **19** 13:15:57.6, 23.79N×121.61E, h36km, ML4.6, B*
*IDC **19** 13:16:03.0±6.2, 23.74N×121.70E, h92km±59km, mb3.4/12,*
mb1 3.6/13, mb1mx3.5/28, mbtmp3.8/13, ML3.6/1, Error
ellipse: s-maj=27.8km s-min=13.8km az=70.0
ISC 19 13:15:57.4±0.8, 23.76N±0.02×121.66E±0.02, h34km±3km, n87, σ1.909/136, mb3.8/12, 20C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village** baz=218	**0.12**	**244**	⇑*i*P	Pb	13 16 04.0	+0.6
TEGC				S	Sb	13 16 09.1	+1.5
ESF	**Shoufeng Towns** baz=298	**0.18**	**307**	⇑P	Pn	13 16 04.0	+1.9
ESF				S	Sb	13 16 08.7	+0.4
ESL	**Shilin** baz=279	**0.21**	**284**	⇑*i*P	Pn	13 16 04.0	+0.7
HWA	**Hwalien** baz=7.0	**0.22**	**346**	⇓*i*P	Pn	13 16 04.5	+1.1
TWD	**Chiawan** baz=349	**0.32**	**349**	⇓*i*P	Pb	13 16 05.4	-0.1
TWD				*i* S	Sn	13 16 11.4	+0.8
TWF1	**Yuli** baz=224	**0.53**	**219**	⇑*i*P	Pb	13 16 07.9	-0.6
TWF1				S	Sb	13 16 15.3	-0.8
EHP	**Heping Village** baz=19	**0.55**	**8**	P	Pb	13 16 08.8	-0.1
EHP				S	Sn	13 16 17.5	+0.8
TWT	**Tachien** baz=314	**0.66**	**318**	⇑*i*P	Pn	13 16 10.4	0.0
TWT				S	Sn	13 16 18.6	-1.2
ENA	**Nanau** baz=357	**0.67**	**6**	*e*P	Pn	13 16 10.1	-0.2
ENA				*e*S	Sb	13 16 20.5	+0.7
YUS	**Yu-Shan** baz=244	**0.70**	**247**	⇑*i*P	Pn	13 16 11.5	+0.1
YUS				*i* S	Sn	13 16 20.3	-1.0
SMLT	**Sun Moon Lake** baz=280	**0.71**	**280**	⇑*i*P	Pn	13 16 10.9	-0.1
SMLT				S	Sn	13 16 20.8	0.0

baz=280
CHKT Chengkung 0.71 202 P **Pn 13 16 11.4 +0.3**
baz=189
CHKT eS **Sn 13 16 21.6 +0.7**
baz=189
NNS Nan Shan 0.72 339 eP **Pn 13 16 11.0 -0.3**
baz=346
NNS eS **Sn 13 16 19.7 -1.6**
baz=346
TYC Yuchr 0.75 281⇑iP **Pn 13 16 11.4 -0.2**
baz=283
TYC S **Sn 13 16 20.6 -1.1**
baz=283
ELDTW Lidau 0.82 226 ⇑P **Pn 13 16 11.9 -0.7**
baz=217
ALS Alishan 0.82 252⇑iP **Pn 13 16 13.2 +0.3**
baz=250
ALS S **Sn 13 16 23.5 -0.5**
baz=250
TWC Suao 0.86 11 P **Pn 13 16 13.6 +0.5**
baz=20
TWC eS **Sb 13 16 25.6 +0.4**
baz=20
ENTT Nioudou 0.88 354 P **Pn 13 16 13.3 0.0**
baz=355
ENTT S **Sn 13 16 25.1 +0.3**
baz=355
WNT Mingjian 0.90 277⇑iP **Pn 13 16 14.6 +1.0**
baz=276
WNT S **Sn 13 16 26.7 +1.2**
baz=276
CHN5 Tsauling 0.92 260⇑iP **Pn 13 16 14.7 +0.8**
baz=258
CHN5 eS **Sn 13 16 26.8 +0.8**
baz=258
NSK Sanguang 0.95 343 ⇑P **Pn 13 16 14.5 +0.2**
baz=352
NSK S **Sn 13 16 26.1 -0.7**
baz=352
TCU Taichung 0.98 293⇑iP **Pn 13 16 16.0 +1.3**
baz=292
TCU eS **Sn 13 16 28.4 +1.0**
baz=292
TWQ1 Liyutan 1.00 306⇑iP **Pn 13 16 16.2 +1.2**
baz=305
TWQ1 S **Sn 13 16 28.6 +0.7**
baz=305
ILA Ilan 1.00 5 eP **Pn 13 16 15.8 +0.8**
baz=357
WGK Gukeng 1.01 266 ⇑P **Pn 13 16 16.0 +0.8**
baz=264
WGK S **Sn 13 16 29.7 +1.6**
baz=264
STYT Tauyuan 1.02 234⇑iP **Pn 13 16 15.9 +0.6**
baz=229
STYT iS **Sn 13 16 28.9 +0.3**
baz=229
NSY Sanyi 1.05 308 eP **Pn 13 16 16.7 +1.0**
baz=307
NSY eS **Sn 13 16 30.7 +1.5**
baz=307
NSTT Nanjuang 1.05 325⇑iP **Pn 13 16 16.9 +1.2**
baz=325
NSTT eS **Sn 13 16 29.2 0.0**
baz=325
TWG Pinlang 1.08 210 eP **Pn 13 16 15.0 -1.1**
baz=210
TWG eS **Sn 13 16 28.4 -1.6**
baz=210
WTP Ta-pu 1.09 242 ⇑P **Pn 13 16 17.3 +1.0**
baz=241
WTP S **Sb 13 16 32.1 +0.4**
baz=241
TTN Taitung 1.11 205 eP **Pn 13 16 16.5 0.0**
baz=204
CHY Chiayi 1.17 257 ⇑P **Pn 13 16 18.6 +1.3**
baz=256
TWK Hsinying 1.19 246 eP **Pn 13 16 19.0 +1.4**
baz=244
TWK eS **Sn 13 16 34.5 +1.9**
baz=244
CHN1 Nanshi 1.19 241 eP **Pn 13 16 18.9 +1.3**
baz=241
CHN1 S **Sn 13 16 34.3 +1.7**
baz=241
SGST Jiashian 1.20 236 eP **Pn 13 16 19.3 +1.5**
baz=235
SGST S **Sb 13 16 35.1 +0.2**
baz=235
HSN Hsinchu 1.21 329 eP **Pb 13 16 19.8 -0.1**
baz=317
HSN eS **Sb 13 16 35.7 +0.5**
baz=317
WTCT Ta-ch'eng 1.27 275 P **Pn 13 16 19.7 +1.1**
baz=273
WTCT eS **Sb 13 16 36.8 0.0**
baz=273
TWB1 Santiao Chiao 1.27 13 P **Pn 13 16 20.1 +1.3**
baz=1.0
TWB1 S **Sb 13 16 37.3 +0.3**
baz=1.0
TAP1 Taipei 1.28 354 eP **Pn 13 16 18.7 -0.1**
baz=354
NCU National Centr 1.28 340 eP **Pn 13 16 20.5 +1.7**
baz=339
NCU eS **Sb 13 16 37.1 0.0**
baz=339
TAP Taipei 1.28 354 eP **Pn 13 16 18.4 -0.4**
baz=354
NWF Wu-fen Shan 1.31 5 eP **Pn 13 16 20.3 +1.0**
baz=354
WSF Szhu 1.32 265 eP **Pn 13 16 20.4 +1.0**
baz=264
WSF eS **Sn 13 16 37.6 +1.7**
baz=264
ECL Taimali 1.33 209 eP **Pn 13 16 18.2 -1.4**
baz=200
TWS1 Kuangyinshan 1.35 351 eP **Pn 13 16 21.1 +1.3**
baz=350
CHN3 Shinhua 1.37 240 eP **Pb 13 16 22.2 -0.3**
baz=240
CHN3 eS **Sb 13 16 41.2 +1.4**
baz=240
SSD Sandimen 1.39 223 eP **Pn 13 16 20.9 +0.6**
baz=224
SSD eS **Sb 13 16 40.0 -0.2**
baz=224
CHN8 Yiju 1.39 253 eP **Pn 13 16 21.7 +1.3**
baz=252
CHN8 eS **Sn 13 16 39.4 +1.7**
baz=252
YOJ Yonaguni jima 1.42 60 P **Pn 13 16 21.7 +1.0**
YOJ eS **Sn 13 16 39.1 +0.9**
YOJ Yonaguni jima 1.42 60⇓eP **Pn 13 16 21.5 +0.8**
baz=64
YOJ eS **Sn 13 16 39.4 +1.2**
baz=64
SCLT Jiali 1.47 247 eP **Pn 13 16 22.6 +1.2**
baz=247
SCLT S **Sn 13 16 41.9 +2.4**
baz=247
TWM1 Shoushan 1.47 231 eP **Pb 13 16 24.3 0.0**
baz=241
TWM1 eS **Sb 13 16 45.3 +2.7**
baz=241
SGLT Jiouru 1.49 226 eP **Pb 13 16 24.4 -0.2**
baz=218
SGLT eS **Sb 13 16 44.6 +1.4**
baz=218
TAI1 Yung-k'ang 1.50 242 eP **Pn 13 16 23.9 +2.1**
baz=241
TWY Chenhua 1.51 358 eP **Pn 13 16 22.8 +0.8**
baz=357
EAST Anshuo 1.56 209 eP **Pn 13 16 22.1 -0.7**
baz=201
TAW Tawu 1.57 207 eP **Pn 13 16 22.5 -0.3**
baz=198
SCZT Fangliau 1.68 215 eP **Pn 13 16 25.8 +1.4**
baz=217
SCZT eS **Sb 13 16 47.5 -1.1**
baz=217
LAY Lan-yu 1.72 183 eP **Pn 13 16 24.3 -0.6**
baz=176
LAY eS **Sn 13 16 47.6 +1.9**
baz=176
TWP Hsiaoliuchiu 1.85 221 eP **Pb 13 16 30.5 0.0**
baz=221
PCYT Pengchaiyu 1.90 11 eP **Pn 13 16 28.8 +1.5**
baz=357
WDGT Dungji 1.90 255 eP **Pn 13 16 28.0 +0.6**
baz=255
HEN Hengchun 1.95 206 eP **Pn 13 16 30.6 +2.6**
baz=195
IRIF Iriomote-Funau 1.98 73 P **Pn 13 16 29.6 +1.2**
IRIF eS **Sn 13 16 53.6 +1.6**
TWK1 Hengchun 1.98 204 eP **Pn 13 16 29.6 +1.2**
baz=195
TWK1 eS **Sn 13 16 52.8 +0.8**
baz=195
TSEB Hengchuen, Pin 1.98 201 eP **Pn 13 16 29.5 +1.0**
baz=193
HATJ Hateruma jima 1.98 81 P **Pn 13 16 29.5 +1.0**
HATJ eS **Sn 13 16 53.5 +1.3**
JIJ Ishigaki jima 2.35 75 P **Pn 13 16 34.2 +0.7**
JIJ eS **Sn 13 17 01.7 +0.6**
JTJ Tarama 2.91 72 P **Pn 13 16 41.3 0.0**
JTJ eS **Sn 13 17 15.9 +0.8**
KNM Kinmen 3.02 283 eP **Pn 13 16 44.5 +1.7**
baz=282
QZH Quanzhou 3.04 293 Pn Pn 13 16 38.9 -4.1
QZH Sn Sn 13 17 11.5 -6.6
QZH smax smax
comp=N,980nm,0.3s
QZH smax smax
comp=E,650nm,0.7s
JMJ Miyako jima 2 3.48 72 eS **Sn 13 17 30.8 +1.8**
JOGS Gusukube 3.56 73 P **Pn 13 16 51.6 +1.4**
JOGS eS **Sn 13 17 33.0 +1.9**
JKE Kume jima 2 5.30 60 P **Pn 13 17 14.5 +0.4**
KSRS Korea Array 14.67 27 P **P 13 19 26.3 -1.9**
comp=E,0.3nm,0.3s,baz=196,slow=11,SNR=8.7
CMAR Chiang Mai Arr 21.83 260 P **P 13 20 48.8 +1.9**
comp=E,0.5nm,0.5s,baz=59,slow=11,SNR=3.5
SONM Songino Array 26.92 337 P **P 13 21 35.4 0.0**
comp=E,1.3nm,1.0s,baz=158,slow=9.2,SNR=2.9
MKAR Makanchi Array 38.94 316 P **P 13 23 20.3 +0.2**
comp=E,2.0nm,0.8s,baz=106,slow=8.7,SNR=8.2
ZALV Zalesovo Beam 40.83 327 P **P 13 23 35.2 -0.4**
comp=E,0.5nm,0.3s,baz=106,slow=8.1,SNR=4.2
KURBB Kurchatov Arra 42.71 320 P **P 13 23 51.0 0.0**
comp=E,0.3nm,0.4s,baz=108,slow=10,SNR=5.4
WRA Warramunga Arr 45.16 163 P **P 13 24 09.7 -1.3**
comp=E,1.0nm,0.6s,baz=345,slow=8.6,SNR=11
BVAR Borovoye Array 48.27 321 P **P 13 24 34.7 -0.3**
comp=E,0.4nm,0.4s,baz=112,slow=8.1,SNR=4.1
ASAR Alice Springs 48.62 165 P **P 13 24 37.4 -0.6**
comp=E,0.3nm,0.3s,baz=340,slow=6.9,SNR=8.5
STKA Stephens Creek 58.52 160 P **P 13 25 50.0 -0.4**
comp=E,1.6nm,0.6s,baz=358,slow=6.4,SNR=7.8
ILAR Eielson Array 69.39 27 P **P 13 27 00.5 -0.9**
comp=E,0.3nm,0.5s,baz=271,slow=4.9,SNR=8.4
YKA Yellowknife Ar 83.19 23 P **P 13 28 19.3 -0.5**
comp=E,0.5nm,0.6s,baz=311,slow=5.0,SNR=7.8
GERES GERESS Array B 83.44 321 P **P 13 28 20.6 -0.9**
comp=E,0.6nm,0.7s,baz=49,slow=7.9,SNR=3.4

*SKHL **19** 13:26:04.9±0.6, 45°.22N×131°.25E, h13km±3km, mb4.6/4*
SKHL Felt (III-IV) at Kamen'-Ribolov.
*IDC **19** 13:26:06.7±0.6, 44°.94N×131°.05E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.9/29, mbtmp3.8/16, ML3.0/3, Error ellipse: s-maj=17.9km s-min=8.7km az=49.0*
*BJI **19** 13:26:06.5, 45°.30N×131°.17E, h7km, mb4.4/5, ML4.5/13*
*MOS **19** 13:26:11.1±1.0, 44°.80N×130°.89E, h17km, mb4.2/10, Error ellipse: s-maj=20.6km s-min=11.8km az=96.1*
MOS Felt (III-IV) at Kamen'-Rybolov.

ISC 19 13:26:09.0±1.3, 44°.89N±0°.05×131°.08E±0°.04, h14km±9km, n56, σ1°51/48, mb4.1/16, 4C, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**0.95**	**137**	Pg		**Pb**		**13 26 26.6**	**-0.7**
	496nm,0.3s,baz=333,slow=17,SNR=3688								
USRK				Lg		Lg		13 26 41.1	
	1μm,0.3s,baz=333,slow=31,SNR=41								
MDJ	**Mudanjiang**	**1.10**	**256**	Pg		**Pg**		**13 26 31.3**	**+1.2**
MDJ				Sg		Sn		13 26 52.0	+7.1
MDJ				smax		smax			
	comp=N,2μm,0.4s								
MDJ				smax		smax			
	comp=E,3μm,0.6s								
GRTR	**Gornotajezhnoj**	**1.42**	**147**	⇑iPg		**Pn**		**13 26 35.1**	**+0.7**
GRTR				*i* rx		rx		13 26 37.0	
GRTR				eSg		**Sg**		**13 26 56.7**	**+2.1**
VLA	**Vladivostok**	**1.87**	**162**	α *i*P		**Pn**		**13 26 41.4**	**+0.9**
VLA				eS		**Sg**		**13 27 09.4**	**+0.4**
VLA	**Vladivostok**	**1.87**	**162**	ePn		**Pb**		**13 26 41.9**	**-1.0**
VLA				ePg		**Pg**		**13 26 43.4**	**-1.4**
VLA				AMB		AMB		13 26 50.7	
	165nm,0.2s								
VLA				ePg		Pn		13 26 54.2	+14
VLA				eSg		**Sg**		**13 27 12.2**	**+3.2**
VLA				eSn		Sb		13 27 22.1	+16
VLA				eSg		Sn		13 27 28.2	+24
VLA				A		A		13 27 29.1	
	3μm,0.7s								
TEY	**Ternei**	**3.92**	**86**	ePg		Pn		13 27 13.5	+4.7
TEY				AMB		AMB		13 27 14.2	
	70nm,0.5s								
TEY				eSg		Sn		13 28 02.5	+7.9
TEY				A		A		13 28 07.0	
	1μm,0.5s								
CN2	**Changchun**	**4.18**	**257**	Pn		**Pn**		**13 27 14.0**	**+1.6**
CN2				Pg		**Pg**		**13 27 27.4**	**-1.7**
CN2				eSg		**Sg**		**13 28 23.9**	**+0.6**
CN2				smax		smax			
	comp=N,100nm,0.7s								
CN2				smax		smax			
	comp=E,100nm,0.7s								
KLR	**Kul'dur**	**4.36**	**6**	eP		Pn		13 27 06.7	-8.2
KLR				*e*				13 28 08.7	
KLR	**Kul'dur**	**4.36**	**6**	ePn		Pn		13 27 06.7	-8.2
KLR				eSg		**Sn**		**13 28 08.7**	**+3.2**
HABR	**Khabarovsk**	**4.50**	**36**	eP		Pn		13 27 21.1	+4.3
HABR				*e*				13 28 17.7	
HABR				pmax		pmax			
	comp=Z,63nm,0.9s								
HABR				pmax		pmax			
	comp=N,23nm,0.2s								
HABR				pmax		pmax			
	comp=E,32nm,0.2s								
HABR				pmax		pmax			
	comp=E,874nm,0.6s								
HABR				smax		smax			
	comp=N,853nm,0.8s								
HABR	**Khabarovsk**	**4.50**	**36**	ePg		Pn		13 27 21.1	+4.3
HABR				AMB		AMB		13 27 21.9	
	comp=N,63nm,0.9s								
HABR				eSg		Sn		13 28 17.7	+8.7
SNY	**Shenyang**	**6.27**	**243**	⇑Pg		**Pg**		**13 28 06.3**	**-2.7**
SNY				Sg		Sg		13 29 36.8	+6.7
SNY				smax		smax			
	comp=N,220nm,1.0s								
SNY				smax		smax			
	comp=N,300nm,0.5s								
GRNR	**Gornyy**	**6.89**	**30**	eP		Pb		13 28 04.1	-4.4
GRNR				pmax		pmax			
	comp=Z,12nm,0.5s								
GRNR	**Gornyy**	**6.89**	**30**	ePn		Pn		13 27 43.0	-6.6
GRNR				ePg		Pb		13 28 03.0	-5.5
GRNR				pPg		pPg		13 28 07.1	
GRNR				eSg		**Sb**		**13 29 29.0**	**-1.6**
GRNR				A		A		13 29 32.1	
	comp=Z,110nm,0.6s								
KSRS	**Korea Array**	**7.80**	**199**	P		**Pn**		**13 28 02.3**	**+0.2**
KSRS	**Korea Array**	**7.80**	**199**	Pn		**Pn**		**13 28 02.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=15,slow=14,SNR=3.3								
KSRS				Sn		Sn		13 29 38.4	+8.2
	comp=Z,1.3nm,0.3s,baz=17,slow=24,SNR=5.6								
KSRS				Lg		Lg		13 30 23.7	
	comp=Z,3.1nm,0.3s,baz=10,slow=28,SNR=10								
EKMR	**Ekimchan**	**8.28**	**8**	eP		Pn		13 28 01.0	-7.6
EKMR				eS		**Sn**		**13 29 47.4**	**+5.6**
EKMR				pmax		pmax			
	comp=N,5.0nm,0.5s								
EKMR				pmax		pmax			
	comp=E,4.0nm,0.5s								
EKMR				pmax		pmax			
	comp=E,5.0nm,0.5s								
EKMR				smax		smax			
	comp=N,120nm,0.8s								
EKMR				smax		smax			
	comp=E,76nm,0.8s								
EKMR				smax		smax			
	comp=Z,3.0nm,0.8s								
EKMR	**Ekimchan**	**8.28**	**8**	ePn		Pn		13 28 01.0	-7.6
EKMR				eSg		Sb		13 30 12.7	+2.3
EKMR				A		A		13 30 19.7	
	comp=Z,76nm,0.7s								
EKMR				A		A		13 30 19.7	
	comp=Z,120nm,0.7s								
EKMR				A		A		13 30 19.7	
	comp=Z,28nm,0.7s								
YSS	**Yuzh-Sakhalins**	**8.40**	**72**	eP		Pn		13 28 05.0	-5.2
YSS	**Yuzh-Sakhalins**	**8.40**	**72**	eP		Pn		13 28 05.0	-5.2
UGL	**Uglegorsk**	**8.60**	**57**	eSg		Sn		13 30 24.0	+34
UGL				A		A		13 30 41.0	
	comp=Z,145nm,0.8s								
ZEA	**Zeya**	**9.20**	**346**	ePn		Pn		13 28 15.6	-5.6
ZEA				eSg		Sn		13 30 45.5	+41
TYV	**Tymovskoe**	**9.80**	**48**	eSg		Sn		13 31 04.6	+45
TYV				A		A		13 31 24.2	
	comp=Z,33nm,0.9s								
KROS	**Kirovskiy**	**9.91**	**346**	eP		Pn		13 28 26.0	-5.0
KROS				sP				13 28 34.3	
BMKR	**Bomnak**	**9.93**	**352**	eP		Pn		13 28 25.7	-5.6
BMKR				AMB		AMB		13 28 29.7	
	comp=Z,25nm,0.9s								
BMKR				sP				13 28 32.7	
NKL	**Nikolayevsk**	**10.38**	**34**	eSg		Sn		13 31 23.2	+50
NKL				A		A		13 31 47.5	
	comp=Z,40nm,0.9s								
NJ2	**Nanjing**	**15.98**	**221**	eP		**P**		**13 29 58.0**	**+1.2**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
SONM	**Songino Array**	**17.27**	**289**	P		**Pn**		**13 30 08.0**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=91,slow=12,SNR=3.7								
SONM				Lg		Lg		13 35 15.6	
	comp=Z,0.1nm,0.3s,baz=91,slow=30,SNR=4.0								
PETK	**Petropavlovsk-**	**19.21**	**55**	P		**P**		**13 30 30.9**	**-1.5**
PETK	**Petropavlovsk-**	**19.21**	**55**	P		**P**		**13 30 30.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=252,slow=7.6,SNR=4.0								
CD2	**Chengdu**	**25.54**	**246**	eP		**P**		**13 31 37.8**	**+0.5**
CD2				pmax		pmax			
	comp=Z,10.0nm,1.2s								
ZALV	**Zalesovo Beam**	**30.93**	**304**	P		**P**		**13 32 25.9**	**+0.7**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**30.93**	**304**	P		**P**		**13 32 25.9**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=84,slow=6.8,SNR=9.4								
QIZ	**Qiongzhong**	**31.27**	**221**	P		**P**		**13 32 29.3**	**+0.8**
QIZ				S		S		13 37 39.5	+4.8
QIZ				pmax		pmax			
	comp=Z,42nm,2.4s								
MKAR	**Makanchi Array**	**33.61**	**291**	P		**P**		**13 32 48.1**	**-0.7**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**33.61**	**291**	eP		**P**		**13 32 48.1**	**-0.7**
MKAR	**Makanchi Array**	**33.61**	**291**	P		**P**		**13 32 48.1**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=72,slow=8.0,SNR=4.3								
KURK	**Kurchatov**	**35.09**	**299**	P		**P**		**13 33 01.1**	**-0.4**
KURK				pmax		pmax			
	comp=Z,1.0nm,0.2s								
KURK	**Kurchatov**	**35.09**	**299**	P		**P**		**13 33 01.1**	**-0.4**
KURBB	**Kurchatov Arra**	**35.16**	**299**	P		**P**		**13 33 01.1**	**-1.0**
	comp=Z,1.1nm,0.2s,baz=80,slow=9.5,SNR=5.1								
BVAR	**Borovoye Array**	**39.58**	**304**	P		**P**		**13 33 40.6**	**+1.0**
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**39.58**	**304**	P		**P**		**13 33 40.6**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=64,slow=10,SNR=3.7								
ILAR	**Eielson Array**	**47.33**	**35**	P		**P**		**13 34 42.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=288,slow=7.8,SNR=8.3								
FINES	**FINESS Array B**	**58.10**	**327**	P		**P**		**13 36 01.3**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=166,slow=6.4,SNR=7.1								
YKA	**Yellowknife Ar**	**60.85**	**29**	P		**P**		**13 36 20.1**	**-0.4**
YKA	**Yellowknife Ar**	**60.85**	**29**	P		**P**		**13 36 20.1**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=311,slow=6.6,SNR=3.9								
AKASG	**Malin Array Be**	**63.26**	**316**	P		**P**		**13 36 36.5**	**-0.3**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**63.26**	**316**	P		**P**		**13 36 36.5**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=48,slow=6.9,SNR=4.7								
WRA	**Warramunga Arr**	**64.59**	**177**	P		**P**		**13 36 45.2**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=353,slow=7.1,SNR=25								
ASAR	**Alice Springs**	**68.28**	**177**	P		**P**		**13 37 09.3**	**-0.1**
ASAR	**Alice Springs**	**68.28**	**177**	P		**P**		**13 37 09.3**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=355,slow=6.3,SNR=10								
NVAR	**Mina Array Bea**	**76.18**	**49**	P		**P**		**13 37 56.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=302,slow=5.2,SNR=4.6								
STKA	**Stephens Creek**	**77.00**	**171**	P		**P**		**13 38 00.2**	**-0.9**
STKA	**Stephens Creek**	**77.00**	**171**	P		**P**		**13 38 00.2**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=353,slow=7.6,SNR=8.9								
PDAR	**Pinedale Array**	**77.33**	**41**	P		**P**		**13 38 01.7**	**-1.8**
	comp=Z,0.7nm,1.0s,baz=18,slow=3.8,SNR=3.4								
LPAZ	**La Paz**	**147.21**	**36**	PKPbc		**PKPbc**		**13 45 52.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=56,slow=3.6,SNR=3.6								

TAP 19 13:26:50.9, 23°.80N×121°.66E, h44km, ML4.0, 24C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.14**	**232**	eP		Pn		13 26 58.5	+0.4
	baz=227								
TEGC				eS		Sn		13 27 04.5	+1.3
	baz=227								
ESF	**Shoufeng Towns**	**0.16**	**298**	eP		Pn		13 26 58.5	+0.3
	baz=298								
ESF				S		Sn		13 27 04.0	+0.6
	baz=298								
HWA	**Hwalien**	**0.19**	**344**	⇓P		Pn		13 26 58.6	+0.1
	baz=355								
HWA				eS		Sn		13 27 04.7	+1.0
	baz=355								
ESL	**Shilin**	**0.21**	**275**	⇑P		Pn		13 26 58.4	-0.2
	baz=275								
ESL				S		Sn		13 27 03.7	-0.4
	baz=275								
TWD	**Chiawan**	**0.29**	**348**	⇓P		Pn		13 26 59.3	0.0
	baz=357								
TWD				eS		Sn		13 27 05.7	+0.4
	baz=357								
WHF	**Hehuan Shan**	**0.50**	**314**⇑iP			Pn		13 27 02.8	+0.5
	baz=314								
EHP	**Heping Village**	**0.52**	**8**	P		Pn		13 27 02.0	0.0
	baz=16								
EHP				S		Sn		13 27 10.7	+0.8
	baz=16								
TWF1	**Yuli**	**0.55**	**217**⇑iP			Pn		13 27 02.1	-0.3
	baz=224								
TWF1				S		Sn		13 27 10.1	-0.7
	baz=224								
ENA	**Nanau**	**0.63**	**7**	eP		Pn		13 27 03.5	-0.1
	baz=17								
ENA				eS		Sn		13 27 13.1	+0.5
	baz=17								
TWT	**Tachien**	**0.64**	**316**⇑iP			Pn		13 27 04.2	+0.4
	baz=315								
TWT				S		Sn		13 27 13.0	0.0
	baz=315								
NNS	**Nan Shan**	**0.69**	**338**	⇑P		Pn		13 27 04.5	0.0
	baz=339								
NNS				eS		Sn		13 27 13.9	-0.4
	baz=339								
SMLT	**Sun Moon Lake**	**0.70**	**277**⇑iP			Pn		13 27 05.0	+0.4
	baz=279								
SMLT				eS		Sn		13 27 14.5	0.0
	baz=279								
YUS	**Yu-Shan**	**0.72**	**245**⇑iP			Pn		13 27 05.7	+0.4
	baz=237								
YUS				S		Sn		13 27 15.4	-0.2
	baz=237								
TYC	**Yuchr**	**0.74**	**279**⇑iP			Pn		13 27 05.4	+0.5
	baz=278								
CHKT	**Chengkung**	**0.74**	**201**	eP		Pn		13 27 05.1	+0.1
	baz=190								
CHKT				eS		Sn		13 27 15.3	+0.1
	baz=190								
TWC	**Suao**	**0.83**	**12**	P		Pn		13 27 06.5	+0.4
	baz=19								
TWC				S		Sn		13 27 18.1	+0.9
	baz=19								
ALS	**Alishan**	**0.83**	**250**⇑iP			Pn		13 27 07.2	+0.7
	baz=249								
ALS				eS		Sn		13 27 18.8	+0.7
	baz=249								

ELDTW	**Lidau** baz=220	**0.84**	**225**	P	Pn	13 27 06.1	-0.4
ELDTW				*e*S	Sn	13 27 17.7	-0.1
ENTT	**Nioudou** baz=348	**0.85**	**354**	*e*P	Pn	13 27 06.5	+0.1
ENTT				*e*S	Sn	13 27 17.9	+0.2
WNT	**Mingjian** baz=275	**0.90**	**275**	⇑P	Pn	13 27 08.6	+1.5
WNT				*e*S	Sn	13 27 21.1	+2.2
NSK	**Sanguang** baz=344	**0.92**	**343**	⇑P	Pn	13 27 07.8	+0.4
NSK				*e*S	Sn	13 27 19.1	-0.5
CHN5	**Tsauling** baz=257	**0.92**	**258**	⇑*i*P	Pn	13 27 08.5	+1.0
CHN5				*e*S	Sn	13 27 21.9	+2.2
TCU	**Taichung** baz=291	**0.97**	**291**	⇑P	Pn	13 27 09.8	+1.8
TCU				*e*S	Sn	13 27 23.8	+3.2
ILA	**Ilan** baz=356	**0.97**	**5**	*e*P	Pn	13 27 09.1	+1.0
TWQ1	**Liyutan** baz=304	**0.98**	**304**	⇑*i*P	Pn	13 27 09.5	+1.3
TWQ1				*e*S	Sn	13 27 22.7	+1.8
WGK	**Gukeng** baz=263	**1.01**	**264**	*e*P	Pn	13 27 10.0	+1.4
WGK				*e*S	Sn	13 27 24.5	+2.8
NSTT	**Nanjuang** baz=312	**1.03**	**324**	⇑*e*P	Pn	13 27 10.1	+1.3
NSTT				S	Sn	13 27 23.4	+1.3
NSY	**Sanyi** baz=307	**1.03**	**307**	⇑P	Pn	13 27 10.3	+1.4
NSY				*e*S	Sn	13 27 24.3	+2.1
STYT	**Tauyuan** baz=225	**1.04**	**233**	⇑*i*P	Pn	13 27 10.0	+0.9
STYT				S	Sn	13 27 23.6	+1.1
WTP	**Ta-pu** baz=239	**1.10**	**241**	⇑*i*P	Pn	13 27 11.3	+1.3
WTP				S	Sn	13 27 26.6	+2.5
TWG	**Pinlang** baz=199	**1.11**	**209**	*e*P	Pn	13 27 09.2	-0.8
TTN	**Taitung** baz=203	**1.14**	**205**	*e*P	Pn	13 27 11.3	+1.0
CHY	**Chiayi** baz=255	**1.17**	**256**	⇑P	Pn	13 27 12.2	+1.5
HSN	**Hsinchu** baz=345	**1.18**	**328**	*e*P	Pn	13 27 12.5	+1.6
TWK	**Hsinying** baz=243	**1.20**	**244**	⇑P	Pn	13 27 12.6	+1.3
TWK				*e*S	Sn	13 27 29.0	+2.6
CHN1	**Nanshi** baz=239	**1.20**	**240**	⇓P	Pn	13 27 12.9	+1.6
CHN1				S	Sn	13 27 29.1	+2.6
SGST	**Jiashian** baz=233	**1.22**	**235**	⇑P	Pn	13 27 13.3	+1.8
SGST				*e*S	Sn	13 27 29.2	+2.4
TWB1	**Santiao Chiao** baz=15	**1.24**	**14**	*e*P	Pn	13 27 12.6	+0.8
NCU	**National Centr** baz=341	**1.25**	**340**	*e*P	Pn	13 27 12.9	+1.1
NCU				*e*S	Sn	13 27 29.8	+2.3
WTCT	**Ta-ch'eng** baz=272	**1.27**	**273**	⇑P	Pn	13 27 13.5	+1.4
WTCT				*e*S	Sn	13 27 30.8	+3.0
NWF	**Wu-fen Shan** baz=355	**1.27**	**5**	*e*P	Pn	13 27 13.4	+1.0
TWS1	**Kuangyinshan** baz=351	**1.32**	**350**	*e*P	Pn	13 27 13.9	+1.0
WSF	**Szhu** baz=263	**1.33**	**264**	*e*P	Pn	13 27 14.1	+1.2
WSF				*e*S	Sn	13 27 32.3	+2.9
ECL	**Taimali** baz=201	**1.36**	**209**	*e*P	Pn	13 27 12.4	-0.9
YOJ	**Yonaguni jima** baz=64	**1.40**	**61**	⇑P	Pn	13 27 14.5	+0.6
YOJ				*e*S	Sn	13 27 31.6	+0.4
SSD	**Sandimen** baz=206	**1.41**	**222**	*e*P	Pn	13 27 15.4	+1.4
SSD				*e*S	Sn	13 27 34.2	+2.8
SCLT	**Jiali** baz=245	**1.48**	**246**	*e*P	Pn	13 27 16.6	+1.6
SCLT				*e*S	Sn	13 27 36.0	+2.8
TWM1	**Shoushan** baz=229	**1.49**	**230**	*e*P	Pn	13 27 18.3	+3.1
SGLT	**Jiouru** baz=224	**1.51**	**226**	*e*P	Pn	13 27 18.2	+2.7
EAST	**Anshuo** baz=201	**1.59**	**208**	*e*P	Pn	13 27 17.1	+0.4
TAW	**Tawu** baz=198	**1.59**	**206**	*e*P	Pn	13 27 17.7	+1.1
SCZT	**Fangliau** baz=211	**1.71**	**214**	⇑P	Pn	13 27 20.3	+2.1
SCZT				*e*S	Sn	13 27 41.3	+2.5
LAY	**Lan-yu** baz=174	**1.75**	**183**	*e*P	Pn	13 27 18.2	-0.6
WDGT	**Dungji** baz=255	**1.91**	**254**	*e*P	Pn	13 27 21.4	+0.4
TWK1	**Hengchun** baz=194	**2.00**	**203**	*e*P	Pn	13 27 23.2	+0.9
KNM	**Kinmen** baz=281	**3.01**	**283**	*e*P	Pn	13 27 37.5	+1.5
QZH	**Quanzhou**	**3.02**	**293**	⇓*i*Pn	Pn	13 27 31.8	-4.4
QZH				Sn	Sn	13 28 04.4	-6.8
QZH	comp=N,230nm,0.2s			smax	smax		
QZH	comp=E,90nm,0.3s			smax	smax		

TAP 19 13:28:36.2,23.82N×121.73E,h45km,ML3.6,1C-4D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=325	**0.20**	**324**	P	Pn	13 28 44.1	+0.1
HWA				*e*S	Sn	13 28 50.2	+0.8
TEGC	**Jichi Village** baz=232	**0.21**	**239**	P	Pn	13 28 44.2	+0.2
TEGC				*e*S	Sn	13 28 50.2	+0.8
ESF	**Shoufeng Towns** baz=285	**0.21**	**285**	*e*P	Pn	13 28 44.1	0.0
ESF				S	Sn	13 28 50.3	+0.7
ESL	**Shilin** baz=269	**0.28**	**270**	P	Pn	13 28 44.5	-0.1
ESL				*e*S	Sn	13 28 50.2	-0.3
TWD	**Chiawan** baz=340	**0.29**	**334**	⇓*i*P	Pn	13 28 44.7	-0.1
TWD				*i*S	Sn	13 28 50.9	+0.1
EHP	**Heping Village** baz=1.0	**0.49**	**1**	P	Pn	13 28 46.9	-0.2
EHP				*e*S	Sn	13 28 55.2	+0.4
ENA	**Nanau** baz=1.0	**0.61**	**1**	⇓P	Pn	13 28 48.5	-0.1
ENA				*e*S	Sn	13 28 57.7	+0.2
TWF1	**Yuli** baz=230	**0.61**	**221**	P	Pn	13 28 48.2	-0.4
TWF1				S	Sn	13 28 56.7	-0.8
TWT	**Tachien** baz=309	**0.67**	**311**	P	Pn	13 28 50.2	+0.5
TWT				S	Sn	13 28 59.7	+0.4
NNS	**Nan Shan** baz=328	**0.70**	**332**	P	Pn	13 28 50.1	+0.2
NNS				*e*S	Sn	13 29 00.0	+0.1
SMLT	**Sun Moon Lake** baz=277	**0.77**	**275**	P	Pn	13 28 51.1	+0.3
SMLT				*e*S	Sn	13 29 01.9	+0.5
YUS	**Yu-Shan** baz=245	**0.79**	**246**	*i*P	Pn	13 28 51.9	+0.4
YUS				S	Sn	13 29 02.0	-0.7
CHKT	**Chengkung** baz=196	**0.79**	**205**	*e*P	Pn	13 28 50.1	-0.8
CHKT				*e*S	Sn	13 29 00.4	-1.3
TWC	**Suao** baz=8.0	**0.80**	**8**	⇓*i*P	Pn	13 28 51.6	+0.5
TWC				S	Sn	13 29 02.4	+0.6
TYC	**Yuchr** baz=276	**0.81**	**276**	P	Pn	13 28 51.5	+0.3
ENTT	**Nioudou** baz=350	**0.84**	**349**	P	Pn	13 28 52.0	+0.3
ENTT				S	Sn	13 29 03.5	+0.6
ALS	**Alishan** baz=250	**0.90**	**251**	*e*P	Pn	13 28 53.6	+0.7
ALS				*e*S	Sn	13 29 05.4	+0.3
ELDTW	**Lidau** baz=224	**0.91**	**227**	⇓*i*P	Pn	13 28 52.1	-0.5
ELDTW				*e*S	Sn	13 29 04.0	-0.7
NSK	**Sanguang** baz=339	**0.92**	**338**	P	Pn	13 28 53.3	+0.4
NSK				*e*S	Sn	13 29 05.0	-0.1
ILA	**Ilan** baz=351	**0.95**	**1**	*e*P	Pn	13 28 55.6	+2.5
WNT	**Mingjian** baz=273	**0.96**	**274**	*e*P	Pn	13 28 54.7	+1.4
WNT				S	Sn	13 29 08.1	+2.2
CHN5	**Tsauling** baz=257	**0.99**	**258**	*e*P	Pn	13 28 54.9	+1.1
CHN5				S	Sn	13 29 08.5	+1.7
TCU	**Taichung** baz=289	**1.02**	**289**	P	Pn	13 28 55.7	+1.6
TCU				*e*S	Sn	13 29 10.1	+2.8
TWQ1	**Liyutan** baz=301	**1.03**	**301**	⇑*i*P	Pn	13 28 55.5	+1.3
TWQ1				S	Sn	13 29 09.6	+2.1
NSTT	**Nanjuang** baz=308	**1.05**	**321**	P	Pn	13 28 56.0	+1.5
NSTT				S	Sn	13 29 09.8	+1.7
NSY	**Sanyi** baz=304	**1.07**	**304**	P	Pn	13 28 56.0	+1.2
NSY				*e*S	Sn	13 29 10.7	+2.1
WGK	**Gukeng** baz=262	**1.08**	**263**	*e*P	Pn	13 28 56.6	+1.7
WGK				*e*S	Sn	13 29 11.2	+2.5
STYT	**Tauyuan** baz=228	**1.11**	**234**	P	Pn	13 28 56.0	+0.6
STYT				S	Sn	13 29 10.4	+0.9
TWG	**Pinlang** baz=211	**1.16**	**212**	*e*P	Pn	13 28 54.7	-1.4
TWG				*e*S	Sn	13 29 08.6	-2.2
WTP	**Ta-pu** baz=240	**1.17**	**241**	*e*P	Pn	13 28 57.2	+1.0
WTP				*e*S	Sn	13 29 12.9	+1.8
TTN	**Taitung** baz=208	**1.19**	**207**	*e*P	Pn	13 28 55.9	-0.4
HSN	**Hsinchu** baz=328	**1.21**	**325**	*e*P	Pn	13 28 58.1	+1.5
HSN				*e*S	Sn	13 29 14.7	+2.9
TWB1	**Santiao Chiao** baz=11	**1.21**	**11**	*e*P	Pn	13 28 57.4	+0.7
TWB1				*e*S	Sn	13 29 13.3	+1.4
CHY	**Chiayi** baz=255	**1.24**	**256**	*e*P	Pn	13 28 58.2	+1.1
NWF	**Wu-fen Shan** baz=350	**1.25**	**2**	*e*P	Pn	13 28 58.4	+1.0
NWF				*e*S	Sn	13 29 14.8	+1.7
NCU	**National Centr** baz=338	**1.25**	**337**	P	Pn	13 28 58.7	+1.4
NCU				*e*S	Sn	13 29 15.6	+2.6
TWK	**Hsinying** baz=243	**1.27**	**245**	*e*P	Pn	13 28 58.9	+1.4
TWK				*e*S	Sn	13 29 15.8	+2.3
CHN1	**Nanshi** baz=239	**1.27**	**241**	*e*P	Pn	13 28 58.9	+1.3
CHN1				*e*S	Sn	13 29 15.7	+2.2
SGST	**Jiashian** baz=234	**1.28**	**236**	*e*P	Pn	13 28 59.4	+1.7
SGST				*e*S	Sn	13 29 16.3	+2.5
TWS1	**Kuangyinshan** baz=348	**1.31**	**347**	*e*P	Pn	13 28 59.1	+1.0
TWS1				*e*S	Sn	13 29 15.8	+1.3
WTCT	**Ta-ch'eng** baz=271	**1.33**	**272**	P	Pn	13 28 59.6	+1.3
WTCT				S	Sn	13 29 17.9	+3.1
YOJ	**Yonaguni jima** baz=60	**1.33**	**61**	*e*P	Pn	13 28 58.9	+0.5
WSF	**Szhu** baz=262	**1.40**	**263**	*e*P	Pn	13 29 00.4	+1.2
WSF				*e*S	Sn	13 29 19.2	+2.7
ECL	**Taimali** baz=212	**1.41**	**211**	*e*P	Pn	13 28 58.1	-1.3
SSD	**Sandimen** baz=211	**1.47**	**224**	*e*P	Pn	13 29 01.5	+1.3
SSD				*e*S	Sn	13 29 20.5	+2.2
SCLT	**Jiali** baz=244	**1.55**	**246**	*e*P	Pn	13 29 05.1	+3.8
SCLT				*e*S	Sn	13 29 22.2	+2.0
TWM1	**Shoushan** baz=231	**1.56**	**231**	*e*P	Pn	13 29 03.2	+1.7
SGLT	**Jiouru** baz=217	**1.58**	**227**	*e*P	Pn	13 29 04.4	+2.8
EAST	**Anshuo** baz=205	**1.64**	**210**	*e*P	Pn	13 29 02.5	-0.1
SCZT	**Fangliau** baz=215	**1.77**	**216**	*e*P	Pn	13 29 05.3	+1.0
SCZT				*e*S	Sn	13 29 27.8	+2.2
TWK1	**Hengchun** baz=198	**2.05**	**205**	*e*P	Pn	13 29 10.0	+1.8
KNM	**Kinmen** baz=280	**3.08**	**282**	*e*P	Pn	13 29 23.7	+1.4

*IDC **19** 13:34:28.2±1.8, 46.28N×153.53E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/27, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=60.9km s-min=34.1km az=118.0*
*SKHL **19** 13:34:34.1±7.0, 45.11N×153.43E, h25km±2km*
ISC 19 13:34:29.3±1.4, 46.1N±0.2×153.4E±0.1, h10km, n18, σ2s14/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.00**	**259**	*e*P	**Pn**	**13 35 33.7**	**+3.1**
KUR				*e*S	**Sn**	**13 36 18.4**	**+0.9**
KUR	110nm,0.6s			A	A	13 36 31.5	
KUR				A	A	13 36 31.5	
	80nm,0.6s						
SHO	**Shikotan**	**5.20**	**246**	*e*P	**Pn**	**13 35 46.1**	**-0.9**
SHO				*e*S	**Sn**	**13 36 42.9**	**-4.1**
NEM2	**Nemuro 2**	**6.13**	**246**	P	**Pn**	**13 36 00.6**	**+0.7**
NEM2				*e*S	Sn	13 37 05.4	-4.7
JRA	**Rausu**	**6.28**	**252**	P	**Pn**	**13 36 04.5**	**+2.6**
JNK	**Nakash**	**6.69**	**251**	P	**Pn**	**13 36 10.0**	**+2.4**
JNK				*e*S	**Sn**	**13 37 23.0**	**-0.9**
JAK	**Akkeshi**	**6.98**	**246**	P	**Pn**	**13 36 12.1**	**+0.6**
JAK				*e*S	Sn	13 37 25.9	-5.0
JAR	**Ashorobuto**	**7.44**	**251**	P	**Pn**	**13 36 20.0**	**+2.1**
JAR				*e*S	**Sn**	**13 37 38.4**	**-3.9**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=169,slow=14,SNR=11	**7.50**	**20**	Pn	**Pn**	**13 36 16.6**	**-2.1**
JOB	**Onbets**	**7.58**	**248**	P	**Pn**	**13 36 21.1**	**+1.4**
JOB				*e*S	Sn	13 37 41.2	-4.4
JKK2	**Kamakawa 2**	**7.90**	**257**	P	**Pn**	**13 36 26.4**	**+2.3**
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=77,slow=14,SNR=3.8	**7.92**	**259**	Pn	**Pn**	**13 36 25.5**	**+1.1**
JCH	**Churui**	**8.02**	**248**	P	**Pn**	**13 36 26.6**	**+0.8**
JCH				*e*S	Sn	13 37 51.3	-5.3
MYR	**Moyori**	**8.24**	**246**	*e*P	**Pn**	**13 36 29.5**	**+0.8**
MYR				*e*S	Sn	13 37 54.0	-7.8
JNBK	**Urakawa-nobuka**	**8.58**	**247**	P	**Pn**	**13 36 33.7**	**+0.2**
JNBK				*e*S	Sn	13 38 02.4	-7.9
JKB	**Kayabe**	**9.89**	**249**	P	**Pn**	**13 36 51.9**	**+0.6**
JKB				*e*S	Sn	13 38 33.6	-8.7
JANG	**Nango**	**10.42**	**241**	*e*S	Sn	13 38 46.0	-10
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=22,slow=7.3,SNR=2.8	**68.01**	**199**	P	**P**	**13 45 29.4**	**+0.8**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=15,slow=6.2,SNR=4.5	**71.70**	**199**	P	**P**	**13 45 53.6**	**+2.3**

*TAP **19** 13:38:59.9, 23.80N×121.66E, h42km, ML3.9, B*
*JMA **19** 13:38:59.2±0.1, 23.75N×121.63E, h50km±3km, M3.7*
*ISCJB **19** 13:39:00.3±0.3, 23.79N±0.02×121.71E±0.02, h38km±5km, Error ellipse: s-maj=3.4km s-min=2.3km az=140.4*
ISC 19 13:39:00.7±1.0, 23.80N±0.02×121.69E±0.02, h33km±2km, n62, σ0s88/101, 13C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village** baz=225	**0.17**	**236**	*e*P	**Pb**	**13 39 07.4**	**+0.5**
TEGC				*e*S	**Sb**	**13 39 14.0**	**+2.7**
ESF	**Shoufeng Towns** baz=299	**0.18**	**292**	P	**Pb**	**13 39 07.4**	**+0.3**
ESF				S	**Sb**	**13 39 12.4**	**+0.9**
HWA	**Hwalien** baz=348	**0.19**	**336**	⇓*i*P	**Pn**	**13 39 07.2**	**+1.0**
ESL	**Shilin** baz=275	**0.24**	**273**	P	**Pn**	**13 39 07.4**	**0.0**
ESL				S	**Sb**	**13 39 12.4**	**-0.1**
TWD	**Chiawan** baz=358	**0.29**	**343**	*i*P	**Pb**	**13 39 08.3**	**0.0**
TWD				*i*S	**Sb**	**13 39 14.6**	**+1.1**
EHP	**Heping Village** baz=15	**0.51**	**5**	*e*P	**Pb**	**13 39 10.9**	**-0.6**
WHF	**Hehuan Shan** baz=309	**0.52**	**311**	⇓*i*P	**Pb**	**13 39 11.1**	**-0.8**
WHF				*i*S	**Sb**	**13 39 18.9**	**-0.7**
TWF1	**Yuli** baz=224	**0.57**	**219**	⇑*i*P	Pn	13 39 11.0	-1.4
TWF1				*e*S	**Sb**	**13 39 19.0**	**-1.6**
ENA	**Nanau** baz=18	**0.62**	**4**	P	**Pn**	**13 39 12.4**	**-0.7**
ENA				*e*S	**Sb**	**13 39 22.0**	**+0.1**
TWT	**Tachien** baz=315	**0.65**	**314**	P	**Pn**	**13 39 13.2**	**-0.5**
TWT				S	**Sb**	**13 39 21.6**	**-1.2**
NNS	**Nan Shan** baz=339	**0.70**	**335**	*e*P	**Pn**	**13 39 13.4**	**-0.9**
NNS				*e*S	**Sn**	**13 39 22.1**	**-2.0**
SMLT	**Sun Moon Lake** baz=279	**0.73**	**277**	⇑*i*P	**Pn**	**13 39 14.0**	**-0.7**
SMLT				*i*S	**Sn**	**13 39 23.7**	**-1.1**
YUS	**Yu-Shan** baz=237	**0.75**	**246**	⇑*i*P	**Pn**	**13 39 14.7**	**-0.6**
YUS				S	**Sn**	**13 39 24.2**	**-1.5**
CHKT	**Chengkung** baz=189	**0.76**	**203**	P	**Pn**	**13 39 14.5**	**-0.5**
CHKT				*e*S	**Sn**	**13 39 25.3**	**-0.1**
TYC	**Yuchr** baz=282	**0.77**	**278**	⇑*i*P	**Pn**	**13 39 14.4**	**-0.8**
TYC				*e*S	**Sn**	**13 39 24.5**	**-1.1**
TWC	**Suao** baz=20	**0.82**	**10**	P	**Pn**	**13 39 15.7**	**-0.1**
TWC				S	**Sn**	**13 39 27.2**	**+0.4**
ENTT	**Nioudou** baz=348	**0.84**	**352**	P	**Pn**	**13 39 15.4**	**-0.7**
ENTT				S	**Sn**	**13 39 26.8**	**-0.6**
ALS	**Alishan** baz=248	**0.86**	**251**	P	**Pn**	**13 39 16.2**	**-0.5**
ALS				*e*S	**Sn**	**13 39 27.6**	**-0.7**
ELDTW	**Lidau** baz=218	**0.87**	**226**	⇓P	Pn	13 39 15.2	-1.4
ELDTW				*e*S	**Sn**	**13 39 26.1**	**-2.1**
NSK	**Sanguang** baz=344	**0.92**	**341**	⇓*i*P	**Pn**	**13 39 16.9**	**-0.5**
NSK				S	**Sn**	**13 39 28.3**	**-1.1**
WNT	**Mingjian** baz=275	**0.93**	**275**	P	**Pn**	**13 39 17.4**	**+0.1**
WNT				S	**Sn**	**13 39 30.1**	**+0.7**
CHN5	**Tsauling** baz=257	**0.95**	**258**	⇑*i*P	**Pn**	**13 39 17.5**	**-0.2**
CHN5				S	**Sn**	**13 39 30.7**	**+0.6**
TCU	**Taichung** baz=291	**0.99**	**291**	P	**Pn**	**13 39 18.6**	**+0.4**
TCU				*e*S	**Sb**	**13 39 32.3**	**+0.2**
TWQ1	**Liyutan** baz=304	**1.00**	**303**	⇑*i*P	**Pn**	**13 39 18.6**	**+0.2**
TWQ1				*e*S	**Sn**	**13 39 31.6**	**+0.3**
NSTT	**Nanjuang** baz=325	**1.04**	**323**	⇑P	**Pn**	**13 39 19.1**	**+0.3**
NSTT				S	**Sn**	**13 39 32.3**	**0.0**
WGK	**Gukeng** baz=263	**1.04**	**264**	*e*P	**Pn**	**13 39 18.4**	**-0.5**
NSY	**Sanyi** baz=307	**1.05**	**306**	*e*P	**Pn**	**13 39 19.1**	**+0.1**
NSY				*e*S	**Sn**	**13 39 33.4**	**+0.9**
STYT	**Tauyuan** baz=225	**1.07**	**234**	⇑P	**Pn**	**13 39 19.0**	**-0.4**
STYT				*e*S	**Sn**	**13 39 32.7**	**-0.3**
TWG	**Pinlang** baz=197	**1.13**	**210**	*e*P	Pn	13 39 18.0	-2.1
TWG				*e*S	**Sn**	**13 39 31.4**	**-3.1**
WTP	**Ta-pu** baz=239	**1.13**	**241**	⇑*i*P	**Pn**	**13 39 20.3**	**+0.1**
WTP				S	**Sn**	**13 39 35.2**	**+0.6**
TTN	**Taitung** baz=203	**1.16**	**206**	*e*P	Pn	13 39 18.9	-1.6
CHY	**Chiayi** baz=254	**1.20**	**256**	⇑P	**Pn**	**13 39 21.2**	**+0.1**
CHY				*e*S	**Sn**	**13 39 36.7**	**+0.5**
TWK	**Hsinying** baz=243	**1.23**	**244**	⇑P	**Pn**	**13 39 21.5**	**0.0**
TWK				*e*S	**Sn**	**13 39 37.7**	**+0.7**

CHN1	**Nanshi**	**1.23**	**240**	⇑*i*P	**Pn**	**13 39 21.8**	**+0.2**
	baz=238						
CHN1				*e*S	**Sn**	**13 39 38.0**	**+0.9**
	baz=238						
TWB1	**Santiao Chiao**	**1.23**	**13**	*e*P	**Pn**	**13 39 20.5**	**-1.0**
	baz=16						
SGST	**Jiashian**	**1.24**	**235**	⇑P	**Pn**	**13 39 22.4**	**+0.6**
	baz=233						
SGST				*e*S	**Sn**	**13 39 39.0**	**+1.6**
	baz=233						
NCU	**National Centr**	**1.25**	**339**	*e*P	**Pn**	**13 39 21.9**	**+0.1**
	baz=340						
NWF	**Wu-fen Shan**	**1.27**	**4**	*e*P	**Pb**	**13 39 23.9**	**-0.2**
	baz=355						
WTCT	**Ta-ch'eng**	**1.29**	**273**	P	**Pn**	**13 39 22.5**	**+0.1**
	baz=272						
WTCT				S	**Sn**	**13 39 39.8**	**+1.3**
	baz=272						
TWS1	**Kuangyinshan**	**1.32**	**349**	*e*P	**Pn**	**13 39 22.8**	**+0.1**
	baz=352						
TWS1				*e*S	**Sn**	**13 39 39.9**	**+0.8**
	baz=352						
WSF	**Szhu**	**1.36**	**263**	P	**Pn**	**13 39 23.1**	**-0.1**
	baz=262						
WSF				S	**Sn**	**13 39 41.1**	**+1.0**
	baz=262						
YOJ	**Yonaguni jima**	**1.37**	**61**	P	**Pn**	**13 39 23.6**	**+0.1**
YOJ				S	**Sn**	**13 39 40.6**	**+0.1**
YOJ	**Yonaguni jima**	**1.37**	**61**	*e*P	**Pn**	**13 39 22.3**	**-1.1**
	baz=64						
YOJ				*e*S	**Sn**	**13 39 41.1**	**+0.6**
	baz=64						
ECL	**Taimali**	**1.38**	**210**	*e*P	Pn	13 39 21.9	-1.6
	baz=200						
CHN3	**Shinhua**	**1.42**	**240**	*e*P	**Pn**	**13 39 25.0**	**+0.9**
	baz=238						
CHN3				*e*S	**Sb**	**13 39 43.9**	**-0.4**
	baz=238						
CHN8	**Yiju**	**1.43**	**252**	*e*P	**Pn**	**13 39 24.0**	**-0.3**
	baz=250						
CHN8				*e*S	**Sn**	**13 39 42.8**	**+0.8**
	baz=250						
SSD	**Sandimen**	**1.43**	**223**	*e*P	**Pn**	**13 39 24.0**	**-0.3**
	baz=221						
SCLT	**Jiali**	**1.51**	**246**	*e*P	**Pn**	**13 39 25.5**	**+0.2**
	baz=244						
SCLT				*e*S	**Sn**	**13 39 45.0**	**+1.2**
	baz=244						
TWM1	**Shoushan**	**1.52**	**230**	*e*P	**Pn**	**13 39 27.2**	**+1.6**
	baz=229						
SGLT	**Jiouru**	**1.54**	**226**	*e*P	**Pn**	**13 39 27.0**	**+1.3**
	baz=225						
TAI1	**Yung-k'ang**	**1.54**	**241**	*e*P	**Pn**	**13 39 26.4**	**+0.6**
	baz=240						
EAST	**Anshuo**	**1.61**	**209**	⇓*e*P	**Pn**	**13 39 26.7**	**-0.1**
	baz=200						
SCZT	**Fangliau**	**1.73**	**215**	*e*P	**Pn**	**13 39 29.1**	**+0.7**
	baz=213						
LAY	**Lan-yu**	**1.76**	**184**	*e*P	**Pn**	**13 39 27.5**	**-1.3**
	baz=176						
IRIF	**Iriomote-Funau**	**1.94**	**74**	P	**Pn**	**13 39 31.3**	**+0.1**
IRIF				*e*S	**Sn**	**13 39 55.6**	**+1.2**
HATJ	**Hateruma jima**	**1.95**	**82**	P	**Pn**	**13 39 31.5**	**+0.1**
HATJ				*e*S	**Sn**	**13 39 55.1**	**+0.3**
HEN	**Hengchun**	**1.99**	**206**	*e*P	**Pn**	**13 39 32.7**	**+0.7**
	baz=199						
TWK1	**Hengchun**	**2.02**	**204**	*e*P	**Pn**	**13 39 31.9**	**-0.6**
	baz=193						
JKRS	**Kuro-shima**	**2.16**	**78**	P	**Pn**	**13 39 34.6**	**+0.3**
JKRS				S	**Sn**	**13 40 01.4**	**+1.4**
JIJ	**Ishigaki jima**	**2.31**	**75**	P	**Pn**	**13 39 35.9**	**-0.5**
JIJ				S	**Sn**	**13 40 02.7**	**-0.9**
JTJ	**Tarama**	**2.87**	**72**	P	**Pn**	**13 39 44.3**	**+0.2**
JTJ				*e*S	**Sn**	**13 40 17.7**	**+0.2**
KNM	**Kinmen**	**3.04**	**282**	*e*P	**Pn**	**13 39 46.2**	**-0.2**
	baz=281						

*JMA **19** 13:41:22.0,23.˚76N×121.˚63E,h50km±1km,M2.9*
TAP 19 13:41:22.9,23.˚81N×121.˚65E,h42km,ML3.3,5C-4D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESF	**Shoufeng Towns**	**0.14**	**294**	P	Pn	13 41 30.2	+0.3
	baz=294						
ESF				S	Sn	13 41 35.4	+0.6
	baz=294						
TEGC	**Jichi Village**	**0.14**	**224**	*e*P	Pn	13 41 30.2	+0.2
	baz=212						
TEGC				*e*S	Sn	13 41 37.0	+2.2
	baz=212						
HWA	**Hwalien**	**0.17**	**346**	P	Pn	13 41 30.4	+0.3
	baz=349						
ESL	**Shilin**	**0.20**	**270**	*i* P	Pn	13 41 30.2	-0.2
	baz=269						
ESL				S	Sn	13 41 35.1	-0.4
	baz=269						
TWD	**Chiawan**	**0.27**	**350**	⇓P	Pn	13 41 30.9	-0.1
	baz=344						
TWD				S	Sn	13 41 37.2	+0.6
	baz=344						
TWF1	**Yuli**	**0.56**	**215**	⇑P	Pn	13 41 34.0	-0.5
	baz=223						
TWT	**Tachien**	**0.61**	**316**	*e*P	Pn	13 41 36.0	+0.5
	baz=314						
TWT				*e*S	Sn	13 41 44.3	-0.2
	baz=314						
ENA	**Nanau**	**0.62**	**8**	*e*P	Pn	13 41 35.2	0.0
	baz=16						
NNS	**Nan Shan**	**0.67**	**338**	*e*P	Pn	13 41 36.1	-0.1
	baz=339						
NNS				*e*S	Sn	13 41 45.4	-0.3
	baz=339						
SMLT	**Sun Moon Lake**	**0.69**	**276**	⇑*i*P	Pn	13 41 36.7	+0.4
	baz=278						
SMLT				S	Sn	13 41 46.4	+0.3
	baz=278						
YUS	**Yu-Shan**	**0.71**	**243**	P	Pn	13 41 37.5	+0.3
	baz=236						
YUS				S	Sn	13 41 47.1	-0.4
	baz=236						
TYC	**Yuchr**	**0.73**	**277**	P	Pn	13 41 37.0	+0.3
	baz=281						
TYC				*e*S	Sn	13 41 46.3	-0.5
	baz=281						
CHKT	**Chengkung**	**0.76**	**200**	*e*P	Pn	13 41 37.2	+0.1
	baz=187						
CHKT				*e*S	Sn	13 41 47.0	-0.3
	baz=187						
TWC	**Suao**	**0.81**	**13**	*e*P	Pn	13 41 38.2	+0.3
	baz=21						
TWC				S	Sn	13 41 49.8	+1.0
	baz=21						
ENTT	**Nioudou**	**0.83**	**355**	*e*P	Pn	13 41 38.0	-0.1
	baz=355						
ALS	**Alishan**	**0.83**	**249**	⇑*i*P	Pn	13 41 39.0	+0.5
	baz=248						
ELDTW	**Lidau**	**0.85**	**223**	*e*P	Pn	13 41 38.2	-0.3
	baz=218						
WNT	**Mingjian**	**0.89**	**274**	P	Pn	13 41 40.3	+1.4
	baz=274						
WNT				*e*S	Sn	13 41 52.9	+2.3
	baz=274						
NSK	**Sanguang**	**0.90**	**343**	*e*P	Pn	13 41 39.4	+0.2
	baz=351						
NSK				*e*S	Sn	13 41 51.0	-0.1
	baz=351						
CHN5	**Tsauling**	**0.92**	**257**	*e*P	Pn	13 41 40.4	+1.0
	baz=257						
CHN5				*e*S	Sn	13 41 53.1	+1.6
	baz=257						
TCU	**Taichung**	**0.95**	**291**	⇓P	Pn	13 41 41.6	+1.8
	baz=290						
TWQ1	**Liyutan**	**0.96**	**304**	⇑*i*P	Pn	13 41 41.4	+1.4
	baz=303						
TWQ1				*e*S	Sn	13 41 54.6	+2.2
	baz=303						
WGK	**Gukeng**	**1.00**	**263**	*e*P	Pn	13 41 41.6	+1.1
	baz=262						
NSTT	**Nanjuang**	**1.01**	**324**	*e*P	Pn	13 41 42.0	+1.5
	baz=324						
NSTT				*e*S	Sn	13 41 54.5	+1.0
	baz=324						
NSY	**Sanyi**	**1.01**	**307**	*e*P	Pn	13 41 42.0	+1.4
	baz=306						
STYT	**Tauyuan**	**1.04**	**232**	⇓P	Pn	13 41 42.2	+1.1
	baz=228						
STYT				*e*S	Sn	13 41 55.8	+1.2
	baz=228						
WTP	**Ta-pu**	**1.10**	**239**	⇑P	Pn	13 41 43.2	+1.3
	baz=239						
WTP				*e*S	Sn	13 41 58.6	+2.5
	baz=239						
TWG	**Pinlang**	**1.12**	**208**	*e*P	Pn	13 41 41.0	-1.1
	baz=197						
CHY	**Chiayi**	**1.17**	**255**	*e*P	Pn	13 41 44.5	+1.8
	baz=254						
TWK	**Hsinying**	**1.20**	**243**	*e*P	Pn	13 41 44.2	+1.0
	baz=243						
TWK				*e*S	Sn	13 42 00.7	+2.4
	baz=243						
CHN1	**Nanshi**	**1.20**	**239**	⇓P	Pn	13 41 44.8	+1.5
	baz=239						
CHN1				*e*S	Sn	13 42 01.4	+2.9
	baz=239						
SGST	**Jiashian**	**1.22**	**234**	P	Pn	13 41 45.4	+1.9
	baz=233						
SGST				S	Sn	13 42 01.7	+2.9
	baz=233						
TWB1	**Santiao Chiao**	**1.23**	**15**	*e*P	Pn	13 41 43.1	-0.5
	baz=16						
WTCT	**Ta-ch'eng**	**1.25**	**273**	*e*P	Pn	13 41 45.4	+1.5
	baz=272						
NWF	**Wu-fen Shan**	**1.26**	**6**	*e*P	Pn	13 41 44.8	+0.7
	baz=352						
NWF				*e*S	Sn	13 42 00.7	+0.8
	baz=352						
WSF	**Szhu**	**1.32**	**263**	*e*P	Pn	13 41 45.6	+0.8
	baz=263						
ECL	**Taimali**	**1.37**	**208**	*e*P	Pn	13 41 44.4	-1.1
	baz=199						
CHN3	**Shinhua**	**1.39**	**238**	*e*P	Pn	13 41 47.2	+1.5
	baz=252						
YOJ	**Yonaguni jima**	**1.40**	**62**	P	Pn	13 41 46.3	+0.3
SSD	**Sandimen**	**1.41**	**222**	*e*P	Pn	13 41 46.9	+0.8
	baz=221						
TWM1	**Shoushan**	**1.50**	**229**	*e*P	Pn	13 41 50.3	+3.0
	baz=229						
EAST	**Anshuo**	**1.60**	**208**	*e*P	Pn	13 41 50.3	+1.5
	baz=199						
SCZT	**Fangliau**	**1.72**	**214**	*e*P	Pn	13 41 52.6	+2.3
	baz=213						
IRIF	**Iriomote-Funau**	**1.97**	**74**	P	Pn	13 41 54.3	+0.5
IRIF				*e*S	Sn	13 42 17.9	+0.6
HATJ	**Hateruma jima**	**1.99**	**83**	P	Pn	13 41 54.3	+0.3
JKRS	**Kuro-shima**	**2.20**	**78**	P	Pn	13 41 57.6	+0.7
JKRS				*e*S	Sn	13 42 24.6	+1.7
JIJ	**Ishigaki jima**	**2.34**	**76**	P	Pn	13 41 58.9	0.0
JIJ				S	Sn	13 42 25.9	-0.6

*IDC **19** 13:43:51.0±0.4,2.˚66N×96.˚04E,h0km,mb4.8/37, mb1 4.9/39,mb1mx4.8/41,mbtmp4.8/39,ML4.6/2,MS4.6/3, Ms1 4.7/3,ms1mx4.2/40,Error ellipse: s-maj=13.0km s-min=10.3km az=49.0*
*BJI **19** 13:43:51.6,2.˚29N×95.˚98E,h37km,mB5.6/21,mb5.2/53, Ms5.3/26,Ms7 5.1/26*
*MOS **19** 13:43:54.3±0.9,2.˚70N×96.˚11E,h33km,mb5.6/52, MS5.3/4,Error ellipse: s-maj=8.4km s-min=4.5km az=113.6*
*DJA **19** 13:43:54.3±0.5,3.˚N±3.˚×9.˚6E±.˚,h10km,M5.4/23,mb5.4/23, mB5.9/8,MLv5.3/12,Mw(mB)5.5/8*
*ISCJB **19** 13:43:55.5±0.4,2.˚66N±0.˚02×96.˚06E±0.˚02,h42km±3km, mb5.2/151,MS5.0/15,Error ellipse: s-maj=4.5km s-min=3.5km az=141.3*
*BKK **19** 13:43:56.5±0.2,3.˚N±3.˚×9.˚6E±.˚,h10km,M5.2/32,mB5.6/10, mb5.3/32,MLv5.3/8,Mw(mB)5.2/10*
*NEIC **19** 13:43:57.3±0.8,2.˚68N×96.˚06E,h44km±7km,mb5.5/61, Error ellipse: s-maj=6.3km s-min=3.7km az=58.0*
*AUST **19** 13:43:59.0±1.1,2.˚75N×96.˚16E,h58km±10km,Error ellipse: s-maj=13.9km s-min=6.5km az=35.0*
ISC 19 13:43:56.7±0.3,2.˚67N±0.˚03×96.˚06E±0.˚04,h36km±1km, h36km:pP-P,n589,σ1s34/651,mb5.2/152,MS5.2/15, 24C-35D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.38**	**134**	P	**Pn**	**13 44 04.3**	**-1.1**
SNSI				S	**Sn**	**13 44 11.8**	**-0.1**
TPTI		**1.27**	**63**	P	**Pn**	**13 44 18.2**	**+0.4**
TPTI				S	**Sn**	**13 44 37.9**	**+4.3**
KCSI	**Kotacane, Aceh**	**1.91**	**64**	P	**Pn**	**13 44 28.2**	**+1.5**
KCSI				S	Sn	13 44 56.9	+7.3
TSI	**Tuntungan**	**2.64**	**72**	P	**Pn**	**13 44 38.9**	**+2.2**
LHMI	**Lhok Sumawe**	**2.69**	**19**	P	**Pn**	**13 44 39.4**	**+2.0**
LHMI	**Lhok Sumawe**	**2.69**	**19**	⇑P	**Pn**	**13 44 38.9**	**+1.5**
	baz=2.6,SNR=21						
PSI	**Prapat**	**2.87**	**87**	P	**Pn**	**13 44 41.3**	**+1.3**
PSI	**Prapat**	**2.87**	**87**	Pn	**Pn**	**13 44 39.3**	**-0.7**
PSI	**Prapat**	**2.87**	**87**	Pn	**Pn**	**13 44 39.3**	**-0.7**
	28nm,0.3s,baz=262,slow=9.2,SNR=78						
PSI				LR	LR	13 45 23.4	
	comp=Z,17nm,28.6s,baz=282,slow=32						
PSI	**Prapat**	**2.87**	**87**	⇓P	**Pn**	**13 44 41.0**	**+1.0**
	baz=2.8,SNR=121						
MNSI	**Mandailing Nat**	**3.99**	**118**	P	**Pn**	**13 44 55.6**	**+0.3**
CMBY	**CAMPBELL BAY**	**4.80**	**334**	*e*P	**Pn**	**13 45 05.2**	**-1.3**
KULM	**Kulim**	**5.27**	**60**	P	**Pn**	**13 45 14.8**	**+1.9**
KULM	**Kulim**	**5.27**	**60**	P	**Pn**	**13 45 14.3**	**+1.4**
	881nm,0.9s,6μm2.3nm						
KULM	**Kulim**	**5.27**	**60**	*e*Pn	**Pn**	**13 45 14.3**	**+1.4**
KULM				*e*Sn	**Sn**	**13 46 13.7**	**+1.2**
IPM	**Ipoh**	**5.28**	**70**	P	**Pn**	**13 45 14.9**	**+1.9**
IPM	**Ipoh**	**5.28**	**70**	P	**Pn**	**13 45 14.5**	**+1.5**
	551nm,0.6s,5μm1.9nm						
IPM	**Ipoh**	**5.28**	**70**	*e*Pn	**Pn**	**13 45 14.5**	**+1.5**
IPM				*e*Sn	**Sn**	**13 46 13.4**	**+0.8**
PPI	**Padang Panjang**	**5.34**	**126**	P	**Pn**	**13 45 15.4**	**+1.5**
	1μm,0.7s,19μm5.7nm						
BKNI	**Bangkinang**	**5.50**	**115**	P	**Pn**	**13 45 17.5**	**+1.4**
	336m,1.0s,8μm2.3nm						
BKNI	**Bangkinang**	**5.50**	**115**	⇓P	**Pn**	**13 45 16.4**	**+0.3**
	baz=5.4,SNR=4.6						
FRIM	**Kepong**	**5.59**	**84**	P	**Pn**	**13 45 19.2**	**+1.9**
PKDT	**Phuket**	**5.66**	**24**	P	**Pn**	**13 45 20.1**	**+1.8**
	286nm,0.9s,5μm1.6nm						
SURT	**Suratani**	**6.81**	**23**	P	**Pn**	**13 45 35.4**	**+1.3**
	80nm,0.9s,0.3nm						
KGM	**Kluang**	**7.29**	**95**	P	**Pn**	**13 45 42.2**	**+1.5**
KTGM	**Kuala Trenggan**	**7.54**	**69**	P	**Pn**	**13 45 45.9**	**+1.8**
BTDF	**Bukit Timah Da**	**7.82**	**99**	⇓P	**Pn**	**13 45 48.8**	**+0.8**
	baz=7.7,SNR=6.7						
BTDF				⇓P	**Pn**	**13 45 48.8**	**+0.8**
	baz=7.7,SNR=6.7						
MYKOM	**Kota Tinggi**	**7.84**	**96**	P	**Pn**	**13 45 50.0**	**+1.8**
MYKOM	**Kota Tinggi**	**7.84**	**96**	P	**Pn**	**13 45 49.8**	**+1.6**
	128nm,0.8s,0.4nm						
MYKOM	**Kota Tinggi**	**7.84**	**96**	*e*Pn	**Pn**	**13 45 48.9**	**+0.7**
MNAI	**Manna**	**9.82**	**135**	P	**Pn**	**13 46 15.7**	**+0.3**
	627nm,0.9s,7μm						
MNAI	**Manna**	**9.82**	**135**	*e*Pn	**Pn**	**13 46 14.6**	**-0.8**
LHSI	**Lahat**	**9.87**	**131**	P	**Pn**	**13 46 16.1**	**0.0**
	287nm,1.0s						
PHET	**Kaeng Krachan**	**10.77**	**19**	P	Pn	13 46 38.9	+10
MDSI	**Maura Dua**	**10.79**	**131**	P	**Pn**	**13 46 27.4**	**-1.3**
	170nm,0.8s						
DGPR	**DIGLIPUR**	**10.89**	**344**	*e*P3	Pn	13 46 25.2	-4.8
LWLI	**Liwa**	**11.06**	**134**	P	**Pn**	**13 46 31.9**	**-0.6**
	302nm,0.7s,7μm						
PATY	**Pattaya**	**11.24**	**25**	P	Pn	13 46 47.8	+13
KLSI		**11.34**	**130**	P	**Pn**	**13 46 35.4**	**-0.9**
	151nm,0.9s						
KASI	**Kota Agung**	**11.72**	**134**	P	**Pn**	**13 46 39.1**	**-2.4**
	120nm,0.7s						
SRDT	**SRDT**	**11.99**	**14**	P	Pn	13 46 57.0	+12
KHLT	**Khaolaem Dam**	**12.30**	**12**	P	Pn	13 46 54.5	+5.1
	20nm,1.4s						
TPI	**Tanjungpandan**	**12.79**	**115**	P	**Pn**	**13 46 57.8**	**+1.8**
	45nm,1.0s						
KSM	**Kuching**	**14.29**	**94**	P	**Pn**	**13 47 18.9**	**+2.3**
KSM	**Kuching**	**14.29**	**94**	P	P	13 47 26.7	+3.4
KSM	**Kuching**	**14.29**	**94**	*e*Pn	**Pn**	**13 47 16.7**	**0.0**
KSM	**Kuching**	**14.29**	**94**	⇑P	**Pn**	**13 47 17.2**	**+0.6**
	baz=14,SNR=4.0						
CHAI	**Chaiyaphum**	**14.38**	**24**	P	**P**	**13 47 24.3**	**0.0**
	16nm,1.0s,147nm						
PBKT	**Sadao Pong**	**14.63**	**19**	P	**Pn**	**13 47 24.1**	**+2.9**
	112nm,0.9s						
LEM	**Lembang**	**14.91**	**129**	P	P	13 47 36.7	+6.4
DLV	**T Lat**	**15.38**	**53**	*e*Pn	**Pn**	**13 47 31.1**	**-0.2**
DLV				*e*Sn	**Sn**	**13 50 17.7**	**-3.1**
MHMT	**Maesarieng**	**15.52**	**7**	P	**Pn**	**13 47 32.0**	**-0.9**
	31nm,1.0s						
CISI	**Cisompet, Garu**	**15.52**	**131**	P	P	13 47 50.2	+13
STKI	**Sintang**	**15.63**	**99**	P	**P**	**13 47 39.9**	**+1.7**
CM31	**Chiang Mai Arr**	**15.94**	**10**	*e*Pn	**Pn**	**13 47 38.1**	**-0.2**
	71nm,1.0s						
CMAR	**Chiang Mai Arr**	**15.94**	**10**	Pn	**Pn**	**13 47 37.6**	**-0.8**
CMAR				Lg	Lg	13 52 18.2	
CMAR				ScP	**ScP**	**13 56 08.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**15.94**	**10**	Pn	**Pn**	**13 47 37.6**	**-0.8**
	1.8nm,0.3s,baz=198,slow=13,SNR=48						
CMAR				Lg	Lg	13 52 18.2	
	baz=178,slow=31,SNR=4.7						
CMAR				LR	LR	13 54 01.3	
	comp=Z,2μm,20.3s,baz=205,slow=38						
CMAR				ScP	**ScP**	**13 56 08.4**	**+1.4**
	baz=222,slow=3.9,SNR=5.1						
PALK	**Pallekele**	**15.96**	**287**	P	**P**	**13 47 44.7**	**+2.8**
	390nm,1.0s,SNR=5.2						
PALK	**Pallekele**	**15.96**	**287**	*e*P	**P**	**13 47 45.8**	**+3.8**
LAMP	**Lampang**	**16.14**	**12**	P	**Pn**	**13 47 41.2**	**+0.3**
	21nm,1.0s,158nm						
SBUM	**Sibu**	**16.15**	**90**	P	**Pn**	**13 47 38.9**	**-2.2**
SBUM	**Sibu**	**16.15**	**90**	P	**P**	**13 47 43.7**	**-0.3**
	64nm,1.6s						
SBUM	**Sibu**	**16.15**	**90**	*e*Pn	**P**	**13 47 42.8**	**-1.2**
	60nm,1.0s						
KPJI	**Karang Pucung**	**16.25**	**128**	P	**P**	**13 47 46.2**	**+1.2**
CHTO	**Chiang Mai**	**16.29**	**10**	*e*P	**Pn**	**13 47 42.3**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,12nm,1.2s						
CHTO	**Chiang Mai**	**16.29**	**10**	*e*Pn	**Pn**	**13 47 42.3**	**-0.5**
	comp=Z,12nm,1.2s						
CHTO	**Chiang Mai**	**16.29**	**10**	P	**Pn**	**13 47 41.9**	**-0.9**
	comp=Z,156nm,1.2s						
CMMT	**Chiang Mai**	**16.29**	**10**	P	**Pn**	**13 47 41.9**	**-0.9**
	comp=Z,45nm,1.2s						
PBKI	**Pangkalan Bun**	**16.50**	**109**	P	**P**	**13 47 51.0**	**+3.2**
BTM	**Bintulu**	**17.01**	**88**	P	**Pn**	**13 47 49.7**	**-2.4**
SMRI	**Semarang**	**17.30**	**124**	P	P	13 48 05.0	+8.2
CMAI	**Chiengmai2**	**17.40**	**9**	P	**Pn**	**13 47 56.2**	**-0.8**
	comp=Z,84nm,0.7s,comp=Z,6μm						
CRAI	**Chiangrai**	**17.95**	**13**	P	**P**	**13 48 03.9**	**0.0**
	comp=Z,110nm,1.4s,comp=Z,10μm						
MTKI	**Muara Teweh, K**	**19.18**	**101**	P	**Pn**	**13 48 19.5**	**+1.0**
	comp=Z,97nm,0.3s,comp=Z,14μm						
VIS	**Vishakhapatnam**	**19.48**	**321**	*e*P	**Pn**	**13 48 22.3**	**+0.2**
BBKI	**Banjar Baru**	**19.74**	**108**	P	**Pn**	**13 48 26.2**	**+0.9**
	comp=Z,110nm,1.0s						
SLVN	**Son La**	**20.06**	**22**	*e*P	**P**	**13 48 25.4**	**-1.7**
KMMI	**Kalianget**	**20.32**	**118**	P	Pn	13 48 32.0	0.0
	comp=Z,104nm,1.2s						
KBKI	**Kotabaru**	**20.96**	**106**	P	Pn	13 48 45.0	+5.5
KDM	**Kudat**	**21.12**	**78**	P	**P**	**13 48 38.6**	**0.0**
QIZ	**Qiongzhong**	**21.13**	**39**	P	**P**	**13 48 40.8**	**+2.2**
QIZ				S	**S**	**13 52 35.4**	**+3.6**
QIZ				pmax	pmax		
	comp=Z,39nm,1.8s						
QIZ				LR	LR		
	comp=Z,4μm,14.5s						
QIZ				LR	LR		
	comp=Z,2μm,15.1s						
QIZ				LR	LR		
	comp=Z,4μm,17.2s						
SDKM	**Sandakan**	**21.29**	**81**	P	**P**	**13 48 42.1**	**+1.7**
SRBI	**Singaraja**	**21.89**	**119**	P	**P**	**13 48 50.5**	**+3.7**
	comp=Z,95nm,1.4s						
IMP	**Imphal**	**22.08**	**355**	*e*P9	P	13 48 41.0	-7.8
IMP				*e*S	**S**	**13 52 48.0**	**-2.4**
HYB	**Hyderabad**	**22.58**	**312**	*i* P	**P**	**13 48 56.0**	**+1.8**
HYB	**Hyderabad**	**22.58**	**312**	*e*P	**P**	**13 48 55.7**	**+1.4**
SHL	**Shillong**	**23.11**	**350**	*e*P	**P**	**13 48 57.2**	**-2.6**
SHL				*e*S	**S**	**13 53 10.0**	**+1.1**
BOK	**Bokaro**	**23.19**	**336**	*e*P	**P**	**13 48 59.6**	**-0.8**
BOK				AMB	AMB	13 49 03.8	
	comp=Z,319nm,0.5s						
KMI	**Kunming**	**23.23**	**16**	P	**P**	**13 49 00.8**	**-0.3**
KMI				pP	**pP**	**13 49 12.1**	**+1.4**
KMI				pmax	pmax		
	comp=Z,55nm,1.1s						
MMSI	**Mamuju**	**23.46**	**103**	P	**P**	**13 49 06.7**	**+3.5**
	comp=Z,94nm,1.2s						
MJSI	**Majene**	**23.73**	**105**	P	**P**	**13 49 08.8**	**+3.0**
	comp=Z,266nm,1.0s,comp=Z,3μm						
TTSI	**Tana Toraja**	**24.42**	**103**	P	P	13 49 24.9	+13
NGP	**Nagpur**	**24.73**	**319**	*e*P	**P**	**13 49 15.6**	**+0.7**
KAPI	**Kappang**	**24.88**	**108**	*e*P	**P**	**13 49 17.1**	**+0.8**
	comp=Z,220nm,0.8s						
BNSI	**Bone**	**25.04**	**106**	P	**P**	**13 49 21.0**	**+3.2**
	comp=Z,66nm,1.2s						
BKSI	**Bulukumba**	**25.32**	**108**	P	**P**	**13 49 22.0**	**+1.7**
	comp=Z,100nm,1.1s						
ODAN	**Odare**	**25.45**	**342**	*e*P	**P**	**13 49 22.7**	**+1.1**
	comp=Z,320nm,1.1s						
ODAN	**Odare**	**25.45**	**342**	*e*P	**P**	**13 49 22.7**	**+1.1**
	comp=Z,320nm,1.1s						
H08S2	**Diego Garcia H**	**25.64**	**246**	T	T	14 15 39.8	
	baz=67,slow=76,SNR=2035						
H08S3	**Diego Garcia H**	**25.65**	**246**	T	T	14 15 40.1	
	baz=67,slow=76						
H08S1	**Diego Garcia H**	**25.66**	**246**	T	T	14 15 40.8	
	baz=67,slow=76						
GYA	**Guiyang**	**25.75**	**22**	P	**P**	**13 49 26.8**	**+2.6**
GYA				pP	**pP**	**13 49 37.4**	**+3.0**
GYA				S	**S**	**13 53 51.0**	**-0.1**
GYA				sS	**sS**	**13 54 10.0**	**+2.1**
GYA				SS	**SnSn**	**13 54 56.8**	**+8.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=Z,590nm,15.2s						
GYA				LR	LR		
	comp=Z,540nm,16.0s						
GYA				LR	LR		
	comp=Z,570nm,15.6s						
RAMN	**Ramite**	**25.79**	**340**	*e*P	**P**	**13 49 26.2**	**+1.5**
	comp=Z,343nm,0.7s						
RAMN	**

TGY	**Tagaytay City**	27.07	64	P		**P**		13 49 36.1	-0.1
	comp=Z,129nm,0.4s,baz=272,slow=9.6,SNR=3.9								
BHPL	**Bhopal**	27.27	320	*e*P		**P**		13 49 38.7	+0.8
LSA	**Lhasa**	27.28	351	*e*P		**P**		13 49 38.2	-0.2
LSA				pmax	pmax				
	comp=Z,126nm,1.1s								
LSA	**Lhasa**	27.28	351	*e*P		**P**		13 49 38.2	-0.2
	comp=Z,126nm,1.1s								
GKN	**Gorkha**	27.45	338	*e*P		**P**		13 49 40.1	+0.5
	comp=Z,612nm,1.0s								
GKN	**Gorkha**	27.45	338	*e*P		**P**		13 49 40.1	+0.5
	comp=Z,612nm,1.0s								
KOLN	**Koldanda**	27.65	336	*e*P		**P**		13 49 41.9	+0.5
	comp=Z,183nm,0.8s								
KOLN	**Koldanda**	27.65	336	*e*P		**P**		13 49 41.9	+0.5
	comp=Z,183nm,0.8s								
DANN	**Dangsing**	28.10	337	*e*P		**P**		13 49 45.9	+0.3
	comp=Z,118nm,0.7s								
DANN	**Dangsing**	28.10	337	*e*P		**P**		13 49 45.9	+0.3
	comp=Z,118nm,0.7s								
PYUN	**Piuthan**	28.20	335	*e*P		**P**		13 49 46.6	+0.3
	comp=Z,266nm,1.2s								
PYUN	**Piuthan**	28.20	335	*e*P		**P**		13 49 46.6	+0.3
	comp=Z,266nm,1.2s								
CD2	**Chengdu**	29.02	14⇑	*i*P		**P**		13 49 52.6	-0.8
CD2				sP		**sP**		13 50 07.9	0.0
CD2				PP		**PnPn**		13 50 47.5	+1.2
CD2				S		**S**		13 54 40.3	-2.1
CD2				SS		**SnSn**		13 56 11.8	+4.1
CD2				pmax	pmax				
	comp=Z,70nm,0.8s								
CD2				LR	LR				
	comp=Z,5μm,13.2s								
CD2				LR	LR				
	comp=Z,5μm,14.2s								
ENH	**Enshi**	30.26	24	*e*P		**P**		13 50 02.5	-1.9
	comp=Z,26nm,0.8s								
LGTI	**Lohaghat**	30.57	332	*ex*		pP		13 50 15.2	-2.2
NDI	**New Delhi**	31.48	327	*e*P		**P**		13 50 15.7	+0.5
NDI				AMB		AMB		13 50 17.1	
	comp=Z,43nm,0.6s								
DDI	**Dehra Dun**	32.36	330	*e*P		**P**		13 50 23.3	+0.4
DDI				AMB		AMB		13 50 24.8	
	comp=Z,57nm,0.8s								
WHN	**Wuhan**	32.68	30	P		**P**		13 50 26.1	+0.4
XAN	**Xi'an**	33.44	20	P		**P**		13 50 31.3	-1.0
XAN				pmax	pmax				
	comp=Z,20nm,1.1s								
XAN				pmax	pmax				
	comp=Z,910nm,10.2s								
SMLA	**Simla**	33.45	330	*e*P		**P**		13 50 32.1	-0.3
LZH	**Lanzhou**	34.02	11	P		**P**		13 50 37.1	-0.4
LZH				pP		**pP**		13 50 47.8	0.0
LZH				sP		**sP**		13 50 51.1	-1.0
LZH				PP		**PnPn**		13 51 50.5	-1.0
LZH				*e*S		**S**		13 55 56.8	-3.9
LZH				pmax	pmax				
	comp=Z,71nm,1.0s								
LZH				pmax	pmax				
	comp=Z,250nm,4.3s								
LZH				LR	LR				
	comp=Z,2μm,14.3s								
LZH				LR	LR				
	comp=Z,2μm,15.1s								
LZH				LR	LR				
	comp=Z,3μm,15.7s								
DHRM	**DHARAMSHALA**	34.79	330	*e*P		**P**		13 50 43.9	-0.4
DHRM				AMB		AMB		13 50 56.0	
	comp=Z,126nm,0.0s								
FITZ	**Fitzroy Crossi**	35.72	126	P		**P**		13 50 51.4	-0.7
FITZ	**Fitzroy Crossi**	35.72	126	P		**P**		13 50 51.4	-0.7
	comp=Z,13nm,0.8s,baz=306,slow=4.5,SNR=10								
FITZ	**Fitzroy Crossi**	35.72	126	⇓P		**P**		13 50 50.9	-1.2
	baz=36,SNR=4.1								
NJ2	**Nanjing**	36.25	34	*e*P		**P**		13 50 56.5	0.0
NJ2				pP		**pP**		13 51 08.8	+1.9
NJ2				sP		**sP**		13 51 10.5	-0.6
NJ2				PP		**PP**		13 52 22.3	+2.9
NJ2				S		**S**		13 56 34.5	-0.2
NJ2				pmax	pmax				
	comp=Z,30nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,2μm,10.0s								
NJ2				LR	LR				
	comp=Z,2μm,14.9s								
NJ2				LR	LR				
	comp=Z,2μm,15.0s								
NJ2				LR	LR				
	comp=Z,1μm,13.0s								
FAKI	**Fak Fak**	36.60	98	⇓P		**P**		13 50 59.1	-0.7
	baz=36,SNR=3.4								
GTA	**Gaotai**	36.73	5	⇑P		**P**		13 51 00.3	-0.4
GTA				pP		**pP**		13 51 11.3	+0.3
GTA				sP		**sP**		13 51 15.8	+0.5
GTA				PP		**PP**		13 52 24.4	-0.4
GTA				PcP		**PcP**		13 53 23.8	+1.0
GTA				S		**S**		13 56 41.4	-0.7
GTA				PcS		**PcS**		13 57 10.3	-0.5
GTA				pmax	pmax				
	comp=Z,84nm,1.0s								
MTN	**Manton Dam**	38.09	115	⇑P		**P**		13 51 10.6	-1.7
	baz=38,SNR=8.5								
KDU	**Kakadu**	39.25	114	⇓P		**P**		13 51 20.9	-1.3
	baz=39,SNR=7.0								
KLBR	**Kellerberrin**	39.83	150	⇓P		**P**		13 51 27.0	+0.3
	baz=40,SNR=7.4								
KBL	**Kabul**	40.47	325	*e*P		**P**		13 51 32.5	+0.3
KBL				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KBL	**Kabul**	40.47	325	*e*P		**P**		13 51 32.5	+0.3
	comp=Z,9.6nm,0.8s								
HHC	**Hu-ho-hao-te**	40.50	18	*e*P		**P**		13 51 33.3	+1.0
HHC				pP		**pP**		13 51 43.6	+0.8
HHC				sP		**sP**		13 51 47.8	+0.8
HHC				PP		**PnPn**		13 53 11.6	+1.5
HHC				PcS		**PcS**		13 57 25.8	+0.6
HHC				S		**S**		13 57 41.0	+2.0
HHC				sS		**sS**		13 57 57.3	+1.1
HHC				SS		**SS**		14 00 36.6	-2.9
HHC				ScS		**ScS**		14 01 34.8	-0.8
HHC				pmax	pmax				
	comp=Z,120nm,1.0s								
HHC				pmax	pmax				
	comp=Z,2μm,5.4s								
HHC				LR	LR				
	comp=Z,6μm,14.5s								
HHC				LR	LR				
	comp=Z,5μm,14.7s								
HHC				LR	LR				
	comp=Z,2μm,14.0s								
NWAO	**Narrogin (SRO)**	40.68	152	P		**P**		13 51 32.9	-0.9
NWAO	**Narrogin (SRO)**	40.68	152	P		**P**		13 51 32.9	-0.9
	comp=Z,6.4nm,0.8s,baz=315,slow=7.1,SNR=3.2								
KSH	**Kashi**	40.97	336	P		**P**		13 51 34.8	-1.4
KSH				PP		**PnPn**		13 53 16.5	+0.9
KSH				S		**S**		13 57 40.9	-5.1
KSH				sS		**sS**		13 58 08.3	+5.1
KSH				SS		**SS**		14 00 46.3	-2.5
KSH				pmax	pmax				
	comp=Z,25nm,1.1s								
KSH				pmax	pmax				
	comp=Z,1μm,10.8s								
KSH				LR	LR				
	comp=Z,2μm,15.2s								
KSH				LR	LR				
	comp=Z,3μm,15.3s								
KSH				LR	LR				
	comp=Z,2μm,18.1s								
H01W3	**Cape Leeuwin H**	41.03	157	T		T		14 35 16.2	
	baz=333,slow=76,SNR=804								
H01W2	**Cape Leeuwin H**	41.05	157	T		T		14 35 17.1	
	baz=333,slow=76,SNR=813								
H01W1	**Cape Leeuwin H**	41.05	157	T		T		14 35 17.3	
	baz=333,slow=76,SNR=516								
BJT	**Baijiatuau**	41.41	24	*e*P		**P**		13 51 39.3	-0.3
	comp=Z,272nm,0.9s								
BJI	**Beijing**	41.43	24	P		**P**		13 51 40.6	+0.8
BJI				pmax	pmax				
	comp=Z,310nm,1.3s								
WMQ	**Urumqi**	41.64	351	P		**P**		13 51 42.0	+0.4
WMQ				pP		**pP**		13 51 52.0	0.0
WMQ				sP		**sP**		13 51 56.0	-0.3
WMQ				PP		**PnPn**		13 53 21.0	-2.3
WMQ				PcP		**PcP**		13 53 40.0	+1.9
WMQ				ScP		**ScP**		13 57 25.0	-0.8
WMQ				S		**S**		13 57 56.0	+0.2
WMQ				SS		**SS**		14 00 56.0	-6.0
WMQ				ScS		**ScS**		14 01 42.0	-0.3
WMQ				pmax	pmax				
	comp=Z,69nm,1.0s								
WMQ				LR	LR				
	comp=Z,2μm,15.0s								
WMQ				LR	LR				
	comp=Z,2μm,15.0s								
WMQ				LR	LR				
	comp=Z,2μm,15.0s								
WRKA	**Warakurna**	41.67	133	⇑P		**P**		13 51 41.4	-0.7
	baz=42,SNR=4.7								
ULHL	**Ulahol**	43.21	338	*i* P		**P**		13 51 55.2	+0.6
ULHL	**Ulahol**	43.21	338	P		**P**		13 51 55.2	+0.6
	SNR=17								
KZA	**Kyzart**	43.44	337	*i* P		**P**		13 51 57.4	+0.8
KZA	**Kyzart**	43.44	337	P		**P**		13 51 57.5	+0.8
	SNR=9.8								
WRA	**Warramunga Arr**	43.78	123	P		**P**		13 51 58.8	-0.5
WRA	**Warramunga Arr**	43.78	123	P		**P**		13 51 58.8	-0.5
	comp=Z,12nm,0.9s,baz=302,slow=8.8,SNR=37								
WRA				LR	LR			14 10 38.4	
	comp=Z,17nm,28.6s,baz=295,slow=37								
WRAB	**Tennant Creek**	43.79	123	⇑*i*P		**P**		13 51 58.1	-1.2
WRAB				pmax	pmax				
	comp=Z,51nm,1.0s								
WRAB	**Tennant Creek**	43.79	123	*e*P		**P**		13 51 58.9	-0.4
WRAB	**Tennant Creek**	43.79	123	P		**P**		13 51 58.8	-0.5
	comp=Z,115nm,1.1s,SNR=15								
UCH	**Uchtor**	43.85	337	*i* P		**P**		13 52 00.9	+0.9
UCH	**Uchtor**	43.85	337	P		**P**		13 52 00.9	+0.9
	SNR=54								
TKM2	**Tokmak 2**	44.03	338	*i* P		**P**		13 52 01.7	+0.5
TKM2	**Tokmak 2**	44.03	338	P		**P**		13 52 01.7	+0.5
	SNR=27								
TKM2	**Tokmak 2**	44.03	338	*e*P		**P**		13 52 01.8	+0.6
	comp=Z,41nm,1.2s								
KBK	**Karagaybulak**	44.05	338	*i* P		**P**		13 52 02.6	+1.3
KBK	**Karagaybulak**	44.05	338	P		**P**		13 52 02.6	+1.3
	SNR=37								
AML	**Almayashu**	44.10	336	*i* P		**P**		13 52 02.8	+0.8
AML	**Almayashu**	44.10	336	P		**P**		13 52 02.8	+0.8
	SNR=38								
AAK	**Ala-Archa**	44.20	337	P		**P**		13 52 03.2	+0.7
	comp=Z,161nm,1.0s,SNR=10								
AAK	**Ala-Archa**	44.20	337	*c i*P		**P**		13 52 03.2	+0.7
AAK	**Ala-Archa**	44.20	337	P		**P**		13 52 03.6	+1.1
	SNR=13								
AAK	**Ala-Archa**	44.20	337	*e*P		**P**		13 52 03.5	+0.9
AAK	**Ala-Archa**	44.20	337	P		**P**		13 52 02.7	+0.2
	comp=Z,8.5nm,0.6s,baz=146,slow=6.4,SNR=27								
FRU	**Bishkek**	44.33	337	*e*P		**P**		13 52 03.0	-0.3
FRU				*i*				13 52 13.0	
FRU				pmax	pmax				
	comp=Z,210nm,2.8s								
CHMS	**Chumysh**	44.42	338	*i* P		**P**		13 52 04.6	+0.6
CHMS	**Chumysh**	44.42	338	P		**P**		13 52 04.7	+0.6
	SNR=9.8								
JNU	**Nakatsue**	44.49	43	P		**P**		13 52 04.8	0.0
JNU	**Nakatsue**	44.49	43	P		**P**		13 52 04.8	0.0
	comp=Z,8.4nm,0.9s,baz=127,slow=10,SNR=2.6								
EKS2	**Erkin-Say**	44.51	336	*i* P		**P**		13 52 06.1	+1.2
EKS2	**Erkin-Say**	44.51	336	P		**P**		13 52 06.1	+1.2
	SNR=14								
EKS2	**Erkin-Say**	44.51	336	*e*P		**P**		13 52 06.4	+1.5
	comp=Z,16nm,0.8s								
USP	**Ospenovka**	44.74	338	*i* P		**P**		13 52 07.3	+0.7
USP	**Ospenovka**	44.74	338	P		**P**		13 52 07.3	+0.7
	SNR=76								
FORT	**Forrest**	45.13	140	*e*P		**P**		13 52 08.2	-1.7
FORT	**Forrest**	45.13	140	⇓P		**P**		13 52 10.8	+1.0
	baz=45,SNR=6.0								
AS31	**Alice Springs**	45.19	128	*e*P		**P**		13 52 08.9	-1.6
ASAR	**Alice Springs**	45.19	128	P		**P**		13 52 09.9	-0.6
ASAR				ScP		**ScP**		13 57 42.6	+2.0
ASAR	**Alice Springs**	45.19	128	P		**P**		13 52 09.9	-0.6
	comp=Z,4.7nm,0.7s,baz=300,slow=8.0,SNR=47								
ASAR				ScP		**ScP**		13 57 42.6	+2.0
	comp=Z,0.5nm,0.9s,baz=297,slow=4.1,SNR=3.7								
KSAR	**Wonju Array Be**	45.29	36	P		**P**		13 52 10.7	-0.3
KSRS	**Korea Array**	45.32	36	P		**P**		13 52 10.7	-0.5
	comp=Z,12nm,0.8s,baz=227,slow=8.8,SNR=22								
MK31	**Makanchi Array**	45.55	347	*e*P		**P**		13 52 12.9	-0.1
MK31	**Makanchi Array**	45.55	347	*e*P		**P**		13 52 12.9	-0.1
MKAR	**Makanchi Array**	45.55	347	P		**P**		13 52 13.0	0.0
MKAR	**Makanchi Array**	45.55	347	P		**P**		13 52 12.9	0.0
MKAR	**Makanchi Array**	45.55	347	P		**P**		13 52 12.9	0.0
	comp=Z,25nm,0.7s,baz=158,slow=8.3,SNR=246								
SONM	**Songino Array**	45.87	10	P		**P**		13 52 15.4	-0.2
SONM				PcP		**PcP**		13 53 52.7	+0.3
SONM	**Songino Array**	45.87	10	P		**P**		13 52 15.4	-0.2
	comp=Z,44nm,1.0s,baz=190,slow=8.8,SNR=167								
SONM				PcP		**PcP**		13 53 52.7	+0.3
	comp=Z,7.8nm,0.7s,baz=196,slow=3.5,SNR=5.2								
ULN	**Ulaanbaatar**	46.01	10	*e*P		**P**		13 52 16.4	-0.3
	comp=Z,20nm,0.7s								
SNY	**Shenyang**	46.14	29	⇑P		**P**		13 52 17.1	-0.6
SNY				pmax	pmax				
	comp=Z,29nm,0.9s								
ZAK	**Zakamensk**	47.93	6	*e*P		**P**		13 52 31.1	-0.5
ZAK				pmax	pmax				
	comp=Z,15nm,1.5s								
HVS	**Khovu-Aksy**	48.33	358	*c i*P		**P**		13 52 34.2	-0.5
HVS				pmax	pmax				
	comp=Z,175nm,1.2s								
QIS	**Mount Isa**	48.53	120	⇑P		**P**		13 52 37.7	+1.0
	baz=48,SNR=5.3								
CN2	**Changchun**	48.54	28	⇑P		**P**		13 52 35.8	-0.5
CN2				*e*pP		**pP**		13 52 45.8	-1.1
CN2				*e*sP		**sP**		13 52 49.6	-1.5
CN2				PcP		**PcP**		13 54 02.5	+0.7
CN2				*e*S		**S**		13 59 34.3	-1.1
CN2				pmax	pmax				
	comp=Z,30nm,0.8s								
CN2				LR	LR				
	comp=Z,2μm,16.0s								
CN2				LR	LR				
	comp=Z,2μm,16.0s								
CN2				LR	LR				
	comp=Z,2μm,19.0s								
MOY	**Mondy**	49.00	4	*e*P		**P**		13 52 40.1	+0.2
TLY	**Talaya**	49.25	6	*e*P		**P**		13 52 42.6	+0.9
TLY				pmax	pmax				
	comp=Z,15nm,0.7s								
TLY	**Talaya**	49.25	6	*e*P		**P**		13 52 42.6	+0.9
	comp=Z,15nm,0.7s								
ABKT	**Ailbek**	49.36	320	P		**P**		13 52 43.7	+0.9
	comp=Z,227nm,0.9s,SNR=10								
COEN	**Coen**	49.55	111	*e*P		**P**		13 52 45.5	+1.0
	comp=Z,47nm,0.8s								
COEN	**Coen**	49.55	111	⇓P		**P**		13 52 43.9	-0.6
	baz=50,SNR=9.2								
IRK	**Irkutsk**	49.88	7	*e*P		**P**		13 52 45.1	-1.3
IRK				pmax	pmax				
	comp=Z,56nm,1.6s								
KURBB	**Kurchatov Arra**	50.02	346	P		**P**		13 52 47.6	+0.1
	comp=Z,15nm,0.6s,baz=157,slow=7.6,SNR=146								
KURBB				S		S		14 00 02.5	+6.5
	comp=Z,7.8nm,1.2s,baz=156,slow=14,SNR=14								
KURK	**Kurchatov**	50.09	346	*e*P		**P**		13 52 47.4	-0.6
KURK				S		**S**		14 00 02.5	+5.7
KURK				pmax	pmax				
	comp=Z,13nm,0.8s								
KURK	**Kurchatov**	50.09	346	*e*P		**P**		13 52 47.4	-0.6
	comp=Z,13nm,0.8s								
KURK				P		**P**		13 52 47.6	-0.4
KURK				S		**S**		14 00 02.5	+5.7
KURK	**Kurchatov**	50.09	346	P		**P**		13 52 48.5	+0.5
	comp=Z,218nm,0.8s,SNR=8.9								
MDJ	**Mudanjiang**	51.17	30	P		**P**		13 52 56.8	+0.5
MDJ				pP		**pP**		13 53 05.8	-1.1
MDJ				sP		**sP**		13 53 09.6	-1.5
MDJ				PcS		**PcS**		13 58 10.1	+1.1
MDJ				S		**S**		14 00 12.1	0.0
MDJ				pmax	pmax				
	comp=Z,18nm,1.3s								
MDJ				LR	LR				
	comp=Z,1μm,21.8s								
MDJ				LR	LR				
	comp=Z,980nm,21.5s								
MDJ				LR	LR				
	comp=Z,1μm,21.5s								
MDJ	**Mudanjiang**	51.17	30	*e*P		**P**		13 52 55.5	-0.7
	comp=Z,24nm,1.1s								
VLA	**Vladivostok**	51.35	33⇑	*e*P		**P**		13 52 55.1	-2.6
VLA				*e*				13 54 09.5	
VLA				S		**S**		14 00 13.0	-1.6
VLA				pmax	pmax				
	comp=Z,46nm,1.4s								
MJAR	**Matsushiro Arr**	51.40	44	PcP		**PcP**		13 54 12.9	+0.3
MJAR	**Matsushiro Arr**	51.40	44	PcP		**PcP**		13 54 12.9	+0.3
	comp=Z,6.3nm,1.0s,baz=234,slow=4.4,SNR=5.9								
ZAA0	**Zalesovo Array**	51.94	352	*e*P		**P**		13 53 01.7	-0.2
ZALV	**Zalesovo Beam**	51.94	352	P		**P**		13 53 01.8	-0.1
ZALV				S		**S**		14 00 23.2	+0.9
ZALV	**Zalesovo Beam**	51.94	352	P		**P**		13 53 01.8	-0.1
ZALV				S		**S**		14 00 23.2	+0.9
ZALV	**Zalesovo Beam**	51.94	352	P		**P**		13 53 01.8	-0.1
	comp=Z,32nm,0.5s,baz=176,slow=7.2,SNR=230								
ZALV				S		**S**		14 00 23.2	+0.9
	comp=Z,0.4nm,0.4s,baz=172,slow=24,SNR=3.6								
USRK	**Ussuriysk Arra**	52.13	32	P		**P**		13 53 03.4	-0.1
	comp=Z,12nm,0.9s,baz=237,slow=6.6,SNR=18								
PMG	**Port Moresby**	52.31	104	⇓P		**P**		13 53 05.3	0.0
	baz=52,SNR=3.6								
PMG				⇓P		**P**		13 53 05.3	0.0
	baz=52,SNR=3.6								
PMG				⇓P		**P**		13 53 05.3	0.0
	baz=52,SNR=3.6								
OPO	**Ambohidratompo**	52.51	244	P		**P**		13 53 07.6	+0.7
OPO	**Ambohidratompo**	52.51	244	P		**P**		13 53 07.6	+0.7
	comp=Z,2.6nm,0.3s,baz=74,slow=6.1,SNR=4.6								
ABPO	**Ambohimpanom**	52.62	244	*e*P		**P**		13 53 06.9	-0.8
ABPO				pmax	pmax				
	comp=Z,30nm,1.5s								
ABPO	**Ambohimpanom**	52.62	244	*e*P		**P**		13 53 06.9	-0.8
	comp=Z,30nm,1.5s								
KBD	**Kabd**	52.92	305	*e*P		**P**		13 53 09.8	+0.2
KBD				AMb		AMB		13 53 18.3	
	comp=Z,46nm,1.1s								
RDF	**Al-Radifah**	52.95	305	*e*P		**P**		13 53 10.1	+0.3
RDF				AMb		AMB		13 53 20.1	
	comp=Z,73nm,1.2s								
NVS	**Novosibirsk**	53.04	351	*e*P		**P**		13 53 08.0	-2.0
NVS				*e*S		**S**		14 00 35.8	-1.6
NVS				pmax	pmax				
	comp=Z,32nm,1.0s								
NVS				pmax	pmax				
	comp=N,10.0nm,0.6s								
NVS				pmax	pmax				
	comp=E,9.0nm,0.6s								
NVS				smax	smax				
	comp=N,9.0nm,1.4s								
NVS				smax	smax				
	comp=E,19nm,1.8s								
RST	**Umm Al-Ruwaisa**	53.60	305	*e*P		**P**		13 53 14.4	-0.2
RST				AMb		AMB		13 53 23.3	
	comp=Z,292nm,1.0s								
HTT	**Hallett**	54.06	135	⇓P		**P**		13 53 18.9	+0.9
	baz=54,SNR=4.4								
CTAO	**Charters Tower**	54.18	117	*e*P		**P**		13 53 19.0	0.0
CTAO				pmax	pmax				
	comp=Z,24nm,0.9s								
CTAO	**Charters Tower**	54.18	117	*e*P		**P**		13 53 19.0	0.0
	comp=Z,24nm,0.9s								
BVAR	**Borovoye Array**	54.49	341	P		**P**		13 53 20.4	-0.3
BVAR	**Borovoye Array**	54.49	341	P		**P**		13 53 20.4	-0.3
BVAR	**Borovoye Array**	54.49	341	P		**P**		13 53 20.4	-0.3
	comp=Z,13nm,0.9s,baz=149,slow=8.3,SNR=46								
BRVK	**Borovoye**	54.56	341	*e*P		**P**		13 53 20.2	-1.0
BRVK				pmax	pmax				
	comp=Z,25nm,0.9s								
BRVK	**Borovoye**	54.56	341	*e*P		**P**		13 53 20.2	-1.0
	comp=Z,25nm,0.9s								
BRVK	**Borovoye**	54.56	341	P		**P**		13 53 20.0	-1.2
	comp=Z,136nm,1.6s,SNR=20								
QLP	**Quilpie**	54.84	125	⇓P		**P**		13 53 23.9	+0.2
	baz=55,SNR=15								
STKA	**Stephens Creek**	55.19	132	P		**P**		13 53 26.1	-0.1
STKA	**Stephens Creek**	55.19	132	P		**P**		13 53 26.1	-0.1
	comp=Z,9.8nm,0.8s,baz=306,slow=8.4,SNR=19								
STKA	**Stephens Creek**	55.19	132	P		**P**		13 53 26.1	0.0
	baz=55,SNR=17								
KLR	**Kul'dur**	55.47	28	*e*P		**P**		13 53 24.8	-3.1
KLR				pmax	pmax				
	comp=E,34nm,1.6s								
KLR				pmax	pmax				
	comp=Z,80nm,1.6s								
HABR	**Khabarovsk**	56.55	30	*e*P		**P**		13 53 33.0	-2.5
HABR				*e**PP		**pP**		13 53 43.1	-3.2
HABR				*e**SP		**sP**		13 53 47.3	-3.2
HABR				*e*				13 54 29.2	
HABR				*e*				13 55 39.1	
HABR				*e*PPP		PPP		13 56 54.6	
HABR				*e*S		**S**		14 01 23.4	-1.3
HABR				*e*				14 03 19.9	
HABR				*e*SS		**SS**		14 05 11.3	-1.3
HABR				pmax	pmax				
	comp=Z,15nm,1.0s								
HABR				MLR	MLR				
	comp=Z,2μm,16.0s								
CMSA	**Cobar Meteorol**	58.11	130	⇓P		**P**		13 53 46.6	-0.3
	baz=58,SNR=24								
ASAJ	**Asahikawa**	58.20	38	P		**P**		13 53 48.3	+1.0
ASAJ	**Asahikawa**	58.20	38	P		**P**		13 53 48.3	+1.0
	comp=Z,14nm,1.2s,baz=252,slow=13,SNR=3.0								
RMQ	**Roma**	58.54	123	⇑P		**P**		13 53 50.4	+0.4
	baz=59,SNR=10								
CLNS	**Chul'man**	58.69	18	*e*P		**P**		13 53 47.7	-2.8
CLNS				*e**PP		**pP**		13 53 57.1	-4.3
CLNS				*e

KIV *e**PP **pP** 13 54 26.3 -1.1
KIV *e**SP **sP** 13 54 31.7 +0.1
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 62.45 319 *e*P **P** 13 54 16.6 +0.1
comp=Z,33nm,1.1s
EIL Elat 63.71 302 ⇑P **P** 13 54 25.6 +0.5
baz=64,SNR=3.1
SOKR Solikamsk 64.33 339*c i*P **P** 13 54 28.2 -0.2
SOKR pmax pmax
comp=Z,50nm,0.8s
YAK Yakutsk 64.34 17 *e*P **P** 13 54 27.5 -1.0
YAK *e**PP **pP** 13 54 35.2 -4.2
YAK *e* 13 54 56.8
YAK *e*S **S** 14 03 02.6 -1.4
YAK *e**SS **sS** 14 03 17.5 -4.5
YAK pmax pmax
comp=Z,181nm,1.4s
YAK pmax pmax
comp=E,58nm,1.4s
YAK pmax pmax
comp=N,52nm,1.1s
YAK pmax pmax
comp=Z,734nm,9.1s
YAK pmax pmax
comp=N,659nm,5.8s
YAK pmax pmax
comp=E,430nm,6.5s
YAK smax smax
comp=N,208nm,5.2s
YAK smax smax
comp=E,245nm,6.8s
YAK MLR MLR
comp=E,2µm,18.0s
YAK MLR MLR
comp=Z,3µm,19.0s
YAK MLR MLR
comp=N,2µm,19.0s
YAK Yakutsk 64.34 17 *e*P **P** 13 54 27.8 -0.7
MBAR Mbarara 65.38 268 P **P** 13 54 36.0 -0.4
MBAR Mbarara 65.38 268 P **P** 13 54 36.0 -0.4
comp=N,2.6nm,0.2s,baz=120,slow=8.1,SNR=5.9
VRHR Novokhopersk 66.27 326 *e*P **P** 13 54 39.6 -1.6
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.9s
BR131 Keskin Array S 67.28 312 *e*P P 13 54 44.5 -3.6
BRTR Keskin Array B 67.28 312 P **P** 13 54 47.4 -0.7
BRTR Keskin Array B 67.28 312 P **P** 13 54 47.4 -0.7
comp=E,4.3nm,0.8s,baz=118,slow=5.6,SNR=14
VORD Divnogorie 67.54 325 *e*P **P** 13 54 47.1 -2.2
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 67.72 325 *e*P **P** 13 54 47.8 -2.6
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=E,30nm,1.0s
LSZ Lusaka 69.44 253 *e*P **P** 13 55 03.1 +1.1
comp=E,37nm,1.8s
PRGR Permogore 69.84 337⇓*i*P **P** 13 55 03.2 -0.2
PRGR *e*S **S** 14 04 06.9 -3.4
PRGR pmax pmax
comp=Z,78nm,0.9s
MOS Moscow 70.49 329 *e*P P 13 55 13.6 +6.1
MOS *e* 13 55 21.3
OBN Obninsk 70.77 328⇓*i*P **P** 13 55 08.9 -0.3
OBN *e* 13 55 20.8
OBN *e* 13 55 37.1
OBN pmax pmax
comp=Z,92nm,2.5s
OBN Obninsk 70.77 328 *e*P **P** 13 55 09.1 -0.2
PETK Petropavlovsk- 71.16 34 P **P** 13 55 11.9 +0.3
PETK Petropavlovsk- 71.16 34 P **P** 13 55 11.9 +0.3
PETK Petropavlovsk- 71.16 34 P **P** 13 55 11.9 +0.3
comp=Z,4.1nm,0.9s,baz=242,slow=4.3,SNR=4.7
TIXI Tiksi 71.95 10⇑*i*P **P** 13 55 15.1 -0.9
TIXI pmax pmax
comp=Z,64nm,1.7s
TIXI Tiksi 71.95 10 *e*P **P** 13 55 14.8 -1.2
comp=Z,27nm,0.5s
TIRR Tirgusor 72.28 316⇓*i*P **P** 13 55 18.4 -0.1
MSAB Monastry St. A 72.60 315⇓*i*P **P** 13 55 20.6 +0.1
CFR Carcaliu 72.64 317⇓*i*P **P** 13 55 21.3 +0.6
SEY Seymchan 72.87 23 P **P** 13 55 21.7 0.0
SEY Seymchan 72.87 23 P **P** 13 55 21.7 0.0
SEY Seymchan 72.87 23 P **P** 13 55 21.7 0.0
comp=Z,12nm,0.8s,baz=239,slow=6.8,SNR=10
AKASG Malin Array Be 73.40 322 P **P** 13 55 23.9 -1.2
AKASG Malin Array Be 73.40 322 P **P** 13 55 23.9 -1.2
AKASG Malin Array Be 73.40 322 P **P** 13 55 23.9 -1.2
comp=Z,10nm,0.9s,baz=90,slow=5.3,SNR=43
KIEV Kiev 73.41 322⇓*i*P **P** 13 55 23.3 -1.8
KIEV Kiev 73.41 322 *e*P **P** 13 55 24.0 -1.1
comp=Z,16nm,0.9s
LBTB Lobatse 73.52 243 *e*P **P** 13 55 27.1 +0.6
comp=Z,26nm,0.9s
VRI Vrincioaia 73.77 317⇓*i*P **P** 13 55 28.1 +0.7
PLOR Plostina 73.82 317⇓*i*P **P** 13 55 28.6 +0.9
MAW Mawson 73.88 193 P **P** 13 55 28.6 +1.1
MAW Mawson 73.88 193 P **P** 13 55 28.6 +1.1
comp=Z,4.6nm,1.1s,baz=45,slow=7.1,SNR=3.1
TMCR Tamitsa 74.13 337 *e*P **P** 13 55 28.5 -0.6
TMCR *e* 13 58 15.8
TMCR pmax pmax
comp=Z,47nm,1.1s
MLR Muntele Rosu 74.22 317⇓*i*P **P** 13 55 30.9 +0.7
MLR Muntele Rosu 74.22 317 P **P** 13 55 30.2 0.0
MLR Muntele Rosu 74.22 317 P **P** 13 55 30.2 0.0
comp=Z,3.4nm,1.0s,baz=112,slow=5.4,SNR=14
BOSA Boshof 74.53 239 P **P** 13 55 32.1 -0.2
BOSA Boshof 74.53 239 P **P** 13 55 32.1 -0.2
comp=Z,3.8nm,0.9s,baz=68,slow=5.4,SNR=4.8
VOIR 74.82 316⇓*i*P **P** 13 55 33.8 +0.2
BURAR Bucovina Array 75.17 319⇓*i*P **P** 13 55 36.3 +0.7
BUR08 Bucovina Ar. S 75.19 319 *e*P **P** 13 55 34.6 -1.1
MICGM Minsk 75.27 326 *e* P 13 55 30.0 -5.9
MNK Minsk 75.30 326 *e*P P 13 55 30.0 -6.1
VTS Vitosha 75.59 313⇑*i*P **P** 13 55 37.5 -0.7
NACGM Naroch 76.00 326 *e*P **P** 13 55 37.0 -3.0
IDID Didziasalis 76.13 327 *e*P **P** 13 55 40.3 -0.5
IDID AMB AMB 13 55 42.4
comp=Z,18nm,1.0s
LVV L'vov 76.41 321⇓*i*P **P** 13 55 42.1 -0.4
IIGN Ignalina 76.42 327 *e*P **P** 13 55 42.0 -0.5
IIGN AMB AMB 13 55 43.7
comp=Z,14nm,1.3s
ISAL Salakas 76.54 327 *e*P **P** 13 55 42.7 -0.4
ISAL AMB AMB 13 55 44.7
comp=Z,9.3nm,0.7s
DRGR 76.68 317⇑*i*P **P** 13 55 44.1 -0.1
KWP Kalwaria Pacla 77.21 320 *e*P **P** 13 55 47.3 +0.2
KWP Kalwaria Pacla 77.21 320 *e*P **P** 13 55 47.2 +0.2
KWP Kalwaria Pacla 77.21 320⇓*i*P **P** 13 55 47.5 +0.4
UZH Uzhgorod 77.29 319 *e*P **P** 13 55 48.4 +0.9
UZH *e* 13 55 54.2
UZH *e* 13 56 03.0
APA Apatity 77.36 340⇓*i*P **P** 13 55 48.0 +0.5
APA MLR MLR
comp=Z,2µm,16.0s
KOLS Kolonicke sedl 77.36 320 *e*P **P** 13 55 48.9 +1.0
KOLS pmax pmax
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 77.36 320 *e*P **P** 13 55 48.9 +1.0
SUW Suwalki 77.82 325 *e*P **P** 13 55 49.6 -0.7
SUW Suwalki 77.82 325 *e*P **P** 13 55 50.0 -0.3
SUW Suwalki 77.82 325 *e*P **P** 13 55 49.6 -0.7
CRVS Cervenica-Dubn 77.88 319 *e*P **P** 13 55 52.1 +1.3
CRVS pmax pmax
comp=Z,11nm,1.2s
CRVS Cervenica-Dubn 77.88 319 *e*P **P** 13 55 52.1 +1.3
STHS Stebnicka Huta 78.11 320 *e*P **P** 13 55 52.9 +0.8
STHS pmax pmax
comp=Z,11nm,1.0s
STHS Stebnicka Huta 78.11 320 *e*P **P** 13 55 52.9 +0.8

FINES FINESS Array B 78.17 333 P **P** 13 55 51.9 -0.3
FINES FINESS Array B 78.17 333 P **P** 13 55 51.9 -0.3
comp=Z,15nm,0.7s,baz=101,slow=6.0,SNR=27
PSZ Piszkesteto 78.75 318⇓*i*P **P** 13 55 56.0 +0.2
PKSM Moragy 79.37 316⇓*i*P **P** 13 55 58.9 -0.1
OKC Ostrava-Krasne 80.17 320 *e*P **P** 13 56 03.1 -0.2
OKC Ostrava-Krasne 80.17 320 *e*P **P** 13 56 03.1 -0.2
MORC Moravsky Berou 80.55 320⇑*i*P **P** 13 56 05.8 +0.4
ARCES ARCESS Array B 80.77 340 P **P** 13 56 06.3 +0.1
ARCES ARCESS Array B 80.77 340 P **P** 13 56 06.3 +0.1
comp=Z,20nm,1.0s,baz=98,slow=6.5,SNR=20
RPZ Rata Peaks 81.05 135 P **P** 13 56 07.9 -0.3
RPZ Rata Peaks 81.05 135 P **P** 13 56 07.9 -0.3
comp=Z,13nm,0.8s,baz=193,slow=4.1,SNR=3.8
KRLC Kraliky 81.07 320 *e*P **P** 13 56 08.3 +0.1
KRLC Kraliky 81.07 320 *e*P **P** 13 56 08.3 +0.1
VRAC Vranov 81.11 319⇓*i*P **P** 13 56 08.8 +0.4
DPC Dobruska-Polom 81.39 320 *e*P **P** 13 56 10.1 +0.2
DPC *e* 13 56 20.6
DPC Dobruska-Polom 81.39 320 *e*P **P** 13 56 10.1 +0.2
DPC *e*pP **pP** 13 56 20.6 -0.5
KSP Ksiaz 81.47 321 *e*P **P** 13 56 10.5 +0.2
KSP Ksiaz 81.47 321 *e*P **P** 13 56 10.4 +0.2
SOKA Soboth 81.90 317 *i* P **P** 13 56 13.6 +0.9
comp=Z,24nm,1.2s,SNR=6.5
PRU Pruhonice 82.50 320 *e*P **P** 13 56 15.8 +0.1
PRU *e* 13 56 31.7
PRU Pruhonice 82.50 320 *e*P **P** 13 56 15.8 +0.1
PRU *e*pP **pP** 13 56 31.7 +4.8
BRG Berggiesshubel 82.95 321 *e*P **P** 13 56 17.0 -1.0
comp=Z,42nm,2.0s
BRG Berggiesshubel 82.95 321 *e*P **P** 13 56 17.0 -1.0
BRG pmax pmax
comp=Z,42nm,2.0s
GERES GERESS Array B 82.96 319 P **P** 13 56 18.1 -0.1
GERES GERESS Array B 82.96 319 P **P** 13 56 18.1 -0.1
comp=Z,10nm,0.9s,baz=98,slow=5.5,SNR=44
KHC Kasperske Hory 83.06 319 *e*P **P** 13 56 18.4 -0.3
KHC *e* 13 56 34.2
KHC Kasperske Hory 83.06 319 *e*P **P** 13 56 18.4 -0.3
KHC *e*pP **pP** 13 56 34.2 +4.3
CLL Collm 83.58 321 *i* P **P** 13 56 21.2 0.0
CLL Collm 83.58 321 *i* P **P** 13 56 21.2 0.0
HFS Hagfors 83.88 330 P **P** 13 56 22.7 +0.1
HFS Hagfors 83.88 330 P **P** 13 56 22.7 +0.1
comp=Z,16nm,0.9s,baz=104,slow=4.6,SNR=9.2
WTTA Wattenberg 84.26 317⇑*i*P P 13 56 21.8 -3.2
comp=Z,15nm,1.2s
NB2 NORSAR Subarra 85.17 331 P **P** 13 56 28.5 -0.7
comp=Z,27nm,0.8s,baz=97,slow=4.8
NOA NORSAR Array B 85.17 331 P **P** 13 56 28.7 -0.5
NOA NORSAR Array B 85.17 331 P **P** 13 56 28.7 -0.5
comp=Z,8.6nm,1.0s,baz=92,slow=5.6,SNR=10
DAVOX Davos/Dischmat 85.44 317 P **P** 13 56 31.1 0.0
DAVOX Davos/Dischmat 85.44 317 P **P** 13 56 31.1 0.0
comp=Z,17nm,1.0s,baz=125,slow=6.5,SNR=18
KEST Kesra 85.78 305 P **P** 13 56 33.4 +0.6
KEST Kesra 85.78 305 P **P** 13 56 33.4 +0.6
comp=Z,3.4nm,0.9s,baz=58,slow=9.5,SNR=5.6
PGF Pioggiola 86.04 312 *e*P **P** 13 56 32.4 -1.6
comp=Z,117nm,1.2s
PGF Pioggiola 86.04 312 *e*P **P** 13 56 32.4 -1.6
PGF pmax pmax
comp=Z,117nm,1.3s
PGF Pioggiola 86.04 312 *e*P **P** 13 56 32.4 -1.6
comp=Z,117nm,1.3s
BFO Black Forest 86.51 318 *i* P **P** 13 56 36.7 +0.7
CDF Champ du Feu 87.21 318 *e*P **P** 13 56 37.7 -1.8
comp=Z,11nm,1.1s
CDF Champ du Feu 87.21 318 *e*P **P** 13 56 37.7 -1.8
CDF pmax pmax
comp=Z,11nm,1.1s
CDF Champ du Feu 87.21 318 *e*P **P** 13 56 37.7 -1.8
comp=Z,11nm,1.1s
HINF Hinteralfeld 87.50 318 *e*P **P** 13 56 38.9 -2.0
HINF Hinteralfeld 87.50 318 *e*P **P** 13 56 38.9 -2.0
HINF Hinteralfeld 87.50 318 *e*P **P** 13 56 38.9 -2.0
LPG La Plagne 87.62 315 *e*P **P** 13 56 40.5 -1.4
comp=Z,16nm,0.9s
LPG La Plagne 87.62 315 *e*P **P** 13 56 40.5 -1.4
LPG pmax pmax
comp=Z,16nm,0.9s
LPG La Plagne 87.62 315 *e*P **P** 13 56 40.5 -1.4
comp=Z,16nm,0.9s
LPL La Plagne 87.64 315 *e*P **P** 13 56 40.4 -1.4
comp=Z,46nm,1.2s
LPL La Plagne 87.64 315 *e*P **P** 13 56 40.4 -1.4
LPL pmax pmax
comp=Z,46nm,1.2s
LPL La Plagne 87.64 315 *e*P **P** 13 56 40.4 -1.4
comp=Z,46nm,1.2s
HAU Haudompre 87.84 318 *e*P **P** 13 56 41.7 -0.8
comp=Z,22nm,0.9s
HAU Haudompre 87.84 318 *e*P **P** 13 56 41.7 -0.8
HAU pmax pmax
comp=Z,22nm,0.9s
HAU Haudompre 87.84 318 *e*P **P** 13 56 41.7 -0.8
comp=Z,22nm,0.9s
WLF Walferdange 87.92 319 P **P** 13 56 43.3 +0.5
MEM Membach 87.98 320 P **P** 13 56 43.8 +0.7
comp=Z,7.0nm,1.2s
HGN Heimansgroeve 88.03 321 *e*L L 13 56 24.6
comp=Z,24µm,21.5s
CABF La Chapelle 88.06 316 *e*P **P** 13 56 42.6 -1.0
comp=Z,44nm,1.3s
CABF La Chapelle 88.06 316 *e*P **P** 13 56 42.6 -1.0
CABF pmax pmax
comp=Z,44nm,1.3s
CABF La Chapelle 88.06 316 *e*P **P** 13 56 42.6 -1.0
comp=Z,44nm,1.3s
PAGF Fort de Pagny 88.23 318 *e*P **P** 13 56 42.8 -1.5
PAGF Fort de Pagny 88.23 318 *e*P **P** 13 56 42.8 -1.5
ORIF Oris-en-Rattie 88.26 315 *e*P **P** 13 56 43.2 -1.4
comp=Z,68nm,1.6s
ORIF Oris-en-Rattie 88.26 315 *e*P **P** 13 56 43.2 -1.4
ORIF pmax pmax
comp=Z,68nm,1.6s
ORIF Oris-en-Rattie 88.26 315 *e*P **P** 13 56 43.2 -1.4
comp=Z,68nm,1.6s
MEZF Maizieres J'vi 88.69 318 *e*P **P** 13 56 45.1 -1.3
MEZF Maizieres J'vi 88.69 318 *e*P **P** 13 56 45.1 -1.3
SFTF Sexfontaines 88.71 318 *e*P **P** 13 56 46.3 -0.3
comp=Z,25nm,0.9s
SFTF Sexfontaines 88.71 318 *e*P **P** 13 56 46.3 -0.3
comp=Z,25nm,0.9s
GIVF Givet 88.76 320 *e*P **P** 13 56 46.7 -0.1
comp=Z,28nm,1.0s
GIVF Givet 88.76 320 *e*P **P** 13 56 46.7 -0.1
GIVF pmax pmax
comp=Z,28nm,1.0s
GIVF Givet 88.76 320 *e*P **P** 13 56 46.7 -0.1
comp=Z,28nm,1.0s
DOU Dourbes 88.91 320 P **P** 13 56 49.3 +1.9
VIVF Saint-Julien-l 89.12 315 *e*P **P** 13 56 47.6 -1.0
comp=Z,18nm,1.1s
VIVF Saint-Julien-l 89.12 315 *e*P **P** 13 56 47.6 -1.0
VIVF pmax pmax
comp=Z,18nm,1.1s
VIVF Saint-Julien-l 89.12 315 *e*P **P** 13 56 47.6 -1.0
comp=Z,18nm,1.1s
BAIF Baives 89.16 320 *e*P **P** 13 56 48.8 +0.2
comp=Z,76nm,1.3s
BAIF Baives 89.16 320 *e*P **P** 13 56 48.8 +0.2
BAIF pmax pmax
comp=Z,76nm,1.3s
BAIF Baives 89.16 320 *e*P **P** 13 56 48.8 +0.2
comp=Z,76nm,1.3s
LOR Lormes 89.55 317 *e*P **P** 13 56 49.3 -1.3
comp=Z,69nm,1.6s
LOR Lormes 89.55 317 *e*P **P** 13 56 49.3 -1.3
comp=Z,69nm,1.6s
SMF Signal de Mont 89.60 316 *e*P **P** 13 56 49.4 -1.4
comp=Z,23nm,1.1s
SMF Signal de Mont 89.60 316 *e*P **P** 13 56 49.4 -1.4
SMF pmax pmax
comp=Z,23nm,1.1s
SMF Signal de Mont 89.60 316 *e*P **P** 13 56 49.4 -1.4
comp=Z,23nm,1.1s
SSF Saint Saulge 89.80 317 *e*P **P** 13 56 51.0 -0.7
comp=Z,16nm,1.2s
SSF Saint Saulge 89.80 317 *e*P **P** 13 56 51.0 -0.7
SSF pmax pmax
comp=Z,16nm,1.2s
SSF Saint Saulge 89.80 317 *e*P **P** 13 56 51.0 -0.7
comp=Z,16nm,1.2s

AVF Avril sur Loir 89.93 317 *e*P **P** 13 56 51.1 -1.2
comp=Z,11nm,1.1s
AVF Avril sur Loir 89.93 317 *e*P **P** 13 56 51.1 -1.2
AVF pmax pmax
comp=Z,11nm,1.1s
AVF Avril sur Loir 89.93 317 *e*P **P** 13 56 51.1 -1.2
comp=Z,11nm,1.1s
BGF Bois d'Agland 90.29 316 *e*P **P** 13 56 53.2 -0.8
comp=Z,40nm,1.2s
BGF Bois d'Agland 90.29 316 *e*P **P** 13 56 53.2 -0.8
BGF pmax pmax
comp=Z,40nm,1.2s
BGF Bois d'Agland 90.29 316 *e*P **P** 13 56 53.2 -0.8
comp=Z,40nm,1.2s
TCF Toulx Ste Croi 90.75 316 *e*P **P** 13 56 55.4 -0.8
TCF Toulx Ste Croi 90.75 316 *e*P **P** 13 56 55.4 -0.8
TCF Toulx Ste Croi 90.75 316 *e*P **P** 13 56 55.4 -0.8
CAF Calviac 90.96 315 *e*P **P** 13 56 55.6 -1.6
comp=Z,45nm,1.5s
CAF Calviac 90.96 315 *e*P **P** 13 56 55.6 -1.6
CAF pmax pmax
comp=Z,45nm,1.5s
CAF Calviac 90.96 315 *e*P **P** 13 56 55.6 -1.6
comp=Z,45nm,1.5s
LDF La Druitiere 92.11 319 *e*P **P** 13 57 01.3 -1.1
comp=Z,70nm,1.3s
LDF La Druitiere 92.11 319 *e*P **P** 13 57 01.3 -1.1
LDF pmax pmax
comp=Z,71nm,1.3s
LDF La Druitiere 92.11 319 *e*P **P** 13 57 01.3 -1.1
comp=Z,70nm,1.3s
FLN La Foliniere 92.32 319 *e*P **P** 13 57 02.4 -1.0
comp=Z,45nm,1.1s
FLN La Foliniere 92.32 319 *e*P **P** 13 57 02.4 -1.0
FLN pmax pmax
comp=Z,45nm,1.1s
FLN La Foliniere 92.32 319 *e*P **P** 13 57 02.4 -1.0
comp=Z,45nm,1.1s
MFF Saint Martin d 92.34 317 *e*P **P** 13 57 02.6 -0.9
comp=Z,23nm,1.0s
MFF Saint Martin d 92.34 317 *e*P **P** 13 57 02.6 -0.9
MFF pmax pmax
comp=Z,23nm,1.0s
MFF Saint Martin d 92.34 317 *e*P **P** 13 57 02.6 -0.9
comp=Z,23nm,1.0s
QSPA South Pole Qui 92.61 180 *e*P **P** 13 57 05.0 +0.5
comp=Z,7.4nm,1.2s
GRR Gorron 92.61 319 *e*P **P** 13 57 04.0 -0.7
comp=Z,85nm,1.5s
GRR Gorron 92.61 319 *e*P **P** 13 57 04.0 -0.7
GRR pmax pmax
comp=Z,85nm,1.5s
GRR Gorron 92.61 319 *e*P **P** 13 57 04.0 -0.7
comp=Z,85nm,1.5s
EKA Eskdalemuir Ar 93.06 326 P **P** 13 57 06.8 +0.1
EKA Eskdalemuir Ar 93.06 326 P **P** 13 57 06.8 +0.1
comp=Z,2.7nm,0.7s,baz=96,slow=5.1,SNR=4.5
SJPF Ste Jean 93.51 313 *e*P **P** 13 57 06.9 -2.1
SJPF Ste Jean 93.51 313 *e*P **P** 13 57 06.9 -2.1
SJPF Ste Jean 93.51 313 *e*P **P** 13 57 06.9 -2.1
TOA0 Torodi Ar. Sit 93.64 283 *e*P **P** 13 57 10.2 0.0
TORD Torodi Ar. Bea 93.64 283 P **P** 13 57 10.3 +0.2
TORD Torodi Ar. Bea 93.64 283 P **P** 13 57 10.3 +0.2
comp=Z,1.5nm,0.9s,baz=80,slow=5.4,SNR=7.4
IM04 Indian Mountai 95.67 23 *e*P **P** 13 57 18.7 +0.3
ILAR Eielson Array 98.80 23 P **P** 13 57 30.7 -1.8
ILAR PP PP 14 01 20.6 -13
ILAR Eielson Array 98.80 23 P **P** 13 57 30.7 -1.8
comp=Z,0.9nm,0.9s,baz=289,slow=3.9,SNR=7.3
ILAR PP PP 14 01 20.6 -13
comp=Z,0.6nm,0.9s,baz=297,slow=8.0,SNR=5.2
YKA Yellowknife Ar 110.97 15 PP PP 14 02 43.9 -20
comp=Z,0.4nm,0.9s,baz=328,slow=8.0,SNR=4.5
NEW Newport 121.61 25 P **PKPdf** 14 02 46.2 -0.6
baz=121
BSMT Bassoo Peak 122.92 24 *e*PKPdf **PKPdf** 14 02 49.7 +0.1
J05D Fort Rock, OR 123.28 32 P **PKPdf** 14 02 50.6 +0.3
baz=123
SWMT Swartz Lake 123.51 24 *e*PKPdf **PKPdf** 14 02 49.3 -1.3
M02C Callahan 123.67 35 P **PKPdf** 14 02 51.4 +0.3
baz=124
M04C Macdoel 123.97 34 P **PKPdf** 14 02 51.1 -0.6
baz=124
N02D Trinity Center 124.02 35 P **PKPdf** 14 02 51.2 -0.5
baz=124
MSO Missoula 124.08 24 P **PKPdf** 14 02 51.4 -0.3
baz=124
A19A Klindworth Far 124.28 20 P **PKPdf** 14 02 51.6 -0.4
baz=124
A20A Cobblestone Ra 124.59 19 P **PKPdf** 14 02 52.6 0.0
baz=124
EGMT Eagleton 124.70 21 P **PKPdf** 14 02 52.6 -0.2
baz=124
A21A Bergtoll Ranch 124.81 18 P **PKPdf** 14 02 53.1 +0.1
baz=125
B20A Solberg Farm, 124.94 19 P **PKPdf** 14 02 53.6 +0.3
baz=125
A22A Carney Farms, 125.12 18 P **PKPdf** 14 02 53.6 0.0
baz=125
C19A Slack Wire Ran 125.20 21 P **PKPdf** 14 02 54.2 +0.3
baz=125
C20A Veseth Ranch, 125.58 20 P **PKPdf** 14 02 54.5 0.0
baz=125
D19A Cripps Ranch, 125.75 21 P **PKPdf** 14 02 55.0 +0.1
baz=126
B23A Brockton 125.87 17 P **PKPdf** 14 02 55.7 +0.6
baz=126
D20A Manuel Ranch, 126.07 20 P **PKPdf** 14 02 56.1 +0.7
baz=126
C22A Vida 126.24 18 P **PKPdf** 14 02 56.5 +0.8
baz=126
A26A Wade Farm, Ken 126.29 15 P **PKPdf** 14 02 55.8 0.0
baz=126
ULM Lac du Bonnet 126.29 9 PKP **PKPdf** 14 02 55.4 -0.3
ULM Lac du Bonnet 126.29 9 PKP **PKPdf** 14 02 55.4 -0.3
comp=Z,7.6nm,0.8s,baz=349,slow=3.5,SNR=12
C23A Lambert 126.41 18 P **PKPdf** 14 02 56.3 +0.3
baz=126
HLID Hailey 126.45 27 P **PKPdf** 14 02 57.0 +0.5
baz=126
B25A Knox Farm, Ray 126.56 16 P **PKPdf** 14 02 57.5 +1.1
baz=126
E20A Meyer Farm, Mu 126.58 21 P **PKPdf** 14 02 57.4 +0.9
baz=126
D22A Cohagen 126.67 19 P **PKPdf** 14 02 56.9 +0.3
baz=126
E21A Keefer Ranch, 126.91 20 P **PKPdf** 14 02 57.9 +0.8
baz=127
D23A Lindsay 126.96 18 P **PKPdf** 14 02 57.9 +0.7
baz=127
A30A Hoffart Farm, 127.10 12 P **PKPdf** 14 02 58.2 +0.8
baz=127
C26A Wahner Farm, P 127.26 15 P **PKPdf** 14 02 58.1 +0.4
baz=127
G20A Bridger 127.65 22 P **PKPdf** 14 02 58.5 -0.1
baz=128
H19A Powell 127.83 22 P **PKPdf** 14 02 59.8 +0.8
baz=128
E25A Miller Ranch, 128.11 17 P **PKPdf** 14 02 59.9 +0.5
baz=128
F23A Volborg 128.19 19 P **PKPdf** 14 02 59.9 +0.3
baz=128
ELK Elko 128.20 30 PKP **PKPdf** 14 02 58.9 -1.1
ELK Elko 128.20 30 PKP **PKPdf** 14 02 58.9 -1.1
baz=31,slow=5.9
D28A Regan 128.24 14 P **PKPdf** 14 02 59.9 +0.3
baz=128
C30A Mose, Pekin 128.24 12 P **PKPdf** 14 02 59.8 +0.3
baz=128
G22A Birney 128.33 20 P **PKPdf** 14 02 59.7 -0.2
baz=128
H20A Greybull 128.36 22 P **PKPdf** 14 02 60.0 0.0
baz=128
G23A Biddle 128.65 19 P **PKPdf** 14 03 00.5 0.0
baz=128
D30A Buchanan 128.74 13 P **PKPdf** 14 03 00.8 +0.3
baz=128
I20A Worland 128.77 22 P **PKPdf** 14 03 01.3 +0.5
baz=129
H22A Clearmont 128.86 20 P **PKPdf** 14 03 01.2 +0.2
baz=129
F26A Lodgepole 128.91 17 P **PKPdf** 14 03 01.5 +0.6
baz=129
J19A Crowheart 128.99 24 P **PKPdf** 14 03 01.8 +0.5
baz=129
F27A Lemmon 129.07 16 P **PKPdf** 14 03 02.0 +0.7
baz=129

I21A	**Big Trails, Te**	129.20	22	P		PKPdf	14 03 01.6	-0.1
	baz=129							
PDAR	**Pinedale Array**	129.20	24	PKP		PKPdf	14 03 00.9	-0.9
PDAR	**Pinedale Array**	129.20	24	PKP		PKPdf	14 03 00.9	-0.9
	comp=Z,1.3nm,0.7s,baz=111,slow=2.0,SNR=9.4							
J20A	**Shoshoni**	129.29	23	P		PKPdf	14 03 02.1	+0.2
	baz=129							
H24A	**Dirks Ranch, A**	129.33	19	P		PKPdf	14 03 01.6	-0.2
	baz=129							
I22A	**9 Mile Ranch,**	129.42	21	P		PKPdf	14 03 02.6	+0.5
	baz=129							
G26A	**Maurine**	129.44	17	P		PKPdf	14 03 02.7	+0.7
	baz=129							
J21A	**Lysite**	129.54	22	P		PKPdf	14 03 03.1	+0.7
	baz=129							
R11A	**Troy Canyon, C**	129.80	32	P		PKPdf	14 03 03.8	+0.7
	baz=130							
DUG	**Dugway**	129.81	29	P		PKPdf	14 03 03.6	+0.7
	baz=130							
J22A	**Midwest**	129.84	21	P		PKPdf	14 03 02.9	-0.1
	baz=130							
K21A	**Alcova**	130.22	22	P		PKPdf	14 03 04.2	+0.4
	baz=130							
MPMC	**Manual Prospec**	130.35	36	P		PKPdf	14 03 04.7	+0.6
	baz=130							
FURC	**Furnace Creek,**	130.43	35	P		PKPdf	14 03 04.5	+0.6
	baz=130							
TPNV	**Topopah Spring**	130.44	34	P		PKPdf	14 03 04.3	0.0
	baz=130							
G30A	**Faulkton**	130.52	14	P		PKPdf	14 03 04.9	+0.9
	baz=130							
K23A	**Bowen Ranch, D**	130.72	21	P		PKPdf	14 03 05.4	+0.7
	baz=130							
EDW2	**Edwards Air Fo**	130.85	37	P		PKPdf	14 03 05.9	+0.9
	baz=131							
J26A	**Sides Ranch, S**	131.09	19	P		PKPdf	14 03 06.3	+1.1
	baz=131							
L23A	**Garrett**	131.25	22	P		PKPdf	14 03 05.8	+0.1
	baz=131							
GSC	**Goldstone**	131.28	36	P		PKPdf	14 03 06.6	+0.9
	baz=131							
N20A	**Spence Gulch,**	131.34	25	P		PKPdf	14 03 07.5	+1.5
	baz=131							
I30A	**Oacoma**	131.58	15	P		PKPdf	14 03 06.7	+0.7
	baz=131							
SRU	**San Rafael**	131.75	28	*e*PKIKP		PKPdf	14 03 06.7	0.0
SRU	**San Rafael**	131.75	28	*e*PKPdf		PKPdf	14 03 06.7	0.0
O20A	**White River Ci**	131.93	25	P		PKPdf	14 03 07.9	+0.9
	baz=132							
O23A	**Lake Granby, G**	132.81	23	P		PKPdf	14 03 09.0	+0.2
	baz=133							
U15A	**North Rim**	132.97	32	P		PKPdf	14 03 10.7	+1.5
	baz=133							
P25A	**Willow Gulch B**	134.09	22	P		PKPdf	14 03 13.2	+2.1
	baz=134							
WUAZ	**Wupatki**	134.15	32	P		PKPdf	14 03 13.7	+2.4
	baz=134							
MVCO	**Mesa Verde**	134.23	28	P		PKPdf	14 03 13.0	+1.5
	baz=134							
P26A	**Davis Ranch, A**	134.35	21	P		PKPdf	14 03 13.6	+2.0
	baz=134							
U22A	**Llaves**	135.66	27	P		PKPdf	14 03 15.4	+1.2
	baz=136							
R27A	**Eads**	135.67	21	P		PKPdf	14 03 14.8	+0.8
	baz=136							
S26A	**Kim**	136.01	22	P		PKPdf	14 03 15.1	+0.5
	baz=136							
V22A	**San Miguel Ran**	136.02	27	P		PKPdf	14 03 16.3	+1.4
	baz=136							
T25A	**Trinidad**	136.06	24	P		PKPdf	14 03 15.9	+1.0
	baz=136							
S27A	**Las Animas**	136.17	22	P		PKPdf	14 03 16.3	+1.3
	baz=136							
T26A	**Comanche Natio**	136.35	23	P		PKPdf	14 03 16.9	+1.5
	baz=136							
V23A	**Ortiz Mt. (NFS**	136.49	27	P		PKPdf	14 03 17.6	+1.8
	baz=136							
ANMO	**Albuquerque**	137.03	27	PKP		PKPdf	14 03 17.8	+1.1
ANMO	**Albuquerque**	137.03	27	PKP		PKPdf	14 03 17.8	+1.1
	comp=Z,3.7nm,1.0s,baz=343,slow=1.1,SNR=8.4							
Y24A	**Capitan**	138.34	27	P		PKPdf	14 03 20.9	+1.7
	baz=138							
Y25A	**Mesa, Roswell**	138.68	26	P		PKPdf	14 03 20.0	+0.3
	baz=138							
Z24A	**Sheeppen Canyo**	138.87	28	P		PKPdf	14 03 21.2	+1.1
	baz=139							
PLCA	**Paso Flores**	140.22	196	PKP		PKPdf	14 03 22.8	+0.6
PLCA	**Paso Flores**	140.22	196	PKP		PKPdf	14 03 22.8	+0.6
	comp=Z,0.9nm,0.6s,baz=207,slow=2.3,SNR=2.8							
TXAR	**Lajitas Array**	142.99	29	PKPpre		PKPpre	14 03 23.5	
TXAR	**Lajitas Array**	142.99	29	PKhKP		PKPpre	14 03 23.5	
	comp=Z,2.1nm,0.9s,baz=276,slow=1.0,SNR=10							
CPUP	**Villa Florida**	145.28	225	PKPbc		PKPbc	14 03 30.6	-0.6
CPUP	**Villa Florida**	145.28	225	PKPbc		PKPbc	14 03 30.6	-0.6
	comp=Z,0.7nm,0.4s,baz=153,slow=4.5,SNR=3.3							
LCO	**Las Campanas**	150.93	204	*e*PKPbc		PKPbc	14 03 47.6	+0.9
LPAZ	**La Paz**	159.38	228	PKP		PKPdf	14 03 53.9	+0.7
LPAZ	**La Paz**	159.38	228	PKP		PKPdf	14 03 53.9	+0.7
	comp=Z,0.7nm,0.6s,baz=138,slow=4.4,SNR=3.9							

MDD ***19*** *13:50:45.9±1.8,36°.74N×12°.59W,h10km,mb4.5/30,Error ellipse: s-maj=17.0km s-min=12.8km az=39.0,PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
IGIL ***19*** *13:50:46.0,36°.76N×12°.56W,h0km,ML3.1*
INMG ***19*** *13:50:47.6±1.8,36°.63N×12°.88W,h10km±14km,ML3.1, Error ellipse: s-maj=4.7km s-min=3.6km az=125.0*
LDG ***19*** *13:50:47.3±1.2,36°.97N×12°.60W,h30km,Ml3.5/4,Error ellipse: s-maj=24.4km s-min=19.1km az=35.0*
CSEM ***19*** *13:50:49.1±0.3,36°.94N×12°.26W,h10km,ML3.8/23,Error ellipse: s-maj=5.3km s-min=4.0km az=48.0*

ISC 19 13:50:46.1±3.0,36°.86N±0°.09×12°.4W±0°.1,h10km,n136,
σ1§27/223,7C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.89**	**84**	⇑P	**Pn**	**13 51 32.9**	**+0.7**
	50nm,0.2s,SNR=18						
PFVI				S	**Sn**	**13 52 07.0**	**-0.2**
	34nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.89**	**84**	*e*Pn	**Pn**	**13 51 32.9**	**+0.7**
PFVI				*e*Sn	**Sn**	**13 52 06.9**	**-0.2**
PFVI				A	A	13 52 09.6	
	24nm,0.2s						
PFVI	**Vila Bisbo**	**2.89**	**84**	P	**Pn**	**13 51 32.9**	**+0.7**
	50nm,0.2s,SNR=18						
PFVI				*e*Sn	**Sn**	**13 52 06.9**	**-0.2**
	24nm,0.2s						
PTEO	**Sao Teotonio**	**3.03**	**76**	*e*Pn	**Pn**	**13 51 35.2**	**+1.1**
PTEO				*e*Sn	**Sn**	**13 52 10.2**	**-0.3**
PTEO				A	A	13 52 17.4	
	32nm,0.7s						
PTEO	**Sao Teotonio**	**3.03**	**76**	*e*Pn	**Pn**	**13 51 35.2**	**+1.1**
PTEO				*e*Sn	**Sn**	**13 52 10.2**	**-0.3**
	32nm,0.7s						
MORF	**Marmelete**	**3.05**	**81**	P	**Pn**	**13 51 35.1**	**+0.7**
	SNR=7.9						
MORF				S	**Sn**	**13 52 10.0**	**-1.0**
	SNR=7.9						
MORF	**Marmelete**	**3.05**	**81**	⇑*e*Pn	**Pn**	**13 51 35.2**	**+0.7**
MORF				*e*Sn	**Sn**	**13 52 11.2**	**+0.2**
MORF				A	A	13 52 14.7	
	42nm,0.2s						
MORF	**Marmelete**	**3.05**	**81**	⇑*e*Pn	**Pn**	**13 51 35.2**	**+0.7**
MORF				S	**Sn**	**13 52 10.0**	**-1.0**
	SNR=7.9						
MORF				*e*Sn	**Sn**	**13 52 11.2**	**+0.2**
	42nm,0.2s						
PMAFR	**Mafra**	**3.25**	**49**	⇑P	**Pn**	**13 51 38.6**	**+1.5**
	40nm,0.2s,SNR=18						
PMAFR				S	**Sn**	**13 52 17.2**	**+1.4**
	179nm,0.3s,SNR=5.5						
PMAFR	**Mafra**	**3.25**	**49**	⇑*e*Pn	**Pn**	**13 51 38.6**	**+1.5**
PMAFR				*e*Sn	**Sn**	**13 52 16.9**	**+1.1**
PMAFR				A	A	13 52 20.9	
	64nm,0.3s						
PMAFR	**Mafra**	**3.25**	**49**	P	**Pn**	**13 51 38.6**	**+1.5**
	40nm,0.2s,SNR=18						
PMAFR				*e*Sn	**Sn**	**13 52 16.9**	**+1.1**
	64nm,0.3s						
PMAFR				S	**Sn**	**13 52 17.2**	**+1.4**
	179nm,0.3s,SNR=5.5						
PNCL	**Nicolau / Gran**	**3.34**	**67**	*e*Pn	**Pn**	**13 51 39.4**	**+1.0**
PNCL				*e*Sn	**Sn**	**13 52 18.6**	**+0.5**
PNCL	**Nicolau / Gran**	**3.34**	**67**	*e*Pn	**Pn**	**13 51 39.4**	**+1.0**
PNCL				*e*Sn	**Sn**	**13 52 18.6**	**+0.5**
PACT	**Alcochete**	**3.42**	**55**	⇑*e*Pn	**Pn**	**13 51 41.5**	**+2.0**
PACT				*e*Sn	**Sn**	**13 52 22.5**	**+2.4**
PACT				A	A	13 52 23.3	
	78nm,0.3s						
PACT	**Alcochete**	**3.42**	**55**	⇑*e*Pn	**Pn**	**13 51 41.5**	**+2.0**
PACT				*e*Sn	**Sn**	**13 52 22.5**	**+2.4**
	78nm,0.3s						
MESJ	**Messejana**	**3.49**	**73**	*e*P	**Pn**	**13 51 41.5**	**+1.1**
MESJ				*e*S	**Sn**	**13 52 22.2**	**+0.4**
MESJ				AML	AML	13 52 28.4	
	comp=N,25nm,0.4s						
MESJ	**Messejana**	**3.49**	**73**	P	**Pn**	**13 51 41.6**	**+1.1**
	SNR=7.9						
MESJ				S	**Sn**	**13 52 22.4**	**+0.6**
	SNR=7.9						
MESJ	**Messejana**	**3.49**	**73**	P	**Pn**	**13 51 41.6**	**+1.1**
	SNR=7.9						
MESJ				S	**Sn**	**13 52 22.4**	**+0.6**
	SNR=7.9						
PCVE	**Castro Verde**	**3.58**	**76**	*e*Pn	**Pn**	**13 51 42.7**	**+1.0**
PCVE				*e*Sn	**Sn**	**13 52 23.7**	**-0.4**
PCVE				A	A	13 52 29.7	
	comp=N,19nm,0.3s						
PCVE	**Castro Verde**	**3.58**	**76**	*e*Pn	**Pn**	**13 51 42.7**	**+1.0**
PCVE				*e*Sn	**Sn**	**13 52 23.7**	**-0.4**
	comp=N,19nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.62**	**83**	*e*Pn	**Pn**	**13 51 43.3**	**+1.1**
PBDV				*e*Sn	**Sn**	**13 52 25.9**	**+1.0**
PBDV				A	A	13 52 35.7	
	comp=N,15nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.62**	**83**	*e*Pn	**Pn**	**13 51 43.3**	**+1.1**
PBDV				*e*Sn	**Sn**	**13 52 25.9**	**+1.0**
	comp=N,15nm,0.3s						
EVOP	**Sao Brissos**	**3.79**	**63**	*e*Pn	**Pn**	**13 51 45.0**	**+0.4**
EVOP				*e*Sn	Sn	13 52 25.5	-3.8
	comp=N,16nm,0.3s						
PVAQ	**Vaqueiros**	**3.80**	**80**	*e*Pn	**Pn**	**13 51 45.8**	**+1.1**
PVAQ				*e*Sn	**Sn**	**13 52 29.7**	**+0.2**
PVAQ				A	A	13 52 35.0	
	comp=N,20nm,0.3s						
PVAQ	**Vaqueiros**	**3.80**	**80**	*e*Pn	**Pn**	**13 51 45.8**	**+1.1**
PVAQ				*e*Sn	**Sn**	**13 52 29.7**	**+0.2**
	comp=N,20nm,0.3s						
ALMR	**Almeirim**	**3.80**	**52**	*e*P	**Pn**	**13 51 46.0**	**+1.3**
ALMR				*e*S	**Sn**	**13 52 30.0**	**+0.4**
ALMR				AML	AML	13 52 31.9	
	comp=N,51nm,0.2s						
ALMR	**Almeirim**	**3.80**	**52**	P	**Pn**	**13 51 46.7**	**+1.9**
	SNR=7.9						
ALMR				S	**Sn**	**13 52 29.6**	**0.0**
	SNR=7.9						
ALMR	**Almeirim**	**3.80**	**52**	P	**Pn**	**13 51 46.7**	**+1.9**
	SNR=7.9						
ALMR				S	**Sn**	**13 52 29.6**	**0.0**
	SNR=7.9						
PBEJ	**Beja**	**3.81**	**71**	*e*Pn	**Pn**	**13 51 46.2**	**+1.4**
PBEJ				*e*Sn	**Sn**	**13 52 29.4**	**-0.3**
PBEJ				A	A	13 52 31.4	
	comp=N,14nm,0.3s						
PBEJ	**Beja**	**3.81**	**71**	*e*Pn	**Pn**	**13 51 46.2**	**+1.4**
PBEJ				*e*Sn	**Sn**	**13 52 29.4**	**-0.3**
	comp=N,14nm,0.3s						
EVO	**Evora**	**3.88**	**63**	*e*Pn	**Pn**	**13 51 45.0**	**-0.7**
EVO				*e*Sn	Sn	13 52 25.5	-5.8
	comp=N,32nm,0.3s						
EVO	**Evora**	**3.88**	**63**	*e*Pn	**Pn**	**13 51 46.9**	**+1.2**
EVO				*e*Sn	**Sn**	**13 52 31.5**	**+0.2**
EVO				A	A	13 52 33.6	
	comp=N,17nm,0.1s						
EVO	**Evora**	**3.88**	**63**	*e*Pn	**Pn**	**13 51 46.9**	**+1.2**
EVO				*e*Sn	**Sn**	**13 52 31.5**	**+0.2**
	comp=N,17nm,0.1s						
PMTG	**Montargil**	**3.98**	**55**	*e*Pn	**Pn**	**13 51 48.2**	**+1.0**
PMTG				*e*Sn	**Sn**	**13 52 34.5**	**+0.6**
PMTG				A	A	13 52 50.5	
	comp=N,10.0nm,0.5s						
PMTG	**Montargil**	**3.98**	**55**	*e*Pn	**Pn**	**13 51 48.2**	**+1.0**
PMTG				*e*Sn	**Sn**	**13 52 34.5**	**+0.6**
	comp=N,10.0nm,0.5s						
EGRO	**El Granado**	**4.00**	**79**	P	**Pn**	**13 51 48.4**	**+0.9**
	comp=N,2.5nm,0.1s,SNR=9.5						
EGRO				S	**Sn**	**13 52 34.2**	**-0.2**
	comp=N,7.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.00**	**79**	P	**Pn**	**13 51 48.4**	**+0.9**
	comp=N,2.5nm,0.1s,SNR=9.5						
EGRO				S	**Sn**	**13 52 34.2**	**-0.2**
	comp=N,7.7nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**4.19**	**48**	*e*Pn	**Pn**	**13 51 51.9**	**+1.9**
PTOM				*e*Sn	**Sn**	**13 52 40.5**	**+1.5**
PTOM				A	A	13 52 43.9	
	comp=N,27nm,0.2s						
PTOM	**Tomar**	**4.19**	**48**	*e*Pn	**Pn**	**13 51 51.9**	**+1.9**
PTOM				*e*Sn	**Sn**	**13 52 40.5**	**+1.5**
	comp=N,27nm,0.2s						
PESTR	**Estremoz**	**4.32**	**61**	*e*Sn	**Sn**	**13 52 42.2**	**0.0**
PESTR				A	A	13 52 50.9	
	comp=N,6.5nm,0.3s						
PESTR	**Estremoz**	**4.32**	**61**	*e*Sn	**Sn**	**13 52 42.2**	**0.0**
	comp=N,6.5nm,0.3s						
PCAS	**Casmilo, Conde**	**4.43**	**43**	*e*Pn	**Pn**	**13 51 54.8**	**+1.4**
PCAS				*e*Sn	**Sn**	**13 52 45.0**	**0.0**
PCAS				A	A	13 52 49.6	
	comp=N,17nm,0.3s						
PCAS	**Casmilo, Conde**	**4.43**	**43**	*e*Pn	**Pn**	**13 51 54.8**	**+1.4**
PCAS				*e*Sn	**Sn**	**13 52 45.0**	**0.0**
	comp=N,17nm,0.3s						
PBAR	**Barrancos**	**4.48**	**71**	*e*Pn	**Pn**	**13 51 55.2**	**+1.2**
PBAR				*e*Sn	**Sn**	**13 52 46.2**	**0.0**
PBAR				A	A	13 52 57.4	
	comp=N,8.1nm,0.4s						
PBAR	**Barrancos**	**4.48**	**71**	*e*Pn	**Pn**	**13 51 55.2**	**+1.2**
PBAR				*e*Sn	**Sn**	**13 52 46.2**	**0.0**
	comp=N,8.1nm,0.4s						
EMIN	**Mina Concepcio**	**4.67**	**77**	P	**Pn**	**13 51 57.5**	**+0.8**
	comp=N,6.7nm,0.2s,SNR=35						
EMIN				S	**Sn**	**13 52 49.4**	**-1.6**
	comp=N,3.9nm,0.1s,SNR=6.5						
EMIN	**Mina Concepcio**	**4.67**	**77**	P	**Pn**	**13 51 57.5**	**+0.8**
	comp=N,6.7nm,0.2s,SNR=35						
EMIN				S	**Sn**	**13 52 49.4**	**-1.6**
	comp=N,3.9nm,0.1s,SNR=6.5						
EBAD	**Badajoz**	**4.68**	**65**	P	**Pn**	**13 51 57.9**	**+1.1**
	comp=N,10nm,0.2s,SNR=43						
EBAD				S	**Sn**	**13 52 51.4**	**+0.2**
	comp=N,20nm,0.2s,SNR=4.8						
EBAD	**Badajoz**	**4.68**	**65**	P	**Pn**	**13 51 57.9**	**+1.1**
	comp=N,10nm,0.2s,SNR=43						
EBAD				S	**Sn**	**13 52 51.4**	**+0.2**
	comp=N,20nm,0.2s,SNR=4.8						
PMRV	**Marv??o**	**4.72**	**56**	*e*Pn	**Pn**	**13 51 58.6**	**+1.2**
PMRV				*e*Sn	**Sn**	**13 52 50.9**	**-1.3**
PMRV				A	A	13 52 55.3	
	comp=N,10nm,0.2s						
PMRV	**Marv??o**	**4.72**	**56**	*e*Pn	**Pn**	**13 51 58.6**	**+1.2**
PMRV				*e*Sn	**Sn**	**13 52 50.9**	**-1.3**
	comp=N,10nm,0.2s						
PCBR	**Castelo Branco**	**4.89**	**51**	*e*Pn	**Pn**	**13 52 01.0**	**+1.3**
PCBR				*e*Sn	**Sn**	**13 52 55.4**	**-1.0**
PCBR				A	A	13 53 04.3	
	comp=N,8.0nm,0.6s						
PCBR	**Castelo Branco**	**4.89**	**51**	*e*Pn	**Pn**	**13 52 01.0**	**+1.3**
PCBR				*e*Sn	**Sn**	**13 52 55.4**	**-1.0**
	comp=N,8.0nm,0.6s						
PMPST	**Porto Santo, M**	**4.95**	**221**	*e*Pn	Pn	13 51 50.0	-11
PMPST				*e*Sn	Sn	13 52 36.0	-22
PMPST				A	A	13 52 38.3	
	comp=N,34nm,0.2s						
PMPS	**Porto Santo**	**4.97**	**221**	*e*Pn	Pn	13 51 50.5	-10
PMPS				*e*Sn	Sn	13 52 36.0	-22
PMPS				A	A	13 52 43.5	
	comp=N,33nm,0.3s						
MTE	**Manteigas**	**5.20**	**46**	*e*Pn	**Pn**	**13 52 05.4**	**+1.4**
MTE				*e*Sn	**Sn**	**13 53 03.3**	**-0.8**
MTE				A	A	13 53 12.3	
	comp=N,15nm,0.3s						
MTE	**Manteigas**	**5.20**	**46**	*e*Pn	**Pn**	**13 52 05.4**	**+1.4**
MTE				*e*Sn	**Sn**	**13 53 03.3**	**-0.8**
	comp=N,15nm,0.3s						
PTO	**Porto**	**5.21**	**34**	*e*Pn	**Pn**	**13 52 06.4**	**+2.4**
PTO				*e*Sn	**Sn**	**13 53 02.4**	**-1.6**
PTO	**Porto**	**5.21**	**34**	*e*Pn	**Pn**	**13 52 06.4**	**+2.4**
PTO				*e*Sn	**Sn**	**13 53 02.4**	**-1.6**
PVIS	**Viseu**	**5.23**	**41**	*e*Pn	**Pn**	**13 52 05.5**	**+1.1**
PVIS				*e*Sn	**Sn**	**13 53 03.4**	**-1.3**
PVIS				A	A	13 53 05.7	
	comp=N,21nm,0.1s						
PVIS	**Viseu**	**5.23**	**41**	*e*Pn	**Pn**	**13 52 05.5**	**+1.1**
PVIS				*e*Sn	**Sn**	**13 53 03.4**	**-1.3**
	comp=N,21nm,0.1s						
ESPR	**Espera**	**5.27**	**88**	P	**Pn**	**13 52 05.7**	**+0.8**
	comp=N,15nm,0.3s,SNR=11						
ESPR				S	**Sn**	**13 53 04.7**	**-0.9**
	comp=N,30nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.27**	**88**	P	**Pn**	**13 52 05.7**	**+0.8**
	comp=N,15nm,0.3s,SNR=11						
ESPR				S	**Sn**	**13 53 04.7**	**-0.9**
	comp=N,30nm,0.2s,SNR=7.9						
PMAR	**Madeira**	**5.54**	**223**	*e*Pn	Pn	13 51 57.7	-11
PMAR				*e*Sn	Sn	13 52 48.2	-25
PMAR				A	A	13 52 54.4	
	comp=N,24nm,0.2s						
PMOZ	**Porto Moniz, M**	**5.62**	**226**	*e*Pn	Pn	13 52 00.0	-10
ECAB	**El Cabril**	**5.70**	**76**	⇓P	**Pn**	**13 52 11.6**	**+0.7**
	comp=N,6.4nm,0.2s,SNR=18						
ECAB				S	**Sn**	**13 53 14.8**	**-1.6**
	comp=N,15nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**5.70**	**76**	P	**Pn**	**13 52 11.6**	**+0.7**
	comp=N,6.4nm,0.2s,SNR=18						
ECAB				S	**Sn**	**13 53 14.8**	**-1.6**
	comp=N,15nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**5.73**	**38**	*e*Sn	**Sn**	**13 53 15.7**	**-1.4**
PVRL				A	A	13 53 18.2	
	comp=N,19nm,0.1s						
PVRL	**Vila Real**	**5.73**	**38**	*e*Sn	**Sn**	**13 53 15.7**	**-1.4**
	comp=N,19nm,0.1s						
POLO	**Lamas de Olo**	**5.77**	**37**	*e*Pn	**Pn**	**13 52 12.5**	**+0.7**
POLO				*e*Sn	**Sn**	**13 53 15.9**	**-2.1**
POLO				A	A	13 53 21.1	
	comp=N,8.1nm,0.3s						
POLO	**Lamas de Olo**	**5.77**	**37**	*e*Pn	**Pn**	**13 52 12.5**	**+0.7**
POLO				*e*Sn	**Sn**	**13 53 15.9**	**-2.1**
	comp=N,8.1nm,0.3s						
EPLA	**Plasencia**	**5.92**	**55**	P	**Pn**	**13 52 15.3**	**+1.5**
	comp=N,17nm,0.2s,SNR=44						
EPLA				S	**Sn**	**13 53 20.6**	**-1.1**
	comp=N,5.0nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.92**	**55**	P	**Pn**	**13 52 15.3**	**+1.5**
	comp=N,17nm,0.2s,SNR=44						
EPLA				S	**Sn**	**13 53 20.6**	**-1.1**
	comp=N,5.0nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.92**	**34**	*e*Pn	**Pn**	**13 52 14.9**	**+1.0**
PCAB				*e*Sn	**Sn**	**13 53 20.1**	**-1.7**
PCAB				A	A	13 53 26.2	
	comp=N,11nm,0.2s						
PCAB	**Cabril**	**5.92**	**34**	*e*Pn	**Pn**	**13 52 14.9**	**+1.0**
PCAB				*e*Sn	**Sn**	**13 53 20.1**	**-1.7**
	comp=N,11nm,0.2s						
MVO	**Moncorvo**	**6.01**	**43**	P	**Pn**	**13 52 16.1**	**+1.0**
	comp=N,7.7nm,0.4s,SNR=17						
MVO				S	**Sn**	**13 53 22.1**	**-1.8**
	comp=N,5.3nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.01**	**43**	*e*Pn	**Pn**	**13 52 16.0**	**+1.0**
MVO				*e*Sn	**Sn**	**13 53 21.8**	**-2.2**
MVO				A	A	13 53 27.4	
	comp=N,16nm,0.3s						
MVO	**Moncorvo**	**6.01**	**43**	P	**Pn**	**13 52 16.1**	**+1.0**
	comp=N,7.7nm,0.4s,SNR=17						
MVO				*e*Sn	**Sn**	**13 53 21.8**	**-2.2**
	comp=N,16nm,0.3s						
MVO				S	**Sn**	**13 53 22.1**	**-1.8**
	comp=N,5.3nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**6.01**	**28**	P	**Pn**	**13 52 15.7**	**+0.6**
	comp=N,5.6nm,0.2s,SNR=7.9						
EZAM				S	Sn	13 53 19.7	-4.4
	comp=N,15nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**6.01**	**28**	P	**Pn**	**13 52 15.7**	**+0.6**
	comp=N,5.6nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.03**	**31**	*e*Pn	**Pn**	**13 52 16.4**	**+1.0**
PGAV				*e*Sn	**Sn**	**13 53 22.5**	**-1.9**
PGAV				A	A	13 53 25.6	
	comp=N,13nm,0.2s						
PGAV	**Gavieira, Arco**	**6.03**	**31**	*e*Pn	**Pn**	**13 52 16.4**	**+1.0**
PGAV				*e*Sn	**Sn**	**13 53 22.5**	**-1.9**
	comp=N,13nm,0.2s						
ELOB	**Lobios**	**6.03**	**33**	P	**Pn**	**13 52 17.1**	**+1.6**
	comp=N,1.3nm,0.1s,SNR=16						
ELOB				S	**Sn**	**13 53 22.6**	**-2.0**
	comp=N,7.1nm,0.1s,SNR=8.0						
ELOB	**Lobios**	**6.03**	**33**	P	**Pn**	**13 52 17.1**	**+1.6**
	comp=N,1.3nm,0.1s,SNR=16						
ELOB				S	**Sn**	**13 53 22.6**	**-2.0**
	comp=N,7.1nm,0.1s,SNR=8.0						
EMIJ	**Mijas**	**6.16**	**90**	P	**Pn**	**13 52 18.3**	**+1.2**
	comp=N,0.8nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**13 53 26.4**	**-1.1**
	comp=N,5.5nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**6.16**	**90**	P	**Pn**	**13 52 18.3**	**+1.2**
	comp=N,0.8nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**13 53 26.4**	**-1.1**
	comp=N,5.5nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**6.37**	**76**	P	**Pn**	**13 52 20.5**	**+0.4**
	comp=N,2.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**13 53 31.4

	comp=N,26nm,1.1s,SNR=6.4							
EARI				S		Sn	13 54 22.3	-2.4
	comp=N,1.3nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**8.48**	**38**	P		**Pn**	**13 52 49.8**	**+0.9**
	comp=N,26nm,1.1s,SNR=6.4							
ETOB	**Tobarra**	**8.80**	**75**	P		**Pn**	**13 52 52.9**	**-0.5**
	comp=N,2.3nm,0.2s,SNR=15							
ETOB				S		Sn	13 54 28.0	-4.6
	comp=N,1.2nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**8.80**	**75**	P		**Pn**	**13 52 52.9**	**-0.5**
	comp=N,2.3nm,0.2s,SNR=15							
ETOR	**Torete**	**9.00**	**61**	P		**Pn**	**13 52 57.1**	**+0.9**
	comp=N,32nm,0.2s,SNR=47							
ETOR				S		Sn	13 54 34.0	-3.7
	comp=N,4.4nm,0.2s,SNR=7.9							
ETOR	**Torete**	**9.00**	**61**	P		**Pn**	**13 52 57.1**	**+0.9**
	comp=N,32nm,0.2s,SNR=47							
ELAN	**Lanestosa**	**9.38**	**45**	P		**Pn**	**13 53 02.9**	**+1.7**
	comp=N,0.8nm,0.2s,SNR=7.5							
ELAN				S		Sn	13 54 42.5	-4.1
	comp=N,1.7nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**9.38**	**45**	P		**Pn**	**13 53 02.9**	**+1.7**
	comp=N,0.8nm,0.2s,SNR=7.5							
ELIZ	**Elizondo**	**10.46**	**50**	P		**Pn**	**13 53 17.4**	**+1.3**
	comp=N,5.7nm,0.2s,SNR=12							
ELIZ	**Elizondo**	**10.46**	**50**	P		**Pn**	**13 53 17.4**	**+1.3**
	comp=N,5.7nm,0.2s,SNR=12							
IELO	**Elcoad**	**10.47**	**52**	P		**Pn**	**13 53 18.0**	**+1.8**
	comp=N,5.6nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**10.47**	**52**	P		**Pn**	**13 53 18.0**	**+1.8**
	comp=N,5.6nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	**10.50**	**49**	P		**Pn**	**13 53 18.5**	**+1.9**
	comp=N,4.0nm,0.4s,SNR=5.5							
EALK	**Alkurruntz**	**10.50**	**49**	P		**Pn**	**13 53 18.5**	**+1.9**
	comp=N,4.0nm,0.4s,SNR=5.5							
SJPF	**Ste Jean**	**10.62**	**51**	*e*P		**Pn**	**13 53 19.5**	**+1.3**
SJPF				*e*Sn		Sn	13 55 07.1	-10
	comp=N,2.0nm,0.3s							
SJPF	**Ste Jean**	**10.62**	**51**	P		**Pn**	**13 53 19.5**	**+1.3**
ETSF	**Etsaut**	**10.93**	**53**	*e*P		**Pn**	**13 53 23.8**	**+1.3**
ETSF				*e*Sn		Sn	13 55 14.9	-10
	comp=N,0.7nm,0.3s							
ETSF	**Etsaut**	**10.93**	**53**	P		**Pn**	**13 53 23.8**	**+1.3**
ATE	**Arette**	**10.93**	**52**	P		**Pn**	**13 53 24.5**	**+2.0**
	comp=N,1.3nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**11.28**	**55**	P		**Pn**	**13 53 29.0**	**+1.5**
	comp=N,2.3nm,0.3s,SNR=12							
EBIE	**Bielsa**	**11.28**	**55**	P		**Pn**	**13 53 29.0**	**+1.5**
	comp=N,2.3nm,0.3s,SNR=12							
EPF	**Esparros**	**11.57**	**54**	*e*P		**Pn**	**13 53 32.9**	**+1.6**
EPF				*e*Sn		Sn	13 55 29.0	-12
	comp=N,0.9nm,0.3s							
EPF	**Esparros**	**11.57**	**54**	P		**Pn**	**13 53 32.9**	**+1.6**
LFF	**La Frestale**	**12.80**	**47**	*e*P		**Pn**	**13 53 49.0**	**+0.9**
LFF	**La Frestale**	**12.80**	**47**	P		**Pn**	**13 53 49.0**	**+0.9**
MTLF	**Montolieu**	**12.94**	**55**	*e*Pn		Pn	13 53 47.6	-2.3
RJF	**Les Rejaudoux**	**13.46**	**47**	*e*P		**Pn**	**13 53 56.9**	**-0.2**
RJF	**Les Rejaudoux**	**13.46**	**47**	P		**Pn**	**13 53 56.9**	**-0.2**
CAF	**Calviac**	**13.59**	**49**	*e*P		**Pn**	**13 53 58.5**	**-0.4**
CAF	**Calviac**	**13.59**	**49**	P		**Pn**	**13 53 58.5**	**-0.4**

TAP 19 13:54:40.2, 23.75N×121.61E, h36km, ML3.6, 15C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.07**	**241**	⇑*i*P	Pn	13 54 46.4	+0.2
	baz=236						
TEGC				S	Sn	13 54 51.3	+1.0
	baz=236						
ESF	**Shoufeng Towns**	**0.16**	**323**	P	Pn	13 54 46.7	-2.7
	baz=308						
ESF				S	Sn	13 54 51.7	-6.1
	baz=308						
ESL	**Shilin**	**0.18**	**293**	⇑*i*P	Pn	13 54 46.6	-2.4
	baz=293						
ESL				*e*S	Sn	13 54 50.8	-6.1
	baz=293						
HWA	**Hwalien**	**0.23**	**359**	P	Pn	13 54 47.5	-0.8
	baz=3.0						
HWA				S	Sn	13 54 53.3	-2.0
	baz=3.0						
TWD	**Chiawan**	**0.33**	**358**	⇑P	Pn	13 54 48.4	-0.2
	baz=349						
TWD				S	Sn	13 54 54.5	-0.5
	baz=349						
TWF1	**Yuli**	**0.49**	**216**	⇑*i*P	Pn	13 54 50.2	-0.4
	baz=227						
TWF1				*e*S	Sn	13 54 56.9	-1.0
	baz=227						
WHF	**Hehuan Shan**	**0.51**	**322**	⇑*i*P	Pn	13 54 51.8	+0.3
	baz=328						
TWT	**Tachien**	**0.64**	**322**	⇑*i*P	Pn	13 54 53.4	+0.2
	baz=314						
TWT				*i* S	Sn	13 55 02.0	-0.3
	baz=314						
YUS	**Yu-Shan**	**0.66**	**247**	⇑*i*P	Pn	13 54 54.0	+0.2
	baz=247						
YUS				S	Sn	13 55 02.3	-1.0
	baz=247						
SMLT	**Sun Moon Lake**	**0.67**	**282**	⇑*i*P	Pn	13 54 53.5	+0.2
	baz=284						
SMLT				S	Sn	13 55 03.4	+0.7
	baz=284						
CHKT	**Chengkung**	**0.68**	**199**	*e*P	Pn	13 54 53.4	0.0
	baz=187						
CHKT				*e*S	Sn	13 55 03.9	+1.1
	baz=187						
ENA	**Nanau**	**0.69**	**10**	⇑P	Pn	13 54 53.4	-0.2
	baz=17						
TYC	**Yuchr**	**0.71**	**283**	⇑*i*P	Pn	13 54 54.1	+0.3
	baz=287						
TYC				S	Sn	13 55 03.7	+0.3
	baz=287						
NNS	**Nan Shan**	**0.72**	**343**	*e*P	Pn	13 54 54.0	-0.1
	baz=341						
NNS				*e*S	Sn	13 55 03.4	-0.7
	baz=341						
ALS	**Alishan**	**0.78**	**253**	⇑*i*P	Pn	13 54 55.7	+0.7
	baz=253						
ALS				*e*S	Sn	13 55 05.8	0.0
	baz=253						
ELDTW	**Lidau**	**0.78**	**225**	*e*P	Pn	13 54 54.3	-0.5
	baz=219						
WNT	**Mingjian**	**0.86**	**279**	⇑*i*P	Pn	13 54 57.2	+1.4
	baz=278						
WNT				S	Sn	13 55 09.3	+2.1
	baz=278						
CHN5	**Tsauling**	**0.87**	**260**	⇑*i*P	Pn	13 54 57.2	+1.1
	baz=261						
CHN5				S	Sn	13 55 09.2	+1.6
	baz=261						
TWC	**Suao**	**0.89**	**14**	*e*P	Pn	13 54 56.6	+0.4
	baz=25						
TWC				*e*S	Sn	13 55 09.2	+1.4
	baz=25						
ENTT	**Nioudou**	**0.89**	**357**	*e*P	Pn	13 54 56.4	+0.1
	baz=355						
ENTT				*e*S	Sn	13 55 08.4	+0.3
	baz=355						
TCU	**Taichung**	**0.94**	**295**	P	Pn	13 54 58.8	+1.9
	baz=294						
TCU				*e*S	Sn	13 55 11.8	+2.6
	baz=294						
NSK	**Sanguang**	**0.95**	**346**	⇑*i*P	Pn	13 54 57.7	+0.5
	baz=352						
NSK				*i* S	Sn	13 55 09.7	0.0
	baz=352						
WGK	**Gukeng**	**0.96**	**267**	*e*P	Pn	13 54 58.4	+1.2
	baz=266						
WGK				*e*S	Sn	13 55 11.9	+2.2
	baz=266						
TWQ1	**Liyutan**	**0.97**	**308**	⇑*i*P	Pn	13 54 59.2	+1.8
	baz=306						
TWQ1				*e*S	Sn	13 55 12.2	+2.2
	baz=306						
STYT	**Tauyuan**	**0.97**	**234**	*e*P	Pn	13 54 58.2	+0.7
	baz=230						
STYT				*e*S	Sn	13 55 11.1	+1.0
	baz=230						
NSY	**Sanyi**	**1.02**	**311**	P	Pn	13 54 59.8	+1.7
	baz=309						
NSY				S	Sn	13 55 13.8	+2.5
	baz=309						
WTP	**Ta-pu**	**1.04**	**242**	*i* P	Pn	13 54 59.9	+1.5
	baz=243						
WTP				*e*S	Sn	13 55 13.8	+2.1
	baz=243						
NSTT	**Nanjuang**	**1.04**	**328**	P	Pn	13 54 59.9	+1.6
	baz=325						
NSTT				*e*S	Sn	13 55 12.6	+0.9
	baz=325						
TWG	**Pinlang**	**1.04**	**208**	*e*P	Pn	13 54 57.5	-0.9
	baz=197						
CHY	**Chiayi**	**1.12**	**257**	*e*P	Pn	13 55 01.0	+1.7
	baz=258						
CHY				*e*S	Sn	13 55 16.1	+2.7
	baz=258						
TWK	**Hsinying**	**1.14**	**245**	*e*P	Pn	13 55 01.3	+1.6
	baz=246						
TWK				*e*S	Sn	13 55 16.3	+2.2
	baz=246						
CHN1	**Nanshi**	**1.14**	**241**	P	Pn	13 55 01.8	+2.1
	baz=242						
CHN1				*e*S	Sn	13 55 16.6	+2.5
	baz=242						
SGST	**Jiashian**	**1.15**	**235**	*e*P	Pn	13 55 01.5	+1.7
	baz=230						
SGST				*e*S	Sn	13 55 17.4	+3.0
	baz=230						
WTCT	**Ta-ch'eng**	**1.22**	**276**	*e*P	Pn	13 55 02.4	+1.6
	baz=275						
WTCT				*e*S	Sn	13 55 19.1	+3.0
	baz=275						
WSF	**Szhu**	**1.28**	**265**	*e*P	Pn	13 55 03.0	+1.4
	baz=266						
NCU	**National Centr**	**1.28**	**342**	*e*P	Pn	13 55 03.6	+2.0
	baz=338						
NCU				*e*S	Sn	13 55 20.2	+2.7
	baz=338						
ECL	**Taimali**	**1.29**	**208**	*e*P	Pn	13 55 01.1	-0.7
	baz=198						
TWB1	**Santiao Chiao**	**1.30**	**15**	*e*P	Pn	13 55 03.5	+1.6
	baz=14						
CHN3	**Shinhua**	**1.32**	**240**	*e*P	Pn	13 55 04.7	+2.5
	baz=242						
CHN3				*e*S	Sn	13 55 22.8	+4.2
	baz=242						
NWF	**Wu-fen Shan**	**1.33**	**7**	*e*P	Pn	13 55 04.0	+1.6
	baz=5.0						
SSD	**Sandimen**	**1.34**	**222**	*e*P	Pn	13 55 03.5	+1.1
	baz=225						
SSD				*e*S	Sn	13 55 22.1	+3.0
	baz=225						
CHN8	**Yiju**	**1.34**	**253**	*e*P	Pn	13 55 03.9	+1.4
	baz=254						
CHN8				*e*S	Sn	13 55 21.9	+2.8
	baz=254						
TWS1	**Kuangyinshan**	**1.36**	**353**	*e*P	Pn	13 55 04.6	+1.9
	baz=359						
TWS1				*e*S	Sn	13 55 22.2	+2.7
	baz=359						
SCLT	**Jiali**	**1.42**	**247**	*e*P	Pn	13 55 06.2	+2.7
	baz=248						
TWM1	**Shoushan**	**1.43**	**230**	*e*P	Pn	13 55 06.5	+2.9
	baz=232						
SGLT	**Jiouru**	**1.45**	**226**	*e*P	Pn	13 55 05.0	+1.1
	baz=216						
EAST	**Anshuo**	**1.53**	**208**	*e*P	Pn	13 55 06.2	+1.2
	baz=200						
SCZT	**Fangliau**	**1.64**	**214**	*e*P	Pn	13 55 09.0	+2.4
	baz=216						
TWK1	**Hengchun**	**1.94**	**203**	*e*P	Pn	13 55 13.2	+2.6
	baz=193						

*ISCJB **19** 13:59:42.4±1.1, 50.5N±0.1×173.26W±0.06, h33km, mb3.5/4, Error ellipse: s-maj=17.5km s-min=5.1km az=10.6*
*NEIC **19** 13:59:43.1, 50.53N×173.30W, h11km, ML3.4(AEIC), After AEIC.*
*IDC **19** 13:59:47.4±1.5, 50.78N×171.87W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.5/29, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=67.4km s-min=27.1km az=136.0*
ISC 19 13:59:44.8±1.6, 50.5N±0.2×173.30W±0.05, h35km, n23, σ0.69/28, mb3.5/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**2.29**	**312**	P	**Pn**	**14 00 19.3**	**-0.8**
GSMY				S	**Sn**	**14 00 46.7**	**-0.5**
GSCK	**Great Sitkin C**	**2.33**	**311**	P	**Pn**	**14 00 19.7**	**-0.9**
GSCK				S	**Sn**	**14 00 48.4**	**+0.5**
GSTD	**Great Sitkin T**	**2.34**	**312**	P	**Pn**	**14 00 20.1**	**-0.8**
GSTD				S	**Sn**	**14 00 49.2**	**+0.7**
ETKA	**Kagalaska Isla**	**2.36**	**305**	P	**Pn**	**14 00 20.1**	**-0.9**
ETKA				S	**Sn**	**14 00 49.5**	**+0.7**
ADAG	**Mount Adagdak**	**2.53**	**306**	P	**Pn**	**14 00 23.3**	**0.0**
KIRH	**Kanaga Island**	**2.75**	**301**	P	**Pn**	**14 00 25.6**	**-0.8**
KINC	**Kanaga Island**	**2.78**	**302**	P	**Pn**	**14 00 26.1**	**-0.7**
KINC				S	**Sn**	**14 00 59.6**	**+0.5**
TAPA	**Tanaga Point A**	**3.11**	**296**	P	**Pn**	**14 00 30.7**	**-0.8**
TAFP	**Tanaga Falls P**	**3.24**	**297**	P	**Pn**	**14 00 32.7**	**-0.5**
TAFP				S	**Sn**	**14 01 10.9**	**+0.4**
TASE	**Tanaga Southea**	**3.25**	**295**	P	**Pn**	**14 00 33.0**	**-0.3**
GANE	**Gareloi Northe**	**3.68**	**293**	P	**Pn**	**14 00 38.5**	**-0.6**
NIKH	**Nikolski High**	**3.69**	**47**	P	**Pn**	**14 00 38.5**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**4.33**	**47**	P	**Pn**	**14 00 47.5**	**-0.6**
UNV	**Unalaska Valle**	**5.34**	**49**	P	**Pn**	**14 01 01.6**	**-0.2**
ILAR	**Eielson Array**	**19.85**	**34**	P	**P**	**14 04 12.0**	**-0.5**
ILAR	**Eielson Array**	**19.85**	**34**	P	**P**	**14 04 12.0**	**-0.5**
	0.2nm,0.3s,baz=230,slow=9.4,SNR=18						
INK	**Inuvik**	**26.23**	**33**	P	**P**	**14 05 17.2**	**+1.3**
INK	**Inuvik**	**26.23**	**33**	P	**P**	**14 05 17.2**	**+1.3**
	0.8nm,0.8s,baz=236,slow=6.2,SNR=5.8						
YKA	**Yellowknife Ar**	**33.30**	**46**	P	**P**	**14 06 18.8**	**+0.2**
YKA	**Yellowknife Ar**	**33.30**	**46**	P	**P**	**14 06 18.8**	**+0.2**
	0.3nm,0.7s,baz=274,slow=7.4,SNR=4.2						
PDAR	**Pinedale Array**	**43.22**	**75**	P	**P**	**14 07 42.4**	**-0.2**
PDAR	**Pinedale Array**	**43.22**	**75**	P	**P**	**14 07 42.4**	**-0.2**
	1.5nm,0.7s,baz=298,slow=4.4,SNR=11						
WRA	**Warramunga Arr**	**83.94**	**229**	P	P	14 12 23.5	+12
	0.6nm,1.0s,baz=28,slow=6.0,SNR=2.6						

TAP 19 14:01:56.0, 22.96N×121.32E, h49km, ML2.7, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.14**	**16**	P	Pn	14 02 04.0	+0.1
	baz=18						
CHKT				S	Sn	14 02 10.1	+0.5
	baz=18						
TWG	**Pinlang**	**0.27**	**239**	P	Pn	14 02 04.7	-0.1
	baz=234						
TWG				*i* S	Sn	14 02 11.0	-0.1
	baz=234						
ELDTW	**Lidau**	**0.36**	**309**	P	Pn	14 02 05.8	-0.1
	baz=310						
ELDTW				*e*S	Sn	14 02 12.7	-0.1
	baz=310						
TWF1	**Yuli**	**0.39**	**356**	*e*P	Pn	14 02 05.2	-0.8
	baz=351						
TWF1				*e*S	Sn	14 02 11.5	-1.7
	baz=351						
ECL	**Taimali**	**0.50**	**223**	*i* P	Pn	14 02 06.9	-0.2
	baz=220						
ECL				S	Sn	14 02 15.0	-0.2
	baz=220						
STYT	**Tauyuan**	**0.56**	**291**	P	Pn	14 02 09.5	+1.4
	baz=292						
STYT				S	Sn	14 02 17.8	+1.1
	baz=292						
SSD	**Sandimen**	**0.67**	**252**	*e*P	Pn	14 02 10.5	+1.1
	baz=252						
SGST	**Jiashian**	**0.69**	**280**	*e*P	Pn	14 02 10.4	+0.8
	baz=285						
SGST				*e*S	Sn	14 02 22.2	+2.7
	baz=285						
WTP	**Ta-pu**	**0.71**	**294**	P	Pn	14 02 11.6	+1.6
	baz=294						
WTP				*e*S	Sn	14 02 22.3	+2.2
	baz=294						
EAST	**Anshuo**	**0.72**	**217**	*e*P	Pn	14 02 12.2	+2.1
	baz=217						
ALS	**Alishan**	**0.73**	**319**	*e*P	Pn	14 02 11.8	+1.3
	baz=320						
ALS				*e*S	Sn	14 02 22.6	+1.6
	baz=320						
CHN1	**Nanshi**	**0.77**	**287**	*e*P	Pn	14 02 12.1	+1.5
	baz=287						
CHN1				*e*S	Sn	14 02 24.2	+2.9
	baz=287						
TWK	**Hsinying**	**0.83**	**292**	*e*P	Pn	14 02 12.6	+1.1
	baz=292						
TWK				*e*S	Sn	14 02 25.0	+2.2
	baz=292						
CHN5	**Tsauling**	**0.87**	**317**	*e*P	Pn	14 02 13.7	+1.6
	baz=318						
SCZT	**Fangliau**	**0.87**	**228**	*e*P	Pn	14 02 14.6	+2.6
	baz=224						

*ISCJB **19** 14:02:22.3±0.5, 14.81N±0.06×93.32W±0.03, h52km±6km, mb4.0/11, Error ellipse: s-maj=10.2km s-min=3.5km az=26.7*
*MEX **19** 14:02:22.7±0.3, 14.75N×93.36W, h5km±5km, MD4.4*
*NEIC **19** 14:02:22.8, 14.74N×93.36W, h6km, mb4.1/8, MD4.5(MEX), After MEX.*
*IDC **19** 14:02:23.6±1.7, 14.75N×93.15W, h55km±6km, mb3.6/7, mb1 3.9/10, mb1mx3.6/27, mbtmp3.9/10, Error ellipse: s-maj=38.6km s-min=9.6km az=11.0*
*CASC **19** 14:02:25.8±1.2, 14.65N×93.17W, h30km, MD4.2*
ISC 19 14:02:24.2±0.7, 14.87N±0.06×93.28W±0.03, h53km±6km, n42, σ1.57/61, mb3.9/11, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.83**	**4**	*e*P	**Pn**	**14 02 39.0**	**-0.8**
PCIG				*e*S	**Sn**	**14 02 51.4**	**+0.2**
PCIG		**0.83**	**4**	*e*P	**Pn**	**14 02 39.0**	**-0.8**
PCIG				*e*S	**Sn**	**14 02 51.4**	**+0.2**
THIG		**0.98**	**88**	*e*P	**Pn**	**14 02 40.2**	**-1.5**
THIG				*e*S	**Sn**	**14 02 54.2**	**-0.5**
THIG		**0.98**	**88**	*e*P	**Pn**	**14 02 40.2**	**-1.5**
THIG				*e*S	**Sn**	**14 02 54.2**	**-0.5**
JAT	**Jato**	**1.68**	**109**	*e*P	**Pn**	**14 02 51.4**	**+0.2**
PCG	**Pacaya**	**2.63**	**100**	*e*P	**Pn**	**14 03 04.8**	**+0.3**
PCG				*e*S	**Sn**	**14 03 35.5**	**+0.2**
APG	**El Apazote**	**2.72**	**87**	P	**Pn**	**14 03 03.2**	**-2.5**
APG				S	**Sn**	**14 03 35.5**	**-2.0**
NBG	**Las Nubes**	**2.85**	**95**	*e*P	**Pn**	**14 03 10.0**	**+2.5**
HUIG	**Huatulco**	**2.87**	**288**	*e*P	**Pn**	**14 03 05.8**	**-1.8**
HUIG				*e*S	**Sn**	**14 03 39.6**	**-1.4**
HUIG	**Huatulco**	**2.87**	**288**	*e*P	**Pn**	**14 03 05.8**	**-1.8**
HUIG				*e*S	**Sn**	**14 03 39.6**	**-1.4**
TUIG	**Tuzandepetl**	**3.33**	**341**	*i* P	**Pn**	**14 03 14.0**	**+0.1**
TUIG				*i* S	**Sn**	**14 03 53.8**	**+1.6**
MRL	**Marmol**	**3.47**	**86⇑**	*e*P	**Pn**	**14 03 17.1**	**+1.1**
RTR	**El Retiro**	**3.65**	**105**	*e*P	**Pn**	**14 03 18.6**	**+0.2**
SBLS	**San Blas**	**3.69**	**106**	*e*P	**Pn**	**14 03 18.8**	**-0.2**
SBLS				*e*S	**Sn**	**14 04 00.8**	**-0.5**
SNJE	**San Jose**	**3.69**	**105**	*e*P	**Pn**	**14 03 19.2**	**+0.1**
SNJE				*e*S	**Sn**	**14 04 01.9**	**+0.4**
VHO	**Vista Hermosa**	**3.98**	**304**	*e*P	**Pn**	**14 03 21.3**	**-1.6**
VHO				*i* S	**Sn**	**14 04 09.2**	**+0.7**
BOQS	**Boqueron**	**4.04**	**106**	*e*P	**Pn**	**14 03 24.3**	**+0.6**
LFRS	**El Faro**	**4.27**	**106**	*e*P	**Pn**	**14 03 27.1**	**+0.3**
LFRS				*e*S	**Sn**	**14 04 15.0**	**-0.5**
PNIG	**Pinotepa**	**4.91**	**289**	*e*P	**Pn**	**14 03 34.7**	**-0.9**
PNIG				*e*S	**Sn**	**14 04 30.0**	**-1.2**
PNIG	**Pinotepa**	**4.91**	**289**	*e*P	**Pn**	**14 03 34.7**	**-0.9**
PNIG				*e*S	**Sn**	**14 04 30.0**	**-1.2**
TEIG	**Tepich**	**7.15**	**41**	*e*Pn	**Pn**	**14 04 04.4**	**-1.8**
TEIG	**Tepich**	**7.15**	**41**	P	**Pn**	**14 04 05.0**	**-1.1**
	31nm,0.3s,baz=231,slow=0.4,SNR=33						
TEIG				S	**Sn**	**14 05 21.2**	**-4.8**
	17nm,0.3s,baz=330,slow=23,SNR=8.5						
JTS	**JuntasAbangare**	**9.31**	**118**	*e*Pn	**Pn**	**14 04 37.1**	**+1.2**
JTS	**JuntasAbangare**	**9.31**	**118**	P	**Pn**	**14 04 34.9**	**-1.1**
	0.3nm,0.3s,baz=289,slow=17,SNR=2.5						
JTS				S	**Sn**	**14 06 21.1**	**+1.8**
	0.4nm,0.3s,baz=300,slow=20,SNR=1.9						
TXAR	**Lajitas Array**	**17.30**	**328**	P	**P**	**14 06 23.5**	**+0.6**
	0.1nm,0.3s,baz=145,slow=11,SNR=7.6						
MIAR	**Mount Ida**	**19.59**	**359**	*e*P	**P**	**14 06 48.1**	**+0.1**
	18nm,1.0s						
GDL2	**Guadalupe Moun**	**20.00**	**332**	*e*P	**Pn**	**14 06 55.5**	**+0.8**
	7.4nm,0.9s						
MNTX	**Cornudas Mount**	**20.07**	**329**	*e*P	Pn	14 06 55.9	+0.4
	3.1nm,1.1s						
WMOK	**Wichita Mounta**	**20.39**	**347**	*e*P	**P**	**14 06 55.5**	**-1.2**
	6.7nm,0.9s						
LPM	**Los Pinos Moun**	**22.80**	**330**	P	P	14 07 29.4	+6.6
	6.5nm,1.0s						
LAZ	**Ladron**	**23.12**	**330**	*e*P	**P**	**14 07 30.6**	**+4.5**
	3.5nm,1.1s						
ANMO	**Albuquerque**	**23.24**	**332**	P	**P**	**14 07 30.0**	**+2.8**
	2.4nm,0.9s,baz=140,slow=14,SNR=5.3						
PDAR	**Pinedale Array**	**31.12**	**336**	P	**P**	**14 08 39.5**	**+1.5**
	0.4nm,0.9s,baz=134,slow=7.7,SNR=2.7						
NVAR	**Mina Array Bea**	**32.22**	**321**	P	**P**	**14 08 49.6**	**+1.9**
	0.9nm,0.8s,baz=130,slow=8.4,SNR=9.1						
NVAR				pP	**pP**	**14 09 04.2**	**+2.8**
	1.8nm,0.7s,baz=132,slow=9.1,SNR=10						
MCMT	**McKenzie Canyo**	**34.16**	**335**	*e*P	**P**	**14 09 06.7**	**+2.1**
	3.2nm,0.8s						
MCMT				*e*		14 09 20.6	
LRM	**Limekiln Ridge**	**34.82**	**336**	*e*P	**P**	**14 09 11.7**	**+1.4**
	28nm,1.0s						
LRM				*e*		14 09 25.1	
YKA	**Yellowknife Ar**	**49.90**	**347**	P	**P**	**14 11 11.2**	**-1.0**
	0.4nm,0.4s,baz=154,slow=7.3,SNR=14						
YKA				pP	**pP**	**14 11 26.2**	**-0.3**
	0.8nm,0.6s,baz=150,slow=7.4,SNR=7.7						
DLBC	**Dease Lake**	**51.36**	**336**	pP	pP	14 11 38.7	+1.0
	3.5nm,0.7s,baz=135,slow=9.3,SNR=7.3						
INK	**Inuvik**	**59.26**	**344**	P	**P**	**14 12 19.3**	**-0.6**
	2.9nm,1.1s,baz=132,slow=9.7,SNR=5.4						
INK				pP	**pP**	**14 12 34.6**	**+0.1**
	2.9nm,0.6s,baz=135,slow=8.1,SNR=6.6						
ILAR	**Eielson Array**	**61.55**	**337**	P	**P**	**14 12 36.4**	**+0.8**
	0.8nm,0.8s,baz=153,slow=4.4,SNR=12						
ILAR				pP	**pP**	**14 12 50.8**	**+0.5**
	1.9nm,1.0s,baz=128,slow=5.1,SNR=3.5						
ARCES	**ARCESS Array B**	**85.70**	**18**	P	**P**	**14 14 55.3**	**-1.8**
	2.5nm,1.0s,baz=306,slow=5.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**144.76**	**340**	PKP	**PKPab**	**14 21 54.3**	**-0.6**
	1.5nm,0.8s,baz=335,slow=3.4,SNR=11						
CMAR				pPKP	**pPKPdf**	**14 22 10.2**	**-2.0**
	2.5nm,0.8s,baz=342,slow=3.2,SNR=8.6					

CHKT				S		Sb	14 06 26.2	+1.0
	baz=187							
SMLT	**Sun Moon Lake**	**0.68**	**282**	⇑*i*	P	**Pn**	**14 06 15.5**	**-0.4**
	baz=284							
SMLT				*e*	S	**Sn**	**14 06 25.8**	**+0.4**
	baz=284							
ENA	**Nanau**	**0.69**	**9**	*e*	P	**Pn**	**14 06 15.3**	**-0.6**
	baz=355							
ENA				*e*	S	**Sb**	**14 06 25.8**	**+0.1**
	baz=355							
TYC	**Yuchr**	**0.72**	**283**	⇑*i*	P	**Pn**	**14 06 16.1**	**-0.3**
	baz=287							
TYC				S		**Sn**	**14 06 26.5**	**+0.2**
	baz=287							
NNS	**Nan Shan**	**0.73**	**342**	*e*	P	**Pn**	**14 06 15.9**	**-0.8**
	baz=347							
NNS				*e*	S	**Sn**	**14 06 25.3**	**-1.5**
	baz=347							
ELDTW	**Lidau**	**0.78**	**226**	P		**Pb**	**14 06 16.3**	**-1.0**
	baz=222							
ELDTW				*e*	S	**Sn**	**14 06 27.2**	**-0.7**
	baz=222							
ALS	**Alishan**	**0.79**	**253**	⇑	P	**Pn**	**14 06 17.8**	**+0.3**
	baz=253							
ALS				S		**Sn**	**14 06 28.1**	**-0.2**
	baz=253							
WNT	**Mingjian**	**0.87**	**279**	⇑*i*	P	**Pb**	**14 06 19.4**	**+0.2**
	baz=279							
CHN5	**Tsauling**	**0.88**	**261**	⇑	P	**Pb**	**14 06 19.3**	**-0.1**
	baz=261							
CHN5				S		**Sn**	**14 06 31.0**	**+0.7**
	baz=261							
TWC	**Suao**	**0.89**	**13**	*e*	P	**Pn**	**14 06 19.1**	**+0.4**
	baz=360							
TWC				S		**Sb**	**14 06 31.0**	**-0.1**
	baz=360							
ENTT	**Nioudou**	**0.90**	**357**	*e*	P	**Pn**	**14 06 18.5**	**-0.3**
	baz=355							
ENTT				*e*	S	**Sn**	**14 06 29.1**	**-1.5**
	baz=355							
TCU	**Taichung**	**0.96**	**295**	P		**Pb**	**14 06 20.6**	**-0.1**
	baz=294							
TCU				*e*	S	**Sb**	**14 06 33.6**	**+0.5**
	baz=294							
NSK	**Sanguang**	**0.96**	**345**	⇑*i*	P	**Pn**	**14 06 19.6**	**-0.1**
	baz=352							
WGK	**Gukeng**	**0.98**	**267**	*e*	P	**Pn**	**14 06 20.3**	**+0.5**
	baz=266							
WGK				*e*	S	**Sb**	**14 06 33.7**	**+0.1**
	baz=266							
STYT	**Tauyuan**	**0.98**	**234**	P		**Pn**	**14 06 20.1**	**+0.1**
	baz=230							
TWQ1	**Liyutan**	**0.99**	**308**	⇑*i*	P	**Pb**	**14 06 21.2**	**+0.1**
	baz=306							
TWQ1				*e*	S	**Sb**	**14 06 34.5**	**+0.6**
	baz=306							
CHN4	**Tsaushan**	**1.02**	**248**	*e*	P	**Pn**	**14 06 21.2**	**+0.7**
	baz=248							
NSY	**Sanyi**	**1.04**	**311**	*e*	P	**Pb**	**14 06 21.8**	**-0.2**
	baz=309							
NSY				*e*	S	**Sb**	**14 06 36.1**	**+0.8**
	baz=309							
TWG	**Pinlang**	**1.05**	**209**	*e*	P	**Pn**	**14 06 21.2**	**+0.3**
	baz=195							
TWG				*e*	S	**Sn**	**14 06 32.7**	**-1.6**
	baz=195							
WTP	**Ta-pu**	**1.05**	**242**	*e*	P	**Pb**	**14 06 21.8**	**-0.4**
	baz=243							
WTP				*e*	S	**Sn**	**14 06 34.4**	**-0.1**
	baz=243							
NSTT	**Nanjuang**	**1.05**	**327**	*e*	P	**Pb**	**14 06 21.9**	**-0.4**
	baz=325							
NSTT				*e*	S	**Sn**	**14 06 35.1**	**+0.5**
	baz=325							
CHY	**Chiayi**	**1.13**	**258**	*e*	P	**Pb**	**14 06 23.1**	**-0.3**
	baz=258							
TWK	**Hsinying**	**1.15**	**246**	*e*	P	**Pn**	**14 06 23.0**	**+0.8**
	baz=246							
TWK				*e*	S	**Sn**	**14 06 37.8**	**+1.0**
	baz=246							
CHN1	**Nanshi**	**1.15**	**242**	*e*	P	**Pn**	**14 06 22.8**	**+0.5**
	baz=242							
CHN1				*e*	S	**Sb**	**14 06 38.1**	**-0.4**
	baz=242							
SGST	**Jiashian**	**1.16**	**236**	*e*	P	**Pn**	**14 06 23.2**	**+0.8**
	baz=236							
WTCT	**Ta-ch'eng**	**1.24**	**276**	*e*	P	**Pb**	**14 06 24.6**	**-0.7**
	baz=275							
WTCT				*e*	S	**Sb**	**14 06 41.9**	**+0.9**
	baz=275							
WSF	**Szhu**	**1.29**	**266**	*e*	P	**Pn**	**14 06 25.1**	**+0.9**
	baz=266							
ECL	**Taimali**	**1.29**	**209**	*e*	P	**Pn**	**14 06 24.6**	**+0.4**
	baz=198							
ECL				*e*	S	**Sn**	**14 06 40.6**	**+0.2**
	baz=198							
TWB1	**Santiao Chiao**	**1.31**	**15**	*e*	P	**Pn**	**14 06 25.1**	**+0.7**
	baz=1.0							
TWB1				*e*	S	**Sb**	**14 06 42.2**	**-0.7**
	baz=1.0							
CHN3	**Shinhua**	**1.33**	**241**	*e*	P	**Pb**	**14 06 26.0**	**-0.9**
	baz=241							
NWF	**Wu-fen Shan**	**1.33**	**6**	*e*	P	**Pn**	**14 06 25.7**	**+0.8**
	baz=351							
NWF				*e*	S	**Sn**	**14 06 42.2**	**+0.7**
	baz=351							
SSD	**Sandimen**	**1.35**	**223**	*e*	P	**Pn**	**14 06 25.9**	**+0.9**
	baz=224							
CHN8	**Yiju**	**1.36**	**254**	*e*	P	**Pn**	**14 06 25.4**	**+0.3**
	baz=254							
CHN8				*e*	S	**Sb**	**14 06 43.7**	**-0.6**
	baz=254							
TWS1	**Kuangyinshan**	**1.37**	**352**	*e*	P	**Pb**	**14 06 26.8**	**-0.7**
	baz=351							
TWM1	**Shoushan**	**1.43**	**231**	*e*	P	**Pb**	**14 06 28.5**	**-0.2**
	baz=232							
YOJ	**Yonaguni jima**	**1.46**	**60**	P		**Pn**	**14 06 27.0**	**+0.5**
EAST	**Anshuo**	**1.53**	**208**	*e*	P	**Pn**	**14 06 28.1**	**+0.6**
	baz=200							
SCZT	**Fangliau**	**1.65**	**214**	*e*	P	**Pn**	**14 06 29.9**	**+0.8**
	baz=216							
IRIF	**Iriomote-Funau**	**2.01**	**72**	P		**Pn**	**14 06 34.5**	**+0.4**
IRIF				*e*	S	**Sn**	**14 06 58.6**	**+0.4**
HATJ	**Hateruma jima**	**2.02**	**81**	P		**Pn**	**14 06 34.4**	**+0.2**
JKRS	**Kuro-shima**	**2.24**	**77**	P		**Pn**	**14 06 38.3**	**+1.1**
JIJ	**Ishigaki jima**	**2.38**	**74**	P		**Pn**	**14 06 39.2**	**0.0**
JIJ				*e*	S	**Sn**	**14 07 06.6**	**-0.7**
JTJ	**Tarama**	**2.95**	**72**	P		**Pn**	**14 06 47.3**	**+0.3**
JTJ				*e*	S	**Sn**	**14 07 21.2**	**-0.1**

TAP 19 14:06:14.2, 23°.82N×121°.63E, h44km, ML3.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESF	**Shoufeng Towns**	**0.12**	**293**	P	Pn	14 06 21.4	-0.1
	baz=293						
ESF				*e* S	Sn	14 06 26.6	+0.1
	baz=293						
TEGC	**Jichi Village**	**0.14**	**216**	*e* P	Pn	14 06 21.6	+0.1
	baz=222						
TEGC				*e* S	Sn	14 06 27.8	+1.1
	baz=222						
HWA	**Hwalien**	**0.15**	**352**	*e* P	Pn	14 06 21.8	+0.2
	baz=354						
ESL	**Shilin**	**0.18**	**267**	P	Pn	14 06 21.7	-0.1
ESL				S	Sn	14 06 26.8	-0.3
	baz=277						
TWD	**Chiawan**	**0.26**	**353**	*e* P	Pn	14 06 22.3	-0.1
	baz=345						
TWD				*e* S	Sn	14 06 28.7	+0.6
	baz=345						
TWF1	**Yuli**	**0.56**	**213**	*e* P	Pn	14 06 25.0	-0.9
	baz=220						
TWT	**Tachien**	**0.60**	**316**	*e* P	Pn	14 06 26.9	+0.3
	baz=315						
TWT				*e* S	Sn	14 06 35.8	+0.3
	baz=315						
NNS	**Nan Shan**	**0.66**	**339**	*e* P	Pn	14 06 27.4	+0.1
	baz=344						
SMLT	**Sun Moon Lake**	**0.67**	**275**	*e* P	Pn	14 06 27.4	-0.1
	baz=275						
TYC	**Yuchr**	**0.71**	**277**	*e* P	Pn	14 06 28.8	+1.0
	baz=277						
CHKT	**Chengkung**	**0.76**	**199**	*e* P	Pn	14 06 28.1	-0.5
	baz=190						
ALS	**Alishan**	**0.82**	**248**	*e* P	Pn	14 06 29.4	-0.3
	baz=248						
WNT	**Mingjian**	**0.87**	**274**	*e* P	Pn	14 06 31.0	+1.0
	baz=274						
NSK	**Sanguang**	**0.89**	**344**	*e* P	Pn	14 06 31.0	+0.7
	baz=343						
CHN5	**Tsauling**	**0.90**	**256**	*e* P	Pn	14 06 32.1	+1.6
	baz=256						
TWQ1	**Liyutan**	**0.94**	**304**	*e* P	Pn	14 06 32.4	+1.4
	baz=304						
NSY	**Sanyi**	**0.99**	**307**	*e* P	Pn	14 06 33.3	+1.6
	baz=306						
STYT	**Tauyuan**	**1.04**	**231**	*e* P	Pn	14 06 33.1	+0.7
	baz=224						
CHN4	**Tsaushan**	**1.06**	**244**	*e* P	Pn	14 06 34.3	+1.7
	baz=244						
TWK	**Hsinying**	**1.19**	**242**	*e* P	Pn	14 06 36.0	+1.6
	baz=243						
CHN1	**Nanshi**	**1.19**	**238**	*e* P	Pn	14 06 36.1	+1.6
	baz=239						
SGST	**Jiashian**	**1.21**	**233**	*e* P	Pn	14 06 36.4	+1.7
	baz=223						
WTCT	**Ta-ch'eng**	**1.24**	**272**	*e* P	Pn	14 06 36.6	+1.6
	baz=272						
WTCT				*e* S	Sn	14 06 54.0	+3.6
	baz=272						
WSF	**Szhu**	**1.30**	**262**	*e* P	Pn	14 06 37.0	+1.1
	baz=262						

TAP 19 14:08:59.9, 23°.84N×121°.65E, h43km, ML3.8, 2C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESF	**Shoufeng Towns**	**0.14**	**285**	P	Pn	14 09 07.1	0.0
	baz=285						
ESF				*e* S	Sn	14 09 12.3	+0.3
	baz=285						
HWA	**Hwalien**	**0.15**	**343**	P	Pn	14 09 07.2	+0.1
	baz=349						
HWA				*e* S	Sn	14 09 13.7	+1.5
	baz=349						
TEGC	**Jichi Village**	**0.16**	**219**	*e* P	Pn	14 09 07.4	+0.2
	baz=207						
TEGC				*e* S	Sn	14 09 13.6	+1.3
	baz=207						
ESL	**Shilin**	**0.20**	**264**	P	Pn	14 09 07.1	-0.4
	baz=273						
ESL				*e* S	Sn	14 09 12.4	-0.5
	baz=273						
TWD	**Chiawan**	**0.25**	**348**	P	Pn	14 09 07.9	0.0
	baz=341						
TWD				*e* S	Sn	14 09 13.6	+0.1
	baz=341						
WHF	**Hehuan Shan**	**0.47**	**311**	⇓*i*	P	14 09 11.4	+0.5
	baz=311						
EHP	**Heping Village**	**0.48**	**10**	*e*	P	14 09 10.6	+0.1
	baz=18						
TWF1	**Yuli**	**0.58**	**214**	*e*	P	14 09 11.0	-0.8
	baz=222						
ENA	**Nanau**	**0.59**	**8**	*e*	P	14 09 12.0	0.0
	baz=16						
TWT	**Tachien**	**0.60**	**314**	*e*	P	14 09 12.7	+0.4
	baz=315						
NNS	**Nan Shan**	**0.65**	**337**	*e*	P	14 09 13.0	0.0
	baz=342						
SMLT	**Sun Moon Lake**	**0.69**	**274**	*e*	P	14 09 13.7	+0.3
	baz=276						
SMLT				*e* S	Sn	14 09 25.4	+2.3
	baz=276						
YUS	**Yu-Shan**	**0.73**	**242**	P	Pn	14 09 14.6	+0.2
	baz=236						
YUS				*e* S	Sn	14 09 25.5	+0.7
	baz=236						
TYC	**Yuchr**	**0.73**	**275**	*e* P	Pn	14 09 14.1	+0.3
	baz=275						
CHKT	**Chengkung**	**0.78**	**200**	*e* P	Pn	14 09 14.7	+0.2
	baz=190						
TWC	**Suao**	**0.79**	**13**	*e* P	Pn	14 09 15.2	+0.6
	baz=18						
ENTT	**Nioudou**	**0.80**	**354**	*e* P	Pn	14 09 15.0	+0.2
	baz=354						
ALS	**Alishan**	**0.84**	**248**	*e* P	Pn	14 09 16.2	+0.6
	baz=248						
ELDTW	**Lidau**	**0.87**	**222**	*e* P	Pn	14 09 15.5	-0.3
	baz=218						
NSK	**Sanguang**	**0.88**	**342**	*e* P	Pn	14 09 16.4	+0.5
	baz=342						
WNT	**Mingjian**	**0.89**	**273**	P	Pn	14 09 17.3	+1.4
	baz=273						
CHN5	**Tsauling**	**0.92**	**255**	*e* P	Pn	14 09 17.1	+0.6
	baz=255						
TCU	**Taichung**	**0.94**	**289**	*e* P	Pn	14 09 18.3	+1.6
	baz=289						
TWQ1	**Liyutan**	**0.95**	**303**	P	Pn	14 09 18.2	+1.4
	baz=302						
TWQ1				*e* S	Sn	14 09 31.6	+2.4
	baz=302						
NSTT	**Nanjuang**	**0.99**	**323**	*e* P	Pn	14 09 18.8	+1.5
	baz=309						
NSTT				*e* S	Sn	14 09 32.3	+2.1
	baz=309						
NSY	**Sanyi**	**1.00**	**306**	P	Pn	14 09 19.0	+1.5
	baz=305						
NSY				*e* S	Sn	14 09 32.7	+2.3
	baz=305						
WGK	**Gukeng**	**1.01**	**262**	*e* P	Pn	14 09 18.9	+1.3
	baz=262						
WGK				*e* S	Sn	14 09 33.0	+2.4
	baz=262						
STYT	**Tauyuan**	**1.06**	**231**	P	Pn	14 09 19.4	+1.0
	baz=224						
STYT				*e* S	Sn	14 09 31.5	-0.5
	baz=224						
CHN4	**Tsaushan**	**1.08**	**244**	*e* P	Pn	14 09 20.1	+1.4
	baz=244						
WTP	**Ta-pu**	**1.12**	**239**	*e* P	Pn	14 09 20.3	+1.2
	baz=239						
TWG	**Pinlang**	**1.14**	**208**	*e* P	Pn	14 09 20.2	+0.8
	baz=195						
TWG				*e* S	Sn	14 09 34.1	+0.2
	baz=195						
CHY	**Chiayi**	**1.18**	**254**	*e* P	Pn	14 09 21.2	+1.4
	baz=254						
NCU	**National Centr**	**1.21**	**340**	*e* P	Pn	14 09 21.9	+1.6
	baz=338						
TWB1	**Santiao Chiao**	**1.21**	**15**	*e* P	Pn	14 09 21.0	+0.8
	baz=33						
TWB1				*e* S	Sn	14 09 36.4	+0.9
	baz=33						
TWK	**Hsinying**	**1.21**	**242**	*e* P	Pn	14 09 21.6	+1.2
	baz=243						
TWK				*e* S	Sn	14 09 37.2	+1.6
	baz=243						
CHN1	**Nanshi**	**1.22**	**238**	*e* P	Pn	14 09 21.7	+1.2
	baz=239						
NWF	**Wu-fen Shan**	**1.23**	**5**	*e* P	Pn	14 09 21.4	+0.6
	baz=353						
NWF				*e* S	Sn	14 09 35.3	-1.1
	baz=353						
SGST	**Jiashian**	**1.24**	**233**	⇑	P	14 09 22.4	+1.7
	baz=233						
WTCT	**Ta-ch'eng**	**1.26**	**272**	*e* P	Pn	14 09 22.4	+1.5
	baz=271						
TWS1	**Kuangyinshan**	**1.28**	**350**	*e* P	Pn	14 09 22.0	+0.7
	baz=348						
WSF	**Szhu**	**1.32**	**262**	*e* P	Pn	14 09 23.1	+1.3
	baz=262						
YOJ	**Yonaguni jima**	**1.39**	**63**	*e* P	Pn	14 09 23.1	+0.3
	baz=64						
ECL	**Taimali**	**1.39**	**208**	*e* P	Pn	14 09 21.3	-1.5
	baz=199						
SSD	**Sandimen**	**1.43**	**221**	*e* P	Pn	14 09 25.2	+1.8
	baz=221						
TWM1	**Shoushan**	**1.51**	**229**	*e* P	Pn	14 09 27.6	+3.1
	baz=230						
EAST	**Anshuo**	**1.62**	**207**	*e* P	Pn	14 09 26.4	+0.3
	baz=199						
SCZT	**Fangliau**	**1.74**	**213**	*e* P	Pn	14 09 29.7	+2.1
	baz=214						
KNM	**Kinmen**	**3.00**	**282**	*e* P	Pn	14 09 46.2	+1.4
	baz=280						
QZH	**Quanzhou**	**3.00**	**292**	⇑*i*	Pn	14 09 40.6	-4.3
QZH				Sn	Sn	14 10 20.8	+1.2
QZH				smax	smax		
	comp=N,610nm,0.5s						
QZH				smax	smax		
	comp=E,360nm,0.7s						

ISCJB **19** *14:09:06.4±0.2, 23°.79N±0°.01×121°.76E±0°.01, h14km, mb3.6/10, Error ellipse: s-maj=2.0km s-min=1.4km az=35.2*
TAP **19** *14:09:07.9, 23°.86N×121°.63E, h40km, ML4.5, B*
JMA **19** *14:09:07.0, 23°.80N×121°.68E, h31km, M4.3*
IDC **19** *14:09:14.1±6.5, 23°.80N×121°.67E, h112km±63km, mb3.3/10, mb1 3.5/11, mb1mx3.4/27, mbtmp3.3/11, Error ellipse: s-maj=28.3km s-min=13.5km az=77.0*
ISC 19 14:09:06.3±0.6, **23°.83N**±0°.02×**121°.70E**±0°.02, **h14**km, **n91**, σ1s**06**/140, **mb3.8**/10, **1C**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.17**	**330**	*e* P	Pb	14 09 14.8	+3.5
	baz=347						
HWA				*e* S	**Sb**	**14 09 19.6**	**+5.1**
	baz=347						
ESF	**Shoufeng Towns**	**0.18**	**284**	P	Pb	14 09 14.9	+3.5
	baz=278						
ESF				*e* S	Sb	14 09 19.8	+4.9
	baz=278						
TEGC	**Jichi Village**	**0.19**	**231**	*e* P	Pb	14 09 15.0	+3.5
	baz=210						
TEGC				*e* S	Sb	14 09 21.1	+6.1
	baz=210						
ESL	**Shilin**	**0.24**	**267**	P	**Pb**	**14 09 15.0**	**+2.5**
	baz=267						
ESL				*e* S	**Sb**	**14 09 19.3**	**+2.7**
	baz=267						
TWD	**Chiawan**	**0.27**	**340**	*e* P	**Pb**	**14 09 15.7**	**+2.8**
	baz=343						
TWD				S	**Sb**	**14 09 21.1**	**+3.7**
	baz=343						
EHP	**Heping Village**	**0.48**	**5**	*i* P	**Pn**	**14 09 18.3**	**-0.5**
	baz=18						
EHP				*i* S	**Sn**	**14 09 26.4**	**-0.7**
	baz=18						
WHF	**Hehuan Shan**	**0.51**	**309**	*i* P	**Pn**	**14 09 19.0**	**-0.5**
	baz=304						
WHF				*e* S	**Sn**	**14 09 26.4**	**-1.8**
	baz=304						
ENA	**Nanau**	**0.60**	**4**	*e* P	**Pn**	**14 09 20.0**	**-0.4**
	baz=359						
ENA				*e* S	**Sb**	**14 09 28.6**	**+1.7**
	baz=359						
TWF1	**Yuli**	**0.60**	**218**	*e* P	**Pg**	**14 09 18.8**	**+0.8**
	baz=221						
TWF1				*e* S	**Sg**	**14 09 26.6**	**+0.6**
	baz=221						
TWT	**Tachien**	**0.64**	**312**	P	**Pn**	**14 09 20.4**	**-0.7**
	baz=312						
TWT				S	**Sn**	**14 09 28.9**	**-2.2**
	baz=312						
NNS	**Nan Shan**	**0.68**	**334**	*e* P	**Pb**	**14 09 20.7**	**+0.7**
	baz=337						
NNS				*e* S	**Sb**	**14 09 29.6**	**+0.3**
	baz=337						
SMLT	**Sun Moon Lake**	**0.73**	**274**	⇑*i*	**Pb**	**14 09 21.4**	**+0.5**
	baz=275						
SMLT				*e* S	**Sb**	**14 09 30.3**	**-0.6**
	baz=275						
YUS	**Yu-Shan**	**0.76**	**244**	P	**Pb**	**14 09 22.2**	**+0.6**
	baz=241						
YUS				*e* S	**Sg**	**14 09 31.5**	**+0.2**
	baz=241						
TYC	**Yuchr**	**0.77**	**276**	*e* P	**Pb**	**14 09 21.5**	**0.0**
	baz=279						
TYC				*e* S	**Sn**	**14 09 33.1**	**-1.1**
	baz=279						
CHKT	**Chengkung**	**0.79**	**203**	*e* P	**Pb**	**14 09 22.7**	**+1.0**
	baz=190						
CHKT				S	**Sb**	**14 09 33.9**	**+1.6**
	baz=190						
TWC	**Suao**	**0.79**	**10**	*e* P	**Pb**	**14 09 22.9**	**+1.1**
	baz=19						
TWC				*e* S	**Sn**	**14 09 34.1**	**-0.5**
	baz=19						
ENTT	**Nioudou**	**0.82**	**352**	*e* P	**Pb**	**14 09 22.7**	**+0.4**
	baz=354						
ENTT				*e* S	**Sb**	**14 09 32.9**	**-0.3**
	baz=354						
ALS	**Alishan**	**0.88**	**249**	*e* P	**Pn**	**14 09 24.2**	**-0.3**
	baz=247						
ALS				*e* S	**Sb**	**14 09 35.2**	**0.0**
	baz=247						
ELDTW	**Lidau**	**0.89**	**225**	*e* P	**Pb**	**14 09 24.2**	**+0.6**
	baz=217						
ELDTW				*e* S	**Sg**	**14 09 34.0**	**-1.2**
	baz=217						
NSK	**Sanguang**	**0.90**	**340**	P	**Pb**	**14 09 23.8**	**+0.1**
	baz=349						
NSK				*e* S	**Sb**	**14 09 35.4**	**-0.2**
	baz=349						
WNT	**Mingjian**	**0.93**	**273**	P	**Pn**	**14 09 24.8**	**-0.1**
	baz=272						
WNT				*e* S	**Sn**	**14 09 37.5**	**-0.6**
	baz=272						
ILA	**Ilan**	**0.94**	**3**	*e* P	**Pn**	**14 09 25.4**	**+0.5**
	baz=354						
ILA				*e* S	**Sg**	**14 09 37.3**	**+0.7**
	baz=354						
CHN5	**Tsauling**	**0.96**	**256**	P	**Pn**	**14 09 25.5**	**+0.1**
	baz=255						
CHN5				*i* S	**Sn**	**14 09 38.2**	**-0.8**
	baz=255						
TCU	**Taichung**	**0.99**	**289**	P	**Pn**	**14 09 25.9**	**+0.2**
	baz=289						
TCU				*i* S	**Sn**	**14 09 39.1**	**-0.4**
	baz=289						
TWQ1	**Liyutan**	**0.99**	**302**	P	**Pn**	**14 09 25.8**	**0.0**
	baz=302						
TWQ1				S	**Sn**	**14 09 39.0**	**-0.6**
	baz=302						
NSTT	**Nanjuang**	**1.02**	**322**	P	**Pn**	**14 09 26.5**	**+0.3**
	baz=309						
NSTT				S	**Sn**	**14 09 39.4**	**-1.0**
	baz=309						
NSY	**Sanyi**	**1.04**	**305**	*e* P	**Pn**	**14 09 26.6**	**+0.2**
	baz=305						
NSY				*e* S	**Sn**	**14 09 40.2**	**-0.5**
	baz=305						
WGK	**Gukeng**	**1.05**	**263**	*e* P	**Pn**	**14 09 26.5**	**-0.1**
	baz=261						
WGK				*e* S	**Sn**	**14 09 40.5**	**-0.5**
	baz=261						
STYT	**Tauyuan**	**1.09**	**233**	P	**Pb**	**14 09 26.9**	**0.0**
	baz=224						
STYT				S	**Sb**	**14 09 41.0**	**0.0**
	baz=224						
CHN4	**Tsaushan**	**1.12**	**245**	*e* P	**Pn**	**14 09 27.6**	**+0.1**
	baz=244						
CHN4				*e* S	**Sn**	**14 09 42.6**	**-0.1**
	baz=244						
WTP	**Ta-pu**	**1.15**	**240**	*e* P	**Pb**	**14 09 28.0**	**0.0**
	baz=239						
WTP				*e* S	**Sg**	**14 09 43.0**	**-0.5**
	baz=239						
TWG	**Pinlang**	**1.16**	**210**	*e* P	**Pb**	**14 09 28.2**	**+0.1**
	baz=198						
TWG				*e* S	**Sb**	**14 09 39.7**	**-3.2**
	baz=198						
HSN	**Hsinchu**	**1.18**	**326**	P	**Pg**	**14 09 28.6**	**-0.3**
	baz=328						
HSN				*e* S	**Sn**	**14 09 43.9**	**-0.3**
	baz=328						
TTN	**Taitung**	**1.18**	**206**	*e* P	**Pn**	**14 09 28.3**	**0.0**
	baz=205						
TTN				*e* S	**Sb**	**14 09 43.7**	**+0.1**
	baz=205						
TWB1	**Santiao Chiao**	**1.21**	**13**	*e* P	**Pn**	**14 09 29.1**	**+0.4**
	baz=12						
TWB1				*e* S	**Sn**	**14 09 45.1**	**+0.3**
	baz=12						
CHY	**Chiayi**	**1.21**	**255**	P	**Pn**	**14 09 28.8**	**0.0**
	baz=254						
CHY				*e* S	**Sg**	**14 09 44.7**	**-0.8**
	baz=254						
TAP1	**Taipei**	**1.22**	**352**	*e* P	**Pn**	**14 09 28.9**	**+0.1**
	baz=351						
TAP1				*e* S	**Sb**	**14 09 44.3**	**-0.3**
	baz=351						
TAP	**Taipei**	**1.22**	**352**	*e* P	**Pb**	**14 09 29.5**	**+0.4**
	baz=351						
TAP				*e* S	**Sb**	**14 09 44.8**	**0.0**
	baz=351						
NCU	**National Centr**	**1.23**	**338**	*e* P	**Pb**	**14 09 29.4**	**+0.1**

	baz=337								
NCU					*e*S		**Sn**	**14 09 45.0**	**-0.5**
	baz=337								
NWF	**Wu-fen Shan**	**1.24**	**3**	*e*P			**Pn**	**14 09 29.4**	**+0.1**
	baz=352								
NWF					*e*S		**Sb**	**14 09 45.7**	**+0.3**
	baz=352								
TWK	**Hsinying**	**1.24**	**244**	*e*P			**Pn**	**14 09 29.5**	**+0.2**
	baz=243								
TWK					*e*S		**Sn**	**14 09 45.4**	**-0.5**
	baz=243								
CHN1	**Nanshi**	**1.25**	**239**	*e*P			**Pb**	**14 09 29.7**	**0.0**
	baz=239								
CHN1					*e*S		**Sn**	**14 09 46.0**	**0.0**
	baz=239								
SGST	**Jiashian**	**1.27**	**234**	*e*P			**Pb**	**14 09 30.2**	**+0.3**
	baz=234								
SGST					*e*S		**Sn**	**14 09 46.5**	**+0.2**
	baz=234								
TWS1	**Kuangyinshan**	**1.29**	**349**	*e*P			**Pn**	**14 09 30.1**	**+0.2**
	baz=347								
TWS1					*e*S		**Sn**	**14 09 46.8**	**-0.2**
	baz=347								
WTCT	**Ta-ch'eng**	**1.30**	**272**	*e*P			**Pn**	**14 09 30.0**	**0.0**
	baz=272								
WTCT					*e*S		**Sg**	**14 09 46.9**	**-1.3**
	baz=272								
YOJ	**Yonaguni jima**	**1.35**	**62**	P			**Pn**	**14 09 31.2**	**+0.4**
YOJ				S			**Sn**	**14 09 47.8**	**-0.7**
YOJ	**Yonaguni jima**	**1.35**	**62**	*e*P			**Pn**	**14 09 30.7**	**0.0**
	baz=66								
YOJ					*e*S		**Sn**	**14 09 47.9**	**-0.7**
	baz=66								
WSF	**Szhu**	**1.37**	**262**	*e*P			**Pb**	**14 09 31.4**	**-0.2**
	baz=262								
WSF					*e*S		**Sn**	**14 09 48.7**	**-0.1**
	baz=262								
ECL	**Taimali**	**1.40**	**209**	*e*P			**Pn**	**14 09 31.1**	**-0.3**
	baz=201								
ECL					*e*S		**Sn**	**14 09 48.9**	**-0.9**
	baz=201								
CHN3	**Shinhua**	**1.44**	**239**	*e*P			**Pn**	**14 09 32.4**	**+0.5**
	baz=239								
CHN3					*e*S		**Sb**	**14 09 51.4**	**+0.5**
	baz=239								
TWY	**Chenhua**	**1.45**	**356**	*e*P			**Pn**	**14 09 32.1**	**+0.1**
	baz=355								
TWY					*e*S		**Sn**	**14 09 50.0**	**-0.8**
	baz=355								
CHN8	**Yiju**	**1.45**	**251**	*e*P			**Pn**	**14 09 32.4**	**+0.4**
	baz=251								
CHN8					*e*S		**Sn**	**14 09 50.3**	**-0.5**
	baz=251								
SSD	**Sandimen**	**1.46**	**223**	*e*P			**Pn**	**14 09 32.9**	**+0.7**
	baz=223								
SSD					*e*S		**Sn**	**14 09 50.6**	**-0.5**
	baz=223								
SCLT	**Jiali**	**1.53**	**245**	*e*P			**Pn**	**14 09 33.3**	**+0.2**
	baz=245								
SCLT					S		**Sn**	**14 09 52.5**	**-0.3**
	baz=245								
TWM1	**Shoushan**	**1.54**	**230**	*e*P			**Pb**	**14 09 35.0**	**+0.4**
	baz=230								
TWM1					*e*S		**Sb**	**14 09 54.9**	**+0.8**
	baz=230								
SGLT	**Jiouru**	**1.56**	**226**	*e*P			**Pn**	**14 09 34.5**	**+0.9**
	baz=225								
TAI1	**Yung-k'ang**	**1.56**	**240**	*e*P			**Pg**	**14 09 37.0**	**+0.8**
	baz=239								
EAST	**Anshuo**	**1.64**	**209**	*e*P			**Pn**	**14 09 35.2**	**+0.5**
	baz=203								
EAST					*e*S		**Sn**	**14 09 55.5**	**0.0**
	baz=203								
TAW	**Tawu**	**1.64**	**207**	*e*P			**Pn**	**14 09 36.2**	**+1.5**
	baz=200								
TAW					*e*S		**Sn**	**14 09 54.6**	**-0.9**
	baz=200								
SCZT	**Fangliau**	**1.76**	**215**	*e*P			**Pn**	**14 09 37.0**	**+0.8**
	baz=230								
SCZT					*e*S		**Sn**	**14 09 58.5**	**+0.1**
	baz=230								
LAY	**Lan-yu**	**1.79**	**184**	*e*P			**Pn**	**14 09 37.8**	**+1.1**
	baz=176								
LAY					*e*S		**Sn**	**14 09 57.0**	**-2.2**
	baz=176								
TWP	**Hsiaoliuchiu**	**1.92**	**220**	*e*P			**Pn**	**14 09 39.4**	**+0.9**
	baz=220								
IRIF	**Iriomote-Funau**	**1.92**	**74**	P			**Pn**	**14 09 39.0**	**+0.4**
IRIF				S			**Sn**	**14 10 02.4**	**-0.2**
HATJ	**Hateruma jima**	**1.94**	**83**	P			**Pn**	**14 09 38.8**	**0.0**
HATJ				S			**Sn**	**14 10 02.4**	**-0.6**
WDGT	**Dungji**	**1.95**	**254**	*e*P			**Pn**	**14 09 38.5**	**-0.5**
	baz=244								
WDGT					*e*S		**Sn**	**14 10 00.9**	**-2.4**
	baz=244								
HEN	**Hengchun**	**2.02**	**206**	*e*P			**Pn**	**14 09 40.6**	**+0.7**
	baz=200								
TWK1	**Hengchun**	**2.05**	**204**	*e*P			**Pn**	**14 09 40.1**	**-0.2**
	baz=196								
TWK1					*e*S		**Sn**	**14 10 05.4**	**-0.3**
	baz=196								
TSEB	**Hengchuen, Pin**	**2.06**	**201**	*e*P			**Pn**	**14 09 42.0**	**+1.6**
	baz=204								
TSEB					*e*S		**Sn**	**14 10 05.2**	**-0.6**
	baz=204								
JKRS	**Kuro-shima**	**2.15**	**79**	P			**Pn**	**14 09 42.4**	**+0.7**
JKRS				S			**Sn**	**14 10 08.5**	**+0.3**
JIJ	**Ishigaki jima**	**2.30**	**76**	P			**Pn**	**14 09 43.5**	**-0.2**
JIJ				S			**Sn**	**14 10 10.1**	**-1.7**
JTJ	**Tarama**	**2.86**	**73**	P			**Pn**	**14 09 51.4**	**0.0**
JTJ				S			**Sn**	**14 10 24.6**	**-1.1**
KNM	**Kinmen**	**3.04**	**282**	*e*P			**Pn**	**14 09 54.0**	**0.0**
	baz=280								
JMJ	**Miyako jima 2**	**3.42**	**73**	S			**Sn**	**14 10 38.3**	**-1.3**
JOGS	**Gusukube**	**3.51**	**74**	P			**Pn**	**14 10 00.8**	**+0.4**
JOGS				S			**Sn**	**14 10 41.3**	**-0.4**
KSRS	**Korea Array**	**14.59**	**20**	P			Pn	14 12 36.0	+3.6
	0.2nm,0.3s,baz=203,slow=11,SNR=6.6								
CMAR	**Chiang Mai Arr**	**21.88**	**260**	P			**P**	**14 13 58.6**	**-0.3**
	0.3nm,0.4s,baz=60,slow=7.8,SNR=3.6								
SONM	**Songino Array**	**26.88**	**337**	P			**P**	**14 14 43.5**	**-3.2**
	0.7nm,0.6s,baz=157,slow=9.2,SNR=6.8								
MKAR	**Makanchi Array**	**38.92**	**316**	P			**P**	**14 16 28.9**	**-2.7**
	0.5nm,0.6s,baz=96,slow=9.2,SNR=8.5								
ZALV	**Zalesovo Beam**	**40.80**	**327**	P			P	14 16 43.8	-3.3
	1.2nm,0.5s,baz=112,slow=8.1,SNR=8.1								
H11N1	**WAKE ISLAND Hy**	**42.04**	**87**	T			T	15 02 05.8	
	baz=286,slow=75,SNR=8.6								
H11N2	**WAKE ISLAND Hy**	**42.04**	**87**	T			T	15 02 05.5	
	baz=286,slow=75,SNR=6.5								
H11N3	**WAKE ISLAND Hy**	**42.05**	**87**	T			T	15 02 10.3	
	baz=286,slow=75,SNR=5.4								
H11S3	**WAKE ISLAND Hy**	**42.16**	**88**	T			T	15 02 16.6	
	baz=287,slow=73,SNR=11								
H11S1	**WAKE ISLAND Hy**	**42.17**	**88**	T			T	15 02 19.6	
	baz=287,slow=73,SNR=10								
H11S2	**WAKE ISLAND Hy**	**42.17**	**88**	T			T	15 02 18.8	
	baz=287,slow=73,SNR=9.3								
WRA	**Warramunga Arr**	**45.22**	**163**	P			P	14 17 19.4	-3.8
	0.8nm,0.6s,baz=344,slow=8.7,SNR=12								
ASAR	**Alice Springs**	**48.67**	**165**	P			P	14 17 46.7	-3.4
	0.3nm,0.4s,baz=338,slow=6.6,SNR=14								
STKA	**Stephens Creek**	**58.57**	**160**	P			P	14 18 59.1	-3.5
	1.0nm,0.5s,baz=342,slow=9.7,SNR=7.9								
ILAR	**Eielson Array**	**69.31**	**27**	P			P	14 20 09.3	-3.6
	0.4nm,0.6s,baz=281,slow=5.2,SNR=11								
INK	**Inuvik**	**73.38**	**22**	P			P	14 20 34.5	-2.9
	0.9nm,0.8s,baz=304,slow=3.2,SNR=4.3								
YKA	**Yellowknife Ar**	**83.11**	**23**	P			P	14 21 27.4	-4.0
	0.5nm,0.6s,baz=312,slow=5.0,SNR=9.8								

*JMA **19** 14:10:44.9±0.1,23˚.85N×121˚.72E,h24km±3km,M3.5*
*TAP **19** 14:10:45.7,23˚.88N×121˚.66E,h43km,ML3.9,B*
*ISCJB **19** 14:10:46.0±0.3,23˚.86N±0˚.02×121˚.73E±0˚.02,h40km±5km, Error ellipse: s-maj=3.4km s-min=2.2km az=136.5*

ISC 19 14:10:46.8±1.1,23˚.88N±0˚.02×121˚.72E±0˚.02,h33km±2km, n64,σ0°93/99,12C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.14**	**313**	⇓*i*P			Pn	14 10 52.9	+1.9
	baz=334								
HWA				*e*S			**Sb**	**14 10 59.0**	**+2.0**
	baz=334								
ESF	**Shoufeng Towns**	**0.19**	**267**	⇓*i*P			Pn	14 10 53.1	+0.6
	baz=278								
ESF				*e*S			**Sb**	**14 10 59.1**	**+1.4**
	baz=278								
TWD	**Chiawan**	**0.23**	**331**	⇓*i*P			**Pn**	**14 10 53.4**	**0.0**
	baz=339								
TWD				*i* S			**Sb**	**14 10 59.2**	**+0.8**
	baz=339								
TEGC	**Jichi Village**	**0.23**	**223**	P			**Pn**	**14 10 53.7**	**+0.2**
	baz=213								
TEGC				*e*S			**Sb**	**14 11 00.3**	**+1.8**
	baz=213								
ESL	**Shilin**	**0.27**	**255**	⇑*i*P			**Pn**	**14 10 53.2**	**-1.0**
	baz=261								
ESL				S			**Sn**	**14 10 58.4**	**0.0**
	baz=261								
EHP	**Heping Village**	**0.43**	**3**	P			**Pb**	**14 10 55.7**	**-0.6**
	baz=16								
EHP				*e*S			**Sb**	**14 11 03.9**	**+1.0**
	baz=16								
ENA	**Nanau**	**0.55**	**3**	⇑*i*P			**Pn**	**14 10 57.4**	**-0.8**
	baz=15								
ENA				*e*S			**Sb**	**14 11 06.2**	**+0.3**
	baz=15								
TWT	**Tachien**	**0.62**	**307**	⇑*i*P			**Pn**	**14 10 58.4**	**-1.0**
	baz=314								
TWT				S			**Sn**	**14 11 06.5**	**-1.7**
	baz=314								
NNS	**Nan Shan**	**0.64**	**331**	⇑*i*P			**Pn**	**14 10 58.4**	**-1.2**
	baz=334								
NNS				*e*S			**Sn**	**14 11 07.0**	**-1.7**
	baz=334								
TWF1	**Yuli**	**0.65**	**216**	⇑P			Pn	14 10 57.3	-2.4
	baz=221								
TWF1				*e*S			**Sn**	**14 11 06.0**	**-2.9**
	baz=221								
TWC	**Suao**	**0.73**	**10**	P			**Pn**	**14 11 00.5**	**-0.4**
	baz=19								
TWC				S			**Sn**	**14 11 11.3**	**+0.4**
	baz=19								
SMLT	**Sun Moon Lake**	**0.75**	**270**	⇑*i*P			**Pn**	**14 10 59.6**	**-1.5**
	baz=271								
SMLT				*e*S			**Sn**	**14 11 10.2**	**-1.2**
	baz=271								
ENTT	**Nioudou**	**0.77**	**350**	P			**Pn**	**14 11 00.3**	**-1.0**
	baz=353								
TYC	**Yuchr**	**0.79**	**272**	*e*P			**Pn**	**14 11 00.0**	**-1.5**
	baz=272								
YUS	**Yu-Shan**	**0.80**	**241**	⇑*i*P			**Pn**	**14 11 00.8**	**-1.3**
	baz=240								
YUS				S			**Sn**	**14 11 10.9**	**-2.2**
	baz=240								
CHKT	**Chengkung**	**0.84**	**202**	*e*P			**Pn**	**14 11 00.9**	**-1.4**
	baz=190								
NSK	**Sanguang**	**0.85**	**338**	⇑*i*P			**Pn**	**14 11 01.7**	**-0.9**
	baz=339								
NSK				S			**Sn**	**14 11 12.5**	**-1.4**
	baz=339								
ILA	**Ilan**	**0.88**	**2**	*e*P			Pn	14 11 01.2	-1.7
	baz=355								
ALS	**Alishan**	**0.91**	**246**	⇑P			**Pn**	**14 11 02.5**	**-1.1**
	baz=239								
ALS				*e*S			**Sn**	**14 11 13.9**	**-1.8**
	baz=239								
ELDTW	**Lidau**	**0.94**	**223**	*e*P			Pn	14 11 01.8	-2.0
	baz=216								
WNT	**Mingjian**	**0.94**	**270**	⇑*i*P			**Pn**	**14 11 03.3**	**-0.4**
	baz=271								
WNT				*e*S			**Sn**	**14 11 15.6**	**-0.4**
	baz=271								
TWQ1	**Liyutan**	**0.98**	**299**	⇑*i*P			**Pn**	**14 11 03.9**	**-0.3**
	baz=300								
TWQ1				*e*S			**Sn**	**14 11 16.7**	**-0.2**
	baz=300								
TCU	**Taichung**	**0.99**	**286**	P			**Pn**	**14 11 04.1**	**-0.2**
	baz=287								
TCU				S			**Sn**	**14 11 17.6**	**+0.5**
	baz=287								
NSTT	**Nanjuang**	**0.99**	**319**	⇑P			**Pn**	**14 11 04.2**	**-0.1**
	baz=307								
NSTT				S			**Sn**	**14 11 16.9**	**-0.4**
	baz=307								
CHN5	**Tsauling**	**0.99**	**254**	P			**Pn**	**14 11 03.6**	**-0.8**
	baz=254								
CHN5				S			**Sn**	**14 11 16.9**	**-0.4**
	baz=254								
NSY	**Sanyi**	**1.02**	**302**	P			**Pn**	**14 11 04.5**	**-0.4**
	baz=303								
NSY				*e*S			**Sn**	**14 11 18.4**	**+0.4**
	baz=303								
WGK	**Gukeng**	**1.07**	**260**	*e*P			**Pn**	**14 11 05.0**	**-0.5**
	baz=260								
WGK				*e*S			**Sn**	**14 11 19.2**	**-0.1**
	baz=260								
STYT	**Tauyuan**	**1.13**	**231**	*e*P			**Pn**	**14 11 05.3**	**-1.1**
	baz=224								
STYT				*e*S			**Sn**	**14 11 20.4**	**-0.5**
	baz=224								
HSN	**Hsinchu**	**1.14**	**324**	*e*P			**Pn**	**14 11 06.6**	**+0.2**
	baz=326								
HSN				*e*S			**Sn**	**14 11 22.2**	**+1.3**
	baz=326								
TWB1	**Santiao Chiao**	**1.15**	**12**	*e*P			**Pn**	**14 11 06.8**	**+0.3**
	baz=22								
TWB1				*e*S			**Sn**	**14 11 22.3**	**+1.1**
	baz=22								
CHN4	**Tsaushan**	**1.16**	**243**	P			**Pn**	**14 11 06.3**	**-0.3**
	baz=235								
CHN4				S			**Sn**	**14 11 21.1**	**-0.2**
	baz=235								
TAP1	**Taipei**	**1.17**	**351**	*e*P			Pn	14 11 04.8	-1.9
	baz=351								
NCU	**National Centr**	**1.19**	**336**	*e*P			**Pn**	**14 11 06.8**	**-0.3**
	baz=335								
NCU				*e*S			**Sn**	**14 11 22.9**	**+0.9**
	baz=335								
NWF	**Wu-fen Shan**	**1.19**	**3**	*e*P			**Pn**	**14 11 06.8**	**-0.3**
	baz=353								
WTP	**Ta-pu**	**1.19**	**238**	*e*P			**Pn**	**14 11 06.8**	**-0.3**
	baz=238								
WTP				*e*S			**Sn**	**14 11 21.8**	**-0.5**
	baz=238								
TWG	**Pinlang**	**1.21**	**209**	*e*P			Pn	14 11 04.3	-3.1
	baz=199								
TTN	**Taitung**	**1.24**	**205**	*e*P			**Pn**	**14 11 06.8**	**-0.9**
	baz=204								
CHY	**Chiayi**	**1.24**	**252**	*e*P			**Pn**	**14 11 07.4**	**-0.5**
	baz=253								
CHY				*e*S			**Sn**	**14 11 23.4**	**0.0**
	baz=253								
TWS1	**Kuangyinshan**	**1.24**	**347**	*e*P			**Pn**	**14 11 07.4**	**-0.5**
	baz=346								
TWS1				*e*S			**Sn**	**14 11 23.9**	**+0.5**
	baz=346								
TWK	**Hsinying**	**1.28**	**242**	*e*P			**Pn**	**14 11 07.5**	**-0.9**
	baz=242								
TWK				*e*S			**Sn**	**14 11 24.4**	**0.0**
	baz=242								
CHN1	**Nanshi**	**1.29**	**238**	*e*P			**Pn**	**14 11 08.4**	**-0.1**
	baz=239								
CHN1				*e*S			**Sn**	**14 11 24.5**	**-0.2**
	baz=239								
SGST	**Jiashian**	**1.31**	**233**	*e*P			**Pn**	**14 11 08.7**	**-0.1**
	baz=233								
SGST				*e*S			**Sn**	**14 11 25.6**	**+0.5**
	baz=233								
WTCT	**Ta-ch'eng**	**1.31**	**270**	P			**Pn**	**14 11 08.3**	**-0.4**
	baz=271								
WTCT				*e*S			**Sn**	**14 11 25.4**	**+0.2**
	baz=271								
YOJ	**Yonaguni jima**	**1.32**	**64**	P			**Pn**	**14 11 08.4**	**-0.4**
YOJ				S			**Sn**	**14 11 25.0**	**-0.3**
YOJ	**Yonaguni jima**	**1.32**	**64**	*e*P			**Pn**	**14 11 07.6**	**-1.2**
	baz=68								
YOJ				*e*S			**Sn**	**14 11 24.8**	**-0.5**
	baz=68								
WSF	**Szhu**	**1.39**	**260**	*e*P			**Pn**	**14 11 09.3**	**-0.6**
	baz=261								
WSF				*e*S			**Sn**	**14 11 27.7**	**+0.7**
	baz=261								
ECL	**Taimali**	**1.46**	**209**	*e*P			Pn	14 11 08.6	-2.2
	baz=201								
CHN3	**Shinhua**	**1.48**	**237**	*e*P			**Pn**	**14 11 12.8**	**+1.8**
	baz=239								
CHN3				*e*S			**Sn**	**14 11 30.3**	**+1.1**
	baz=239								
SSD	**Sandimen**	**1.51**	**222**	*e*P			**Pn**	**14 11 11.0**	**-0.5**
	baz=223								
SSD				*e*S			**Sn**	**14 11 30.9**	**+0.9**
	baz=223								
SCLT	**Jiali**	**1.56**	**244**	*e*P			**Pn**	**14 11 12.2**	**0.0**
	baz=245								
SCLT				*e*S			**Sn**	**14 11 31.9**	**+0.6**
	baz=245								
TWM1	**Shoushan**	**1.59**	**229**	*e*P			**Pn**	**14 11 13.4**	**+0.8**
	baz=229								
SGLT	**Jiouru**	**1.61**	**225**	*e*P			**Pn**	**14 11 13.9**	**+1.1**
	baz=225								
EAST	**Anshuo**	**1.69**	**208**	*e*P			**Pn**	**14 11 13.6**	**-0.4**
	baz=203								
TAW	**Tawu**	**1.69**	**207**	*e*P			Pn	14 11 11.4	-2.6
	baz=199								
SCZT	**Fangliau**	**1.81**	**214**	*e*P			**Pn**	**14 11 15.5**	**-0.1**
	baz=229								
SCZT				*e*S			**Sn**	**14 11 37.8**	**+0.4**
	baz=229								
IRIF	**Iriomote-Funau**	**1.90**	**76**	P			**Pn**	**14 11 16.5**	**-0.3**
IRIF				S			**Sn**	**14 11 39.6**	**0.0**
HATJ	**Hateruma jima**	**1.92**	**84**	S			**Sn**	**14 11 40.5**	**+0.3**
WDGT	**Dungji**	**1.98**	**252**	*e*P			Pn	14 11 15.2	-2.8
	baz=252								
HEN	**Hengchun**	**2.07**	**206**	*e*P			**Pn**	**14 11 20.9**	**+1.6**
	baz=201								
TWK1	**Hengchun**	**2.10**	**204**	*e*P			**Pn**	**14 11 19.2**	**-0.5**
	baz=195								
JKRS	**Kuro-shima**	**2.13**	**80**	P			**Pn**	**14 11 20.2**	**+0.2**
JKRS				S			**Sn**	**14 11 46.5**	**+1.2**
JIJ	**Ishigaki jima**	**2.27**	**77**	P			**Pn**	**14 11 21.3**	**-0.7**
JIJ				S			**Sn**	**14 11 47.6**	**-1.2**
JTJ	**Tarama**	**2.83**	**74**	P			**Pn**	**14 11 29.0**	**-0.6**
JTJ				*e*S			**Sn**	**14 12 02.1**	**-0.5**
KNM	**Kinmen**	**3.04**	**281**	*e*P			**Pn**	**14 11 32.4**	**-0.2**
	baz=280								

*BJI **19** 14:13:48.4,23˚.90N×121˚.54E,h6km,mb4.0/4,ML3.7/4*
*JMA **19** 14:13:50.7,23˚.76N×121˚.63E,h50km±2km,M4.4*
*ISCJB **19** 14:13:51.4±0.2,23˚.81N±0˚.01×121˚.72E±0˚.02,h52km±2km, mb3.8/16,Error ellipse: s-maj=3.0km s-min=2.0km az=40.7*
*TAP **19** 14:13:51.6,23˚.82N×121˚.66E,h41km,ML4.8,B*
*IDC **19** 14:13:51.4±4.6,23˚.78N×121˚.73E,h46km±44km,mb3.6/15, mb1 3.8/16,mb1mx3.7/27,mbtmp3.9/16,ML3.3/1,Error ellipse: s-maj=24.3km s-min=13.2km az=70.0*

ISC 19 14:13:51.7±0.6,23˚.80N±0˚.02×121˚.76E±0˚.02,h37km,n105,σ1§45/153,mb3.9/16,26C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.22**	**247**	*e*P			**Pn**	**14 13 59.2**	**-1.3**
	baz=221								
TEGC				*e*S			**Sn**	**14 14 05.7**	**-3.2**
	baz=221								
HWA	**Hwalien**	**0.23**	**322**	⇓*i*P			**Pn**	**14 13 58.8**	**-1.4**
	baz=344								
ESF	**Shoufeng Towns**	**0.24**	**288**	P			**Pn**	**14 13 58.9**	**-1.2**
	baz=291								
ESF				*e*S			**Sn**	**14 14 04.7**	**-3.3**
	baz=291								
ESL	**Shilin**	**0.30**	**274**	⇑*i*P			**Pn**	**14 13 58.9**	**-0.9**
	baz=269								
TWD	**Chiawan**	**0.32**	**332**	⇓*i*P			**Pn**	**14 13 59.7**	**-0.2**
	baz=356								
TWD				*e*S			**Sn**	**14 14 05.9**	**-0.9**
	baz=356								
EHP	**Heping Village**	**0.51**	**358**	*i* P			**Pn**	**14 14 02.5**	**0.0**
	baz=16								
EHP				S			**Sn**	**14 14 10.8**	**+0.7**
	baz=16								
WHF	**Hehuan Shan**	**0.57**	**308**	⇑*i*P			**Pn**	**14 14 03.3**	**-0.5**
	baz=307								
WHF				*e*S			**Sn**	**14 14 10.7**	**-1.4**
	baz=307								
TWF1	**Yuli**	**0.61**	**224**	⇑P			**Pn**	**14 14 02.8**	**-1.2**
	baz=222								
TWF1				*e*S			**Sn**	**14 14 10.8**	**-1.8**
	baz=222								
ENA	**Nanau**	**0.63**	**358**	⇓P			**Pn**	**14 14 04.0**	**-0.2**
	baz=17								
ENA				*e*S			**Sn**	**14 14 12.9**	**-0.1**
	baz=17								
TWT	**Tachien**	**0.70**	**311**	⇑*i*P			**Pn**	**14 14 04.7**	**-0.6**
	baz=313								
TWT				S			**Sn**	**14 14 13.3**	**-1.6**
	baz=313								
NNS	**Nan Shan**	**0.73**	**331**	⇑*i*P			**Pn**	**14 14 04.9**	**-0.7**
	baz=338								
NNS				S			**Sn**	**14 14 14.1**	**-1.5**
	baz=338								
CHKT	**Chengkung**	**0.78**	**208**	⇑P			**Pn**	**14 14 05.8**	**-0.4**
	baz=188								
CHKT				*e*S			**Sn**	**14 14 17.4**	**+0.8**
	baz=188								
SMLT	**Sun Moon Lake**	**0.79**	**276**	⇑*i*P			**Pn**	**14 14 05.7**	**-0.7**
	baz=277								
SMLT				S			**Sn**	**14 14 14.7**	**-2.4**
	baz=277								
YUS	**Yu-Shan**	**0.80**	**248**	⇑*i*P			**Pn**	**14 14 06.5**	**-0.4**
	baz=242								
YUS				S			**Sn**	**14 14 15.8**	**-2.1**
	baz=242								
TWC	**Suao**	**0.81**	**6**	⇓*i*P			**Pn**	**14 14 07.2**	**+0.6**
	baz=20								
TWC				S			**Sn**	**14 14 18.4**	**+1.0**
	baz=20								
TYC	**Yuchr**	**0.83**	**278**	⇑*i*P			**Pn**	**14 14 06.0**	**-0.9**
	baz=281								
TYC				*e*S			**Sn**	**14 14 16.2**	**-1.8**
	baz=281								
ENTT	**Nioudou**	**0.86**	**348**	⇑*i*P			**Pn**	**14 14 07.0**	**-0.3**
	baz=347								
ENTT				*e*S			**Sn**	**14 14 18.0**	**-0.6**
	baz=347								
ELDTW	**Lidau**	**0.91**	**229**	⇓*i*P			**Pn**	**14 14 07.1**	**-0.9**
	baz=217								
ELDTW				*e*S			**Sn**	**14 14 17.9**	**-2.1**
	baz=217								
ALS	**Alishan**	**0.92**	**252**	⇑P			**Pn**	**14 14 07.9**	**-0.4**
	baz=248								
NSK	**Sanguang**	**0.95**	**337**	⇑*i*P			**Pn**	**14 14 08.3**	**-0.2**
	baz=344								
NSK				S			**Sn**	**14 14 19.4**	**-1.5**
	baz=344								
ILA	**Ilan**	**0.97**	**359**	*e*P			**Pn**	**14 14 09.1**	**+0.4**

TTN					*e*S		**Sn**	14 14 27.4	+1.0	
	baz=201									
WTP	**Ta-pu**	**1.19**	**243**	⇑	P		**Pn**	**14 14 12.2**	**+0.5**	
	baz=238									
WTP					S		**Sn**	**14 14 27.7**	**+1.0**	
	baz=238									
TWB1	**Santiao Chiao**	**1.23**	**10**	⇓	P		**Pn**	**14 14 13.6**	**+1.3**	
	baz=18									
TWB1					*e*S		**Sn**	**14 14 30.1**	**+2.6**	
	baz=18									
HSN	**Hsinchu**	**1.23**	**324**	⇑	*e*P		**Pn**	**14 14 13.1**	**+0.8**	
	baz=330									
HSN					S		**Sn**	**14 14 29.4**	**+1.7**	
	baz=330									
TAP1	**Taipei**	**1.26**	**350**		*e*P		**Pn**	**14 14 12.4**	**-0.3**	
	baz=356									
TAP1					*e*S		**Sn**	**14 14 27.7**	**-0.6**	
	baz=356									
TAP	**Taipei**	**1.26**	**349**		*e*P		**Pn**	**14 14 13.9**	**+1.2**	
	baz=356									
TAP					*e*S		**Sn**	**14 14 29.1**	**+0.7**	
	baz=356									
CHY	**Chiayi**	**1.26**	**257**	⇑	*e*P		**Pn**	**14 14 13.3**	**+0.6**	
	baz=254									
CHY					*e*S		**Sn**	**14 14 28.6**	**+0.2**	
	baz=254									
NWF	**Wu-fen Shan**	**1.27**	**1**	⇑	*i*P		**Pn**	**14 14 13.6**	**+0.7**	
	baz=355									
NWF					*e*S		**Sn**	**14 14 32.1**	**+3.3**	
	baz=355									
NCU	**National Centr**	**1.28**	**336**		*e*P		**Pn**	**14 14 13.4**	**+0.5**	
	baz=339									
NCU					*e*S		**Sn**	**14 14 30.0**	**+1.0**	
	baz=339									
TWK	**Hsinying**	**1.28**	**246**	⇓	*i*P		**Pn**	**14 14 13.5**	**+0.5**	
	baz=242									
TWK					*e*S		**Sn**	**14 14 28.7**	**-0.3**	
	baz=242									
CHN1	**Nanshi**	**1.28**	**242**	⇓	*i*P		**Pn**	**14 14 13.7**	**+0.7**	
	baz=237									
CHN1					S		**Sn**	**14 14 30.3**	**+1.3**	
	baz=237									
SGST	**Jiashian**	**1.29**	**237**	⇓	*i*P		**Pn**	**14 14 14.3**	**+1.1**	
	baz=232									
SGST					S		**Sn**	**14 14 31.4**	**+2.1**	
	baz=232									
YOJ	**Yonaguni jima**	**1.32**	**60**		P		**Pn**	**14 14 15.1**	**+1.6**	
YOJ					S		**Sn**	**14 14 32.1**	**+2.2**	
YOJ	**Yonaguni jima**	**1.32**	**60**		*e*P		**Pn**	**14 14 15.1**	**+1.6**	
	baz=65									
YOJ					*e*S		**Sn**	**14 14 31.9**	**+2.0**	
	baz=65									
TWS1	**Kuangyinshan**	**1.34**	**347**		*e*P		**Pn**	**14 14 14.2**	**+0.4**	
	baz=352									
TWS1					*e*S		**Sn**	**14 14 30.8**	**+0.5**	
	baz=352									
WTCT	**Ta-ch'eng**	**1.36**	**273**	⇑	*e*P		**Pn**	**14 14 14.3**	**+0.3**	
	baz=272									
WTCT					*e*S		**Sn**	**14 14 31.5**	**+0.7**	
	baz=272									
ECL	**Taimali**	**1.41**	**212**		*e*P		Pn	14 14 12.9	-1.8	
	baz=199									
WSF	**Szhu**	**1.42**	**264**		*e*P		**Pn**	**14 14 15.0**	**+0.1**	
	baz=262									
WSF					*e*S		**Sn**	**14 14 33.2**	**+0.9**	
	baz=262									
CHN3	**Shinhua**	**1.47**	**241**		*e*P		**Pn**	**14 14 16.6**	**+1.0**	
	baz=237									
CHN3					*e*S		**Sn**	**14 14 36.3**	**+2.8**	
	baz=237									
SSD	**Sandimen**	**1.47**	**225**		*e*P		**Pn**	**14 14 15.6**	**0.0**	
	baz=218									
SSD					*e*S		**Sn**	**14 14 35.3**	**+1.7**	
	baz=218									
TWY	**Chenhua**	**1.48**	**354**		*e*P		**Pn**	**14 14 16.6**	**+0.9**	
	baz=359									
CHN8	**Yiju**	**1.49**	**253**		*e*P		**Pn**	**14 14 15.2**	**-0.7**	
	baz=250									
CHN8					*e*S		**Sn**	**14 14 34.3**	**+0.3**	
	baz=250									
SCLT	**Jiali**	**1.56**	**247**		*e*P		**Pn**	**14 14 17.1**	**+0.2**	
	baz=243									
SCLT					*e*S		**Sn**	**14 14 36.8**	**+0.9**	
	baz=243									
TWM1	**Shoushan**	**1.56**	**232**	⇓	*e*P		**Pn**	**14 14 18.8**	**+1.8**	
	baz=238									
TWM1					*e*S		**Sn**	**14 14 39.2**	**+3.3**	
	baz=238									
SGLT	**Jiouru**	**1.58**	**228**		*e*P		Pn	14 14 19.1	+2.0	
	baz=207									
SGLT					*e*S		**Sn**	**14 14 40.7**	**+4.4**	
	baz=207									
TAI1	**Yung-k'ang**	**1.60**	**242**		*e*P		**Pn**	**14 14 18.3**	**+1.0**	
	baz=252									
TAI1					*e*S		**Sn**	**14 14 37.4**	**+0.7**	
	baz=252									
EAST	**Anshuo**	**1.64**	**211**	⇓	P		**Pn**	**14 14 16.9**	**-1.0**	
	baz=200									
TAW	**Tawu**	**1.64**	**209**		*e*P		**Pn**	**14 14 16.6**	**-1.2**	
	baz=194									
TAW					*e*S		**Sn**	**14 14 38.2**	**+0.6**	
	baz=194									
LAY	**Lan-yu**	**1.76**	**186**		*e*P		**Pn**	**14 14 18.8**	**-0.8**	
	baz=182									
SCZT	**Fangliau**	**1.76**	**217**		*e*P		**Pn**	**14 14 20.6**	**+1.0**	
	baz=212									
IRIF	**Iriomote-Funau**	**1.88**	**73**		P		**Pn**	**14 14 22.9**	**+1.7**	
IRIF					S		**Sn**	**14 14 47.1**	**+3.5**	
HATJ	**Hateruma jima**	**1.89**	**82**		P		**Pn**	**14 14 23.3**	**+2.0**	
HATJ					S		**Sn**	**14 14 46.6**	**+2.7**	
TWP	**Hsiaoliuchiu**	**1.93**	**222**		*e*P		Pn	14 14 24.2	+2.2	
	baz=218									
WDGT	**Dungji**	**2.00**	**255**		*e*P		**Pn**	**14 14 21.9**	**-0.9**	
	baz=253									
WDGT					*e*S		**Sn**	**14 14 44.4**	**-2.3**	
	baz=253									
HEN	**Hengchun**	**2.02**	**208**		*e*P		**Pn**	**14 14 24.7**	**+1.6**	
	baz=199									
TWK1	**Hengchun**	**2.04**	**206**		*e*P		**Pn**	**14 14 23.5**	**0.0**	
	baz=198									
TWK1					*e*S		**Sn**	**14 14 48.2**	**+0.4**	
	baz=198									
TSEB	**Hengchuen, Pin**	**2.05**	**203**		*e*P		**Pn**	**14 14 24.6**	**+1.1**	
	baz=192									
JKRS	**Kuro-shima**	**2.10**	**77**		P		**Pn**	**14 14 26.5**	**+2.2**	
JKRS					S		**Sn**	**14 14 52.3**	**+3.1**	
JIJ	**Ishigaki jima**	**2.25**	**75**		P		**Pn**	**14 14 27.8**	**+1.5**	
JIJ					S		**Sn**	**14 14 54.4**	**+1.6**	
JTJ	**Tarama**	**2.81**	**72**		P		**Pn**	**14 14 35.7**	**+1.6**	
JTJ					*e*S		**Sn**	**14 15 08.9**	**+2.2**	
KNM	**Kinmen**	**3.10**	**282**		*e*P		**Pn**	**14 14 38.1**	**+0.1**	
	baz=280									
QZH	**Quanzhou**	**3.11**	**292**	⇑	*i*Pn		Pn	14 14 32.8	-5.3	
QZH					Sn		Sn	14 15 05.4	-8.6	
QZH					smax		smax			
	comp=N,2μm,0.6s									
QZH					smax		smax			
	comp=E,830nm,0.7s									
JMJ	**Miyako jima 2**	**3.38**	**72**		P		**Pn**	**14 14 44.5**	**+2.7**	
JMJ					*e*S		**Sn**	**14 15 22.7**	**+2.0**	
JMJ	**Miyako jima 2**	**3.38**	**72**		*e*P		**Pn**	**14 14 43.8**	**+2.0**	
	baz=84									
JOGS	**Gusukube**	**3.46**	**73**		P		**Pn**	**14 14 45.6**	**+2.6**	
JKE	**Kume jima 2**	**5.21**	**60**		P		**Pn**	**14 15 07.9**	**+0.9**	
JOW	**Kunigami**	**6.62**	**61**		P		**Pn**	**14 15 26.4**	**-0.1**	
JOW	**Kunigami**	**6.62**	**61**		*e*P		**Pn**	**14 15 26.3**	**-0.1**	
	baz=64									
JTK	**Tokunoshima**	**7.60**	**57**		P		**Pn**	**14 15 39.3**	**-0.6**	
JAMN	**Amaminishikomi**	**8.01**	**55**		P		Pn	14 15 44.3	-1.1	
JAM	**Amami Oshima**	**8.42**	**55**		P		Pn	14 15 49.9	-1.1	
KSRS	**Korea Array**	**14.61**	**20**		P		**Pn**	**14 17 16.4**	**+0.8**	
	0.1nm,0.3s,baz=200,slow=11,SNR=2.6									
CMAR	**Chiang Mai Arr**	**21.93**	**260**		P		**P**	**14 18 41.8**	**-0.2**	
	0.6nm,0.6s,baz=68,slow=8.6,SNR=6.4									
GTA	**Gaotai**	**24.23**	**315**		*e*P		P	14 18 57.4	-7.8	
GTA					pP		pP	14 19 06.6	-9.0	
GTA					sP		sP	14 19 10.4	-10	
GTA					pmax		pmax			
	comp=Z,3.0nm,0.7s									
SONM	**Songino Array**	**26.93**	**337**		P		**P**	**14 19 27.8**	**-1.7**	
	comp=Z,1.3nm,0.7s,baz=149,slow=9.5,SNR=7.6									
MKAR	**Makanchi Array**	**38.98**	**316**		P		**P**	**14 21 12.5**	**-1.9**	
	comp=Z,1.1nm,0.5s,baz=100,slow=8.4,SNR=13									
ZALV	**Zalesovo Beam**	**40.86**	**327**		P		**P**	**14 21 27.1**	**-2.7**	
	comp=Z,1.7nm,0.5s,baz=111,slow=7.9,SNR=13									
H11N1	**WAKE ISLAND Hy**	**41.98**	**87**		T		T	15 06 55.7		
	baz=286,slow=75,SNR=6.1									
H11N2	**WAKE ISLAND Hy**	**41.98**	**87**		T		T	15 07 01.7		
	baz=286,slow=75,SNR=6.7									
H11N3	**WAKE ISLAND Hy**	**42.00**	**87**		T		T	15 06 57.0		
	baz=286,slow=75,SNR=7.4									
H11S3	**WAKE ISLAND Hy**	**42.10**	**88**		T		T	15 06 58.3		
	baz=287,slow=73,SNR=13									
H11S1	**WAKE ISLAND Hy**	**42.11**	**88**		T		T	15 07 03.0		
	baz=287,slow=73,SNR=8.5									
H11S2	**WAKE ISLAND Hy**	**42.12**	**88**		T		T	15 06 59.4		
	baz=287,slow=73,SNR=8.7									
WRA	**Warramunga Arr**	**45.17**	**163**		P		**P**	**14 22 03.1**	**-1.9**	
	comp=Z,1.3nm,0.6s,baz=345,slow=8.6,SNR=22									
WRA					PcP		**PcP**	**14 23 43.0**	**-2.0**	
	comp=Z,0.2nm,0.4s,baz=345,slow=2.9,SNR=2.8									
ASAR	**Alice Springs**	**48.63**	**165**		P		**P**	**14 22 30.6**	**-1.5**	
	comp=Z,0.5nm,0.4s,baz=338,slow=6.7,SNR=33									
ASAR					PcP		**PcP**	**14 23 55.0**	**-2.2**	
	comp=Z,0.2nm,0.5s,baz=344,slow=3.8,SNR=4.3									
STKA	**Stephens Creek**	**58.52**	**160**		P		**P**	**14 23 43.1**	**-1.2**	
	comp=Z,1.7nm,0.5s,baz=344,slow=6.4,SNR=11									
ILAR	**Eielson Array**	**69.31**	**27**		P		**P**	**14 24 53.8**	**-1.2**	
	comp=Z,0.5nm,0.7s,baz=298,slow=7.8,SNR=13									
FINES	**FINESS Array B**	**72.05**	**330**		P		**P**	**14 25 10.5**	**-1.1**	
	comp=Z,1.7nm,0.9s,baz=63,slow=6.4,SNR=4.1									
INK	**Inuvik**	**73.39**	**22**		P		**P**	**14 25 18.8**	**-0.7**	
	comp=Z,1.8nm,0.9s,baz=306,slow=7.4,SNR=6.3									
AKASG	**Malin Array Be**	**73.51**	**319**		P		**P**	**14 25 19.7**	**-0.8**	
	comp=Z,0.2nm,0.3s,baz=65,slow=6.1,SNR=4.3									
BRTR	**Keskin Array B**	**73.83**	**307**		P		**P**	**14 25 21.6**	**-1.2**	
	comp=Z,0.8nm,0.5s,baz=139,slow=3.0,SNR=6.4									
NOA	**NORSAR Array B**	**78.81**	**332**		P		**P**	**14 25 49.4**	**-1.2**	
	comp=Z,1.6nm,1.0s,baz=56,slow=5.9,SNR=2.5									
YKA	**Yellowknife Ar**	**83.12**	**23**		P		**P**	**14 26 12.2**	**-1.2**	
	comp=Z,0.4nm,0.4s,baz=315,slow=4.9,SNR=11									
GERES	**GERESS Array B**	**83.48**	**321**		P		**P**	**14 26 15.0**	**-0.7**	
	comp=Z,0.7nm,0.6s,baz=64,slow=6.1,SNR=6.7									

*ISCJB **19** 14:17:17.8±0.3,23°.75N±0°.02×121°.76E±0°.02,h14km, Error ellipse: s-maj=2.6km s-min=1.8km az=142.4*
*TAP **19** 14:17:18.9,23°.80N×121°.66E,h43km,ML3.6,B*
*JMA **19** 14:17:18.5,23°.77N×121°.65E,h43km±2km,M3.4*

ISC 19 14:17:17.7±0.8,23°.76N±0°.02×121°.72E±0°.02,h14km,n58, σ0§88/97,9C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TEGC	**Jichi Village**	**0.17**	**252**	*e*P		Pb	14 17 26.5	+3.8
	baz=224							
TEGC				*e*S		Sb	14 17 32.9	+7.0
	baz=224							
ESF	**Shoufeng Towns**	**0.22**	**299**	P		**Pb**	**14 17 26.5**	**+2.9**
	baz=296							
HWA	**Hwalien**	**0.24**	**334**	*e*P		**Pb**	**14 17 26.4**	**+2.6**
	baz=355							
HWA				*e*S		**Sb**	**14 17 32.5**	**+4.6**
	baz=355							
ESL	**Shilin**	**0.27**	**281**	P		**Pn**	**14 17 26.2**	**-1.0**
	baz=273							
ESL				*e*S		**Sn**	**14 17 31.4**	**-1.7**
	baz=273							
TWD	**Chiawan**	**0.34**	**340**	⇓	*i*P	**Pn**	**14 17 27.3**	**-0.8**
	baz=357							
TWD				S		**Sn**	**14 17 33.5**	**-1.3**
	baz=357							
TWF1	**Yuli**	**0.56**	**224**	⇑	*i*P	**Pb**	**14 17 30.2**	**+0.9**
	baz=223							
TWF1				*e*S		**Sb**	**14 17 37.9**	**+0.7**
	baz=223							
WHF	**Hehuan Shan**	**0.56**	**313**	P		**Pb**	**14 17 30.6**	**+1.0**
	baz=308							
WHF				S		**Sb**	**14 17 38.3**	**+0.6**
	baz=308							
ENA	**Nanau**	**0.66**	**2**	⇑	P	**Pb**	**14 17 31.5**	**+0.5**
	baz=14							
TWT	**Tachien**	**0.70**	**315**	P		**Pb**	**14 17 32.1**	**+0.4**
	baz=314							
TWT				S		**Sg**	**14 17 40.8**	**+0.2**
	baz=314							
CHKT	**Chengkung**	**0.74**	**206**	*e*P		**Pb**	**14 17 32.6**	**+0.3**
	baz=191							
NNS	**Nan Shan**	**0.74**	**335**	P		**Pb**	**14 17 32.5**	**-0.1**
	baz=338							
YUS	**Yu-Shan**	**0.76**	**249**	*e*P		**Pb**	**14 17 33.6**	**+0.7**
	baz=237							
YUS				S		**Sg**	**14 17 43.2**	**+0.7**
	baz=237							
SMLT	**Sun Moon Lake**	**0.76**	**279**	⇑	*i*P	**Pb**	**14 17 33.0**	**+0.2**
	baz=278							
SMLT				*i* S		**Sg**	**14 17 42.8**	**+0.3**
	baz=278							
TYC	**Yuchr**	**0.80**	**280**	P		**Pg**	**14 17 33.2**	**-0.1**
	baz=282							
TYC				*e*S		**Sg**	**14 17 43.3**	**-0.6**
	baz=282							
TWC	**Suao**	**0.85**	**8**	P		**Pb**	**14 17 34.5**	**+0.3**
	baz=19							
TWC				*e*S		**Sn**	**14 17 47.8**	**+0.2**
	baz=19							
ELDTW	**Lidau**	**0.86**	**229**	*e*P		**Pg**	**14 17 34.3**	**-0.1**
	baz=220							
ELDTW				*e*S		**Sg**	**14 17 45.1**	**-0.6**
	baz=220							
ALS	**Alishan**	**0.88**	**254**	P		**Pg**	**14 17 35.3**	**+0.6**
	baz=248							
ALS				*e*S		**Sg**	**14 17 46.0**	**-0.3**
	baz=248							
ENTT	**Nioudou**	**0.89**	**351**	⇑	P	**Pg**	**14 17 34.3**	**-0.6**
	baz=356							
ENTT				*e*S		**Sg**	**14 17 44.8**	**-1.7**
	baz=356							
WNT	**Mingjian**	**0.96**	**277**	⇑	P	**Pg**	**14 17 36.5**	**+0.3**
	baz=274							
WNT				S		**Sg**	**14 17 49.0**	**+0.3**
	baz=274							
NSK	**Sanguang**	**0.97**	**340**	P		**Pb**	**14 17 35.8**	**-0.5**
	baz=344							
NSK				S		**Sb**	**14 17 47.1**	**-1.8**
	baz=344							
CHN5	**Tsauling**	**0.97**	**260**	⇑	P	**Pb**	**14 17 36.5**	**+0.1**
	baz=256							
CHN5				*e*S		**Sg**	**14 17 49.5**	**+0.4**
	baz=256							
ILA	**Ilan**	**1.00**	**1**	*e*P		**Pn**	**14 17 38.5**	**+1.2**
	baz=356							
TCU	**Taichung**	**1.03**	**292**	*e*P		**Pg**	**14 17 37.7**	**+0.1**
	baz=291							
TWQ1	**Liyutan**	**1.04**	**304**	⇑	*i*P	**Pb**	**14 17 37.5**	**0.0**
	baz=304							
TWQ1				*e*S		**Sb**	**14 17 50.9**	**-0.2**
	baz=304							
WGK	**Gukeng**	**1.06**	**266**	*e*P		**Pb**	**14 17 37.8**	**-0.1**
	baz=263							
WGK				*e*S		**Sg**	**14 17 52.2**	**+0.1**
	baz=263							
STYT	**Tauyuan**	**1.07**	**236**	⇓	*e*P	**Pb**	**14 17 38.1**	**+0.2**
	baz=224							
STYT				S		**Sb**	**14 17 51.9**	**+0.1**
	baz=224							
NSTT	**Nanjuang**	**1.08**	**323**	⇑	P	**Pb**	**14 17 38.2**	**-0.1**
	baz=325							
NSTT				S		**Sb**	**14 17 51.3**	**-1.0**
	baz=325							
NSY	**Sanyi**	**1.09**	**307**	⇑	*i*P	**Pb**	**14 17 38.2**	**-0.2**
	baz=307							
NSY				*e*S		**Sb**	**14 17 52.5**	**+0.1**
	baz=307							
TWG	**Pinlang**	**1.11**	**213**	*e*P		**Pb**	**14 17 37.8**	**-0.9**
	baz=199							
CHN4	**Tsaushan**	**1.11**	**249**	*e*P		**Pn**	**14 17 39.0**	**+0.1**
	baz=244							
CHN4				*e*S		**Sg**	**14 17 53.8**	**+0.2**
	baz=244							
TTN	**Taitung**	**1.13**	**208**	*e*P		**Pb**	**14 17 39.2**	**+0.1**
	baz=203							
WTP	**Ta-pu**	**1.14**	**243**	P		**Pb**	**14 17 39.4**	**+0.2**
	baz=239							
WTP				S		**Sb**	**14 17 54.5**	**+0.6**
	baz=239							
CHY	**Chiayi**	**1.22**	**258**	*e*P		**Pn**	**14 17 39.9**	**-0.4**
	baz=254							
CHY				*e*S		**Sb**	**14 17 56.3**	**+0.2**
	baz=254							
TWK	**Hsinying**	**1.23**	**247**	*e*P		**Pn**	**14 17 40.6**	**0.0**
	baz=242							
TWK				*e*S		**Sn**	**14 17 57.2**	**+0.2**
	baz=242							
CHN1	**Nanshi**	**1.24**	**243**	⇓	P	**Pn**	**14 17 40.7**	**+0.2**
	baz=238							
CHN1				*e*S		**Sn**	**14 17 57.5**	**+0.4**
	baz=238							
HSN	**Hsinchu**	**1.24**	**327**	*e*P		**Pn**	**14 17 40.2**	**-0.4**
	baz=330							
HSN				*e*S		**Sg**	**14 17 57.6**	**-0.1**
	baz=330							
SGST	**Jiashian**	**1.25**	**237**	P		**Pb**	**14 17 41.2**	**+0.2**
	baz=232							
SGST				*e*S		**Sn**	**14 17 57.7**	**+0.4**
	baz=232							
TWB1	**Santiao Chiao**	**1.26**	**11**	*e*P		**Pn**	**14 17 40.8**	**-0.2**
	baz=33							
TWB1				*e*S		**Sg**	**14 17 58.8**	**+0.3**
	baz=33							
NCU	**National Centr**	**1.30**	**338**	*e*P		**Pn**	**14 17 40.8**	**-0.6**
	baz=341							
NCU				*e*S		**Sb**	**14 17 57.5**	**-0.9**
	baz=341							
NWF	**Wu-fen Shan**	**1.30**	**2**	*e*P		**Pn**	**14 17 40.8**	**-0.8**
	baz=355							
NWF				*e*S		**Sn**	**14 17 59.2**	**+0.3**
	baz=355							
WTCT	**Ta-ch'eng**	**1.32**	**275**	P		**Pn**	**14 17 41.5**	**-0.2**
	baz=272							
WTCT				S		**Sb**	**14 17 59.0**	**-0.1**
	baz=272							
ECL	**Taimali**	**1.36**	**211**	*e*P		**Pn**	**14 17 41.6**	**-0.6**
	baz=201							
TWS1	**Kuangyinshan**	**1.36**	**348**	*e*P		**Pn**	**14 17 41.6**	**-0.7**
	baz=351							
YOJ	**Yonaguni jima**	**1.37**	**59**	P		**Pn**	**14 17 42.7**	**+0.3**
YOJ				*e*S		**Sn**	**14 17 59.1**	**-1.2**
YOJ	**Yonaguni jima**	**1.37**	**59**	*e*P		**Pn**	**14 17 42.4**	**0.0**
	baz=64							
YOJ				*e*S		**Sn**	**14 17 59.9**	**-0.4**
	baz=64							
WSF	**Szhu**	**1.38**	**265**	*e*P		**Pn**	**14 17 41.9**	**-0.6**
	baz=262							
WSF				*e*S		**Sn**	**14 17 59.9**	**-0.6**
	baz=262							
SSD	**Sandimen**	**1.42**	**225**	*e*P		**Pn**	**14 17 43.3**	**+0.2**
	baz=219							
SSD				*e*S		**Sb**	**14 18 02.2**	**+0.2**
	baz=219							
TWM1	**Shoushan**	**1.52**	**232**	*e*P		**Pb**	**14 17 46.4**	**+0.8**
	baz=229							
SGLT	**Jiouru**	**1.53**	**228**	*e*P		**Pg**	**14 17 47.9**	**+0.8**
	baz=224							
EAST	**Anshuo**	**1.59**	**210**	*e*P		**Pn**	**14 17 45.2**	**-0.3**
	baz=201							
SCZT	**Fangliau**	**1.71**	**216**	*e*P		**Pb**	**14 17 48.6**	**-0.4**
	baz=213							
IRIF	**Iriomote-Funau**	**1.92**	**72**	P		**Pn**	**14 17 50.3**	**+0.3**
IRIF				S		**Sn**	**14 18 14.0**	**0.0**
HATJ	**Hateruma jima**	**1.93**	**81**	S		**Sn**	**14 18 14.2**	**0.0**
TWK1	**Hengchun**	**2.00**	**205**	*e*P		**Pn**	**14 17 49.4**	**-1.6**
	baz=193							
JKRS	**Kuro-shima**	**2.15**	**77**	P		**Pn**	**14 17 53.9**	**+0.8**
JKRS				S		**Sn**	**14 18 19.9**	**+0.4**
JIJ	**Ishigaki jima**	**2.29**	**74**	P		**Pn**	**14 17 55.0**	**-0.1**
JIJ				S		**Sn**	**14 18 21.7**	**-1.5**
JTJ	**Tarama**	**2.86**	**72**	P		**Pn**	**14 18 03.2**	**+0.3**
JTJ				S		**Sn**	**14 18 36.2**	**-0.9**
KNM	**Kinmen**	**3.07**	**283**	*e*P		**Pn**	**14 18 05.2**	**-0.6**
	baz=281							

*DJA **19** 14:29:04.0±4.4,2°.N±10°×9°.4E±1°.6,h23km±75km,M4.6/7, mb4.0/2,mB5.2/1,MLv4.8/7,Mw(mB)4.5/1*
*IDC **19** 14:29:27.7±2.7,2°.41N×95°.80E,h0km,mb3.5/5,mb1 3.5/6, mb1mx3.4/27,mbtmp3.4/6,ML2.8/1, Error ellipse: s-maj=73.5km s-min=26.5km az=44.0*

ISC 19 14:29:28.9±1.4,2°.38N±0°.10×95°.9E±0°.1,h10km,n14, σ1§22/13,mb3.6/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.41**	**86**	P		**Pn**	**14 29 41.5**	**+0.7**
TPTI		**1.53**	**55**	P		**Pn**	**14 29 56.0**	**-0.3**
GSI	**Gunungsitoli**	**1.97**	**123**	P		**Pn**	**14 30 01.3**	**-1.0**
KCSI	**Kotacane, Aceh**	**2.17**	**58**	P		**Pn**	**14 30 06.2**	**+1.1**
TSI	**Tuntungan**	**2.87**	**67**	P		**Pg**	**14 30 22.3**	**-1.6**
LHMI	**Lhok Sumawe**	**3.01**	**20**	P		Pn	14 30 10.4	-6.3
PSI	**Prapat**	**3.03**	**82**	P		**Pn**	**14 30 18.0**	**+1.0**
	24nm,0.9s,0.4nm							
PSI	**Prapat**	**3.03**	**82**	Pn		**Pn**	**14 30 19.3**	**+2.3**
	1.1nm,0.3s,baz=274,slow=7.2,SNR=3.7							
MNSI	**Mandailing Nat**	**3.98**	**113**	P		**Pn**	**14 30 31.1**	**+1.1**
WRA	**Warramunga Arr**	**43.74**	**122**	P		**P**	**14 37 35.8**	**+0.9**
	0.4nm,1.1s,baz=299,slow=9.2,SNR=2.8							
MKAR	**Makanchi Array**	**45.80**	**347**	P		**P**	**14 37 50.3**	**-0.6**
	0.4nm,0.5s,baz=159,slow=8.5,SNR=8.7							
SONM	**Songino Array**	**46.18**	**10**	P		**P**	**14 37 53.5**	**-0.5**
	0.3nm,0.4s,baz=190,slow=9.6,SNR=4.0							
KURBB	**Kurchatov Arra**	**50.27**	**346**	P		**P**	**14 38 26.4**	**+1.0**
	0.2nm,0.5s,baz=162,slow=6.7,SNR=5.0							
ZALV	**Zalesovo Beam**	**52.21**	**352**	P		**P**	**14 38 39.6**	**-0.3**
	0.6nm,0.4s,baz=177,slow=7.3,SNR=4.9							

*IDC **19** 14:29:54.7±1.1,2°.41N×95°.86E,h0km,mb4.1/12, mb1 4

TAPN	**Taplejung**	**26.08**	**343**	*eP*	**P**	**14 35 31.0**	**+0.8**
	29nm,1.0s						
JIRN	**Jiri**	**26.84**	**340**	*eP*	**P**	**14 35 37.8**	**+0.6**
	42nm,0.7s						
JIRN	**Jiri**	**26.84**	**340**	*eP*	**P**	**14 35 37.8**	**+0.6**
	42nm,0.7s						
PKI	**Pulchoki**	**27.03**	**339**	*eP*	**P**	**14 35 39.1**	**+0.2**
PKI	**Pulchoki**	**27.03**	**339**	*eP*	**P**	**14 35 39.1**	**+0.2**
PKIN	**Phulchoki**	**27.04**	**339**	*eP*	**P**	**14 35 38.9**	**0.0**
DMN	**Daman**	**27.18**	**338**	*eP*	**P**	**14 35 40.5**	**+0.4**
	23nm,1.0s						
DMN	**Daman**	**27.18**	**338**	*eP*	**P**	**14 35 40.5**	**+0.4**
	23nm,1.0s						
GUN	**Gumba**	**27.18**	**340**	*eP*	**P**	**14 35 40.7**	**+0.5**
	39nm,0.8s						
GUN	**Gumba**	**27.18**	**340**	*eP*	**P**	**14 35 40.7**	**+0.5**
	39nm,0.8s						
KKN	**Kakani**	**27.28**	**339**	*eP*	**P**	**14 35 41.3**	**+0.3**
	29nm,0.9s						
KKN	**Kakani**	**27.28**	**339**	*eP*	**P**	**14 35 41.3**	**+0.3**
	29nm,0.9s						
LSA	**Lhasa**	**27.57**	**351**	*eP*	**P**	**14 35 41.9**	**-1.9**
	11nm,0.9s						
GKN	**Gorkha**	**27.71**	**338**	*eP*	**P**	**14 35 45.3**	**+0.6**
	41nm,1.0s						
GKN	**Gorkha**	**27.71**	**338**	*eP*	**P**	**14 35 45.3**	**+0.6**
	41nm,1.0s						
KOLN	**Koldanda**	**27.91**	**336**	*eP*	**P**	**14 35 46.9**	**+0.3**
	20nm,0.8s						
KOLN	**Koldanda**	**27.91**	**336**	*eP*	**P**	**14 35 46.9**	**+0.3**
	20nm,0.8s						
DANN	**Dangsing**	**28.36**	**337**	*eP*	**P**	**14 35 51.2**	**+0.5**
	19nm,0.9s						
DANN	**Dangsing**	**28.36**	**337**	*eP*	**P**	**14 35 51.2**	**+0.5**
	19nm,0.9s						
H01W3	**Cape Leeuwin H**	**40.78**	**157**	T	T	15 21 03.9	
	baz=333,slow=76,SNR=61						
H01W2	**Cape Leeuwin H**	**40.79**	**157**	T	T	15 21 04.9	
	baz=333,slow=76,SNR=63						
H01W1	**Cape Leeuwin H**	**40.79**	**157**	T	T	15 21 05.1	
	baz=333,slow=76,SNR=62						
WRA	**Warramunga Arr**	**43.66**	**122**	P	**P**	**14 38 03.1**	**+2.0**
WRA	**Warramunga Arr**	**43.66**	**122**	P	**P**	**14 38 03.1**	**+2.0**
	1.2nm,1.0s,baz=302,slow=9.2,SNR=6.3						
AAK	**Ala-Archa**	**44.46**	**337**	P	**P**	**14 38 07.7**	**+0.2**
AAK	**Ala-Archa**	**44.46**	**337**	P	**P**	**14 38 07.7**	**+0.2**
	1.2nm,0.7s,baz=154,slow=5.1,SNR=3.0						
ASAR	**Alice Springs**	**45.04**	**127**	P	**P**	**14 38 12.9**	**+0.7**
ASAR	**Alice Springs**	**45.04**	**127**	P	**P**	**14 38 12.9**	**+0.7**
	0.3nm,0.7s,baz=298,slow=8.0,SNR=7.1						
KSAR	**Wonju Array Be**	**45.55**	**36**	P	**P**	**14 38 15.8**	**-0.1**
KSRS	**Korea Array**	**45.58**	**36**	P	**P**	**14 38 15.8**	**-0.4**
	1.8nm,0.8s,baz=238,slow=7.0,SNR=4.0						
MK31	**Makanchi Array**	**45.83**	**347**	*eP*	**P**	**14 38 16.9**	**-1.2**
MKAR	**Makanchi Array**	**45.83**	**347**	P	**P**	**14 38 17.9**	**-0.2**
MKAR	**Makanchi Array**	**45.83**	**347**	P	**P**	**14 38 17.9**	**-0.2**
	3.1nm,0.5s,baz=157,slow=8.7,SNR=35						
SONM	**Songino Array**	**46.16**	**10**	P	**P**	**14 38 20.7**	**-0.1**
SONM				PcP	**PcP**	**14 39 57.7**	**+1.1**
SONM	**Songino Array**	**46.16**	**10**	P	**P**	**14 38 20.7**	**-0.1**
	4.5nm,0.8s,baz=191,slow=9.0,SNR=28						
SONM				PcP	**PcP**	**14 39 57.7**	**+1.1**
	1.4nm,0.8s,baz=197,slow=3.4,SNR=6.8						
KURBB	**Kurchatov Arra**	**50.30**	**346**	P	**P**	**14 38 52.5**	**-0.1**
	3.2nm,0.7s,baz=166,slow=6.9,SNR=37						
KURK	**Kurchatov**	**50.37**	**346**	P	**P**	**14 38 52.5**	**-0.5**
ZAA0	**Zalesovo Array**	**52.23**	**352**	*eP*	P	14 39 03.7	-3.2
ZALV	**Zalesovo Beam**	**52.23**	**352**	P	**P**	**14 39 06.8**	**-0.1**
ZALV	**Zalesovo Beam**	**52.23**	**352**	P	**P**	**14 39 06.8**	**-0.1**
	9.2nm,0.7s,baz=181,slow=6.4,SNR=37						
ABKAR	**Akbulak array**	**55.93**	**332**	*eP*	**P**	**14 39 34.1**	**+0.1**
	5.5nm,0.9s						
YAK	**Yakutsk**	**64.64**	**17**	*eP*	**P**	**14 40 32.4**	**-1.0**
	18nm,0.7s						
AKASG	**Malin Array Be**	**73.61**	**322**	P	**P**	**14 41 28.7**	**-0.6**
AKASG	**Malin Array Be**	**73.61**	**322**	P	**P**	**14 41 28.7**	**-0.6**
	0.5nm,0.6s,baz=87,slow=5.4,SNR=9.2						
FINES	**FINESS Array B**	**78.42**	**333**	P	**P**	**14 41 56.7**	**+0.2**
FINES	**FINESS Array B**	**78.42**	**333**	P	**P**	**14 41 56.7**	**+0.2**
	2.4nm,0.8s,baz=77,slow=6.1,SNR=4.0						
ARCES	**ARCESS Array B**	**81.04**	**340**	P	**P**	**14 42 10.9**	**+0.3**
ARCES	**ARCESS Array B**	**81.04**	**340**	P	**P**	**14 42 10.9**	**+0.3**
	3.8nm,1.0s,baz=81,slow=5.6,SNR=4.0						
GERES	**GERESS Array B**	**83.16**	**319**	P	**P**	**14 42 22.6**	**+0.4**
GERES	**GERESS Array B**	**83.16**	**319**	P	**P**	**14 42 22.7**	**+0.4**
	0.5nm,0.7s,baz=108,slow=5.7,SNR=5.8						

*IDC **19** 14:33:56.1±1.1,2.°03N×76.°63W,h0km,mb3.6/4,mb1 3.9/6, mb1mx3.6/23,mbtmp3.8/6,ML2.3/1,Error ellipse: s-maj=35.9km s-min=23.5km az=124.0*
*ISCJB **19** 14:33:58.9±0.9,1.°89N±0.°10×76.°6W±0.°2,h33km,mb3.6/4, Error ellipse: s-maj=25.5km s-min=9.7km az=26.2*
ISC 19 14:34:01.1±0.9,1.°9N±0.°1×76.°6W±0.°2,h35km,n9,σ1°49/9, mb3.5/4,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**3.68**	**37**	Pn		**Pn**	**14 34 54.5**	**-1.4**
	5.3nm,0.3s,baz=80,slow=21,SNR=4.8							
ROSC				Pg			14 35 01.8	
	17nm,0.3s,baz=198,slow=3.2,SNR=21							
ROSC				Sn		**Sn**	**14 35 39.9**	**+1.6**
	51nm,0.3s,baz=278,slow=22,SNR=5.8							
ATAH	**Atahualpa**	**9.17**	**191**	Pn		**Pn**	**14 36 12.6**	**+1.2**
	3.4nm,0.3s,baz=8.7,slow=12,SNR=9.8							
LPAZ	**La Paz**	**19.91**	**156**	P		**P**	**14 38 28.3**	**-2.3**
	2.3nm,1.0s,baz=340,slow=8.7,SNR=5.1							
YKA	**Yellowknife Ar**	**66.75**	**342**	P		**P**	**14 44 48.0**	**-0.6**
	0.2nm,0.5s,baz=134,slow=5.3,SNR=3.7							
DBIC	**Dimbokro**	**71.61**	**84**	P		**P**	**14 45 19.8**	**+0.1**
	3.4nm,0.9s,baz=263,slow=8.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**78.13**	**77**	P		**P**	**14 45 58.8**	**+1.3**
	0.3nm,0.6s,baz=270,slow=4.3,SNR=2.8							
ILAR	**Eielson Array**	**79.97**	**336**	P		**P**	**14 46 06.5**	**0.0**
	0.2nm,0.7s,baz=94,slow=3.6,SNR=5.0							
ASAR	**Alice Springs**	**143.43**	**231**	PKP		PKPbc	14 53 31.1	+0.9
	1.2nm,0.5s,baz=118,slow=3.7,SNR=44							
WRA	**Warramunga Arr**	**144.89**	**237**	PKP		**PKPdf**	**14 53 35.8**	**+0.2**
	0.9nm,0.6s,baz=111,slow=3.0,SNR=28							

KRSC 19 14:38:20.2±4.9,52.°28N×160.°20E,h5km±5km,ML3.6,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPN	**Mys Shipunski**	**0.83**	**353**	P		Pb	14 38 37.4	+0.3
SPN				S		Sb	14 38 49.1	+0.6
NLC	**Nalytchevo**	**1.03**	**330**	*eP*		Pb	14 38 40.8	+0.3
NLC				*eS*		Sb	14 38 55.2	+0.8
RUS	**Russkaya**	**1.05**	**279**	*iP*		Pb	14 38 40.7	-0.1
RUS				*eS*		Sb	14 38 54.9	+0.1
PET	**Petropavlovsk**	**1.20**	**309**	*iP*		Pg	14 38 43.1	-0.1
PET				*eS*		Sb	14 38 59.1	-0.1
UGLR	**Uglovaya**	**1.25**	**319**	*iP*		Pn	14 38 44.6	+0.1
UGLR				S		Sn	14 39 01.8	0.0
MTVR	**Mutnovka**	**1.25**	**280**	*iP*		Pg	14 38 44.2	-0.2
MTVR				*eS*		Sb	14 39 01.3	+0.2
SDLR	**Sedlovina**	**1.28**	**322**	*iP*		Pn	14 38 44.9	0.0
SDLR				*eS*		Sn	14 39 02.3	-0.3
SMAR	**Somma**	**1.30**	**320**	*iP*		Pn	14 38 45.1	-0.2
AVH	**Avacha**	**1.33**	**319**	*iP*		Pb	14 38 45.7	0.0
AVH				*eS*		Sn	14 39 03.7	0.0
GRL	**Gorelyy**	**1.33**	**283**	*eP*		Pg	14 38 46.0	+0.1
GRL				*eS*		Sn	14 39 04.0	+0.2
KRER	**Koryakskii**	**1.35**	**320**	*iP*		Pb	14 38 46.2	-0.1
KRER				*eS*		Sg	14 39 04.3	+0.1
KOK	**Koryaka**	**1.39**	**317**	P		Pn	14 38 46.0	-0.4
KOK				*eS*		Sb	14 39 04.1	-0.8
ASAK	**Asacha**	**1.42**	**275**	*iP*		Pb	14 38 47.0	-0.2
ASAK				*iS*		Sg	14 39 06.0	+0.1
KRX	**Arik**	**1.43**	**320**	*iP*		Pn	14 38 47.0	-0.1
KRX				*eS*		Sb	14 39 05.8	-0.5
APC	**Apacha**	**1.96**	**290**	*eP*		Pb	14 38 56.0	-0.4
APC				*eS*		Sb	14 39 21.4	+0.2
GNL	**Ganaly**	**1.97**	**317**	*iP*		Pb	14 38 56.0	-0.7
GNL				*eS*		Sb	14 39 21.7	+0.1
PAU	**Pauzhetka**	**2.25**	**250**	P		Pn	14 38 59.5	+1.4
PAU				S		Sb	14 39 27.9	-1.6
KZV	**Kizimen**	**2.84**	**1**	P		Pn	14 39 07.6	+1.2
KZV				S		Sn	14 39 40.5	-0.6
TUMR	**Tumrok**	**3.01**	**359**	*eP*		Pn	14 39 10.1	+1.4
SKR	**Severo-Kuril's**	**3.01**	**240**	S		Sn	14 39 45.8	+0.9

*ISCJB **19** 14:50:17.2±0.3,23.°78N±0.°01×121.°75E±0.°02,h14km, Error ellipse: s-maj=2.5km s-min=1.7km az=136.6*
*JMA **19** 14:50:17.6±0.1,23.°78N×121.°66E,h40km±3km,M3.1*
*TAP **19** 14:50:18.4,23.°83N×121.°66E,h40km,ML3.5,B*
ISC 19 14:50:17.0±0.8,23.°79N±0.°02×121.°73E±0.°02,h14km,n52, σ1°19/99,6C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEGC	**Jichi Village**	**0.19**	**246**	*eP*		Pb	14 50 25.9	+3.7
	baz=211							
TEGC				*eS*		**Sb**	**14 50 31.2**	**+5.5**
	baz=211							
ESF	**Shoufeng Towns**	**0.22**	**293**	P		**Pb**	**14 50 25.7**	**+2.9**
	baz=287							
ESF				*eS*		**Sb**	**14 50 30.9**	**+4.3**
	baz=287							
HWA	**Hwalien**	**0.22**	**330**	P		**Pb**	**14 50 25.3**	**+2.5**
	baz=347							
HWA				*eS*		**Sb**	**14 50 30.8**	**+4.1**
	baz=347							
ESL	**Shilin**	**0.27**	**276**	⇑*iP*		**Pn**	**14 50 25.7**	**-0.9**
	baz=265							
ESL				S		**Sn**	**14 50 30.6**	**-1.9**
	baz=265							
TWD	**Chiawan**	**0.32**	**338**	*i* P		**Pn**	**14 50 26.2**	**-1.0**
	baz=356							
TWD				S		**Sn**	**14 50 32.3**	**-1.3**
	baz=356							
WHF	**Hehuan Shan**	**0.55**	**310**	P		**Pb**	**14 50 29.6**	**+0.9**
	baz=308							
TWF1	**Yuli**	**0.58**	**222**	⇑P		**Pb**	**14 50 29.6**	**+0.6**
	baz=221							
TWF1				S		**Sb**	**14 50 37.6**	**+0.4**
	baz=221							
ENA	**Nanau**	**0.64**	**1**	*i* P		**Pb**	**14 50 30.7**	**+0.7**
	baz=18							
ENA				*eS*		**Sb**	**14 50 39.3**	**+0.6**
	baz=18							
TWT	**Tachien**	**0.69**	**313**	P		**Pb**	**14 50 31.2**	**+0.4**
	baz=313							
TWT				S		**Sg**	**14 50 39.6**	**+0.1**
	baz=313							
NNS	**Nan Shan**	**0.73**	**334**	P		**Pg**	**14 50 31.4**	**+0.2**
	baz=338							
NNS				*eS*		**Sg**	**14 50 40.3**	**-0.5**
	baz=338							
CHKT	**Chengkung**	**0.76**	**206**	*eP*		**Pn**	**14 50 32.8**	**-0.5**
	baz=187							
CHKT				*eS*		**Sn**	**14 50 44.8**	**+0.2**
	baz=187							
SMLT	**Sun Moon Lake**	**0.76**	**277**	⇑*iP*		**Pb**	**14 50 32.2**	**+0.1**
	baz=276							
SMLT				S		**Sg**	**14 50 42.2**	**+0.3**
	baz=276							
YUS	**Yu-Shan**	**0.77**	**248**	*i* P		**Pb**	**14 50 33.2**	**+0.8**
	baz=241							
YUS				S		**Sg**	**14 50 42.8**	**+0.5**
	baz=241							
TYC	**Yuchr**	**0.81**	**279**	P		**Pg**	**14 50 32.6**	**0.0**
	baz=280							
TYC				*eS*		**Sg**	**14 50 43.6**	**+0.4**
	baz=280							
TWC	**Suao**	**0.83**	**8**	*eP*		**Pb**	**14 50 33.5**	**+0.3**
	baz=20							
TWC				*eS*		**Sb**	**14 50 44.8**	**+0.6**
	baz=20							
ENTT	**Nioudou**	**0.86**	**350**	⇑P		**Pg**	**14 50 33.5**	**-0.2**
	baz=356							
ENTT				*eS*		**Sg**	**14 50 44.2**	**-0.8**
	baz=356							
ELDTW	**Lidau**	**0.88**	**228**	*eP*		**Pb**	**14 50 33.8**	**-0.4**
	baz=217							
ELDTW				*eS*		**Sg**	**14 50 45.6**	**-0.1**
	baz=217							
ALS	**Alishan**	**0.89**	**252**	⇑P		**Pg**	**14 50 34.8**	**+0.6**
	baz=247							
ALS				*eS*		**Sg**	**14 50 45.5**	**-0.4**
	baz=247							
NSK	**Sanguang**	**0.95**	**339**	⇑*iP*		**Pb**	**14 50 34.9**	**-0.4**
	baz=342							
NSK				S		**Sb**	**14 50 46.2**	**-1.5**
	baz=342							
WNT	**Mingjian**	**0.96**	**276**	*eP*		**Pb**	**14 50 35.6**	**+0.2**
	baz=273							
WNT				*eS*		**Sb**	**14 50 48.2**	**+0.2**
	baz=273							
CHN5	**Tsauling**	**0.98**	**259**	P		**Pb**	**14 50 35.9**	**+0.1**
	baz=256							
CHN5				*i* S		**Sg**	**14 50 49.1**	**+0.4**
	baz=256							
TCU	**Taichung**	**1.03**	**291**	*eP*		**Pb**	**14 50 36.7**	**+0.2**
	baz=289							
TCU				*eS*		**Sb**	**14 50 49.3**	**-0.5**
	baz=289							
TWQ1	**Liyutan**	**1.03**	**303**	*iP*		**Pb**	**14 50 36.8**	**+0.1**
	baz=302							
TWQ1				*eS*		**Sb**	**14 50 49.9**	**-0.3**
	baz=302							
NSTT	**Nanjuang**	**1.07**	**322**	*iP*		**Pb**	**14 50 37.3**	**0.0**
	baz=323							
NSTT				S		**Sb**	**14 50 49.9**	**-1.3**
	baz=323							
WGK	**Gukeng**	**1.07**	**265**	*eP*		**Pb**	**14 50 37.4**	**0.0**
	baz=262							
WGK				*eS*		**Sb**	**14 50 51.2**	**0.0**
	baz=262							
NSY	**Sanyi**	**1.08**	**306**	P		**Pb**	**14 50 37.4**	**-0.1**
	baz=305							
NSY				*eS*		**Sb**	**14 50 50.7**	**-0.8**
	baz=305							
STYT	**Tauyuan**	**1.08**	**235**	P		**Pn**	**14 50 37.9**	**+0.1**
	baz=227							
STYT				*eS*		**Sb**	**14 50 51.5**	**-0.2**
	baz=227							
CHN4	**Tsaushan**	**1.13**	**248**	P		**Pg**	**14 50 38.9**	**+0.2**
	baz=244							
CHN4				*eS*		**Sb**	**14 50 53.0**	**+0.2**
	baz=244							
TWG	**Pinlang**	**1.13**	**212**	*eP*		**Pb**	**14 50 37.1**	**-1.2**
	baz=195							
TWG				*eS*		**Sb**	**14 50 50.9**	**-2.1**
	baz=195							
WTP	**Ta-pu**	**1.15**	**242**	*eP*		**Pn**	**14 50 38.8**	**0.0**
	baz=238							
WTP				*eS*		**Sb**	**14 50 53.9**	**+0.3**
	baz=238							
CHY	**Chiayi**	**1.23**	**257**	*eP*		**Pn**	**14 50 39.6**	**-0.1**
	baz=254							
CHY				*eS*		**Sb**	**14 50 55.1**	**-0.6**
	baz=254							
TWB1	**Santiao Chiao**	**1.24**	**11**	*eP*		**Pn**	**14 50 39.6**	**-0.3**
	baz=18							
TWB1				*eS*		**Sb**	**14 50 55.6**	**-0.5**
	baz=18							
TWK	**Hsinying**	**1.25**	**246**	*eP*		**Pn**	**14 50 40.1**	**0.0**
	baz=242							
TWK				*eS*		**Sb**	**14 50 56.3**	**0.0**
	baz=242							
CHN1	**Nanshi**	**1.25**	**242**	*eP*		**Pn**	**14 50 40.3**	**+0.2**
	baz=238							
CHN1				*eS*		**Sn**	**14 50 56.9**	**0.0**
	baz=238							
SGST	**Jiashian**	**1.26**	**236**	P		**Pb**	**14 50 40.8**	**+0.2**
	baz=232							
SGST				*eS*		**Sb**	**14 50 57.1**	**+0.3**
	baz=232							
NWF	**Wu-fen Shan**	**1.28**	**2**	*eP*		**Pn**	**14 50 38.3**	**-2.2**
	baz=353							
NWF				*eS*		**Sn**	**14 50 57.7**	**+0.2**
	baz=353							
WTCT	**Ta-ch'eng**	**1.33**	**274**	*eP*		**Pn**	**14 50 41.0**	**-0.1**
	baz=272							
WTCT				*eS*		**Sb**	**14 50 58.0**	**-0.5**
	baz=272							
TWS1	**Kuangyinshan**	**1.34**	**348**	*eP*		**Pn**	**14 50 39.7**	**-1.6**
	baz=350							
TWS1				*eS*		**Sn**	**14 50 56.8**	**-2.1**
	baz=350							
YOJ	**Yonaguni jima**	**1.35**	**60**	*eS*		**Sn**	**14 50 59.1**	**-0.1**
YOJ	**Yonaguni jima**	**1.35**	**60**	*eP*		**Pn**	**14 51 41.0**	**-0.5**
	baz=64							
ECL	**Taimali**	**1.38**	**211**	*eP*		**Pn**	**14 50 40.1**	**-1.7**
	baz=195							
ECL				*eS*		**Sn**	**14 50 58.6**	**-1.3**
	baz=195							
WSF	**Szhu**	**1.39**	**264**	*eP*		**Pn**	**14 50 41.2**	**-0.7**
	baz=262							
WSF				*eS*		**Sn**	**14 50 59.6**	**-0.5**
	baz=262							
SSD	**Sandimen**	**1.44**	**224**	*eP*		**Pn**	**14 50 43.1**	**+0.4**
	baz=219							
SSD				*eS*		**Sn**	**14 51 01.8**	**+0.3**
	baz=219							
TWM1	**Shoushan**	**1.54**	**232**	*eP*		**Pb**	**14 50 45.7**	**+0.5**
	baz=227							
TWM1				*eS*		**Sb**	**14 51 05.5**	**+0.9**
	baz=227							
EAST	**Anshuo**	**1.61**	**210**	*eP*		**Pn**	**14 50 45.7**	**+0.6**
	baz=196							
EAST				*eS*		**Sn**	**14 51 05.9**	**+0.2**
	baz=196							
SCZT	**Fangliau**	**1.74**	**216**	*eP*		**Pb**	**14 50 48.1**	**-0.6**
	baz=209							
SCZT				*eS*		**Sn**	**14 51 08.7**	**0.0**
	baz=209							
LAY	**Lan-yu**	**1.75**	**185**	*eP*		**Pn**	**14 50 44.4**	**-2.5**
	baz=182							
IRIF	**Iriomote-Funau**	**1.91**	**73**	P		**Pn**	**14 50 49.7**	**+0.6**
IRIF				S		**Sn**	**14 51 13.6**	**+0.6**
HATJ	**Hateruma jima**	**1.92**	**82**	P		**Pn**	**14 50 49.9**	**+0.6**
HATJ				S		**Sn**	**14 51 13.3**	**+0.1**
JKRS	**Kuro-shima**	**2.13**	**77**	P		**Pn**	**14 50 53.4**	**+1.2**
JKRS				S		**Sn**	**14 51 19.4**	**+0.9**
JIJ	**Ishigaki jima**	**2.28**	**75**	P		**Pn**	**14 50 54.5**	**+0.3**
JIJ				S		**Sn**	**14 51 21.0**	**-1.2**
JTJ	**Tarama**	**2.85**	**72**	P		**Pn**	**14 51 02.5**	**+0.5**
JTJ				*eS*		**Sn**	**14 51 35.5**	**-0.6**

IGQ 19 15:01:14.7,2.°10S×79.°89W,h11km±82km,Mb4.1,Ms3.9, 3C-2D,Error ellipse: s-maj=2.9km s-min=1.8km az=4.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IGUA	**Igualata**	**1.39**	**64**	S		Sb	15 01 59.7	+0.1
IGUA	**Igualata**	**1.39**	**64**	P		Pg	15 01 41.7	-0.4
ISPT	**Isla de la Pla**	**1.45**	**305**	P		Pb	15 01 41.3	-0.3
ARNL	**Arenillas**	**1.45**	**187**	P		Pn	15 01 41.1	+0.3
BMAS	**Trigal station**	**1.53**	**67**	P		Pb	15 01 43.5	0.0
ARRY	**Arrayan**	**1.55**	**68**	⇑S		Sn	15 02 02.8	-0.3
ARRY	**Arrayan**	**1.55**	**68**	⇑P		Pb	15 01 43.6	-0.2
PAT1	**Patacocha**	**1.56**	**68**	P		Pb	15 01 44.7	+0.5
JUI6	**Juive**	**1.57**	**65**	P		Pb	15 01 44.5	+0.4
BPAT	**Tungurahua Vol**	**1.57**	**68**	P		Pn	15 01 42.7	-0.3
RETU	**Refugio**	**1.58**	**66**	P		Pb	15 01 44.8	+0.2
ULBA	**Ulba**	**1.61**	**67**	P		Pg	15 01 45.7	-0.5
BULB	**Ulba Tungurahu**	**1.62**	**66**	P		Pb	15 01 45.5	+0.5
MACE	**Macas**	**1.70**	**95**	S		Sn	15 02 06.9	+0.6
MACE	**Macas**	**1.70**	**95**	P		Pb	15 01 46.4	+0.3
PISA	**Pisayambo**	**1.82**	**56**	P		Pb	15 01 49.0	+0.3
PAST	**Pastocalle**	**1.87**	**42**	P		Pg	15 01 51.0	-0.2
BMOR	**Cotopaxi Volca**	**1.97**	**47**	P		Pb	15 01 51.2	-0.1
CAMI	**Rancho Maria**	**1.98**	**44**	P		Pb	15 01 51.3	0.0
MOV1	**Cotopaxi Vol s**	**2.00**	**47**	P		Pb	15 01 51.4	-0.5
BNAS	**Cotopaxi Volca**	**2.00**	**45**	P		Pb	15 01 50.9	-0.7
MAG1	**Magdalena**	**2.01**	**3**	P		Pn	15 01 49.0	+0.3
NAS2	**Nasa**	**2.02**	**45**	P		Pb	15 01 52.1	0.0
BREF	**Cotopaxi Volca**	**2.02**	**46**	⇓P		Pb	15 01 52.2	-0.1
BREF	**Cotopaxi Volca**	**2.02**	**46**	⇓S		Sg	15 02 19.9	-1.4
BTAM	**Cotopaxi Volca**	**2.05**	**47**	P		Pb	15 01 51.5	-1.2
BVC2	**Cotopaxi Volca**	**2.05**	**46**	P		Pb	15 01 52.4	-0.3
TAMB	**Tambo**	**2.06**	**48**	P		Pb	15 01 52.7	-0.2
VC1	**Cotopaxi 1**	**2.07**	**46**	P		Pb	15 01 52.5	-0.5
COV1	**Cotopaxi Volc**	**2.10**	**47**	P		Pb	15 01 52.3	-1.4
PITA	**Cotopaxi Volc**	**2.11**	**44**	P		Pb	15 01 53.3	-0.3
JUA2	**San Juan 2**	**2.27**	**34**	P		Pb	15 01 54.8	-1.4
TERV	**Terraza Guagua**	**2.30**	**34**	P		Pb	15 01 55.6	-1.3
GGP	**Refugio Guagua**	**2.31**	**34**	⇑P		Pn	15 01 55.1	+1.8
PINO	**Pino**	**2.31**	**34**	P		Pn	15 01 54.7	+1.3
ANTI	**Antisana**	**2.38**	**47**	P		Pb	15 01 57.4	-0.9
OTAV	**Otavalo**	**2.73**	**32**	P		Pn	15 02 00.4	+1.4

*JMA **19** 15:02:35.2±0.1,23.°78N×121.°63E,h46km±3km,M3.4*
*ISCJB **19** 15:02:36.7±0.2,23.°82N±0.°01×121.°71E±0.°02,h37km±5km, Error ellipse: s-maj=3.0km s-min=2.0km az=34.5*
*TAP **19** 15:02:36.3,23.°84N×121.°65E,h41km,ML3.8,B*
ISC 19 15:02:36.9±1.0,23.°82N±0.°02×121.°69E±0.°02,h34km±2km, n66,σ0°83/124,10C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEGC	**Jichi Village**	**0.17**	**233**	P		**Pb**	**15 02 43.9**	**+0.6**
	baz=207							
TEGC				*eS*		**Sb**	**15 02 49.6**	**+1.9**
	baz=207							
ESF	**Shoufeng Towns**	**0.18**	**288**	P		**Pb**	**15 02 43.5**	**+0.1**
	baz=283							
ESF				*eS*		**Sb**	**15 02 48.6**	**+0.7**
	baz=283							
HWA	**Hwalien**	**0.18**	**334**	P		**Pb**	**15 02 43.6**	**+0.2**
	baz=347							
HWA				*eS*		**Sb**	**15 02 49.5**

WNT	**Mingjian**	**0.93**	**274**	P	**Pn**	**15 02 53.6 +0.1**
	baz=273					
WNT				S	**Sn**	**15 03 06.0 +0.4**
	baz=273					
CHN5	**Tsauling**	**0.95**	**257**	P	**Pn**	**15 02 54.1 +0.1**
	baz=256					
CHN5				S	**Sn**	**15 03 07.1 +0.6**
	baz=256					
TCU	**Taichung**	**0.99**	**290**	P	**Pn**	**15 02 54.6 +0.3**
	baz=289					
TCU				*e*S	**Sn**	**15 03 07.4 +0.2**
	baz=289					
TWQ1	**Liyutan**	**0.99**	**302**	*i* P	**Pn**	**15 02 54.7 +0.2**
	baz=302					
TWQ1				*e*S	**Sn**	**15 03 07.6 +0.3**
	baz=302					
NSTT	**Nanjuang**	**1.03**	**322**	⇑*i*P	**Pn**	**15 02 55.3 +0.4**
	baz=309					
NSTT				S	**Sn**	**15 03 08.4 +0.3**
	baz=309					
NSY	**Sanyi**	**1.04**	**305**	*e*P	**Pn**	**15 02 55.3 +0.2**
	baz=304					
NSY				*e*S	**Sn**	**15 03 09.2 +0.7**
	baz=304					
WGK	**Gukeng**	**1.04**	**263**	*e*P	**Pn**	**15 02 55.1 0.0**
	baz=262					
WGK				*e*S	**Sn**	**15 03 08.8 +0.3**
	baz=262					
STYT	**Tauyuan**	**1.08**	**233**	P	**Pn**	**15 02 55.8 +0.2**
	baz=228					
STYT				S	**Sn**	**15 03 09.8 +0.3**
	baz=228					
WTP	**Ta-pu**	**1.14**	**240**	P	**Pn**	**15 02 56.9 +0.4**
	baz=240					
WTP				*e*S	**Sn**	**15 03 11.6 +0.6**
	baz=240					
TWG	**Pinlang**	**1.14**	**210**	*e*P	**Pn**	**15 02 55.4 -1.1**
	baz=196					
TTN	**Taitung**	**1.17**	**206**	*e*P	**Pn**	**15 02 57.5 +0.7**
	baz=200					
TTN				*e*S	**Sn**	**15 03 12.9 +1.3**
	baz=200					
HSN	**Hsinchu**	**1.18**	**326**	*e*P	**Pn**	**15 02 56.9 -0.1**
	baz=327					
HSN				*e*S	**Sb**	**15 03 13.3 -0.6**
	baz=327					
CHY	**Chiayi**	**1.21**	**255**	*e*P	**Pn**	**15 02 58.0 +0.7**
	baz=254					
CHY				*e*S	**Sn**	**15 03 12.9 +0.4**
	baz=254					
TWB1	**Santiao Chiao**	**1.22**	**13**	P	**Pn**	**15 02 58.1 +0.6**
	baz=30					
TWB1				*e*S	**Sn**	**15 03 13.4 +0.6**
	baz=30					
TWK	**Hsinying**	**1.23**	**244**	P	**Pn**	**15 02 58.1 +0.3**
	baz=243					
TWK				*e*S	**Sn**	**15 03 14.0 +0.8**
	baz=243					
NCU	**National Centr**	**1.24**	**338**	*e*P	**Pn**	**15 02 58.0 +0.2**
	baz=336					
NCU				*e*S	**Sn**	**15 03 13.9 +0.6**
	baz=336					
CHN1	**Nanshi**	**1.24**	**240**	P	**Pn**	**15 02 58.3 +0.5**
	baz=240					
CHN1				*e*S	**Sn**	**15 03 14.4 +1.1**
	baz=240					
NWF	**Wu-fen Shan**	**1.25**	**4**	*e*P	**Pn**	**15 02 57.8 -0.2**
	baz=350					
NWF				*e*S	**Sb**	**15 03 16.8 +0.8**
	baz=350					
SGST	**Jiashian**	**1.25**	**235**	⇓*i*P	**Pn**	**15 02 59.0 +1.0**
	baz=234					
SGST				*e*S	**Sb**	**15 03 15.5 -0.4**
	baz=234					
WTCT	**Ta-ch'eng**	**1.29**	**272**	*e*P	**Pn**	**15 02 59.0 +0.4**
	baz=272					
WTCT				*e*S	**Sn**	**15 03 15.7 +1.1**
	baz=272					
TWS1	**Kuangyinshan**	**1.30**	**349**	*e*P	**Pn**	**15 02 58.4 -0.3**
	baz=347					
TWS1				*e*S	**Sn**	**15 03 14.8 -0.1**
	baz=347					
WSF	**Szhu**	**1.36**	**263**	*e*P	**Pn**	**15 02 59.7 +0.3**
	baz=262					
WSF				*e*S	**Sn**	**15 03 17.6 +1.3**
	baz=262					
YOJ	**Yonaguni jima**	**1.37**	**62**	P	**Pn**	**15 02 59.6 +0.1**
YOJ				*e*S	**Sn**	**15 03 16.4 0.0**
YOJ	**Yonaguni jima**	**1.37**	**62**	*e*P	**Pn**	**15 02 59.2 -0.4**
	baz=64					
ECL	**Taimali**	**1.39**	**209**	*e*P	**Pn**	**15 02 58.2 -1.7**
	baz=195					
ECL				*e*S	**Sn**	**15 03 17.5 +0.5**
	baz=195					
CHN3	**Shinhua**	**1.42**	**239**	*e*P	**Pn**	**15 03 01.3 +0.9**
	baz=239					
CHN3				*e*S	**Sb**	**15 03 19.8 -0.9**
	baz=239					
CHN8	**Yiju**	**1.44**	**251**	*e*P	**Pn**	**15 03 00.7 +0.2**
	baz=251					
CHN8				*e*S	**Sn**	**15 03 18.8 +0.6**
	baz=251					
SSD	**Sandimen**	**1.44**	**223**	*e*P	**Pn**	**15 03 00.8 +0.2**
	baz=223					
SSD				S	**Sn**	**15 03 20.1 +1.8**
	baz=223					
TWY	**Chenhua**	**1.46**	**357**	*e*P	**Pn**	**15 03 01.8 +1.0**
	baz=356					
SCLT	**Jiali**	**1.52**	**245**	*e*P	**Pn**	**15 03 01.9 +0.3**
	baz=246					
SCLT				*e*S	**Sn**	**15 03 21.1 +1.0**
	baz=246					
TWM1	**Shoushan**	**1.53**	**230**	*e*P	**Pb**	**15 03 03.7 -1.0**
	baz=230					
TWM1				*e*S	**Sb**	**15 03 23.6 -0.2**
	baz=230					
SGLT	**Jiouru**	**1.55**	**226**	*e*P	**Pn**	**15 03 03.1 +1.0**
	baz=227					
SGLT				*e*S	**Sb**	**15 03 23.1 -1.1**
	baz=227					
TAI1	**Yung-k'ang**	**1.55**	**240**	*e*P	**Pn**	**15 03 02.8 +0.7**
	baz=240					
EAST	**Anshuo**	**1.62**	**209**	*e*P	**Pn**	**15 03 02.4 -0.7**
	baz=197					
EAST				*e*S	**Sn**	**15 03 24.1 +1.2**
	baz=197					
TAW	**Tawu**	**1.62**	**207**	*e*P	**Pn**	**15 03 03.9 +0.8**
	baz=194					
TAW				*e*S	**Sn**	**15 03 23.4 +0.5**
	baz=194					
SCZT	**Fangliau**	**1.74**	**215**	*e*P	**Pn**	**15 03 05.6 +0.9**
	baz=213					
SCZT				*e*S	**Sn**	**15 03 27.1 +1.3**
	baz=213					
LAY	**Lan-yu**	**1.77**	**184**	*e*P	**Pn**	**15 03 03.7 -1.5**
	baz=173					
LAY				*e*S	**Sn**	**15 03 25.9 -0.6**
	baz=173					
IRIF	**Iriomote-Funau**	**1.93**	**74**	P	**Pn**	**15 03 07.7 +0.4**
IRIF				S	**Sn**	**15 03 31.0 +0.6**
HATJ	**Hateruma jima**	**1.95**	**82**	P	**Pn**	**15 03 07.9 +0.4**
HATJ				S	**Sn**	**15 03 31.1 +0.3**
HEN	**Hengchun**	**2.00**	**206**	*e*P	**Pb**	**15 03 10.9 -1.8**
	baz=198					
TWK1	**Hengchun**	**2.04**	**204**	*e*P	**Pn**	**15 03 08.8 +0.1**
	baz=197					
TWK1				*e*S	**Sn**	**15 03 33.4 +0.5**
	baz=197					
TSEB	**Hengchuen, Pin**	**2.04**	**201**	*e*P	**Pn**	**15 03 10.1 +1.2**
	baz=196					
TSEB				*e*S	**Sn**	**15 03 34.9 +1.7**
	baz=196					
JKRS	**Kuro-shima**	**2.16**	**78**	P	**Pn**	**15 03 11.3 +0.9**
JKRS				S	**Sn**	**15 03 37.1 +1.1**
JIJ	**Ishigaki jima**	**2.31**	**76**	P	**Pn**	**15 03 12.2 -0.3**
JIJ				S	**Sn**	**15 03 38.8 -0.8**
JTJ	**Tarama**	**2.87**	**73**	P	**Pn**	**15 03 20.3 +0.1**
KNM	**Kinmen**	**3.04**	**282**	*e*P	**Pn**	**15 03 23.3 +0.8**
	baz=280					

IDC ***19*** *15:10:27.5±3.4,22°.53S×171°.82E,h0km,mb3.9/3, mb1 4.2/4,mb1mx3.8/18,mbtmp3.9/4,ML3.5/1,Error ellipse: s-maj=116.4km s-min=52.6km az=173.0*
ISC 19 15:10:33.2±2.2,23°.0S±0°.7×171°.8E±0°.2,h40km,n6, σ0s71/8,mb3.9/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LASL	**Noumea**	**4.90**	**278**	*e*S	**Sn**	**15 12 40.4**	**+0.6**
DZM	**Mont Dzumac**	**5.01**	**280**	Pn	**Pn**	**15 11 45.8**	**-0.2**
	2.0nm,0.3s,baz=90,slow=24,SNR=126						
DZM				Sn	**Sn**	**15 12 43.6**	**+0.8**
	5.9nm,0.3s,baz=98,slow=22,SNR=8.1						
DZM	**Mont Dzumac**	**5.01**	**280**	*e*P	**Pn**	**15 11 45.7**	**-0.4**
DZM				*e*S	**Sn**	**15 12 42.1**	**-0.7**
DZM				AMP		15 12 49.8	
	comp=Z,202nm,9.4s						
ASAR	**Alice Springs**	**34.72**	**261**	P	**P**	**15 17 19.9**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=89,slow=8.2,SNR=32						
WRA	**Warramunga Arr**	**34.91**	**268**	P	**P**	**15 17 20.6**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=95,slow=8.5,SNR=9.7						
CMAR	**Chiang Mai Arr**	**82.19**	**294**	P	**P**	**15 22 51.0**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=142,slow=4.3,SNR=5.7						

IDC 19 15:11:44.2±1.7,1°.84N×126°.85E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.5/22,mbtmp3.8/4,Error ellipse: s-maj=172.8km s-min=22.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.86**	**162**	P	P	15 16 49.6	+0.2
	1.1nm,0.4s,baz=340,slow=11,SNR=33						
STKA	**Stephens Creek**	**36.34**	**159**	P	P	15 18 49.8	-0.3
	1.2nm,0.8s,baz=346,slow=6.4,SNR=4.4						
MKAR	**Makanchi Array**	**59.17**	**326**	P	P	15 21 47.3	+0.3
	0.7nm,0.7s,baz=119,slow=7.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**63.38**	**328**	P	P	15 22 15.1	-0.4
	0.8nm,0.5s,baz=137,slow=6.6,SNR=4.1						

IDC ***19*** *15:12:07.8±0.7,23°.66N×121°.93E,h0km,mb3.5/11, mb1 3.7/12,mb1mx3.6/28,mbtmp3.6/12,ML3.3/1,MS3.8/2, Ms1 3.8/2,ms1mx3.3/44,Error ellipse: s-maj=28.1km s-min=15.4km az=68.0*
BJI ***19*** *15:12:10.9,23°.77N×121°.62E,h11km,mb3.7/2,ML3.5/5*
ISCJB ***19*** *15:12:12.7±0.2,23°.65N±0°.01×121°.79E±0°.02,h42km±4km, mb3.5/11,MS4.3/1,Error ellipse: s-maj=2.8km s-min=1.8km az=41.6*
JMA ***19*** *15:12:12.1,23°.62N×121°.69E,h48km±2km,M4.5*
TAP ***19*** *15:12:13.3,23°.68N×121°.69E,h36km,ML4.5,B*
ISC 19 15:12:13.0±0.8,23°.66N±0°.02×121°.75E±0°.02,h35km±5km, n101,σ0s99/164,mb3.6/11,21C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.20**	**285**	⇓P	**Pn**	**15 12 20.0**	**+0.5**
	baz=282						
TEGC				S	**Sb**	**15 12 25.0**	**+0.5**
	baz=282						
ESF	**Shoufeng Towns**	**0.31**	**314**	⇓P	**Pn**	**15 12 20.7**	**-0.3**
	baz=324						
ESF				*e*S	**Sn**	**15 12 25.9**	**-0.4**
	baz=324						
ESL	**Shilin**	**0.33**	**298**	⇑*i*P	**Pn**	**15 12 20.8**	**-0.6**
	baz=291						
ESL				S	**Sn**	**15 12 26.0**	**-0.9**
	baz=291						
HWA	**Hwalien**	**0.34**	**337**	⇓*i*P	**Pb**	**15 12 21.4**	**-0.2**
	baz=346						
HWA				*e*S	**Sb**	**15 12 27.6**	**+0.2**
	baz=346						
TWD	**Chiawan**	**0.44**	**341**	⇓*i*P	**Pb**	**15 12 22.5**	**-0.5**
	baz=355						
TWD				*i* S	**Sb**	**15 12 29.2**	**-0.6**
	baz=355						
TWF1	**Yuli**	**0.52**	**234**	⇑*i*P	**Pn**	**15 12 23.7**	**-0.2**
	baz=239						
TWF1				*e*S	**Sn**	**15 12 30.9**	**-0.6**
	baz=239						
EHP	**Heping Village**	**0.65**	**359**	P	**Pn**	**15 12 25.5**	**-0.3**
	baz=5.0						
EHP				S	**Sn**	**15 12 34.9**	**0.0**
	baz=5.0						
CHKT	**Chengkung**	**0.66**	**213**	⇓*i*P	**Pn**	**15 12 25.4**	**-0.5**
	baz=197						
CHKT				*e*S	**Sn**	**15 12 33.8**	**-1.2**
	baz=197						
YUS	**Yu-Shan**	**0.75**	**257**	⇑*i*P	**Pn**	**15 12 27.8**	**+0.1**
	baz=255						
YUS				S	**Sn**	**15 12 37.0**	**-1.0**
	baz=255						
ENA	**Nanau**	**0.77**	**359**	⇓*i*P	**Pn**	**15 12 27.2**	**-0.2**
	baz=4.0						
ENA				S	**Sn**	**15 12 37.5**	**-0.3**
	baz=4.0						
TWT	**Tachien**	**0.79**	**319**	⇑*i*P	**Pn**	**15 12 28.0**	**+0.1**
	baz=314						
TWT				S	**Sn**	**15 12 37.6**	**-1.0**
	baz=314						
SMLT	**Sun Moon Lake**	**0.81**	**286**	⇑*i*P	**Pn**	**15 12 28.1**	**0.0**
	baz=290						
SMLT				S	**Sn**	**15 12 39.0**	**0.0**
	baz=290						
ELDTW	**Lidau**	**0.82**	**235**	⇓*i*P	**Pn**	**15 12 27.6**	**-0.6**
	baz=231						
ELDTW				*e*S	**Sn**	**15 12 37.7**	**-1.4**
	baz=231						
NNS	**Nan Shan**	**0.85**	**336**	⇓P	**Pn**	**15 12 28.6**	**-0.1**
	baz=340						
NNS				*e*S	**Sn**	**15 12 38.9**	**-1.2**
	baz=340						
TYC	**Yuchr**	**0.85**	**287**	⇑*i*P	**Pn**	**15 12 28.6**	**0.0**
	baz=293						
TYC				S	**Sn**	**15 12 40.1**	**+0.2**
	baz=293						
ALS	**Alishan**	**0.88**	**261**	⇑*i*P	**Pn**	**15 12 29.8**	**+0.6**
	baz=267						
ALS				S	**Sn**	**15 12 40.7**	**-0.2**
	baz=267						
TWC	**Suao**	**0.95**	**5**	⇓*i*P	**Pn**	**15 12 30.3**	**+0.3**
	baz=9.0						
TWC				S	**Sn**	**15 12 42.7**	**+0.4**
	baz=9.0						
CHN5	**Tsauling**	**0.98**	**267**	⇑*i*P	**Pn**	**15 12 31.4**	**+0.9**
	baz=266						
CHN5				*e*S	**Sb**	**15 12 44.6**	**+0.1**
	baz=266						
ENTT	**Nioudou**	**0.99**	**350**	⇓*i*P	**Pn**	**15 12 30.7**	**+0.2**
	baz=344						
ENTT				*e*S	**Sn**	**15 12 43.3**	**0.0**
	baz=344						
WNT	**Mingjian**	**1.00**	**283**	⇑*i*P	**Pn**	**15 12 31.8**	**+1.2**
	baz=283						
WNT				*e*S	**Sn**	**15 12 44.6**	**+1.1**
	baz=283						
STYT	**Tauyuan**	**1.04**	**242**	⇓*i*P	**Pn**	**15 12 31.7**	**+0.5**
	baz=239						
STYT				*e*S	**Sn**	**15 12 44.9**	**+0.4**
	baz=239						
TWG	**Pinlang**	**1.04**	**217**	⇓P	**Pn**	**15 12 30.2**	**-0.9**
	baz=213						
TWG				*e*S	**Sn**	**15 12 42.8**	**-1.7**
	baz=213						
TTN	**Taitung**	**1.06**	**212**	*e*P	**Pn**	**15 12 31.4**	**0.0**
	baz=218						
TTN				S	**Sn**	**15 12 45.0**	**+0.1**
	baz=218						
NSK	**Sanguang**	**1.08**	**341**	⇓*i*P	**Pn**	**15 12 32.1**	**+0.4**
	baz=344						
NSK				*i* S	**Sn**	**15 12 45.4**	**-0.1**
	baz=344						
WGK	**Gukeng**	**1.09**	**272**	⇑*e*P	**Pn**	**15 12 32.7**	**+0.9**
	baz=271						
WGK				*e*S	**Sn**	**15 12 47.0**	**+1.3**
	baz=271						
TCU	**Taichung**	**1.10**	**297**	⇑P	**Pb**	**15 12 33.4**	**-0.2**
	baz=298						
TCU				*e*S	**Sb**	**15 12 47.2**	**-0.5**
	baz=298						
ILA	**Ilan**	**1.10**	**360**	*e*P	**Pn**	**15 12 32.0**	**0.0**
	baz=12						
ILA				*e*S	**Sb**	**15 12 47.1**	**-0.8**
	baz=12						
WTP	**Ta-pu**	**1.12**	**249**	⇑*i*P	**Pn**	**15 12 33.5**	**+1.2**
	baz=247						
WTP				*e*S	**Sn**	**15 12 47.9**	**+1.3**
	baz=247						
TWQ1	**Liyutan**	**1.13**	**308**	⇑P	**Pb**	**15 12 33.8**	**-0.3**
	baz=310						
TWQ1				*e*S	**Sn**	**15 12 47.5**	**+0.8**
	baz=310						
NSY	**Sanyi**	**1.18**	**310**	⇑P	**Pb**	**15 12 34.4**	**-0.6**
	baz=312						
NSY				*e*S	**Sb**	**15 12 49.3**	**-0.7**
	baz=312						
NSTT	**Nanjuang**	**1.19**	**325**	⇑*e*P	**Pb**	**15 12 34.5**	**-0.6**
	baz=328						
NSTT				S	**Sn**	**15 12 48.5**	**+0.4**
	baz=328						
SGST	**Jiashian**	**1.22**	**242**	⇓P	**Pn**	**15 12 34.8**	**+1.2**
	baz=240						
SGST				*e*S	**Sn**	**15 12 50.6**	**+1.8**
	baz=240						
CHN1	**Nanshi**	**1.22**	**248**	⇑P	**Pn**	**15 12 35.0**	**+1.4**
	baz=246						
CHN1				*e*S	**Sn**	**15 12 50.7**	**+1.8**
	baz=246						
TWK	**Hsinying**	**1.22**	**252**	⇑P	**Pn**	**15 12 34.8**	**+1.1**
	baz=250						
TWK				*e*S	**Sn**	**15 12 50.3**	**+1.2**
	baz=250						
CHY	**Chiayi**	**1.23**	**263**	⇑P	**Pn**	**15 12 35.1**	**+1.4**
	baz=262						
CHY				*e*S	**Sn**	**15 12 50.1**	**+1.1**
	baz=262						
ECL	**Taimali**	**1.28**	**215**	⇓*e*P	**Pn**	**15 12 33.2**	**-1.3**
	baz=212						
ECL				*e*S	**Sn**	**15 12 48.6**	**-1.9**
	baz=212						
HSN	**Hsinchu**	**1.34**	**328**	*e*P	**Pn**	**15 12 36.6**	**+1.3**
	baz=333						
HSN				*e*S	**Sb**	**15 12 54.0**	**-0.6**
	baz=333						
WTCT	**Ta-ch'eng**	**1.36**	**279**	*e*P	**Pn**	**15 12 36.5**	**+1.0**
	baz=279						
WTCT				*e*S	**Sb**	**15 12 54.7**	**-0.5**
	baz=279						
TWB1	**Santiao Chiao**	**1.36**	**9**	⇓*e*P	**Pn**	**15 12 36.7**	**+1.1**
	baz=11						
TWB1				*e*S	**Sn**	**15 12 53.2**	**+0.8**
	baz=11						
SSD	**Sandimen**	**1.37**	**229**	*e*P	**Pn**	**15 12 36.1**	**+0.4**
	baz=226						
SSD				*e*S	**Sn**	**15 12 54.5**	**+1.9**
	baz=226						
TAP1	**Taipei**	**1.39**	**351**	*e*P	**Pn**	**15 12 36.5**	**+0.5**
	baz=353						
TAP1				*e*S	**Sn**	**15 12 52.7**	**-0.5**
	baz=353						
TAP	**Taipei**	**1.39**	**351**	*e*P	**Pn**	**15 12 36.7**	**+0.7**
	baz=353						
TAP				*e*S	**Sn**	**15 12 53.9**	**+0.7**
	baz=353						
CHN3	**Shinhua**	**1.40**	**246**	*e*P	**Pb**	**15 12 38.5**	**-0.1**
	baz=244						
CHN3				*e*S	**Sb**	**15 12 56.5**	**+0.3**
	baz=244						
WSF	**Szhu**	**1.40**	**270**	⇑P	**Pn**	**15 12 37.2**	**+1.1**
	baz=270						
WSF				*e*S	**Sn**	**15 12 54.6**	**+1.2**
	baz=270						
YOJ	**Yonaguni jima**	**1.40**	**55**	P	**Pn**	**15 12 37.2**	**+1.1**
YOJ				S	**Sn**	**15 12 54.9**	**+1.5**
YOJ	**Yonaguni jima**	**1.40**	**55**	⇑*i*P	**Pn**	**15 12 37.3**	**+1.1**
	baz=56						
YOJ				*e*S	**Sn**	**15 12 54.3**	**+0.9**
	baz=56						
NCU	**National Centr**	**1.41**	**339**	*e*P	**Pn**	**15 12 37.0**	**+0.9**
	baz=342						
NCU				*e*S	**Sb**	**15 12 55.2**	**-1.2**
	baz=342						
NWF	**Wu-fen Shan**	**1.41**	**1**	*e*P	**Pn**	**15 12 37.4**	**+1.1**
	baz=351						
NWF				*e*S	**Sn**	**15 12 53.9**	**+0.2**
	baz=351						
CHN8	**Yiju**	**1.45**	**258**	*e*P	**Pn**	**15 12 37.8**	**+1.1**
	baz=257						
CHN8				*e*S	**Sn**	**15 12 55.8**	**+1.4**
	baz=257						
TWS1	**Kuangyinshan**	**1.47**	**348**	*e*P	**Pn**	**15 12 38.1**	**+1.1**
	baz=360						
TWS1				*e*S	**Sb**	**15 12 56.7**	**-1.5**
	baz=360						
TWM1	**Shoushan**	**1.48**	**236**	*e*P	**Pb**	**15 12 39.7**	**-0.2**
	baz=220						
TWM1				*e*S	**Sb**	**15 12 58.2**	**-0.3**
	baz=220						
SGLT	**Jiouru**	**1.48**	**232**	*e*P	**Pb**	**15 12 39.8**	**-0.3**
	baz=218						
SGLT				*e*S	**Sn**	**15 12 58.0**	**+2.6**
	baz=218						
SCLT	**Jiali**	**1.51**	**252**	*e*P	**Pn**	**15 12 39.0**	**+1.4**
	baz=251						
SCLT				*e*S	**Sn**	**15 12 57.8**	**+1.8**
	baz=251						
TAW	**Tawu**	**1.51**	**212**	*e*P	**Pn**	**15 12 37.2**	**-0.5**
	baz=208						
TAW				*e*S	**Sn**	**15 12 54.7**	**-1.5**
	baz=208						
EAST	**Anshuo**	**1.52**	**213**	⇓P	**Pn**	**15 12 37.1**	**-0.6**
	baz=209						
TAI1	**Yung-k'ang**	**1.53**	**247**	*e*P	**Pn**	**15 12 39.5**	**+1.7**
	baz=260						
TAI1				*e*S	**Sn**	**15 12 57.8**	**+1.3**
	baz=260						
TWY	**Chenhua**	**1.62**	**355**	*e*P	**Pn**	**15 12 39.4**	**+0.3**
	baz=345						
TWY				*e*S	**Sn**	**15 12 59.9**	**+1.2**
	baz=345						
LAY	**Lan-yu**	**1.62**	**187**	⇓*e*P	**Pn**	**15 12 38.2**	**-0.9**
	baz=183						
SCZT	**Fangliau**	**1.65**	**219**	*e*P	**Pn**	**15 12 40.1**	**+0.6**
	baz=211						
SCZT				*e*S	**Sn**	**15 13 01.6**	**+2.1**
	baz=211						
TWP	**Hsiaoliuchiu**	**1.83**	**225**	*e*P	**Pn**	**15 12 44.4**	**+2.4**
	baz=221						
HEN	**Hengchun**	**1.89**	**210**	*e*P	**Pn**	**15 12 43.7**	**+0.9**
	baz=195						
HEN				*e*S	**Sn**	**15 13 06.3**	**+0.9**
	baz=195						
TWK1	**Hengchun**	**1.92**	**207**	*e*P	**Pn**	**15 12 43.5**	**+0.3**
	baz=204						
TWK1				*e*S	**Sn**	**15 13 06.3**	**+0.2**
	baz=204						
TSEB	**Hengchuen, Pin**	**1.92**	**204**	*e*P	**Pn**	**15 12 43.9**	**+0.7**
	baz=203						
TSEB				*e*S	**Sn**	**15 13 06.8**	**+0.7**
	baz=203						
HATJ	**Hateruma jima**	**1.92**	**78**	P	**Pn**	**15 12 44.2**	**+0.9**
HATJ				S	**Sn**	**15 13 06.9**	**+0.7**
IRIF	**Iriomote-Funau**	**1.93**	**69**	P	**Pn**	**15 12 44.6**	**+1.2**
IRIF				S	**Sn**	**15 13 07.7**	**+1.2**
WDGT	**Dungji**	**1.96**	**259**	⇑P	**Pn**	**15 12 44.4**	**+0.6**
	baz=259						
WDGT				*e*S	**Sn**	**15 13 06.6**	**-0.6**
	baz=259						
PCYT	**Pengchaiyu**	**1.99**	**8**	*e*P	**Pn**	**15 12 44.9**	**+0.7**
	baz=9.0						
PCYT				*e*S	**Sn**	**15 13 09.1**	**+1.3**
	baz=9.0						
JKRS	**Kuro-shima**	**2.15**	**74**	P	**Pn**	**15 12 47.6**	**+1.3**
JKRS				S	**Sn**	**15 13 13.5**	**+1.8**
JIJ	**Ishigaki jima**	**2.30**	**72**	P	**Pn**	**15 12 49.2**	**+0.8**
JIJ				S	**Sn**	**15 13 15.7**	**+0.2**
JTJ	**Tarama**	**2.87**	**69**	P	**Pn**	**15 12 57.2**	**+0.9**
JTJ				*e*S	**Sn**	**15 13 30.0**	**+0.4**
KNM	**Kinmen**	**3.13**	**285**	*e*P	**Pn**	**15 13 00.9**	**+1.0**
	baz=285						
KNM				*e*S	**Sn**	**15 13 36.9**	**+1.0**
	baz=285						
QZH	**Quanzhou**	**3.15**	**295**	⇓*i*Pn	Pn	15 12 56.1	-4.1
QZH				Sn	Sn	15 13 30.1	-6.5
QZH				smax	smax		
	comp=N,720nm,0.7s						
QZH				smax	smax		
	comp=E,640nm,0.8s						
JMJ	**Miyako jima 2**	**3.43**	**70**	P	**Pn**	**15 13 05.6**	**+1.6**
JMJ				S	**Sn**	**15 13 44.3**	**+0.8**
JMJ	**Miyako jima 2**	**3.43**	**70**	*e*P	**Pn**	**15 13 05.1**	**+1.0**
	baz=83						
JOGS	**Gusukube**	**3.51**	**71**	P	**Pn**	**15 13 06.4**	**+1.2**
JOGS				*e*S	**Sn**	**15 13 46.4**	**+0.9**
JKE	**Kume jima 2**	**5.29**	**59**	P	**Pn**	**15 13 29.7**	**+0.2**
JKE				*e*S	**Sn**	**15 14 28.2**	**-1.0**
JIH	**Iheya**	**6.55**	**58**	P	**Pn**	**15 13 46.9**	**0.0**
JOW	**Kunigami**	**6.70**	**60**	P	**Pn**	**15 13 48.0**	**-0.9**

JOW	Kunigami	6.70	60	eP		Pn	15 13 48.0	-0.9
	baz=65							
JTK	Tokunoshima	7.68	56	P		Pn	15 14 01.1	-1.4
JAMN	Amaminishikomi	8.09	54	P		Pn	15 14 07.6	-0.5
JAM	Amami Oshima	8.50	55	P		Pn	15 14 13.3	-0.4
KSRS	Korea Array	14.74	20	Pn		Pn	15 15 37.4	-1.5
	0.1nm,0.3s,baz=205,slow=12,SNR=4.4							
KSRS				LR		LR	15 21 21.5	
	comp=Z,191nm,22.0s,baz=280,slow=38							
CMAR	Chiang Mai Arr	21.89	261	P		P	15 17 05.8	+2.6
	0.6nm,0.7s,baz=65,slow=8.6,SNR=8.2							
SONM	Songino Array	27.05	337	P		P	15 17 53.2	+1.0
	0.4nm,0.5s,baz=151,slow=9.2,SNR=5.1							
MKAR	Makanchi Array	39.08	316	P		P	15 19 37.4	+0.7
	0.8nm,0.8s,baz=99,slow=7.8,SNR=5.6							
ZALV	Zalesovo Beam	40.97	327	P		P	15 19 51.3	-0.9
	0.6nm,0.5s,baz=128,slow=8.0,SNR=4.8							
H11N1	WAKE ISLAND Hy 42.00	86		T		T	16 05 07.3	
	baz=286,slow=75,SNR=39							
H11N2	WAKE ISLAND Hy 42.00	86		T		T	16 05 13.9	
	baz=286,slow=75,SNR=45							
H11N3	WAKE ISLAND Hy 42.02	86		T		T	16 05 14.0	
	baz=286,slow=75,SNR=36							
H11S3	WAKE ISLAND Hy 42.12	88		T		T	16 05 26.2	
	baz=287,slow=73,SNR=59							
H11S1	WAKE ISLAND Hy 42.12	88		T		T	16 05 24.6	
	baz=287,slow=73,SNR=39							
H11S2	WAKE ISLAND Hy 42.13	88		T		T	16 05 23.1	
	baz=287,slow=73,SNR=45							
KURBB	Kurchatov Arra	42.84	320	P		P	15 20 07.1	-0.6
	0.3nm,0.3s,baz=106,slow=9.3,SNR=4.3							
WRA	Warramunga Arr	45.04	163	P		P	15 20 24.0	-1.5
	0.7nm,0.8s,baz=344,slow=8.7,SNR=9.2							
BVAR	Borovoye Array	48.41	321	P		P	15 20 52.5	+0.9
	0.2nm,0.3s,baz=111,slow=8.2,SNR=2.6							
ASAR	Alice Springs	48.50	165	P		P	15 20 51.7	-0.9
	0.4nm,0.5s,baz=342,slow=8.9,SNR=9.5							
STKA	Stephens Creek	58.39	160	P		P	15 22 05.6	+0.6
	0.9nm,0.6s,baz=348,slow=9.3,SNR=2.9							
ILAR	Eielson Array	69.44	27	P		P	15 23 17.7	+0.4
	0.2nm,0.8s,baz=286,slow=6.5,SNR=3.4							
EIL	Elat	76.05	296	LR		LR	15 59 51.5	
	comp=Z,140nm,19.9s,slow=38							
YKA	Yellowknife Ar	83.25	23	P		P	15 24 35.3	-0.4
	0.5nm,0.9s,baz=311,slow=4.9,SNR=5.6							

IDC 19 15:15:35.4±1.8, 15°54S×68°73W, h156km±39km, mb3.6/3, mb1 3.5/5, mb1mx3.3/21, mbtmp4.0/5, Error ellipse: s-maj=154.9km s-min=31.7km az=11.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LPAZ	La Paz	0.94	142	P		Pn		15 16 01.0	0.0
	7.2nm,0.3s,baz=239,slow=6.0,SNR=213								
LPAZ				S		Sn		15 16 15.2	-5.4
	4.9nm,0.3s,baz=98,slow=9.6,SNR=8.4								
SIV	San Ignacio	7.39	94	P		Pn		15 17 20.8	0.0
	3.9nm,0.3s,baz=277,slow=14,SNR=28								
BDFB	Brasilia	19.96	93	P		P		15 19 56.5	+0.7
	0.6nm,0.3s,baz=278,slow=11,SNR=4.3								
DBIC	Dimbokro	66.99	76	P		P		15 26 12.4	+0.4
	2.3nm,0.6s,baz=247,slow=9.5,SNR=4.5								
TORD	Torodi Ar. Bea	75.27	72	P		P		15 27 01.4	-0.5
	1.1nm,0.3s,baz=259,slow=8.1,SNR=25								
YKA	Yellowknife Ar	85.66	340	P		P		15 27 56.5	+0.4
	0.1nm,0.6s,baz=134,slow=5.0,SNR=4.1								
YKA				pP		pP		15 28 26.4	-8.7
	0.3nm,0.6s,baz=134,slow=4.8,SNR=8.7								

DJA 19 15:16:38.6±0.7, 8°S±4°×107°E±°, h20km±6km, M3.6/17, MLv3.6/17, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CISI	Cisompet, Garu	0.72	35	P		Pb		15 16 52.0	-0.6
CISI				S		Sb		15 17 03.1	+1.0
CMJI	Cimerak	1.10	71	P		Pn		15 16 58.2	-0.7
CMJI				S		Sn		15 17 13.5	0.0
LEM	Lembang	1.33	9	P		Pn		15 17 01.2	-1.1
LEM				S		Sn		15 17 18.7	-0.9
SKJI	Sukabumi	1.41	324	P		Pn		15 17 00.8	-2.4
CLJI	Cilicap	1.66	75	P		Pb		15 17 08.4	-0.1
DBJI	Dramaga	1.71	338	P		Pn		15 17 06.8	-0.5
KPJI	Karang Pucung	1.72	62	P		Pn		15 17 06.9	-0.5
TGJI	Tegal	2.13	53	P		Pn		15 17 09.8	-3.3
BJII	Banjamegara	2.43	71	P		Pn		15 17 15.8	-1.5
SMRI	Semarang	3.21	70	P		Pn		15 17 24.9	-3.0
KASI	Kota Agung	3.89	312	P		Pn		15 17 38.9	+1.6
KASI				S		Sn		15 18 14.1	-8.3
KLSI		4.34	322	P		Pn		15 17 41.8	-1.7
PWJI	Pagerwojo	4.36	89	P		Pn		15 17 46.4	+2.6
LWLI	Liwa	4.55	313	P		Pn		15 17 48.9	+2.4
MDSI	Maura Dua	4.85	318	P		Pn		15 17 51.3	+0.8

IDC 19 15:18:00.5±4.1, 36°34N×70°31E, h179km±38km, mb3.2/7, mb1 3.3/12, mb1mx3.1/32, mbtmp3.8/12, Error ellipse: s-maj=29.8km s-min=20.2km az=36.0
ISCJB 19 15:18:02.5±0.5, 36°50N±0°04×70°35E±0°08, h204km, mb3.3/6, Error ellipse: s-maj=9.5km s-min=4.0km az=155.8
NNC 19 15:18:09.6±4.2, 37°01N×70°09E, h195km±41km, mb3.0, mpv3.5, Error ellipse: s-maj=50.3km s-min=30.8km az=61.0

ISC 19 15:18:03.3±0.7, 36°54N±0°06×70°33E±0°09, h204km, n37, σ1°29/41, mb3.3/6, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CEP	Cherat	3.00	154	P		Pn		15 18 53.8	+0.5
CEP				S		S		15 19 31.0	-0.9
CHCP	Chirah Chowk	3.75	139	P		Pn		15 19 02.9	+0.7
THW	Thamme Wali	3.92	162	P		Pn		15 19 04.3	+0.1
AML	Almayashu	6.16	24	P		Pn		15 19 33.9	+1.0
	SNR=42								
UCH	Uchtor	6.54	28	P		Pn		15 19 38.9	+1.0
	SNR=9.8								
KK31	Karatay Array	6.56	1	P		Pn		15 19 38.3	+0.6
	1.8nm,0.3s,baz=191,slow=14,SNR=43								
KK31				⇓S		S		15 20 48.2	-4.2
	4.6nm,0.5s,baz=190,slow=25,SNR=8.7								
EKS2	Erkin-Say	6.67	22	P		Pn		15 19 40.5	+1.2
	SNR=10								
AAK	Ala-Archa	6.88	27	P		Pn		15 19 43.5	+1.5
	SNR=7.5								
AAK	Ala-Archa	6.88	27	P		Pn		15 19 42.7	+0.7
	1.4nm,0.3s,baz=199,slow=5.6,SNR=17								
AAK				S		S		15 20 59.1	-1.3
	0.7nm,0.3s,baz=331,slow=19,SNR=14								
TKM2	Tokmak 2	7.55	31	P		Pn		15 19 51.8	+1.0
	SNR=9.7								
MKAR	Makanchi Array	13.58	37	P		Pn		15 21 08.6	+0.8
	0.1nm,0.3s,baz=219,slow=11,SNR=3.6								
PYUN	Piuthan	13.61	125	eP		Pn		15 21 06.6	-1.8
	14nm,0.5s								
DANN	Dangsing	13.97	122	eP		Pn		15 21 12.2	-0.7
KOLN	Koldanda	14.23	124	eP		Pn		15 21 14.5	-1.6
GKN	Gorkha	14.79	121	eP		Pn		15 21 22.5	-0.4
AB31	Akbulak array	14.79	332	P		Pn		15 21 22.5	0.0
	1.2nm,0.4s,baz=148,slow=11,SNR=57								
AB31				⇓S		S		15 24 03.5	-3.0
	0.8nm,0.7s								
KURBB	Kurchatov Arra	15.26	20	P		Pn		15 21 28.4	+0.1
	0.2nm,0.3s,baz=211,slow=10,SNR=5.2								
DMN	Daman	15.36	121	eP		Pn		15 21 29.0	-0.9
	17nm,0.6s								
KKN	Kakani	15.36	120	eP		Pn		15 21 28.9	-1.1
	20nm,0.4s								
PKIN	Phulchoki	15.58	121	eP		P		15 21 32.5	0.0
	28nm,0.5s								
PKI	Pulchoki	15.59	121	eP		P		15 21 32.9	+0.2
	43nm,0.6s								
GUN	Gumba	15.71	119	eP		Pn		15 21 35.0	+0.7
JIRN	Jiri	16.08	119	eP		P		15 21 38.1	-0.1
	56nm,0.5s								
AKTO	Aktyubinsk	16.48	331	P		Pn		15 21 44.1	+1.2
	0.6nm,0.3s,baz=134,slow=12,SNR=21								
BVA0	Borovoye Array	16.48	0	⇑P		P		15 21 43.0	+1.0
	6.8nm,1.3s,baz=256,slow=42,SNR=11								
BVAR	Borovoye Array	16.48	0	P		P		15 21 43.3	+1.3
	0.7nm,0.3s,baz=168,slow=11,SNR=11								
BRVK	Borovoye	16.52	360	⇑P		Pn		15 21 44.6	+1.3
	7.9nm,0.9s								
RAMN	Ramite	16.80	120	eP		P		15 21 46.5	+0.5
	26nm,0.6s								
TAPN	Taplejung	17.34	117	eP		Pn		15 21 53.4	-0.3
	18nm,0.7s								
ODAN	Odare	17.41	119	eP		Pn		15 21 54.3	-0.1
	18nm,0.7s								
ZALV	Zalesovo Beam	20.11	25	P		P		15 22 22.0	+0.8
	2.2nm,0.3s,baz=216,slow=10,SNR=22								
CMAR	Chiang Mai Arr	30.95	118	P		P		15 24 00.8	-0.6
	0.4nm,0.7s,baz=299,slow=7.5,SNR=4.7								
AKASG	Malin Array Be	32.50	309	P		P		15 24 15.7	+1.2
	0.3nm,0.4s,baz=85,slow=6.3,SNR=3.3								
FINES	FINESS Array B	37.15	326	P		P		15 24 55.7	+1.6
	1.5nm,0.7s,baz=111,slow=11,SNR=3.4								
ARCES	ARCESS Array B	40.90	338	P		P		15 25 26.6	+1.5
	3.9nm,0.9s,baz=113,slow=7.0,SNR=12								
TORD	Torodi Ar. Bea	65.18	268	P		P		15 28 21.2	-1.7
	0.4nm,0.6s,baz=43,slow=6.3,SNR=6.4								
YKA	Yellowknife Ar	81.23	2	P		P		15 29 56.3	+0.4
	0.2nm,0.6s,baz=351,slow=5.5,SNR=5.2								

IDC 19 15:24:04.4±0.7, 22°76S×172°00E, h0km, mb4.5/13, mb1 4.7/16, mb1mx4.5/25, mbtmp4.6/16, ML4.3/3, Error ellipse: s-maj=19.7km s-min=18.7km az=128.0
NEIC 19 15:24:05.4±0.3, 22°85S×172°03E, h10km, mb4.8/13, Error ellipse: s-maj=8.3km s-min=6.6km az=205.0
AUST 19 15:24:08.9, 23°47S×172°72E, h60km
ISCJB 19 15:24:09.6±0.5, 22°83S±0°07×171°88E±0°06, h47km, mb4.6/20, Error ellipse: s-maj=10.2km s-min=8.4km az=2.2

ISC 19 15:24:11.0±0.5, 22°85S±0°08×171°92E±0°07, h47km, n79, σ1°15/88, mb4.6/20, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DZM	Mont Dzumac	5.12	278	Pn		Pn		15 25 23.9	-1.4
DZM				Sn		Sn		15 26 21.6	-1.7
DZM	Mont Dzumac	5.12	278	Pn		Pn		15 25 23.9	-1.4
	7.3nm,0.3s,baz=104,slow=22,SNR=160								
DZM				Sn		Sn		15 26 21.6	-1.7
	22nm,0.3s,baz=198,slow=22,SNR=16								
NFK	Norfolk Island	7.13	209	P		Pn		15 25 50.3	-2.4
	baz=7.0,SNR=13								
RAO	Raoul Island	11.14	127	ePn		Pn		15 26 42.9	-4.7
URZ	Urewera	15.99	165	ePn		Pn		15 27 49.8	-2.9
	63nm,1.4s								
URZ	Urewera	15.99	165	Pn		Pn		15 27 53.8	+1.1
	0.2nm,0.3s,baz=336,slow=15,SNR=4.5								
HNR	Honiara	17.60	317	P		P		15 28 12.9	-0.5
HNR	Honiara	17.60	317	P		P		15 28 12.9	-0.5
	5.8nm,0.3s,baz=155,slow=14,SNR=4.1								
EIDS	Eidsvold	19.19	258	eP		P		15 28 30.6	-0.2
	25nm,1.0s								
EIDS	Eidsvold	19.19	258	P		Pn		15 28 34.0	+1.9
	baz=20,SNR=8.9								
ARMA	Armidale	19.62	243	eP		P		15 28 35.0	-0.7
	12nm,1.1s								
ARMA	Armidale	19.62	243	P		Pn		15 28 39.4	+2.0
	baz=20,SNR=4.3								
RPZ	Rata Peaks	20.82	182	P		P		15 28 48.9	+0.4
RPZ	Rata Peaks	20.82	182	P		P		15 28 48.9	+0.4
	6.9nm,0.5s,baz=356,slow=4.5,SNR=3.3								
RMQ	Roma	21.35	256	P		P		15 28 57.9	+3.6
	baz=22,SNR=28								
CAN	Canberra	23.51	233	eP		P		15 29 15.7	-1.0
YNG	Young	23.54	236	P		P		15 29 20.4	+3.3
	baz=24,SNR=7.8								
CTA	Charters Tower	24.03	272	P		P		15 29 22.6	+0.8
CTA	Charters Tower	24.03	272	P		P		15 29 22.6	+0.8
	6.5nm,0.8s,baz=96,slow=14,SNR=8.9								
CTAO	Charters Tower	24.03	272	eP		P		15 29 21.2	-0.5
	39nm,1.4s								
CMSA	Cobar Meteorol	24.84	244	P		P		15 29 30.7	+1.7
	baz=25,SNR=16								
QLP	Quilpie	25.40	256	P		P		15 29 35.1	+1.0
	baz=26,SNR=10.0								
PMG	Port Moresby	27.23	295	P		P		15 29 50.7	0.0
PMG	Port Moresby	27.23	295	P		P		15 29 50.7	0.0
	8.8nm,0.8s,baz=104,slow=5.8,SNR=6.0								
STKA	Stephens Creek	28.32	245	P		P		15 30 00.5	+0.1
STKA				PcP		PcP		15 33 12.8	+0.4
STKA	Stephens Creek	28.32	245	P		P		15 30 00.5	+0.1
	2.9nm,0.7s,baz=94,slow=12,SNR=10								
STKA				PcP		PcP		15 33 12.8	+0.4
	2.2nm,0.8s,baz=135,slow=4.3,SNR=3.0								
STKA	Stephens Creek	28.32	245	P		P		15 30 02.7	+2.4
	baz=29,SNR=6.0								
COEN	Coen	28.63	283	eP		P		15 30 02.5	-0.7
	79nm,1.0s								
COEN	Coen	28.63	283	P		P		15 30 04.8	+1.6
	baz=30,SNR=4.5								
AS31	Alice Springs	34.87	261	eP		P		15 30 57.5	-0.6
ASAR	Alice Springs	34.87	261	P		P		15 30 58.2	+0.2
ASAR				PcP		PcP		15 33 30.9	+0.6
ASAR	Alice Springs	34.87	261	P		P		15 30 58.2	+0.2
	15nm,0.8s,baz=80,slow=9.1,SNR=163								
ASAR				PcP		PcP		15 33 30.9	+0.6
	1.4nm,0.8s,baz=106,slow=3.6,SNR=4.3								
WRAB	Tennant Creek	35.04	268	eP		P		15 30 58.5	-1.0
	3.9nm,0.6s								
WRA	Warramunga Arr	35.05	268	P		P		15 30 58.9	-0.7
WRA				PcP		PcP		15 33 31.3	+0.5
WRA	Warramunga Arr	35.05	268	P		P		15 30 58.9	-0.7
	4.4nm,0.5s,baz=96,slow=8.5,SNR=129								
WRA				PcP		PcP		15 33 31.3	+0.5
	1.0nm,0.8s,baz=98,slow=2.9,SNR=4.1								
KDU	Kakadu	38.79	278	P		P		15 31 31.3	-0.1
	baz=40,SNR=3.7								
WRKA	Warakurna	39.80	258	P		P		15 31 40.3	+0.5
	baz=40,SNR=36								
MTN	Manton Dam	39.96	277	P		P		15 31 41.0	-0.2
	baz=41,SNR=7.5								
FITZ	Fitzroy Crossi	43.48	267	eP		P		15 32 10.5	+0.6
	35nm,1.4s								
FITZ	Fitzroy Crossi	43.48	267	P		P		15 32 10.9	+1.0
	baz=44,SNR=9.8								
MEEK	Meekatharra	48.28	254	P		P		15 32 48.0	+0.3
	baz=49,SNR=15								
KLBR	Kellerberrin	48.54	247	P		P		15 32 50.1	+0.5
	baz=49,SNR=9.9								
BLDU	Ballidu	49.50	249	P		P		15 32 57.4	+0.4
	baz=50,SNR=11								
MORW	Morawa	50.24	251	P		P		15 33 03.3	+0.7
	baz=51,SNR=10								
KSM	Kuching	64.62	283	P		P		15 34 45.4	+1.2
	baz=66,SNR=7.6								
QSPA	South Pole Qui	67.22	180	eP		P		15 34 59.7	-0.6
	8.9nm,1.1s								
QSPA	South Pole Qui	67.22	180	P		P		15 35 00.7	+0.5
	2.6nm,0.9s,baz=107,slow=2.8,SNR=7.0								
PETK	Petropavlovsk-	76.64	351	P		P		15 35 56.7	+0.2
PETK	Petropavlovsk-	76.64	351	P		P		15 35 56.7	+0.2
	6.2nm,0.8s,baz=142,slow=7.3,SNR=5.5								
CM31	Chiang Mai Arr	82.25	294	eP		P		15 36 27.9	+0.1
	13nm,1.2s								
CMAR	Chiang Mai Arr	82.25	294	P		P		15 36 29.7	+1.9
CMAR	Chiang Mai Arr	82.25	294	P		P		15 36 29.7	+1.9
	5.4nm,1.0s,baz=137,slow=4.2,SNR=33								
CHTO	Chiang Mai	82.41	294	eP		P		15 36 28.1	-0.5
	9.1nm,1.1s								
SNAA	Sanae	85.66	182	eP		P		15 36 43.5	-0.8
	2.9nm,0.8s								
SEY	Seymchan	86.89	351	P		P		15 36 49.6	-0.5
SEY	Seymchan	86.89	351	P		P		15 36 49.6	-0.5
	3.0nm,0.6s,baz=130,slow=7.9,SNR=12								
WAKR	Walker	88.61	47	eP		P		15 36 58.4	-0.9
	9.4nm,1.4s								
NVAR	Mina Array Bea	89.34	47	P		P		15 37 04.0	+1.2
NVAR	Mina Array Bea	89.34	47	P		P		15 37 04.0	+1.2
	1.7nm,0.9s,baz=234,slow=8.5,SNR=10								
NV11	Mina Array Sit	89.45	48	eP		P		15 37 02.0	-1.1
ULN	Ulaanbaatar	91.24	322	eP		P		15 37 10.6	-0.6
	7.2nm,1.3s								
SONM	Songino Array	91.60	322	P		P		15 37 12.9	0.0
SONM	Songino Array	91.60	322	P		P		15 37 12.9	0.0
	1.6nm,0.7s,baz=130,slow=4.5,SNR=10								
ILAR	Eielson Array	92.94	16	P		P		15 37 17.0	-1.5
ILAR	Eielson Array	92.94	16	P		P		15 37 17.0	-1.5
	1.2nm,0.9s,baz=238,slow=4.3,SNR=8.4								
BVAR	Borovoye Array	114.78	319	PKP		PKPdf		15 42 45.6	-0.4
BVAR	Borovoye Array	114.78	319	PKP		PKPdf		15 42 45.6	-0.4
	0.3nm,0.5s,baz=132,slow=2.1,SNR=3.5								
BOSA	Boshof	119.58	214	PKP		PKPdf		15 42 57.5	+1.2
BOSA	Boshof	119.58	214	PKP		PKPdf		15 42 57.5	+1.2
	2.3nm,0.8s,baz=270,slow=4.0,SNR=3.1								
BRG	Berggiesshubel	147.20	334	eP		PKPab		15 43 50.5	-0.1
	6.4nm,1.1s								
CLL	Collm	147.23	335	e(PKPbc)		PKPdf		15 43 47.0	+0.4
GERES	GERESS Array B	148.84	332	PKPbc		PKPbc		15 43 52.9	-0.5
GERES	GERESS Array B	148.84	332	PKPbc		PKPbc		15 43 52.9	-0.5
	1.8nm,0.8s,baz=35,slow=3.6,SNR=9.9								
DAVOX	Davos/Dischmat	152.07	333	PKPbc		PKPbc		15 43 59.6	-1.7
DAVOX				PKPab		PKPab		15 44 10.8	-0.1
DAVOX	Davos/Dischmat	152.07	333	PKPbc		PKPbc		15 43 59.6	-1.7
	2.5nm,0.6s,baz=137,slow=1.4,SNR=6.1								
DAVOX				PKPab		PKPab		15 44 10.7	-0.1
	2.1nm,0.6s,baz=315,slow=5.7,SNR=4.4								
DBIC	Dimbokro	163.62	191	PKP		PKPdf		15 44 10.3	+0.7
DBIC	Dimbokro	163.62	191	PKP		PKPdf		15 44 10.3	+0.7
	2.4nm,0.7s,baz=317,slow=1.2,SNR=3.1								
TORD	Torodi Ar. Bea	166.61	226	PKP		PKPdf		15 44 12.4	+0.4
TORD				PKPab		PKPab		15 45 15.1	+0.7
TORD	Torodi Ar. Bea	166.61	226	PKP		PKPdf		15 44 12.4	+0.4
	2.8nm,1.1s,baz=323,slow=0.7,SNR=8.6								
TORD				PKPab		PKPab		15 45 15.1	+0.7
	0.7nm,0.7s,baz=108,slow=3.8,SNR=2.6								

ISCJB 19 15:30:46.7±0.2, 23°75N±0°02×121°69E±0°02, h27km, Error ellipse: s-maj=2.6km s-min=1.9km az=44.4
JMA 19 15:30:46.2, 23°73N×121°61E, h44km±2km, M3.2
TAP 19 15:30:46.8, 23°78N×121°63E, h37km, ML3.9, B

ISC 19 15:30:45.8±0.9, 23°74N±0°02×121°72E±0°02, h27km, n58, σ0°89/101, 14C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TEGC	Jichi Village	0.17	259	⇑P		Pn		15 30 53.5	+1.0
	baz=226								
TEGC				eS		Sb		15 30 59.0	+3.9
	baz=226								
ESF	Shoufeng Towns	0.23	304	eP		Pn		15 30 53.5	0.0
	baz=295								
ESF				S		Sb		15 30 58.4	+2.0
	baz=295								
HWA	Hwalien	0.26	336	P		Pn		15 30 54.0	+0.2
	baz=3.0								
HWA				eS		Sn		15 30 59.0	+0.1
	baz=3.0								
ESL	Shilin	0.27	286	⇑iP		Pn		15 30 53.5	-0.6
	baz=281								
ESL				eS		Sn		15 30 58.7	-0.6
	baz=281								
TWD	Chiawan	0.35	342	⇓iP		Pn		15 30 54.9	-0.3
	baz=348								
TWD				iS		Sn		15 31 01.2	-0.2
	baz=348								
EHY	Hungye	0.43	237	eP		Pb		15 30 54.7	-0.3
	baz=232								
TWF1	Yuli	0.55	225	⇑iP		Pb		15 30 57.4	+0.5
	baz=224								
TWF1				eS		Sb		15 31 04.6	+0.2
	baz=224								
ENA	Nanau	0.68	2	⇑iP		Pn		15 30 59.7	0.0
	baz=358								
ENA				eS		Sn		15 31 08.9	-0.6
	baz=358								
TWT	Tachien	0.71	316	⇑iP		Pb		15 30 59.9	+0.2
	baz=312								
TWT				S		Sb		15 31 08.3	-0.9
	baz=312								
CHKT	Chengkung	0.72	207	eP		Pn		15 31 00.9	+0.7
	baz=186								
CHKT				eS		Sn		15 31 11.3	+1.0
	baz=186								
YUS	Yu-Shan	0.75	251	⇑iP		Pn		15 31 01.0	0.0
	baz=245								
YUS				iS		Sb		15 31 09.9	-0.6
	baz=245								
SMLT	Sun Moon Lake	0.76	281	⇑iP		Pb		15 31 00.4	-0.1
	baz=281								
SMLT				S		Sb		15 31 10.2	-0.4
	baz=281								
NNS	Nan Shan	0.76	336	⇑eP		Pb		15 31 00.3	-0.3
	baz=340								
NNS				S		Sb		15 31 09.8	-0.9
	baz=340								
TYC	Yuchr	0.81	282	⇑iP		Pb		15 31 00.9	-0.3
	baz=284								
TYC				eS		Sb		15 31 10.5	-1.2
	baz=284								
ELDTW	Lidau	0.85	230	⇑eP		Pb		15 31 01.5	-0.5
	baz=219								
ELDTW				eS		Sb		15 31 12.3	-0.7
	baz=219								
ALS	Alishan	0.87	255	⇑P		Pb		15 31 02.7	+0.2
	baz=251								
ALS				S		Sb		15 31 13.1	-0.7
	baz=251								
TWC	Suao	0.87	8	eP		Pb		15 31 03.0	+0.7
	baz=23								
TWC				S		Sn		15

NCU	**National Centr**	**1.32**	**339**	*eP*	**Pb**	**15 31 09.7**	**-0.2**
	baz=340							
WTCT	**Ta-ch'eng**	**1.32**	**276**	*eP*	**Pb**	**15 31 09.3**	**-0.7**
	baz=274							
WTCT				*eS*	**Sb**	**15 31 26.4**	**-0.1**
	baz=274							
NWF	**Wu-fen Shan**	**1.32**	**2**	*eP*	**Pb**	**15 31 09.8**	**-0.3**
	baz=353							
ECL	**Taimali**	**1.34**	**212**	*eP*	**Pn**	**15 31 08.1**	**-0.6**
	baz=198							
WSF	**Szhu**	**1.38**	**266**	*eP*	**Pn**	**15 31 09.7**	**+0.5**
	baz=264							
WSF				*eS*	**Sb**	**15 31 27.3**	**-0.7**
	baz=264							
TWS1	**Kuangyinshan**	**1.38**	**349**	*eP*	**Pb**	**15 31 10.9**	**-0.1**
TWS1				*eS*	**Sb**	**15 31 28.1**	**-0.1**
YOJ	**Yonaguni jima**	**1.38**	**58**	P	**Pb**	**15 31 11.4**	**+0.4**
YOJ				*eS*	**Sb**	**15 31 29.0**	**+0.8**
YOJ	**Yonaguni jima**	**1.38**	**58**	*eP*	**Pb**	**15 31 11.3**	**+0.4**
	baz=62							
SSD	**Sandimen**	**1.41**	**225**	*eP*	**Pb**	**15 31 10.7**	**-0.7**
	baz=222							
SSD				*eS*	**Sb**	**15 31 29.4**	**+0.5**
	baz=222							
CHN3	**Shinhua**	**1.41**	**242**	*eP*	**Pb**	**15 31 11.1**	**-0.3**
	baz=241							
CHN3				*eS*	**Sb**	**15 31 30.6**	**+1.6**
	baz=241							
TWM1	**Shoushan**	**1.50**	**233**	*eP*	**Pb**	**15 31 13.7**	**+0.7**
	baz=231							
SCLT	**Jiali**	**1.51**	**248**	*eP*	**Pn**	**15 31 10.2**	**-0.8**
	baz=247							
SGLT	**Jiouru**	**1.52**	**228**	*eP*	**Pb**	**15 31 12.9**	**-0.4**
	baz=214							
EAST	**Anshuo**	**1.57**	**211**	*eP*	**Pn**	**15 31 12.7**	**+0.7**
	baz=200							
TAW	**Tawu**	**1.57**	**209**	*eP*	**Pb**	**15 31 13.2**	**-1.0**
	baz=197							
SCZT	**Fangliau**	**1.70**	**217**	*eP*	**Pb**	**15 31 15.5**	**-0.8**
	baz=215							
LAY	**Lan-yu**	**1.70**	**185**	*eP*	**Pn**	**15 31 12.9**	**-0.8**
	baz=181							
IRIF	**Iriomote-Funau**	**1.93**	**72**	P	**Pb**	**15 31 18.9**	**-1.4**
IRIF				*eS*	**Sb**	**15 31 42.9**	**-1.1**
HATJ	**Hateruma jima**	**1.94**	**80**	P	**Pb**	**15 31 19.0**	**-1.4**
TWK1	**Hengchun**	**1.98**	**205**	*eP*	**Pn**	**15 31 17.4**	**-0.1**
	baz=193							
JKRS	**Kuro-shima**	**2.15**	**76**	P	**Pb**	**15 31 22.2**	**-1.9**
JKRS				S	**Sb**	**15 31 48.6**	**-1.8**
JIJ	**Ishigaki jima**	**2.30**	**74**	P	**Pn**	**15 31 23.7**	**+1.7**
JIJ				S	**Sn**	**15 31 50.7**	**+1.3**
JTJ	**Tarama**	**2.87**	**71**	P	**Pn**	**15 31 31.8**	**+2.0**
JTJ				*eS*	**Sn**	**15 32 05.2**	**+1.8**

ISCJB ***19*** *15:35:40.0±0.2,23°.78N±0°.01×121°.75E±0°.01,h14km, Error ellipse: s-maj=2.2km s-min=1.5km az=37.3*
JMA ***19*** *15:35:40.4±0.1,23°.77N×121°.62E,h51km×2km,M3.5*
TAP ***19*** *15:35:41.4,23°.84N×121°.65E,h40km,ML3.9,B*
ISC 19 15:35:39.8±0.7,23°.78N±0°.02×121°.72E±0°.02,h14km,n70,
σ0=98/129,14C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.18**	**247**	*eP*		15 35 48.9	+4.0
	baz=214						
TEGC				*eS*	Sb	15 35 54.9	+6.6
	baz=214						
ESF	**Shoufeng Towns**	**0.22**	**295**	⇑P	**Pb**	**15 35 48.6**	**+3.0**
	baz=284						
ESF				*eS*	**Sb**	**15 35 53.7**	**+4.3**
	baz=284						
HWA	**Hwalien**	**0.22**	**332**	*eP*	**Pb**	**15 35 48.5**	**+2.9**
	baz=348						
HWA				*eS*	**Sb**	**15 35 54.0**	**+4.4**
	baz=348						
ESL	**Shilin**	**0.27**	**277**	⇑*i*P	**Pn**	**15 35 48.6**	**-0.7**
	baz=273						
ESL				*eS*	**Sn**	**15 35 53.3**	**-1.9**
	baz=273						
TWD	**Chiawan**	**0.32**	**339**	⇓*i*P	**Pn**	**15 35 49.2**	**-0.9**
	baz=350						
TWD				S	**Sn**	**15 35 54.9**	**-1.7**
	baz=350						
EHY	**Hungye**	**0.46**	**233**	*eP*	**Pb**	**15 35 50.8**	**+1.2**
	baz=223						
EHY				*eS*	**Sb**	**15 35 57.4**	**+1.1**
	baz=223						
EHP	**Heping Village**	**0.53**	**2**	P	**Pb**	**15 35 51.9**	**+1.0**
	baz=17						
WHF	**Hehuan Shan**	**0.55**	**311**	⇑*i*P	**Pb**	**15 35 52.0**	**+0.4**
	baz=305						
WHF				S	**Sb**	**15 35 59.1**	**-0.4**
	baz=305						
TWF1	**Yuli**	**0.58**	**223**	⇑*i*P	**Pb**	**15 35 52.6**	**+0.9**
	baz=222						
TWF1				S	**Sb**	**15 36 00.5**	**+0.8**
	baz=222						
ENA	**Nanau**	**0.65**	**2**	⇓P	**Pb**	**15 35 53.5**	**+0.6**
	baz=18						
ENA				*eS*	**Sb**	**15 36 01.9**	**+0.1**
	baz=18						
TWT	**Tachien**	**0.69**	**313**	⇑*i*P	**Pb**	**15 35 54.2**	**+0.5**
	baz=312						
TWT				*eS*	**Sg**	**15 36 02.5**	**+0.1**
	baz=312						
NNS	**Nan Shan**	**0.73**	**334**	⇑*i*P	**Pb**	**15 35 54.3**	**-0.1**
	baz=337						
NNS				*eS*	**Sg**	**15 36 03.2**	**-0.6**
	baz=337						
CHKT	**Chengkung**	**0.75**	**206**	*eP*	**Pn**	**15 35 55.8**	**-0.2**
	baz=186						
CHKT				*eS*	**Sn**	**15 36 07.2**	**0.0**
	baz=186						
SMLT	**Sun Moon Lake**	**0.76**	**278**	⇑*i*P	**Pb**	**15 35 55.2**	**+0.4**
	baz=276						
SMLT				*eS*	**Sg**	**15 36 04.8**	**+0.2**
	baz=276						
YUS	**Yu-Shan**	**0.76**	**248**	P	**Pn**	**15 35 56.1**	**-0.5**
	baz=243						
YUS				S	**Sb**	**15 36 05.6**	**+0.1**
	baz=243						
TYC	**Yuchr**	**0.80**	**279**	⇑*i*P	**Pb**	**15 35 55.6**	**+0.1**
	baz=280						
TYC				*eS*	**Sg**	**15 36 05.5**	**-0.4**
	baz=280						
TWC	**Suao**	**0.83**	**8**	P	**Pb**	**15 35 56.6**	**+0.5**
	baz=22						
TWC				S	**Sb**	**15 36 08.0**	**+0.8**
	baz=22						
ENTT	**Nioudou**	**0.87**	**351**	P	**Pg**	**15 35 56.5**	**-0.2**
	baz=353						
ENTT				*eS*	**Sg**	**15 36 07.9**	**-0.2**
	baz=353						
ELDTW	**Lidau**	**0.87**	**228**	⇑P	**Pb**	**15 35 57.0**	**+0.1**
	baz=217						
ELDTW				*eS*	**Sg**	**15 36 08.3**	**+0.1**
	baz=217						
ALS	**Alishan**	**0.88**	**252**	*eP*	**Pg**	**15 35 57.7**	**+0.7**
	baz=248						
ALS				S	**Sb**	**15 36 08.9**	**+0.1**
	baz=248						
NSK	**Sanguang**	**0.95**	**340**	⇑*i*P	**Pb**	**15 35 57.8**	**-0.3**
	baz=341						
NSK				S	**Sb**	**15 36 08.8**	**-1.8**
	baz=341						
WNT	**Mingjian**	**0.95**	**276**	⇑*e*P	**Pg**	**15 35 58.7**	**+0.4**
	baz=273						
WNT				*eS*	**Sg**	**15 36 11.0**	**+0.2**
	baz=273						
CHN5	**Tsauling**	**0.97**	**259**	*eP*	**Pg**	**15 35 59.0**	**+0.4**
	baz=256						
CHN5				*eS*	**Sg**	**15 36 11.7**	**+0.3**
	baz=256						
ILA	**Ilan**	**0.98**	**1**	*eP*	**Pg**	**15 35 58.8**	**0.0**
	baz=353						
ILA				*eS*	**Sb**	**15 36 11.5**	**+0.1**
	baz=353						
TCU	**Taichung**	**1.02**	**291**	⇑P	**Pn**	**15 35 59.9**	**+0.1**
	baz=289						
TCU				*eS*	**Sb**	**15 36 12.4**	**-0.2**
	baz=289						
TWQ1	**Liyutan**	**1.03**	**303**	⇑*i*P	**Pg**	**15 35 59.9**	**0.0**
	baz=302						
TWQ1				*eS*	**Sb**	**15 36 12.6**	**-0.4**
	baz=302						
WGK	**Gukeng**	**1.07**	**265**	*eP*	**Pb**	**15 36 00.2**	**+0.1**
	baz=262						
WGK				*eS*	**Sg**	**15 36 14.3**	**0.0**
	baz=262						
NSTT	**Nanjuang**	**1.07**	**322**	⇑*i*P	**Pn**	**15 36 00.5**	**0.0**
	baz=322						
NSTT				*eS*	**Sb**	**15 36 12.9**	**-1.1**
	baz=322						
STYT	**Tauyuan**	**1.08**	**235**	⇓*e*P	**Pn**	**15 36 00.6**	**+0.1**
	baz=230						
STYT				*eS*	**Sb**	**15 36 14.4**	**+0.1**
	baz=230						
NSY	**Sanyi**	**1.08**	**306**	*eP*	**Pb**	**15 36 00.3**	**0.0**
	baz=305						
NSY				*eS*	**Sb**	**15 36 13.5**	**-0.8**
	baz=305						
TWG	**Pinlang**	**1.13**	**212**	*eP*	**Pb**	**15 35 59.7**	**-1.4**
	baz=193						
TWG				*eS*	**Sb**	**15 36 13.8**	**-1.8**
	baz=193						
WTP	**Ta-pu**	**1.15**	**243**	⇓*e*P	**Pg**	**15 36 02.0**	**+0.1**
	baz=240						
WTP				*eS*	**Sb**	**15 36 16.4**	**+0.1**
	baz=240						
TTN	**Taitung**	**1.15**	**207**	*eP*	**Pb**	**15 36 00.9**	**-0.5**
	baz=199						
TTN				*eS*	**Sb**	**15 36 16.2**	**0.0**
	baz=199						
CHY	**Chiayi**	**1.22**	**257**	*eP*	**Pb**	**15 36 03.0**	**+0.3**
	baz=255						
CHY				*eS*	**Sb**	**15 36 18.5**	**+0.1**
	baz=255						
HSN	**Hsinchu**	**1.23**	**326**	*eP*	**Pn**	**15 36 02.1**	**-0.4**
	baz=327						
HSN				*eS*	**Sb**	**15 36 17.7**	**-0.8**
	baz=327						
TWK	**Hsinying**	**1.24**	**246**	*eP*	**Pn**	**15 36 03.0**	**+0.2**
	baz=244						
TWK				*eS*	**Sb**	**15 36 18.2**	**-0.8**
	baz=244						
CHN1	**Nanshi**	**1.25**	**242**	⇓P	**Pb**	**15 36 03.4**	**+0.3**
	baz=240						
CHN1				*eS*	**Sn**	**15 36 19.7**	**+0.3**
	baz=240						
TWB1	**Santiao Chiao**	**1.25**	**11**	*eP*	**Pn**	**15 36 02.9**	**0.0**
	baz=15						
TWB1				*eS*	**Sb**	**15 36 18.4**	**-0.7**
	baz=15						
SGST	**Jiashian**	**1.25**	**237**	*eP*	**Pn**	**15 36 03.2**	**+0.3**
	baz=235						
SGST				*eS*	**Sg**	**15 36 20.2**	**-0.1**
	baz=235						
TAP1	**Taipei**	**1.27**	**352**	*eP*	**Pb**	**15 36 03.6**	**+0.2**
	baz=350						
TAP1				*eS*	**Sb**	**15 36 18.4**	**-1.3**
	baz=350						
TAP	**Taipei**	**1.27**	**351**	*eP*	**Pn**	**15 36 02.6**	**-0.5**
	baz=350						
TAP				*eS*	**Sb**	**15 36 18.4**	**-1.3**
	baz=350						
NCU	**National Centr**	**1.28**	**338**	*eP*	**Pn**	**15 36 03.0**	**-0.3**
	baz=337						
NCU				*eS*	**Sb**	**15 36 19.1**	**-0.9**
	baz=337						
NWF	**Wu-fen Shan**	**1.29**	**2**	*eP*	**Pn**	**15 36 03.0**	**-0.4**
	baz=350						
NWF				*eS*	**Sb**	**15 36 19.4**	**-0.9**
	baz=350						
WTCT	**Ta-ch'eng**	**1.32**	**274**	P	**Pn**	**15 36 04.0**	**+0.2**
	baz=272						
WTCT				*eS*	**Sb**	**15 36 21.1**	**-0.1**
	baz=272						
TWS1	**Kuangyinshan**	**1.34**	**348**	*eP*	**Pn**	**15 36 03.6**	**-0.6**
	baz=356						
TWS1				*eS*	**Sn**	**15 36 20.2**	**-1.6**
	baz=356						
YOJ	**Yonaguni jima**	**1.36**	**60**	P	**Pn**	**15 36 04.8**	**+0.4**
YOJ				S	**Sb**	**15 36 22.8**	**+0.5**
YOJ	**Yonaguni jima**	**1.36**	**60**	*eP*	**Pn**	**15 36 03.5**	**-0.9**
	baz=66						
YOJ				*eS*	**Sn**	**15 36 21.8**	**-0.4**
	baz=66						
ECL	**Taimali**	**1.37**	**211**	*eP*	**Pn**	**15 36 02.9**	**-1.6**
	baz=197						
WSF	**Szhu**	**1.38**	**264**	*eP*	**Pn**	**15 36 04.6**	**0.0**
	baz=263						
WSF				*eS*	**Sn**	**15 36 22.4**	**-0.4**
	baz=263						
CHN3	**Shinhua**	**1.43**	**241**	*eP*	**Pb**	**15 36 06.6**	**+0.4**
	baz=240						
CHN3				*eS*	**Sg**	**15 36 25.4**	**-0.5**
	baz=240						
SSD	**Sandimen**	**1.44**	**224**	*eP*	**Pn**	**15 36 05.5**	**+0.1**
	baz=223						
SSD				*eS*	**Sb**	**15 36 24.9**	**+0.4**
	baz=223						
CHN8	**Yiju**	**1.45**	**253**	*eP*	**Pn**	**15 36 05.7**	**+0.1**
	baz=252						
CHN8				*eS*	**Sn**	**15 36 23.6**	**-0.9**
	baz=252						
SCLT	**Jiali**	**1.53**	**247**	*eP*	**Pn**	**15 36 06.7**	**+0.1**
	baz=246						
SCLT				*eS*	**Sn**	**15 36 25.8**	**-0.5**
	baz=246						
TWM1	**Shoushan**	**1.53**	**232**	*eP*	**Pb**	**15 36 08.4**	**+0.4**
	baz=229						
SGLT	**Jiouru**	**1.54**	**227**	*eP*	**Pn**	**15 36 07.5**	**+0.6**
	baz=227						
SGLT				*eS*	**Sb**	**15 36 28.5**	**+0.9**
	baz=227						
TAI1	**Yung-k'ang**	**1.56**	**242**	*eP*	**Pn**	**15 36 07.5**	**+0.4**
	baz=254						
TAI1				*eS*	**Sn**	**15 36 27.3**	**+0.3**
	baz=254						
EAST	**Anshuo**	**1.61**	**210**	*eP*	**Pn**	**15 36 06.7**	**-1.1**
	baz=199						
TAW	**Tawu**	**1.61**	**208**	*eP*	**Pb**	**15 36 08.9**	**-0.4**
	baz=196						
SCZT	**Fangliau**	**1.73**	**216**	*eP*	**Pn**	**15 36 10.1**	**+0.7**
	baz=217						
SCZT				*eS*	**Sn**	**15 36 32.1**	**+0.8**
	baz=217						
LAY	**Lan-yu**	**1.74**	**185**	*eP*	**Pn**	**15 36 09.2**	**-0.5**
	baz=172						
LAY				*eS*	**Sn**	**15 36 28.4**	**-3.2**
	baz=172						
IRIF	**Iriomote-Funau**	**1.92**	**73**	P	**Pn**	**15 36 12.9**	**+0.9**
IRIF				*eS*	**Sn**	**15 36 36.6**	**+0.6**
HATJ	**Hateruma jima**	**1.93**	**81**	P	**Pn**	**15 36 12.9**	**+0.7**
HATJ				S	**Sn**	**15 36 36.2**	**0.0**
HEN	**Hengchun**	**1.98**	**207**	*eP*	**Pb**	**15 36 15.9**	**+0.1**
	baz=193						
TWK1	**Hengchun**	**2.01**	**205**	*eP*	**Pn**	**15 36 14.1**	**+0.7**
	baz=192						
TSEB	**Hengchuen, Pin**	**2.02**	**202**	*eP*	**Pn**	**15 36 13.8**	**+0.4**
	baz=196						
TSEB				*eS*	**Sn**	**15 36 38.2**	**-0.3**
	baz=196						
JKRS	**Kuro-shima**	**2.14**	**77**	P	**Pn**	**15 36 16.3**	**+1.2**
JKRS				S	**Sn**	**15 36 42.1**	**+0.6**
JIJ	**Ishigaki jima**	**2.29**	**75**	P	**Pn**	**15 36 17.3**	**+0.2**
JIJ				S	**Sn**	**15 36 43.9**	**-1.2**
JTJ	**Tarama**	**2.85**	**72**	P	**Pn**	**15 36 25.6**	**+0.7**
JTJ				*eS*	**Sn**	**15 36 58.5**	**-0.6**
KNM	**Kinmen**	**3.07**	**283**	*eP*	**Pn**	**15 36 27.6**	**-0.3**
	baz=280						
JOGS	**Gusukube**	**3.50**	**73**	*eS*	**Sn**	**15 37 15.1**	**0.0**

IDC ***19*** *15:41:15.2±2.7,23°.94N×122°.08E,h0km,mb3.3/5, mb1 3.5/5,mb1mx3.2/25,mbtmp3.3/5, Error ellipse: s-maj=223.5km s-min=20.5km az=63.0*
JMA ***19*** *15:41:20.5±0.1,23°.76N×121°.62E,h51km×2km,M3.7*
ISCJB ***19*** *15:41:21.7±0.2,23°.80N±0°.01×121°.70E±0°.02,h45km±4km, mb3.3/5, Error ellipse: s-maj=3.0km s-min=1.9km az=33.8*
TAP ***19*** *15:41:21.6,23°.82N×121°.66E,h40km,ML4.3,B*
ISC 19 15:41:21.7±0.9,23°.79N±0°.02×121°.69E±0°.02,h34km±2km,
n76,σ0=91/140,mb3.4/5,13C-11D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.15**	**240**	*eP*		**15 41 29.3**	**+1.3**
	baz=221						
ESF	**Shoufeng Towns**	**0.18**	**297**	P	**Pb**	**15 41 29.1**	**+0.8**
	baz=289						
ESF				S	**Sb**	**15 41 34.5**	**+1.7**
	baz=289						
HWA	**Hwalien**	**0.20**	**338**	*eP*	**Pb**	**15 41 28.8**	**+0.3**
	baz=347						
HWA				*eS*	**Sb**	**15 41 36.3**	**+3.3**
	baz=347						
ESL	**Shilin**	**0.23**	**277**	⇑*i*P	**Pn**	**15 41 28.9**	**+0.8**
	baz=267						
ESL				*eS*	**Sb**	**15 41 33.5**	**-0.1**
	baz=267						
TWD	**Chiawan**	**0.30**	**344**	⇓P	**Pb**	**15 41 29.7**	**+0.1**
	baz=357						
TWD				S	**Sb**	**15 41 35.5**	**+0.5**
	baz=357						
EHP	**Heping Village**	**0.52**	**5**	*eP*	**Pb**	**15 41 32.6**	**-0.2**
	baz=17						
EHP				*eS*	**Sn**	**15 41 41.5**	**+1.0**
	baz=17						
WHF	**Hehuan Shan**	**0.53**	**313**	⇑*i*P	**Pb**	**15 41 32.4**	**-0.8**
	baz=306						
WHF				*eS*	**Sb**	**15 41 39.8**	**-1.2**
	baz=306						
TWF1	**Yuli**	**0.56**	**220**	⇓*e*P	**Pn**	**15 41 32.9**	**-0.4**
	baz=222						
TWF1				*eS*	**Sb**	**15 41 40.8**	**-0.6**
	baz=222						
ENA	**Nanau**	**0.64**	**4**	⇓*i*P	**Pn**	**15 41 34.0**	**-0.4**
	baz=18						
ENA				*eS*	**Sn**	**15 41 43.0**	**-0.4**
	baz=18						
TWT	**Tachien**	**0.66**	**315**	⇑*i*P	**Pn**	**15 41 34.7**	**-0.1**
	baz=313						
TWT				S	**Sn**	**15 41 43.3**	**-0.8**
	baz=313						
NNS	**Nan Shan**	**0.71**	**336**	⇑*i*P	**Pn**	**15 41 34.8**	**-0.7**
	baz=338						
NNS				*eS*	**Sn**	**15 41 44.3**	**-1.0**
	baz=338						
SMLT	**Sun Moon Lake**	**0.73**	**278**	⇑*i*P	**Pn**	**15 41 35.5**	**-0.1**
	baz=277						
SMLT				*eS*	**Sn**	**15 41 45.0**	**-0.7**
	baz=277						
YUS	**Yu-Shan**	**0.74**	**246**	*eP*	**Pn**	**15 41 36.3**	**+0.2**
	baz=242						
YUS				*i* S	**Sn**	**15 41 46.1**	**-0.3**
	baz=242						
CHKT	**Chengkung**	**0.74**	**203**	*eP*	**Pn**	**15 41 35.8**	**0.0**
	baz=187						
CHKT				*eS*	**Sn**	**15 41 46.8**	**+0.8**
	baz=187						
TYC	**Yuchr**	**0.77**	**279**	⇑*i*P	**Pn**	**15 41 36.0**	**-0.2**
	baz=280						
TYC				S	**Sn**	**15 41 46.0**	**-0.6**
	baz=280						
TWC	**Suao**	**0.83**	**10**	⇓P	**Pn**	**15 41 37.1**	**+0.1**
	baz=20						
TWC				*eS*	**Sn**	**15 41 48.5**	**+0.4**
	baz=20						
ALS	**Alishan**	**0.85**	**251**	*eP*	**Pn**	**15 41 37.9**	**+0.3**
	baz=248						
ALS				*eS*	**Sn**	**15 41 48.7**	**-0.3**
	baz=248						
ELDTW	**Lidau**	**0.86**	**226**	⇓*e*P	**Pn**	**15 41 37.0**	**-0.5**
	baz=217						
ELDTW				*eS*	**Sn**	**15 41 48.6**	**-0.3**
	baz=217						
ENTT	**Nioudou**	**0.86**	**353**	⇑*i*P	**Pn**	**15 41 36.9**	**-0.5**
	baz=347						
ENTT				*eS*	**Sn**	**15 41 48.1**	**-0.6**
	baz=347						
WNT	**Mingjian**	**0.92**	**276**	⇑*i*P	**Pn**	**15 41 39.2**	**+0.9**
	baz=273						
WNT				*eS*	**Sn**	**15 41 51.1**	**+0.8**
	baz=273						
NSK	**Sanguang**	**0.94**	**341**	⇑*i*P	**Pn**	**15 41 38.3**	**-0.3**
	baz=343						
NSK				*eS*	**Sn**	**15 41 49.5**	**-1.3**
	baz=343						
CHN5	**Tsauling**	**0.94**	**259**	⇑*e*P	**Pn**	**15 41 39.2**	**+0.6**
	baz=256						
CHN5				*eS*	**Sn**	**15 41 52.0**	**+1.0**
	baz=256						
ILA	**Ilan**	**0.98**	**3**	*eP*	**Pn**	**15 41 39.2**	**+0.2**
	baz=357						
ILA				*eS*	**Sb**	**15 41 53.5**	**+0.7**
	baz=357						
TCU	**Taichung**	**0.99**	**291**	⇑P	**Pn**	**15 41 40.2**	**+0.9**
	baz=290						
TCU				*eS*	**Sn**	**15 41 52.3**	**+0.2**
	baz=290						
TWQ1	**Liyutan**	**1.00**	**304**	⇑*i*P	**Pn**	**15 41 40.2**	**+0.7**
	baz=303						
TWQ1				*eS*	**Sn**	**15 41 53.1**	**+0.7**
	baz=303						
WGK	**Gukeng**	**1.04**	**265**	*eP*	**Pn**	**15 41 40.6**	**+0.7**
	baz=262						
WGK				*eS*	**Sn**	**15 41 54.1**	**+0.9**
	baz=262						
NSTT	**Nanjuang**	**1.05**	**323**	⇑*i*P	**Pn**	**15 41 40.8**	**+0.8**
	baz=309						
NSTT				S	**Sn**	**15 41 53.7**	**+0.2**
	baz=309						
NSY	**Sanyi**	**1.05**	**307**	⇓*e*P	**Pn**	**15 41 40.9**	**+0.8**
	baz=305						
NSY				*eS*	**Sn**	**15 41 54.4**	**+0.7**
	baz=305						
STYT	**Tauyuan**	**1.06**	**234**	⇓P	**Pn**	**15 41 40.9**	**+0.7**
	baz=227						
STYT				*eS*	**Sn**	**15 41 54.9**	**+1.1**
	baz=227						
TWG	**Pinlang**	**1.12**	**211**	*eP*	**Pn**	**15 41 39.8**	**-1.2**
	baz=195						
TWG				*eS*	**Sn**	**15 41 54.2**	**-0.9**
	baz=195						
WTP	**Ta-pu**	**1.12**	**242**	⇓P	**Pn**	**15 41 42.2**	**+1.1**
	baz=238						
WTP				*eS*	**Sn**	**15 41 56.5**	**+1.1**
	baz=238						
TTN	**Taitung**	**1.14**	**206**	*eP*	**Pn**	**15 41 41.0**	**-0.3**
	baz=200						
TTN				*eS*	**Sn**	**15 41 56.5**	**+0.7**
	baz=200						
CHY	**Chiayi**	**1.19**	**256**	*eP*	**Pn**	**15 41 42.8**	**+0.8**
	baz=254						
CHY				*eS*	**Sn**	**15 41 58.2**	**+1.2**
	baz=254						
HSN	**Hsinchu**	**1.20**	**327**	*eP*	**Pn**	**15 41 42.7**	**+0.5**
	baz=328						
HSN				*eS*	**Sn**	**15 41 58.2**	**+0.9**
	baz=328						
TWK	**Hsinying**	**1.22**	**245**	⇓*e*P	**Pn**	**15 41 43.3**	**+0.9**
	baz=241						
TWK				*eS*	**Sn**	**15 41 58.7**	**+1.0**
	baz=241						
CHN1	**Nanshi**	**1.22**	**241**	*eP*	**Pn**	**15 41 43.4**	**+0.9**
	baz=238						
CHN1				*eS*	**Sn**	**15 41 59.5**	**+1.7**
	baz=238						
SGST	**Jiashian**	**1.23**	**236**	⇓*e*P	**Pn**	**15 41 43.9**	**+1.3**
	baz=232						
SGST				*eS*	**Sb**	**15 42 00.8**	**+0.7**
	baz=232						
TWB1	**Santiao Chiao**	**1.25**	**13**	*eP*	**Pn**	**15 41 43.3**	**+0.5**
	baz=18						
TWB1				*eS*	**Sn**	**15 41 59.0**	**+0.6**
	baz=18						
TAP1	**Taipei**	**1.26**	**353**	*eP*	**Pn**	**15 41 42.8**	**-0.1**
	baz=355						
TAP1				*eS*	**Sn**	**15 41 59.2**	**+0.6**
	baz=355						
TAP	**Taipei**	**1.26**	**353**	*eP*	**Pn**	**15 41 43.3**	**+0.3**
	baz=355						
TAP				*eS*	**Sn**	**15 41 59.2**	**+0.5**
	baz=355						
NCU	**National Centr**	**1.26**	**339**	*eP*	**Pn**	**15 41 43.4**	**+0.4**
	baz=340						
NCU				*eS*	**Sn**	**15 41 59.8**	**+0.9**
	baz=340						
NWF	**Wu-fen Shan**	**1.28**	**4**	*eP*	**Pn**	**15 41 43.6**	**+0.3**
	baz=353						
NWF				*eS*	**Sn**	**15 42 00.7**	**+1.4**
	baz=353						
WTCT	**Ta-ch'eng**	**1.29**	**274**	*eP*	**Pn**	**15 41 43.9**	**+0.6**
	baz=272						
WTCT				*eS*	**Sn**	**15 42 01.2**	**+1.7**
	baz=272						
TWS1	**Kuangyinshan**	**1.33**	**349**	*eP*	**Pn**	**15 41 44.2**	**+0.3**
	baz=350						
TWS

WSF					eS		Sn	15 42 02.5	+1.6
	baz=262								
ECL	**Taimali**	**1.36**	**210**		eP		Pn	15 41 43.3	-1.1
	baz=196								
ECL					eS		Sn	15 42 02.1	+0.9
	baz=196								
YOJ	**Yonaguni jima**	**1.38**	**61**	P			Pn	15 41 45.2	+0.6
YOJ				S			Sn	15 42 02.2	+0.4
YOJ	**Yonaguni jima**	**1.38**	**61**		eP		Pn	15 41 45.0	+0.3
	baz=65								
YOJ					eS		Sn	15 42 02.6	+0.8
	baz=65								
CHN3	**Shinhua**	**1.41**	**240**		eP		Pn	15 41 46.1	+1.2
	baz=237								
CHN3					eS		Sb	15 42 05.5	+0.5
	baz=237								
SSD	**Sandimen**	**1.42**	**223**	⇓	eP		Pn	15 41 45.6	+0.5
	baz=219								
SSD					eS		Sb	15 42 05.5	0.0
	baz=219								
CHN8	**Yiju**	**1.42**	**252**		eP		Pn	15 41 45.8	+0.6
	baz=251								
CHN8					eS		Sn	15 42 03.9	+1.1
	baz=251								
TWY	**Chenhua**	**1.48**	**357**		eP		Pn	15 41 45.9	-0.1
	baz=358								
SCLT	**Jiali**	**1.50**	**246**		eP		Pn	15 41 46.6	+0.4
	baz=245								
SCLT					eS		Sn	15 42 06.3	+1.7
	baz=245								
TWM1	**Shoushan**	**1.51**	**231**		eP		Pb	15 41 48.8	-0.4
	baz=239								
TWM1					eS		Sb	15 42 09.5	+1.5
	baz=239								
SGLT	**Jiouru**	**1.52**	**226**		eP		Pn	15 41 48.2	+1.6
	baz=206								
SGLT					eS		Sb	15 42 08.1	-0.4
	baz=206								
TAI1	**Yung-k'ang**	**1.53**	**241**		eP		Pn	15 41 47.7	+1.0
	baz=252								
TAI1					eS		Sn	15 42 06.4	+1.0
	baz=252								
EAST	**Anshuo**	**1.60**	**209**		eP		Pn	15 41 46.9	-0.8
	baz=199								
TAW	**Tawu**	**1.60**	**207**		eP		Pb	15 41 49.9	-0.8
	baz=194								
TAW					eS		Sn	15 42 07.6	+0.6
	baz=194								
SCZT	**Fangliau**	**1.72**	**215**		eP		Pn	15 41 49.9	+0.6
	baz=209								
SCZT					eS		Sn	15 42 12.1	+2.1
	baz=209								
LAY	**Lan-yu**	**1.74**	**184**		eP		Pn	15 41 48.8	-0.8
	baz=173								
LAY					eS		Sn	15 42 11.0	+0.3
	baz=173								
WDGT	**Dungji**	**1.93**	**255**		eP		Pn	15 41 52.1	-0.1
	baz=253								
WDGT					eS		Sn	15 42 13.8	-1.6
	baz=253								
IRIF	**Iriomote-Funau**	**1.95**	**73**	P			Pn	15 41 53.0	+0.6
IRIF				S			Sn	15 42 17.3	+1.7
HATJ	**Hateruma jima**	**1.96**	**82**	P			Pn	15 41 53.2	+0.7
HATJ				S			Sn	15 42 16.7	+0.8
HEN	**Hengchun**	**1.98**	**206**		eP		Pn	15 41 53.8	+1.0
	baz=198								
TWK1	**Hengchun**	**2.01**	**204**		eP		Pn	15 41 53.8	+0.6
	baz=198								
TWK1					eS		Sn	15 42 18.1	+1.0
	baz=198								
TSEB	**Hengchuen, Pin**	**2.01**	**201**		eP		Pn	15 41 52.6	-0.7
	baz=197								
TSEB					eS		Sn	15 42 19.0	+1.7
	baz=197								
JKRS	**Kuro-shima**	**2.17**	**78**	P			Pn	15 41 56.6	+1.1
JKRS				S			Sn	15 42 22.7	+1.5
JIJ	**Ishigaki jima**	**2.32**	**75**	P			Pn	15 41 57.8	+0.3
JIJ				S			Sn	15 42 24.5	-0.3
JTJ	**Tarama**	**2.88**	**72**	P			Pn	15 42 06.4	+1.2
JTJ				eS			Sn	15 42 38.9	+0.2
KNM	**Kinmen**	**3.04**	**283**		eP		Pn	15 42 08.3	+0.9
	baz=280								
QZH	**Quanzhou**	**3.05**	**293**		Pn		Pn	15 42 02.5	-5.0
QZH					Sn		Sn	15 42 35.0	-7.8
QZH					smax		smax		
	comp=N,390nm,0.6s								
QZH					smax		smax		
	comp=E,270nm,0.6s								
MKAR	**Makanchi Array**	**38.94**	**316**		P		**P**	15 48 44.1	-0.4
	comp=E,0.4nm,0.6s,baz=101,slow=9.3,SNR=4.5								
ZALV	**Zalesovo Beam**	**40.83**	**327**		P		**P**	15 48 58.6	-1.4
	comp=E,0.3nm,0.3s,baz=108,slow=9.3,SNR=2.6								
KURBB	**Kurchatov Arra**	**42.71**	**320**		P		**P**	15 49 14.9	-0.5
	comp=E,0.3nm,0.8s,baz=110,slow=8.7,SNR=4.1								
WRA	**Warramunga Arr**	**45.18**	**163**		P		**P**	15 49 33.9	-1.6
	comp=E,0.3nm,0.5s,baz=344,slow=8.7,SNR=6.2								
ASAR	**Alice Springs**	**48.64**	**165**		P		**P**	15 50 01.8	-0.7
	comp=E,0.1nm,0.4s,baz=344,slow=6.9,SNR=6.4								

JMA ***19*** *15:46:17.6,23.˝71N×121.˝60E,h41km±2km,M2.9*
TAP ***19*** *15:46:18.0,23.˝72N×121.˝63E,h39km,ML3.4,C*
ISC 19 15:46:18.0±0.9,23.˝71N±0.˝02×121.˝65E±0.˝02,h27km,n53,
σ0s87/91,12C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
TEGC	**Jichi Village**	**0.10**	**271**	*i*	P	**Pb**	**15**	**46 24.7**	**+1.9**
	baz=263								
TEGC					S	**Sb**	**15**	**46 29.8**	**+3.7**
	baz=263								
ESF	**Shoufeng Towns**	**0.21**	**322**		eP	**Pn**	**15**	**46 25.3**	**0.0**
	baz=311								
ESF					eS	**Sb**	**15**	**46 30.7**	**+2.7**
	baz=311								
ESL	**Shilin**	**0.22**	**299**	⇑	P	**Pn**	**15**	**46 24.9**	**-0.6**
	baz=289								
ESL					eS	**Sb**	**15**	**46 29.8**	**+1.4**
	baz=289								
HWA	**Hwalien**	**0.27**	**352**		P	**Pn**	**15**	**46 25.9**	**-0.3**
	baz=3.0								
HWA					eS	**Sn**	**15**	**46 31.0**	**-0.5**
	baz=3.0								
TWD	**Chiawan**	**0.38**	**353**		P	**Pn**	**15**	**46 27.0**	**-0.6**
	baz=351								
TWD					S	**Sn**	**15**	**46 33.8**	**-0.2**
	baz=351								
TWF1	**Yuli**	**0.48**	**222**	⇑	P	**Pn**	**15**	**46 28.1**	**-0.9**
	baz=229								
TWF1					eS	**Sn**	**15**	**46 35.1**	**-1.5**
	baz=229								
WHF	**Hehuan Shan**	**0.56**	**321**	⇑	P	**Pb**	**15**	**46 29.2**	**-0.3**
	baz=315								
WHF					eS	**Sn**	**15**	**46 37.8**	**-1.4**
	baz=315								
CHKT	**Chengkung**	**0.66**	**203**		eP	**Pn**	**15**	**46 31.3**	**-0.2**
	baz=191								
CHKT					eS	**Sb**	**15**	**46 40.0**	**+0.4**
	baz=191								
YUS	**Yu-Shan**	**0.67**	**251**		P	**Pn**	**15**	**46 31.9**	**-0.3**
	baz=249								
YUS					eS	**Sn**	**15**	**46 40.7**	**-1.4**
	baz=249								
TWT	**Tachien**	**0.69**	**322**	⇑	P	**Pn**	**15**	**46 31.8**	**-0.4**
	baz=317								
TWT					S	**Sn**	**15**	**46 40.9**	**-1.3**
	baz=317								
SMLT	**Sun Moon Lake**	**0.71**	**285**	⇑	*i*P	**Pn**	**15**	**46 31.8**	**-0.5**
	baz=286								
SMLT					eS	**Sn**	**15**	**46 41.5**	**-0.9**
	baz=286								
ENA	**Nanau**	**0.72**	**7**	⇑	P	**Pb**	**15**	**46 31.6**	**-0.4**
	baz=19								
ENA					eS	**Sb**	**15**	**46 41.4**	**-0.2**
	baz=19								
TYC	**Yuchr**	**0.75**	**285**	⇑	*i*P	**Pn**	**15**	**46 32.3**	**-0.5**
	baz=289								
TYC					S	**Sn**	**15**	**46 42.9**	**-0.4**
	baz=289								
NNS	**Nan Shan**	**0.77**	**341**		eP	**Pb**	**15**	**46 32.3**	**-0.6**
	baz=343								
NNS					eS	**Sb**	**15**	**46 42.1**	**-1.0**
	baz=343								
ELDTW	**Lidau**	**0.78**	**228**		eP	**Pb**	**15**	**46 32.2**	**-0.7**
	baz=224								
ELDTW					eS	**Sn**	**15**	**46 43.1**	**-1.0**
	baz=224								
ALS	**Alishan**	**0.80**	**256**	⇑	*i*P	**Pn**	**15**	**46 33.6**	**-0.1**
	baz=261								
ALS					eS	**Sn**	**15**	**46 43.8**	**-1.1**
	baz=261								
CHN5	**Tsauling**	**0.90**	**263**		eP	**Pb**	**15**	**46 35.1**	**+0.2**
	baz=262								
CHN5					S	**Sn**	**15**	**46 47.2**	**+0.2**
	baz=262								
WNT	**Mingjian**	**0.90**	**281**	⇑	P	**Pb**	**15**	**46 35.3**	**+0.3**
	baz=280								
WNT					eS	**Sn**	**15**	**46 47.4**	**+0.4**
	baz=280								
TWC	**Suao**	**0.92**	**12**		eP	**Pn**	**15**	**46 34.9**	**-0.2**
	baz=22								
TWC					eS	**Sn**	**15**	**46 47.4**	**0.0**
	baz=22								
ENTT	**Nioudou**	**0.93**	**355**		P	**Pn**	**15**	**46 34.7**	**-0.6**
	baz=357								
STYT	**Tauyuan**	**0.98**	**237**	⇓	P	**Pb**	**15**	**46 36.3**	**-0.1**
	baz=230								
STYT					eS	**Sn**	**15**	**46 49.3**	**+0.2**
	baz=230								
TCU	**Taichung**	**0.99**	**296**		eP	**Pb**	**15**	**46 36.9**	**+0.4**
	baz=296								
TCU					eS	**Sn**	**15**	**46 51.5**	**+2.2**
	baz=296								
WGK	**Gukeng**	**1.00**	**269**		eP	**Pb**	**15**	**46 36.3**	**-0.3**
	baz=268								
WGK					eS	**Sn**	**15**	**46 50.2**	**+0.8**
	baz=268								
NSK	**Sanguang**	**1.00**	**345**	⇑	P	**Pn**	**15**	**46 35.9**	**-0.4**
	baz=356								
NSK					eS	**Sb**	**15**	**46 48.0**	**-1.6**
	baz=356								
TWQ1	**Liyutan**	**1.02**	**309**	⇑	P	**Pb**	**15**	**46 37.4**	**+0.3**
	baz=308								
TWQ1					eS	**Sn**	**15**	**46 50.4**	**+0.4**
	baz=308								
TWG	**Pinlang**	**1.03**	**211**		eP	**Pb**	**15**	**46 36.8**	**-0.3**
	baz=209								
TWG					eS	**Sb**	**15**	**46 50.5**	**+0.3**
	baz=209								
TTN	**Taitung**	**1.05**	**206**		eP	**Pb**	**15**	**46 37.8**	**+0.2**
	baz=204								
WTP	**Ta-pu**	**1.05**	**244**		eP	**Pb**	**15**	**46 37.5**	**-0.1**
	baz=243								
WTP					eS	**Sb**	**15**	**46 51.8**	**+0.7**
	baz=243								
ILA	**Ilan**	**1.06**	**5**		eP	**Pb**	**15**	**46 37.4**	**-0.3**
	baz=356								
NSY	**Sanyi**	**1.07**	**311**		eP	**Pb**	**15**	**46 37.9**	**-0.1**
	baz=311								
NSY					eS	**Sb**	**15**	**46 53.1**	**+1.5**
	baz=311								
NSTT	**Nanjuang**	**1.09**	**327**	⇑	P	**Pb**	**15**	**46 38.2**	**-0.1**
	baz=328								
NSTT					S	**Sn**	**15**	**46 51.1**	**-0.7**
	baz=328								
CHY	**Chiayi**	**1.14**	**260**		eP	**Pb**	**15**	**46 39.7**	**+0.7**
	baz=259								
CHN1	**Nanshi**	**1.15**	**243**		eP	**Pb**	**15**	**46 39.4**	**+0.1**
	baz=242								
CHN1					eS	**Sb**	**15**	**46 54.1**	**+0.3**
	baz=242								
TWK	**Hsinying**	**1.15**	**248**		eP	**Pb**	**15**	**46 39.4**	**+0.1**
	baz=246								
TWK					eS	**Sb**	**15**	**46 53.8**	**-0.1**
	baz=246								
SGST	**Jiashian**	**1.16**	**238**		eP	**Pb**	**15**	**46 39.2**	**-0.2**
	baz=236								
SGST					eS	**Sb**	**15**	**46 54.5**	**+0.5**
	baz=236								
WTCT	**Ta-ch'eng**	**1.26**	**277**		eP	**Pb**	**15**	**46 40.9**	**-0.2**
	baz=276								
WTCT					eS	**Sb**	**15**	**46 57.7**	**+0.7**
	baz=276								
ECL	**Taimali**	**1.28**	**210**		eP	**Pn**	**15**	**46 39.1**	**-0.9**
	baz=202								
WSF	**Szhu**	**1.31**	**267**		eP	**Pb**	**15**	**46 41.4**	**-0.5**
	baz=255								
WSF					eS	**Sb**	**15**	**46 58.1**	**-0.2**
	baz=255								
TWB1	**Santiao Chiao**	**1.33**	**13**		eP	**Pn**	**15**	**46 41.1**	**+0.3**
	baz=15								
SSD	**Sandimen**	**1.34**	**225**		eP	**Pb**	**15**	**46 41.8**	**-0.6**
	baz=223								
SSD					eS	**Sb**	**15**	**46 59.6**	**+0.5**
	baz=223								
NWF	**Wu-fen Shan**	**1.36**	**5**		eP	**Pb**	**15**	**46 42.1**	**-0.8**
	baz=355								
TWS1	**Kuangyinshan**	**1.40**	**351**		eP	**Pn**	**15**	**46 42.1**	**+0.3**
	baz=353								
TWM1	**Shoushan**	**1.43**	**232**		eP	**Pb**	**15**	**46 45.0**	**+1.0**
	baz=246								
YOJ	**Yonaguni jima**	**1.46**	**59**	P		**Pn**	**15**	**46 42.9**	**+0.4**
EAST	**Anshuo**	**1.51**	**209**		eP	**Pb**	**15**	**46 44.2**	**-1.2**
	baz=202								
SCZT	**Fangliau**	**1.63**	**216**		eP	**Pb**	**15**	**46 46.6**	**-0.8**
	baz=215								
LAY	**Lan-yu**	**1.66**	**183**		eP	**Pn**	**15**	**46 45.7**	**+0.3**
	baz=182								
IRIF	**Iriomote-Funau**	**2.00**	**71**	P		**Pn**	**15**	**46 50.7**	**+0.7**
IRIF				S		**Sn**	**15**	**47 14.5**	**+0.3**
HATJ	**Hateruma jima**	**2.00**	**80**	P		**Pn**	**15**	**46 50.1**	**+0.1**
JKRS	**Kuro-shima**	**2.22**	**76**	P		**Pn**	**15**	**46 53.8**	**+0.7**
JKRS				S		**Sn**	**15**	**47 20.2**	**+0.6**
JIJ	**Ishigaki jima**	**2.37**	**73**	P		**Pn**	**15**	**46 54.7**	**-0.4**
JIJ				S		**Sn**	**15**	**47 22.1**	**-1.2**
JTJ	**Tarama**	**2.94**	**71**	P		**Pn**	**15**	**47 02.8**	**-0.1**
JTJ				eS		**Sn**	**15**	**47 36.8**	**-0.5**
KNM	**Kinmen**	**3.02**	**284**		eP	**Pn**	**15**	**47 04.5**	**+0.4**
	baz=284								

IDC 19 16:00:35.9±5.9,20.˝67S×176.˝18W,h0km,mb3.5/2,
mb1 3.7/2,mb1mx3.5/19,mbtmp3.5/2,Error ellipse:
s-maj=303.0km s-min=88.0km az=155.0,Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
ASAR	**Alice Springs**	**46.14**	**257**	P		P	16	09 01.4	-1.2
	0.2nm,0.5s,baz=95,slow=7.0,SNR=9.2								
WRA	**Warramunga Arr**	**46.27**	**262**	P		P	16	09 04.3	+0.8
	0.4nm,0.3s,baz=97,slow=8.2,SNR=26								
AKASG	**Malin Array Be**	**143.97**	**332**	PKP		PKPdf	16	20 12.6	-0.7
	0.1nm,0.3s,baz=54,slow=0.5,SNR=3.5								

AUST ***19*** *16:10:14.6±0.0,16.˝96S×176.˝25W,h530km,Error ellipse:*
s-maj=3.4km s-min=1.7km az=325.0
ISCJB ***19*** *16:10:33.3±1.1,17.˝3S±0.˝4×179.˝0W±0.˝3,h539km,mb3.6/7,*
Error ellipse: s-maj=60.2km s-min=14.1km az=144.3
IDC ***19*** *16:10:35.5±6.0,17.˝27S×178.˝99W,h553km±72km,mb3.1/7,*
mb1 3.4/8,mb1mx3.1/21,mbtmp4.1/8,Error ellipse:
s-maj=89.1km s-min=28.2km az=151.0
ISC 19 16:10:33.8±1.5,17.˝4S±0.˝5×178.˝8W±0.˝3,h539km,n14,
σ0s68/14,mb3.6/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
DZM	**Mont Dzumac**	**14.64**	**249**	P		**P**	**16**	**13 41.4**	**+1.5**
	0.6nm,0.3s,baz=352,slow=23,SNR=7.6								
RMQ	**Roma**	**31.34**	**247**	P		**P**	**16**	**16 11.1**	**+0.6**
	baz=34,SNR=5.8								
CTA	**Charters Tower**	**33.15**	**260**	P		**P**	**16**	**16 25.2**	**-0.8**
	0.8nm,0.3s,baz=112,slow=5.4,SNR=3.3								
CMSA	**Cobar Meteorol**	**35.08**	**240**	P		**P**	**16**	**16 41.6**	**-0.4**
	baz=37,SNR=7.6								
TOO	**Toolangi**	**37.21**	**230**	P		**P**	**16**	**16 59.1**	**-0.5**
	baz=39,SNR=4.5								
STKA	**Stephens Creek**	**38.55**	**240**	P		**P**	**16**	**17 10.2**	**-0.4**
	2.9nm,0.5s,baz=90,slow=11,SNR=6.3								
HTT	**Hallett**	**41.08**	**239**	P		**P**	**16**	**17 30.7**	**-0.2**
	baz=43,SNR=4.7								
WRA	**Warramunga Arr**	**44.34**	**259**	P		**P**	**16**	**17 55.8**	**-0.7**
	0.9nm,0.5s,baz=97,slow=7.0,SNR=29								
ASAR	**Alice Springs**	**44.56**	**254**	P		**P**	**16**	**17 57.9**	**-0.3**
	13nm,0.6s,baz=89,slow=8.1,SNR=333								
WRKA	**Warakurna**	**49.64**	**252**	P		**P**	**16**	**18 36.0**	**-0.4**
	baz=52,SNR=8.1								
NVAR	**Mina Array Bea**	**79.31**	**44**	P		**P**	**16**	**21 44.6**	**+0.6**
	0.4nm,0.6s,baz=234,slow=7.7,SNR=4.5								
ILAR	**Eielson Array**	**85.45**	**13**	P		**P**	**16**	**22 13.9**	**-0.2**
	0.3nm,0.5s,baz=225,slow=5.0,SNR=11								
PDAR	**Pinedale Array**	**87.23**	**44**	P		**P**	**16**	**22 23.6**	**+0.1**
	0.4nm,0.5s,baz=174,slow=2.8,SNR=3.6								

GERES	**GERESS Array B**	**146.99**	**345**	PKPbc		**PKPbc**	**16**	**29 16.2**	**0.0**
	0.4nm,0.5s,baz=1.9,slow=2.9,SNR=4.8								

NIED ***19*** *16:43:00,23.˝80N×121.˝60E,h56km,Mw4.2 Best double couple: M0 2.11000×10^15 NP1:φ0=14.00000°,δ88.00000°, λ20.00000°. NP2:φ0=283.00000°,δ70.00000°,λ178.00000°.*
ISCJB ***19*** *16:43:15.9±0.2,23.˝77N±0.˝01×121.˝77E±0.˝01,h14km, mb3.5/10,Error ellipse: s-maj=2.0km s-min=1.4km az=39.1*
JMA ***19*** *16:43:16.3±0.1,23.˝78N×121.˝63E,h48km±3km,M4.2*
TAP ***19*** *16:43:17.6,23.˝84N×121.˝65E,h39km,ML4.4,B*
IDC ***19*** *16:43:23.2±6.5,23.˝81N×121.˝73E,h102km±63km, mb3.2/10,mb1 3.4/11,mb1mx3.3/27,mbtmp3.2/11,ML3.6/1, Error ellipse: s-maj=28.7km s-min=14.2km az=73.0*
ISC 19 16:43:15.6±0.5,23.˝77N±0.˝02×121.˝75E±0.˝02,h14km,n96,
σ1s02/151,mb3.5/10,18C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
TEGC	**Jichi Village**	**0.20**	**252**		eP	**Pb**	16	43 25.0	+4.0
	baz=206								
TEGC					eS	Sb	16	43 31.1	+6.5
	baz=206								
ESF	**Shoufeng Towns**	**0.24**	**294**		eP	Pb	16	43 24.7	+2.9
	baz=284								
ESF					eS	**Sb**	**16**	**43 30.2**	**+4.4**
	baz=284								
HWA	**Hwalien**	**0.24**	**328**	⇓	eP	Pb	16	43 24.6	+2.8
	baz=348								
HWA					eS	**Sb**	**16**	**43 30.1**	**+4.2**
	baz=348								
ESL	**Shilin**	**0.29**	**278**	⇑	*i*P	**Pn**	**16**	**43 24.8**	**-0.7**
	baz=273								
ESL					eS	**Sb**	**16**	**43 29.4**	**+2.1**
	baz=273								
TWD	**Chiawan**	**0.34**	**336**	⇓	*i*P	**Pn**	**16**	**43 25.4**	**-0.7**
	baz=350								
TWD					*i* S	**Sn**	**16**	**43 31.1**	**-1.6**
	baz=350								
EHP	**Heping Village**	**0.54**	**360**		P	**Pn**	**16**	**43 28.1**	**-0.7**
	baz=18								
EHP					S	**Sn**	**16**	**43 36.9**	**-0.8**
	baz=18								
WHF	**Hehuan Shan**	**0.57**	**310**	⇑	*i*P	**Pb**	**16**	**43 28.1**	**+0.4**
	baz=305								
WHF					S	**Sb**	**16**	**43 35.4**	**-0.6**
	baz=305								
TWF1	**Yuli**	**0.59**	**225**	⇓	P	**Pb**	**16**	**43 28.9**	**+1.2**
	baz=222								
TWF1					eS	**Sb**	**16**	**43 36.8**	**+0.9**
	baz=222								
ENA	**Nanau**	**0.65**	**360**	⇓	P	**Pb**	**16**	**43 29.7**	**+0.9**
	baz=17								
ENA					S	**Sb**	**16**	**43 38.5**	**+0.7**
	baz=17								
TWT	**Tachien**	**0.71**	**313**	⇑	*i*P	**Pb**	**16**	**43 30.4**	**+0.6**
	baz=312								
TWT					S	**Sg**	**16**	**43 38.9**	**+0.1**
	baz=312								
NNS	**Nan Shan**	**0.75**	**333**	⇑	P	**Pb**	**16**	**43 30.6**	**+0.1**
	baz=337								
NNS					eS	**Sg**	**16**	**43 39.6**	**-0.4**
	baz=337								
CHKT	**Chengkung**	**0.76**	**208**	⇑	eP	**Pn**	**16**	**43 31.7**	**-0.1**
	baz=186								
CHKT					eS	**Sn**	**16**	**43 43.7**	**+0.6**
	baz=186								
YUS	**Yu-Shan**	**0.78**	**249**	⇑	P	**Pn**	**16**	**43 32.4**	**-0.3**
	baz=243								
YUS					eS	**Sb**	**16**	**43 41.8**	**0.0**
	baz=243								
SMLT	**Sun Moon Lake**	**0.78**	**278**	⇑	*i*P	**Pb**	**16**	**43 31.4**	**+0.4**
	baz=276								
SMLT					eS	**Sg**	**16**	**43 40.6**	**-0.5**
	baz=276								
TYC	**Yuchr**	**0.82**	**279**	⇑	*i*P	**Pg**	**16**	**43 31.8**	**+0.2**
	baz=280								
TYC					eS	**Sg**	**16**	**43 41.7**	**-0.7**
	baz=280								
TWC	**Suao**	**0.84**	**6**	⇓	*i*P	**Pn**	**16**	**43 32.8**	**-0.3**
	baz=23								
TWC					eS	**Sb**	**16**	**43 43.8**	**+0.7**
	baz=23								
ENTT	**Nioudou**	**0.88**	**349**	⇑	*i*P	**Pg**	**16**	**43 32.7**	**+0.1**
	baz=353								
ENTT					eS	**Sg**	**16**	**43 44.0**	**-0.2**
	baz=353								
ELDTW	**Lidau**	**0.89**	**229**	⇓	eP	**Pb**	**16**	**43 32.8**	**0.0**
	baz=217								
ELDTW					eS	**Sg**	**16**	**43 44.2**	**-0.2**
	baz=217								
ALS	**Alishan**	**0.90**	**253**	⇓	P	**Pn**	**16**	**43 34.0**	**-0.1**
	baz=248								
ALS					eS	**Sg**	**16**	**43 44.6**	**-0.3**
	baz=248								
NSK	**Sanguang**	**0.97**	**339**	⇑	*i*P	**Pb**	**16**	**43 34.0**	**-0.2**
	baz=341								
NSK					eS	**Sb**	**16**	**43 45.5**	**-1.4**
	baz=341								
WNT	**Mingjian**	**0.98**	**276**	⇑	eP	**Pn**	**16**	**43 35.0**	**+0.1**
	baz=273								
WNT					eS	**Sg**	**16**	**43 47.4**	**+0.1**
	baz=273								
ILA	**Ilan**	**0.99**	**0**		eP	**Pb**	**16**	**43 34.6**	**0.0**
	baz=353								
ILA					eS	**Sg**	**16**	**43 48.2**	**+0.6**
	baz=353								
CHN5	**Tsauling**	**0.99**	**260**	⇑	P	**Pg**	**16**	**43 35.2**	**+0.4**
	baz=256								
CHN5					S	**Sb**	**16**	**43 47.9**	**+0.2**
	baz=256								
TCU	**Taichung**	**1.05**	**291**	⇑	*i*P	**Pn**	**16**	**43 36.1**	**+0.3**
	baz=289								
TCU					eS	**Sb**	**16**	**43 48.6**	**-0.5**
	baz=289								
TWQ1	**Liyutan**	**1.06**	**303**	⇑	*i*P	**Pg**	**16**	**43 36.0**	**0.0**
	baz=302								
TWQ1					eS	**Sb**	**16**	**43 49.0**	**-0.5**
	baz=302								
WGK	**Gukeng**	**1.09**	**266**		eP	**Pn**	**16**	**43 36.6**	**+0.2**
	baz=262								
WGK					eS	**Sb**	**16**	**43 50.1**	**-0.2**
	baz=262								
STYT	**Tauyuan**	**1.09**	**236**	⇓	P	**Pb**	**16**	**43 36.8**	**+0.5**
	baz=230								
STYT					S	**Sb**	**16**	**43 51.0**	**+0.6**
	baz=230								
NSTT	**Nanjuang**	**1.09**	**322**	⇑	*i

	baz=244								
CHN1	**Nanshi**	**1.26**	**243**	⇓	*i*	P	**Pb**	**16 43 39.5**	**+0.3**
	baz=240								
CHN1					*e*	S	**Sb**	**16 43 55.7**	**+0.4**
	baz=240								
SGST	**Jiashian**	**1.27**	**237**	⇓		P	**Pb**	**16 43 39.9**	**+0.6**
SGST	baz=235				*e*	S	**Sg**	**16 43 56.6**	**0.0**
	baz=235								
TAP1	**Taipei**	**1.28**	**351**		*e*	P	**Pn**	**16 43 38.3**	**-0.8**
TAP1	baz=350				*e*	S	**Sb**	**16 43 54.7**	**-1.0**
	baz=350								
TAP	**Taipei**	**1.28**	**350**		*e*	P	**Pn**	**16 43 38.2**	**-0.8**
TAP	baz=350				*e*	S	**Sb**	**16 43 54.5**	**-1.3**
	baz=350								
NWF	**Wu-fen Shan**	**1.29**	**1**		*e*	P	**Pn**	**16 43 39.3**	**-0.1**
NWF	baz=350				*e*	S	**Sb**	**16 43 55.6**	**-0.7**
	baz=350								
NCU	**National Centr**	**1.30**	**337**		*e*	P	**Pn**	**16 43 39.3**	**0.0**
NCU	baz=336				*e*	S	**Sb**	**16 43 55.3**	**-1.0**
	baz=336								
WTCT	**Ta-ch'eng**	**1.34**	**274**		*e*	P	**Pn**	**16 43 40.1**	**+0.1**
WTCT	baz=272				*e*	S	**Sn**	**16 43 56.7**	**-0.9**
	baz=272								
YOJ	**Yonaguni jima**	**1.34**	**59**			P	**Pb**	**16 43 40.8**	**+0.2**
YOJ						S	**Sn**	**16 43 57.9**	**+0.3**
YOJ	**Yonaguni jima**	**1.34**	**59**	⇑	*i*	P	**Pb**	**16 43 41.0**	**+0.4**
YOJ	baz=66				*e*	S	**Sb**	**16 43 58.3**	**+0.6**
	baz=66								
TWS1	**Kuangyinshan**	**1.36**	**347**	⇑	*e*	P	**Pn**	**16 43 39.9**	**-0.2**
TWS1	baz=347				*e*	S	**Sn**	**16 43 56.6**	**-1.3**
	baz=347								
ECL	**Taimali**	**1.38**	**212**		*e*	P	**Pn**	**16 43 39.3**	**-1.1**
ECL	baz=195				*e*	S	**Sn**	**16 43 58.2**	**-0.2**
	baz=195								
WSF	**Szhu**	**1.40**	**265**	⇓	*e*	P	**Pn**	**16 43 41.0**	**+0.3**
WSF	baz=263				*e*	S	**Sn**	**16 43 58.4**	**-0.7**
	baz=263								
CHN3	**Shinhua**	**1.45**	**242**		*e*	P	**Pb**	**16 43 42.2**	**-0.1**
CHN3	baz=240				*e*	S	**Sb**	**16 44 01.5**	**+1.0**
	baz=240								
SSD	**Sandimen**	**1.45**	**225**		*e*	P	**Pn**	**16 43 41.8**	**+0.4**
SSD	baz=224				*e*	S	**Sn**	**16 44 00.1**	**-0.1**
	baz=224								
CHN8	**Yiju**	**1.47**	**254**		*e*	P	**Pn**	**16 43 41.7**	**0.0**
CHN8	baz=252				*e*	S	**Sn**	**16 43 59.9**	**-0.9**
	baz=252								
TWY	**Chenhua**	**1.50**	**355**		*e*	P	**Pn**	**16 43 41.9**	**-0.3**
TWM1	baz=356 **Shoushan**	**1.54**	**232**		*e*	P	**Pb**	**16 43 44.3**	**+0.4**
TWM1	baz=231				*e*	S	**Sg**	**16 44 06.5**	**+1.2**
	baz=231								
SCLT	**Jiali**	**1.54**	**248**		*e*	P	**Pn**	**16 43 43.0**	**+0.4**
SCLT	baz=246				*e*	S	**Sn**	**16 44 02.1**	**-0.4**
	baz=246								
SGLT	**Jiouru**	**1.56**	**228**		*e*	P	**Pb**	**16 43 44.7**	**+0.5**
SGLT	baz=227				*e*	S	**Sg**	**16 44 05.4**	**-0.3**
	baz=227								
TAI1	**Yung-k'ang**	**1.57**	**243**		*e*	P	**Pn**	**16 43 43.5**	**+0.4**
TAI1	baz=254				*e*	S	**Sn**	**16 44 02.9**	**-0.3**
	baz=254								
TAW	**Tawu**	**1.61**	**209**		*e*	P	**Pn**	**16 43 44.6**	**+1.0**
TAW	baz=193				*e*	S	**Sn**	**16 44 04.8**	**+0.6**
	baz=193								
EAST	**Anshuo**	**1.61**	**211**		*e*	P	**Pn**	**16 43 43.4**	**-0.3**
LAY	baz=199 **Lan-yu**	**1.73**	**186**		*e*	P	**Pn**	**16 43 44.7**	**-0.7**
LAY	baz=171				*e*	S	**Sn**	**16 44 06.0**	**-1.3**
	baz=171								
SCZT	**Fangliau**	**1.74**	**217**		*e*	P	**Pn**	**16 43 46.5**	**+1.1**
SCZT	baz=217				*e*	S	**Sb**	**16 44 08.7**	**-0.3**
	baz=217								
IRIF	**Iriomote-Funau**	**1.90**	**72**			P	**Pn**	**16 43 48.9**	**+1.3**
IRIF						S	**Sn**	**16 44 12.6**	**+1.3**
HATJ	**Hateruma jima**	**1.91**	**81**			P	**Pn**	**16 43 49.1**	**+1.4**
HATJ						S	**Sn**	**16 44 12.5**	**+1.0**
WDGT	**Dungji**	**1.98**	**256**		*e*	P	**Pn**	**16 43 48.1**	**-0.6**
WDGT	baz=255				*e*	S	**Sn**	**16 44 10.0**	**-3.3**
	baz=255								
HEN	**Hengchun**	**1.99**	**208**		*e*	P	**Pn**	**16 43 50.6**	**+1.8**
HEN	baz=188				*e*	S	**Sn**	**16 44 14.1**	**+0.6**
	baz=188								
TWK1	**Hengchun**	**2.02**	**206**		*e*	P	**Pn**	**16 43 50.0**	**+0.8**
TWK1	baz=197				*e*	S	**Sn**	**16 44 14.3**	**+0.1**
	baz=197								
TSEB	**Hengchuen, Pin**	**2.02**	**203**		*e*	P	**Pn**	**16 43 49.9**	**+0.6**
TSEB	baz=195				*e*	S	**Sn**	**16 44 14.7**	**+0.4**
	baz=195								
JKRS	**Kuro-shima**	**2.12**	**77**			P	**Pn**	**16 43 52.3**	**+1.7**
JKRS						S	**Sn**	**16 44 18.7**	**+1.9**
JIJ	**Ishigaki jima**	**2.27**	**74**			P	**Pn**	**16 43 53.7**	**+1.0**
JIJ						S	**Sn**	**16 44 20.3**	**-0.2**
JTJ	**Tarama**	**2.83**	**72**			P	**Pn**	**16 44 01.0**	**+0.5**
JTJ						S	**Sn**	**16 44 35.0**	**+0.6**
KNM	**Kinmen**	**3.09**	**283**		*e*	P	**Pn**	**16 44 04.3**	**+0.3**
	baz=280								
QZH	**Quanzhou**	**3.10**	**293**	⇓	*i*	Pn	Pn	16 43 58.3	-5.8
QZH						Sn	Sn	16 44 30.8	-10
QZH						smax	smax		
	comp=N,440nm,0.4s								
QZH						smax	smax		
	comp=E,410nm,0.7s								
JMJ	**Miyako jima 2**	**3.40**	**72**		*e*	S	**Sn**	**16 44 48.5**	**+0.1**
JOGS	**Gusukube**	**3.48**	**73**			P	**Pn**	**16 44 09.3**	**-0.1**
JOGS					*e*	S	**Sn**	**16 44 51.5**	**+1.1**
JKE	**Kume jima 2**	**5.23**	**60**			P	**Pn**	**16 44 33.8**	**+0.4**
JKE					*e*	S	**Sn**	**16 45 33.8**	**+0.2**
JOW	**Kunigami**	**6.65**	**61**			P	**Pn**	**16 44 52.3**	**-0.6**
JOW	**Kunigami**	**6.65**	**61**		*e*	P	**Pn**	**16 44 52.3**	**-0.6**
	baz=66								
JTK	**Tokunoshima**	**7.62**	**57**			P	**Pn**	**16 45 05.4**	**-0.9**
JAMN	**Amaminishikomi**	**8.03**	**55**			P	**Pn**	**16 45 10.1**	**-1.8**
KSRS	**Korea Array**	**14.63**	**20**			P	Pn	16 46 45.2	+3.0
	comp=E,0.2nm,0.3s,baz=199,slow=7.2,SNR=9.7								
CMAR	**Chiang Mai Arr**	**21.91**	**260**			P	**P**	**16 48 08.7**	**+0.1**
	comp=E,0.4nm,0.3s,baz=68,slow=8.3,SNR=4.6								
SONM	**Songino Array**	**26.95**	**337**			P	**P**	**16 48 54.3**	**-2.4**
	comp=E,0.6nm,0.9s,baz=159,slow=8.6,SNR=5.5								
MKAR	**Makanchi Array**	**38.99**	**316**			P	**P**	**16 50 39.8**	**-1.7**
	comp=E,0.7nm,0.7s,baz=104,slow=9.1,SNR=4.9								
ZALV	**Zalesovo Beam**	**40.87**	**327**			P	P	16 50 53.8	-3.2
	comp=E,0.5nm,0.4s,baz=103,slow=9.6,SNR=3.9								
H11N1	**WAKE ISLAND Hy 42.00**		**86**			T	T	17 36 16.5	
	baz=286,slow=75,SNR=4.8								
H11N2	**WAKE ISLAND Hy 42.00**		**86**			T	T	17 36 20.0	
	baz=286,slow=75,SNR=5.8								
H11N3	**WAKE ISLAND Hy 42.02**		**86**			T	T	17 36 23.5	
	baz=286,slow=75,SNR=3.9								
H11S3	**WAKE ISLAND Hy 42.12**		**88**			T	T	17 36 30.1	
	baz=287,slow=73,SNR=5.1								
H11S1	**WAKE ISLAND Hy 42.12**		**88**			T	T	17 36 26.9	
	baz=287,slow=73,SNR=3.4								
H11S2	**WAKE ISLAND Hy 42.13**		**88**			T	T	17 36 25.7	
	baz=287,slow=73,SNR=5.2								
WRA	**Warramunga Arr**	**45.15**	**163**			P	**P**	**16 51 29.3**	**-2.7**
	comp=E,0.5nm,0.4s,baz=344,slow=8.7,SNR=17								
BVAR	**Borovoye Array**	**48.32**	**321**			P	**P**	**16 51 53.9**	**-2.6**
	comp=E,0.3nm,0.6s,baz=100,slow=7.9,SNR=2.8								
ASAR	**Alice Springs**	**48.61**	**165**			P	**P**	**16 51 57.4**	**-1.7**
	comp=E,0.2nm,0.4s,baz=339,slow=6.7,SNR=11								
STKA	**Stephens Creek**	**58.50**	**160**			P	**P**	**16 53 09.3**	**-2.1**
	comp=E,1.2nm,0.7s,baz=337,slow=7.7,SNR=3.9								
ILAR	**Eielson Array**	**69.34**	**27**			P	P	16 54 19.3	-3.1
	comp=E,0.3nm,0.8s,baz=280,slow=5.8,SNR=3.5								
YKA	**Yellowknife Ar**	**83.15**	**23**			P	P	16 55 37.9	-3.0
	comp=E,0.2nm,0.5s,baz=311,slow=4.8,SNR=5.5								

JMA ***19*** *16:45:20.2±0.1,23.7ʹ74N×121.7ʹ60E,h45km±3km,M2.9*
TAP ***19*** *16:45:20.9,23.7ʹ80N×121.7ʹ63E,h38km,ML3.6,C*
ISCJB ***19*** *16:45:21.0±0.2,23.7ʹ78N±0.7ʹ01×121.7ʹ68E±0.7ʹ02,h35km±5km,*
Error ellipse: s-maj=3.1km s-min=2.1km az=34.9
ISC 19 16:45:21.1±1.0,23.7ʹ78N±0.7ʹ02×121.7ʹ66E±0.7ʹ02,h33km±2km,
n64,σ0.7ˢ77/118,13C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.13**	**236**	*e*	P	**Pb**	**16 45 27.6**	**+0.5**
	baz=219							
TEGC				*e*	S	**Sb**	**16 45 33.3**	**+2.1**
	baz=219							
ESF	**Shoufeng Towns**	**0.17**	**303**		P	**Pb**	**16 45 27.6**	**+0.2**
	baz=291							
ESF					S	**Sb**	**16 45 32.5**	**+0.7**
	baz=291							
HWA	**Hwalien**	**0.20**	**346**	⇓	*e*	P	**Pb**	**16 45 27.8**	**+0.1**
	baz=1.0							
HWA					*e*	S	**Sb**	**16 45 32.7**	**+0.5**
	baz=1.0							
ESL	**Shilin**	**0.21**	**279**	⇑		P	**Pn**	**16 45 27.6**	**+0.5**
	baz=275							
ESL					*e*	S	**Sb**	**16 45 32.3**	**-0.1**
	baz=275							
TWD	**Chiawan**	**0.30**	**349**	⇓		P	**Pb**	**16 45 28.7**	**-0.2**
	baz=347							
TWD					*e*	S	**Sb**	**16 45 34.9**	**+0.6**
	baz=347							
WHF	**Hehuan Shan**	**0.51**	**315**	⇑	*i*	P	**Pb**	**16 45 31.4**	**-0.8**
	baz=311							
WHF					S	**Sb**	**16 45 38.8**	**-1.0**
	baz=311							
EHP	**Heping Village**	**0.53**	**8**		*e*	P	**Pb**	**16 45 30.1**	**-2.1**
	baz=18							
TWF1	**Yuli**	**0.54**	**218**	⇑		P	**Pb**	**16 45 31.6**	**-0.8**
	baz=224							
TWF1					*e*	S	**Sb**	**16 45 38.6**	**-1.6**
	baz=224							
TWT	**Tachien**	**0.64**	**317**	⇑	*i*	P	**Pn**	**16 45 33.8**	**-0.2**
	baz=313							
TWT					S	**Sb**	**16 45 42.3**	**-0.8**
	baz=313							
ENA	**Nanau**	**0.65**	**7**		*e*	P	**Pn**	**16 45 33.5**	**-0.4**
	baz=357							
ENA					*e*	S	**Sb**	**16 45 42.7**	**-0.3**
	baz=357							
SMLT	**Sun Moon Lake**	**0.70**	**278**	⇑	*i*	P	**Pn**	**16 45 34.5**	**-0.3**
	baz=280							
SMLT					*e*	S	**Sn**	**16 45 43.7**	**-0.8**
	baz=280							
NNS	**Nan Shan**	**0.70**	**338**		*e*	P	**Pn**	**16 45 34.3**	**-0.6**
	baz=346							
NNS					S	**Sn**	**16 45 43.6**	**-1.0**
	baz=346							
YUS	**Yu-Shan**	**0.71**	**246**	⇑	*i*	P	**Pn**	**16 45 35.1**	**-0.1**
	baz=244							
YUS					*i*	S	**Sn**	**16 45 44.2**	**-1.0**
	baz=244							
CHKT	**Chengkung**	**0.73**	**202**		*e*	P	**Pn**	**16 45 34.7**	**-0.3**
	baz=188							
CHKT					*e*	S	**Sb**	**16 45 45.8**	**+0.5**
	baz=188							
TYC	**Yuchr**	**0.74**	**280**	⇑	*i*	P	**Pn**	**16 45 34.9**	**-0.3**
	baz=283							
TYC					*e*	S	**Sn**	**16 45 44.1**	**-1.3**
	baz=283							
ALS	**Alishan**	**0.83**	**251**		*e*	P	**Pn**	**16 45 36.8**	**+0.1**
	baz=250							
ALS					*e*	S	**Sn**	**16 45 47.5**	**-0.4**
	baz=250							
ELDTW	**Lidau**	**0.83**	**225**	⇑	*e*	P	**Pn**	**16 45 35.6**	**-1.0**
	baz=220							
ELDTW					*e*	S	**Sn**	**16 45 46.6**	**-1.2**
	baz=220							
TWC	**Suao**	**0.84**	**12**		*e*	P	**Pn**	**16 45 36.6**	**0.0**
	baz=19							
TWC					*e*	S	**Sb**	**16 45 48.2**	**-0.2**
	baz=19							
ENTT	**Nioudou**	**0.86**	**354**	⇑	*e*	P	**Pn**	**16 45 36.6**	**-0.3**
	baz=355							
ENTT					*e*	S	**Sn**	**16 45 47.8**	**-0.5**
	baz=355							
WNT	**Mingjian**	**0.90**	**276**	⇑	*e*	P	**Pb**	**16 45 38.1**	**-0.2**
	baz=276							
WNT					*e*	S	**Sb**	**16 45 50.0**	**0.0**
	baz=276							
CHN5	**Tsauling**	**0.92**	**259**		*e*	P	**Pn**	**16 45 38.0**	**+0.3**
	baz=258							
CHN5					*e*	S	**Sn**	**16 45 50.1**	**+0.3**
	baz=258							
NSK	**Sanguang**	**0.93**	**343**	⇑		P	**Pn**	**16 45 37.9**	**-0.1**
	baz=350							
NSK					*e*	S	**Sn**	**16 45 49.2**	**-0.9**
	baz=350							
TCU	**Taichung**	**0.97**	**292**		*e*	P	**Pb**	**16 45 39.4**	**0.0**
	baz=292							
TCU					*e*	S	**Sb**	**16 45 52.0**	**0.0**
	baz=292							
TWQ1	**Liyutan**	**0.99**	**305**	⇑	*i*	P	**Pb**	**16 45 39.6**	**-0.2**
	baz=305							
TWQ1					*e*	S	**Sn**	**16 45 51.7**	**+0.3**
	baz=305							
WGK	**Gukeng**	**1.01**	**265**		*e*	P	**Pn**	**16 45 39.3**	**+0.4**
	baz=264							
WGK					*e*	S	**Sn**	**16 45 52.5**	**+0.5**
	baz=264							
STYT	**Tauyuan**	**1.03**	**234**	⇑	*e*	P	**Pn**	**16 45 39.8**	**+0.5**
	baz=229							
STYT					*e*	S	**Sn**	**16 45 52.7**	**+0.1**
	baz=229							
NSY	**Sanyi**	**1.03**	**308**		*e*	P	**Pn**	**16 45 40.0**	**+0.8**
	baz=307							
NSY					*e*	S	**Sb**	**16 45 53.7**	**-0.2**
	baz=307							
NSTT	**Nanjuang**	**1.04**	**325**		*e*	P	**Pn**	**16 45 39.8**	**+0.4**
	baz=324							
NSTT					*e*	S	**Sn**	**16 45 52.9**	**+0.2**
	baz=324							
CHN4	**Tsaushan**	**1.07**	**247**		*e*	P	**Pn**	**16 45 40.3**	**+0.6**
	baz=246							
CHN4					*e*	S	**Sb**	**16 45 54.6**	**-0.2**
	baz=246							
WTP	**Ta-pu**	**1.10**	**241**		*e*	P	**Pn**	**16 45 40.8**	**+0.6**
	baz=241							
WTP					*e*	S	**Sb**	**16 45 55.2**	**-0.5**
	baz=241							
TWG	**Pinlang**	**1.10**	**210**		*e*	P	**Pn**	**16 45 38.7**	**-1.5**
	baz=199							
TWG					*e*	S	**Sn**	**16 45 52.1**	**-2.0**
	baz=199							
TTN	**Taitung**	**1.13**	**205**		*e*	P	**Pn**	**16 45 40.4**	**-0.1**
	baz=205							
TTN					*e*	S	**Sn**	**16 45 55.1**	**+0.3**
	baz=205							
CHY	**Chiayi**	**1.17**	**256**		*e*	P	**Pn**	**16 45 41.7**	**+0.7**
	baz=256							
CHY					*e*	S	**Sb**	**16 45 57.4**	**-0.2**
	baz=256							
TWK	**Hsinying**	**1.19**	**245**		*e*	P	**Pn**	**16 45 42.3**	**+0.8**
	baz=244							
TWK					*e*	S	**Sn**	**16 45 57.2**	**+0.7**
	baz=244							
HSN	**Hsinchu**	**1.20**	**328**		*e*	P	**Pn**	**16 45 41.6**	**+0.1**
	baz=329							
HSN					*e*	S	**Sb**	**16 45 58.1**	**-0.3**
	baz=329							
CHN1	**Nanshi**	**1.20**	**240**		*e*	P	**Pn**	**16 45 42.4**	**+0.9**
	baz=240							
CHN1					*e*	S	**Sn**	**16 45 57.5**	**+0.9**
	baz=240							
SGST	**Jiashian**	**1.21**	**235**		*e*	P	**Pb**	**16 45 42.9**	**-0.6**
	baz=235							
SGST					*e*	S	**Sb**	**16 45 58.7**	**-0.1**
	baz=235							
TWB1	**Santiao Chiao**	**1.26**	**14**		*e*	P	**Pn**	**16 45 42.8**	**+0.4**
	baz=12							
TWB1					*e*	S	**Sn**	**16 45 58.7**	**+0.6**
	baz=12							
TAP1	**Taipei**	**1.26**	**354**		*e*	P	**Pn**	**16 45 42.1**	**-0.2**
	baz=352							
TAP1					*e*	S	**Sn**	**16 45 58.5**	**+0.4**
	baz=352							
NCU	**National Centr**	**1.26**	**340**		*e*	P	**Pn**	**16 45 43.0**	**+0.7**
	baz=338							
NCU					*e*	S	**Sb**	**16 45 59.6**	**-0.6**
	baz=338							
TAP	**Taipei**	**1.26**	**354**		*e*	P	**Pn**	**16 45 43.3**	**+1.0**
	baz=352							
TAP					*e*	S	**Sn**	**16 45 59.1**	**+1.0**
	baz=352							
WTCT	**Ta-ch'eng**	**1.26**	**274**		*e*	P	**Pn**	**16 45 43.0**	**+0.6**
	baz=274							
WTCT					*e*	S	**Sb**	**16 46 00.1**	**-0.3**
	baz=274							
NWF	**Wu-fen Shan**	**1.29**	**5**		*e*	P	**Pn**	**16 45 41.2**	**-1.7**
	baz=353							
WSF	**Szhu**	**1.32**	**264**		*e*	P	**Pn**	**16 45 43.7**	**+0.5**
	baz=264							
WSF					*e*	S	**Sn**	**16 46 00.6**	**+0.8**
	baz=264							
TWS1	**Kuangyinshan**	**1.33**	**351**		*e*	P	**Pn**	**16 45 43.9**	**+0.5**
	baz=358							
TWS1					*e*	S	**Sn**	**16 46 00.9**	**+1.0**
	baz=358							
ECL	**Taimali**	**1.35**	**209**		*e*	P	**Pn**	**16 45 42.0**	**-1.6**
	baz=201							
CHN3	**Shinhua**	**1.38**	**240**		*e*	P	**Pn**	**16 45 44.1**	**+0.1**
	baz=240							
CHN3					*e*	S	**Sb**	**16 46 02.8**	**-0.9**
	baz=240							
SSD	**Sandimen**	**1.40**	**223**		*e*	P	**Pn**	**16 45 44.4**	**+0.1**
	baz=224							
SSD					*e*	S	**Sn**	**16 46 01.6**	**+0.1**
	baz=224							
YOJ	**Yonaguni jima**	**1.41**	**61**			P	**Pn**	**16 45 45.0**	**+0.6**
SCLT	**Jiali**	**1.47**	**246**		*e*	P	**Pn**	**16 45 46.0**	**+0.7**
	baz=246								
SCLT					*e*	S	**Sn**	**16 46 04.8**	**+1.4**
	baz=246								
TWM1	**Shoushan**	**1.48**	**230**		*e*	P	**Pb**	**16 45 48.0**	**-0.1**
	baz=241								
TWM1					*e*	S	**Sb**	**16 46 07.8**	**+1.2**
	baz=241								
SGLT	**Jiouru**	**1.50**	**226**		*e*	P	**Pn**	**16 45 46.1**	**+0.4**
	baz=226								
EAST	**Anshuo**	**1.58**	**208**		*e*	P	**Pn**	**16 45 46.8**	**0.0**
	baz=202								
TAW	**Tawu**	**1.58**	**207**		*e*	P	**Pn**	**16 45 46.1**	**-0.6**
	baz=199								
SCZT	**Fangliau**	**1.70**	**214**		*e*	P	**Pn**	**16 45 49.6**	**+1.3**
	baz=217								
SCZT					*e*	S	**Sn**	**16 46 10.1**	**+1.1**
	baz=217								
LAY	**Lan-yu**	**1.74**	**183**		*e*	P	**Pn**	**16 45 48.1**	**-0.9**
	baz=181								
HEN	**Hengchun**	**1.96**	**206**		*e*	P	**Pn**	**16 45 52.9**	**+0.9**
	baz=200								
IRIF	**Iriomote-Funau**	**1.97**	**73**			P	**Pn**	**16 45 53.0**	**+0.9**
IRIF						S	**Sn**	**16 46 16.7**	**+1.0**
HATJ	**Hateruma jima**	**1.98**	**82**			P	**Pn**	**16 45 52.5**	**+0.2**
HATJ						S	**Sn**	**16 46 16.1**	**+0.1**
TWK1	**Hengchun**	**1.99**	**203**		*e*	P	**Pn**	**16 45 53.4**	**+1.0**
	baz=190								
TWK1					*e*	S	**Sn**	**16 46 15.2**	**-1.0**
	baz=190								
JKRS	**Kuro-shima**	**2.20**	**78**			P	**Pn**	**16 45 56.2**	**+1.0**
JKRS						S	**Sn**	**16 46 22.1**	**+0.8**
JIJ	**Ishigaki jima**	**2.34**	**75**			P	**Pn**	**16 45 57.4**	**+0.1**
JIJ						S	**Sn**	**16 46 24.4**	**-0.5**
JTJ	**Tarama**	**2.91**	**72**			P	**Pn**	**16 46 05.7**	**+0.7**
KNM	**Kinmen**	**3.02**	**283**		*e*	P	**Pn**	**16 46 07.1**	**+0.6**
	baz=282								
KNM					*e*	S	**Sn**	**16 46 42.3**	**+0.8**
	baz=282								

CASC 19 16:46:00.3±1.9,12.ˢ88N×88.ˢ77W,h35km±999km,MD3.8,
ML3.8,5C-3D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**0.72**	**41**	⇑	*i*	P	Pn	16 46 14.2	-0.2
SNVI	**San Vicente**	**0.73**	**354**	⇑	*e*	P	Pn	16 46 14.3	-0.1
SNVI					*e*	S	Sn	16 46 25.0	+0.5
BLLM	**Bellamira**	**0.76**	**43**		*e*	P	Pn	16 46 14.3	-0.3
BLLM					*e*	S	Sn	16 46 26.1	+1.2
LFRS	**El Faro**	**0.79**	**339**	⇓	*e*	P	Pn	16 46 14.7	-0.5
LBRS	**Las Brisas**	**0.90**	**342**	⇓	*e*	P	Pn	16 46 16.6	0.0
SNET	**Serv Nac Est T**	**0.92**	**331**		*e*	P	Pn	16 46 16.3	-0.6
SNET					AML	AML	16 46 30.5		
	comp=Z,3μm,0.2s								
LFU	**La Fuente**	**0.93**	**339**	⇑	*e*	P	Pn	16 46 17.0	0.0
BOQS	**Boqueron**	**0.99**	**330**		*e*	P	Pn	16 46 17.7	-0.2
CNCH	**Conchagua**	**0.99**	**66**		*e*	P	Pn	16 46 17.2	-0.7
CNCH					*e*	S	Sn	16 46 31.1	+0.3
CAHU	**Cacacuatique**	**1.04**	**31**	⇓	*i*	P	Pn	16 46 18.8	+0.1
CAHU					*e*	S	Sn	16 46 33.2	+1.2
SBLS	**San Blas**	**1.27**	**319**	⇑	*e*	P	Pn	16 46 21.7	-0.2
SNJE	**San Jose**	**1.28**	**320**		*e*	P	Pn	16 46 21.7	-0.3
RTR	**El Retiro**	**1.32**	**320**		*e*	P	Pn	16 46 22.6	0.0
RBDL	**Robledal**	**1.52**	**324**	⇑	*e*	P	Pn	16 46 25.3	+0.1
IXG	**Ixpaco**	**2.09**	**308**		*e*	P	Pn	16 46 33.5	+0.4
IXG					*e*	S	Sn	16 46 57.0	-1.0
MRL	**Marmol**	**2.35**	**338**		*e*	P	Pn	16 46 38.2	+1.5

JMA ***19*** *16:51:34.8,23.ˢ71N×121.ˢ62E,h41km±2km,M3.2*
ISCJB ***19*** *16:51:35.5±0.2,23.ˢ73N±0.ˢ01×121.ˢ70E±0.ˢ01,h27km,*
Error ellipse: s-maj=2.2km s-min=1.6km az=41.8
TAP ***19*** *16:51:35.8,23.ˢ75N×121.ˢ63E,h39km,ML3.8,B*
ISC 19 16:51:35.6±0.9,23.ˢ74N±0.ˢ02×121.ˢ67E±0.ˢ02,h27km,n68,
σ0.ˢ72/127,13C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.12**	**257**		P	**Pn**	**16 51 42.5**	**+0.7**
	baz=237							
TEGC					S	**Sb**	**16 51 47.8**	**+3.7**
	baz=237							
ESF	**Shoufeng Towns**	**0.20**	**312**		P	**Pn**	**16 51 42.6**	**-0.2**
	baz=304							
ESF					*e*	S	**Sb**	**16 51 48.3**	**+2.8**
	baz=304							
ESL	**Shilin**	**0.23**	**290**	⇑	*i*	P	**Pn**	**16 51 42.6**	**-0.7**
	baz=289				

TYC eS Sb 16 51 59.8 -0.5
baz=286
ELDTW Lidau 0.81 228 eP Pb 16 51 50.3 -0.8
baz=221
ELDTW eS Sb 16 52 01.2 -0.6
baz=221
ALS Alishan 0.82 254 ⇑P Pn 16 51 51.6 -0.1
baz=252
ALS eS Sb 16 52 01.8 -0.5
baz=252
TWC Suao 0.89 11 P Pn 16 51 52.1 -0.2
baz=22
TWC S Sn 16 52 04.2 0.0
baz=22
ENTT Nioudou 0.91 354 eP Pn 16 51 52.0 -0.7
baz=358
ENTT eS Sb 16 52 03.9 -0.5
baz=358
WNT Mingjian 0.91 279⇑iP Pb 16 51 53.2 +0.3
baz=278
WNT eS Sn 16 52 05.2 +0.2
baz=278
CHN5 Tsauling 0.92 262⇑eP Pb 16 51 53.0 0.0
baz=260
CHN5 S Sn 16 52 05.2 0.0
baz=260
NSK Sanguang 0.98 343 P Pn 16 51 53.2 -0.5
baz=354
NSK S Sb 16 52 05.1 -1.5
baz=354
TCU Taichung 1.00 294 eP Pb 16 51 54.6 +0.4
baz=294
TCU eS Sn 16 52 08.0 +1.0
baz=294
STYT Tauyuan 1.01 236 eP Pb 16 51 54.1 -0.4
baz=229
STYT eS Sb 16 52 07.2 -0.3
baz=229
WGK Gukeng 1.02 267 eP Pb 16 51 54.1 -0.4
baz=266
WGK eS Sb 16 52 07.9 +0.3
baz=266
TWQ1 Liyutan 1.02 307⇑iP Pb 16 51 54.8 +0.2
baz=306
TWQ1 S Sb 16 52 07.7 0.0
baz=306
CHN4 Tsaushan 1.06 249 eP Pb 16 51 55.1 -0.2
baz=247
CHN4 eS Sb 16 52 08.9 +0.2
baz=247
TWG Pinlang 1.06 211 eP Pn 16 51 53.2 -1.5
baz=199
NSY Sanyi 1.07 309 eP Pb 16 51 55.5 0.0
baz=309
NSY eS Sb 16 52 09.3 +0.1
baz=309
NSTT Nanjuang 1.08 326⇑iP Pb 16 51 55.6 0.0
baz=326
NSTT S Sn 16 52 08.6 -0.5
baz=326
WTP Ta-pu 1.08 243 eP Pb 16 51 55.5 -0.3
baz=242
WTP eS Sb 16 52 09.8 +0.3
baz=242
TTN Taitung 1.09 206 eP Pn 16 51 55.1 0.0
baz=202
TTN eS Sb 16 52 09.3 -0.3
baz=202
CHY Chiayi 1.17 259 eP Pb 16 51 56.5 -0.6
baz=257
CHY eS Sb 16 52 11.7 -0.1
baz=257
TWK Hsinying 1.18 247 eP Pb 16 51 56.8 -0.6
baz=245
TWK eS Sb 16 52 11.9 -0.4
baz=245
CHN1 Nanshi 1.18 243 eP Pb 16 51 57.0 -0.4
baz=241
CHN1 eS Sb 16 52 12.4 +0.1
baz=241
SGST Jiashian 1.19 237 eP Pb 16 51 57.5 -0.1
baz=235
SGST eS Sb 16 52 12.7 +0.2
baz=235
HSN Hsinchu 1.24 329 eP Pn 16 51 57.1 0.0
baz=319
HSN eS Sb 16 52 14.2 +0.3
baz=319
WTCT Ta-ch'eng 1.28 276 eP Pn 16 51 58.0 +0.3
baz=275
WTCT eS Sb 16 52 14.2 -0.8
baz=275
TWB1 Santiao Chiao 1.30 13 eP Pb 16 51 59.1 -0.3
baz=35
TWB1 eS Sn 16 52 14.8 +0.3
baz=35
TAP1 Taipei 1.30 354 eP Pb 16 51 59.1 -0.4
baz=356
TAP1 eS Sn 16 52 13.5 -1.1
baz=356
NCU National Centr 1.30 340 eP Pb 16 51 58.9 -0.6
baz=340
NCU eS Sn 16 52 14.2 -0.4
baz=340
TAP Taipei 1.31 354 eP Pb 16 51 58.9 -0.6
baz=356
TAP eS Sn 16 52 15.1 +0.5
baz=356
ECL Taimali 1.31 210 eP Pn 16 51 56.4 -1.7
baz=200
WSF Szhu 1.33 266 eP Pb 16 51 58.9 -1.0
baz=253
WSF eS Sb 16 52 16.3 -0.3
baz=253
NWF Wu-fen Shan 1.33 4 eP Pn 16 51 59.0 +0.5
baz=355
NWF eS Sb 16 52 17.2 +0.4
baz=355
CHN3 Shinhua 1.37 242 eP Pb 16 52 00.2 -0.3
baz=240
CHN3 eS Sb 16 52 18.1 +0.5
baz=240
SSD Sandimen 1.37 224 eP Pn 16 51 59.2 +0.2
baz=222
SSD eS Sn 16 52 16.2 -0.1
baz=222
TWS1 Kuangyinshan 1.38 350 eP Pn 16 51 59.5 +0.4
baz=351
TWS1 eS Sn 16 52 17.1 +0.6
baz=351
CHN8 Yiju 1.39 254 eP Pn 16 51 59.7 +0.5
baz=253
CHN8 eS Sn 16 52 16.8 +0.1
baz=253
YOJ Yonaguni jima 1.42 59 P Pn 16 52 00.0 +0.3
YOJ eS Sn 16 52 17.5 0.0
YOJ Yonaguni jima 1.42 59 eP Pn 16 51 59.8 +0.1
baz=61
TWM1 Shoushan 1.46 232 eP Pb 16 52 02.4 +0.2
baz=231
SCLT Jiali 1.47 248 eP Pn 16 52 00.7 +0.4
baz=247
SCLT eS Sb 16 52 20.0 -0.4
baz=247
SGLT Jiouru 1.48 227 eP Pb 16 52 01.6 -0.8
baz=210
SGLT eS Sb 16 52 20.9 +0.1
baz=210
TAI1 Yung-k'ang 1.49 243 eP Pn 16 52 00.8 +0.2
baz=255
TAI1 eS Sb 16 52 20.1 -1.1
baz=255
EAST Anshuo 1.54 209 eP Pn 16 52 01.4 0.0
baz=200
TAW Tawu 1.54 208 eP Pb 16 52 03.1 -0.5
baz=197
SCZT Fangliau 1.67 216 eP Pn 16 52 03.8 +0.8
baz=213
SCZT eS Sn 16 52 24.3 +0.8
baz=213
LAY Lan-yu 1.69 184 eP Pn 16 52 03.7 +0.3
baz=182
HEN Hengchun 1.92 207 eP Pb 16 52 08.2 -1.8
baz=192
HEN eS Sn 16 52 29.9 0.0
baz=192
TWK1 Hengchun 1.95 204 eP Pn 16 52 07.6 +0.6
baz=201
TWK1 eS Sn 16 52 31.5 +0.8
baz=201
IRIF Iriomote-Funau 1.98 72 P Pn 16 52 07.7 +0.4
IRIF eS Sn 16 52 31.7 +0.5
HATJ Hateruma jima 1.98 80 P Pn 16 52 07.8 +0.4
HATJ eS Sn 16 52 31.4 +0.1
JKRS Kuro-shima 2.20 76 P Pn 16 52 10.9 +0.6
JKRS eS Sn 16 52 37.8 +1.1
JIJ Ishigaki jima 2.35 74 P Pn 16 52 12.6 +0.2
JIJ eS Sn 16 52 39.6 -0.7
JTJ Tarama 2.91 71 P Pn 16 52 20.0 -0.2
JTJ eS Sn 16 52 53.9 -0.4
KNM Kinmen 3.03 284 eP Pn 16 52 22.9 +1.0
baz=282
KNM eS Sn 16 52 57.9 +0.6
baz=282
JMJ Miyako jima 2 3.48 71 eS Sn 16 53 08.4 +0.1
JOGS Gusukube 3.56 73 eS Sn 16 53 10.1 -0.2

AUST ***19*** *16:52:45.4±11.0, 17.69S×172.69W, h0km, Error ellipse: s-maj=2.2km s-min=1.4km az=264.0*
IDC ***19*** *16:52:48.0±0.5, 17.86S×173.15W, h0km, mb4.6/20, mb1 4.7/21, mb1mx4.6/27, mbtmp4.6/21, ML3.7/1, MS4.5/27, Ms1 4.5/27, ms1mx4.5/33, Error ellipse: s-maj=21.1km s-min=13.6km az=139.0*
ISCJB ***19*** *16:52:48.5±0.2, 17.87S±0.05×173.11W±0.04, h10km, mb5.0/74, MS4.2/35, Error ellipse: s-maj=8.6km s-min=4.5km az=152.9*
BJI ***19*** *16:52:48.8, 17.70S×173.20W, h5km, mB5.5/23, mb5.0/31, Ms5.3/21, Ms7 4.9/23*
NEIC ***19*** *16:52:49.9±0.3, 17.77S×173.20W, h10km, mb5.2/37, Error ellipse: s-maj=12.8km s-min=6.1km az=137.0*
MOS ***19*** *16:52:54.4±1.2, 17.43S×173.48W, h33km, mb5.2/7, Error ellipse: s-maj=12.7km s-min=10.5km az=49.1*
GCMT ***19*** *16:52:55.7±0.2, 17.74S×172.64W, h19km, MW5.3 Best double couple: NP1:φs19.00000°, δ59.00000°, λ88.00000°. NP2:φs203.00000°, δ31.00000°, λ93.00000°. Principal axes: T 1.0000, Plg76.0000°, Azm284.0000°; N 0.0200, Plg2.0000°, Azm20.0000°; P -1.0200, Plg14.0000°, Azm111.0000°; Data Used: II IU IC G CN CU.*

ISC 19 16:52:50.3±0.5, 17.91S±0.06×173.08W±0.06, h15km±2km, h14km:pP-P,n331,σ1s24/362,mb5.1/75,MS4.5/35,16C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	Niue	3.21	112	P			Pn	16 53 33.7	-6.6
	baz=3.0,SNR=7.9								
AFI	Afiamalu	4.17	18	ePn			Pn	16 53 49.5	-4.0
AFI				Sn			Sn	16 54 27.4	-15
AFI				TT				16 58 07.1	
AFI	Afiamalu	4.17	18	Pn			Pn	16 53 44.9	-8.6
	14nm,0.3s,baz=99,slow=8.6,SNR=15								
AFI				Sn			Sn	16 54 27.4	-15
	34nm,0.3s,baz=196,slow=22,SNR=6.2								
AFI				LR			LR	16 55 22.6	
	comp=Z,2μm,18.8s,baz=150,slow=37								
AFI				T			T	16 58 07.1	
	34nm,0.3s,baz=58,slow=23,SNR=4.9								
RAR	Rarotonga	12.96	107	Pn			Pn	16 55 47.0	-7.1
RAR	Rarotonga	12.96	107	Pn			Pn	16 55 47.0	-7.1
	5.9nm,0.3s,baz=92,slow=0.0,SNR=3.9								
RAR				LR			LR	17 00 26.9	
	comp=Z,1μm,18.2s,baz=225,slow=35								
DZM	Mont Dzumac	19.68	254	eP			Pn	16 57 21.2	+0.6
	107nm,1.4s								
DZM				eLR			LR	17 01 53.8	
	3μm,24.1s								
DZM	Mont Dzumac	19.68	254	P			P	16 57 19.7	+0.5
DZM	Mont Dzumac	19.68	254	P			P	16 57 19.7	+0.5
	0.2nm,0.3s,baz=79,slow=19,SNR=6.6								
DZM				LR			LR	17 03 57.3	
	comp=Z,16nm,28.6s,baz=82,slow=34								
OUZ	Omahuta	20.92	212	eP			Pn	16 57 35.4	+0.4
	59nm,1.3s								
URZ	Urewera	22.02	201	P			P	16 57 45.2	+1.0
URZ				S			S	17 01 43.7	-3.0
URZ	Urewera	22.02	201	P			P	16 57 45.2	+1.0
	90nm,0.8s,baz=6.0,slow=4.3,SNR=30								
URZ				S			S	17 01 43.7	-3.0
	7.2nm,0.7s,baz=100,slow=17,SNR=6.4								
URZ				LR			LR	17 05 51.3	
	comp=Z,1μm,18.6s,baz=8.0,slow=36								
PPT2	Papeete2	22.38	93	eP			P	16 57 49.8	+1.4
	54nm,1.4s								
PPT2				eS			S	17 01 50.6	-3.5
	3μm,26.2s								
PPT2				eLR			LR	17 02 58.3	
	3μm,26.2s,baz=263								
PPT	Papeete	22.39	93	LR			LR	17 03 53.7	
	comp=Z,959nm,21.2s,baz=258,slow=30								
TBI	Tubuai	22.74	108	eP			P	16 57 51.4	-0.7
	128nm,1.2s								
TBI				eLQ			LQ	17 02 14.0	
	1μm,27.0s								
TBI				eLR			LR	17 03 01.2	
	4μm,30.0s,baz=287								
BKZ	Black Stump Fm	23.05	201	eP			P	16 57 57.0	+1.9
	44nm,0.9s								
HNR	Honiara	27.50	284	LR			LR	17 07 55.5	
	comp=Z,2μm,18.1s,baz=115,slow=33								
RPZ	Rata Peaks	29.01	204	eP			P	16 58 50.4	+0.8
	158nm,1.6s								
RPZ	Rata Peaks	29.01	204	P			P	16 58 54.0	+4.4
	26nm,0.5s,baz=73,slow=0.9,SNR=6.7								
RKT	Rikitea	35.99	105	eLR			LR	17 09 05.3	
	2μm,30.0s,baz=278								
RMQ	Roma	36.24	250	P			P	16 59 56.2	+3.1
	baz=37,SNR=4.1								
CTA	Charters Tower	38.45	260	P			P	17 00 11.1	-0.8
CTA	Charters Tower	38.45	260	P			P	17 00 11.1	-0.8
	9.2nm,0.7s,baz=100,slow=10,SNR=15								
CTA				LR			LR	17 15 15.1	
	comp=Z,17nm,28.6s,baz=94,slow=35								
CTAO	Charters Tower	38.45	260	eP			P	17 00 11.1	-0.8
CTAO				pmax			pmax		
	comp=Z,22nm,1.2s								
CTAO	Charters Tower	38.45	260	eP			P	17 00 11.1	-0.8
	comp=Z,22nm,1.2s								
PMG	Port Moresby	39.48	277	eP			P	17 00 20.0	-0.6
	comp=Z,36nm,1.3s								
PMG	Port Moresby	39.48	277	P			P	17 00 19.7	-0.9
	comp=Z,13nm,0.9s,baz=76,slow=8.0,SNR=7.3								
PMG				LR			LR	17 14 45.7	
	comp=Z,663nm,18.7s,baz=130,slow=33								
PMG	Port Moresby	39.48	277	P			P	17 00 20.2	-0.4
	baz=40,SNR=3.9								
PMG				P			P	17 00 20.2	-0.4
	baz=40,SNR=3.9								
PMG				P			P	17 00 20.2	-0.4
	baz=40,SNR=3.9								
CMSA	Cobar Meteorol	39.60	242	P			P	17 00 21.3	-0.1
	baz=40,SNR=5.7								
QLP	Quilpie	40.29	250	P			P	17 00 25.4	-1.8
	baz=41,SNR=7.2								
COEN	Coen	42.18	269	eP			P	17 00 42.3	-0.6
	comp=Z,93nm,0.9s								
COEN	Coen	42.18	269	P			P	17 00 41.6	-1.3
	baz=42,SNR=7.5								
STKA	Stephens Creek	43.10	242	eP			P	17 00 50.5	+0.3
STKA	Stephens Creek	43.10	242	P			P	17 00 48.1	-2.1
	comp=Z,5.3nm,0.9s,baz=92,slow=10,SNR=6.8								
STKA				LR			LR	17 16 58.1	
	comp=Z,16nm,28.6s,baz=61,slow=34								
STKA	Stephens Creek	43.10	242	P			P	17 00 50.4	+0.2
	baz=44,SNR=5.0								
WRAB	Tennant Creek	49.61	259	⇓iP			P	17 01 38.8	-2.7
WRAB				pmax			pmax		
	comp=Z,55nm,1.0s								
WRAB	Tennant Creek	49.61	259	eP			P	17 01 39.1	-2.4
	comp=Z,21nm,1.0s								
WRAB	Tennant Creek	49.61	259	P			P	17 01 39.5	-2.0
	comp=Z,116nm,0.9s,SNR=13								
WRA	Warramunga Arr	49.62	259	P			P	17 01 39.3	-2.3
WRA				PcP			PcP	17 03 04.2	+1.2
WRA	Warramunga Arr	49.62	259	P			P	17 01 39.3	-2.3
	comp=Z,11nm,0.8s,baz=97,slow=6.1,SNR=116								
WRA				PcP			PcP	17 03 04.2	+1.2
	comp=Z,5.1nm,1.0s,baz=91,slow=4.0,SNR=5.2								
WRA				LR			LR	17 21 38.6	
	comp=Z,17nm,28.6s,baz=90,slow=35								
AS31	Alice Springs	49.67	254	eP			P	17 01 40.7	-1.3
ASAR	Alice Springs	49.67	254	P			P	17 01 40.2	-1.8
ASAR				PcP			PcP	17 03 03.6	+0.3
ASAR				S			S	17 08 46.5	-4.1
ASAR	Alice Springs	49.67	254	P			P	17 01 40.2	-1.8
	comp=Z,38nm,1.0s,baz=90,slow=8.8,SNR=211								
ASAR				PcP			PcP	17 03 03.6	+0.3
	comp=Z,6.2nm,0.9s,baz=105,slow=3.5,SNR=4.5								
ASAR				S			S	17 08 46.5	-4.1
	comp=Z,1.5nm,0.9s,baz=89,slow=16,SNR=6.9								
ASAR				LR			LR	17 22 20.0	
	comp=Z,16nm,28.6s,baz=86,slow=36								
WRKA	Warakurna	54.67	252	P			P	17 02 17.7	-1.5
	baz=55,SNR=15								
FITZ	Fitzroy Crossi	58.03	260	eP			P	17 02 42.6	-0.6
FITZ	Fitzroy Crossi	58.03	260	LR			LR	17 26 37.4	
	comp=Z,17nm,28.6s,baz=102,slow=35								
VNDA	Vanda	60.93	186	P			P	17 03 03.1	+0.9
VNDA	Vanda	60.93	186	P			P	17 03 03.1	+0.9
	comp=Z,3.0nm,1.0s,baz=24,slow=11,SNR=2.6								
VNDA				LR			LR	17 26 55.3	
	comp=Z,166nm,18.5s,baz=9.0,slow=34								
MEEK	Meekatharra	63.17	249	P			P	17 03 18.5	+0.3
	baz=64,SNR=3.3								
NWAO	Narrogin (SRO)	63.69	242	LR			LR	17 29 07.2	
	comp=Z,323nm,19.0s,baz=84,slow=34								
MORW	Morawa	65.12	246	P			P	17 03 31.7	+0.7
	baz=66,SNR=4.6								
MJAR	Matsushiro Arr	71.05	320	P			P	17 04 07.7	-0.3
MJAR	Matsushiro Arr	71.05	320	P			P	17 04 07.7	-0.3
	comp=Z,4.4nm,0.9s,baz=148,slow=6.0,SNR=7.8								
MJAR				LR			LR	17 29 35.9	
	comp=Z,16nm,28.6s,baz=105,slow=31								
QSPA	South Pole Qui	72.15	180	eP			P	17 04 15.0	+0.7
	comp=Z,11nm,1.1s								
QSPA	South Pole Qui	72.15	180	LR			LR	17 34 36.1	
	comp=Z,214nm,18.4s,baz=37,slow=35								
YUK	Yuzh-Kuril'sk	72.17	330	iP			P	17 04 17.4	+2.9
YUK				i				17 04 35.9	
YUK				iPPP			PPP	17 08 37.6	
YUK				i				17 14 13.1	
YUK				MLR			MLR		
	comp=N,112nm,23.0s								
YUK				MLR			MLR		
	comp=E,700nm,23.0s								
YUK				MLR			MLR		
	comp=Z,258nm,23.0s								
EDW2	Edwards Air Fo	74.09	45	P			P	17 04 27.0	+0.8
	baz=74								
ISA	Isabella	74.23	44	P			P	17 04 27.8	+0.8
	baz=74								
PFO	Pinyon Flat Ob	74.41	46	P			P	17 04 29.0	+0.9
	baz=75								
CWC	Cottonwood Cre	74.95	43	P			P	17 04 31.2	0.0
	baz=75								
PETK	Petropavlovsk-	75.10	342	P			P	17 04 30.8	-0.7
PETK	Petropavlovsk-	75.10	342	P			P	17 04 30.8	-0.7
PETK	Petropavlovsk-	75.10	342	P			P	17 04 30.8	-0.7
	comp=Z,9.9nm,1.0s,baz=155,slow=7.2,SNR=6.6								
M02C	Callahan	75.11	37	P			P	17 04 33.3	+1.4
	baz=75								
MPMC	Manual Prospec	75.11	44	P			P	17 04 30.5	-1.8
	baz=75								
WAKR	Walker	75.32	41	eP			P	17 04 31.1	-2.3
YBH	Yreka Blue Hor	75.41	37	P			P	17 04 34.3	+0.7
YBH	Yreka Blue Hor	75.41	37	P			P	17 04 34.3	+0.7
	comp=Z,2.6nm,0.8s,baz=122,slow=1.9,SNR=7.0								
IRM	Iron Mountain	75.62	47	P			P	17 04 34.5	-0.4
	baz=76								
YSS	Yuzh-Sakhalins	75.81	331	eP			P	17 04 35.8	+0.2
HUMO	Hull Mountain	75.84	36	eP			P	17 04 38.2	+2.1
	comp=Z,21nm,1.4s								
NVAR	Mina Array Bea	75.98	41	P			P	17 04 36.5	-0.7
NVAR	Mina Array Bea	75.98	41	P			P	17 04 36.5	-0.7
	comp=Z,2.9nm,0.9s,baz=234,slow=7.7,SNR=8.6								
TPNV	Topopah Spring	76.44	44	P			P	17 04 39.6	-0.2
	baz=77								
MOD	Modoc	76.90	38	eP			P	17 04 43.9	+1.6
	comp=Z,105nm,2.8s								
J05D	Fort Rock, OR	77.25	36	P			P	17 04 44.3	+0.1
	baz=77								
R11A	Troy Canyon, C	77.67	43	P			P	17 04 47.1	+0.5
	baz=78								
KSM	Kuching	77.73	276	eP			P	17 04 48.4	+1.0
	comp=Z,89nm,1.3s								
KSM	Kuching	77.73	276	P			P	17 04 48.6	+1.3
	baz=78,SNR=11								
TUC	Tucson	77.74	50	eP			P	17 04 47.6	+0.5
TUC				pmax			pmax		
	comp=Z,12nm,1.3s								
TUC	Tucson	77.74	50	eP			P	17 04 47.5	+0.5
	comp=Z,12nm,1.3s								
KSRS	Korea Array	78.16	316	P			P	17 04 50.6	+1.5
	comp=Z,6.2nm,1.1s,baz=130,slow=5.3,SNR=10								
KSRS				LR			LR	17 36 26.4	
	comp=Z,16nm,28.6s,baz=120,slow=34								
KSAR	Wonju Array Be	78.18	316	P			P	17 04 50.6	+1.4
X16A	Lo Mia Camp, P	78.35	48	P			P	17 04 50.7	+0.1
	baz=78								
CCUT	Cedar City	78.69	44	eP			P	17 04 54.0	+1.7
	comp=Z,61nm,2.3s								
U15A	North Rim	78.81	46	P			P	17 04 54.1	+0.9
	baz=79								
USRK	Ussuriysk Arra	79.56	323	P			P	17 04 57.0	+0.3
	comp=Z,1.3nm,0.7s,baz=120,slow=7.5,SNR=4.9								
USRK				LR			LR	17 39 36.0	
	comp=Z,16nm,28.6s,baz=120,slow=35								
G08A	Pilot Rock	79.78	36	eP			P	17 04 58.0	0.0
	comp=Z,16nm,1.3s								
E07A	Sunnyside	80.09	34	eP			P	17 05 00.1	+0.6
	comp=Z,66nm,2.0s								
MFID	Camas Ranch	80.44	38	eP			P	17 05 02.5	+0.8
	comp=Z,8.1nm,1.1s								
DUG	Dugway	80.49	42	P			P	17 05 02.0	0.0
	baz=81								
HABR	Khabarovsk	80.61	328	eP			P	17 05 01.2	-1.1
HABR				e				17 05 07.4	
HABR				eS			S	17 15 07.9	-0.9
HABR				e*SS			sS	17 15 13.5	-3.5
HABR				eSS			SS	17 20 20.6	-1.5
HABR				pmax			pmax		
	comp=Z,37nm,1.5s								
HABR				MLR			MLR		
	comp=Z,271nm,18.0s								
D08A	Wollman Farm,	80.90	34	eP			P	17 05 04.8	+1.0
	comp=Z,12nm,1.0s								
Z22A	Elephant Butte	81.01	51	P			P	17 05 05.1	+0.1
	baz=81								
F10A	Beach Ranch, E	81.16	36	eP			P	17 05 05.0	-0.4
	comp=Z,139nm,2.7s								
MDJ	Mudanjiang	81.19	323	P			P	17 05 06.8	+1.3
MDJ				pmax			pmax		
	comp=Z,5.0nm,1.1s								
MDJ				pmax			pmax		
	comp=Z,180nm,5.2s								
324A	Moseley Ranch,	81.28	53	P			P	17 05 07.2	+0.7
	baz=81								
Y22A	Socorro	81.33	50	P			P	17 05 06.9	+0.2
	baz=82								
425A	Indio Mountain	81.37	54	P			P	17 05 07.5	+0.5
	baz=82								
HLID	Hailey	81.37	39	eP			P	17 05 07.8	+1.2
	comp=Z,9.5nm,1.1s								
HLID	Hailey	81.37	39	P			P	17 05 06.5	-0.2
	baz=82								
626A	Big Bend Ranch	81.48	55	P			P	17 05 08.1	+0.6
	baz=82								
224A	Cornudas Mount	81.54	52	P			P	17 05 07.4	-0.5
	baz=82								
325A	Bean Ranch, Si	81.64	53	P			P	17 05 07.7	-0.7
	baz=82								
C09A	Chrisman Ranch	81.70	34	eP			P	17 05 08.1	-0.1
	comp=Z,59nm,2.1s								
526A	Mary Lane Ranc	81.74	55	P			P	17 05 09.6	+0.7
	baz=82								
TXAR	Lajitas Array	81.75	56	P			P	17 05 09.0	+0.1
TXAR	Lajitas Array	81.75	56	P			P	17 05 09.0	+0.1
	comp=Z,1.8nm,1.2s,baz=225,slow=3.7,SNR=6.6								
TXAR				LR			LR	17 33 44.5	
	comp=Z,16nm,28.6s,baz=0.0,slow=30								
124A	Stringfield Ra	81.88	52	P			P	17 05 10.1	+0.5
	baz=82								
NJ2	Nanjing	81.92	307	eP			P	17 05 12.3	+2.7
NJ2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
Y23A	Lovelace Mesa,	82.00	51	P			P	17 05 09.9	-0.3
	baz=82								
627A	Terlingua Ranc	82.02	56	P			P	17 05 10.4	0.0

baz=82
426A McDonald Obser 82.05 54 P P 17 05 11.1 +0.4
baz=82
225A Deer Hill, Car 82.09 53 P P 17 05 10.4 -0.4
baz=82
527A Woodward Ranch 82.15 55 P P 17 05 11.4 +0.3
baz=82
ANMO Albuquerque 82.18 50 eP P 17 05 10.2 -1.0
comp=Z,67nm,2.8s
PV01 Paradox Valley 82.23 46 eP P 17 05 11.5 0.0
comp=Z,2µm,1.7s
628A Black Gap, Mar 82.43 56 P P 17 05 13.2 +0.8
baz=83
Y24A Capitan 82.45 51 P P 17 05 13.0 +0.3
baz=83
125A Gardner Draw, 82.46 52 P P 17 05 13.5 +0.9
baz=83
W23A Werner Place, 82.50 49 P P 17 05 13.4 +0.5
baz=83
226B Tecolote Peak, 82.57 53 P P 17 05 12.6 -0.6
baz=83
427A Hayter Ranch, 82.62 54 P P 17 05 13.3 -0.1
baz=83
V23A Ortiz Mt. (NFS 82.75 49 P P 17 05 15.9 +1.7
baz=83
KLR Kul'dur 82.78 327 eP P 17 05 10.8 -2.9
528A Cox Ranch, San 82.80 55 P P 17 05 15.1 +0.7
baz=83
Y25A Mesa, Roswell 83.00 51 P P 17 05 15.5 +0.1
baz=83
U23A El Rito 83.02 48 P P 17 05 15.4 -0.2
baz=83
W24A Lazy 6 Ranch, 83.06 50 P P 17 05 15.6 -0.2
baz=83
428A Kincaid Ranch, 83.12 55 P P 17 05 16.4 +0.4
baz=83
CN2 Changchun 83.20 320 eP P 17 05 16.8 +0.8
CN2 esP sP 17 05 23.8 +1.1
CN2 eS S 17 15 35.0 -0.7
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,21.0s
529A Stev Forest Ra 83.23 56 P P 17 05 17.2 +0.6
baz=83
S22A 4UR Ranch, Cre 83.24 47 P P 17 05 16.7 -0.1
baz=83
Z26A Caprock 83.24 52 P P 17 05 16.9 +0.2
baz=83
TNA Tin City 83.30 2 eP P 17 05 17.0 +1.0
comp=Z,331nm,3.0s
REDW Red Top Meadow 83.42 41 eP P 17 05 17.7 +0.2
comp=Z,28nm,1.5s
DLMT Dillon 83.45 38 eP P 17 05 18.6 +1.1
comp=Z,13nm,1.3s
MSO Missoula 83.50 36 P P 17 05 17.7 +0.1
baz=84
MCK McKinley 83.52 11 eP P 17 05 17.7 +0.4
MCK pmax pmax
comp=Z,330nm,2.9s
MCK McKinley 83.52 11 eP P 17 05 17.6 +0.4
comp=Z,330nm,2.9s
BSMT Bassoo Peak 83.62 35 eP P 17 05 18.7 +0.4
429A Davenport Ranc 83.69 55 P P 17 05 19.0 0.0
baz=84
MOOW Moose Ponds 83.69 40 eP P 17 05 18.7 -0.2
comp=Z,65nm,2.5s
LOHW Long Hollow 83.71 40 eP P 17 05 19.0 +0.1
comp=Z,19nm,1.5s
W25A X Bar L Ranch, 83.75 50 P P 17 05 19.9 +0.6
baz=84
N20A Spence Gulch, 83.78 44 P P 17 05 19.8 +0.4
baz=84
SMCO Snowmass 83.83 46 eP P 17 05 21.1 +1.2
comp=Z,21nm,1.4s
I17A Pilgrim Ck. 83.89 40 P P 17 05 20.2 +0.3
baz=84
FLWY Flagg Ranch 83.90 40 eP P 17 05 17.8 -2.1
comp=Z,26nm,1.3s
BW06 Boulder Array 83.92 42 eP P 17 05 19.8 -0.3
comp=Z,23nm,1.5s
PDAR Pinedale Array 83.92 42 P P 17 05 19.6 -0.5
PDAR Pinedale Array 83.92 42 P P 17 05 19.6 -0.5
comp=Z,3.1nm,0.9s,baz=222,slow=2.0,SNR=11
PDAR LR LR 17 41 07.6
comp=Z,16nm,28.6s,baz=268,slow=34
V25A Rancho No Teng 83.92 49 P P 17 05 20.4 +0.2
baz=84
T24B San Luis 83.94 48 P P 17 05 20.4 +0.1
baz=84
YMR Madison River 84.05 39 eP P 17 05 22.4 +1.7
comp=Z,21nm,1.3s
Y27A Causey 84.12 52 P P 17 05 21.4 +0.2
baz=84
QIZ Qiongzhong 84.12 292 P P 17 05 21.1 -0.2
QIZ S S 17 15 46.3 +0.2
QIZ pmax pmax
comp=Z,41nm,2.1s
QIZ pmax pmax
comp=Z,180nm,3.7s
QIZ LR LR
comp=Z,470nm,24.9s
H17A Grant Village 84.14 40 eP P 17 05 23.9 +2.7
comp=Z,9.1nm,1.2s
H17A Grant Village 84.14 40 P P 17 05 21.3 +0.1
baz=84
R23A Moffat 84.15 47 P P 17 05 20.7 -0.7
baz=84
P22A Eagle 84.17 45 P P 17 05 20.8 -0.6
baz=84
BOZ Bozeman (W) 84.18 38 eP P 17 05 22.1 +0.9
BOZ pmax pmax
comp=Z,169nm,2.9s
BOZ Bozeman (W) 84.18 38 eP P 17 05 22.1 +0.9
comp=Z,169nm,2.9s
631A Perdido Creek 84.23 57 P P 17 05 21.1 -0.6
baz=84
832A Faith Ranch, C 84.26 58 P P 17 05 21.0 -0.8
baz=84
S24A Houchin Ranch, 84.32 48 P P 17 05 22.9 +0.6
baz=84
U25A Circle Dot Ran 84.33 49 P P 17 05 22.9 +0.7
baz=84
J19A Crowheart 84.50 41 P P 17 05 21.4 -1.5
baz=85
531A Rocksprings 84.56 56 P P 17 05 24.1 +0.7
baz=85
O22A Kremmling 84.59 45 P P 17 05 22.6 -1.1
baz=85
HRY Holter Researc 84.64 37 eP P 17 05 24.4 +0.9
R24A Sanders Place, 84.67 47 P P 17 05 23.8 -0.1
baz=85
W27A Bowe Ranch, En 84.71 51 P P 17 05 22.8 -1.3
baz=85
COLA College 84.76 11 eP P 17 05 22.8 -0.7
COLA pmax pmax
comp=Z,9.0nm,1.3s
COLA College 84.76 11 eP P 17 05 22.8 -0.7
comp=Z,9.5nm,1.3s
U26A Atchley Ranch, 84.80 49 P P 17 05 24.8 +0.2
baz=85
ILAR Eielson Array 84.83 11 P P 17 05 22.6 -1.2
ILAR Eielson Array 84.83 11 P P 17 05 22.6 -1.2
comp=Z,4.5nm,1.1s,baz=216,slow=5.6,SNR=16
ILAR LR LR 17 39 16.9
comp=Z,172nm,18.5s,baz=218,slow=33
H18A Shoshone NF, C 84.84 40 P P 17 05 26.9 +2.2
baz=85
I19A Meeteetse 84.93 41 P P 17 05 24.6 -0.5
baz=85
N22A Wattenberg Ran 84.96 44 P P 17 05 25.9 +0.5
baz=85
Q24A Divide 84.98 46 P P 17 05 25.5 -0.1
baz=85
SEY Seymchan 85.01 345 eP P 17 05 24.2 -0.6
J20A Shoshoni 85.15 42 P P 17 05 26.0 -0.1
baz=85
R25A Fountain Ranch 85.21 48 P P 17 05 26.3 -0.3
baz=85
I20A Worland 85.42 41 P P 17 05 28.2 +0.8
baz=86
MAW Mawson 85.53 199 eP P 17 05 28.2 +0.7
MAW Mawson 85.53 199 P P 17 05 28.0 +0.5
comp=Z,3.7nm,0.9s,baz=143,slow=5.1,SNR=4.2
MAW LR LR 17 42 52.9
comp=Z,528nm,18.4s,baz=112,slow=35
J21A Lysite 85.55 42 P P 17 05 28.0 -0.2
baz=86
AMTX Amarillo 85.66 51 P P 17 05 28.0 -0.8
baz=86
DAWY Dawson 85.76 14 eP P 17 05 29.0 +0.4
R26A Arlington 85.86 48 P P 17 05 30.4 +0.6
baz=86
I21A Big Trails, Te 85.88 41 P P 17 05 30.0 +0.2
baz=86
433A Art 85.95 56 P P 17 05 30.3 0.0
baz=86
232A Coleman 85.97 55 P P 17 05 30.4 0.0
baz=86
534A Blanco 86.15 57 P P 17 05 32.2 +0.9
baz=86
ABTX Abilene, Hawle 86.27 54 eP P 17 05 32.8 +0.9
comp=Z,25nm,1.3s
ABTX Abilene, Hawle 86.27 54 P P 17 05 32.1 +0.2
baz=86
434A Burnet 86.62 56 P P 17 05 33.6 0.0
baz=87
Z32A Haskell 86.67 54 P P 17 05 34.9 +1.1
baz=87
C19A Slack Wire Ran 86.79 37 P P 17 05 33.1 -1.0
baz=87
133A Hamilton Ranch 86.82 54 P P 17 05 34.3 -0.3
baz=87
334A Lometa 86.85 56 P P 17 05 34.7 0.0
baz=87
Y32A R-V Farms, Ver 86.98 53 P P 17 05 35.5 +0.3
baz=87
234A Clairette 87.19 55 P P 17 05 37.2 +0.9
baz=87
B19A Brinkman Farms 87.22 37 P P 17 05 36.9 +0.7
baz=87
EDM Edmonton 87.45 31 eP P 17 05 36.2 -1.0
EDM Edmonton 87.45 31 eP P 17 05 36.1 -1.0
PLCA Paso Flores 87.61 132 LR LR 17 39 03.7
comp=Z,279nm,18.0s,baz=274,slow=32
HKT Hockley 88.24 58 eP P 17 05 42.2 +0.9
PSI Prapat 88.95 273 P P 17 05 44.8 -0.5
PSI Prapat 88.95 273 P P 17 05 44.8 -0.5
comp=Z,22nm,1.0s,baz=135,slow=2.9,SNR=12
PSI Prapat 88.95 273 P P 17 05 45.8 +0.5
baz=89,SNR=11
GYA Guiyang 89.48 298 P P 17 05 48.3 +0.8
GYA PP PP 17 09 22.6 +3.5
GYA SKS SKSac 17 16 18.3 +0.5
GYA S S 17 16 37.0 -1.0
GYA SS SS 17 22 35.5 +1.4
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.3s
GYA LR LR
comp=Z,540nm,19.2s
GYA LR LR
comp=Z,490nm,20.0s
GYA LR LR
comp=Z,550nm,18.6s
GSI Gunungsitoli 89.77 271 eP P 17 05 50.9 +1.9
comp=Z,77nm,1.2s
XAN Xi'an 90.34 306 P P 17 05 51.8 +0.6
XAN pmax pmax
comp=Z,2.0nm,1.4s
XAN pmax pmax
comp=Z,36nm,4.6s
HHC Hu-ho-hao-te 90.95 313 eP P 17 05 53.5 -0.5
HHC pP pP 17 05 58.3 -0.7
HHC sP sP 17 06 00.5 -0.2
HHC PP PP 17 09 32.0 +1.5
HHC SKS SKSac 17 16 23.0 -2.6
HHC S S 17 16 47.6 -3.3
HHC sS ScS 17 16 55.6 +1.4
HHC SS SS 17 22 54.4 -0.3
HHC pmax pmax
comp=Z,25nm,1.3s
HHC pmax pmax
comp=Z,380nm,8.5s
HHC LR LR
comp=Z,380nm,18.4s
HHC LR LR
comp=Z,500nm,18.3s
HHC LR LR
comp=Z,330nm,17.9s
PBKT Sadao Pong 91.27 287 P P 17 05 58.4 +2.6
comp=Z,16nm,0.6s
PHET Kaeng Krachan 91.38 283 P P 17 06 03.6 +7.2
comp=Z,41nm,1.2s
YAK Yakutsk 91.53 337 eP P 17 05 56.2 +0.3
PHIT Phitsanulok 91.97 287 P P 17 06 11.1 +12
YKA Yellowknife Ar 92.26 23 P P 17 05 59.3 -0.1
YKA Yellowknife Ar 92.26 23 P P 17 05 59.3 -0.1
comp=Z,0.6nm,0.9s,baz=231,slow=3.4,SNR=7.2
KMI Kunming 92.38 295 P P 17 06 01.9 +0.8
KMI pP pP 17 06 06.1 0.0
KMI sP sP 17 06 07.6 -0.3
KMI S ScS 17 17 07.8 +0.8
KMI SS SS 17 23 19.3 +3.1
KMI pmax pmax
comp=Z,11nm,1.5s
KMI pmax pmax
comp=Z,100nm,4.5s
KMI LR LR
comp=Z,150nm,18.0s
KMI LR LR
comp=Z,170nm,21.6s
KMI LR LR
comp=Z,250nm,21.0s
CRAI Chiangrai 92.94 290 P P 17 06 06.4 +2.9
comp=Z,20nm,0.8s,comp=Z,13µm
LAMP Lampang 93.08 288 P P 17 06 07.2 +3.0
comp=Z,4.3nm,1.0s
CD2 Chengdu 93.37 301 eP P 17 06 05.9 +0.6
CD2 pP pP 17 06 10.8 +0.5
CD2 sP sP 17 06 13.3 +1.2
CD2 PP PP 17 09 52.5 +2.8
CD2 SKS SKSac 17 16 38.5 -1.1
CD2 S S 17 17 10.5 -2.5
CD2 sS sS 17 17 18.3 -3.0
CD2 SS SS 17 23 30.3 +0.5
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,180nm,8.2s
CD2 LR LR
comp=Z,260nm,17.8s
CD2 LR LR
comp=Z,240nm,20.2s
CD2 LR LR
comp=Z,300nm,16.6s
CMAR Chiang Mai Arr 93.69 288 P P 17 06 08.4 +1.4
CMAR Chiang Mai Arr 93.69 288 P P 17 06 08.4 +1.4
comp=Z,3.1nm,0.9s,baz=100,slow=2.8,SNR=22
CMAR LR LR 17 45 16.3
comp=Z,16nm,28.6s,baz=100,slow=34
CMMT Chiang Mai 93.79 288 P P 17 06 10.3 +2.8
comp=Z,10nm,1.2s,comp=Z,664nm
CHTO Chiang Mai 93.79 288 eP P 17 06 09.9 +2.4
CHTO pmax pmax
comp=Z,3.0nm,1.2s
CHTO Chiang Mai 93.79 288 eP P 17 06 09.9 +2.4
comp=Z,3.0nm,1.2s
CHTO Chiang Mai 93.79 288 P P 17 06 10.4 +2.9
comp=Z,47nm,1.3s
CMAI Chiengmai2 94.04 290 P P 17 06 10.8 +2.0
comp=Z,94nm,1.2s
LZH Lanzhou 94.95 306 eP P 17 06 14.1 +1.5
LZH pP pP 17 06 19.0 +1.4
LZH sP sP 17 06 21.3 +1.9
LZH pmax pmax
comp=Z,15nm,1.0s
ULM Lac du Bonnet 95.68 39 LR LR 17 45 17.7
comp=Z,355nm,18.2s,baz=264,slow=33
SONM Songino Array 96.91 318 LR LR 17 47 49.5
comp=Z,122nm,19.0s,baz=140,slow=34
TIXI Tiksi 97.49 344 eP P 17 06 21.7 -1.4
LPAZ La Paz 98.67 110 LR LR 17 40 38.8
comp=Z,280nm,21.9s,baz=271,slow=29
GTA Gaotai 98.98 308 eP Pdif 17 06 31.8 +1.1
GTA pP pP 17 06 35.8 +0.1
GTA sP sP 17 06 38.0 +0.5
GTA PP PP 17 10 37.0 +4.0
GTA SKS SKSac 17 17 07.1 -1.7
GTA S S 17 17 57.9 -3.3
GTA sS ScS 17 18 04.6 +3.4
GTA pmax pmax
comp=Z,3.0nm,1.8s
GTA LR LR
comp=Z,210nm,18.1s
GTA LR LR
comp=Z,280nm,19.0s
GTA LR LR
comp=Z,360nm,21.4s
WMQ Urumqi 108.75 311 Pdif Pdif 17 07 14.5 +0.5
WMQ PP PP 17 11 47.5 +1.8
WMQ S Sdif 17 19 20.0 -2.4
WMQ SS SS 17 27 02.0 -1.1
WMQ AMB AMB
comp=Z,45nm,8.0s
WMQ LR LR
comp=Z,87nm,20.0s
WMQ LR LR
comp=Z,140nm,22.0s
WMQ LR LR
comp=Z,950nm,20.0s
MKAR Makanchi Array 112.79 314 PKiKP PKiKP 17 11 26.0 -0.6
MKAR Makanchi Array 112.79 314 PKiKP PKiKP 17 11 26.0 -0.6
comp=Z,0.8nm,0.8s,baz=88,slow=3.4,SNR=4.2
BRVK Borovoye 120.09 321 ePKIKP PKPdf 17 11 39.5 -0.9
BRVK Borovoye 120.09 321 ePKPdf PKPdf 17 11 39.5 -0.9
ARU Arti 125.62 328 i PKIKP PKPdf 17 11 50.3 -0.6
ARU 17 13 40.6
ARU SS SS 17 30 34.3 -7.1
OBN Obninsk 136.52 336 i PKIKP PKPdf 17 12 13.1 +1.6
VSU Vasula 136.96 345 i PKIKP PKPdf 17 12 14.8 +2.6
AKASG Malin Array Be 142.75 337 PKIKP PKPdf 17 12 23.2 +0.2
AKASG Malin Array Be 142.75 337 PKP PKPdf 17 12 23.2 +0.2
AKASG Malin Array Be 142.75 337 PKhKP PKPpre 17 12 17.7
comp=Z,0.2nm,0.5s,baz=33,slow=3.5,SNR=2.8
AKASG PKP PKPdf 17 12 23.2 +0.2
comp=Z,0.5nm,0.5s,baz=39,slow=3.6,SNR=4.0
KMBO Kilima Mbogo 144.66 241 PKP PKPdf 17 12 27.8 -0.1
KMBO ePKPdf PKPbc 17 12 28.4 +1.8
KMBO Kilima Mbogo 144.66 241 PKP PKPdf 17 12 27.8 -0.1
comp=Z,9.0nm,0.9s,baz=67,slow=4.8,SNR=21
LVV L'vov 145.31 340 ePKIKP PKPbc 17 12 26.7 -0.6
LVV e 17 12 37.3
MALT Malatya 145.82 313 i iP PKPab 17 12 30.9 +1.0
KWP Kalwaria Pacla 145.89 342 ePKIKP PKPab 17 12 30.5 +0.8
KWP Kalwaria Pacla 145.89 342 ePKP PKPab 17 12 30.4 +0.8
KWP Kalwaria Pacla 145.89 342 i iP PKPab 17 12 30.4 +0.8
KSP Ksiaz 146.30 349 ePKP2 PKPbc 17 12 30.4 +0.1
KSP Ksiaz 146.30 349 ePKP PKPab 17 12 31.3 +0.2
CLL Collm 146.33 353 i PKP2 PKPbc 17 12 29.9 -0.5
CLL pmax pmax
comp=Z,44nm,1.1s
CLL MLR MLR
comp=Z,200nm,19.3s
CLL Collm 146.33 353 i PKPbc PKPbc 17 12 29.9 -0.5
comp=Z,44nm,1.1s
CLL i pPKiKP pPKiKP 17 12 36.7 -1.9
CLL i 17 12 40.6
CLL LmV 18 24 00.0
comp=Z,200nm,19.3s
STHS Stebnicka Huta 146.51 343 ePKP2 PKPab 17 12 32.3 +0.3
STHS Stebnicka Huta 146.51 343 ePKP PKPab 17 12 32.3 +0.3
BRG Berggiesshubel 146.64 352 eP PKPbc 17 12 30.9 -0.3
comp=Z,32nm,1.3s
BRG i 17 12 42.0
comp=Z,36nm,1.5s
BRG Berggiesshubel 146.64 352 ePKP2 PKPbc 17 12 31.0 -0.3
BRG pmax pmax
comp=Z,32nm,1.3s
BRG pmax pmax
comp=Z,36nm,1.5s
KOLS Kolonicke sedl 146.64 341 ePKP2 PKPab 17 12 32.0 -0.5
KOLS Kolonicke sedl 146.64 341 ePKP PKPab 17 12 32.0 -0.5
UPC Upice 146.67 349 ePKP2 PKPab 17 12 32.2 -0.4
UPC Upice 146.67 349 ePKP PKPab 17 12 32.2 -0.4
UPC ex x 17 12 43.3
DPC Dobruska-Polom 146.77 349 ePKP2 PKPbc 17 12 31.3 -0.5
DPC Dobruska-Polom 146.77 349 ePKP PKPbc 17 12 31.3 -0.5
DPC ex x 17 12 43.8
DPC Dobruska-Polom 146.77 349 ePKPdf PKPbc 17 12 31.6 -0.2
BUR08 Bucovina Ar. S 146.77 337 ePKPab PKPab 17 12 33.0 -0.2
BURAR Bucovina Array 146.79 337 i PKPdf PKPdf 17 12 25.0 -5.3
PVCC Panska Ves 146.88 351 ePKP2 PKPbc 17 12 31.6 -0.4
PVCC Panska Ves 146.88 351 ePKP PKPbc 17 12 31.6 -0.4
PVCC ex x 17 12 44.2
OKC Ostrava-Krasne 146.89 347 ePKP2 PKPab 17 12 33.2 -0.2
OKC Ostrava-Krasne 146.89 347 ePKP PKPab 17 12 33.2 -0.2
OKC ex x 17 12 42.0
UZH Uzhgorod 146.90 341 ePKIKP PKPdf 17 12 29.8 -0.5
UZH e 17 12 41.8
CRVS Cervenica-Dubn 146.91 342 ePKP2 PKPab 17 12 33.1 -0.4
CRVS Cervenica-Dubn 146.91 342 ePKP PKPab 17 12 33.1 -0.4
KRLC Kraliky 146.94 348 ePKP2 PKPab 17 12 33.3 -0.4
KRLC Kraliky 146.94 348 ePKP PKPab 17 12 33.3 -0.4
MORC Moravsky Berou 147.08 347 ePKP2 PKPbc 17 12 33.3 +0.6
MORC Moravsky Berou 147.08 347 ePKPbc PKPbc 17 12 33.3 +0.6
TRPA Tarpa 147.27 341 i iP PKPab 17 12 34.2 -0.7
MEM Membach 147.37 1 ePKP2 PKPab 17 12 34.6 -0.7
MEM Membach 147.37 1 ePKPdf PKPab 17 12 34.5 -0.7
PRU Pruhonice 147.41 351 ePKP2 PKPbc 17 12 33.8 +0.2
PRU Pruhonice 147.41 351 ePKP PKPbc 17 12 33.8 +0.2
PRU ex x 17 12 42.7
CFR Carcaliu 147.55 332 i iP PKPab 17 12 35.4 -0.7
VRI Vrincioaia 147.63 334 i iP PKPab 17 12 36.0 -0.5
PLOR Plostina 147.67 334 i iP PKPdf 17 12 32.1 +0.4
VRAC Vranov 147.72 348 i iP PKPab 17 12 35.8 -0.9
VRAC Vranov 147.72 348 PKPbc PKPbc 17 12 34.7 +0.2
VRAC Vranov 147.72 348 PKPbc PKPbc 17 12 34.7 +0.2
comp=Z,1.4nm,0.5s,baz=330,slow=4.5,SNR=3.5
HARR Harsova 148.02 331 i iP PKPab 17 12 37.6 -0.4
GRF Grafenberg Arr 148.10 355 ePKPdf PKPbc 17 12 35.6 +0.1
CJR Cluj-Napoca 148.14 338 i iP PKPbc 17 12 36.8 +1.1
MLR Muntele Rosu 148.26 334 i iP PKPbc 17 12 37.5 +1.3
MLR Muntele Rosu 148.26 334 PKPbc PKPbc 17 12 35.6 -0.6
MLR Muntele Rosu 148.26 334 PKPbc PKPbc 17 12 35.6 -0.6
comp=Z,1.0nm,0.9s,baz=162,slow=16,SNR=3.5
BR131 Keskin Array S 148.26 319 ePKPbc PKPbc 17 12 36.0 -0.4
BR131 ePKPab PKPab 17 12 39.3 -0.1
BRTR Keskin Array B 148.26 319 PKPbc PKPbc 17 12 36.9 +0.5
BRTR Keskin Array B 148.26 319 PKPbc PKPbc 17 12 36.9 +0.5
comp=Z,5.4nm,0.9s,baz=123,slow=1.7,SNR=16
DRGR 148.38 339 i iP PKPbc 17 12 37.5 +1.1
KHC Kasperske Hory 148.39 352 ePKP2 PKPbc 17 12 36.8 +0.6
KHC Kasperske Hory 148.39 352 ePKP PKPbc 17 12 36.8 +0.6
KHC Kasperske Hory 148.39 352 ePKPdf PKPbc 17 12 36.9 +0.6
GERES GERESS Array B 148.65 351 PKPbc PKPbc 17 12 37.4 +0.4
GERES GERESS Array B 148.65 351 PKPbc PKPbc 17 12 37.4 +0.4
comp=Z,2.2nm,0.8s,baz=25,slow=2.6,SNR=16
VOIR 148.67 335 i iP PKPdf 17 12 32.2 -1.2
ANTO Ankara 148.70 320 ePKP2 PKPbc 17 12 38.6 +1.2
ANTO Ankara 148.70 320 ePKPdf PKPbc 17 12 38.6 +1.2
ARR Arges 148.89 335 i iP PKPbc 17 12 39.6 +1.9
CSNA Conrad Observa 149.18 348 i iPKiKP PKiKP 17 12 39.5 -0.1
comp=Z,14nm,1.4s
ASF Jabal al Asfar 149.48 303 PKPbc PKPbc 17 12 40.2 +0.5
ASF Jabal al Asfar 149.48 303 PKPbc PKPbc 17 12 40.2 +0.5
comp=Z,1.8nm,0.6s,baz=0.0,slow=1.0,SNR=3.4
BFO Black Forest 149.63 358 ePKP2 PKPbc 17 12 39.2 -0.2
BFO Black Forest 149.63 358 ePKPbc PKPbc 17 12 39.2 -0.2
BZS Buzias 149.78 339 i iP PKPbc 17 12 40.8 +1.0
MMAI Mount Meron Ar 150.33 306 PKPbc PKPbc 17 12 41.4 -0.3
MMAI Mount Meron Ar 150.33 306 PKPbc PKPbc 17 12 41.4 -0.3
comp=Z,10nm,1.0s,baz=87,slow=3.0,SNR=3.5
FETA Feichten 150.80 355 i iPKiKP PKiKP 17 12 43.7 +0.7
comp=Z,11nm,1.1s
ABTA Abfaltersbach 150.87 352 i iPKiKP PKiKP 17 12 43.1 0.0
comp=Z,11nm,0.9s
DAVOX Davos/Dischmat 151.10 356 PKPbc PKPbc 17 12 43.2 0.0
DAVOX Davos/Dischmat 151.10 356 PKPbc PKPbc 17 12 43.2 0.0
comp=Z,5.2nm,0.8s,baz=270,slow=2.0,SNR=3.3
EIL Elat 151.88 300 PKPbc PKPbc 17 12 43.2 -2.1
EIL Elat 151.88 300 PKPbc PKPbc 17 12 43.2 -2.1
comp=Z,3.6nm,0.9s,baz=225,slow=1.4,SNR=2.8
TORD Torodi Ar. Bea 173.09 132 PKP PKPdf 17 12 58.0 -2.0
TORD PKPab PKPab 17 14 27.9 +0.8
TORD Torodi Ar. Bea 173.09 132 PKP PKPdf 17 12 58.0 -2.0
comp=Z,0.9nm,0.9s,baz=256,slow=0.9,SNR=3.6
TORD PKPab PKPab 17 14 27.9 +0.8
comp=Z,0.9nm,0.8s,baz=266,slow=3.7,SNR=3.8

*AUST **19** 16:59:58.6±0.0,6˚.20S×128˚.29E, h284km, Error ellipse: s-maj=1.3km s-min=1.1km az=308.0*
*IDC **19** 17:00:04.0±3.7,6˚.60S×128˚.27E, h310km±41km, mb3.3/7, mb1 3.5/9, mb1mx3.3/21, mbtmp4.1/9, Error ellipse: s-maj=33.7km s-min=12.4km az=68.0*
*ISCJB **19** 17:00:04.3±0.6,6˚.62S±0˚.07×128˚.3E±0˚.1, h334km, mb3.5/7, Error ellipse: s-maj=17.1km s-min=7.9km az=159.2*

ISC 19 17:00:05.8±0.7, 6˚.65S±0˚.07×128˚.3E±0˚.1, h334km, n25, σ1§53/24, mb3.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**5.04**	**232**	P	**Pn**	**17 01 22.3**	**-3.0**
	baz=5.3,SNR=226						
MTN	**Manton Dam**	**6.76**	**156**	P	Pn	17 01 41.1	-4.0
	baz=7.2,SNR=36						
KDU	**Kakadu**	**7.28**	**146**	P	Pn	17 01 47.0	-4.1
	baz=53,SNR=29						
KDU	**Kakadu**	**7.28**	**146**	P	Pn	17 01 47.0	-4.1
	baz=7.7,SNR=29						
KNRA	**Kununurra**	**8.98**	**177**	P	**Pn**	**17 02 09.4**	**-2.1**
	baz=56,SNR=29						
KNRA	**Kununurra**	**8.98**	**177**	P	**Pn**	**17 02 09.4**	**-2.1**
	baz=9.5,SNR=29						
FITZ	**Fitzroy Crossi**	**11.67**	**193**	P	**Pn**	**17 02 41.6**	**-2.4**
	1.2nm,0.3s,baz=26,slow=14,SNR=29						
FITZ				S	**S**	**17 04 54.6**	**+0.3**
	0.5nm,0.3s,baz=336,slow=20,SNR=2.3						
FITZ	**Fitzroy Crossi**	**11.67**	**193**	P	**P**	**17 02 45.2**	**+0.7**
	baz=58,SNR=15						
FITZ	**Fitzroy Crossi**	**11.67**	**193**	P	**P**	**17 02 45.2**	**+0.7**
	baz=12,SNR=15						
WRA	**Warramunga Arr**	**14.46**	**157**	P	**P**	**17 03 14.8**	**-0.5**
	4.2nm,0.3s,baz=333,slow=13,SNR=83						
WRA				S	**S**	**17 05 50.4**	**-2.3**
	baz=346,slow=23,SNR=4.5						
WRKA	**Warakurna**	**18.28**	**180**	P	**P**	**17 03 58.2**	**+1.5**
	baz=19,SNR=7.3						
CTA	**Charters Tower**	**21.96**	**129**	P	**P**	**17 04 33.9**	**+0.8**
	1.5nm,0.6s,baz=305,slow=13,SNR=4.8						
STKA	**Stephens Creek**	**28.01**	**155**	P	**P**	**17 05 27.7**	**+0.7**
	3.3nm,0.8s,baz=338,slow=10,SNR=6.7						
STKA	**Stephens Creek**	**28.01**	**155**	P	**P**	**17 05 28.3**	**+1.2**
	baz=28,SNR=5.7						
HTT	**Hallett**	**28.42**	**161**	P	**P**	**17 05 32.7**	**+2.0**
	baz=29,SNR=3.4						
CMSA	**Cobar Meteorol**	**29.63**	**149**	P	**P**	**17 05 42.8**	**+1.5**
	baz=30,SNR=7.7						
PSI	**Prapat**	**30.78**	**287**	P	P	17 05 46.4	-5.5
	baz=31,SNR=7.6						
KSRS	**Korea Array**	**43.88**	**360**	P	**P**	**17 07 39.2**	**-1.0**
	1.4nm,0.5s,baz=179,slow=9.2,SNR=9.6						
SONM	**Songino Array**	**57.59**	**343**	P	**P**	**17 09 21.9**	**+0.2**
	0.8nm,0.6s,baz=160,slow=7.1,SNR=9.0						
MKAR	**Makanchi Array**	**67.01**	**328**	P	**P**	**17 10 24.1**	**+0.5**
	1.1nm,0.5s,baz=110,slow=7.8,SNR=21						
ZALV	**Zalesovo Beam**	**70.53**	**334**	P	**P**	**17 10 44.1**	**-0.8**
	0.9nm,0.6s,baz=95,slow=7.2,SNR=4.4						
AKTO	**Aktyubinsk**	**82.76**	**323**	P	**P**	**17 11 54.5**	**+1.6**
	0.7nm,0.6s,baz=126,slow=8.7,SNR=3.7						

*JMA **19** 17:09:50.3,23˚.71N×121˚.59E, h43km±1km, M2.8*
*ISCJB **19** 17:09:51.0±0.3,23˚.73N±0˚.02×121˚.68E±0˚.02, h25km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=42.3*
*TAP **19** 17:09:51.1,23˚.75N×121˚.61E, h35km, ML3.5, C*

ISC 19 17:09:51.5±1.0, 23˚.74N±0˚.02×121˚.64E±0˚.03, h33km±3km, n54, σ0§89/98, 14C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.10**	**254**	P	**Pb**	**17 09 57.3**	**+0.1**
	baz=235						
TEGC				*e*S	**Sb**	**17 10 03.4**	**+2.3**
	baz=235						
ESF	**Shoufeng Towns**	**0.18**	**317**	P	**Pb**	**17 09 57.6**	**-0.3**
	baz=307						
ESF				S	**Sb**	**17 10 02.5**	**+0.3**
	baz=307						
ESL	**Shilin**	**0.21**	**292**	⇑*i*P	**Pb**	**17 09 57.6**	**-0.5**
	baz=292						
ESL				*e*S	**Sb**	**17 10 01.9**	**-0.7**
	baz=292						
HWA	**Hwalien**	**0.24**	**352**	*e*P	**Pb**	**17 09 58.2**	**-0.3**
	baz=5.0						
HWA				*e*S	**Sb**	**17 10 04.9**	**+1.6**
	baz=5.0						
TWD	**Chiawan**	**0.34**	**353**	⇑*i*P	**Pb**	**17 09 59.5**	**-0.4**
	baz=349						
TWD				S	**Sn**	**17 10 06.7**	**+0.8**
	baz=349						
EHY	**Hungye**	**0.37**	**232**	*i*P	**Pb**	**17 09 59.4**	**-0.9**
	baz=228						
EHY				S	**Sb**	**17 10 04.9**	**-1.3**
	baz=228						
TWF1	**Yuli**	**0.50**	**220**	⇑*i*P	**Pb**	**17 10 01.3**	**-0.8**
	baz=227						
TWF1				S	**Sb**	**17 10 08.2**	**-1.2**
	baz=227						
WHF	**Hehuan Shan**	**0.53**	**320**	⇑*i*P	**Pb**	**17 10 01.8**	**-1.1**
	baz=313						
WHF				*i*S	**Sb**	**17 10 09.3**	**-1.5**
	baz=313						
TWT	**Tachien**	**0.67**	**320**	⇑*i*P	**Pb**	**17 10 04.3**	**-0.6**
	baz=314						
TWT				S	**Sb**	**17 10 13.2**	**-0.9**
	baz=314						
YUS	**Yu-Shan**	**0.68**	**249**	P	**Pb**	**17 10 05.0**	**-0.4**
	baz=247						
YUS				S	**Sb**	**17 10 13.6**	**-1.1**
	baz=247						
CHKT	**Chengkung**	**0.68**	**202**	P	**Pb**	**17 10 04.8**	**-0.2**
	baz=187						
CHKT				*e*S	**Sb**	**17 10 15.2**	**+0.9**
	baz=187						
ENA	**Nanau**	**0.69**	**7**	⇑*i*P	**Pb**	**17 10 04.3**	**-1.0**
	baz=359						
SMLT	**Sun Moon Lake**	**0.70**	**282**	⇑*i*P	**Pb**	**17 10 04.5**	**-0.8**
	baz=283						
SMLT				*e*S	**Sb**	**17 10 13.7**	**-1.1**
	baz=283						
TYC	**Yuchr**	**0.74**	**283**	⇑*i*P	**Pb**	**17 10 05.0**	**-0.9**
	baz=286						
TYC				*e*S	**Sb**	**17 10 15.0**	**-0.8**
	baz=286						
NNS	**Nan Shan**	**0.74**	**341**	*e*P	**Pb**	**17 10 04.8**	**-1.3**
	baz=342						
NNS				*e*S	**Sb**	**17 10 14.3**	**-1.8**
	baz=342						
ELDTW	**Lidau**	**0.79**	**227**	*e*P	**Pn**	**17 10 05.3**	**-1.2**
	baz=219						
ALS	**Alishan**	**0.80**	**254**	⇑P	**Pn**	**17 10 06.7**	**0.0**
	baz=253						
ALS				*e*S	**Sb**	**17 10 16.5**	**-1.4**
	baz=253						
TWC	**Suao**	**0.89**	**12**	*e*P	**Pn**	**17 10 07.7**	**0.0**
	baz=20						
CHN5	**Tsauling**	**0.90**	**261**	⇑*i*P	**Pn**	**17 10 08.4**	**+0.5**
	baz=260						
CHN5				S	**Sb**	**17 10 20.2**	**-0.1**
	baz=260						
ENTT	**Nioudou**	**0.90**	**356**	P	**Pn**	**17 10 07.2**	**-0.7**
	baz=357						
NSK	**Sanguang**	**0.97**	**345**	⇑*i*P	**Pn**	**17 10 08.6**	**-0.3**
	baz=352						
NSK				*e*S	**Sn**	**17 10 20.2**	**-1.4**
	baz=352						
TCU	**Taichung**	**0.97**	**295**	P	**Pn**	**17 10 09.4**	**+0.6**
	baz=294						
TCU				*e*S	**Sb**	**17 10 22.4**	**-0.1**
	baz=294						
WGK	**Gukeng**	**0.99**	**267**	P	**Pn**	**17 10 09.5**	**+0.4**
	baz=266						
WGK				*e*S	**Sb**	**17 10 22.8**	**-0.2**
	baz=266						
STYT	**Tauyuan**	**0.99**	**235**	*e*P	**Pn**	**17 10 09.3**	**+0.1**
	baz=230						
STYT				*e*S	**Sn**	**17 10 22.8**	**+0.7**
	baz=230						
TWQ1	**Liyutan**	**1.00**	**308**	⇑*i*P	**Pn**	**17 10 10.1**	**+0.8**
	baz=306						
TWQ1				S	**Sn**	**17 10 22.8**	**+0.5**
	baz=306						
NSY	**Sanyi**	**1.05**	**310**	⇑P	**Pn**	**17 10 10.9**	**+0.9**
	baz=308						
NSY				*e*S	**Sb**	**17 10 24.7**	**-0.1**
	baz=308						
TWG	**Pinlang**	**1.05**	**210**	*e*P	**Pn**	**17 10 08.4**	**-1.6**
	baz=197						
WTP	**Ta-pu**	**1.06**	**243**	P	**Pn**	**17 10 10.8**	**+0.7**
	baz=243						
WTP				*e*S	**Sb**	**17 10 25.2**	**+0.1**
	baz=243						
NSTT	**Nanjuang**	**1.07**	**327**	⇑*i*P	**Pn**	**17 10 10.8**	**+0.6**
	baz=325						
NSTT				S	**Sn**	**17 10 24.7**	**+0.9**
	baz=325						
CHY	**Chiayi**	**1.14**	**258**	*e*P	**Pn**	**17 10 12.3**	**+1.1**
	baz=258						
CHY				*e*S	**Sb**	**17 10 27.1**	**-0.2**
	baz=258						
TWK	**Hsinying**	**1.16**	**246**	*e*P	**Pn**	**17 10 12.4**	**+1.0**
	baz=246						
TWK				*e*S	**Sb**	**17 10 27.6**	**-0.2**
	baz=246						
CHN1	**Nanshi**	**1.16**	**242**	*e*P	**Pn**	**17 10 12.4**	**+0.9**
	baz=242						
CHN1				*e*S	**Sb**	**17 10 27.7**	**-0.1**
	baz=242						
SGST	**Jiashian**	**1.17**	**236**	*e*P	**Pn**	**17 10 12.8**	**+1.2**
	baz=230						
SGST				*e*S	**Sb**	**17 10 28.2**	**+0.1**
	baz=230						
HSN	**Hsinchu**	**1.23**	**330**	*e*P	**Pb**	**17 10 14.4**	**+0.2**
	baz=316						
HSN				*e*S	**Sb**	**17 10 30.0**	**+0.4**
	baz=316						
WTCT	**Ta-ch'eng**	**1.25**	**276**	*e*P	**Pn**	**17 10 13.6**	**+0.9**
	baz=275						
WTCT				*e*S	**Sb**	**17 10 30.8**	**+0.3**
	baz=275						
NCU	**National Centr**	**1.30**	**341**	*e*P	**Pb**	**17 10 15.5**	**+0.2**
	baz=338						
NCU				*e*S	**Sb**	**17 10 31.2**	**-0.4**
	baz=338						
ECL	**Taimali**	**1.30**	**209**	*e*P	**Pn**	**17 10 12.9**	**-0.4**
	baz=198						
TWB1	**Santiao Chiao**	**1.30**	**14**	*e*P	**Pb**	**17 10 15.5**	**0.0**
TWB1				*e*S	**Sb**	**17 10 32.0**	**+0.1**
WSF	**Szhu**	**1.31**	**266**	*e*P	**Pn**	**17 10 14.4**	**+1.0**
	baz=254						
WSF				*e*S	**Sb**	**17 10 31.4**	**-0.5**
	baz=254						
NWF	**Wu-fen Shan**	**1.33**	**5**	*e*P	**Pn**	**17 10 15.0**	**+1.1**
	baz=350						
NWF				*e*S	**Sn**	**17 10 32.6**	**+2.0**
	baz=350						
CHN3	**Shinhua**	**1.35**	**241**	*e*P	**Pb**	**17 10 16.8**	**+0.6**
	baz=242						
CHN3				*e*S	**Sb**	**17 10 33.5**	**+0.4**
	baz=242						
SSD	**Sandimen**	**1.35**	**224**	*e*P	**Pn**	**17 10 14.8**	**+0.7**
	baz=225						
SSD				*e*S	**Sb**	**17 10 33.1**	**-0.2**
	baz=225						
TWS1	**Kuangyinshan**	**1.37**	**351**	*e*P	**Pn**	**17 10 15.3**	**+1.0**
	baz=359						
TWS1				*e*S	**Sb**	**17 10 33.5**	**-0.3**
	baz=359						
SCLT	**Jiali**	**1.44**	**247**	*e*P	**Pn**	**17 10 16.9**	**+1.6**
	baz=248						
SCLT				*e*S	**Sb**	**17 10 35.5**	**-0.4**
	baz=248						
TWM1	**Shoushan**	**1.44**	**231**	*e*P	**Pn**	**17 10 17.1**	**+1.7**
	baz=244						
TWM1				*e*S	**Sb**	**17 10 35.7**	**-0.2**
	baz=244						
YOJ	**Yonaguni jima**	**1.44**	**60**	P	**Pn**	**17 10 15.7**	**+0.4**
YOJ				*e*S	**Sn**	**17 10 34.0**	**+0.9**
EAST	**Anshuo**	**1.53**	**209**	*e*P	**Pn**	**17 10 17.8**	**+1.2**
	baz=200						
SCZT	**Fangliau**	**1.65**	**215**	*e*P	**Pn**	**17 10 20.0**	**+1.8**
	baz=216						
LAY	**Lan-yu**	**1.69**	**183**	*e*P	**Pn**	**17 10 17.9**	**-0.9**
	baz=181						
IRIF	**Iriomote-Funau**	**2.00**	**72**	P	**Pn**	**17 10 23.3**	**+0.3**
IRIF				*e*S	**Sn**	**17 10 47.7**	**+0.8**
HATJ	**Hateruma jima**	**2.00**	**80**	P	**Pn**	**17 10 23.2**	**+0.2**
HATJ				*e*S	**Sn**	**17 10 47.9**	**+0.9**
JKRS	**Kuro-shima**	**2.22**	**77**	P	**Pn**	**17 10 26.8**	**+0.8**
JKRS				*e*S	**Sn**	**17 10 53.0**	**+0.7**
JIJ	**Ishigaki jima**	**2.37**	**74**	P	**Pn**	**17 10 28.0**	**-0.1**
JIJ				*e*S	**Sn**	**17 10 55.3**	**-0.7**
JTJ	**Tarama**	**2.94**	**72**	*e*S	**Sn**	**17 11 09.0**	**-1.0**

*ISCJB **19** 17:17:28.8±0.6, 42˚.47S±0˚.09×120˚.4E±0˚.2, h10km, mb4.1/10, Error ellipse: s-maj=17.3km s-min=12.5km az=25.7*
*IDC **19** 17:17:28.6±0.7, 42˚.54S×120˚.34E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML4.0/1, MS3.6/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=33.8km s-min=17.9km az=106.0*
*NEIC **19** 17:17:29.8±0.4, 42˚.56S×120˚.40E, h10km, mb4.6/4, Error ellipse: s-maj=17.3km s-min=12.2km az=108.0*

ISC 19 17:17:30.1±0.5, 42˚.40S±0˚.08×120˚.3E±0˚.1, h10km, n46, σ1§46/45, mb4.1/10, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**8.91**	**325**	T	T	17 28 39.4	
	baz=148,slow=74,SNR=9.2						
H01W2	**Cape Leeuwin H**	**8.91**	**325**	T	T	17 28 40.2	
	baz=148,slow=74,SNR=13						
H01W3	**Cape Leeuwin H**	**8.92**	**325**	T	T	17 28 41.2	
	baz=148,slow=74,SNR=10.0						
NWAO	**Narrogin (SRO)**	**9.77**	**345**	Pn	**Pn**	**17 19 51.9**	**+1.3**
NWAO				Sn	**Sn**	**17 21 36.9**	**-3.5**
NWAO	**Narrogin (SRO)**	**9.77**	**345**	Pn	**Pn**	**17 19 51.9**	**+1.3**
	0.8nm,0.3s,baz=170,slow=12,SNR=7.3						
NWAO				Sn	**Sn**	**17 21 36.9**	**-3.5**
	0.3nm,0.3s,baz=104,slow=19,SNR=3.9						
STKA	**Stephens Creek**	**19.91**	**65**	P	**Pn**	**17 22 03.5**	**0.0**
STKA	**Stephens Creek**	**19.91**	**65**	P	**Pn**	**17 22 03.5**	**0.0**
	0.2nm,0.3s,baz=241,slow=10,SNR=7.6						
STKA				LR	LR	17 28 08.5	
	comp=Z,191nm,21.4s,baz=220,slow=32						
ASAR	**Alice Springs**	**21.83**	**35**	P	**P**	**17 22 23.6**	**+0.8**
ASAR				PcP	**PcP**	**17 26 22.9**	**+0.4**
ASAR	**Alice Springs**	**21.83**	**35**	P	**P**	**17 22 23.6**	**+0.8**
	4.4nm,0.9s,baz=205,slow=9.4,SNR=34						
ASAR				PcP	**PcP**	**17 26 22.9**	**+0.4**
	0.5nm,0.6s,baz=200,slow=1.7,SNR=14						
AS31	**Alice Springs**	**21.84**	**35**	*e*P	**P**	**17 22 23.6**	**+0.9**
WRA	**Warramunga Arr**	**25.34**	**32**	P	**P**	**17 22 57.4**	**+0.2**
WRA				PcP	**PcP**	**17 26 29.6**	**-0.3**
WRA	**Warramunga Arr**	**25.34**	**32**	P	**P**	**17 22 57.4**	**+0.2**
	1.4nm,0.6s,baz=204,slow=9.4,SNR=17						
WRA				PcP	**PcP**	**17 26 29.6**	**-0.3**
	0.4nm,0.6s,baz=222,slow=2.4,SNR=5.5						
WRAB	**Tennant Creek**	**25.35**	**32**	*e*P	**P**	**17 22 58.1**	**+0.8**
	2.2nm,0.5s						
QSPA	**South Pole Qui**	**47.72**	**180**	P	**P**	**17 26 05.9**	**-1.0**
QSPA	**South Pole Qui**	**47.72**	**180**	P	**P**	**17 26 05.9**	**-1.0**
	2.4nm,0.9s,baz=338,slow=11,SNR=9.5						
SNAA	**Sanae**	**59.39**	**198**	P	**P**	**17 27 31.4**	**-0.8**
SNAA	**Sanae**	**59.39**	**198**	P	**P**	**17 27 31.4**	**-0.8**
	1.4nm,0.9s,baz=142,slow=8.5,SNR=13						
CM31	**Chiang Mai Arr**	**63.68**	**337**	*e*P	**P**	**17 28 03.1**	**+1.5**
	3.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.68**	**337**	P	**P**	**17 28 03.3**	**+1.6**
CMAR	**Chiang Mai Arr**	**63.68**	**337**	P	**P**	**17 28 03.3**	**+1.6**
	2.6nm,0.7s,baz=179,slow=5.9,SNR=28						
CHTO	**Chiang Mai**	**64.02**	**337**	*e*P	**P**	**17 28 05.3**	**+1.4**
	0.9nm,0.8s						
LSA	**Lhasa**	**76.61**	**334**	*e*P	**P**	**17 29 22.1**	**+0.8**
	5.9nm,0.9s						
LSZ	**Lusaka**	**81.40**	**257**	P	**P**	**17 29 48.8**	**+1.2**
KBL	**Kabul**	**89.81**	**320**	P	**P**	**17 30 29.7**	**+0.8**
SONM	**Songino Array**	**90.69**	**351**	P	**P**	**17 30 33.7**	**+1.0**
SONM	**Songino Array**	**90.69**	**351**	P	**P**	**17 30 33.7**	**+1.0**
	0.4nm,0.6s,baz=164,slow=4.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**119.83**	**260**	PKP	**PKPdf**	**17 36 20.6**	**-0.4**
	0.7nm,0.9s,baz=77,slow=2.8,SNR=2.9						
AKASG	**Malin Array Be**	**121.83**	**312**	PKP	**PKPdf**	**17 36 23.0**	**-0.7**
AKASG	**Malin Array Be**	**121.83**	**312**	PKP	**PKPdf**	**17 36 23.0**	**-0.7**
	0.2nm,0.4s,baz=85,slow=2.1,SNR=3.6						
ILAR	**Eielson Array**	**128.50**	**33**	PKP	**PKPdf**	**17 36 36.5**	**+0.4**
ILAR	**Eielson Array**	**128.50**	**33**	PKP	**PKPdf**	**17 36 36.5**	**+0.4**
	0.4nm,0.6s,baz=289,slow=3.9,SNR=7.4						
NVAR	**Mina Array Bea**	**135.96**	**75**	PKP	**PKPdf**	**17 36 52.6**	**+1.3**
NVAR	**Mina Array Bea**	**135.96**	**75**	PKP	**PKPdf**	**17 36 52.6**	**+1.3**
	0.7nm,0.8s,baz=236,slow=1.0,SNR=3.5						
ESLA	**Sonseca Array**	**138.51**	**286**	*e*PKPdf	**PKPdf**	**17 36 56.5**	**+0.8**
WALA	**Waterton Lakes**	**142.27**	**61**	*e*PKPdf	**PKPdf**	**17 37 00.2**	**-2.1**
YKA	**Yellowknife Ar**	**142.44**	**39**	PKP	**PKPdf**	**17 36 59.4**	**-2.6**
YKA	**Yellowknife Ar**	**142.44**	**39**	PKP	**PKPdf**	**17 36 59.4**	**-2.6**
	0.3nm,0.7s,baz=274,slow=3.1,SNR=8.7						
TXAR	**Lajitas Array**	**142.46**	**96**	PKP	**PKPdf**	**17 37 00.4**	**-2.9**
TXAR	**Lajitas Array**	**142.46**	**96**	PKP	**PKPdf**	**17 37 00.4**	**-2.9**
	0.5nm,0.7s,baz=220,slow=5.7,SNR=9.1						
ANMO	**Albuquerque**	**143.12**	**86**	*e*PKPdf	PKPbc	17 37 02.6	+1.3
PDAR	**Pinedale Array**	**143.72**	**72**	PKP	PKPbc	17 37 03.1	+0.3
PDAR	**Pinedale Array**	**143.72**	**72**	PKP	PKPbc	17 37 03.1	+0.3
	1.7nm,0.7s,baz=222,slow=1.2,SNR=11						
RES	**Resolute Bay**	**143.95**	**15**	*e*PKPdf	PKPbc	17 37 02.5	+0.3
SDCO	**Great Sand Dun**	**144.97**	**82**	*e*PKPdf	**PKPdf**	**17 37 08.5**	**+0.8**
MSTX	**Muleshoe**	**145.41**	**90**	*e*PKPdf	**PKPab**	**17 37 09.1**	**+0.6**

IGQ 19 17:24:27.1, 3.88S×79.93W, h98km±79km, Mb4.4, Ms4.2, 2C-6D, Error ellipse: s-maj=4.9km s-min=2.4km az=3.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARNL	**Arenillas**	**0.36**	**337**	⇓S	Sn	17 24 52.0	-0.7
ARNL	**Arenillas**	**0.36**	**337**	⇓P	Pn	17 24 41.4	-0.4
MACE	**Macas**	**2.36**	**47**	S	Sn	17 25 31.7	-1.6
MACE	**Macas**	**2.36**	**47**	P	Pn	17 25 04.4	-0.1
IGUA	**Igualata**	**2.70**	**28**	S	Sn	17 25 41.0	-1.1
IGUA	**Igualata**	**2.70**	**28**	P	Pn	17 25 10.0	+0.5
BMAS	**Trigal station**	**2.77**	**32**	P	Pn	17 25 10.8	+0.6
ARRY	**Arrayan**	**2.77**	**32**	⇑P	Pn	17 25 10.5	+0.2
PAT1	**Patacocha**	**2.78**	**32**	S	Sn	17 25 43.0	-0.9
PAT1	**Patacocha**	**2.78**	**32**	P	Pn	17 25 11.2	+0.7
BPAT	**Tungurahua Vol**	**2.79**	**32**	S	Sn	17 25 43.6	-0.5
BPAT	**Tungurahua Vol**	**2.79**	**32**	P	Pn	17 25 11.3	+0.7
RETU	**Refugio**	**2.83**	**32**	P	Pn	17 25 12.3	+1.2
JUI6	**Juive**	**2.84**	**31**	P	Pn	17 25 11.7	+0.7
ISPT	**Isla de la Pla**	**2.84**	**336**	⇓S	Sn	17 25 42.0	-2.3
ISPT	**Isla de la Pla**	**2.84**	**336**	⇓P	Pn	17 25 11.2	+0.5
ULBA	**Ulba**	**2.85**	**32**	P	Pn	17 25 12.7	+1.4
BULB	**Ulba Tungurahu**	**2.86**	**32**	P	Pn	17 25 11.8	+0.4
RUN5	**Runtun**	**2.87**	**32**	P	Pn	17 25 13.1	+1.6
BRUN	**Tungurahua Vol**	**2.87**	**32**	P	Pn	17 25 12.1	+0.5
PISA	**Pisayambo**	**3.19**	**29**	P	Pn	17 25 16.8	+0.7
PAST	**Pastocalle**	**3.41**	**22**	P	Pn	17 25 21.2	+2.2
BMOR	**Cotopaxi Volca**	**3.45**	**25**	P	Pn	17 25 20.4	+0.8
MOV1	**Cotopaxi Vol s**	**3.48**	**25**	P	Pn	17 25 21.1	+1.1
CAMI	**Rancho Maria**	**3.48**	**24**	P	Pn	17 25 21.7	+1.8
BNAS	**Cotopaxi Volca**	**3.50**	**24**	P	Pn	17 25 21.0	+0.8
BREF	**Cotopaxi Volca**	**3.51**	**25**	P	Pn	17 25 21.5	+1.0
TAMB	**Tambo**	**3.52**	**26**	P	Pn	17 25 21.9	+1.3
NAS2	**Nasa**	**3.52**	**24**	P	Pn	17 25 23.5	+2.9
BTAM	**Cotopaxi Volca**	**3.53**	**26**	⇓P	Pn	17 25 21.9	+1.2
BVC2	**Cotopaxi Volca**	**3.54**	**25**	P	Pn	17 25 21.5	+0.7
VC1	**Cotopaxi 1**	**3.56**	**25**	P	Pn	17 25 22.2	+1.2
JAMA	**Jama**	**3.60**	**356**	P	Pn	17 25 20.6	-0.4
PITA	**Cotopaxi Volc**	**3.62**	**24**	P	Pn	17 25 23.4	+1.7
MAG1	**Magdalena**	**3.78**	**2**	P	Pn	17 25 23.1	-0.3
ANTI	**Antisana**	**3.83**	**27**	P	Pn	17 25 25.6	+0.8
JUA2	**San Juan 2**	**3.87**	**20**	S	Sn	17 26 11.1	+1.0
JUA2	**San Juan 2**	**3.87**	**20**	P	Pn	17 25 26.0	+0.9
TERV	**Terraza Guagua**	**3.91**	**20**	S	Sn	17 26 11.1	0.0
TERV	**Terraza Guagua**	**3.91**	**20**	P	Pn	17 25 26.7	+1.0
GGP	**Refugio Guagua**	**3.91**	**20**	P	Pn	17 25 26.6	+0.8
PINO	**Pino**	**3.92**	**20**	⇑P	Pn	17 25 26.8	+0.8
OTAV	**Otavalo**	**4.34**	**20**	⇓P	Pn	17 25 31.8	+0.3

*TAP **19** 17:42:51.9, 23˚.82N×121˚.63E, h43km, ML3.4, C*
*JMA **19** 17:42:51.1, 23˚.76N×121˚.65E, h46km±2km, M3.3*

ISC 19 17:42:52.5±1.1, 23˚.80N±0˚.02×121˚.68E±0˚.02, h34km±2km, n52, σ0§83/92, 4C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.16**	**235**	*e*P	**Pb**	**17 42 59.3**	**+0.5**
	baz=215						
ESF	**Shoufeng Towns**	**0.17**	**293**	*e*P	**Pb**	**17 42 59.2**	**+0.3**
	baz=295						
HWA	**Hwalien**	**0.19**	**338**	P	**Pb**	**17 42 59.5**	**+0.5**
	baz=358						
HWA				*e*S	**Sb**	**17 43 05.4**	**+1.9**
	baz=358						
ESL	**Shilin**	**0.23**	**273**	⇓P	**Pn**	**17 42 59.1**	**+0.2**
	baz=279						
ESL				*e*S	**Sb**	**17 43 04.4**	**+0.2**
	baz=279						
TWD	**Chiawan**	**0.29**	**344**	P	**Pb**	**17 43 00.2**	**0.0**
	baz=345						
TWD				S	**Sb**	**17 43 06.3**	**+0.9**
	baz=345						
WHF	**Hehuan Shan**	**0.51**	**312**	⇓*i*P	**Pb**	**17 43 02.7**	**-1.0**
	baz=308						
WHF				*i*S	**Sb**	**17 43 10.3**	**-1.0**
	baz=308						
TWF1	**Yuli**	**0.57**	**218**	*e*P	**Pn**	**17 43 02.8**	**-1.4**
	baz=221						

	baz=291							
TCU				*e*S		**Sn**	17 43 22.9	+0.2
	baz=291							
TWQ1	**Liyutan**	**0.99**	**303**	⇑*i*P		**Pn**	17 43 10.2	+0.1
	baz=304							
TWQ1				S		**Sn**	17 43 23.4	+0.4
	baz=304							
WGK	**Gukeng**	**1.03**	**264**	*e*P		**Pn**	17 43 10.5	-0.1
	baz=263							
WGK				*e*S		**Sn**	17 43 24.6	+0.7
	baz=263							
NSTT	**Nanjuang**	**1.03**	**323**	*e*P		**Pn**	17 43 10.8	+0.1
	baz=311							
NSTT				S		**Sn**	17 43 23.6	-0.4
	baz=311							
NSY	**Sanyi**	**1.04**	**306**	P		**Pn**	17 43 10.8	+0.1
	baz=306							
NSY				*e*S		**Sn**	17 43 25.0	+0.8
	baz=306							
STYT	**Tauyuan**	**1.06**	**233**	⇑*i*P		**Pn**	17 43 10.8	-0.3
	baz=226							
STYT				S		**Sn**	17 43 24.3	-0.4
	baz=226							
TWG	**Pinlang**	**1.13**	**210**	*e*P		**Pn**	17 43 09.9	-2.0
	baz=198							
WTP	**Ta-pu**	**1.13**	**241**	P		**Pn**	17 43 12.1	+0.1
	baz=240							
WTP				*e*S		**Sn**	17 43 27.0	+0.7
	baz=240							
TTN	**Taitung**	**1.15**	**205**	*e*P		**Pn**	17 43 12.7	+0.4
	baz=204							
TTN				*e*S		**Sn**	17 43 27.4	+0.5
	baz=204							
CHY	**Chiayi**	**1.19**	**256**	*e*P		**Pn**	17 43 13.0	+0.2
	baz=254							
TWK	**Hsinying**	**1.22**	**244**	⇓*i*P		**Pn**	17 43 13.4	+0.1
	baz=243							
TWK				*e*S		**Sn**	17 43 29.7	+1.1
	baz=243							
CHN1	**Nanshi**	**1.23**	**240**	⇓*i*P		**Pn**	17 43 13.6	+0.3
	baz=240							
CHN1				S		**Sn**	17 43 29.8	+1.1
	baz=240							
TWB1	**Santiao Chiao**	**1.23**	**13**	*e*P		**Pn**	17 43 13.5	+0.1
	baz=28							
SGST	**Jiashian**	**1.24**	**235**	P		**Pn**	17 43 14.0	+0.6
	baz=233							
SGST				S		**Sn**	17 43 30.1	+1.1
	baz=233							
NWF	**Wu-fen Shan**	**1.27**	**4**	*e*P		**Pn**	17 43 14.0	0.0
	baz=353							
WTCT	**Ta-ch'eng**	**1.28**	**273**	P		**Pn**	17 43 14.3	+0.3
	baz=273							
WTCT				*e*S		**Sn**	17 43 31.1	+0.9
	baz=273							
TWS1	**Kuangyinshan**	**1.32**	**349**	*e*P		**Pn**	17 43 14.0	-0.5
	baz=3.0							
WSF	**Szhu**	**1.35**	**263**	P		**Pn**	17 43 14.9	0.0
	baz=263							
WSF				*e*S		**Sn**	17 43 32.5	+0.9
	baz=263							
ECL	**Taimali**	**1.37**	**209**	*e*P		**Pn**	17 43 12.6	-2.7
	baz=201							
YOJ	**Yonaguni jima**	**1.38**	**61**	P		**Pn**	17 43 15.2	-0.2
YOJ				*e*S		**Sn**	17 43 32.6	+0.1
CHN3	**Shinhua**	**1.41**	**239**	*e*P		**Pn**	17 43 16.1	+0.3
	baz=239							
CHN3				*e*S		**Sn**	17 43 34.8	+1.5
	baz=239							
SSD	**Sandimen**	**1.43**	**223**	*e*P		**Pn**	17 43 16.3	+0.2
	baz=222							
SSD				*e*S		**Sn**	17 43 34.5	+0.8
	baz=222							
SCLT	**Jiali**	**1.50**	**246**	*e*P		**Pn**	17 43 16.8	-0.3
	baz=245							
TWM1	**Shoushan**	**1.51**	**230**	*e*P		**Pn**	17 43 18.1	+0.9
	baz=229							
TWM1				*e*S		**Sb**	17 43 39.5	+0.6
	baz=229							
EAST	**Anshuo**	**1.61**	**209**	*e*P		**Pn**	17 43 19.3	+0.7
	baz=202							
SCZT	**Fangliau**	**1.73**	**215**	*e*P		**Pn**	17 43 20.5	+0.3
	baz=215							
IRIF	**Iriomote-Funau**	**1.95**	**74**	P		**Pn**	17 43 23.2	0.0
IRIF				*e*S		**Sn**	17 43 47.1	+0.7
HATJ	**Hateruma jima**	**1.96**	**82**	P		**Pn**	17 43 23.3	-0.1
HATJ				*e*S		**Sn**	17 43 46.8	0.0
JKRS	**Kuro-shima**	**2.17**	**78**	P		**Pn**	17 43 26.5	+0.2
JKRS				*e*S		**Sn**	17 43 52.9	+0.9
JIJ	**Ishigaki jima**	**2.32**	**76**	P		**Pn**	17 43 27.9	-0.4
JIJ				*e*S		**Sn**	17 43 54.9	-0.7
JTJ	**Tarama**	**2.88**	**73**	P		**Pn**	17 43 35.9	-0.1
JTJ				*e*S		**Sn**	17 44 10.0	+0.5

*ISCJB **19** 17:43:33.6±1.1, 43˚.31N±0˚.08×146˚.63E±0˚.08, h72km±10km, Error ellipse: s-maj=14.8km s-min=6.1km az=147.6*
*JMA **19** 17:43:34.4±0.1, 43˚.28N×146˚.58E, h73km±2km, M3.0*
*SKHL **19** 17:43:34.6±0.4, 43˚.31N×146˚.59E, h70km, mb4.2/2*

ISC 19 17:43:34.1±2.0, **43˚.30N**±0˚.10×**146˚.64E**±0˚.08, **h69**km±15km, **n12**, σ0**s49**/23, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.58**	**13**	*e*P	**Pn**	**17 43 47.7**	**+0.1**
SHO				AMB	AMB	17 43 48.1	
	140nm,0.6s						
SHO				*e*S	**Sn**	**17 43 57.8**	**+0.3**
SHO				A	A	17 43 58.3	
	680nm,0.4s						
SHO				A	A	17 43 58.3	
	170nm,0.4s						
NEM2	**Nemuro 2**	**0.66**	**276**	P	**Pn**	**17 43 48.7**	**+0.3**
NEM2				*e*S	**Sn**	**17 43 59.3**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**0.93**	**322**	*e*P	**Pn**	**17 43 51.2**	**-0.4**
YUK				AMB	AMB	17 43 51.5	
	200nm,0.2s						
YUK				*e*S	**Sn**	**17 44 03.8**	**-0.7**
YUK				A	A	17 44 05.2	
	130nm,0.2s						
YUK				A	A	17 44 05.2	
	400nm,0.2s						
JRA	**Rausu**	**1.27**	**300**	P	**Pn**	**17 43 56.3**	**+0.3**
JRA				*e*S	**Sn**	**17 44 12.7**	**+0.3**
JNK	**Nakash**	**1.43**	**282**	P	**Pn**	**17 43 57.7**	**-0.4**
JNK				*e*S	**Sn**	**17 44 15.4**	**-0.7**
JAK	**Akkeshi**	**1.46**	**258**	P	**Pn**	**17 43 58.3**	**-0.1**
JAK				*e*S	**Sn**	**17 44 16.1**	**-0.6**
JOB	**Onbets**	**2.10**	**260**	P	**Pn**	**17 44 07.1**	**+0.1**
JOB				*e*S	**Sn**	**17 44 31.9**	**-0.1**
JTKR	**Abashiri--Toko**	**2.10**	**290**	P	**Pn**	**17 44 07.4**	**+0.4**
JTKR				*e*S	**Sn**	**17 44 32.5**	**+0.5**
JAR	**Ashorobuto**	**2.10**	**271**	P	**Pn**	**17 44 07.4**	**+0.4**
JAR				*e*S	**Sn**	**17 44 32.3**	**+0.2**
KUR	**Kuril'sk**	**2.12**	**24**	*e*P	**Pn**	**17 44 07.6**	**+0.3**
KUR				*e*S	**Sn**	**17 44 32.0**	**-0.6**
KUR				A	A	17 44 34.3	
	130nm,0.4s						
JMP	**Maruseppu**	**2.48**	**288**	P	**Pn**	**17 44 12.7**	**+0.4**
JCH	**Churui**	**2.50**	**255**	P	**Pn**	**17 44 13.0**	**+0.5**
JCH				*e*S	**Sn**	**17 44 41.0**	**-1.0**

*JMA **19** 17:44:34.9, 23˚.76N×121˚.64E, h47km±1km, M3.6*
*TAP **19** 17:44:35.7, 23˚.81N×121˚.65E, h42km, ML3.7, B*
*ISCJB **19** 17:44:36.0±0.2, 23˚.79N±0˚.02×121˚.71E±0˚.02, h38km±5km, Error ellipse: s-maj=3.2km s-min=2.1km az=42.1*

ISC 19 17:44:36.1±0.9, **23˚.80N**±0˚.02×**121˚.70E**±0˚.02, **h31**km±7km, **n67**, σ0**s73**/112, **14C-9D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.17**	**238**	*e*P	**Pn**	**17 44 43.1**	**+0.5**
	baz=215						
TEGC				*e*S	**Sn**	**17 44 49.9**	**+3.4**
	baz=215						
ESF	**Shoufeng Towns**	**0.19**	**293**	*e*P	**Pn**	**17 44 43.0**	**+0.2**
	baz=296						
ESF				*e*S	**Sn**	**17 44 48.4**	**+1.4**
	baz=296						
HWA	**Hwalien**	**0.20**	**335**	*e*P	**Pn**	**17 44 43.4**	**+0.4**
	baz=348						
ESL	**Shilin**	**0.24**	**274**	⇓P	**Pb**	**17 44 43.0**	**+0.2**
	baz=271						
ESL				*e*S	**Sb**	**17 44 48.0**	**+0.6**
	baz=271						
TWD	**Chiawan**	**0.29**	**342**	⇓P	**Pb**	**17 44 44.0**	**+0.4**
	baz=344						
TWD				S	**Sn**	**17 44 50.2**	**+0.5**
	baz=344						
EHP	**Heping Village**	**0.51**	**5**	*e*P	**Pb**	**17 44 47.1**	**+0.4**
	baz=17						
EHP				*e*S	**Sn**	**17 44 55.6**	**+0.5**
	baz=17						
WHF	**Hehuan Shan**	**0.52**	**311**	⇓*e*P	**Pb**	**17 44 46.6**	**-0.6**
	baz=308						
WHF				*e*S	**Sb**	**17 44 54.1**	**-0.7**
	baz=308						
TWF1	**Yuli**	**0.58**	**220**	⇑P	**Pb**	**17 44 46.7**	**-1.0**
	baz=222						
TWF1				*e*S	**Sb**	**17 44 54.7**	**-1.1**
	baz=222						
ENA	**Nanau**	**0.63**	**4**	⇓P	**Pb**	**17 44 48.3**	**-0.4**
	baz=15						
TWT	**Tachien**	**0.66**	**314**	⇓*e*P	**Pb**	**17 44 48.9**	**-0.4**
	baz=315						
TWT				S	**Sb**	**17 44 57.6**	**-0.6**
	baz=315						
NNS	**Nan Shan**	**0.70**	**335**	⇓P	Pn	17 44 49.1	-1.0
	baz=339						
NNS				*e*S	**Sb**	**17 44 57.4**	**-2.1**
	baz=339						
SMLT	**Sun Moon Lake**	**0.73**	**277**	⇑*i*P	**Pn**	**17 44 49.6**	**-0.8**
	baz=278						
SMLT				S	**Sb**	**17 44 59.5**	**-0.8**
	baz=278						
YUS	**Yu-Shan**	**0.75**	**246**	⇑P	**Pn**	**17 44 50.3**	**-0.7**
	baz=236						
YUS				*e*S	**Sb**	**17 45 00.1**	**-0.9**
	baz=236						
CHKT	**Chengkung**	**0.76**	**204**	*e*P	**Pn**	**17 44 50.1**	**-0.6**
	baz=189						
CHKT				S	**Sb**	**17 45 00.5**	**-0.4**
	baz=189						
TYC	**Yuchr**	**0.78**	**278**	⇑*i*P	**Pn**	**17 44 50.0**	**-0.9**
	baz=282						
TYC				*e*S	**Sb**	**17 44 59.9**	**-1.4**
	baz=282						
TWC	**Suao**	**0.82**	**10**	⇑P	**Pn**	**17 44 51.5**	**-0.1**
	baz=21						
TWC				S	**Sb**	**17 45 02.9**	**+0.4**
	baz=21						
ENTT	**Nioudou**	**0.85**	**352**	⇓*e*P	**Pn**	**17 44 51.1**	**-0.8**
	baz=355						
ALS	**Alishan**	**0.87**	**251**	*e*P	**Pn**	**17 44 51.9**	**-0.5**
	baz=249						
ELDTW	**Lidau**	**0.87**	**226**	⇓P	Pn	17 44 50.9	-1.4
	baz=217						
ELDTW				*e*S	**Sn**	**17 45 02.1**	**-1.9**
	baz=217						
NSK	**Sanguang**	**0.93**	**341**	⇓*i*P	**Pn**	**17 44 52.5**	**-0.5**
	baz=344						
NSK				*e*S	**Sn**	**17 45 04.1**	**-1.3**
	baz=344						
WNT	**Mingjian**	**0.93**	**275**	⇑*i*P	**Pn**	**17 44 53.3**	**+0.2**
	baz=275						
WNT				*e*S	**Sn**	**17 45 05.5**	**+0.1**
	baz=275						
CHN5	**Tsauling**	**0.95**	**258**	⇑*i*P	**Pn**	**17 44 53.2**	**-0.3**
	baz=256						
CHN5				S	**Sn**	**17 45 06.2**	**+0.2**
	baz=256						
ILA	**Ilan**	**0.96**	**3**	*e*P	**Pb**	**17 44 54.8**	**+0.5**
	baz=356						
TCU	**Taichung**	**1.00**	**291**	*e*P	**Pn**	**17 44 54.4**	**+0.4**
	baz=291						
TCU				S	**Sn**	**17 45 07.1**	**+0.1**
	baz=291						
TWQ1	**Liyutan**	**1.01**	**303**	⇑*i*P	**Pn**	**17 44 54.3**	**+0.2**
	baz=304						
TWQ1				*e*S	**Sn**	**17 45 07.5**	**+0.2**
	baz=304						
NSTT	**Nanjuang**	**1.04**	**323**	*e*P	**Pn**	**17 44 55.0**	**+0.3**
	baz=311						
NSTT				*e*S	**Sn**	**17 45 08.1**	**-0.1**
	baz=311						
WGK	**Gukeng**	**1.04**	**264**	⇑*e*P	**Pn**	**17 44 54.5**	**-0.1**
	baz=263						
WGK				*e*S	**Sn**	**17 45 08.6**	**+0.4**
	baz=263						
NSY	**Sanyi**	**1.05**	**306**	⇑P	**Pn**	**17 44 55.0**	**+0.2**
	baz=306						
NSY				*e*S	**Sn**	**17 45 08.4**	**0.0**
	baz=306						
STYT	**Tauyuan**	**1.07**	**234**	P	**Pn**	**17 44 54.8**	**-0.2**
	baz=227						
STYT				*e*S	**Sn**	**17 45 08.5**	**-0.3**
	baz=227						
TWG	**Pinlang**	**1.13**	**211**	*e*P	Pn	17 44 53.8	-2.0
	baz=198						
WTP	**Ta-pu**	**1.14**	**241**	⇑*i*P	**Pn**	**17 44 56.1**	**+0.2**
	baz=239						
WTP				S	**Sn**	**17 45 10.9**	**+0.4**
	baz=239						
TTN	**Taitung**	**1.16**	**206**	*e*P	**Pn**	**17 44 55.7**	**-0.4**
	baz=203						
HSN	**Hsinchu**	**1.20**	**327**	*e*P	**Pn**	**17 44 57.3**	**+0.6**
	baz=329						
HSN				*e*S	**Sb**	**17 45 13.1**	**-0.3**
	baz=329						
CHY	**Chiayi**	**1.20**	**256**	*e*P	**Pn**	**17 44 56.8**	**0.0**
	baz=255						
CHY				*e*S	**Sn**	**17 45 12.8**	**+0.7**
	baz=255						
TWK	**Hsinying**	**1.23**	**245**	⇑P	**Pn**	**17 44 57.1**	**-0.1**
	baz=242						
TWK				S	**Sn**	**17 45 13.8**	**+1.0**
	baz=242						
CHN1	**Nanshi**	**1.23**	**241**	⇑P	**Pn**	**17 44 57.4**	**+0.2**
	baz=238						
CHN1				*e*S	**Sn**	**17 45 13.6**	**+0.7**
	baz=238						
TWB1	**Santiao Chiao**	**1.23**	**12**	*e*P	**Pn**	**17 44 57.5**	**+0.3**
	baz=33						
TWB1				*e*S	**Sn**	**17 45 13.7**	**+0.8**
	baz=33						
TAP1	**Taipei**	**1.25**	**353**	*e*P	**Pn**	**17 44 57.7**	**+0.3**
	baz=354						
SGST	**Jiashian**	**1.25**	**235**	⇑*e*P	**Pn**	**17 44 58.1**	**+0.7**
	baz=233						
SGST				*e*S	**Sn**	**17 45 14.0**	**+0.8**
	baz=233						
TAP	**Taipei**	**1.25**	**352**	*e*P	**Pn**	**17 44 57.1**	**-0.3**
	baz=354						
TAP				*e*S	**Sn**	**17 45 13.1**	**-0.1**
	baz=354						
NCU	**National Centr**	**1.25**	**338**	*e*P	**Pn**	**17 44 57.9**	**+0.4**
	baz=339						
NCU				*e*S	**Sn**	**17 45 14.0**	**+0.6**
	baz=339						
NWF	**Wu-fen Shan**	**1.27**	**3**	*e*P	**Pn**	**17 44 57.9**	**+0.1**
	baz=353						
NWF				*e*S	**Sn**	**17 45 14.1**	**+0.3**
	baz=353						
WTCT	**Ta-ch'eng**	**1.30**	**273**	*e*P	**Pn**	**17 44 58.3**	**+0.2**
	baz=272						
WTCT				*e*S	**Sn**	**17 45 15.4**	**+1.0**
	baz=272						
TWS1	**Kuangyinshan**	**1.32**	**349**	*e*P	**Pn**	**17 44 58.5**	**+0.1**
	baz=351						
TWS1				S	**Sn**	**17 45 15.3**	**+0.3**
	baz=351						
WSF	**Szhu**	**1.36**	**264**	*e*P	**Pn**	**17 44 58.9**	**0.0**
	baz=263						
WSF				*e*S	**Sn**	**17 45 16.5**	**+0.5**
	baz=263						
YOJ	**Yonaguni jima**	**1.37**	**61**	P	**Pn**	**17 44 59.1**	**0.0**
YOJ				*e*S	**Sn**	**17 45 16.5**	**+0.3**
YOJ	**Yonaguni jima**	**1.37**	**61**	*e*P	**Pn**	**17 44 59.1**	**0.0**
	baz=65						
YOJ				*e*S	**Sn**	**17 45 15.8**	**-0.4**
	baz=65						
ECL	**Taimali**	**1.38**	**210**	*e*P	Pn	17 44 57.2	-2.0
	baz=199						
CHN3	**Shinhua**	**1.42**	**240**	*e*P	**Pn**	**17 45 00.2**	**+0.5**
	baz=239						
CHN3				*e*S	**Sn**	**17 45 18.6**	**+1.2**
	baz=239						
SSD	**Sandimen**	**1.43**	**223**	*e*P	**Pn**	**17 44 59.7**	**-0.2**
	baz=219						
SSD				*e*S	**Sn**	**17 45 18.6**	**+0.8**
	baz=219						
CHN8	**Yiju**	**1.44**	**252**	*e*P	**Pn**	**17 45 01.1**	**+1.1**
	baz=251						
CHN8				*e*S	**Sn**	**17 45 18.4**	**+0.6**
	baz=251						
SCLT	**Jiali**	**1.51**	**246**	*e*P	**Pn**	**17 45 01.2**	**+0.1**
	baz=245						
SCLT				*e*S	**Sn**	**17 45 20.9**	**+1.2**
	baz=245						
TWM1	**Shoushan**	**1.52**	**231**	*e*P	**Pn**	**17 45 02.3**	**+1.1**
	baz=229						
SGLT	**Jiouru**	**1.54**	**226**	*e*P	**Pn**	**17 45 02.5**	**+1.0**
	baz=208						
SGLT				*e*S	**Sb**	**17 45 23.9**	**+0.8**
	baz=208						
EAST	**Anshuo**	**1.61**	**209**	*e*P	**Pn**	**17 45 02.1**	**-0.3**
	baz=200						
TAW	**Tawu**	**1.61**	**207**	*e*P	**Pn**	**17 45 01.5**	**-0.9**
	baz=198						
SCZT	**Fangliau**	**1.73**	**215**	*e*P	**Pn**	**17 45 04.7**	**+0.6**
	baz=210						
SCZT				*e*S	**Sn**	**17 45 25.4**	**+0.3**
	baz=210						
LAY	**Lan-yu**	**1.76**	**184**	*e*P	Pn	17 45 02.5	-2.0
	baz=174						
IRIF	**Iriomote-Funau**	**1.93**	**74**	P	**Pn**	**17 45 07.1**	**+0.3**
IRIF				*e*S	**Sn**	**17 45 30.9**	**+0.8**
HATJ	**Hateruma jima**	**1.95**	**82**	P	**Pn**	**17 45 07.2**	**+0.2**
HATJ				*e*S	**Sn**	**17 45 30.7**	**+0.3**
HEN	**Hengchun**	**1.99**	**207**	*e*P	**Pn**	**17 45 08.3**	**+0.6**
	baz=199						
TWK1	**Hengchun**	**2.02**	**204**	*e*P	**Pn**	**17 45 08.4**	**+0.4**
	baz=199						
TWK1				*e*S	**Sn**	**17 45 31.8**	**-0.5**
	baz=199						
JKRS	**Kuro-shima**	**2.16**	**78**	*e*S	**Sn**	**17 45 36.2**	**+0.5**
JIJ	**Ishigaki jima**	**2.31**	**75**	P	**Pn**	**17 45 11.8**	**-0.2**
JIJ				*e*S	**Sn**	**17 45 38.9**	**-0.4**
JTJ	**Tarama**	**2.87**	**72**	P	**Pn**	**17 45 19.7**	**0.0**
JTJ				*e*S	**Sn**	**17 45 53.2**	**0.0**
KNM	**Kinmen**	**3.04**	**282**	*e*P	**Pn**	**17 45 22.2**	**+0.1**
	baz=281						
JOGS	**Gusukube**	**3.52**	**73**	P	**Pn**	**17 45 30.0**	**+1.4**

*IDC **19** 17:49:43.0±1.1, 12˚.21N×144˚.19E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/27, mbtmp3.5/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=48.7km s-min=22.4km az=98.0*
*ISCJB **19** 17:49:45.2±0.9, 12˚.2N±0˚.1×144˚.1E±0˚.3, h26km, mb3.4/6, MS2.9/1, Error ellipse: s-maj=46.9km s-min=19.2km az=8.5*

ISC 19 17:49:47.0±1.1, **12˚.2N**±0˚.2×**144˚.1E**±0˚.4, **h26**km, **n10**, σ1**s12**/6, **mb3.6**/6, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N1	**WAKE ISLAND Hy**	**23.09**	**68**	T	T	18 19 00.5	
	baz=252						
H11N2	**WAKE ISLAND Hy**	**23.11**	**68**	T	T	18 19 11.9	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**23.11**	**68**	T	T	18 19 07.0	
	baz=252						
WRA	**Warramunga Arr**	**33.36**	**197**	P	**P**	**17 56 22.7**	**-0.7**
	0.6nm,0.7s,baz=21,slow=9.9,SNR=7.0						
ASAR	**Alice Springs**	**37.02**	**196**	P	**P**	**17 56 55.5**	**+0.6**
	0.2nm,0.5s,baz=20,slow=11,SNR=5.6						
NWAO	**Narrogin (SRO)**	**51.71**	**209**	LR	LR	18 20 15.3	
	comp=Z,15nm,28.6s,slow=35						
KURBB	**Kurchatov Arra**	**65.23**	**320**	P	**P**	**18 00 27.0**	**+0.7**
	0.2nm,0.6s,baz=106,slow=6.9,SNR=3.7						
ILAR	**Eielson Array**	**70.12**	**25**	P	**P**	**18 00 56.0**	**-0.9**
	0.2nm,0.4s,baz=266,slow=5.1,SNR=4.6						
BVAR	**Borovoye Array**	**70.58**	**322**	P	**P**	**18 00 59.2**	**-0.8**
	0.3nm,0.5s,baz=104,slow=4.6,SNR=4.6						
YKA	**Yellowknife Ar**	**84.41**	**27**	P	**P**	**18 02 18.0**	**+1.0**
	0.2nm,0.3s,baz=286,slow=5.1,SNR=7.8						

*CSEM **19** 18:09:50.5±1.3, 32˚.84N×4˚.81W, h28km±4km, mb3.5, Error ellipse: s-maj=38.0km s-min=9.0km az=122.0*
*CNRM **19** 18:09:51.5, 33˚.29N×5˚.01W, h30km, MD2.7*
*MDD **19** 18:09:54.9±0.8, 33˚.12N×5˚.23W, h12km±17km, mb3.5/3, Error ellipse: s-maj=16.9km s-min=6.5km az=142.0, PRXIMO*

ISC 19 18:09:53.4±1.3, **33˚.20N**±0˚.06×**5˚.29W**±0˚.07, **h11**km±14km, **n14**, σ1**s36**/24, **Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZD	**Col de Zad**	**0.26**	**128**	P	**Pg**	**18 09 59.0**	**+0.1**
CZD				S	**Sg**	**18 10 02.0**	**-0.6**
CZD	**Col de Zad**	**0.26**	**128**	P	**Pg**	**18 09 59.0**	**+0.1**
CZD				S	**Sg**	**18 10 02.0**	**-0.6**
KIB	**El Ksiba**	**0.88**	**226**	P	**Pg**	**18 10 10.0**	**-0.5**
KIB				S	**Sb**	**18 10 23.0**	**+0.3**
KIB	**El Ksiba**	**0.88**	**226**	P	**Pg**	**18 10 10.0**	**-0.5**
KIB				S	**Sb**	**18 10 23.0**	**+0.3**
TZC	**Tazercounte**	**1.46**	**224**	P	Pn	18 10 16.0	-3.8
TZC				S	**Sn**	**18 10 38.0**	**-1.0**
TZC	**Tazercounte**	**1.46**	**224**	P	Pn	18 10 16.0	-3.8
TZC				S	**Sn**	**18 10 38.0**	**-1.0**
EGRO	**El Granado**	**4.69**	**338**	P	**Pn**	**18 11 06.0**	**+1.9**
	0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**18 11 58.4**	**-0.1**
	1.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.69**	**338**	P	**Pn**	**18 11 06.0**	**+1.9**
	0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**18 11 58.3**	**-0.1**
	1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.70**	**346**	P	**Pn**	**18 11 05.7**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 11 57.4**	**-1.4**
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.70**	**346**	P	**Pn**	**18 11 05.7**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 11 57.4**	**-1.4**
	0.5nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.87**	**359**	S	**Sn**	**18 12 01.2**	**-1.8**
	0.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.87**	**359**	S	**Sn**	**18 12 01.2**	**-1.8**
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.72**	**346**	P	**Pn**	**18 11 19.6**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**18 12 22.0**	**-2.0**
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.72**	**346**	P	**Pn**	**18 11 19.6**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**18 12 22.0**	**-2.0**
	1.0nm,0.2s,SNR=7.9						

*IDC **19** 18:15:36.5±8.0, 5˚.09S×152˚.71E, h58km±59km, mb3.3/6, mb1 3.4/7, mb1mx3.3/20, mbtmp3.6/7, ML2.6/1, Error ellipse: s-maj=80.4km s-min=33.2km az=110.0*

ISC 19 18:15:33.9±2.4, **5˚.2S**±0˚.3×**153˚.0E**±0˚.4, **h43**km, **n8**, σ0**s70**/9, **mb3.5**/6, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.13**	**233**	P	**Pn**	**18 17 16.3**	**+0.6**
	0.6nm,0.3s,baz=52,slow=15,SNR=3.5						
PMG				S	**Sn**	**18 18 34.8**	**-0.6**
	0.8nm,0.3s,baz=144,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**23.32**	**229**	P

ISC 19 18:20:40.8±1.6, 20.1S±0.6×178.2W±0.3, h569km, n7, σ0.21/7, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.39**	**264**	P	**P**	**18 26 33.4**	**+0.2**
	1.8nm,0.3s,baz=84,slow=7.9,SNR=6.5						
STKA	**Stephens Creek**	**37.85**	**244**	P	**P**	**18 27 09.7**	**-0.2**
	1.9nm,0.9s,baz=72,slow=9.6,SNR=3.5						
ASAR	**Alice Springs**	**44.48**	**256**	P	**P**	**18 28 02.7**	**+0.2**
	1.5nm,0.5s,baz=92,slow=7.9,SNR=35						
WRA	**Warramunga Arr**	**44.52**	**262**	P	**P**	**18 28 02.8**	**-0.1**
	0.4nm,0.4s,baz=96,slow=8.1,SNR=16						
NVAR	**Mina Array Bea**	**80.80**	**43**	P	**P**	**18 31 56.1**	**+0.1**
	0.3nm,0.6s,baz=240,slow=7.1,SNR=3.3						
TXAR	**Lajitas Array**	**86.94**	**57**	P	**P**	**18 32 26.5**	**+0.1**
	0.2nm,0.5s,baz=215,slow=6.1,SNR=4.0						
ILAR	**Eielson Array**	**87.91**	**13**	P	**P**	**18 32 29.8**	**-0.2**
	0.2nm,0.5s,baz=224,slow=6.3,SNR=4.1						

MEX 19 18:35:20.5±0.7, 15.83N×98.70W, h20km±22km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.78**	**45**	*e*P	Pb	18 35 32.4	-3.1
PNIG				*e*S	Sb	18 35 43.1	-2.6
ACX	**Acapulco**	**1.52**	**313**	*e*P	Pn	18 35 40.4	-6.2
ACX				*e*S	Sn	18 35 59.0	-6.8
TLIG	**Tlapa**	**1.72**	**4**	*e*P	Pn	18 35 46.8	-2.8
TLIG				*i* S	Sn	18 36 07.2	-3.9
VHO	**Vista Hermosa**	**2.25**	**57**	*i* P	Pn	18 35 53.9	-3.0
VHO				*i* S	Sn	18 36 20.5	-3.8
HUIG	**Huatulco**	**2.50**	**91**	*i* P	Pn	18 35 58.3	-1.7
HUIG				*i* S	Sn	18 36 27.1	-2.8
PLIG	**Platanillo**	**2.66**	**343**	*e*P	Pn	18 35 59.6	-2.7
PLIG				*i* S	Sn	18 36 30.2	-3.9
ARIG	**Puente Sto Nin**	**2.90**	**327**	*i* P	Pn	18 36 02.6	-3.0
ARIG				*i* S	Sn	18 36 36.8	-3.1
ZIIG	**Zihuatanejo**	**3.18**	**304**	*i* P	Pn	18 36 06.8	-2.6
ZIIG				*i* S	Sn	18 36 43.1	-3.7

*JMA **19** 18:49:42.9, 23.72N×121.61E, h45km±2km, M3.5*
*ISCJB **19** 18:49:43.9±0.2, 23.74N±0.01×121.68E±0.02, h35km±5km, Error ellipse: s-maj=2.8km s-min=1.9km az=41.3*
*TAP **19** 18:49:43.7, 23.76N×121.62E, h37km, ML3.9, B*
ISC 19 18:49:45.2±2.1, 23.75N±0.02×121.65E±0.02, h36km±2km, n71, σ1.916/117, 15C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.11**	**247**	P	Pn	18 49 50.2	-5.9
	baz=229						
TEGC				*e*S	Sn	18 49 56.1	-10
	baz=229						
ESF	**Shoufeng Towns**	**0.18**	**311**	P	Pn	18 49 50.5	-3.7
	baz=303						
ESF				*e*S	Sn	18 49 55.3	-7.1
	baz=303						
ESL	**Shilin**	**0.21**	**287**	P	Pn	18 49 50.3	-3.3
	baz=287						
ESL				*e*S	Sn	18 49 54.5	-6.8
	baz=287						
HWA	**Hwalien**	**0.23**	**349**	*e*P	Pn	18 49 50.8	-2.7
	baz=3.0						
HWA				*e*S	Sn	18 49 56.6	-4.1
	baz=3.0						
TWD	**Chiawan**	**0.33**	**351**	*e*P	**Pn**	**18 49 51.8**	**-1.6**
	baz=348						
TWD				S	**Sn**	**18 49 58.9**	**-1.1**
	baz=348						
TWF1	**Yuli**	**0.52**	**219**	⇑*i*P	**Pn**	**18 49 53.9**	**-2.1**
	baz=226						
TWF1				S	**Sn**	**18 50 00.9**	**-2.7**
	baz=226						
WHF	**Hehuan Shan**	**0.53**	**318**	⇑*i*P	**Pn**	**18 49 54.4**	**-2.3**
	baz=314						
WHF				S	**Sn**	**18 50 01.9**	**-2.7**
	baz=314						
EHP	**Heping Village**	**0.56**	**8**	*e*P	**Pn**	**18 49 55.5**	**-1.3**
	baz=20						
TWT	**Tachien**	**0.66**	**319**	⇑*i*P	**Pn**	**18 49 56.9**	**-1.5**
	baz=313						
TWT				S	**Sn**	**18 50 05.3**	**-2.2**
	baz=313						
ENA	**Nanau**	**0.68**	**7**	P	Pn	18 49 56.7	-1.6
	baz=357						
ENA				*e*S	**Sn**	**18 50 06.8**	**-0.8**
	baz=357						
YUS	**Yu-Shan**	**0.69**	**248**	⇑*i*P	**Pn**	**18 49 57.7**	**-1.3**
	baz=246						
YUS				*e*S	**Sn**	**18 50 06.4**	**-2.3**
	baz=246						
CHKT	**Chengkung**	**0.70**	**202**	⇑P	**Pn**	**18 49 57.4**	**-1.3**
	baz=187						
CHKT				*e*S	**Sn**	**18 50 07.5**	**-0.7**
	baz=187						
SMLT	**Sun Moon Lake**	**0.70**	**281**	⇑*i*P	Pn	18 49 57.2	-1.5
	baz=282						
SMLT				S	**Sn**	**18 50 07.0**	**-1.4**
	baz=282						
NNS	**Nan Shan**	**0.73**	**340**	*e*P	Pn	18 49 57.4	-1.7
	baz=346						
NNS				S	**Sn**	**18 50 06.7**	**-2.4**
	baz=346						
TYC	**Yuchr**	**0.74**	**282**	⇑*i*P	Pn	18 49 57.7	-1.5
	baz=285						
TYC				*e*S	**Sn**	**18 50 07.3**	**-2.0**
	baz=285						
ELDTW	**Lidau**	**0.81**	**226**	*e*P	Pn	18 49 58.0	-2.2
	baz=221						
ELDTW				*e*S	**Sn**	**18 50 08.8**	**-2.2**
	baz=221						
ALS	**Alishan**	**0.81**	**253**	⇑*i*P	**Pn**	**18 49 59.3**	**-1.1**
	baz=252						
ALS				S	**Sn**	**18 50 09.8**	**-1.7**
	baz=252						
TWC	**Suao**	**0.87**	**12**	P	**Pn**	**18 49 59.9**	**-1.0**
	baz=25						
TWC				*e*S	**Sn**	**18 50 12.8**	**+0.3**
	baz=25						
ENTT	**Nioudou**	**0.89**	**355**	*e*P	**Pn**	**18 49 59.8**	**-1.4**
	baz=355						
ENTT				*e*S	**Sn**	**18 50 12.2**	**-0.6**
	baz=355						
WNT	**Mingjian**	**0.90**	**278**	⇑*i*P	**Pn**	**18 50 00.9**	**-0.3**
	baz=277						
WNT				*e*S	**Sn**	**18 50 12.8**	**-0.2**
	baz=277						
CHN5	**Tsauling**	**0.91**	**260**	⇑*i*P	**Pn**	**18 50 00.7**	**-0.8**
	baz=260						
CHN5				S	**Sn**	**18 50 12.9**	**-0.5**
	baz=260						
NSK	**Sanguang**	**0.96**	**344**	⇑*i*P	**Pn**	**18 50 01.0**	**-1.2**
	baz=352						
NSK				*e*S	**Sn**	**18 50 12.9**	**-1.8**
	baz=352						
TCU	**Taichung**	**0.98**	**294**	*e*P	**Pn**	**18 50 02.0**	**-0.3**
	baz=293						
TCU				*e*S	**Sn**	**18 50 16.1**	**+1.2**
	baz=293						
TWQ1	**Liyutan**	**1.00**	**307**	⇑*i*P	**Pn**	**18 50 02.6**	**-0.1**
	baz=306						
TWQ1				*e*S	**Sn**	**18 50 15.4**	**-0.2**
	baz=306						
WGK	**Gukeng**	**1.00**	**266**	⇑P	**Pn**	**18 50 02.2**	**-0.5**
	baz=266						
WGK				*e*S	**Sn**	**18 50 15.3**	**-0.3**
	baz=266						
STYT	**Tauyuan**	**1.01**	**235**	⇑*e*P	**Pn**	**18 50 01.9**	**-0.9**
	baz=230						
STYT				*e*S	**Sn**	**18 50 15.1**	**-0.8**
	baz=230						
ILA	**Ilan**	**1.01**	**5**	*e*P	**Pn**	**18 50 02.6**	**-0.3**
	baz=356						
NSY	**Sanyi**	**1.05**	**309**	*e*P	**Pn**	**18 50 03.1**	**-0.3**
	baz=308						
NSY				*e*S	**Sn**	**18 50 17.0**	**+0.1**
	baz=308						
CHN4	**Tsaushan**	**1.05**	**248**	*e*P	**Pn**	**18 50 02.9**	**-0.5**
	baz=248						
CHN4				*e*S	**Sn**	**18 50 17.3**	**+0.4**
	baz=248						
NSTT	**Nanjuang**	**1.06**	**326**	*e*P	**Pn**	**18 50 02.9**	**-0.6**
	baz=325						
NSTT				*e*S	**Sn**	**18 50 16.3**	**-0.7**
	baz=325						
TWG	**Pinlang**	**1.07**	**210**	*e*P	**Pn**	**18 50 01.0**	**-2.7**
	baz=196						
TWG				*e*S	**Sn**	**18 50 13.7**	**-3.6**
	baz=196						
WTP	**Ta-pu**	**1.08**	**242**	⇑*i*P	**Pn**	**18 50 03.5**	**-0.4**
	baz=242						
WTP				*e*S	**Sn**	**18 50 17.3**	**-0.3**
	baz=242						
TTN	**Taitung**	**1.10**	**205**	*e*P	**Pn**	**18 50 02.6**	**-1.4**
	baz=203						
TTN				*e*S	**Sn**	**18 50 16.4**	**-1.5**
	baz=203						
CHY	**Chiayi**	**1.16**	**258**	*e*P	**Pn**	**18 50 04.0**	**-0.8**
	baz=257						
CHY				*e*S	**Sn**	**18 50 18.4**	**-1.0**
	baz=257						
TWK	**Hsinying**	**1.17**	**246**	*e*P	**Pn**	**18 50 04.3**	**-0.8**
	baz=246						
TWK				*e*S	**Sn**	**18 50 20.1**	**+0.1**
	baz=246						
CHN1	**Nanshi**	**1.18**	**242**	*e*P	**Pn**	**18 50 04.7**	**-0.4**
	baz=242						
CHN1				*e*S	**Sn**	**18 50 19.8**	**-0.2**
	baz=242						
SGST	**Jiashian**	**1.19**	**236**	*e*P	**Pn**	**18 50 05.0**	**-0.3**
	baz=236						
SGST				*e*S	**Sn**	**18 50 20.1**	**-0.2**
	baz=236						
HSN	**Hsinchu**	**1.22**	**329**	*e*P	**Pn**	**18 50 05.3**	**-0.4**
	baz=317						
HSN				*e*S	**Sn**	**18 50 21.5**	**+0.6**
	baz=317						
WTCT	**Ta-ch'eng**	**1.26**	**275**	⇓P	**Pn**	**18 50 06.0**	**-0.2**
	baz=274						
WTCT				*e*S	**Sn**	**18 50 22.5**	**+0.5**
	baz=274						
NCU	**National Centr**	**1.28**	**341**	*e*P	Pn	18 50 04.7	-1.9
	baz=338						
NCU				*e*S	**Sn**	**18 50 23.0**	**+0.4**
	baz=338						
TAP1	**Taipei**	**1.29**	**355**	*e*P	**Pn**	**18 50 05.6**	**-1.0**
	baz=352						
TAP1				*e*S	**Sn**	**18 50 22.3**	**-0.3**
	baz=352						
TWB1	**Santiao Chiao**	**1.29**	**14**	*e*P	**Pn**	**18 50 05.8**	**-0.9**
	baz=37						
TWB1				*e*S	**Sn**	**18 50 22.7**	**+0.1**
	baz=37						
TAP	**Taipei**	**1.29**	**354**	*e*P	**Pn**	**18 50 05.8**	**-0.9**
	baz=352						
TAP				*e*S	**Sn**	**18 50 22.4**	**-0.3**
	baz=352						
WSF	**Szhu**	**1.32**	**265**	*e*P	**Pn**	**18 50 06.5**	**-0.5**
	baz=254						
WSF				*e*S	**Sn**	**18 50 23.4**	**0.0**
	baz=254						
ECL	**Taimali**	**1.32**	**209**	*e*P	Pn	18 50 04.7	-2.4
	baz=199						
NWF	**Wu-fen Shan**	**1.32**	**5**	*e*P	**Pn**	**18 50 06.5**	**-0.6**
	baz=351						
NWF				*e*S	**Sn**	**18 50 24.0**	**+0.5**
	baz=351						
TWS1	**Kuangyinshan**	**1.36**	**351**	*e*P	**Pn**	**18 50 07.1**	**-0.6**
	baz=359						
TWS1				*e*S	**Sn**	**18 50 23.7**	**-0.8**
	baz=359						
CHN3	**Shinhua**	**1.36**	**241**	*e*P	**Pn**	**18 50 07.7**	**+0.1**
	baz=241						
CHN3				*e*S	**Sn**	**18 50 26.3**	**+1.9**
	baz=241						
SSD	**Sandimen**	**1.37**	**223**	*e*P	**Pn**	**18 50 06.9**	**-0.9**
	baz=224						
SSD				*e*S	**Sn**	**18 50 25.0**	**+0.3**
	baz=224						
CHN8	**Yiju**	**1.38**	**253**	*e*P	**Pn**	**18 50 07.3**	**-0.6**
	baz=253						
CHN8				*e*S	**Sn**	**18 50 25.1**	**+0.1**
	baz=253						
YOJ	**Yonaguni jima**	**1.43**	**60**	P	**Pn**	**18 50 07.8**	**-0.8**
YOJ				*e*S	**Sn**	**18 50 26.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.43**	**60**	*e*P	**Pn**	**18 50 08.1**	**-0.5**
	baz=64						
YOJ				*e*S	**Sn**	**18 50 25.3**	**-0.8**
	baz=64						
SCLT	**Jiali**	**1.46**	**247**	*e*P	**Pn**	**18 50 08.4**	**-0.6**
	baz=247						
SCLT				*e*S	**Sn**	**18 50 27.1**	**+0.3**
	baz=247						
TWM1	**Shoushan**	**1.46**	**231**	⇓*e*P	**Pn**	**18 50 10.2**	**+1.1**
	baz=242						
TWM1				*e*S	**Sn**	**18 50 30.4**	**+3.4**
	baz=242						
SGLT	**Jiouru**	**1.48**	**227**	*e*P	**Pn**	**18 50 09.1**	**-0.2**
	baz=228						
SGLT				*e*S	**Sn**	**18 50 30.1**	**+2.7**
	baz=228						
TAI1	**Yung-k'ang**	**1.49**	**242**	*e*P	**Pn**	**18 50 09.4**	**0.0**
	baz=255						
TAI1				*e*S	**Sn**	**18 50 27.9**	**+0.4**
	baz=255						
EAST	**Anshuo**	**1.55**	**209**	*e*P	**Pn**	**18 50 08.8**	**-1.5**
	baz=199						
EAST				*e*S	**Sn**	**18 50 29.2**	**0.0**
	baz=199						
TAW	**Tawu**	**1.55**	**207**	*e*P	**Pn**	**18 50 11.3**	**+1.0**
	baz=196						
TAW				*e*S	**Sn**	**18 50 28.1**	**-1.1**
	baz=196						
SCZT	**Fangliau**	**1.67**	**215**	*e*P	**Pn**	**18 50 11.5**	**-0.4**
	baz=217						
SCZT				*e*S	**Sn**	**18 50 32.8**	**+0.7**
	baz=217						
LAY	**Lan-yu**	**1.71**	**183**	*e*P	Pn	18 50 09.9	-2.5
	baz=174						
LAY				*e*S	**Sn**	**18 50 31.1**	**-1.9**
	baz=174						
HEN	**Hengchun**	**1.93**	**206**	*e*P	Pn	18 50 17.0	+1.5
	baz=193						
TWK1	**Hengchun**	**1.96**	**204**	*e*P	**Pn**	**18 50 15.2**	**-0.8**
	baz=189						
TWK1				*e*S	**Sn**	**18 50 38.7**	**-0.7**
	baz=189						
IRIF	**Iriomote-Funau**	**1.98**	**73**	P	**Pn**	**18 50 15.7**	**-0.5**
IRIF				*e*S	**Sn**	**18 50 39.3**	**-0.5**
HATJ	**Hateruma jima**	**1.99**	**81**	P	**Pn**	**18 50 15.6**	**-0.7**
HATJ				*e*S	**Sn**	**18 50 39.4**	**-0.6**
JKRS	**Kuro-shima**	**2.21**	**77**	P	**Pn**	**18 50 19.0**	**-0.3**
JKRS				*e*S	**Sn**	**18 50 45.4**	**+0.1**
JIJ	**Ishigaki jima**	**2.35**	**75**	P	**Pn**	**18 50 20.4**	**-0.9**
JIJ				*e*S	**Sn**	**18 50 47.8**	**-1.2**
JTJ	**Tarama**	**2.92**	**72**	P	**Pn**	**18 50 28.4**	**-0.7**
JTJ				*e*S	**Sn**	**18 51 02.7**	**-0.2**
KNM	**Kinmen**	**3.02**	**283**	*e*P	**Pn**	**18 50 29.3**	**-1.1**
	baz=282						
JMJ	**Miyako jima 2**	**3.49**	**72**	*e*S	**Sn**	**18 51 17.4**	**+0.5**
JOGS	**Gusukube**	**3.57**	**73**	P	**Pn**	**18 50 37.9**	**-0.1**
JOGS				*e*S	**Sn**	**18 51 19.1**	**+0.1**
JKE	**Kume jima 2**	**5.31**	**60**	P	**Pn**	**18 51 00.7**	**-1.3**

*IDC **19** 18:55:33.0±1.0, 26.09N×128.54E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/24, mbtmp3.7/8, Error ellipse: s-maj=48.7km s-min=18.7km az=68.0*
*ISCJB **19** 18:55:34.8±1.0, 26.08N±0.05×128.72E±0.04, h27km±7km, mb3.6/8, Error ellipse: s-maj=8.2km s-min=6.2km az=6.3*
*JMA **19** 18:55:35.5±0.2, 26.10N×128.71E, h40km±5km, M3.3*
ISC 19 18:55:34.8±1.6, 26.09N±0.06×128.70E±0.04, h16km±10km, n17, σ0.96/24, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.83**	**333**	P	**Pg**	**18 55 50.9**	**-0.1**
JOW				*e*S	**Sb**	**18 56 01.5**	**-0.4**
JJT2	**Tamagusuku 2**	**0.86**	**274**	P	**Pg**	**18 55 51.5**	**+0.1**
JJT2				*e*S	**Sg**	**18 56 02.7**	**0.0**
JIH	**Iheya**	**1.15**	**325**	P	**Pn**	**18 55 55.8**	**-0.4**
JIH				*e*S	**Sb**	**18 56 10.8**	**-0.1**
JAGN	**Aguni-jima**	**1.40**	**291**	P	**Pn**	**18 55 59.4**	**-0.2**
JAGN				*e*S	**Sn**	**18 56 17.1**	**-0.6**
JTK	**Tokunoshima**	**1.71**	**8**	P	**Pn**	**18 56 03.7**	**-0.2**
JTK				*e*S	**Sn**	**18 56 24.4**	**-0.9**
JKE	**Kume jima 2**	**1.73**	**278**	P	**Pn**	**18 56 03.3**	**-0.9**
JKE				*e*S	**Sn**	**18 56 24.4**	**-1.6**
JAMN	**Amaminishikomi**	**2.19**	**11**	P	**Pn**	**18 56 10.5**	**0.0**
JMZ	**Minamidaito 2**	**2.29**	**96**	P	**Pn**	**18 56 11.3**	**-0.5**
JMZ				*e*S	**Sn**	**18 56 37.4**	**-2.2**
JAM	**Amami Oshima**	**2.45**	**19**	P	**Pn**	**18 56 13.7**	**-0.4**
SONM	**Songino Array**	**27.90**	**327**	P	**P**	**19 01 26.0**	**+1.9**
	1.3nm,0.9s,baz=136,slow=10,SNR=9.2						
MKAR	**Makanchi Array**	**41.94**	**312**	P	**P**	**19 03 23.9**	**-0.8**
	0.6nm,0.7s,baz=103,slow=9.5,SNR=7.1						
ZALV	**Zalesovo Beam**	**42.61**	**323**	P	**P**	**19 03 29.6**	**-0.5**
	0.3nm,0.4s,baz=103,slow=6.2,SNR=2.6						
WRA	**Warramunga Arr**	**46.08**	**173**	P	**P**	**19 03 58.9**	**+0.7**
	0.6nm,0.6s,baz=352,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**49.72**	**174**	P	**P**	**19 04 27.5**	**+1.2**
	0.5nm,0.8s,baz=355,slow=6.8,SNR=11						
AKASG	**Malin Array Be**	**75.91**	**320**	P	**P**	**19 07 20.1**	**-0.4**
	0.5nm,0.4s,baz=61,slow=7.6,SNR=3.5						
BRTR	**Keskin Array B**	**77.45**	**308**	P	**P**	**19 07 29.9**	**+0.2**
	1.7nm,1.1s,baz=99,slow=5.4,SNR=3.7						
YKA	**Yellowknife Ar**	**78.47**	**25**	P	**P**	**19 07 35.8**	**+1.1**
	0.2nm,0.6s,baz=302,slow=5.7,SNR=4.1						

MEX 19 18:59:35.4±0.3, 18.05N×103.38W, h3km±2km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.24**	**7**	*i* P	Pg	18 59 39.9	-0.1
MMIG				*i* S	Sg	18 59 43.1	0.0
R15V		**1.25**	**333**	*e*P	Pg	18 59 55.8	-3.7
R15V				*i* S	Sg	19 00 12.3	-3.6
EZ5V		**1.44**	**351**	*e*P	Pn	18 59 58.7	-4.0
EZ5V				*e*S	Sb	19 00 17.0	-5.1
ZIIG	**Zihuatanejo**	**1.87**	**103**	*i* P	Pn	19 00 04.9	-3.4
ZIIG				*i* S	Sn	19 00 27.9	-4.6
CJM	**Chamela**	**2.14**	**313**	*i* P	Pn	19 00 09.3	-2.7
CJM				*i* S	Sn	19 00 34.7	-4.3
MOIG	**Morelia**	**2.63**	**52**	*e*S	Sn	19 00 46.9	-4.8
ARIG	**Puente Sto Nin**	**2.89**	**85**	*i* P	Pn	19 00 20.3	-2.1
ARIG				*i* S	Sn	19 00 53.9	-3.8

*ISCJB **19** 19:04:32.2±0.1, 43.74N±0.01×105.33W±0.02, h0km, mb3.7/2, Error ellipse: s-maj=1.9km s-min=1.8km az=174.4*
*NEIC **19** 19:04:32.6±0.3, 43.80N×105.22W, h0km, Error ellipse: s-maj=4.4km s-min=3.7km az=137.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **19** 19:04:32.0±1.9, 43.69N×105.42W, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.5/30, mbtmp3.5/6, ML3.4/4, MS3.3/1, Ms1 3.2/1, ms1mx2.6/41, Error ellipse: s-maj=54.4km s-min=8.7km az=149.0*
ISC 19 19:04:32.7±0.6, 43.75N±0.02×105.32W±0.02, h0km, n173, σ0.90/185, 51C-62D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.24**	**334**	P	**Pg**	**19 04 38.5**	**+1.3**
	baz=0.2,SNR=294						
J23A	**Dilts Ranch, B**	**0.39**	**206**	P	**Pg**	**19 04 40.8**	**+0.8**
	baz=0.5,SNR=106						
I24A	**Kuemmerle Ranc**	**0.51**	**77**	P	**Pg**	**19 04 42.9**	**+0.3**
	baz=0.4,SNR=470						
J24A	**Dixon Ranch, L**	**0.64**	**131**	P	**Pg**	**19 04 45.0**	**+0.1**
	baz=0.6,SNR=94						
H23A	**Clabaugh Catti**	**0.81**	**356**	P	**Pg**	**19 04 48.5**	**+0.2**
	baz=0.8,SNR=61						
I22A	**9 Mile Ranch,**	**0.86**	**280**	P	**Pg**	**19 04 49.6**	**+0.5**
	baz=0.9,SNR=826						
J22A	**Midwest**	**0.91**	**249**	⇓P	**Pg**	**19 04 49.9**	**-0.2**
	baz=1.0,SNR=39						
RSSD	**Black Hills**	**1.00**	**68**	*e*Pg	**Pg**	**19 04 51.4**	**-0.4**
K23A	**Bowen Ranch, D**	**1.02**	**193**	⇑P	**Pg**	**19 04 52.2**	**0.0**
	baz=1.1						
K24A	**Anderson Ranch**	**1.09**	**160**	⇓P	**Pg**	**19 04 53.4**	**-0.2**
	baz=1.1,SNR=14						
H22A	**Clearmont**	**1.13**	**319**	P	**Pg**	**19 04 54.5**	**+0.3**
	baz=1.1,SNR=167						
H24A	**Dirks Ranch, A**	**1.14**	**29**	⇑P	**Pg**	**19 04 53.8**	**-0.7**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.16**	**108**	P	**Pg**	**19 04 54.5**	**-0.4**
	baz=1.1,SNR=293						
I25A	**Rochford**	**1.18**	**76**	P	**Pg**	**19 04 54.6**	**-0.7**
	baz=1.1,SNR=175						
K22A	**Casper**	**1.41**	**219**	*e*Pn	**Pn**	**19 04 58.6**	**-1.2**
K22A	**Casper**	**1.41**	**219**	P	**Pn**	**19 04 58.9**	**-0.8**
	baz=1.5,SNR=136						
I21A	**Big Trails, Te**	**1.43**	**273**	P	**Pn**	**19 04 58.8**	**-1.3**
	baz=1.5,SNR=322						
I21A				⇓S	**Sg**	**19 05 18.5**	**-0.2**
	baz=1.5						
G23A	**Biddle**	**1.45**	**358**	P	**Pn**	**19 04 59.7**	**-0.6**
	baz=1.4,SNR=240						
H25A	**Fruitdale**	**1.51**	**54**	⇓P	**Pn**	**19 05 00.7**	**-0.4**
	baz=1.4,SNR=89						
H25A				⇓S	**Sn**	**19 05 22.8**	**+1.2**
	baz=1.4						
H21A	**Big Horn, Sher**	**1.52**	**306**	⇓P	**Pn**	**19 05 01.4**	**+0.1**
	baz=1.5,SNR=119						
H21A				⇑S	**Sn**	**19 05 22.7**	**+0.9**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.55**	**137**	⇑P	**Pn**	**19 05 01.8**	**+0.1**
	baz=1.5,SNR=84						
J21A	**Lysite**	**1.60**	**256**	P	**Pn**	**19 05 01.8**	**-0.6**
	baz=1.7,SNR=171						
G22A	**Birney**	**1.63**	**335**	⇓P	**Pn**	**19 05 03.0**	**+0.3**
	baz=1.6,SNR=127						
L23A	**Garrett**	**1.66**	**190**	P	**Pn**	**19 05 03.0**	**-0.2**
	baz=1.7,SNR=534						
J26A	**Sides Ranch, S**	**1.69**	**104**	⇑P	**Pn**	**19 05 03.6**	**0.0**
	baz=1.6,SNR=43						
J26A				⇑S	**Sg**	**19 05 27.4**	**+0.5**
	baz=1.6						
G24A	**Alzada**	**1.71**	**22**	⇑P	**Pn**	**19 05 04.2**	**+0.4**
	baz=1.6,SNR=98						
L24A	**Wheatland**	**1.73**	**170**	⇑P	**Pn**	**19 05 04.2**	**+0.1**
	baz=1.8						
L24A				⇓S	**Sb**	**19 05 28.0**	**+0.3**
	baz=1.8						
I26A	**New Underwood**	**1.80**	**80**	⇑P	**Pn**	**19 05 05.6**	**+0.6**
	baz=1.7,SNR=19						
L25A	**Engebretsen Ra**	**1.88**	**148**	⇓P	**Pn**	**19 05 07.2**	**+1.1**
	baz=1.9,SNR=133						
L25A				⇑S	**Sn**	**19 05 31.5**	**+0.8**
	baz=1.9						
K26A	**Motz Farm, Whi**	**1.88**	**123**	⇑P	**Pn**	**19 05 06.7**	**+0.4**
	baz=1.8,SNR=46						
L22A	**Ellis Ranch, M**	**1.90**	**206**	⇓P	**Pn**	**19 05 07.1**	**+0.5**
	baz=2.0,SNR=43						
L22A				⇑Sb	**Sg**	**19 05 33.9**	**+0.1**
	baz=2.0						
F23A	**Volborg**	**1.97**	**358**	P	**Pn**	**19 05 07.8**	**+0.4**
	baz=1.9,SNR=182						
F23A				⇑Sb	**Sg**	**19 05 36.5**	**+0.4**
	baz=1.9						
G25A	**Newell**	**1.98**	**43**	⇑P	**Pn**	**19 05 08.4**	**+0.9**
	baz=1.9,SNR=72						
G25A				⇑Sb	**Sg**	**19 05 37.1**	**+0.6**

M24A	Cheyenne baz=2.3,SNR=132	2.31	171	⇓P	Pn	19 05 12.9 +0.8
I27A	Quinn baz=2.3,SNR=24	2.38	81	⇑P	Pb	19 05 15.0 -1.5
I27A	baz=2.3			⇓Sb	Sg	19 05 49.4 +0.2
F21A	Absaloka Mine, baz=2.4,SNR=22	2.44	329	⇑P	Pn	19 05 13.4 -0.5
J27A	Elkhorn Farm, baz=2.4,SNR=20	2.46	101	⇑P	Pn	19 05 14.7 +0.5
G26A	Maurine baz=2.4,SNR=51	2.48	51	P	Pn	19 05 15.6 +1.1
K27A	Flueckinger Fa baz=2.4,SNR=14	2.48	114	⇓P	Pn	19 05 15.5 +1.0
H27A	Howes baz=2.4,SNR=12	2.49	68	⇑P	Pn	19 05 15.2 +0.6
M22A	Cedar Creek Ra baz=2.6,SNR=119	2.53	202	⇑P	Pn	19 05 16.9 +1.7
G20A	Bridger baz=2.6,SNR=160	2.54	306	P	Pn	19 05 15.3 0.0
F25A	Bowman baz=2.5,SNR=21	2.55	31	⇑P	Pn	19 05 16.6 +1.3
I19A	Meeteetse baz=2.7,SNR=99	2.67	277	⇑P	Pn	19 05 18.1 +1.0
E22A	Miles City baz=2.7,SNR=12	2.73	351	⇑P	Pn	19 05 17.6 -0.2
E23A	Ismay baz=2.7,SNR=8.5	2.75	0	⇓P	Pn	19 05 18.1 0.0
J19A	Crowheart baz=2.8,SNR=223	2.76	261	⇓P	Pn	19 05 20.2 +1.8
H19A	Powell baz=2.8,SNR=21	2.79	291	⇓P	Pn	19 05 19.5 +0.7
F26A	Lodgepole baz=2.7	2.82	41	⇓P	Pn	19 05 19.8 +0.6
F20A	Billings baz=2.9,SNR=40	2.88	316	⇑P	Pn	19 05 19.8 -0.1
N23A	Red Feather La baz=3.0,SNR=24	2.89	189	⇑P	Pn	19 05 21.3 +1.1
E24A	Baker baz=2.8,SNR=64	2.90	14	⇑P	Pn	19 05 21.2 +1.0
G27A	Dupree baz=2.8,SNR=13	2.92	55	⇑P	Pn	19 05 21.0 +0.6
N24A	Carr baz=3.0	2.94	174	⇑P	Pn	19 05 21.4 +0.6
LAO	LASA Array	3.01	348	*e*Pn	Pn	19 05 19.9 -1.7
I28A	Midland baz=2.9	3.01	84	⇑Pb	Pb	19 05 27.4 +0.3
E21A	Keefer Ranch, baz=3.0,SNR=5.5	3.06	337	⇓P	Pn	19 05 22.1 -0.2
N22A	Wattenberg Ran baz=3.1	3.06	196	⇑Pb	Pb	19 05 27.5 -0.7
RLMT	Red Lodge	3.14	297	*e*Pn	Pn	19 05 24.2 +0.5
BW06	Boulder Array	3.25	254	*e*Pn	Pn	19 05 25.9 +0.8
PDAR	Pinedale Array	3.25	254	Pn	Pn	19 05 26.2 +1.1
PDAR				Lg	Lg	19 06 10.9
PDAR	Pinedale Array 5.3nm,0.3s,baz=72,slow=15,SNR=89	3.25	254	Pn	Pn	19 05 26.2 +1.1
PDAR	9.5nm,0.3s,baz=75,slow=35,SNR=3.9			Lg	Lg	19 06 10.9
H18A	Shoshone NF, C baz=3.3,SNR=18	3.26	288	⇓P	Pn	19 05 25.7 +0.5
F19A	Roth Farm, Mol baz=3.3,SNR=129	3.33	310	⇑P	Pn	19 05 26.7 +0.5
E26A	Carlson Angus baz=3.3	3.39	36	⇑P	Pn	19 05 27.3 +0.4
E20A	Meyer Farm, Mu baz=3.4,SNR=10.0	3.40	325	P	Pn	19 05 26.5 -0.5
G28A	Parade baz=3.3	3.42	66	⇓Pb	Pb	19 05 34.1 -0.1
D23A	Lindsay baz=3.4,SNR=28	3.42	1	⇓P	Pn	19 05 28.4 +1.0
D24A	Glendive baz=3.4,SNR=36	3.44	11	⇓P	Pn	19 05 28.5 +1.0
D22A	Cohagen baz=3.4	3.45	350	⇓P	Pn	19 05 28.1 +0.4
D21A	La Casta Ranch baz=3.5	3.52	341	⇓P	Pn	19 05 28.8 +0.1
O23A	Lake Granby, G baz=3.6,SNR=9.8	3.56	187	⇓P	Pn	19 05 31.8 +2.3
N27A	Anderson Farm, baz=3.6,SNR=6.8	3.59	144	⇑P	Pn	19 05 31.2 +1.5
N20A	Spence Gulch, baz=3.7,SNR=18	3.64	218	⇓P	Pn	19 05 31.4 +0.9
E19A	Rath Farm, Rou baz=3.7,SNR=14	3.66	319	⇓P	Pn	19 05 30.4 -0.2
D25A	Fairfield baz=3.6,SNR=18	3.68	22	⇑P	Pn	19 05 32.2 +1.3
GCMT	Greycliff	3.71	305	*e*Pn	Pn	19 05 31.9 +0.5
OGNE	Ogallala	3.71	138	*e*Pn	Pn	19 05 30.6 -0.8
C24A	Savage baz=3.8,SNR=28	3.83	9	⇓P	Pn	19 05 34.0 +1.0
H17A	Grant Village	3.84	281	*e*Pn	Pn	19 05 35.2 +1.9
D26A	Manning baz=3.8	3.86	31	⇑P	Pn	19 05 34.1 +0.8
D20A	Manuel Ranch, baz=3.9,SNR=28	3.89	330	⇓P	Pn	19 05 33.7 0.0
L29A	Maesberg Ranch baz=3.9	3.93	114	⇓P	Pn	19 05 35.6 +1.2
ISCO	Idaho Springs	3.95	183	*e*Pn	Pn	19 05 35.9 +1.1
ISCO	Idaho Springs baz=4.0,SNR=14	3.95	183	⇑P	Pn	19 05 35.8 +0.9
C22A	Vida baz=4.0,SNR=33	4.02	355	⇓P	Pn	19 05 36.4 +0.9
C23A	Lambert baz=4.0,SNR=52	4.05	1	⇓P	Pn	19 05 37.0 +1.0
G29A	Hoven baz=4.0	4.12	68	⇑P	Pn	19 05 37.8 +0.9
O27A	Beecher Island baz=4.1	4.14	148	⇓P	Pn	19 05 37.6 +0.4
N28A	Pribbeno Ranch baz=4.1	4.15	136	⇑P	Pn	19 05 38.3 +0.9
YMR	Madison River	4.16	285	*e*Pn	Pn	19 05 38.2 +0.5
C25A	Freed Ranch, W baz=4.1,SNR=14	4.22	19	⇓P	Pn	19 05 39.0 +0.7
O20A	White River Ci	4.22	212	*e*Pn	Pn	19 05 39.8 +1.4
P25A	Willow Gulch B baz=4.4,SNR=5.2	4.32	168	⇓P	Pn	19 05 40.4 +0.6
E28A	Huff baz=4.2	4.32	48	⇑P	Pn	19 05 40.2 +0.5
AHID	Auburn Hatcher	4.34	259	Pn	Pn	19 05 36.2 -3.9
C20A	Veseth Ranch, baz=4.4	4.39	336	⇓P	Pn	19 05 40.9 +0.3
P26A	Davis Ranch, A baz=4.5,SNR=13	4.44	160	⇓P	Pn	19 05 41.8 +0.4
O28A	Krutsinger Ran baz=4.5,SNR=5.6	4.48	143	⇑P	Pn	19 05 42.2 +0.3
L30A	Spencer Herefo baz=4.4,SNR=14	4.49	112	⇓P	Pn	19 05 42.9 +0.8
BRSD	Miller	4.63	79	*e*Pn	Pn	19 05 40.7 -3.3
C26A	Wahner Farm, P baz=4.6,SNR=5.8	4.66	28	⇓P	Pn	19 05 45.3 +1.0
P27A	Ficken Ranch, baz=4.7,SNR=21	4.67	153	⇓P	Pn	19 05 44.9 +0.4
B23A	Brockton baz=4.7,SNR=20	4.72	3	⇑P	Pn	19 05 46.2 +1.0
C19A	Slack Wire Ran baz=4.8,SNR=10	4.76	328	⇑P	Pn	19 05 46.5 +0.7
B25A	Knox Farm, Ray baz=4.7,SNR=26	4.77	18	⇓P	Pn	19 05 46.9 +1.1
C27A	Sayler Ranch, baz=4.7	4.78	33	⇑P	Pn	19 05 47.2 +1.3
DGMT	Dagmar	4.79	9	*e*Pn	Pn	19 05 46.9 +0.8
DGMT	Dagmar baz=4.7,SNR=17	4.79	9	⇓P	Pn	19 05 47.0 +1.0
BOZ	Bozeman (W)	4.88	295	*e*Pn	Pn	19 05 45.7 -1.8
Q25A	Bedland, Calha baz=4.9,SNR=9.1	4.90	170	⇓P	Pn	19 05 48.1 +0.3
P28A	Saint Francis baz=5.0,SNR=11	4.95	146	⇓P	Pn	19 05 48.6 +0.2
Q26A	Hugo baz=5.0	5.01	164	⇓P	Pn	19 05 49.4 +0.2
B20A	Solberg Farm, baz=5.0	5.05	339	⇓P	Pn	19 05 50.2 +0.4
KSCO	Kaye Shedlock'	5.15	156	*e*Pn	Pn	19 05 50.8 -0.3
KSCO	Kaye Shedlock' baz=5.2	5.15	156	⇑P	Pn	19 05 51.3 +0.2
A23A	Redstone baz=5.2,SNR=16	5.22	3	⇑P	Pn	19 05 53.1 +1.1
A24A	Westby baz=5.2,SNR=33	5.26	10	⇑P	Pn	19 05 53.6 +1.1
EGMT	Eagleton 20nm,0.4s	5.28	326	*e*Pn	Pn	19 05 53.1 +0.2
A21A	Bergtoll Ranch baz=5.3,SNR=5.9	5.36	349	⇓P	Pn	19 05 53.7 -0.2
HRY	Holter Researc 14nm,0.3s	5.47	305	Pn	Pn	19 05 56.1 +0.6
LRM	Limekiln Ridge 28nm,0.4s	5.48	295	*e*Pn	Pn	19 05 55.9 +0.1
DAU	Daniels Canyon 8.4nm,0.5s	5.53	235	*e*Pn	Pn	19 05 58.1 +1.5
JLU	Jordanelle 9.5nm,0.5s	5.54	237	*e*Pn	Pn	19 05 57.2 +0.6
R26A	Arlington baz=5.7,SNR=31	5.62	165	⇓P	Pn	19 05 57.9 +0.2
MDND	Maddock	5.72	42	*e*Pn	Pn	19 05 57.0 -1.9
R27A	Eads baz=5.8,SNR=8.4	5.78	160	⇓P	Pn	19 06 00.1 +0.3
BGNE	Belgrade	5.79	111	*e*Pn	Pn	19 05 59.9 +0.1
SPUT	South Promonto 3.0nm,0.4s	5.80	248	*e*Pn	Pn	19 06 02.5 +2.3
HVU	Hansel Valley 7.6nm,0.5s	5.83	253	*e*Pn	Pn	19 06 01.5 +1.0
PV04	Paradox Valley	6.00	208	*e*Pn	Pn	19 06 03.6 +0.7
SDCO	Great Sand Dun 0.9nm,0.6s	6.00	181	*e*Pn	Pn	19 06 03.9 +0.9
MPU	Maple Canyon 4.8nm,0.4s	6.01	234	*e*Pn	Pn	19 06 02.6 -0.5
R28A	Tribune baz=6.0,SNR=13	6.02	153	⇓P	Pn	19 06 02.6 -0.4
SRU	San Rafael 14nm,0.3s	6.06	222	*e*Pn	Pn	19 06 03.9 +0.2
S25A	Robets Cordova baz=6.2,SNR=8.3	6.12	173	⇓P	Pn	19 06 04.5 0.0
PV01	Paradox Valley 592nm,0.6s	6.12	205	*e*Pn	Pn	19 06 05.6 +0.9
TMUT	Trail Mountain 7.6nm,0.4s	6.27	227	*e*Pn	Pn	19 06 07.0 +0.3
S26A	Kim baz=6.3,SNR=6.4	6.28	166	⇑P	Pn	19 06 07.1 +0.4
ECSD	EROS Data Cent 5.0nm,0.3s	6.31	87	*e*Pn	Pn	19 06 06.7 -0.2
BGU	Big Grassy Mou	6.37	246	*e*Pn	Pn	19 06 10.0 +2.1
CHMT	Chamberlain Mo 1.9nm,0.3s	6.42	302	*e*Pn	Pn	19 06 09.1 +0.4
DUG	Dugway 2.4nm,0.5s	6.62	240	*e*Pn	Pn	19 06 11.6 +0.3
DUG	Dugway baz=6.7,SNR=7.1	6.62	240	⇓P	Pn	19 06 11.8 +0.5
SLMT	Seeley Lake 2.8nm,0.5s	6.72	304	*e*Pn	Pn	19 06 11.6 -1.1
MVCO	Mesa Verde 4.9nm,0.5s	6.97	201	Pn	Pn	19 06 17.5 +1.3
SWMT	Swartz Lake 2.3nm,0.3s	7.15	305	*e*Pn	Pn	19 06 18.9 +0.2
YBMT	Yellow Bay 5.0nm,0.3s	7.33	307	*e*Pn	Pn	19 06 22.2 +1.1
ELK	Elko	7.95	251	*e*Pn	Pn	19 06 33.2 +3.5
AGMN	Agassiz Nation 8.9nm,0.4s	8.00	52	*e*Pn	Pn	19 06 28.4 -1.7
ARUT	Antelope Range 43nm,0.4s	8.57	229	*e*Pn	Pn	19 06 39.3 +1.2
CCUT	Cedar City 1.6nm,0.6s	8.70	227	*e*Pn	Pn	19 06 41.5 +1.5
ULM	Lac du Bonnet	9.15	41	Pn	Pn	19 06 44.7 -1.3
ULM				Pg		19 07 19.1
ULM				Lg	Lg	19 09 15.5
ULM	Lac du Bonnet 1.5nm,0.3s,baz=228,slow=10,SNR=12	9.15	41	Pn	Pn	19 06 44.7 -1.3
ULM	1.0nm,0.3s,baz=238,slow=18,SNR=4.0			Pg		19 07 19.1
ULM	0.5nm,0.3s,baz=139,slow=19,SNR=2.9			Lg	Lg	19 09 15.5
ULM	comp=Z,192nm,20.7s,baz=318,slow=39			LR	LR	19 10 35.9
WUAZ	Wupatki	9.45	212	*e*Pn	Pn	19 06 50.9 +0.7
NVAR	Mina Array Bea	11.14	246	Pn	Pn	19 07 14.6 +1.1
NVAR	Mina Array Bea 0.1nm,0.3s,baz=51,slow=12,SNR=4.3	11.14	246	Pn	Pn	19 07 14.6 +1.1
FFC	Flin Flon 3.8nm,0.6s	11.20	10	*e*Pn	Pn	19 07 11.4 -2.5
TXAR	Lajitas Array 0.1nm,0.3s,baz=359,slow=17,SNR=5.5	14.45	174	Pg	P	19 09 01.4 +56
TXAR	0.0nm,0.3s,baz=4.6,slow=34,SNR=2.6			Lg	Lg	19 12 07.2
YKA	Yellowknife Ar	19.55	347	P	P	19 09 02.1 +0.5
YKA	Yellowknife Ar 0.1nm,0.3s,baz=165,slow=12,SNR=7.1	19.55	347	P	P	19 09 02.1 +0.5
ZALV	Zalesovo Beam	82.29	354	P	P	19 16 56.1 +0.4
ZALV	Zalesovo Beam 0.4nm,0.5s,baz=356,slow=4.3,SNR=3.2	82.29	354	P	P	19 16 56.1 +0.4
SONM	Songino Array	84.61	339	P	P	19 17 05.9 -2.1
SONM	Songino Array 0.3nm,0.8s,baz=5.6,slow=4.2,SNR=2.9	84.61	339	P	P	19 17 05.9 -2.1

IDC 19 19:13:09.6±1.7, 24.79N×141.67E, h413km±59km, mb2.4/1, mb1 2.8/4, mb1mx2.4/27, mbtmp2.7/4, Error ellipse: s-maj=148.6km s-min=28.5km az=68.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima 15nm,0.3s,baz=270,slow=20,SNR=5.3	2.34	11	P	Pn	19 14 08.9	+0.1
MJAR	Matsushiro Arr 0.0nm,0.3s,baz=166,slow=15,SNR=3.6	12.09	347	P	P	19 15 49.4	-0.5
KSRS	Korea Array 0.1nm,0.3s,baz=132,slow=12,SNR=5.1	17.24	320	P	P	19 16 45.7	+0.3
WRA	Warramunga Arr 0.8nm,0.4s,baz=10,slow=8.5,SNR=5.2	45.03	190	P	P	19 20 46.5	-0.1

IDC 19 19:14:52.2±2.1, 6.05S×130.17E, h0km, mb3.8/1, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=84.8km s-min=27.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi 0.1nm,0.3s,baz=30,slow=13,SNR=8.6	12.77	200	Pn	Pn	19 17 54.3	-0.9
FITZ	0.2nm,0.3s,baz=200,slow=15,SNR=4.2			Sn	Sn	19 19 58.7	-19
WRA	Warramunga Arr 0.1nm,0.3s,baz=345,slow=10,SNR=6.8	14.39	164	Pn	Pn	19 18 19.4	+2.0
WRA	0.1nm,0.3s,baz=335,slow=25,SNR=2.8			Sn	Sn	19 20 42.1	-16
ASAR	Alice Springs 0.1nm,0.3s,baz=346,slow=10,SNR=4.6	17.88	169	P	Pn	19 19 01.6	-1.0
MKAR	Makanchi Array 0.4nm,0.4s,baz=116,slow=7.8,SNR=12	67.53	327	P	P	19 25 50.5	+0.1

*IDC **19** 19:19:10.8±2.0, 0.47S×132.79E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/22, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=78.5km s-min=25.1km az=74.0*
*ISCJB **19** 19:19:13.9±1.5, 0.65S×0.1×132.6E±0.3, h32km, mb3.8/3, Error ellipse: s-maj=47.3km s-min=17.3km az=172.8*
*AUST **19** 19:19:16.5±1.1, 0.46S×131.38E, h104km, Error ellipse: s-maj=1.9km s-min=1.4km az=233.0*

ISC 19 19:19:15.8±1.7, 0.5S±0.1×132.7E±0.4, h32km, n11, σ1§10/11, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak baz=2.6,SNR=33	2.44	192	P	Pn	19 19 54.8	+1.3
KDU	Kakadu baz=12,SNR=7.8	12.10	181	P	Pn	19 22 05.9	-0.2
MTN	Manton Dam baz=12,SNR=13	12.36	187	P	Pn	19 22 09.0	-0.6
KNRA	Kununurra baz=15,SNR=13	15.57	194	P	Pn	19 22 51.2	-1.9
FITZ	Fitzroy Crossi 0.2nm,0.3s,baz=23,slow=12,SNR=4.6	18.82	201	P	P	19 23 32.5	-0.6
WRA	Warramunga Arr 0.2nm,0.3s,baz=355,slow=12,SNR=12	19.38	175	P	P	19 23 38.8	-0.3
WRA	0.1nm,0.3s,baz=354,slow=23,SNR=4.6			S	S	19 27 03.8	-13
ASAR	Alice Springs 2.6nm,0.6s,baz=0.3,slow=9.2,SNR=49	23.05	177	P	P	19 24 19.1	+0.6
WRKA	Warakurna baz=25,SNR=3.2	24.76	190	P	P	19 24 36.4	+1.6
STKA	Stephens Creek 1.6nm,0.5s,baz=351,slow=8.1,SNR=8.9	32.30	166	P	P	19 25 41.3	-0.6
STKA	Stephens Creek baz=33,SNR=6.8	32.30	166	P	P	19 25 41.5	-0.4
MKAR	Makanchi Array 0.2nm,0.5s,baz=117,slow=7.2,SNR=4.3	64.47	324	P	P	19 29 49.4	+0.1

IDC 19 19:28:49.4±2.0, 0.24N×126.27E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=173.3km s-min=27.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.4nm,0.4s,baz=337,slow=10,SNR=19	21.56	159	P	P	19 33 39.8	-0.9
ASAR	Alice Springs 0.5nm,0.9s,baz=344,slow=12,SNR=8.8	24.89	163	P	P	19 34 14.8	+0.6
MKAR	Makanchi Array 0.3nm,0.7s,baz=119,slow=7.8,SNR=4.1	60.17	327	P	P	19 38 59.0	-0.1

IDC 19 19:40:41.4±7.1, 30.78S×177.97W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.5/18, mbtmp3.3/2, Error ellipse: s-maj=297.1km s-min=56.5km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs 0.2nm,0.5s,baz=107,slow=7.6,SNR=4.5	43.12	267	P	P	19 48 43.3	-0.4
WRA	Warramunga Arr 0.2nm,0.3s,baz=111,slow=8.1,SNR=15	44.14	273	P	P	19 48 52.0	+0.1
FINES	FINESS Array B 1.0nm,0.7s,baz=47,slow=6.1,SNR=4.5	145.51	340	PKPbc	PKPdf	20 00 20.0	-0.8

*IDC **19** 19:52:18.4±1.3, 4.90N×126.92E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/26, mbtmp3.5/7, MS3.3/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=97.7km s-min=16.9km az=69.0*

ISC 19 19:52:28.0±1.5, 4.8N±0.3×126.9E±0.7, h76km, n8, σ1§13/7, mb3.5/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi 3.6nm,1.1s,baz=0.0,slow=20,SNR=2.0	22.78	183	P	P	19 57 24.2	-0.2
WRA	Warramunga Arr 0.5nm,0.3s,baz=343,slow=10,SNR=15	25.65	164	P	P	19 57 50.9	0.0
PSI	Prapat comp=Z,56nm,18.8s,baz=120,slow=36	27.96	267	LR	LR	20 09 07.5	
ASAR	Alice Springs 0.2nm,0.5s,baz=352,slow=8.2,SNR=7.7	29.11	167	P	P	19 58 22.2	+0.5
STKA	Stephens Creek 2.2nm,0.9s,baz=330,slow=10,SNR=6.1	39.07	160	P	P	19 59 47.4	-0.4
MKAR	Makanchi Array 0.2nm,0.5s,baz=122,slow=8.8,SNR=4.2	56.77	325	P	P	20 02 02.8	-1.5
KURBB	Kurchatov Arra 0.2nm,0.4s,baz=128,slow=6.8,SNR=4.4	60.93	327	P	P	20 02 34.4	+1.5
BVAR	Borovoye Array 0.2nm,0.4s,baz=95,slow=6.5,SNR=3.7	66.52	327	P	P	20 03 09.1	-0.6

*ISCJB **19** 19:56:58.5±0.8, 36.49N±0.05×71.9E±0.1, h124km, mb3.1/3, Error ellipse: s-maj=14.3km s-min=5.3km az=155.8*
*IDC **19** 19:56:58.3±6.3, 36.49N×71.66E, h97km±50km, mb3.0/3, mb1 3.1/8, mb1mx3.0/31, mbtmp3.0/8, Error ellipse: s-maj=55.5km s-min=27.1km az=158.0*
*NNC **19** 19:57:08.3±7.1, 37.36N×69.99E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=59.3km s-min=50.1km az=115.0*

ISC 19 19:56:59.7±1.0, 36.47N±0.08×71.9E±0.1, h124km, n26, σ1§14/26, mb3.2/3, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa 1.2nm,0.3s,baz=170,slow=6.0,SNR=27	6.47	17	P	Pn	19 58 33.5	+0.9
AAK	1.4nm,0.3s,baz=325,slow=20,SNR=17			S	Sn	19 59 43.3	-1.8
SDNR	Sundarnagar	6.50	138	*e*P	Pn	19 58 42.0	+9.1
SDNR				*e*S	Sn	19 59 44.0	-1.7
KK31	Karatay Array 1.7nm,0.4s,baz=180,slow=13,SNR=74	6.71	351	P	Pn	19 58 35.0	-0.7
KK31	4.1nm,0.3s,baz=172,slow=22,SNR=10			⇓S	Sn	19 59 42.8	-8.0
PYUN	Piuthan	12.54	129	*e*P	Pn	19 59 53.5	-0.5
DANN	Dangsing	12.87	126	*e*P	Pn	19 59 57.9	-0.4
MKAR	Makanchi Array 0.1nm,0.3s,baz=215,slow=15,SNR=4.8	12.90	34	P	Pn	19 59 57.9	-0.5
KOLN	Koldanda 7.2nm,0.5s	13.16	128	*e*P	Pn	20 00 01.8	-0.2
KOLN				*e*S	Sn	20 02 20.1	-7.1
GKN	Gorkha	13.67	125	*e*P	Pn	20 00 08.7	0.0
KKN	Kakani 7.2nm,0.5s	14.24	124	*e*P	Pn	20 00 15.2	-0.8
DMN	Daman	14.24	125	*e*P	Pn	20 00 16.2	+0.1
PKIN	Phulchoki	14.46	124	*e*P	Pn	20 00 18.9	+0.1
PKI	Pulchoki	14.47	124	*e*P	Pn	20 00 18.7	-0.3
GUN	Gumba	14.57	122	*e*P	Pn	20 00 20.6	+0.3
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=211,slow=10,SNR=2.8	14.93	17	P	Pn	20 00 22.3	-2.0
JIRN	Jiri	14.94	122	*e*P	Pn	20 00 24.6	-0.4
AB31	Akbulak array 1.9nm,0.6s,baz=159,slow=24,SNR=2.9	15.47	329	⇓S	Sn	20 03 04.0	-18
RAMN	Ramite 7.7nm,0.5s	15.68	123	*e*P	Pn	20 00 34.7	+0.7
TAPN	Tajetjung	16.19	120	*e*P	Pn	20 00 40.7	+0.3
ODAN	Odare	16.27	122	*e*P	Pn	20 00 41.7	+0.3
BVAR	Borovoye Array 0.1nm,0.3s,baz=160,slow=13,SNR=2.7	16.59	357	P	P	20 00 45.8	+0.7
AKTO	Aktyubinsk 0.2nm,0.3s,baz=137,slow=9.0,SNR=8.3	17.18	329	P	P	20 00 51.3	-0.3
AKTO	0.1nm,0.3s,baz=135,slow=16,SNR=3.1			S	Sn	20 03 45.9	-18
AKTO	Aktyubinsk 2.5nm,0.8s	17.18	329	P	P	20 00 49.9	-1.7
AKTO	7.5nm,1.2s			S	Sn	20 03 44.1	-19
ZALV	Zalesovo Beam 0.1nm,0.3s,baz=236,slow=11,SNR=6.2	19.65	23	P	Pn	20 01 20.3	-0.8
SONM	Songino Array 0.5nm,0.8s,baz=255,slow=9.5,SNR=4.4	27.75	55	P	P	20 02 39.5	+2.8
TORD	Torodi Ar. Bea 0.5nm,1.1s,baz=53,slow=6.1,SNR=2.8	66.45	269	P	P	20 07 35.8	-0.3
YKA	Yellowknife Ar 0.1nm,0.5s,baz=347,slow=5.2,SNR=5.0	81.24	3	P	P	20 09 03.5	+2.1

IDC 19 20:01:51.9±1.2, 28.82S×178.59W, h0km, mb3.7/1, mb1 4.2/1, mb1mx3.7/17, mbtmp3.7/1, Error ellipse: s-maj=75.5km s-min=55.6km az=96.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	Mina Array Bea 0.3nm,0.6s,baz=233,slow=8.9,SNR=3.0	87.43	43	P	P	20 14 41.7	+0.2
ARCES	ARCESS Array B 2.9nm,1.0s,baz=36,slow=2.3,SNR=4.1	136.95	348	PKP	PKPdf	20 21 14.8	-1.0
FINES	FINESS Array B 0.7nm,0.4s,baz=23,slow=1.0,SNR=12	143.49	340	PKhKP	PKPpre	20 21 24.4	
NB2	NORSAR Subarra comp=Z,1.0nm,0.5s,baz=7.9,slow=2.9	147.12	351	PKP	PKPdf	20 21 35.2	+1.0
NOA	NORSAR Array B comp=Z,1.8nm,0.7s,baz=14,slow=4.4,SNR=3.9	147.12	351	PKPbc	PKPdf	20 21 35.0	+0.8
AKASG	Malin Array Be comp=Z,1.0nm,0.4s,baz=48,slow=3.2,SNR=18	149.74	324	PKPbc	PKPbc	20 21 42.6	-0.8
AKASG	comp=Z,0.4nm,0.5s,baz=46,slow=4.5,SNR=13			PKPab	PKPab	20 21 48.8	+0.1
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.8s,baz=173,slow=4.2,SNR=5.3	164.40	181	PKPab	PKPdf	20 22 52.1	-0.2

*DJA **19** 20:04:26.3±0.5, 2.5S×14.1E±*, h10km, M5.1/12, mb4.9/12, mB5.2/4, MLv5.3/3, Mw(mB)4.6/4*
*IDC **19** 20:04:26.4±0.5, 3.51S×140.27E, h0km, mb4.2/14, mb1 4.4/17, mb1mx4.4/21, mbtmp4.3/17, ML4.1/3, MS4.0/7, Ms1 4.0/7, ms1mx3.6/28, Error ellipse: s-maj=22.3km s-min=12.4km az=76.0*
*ISCJB **19** 20:04:32.0±0.4, 3.60S±0.03×140.35E±0.06, h56km, mb4.2/16, MS3.9/7, Error ellipse: s-maj=8.3km s-min=4.4km az=168.7*
*NEIC **19** 20:04:32.0±1.4, 3.54S×140.21E, h39km±13km, mb4.8/7, Error ellipse: s-maj=11.5km s-min=8.6km az=57.0*
*AUST **19** 20:04:42.0, 4.40S×140.04E, h60km*

ISC 19 20:04:33.9±0.5, 3.61S±0.05×140.16E±0.07, h56km, n92, σ1§51/80, mb4.1/16, MS4.0/7, Irian Jaya

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

GENI				S	**Sn**	**20 05 03.4**	**-2.0**
SRPI	**Serui, Papua**	**4.28**	**294**	P	Pn	20 05 41.2	+4.6
BAKI	**Biak**	**4.71**	**301**	P	Pn	20 05 53.0	+11
MMPI	**Merauke**	**4.83**	**177**	P	Pn	20 06 06.2	+22
	576nm,0.5s,15µm5.1nm						
FAKI	**Fak Fak**	**7.93**	**275**	P	Pn	20 06 30.1	+3.5
	46nm,0.9s						
FAKI	**Fak Fak**	**7.93**	**275**	P	Pn	20 06 31.5	+4.9
	baz=7.9,SNR=21						
PMG	**Port Moresby**	**9.03**	**130**	P	**Pn**	**20 06 41.4**	**-0.3**
	52nm,1.1s						
PMG	**Port Moresby**	**9.03**	**130**	Pn	**Pn**	**20 06 39.7**	**-1.9**
PMG	**Port Moresby**	**9.03**	**130**	Pn	**Pn**	**20 06 39.7**	**-1.9**
	2.3nm,0.3s,baz=292,slow=5.3,SNR=10						
PMG	**Port Moresby**	**9.03**	**130**	P	**Pn**	**20 06 42.8**	**+1.1**
	baz=8.7,SNR=8.3						
PMG				P	**Pn**	**20 06 42.8**	**+1.1**
	baz=8.7,SNR=8.3						
PMG				P	**Pn**	**20 06 42.8**	**+1.1**
	baz=8.7,SNR=8.3						
SWI	**Sorong**	**9.30**	**287**	P	Pn	20 06 50.1	+4.7
	34nm,0.9s						
SAUI	**Saumlaki**	**9.82**	**243**	P	Pn	20 07 13.2	+21
	192nm,1.3s						
COEN	**Coen**	**10.70**	**164**	*e*Pn	**Pn**	**20 07 03.8**	**-0.8**
	118nm,0.8s						
COEN				*e*Sn	**Sn**	**20 09 04.1**	**+1.1**
COEN	**Coen**	**10.70**	**164**	P	**Pn**	**20 07 04.3**	**-0.3**
	baz=10.0,SNR=26						
KDU	**Kakadu**	**11.79**	**220**	P	**Pn**	**20 07 19.2**	**-0.2**
	baz=11,SNR=83						
MTN	**Manton Dam**	**12.80**	**224**	P	**Pn**	**20 07 33.4**	**+0.2**
	baz=12,SNR=40						
LBMI	**Labuha**	**12.99**	**283**	P	Pn	20 07 40.5	+4.7
	66nm,1.0s						
KNRA	**Kununurra**	**16.41**	**222**	P	**P**	**20 08 21.5**	**-1.1**
	baz=16,SNR=47						
KMSI	**Cibinong**	**16.69**	**284**	P	P	20 08 35.6	+10
QIS	**Mount Isa**	**16.85**	**182**	P	**Pn**	**20 08 25.4**	**-0.8**
	baz=16,SNR=23						
SOEI	**Soe**	**16.91**	**248**	P	P	20 08 33.8	+5.4
SOEI	**Soe**	**16.91**	**248**	P	**P**	**20 08 32.3**	**+4.0**
	baz=16,SNR=34						
WRAB	**Tennant Creek**	**17.18**	**199**	*e*Pn	**Pn**	**20 08 29.0**	**-1.3**
	99nm,1.0s						
WRAB				*e*Sn	Sn	20 11 24.7	-16
WRA	**Warramunga Arr**	**17.20**	**199**	P	**P**	**20 08 31.1**	**-0.3**
WRA				S	**Sn**	**20 11 37.9**	**-3.1**
WRA				Lg	Lg	20 13 39.3	
WRA	**Warramunga Arr**	**17.20**	**199**	P	**P**	**20 08 31.1**	**-0.3**
	2.0nm,0.3s,baz=24,slow=12,SNR=30						
WRA				S	**Sn**	**20 11 37.9**	**-3.1**
	1.0nm,0.3s,baz=17,slow=22,SNR=4.8						
WRA				Lg	Lg	20 13 39.3	
	baz=26,slow=27,SNR=4.7						
CTA	**Charters Tower**	**17.42**	**161**	P	**P**	**20 08 33.1**	**-0.7**
CTA				Lg	Lg	20 13 48.9	
CTA	**Charters Tower**	**17.42**	**161**	P	**P**	**20 08 33.1**	**-0.7**
	0.3nm,0.3s,baz=338,slow=10,SNR=6.6						
CTA				Lg	Lg	20 13 48.9	
	0.4nm,0.3s,baz=245,slow=21,SNR=4.6						
CTAO	**Charters Tower**	**17.42**	**161**	*e*Pn	**Pn**	**20 08 31.7**	**-1.5**
	14nm,1.0s						
MRSI	**Marisa**	**18.65**	**282**	P	**Pn**	**20 08 52.4**	**+4.1**
	50nm,0.6s,582nm						
BNSI	**Bone**	**20.02**	**267**	P	Pn	20 09 09.3	+4.8
	69nm,1.2s						
BKSI	**Bulukumba**	**20.05**	**264**	P	Pn	20 09 10.1	+5.3
	30nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.24**	**224**	*e*P	Pn	20 09 06.3	-0.7
	30nm,0.9s						
FITZ				*e*S	**S**	**20 12 44.2**	**-4.5**
FITZ				S	Sn	20 12 47.0	-7.4
FITZ	**Fitzroy Crossi**	**20.24**	**224**	P	Pn	20 09 06.3	-0.7
	21nm,1.1s,baz=50,slow=7.2,SNR=19						
FITZ				S	**S**	**20 12 47.0**	**-1.8**
	14nm,0.7s,baz=129,slow=11,SNR=6.1						
FITZ				LR	LR	20 17 31.4	
	comp=Z,296nm,19.1s,baz=48,slow=38						
FITZ	**Fitzroy Crossi**	**20.24**	**224**	P	Pn	20 09 07.0	0.0
	baz=20,SNR=12						
TTSI	**Tana Toraja**	**20.31**	**271**	P	Pn	20 09 12.3	+4.3
KAPI	**Kappang**	**20.40**	**265**	P	**P**	**20 09 02.5**	**-3.9**
	133nm,1.1s						
AS31	**Alice Springs**	**20.83**	**196**	*e*P	Pn	20 09 12.0	-2.1
AS31				*e*S	**S**	**20 13 02.8**	**+2.3**
ASAR	**Alice Springs**	**20.83**	**196**	P	**P**	**20 09 11.7**	**+0.5**
ASAR				S	**S**	**20 13 01.6**	**+1.1**
ASAR	**Alice Springs**	**20.83**	**196**	P	**P**	**20 09 11.7**	**+0.5**
	36nm,0.8s,baz=28,slow=9.4,SNR=199						
ASAR				S	**S**	**20 13 01.6**	**+1.1**
	7.2nm,0.9s,baz=20,slow=24,SNR=4.8						
ASAR				LR	LR	20 17 45.8	
	comp=Z,450nm,18.8s,baz=20,slow=38						
QLP	**Quilpie**	**23.17**	**171**	P	**P**	**20 09 37.1**	**+1.3**
	baz=22,SNR=5.5						
EIDS	**Eidsvold**	**24.05**	**155**	*e*P	**P**	**20 09 44.6**	**+0.6**
	16nm,0.8s						
EIDS	**Eidsvold**	**24.05**	**155**	P	**P**	**20 09 45.9**	**+1.9**
	baz=24,SNR=11						
WRKA	**Warakurna**	**24.17**	**207**	P	**P**	**20 09 47.2**	**+2.1**
	baz=24,SNR=9.2						
STKA	**Stephens Creek**	**28.15**	**177**	P	**P**	**20 10 21.9**	**+0.9**
STKA	**Stephens Creek**	**28.15**	**177**	P	**P**	**20 10 21.9**	**+0.9**
	1.3nm,0.9s,baz=7.1,slow=8.1,SNR=2.6						
STKA				LR	LR	20 22 51.1	
	comp=Z,510nm,18.1s,baz=360,slow=39						
KSM	**Kuching**	**30.26**	**279**	*e*P	**P**	**20 10 40.4**	**+0.5**
	54nm,1.7s						
MORW	**Morawa**	**34.14**	**220**	P	**P**	**20 11 15.3**	**+1.6**
	baz=34,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**34.14**	**49**	T	T	20 45 57.1	
	baz=232,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hy**	**34.15**	**49**	T	T	20 45 58.7	
	baz=232,slow=74,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**34.16**	**49**	T	T	20 46 02.8	
	baz=232,slow=74,SNR=7.3						
NWAO	**Narrogin (SRO)**	**36.20**	**214**	LR	LR	20 27 24.9	
	comp=Z,213nm,18.6s,baz=20,slow=38						
KULM	**Kulim**	**40.44**	**282**	P	**P**	**20 12 05.4**	**-2.0**
	25nm,1.2s						
PSI	**Prapat**	**41.70**	**278**	P	**P**	**20 12 17.0**	**-0.8**
PSI	**Prapat**	**41.70**	**278**	P	**P**	**20 12 17.0**	**-0.8**
	7.8nm,0.7s,baz=76,slow=7.1,SNR=5.4						
PSI	**Prapat**	**41.70**	**278**	P	**P**	**20 12 19.8**	**+2.0**
	baz=42,SNR=3.1						
KSAR	**Wonju Array Be**	**42.41**	**345**	P	**P**	**20 12 22.5**	**-0.6**
KSRS	**Korea Array**	**42.41**	**346**	P	**P**	**20 12 22.5**	**-0.6**
	1.2nm,0.6s,baz=157,slow=8.1,SNR=5.3						
ENH	**Enshi**	**44.66**	**321**	*e*P	P	20 12 35.6	-5.8
CMAR	**Chiang Mai Arr**	**46.14**	**300**	P	**P**	**20 12 53.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**46.14**	**300**	P	**P**	**20 12 53.5**	**+0.3**
	0.4nm,0.3s,baz=115,slow=6.2,SNR=4.3						
CMAR				LR	LR	20 32 36.1	
	comp=Z,54nm,20.1s,baz=132,slow=37						
USRK	**Ussuriysk Arra**	**48.16**	**352**	P	**P**	**20 13 09.1**	**+0.7**
	1.5nm,0.7s,baz=106,slow=14,SNR=3.2						
RPZ	**Rata Peaks**	**48.39**	**150**	P	**P**	**20 13 11.2**	**+0.8**
RPZ	**Rata Peaks**	**48.39**	**150**	P	**P**	**20 13 11.2**	**+0.8**
	11nm,0.6s,baz=15,slow=18,SNR=5.2						
SONM	**Songino Array**	**59.15**	**334**	P	**P**	**20 14 29.1**	**0.0**
SONM	**Songino Array**	**59.15**	**334**	P	**P**	**20 14 29.1**	**0.0**
	0.2nm,0.5s,baz=142,slow=7.2,SNR=2.6						
PPT2	**Papeete2**	**70.11**	**107**	*e*LQ	LQ	20 15 13.8	
	484nm,28.5s						
PPT2				*e*LR	LR	20 16 16.2	
	422nm,25.2s,baz=272						
TBI	**Tubuai**	**70.57**	**113**	*e*LR	LR	20 16 51.2	
	586nm,27.0s,baz=291						
MKAR	**Makanchi Array**	**71.38**	**322**	P	**P**	**20 15 48.5**	**+0.3**
MKAR	**Makanchi Array**	**71.38**	**322**	P	**P**	**20 15 48.5**	**+0.3**
	0.2nm,0.4s,baz=98,slow=7.2,SNR=11						
ZALV	**Zalesovo Beam**	**73.44**	**330**	P	**P**	**20 16 00.5**	**+0.3**
ZALV	**Zalesovo Beam**	**73.44**	**330**	P	**P**	**20 16 00.5**	**+0.3**
	0.5nm,0.8s,baz=111,slow=8.1,SNR=3.5						
TKM2	**Tokmak 2**	**74.19**	**316**	P	**P**	**20 16 05.7**	**+0.5**
VNDA	**Vanda**	**74.76**	**175**	P	**P**	**20 16 06.8**	**-0.8**
VNDA	**Vanda**	**74.76**	**175**	P	**P**	**20 16 06.8**	**-0.8**
	1.6nm,0.6s,baz=302,slow=9.6,SNR=7.9						
VNDA				LR	LR	20 48 23.6	
	comp=Z,164nm,20.4s,baz=348,slow=35						
EKS2	**Erkin-Say**	**75.36**	**316**	P	**P**	**20 16 10.8**	**-1.1**
BVAR	**Borovoye Array**	**80.88**	**325**	P	**P**	**20 16 42.4**	**+0.5**
BVAR	**Borovoye Array**	**80.88**	**325**	P	**P**	**20 16 42.4**	**+0.5**
	1.6nm,0.7s,baz=97,slow=6.1,SNR=7.6						
MAW	**Mawson**	**81.84**	**202**	P	**P**	**20 16 46.4**	**-0.3**
	8.9nm,1.0s,baz=52,slow=4.7,SNR=8.4						
MAW	**Mawson**	**81.84**	**202**	P	**P**	**20 16 49.7**	**+3.0**
	baz=81,SNR=6.1						
ILAR	**Eielson Array**	**86.05**	**24**	P	**P**	**20 17 07.2**	**-1.1**
ILAR	**Eielson Array**	**86.05**	**24**	P	**P**	**20 17 07.2**	**-1.1**
	2.5nm,0.7s,baz=262,slow=4.5,SNR=36						
ILAR				LR	LR	20 57 57.6	
	comp=Z,60nm,18.1s,baz=254,slow=37						
YKA	**Yellowknife Ar**	**100.21**	**27**	P	**Pdif**	**20 18 12.0**	**-1.7**
YKA	**Yellowknife Ar**	**100.21**	**27**	P	**Pdif**	**20 18 12.0**	**-1.7**
	0.3nm,0.9s,baz=277,slow=4.9,SNR=3.0						
DBIC	**Dimbokro**	**145.03**	**276**	PKPbc	**PKPdf**	**20 24 06.4**	**+0.3**
DBIC	**Dimbokro**	**145.03**	**276**	PKPbc	**PKPdf**	**20 24 06.4**	**+0.3**
	2.8nm,0.7s,baz=323,slow=1.5,SNR=3.4						
LPAZ	**La Paz**	**145.75**	**126**	PKPbc	**PKPab**	**20 24 09.9**	**+1.0**
LPAZ	**La Paz**	**145.75**	**126**	PKPbc	**PKPab**	**20 24 09.9**	**+1.0**
	1.5nm,0.7s,baz=250,slow=2.6,SNR=6.3						
CPUP	**Villa Florida**	**145.76**	**151**	PKPbc	**PKPdf**	**20 24 05.8**	**-1.2**
CPUP	**Villa Florida**	**145.76**	**151**	PKPbc	**PKPdf**	**20 24 05.8**	**-1.2**
	2.2nm,0.6s,baz=219,slow=2.9,SNR=2.1						
SIV	**San Ignacio**	**151.36**	**133**	PKPbc	**PKPbc**	**20 24 22.9**	**+0.4**
SIV				PKPab	**PKPab**	**20 24 30.7**	**0.0**
SIV	**San Ignacio**	**151.36**	**133**	PKPbc	**PKPbc**	**20 24 22.9**	**+0.4**
	0.6nm,0.6s,baz=117,slow=8.3,SNR=3.0						
SIV				PKPab	**PKPab**	**20 24 30.7**	**0.0**
	2.0nm,0.6s,baz=243,slow=6.8,SNR=4.2						

*ISCJB **19** 20:04:31.3±1.1, 4.°0N±0.°1×76.°59W±0.°10, h98km, mb3.6/8, Error ellipse: s-maj=20.6km s-min=13.5km az=170.6*
*IDC **19** 20:04:42.1±1.7, 4.°43N×75.°77W, h174km±12km, mb3.3/8, mb1 3.5/8, mb1mx3.3/22, mbtmp3.3/8, Error ellipse: s-maj=29.0km s-min=14.3km az=55.0*

ISC 19 20:04:34.1±1.0, 4.°1N±0.°1×76.°4W±0.°1, h98km, n9, σ2.°00/7, mb3.6/8, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.24**	**70**	P		P	Pn	20 05 14.3	+4.3
	17nm,0.3s,baz=189,slow=1.7,SNR=92								
ROSC				S			Sn	**20 05 38.7**	**+1.2**
	12nm,0.3s,baz=266,slow=22,SNR=11								
LPAZ	**La Paz**	**21.86**	**158**	P		**P**	**P**	**20 09 21.6**	**+2.0**
	0.5nm,0.3s,baz=332,slow=11,SNR=7.3								
SIV	**San Ignacio**	**25.09**	**143**	P		**P**	**P**	**20 09 50.1**	**+0.2**
	3.5nm,0.6s,baz=332,slow=11,SNR=10								
BDFB	**Brasilia**	**34.30**	**126**	P		**P**	**P**	**20 11 09.7**	**-1.8**
	4.6nm,0.8s,baz=291,slow=11,SNR=7.3								
NVAR	**Mina Array Bea**	**51.15**	**318**	P		**P**	**P**	**20 13 29.6**	**+2.1**
	0.3nm,0.6s,baz=134,slow=7.6,SNR=3.2								
YKA	**Yellowknife Ar**	**64.73**	**342**	P		**P**	**P**	**20 15 00.1**	**-1.6**
	0.1nm,0.4s,baz=135,slow=6.3,SNR=2.2								
YKA				pP		PcP	PcP	20 15 40.3	+5.9
	0.2nm,0.6s,baz=134,slow=6.3,SNR=4.8								
DBIC	**Dimbokro**	**71.27**	**84**	P		P	P	20 15 38.1	-5.4
	1.3nm,0.5s,baz=239,slow=11,SNR=4.7								
TORD	**Torodi Ar. Bea**	**77.54**	**78**	P		P	P	20 16 15.8	-4.1
	0.8nm,0.5s,baz=291,slow=4.8,SNR=16								
ILAR	**Eielson Array**	**78.05**	**336**	P		**P**	**P**	**20 16 21.1**	**-0.6**
	0.4nm,0.9s,baz=123,slow=5.2,SNR=5.0								

*ISCJB **19** 20:12:17.4±1.0, 22.°0N±0.°1×143.°6E±0.°1, h33km, mb3.7/12, MS3.6/6, Error ellipse: s-maj=20.7km s-min=17.8km az=33.8*
*IDC **19** 20:12:26.1±4.1, 22.°21N×143.°47E, h87km±35km, mb3.4/13, mb1 3.6/15, mb1mx3.5/29, mbtmp3.4/15, MS3.6/7, Ms1 3.6/7, ms1mx3.4/23, Error ellipse: s-maj=24.2km s-min=19.7km az=146.0*

ISC 19 20:12:20.3±0.9, 22.°2N±0.°1×143.°5E±0.°2, h35km, n25, σ1.°55/13, mb3.7/12, MS3.7/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.05**	**346**	P		P	Pn	20 13 38.1	+4.5
	32nm,0.3s,baz=289,slow=20,SNR=4.2								
MJAR	**Matsushiro Arr**	**15.05**	**343**	P		**P**	**Pn**	**20 15 52.0**	**+1.7**
	0.2nm,0.3s,baz=157,slow=10,SNR=5.3								
JNU	**Nakatsue**	**15.62**	**317**	LR		LR	LR	20 21 06.3	
	comp=Z,103nm,19.6s,baz=162,slow=33								
KSRS	**Korea Array**	**20.33**	**322**	P		P	Pn	20 16 56.0	+0.4
	1.5nm,0.8s,baz=137,slow=10,SNR=3.0								
KSRS				LR		LR	LR	20 24 05.5	
	comp=Z,86nm,19.8s,baz=159,slow=34								
H11N1	**WAKE ISLAND Hy**	**21.97**	**92**	T		T	T	20 39 55.7	
	baz=281,slow=75,SNR=37								
H11N2	**WAKE ISLAND Hy**	**21.97**	**92**	T		T	T	20 40 03.9	
	baz=281,slow=75,SNR=23								
H11N3	**WAKE ISLAND Hy**	**21.98**	**92**	T		T	T	20 39 53.5	
	baz=281,slow=75,SNR=32								
H11S3	**WAKE ISLAND Hy**	**22.03**	**95**	T		T	T	20 40 07.6	
	baz=284,slow=73,SNR=28								
H11S1	**WAKE ISLAND Hy**	**22.04**	**95**	T		T	T	20 39 57.0	
	baz=284,slow=73,SNR=33								
H11S2	**WAKE ISLAND Hy**	**22.05**	**95**	T		T	T	20 40 08.9	
	baz=284,slow=73,SNR=30								
USRK	**Ussuriysk Arra**	**23.95**	**339**	P		**P**	**P**	**20 17 31.7**	**+0.5**
	0.2nm,0.8s,baz=117,slow=15,SNR=2.2								
HNR	**Honiara**	**35.30**	**151**	LR		LR	LR	20 31 16.1	
	comp=Z,104nm,19.5s,baz=1.1,slow=32								
SONM	**Songino Array**	**39.17**	**320**	P		**P**	**P**	**20 19 46.1**	**+1.1**
	0.6nm,0.8s,baz=64,slow=3.4,SNR=4.2								
SONM				LR		LR	LR	20 36 28.5	
	comp=Z,114nm,20.9s,baz=281,slow=37								
CMAR	**Chiang Mai Arr**	**41.85**	**273**	P		**P**	**P**	**20 20 05.4**	**-1.9**
	0.9nm,0.8s,baz=56,slow=8.9,SNR=7.7								
WRA	**Warramunga Arr**	**42.80**	**193**	P		**P**	**P**	**20 20 16.5**	**+1.6**
	0.3nm,0.4s,baz=14,slow=9.0,SNR=5.0								
FITZ	**Fitzroy Crossi**	**43.68**	**205**	LR		LR	LR	20 38 00.9	
	comp=Z,99nm,20.1s,baz=94,slow=35								
ZALV	**Zalesovo Beam**	**54.03**	**321**	P		**P**	**P**	**20 21 40.2**	**-0.8**
	1.0nm,0.7s,baz=79,slow=7.9,SNR=3.7								
ZALV				LR		LR	LR	20 45 13.9	
	comp=Z,66nm,19.9s,baz=248,slow=36								
MKAR	**Makanchi Array**	**54.61**	**312**	P		**P**	**P**	**20 21 46.1**	**+0.8**
	0.4nm,0.8s,baz=86,slow=8.8,SNR=2.8								
ILAR	**Eielson Array**	**61.48**	**27**	P		**P**	**P**	**20 22 32.9**	**-0.3**
	0.5nm,0.7s,baz=264,slow=5.3,SNR=5.8								
INK	**Inuvik**	**67.02**	**24**	P		**P**	**P**	**20 23 07.5**	**-1.9**
	1.2nm,0.8s,baz=292,slow=10,SNR=5.0								
YKA	**Yellowknife Ar**	**75.90**	**28**	P		**P**	**P**	**20 24 03.9**	**+0.9**
	0.5nm,0.7s,baz=292,slow=5.6,SNR=8.3								
YBH	**Yreka Blue Hor**	**78.28**	**50**	P		**P**	**P**	**20 24 18.3**	**+1.3**
	1.1nm,0.8s,baz=333,slow=9.0,SNR=2.9								
NVAR	**Mina Array Bea**	**82.61**	**52**	P		**P**	**P**	**20 24 38.3**	**-2.2**
	0.2nm,0.3s,baz=273,slow=7.8,SNR=3.7								
NOA	**NORSAR Array B**	**88.62**	**339**	LR		LR	LR	21 04 53.9	
	comp=Z,65nm,18.3s,baz=5.0,slow=36								
BRTR	**Keskin Array B**	**90.24**	**314**	P		**P**	**P**	**20 25 16.6**	**-1.1**
	0.8nm,0.9s,baz=22,slow=8.2,SNR=2.6								

*ISCJB **19** 20:19:42.6±0.5, 5.°34S±0.°04×128.°64E±0.°08, h337km, mb3.3/3, Error ellipse: s-maj=10.7km s-min=6.0km az=9.4*
*AUST **19** 20:19:42.3, 5.°49S×128.°52E, h300km*
*IDC **19** 20:19:46.2±3.6, 5.°54S×128.°53E, h346km±38km, mb3.0/3, mb1 3.3/6, mb1mx3.0/22, mbtmp3.2/6, Error ellipse: s-maj=65.0km s-min=12.0km az=70.0*
*DJA **19** 20:19:47.9±1.5, 5.°S±13.°×12.°9E±.°, h288km±12km, M3.1/4, MLv3.1/4*

ISC 19 20:19:43.4±0.8, 5.°34S±0.°07×128.°61E±0.°08, h337km, n21, σ1.°72/23, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.53**	**58**	P		P	**Pn**	**20 20 28.6**	**-1.8**
MSAI	**Masohi**	**2.01**	**9**	P		P	**Pn**	**20 20 32.2**	**-1.4**
NLAI	**Namlea**	**2.57**	**324**	P		P	**Pn**	**20 20 38.1**	**+0.1**
NLAI				S		S	**S**	**20 21 18.3**	**-3.6**
FAKI	**Fak Fak**	**4.36**	**57**	P		P	**Pn**	**20 20 55.9**	**+0.4**
FAKI				S		S	**S**	**20 21 50.2**	**-3.4**
FAKI	**Fak Fak**	**4.36**	**57**	P		P	**Pn**	**20 20 55.9**	**+0.4**
	baz=4.5,SNR=23								
LBMI	**Labuha**	**4.80**	**347**	P		**P**	**Pn**	**20 21 00.9**	**+0.6**
SWI	**Sorong**	**5.18**	**31**	P		**P**	**Pn**	**20 21 04.8**	**+0.3**
SOEI	**Soe**	**6.14**	**224**	P		**P**	**Pn**	**20 21 14.2**	**-1.4**
	baz=6.0,SNR=13								
MTN	**Manton Dam**	**7.86**	**162**	P		**P**	**Pn**	**20 21 34.1**	**-1.6**
	baz=7.8,SNR=4.4								
KNRA	**Kununurra**	**10.27**	**179**	P		**P**	**Pn**	**20 22 04.7**	**+0.1**
	baz=10,SNR=13								
FITZ	**Fitzroy Crossi**	**13.01**	**193**	P		**P**	**P**	**20 22 36.3**	**-0.5**
	0.3nm,0.3s,baz=27,slow=13,SNR=9.7								
FITZ				S		**S**	**S**	**20 24 58.9**	**-1.3**
	0.1nm,0.3s,baz=127,slow=20,SNR=2.6								
FITZ	**Fitzroy Crossi**	**13.01**	**193**	P		**P**	**P**	**20 22 36.4**	**-0.4**
	baz=13,SNR=4.0								
WRA	**Warramunga Arr**	**15.55**	**159**	P		**P**	**P**	**20 23 04.9**	**+0.2**
	0.8nm,0.3s,baz=334,slow=12,SNR=33								
QIS	**Mount Isa**	**18.52**	**146**	P		**P**	**P**	**20 23 40.1**	**+3.5**
	baz=18,SNR=22								
ASAR	**Alice Springs**	**18.92**	**165**	P		**P**	**P**	**20 23 41.4**	**+0.5**
	1.2nm,0.3s,baz=342,slow=11,SNR=101								
ASAR				S		**S**	**S**	**20 26 56.7**	**-1.2**
	0.1nm,0.3s,baz=347,slow=23,SNR=18								
WRKA	**Warakurna**	**19.59**	**181**	P		**P**	**P**	**20 23 47.8**	**-0.2**
	baz=20,SNR=5.5								
MEEK	**Meekatharra**	**23.23**	**203**	P		**P**	**P**	**20 24 21.2**	**-0.6**
	baz=23,SNR=5.3								
STKA	**Stephens Creek**	**29.07**	**157**	P		**P**	**P**	**20 25 14.9**	**+1.1**
	2.1nm,1.0s,baz=324,slow=14,SNR=3.9								
MKAR	**Makanchi Array**	**66.09**	**327**	P		P	P	20 29 57.8	+2.6
	0.5nm,0.5s,baz=120,slow=8.1,SNR=9.9								
KURBB	**Kurchatov Arra**	**70.38**	**329**	P		**P**	**P**	**20 30 24.0**	**+2.6**
	0.3nm,0.7s,baz=123,slow=5.9,SNR=6.0								
MAW	**Mawson**	**75.98**	**201**	P		P	P	20 30 57.9	+4.3
	baz=76,SNR=11								

*IDC **19** 20:27:33.6±0.9, 39.°05N×110.°72E, h0km, mb3.6/9, mb1 3.9/10, mb1mx3.7/27, mbtmp3.7/10, ML3.0/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/37, Error ellipse: s-maj=30.6km s-min=15.4km az=65.0*
*ISCJB **19** 20:27:36.6±0.8, 39.°09N±0.°09×110.°8E±0.°1, h33km, mb3.6/9, MS3.9/1, Error ellipse: s-maj=15.3km s-min=12.3km az=13.0*

ISC 19 20:27:38.8±1.0, 39.°1N±0.°1×110.°7E±0.°2, h35km, n24, σ0.°85/23, mb3.7/9, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.27**	**342**	Pn		**P**	**Pn**	**20 29 48.6**	**-1.4**
	0.1nm,0.3s,baz=154,slow=13,SNR=43								
SONM				Lg		Lg	Lg	20 32 29.0	
	0.3nm,0.3s,baz=144,slow=27,SNR=8.9								
MKAR	**Makanchi Array**	**22.06**	**300**	P		**P**	**P**	**20 32 31.1**	**+0.6**
	2.7nm,0.9s,baz=100,slow=12,SNR=12								
TAPN	**Taplejung**	**22.42**	**245**	*e*P		**P**	**P**	**20 32 35.9**	**+1.1**
	18nm,1.1s								
CMAR	**Chiang Mai Arr**	**22.94**	**210**	P		**P**	**P**	**20 32 39.2**	**-0.7**
	6.8nm,0.8s,baz=13,slow=9.5,SNR=82								
ODAN	**Odare**	**22.95**	**245**	*e*P		**P**	**P**	**20 32 39.5**	**-0.7**
	52nm,1.4s								
ZALV	**Zalesovo Beam**	**23.00**	**319**	P		**P**	**P**	**20 32 41.0**	**+0.8**
	0.8nm,0.8s,baz=119,slow=12,SNR=5.0								
JIRN	**Jiri**	**23.32**	**248**	*e*P		**P**	**P**	**20 32 44.4**	**+0.2**
	16nm,0.8s								
GUN	**Gumba**	**23.41**	**249**	*e*P		**P**	**P**	**20 32 45.0**	**+0.1**
	24nm,0.9s								
RAMN	**Ramite**	**23.45**	**246**	*e*P		**P**	**P**	**20 32 43.9**	**-1.4**
	21nm,1.1s								
KKN	**Kakani**	**23.91**	**250**	*e*P		**P**	**P**	**20 32 49.7**	**+0.1**
	17nm,0.9s								
PKI	**Pulchoki**	**23.94**	**249**	*e*P		**P**	**P**	**20 32 50.6**	**+0.6**
	31nm,1.0s								
PKIN	**Phulchoki**	**23.95**	**249**	*e*P		**P**	**P**	**20 32 50.6**	**+0.6**
	18nm,1.0s								
DMN	**Daman**	**24.14**	**249**	*e*P		**P**	**P**	**20 32 52.3**	**+0.5**
GKN	**Gorkha**	**24.26**	**251**	*e*P		**P**	**P**	**20 32

YUS	**Yu-Shan**			**0.75**	**253**	⇓*i*P	**Pn**	**20 33 17.8 +0.2**	**SCLT**	**Jiali**			**1.51**	**249**	*e*P	**Pb**	**20 33 28.5 -1.2**	**TEGC**	**Jichi Village**			**0.15**	**221**	*e*P	Pn	20 55 01.2 +0.5
	baz=248									baz=246									baz=289							
YUS						S	**Sb**	**20 33 27.4 +0.3**	SCLT						*e*S	**Sb**	**20 33 47.5 -0.9**	TEGC						*e*S	Sn	20 55 07.0 +1.6
	baz=248									baz=246									baz=210							
SMLT	**Sun Moon Lake**			**0.78**	**283**	⇑*i*P	**Pn**	**20 33 17.5 -0.1**	**TAI1**	**Yung-k'ang**			**1.53**	**244**	*e*P	**Pb**	**20 33 29.2 -0.9**	**HWA**	**Hwalien**			**0.16**	**344**	*e*P	Pn	20 55 00.9 +0.2
	baz=283									baz=254									baz=356							
SMLT						S	**Sb**	**20 33 27.5 0.0**	TAI1						*e*S	**Sb**	**20 33 47.8 -1.3**	HWA						*e*S	Sn	20 55 05.5 0.0
	baz=283									baz=254									baz=356							
NNS	**Nan Shan**			**0.79**	**336**	⇑P	**Pb**	**20 33 17.1 -0.5**	**EAST**	**Anshuo**			**1.55**	**212**	*e*P	**Pn**	**20 33 27.5 -0.8**	**ESL**	**Shilin**			**0.20**	**267**	⇑*i*P	Pn	20 55 00.9 -0.1
	baz=339									baz=203									baz=265							
NNS						*e*S	**Sb**	**20 33 27.2 -0.8**	**TAW**	**Tawu**			**1.55**	**210**	*e*P	**Pn**	**20 33 28.7 +0.5**	ESL						*e*S	Sn	20 55 05.6 -0.5
	baz=339									baz=207									baz=265							
TYC	**Yuchr**			**0.82**	**283**	⇑*i*P	**Pn**	**20 33 17.9 -0.2**	TAW						*e*S	**Sn**	**20 33 46.3 -1.2**	**TWD**	**Chiawan**			**0.26**	**349**	⇓P	Pn	20 55 01.6 +0.1
	baz=286									baz=207									baz=352							
TYC						S	**Sb**	**20 33 28.3 -0.3**	**TWY**	**Chenhua**			**1.56**	**356**	*e*P	**Pn**	**20 33 29.3 +1.0**	TWD						S	Sn	20 55 07.5 +0.5
	baz=286									baz=348									baz=352							
ELDTW	**Lidau**			**0.84**	**231**	⇓*i*P	**Pb**	**20 33 17.9 -0.4**	TWY						*e*S	**Sn**	**20 33 48.0 +0.4**	**EHY**	**Hungye**			**0.44**	**224**	⇓P	Pn	20 55 03.0 -0.6
	baz=225									baz=348									baz=222							
ELDTW						S	**Sb**	**20 33 29.0 -0.3**	**LAY**	**Lan-yu**			**1.68**	**186**	*e*P	**Pn**	**20 33 28.8 -1.1**	EHY						S	Sn	20 55 09.4 -1.2
	baz=225									baz=177									baz=222							
ALS	**Alishan**			**0.87**	**257**	⇓*e*P	**Pn**	**20 33 19.4 +0.3**	LAY						*e*S	**Sn**	**20 33 47.9 -2.6**	**WHF**	**Hehuan Shan**			**0.48**	**312**	⇑*i*P	Pn	20 55 04.3 -0.4
	baz=260									baz=177									baz=306							
ALS						*e*S	**Sb**	**20 33 30.3 -0.1**	**SCZT**	**Fangliau**			**1.68**	**218**	*e*P	**Pn**	**20 33 30.6 +0.6**	WHF						*e*S	Sn	20 55 11.7 -0.7
	baz=260									baz=215									baz=306							
TWC	**Suao**			**0.90**	**7**	P	**Pn**	**20 33 19.0 -0.2**	SCZT						*e*S	**Sb**	**20 33 52.1 -1.3**	**EHP**	**Heping Village**			**0.49**	**10**	*e*P	Pn	20 55 04.3 +0.1
	baz=10.0									baz=215									baz=16							
TWC						*e*S	**Sb**	**20 33 30.8 -0.1**	**TWP**	**Hsiaoliuchiu**			**1.85**	**223**	*e*P	**Pn**	**20 33 33.2 +0.9**	**TWF1**	**Yuli**			**0.57**	**215**	⇓P	Pn	20 55 04.7 -0.7
	baz=10.0									baz=221									baz=222							
ENTT	**Nioudou**			**0.93**	**351**	⇑*i*P	**Pn**	**20 33 19.3 -0.4**	**HEN**	**Hengchun**			**1.93**	**208**	*e*P	**Pn**	**20 33 34.0 +0.6**	TWF1						*e*S	Sn	20 55 12.5 -1.3
	baz=347									baz=196									baz=222							
ENTT						S	**Sb**	**20 33 31.0 -0.9**	HEN						*e*S	**Sn**	**20 33 58.0 +1.2**	**ENA**	**Nanau**			**0.60**	**8**	⇓P	Pn	20 55 05.9 +0.1
	baz=347									baz=196									baz=19							
CHN5	**Tsauling**			**0.97**	**263**	⇓P	**Pb**	**20 33 20.9 +0.3**	**HATJ**	**Hateruma jima**			**1.93**	**79**	P	**Pn**	**20 33 33.9 +0.5**	ENA						S	Sn	20 55 14.7 +0.2
	baz=260									baz=13									baz=19							
CHN5						*e*S	**Sn**	**20 33 33.9 +0.7**	HATJ						*e*S	**Sn**	**20 33 56.8 0.0**	**TWT**	**Tachien**			**0.61**	**314**	⇑*i*P	Pn	20 55 06.6 +0.5
	baz=260								**PCYT**	**Pengchaiyu**			**1.93**	**9**	*e*P	**Pn**	**20 33 33.8 +0.4**		baz=313							
WNT	**Mingjian**			**0.97**	**280**	⇑*i*P	**Pb**	**20 33 21.1 +0.6**		baz=13								TWT						S	Sn	20 55 15.2 +0.2
	baz=278								PCYT						*e*S	**Sn**	**20 33 56.5 -0.3**		baz=313							
WNT						*e*S	**Sn**	**20 33 34.0 +0.9**		baz=13								**NNS**	**Nan Shan**			**0.66**	**337**	⇑*i*P	Pn	20 55 06.8 0.0
	baz=278								**IRIF**	**Iriomote-Funau**			**1.93**	**71**	P	**Pn**	**20 33 33.7 +0.3**		baz=338							
NSK	**Sanguang**			**1.01**	**341**	⇑*i*P	**Pn**	**20 33 20.6 -0.3**	IRIF						*e*S	**Sn**	**20 33 57.3 +0.5**	NNS						*e*S	Sn	20 55 16.1 -0.1
	baz=344								**WDGT**	**Dungji**			**1.95**	**257**	*e*P	**Pn**	**20 33 33.4 -0.3**		baz=338							
NSK						*e*S	**Sn**	**20 33 32.7 -1.6**	WDGT						*e*S	**Sn**	**20 33 56.9 -0.4**	**SMLT**	**Sun Moon Lake**			**0.69**	**275**	⇑*i*P	Pn	20 55 07.5 +0.4
	baz=344									baz=255									baz=277							
ILA	**Ilan**			**1.05**	**1**	*e*P	**Pn**	**20 33 21.0 -0.2**	**TWK1**	**Hengchun**			**1.96**	**206**	*e*P	**Pn**	**20 33 33.8 +0.1**	SMLT						*e*S	Sn	20 55 16.7 -0.1
	baz=355									baz=204									baz=277							
ILA						*e*S	**Sb**	**20 33 35.3 +0.2**	TWK1						*e*S	**Sn**	**20 33 57.8 +0.4**	**YUS**	**Yu-Shan**			**0.72**	**243**	P	Pn	20 55 08.3 +0.2
	baz=355									baz=204									baz=242							
STYT	**Tauyuan**			**1.05**	**239**	⇓*i*P	**Pb**	**20 33 22.0 +0.1**	**TSEB**	**Hengchuen, Pin**			**1.96**	**203**	*e*P	**Pn**	**20 33 35.2 +1.3**	YUS						*e*S	Sn	20 55 17.9 -0.6
	baz=228									baz=203									baz=242							
STYT						*e*S	**Sb**	**20 33 35.3 +0.1**	TSEB						*e*S	**Sn**	**20 33 58.4 +0.9**	**TYC**	**Yuchr**			**0.73**	**276**	⇑P	Pn	20 55 07.9 +0.4
	baz=228									baz=203									baz=280							
TCU	**Taichung**			**1.05**	**294**	⇑*i*P	**Pb**	**20 33 22.3 +0.4**	**JKRS**	**Kuro-shima**			**2.15**	**76**	P	**Pn**	**20 33 37.2 +0.8**	TYC						*e*S	Sn	20 55 17.6 +0.1
	baz=294								JKRS						*e*S	**Sn**	**20 34 03.2 +1.0**		baz=280							
TCU						*e*S	**Sb**	**20 33 35.3 0.0**	**JIJ**	**Ishigaki jima**			**2.30**	**73**	P	**Pn**	**20 33 38.7 +0.2**	**CHKT**	**Chengkung**			**0.77**	**200**	*e*P	Pn	20 55 08.0 -0.1
	baz=294								JIJ						*e*S	**Sn**	**20 34 05.2 -0.7**		baz=187							
WGK	**Gukeng**			**1.07**	**269**	⇓*e*P	**Pb**	**20 33 22.2 +0.1**	**JTJ**	**Tarama**			**2.87**	**71**	P	**Pn**	**20 33 46.6 +0.3**	CHKT						*e*S	Sn	20 55 19.1 +0.6
	baz=266								JTJ						*e*S	**Sn**	**20 34 19.3 -0.7**		baz=187							
WGK						*e*S	**Sb**	**20 33 36.2 +0.5**	**KNM**	**Kinmen**			**3.09**	**284**	*e*P	**Pn**	**20 33 49.8 +0.4**	**TWC**	**Suao**			**0.80**	**13**	*e*P	Pn	20 55 08.9 +0.4
	baz=266									baz=284									baz=21							
TWG	**Pinlang**			**1.07**	**214**	*e*P	**Pn**	**20 33 20.6 -1.1**	**QZH**	**Quanzhou**			**3.11**	**294**	Pn	Pn	20 33 44.8 -4.8	TWC						*e*S	Sn	20 55 20.6 +1.4
	baz=211								QZH						Sn	Sn	20 34 17.9 -8.0		baz=21							
TWG						*e*S	**Sn**	**20 33 34.3 -1.3**	QZH						smax	smax		**ENTT**	**Nioudou**			**0.81**	**354**	⇑P	Pn	20 55 08.9 +0.2
	baz=211									comp=N,480nm,0.6s									baz=355							
TWQ1	**Liyutan**			**1.08**	**306**	P	**Pb**	**20 33 22.4 +0.1**	QZH						smax	smax		ENTT						*e*S	Sn	20 55 20.2 +0.6
	baz=307									comp=E,330nm,0.7s									baz=355							
TWQ1						*e*S	**Sb**	**20 33 36.1 +0.1**	**JMJ**	**Miyako jima 2**			**3.43**	**71**	*e*S	**Sn**	**20 34 34.0 +0.1**	**ALS**	**Alishan**			**0.84**	**248**	*e*P	Pn	20 55 09.8 +0.4
	baz=307								**JOGS**	**Gusukube**			**3.52**	**72**	P	**Pn**	**20 33 56.1 +0.9**		baz=248							
TTN	**Taitung**			**1.09**	**209**	*e*P	**Pn**	**20 33 21.8 -0.1**	JOGS						*e*S	**Sn**	**20 34 36.8 +0.9**	ALS						*e*S	Sn	20 55 20.8 -0.1
	baz=206								**JKE**	**Kume jima 2**			**5.27**	**59**	P	**Pn**	**20 34 18.0 -1.4**		baz=248							
TTN						*e*S	**Sb**	**20 33 36.7 +0.1**	JKE						*e*S	**Sn**	**20 35 18.5 -0.8**	**ELDTW**	**Lidau**			**0.86**	**223**	*e*P	Pn	20 55 09.1 -0.3
	baz=206																		baz=217							
CHN4	**Tsaushan**			**1.10**	**251**	*e*P	**Pb**	**20 33 22.9 +0.1**										ELDTW						S	Sn	20 55 20.5 -0.5
	baz=248																		baz=217							
CHN4						*e*S	**Sb**	**20 33 37.8 +1.1**										**NSK**	**Sanguang**			**0.89**	**342**	⇑*i*P	Pn	20 55 10.3 +0.5
	baz=248																		baz=342							
WTP	**Ta-pu**			**1.12**	**246**	⇓P	**Pb**	**20 33 23.3 +0.2**										NSK						S	Sn	20 55 21.5 -0.1
	baz=242																		baz=342							
WTP						*e*S	**Sb**	**20 33 38.0 +0.6**										**WNT**	**Mingjian**			**0.89**	**274**	P	Pn	20 55 11.1 +1.4
	baz=242																		baz=273							
NSY	**Sanyi**			**1.12**	**309**	⇑P	**Pb**	**20 33 23.1 -0.1**										WNT						*e*S	Sn	20 55 23.3 +2.0
	baz=310																		baz=273							
NSY						*e*S	**Sb**	**20 33 37.5 0.0**										**CHN5**	**Tsauling**			**0.92**	**256**	⇓*e*P	Pn	20 55 11.3 +1.1
	baz=310																		baz=256							
NSTT	**Nanjuang**			**1.13**	**324**	⇑*i*P	**Pb**	**20 33 23.1 -0.1**										CHN5						*e*S	Sn	20 55 24.0 +1.6
	baz=313																		baz=256							
NSTT						S	**Sn**	**20 33 36.8 -0.2**										**ILA**	**Ilan**			**0.94**	**5**	*e*P	Pn	20 55 10.8 +0.4
	baz=313																		baz=355							
CHY	**Chiayi**			**1.22**	**260**	*e*P	**Pb**	**20 33 24.2 -0.5**										**TCU**	**Taichung**			**0.95**	**290**	*e*P	Pn	20 55 12.0 +1.5
	baz=257																		baz=290							
CHY						*e*S	**Sb**	**20 33 40.3 +0.4**										TCU						*e*S	Sn	20 55 25.0 +2.2
	baz=257																		baz=290							
CHN1	**Nanshi**			**1.22**	**245**	⇓P	**Pb**	**20 33 24.6 -0.1**										**TWQ1**	**Liyutan**			**0.96**	**303**	⇑P	Pn	20 55 12.2 +1.5
	baz=241																		baz=302							
CHN1						*e*S	**Sb**	**20 33 40.6 +0.5**										TWQ1						*e*S	Sn	20 55 24.4 +1.3
	baz=241																		baz=302							
TWK	**Hsinying**			**1.22**	**249**	*e*P	**Pb**	**20 33 24.4 -0.5**										**NSTT**	**Nanjuang**			**1.00**	**324**	⇑*i*P	Pn	20 55 12.8 +1.6
	baz=245																		baz=310							
TWK						*e*S	**Sb**	**20 33 40.5 +0.3**										NSTT						*e*S	Sn	20 55 25.9 +1.8
	baz=245																		baz=310							
SGST	**Jiashian**			**1.23**	**239**	⇓P	**Pb**	**20 33 25.0 +0.2**										**NSY**	**Sanyi**			**1.00**	**306**	*e*P	Pn	20 55 12.7 +1.4
	baz=236																		baz=305							
SGST						*e*S	**Sb**	**20 33 41.4 +1.1**										NSY						*e*S	Sn	20 55 26.1 +1.8
	baz=236																		baz=305							
HSN	**Hsinchu**			**1.28**	**328**	*e*P	**Pn**	**20 33 24.8 +0.2**										**WGK**	**Gukeng**			**1.01**	**262**	*e*P	Pn	20 55 12.5 +1.2
	baz=332																		baz=262							
HSN						*e*S	**Sb**	**20 33 42.1 +0.1**										WGK						*e*S	Sn	20 55 26.4 +2.1
	baz=332																		baz=262							
TWB1	**Santiao Chiao**			**1.31**	**10**	*e*P	**Pn**	**20 33 25.0 +0.2**										**STYT**	**Tauyuan**			**1.05**	**231**	*e*P	Pn	20 55 12.8 +0.8
	baz=13																		baz=227							
TWB1						*e*S	**Sn**	**20 33 41.2 -0.3**										STYT						*e*S	Sn	20 55 26.8 +1.2
	baz=13																		baz=227							
ECL	**Taimali**			**1.32**	**213**	*e*P	**Pn**	**20 33 23.8 -1.3**										**CHN4**	**Tsaushan**			**1.08**	**244**	*e*S	Sn	20 55 29.0 +2.8
	baz=210																		baz=244							
ECL						*e*S	**Sn**	**20 33 40.9 -0.8**										**WTP**	**Ta-pu**			**1.11**	**239**	*e*P	Pn	20 55 14.0 +1.1
	baz=210																		baz=239							
TAP1	**Taipei**			**1.33**	**352**	*e*P	**Pn**	**20 33 25.2 +0.1**										WTP						*e*S	Sn	20 55 28.9 +1.9
	baz=356																		baz=239							
TAP1						*e*S	**Sn**	**20 33 41.6 -0.4**										**TWG**	**Pinlang**			**1.13**	**208**	⇓P	Pn	20 55 11.8 -1.3
	baz=356																		baz=194							
WTCT	**Ta-ch'eng**			**1.33**	**277**	*e*P	**Pn**	**20 33 25.7 +0.5**										TWG						*e*S	Sn	20 55 27.9 +0.5
	baz=275																		baz=194							
WTCT						*e*S	**Sb**	**20 33 43.8 +0.5**										**HSN**	**Hsinchu**			**1.15**	**327**	*e*P	Pn	20 55 14.5 +1.1
	baz=275																		baz=329							
TAP	**Taipei**			**1.33**	**351**	*e*P	**Pn**	**20 33 25.5 +0.3**										HSN						*e*S	Sn	20 55 29.8 +1.9
	baz=356																		baz=329							
TAP						*e*S	**Sn**	**20 33 42.1 0.0**										**TTN**	**Taitung**			**1.16**	**204**	*e*P	Pn	20 55 14.6 +1.2
	baz=356																		baz=200							
NCU	**National Centr**			**1.34**	**339**	*e*P	**Pn**	**20 33 25.6 +0.3**										TTN						*e*S	Sn	20 55 29.0 +0.9
	baz=342																		baz=200							
NCU						*e*S	**Sn**	**20 33 42.6 +0.3**										**CHY**	**Chiayi**			**1.17**	**254**	*e*P	Pn	20 55 14.9 +1.3
	baz=342																		baz=255							
NWF	**Wu-fen Shan**			**1.35**	**2**	*e*P	**Pn**	**20 33 25.7 +0.2**										CHY						*e*S	Sn	20 55 30.7 +2.3
	baz=354																		baz=255							
NWF						*e*S	**Sn**	**20 33 42.7 +0.1**										**TWK**	**Hsinying**			**1.21**	**243**	*e*P	Pn	20 55 15.2 +1.1
	baz=354																		baz=242							
WSF	**Szhu**			**1.38**	**267**	*e*P	**Pn**	**20 33 26.1 +0.3**										TWK						*e*S	Sn	20 55 31.1 +1.8
	baz=253																		baz=242							
WSF						*e*S	**Sb**	**20 33 44.3 -0.4**										**CHN1**	**Nanshi**			**1.21**	**238**	*e*P	Pn	20 55 15.6 +1.5
	baz=253																		baz=239							
YOJ	**Yonaguni jima**			**1.39**	**57**	P	**Pn**	**20 33 26.3 +0.4**										CHN1						*e*S	Sn	20 55 31.8 +2.3
YOJ						*e*S	**Sn**	**20 33 44.1 +0.7**											baz=239							
YOJ	**Yonaguni jima**			**1.39**	**57**	⇑P	**Pn**	**20 33 26.4 +0.5**										**TAP1**	**Taipei**			**1.21**	**354**	*e*P	Pn	20 55 15.2 +1.1
	baz=59																		baz=352							
YOJ						*e*S	**Sn**	**20 33 44.0 +0.5**										TAP1						*e*S	Sn	20 55 30.2 +0.9
	baz=59																		baz=352							
SSD	**Sandimen**			**1.40**	**226**	⇑*e*P	**Pn**	**20 33 26.5 +0.4**										**NCU**	**National Centr**			**1.22**	**340**	*e*P	Pn	20 55 15.2 +1.0
	baz=222																		baz=338							
SSD						*e*S	**Sn**	**20 33 44.1 +0.5**										NCU						*e*S	Sn	20 55 31.6 +2.1
	baz=222																		baz=338							
CHN3	**Shinhua**			**1.40**	**243**	*e*P	**Pb**	**20 33 27.0 -0.9**										**TAP**	**Taipei**			**1.22**	**354**	*e*P	Pn	20 55 14.8 +0.7
	baz=240																		baz=352							
CHN3						*e*S	**Sb**	**20 33 46.2 +0.9**										TAP						*e*S	Sn	20 55 30.9 +1.5
	baz=240																		baz=352							
TWS1	**Kuangyinshan**			**1.41**	**349**	*e*P	**Pn**	**20 33 26.5 +0.3**										**TWB1**	**Santiao Chiao**			**1.22**	**15**	*e*P	Pn	20 55 15.0 +0.8
	baz=353																		baz=31							
TWS1						*e*S	**Sn**	**20 33 43.8 -0.1**										TWB1						*e*S	Sn	20 55 31.0 +1.6
	baz=353																		baz=31							
CHN8	**Yiju**			**1.44**	**256**	*e*P	**Pn**	**20 33 27.0 +0.3**										**SGST**	**Jiashian**			**1.23**	**233**	⇑*e*P	Pn	20 55 16.2 +1.8
	baz=253																		baz=233							
CHN8						*e*S	**Sb**	**20 33 45.3 -1.1**										SGST						*e*S	Sn	20 55 32.5 +2.7
	baz=253																		baz=233							
TWM1	**Shoushan**			**1.49**	**234**	*e*P	**Pb**	**20 33 29.6 +0.2**										**NWF**	**Wu-fen Shan**			**1.25**	**5**	*e*P	Pn	20 55 16.0 +1.3
	baz=245																		baz=352							
SGLT	**Jiouru**			**1.50**	**229**	*e*P	**Pb**	**20 33 29.1 -0.4**										NWF						*e*S	Sn	20 55 31.9 +1.5
	baz=213																		baz=352							
SGLT						*e*S	**Sb**	**20 33 50.9 +2.6**										**WTCT**	**Ta-ch'eng**			**1.26**	**272**	*e*P	Pn	20 55 16.1 +1.4
	baz=213																		baz=272							

*ISCJB **19** 20:36:02.3±0.6, 41°.80N±0°.05×143°.24E±0°.06, h73km±4km, mb3.6/8, Error ellipse: s-maj=9.9km s-min=5.9km az=139.9*

*IDC **19** 20:36:03.2±2.2, 41°.86N×143°.39E, h70km±18km, mb3.4/8, mb1 3.5/10, mb1mx3.3/26, mbtmp3.4/10, Error ellipse: s-maj=40.7km s-min=14.3km az=81.0*

*JMA **19** 20:36:04.0±0.1, 41°.84N×143°.22E, h63km±1km, M3.6*

ISC 19 20:36:03.3±1.0, 41°.81N±0°.06×143°.24E±0°.05, h66km±7km, n27, σ0°58/32, mb3.7/8, 1C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.22**	**345**	⇓P		**Pn**	**20 36 13.6**	**+0.1**
JEM				*e*S		**Sn**	**20 36 20.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.59**	**323**	⇓P		**Pn**	**20 36 16.9**	**+0.2**
JNBK				*e*S		**Sn**	**20 36 27.1**	**+0.5**
JCH	**Churui**	**0.81**	**7**	⇓P		**Pn**	**20 36 19.4**	**+0.1**
JCH				*e*S		**Sn**	**20 36 30.9**	**-0.1**
JBT2	**Biratori 2**	**1.17**	**327**	P		**Pn**	**20 36 24.1**	**+0.4**
JOB	**Onbets**	**1.18**	**22**	P		**Pn**	**20 36 24.5**	**+0.6**
JOB				*e*S		**Sn**	**20 36 39.8**	**+0.5**
JFR	**Furan**	**1.44**	**341**	P		**Pn**	**20 36 26.9**	**-0.4**
JFR				*e*S		**Sn**	**20 36 43.8**	**-1.6**
JAR	**Ashorobuto**	**1.54**	**15**	P		**Pn**	**20 36 28.8**	**+0.1**
JAR				*e*S		**Sn**	**20 36 47.3**	**-0.5**
JAK	**Akkeshi**	**1.61**	**42**	⇑P		**Pn**	**20 36 29.6**	**+0.1**
JAK				*e*S		**Sn**	**20 36 49.1**	**-0.3**
JKB	**Kayabe**	**1.65**	**274**	P		**Pn**	**20 36 29.9**	**-0.1**
JKB				*e*S		**Sn**	**20 36 49.5**	**-0.8**
JEW	**Eniwo**	**1.68**	**309**	P		**Pn**	**20 36 31.4**	**+0.9**
JEW				*e*S		**Sn**	**20 36 51.8**	**+0.7**
JOT	**Ohata**	**1.69**	**256**	P		**Pn**	**20 36 30.8**	**+0.1**
JOT				*e*S		**Sn**	**20 36 51.0**	**-0.4**
ASAJ	**Asahikawa**	**2.36**	**349**	P		**Pn**	**20 36 40.9**	**+1.2**
	3.6nm,0.3s,baz=191,slow=14,SNR=56							
ASAJ				S		**Sn**	**20 37 07.4**	**-0.1**
	5.9nm,0.3s,baz=245,slow=31,SNR=10							
MJAR	**Matsushiro Arr**	**6.55**	**218**	P		**Pn**	**20 37 37.7**	**+0.8**
	0.2nm,0.3s,baz=33,slow=12,SNR=3.7							
SONM	**Songino Array**	**26.63**	**296**	P		**P**	**20 41 36.2**	**+0.6**
	0.4nm,0.5s,baz=83,slow=8.2,SNR=11							
H11N2	**WAKE ISLAND Hy**	**29.78**	**130**	T		T	21 13 35.4	
	baz=326,slow=76,SNR=42							
H11N1	**WAKE ISLAND Hy**	**29.79**	**130**	T		T	21 13 40.3	
	baz=326,slow=76,SNR=53							
H11N3	**WAKE ISLAND Hy**	**29.80**	**130**	T		T	21 13 42.0	
	baz=326,slow=76,SNR=47							
H11S1	**WAKE ISLAND Hy**	**30.65**	**132**	T		T	21 14 42.1	
	baz=329,slow=76,SNR=47							
H11S3	**WAKE ISLAND Hy**	**30.65**	**132**	T		T	21 14 46.9	
	baz=329,slow=76,SNR=46							
H11S2	**WAKE ISLAND Hy**	**30.67**	**132**	T		T	21 14 43.9	
	baz=329,slow=76,SNR=29							
ZALV	**Zalesovo Beam**	**39.90**	**308**	P		**P**	**20 43 30.3**	**-0.1**
	0.5nm,0.5s,baz=90,slow=14,SNR=3.3							
MKAR	**Makanchi Array**	**42.95**	**298**	P		**P**	**20 43 55.9**	**+0.4**
	0.5nm,0.5s,baz=82,slow=9.7,SNR=9.2							
KURBB	**Kurchatov Arra**	**44.32**	**304**	P		**P**	**20 44 06.5**	**+0.1**
	1.0nm,0.4s,baz=76,slow=9.2,SNR=17							
WRA	**Warramunga Arr**	**61.98**	**189**	P		**P**	**20 46 16.1**	**-0.3**
	0.5nm,0.4s,baz=7.0,slow=6.8,SNR=16							
FINES	**FINESS Array B**	**65.26**	**332**	P		**P**	**20 46 36.9**	**-0.6**

WTCT				*e*S		Sn	20 55 32.7	+2.3	
	baz=272								
TWS1	**Kuangyinshan**	**1.29**	**350**	*e*P		Pn	20 55 16.3	+1.1	
	baz=360								
TWS1				*e*S		Sn	20 55 32.4	+1.2	
	baz=360								
WSF	**Szhu**	**1.32**	**262**	*e*P		Pn	20 55 16.9	+1.3	
	baz=263								
WSF				*e*S		Sn	20 55 34.4	+2.3	
	baz=263								
ECL	**Taimali**	**1.38**	**208**	*e*P		Pn	20 55 15.0	-1.5	
	baz=195								
ECL				*e*S		Sn	20 55 34.5	+1.0	
	baz=195								
YOJ	**Yonaguni jima**	**1.39**	**63**⇓	*e*P		Pn	20 55 17.3	+0.7	
	baz=66								
YOJ				*e*S		Sn	20 55 33.9	+0.2	
	baz=66								
CHN3	**Shinhua**	**1.40**	**238**	*e*P		Pn	20 55 18.7	+2.1	
	baz=238								
CHN3				*e*S		Sn	20 55 37.3	+3.4	
	baz=238								
CHN8	**Yiju**	**1.41**	**250**	*e*P		Pn	20 55 17.8	+1.0	
	baz=252								
CHN8				*e*S		Sn	20 55 36.3	+2.3	
	baz=252								
SSD	**Sandimen**	**1.43**	**221**	*e*P		Pn	20 55 17.7	+0.6	
	baz=221								
SSD				*e*S		Sn	20 55 36.3	+1.6	
	baz=221								
SCLT	**Jiali**	**1.49**	**244**	*e*P		Pn	20 55 18.8	+0.9	
	baz=246								
SCLT				*e*S		Sn	20 55 38.1	+2.1	
	baz=246								
TWM1	**Shoushan**	**1.51**	**229**	*e*P		Pn	20 55 21.3	+3.1	
	baz=228								
TWM1				*e*S		Sn	20 55 39.6	+3.0	
	baz=228								
TAI1	**Yung-k'ang**	**1.52**	**239**	*e*P		Pn	20 55 19.8	+1.4	
	baz=254								
TAI1				*e*S		Sn	20 55 39.4	+2.5	
	baz=254								
SGLT	**Jiouru**	**1.53**	**224**	*e*P		Pn	20 55 21.3	+2.8	
	baz=225								
EAST	**Anshuo**	**1.62**	**207**	*e*P		Pn	20 55 19.8	+0.1	
	baz=196								
EAST				*e*S		Sn	20 55 40.9	+1.6	
	baz=196								
TAW	**Tawu**	**1.62**	**206**	*e*P		Pn	20 55 21.0	+1.3	
	baz=196								
SCZT	**Fangliau**	**1.73**	**213**	*e*P		Pn	20 55 22.6	+1.3	
	baz=211								
SCZT				*e*S		Sn	20 55 44.0	+1.9	
	baz=211								
LAY	**Lan-yu**	**1.78**	**183**	*e*P		Pn	20 55 21.4	-0.6	
	baz=173								
LAY				*e*S		Sn	20 55 41.9	-1.5	
	baz=173								
TWK1	**Hengchun**	**2.03**	**203**	*e*P		Pn	20 55 26.1	+0.7	
	baz=198								
TWK1				*e*S		Sn	20 55 50.1	+0.6	
	baz=198								
KNM	**Kinmen**	**3.00**	**282**	*e*P		Pn	20 55 40.0	+1.4	
	baz=280								

*ISCJB **19** 20:56:12.7±1.1, 16°.07S±0°.05×73°.71W±0°.06, h40km±10km, mb4.5/20, MS3.9/6, Error ellipse: s-maj=10.5km s-min=7.6km az=137.9*
*IDC **19** 20:56:14.6±0.7, 16°.09S×73°.65W, h42km±5km, mb4.2/10, mb1 4.2/13, mb1mx4.1/19, mbtmp4.2/13, ML4.7/2, MS3.7/9, Ms1 3.7/9, ms1mx3.4/29, Error ellipse: s-maj=21.9km s-min=15.8km az=60.0*
*NEIC **19** 20:56:14.1±0.6, 16°.09S×73°.75W, h40km±5km, mb4.6/9, Error ellipse: s-maj=9.1km s-min=5.8km az=66.0*
NEIC Felt [III] at Atico and Ocona and [II] at Arequipa.

ISC 19 20:56:14.0±0.5, 16°.16S±0°.06×73°.76W±0°.06, h42km±4km, h41km:pP-P, n89, σ0°99/85, mb4.6/20, MS3.9/6, 1C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
ARE	**Arequipa**	**2.20**	**98**	⇓*i*	P	**Pn**	**20 56 49.7**	**+1.3**	
ARE				*i*	S	**Sn**	**20 57 13.7**	**-0.8**	
NNA	**Nana**	**5.11**	**324**	*e*	Pn	**Pn**	**20 57 29.1**	**+1.0**	
	131nm,0.4s								
NNA					eSn	Sn	20 58 37.1	+11	
LPAZ	**La Paz**	**5.41**	**92**	*e*	Pn	**Pn**	**20 57 37.8**	**+5.0**	
LPAZ					S	**Sn**	**20 58 41.9**	**+7.7**	
LPAZ					eSn	Sn	20 58 44.7	+10	
LPAZ	**La Paz**	**5.41**	**92**	P		Pn	20 57 36.9	+4.1	
	19nm,0.3s,baz=274,slow=9.0,SNR=226								
LPAZ					S	Sn	20 58 41.9	+7.7	
	baz=217,slow=15,SNR=0.9								
LPAZ					LR	LR	20 59 56.3		
	comp=Z,706nm,20.7s,baz=274,slow=42								
LVC	**Limon Verde**	**7.89**	**145**	*e*	Pn	**Pn**	**20 58 07.2**	**+0.8**	
	39nm,0.6s								
LVC					eSn	**Sn**	**20 59 31.6**	**-3.0**	
ATAH	**Atahualpa**	**10.05**	**333**	P		Pn	20 58 44.2	+8.0	
ATAH	**Atahualpa**	**10.05**	**333**	P		Pn	20 58 44.2	+8.0	
	1.5nm,0.3s,baz=114,slow=12,SNR=5.8								
SIV	**San Ignacio**	**12.20**	**91**	P		**Pn**	**20 59 05.3**	**0.0**	
SIV				S		**Sn**	**21 01 21.0**	**+0.9**	
SIV	**San Ignacio**	**12.20**	**91**	P		**Pn**	**20 59 05.3**	**0.0**	
	4.2nm,0.3s,baz=283,slow=13,SNR=23								
SIV				S		**Sn**	**21 01 21.0**	**+0.9**	
	baz=206,slow=22,SNR=6.3								
SIV				LR		LR	21 04 18.9		
	comp=Z,348nm,21.6s,slow=40								
SAML	**Samuel**	**12.56**	**56**	*e*	Pn	**Pn**	**20 59 08.7**	**-1.6**	
LCO	**Las Campanas**	**13.10**	**168**	Pn		**Pn**	**20 59 16.8**	**-1.0**	
CFAA	**Coronel Fontan**	**16.18**	**163**	P		**P**	**21 00 01.0**	**-0.2**	
CFAA	**Coronel Fontan**	**16.18**	**163**	P		**P**	**21 00 01.0**	**-0.2**	
	0.1nm,0.3s,baz=337,slow=11,SNR=12								
CFAA				LR		LR	21 05 14.0		
	comp=Z,13nm,21.7s,baz=351,slow=33								
OTAV	**Otavalo**	**16.93**	**344**	*e*	Pn	**Pn**	**21 00 06.2**	**-2.3**	
H03N1	**Juan Fernandez**	**17.83**	**194**	T		T	21 18 44.0		
	baz=17,slow=75,SNR=3814								
H03N2	**Juan Fernandez**	**17.83**	**194**	T		T	21 18 44.3		
	baz=17,slow=75,SNR=3161								
H03N3	**Juan Fernandez**	**17.84**	**194**	T		T	21 18 44.8		
	baz=17,slow=75,SNR=2315								
CPUP	**Villa Florida**	**18.34**	**126**	P		**Pn**	**21 00 26.2**	**+1.0**	
CPUP	**Villa Florida**	**18.34**	**126**	P		**Pn**	**21 00 26.2**	**+1.0**	
	0.5nm,0.3s,baz=283,slow=8.5,SNR=3.9								
CPUP				LR		LR	21 08 29.5		
	comp=Z,124nm,18.2s,baz=165,slow=40								
PTGA	**Pitinga**	**20.49**	**43**	*e*	P	**P**	**21 00 49.1**	**+0.5**	
	18nm,0.7s								
ROSC	**El Rosal**	**20.89**	**358**	P		**P**	**21 00 53.0**	**-0.2**	
ROSC	**El Rosal**	**20.89**	**358**	P		**P**	**21 00 53.7**	**+0.4**	
	5.8nm,0.4s,baz=270,slow=20,SNR=2.0								
TRQA	**Tornquist**	**24.16**	**157**	*e*	P	**P**	**21 01 27.6**	**+1.2**	
	13nm,1.2s								
PLCA	**Paso Flores**	**24.65**	**174**	P		**P**	**21 01 30.9**	**0.0**	
PLCA	**Paso Flores**	**24.65**	**174**	P		**P**	**21 01 30.9**	**0.0**	
	2.8nm,0.9s,baz=0.9,slow=9.8,SNR=4.3								
PLCA				pP		**pP**	**21 01 43.2**	**+1.1**	
	6.0nm,1.0s,baz=2.7,slow=12,SNR=6.0								
BDFB	**Brasilia**	**24.77**	**92**	*e*	P	**P**	**21 01 32.0**	**-0.2**	
BDFB	**Brasilia**	**24.77**	**92**	P		**P**	**21 01 31.1**	**-1.1**	
	5.3nm,0.7s,baz=272,slow=9.5,SNR=8.9								
BDFB				LR		LR	21 11 53.9		
	comp=Z,87nm,21.8s,baz=251,slow=38								
SDV	**Santo Domingo**	**25.07**	**7**	*e*	P	**P**	**21 01 35.0**	**0.0**	
	2.3nm,0.9s								
MTDJ	**Mount Denham**	**34.37**	**354**	P		**P**	**21 02 56.3**	**-1.0**	
EFI	**East Falkland**	**37.58**	**164**	P		**P**	**21 03 21.8**	**-2.5**	
RCBR	**Riachuelo**	**38.49**	**79**	P		**P**	**21 03 30.2**	**-2.3**	
	12nm,1.0s								
TXAR	**Lajitas Array**	**53.66**	**327**	pP		pP	21 05 43.3	-0.4	
TXAR	**Lajitas Array**	**53.66**	**327**	pP		pP	21 05 43.3	-0.4	
	1.6nm,0.5s,baz=129,slow=7.1,SNR=3.1								
PDAR	**Pinedale Array**	**67.24**	**332**	PcP		**PcP**	**21 07 31.4**	**-0.7**	
PDAR	**Pinedale Array**	**67.24**	**332**	PcP		**PcP**	**21 07 31.4**	**-0.7**	
	0.7nm,0.9s,baz=132,slow=5.3,SNR=3.7								
PDAR				LR		LR	21 39 28.5		
	comp=Z,63nm,18.0s,baz=253,slow=39								
SNAA	**Sanae**	**68.80**	**161**	*e*	P	**P**	**21 07 14.6**	**+1.0**	
	6.6nm,0.6s								
ULM	**Lac du Bonnet**	**68.93**	**345**	P		**P**	**21 07 14.1**	**-0.4**	
ULM				pP		**pP**	**21 07 26.7**	**-0.2**	
ULM	**Lac du Bonnet**	**68.93**	**345**	P		**P**	**21 07 14.1**	**-0.4**	
	1.3nm,0.6s,baz=202,slow=11,SNR=3.8								
ULM				pP		**pP**	**21 07 26.7**	**-0.2**	
	4.1nm,0.7s,baz=142,slow=5.4,SNR=5.8								
SCHQ	**Schefferville**	**70.95**	**4**	P		**P**	**21 07 25.3**	**-1.6**	
SCHQ	**Schefferville**	**70.95**	**4**	P		**P**	**21 07 25.3**	**-1.6**	
	7.2nm,0.9s,baz=143,slow=6.9,SNR=3.8								
LIC	**Lamto**	**71.53**	**78**	*e*	P	**P**	**21 07 30.7**	**-0.6**	
	39nm,1.3s								
TIC	**Toumodi**	**71.68**	**77**	*e*	P	**P**	**21 07 31.7**	**-0.5**	
	6.7nm,0.5s								
DBIC	**Dimbokro**	**71.84**	**77**	*e*	P	**P**	**21 07 32.5**	**-0.6**	
DBIC	**Dimbokro**	**71.84**	**77**	P		**P**	**21 07 32.9**	**-0.2**	
	8.9nm,0.8s,baz=227,slow=5.2,SNR=12								
DBIC					LR	LR	21 39 04.8		
	comp=Z,62nm,18.9s,baz=234,slow=36								
KIC	**Kosan Boka**	**71.85**	**78**	*e*	P	**P**	**21 07 32.8**	**-0.4**	
	27nm,0.7s								
QSPA	**South Pole Qui**	**74.00**	**180**	*e*	P	**P**	**21 07 46.3**	**+1.1**	
	4.0nm,0.9s								
TOA0	**Torodi Ar. Sit**	**80.06**	**73**	*e*	P	**P**	**21 08 19.9**	**-0.1**	
TORD	**Torodi Ar. Bea**	**80.06**	**73**	P		**P**	**21 08 20.1**	**+0.1**	
TORD					pP	**pP**	**21 08 31.3**	**-1.2**	
TORD	**Torodi Ar. Bea**	**80.06**	**73**	P		**P**	**21 08 20.1**	**+0.1**	
	16nm,0.8s,baz=264,slow=5.6,SNR=132								
TORD					pP	**pP**	**21 08 31.3**	**-1.2**	
	2.5nm,0.6s,baz=269,slow=5.1,SNR=4.5								
VNDA	**Vanda**	**81.27**	**190**	LR		LR	21 38 34.1		
	comp=Z,70nm,18.9s,baz=247,slow=31								
YKA	**Yellowknife Ar**	**84.69**	**342**	P		**P**	**21 08 43.4**	**+0.3**	
YKA	**Yellowknife Ar**	**84.69**	**342**	P		**P**	**21 08 43.3**	**+0.3**	
	1.7nm,0.7s,baz=137,slow=5.1,SNR=39								
ESDC	**Sonseca Array**	**85.39**	**47**	P		**P**	**21 08 47.8**	**+0.5**	
ESDC					pP	**pP**	**21 09 00.3**	**+0.4**	
ESDC	**Sonseca Array**	**85.39**	**47**	P		**P**	**21 08 47.8**	**+0.5**	
	2.5nm,0.8s,baz=252,slow=5.1,SNR=12								
ESDC					pP	**pP**	**21 09 00.3**	**+0.4**	
	1.1nm,0.8s,baz=254,slow=5.7,SNR=3.8								
ES19	**SONSECA Array**	**85.45**	**47**	*e*	P	**P**	**21 08 48.4**	**+0.9**	
TSUM	**Tsumeb**	**86.04**	**109**	*e*	P	**P**	**21 08 51.9**	**+0.8**	
	2.9nm,0.7s								
TAM	**Tamanrasset**	**86.65**	**65**	*e*	P	**P**	**21 08 55.8**	**+1.8**	
	9.7nm,1.3s								
DLBC	**Dease Lake**	**87.39**	**334**	P		**P**	**21 08 57.9**	**+1.3**	
DLBC	**Dease Lake**	**87.39**	**334**	P		**P**	**21 08 57.9**	**+1.3**	
	1.9nm,0.7s,baz=109,slow=5.1								
BORG	**Borgarnes**	**89.91**	**20**	*e*	P	**P**	**21 09 09.0**	**+0.7**	
BOSA	**Boshof**	**90.04**	**120**	LR		LR	21 43 11.0		
	comp=Z,49nm,19.9s,baz=84,slow=31								
SUMG	**Summit**	**91.57**	**10**	⇑*i*	P	**P**	**21 09 17.6**	**+1.2**	
	6.1nm,0.9s								
SUMG				*i*			21 09 29.0		
SUMG	**Summit**	**91.57**	**10**	*e*	P	**P**	**21 09 17.7**	**+1.4**	
	15nm,1.3s								
URZ	**Urewera**	**94.44**	**228**	LR		LR	21 42 16.5		
	comp=Z,85nm,18.6s,baz=137,slow=29								
H11N3	**WAKE ISLAND Hyd**	**22.42**	**283**	T		T	23 29 26.6		
	baz=100,slow=75,SNR=9.4								
H11N2	**WAKE ISLAND Hyd**	**22.44**	**283**	T		T	23 30 20.4		
	SNR=28								
H11N1	**WAKE ISLAND Hyd**	**22.44**	**283**	T		T	23 29 27.6		
	baz=57,slow=75,SNR=5.6								
H11S2	**WAKE ISLAND Hyd**	**22.46**	**282**	T		T	23 29 15.5		
	baz=100,slow=73,SNR=44								
H11S1	**WAKE ISLAND Hyd**	**22.47**	**282**	T		T	23 29 06.7		
	baz=100,slow=73,SNR=53								
H11S3	**WAKE ISLAND Hyd**	**22.48**	**282**	T		T	23 29 13.5		
	baz=100,slow=73,SNR=41								
ASAR	**Alice Springs**	**132.07**	**215**	PKP		**PKPdf**	**21 15 24.6**	**+0.5**	
ASAR				pPKP		**pPKPdf**	**21 15 37.4**	**+0.2**	
ASAR	**Alice Springs**	**132.07**	**215**	PKP		**PKPdf**	**21 15 24.6**	**+0.5**	
	0.6nm,0.7s,baz=127,slow=1.7,SNR=12								
ASAR				pPKP		**pPKPdf**	**21 15 37.4**	**+0.2**	
	0.3nm,0.7s,baz=132,slow=1.9,SNR=2.6								
BVAR	**Borovoye Array**	**133.70**	**29**	PKP		**PKPdf**	**21 15 27.0**	**+0.8**	
BVAR	**Borovoye Array**	**133.70**	**29**	PKP		**PKPdf**	**21 15 27.0**	**+0.8**	
	0.4nm,0.5s,baz=126,slow=2.0,SNR=4.7								
WRA	**Warramunga Arr**	**134.73**	**219**	PKP		**PKPdf**	**21 15 28.9**	**-0.2**	
WRA				pPKP		**pPKPdf**	**21 15 42.9**	**+0.7**	
WRA	**Warramunga Arr**	**134.73**	**219**	PKP		**PKPdf**	**21 15 28.9**	**-0.2**	
	1.3nm,0.8s,baz=142,slow=1.9,SNR=15								
WRA				pPKP		**pPKPdf**	**21 15 42.9**	**+0.7**	
	0.6nm,0.5s,baz=132,slow=1.7,SNR=3.5								
WRAB	**Tennant Creek**	**134.73**	**219**	*e*	PKPdf	**PKPdf**	**21 15 29.2**	**+0.1**	
ZALV	**Zalesovo Beam**	**138.75**	**19**	PKP		**PKPdf**	**21 15 35.6**	**+0.2**	
ZALV	**Zalesovo Beam**	**138.75**	**19**	PKP		**PKPdf**	**21 15 35.6**	**+0.2**	
	2.0nm,0.7s,baz=302,slow=2.6,SNR=9.9								
MK31	**Makanchi Array**	**143.55**	**28**	*e*	PKPdf	**PKPdf**	**21 15 44.1**	**-0.3**	
MKAR	**Makanchi Array**	**143.55**	**28**	PKPpre		PKPpre	21 15 41.1		
MKAR	**Makanchi Array**	**143.55**	**28**	PKhKP		PKPpre	21 15 41.1		
	0.9nm,0.8s,baz=353,slow=2.6,SNR=7.6								
USRK	**Ussuriysk Array**	**144.56**	**327**	PKP		PKPbc	21 15 45.2	+0.3	
	3.4nm,0.9s,baz=92,slow=6.3,SNR=5.8								
MJAR	**Matsushiro Arr**	**145.13**	**312**	PKPbc		**PKPbc**	**21 15 46.4**	**-0.6**	
MJAR	**Matsushiro Arr**	**145.13**	**312**	PKPbc		**PKPbc**	**21 15 46.4**	**-0.6**	
	1.6nm,0.7s,baz=87,slow=3.0,SNR=5.8								
SONM	**Songino Array**	**148.41**	**360**	PKPbc		**PKPbc**	**21 15 57.6**	**+1.3**	
SONM				pPKPbc		**pPKPbc**	**21 16 10.6**	**+1.3**	
SONM	**Songino Array**	**148.41**	**360**	PKPbc		**PKPbc**	**21 15 57.6**	**+1.3**	
	3.1nm,0.8s,baz=328,slow=1.7,SNR=21								
SONM				pPKPbc		**pPKPbc**	**21 16 10.6**	**+1.3**	
	1.9nm,0.8s,baz=334,slow=1.7,SNR=3.7								
CMAR	**Chiang Mai Arr**	**172.66**	**71**	PKPab		**PKPab**	**21 17 44.9**	**-0.3**	
CMAR	**Chiang Mai Arr**	**172.66**	**71**	PKPab		**PKPab**	**21 17 44.9**	**-0.3**	
	0.2nm,0.4s,baz=286,slow=6.1,SNR=5.2								

IDC 19 20:59:33.4±4.1, 21°.78S×176°.70W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, Error ellipse: s-maj=137.1km s-min=68.1km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
CTA	**Charters Tower**	**34.59**	**266**	P		P	21 06 25.5		+1.2
	2.5nm,0.4s,baz=105,slow=11,SNR=7.3								
STKA	**Stephens Creek**	**38.35**	**246**	P		P	21 06 56.0		-0.3
	0.9nm,0.4s,baz=85,slow=12,SNR=9.9								
ASAR	**Alice Springs**	**45.43**	**258**	P		P	21 07 53.5		-0.8
	0.5nm,0.6s,baz=99,slow=7.9,SNR=10								
WRA	**Warramunga Arr**	**45.64**	**263**	P		P	21 07 55.3		-0.8
	0.2nm,0.3s,baz=96,slow=8.1,SNR=26								
FITZ	**Fitzroy Crossi**	**54.07**	**263**	P		P	21 09 00.6		+0.3
	3.9nm,1.0s,baz=106,slow=7.4,SNR=3.2								
AKASG	**Malin Array Be**	**144.72**	**331**	PKP		PKPdf	21 19 11.5		-0.5
	0.2nm,0.3s,baz=44,slow=4.5,SNR=4.5								

TAP 19 21:18:13.2, 23°.82N×121°.64E, h41km, ML2.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
ESF	**Shoufeng Towns**	**0.13**	**293**	*e*	P	Pn	21 18 20.6		+0.6
	baz=293								
HWA	**Hwalien**	**0.16**	**350**	*e*	P	Pn	21 18 20.4		+0.2
	baz=352								
ESL	**Shilin**	**0.18**	**268**	P		Pn	21 18 20.3		-0.1
	baz=278								
ESL					S	Sn	21 18 25.2		-0.2
	baz=278								
TWD	**Chiawan**	**0.26**	**352**	*i*	P	Pn	21 18 21.2		+0.1
	baz=344								
TWD				*i*	S	Sn	21 18 27.2		+0.6
	baz=344								
EHY	**Hungye**	**0.42**	**223**	*e*	P	Pn	21 18 22.6		-0.4
	baz=223								
EHY				*e*	S	Sn	21 18 29.2		-0.7
	baz=223								
WHF	**Hehuan Shan**	**0.47**	**314**	*i*	P	Pn	21 18 23.8		-0.3
	baz=308								
WHF					S	Sn	21 18 31.2		-0.6
	baz=308								
TWF1	**Yuli**	**0.56**	**214**	P		Pn	21 18 24.4		-0.4
	baz=223								
TWF1				*e*	S	Sn	21 18 32.3		-0.7
	baz=223								
TWT	**Tachien**	**0.60**	**316**	P		Pn	21 18 26.0		+0.4
	baz=314								
TWT				*e*	S	Sn	21 18 34.9		+0.5
	baz=314								
ENA	**Nanau**	**0.61**	**9**	*e*	P	Pn	21 18 25.9		+0.5
	baz=15								
ENA				*e*	S	Sn	21 18 34.8		+0.6
	baz=15								
NNS	**Nan Shan**	**0.66**	**339**	*e*	P	Pn	21 18 26.4		+0.1
	baz=338								
NNS				*e*	S	Sn	21 18 36.2		+0.5
	baz=338								
SMLT	**Sun Moon Lake**	**0.68**	**275**	*i*	P	Pn	21 18 27.1		+0.6
	baz=278								
SMLT				*e*	S	Sn	21 18 37.2		+1.2
	baz=278								
YUS	**Yu-Shan**	**0.71**	**242**	*e*	P	Pn	21 18 27.7		+0.3
	baz=237								
YUS				*e*	S	Sn	21 18 37.6		+0.1
	baz=237								
TYC	**Yuchr**	**0.72**	**277**	*e*	P	Pn	21 18 27.6		+0.7
	baz=281								
TYC				*e*	S	Sn	21 18 37.6		+0.9
	baz=281								
CHKT	**Chengkung**	**0.76**	**199**	*e*	P	Pn	21 18 27.9		+0.5
	baz=188								
CHKT				*e*	S	Sn	21 18 37.6		-0.1
	baz=188								
TWC	**Suao**	**0.81**	**14**	*e*	P	Pn	21 18 27.6		-0.6
	baz=18								
TWC				*e*	S	Sn	21 18 40.0		+1.1
	baz=18								
ENTT	**Nioudou**	**0.82**	**356**	*e*	P	Pn	21 18 28.2		-0.1
	baz=354								
ENTT				*e*	S	Sn	21 18 39.6		+0.3
	baz=354								
ALS	**Alishan**	**0.82**	**248**	*e*	P	Pn	21 18 29.6		+1.0
	baz=249								
ELDTW	**Lidau**	**0.85**	**222**	*e*	P	Pn	21 18 28.8		0.0
	baz=220								
WNT	**Mingjian**	**0.87**	**274**	*e*	P	Pn	21 18 30.3		+1.3
	baz=274								
NSK	**Sanguang**	**0.89**	**344**	*e*	P	Pn	21 18 29.9		+0.5
	baz=350								
NSK				*e*	S	Sn	21 18 41.2		+0.1
	baz=350								
CHN5	**Tsauling**	**0.91**	**256**	*e*	P	Pn	21 18 30.8		+1.3
	baz=257								
CHN5				*e*	S	Sn	21 18 42.4		+0.9
	baz=257								
TCU	**Taichung**	**0.94**	**291**	*e*	P	Pn	21 18 31.7		+1.9
	baz=290								
TWQ1	**Liyutan**	**0.95**	**304**	*e*	P	Pn	21 18 31.5		+1.5
	baz=304								
NSTT	**Nanjuang**	**0.99**	**324**	*e*	P	Pn	21 18 32.2		+1.6
	baz=323								
NSY	**Sanyi**	**0.99**	**307**	*e*	P	Pn	21 18 32.1		+1.4
	baz=306								
STYT	**Tauyuan**	**1.04**	**231**	*e*	P	Pn	21 18 32.7		+1.3
	baz=229								
STYT				*e*	S	Sn	21 18 45.9		+1.1
	baz=229								
WTP	**Ta-pu**	**1.10**	**239**	*e*	P	Pn	21 18 33.2		+1.0
	baz=240								
WTP				*e*	S	Sn	21 18 48.4		+2.2
	baz=240								
TWG	**Pinlang**	**1.12**	**208**	*e*	P	Pn	21 18 33.8		+1.4
	baz=198								
CHN1	**Nanshi**	**1.20**	**238**	*e*	P	Pn	21 18 35.0		+1.5
	baz=240								
CHN1				*e*	S	Sn	21 18 50.7		+2.1
	baz=240								
SGST	**Jiashian**	**1.21**	**233**	*e*	P	Pn	21 18 35.1		+1.4
	baz=234								
SGST				*e*	S	Sn	21 18 51.9		+2.9
	baz=234								
SSD	**Sandimen**	**1.41**	**221**	*e*	P	Pn	21 18 37.6		+1.2
	baz=222								

*JMA **19** 21:35:36.3, 23°.76N×121°.65E, h41km±2km, M2.9*
*ISCJB **19** 21:35:37.2±0.3, 23°.79N±0°.02×121°.71E±0°.02, h30km±2km, Error ellipse: s-maj=3.1km s-min=2.1km az=43.2*
*TAP **19** 21:35:37.4, 23°.83N×121°.64E, h39km, ML3.5, C*

ISC 19 21:35:37.1±1.0, 23°.80N±0°.02×121°.67E±0°.02, h32km±10km, n55, σ0°68/102, 11C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TEGC	**Jichi Village**	**0.15**	**233**	*e*	P	**Pn**	**21 35 45.1**	**+1.9**	
	baz=216								
ESF	**Shoufeng Towns**	**0.17**	**295**	*e*	P	**Pn**	**21 35 44.5**	**+1.1**	
	baz=290								
HWA	**Hwalien**	**0.19**	**341**	*e*	P	**Pn**	**21 35 43.7**	**0.0**	
	baz=350								
ESL	**Shilin**	**0.22**	**274**	*i*	P	**Pn**	**21 35 44.5**	**+0.4**	
	baz=266								
ESL					S	**Sn**	**21 35 49.2**	**+0.7**	
	baz=266								
TWD	**Chiawan**	**0.29**	**346**	⇓*i*	P	**Pn**	**21 35 45.3**	**+0.2**	
	baz=343								
TWD					S	**Sn**	**21 35 51.0**	**+0.7**	
	baz=343								
EHY	**Hungye**	**0.43**	**228**	⇑*i*	P	**Pn**	**21 35 46.8**	**-0.3**	

	baz=263								
WGK				*e*S		**Sb**	**21 36 10.4**	**+1.0**	
	baz=263								
NSTT	**Nanjuang**	**1.03**	**324**	P		**Pb**	**21 35 56.4**	**0.0**	
	baz=309								
NSTT				S		**Sb**	**21 36 09.4**	**-0.2**	
	baz=309								
NSY	**Sanyi**	**1.03**	**307**	P		**Pb**	**21 35 56.6**	**+0.1**	
	baz=306								
NSY				*e*S		**Sb**	**21 36 10.0**	**+0.2**	
	baz=306								
STYT	**Tauyuan**	**1.05**	**233**	*e*P		**Pb**	**21 35 56.3**	**-0.5**	
	baz=230								
STYT				*e*S		**Sb**	**21 36 10.8**	**+0.5**	
	baz=230								
WTP	**Ta-pu**	**1.12**	**241**	⇑*i*P		**Pb**	**21 35 57.6**	**-0.3**	
	baz=240								
WTP				*e*S		**Sb**	**21 36 12.4**	**+0.3**	
	baz=240								
TWG	**Pinlang**	**1.12**	**210**	*e*P		**Pn**	**21 35 56.5**	**-0.1**	
	baz=193								
TWG				*e*S		**Sn**	**21 36 09.3**	**-1.5**	
	baz=193								
CHY	**Chiayi**	**1.18**	**256**	*e*P		**Pb**	**21 35 58.4**	**-0.6**	
	baz=255								
CHY				*e*S		**Sb**	**21 36 14.1**	**+0.1**	
	baz=255								
HSN	**Hsinchu**	**1.19**	**327**	*e*P		**Pb**	**21 35 58.0**	**-1.1**	
	baz=328								
HSN				*e*S		**Sb**	**21 36 14.8**	**+0.7**	
	baz=328								
TWK	**Hsinying**	**1.21**	**244**	*e*P		**Pb**	**21 35 58.9**	**-0.6**	
	baz=244								
TWK				*e*S		**Sb**	**21 36 15.0**	**+0.2**	
	baz=244								
CHN1	**Nanshi**	**1.22**	**240**	*e*P		**Pb**	**21 35 59.2**	**-0.4**	
	baz=239								
CHN1				*e*S		**Sb**	**21 36 15.3**	**+0.4**	
	baz=239								
SGST	**Jiashian**	**1.23**	**235**	P		**Pb**	**21 35 59.7**	**0.0**	
	baz=235								
SGST				*e*S		**Sb**	**21 36 15.8**	**+0.5**	
	baz=235								
TWB1	**Santiao Chiao**	**1.24**	**13**	*e*P		**Pn**	**21 35 58.6**	**+0.5**	
	baz=12								
TWB1				*e*S		**Sn**	**21 36 14.2**	**+0.5**	
	baz=12								
NCU	**National Centr**	**1.25**	**339**	*e*P		**Pb**	**21 35 59.4**	**-0.6**	
	baz=337								
NCU				*e*S		**Sb**	**21 36 15.2**	**-0.6**	
	baz=337								
NWF	**Wu-fen Shan**	**1.27**	**4**	*e*P		**Pb**	**21 36 00.1**	**-0.4**	
	baz=350								
NWF				*e*S		**Sb**	**21 36 16.0**	**-0.6**	
	baz=350								
WTCT	**Ta-ch'eng**	**1.27**	**273**	P		**Pb**	**21 35 59.8**	**-0.7**	
	baz=273								
WTCT				*e*S		**Sb**	**21 36 17.1**	**+0.5**	
	baz=273								
TWS1	**Kuangyinshan**	**1.32**	**350**	*e*P		**Pb**	**21 36 00.5**	**-0.7**	
	baz=347								
TWS1				*e*S		**Sb**	**21 36 17.0**	**-0.8**	
	baz=347								
WSF	**Szhu**	**1.34**	**263**	*e*P		**Pb**	**21 36 00.3**	**-1.3**	
	baz=263								
WSF				*e*S		**Sb**	**21 36 18.0**	**-0.4**	
	baz=263								
ECL	**Taimali**	**1.37**	**209**	*e*P		**Pn**	**21 35 58.6**	**-1.3**	
	baz=198								
YOJ	**Yonaguni jima**	**1.39**	**61**	P		**Pn**	**21 36 00.6**	**+0.4**	
YOJ				*e*S		**Sn**	**21 36 17.7**	**+0.2**	
SSD	**Sandimen**	**1.42**	**223**	*e*P		**Pb**	**21 36 02.2**	**-0.8**	
	baz=224								
SSD				*e*S		**Sb**	**21 36 19.6**	**-1.2**	
	baz=224								
SCLT	**Jiali**	**1.49**	**246**	*e*P		**Pb**	**21 36 02.8**	**-1.5**	
	baz=246								
SCLT				*e*S		**Sb**	**21 36 22.4**	**-0.4**	
	baz=246								
TWM1	**Shoushan**	**1.50**	**230**	*e*P		**Pb**	**21 36 03.4**	**-1.0**	
	baz=230								
TAI1	**Yung-k'ang**	**1.53**	**241**	*e*P		**Pb**	**21 36 04.9**	**+0.1**	
	baz=240								
EAST	**Anshuo**	**1.60**	**208**	*e*P		**Pn**	**21 36 04.2**	**+1.0**	
	baz=204								
EAST				*e*S		**Sb**	**21 36 24.5**	**-1.5**	
	baz=204								
LAY	**Lan-yu**	**1.76**	**184**	*e*P		**Pn**	**21 36 05.1**	**-0.2**	
	baz=181								
IRIF	**Iriomote-Funau**	**1.96**	**74**	P		**Pn**	**21 36 08.6**	**+0.6**	
IRIF				S		**Sn**	**21 36 32.4**	**+1.0**	
HATJ	**Hateruma jima**	**1.97**	**82**	P		**Pn**	**21 36 08.8**	**+0.6**	
HATJ				S		**Sn**	**21 36 32.3**	**+0.5**	
JKRS	**Kuro-shima**	**2.18**	**78**	P		**Pn**	**21 36 12.3**	**+1.2**	
JKRS				*e*S		**Sn**	**21 36 38.8**	**+1.8**	
JIJ	**Ishigaki jima**	**2.33**	**76**	P		**Pn**	**21 36 13.3**	**+0.2**	
JIJ				S		**Sn**	**21 36 40.0**	**-0.6**	
JTJ	**Tarama**	**2.89**	**73**	P		**Pn**	**21 36 21.4**	**+0.5**	
JTJ				*e*S		**Sn**	**21 36 54.8**	**+0.3**	
KNM	**Kinmen**	**3.02**	**282**	*e*P		**Pn**	**21 36 23.6**	**+0.9**	
	baz=280								

IDC 19 21:41:34.0±2.7, 5.37S×131.39E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=119.9km s-min=29.4km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.85**	**203**	Pn	Pn	21 44 50.7	-1.1
	0.1nm,0.3s,baz=30,slow=20,SNR=12						
FITZ				Sn	Sn	21 47 14.5	-12
	0.1nm,0.3s,baz=66,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**14.77**	**169**	Pn	Pn	21 45 02.5	-1.9
	0.1nm,0.3s,baz=352,slow=13,SNR=12						
WRA				Sn	Sn	21 47 37.4	-12
	0.2nm,0.3s,baz=350,slow=26,SNR=7.5						
ASAR	**Alice Springs**	**18.36**	**173**	P	P	21 45 51.5	+1.1
	0.3nm,0.3s,baz=354,slow=11,SNR=18						
MKAR	**Makanchi Array**	**67.64**	**326**	P	P	21 52 32.9	0.0
	0.2nm,0.5s,baz=113,slow=8.0,SNR=4.5						

IDC 19 21:59:53.1±2.1, 7.05S×128.87E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.4/20, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=96.1km s-min=27.6km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**196**	Pn	Pn	22 02 37.2	-0.5
	0.7nm,0.3s,baz=20,slow=12,SNR=18						
FITZ				Sn	Sn	22 04 32.5	-14
	0.5nm,0.3s,baz=261,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**13.87**	**158**	Pn	Pn	22 03 11.2	0.0
	0.1nm,0.3s,baz=333,slow=15,SNR=8.2						
WRA				Sn	Sn	22 05 32.9	-13
	0.4nm,0.3s,baz=339,slow=21,SNR=9.1						
ASAR	**Alice Springs**	**17.21**	**164**	P	Pn	22 03 55.6	+0.4
	0.1nm,0.3s,baz=343,slow=13,SNR=6.9						
ASAR				Sn	Sn	22 06 55.6	-12
	0.1nm,0.3s,baz=316,slow=16,SNR=6.7						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	22 10 52.1	0.0
	0.3nm,0.8s,baz=120,slow=7.5,SNR=3.1						

CSEM 19 22:37:11.1, 45.99N×10.85E, h6km, MD1.8, 2C-1D, After TRI, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNI	**Roncone**	**0.14**	**267**	⇑*e*Pg	Pg	22 37 14.2	-0.1
RNI				*e*Sg	Sg	22 37 16.7	+0.4
RNI	**Roncone**	**0.14**	**267**	⇑*e*Pg	Pg	22 37 14.2	-0.1
RNI				*e*Sg	Sg	22 37 16.7	+0.3
DDS	**Dosso del Somm**	**0.26**	**114**	*e*Pg	Pg	22 37 16.2	-0.4
DDS				*e*Sg	Sg	22 37 19.9	-0.3
DDS	**Dosso del Somm**	**0.26**	**114**	*e*Pg	Pg	22 37 16.2	-0.3
DDS				*e*Sg	Sg	22 37 19.9	-0.3
PANI	**Panarotta**	**0.33**	**79**	Pg	Pg	22 37 17.7	-0.1
PANI	**Panarotta**	**0.33**	**79**	Pg	Pg	22 37 17.7	-0.1
KOSI	**Kohlern**	**0.60**	**38**	*e*Pg	Pg	22 37 22.6	-0.3
MOSI	**Grossmontoni**	**0.66**	**342**	⇓*e*Pg	Pg	22 37 23.8	-0.3
ABSI	**Aberstueckl**	**0.81**	**24**	*e*Pg	Pg	22 37 26.7	-0.3

IDC 19 22:42:27.9±6.6, 1.53S×99.41E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/24, mbtmp3.3/4, Error ellipse: s-maj=363.9km s-min=23.4km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.50**	**256**	T	T	23 16 33.5	
	baz=85						
H08S3	**Diego Garcia H**	**27.50**	**256**	T	T	23 16 41.2	
	baz=85						
H08S1	**Diego Garcia H**	**27.52**	**256**	T	T	23 16 35.3	
	baz=85						
WRA	**Warramunga Arr**	**38.74**	**121**	P	P	22 49 54.1	-0.2
	0.2nm,0.6s,baz=283,slow=13,SNR=7.8						
ASAR	**Alice Springs**	**40.01**	**126**	P	P	22 50 04.8	0.0
	0.1nm,0.4s,baz=300,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**50.42**	**345**	P	P	22 51 26.4	-0.9
	0.1nm,0.3s,baz=156,slow=9.1,SNR=5.6						
BVAR	**Borovoye Array**	**59.54**	**340**	P	P	22 52 33.6	+0.5
	0.4nm,0.4s,baz=155,slow=11,SNR=2.7						

WEL 19 22:53:48.3±0.1, 45.00S×167.49E, h97km±1km, ML3.6/12, 5C-2D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.45**	**44**	⇑PN	Pn	22 54 03.3	-0.1
MSZ				SN	Sn	22 54 14.4	-0.3
MSZ				AML	AML	22 54 15.4	
MSZ				AML	AML	22 54 15.5	
MSZ				AML	AML	22 54 16.0	
DCZ	**Deep Cove**	**0.54**	**207**	PN	Pn	22 54 03.8	-0.2
DCZ				SN	Sn	22 54 15.2	-0.5
DCZ				AML	AML	22 54 16.1	
DCZ				AML	AML	22 54 16.2	
DCZ				AML	AML	22 54 16.3	
MLZ	**Mavora Lakes**	**0.59**	**126**	⇑PN	Pn	22 54 04.3	-0.3
MLZ				SN	Sn	22 54 16.1	-0.7
MLZ				AML	AML	22 54 16.7	
WHZ	**Wether Hill Ro**	**0.95**	**161**	PN	Pn	22 54 07.8	-0.1
WHZ				AML	AML	22 54 22.8	
WHZ				AML	AML	22 54 24.4	
WKZ	**Wanaka**	**1.10**	**82**	⇑PN	Pn	22 54 09.5	-0.1
WKZ				AML	AML	22 54 27.1	
WKZ				AML	AML	22 54 27.1	
WKZ				AML	AML	22 54 27.8	
WKZ				AML	AML	22 54 27.8	
JCZ	**Jackson Bay**	**1.29**	**45**	⇑PN	Pn	22 54 11.1	-0.9
JCZ				AML	AML	22 54 30.8	
JCZ				AML	AML	22 54 31.2	
EAZ	**Earnscleugh**	**1.31**	**101**	⇓PN	Pn	22 54 11.8	-0.2
EAZ				AML	AML	22 54 29.6	
EAZ				AML	AML	22 54 29.6	
EAZ				AML	AML	22 54 30.3	
EAZ				AML	AML	22 54 30.5	
TUZ	**Tuapeka**	**1.78**	**123**	PN	Pn	22 54 17.7	-0.2
TUZ				AML	AML	22 54 38.3	
TUZ				AML	AML	22 54 39.1	
APZ	**The Paps**	**1.87**	**170**	PN	Pn	22 54 18.9	-0.1
APZ				AML	AML	22 54 45.2	
APZ				AML	AML	22 54 45.3	
SYZ	**Scrubby Hill**	**1.92**	**144**	PN	Pn	22 54 19.6	0.0
SYZ				SN	Sn	22 54 42.1	-1.6
SYZ				AML	AML	22 54 44.4	
SYZ				AML	AML	22 54 44.4	
SYZ				AML	AML	22 54 48.7	
LBZ	**Lake Benmore**	**2.01**	**73**	PN	Pn	22 54 19.4	-1.6
LBZ				AML	AML	22 54 43.5	
LBZ				AML	AML	22 54 43.7	
FOZ	**Fox Glacier**	**2.13**	**48**	*e*PN	Pn	22 54 21.7	-0.7
ODZ	**Otahua Downs**	**2.23**	**92**	⇑PN	Pn	22 54 22.5	-1.3
HHSZ	**Highcliff Hill**	**2.36**	**113**	⇓PN	Pn	22 54 25.0	-0.4
HHSZ				*e*SN	Sn	22 54 49.7	-4.2
RPZ	**Rata Peaks**	**2.86**	**65**	AML	AML	22 55 03.4	
RPZ				AML	AML	22 55 04.1	
WVZ	**Waitaha Valley**	**3.03**	**52**	PN	Pn	22 54 32.0	-2.3
OXZ	**Oxford**	**3.67**	**64**	PN	Pn	22 54 41.5	-1.5
MQZ	**McQueen's Vall**	**3.92**	**73**	PN	Pn	22 54 44.6	-1.6
LTZ	**Lake Taylor**	**4.10**	**59**	PN	Pn	22 54 45.5	-3.3
DSZ	**Denniston Nort**	**4.52**	**46**	PN	Pn	22 54 51.8	-2.7
THZ	**Tophouse**	**5.10**	**53**	*e*PN	Pn	22 54 58.9	-3.5

TAP 19 22:58:26.4, 23.72N×121.67E, h37km, ML2.7, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.12**	**267**	*e*P	Pn	22 58 33.7	-5.1
	baz=266						
ESF	**Shoufeng Towns**	**0.22**	**315**	P	Pn	22 58 33.7	-1.7
	baz=303						
ESF				*e*S	Sn	22 58 39.2	-4.7
	baz=303						
ESL	**Shilin**	**0.24**	**294**	P	Pn	22 58 33.3	-1.7
	baz=285						
ESL				S	Sn	22 58 39.0	-4.0
	baz=285						
HWA	**Hwalien**	**0.27**	**346**	*e*P	Pn	22 58 34.0	-0.7
	baz=354						
HWA				*e*S	Sn	22 58 40.1	-2.2
	baz=354						
TWD	**Chiawan**	**0.37**	**349**	P	Pn	22 58 35.3	+0.2
	baz=359						
TWD				S	Sn	22 58 41.9	+0.1
	baz=359						
EHY	**Hungye**	**0.38**	**237**	*e*P	Pn	22 58 35.3	0.0
	baz=245						
EHY				*e*S	Sn	22 58 41.3	-0.7
	baz=245						
TWF1	**Yuli**	**0.50**	**224**	⇓*i*P	Pn	22 58 37.1	+0.1
	baz=234						
TWF1				*e*S	Sn	22 58 44.1	-0.4
	baz=234						
WHF	**Hehuan Shan**	**0.57**	**319**	*e*P	Pn	22 58 37.8	-0.9
	baz=312						
WHF				*e*S	Sn	22 58 44.6	-2.6
	baz=312						
CHKT	**Chengkung**	**0.68**	**205**	*e*P	Pn	22 58 40.7	+1.1
	baz=194						
CHKT				*e*S	Sn	22 58 50.9	+2.1
	baz=194						
YUS	**Yu-Shan**	**0.70**	**251**	*e*P	Pn	22 58 40.7	+0.2
	baz=251						
YUS				*e*S	Sn	22 58 49.3	-1.2
	baz=251						
TWT	**Tachien**	**0.70**	**320**	*e*P	Pn	22 58 40.1	0.0
	baz=315						
TWT				*e*S	Sn	22 58 48.1	-1.8
	baz=315						
ENA	**Nanau**	**0.71**	**5**	*e*P	Pn	22 58 40.3	+0.3
	baz=15						
ENA				*e*S	Sn	22 58 50.1	+0.3
	baz=15						
SMLT	**Sun Moon Lake**	**0.73**	**283**	*e*P	Pn	22 58 40.2	-0.2
	baz=288						
SMLT				*e*S	Sn	22 58 49.4	-1.0
	baz=288						
NNS	**Nan Shan**	**0.77**	**339**	*e*P	Pn	22 58 41.1	+0.1
	baz=341						
NNS				*e*S	Sn	22 58 49.3	-2.2
	baz=341						
TYC	**Yuchr**	**0.77**	**284**	*e*P	Pn	22 58 40.4	-0.4
	baz=291						
TYC				*e*S	Sn	22 58 50.0	-1.2
	baz=291						
ELDTW	**Lidau**	**0.80**	**229**	*e*P	Pn	22 58 41.5	+0.2
	baz=228						
ELDTW				*e*S	Sn	22 58 51.5	-0.7
	baz=228						
ALS	**Alishan**	**0.82**	**256**	*e*P	Pn	22 58 42.6	+0.8
	baz=262						
ALS				*e*S	Sn	22 58 52.8	-0.4
	baz=262						
TWC	**Suao**	**0.90**	**10**	*e*P	Pn	22 58 43.5	+0.9
	baz=13						
TWC				*e*S	Sn	22 58 55.4	+0.9
	baz=13						
CHN5	**Tsauling**	**0.92**	**263**	*e*P	Pn	22 58 43.8	+0.8
	baz=263						
ENTT	**Nioudou**	**0.93**	**354**	*e*P	Pn	22 58 42.9	-0.1
	baz=355						
NSK	**Sanguang**	**1.00**	**343**	*e*P	Pn	22 58 43.9	-0.1
	baz=346						
NSK				*e*S	Sn	22 58 55.1	-1.9
	baz=346						
STYT	**Tauyuan**	**1.01**	**237**	*e*P	Pn	22 58 45.3	+1.2
	baz=236						
TCU	**Taichung**	**1.01**	**295**	*e*P	Pn	22 58 45.0	+1.0
	baz=296						
TWQ1	**Liyutan**	**1.04**	**308**	*e*P	Pn	22 58 45.1	+0.7
	baz=308						
TWG	**Pinlang**	**1.05**	**212**	*e*P	Pn	22 58 45.4	+0.8
	baz=211						
TWG				*e*S	Sn	22 58 56.9	-1.0
	baz=211						
WTP	**Ta-pu**	**1.08**	**245**	*e*P	Pn	22 58 46.3	+1.2
	baz=244						
NSTT	**Nanjuang**	**1.10**	**326**	*e*P	Pn	22 58 46.4	+1.1
	baz=328						
NSTT				*e*S	Sn	22 58 58.7	-0.5
	baz=328						
CHN1	**Nanshi**	**1.18**	**244**	*e*P	Pn	22 58 48.1	+1.8
	baz=243						
CHN1				*e*S	Sn	22 59 01.7	+0.5
	baz=243						
TWK	**Hsinying**	**1.18**	**248**	*e*P	Pn	22 58 47.4	+1.0
	baz=247						
TWK				*e*S	Sn	22 59 01.2	0.0
	baz=247						
SGST	**Jiashian**	**1.18**	**238**	*e*P	Pn	22 58 46.6	+0.1
	baz=238						
SSD	**Sandimen**	**1.36**	**225**	*e*P	Pn	22 58 52.2	+3.3
	baz=225						
EAST	**Anshuo**	**1.53**	**210**	*e*P	Pn	22 58 51.5	+0.2
	baz=202						

TAP 19 22:58:39.7, 23.76N×121.61E, h36km, ML2.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.08**	**231**	*e*P	Pn	22 58 45.8	+0.1
	baz=227						
ESF	**Shoufeng Towns**	**0.14**	**321**	*e*P	Pn	22 58 46.5	-3.7
	baz=313						
ESL	**Shilin**	**0.17**	**290**	*e*P	Pn	22 58 46.2	-3.3
	baz=289						
ESL				S	Sn	22 58 50.8	-8.0
	baz=289						
HWA	**Hwalien**	**0.22**	**0**	*e*P	Pn	22 58 47.4	-0.9
	baz=4.0						
HWA				*e*S	Sn	22 58 52.3	-3.9
	baz=4.0						
TWD	**Chiawan**	**0.32**	**359**	*e*P	Pn	22 58 48.3	+0.3
	baz=350						
TWD				S	Sn	22 58 54.1	-0.5
	baz=350						
EHY	**Hungye**	**0.36**	**226**	*e*P	Pn	22 58 48.1	-0.2
	baz=226						
EHY				*e*S	Sn	22 58 53.7	-1.2
	baz=226						
TWF1	**Yuli**	**0.49**	**215**	*e*P	Pn	22 58 49.2	-1.0
	baz=225						
TWF1				*e*S	Sn	22 58 56.5	-1.1
	baz=225						
WHF	**Hehuan Shan**	**0.49**	**321**	*e*P	Pn	22 58 50.2	-0.6
	baz=315						
WHF				*e*S	Sn	22 58 57.7	-0.9
	baz=315						
TWT	**Tachien**	**0.63**	**322**	*e*P	Pn	22 58 52.7	+0.2
	baz=314						
TWT				S	Sn	22 59 01.5	+0.1
	baz=314						
YUS	**Yu-Shan**	**0.66**	**246**	P	Pn	22 58 53.0	-0.2
	baz=246						
YUS				S	Sn	22 59 02.2	-0.6
	baz=246						
SMLT	**Sun Moon Lake**	**0.66**	**281**	*e*P	Pn	22 58 52.8	0.0
	baz=283						
SMLT				*e*S	Sn	22 59 02.0	0.0
	baz=283						
ENA	**Nanau**	**0.68**	**11**	*e*P	Pn	22 58 53.4	+0.5
	baz=356						
ENA				*e*S	Sn	22 59 03.9	+1.7
	baz=356						
CHKT	**Chengkung**	**0.69**	**199**	*e*P	Pn	22 58 52.5	-0.6
	baz=189						
CHKT				*e*S	Sn	22 59 04.0	+1.5
	baz=189						
ALS	**Alishan**	**0.77**	**252**	P	Pn	22 58 55.1	+0.6
	baz=252						
ALS				*i* S	Sn	22 59 05.6	+0.4
	baz=252						
ELDTW	**Lidau**	**0.78**	**224**	*e*P	Pn	22 58 53.8	-0.6
	baz=221						
ELDTW				*e*S	Sn	22 59 04.7	-0.3
	baz=221						
CHN5	**Tsauling**	**0.86**	**260**	*e*P	Pn	22 58 56.0	+0.5
	baz=260						
CHN5				*e*S	Sn	22 59 08.7	+1.7
	baz=260						
TWC	**Suao**	**0.88**	**15**	*e*P	Pn	22 58 56.7	+1.2
TWC				*e*S	Sn	22 59 09.0	+1.9
ENTT	**Nioudou**	**0.88**	**358**	*e*P	Pn	22 58 56.8	+1.2
	baz=355						
ENTT				*e*S	Sn	22 59 08.3	+1.1
	baz=355						
TCU	**Taichung**	**0.93**	**295**	*e*P	Pn	22 58 58.1	+1.8
	baz=294						
NSK	**Sanguang**	**0.94**	**346**	*e*P	Pn	22 58 56.6	+0.1
	baz=352						
NSK				*e*S	Sn	22 59 08.9	+0.1
	baz=352						
TWQ1	**Liyutan**	**0.96**	**308**	*e*P	Pn	22 58 58.2	+1.5
	baz=306						
TWQ1				*e*S	Sn	22 59 11.6	+2.5
	baz=306						
STYT	**Tauyuan**	**0.98**	**233**	*e*P	Pn	22 58 57.9	+0.9
	baz=229						
STYT				*e*S	Sn	22 59 10.8	+1.1
	baz=229						
NSTT	**Nanjuang**	**1.03**	**328**	*e*P	Pn	22 58 59.3	+1.6
	baz=325						
NSTT				*e*S	Sn	22 59 12.2	+1.4
	baz=325						
WTP	**Ta-pu**	**1.04**	**241**	*e*P	Pn	22 58 59.8	+1.9
	baz=241						
WTP	**Ta-pu**	**1.04**	**241**	*e*S	Pn	22 58 59.3	+1.5
	baz=244						
TWG	**Pinlang**	**1.05**	**208**	*e*P	Pn	22 58 59.3	+1.4
	baz=198						
TWK	**Hsinying**	**1.14**	**245**	*e*P	Pn	22 59 00.1	+0.9
	baz=245						
CHN1	**Nanshi**	**1.14**	**240**	*e*P	Pn	22 59 00.9	+1.7
	baz=241						
SGST	**Jiashian**	**1.16**	**235**	*e*P	Pn	22 59 00.9	+1.5
	baz=235						
WTCT	**Ta-ch'eng**	**1.22**	**275**	*e*P	Pn	22 59 01.7	+1.5
	baz=275						
EAST	**Anshuo**	**1.54**	**207**	*e*P	Pn	22 59 05.0	+0.4
	baz=202						

AUST ***19*** *23:03:24.3, 15.47S×172.44W, h35km*
IDC ***19*** *23:03:28.7±0.8, 16.31S×173.52W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/22, mbtmp4.1/9, MS3.7/1, Ms1 3.7/1, ms1mx3.1/25, Error ellipse: s-maj=44.3km s-min=17.6km az=140.0*
ISCJB ***19*** *23:03:36.3±0.2, 17.1S±0.1×174.26W±0.08, h10km, mb4.7/25, MS5.0/2, Error ellipse: s-maj=18.3km s-min=5.3km az=146.9*
NEIC ***19*** *23:03:37.1±0.3, 17.13S×174.23W, h10km, mb5.0/9, Error ellipse: s-maj=16.4km s-min=6.7km az=141.0*
BJI ***19*** *23:03:40.5, 17.30S×174.10W, h41km, mB5.3/7, mb4.9/13, Ms5.3/3, Ms7.4.9/3*

ISC 19 23:03:29.3±0.6, 16.35S±0.08×173.4W±0.1, h10km, n150, σ135/47, mb5.0/25, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.87**	**32**	Pn	**Pn**	**23 04 12.1**	**-3.0**
AFI				Sn	Sn	23 04 41.7	-8.0
AFI	**Afiamalu**	**2.87**	**32**	Pn	**Pn**	**23 04 12.1**	**-3.0**
	16nm,0.3s,baz=11,slow=2.4,SNR=18						
AFI				Sn	Sn	23 04 41.7	-8.0
	108nm,0.3s,baz=70,slow=22,SNR=8.5						
NIUE	**Niue**	**4.25**	**130**	P	**Pn**	**23 04 32.4**	**-1.7**
	baz=4.

comp=Z,326nm,21.4s,baz=225,slow=30
DZM Mont Dzumac 19.90 250 *e*LR LR 23 13 17.4
477nm,25.4s
PPT2 Papeete2 22.78 97 *e*LR LR 23 13 45.8
246nm,27.5s
TIAR Tiarei 23.00 96 *e*T T 23 31 54.7
2.4nm,0.3s
TVO Taravao 23.09 97 *e*T T 23 32 00.8
1.8nm,0.4s
URZ Urewera 23.39 199 *e*P **P 23 08 35.9 -2.3**
58nm,1.6s
URZ Urewera 23.39 199 P **P 23 08 38.3 +0.1**
9.0nm,0.4s,baz=34,slow=4.7,SNR=11
TBI Tubuai 23.51 111 *e*LR LR 23 14 12.9
255nm,26.5s
TBI Tubuai 23.51 111 *e*T T 23 32 43.7
8.9nm,0.3s
BKZ Black Stump Fm 24.41 199 *e*P **P 23 08 45.7 -2.3**
212nm,2.6s
PMOR Pomariorio Ree 24.55 90 *e*T T 23 33 46.5
3.1nm,0.2s
VAH Vaihoa 24.78 91 *e*T T 23 34 04.1
6.7nm,0.3s
TAOE Nuku Hiva Isla 33.22 81 *e*T T 23 44 29.9
130nm,0.3s
ARMA Armidale 34.90 240 *e*P **P 23 10 20.6 -0.7**
CNB Canberra Magne 38.21 233 P **P 23 10 49.7 +0.2**
baz=39,SNR=5.3
CTA Charters Tower 38.48 258 P **P 23 10 51.3 -0.6**
CTA Charters Tower 38.48 258 P **P 23 10 51.3 -0.6**
1.9nm,0.5s,baz=91,slow=7.2,SNR=4.1
CMSA Cobar Meteorol 40.12 240 P **P 23 11 05.2 -0.2**
baz=41,SNR=11
QLP Quilpie 40.60 248 P **P 23 11 09.2 -0.2**
baz=42,SNR=3.1
TOO Toolangi 41.91 232 P **P 23 11 20.0 -0.1**
baz=43,SNR=4.5
COEN Coen 41.97 267 *e*P P 23 11 21.9 +1.1
40nm,0.9s
COEN Coen 41.97 267 P P 23 11 22.7 +1.9
baz=43,SNR=5.8
STKA Stephens Creek 43.61 241 *e*P **P 23 11 33.9 0.0**
2.1nm,0.8s
STKA Stephens Creek 43.61 241 P **P 23 11 34.2 +0.2**
8.1nm,0.8s,baz=91,slow=9.6,SNR=18
STKA Stephens Creek 43.61 241 P **P 23 11 34.2 +0.2**
baz=45,SNR=9.3
HTT Hallett 46.09 239 P **P 23 11 54.0 +0.2**
baz=47,SNR=4.5
BBOO Buckleboo 48.38 240 *e*P **P 23 12 11.0 -0.7**
949nm,2.3s
WRAB Tennant Creek 49.66 258 *e*P **P 23 12 21.6 -0.1**
103nm,2.5s
WRA Warramunga Arr 49.67 258 P **P 23 12 21.4 -0.3**
WRA PcP **PcP 23 13 44.2 +1.1**
WRA Warramunga Arr 49.67 258 P **P 23 12 21.4 -0.3**
0.9nm,0.3s,baz=93,slow=6.8,SNR=32
WRA PcP **PcP 23 13 44.2 +1.1**
1.2nm,0.8s,baz=85,slow=3.9,SNR=5.1
AS01 Alice Springs 49.82 253 *e*P **P 23 12 22.7 -0.1**
ASAR Alice Springs 49.86 253 P **P 23 12 22.6 -0.6**
ASAR Alice Springs 49.86 253 P **P 23 12 22.6 -0.6**
14nm,0.6s,baz=89,slow=8.1,SNR=249
WRKA Warakurna 54.92 251 P **P 23 13 00.5 -0.2**
baz=56,SNR=25
MEEK Meekatharra 63.50 248 P **P 23 13 59.4 -0.7**
baz=65,SNR=4.0
BFSC Mount Baldy Ra 73.05 46 P P 23 15 15.2 +15
baz=74
MONP Monument Peak 73.17 47 P P 23 15 15.0 +14
baz=74
EDW2 Edwards Air Fo 73.18 45 P P 23 15 15.3 +15
baz=74
ISA Isabella 73.30 44 P P 23 15 16.3 +15
baz=75
PFO Pinyon Flat Ob 73.54 47 P P 23 15 17.3 +14
baz=75
LRMC Laurel Mountai 73.72 45 P P 23 15 18.5 +15
baz=75
N02D Trinity Center 73.85 38 P P 23 15 19.1 +15
baz=75
CWC Cottonwood Cre 74.00 44 P P 23 15 19.9 +14
baz=75
M02C Callahan 74.03 37 P P 23 15 20.7 +15
baz=75
BELC Belle Mtn. Jos 74.07 47 P P 23 15 20.6 +15
baz=75
MPMC Manual Prospec 74.18 44 P P 23 15 21.0 +14
baz=76
GSC Goldstone 74.22 45 P P 23 15 20.8 +14
baz=76
YBH Yreka Blue Hor 74.33 37 *e*P P 23 15 21.5 +14
7.1nm,0.9s
BEKR Beckworth 74.57 40 *e*P P 23 15 22.8 +14
1.5nm,0.8s
GMRC Granite Mounta 74.72 46 P P 23 15 24.2 +15
baz=76
IRM Iron Mountain 74.75 47 P P 23 15 24.3 +15
baz=76
GRAC Grapevine Rang 74.79 43 P P 23 15 24.7 +15
baz=76
M04C Macdoel 74.86 37 P P 23 15 25.1 +15
baz=76
TUQ Turquoise Moun 74.90 45 P P 23 15 25.5 +15
baz=76
NV01 Mina Array Sit 75.00 42 *e*P P 23 15 26.1 +15
I03D Drain, OR 75.23 35 P P 23 15 27.3 +15
baz=77
TPNV Topopah Spring 75.51 44 *e*P P 23 15 29.1 +15
TPNV Topopah Spring 75.51 44 P P 23 15 28.6 +14
baz=77
J04D Umpqua Nationa 75.63 36 P P 23 15 29.6 +15
baz=77
I04A Tendick Farm, 75.81 35 P P 23 15 30.1 +14
baz=77
MOD Modoc 75.84 38 *e*P P 23 15 29.9 +14
0.9nm,0.7s
SHPR Sheep Range 76.00 45 *e*P P 23 15 30.8 +14
K05A Summer Lake 76.00 37 *e*P P 23 15 32.1 +15
11nm,0.9s
Y14A Wickenburg 76.15 48 P P 23 15 32.3 +15
baz=78
J05D Fort Rock, OR 76.15 36 P P 23 15 32.5 +15
baz=78
G03D McMinnville, O 76.26 34 P P 23 15 32.8 +15
baz=78
R11A Troy Canyon, C 76.72 43 P P 23 15 35.5 +14
baz=78
I05D Terrebonne, OR 76.75 36 P P 23 15 35.7 +15
baz=78
G05D Wamic, OR 77.33 35 P P 23 15 38.9 +15
baz=79
X16A Lo Mia Camp, P 77.51 48 P P 23 15 40.1 +14
baz=79
319A Douglas 77.64 52 P P 23 15 41.1 +15
baz=79
121A Cookes Peak, D 79.30 52 P P 23 15 50.3 +15
baz=81
DUG Dugway 79.53 43 P P 23 15 51.1 +15
baz=81
Z22A Elephant Butte 80.24 51 P P 23 15 55.1 +14
baz=82
HLID Hailey 80.33 39 P P 23 15 55.9 +15
baz=82
Y22A Socorro 80.55 51 P P 23 15 56.5 +14
baz=82
324A Moseley Ranch, 80.57 53 P P 23 15 57.1 +15
baz=82
425A Indio Mountain 80.67 54 P P 23 15 57.4 +14
baz=82
224A Cornudas Mount 80.81 53 P P 23 15 58.7 +15
baz=82
626A Big Bend Ranch 80.83 56 P P 23 15 58.7 +14
baz=82
325A Bean Ranch, Si 80.93 54 P P 23 15 58.6 +14
baz=82
TXAR Lajitas Array 81.11 56 P **P 23 15 47.5 +2.2**
TXAR Lajitas Array 81.11 56 P **P 23 15 47.5 +2.2**
0.2nm,0.8s,baz=91,slow=4.8,SNR=3.0
225A Deer Hill, Car 81.36 53 P P 23 16 01.4 +15
baz=83
426A McDonald Obser 81.37 55 P P 23 16 01.4 +15
baz=83
627A Terlingua Ranc 81.38 56 P P 23 16 01.4 +15
baz=83
527A Woodward Ranch 81.48 55 P P 23 16 01.8 +14
baz=83
Y24A Capitan 81.68 51 P P 23 16 03.1 +15
baz=83
226B Tecolote Peak, 81.85 53 P P 23 16 03.8 +15
baz=83
427A Hayter Ranch, 81.94 55 P P 23 16 04.5 +15
baz=83
528A Cox Ranch, San 82.14 56 P P 23 16 05.5 +15
baz=83
U23A El Rito 82.19 49 P P 23 16 05.9 +15
baz=84
S22A 4UR Ranch, Cre 82.38 47 P P 23 16 07.0 +15
baz=84
Z26A Caprock 82.50 52 P P 23 16 06.9 +14
baz=84
529A Stev Forest Ra 82.57 56 P P 23 16 07.3 +14
baz=84
N20A Spence Gulch, 82.84 44 P P 23 16 08.8 +14
baz=84
BW06 Boulder Array 82.94 42 *e*P P 23 16 08.1 +13
47nm,2.5s
PDAR Pinedale Array 82.94 42 P **P 23 15 56.2 +1.4**
PDAR Pinedale Array 82.94 42 P **P 23 15 56.2 +1.4**
0.9nm,0.8s,baz=211,slow=3.5,SNR=5.6
429A Davenport Ranc 83.03 55 P P 23 16 09.8 +14
baz=84
T24B San Luis 83.10 48 P P 23 16 10.6 +15
baz=84
V25A Rancho No Teng 83.12 50 P P 23 16 09.7 +14
baz=84
X26A CR and CF Fran 83.17 51 P P 23 16 09.7 +14
baz=84
P22A Eagle 83.28 46 P P 23 16 11.3 +15
baz=85
R23A Moffat 83.29 47 P P 23 16 11.2 +14
baz=85
QIZ Qiongzhong 83.30 292 P P 23 16 03.4 +6.6
QIZ S **S 23 26 18.8 +0.8**
QIZ pmax pmax
comp=Z,23nm,1.3s
QIZ pmax pmax
comp=Z,310nm,3.7s
ILAR Eielson Array 83.36 11 P **P 23 15 56.0 -0.2**
ILAR Eielson Array 83.36 11 P **P 23 15 56.0 -0.2**
0.8nm,0.8s,baz=229,slow=6.1,SNR=7.0
Y27A Causey 83.37 52 P P 23 16 10.8 +14
baz=85
S24A Houchin Ranch, 83.48 48 P P 23 16 12.0 +14
baz=85
J19A Crowheart 83.51 41 P P 23 16 11.4 +14
baz=85
U25A Circle Dot Ran 83.52 49 P P 23 16 11.8 +14
baz=85
HRY Holter Researc 83.57 37 *e*P P 23 16 12.2 +14
O22A Kremmling 83.68 45 P P 23 16 12.8 +14
baz=85
V26A Tequesquite Ra 83.71 50 P P 23 16 12.9 +14
baz=85
R24A Sanders Place, 83.81 47 P P 23 16 13.5 +14
baz=85
531A Rocksprings 83.92 56 P P 23 16 14.2 +14
baz=85
I19A Meeteetse 83.92 41 P P 23 16 14.1 +14
baz=85
W27A Bowe Ranch, En 83.94 51 P P 23 16 13.9 +14
baz=85
N22A Wattenberg Ran 84.04 45 P P 23 16 14.7 +14
baz=85
J20A Shoshoni 84.17 42 P P 23 16 15.1 +14
baz=86
K21A Alcova 84.36 43 P P 23 16 16.0 +14
baz=86
N23A Red Feather La 84.43 45 P P 23 16 16.8 +14
baz=86
I20A Worland 84.43 41 P P 23 16 16.8 +15
baz=86
H20A Grybull 84.77 41 P P 23 16 16.9 +13
baz=86
F19A Roth Farm, Mol 84.85 39 P P 23 16 18.4 +14
baz=86
I21A Big Trails, Te 84.89 42 P P 23 16 18.4 +14
baz=86
R26A Arlington 85.02 48 P P 23 16 18.2 +13
baz=86
C19A Slack Wire Ran 85.72 38 P P 23 16 23.4 +15
baz=87
D20A Manuel Ranch, 85.95 38 P P 23 16 24.5 +15
baz=87
Z32A Haskell 85.97 54 P P 23 16 24.4 +14
baz=87
BJI Beijing 86.15 314 P P 23 16 21.5 +11
BJI pmax pmax
comp=Z,8.0nm,0.7s
334A Lometa 86.20 56 P P 23 16 25.8 +14
baz=88
R28A Tribune 86.21 48 P P 23 16 25.8 +14
baz=88
GYA Guiyang 88.52 298 P P 23 16 30.0 +7.3
GYA pP pP 23 16 45.0 +19
GYA sP sP 23 16 51.4 +24
GYA PP PP 23 20 01.5 +10
GYA SKS **SKSac 23 26 51.8 -0.7**
GYA S **S 23 27 09.0 -0.3**
GYA sS ScS 23 27 35.8 +21
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
GYA LR LR
comp=N,470nm,19.4s
GYA LR LR
comp=E,390nm,20.2s
GYA LR LR
comp=Z,450nm,18.9s
HHC Hu-ho-hao-te 89.70 313 *e*P P 23 16 35.6 +7.7
HHC PP PP 23 20 10.4 +10
HHC SKS **SKSac 23 27 03.9 +5.1**
HHC S **ScS 23 27 24.4 +0.3**
HHC pmax pmax
comp=Z,36nm,1.2s
HHC pmax pmax
comp=Z,170nm,7.7s
HHC LR LR
comp=N,360nm,17.3s
HHC LR LR
comp=E,460nm,17.7s
HHC LR LR
comp=Z,350nm,17.1s
YKA Yellowknife Ar 90.95 23 P **P 23 16 33.8 +0.7**
YKA Yellowknife Ar 90.95 23 P **P 23 16 33.8 +0.7**
0.1nm,0.6s,baz=231,slow=3.9,SNR=2.7
KMI Kunming 91.47 296 P P 23 16 45.1 +8.4
KMI pmax pmax
comp=Z,5.0nm,0.9s
CD2 Chengdu 92.34 301 *e*P P 23 16 50.8 +10
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,100nm,8.2s
LZH Lanzhou 93.82 306 *e*P P 23 16 57.0 +10
LZH pmax pmax
comp=Z,12nm,1.0s
ARCES ARCESS Array B 125.55 352 PKP **PKPdf 23 22 30.5 +0.2**
ARCES ARCESS Array B 125.55 352 PKP **PKPdf 23 22 30.5 +0.2**
1.8nm,0.7s,baz=15,slow=5.0,SNR=5.4
BRTR Keskin Array B 146.91 320 PKPbc **PKPab 23 23 13.4 -0.4**
BRTR Keskin Array B 146.91 320 PKPbc **PKPab 23 23 13.4 -0.4**
3.4nm,0.8s,baz=102,slow=2.4,SNR=17
GERES GERESS Array B 147.08 351 PKPbc **PKPab 23 23 13.5 -0.6**
GERES GERESS Array B 147.08 351 PKPbc **PKPab 23 23 13.5 -0.6**
0.9nm,0.6s,baz=40,slow=1.7,SNR=6.0

*ISCJB **19** 23:11:26.6±0.7, 34°.4N±0′.1×137°.70E±0′.09, h314km±8km, mb2.8/3, Error ellipse: s-maj=18.6km s-min=11.8km az=7.1*
*JMA **19** 23:11:26.5±0.1, 34°.31N×137°.68E, h316km, M3.0*
*IDC **19** 23:11:27.1±2.6, 34°.15N×137°.54E, h292km±77km, mb2.6/3, mb1 2.9/4, mb1mx2.7/25, mbtmp2.7/4, Error ellipse: s-maj=175.4km s-min=22.4km az=60.0*
ISC 19 23:11:27.4±1.1, 34°.4N±0′.1×137°.67E±0′.08, h307km±10km, n17, σ1§00/23, mb2.8/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**0.80**	**271**	P	**Pn**	**23 12 07.9**	**+0.3**
JAO	**Obara**	**0.95**	**339**	P	**Pn**	**23 12 08.9**	**+0.6**
JNY	**Yasuok**	**0.99**	**9**	P	**Pn**	**23 12 09.2**	**+0.7**
JGM	**Miyama**	**1.53**	**330**	P	**Pn**	**23 12 11.9**	**+0.5**
JGM				S	**S**	**23 12 46.0**	**-0.5**
JRY	**Ryogami san**	**1.93**	**31**	P	**Pn**	**23 12 15.6**	**+1.4**
JHU	**Hanno**	**1.98**	**41**	P	**Pn**	**23 12 15.5**	**+0.9**
JHU				S	**S**	**23 12 51.2**	**-0.9**
JWT	**Wachi**	**2.07**	**297**	P	**Pn**	**23 12 14.9**	**-0.4**
MAT	**Matsushiro**	**2.21**	**11**	P	**Pn**	**23 12 17.0**	**+0.7**
MAT				*e*S	**S**	**23 12 54.9**	**-0.6**
MAT	**Matsushiro**	**2.21**	**11**	P	**Pn**	**23 12 17.1**	**+0.7**
MJAR	**Matsushiro Arr**	**2.21**	**11**	P	**Pn**	**23 12 17.0**	**+0.6**
	2.8nm,0.3s,baz=190,slow=9.9,SNR=55						
BSO4	**Boso 4**	**2.28**	**74**	S	**S**	**23 12 56.9**	**+0.5**
BSO3	**Boso 3**	**2.38**	**79**	P	**Pn**	**23 12 17.7**	**+0.1**
BSO3				S	**S**	**23 12 58.5**	**+0.8**
JAG	**Ashikaga**	**2.51**	**35**	P	**Pn**	**23 12 18.9**	**-0.1**
JAG				S	**S**	**23 12 59.5**	**-0.7**
JYT	**Yasato**	**2.77**	**47**	P	**Pn**	**23 12 21.4**	**+0.1**
JYT				S	**S**	**23 13 01.6**	**-2.8**
SONM	**Songino Array**	**26.92**	**309**	P	**P**	**23 16 42.5**	**+1.4**
	0.2nm,0.7s,baz=113,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**54.11**	**184**	P	**P**	**23 20 20.8**	**-0.6**
	0.3nm,0.3s,baz=360,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**57.83**	**184**	P	**P**	**23 20 47.0**	**-0.6**
	0.1nm,0.3s,baz=1.3,slow=4.1,SNR=4.1						

*IDC **19** 23:16:18.2±0.7, 13°.56S×166°.74E, h0km, mb4.5/14, mb1 4.6/17, mb1mx4.5/22, mbtmp4.5/17, ML3.9/3, MS4.1/6, Ms1 4.1/6, ms1mx3.9/23, Error ellipse: s-maj=22.9km s-min=16.0km az=109.0*
*ISCJB **19** 23:16:23.4±0.6, 13°.52S±0′.06×166°.56E±0′.10, h39km, mb4.7/18, MS4.2/4, Error ellipse: s-maj=14.0km s-min=8.7km az=12.3*
*NEIC **19** 23:16:23.7±0.6, 13°.52S×166°.67E, h35km, mb4.7/7, Error ellipse: s-maj=15.0km s-min=11.5km az=117.0*
ISC 19 23:16:24.1±0.5, 13°.61S±0′.06×166°.65E±0′.09, h39km, n83, σ1§63/89, mb4.7/18, MS4.2/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.77**	**302**	*e*Pn	**Pn**	**23 18 14.7**	**0.0**
HNR				*e*Sn	Sn	23 19 34.5	-6.9
HNR	**Honiara**	**7.77**	**302**	Pn	**Pn**	**23 18 13.1**	**-1.6**
	12nm,0.3s,baz=174,slow=4.7,SNR=7.5						
HNR				Sn	**Sn**	**23 19 38.5**	**-2.9**
	22nm,0.3s,baz=54,slow=19,SNR=4.0						
HNR				LR	LR	23 20 54.1	
	comp=Z,912nm,20.0s,baz=131,slow=35						
DZM	**Mont Dzumac**	**8.42**	**181**	*e*Pn	**Pn**	**23 18 25.3**	**+1.7**
	19nm,0.3s						
DZM				*e*Sn	**Sn**	**23 19 53.3**	**-4.1**
	6.0nm,0.3s						
DZM				*e*LR	LR	23 20 18.1	
	1μm,22.8s						
DZM	**Mont Dzumac**	**8.42**	**181**	Pn	**Pn**	**23 18 23.7**	**0.0**
DZM	**Mont Dzumac**	**8.42**	**181**	Pn	**Pn**	**23 18 23.7**	**0.0**
	0.8nm,0.3s,baz=39,slow=17,SNR=12						
DZM	**Mont Dzumac**	**8.42**	**181**	*e*P	**Pn**	**23 18 25.4**	**+1.7**
DZM				*e*S	**Sn**	**23 19 53.9**	**-3.6**
DZM	**Mont Dzumac**	**8.42**	**181**	*e*P	**Pn**	**23 18 25.4**	**+1.7**
DZM				*e*S	**Sn**	**23 19 53.9**	**-3.6**
EIDS	**Eidsvold**	**18.74**	**229**	*e*Pn	**Pn**	**23 20 41.4**	**+1.0**
	128nm,2.5s						
PMG	**Port Moresby**	**19.55**	**280**	*e*Pn	**Pn**	**23 20 49.6**	**-0.5**
	12nm,0.9s						
PMG	**Port Moresby**	**19.55**	**280**	P	**P**	**23 20 48.2**	**-0.4**
	0.5nm,0.3s,baz=114,slow=7.7,SNR=4.7						
PMG				LR	LR	23 26 58.1	
	comp=Z,128nm,21.7s,baz=316,slow=33						
CTA	**Charters Tower**	**20.55**	**249**	P	Pn	23 21 00.9	-0.9
CTA	**Charters Tower**	**20.55**	**249**	P	Pn	23 21 00.9	-0.9
	3.6nm,0.8s,baz=80,slow=13,SNR=5.0						
CTAO	**Charters Tower**	**20.55**	**249**	*e*Pn	**P**	**23 20 59.9**	**+0.4**
	37nm,1.3s						
RMQ	**Roma**	**21.10**	**230**	P	**P**	**23 21 07.9**	**+2.5**
	baz=10,SNR=7.2						
ARMA	**Armidale**	**21.72**	**217**	*e*P	**P**	**23 21 16.0**	**+3.8**
	145nm,2.3s						
COEN	**Coen**	**22.80**	**266**	*e*P	**P**	**23 21 22.8**	**-0.9**
	159nm,1.4s						
COEN	**Coen**	**22.80**	**266**	P	P	23 21 29.9	+6.2
	baz=13,SNR=4.0						
QLP	**Quilpie**	**24.64**	**235**	P	**P**	**23 21 42.2**	**+1.1**
	baz=13,SNR=3.6						
CMSA	**Cobar Meteorol**	**26.24**	**224**	P	P	23 22 02.9	+7.3
	baz=16,SNR=9.4						
STKA	**Stephens Creek**	**29.28**	**227**	*e*P	P	23 22 28.7	+5.9
	5.5nm,1.1s						
STKA				PcP	**PcP**	**23 25 29.6**	**+0.6**
STKA	**Stephens Creek**	**29.28**	**227**	P	**P**	**23 22 24.0**	**+1.3**
	3.3nm,0.6s,baz=40,slow=8.8,SNR=15						
STKA				PcP	**PcP**	**23 25 29.6**	**+0.6**
	1.5nm,0.6s,baz=297,slow=6.4,SNR=3.1						
STKA				LR	LR	23 34 05.0	
	comp=Z,702nm,18.1s,baz=46,slow=36						
STKA	**Stephens Creek**	**29.28**	**227**	P	**P**	**23 22 24.1**	**+1.3**
	baz=18,SNR=7.9						
KHZ	**Kahutara**	**29.32**	**170**	*e*P	P	23 22 44.4	+21
RPZ	**Rata Peaks**	**30.24**	**174**	LR	LR	23 32 43.5	
	comp=Z,409nm,19.0s,baz=163,slow=32						
TOO	**Toolangi**	**30.41**	**215**	P	**P**	**23 22 34.7**	**+1.9**
	baz=21,SNR=4.5						
WRA	**Warramunga Arr**	**31.53**	**254**	P	**P**	**23 22 41.5**	**-1.3**
WRA				PcP	**PcP**	**23 25 35.1**	**-0.1**
WRA	**Warramunga Arr**	**31.53**	**254**	P	**P**	**23 22 41.5**	**-1.3**
	1.4nm,0.6s,baz=81,slow=6.8,SNR=28						
WRA				PcP	**PcP**	**23 25 35.1**	**-0.1**
	1.2nm,0.9s,baz=82,slow=3.6,SNR=5.5						
WRA				LR	LR	23 35 00.7	
	comp=Z,854nm,19.1s,baz=80,slow=36						
HTT	**Hallett**	**32.01**	**227**	P	**P**	**23 22 48.3**	**+1.4**
	baz=21,SNR=4.0						
AS01	**Alice Springs**	**32.48**	**247**	*e*P	**P**	**23 22 54.4**	**+3.1**
ASAR	**Alice Springs**	**32.53**	**247**	P	**P**	**23 22 50.4**	**-1.2**
ASAR				PcP	**PcP**	**23 25 37.7**	**-0.1**
ASAR				ScP	**ScP**	**23 29 22.5**	**+3.7**
ASAR	**Alice Springs**	**32.53**	**247**	P	**P**	**23 22 50.4**	**-1.2**
	0.8nm,0.6s,baz=71,slow=9.5,SNR=14						
ASAR				PcP	**PcP**	**23 25 37.7**	**-0.1**
	0.7nm,0.7s,baz=93,slow=2.4,SNR=4.6						
ASAR				ScP	**ScP**	**23 29 22.5**	**+3.7**
	0.6nm,0.9s,baz=67,slow=4.2,SNR=4.2						
ASAR				LR	LR	23 36 22.7	
	comp=Z,387nm,18.8s,baz=171,slow=37						
BBOO	**Buckleboo**	**33.81**	**230**	*e*P	P	23 23 08.3	+5.7
	318nm,1.3s						
WRKA	**Warakurna**	**37.81**	**247**	P	**P**	**23 23 36.6**	**-0.5**
	baz=26,SNR=8.0						
FORT	**Forrest**	**39.36**	**238**	*e*P	P	23 23 55.9	+5.9
	58nm,1.3s						
MEEK	**Meekatharra**	**46.67**	**246**	P	**P**	**23 24 49.0**	**-0.3**
	baz=35,SNR=5.7						
MORW	**Morawa**	**49.22**	**243**	P	P	23 25 15.5	+6.6
	baz=37,SNR=5.1						
MJAR	**Matsushiro Arr**	**56.64**	**333**	P	**P**	**23 26 02.3**	**-1.1**
MJAR	**Matsushiro Arr**	**56.64**	**333**	P	**P**	**23 26 02.3**	**-1.1**
	8.5nm,1.1s,baz=158,slow=7.7,SNR=9.3						
ASAJ	**Asahikawa**	**61.49**	**340**	P	**P**	**23 26 37.3**	**+0.5**
ASAJ	**Asahikawa**	**61.49**	**340**	P	**P**	**23 26 37.3**	**+0.5**
	10.0nm,0.4s,baz=196,slow=3.8,SNR=22						
KSRS	**Korea Array**	**62.48**	**326**	P	**P**	**23 26 44.5**	**+1.0**
	1.3nm,0.6s,baz=142,slow=7.7,SNR=4.6						
KSAR	**Wonju Array Be**	**62.49**	**326**	P	**P**	**23 26 44.5**	**+0.9**
VNDA	**Vanda**	**63.96**	**181**	P	**P**	**23 26 54.3**	**+1.4**
VNDA	**Vanda**	**63.96**	**181**	P	**P**	**23 26 54.3**	**+1.4**
	1.6nm,0.7s,baz=349,slow=9.5,SNR=5.8						
USRK	**Ussurirysk Arra**	**65.62**	**333**	P	**P**	**23 27 04.9**	**+0.8**
	11nm,0.8s,baz=136,slow=5.7,SNR=15						
CMAR	**Chiang Mai Arr**	**73.95**	**294**	P	**P**	**23 27 57.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**73.95**	**294**	P	**P**	**23 27 57.5**	**+1.6**
	1.8nm,0.6s,baz=113,slow=4.4,SNR=14						
SONM	**Songino Array**	**81.25**	**324**	P	**P**	**23 28 37.3**	**+1.1**
SONM	**Songino Array**	**81.25**	**324**	P	**P**	**23 28 37.3**	**+1.1**
	18nm,1.4s,baz=139,slow=5.6,SNR=23						
GTA	**Gaotai**	**81.46**	**314**	*e*P	**P**	**23 28 39.4**	**+1.9**
GTA				pP	**PcP**	**23 28 45.5**	**+2.0**
GTA				sP	**sP**	**23 28 49.3**	**-4.6**
GTA				pmax	pmax		
	comp=Z,11nm,1.5s						
GTA				pmax	pmax		
	comp=Z,100nm,5.2s						
ILAR	**Eielson Array**	**85.66**	**18**	P	**P**	**23 28 56.9**	**-1.4**
ILAR	**Eielson Array**	**85.66**	**18**	P	**P**	**23 28 56.9**	**-1.4**
	comp=Z,4.5nm,0.4s,baz=238,slow=4.3,SNR=52						

TAPN	**Taplejung**	**86.61**	**299**	*e*P	**P**	**23**	**29**	**05.3 +1.0**
ODAN	**Odare**	**86.75**	**298**	*e*P	**P**	**23**	**29**	**05.8 +1.0**
RAMN	**Ramite**	**87.45**	**298**	*e*P	**P**	**23**	**29**	**09.2 +0.9**
JIRN	**Jiri**	**88.00**	**299**	*e*P	**P**	**23**	**29**	**11.6 +0.6**
GUN	**Gumba**	**88.33**	**299**	*e*P	**P**	**23**	**29**	**13.4 +0.8**
PKI	**Pulchoki** comp=Z,16nm,0.5s	**88.64**	**299**	*e*P	**P**	**23**	**29**	**14.0 0.0**
PKIN	**Phulchoki** comp=Z,12nm,0.5s	**88.65**	**299**	*e*P	**P**	**23**	**29**	**14.0 0.0**
KKN	**Kakani**	**88.81**	**299**	*e*P	**P**	**23**	**29**	**15.0 +0.3**
DMN	**Daman**	**88.91**	**299**	*e*P	**P**	**23**	**29**	**15.6 +0.4**
GKN	**Gorkha**	**89.41**	**299**	*e*P	**P**	**23**	**29**	**17.3 -0.1**
DANN	**Dangsing**	**90.25**	**299**	*e*P	**P**	**23**	**29**	**21.1 -0.4**
ZALV	**Zalesovo Beam**	**96.14**	**324**	P	**P**	**23**	**29**	**46.7 -0.9**
ZALV	**Zalesovo Beam** comp=Z,2.5nm,0.8s,baz=107,slow=5.0,SNR=14	**96.14**	**324**	P	**P**	**23**	**29**	**46.7 -0.9**
YKA	**Yellowknife Ar**	**96.83**	**27**	P	**P**	**23**	**29**	**49.8 -0.8**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.4s,baz=259,slow=4.8,SNR=13	**96.83**	**27**	P	**P**	**23**	**29**	**49.7 -0.8**
ARCES	**ARCESS Array B**	**119.02**	**345**	PKP	**PKPdf**	**23**	**35**	**07.5 -0.5**
ARCES				PKKPbc	**PKKPab**	**23**	**45**	**20.7 -3.3**
ARCES	**ARCESS Array B** comp=Z,3.3nm,0.6s,baz=76,slow=2.1,SNR=25	**119.02**	**345**	PKP	**PKPdf**	**23**	**35**	**07.5 -0.5**
ARCES				PKKPbc	**PKKPab**	**23**	**45**	**20.7 -3.3**
FINES	**FINESS Array B**	**124.47**	**338**	PKP	**PKPdf**	**23**	**35**	**17.9 -0.7**
FINES	**FINESS Array B** comp=Z,3.6nm,0.8s,baz=345,slow=2.2,SNR=4.9	**124.47**	**338**	PKP	**PKPdf**	**23**	**35**	**17.9 -0.7**
NOA	**NORSAR Array B**	**129.39**	**345**	PKP	**PKPdf**	**23**	**35**	**27.6 -0.6**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.5s,baz=62,slow=1.9,SNR=2.7	**129.39**	**345**	PKP	**PKPdf**	**23**	**35**	**27.6 -0.6**
AKASG	**Malin Array Be**	**129.48**	**326**	PKP	**PKPdf**	**23**	**35**	**27.2 -1.3**
AKASG	**Malin Array Be** comp=Z,0.9nm,0.6s,baz=46,slow=3.2,SNR=6.3	**129.48**	**326**	PKP	**PKPdf**	**23**	**35**	**27.2 -1.3**
BRTR	**Keskin Array B**	**131.33**	**311**	PKP	**PKPdf**	**23**	**35**	**33.2 +0.5**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.9s,baz=191,slow=4.4,SNR=3.9	**131.33**	**311**	PKP	**PKPdf**	**23**	**35**	**33.2 +0.5**
MMAI	**Mount Meron Ar**	**131.71**	**302**	PKP	**PKPdf**	**23**	**35**	**34.6 +1.1**
MMAI	**Mount Meron Ar** comp=Z,5.1nm,1.1s,baz=110,slow=6.3,SNR=4.7	**131.71**	**302**	PKP	**PKPdf**	**23**	**35**	**34.6 +1.1**
KEST	**Kesra**	**149.97**	**321**	PKPbc	**PKPbc**	**23**	**36**	**11.6 +0.7**
KEST	**Kesra** comp=Z,4.6nm,0.6s,baz=202,slow=2.3,SNR=22	**149.97**	**321**	PKPbc	**PKPbc**	**23**	**36**	**11.6 +0.7**
ESDC	**Sonseca Array**	**152.75**	**344**	PKPbc	**PKPbc**	**23**	**36**	**17.3 +0.1**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.4s,baz=1.4,slow=4.0,SNR=7.4	**152.75**	**344**	PKPbc	**PKPbc**	**23**	**36**	**17.3 +0.1**

IDC 19 23:18:22.8±7.1, 30.75S×178.07W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/17, mbtmp3.7/2, Error ellipse: s-maj=298.8km s-min=56.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.03**	**267**	P	P	23 26 23.9	-0.6
	0.5nm,0.7s,baz=108,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**44.05**	**273**	P	P	23 26 33.0	+0.3
	0.7nm,0.4s,baz=111,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**145.45**	**340**	PKPbc	PKPbc	23 38 01.2	-0.9
	5.1nm,0.9s,baz=69,slow=4.1,SNR=7.5						

*ISCJB **19** 23:19:14.8±0.1, 10.11S×0.02×33.79E±0.02, h10km, mb5.7/260, MS5.9/377, Error ellipse: s-maj=3.3km s-min=3.0km az=167.2*

*MOS **19** 23:19:15.2±0.9, 9.93S×33.81E, h10km, mb6.1/96, MS5.7/70, Error ellipse: s-maj=7.6km s-min=3.8km az=96.9*

*NEIC **19** 23:19:15.6±0.1, 10.11S×33.82E, h6km, mb6.0/113, ME5.5, MS6.0/291, MW6.0, MW6.0, Error ellipse: s-maj=4.6km s-min=3.8km az=81.0, Moment Tensor Solution. s65 Moment tensor: Scale 10¹⁸Nm; Mrr=1.16; Mθθ 0.40; Mφφ 0.76; Mrθ 0.72; Mθφ 0.07; Mφr-0.40; Best double couple: Mo1.30000×10¹⁸ NP1:φs328.00000°, δ64.00000°, λ-107.00000°. NP2:φs182.00000°, δ31.00000°, λ-59.00000°. Principal axes: T 0.8700, Plg17.0000°, Azm70.0000°; N 0.6400, Plg15.0000°, Azm335.0000°; P -1.5100, Plg66.0000°, Azm206.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Three people killed, at least 250 injured, 1,111 houses destroyed and 3,565 damaged in Karonga. Felt at Mzuzu. Also felt at Njombe, Tanzania and at Mpika, Zambia.

*IDC **19** 23:19:15.0±0.4, 9.99S×33.81E, h0km, mb5.1/32, mb1 5.2/35, mb1mx5.2/36, mbtmp5.1/35, ML3.1/1, MS5.7/39, Ms1 5.7/39, ms1mx5.7/41 Error ellipse: s-maj=13.9km s-min=10.9km az=93.0*

*BJI **19** 23:19:15.4, 9.64S×33.39E, h15km, mB6.0/59, mb5.5/53, Ms6.0/64, Ms7 5.8/59*

*DJA **19** 23:19:19.0±0.6, 10°S±7°×3°4E±°, h10km, M6.1/12, mb5.8/12, mB6.5/10, Mw(mB)6.2/10*

*GCMT **19** 23:19:20.4±0.1, 10.02S×33.93E, h12km, MW6.0, Moment Tensor Solution. s121, c251; s99, c134; Moment tensor: Scale 10¹⁸Nm; Mrr-1.04±.01; Mθθ 0.18±.01; Mφφ 0.86±.01; Mrθ 0.13±.02; Mθφ-0.44±.01; Mφr-0.22±.02; Best double couple: Mo1.10000×10¹⁸ NP1:φs333.00000°, δ52.00000°, λ-91.00000°. NP2:φs155.00000°, δ38.00000°, λ-88.00000°. Principal axes: T 1.1000, Plg7.0000°, Azm64.0000°; N -0.0300, Plg1.0000°, Azm334.0000°; P -1.0700, Plg83.0000°, Azm235.0000°; Data Used: ll IU CU IC G CN. Mantle waves from 102 sta. Surface waves: sta=128, comp=283, per= 50.*

*SZGRF **19** 23:19:23.5, 8.79S×35.46E, h33km, mb6.1, MS5.3, Tanzania*

*NEIC **19** 23:19:29.1±0.0, 10.22S×33.75E, h10km Best double couple: NP1:φs165.00000°, δ59.00000°, λ-81.00000°. NP2:φs329.00000°, δ32.00000°, λ-103.00000°. Principal axes: T 1.0800, Plg13.0000°, Azm248.0000°; N 0.0100, Plg7.0000°, Azm340.0000°; P -1.0900, Plg74.0000°, Azm97.0000°;*

ISC 19 23:19:17.2±0.3, 10.02S±0.03×33.83E±0.03, h14km±1km, h14km:pP-P, n1526, σ1943/1443, mb5.8/259, MS6.0/378, 250C-229D, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**4.25**	**27**	*i* P	**Pn**	**23 20 19.4**	**-2.2**
DODT				*i* S	**Sb**	**23 21 24.0**	**+0.9**
LSZ	**Lusaka**	**7.59**	**226**	*e*Pn	**Pn**	**23 21 07.3**	**-0.3**
LSZ				*e*Sn	**Sn**	**23 22 31.8**	**-1.7**
LSZ				Lg	Lg	23 23 12.5	
LSZ	**Lusaka** comp=Z,83nm,0.3s,baz=53,slow=11,SNR=191	**7.59**	**226**	Pn	**Pn**	**23 21 07.3**	**-0.3**
LSZ				Sn	**Sn**	**23 22 30.8**	**-2.7**
	comp=Z,425nm,0.3s,baz=343,slow=15,SNR=10						
LSZ				Lg	Lg	23 23 12.5	
	comp=Z,307nm,0.3s,baz=314,slow=16,SNR=14						
LSZ				LR	LR	23 24 16.4	
	comp=Z,158μm,18.6s,baz=346,slow=40						
MAUS	**Longido**	**7.77**	**22**	*i* P	**Pn**	**23 21 07.3**	**-2.8**
MAUS				*i* S	Sg	23 23 18.3	-8.5
KMBO	**Kilima Mbogo**	**9.47**	**21**	Pn	Pn	23 21 30.0	-3.4
KMBO				Sn	**Sn**	**23 23 14.8**	**-5.0**
KMBO				Lg	Lg	23 24 08.0	
KMBO	**Kilima Mbogo** baz=196,slow=16	**9.47**	**21**	Pn	Pn	23 21 30.0	-3.4
KMBO				Sn	**Sn**	**23 23 14.8**	**-5.0**
	59nm,0.3s,baz=111,slow=23,SNR=6.7						
KMBO				Lg	Lg	23 24 08.0	
	59nm,0.3s,baz=273,slow=16,SNR=13						
KMBO				LR	LR	23 25 20.1	
	comp=Z,67μm,18.9s,baz=188,slow=39						
MBAR	**Mbarara** 3μm,1.0s	**9.85**	**342**	Pn	Pn	23 21 33.1	-5.5
MBAR	**Mbarara**	**9.85**	**342**	Pn	Pn	23 21 34.0	-4.6
MBAR				Sn	**Sn**	**23 23 25.1**	**-4.1**
MBAR				Lg	Lg	23 24 18.7	
MBAR	**Mbarara** 29nm,0.3s,baz=159,slow=14,SNR=134	**9.85**	**342**	Pn	Pn	23 21 34.0	-4.6
MBAR				Sn	**Sn**	**23 23 25.1**	**-4.1**
	234nm,0.3s,baz=274,slow=23,SNR=7.8						
MBAR				Lg	Lg	23 24 18.7	
	442nm,0.3s,baz=113,slow=14,SNR=12						
MBAR				LR	LR	23 25 15.9	
	comp=Z,37μm,18.4s,baz=164,slow=37						
MSNA	**Messina**	**12.79**	**196**	*e*P	**Pn**	**23 22 17.0**	**-1.8**
MSNA				AMB	AMB	23 22 19.6	
	comp=Z,500nm,2.8s						
MSNA	**Messina**	**12.79**	**196**	*e*P	**Pn**	**23 22 17.0**	**-1.8**
OPO	**Ambohidratompo**	**15.48**	**125**	Pn	**Pn**	**23 22 54.2**	**-1.2**
OPO				Sn	**Sn**	**23 25 42.6**	**-4.3**
OPO	**Ambohidratompo** comp=Z,4.0nm,0.3s,baz=292,slow=12,SNR=42	**15.48**	**125**	Pn	**Pn**	**23 22 54.2**	**-1.2**
OPO				Sn	**Sn**	**23 25 42.6**	**-4.3**
	comp=Z,11nm,0.3s,baz=207,slow=18,SNR=4.5						
OPO				LR	LR	23 28 56.7	
	comp=Z,25μm,18.2s,baz=305,slow=38						
ABPO	**Ambohimpanom** comp=Z,2μm,1.0s,SNR=13	**15.74**	**126**	Pn	**Pn**	**23 22 57.4**	**-1.5**
ABPO	**Ambohimpanom**	**15.74**	**126**	*e*P	**Pn**	**23 22 57.7**	**-1.2**
ABPO				pmax	pmax		
	comp=Z,643nm,1.1s						
ABPO	**Ambohimpanom** comp=Z,643nm,1.1s	**15.74**	**126**	*e*Pn	**Pn**	**23 22 57.6**	**-1.2**
RUDU	**RUNDU**	**15.77**	**239**	*e*P	**Pn**	**23 22 56.9**	**-2.3**
RUDU				AMB	AMB	23 23 08.0	
	comp=Z,654nm,2.3s						
RUDU	**RUNDU**	**15.77**	**239**	*e*P	**Pn**	**23 22 56.9**	**-2.3**
SLR	**Silverton**	**16.49**	**198**	*e*P	**Pn**	**23 23 05.5**	**-2.9**
SLR				AMB	AMB	23 23 19.9	
	comp=Z,376nm,0.9s						
SLR	**Silverton**	**16.49**	**198**	*e*P	**Pn**	**23 23 05.5**	**-2.9**
SLR	**Silverton**	**16.49**	**198**	*e*P	**Pn**	**23 23 05.5**	**-2.9**
LBTB	**Lobatse**	**16.84**	**207**	*e*P	**Pn**	**23 23 12.1**	**-0.7**
LBTB				AMB	AMB	23 23 19.4	
	comp=Z,433nm,0.8s						
LBTB	**Lobatse** comp=Z,442nm,0.8s	**16.84**	**207**	*e*Pn	Pn	23 23 07.8	-5.0
OBSV	**Observatory**	**16.98**	**198**	*e*P	**Pn**	**23 23 13.4**	**-1.2**
OBSV				AMB	AMB	23 23 19.6	
	comp=Z,190nm,1.1s						
OBSV	**Observatory**	**16.98**	**198**	*e*P	**Pn**	**23 23 13.4**	**-1.2**
ERPM	**east rand prop**	**17.08**	**197**	*e*P	**Pn**	**23 23 12.1**	**-3.7**
ERPM				AMB	AMB	23 23 18.5	
	comp=Z,273nm,3.8s						
ERPM	**east rand prop**	**17.08**	**197**	*e*P	**Pn**	**23 23 12.1**	**-3.7**
WDLM	**Western Deep L**	**17.41**	**200**	*e*P	**Pn**	**23 23 18.2**	**-1.7**
WDLM				AMB	AMB	23 23 31.8	
	comp=Z,69nm,1.8s						
TSUM	**Tsumeb**	**18.17**	**238**	*e*P	**Pn**	**23 23 26.4**	**-3.0**
TSUM	**Tsumeb** comp=Z,1μm,1.5s	**18.17**	**238**	*e*Pn	**Pn**	**23 23 26.9**	**-2.4**
TSUM				S	Sn	23 26 38.9	-13
TSUM	**Tsumeb** comp=Z,3.9nm,0.3s,baz=71,slow=10,SNR=82	**18.17**	**238**	Pn	**Pn**	**23 23 27.0**	**-2.4**
TSUM				S	Sn	23 26 38.9	-13
	comp=Z,4.6nm,0.3s,baz=307,slow=12,SNR=9.2						
TSUM				LR	LR	23 30 42.1	
	comp=Z,109μm,18.4s,baz=54,slow=38						
SEK	**Senekal**	**19.12**	**197**	*e*P	**P**	**23 23 38.6**	**-1.5**
SEK				AMB	AMB	23 23 54.2	
	comp=Z,425nm,0.9s						
SEK	**Senekal**	**19.12**	**197**	*e*P	**P**	**23 23 38.6**	**-1.5**
FURI	**Furi**	**19.40**	**15**	P	Pn	23 23 49.5	+5.0
FURI				S	S	23 27 44.5	+22
FURI	**Furi** comp=Z,662nm,1.9s	**19.40**	**15**	*e*P	**Pn**	**23 23 47.5**	**+3.0**
BOSA	**Boshof**	**20.17**	**202**	*e*P	**P**	**23 23 49.7**	**-1.8**
BOSA				AMB	AMB	23 23 55.3	
	comp=Z,457nm,4.6s						
BOSA	**Boshof** comp=Z,237nm,0.8s	**20.17**	**202**	*e*P	**P**	**23 23 48.8**	**-2.7**
BOSA				S	**S**	**23 27 36.1**	**-1.8**
BOSA				Lg	Lg	23 29 45.9	
BOSA	**Boshof** comp=Z,50nm,0.5s,baz=26,slow=11,SNR=111	**20.17**	**202**	P	**P**	**23 23 50.1**	**-1.4**
BOSA				S	**S**	**23 27 36.1**	**-1.8**
	comp=Z,117nm,0.8s,baz=353,slow=17,SNR=3.1						
BOSA				Lg	Lg	23 29 45.9	
	comp=Z,2μm,1.0s,baz=117,slow=22,SNR=3.9						
BOSA				LR	LR	23 31 26.9	
	comp=Z,57μm,18.3s,baz=29,slow=36						
KSD	**Kokstad**	**20.83**	**191**	*e*P	**P**	**23 23 59.4**	**+0.8**
KSD				AMB	AMB	23 24 26.5	
	comp=Z,107nm,4.9s						
MSKU	**Masuku** comp=Z,2.0nm,1.2s	**21.75**	**291**	*e*P	**P**	**23 24 09.8**	**+1.2**
MSEY	**Mahe Island** comp=Z,396nm,1.4s,SNR=6.6	**22.11**	**78**	P	**P**	**23 24 13.7**	**+1.2**
MSEY	**Mahe Island** comp=Z,604nm,1.9s	**22.11**	**78**	*e*P	**P**	**23 24 12.5**	**0.0**
MSEY				LR	LR		
	comp=Z,28μm,22.0s						
SOE	**Somerset East**	**23.84**	**197**	*e*P	**P**	**23 24 30.4**	**+0.2**
SOE				AMB	AMB	23 24 33.0	
	comp=Z,438nm,3.9s						
GRM	**Grahamstown**	**24.14**	**195**	*e*P	**P**	**23 24 32.8**	**-0.1**
GRM				AMB	AMB	23 24 35.9	
	comp=Z,650nm,3.8s						
MRIV	**Mauritius Mete**	**24.99**	**117**	*e*P	**P**	**23 24 42.2**	**+1.5**
SUR	**Sutherland**	**25.30**	**206**	*e*P	**P**	**23 24 43.1**	**-0.5**
SUR				AMB	AMB	23 24 49.4	
	comp=Z,268nm,3.2s						
SUR	**Sutherland** comp=Z,141nm,0.9s	**25.30**	**206**	*e*P	**P**	**23 24 43.5**	**-0.1**
SUR				S	**S**	**23 29 16.1**	**+6.6**
SUR				Lg	Lg	23 32 23.2	
SUR	**Sutherland** comp=Z,537nm,1.1s,SNR=15	**25.30**	**206**	P	**P**	**23 24 43.3**	**-0.3**
SUR	**Sutherland** comp=Z,33nm,0.7s,baz=27,slow=7.8,SNR=22	**25.30**	**206**	P	**P**	**23 24 42.7**	**-0.9**
SUR				S	**S**	**23 29 16.1**	**+6.6**
	comp=Z,37nm,0.7s,baz=43,slow=19,SNR=2.3						
SUR				Lg	Lg	23 32 23.2	
	comp=Z,808nm,1.1s,baz=346,slow=18,SNR=3.5						
SUR				LR	LR	23 34 46.9	
	comp=Z,26μm,21.6s,baz=31,slow=37						
BUFB	**Buffelsbos**	**25.43**	**198**	*e*P	**P**	**23 24 40.6**	**-3.9**
BUFB				AMB	AMB	23 25 53.1	
	comp=Z,8.4nm,16.7s						
DAMY	**Dhamar**	**26.58**	**23**	*e*P	**P**	**23 24 57.3**	**+1.8**
ELIM	**Elim**	**27.65**	**206**	*e*P	**P**	**23 25 02.1**	**-2.5**
ELIM				AMB	AMB	23 25 06.5	
	comp=Z,174nm,3.7s						
RAYN	**Ar Rayn** comp=Z,105nm,1.4s	**35.24**	**19**	*e*P	**P**	**23 26 12.5**	**+1.1**
RAYN				LR	LR		
	comp=Z,14μm,20.0s						
RAYN	**Ar Rayn** comp=Z,192nm,1.4s,SNR=9.9	**35.24**	**19**	P	**P**	**23 26 14.3**	**+2.8**
DGAR	**Diego Garcia**	**38.25**	**89**	*d*P	**P**	**23 26 38.4**	**+1.1**
DGAR	**Diego Garcia** comp=Z,544nm,1.7s	**38.25**	**89**	*e*P	**P**	**23 26 37.1**	**-0.2**
DGAR				LR	LR		
	comp=Z,22μm,19.0s						
SHEL	**Horse Pasture**	**38.97**	**257**	*e*P	**P**	**23 26 42.9**	**-0.4**
SHEL				pmax	pmax		
	comp=Z,246nm,1.1s						
SHEL				MLR	MLR		
	comp=Z,14μm,20.0s						
SHEL	**Horse Pasture** comp=Z,246nm,1.1s	**38.97**	**257**	*e*P	**P**	**23 26 42.9**	**-0.4**
SHEL				LR	LR		
	comp=Z,14μm,20.0s						
TOA0	**Torodi Ar. Sit**	**39.34**	**305**	*e*P	**P**	**23 26 45.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**39.34**	**305**	P	**P**	**23 26 45.0**	**-1.4**
TORD				S	**S**	**23 32 46.9**	**-0.6**
TORD				Lg	Lg	23 39 58.0	
TORD	**Torodi Ar. Bea** comp=Z,17nm,1.1s,baz=101,slow=5.1,SNR=62	**39.34**	**305**	P	**P**	**23 26 45.0**	**-1.4**
TORD				S	**S**	**23 32 46.9**	**-0.6**
	comp=Z,7.0nm,1.1s,baz=125,slow=7.6,SNR=1.9						
TORD				Lg	Lg	23 39 58.0	
	comp=Z,6.1nm,1.2s,baz=130,slow=25,SNR=5.9						
TORD				LR	LR	23 43 18.5	
	comp=Z,16μm,18.5s,baz=120,slow=37						
EIL	**Elat**	**39.47**	**2**	P	**P**	**23 26 47.4**	**+0.1**
EIL	**Elat** comp=Z,14nm,1.1s,baz=146,slow=5.7,SNR=17	**39.47**	**2**	P	**P**	**23 26 47.4**	**+0.1**
EIL				LR	LR	23 41 47.0	
	comp=Z,5μm,20.5s,baz=169,slow=34						
QRN	**Al-Qurain**	**40.87**	**19**	*e*P	**P**	**23 27 01.2**	**+2.4**
QRN				AMb	AMB	23 27 08.7	
	comp=Z,310nm,1.6s						
RDF	**Al-Radifah**	**40.92**	**19**	*e*P	**P**	**23 27 01.5**	**+2.2**
RDF				AMb	AMB	23 27 07.7	
	comp=Z,110nm,1.5s						
UOSS	**Wadi Hilu** comp=Z,214nm,1.8s,SNR=7.2	**41.03**	**32**	P	**P**	**23 27 01.8**	**+1.5**
KBD	**Kabd**	**41.20**	**19**	*e*P	**P**	**23 27 03.4**	**+1.9**
KBD				AMb	AMB	23 27 12.0	
	comp=Z,112nm,1.4s						
KIC	**Kosan Boka**	**41.72**	**291**	*e*P	**P**	**23 27 05.2**	**-1.0**
	comp=Z,396nm,1.3s						
LIC	**Lamto** comp=Z,156nm,0.8s,baz=112	**41.94**	**291**	*e*P	**P**	**23 27 07.2**	**-0.7**
LIC				*e*R			
	comp=Z,39μm,22.2s						
LIC	**Lamto** comp=Z,321nm,1.1s	**41.94**	**291**	*e*P	**P**	**23 27 06.9**	**-1.0**
LIC	**Lamto** comp=Z,156nm,0.8s	**41.94**	**291**	*e*P	**P**	**23 27 07.2**	**-0.7**
DBIC	**Dimbokro** comp=Z,773nm,2.3s	**41.95**	**292**	*e*P	**P**	**23 27 07.5**	**-0.5**
DBIC				*e*PP	**PP**	**23 28 43.6**	**-1.6**
DBIC				*e*PcP	**PcP**	**23 29 02.1**	**-1.3**
DBIC	**Dimbokro** comp=Z,57nm,0.8s,baz=97,slow=8.9,SNR=30	**41.95**	**292**	P	**P**	**23 27 07.5**	**-0.5**
DBIC				LR	LR	23 43 31.9	
	comp=Z,17μm,21.4s,baz=101,slow=35						
ASF	**Jabal al Asfar**	**42.05**	**4**	P	**P**	**23 27 09.3**	**+0.6**
ASF	**Jabal al Asfar** comp=Z,27nm,1.3s,baz=149,slow=1.3,SNR=14	**42.05**	**4**	P	**P**	**23 27 09.3**	**+0.6**
ASF				LR	LR	23 44 17.5	
	comp=Z,5μm,19.7s,baz=330,slow=36						
TIC	**Toumodi** comp=Z,400nm,1.0s	**42.09**	**292**	*e*P	**P**	**23 27 08.1**	**-1.1**
MMAI	**Mount Meron Ar** comp=Z,7μm,20.2s,baz=195,slow=35	**42.82**	**2**	LR	LR	23 44 04.1	
IBND	**Bandar-abas**	**43.26**	**30**	*e*P	**P**	**23 27 19.1**	**+0.7**
IPAR	**Pars**	**43.74**	**24**	*e*P	**P**	**23 27 24.3**	**+1.7**
CSS	**Prodhromos** comp=Z,83nm,2.1s	**44.74**	**359**	*e*P	**P**	**23 27 30.4**	**+0.2**
CSS				*e*PcP	**PcP**	**23 29 12.1**	**-0.3**
CSS				LR	LR		
	comp=Z,7μm,20.0s						
IMEH	**Mehriz**	**45.74**	**25**	*e*P	**P**	**23 27 38.8**	**+0.3**
ISAD	**Sadrabad**	**45.82**	**24**	*e*P	**P**	**23 27 41.1**	**+1.9**
IDI	**Anoyia** comp=Z,169nm,1.5s	**45.85**	**350**	P	**P**	**23 27 39.8**	**+0.7**
IDI	**Anoyia** comp=Z,39nm,0.9s,baz=173,slow=11,SNR=6.6	**45.85**	**350**	P	**P**	**23 27 38.7**	**-0.3**
IDI				LR	LR	23 50 40.5	
	comp=Z,5μm,18.2s,baz=28,slow=41						
IZEF	**Zefreh**	**46.18**	**22**	*e*P	**P**	**23 27 43.1**	**+1.1**
IKLH	**Kolahrood**	**46.29**	**21**	*e*P	**P**	**23 27 44.8**	**+2.0**
IBAF	**Bafgh**	**46.32**	**26**	*e*P	**P**	**23 27 43.2**	**+0.3**
ICHK	**Chekchek**	**46.40**	**24**	*e*P	**P**	**23 27 43.8**	**+0.1**
ELL	**Elmali**	**46.66**	**356**	*e*P	**P**	**23 27 45.8**	**+0.3**
TRD	**Trivandrum**	**46.71**	**68**	*e*P	**P**	**23 27 47.0**	**+0.8**
ANTB	**Antalya**	**46.76**	**357**	*e*P	**P**	**23 27 48.3**	**+2.2**
SANT	**Santorini**	**46.81**	**351**	PFAKE		23 28 00.0	+13
SANT				LR	LR		
	comp=Z,6μm,18.0s						
DALY	**Dalyan (Mu¨la**	**46.84**	**354**	*e*P	**P**	**23 27 48.1**	**+1.4**
GOA	**Goa**	**47.03**	**58**	*e*P	**P**	**23 27 46.2**	**-2.3**
GOA				AMS	AMS	23 46 00.5	
	comp=Z,11μm,22.2s						
KARA	**Karaisali**	**47.04**	**1**	*e*P	**P**	**23 27 48.7**	**+0.4**
KOZT	**Kozan**	**47.28**	**2**	*e*P	**P**	**23 27 50.7**	**+0.4**
BCK	**Bucak**	**47.33**	**356**	*e*P	**P**	**23 27 52.4**	**+1.8**
KMRS	**Kahramanmaras**	**47.36**	**3**	*e*P	**P**	**23 27 52.3**	**+1.5**
URFA	**Urfa**	**47.44**	**5**	*e*P	**P**	**23 27 54.7**	**+3.2**
MAZI	**Mazidag**	**47.63**	**7**	*e*P	**P**	**23 27 55.2**	**+2.2**
IRAZ	**Razeghan**	**47.67**	**18**	*e*P	**P**	**23 27 56.5**	**+3.0**
IVRN	**Varamin**	**47.87**	**20**	*e*P	**P**	**23 27 57.7**	**+2.8**
CUKT	**Cukurca**	**47.90**	**11**	*e*P	**P**	**23 27 57.2**	**+2.1**
LADK	**Ladik-KONYA**	**47.99**	**358**	*e*P	**P**	**23 27 57.1**	**+1.3**
DYBB	**Diyarbakir**	**48.08**	**7**	*e*P	**P**	**23 27 59.2**	**+2.7**
BHJ	**Bhuj**	**48.19**	**46**	*e*P	**P**	**23 27 56.6**	**-0.6**
KAD	**Karad**	**48.24**	**56**	*i* x	**P**	**23 27 58.0**	**-0.1**
MALT	**Malatya**	**48.27**	**5**	*e*P	**P**	**23 28 00.6**	**+2.6**
SVAN	**Silvan-Diyarba**	**48.41**	**8**	*e*P	P	23 28 02.4	+3.4
SHUT	**Suhut-Afyon**	**48.42**	**357**	*e*P	**P**	**23 28 00.1**	**+1.0**
KULA	**Kula-Manisa**	**48.52**	**355**	*e*P	**P**	**23 28 00.6**	**+0.7**
IKOO	**Kooshah**	**48.57**	**29**	*e*P	**P**	**23 28 01.1**	**+0.5**
POO	**Poona**	**48.62**	**54**	*e*P	**P**	**23 27 59.9**	**-1.0**
ILAS	**Lasjerd**	**48.64**	**21**	*e*P	**P**	**23 28 03.0**	**+1.9**
BNN	**Bunyan**	**48.65**	**2**	*e*P	**P**	**23 28 02.5**	**+1.6**
IFIR	**Firoozkooh**	**48.80**	**21**	*e*P	**P**	**23 28 04.9**	**+2.6**
ITEG	**Tejag**	**48.85**	**28**	*e*P	**P**	**23 28 03.1**	**+0.5**
PTK	**Pertek**	**48.93**	**6**	*e*P	**P**	**23 28 05.5**	**+2.4**
DRO	**Drossia**	**49.05**	**347**	P	P	23 27 59.6	-4.3
IANJ	**Anjilo**	**49.06**	**22**	*e*P	**P**	**23 28 05.2**	**+0.9**
ISHM	**Shahmirzad**	**49.14**	**21**	*e*P	**P**	**23 28 07.5**	**+2.6**
WDD	**Wield Dalam**	**49.14**	**339**	PFAKE		23 28 20.0	+15
WDD				LR	LR		
	comp=Z,16μm,19.0s						
BNGB	**Bing¨ll**	**49.17**	**7**	*e*P	P	23 28 08.2	+3.2
IPRN	**Peran**	**49.21**	**20**	*e*P	**P**	**23 28 07.9**	**+2.6**
AFSR	**Af¨ar-Bala (A**	**49.22**	**359**	*e*P	**P**	**23 28 06.9**	**+1.6**
IDAH	**Dahanechah**	**49.24**	**29**	*e*P	**P**	**23 28 06.0**	**+0.2**
SVRH	**Sivrihisar-ESK**	**49.26**	**358**	*e*P	**P**	**23 28 07.3**	**+1.8**
DSF	**Desfina**	**49.32**	**348**	P	P	**23 28 04.8**	**-1.2**
DSF	**Desfina**	**49.32**	**348**	P	P	**23 28 04.

TIP	**Timpagrande**	**51.46**	**343**	PFAKE			23 28 30.0	+7.8		
TIP				LR	LR					
	comp=Z,4µm,18.4s									
SRS	**Serrai**	**51.75**	**350**	P	**P**		**23 28 24.1**	**-0.1**		
SRS	**Serrai**	**51.75**	**350**	*e*P	**P**		**23 28 24.1**	**-0.1**		
SRS	**Serrai**	**51.75**	**350**	*e*P	**P**		**23 28 24.1**	**-0.1**		
GRG	**Griva**	**51.81**	**349**	P	**P**		**23 28 24.5**	**-0.2**		
GRG	**Griva**	**51.81**	**349**	*e*P	**P**		**23 28 24.5**	**-0.2**		
GRG	**Griva**	**51.81**	**349**	*e*P	**P**		**23 28 24.5**	**-0.2**		
FNA	**Florina**	**51.84**	**348**	P	**P**		**23 28 25.6**	**+0.6**		
FNA	**Florina**	**51.84**	**348**	*e*P	**P**		**23 28 25.6**	**+0.6**		
FNA	**Florina**	**51.84**	**348**	*e*P	**P**		**23 28 25.6**	**+0.6**		
KNT	**Kendrikon**	**51.91**	**350**	P	**P**		**23 28 25.7**	**+0.2**		
KNT	**Kendrikon**	**51.91**	**350**	*e*P	**P**		**23 28 25.7**	**+0.2**		
KNT	**Kendrikon**	**51.91**	**350**	*e*P	**P**		**23 28 25.7**	**+0.2**		
HYB	**Hyderabad**	**51.92**	**59**	*i* P	**P**		**23 28 25.0**	**-1.0**		
HYB				*e*pP	**pP**		**23 28 28.0**	**-2.4**		
HYB				*e*PcP	**PcP**		**23 29 39.0**	**+0.3**		
HYB				*e*S	**S**		**23 35 48.0**	**-0.9**		
HYB	**Hyderabad**	**51.92**	**59**	*e*P	**P**		**23 28 24.8**	**-1.2**		
HYB				AMS	AMS		23 45 53.9			
	comp=Z,8µm,18.4s									
NVR	**Nevrokopi**	**51.93**	**350**	P	**P**		**23 28 24.9**	**-0.7**		
NVR	**Nevrokopi**	**51.93**	**350**	*e*P	**P**		**23 28 24.9**	**-0.7**		
AKH	**Akhalkalaki**	**51.94**	**9**	P	**P**		**23 28 28.3**	**+2.4**		
IKRD	**Kardeh**	**52.01**	**25**	*e*P	**P**		**23 28 29.0**	**+2.4**		
BIA	**Bitola**	**52.08**	**348**	*e*P	**P**		**23 28 27.1**	**+0.4**		
VAY	**Valandovo**	**52.13**	**349**	P	**P**		**23 28 27.5**	**+0.5**		
VAY	**Valandovo**	**52.13**	**349**	*e*P	**P**		**23 28 27.5**	**+0.5**		
VAY	**Valandovo**	**52.13**	**349**	*e*P	**P**		**23 28 27.5**	**+0.5**		
VAY	**Valandovo**	**52.13**	**349**	*i* P	**P**		**23 28 28.2**	**+1.2**		
DGRG	**David-gareji**	**52.30**	**11**	P	**P**		**23 28 31.3**	**+2.9**		
IMYA	**Miami**	**52.33**	**27**	*e*P	**P**		**23 28 29.0**	**+0.1**		
TBLG	**Delisi**	**52.46**	**10**	P	**P**		**23 28 31.7**	**+2.1**		
CUC	**Castrocucco**	**52.49**	**343**	PFAKE			23 28 40.0	+10		
CUC				LR	LR					
	comp=Z,3µm,19.0s									
CTEI	**Djebel Teioual**	**52.62**	**332**	P	**P**		**23 28 32.0**	**+1.0**		
CASM	**Ain Smara**	**52.75**	**332**	P	**P**		**23 28 33.4**	**+1.6**		
CKFL	**Kef-Lekhel**	**52.76**	**332**	P	**P**		**23 28 34.0**	**+2.0**		
ABKT	**Ailbek**	**52.84**	**24**	P	**P**		**23 28 33.9**	**+1.5**		
	comp=Z,84nm,1.4s,SNR=12									
SKO	**Skopje**	**52.97**	**348**	*i* P	**P**		**23 28 34.1**	**+0.8**		
CKHR	**Kef el Ahmar**	**53.00**	**331**	P	**P**		**23 28 35.0**	**+1.2**		
CHVG	**Ch'k'valeri**	**53.02**	**8**	P	**P**		**23 28 36.3**	**+2.7**		
ONI	**Oni**	**53.09**	**9**	P	**P**		**23 28 36.5**	**+2.3**		
GUDG	**Gudauri**	**53.13**	**10**	P	**P**		**23 28 37.5**	**+2.8**		
ZEI	**Tsey**	**53.35**	**9**	*e*P	**P**		**23 28 38.1**	**+1.8**		
ZEI				pmax	pmax					
	comp=Z,105nm,1.5s									
SOC	**Sochi**	**53.61**	**5**	*d i*P	**P**		**23 28 37.6**	**-0.4**		
SOC				*e*			23 29 45.5			
SOC				*e*			23 30 36.3			
SOC				*e*S	**S**		**23 36 11.5**	**+0.5**		
SOC				*e*SSS	SSS		23 41 37.6			
SOC				pmax	pmax					
	comp=Z,108nm,0.9s									
SOC				MLR	MLR					
	comp=Z,3µm,13.0s									
BHPL	**Bhopal**	**53.96**	**52**	*e*P	**P**		**23 28 40.9**	**-0.1**		
KBZ	**Khabaz**	**54.12**	**8**	LR	LR		23 53 07.9			
	comp=Z,6µm,18.1s,baz=46,slow=38									
NGP	**Nagpur**	**54.15**	**55**	*e*P	**P**		**23 28 41.9**	**-0.5**		
NGP				*ex*	x		23 36 24.2			
MAK	**Makhachkala**	**54.18**	**12**	*e*P	**P**		**23 28 45.2**	**+3.1**		
MAK				*e*			23 29 49.3			
MAK				*e*			23 30 49.7			
MAK				*e*PPP	PPP		23 31 56.2			
MAK				*e*S	S		23 36 26.6	+7.8		
MAK				*e*SSS	SSS		23 41 59.6			
MAK				pmax	pmax					
	comp=Z,132nm,1.1s									
MAK				MLR	MLR					
	comp=Z,9µm,15.0s									
KIV	**Kislovodsk**	**54.32**	**8**	P	**P**		**23 28 45.5**	**+2.3**		
	comp=Z,130nm,1.7s,SNR=10									
KIV	**Kislovodsk**	**54.32**	**8**	*d i*P	**P**		**23 28 43.6**	**+0.4**		
KIV				*e*			23 29 50.7			
KIV				*e*S	S		23 36 28.2	+7.4		
KIV				*i* PS	PnS		23 36 41.0	+10		
KIV				*e*SS	**SS**		**23 40 04.1**	**+0.8**		
KIV				pmax	pmax					
	comp=Z,75nm,1.8s									
KIV				MLR	MLR					
	comp=Z,3µm,16.0s									
TIRR	**Tirgusor**	**54.44**	**355**	*e*P	**P**		**23 28 43.6**	**-0.4**		
TIRR				pmax	pmax					
	comp=Z,144nm,1.7s									
TIRR				MLR	MLR					
	comp=Z,3µm,22.0s									
TIRR	**Tirgusor**	**54.44**	**355**	*e*P	**P**		**23 28 43.6**	**-0.4**		
	comp=Z,144nm,1.7s									
TIRR				LR	LR					
	comp=Z,3µm,22.0s									
ANN	**Anapa**	**54.66**	**3**	*e*P	**P**		**23 28 44.0**	**-1.5**		
ANN				*e*S	**S**		**23 36 28.6**	**+3.5**		
ANN				pmax	pmax					
	comp=Z,146nm,1.2s									
ANN				MLR	MLR					
	comp=Z,3µm,13.0s									
ANN				MLR	MLR					
	comp=N,938nm,13.0s									
ANN				MLR	MLR					
	comp=E,1µm,13.0s									
SIM	**Simferopol'**	**54.71**	**0**	*de*P	**P**		**23 28 47.0**	**+1.0**		
SIM				*e*S	**S**		**23 36 31.0**	**+5.2**		
SIM				pmax	pmax					
	comp=Z,650nm,9.0s									
SIM				MLR	MLR					
	comp=Z,3µm,18.0s									
DIVS	**Divibare**	**55.31**	**348**	P	**P**		**23 28 51.5**	**+1.1**		
GOF	**Gofitskoye**	**55.45**	**8**	⇓*i*P	**P**		**23 28 52.3**	**+1.0**		
GOF				pmax	pmax					
	comp=Z,160nm,1.4s									
KBL	**Kabul**	**55.48**	**35**	*e*P	**P**		**23 28 52.1**	**+0.1**		
KBL				pmax	pmax					
	comp=Z,68nm,1.4s									
KBL				MLR	MLR					
	comp=Z,4µm,19.4s									
KBL	**Kabul**	**55.48**	**35**	*e*P	**P**		**23 28 52.1**	**+0.1**		
	comp=Z,68nm,1.4s									
KBL				LR	LR					
	comp=Z,4µm,19.4s									
BBTS	**Babate**	**55.62**	**295**	LR	LR		23 52 20.7			
	comp=Z,28µm,20.3s,baz=291,slow=36									
MLR	**Muntele Rosu**	**55.71**	**353**	LR	LR		23 54 51.3			
	comp=Z,581nm,18.1s,baz=35,slow=38									
VIS	**Vishakhapatnam**	**56.12**	**61**	*e*P	**P**		**23 28 55.6**	**-1.0**		
VIS				AMS	AMS		23 49 47.6			
	comp=Z,9µm,21.1s									
KIS	**Kishinev**	**56.94**	**356**	*e*P	**P**		**23 29 03.0**	**+1.1**		
	comp=Z,300nm,2.0s									
KIS	**Kishinev**	**56.94**	**356**	*e*PP	PP		23 31 15.0	+6.4		
KIS	**Kishinev**	**56.94**	**356**	*e*PPP	PPP		23 32 24.0			
KIS				*e*S	**S**		**23 36 54.0**	**-1.4**		
KIS	**Kishinev**	**56.94**	**356**	*e*PS			23 37 08.0			
KIS				*e*ScS	ScS		23 38 46.0	-4.8		
KIS				*e*SS	SS		23 40 52.0	+7.8		
KIS				*e*SSS	SSS		23 43 25.0			
KIS				*e*L	L		23 47 24.0			
KIS				LRM	MLR		23 54 28.0			
	comp=Z,2µm,16.0s									
KIS	**Kishinev**	**56.94**	**356**	*αe*P	**P**		**23 29 03.0**	**+1.1**		
KIS				*e*			23 29 53.0			
KIS				*e*			23 31 15.0			
KIS				*e*PPP	PPP		23 32 24.0			
KIS				*e*S	**S**		**23 36 54.0**	**-1.4**		
KIS				*e*PS	**PnS**		**23 37 08.0**	**+1.5**		
KIS				*e*			23 38 46.0			
KIS				pmax	pmax					
	comp=Z,340nm,2.0s									
KIS				pmax	pmax					
	comp=Z,2µm,7.0s									
KIS				pmax	pmax					
	comp=Z,2µm,9.0s									
KIS				MLR	MLR					
	comp=N,2µm,16.0s									
KIS				MLR	MLR					
	comp=E,1µm,16.0s									
KIS				MLR	MLR					
	comp=Z,3µm,16.0s									
KIS				MLR	MLR					
	comp=Z,3µm,18.0s									
PGF	**Pioggiola**	**57.04**	**338**	*e*P	**P**		**23 29 02.8**	**0.0**		

PGF	**Pioggiola**	**57.04**	**338**	*e*P	**P**		**23 29 02.8**	**0.0**		
PGF	**Pioggiola**	**57.04**	**338**	*e*P	**P**		**23 29 02.8**	**0.0**		
PKSM	**Morągy**	**57.61**	**348**	⇓*e*P	**P**		**23 29 07.8**	**+1.2**		
BUR04	**Bucovina Ar. S**	**57.89**	**353**	*e*P	**P**		**23 29 09.3**	**+0.6**		
BUR04				*e*PcP	**PcP**		**23 30 03.3**	**+2.3**		
VLC	**Villacollemand**	**57.97**	**340**	PFAKE			23 29 20.0	+11		
VLC				LR	LR					
	comp=Z,1µm,19.0s									
PKSN	**Nyarlorinc**	**58.02**	**349**	⇓*e*P	**P**		**23 29 11.9**	**+2.4**		
BEHE	**Becsehely**	**58.27**	**346**	⇓*e*P	**P**		**23 29 14.2**	**+2.9**		
SMLA	**Simla**	**58.30**	**44**	*e*P	**P**		**23 29 10.3**	**-1.5**		
SMLA				AMS	AMS		23 55 13.2			
	comp=Z,5µm,11.3s									
RTC	**Rabat Centre**	**58.37**	**320**	PFAKE			23 29 20.0	+7.7		
RTC				LR	LR					
	comp=Z,11µm,18.0s									
KOGS	**Kog**	**58.38**	**346**	*e*P	**P**		**23 29 13.8**	**+1.8**		
KOGS				*e*			23 37 28.9			
DHRM	**DHARAMSHALA**	**58.41**	**42**	*e*P	**P**		**23 29 13.5**	**+0.7**		
DHRM				AMS	AMS		23 54 59.6			
	comp=Z,6µm,16.6s									
JAVS	**Javornik**	**58.42**	**344**	*e*P	**P**		**23 29 13.5**	**+1.0**		
DDI	**Dehra Dun**	**58.43**	**45**	*e*P	**P**		**23 29 11.4**	**-1.5**		
LJU	**Ljubljana**	**58.44**	**344**	*e*P	**P**		**23 29 14.3**	**+1.8**		
VOY	**Vojsko**	**58.60**	**344**	*e*P	**P**		**23 29 14.7**	**+1.0**		
LMR	**La Mourre**	**58.65**	**337**	*e*P	**P**		**23 29 14.3**	**+0.3**		
	comp=Z,196nm,1.6s									
LMR	**La Mourre**	**58.65**	**337**	*e*P	**P**		**23 29 14.3**	**+0.3**		
LMR				pmax	pmax					
	comp=Z,196nm,1.6s									
LMR	**La Mourre**	**58.65**	**337**	*e*P	**P**		**23 29 14.3**	**+0.3**		
	comp=Z,196nm,1.6s									
REVF	**Revere**	**58.67**	**338**	*e*P	P		23 29 18.7	+4.5		
PKST	**T`s**	**58.73**	**347**	⇓*e*P	**P**		**23 29 15.8**	**+1.3**		
BUD	**Budapest**	**58.74**	**348**	⇓*e*P	**P**		**23 29 15.8**	**+1.2**		
SBF	**Sospel**	**58.75**	**338**	*e*P	**P**		**23 29 15.0**	**+0.2**		
	comp=Z,262nm,1.4s									
SBF	**Sospel**	**58.75**	**338**	*e*P	**P**		**23 29 15.0**	**+0.2**		
SBF				pmax	pmax					
	comp=Z,262nm,1.4s									
SBF	**Sospel**	**58.75**	**338**	*e*P	**P**		**23 29 15.0**	**+0.2**		
	comp=Z,262nm,1.4s									
TRPA	**Tarpa**	**58.75**	**351**	⇓*e*P	**P**		**23 29 15.8**	**+1.2**		
CSKK	**Cs˙ŧkako**	**58.78**	**348**	⇓*e*P	**P**		**23 29 16.4**	**+1.5**		
PKSG		**58.78**	**348**	⇓*e*P	**P**		**23 29 16.4**	**+1.5**		
FRF	**La Foret Royal**	**58.79**	**337**	*e*P	**P**		**23 29 15.4**	**+0.4**		
	comp=Z,386nm,1.9s									
FRF	**La Foret Royal**	**58.79**	**337**	*e*P	**P**		**23 29 15.4**	**+0.4**		
FRF				pmax	pmax					
	comp=Z,386nm,1.9s									
FRF	**La Foret Royal**	**58.79**	**337**	*e*P	**P**		**23 29 15.4**	**+0.4**		
	comp=Z,386nm,1.9s									
SAOF	**Saorge**	**58.81**	**338**	*e*P	**P**		**23 29 17.5**	**+2.3**		
CADS	**Cadrg**	**58.82**	**344**	*e*P	**P**		**23 29 16.2**	**+1.0**		
OBKA	**Obir**	**58.86**	**345**	⇑*i*P	**P**		**23 29 17.8**	**+2.2**		
	comp=Z,97nm,1.6s,SNR=9.1									
AUTN	**L'Aution**	**58.86**	**338**	*e*P	**P**		**23 29 18.3**	**+2.5**		
MVIF	**Mont Vial**	**58.88**	**338**	*e*P	**P**		**23 29 18.4**	**+2.6**		
SOKA	**Soboth**	**58.89**	**345**	⇑*i*P	**P**		**23 29 17.2**	**+1.5**		
	comp=Z,107nm,1.4s,SNR=15									
TOUF	**Mont Tournerai**	**58.95**	**338**	*e*P	**P**		**23 29 18.9**	**+2.6**		
PSZ	**Piszkesteto**	**58.99**	**349**	*e*P	**P**		**23 29 16.5**	**+0.1**		
PSZ				pmax	pmax					
	comp=Z,214nm,1.3s									
PSZ				MLR	MLR					
	comp=Z,3µm,19.0s									
PSZ	**Piszkesteto**	**58.99**	**349**	*e*P	**P**		**23 29 16.5**	**+0.1**		
	comp=Z,214nm,1.3s									
PSZ				LR	LR					
	comp=Z,3µm,19.0s									
PSZ	**Piszkesteto**	**58.99**	**349**	⇓*e*P	**P**		**23 29 17.2**	**+0.8**		
SYO	**Syowa Base**	**59.05**	**178**	⇑*i*P	**P**		**23 29 16.5**	**+0.1**		
MYKA	**Terra Mystica**	**59.22**	**344**	⇑*i*P	**P**		**23 29 20.4**	**+2.4**		
	comp=Z,68nm,1.6s,SNR=8.6									
UZH	**Uzhgorod**	**59.28**	**351**	*c i*P	**P**		**23 29 18.5**	**+0.3**		
UZH				*e*			23 31 33.1			
UZH				*e*PPP	PPP		23 32 51.5			
UZH				*e*S	**S**		**23 37 23.4**	**-2.6**		
UZH				*e*PS	**PnS**		**23 37 35.3**	**-3.4**		
UZH				MLR	MLR					
	comp=N,2µm,16.0s									
UZH				MLR	MLR					
	comp=E,2µm,16.0s									
UZH				MLR	MLR					
	comp=Z,600nm,16.0s									
ARSA	**Arzberg**	**59.30**	**346**	⇑*i*P	**P**		**23 29 20.1**	**+1.6**		
	comp=Z,62nm,1.3s,SNR=21									
SOP	**Sopron**	**59.46**	**347**	⇓*e*P	**P**		**23 29 20.6**	**+1.0**		
SMRF	**Simiane la Rot**	**59.55**	**337**	*e*P	**P**		**23 29 21.3**	**+1.0**		
	comp=Z,247nm,1.8s									
SMRF	**Simiane la Rot**	**59.55**	**337**	*e*P	**P**		**23 29 21.3**	**+1.0**		
	comp=Z,247nm,1.8s									
KOLS	**Kolonicke sedl**	**59.58**	**351**	*e*P	**P**		**23 29 21.1**	**+0.8**		
KOLS				pmax	pmax					
	comp=Z,148nm,1.9s									
KOLS	**Kolonicke sedl**	**59.58**	**351**	*e*P	**P**		**23 29 21.1**	**+0.8**		
ABTA	**Abfaltersbach**	**59.64**	**343**	⇑*i*P	**P**		**23 29 22.6**	**+1.7**		
	comp=Z,37nm,1.2s,SNR=6.8									
CRVS	**Cervenica-Dubn**	**59.67**	**351**	*e*P	**P**		**23 29 22.1**	**+1.1**		
CRVS				pmax	pmax					
	comp=Z,2µm,4.1s									
CRVS	**Cervenica-Dubn**	**59.67**	**351**	*e*P	**P**		**23 29 22.1**	**+1.1**		
MBDF	**Montbardon**	**59.73**	**338**	*e*P	**P**		**23 29 22.8**	**+1.1**		
	comp=Z,137nm,1.3s									
MBDF	**Montbardon**	**59.73**	**338**	*e*P	**P**		**23 29 22.8**	**+1.1**		
MBDF				pmax	pmax					
	comp=Z,137nm,1.3s									
MBDF	**Montbardon**	**59.73**	**338**	*e*P	**P**		**23 29 22.8**	**+1.1**		
	comp=Z,137nm,1.3s									
OG22	**Abries**	**59.75**	**338**	*e*P	P		23 29 25.4	+3.5		
CONA	**Conrad Observa**	**59.85**	**346**	*i* P	**P**		**23 29 22.5**	**+0.1**		
	comp=Z,117nm,1.4s,SNR=31									
CARF	**Carcanieres**	**59.96**	**333**	*e*P	**P**		**23 29 25.8**	**+2.6**		
BNI	**Bardonecchia**	**60.05**	**338**	*e*P	**P**		**23 29 25.3**	**+1.5**		
BNI				pmax	pmax					
	comp=Z,72nm,1.2s									
BNI				MLR	MLR					
	comp=Z,4µm,21.0s									
BNI	**Bardonecchia**	**60.05**	**338**	*e*P	**P**		**23 29 25.3**	**+1.5**		
	comp=Z,72nm,1.2s									
BNI				LR	LR					
	comp=Z,4µm,21.0s									
MOA	**Molln**	**60.17**	**345**	⇑*i*P	**P**		**23 29 26.4**	**+1.9**		
	comp=Z,173nm,1.5s,SNR=30									
KWP	**Kalwaria Pacla**	**60.19**	**352**	*e*P	**P**		**23 29 24.7**	**+0.2**		
KWP				pmax	pmax					
	comp=Z,337nm,1.6s									
KWP				MLR	MLR					
	comp=Z,3µm,19.0s									
KWP	**Kalwaria Pacla**	**60.19**	**352**	*e*P	**P**		**23 29 25.6**	**+1.0**		
KWP				LMZ	LR		23 53 32.0			
KWP	**Kalwaria Pacla**	**60.19**	**352**	*e*P	**P**		**23 29 24.7**	**+0.2**		
	comp=Z,337nm,1.6s									
KWP				LR	LR					
	comp=Z,3µm,19.0s									
LVV	**L'vov**	**60.20**	**353**	*e*P	**P**		**23 29 24.6**	**0.0**		
LVV				*e*			23 30 03.4			
LVV				*e*			23 31 38.0			
LVV				*e*			23 33 12.6			
LVV				*e*S	S		23 37 30.0	-7.8		
LVV				*e*			23 37 44.0			
LVV				*e*			23 41 30.8			
LVV				MLR	MLR					
	comp=N,1µm,18.0s									
LVV				MLR	MLR					
	comp=Z,1µm,18.0s									
LVV				MLR	MLR					
	comp=E,2µm,19.0s									
STHS	**Stebnicka Huta**	**60.21**	**351**	*e*P	**P**		**23 29 26.3**	**+1.6**		
STHS				pmax	pmax					
	comp=Z,57nm,2.0s									
STHS	**Stebnicka Huta**	**60.21**	**351**	*e*P	**P**		**23 29 26.3**	**+1.6**		
ORIF	**Oris-en-Rattie**	**60.23**	**337**	*e*P	**P**		**23 29 25.6**	**+0.6**		
	comp=Z,154nm,1.7s									
ORIF				*e*R						
	comp=Z,7µm,20.2s									
ORIF	**Oris-en-Rattie**	**60.23**	**337**	*e*P	**P**		**23 29 25.6**	**+0.6**		
ORIF				pmax	pmax					
	comp=Z,154nm,1.7s									
ORIF	**Oris-en-Rattie**	**60.23**	**337**	*e*P	**P**		**23 29 25.6**	**+0.6**		
	comp=Z,154nm,1.7s									
LASF	**Ste Croix**	**60.32**	**336**	*e*P	**P**		**23 29 26.6**	**+1.0**		
	comp=Z,200nm,1.5s									
LASF	**Ste Croix**	**60.32**	**336**	*e*P	**P**		**23 29 26.6**	**+1.0**		
	comp=Z,200nm,1.5s									

TUE	**Stuetta**	**60.36**	**341**	*e*P	**P**		**23 29 26.6**	**+0.6**		
	comp=Z,284nm,1.8s									
TUE				*e*PP	**PP**		**23 31 34.7**	**-4.6**		
TUE				LR	LR					
	comp=Z,4µm,19.0s									
WTTA	**Wattenberg**	**60.36**	**343**	⇑*i*P	**P**		**23 29 27.1**	**+1.1**		
	comp=Z,94nm,1.4s,SNR=14									
NIE	**Niedzica**	**60.36**	**350**	⇓*i*P	**P**		**23 29 26.9**	**+1.1**		
NIE				*e*			23 30 11.2			
NIE				*e*			23 31 41.6			
NIE	**Niedzica**	**60.36**	**350**	*i* P	**P**		**23 29 26.9**	**+1.1**		
NIE				*e*PcP	**PcP**		**23 30 11.2**	**+0.5**		
NIE				*e*PP	**PP**		**23 31 41.6**	**+2.5**		
NIE				L	L		00 03 05.0			
	comp=Z,5µm,18.3s									
LPG	**La Plagne**	**60.40**	**338**	*e*P	**P**		**23 29 26.2**	**-0.2**		
	comp=Z,138nm,1.3s									
LPG	**La Plagne**	**60.40**	**338**	*e*P	**P**		**23 29 26.2**	**-0.2**		
LPG				pmax	pmax					
	comp=Z,138nm,1.3s									
LPG	**La Plagne**	**60.40**	**338**	*e*P	**P**		**23 29 26.2**	**-0.2**		
	comp=Z,138nm,1.3s									
FETA	**Feichten**	**60.41**	**342**	*i* P	**P**		**23 29 28.5**	**+2.2**		
	comp=Z,60nm,1.4s,SNR=14									
MTLF	**Montolieu**	**60.41**	**334**	*e*P	**P**		**23 29 26.8**	**+0.6**		
	comp=Z,228nm,1.9s									
MTLF	**Montolieu**	**60.41**	**334**	*e*P	**P**		**23 29 26.8**	**+0.6**		
MTLF				pmax	pmax					
	comp=Z,228nm,1.9s									
MTLF	**Montolieu**	**60.41**	**334**	*e*P	**P**		**23 29 26.8**	**+0.6**		
	comp=Z,228nm,1.9s									
LPL	**La Plagne**	**60.42**	**338**	*e*P	**P**		**23 29 26.3**	**-0.2**		
	comp=Z,206nm,1.5s									
LPL	**La Plagne**	**60.42**	**338**	*e*P	**P**		**23 29 26.3**	**-0.2**		
LPL				pmax	pmax					
	comp=Z,206nm,1.5s									
LPL	**La Plagne**	**60.42**	**338**	*e*P	**P**		**23 29 26.3**	**-0.2**		
	comp=Z,206nm,1.5s									
WATA	**Walderalm**	**60.44**	**343**	⇓*i*P	**P**		**23 29 26.9**	**+0.4**		
	comp=Z,68nm,1.3s,SNR=9.8									
DAVOX	**Davos/Dischmat**	**60.46**	**341**	LR	LR		23 59 48.4			
	comp=Z,3µm,18.2s,baz=39,slow=40									
RJOB	**Jochberg**	**60.46**	**344**	*e*P	**P**		**23 29 26.6**	**+0.1**		
	comp=Z,219nm,2.3s									
AK11	**Malin Array Si**	**60.58**	**357**	*e*P	**P**		**23 29 26.2**	**-0.9**		
AK11				*e*PcP	**PcP**		**23 30 11.8**	**+0.3**		
MOTA	**Moosalm**	**60.59**	**342**	⇓*i*P	**P**		**23 29 28.2**	**+0.7**		
	comp=Z,78nm,1.4s,SNR=19									
ES19	**SONSECA Array**	**60.59**	**327**	*e*P	**P**		**23 29 27.5**	**-0.1**		
ES19				*e*PcP	**PcP**		**23 30 12.9**	**+1.0**		
KIEV	**Kiev**	**60.59**	**357**	*d i*P	**P**		**23 29 27.5**	**+0.3**		
KIEV	**Kiev**	**60.59**	**357**	*e*P	**P**		**23 29 27.0**	**-0.2**		
	comp=Z,136nm,1.3s									
KIEV				LR	LR					
	comp=Z,2µm,18.0s									
AKASG	**Malin Array Be**	**60.60**	**357**	P	**P**		**23 29 26.6**	**-0.7**		
AKASG	**Malin Array Be**	**60.60**	**357**	P	**P**		**23 29 26.6**	**-0.7**		
AKASG	**Malin Array Be**	**60.60**	**357**	P	**P**		**23 29 26.6**	**-0.7**		
	comp=Z,69nm,1.1s,baz=184,slow=6.1,SNR=80									
AKASG				LR	LR		23 56 06.8			
	comp=Z,2µm,19.2s,baz=155,slow=36									
ESDC	**Sonseca Array**	**60.61**	**327**	P	**P**		**23 29 27.6**	**-0.1**		
ESDC	**Sonseca Array**	**60.61**	**327**	P	**P**		**23 29 27.6**	**-0.1**		
	comp=Z,6.2nm,0.8s,baz=146,slow=6.6,SNR=28									
ESDC				LR	LR		23 54 20.6			
	comp=Z,3µm,18.7s,baz=150,slow=35									
RSL	**Roselend**	**60.61**	**338**	*e*P	**P**		**23 29 29.1**	**+1.4**		
VIVF	**Saint-Julien-l**	**60.64**	**337**	*e*P	**P**		**23 29 28.9**	**+1.1**		
	comp=Z,456nm,1.9s									
VIVF	**Saint-Julien-l**	**60.64**	**337**	*e*P	**P**		**23 29 28.9**	**+1.1**		
VIVF				pmax	pmax					
	comp=Z,456nm,1.9s									
**V

comp=Z,3µm,12.9s
OJC Ojcow 61.23 350⇓ *i*P **P 23 29 32.1 +0.5**
OJC *e* 23 30 14.6
OJC MLR MLR
comp=Z,3µm,18.6s
OJC Ojcow 61.23 350 *i* P **P 23 29 32.1 +0.5**
OJC *es*P sP 23 29 50.5 +13
OJC *e*PcP **PcP 23 30 14.6 +0.5**
OJC L L 23 57 14.0
comp=Z,3µm,18.6s
OJC Ojcow 61.23 350 *e*P **P 23 29 32.0 +0.4**
comp=Z,346nm,1.9s
OJC LR LR
comp=Z,3µm,21.1s
MORC Moravsky Berou 61.23 348 *e*P **P 23 29 31.1 -0.6**
MORC pmax pmax
comp=Z,154nm,1.5s
MORC MLR MLR
comp=Z,2µm,20.0s
MORC Moravsky Berou 61.23 348 *e*P **P 23 29 31.1 -0.6**
comp=Z,154nm,1.5s
MORC LR LR
comp=Z,2µm,20.0s
VRHR Novokhopersk 61.24 6 *e*P **P 23 29 31.8 +0.2**
VRHR pmax pmax
comp=Z,160nm,1.1s
VRHR pmax pmax
comp=N,340nm,1.4s
VRHR pmax pmax
comp=E,60nm,1.0s
VRHR MLR MLR
comp=Z,2µm,15.0s
VRHR MLR MLR
comp=N,2µm,23.0s
VRHR MLR MLR
comp=E,2µm,16.0s
GEC2 GERESS Array S 61.24 345 *e*P **P 23 29 32.4 +0.6**
comp=Z,311nm,1.8s
GERES GERESS Array B 61.24 345 P **P 23 29 31.6 -0.3**
GERES GERESS Array B 61.24 345 P **P 23 29 31.6 -0.3**
comp=Z,42nm,1.1s,baz=155,slow=9.7,SNR=47
GERES LR LR 23 56 35.5
comp=Z,3µm,20.8s,baz=147,slow=37
FUR Furstenfeldbru 61.28 343 *e*P **P 23 29 32.7 +0.7**
comp=Z,446nm,2.0s
ETSF Etsaut 61.31 332 *e*P **P 23 29 33.5 +1.1**
comp=Z,287nm,1.8s
ETSF Etsaut 61.31 332 *e*P **P 23 29 33.5 +1.1**
ETSF pmax pmax
comp=Z,287nm,1.8s
ETSF Etsaut 61.31 332 *e*P **P 23 29 33.5 +1.1**
comp=Z,287nm,1.8s
REYF Montagne du Re 61.37 332 *e*P **P 23 29 35.8 +3.0**
RAC Raciborz 61.39 349 *e*P **P 23 29 33.3 +0.6**
DANN Dangsing 61.50 50 *e*P **P 23 29 33.9 -0.3**
comp=Z,338nm,1.4s
LBL Lubilhac 61.52 336 *e*P **P 23 29 35.4 +1.6**
ATE Arette 61.52 332 *e*P **P 23 29 36.5 +2.7**
KHC Kasperske Hory 61.53 345 *e*P **P 23 29 32.6 -1.1**
KHC *es* S 23 38 11.0 +16
KHC MLR MLR
comp=Z,3µm,14.0s
KHC Kasperske Hory 61.53 345 *e*P **P 23 29 32.6 -1.1**
KHC *ex* x 23 33 32.2
KHC *e*PS **PnS 23 38 11.0 +1.2**
KHC AMS AMS 23 58 00.0
comp=Z,3µm,14.0s
KHC Kasperske Hory 61.53 345 *e*P **P 23 29 33.1 -0.6**
comp=Z,93nm,1.2s
KHC *e*PcP **PcP 23 30 16.7 +1.3**
KHC LR LR
comp=Z,3µm,20.3s
CABF La Chapelle 61.59 339 *e*P **P 23 29 34.5 +0.2**
comp=Z,713nm,1.9s
CABF La Chapelle 61.59 339 *e*P **P 23 29 34.5 +0.2**
CABF pmax pmax
comp=Z,713nm,1.9s
CABF La Chapelle 61.59 339 *e*P **P 23 29 34.5 +0.2**
comp=Z,713nm,1.9s
LARF Larrau 61.62 332 *e*P **P 23 29 37.3 +2.8**
MORF Marmelete 61.65 322 *e*P P 23 29 39.6 +4.8
PBEJ Beja 61.66 323 *e*P P 23 29 39.2 +4.4
comp=Z,49nm,1.7s
KRLC Kraliky 61.67 348 *e*P **P 23 29 34.4 -0.3**
KRLC Kraliky 61.67 348 *e*P **P 23 29 34.4 -0.3**
VOR Voronezh 61.67 4⇑ *i*P **P 23 29 36.0 +1.5**
VOR pmax pmax
comp=Z,480nm,2.0s
WET Wettzell 61.73 345 *e*P **P 23 29 35.9 +0.9**
comp=Z,158nm,1.9s
MESJ Messejana 61.74 323 *e*P **P 23 29 35.4 +0.1**
MESJ AMb AMB 23 29 40.0
comp=Z,46nm,1.9s
MESJ *es* **S 23 37 58.7 +0.8**
COCO West Island 61.74 98 *e*P **P 23 29 33.9 -1.9**
COCO pmax pmax
comp=Z,469nm,1.8s
COCO MLR MLR
comp=Z,2µm,21.0s
COCO West Island 61.74 98 *e*P **P 23 29 33.9 -1.9**
comp=Z,469nm,1.8s
COCO LR LR
comp=Z,2µm,21.0s
CAF Calviac 61.76 335 *e*P **P 23 29 36.2 +0.9**
comp=Z,246nm,1.9s
CAF Calviac 61.76 335 *e*P **P 23 29 36.2 +0.9**
CAF pmax pmax
comp=Z,246nm,1.9s
CAF Calviac 61.76 335 *e*P **P 23 29 36.2 +0.9**
comp=Z,246nm,1.9s
SJPF Ste Jean 61.79 331 *e*P **P 23 29 36.7 +1.1**
comp=Z,330nm,1.8s
SJPF Ste Jean 61.79 331 *e*P **P 23 29 36.7 +1.1**
SJPF pmax pmax
comp=Z,330nm,1.8s
SJPF Ste Jean 61.79 331 *e*P **P 23 29 36.7 +1.1**
comp=Z,330nm,1.8s
PTEO Sao Teotonio 61.85 322 *e*P P 23 29 39.5 +3.5
comp=Z,162nm,1.8s
FRNF Fournols 61.92 336 *e*P **P 23 29 39.3 +2.8**
LOMF Lomont 61.97 340 *e*P **P 23 29 37.1 +0.3**
PLDF La Plantade 61.98 337 *e*P **P 23 29 38.2 +1.3**
GKN Gorkha 61.99 51 *e*P **P 23 29 36.9 -0.5**
comp=Z,480nm,1.7s
DPC Dobruska-Polom 62.03 347 *e*P **P 23 29 36.7 -0.4**
DPC *e* 23 33 21.1
DPC *es* S 23 38 08.2 +7.0
DPC Dobruska-Polom 62.03 347 *e*P **P 23 29 36.7 -0.4**
DPC *ex* x 23 33 21.1
DPC *es* S 23 38 08.2 +7.0
DPC AMS AMS 23 59 30.0
DPC Dobruska-Polom 62.03 347 *e*P **P 23 29 37.1 +0.1**
comp=Z,360nm,1.4s
DPC *e*PcP **PcP 23 30 19.1 +1.6**
DPC LR LR
comp=Z,14µm,21.0s
FELD Feldberg im Sc 62.03 341 *e*P **P 23 29 39.4 +2.2**
PESTR Estremoz 62.06 324 *e*P **P 23 29 38.0 +0.5**
comp=Z,104nm,1.8s
EVO Evora 62.08 324 *e*P **P 23 29 40.4 +2.8**
comp=Z,90nm,1.5s
EVO *e*R
comp=Z,7µm,17.2s
PRU Pruhonice 62.09 346 *e*P **P 23 29 36.4 -1.0**
PRU *es* S 23 38 15.8 +14
PRU MLR MLR
comp=Z,4µm,19.4s
PRU Pruhonice 62.09 346 *e*P **P 23 29 36.4 -1.0**
PRU *ex* x 23 29 53.6
PRU *ex* x 23 33 39.1
PRU *e*PS **PnS 23 38 15.8 -1.5**
PRU AMS AMS 23 59 10.0
comp=Z,4µm,19.4s
SACV Santiago Islan 62.10 293 *e*P **P 23 29 38.2 0.0**
comp=Z,626nm,2.1s
SACV LR LR
comp=Z,9µm,20.0s
EVOP Sao Brissos 62.14 324 *e*P **P 23 29 40.4 +2.4**
EVOP pmax pmax
comp=Z,90nm,1.5s
EVOP Sao Brissos 62.14 324 *e*P **P 23 29 40.4 +2.4**
comp=Z,90nm,1.5s
DMN Daman 62.15 52 *e*P **P 23 29 38.1 -0.5**
comp=Z,176nm,1.4s
CMBY CAMPBELL BAY 62.19 77 *e*P **P 23 29 37.5 -1.3**
CMBY AMS AMS 23 51 09.4

comp=Z,11µm,14.7s
PRA Prague 62.19 346 P **P 23 29 37.0 -1.1**
PRA PS **PnS 23 38 16.0 -2.7**
AGO Saint Agoulin 62.24 336 *e*P **P 23 29 41.2 +2.7**
NVL N'lazarevskaya 62.24 188⇑ *i*P P 23 29 41.9 +3.7
NVL pmax pmax
comp=Z,129nm,2.2s
UPC Upice 62.24 347 *e*P **P 23 29 39.8 +1.4**
UPC Upice 62.24 347 *e*P **P 23 29 39.8 +1.4**
UPC *ex* x 23 29 58.9
VERF Verneugheol 62.25 336 *e*P **P 23 29 36.8 -1.9**
RJF Les Rejaudoux 62.29 335 *e*P **P 23 29 39.7 +0.8**
comp=Z,262nm,1.9s
RJF *e*R
comp=Z,4µm,19.2s
RJF Les Rejaudoux 62.29 335 *e*P **P 23 29 39.7 +0.8**
RJF pmax pmax
comp=Z,262nm,1.9s
RJF Les Rejaudoux 62.29 335 *e*P **P 23 29 39.7 +0.8**
comp=Z,262nm,1.9s
MOF Molkenrain 62.30 340 *e*P **P 23 29 38.9 -0.1**
BFO Black Forest 62.32 341 P **P 23 29 40.3 +1.2**
comp=Z,198nm,1.4s,SNR=9.8
BFO Black Forest 62.32 341 *e*P **P 23 29 39.5 +0.5**
BFO pmax pmax
comp=Z,217nm,1.9s
BFO MLR MLR
comp=Z,2µm,21.0s
BFO Black Forest 62.32 341 *e*P **P 23 29 40.2 +1.2**
comp=Z,233nm,2.0s
BFO Black Forest 62.32 341 *e*P **P 23 29 39.5 +0.5**
comp=Z,217nm,1.9s
BFO LR LR
comp=Z,2µm,21.0s
PMRV Marv??o 62.33 325 *e*P **P 23 29 41.2 +1.9**
comp=Z,64nm,1.8s
PMRV *es* S 23 38 12.0 +6.6
PMRV Marv??o 62.33 325 *e*LR LR 23 50 14.9
comp=Z,4µm,18.0s
LFF La Frestale 62.33 334 *e*P **P 23 29 40.1 +1.0**
comp=Z,295nm,1.7s
LFF La Frestale 62.33 334 *e*P **P 23 29 40.1 +1.0**
LFF pmax pmax
comp=Z,295nm,1.7s
LFF La Frestale 62.33 334 *e*P **P 23 29 40.1 +1.0**
comp=Z,295nm,1.7s
HINF Hinteralfeld 62.36 340 *e*P **P 23 29 39.4 +0.1**
comp=Z,300nm,1.8s
HINF Hinteralfeld 62.36 340 *e*P **P 23 29 39.4 +0.1**
HINF pmax pmax
comp=Z,300nm,1.8s
HINF Hinteralfeld 62.36 340 *e*P **P 23 29 39.4 +0.1**
comp=Z,300nm,1.8s
PKIN Phulchoki 62.36 52 *e*P **P 23 29 39.1 -0.9**
comp=Z,197nm,1.6s
PKI Pulchoki 62.37 52 *e*P **P 23 29 39.4 -0.8**
comp=Z,209nm,1.6s
KKN Kakani 62.38 51 *e*P **P 23 29 39.5 -0.6**
comp=Z,265nm,1.6s
PBA Port Blair 62.38 71 *e*P **P 23 29 39.6 -0.5**
PBA *ex* x 23 31 48.2
PBA *ex* x 23 40 14.4
STU Stuttgart 62.44 342 *e*P **P 23 29 40.9 +1.1**
STU pmax pmax
comp=Z,313nm,1.8s
STU MLR MLR
comp=Z,2µm,21.0s
STU Stuttgart 62.44 342 *e*P **P 23 29 41.0 +1.1**
comp=Z,288nm,1.7s
STU Stuttgart 62.44 342 *e*P **P 23 29 40.9 +1.1**
comp=Z,313nm,1.8s
STU LR LR
comp=Z,2µm,21.0s
SMF Signal de Mont 62.45 337 *e*P **P 23 29 40.2 +0.2**
comp=Z,149nm,1.2s
SMF Signal de Mont 62.45 337 *e*P **P 23 29 40.2 +0.2**
SMF pmax pmax
comp=Z,149nm,1.2s
SMF Signal de Mont 62.45 337 *e*P **P 23 29 40.2 +0.2**
comp=Z,149nm,1.2s
ROTZ Rotzenmuhle 62.48 344 *e*P **P 23 29 40.7 +0.7**
comp=Z,251nm,1.9s
KSP Ksiaz 62.50 348⇓ *e*P **P 23 29 40.4 +0.3**
KSP *es* **S 23 38 08.0 +0.9**
KSP *es*SS SS 23 42 04.0 -7.5
KSP MLR MLR
comp=Z,4µm,21.8s
KSP Ksiaz 62.50 348 *e*P **P 23 29 40.7 +0.6**
KSP LMZ LR 23 56 46.7
KKAR Karatay Array 62.56 30 *e*P **P 23 29 40.5 -0.2**
KKAR Karatay Array 62.56 30 *e*P **P 23 29 40.5 -0.2**
PMTG Montargil 62.56 324 *e*P **P 23 29 43.6 +2.8**
comp=Z,66nm,1.9s
PVCC Panska Ves 62.59 346 *e*P **P 23 29 41.9 +1.2**
PVCC MLR MLR
comp=Z,3µm,16.8s
PVCC Panska Ves 62.59 346 *e*P **P 23 29 41.9 +1.2**
PVCC AMS AMS 23 58 10.0
comp=Z,3µm,16.8s
ECH Echery 62.60 340 *e*P **P 23 29 42.6 +1.7**
BEL Belsk 62.62 351 *e*P **P 23 29 42.2 +1.3**
BEL pmax pmax
comp=Z,300nm,1.7s
BEL MLR MLR
comp=Z,2µm,23.7s
BEL Belsk 62.62 351 *e*P **P 23 29 42.1 +1.2**
BEL LMZ LR 23 56 57.4
PCBR Castelo Branco 62.65 325 *e*P P 23 29 45.0 +3.6
comp=Z,43nm,1.7s
GRF Grafenberg Arr 62.67 344 *e*P **P 23 29 42.1 +0.7**
comp=Z,285nm,1.7s
GRF *e*L L 23 58 41.7
comp=Z,2µm,18.7s
HAU Haudompre 62.70 340 *e*P **P 23 29 41.9 +0.3**
comp=Z,257nm,1.5s
HAU *e*R
comp=Z,2µm,21.5s
HAU Haudompre 62.70 340 *e*P **P 23 29 41.9 +0.3**
HAU pmax pmax
comp=Z,257nm,1.5s
HAU Haudompre 62.70 340 *e*P **P 23 29 41.9 +0.3**
comp=Z,257nm,1.5s
MANZ Manzenberg 62.70 344 *e*P **P 23 29 42.1 +0.5**
comp=Z,207nm,1.8s
WLS Welschbruch 62.71 340 *e*P **P 23 29 42.3 +0.6**
CDF Champ du Feu 62.73 340 *e*P **P 23 29 41.9 0.0**
comp=Z,190nm,1.3s
CDF Champ du Feu 62.73 340 *e*P **P 23 29 41.9 0.0**
CDF pmax pmax
comp=Z,190nm,1.3s
CDF Champ du Feu 62.73 340 *e*P **P 23 29 41.9 0.0**
comp=Z,190nm,1.3s
AVF Avril sur Loir 62.76 337 *e*P **P 23 29 42.4 +0.4**
comp=Z,185nm,1.3s
AVF Avril sur Loir 62.76 337 *e*P **P 23 29 42.4 +0.4**
AVF pmax pmax
comp=Z,185nm,1.3s
AVF Avril sur Loir 62.76 337 *e*P **P 23 29 42.4 +0.4**
comp=Z,185nm,1.3s
BGF Bois d'Agland 62.77 336 *e*P **P 23 29 42.7 +0.7**
comp=Z,68nm,1.1s
BGF Bois d'Agland 62.77 336 *e*P **P 23 29 42.7 +0.7**
BGF pmax pmax
comp=Z,68nm,1.1s
BGF Bois d'Agland 62.77 336 *e*P **P 23 29 42.7 +0.7**
comp=Z,68nm,1.1s
TCF Toulx Ste Croi 62.80 336 *e*P **P 23 29 43.3 +1.0**
comp=Z,200nm,1.2s
TCF Toulx Ste Croi 62.80 336 *e*P **P 23 29 43.3 +1.0**
TCF pmax pmax
comp=Z,200nm,1.2s
TCF Toulx Ste Croi 62.80 336 *e*P **P 23 29 43.3 +1.0**
comp=Z,200nm,1.2s
NKC Novy Kostel 62.84 345 *e*P **P 23 29 44.0 +1.6**
NKC MLR MLR
comp=Z,3µm,15.9s
NKC Novy Kostel 62.84 345 *e*P **P 23 29 44.0 +1.6**
NKC AMS AMS 23 59 30.0
comp=Z,3µm,15.9s
LIS Lisbon 62.87 323 *e*P **P 23 29 42.9 +0.1**
LIS AMb AMB 23 29 47.9
comp=Z,166nm,1.5s
GUN Gumba 62.90 52 *e*P **P 23 29 43.4 -0.3**
comp=Z,699nm,1.7s
WERN Wernitzgruen 62.91 345 *e*P **P 23 29 43.7 +0.8**
comp=Z,289nm,2.2s

KSH Kashi 62.91 36 P **P 23 29 40.6 -2.7**
KSH pP **pP 23 29 44.3 -3.5**
KSH sP **sP 23 29 47.1 -2.4**
KSH PP **PP 23 32 02.1 +0.2**
KSH S S 23 38 02.3 -11
KSH sS sS 23 38 15.1 -5.3
KSH SS **SS 23 42 13.0 -5.6**
KSH pmax pmax
comp=Z,26nm,1.4s
KSH pmax pmax
comp=Z,1µm,5.5s
KSH LR LR
comp=Z,4µm,15.5s
KSH LR LR
comp=Z,3µm,15.3s
KSH LR LR
comp=Z,7µm,21.4s
SSF Saint Saulge 62.93 337 *e*P **P 23 29 43.2 +0.1**
comp=Z,90nm,1.5s
SSF Saint Saulge 62.93 337 *e*P **P 23 29 43.2 +0.1**
SSF pmax pmax
comp=Z,90nm,1.5s
SSF Saint Saulge 62.93 337 *e*P **P 23 29 43.2 +0.1**
comp=Z,90nm,1.5s
LOR Lormes 62.97 338 *e*P **P 23 29 43.5 +0.1**
comp=Z,230nm,1.7s
LOR *e*R
comp=Z,5µm,17.0s
LOR Lormes 62.97 338 *e*P **P 23 29 43.5 +0.1**
comp=Z,230nm,1.7s
GUNZ Gunzen 62.99 345 *e*P **P 23 29 44.3 +0.8**
comp=Z,299nm,2.0s
RAMN Ramite 63.00 53 *e*P **P 23 29 43.9 -0.4**
comp=Z,441nm,2.2s
TANN Tannenbergstha 63.00 345 *e*P **P 23 29 44.3 +0.7**
comp=Z,291nm,2.0s
THEF They Montfort 63.01 339 *e*P **P 23 29 45.8 +2.2**
JIRN Jiri 63.02 52 *e*P **P 23 29 44.6 +0.1**
comp=Z,47nm,0.8s
DGPR DIGLIPUR 63.03 70 *e*P **P 23 29 45.7 +1.3**
BRG Berggiesshubel 63.06 346 *e*P **P 23 29 44.9 +1.0**
comp=Z,124nm,1.9s
BRG PP PP 23 31 57.0 -5.8
BRG S S 23 38 36.0 +22
BRG
comp=N,2µm,13.1s
BRG
comp=E,2µm,14.1s
BRG
comp=Z,3µm,17.9s
BRG Berggiesshubel 63.06 346 *e*P **P 23 29 44.9 +1.0**
BRG 23 31 57.0
BRG S S 23 38 36.0 +22
BRG pmax pmax
comp=Z,124nm,1.9s
BRG MLR MLR
comp=N,2µm,13.1s
BRG MLR MLR
comp=E,2µm,14.1s
BRG MLR MLR
comp=Z,3µm,17.9s
BRG Berggiesshubel 63.06 346 *e*P **P 23 29 43.9 +0.1**
comp=Z,124nm,1.9s
LANF Langenberg 63.06 341 *e*P **P 23 29 46.3 +2.4**
WERD Werda 63.07 345 *e*P **P 23 29 44.7 +0.7**
comp=Z,262nm,1.9s
MTE Manteigas 63.07 326 *e*P **P 23 29 46.0 +1.7**
comp=Z,63nm,1.7s
MTE *e*S S 23 38 22.2 +7.4
MTE Manteigas 63.07 326 *e*LR LR 23 50 45.5
comp=Z,4µm,16.0s
MTE Manteigas 63.07 326 PFAKE 23 30 00.0 +16
MTE LR LR
comp=Z,4µm,19.0s
PMAFR Mafra 63.10 323 *e*P **P 23 29 47.5 +3.1**
comp=Z,171nm,1.9s
PLN Plauen 63.14 345 *e*P **P 23 29 45.2 +0.7**
comp=Z,1µm,2.0s
FBE Freiberg 63.24 346 *e*P **P 23 29 45.3 +0.2**
comp=Z,109nm,2.0s
MVO Moncorvo 63.31 326 *e*P **P 23 29 48.6 +2.7**
comp=Z,106nm,1.9s
MVO *e*S **S 23 38 17.2 -0.6**
MVO Moncorvo 63.31 326 *e*LR LR 23 52 18.1
comp=Z,4µm,16.0s
SFTF Sexfontaines 63.32 339 *e*P **P 23 29 46.5 +0.8**
comp=Z,490nm,1.7s
SFTF Sexfontaines 63.32 339 *e*P **P 23 29 46.5 +0.8**
comp=Z,490nm,1.7s
ABKAR Akbulak array 63.33 19 *e*P **P 23 29 45.8 +0.2**
PCAS Casmilo, Conde 63.38 325 *e*P **P 23 29 48.1 +1.9**
comp=Z,115nm,1.8s
PAGF Fort de Pagny 63.38 340 *e*P **P 23 29 46.7 +0.6**
comp=Z,91nm,1.8s
PAGF Fort de Pagny 63.38 340 *e*P **P 23 29 46.7 +0.6**
comp=Z,91nm,1.8s
HYF Humbligny 63.43 337 *e*P **P 23 29 46.7 +0.3**
HYF Humbligny 63.43 337 *e*P **P 23 29 46.7 +0.3**
AML Almayashu 63.46 32 *i*P **P 23 29 46.3 -0.9**
AML Almayashu 63.46 32 P **P 23 29 46.3 -0.9**
SNR=52
PVIS Viseu 63.48 326 *e*P **P 23 29 49.0 +2.0**
comp=Z,40nm,1.4s
MEZF Maizieres J'vi 63.57 339 *e*P **P 23 29 48.2 +0.9**
comp=Z,236nm,1.3s
MEZF Maizieres J'vi 63.57 339 *e*P **P 23 29 48.2 +0.9**
comp=Z,236nm,1.3s
ODAN Odare 63.58 53 *e*P **P 23 29 47.7 -0.4**
comp=Z,409nm,1.7s
PBRG Braganca 63.60 327 *e*P **P 23 29 49.7 +1.9**
comp=Z,52nm,1.7s
CLL Collm 63.69 346⇑ *i*P **P 23 29 49.0 +1.0**
CLL *i* 23 29 51.8
CLL *e* 23 30 25.0
CLL *e*S S 23 38 32.0 +10
CLL pmax pmax
comp=Z,131nm,1.8s
CLL MLR MLR
comp=Z,2µm,19.0s
CLL Collm 63.69 346 *e*P **P 23 29 48.2 +0.2**
comp=Z,131nm,1.8s
CLL Collm 63.69 346⇑ *i*P **P 23 29 49.0 +1.0**
comp=Z,131nm,1.8s
CLL *e*Plp 23 29 50.0
comp=Z,700nm,16.5s
CLL *i* 23 29 51.8
comp=Z,77nm,1.4s
CLL *e*PcP **PcP 23 30 25.0 +0.9**
CLL *e*PP **PP 23 32 06.0 -2.3**
CLL *e*PPP PPP 23 33 30.0
CLL *e*S S 23 38 32.0 +10
CLL *e*SS **SS 23 42 24.0 -6.0**
CLL *e*SSS SSS 23 45 24.0
CLL LmH 23 57 00.0
comp=N,2µm,21.6s
CLL LmH 23 57 00.0
comp=E,2µm,20.1s
CLL LV 00 00 00.0
comp=Z,2µm,19.0s
PVRL Vila Real 63.77 326 *e*P **P 23 29 51.5 +2.7**
comp=Z,105nm,1.8s
EKS2 Erkin-Say 63.88 32 *i*P **P 23 29 48.8 -0.8**
EKS2 Erkin-Say 63.88 32 P **P 23 29 48.8 -0.8**
SNR=32
EKS2 Erkin-Say 63.88 32 *e*P **P 23 29 49.5 -0.2**
comp=Z,101nm,1.6s
EKS2 LR LR
comp=Z,9µm,18.0s
POLO Lamas de Olo 63.88 326 *e*P **P 23 29 51.9 +2.3**
comp=Z,40nm,1.7s
NEUB Neuenburg 63.90 345 *e*P **P 23 29 50.0 +0.6**
comp=Z,123nm,1.6s
UCH Uchtor 63.96 33 *i*P **P 23 29 52.0 +1.5**
UCH Uchtor 63.96 33 P **P 23 29 52.1 +1.5**
SNR=40
MFF Saint Martin d 64.03 335 *e*P **P 23 29 50.9 +0.6**
comp=Z,149nm,1.5s
MFF Saint Martin d 64.03 335 *e*P **P 23 29 50.9 +0.6**
MFF pmax pmax
comp=Z,149nm,1.5s
MFF Saint Martin d 64.03 335 *e*P **P 23 29 50.9 +0.6**
comp=Z,149nm,1.5s
TAPN Taplejung 64.06 53 *e*P **P 23 29 51.5 +0.2**
comp=Z,400nm,1.8s
WLF Walferdange 64.19 340 P **P 23 29 53.0 +1.7**
comp=Z,60nm,2.1s

WLF Walferdange 64.19 340 *e*P **P 23 29 52.8 +1.4**
WLF pmax pmax
comp=Z,165nm,1.8s
WLF MLR MLR
comp=Z,2µm,20.0s
WLF Walferdange 64.19 340 *e*P **P 23 29 52.5 +1.1**
comp=Z,230nm,2.0s
WLF Walferdange 64.19 340 *e*P **P 23 29 52.8 +1.4**
comp=Z,165nm,1.8s
WLF LR LR
comp=Z,2µm,20.0s
AAK Ala-Archa 64.23 32 P **P 23 29 53.8 +1.8**
comp=Z,146nm,1.4s,SNR=9.8
AAK Ala-Archa 64.23 32 *e*P **P 23 29 52.7 +0.7**
AAK pmax pmax
comp=Z,134nm,1.8s
AAK MLR MLR
comp=Z,8µm,19.0s
AAK Ala-Archa 64.23 32 P **P 23 29 53.7 +1.6**
SNR=25
AAK Ala-Archa 64.23 32 *e*P **P 23 29 52.7 +0.7**
comp=Z,134nm,1.8s
AAK LR LR
comp=Z,8µm,19.0s
AAK Ala-Archa 64.23 32 P **P 23 29 51.9 -0.1**
comp=Z,28nm,1.3s,baz=224,slow=6.3,SNR=36
KZA Kyzart 64.25 33 *i*P **P 23 29 54.0 +1.6**
KZA Kyzart 64.25 33 P **P 23 29 54.0 +1.6**
SNR=34
LCHF La Chataignera 64.33 334 *e*P **P 23 29 55.4 +3.1**
SUW Suwalki 64.42 353 *e*P **P 23 29 52.9 +0.2**
SUW pmax pmax
comp=Z,300nm,1.4s
SUW MLR MLR
comp=Z,4µm,18.5s
SUW Suwalki 64.42 353 *e*P **P 23 29 52.9 +0.2**
SUW *e*pP pP 23 30 03.2 +5.9
SUW LMZ LR 00 02 53.1
SUW Suwalki 64.42 353 *e*P **P 23 29 53.1 +0.4**
comp=Z,247nm,1.2s
SUW LR LR
comp=Z,4µm,18.0s
GSI Gunungsitoli 64.42 84 *e*P **P 23 29 55.0 +1.4**
comp=Z,320nm,1.6s
GSI LR LR
comp=Z,8µm,22.0s
FRU Bishkek 64.44 32 *e*P **P 23 29 53.0 -0.2**
FRU pmax pmax
comp=Z,863nm,3.0s
MICGM Minsk 64.47 356⇑ *e*P P 23 29 49.0 -4.1
MNK Minsk 64.47 356⇑ *e*P P 23 29 49.0 -4.1
MNK pmax pmax
comp=Z,390nm,1.0s
KBK Karagaybulak 64.49 33 *i*P **P 23 29 55.6 +1.9**
KBK Karagaybulak 64.49 33 P **P 23 29 55.6 +1.9**
SNR=55
PGAV Gavieira, Arco 64.54 326 *e*P **P 23 29 57.0 +3.0**
comp=Z,93nm,1.8s
RUE Ruedersdorf 64.59 347 *e*P **P 23 29 54.3 +0.5**
comp=Z,296nm,1.9s
RUE Ruedersdorf 64.59 347 *e*P **P 23 29 54.5 +0.7**
comp=Z,206nm,1.5s
RUE LR LR
comp=Z,2µm,20.0s
GKP Gorka Klasztor 64.61 349 *e*P **P 23 29 55.2 +1.2**
GKP pmax pmax
comp=Z,500nm,1.8s
GKP Gorka Klasztor 64.61 349 *e*P **P 23 29 55.2 +1.2**
GKP LMZ LR 00 05 00.0
CHMS Chumysh 64.62 32 *i*P **P 23 29 55.5 +1.1**
CHMS Chumysh 64.62 32 P **P 23 29 55.6 +1.1**
SNR=19
PMOZ Porto Moniz, M 64.64 314 *e*LR LR 23 50 12.2
comp=Z,8µm,18.0s
CLZ Clausthal 64.85 344 *e*P **P 23 29 56.8 +1.1**
comp=Z,241nm,1.9s
ULHL Ulahol 64.90 34 *i*P **P 23 29 58.9 +2.5**
ULHL Ulahol 64.90 34 P **P 23 29 59.0 +2.5**
SNR=14
OBN Obninsk 64.93 2 P **P 23 29 57.1 +1.1**
comp=Z,489nm,1.4s,SNR=11
OBN Obninsk 64.93 2*d i*P **P 23 29 56.3 +0.3**
OBN *i* 23 30 04.8
OBN *e* 23 30 30.1
OBN *e*PPP PPP 23 33 58.5
OBN *i*S S 23 38 44.1 +7.1
OBN *e*SS **SS 23 42 54.7 +5.5**
OBN pmax pmax
comp=Z,194nm,1.6s
OBN MLR MLR
comp=Z,2µm,16.0s
NACGM Naroch 64.94 356 *e*P P 23 29 52.0 -4.2
GIVF Givet 65.01 340 *e*P **P 23 29 56.8 +0.1**
comp=Z,213nm,1.5s
GIVF Givet 65.01 340 *e*P **P 23 29 56.8 +0.1**
GIVF pmax pmax
comp=Z,213nm,1.5s
GIVF Givet 65.01 340 *e*P **P 23 29 56.8 +0.1**
comp=Z,213nm,1.5s
TKM2 Tokmak 2 65.02 33 *i*P **P 23 29 56.3 -0.9**
TKM2 Tokmak 2 65.02 33 P **P 23 29 56.3 -0.9**
SNR=58
TKM2 Tokmak 2 65.02 33 *e*P **P 23 29 56.6 -0.6**
comp=Z,106nm,1.4s
TKM2 LR LR
comp=Z,8µm,19.0s
MEM Membach 65.05 341 P **P 23 29 59.3 +2.3**
MEM Membach 65.05 341 *e*P **P 23 29 56.9 -0.1**
MEM pmax pmax
comp=Z,217nm,2.0s
MEM MLR MLR
comp=Z,4159µm,20.0s
MEM Membach 65.05 341 *e*P **P 23 29 56.9 -0.1**
comp=Z,217nm,2.0s
MEM LR LR
comp=Z,4159µm,20.0s
DOU Dourbes 65.08 340 P **P 23 29 59.3 +2.1**
BCLA Clavier 65.12 340 P **P 23 29 57.8 +0.4**
comp=Z,64nm,1.5s
BAIF Baives 65.18 339 *e*P **P 23 29 58.2 +0.4**
comp=Z,166nm,1.4s
BAIF Baives 65.18 339 *e*P **P 23 29 58.2 +0.4**
BAIF pmax pmax
comp=Z,166nm,1.4s
BAIF Baives 65.18 339 *e*P **P 23 29 58.2 +0.4**
comp=Z,166nm,1.4s
HGN Heimansgroeve 65.21 341 *e*P **P 23 29 59.2 +1.2**
comp=Z,266nm,2.0s
HGN *e*S **S 23 38 36.1 -4.6**
BEBN Eben Emael 65.32 341 P **P 23 30 00.2 +1.6**
IDID Didziasalis 65.36 356 *e*P **P 23 29 58.9 +0.1**
IDID AMB AMB 23 30 01.9
comp=Z,33nm,1.6s
BUG Bochum-Univer 65.38 342 *e*P **P 23 30 00.4 +1.4**
comp=Z,188nm,1.6s
IIGN Ignalina 65.44 355 *e*P **P 23 29 58.8 -0.6**
IIGN AMB AMB 23 30 01.9
comp=Z,39nm,2.0s
NRDL Niedersach Rie 65.51 344 *e*P **P 23 30 01.2 +1.4**
comp=Z,164nm,1.3s
SNF Seneffe 65.54 340 P **P 23 29 59.6 -0.5**
SNAA Sanae 65.55 192 *e*P **P 23 30 01.6 +1.5**
comp=Z,426nm,2.6s
SNAA LR LR
comp=Z,7µm,18.0s
MOS Moscow 65.59 2 *e*P **P 23 30 00.0 -0.3**
MOS *e* 23 30 31.7
MOS *e*PPP PPP 23 34 03.0
MOS *e*S **S 23 38 39.4 -5.7**
MOS pmax pmax
comp=Z,229nm,1.8s
MOS pmax pmax
comp=Z,1µm,3.2s
MOS MLR MLR
comp=Z,2µm,16.0s
LDF La Druitiere 65.60 336 *e*P **P 23 30 00.3 -0.3**
comp=Z,225nm,1.6s
LDF La Druitiere 65.60 336 *e*P **P 23 30 00.3 -0.3**
LDF pmax pmax
comp=Z,225nm,1.6s
LDF La Druitiere 65.60 336 *e*P **P 23 30 00.3 -0.3**
comp=Z,225nm,1.6s
ISAL Salakas 65.66 355 *e*P **P 23 30 00.6 -0.2**
ISAL AMB AMB 23 30 03.9
comp=Z,26nm,2.0s
GRR Gorron 65.73 335 *e*P **P 23 30 01.4 0.0**
comp=Z,244nm,1.8s
GRR Gorron 65.73 335 *e*P **P 23 30 01.4 0.0**
GRR pmax pmax
comp=Z,244nm,1.8s
GRR Gorron 65.73 335 *e*P **P 23 30 01.4 0.0**
comp=Z,244nm,1.8s
FLN La Foliniere 65.88 336 *e*P **P 23 30 02.4 +0.1**
comp=Z,204nm,1.6s
FLN *e*R
comp=Z,4µm,21.5s
FLN La Foliniere 65.88 336 *e*P **P 23 30 02.4 +0.1**
FLN pmax pmax
comp=Z,204nm,1.6s
FLN La Foliniere 65.88 336 *e*P **P 23 30 02.4 +0.1**
comp=Z,204nm,1.6s
WTSB Winterswijk 65.98 342 *e*P **P 23 30 02.8 -0.1**
comp=Z,402nm,1.8s
IBBN Ibbenburen 66.00 343 *e*P **P 23 30 04.6 +1.6**
comp=Z,419nm,2.0s
PSI Prapat 66.05 82 P **P 23 30 05.0 +0.6**
PSI Prapat 66.05 82 P **P 23 30 05.0 +0.6**
comp=Z,19nm,0.9s,baz=259,slow=5.9,SNR=10
SGMF Saint Gilles 66.34 334 *e*P **P 23 30 05.5 +0.2**
comp=Z,93nm,1.2s
SGMF Saint Gilles 66.34 334 *e*P **P 23 30 05.5 +0.2**
SGMF pmax pmax
comp=Z,93nm,1.2s
SGMF Saint Gilles 66.34 334 *e*P **P 23 30 05.5 +0.2**
comp=Z,93nm,1.2s
QUIF Quistinic 66.34 334 *e*P **P 23 30 05.9 +0.6**
comp=Z,242nm,1.5s
QUIF Quistinic 66.34 334 *e*P **P 23 30 05.9 +0.6**
QUIF pmax pmax
comp=Z,242nm,1.5s
QUIF Quistinic 66.34 334 *e*P **P 23 30 05.9 +0.6**
comp=Z,242nm,1.5s
RGN Rugen 66.61 347 PFAKE 23 30 20.0 +13
RGN LR LR
comp=Z,2µm,19.0s
SHL Shillong 66.64 57 *ex* **P 23 30 05.0 -3.0**
SHL *ex* x 23 39 02.0
ROSF Rostrenen 66.71 334 *e*P **P 23 30 07.3 -0.4**
comp=Z,304nm,2.0s
ROSF Rostrenen 66.71 334 *e*P **P 23 30 07.3 -0.4**
ROSF pmax pmax
comp=Z,304nm,2.0s
ROSF Rostrenen 66.71 334 *e*P **P 23 30 07.3 -0.4**
comp=Z,304nm,2.0s
BSEG Bad Segeberg 66.76 345 *e*P **P 23 30 08.6 +0.8**
comp=Z,147nm,1.3s
BSD Bornholm Skovb 66.81 348 *i*P **P 23 30 09.7 +1.6**
BSD Bornholm Skovb 66.81 348 *i*P **P 23 30 09.7 +1.6**
SURT Suratani 67.35 76 P P 23 30 23.5 +11
LSA Lhasa 67.82 52 *e*P **P 23 30 16.4 +0.6**
LSA pmax pmax
comp=Z,243nm,1.8s
LSA MLR MLR
comp=Z,8µm,18.0s
LSA Lhasa 67.82 52 *e*P **P 23 30 16.4 +0.6**
comp=Z,243nm,1.8s
LSA LR LR
comp=Z,8µm,18.0s
COP Copenhagen 67.86 347 *i*P **P 23 30 17.9 +3.1**
COP Copenhagen 67.86 347 *i*P **P 23 30 17.9 +3.1**
KULM Kulim 68.27 80 P **P 23 30 18.0 -0.3**
KULM Kulim 68.27 80 *e*P **P 23 30 16.9 -1.3**
comp=Z,142nm,1.7s
KULM LR LR
comp=Z,14µm,20.0s
IPM Ipoh 68.46 81 P **P 23 30 20.9 +1.4**
IPM Ipoh 68.46 81 P **P 23 30 22.0 +2.5**
comp=Z,134nm,1.6s,comp=Z,3µm
IPM Ipoh 68.46 81 *e*P **P 23 30 19.5 0.0**
comp=Z,504nm,2.2s
IPM LR LR
comp=Z,7µm,20.0s
VSU Vasula 68.49 356*d i*P **P 23 30 19.4 +0.7**
VSU pmax pmax
comp=Z,258nm,1.4s
MNAI Manna 68.71 91 *e*P **P 23 30 22.0 +0.9**
comp=Z,207nm,1.3s
MNAI LR LR
comp=Z,4µm,21.0s
KHLT Khaolaem Dam 68.75 70 P **P 23 30 23.4 +2.1**
comp=Z,54nm,1.2s,comp=Z,868nm
FRIM Kepong 68.78 83 P **P 23 30 22.9 +1.4**
RCBR Riachuelo 69.09 268 *e*P **P 23 30 24.2 +0.7**
comp=Z,62nm,2.3s
RCBR LR LR
comp=Z,7µm,19.0s
SRDT SRDT 69.11 70 P **P 23 30 25.8 +2.3**
comp=Z,182nm,1.7s,comp=Z,5µm
MHMT Maesarieng 69.18 66 P **P 23 30 25.3 +1.4**
comp=Z,44nm,1.3s,comp=Z,938nm
PHET Kaeng Krachan 69.19 72 P P 23 30 27.3 +3.3
comp=Z,134nm,1.2s,comp=Z,1µm
ARU Arti 69.31 14 P **P 23 30 23.7 -0.2**
comp=Z,520nm,1.3s,SNR=14
ARU Arti 69.31 14*d i*P **P 23 30 24.1 +0.2**
ARU 23 30 49.4
ARU 23 32 54.6
ARU PPP PPP 23 34 41.3
ARU S **S 23 39 29.5 -0.4**
ARU 23 40 20.4
ARU SS **SS 23 43 57.5 +0.3**
ARU SSS SSS 23 47 07.3
ARU pmax pmax
comp=Z,211nm,1.7s
ARU MLR MLR
comp=Z,4µm,20.0s
MUD Monsted U'grnd 69.32 346 *i*P P 23 30 27.5 +3.6
MUD Monsted U'grnd 69.32 346 *i*P P 23 30 27.5 +3.6
comp=Z,53nm,1.1s
LHSI Lahat 69.36 90 P P 23 30 28.7 +3.6
comp=Z,225nm,1.6s,comp=Z,4µm
LWLI Liwa 69.70 92 P P 23 30 33.0 +5.6
comp=Z,70nm,1.2s
JMBI JAMBI 69.84 88 P P 23 30 33.0 +4.9
comp=Z,432nm,1.7s,comp=Z,7µm
KASI Kota Agung 70.05 92 P **P 23 30 32.1 +2.7**
comp=Z,116nm,1.5s,comp=Z,2µm
BRVK Borovoye 70.10 22 *e*P **P 23 30 28.1 -0.7**
BRVK pmax pmax
comp=Z,180nm,1.8s
BRVK MLR MLR
comp=Z,14µm,21.0s
BRVK Borovoye 70.10 22 *e*P **P 23 30 28.1 -0.7**
comp=Z,180nm,1.8s
BRVK LR LR
comp=Z,14µm,21.0s
BRVK Borovoye 70.10 22 P **P 23 30 29.8 +1.0**
comp=Z,168nm,1.6s,SNR=18
CMAR Chiang Mai Arr 70.18 66 P **P 23 30 29.8 -0.3**
CMAR P'P' 23 58 36.5
CMAR Chiang Mai Arr 70.18 66 P **P 23 30 29.8 -0.3**
comp=Z,32nm,0.9s,baz=259,slow=7.6,SNR=46
CMAR PKPPKP **P'P'df 23 58 36.5 +3.1**
comp=Z,0.6nm,0.5s,baz=90,slow=1.2,SNR=9.1
CM01 Chiang Mai Arr 70.18 66 *e*P **P 23 30 29.0 -1.0**
SVE Sverdlovsk 70.19 15 *e*P **P 23 30 28.6 -0.7**
SVE *e* 23 33 01.1
SVE *e*S **S 23 39 43.7 +3.5**
SVE *e*SSS SSS 23 47 22.0
SVE pmax pmax
comp=Z,129nm,1.8s
SVE MLR MLR
comp=Z,5µm,16.0s
KGM Kluang 70.19 84 P **P 23 30 30.5 +0.2**
CHTO Chiang Mai 70.29 66 *e*P **P 23 30 30.1 -0.7**
CHTO pmax pmax
comp=Z,72nm,2.1s
CHTO MLR MLR
comp=Z,6µm,20.0s
CHTO Chiang Mai 70.29 66 *e*P **P 23 30 30.1 -0.7**
comp=Z,72nm,2.1s
CHTO LR LR
comp=Z,6µm,20.0s
CHTO Chiang Mai 70.29 66 P **P 23 30 31.2 +0.5**
comp=Z,264nm,1.5s,comp=Z,10µm
CMMT Chiang Mai 70.30 66 P **P 23 30 31.1 +0.3**
comp=Z,57nm,1.5s,comp=Z,2µm
KLSI 70.41 91 P **P 23 30 33.9 +2.3**
comp=Z,99nm,1.9s,comp=Z,5µm
HOPE Hope Point 70.46 216 PFAKE 23 30 40.0 +8.9
HOPE LR LR
comp=Z,14µm,19.3s
XMIS Christmas Isla 70.52 98 *e*P **P 23 30 32.4 +0.1**
comp=Z,3µm,2.5s
XMIS LR LR
comp=Z,14µm,21.5s
MYKOM Kota Tinggi 70.67 85 P **P 23 30 32.5 -0.6**
MYKOM Kota Tinggi 70.67 85 PFAKE 23 30 40.0 +6.9
MYKOM LR LR
comp=Z,6µm,20.0s
KTGM Kuala Trenggan 70.69 81 P **P 23 30 34.5 +1.3**
PMBI Palembang 70.73 90 P P 23 30 37.1 +3.5
PMBI Palembang 70.73 90 *e*P **P 23 30 34.2 +0.7**
comp=Z,158nm,1.1s
PMBI LR LR
comp=Z,6µm,22.0s
CMAI Chiengmai2 70.74 65 P **P 23 30 34.7 +1.1**
comp=Z,41nm,1.6s
LAMP Lampang 70.82 66 P **P 23 30 34.9 +0.9**
comp=Z,25nm,0.9s,comp=Z,178nm
PHIT Phitsanulok 71.13 68 P **P 23 30 37.8 +1.9**
comp=Z,21nm,1.1s
MK01 Makanchi Array 71.13 33 *e*P **P 23 30 34.5 -0.8**
MKAR Makanchi Array 71.14 33 *e*P **P 23 30 34.5 -0.9**
MKAR Makanchi Array 71.14 33 *e*P **P 23 30 34.5 -0.9**
FINES FINESS Array B 71.50 356 P **P 23 30 37.0 -0.1**
FINES FINESS Array B 71.50 356 P **P 23 30 37.0 -0.1**
comp=Z,21nm,1.0s,baz=169,slow=11,SNR=15
FINES LR LR 00 03 02.2
comp=Z,2µm,18.6s,baz=280,slow=37
CHBT CHBT 71.68 73 P **P 23 30 42.2 +3.0**
comp=Z,238nm,1.4s,comp=Z,3µm
KURK Kurchatov 71.88 28 *e*P **P 23 30 39.0 -0.7**
KURK pmax pmax
comp=Z,91nm,1.3s
KURK MLR MLR
comp=Z,5µm,22.0s
KURK Kurchatov 71.88 28 *e*P **P 23 30 39.0 -0.7**
comp=Z,91nm,1.3s
KURK LR LR
comp=Z,5µm,22.0s
KURK Kurchatov 71.88 28 P **P 23 30 39.5 -0.2**
comp=Z,559nm,1.4s,SNR=30
CRAI Chiangrai 72.01 65 P **P 23 30 42.5 +1.3**
comp=Z,39nm,1.4s
PRGR Permogore 72.03 6⇑*i*P **P 23 30 41.3 +1.0**
PRGR pmax pmax
comp=Z,180nm,1.4s
KAF Kangasniemi 72.15 356 *e*P **P 23 30 43.5 +2.5**
KAF pmax pmax
comp=Z,64nm,1.0s
KAF Kangasniemi 72.15 356 *e*p **P 23 30 43.5 +2.5**
comp=Z,64nm,1.0s
CHAI Chaiyaphum 72.21 70 P P 23 30 45.8 +3.4
comp=Z,6.9nm,1.3s
WMQ Urumqi 72.47 38 P **P 23 30 44.0 +0.5**
WMQ PP **PP 23 33 27.0 +2.1**
WMQ S **S 23 40 03.0 -4.4**
WMQ sS **SKiKP 23 40 24.0 +5.3**
WMQ SS **SS 23 44 44.0 -2.4**
WMQ pmax pmax
comp=Z,52nm,1.2s
WMQ pmax pmax
comp=Z,2µm,5.0s
WMQ LR LR
comp=Z,7µm,18.0s
WMQ LR LR
comp=Z,4µm,17.0s
WMQ LR LR
comp=Z,4µm,18.0s
EDI Edinburgh 72.55 339 PFAKE 23 31 00.0 +16
EDI LR LR
comp=Z,2µm,20.2s
CISI Cisompet, Garu 73.02 95 *e*P **P 23 30 47.7 +0.3**
comp=Z,398nm,2.0s
CISI LR LR
comp=Z,4µm,21.0s
NB2 NORSAR Subarra 73.05 349 P **P 23 30 46.5 0.0**
comp=Z,120nm,1.2s,baz=157,slow=5.3
NB2 NORSAR Subarra 73.05 349 P **P 23 30 46.5 0.0**
baz=157,slow=5.3
NOA NORSAR Array B 73.05 349 P **P 23 30 46.5 0.0**
NOA NORSAR Array B 73.05 349 P **P 23 30 46.5 0.0**
comp=Z,41nm,1.1s,baz=159,slow=5.4,SNR=19
NOA LR LR 00 09 18.6
comp=Z,1µm,18.9s,baz=155,slow=41
NBO02 NORSAR Array S 73.13 349 *e*P **P 23 30 46.7 -0.3**
TMCR Tamitsa 74.03 2 *e*P **P 23 30 52.9 +0.8**
TMCR *e* 23 33 40.3
TMCR pmax pmax
comp=Z,181nm,1.5s
CASY Casey 75.54 156 PFAKE 23 31 10.0 +9.0
CASY LR LR
comp=Z,3µm,20.0s
KMI Kunming 75.62 61 P **P 23 31 03.8 +1.3**
KMI pP **pP 23 31 11.0 +3.9**
KMI sP sP 23 31 15.0 +6.2
KMI PP **PP 23 33 52.9 +0.6**
KMI S **S 23 40 43.4 -0.5**
KMI SKS **SKSac 23 41 09.1 -3.8**
KMI pmax pmax
comp=Z,66nm,1.6s
KMI pmax pmax
comp=Z,1µm,5.1s
KMI LR LR
comp=Z,2µm,18.5s
KMI LR LR
comp=Z,1µm,18.5s
KMI LR LR
comp=Z,3µm,19.2s
UGM Wanagama 75.63 96 PFAKE 23 31 10.0 +7.5
UGM LR LR
comp=Z,4µm,22.0s
SMRI Semarang 75.67 95 PFAKE 23 31 10.0 +7.2
SMRI LR LR
comp=Z,3µm,22.0s
NVS Novosibirsk 76.72 27⇑*i*P **P 23 31 06.2 -1.6**
NVS *e* 23 33 57.3
NVS pmax pmax
comp=N,77nm,1.7s
NVS pmax pmax
comp=E,37nm,1.7s
NVS pmax pmax
comp=Z,187nm,1.7s
NVS pmax pmax
comp=N,95nm,3.0s
NVS pmax pmax
comp=Z,130nm,3.0s
ZAA0 Zalesovo Array 76.88 28 *e*P **P 23 31 07.6 -1.1**
ZALV Zalesovo Beam 76.88 28 P **P 23 31 08.0 -0.7**
ZALV 23 34 01.5
ZALV Zalesovo Beam 76.88 28 P **P 23 31 08.0 -0.7**
ZALV PP **PP 23 34 01.5 -0.4**
ZALV Zalesovo Beam 76.88 28 P **P 23 31 08.0 -0.7**
comp=Z,43nm,1.2s,baz=250,slow=5.3,SNR=36
ZALV PP **PP 23 34 01.5 -0.4**
comp=Z,7.0nm,1.1s,baz=224,slow=6.2,SNR=4.1
ZALV LR LR 00 08 18.7
comp=Z,8µm,19.6s,baz=237,slow=38
KSM Kuching 76.95 86 P **P 23 31 12.3 +2.2**
KSM Kuching 76.95 86 *e*P **P 23 31 10.0 0.0**
comp=Z,115nm,1.3s
KSM LR LR
comp=Z,11µm,21.0s
APA Apatity 77.39 360⇓*i*P **P 23 31 14.0 +2.7**
APA *i*S **S 23 41 06.0 +5.0**
APA pmax pmax
comp=Z,194nm,1.4s
APA MLR MLR
comp=Z,4µm,20.0s
CD2 Chengdu 78.33 56 P **P 23 31 18.3 +0.8**
CD2 PP **PP 23 34 18.0 +3.2**
CD2 S **S 23 41 08.9 -4.0**
CD2 SS **SS 23 46 14.3 -1.6**
CD2 pmax pmax
comp=Z,50nm,1.4s
CD2 pmax pmax
comp=Z,1µm,9.5s
CD2 LR LR
comp=Z,3µm,23.8s
CD2 LR LR
comp=Z,3µm,21.4s
CD2 LR LR
comp=Z,2µm,19.0s
GTA Gaotai 78.39 46 *e*P **P 23 31 17.9 +0.2**
GTA pP **pP 23 31 21.9 -0.4**
GTA sP **sP 23 31 24.3 +0.3**
GTA PP **PP 23 34 15.8 +0.7**

GTA S **S** **23 41 10.4 -2.9**
GTA SKS **SKSac** **23 41 26.1 -6.3**
GTA SS **SS** **23 46 12.5 -4.1**
GTA pmax pmax
comp=Z,35nm,1.7s
GTA pmax pmax
comp=Z,1μm,8.6s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,3μm,20.4s
GTA LR LR
comp=Z,2μm,23.3s
SBUM Sibu 79.00 86 P **P** **23 31 22.7 +1.2**
SBUM Sibu 79.00 86 *eP* **P** **23 31 21.4 -0.1**
comp=Z,284nm,2.1s
SBUM LR LR
comp=Z,8μm,20.0s
NWAO Narrogin (SRO) 79.12 122 P **P** **23 31 22.4 +0.6**
NWAO Narrogin (SRO) 79.12 122 P **P** **23 31 22.4 +0.6**
comp=Z,48nm,1.1s,baz=273,slow=6.7,SNR=7.7
NWAO LR LR 00 00 57.5
comp=Z,5μm,20.0s,baz=266,slow=32
GYA Guiyang 79.40 61⇑ *iP* **P** **23 31 24.5 +1.0**
GYA PcP **PcP** **23 31 32.8 +1.2**
GYA PP **PP** **23 34 23.1 -0.7**
GYA S **S** **23 41 20.6 -3.9**
GYA SKS SKSac 23 41 32.0 -8.0
GYA SS **SS** **23 46 35.3 +3.1**
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,850nm,5.9s
GYA LR LR
comp=Z,2μm,20.2s
GYA LR LR
comp=Z,3μm,22.1s
GYA LR LR
comp=Z,3μm,22.1s
ARA0 ARCESS Array S 79.57 357 *eP* **P** **23 31 24.1 +0.7**
ARCES ARCESS Array B 79.57 357 P **P** **23 31 23.3 -0.1**
ARCES ARCESS Array B 79.57 357 P **P** **23 31 23.3 -0.1**
comp=Z,38nm,1.3s,baz=21,slow=10,SNR=24
BDFB Brasilia 79.58 256 *eP* **P** **23 31 24.7 0.0**
BDFB Brasilia 79.58 256 P **P** **23 31 26.2 +1.5**
comp=Z,12nm,0.8s,baz=95,slow=5.0,SNR=15
BDFB LR LR 00 04 28.0
comp=Z,8μm,18.1s,baz=271,slow=34
KEV Kevo 79.72 358 *eP* **P** **23 31 25.5 +1.4**
KEV pmax pmax
comp=Z,179nm,1.7s
KEV MLR MLR
comp=Z,3μm,20.0s
KEV Kevo 79.72 358 *ep* **P** **23 31 25.8 +1.7**
comp=Z,51nm,1.2s
KEV Kevo 79.72 358 *eP* **P** **23 31 25.5 +1.4**
comp=Z,179nm,1.7s
KEV LR LR
comp=Z,3μm,20.0s
HVS Khovu-Aksy 79.79 34 *d iP* **P** **23 31 26.3 +1.3**
HVS pmax pmax
comp=Z,2μm,1.5s
BTM Bintulu 79.99 85 P **P** **23 31 28.2 +1.4**
QSPA South Pole Qui 80.07 180 PFAKE 23 31 40.0 +14
QSPA LR LR
comp=Z,3μm,19.0s
LZH Lanzhou 80.13 51⇑ P **P** **23 31 29.4 +2.1**
LZH pP **PcP** **23 31 34.3 -0.3**
LZH sP **sP** **23 31 37.6 +3.9**
LZH PP **PP** **23 34 34.3 +4.5**
LZH S **S** **23 41 33.3 +1.2**
LZH sS **SKSac** **23 41 44.5 -0.4**
LZH SS **SS** **23 46 45.0 +2.0**
LZH pmax pmax
comp=Z,180nm,1.5s
LZH pmax pmax
comp=Z,2μm,6.4s
LZH LR LR
comp=Z,3μm,17.1s
LZH LR LR
comp=Z,3μm,17.0s
LZH LR LR
comp=Z,4μm,18.4s
QIZ Qiongzhong 80.26 69 P **P** **23 31 28.4 +0.3**
QIZ pP **pP** **23 31 31.5 -1.3**
QIZ sP **sP** **23 31 34.1 -0.3**
QIZ PP **PP** **23 34 29.5 -1.5**
QIZ S **S** **23 41 32.8 -0.8**
QIZ SS **SS** **23 46 45.1 0.0**
QIZ pmax pmax
comp=Z,1μm,7.9s
QIZ LR LR
comp=Z,2μm,22.0s
QIZ LR LR
comp=Z,1μm,21.4s
QIZ LR LR
comp=Z,5μm,20.7s
QIZ Qiongzhong 80.26 69 PFAKE 23 31 40.0 +12
QIZ LR LR
comp=Z,5μm,21.0s
ENH Enshi 82.85 58 *eP* **P** **23 31 42.0 +0.3**
comp=Z,29nm,1.1s
ENH LR LR
comp=Z,3μm,22.0s
EFI East Falkland 83.40 219 PFAKE 23 31 50.0 +5.9
EFI LR LR
comp=Z,16μm,22.0s
XAN Xi'an 83.45 54 P **P** **23 31 45.4 +0.7**
XAN pP **pP** **23 31 50.3 +0.9**
XAN sP **sP** **23 31 52.4 +1.4**
XAN PP **PP** **23 35 01.1 +4.1**
XAN S **S** **23 42 06.3 +0.2**
XAN sS **sS** **23 42 14.3 +0.5**
XAN pmax pmax
comp=Z,11nm,1.3s
XAN pmax pmax
comp=Z,280nm,6.9s
XAN LR LR
comp=Z,2μm,23.6s
XAN LR LR
comp=Z,1μm,22.8s
XAN LR LR
comp=Z,1μm,23.6s
MOY Mondy 84.10 35 *eP* **P** **23 31 49.4 +1.7**
MOY pmax pmax
comp=Z,206nm,3.6s
KDM Kudat 84.35 82 P **P** **23 31 49.9 +0.2**
PMSA Palmer Station 84.36 205 PFAKE 23 32 00.0 +11
PMSA LR LR
comp=Z,6μm,21.0s
GZH Guangzhou 84.39 65 P P 23 31 53.8 +4.1
GZH pmax pmax
comp=Z,3μm,8.2s
GZH LR LR
comp=Z,3μm,21.3s
GZH LR LR
comp=Z,3μm,22.4s
GZH LR LR
comp=Z,8μm,19.9s
SDKM Sandakan 84.47 83 P **P** **23 31 51.5 +1.2**
TSM Tawau 84.89 85 P **P** **23 31 53.8 +1.3**
ZAK Zakamensk 84.92 37 *eP* **P** **23 31 51.7 -0.2**
ZAK pmax pmax
comp=Z,32nm,1.7s
KAPI Kappang 85.14 94 *eP* **P** **23 31 52.5 -1.1**
comp=Z,413nm,1.9s
KAPI LR LR
comp=Z,6μm,21.0s
TLY Talaya 85.62 36 P **P** **23 31 57.0 +1.7**
comp=Z,98nm,1.6s,SNR=5.5
SONM Songino Array 85.92 40 P **P** **23 31 57.0 0.0**
SONM Songino Array 85.92 40 P **P** **23 31 57.0 0.0**
comp=Z,30nm,1.2s,baz=243,slow=3.3,SNR=40
SONM LR LR 00 13 11.4
comp=Z,5μm,21.1s,baz=273,slow=38
SONA1 Songino Array 85.93 40 *eP* **P** **23 31 57.2 +0.2**
IRK Irkutsk 86.19 35 *eP* **P** **23 31 58.8 +0.7**
IRK pmax pmax
comp=Z,138nm,1.9s
ULN Ulaanbaatar 86.35 40 *eP* **P** **23 31 58.8 -0.3**
comp=Z,215nm,2.0s
ULN LR LR
comp=Z,4μm,19.0s
CPUP Villa Florida 86.66 244 *eP* **P** **23 32 00.0 -0.9**
CPUP Villa Florida 86.66 244 P **P** **23 32 01.6 +0.6**
comp=Z,17nm,1.1s,baz=74,slow=3.2,SNR=9.0
CPUP LR LR 00 07 58.2
comp=Z,10μm,18.9s,baz=95,slow=34
MMRI Maumere 86.97 98 *eP* **P** **23 32 02.1 -0.6**
comp=Z,520nm,1.7s
MMRI LR LR
comp=Z,3μm,22.0s
WHN Wuhan 86.99 58⇑ P **P** **23 32 04.3 +1.9**
WHN S **S** **23 42 39.9 -1.2**
WHN pmax pmax
comp=Z,330nm,0.8s
WHN pmax pmax
comp=Z,3μm,6.0s
WHN LR LR
comp=Z,7μm,21.1s
WHN LR LR
comp=Z,7μm,21.8s
WHN LR LR
comp=Z,7μm,20.5s
DRV Dumont d'Urvil 87.18 157 P P 23 31 52.0 -11
DRV Dumont d'Urvil 87.18 157 PP PP 23 35 12.0 -14
DRV Dumont d'Urvil 87.18 157 SS SS 23 48 05.0 -20
DRV L L 23 55 00.0
DRV R 00 01 00.0
TIY Taiyuan 87.19 51 *eP* **P** **23 32 04.3 +0.9**
TIY S **S** **23 42 45.3 +2.3**
TIY SS **SS** **23 48 29.3 +2.2**
TIY pmax pmax
comp=Z,2μm,5.2s
TIY LR LR
comp=Z,840nm,14.0s
TIY LR LR
comp=Z,3μm,17.5s
TIY LR LR
comp=Z,3μm,17.2s
TOLI Toli-Toli 87.20 88 PFAKE 23 32 10.0 +6.1
TOLI LR LR
comp=Z,3μm,20.0s
HHC Hu-ho-hao-te 87.36 48 *eP* **P** **23 32 05.5 +1.3**
HHC pP **pP** **23 32 08.3 -0.5**
HHC sP **sP** **23 32 10.5 0.0**
HHC PP **PP** **23 35 30.3 +1.6**
HHC SKS **SKSac** **23 42 28.0 -3.7**
HHC S **SKKSac** **23 42 41.5 +0.6**
HHC SS **SS** **23 48 29.0 -0.5**
HHC pmax pmax
comp=Z,70nm,1.4s
HHC pmax pmax
comp=Z,2μm,7.9s
HHC LR LR
comp=Z,6μm,17.6s
HHC LR LR
comp=Z,5μm,17.6s
HHC LR LR
comp=Z,5μm,17.4s
VNDA Vanda 87.89 170 P **P** **23 32 07.3 +1.3**
VNDA Vanda 87.89 170 P **P** **23 32 07.3 +1.3**
comp=Z,3.1nm,0.9s,baz=225,slow=8.8,SNR=5.3
VNDA LR LR 00 09 17.8
comp=Z,5μm,18.3s,baz=220,slow=34
TRQA Tornquist 88.43 232 *eP* **P** **23 32 09.9 +0.6**
comp=Z,95nm,1.8s
TRQA LR LR
comp=Z,6μm,20.0s
SBA Scott Base 88.46 171 PFAKE 23 32 20.0 +11
SBA LR LR
comp=Z,3μm,21.0s
FORT Forrest 88.54 121 *eP* **P** **23 32 09.9 0.0**
comp=Z,68nm,1.2s
FORT LR LR
comp=Z,4μm,19.8s
FITZ Fitzroy Crossi 88.64 108 *eP* **P** **23 32 10.8 +0.1**
comp=Z,144nm,1.8s
FITZ Fitzroy Crossi 88.64 108 LR LR 00 05 57.8
comp=Z,12μm,21.5s,baz=272,slow=32
QZH Quanzhou 89.47 65⇓ *iP* P 23 32 10.6 -3.8
QZH SKS **SKSac** **23 42 42.8 -2.0**
QZH S **S** **23 43 05.0 0.0**
QZH pmax pmax
comp=Z,2μm,5.6s
QZH LR LR
comp=Z,2μm,13.8s
QZH LR LR
comp=Z,5μm,15.4s
QZH LR LR
comp=Z,6μm,18.4s
BJT Baijiatuau 90.56 50 *eP* **P** **23 32 19.8 +0.7**
comp=Z,39nm,1.5s
BJT LR LR
comp=Z,3μm,22.0s
BJI Beijing 90.57 50 P **P** **23 32 20.1 +0.9**
BJI PP **PP** **23 35 53.8 -0.5**
BJI SKS **SKSac** **23 42 48.4 -2.1**
BJI S **ScS** **23 43 17.8 -0.3**
BJI SS **SS** **23 49 19.8 +3.7**
BJI pmax pmax
comp=Z,11nm,1.3s
BJI pmax pmax
comp=Z,610nm,6.5s
BJI LR LR
comp=Z,3μm,18.4s
BJI LR LR
comp=Z,3μm,19.9s
BJI LR LR
comp=Z,3μm,23.4s
TPUB Ta-pu 91.00 67 PFAKE 23 32 30.0 +8.4
TPUB LR LR
comp=Z,3μm,21.4s
NJ2 Nanjing 91.07 58 *eP* **P** **23 32 21.5 -0.2**
NJ2 pP **pP** **23 32 26.6 +0.2**
NJ2 PP **PP** **23 36 00.5 +2.0**
NJ2 S **S** **23 43 22.0 +2.5**
NJ2 sS **sS** **23 43 27.0 -0.2**
NJ2 SS **SS** **23 49 26.5 +2.8**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,620nm,6.4s
NJ2 LR LR
comp=Z,2μm,27.0s
NJ2 LR LR
comp=Z,3μm,18.9s
NJ2 LR LR
comp=Z,9μm,16.5s
TWG Pinlang 91.31 67 PFAKE 23 32 30.0 +7.0
TWG LR LR
comp=Z,14μm,19.5s
SSLB Suanglung 91.38 66 PFAKE 23 32 30.0 +6.6
SSLB LR LR
comp=Z,4μm,21.3s
YULB Yu-li 91.62 67 PFAKE 23 32 40.0 +16
YULB LR LR
comp=Z,2μm,18.9s
YHNB Yeheng 91.91 65 PFAKE 23 32 40.0 +14
YHNB LR LR
comp=Z,4μm,20.0s
NACB Ninganchiao 92.02 66 PFAKE 23 32 40.0 +14
NACB LR LR
comp=Z,4μm,21.0s
TATO Taipei 92.06 65 PFAKE 23 32 40.0 +14
TATO LR LR
comp=Z,4μm,20.0s
SSE Sheshan 92.86 59 P **P** **23 32 28.8 -1.2**
SSE PP **PP** **23 36 17.6 +5.0**
SSE S **S** **23 43 32.5 -3.1**
SSE pmax pmax
comp=Z,17nm,0.7s
SSE pmax pmax
comp=Z,390nm,5.9s
SSE LR LR
comp=Z,610nm,35.5s
SSE LR LR
comp=Z,2μm,35.6s
SSE LR LR
comp=Z,3μm,34.7s
DAV Davao City (W) 92.92 83 PFAKE 23 32 40.0 +9.3
DAV LR LR
comp=Z,5μm,22.0s
TNTI Ternate 93.61 90 PFAKE 23 32 40.0 +6.1
TNTI LR LR
comp=Z,2μm,21.0s
PLCA Paso Flores 94.22 228 P **P** **23 32 36.8 +0.5**
PLCA Paso Flores 94.22 228 P **P** **23 32 36.8 +0.5**
comp=Z,2.3nm,0.9s,baz=114,slow=3.4,SNR=3.0
PLCA LR LR 00 09 48.9
comp=Z,9μm,21.9s,baz=110,slow=32
SUMG Summit 94.27 343 *eP* **P** **23 32 33.9 -2.2**
SUMG pmax pmax
comp=Z,277nm,2.8s
SUMG MLR MLR
comp=Z,2μm,20.0s
SUMG Summit 94.27 343 *i P* **P** **23 32 38.8 +2.7**
comp=Z,5.4nm,1.0s
SUMG Summit 94.27 343 *eP* **P** **23 32 33.9 -2.2**
comp=Z,277nm,2.8s
SUMG LR LR
comp=Z,2μm,20.0s
BBOO Buckleboo 94.73 124 *eP* **P** **23 32 37.4 -1.2**
comp=Z,223nm,1.3s
BBOO LR LR
comp=Z,32μm,21.6s
HIA Hailar 94.85 41 *eP* **P** **23 32 39.5 +0.7**
comp=Z,185nm,1.7s
HIA LR LR
comp=Z,4μm,19.0s
ASAR Alice Springs 95.10 115 P **P** **23 32 39.5 -1.1**
ASAR Alice Springs 95.10 115 P **P** **23 32 39.5 -1.1**
comp=Z,28nm,1.1s,baz=260,slow=3.6,SNR=40
ASAR LR LR 00 10 57.9
comp=Z,14μm,19.7s,baz=269,slow=33
AS01 Alice Springs 95.15 115 *eP* **P** **23 32 39.5 -1.3**
SAML Samuel 95.29 260 *eP* **P** **23 32 41.6 0.0**
comp=Z,76nm,2.0s
SAML LR LR
comp=Z,2μm,20.0s
BBGH Gun Hill 95.50 282 PFAKE 23 32 50.0 +7.5
BBGH LR LR
comp=Z,6μm,21.0s
WRA Warramunga Arr 96.34 111 P **P** **23 32 45.5 -0.8**
WRA PP **PP** **23 36 39.0 -0.8**
WRA Warramunga Arr 96.34 111 P **P** **23 32 45.5 -0.8**
comp=Z,15nm,1.1s,baz=256,slow=2.6,SNR=20
WRA PP **PP** **23 36 39.0 -0.8**
comp=Z,0.9nm,1.0s,baz=266,slow=5.1,SNR=4.8
WRA LR LR 00 10 46.5
comp=Z,5μm,21.3s,baz=270,slow=32
WRAB Tennant Creek 96.35 111⇑ *eP* **P** **23 32 47.1 +0.8**
WRAB pmax pmax
comp=Z,84nm,1.5s
WRAB Tennant Creek 96.35 111 *eP* **P** **23 32 44.4 -2.0**
comp=Z,30nm,1.2s
WRAB LR LR
comp=Z,6μm,21.0s
SNY Shenyang 96.41 49⇓ P P 23 32 42.4 -3.6
SNY pmax pmax
comp=Z,12nm,2.4s
SNY pmax pmax
comp=Z,310nm,7.3s
SNY LR LR
comp=Z,2μm,24.0s
SNY LR LR
comp=Z,2μm,24.6s
SNY LR LR
comp=Z,3μm,27.0s
SFJD Kangerlussuaq 96.98 337 LR LR 00 20 11.3
comp=Z,2μm,19.1s,baz=89,slow=38
GRGR Grenville 97.36 281 PFAKE 23 33 00.0 +9.0
GRGR LR LR
comp=Z,2μm,20.0s
LCO Las Campanas 97.65 239 PFAKE 23 33 00.0 +7.6
LCO LR LR
comp=Z,12μm,22.0s
LVC Limon Verde 97.74 245 PFAKE 23 33 00.0 +7.1
LVC LR LR
comp=Z,5μm,20.0s
CN2 Changchun 98.01 47 SKS SKSac 23 43 40.4 +10
CN2 Changchun 98.01 47 *eS* S 23 44 26.8 +7.0
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,3μm,21.0s
CN2 LR LR
comp=E,2μm,21.0s
CN2 LR LR
comp=Z,3μm,22.0s
INCN Inchon 98.22 53 PFAKE 23 33 10.0 +16
INCN LR LR
comp=Z,2μm,18.0s
ANWB Willy Bob 98.28 286 PFAKE 23 33 10.0 +15
ANWB LR LR
comp=Z,2μm,22.0s
JOW Kunigami 98.38 64 PFAKE 23 33 10.0 +15
JOW LR LR
comp=Z,4μm,20.8s
LPAZ La Paz 98.50 252 *eP* **P** **23 32 56.1 -0.7**
comp=Z,20nm,1.4s
LPAZ La Paz 98.50 252 P Pdif 23 32 58.0 +1.1
comp=Z,11nm,1.3s,baz=43,slow=4.8,SNR=10
LPAZ LR LR 00 16 04.8
comp=Z,10μm,19.6s,baz=107,slow=35
KSAR Wonju Array Be 99.21 54 P **Pdif** **23 32 58.8 +0.1**
KS01 Wonju Array Si 99.22 54 *eP* **Pdif** **23 32 57.1 -1.6**
KSRS Korea Array 99.24 54 P **Pdif** **23 32 58.8 -0.1**
comp=Z,8.0nm,1.1s,baz=256,slow=5.1,SNR=12
KSRS LR LR 00 20 45.1
comp=Z,2μm,19.8s,baz=289,slow=37
STKA Stephens Creek 99.49 125 P **Pdif** **23 33 01.7 +1.5**
STKA Stephens Creek 99.49 125 P **Pdif** **23 33 01.7 +1.5**
comp=Z,3.9nm,1.1s,baz=292,slow=11,SNR=2.7
STKA LR LR 00 13 27.6
comp=Z,4μm,20.7s,baz=248,slow=33
SABA Saba 99.65 286 PFAKE 23 33 10.0 +8.8
SABA LR LR
comp=Z,3μm,19.0s
MDJ Mudanjiang 101.05 46 P **Pdif** **23 33 05.6 -1.1**
MDJ PP PP 23 37 23.1 +7.8
MDJ S **Sdif** **23 44 46.5 +1.2**
MDJ SS **SS** **23 51 39.8 -4.6**
MDJ pmax pmax
comp=Z,7.0nm,1.3s
MDJ pmax pmax
comp=Z,150nm,4.3s
MDJ LR LR
comp=Z,600nm,18.5s
MDJ LR LR
comp=Z,2μm,20.5s
MDJ LR LR
comp=Z,1μm,21.3s
MDJ Mudanjiang 101.05 46 PFAKE 23 33 20.0 +13
MDJ LR LR
comp=Z,2μm,20.0s
JNU Nakatsue 101.27 58 PFAKE 23 33 20.0 +12
JNU LR LR
comp=Z,4μm,20.2s
MTP Monte Pirata 101.89 286 PFAKE 23 33 20.0 +8.9
MTP LR LR
comp=Z,3μm,20.4s
HUMP Col San Antoni 102.18 286 PFAKE 23 33 20.0 +7.6
HUMP LR LR
comp=Z,4μm,20.0s
CBYP Canovanas 102.20 287 PFAKE 23 33 20.0 +7.5
CBYP LR LR
comp=Z,3μm,20.9s
BBSR BB Station 102.46 301 PFAKE 23 33 20.0 +6.7
BBSR LR LR
comp=Z,6μm,18.0s
AOPR Arecibo Observ 103.06 287 PFAKE 23 33 30.0 +14
AOPR LR LR
comp=Z,3μm,20.0s
CRPR Cabo Rojo, PR 103.36 286 PFAKE 23 33 30.0 +12
CRPR LR LR
comp=Z,4μm,21.6s
SDV Santo Domingo 105.64 276 PFAKE 23 37 50.0
SDV LR LR
comp=Z,3μm,18.0s
COEN Coen 105.98 108 PFAKE 23 37 50.0
COEN LR LR
comp=Z,38μm,20.3s
PKME Peaks-Kenny Pk 106.28 314 PFAKE 23 37 50.0
PKME LR LR
comp=Z,5μm,22.0s
CTAO Charters Tower 107.10 115 PFAKE 23 38 00.0
CTAO LR LR
comp=Z,5μm,19.0s
SDDR Presa de Saban 107.40 287 PFAKE 23 38 00.0
SDDR LR LR
comp=Z,2μm,20.0s
MAJO Matsushiro 107.42 55 PFAKE 23 38 00.0
MAJO LR LR
comp=Z,4μm,20.0s
NNA Nana 107.73 254 PFAKE 23 38 00.0

NNA LR LR
comp=Z,4µm,20.0s
HRV Adam Dziewonsk 108.04 311 PFAKE 23 38 00.0
HRV LR LR
comp=Z,8µm,20.0s
ARMA Armidale 108.04 127 PFAKE 23 38 00.0
ARMA LR LR
comp=Z,5µm,19.3s
LBNH Lisbon 108.20 313 PFAKE 23 38 00.0
LBNH LR LR
comp=Z,4µm,19.0s
FRNY Flat Rock 109.34 314 PFAKE 23 38 00.0
FRNY LR LR
comp=Z,5µm,21.0s
ACCN Adirondack Com 109.53 312 PFAKE 23 38 00.0
ACCN LR LR
comp=Z,5µm,19.5s
EIDS Eidsvold 109.53 121 PFAKE 23 38 00.0
EIDS LR LR
comp=Z,7µm,19.8s
PAL Palisades 109.88 310 PFAKE 23 38 00.0
PAL LR LR
comp=Z,37µm,20.0s
CPNY Central Park 109.94 310 PFAKE 23 38 00.0
CPNY LR LR
comp=Z,8µm,19.5s
LONY Lake Ozonia 110.07 314 PFAKE 23 38 00.0
LONY LR LR
comp=Z,4µm,19.0s
PTN Potsdam (NY) 110.36 314 PFAKE 23 38 00.0
PTN LR LR
comp=Z,8µm,20.6s
ASAJ Asahikawa 110.37 47 PFAKE 23 38 00.0
ASAJ LR LR
comp=Z,2µm,19.1s
ODNJ Ogdensburg 110.40 310 PFAKE 23 38 00.0
ODNJ LR LR
comp=Z,9µm,19.1s
PMG Port Moresby 110.90 104 PFAKE 23 38 00.0
PMG LR LR
comp=Z,4µm,20.0s
ERM Erimo 110.99 49 PFAKE 23 38 00.0
ERM LR LR
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 111.06 288 PFAKE 23 38 00.0
GTBY LR LR
comp=Z,2µm,20.0s
BINY Binghamton 111.33 311 PFAKE 23 38 00.0
BINY LR LR
comp=Z,11µm,20.0s
MVL Millersville 111.82 309 PFAKE 23 38 00.0
MVL LR LR
comp=Z,6µm,20.0s
OTAV Otavalo 111.97 266 PFAKE 23 38 10.0
OTAV LR LR
comp=Z,6µm,22.0s
SDMD Soldier's Deli 112.25 308 PFAKE 23 38 00.0
SDMD LR LR
comp=Z,8µm,21.0s
MMNY Mt. Morris Dam 112.68 312 PFAKE 23 38 10.0
MMNY LR LR
comp=Z,25µm,20.4s
CBN Corbin 112.78 307 PFAKE 23 38 10.0
CBN LR LR
comp=Z,8µm,21.0s
MTDJ Mount Denham 113.25 286 PFAKE 23 38 10.0
MTDJ LR LR
comp=Z,3µm,22.0s
CNNC Cliffs of the 113.43 304 PFAKE 23 38 10.0
CNNC LR LR
comp=Z,7µm,21.0s
ERPA Erie 114.30 312 PFAKE 23 38 10.0 +13
ERPA LR LR
comp=Z,8µm,22.0s
ALLY Alegheny Colle 114.48 311 PFAKE 23 38 10.0 +13
ALLY LR LR
comp=Z,7µm,19.5s
BCIP Isla Barro Col 114.69 276 PFAKE 23 38 10.0 +12
BCIP LR LR
comp=Z,2µm,21.0s
BLA Blacksburg 115.28 306 PFAKE 23 38 10.0 +11
BLA LR LR
comp=Z,5µm,19.0s
NHSC New Hope 115.49 302 PFAKE 23 38 10.0 +11
NHSC LR LR
comp=Z,6µm,20.0s
KMSC Kings Mountain 116.25 304 PFAKE 23 38 10.0 +9.3
KMSC LR LR
comp=Z,5µm,19.8s
ACSO Alum Creek Sta 116.83 310 PFAKE 23 38 10.0 +8.3
ACSO LR LR
comp=Z,6µm,20.0s
AAM Ann Arbor 116.95 312 PFAKE 23 38 10.0 +8.2
AAM LR LR
comp=Z,7µm,22.0s
SNZO South Karori 117.51 148 PFAKE 23 38 10.0 +7.0
SNZO LR LR
comp=Z,2µm,19.0s
TZTN Tazewell 117.86 306 PFAKE 23 38 20.0 +16
TZTN LR LR
comp=Z,5µm,19.6s
GOGA Godfrey 118.20 302 PFAKE 23 38 20.0 +15
GOGA LR LR
comp=Z,3µm,21.0s
TIGA Tifton 118.52 300 PFAKE 23 38 20.0 +15
TIGA LR LR
comp=Z,6µm,20.3s
TIGA Tifton 118.52 300 ⇑P **PKPdf 23 38 05.1 -0.1**
baz=119
BFZ Birch Farm 118.77 148 PFAKE 23 38 20.0 +15
BFZ LR LR
comp=Z,2µm,19.0s
WCI Wyandotte Cave 119.72 308 PFAKE 23 38 20.0 +13
WCI LR LR
comp=Z,4µm,22.0s
JTS JuntasAbangare 119.83 276 PFAKE 23 38 20.0 +12
JTS LR LR
comp=Z,4µm,22.0s
SFIN Scholer Farm 119.88 311 PFAKE 23 38 20.0 +12
SFIN LR LR
comp=Z,7µm,20.1s
SFIN Scholer Farm 119.88 311 ⇑P **PKPdf 23 38 07.6 +0.1**
baz=120
SWET Sewanee 119.97 305 PFAKE 23 38 20.0 +12
SWET LR LR
comp=Z,5µm,19.2s
BKZ Black Stump Fm 120.00 147 PFAKE 23 38 20.0 +12
BKZ LR LR
comp=Z,2µm,21.0s
EYMN Ely 120.72 320 ℯPKPdf **PKPdf 23 38 09.3 +0.4**
EYMN LR LR
comp=Z,6µm,18.0s
USIN University of 120.84 308 PFAKE 23 38 20.0 +11
USIN LR LR
comp=Z,5µm,19.6s
URZ Urewera 120.99 147 PFAKE 23 38 20.0 +10
URZ LR LR
comp=Z,2µm,18.0s
OUZ Omahuta 121.09 142 PFAKE 23 38 20.0 +10
OUZ LR LR
comp=Z,2µm,20.0s
INK Inuvik 121.18 355 ℯPKPdf **PKPdf 23 38 10.6 +1.4**
INK LR LR
comp=Z,3µm,18.4s
WVT Waverly 121.33 306 PFAKE 23 38 20.0 +10
WVT LR LR
comp=Z,5µm,21.0s
JFWS Jewell Farm 121.52 314 ℯPKIKP **PKPdf 23 38 10.8 +0.2**
JFWS MLR MLR
comp=Z,8µm,21.0s
JFWS Jewell Farm 121.52 314 ℯPKPdf **PKPdf 23 38 10.8 +0.2**
JFWS LR LR
comp=Z,8µm,21.0s
BRAL Brewton 121.52 300 PFAKE 23 38 20.0 +9.1
BRAL LR LR
comp=Z,5µm,20.0s
SIUC Southern Illin 122.09 308 PFAKE 23 38 20.0 +8.1
SIUC LR LR
comp=Z,5µm,18.5s
UTMT University of 122.11 307 PFAKE 23 38 20.0 +8.1
UTMT LR LR
comp=Z,5µm,19.6s
TGUH Tegucigalpa,Un 122.38 280 ℯPKPdf **PKPdf 23 38 12.6 -0.4**
TGUH LR LR
comp=Z,3µm,20.0s

ULM Lac du Bonnet 122.44 324 ℯPKPdf **PKPdf 23 38 12.8 +0.7**
ULM LR LR
comp=Z,4µm,20.7s
ULM Lac du Bonnet 122.44 324 PKP **PKPdf 23 38 11.1 -1.1**
comp=Z,17nm,1.2s,baz=100,slow=1.7,SNR=8.9
SPMN St. Paul 122.52 318 ℯPKPdf **PKPdf 23 38 12.1 -0.4**
SPMN LR LR
comp=Z,6µm,20.0s
SPMN St. Paul 122.52 318 ⇓P **PKPdf 23 38 13.0 +0.5**
baz=123
TNA Tin City 122.53 11 ℯPKPdf **PKPdf 23 38 10.9 -0.9**
TNA LR LR
comp=Z,3µm,21.9s
COLD Coldfoot 122.80 2 ℯPKPdf **PKPdf 23 38 11.9 -0.4**
COLD ℯPP **PP 23 39 47.5 -2.4**
COLD LR LR
comp=Z,4µm,20.9s
YKA Yellowknife Ar 122.87 343 PKP **PKPdf 23 38 11.4 -1.1**
YKA PP **PP 23 39 49.1 -1.4**
YKA PKKPbc **PKKPbc 23 48 06.8 -0.2**
YKA Yellowknife Ar 122.87 343 PKP **PKPdf 23 38 11.4 -1.1**
comp=Z,4.4nm,0.8s,baz=35,slow=1.9,SNR=22
YKA PP **PP 23 39 49.1 -1.4**
comp=Z,0.7nm,1.1s,baz=26,slow=7.5,SNR=4.6
YKA PKKPbc **PKKPbc 23 48 06.8 -0.2**
comp=Z,0.6nm,0.9s,baz=215,slow=3.6,SNR=5.7
YKB5 Yellowknife Ar 122.87 343 ℯPKPdf **PKPdf 23 38 11.6 -1.0**
HNR Honiara 123.00 108 PFAKE 23 38 30.0 +16
HNR LR LR
comp=Z,200nm,20.0s
AGMN Agassiz Nation 123.28 322 ℯPKPdf **PKPdf 23 38 14.2 +0.4**
AGMN LR LR
comp=Z,5µm,20.0s
GAMB Gambell 123.35 13 ℯPKPdf **PKPdf 23 38 15.1 +1.6**
GAMB LR LR
comp=Z,5µm,21.1s
PAYG Puerto Ayora 123.39 263 PFAKE 23 38 30.0 +15
PAYG LR LR
comp=Z,4µm,18.0s
FFC Flin Flon 123.40 331 ℯPKIKP **PKPdf 23 38 13.4 -0.4**
FFC MLR MLR
comp=Z,3µm,19.0s
FFC Flin Flon 123.40 331 ℯPKPdf **PKPdf 23 38 13.4 -0.4**
FFC LR LR
comp=Z,3µm,19.0s
TEIG Tepich 123.44 288 PFAKE 23 38 30.0 +15
TEIG LR LR
comp=Z,3µm,21.0s
DZM Mont Dzumac 123.64 125 ℯPP PP 23 39 55.7 -1.4
comp=Z,228nm,24.8s
DZM Mont Dzumac 123.64 125 ℯLR LR 00 16 39.6
comp=Z,7µm,20.9s
SCIA State Center 123.92 314 ℯPKPdf **PKPdf 23 38 15.6 +0.4**
SCIA LR LR
comp=Z,5µm,21.0s
A30A Hoffart Farm, 124.44 324 ⇓P **PKPdf 23 38 17.1 +1.1**
baz=124
B30A Myrvik Farm, E 124.69 323 ⇓P **PKPdf 23 38 17.4 +0.8**
baz=125
A29A Manning Farm, 125.00 324 ⇓P **PKPdf 23 38 17.7 +0.6**
baz=125
C30A Mose, Pekin 125.12 322 ⇓P **PKPdf 23 38 18.4 +1.0**
baz=125
COLA College 125.22 1 ℯPP PP 23 40 05.3 -0.8
COLA LR LR
comp=Z,3µm,21.0s
UALR University of 125.22 306 ℯPKPdf **PKPdf 23 38 16.0 -1.9**
UALR LR LR
comp=Z,4µm,20.3s
B29A Wagenman Farm, 125.28 324 ⇓P **PKPdf 23 38 18.9 +1.2**
baz=125
IL1 Eielson Array 125.33 0 ℯPKPdf **PKPdf 23 38 15.6 -1.7**
IL1 ℯPP **PP 23 40 07.1 +0.2**
ILAR Eielson Array 125.33 0 PKP **PKPdf 23 38 16.4 -0.9**
ILAR PP **PP 23 40 06.7 -0.2**
ILAR PKKPbc **PKKPbc 23 47 58.6 +1.2**
ILAR Eielson Array 125.33 0 PKP **PKPdf 23 38 16.4 -0.9**
comp=Z,12nm,1.0s,baz=339,slow=2.5,SNR=24
ILAR PP **PP 23 40 06.7 -0.2**
comp=Z,12nm,1.4s,baz=357,slow=5.9,SNR=6.7
ILAR PKKPbc **PKKPbc 23 47 58.6 +1.2**
comp=Z,0.7nm,1.0s,baz=199,slow=5.5,SNR=4.0
D30A Buchanan 125.56 322 ⇑P **PKPdf 23 38 19.4 +1.1**
baz=126
A28A Rude Farm, Bot 125.60 324 ⇑P **PKPdf 23 38 19.4 +1.1**
baz=126
ECSD EROS Data Cent 125.61 317 ℯPKPdf **PKPdf 23 38 18.2 -0.3**
ECSD LR LR
comp=Z,8µm,20.0s
MDND Maddock 125.72 323 ℯPKPdf **PKPdf 23 38 19.4 +0.9**
MDND LR LR
comp=Z,6µm,19.5s
MDND Maddock 125.72 323 ⇑P **PKPdf 23 38 19.6 +1.0**
baz=126
DAWY Dawson 125.83 356 ℯPKPdf **PKPdf 23 38 17.7 -0.6**
B28A Dugan Ranch, T 125.88 324 ⇓P **PKPdf 23 38 19.9 +1.0**
baz=126
E30A Jud 125.92 321 ⇑P **PKPdf 23 38 19.9 +1.0**
baz=126
D29A Pettibone, Tap 126.09 322 ⇑P **PKPdf 23 38 20.4 +1.1**
baz=126
C28A Hausauer Farms 126.25 323 ⇑P **PKPdf 23 38 20.7 +1.1**
baz=126
MIAR Mount Ida 126.26 306 ℯPKIKP **PKPdf 23 38 19.1 -0.9**
MIAR MLR MLR
comp=Z,4µm,20.0s
MIAR Mount Ida 126.26 306 ℯPKPdf **PKPdf 23 38 19.1 -0.9**
MIAR LR LR
comp=Z,4µm,20.0s
F30A Leola 126.30 321 ⇑P **PKPdf 23 38 21.0 +1.3**
baz=126
MCK McKinley 126.34 2 ℯPKIKP **PKPdf 23 38 19.9 +0.6**
MCK MLR MLR
comp=Z,2µm,19.2s
MCK McKinley 126.34 2 ℯPKPdf **PKPdf 23 38 19.9 +0.6**
MCK LR LR
comp=Z,2µm,19.2s
E29A Napoleon 126.34 322 ⇑P **PKPdf 23 38 20.9 +1.1**
baz=126
B27A Peters Farms, 126.42 324 ⇓P **PKPdf 23 38 20.9 +1.0**
baz=126
DOT Dot Lake 126.44 359 ℯPKPdf **PKPdf 23 38 20.5 +1.0**
KTH Kantishna Hill 126.45 3 ℯPKPdf **PKPdf 23 38 20.8 +1.3**
CAST Castle Rocks 126.52 3 ℯPKPdf **PKPdf 23 38 19.9 +0.3**
TRF Thorofare Moun 126.58 2 PFAKE 23 38 30.0 +10
TRF LR LR
comp=Z,2µm,20.2s
A26A Wade Farm, Ken 126.61 325 ⇑P **PKPdf 23 38 21.4 +1.1**
baz=127
D28A Regan 126.61 323 ⇓P **PKPdf 23 38 21.2 +1.0**
baz=127
G30A Faulkton 126.68 320 ⇑P **PKPdf 23 38 21.3 +0.8**
baz=127
F29A Eureka 126.80 321 ⇑P **PKPdf 23 38 21.4 +0.7**
baz=127
BRSD Miller 126.86 319 ℯPKPdf **PKPdf 23 38 18.9 -2.0**
BRSD LR LR
comp=Z,8µm,20.1s
BRSD Miller 126.86 319 ⇑P **PKPdf 23 38 21.5 +0.6**
baz=127
C27A Sayler Ranch, 126.91 324 ⇑P **PKPdf 23 38 21.8 +1.0**
baz=127
B26A Jensen Ranch, 126.99 325 ⇓P **PKPdf 23 38 21.5 +0.5**
baz=127
PPLA Purkeypile 127.03 3 ℯPKPdf **PKPdf 23 38 21.6 +0.8**
PPLA LR LR
comp=Z,3µm,19.8s
MENT Mentasta 127.14 359 ℯPKPdf **PKPdf 23 38 21.0 +0.2**
A25A Svangstu Ranch 127.19 326 ⇑P **PKPdf 23 38 22.3 +1.0**
baz=127
C26A Wahner Farm, P 127.20 324 ⇑P **PKPdf 23 38 22.2 +0.8**
baz=127
D27A Center 127.22 323 ⇑P **PKPdf 23 38 22.0 +0.6**
baz=127
KSU1 Kansas State U 127.28 312 ℯPKPdf **PKPdf 23 38 21.5 -0.3**
KSU1 LR LR
comp=Z,8µm,21.0s
I30A Oacoma 127.39 319 ⇓P **PKPdf 23 38 22.5 +0.6**
baz=127
F28A McLaughlin 127.39 321 ⇓P **PKPdf 23 38 22.2 +0.4**
baz=127
BGNE Belgrade 127.55 315 ℯPKPdf **PKPdf 23 38 23.3 +1.0**
BGNE Belgrade 127.55 315 ⇓P **PKPdf 23 38 23.0 +0.8**
baz=128
B25A Knox Farm, Ray 127.58 325 ⇑P **PKPdf 23 38 22.7 +0.6**
baz=128

E27A Carson 127.58 322 ⇑P **PKPdf 23 38 22.8 +0.6**
baz=128
H29A Onida 127.59 320 ⇓P **PKPdf 23 38 22.6 +0.4**
baz=128
TUL1 Tulsa 127.65 308 ℯPKPdf **PKPdf 23 38 22.6 0.0**
TUL1 LR LR
comp=Z,4µm,19.8s
TUL1 Tulsa 127.65 308 ⇑P **PKPdf 23 38 22.6 0.0**
baz=128
J30A Dallas 127.69 318 ⇓P **PKPdf 23 38 22.8 +0.3**
baz=128
A24A Westby 127.69 326 ⇓P **PKPdf 23 38 22.8 +0.5**
baz=128
L31A Butterfield Fa 127.72 316 ⇑P **PKPdf 23 38 23.1 +0.5**
baz=128
D26A Manning 127.80 323 ⇓P **PKPdf 23 38 23.1 +0.5**
baz=128
G28A Parade 127.83 320 ⇑P **PKPdf 23 38 23.3 +0.6**
baz=128
N32A Stulken Farm, 127.90 314 ⇓P **PKPdf 23 38 23.6 +0.6**
baz=128
I29A Vivian Onida 127.91 319 ⇓P **PKPdf 23 38 23.3 +0.5**
baz=128
P33A Williams Farm, 127.95 313 ⇑P **PKPdf 23 38 23.6 +0.5**
baz=128
K30A Basset 128.04 317 ⇑P **PKPdf 23 38 23.7 +0.5**
baz=128
DGMT Dagmar 128.05 326 ℯPKPdf **PKPdf 23 38 21.8 -1.2**
DGMT LR LR
comp=Z,3µm,20.0s
DGMT Dagmar 128.05 326 ⇑P **PKPdf 23 38 23.5 +0.5**
baz=128
O32A Brockman Farm, 128.07 314 ⇓P **PKPdf 23 38 24.3 +1.0**
baz=128
H28A Mission Ridge 128.08 320 ⇑P **PKPdf 23 38 24.1 +1.0**
baz=128
E26A Carlson Angus 128.10 323 ⇓P **PKPdf 23 38 24.3 +1.1**
baz=128
F27A Lemmon 128.13 322 ⇓P **PKPdf 23 38 24.0 +0.7**
baz=128
M31A Lambtecht Ranc 128.15 315 ⇓P **PKPdf 23 38 23.8 +0.4**
baz=128
A23A Redstone 128.15 326 ⇑P **PKPdf 23 38 24.0 +0.8**
baz=128
J29A Okreek 128.20 318 ⇑P **PKPdf 23 38 24.1 +0.7**
baz=128
Q33A Connelly Farm, 128.21 312 ⇓P **PKPdf 23 38 23.9 +0.3**
baz=128
D25A Fairfield 128.26 324 ⇑P **PKPdf 23 38 24.6 +1.1**
baz=128
SML Sawmill 128.28 1 PFAKE 23 38 30.0 +6.9
SML LR LR
comp=Z,400nm,19.8s
G27A Dupree 128.31 321 ⇑P **PKPdf 23 38 24.5 +0.8**
baz=128
L30A Spencer Herefo 128.41 316 ⇓P **PKPdf 23 38 24.7 +0.7**
baz=128
K29A Lazy Trails An 128.47 318 ⇓P **PKPdf 23 38 24.3 +0.2**
baz=128
PMR Palmer 128.48 2 PFAKE 23 38 30.0 +6.7
PMR LR LR
comp=Z,2µm,18.9s
I28A Midland 128.48 319 ⇓P **PKPdf 23 38 24.3 +0.3**
baz=128
B23A Brockton 128.49 326 ⇑P **PKPdf 23 38 24.4 +0.6**
baz=128
F26A Lodgepole 128.53 322 ⇑P **PKPdf 23 38 24.9 +0.8**
baz=129
P32A Huiting Farm, 128.54 313 ⇑P **PKPdf 23 38 25.0 +0.8**
baz=129
SVW2 Sparrevohn 128.54 6 PFAKE 23 38 40.0 +16
SVW2 LR LR
comp=Z,2µm,21.4s
R33A Olander Ranch, 128.56 311 ⇑P **PKPdf 23 38 25.3 +1.0**
baz=129
E25A Miller Ranch, 128.64 323 ⇓P **PKPdf 23 38 25.3 +1.1**
baz=129
C24A Savage 128.69 325 ⇑P **PKPdf 23 38 25.2 +0.9**
baz=129
A22A Carney Farms, 128.69 327 ⇓P **PKPdf 23 38 24.8 +0.5**
baz=129
Q32A Meitler Ranch, 128.74 312 ⇑P **PKPdf 23 38 24.9 +0.3**
baz=129
H27A Howes 128.76 320 ⇓P **PKPdf 23 38 25.1 +0.6**
baz=129
G26A Maurine 128.77 321 ⇓P **PKPdf 23 38 25.6 +1.1**
baz=129
J28A Allard Ranch, 128.79 319 ⇑P **PKPdf 23 38 26.0 +1.4**
baz=129
U34A Anderson Ranch 128.84 309 ⇑P **PKPdf 23 38 25.1 +0.3**
baz=129
O31A Woolen Ranch, 128.86 314 ⇓P **PKPdf 23 38 24.6 -0.2**
baz=129
D24A Glendive 128.86 324 ⇑P **PKPdf 23 38 25.9 +1.2**
baz=129
L29A Maesberg Ranch 128.88 317 ⇑P **PKPdf 23 38 25.5 +0.7**
baz=129
HYT Haines Junctio 128.88 355 ℯPKPdf **PKPdf 23 38 23.1 -1.3**
RC01 Rabbit Creek A 128.96 2 ℯPKPdf **PKPdf 23 38 23.2 -1.1**
RC01 LR LR
comp=Z,2µm,20.8s
C23A Lambert 128.97 325 ⇑P **PKPdf 23 38 25.9 +1.1**
baz=129
F25A Bowman 128.97 322 ⇑P **PKPdf 23 38 25.9 +1.1**
baz=129
V34A Guthrie 129.01 308 ⇓P **PKPdf 23 38 26.0 +0.9**
baz=129
I27A Quinn 129.01 320 ⇓P **PKPdf 23 38 26.0 +1.0**
baz=129
R32A Long Quarter, 129.06 312 ⇑P **PKPdf 23 38 26.2 +1.0**
baz=129
P31A Stockton 129.14 313 ⇑P **PKPdf 23 38 25.5 +0.2**
baz=129
B22A Reddig Ranch S 129.14 326 ⇑P **PKPdf 23 38 26.3 +1.1**
baz=129
E24A Baker 129.14 324 ⇓P **PKPdf 23 38 26.0 +0.8**
baz=129
HKT Hockley 129.16 300 ℯPKIKP **PKPdf 23 38 26.3 +0.8**
HKT MLR MLR
comp=Z,2µm,19.0s
HKT Hockley 129.16 300 ℯPKPdf **PKPdf 23 38 26.3 +0.8**
HKT LR LR
comp=Z,2µm,19.0s
K28A Ten Mile Ranch 129.19 318 ⇓P **PKPdf 23 38 26.0 +0.6**
baz=129
H26A Fairpoint 129.21 321 ⇓P **PKPdf 23 38 26.0 +0.6**
baz=129
A21A Bergtoll Ranch 129.24 327 ⇑P **PKPdf 23 38 26.2 +0.9**
baz=129,SNR=7.2
M29A Burnside Ranch 129.28 316 ⇓P **PKPdf 23 38 25.7 0.0**
baz=129
G25A Newell 129.32 322 ⇓P **PKPdf 23 38 26.1 +0.5**
baz=129
D23A Lindsay 129.33 325 ⇑P **PKPdf 23 38 26.5 +1.0**
baz=129
Q31A Ellis 129.34 313 ⇑P **PKPdf 23 38 26.4 +0.6**
baz=129
J27A Elkhorn Farm, 129.37 319 ⇓P **PKPdf 23 38 26.2 +0.4**
baz=129
C22A Vida 129.39 326 ⇓P **PKPdf 23 38 26.5 +0.9**
baz=129
W34A Bridge Creek, 129.39 308 ⇑P **PKPdf 23 38 26.5 +0.6**
baz=129
S32A Newby Ranch, P 129.48 311 ⇓P **PKPdf 23 38 26.7 +0.6**
baz=130
EDM Edmonton 129.48 335 ℯPKIKP **PKPdf 23 38 25.9 +0.3**
EDM Edmonton 129.48 335 ℯPKPdf **PKPdf 23 38 25.9 +0.3**
Z35A Perchaven, San 129.53 305 ⇓P **PKPdf 23 38 26.8 +0.5**
baz=130
I26A New Underwood 129.54 320 ⇑P **PKPdf 23 38 26.7 +0.6**
baz=130
F24A Ekalaka 129.60 323 ⇓P **PKPdf 23 38 26.8 +0.6**
baz=130
V33A Lossen Ranch, 129.61 309 ⇑P **PKPdf 23 38 27.7 +1.3**
baz=130
B21A Ellsworth Farm 129.62 327 ⇑P **PKPdf 23 38 27.4 +1.4**
baz=130,SNR=6.6
X34A Smith Ranch, M 129.63 307 ⇓P **PKPdf 23 38 27.7 +1.3**
baz=130
T32A Huddler Ranch, 129.65 310 ⇓P **PKPdf 23 38 27.7 +1.3**
baz=130
R31A Burdett 129.70 312 ⇓P **PKPdf 23 38 27.3 +0.9**
baz=130
H25A Fruitdale 129.72 321 ⇑P **PKPdf 23 38 28.2 +1.9**
baz=130
RAGM Ragged Mountai 129.72 359 PFAKE 23 38 40.0 +14
RAGM LR LR
comp=Z,3µm,19.5s

P30A	Selden baz=130	129.75	314	⇑P		PKPdf	23 38 27.3	+0.7		
Y34A	Reagan Ranch, baz=130	129.76	306	⇓P		PKPdf	23 38 27.3	+0.7		
E23A	Ismay baz=130	129.76	324	⇓P		PKPdf	23 38 27.3	+1.0		
K27A	Fluecklinger Fa baz=130	129.77	318	⇓P		PKPdf	23 38 27.7	+1.2		
M28A	Bar X Bar Ranc baz=130	129.77	316	⇑P		PKPdf	23 38 27.6	+1.0		
A20A	Cobblestone Ra baz=130,SNR=12	129.83	328	⇑P		PKPdf	23 38 27.7	+1.3		
G24A	Alzada baz=130	129.86	322	⇑P		PKPdf	23 38 27.9	+1.2		
D22A	Cohagen baz=130	129.90	325	⇑P		PKPdf	23 38 28.6	+2.0		
O29A	4D Ranch, Culb baz=130	129.90	315	⇑P		PKPdf	23 38 27.8	+1.0		
S31A	Mullinville baz=130	129.91	311	⇑P		PKPdf	23 38 28.4	+1.4		
Q30A	Quinter baz=130	129.95	313	⇑P		PKPdf	23 38 28.5	+1.6		
SEW SEW	Seward comp=Z,2µm,20.3s	129.96	2	PFAKE LR	LR		23 38 40.0	+14		
W33A	Caddo, Fort Co baz=130	129.96	308	⇑P		PKPdf	23 38 28.7	+1.7		
J26A	Sides Ranch, S baz=130	130.03	319	⇑P		PKPdf	23 38 28.8	+1.8		
WHTX	Lake Whitney	130.04	303	ℯPKPdf		PKPdf	23 38 25.7	-1.5		
WHTX	Lake Whitney baz=130	130.04	303	⇓P		PKPdf	23 38 28.7	+1.5		
Z34A	Collier Ranch, baz=130	130.05	305	⇑P		PKPdf	23 38 28.3	+1.0		
I25A	Rochford baz=130	130.10	320	⇑P		PKPdf	23 38 28.3	+1.1		
DLBC	Dease Lake	130.14	349	ℯPKPdf		PKPdf	23 38 27.5	+0.8		
B20A	Solberg Farm, baz=130,SNR=7.8	130.15	327	⇓P		PKPdf	23 38 28.5	+1.5		
E22A	Miles City baz=130	130.16	324	⇓P		PKPdf	23 38 27.7	+0.6		
X33A	Lawton baz=130	130.17	307	⇓P		PKPdf	23 38 28.9	+1.4		
LAO LAO	LASA Array comp=Z,8µm,20.0s	130.18	325	ℯPKPdf LR	LR	PKPdf	23 38 26.7	-0.4		
N28A	Pribbeno Ranch baz=130	130.19	316	⇓P		PKPdf	23 38 28.7	+1.4		
335A	Moody baz=130	130.20	303	⇑P		PKPdf	23 38 28.4	+0.8		
A19A	Klindworth Far baz=130,SNR=8.7	130.22	328	⇓P		PKPdf	23 38 28.3	+1.1		
V32A	Arapaho baz=130	130.22	309	⇓P		PKPdf	23 38 28.7	+1.2		
F23A	Volborg baz=130	130.24	323	⇑P		PKPdf	23 38 28.5	+1.1		
RSSD RSSD	Black Hills comp=Z,7µm,19.0s	130.24	321	ℯPKIKP MLR	MLR	PKPdf	23 38 27.0	-0.6		
RSSD RSSD	Black Hills comp=Z,7µm,19.0s	130.24	321	ℯPKPdf LR	LR	PKPdf	23 38 27.0	-0.6		
H24A	Dirks Ranch, A baz=130	130.24	322	⇑P		PKPdf	23 38 28.1	+0.7		
T31A	Randall Ranch, baz=130	130.24	311	⇑P		PKPdf	23 38 28.1	+0.6		
R30A	Dighton baz=130	130.25	312	⇓P		PKPdf	23 38 28.0	+0.5		
WMOK WMOK	Wichita Mounta comp=Z,4µm,22.0s	130.33	307	ℯPKIKP MLR	MLR	PKPdf	23 38 28.2	+0.4		
WMOK WMOK	Wichita Mounta comp=Z,4µm,22.0s	130.33	307	ℯPKPdf LR	LR	PKPdf	23 38 28.2	+0.4		
K26A	Motz Farm, Whi baz=130	130.38	319	⇓P		PKPdf	23 38 28.7	+1.0		
M27A	Reverse DX Ran baz=130	130.40	317	⇓P		PKPdf	23 38 28.9	+1.1		
134A	White-Moore Ra baz=130	130.40	304	⇑P		PKPdf	23 38 29.4	+1.5		
D21A	La Casta Ranch baz=130,SNR=25	130.40	325	⇓P		PKPdf	23 38 28.9	+1.3		
OGNE	Ogallala baz=130	130.41	316	⇓P		PKPdf	23 38 29.4	+1.6		
Y33A	Hilltop Ranch, baz=130	130.43	306	⇓P		PKPdf	23 38 29.6	+1.6		
J25A	Sunshine Ranch baz=130	130.45	320	⇑P		PKPdf	23 38 28.4	+0.5		
G23A	Biddle baz=130	130.51	323	⇓P		PKPdf	23 38 28.1	+0.2		
Q29A	Oakley baz=130	130.53	313	⇑P		PKPdf	23 38 28.9	+0.8		
C20A	Veseth Ranch, baz=131,SNR=20	130.57	327	⇑P		PKPdf	23 38 29.3	+1.5		
O28A	Krutsinger Ran baz=131	130.59	315	⇑P		PKPdf	23 38 28.9	+0.7		
B19A	Brinkman Farms baz=131,SNR=9.9	130.62	328	⇑P		PKPdf	23 38 28.8	+0.9		
S30A	Montezuma baz=131	130.63	312	⇑P		PKPdf	23 38 29.7	+1.4		
F22A	Rosebud baz=131,SNR=7.1	130.71	324	⇑P		PKPdf	23 38 29.3	+1.1		
I24A	Kuemmerle Ranc baz=131	130.74	321	⇓P		PKPdf	23 38 29.0	+0.6		
E21A	Keefer Ranch, baz=131,SNR=18	130.75	325	⇓P		PKPdf	23 38 29.8	+1.5		
Z33A	Whitaker Ranch baz=131	130.75	306	⇑P		PKPdf	23 38 29.7	+1.1		
P28A	Saint Francis baz=131	130.80	314	⇓P		PKPdf	23 38 29.8	+1.2		
N27A	Anderson Farm, baz=131	130.82	316	⇓P		PKPdf	23 38 29.8	+1.2		
V31A	Spring Creek L baz=131	130.82	309	⇑P		PKPdf	23 38 30.3	+1.6		
R29A	Marienthal baz=131	130.82	313	⇓P		PKPdf	23 38 30.2	+1.5		
X32A	Elmer baz=131	130.83	307	⇓P		PKPdf	23 38 30.5	+1.8		
334A	Lometa baz=131	130.86	303	⇓P		PKPdf	23 38 29.9	+1.1		
K25A	Mack Ranch, Ha baz=131	130.87	319	⇑P		PKPdf	23 38 30.0	+1.3		
M26A	McRoberts Ranc baz=131	130.93	317	⇓P		PKPdf	23 38 30.4	+1.6		
434A	Burnet baz=131,SNR=9.3	131.01	302	⇓P		PKPdf	23 38 29.8	+0.6		
D20A	Manuel Ranch, baz=131,SNR=28	131.02	326	⇓P		PKPdf	23 38 30.5	+1.8		
J24A	Dixon Ranch, L baz=131	131.03	320	⇓P		PKPdf	23 38 30.6	+1.6		
G22A	Birney baz=131,SNR=11	131.03	323	⇓P		PKPdf	23 38 30.6	+1.7		
O27A	Beecher Island baz=131	131.05	315	⇓P		PKPdf	23 38 31.0	+1.9		
Q28A	Sharon Springs baz=131	131.07	314	⇓P		PKPdf	23 38 30.5	+1.4		
133A	Hamilton Ranch baz=131,SNR=13	131.07	305	⇓P		PKPdf	23 38 30.5	+1.3		
Y32A	R-V Farms, Ver baz=131	131.08	307	⇑P		PKPdf	23 38 30.3	+1.1		
W31A	Holland Ranch, baz=131	131.09	308	⇑P		PKPdf	23 38 30.7	+1.5		
S29A	Ulysses baz=131	131.12	312	⇓P		PKPdf	23 38 30.6	+1.4		
C19A	Slack Wire Ran baz=131,SNR=21	131.12	327	⇓P		PKPdf	23 38 30.5	+1.6		
L25A	Engebretsen Ra baz=131	131.16	318	⇑P		PKPdf	23 38 30.3	+1.1		
U30A	WK&E Inc. Balk baz=131	131.17	310	⇓P		PKPdf	23 38 30.4	+1.0		
F21A	Absaloka Mine, baz=131	131.18	324	⇑P		PKPdf	23 38 30.2	+1.1		
N26A	Koester Ranch, baz=131	131.27	317	⇓P		PKPdf	23 38 30.9	+1.4		
X31A	McDonald Ranch baz=131	131.30	308	⇓P		PKPdf	23 38 30.4	+0.7		
EGMT EGMT	Eagleton comp=Z,3µm,19.0s	131.31	328	ℯPKPdf LR	LR	PKPdf	23 38 31.0	+1.7		
EGMT	Eagleton baz=131,SNR=21	131.31	328	⇑P		PKPdf	23 38 30.8	+1.5		
Z32A	Haskell baz=131,SNR=21	131.32	306	⇓P		PKPdf	23 38 31.1	+1.5		
R28A	Tribune baz=131	131.34	313	⇑P		PKPdf	23 38 30.3	+0.6		
E20A	Meyer Farm, Mu baz=131,SNR=13	131.36	325	⇑P		PKPdf	23 38 31.2	+1.8		
534A	Blanco	131.38	301	⇑P		PKPdf	23 38 31.1	+1.2		
D19A	Cripps Ranch, baz=131,SNR=12	131.38	327	⇓P		PKPdf	23 38 31.7	+2.3		
P27A	Ficken Ranch, baz=131	131.39	315	⇑P		PKPdf	23 38 30.8	+1.0		
H22A	Clearmont baz=131,SNR=12	131.41	322	⇑P		PKPdf	23 38 30.5	+0.9		
KVTX KVTX	Kingsville comp=Z,4µm,20.0s	131.42	298	PFAKE LR	LR		23 38 40.0	+10		
T29A	Hugoton baz=131	131.42	311	⇓P		PKPdf	23 38 30.8	+1.0		
K24A	Anderson Ranch baz=131	131.43	320	⇑P		PKPdf	23 38 30.8	+1.0		
V30A	Spur Ranch, Mi baz=132	131.47	309	⇓P		PKPdf	23 38 30.9	+0.9		
333A	Richland Sprin baz=132,SNR=9.8	131.47	303	⇓P		PKPdf	23 38 30.8	+0.8		
J23A	Dilts Ranch, B baz=132	131.55	321	⇓P		PKPdf	23 38 30.4	+0.5		
M25A	Palm-Egli Farm baz=132	131.56	318	⇑P		PKPdf	23 38 30.8	+0.7		
G21A	Lodge Grass baz=132	131.57	324	⇓P		PKPdf	23 38 31.2	+1.3		
W30A	Crocket Farms baz=132	131.58	309	⇓P		PKPdf	23 38 31.0	+0.8		
O26A	Horse Wrangler baz=132	131.60	316	⇑P		PKPdf	23 38 31.1	+1.0		
KSCO KSCO	Kaye Shedlock' comp=Z,5µm,21.0s	131.65	314	ℯPKPdf LR	LR	PKPdf	23 38 30.4	+0.1		
KSCO	Kaye Shedlock' baz=132	131.65	314	⇓P		PKPdf	23 38 31.2	+1.0		
ABTX ABTX	Abilene, Hawle comp=Z,3µm,19.9s	131.65	305	ℯPKPdf LR	LR	PKPdf	23 38 31.0	+0.7		
ABTX	Abilene, Hawle baz=132,SNR=9.2	131.65	305	⇓P		PKPdf	23 38 32.1	+1.8		
S28A	Manter baz=132	131.70	312	⇑P		PKPdf	23 38 30.8	+0.5		
433A	Art baz=132,SNR=22	131.71	302	⇓P		PKPdf	23 38 31.4	+0.9		
Y31A	Rekieta Farm, baz=132	131.74	307	⇓P		PKPdf	23 38 31.8	+1.3		
E19A	Rath Farm, Rou baz=132,SNR=14	131.75	326	⇓P		PKPdf	23 38 31.8	+1.6		
F20A	Billings baz=132,SNR=8.9	131.78	325	⇓P		PKPdf	23 38 31.6	+1.3		
H21A	Big Horn, Sher baz=132	131.80	323	⇓P		PKPdf	23 38 31.9	+1.5		
533A	Kerrville baz=132	131.84	301	⇑P		PKPdf	23 38 31.6	+0.8		
L24A	Wheatland baz=132	131.84	319	⇓P		PKPdf	23 38 31.6	+1.0		
Z31A	Sharp Cattle R baz=132,SNR=15	131.85	306	⇑P		PKPdf	23 38 32.0	+1.3		
232A	Coleman baz=132,SNR=17	131.87	304	⇑P		PKPdf	23 38 31.8	+1.0		
N25A	Grover baz=132	131.87	317	⇓P		PKPdf	23 38 31.8	+1.1		
I22A	9 Mile Ranch, baz=132,SNR=13	131.87	322	⇑P		PKPdf	23 38 30.6	+0.1		
P26A	Davis Ranch, A baz=132	131.92	315	⇑P		PKPdf	23 38 31.9	+1.1		
K23A	Bowen Ranch, D baz=132,SNR=11	131.93	320	⇑P		PKPdf	23 38 31.8	+1.0		
T28A	Walsh baz=132	132.04	312	⇑P		PKPdf	23 38 32.2	+1.2		
M24A	Cheyenne baz=132	132.05	318	⇓P		PKPdf	23 38 32.5	+1.4		
X30A	Coker Ranch, T baz=132	132.06	308	⇓P		PKPdf	23 38 32.0	+0.9		
R27A	Eads baz=132	132.07	313	⇓P		PKPdf	23 38 31.9	+0.8		
332A	Millersview baz=132,SNR=19	132.08	303	⇑P		PKPdf	23 38 32.2	+1.0		
J22A	Midwest baz=132,SNR=17	132.12	321	⇓P		PKPdf	23 38 32.0	+0.9		
G20A	Bridger baz=132,SNR=15	132.16	324	⇑P		PKPdf	23 38 32.9	+1.9		
F19A	Roth Farm, Mol baz=132,SNR=14	132.20	325	⇓P		PKPdf	23 38 32.5	+1.4		
O25A	Wiggins baz=132	132.21	316	⇓P		PKPdf	23 38 32.0	+0.7		
131A	Roby baz=132,SNR=8.0	132.24	305	⇓P		PKPdf	23 38 33.0	+1.5		
432A	Menard baz=132,SNR=7.8	132.26	303	⇑P		PKPdf	23 38 33.3	+1.7		
Y30A	Stafford Cattl baz=132,SNR=7.9	132.27	307	⇑P		PKPdf	23 38 32.9	+1.4		
L23A	Garrett baz=132	132.30	319	⇑P		PKPdf	23 38 32.0	+0.4		
Q26A	Hugo baz=132	132.32	314	⇓P		PKPdf	23 38 32.0	+0.4		
JCT JCT	Junction City comp=Z,4µm,18.0s	132.38	302	ℯPKIKP MLR	MLR	PKPdf	23 38 30.5	-1.3		
JCT JCT	Junction City comp=Z,4µm,18.0s	132.38	302	ℯPKPdf LR	LR	PKPdf	23 38 30.5	-1.3		
JCT	Junction City baz=132,SNR=6.1	132.38	302	⇓P		PKPdf	23 38 32.5	+0.7		
N24A	Carr baz=132	132.39	317	⇓P		PKPdf	23 38 32.5	+0.8		
S27A	Las Animas baz=132	132.39	313	⇑P		PKPdf	23 38 32.0	+0.3		
231A	Bronte baz=132,SNR=9.3	132.40	304	⇑P		PKPdf	23 38 32.4	+0.6		
I21A	Big Trails, Te baz=132,SNR=19	132.40	322	⇑P		PKPdf	23 38 32.4	+0.8		
U28A	Mallet baz=132	132.41	311	⇑P		PKPdf	23 38 31.9	+0.2		
W29A	Amraillo baz=132	132.43	309	⇑P		PKPdf	23 38 32.2	+0.4		
H20A	Greybull baz=132,SNR=12	132.45	323	⇑P		PKPdf	23 38 32.7	+1.1		
T27A	Campo baz=132,SNR=14	132.51	312	⇓P		PKPdf	23 38 33.1	+1.1		
P25A	Willow Gulch B baz=132,SNR=14	132.51	315	⇓P		PKPdf	23 38 33.6	+1.6		
R26A	Arlington baz=133,SNR=9.3	132.53	314	⇓P		PKPdf	23 38 33.1	+1.2		
AMTX	Amarillo baz=133	132.54	309	⇑P		PKPdf	23 38 32.5	+0.5		
K22A K22A	Casper comp=Z,7µm,21.1s	132.55	320	ℯPKPdf LR	LR	PKPdf	23 38 33.3	+1.4		
K22A	Casper baz=133,SNR=7.0	132.55	320	⇑P		PKPdf	23 38 32.7	+0.7		
532A	Rocksprings baz=133	132.55	302	⇑P		PKPdf	23 38 32.3	+0.2		
632A	Uvalde baz=133	132.61	301	⇑P		PKPdf	23 38 32.8	+0.6		
M23A	Laramie baz=133,SNR=5.2	132.64	318	⇑P		PKPdf	23 38 33.1	+0.9		
Z30A	Sanderson Ranc baz=133,SNR=14	132.64	306	⇓P		PKPdf	23 38 33.1	+0.9		
V28A	Channing baz=133	132.64	310	⇓P		PKPdf	23 38 32.7	+0.5		
331A	San Angelo baz=133	132.67	304	⇓P		PKPdf	23 38 32.8	+0.5		
WALA	Waterton Lakes	132.69	331	ℯPKPdf		PKPdf	23 38 33.1	+1.1		
X29A	Tulia baz=133	132.70	308	⇑P		PKPdf	23 38 33.1	+0.7		
130A	Snyder baz=133,SNR=8.2	132.72	305	⇑P		PKPdf	23 38 33.9	+1.5		
J21A	Lysite baz=133,SNR=10	132.75	322	⇓P		PKPdf	23 38 32.8	+0.5		
W28A	Vega baz=133	132.81	309	⇓P		PKPdf	23 38 33.5	+1.0		
L22A	Ellis Ranch, M baz=133	132.81	320	⇓P		PKPdf	23 38 32.9	+0.4		
RLMT RLMT	Red Lodge comp=Z,5µm,20.0s	132.82	325	ℯPKPdf LR	LR	PKPdf	23 38 33.3	+0.9		
I20A	Worland baz=133,SNR=8.2	132.83	323	⇑P		PKPdf	23 38 33.8	+1.5		
S26A	Kim baz=133,SNR=15	132.83	313	⇓P		PKPdf	23 38 33.7	+1.1		
Q25A	Bedland, Calha baz=133,SNR=17	132.83	315	⇑P		PKPdf	23 38 33.5	+0.8		
U27A	Thompson Grove baz=133	132.84	311	⇓P		PKPdf	23 38 32.3	-0.3		
O24A	Longmont baz=133	132.85	317	⇑P		PKPdf	23 38 33.6	+1.1		
Y29A	Porterfield Fa baz=133,SNR=16	132.88	307	⇑P		PKPdf	23 38 33.9	+1.2		
732A	Laxson Ranch, baz=133	132.95	300	⇑P		PKPdf	23 38 33.0	+0.1		
431A	Sonora baz=133	132.99	303	⇑P		PKPdf	23 38 33.5	+0.6		
K21A	Alcova baz=133,SNR=16	133.01	321	⇑P		PKPdf	23 38 33.9	+1.1		
P24A	Kohler Place, baz=133	133.02	316	⇑P		PKPdf	23 38 32.9	0.0		
230A	Sterling City baz=133,SNR=8.9	133.06	305	⇑P		PKPdf	23 38 34.5	+1.5		
N23A	Red Feather La baz=133,SNR=11	133.06	318	⇑P		PKPdf	23 38 34.0	+0.9		
X28A	Dimmitt baz=133	133.06	308	⇑P		PKPdf	23 38 33.6	+0.6		
531A	Rocksprings baz=133	133.08	302	⇑P		PKPdf	23 38 33.9	+0.8		
V27A	Dan Oppiter Fa baz=133	133.10	310	⇑P		PKPdf	23 38 33.7	+0.6		
T26A	Comanche Natio baz=133,SNR=11	133.10	312	⇑P		PKPdf	23 38 34.6	+1.4		
Z29A	Hungry Hill Ra baz=133,SNR=5.5	133.11	307	⇑P		PKPdf	23 38 34.5	+1.3		
J20A	Shoshoni baz=133,SNR=9.7	133.14	322	⇓P		PKPdf	23 38 33.9	+0.9		
R25A	Fountain Ranch baz=133,SNR=8.2	133.19	314	⇓P		PKPdf	23 38 33.9	+0.6		
M22A	Cedar Creek Ra baz=133,SNR=6.3	133.24	319	⇑P		PKPdf	23 38 34.7	+1.3		
330A	Mertzon baz=133,SNR=22	133.25	304	⇓P		PKPdf	23 38 34.7	+1.3		
I19A	Meeteetse baz=133,SNR=13	133.29	323	⇓P		PKPdf	23 38 34.9	+1.6		
631A	Perdido Creek baz=133	133.30	301	⇓P		PKPdf	23 38 34.0	+0.5		
H18A	Shoshone NF, C baz=133,SNR=11	133.31	324	⇑P		PKPdf	23 38 34.8	+1.4		
Y28A	McKinney Farm, baz=133	133.31	308	⇑P		PKPdf	23 38 34.9	+1.3		
ISCO ISCO	Idaho Springs comp=Z,5µm,18.0s	133.37	316	ℯPKIKP MLR	MLR	PKPdf	23 38 35.0	+1.3		
ISCO ISCO	Idaho Springs comp=Z,5µm,18.0s	133.37	316	ℯPKPdf LR	LR	PKPdf	23 38 35.0	+1.3		
ISCO	Idaho Springs baz=133,SNR=13	133.37	316	⇑P		PKPdf	23 38 35.4	+1.7		
O23A	Lake Granby, G baz=133,SNR=15	133.38	317	⇓P		PKPdf	23 38 35.2	+1.5		
129A	Stewart Farms, baz=134	133.44	306	⇑P		PKPdf	23 38 34.6	+0.8		
Q24A	Divide baz=134,SNR=7.3	133.44	315	⇓P		PKPdf	23 38 35.9	+2.0		
N22A	Wattenberg Ran baz=134	133.45	318	⇑P		PKPdf	23 38 34.7	+0.9		
430A	Baggett Ranch, baz=134	133.48	303	⇓P		PKPdf	23 38 34.9	+1.0		
S25A	Robets Cordova baz=134,SNR=14	133.51	313	⇓P		PKPdf	23 38 35.5	+1.6		
U26A	Atchley Ranch, baz=134	133.53	311	⇑P		PKPdf	23 38 34.8	+0.8		
W27A	Bowe Ranch, En baz=134,SNR=5.6	133.53	309	⇑P		PKPdf	23 38 35.5	+1.6		
YBMT	Yellow Bay	133.57	330	ℯPKPdf		PKPdf	23 38 34.4	+0.7		
229A	Bryant Ranch, baz=134,SNR=6.7	133.60	305	⇑P		PKPdf	23 38 35.5	+1.4		
Z28A	Tucker Farm, M baz=134,SNR=5.8	133.63	307	⇑P		PKPdf	23 38 35.2	+1.1		
BLMT	Blacktail Moun	133.64	331	ℯPKPdf		PKPdf	23 38 35.4	+1.5		
MSTX MSTX	Muleshoe comp=Z,5µm,21.3s	133.70	308	ℯPKPdf LR	LR	PKPdf	23 38 36.1	+1.9		
MSTX	Muleshoe baz=134	133.70	308	⇑P		PKPdf	23 38 35.5	+1.2		
X27A	F and S Farms, baz=134	133.71	309	⇑P		PKPdf	23 38 34.8	+0.6		
T25A	Trinidad baz=134,SNR=9.5	133.71	313	⇓P		PKPdf	23 38 36.2	+1.9		
P23A	Jefferson baz=134,SNR=10	133.72	316	⇓P		PKPdf	23 38 36.5	+2.0		
R24A	Sanders Place, baz=134,SNR=7.9	133.74	314	⇓P		PKPdf	23 38 35.9	+1.5		
530A	J-C Ranch, Com baz=134	133.74	302	⇑P		PKPdf	23 38 35.5	+1.2		
SLMT	Seeley Lake	133.74	329	ℯPKPdf		PKPdf	23 38 35.2	+1.2		
J19A	Crowheart baz=134,SNR=8.7	133.77	322	⇓P		PKPdf	23 38 34.9	+0.7		
JTMT	Jette	133.78	330	ℯPKPdf		PKPdf	23 38 35.2	+1.2		
V26A	Tequesquite Ra baz=134	133.80	311	⇑P		PKPdf	23 38 35.0	+0.6		
SWMT	Swartz Lake	133.81	330	ℯPKPdf		PKPdf	23 38 36.4	+2.3		
BOZ BOZ	Bozeman (W)	133.81	327	ℯPKHKP e MLR	MLR	PKPpre	23 38 19.5 23 38 35.0			
BOZ BOZ BOZ	Bozeman (W) comp=Z,6µm,20.0s	133.81	327	ℯPKPpre ℯPKPdf LR	LR	PKPpre PKiKP	23 38 19.5 23 38 35.0	-0.4		
O22A	Kremmling baz=134	133.82	317	⇓P		PKPdf	23 38 34.9	+0.3		
CHMT	Chamberlain Mo	133.84	329	ℯPKPdf		PKPdf	23 38 35.2	+0.9		
YNR YNR	Norris Junctio comp=Z,6µm,22.0s	133.87	325	ℯPKPdf LR	LR	PKPdf	23 38 36.5	+2.0		
329A	Wagon Wheel Ra baz=134	133.88	304	⇓P		PKPdf	23 38 35.5	+0.9		
128A	Castleberry Fa baz=134,SNR=15	133.93	306	⇑P		PKPdf	23 38 36.0	+1.3		
Q23A	Hartsel baz=134	133.94	315	⇓P		PKPdf	23 38 34.5	-0.3		
BSMT	Bassoo Peak	133.96	331	ℯPKPdf		PKPdf	23 38 34.4	-0.1		
H17A H17A	Grant Village comp=Z,10µm,20.0s	134.00	325	ℯPKPdf LR	LR	PKPdf	23 38 34.2	-0.5		
H17A	Grant Village baz=134	134.00	325	⇑P		PKPdf	23 38 35.1	+0.4		
U25A	Circle Dot Ran baz=134,SNR=9.6	134.02	312	⇓P		PKPdf	23 38 36.0	+1.1		
Y27A	Causey baz=134	134.04	308	⇓P		PKPdf	23 38 35.2	+0.3		
W26A	Owens Ranch, T baz=134	134.06	310	⇑P		PKPdf	23 38 34.9	-0.1		
YMR YMR	Madison River comp=Z,5µm,21.2s	134.06	325	ℯPKPdf LR	LR	PKPdf	23 38 35.7	+0.9		
429A	Davenport Ranc baz=134	134.07	303	⇓P		PKPdf	23 38 35.0	0.0		
S24A	Houchin Ranch, baz=134,SNR=8.0	134.07	314	⇑P		PKPdf	23 38 36.6	+1.5		
YFT YFT	Old Faithful comp=Z,14µm,20.0s	134.12	325	ℯPKPdf LR	LR	PKPdf	23 38 37.0	+2.1		
LRM	Limekiln Ridge	134.14	327	ℯPKPdf		PKPdf	23 38 34.9	0.0		
228A	UT Block 9, Go baz=134	134.18	305	⇑P		PKPdf	23 38 35.1	-0.1		
SDCO SDCO	Great Sand Dun comp=Z,6µm,21.0s	134.23	314	ℯPKPdf LR	LR	PKPdf	23 38 33.8	-1.6		
P22A	Eagle baz=134,SNR=11	134.24	317	⇓P		PKPdf	23 38 36.2	+0.9		
MSO MSO	Missoula comp=Z,4µm,20.0s	134.25	329	ℯPKPdf LR	LR	PKPdf	23 38 35.8	+0.9		
MSO	Missoula baz=134	134.25	329	⇑P		PKPdf	23 38 35.4	+0.5		
FLWY FLWY	Flagg Ranch comp=Z,6µm,19.7s	134.26	324	ℯPKPdf LR	LR	PKPdf	23 38 36.8	+1.7		
R23A	Moffat baz=134,SNR=13	134.26	315	⇓P		PKPdf	23 38 36.4	+0.9		
Z27A	Tatum baz=134	134.28	307	⇑P		PKPdf	23 38 36.1	+0.8		
I17A	Pilgrim Ck. baz=134	134.29	324	⇓P		PKPdf	23 38 35.9	+0.7		
X26A	CR and CF Fran baz=134,SNR=5.8	134.29	309	⇑P		PKPdf	23 38 36.5	+1.1		
BW06 BW06	Boulder Array comp=Z,9µm,20.0s	134.36	322	PFAKE LR	LR		23 38 50.0	+15		
PDAR PDAR	Pinedale Array	134.36	322	PKP PP		PKPdf PP	23 38 35.0 23 41 08.1	-0.5 +1.3		
PDAR PDAR	Pinedale Array comp=Z,4.5nm,1.1s,baz=104,slow=5.0,SNR=4.8 comp=Z,3.3nm,1.2s,baz=94,slow=4.5,SNR=4.1	134.36	322	PKP PP		PKPdf PP	23 38 35.0 23 41 08.1	-0.5 +1.3		
V25A	Rancho No Teng baz=134	134.40	311	⇓P		PKPdf	23 38 36.0	+0.4		
T24B	San Luis	134.45	313	⇑P		PKPdf	23 38 36.1	+0.3		

baz=134
529A Stev Forest Ra 134.48 303 ⇑P PKPdf 23 38 36.0 +0.3
baz=134
LOHW Long Hollow 134.49 324 *e*PKPdf PKPdf 23 38 34.5 -1.1
LOHW LR LR
comp=Z,8μm,20.2s
MOOW Moose Ponds 134.49 324 *e*PKPdf PKPdf 23 38 35.3 -0.3
MOOW LR LR
comp=Z,8μm,20.0s
DLMT Dillon 134.52 327 *e*PKPdf PKPdf 23 38 35.9 +0.4
DLMT LR LR
comp=Z,4μm,21.0s
W25A X Bar L Ranch, 134.53 310 ⇓P PKPdf 23 38 37.4 +1.5
baz=134,SNR=6.2
Y26A Elida 134.53 308 ⇑P PKPdf 23 38 37.0 +1.1
baz=135
328A Wristen Ranch, 134.59 304 ⇑P PKPdf 23 38 37.2 +1.3
baz=135
SMCO Snowmass 134.59 316 *e*PKPdf PKPdf 23 38 35.7 -0.5
SMCO LR LR
comp=Z,5μm,21.7s
S23A Nye Farm, Mont 134.61 314 ⇑P PKPdf 23 38 37.4 +1.3
baz=135
127A Arkansas Junct 134.61 306 ⇓P PKPdf 23 38 36.9 +0.9
baz=135
N20A Spence Gulch, 134.61 319 ⇑P PKPdf 23 38 36.6 +0.7
baz=135,SNR=7.6
U24A Moreno Valley 134.65 312 ⇓P PKPdf 23 38 37.1 +0.9
baz=135
SNOW Snow King Moun 134.66 324 *e*PKPdf PKPdf 23 38 35.7 -0.3
SNOW LR LR
comp=Z,7μm,20.0s
428A Kincaid Ranch, 134.69 304 ⇑P PKPdf 23 38 37.2 +1.0
baz=135
NEW Newport 134.75 333 *e*PKPdf PKPdf 23 38 35.1 -0.6
NEW LR LR
comp=Z,3μm,18.0s
NEW Newport 134.75 333 ⇓P PKPdf 23 38 37.2 +1.5
baz=135
227A Bennet, Jal 134.78 305 ⇓P PKPdf 23 38 37.1 +0.8
baz=135
REDW Red Top Meadow 134.78 324 *e*PKPdf PKPdf 23 38 35.7 -0.5
REDW LR LR
comp=Z,6μm,20.1s
Z26A Caprock 134.89 307 ⇓P PKPdf 23 38 37.4 +0.9
baz=135
T23A Casias Ranch, 134.93 313 ⇓P PKPdf 23 38 37.2 +0.5
baz=135
V24A Rampart Ranch, 134.93 311 ⇑P PKPdf 23 38 37.2 +0.5
baz=135,SNR=8.4
528A Cox Ranch, San 134.94 303 ⇓P PKPdf 23 38 36.4 -0.3
baz=135
X25A Clemmons Ranch 134.95 309 ⇓P PKPdf 23 38 36.8 +0.1
baz=135
O20A White River Ci 134.96 318 *e*PKPdf PKPdf 23 38 36.4 -0.2
O20A LR LR
comp=Z,4μm,20.9s
O20A White River Ci 134.96 318 ⇓P PKPdf 23 38 37.3 +0.7
baz=135,SNR=6.4
MCMT McKenzie Canyo 135.00 326 *e*PKPdf PKPdf 23 38 37.7 +1.1
126A Clayton Basin, 135.14 307 ⇑P PKPdf 23 38 37.6 +0.6
baz=135
327A Balmorhea Ranc 135.15 305 ⇓P PKPdf 23 38 36.9 -0.1
baz=135
S22A 4UR Ranch, Cre 135.17 315 ⇓P PKPdf 23 38 38.2 +1.0
baz=135,SNR=6.0
Y25A Mesa, Roswell 135.21 309 ⇑P PKPdf 23 38 37.6 +0.5
baz=135
628A Black Gap, Mar 135.22 302 ⇓P PKPdf 23 38 37.4 +0.2
baz=135
427A Hayter Ranch, 135.24 304 ⇓P PKPdf 23 38 37.3 +0.1
baz=135
W24A Lazy 6 Ranch, 135.24 311 ⇓P PKPdf 23 38 37.7 +0.4
baz=135
AHID Auburn Hatcher 135.28 323 *e*PKPdf PKPdf 23 38 38.5 +1.4
AHID LR LR
comp=Z,6μm,20.0s
U23A El Rito 135.35 312 ⇓P PKPdf 23 38 37.6 +0.2
baz=135
226B Tecolote Peak, 135.46 306 ⇓P PKPdf 23 38 38.0 +0.4
baz=136
Z25A Roswell 135.46 308 ⇓P PKPdf 23 38 38.1 +0.5
baz=136
X24A Lazy VL Ranch, 135.52 310 ⇑P PKPdf 23 38 38.2 +0.4
baz=136
326A Caldwell Ranch 135.56 305 ⇓P PKPdf 23 38 37.8 0.0
baz=136
V23A Ortiz Mt. (NFS 135.60 312 ⇑P PKPdf 23 38 38.7 +0.8
baz=136
C09A Chrisman Ranch 135.60 333 *e*PKPdf PKPdf 23 38 38.1 +0.9
C09A LR LR
comp=Z,2μm,19.3s
527A Woodward Ranch 135.63 303 ⇓P PKPdf 23 38 38.9 +0.9
baz=136
125A Gardner Draw, 135.64 307 ⇑P PKPdf 23 38 38.9 +1.0
baz=136
627A Terlingua Ranc 135.65 302 ⇓P PKPdf 23 38 37.8 -0.2
baz=136
Y24A Capitan 135.78 309 ⇓P PKPdf 23 38 38.9 +0.6
baz=136
426A McDonald Obser 135.81 304 ⇓P PKPdf 23 38 39.1 +0.7
baz=136
U22A Llaves 135.81 313 ⇑P PKPdf 23 38 38.9 +0.5
baz=136
W23A Werner Place, 135.82 311 ⇑P PKPdf 23 38 39.0 +0.6
baz=136
TXAR Lajitas Array 135.91 302 PKPpre PKPpre 23 38 27.6
TXAR PKP **PKiKP 23 38 39.7 -0.4**
TXAR Lajitas Array 135.91 302 PKhKP PKPpre 23 38 27.6
comp=Z,1.0nm,0.9s,baz=134,slow=2.6,SNR=4.3
TXAR PKP **PKiKP 23 38 39.7 -0.4**
comp=Z,2.9nm,0.9s,baz=108,slow=2.9,SNR=7.6
Z24A Sheeppen Canyo 135.95 308 ⇓P PKPdf 23 38 39.2 +0.6
baz=136
225A Deer Hill, Car 135.97 306 ⇑P PKPdf 23 38 38.8 +0.1
baz=136
526A Mary Lane Ranc 136.05 303 ⇑P PKPdf 23 38 39.1 +0.2
baz=136
V22A San Miguel Ran 136.06 312 ⇑P PKPdf 23 38 39.1 +0.3
baz=136
X23A Hourglass Bar 136.09 310 ⇑P PKPdf 23 38 39.6 +0.8
baz=136
ANMO Albuquerque 136.14 311 *e*PKPdf PKPdf 23 38 37.9 -1.0
ANMO LR LR
comp=Z,5μm,19.0s
PV01 Paradox Valley 136.19 316 *e*PKPpre PKPpre 23 38 29.4
PV01 *e*PKPdf **PKiKP 23 38 40.4 -0.2**
626A Big Bend Ranch 136.24 302 ⇓P PKPdf 23 38 39.9 +0.8
baz=136
A05A Maple Falls 136.24 337 PFAKE 23 38 50.0 +12
A05A LR LR
comp=Z,2μm,18.9s
Y23A Lovelace Mesa, 136.25 309 ⇓P PKPdf 23 38 39.9 +0.8
baz=136
124A Stringfield Ra 136.25 307 ⇑P PKPdf 23 38 39.4 +0.2
baz=136
PV04 Paradox Valley 136.29 316 *e*PKPpre PKPpre 23 38 30.3
PV04 *e*PKPdf **PKiKP 23 38 40.6 -0.1**
325A Bean Ranch, Si 136.34 305 ⇓P PKPdf 23 38 39.3 0.0
baz=136
PV10 Paradox Valley 136.39 317 *e*PKPpre PKPpre 23 38 30.4
PV10 *e*PKPdf **PKPdf 23 38 39.5 +0.1**
PV09 Paradox Valley 136.39 317 *e*PKPdf PKPdf 23 38 37.8 -1.6
B06A Marblemount 136.40 336 *e*PKPdf PKPdf 23 38 39.7 +1.0
B06A LR LR
comp=Z,4μm,20.0s
TCUT Toone Canyon 136.44 321 PFAKE 23 38 50.0 +11
TCUT LR LR
comp=Z,5μm,19.5s
D08A Wollman Farm, 136.46 333 *e*PKPdf PKPdf 23 38 38.1 -0.7
D08A LR LR
comp=Z,2μm,19.0s
F10A Beach Ranch, E 136.47 331 *e*PKPdf PKPdf 23 38 38.9 -0.2
F10A LR LR
comp=Z,4μm,20.2s
E09A Wood Farm, Sta 136.51 332 *e*PKPdf PKPdf 23 38 37.9 -1.1
E09A LR LR
comp=Z,3μm,20.8s
LPM Los Pinos Moun 136.53 310 *e*PKPdf PKPdf 23 38 38.8 -0.9
224A Cornudas Mount 136.53 307 ⇓P PKPdf 23 38 39.9 +0.3
baz=137
425A Indio Mountain 136.55 305 ⇑P PKPdf 23 38 39.8 +0.1
baz=137
MNTX Cornudas Mount 136.56 306 *e*PKPdf PKPdf 23 38 39.1 -0.4
MNTX LR LR
comp=Z,3μm,21.0s
PV05 Paradox Valley 136.58 316 *e*PKPpre PKPpre 23 38 33.1

BNM Barren Site 136.59 310 *e*PKPpre PKPpre 23 38 33.3
MVCO Mesa Verde 136.59 315 PFAKE 23 38 50.0 +10
MVCO LR LR
comp=Z,4μm,19.0s
MVCO Mesa Verde 136.59 315 ⇑P PKPdf 23 38 40.7 +0.9
baz=137
Z23A Rita Site, Whi 136.65 308 ⇓P PKPdf 23 38 40.9 +1.1
baz=137
HLID Hailey 136.68 326 *e*PKPdf PKPdf 23 38 38.2 -1.4
HLID LR LR
comp=Z,5μm,22.0s
HLID Hailey 136.68 326 ⇑P PKPdf 23 38 39.0 -0.6
baz=137
324A Moseley Ranch, 136.73 306 ⇑P PKPdf 23 38 39.2 -0.9
baz=137
DAU Daniels Canyon 136.75 320 *e*PKPpre PKPpre 23 38 32.4
JLU Jordanelle 136.76 321 *e*PKPpre PKPpre 23 38 32.7
JLU LR LR
comp=Z,3μm,18.9s
Y22D IRIS PASSCAL I 136.85 310 ⇑P PKPdf 23 38 39.4 -0.8
baz=137
HVU Hansel Valley 136.87 323 *e*PKHKP PKPpre 23 38 31.4
HVU MLR MLR
comp=Z,12μm,21.1s
HVU Hansel Valley 136.87 323 *e*PKPpre PKPpre 23 38 31.4
HVU *e*PKPdf **PKiKP 23 38 41.2 -0.6**
HVU LR LR
comp=Z,12μm,21.1s
LAZ Ladron 136.88 310 *e*PKPdf PKPdf 23 38 42.3 +2.0
123A Bell Site, Whi 136.91 308 ⇑P PKPdf 23 38 39.5 -0.8
baz=137
Y22A Socorro 136.94 310 ⇓P PKPdf 23 38 39.6 -0.8
baz=137
SPUT South Promonto 136.96 322 *e*PKPdf PKPdf 23 38 39.9 -0.3
SRU San Rafael 137.00 318 *e*PKHKP PKPpre 23 38 32.0
SRU MLR MLR
comp=Z,4μm,18.3s
SRU San Rafael 137.00 318 *e*PKPpre PKPpre 23 38 31.9
SRU LR LR
comp=Z,4μm,18.3s
LTY Liberty 137.06 335 *e*PKPdf PKPdf 23 38 41.1 +1.0
LTY LR LR
comp=Z,3μm,18.3s
MPU Maple Canyon 137.21 320 *e*PKPdf PKPdf 23 38 42.5 +1.7
MPU LR LR
comp=Z,4μm,19.9s
Z22A Elephant Butte 137.21 309 ⇓P PKPdf 23 38 40.1 -0.8
baz=137
HAWA Hanford 137.23 333 *e*PKPdf PKPdf 23 38 40.6 +0.3
HAWA LR LR
comp=Z,3μm,21.0s
E07A Sunnyside 137.25 333 PFAKE 23 38 50.0 +10
E07A LR LR
comp=Z,2μm,19.7s
TMUT Trail Mountain 137.34 319 *e*PKPdf PKPdf 23 38 40.5 -0.7
TMUT LR LR
comp=Z,4μm,21.3s
NLU North Lily Min 137.52 320 *e*PKPpre PKPpre 23 38 33.6
NLU LR LR
comp=Z,4μm,19.1s
BGU Big Grassy Mou 137.54 322 *e*PKPpre PKPpre 23 38 31.6
BGU LR LR
comp=Z,2μm,19.4s
MFID Camas Ranch 137.54 327 *e*PKPpre PKPpre 23 38 31.9
MFID LR LR
comp=Z,5μm,20.0s
D05A Enumclaw 137.67 335 PFAKE 23 38 50.0 +8.9
D05A LR LR
comp=Z,3μm,18.3s
222A Williams Famil 137.77 307 ⇑P PKPdf 23 38 41.2 -0.7
baz=138
G08A Pilot Rock 137.80 331 *e*PKPdf PKPdf 23 38 43.1 +1.5
G08A LR LR
comp=Z,4μm,20.5s
DUG Dugway 137.84 321 *e*PKIKP PKPdf 23 38 39.3 -2.5
DUG MLR MLR
comp=Z,5μm,22.0s
DUG Dugway 137.84 321 *e*PKPdf PKPdf 23 38 39.3 -2.5
DUG LR LR
comp=Z,5μm,22.0s
DUG Dugway 137.84 321 ⇓P PKPdf 23 38 40.3 -1.5
baz=138
LON Longmire 137.94 335 *e*PKPpre PKPpre 23 38 37.6
LON LR LR
comp=Z,3μm,19.0s
121A Cookes Peak, D 138.13 308 ⇑P PKPdf 23 38 42.2 -0.4
baz=138
NLWA Neilton Lookou 138.24 337 PFAKE 23 38 50.0 +7.8
NLWA LR LR
comp=Z,5μm,18.0s
MVU Marysvale 138.43 319 PFAKE 23 38 50.0 +6.9
MVU LR LR
comp=Z,4μm,20.0s
W18A Petrified Fore 138.47 313 PFAKE 23 38 50.0 +6.8
W18A LR LR
comp=Z,6μm,19.3s
W18A Petrified Fore 138.47 313 ⇑P PKPdf 23 38 42.5 -0.7
baz=138
G06A Carlson Farm, 138.61 333 PFAKE 23 38 50.0 +7.0
G06A LR LR
comp=Z,4μm,21.2s
F04A Amboy 138.85 335 PFAKE 23 38 50.0 +6.7
F04A LR LR
comp=Z,2μm,20.6s
X18A Snowflake 138.90 312 ⇑P PKPdf 23 38 43.1 -0.9
baz=139
G05D Wamic, OR 138.92 333 ⇑P PKPdf 23 38 43.5 0.0
baz=139
I07A Izee 138.95 330 *e*PKPpre PKPpre 23 38 37.3
I07A LR LR
comp=Z,4μm,19.4s
ELK Elko 138.97 323 *e*PKPpre PKPpre 23 38 37.3
ELK LR LR
comp=Z,5μm,21.9s
J08A Circle Bar Ran 138.97 329 *e*PKPdf PKPdf 23 38 41.2 -2.6
J08A LR LR
comp=Z,6μm,21.6s
F04D Rainier, OR 138.97 335 ⇑P PKPdf 23 38 43.6 +0.1
baz=139
320A Kipp Ranch, An 139.19 307 ⇑P PKPdf 23 38 43.5 -1.0
baz=139
WUAZ Wupatki 139.45 314 *e*PKPdf PKPdf 23 38 42.0 -2.9
WUAZ LR LR
comp=Z,4μm,22.0s
WUAZ Wupatki 139.45 314 ⇑P PKPdf 23 38 43.9 -1.1
baz=140
U15A North Rim 139.61 316 ⇓P PKPdf 23 38 44.5 -0.9
baz=140
I05D Terrebonne, OR 139.62 332 ⇓P PKPdf 23 38 44.0 -0.8
baz=140
ARUT Antelope Range 139.63 319 *e*PKIKP PKPdf 23 38 41.7 -3.5
ARUT Antelope Range 139.63 319 *e*PKPdf PKPdf 23 38 41.7 -3.5
KNB Kanab 139.66 317 PFAKE 23 39 00.0 +15
KNB LR LR
comp=Z,5μm,20.4s
WVOR Wild Horse Val 139.71 328 *e*PKHKP PKPpre 23 38 37.7
WVOR MLR MLR
comp=Z,6μm,20.0s
WVOR Wild Horse Val 139.71 328 *e*PKPpre PKPpre 23 38 37.6
WVOR LR LR
comp=Z,6μm,20.0s
CCUT Cedar City 139.72 318 *e*PKPpre PKPpre 23 38 39.9
CCUT LR LR
comp=Z,4μm,20.5s
H04A Detroit Lake 139.74 333 PFAKE 23 39 00.0 +15
H04A LR LR
comp=Z,4μm,20.6s
319A Douglas 139.76 307 ⇑P PKPdf 23 38 44.8 -0.8
baz=140
G03D McMinnville, O 139.78 335 ⇑P PKPdf 23 38 44.7 -0.4
baz=140
PINOR Pine Mountain 139.81 331 *e*PKPdf PKPdf 23 38 43.8 -1.3
PINOR LR LR
comp=Z,3μm,19.8s
X16A Lo Mia Camp, P 140.04 313 ⇑P PKPdf 23 38 45.4 -0.7
baz=140
J05D Fort Rock, OR 140.38 331 ⇓P PKPdf 23 38 45.5 -0.9
baz=140
TUC Tucson 140.53 310 *e*PKPpre PKPpre 23 38 42.9
TUC LR LR
comp=Z,3μm,19.0s
Tendick Farm, 140.53 333 ⇑P PKPdf 23 38 45.8 -0.8
baz=140
I04A
K05A Summer Lake 140.64 330 *e*PKPdf PKPdf 23 38 44.4 -2.6
K05A LR LR
comp=Z,4μm,20.1s

R11A Troy Canyon, C 140.67 321 *e*PKPpre PKPpre 23 38 41.8
R11A LR LR
comp=Z,4μm,20.9s
R11A Troy Canyon, C 140.67 321 ⇑P PKPdf 23 38 45.8 -1.3
baz=141
J04D Umpqua Nationa 140.83 332 ⇑P PKPdf 23 38 46.5 -0.7
baz=141
MOD Modoc 140.95 329 *e*PKPpre PKPpre 23 38 43.0
MOD LR LR
comp=Z,5μm,20.0s
I03D Drain, OR 141.03 333 ⇓P PKPdf 23 38 46.6 -0.7
baz=141
K04D Chiloquin, OR 141.13 331 ⇑P PKPdf 23 38 46.6 -1.1
baz=141
Y14A Wickenburg 141.40 313 ⇓P PKPdf 23 38 46.7 -1.7
baz=141
W13A Hualapai Mount 141.42 315 ⇓P PKPdf 23 38 46.8 -1.8
baz=141
SHPR Sheep Range 141.49 318 *e*PKPdf PKPdf 23 38 45.5 -3.1
Z14A Wintersburg 141.64 312 ⇑P PKPdf 23 38 46.9 -1.9
baz=142
HUMO Hull Mountain 141.71 332 *e*PKPdf PKPdf 23 38 47.0 -1.6
HUMO LR LR
comp=Z,4μm,21.0s
M04C Macdoel 141.81 330 ⇑P PKPdf 23 38 47.2 -1.8
baz=142
TPH Tonopah 141.85 322 PFAKE 23 39 00.0 +11
TPH LR LR
comp=Z,6μm,22.0s
TPNV Topopah Spring 141.94 320 *e*PKIKP PKPdf 23 38 47.6 -1.8
TPNV Topopah Spring 141.94 320 *e*PKPdf PKPdf 23 38 47.6 -1.8
TPNV Topopah Spring 141.94 320 ⇓P PKPdf 23 38 47.4 -2.0
baz=142
PDMCI Parker Dam,Lak 142.02 314 ⇓P PKPdf 23 38 47.9 -1.4
baz=142
PAHR Pah Rah Range 142.03 326 *e*PKPdf PKPdf 23 38 47.0 -2.4
NEE2 Needles Airpor 142.10 315 ⇑P PKPdf 23 38 48.1 -1.5
baz=142
KEBM Edson Butte 142.12 334 PFAKE 23 39 00.0 +11
KEBM LR LR
comp=Z,5μm,19.2s
214A Organ Pipe Nat 142.22 310 ⇑P PKPdf 23 38 48.2 -1.7
baz=142
NV01 Mina Array Sit 142.27 323 *e*PKPdf PKPdf 23 38 46.9 -3.1
LDFC Landfair 142.27 316 *e*PKPdf PKPdf 23 38 50.0 0.0
LDFC LR LR
comp=Z,4μm,19.7s
YBH Yreka Blue Hor 142.27 331 *e*PKPpre PKPpre 23 38 46.6
YBH LR LR
comp=Z,4μm,20.0s
BEKR Beckworth 142.45 327 *e*PKPpre PKPpre 23 38 46.9
BEKR LR LR
comp=Z,1μm,21.0s
WCN Washoe City 142.51 325 PFAKE 23 39 00.0 +10
WCN LR LR
comp=Z,100nm,22.0s
113A Mohawk Valley, 142.54 312 ⇓P PKPdf 23 38 49.1 -1.2
baz=142
Y12C Blythe 142.58 314 ⇑P PKPdf 23 38 49.6 -0.9
baz=143
KBO Bosley Butte 142.60 333 PFAKE 23 39 00.0 +10
KBO LR LR
comp=Z,6μm,18.8s
M02C Callahan 142.60 331 ⇓P PKPdf 23 38 49.2 -1.2
baz=143
GRAC Grapevine Rang 142.62 321 ⇓P PKPdf 23 38 49.0 -1.5
baz=143
TUQ Turquoise Moun 142.62 317 ⇓P PKPdf 23 38 49.2 -1.4
baz=143
FURC Furnace Creek, 142.62 319 ⇓P PKPdf 23 38 49.5 -0.9
baz=143
IRM Iron Mountain 142.80 315 ⇓P PKPdf 23 38 49.9 -0.9
baz=143
GMRC Granite Mounta 142.81 316 ⇓P PKPdf 23 38 49.9 -1.0
baz=143
N02D Trinity Center 142.85 330 ⇑P PKPdf 23 38 49.6 -1.2
baz=143
WAKR Walker 142.88 324 *e*PKPdf PKPdf 23 38 48.9 -2.2
KRMB Red Mountain 143.00 332 PFAKE 23 39 00.0 +8.9
KRMB LR LR
comp=Z,7μm,20.4s
WDC Whiskeytown Da 143.06 329 *e*PKPpre PKPpre 23 38 48.0
WDC LR LR
comp=Z,5μm,20.0s
MLAC Mammoth Lakes 143.11 323 ⇓P PKPdf 23 38 50.7 -0.9
baz=143
TIN Tinemaha 143.11 321 ⇑P PKPdf 23 38 50.7 -0.7
baz=143
GLA Glamis 143.16 313 *e*PKIKP PKPbc 23 38 49.4 +1.0
GLA MLR MLR
comp=Z,1μm,19.4s
GLA Glamis 143.16 313 *e*PKPdf PKPbc 23 38 49.4 +0.9
GLA LR LR
comp=Z,1μm,19.4s
GLA Glamis 143.16 313 ⇑P PKPdf 23 38 51.3 -0.2
baz=143
HEC Hector,Ludlow 143.24 317 ⇑P PKPdf 23 38 51.2 -0.5
baz=143
MPMC Manual Prospec 143.27 319 ⇓P PKPdf 23 38 51.5 -0.4
baz=143
GSC Goldstone 143.28 318 *e*PKIKP PKPdf 23 38 50.5 -1.3
GSC MLR MLR
comp=Z,9μm,19.8s
GSC Goldstone 143.28 318 *e*PKPdf PKPdf 23 38 50.5 -1.3
GSC LR LR
comp=Z,9μm,19.8s
GSC Goldstone 143.28 318 ⇓P PKPdf 23 38 51.6 -0.1
baz=143
BC3 Big Chuckawall 143.29 315 ⇑P PKPdf 23 38 51.2 -0.7
baz=143
CWC Cottonwood Cre 143.41 320 ⇑P PKPdf 23 38 51.7 -0.3
baz=143
KHMM Horse Mountain 143.42 331 *e*PKPdf PKPdf 23 38 50.5 -1.3
KHMM LR LR
comp=Z,8μm,21.1s
BELC Belle Mtn. Jos 143.48 315 ⇑P PKPdf 23 38 52.2 0.0
baz=144
RRX Edison Barstow 143.66 317 ⇑P PKPdf 23 38 52.3 0.0
baz=144
CMB Columbia Colle 143.74 324 *e*PKIKP PKPbc 23 38 50.1 +0.2
CMB MLR MLR
comp=Z,5μm,19.0s
CMB Columbia Colle 143.74 324 *e*PKPdf PKPbc 23 38 50.0 +0.1
CMB LR LR
comp=Z,5μm,19.0s
LRMC Laurel Mountai 143.75 319 ⇑P PKPdf 23 38 52.2 -0.4
baz=144
BBRC Big Bear Solar 143.96 317 ⇑P PKPdf 23 38 53.4 +0.3
baz=144
PFO Pinyon Flat Ob 144.01 315 *e*PKPdf PKPbc 23 38 51.9 +0.9
PFO LR LR
comp=Z,5μm,21.0s
PFO Pinyon Flat Ob 144.01 315 ⇑P PKPdf 23 38 53.3 +0.2
baz=144
KIPM Iron Peak 144.12 330 *e*PKPdf PKPdf 23 38 52.3 -0.8
ISA Isabella 144.14 320 *e*PKIKP PKPbc 23 38 52.0 +0.7
ISA MLR MLR
comp=Z,3μm,19.4s
ISA Isabella 144.14 320 *e*PKPdf PKPbc 23 38 52.0 +0.7
ISA LR LR
comp=Z,3μm,19.4s
ISA Isabella 144.14 320 ⇑P PKPdf 23 38 53.5 +0.3
baz=144
RCTC Rector, Farmer 144.21 321 ⇓P PKPdf 23 38 53.3 +0.1
baz=144
KCPM Cahto Peak 144.26 330 *e*PKPdf PKPdf 23 38 52.7 -0.6
KCPM LR LR
comp=Z,3μm,20.0s
DVTC Desert V Tower 144.28 314 ⇓P PKPdf 23 38 54.2 +0.7
baz=144
EDW2 Edwards Air Fo 144.31 318 ⇑P PKPdf 23 38 54.3 +0.8
baz=144
MONP Monument Peak 144.38 314 ⇓P PKPdf 23 38 54.8 +0.9
baz=144
BFSC Mount Baldy Ra 144.47 317 ⇓P PKPdf 23 38 53.9 0.0
baz=144
HOPS Hopland 144.52 328 *e*PKPdf PKPdf 23 38 53.0 -0.7
HOPS LR LR
comp=Z,3μm,19.0s
MURC Murrieta 144.53 316 ⇑P PKPdf 23 38 54.5 +0.6
baz=144
BAR Barrett 144.67 314 *e*PKPdf PKPdf 23 38 53.9 -0.2
BAR LR LR
comp=Z,4μm,19.3s
ARVC Arvin 144.71 319 ⇓P PKPdf 23 38 55.7 +1.6
baz=145
MWC Mount Wilson 144.75 317 *e*PKIKP PKPdf 23 38 54.1 -0.4

MWC				MLR	MLR		
	comp=Z,5μm,18.8s						
MWC	**Mount Wilson**	**144.75**	**317**	*e*PKPdf	**PKPdf**	**23 38 54.1**	**-0.4**
MWC				LR	LR		
	comp=Z,5μm,18.8s						
109C	**Camp Elliot, M**	**144.86**	**315**	⇑P	**PKPdf**	**23 38 55.6**	**+1.2**
	baz=145						
PASC	**Pasadena Art C**	**144.86**	**317**	*e*PKPdf	PKPbc	23 38 53.9	+0.4
PASC				LR	LR		
	comp=Z,4μm,19.0s						
DECC	**Green Verdugo**	**144.91**	**318**	⇑P	**PKPdf**	**23 38 55.6**	**+1.1**
	baz=145						
OSI	**Osito Adit**	**144.95**	**319**	*e*PKPdf	**PKPdf**	**23 38 55.1**	**+0.5**
OSI				LR	LR		
	comp=Z,3μm,19.8s						
OSI	**Osito Adit**	**144.95**	**319**	⇓P	**PKPdf**	**23 38 56.1**	**+1.5**
	baz=145						
MCCM	**Marconi Confer**	**145.05**	**327**	*e*PKPdf	**PKPdf**	**23 38 54.8**	**+0.2**
MCCM				LR	LR		
	comp=Z,3μm,21.0s						
SAC	**San Andreas**	**145.20**	**326**	*e*PKIKP	**PKPdf**	**23 38 55.5**	**+0.6**
SAC	**San Andreas**	**145.20**	**326**	*e*PKPdf	**PKPdf**	**23 38 55.5**	**+0.6**
AFI	**Afiamalu**	**145.21**	**133**	*e*PKPdf	**PKPdf**	**23 38 56.0**	**+0.4**
AFI	**Afiamalu**	**145.21**	**133**	PKPbc	**PKPdf**	**23 38 56.3**	**+0.7**
	comp=Z,203nm,1.1s,baz=237,slow=4.7,SNR=9.3						
FMP	**Fort Macarthur**	**145.21**	**317**	⇓P	**PKPdf**	**23 38 56.8**	**+1.8**
	baz=145						
SAO	**San Andreas Ge**	**145.23**	**324**	*e*PKIKP	**PKPbc**	**23 38 53.8**	**-0.8**
SAO				MLR	MLR		
	comp=Z,5μm,21.0s						
SAO	**San Andreas Ge**	**145.23**	**324**	*e*PKPbc	**PKPbc**	**23 38 53.8**	**-0.8**
SAO				LR	LR		
	comp=Z,5μm,21.0s						
PTRM	**Twissleman Ran**	**145.24**	**321**	*e*PKPdf	**PKPdf**	**23 38 55.3**	**+0.2**
RKT	**Rikitea**	**145.29**	**198**	*e*LR	LR	00 26 41.8	
	comp=Z,3μm,29.5s						
SMMC	**Simmler**	**145.33**	**321**	⇓P	**PKPdf**	**23 38 57.1**	**+1.8**
	baz=145						
CIS	**Catalina Islan**	**145.46**	**317**	⇓P	**PKPab**	**23 38 58.3**	**+2.6**
	baz=146						
PKM	**Peak Mountain**	**145.48**	**320**	⇓P	**PKPab**	**23 38 58.7**	**+2.8**
	baz=146						
BLG	**Laguna Peak**	**145.48**	**318**	⇓P	**PKPab**	**23 38 57.5**	**+1.7**
	baz=146						
MIDW	**Midway**	**145.57**	**54**	*e*PKPdf	**PKPdf**	**23 38 53.2**	**-2.5**
SBC	**Santa Barbara**	**145.70**	**319**	⇑P	**PKPab**	**23 38 58.9**	**+2.4**
	baz=146						
SCI	**San Clemente I**	**145.81**	**316**	⇑P	**PKPab**	**23 38 59.0**	**+2.0**
	baz=146						
TBI	**Tubuai**	**146.68**	**174**	*e*PKPbc	**PKPdf**	**23 38 57.6**	**-0.2**
	comp=Z,168nm,1.3s						
TBI	**Tubuai**	**146.68**	**174**	*e*SS	SS	00 01 14.8	-3.8
	comp=Z,530nm,29.8s						
TBI	**Tubuai**	**146.68**	**174**	*e*LR	LR	00 27 19.8	
	comp=Z,2μm,22.8s						
PPT2	**Papeete2**	**152.36**	**173**	*e*LR	LR	00 30 01.6	
	comp=Z,3μm,23.8s						

IDC 19 23:22:13.2±2.9, 31.62S×177.64W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.8/18, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=69.7km s-min=35.6km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.91**	**212**	Pn	Pn	23 24 08.8	-0.6
	0.2nm,0.3s,baz=91,slow=17,SNR=3.2						
URZ				Sn	Sn	23 25 40.6	+1.0
	0.6nm,0.3s,baz=158,slow=19,SNR=4.3						
ASAR	**Alice Springs**	**43.37**	**268**	P	P	23 30 17.6	+0.2
	0.6nm,0.7s,baz=105,slow=7.6,SNR=7.0						
WRA	**Warramunga Arr**	**44.46**	**273**	P	P	23 30 26.1	-0.3
	0.8nm,0.5s,baz=111,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**146.39**	**340**	PKPbc	PKPdf	23 41 54.5	+0.5
	0.9nm,0.4s,baz=53,slow=4.7,SNR=13						

IDC 19 23:40:12.7±4.2, 22.54S×148.37E, h0km, mb1 3.4/4, mb1mx3.3/14, mbtmp3.2/4, ML3.1/4, Error ellipse: s-maj=40.1km s-min=20.1km az=86.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**3.13**	**321**	Pn	Pn	23 41 03.5	+0.2
	1.6nm,0.3s,baz=136,slow=13,SNR=18						
CTA				Pg	Pb	23 41 10.8	+1.6
	4.0nm,0.3s,baz=138,slow=16,SNR=20						
CTA				Sn	Sn	23 41 42.1	+0.7
	4.4nm,0.3s,baz=161,slow=20,SNR=10						
CTA				Lg	Lg	23 41 51.3	
	10nm,0.3s,baz=41,slow=22,SNR=14						
STKA	**Stephens Creek**	**11.08**	**211**	Pn	Pn	23 42 52.4	-0.1
	0.1nm,0.3s,baz=51,slow=6.5,SNR=3.0						
STKA				Lg	Lg	23 46 04.2	
	0.1nm,0.3s,baz=31,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**13.33**	**279**	Pn	Pn	23 43 21.9	-1.4
	0.1nm,0.3s,baz=110,slow=11,SNR=7.8						
WRA				Sn	Sn	23 45 48.8	-3.6
	0.1nm,0.3s,baz=100,slow=23,SNR=4.6						
WRA				Lg	Lg	23 47 18.3	
	0.1nm,0.3s,baz=107,slow=27,SNR=5.8						
ASAR	**Alice Springs**	**13.36**	**262**	Pn	Pn	23 43 24.1	+0.5
	0.1nm,0.3s,baz=95,slow=13,SNR=6.0						
ASAR				Sn	Sn	23 45 52.3	-0.7
	0.1nm,0.3s,baz=71,slow=24,SNR=4.4						
ASAR				Lg	Lg	23 47 18.1	
	0.1nm,0.3s,baz=81,slow=27,SNR=5.0						

*ISCJB **20** 00:09:03.1±1.1, 20.5S×178.2W±0.3, h534km, mb3.2/4, Error ellipse: s-maj=35.8km s-min=22.9km az=38.0*
*IDC **20** 00:09:09.0±9.6, 20.73S×178.16W, h605km±127km, mb2.7/4, mb1 3.1/5, mb1mx2.9/18, mbtmp2.8/5, Error ellipse: s-maj=67.7km s-min=32.7km az=8.0*
ISC 20 00:09:03.3±1.2, 20.5S±0.2×178.1W±0.3, h534km, n6, σ1.9 73/6, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.18**	**192**	P	P	**00 12 43.3**	**-0.1**
	0.8nm,0.3s,baz=24,slow=18,SNR=4.3						
ASAR	**Alice Springs**	**44.41**	**257**	P	P	**00 16 28.1**	**+1.2**
	0.5nm,0.8s,baz=99,slow=8.0,SNR=5.4						
WRA	**Warramunga Arr**	**44.49**	**262**	P	P	**00 16 27.3**	**-0.2**
	0.5nm,1.0s,baz=96,slow=7.7,SNR=9.0						
ILAR	**Eielson Array**	**88.33**	**13**	P	P	**00 20 57.6**	**0.0**
	0.4nm,0.5s,baz=216,slow=5.4,SNR=9.2						
PDAR	**Pinedale Array**	**89.04**	**43**	P	P	**00 21 02.8**	**+1.0**
	0.7nm,0.8s,baz=201,slow=3.5,SNR=4.6						
AKASG	**Malin Array Be**	**142.95**	**331**	PKP	**PKPdf**	**00 27 33.5**	**-2.5**
	1.4nm,0.6s,baz=44,slow=4.2,SNR=16						

*JMA **20** 00:12:27.7, 23.71N×121.64E, h35km±2km, M3.0*
*ISCJB **20** 00:12:28.8±0.3, 23.73N±0.02×121.66E±0.02, h35km±5km, Error ellipse: s-maj=3.5km s-min=2.4km az=141.9*
*TAP **20** 00:12:28.5, 23.75N×121.62E, h38km, ML3.5, B*
ISC 20 00:12:29.0±1.0, 23.73N±0.02×121.65E±0.02, h33km±1km, n52, σ0.9 90/88, 14C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.10**	**260**	P	**Pn**	**00 12 35.1**	**+0.3**
	baz=235						
TEGC				*e*S	**Sb**	**00 12 40.9**	**+2.2**
	baz=235						
ESF	**Shoufeng Towns**	**0.19**	**319**	P	**Pn**	**00 12 35.3**	**+0.6**
	baz=304						
ESF				S	Sn	00 12 40.5	+3.8
	baz=304						
ESL	**Shilin**	**0.21**	**294**	⇑*i*P	**Pn**	**00 12 35.2**	**0.0**
	baz=289						
ESL				*e*S	Sn	00 12 39.9	+2.0
	baz=289						
HWA	**Hwalien**	**0.25**	**352**	P	**Pn**	**00 12 35.9**	**-0.3**
	baz=5.0						
HWA				*e*S	**Sn**	**00 12 42.0**	**+2.0**
	baz=5.0						
TWD	**Chiawan**	**0.36**	**353**	P	**Pb**	**00 12 36.8**	**-0.7**
	baz=349						
TWD				S	**Sn**	**00 12 43.1**	**-0.5**
	baz=349						
EHY	**Hungye**	**0.37**	**234**	⇑*i*P	**Pb**	**00 12 37.1**	**-0.6**
	baz=227						
EHY				S	**Sn**	**00 12 42.5**	**-1.4**
	baz=227						
TWF1	**Yuli**	**0.49**	**221**	⇑*i*P	**Pn**	**00 12 38.9**	**-0.9**
	baz=225						
TWF1				*e*S	**Sb**	**00 12 45.6**	**-1.1**
	baz=225						
WHF	**Hehuan Shan**	**0.54**	**320**	⇑*i*P	Pn	00 12 39.4	-1.4
	baz=312						
WHF				S	**Sn**	**00 12 46.8**	**-2.2**
	baz=312						
CHKT	**Chengkung**	**0.67**	**202**	*e*P	**Pn**	**00 12 41.9**	**-0.3**
	baz=187						
CHKT				*e*S	**Sn**	**00 12 52.2**	**+0.6**
	baz=187						
YUS	**Yu-Shan**	**0.68**	**250**	⇑*i*P	**Pn**	**00 12 42.6**	**-0.1**
	baz=247						
YUS				S	**Sn**	**00 12 51.3**	**-1.1**
	baz=247						
TWT	**Tachien**	**0.68**	**321**	⇑*i*P	**Pn**	**00 12 41.9**	**-0.6**
	baz=314						
TWT				S	**Sn**	**00 12 50.3**	**-1.7**
	baz=314						
SMLT	**Sun Moon Lake**	**0.70**	**283**	⇑*i*P	**Pn**	**00 12 42.1**	**-0.6**
	baz=283						
SMLT				S	**Sn**	**00 12 52.1**	**-0.3**
	baz=283						
ENA	**Nanau**	**0.70**	**7**	*e*P	**Pn**	**00 12 41.7**	**-1.0**
	baz=360						
TYC	**Yuchr**	**0.74**	**284**	⇑*i*P	**Pn**	**00 12 42.5**	**-0.6**
	baz=286						
TYC				S	**Sn**	**00 12 52.2**	**-1.1**
	baz=286						
NNS	**Nan Shan**	**0.75**	**341**	*e*P	**Pn**	**00 12 42.6**	**-0.9**
	baz=342						
NNS				*e*S	**Sn**	**00 12 51.8**	**-2.0**
	baz=342						
ELDTW	**Lidau**	**0.79**	**227**	⇑*i*P	**Pn**	**00 12 42.8**	**-1.1**
	baz=220						
ELDTW				*e*S	**Sn**	**00 12 52.8**	**-1.7**
	baz=220						
ALS	**Alishan**	**0.80**	**255**	⇑*i*P	**Pn**	**00 12 44.2**	**0.0**
	baz=252						
ALS				*e*S	**Sn**	**00 12 54.4**	**-0.8**
	baz=252						
WNT	**Mingjian**	**0.89**	**280**	*e*P	**Pn**	**00 12 45.4**	**+0.2**
	baz=278						
WNT				*e*S	**Sn**	**00 12 57.5**	**+0.5**
	baz=278						
CHN5	**Tsauling**	**0.90**	**262**	⇑*i*P	**Pn**	**00 12 45.6**	**+0.2**
	baz=260						
CHN5				S	**Sn**	**00 12 57.7**	**+0.5**
	baz=260						
TWC	**Suao**	**0.90**	**12**	P	**Pn**	**00 12 45.1**	**-0.3**
	baz=23						
TWC				S	**Sn**	**00 12 57.3**	**+0.1**
	baz=23						
ENTT	**Nioudou**	**0.91**	**355**	*e*P	**Pn**	**00 12 44.9**	**-0.6**
	baz=348						
ENTT				*e*S	**Sn**	**00 12 56.8**	**-0.8**
	baz=348						
TCU	**Taichung**	**0.98**	**296**	*e*P	**Pn**	**00 12 46.6**	**+0.1**
	baz=294						
NSK	**Sanguang**	**0.98**	**345**	⇑P	**Pn**	**00 12 46.0**	**-0.5**
	baz=354						
NSK				S	**Sn**	**00 12 57.8**	**-1.6**
	baz=354						
STYT	**Tauyuan**	**0.99**	**236**	P	**Pn**	**00 12 46.7**	**+0.1**
	baz=228						
STYT				*e*S	**Sn**	**00 12 59.6**	**+0.1**
	baz=228						
WGK	**Gukeng**	**0.99**	**268**	*e*P	**Pn**	**00 12 46.4**	**-0.2**
	baz=266						
WGK				*e*S	**Sn**	**00 12 59.9**	**+0.3**
	baz=266						
TWQ1	**Liyutan**	**1.01**	**308**	⇑*i*P	**Pn**	**00 12 47.6**	**+0.7**
	baz=306						
TWQ1				*e*S	**Sn**	**00 13 00.7**	**+0.7**
	baz=306						
CHN4	**Tsaushan**	**1.03**	**249**	*e*P	**Pn**	**00 12 47.8**	**+0.6**
	baz=247						
CHN4				*e*S	**Sn**	**00 13 01.9**	**+1.3**
	baz=247						
TWG	**Pinlang**	**1.04**	**210**	*e*P	Pn	00 12 45.9	-1.4
	baz=196						
TWG				*e*S	**Sn**	**00 12 58.7**	**-2.1**
	baz=196						
WTP	**Ta-pu**	**1.06**	**243**	⇑*i*P	**Pn**	**00 12 48.1**	**+0.5**
	baz=241						
WTP				*e*S	**Sn**	**00 13 01.8**	**+0.5**
	baz=241						
NSY	**Sanyi**	**1.06**	**311**	*e*P	**Pn**	**00 12 47.9**	**+0.3**
	baz=308						
NSY				*e*S	**Sn**	**00 13 02.1**	**+0.9**
	baz=308						
NSTT	**Nanjuang**	**1.08**	**327**	*e*P	**Pn**	**00 12 48.0**	**+0.3**
	baz=326						
NSTT				*e*S	**Sn**	**00 13 01.1**	**-0.5**
	baz=326						
CHY	**Chiayi**	**1.14**	**259**	*e*P	**Pn**	**00 12 48.7**	**+0.1**
	baz=258						
TWK	**Hsinying**	**1.16**	**247**	*e*P	**Pn**	**00 12 49.4**	**+0.5**
	baz=245						
TWK				*e*S	**Sn**	**00 13 04.5**	**+0.8**
	baz=245						
CHN1	**Nanshi**	**1.16**	**243**	*e*P	**Pn**	**00 12 49.3**	**+0.4**
	baz=241						
CHN1				*e*S	**Sn**	**00 13 04.9**	**+1.3**
	baz=241						
SGST	**Jiashian**	**1.17**	**237**	*e*P	**Pn**	**00 12 49.5**	**+0.4**
	baz=235						
SGST				*e*S	**Sn**	**00 13 05.2**	**+1.4**
	baz=235						
WTCT	**Ta-ch'eng**	**1.26**	**277**	*e*P	**Pn**	**00 12 50.7**	**+0.4**
	baz=276						
ECL	**Taimali**	**1.29**	**210**	*e*P	**Pn**	**00 12 50.3**	**-0.5**
	baz=200						
TWB1	**Santiao Chiao**	**1.31**	**14**	*e*P	**Pn**	**00 12 50.8**	**-0.2**
	baz=36						
TWB1				*e*S	**Sn**	**00 13 09.1**	**+1.6**
	baz=36						
NWF	**Wu-fen Shan**	**1.34**	**5**	*e*P	**Pn**	**00 12 52.5**	**+0.9**
	baz=354						
SSD	**Sandimen**	**1.35**	**224**	*e*P	**Pn**	**00 12 51.4**	**-0.1**
	baz=223						
TWS1	**Kuangyinshan**	**1.39**	**351**	*e*P	**Pn**	**00 12 52.1**	**+0.1**
	baz=351						
TWM1	**Shoushan**	**1.44**	**232**	*e*P	**Pn**	**00 12 54.0**	**+1.2**
	baz=231						
YOJ	**Yonaguni jima**	**1.45**	**59**	P	**Pn**	**00 12 53.0**	**+0.1**
YOJ				*e*S	**Sn**	**00 13 10.5**	**-0.2**
YOJ	**Yonaguni jima**	**1.45**	**59**	*e*P	**Pn**	**00 12 53.0**	**+0.1**
	baz=61						
EAST	**Anshuo**	**1.52**	**209**	*e*P	**Pn**	**00 12 55.5**	**+1.5**
	baz=200						
LAY	**Lan-yu**	**1.68**	**183**	*e*P	**Pn**	**00 12 56.3**	**+0.2**
	baz=182						
IRIF	**Iriomote-Funau**	**2.00**	**72**	P	**Pn**	**00 13 00.8**	**+0.3**
IRIF				*e*S	**Sn**	**00 13 24.8**	**+0.4**
HATJ	**Hateruma jima**	**2.00**	**80**	P	**Pn**	**00 13 00.7**	**+0.2**
HATJ				*e*S	**Sn**	**00 13 24.2**	**-0.3**
JKRS	**Kuro-shima**	**2.22**	**76**	P	**Pn**	**00 13 04.3**	**+0.8**
JKRS				*e*S	**Sn**	**00 13 30.6**	**+0.8**
JIJ	**Ishigaki jima**	**2.37**	**74**	P	**Pn**	**00 13 05.4**	**-0.2**
JIJ				*e*S	**Sn**	**00 13 32.7**	**-0.8**
JTJ	**Tarama**	**2.94**	**71**	P	**Pn**	**00 13 13.6**	**+0.2**
JTJ				*e*S	**Sn**	**00 13 47.5**	**0.0**
KNM	**Kinmen**	**3.02**	**284**	*e*P	**Pn**	**00 13 15.9**	**+1.5**
	baz=281						
KNM				*e*S	**Sn**	**00 13 50.4**	**+1.0**
	baz=281						

IDC 20 00:14:02.4±4.8, 29.87S×178.09W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/17, mbtmp3.4/2, Error ellipse: s-maj=249.5km s-min=72.1km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.06**	**266**	P	P	00 22 04.2	0.0
	0.2nm,0.5s,baz=113,slow=6.1,SNR=3.7						
WRA	**Warramunga Arr**	**44.00**	**272**	P	P	00 22 11.6	-0.2
	0.4nm,0.5s,baz=112,slow=7.9,SNR=9.4						
FINES	**FINESS Array B**	**144.62**	**340**	PKP	PKPbc	00 33 39.5	+0.6
	4.5nm,1.1s,baz=43,slow=6.3,SNR=3.2						

GUC 20 00:44:27.0±0.5, 28.54S×70.37W, h89km±6km, ML4.0,

2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.34**	**264**	*e*P	Pn	00 44 41.0	+0.4
VACH				*i* S	Sn	00 44 51.0	+0.3
VACH				AML	AML	00 44 52.1	
	comp=E,21μm,0.1s						
LCO	**Las Campanas**	**0.55**	**212**	⇓*i*P	Pn	00 44 43.0	+0.6
LCO				*i* S	Sn	00 44 54.8	+1.0
LCO				AML	AML	00 44 55.5	
	comp=E,2μm,0.3s						
CPCH	**Copiapo**	**1.18**	**1**	⇑*i*P	Pn	00 44 48.9	+0.2
CPCH				*i* S	Sn	00 45 05.7	+0.6
CPCH				AML	AML	00 45 07.3	
	comp=E,12μm,0.1s						
CDCH	**Caldera**	**1.52**	**345**	*e*P	Pn	00 44 53.0	+0.1
CDCH				*e*S	Sn	00 45 11.5	-1.1
TLL	**Tololo Astrono**	**1.66**	**193**	⇑*i*P	Pn	00 44 55.7	+0.5
TLL				*e*S	Sn	00 45 16.8	+0.4

TAP 20 01:04:29.1, 23.78N×121.63E, h37km, ML3.5, 8C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.10**	**231**	P	Pn	01 04 35.8	-6.7
	baz=227						
TEGC				*e*S	Sn	01 04 40.9	-14
	baz=227						
ESF	**Shoufeng Towns**	**0.15**	**310**	P	Pn	01 04 35.8	-4.4
	baz=296						
ESF				S	Sn	01 04 40.8	-10
	baz=296						
ESL	**Shilin**	**0.18**	**282**	⇑*i*P	Pn	01 04 35.8	-3.1
	baz=282						
ESL				S	Sn	01 04 40.5	-7.9
	baz=282						
HWA	**Hwalien**	**0.20**	**354**	*e*P	Pn	01 04 36.4	-2.0
	baz=3.0						
HWA				S	Sn	01 04 41.8	-5.6
	baz=3.0						
TWD	**Chiawan**	**0.30**	**354**	⇓P	Pn	01 04 37.1	-0.3
	baz=348						
TWD				*i* S	Sn	01 04 43.5	-0.9
	baz=348						
EHY	**Hungye**	**0.39**	**227**	⇑P	Pn	01 04 37.9	-0.1
	baz=225						
EHY				*e*S	Sn	01 04 44.1	-0.7
	baz=225						
WHF	**Hehuan Shan**	**0.50**	**318**	⇑*i*P	Pn	01 04 39.8	-0.5
	baz=312						
WHF				*e*S	Sn	01 04 47.7	-0.4
	baz=312						
TWF1	**Yuli**	**0.52**	**216**	⇑*i*P	Pn	01 04 39.8	-0.4
	baz=224						
TWF1				*i* S	Sn	01 04 47.2	-0.5
	baz=224						
TWT	**Tachien**	**0.63**	**319**	*e*P	Pn	01 04 42.1	+0.1
	baz=312						
TWT				*e*S	Sn	01 04 50.7	-0.3
	baz=312						
ENA	**Nanau**	**0.66**	**9**	*e*P	Pn	01 04 42.0	0.0
	baz=359						
ENA				*e*S	Sn	01 04 51.3	+0.1
	baz=359						
SMLT	**Sun Moon Lake**	**0.68**	**279**	⇑*i*P	Pn	01 04 42.7	+0.3
	baz=281						
SMLT				S	Sn	01 04 52.0	+0.2
	baz=281						
YUS	**Yu-Shan**	**0.68**	**246**	⇑P	Pn	01 04 43.4	+0.3
	baz=245						
YUS				S	Sn	01 04 52.1	-0.7
	baz=245						
NNS	**Nan Shan**	**0.70**	**341**	*e*P	Pn	01 04 42.7	-0.1
	baz=340						
NNS				*e*S	Sn	01 04 51.4	-1.2
	baz=340						
CHKT	**Chengkung**	**0.71**	**200**	*e*P	Pn	01 04 43.4	+0.6
	baz=187						
CHKT				*e*S	Sn	01 04 53.6	+1.1
	baz=187						
TYC	**Yuchr**	**0.72**	**280**	⇑*i*P	Pn	01 04 43.2	+0.4
	baz=286						
TYC				*e*S	Sn	01 04 52.6	0.0
	baz=286						
ALS	**Alishan**	**0.80**	**251**	*e*P	Pn	01 04 45.0	+0.7
	baz=250						
ALS				*e*S	Sn	01 04 55.1	-0.2
	baz=250						
ELDTW	**Lidau**	**0.81**	**224**	*e*P	Pn	01 04 44.0	-0.2
	baz=219						
ELDTW				*e*S	Sn	01 04 54.5	-0.6
	baz=219						
TWC	**Suao**	**0.85**	**13**	*e*P	Pn	01 04 45.4	+0.7
	baz=24						
TWC				S	Sn	01 04 57.2	+1.3
	baz=24						
ENTT	**Nioudou**	**0.86**	**356**	*e*P	Pn	01 04 45.0	+0.2
	baz=347						
ENTT				*e*S	Sn	01 04 57.2	+0.9
	baz=347						
WNT	**Mingjian**	**0.87**	**277**	*e*P	Pn	01 04 45.8	+0.9
	baz=276						
WNT				*e*S	Sn	01 04 58.4	+2.0
	baz=276						
CHN5	**Tsauling**	**0.89**	**259**	⇓P	Pn	01 04 46.7	+1.5
	baz=258						
CHN5				*e*S	Sn	01 04 58.5	+1.4
	baz=258						
NSK	**Sanguang**	**0.93**	**345**	⇑*i*P	Pn	01 04 46.4	+0.6
	baz=354						
NSK				S	Sn	01 04 57.7	-0.3
	baz=354						
TCU	**Taichung**	**0.95**	**293**	*e*P	Pn	01 04 47.6	+1.7
	baz=292						
TCU				*e*S	Sn	01 05 00.9	+2.7
	baz=292						
TWQ1	**Liyutan**	**0.97**	**306**	*e*P	Pn	01 04 47.8	+1.6
	baz=304						
TWQ1				*e*S	Sn	01 05 00.6	+1.8
	baz=304						
WGK	**Gukeng**	**0.98**	**265**	*e*P	Pn	01 04 47.7	+1.3
	baz=265						
WGK				*e*S	Sn	01 05 00.9	+1.8
	baz=265						
STYT	**Tauyuan**	**1.01**	**233**	*e*P	Pn	01 04 47.4	+0.6
	baz=227						
STYT				*e*S	Sn	01 05 00.5	+0.7
	baz=227						
NSY	**Sanyi**	**1.02**	**309**	*e*P	Pn	01 04 48.2	+1.3
	baz=307						
NSY				*e*S	Sn	01 05 01.8	+1.8
	baz=307						
NSTT	**Nanjuang**	**1.03**	**326**	*e*P	Pn	01 04 48.3	+1.3
	baz=325						
NSTT				*e*S	Sn	01 05 01.4	+1.2
	baz=325						
WTP	**Ta-pu**	**1.07**	**241**	*e*P	Pn	01 04 49.1	+1.5
	baz=240						
WTP				*e*S	Sn	01 05 03.5	+2.1
	baz=240						
TWG	**Pinlang**	**1.08**	**208**	*e*P	Pn	01 04 47.1	-0.6
	baz=195						
TWG				*e*S	Sn	01 05 00.1	-1.4
	baz=195						
CHY	**Chiayi**	**1.14**	**256**	*e*P	Pn	01 04 51.6	+3.1
	baz=257						
CHY				*e*S	Sn	01 05 05.9	+3.0
	baz=257						
TWK	**Hsinying**	**1.16**	**244**	*e*P	Pn	01 04 50.2	+1.2
	baz=244						
TWK				*e*S	Sn	01 05 05.8	+2.1
	baz=244						
CHN1	**Nanshi**	**1.17**	**240**	*e*P	Pn	01 04 50.3	+1.3
	baz=240						
CHN1				*e*S	Sn	01 05 05.1	+1.4
	baz=240						
SGST	**Jiashian**	**1.18**	**235**	*e*P	Pn	01 04 50.9	+1.8
	baz=228						
SGST				*e*S	Sn	01 05 06.0	+1.9
	baz=228						
WTCT	**Ta-ch'eng

TWB1					*e*S		Sn	01 05 07.7	+1.6
	baz=20								
NWF	**Wu-fen Shan**	**1.30**	**6**	*e*P			Pn	01 04 51.8	+0.9
	baz=353								
NWF					*e*S		Sn	01 05 08.5	+1.5
	baz=353								
ECL	**Taimali**	**1.33**	**208**	*e*P			Pn	01 04 51.3	+0.2
	baz=196								
ECL					*e*S		Sn	01 05 07.7	+0.1
	baz=196								
TWS1	**Kuangyinshan**	**1.33**	**352**	*e*P			Pn	01 04 53.6	+2.4
	baz=351								
SSD	**Sandimen**	**1.38**	**222**	*e*P			Pn	01 04 52.9	+1.1
	baz=223								
EAST	**Anshuo**	**1.56**	**208**	*e*P			Pn	01 04 55.6	+1.2
	baz=198								
EAST					*e*S		Sn	01 05 13.6	+0.1
	baz=198								
LAY	**Lan-yu**	**1.73**	**182**	*e*P			Pn	01 04 57.0	+0.3
	baz=173								
LAY					*e*S		Sn	01 05 17.3	-0.2
	baz=173								
TWK1	**Hengchun**	**1.98**	**203**	*e*P			Pn	01 05 00.5	+0.4
	baz=193								
KNM	**Kinmen**	**2.99**	**283**	*e*P			Pn	01 05 15.1	+1.1
	baz=282								

IDC 20 01:07:54.6±7.5, 18°.15S×176°.48W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/19, mbtmp3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx3.5/20, Error ellipse: s-maj=322.7km s-min=66.4km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.18**	**48**	LR	LR	01 10 57.8	
	comp=Z,930nm,21.4s,baz=70,slow=30						
WRA	**Warramunga Arr**	**46.40**	**259**	P	P	01 16 22.5	-0.8
	0.2nm,0.3s,baz=95,slow=8.1,SNR=5.5						
ASAR	**Alice Springs**	**46.50**	**254**	P	P	01 16 24.4	+0.3
	1.4nm,0.6s,baz=89,slow=8.5,SNR=30						
BRTR	**Keskin Array B**	**146.25**	**316**	PKPbc	PKPdf	01 27 36.6	+0.2
	0.2nm,0.4s,baz=65,slow=3.8,SNR=4.1						

NIED ***20*** *02:12:00, 23°.80N×121°.60E, h38km, Mw4.1 Best double couple: M0 1.55000×10^15 NP1:φs143.00000°, δ84.00000°, λ47.00000°. NP2:φs47.00000°, δ43.00000°, λ172.00000°.*
BJI ***20*** *02:12:22.5, 23°.91N×121°.58E, h7km, mB4.3/4, mb4.0/9, ML4.1/5, Ms7 3.4/1*
ISCJB ***20*** *02:12:24.7±0.2, 23°.80N±0°.01×121°.70E±0°.02, h47km±2km, mb4.0/29, MS3.9/2, Error ellipse: s-maj=2.6km s-min=1.7km az=33.1*
NEIC ***20*** *02:12:24.5±1.5, 23°.78N×121°.68E, h34km±11km, mb4.1/13, Error ellipse: s-maj=6.7km s-min=4.5km az=80.0*
NEIC Recorded [3 TAP] in Hua-lien, [2 TAP] in T'ai-tung and [1 TAP] in Nan-t'ou and Yun-lin.
JMA ***20*** *02:12:24.3, 23°.80N×121°.65E, h38km±1km, M4.1*
TAP ***20*** *02:12:24.9, 23°.82N×121°.66E, h39km, ML4.7, B*
IDC ***20*** *02:12:30.4±5.3, 23°.73N×121°.57E, h88km±49km, mb3.6/15, mb1 3.7/16, mb1mx3.6/29, mbtmp3.6/16, ML3.3/1, MS3.8/3, Ms1 3.9/3, ms1mx3.1/36, Error ellipse: s-maj=25.3km s-min=11.8km az=65.0*

ISC 20 02:12:24.2±0.6, 23°.80N±0°.02×121°.68E±0°.02, h31km±4km, n145, σ1°09/214, mb4.0/29, 21C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.16**	**235**	*e*P		**02 12 32.5**	**+1.9**
	baz=219						
TEGC				*e*S	Sn	02 12 38.3	+3.9
	baz=219						
ESF	**Shoufeng Towns**	**0.17**	**294**	*e*P		**02 12 32.0**	**+1.3**
	baz=290						
ESF				*e*S		**02 12 37.0**	**+2.3**
	baz=290						
HWA	**Hwalien**	**0.19**	**338**	⇓*i*P		**02 12 31.9**	**+0.9**
	baz=354						
HWA				*e*S		**02 12 37.4**	**+2.2**
	baz=354						
ESL	**Shilin**	**0.23**	**273**	⇓*i*P		**02 12 32.0**	**+1.2**
	baz=268						
TWD	**Chiawan**	**0.29**	**344**	⇓*i*P		**02 12 32.7**	**+1.1**
	baz=357						
TWD				S		**02 12 38.8**	**+1.2**
	baz=357						
NACB	**Ninganchiao**	**0.38**	**348**	*e*Pn		**02 12 33.2**	**+0.3**
NACB				*e*Sn		**02 12 40.2**	**+0.3**
EHY	**Hungye**	**0.44**	**228**	⇑*i*P		**02 12 34.4**	**+0.6**
	baz=222						
EHY				*e*S		**02 12 41.1**	**+0.8**
	baz=222						
EHP	**Heping Village**	**0.51**	**6**	P		**02 12 35.8**	**+0.9**
	baz=17						
EHP				S		**02 12 44.3**	**+1.1**
	baz=17						
WHF	**Hehuan Shan**	**0.51**	**312**	⇓*i*P		**02 12 35.5**	**+0.3**
	baz=307						
WHF				*e*S		**02 12 42.4**	**-0.3**
	baz=307						
YULB	**Yu-li**	**0.54**	**221**	*e*Pn		**02 12 35.1**	**-0.2**
YULB				*e*Sn		**02 12 42.7**	**-0.2**
TWF1	**Yuli**	**0.57**	**218**	⇑*i*P		**02 12 36.2**	**+0.4**
	baz=222						
TWF1				S		**02 12 44.3**	**+0.5**
	baz=222						
ENA	**Nanau**	**0.63**	**5**	⇓*i*P		**02 12 37.2**	**+0.5**
	baz=18						
ENA				*e*S		**02 12 45.9**	**+0.6**
	baz=18						
TWT	**Tachien**	**0.65**	**314**	⇓*i*P		**02 12 37.8**	**+0.6**
	baz=314						
TWT				*e*S		**02 12 46.2**	**+0.2**
	baz=314						
SSLB	**Suanglung**	**0.67**	**269**	*e*Pn		**02 12 37.4**	**-0.1**
SSLB				*e*Sn		**02 12 46.6**	**+0.1**
NNS	**Nan Shan**	**0.69**	**336**	*e*P		**02 12 38.0**	**0.0**
	baz=338						
NNS				*e*S		**02 12 47.2**	**-0.2**
	baz=338						
SMLT	**Sun Moon Lake**	**0.72**	**277**	⇑*i*P		**02 12 38.8**	**+0.4**
	baz=277						
SMLT				S		**02 12 48.1**	**+0.1**
	baz=277						
YUS	**Yu-Shan**	**0.74**	**245**	⇑*i*P		**02 12 39.8**	**+0.8**
	baz=234						
YUS				S		**02 12 49.0**	**+0.1**
	baz=234						
CHKT	**Chengkung**	**0.76**	**203**	*e*P		**02 12 39.3**	**+0.5**
	baz=187						
CHKT				*e*S		**02 12 50.6**	**+1.4**
	baz=187						
TYC	**Yuchr**	**0.76**	**278**	⇑*i*P		**02 12 39.2**	**+0.4**
	baz=283						
TYC				*e*S		**02 12 48.7**	**-0.3**
	baz=283						
TWC	**Suao**	**0.82**	**11**	P		**02 12 40.4**	**+0.8**
	baz=21						
TWC				S		**02 12 51.4**	**+0.7**
	baz=21						
ENTT	**Nioudou**	**0.84**	**353**	P		**02 12 40.2**	**+0.3**
	baz=355						
ALS	**Alishan**	**0.85**	**250**	⇑*i*P		**02 12 41.4**	**+1.0**
	baz=248						
ALS				*e*S		**02 12 52.3**	**+0.3**
	baz=248						
ELDTW	**Lidau**	**0.86**	**225**	⇑P		**02 12 40.2**	**-0.1**
	baz=217						
ELDTW				*e*S		**02 12 51.8**	**-0.2**
	baz=217						
YHNB	**Yeheng**	**0.91**	**342**	*e*Pn		**02 12 41.1**	**+0.2**
YHNB				*e*Sn		**02 12 52.5**	**-0.6**
WNT	**Mingjian**	**0.92**	**275**	⇑*i*P		**02 12 42.5**	**+0.9**
	baz=274						
WNT				*e*S		**02 12 54.4**	**+1.0**
	baz=274						
NSK	**Sanguang**	**0.92**	**341**	⇓*i*P		**02 12 41.6**	**+0.5**
	baz=344						
NSK				*e*S		**02 12 52.5**	**-0.8**
	baz=344						
CHN5	**Tsauling**	**0.94**	**258**	⇑*i*P		**02 12 42.7**	**+1.3**
	baz=256						
CHN5				*e*S		**02 12 55.1**	**+0.8**
	baz=256						
ILA	**Ilan**	**0.96**	**4**	*e*P		**02 12 42.4**	**+0.8**
	baz=356						
ILA				*e*S		**02 12 55.4**	**+1.1**
	baz=356						
TCU	**Taichung**	**0.98**	**291**	⇑*i*P		**02 12 43.6**	**+0.9**
	baz=290						
TCU				*e*S		**02 12 55.4**	**+0.7**
	baz=290						
TWQ1	**Liyutan**	**0.99**	**303**	⇑*i*P		**02 12 43.6**	**+0.7**
	baz=303						
TWQ1				*e*S		**02 12 56.2**	**+0.6**
	baz=303						
WGK	**Gukeng**	**1.03**	**264**	⇑*e*P		**02 12 43.6**	**+1.1**
	baz=263						
WGK				*e*S		**02 12 56.9**	**+0.9**
	baz=263						
NSTT	**Nanjuang**	**1.03**	**323**	P		**02 12 44.1**	**+0.5**
	baz=309						
NSTT				S		**02 12 56.6**	**+0.6**
	baz=309						
NSY	**Sanyi**	**1.04**	**306**	⇑*i*P		**02 12 44.4**	**+0.7**
	baz=306						
NSY				*e*S		**02 12 58.1**	**+1.2**
	baz=306						
STYT	**Tauyuan**	**1.06**	**233**	⇑*i*P		**02 12 44.2**	**+1.2**
	baz=225						
STYT				*e*S		**02 12 57.4**	**+0.6**
	baz=225						
TPUB	**Ta-pu**	**1.09**	**243**	*e*Pn		**02 12 44.3**	**+0.9**
TPUB				*e*Sn		**02 13 00.2**	**+1.9**
CHN4	**Tsaushan**	**1.09**	**246**	⇑P		**02 12 45.2**	**+0.6**
	baz=244						
CHN4				*e*S		**02 12 59.5**	**+0.9**
	baz=244						
WTP	**Ta-pu**	**1.12**	**241**	⇑*i*P		**02 12 45.6**	**+0.5**
	baz=238						
WTP				*e*S		**02 13 00.1**	**+0.7**
	baz=238						
TWG	**Pinlang**	**1.12**	**210**	*e*P		**02 12 43.3**	**-0.5**
	baz=195						
TWG				*e*S		**02 12 57.4**	**-0.9**
	baz=195						
TWG	**Pinlang**	**1.12**	**210**	*e*Pn		**02 12 42.8**	**-1.0**
TWG				*e*Sn		**02 12 57.0**	**-1.3**
TTN	**Taitung**	**1.15**	**205**	*e*P		**02 12 44.9**	**+0.7**
	baz=200						
TTN				*e*S		**02 13 00.1**	**+1.1**
	baz=200						
TATO	**Taipei**	**1.18**	**351**	*e*Pn		**02 12 44.6**	**-0.1**
TATO				*e*Sn		**02 13 01.3**	**+0.3**
HSN	**Hsinchu**	**1.19**	**327**	*e*P		**02 12 45.8**	**+1.1**
	baz=329						
HSN				*e*S		**02 13 01.8**	**+0.6**
	baz=329						
CHY	**Chiayi**	**1.19**	**256**	⇑*e*P		**02 12 46.3**	**+1.5**
	baz=254						
CHY				*e*S		**02 13 00.9**	**+1.0**
	baz=254						
TWK	**Hsinying**	**1.22**	**244**	⇑*e*P		**02 12 46.7**	**+1.5**
	baz=242						
TWK				*e*S		**02 13 02.6**	**+0.5**
	baz=242						
CHN1	**Nanshi**	**1.22**	**240**	⇑P		**02 12 46.9**	**+1.7**
	baz=238						
CHN1				*e*S		**02 13 02.9**	**+0.7**
	baz=238						
TWB1	**Santiao Chiao**	**1.23**	**13**	*e*P		**02 12 46.9**	**+1.5**
	baz=18						
TWB1				*e*S		**02 13 03.0**	**+0.5**
	baz=18						
SGST	**Jiashian**	**1.24**	**235**	*e*P		**02 12 47.4**	**+0.4**
	baz=232						
SGST				*e*S		**02 13 03.1**	**+0.5**
	baz=232						
TAP1	**Taipei**	**1.24**	**353**	*e*P		**02 12 46.2**	**+0.8**
	baz=355						
TAP1				*e*S		**02 13 01.9**	**+0.8**
	baz=355						
TAP	**Taipei**	**1.24**	**353**	*e*P		**02 12 46.3**	**+0.8**
	baz=355						
TAP				*e*S		**02 13 01.9**	**+0.7**
	baz=355						
NCU	**National Centr**	**1.25**	**339**	*e*P		**02 12 46.7**	**+1.1**
	baz=340						
NCU				*e*S		**02 13 02.8**	**+1.4**
	baz=340						
NWF	**Wu-fen Shan**	**1.27**	**4**	*e*P		**02 12 47.1**	**+1.1**
	baz=354						
NWF				*e*S		**02 13 02.9**	**+1.0**
	baz=354						
WTCT	**Ta-ch'eng**	**1.28**	**273**	⇑*e*P		**02 12 47.4**	**+1.4**
	baz=272						
WTCT				*e*S		**02 13 04.2**	**+0.3**
	baz=272						
TWS1	**Kuangyinshan**	**1.32**	**350**	*e*P		**02 12 47.7**	**+1.2**
	baz=351						
TWS1				*e*S		**02 13 04.6**	**+1.6**
	baz=351						
WSF	**Szhu**	**1.35**	**263**	*e*P		**02 12 48.3**	**+1.4**
	baz=262						
WSF				*e*S		**02 13 05.5**	**-0.2**
	baz=262						
ECL	**Taimali**	**1.37**	**209**	*e*P		**02 12 46.6**	**-0.6**
	baz=195						
ECL				*e*S		**02 13 05.0**	**+0.6**
	baz=195						
YOJ	**Yonaguni jima**	**1.38**	**61**	P		**02 12 48.7**	**+1.3**
YOJ				*e*S		**02 13 05.7**	**+1.1**
YOJ	**Yonaguni jima**	**1.38**	**61**	*i* P		**02 12 48.6**	**+1.2**
	baz=65						
YOJ				S		**02 13 05.8**	**+1.1**
	baz=65						
YOJ	**Yonaguni jima**	**1.38**	**61**	*e*Pn		**02 12 48.4**	**+1.0**
YOJ				*e*Sn		**02 13 05.2**	**+0.6**
CHN3	**Shinhua**	**1.41**	**239**	*e*P		**02 12 49.7**	**+2.0**
	baz=237						
CHN3				*e*S		**02 13 08.7**	**+1.3**
	baz=237						
CHN8	**Yiju**	**1.42**	**252**	*e*P		**02 12 48.9**	**+0.9**
	baz=251						
CHN8				*e*S		**02 13 06.9**	**+1.3**
	baz=251						
SSD	**Sandimen**	**1.43**	**223**	*e*P		**02 12 49.2**	**+1.2**
	baz=219						
SSD				*e*S		**02 13 07.1**	**+1.4**
	baz=219						
TWY	**Chenhua**	**1.47**	**357**	*e*P		**02 12 49.5**	**+0.9**
	baz=358						
SCLT	**Jiali**	**1.50**	**246**	*e*P		**02 12 50.3**	**+1.3**
	baz=245						
SCLT				*e*S		**02 13 09.8**	**-0.3**
	baz=245						
TWM1	**Shoushan**	**1.51**	**230**	*e*P		**02 12 52.1**	**+0.5**
	baz=240						
TWM1				*e*S		**02 13 10.5**	**0.0**
	baz=240						
SGLT	**Jiouru**	**1.53**	**226**	*e*P		**02 12 52.2**	**+0.2**
	baz=213						
TAI1	**Yung-k'ang**	**1.53**	**241**	*e*P		**02 12 50.7**	**+1.2**
	baz=253						
TAI1				*e*S		**02 13 10.3**	**+2.0**
	baz=253						
EAST	**Anshuo**	**1.61**	**209**	*e*P		**02 12 50.3**	**-0.3**
	baz=199						
TAW	**Tawu**	**1.61**	**207**	*e*P		**02 12 52.2**	**+1.7**
	baz=194						
TAW				*e*S		**02 13 11.0**	**+0.8**
	baz=194						
LAY	**Lan-yu**	**1.76**	**184**	*e*P		**02 12 52.2**	**-0.4**
	baz=172						
LAY				*e*S		**02 13 13.3**	**-0.7**
	baz=172						
PCYT	**Pengchaiyu**	**1.85**	**11**	*e*P		**02 12 55.2**	**+1.3**
	baz=31						
PCYT				*e*S		**02 13 17.2**	**+0.9**
	baz=31						
TWP	**Hsiaoliuchiu**	**1.89**	**220**	*e*P		**02 12 55.7**	**+1.3**
	baz=219						
WDGT	**Dungji**	**1.93**	**254**	*e*P		**02 12 55.5**	**+0.6**
	baz=253						
WDGT				*e*S		**02 13 17.9**	**-0.2**
	baz=253						
IRIF	**Iriomote-Funau**	**1.95**	**74**	P		**02 12 56.6**	**+1.4**
IRIF				*e*S		**02 13 20.5**	**+1.9**
HATJ	**Hateruma jima**	**1.96**	**82**	P		**02 12 56.9**	**+1.6**
HATJ				*e*S		**02 13 20.3**	**+1.4**
HEN	**Hengchun**	**1.99**	**206**	*e*P		**02 12 57.5**	**+1.7**
	baz=189						
HEN				*e*S		**02 13 23.0**	**+3.4**
	baz=189						
TWK1	**Hengchun**	**2.02**	**204**	*e*P		**02 12 57.9**	**+1.8**
	baz=198						
TWK1				*e*S		**02 13 21.3**	**+0.9**
	baz=198						
TSEB	**Hengchuen, Pin**	**2.02**	**201**	*e*P		**02 12 58.2**	**+2.0**
	baz=196						
TSEB				*e*S		**02 13 22.5**	**+2.0**
	baz=196						
JKRS	**Kuro-shima**	**2.17**	**78**	P		**02 13 00.0**	**+1.7**
JKRS				*e*S		**02 13 26.3**	**+2.1**
JIJ	**Ishigaki jima**	**2.32**	**76**	P		**02 13 01.3**	**+1.0**
JIJ				*e*S		**02 13 28.0**	**+0.2**
JTJ	**Tarama**	**2.88**	**73**	P		**02 13 09.3**	**+1.3**
JTJ				*e*S		**02 13 43.2**	**+1.5**
KNM	**Kinmen**	**3.03**	**282**	⇑*e*P		**02 13 11.8**	**+1.8**
	baz=282						
KNM				*e*S		**02 13 46.9**	**+1.5**
	baz=282						
QZH	**Quanzhou**	**3.04**	**293**	⇓*i*Pn		02 13 06.0	-4.2
QZH				Sn		02 13 38.4	-7.1
QZH				smax	smax		
	comp=N,880nm,0.9s						
QZH				smax	smax		
	comp=E,800nm,1.0s						
JMJ	**Miyako jima 2**	**3.45**	**72**	*e*S		**02 13 56.8**	**+1.2**
JKE	**Kume jima 2**	**5.27**	**60**	P		**02 13 41.7**	**+0.9**
JKE				*e*S		**02 14 41.7**	**+1.2**
APYP	**Conner**	**5.92**	**184**	*e*P		02 13 53.0	+3.1
APYP				*e*S		**02 14 59.7**	**+2.9**
JOW	**Kunigami**	**6.69**	**62**	*e*P		**02 14 00.1**	**-0.3**
	baz=64						
NJ2	**Nanjing**	**8.59**	**344**	*e*P		02 14 33.6	+7.2
NJ2				S		02 16 11.5	+9.2
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				smax	smax		
	comp=N,60nm,0.8s						
NJ2				smax	smax		
	comp=E,60nm,0.9s						
NJ2				LR	LR		
	comp=Z,300nm,14.2s						
KSAR	**Wonju Array Be**	**14.60**	**20**	P		**02 15 54.8**	**+0.1**
KSRS	**Korea Array**	**14.62**	**20**	P		**02 15 54.8**	**-0.1**
	0.1nm,0.3s,baz=197,slow=11,SNR=5.8						
JCJ	**Chichijima**	**18.80**	**76**	LR	LR	02 23 23.3	
	comp=Z,159nm,18.3s,baz=188,slow=34						
CMAR	**Chiang Mai Arr**	**21.86**	**260**	P		**02 17 15.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.86**	**260**	P		**02 17 15.7**	**+1.2**
	0.7nm,0.3s,baz=56,slow=8.0,SNR=7.9						
GTA	**Gaotai**	**24.18**	**315**	*e*P		**02 17 39.0**	**+1.0**
GTA				pP		**02 17 44.0**	**-2.9**
GTA				sP		**02 17 47.4**	**-3.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULN	**Ulaanbaatar**	**26.69**	**338**	*e*P		**02 18 00.5**	**-0.2**
	1.3nm,0.6s						
SONM	**Songino Array**	**26.90**	**337**	P		**02 18 02.2**	**-0.3**
SONM	**Songino Array**	**26.90**	**337**	P		**02 18 02.2**	**-0.3**
	0.9nm,0.9s,baz=158,slow=11,SNR=6.2						
SONM				LR	LR	02 29 44.8	
	comp=Z,123nm,19.1s,baz=239,slow=38						
KAPI	**Kappang**	**28.70**	**184**	*e*P		**02 18 17.9**	**-0.8**
	1.12nm,1.0s						
MK31	**Makanchi Array**	**38.93**	**316**	*e*P		**02 19 46.9**	**-0.3**
ZALV	**Zalesovo Beam**	**40.81**	**327**	P		**02 20 01.8**	**-0.9**
ZALV	**Zalesovo Beam**	**40.81**	**327**	P		**02 20 01.8**	**-0.9**
	1.0nm,0.5s,baz=109,slow=7.8,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**42.06**	**87**	T		T	03 05 34.0	
	baz=286,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**42.06**	**86**	T		T	03 05 35.6	
	baz=286,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**42.07**	**86**	T		T	03 05 36.3	
	baz=286,slow=75,SNR=36						
H11S3	**WAKE ISLAND Hy**	**42.17**	**88**	T		T	03 05 35.6	
	baz=287,slow=73,SNR=41						
H11S1	**WAKE ISLAND Hy**	**42.18**	**88**	T		T	03 05 39.5	
	baz=287,slow=73,SNR=20						
H11S2	**WAKE ISLAND Hy**	**42.19**	**88**	T		T	03 05 25.7	
	baz=287,slow=73,SNR=25						
TKM2	**Tokmak 2**	**42.36**	**308**	*e*P		**02 20 16.7**	**+0.9**
	4.6nm,1.1s						
KURK	**Kurchatov**	**42.67**	**320**	*e*P		**02 20 18.2**	**+0.2**
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**42.69**	**320**	P		**02 20 18.5**	**+0.3**
	0.3nm,0.4s,baz=113,slow=9.3,SNR=8.5						
COEN	**Coen**	**43.01**	**149**	*e*P		**02 20 21.1**	**0.0**
	56nm,0.9s						
AAK	**Ala-Archa**	**43.10**	**308**	*e*P		**02 20 22.4**	**+0.6**
	1.7nm,0.9s						
AAK	**Ala-Archa**	**43.10**	**308**	P		**02 20 22.8**	**+1.0**
	1.3nm,0.7s,baz=115,slow=11,SNR=4.5						
EKS2	**Erkin-Say**	**43.62**	**308**	*e*P		**02 20 24.7**	**-1.3**
	1.8nm,0.9s						
WRAB	**Tennant Creek**	**45.19**	**163**	*e*P		**02 20 37.0**	**-1.5**
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**45.20**	**163**	P		**02 20 37.5**	**-1.1**
WRA	**Warramunga Arr**	**45.20**	**163**	P		**02 20 37.5**	**-1.1**
	2.4nm,0.6s,baz=345,slow=8.7,SNR=38						
KKAR	**Karatay Array**	**46.06**	**308**	*e*P		**02 20 46.3**	**+1.0**
	2.0nm,0.8s						
KBL	**Kabul**	**46.74**	**296**	*e*P		**02 20 51.7**	**+0.8**
	9.6nm,1.1s						
BVAR	**Borovoye Array**	**48.26**	**321**	P		**02 21 02.5**	**+0.3**
BVAR				PcP		**02 22 27.4**	**-1.5**
BVAR	**Borovoye Array**	**48.26**	**321**	P		**02 21 02.5**	**+0.3**
	0.8nm,0.5s,baz=95,slow=8.4,SNR=7.1						
BVAR				PcP		**02 22 27.4**	**-1.5**
	0.7nm,0.7s,baz=103,slow=4.6,SNR=2.8						
BRVK	**Borovoye**	**48.33**	**321**	*e*P		**02 21 02.2**	**-0.5**
	2.5nm,0.9s						
AS31	**Alice Springs**	**48.65**	**165**	*e*P		**02 21 04.6**	**-0.9**
ASAR	**Alice Springs**	**48.65**	**165**	P		**02 21 05.3**	**-0.3**
ASAR	**Alice Springs**	**48.65**	**165**	P		**02 21 05.3**	**-0.3**
	2.4nm,0.9s,baz=354,slow=15,SNR=19						
CTA	**Charters Tower**	**49.77**	**149**	P		**02 21 14.8**	**+0.7**
CTA	**Charters Tower**	**49.77**	**149**	P		**02 21 14.8**	**+0.7**
	2.5nm,0.7s,baz=318,slow=9.3,SNR=5.3						
CTAO	**Charters Tower**	**49.77**	**149**	*e*P		**02 21 14.0**	**-0.1**
	2.3nm,0.6s						
ABKAR	**Akbulak array**	**54.03**	**315**	*e*P		**02 21 45.5**	**-0.1**
	0.6nm,0.5s						
FORT	**Forrest**	**54.61**	**173**	*e*P		**02 21 49.1**	**-0.8**
	7.4nm,0.5s						
STKA	**Stephens Creek**	**58.55**	**160**	P		**02 22 17.3**	**-0.6**
STKA	**Stephens Creek**	**58.55**	**160**	P		**02 22 17.3**	**-0.6**
	2.8nm,0.5s,baz=339,slow=5.4,SNR=11						
ILAR	**Eielson Array**	**69.34**	**27**	P		**02 23 30.4**	**+1.8**
ILAR	**Eielson Array**	**69.34**	**27**	P		**02 23 30.4**	**+1.8**
	0.4nm,0.7s,baz=297,slow=8.2,SNR=5.9						
FINES	**FINESS Array B**	**72.00**	**330**	P		**02 23 43.2**	**-1.6**
FINES	**FINESS Array B**	**72.00**	**330**	P		**02 23 43.2**	**-1.6**
	1.7nm,0.9s,baz=174,slow=1.7,SNR=3.4						
INK	**Inuvik**	**73.41**	**22**	*e*P		**02 23 52.6**	**-0.3**
	2.0nm,0.9s						
BRTR	**Keskin Array B**	**73.76**	**307**	P		**02 23 55.9**	**0.0**
BRTR	**Keskin Array B**	**73.76**	**307**	P		**02 23 55.9**	**0.0**
	0.7nm,0.8s,baz=144,slow=7.0,SNR=5.0						
BUR08	**Bucovina Ar. S**	**76.95**	**316**	*e*P		**02 24 13.9**	**-0.1**
NOA	**NORSAR Array B**	**78.77**	**332**	LR	LR	03 02 12.2	
	comp=Z,131nm,19.2s,baz=330,slow=38						
YKA	**Yellowknife Ar**	**83.14**	**23**	P		**02 24 46.6**	**-0.3**
YKA	**Yellowknife Ar**	**83.14**	**23**	P		**02 24 46.6**	**-0.3**
	0.5nm,0.6s,baz=310,slow=5.1,SNR=13						
GERES	**GERESS Array B**	**83.42**	**321**	P		**02 24 48.3**	**-0.5**
GERES	**GERESS Array B**	**83.42**	**321**	P		**02 24 48.3**	**-0.5**
	0.5nm,0.7s,baz=100,slow=5.5,SNR=2.5						
DBIC	**Dimbokro**	**119.69**	**293**	*e*PKPdf		**PKPdf**	**02 31 11.5**	**-0.6**

IDC ***20*** *02:38:52.9±1.3, 14°.30S×174°.52W, h0km, mb4.0/6, mb1 4.4/7, mb1mx4.1/20, mbtmp4.1/7, ML3.3/1, Error ellipse: s-maj=68.7km s-min=20.1km az=155.0*

**ISC 20 02:38:56

NVAR	**Mina Array Bea**	**74.44**	**42**	P		**P**	**02 50 32.0**	**+0.6**
	0.9nm,0.8s,baz=230,slow=8.6,SNR=6.6							
ILAR	**Eielson Array**	**82.11**	**11**	P		**P**	**02 51 13.4**	**+0.5**
	0.5nm,0.7s,baz=230,slow=6.3,SNR=16							
PDAR	**Pinedale Array**	**82.37**	**42**	P		**P**	**02 51 15.2**	**0.0**
	0.8nm,0.8s,baz=240,slow=2.9,SNR=6.2							
YKA	**Yellowknife Ar**	**89.93**	**24**	P		**P**	**02 51 50.6**	**-1.0**
	0.5nm,0.9s,baz=244,slow=4.7,SNR=6.2							

TAP 20 02:39:06.5,23.78N×121.61E,h31km,ML2.6,3C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.10**	**223**	*e*P	Pb	02 39 12.3	+0.4
	baz=219						
ESF	**Shoufeng Towns**	**0.13**	**312**	*e*P	Pn	02 39 12.4	-0.1
	baz=313						
ESL	**Shilin**	**0.17**	**281**	*i* P	Pb	02 39 12.4	-0.1
	baz=281						
ESL				S	Sb	02 39 16.7	+0.1
	baz=281						
HWA	**Hwalien**	**0.19**	**358**	*e*P	Pb	02 39 12.6	-0.2
	baz=6.0						
HWA				S	Sn	02 39 17.9	+0.4
	baz=6.0						
TWD	**Chiawan**	**0.30**	**357**	⇑*i*P	Pb	02 39 14.1	+0.1
	baz=349						
TWD				S	Sn	02 39 19.7	-0.4
	baz=349						
EHY	**Hungye**	**0.38**	**224**	*e*P	Pb	02 39 15.2	0.0
	baz=224						
EHY				*e*S	Sb	02 39 21.3	+0.1
	baz=224						
WHF	**Hehuan Shan**	**0.48**	**319**	P	Pb	02 39 16.4	-0.9
	baz=312						
WHF				S	Sb	02 39 24.4	-0.3
	baz=312						
TWF1	**Yuli**	**0.52**	**214**	*e*P	Pb	02 39 16.2	-1.0
	baz=224						
TWF1				*e*S	Sb	02 39 24.4	-0.2
	baz=224						
TWT	**Tachien**	**0.62**	**320**	*e*P	Pb	02 39 19.2	+0.1
	baz=312						
TWT				*e*S	Sb	02 39 27.4	-0.3
	baz=312						
ENA	**Nanau**	**0.65**	**10**	*e*P	Pb	02 39 18.8	-0.7
	baz=355						
ENA				*e*S	Sn	02 39 29.1	+0.1
	baz=355						
SMLT	**Sun Moon Lake**	**0.66**	**279**	⇑P	Pb	02 39 19.5	-0.3
	baz=283						
SMLT				*e*S	Sb	02 39 28.4	-0.4
	baz=283						
YUS	**Yu-Shan**	**0.67**	**244**	*e*P	Pb	02 39 20.1	-0.3
	baz=238						
TYC	**Yuchr**	**0.70**	**280**	⇑*e*P	Pb	02 39 19.8	-0.5
	baz=284						
TYC				*e*S	Sb	02 39 29.2	-0.5
	baz=284						
ALS	**Alishan**	**0.79**	**250**	*e*P	Pn	02 39 22.0	+0.1
	baz=250						
ALS				*e*S	Sb	02 39 31.0	-1.8
	baz=250						
ELDTW	**Lidau**	**0.81**	**223**	*e*P	Pn	02 39 21.4	-0.4
	baz=220						
ELDTW				*e*S	Sb	02 39 32.8	-0.1
	baz=220						
TWC	**Suao**	**0.85**	**15**	*e*P	Pb	02 39 23.2	+0.4
	baz=22						
ENTT	**Nioudou**	**0.85**	**357**	*e*P	Pn	02 39 21.8	-0.7
	baz=345						
ENTT				*e*S	Sn	02 39 33.4	-0.6
	baz=345						
CHN5	**Tsauling**	**0.88**	**258**	*e*P	Pn	02 39 22.5	-0.4
	baz=252						
CHN5				*e*S	Sn	02 39 34.0	-0.7
	baz=252						
NSK	**Sanguang**	**0.92**	**345**	*e*P	Pn	02 39 23.2	-0.2
	baz=352						
TWQ1	**Liyutan**	**0.95**	**306**	*e*P	Pb	02 39 24.9	+0.4
	baz=306						
NSTT	**Nanjuang**	**1.01**	**327**	*e*P	Pb	02 39 25.3	-0.3
	baz=325						
NSTT				*e*S	Sn	02 39 38.1	+0.2
	baz=325						
CHN4	**Tsaushan**	**1.03**	**246**	*e*P	Pb	02 39 25.8	0.0
	baz=246						
CHN4				*e*S	Sn	02 39 38.5	+0.3
	baz=246						

TAP 20 02:39:19.4,23.75N×121.61E,h34km,ML3.1,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.07**	**237**	*e*P	Pb	02 39 25.6	+0.5
	baz=234						
ESF	**Shoufeng Towns**	**0.15**	**323**	*e*P	Pb	02 39 25.4	-0.2
	baz=316						
ESL	**Shilin**	**0.17**	**293**	P	Pb	02 39 25.5	-0.3
	baz=292						
ESL				S	Sb	02 39 30.1	-0.1
	baz=292						
HWA	**Hwalien**	**0.23**	**360**	*e*P	Pb	02 39 26.4	+0.1
	baz=6.0						
HWA				*e*S	Sb	02 39 32.3	+1.2
	baz=6.0						
TWD	**Chiawan**	**0.33**	**358**	P	Pb	02 39 27.6	+0.1
	baz=350						
TWD				*e*S	Sb	02 39 33.7	+0.5
	baz=350						
EHY	**Hungye**	**0.35**	**227**	*e*P	Pb	02 39 27.8	-0.2
	baz=227						
EHY				*e*S	Sn	02 39 33.7	0.0
	baz=227						
TWF1	**Yuli**	**0.48**	**216**	*e*P	Pb	02 39 29.2	-0.6
	baz=226						
TWF1				*e*S	Sb	02 39 36.6	-0.4
	baz=226						
WHF	**Hehuan Shan**	**0.50**	**322**	*e*P	Pb	02 39 29.4	-1.2
	baz=314						
WHF				*e*S	Sb	02 39 37.3	-1.1
	baz=314						
TWT	**Tachien**	**0.64**	**322**	*e*P	Pb	02 39 32.6	+0.1
	baz=315						
TWT				*e*S	Sn	02 39 41.0	-0.4
	baz=315						
YUS	**Yu-Shan**	**0.65**	**247**	*e*P	Pb	02 39 33.0	-0.1
	baz=247						
YUS				*i* S	Sn	02 39 41.9	-0.5
	baz=247						
SMLT	**Sun Moon Lake**	**0.66**	**282**	*e*P	Pn	02 39 32.5	+0.1
	baz=283						
SMLT				S	Sb	02 39 42.4	+0.5
	baz=283						
CHKT	**Chengkung**	**0.68**	**199**	*e*P	Pn	02 39 31.2	-1.4
	baz=187						
ENA	**Nanau**	**0.69**	**10**	*e*P	Pn	02 39 32.2	-0.5
	baz=359						
TYC	**Yuchr**	**0.70**	**283**	*e*P	Pn	02 39 32.6	-0.2
	baz=287						
TYC				*e*S	Sb	02 39 42.9	+0.1
	baz=287						
NNS	**Nan Shan**	**0.72**	**343**	*e*P	Pb	02 39 33.6	-0.2
	baz=349						
NNS				*e*S	Sn	02 39 42.1	-1.2
	baz=349						
ALS	**Alishan**	**0.77**	**252**	P	Pb	02 39 34.7	-0.1
	baz=252						
ALS				S	Sn	02 39 44.9	0.0
	baz=252						
ELDTW	**Lidau**	**0.78**	**224**	*e*P	Pn	02 39 33.2	-0.8
	baz=219						
CHN5	**Tsauling**	**0.86**	**260**	*e*P	Pb	02 39 36.0	-0.1
	baz=260						
CHN5				S	Sb	02 39 48.1	+0.6
	baz=260						
TWC	**Suao**	**0.89**	**14**	*e*P	Pb	02 39 35.9	-0.5
	baz=22						
TWC				*e*S	Sb	02 39 47.9	0.0
	baz=22						
ENTT	**Nioudou**	**0.89**	**358**	*e*P	Pb	02 39 37.8	+1.3
	baz=357						
TCU	**Taichung**	**0.94**	**295**	*e*P	Pb	02 39 37.6	+0.3
	baz=295						
NSK	**Sanguang**	**0.95**	**346**	*e*P	Pn	02 39 34.7	-1.7
	baz=352						
NSK				*e*S	Sn	02 39 48.2	-0.7
	baz=352						
TWQ1	**Liyutan**	**0.97**	**308**	*e*P	Pb	02 39 37.9	+0.2
	baz=306						
TWQ1				*e*S	Sb	02 39 50.8	+0.5
	baz=306						
STYT	**Tauyuan**	**0.97**	**233**	*e*P	Pb	02 39 37.4	-0.4
	baz=229						
STYT				*e*S	Sb	02 39 50.9	+0.4
	baz=229						
CHN4	**Tsaushan**	**1.01**	**247**	P	Pb	02 39 38.7	+0.3
	baz=248						
CHN4				*e*S	Sb	02 39 53.2	+1.7
	baz=248						
NSY	**Sanyi**	**1.02**	**311**	*e*P	Pb	02 39 38.8	+0.2
	baz=308						
NSY				*e*S	Sb	02 39 52.4	+0.7
	baz=308						
NSTT	**Nanjuang**	**1.04**	**328**	*e*P	Pb	02 39 38.5	-0.5
	baz=325						
NSTT				S	Sb	02 39 51.7	-0.5
	baz=325						
WTP	**Ta-pu**	**1.04**	**241**	P	Pb	02 39 38.8	-0.1
	baz=242						
WTP				*e*S	Sb	02 39 52.6	+0.2
	baz=242						
TWK	**Hsinying**	**1.13**	**245**	*e*P	Pb	02 39 40.2	-0.4
	baz=246						
TWK				*e*S	Sb	02 39 55.7	+0.6
	baz=246						
CHN1	**Nanshi**	**1.14**	**241**	*e*P	Pb	02 39 40.7	+0.1
	baz=242						
CHN1				*e*S	Sb	02 39 55.4	+0.2
	baz=242						
NWF	**Wu-fen Shan**	**1.33**	**7**	*e*P	Pn	02 39 42.4	+0.7
	baz=5.0						
SSD	**Sandimen**	**1.34**	**222**	*e*P	Pb	02 39 43.2	-0.8
	baz=225						
SSD				*e*S	Sb	02 40 01.1	+0.2
	baz=225						

DJA 20 02:45:27.4±1.1,1°N±7°×12°2E±°,h11km±10km,M3.8/5, MLv3.8/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**0.81**	**262**	P	Pg	02 45 42.7	-0.4
TOLI				S	Sg	02 45 53.6	-0.2
MRSI	**Marisa**	**0.82**	**156**	P	Pg	02 45 42.6	-0.7
MRSI				S	Sg	02 45 54.3	+0.3
GTOI	**Gorontalo**	**1.53**	**113**	P	Pn	02 45 50.9	-3.8
APSI	**Ampana**	**2.13**	**179**	P	Pn	02 46 04.2	+1.3
LUWI	**Luwuk**	**2.54**	**153**	P	Pn	02 46 07.2	-1.4

*IDC **20** 02:52:10.3±0.8, 11.65N×86.91W,h0km,mb4.2/12, mb1 4.4/13,mb1mx4.1/27,mbtmp4.2/13,ML3.0/2,MS4.0/16, Ms1 4.0/16,ms1mx3.8/28,Error ellipse: s-maj=34.2km s-min=12.9km az=51.0*

*CASC **20** 02:52:11.6±4.2, 11.59N×87.01W,h0km±406km,MD4.5, ML3.9,mb4.5(NEIC)*

*ISCJB **20** 02:52:15.4±0.2, 11.56N±0.04×86.91W±0.04,h49km, mb4.4/52,MS4.2/15,Error ellipse: s-maj=8.5km s-min=2.7km az=44.2*

*NEIC **20** 02:52:16.0±0.8, 11.58N×86.96W, h39km±7km,mb4.5/41, Error ellipse: s-maj=10.4km s-min=3.9km az=55.0*

ISC 20 02:52:16.7±0.4,11.52N±0.07×86.99W±0.08,h49km,n397, s0s98/393,mb4.4/52,MS4.2/15,140C-117D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEN		**1.15**	**45**	*e*P	Pn	02 52 30.0	-6.4
VCR	**Vista de Mar**	**1.93**	**136**	*e*P	**Pn**	**02 52 44.4**	**-2.8**
CNCH	**Conchagua**	**1.93**	**335**	*e*P	**Pn**	**02 52 46.1**	**-1.2**
JTS	**JuntasAbangare**	**2.35**	**121**	*e*Pn	**Pn**	**02 52 51.8**	**-1.1**
JTS				Sn	**Sn**	**02 53 19.1**	**-1.4**
JTS	**JuntasAbangare**	**2.35**	**121**	Pn	**Pn**	**02 52 51.7**	**-1.1**
	1.5nm,0.3s,baz=307,slow=20,SNR=18						
JTS				Sn	**Sn**	**02 53 19.1**	**-1.4**
	44nm,0.3s,baz=255,slow=18,SNR=9.3						
JTS				LR	LR	02 54 03.2	
	comp=Z,2μm,19.9s,baz=291,slow=48						
JCR	**Jicaral**	**2.48**	**132**	*e*P	**Pn**	**02 52 52.3**	**-2.5**
JCR				*e*S	Sn	02 53 43.7	+20
CAHU	**Cacacuatique**	**2.53**	**332**	*e*P	**Pn**	**02 52 54.7**	**-1.0**
TGUH	**Tegucigalpa,Un**	**2.54**	**354**	*e*P	**Pn**	**02 52 54.3**	**-1.2**
TGUH				*e*S	Sn	02 53 36.0	+11
TGUH	**Tegucigalpa,Un**	**2.54**	**354**	*e*Pn	**Pn**	**02 52 56.1**	**+0.6**
SNVI	**San Vicente**	**2.75**	**319**	*e*P	**Pn**	**02 52 56.3**	**-2.3**
CGA2	**Cerro Gallo 2**	**2.90**	**121**	*e*P	**Pn**	**02 53 00.8**	**+0.3**
LFU	**La Fuente**	**3.03**	**317**	*e*P	Pn	02 52 59.2	-3.2
SNET	**Serv Nac Est T**	**3.07**	**315**	AML	AML	02 54 01.5	
	comp=Z,628nm,0.4s						
QCR	**Quepos**	**3.47**	**127**	*e*P	**Pn**	**02 53 06.3**	**-2.0**
URSC	**Urasca**	**3.58**	**118**	⇓*e*P	**Pn**	**02 53 11.6**	**+1.7**
BUS	**Buena Vista**	**3.73**	**121**	⇑*e*P	**Pn**	**02 53 12.2**	**-0.1**
BUS				*e*S	**Sn**	**02 53 53.7**	**-1.5**
MRL	**Marmol**	**4.40**	**324**	*e*P	**Pn**	**02 53 19.3**	**-1.9**
APG	**El Apazote**	**4.84**	**316**	Pn	**Pn**	**02 53 24.3**	**-3.0**
APG	**El Apazote**	**4.84**	**316**	Pn	**Pn**	**02 53 24.3**	**-3.0**
	comp=Z,1.4nm,0.3s,baz=165,slow=16,SNR=3.6						
BCIP	**Isla Barro Col**	**7.42**	**108**	*e*Pn	**Pn**	**02 54 02.1**	**-0.4**
	comp=Z,61nm,1.3s						
BCIP				*e*Sn	**Sn**	**02 55 24.5**	**-0.8**
TEIG	**Tepich**	**8.75**	**352**	LR	LR	02 58 07.7	
	comp=Z,456nm,19.9s,baz=143,slow=41						
OTAV	**Otavalo**	**14.06**	**142**	*e*Pn	**Pn**	**02 55 32.8**	**-0.9**
ROSC	**El Rosal**	**14.17**	**117**	LR	LR	03 00 18.2	
	comp=Z,210nm,20.7s,baz=339,slow=34						
SDV	**Santo Domingo**	**16.31**	**98**	*e*P	**Pn**	**02 56 01.1**	**-1.7**
	comp=Z,22nm,2.3s						
TIGA	**Tifton**	**20.07**	**9**	⇑P	**P**	**02 56 45.2**	**-0.9**
	baz=20						
HKT	**Hockley**	**20.10**	**337**	*e*P	**P**	**02 56 46.3**	**0.0**
	comp=Z,90nm,1.7s						
ATAH	**Atahualpa**	**20.41**	**155**	LR	LR	03 03 42.7	
	comp=Z,505nm,19.2s,baz=177,slow=34						
732A	**Laxson Ranch,**	**20.98**	**327**	⇑P	**P**	**02 56 55.7**	**-0.3**
	baz=21,SNR=12						
534A	**Blanco**	**21.29**	**332**	⇓P	**P**	**02 56 58.6**	**-0.7**
	baz=21,SNR=8.8						
LRAL	**Lakeview Retre**	**21.42**	**360**	*e*P	**P**	**02 57 02.3**	**+1.7**
	comp=Z,26nm,1.0s						
632A	**Uvalde**	**21.50**	**328**	⇑P	**P**	**02 57 01.9**	**+0.3**
	baz=22						
533A	**Kerrville**	**21.59**	**331**	⇑P	**P**	**02 57 01.9**	**-0.6**
	baz=22						
631A	**Perdido Creek**	**21.85**	**327**	⇓P	**P**	**02 57 04.3**	**-1.0**
	baz=22						
434A	**Burnet**	**21.86**	**333**	⇓P	**P**	**02 57 05.6**	**+0.2**
	baz=22,SNR=6.6						
335A	**Moody**	**21.91**	**335**	⇑P	**P**	**02 57 06.2**	**+0.3**
	baz=22						
532A	**Rocksprings**	**22.07**	**329**	⇑P	**P**	**02 57 07.8**	**+0.1**
	baz=22,SNR=10						
433A	**Art**	**22.18**	**331**	⇑P	**P**	**02 57 08.6**	**-0.3**
	baz=22						
334A	**Lometa**	**22.29**	**334**	⇓P	**P**	**02 57 10.2**	**+0.1**
	baz=22,SNR=11						
JCT	**Junction City**	**22.30**	**330**	*e*P	**P**	**02 57 10.0**	**-0.2**
	comp=Z,10nm,0.8s						
JCT	**Junction City**	**22.30**	**330**	⇓P	**P**	**02 57 10.4**	**+0.2**
	baz=22						
531A	**Rocksprings**	**22.42**	**328**	⇓P	**P**	**02 57 11.8**	**+0.3**
	baz=22						
WHTX	**Lake Whitney**	**22.54**	**336**	*e*P	**P**	**02 57 12.8**	**0.0**
WHTX	**Lake Whitney**	**22.54**	**336**	⇓P	**P**	**02 57 12.6**	**-0.1**
	baz=23,SNR=9.0						
333A	**Richland Sprin**	**22.61**	**332**	⇓P	**P**	**02 57 13.3**	**-0.2**
	baz=23						
432A	**Menard**	**22.62**	**330**	⇑P	**P**	**02 57 13.5**	**-0.1**
	baz=23						
530A	**J-C Ranch, Com**	**22.83**	**326**	⇑P	**P**	**02 57 15.5**	**-0.3**
	baz=23,SNR=8.4						
431A	**Sonora**	**22.87**	**329**	⇑P	**P**	**02 57 16.6**	**+0.4**
	baz=23,SNR=8.2						
OXF	**Oxford**	**23.00**	**355**	*e*P	**P**	**02 57 16.5**	**-0.9**
	comp=Z,56nm,1.2s						
332A	**Millersview**	**23.02**	**331**	⇑P	**P**	**02 57 17.5**	**-0.2**
	baz=23,SNR=12						
628A	**Black Gap, Mar**	**23.21**	**323**	⇓P	**P**	**02 57 19.2**	**-0.5**
	baz=23,SNR=9.2						
430A	**Baggett Ranch,**	**23.28**	**328**	⇓P	**P**	**02 57 19.1**	**-1.2**
	baz=23,SNR=9.5						
331A	**San Angelo**	**23.29**	**330**	⇑P	**P**	**02 57 19.6**	**-0.7**
	baz=23						
529A	**Stev Forest Ra**	**23.30**	**325**	⇑P	**P**	**02 57 19.4**	**-1.1**
	baz=23						
134A	**White-Moore Ra**	**23.30**	**336**	⇑P	**P**	**02 57 21.0**	**+0.5**
	baz=23						
232A	**Coleman**	**23.39**	**332**	⇑P	**P**	**02 57 21.1**	**-0.3**
	baz=23						
627A	**Terlingua Ranc**	**23.49**	**322**	⇓P	**P**	**02 57 22.2**	**-0.2**
	baz=24,SNR=12						
429A	**Davenport Ranc**	**23.50**	**326**	⇑P	**P**	**02 57 21.6**	**-0.9**
	baz=24						
TXAR	**Lajitas Array**	**23.57**	**321**	P	**P**	**02 57 22.8**	**-0.4**
TXAR				PcP	**PcP**	**03 01 07.2**	**-0.1**
TXAR	**Lajitas Array**	**23.57**	**321**	P	**P**	**02 57 22.8**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=135,slow=11,SNR=42						
TXAR				PcP	**PcP**	**03 01 07.2**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=134,slow=5.4,SNR=5.6						
SWET	**Sewanee**	**23.61**	**2**	*e*P	**P**	**02 57 24.5**	**+1.1**
	comp=Z,124nm,1.8s						
528A	**Cox Ranch, San**	**23.65**	**324**	⇓P	**P**	**02 57 22.7**	**-1.3**
	baz=24						
Z35A	**Perchaven, San**	**23.66**	**338**	⇓P	**P**	**02 57 24.0**	**+0.2**
	baz=24						
133A	**Hamilton Ranch**	**23.68**	**334**	⇓P	**P**	**02 57 24.1**	**0.0**
	baz=24						
MIAR	**Mount Ida**	**23.70**	**346**	*e*P	**P**	**02 57 23.6**	**-0.5**
	comp=Z,20nm,1.1s						
MIAR				*e*pP	pP	02 57 30.9	-5.5
330A	**Mertzon**	**23.74**	**329**	⇑P	**P**	**02 57 23.9**	**-0.8**
	baz=24,SNR=5.4						
231A	**Bronte**	**23.75**	**331**	⇓P	**P**	**02 57 24.1**	**-0.5**
	baz=24						
CPCT	**Cooper Cave**	**23.93**	**5**	*e*P	**P**	**02 57 27.6**	**+1.3**
Z34A	**Collier Ranch,**	**23.94**	**337**	⇑P	**P**	**02 57 27.0**	**+0.6**
	baz=24,SNR=8.1						
ABTX	**Abilene, Hawle**	**24.01**	**333**	*e*P	**P**	**02 57 26.5**	**-0.6**
ABTX	**Abilene, Hawle**	**24.01**	**333**	⇑P	**P**	**02 57 26.6**	**-0.5**
	baz=24,SNR=5.4						
626A	**Big Bend Ranch**	**24.02**	**321**	⇑P	**P**	**02 57 27.7**	**+0.4**
	baz=24						
428A	**Kincaid Ranch,**	**24.02**	**325**	⇑P	**P**	**02 57 27.5**	**+0.2**
	baz=24						
KMSC	**Kings Mountain**	**24.07**	**11**	⇓P	**P**	**02 57 27.8**	**+0.2**
	baz=24						
230A	**Sterling City**	**24.09**	**329**	⇑P	**P**	**02 57 27.3**	**-0.6**
	baz=24						
527A	**Woodward Ranch**	**24.12**	**323**	⇑P	**P**	**02 57 27.8**	**-0.5**
	baz=24						
H06E1	**SOCORRO T-PHAS**	**24.18**	**290**	T	T	03 22 14.7	
	SNR=98						
Z33A	**Whitaker Ranch**	**24.20**	**335**	⇓P	**P**	**02 57 29.2**	**+0.4**
	baz=24,SNR=5.2						
TKL	**Tuckaleechee C**	**24.21**	**6**	*e*P	**P**	**02 57 29.6**	**+0.7**
TKL	**Tuckaleechee C**	**24.21**	**6**	P	**P**	**02 57 29.0**	**+0.2**
	comp=Z,26nm,1.0s,baz=184,slow=11,SNR=13						
329A	**Wagon Wheel Ra**	**24.22**	**327**	⇓P	**P**	**02 57 28.8**	**-0.3**
	baz=24						
526A	**Mary Lane Ranc**	**24.35**	**322**	⇓P	**P**	**02 57 30.2**	**-0.1**
	baz=24						
131A	**Roby**	**24.39**	**332**	⇓P	**P**	**02 57 30.3**	**-0.3**
	baz=24						
Y34A	**Reagan Ranch,**	**24.41**	**338**	⇓P	**P**	**02 57 30.4**	**-0.3**
	baz=24						
229A	**Bryant Ranch,**	**24.51**	**328**	⇓P	**P**	**02 57 31.2**	**-0.5**
	baz=24,SNR=5.9						
WVT	**Waverly**	**24.52**	**358**	*e*P	**P**	**02 57 31.3**	**-0.3**
	comp=Z,6.7nm,0.8s						
427A	**Hayter Ranch,**	**24.52**	**324**	⇑P	**P**	**02 57 31.7**	**-0.2**
	baz=25						
Z32A	**Haskell**	**24.52**	**334**	⇓P	**P**	**02 57 32.0**	**+0.3**
	baz=25,SNR=6.3						
328A	**Wristen Ranch,**	**24.59**	**326**	⇓P	**P**	**02 57 32.1**	**-0.3**
	baz=25,SNR=12						
426A	**McDonald Obser**	**24.75**	**323**	⇓P	**P**	**02 57 34.2**	**+0.1**
	baz=25						
Y33A	**Hilltop Ranch,**	**24.78**	**336**	⇑P	**P**	**02 57 34.4**	**+0.3**
	baz=25						
Z31A	**Sharp Cattle R**	**24.82**	**333**	⇓P	**P**	**02 57 35.1**	**+0.6**
	baz=25						
X34A	**Smith Ranch, M**	**25.01**	**338**	⇑P	**P**	**02 57 36.5**	**+0.3**
	baz=25,SNR=7.1						
228A	**UT Block 9, Go**	**25.04**	**327**	⇓P	**P**	**02 57 36.2**	**-0.3**
	baz=25						
129A	**Stewart Farms,**	**25.07**	**329**	⇑P	**P**	**02 57 36.4**	**-0.4**
	baz=25,SNR=7.2						
Y32A	**R-V Farms, Ver**	**25.11**	**335**	⇑P	**P**	**02 57 37.1**	**0.0**
	baz=25,SNR=5.2						
326A	**Caldwell Ranch**	**25.20**	**324**	⇓P	**P**	**02 57 38.1**	**+0.2**
	baz=25						
X33A	**Lawton**	**25.20**	**337**	⇓P	**P**	**02 57 37.5**	**-0.4**
	baz=25,SNR=27						
Z30A	**Sanderson Ranc**	**25.25**	**331**	⇓P	**P**	**02 57 37.5**	**-0.9**
	baz=25						
227A	**Bennet, Jal**	**25.33**	**326**	⇑P	**P**	**02 57 39.6**	**+0.4**
	baz=25						
128A	**Castleberry Fa**	**25.38**	**328**	⇑P	**P**	**02 57 39.0**	**-0.6**
	baz=25,SNR=6.5						
X32A	**Elmer**	**25.41**	**336**	⇑P	**P**	**02 57 39.6**	**-0.2**
	baz=25,SNR=23						
425A	**Indio Mountain**	**25.41**	**322**	⇑P	**P**	**02 57 40.2**	**+0.3**
	baz=25						
Y31A	**Rekieta Farm,**	**25.42**	**334**	⇑P	**P**	**02 57 39.9**	**0.0**
	baz=26						
LPIG	**La Paz**	**25.43**	**303**	LR	LR	03 09 09.7	
	comp=Z,155nm,18.1s,baz=137,slow=40						
NNA	**Nana**	**25.43**	**156**	*e*P	**P**	**02 57 40.9**	**+0.7**
	comp=Z,10nm,1.0s						
WMOK	**Wichita Mounta**	**25.48**	**337**	*e*P	**P**	**02 57 41.2**	**+0.7**
	comp=Z,70nm,1.8s						
Z29A	**Hungry Hill Ra**	**25.50**	**330**	⇑P	**P**	**02 57 40.0**	**-0.7**
	baz=26,SNR=9.8						
TUL1	**Tulsa**	**25.56**	**343**	*e*P	**P**	**02 57 39.1**	**-2.0**
TUL1	**Tulsa**	**25.56**	**343**	⇑P	**P**	**02 57 41.2**	**+0.1**
	baz=26,SNR=6.6						
W34A	**Bridge Creek,**	**25.56**	**339**	⇓P	**P**	**02 57 41.1**	**-0.1**
	baz=26						
W33A	**Caddo, Fort Co**	**25.73**	**338**	⇓P	**P**	**02 57 44.0**	**+1.3**
	baz=26,SNR=8.5						
325A	**Bean Ranch, Si**	**25.82**	**323**	⇑P	**P**	**02 57 43.2**	**-0.5**
	baz=26						
Z28A	**Tucker Farm, M**	**25.86**	**329**	⇑P	**P**	**02 57 43.2**	**-0.7**
	baz=26,SNR=12						
226B	**Tecolote Peak,**	**25.87**	**325**	⇑P	**P**	**02 57 44.1**	**+0.1**
	baz=26						
X31A	**McDonald Ranch**	**25.87**	**335**	⇑P	**P**	**02 57 44.1**	**+0.1**
	baz=26,SNR=9.6						
127A	**Arkansas Junct**	**25.88**	**327**	⇓P	**P**	**02 57 43.7**	**-0.4**
	baz=26,SNR=5.2						
Y29A	**Porterfield Fa**	**25.97**	**331**	⇓P	**P**	**02 57 45.1**	**+0.1**
	baz=26,SNR=9.7						
V34A	**Guthrie**	**26.02**	**340**

baz=27,SNR=11
X28A Dimmitt 26.76 331 ⇑P P 02 57 52.1 0.0
baz=27
V31A Spring Creek L 26.81 336 ⇑P P 02 57 52.5 +0.1
baz=27,SNR=6.7
AMTX Amarillo 26.82 332 *e*P P 02 57 54.3 +1.6
comp=Z,98nm,1.9s
AMTX Amarillo 26.82 332 ⇑P P 02 57 52.9 +0.2
baz=27
U32A Winter Ranch, 27.02 338 ⇓P P 02 57 54.8 +0.4
baz=27
124A Stringfield Ra 27.06 324 ⇑P P 02 57 55.4 +0.4
baz=27
Z25A Roswell 27.07 326 ⇑P P 02 57 55.6 +0.6
baz=27,SNR=7.9
Y26A Elida 27.09 328 ⇓P P 02 57 56.7 +1.5
baz=27
X27A F and S Farms, 27.30 330 ⇑P P 02 57 57.7 +0.7
baz=27
Z24A Sheeppen Canyo 27.47 325 ⇓P P 02 57 59.9 +1.2
baz=28
Y25A Mesa, Roswell 27.55 327 ⇑P P 02 58 00.2 +1.0
baz=28,SNR=7.3
X26A CR and CF Fran 27.58 329 ⇓P P 02 57 59.7 +0.2
baz=28
W27A Bowe Ranch, En 27.62 331 ⇑P P 02 58 00.1 +0.3
baz=28,SNR=5.8
U30A WK&E Inc. Balk 27.79 336 ⇓P P 02 58 03.2 +2.0
baz=28
V28A Channing 27.79 333 ⇑P P 02 58 02.1 +0.8
baz=28
Z23A Rita Site, Whi 27.91 324 ⇑P P 02 58 03.6 +1.1
baz=28
Y24A Capitan 27.95 326 ⇓P P 02 58 03.5 +0.6
baz=28,SNR=6.8
X25A Clemmons Ranch 28.00 328 ⇑P P 02 58 03.7 +0.4
baz=28
Y23A Lovelace Mesa, 28.30 325 ⇑P P 02 58 06.3 +0.3
baz=28
S31A Mullinville 28.30 339 ⇑P P 02 58 05.7 -0.2
baz=28
121A Cookes Peak, D 28.33 321 *e*P P 02 58 06.2 -0.1
121A Cookes Peak, D 28.33 321 ⇓P P 02 58 07.1 +0.8
baz=28
W25A X Bar L Ranch, 28.43 329 ⇑P P 02 58 07.2 +0.1
baz=28
319A Douglas 28.54 317 ⇑P P 02 58 08.4 +0.3
baz=29
V26A Tequesquite Ra 28.56 331 ⇓P P 02 58 08.5 +0.4
baz=29
T29A Hugoton 28.59 336 ⇓P P 02 58 09.0 +0.6
baz=29
U27A Thompson Grove 28.62 333 ⇑P P 02 58 09.2 +0.5
baz=29
BNM Barren Site 28.79 325 *e*P P 02 58 11.1 +0.7
ACSO Alum Creek Sta 28.82 6 *e*P P 02 58 10.2 -0.1
comp=Z,11nm,0.6s
Y22A Socorro 28.82 324 ⇑P P 02 58 10.8 +0.1
baz=29
W24A Lazy 6 Ranch, 28.91 328 ⇑P P 02 58 12.4 +0.9
baz=29
V25A Rancho No Teng 29.00 330 ⇑P P 02 58 12.9 +0.7
baz=29
Q33A Connelly Farm, 29.02 342 ⇓P P 02 58 12.7 +0.6
baz=29
U26A Atchley Ranch, 29.02 331 ⇓P P 02 58 13.7 +1.3
baz=29
T27A Campo 29.11 334 ⇑P P 02 58 13.6 +0.5
baz=29
R30A Dighton 29.18 338 ⇑P P 02 58 14.2 +0.6
baz=29
S28A Manter 29.20 335 ⇓P P 02 58 13.8 0.0
baz=29
Q32A Meitler Ranch, 29.23 341 ⇓P P 02 58 14.0 0.0
baz=29
W23A Werner Place, 29.27 327 ⇓P P 02 58 14.8 +0.1
baz=29
ANMO Albuquerque 29.27 326 *e*P P 02 58 15.2 +0.5
comp=Z,2.3nm,1.0s
ANMO Albuquerque 29.27 326 P P 02 58 15.0 +0.3
comp=Z,1.1nm,0.8s,baz=140,slow=10,SNR=5.5
U25A Circle Dot Ran 29.34 330 ⇑P P 02 58 16.8 +1.6
baz=29
P33A Williams Farm, 29.39 343 ⇑P P 02 58 16.0 +0.6
baz=29
V23A Ortiz Mt. (NFS 29.73 327 ⇓P P 02 58 20.0 +1.3
baz=30
R28A Tribune 29.81 336 ⇑P P 02 58 19.3 0.0
baz=30
P32A Huiting Farm, 29.82 342 ⇑P P 02 58 20.8 +1.5
baz=30
S26A Kim 29.90 333 ⇓P P 02 58 22.0 +1.9
baz=30
T25A Trinidad 29.93 331 ⇓P P 02 58 22.4 +1.9
baz=30
Q29A Oakley 29.97 338 ⇓P P 02 58 21.9 +1.2
baz=30
R27A Eads 30.17 335 ⇓P P 02 58 23.0 +0.5
baz=30
U23A El Rito 30.18 328 ⇑P P 02 58 23.4 +0.8
baz=30,SNR=7.5
V22A San Miguel Ran 30.24 327 ⇑P P 02 58 23.7 +0.4
baz=30
P30A Selden 30.29 339 ⇑P P 02 58 24.7 +1.2
baz=30
S25A Robets Cordova 30.37 332 ⇑P P 02 58 25.7 +1.4
baz=30
R26A Arlington 30.45 334 ⇓P P 02 58 26.6 +1.6
baz=30
O31A Woolen Ranch, 30.54 341 ⇑P P 02 58 26.5 +0.9
baz=31
U22A Llaves 30.56 327 ⇑P P 02 58 26.0 -0.1
baz=31
KSCO Kaye Shedlock' 30.71 336 ⇓P P 02 58 28.1 +0.8
baz=31
P28A Saint Francis 30.86 337 ⇓P P 02 58 29.8 +1.3
baz=31
SDCO Great Sand Dun 30.94 331 *e*P P 02 58 29.8 +0.3
comp=Z,19nm,1.8s
SAML Samuel 31.21 130 *e*P P 02 58 31.5 -0.2
comp=Z,1.7nm,0.7s
R23A Moffat 31.45 331 ⇑P P 02 58 34.6 +0.7
baz=32
S22A 4UR Ranch, Cre 31.59 329 ⇓P P 02 58 35.6 +0.4
baz=32
P25A Willow Gulch B 31.78 334 ⇓P P 02 58 37.3 +0.7
baz=32
X16A Lo Mia Camp, P 31.87 320 ⇑P P 02 58 37.8 +0.2
baz=32
MVCO Mesa Verde 32.06 327 *e*P P 02 58 40.3 +1.1
comp=Z,46nm,2.2s
MVCO Mesa Verde 32.06 327 ⇑P P 02 58 39.4 +0.1
baz=32
SMCO Snowmass 32.78 331 *e*P P 02 58 45.7 0.0
K30A Basset 32.93 343 ⇑P P 02 58 47.0 +0.5
baz=33,SNR=5.0
PV04 Paradox Valley 33.15 328 *e*P P 02 58 49.2 +0.5
ECSD EROS Data Cent 33.16 347 *e*P P 02 58 46.7 -1.8
comp=Z,41nm,1.8s
K29A Lazy Trails An 33.22 342 ⇓P P 02 58 49.5 +0.4
baz=33
LPAZ La Paz 33.34 146 *e*P P 02 58 51.6 +0.6
comp=Z,8.0nm,1.6s
LPAZ La Paz 33.34 146 LR LR 03 13 14.7
comp=Z,205nm,19.8s,baz=249,slow=38
O22A Kremmling 33.36 332 ⇑P P 02 58 51.1 +0.4
baz=33
J30A Dallas 33.49 343 ⇑P P 02 58 52.1 +0.7
baz=34
K28A Ten Mile Ranch 33.50 341 ⇓P P 02 58 52.8 +1.2
baz=34
N23A Red Feather La 33.68 334 ⇓P P 02 58 53.2 -0.2
baz=34
U15A North Rim 33.70 322 ⇓P P 02 58 55.6 +2.0
baz=34
J29A Okreek 33.81 342 ⇓P P 02 58 54.1 -0.2
baz=34,SNR=7.5
SADO Sadowa 33.81 10 P P 02 58 53.4 -0.8
SADO Sadowa 33.81 10 P P 02 58 53.4 -0.8
comp=Z,7.6nm,0.8s,baz=236,slow=5.4,SNR=7.6
SPMN St. Paul 33.96 353 *e*P P 02 58 53.7 -1.8
SPMN St. Paul 33.96 353 ⇑P P 02 58 54.1 -1.3
baz=34
I30A Oacoma 34.02 344 ⇑P P 02 58 55.6 -0.4
baz=34
J28A Allard Ranch, 34.10 341 ⇑P P 02 58 58.3 +1.5
baz=34
O20A White River Ci 34.13 330 *e*P P 02 58 57.9 +0.6
O20A White River Ci 34.13 330 ⇓P P 02 58 57.5 +0.2
baz=34,SNR=5.5
IRM Iron Mountain 34.16 316 ⇑P P 02 58 58.8 +1.3
baz=34
J27A Elkhorn Farm, 34.20 340 ⇑P P 02 59 00.2 +2.6
baz=34
MONP Monument Peak 34.36 313 ⇓P P 02 59 00.1 +0.7
baz=34
I29A Vivian Onida 34.36 343 ⇑P P 02 58 59.1 +0.1
baz=34
BRSD Miller 34.39 345 *e*P P 02 58 58.3 -0.9
BRSD Miller 34.39 345 ⇑P P 02 58 58.8 -0.4
baz=34
SRU San Rafael 34.54 327 *e*P P 02 59 00.9 +0.2
L23A Garrett 34.59 335 ⇓P P 02 59 01.6 +0.4
baz=35
I28A Midland 34.60 342 ⇑P P 02 59 01.9 +0.8
baz=35
J26A Sides Ranch, S 34.61 339 ⇓P P 02 59 02.8 +1.6
baz=35
BELC Belle Mtn. Jos 34.66 315 ⇓P P 02 59 01.9 0.0
baz=35
LONY Lake Ozonia 34.67 16 *e*P P 02 59 01.9 +0.3
comp=Z,99nm,1.6s
N20A Spence Gulch, 34.69 331 ⇑P P 02 59 02.3 +0.2
baz=35
PFO Pinyon Flat Ob 34.77 314 ⇓P P 02 59 03.3 +0.6
baz=35
J25A Sunshine Ranch 34.94 338 ⇓P P 02 59 05.5 +1.4
baz=35
I27A Quinn 34.94 341 ⇓P P 02 59 04.4 +0.4
baz=35
G30A Faulkton 35.08 345 ⇓P P 02 59 04.4 -0.7
baz=35
H28A Mission Ridge 35.17 343 ⇑P P 02 59 06.1 +0.1
baz=35
I26A New Underwood 35.17 340 ⇓P P 02 59 07.2 +1.2
baz=35
ARUT Antelope Range 35.28 322 *e*P P 02 59 08.0 +0.8
comp=Z,66nm,1.0s
MURC Murrieta 35.29 313 ⇑P P 02 59 09.0 +1.8
baz=35
K22A Casper 35.37 335 ⇑P P 02 59 09.1 +1.2
baz=35
H27A Howes 35.45 341 ⇓P P 02 59 09.5 +1.0
baz=36,SNR=5.1
I25A Rochford 35.46 339 ⇑P P 02 59 09.9 +1.2
baz=36
RSSD Black Hills 35.66 339 *e*P P 02 59 10.3 -0.1
comp=Z,3.0nm,0.6s
H26A Fairpoint 35.66 341 ⇑P P 02 59 11.4 +1.2
baz=36
K21A Alcova 35.66 334 ⇑P P 02 59 11.0 +0.6
baz=36
MPU Maple Canyon 35.78 327 *e*P P 02 59 12.3 +0.8
H25A Fruitdale 35.94 340 ⇓P P 02 59 14.8 +2.2
baz=36
BFSC Mount Baldy Ra 35.95 314 ⇓P P 02 59 14.3 +1.4
baz=36
SCI San Clemente I 35.95 311 ⇑P P 02 59 14.2 +1.4
baz=36
J22A Midwest 35.98 336 ⇓P P 02 59 14.3 +1.1
baz=36
G27A Dupree 36.08 342 ⇓P P 02 59 14.4 +0.6
baz=36
JLU Jordanelle 36.11 328 *e*P P 02 59 14.4 +0.1
F28A McLaughlin 36.18 344 ⇓P P 02 59 14.6 -0.1
baz=36
G26A Maurine 36.21 341 ⇑P P 02 59 14.9 0.0
baz=36
J21A Lysite 36.33 335 ⇑P P 02 59 16.8 +0.7
baz=36,SNR=7.0
H24A Dirks Ranch, A 36.38 339 ⇑P P 02 59 17.2 +0.7
baz=36
I22A 9 Mile Ranch, 36.38 336 ⇓P P 02 59 17.6 +1.1
baz=36
G25A Newell 36.38 340 ⇓P P 02 59 17.8 +1.4
baz=36
TPNV Topopah Spring 36.51 319 ⇑P P 02 59 18.8 +1.1
baz=36
EDW2 Edwards Air Fo 36.52 315 ⇓P P 02 59 18.8 +1.1
baz=36
E29A Napoleon 36.54 345 ⇑P P 02 59 17.7 0.0
baz=37
DUG Dugway 36.55 326 *e*P P 02 59 17.7 -0.2
comp=Z,8.4nm,1.4s
DUG Dugway 36.55 326 ⇓P P 02 59 18.6 +0.6
baz=37
J20A Shoshoni 36.61 334 ⇑P P 02 59 18.9 +0.5
baz=37
LRMC Laurel Mountai 36.63 316 ⇑P P 02 59 20.3 +1.6
baz=37
I21A Big Trails, Te 36.65 335 ⇑P P 02 59 19.7 +0.9
baz=37
F26A Lodgepole 36.73 342 ⇑P P 02 59 20.0 +0.7
baz=37
BW06 Boulder Array 36.80 332 *e*P P 02 59 19.0 -1.2
comp=Z,3.7nm,1.0s
PDAR Pinedale Array 36.80 332 P P 02 59 19.4 -0.8
PDAR Pinedale Array 36.80 332 P P 02 59 19.4 -0.8
comp=Z,1.5nm,0.8s,baz=126,slow=10,SNR=12
MPMC Manual Prospec 36.81 317 ⇑P P 02 59 19.9 -0.5
baz=37
E28A Huff 36.82 344 ⇑P P 02 59 21.2 +1.2
baz=37
D30A Buchanan 36.84 347 ⇑P P 02 59 19.3 -0.8
baz=37
H22A Clearmont 36.92 337 ⇑P P 02 59 21.9 +0.9
baz=37
E27A Carson 36.93 343 ⇓P P 02 59 21.2 +0.2
baz=37
R11A Troy Canyon, C 36.94 321 ⇓P P 02 59 23.1 +1.7
baz=37
J19A Crowheart 36.96 333 ⇓P P 02 59 22.1 +0.6
baz=37
G23A Biddle 37.08 338 ⇓P P 02 59 22.9 +0.5
baz=37
I20A Worland 37.11 334 ⇑P P 02 59 23.2 +0.6
baz=37
BGU Big Grassy Mou 37.18 327 *e*P P 02 59 23.4 0.0
comp=Z,3.1nm,1.2s
H21A Big Horn, Sher 37.22 336 ⇑P P 02 59 23.4 -0.1
baz=37
GRAC Grapevine Rang 37.27 318 ⇑P P 02 59 25.7 +1.7
baz=37
ISA Isabella 37.27 315 ⇑P P 02 59 24.4 +0.4
baz=37
D28A Regan 37.36 345 ⇑P P 02 59 24.7 +0.1
baz=37
AGMN Agassiz Nation 37.41 350 *e*P P 02 59 23.7 -1.3
comp=Z,9.8nm,0.9s
SIV San Ignacio 37.48 136 P P 02 59 26.5 +0.5
SIV San Ignacio 37.48 136 P P 02 59 26.5 +0.5
comp=Z,4.3nm,0.6s,baz=321,slow=9.0,SNR=20
H20A Greybull 37.49 335 ⇑P P 02 59 26.0 +0.2
baz=38
F23A Volborg 37.53 339 ⇑P P 02 59 26.8 +0.6
baz=38
D27A Center 37.54 344 ⇓P P 02 59 27.5 +1.3
baz=38
E25A Miller Ranch, 37.54 341 ⇓P P 02 59 28.2 +2.0
baz=38
I19A Meeteetse 37.55 334 ⇓P P 02 59 27.5 +1.0
baz=38
HVU Hansel Valley 37.65 328 *e*P P 02 59 26.9 -0.4
comp=Z,4.4nm,0.9s
MDND Maddock 37.73 346 ⇓P P 02 59 28.0 +0.3
baz=38
PKM Peak Mountain 37.81 313 ⇓P P 02 59 30.1 +1.2
baz=38
E24A Baker 37.88 340 ⇑P P 02 59 29.4 +0.3
baz=38
F22A Rosebud 37.89 338 ⇑P P 02 59 29.7 +0.6
baz=38
LOHW Long Hollow 37.94 332 *e*P P 02 59 29.8 0.0
B30A Myrvik Farm, E 38.02 348 ⇑P P 02 59 29.7 -0.4
baz=38
H19A Powell 38.05 334 ⇓P P 02 59 32.4 +1.7
baz=38
I17A Pilgrim Ck. 38.16 332 ⇑P P 02 59 32.2 +0.5
baz=38
G20A Bridger 38.18 336 ⇓P P 02 59 33.0 +1.3
baz=38
B29A Wagenman Farm, 38.25 347 ⇑P P 02 59 32.2 +0.1
baz=38
LVC Limon Verde 38.27 152 *e*P P 02 59 34.3 +1.5
comp=Z,20nm,1.5s
ELK Elko 38.28 325 *e*P P 02 59 32.3 -0.4
comp=Z,2.3nm,0.9s
E22A Miles City 38.34 339 ⇓P P 02 59 34.3 +1.4
baz=38
H18A Shoshone NF, C 38.35 334 ⇑P P 02 59 33.9 +0.6
baz=38
C26A Wahner Farm, P 38.35 344 ⇓P P 02 59 34.3 +1.3
baz=38
D24A Glendive 38.38 341 ⇑P P 02 59 35.1 +1.9
baz=38
B28A Dugan Ranch, T 38.47 346 ⇑P P 02 59 33.5 -0.5
baz=38
F20A Billings 38.63 336 ⇓P P 02 59 35.4 0.0
baz=39
A29A Manning Farm, 38.66 347 ⇑P P 02 59 35.3 -0.2
baz=39
NVAR Mina Array Bea 38.70 319 P P 02 59 36.6 +0.3
NVAR PcP PcP 03 01 49.1 +1.7
NVAR Mina Array Bea 38.70 319 P P 02 59 36.6 +0.3
comp=Z,1.5nm,0.8s,baz=130,slow=6.8,SNR=12
NVAR PcP PcP 03 01 49.1 +1.7
comp=Z,1.2nm,1.0s,baz=138,slow=3.8,SNR=4.2
C24A Savage 38.78 341 ⇑P P 02 59 36.9 +0.3
baz=39
E21A Keefer Ranch, 38.83 338 ⇓P P 02 59 37.4 +0.3
baz=39
D22A Cohagen 39.03 339 ⇑P P 02 59 39.1 +0.4
baz=39
E20A Meyer Farm, Mu 39.20 337 ⇓P P 02 59 40.4 +0.2
baz=39,SNR=5.4
D21A La Casta Ranch 39.25 338 ⇑P P 02 59 40.9 +0.3
baz=39
C23A Lambert 39.26 341 ⇑P P 02 59 41.4 +0.8
baz=39
ULM Lac du Bonnet 39.30 351 *e*P P 02 59 39.0 -1.8
comp=Z,8.1nm,0.9s
ULM Lac du Bonnet 39.30 351 P P 02 59 38.9 -2.0
comp=Z,4.1nm,0.6s,baz=176,slow=9.7,SNR=8.3
ULM LR LR 03 18 49.4
comp=Z,128nm,19.2s,baz=38,slow=41
E19A Rath Farm, Rou 39.42 336 ⇓P P 02 59 42.8 +0.8
baz=40
C22A Vida 39.44 340 ⇓P P 02 59 42.1 0.0
baz=40
DGMT Dagmar 39.54 342 ⇓P P 02 59 44.5 +1.6
baz=40
A25A Svanagstu Ranch 39.65 343 ⇓P P 02 59 45.4 +1.6
baz=40
D20A Manuel Ranch, 39.69 337 ⇓P P 02 59 45.3 +1.0
baz=40
HLID Hailey 39.77 328 *e*P P 02 59 44.9 -0.2
comp=Z,2.4nm,0.9s
HLID Hailey 39.77 328 ⇑P P 02 59 45.3 +0.3
baz=40
B23A Brockton 39.78 341 ⇑P P 02 59 45.7 +0.8
baz=40
MCMT McKenzie Canyo 39.91 331 *e*P P 02 59 46.4 +0.1
comp=Z,6.8nm,1.3s
D19A Cripps Ranch, 40.04 337 ⇓P P 02 59 47.3 +0.2
baz=40
C20A Veseth Ranch, 40.16 338 ⇓P P 02 59 48.8 +0.6
baz=40
C19A Slack Wire Ran 40.57 337 ⇑P P 02 59 52.3 +0.7
baz=41
B20A Solberg Farm, 40.78 339 ⇑P P 02 59 54.0 +0.7
baz=41
A21A Bergtoll Ranch 40.87 340 ⇑P P 02 59 53.8 -0.1
baz=41
A20A Cobblestone Ra 41.12 339 ⇓P P 02 59 56.2 +0.2
baz=41
B19A Brinkman Farms 41.13 338 ⇓P P 02 59 56.3 +0.2
baz=41
WVOR Wild Horse Val 41.31 324 *e*P P 02 59 57.8 0.0
comp=Z,5.5nm,1.1s
A19A Klindworth Far 41.45 338 ⇓P P 02 59 59.8 +1.0
baz=42
MSO Missoula 41.91 332 ⇑P P 03 00 02.9 +0.3
baz=42
NEW Newport 44.44 331 *e*P P 03 00 22.9 0.0
comp=Z,1.8nm,0.8s
FFC Flin Flon 44.70 348 *e*P P 03 00 24.1 -0.7
comp=Z,3.7nm,0.9s
H03N2 Juan Fernandez 45.36 171 T T 03 48 56.8
baz=348,slow=76,SNR=3.6
H03N1 Juan Fernandez 45.37 170 T T 03 48 52.2
baz=348,slow=76,SNR=4.1
H03N3 Juan Fernandez 45.38 171 T T 03 48 51.2
baz=348,slow=76,SNR=3.1
SCHQ Schefferville 46.04 16 P P 03 00 34.2 -1.2
SCHQ Schefferville 46.04 16 P P 03 00 34.2 -1.2
comp=Z,2.0nm,0.4s,baz=217,slow=10,SNR=9.6
SCHQ LR LR 03 21 24.6
comp=Z,268nm,18.0s,baz=186,slow=38
BDFB Brasilia 47.09 124 P P 03 00 44.2 0.0
BDFB Brasilia 47.09 124 P P 03 00 44.2 0.0
comp=Z,7.1nm,0.7s,baz=296,slow=10,SNR=12
BDFB LR LR 03 21 05.5
comp=Z,284nm,20.7s,baz=334,slow=37
CPUP Villa Florida 47.41 143 *e*P P 03 00 47.8 +1.4
comp=Z,1.1nm,1.3s
CPUP Villa Florida 47.41 143 LR LR 03 20 23.4
comp=Z,95nm,18.0s,baz=329,slow=36
FCC Fort Churchill 47.45 355 *e*P P 03 00 44.5 -1.9
comp=Z,0.1nm,0.9s
PLCA Paso Flores 54.17 165 *e*P P 03 01 38.8 +1.5
comp=Z,3.3nm,0.9s
PLCA Paso Flores 54.17 165 LR LR 03 22 00.2
comp=Z,122nm,21.2s,baz=91,slow=33
YKA Yellowknife Ar 54.62 345 P P 03 01 38.5 -1.6
YKA PcP PcP 03 02 42.3 -0.3
YKA Yellowknife Ar 54.62 345 P P 03 01 38.5 -1.6
comp=Z,0.9nm,0.7s,baz=139,slow=7.6,SNR=25
YKA PcP PcP 03 02 42.3 -0.3
comp=Z,0.3nm,0.6s,baz=147,slow=4.3,SNR=4.6
YKW3 Yellowknife Ar 54.68 345 *e*P P 03 01 39.0 -1.5
INK Inuvik 64.22 343 *e*P P 03 02 46.1 -0.2
comp=Z,4.6nm,1.3s
ILAR Eielson Array 67.05 336 P P 03 03 04.5 -0.1
ILAR Eielson Array 67.05 336 P P 03 03 04.5 -0.1
comp=Z,0.6nm,0.6s,baz=105,slow=5.8,SNR=4.6
COLA College 67.47 336 *e*P P 03 03 05.2 -2.0
COLD Coldfoot 69.22 338 *e*P P 03 03 19.1 +0.9
comp=Z,5.8nm,1.0s
TBI Tubuai 70.23 240 *e*LR LR 03 24 50.5
comp=Z,119nm,24.5s
ASCN Ascension 74.78 102 *e*P P 03 03 52.0 -0.5
comp=Z,82nm,1.0s
ESDC Sonseca Array 77.41 52 LR LR 03 34 45.5
comp=Z,111nm,19.2s,baz=330,slow=33
DBIC Dimbokro 81.02 85 *e*P P 03 04 28.7 +1.5
comp=Z,18nm,1.5s
NOA NORSAR Array B 83.96 29 LR LR 03 40 14.7
comp=Z,156nm,20.1s,baz=265,slow=34
TORD Torodi Ar. Bea 86.18 77 LR LR 03 38 59.5
comp=Z,88nm,19.0s,baz=285,slow=33
GERES GERESS Array B 88.35 40 LR LR 03 41 33.2
comp=Z,155nm,19.6s,baz=289,slow=34
FINES FINESS Array B 90.61 26 LR LR 03 49 20.7
comp=Z,148nm,18.6s,baz=223,slow=38
CN2 Changchun 117.52 334 *e*PKP **PKPdf** 03 10 58.5 +1.0
SONM Songino Array 119.72 350 PKP **PKPdf** 03 11 02.1 +0.3
SONM Songino Array 119.72 350 PKP **PKPdf** 03 11 02.1 +0.3
comp=Z,0.4nm,0.6s,baz=338,slow=2.6,SNR=3.6
EKS2 Erkin-Say 123.28 17 *e*PKPdf **PKPdf** 03 11 10.0 +1.2
AAK Ala-Archa 123.50 16 *e*PKPdf **PKPdf** 03 11 09.5 +0.3
TKM2 Tokmak 2 123.53 15 *e*PKPdf **PKPdf** 03 11 08.4 -1.0
KMBO Kilima Mbogo 123.73 84 *e*PKPdf **PKPdf** 03 11 11.7 +1.2
HHC Hu-ho-hao-te 125.14 343 *e*PKP **PKPdf** 03 11 12.6 +0.2
HHC sPKP 03 11 28.4
HHC PP PP 03 13 06.1 +5.3
HHC PKS **PKSdf** 03 14 47.8 -1.3
HHC SKS **SKSdf** 03 18 18.8 -1.7
HHC SKKS **SKKSac** 03 19 53.5 -2.9
HHC SS **SS** 03 29 56.0 +2.7
HHC AMB AMB
comp=Z,210nm,9.0s
HHC LR LR
comp=Z,160nm,20.7s
HHC LR LR
comp=Z,110nm,20.2s
HHC LR LR
comp=Z,190nm,20.7s
PMG Port Moresby 126.77 267 *e*PKPdf **PKPdf** 03 11 17.4 +1.4
GTA Gaotai 128.94 353 PKP **PKPdf** 03 11 20.3 +0.6
GTA sPKP 03 11 36.3
LZH Lanzhou 131.56 348 *e*PKP **PKPdf** 03 11 23.6 -1.2
LZH sPKP 03 11 38.0
LZH LR LR

comp=Z,150nm,17.7s
LZH LR LR
comp=Z,160nm,17.2s
LZH LR LR
comp=Z,190nm,19.8s
ASAR Alice Springs 139.33 247 PKP **PKPdf 03 11 39.5 +0.1**
ASAR Alice Springs 139.33 247 PKP **PKPdf 03 11 39.5 +0.1**
comp=Z,0.3nm,0.6s,baz=105,slow=3.2,SNR=4.8
WRAB Tennant Creek 139.42 253 *e*PKPdf **PKPdf 03 11 40.0 +0.4**
WRA Warramunga Arr 139.43 253 PKP **PKPdf 03 11 41.7 +2.1**
WRA Warramunga Arr 139.43 253 PKP **PKPdf 03 11 41.7 +2.1**
comp=Z,0.7nm,0.5s,baz=91,slow=2.5,SNR=17
GYA Guiyang 139.98 341 *e*Pdif **Pdif 03 08 52.1 -3.2**
GYA PKP **PKPdf 03 11 40.8 +0.1**
GYA sPKP 03 11 57.5
GYA PP **PP 03 14 39.0 +3.0**
GYA AMB AMB
comp=Z,80nm,7.6s
CHTO Chiang Mai 149.30 349 *e*PKPbc **PKPbc 03 12 01.3 +0.2**
CMAR Chiang Mai Arr 149.64 349 PKPbc **PKPbc 03 12 01.6 -0.3**
CMAR Chiang Mai Arr 149.64 349 PKPbc **PKPbc 03 12 01.6 -0.3**
comp=Z,5.2nm,0.7s,baz=341,slow=3.4,SNR=26

MEX 20 02:58:07.1±0.3, 16.74N×93.49W, h166km±12km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.06**	**166**	*e*P		Pn	02 58 38.8 +4.9
PCIG				*i* S		Sn	02 58 58.6 +4.1
HUIG	**Huatulco**	**2.69**	**249**	*e*P		Pn	02 58 50.1 -1.2
HUIG				*e*S		Sn	02 59 23.6 -2.1
VHO	**Vista Hermosa**	**3.12**	**277**	*i* P		Pn	02 58 55.3 -1.6
VHO				*i* S		Sn	02 59 33.7 -1.9

*IDC **20** 03:11:37.7±1.1, 23.78N×122.31E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/24, mbtmp3.4/5, Error ellipse: s-maj=59.4km s-min=22.6km az=79.0*
*ISCJB **20** 03:11:40.8±0.2, 23.73N±0.01×121.64E±0.02, h26km±2km, mb3.3/5, Error ellipse: s-maj=2.9km s-min=1.9km az=36.2*
*JMA **20** 03:11:40.5±0.1, 23.73N×121.61E, h30km±2km, M3.6*
*TAP **20** 03:11:41.2, 23.76N×121.58E, h28km, ML3.9, B*
ISC 20 03:11:40.9±0.8, 23.75N±0.02×121.60E±0.02, h30km±4km, n73, σ0s91/130, mb3.4/5, 15C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.06**	**235**	⇑*i* P		**Pb**	**03 11 46.4 +0.3**
	baz=208						
TEGC				S		**Sb**	**03 11 50.2 +0.7**
	baz=208						
ESF	**Shoufeng Towns**	**0.15**	**326**	⇑*i* P		**Pb**	**03 11 46.6 0.0**
	baz=317						
ESF				S		**Sb**	**03 11 50.7 +0.2**
	baz=317						
ESL	**Shilin**	**0.17**	**294**	⇑*i* P		**Pb**	**03 11 46.6 -0.2**
	baz=284						
ESL				*i* S		**Sb**	**03 11 50.0 -0.8**
	baz=284						
HWA	**Hwalien**	**0.23**	**2**	⇓*i* P		**Pb**	**03 11 47.6 +0.1**
	baz=14						
HWA				*e*S		**Sb**	**03 11 52.1 +0.1**
	baz=14						
TWD	**Chiawan**	**0.33**	**360**	⇓*i* P		**Pb**	**03 11 48.8 -0.1**
	baz=353						
TWD				*i* S		**Sb**	**03 11 54.5 +0.3**
	baz=353						
EHY	**Hungye**	**0.35**	**227**	⇑*i* P		**Pb**	**03 11 48.8 -0.3**
	baz=229						
EHY				S		**Sb**	**03 11 53.9 -0.7**
	baz=229						
TWF1	**Yuli**	**0.48**	**215**	⇑*i* P		**Pb**	**03 11 50.8 -0.2**
	baz=222						
TWF1				*e*S		**Sb**	**03 11 57.5 -0.4**
	baz=222						
WHF	**Hehuan Shan**	**0.50**	**323**	⇑*i* P		**Pb**	**03 11 51.1 -0.5**
	baz=323						
WHF				S		**Sb**	**03 11 58.2 -0.9**
	baz=323						
EHP	**Heping Village**	**0.58**	**13**	*e*P		**Pb**	**03 11 52.6 0.0**
	baz=16						
TWT	**Tachien**	**0.64**	**323**	⇑*i* P		**Pb**	**03 11 53.8 +0.1**
	baz=322						
TWT				S		**Sb**	**03 12 01.3 -1.1**
	baz=322						
YUS	**Yu-Shan**	**0.65**	**247**	⇑*i* P		**Pb**	**03 11 54.4 +0.3**
	baz=245						
YUS				S		**Sb**	**03 12 02.8 -0.2**
	baz=245						
SMLT	**Sun Moon Lake**	**0.65**	**282**	⇑*i* P		**Pb**	**03 11 53.8 -0.1**
	baz=286						
SMLT				*e*S		**Sb**	**03 12 03.3 +0.5**
	baz=286						
CHKT	**Chengkung**	**0.68**	**198**	*e*P		**Pn**	**03 11 54.6 +0.1**
	baz=206						
CHKT				*e*S		**Sn**	**03 12 04.8 +0.8**
	baz=206						
ENA	**Nanau**	**0.69**	**11**	P		**Pn**	**03 11 54.2 -0.5**
ENA				*e*S		**Sb**	**03 12 03.8 0.0**
TYC	**Yuchr**	**0.70**	**283**	⇑*i* P		**Pn**	**03 11 54.4 -0.3**
	baz=287						
TYC				S		**Sb**	**03 12 04.0 +0.1**
	baz=287						
NNS	**Nan Shan**	**0.72**	**344**	*e*P		**Pn**	**03 11 54.8 -0.4**
	baz=345						
NNS				*e*S		**Sb**	**03 12 03.9 -0.9**
	baz=345						
ALS	**Alishan**	**0.76**	**252**	⇑*i* P		**Pb**	**03 11 56.3 +0.4**
	baz=251						
ALS				S		**Sb**	**03 12 06.3 +0.2**
	baz=251						
ELDTW	**Lidau**	**0.77**	**224**	*e*P		**Pn**	**03 11 54.3 -1.5**
	baz=218						
ELDTW				*e*S		**Sb**	**03 12 05.8 -0.3**
	baz=218						
WNT	**Mingjian**	**0.85**	**279**	⇑*i* P		**Pb**	**03 11 58.0 +0.9**
	baz=279						
WNT				*e*S		**Sb**	**03 12 09.5 +1.3**
	baz=279						
CHN5	**Tsauling**	**0.86**	**260**	⇑P		**Pb**	**03 11 58.0 +0.7**
	baz=252						
CHN5				S		**Sb**	**03 12 09.5 +1.0**
	baz=252						
TWC	**Suao**	**0.89**	**15**	*e*P		**Pb**	**03 11 57.7 -0.2**
TWC				*e*S		**Sb**	**03 12 10.8 +1.5**
ENTT	**Nioudou**	**0.89**	**358**	P		**Pn**	**03 11 57.2 -0.2**
	baz=358						
ENTT				*e*S		**Sb**	**03 12 10.3 +0.9**
	baz=358						
TCU	**Taichung**	**0.93**	**296**	*e*P		**Pb**	**03 11 59.2 +0.7**
	baz=295						
TCU				*e*S		**Sb**	**03 12 12.1 +1.5**
	baz=295						
WGK	**Gukeng**	**0.95**	**267**	*e*P		**Pb**	**03 11 59.1 +0.3**
	baz=266						
WGK				*e*S		**Sb**	**03 12 12.0 +0.9**
	baz=266						
NSK	**Sanguang**	**0.95**	**347**	⇑*i* P		**Pn**	**03 11 58.5 +0.2**
	baz=357						
NSK				*e*S		**Sn**	**03 12 10.3 -0.6**
	baz=357						
TWQ1	**Liyutan**	**0.96**	**309**	⇑*i* P		**Pb**	**03 11 59.8 +0.7**
	baz=309						
TWQ1				*e*S		**Sb**	**03 12 12.2 +0.7**
	baz=309						
STYT	**Tauyuan**	**0.97**	**233**	P		**Pb**	**03 11 59.1 -0.1**
	baz=225						
STYT				S		**Sn**	**03 12 11.5 +0.2**
	baz=225						
NSY	**Sanyi**	**1.01**	**311**	*e*P		**Pb**	**03 12 00.5 +0.6**
	baz=311						
NSY				*e*S		**Sb**	**03 12 13.7 +0.8**
	baz=311						
ILA	**Ilan**	**1.02**	**8**	*e*P		**Pb**	**03 12 00.2 +0.2**
WTP	**Ta-pu**	**1.03**	**241**	⇓P		**Pb**	**03 12 00.6 +0.4**
	baz=248						
WTP				*e*S		**Sb**	**03 12 14.4 +1.0**
	baz=248						
NSTT	**Nanjuang**	**1.04**	**328**	P		**Pb**	**03 12 00.5 +0.2**
	baz=323						
NSTT				*e*S		**Sn**	**03 12 13.0 +0.1**
	baz=323						
TWG	**Pinlang**	**1.04**	**208**	*e*P		**Pn**	**03 11 58.1 -1.3**
	baz=206						
TWG				*e*S		**Sn**	**03 12 10.9 -2.1**
	baz=206						
TTN	**Taitung**	**1.07**	**203**	*e*P		**Pn**	**03 12 00.1 +0.3**
	baz=201						
CHY	**Chiayi**	**1.10**	**257**	*e*P		**Pb**	**03 12 01.7 +0.3**
	baz=257						
CHY				*e*S		**Sb**	**03 12 16.4 +0.9**
	baz=257						
TWK	**Hsinying**	**1.12**	**245**	*e*P		**Pb**	**03 12 01.7 -0.1**
	baz=244						
TWK				*e*S		**Sb**	**03 12 16.7 +0.6**
	baz=244						
CHN1	**Nanshi**	**1.13**	**241**	*e*P		**Pb**	**03 12 02.1 +0.2**
	baz=240						
CHN1				*e*S		**Sb**	**03 12 17.3 +1.0**
	baz=240						
SGST	**Jiashian**	**1.14**	**235**	*e*P		**Pb**	**03 12 01.9 -0.2**
	baz=225						
SGST				*e*S		**Sb**	**03 12 17.8 +1.2**
	baz=225						
HSN	**Hsinchu**	**1.20**	**332**	*e*P		**Pb**	**03 12 02.5 -0.6**
	baz=319						
HSN				*e*S		**Sb**	**03 12 19.7 +1.5**
	baz=319						
WTCT	**Ta-ch'eng**	**1.21**	**276**	*e*P		**Pb**	**03 12 03.7 +0.5**
	baz=266						
WTCT				*e*S		**Sb**	**03 12 18.8 +0.2**
	baz=266						
WSF	**Szhu**	**1.27**	**265**	*e*P		**Pb**	**03 12 03.9 -0.2**
	baz=265						
WSF				*e*S		**Sb**	**03 12 20.5 +0.4**
	baz=265						
NCU	**National Centr**	**1.27**	**343**	*e*P		**Pb**	**03 12 03.8 -0.5**
	baz=341						
NCU				*e*S		**Sb**	**03 12 20.4 +0.1**
	baz=341						
ECL	**Taimali**	**1.29**	**208**	*e*P		**Pn**	**03 12 03.4 +0.5**
	baz=195						
ECL				*e*S		**Sb**	**03 12 20.6 -0.1**
	baz=195						
TAP1	**Taipei**	**1.29**	**357**	*e*P		**Pb**	**03 12 03.7 -0.8**
	baz=357						
TWB1	**Santiao Chiao**	**1.31**	**16**	*e*P		**Pb**	**03 12 05.3 +0.5**
	baz=1.0						
TWB1				*e*S		**Sb**	**03 12 20.8 -0.4**
	baz=1.0						
NWF	**Wu-fen Shan**	**1.33**	**7**	*e*P		**Pn**	**03 12 04.3 +0.7**
	baz=5.0						
NWF				*e*S		**Sb**	**03 12 22.2 +0.2**
	baz=5.0						
CHN8	**Yiju**	**1.33**	**253**	*e*P		**Pb**	**03 12 05.2 -0.1**
	baz=253						
CHN8				*e*S		**Sb**	**03 12 22.3 +0.3**
	baz=253						
SSD	**Sandimen**	**1.33**	**222**	*e*P		**Pn**	**03 12 04.3 +0.8**
	baz=221						
SSD				*e*S		**Sb**	**03 12 21.6 -0.5**
	baz=221						
TWS1	**Kuangyinshan**	**1.36**	**353**	*e*P		**Pb**	**03 12 05.6 -0.1**
	baz=2.0						
TWS1				*e*S		**Sb**	**03 12 23.6 +0.8**
	baz=2.0						
SCLT	**Jiali**	**1.41**	**246**	*e*P		**Pb**	**03 12 05.7 -0.8**
	baz=246						
SCLT				*e*S		**Sb**	**03 12 24.4 +0.3**
	baz=246						
TWM1	**Shoushan**	**1.42**	**230**	*e*P		**Pb**	**03 12 05.9 -0.8**
	baz=242						
SGLT	**Jiouru**	**1.44**	**225**	*e*P		**Pn**	**03 12 05.7 +0.8**
	baz=212						
YOJ	**Yonaguni jima**	**1.48**	**61**	P		**Pn**	**03 12 06.2 +0.8**
YOJ				S		**Sb**	**03 12 24.6 -1.5**
YOJ	**Yonaguni jima**	**1.48**	**61**	*e*P		**Pn**	**03 12 06.0 +0.6**
	baz=60						
YOJ				*e*S		**Sb**	**03 12 24.5 -1.6**
	baz=60						
EAST	**Anshuo**	**1.52**	**207**	*e*P		**Pn**	**03 12 05.4 -0.7**
	baz=197						
EAST				*e*S		**Sb**	**03 12 27.8 +0.3**
	baz=197						
TAW	**Tawu**	**1.52**	**205**	*e*P		**Pb**	**03 12 08.8 +0.3**
	baz=193						
LAY	**Lan-yu**	**1.70**	**181**	*e*P		**Pn**	**03 12 07.5 -1.0**
	baz=174						
LAY				*e*S		**Sn**	**03 12 29.1 -0.3**
	baz=174						
WDGT	**Dungji**	**1.84**	**255**	*e*P		**Pn**	**03 12 11.0 +0.5**
	baz=255						
WDGT				*e*S		**Sn**	**03 12 33.5 +0.7**
	baz=255						
HEN	**Hengchun**	**1.91**	**205**	*e*P		**Pb**	**03 12 13.6 -1.4**
	baz=195						
TWK1	**Hengchun**	**1.94**	**202**	*e*P		**Pn**	**03 12 13.6 +1.7**
	baz=190						
TWK1				*e*S		**Sn**	**03 12 35.2 +0.1**
	baz=190						
TSEB	**Hengchuen, Pin**	**1.95**	**199**	*e*P		**Pn**	**03 12 13.1 +1.2**
	baz=192						
TSEB				*e*S		**Sn**	**03 12 37.4 +2.0**
	baz=192						
IRIF	**Iriomote-Funau**	**2.04**	**73**	P		**Pn**	**03 12 14.1 +1.0**
IRIF				S		**Sn**	**03 12 38.5 +0.9**
HATJ	**Hateruma jima**	**2.04**	**81**	P		**Pn**	**03 12 13.9 +0.6**
HATJ				*e*S		**Sn**	**03 12 38.2 +0.4**
JKRS	**Kuro-shima**	**2.26**	**77**	P		**Pn**	**03 12 17.6 +1.4**
JKRS				S		**Sn**	**03 12 44.7 +1.6**
JIJ	**Ishigaki jima**	**2.41**	**75**	P		**Pn**	**03 12 18.6 +0.3**
JIJ				S		**Sn**	**03 12 47.0 +0.3**
KNM	**Kinmen**	**2.97**	**284**	*e*P		**Pn**	**03 12 27.7 +1.7**
	baz=283						
JTJ	**Tarama**	**2.97**	**72**	P		**Pn**	**03 12 26.6 +0.6**
JTJ				*e*S		**Sn**	**03 13 01.3 +0.6**
QZH	**Quanzhou**	**2.99**	**294**	⇓*i* Pn		Pn	03 12 22.8 -3.5
QZH				Sn		**Sn**	**03 12 55.6 -5.5**
QZH				smax		smax	
	comp=N,240nm,0.8s						
QZH				smax		smax	
	comp=E,260nm,0.8s						
JKE	**Kume jima 2**	**5.36**	**60**	P		**Pn**	**03 12 59.2 +0.3**
JKE				*e*S		**Sn**	**03 13 58.8 -0.8**
ZALV	**Zalesovo Beam**	**40.82**	**327**	P		P	03 19 23.5 +4.0
	comp=E,0.5nm,0.4s,baz=113,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**45.16**	**163**	P		**P**	**03 19 54.8 -0.3**
	comp=E,0.3nm,0.7s,baz=343,slow=8.6,SNR=6.0						
ASAR	**Alice Springs**	**48.62**	**165**	P		**P**	**03 20 22.6 +0.5**
	comp=E,0.1nm,0.3s,baz=335,slow=6.3,SNR=3.3						
ILAR	**Eison Array**	**69.43**	**27**	P		**P**	**03 22 45.5 -0.3**
	comp=E,0.1nm,0.5s,baz=274,slow=5.5,SNR=4.0						
YKA	**Yellowknife Ar**	**83.22**	**23**	P		**P**	**03 24 03.7 -0.5**
	comp=E,0.2nm,0.5s,baz=310,slow=4.6,SNR=4.9						

*IDC **20** 03:30:30.4±2.0, 4.16N×95.68E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/27, mbtmp3.5/6, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/30, Error ellipse: s-maj=72.5km s-min=20.6km az=56.0*
*DJA **20** 03:30:33.2±1.0, 5°N±4°×9°E±°, h10km, M4.1/5, MLv4.1/5*
ISC 20 03:30:37.5±1.0, 4.64N±0.06×96.24E±0.09, h31km, n16, σ1s89/16, mb3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.91**	**50**	P		Pn	03 30 51.0 -3.2
LHMI				S		**Sb**	**03 31 04.2 -2.5**
TPTI		**1.66**	**146**	P		**Pn**	**03 31 03.9 -0.6**
TPTI				S		**Sb**	**03 31 29.7 +1.7**
KCSI	**Kotacane, Aceh**	**1.89**	**126**	P		**Pb**	**03 31 10.2 -1.1**
KCSI				S		**Sb**	**03 31 36.8 +2.3**
SNSI	**Sinabang, Aceh**	**2.22**	**178**	P		**Pn**	**03 31 12.1 -0.1**
TSI	**Tuntungan**	**2.58**	**116**	P		**Pb**	**03 31 23.2 +0.1**
PSI	**Prapat**	**3.24**	**124**	P		**Pn**	**03 31 29.0 +2.6**
PSI	**Prapat**	**3.24**	**124**	Pn		**Pn**	**03 31 28.8 +2.4**
	3.8nm,0.3s,baz=315,slow=13,SNR=14						
PSI				Sn		**Sb**	**03 32 11.1 -2.4**
	6.6nm,0.3s,baz=286,slow=17,SNR=4.4						
PSI				LR		LR	03 33 03.2
	comp=Z,143nm,20.9s,baz=56,slow=43						
CMAR	**Chiang Mai Arr**	**13.98**	**11**	Pn		**P**	**03 34 02.6 +1.3**
	0.2nm,0.3s,baz=202,slow=11,SNR=4.6						
H08S2	**Diego Garcia H**	**26.66**	**243**	T		T	04 03 28.4
	baz=60,slow=75,SNR=37						
H08S3	**Diego Garcia H**	**26.66**	**243**	T		T	04 03 28.1
	baz=60,slow=75,SNR=28						
H08S1	**Diego Garcia H**	**26.67**	**243**	T		T	04 03 29.2
	baz=60,slow=75,SNR=26						
MKAR	**Makanchi Array**	**43.70**	**346**	P		**P**	**03 38 40.5 +0.8**
	0.2nm,0.4s,baz=166,slow=9.3,SNR=5.5						
SONM	**Songino Array**	**43.91**	**10**	P		**P**	**03 38 42.8 +1.3**
	0.3nm,0.4s,baz=184,slow=9.1,SNR=4.4						
WRA	**Warramunga Arr**	**44.70**	**124**	P		**P**	**03 38 46.3 -1.9**
	0.5nm,0.4s,baz=303,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**46.26**	**129**	P		**P**	**03 38 58.9 -1.5**
	1.1nm,0.9s,baz=303,slow=8.0,SNR=8.8						
STKA	**Stephens Creek**	**56.38**	**133**	P		**P**	**03 40 14.7 -1.5**
	0.8nm,0.7s,baz=319,slow=11,SNR=2.4						

WEL 20 03:42:27.8±0.6, 36.53S×179.97W, h33km, ML3.9/6, 1D, Error ellipse: s-maj=5.6km s-min=4.5km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.72**	**233**	PN		Pn	03 42 54.7 -0.8
MXZ				SN		Sn	03 43 14.1 -2.2
MXZ				AML	AML	03 43 15.3	
MXZ				AML	AML	03 43 15.5	
MXZ				AML	AML	03 43 15.5	
PUZ	**Puketiti**	**2.09**	**222**	PN		Pn	03 43 00.3 -0.3
PUZ				*e*SN		Sn	03 43 24.4 -1.1
PUZ				AML	AML	03 43 25.0	
CNGZ	**Carnagh Statio**	**2.43**	**216**	PN		Pn	03 43 05.0 -0.2
MWZ	**Matawai**	**2.69**	**227**	PN		Pn	03 43 07.9 -0.9
MWZ				SN		Sn	03 43 38.5 -1.7
MWZ				AML	AML	03 43 39.3	
RIGZ	**Rimuhau**	**2.82**	**219**	PN		Pn	03 43 09.9 -0.8
URZ	**Urewera**	**2.90**	**232**	⇓PN		Pn	03 43 11.2 -0.4
URZ				SN		Sn	03 43 43.6 -1.7
URZ				AML	AML	03 43 46.7	
PRGZ	**Paritu Road**	**2.94**	**215**	PN		Pn	03 43 11.1 -1.1
KNZ	**Kokohu**	**3.11**	**216**	PN		Pn	03 43 12.8 -1.8
KUZ	**Kuaotunu**	**3.47**	**265**	PN		Pn	03 43 18.8 -0.7
BKZ	**Black Stump Fm**	**3.84**	**226**	PN		Pn	03 43 23.4 -1.4
BKZ				SN		Sn	03 44 05.9 -2.9
BKZ				AML	AML	03 44 07.4	
MRZ	**Mangatainoka R**	**5.40**	**219**	*e*PN		Pn	03 43 42.2 -3.8
MRZ				*e*SN		Sn	03 44 40.4 -6.7
MRZ				AML	AML	03 44 42.5	

*IDC **20** 03:43:48.7±2.3, 7.84S×116.07E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/34, Error ellipse: s-maj=149.1km s-min=18.3km az=55.0*
*ISCJB **20** 03:43:51.7±2.0, 7.8S±0.5×116.1E±0.8, h33km, mb3.7/6, MS3.2/1, Error ellipse: s-maj=131.9km s-min=15.9km az=145.0*
ISC 20 03:43:54.0±2.2, 7.8S±0.6×116.2E±0.8, h35km, n7, σ0s76/6, mb3.8/6, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.33**	**126**	P		**P**	**03 48 38.7 +0.5**
	0.5nm,0.4s,baz=301,slow=13,SNR=17						
ASAR	**Alice Springs**	**23.18**	**135**	P		**P**	**03 48 58.0 +0.2**
	0.7nm,0.4s,baz=314,slow=8.4,SNR=16						
STKA	**Stephens Creek**	**33.66**	**139**	P		**P**	**03 50 31.3 -0.3**
	1.6nm,0.8s,baz=28,slow=5.3,SNR=3.8						
MJAR	**Matsushiro Arr**	**48.72**	**24**	LR	LR	04 11 06.4	
	comp=Z,25nm,20.7s,baz=70,slow=34						
SONM	**Songino Array**	**56.07**	**352**	P		**P**	**03 53 29.7 0.0**
	0.7nm,0.6s,baz=172,slow=8.5,SNR=9.3						
MKAR	**Makanchi Array**	**62.16**	**334**	P		**P**	**03 54 12.5 +0.8**
	0.2nm,0.3s,baz=144,slow=5.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**66.97**	**340**	P		**P**	**03 54 42.1 -0.8**
	0.6nm,0.5s,baz=143,slow=3.6,SNR=3.5						

*IDC **20** 03:49:53.7±1.6, 10.92S×165.43E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/20, mbtmp4.1/6, ML4.3/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/36, Error ellipse: s-maj=49.3km s-min=25.9km az=129.0*
*ISCJB **20** 03:49:56.4±1.3, 11.21S±0.10×165.5E±0.2, h30km, mb4.0/4, MS3.7/5, Error ellipse: s-maj=25.2km s-min=12.4km az=164.5*
ISC 20 03:49:58.4±1.5, 11.1S±0.1×165.5E±0.2, h30km, n17, σ1s64/8, mb3.9/4, MS3.7/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.72**	**286**	LR	LR	03 52 28.4	
	comp=Z,77nm,21.7s,baz=8.9,slow=28						
DZM	**Mont Dzumac**	**10.96**	**175**	Pn		**Pn**	**03 52 34.8 +1.5**
	1.9nm,0.3s,baz=324,slow=23,SNR=24						
DZM				Sn		**Sn**	**03 54 32.8 -2.3**
	0.2nm,0.3s,baz=90,slow=20,SNR=3.5						
DZM	**Mont Dzumac**	**10.96**	**175**	*e*P		**Pn**	**03 52 34.7 +1.3**
CTA	**Charters Tower**	**20.58**	**242**	P		**P**	**03 54 35.4 +0.3**
	3.1nm,0.7s,baz=73,slow=13,SNR=6.6						
RAO	**Raoul Island**	**23.79**	**142**	LR	LR	04 02 31.7	
	comp=Z,133nm,20.7s,baz=25,slow=32						
H11S2	**WAKE ISLAND Hy 29.41**	**2**		T		T	04 26 35.1
	baz=185,slow=73,SNR=13						
H11S3	**WAKE ISLAND Hy 29.42**	**2**		T		T	04 26 35.2
	baz=185,slow=73,SNR=7.6						
H11S1	**WAKE ISLAND Hy 29.43**	**2**		T		T	04 26 36.5
	baz=185,slow=73,SNR=8.6						
STKA	**Stephens Creek**	**30.26**	**223**	P		**P**	**03 56 08.1 +1.3**
	1.6nm,0.9s,baz=41,slow=9.3,SNR=3.5						
STKA				LR	LR	04 07 43.8	
	comp=Z,160nm,18.4s,baz=28,slow=35						
H11N1	**WAKE ISLAND Hy 30.64**	**3**		T		T	04 28 07.0
	baz=184,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy 30.64**	**3**		T		T	04 28 07.0
	baz=184,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy 30.65**	**3**		T		T	04 28 08.0
	baz=184,slow=76,SNR=14						
WRA	**Warramunga Arr**	**31.26**	**250**	P		**P**	**03 56 15.2 -0.6**
	1.6nm,0.7s,baz=82,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**32.57**	**243**	P		**P**	**03 56 25.9 -1.4**
	4.0nm,0.7s,baz=72,slow=9.8,SNR=58						
ASAR				LR	LR	04 08 21.1	
	comp=Z,179nm,21.3s,baz=339,slow=34						
JCJ	**Chichijima**	**44.20**	**330**	LR	LR	04 14 32.9	
	comp=Z,72nm,19.9s,baz=170,slow=34						
ILAR	**Eielson Array**	**83.62**	**19**	P		**P**	**04 02 23.1 -0.6**
	0.3nm,0.5s,baz=236,slow=4.9,SNR=13						
BBB	**Bella Bella**	**84.74**	**35**	LR	LR	04 32 04.9	
	comp=Z,81nm,20.7s,baz=221,slow=30						

*ISCJB **20** 03:59:00.5±0.5, 7.26N±0.06×72.92W±0.05, h166km, mb3.6/8, Error ellipse: s-maj=9.2km s-min=6.1km az=138.4*
*IDC **20** 03:59:02.1±1.7, 6.82N×72.81W, h206km±16km, mb3.4/9, mb1 3.6/10, mb1mx3.3/24, mbtmp3.4/10, Error ellipse: s-maj=25.9km s-min=14.1km az=60.0*
*FUNV **20** 03:59:05.5, 7.27N×72.69W, h164km, MW3.6*
ISC 20 03:58:59.7±0.7, 7.19N±0.07×72.83W±0.07, h166km, n29, σ1s93/31, mb3.7/8, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.85**	**37**	⇑*i* P		Pn	03 59 29.6 +4.5
CAPV				*e*S		**Sn**	**03 59 46.2 +1.5**
SOCV	**Socops**	**2.24**	**61**	⇓*e*P		Pn	03 59 42.3 +3.7
SOCV				*e*S		**Sn**	**04 00 08.2 -0.6**
ROSC	**El Rosal**	**2.75**	**213**	P		**Pn**	**03 59 47.6 +2.6**
	7.7nm,0.3s,baz=94,slow=12,SNR=29						

8.9nm,0.8s,baz=135,slow=4.3,SNR=7.4
TXAR Lajitas Array 36.44 311 P **P 04 05 49.6 +0.9**
0.7nm,0.6s,baz=123,slow=9.2,SNR=13
ANMO Albuquerque 41.44 317 P **P 04 06 32.0 +1.6**
0.3nm,0.4s,baz=117,slow=11,SNR=3.2
ULM Lac du Bonnet 47.04 340 P **P 04 07 14.1 -0.3**
1.5nm,0.5s,baz=168,slow=2.8,SNR=4.1
PLCA Paso Flores 47.73 178 P P 04 07 15.3 -4.5
1.1nm,0.9s,baz=333,slow=9.0,SNR=3.0
PDAR Pinedale Array 47.95 324 P **P 04 07 22.4 +0.6**
0.5nm,0.6s,baz=132,slow=10,SNR=4.8
YKA Yellowknife Ar 63.02 340 P **P 04 09 08.8 +0.2**
1.0nm,0.7s,baz=132,slow=6.8,SNR=21
DBIC Dimbokro 67.42 86 P **P 04 09 36.2 -1.7**
1.9nm,0.8s,baz=280,slow=11,SNR=2.8
ARCES ARCESS Array B 86.23 20 P **P 04 11 21.7 -0.4**
2.5nm,0.8s,baz=282,slow=4.5,SNR=3.5
SONM Songino Array 125.22 1 PKP **PKPdf 04 17 40.3 -0.6**
0.1nm,0.4s,baz=337,slow=2.6,SNR=3.3
ASAR Alice Springs 149.55 234 PKPbc **PKPdf 04 18 24.6 -1.1**
0.4nm,0.6s,baz=89,slow=1.9,SNR=5.5
WRA Warramunga Arr 150.76 242 PKPbc **PKPbc 04 18 31.5 -1.8**
0.4nm,0.4s,baz=107,slow=2.7,SNR=12

IDC ***20*** *04:02:38.3±1.2, 11°.02S×165°.62E, h0km, mb3.8/6, mb1 4.2/8, mb1mx3.9/22, mbtmp4.0/8, ML4.3/2, MS3.7/6, Ms1 3.7/6, ms1mx3.3/34, Error ellipse: s-maj=38.5km s-min=21.8km az=135.0*
ISCJB ***20*** *04:02:41.3±0.9, 11°.1S±0°.1×165°.5E±0°.1, h30km, mb3.8/5, MS3.7/4, Error ellipse: s-maj=18.3km s-min=16.5km az=174.9*
ISC 20 04:02:43.1±1.0, 11°.0S±0°.1×165°.6E±0°.1, h30km, n13, σ1§11/9, mb3.9/5, MS3.7/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.75**	**285**	Pn		**Pn**	**Pn**	**04 04 06.1**	**-0.3**
	9.6nm,0.3s,baz=80,slow=12,SNR=3.6								
HNR				LR		LR	LR	04 06 14.5	
	comp=Z,730nm,19.5s,baz=244,slow=37								
DZM	**Mont Dzumac**	**11.05**	**176**	Pn		**Pn**	**Pn**	**04 05 19.5**	**+0.3**
	1.9nm,0.3s,baz=90,slow=23,SNR=24								
PMG	**Port Moresby**	**18.19**	**273**	LR		LR	LR	04 12 46.7	
	comp=Z,178nm,21.5s,baz=223,slow=33								
CTA	**Charters Tower**	**20.67**	**242**	P		**P**	**P**	**04 07 21.6**	**+0.9**
	3.0nm,0.7s,baz=81,slow=14,SNR=6.4								
RAO	**Raoul Island**	**23.83**	**142**	LR		LR	LR	04 15 52.7	
	comp=Z,163nm,18.0s,baz=127,slow=33								
STKA	**Stephens Creek**	**30.36**	**223**	LR		LR	LR	04 20 18.2	
	comp=Z,191nm,20.1s,baz=29,slow=35								
WRA	**Warramunga Arr**	**31.34**	**250**	P		**P**	**P**	**04 09 01.1**	**-0.1**
	1.4nm,0.7s,baz=82,slow=9.1,SNR=11								
ASAR	**Alice Springs**	**32.66**	**243**	P		**P**	**P**	**04 09 11.2**	**-1.6**
	1.9nm,0.8s,baz=71,slow=9.4,SNR=18								
ASAR				LR		LR	LR	04 21 08.0	
	comp=Z,138nm,20.8s,baz=147,slow=34								
FITZ	**Fitzroy Crossi**	**39.22**	**255**	LR		LR	LR	04 25 50.1	
	comp=Z,121nm,18.2s,baz=126,slow=35								
SONM	**Songino Array**	**78.52**	**324**	P		**P**	**P**	**04 14 43.3**	**+1.6**
	0.3nm,0.7s,baz=131,slow=7.9,SNR=2.6								
ILAR	**Eielson Array**	**83.52**	**19**	P		**P**	**P**	**04 15 08.0**	**+0.2**
	0.5nm,0.5s,baz=244,slow=4.6,SNR=24								
YKA	**Yellowknife Ar**	**95.01**	**27**	P		**P**	**P**	**04 16 01.5**	**-1.0**
	0.3nm,0.9s,baz=262,slow=5.6,SNR=3.4								
ARCES	**ARCESS Array B**	**116.24**	**345**	PKP		**PKPdf**	**PKPdf**	**04 21 22.5**	**-0.5**
	5.0nm,1.1s,baz=83,slow=2.8,SNR=3.4								

IDC 20 04:04:47.9±27.0, 20°.79S×173°.21W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/22, mbtmp3.9/4, MS4.0/2, Ms1 4.0/2, ms1mx3.1/31, Error ellipse: s-maj=497.3km s-min=154.8km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**28.22**	**290**	LR		LR	LR	04 19 06.3	
	comp=Z,379nm,19.5s,baz=113,slow=30								
CTA	**Charters Tower**	**37.92**	**264**	P		P	P	04 12 07.8	+0.4
	2.1nm,0.5s,baz=107,slow=13,SNR=7.9								
PMG	**Port Moresby**	**39.80**	**280**	LR		LR	LR	04 26 41.1	
	comp=Z,141nm,20.2s,baz=188,slow=33								
STKA	**Stephens Creek**	**41.72**	**245**	P		P	P	04 12 38.7	-0.1
	0.7nm,0.5s,baz=95,slow=11,SNR=4.4								
ASAR	**Alice Springs**	**48.82**	**256**	P		P	P	04 13 35.3	0.0
	0.5nm,0.5s,baz=98,slow=7.6,SNR=10								
WRA	**Warramunga Arr**	**49.00**	**261**	P		P	P	04 13 36.1	-0.6
	0.8nm,0.6s,baz=99,slow=8.3,SNR=18								

IDC 20 04:15:21.1±1.6, 10°.88S×165°.41E, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/20, mbtmp4.0/5, MS3.3/2, Ms1 3.3/2, ms1mx3.0/23, Error ellipse: s-maj=112.4km s-min=22.5km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.17**	**175**	LR		LR	LR	04 21 26.6	
	comp=Z,71nm,18.4s,baz=196,slow=33								
CTA	**Charters Tower**	**20.58**	**241**	P		Pn	P	04 20 03.5	-0.5
	5.8nm,0.8s,baz=70,slow=11,SNR=5.7								
H11S2	**WAKE ISLAND Hy**	**29.21**	**3**	T		T	T	04 52 05.5	
	baz=185,SNR=6.0								
H11S3	**WAKE ISLAND Hy**	**29.21**	**2**	T		T	T	04 52 05.7	
	baz=185,SNR=5.2								
H11S1	**WAKE ISLAND Hy**	**29.23**	**3**	T		T	T	04 52 06.0	
	baz=185,SNR=5.5								
STKA	**Stephens Creek**	**30.33**	**223**	LR		LR	LR	04 33 18.9	
	comp=Z,106nm,18.6s,baz=204,slow=36								
H11N1	**WAKE ISLAND Hy**	**30.43**	**3**	T		T	T	04 53 37.1	
	baz=184,slow=76,SNR=7.6								
H11N3	**WAKE ISLAND Hy**	**30.44**	**3**	T		T	T	04 53 38.0	
	baz=184,slow=76,SNR=8.4								
H11N2	**WAKE ISLAND Hy**	**30.45**	**3**	T		T	T	04 53 39.6	
	baz=184,slow=76,SNR=7.6								
WRA	**Warramunga Arr**	**31.23**	**249**	P		P	P	04 21 42.2	-0.5
	1.4nm,0.6s,baz=82,slow=9.0,SNR=15								
WRA				PcP		PcP	PcP	04 24 38.1	+0.5
	0.5nm,1.0s,baz=75,slow=3.2,SNR=4.5								
ASAR	**Alice Springs**	**32.57**	**243**	P		P	P	04 21 53.6	-0.8
	3.8nm,0.7s,baz=66,slow=10.0,SNR=53								
ILAR	**Eielson Array**	**83.46**	**19**	P		P	P	04 27 50.2	-0.1
	0.3nm,0.5s,baz=238,slow=4.7,SNR=12								
NVAR	**Mina Array Bea**	**86.17**	**50**	P		P	P	04 28 04.8	-0.1
	0.6nm,0.8s,baz=240,slow=9.1,SNR=4.6								

IDC 20 04:24:33.8±2.0, 1°.93N×124°.91E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/15, Error ellipse: s-maj=193.0km s-min=26.5km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**12.72**	**342**	LR		LR	LR	04 32 17.9	
	comp=Z,97nm,21.6s,baz=301,slow=36								
WRA	**Warramunga Arr**	**23.62**	**157**	P		P	P	04 29 45.8	-1.0
	0.4nm,0.4s,baz=336,slow=11,SNR=12								
ASAR	**Alice Springs**	**26.91**	**162**	P		P	P	04 30 18.1	+1.2
	0.2nm,0.5s,baz=336,slow=7.4,SNR=7.2								
MKAR	**Makanchi Array**	**50.02**	**327**	P		P	P	04 34 28.3	-0.3
	0.2nm,0.4s,baz=121,slow=6.7,SNR=4.1								

ISCJB ***20*** *04:33:28.4±1.0, 34°.8N±0°.1×13°.80E±0°.08, h10km, mb3.5/4, MS3.1/1, Error ellipse: s-maj=20.6km s-min=10.0km az=177.5*
IDC ***20*** *04:33:28.5±1.3, 34°.62N×13°.87E, h0km, mb3.6/4, mb1 3.5/6, mb1mx3.4/29, mbtmp3.5/6, ML3.5/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/33, Error ellipse: s-maj=46.3km s-min=23.4km az=138.0*
ISC 20 04:33:30.0±1.3, 34°.7N±0°.2×13°.79E±0°.10, h10km, n8, σ0§72/7, mb3.7/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**3.78**	**287**	Pn		**Pn**	**Pn**	**04 34 29.1**	**+0.6**
	1.1nm,0.3s,baz=124,slow=4.4,SNR=49								
KEST				Sn		**Sn**	**Sn**	**04 35 12.3**	**-0.7**
	2.3nm,0.3s,baz=257,slow=24,SNR=11								
IDI	**Anoyia**	**9.12**	**83**	LR		LR	LR	04 39 33.1	
	comp=Z,58nm,18.1s,baz=72,slow=40								
DAVOX	**Davos/Dischmat**	**12.42**	**347**	LR		LR	LR	04 42 01.7	
	comp=Z,168nm,19.0s,baz=92,slow=41								
AKASG	**Malin Array Be**	**19.54**	**30**	P		**Pn**	**Pn**	**04 37 58.6**	**-0.1**
	0.3nm,0.3s,baz=225,slow=10,SNR=9.2								
TORD	**Torodi Ar. Bea**	**24.10**	**210**	P		**P**	**P**	**04 38 45.6**	**-0.3**
	0.6nm,0.9s,baz=13,slow=8.2,SNR=3.2								
TORD				LR		LR	LR	04 49 22.4	
	comp=Z,65nm,18.2s,baz=345,slow=40								
MKAR	**Makanchi Array**	**51.73**	**55**	P		**P**	**P**	**04 42 37.0**	**-0.4**
	0.6nm,0.7s,baz=270,slow=7.6,SNR=3.6								
ZALV	**Zalesovo Beam**	**52.01**	**45**	P		**P**	**P**	**04 42 38.7**	**-0.6**
	0.6nm,0.6s,baz=289,slow=9.0,SNR=3.9								
SONM	**Songino Array**	**66.82**	**47**	P		**P**	**P**	**04 44 22.7**	**+0.7**
	0.9nm,1.0s,baz=285,slow=7.0,SNR=4.9								

BJI ***20*** *04:40:45.0, 49°.30N×155°.62E, h67km, mB4.9/21, mb4.7/27, Ms4.7/10, Ms7 4.4/10*
SKHL ***20*** *04:40:45.8±3.0, 49°.01N×155°.70E, h62km±4km, mb5.1/12*
MOS ***20*** *04:40:46.3±1.0, 49°.31N×154°.90E, h40km, mb4.7/51, Error ellipse: s-maj=9.5km s-min=5.9km az=85.5*
NEIC ***20*** *04:40:50.8±0.1, 49°.22N×154°.91E, mb4.7/45, Error ellipse: s-maj=4.4km s-min=2.8km az=145.0*
ISCJB ***20*** *04:40:50.5±0.6, 49°.23N±0°.03×154°.94E±0°.03, h77km±5km, mb4.5/114, Error ellipse: s-maj=5.7km s-min=2.8km az=160.0*
IDC ***20*** *04:40:53.6±2.1, 49°.33N×154°.83E, h92km±19km, mb4.1/32, mb1 4.2/37, mb1mx4.2/38, mbtmp4.1/37, MS3.5/10, Ms1 3.5/10, ms1mx3.4/33, Error ellipse: s-maj=12.5km s-min=8.3km az=135.0*
ISC 20 04:40:51.2±0.4, 49°.31N±0°.05×155°.01E±0°.04, h72km±2km, h72km:pP-P, n601, σ1§19/648, mb4.6/114, 125C-103D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.55**	**27**	*e*PN		Pn	Pn	04 41 11.9	-5.0
SKR				*e*S		**Sn**	**Sn**	**04 41 31.1**	**-5.2**
SKR				pmax		pmax			
	comp=N,320nm,0.5s								
SKR				pmax		pmax			
	comp=Z,620nm,0.5s								
SKR				smax		smax			
	comp=N,7μm,0.2s								
SKR				smax		smax			
	comp=E,7μm,0.2s								
SKR				smax		smax			
	comp=N,10μm,1.0s								
SKR	**Severo-Kuril's**	**1.55**	**27**	*e*P		Pn		04 41 11.7	-5.2
SKR				AMB		AMB		04 41 15.0	
	comp=N,320nm,0.5s								
SKR				AMB		AMB		04 41 15.0	
	comp=N,620nm,0.5s								
SKR				*i* S		**Sn**		**04 41 31.1**	**-5.2**
SKR				A		A		04 41 37.0	
	comp=N,7μm,0.3s								
SKR				A		A		04 41 37.0	
	comp=N,10μm,1.0s								
PEA0B	**Petropavlovsk-**	**4.17**	**23**	*e*Pn		**Pn**		**04 41 55.0**	**+2.8**
PETK	**Petropavlovsk-**	**4.17**	**23**	PN		**Pn**		**04 41 54.6**	**+2.4**
PETK				pmax		pmax			
	comp=Z,12nm,0.3s								
PETK	**Petropavlovsk-**	**4.17**	**23**	P		**Pn**		**04 41 54.6**	**+2.4**
PETK	**Petropavlovsk-**	**4.17**	**23**	P		**Pn**		**04 41 54.6**	**+2.4**
	comp=Z,12nm,0.3s,baz=184,slow=14,SNR=217								
PET	**Petropavlovsk**	**4.37**	**30**	⇓*i*PN		**Pn**		**04 41 56.6**	**+1.6**
PET				*e*S		**Sn**		**04 42 45.8**	**+1.2**
PET				pmax		pmax			
	comp=Z,85nm,0.5s								
PET				smax		smax			
	comp=N,546nm,0.5s								
PET				smax		smax			
	comp=E,310nm,0.6s								
PET	**Petropavlovsk**	**4.37**	**30**	⇓*i*P		**Pn**		**04 41 56.6**	**+1.6**
PET				AMB		AMB		04 42 01.6	
	comp=E,90nm,0.5s								
PET				*e*S		**Sn**		**04 42 45.8**	**+1.2**
PET				A		A		04 43 05.3	
	comp=E,550nm,0.6s								
PET				A		A		04 43 05.3	
	comp=E,310nm,0.6s								
PET	**Petropavlovsk**	**4.37**	**30**	*e*Pn		**Pn**		**04 41 56.5**	**+1.6**
PET				*e*Sn		**Sn**		**04 42 46.7**	**+2.1**
KUR	**Kuril'sk**	**6.34**	**233**	*e*PN		**Pn**		**04 42 24.3**	**+2.4**
KUR				*e*S		Sn		04 43 40.0	+7.1
KUR				smax		smax			
	comp=E,323nm,0.8s								
KUR				smax		smax			
	comp=N,247nm,0.9s								
KUR	**Kuril'sk**	**6.34**	**233**	*e*P		**Pn**		**04 42 23.8**	**+1.9**
KUR				AMB		AMB		04 42 24.8	
	comp=N,40nm,0.5s								
KUR				AMB		AMB		04 42 24.8	
	comp=N,140nm,0.5s								
KUR				*e*S		**Sn**		**04 43 35.1**	**+2.2**
KUR				A		A		04 43 52.1	
	comp=N,320nm,0.8s								
KUR				A		A		04 43 52.1	
	comp=N,250nm,0.8s								
TYV	**Tymovskoe**	**8.10**	**286**	*e*P		Pn		04 42 50.0	+4.1
TYV				AMB		AMB		04 42 51.2	
	comp=N,20nm,0.8s								
TYV				AMB		AMB		04 42 51.2	
	comp=N,30nm,0.8s								
TYV				*e*S		Sn		04 44 23.2	+7.4
TYV				A		A		04 44 39.0	
	comp=N,10.0nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**8.20**	**233**	*c i*PN		**Pn**		**04 42 47.0**	**-0.4**
YUK				pmax		pmax			
	comp=N,102nm,0.5s								
YUK				pmax		pmax			
	comp=E,231nm,0.5s								
YUK				pmax		pmax			
	comp=Z,399nm,0.5s								
YUK				MLR		MLR			
	comp=Z,674nm,19.0s								
YUK	**Yuzh-Kuril'sk**	**8.20**	**233**	⇑*i*P		**Pn**		**04 42 47.1**	**-0.4**
YUK				AMB		AMB		04 42 49.1	
	comp=Z,3μm,0.5s								
YUK				AMB		AMB		04 42 49.7	
	comp=Z,100nm,0.5s								
YUK				AMB		AMB		04 42 49.7	
	comp=Z,230nm,0.5s								
YUK				AMB		AMB		04 42 49.7	
	comp=Z,400nm,0.5s								
YUK				*e*S		**Sn**		**04 44 17.6**	**-0.9**
YUK				AMS		AMS		04 45 17.5	
	comp=Z,700nm,19.0s								
UGL	**Uglegorsk**	**8.48**	**273**	*e*P		Pn		04 42 55.4	+4.2
UGL				AMB		AMB		04 42 57.0	
	comp=Z,200nm,0.7s								
YSS	**Yuzh-Sakhalins**	**8.53**	**259**	*e*PN		**Pn**		**04 42 54.5**	**+2.7**
YSS				*e*S		**Sn**		**04 44 31.0**	**+4.6**
YSS				pmax		pmax			
	comp=Z,50nm,0.9s								
YSS				smax		smax			
	comp=N,370nm,2.0s								
YSS	**Yuzh-Sakhalins**	**8.53**	**259**	*e*P		**Pn**		**04 42 54.5**	**+2.7**
YSS				AMB		AMB		04 42 55.8	
	comp=N,50nm,0.9s								
YSS				*e*S		**Sn**		**04 44 31.0**	**+4.6**
YSS				A		A		04 44 35.0	
	comp=N,370nm,1.0s								
YSS	**Yuzh-Sakhalins**	**8.53**	**259**	*e*Pn		**Pn**		**04 42 54.2**	**+2.4**
NKL	**Nikolayevsk**	**9.77**	**299**	*e*P		Pn		04 43 12.2	+3.5
NKL				AMB		AMB		04 43 14.0	
	comp=N,60nm,1.1s								
JKA	**Kamikawa-asahi**	**9.97**	**243**	*e*P		**Pn**		**04 43 14.6**	**+3.0**
ASAJ	**Asahikawa**	**9.97**	**243**	*e*Pn		**Pn**		**04 43 14.2**	**+2.6**
ASAJ	**Asahikawa**	**9.97**	**243**	P		**Pn**		**04 43 14.6**	**+3.0**
	comp=N,8.5nm,0.3s,baz=73,slow=16,SNR=70								
ASAJ				LR		LR	LR	04 47 10.8	
	comp=N,84nm,18.5s,baz=160,slow=38								
ERM	**Erimo**	**11.03**	**233**	⇑*e*PN		**Pn**		**04 43 23.9**	**-2.1**
ERM	**Erimo**	**11.03**	**233**	*e*P		**Pn**		**04 43 23.9**	**-2.1**
ERM	**Erimo**	**11.03**	**233**	*e*Pn		**Pn**		**04 43 24.4**	**-1.6**
FX1	**Attu Island--F**	**11.96**	**66**	P		Pn		**04 43 38.4**	**-0.2**
FX1				S		Sn		04 45 40.0	-10
FX1	**Attu Island--F**	**11.96**	**66**	P		**Pn**		**04 43 38.4**	**-0.2**
	comp=N,7.7nm,0.3s,baz=273,slow=23,SNR=8.6								
FX1				S		Sn		04 45 40.0	-10
	comp=N,11nm,0.3s,baz=66,slow=20,SNR=6.6								
GRNR	**Gornyy**	**12.04**	**284**	⇑*i*P		Pn		04 43 44.6	+4.9
GRNR				AMB		AMB		04 43 45.3	
	comp=N,20nm,0.4s								
HABR	**Khabarovsk**	**13.16**	**274**	*e*PN		P		04 44 10.7	+8.4
HABR				pmax		pmax			
	comp=E,10.0nm,1.4s								
HABR				MLR		MLR			
	comp=Z,98nm,18.0s								
HABR	**Khabarovsk**	**13.16**	**274**	*e*P		P		04 44 10.7	+8.4
HABR				AMB		AMB		04 44 11.4	
	comp=Z,10.0nm,1.4s								
HABR				AMS		AMS		04 49 42.5	
	comp=Z,100nm,18.0s								
TEY	**Ternei**	**13.22**	**258**	*e*P		**P**		**04 44 00.5**	**-2.5**
TEY				AMB		AMB		04 44 01.8	
	comp=Z,30nm,1.0s								
SEY	**Seymchan**	**13.73**	**355**	P		**P**		**04 44 05.6**	**-3.0**
SEY	**Seymchan**	**13.73**	**355**	*e*P		**P**		**04 44 05.6**	**-3.0**
SEY	**Seymchan**	**13.73**	**355**	P		**P**		**04 44 05.6**	**-3.0**
SEY	**Seymchan**	**13.73**	**355**	P		**P**		**04 44 05.6**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=154,slow=17,SNR=5.5								
EKMR	**Ekimchan**	**14.32**	**294**	⇑*i*P		**Pn**		**04 44 10.1**	**0.0**
EKMR				AMB		AMB		04 44 16.7	
	comp=Z,40nm,0.6s								
USRK	**Ussuriysk Arra**	**16.55**	**261**	P		**P**		**04 44 39.5**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=64,slow=13,SNR=15								
USRK				LR		LR		04 50 36.5	
	comp=Z,84nm,20.9s,baz=235,slow=35								
BMKR	**Bomnak**	**16.94**	**299**	⇑*i*P		**P**		**04 44 44.2**	**+0.1**
BMKR				AMB		AMB		04 44 44.6	
	comp=Z,10.0nm,0.6s								
MAJO	**Matsushiro**	**17.67**	**230**	*e*P		**P**		**04 44 50.1**	**-2.3**
MAJO				pmax		pmax			
	comp=Z,33nm,0.6s								
MAJO	**Matsushiro**	**17.67**	**230**	*e*P		**P**		**04 44 50.1**	**-2.3**
MAJO	**Matsushiro**	**17.67**	**230**	*e*P		**P**		**04 44 50.1**	**-2.3**
	comp=Z,33nm,0.6s								
MAT	**Matsushiro**	**17.67**	**230**	P		**P**		**04 44 50.5**	**-1.9**
MJAR	**Matsushiro Arr**	**17.67**	**230**	P		**P**		**04 44 50.6**	**-1.8**
MJAR	**Matsushiro Arr**	**17.67**	**230**	P		**P**		**04 44 50.6**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=16,slow=12,SNR=23								
MJAR				LR		LR	LR	04 51 54.3	
	comp=Z,105nm,18.2s,baz=45,slow=38								
ZEA	**Zeya**	**17.77**	**295**	*e*P		Pn		04 44 58.3	+4.8
ZEA				AMB		AMB		04 44 59.4	
	comp=Z,30nm,1.4s								
MDJ	**Mudanjiang**	**17.93**	**264**	P		**P**		**04 44 53.3**	**-1.9**
MDJ				pmax		pmax			
	comp=Z,17nm,1.6s								
MDJ				pmax		pmax			
	comp=Z,190nm,4.0s								
KROS	**Kirovskiy**	**17.99**	**297**	⇑*i*P		**P**		**04 44 55.5**	**-0.2**
KROS				AMB		AMB		04 44 57.2	
	comp=Z,10.0nm,0.5s								
YAK	**Yakutsk**	**18.97**	**322**	*e*P		**P**		**04 45 05.9**	**-0.5**
YAK				*e*S		**S**		**04 48 36.5**	**-1.2**
YAK				pmax		pmax			
	comp=Z,34nm,1.0s								
YAK				pmax		pmax			
	comp=E,17nm,1.0s								
YAK				smax		smax			
	comp=N,240nm,3.5s								
YAK				smax		smax			
	comp=E,114nm,2.7s								
YAK	**Yakutsk**	**18.97**	**322**	*e*P		**P**		**04 45 05.9**	**-0.5**
YAK	**Yakutsk**	**18.97**	**322**	*e*P		**Pn**		**04 45 07.6**	**-0.2**
	comp=E,37nm,0.7s								
CLNS	**Chul'man**	**19.47**	**304**	*e*P		**Pn**		**04 45 15.5**	**+1.7**
CLNS				pmax		pmax			
	comp=Z,43nm,1.1s								
CLNS				pmax		pmax			
	comp=N,15nm,1.1s								
CLNS				pmax		pmax			
	comp=E,22nm,0.9s								
CLNS	**Chul'man**	**19.47**	**304**	*e*P		**Pn**		**04 45 15.5**	**+1.7**
CN2	**Changchun**	**20.98**	**266**	⇑P		**P**		**04 45 28.9**	**+0.6**
CN2				*e*sP		**sP**		**04 45 53.3**	**+1.0**
CN2				*e*S		**S**		**04 49 11.8**	**-6.0**
CN2				pmax		pmax			
	comp=E,20nm,0.8s								
CN2				pmax		pmax			
	comp=E,200nm,5.0s								
KSRS	**Korea Array**	**22.84**	**249**	*e*P		**P**		**04 45 48.6**	**+0.4**
KSRS	**Korea Array**	**22.84**	**249**	P		**P**		**04 45 48.6**	**+0.4**
	comp=E,5.0nm,0.6s,baz=49,slow=10,SNR=15								
KSRS				LR		LR	LR	04 53 47.4	
	comp=E,55nm,21.6s,baz=60,slow=34								
KSAR	**Wonju Array Be**	**22.87**	**249**	*e*P		**P**		**04 45 48.6**	**+0.1**
KSAR	**Wonju Array Be**	**22.87**	**249**	P		**P**		**04 45 48.6**	**+0.1**
JNU	**Nakatsue**	**24.15**	**237**	P		**P**		**04 46 00.4**	**-0.1**
JNU	**Nakatsue**	**24.15**	**237**	P		**P**		**04 46 00.4**	**-0.1**
	comp=E,13nm,0.8s,baz=13,slow=11,SNR=8.9								
TNA	**Tin City**	**25.21**	**36**	*e*P		**P**		**04 46 10.6**	**+0.9**
TNA				pP		**pP**		**04 46 26.8**	**+0.3**
TNA	**Tin City**	**25.21**	**36**	*e*P		**P**		**04 46 10.6**	**+0.9**
	comp=E,22nm,0.9s								
TNA				*e*pP		**pP**		**04 46 26.8**	**+0.3**
TIXI	**Tiksi**	**25.41**	**341**	*c e*P		**P**		**04 46 10.7**	**-0.8**
TIXI				pmax		pmax			
	comp=Z,10.0nm,1.0s								
TIXI	**Tiksi**	**25.41**	**341**	⇑*e*P		**P**		**04 46 10.9**	**-0.6**
TIXI	**Tiksi**	**25.41**	**341**	*e*P		**P**		**04 46 10.9**	**-0.6**
	comp=Z,7.1nm,0.8s								
IM04	**Indian Mountai**	**30.95**	**38**	*e*P		**P**		**04 47 01.1**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**31.01**	**158**	T		T		05 19 41.8	
	baz=345,slow=77,SNR=141								
H11N1	**WAKE ISLAND Hy**	**31.03**	**158**	T		T		05 19 45.6	
	baz=345,slow=77,SNR=222								
H11N3	**WAKE ISLAND Hy**	**31.03**	**158**	T		T		05 19 32.9	
	baz=345,slow=77,SNR=179								
HHC	**Hu-ho-hao-te**	**31.45**	**271**	*e*

INK PcP **PcP** 04 50 18.8 +0.6
comp=Z,1.5nm,0.6s,baz=298,slow=4.6,SNR=3.5
LZH Lanzhou 39.12 270 *e*P **P** 04 48 12.3 +0.7
LZH pP **pP** 04 48 31.3 +2.2
LZH sP **sP** 04 48 39.0 +1.5
LZH PP **PP** 04 49 42.5 +0.1
LZH *e*S **S** 04 54 06.1 +0.1
LZH sS **sS** 04 54 34.6 -1.4
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.5s
LZH LR LR
comp=Z,460nm,12.3s
LZH LR LR
comp=Z,400nm,11.1s
LZH LR LR
comp=Z,490nm,13.5s
GTA Gaotai 39.87 277 P **P** 04 48 18.6 +0.8
GTA pP **pP** 04 48 35.3 -0.1
GTA sP **sP** 04 48 44.3 +0.6
GTA pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 42.19 304 P **P** 04 48 35.2 -1.2
ZALV 04 50 29.8
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 42.19 304 P **P** 04 48 35.2 -1.2
ZALV PcP **PcP** 04 50 29.8 +0.5
ZALV Zalesovo Beam 42.19 304 P **P** 04 48 35.2 -1.2
comp=Z,1.2nm,0.4s,baz=60,slow=7.4,SNR=8.5
ZALV PcP **PcP** 04 50 29.8 +0.5
comp=Z,2.0nm,0.4s,baz=64,slow=3.4,SNR=18
CD2 Chengdu 42.39 264 *e*P **P** 04 48 37.3 -1.1
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,30nm,5.6s
GYA Guiyang 43.53 257 *e*P **P** 04 48 48.0 +0.3
GYA pP **pP** 04 49 05.3 -0.2
GYA sP **sP** 04 49 14.6 +0.8
GYA PP **PP** 04 50 31.3 +1.2
GYA PcP **PcP** 04 50 36.0 +1.6
GYA ScP **ScP** 04 54 19.8 +0.6
GYA PcS **PcS** 04 54 27.4 -0.1
GYA S **S** 04 55 10.9 -0.5
GYA sS **sS** 04 55 41.0 -0.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.1s
GYA LR LR
comp=Z,550nm,18.2s
GYA LR LR
comp=Z,470nm,17.5s
GYA LR LR
comp=Z,510nm,18.4s
WMQ Urumqi 45.22 290 P **P** 04 49 01.0 0.0
WMQ pmax pmax
comp=Z,11nm,1.0s
MK31 Makanchi Array 46.92 296 *e*P **P** 04 49 13.6 -0.7
MK31 *e* 04 50 46.1
MK31 Makanchi Array 46.92 296 *e*P **P** 04 49 13.6 -0.7
MK31 *e*PcP **PcP** 04 50 46.1 +0.4
MKAR Makanchi Array 46.92 296 P **P** 04 49 13.8 -0.5
MKAR 04 50 45.5
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,101nm,19.7s
MKAR Makanchi Array 46.92 296 *e*P **P** 04 49 13.8 -0.5
MKAR Makanchi Array 46.92 296 P **P** 04 49 13.8 -0.5
MKAR PcP **PcP** 04 50 45.5 -0.3
MKAR Makanchi Array 46.92 296 P **P** 04 49 13.8 -0.5
comp=Z,2.5nm,0.7s,baz=70,slow=8.7,SNR=20
MKAR PcP **PcP** 04 50 45.5 -0.3
comp=Z,2.4nm,0.8s,baz=56,slow=5.7,SNR=4.9
MKAR LR LR 05 09 25.9
comp=Z,100nm,19.7s,baz=356,slow=37
KMI Kunming 46.97 259 P **P** 04 49 15.4 +0.3
KMI pP **pP** 04 49 34.0 +0.9
KMI sP **sP** 04 49 43.5 +2.1
KMI pmax pmax
comp=Z,8.0nm,1.2s
QIZ Qiongzhong 47.03 246 P **P** 04 49 14.8 -0.6
QIZ S **S** 04 56 00.9 -0.8
QIZ pmax pmax
comp=Z,26nm,2.3s
KURK Kurchatov 47.03 302 *e*P **P** 04 49 14.3 -0.7
KURK *e* 04 50 46.2
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 47.03 302 *e*P **P** 04 49 14.3 -0.7
KURK Kurchatov 47.03 302 *e*P **P** 04 49 14.3 -0.7
comp=Z,2.8nm,0.8s
KURK *e*PcP **PcP** 04 50 46.2 +0.2
YKW3 Yellowknife Ar 48.08 39 *e*P **P** 04 49 23.8 +0.8
YKW3 *e*pP **pP** 04 49 39.8 -1.3
YKA Yellowknife Ar 48.12 39 *e*P **P** 04 49 24.2 +0.9
YKA Yellowknife Ar 48.12 39 P **P** 04 49 24.2 +0.9
YKA PcP **PcP** 04 50 50.5 +0.8
YKA Yellowknife Ar 48.12 39 P **P** 04 49 24.2 +0.9
comp=Z,4.0nm,0.7s,baz=298,slow=7.7,SNR=60
YKA PcP **PcP** 04 50 50.4 +0.8
comp=Z,0.7nm,0.5s,baz=299,slow=3.6,SNR=7.1
BVA0 Borovoye Array 50.24 309 P **P** 04 49 38.4 -1.2
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
LSA Lhasa 51.42 272 *e*P **P** 04 49 48.1 -1.2
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 51.42 272 *e*P **P** 04 49 48.0 -1.2
comp=Z,4.9nm,0.6s
AAK Ala-Archa 53.85 296 *e*P **P** 04 50 06.4 -0.4
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 53.85 296 *e*P **P** 04 50 06.4 -0.4
comp=Z,1.6nm,0.6s
CHTO Chiang Mai 53.95 256 *e*P **P** 04 50 08.0 +0.5
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO Chiang Mai 53.95 256 *e*P **P** 04 50 08.0 +0.5
comp=Z,4.9nm,0.6s
ARU Arti 54.00 317 *d i*P **P** 04 50 06.9 -0.5
ARU *e*PP **pP** 04 50 22.8 -2.9
ARU 04 52 07.4
ARU S **S** 04 57 38.5 +1.1
ARU SS **SS** 05 01 23.1 +4.2
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 54.00 317 ⇓ *i*P **P** 04 50 07.5 +0.1
ARU Arti 54.00 317 *e*P **P** 04 50 07.5 +0.1
comp=Z,5.7nm,0.7s
G05D Wamic, OR 54.13 60 ⇑P **P** 04 50 10.2 +1.6
baz=54
CMAR Chiang Mai Arr 54.21 256 *e*P **P** 04 50 10.2 +0.7
CMAR Chiang Mai Arr 54.21 256 P **P** 04 50 10.2 +0.7
CMAR PcP **PcP** 04 51 14.0 +1.0
CMAR Chiang Mai Arr 54.21 256 P **P** 04 50 10.2 +0.7
comp=Z,4.2nm,0.7s,baz=27,slow=7.3,SNR=16
CMAR PcP **PcP** 04 51 14.0 +1.0
comp=Z,1.9nm,0.3s,baz=8.1,slow=2.7,SNR=5.3
EKS2 Erkin-Say 54.26 296 *e*P **P** 04 50 08.9 -0.8
EKS2 *e* 04 51 13.5
EKS2 Erkin-Say 54.26 296 *e*P **P** 04 50 08.9 -0.8
EKS2 *e*PcP **PcP** 04 51 13.5 +0.4
I04A Tendick Farm, 54.37 62 ⇑P **P** 04 50 11.5 +1.2
baz=54
NEW Newport 54.64 55 ⇑P **P** 04 50 13.2 +1.0
baz=54
I05D Terrebonne, OR 54.66 61 ⇓P **P** 04 50 13.4 +1.0
baz=54
J04D Umpqua Nationa 54.88 62 ⇓P **P** 04 50 16.5 +2.2
baz=55
TAPN Taplejung 55.23 273 *e*P **P** 04 50 17.6 +0.5
comp=Z,6.9nm,0.3s
TAPN Taplejung 55.23 273 *e*P **P** 04 50 17.6 +0.5
comp=Z,6.9nm,0.3s
J05D Fort Rock, OR 55.36 62 ⇓P **P** 04 50 19.7 +2.1
baz=55
K04D Chiloquin, OR 55.46 63 ⇓P **P** 04 50 20.4 +2.1
baz=55
M02C Callahan 55.57 65 ⇓P **P** 04 50 21.3 +2.2
baz=56
ODAN Odare 55.78 273 *e*P **P** 04 50 21.7 +0.8
comp=Z,7.9nm,0.8s
ODAN Odare 55.78 273 *e*P **P** 04 50 21.7 +0.8
comp=Z,7.9nm,0.8s
ARCES ARCESS Array B 55.85 341 *e*P **P** 04 50 18.7 -1.9
ARCES ARCESS Array B 55.85 341 P **P** 04 50 18.7 -1.9
ARCES ARCESS Array B 55.85 341 P **P** 04 50 18.7 -1.9
comp=Z,2.2nm,0.7s,baz=43,slow=8.2,SNR=11
ARCES LR LR 05 18 23.5
comp=Z,111nm,18.5s,baz=191,slow=40
WALA Waterton Lakes 55.85 53 *e*P **P** 04 50 21.9 +0.8
WALA pP **pP** 04 50 40.2 +0.7
WALA Waterton Lakes 55.85 53 *e*P **P** 04 50 21.9 +0.8
WALA *e*pP **pP** 04 50 40.2 +0.7
N02D Trinity Center 55.92 65 ⇓P **P** 04 50 23.5 +1.9
baz=56
M04C Macdoel 55.93 64 ⇑P **P** 04 50 23.6 +1.9
baz=56
JIRN Jiri 56.02 274 *e*P **P** 04 50 23.3 +0.5
JIRN Jiri 56.02 274 *e*P **P** 04 50 23.3 +0.5
GUN Gumba 56.05 275 *e*P **P** 04 50 22.9 -0.1
comp=Z,19nm,0.7s
GUN Gumba 56.05 275 *e*P **P** 04 50 22.9 -0.1
comp=Z,19nm,0.7s
BSMT Bassoo Peak 56.13 54 *e*P **P** 04 50 24.6 +1.4
comp=Z,7.2nm,1.2s
BSMT *e*pP **pP** 04 50 43.2 +1.6
RAMN Ramite 56.23 273 *e*P **P** 04 50 24.3 +0.1
comp=Z,33nm,0.7s
RAMN Ramite 56.23 273 *e*P **P** 04 50 24.3 +0.1
comp=Z,33nm,0.7s
KKN Kakani 56.52 275 *e*P **P** 04 50 26.7 +0.5
KKN Kakani 56.52 275 *e*P **P** 04 50 26.7 +0.5
KKN Kakani 56.52 275 *e*P **P** 04 50 26.7 +0.5
PKI Pulchoki 56.59 275 *e*P **P** 04 50 27.0 +0.2
comp=Z,7.7nm,0.6s
PKI Pulchoki 56.59 275 *e*P **P** 04 50 27.0 +0.2
PKI pmax pmax
comp=Z,8.0nm,0.6s
PKI Pulchoki 56.59 275 *e*P **P** 04 50 27.0 +0.2
comp=Z,7.7nm,0.6s
PKIN Phulchoki 56.59 275 *e*P **P** 04 50 26.9 +0.1
comp=Z,6.9nm,0.6s
TMCR Tamitsa 56.66 332 *e*P **P** 04 50 24.9 -1.5
TMCR pmax pmax
comp=Z,10.0nm,1.0s
MOD Modoc 56.75 63 *e*P **P** 04 50 28.7 +1.1
comp=Z,13nm,1.1s
DMN Daman 56.76 275 *e*P **P** 04 50 28.5 +0.5
comp=Z,20nm,0.7s
DMN Daman 56.76 275 *e*P **P** 04 50 28.5 +0.5
comp=Z,20nm,0.7s
GKN Gorkha 56.80 276 *e*P **P** 04 50 28.3 +0.2
comp=Z,18nm,0.5s
GKN Gorkha 56.80 276 *e*P **P** 04 50 28.3 +0.2
comp=Z,18nm,0.5s
DANN Dangsing 57.14 276 *e*P **P** 04 50 31.0 +0.3
comp=Z,18nm,0.6s
DANN Dangsing 57.14 276 *e*P **P** 04 50 31.0 +0.3
comp=Z,18nm,0.6s
SLMT Seeley Lake 57.20 54 *e*P **P** 04 50 31.5 +0.8
comp=Z,2.1nm,0.6s
MSO Missoula 57.22 55 ⇓P **P** 04 50 32.0 +1.3
baz=57
WVOR Wild Horse Val 57.38 61 *e*P **P** 04 50 33.4 +1.4
WVOR pmax pmax
comp=Z,7.0nm,1.0s
WVOR Wild Horse Val 57.38 61 *e*P **P** 04 50 33.4 +1.4
comp=Z,6.6nm,1.0s
KOLN Koldanda 57.63 276 *e*P **P** 04 50 34.5 +0.5
comp=Z,13nm,0.7s
KOLN Koldanda 57.63 276 *e*P **P** 04 50 34.5 +0.5
comp=Z,13nm,0.7s
AB31 Akbulak array 57.77 310 *e*P **P** 04 50 33.6 -0.8
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 57.77 310 *e*P **P** 04 50 33.7 -0.7
comp=Z,2.6nm,0.5s
PYUN Piuthan 57.81 277 *e*P **P** 04 50 35.4 +0.1
comp=Z,17nm,0.8s
PYUN Piuthan 57.81 277 *e*P **P** 04 50 35.4 +0.1
comp=Z,17nm,0.8s
FFC Flin Flon 57.97 42 *e*P **P** 04 50 36.9 +1.1
FFC *e*PP **pP** 04 50 54.0 -0.3
FFC pmax pmax
comp=Z,14nm,1.4s
FFC Flin Flon 57.97 42 *e*P **P** 04 50 36.9 +1.1
FFC pP **pP** 04 50 54.0 -0.3
FFC Flin Flon 57.97 42 *e*P **P** 04 50 36.9 +1.1
comp=Z,14nm,1.4s
FFC *e*pP **pP** 04 50 54.0 -0.3
AKTO Aktyubinsk 57.97 312 LR LR 05 16 34.2
comp=Z,66nm,20.6s,baz=138,slow=37
SUMG Summit 58.05 5 *e*P **P** 04 50 36.3 -0.2
SUMG *e*PP **pP** 04 50 54.8 -0.3
SUMG pmax pmax
comp=Z,4.0nm,0.4s
SUMG Summit 58.05 5 *i* P **P** 04 50 36.6 +0.1
comp=Z,4.7nm,0.9s
SUMG Summit 58.05 5 *e*P **P** 04 50 36.3 -0.2
comp=Z,3.7nm,0.4s
SUMG *e*pP **pP** 04 50 54.8 -0.3
FCC Fort Churchill 58.43 35 *e*P **P** 04 50 39.4 +0.6
FCC Fort Churchill 58.43 35 *e*P **P** 04 50 39.4 +0.6
FCC Fort Churchill 58.43 35 *e*P **P** 04 50 39.4 +0.6
HNR Honiara 58.65 174 LR LR 05 13 47.9
comp=Z,46nm,18.1s,baz=337,slow=34
EGMT Eagleton 58.65 52 ⇑P **P** 04 50 41.8 +1.0
baz=58
LRM Limekiln Ridge 58.66 55 *e*P **P** 04 50 42.6 +1.6
comp=Z,84nm,1.2s
B19A Brinkman Farms 58.78 51 ⇑P **P** 04 50 42.7 +1.1
baz=59
PMG Port Moresby 58.87 189 *e*P **P** 04 50 40.5 -1.8
comp=Z,5.1nm,0.8s
A20A Cobblestone Ra 59.02 50 ⇓P **P** 04 50 44.5 +1.2
baz=59
HLID Hailey 59.05 58 ⇑P **P** 04 50 45.2 +1.5
baz=59,SNR=8.9
MCMT McKenzie Canyo 59.09 56 *e*P **P** 04 50 44.9 +0.9
comp=Z,1.7nm,1.0s
C19A Slack Wire Ran 59.20 51 ⇓P **P** 04 50 45.6 +1.1
baz=59
WAKR Walker 59.43 65 *e*P **P** 04 50 47.7 +1.3
comp=Z,2.4nm,0.5s
A21A Bergtoll Ranch 59.45 49 ⇓P **P** 04 50 47.6 +1.4
baz=59
D19A Cripps Ranch, 59.66 52 ⇓P **P** 04 50 48.8 +1.1
baz=60
C20A Veseth Ranch, 59.75 51 ⇓P **P** 04 50 49.1 +0.8
baz=60
A22A Carney Farms, 59.94 49 ⇑P **P** 04 50 50.3 +0.8
baz=60
D20A Manuel Ranch, 60.09 52 ⇑P **P** 04 50 52.4 +1.7
baz=60,SNR=5.3
NVAR Mina Array Bea 60.16 65 P **P** 04 50 52.6 +1.2
NVAR Mina Array Bea 60.16 65 P **P** 04 50 52.6 +1.2
comp=Z,4.9nm,0.7s,baz=296,slow=8.0,SNR=35
E19A Rath Farm, Rou 60.17 52 ⇑P **P** 04 50 52.4 +1.1
baz=60
F19A Roth Farm, Mol 60.49 53 ⇑P **P** 04 50 55.3 +1.8
baz=60
H17A Grant Village 60.59 55 ⇓P P 04 50 57.7 +3.4
baz=60,SNR=5.1
D21A La Casta Ranch 60.69 51 ⇓P **P** 04 50 56.5 +1.8
baz=60
B23A Brockton 60.75 49 ⇓P **P** 04 50 56.2 +1.1
baz=61
H18A Shoshone NF, C 60.90 54 ⇓P **P** 04 50 58.2 +1.8
baz=61
I17A Pilgrim Ck. 60.91 56 ⇓P **P** 04 50 58.1 +1.6
baz=61
F20A Billings 60.94 53 ⇓P **P** 04 50 58.3 +1.8
baz=61
E21A Keefer Ranch, 61.00 51 ⇓P **P** 04 50 59.2 +2.4
baz=61
D22A Cohagen 61.05 50 ⇑P **P** 04 50 58.7 +1.6
baz=61
H19A Powell 61.26 54 ⇓P **P** 04 51 01.0 +2.3
baz=61
G20A Bridger 61.30 53 ⇓P **P** 04 50 59.9 +1.0
baz=61
SPUT South Promonto 61.62 59 *e*P **P** 04 51 03.1 +1.9
comp=Z,5.1nm,0.8s
E22A Miles City 61.64 51 ⇑P **P** 04 51 02.6 +1.4
baz=62
I19A Meeteetse 61.68 55 ⇓P **P** 04 51 01.9 +0.3
baz=62
R11A Troy Canyon, C 61.81 63 ⇑P **P** 04 51 03.4 +0.8
baz=62,SNR=8.4
ISA Isabella 61.89 67 *e*P **P** 04 51 02.7 -0.3
ISA pmax pmax
comp=Z,1.0nm,1.0s
ISA Isabella 61.89 67 *e*P **P** 04 51 02.7 -0.3
comp=Z,0.8nm,1.0s
ISA Isabella 61.89 67 ⇑P **P** 04 51 03.1 +0.2
baz=62
H20A Greybull 61.91 54 ⇓P **P** 04 51 03.2 +0.2
baz=62
E23A Ismay 61.93 51 ⇓P **P** 04 51 04.8 +1.7
baz=62
ARVC Arvin 62.03 68 ⇓P **P** 04 51 05.3 +1.4
baz=62
DUG Dugway 62.16 60 *e*P **P** 04 51 06.2 +1.3
DUG *e*PP **pP** 04 51 22.7 -0.9
DUG pmax pmax
comp=Z,8.0nm,1.0s
DUG Dugway 62.16 60 *e*P **P** 04 51 06.1 +1.3
DUG pP **pP** 04 51 22.7 -0.9
DUG Dugway 62.16 60 *e*P **P** 04 51 06.2 +1.3
comp=Z,8.2nm,1.0s
DUG *e*pP **pP** 04 51 22.7 -0.9
DUG Dugway 62.16 60 ⇑P **P** 04 51 06.5 +1.7
baz=62,SNR=11
I20A Worland 62.20 54 ⇑P **P** 04 51 06.4 +1.4
baz=62
MPMC Manual Prospec 62.21 66 ⇓P **P** 04 51 06.5 +1.2
baz=62
BW06 Boulder Array 62.23 56 *e*P **P** 04 51 06.4 +1.0
comp=Z,8.2nm,0.9s
PDAR Pinedale Array 62.23 56 P **P** 04 51 06.5 +1.1
PDAR Pinedale Array 62.23 56 P **P** 04 51 06.5 +1.1
comp=Z,6.7nm,0.8s,baz=316,slow=1.9,SNR=56
FINES FINESS Array B 62.26 335 P **P** 04 51 04.1 -0.8
FINES PcP **PcP** 04 51 43.5 -0.7
FINES FINESS Array B 62.26 335 P **P** 04 51 04.1 -0.8
comp=Z,1.7nm,0.8s,baz=32,slow=8.2,SNR=22
FINES PcP **PcP** 04 51 43.5 -0.7
comp=Z,2.6nm,0.7s,baz=7.6,slow=5.8,SNR=3.3
G22A Birney 62.30 52 ⇑P **P** 04 51 07.0 +1.3
baz=62
H21A Big Horn, Sher 62.31 53 ⇑P **P** 04 51 07.1 +1.4
baz=62
FURC Furnace Creek, 62.31 65 ⇑P **P** 04 51 06.9 +1.2
baz=62,SNR=9.0
TPNV Topopah Spring 62.35 65 ⇑P **P** 04 51 07.4 +1.2
baz=62,SNR=8.3
F23A Volborg 62.41 51 ⇑P **P** 04 51 07.3 +1.0
baz=62
LRMC Laurel Mountai 62.49 67 ⇑P **P** 04 51 08.1 +1.0
baz=62
J20A Shoshoni 62.63 55 ⇑P **P** 04 51 09.6 +1.6
baz=62
H22A Clearmont 62.69 53 ⇓P **P** 04 51 09.6 +1.3
baz=63
EDW2 Edwards Air Fo 62.71 67 ⇑P **P** 04 51 09.5 +1.1
baz=63,SNR=6.5
A28A Rude Farm, Bot 62.72 46 ⇑P **P** 04 51 09.4 +1.1
baz=63
I21A Big Trails, Te 62.74 54 ⇓P **P** 04 51 10.0 +1.3
baz=63,SNR=7.0
NLU North Lily Min 62.74 60 *e*P **P** 04 51 09.9 +1.1
comp=Z,7.8nm,0.9s
G23A Biddle 62.77 52 ⇓P **P** 04 51 08.9 +0.1
baz=63
F24A Ekalaka 62.81 51 ⇑P **P** 04 51 09.1 +0.1
baz=63
E25A Miller Ranch, 62.88 49 ⇑P **P** 04 51 09.3 -0.1
baz=63
DAU Daniels Canyon 62.89 59 *e*P **P** 04 51 11.7 +1.8
DAU pmax pmax
comp=Z,6.0nm,0.7s
DAU Daniels Canyon 62.89 59 *e*P **P** 04 51 11.7 +1.8
comp=Z,5.8nm,0.7s
J21A Lysite 62.97 54 ⇓P **P** 04 51 11.3 +1.0
baz=63
D26A Manning 62.99 49 ⇓P **P** 04 51 10.8 +0.7
baz=63
B28A Dugan Ranch, T 63.00 46 ⇓P **P** 04 51 10.7 +0.6
baz=63
I22A 9 Mile Ranch, 63.11 53 ⇑P **P** 04 51 12.4 +1.4
baz=63
GSC Goldstone 63.14 66 ⇓P **P** 04 51 12.4 +1.0
baz=63
KULM Kulim 63.32 245 *e*P **P** 04 51 13.6 +1.0
comp=Z,43nm,1.4s
BFSC Mount Baldy Ra 63.34 68 ⇑P **P** 04 51 13.8 +1.0
baz=63
J22A Midwest 63.44 54 ⇓P **P** 04 51 14.0 +0.7
baz=63
K21A Alcova 63.57 55 ⇑P **P** 04 51 14.9 +0.7
baz=63,SNR=12
TUQ Turquoise Moun 63.57 66 ⇓P **P** 04 51 15.2 +1.0
baz=64
TMUT Trail Mountain 63.68 60 *e*P **P** 04 51 16.3 +1.1
comp=Z,12nm,1.0s
HEC Hector,Ludlow 63.74 66 ⇑P **P** 04 51 16.5 +1.1
baz=64
IPM Ipoh 63.74 244 *e*P **P** 04 51 14.9 -0.6
comp=Z,15nm,1.1s
ULM Lac du Bonnet 63.77 43 *e*P **P** 04 51 15.5 +0.4
ULM Lac du Bonnet 63.77 43 P **P** 04 51 15.5 +0.4
ULM Lac du Bonnet 63.77 43 P **P** 04 51 15.5 +0.4
comp=Z,1.5nm,0.7s,baz=301,slow=6.0,SNR=4.8
COEN Coen 63.85 193 *e*P **P** 04 51 15.4 -0.6
comp=Z,23nm,0.8s
OBN Obninsk 63.91 326 P **P** 04 51 14.0 -1.9
OBN *e*SS SS 05 03 54.1 0.0
OBN pmax pmax
comp=Z,7.0nm,2.2s
OBN MLR MLR
comp=Z,100nm,12.0s
OBN Obninsk 63.91 326 *e*P **P** 04 51 14.0 -1.9
K22A Casper 63.94 54 ⇑P **P** 04 51 17.7 +1.1
baz=64
B30A Myrvik Farm, E 63.95 45 ⇓P **P** 04 51 17.2 +0.8
baz=64
G26A Maurine 64.13 50 ⇑P **P** 04 51 18.8 +1.1
baz=64
GMRC Granite Mounta 64.18 66 ⇑P **P** 04 51 19.4 +1.1
baz=64
SRU San Rafael 64.19 59 *e*P **P** 04 51 19.4 +1.0
SRU pmax pmax
comp=Z,15nm,0.8s
SRU San Rafael 64.19 59 *e*P **P** 04 51 19.4 +1.0
comp=Z,15nm,0.8s
N20A Spence Gulch, 64.26 57 ⇓P **P** 04 51 20.7 +1.9
baz=64,SNR=7.9
D30A Buchanan 64.71 46 ⇑P **P** 04 51 22.0 +0.6
baz=64
L23A Garrett 64.75 54 ⇑P **P** 04 51 22.4 +0.4
baz=65
O20A White River Ci 64.76 57 ⇑P **P** 04 51 22.8 +0.7
baz=65
M22A Cedar Creek Ra 64.77 55 ⇑P **P** 04 51 23.1 +0.9
baz=65
IRM Iron Mountain 64.91 66 ⇑P **P** 04 51 24.0 +1.1
baz=65,SNR=5.8
W13A Hualapai Mount 65.02 65 ⇑P **P** 04 51 24.9 +1.1
baz=65
U15A North Rim 65.03 63 ⇓P **P** 04 51 25.3 +1.3
baz=65,SNR=6.0
BC3 Big Chuckawall 65.08 67 ⇑P **P** 04 51 24.5 +0.4
baz=65
I27A Quinn 65.27 51 ⇑P **P** 04 51 26.4 +1.3
baz=65
N22A Wattenberg Ran 65.27 56 ⇓P **P** 04 51 27.3 +1.8
baz=65
H28A Mission Ridge 65.36 50 ⇓P **P** 04 51 26.8 +1.2
baz=65
N23A Red Feather La 65.48 55 ⇑P **P** 04 51 28.4 +1.7
baz=65
Y12C Blythe 65.57 66 ⇑P **P** 04 51 28.2 +1.1
baz=66
O22A Kremmling 65.67 56 ⇑P **P** 04 51 29.3 +1.3
baz=66
P22A Eagle 65.95 57 ⇑P **P** 04 51 31.4 +1.6
baz=66
PV01 Paradox Valley 65.97 59 *e*P **P** 04 51 30.9 +0.9
J28A Allard Ranch, 66.14 51 ⇓P **P** 04 51 32.2 +1.5
baz=66

WUAZ **Wupatki** 66.20 63 ⇑P P 04 51 32.5 +1.2
baz=66
NB2 **NORSAR Subarra** 66.21 342 P P 04 51 30.7 -0.1
comp=Z,2.6nm,0.8s,baz=28,slow=6.5
NB2 **NORSAR Subarra** 66.21 342 P P 04 51 30.5 -0.3
comp=Z,2.8nm,0.9s,baz=28,slow=6.5
NOA **NORSAR Array B** 66.21 342 *eP* P 04 51 30.2 -0.7
NOA **NORSAR Array B** 66.21 342 P P 04 51 30.1 -0.7
NOA **NORSAR Array B** 66.21 342 P P 04 51 30.1 -0.7
comp=Z,1.2nm,0.6s,baz=24,slow=6.3,SNR=5.7
NOA LR LR 05 28 01.4
comp=Z,76nm,18.0s,baz=20,slow=43
PSI **Prapat** 66.33 245 P P 04 51 32.2 -0.1
PSI **Prapat** 66.33 245 P P 04 51 32.2 -0.1
comp=Z,2.2nm,0.3s,baz=30,slow=8.1,SNR=8.6
Y14A **Wickenburg** 66.34 65 ⇓P P 04 51 33.5 +1.4
baz=66
ISCO **Idaho Springs** 66.43 56 ⇓P P 04 51 34.7 +1.8
baz=66,SNR=6.7
NAO01 **NORSAR Array S** 66.45 342 *eP* P 04 51 34.6 +2.3
comp=Z,7.4nm,0.8s
HFS **Hagfors** 66.49 340 *eP* P 04 51 31.4 -1.2
HFS **Hagfors** 66.49 340 P P 04 51 31.4 -1.2
HFS **Hagfors** 66.49 340 P P 04 51 31.4 -1.2
comp=Z,1.1nm,0.5s,baz=48,slow=5.1,SNR=12
O24A **Longmont** 66.50 55 ⇓P P 04 51 35.1 +2.0
baz=66
L27A **T5 Ranch, Ells** 66.55 52 ⇓P P 04 51 34.8 +1.3
baz=66
MVCO **Mesa Verde** 66.66 60 ⇓P P 04 51 35.4 +1.0
baz=66,SNR=5.1
X16A **Lo Mia Camp, P** 66.93 64 ⇑P P 04 51 37.5 +1.5
baz=67,SNR=7.5
S22A **4UR Ranch, Cre** 67.22 58 ⇑P P 04 51 39.2 +1.2
baz=67,SNR=6.9
P25A **Willow Gulch B** 67.42 55 ⇓P P 04 51 40.4 +1.3
baz=67
R23A **Moffat** 67.46 57 ⇓P P 04 51 41.3 +1.8
baz=67
S23A **Nye Farm, Mont** 67.71 58 ⇑P P 04 51 43.5 +2.5
baz=68
X18A **Snowflake** 67.72 63 ⇑P P 04 51 42.2 +1.1
baz=68
Q25A **Bedland, Calha** 67.80 56 ⇑P P 04 51 42.8 +1.3
baz=68
P26A **Davis Ranch, A** 67.82 55 ⇓P P 04 51 42.9 +1.3
baz=68
R24A **Sanders Place,** 67.83 57 ⇑P P 04 51 42.1 +0.4
baz=68
U22A **Llaves** 68.18 59 ⇓P P 04 51 45.9 +1.9
baz=68
Q26A **Hugo** 68.19 55 ⇑P P 04 51 45.0 +1.1
baz=68
S24A **Houchin Ranch,** 68.19 57 ⇓P P 04 51 45.3 +1.2
baz=68
L31A **Butterfield Fa** 68.26 50 ⇓P P 04 51 44.9 +0.8
baz=68
R25A **Fountain Ranch** 68.34 56 ⇑P P 04 51 46.2 +1.4
baz=68
V22A **San Miguel Ran** 68.48 60 ⇓P P 04 51 47.5 +1.6
baz=68
T24B **San Luis** 68.51 58 ⇑P P 04 51 47.9 +1.8
baz=68
U23A **El Rito** 68.59 59 ⇑P P 04 51 48.4 +1.9
baz=68,SNR=11
R26A **Arlington** 68.68 56 ⇓P P 04 51 48.3 +1.4
baz=68
T25A **Trinidad** 69.00 57 ⇑P P 04 51 50.6 +1.6
baz=69
V23A **Ortiz Mt. (NFS** 69.01 59 ⇓P P 04 51 50.8 +1.6
baz=69,SNR=5.3
R27A **Eads** 69.04 55 ⇓P P 04 51 49.7 +0.5
baz=69
S26A **Kim** 69.16 56 ⇑P P 04 51 50.7 +0.8
baz=69
T26A **Comanche Natio** 69.42 57 ⇓P P 04 51 52.3 +0.7
baz=69
ANMO **Albuquerque** 69.43 60 P P 04 51 53.0 +1.3
ANMO **Albuquerque** 69.43 60 P P 04 51 53.0 +1.3
comp=Z,3.1nm,0.7s,baz=322,slow=8.3,SNR=14
W23A **Werner Place,** 69.45 60 ⇑P P 04 51 53.5 +1.7
baz=69
P30A **Selden** 69.48 53 ⇓P P 04 51 51.9 +0.1
baz=69
CTA **Charters Tower** 69.52 189 P P 04 51 51.0 -1.0
CTA **Charters Tower** 69.52 189 P P 04 51 51.0 -1.0
comp=Z,3.5nm,0.6s,baz=8.1,slow=5.9,SNR=7.7
CTAO **Charters Tower** 69.52 189 *eP* P 04 51 50.8 -1.2
CTAO pmax pmax
comp=Z,6.0nm,0.8s
CTAO **Charters Tower** 69.52 189 *eP* P 04 51 50.8 -1.2
comp=Z,6.4nm,0.8s
U25A **Circle Dot Ran** 69.53 58 ⇓P P 04 51 53.7 +1.3
baz=69
V24A **Rampart Ranch,** 69.54 59 ⇑P P 04 51 54.6 +2.2
baz=69
V25A **Rancho No Teng** 69.82 58 ⇑P P 04 51 55.6 +1.5
baz=70
W24A **Lazy 6 Ranch,** 69.84 59 ⇓P P 04 51 55.6 +1.4
baz=70
Q30A **Quinter** 69.91 53 ⇑P P 04 51 54.3 -0.1
baz=70
KIV **Kislovodsk** 69.91 315 *eP* P 04 51 55.1 +0.7
KIV **Kislovodsk** 69.91 315 *eP* P 04 51 55.0 +0.7
KIV **Kislovodsk** 69.91 315 *eP* P 04 51 55.0 +0.7
T27A **Campo** 69.98 56 ⇑P P 04 51 55.6 +0.7
baz=70
KBZ **Khabaz** 69.99 314 P P 04 51 54.8 +0.1
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ **Khabaz** 69.99 314 P P 04 51 54.8 +0.1
KBZ **Khabaz** 69.99 314 P P 04 51 54.8 +0.1
comp=Z,3.0nm,0.8s,baz=39,slow=6.8,SNR=5.1
S28A **Manter** 70.03 55 ⇓P P 04 51 56.2 +0.9
baz=70
AKASG **Malin Array Be** 70.11 327 P P 04 51 54.3 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** 70.11 327 P P 04 51 54.2 -1.1
AKASG **Malin Array Be** 70.11 327 P P 04 51 54.2 -1.1
comp=Z,0.8nm,0.4s,baz=33,slow=6.2,SNR=5.1
KIEV **Kiev** 70.13 327 *eP* P 04 51 54.7 -0.7
KIEV pmax pmax
comp=Z,3.0nm,0.8s
KIEV **Kiev** 70.13 327 *eP* P 04 51 54.7 -0.7
comp=Z,3.4nm,0.8s
AK02 **Malin Array Si** 70.16 327 *eP* P 04 51 54.6 -1.0
P32A **Huiting Farm,** 70.27 52 ⇑P P 04 51 56.4 -0.2
baz=70
V26A **Tequesquite Ra** 70.31 58 ⇓P P 04 51 57.9 +0.8
baz=70
W25A **X Bar L Ranch,** 70.36 59 ⇑P P 04 51 58.8 +1.4
baz=70
Z22A **Elephant Butte** 70.36 62 ⇑P P 04 51 59.2 +1.8
baz=70,SNR=7.1
319A **Douglas** 70.37 65 ⇓P P 04 51 59.0 +1.6
baz=70,SNR=6.0
U27A **Thompson Grove** 70.39 57 ⇓P P 04 51 58.3 +0.8
baz=70
R30A **Dighton** 70.39 54 ⇓P P 04 51 57.8 +0.5
baz=70
Y23A **Lovelace Mesa,** 70.40 61 ⇓P P 04 51 59.0 +1.4
baz=70,SNR=6.7
121A **Cookes Peak, D** 70.41 63 ⇓P P 04 51 58.6 +0.9
baz=70
S29A **Ulysses** 70.43 55 ⇑P P 04 51 58.6 +1.0
baz=70
SCHQ **Schefferville** 70.45 24 P P 04 51 58.0 +0.6
SCHQ **Schefferville** 70.45 24 P P 04 51 58.0 +0.6
comp=Z,6.2nm,0.3s,baz=322,slow=5.2,SNR=43
Y24A **Capitan** 70.75 60 ⇑P P 04 52 01.5 +1.7
baz=71,SNR=6.3
Q33A **Connelly Farm,** 71.13 52 ⇓P P 04 52 01.7 -0.1
baz=71
Y25A **Mesa, Roswell** 71.18 60 ⇑P P 04 52 02.9 +0.6
baz=71,SNR=8.1
Z24A **Sheeppen Canyo** 71.23 61 ⇓P P 04 52 03.8 +1.1
baz=71,SNR=7.8
WRAB **Tennant Creek** 71.34 201 *eP* P 04 52 01.8 -1.3
WRAB pmax pmax
comp=Z,5.0nm,0.8s
WRAB **Tennant Creek** 71.34 201 *eP* P 04 52 01.8 -1.3
comp=Z,5.3nm,0.8s
WRA **Warramunga Arr** 71.35 201 *eP* P 04 52 02.2 -0.9
WRA **Warramunga Arr** 71.35 201 P P 04 52 02.2 -0.9
WRA **Warramunga Arr** 71.35 201 P P 04 52 02.2 -0.9
comp=Z,5.0nm,0.6s,baz=17,slow=6.4,SNR=75

Z25A **Roswell** 71.63 60 ⇑P P 04 52 05.9 +0.9
baz=72
124A **Stringfield Ra** 71.64 61 ⇓P P 04 52 06.3 +1.1
baz=72
FITZ **Fitzroy Crossi** 72.00 209 P P 04 52 07.0 0.0
FITZ **Fitzroy Crossi** 72.00 209 P P 04 52 07.0 0.0
comp=Z,6.9nm,0.8s,baz=106,slow=4.6,SNR=8.6
224A **Cornudas Mount** 72.05 62 ⇑P P 04 52 08.8 +1.2
baz=72
Z26A **Caprock** 72.06 60 ⇓P P 04 52 08.5 +0.9
baz=72,SNR=7.4
Y27A **Causey** 72.07 59 ⇑P P 04 52 08.5 +0.9
baz=72,SNR=6.5
125A **Gardner Draw,** 72.12 61 ⇑P P 04 52 08.6 +0.6
baz=72,SNR=5.0
AMTX **Amarillo** 72.15 57 ⇑P P 04 52 09.2 +1.2
baz=72
MSTX **Muleshoe** 72.22 59 ⇑P P 04 52 10.3 +1.8
baz=72
225A **Deer Hill, Car** 72.43 61 ⇓P P 04 52 10.7 +0.8
baz=72
Z27A **Tatum** 72.46 59 ⇑P P 04 52 11.1 +1.2
baz=72,SNR=8.5
U32A **Winter Ranch,** 72.48 54 ⇑P P 04 52 10.9 +0.9
baz=72
GDL2 **Guadalupe Moun** 72.63 61 *eP* P 04 52 11.8 +0.9
comp=Z,1.7nm,0.6s
226B **Tecolote Peak,** 72.83 61 ⇑P P 04 52 13.1 +0.9
baz=73
325A **Bean Ranch, Si** 72.89 62 ⇑P P 04 52 13.2 +0.5
baz=73
X30A **Coker Ranch, T** 72.92 57 ⇑P P 04 52 12.9 +0.3
baz=73
Z28A **Tucker Farm, M** 72.94 59 ⇑P P 04 52 13.1 +0.3
baz=73
425A **Indio Mountain** 73.31 62 ⇑P P 04 52 16.0 +0.9
baz=73,SNR=6.5
128A **Castleberry Fa** 73.38 59 ⇓P P 04 52 16.0 +0.6
baz=73
326A **Caldwell Ranch** 73.50 61 ⇓P P 04 52 17.1 +0.9
baz=73
Z30A **Sanderson Ranc** 73.64 58 ⇑P P 04 52 17.8 +0.9
baz=74,SNR=8.3
V34A **Guthrie** 73.68 54 ⇓P P 04 52 17.6 +0.5
baz=74
W33A **Caddo, Fort Co** 73.69 55 ⇓P P 04 52 18.7 +1.6
baz=74
129A **Stewart Farms,** 73.72 59 ⇓P P 04 52 18.0 +0.6
baz=74
STHS **Stebnicka Huta** 73.92 331 *eP* P 04 52 20.1 +1.9
STHS **Stebnicka Huta** 73.92 331 *eP* P 04 52 20.1 +1.9
426A **McDonald Obser** 73.95 62 ⇑P P 04 52 19.4 +0.5
baz=74
Y32A **R-V Farms, Ver** 74.03 56 ⇓P P 04 52 18.5 -0.6
baz=74
BUR08 **Bucovina Ar. S** 74.12 327 *eP* P 04 52 19.2 -0.3
328A **Wristen Ranch,** 74.12 60 ⇑P P 04 52 20.1 +0.4
baz=74,SNR=11
EKA **Eskdalemuir Ar** 74.14 347 P P 04 52 19.1 -0.2
EKA **Eskdalemuir Ar** 74.14 347 P P 04 52 19.1 -0.2
comp=Z,0.8nm,0.3s,baz=18,slow=5.3,SNR=20
Z31A **Sharp Cattle R** 74.16 57 ⇑P P 04 52 19.9 0.0
baz=74
427A **Hayter Ranch,** 74.18 61 ⇑P P 04 52 20.4 +0.3
baz=74
229A **Bryant Ranch,** 74.25 59 ⇓P P 04 52 21.6 +1.1
baz=74
PALK **Pallekele** 74.29 263 *eP* P 04 52 20.4 -0.5
CRVS **Cervenica-Dubn** 74.30 330 *eP* P 04 52 27.6 +7.2
CRVS **Cervenica-Dubn** 74.30 330 *e* P 04 52 27.6 +7.2
526A **Mary Lane Ranc** 74.37 62 ⇑P P 04 52 22.8 +1.5
baz=74,SNR=5.8
X34A **Smith Ranch, M** 74.45 55 ⇓P P 04 52 22.3 +0.8
baz=74
Y33A **Hilltop Ranch,** 74.47 56 ⇓P P 04 52 22.2 +0.6
baz=74
329A **Wagon Wheel Ra** 74.51 60 ⇓P P 04 52 22.9 +0.9
baz=74
131A **Roby** 74.51 58 ⇑P P 04 52 23.2 +1.2
baz=74
TUL1 **Tulsa** 74.53 53 ⇑P P 04 52 22.2 +0.3
baz=74
Z32A **Haskell** 74.54 57 ⇓P P 04 52 22.7 +0.7
baz=74
527A **Woodward Ranch** 74.58 62 ⇓P P 04 52 22.5 0.0
baz=74
DPC **Dobruska-Polom** 74.60 334 *eP* P 04 52 22.9 +0.8
DPC **Dobruska-Polom** 74.60 334 *eP* P 04 52 22.9 +0.8
428A **Kincaid Ranch,** 74.68 61 ⇓P P 04 52 23.6 +0.6
baz=75,SNR=6.8
230A **Sterling City** 74.70 59 ⇓P P 04 52 24.0 +1.0
baz=75
626A **Big Bend Ranch** 74.72 63 ⇓P P 04 52 24.2 +1.0
baz=75,SNR=6.0
ABTX **Abilene, Hawle** 74.96 57 ⇑P P 04 52 25.2 +0.7
baz=75
Y34A **Reagan Ranch,** 74.98 55 ⇑P P 04 52 25.5 +0.9
baz=75
330A **Mertzon** 75.03 59 ⇓P P 04 52 25.0 0.0
baz=75
528A **Cox Ranch, San** 75.04 61 ⇓P P 04 52 25.7 +0.6
baz=75,SNR=5.6
AS31 **Alice Springs** 75.04 200 *eP* P 04 52 24.5 -0.3
AS31 *epP* pP 04 52 42.5 -1.7
ASAR **Alice Springs** 75.04 200 *eP* P 04 52 24.9 0.0
ASAR **Alice Springs** 75.04 200 P P 04 52 24.9 0.0
ASAR **Alice Springs** 75.04 200 P P 04 52 24.9 0.0
comp=Z,4.2nm,0.5s,baz=12,slow=5.3,SNR=22
231A **Bronte** 75.11 58 ⇓P P 04 52 25.9 +0.5
baz=75
TXAR **Lajitas Array** 75.15 62 *eP* P 04 52 26.6 +0.8
TXAR **Lajitas Array** 75.15 62 P P 04 52 26.6 +0.8
TXAR **Lajitas Array** 75.15 62 P P 04 52 26.6 +0.8
comp=Z,4.7nm,0.6s,baz=300,slow=4.5,SNR=82
429A **Davenport Ranc** 75.21 60 ⇑P P 04 52 27.6 +1.6
baz=75
627A **Terlingua Ranc** 75.22 62 ⇑P P 04 52 27.1 +0.9
baz=75
Z34A **Collier Ranch,** 75.34 56 ⇓P P 04 52 27.1 +0.4
baz=75
133A **Hamilton Ranch** 75.37 57 ⇑P P 04 52 28.1 +1.3
baz=75
529A **Stev Forest Ra** 75.39 61 ⇓P P 04 52 27.8 +0.7
baz=75,SNR=5.6
430A **Baggett Ranch,** 75.46 60 ⇑P P 04 52 27.8 +0.4
baz=75,SNR=8.3
628A **Black Gap, Mar** 75.49 62 ⇓P P 04 52 28.0 +0.4
baz=75
232A **Coleman** 75.52 58 ⇑P P 04 52 28.4 +0.6
baz=75,SNR=5.7
331A **San Angelo** 75.52 59 ⇑P P 04 52 27.8 +0.1
baz=75,SNR=5.1
PSZ **Piszkesteto** 75.67 331 *eP* P 04 52 29.6 +1.2
PSZ pmax pmax
comp=Z,5.0nm,1.1s
PSZ **Piszkesteto** 75.67 331 *eP* P 04 52 29.6 +1.2
comp=Z,5.1nm,1.1s
332A **Millersview** 75.85 58 ⇑P P 04 52 30.9 +1.3
baz=76,SNR=6.1
134A **White-Moore Ra** 75.86 56 ⇑P P 04 52 30.6 +0.9
baz=76
530A **J-C Ranch, Com** 75.88 60 ⇑P P 04 52 30.5 +0.7
baz=76
431A **Sonora** 75.89 59 ⇓P P 04 52 30.9 +1.0
baz=76
432A **Menard** 76.20 59 ⇑P P 04 52 32.3 +0.7
baz=76
333A **Richland Sprin** 76.31 58 ⇓P P 04 52 32.6 +0.4
baz=76
531A **Rocksprings** 76.32 60 ⇑P P 04 52 32.7 +0.4
baz=76,SNR=6.1
KHC **Kasperske Hory** 76.47 335 *eP* P 04 52 33.6 +0.8
KHC *e* 04 52 51.0
KHC **Kasperske Hory** 76.47 335 *eP* P 04 52 33.6 +0.8
KHC *epP* pP 04 52 51.0 -1.2
KHC **Kasperske Hory** 76.47 335 *eP* P 04 52 33.6 +0.8
JCT **Junction City** 76.50 59 ⇑P P 04 52 34.0 +0.7
baz=76
WHTX **Lake Whitney** 76.64 56 ⇑P P 04 52 34.2 +0.2
baz=76
433A **Art** 76.69 58 ⇓P P 04 52 35.0 +0.7
baz=77,SNR=5.7
GERES **GERESS Array B** 76.69 335 *eP* P 04 52 34.7 +0.5
GERES **GERESS Array B** 76.69 335 P P 04 52 34.7 +0.5
GERES **GERESS Array B** 76.69 335 P P 04 52 34.7 +0.5
comp=Z,0.6nm,0.5s,baz=38,slow=4.0,SNR=10
532A **Rocksprings** 76.70 59 ⇓P P 04 52 34.6 +0.1
baz=77,SNR=7.1
334A **Lometa** 76.72 57 ⇓P P 04 52 35.5 +1.0
baz=77
631A **Perdido Creek** 76.87 60 ⇑P P 04 52 36.4 +1.0
baz=77,SNR=13
434A **Burnet** 77.10 58 ⇑P P 04 52 37.2 +0.5
baz=77
335A **Moody** 77.20 57 ⇑P P 04 52 38.1 +0.9
baz=77
533A **Kerrville** 77.23 59 ⇓P P 04 52 38.1 +0.7
baz=77
632A **Uvalde** 77.24 60 ⇑P P 04 52 38.5 +1.0
baz=77,SNR=5.1
BCLA **Clavier** 77.31 341 P P 04 52 39.1 +1.6
comp=Z,20nm,2.3s
BRTR **Keskin Array B** 77.38 318 P P 04 52 38.5 +0.2
BRTR **Keskin Array B** 77.38 318 P P 04 52 38.5 +0.2
comp=Z,0.9nm,0.9s,baz=111,slow=3.6,SNR=6.9
534A **Blanco** 77.58 58 ⇑P P 04 52 40.1 +0.7
baz=78
732A **Laxson Ranch,** 77.73 60 ⇑P P 04 52 41.0 +0.8
baz=78,SNR=8.4
WLF **Walferdange** 77.84 340 *eP* P 04 52 40.9 +0.5
WLF pmax pmax
comp=Z,17nm,1.2s
WLF **Walferdange** 77.84 340 *eP* P 04 52 40.9 +0.5
comp=Z,17nm,1.2s
WTTA **Wattenberg** 78.70 336 ⇑*i*P P 04 52 46.2 +0.7
comp=Z,2.7nm,0.6s
CDF **Champ du Feu** 78.75 339 *eP* P 04 52 45.7 +0.1
CDF **Champ du Feu** 78.75 339 *eP* P 04 52 45.7 +0.1
CDF **Champ du Feu** 78.75 339 *eP* P 04 52 45.7 +0.1
MOTA **Moosalm** 78.77 336 ⇑*i*P P 04 52 46.8 +0.9
comp=Z,3.4nm,0.6s
PAGF **Fort de Pagny** 78.97 340 *eP* P 04 52 47.3 +0.6
comp=Z,2.4nm,0.5s
PAGF **Fort de Pagny** 78.97 340 *eP* P 04 52 47.3 +0.6
comp=Z,2.4nm,0.5s
MEZF **Maizieres J'vi** 79.18 340 *eP* P 04 52 48.2 +0.4
comp=Z,4.4nm,0.4s
MEZF **Maizieres J'vi** 79.18 340 *eP* P 04 52 48.2 +0.4
comp=Z,4.4nm,0.4s
HAU **Haudompre** 79.35 339 *eP* P 04 52 48.8 0.0
HAU **Haudompre** 79.35 339 *eP* P 04 52 48.8 0.0
HAU **Haudompre** 79.35 339 *eP* P 04 52 48.8 0.0
HINF **Hinteralfeld** 79.41 339 *eP* P 04 52 49.0 -0.2
comp=Z,5.0nm,0.7s
HINF **Hinteralfeld** 79.41 339 *eP* P 04 52 49.0 -0.2
HINF pmax pmax
comp=Z,5.0nm,0.7s
HINF **Hinteralfeld** 79.41 339 *eP* P 04 52 49.0 -0.2
comp=Z,5.0nm,0.7s
ARMA **Armidale** 79.43 183 *eP* P 04 52 49.0 -0.3
comp=Z,20nm,1.3s
SFTF **Sexfontaines** 79.46 340 *eP* P 04 52 49.7 +0.3
comp=Z,16nm,0.7s
SFTF **Sexfontaines** 79.46 340 *eP* P 04 52 49.7 +0.3
comp=Z,16nm,0.7s
TUE **Stuetta** 80.04 337 *eP* P 04 52 53.5 +0.7
comp=Z,4.7nm,0.7s
TUE *epP* pP 04 53 11.5 -0.9
FLN **La Foliniere** 80.05 344 *eP* P 04 52 52.6 +0.1
FLN **La Foliniere** 80.05 344 *eP* P 04 52 52.6 +0.1
FLN **La Foliniere** 80.05 344 *eP* P 04 52 52.6 +0.1
LDF **La Druitiere** 80.14 344 *eP* P 04 52 53.0 -0.1
comp=Z,7.0nm,0.5s
LDF **La Druitiere** 80.14 344 *eP* P 04 52 53.0 -0.1
LDF pmax pmax
comp=Z,7.0nm,0.5s
LDF **La Druitiere** 80.14 344 *eP* P 04 52 53.0 -0.1
comp=Z,7.0nm,0.5s
GRR **Gorron** 80.48 344 *eP* P 04 52 55.2 +0.4
GRR **Gorron** 80.48 344 *eP* P 04 52 55.2 +0.4
GRR **Gorron** 80.48 344 *eP* P 04 52 55.2 +0.4
LOR **Lormes** 80.61 341 *eP* P 04 52 55.7 +0.1
comp=Z,5.4nm,0.7s
LOR **Lormes** 80.61 341 *eP* P 04 52 55.7 +0.1
comp=Z,5.4nm,0.6s
SSF **Saint Saulge** 80.88 341 *eP* P 04 52 57.3 +0.3
SSF **Saint Saulge** 80.88 341 *eP* P 04 52 57.3 +0.3
SSF **Saint Saulge** 80.88 341 *eP* P 04 52 57.3 +0.3
SGMF **Saint Gilles** 80.90 345 *eP* P 04 52 57.6 +0.5
comp=Z,46nm,0.9s
SGMF **Saint Gilles** 80.90 345 *eP* P 04 52 57.6 +0.5
SGMF pmax pmax
comp=Z,46nm,0.9s
SGMF **Saint Gilles** 80.90 345 *eP* P 04 52 57.6 +0.5
comp=Z,46nm,0.9s
ROSF **Rostrenen** 80.94 346 *eP* P 04 52 57.9 +0.6
comp=Z,11nm,0.6s
ROSF **Rostrenen** 80.94 346 *eP* P 04 52 57.9 +0.6
ROSF pmax pmax
comp=Z,11nm,0.6s
ROSF **Rostrenen** 80.94 346 *eP* P 04 52 57.9 +0.6
comp=Z,11nm,0.6s
AVF **Avril sur Loir** 81.17 341 *eP* P 04 52 58.9 +0.3
comp=Z,5.1nm,0.7s
AVF **Avril sur Loir** 81.17 341 *eP* P 04 52 58.9 +0.3
AVF pmax pmax
comp=Z,5.0nm,0.6s
AVF **Avril sur Loir** 81.17 341 *eP* P 04 52 58.9 +0.3
comp=Z,5.1nm,0.6s
SMF **Signal de Mont** 81.20 340 *eP* P 04 52 59.1 +0.3
SMF **Signal de Mont** 81.20 340 *eP* P 04 52 59.1 +0.3
SMF **Signal de Mont** 81.20 340 *eP* P 04 52 59.1 +0.3
QUIF **Quistinic** 81.33 345 *eP* P 04 52 59.8 +0.4
QUIF **Quistinic** 81.33 345 *eP* P 04 52 59.8 +0.4
QUIF **Quistinic** 81.33 345 *eP* P 04 52 59.8 +0.4
PMOR **Pomariorio Ree** 81.43 125 *eT* T 06 22 18.8
comp=Z,2.7nm,0.2s
LPL **La Plagne** 81.59 338 *eP* P 04 53 02.1 +1.0
comp=Z,9.7nm,0.6s
LPL **La Plagne** 81.59 338 *eP* P 04 53 02.1 +1.0
LPL pmax pmax
comp=Z,10.0nm,0.6s
LPL **La Plagne** 81.59 338 *eP* P 04 53 02.1 +1.0
comp=Z,9.7nm,0.6s
LPG **La Plagne** 81.61 338 *eP* P 04 53 02.3 +1.0
comp=Z,14nm,0.6s
LPG **La Plagne** 81.61 338 *eP* P 04 53 02.3 +1.0
LPG pmax pmax
comp=Z,14nm,0.6s
LPG **La Plagne** 81.61 338 *eP* P 04 53 02.3 +1.0
comp=Z,14nm,0.6s
STKA **Stephens Creek** 81.70 192 P P 04 53 00.9 -0.4
STKA **Stephens Creek** 81.70 192 P P 04 53 00.9 -0.4
comp=Z,2.2nm,0.6s,baz=12,slow=5.2,SNR=8.5
BNI **Bardonecchia** 82.04 338 *eP* P 04 53 04.3 +0.9
BNI **Bardonecchia** 82.04 338 *eP* P 04 53 04.3 +0.9
MFF **Saint Martin d** 82.06 343 *eP* P 04 53 04.0 +0.7
comp=Z,8.5nm,0.7s
MFF **Saint Martin d** 82.06 343 *eP* P 04 53 04.0 +0.7
MFF pmax pmax
comp=Z,9.0nm,0.7s
MFF **Saint Martin d** 82.06 343 *eP* P 04 53 04.0 +0.7
comp=Z,8.5nm,0.7s
MBDF **Montbardon** 82.32 338 *eP* P 04 53 05.9 +1.0
MBDF **Montbardon** 82.32 338 *eP* P 04 53 05.9 +1.0
MBDF **Montbardon** 82.32 338 *eP* P 04 53 05.9 +1.0
ORIF **Oris-en-Rattie** 82.36 338 *eP* P 04 53 05.9 +0.9
comp=Z,7.3nm,0.6s
ORIF **Oris-en-Rattie** 82.36 338 *eP* P 04 53 05.9 +0.9
ORIF pmax pmax
comp=Z,7.0nm,0.6s
ORIF **Oris-en-Rattie** 82.36 338 *eP* P 04 53 05.9 +0.9
comp=Z,7.3nm,0.6s
PPT2 **Papeete2** 82.69 128 *eT* T 06 23 42.8
comp=Z,1.3nm,0.3s
VIVF **Saint-Julien-l** 82.70 339 *eP* P 04 53 07.6 +0.9
VIVF **Saint-Julien-l** 82.70 339 *eP* P 04 53 07.6 +0.9
VIVF **Saint-Julien-l** 82.70 339 *eP* P 04 53 07.6 +0.9
SBF **Sospel** 82.96 337 *eP* P 04 53 08.6 +0.5
SBF **Sospel** 82.96 337 *eP* P 04 53 08.6 +0.5
SBF **Sospel** 82.96 337 *eP* P 04 53 08.6 +0.5
RJF **Les Rejaudoux** 82.97 341 *eP* P 04 53 08.6 +0.5
RJF **Les Rejaudoux** 82.97 341 *eP* P 04 53 08.6 +0.5
RJF **Les Rejaudoux** 82.97 341 *eP* P 04 53 08.6 +0.5
CAF **Calviac** 83.22 341 *eP* P 04 53 10.4 +1.0
CAF **Calviac** 83.22 341 *eP* P 04 53 10.4 +1.0
CAF **Calviac** 83.22 341 *eP* P 04 53 10.4 +1.0
FORT **Forrest** 83.27 203 *eP* P 04 53 09.4 -0.1
comp=Z,21nm,0.6s
LFF **La Frestale** 83.48 342 *eP* P 04 53 11.5 +0.8
comp=Z,14nm,0.6s
LFF **La Frestale** 83.48 342 *eP* P 04 53 11.5 +0.8

LFF						pmax	pmax			
	comp=Z,14nm,0.6s									
LFF	**La Frestale**	**83.48**	**342**	*e*P		**P**		**04**	**53**	**11.5 +0.8**
	comp=Z,14nm,0.6s									
LMR	**La Mourre**	**83.69**	**337**	*e*P		**P**		**04**	**53**	**12.1 +0.3**
LMR	**La Mourre**	**83.69**	**337**	*e*P		**P**		**04**	**53**	**12.1 +0.3**
LMR	**La Mourre**	**83.69**	**337**	*e*P		**P**		**04**	**53**	**12.1 +0.3**
TBI	**Tubuai**	**87.57**	**131**	*e*LR		LR		05	21	04.9
	comp=Z,59nm,33.8s									
TBI	**Tubuai**	**87.57**	**131**	*e*T		T		06	29	55.6
	comp=Z,2.7nm,0.3s									
ESDC	**Sonseca Array**	**89.47**	**344**	P		**P**		**04**	**53**	**39.8 -0.3**
ESDC	**Sonseca Array**	**89.47**	**344**	P		**P**		**04**	**53**	**39.8 -0.3**
	comp=Z,0.9nm,0.6s,baz=356,slow=4.2,SNR=12									
KEST	**Kesra**	**90.01**	**333**	P		**P**		**04**	**53**	**43.2 +0.5**
KEST	**Kesra**	**90.01**	**333**	P		**P**		**04**	**53**	**43.2 +0.5**
	comp=Z,1.7nm,0.9s,baz=108,slow=3.2,SNR=4.3									
TORD	**Torodi Ar. Bea**	**113.50**	**332**	PKiKP		**PKiKP**		**04**	**59**	**20.8 -0.4**
TORD	**Torodi Ar. Bea**	**113.50**	**332**	PKiKP		**PKiKP**		**04**	**59**	**20.8 -0.4**
	comp=Z,0.7nm,1.0s,baz=3.9,slow=3.1,SNR=3.4									
SAML	**Samuel**	**128.69**	**51**	*e*PKPdf		**PKPdf**		**04**	**59**	**50.5 +0.2**
LPAZ	**La Paz**	**132.02**	**62**	*e*PKPdf		**PKPdf**		**04**	**59**	**58.0 +0.8**
LBTB	**Lobatse**	**134.02**	**283**	*e*PKPdf		**PKPdf**		**05**	**00**	**00.4 +0.3**
TSUM	**Tsumeb**	**134.64**	**296**	*e*PKPdf		**PKPdf**		**05**	**00**	**00.3 -1.2**
H03N2	**Juan Fernandez**	**137.46**	**89**	T		T		07	32	39.5
	baz=310,slow=75,SNR=21									
H03N1	**Juan Fernandez**	**137.48**	**89**	T		T		07	32	38.5
	baz=310,slow=75,SNR=28									
H03N3	**Juan Fernandez**	**137.48**	**89**	T		T		07	32	34.5
	baz=310,slow=75,SNR=27									
CPUP	**Villa Florida**	**146.08**	**59**	*e*PKPbc		**PKPbc**		**05**	**00**	**22.6 -0.1**
CPUP	**Villa Florida**	**146.08**	**59**	PKPbc		**PKPbc**		**05**	**00**	**22.5 -0.2**
	comp=Z,3.2nm,0.8s,baz=281,slow=3.1,SNR=4.7									
PLCA	**Paso Flores**	**147.11**	**92**	*e*PKPbc		**PKPbc**		**05**	**00**	**25.4 -0.1**
PLCA	**Paso Flores**	**147.11**	**92**	PKPbc		**PKPbc**		**05**	**00**	**25.6 +0.2**
	comp=Z,3.7nm,0.7s,baz=310,slow=4.7,SNR=13									
TRQA	**Tornquist**	**151.26**	**81**	*e*PKPbc		**PKPbc**		**05**	**00**	**35.7 -0.1**
PMSA	**Palmer Station**	**154.28**	**142**	*e*PKPbc		**PKPbc**		**05**	**00**	**41.3 -0.2**

*IDC **20** 05:00:14.0±6.3, 48.°40N×154.°76E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/25, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=162.1km s-min=53.7km az=93.0*
*MOS **20** 05:00:33.4±1.9, 49.°54N×156.°00E, h15km, mb4.0/1, Error ellipse: s-maj=99.9km s-min=26.5km az=78.6*
*KRSC **20** 05:00:33.4±2.3, 49.°54N×156.°00E, h14km±15km, ML4.4*
ISC 20 05:00:28.5±4.0, 49.°2N±0.°3×155.°4E±0.°3, h62km±30km, n25, σ1s42/25, mb3.5/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.58**	**18**	*e*PN		Pn	05 00 48.9	-5.3
SKR				*e*S		Sn	05 01 07.5	-6.2
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax	smax			
	comp=N,710nm,0.2s							
SKR				smax	smax			
	comp=E,360nm,0.2s							
SKR	**Severo-Kuril's**	**1.58**	**18**	*e*P		**Pn**	**05 00 54.3**	**+0.1**
SKR				*e*S		**Sn**	**05 01 12.9**	**-0.8**
PAU	**Pauzhetka**	**2.47**	**22**	PN		**Pn**	**05 01 06.5**	**+0.2**
PAU				S		**Sn**	**05 01 33.2**	**-2.1**
PAU	**Pauzhetka**	**2.47**	**22**	*e*P		**Pn**	**05 01 06.5**	**+0.2**
PAU				*e*S		**Sn**	**05 01 33.2**	**-2.1**
ASAK	**Asacha**	**3.59**	**26**	*e*P		**Pn**	**05 01 22.8**	**+1.1**
MTVR	**Mutnovka**	**3.76**	**27**	*e*P		**Pn**	**05 01 25.3**	**+1.2**
MTVR				*e*S		**Sn**	**05 02 07.0**	**-0.1**
APC	**Apacha**	**3.92**	**16**	P		**Pn**	**05 01 26.2**	**+0.2**
PETK	**Petropavlovsk-**	**4.20**	**20**	PN		**Pn**	**05 01 31.3**	**+1.4**
PETK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
PETK	**Petropavlovsk-**	**4.20**	**20**	Pn		**Pn**	**05 01 31.3**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=181,slow=14,SNR=18							
PETK				Sn		Sn	05 02 33.3	+16
	comp=Z,0.5nm,0.3s,baz=210,slow=8.3,SNR=2.6							
PET	**Petropavlovsk**	**4.37**	**27**	*e*PN		Pn	05 01 35.6	+3.3
PET	**Petropavlovsk**	**4.37**	**27**	*e*S		**Sn**	**05 02 22.3**	**+0.4**
KOK	**Koryaka**	**4.60**	**25**	*e*P		**Pn**	**05 01 37.6**	**+2.1**
AVH	**Avacha**	**4.61**	**26**	*e*P		**Pn**	**05 01 37.6**	**+2.0**
SMAR	**Somma**	**4.63**	**27**	*e*P		**Pn**	**05 01 37.5**	**+1.6**
SDLR	**Sedlovina**	**4.66**	**27**	*e*P		**Pn**	**05 01 36.6**	**+0.2**
SDLR				*e*S		**Sn**	**05 02 29.9**	**+0.7**
KRX	**Arik**	**4.67**	**25**	*e*P		**Pn**	**05 01 38.3**	**+1.9**
NLC	**Nalytchevo**	**4.72**	**31**	S		**Sn**	**05 02 28.7**	**-1.6**
GNL	**Ganaly**	**4.80**	**19**	*e*P		**Pn**	**05 01 40.3**	**+2.1**
GNL				*e*S		**Sn**	**05 02 34.4**	**+1.8**
TUMR	**Tumrok**	**6.78**	**24**	P		Pn	05 02 10.4	+5.1
H11S1	**WAKE ISLAND Hy**	**31.94**	**159**	T		T	05 41 05.4	
	baz=349,slow=77,SNR=26							
H11S3	**WAKE ISLAND Hy**	**31.95**	**159**	T		T	05 41 11.6	
	baz=349,slow=77,SNR=32							
H11S2	**WAKE ISLAND Hy**	**31.96**	**159**	T		T	05 41 07.7	
	baz=349,slow=77,SNR=20							
ILAR	**Eielson Array**	**33.72**	**41**	P		**P**	**05 07 02.7**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=262,slow=5.2,SNR=5.6							
YKA	**Yellowknife Ar**	**48.08**	**39**	P		**P**	**05 09 00.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=296,slow=7.6,SNR=5.2							
PDAR	**Pinedale Array**	**62.12**	**56**	P		**P**	**05 10 43.0**	**0.0**
	comp=Z,0.6nm,0.8s,baz=128,slow=2.4,SNR=4.0							

*IDC **20** 05:10:14.3±4.7, 6.°81N×72.°70W, h157km±33km, mb3.2/5, mb1 3.6/6, mb1mx3.2/23, mbtmp3.3/6, Error ellipse: s-maj=86.3km s-min=26.6km az=84.0*
*ISCJB **20** 05:10:15.3±0.7, 6.°89N±0.°09×72.°99W±0.°07, h166km, mb3.4/5, Error ellipse: s-maj=13.7km s-min=8.4km az=158.4*
*FUNV **20** 05:10:19.8, 6.°98N×72.°89W, h149km, MW3.4*
ISC 20 05:10:16.2±1.0, 6.°93N±0.°09×72.°92W±0.°08, h166km, n23, σ1s37/26, mb3.2/5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAPV	**Capacho**	**1.10**	**33**	⇓*i*P		**Pn**	**05 10 44.5**	**+0.8**
CAPV				*e*S		**Sn**	**05 11 03.2**	**-1.6**
SOCV	**Socops**	**2.45**	**57**	*e*P		**Pn**	**05 10 58.2**	**+0.6**
SOCV				*e*S		**Sn**	**05 11 27.1**	**-2.5**
ROSC	**El Rosal**	**2.49**	**214**	P		**Pn**	**05 10 56.7**	**-1.8**
	34nm,0.3s,baz=311,slow=3.1,SNR=318							
ROSC				S		Sn	05 11 23.4	-7.8
	84nm,0.3s,baz=63,slow=22,SNR=16							
ELOV	**Elorza**	**3.41**	**89**	*e*P		**Pn**	**05 11 10.2**	**+0.7**
VIRV	**Villa del Rosa**	**3.58**	**8**	*e*P		**Pn**	**05 11 12.2**	**+0.5**
VIRV				*e*S		**Sn**	**05 11 51.2**	**-3.7**
QARV	**Quebrada Arrib**	**4.03**	**36**	*e*P		**Pn**	**05 11 18.6**	**+1.3**
SANV	**Sanarito**	**4.21**	**52**	*e*P		**Pn**	**05 11 21.1**	**+1.3**
CURV	**Curarigua**	**4.24**	**43**	*e*P		**Pn**	**05 11 21.1**	**+1.1**
DABV	**Dabajuro**	**4.56**	**29**	*e*P		**Pn**	**05 11 25.6**	**+1.4**
TEPV	**Terepaima**	**4.76**	**50**	*e*P		**Pn**	**05 11 28.1**	**+1.2**
SIQV	**Siquisique**	**4.81**	**40**	*e*P		**Pn**	**05 11 28.4**	**+0.9**
BAUV	**El Baul**	**5.23**	**67**	*e*P		**Pn**	**05 11 33.1**	**+0.1**
MAPV	**Macapo**	**5.27**	**57**	*e*P		**Pn**	**05 11 34.6**	**+1.0**
TURV	**Turiamo**	**6.12**	**55**	*e*P		**Pn**	**05 11 45.5**	**+0.9**
CUPV	**Cœpira**	**7.71**	**66**	*e*P		**Pn**	**05 12 06.0**	**+0.2**
PCRV	**Puerto La Cruz**	**8.80**	**68**	*e*P		**Pn**	**05 12 21.6**	**+1.3**
TXAR	**Lajitas Array**	**36.54**	**311**	P		**P**	**05 17 07.0**	**+0.8**
	0.2nm,0.4s,baz=129,slow=9.6,SNR=6.0							
ULM	**Lac du Bonnet**	**47.25**	**340**	P		**P**	**05 18 33.0**	**+0.4**
	1.4nm,0.3s,baz=177,slow=7.1,SNR=4.3							
PDAR	**Pinedale Array**	**48.11**	**324**	P		**P**	**05 18 40.3**	**+0.7**
	0.3nm,0.5s,baz=120,slow=8.8,SNR=2.3							
YKA	**Yellowknife Ar**	**61.23**	**340**	P		**P**	**05 20 26.7**	**+0.1**
	0.9nm,0.6s,baz=132,slow=6.7,SNR=25							
ILAR	**Eielson Array**	**76.95**	**335**	P		**P**	**05 21 50.5**	**+0.3**
	0.4nm,0.9s,baz=98,slow=2.8,SNR=3.1							
ASAR	**Alice Springs**	**149.34**	**234**	PKPbc		**PKPbc**	**05 29 45.0**	**-1.4**
	0.2nm,0.5s,baz=111,slow=3.7,SNR=4.3							
WRA	**Warramunga Arr**	**150.56**	**241**	PKPbc		**PKPbc**	**05 29 48.8**	**-0.6**
	0.1nm,0.4s,baz=110,slow=2.3,SNR=8.4							

*JMA **20** 05:12:51.1±0.1, 23.°76N×121.°68E, h38km±2km, M3.1*
*TAP **20** 05:12:51.6, 23.°80N×121.°66E, h43km, ML3.6, C*
*ISCJB **20** 05:12:52.1±0.3, 23.°78N±0.°02×121.°71E±0.°02, h39km±5km, Error ellipse: s-maj=3.3km s-min=2.2km az=40.7*
ISC 20 05:12:52.4±1.0, 23.°79N±0.°02×121.°69E±0.°02, h34km±2km, n58, σ0s72/103, 2C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TEGC	**Jichi Village**	**0.15**	**240**	*e*P		**Pb**	**05 12 59.2**	**+0.6**
	baz=225							
TEGC				*e*S		**Sb**	**05 13 05.1**	**+2.2**
	baz=225							
ESF	**Shoufeng Towns**	**0.18**	**297**	*e*P		**Pb**	**05 12 59.2**	**+0.3**
	baz=296							
HWA	**Hwalien**	**0.20**	**339**	P		**Pb**	**05 12 59.1**	**0.0**
HWA	baz=353			*e*S		**Sb**	**05 13 05.0**	**+1.3**
	baz=353							
ESL	**Shilin**	**0.23**	**277**	⇓*i*P		**Pn**	**05 12 59.2**	**+0.3**
ESL	baz=273			S		**Sb**	**05 13 04.7**	**+0.4**
	baz=273							
TWD	**Chiawan**	**0.30**	**344**	P		**Pb**	**05 13 00.2**	**-0.1**
TWD	baz=356			S		**Sb**	**05 13 06.2**	**+0.7**
	baz=356							
EHY	**Hungye**	**0.43**	**230**	*i* P		**Pb**	**05 13 01.2**	**-0.9**
EHY	baz=235			S		**Sb**	**05 13 07.8**	**-0.9**
	baz=235							
WHF	**Hehuan Shan**	**0.52**	**313**	⇓*i*P		**Pb**	**05 13 02.7**	**-1.1**
WHF	baz=308			S		**Sb**	**05 13 10.2**	**-1.3**
	baz=308							
TWF1	**Yuli**	**0.56**	**220**	⇓*i*P		**Pn**	**05 13 02.9**	**-1.0**
TWF1	baz=224			S		**Sb**	**05 13 11.2**	**-0.8**
	baz=224							
ENA	**Nanau**	**0.64**	**5**	P		**Pn**	**05 13 04.3**	**-0.7**
ENA	baz=17			*e*S		**Sb**	**05 13 14.8**	**+0.6**
	baz=17							
TWT	**Tachien**	**0.66**	**315**	*e*P		**Pn**	**05 13 04.9**	**-0.6**
TWT	baz=314			*e*S		**Sn**	**05 13 13.6**	**-1.2**
	baz=314							
NNS	**Nan Shan**	**0.71**	**336**	*e*P		**Pn**	**05 13 05.3**	**-0.9**
NNS	baz=339			*e*S		**Sn**	**05 13 14.6**	**-1.4**
	baz=339							
SMLT	**Sun Moon Lake**	**0.73**	**278**	⇑*i*P		**Pn**	**05 13 05.8**	**-0.6**
SMLT	baz=278			*e*S		**Sn**	**05 13 15.3**	**-1.1**
	baz=278							
YUS	**Yu-Shan**	**0.73**	**246**	P		**Pn**	**05 13 06.4**	**-0.4**
YUS	baz=237			S		**Sn**	**05 13 16.3**	**-0.9**
	baz=237							
CHKT	**Chengkung**	**0.74**	**203**	*e*P		**Pn**	**05 13 06.2**	**-0.4**
CHKT	baz=190			*e*S		**Sn**	**05 13 16.9**	**+0.2**
	baz=190							
TYC	**Yuchr**	**0.77**	**279**	*e*P		**Pn**	**05 13 06.2**	**-0.6**
	baz=284							
TWC	**Suao**	**0.83**	**10**	P		**Pn**	**05 13 07.5**	**-0.3**
TWC	baz=19			*e*S		**Sn**	**05 13 19.0**	**+0.2**
	baz=19							
ALS	**Alishan**	**0.85**	**251**	P		**Pn**	**05 13 08.3**	**0.0**
ALS	baz=248			S		**Sn**	**05 13 19.6**	**-0.2**
	baz=248							
ELDTW	**Lidau**	**0.85**	**226**	⇓*i*P		**Pn**	**05 13 07.0**	**-1.2**
ELDTW	baz=220			*e*S		**Sn**	**05 13 18.2**	**-1.4**
	baz=220							
ENTT	**Nioudou**	**0.86**	**353**	P		**Pn**	**05 13 07.2**	**-0.9**
ENTT	baz=348			*e*S		**Sn**	**05 13 19.7**	**+0.3**
	baz=348							
WNT	**Mingjian**	**0.92**	**276**	*e*P		**Pn**	**05 13 09.0**	**0.0**
WNT	baz=274			*e*S		**Sn**	**05 13 21.7**	**+0.6**
	baz=274							
NSK	**Sanguang**	**0.93**	**341**	⇓*i*P		**Pn**	**05 13 08.6**	**-0.7**
NSK	baz=344			*e*S		**Sn**	**05 13 20.3**	**-1.2**
	baz=344							
CHN5	**Tsauling**	**0.94**	**259**	P		**Pn**	**05 13 09.4**	**0.0**
CHN5	baz=256			*e*S		**Sn**	**05 13 22.4**	**+0.7**
	baz=256							
TCU	**Taichung**	**0.99**	**291**	*e*P		**Pn**	**05 13 10.4**	**+0.5**
TCU	baz=291			*e*S		**Sb**	**05 13 23.8**	**-0.1**
	baz=291							
TWQ1	**Liyutan**	**1.00**	**304**	⇑*i*P		**Pn**	**05 13 10.4**	**+0.3**
TWQ1	baz=304			S		**Sn**	**05 13 23.7**	**+0.6**
	baz=304							
WGK	**Gukeng**	**1.03**	**265**	*e*P		**Pn**	**05 13 10.8**	**+0.3**
	baz=263							
NSTT	**Nanjuang**	**1.05**	**323**	*i* P		**Pn**	**05 13 11.0**	**+0.3**
NSTT	baz=311			S		**Sn**	**05 13 24.0**	**-0.2**
	baz=311							
NSY	**Sanyi**	**1.05**	**307**	*e*P		**Pn**	**05 13 10.9**	**+0.1**
NSY	baz=307			*e*S		**Sn**	**05 13 25.3**	**+1.0**
	baz=307							
STYT	**Tauyuan**	**1.05**	**234**	*e*P		**Pn**	**05 13 10.7**	**-0.2**
STYT	baz=224			S		**Sn**	**05 13 24.6**	**+0.1**
	baz=224							
TWG	**Pinlang**	**1.11**	**211**	*e*P		**Pn**	**05 13 10.3**	**-1.4**
	baz=199							
WTP	**Ta-pu**	**1.12**	**242**	⇓P		**Pn**	**05 13 12.1**	**+0.4**
WTP	baz=238			*e*S		**Sn**	**05 13 26.6**	**+0.5**
	baz=238							
TTN	**Taitung**	**1.14**	**206**	*e*P		**Pn**	**05 13 11.7**	**-0.3**
	baz=203							
CHY	**Chiayi**	**1.19**	**256**	*e*P		**Pn**	**05 13 13.4**	**+0.7**
CHY	baz=254			*e*S		**Sn**	**05 13 28.2**	**+0.5**
	baz=254							
HSN	**Hsinchu**	**1.20**	**327**	*e*P		**Pn**	**05 13 13.1**	**+0.2**
HSN	baz=330			*e*S		**Sn**	**05 13 28.5**	**+0.5**
	baz=330							
TWK	**Hsinying**	**1.22**	**245**	*e*P		**Pn**	**05 13 13.3**	**+0.2**
TWK	baz=242			*e*S		**Sn**	**05 13 29.0**	**+0.6**
	baz=242							
CHN1	**Nanshi**	**1.22**	**241**	*e*P		**Pn**	**05 13 13.6**	**+0.5**
CHN1	baz=238			*e*S		**Sn**	**05 13 29.4**	**+0.9**
	baz=238							
SGST	**Jiashian**	**1.23**	**235**	*e*P		**Pn**	**05 13 13.8**	**+0.6**
SGST	baz=232			*e*S		**Sn**	**05 13 29.5**	**+0.7**
	baz=232							
TWB1	**Santiao Chiao**	**1.25**	**13**	*e*P		**Pn**	**05 13 13.4**	**-0.1**
TWB1	baz=17			*e*S		**Sb**	**05 13 30.8**	**-0.4**
	baz=17							
NCU	**National Centr**	**1.26**	**339**	*e*P		**Pn**	**05 13 13.4**	**-0.3**
NCU	baz=340			*e*S		**Sn**	**05 13 29.8**	**+0.3**
	baz=340							
NWF	**Wu-fen Shan**	**1.28**	**4**	*e*P		**Pn**	**05 13 14.1**	**+0.1**
NWF	baz=355			*e*S		**Sn**	**05 13 31.4**	**+1.3**
	baz=355							
WTCT	**Ta-ch'eng**	**1.29**	**274**	P		**Pn**	**05 13 14.3**	**+0.3**
WTCT	baz=272			*e*S		**Sb**	**05 13 31.7**	**-0.6**
	baz=272							
TWS1	**Kuangyinshan**	**1.33**	**349**	*e*P		**Pn**	**05 13 14.9**	**+0.2**
TWS1	baz=352			*e*S		**Sn**	**05 13 31.8**	**+0.6**
	baz=352							
WSF	**Szhu**	**1.35**	**264**	*e*P		**Pn**	**05 13 15.1**	**+0.2**
WSF	baz=262			*e*S		**Sn**	**05 13 32.0**	**+0.4**
	baz=262							
ECL	**Taimali**	**1.36**	**210**	*e*P		**Pn**	**05 13 14.0**	**-1.0**
	baz=201							
YOJ	**Yonaguni jima**	**1.39**	**61**	P		**Pn**	**05 13 15.4**	**+0.1**
YOJ				*e*S		**Sn**	**05 13 32.2**	**-0.3**
SSD	**Sandimen**	**1.42**	**223**	*e*P		**Pn**	**05 13 16.3**	**+0.5**
SSD	baz=219			*e*S		**Sn**	**05 13 34.0**	**+0.6**
	baz=219							
CHN8	**Yiju**	**1.42**	**252**	*e*P		**Pn**	**05 13 16.1**	**+0.2**
CHN8	baz=250			*e*S		**Sn**	**05 13 34.0**	**+0.6**
	baz=250							
SCLT	**Jiali**	**1.50**	**246**	*e*P		**Pn**	**05 13 16.9**	**0.0**
	baz=244							
SCLT				*e*S		**Sn**	**05 13 36.0**	**+0.7**
	baz=244							
TWM1	**Shoushan**	**1.51**	**231**	*e*P		**Pn**	**05 13 18.4**	**+1.4**
	baz=229							
EAST	**Anshuo**	**1.60**	**209**	*e*P		**Pn**	**05 13 18.5**	**+0.2**
	baz=201							
IRIF	**Iriomote-Funau**	**1.95**	**73**	P		**Pn**	**05 13 23.4**	**+0.3**
IRIF				*e*S		**Sn**	**05 13 46.9**	**+0.5**
HATJ	**Hateruma jima**	**1.96**	**82**	*e*S		**Sn**	**05 13 45.5**	**-1.1**
HEN	**Hengchun**	**1.98**	**206**	*e*P		**Pn**	**05 13 24.6**	**+1.1**
	baz=194							
TWK1	**Hengchun**	**2.01**	**204**	*e*P		**Pn**	**05 13 24.0**	**+0.1**
	baz=193							
TSEB	**Hengchuen, Pin**	**2.01**	**201**	*e*P		**Pn**	**05 13 24.6**	**+0.6**
	baz=198							
TSEB				*e*S		**Sn**	**05 13 47.4**	**-0.6**
	baz=198							
JKRS	**Kuro-shima**	**2.17**	**78**	P		**Pn**	**05 13 26.7**	**+0.5**
JKRS				*e*S		**Sn**	**05 13 52.8**	**+0.9**
JIJ	**Ishigaki jima**	**2.32**	**75**	P		**Pn**	**05 13 27.8**	**-0.4**
JIJ				*e*S		**Sn**	**05 13 54.7**	**-0.8**
JTJ	**Tarama**	**2.88**	**72**	*e*S		**Sn**	**05 14 10.2**	**+0.7**
KNM	**Kinmen**	**3.04**	**283**	*e*P		**Pn**	**05 13 38.2**	**+0.1**
	baz=280							

IDC 20 05:43:35.8±5.2, 12.°81N×143.°49E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/25, mbtmp3.8/3, Error ellipse: s-maj=225.9km s-min=27.1km az=83.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.77**	**196**	P		P	05 50 19.1	-0.5
	1.0nm,0.7s,baz=18,slow=9.5,SNR=17							
ASAR	**Alice Springs**	**37.45**	**195**	P		P	05 50 51.4	+0.3
	0.7nm,0.5s,baz=22,slow=12,SNR=30							
ZALV	**Zalesovo Beam**	**61.48**	**325**	P		P	05 53 54.2	-0.1
	0.3nm,0.3s,baz=96,slow=5.8,SNR=3.2							

KRSC 20 06:15:40.2±3.9, 55.°11N×164.°29E, h10km±10km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**0.97**	**84**	*e*P		Pn	06 15 59.9	+0.1
BKI				*e*S		Sb	06 16 12.7	+0.8
KBTR	**Krutoberegovo**	**1.38**	**323**	*e*P		Pn	06 16 05.0	-0.5
KBTR				*e*S		Sb	06 16 20.4	-3.4
KBG	**Krutoberegovo**	**1.46**	**323**	*e*P		Pn	06 16 05.8	-0.7
KBG				*e*S		Sn	06 16 22.9	-2.8
SMKR	**Semkarok**	**2.17**	**314**	*e*P		Pn	06 16 17.3	+0.8
SMKR				*e*S		Sn	06 16 44.5	+1.0
BDR	**Baidarnaya**	**2.27**	**311**	*e*P		Pb	06 16 20.3	-1.1
BDR				*e*S		Sb	06 16 48.5	-1.1
KZV	**Kizimen**	**2.30**	**272**	*e*P		Pn	06 16 19.1	+0.8
KZV				*e*S		Sn	06 16 46.1	-0.6
SRKR	**Sorokina**	**2.34**	**313**	*e*P		Pn	06 16 20.5	+1.7
SRKR				*e*S		Sb	06 16 50.1	-1.5
TUMR	**Tumrok**	**2.38**	**276**	*e*P		Pn	06 16 21.3	+1.9
TUMR				*e*S		Sn	06 16 48.2	-0.6
KRSR	**Krestovskiy**	**2.38**	**299**	*e*P		Pn	06 16 20.6	+1.1
KRSR				*e*S		Sn	06 16 48.5	-0.3
KLY	**Klyuchi**	**2.39**	**302**	*e*P		Pn	06 16 18.6	+0.7
KLY				*e*S		Sn	06 16 47.1	-1.5
KIRR	**Kirishev**	**2.40**	**292**	*e*P		Pb	06 16 22.0	-1.6
KIRR				*e*S		Sn	06 16 50.7	+1.4
KMNR	**Kamenistaya**	**2.40**	**287**	*e*P		Pn	06 16 21.6	+2.0
KMNR				*e*S		Sn	06 16 50.6	+1.4
KPT	**Kopyto**	**2.47**	**292**	*e*P		Pb	06 16 23.0	-1.7
KPT				*e*S		Sn	06 16 51.1	+0.3
KOZ	**Kozyrevsk**	**2.68**	**293**	*e*P		Pn	06 16 25.6	+2.2
KOZ				*e*S		Sn	06 16 55.9	0.0
SRDR	**Sredinnyy**	**2.86**	**297**	*e*P		Pn	06 16 28.2	+2.3
SRDR				*e*S		Sb	06 17 03.4	-3.0
NLC	**Nalytchevo**	**3.50**	**238**	*e*S		Sn	06 17 15.4	-0.5
SDLR	**Sedlovina**	**3.67**	**242**	*e*P		Pn	06 16 38.5	+1.4
SDLR				*e*S		Sn	06 17 21.5	+1.0
KRER	**Koryakskii**	**3.72**	**243**	*e*P		Pn	06 16 39.7	+1.7
KRER				*e*S		Sn	06 17 21.3	-0.7
UGLR	**Uglovaya**	**3.73**	**242**	*e*P		Pn	06 16 39.5	+1.5
UGLR				*e*S		Sn	06 17 22.1	0.0
KRX	**Arik**	**3.75**	**244**	*e*P		Pn	06 16 39.9	+1.7
KRX				*e*S		Sn	06 17 21.6	-0.9
AVH	**Avacha**	**3.75**	**243**	*e*P		Pn	06 16 40.0	+1.8
AVH				*e*S		Sn	06 17 22.8	+0.4
KOK	**Koryaka**	**3.79**	**244**	*e*P		Pn	06 16 40.8	+2.1
KOK				*e*S		Sn	06 17 25.6	+2.2
GNL	**Ganaly**	**3.97**	**252**	*e*P		Pn	06 16 43.6	+2.3
MTVR	**Mutnovka**	**4.48**	**236**	*e*P		Pn	06 16 49.8	+1.6
MTVR				*e*S		Sn	06 17 38.6	-1.9

*JMA **20** 06:16:30.6±0.1, 23.°79N×121.°67E, h42km±2km, M3.6*
*ISCJB **20** 06:16:31.7±0.2, 23.°79N±0.°01×121.°70E±0.°02, h38km±5km, Error ellipse: s-maj=2.9km s-min=1.9km az=34.3*
*TAP **20** 06:16:31.6, 23.°83N×121.°65E, h40km, ML4.0, B*
**ISC 20 06:16:31.9±1.0, 23.°79N±0.°02×121.°69E±0.°02, h34km±2km, n69, σ0s78/130, 10C-

TYC	**Yuchr**	**0.77**	**279**	⇑*i*P	**Pn**	**06 16 45.8**	**-0.6**
	baz=280							
TYC				S	**Sn**	**06 16 55.5**	**-1.3**
	baz=280							
TWC	**Suao**	**0.83**	**10**	P	**Pn**	**06 16 47.0**	**-0.3**
	baz=21							
TWC				*e*S	**Sn**	**06 16 58.5**	**+0.2**
	baz=21							
ENTT	**Nioudou**	**0.85**	**353**	⇑*i*P	**Pn**	**06 16 46.8**	**-0.8**
	baz=355							
ENTT				*e*S	**Sn**	**06 16 57.5**	**-1.4**
	baz=355							
ALS	**Alishan**	**0.85**	**251**	*e*P	**Pn**	**06 16 47.9**	**0.0**
	baz=248							
ALS				*e*S	**Sn**	**06 16 58.8**	**-0.6**
	baz=248							
ELDTW	**Lidau**	**0.86**	**226**	*e*P	**Pn**	**06 16 47.1**	**-0.6**
	baz=217							
ELDTW				*e*S	**Sn**	**06 16 58.4**	**-0.8**
	baz=217							
WNT	**Mingjian**	**0.92**	**276**	*e*P	**Pn**	**06 16 49.0**	**+0.5**
	baz=274							
WNT				*e*S	**Sn**	**06 17 01.1**	**+0.5**
	baz=274							
NSK	**Sanguang**	**0.93**	**341**	P	**Pn**	**06 16 48.1**	**-0.6**
	baz=342							
NSK				S	**Sn**	**06 16 59.3**	**-1.6**
	baz=342							
CHN5	**Tsauling**	**0.94**	**258**	⇓*i*P	**Pn**	**06 16 49.2**	**+0.3**
	baz=257							
CHN5				*e*S	**Sn**	**06 17 01.6**	**+0.4**
	baz=257							
ILA	**Ilan**	**0.97**	**3**	*e*P	**Pn**	**06 16 49.0**	**-0.2**
	baz=355							
ILA				*e*S	**Sb**	**06 17 03.4**	**+0.5**
	baz=355							
TCU	**Taichung**	**0.99**	**291**	*e*P	**Pn**	**06 16 49.9**	**+0.5**
	baz=290							
TCU				*e*S	**Sn**	**06 17 02.9**	**+0.6**
	baz=290							
TWQ1	**Liyutan**	**1.00**	**304**	⇑P	**Pn**	**06 16 50.0**	**+0.4**
	baz=302							
TWQ1				*e*S	**Sn**	**06 17 02.9**	**+0.3**
	baz=302							
WGK	**Gukeng**	**1.04**	**264**	*e*P	**Pn**	**06 16 49.6**	**-0.5**
	baz=263							
WGK				*e*S	**Sn**	**06 17 04.0**	**+0.6**
	baz=263							
NSTT	**Nanjuang**	**1.04**	**323**	⇑*i*P	**Pn**	**06 16 50.7**	**+0.5**
	baz=322							
NSTT				S	**Sn**	**06 17 03.4**	**-0.3**
	baz=322							
NSY	**Sanyi**	**1.05**	**307**	*e*P	**Pn**	**06 16 50.6**	**+0.3**
	baz=305							
NSY				*e*S	**Sn**	**06 17 04.1**	**+0.3**
	baz=305							
STYT	**Tauyuan**	**1.06**	**234**	*e*P	**Pn**	**06 16 50.8**	**+0.3**
	baz=228							
STYT				*e*S	**Sn**	**06 17 04.5**	**+0.5**
	baz=228							
CHN4	**Tsaushan**	**1.09**	**247**	*e*P	**Pn**	**06 16 51.4**	**+0.5**
	baz=244							
CHN4				*e*S	**Sn**	**06 17 06.0**	**+1.1**
	baz=244							
TWG	**Pinlang**	**1.12**	**210**	⇓*e*P	**Pn**	**06 16 49.8**	**-1.4**
	baz=194							
TWG				*e*S	**Sn**	**06 17 03.6**	**-1.8**
	baz=194							
WTP	**Ta-pu**	**1.12**	**241**	*e*P	**Pn**	**06 16 51.9**	**+0.6**
	baz=239							
WTP				*e*S	**Sn**	**06 17 06.2**	**+0.6**
	baz=239							
TTN	**Taitung**	**1.14**	**206**	*e*P	**Pn**	**06 16 50.9**	**-0.6**
	baz=199							
TTN				*e*S	**Sn**	**06 17 06.3**	**+0.3**
	baz=199							
CHY	**Chiayi**	**1.19**	**256**	*e*P	**Pn**	**06 16 51.5**	**-0.7**
	baz=255							
CHY				*e*S	**Sn**	**06 17 08.5**	**+1.2**
	baz=255							
HSN	**Hsinchu**	**1.20**	**327**	*e*P	**Pn**	**06 16 52.0**	**-0.4**
	baz=327							
HSN				*e*S	**Sn**	**06 17 08.2**	**+0.7**
	baz=327							
TWK	**Hsinying**	**1.22**	**245**	*e*P	**Pn**	**06 16 52.4**	**-0.3**
	baz=244							
TWK				*e*S	**Sn**	**06 17 08.7**	**+0.7**
	baz=244							
CHN1	**Nanshi**	**1.22**	**241**	*e*P	**Pn**	**06 16 53.2**	**+0.5**
	baz=239							
CHN1				*e*S	**Sn**	**06 17 09.3**	**+1.2**
	baz=239							
SGST	**Jiashian**	**1.23**	**235**	*e*P	**Pn**	**06 16 54.1**	**+1.3**
	baz=233							
SGST				*e*S	**Sb**	**06 17 10.7**	**+0.3**
	baz=233							
TWB1	**Santiao Chiao**	**1.24**	**13**	*e*P	**Pn**	**06 16 53.1**	**+0.2**
	baz=19							
TWB1				*e*S	**Sn**	**06 17 08.9**	**+0.4**
	baz=19							
TAP1	**Taipei**	**1.25**	**353**	*e*P	**Pn**	**06 16 53.4**	**+0.3**
	baz=352							
TAP1				*e*S	**Sn**	**06 17 08.8**	**+0.1**
	baz=352							
TAP	**Taipei**	**1.25**	**352**	*e*P	**Pn**	**06 16 53.2**	**+0.2**
	baz=352							
TAP				*e*S	**Sn**	**06 17 08.8**	**+0.1**
	baz=352							
NCU	**National Centr**	**1.26**	**339**	*e*P	**Pn**	**06 16 53.3**	**+0.2**
	baz=337							
NCU				*e*S	**Sn**	**06 17 09.7**	**+0.8**
	baz=337							
NWF	**Wu-fen Shan**	**1.28**	**4**	*e*P	**Pn**	**06 16 53.5**	**0.0**
	baz=352							
NWF				*e*S	**Sn**	**06 17 10.0**	**+0.4**
	baz=352							
WTCT	**Ta-ch'eng**	**1.29**	**274**	*e*P	**Pn**	**06 16 54.1**	**+0.6**
	baz=272							
WTCT				*e*S	**Sn**	**06 17 11.0**	**+1.3**
	baz=272							
TWS1	**Kuangyinshan**	**1.33**	**349**	*e*P	**Pn**	**06 16 54.2**	**+0.1**
	baz=349							
TWS1				*e*S	**Sn**	**06 17 10.7**	**+0.1**
	baz=349							
WSF	**Szhu**	**1.35**	**264**	*e*P	**Pn**	**06 16 54.7**	**+0.3**
	baz=263							
WSF				*e*S	**Sn**	**06 17 12.5**	**+1.3**
	baz=263							
ECL	**Taimali**	**1.37**	**210**	*e*P	**Pn**	**06 16 53.0**	**-1.6**
	baz=199							
YOJ	**Yonaguni jima**	**1.38**	**61**	P	**Pn**	**06 16 54.9**	**+0.1**
YOJ				S	**Sn**	**06 17 11.9**	**-0.1**
YOJ	**Yonaguni jima**	**1.38**	**61**	P	**Pn**	**06 16 54.9**	**+0.1**
	baz=66							
YOJ				*e*S	**Sn**	**06 17 12.2**	**+0.3**
	baz=66							
SSD	**Sandimen**	**1.42**	**223**	*e*P	**Pn**	**06 16 55.8**	**+0.4**
	baz=221							
SSD				*e*S	**Sb**	**06 17 15.3**	**-0.4**
	baz=221							
CHN8	**Yiju**	**1.42**	**252**	*e*P	**Pn**	**06 16 55.1**	**-0.3**
	baz=252							
CHN8				*e*S	**Sn**	**06 17 13.8**	**+0.8**
	baz=252							
TWY	**Chenhua**	**1.48**	**357**	*e*P	**Pn**	**06 16 56.3**	**+0.1**
	baz=357							
SCLT	**Jiali**	**1.50**	**246**	*e*P	**Pn**	**06 16 56.9**	**+0.4**
	baz=246							
SCLT				*e*S	**Sn**	**06 17 15.8**	**+0.9**
	baz=246							
TWM1	**Shoushan**	**1.51**	**231**	*e*P	**Pn**	**06 16 58.1**	**+1.5**
	baz=229							
SGLT	**Jiouru**	**1.53**	**226**	*e*P	**Pn**	**06 16 57.9**	**+1.1**
	baz=225							
EAST	**Anshuo**	**1.60**	**209**	*e*P	**Pn**	**06 16 56.4**	**-1.5**
	baz=199							
TAW	**Tawu**	**1.60**	**207**	*e*P	**Pb**	**06 17 00.0**	**-0.9**
	baz=193							
TAW				*e*S	**Sn**	**06 17 17.3**	**0.0**
	baz=193							
LAY	**Lan-yu**	**1.75**	**184**	*e*P	**Pn**	**06 16 58.7**	**-1.2**
	baz=172							
LAY				*e*S	**Sn**	**06 17 19.9**	**-1.1**
	baz=172							
WDGT	**Dungji**	**1.93**	**255**	*e*P	**Pn**	**06 17 02.3**	**-0.1**
	baz=253							
IRIF	**Iriomote-Funau**	**1.94**	**73**	P	**Pn**	**06 17 02.8**	**+0.2**
IRIF				S	**Sn**	**06 17 26.6**	**+0.8**
HATJ	**Hateruma jima**	**1.96**	**82**	P	**Pn**	**06 17 03.2**	**+0.5**
HATJ				S	**Sn**	**06 17 26.6**	**+0.5**
HEN	**Hengchun**	**1.98**	**206**	*e*P	**Pn**	**06 17 03.7**	**+0.7**
	baz=193							
TWK1	**Hengchun**	**2.01**	**204**	*e*P	**Pn**	**06 17 03.9**	**+0.4**
	baz=197							
TWK1				*e*S	**Sn**	**06 17 28.3**	**+0.8**
	baz=197							
TSEB	**Hengchuen, Pin**	**2.02**	**201**	*e*P	**Pn**	**06 17 04.5**	**+0.9**
	baz=196							
TSEB				*e*S	**Sn**	**06 17 27.9**	**+0.3**
	baz=196							
JKRS	**Kuro-shima**	**2.17**	**78**	P	**Pn**	**06 17 06.8**	**+1.1**
JKRS				S	**Sn**	**06 17 32.4**	**+1.0**
JIJ	**Ishigaki jima**	**2.32**	**75**	P	**Pn**	**06 17 07.9**	**+0.2**
JIJ				S	**Sn**	**06 17 34.3**	**-0.7**
JTJ	**Tarama**	**2.88**	**72**	P	**Pn**	**06 17 16.0**	**+0.6**
JTJ				*e*S	**Sn**	**06 17 48.8**	**-0.1**
KNM	**Kinmen**	**3.04**	**283**	*e*P	**Pn**	**06 17 18.2**	**+0.6**
	baz=280							

*ISCJB **20** 06:41:60.0±0.3,23°.80N±0°.02×121°.69E±0°.02,h37km±5km, Error ellipse: s-maj=3.7km s-min=2.4km az=142.8*
*JMA **20** 06:41:59.0,23°.77N×121°.67E,h38km±1km,M2.9*
*TAP **20** 06:41:59.7,23°.81N×121°.64E,h40km,ML3.5,B*
ISC 20 06:42:00.2±1.0,23°.81N±0°.02×121°.67E±0°.02,h34km±2km, n51,σ0§84/91,7C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.15**	**230**	*e*P			**Pb**	**06 42 06.7**	**+0.3**
	baz=218								
TEGC				*e*S			**Sb**	**06 42 12.8**	**+2.2**
	baz=218								
ESF	**Shoufeng Towns**	**0.16**	**294**	*e*P			**Pb**	**06 42 06.8**	**+0.3**
	baz=297								
ESF				*e*S			**Sb**	**06 42 12.1**	**+1.4**
	baz=297								
HWA	**Hwalien**	**0.18**	**341**	*e*P			**Pb**	**06 42 06.6**	**0.0**
	baz=359								
HWA				*e*S			**Sb**	**06 42 12.5**	**+1.5**
	baz=359								
ESL	**Shilin**	**0.22**	**272**	⇑*i*P			**Pn**	**06 42 06.7**	**+0.5**
	baz=271								
ESL				S			**Sb**	**06 42 11.6**	**0.0**
	baz=271								
TWD	**Chiawan**	**0.28**	**346**	⇓P			**Pn**	**06 42 07.6**	**-0.1**
	baz=344								
TWD				*e*S			**Sb**	**06 42 14.0**	**+1.1**
	baz=344								
EHY	**Hungye**	**0.44**	**227**	⇑P			**Pb**	**06 42 08.9**	**-1.0**
	baz=225								
EHY				*e*S			**Sb**	**06 42 15.0**	**-1.5**
	baz=225								
WHF	**Hehuan Shan**	**0.50**	**313**	⇑*i*P			**Pb**	**06 42 10.3**	**-0.8**
	baz=309								
WHF				*i* S			**Sb**	**06 42 17.8**	**-0.9**
	baz=309								
TWF1	**Yuli**	**0.57**	**217**	⇑P			**Pn**	**06 42 10.7**	**-1.2**
	baz=224								
TWF1				*e*S			**Sb**	**06 42 18.2**	**-1.6**
	baz=224								
ENA	**Nanau**	**0.62**	**6**	*e*P			**Pn**	**06 42 12.1**	**-0.5**
	baz=16								
TWT	**Tachien**	**0.63**	**315**	*i* P			**Pn**	**06 42 12.6**	**-0.3**
	baz=315								
TWT				S			**Sn**	**06 42 21.4**	**-0.5**
	baz=315								
NNS	**Nan Shan**	**0.69**	**337**	*e*P			**Pn**	**06 42 12.8**	**-0.8**
	baz=338								
NNS				*e*S			**Sn**	**06 42 22.1**	**-1.1**
	baz=338								
SMLT	**Sun Moon Lake**	**0.71**	**276**	⇑*i*P			**Pn**	**06 42 13.5**	**-0.4**
	baz=279								
SMLT				*i* S			**Sn**	**06 42 22.9**	**-0.8**
	baz=279								
YUS	**Yu-Shan**	**0.73**	**244**	P			**Pn**	**06 42 14.2**	**-0.3**
	baz=244								
YUS				*i* S			**Sn**	**06 42 23.3**	**-1.5**
	baz=244								
TYC	**Yuchr**	**0.75**	**278**	*i* P			**Pn**	**06 42 13.8**	**-0.5**
	baz=282								
TYC				S			**Sn**	**06 42 24.1**	**-0.5**
	baz=282								
CHKT	**Chengkung**	**0.76**	**202**	*e*P			**Pn**	**06 42 14.1**	**-0.4**
	baz=188								
TWC	**Suao**	**0.82**	**12**	*e*P			**Pn**	**06 42 15.3**	**0.0**
	baz=23								
TWC				*e*S			**Sb**	**06 42 27.3**	**+0.6**
	baz=23								
ENTT	**Nioudou**	**0.83**	**354**	⇑P			**Pn**	**06 42 15.0**	**-0.6**
	baz=355								
ALS	**Alishan**	**0.84**	**250**	P			**Pn**	**06 42 15.8**	**-0.2**
	baz=249								
ALS				*i* S			**Sn**	**06 42 26.6**	**-0.7**
	baz=249								
ELDTW	**Lidau**	**0.86**	**224**	*e*P			**Pn**	**06 42 14.7**	**-1.3**
	baz=218								
WNT	**Mingjian**	**0.90**	**275**	*e*P			**Pn**	**06 42 15.1**	**-1.4**
	baz=274								
NSK	**Sanguang**	**0.91**	**342**	⇑*i*P			**Pn**	**06 42 16.4**	**-0.3**
	baz=350								
NSK				S			**Sn**	**06 42 27.8**	**-0.9**
	baz=350								
CHN5	**Tsauling**	**0.93**	**257**	P			**Pn**	**06 42 17.2**	**+0.2**
	baz=257								
CHN5				*e*S			**Sn**	**06 42 29.3**	**+0.1**
	baz=257								
TCU	**Taichung**	**0.97**	**291**	*e*P			**Pn**	**06 42 17.7**	**+0.3**
	baz=291								
TCU				*e*S			**Sb**	**06 42 30.9**	**-0.1**
	baz=291								
TWQ1	**Liyutan**	**0.98**	**304**	P			**Pn**	**06 42 18.3**	**+0.7**
	baz=304								
TWQ1				*e*S			**Sb**	**06 42 31.2**	**-0.1**
	baz=304								
WGK	**Gukeng**	**1.02**	**263**	*e*P			**Pn**	**06 42 18.6**	**+0.5**
	baz=264								
WGK				*e*S			**Sb**	**06 42 32.4**	**-0.1**
	baz=264								
NSTT	**Nanjuang**	**1.02**	**324**	P			**Pn**	**06 42 18.9**	**+0.7**
	baz=323								
NSTT				S			**Sn**	**06 42 31.6**	**+0.3**
	baz=323								
NSY	**Sanyi**	**1.03**	**306**	*e*P			**Pn**	**06 42 18.7**	**+0.5**
	baz=306								
NSY				*e*S			**Sb**	**06 42 33.4**	**+0.6**
	baz=306								
STYT	**Tauyuan**	**1.05**	**233**	*i* P			**Pn**	**06 42 18.9**	**+0.2**
	baz=230								
STYT				*e*S			**Sn**	**06 42 33.2**	**+1.0**
	baz=230								
CHN4	**Tsaushan**	**1.09**	**246**	P			**Pn**	**06 42 19.7**	**+0.7**
	baz=246								
CHN4				S			**Sn**	**06 42 33.4**	**+0.5**
	baz=246								
WTP	**Ta-pu**	**1.12**	**240**	P			**Pn**	**06 42 20.0**	**+0.5**
	baz=240								
WTP				*e*S			**Sn**	**06 42 34.5**	**+0.8**
	baz=240								
TWG	**Pinlang**	**1.12**	**209**	*e*P			**Pn**	**06 42 18.0**	**-1.6**
	baz=196								
CHY	**Chiayi**	**1.18**	**255**	*e*P			**Pn**	**06 42 19.9**	**-0.5**
	baz=256								
CHY				*e*S			**Sn**	**06 42 36.3**	**+1.0**
	baz=256								
TWK	**Hsinying**	**1.21**	**244**	*e*P			**Pn**	**06 42 21.2**	**+0.5**
	baz=244								
TWK				*e*S			**Sn**	**06 42 36.8**	**+0.8**
	baz=244								
CHN1	**Nanshi**	**1.22**	**240**	P			**Pn**	**06 42 21.5**	**+0.7**
	baz=240								
CHN1				*e*S			**Sn**	**06 42 37.1**	**+0.9**
	baz=240								
SGST	**Jiashian**	**1.23**	**234**	*e*P			**Pn**	**06 42 21.6**	**+0.5**
	baz=235								
SGST				*e*S			**Sb**	**06 42 38.2**	**-0.3**
	baz=235								
TWB1	**Santiao Chiao**	**1.23**	**14**	*e*P			**Pn**	**06 42 21.6**	**+0.6**
	baz=31								
TWB1				*e*S			**Sb**	**06 42 37.5**	**-1.0**
	baz=31								
NWF	**Wu-fen Shan**	**1.26**	**5**	*e*P			**Pn**	**06 42 21.9**	**+0.3**
	baz=351								
NWF				*e*S			**Sn**	**06 42 38.5**	**+1.1**
	baz=351								
WTCT	**Ta-ch'eng**	**1.27**	**273**	*e*P			**Pn**	**06 42 21.6**	**+0.1**
	baz=273								
WTCT				*e*S			**Sn**	**06 42 38.4**	**+1.0**
	baz=273								
TWS1	**Kuangyinshan**	**1.31**	**350**	*e*P			**Pn**	**06 42 21.0**	**-1.1**
	baz=349								
WSF	**Szhu**	**1.34**	**263**	*e*P			**Pn**	**06 42 23.1**	**+0.7**
	baz=264								
WSF				*e*S			**Sn**	**06 42 39.3**	**+0.3**
	baz=264								
YOJ	**Yonaguni jima**	**1.39**	**62**	P			**Pn**	**06 42 22.9**	**-0.3**
YOJ				*e*S			**Sn**	**06 42 41.1**	**+0.7**
YOJ	**Yonaguni jima**	**1.39**	**62**	*e*P			**Pn**	**06 42 23.5**	**+0.3**
	baz=64								
SSD	**Sandimen**	**1.42**	**222**	*e*P			**Pn**	**06 42 23.9**	**+0.2**
	baz=223								
SSD				*e*S			**Sn**	**06 42 42.5**	**+1.3**
	baz=223								
SCLT	**Jiali**	**1.49**	**245**	*e*P			**Pn**	**06 42 25.1**	**+0.6**
	baz=246								
SCLT				*e*S			**Sn**	**06 42 44.8**	**+1.9**
	baz=246								
TWM1	**Shoushan**	**1.51**	**230**	*e*P			**Pb**	**06 42 26.6**	**-1.0**
	baz=230								
EAST	**Anshuo**	**1.61**	**208**	*e*P			**Pn**	**06 42 27.7**	**+1.5**
	baz=196								
EAST				*e*S			**Sn**	**06 42 47.1**	**+1.3**
	baz=196								
IRIF	**Iriomote-Funau**	**1.96**	**74**	P			**Pn**	**06 42 31.3**	**+0.3**
IRIF				*e*S			**Sn**	**06 42 54.6**	**+0.2**
HATJ	**Hateruma jima**	**1.97**	**82**	*e*S			**Sn**	**06 42 54.3**	**-0.4**
JKRS	**Kuro-shima**	**2.18**	**78**	P			**Pn**	**06 42 34.6**	**+0.5**
JKRS				*e*S			**Sn**	**06 43 00.5**	**+0.5**
JIJ	**Ishigaki jima**	**2.33**	**76**	P			**Pn**	**06 42 35.9**	**-0.2**
JIJ				*e*S			**Sn**	**06 43 02.8**	**-0.8**
JTJ	**Tarama**	**2.89**	**73**	*e*S			**Sn**	**06 43 17.0**	**-0.5**

*NIED **20** 07:10:00,46°.90N×153°.80E,h5km,Mw4.4 Best double couple: M0 3.80000×10^15 NP1:φs 57.00000°,δ89.00000°, λ-99.00000°. NP2:φs 324.00000°,δ9.00000°,λ-3.00000°.*
*IDC **20** 07:10:10.7±0.7,46°.92N×153°.75E,h0km,mb3.9/21, mb1 4.1/24,mb1mx4.0/33,mbtmp3.9/24,ML4.0/3,MS3.8/1, Ms1 3.8/1,ms1mx2.8/41,Error ellipse: s-maj=19.3km s-min=13.1km az=157.0*
*ISCJB **20** 07:10:12.9±0.5,46°.90N±0°.06×153°.90E±0°.07,h27km, mb4.0/28,MS3.8/1,Error ellipse: s-maj=10.2km s-min=4.4km az=143.5*
*MOS **20** 07:10:13.9±1.2,46°.92N×153°.78E,h34km,mb4.2/14,Error ellipse: s-maj=12.5km s-min=9.2km az=73.3*
*SKHL **20** 07:10:13.2±0.9,46°.97N×153°.92E,h35km±5km,mb4.8/5*
ISC 20 07:10:14.5±0.6,46°.84N±0°.09×153°.98E±0°.07,h27km,n100, σ1§14/89,mb4.0/28,5C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.10**	**19**	*e*PN			Pn	07 11 08.0	-7.4
SKR				*e*				07 12 09.0	
SKR	**Severo-Kuril's**	**4.10**	**19**	*e*P			Pn	07 11 11.1	-4.3
SKR				*e*S			Sn	07 11 55.2	-7.2
SKR				A			A	07 12 22.0	
	110nm,0.6s								
KUR	**Kuril'sk**	**4.54**	**252**	PN			**Pn**	**07 11 22.0**	**+0.5**
KUR				*e*S			**Sn**	**07 12 13.8**	**+0.4**
KUR				pmax			pmax		
	comp=Z,76nm,0.5s								
KUR				smax			smax		
	comp=N,412nm,0.9s								
KUR				smax			smax		
	comp=E,156nm,0.9s								
KUR	**Kuril'sk**	**4.54**	**252**	*e*P			**Pn**	**07 11 22.0**	**+0.5**
KUR				AMB			AMB	07 11 25.3	
	comp=E,80nm,0.5s								
KUR				*e*S			**Sn**	**07 12 12.9**	**-0.5**
KUR				A			A	07 12 35.7	
	comp=E,410nm,0.9s								
KUR				A			A	07 12 35.7	
	comp=E,160nm,0.9s								
RUS	**Russkaya**	**6.33**	**26**	*e*P			Pn	07 11 52.1	+6.2
YUK	**Yuzh-Kuril'sk**	**6.36**	**247**	*e*PN			**Pn**	**07 11 45.4**	**-1.0**
YUK				S			**Sn**	**07 12 59.3**	**+1.3**
YUK				pmax			pmax		
	comp=Z,105nm,0.3s								
YUK				pmax			pmax		
	comp=N,44nm,0.1s								
YUK				pmax			pmax		
	comp=E,30nm,0.1s								
YUK	**Yuzh-Kuril'sk**	**6.36**	**247**	*e*P			**Pn**	**07 11 45.4**	**-1.0**
YUK				AMB			AMB	07 11 50.4	
	comp=E,13μm,0.3s								
YUK				AMB			AMB	07 11 50.4	
	comp=E,40nm,0.2s								
YUK				AMB			AMB	07 11 50.4	
	comp=E,30nm,0.2s								
YUK				AMB			AMB	07 11 50.4	
	comp=E,110nm,0.2s								
YUK				*e*S			**Sn**	**07 12 59.3**	**+1.3**
PETK	**Petropavlovsk-**	**6.72**	**20**	PN			**Pn**	**07 11 51.6**	**+0.2**
PETK				pmax			pmax		
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**6.72**	**20**	Pn			**Pn**	**07 11 51.6**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=174,slow=11,SNR=20								
PET	**Petropavlovsk**	**6.89**	**24**	*e*S			**Sn**	**07 13 10.4**	**-0.7**
PET				A			A	07 13 33.2	
	comp=Z,30nm,0.6s								
PET				A			A	07 13 33.2	
	comp=Z,50nm,0.6s								
HRK	**Horoka**	**8.37**	**250**	*e*P			**Pn**	**07 12 15.4**	**+1.3**
JKA	**Kamikawa-asahi**	**8.44**	**255**	*e*P			**Pn**	**07 12 16.8**	**+1.8**
ASAJ	**Asahikawa**	**8.45**	**255**	Pn			**Pn**	**07 12 16.8**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=20,SNR=5.2								
TYV	**Tymovskoe**	**8.48**	**303**	*e*P			**Pn**	**07 12 17.5**	**+2.0**
TYV				AMB			AMB	07 12 19.0	
	comp=Z,10.0nm,0.8s								
MYR	**Moyori**	**8.88**	**243**	*e*P			Pn	07 12 18.2	-2.8
ERM	**Erimo**	**9.12**	**242**	*i* PN			**Pn**	**07 12 23.7**	**-0.5**
ERM	**Erimo**	**9.12**	**242**	*i* P			**Pn**	**07 12 23.7**	**-0.5**
NKL	**Nikolayevsk**	**10.63**	**311**	*e*P			**Pn**	**07 12 47.3**	**+2.4**
HABR	**Khabarovsk**	**12.87**	**284**	*e*PN			Pn	07 13 10.9	-4.5
HABR				*e*SS			Sn	07 15 44.2	+6.6
HABR				pmax			pmax		
	comp=E,30nm,1.8s								
HABR				MLR			MLR		
	comp=Z,167nm,16.0s								
HABR	**Khabarovsk**	**12.87**	**284**	*e*P			Pn	07 13 10.9	-4.5
HABR				AMB			AMB	07 13 23.9	
	comp=Z,30nm,1.8s								
HABR				AMS			AMS	07 18 49.0	
	comp=Z,200nm,16.0s								
FX1	**Attu Island--F**	**13.76**	**57**	Pn			**Pn**	**07 13 25.9**	**-1.7**
	comp=Z,4.6nm,0.3s,baz=229,slow=20,SNR=3.1								
EKMR	**Ekimchan**	**14.87**	**303**	*e*P			**Pn**	**07 13 43.8**	**+1.0**
EKMR				AMB			AMB	07 13 49.1	
	comp=Z,10.0nm,0.6s								
MJAR	**Matsushiro Arr**	**15.61**	**234**	*e*P			**Pn**	**07 13 52.8**	**+0.2**
MJAR	**Matsushiro Arr**	**15.61**	**234**	Pn			**Pn**	**07 13 52.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=22,slow=8.7,SNR=5.1								
USRK	**Ussuriysk Arra**	**15.63**	**268**	Pn			**Pn**	**07 13 53.0**	**+0.2**
	comp=Z,0.2nm,0

HVS pmax pmax
comp=Z,13nm,0.9s
GTA Gaotai 39.54 279 *eP* P 07 17 34.3 -8.8
GTA pP pP 07 17 43.8 -7.4
GTA sP sP 07 17 48.0 -6.5
GTA pmax pmax
comp=Z,6.0nm,1.7s
INK Inuvik 41.26 33 *eP* **P 07 17 57.1 +0.3**
INK Inuvik 41.26 33 P **P 07 17 57.1 +0.3**
comp=Z,0.4nm,0.5s,baz=270,slow=5.4,SNR=4.1
ZALV Zalesovo Beam 43.04 306 P **P 07 18 09.4 -2.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,106nm,18.6s
ZALV Zalesovo Beam 43.04 306 P **P 07 18 09.4 -2.1**
comp=Z,0.7nm,0.5s,baz=65,slow=11,SNR=5.0
ZALV LR LR 07 37 20.9
comp=Z,106nm,18.6s,baz=68,slow=38
MKAR Makanchi Array 47.43 298 P **P 07 18 44.8 -1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.43 298 *eP* **P 07 18 44.8 -1.7**
MKAR Makanchi Array 47.43 298 P **P 07 18 44.8 -1.7**
comp=Z,0.9nm,0.6s,baz=69,slow=7.6,SNR=9.3
KURK Kurchatov 47.81 304 P **P 07 18 48.2 -1.1**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 47.81 304 *eP* **P 07 18 48.2 -1.1**
KURBB Kurchatov Arra 47.90 304 P **P 07 18 48.2 -1.8**
comp=Z,3.3nm,0.8s,baz=68,slow=8.3,SNR=16
YKA Yellowknife Ar 50.50 37 *eP* **P 07 19 10.3 +0.6**
YKA Yellowknife Ar 50.50 37 P **P 07 19 10.3 +0.6**
comp=Z,0.8nm,0.8s,baz=298,slow=7.3,SNR=10
RES Resolute Bay 50.56 19 *eP* **P 07 19 11.2 +1.1**
RES Resolute Bay 50.56 19 P **P 07 19 11.2 +1.1**
comp=Z,2.0nm,0.9s,baz=320,slow=6.4,SNR=4.1
BVAR Borovoye Array 51.26 310 P **P 07 19 14.0 -1.6**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 51.26 310 P **P 07 19 14.0 -1.6**
comp=Z,0.8nm,0.6s,baz=52,slow=9.6,SNR=6.1
BRVK Borovoye 51.30 310 ⇓*iP* **P 07 19 14.4 -1.5**
BRVK pmax pmax
comp=Z,6.0nm,1.9s
AAK Ala-Archa 54.33 297 ⇑*iP* **P 07 19 38.1 -0.5**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 54.33 297 *eP* **P 07 19 38.1 -0.5**
AAK Ala-Archa 54.33 297 P **P 07 19 37.4 -1.2**
comp=Z,1.9nm,0.8s,baz=22,slow=5.4,SNR=4.4
ARU Arti 55.35 318 *eP* **P 07 19 43.8 -1.8**
ARCES ARCESS Array B 57.97 341 *eP* **P 07 20 03.9 -0.1**
ARCES ARCESS Array B 57.97 341 P **P 07 20 03.9 -0.1**
comp=Z,2.1nm,0.8s,baz=335,slow=5.4,SNR=3.6
NVAR Mina Array Bea 61.87 63 P **P 07 20 33.9 +2.3**
comp=Z,0.2nm,0.6s,baz=312,slow=9.5,SNR=2.7
FINES FINESS Array B 64.21 335 P **P 07 20 44.9 -1.5**
comp=Z,2.6nm,0.7s,baz=34,slow=7.8,SNR=11
PDAR Pinedale Array 64.22 54 P **P 07 20 47.3 +0.2**
comp=Z,0.9nm,0.9s,baz=321,slow=1.9,SNR=7.0
NB2 NORSAR Subarra 68.34 342 P **P 07 21 12.7 -0.2**
comp=Z,1.4nm,0.7s,baz=28,slow=6.5
NOA NORSAR Array B 68.34 342 *eP* **P 07 21 13.0 +0.1**
NOA NORSAR Array B 68.34 342 P **P 07 21 13.0 +0.1**
comp=Z,3.6nm,0.9s,baz=26,slow=6.4,SNR=8.2
WRA Warramunga Arr 68.79 200 *eP* **P 07 21 17.3 +1.2**
WRA Warramunga Arr 68.79 200 P **P 07 21 17.3 +1.2**
comp=Z,0.6nm,0.9s,baz=20,slow=7.0,SNR=2.9
AKASG Malin Array Be 71.80 327 *eP* **P 07 21 33.4 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 71.80 327 P **P 07 21 33.1 -1.2**
comp=Z,1.4nm,0.5s,baz=34,slow=6.2,SNR=10
KIEV Kiev 71.81 327 *iP* **P 07 21 33.3 -1.0**
ASAR Alice Springs 72.48 199 *eP* **P 07 21 38.0 -0.6**
ASAR Alice Springs 72.48 199 P **P 07 21 38.0 -0.6**
comp=Z,0.4nm,0.7s,baz=11,slow=5.6,SNR=5.4
BURAR Bucovina Array 75.84 327 ⇓*iP* **P 07 21 56.7 -1.4**
DPC Dobruska-Polom 76.51 334 *eP* **P 07 22 03.3 +1.5**
DPC *e* 07 22 15.2
DPC Dobruska-Polom 76.51 334 *eP* **P 07 22 03.3 +1.5**
DPC *es*P **sP 07 22 15.2 +1.6**
CLL Collm 76.63 336 *eP* **P 07 22 02.0 -0.4**
CLL *e* 07 22 15.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 76.63 336 *eP* **P 07 22 02.0 -0.4**
comp=Z,7.0nm,1.0s
CLL *e* 07 22 15.0
CLL Collm 76.63 336 *eP* **P 07 22 02.0 -0.4**
TXAR Lajitas Array 76.93 61 *eP* **P 07 22 05.2 +0.6**
TXAR Lajitas Array 76.93 61 P **P 07 22 05.2 +0.6**
comp=Z,0.8nm,0.7s,baz=295,slow=4.2,SNR=12
MLR Muntele Rosu 77.33 325 ⇓*iP* **P 07 22 07.5 +0.9**
DRGR 77.46 328 ⇑*iP* **P 07 22 07.3 +0.1**
KHC Kasperske Hory 78.42 335 *eP* **P 07 22 13.2 +0.7**
KHC *e* 07 22 16.6
KHC Kasperske Hory 78.42 335 *eP* **P 07 22 13.2 +0.7**
KHC *ex* x 07 22 16.6
KHC Kasperske Hory 78.42 335 *eP* **P 07 22 13.2 +0.7**
GERES GERESS Array B 78.64 334 *eP* **P 07 22 14.2 +0.4**
GERES GERESS Array B 78.64 334 P **P 07 22 14.2 +0.4**
comp=Z,0.3nm,0.4s,baz=333,slow=1.1,SNR=2.3
BRTR Keskin Array B 78.73 317 P **P 07 22 15.9 +1.4**
comp=Z,1.1nm,0.8s,baz=81,slow=8.9,SNR=3.7
BZS Buzias 78.86 328 ⇑*iP* **P 07 22 13.6 -1.3**
GIVF Givet 79.82 340 *eP* **P 07 22 19.8 -0.3**
CDF Champ du Feu 80.80 338 *eP* **P 07 22 25.2 -0.3**
comp=Z,22nm,1.4s
VTS Vitosha 80.84 325 ⇑*iP* **P 07 22 26.3 +0.4**
SFTF Sexfontaines 81.54 340 *eP* **P 07 22 29.2 -0.2**
LOR Lormes 82.70 340 *eP* **P 07 22 35.2 -0.3**
SMF Signal de Mont 83.29 340 *eP* **P 07 22 38.5 0.0**
comp=Z,15nm,1.0s

*IDC **20** 07:11:36.8±0.7,19.°36N×121.°93E,h0km,mb4.1/20, mb1 4.2/21,mb1mx4.2/31,mbtmp4.1/21,ML4.0/1,MS3.6/7, Ms1 3.6/7,ms1mx3.3/37,Error ellipse: s-maj=20.1km s-min=16.3km az=72.0*
*MAN **20** 07:11:41,19.°47N×121.°78E,h12km,mb5.3,ML4.2,MS4.5*
*ISCJB **20** 07:11:42.4±1.1,19.°53N±0.°06×121.°81E±0.°08, h46km±13km,mb4.0/22,MS3.6/5,Error ellipse: s-maj=12.3km s-min=10.4km az=16.3*
ISC 20 07:11:43.4±1.9,**19.°46N**±0.°10×**121.°81E**±0.°08,**h44**km±21km, **n41**,σ1°**54**/35,**mb4.1**/22,**MS3.6**/5,**1C-2D**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.23**	**170**	*eP*		**Pn**	**07 12 03.2**	**-1.0**
SGCP				*eS*		**Sn**	**07 12 21.0**	**+1.4**
PIP	**Pasuquin**	**1.60**	**225**	⇓*iP*		**Pn**	**07 12 07.7**	**-1.5**
PIP				*eS*		**Sn**	**07 12 26.4**	**-2.2**
APYP	**Conner**	**1.68**	**199**	*eP*		**Pn**	**07 12 09.4**	**-0.9**
APYP				*eS*		**Sn**	**07 12 33.1**	**+2.5**
CVP	**Callao Caves**	**1.75**	**180**	⇑*eP*		**Pn**	**07 12 12.4**	**+1.1**
CVP				*i* S		**Sn**	**07 12 28.4**	**-4.0**
SIPP	**Brgy, Tapao**	**2.00**	**220**	⇓*iP*		Pn	07 12 05.7	-9.0
SIPP				*eS*		Sn	07 12 24.4	-14
ABRA	**Dolores**	**2.08**	**210**	*eP*		**Pn**	**07 12 15.5**	**-0.4**
ABRA				*eS*		**Sn**	**07 12 43.8**	**+3.3**
CAUP	**Cauayan**	**2.50**	**180**	*eP*		Pn	07 12 24.8	+3.2
BOLP	**Bolinao**	**3.56**	**211**	*eP*		Pn	07 12 40.6	+4.5
BOLP				*eS*		Sn	07 13 26.7	+10
BALP	**Baler**	**3.71**	**183**	*eP*		Pn	07 12 41.2	+3.0
BALP				*eS*		**Sn**	**07 13 23.5**	**+2.9**
JNU	**Nakatsue**	**15.84**	**29**	LR		LR	07 21 06.5	
	comp=Z,145nm,21.8s,baz=358,slow=36							
KSRS	**Korea Array**	**18.71**	**15**	P		**P**	**07 15 57.5**	**-0.7**
	0.4nm,0.3s,baz=197,slow=11,SNR=9.9							
KSRS				LR		LR	07 24 44.8	
	comp=Z,77nm,18.4s,baz=200,slow=42							
CMAR	**Chiang Mai Arr**	**21.65**	**271**	P		**P**	**07 16 30.6**	**+0.3**
	1.0nm,0.3s,baz=75,slow=9.5,SNR=10							
CMAR				LR		LR	07 25 44.9	
	comp=Z,60nm,19.1s,baz=324,slow=39							
MJAR	**Matsushiro Arr**	**22.29**	**37**	P		**P**	**07 16 37.7**	**+0.7**
	3.7nm,1.1s,baz=198,slow=7.8,SNR=4.7							
USRK	**Ussuriysk Arra**	**26.09**	**17**	P		**P**	**07 17 14.3**	**+1.3**
	3.8nm,0.9s,baz=217,slow=13,SNR=5.3							
SONM	**Songino Array**	**30.95**	**340**	P		**P**	**07 17 56.7**	**+0.3**
	1.0nm,0.7s,baz=150,slow=8.6,SNR=8.0							
SONM				LR		LR	07 30 59.6	
	comp=Z,136nm,18.7s,baz=145,slow=37							
WRA	**Warramunga Arr**	**41.04**	**162**	P		**P**	**07 19 21.0**	**-1.8**
	1.6nm,1.0s,baz=344,slow=9.5,SNR=12							
MKAR	**Makanchi Array**	**42.21**	**319**	P		**P**	**07 19 33.7**	**+1.6**
	1.8nm,0.7s,baz=105,slow=9.3,SNR=9.3							
MKAR				LR		LR	07 39 55.1	
	comp=Z,72nm,19.3s,baz=356,slow=40							
H11S3	**WAKE ISLAND Hy**	**42.36**	**84**	T		T	08 05 13.3	
	baz=281,slow=73,SNR=85							
H11S1	**WAKE ISLAND Hy**	**42.37**	**84**	T		T	08 05 11.4	
	baz=281,slow=73,SNR=59							
H11N1	**WAKE ISLAND Hy**	**42.38**	**82**	T		T	08 05 14.5	
	baz=280,slow=75,SNR=71							
H11S2	**WAKE ISLAND Hy**	**42.38**	**84**	T		T	08 05 14.3	
	baz=281,slow=73,SNR=46							
H11N2	**WAKE ISLAND Hy**	**42.38**	**82**	T		T	08 05 11.1	
	baz=280,slow=75,SNR=50							
H11N3	**WAKE ISLAND Hy**	**42.39**	**82**	T		T	08 05 15.4	
	baz=280,slow=75,SNR=69							
PETK	**Petropavlovsk-**	**43.52**	**31**	P		**P**	**07 19 42.2**	**-0.4**
	5.5nm,0.7s,baz=2.4,slow=1.0,SNR=8.8							
ASAR	**Alice Springs**	**44.46**	**164**	P		**P**	**07 19 49.6**	**-0.8**
	0.3nm,0.3s,baz=340,slow=6.9,SNR=8.7							
ZALV	**Zalesovo Beam**	**44.55**	**330**	P		**P**	**07 19 51.3**	**+0.5**
	3.9nm,0.7s,baz=114,slow=7.6,SNR=12							
KURBB	**Kurchatov Arra**	**46.14**	**323**	P		**P**	**07 20 04.6**	**+1.1**
	3.4nm,0.8s,baz=122,slow=7.5,SNR=18							
BVAR	**Borovoye Array**	**51.73**	**323**	P		**P**	**07 20 47.6**	**+1.3**
	1.3nm,0.7s,baz=118,slow=12,SNR=6.6							
BVAR				PcP		**PcP**	**07 21 59.2**	**0.0**
	1.4nm,0.7s,baz=134,slow=3.2,SNR=5.4							
AKTO	**Aktyubinsk**	**58.60**	**318**	P		**P**	**07 21 36.8**	**+0.9**
	2.8nm,0.8s,baz=129,slow=9.1,SNR=6.1							
JOF	**Joensuu**	**73.10**	**331**	*ep*		**P**	**07 23 08.9**	**0.0**
	2.0nm,0.7s							
ILAR	**Eielson Array**	**73.14**	**27**	P		**P**	**07 23 09.1**	**-0.1**
	0.9nm,0.8s,baz=285,slow=5.9,SNR=9.4							
KEV	**Kevo**	**73.56**	**339**	*ep*		**P**	**07 23 10.8**	**-0.7**
	4.1nm,0.7s							
ARCES	**ARCESS Array B**	**74.12**	**339**	P		**P**	**07 23 16.8**	**+1.9**
	3.2nm,0.9s,baz=94,slow=7.2,SNR=4.6							
FINES	**FINESS Array B**	**75.81**	**330**	P		**P**	**07 23 24.6**	**-0.1**
	4.9nm,1.0s,baz=60,slow=5.5,SNR=3.6							
BRTR	**Keskin Array B**	**76.47**	**308**	LR		LR	07 59 26.7	
	comp=Z,44nm,18.2s,baz=105,slow=38							
AKASG	**Malin Array Be**	**76.79**	**319**	P		**P**	**07 23 29.6**	**-0.9**
	1.7nm,0.7s,baz=63,slow=5.7,SNR=8.1							
INK	**Inuvik**	**77.37**	**22**	P		**P**	**07 23 32.0**	**-1.4**
	1.6nm,0.8s,baz=119,slow=4.7,SNR=5.7							
NOA	**NORSAR Array B**	**82.66**	**333**	LR		LR	08 04 14.1	
	comp=Z,86nm,18.4s,baz=55,slow=38							
RES	**Resolute Bay**	**83.21**	**9**	P		**P**	**07 24 04.3**	**-0.3**
	1.4nm,0.9s,baz=300,slow=8.1,SNR=3.4							
GERES	**GERESS Array B**	**86.85**	**321**	P		**P**	**07 24 23.5**	**-0.1**
	0.5nm,0.7s,baz=342,slow=12,SNR=2.0							
YKA	**Yellowknife Ar**	**87.08**	**23**	P		**P**	**07 24 23.8**	**-0.4**
	3.2nm,0.8s,baz=310,slow=4.6,SNR=41							

IDC 20 07:23:18.3±2.9,**30.°22S**×**177.°21W**,**h0km**,**mb3.3**/2, **mb1 3.6**/2,**mb1mx3.4**/18,**mbtmp3.3**/2,**Error ellipse: s-maj=59.3km s-min=29.2km az=79.0**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.15**	**327**	Pn		Pn	07 23 42.4	+0.8
	71nm,0.3s,baz=243,slow=23,SNR=7.6							
RAO				Sn		Sn	07 23 57.6	-0.5
	147nm,0.3s,baz=75,slow=22,SNR=6.1							
ASAR	**Alice Springs**	**3.80**	**266**	P		P	07 31 26.4	+0.2
	0.2nm,0.7s,baz=104,slow=6.8,SNR=3.9							
WRA	**Warramunga Arr**	**44.78**	**272**	P		P	07 31 33.5	-0.5
	0.2nm,0.3s,baz=111,slow=8.1,SNR=8.5							
FINES	**FINESS Array B**	**145.21**	**341**	PKPbc		PKPbc	07 42 55.7	-1.1
	5.5nm,1.1s,baz=49,slow=2.6,SNR=4.3							

WEL 20 07:59:25.7±0.4,**41.°34S**×**176.°66E**,**h33**km,**ML3.5**/13,**1C, Error ellipse: s-maj=4.0km s-min=2.0km az=90.0**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPWZ	**Castlepoint**	**0.55**	**321**	⇑P*		Pn	07 59 37.3	0.0
CPWZ				*S**		Sn	07 59 45.3	0.0
TMWZ	**Te Maipa**	**0.62**	**292**	P*		Pn	07 59 38.0	-0.3
TMWZ				*eS**		Sn	07 59 47.3	+0.1
BFZ	**Birch Farm**	**0.73**	**335**	P*		Pn	07 59 39.3	-0.4
BFZ				S*		Sb	07 59 49.8	0.0
TRWZ	**Traveller**	**0.73**	**265**	P*		Pb	07 59 40.5	+0.4
TRWZ				AML		AML	07 59 53.4	
TRWZ				AML		AML	07 59 53.4	
TIWZ	**Tintock**	**0.81**	**314**	P*		Pn	07 59 40.4	-0.5
TIWZ				AML		AML	08 00 00.6	
TIWZ				AML		AML	08 00 02.8	
MTW	**Mount Morrison**	**0.89**	**282**	P*		Pn	07 59 41.4	-0.6
MTW				AML		AML	08 00 01.3	
MTW				AML		AML	08 00 03.0	
ANWZ	**Angora Road**	**0.89**	**351**	P*		Pn	07 59 41.6	-0.4
PAWZ	**Paruwai Farm**	**0.93**	**267**	*eP**		Pn	07 59 42.5	+0.1
PAWZ				AML		AML	08 00 11.9	
PAWZ				AML		AML	08 00 12.1	
PRWZ	**Pori Road**	**0.94**	**326**	P*		Pn	07 59 42.6	-0.1
HOWZ	**Holdsworth Sta**	**0.97**	**297**	P*		Pn	07 59 42.6	-0.5
MSWZ	**Moikau Station**	**1.06**	**266**	*eP**		Pn	07 59 43.9	-0.4
MSWZ				AML		AML	08 00 10.7	
MSWZ				AML		AML	08 00 10.7	
MRZ	**Mangatainoka R**	**1.06**	**310**	P*		Pn	07 59 43.8	-0.5
MRZ				AML		AML	08 00 05.6	
MRZ				AML		AML	08 00 11.7	
PRHZ	**Porangahau**	**1.07**	**359**	*eP**		Pn	07 59 44.5	0.0
PLWZ	**Palliser**	**1.08**	**257**	P*		Pn	07 59 44.0	-0.6
DVHZ	**Dannevirke**	**1.11**	**340**	*eP**		Pn	07 59 44.9	-0.1
CAW	**Cannon Point**	**1.22**	**281**	P*		Pn	07 59 46.2	-0.3
CAW				AML		AML	08 00 15.6	
CAW				AML		AML	08 00 15.7	
OGWZ	**Otaki Gorge**	**1.24**	**295**	*eP**		Pn	07 59 46.6	-0.1
WPHZ	**Waipukurau**	**1.29**	**353**	PN		Pn	07 59 47.4	0.0
PXZ	**Pawanui**	**1.32**	**7**	PN		Pn	07 59 47.7	-0.1
PXZ				AML		AML	08 00 12.1	
PXZ				AML		AML	08 00 13.0	
KIW	**Kapiti Island**	**1.41**	**289**	PN		Pn	07 59 49.2	+0.2
KIW				AML		AML	08 00 06.6	
KIW				AML		AML	08 00 10.1	
PNHZ	**Pukenui**	**1.47**	**346**	*ePN*		Pn	07 59 50.2	+0.2
TCW	**Tory Channel**	**1.80**	**273**	*ePN*		Pn	07 59 54.7	+0.3
TCW				AML		AML	08 00 27.5	
BKZ	**Black Stump Fm**	**2.18**	**357**	PN		Pn	07 59 59.7	0.0
BKZ				AML		AML	08 00 55.9	
BKZ				AML		AML	08 01 03.0	
TUVZ	**Tukino**	**2.21**	**339**	PN		Pn	08 00 02.4	+2.1
TRVZ	**Turoa**	**2.21**	**337**	PN		Pn	08 00 01.8	+1.4
WPVZ	**Whakapapa**	**2.30**	**338**	*ePN*		Pn	08 00 03.4	+1.9
WPVZ				AML		AML	08 00 37.0	
KNZ	**Kokohu**	**2.45**	**19**	PN		Pn	08 00 02.0	-1.3
NNZ	**Nelson**	**2.47**	**272**	*ePN*		Pn	08 00 04.8	+1.2
NNZ				AML		AML	08 00 53.6	
NNZ				AML		AML	08 01 01.6	
URZ	**Urewera**	**3.10**	**7**	*ePN*		Pn	08 00 11.3	-1.0
QRZ	**Quartz Range**	**3.16**	**278**	PN		Pn	08 00 14.4	+1.3
DSZ	**Denniston Nort**	**3.67**	**262**	*ePN*		Pn	08 00 20.3	+0.2
MQZ	**McQueen's Vall**	**3.79**	**230**	*ePN*		Pn	08 00 20.1	-1.6
OXZ	**Oxford**	**3.96**	**238**	*ePN*		Pn	08 00 22.7	-1.4

WEL 20 08:00:01.1±0.4,**41.°27S**×**176.°57E**,**h33**km,**ML3.4**/4,**1C, Error ellipse: s-maj=4.1km s-min=2.3km az=90.0**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPWZ	**Castlepoint**	**0.46**	**323**	P*		Pb	08 00 11.0	+0.1
CPWZ				*eS**		Sb	08 00 17.9	+0.1
TMWZ	**Te Maipa**	**0.54**	**288**	⇑P*		Pb	08 00 11.9	-0.3
TMWZ				*eS**		Sn	08 00 21.0	+0.7
BFZ	**Birch Farm**	**0.64**	**338**	P*		Pn	08 00 13.5	-0.3
BFZ				*eS**		Sb	08 00 22.4	-0.3
TRWZ	**Traveller**	**0.67**	**259**	P*		Pb	08 00 14.5	0.0
TRWZ				AML		AML	08 00 25.6	
TRWZ				AML		AML	08 00 26.0	
TIWZ	**Tintock**	**0.71**	**314**	P*		Pn	08 00 14.8	0.0
MTW	**Mount Morrison**	**0.81**	**278**	*eP**		Pn	08 00 15.4	-0.7
ANWZ	**Angora Road**	**0.81**	**355**	P*		Pn	08 00 16.2	0.0
PRWZ	**Pori Road**	**0.85**	**328**	*eP**		Pb	08 00 17.1	-0.3
PAWZ	**Paruwai Farm**	**0.87**	**262**	*eP**		Pn	08 00 16.3	-0.6
MRZ	**Mangatainoka R**	**0.96**	**309**	P*		Pn	08 00 15.1	-3.2
MRZ				AML		AML	08 00 32.1	
MRZ				AML		AML	08 00 34.7	
THZ	**Tophouse**	**2.79**	**259**	AML		AML	08 01 21.0	
THZ				AML		AML	08 01 22.0	
LTZ	**Lake Taylor**	**3.54**	**243**	AML		AML	08 01 40.1	
LTZ				AML		AML	08 01 41.1	

*IDC **20** 08:11:55.9±1.3,23.°78S×175.°80W,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.8/19,mbtmp3.7/4,Error ellipse: s-maj=69.7km s-min=29.8km az=170.0*
ISC 20 08:12:01.0±1.2,**24.°1S**±0.°5×**175.°8W**±0.°2,**h31**km,**n6**, σ0°**82**/6,**mb3.9**/4,**South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**35.31**	**269**	P		**P**	**08 18 54.2**	**+0.7**
	1.3nm,0.4s,baz=85,slow=11,SNR=4.6							
ASAR	**Alice Springs**	**45.79**	**260**	P		**P**	**08 20 20.1**	**0.0**
	0.4nm,0.8s,baz=90,slow=7.5,SNR=6.6							
WRA	**Warramunga Arr**	**46.22**	**265**	P		**P**	**08 20 22.7**	**-0.8**
	0.8nm,0.6s,baz=102,slow=8.5,SNR=27							
TXAR	**Lajitas Array**	**87.29**	**56**	P		**P**	**08 24 45.4**	**+0.4**
	0.8nm,1.2s,baz=220,slow=8.2,SNR=3.8							
AKASG	**Malin Array Be**	**147.09**	**330**	PKPbc		**PKPdf**	**08 31 37.6**	**-0.9**
	0.5nm,0.4s,baz=42,slow=3.9,SNR=5.5							
TORD	**Torodi Ar. Bea**	**168.90**	**167**	PKPab		**PKPab**	**08 33 16.4**	**0.0**
	0.8nm,1.1s,baz=186,slow=4.2,SNR=2.6							

MAN 20 08:15:01,10.°74N×124.°72E,h22km,**mb3.6,ML2.3,MS1.9, 1C,Leyte**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCLP	**Ormoc**	**0.33**	**341**	*eP*		Pn	08 15 10.3	-0.2
OCLP				*eS*		Sn	08 15 17.9	+1.3
PLP	**Palo**	**0.50**	**31**	⇑*iP*		Pb	08 15 10.3	-0.8
PLP				*i* S		Sb	08 15 17.2	-0.7
MSLP	**Maasin**	**0.62**	**167**	*eP*		Pn	08 15 14.4	-0.1
MSLP				*eS*		Sn	08 15 25.4	+1.7
BESP	**Borongan**	**1.11**	**39**	*eP*		Pb	08 15 21.6	+0.1
BESP				*eS*		Sb	08 15 24.8	-11

*ISCJB **20** 08:29:22.0±0.6,14.°9S±0.°2×177.°3W±0.°1,h350km, mb3.5/10,Error ellipse: s-maj=28.7km s-min=11.9km az=152.2*
*IDC **20** 08:29:23.6±1.8,14.°84S×177.°25W,h353km±18km,mb3.3/9, mb1 3.6/10,mb1mx3.4/19,mbtmp4.0/10,Error ellipse: s-maj=33.3km s-min=12.1km az=146.0*
ISC 20 08:29:23.1±0.6,**14.°9S**±0.°2×**177.°2W**±0.°1,**h350**km,**n14**, σ0°**74**/16,**mb3.6**/10,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.38**	**81**	P		**Pn**	**08 30 46.4**	**-0.6**
	16nm,0.3s,baz=38,slow=1.6,SNR=15							
STKA	**Stephens Creek**	**41.13**	**238**	P		**P**	**08 36 34.9**	**+0.5**
	1.1nm,0.7s,baz=330,slow=22,SNR=5.1							
WRA	**Warramunga Arr**	**46.36**	**257**	P		**P**	**08 37 16.0**	**+0.2**
	0.3nm,0.5s,baz=96,slow=6.7,SNR=9.0							
WRA				PcP		**PcP**	**08 38 44.7**	**+0.3**
	0.4nm,0.6s,baz=94,slow=3.4,SNR=4.7							
WRA				ScP		**ScP**	**08 42 04.9**	**+1.0**
	0.6nm,0.8s,baz=66,slow=9.6,SNR=8.5							
ASAR	**Alice Springs**	**46.76**	**251**	P		**P**	**08 37 19.7**	**+0.8**
	2.2nm,0.5s,baz=84,slow=8.1,SNR=51							
ASAR				S		**S**	**08 43 40.0**	**-1.9**
	0.5nm,0.8s,baz=85,slow=14,SNR=5.2							
VNDA	**Vanda**	**63.57**	**185**	P		**P**	**08 39 16.6**	**-0.3**
	1.8nm,0.9s,baz=12,slow=6.5,SNR=2.3							
NVAR	**Mina Array Bea**	**76.46**	**44**	P		**P**	**08 40 35.7**	**+0.3**
	0.8nm,0.7s,baz=230,slow=8.0,SNR=6.8							
ILAR	**Eielson Array**	**82.67**	**13**	P		**P**	**08 41 07.5**	**-0.2**
	0.9nm,0.6s,baz=212,slow=5.4,SNR=14							
TXAR	**Lajitas Array**	**83.42**	**57**	P		**P**	**08 41 13.1**	**+0.7**
	1.1nm,0.7s,baz=216,slow=6.2,SNR=18							
PDAR	**Pinedale Array**	**84.37**	**43**	P		**P**	**08 41 17.1**	**0.0**
	0.7nm,0.7s,baz=226,slow=2.6,SNR=6.1							
MAW	**Mawson**	**87.10**	**199**	P		**P**	**08 41 29.7**	**+0.2**
	4.3nm,0.8s,baz=132,slow=8.5,SNR=5.0							
YKA	**Yellowknife Ar**	**91.10**	**24**	P		**P**	**08 41 47.9**	**-0.3**
	0.1nm,0.5s,baz=235,slow=4.5,SNR=6.9							
ARCES	**ARCESS Array B**	**123.51**	**351**	PKP		**PKPdf**	**08 47 38.1**	**-0.5**
	3.8nm,1.0s,baz=64,slow=5.5,SNR=5.1							
BRTR	**Keskin Array B**	**143.34**	**318**	PKP		PKPbc	08 48 15.1	+0.3
	1.5nm,0.7s,baz=96,slow=1.3,SNR=6.3							
GERES	**GERESS Array B**	**144.93**	**347**	PKP		**PKPdf**	**08 48 18.9**	**-0.1**
	0.8nm,0.5s,baz=31,slow=5.4,SNR=4.3							

GUC 20 08:39:15.4±0.6,**32.°75S**×**70.°23W**,**h127**km±3km,**MD3.4, ML3.6,10C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JACH	**Jahuel**	**0.31**	**282**	⇑*iP*		Pn	08 39 32.8	-0.6

IDC 20 08:39:39.2±17.0, 48°28N×147°05E, h436km±190km, mb2.8/5, mb1 3.1/5, mb1mx2.7/23, mbtmp3.6/5, Error ellipse: s-maj=96.6km s-min=32.9km az=171.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.57**	**293**	P	P	08 46 54.8	-0.1
	0.2nm,0.5s,baz=73,slow=7.3,SNR=5.9						
YKA	**Yellowknife Ar**	**52.12**	**36**	P	P	08 48 06.8	0.0
	0.1nm,0.4s,baz=303,slow=7.3,SNR=4.7						
FINES	**FINESS Array B**	**60.83**	**332**	P	P	08 49 07.0	-0.2
	2.9nm,0.9s,baz=35,slow=7.5,SNR=3.5						
PDAR	**Pinedale Array**	**67.08**	**51**	P	P	08 49 47.9	-0.1
	0.3nm,0.7s,baz=339,slow=2.3,SNR=3.6						
TXAR	**Lajitas Array**	**80.21**	**57**	P	P	08 51 03.2	0.0
	0.3nm,0.5s,baz=270,slow=2.6,SNR=11						

IDC 20 08:52:43.9±1.8, 59°90S×27°03W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.6/16, mbtmp3.9/1, Error ellipse: s-maj=103.1km s-min=73.0km az=129.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**76.39**	**29**	P	P	09 04 34.8	0.0
	0.7nm,0.6s,baz=197,slow=4.8,SNR=8.3						
YKA	**Yellowknife Ar**	**139.03**	**315**	PKP	PKPdf	09 12 10.6	-0.1
	0.1nm,0.4s,baz=141,slow=2.3,SNR=5.6						
SONM	**Songino Array**	**150.65**	**93**	PKPbc	PKPbc	09 12 36.5	-0.3
	0.2nm,0.4s,baz=227,slow=2.3,SNR=2.9						
ILAR	**Eielson Array**	**152.61**	**306**	PKPbc	PKPbc	09 12 40.4	-0.2
	0.1nm,0.4s,baz=132,slow=1.7,SNR=5.3						

IDC 20 08:56:47.3±1.9, 10°10S×128°38E, h0km, mb3.3/1, mb1 3.3/4, mb1mx3.2/19, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=76.5km s-min=27.4km az=73.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.39**	**198**	Pn	Pn	08 58 50.8	+0.5
	0.1nm,0.3s,baz=19,slow=14,SNR=9.5						
FITZ				Sn	Sn	09 00 38.3	+13
	0.1nm,0.3s,baz=97,slow=18,SNR=3.4						
WRA	**Warramunga Arr**	**11.35**	**150**	Pn	Pn	08 59 30.3	-0.6
	0.1nm,0.3s,baz=322,slow=13,SNR=8.9						
WRA				Sn	Sn	09 01 46.4	+7.8
	0.1nm,0.3s,baz=329,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**14.48**	**159**	Pn	Pn	09 00 13.9	0.0
	0.1nm,0.3s,baz=332,slow=9.9,SNR=5.4						
MKAR	**Makanchi Array**	**69.96**	**328**	P	P	09 08 00.7	0.0
	0.1nm,0.4s,baz=126,slow=6.8,SNR=3.3						

IDC 20 08:59:34.6±30.0, 23°12S×172°98W, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/21, mbtmp3.5/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/23, Error ellipse: s-maj=551.6km s-min=157.4km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.94**	**267**	P	P	09 06 55.0	+0.9
	0.9nm,0.3s,baz=74,slow=7.4,SNR=3.4						
STKA	**Stephens Creek**	**40.98**	**248**	P	P	09 07 18.1	-1.4
	0.7nm,0.9s,baz=106,slow=16,SNR=4.0						
ASAR	**Alice Springs**	**48.51**	**258**	P	P	09 08 19.7	0.0
	0.1nm,0.3s,baz=91,slow=8.0,SNR=4.0						
WRA	**Warramunga Arr**	**48.90**	**263**	P	P	09 08 22.7	0.0
	0.2nm,0.3s,baz=101,slow=8.2,SNR=5.6						
FITZ	**Fitzroy Crossi**	**57.32**	**263**	LR	LR	09 34 02.2	
	comp=Z,81nm,18.4s,baz=36,slow=36						

IDC 20 09:02:53.7±1.6, 4°82N×125°50E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=106.1km s-min=22.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**2.24**	**20**	*eP*	Pn	09 03 29.4	-2.8
FITZ	**Fitzroy Crossi**	**22.78**	**180**	P	P	09 07 57.6	-0.4
	2.2nm,0.6s,baz=5.1,slow=9.3,SNR=8.6						
WRA	**Warramunga Arr**	**26.10**	**161**	P	P	09 08 29.5	+0.1
	1.1nm,0.6s,baz=341,slow=10,SNR=16						
ASAR	**Alice Springs**	**29.48**	**164**	P	P	09 08 59.0	-0.7
	0.3nm,0.5s,baz=342,slow=7.7,SNR=7.2						
STKA	**Stephens Creek**	**39.58**	**158**	P	P	09 10 27.7	+0.7
	1.6nm,0.8s,baz=329,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**55.97**	**325**	P	P	09 12 33.8	-0.2
	0.1nm,0.4s,baz=125,slow=9.0,SNR=2.8						

*IDC **20** 09:03:19.2±1.1, 23°.90N×121°.96E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/25, mbtmp3.3/5, MS3.7/1, Ms1 3.7/1, ms1mx2.6/21, Error ellipse: s-maj=71.4km s-min=22.3km az=70.0*

*JMA **20** 09:03:22.2±0.1, 23°.86N×121°.69E, h20km±2km, M2.9*

*ISCJB **20** 09:03:23.5±0.3, 23°.89N±0°.01×121°.65E±0°.02, h23km±2km, mb3.1/5, MS2.8/1, Error ellipse: s-maj=3.2km s-min=1.9km az=32.7*

*TAP **20** 09:03:23.4, 23°.90N×121°.60E, h23km, ML3.8, B*

ISC 20 09:03:22.9±0.8, 23°.86N±0°.02×121°.67E±0°.02, h24km±5km, n69, σ0s85/114, mb3.2/5, 8C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.13**	**331**	*i* P	**Pb**	**09 03 28.0**	**+0.2**
	baz=13						
ESF	**Shoufeng Towns**	**0.15**	**273**	P	**Pb**	**09 03 28.1**	**+0.1**
	baz=259						
ESF				*e*S	**Sb**	**09 03 31.0**	**-0.4**
	baz=259						
TEGC	**Jichi Village**	**0.20**	**218**	*e*P	**Pn**	**09 03 29.5**	**-0.9**
	baz=180						
TEGC				*e*S	**Sb**	**09 03 33.9**	**+1.7**
	baz=180						
ESL	**Shilin**	**0.23**	**257**	⇑ *i* P	**Pb**	**09 03 28.6**	**-0.3**
	baz=245						
ESL				S	**Sb**	**09 03 32.1**	**-0.8**
	baz=245						
TWD	**Chiawan**	**0.23**	**342**	⇓ *i* P	**Pb**	**09 03 28.8**	**-0.1**
	baz=357						
TWD				S	**Sb**	**09 03 32.6**	**-0.3**
	baz=357						
EHP	**Heping Village**	**0.45**	**8**	P	**Pb**	**09 03 32.6**	**+0.3**
	baz=21						
EHP				S	**Sn**	**09 03 39.5**	**-1.6**
	baz=21						
WHF	**Hehuan Shan**	**0.47**	**307**	⇑ *i* P	**Pb**	**09 03 31.8**	**-1.1**
	baz=302						
WHF				*e*S	**Sb**	**09 03 37.0**	**-2.6**
	baz=302						
EHY	**Hungye**	**0.48**	**222**	⇓ P	**Pb**	**09 03 32.5**	**-0.3**
	baz=217						
EHY				*e*S	**Sb**	**09 03 39.8**	**+0.2**
	baz=217						
ENA	**Nanau**	**0.56**	**6**	P	**Pb**	**09 03 34.4**	**+0.1**
	baz=8.0						
ENA				S	**Sb**	**09 03 42.0**	**+0.1**
	baz=8.0						
TWT	**Tachien**	**0.60**	**311**	⇑ *i* P	**Pb**	**09 03 34.5**	**-0.4**
	baz=305						
TWT				S	**Sb**	**09 03 41.9**	**-1.2**
	baz=305						
TWF1	**Yuli**	**0.61**	**214**	⇓ *e* P	**Pb**	**09 03 34.6**	**-0.5**
	baz=216						
TWF1				*e*S	**Sn**	**09 03 45.2**	**-0.1**
	baz=216						
NNS	**Nan Shan**	**0.64**	**334**	⇑ P	**Pb**	**09 03 34.9**	**-0.6**
	baz=340						
NNS				S	**Sb**	**09 03 42.5**	**-1.6**
	baz=340						
SMLT	**Sun Moon Lake**	**0.71**	**272**	⇑ *i* P	**Pb**	**09 03 36.3**	**-0.4**
	baz=273						
SMLT				S	**Sb**	**09 03 44.9**	**-1.2**
	baz=273						
TYC	**Yuchr**	**0.75**	**273**	⇑ *i* P	**Pb**	**09 03 36.8**	**-0.6**
	baz=275						
TYC				*e*S	**Sb**	**09 03 45.6**	**-1.5**
	baz=275						
TWC	**Suao**	**0.76**	**12**	P	**Pn**	**09 03 37.7**	**-0.4**
	baz=14						
TWC				S	**Sn**	**09 03 47.9**	**-0.9**
	baz=14						
YUS	**Yu-Shan**	**0.76**	**241**	⇓ *i* P	**Pb**	**09 03 37.9**	**+0.1**
	baz=235						
YUS				S	**Sb**	**09 03 47.8**	**-0.1**
	baz=235						
ENTT	**Nioudou**	**0.78**	**353**	*e* P	**Pb**	**09 03 37.5**	**-0.4**
	baz=359						
ENTT				*e*S	**Sb**	**09 03 47.7**	**-0.4**
	baz=359						
CHKT	**Chengkung**	**0.81**	**200**	*e* P	**Pb**	**09 03 37.8**	**-0.6**
	baz=205						
CHKT				*e*S	**Sn**	**09 03 52.2**	**+2.1**
	baz=205						
NSK	**Sanguang**	**0.86**	**340**	⇑ P	**Pb**	**09 03 38.7**	**-0.5**
	baz=344						
NSK				*e*S	**Sb**	**09 03 49.2**	**-1.2**
	baz=344						
ALS	**Alishan**	**0.87**	**246**	⇓ P	**Pn**	**09 03 39.7**	**-0.2**
	baz=241						
ALS				S	**Sb**	**09 03 50.4**	**-0.5**
	baz=241						
ILA	**Ilan**	**0.90**	**4**	*e* P	**Pb**	**09 03 40.7**	**+0.8**
	baz=2.0						
ILA				*e*S	**Sn**	**09 03 52.6**	**+0.3**
	baz=2.0						
ELDTW	**Lidau**	**0.90**	**222**	*e* P	**Pn**	**09 03 39.3**	**-0.9**
	baz=208						
ELDTW				*e*S	**Sn**	**09 03 52.2**	**-0.3**
	baz=208						
WNT	**Mingjian**	**0.91**	**271**	*e* P	**Pb**	**09 03 40.2**	**+0.2**
	baz=269						
WNT				*e*S	**Sn**	**09 03 52.0**	**-0.4**
	baz=269						
CHN5	**Tsauling**	**0.95**	**254**	⇓ *i* P	**Pb**	**09 03 41.3**	**+0.5**
	baz=241						
CHN5				S	**Sn**	**09 03 53.7**	**+0.1**
	baz=241						
TWQ1	**Liyutan**	**0.95**	**301**	P	**Pb**	**09 03 40.9**	**0.0**
	baz=309						
TWQ1				*e*S	**Sb**	**09 03 52.1**	**-0.9**
	baz=309						
TCU	**Taichung**	**0.95**	**287**	*e* P	**Pb**	**09 03 41.4**	**+0.6**
	baz=287						
TCU				*e*S	**Sn**	**09 03 53.5**	**-0.1**
	baz=287						
NSTT	**Nanjuang**	**0.98**	**321**	⇑ *i* P	**Pb**	**09 03 41.1**	**-0.1**
	baz=323						
NSTT				S	**Sb**	**09 03 52.8**	**-1.0**
	baz=323						
NSY	**Sanyi**	**1.00**	**304**	*e* P	**Pb**	**09 03 42.0**	**+0.4**
	baz=310						
NSY				*e*S	**Sn**	**09 03 54.4**	**-0.4**
	baz=310						
WGK	**Gukeng**	**1.03**	**260**	*e* P	**Pb**	**09 03 42.2**	**0.0**
	baz=257						
WGK				*e*S	**Sn**	**09 03 55.0**	**-0.6**
	baz=257						
STYT	**Tauyuan**	**1.09**	**231**	⇓ *e* P	**Pb**	**09 03 43.2**	**0.0**
	baz=217						
STYT				*e*S	**Sb**	**09 03 57.6**	**+0.6**
	baz=217						
CHN4	**Tsaushan**	**1.11**	**243**	P	**Pb**	**09 03 43.9**	**+0.3**
	baz=230						
CHN4				S	**Sb**	**09 03 58.7**	**+1.0**
	baz=230						
HSN	**Hsinchu**	**1.13**	**326**	*e* P	**Pb**	**09 03 46.0**	**+2.1**
	baz=328						
HSN				*e*S	**Sb**	**09 03 59.1**	**+0.9**
	baz=328						
WTP	**Ta-pu**	**1.15**	**238**	⇓ P	**Pb**	**09 03 44.5**	**+0.3**
	baz=234						
WTP				*e*S	**Sb**	**09 03 59.2**	**+0.5**
	baz=234						
TWB1	**Santiao Chiao**	**1.18**	**14**	*e* P	**Pb**	**09 03 45.5**	**+1.0**
	baz=3.0						
TWB1				*e*S	**Sb**	**09 03 60.0**	**+0.6**
	baz=3.0						
TWG	**Pinlang**	**1.18**	**208**	*e* P	**Pn**	**09 03 42.6**	**-1.2**
	baz=186						
TAP1	**Taipei**	**1.18**	**353**	*e* P	**Pb**	**09 03 45.0**	**+0.4**
	baz=354						
TAP1				*e*S	**Sb**	**09 03 59.6**	**+0.1**
	baz=354						
TAP	**Taipei**	**1.18**	**353**	*e* P	**Pb**	**09 03 45.2**	**+0.6**
	baz=354						
TAP				*e*S	**Sb**	**09 03 59.5**	**-0.1**
	baz=354						
NCU	**National Centr**	**1.19**	**338**	*e* P	**Pb**	**09 03 44.3**	**-0.5**
	baz=340						
NCU				*e*S	**Sb**	**09 04 00.4**	**+0.7**
	baz=340						
CHY	**Chiayi**	**1.20**	**253**	*e* P	**Pb**	**09 03 44.8**	**-0.2**
	baz=249						
CHY				*e*S	**Sb**	**09 04 01.0**	**+0.8**
	baz=249						
NWF	**Wu-fen Shan**	**1.21**	**5**	*e* P	**Pb**	**09 03 45.4**	**+0.2**
NWF				*e*S	**Sb**	**09 04 00.8**	**+0.4**
TWK	**Hsinying**	**1.24**	**242**	*e* P	**Pb**	**09 03 45.7**	**0.0**
	baz=237						
TWK				*e*S	**Sb**	**09 04 01.8**	**+0.5**
	baz=237						
CHN1	**Nanshi**	**1.25**	**237**	*e* P	**Pb**	**09 03 46.0**	**+0.1**
	baz=234						
CHN1				*e*S	**Sb**	**09 04 02.2**	**+0.7**
	baz=234						
TWS1	**Kuangyinshan**	**1.25**	**349**	*e* P	**Pb**	**09 03 46.1**	**+0.2**
	baz=4.0						
TWS1				*e*S	**Sb**	**09 04 02.1**	**+0.5**
	baz=4.0						
SGST	**Jiashian**	**1.27**	**232**	*e* P	**Pb**	**09 03 46.6**	**+0.5**
	baz=228						
SGST				*e*S	**Sb**	**09 04 03.5**	**+1.4**
	baz=228						
WTCT	**Ta-ch'eng**	**1.27**	**270**	*e* P	**Pb**	**09 03 47.1**	**+0.8**
	baz=268						
WTCT				*e*S	**Sn**	**09 04 01.5**	**0.0**
	baz=268						
WSF	**Szhu**	**1.35**	**261**	*e* P	**Pb**	**09 03 47.0**	**-0.5**
	baz=258						
WSF				*e*S	**Sb**	**09 04 04.9**	**+0.5**
	baz=258						
YOJ	**Yonaguni jima**	**1.36**	**64**	P	**Pn**	**09 03 46.5**	**+0.1**
YOJ				*e*S	**Sb**	**09 04 04.7**	**0.0**
YOJ	**Yonaguni jima**	**1.36**	**64**	*e* P	**Pn**	**09 03 46.3**	**0.0**
	baz=69						
ECL	**Taimali**	**1.42**	**208**	*e* P	**Pb**	**09 03 49.6**	**+0.8**
	baz=189						
SSD	**Sandimen**	**1.47**	**221**	*e* P	**Pb**	**09 03 49.9**	**+0.3**
	baz=216						
SSD				*e*S	**Sb**	**09 04 08.1**	**+0.3**
	baz=216						
TWM1	**Shoushan**	**1.55**	**228**	*e* P	**Pb**	**09 03 50.4**	**-0.5**
	baz=240						
EAST	**Anshuo**	**1.66**	**207**	*e* P	**Pb**	**09 03 52.7**	**-0.1**
	baz=192						
IRIF	**Iriomote-Funau**	**1.94**	**76**	P	**Pb**	**09 03 55.9**	**-1.6**
IRIF				S	**Sb**	**09 04 19.7**	**-1.6**
HATJ	**Hateruma jima**	**1.96**	**84**	S	**Sb**	**09 04 20.9**	**-1.0**
TWK1	**Hengchun**	**2.07**	**203**	*e* P	**Pb**	**09 03 58.4**	**-1.5**
	baz=192						
TWK1				*e*S	**Sb**	**09 04 24.1**	**-1.1**
	baz=192						
JKRS	**Kuro-shima**	**2.17**	**80**	P	**Pb**	**09 03 59.7**	**-1.8**
JKRS				*e*S	**Sb**	**09 04 26.8**	**-1.1**
JIJ	**Ishigaki jima**	**2.31**	**77**	P	**Pn**	**09 04 00.5**	**+1.0**
JIJ				S	**Sn**	**09 04 27.9**	**+0.8**
JTJ	**Tarama**	**2.87**	**74**	P	**Pn**	**09 04 08.7**	**+1.6**
JTJ				*e*S	**Sn**	**09 04 42.6**	**+1.7**
SONM	**Songino Array**	**26.84**	**337**	P	**P**	**09 09 02.1**	**+0.6**
	0.3nm,0.7s,baz=148,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**38.88**	**316**	P	**P**	**09 10 47.6**	**+1.2**
	0.4nm,0.8s,baz=100,slow=10,SNR=2.6						
H11N1	**WAKE ISLAND Hy**	**42.06**	**87**	T	T	09 56 26.2	
	baz=258,slow=75,SNR=23						
H11N2	**WAKE ISLAND Hy**	**42.06**	**87**	T	T	09 56 32.8	
	baz=258,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**42.08**	**87**	T	T	09 56 32.1	
	baz=258,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**42.18**	**88**	T	T	09 56 21.6	
	baz=286,slow=73,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**42.19**	**88**	T	T	09 56 22.4	
	baz=286,slow=73,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**42.20**	**88**	T	T	09 56 22.6	
	baz=286,slow=73,SNR=4.5						
WRA	**Warramunga Arr**	**45.26**	**163**	P	**P**	**09 11 37.7**	**-0.9**
	0.2nm,0.4s,baz=345,slow=8.7,SNR=4.7						
WRA				LR	LR	09 31 47.7	
	comp=Z,16nm,28.6s,baz=350,slow=38						
ASAR	**Alice Springs**	**48.72**	**165**	P	**P**	**09 12 05.8**	**+0.2**
	0.1nm,0.3s,baz=341,slow=7.0,SNR=5.7						
YKA	**Yellowknife Ar**	**83.09**	**23**	P	**P**	**09 15 45.8**	**-0.5**
	0.1nm,0.6s,baz=310,slow=5.0,SNR=5.0						

IDC 20 09:18:23.1±3.1, 4°97S×133°76E, h0km, mb3.2/1, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, ML3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/8, Error ellipse: s-maj=129.6km s-min=28.9km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.89**	**178**	Pn	Pn	09 21 53.7	-1.4
	0.4nm,0.3s,baz=359,slow=13,SNR=36						
FITZ	**Fitzroy Crossi**	**15.27**	**211**	Pn	Pn	09 21 59.6	-0.6
	0.8nm,0.3s,baz=40,slow=14,SNR=24						
ASAR	**Alice Springs**	**18.59**	**180**	P	Pn	09 22 42.7	+0.5
	0.4nm,0.3s,baz=3.9,slow=11,SNR=26						
KSRS	**Korea Array**	**42.56**	**353**	LR	LR	09 46 39.9	
	comp=Z,15nm,28.6s,baz=178,slow=40						
MKAR	**Makanchi Array**	**68.66**	**325**	P	P	09 29 28.5	0.0
	0.1nm,0.3s,baz=107,slow=9.2,SNR=3.1						

*IDC **20** 09:19:16.7±0.7, 4°.85S×133°.49E, h0km, mb4.1/11, mb1 4.2/15, mb1mx4.1/22, mbtmp4.2/15, ML4.2/4, MS3.8/2, Ms1 3.8/2, ms1mx3.1/23, Error ellipse: s-maj=29.7km s-min=16.2km az=71.0*

*NEIC **20** 09:19:21.3±0.5, 5°.04S×133°.43E, h35km, mb4.1/4, Error ellipse: s-maj=16.1km s-min=9.4km az=65.0*

*DJA **20** 09:19:27.1±1.3, 5°.S±9°×13°.3E±°, h92km±29km, M4.9/4, MLv4.9/4*

ISC 20 09:19:19.4±0.5, 5°.17S±0°.05×133°.29E±0°.07, h25km, n46, σ1s91/52, mb4.0/13, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.46**	**335**	P	**Pn**	**09 19 58.7**	**+0.7**
FAKI				S	**Sn**	**09 20 23.9**	**-3.4**
BNDI	**Bandanaira**	**3.43**	**281**	P	Pb	09 20 17.3	-2.2
BNDI				S	**Sb**	**09 21 00.9**	**0.0**
MWPI	**Manokwari, Pap**	**4.28**	**10**	P	**Pn**	**09 20 22.2**	**-0.7**
MWPI				S	Sn	09 21 06.5	-5.5
SWI	**Sorong**	**4.73**	**335**	P	**Pn**	**09 20 29.0**	**-0.2**
SWI				S	**Pn**	**09 20 28.4**	**-0.8**
NLAI	**Namlea**	**6.46**	**287**	P	Pn	09 20 59.5	+6.5
LBMI	**Labuha**	**7.33**	**308**	P	Pn	09 21 08.5	+3.6
COEN	**Coen**	**13.08**	**133**	*e*Pn	**Pn**	**09 22 23.0**	**-0.7**
COEN				*e*Sn	Sn	09 24 36.7	-12
PMG	**Port Moresby**	**14.38**	**108**	Pn	**Pn**	**09 22 41.9**	**+0.3**
PMG	**Port Moresby**	**14.38**	**108**	Pn	**Pn**	**09 22 41.9**	**+0.3**
	0.9nm,0.3s,baz=300,slow=14,SNR=2.6						
WRAB	**Tennant Creek**	**14.71**	**176**	*e* P	**Pn**	**09 22 45.7**	**-0.3**
	13nm,0.6s						
WRAB				*e*S	**Sn**	**09 25 24.6**	**-3.8**
WRA	**Warramunga Arr**	**14.72**	**176**	Pn	**Pn**	**09 22 46.5**	**+0.3**
WRA				Sn	**Sn**	**09 25 25.2**	**-3.4**
WRA	**Warramunga Arr**	**14.72**	**176**	Pn	**Pn**	**09 22 46.5**	**+0.3**
	1.7nm,0.3s,baz=360,slow=13,SNR=21						
WRA				Sn	**Sn**	**09 25 25.2**	**-3.4**
	1.5nm,0.3s,baz=358,slow=23,SNR=8.3						
FITZ	**Fitzroy Crossi**	**14.87**	**210**	*e*P	**P**	**09 22 52.0**	**-1.6**
FITZ				*e*S	**Sn**	**09 25 31.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**14.87**	**210**	Pn	**P**	**09 22 52.1**	**-1.6**
	3.1nm,0.3s,baz=40,slow=12,SNR=18						
FITZ				Sn	**Sn**	**09 25 30.9**	**-1.3**
	2.6nm,0.3s,baz=139,slow=13,SNR=11						
ASAR	**Alice Springs**	**18.40**	**178**	P	**Pn**	**09 23 35.3**	**+2.4**
ASAR				S	**Sn**	**09 26 54.0**	**-3.9**
ASAR	**Alice Springs**	**18.40**	**178**	P	**Pn**	**09 23 35.3**	**+2.4**
	1.8nm,0.3s,baz=356,slow=14,SNR=25						
ASAR				S	**Sn**	**09 26 54.0**	**-3.9**
	0.5nm,0.3s,baz=3.0,slow=26,SNR=9.6						
ASAR				LR	LR	09 31 21.9	
	comp=Z,247nm,20.7s,baz=351,slow=39						
CTA	**Charters Tower**	**19.47**	**141**	P	**Pn**	**09 23 47.4**	**+1.6**
CTA	**Charters Tower**	**19.47**	**141**	P	**Pn**	**09 23 47.4**	**+1.6**
	0.3nm,0.3s,baz=312,slow=12,SNR=4.2						
CTAO	**Charters Tower**	**19.47**	**141**	*e*P	**Pn**	**09 23 47.2**	**+1.4**
	11nm,0.8s						
KSM	**Kuching**	**23.89**	**285**	*e*P	**P**	**09 24 33.5**	**+2.1**
	26nm,1.1s						
STKA	**Stephens Creek**	**27.69**	**165**	*e*P	**P**	**09 25 08.6**	**+3.1**
	1.9nm,1.3s						
STKA	**Stephens Creek**	**27.69**	**165**	P	**P**	**09 25 08.9**	**+3.4**
	3.6nm,1.1s,baz=336,slow=6.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**41.20**	**306**	P	**P**	**09 27 04.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**41.20**	**306**	P	**P**	**09 27 04.2**	**+1.8**
	1.0nm,0.6s,baz=130,slow=7.4,SNR=6.3						
USRK	**Ussuriysk Arra**	**49.16**	**359**	P	**P**	**09 28 04.7**	**-0.4**
	2.8nm,0.6s,baz=182,slow=7.2,SNR=15						
ASAJ	**Asahikawa**	**49.77**	**9**	P	**P**	**09 28 07.8**	**-2.0**
ASAJ	**Asahikawa**	**49.77**	**9**	P	**P**	**09 28 07.8**	**-2.0**
	1.1nm,1.1s,baz=67,slow=17,SNR=3.8						
SONM	**Songino Array**	**57.84**	**339**	P	**P**	**09 29 09.2**	**+0.2**
SONM	**Songino Array**	**57.84**	**339**	P	**P**	**09 29 09.2**	**+0.2**
	0.5nm,0.5s,baz=158,slow=7.3,SNR=6.9						
PETK	**Petropavlovsk-**	**61.61**	**16**	P	**P**	**09 29 32.3**	**-2.4**
PETK	**Petropavlovsk-**	**61.61**	**16**	P	**P**	**09 29 32.3**	**-2.4**
	5.2nm,0.9s,baz=211,slow=15,SNR=3.3						
MKAR	**Makanchi Array**	**68.55**	**325**	P	**P**	**09 30 20.8**	**+0.8**
MKAR	**Makanchi Array**	**68.55**	**325**	P	**P**	**09 30 20.8**	**+0.8**
	0.6nm,0.4s,baz=112,slow=8.3,SNR=11						
ZALV	**Zalesovo Beam**	**71.45**	**332**	P	**P**	**09 30 36.2**	**-1.3**
ZALV	**Zalesovo Beam**	**71.45**	**332**	P	**P**	**09 30 36.2**	**-1.3**
	1.0nm,0.6s,baz=102,slow=6.8,SNR=5.2						
KURBB	**Kurchatov Arra**	**72.72**	**327**	P	**P**	**09 30 45.7**	**+0.4**
	1.0nm,0.8s,baz=124,slow=5.3,SNR=7.7						
KURK	**Kurchatov**	**72.72**	**327**	*e*P	**P**	**09 30 46.1**	**+0.9**
	2.3nm,1.0s						
VNDA	**Vanda**	**73.88**	**174**	LR	LR	10 00 10.5	
	comp=Z,55nm,18.8s,baz=349,slow=33						
BVAR	**Borovoye Array**	**78.30**	**327**	P	**P**	**09 31 17.6**	**+0.3**
BVAR	**Borovoye Array**	**78.30**	**327**	P	**P**	**09 31 17.6**	**+0.3**
	0.9nm,0.8s,baz=144,slow=5.4,SNR=4.9						
ILAR	**Eielson Array**	**90.31**	**25**	P	**P**	**09 32 17.4**	**-0.6**
ILAR	**Eielson Array**	**90.31**	**25**	P	**P**	**09 32 17.3**	**-0.6**
	0.4nm,0.8s,

comp=Z,8.9nm,19.1s,baz=306,slow=38
CPUP Villa Florida 13.94 122 LR LR 09 48 39.7
comp=Z,15nm,28.6s,baz=283,slow=41
ATAH Atahualpa 14.44 327 LR LR 09 48 43.6
comp=Z,15nm,28.6s,baz=32,slow=38
H03N1 Juan Fernandez 15.83 207 T T 09 58 56.5
baz=31,slow=75,SNR=63
H03N2 Juan Fernandez 15.84 207 T T 09 58 57.1
baz=31,slow=75,SNR=45
H03N3 Juan Fernandez 15.85 207 T T 09 58 57.8
baz=31,slow=75,SNR=113
PLCA Paso Flores 21.22 180 P **P 09 43 53.4 -1.6**
1.4nm,0.7s,baz=350,slow=16,SNR=4.5
PFO Pinyon Flat Ob 68.58 320 LR LR 10 16 56.8
comp=Z,255nm,20.1s,baz=208,slow=33
DBIC Dimbokro 69.62 75 P **P 09 50 17.4 -0.8**
6.6nm,1.1s,baz=196,slow=7.4,SNR=3.1
TORD Torodi Ar. Bea 78.10 71 P **P 09 51 07.0 -0.8**
1.2nm,0.6s,baz=249,slow=5.4,SNR=7.9
YKA Yellowknife Ar 88.76 341 P **P 09 52 02.4 +0.9**
0.7nm,0.6s,baz=134,slow=4.7,SNR=22
H11S2 WAKE ISLAND Hy 126.10 279 T T 12 17 16.1
baz=113
H11S1 WAKE ISLAND Hy 126.11 279 T T 12 17 20.8
baz=113
H11S3 WAKE ISLAND Hy 126.12 279 T T 12 17 15.9
baz=113
H11N3 WAKE ISLAND Hy 126.14 281 T T 12 17 15.0
baz=102
H11N2 WAKE ISLAND Hy 126.15 281 T T 12 17 14.3
baz=102
H11N1 WAKE ISLAND Hy 126.15 281 T T 12 17 17.7
baz=102
ASAR Alice Springs 130.98 210 PKP **PKPdf 09 58 20.2 -0.3**
0.2nm,0.4s,baz=123,slow=1.8,SNR=4.5
WRA Warramunga Arr 133.90 213 PKP **PKPdf 09 58 25.9 -0.2**
0.3nm,0.4s,baz=154,slow=1.8,SNR=6.9
MKAR Makanchi Array 144.80 33 PKP **PKPdf 09 58 45.5 +0.4**
1.4nm,0.7s,baz=316,slow=3.3,SNR=7.1

IDC 20 09:45:18.4±8.6, 20.66S×68.01W, h151km±60km, mb3.0/2, mb1 3.1/3, mb1mx3.0/17, mbtmp2.9/3, Error ellipse: s-maj=86.2km s-min=51.9km az=36.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.35**	**358**	P	Pn	09 46 23.9	-0.2
	0.6nm,0.3s,baz=181,slow=7.6,SNR=15						
LPAZ				S	Sn	09 47 15.2	+0.1
	baz=260,slow=19,SNR=2.0						
TORD	**Torodi Ar. Bea**	**76.28**	**70**	P	P	09 56 51.1	0.0
	0.2nm,0.5s,baz=252,slow=6.5,SNR=3.2						
YKA	**Yellowknife Ar**	**90.68**	**340**	P	P	09 58 03.4	0.0
	0.0nm,0.4s,baz=139,slow=5.1,SNR=4.3						

JMA 20 10:10:00.2±0.2, 37.12N×135.19E, h380km, M3.5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGM	**Miyama**	**1.88**	**139**	P	Pn	10 10 54.2	+0.6
JMM	**Marumori**	**4.52**	**79**	P	Pn	10 11 16.5	+0.4
JFK	**Kawauchi**	**4.54**	**85**	*e*S	S	10 12 15.4	-2.9

IDC 20 10:23:01.0±62.0, 0.99S×96.75E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.6/3, Error ellipse: s-maj=1218.0km s-min=160.8km az=175.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**25.06**	**254**	T	T	10 54 25.5	
	baz=73,slow=73,SNR=3.6						
H08S3	**Diego Garcia H**	**25.07**	**254**	T	T	10 54 29.0	
	baz=73,slow=73,SNR=3.7						
H08S1	**Diego Garcia H**	**25.08**	**254**	T	T	10 54 27.9	
	baz=73,slow=73,SNR=4.4						
MKAR	**Makanchi Array**	**49.26**	**347**	P	P	10 31 51.3	-0.1
	0.5nm,0.6s,baz=153,slow=8.2,SNR=5.6						
SONM	**Songino Array**	**49.35**	**9**	P	P	10 31 52.2	-0.1
	0.3nm,0.7s,baz=185,slow=8.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**55.64**	**351**	P	P	10 32 38.6	-0.1
	0.8nm,0.5s,baz=181,slow=5.6,SNR=4.4						

HEL 20 10:24:05.0±0.2, 67.75N×33.74E, h0km, ML1.7, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.57**	**272**	*e*P	Pn	10 24 33.2	-1.0
VRF				*e*SG	Sn	10 24 53.4	-1.8
VRF				MSG		10 24 53.4	
	comp=Z,2.4nm,0.2s						
KU6	**Riekki**	**2.31**	**223**	*e*PB	Pn	10 24 45.3	+1.1
KU6				MSG	Sb	10 25 14.6	-1.8
	comp=Z,1.9nm,0.4s						
KU6				*e*SB	Sb	10 25 14.6	-1.8
MSF	**Maaselka**	**2.62**	**227**	*e*SG	Sb	10 25 25.4	-0.2
SGF	**Sodankyl**	**2.78**	**267**	*e*PG	Pb	10 24 54.0	-1.5
RNF	**Rovaniemi**	**3.22**	**253**	*e*P	Pn	10 24 56.6	-0.2
ARA0	**ARCESS Array S**	**3.51**	**305**	*e*P	Pn	10 25 00.8	+0.1
HEF	**Hetta**	**3.84**	**285**	*e*SG	Sb	10 26 02.8	+2.3
HEF				MSG		10 26 02.8	
	comp=Z,1.6nm,0.2s						

*AUST **20** 10:28:39.5, 4.96S×133.53E, h60km*
*IDC **20** 10:28:44.5±3.9, 5.76S×133.38E, h0km, mb3.8/1, mb1 4.1/4, mb1mx3.7/18, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=69.1km s-min=34.8km az=97.0*
ISC 20 10:28:46.4±2.7, 5.6S±0.2×133.6E±0.1, h35km, n9, σ1s69/10, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**7.14**	**189**	P	Pn	10 30 32.5	+4.0
	baz=7.8,SNR=68						
MTN	**Manton Dam**	**7.61**	**199**	P	Pn	10 30 37.8	+3.0
	baz=8.2,SNR=149						
KNRA	**Kununurra**	**11.10**	**205**	P	**Pn**	**10 31 24.9**	**+2.3**
	baz=12,SNR=19						
COEN	**Coen**	**12.57**	**132**	P	**Pn**	**10 31 41.4**	**-1.5**
	baz=13,SNR=9.0						
WRA	**Warramunga Arr**	**14.29**	**177**	Pn	**Pn**	**10 32 06.0**	**-0.3**
	0.8nm,0.3s,baz=359,slow=13,SNR=38						
WRA				Sn	**Sn**	**10 34 43.3**	**-0.3**
	0.7nm,0.3s,baz=354,slow=24,SNR=6.4						
FITZ	**Fitzroy Crossi**	**14.67**	**211**	Pn	**Pn**	**10 32 10.2**	**-1.3**
	0.7nm,0.3s,baz=52,slow=16,SNR=24						
FITZ				Sn	**Sn**	**10 34 51.1**	**-1.8**
	1.4nm,0.3s,baz=148,slow=16,SNR=8.8						
FITZ	**Fitzroy Crossi**	**14.67**	**211**	P	**Pn**	**10 32 10.5**	**-1.0**
	baz=15,SNR=16						
ASAR	**Alice Springs**	**17.98**	**179**	P	**P**	**10 32 54.6**	**+0.6**
	0.8nm,0.3s,baz=357,slow=14,SNR=43						
ASAR				S	**Sn**	**10 36 14.7**	**+1.4**
	0.3nm,0.3s,baz=359,slow=27,SNR=4.9						
STKA	**Stephens Creek**	**27.20**	**165**	P	**P**	**10 34 28.9**	**+2.0**
	1.1nm,0.8s,baz=340,slow=15,SNR=3.2						

*JMA **20** 10:54:21.3±0.1, 23.76N×121.64E, h39km±1km, M2.9*
*ISCJB **20** 10:54:22.4±0.3, 23.78N±0.02×121.67E±0.02, h34km±5km, Error ellipse: s-maj=3.4km s-min=2.5km az=139.5*
*TAP **20** 10:54:22.1, 23.79N×121.62E, h37km, ML3.6, C*
ISC 20 10:54:20.9±1.1, 23.76N±0.02×121.69E±0.03, h15km±9km, n54, σ1s10/90, 11C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.15**	**250**	*e*P	Pb	10 54 28.7	+3.3
	baz=220						
TEGC				*e*S	**Sb**	**10 54 34.1**	**+5.8**
	baz=220						
ESF	**Shoufeng Towns**	**0.20**	**303**	P	**Pb**	**10 54 28.6**	**+2.3**
	baz=295						
ESF				*e*S	**Sb**	**10 54 33.4**	**+3.4**
	baz=295						
HWA	**Hwalien**	**0.23**	**340**	*e*P	**Pb**	**10 54 29.1**	**+2.3**
	baz=3.0						
HWA				*e*S	**Sb**	**10 54 34.3**	**+3.6**
	baz=3.0						
ESL	**Shilin**	**0.24**	**283**	⇓P	**Pb**	**10 54 28.6**	**+1.6**
	baz=277						
ESL				S	**Sb**	**10 54 33.0**	**+1.9**
	baz=277						
TWD	**Chiawan**	**0.33**	**345**	⇑P	**Pn**	**10 54 30.0**	**-1.2**
	baz=348						
TWD				S	**Sn**	**10 54 36.6**	**-1.1**
	baz=348						
EHY	**Hungye**	**0.42**	**234**	⇓P	**Pb**	**10 54 30.7**	**+0.7**
	baz=230						
TWF1	**Yuli**	**0.54**	**222**	⇓*i*P	**Pb**	**10 54 32.6**	**+0.5**
	baz=223						
WHF	**Hehuan Shan**	**0.55**	**315**	⇑*i*P	**Pb**	**10 54 32.5**	**+0.1**
	baz=311						
WHF				S	**Sg**	**10 54 39.5**	**+0.2**
	baz=311						
ENA	**Nanau**	**0.67**	**4**	⇑*i*P	**Pb**	**10 54 34.8**	**+0.5**
	baz=357						
ENA				*e*S	**Sb**	**10 54 44.0**	**+0.7**
	baz=357						
TWT	**Tachien**	**0.68**	**316**	⇑*i*P	**Pb**	**10 54 35.0**	**+0.4**
	baz=314						
TWT				*e*S	**Sg**	**10 54 43.3**	**0.0**
	baz=314						
CHKT	**Chengkung**	**0.72**	**205**	*e*P	**Pn**	**10 54 36.5**	**-0.1**
	baz=189						
CHKT				*e*S	**Sn**	**10 54 47.3**	**0.0**
	baz=189						
YUS	**Yu-Shan**	**0.73**	**249**	⇓*i*P	**Pb**	**10 54 36.2**	**+0.6**
	baz=244						
YUS				*e*S	**Sg**	**10 54 44.6**	**-0.3**
	baz=244						
SMLT	**Sun Moon Lake**	**0.74**	**280**	⇑*i*P	**Pb**	**10 54 35.5**	**+0.1**
	baz=280						
SMLT				S	**Sg**	**10 54 44.8**	**-0.2**
	baz=280						
NNS	**Nan Shan**	**0.74**	**337**	⇑P	**Pg**	**10 54 35.3**	**0.0**
	baz=346						
NNS				*e*S	**Sg**	**10 54 44.6**	**-0.5**
	baz=346						
TYC	**Yuchr**	**0.78**	**281**	⇑*i*P	**Pg**	**10 54 36.0**	**0.0**
	baz=283						
TYC				*e*S	**Sg**	**10 54 45.2**	**-1.1**
	baz=283						
ELDTW	**Lidau**	**0.84**	**228**	*e*P	**Pg**	**10 54 36.5**	**-0.7**
	baz=218						
ALS	**Alishan**	**0.85**	**253**	*e*P	**Pb**	**10 54 37.9**	**+0.4**
	baz=250						
ALS				S	**Sg**	**10 54 48.5**	**-0.2**
	baz=250						
TWC	**Suao**	**0.86**	**10**	*e*P	**Pn**	**10 54 37.9**	**-0.5**
	baz=20						
TWC				S	**Sb**	**10 54 49.7**	**+0.9**
	baz=20						
ENTT	**Nioudou**	**0.89**	**353**	⇑*i*P	**Pb**	**10 54 37.6**	**-0.3**
	baz=356						
WNT	**Mingjian**	**0.93**	**278**	*e*P	**Pg**	**10 54 38.9**	**0.0**
	baz=275						
WNT				*e*S	**Sg**	**10 54 51.4**	**+0.3**
	baz=275						
CHN5	**Tsauling**	**0.94**	**260**	*e*P	**Pg**	**10 54 39.5**	**+0.3**
	baz=258						
CHN5				S	**Sb**	**10 54 51.6**	**+0.3**
	baz=258						
NSK	**Sanguang**	**0.96**	**342**	⇑*i*P	**Pb**	**10 54 39.0**	**-0.3**
	baz=352						
NSK				S	**Sb**	**10 54 50.7**	**-1.2**
	baz=352						
TCU	**Taichung**	**1.01**	**293**	*e*P	**Pg**	**10 54 40.3**	**-0.1**
	baz=291						
TCU				*e*S	**Sb**	**10 54 53.0**	**-0.1**
	baz=291						
TWQ1	**Liyutan**	**1.02**	**305**	⇑*i*P	**Pn**	**10 54 40.8**	**+0.1**
	baz=305						
TWQ1				*e*S	**Sb**	**10 54 53.1**	**-0.5**
	baz=305						
STYT	**Tauyuan**	**1.04**	**236**	P	**Pb**	**10 54 40.9**	**+0.2**
	baz=225						
NSTT	**Nanjuang**	**1.07**	**324**	⇑P	**Pg**	**10 54 41.5**	**-0.2**
	baz=325						
NSTT				S	**Sb**	**10 54 53.3**	**-1.7**
	baz=325						
NSY	**Sanyi**	**1.07**	**308**	*e*P	**Pb**	**10 54 41.0**	**-0.1**
	baz=308						
NSY				*e*S	**Sb**	**10 54 54.8**	**-0.2**
	baz=308						
CHN4	**Tsaushan**	**1.09**	**248**	*e*P	**Pg**	**10 54 41.9**	**0.0**
	baz=246						
TWG	**Pinlang**	**1.09**	**212**	*e*P	**Pb**	**10 54 40.1**	**-1.4**
	baz=199						
TWG				*e*S	**Sb**	**10 54 55.5**	**-0.1**
	baz=199						
WTP	**Ta-pu**	**1.11**	**243**	⇓*e*P	**Pb**	**10 54 42.0**	**+0.1**
	baz=240						
CHY	**Chiayi**	**1.19**	**258**	*e*P	**Pb**	**10 54 43.2**	**0.0**
	baz=256						
TWK	**Hsinying**	**1.21**	**246**	*e*P	**Pg**	**10 54 44.0**	**-0.2**
	baz=244						
TWK				*e*S	**Sb**	**10 54 59.0**	**+0.1**
	baz=244						
CHN1	**Nanshi**	**1.21**	**242**	*e*P	**Pb**	**10 54 43.9**	**+0.4**
	baz=241						
CHN1				*e*S	**Sb**	**10 54 59.3**	**+0.3**
	baz=241						
SGST	**Jiashian**	**1.22**	**237**	*e*P	**Pg**	**10 54 44.5**	**+0.1**
	baz=235						
SGST				*e*S	**Sb**	**10 54 59.4**	**+0.2**
	baz=235						
HSN	**Hsinchu**	**1.23**	**328**	*e*P	**Pn**	**10 54 43.3**	**-0.2**
	baz=317						
HSN				*e*S	**Sb**	**10 54 59.4**	**-0.2**
	baz=317						
TWB1	**Santiao Chiao**	**1.27**	**12**	*e*P	**Pb**	**10 54 44.6**	**+0.1**
	baz=12						
TWB1				*e*S	**Sb**	**10 55 00.6**	**-0.2**
	baz=12						
NCU	**National Centr**	**1.29**	**339**	*e*P	**Pn**	**10 54 43.6**	**-0.8**
	baz=340						
WTCT	**Ta-ch'eng**	**1.30**	**275**	*e*P	**Pn**	**10 54 44.1**	**-0.4**
	baz=273						
WTCT				*e*S	**Sb**	**10 55 01.4**	**0.0**
	baz=273						
NWF	**Wu-fen Shan**	**1.31**	**4**	*e*P	**Pn**	**10 54 44.5**	**-0.2**
	baz=351						
NWF				*e*S	**Sn**	**10 55 02.5**	**+0.5**
	baz=351						
ECL	**Taimali**	**1.34**	**211**	*e*P	**Pn**	**10 54 43.8**	**-1.2**
	baz=200						
WSF	**Szhu**	**1.35**	**265**	*e*P	**Pn**	**10 54 45.4**	**+0.2**
	baz=264						
WSF				*e*S	**Sn**	**10 55 01.9**	**-1.0**
	baz=264						
TWS1	**Kuangyinshan**	**1.36**	**349**	*e*P	**Pn**	**10 54 44.5**	**-0.8**
	baz=358						
TWS1				*e*S	**Sn**	**10 55 01.6**	**-1.5**
	baz=358						
YOJ	**Yonaguni jima**	**1.39**	**60**	*e*S	**Sn**	**10 55 03.7**	**-0.2**
SSD	**Sandimen**	**1.40**	**224**	*e*P	**Pb**	**10 54 46.6**	**-0.2**
	baz=222						
SCLT	**Jiali**	**1.49**	**247**	*e*P	**Pn**	**10 54 47.1**	**0.0**
	baz=247						
SCLT				*e*S	**Sn**	**10 55 04.8**	**-1.5**
	baz=247						
TWM1	**Shoushan**	**1.49**	**232**	*e*P	**Pb**	**10 54 48.7**	**+0.3**
	baz=230						
EAST	**Anshuo**	**1.57**	**210**	*e*P	**Pn**	**10 54 48.2**	**-0.1**
	baz=202						
IRIF	**Iriomote-Funau**	**1.95**	**72**	*e*S	**Sn**	**10 55 17.6**	**0.0**
HATJ	**Hateruma jima**	**1.96**	**81**	P	**Pn**	**10 54 53.9**	**+0.4**
HATJ				*e*S	**Sn**	**10 55 17.3**	**-0.5**
TWK1	**Hengchun**	**1.98**	**205**	*e*P	**Pn**	**10 54 54.4**	**+0.5**
	baz=194						
JKRS	**Kuro-shima**	**2.17**	**77**	P	**Pn**	**10 54 57.3**	**+0.8**
JKRS				*e*S	**Sn**	**10 55 23.4**	**+0.3**
JIJ	**Ishigaki jima**	**2.32**	**74**	P	**Pn**	**10 54 58.7**	**+0.2**
JIJ				S	**Sn**	**10 55 25.7**	**-1.1**
JTJ	**Tarama**	**2.88**	**72**	P	**Pn**	**10 55 06.8**	**+0.5**
JTJ				*e*S	**Sn**	**10 55 40.4**	**-0.4**
KNM	**Kinmen**	**3.05**	**283**	*e*P	**Pn**	**10 55 08.2**	**-0.3**
	baz=282						

IDC 20 11:02:22.3±3.0, 7.88N×104.65W, h0km, mb3.2/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.3/5, MS3.1/2, Ms1 3.1/2, ms1mx2.8/13, Error ellipse: s-maj=119.6km s-min=27.0km az=59.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**15.60**	**62**	LR	LR	11 10 18.8	
	comp=Z,89nm,20.9s,baz=80,slow=31						
TEIG	**Tepich**	**20.05**	**51**	LR	LR	11 14 24.7	
	comp=Z,44nm,19.1s,baz=24,slow=36						
TXAR	**Lajitas Array**	**21.36**	**2**	P	P	11 07 11.1	-0.4
	0.3nm,0.8s,baz=182,slow=14,SNR=4.4						
PDAR	**Pinedale Array**	**35.02**	**354**	P	P	11 09 18.1	+1.1
	0.5nm,0.6s,baz=170,slow=12,SNR=3.7						
LPAZ	**La Paz**	**43.39**	**124**	P	P	11 10 27.6	-0.2
	1.2nm,0.7s,baz=282,slow=6.4,SNR=6.3						
H03N2	**Juan Fernandez**	**47.81**	**151**	T	T	12 02 30.9	
	baz=328,slow=70,SNR=4.3						
H03N1	**Juan Fernandez**	**47.82**	**151**	T	T	12 02 32.7	
	baz=328,slow=70,SNR=8.9						
H03N3	**Juan Fernandez**	**47.82**	**151**	T	T	12 02 33.4	
	baz=328,slow=70,SNR=7.7						
YKA	**Yellowknife Ar**	**54.99**	**354**	P	P	11 11 54.4	-0.8
	0.0nm,0.4s,baz=166,slow=7.6,SNR=4.0						
ILAR	**Eielson Array**	**64.06**	**341**	P	P	11 12 57.6	-0.2
	0.2nm,0.6s,baz=152,slow=4.2,SNR=5.3						

IDC 20 11:11:59.1±2.7, 9.85S×151.66E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.4/17, mbtmp3.4/4, ML2.0/1, Error ellipse: s-maj=53.2km s-min=46.2km az=105.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.46**	**275**	Pn	Pn	11 13 07.9	-0.2
	0.5nm,0.3s,baz=112,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**19.50**	**237**	P	P	11 16 28.4	+0.4
	0.1nm,0.3s,baz=60,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**21.82**	**229**	P	P	11 16 53.5	+0.2
	0.4nm,0.7s,baz=58,slow=9.9,SNR=6.2						
STKA	**Stephens Creek**	**23.82**	**202**	P	P	11 17 13.4	-0.5
	1.1nm,0.6s,baz=12,slow=9.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.40**	**279**	PKPbc	PKPbc	11 31 53.4	-0.3
	0.4nm,0.7s,baz=85,slow=2.7,SNR=2.6						

IDC 20 11:25:15.2±1.4, 15.16S×172.88W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/22, mbtmp3.7/4, MS3.3/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=57.4km s-min=21.7km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.64**	**41**	Pn	Pn	11 25 44.5	-0.9
	baz=304,slow=3.6						
AFI				Sn	Sn	11 26 00.5	-6.7
	405nm,0.3s,baz=54,slow=19,SNR=60						
AFI				LR	LR	11 26 11.5	
	comp=Z,872nm,21.8s,baz=261,slow=34						
DZM	**Mont Dzumac**	**20.75**	**248**	LR	LR	11 36 28.6	
	comp=Z,74nm,19.7s,baz=193,slow=32						
URZ	**Urewera**	**24.65**	**199**	P	P	11 30 37.6	0.0
	8.9nm,0.8s,baz=31,slow=18,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**39.02**	**328**	T	T	12 13 19.1	
	baz=150,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**39.04**	**328**	T	T	12 13 19.8	
	baz=150,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**39.04**	**328**	T	T	12 13 20.4	
	baz=150,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	12 14 18.7	
	baz=149,slow=77,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	12 14 18.3	
	baz=149,slow=77,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	12 14 13.1	
	baz=149,slow=77,SNR=7.8						
WRA	**Warramunga Arr**	**50.39**	**257**	P	P	11 34 14.5	-0.2
	0.1nm,0.5s,baz=90,slow=6.9,SNR=7.8						
ASAR	**Alice Springs**	**50.66**	**252**	P	P	11 34 16.4	-0.4
	0.4nm,0.5s,baz=89,slow=7.8,SNR=13						
ILAR	**Eielson Array**	**82.12**	**11**	P	P	11 37 38.2	+0.9
	0.3nm,0.7s,baz=207,slow=5.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**93.02**	**288**	LR	LR	12 20 23.9	
	comp=Z,18nm,19.5s,baz=20,slow=36						

*ISCJB **20** 11:36:43.9±0.4, 6.70N±0.05×72.91W±0.04, h175km±4km, mb4.3/54, Error ellipse: s-maj=8.3km s-min=5.6km az=148.0*
*IDC **20** 11:36:43.7±1.6, 6.76N×72.91W, h155km±16km, mb3.9/13, mb1 4.0/15, mb1mx3.8/27, mbtmp3.9/15, Error ellipse: s-maj=20.2km s-min=13.8km az=54.0*
*NEIC **20** 11:36:44.9±0.4, 6.73N×72.95W, h167km±4km, mb4.5/46, Error ellipse: s-maj=5.5km s-min=4.7km az=79.0*
*BJI **20** 11:36:44.1, 6.70N×72.90W, h167km, mB4.9/2*
*FUNV **20** 11:36:53.3, 7.07N×72.54W, h134km, MW4.4*
ISC 20 11:36:43.9±0.7, 6.71N±0.06×72.88W±0.06, h160km±6km, n402, σ0s88/416, mb4.3/54, 141C-139D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.27**	**26**	⇑*i*P	**Pn**	**11 37 13.9**	**+1.7**
CAPV				*e*S	**Sn**	**11 37 31.0**	**-3.1**
ROSC	**El Rosal**	**2.34**	**218**	*e*Pn	**Pn**	**11 37 25.6**	**+1.6**
ROSC				*e*Sn	**Sn**	**11 37 54.7**	**-0.2**
ROSC	**El Rosal**	**2.34**	**218**	P	**Pn**	**11 37 25.7**	**+1.8**
	228nm,0.3s,baz=314,slow=2.6,SNR=856						
ROSC				S	**Sn**	**11 37 54.9**	**0.0**
	391nm,0.3s,baz=74,slow=20,SNR=7.8						
SOCV	**Socops**	**2.54**	**52**	*e*P	**Pn**	**11 37 28.1**	**+2.0**
SOCV				*e*S	**Sn**	**11 37 53.2**	**-5.4**
SDV	**Santo Domingo**	**3.10**	**46**	*e*Pn	**Pn**	**11 37 35.1**	**+2.0**
SDV				*e*Sn	**Sn**	**11 38 14.0**	**+2.7**
ELOV	**Elorza**	**3.39**	**85**	*e*P	Pn	11 37 40.0	+3.5
QARV	**Quebrada Arrib**	**4.18**	**34**	⇑*i*P	**Pn**	**11 37 48.2**	**+1.4**
SANV	**Sanarito**	**4.32**	**50**	*e*P	**Pn**	**11 37 50.1**	**+1.5**
SANV				*e*S	Sn	11 38 31.0	-8.1
CURV	**Curarigua**	**4.37**	**41**	*e*P	**Pn**	**11 37 50.6**	**+1.3**
DABV	**Dabajuro**	**4.73**	**28**	*e*P	**Pn**	**11 37 54.7**	**+0.7**
DABV				*e*S	Sn	11 38 41.8	-7.0
TEPV	**Terepaima**	**4.88**	**48**	*e*P	**Pn**	**11 37 57.4**	**+1.5**
TEPV				*e*S	Sn	11 38 43.6	-8.5
SIQV	**Siquisique**	**4.95**	**38**	⇑*i*P	**Pn**	**11 37 57.6**	**+0.7**
BAUV	**El Baul**	**5.28**	**65**	⇑*i*P	**Pn**	**11 38 01.9**	**+0.7**
BAUV				*e*S	Sn	11 38 53.5	-8.2
MAPV	**Macapo**	**5.36**	**54**	⇑*i*P	**Pn**	**11 38 03.8**	**+1.5**
TURV	**Turiamo**	**6.22**	**53**	*e*P	**Pn**	**11 38 14.2**	**+0.7**
BCIP	**Isla Barro Col**	**7.31**	**290**	*e*Pn	Pn	11 38 24.5	-3.6
CUPV	**Cœpira**	**7.76**	**64**	⇑*i*P	**Pn**	**11 38 34.9**	**+0.7**
OTAV	**Otavalo**	**8.50**	**221**	*e*Pn	**Pn**	**11 38 43.3**	**-1.1**
PCJ	**Portland Cotta**	**11.73**	**340**	⇓*i*P	**Pn**	**11 39 27.5**	**+1.1**
GWJ	**Greenwich**	**11.90**	**342**	*i* P	**Pn**	**11 39 28.5**	**-0.2**
STH	**Stony Hill**	**11.93**	**342**	*i* P	**Pn**	**11 39 30.6**	**+1.6**
SDDR	**Presa de Saban**	**12.29**	**7**	*e*Pn	**Pn**	**11 39 34.4**	**+0.7**
MTDJ	**Mount Denham**	**12.31**	**339**	*e*Pn	**Pn**	**11 39 34.6**	**+0.6**
JTS	**Juntasabangare**	**12.45**	**287**	*e*P	**P**	**11 39 41.5**	**+0.2**
	13nm,0.7s						
JTS	**JuntasAbangare**	**12.45**	**287**	P	**Pn**	**11 39 34.6**	**-1.2**
	0.3nm,0.3s,baz=133,slow=13,SNR=2.6						
GTBY	**Guantanamo Bay**	**13.31**	**351**	*e*P	**P**	**11 39 49.1**	**-1.7**
CBYP	**Canov

21nm,0.6s
433A **Art** 34.29 318 ⇑P P 11 43 14.3 -0.7
baz=34,SNR=13
135A **Vickery Place,** 34.38 322 ⇓P P 11 43 15.9 +0.1
baz=34
532A **Rocksprings** 34.46 316 ⇑P P 11 43 16.2 -0.3
baz=34,SNR=6.2
333A **Richland Sprin** 34.58 318 ⇓P P 11 43 16.8 -0.7
baz=35,SNR=8.1
ACSO **Alum Creek Sta** 34.58 346 eP P 11 43 17.6 +0.2
6.4nm,0.8s
134A **White-Moore Ra** 34.81 321 ⇑P P 11 43 19.5 0.0
baz=35
Z35A **Perchaven, San** 34.82 323 ⇑P P 11 43 19.7 +0.1
baz=35
432A **Menard** 34.84 317 ⇓P P 11 43 19.2 -0.6
baz=35
531A **Rocksprings** 34.92 315 ⇓P P 11 43 20.2 -0.4
baz=35
332A **Millersview** 35.11 318 ⇑P P 11 43 21.9 -0.2
baz=35
Z34A **Collier Ranch,** 35.25 322 ⇓P P 11 43 23.6 +0.4
baz=35
431A **Sonora** 35.27 316 ⇓P P 11 43 23.1 -0.5
baz=35
133A **Hamilton Ranch** 35.36 320 ⇓P P 11 43 24.5 +0.3
baz=35
232A **Coleman** 35.37 319 ⇓P P 11 43 23.7 -0.7
baz=35,SNR=5.5
530A **J-C Ranch, Com** 35.47 315 ⇑P P 11 43 24.5 -0.7
baz=36,SNR=8.4
331A **San Angelo** 35.53 317 ⇓P P 11 43 25.5 -0.2
baz=36
Y34A **Reagan Ranch,** 35.56 323 ⇑P P 11 43 25.9 0.0
baz=36
Z33A **Whitaker Ranch** 35.71 321 ⇑P P 11 43 27.2 0.0
baz=36
ABTX **Abilene, Hawle** 35.84 320 eP P 11 43 27.6 -0.7
ABTX **Abilene, Hawle** 35.84 320 ⇓P P 11 43 28.2 -0.1
baz=36
231A **Bronte** 35.84 318 ⇓P P 11 43 27.9 -0.5
baz=36
TUL1 **Tulsa** 35.85 327 eP P 11 43 27.1 -1.3
TUL1 **Tulsa** 35.85 327 ⇓P P 11 43 27.8 -0.6
baz=36
SFIN **Scholer Farm** 35.86 341 eP P 11 43 28.7 +0.4
SFIN **Scholer Farm** 35.86 341 ⇑P P 11 43 28.5 +0.2
baz=36,SNR=7.8
X34A **Smith Ranch, M** 36.05 324 ⇓P P 11 43 30.9 +0.8
baz=36
529A **Stev Forest Ra** 36.08 314 ⇓P P 11 43 29.9 -0.6
baz=36
429A **Davenport Ranc** 36.14 315 ⇓P P 11 43 30.6 -0.3
baz=36
Z32A **Haskell** 36.17 321 ⇓P P 11 43 31.4 +0.3
baz=36,SNR=6.1
628A **Black Gap, Mar** 36.22 312 ⇑P P 11 43 31.4 -0.2
baz=36
230A **Sterling City** 36.34 317 ⇓P P 11 43 32.8 +0.1
baz=36
X33A **Lawton** 36.40 323 ⇓P P 11 43 32.6 -0.5
baz=36,SNR=11
W34A **Bridge Creek,** 36.46 325 ⇓P P 11 43 33.2 -0.4
baz=36
528A **Cox Ranch, San** 36.51 313 ⇓P P 11 43 34.0 -0.2
baz=36
627A **Terlingua Ranc** 36.57 312 ⇑P P 11 43 34.5 -0.2
baz=37,SNR=6.6
Z31A **Sharp Cattle R** 36.60 320 ⇓P P 11 43 34.7 -0.1
baz=37
Y32A **R-V Farms, Ver** 36.61 321 ⇑P P 11 43 34.8 -0.1
baz=37,SNR=5.1
329A **Wagon Wheel Ra** 36.70 316 ⇑P P 11 43 35.2 -0.5
baz=37
WMOK **Wichita Mounta** 36.71 323 eP P 11 43 34.3 -1.4
1.4nm,0.5s
TXAR **Lajitas Array** 36.71 312 P P 11 43 35.5 -0.4
TXAR PcP PcP 11 45 56.6 +1.5
TXAR **Lajitas Array** 36.71 312 P P 11 43 35.5 -0.4
1.6nm,0.4s,baz=126,slow=9.1,SNR=44
TXAR PcP PcP 11 45 56.6 +1.5
0.5nm,0.6s,baz=133,slow=5.8,SNR=5.8
428A **Kincaid Ranch,** 36.75 314 ⇓P P 11 43 36.7 +0.5
baz=37,SNR=7.1
X32A **Elmer** 36.80 322 ⇓P P 11 43 37.0 +0.6
baz=37
229A **Bryant Ranch,** 36.87 317 ⇓P P 11 43 37.2 +0.1
baz=37,SNR=5.3
Y31A **Rekieta Farm,** 37.10 321 ⇑P P 11 43 39.5 +0.5
baz=37,SNR=8.8
527A **Woodward Ranch** 37.10 313 ⇑P P 11 43 39.4 +0.2
baz=37,SNR=8.0
626A **Big Bend Ranch** 37.17 312 ⇓P P 11 43 39.8 0.0
baz=37
V33A **Lossen Ranch,** 37.17 325 ⇑P P 11 43 38.9 -0.6
baz=37,SNR=5.4
U34A **Anderson Ranch** 37.19 326 ⇑P P 11 43 39.1 -0.6
baz=37
328A **Wristen Ranch,** 37.21 315 ⇑P P 11 43 39.4 -0.6
baz=37,SNR=6.3
Z30A **Sanderson Ranc** 37.22 319 ⇑P P 11 43 40.0 -0.1
baz=37
427A **Hayter Ranch,** 37.33 314 ⇓P P 11 43 40.7 -0.4
baz=37,SNR=7.1
X31A **McDonald Ranch** 37.36 322 ⇓P P 11 43 41.0 -0.2
baz=37
526A **Mary Lane Ranc** 37.41 312 ⇓P P 11 43 41.9 +0.1
baz=37
Y30A **Stafford Cattl** 37.44 320 ⇑P P 11 43 42.2 +0.3
baz=38
228A **UT Block 9, Go** 37.49 316 ⇓P P 11 43 42.4 0.0
baz=38
V32A **Arapaho** 37.54 324 ⇓P P 11 43 43.1 +0.4
baz=38
Z29A **Hungry Hill Ra** 37.58 319 ⇓P P 11 43 42.9 -0.2
baz=38,SNR=7.3
426A **McDonald Obser** 37.69 313 ⇓P P 11 43 44.2 -0.1
baz=38,SNR=12
W31A **Holland Ranch,** 37.71 322 ⇓P P 11 43 43.5 -0.7
baz=38
128A **Castleberry Fa** 37.71 317 ⇓P P 11 43 44.6 +0.4
baz=38,SNR=12
X30A **Coker Ranch, T** 37.80 321 ⇓P P 11 43 45.0 +0.1
baz=38,SNR=6.9
227A **Bennet, Jal** 37.91 316 ⇑P P 11 43 46.1 +0.2
baz=38
Y29A **Porterfield Fa** 37.93 319 ⇑P P 11 43 46.1 0.0
baz=38,SNR=9.5
U32A **Winter Ranch,** 37.98 325 ⇓P P 11 43 46.0 -0.3
baz=38
V31A **Spring Creek L** 38.05 323 ⇑P P 11 43 47.2 +0.2
baz=38
Z28A **Tucker Farm, M** 38.05 318 ⇑P P 11 43 46.9 -0.2
baz=38
X29A **Tulia** 38.32 320 ⇓P P 11 43 49.3 0.0
baz=38,SNR=5.6
Y28A **McKinney Farm,** 38.34 319 ⇑P P 11 43 49.0 -0.4
baz=38,SNR=6.2
425A **Indio Mountain** 38.44 313 ⇓P P 11 43 50.4 -0.1
baz=38,SNR=5.4
226B **Tecolote Peak,** 38.56 315 ⇑P P 11 43 51.6 +0.3
baz=39
AMTX **Amarillo** 38.59 321 eP P 11 43 51.5 0.0
AMTX **Amarillo** 38.59 321 ⇓P P 11 43 51.9 +0.4
baz=39
Z27A **Tatum** 38.62 317 ⇑P P 11 43 51.0 -0.8
baz=39,SNR=17
X28A **Dimmitt** 38.68 320 ⇓P P 11 43 51.8 -0.5
baz=39,SNR=6.0
KSU1 **Kansas State U** 38.70 330 eP P 11 43 51.0 -1.3
24nm,0.9s
MSTX **Muleshoe** 38.72 319 ⇑P P 11 43 52.3 -0.4
baz=39
325A **Bean Ranch, Si** 38.74 313 ⇑P P 11 43 52.6 -0.4
baz=39
T31A **Randall Ranch,** 38.87 325 ⇓P P 11 43 53.5 -0.2
baz=39
S32A **Newby Ranch, P** 38.88 326 ⇑P P 11 43 53.1 -0.7
baz=39
Y27A **Causey** 38.92 318 ⇓P P 11 43 53.9 -0.5
baz=39,SNR=5.5
225A **Deer Hill, Car** 39.04 315 ⇑P P 11 43 55.6 +0.1
baz=39,SNR=5.2
Z26A **Caprock** 39.11 317 ⇓P P 11 43 55.6 -0.3
baz=39,SNR=11
V29A **Stinnett** 39.13 322 ⇑P P 11 43 56.4 +0.4
baz=39,SNR=5.3
324A **Moseley Ranch,** 39.15 313 ⇑P P 11 43 56.2 -0.2
baz=39,SNR=7.8
JFWS **Jewell Farm** 39.18 340 eP P 11 43 55.8 -0.4
20nm,0.5s
MNTX **Cornudas Mount** 39.22 314 eP P 11 43 56.3 -0.4
4.7nm,0.7s
125A **Gardner Draw,** 39.23 315 ⇓P P 11 43 56.7 -0.2
baz=39,SNR=6.0
Q33A **Connelly Farm,** 39.24 329 ⇑P P 11 43 57.2 +0.4
baz=39
R32A **Long Quarter,** 39.28 327 ⇓P P 11 43 58.2 +1.0
baz=39
X27A **F and S Farms,** 39.34 319 ⇑P P 11 43 57.7 -0.2
baz=39
Y26A **Elida** 39.39 318 ⇑P P 11 43 58.5 +0.2
baz=39
SCIA **State Center** 39.42 336 eP P 11 43 57.9 -0.4
12nm,0.4s
224A **Cornudas Mount** 39.52 314 ⇑P P 11 43 60.0 +0.5
baz=40,SNR=18
W27A **Bowe Ranch, En** 39.58 320 ⇑P P 11 43 59.9 +0.1
baz=40,SNR=5.4
Z25A **Roswell** 39.62 316 ⇑P P 11 44 00.8 +0.6
baz=40,SNR=8.7
R31A **Burdett** 39.62 326 ⇑P P 11 43 59.8 -0.2
baz=40
X26A **CR and CF Fran** 39.75 318 ⇓P P 11 44 01.6 +0.3
baz=40
124A **Stringfield Ra** 39.81 315 ⇑P P 11 44 02.5 +0.6
baz=40
Y25A **Mesa, Roswell** 39.97 317 ⇑P P 11 44 04.0 +0.9
baz=40
R30A **Dighton** 40.04 326 ⇑P P 11 44 03.6 +0.2
baz=40
S29A **Ulysses** 40.05 324 ⇑P P 11 44 03.9 +0.3
baz=40
Z24A **Sheeppen Canyo** 40.10 316 ⇑P P 11 44 04.7 +0.4
baz=40
U27A **Thompson Grove** 40.28 321 ⇓P P 11 44 05.6 0.0
baz=40
T28A **Walsh** 40.31 323 ⇓P P 11 44 06.1 +0.3
baz=40
O32A **Brockman Farm,** 40.41 330 ⇑P P 11 44 05.8 -0.7
baz=40
Y24A **Capitan** 40.48 316 ⇑P P 11 44 07.7 +0.4
baz=40,SNR=9.7
S28A **Manter** 40.49 324 ⇓P P 11 44 07.7 +0.4
baz=40,SNR=8.3
V26A **Tequesquite Ra** 40.50 320 ⇑P P 11 44 07.6 +0.3
baz=40
W25A **X Bar L Ranch,** 40.58 319 ⇓P P 11 44 08.5 +0.4
baz=41,SNR=7.9
T27A **Campo** 40.63 322 ⇑P P 11 44 09.0 +0.5
baz=41
Z23A **Rita Site, Whi** 40.66 315 ⇑P P 11 44 09.5 +0.7
baz=41
222A **Williams Famil** 40.67 313 ⇓P P 11 44 09.2 +0.3
baz=41,SNR=6.6
U26A **Atchley Ranch,** 40.84 321 ⇑P P 11 44 10.6 +0.3
baz=41
Y23A **Lovelace Mesa,** 40.91 316 ⇓P P 11 44 11.3 +0.4
baz=41
R28A **Tribune** 40.95 325 ⇓P P 11 44 10.8 -0.2
baz=41,SNR=5.6
V25A **Rancho No Teng** 41.05 319 ⇓P P 11 44 12.7 +0.7
baz=41
Z22A **Elephant Butte** 41.18 315 ⇓P P 11 44 13.3 +0.3
baz=41
W24A **Lazy 6 Ranch,** 41.20 318 ⇓P P 11 44 13.9 +0.6
baz=41
BGNE **Belgrade** 41.22 331 ⇑P P 11 44 13.0 -0.1
baz=41
T26A **Commche Natio** 41.24 322 ⇓P P 11 44 14.2 +0.7
baz=41
U25A **Circle Dot Ran** 41.26 320 ⇓P P 11 44 14.3 +0.6
baz=41
320A **Kipp Ranch, An** 41.34 311 ⇓P P 11 44 15.2 +0.8
baz=41,SNR=5.6
121A **Cookes Peak, D** 41.39 313 ⇑P P 11 44 16.1 +1.3
baz=41
V24A **Rampart Ranch,** 41.41 319 ⇑P P 11 44 15.8 +0.8
baz=41,SNR=5.7
Q28A **Sharon Springs** 41.45 325 ⇑P P 11 44 15.2 +0.1
baz=42
S26A **Kim** 41.45 322 ⇑P P 11 44 16.4 +1.2
baz=42
R27A **Eads** 41.48 324 ⇑P P 11 44 15.6 +0.2
baz=42,SNR=9.2
Y22A **Socorro** 41.54 315 ⇑P P 11 44 16.5 +0.4
baz=42
W23A **Werner Place,** 41.67 317 ⇑P P 11 44 17.6 +0.6
baz=42
T25A **Trinidad** 41.72 321 ⇓P P 11 44 18.4 +0.9
baz=42
ANMO **Albuquerque** 41.75 317 eP P 11 44 18.7 +1.0
1.1nm,0.5s
P28A **Saint Francis** 41.76 326 ⇑P P 11 44 18.1 +0.5
baz=42
U24A **Moreno Valley** 41.83 320 ⇓P P 11 44 19.5 +1.1
baz=42
KSCO **Kp Shedlock'** 41.87 325 ⇑P P 11 44 18.8 +0.2
baz=42
R26A **Arlington** 41.88 323 ⇓P P 11 44 18.9 +0.3
baz=42,SNR=5.1
319A **Douglas** 41.93 311 ⇓P P 11 44 19.4 +0.3
baz=42
V23A **Ortiz Mt. (NFS** 42.02 318 ⇑P P 11 44 20.5 +0.5
baz=42
S25A **Robets Cordova** 42.07 322 ⇓P P 11 44 20.8 +0.5
baz=42
O28A **Krutsinger Ran** 42.16 326 ⇑P P 11 44 20.7 -0.1
baz=42,SNR=5.8
P27A **Ficken Ranch,** 42.21 325 ⇑P P 11 44 21.7 +0.5
baz=42
R25A **Fountain Ranch** 42.28 322 ⇓P P 11 44 22.2 +0.3
baz=42,SNR=5.8
T24B **San Luis** 42.29 320 ⇓P P 11 44 24.0 +1.8
baz=42
ECSD **ERS Data Cent** 42.35 334 eP P 11 44 20.9 -1.3
90nm,2.9s
U23A **El Rito** 42.37 319 ⇓P P 11 44 23.9 +1.1
baz=42,SNR=6.0
L30A **Spencer Herefo** 42.40 330 ⇑P P 11 44 22.3 -0.4
baz=42
S24A **Houchin Ranch,** 42.53 321 ⇓P P 11 44 25.4 +1.2
baz=43
V22A **San Miguel Ran** 42.60 318 ⇓P P 11 44 25.6 +1.0
baz=43
P26A **Davis Ranch, A** 42.65 325 ⇑P P 11 44 25.2 +0.3
baz=43
T23A **Casias Ranch,** 42.69 320 ⇑P P 11 44 26.5 +1.1
baz=43,SNR=6.1
Q25A **Bedland, Calha** 42.75 323 ⇑P P 11 44 26.1 +0.4
baz=43
SDCO **Great Sand Dun** 42.78 321 eP P 11 44 26.4 +0.3
3.6nm,0.9s
R24A **Sanders Place,** 42.84 322 ⇑P P 11 44 27.5 +1.0
baz=43,SNR=9.2
K30A **Basset** 42.89 331 ⇑P P 11 44 26.2 -0.4
baz=43,SNR=15
S23A **Nye Farm, Mont** 43.07 321 ⇑P P 11 44 29.4 +0.9
baz=43
O26A **Horse Wrangler** 43.09 325 ⇑P P 11 44 29.2 +0.8
baz=43
P25A **Willow Gulch B** 43.09 324 ⇓P P 11 44 29.2 +0.7
baz=43
R23A **Moffat** 43.26 321 ⇑P P 11 44 31.0 +1.0
baz=43
J30A **Dallas** 43.33 332 ⇑P P 11 44 29.1 -1.0
baz=43
TUC **Tucson** 43.50 311 eP P 11 44 31.5 -0.2
1.6nm,0.7s
S22A **4UR Ranch, Cre** 43.62 320 ⇓P P 11 44 33.2 +0.3
baz=44,SNR=5.6
I30A **Oacoma** 43.74 332 ⇓P P 11 44 32.6 -0.8
baz=44,SNR=5.6
J29A **Okreek** 43.78 331 ⇓P P 11 44 32.6 -1.2
baz=44,SNR=6.7
K28A **Ten Mile Ranch** 43.79 329 ⇓P P 11 44 33.4 -0.4
baz=44
BRSD **Miller** 43.94 333 eP P 11 44 34.1 -0.9
BRSD **Miller** 43.94 333 ⇓P P 11 44 34.3 -0.7
baz=44
X18A **Snowflake** 43.96 314 ⇑P P 11 44 36.2 +0.8
baz=44
P23A **Jefferson** 44.00 323 ⇑P P 11 44 36.7 +0.8
baz=44
ISCO **Idaho Springs** 44.13 323 eP P 11 44 37.1 +0.1
5.1nm,1.0s
ISCO **Idaho Springs** 44.13 323 ⇑P P 11 44 37.6 +0.6
baz=44
K27A **Flueckinger Fa** 44.22 329 ⇓P P 11 44 37.1 -0.3
baz=44
I29A **Vivian Onida** 44.24 332 ⇓P P 11 44 36.5 -0.8
baz=44
J28A **Allard Ranch,** 44.24 330 ⇑P P 11 44 37.0 -0.5
baz=44
MVCO **Mesa Verde** 44.39 318 ⇑P P 11 44 39.2 +0.2
baz=44
J27A **Elkhorn Farm,** 44.50 330 ⇓P P 11 44 39.3 -0.2
baz=45
G30A **Faulkton** 44.56 333 ⇓P P 11 44 39.4 -0.4
baz=45,SNR=5.6
I28A **Midland** 44.64 331 ⇓P P 11 44 40.0 -0.6
baz=45
H29A **Onida** 44.65 332 ⇑P P 11 44 39.7 -0.9
baz=45,SNR=5.0
P22A **Eagle** 44.69 322 ⇓P P 11 44 41.7 +0.4
baz=45
O22A **Kremmling** 44.92 323 ⇓P P 11 44 43.8 +0.6
baz=45,SNR=7.6
PV01 **Paradox Valley** 44.96 319 eP P 11 44 43.3 -0.1
X16A **Lo Mia Camp, P** 44.97 313 ⇓P P 11 44 43.8 +0.3
baz=45
N23A **Red Feather La** 45.03 324 ⇑P P 11 44 44.7 +0.7
baz=45
J26A **Sides Ranch, S** 45.09 329 ⇑P P 11 44 45.2 +1.0
baz=45
I27A **Quinn** 45.12 330 ⇓P P 11 44 43.9 -0.5
baz=45
N22A **Wattenberg Ran** 45.27 324 ⇓P P 11 44 48.0 +2.2
baz=45
PV04 **Paradox Valley** 45.33 319 eP P 11 44 46.4 +0.1
PV10 **Paradox Valley** 45.40 319 eP P 11 44 46.5 -0.4
WUAZ **Wupatki** 45.46 315 eP P 11 44 48.1 +0.7
9.7nm,0.8s
WUAZ **Wupatki** 45.46 315 ⇑P P 11 44 48.4 +1.0
baz=46,SNR=9.9
H27A **Howes** 45.54 331 ⇑P P 11 44 47.5 -0.2
baz=46
Z14A **Wintersburg** 45.59 311 ⇑P P 11 44 49.2 +0.9
baz=46
L23A **Garrett** 45.68 326 ⇑P P 11 44 49.5 +0.5
baz=46
F28A **McLaughlin** 45.85 333 ⇓P P 11 44 50.0 -0.1
baz=46
H26A **Fairpoint** 45.87 330 ⇑P P 11 44 50.3 0.0
baz=46
Y14A **Wickenburg** 45.90 312 ⇑P P 11 44 51.3 +0.7
baz=46
E29A **Napoleon** 45.90 334 ⇓P P 11 44 50.3 -0.1
baz=46
I25A **Rochford** 45.93 329 ⇓P P 11 44 51.2 +0.3
baz=46
O20A **White River Ci** 45.93 322 eP P 11 44 51.6 +0.6
150nm,2.7s
O20A **White River Ci** 45.93 322 ⇓P P 11 44 51.6 +0.6
baz=46
D30A **Buchanan** 45.95 335 ⇑P P 11 44 50.5 -0.3
baz=46,SNR=5.0
G27A **Dupree** 46.02 332 ⇓P P 11 44 51.1 -0.4
baz=46
RSSD **Black Hills** 46.15 329 eP P 11 44 53.1 +0.4
3.1nm,0.8s
D29A **Pettibone, Tap** 46.27 335 ⇑P P 11 44 52.8 -0.4
baz=46
G26A **Maurine** 46.28 331 ⇓P P 11 44 52.6 -0.8
baz=46
H25A **Fruitdale** 46.28 330 ⇑P P 11 44 52.8 -0.8
baz=46
C30A **Mose, Pekin** 46.32 336 ⇓P P 11 44 53.6 -0.1
baz=46,SNR=6.0
E28A **Huff** 46.36 334 ⇑P P 11 44 54.0 0.0
baz=46,SNR=5.4
N20A **Spence Gulch,** 46.36 323 ⇓P P 11 44 54.7 +0.4
baz=46
F27A **Lemmon** 46.43 332 ⇑P P 11 44 54.8 +0.2
baz=46
K22A **Casper** 46.49 326 ⇑P P 11 44 55.0 -0.3
baz=46
U15A **North Rim** 46.56 315 ⇓P P 11 44 56.9 +0.8
baz=47,SNR=6.7
G25A **Newell** 46.60 330 ⇓P P 11 44 55.9 -0.1
baz=47
E27A **Carson** 46.64 333 ⇑P P 11 44 56.6 +0.3
baz=47,SNR=6.9
SRU **San Rafael** 46.78 319 eP P 11 44 57.7 +0.1
9.4nm,1.1s
D28A **Regan** 46.78 334 ⇓P P 11 44 57.2 -0.1
baz=47
B30A **Myrvik Farm, E** 46.86 337 ⇑P P 11 44 58.0 +0.2
baz=47
K21A **Alcova** 46.89 325 ⇑P P 11 44 58.8 +0.4
baz=47,SNR=6.4
J22A **Midwest** 46.97 327 ⇑P P 11 44 59.1 +0.2
baz=47,SNR=6.0
E26A **Carlson Angus** 47.08 332 ⇓P P 11 44 59.5 -0.1
baz=47,SNR=7.2
D27A **Center** 47.14 333 ⇑P P 11 45 00.1 0.0
baz=47
A30A **Hoffart Farm,** 47.25 337 ⇓P P 11 45 01.3 +0.4
baz=47
B29A **Wagenman Farm,** 47.28 336 ⇓P P 11 45 01.6 +0.5
baz=47,SNR=10
I22A **9 Mile Ranch,** 47.29 327 ⇓P P 11 45 02.1 +0.7
baz=47
J21A **Lysite** 47.46 326 ⇓P P 11 45 02.8 0.0
baz=48
ULM **Lac du Bonnet** 47.47 340 eP P 11 45 01.7 -0.8
76nm,2.1s
ULM **Lac du Bonnet** 47.47 340 P P 11 45 01.6 -0.8
9.8nm,0.5s,baz=142,slow=7.6,SNR=23
D26A **Manning** 47.49 333 ⇓P P 11 45 02.7 -0.1
baz=48
E25A **Miller Ranch,** 47.54 332 ⇓P P 11 45 03.3 0.0
baz=48
F24A **Ekalaka** 47.58 330 ⇑P P 11 45 03.2 -0.4
baz=48
IRM **Iron Mountain** 47.59 311 ⇑P P 11 45 03.9 +0.1
baz=48
A29A **Manning Farm,** 47.60 337 ⇑P P 11 45 03.3 -0.3
baz=48
I21A **Big Trails, Te** 47.67 326 ⇓P P 11 45 04.5 0.0
baz=48,SNR=6.2
B28A **Dugan Ranch, T** 47.68 335 ⇑P P 11 45 04.6 +0.4
baz=48,SNR=5.9
J20A **Shoshoni** 47.82 325 ⇑P P 11 45 06.2 +0.7
baz=48
F23A **Volborg** 47.97 330 ⇑P P 11 45 06.6 0.0
baz=48
D25A **Fairfield** 47.98 332 ⇓P P 11 45 06.8 +0.2
baz=48
MPU **Maple Canyon** 47.99 320 eP P 11 45 06.8 -0.2
8.0nm,0.9s
G22A **Birney** 48.08 328 ⇑P P 11 45 07.4 0.0
baz=48,SNR=5.4
BELC **Belle Mtn. Jos** 48.17 310 ⇑P P 11 45 08.4 +0.1
baz=48
I20A **Worland** 48.23 326 ⇓P P 11 45 09.1 +0.5
baz=48
SCHQ **Schefferville** 48.23 5 eP P 11 45 08.9 +0.7
6.2nm,0.7s
SCHQ **Schefferville** 48.23 5 P P 11 45 09.0 +0.7
5.6nm,0.7s,baz=196,slow=9.4,SNR=8.3
BW06 **Boulder Array** 48.30 324 eP P 11 45 08.9 -0.5
4.0nm,1.0s
PDAR **Pinedale Array** 48.30 324 P P 11 45 08.9 -0.5
PDAR **Pinedale Array** 48.30 324 P P 11 45 08.9 -0.5
2.5nm,0.6s,baz=128,slow=9.3,SNR=24
J19A **Crowheart** 48.32 325 ⇑P P 11 45 09.7 +0.3
baz=48
C25A **Freed Ranch, W** 48.37 333 ⇑P P 11 45 10.1 +0.6
baz=48
D24A **Glendive** 48.43 332 ⇓P P 11 45 10.6 +0.6
baz=48,SNR=7.6
F22A **Rosebud** 48.44 329 ⇑P P 11 45 10.3 +0.1
baz=48,SNR=5.3
E23A **Ismay** 48.46 330 ⇑P P 11 45 10.3 0.0
baz=48
H20A **Greybull** 48.50 327 ⇑P P 11 45 10.8 +0.1
baz=48,SNR=7.9
G21A **Lodge Grass** 48.56 328 ⇑P P 11 45 10.8 -0.3
baz=49
TUQ **Turquoise Moun** 48.71 312 ⇑P P 11 45 12.4 -0.1
baz=49
A26A **Wade Farm, Ken** 48.73 335 ⇓P P 11 45 12.7 +0.5
baz=49

E22A	Miles City	48.74	330	⇓P		P	11 45 12.4	0.0	
	baz=49								
B25A	Knox Farm, Ray	48.74	333	⇓P		P	11 45 13.4	+1.1	
	baz=49,SNR=5.1								
I19A	Meeteetse	48.76	326	⇓P		P	11 45 13.2	+0.4	
	baz=49								
C24A	Savage	48.77	332	⇓P		P	11 45 13.4	+0.8	
	baz=49								
DUG	Dugway	48.85	319	*e*P		P	11 45 13.6	+0.1	
	3.1nm,0.7s								
DUG	Dugway	48.85	319	⇑P		P	11 45 14.3	+0.8	
	baz=49								
D23A	Lindsay	48.89	331	⇓P		P	11 45 14.3	+0.7	
	baz=49								
BBRC	Big Bear Solar	48.97	310	⇓P		P	11 45 15.6	+1.0	
	baz=49								
G20A	Bridger	49.09	327	⇑P		P	11 45 14.9	-0.3	
	baz=49,SNR=7.1								
H19A	Powell	49.16	326	⇑P		P	11 45 16.2	+0.5	
	baz=49								
A25A	Svangstu Ranch	49.22	334	⇑P		P	11 45 16.7	+0.8	
	baz=49								
GSC	Goldstone	49.31	312	*e*P		P	11 45 17.3	+0.3	
	7.0nm,1.0s								
GSC	Goldstone	49.31	312	⇑P		P	11 45 17.4	+0.3	
	baz=49								
C23A	Lambert	49.33	332	⇑P		P	11 45 17.4	+0.6	
	baz=49								
D22A	Cohagen	49.34	330	⇑P		P	11 45 18.0	+1.0	
	baz=49,SNR=10								
DGMT	Dagmar	49.35	333	*e*P		P	11 45 17.4	+0.4	
	70nm,1.0s								
DGMT	Dagmar	49.35	333	⇑P		P	11 45 17.9	+0.9	
	baz=49,SNR=11								
E21A	Keefer Ranch,	49.37	329	⇓P		P	11 45 17.4	+0.1	
	baz=49,SNR=5.6								
BGU	Big Grassy Mou	49.38	320	*e*P		P	11 45 17.4	-0.1	
	3.0nm,0.6s								
REDW	Red Top Meadow	49.42	324	*e*P		P	11 45 17.6	-0.2	
	6.8nm,0.6s								
LOHW	Long Hollow	49.42	324	*e*P		P	11 45 17.9	0.0	
	4.0nm,0.6s								
F20A	Billings	49.44	328	⇓P		P	11 45 18.1	+0.3	
	baz=50								
MOOW	Moose Ponds	49.59	324	*e*P		P	11 45 18.8	-0.3	
	3.3nm,0.8s								
I17A	Pilgrim Ck.	49.59	325	⇑P		P	11 45 19.8	+0.6	
	baz=50								
A24A	Westby	49.60	333	⇓P		P	11 45 20.0	+1.2	
	baz=50,SNR=7.6								
TPNV	Topopah Spring	49.61	314	*e*P		P	11 45 20.1	+0.7	
	56nm,2.5s								
TPNV	Topopah Spring	49.61	314	⇓P		P	11 45 20.4	+1.0	
	baz=50								
C22A	Vida	49.62	331	⇑P		P	11 45 19.8	+0.7	
	baz=50,SNR=9.2								
D21A	La Casta Ranch	49.69	330	⇓P		P	11 45 20.2	+0.6	
	baz=50,SNR=6.7								
B23A	Brockton	49.71	332	⇓P		P	11 45 20.5	+0.8	
	baz=50,SNR=6.8								
R11A	Troy Canyon, C	49.78	316	*e*P		P	11 45 21.0	+0.4	
R11A	Troy Canyon, C	49.78	316	⇑P		P	11 45 21.1	+0.4	
	baz=50								
FURC	Furnace Creek,	49.84	313	⇓P		P	11 45 21.6	+0.7	
	baz=50								
E20A	Meyer Farm, Mu	49.89	329	⇓P		P	11 45 21.8	+0.6	
	baz=50,SNR=14								
F19A	Roth Farm, Mol	49.89	327	⇓P		P	11 45 21.2	0.0	
	baz=50								
A23A	Redstone	50.02	333	⇑P		P	11 45 23.2	+1.1	
	baz=50,SNR=7.1								
EDW2	Edwards Air Fo	50.03	311	⇓P		P	11 45 22.6	+0.2	
	baz=50								
LRMC	Laurel Mountai	50.04	311	⇑P		P	11 45 22.8	+0.3	
	baz=50								
B22A	Reddig Ranch S	50.06	332	⇑P		P	11 45 23.5	+1.1	
	baz=50,SNR=7.2								
E19A	Rath Farm, Rou	50.20	328	⇑P		P	11 45 24.1	+0.6	
	baz=50								
D20A	Manuel Ranch,	50.28	329	⇓P		P	11 45 24.7	+0.6	
	baz=50,SNR=6.3								
A22A	Carney Farms,	50.52	332	⇓P		P	11 45 27.1	+1.3	
	baz=51,SNR=13								
C20A	Veseth Ranch,	50.63	330	⇑P		P	11 45 27.5	+0.8	
	baz=51								
B21A	Ellsworth Farm	50.64	331	⇓P		P	11 45 27.7	+1.0	
	baz=51								
D19A	Cripps Ranch,	50.71	329	⇑P		P	11 45 27.8	+0.5	
	baz=51,SNR=9.3								
A21A	Bergtoll Ranch	50.99	332	⇓P		P	11 45 30.4	+1.1	
	baz=51,SNR=7.0								
B20A	Solberg Farm,	51.13	331	⇓P		P	11 45 31.3	+0.9	
	baz=51,SNR=5.0								
C19A	Slack Wire Ran	51.17	329	⇓P		P	11 45 31.3	+0.5	
	baz=51								
A20A	Cobblestone Ra	51.39	331	⇓P		P	11 45 33.2	+0.9	
	baz=51,SNR=9.2								
MCMT	McKenzie Canyo	51.44	324	*e*P		P	11 45 33.7	+0.6	
	1.8nm,0.6s								
HLID	Hailey	51.67	322	*e*P		P	11 45 34.5	-0.2	
	1.9nm,0.6s								
HLID	Hailey	51.67	322	⇓P		P	11 45 35.0	+0.3	
	baz=52								
EGMT	Eagleton	51.72	329	*e*P		P	11 45 34.5	-0.4	
	3.3nm,0.5s								
EGMT	Eagleton	51.72	329	⇓P		P	11 45 35.4	+0.6	
	baz=52								
NVAR	Mina Array Bea	51.73	315	P		P	11 45 35.3	+0.1	
NVAR				PcP		PcP	11 46 47.0	+0.6	
NVAR	Mina Array Bea	51.73	315	P		P	11 45 35.3	+0.1	
	1.6nm,0.7s,baz=120,slow=6.4,SNR=13								
NVAR				PcP		PcP	11 46 47.0	+0.6	
	0.4nm,0.5s,baz=144,slow=5.2,SNR=4.0								
A19A	Klindworth Far	51.82	331	⇑P		P	11 45 36.1	+0.5	
	baz=52								
HRY	Holter Researc	51.99	327	*e*P		P	11 45 37.2	+0.3	
	1.4nm,0.4s								
MFID	Camas Ranch	52.46	321	*e*P		P	11 45 40.6	+0.2	
	5.1nm,0.6s								
SLMT	Seeley Lake	53.22	326	*e*P		P	11 45 45.7	-0.3	
MSO	Missoula	53.23	326	⇑P		P	11 45 46.5	+0.5	
	baz=53								
WVOR	Wild Horse Val	53.76	319	*e*P		P	11 45 49.8	-0.2	
	2.1nm,0.5s								
FCC	Fort Churchill	54.43	347	*e*P		P	11 45 53.5	-0.8	
	0.1nm,0.6s								
F10A	Beach Ranch, E	54.65	323	*e*P		P	11 45 56.0	-0.3	
	38nm,1.8s								
I07A	Izee	55.10	320	*e*P		P	11 45 59.7	+0.1	
	60nm,2.6s								
G08A	Pilot Rock	55.35	322	*e*P		P	11 46 00.5	-0.8	
	5.8nm,0.6s								
NEW	Newport	55.81	326	*e*P		P	11 46 03.8	-0.8	
	41nm,2.2s								
J05D	Fort Rock, OR	55.85	319	⇓P		P	11 46 05.2	+0.2	
	baz=56								
C09A	Chrisman Ranch	56.22	325	*e*P		P	11 46 07.5	+0.2	
	6.5nm,0.8s								
EDM	Edmonton	56.83	332	*e*P		P	11 46 10.9	-0.7	
YKA	Yellowknife Ar	63.45	340	P		P	11 46 56.0	-0.4	
YKA	Yellowknife Ar	63.45	340	P		P	11 46 55.9	-0.4	
	5.5nm,0.5s,baz=133,slow=6.6,SNR=257								
DBIC	Dimbokro	67.51	86	P		P	11 47 23.9	+0.5	
DBIC	Dimbokro	67.51	86	P		P	11 47 23.9	+0.5	
	1.6nm,0.4s,baz=198,slow=3.2,SNR=5.9								
SUMG	Summit	69.05	11	*i* P		P	11 47 33.0	+0.6	
	3.9nm,0.7s								
SUMG	Summit	69.05	11	*e*P		P	11 47 32.8	+0.4	
	4.9nm,0.6s								
INK	Inuvik	73.21	340	*e*P		P	11 47 56.6	-0.3	
	3.4nm,0.8s								
INK	Inuvik	73.21	340	P		P	11 47 57.1	+0.1	
	1.7nm,0.5s,baz=108,slow=6.3,SNR=26								
TORD	Torodi Ar. Bea	73.53	78	P		P	11 47 59.8	-0.1	
TORD	Torodi Ar. Bea	73.53	78	P		P	11 47 59.8	-0.1	
	0.2nm,0.3s,baz=284,slow=6.7,SNR=7.5								
ILAR	Eielson Array	77.16	335	P		P	11 48 19.6	-0.1	
ILAR	Eielson Array	77.16	335	P		P	11 48 19.6	-0.1	
	0.8nm,0.6s,baz=103,slow=4.2,SNR=9.2								
WLF	Walferdange	77.82	41	P		P	11 48 23.7	+0.1	
	comp=Z,15nm,1.3s								
SPITS	Spitsbergen Ar	83.32	12	P		P	11 48 52.8	+0.4	
SPITS	Spitsbergen Ar	83.32	12	P		P	11 48 52.8	+0.4	
	comp=Z,1.6nm,0.7s,baz=227,slow=5.7,SNR=4.2								
ARCES	ARCESS Array B	86.69	20	P		P	11 49 09.6	+0.3	
ARCES	ARCESS Array B	86.69	20	P		P	11 49 09.6	+0.3	
	comp=Z,1.5nm,0.8s,baz=276,slow=4.0,SNR=7.4								
ZALV	Zalesovo Beam	116.71	15	PKP		PKPdf	11 55 09.0	-0.1	
	comp=Z,0.5nm,0.3s,baz=302,slow=1.5,SNR=4.7								
KURK	Kurchatov	117.73	20	PKP		PKPdf	11 55 11.8	+0.6	
KURBB	Kurchatov Arra	117.78	20	PKP		PKPdf	11 55 11.8	+0.5	
	comp=Z,0.1nm,0.4s,baz=321,slow=1.4,SNR=4.5								
MK31	Makanchi Array	122.34	20	*e*PKPdf		PKPdf	11 55 20.6	+0.3	
SONM	Songino Array	125.68	1	PKP		PKPdf	11 55 27.5	+0.7	
SONM	Songino Array	125.68	1	PKP		PKPdf	11 55 27.5	+0.7	
	comp=Z,0.2nm,0.4s,baz=235,slow=1.6,SNR=4.4								
WMQ	Urumqi	126.72	17	*e*PKP		PKPdf	11 55 28.8	0.0	
HHC	Hu-ho-hao-te	132.50	355	*e*PKP		PKPdf	11 55 38.8	-1.1	
HHC				sPKP			11 56 38.5		
HHC				PP		PP	11 58 07.6	+3.9	
HHC				PKS		PKSdf	11 59 13.6	-2.8	
HHC				SKS		SKSdf	12 02 32.4	-4.2	
HHC				SS		SS	12 15 30.6	+1.0	
HHC				AMB		AMB			
	comp=Z,150nm,10.3s								
NJ2	Nanjing	139.86	344	*e*PKP		PKPdf	11 55 52.6	-1.1	
CD2	Chengdu	142.45	5	*e*PKP		PKPdf	11 55 56.1	-2.4	
GYA	Guiyang	147.02	1	*e*PKPbc		PKPdf	11 56 04.3	-2.3	
GYA				PP		PP	11 59 36.4	+3.6	
GYA				AMB		AMB			
	comp=Z,90nm,8.0s								
ASAR	Alice Springs	149.24	234	PKP		PKPdf	11 56 10.8	+0.7	
ASAR				PKPbc		PKPbc	11 56 14.2	-0.4	
ASAR	Alice Springs	149.24	234	PKP		PKPdf	11 56 10.8	+0.7	
	comp=Z,1.2nm,0.6s,baz=123,slow=2.6,SNR=28								
ASAR				PKPbc		PKPbc	11 56 14.2	-0.4	
	comp=Z,1.1nm,0.5s,baz=117,slow=3.5,SNR=18								
WRAB	Tennant Creek	150.49	241	*e*PKPbc		PKPbc	11 56 17.4	-0.2	
WRA	Warramunga Arr	150.49	241	PKPbc		PKPbc	11 56 17.2	-0.4	
WRA	Warramunga Arr	150.49	241	PKPbc		PKPbc	11 56 17.2	-0.4	
	comp=Z,1.4nm,0.4s,baz=107,slow=2.8,SNR=48								
CMAR	Chiang Mai Arr	153.72	18	PKPbc		PKPbc	11 56 25.5	+0.6	
CMAR	Chiang Mai Arr	153.72	18	PKPbc		PKPbc	11 56 25.5	+0.6	
	comp=Z,0.7nm,0.5s,baz=329,slow=3.9,SNR=4.6								

MAN 20 11:43:52.17˝.61N×122˚.56E, *h*21km, mb4.4, ML3.2, MS3.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALP	Palanan	0.56	194	*e*P	Pn	11 44 05.2	+0.5
PALP				*e*S	Sn	11 44 14.6	+1.3
CVP	Callao Caves	0.71	278	⇓*e*P	Pn	11 44 07.0	+0.1
CVP				*i* S	Sn	11 44 17.6	+0.3
SGCP	Mt. Cagua	0.80	322	*e*P	Pb	11 44 06.9	-0.4
SGCP				*e*S	Sb	11 44 17.8	+0.1
APYP	Conner	1.28	282	*e*P	Pb	11 44 15.1	-0.3
APYP				*e*S	Sb	11 44 32.5	+0.9
ABRA	Dolores	1.77	272	*e*P	Pb	11 44 22.6	-1.1
ABRA				*e*S	Sb	11 44 45.0	-0.4
PIP	Pasuquin	1.98	291	⇑*i* P	Pn	11 44 25.5	+1.1
BALP	Baler	2.08	207	*e*P	Pb	11 44 27.4	-1.6
BALP				*e*S	Sn	11 44 52.3	+1.3

WEL 20 11:49:23.9±0.3, 41˚.37S×176˚.68E, *h*33km, ML3.6/24, 4C, Error ellipse: s-maj=2.9km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPWZ	Castlepoint	0.58	321	⇑P*	Pb	11 49 35.8	-0.1
CPWZ				*e*S*	Sn	11 49 44.7	+0.4
TMWZ	Te Maipa	0.65	293	P*	Pn	11 49 36.7	-0.2
TMWZ				S*	Sn	11 49 46.6	+0.5
TRWZ	Traveller	0.75	267	P*	Pn	11 49 38.4	+0.2
TRWZ				AML	AML	11 49 50.6	
TRWZ				AML	AML	11 49 51.2	
BFZ	Birch Farm	0.76	334	P*	Pn	11 49 37.6	-0.8
BFZ				*e*S*	Sn	11 49 48.5	-0.2
TIWZ	Tintock	0.84	314	P*	Pn	11 49 39.1	-0.5
TIWZ				AML	AML	11 50 00.6	
TIWZ				AML	AML	11 50 04.6	
MTW	Mount Morrison	0.91	283	P*	Pn	11 49 39.9	-0.5
MTW				AML	AML	11 50 02.0	
MTW				AML	AML	11 50 02.1	
ANWZ	Angora Road	0.92	350	⇑P*	Pn	11 49 40.1	-0.4
PAWZ	Paruwai Farm	0.95	269	P*	Pn	11 49 40.8	-0.1
PAWZ				AML	AML	11 50 10.3	
PAWZ				AML	AML	11 50 18.3	
PRWZ	Pori Road	0.97	326	P*	Pn	11 49 41.1	-0.2
HOWZ	Holdsworth Sta	1.00	298	P*	Pn	11 49 41.0	-0.6
MSWZ	Moikau Station	1.08	267	P*	Pn	11 49 42.5	-0.2
MSWZ				AML	AML	11 50 11.4	
MSWZ				AML	AML	11 50 11.5	
PLWZ	Palliser	1.09	259	P*	Pn	11 49 42.8	-0.2
MRZ	Mangatainoka R	1.09	310	P*	Pn	11 49 42.3	-0.6
MRZ				AML	AML	11 50 04.8	
MRZ				AML	AML	11 50 05.6	
PRHZ	Porangahau	1.10	358	P*	Pn	11 49 42.8	-0.2
DVHZ	Dannevirke	1.14	340	⇑P*	Pn	11 49 43.1	-0.4
POWZ	Post Office Ro	1.20	324	P*	Pn	11 49 44.4	+0.1
CAW	Cannon Point	1.25	282	P*	Pn	11 49 44.7	-0.3
CAW				AML	AML	11 49 59.8	
CAW				AML	AML	11 49 60.0	
OGWZ	Otaki Gorge	1.27	295	P*	Pn	11 49 45.6	+0.3
WPHZ	Waipukurau	1.31	352	PN	Pn	11 49 46.1	+0.1
PXZ	Pawanui	1.34	6	PN	Pn	11 49 46.0	-0.3
PXZ				AML	AML	11 50 19.3	
PXZ				AML	AML	11 50 19.5	
TSZ	Takapari Road	1.42	337	PN	Pn	11 49 47.3	-0.2
TSZ				AML	AML	11 50 20.7	
TSZ				AML	AML	11 50 24.0	
KIW	Kapiti Island	1.43	290	PN	Pn	11 49 47.7	+0.2
KIW				AML	AML	11 50 17.0	
KIW				AML	AML	11 50 20.8	
WEL	Wellington	1.44	273	PN	Pn	11 49 48.1	+0.4
PNHZ	Pukenui	1.50	346	PN	Pn	11 49 48.5	0.0
KAHZ	Kahuranaki	1.58	5	PN	Pn	11 49 49.4	-0.2
TCW	Tory Channel	1.82	274	PN	Pn	11 49 53.2	+0.3
TCW				AML	AML	11 50 14.9	
TCW				AML	AML	11 50 30.5	
MCHZ	McNeill Hill	1.92	0	PN	Pn	11 49 54.5	+0.2
BHHZ	Black Hill Sta	1.94	346	PN	Pn	11 49 55.0	+0.4
TUWZ	Tuamarina	2.06	267	PN	Pn	11 49 56.1	-0.1
TUWZ				AML	AML	11 50 20.9	
WAZ	Wanganui	2.06	321	PN	Pb	11 49 58.8	-2.0
WAZ				AML	AML	11 50 39.6	
WAZ				AML	AML	11 50 40.4	
MOVZ	Moawhango	2.08	340	PN	Pn	11 49 58.0	+1.4
MOVZ				AML	AML	11 50 38.5	
MOVZ				AML	AML	11 50 39.5	
BSWZ	Blackbirch Sta	2.13	260	PN	Pn	11 49 57.5	+0.2
DUWZ	D'Urville Isla	2.16	284	AML	AML	11 50 48.5	
MTVZ	Mangateitei	2.19	335	PN	Pn	11 50 00.0	+2.0
MTVZ				AML	AML	11 50 32.6	
MTVZ				AML	AML	11 50 43.0	
BKZ	Black Stump Fm	2.20	356	PN	Pn	11 49 58.2	-0.1
BKZ				*e*SN	Sn	11 50 22.3	-2.2
BKZ				AML	AML	11 50 38.7	
TUVZ	Tukino	2.24	339	PN	Pn	11 50 00.9	+2.0
TRVZ	Turoa	2.24	337	AML	AML	11 50 45.3	
TRVZ				AML	AML	11 50 57.6	
NMHZ	Naumai	2.27	2	PN	Pn	11 49 59.4	+0.2
PKVZ	Pokaka	2.31	333	PN	Pn	11 50 01.1	+1.3
WPVZ	Whakapapa	2.33	338	PN	Pn	11 50 02.5	+2.1
COVZ	Chateau Observ	2.33	338	PN	Pn	11 50 01.7	+1.6
NGZ	Ngauruhoe	2.34	339	PN	Pn	11 50 02.2	+2.0
KNZ	Kokohu	2.46	18	PN	Pn	11 50 00.4	-1.3
NNZ	Nelson	2.49	272	PN	Pn	11 50 02.7	+0.6
NNZ				AML	AML	11 51 59.9	
KHZ	Kahutara	2.57	245	PN	Pn	11 50 02.7	-0.4
SNGZ	Shannon Statio	2.63	11	PN	Pn	11 50 03.4	-0.7
VRZ	Vera Road	2.68	326	PN	Pn	11 50 06.6	+1.9
VRZ				AML	AML	11 51 14.2	
VRZ				AML	AML	11 51 18.8	
RIGZ	Rimuhau	2.79	18	PN	Pn	11 50 04.8	-1.5
THZ	Tophouse	2.86	261	PN	Pn	11 50 07.7	+0.4
THZ				AML	AML	11 50 35.1	
THZ				AML	AML	11 50 43.8	
MWZ	Matawai	3.10	12	⇑PN	Pn	11 50 09.1	-1.4
MWZ				AML	AML	11 50 54.2	
URZ	Urewera	3.12	6	PN	Pn	11 50 09.7	-1.0
HIZ	Hauiti	3.18	333	PN	Pn	11 50 13.1	+1.6
HIZ				AML	AML	11 51 33.9	
HIZ				AML	AML	11 51 50.0	
QRZ	Quartz Range	3.19	278	PN	Pn	11 50 12.4	+0.8
LTZ	Lake Taylor	3.58	245	PN	Pn	11 50 17.0	-0.1
DSZ	Denniston Nort	3.68	262	PN	Pn	11 50 18.8	+0.3
RPZ	Rata Peaks	4.77	239	AML	AML	11 51 54.4	

*NIED **20** 11:52:00,35˚.80N×140˚.90E, h29km, Mw4.2 Best double couple: M₀2.31000×10¹⁵ NP1:φ₀332.00000°,δ64.00000°, λ-146.00000°. NP2:φ₀226.00000°,δ60.00000°, λ-31.00000°*

*IDC **20** 11:52:29.5±0.6,35˚.70N×140˚.86E, h0km, mb3.9/17, mb1 4.1/21,mb1mx4.1/32,mbtmp4.0/21,ML4.1/2,MS3.3/8, Ms1 3.3/8,ms1mx3.0/45,Error ellipse: s-maj=17.7km s-min=13.6km az=82.0*

*ISCJB **20** 11:52:32.9±0.6,35˚.86N±0˚.04×140˚.98E±0˚.06, h34km±5km, mb4.0/21,MS3.2/4,Error ellipse: s-maj=8.9km s-min=6.6km az=160.5*

*NEIC **20** 11:52:32.8±2.4,35˚.77N×140˚.99E, h21km±17km, mb4.3/5, Error ellipse: s-maj=10.6km s-min=8.3km az=105.0*

NEIC Recorded [2 JMA] in Chiba and Ibaraki.

*JMA **20** 11:52:33.8±0.1,35˚.84N×140˚.90E, h34km±1km, M3.8*

JMA Felt II J1.

ISC 20 11:52:32.8±0.5, 35˚.80N±0˚.05×140˚.93E±0˚.05, *h*21km±1km, n74, σ0s97/63, mb4.0/21, MS3.2/4, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.11	211	⇑P	Pb	11 52 39.6	+0.3
CHOJ				S	Sb	11 52 44.0	+0.1
JYT	Yasato	0.73	306	P	Pb	11 52 46.7	-0.2
JYT				S	Sb	11 52 56.2	-0.3
JHO	Hitachi	0.86	341	⇓P	Pb	11 52 48.8	-0.3
BSO4	Boso 4	0.94	211	P	Pn	11 52 52.2	+1.5
BSO3	Boso 3	1.05	199	P	Pn	11 52 53.4	+1.3
BSO1	Boso 1	1.14	178	P	Pn	11 52 52.6	-0.5
MJAR	Matsushiro Arr	2.32	290	Pn	Pn	11 53 10.4	+0.5
MJAR	Matsushiro Arr	2.32	290	Pn	Pn	11 53 10.4	+0.5
	16nm,0.3s,baz=93,slow=8.8,SNR=250						
MJAR				LR	LR	11 54 08.7	
	comp=Z,15nm,28.6s,baz=130,slow=44						
MAJO	Matsushiro	2.32	290	*e*Pn	Pn	11 53 10.8	+0.9
MAT	Matsushiro	2.32	290	P	Pn	11 53 10.9	+1.0
MAT				*e*S	Sn	11 53 37.0	-0.9
ERM	Erimo	6.45	15	*e*Pn	Pn	11 54 06.4	-0.2
	38nm,0.6s						
ASAJ	Asahikawa	8.41	8	*e*Pn	Pn	11 54 31.9	-1.5
	5.9nm,0.6s						
ASAJ	Asahikawa	8.41	8	Pn	Pn	11 54 32.2	-1.2
	3.5nm,0.3s,baz=164,slow=33,SNR=32						
ASAJ				Sn	Sn	11 56 05.3	-2.4
	0.3nm,0.3s,baz=270,slow=20,SNR=2.3						
ASAJ				LR	LR	11 58 51.5	
	comp=Z,161nm,18.3s,baz=170,slow=45						
JNU	Nakatsue	8.72	255	Pn	Pn	11 54 41.4	+3.7
JNU	Nakatsue	8.72	255	Pn	Pn	11 54 41.4	+3.7
	0.4nm,0.3s,baz=0.0,slow=2.0,SNR=4.5						
CBIJ	Chichi jima	8.74	173	Pn	Pn	11 54 37.0	-1.0
JCJ	Chichijima	8.74	173	Pn	Pn	11 54 37.0	-1.0
	22nm,0.3s,baz=275,slow=20,SNR=5.8						
KSRS	Korea Array	10.58	283	LR	LR	11 59 17.4	
	comp=Z,15nm,28.6s,baz=100,slow=38						
USRK	Ussuriysk Arra	10.83	324	Pn	Pn	11 55 08.1	+1.4
	0.1nm,0.3s,baz=128,slow=19,SNR=4.5						
USRK				LR	LR	11 59 12.6	
	comp=Z,114nm,18.9s,baz=137,slow=37						
YSS	Yuzh-Sakhalins	11.23	6	*e*Pn	Pn	11 55 11.7	-0.4
H11N2	WAKE ISLAND Hy	27.88	118	T	T	12 27 25.0	
	baz=313,slow=76,SNR=83						
H11N1	WAKE ISLAND Hy	27.89	118	T	T	12 27 25.5	
	baz=313,slow=76,SNR=101						
H11N3	WAKE ISLAND Hy	27.90	118	T	T	12 27 26.3	
	baz=313,slow=76,SNR=70						
SEY	Seymchan	28.08	11	P	P	11 58 25.1	+2.5
SEY	Seymchan	28.08	11	P	P	11 58 25.1	+2.5
	2.0nm,0.9s,baz=162,slow=3.6,SNR=2.1						
SONM	Songino Array	28.17	306	P	P	11 58 23.5	-0.4
SONM	Songino Array	28.17	306	P	P	11 58 23.5	-0.4
	1.2nm,0.6s,baz=109,slow=8.3,SNR=10						
H11S1	WAKE ISLAND Hy	28.55	120	T	T	12 28 18.9	
	baz=316,slow=75,SNR=292						
H11S3	WAKE ISLAND Hy	28.55	120	T	T	12 28 17.3	
	baz=316,slow=75,SNR=214						
H11S2	WAKE ISLAND Hy	28.56	120	T	T	12 28 16.2	
	baz=316,slow=75,SNR=212						
ZAA0	Zalesovo Array	42.47	313	*e*P	P	12 00 25.0	-1.2
ZALV	Zalesovo Beam	42.47	313	P	P	12 00 25.6	-0.6
ZALV	Zalesovo Beam	42.47	313	P	P	12 00 25.6	-0.6
	1.4nm,0.6s,baz=92,slow=6.6,SNR=8.0						
MK31	Makanchi Array	44.45	303	*e*P	P	12 00 42.5	+0.2
PMG	Port Moresby	45.34	171	LR	LR	12 19 58.7	
	comp=Z,15nm,28.6s,baz=58,slow=36						
KURK	Kurchatov	46.40	309	*e*P	P

az=36.0
*ISCJB **20** 12:06:08.1±2.7, 35°.6S×0°.4×102°.2W±0°.4, h10km, mb3.8/6, MS3.5/5, Error ellipse: s-maj=78.8km s-min=22.2km az=37.1*

ISC 20 12:06:09.5±3.3, 35°.7S×0°.5×102°.2W±0°.4, h10km, n12, σ1§24/6, mb3.9/6, MS3.5/5, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**25.31**	**111**	P	**P**	**12 11 36.9**	**+0.5**
	1.4nm,0.8s,baz=280,slow=11,SNR=6.9						
PLCA				LR	LR	12 18 24.3	
	comp=Z,138nm,19.8s,baz=279,slow=29						
LPAZ	**La Paz**	**35.97**	**66**	P	**P**	**12 13 12.2**	**+1.0**
	5.0nm,1.0s,baz=233,slow=5.0,SNR=9.6						
LPAZ				LR	LR	12 24 56.8	
	comp=Z,26nm,20.3s,baz=268,slow=31						
CPUP	**Villa Florida**	**39.31**	**89**	LR	LR	12 26 53.5	
	comp=Z,54nm,18.9s,baz=17,slow=32						
SIV	**San Ignacio**	**41.53**	**73**	LR	LR	12 28 20.0	
	comp=Z,78nm,20.1s,slow=32						
ROSC	**El Rosal**	**48.07**	**39**	LR	LR	12 31 22.6	
	comp=Z,92nm,18.4s,baz=210,slow=32						
BDFB	**Brasilia**	**52.10**	**82**	P	**P**	**12 15 18.8**	**-1.3**
	1.8nm,0.6s,baz=247,slow=7.7,SNR=3.2						
TXAR	**Lajitas Array**	**64.68**	**359**	P	**P**	**12 16 46.8**	**-0.8**
	0.2nm,0.8s,baz=188,slow=5.5,SNR=2.8						
NVAR	**Mina Array Bea**	**75.22**	**347**	P	**P**	**12 17 53.4**	**+1.0**
	1.2nm,0.9s,baz=188,slow=5.8,SNR=6.6						
PDAR	**Pinedale Array**	**78.36**	**354**	P	**P**	**12 18 10.1**	**+0.1**
	0.9nm,0.8s,baz=139,slow=7.0,SNR=9.0						
H01W1	**Cape Leeuwin H**	**102.02**	**210**	T	T	14 14 22.3	
	baz=149,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**102.02**	**210**	T	T	14 14 18.9	
	baz=149,slow=76,SNR=9.4						
H01W3	**Cape Leeuwin H**	**102.03**	**210**	T	T	14 14 20.9	
	baz=149,slow=76,SNR=6.7						

*IDC **20** 12:06:08.8±0.8, 23°.7BN×121°.78E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.6/25, mbtmp3.5/8, Error ellipse: s-maj=49.5km s-min=17.2km az=72.0*
*JMA **20** 12:06:13.7±0.1, 23°.80N×121°.63E, h39km±2km, M3.9*
*ISCJB **20** 12:06:14.6±0.2, 23°.82N±0°.01×121°.70E±0°.02, h43km±3km, mb3.4/8, Error ellipse: s-maj=2.8km s-min=1.9km az=39.1*
*TAP **20** 12:06:14.7, 23°.84N×121°.65E, h39km, ML4.2, B*

ISC 20 12:06:14.5±0.8, 23°.81N±0°.02×121°.69E±0°.02, h34km±2km, n81, σ1§02/146, mb3.4/8, 26C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.17**	**232**	*e*P	**Pb**	**12 06 22.1**	**+1.2**
	baz=217						
TEGC				*e*S	**Sb**	**12 06 28.4**	**+3.2**
	baz=217						
ESF	**Shoufeng Towns**	**0.17**	**290**	⇓P	**Pb**	**12 06 21.7**	**+0.8**
	baz=285						
ESF				S	**Sb**	**12 06 26.5**	**+1.2**
	baz=285						
HWA	**Hwalien**	**0.18**	**336**	P	**Pb**	**12 06 21.5**	**+0.6**
	baz=353						
HWA				*e*S	**Sb**	**12 06 26.4**	**+1.0**
	baz=353						
ESL	**Shilin**	**0.23**	**270**	⇑*i*P	**Pn**	**12 06 21.8**	**+0.9**
	baz=273						
ESL				S	**Sb**	**12 06 26.3**	**0.0**
	baz=273						
TWD	**Chiawan**	**0.28**	**343**	⇓*i*P	**Pn**	**12 06 22.4**	**+0.4**
	baz=349						
TWD				*i* S	**Sb**	**12 06 28.2**	**+1.0**
	baz=349						
EHY	**Hungye**	**0.45**	**228**	⇑*i*P	**Pb**	**12 06 24.1**	**-0.2**
	baz=223						
EHY				*e*S	**Sb**	**12 06 30.6**	**-0.6**
	baz=223						
EHP	**Heping Village**	**0.50**	**6**	P	**Pb**	**12 06 25.3**	**+0.2**
	baz=18						
EHP				S	**Sn**	**12 06 33.5**	**+0.9**
	baz=18						
WHF	**Hehuan Shan**	**0.51**	**311**	⇑*i*P	**Pb**	**12 06 25.1**	**-0.4**
	baz=306						
WHF				*e*S	**Sb**	**12 06 32.3**	**-0.9**
	baz=306						
TWF1	**Yuli**	**0.58**	**218**	⇑*i*P	**Pn**	**12 06 25.9**	**-0.4**
	baz=223						
TWF1				*e*S	**Sb**	**12 06 33.7**	**-0.8**
	baz=223						
ENA	**Nanau**	**0.61**	**5**	⇑*i*P	**Pn**	**12 06 26.9**	**+0.1**
	baz=16						
ENA				*e*S	**Sb**	**12 06 35.2**	**-0.3**
	baz=16						
TWT	**Tachien**	**0.64**	**313**	⇑*i*P	**Pn**	**12 06 27.4**	**+0.1**
	baz=313						
TWT				*i* S	**Sn**	**12 06 35.9**	**-0.5**
	baz=313						
NNS	**Nan Shan**	**0.69**	**335**	⇑*i*P	**Pn**	**12 06 27.6**	**-0.3**
	baz=337						
NNS				*e*S	**Sn**	**12 06 36.8**	**-0.8**
	baz=337						
SMLT	**Sun Moon Lake**	**0.72**	**276**	⇑*i*P	**Pn**	**12 06 28.5**	**+0.1**
	baz=277						
SMLT				*e*S	**Sn**	**12 06 37.8**	**-0.6**
	baz=277						
YUS	**Yu-Shan**	**0.75**	**245**	⇑*i*P	**Pn**	**12 06 29.5**	**+0.4**
	baz=243						
YUS				S	**Sn**	**12 06 39.0**	**-0.5**
	baz=243						
TYC	**Yuchr**	**0.76**	**277**	⇑*i*P	**Pn**	**12 06 28.9**	**0.0**
	baz=280						
TYC				S	**Sn**	**12 06 38.9**	**-0.3**
	baz=280						
CHKT	**Chengkung**	**0.77**	**203**	*e*P	**Pn**	**12 06 29.0**	**0.0**
	baz=186						
CHKT				*e*S	**Sn**	**12 06 40.4**	**+1.1**
	baz=186						
TWC	**Suao**	**0.81**	**11**	⇑*i*P	**Pn**	**12 06 29.9**	**+0.4**
	baz=23						
TWC				*e*S	**Sn**	**12 06 41.0**	**+0.7**
	baz=23						
ENTT	**Nioudou**	**0.83**	**352**	⇑*i*P	**Pn**	**12 06 29.8**	**-0.1**
	baz=353						
ENTT				*e*S	**Sn**	**12 06 40.2**	**-0.7**
	baz=353						
ALS	**Alishan**	**0.86**	**250**	⇑*i*P	**Pn**	**12 06 31.0**	**+0.5**
	baz=248						
ALS				*e*S	**Sn**	**12 06 41.5**	**-0.6**
	baz=248						
ELDTW	**Lidau**	**0.87**	**225**	⇓*e*P	**Pn**	**12 06 30.1**	**-0.4**
ELDTW				*e*S	**Sn**	**12 06 41.6**	**-0.4**
	baz=218						
NSK	**Sanguang**	**0.91**	**341**	⇑*i*P	**Pn**	**12 06 31.1**	**+0.1**
	baz=341						
NSK				S	**Sn**	**12 06 42.1**	**-0.8**
	baz=341						
WNT	**Mingjian**	**0.92**	**274**	⇑*i*P	**Pn**	**12 06 32.2**	**+1.1**
	baz=273						
WNT				*e*S	**Sn**	**12 06 44.1**	**+1.0**
	baz=273						
CHN5	**Tsauling**	**0.95**	**257**	⇑P	**Pn**	**12 06 32.4**	**+0.9**
	baz=256						
CHN5				S	**Sn**	**12 06 44.8**	**+0.9**
	baz=256						
ILA	**Ilan**	**0.95**	**3**	*e*P	**Pn**	**12 06 32.1**	**+0.7**
	baz=354						
TCU	**Taichung**	**0.98**	**290**	⇑*i*P	**Pn**	**12 06 33.1**	**+1.3**
	baz=289						
TCU				*e*S	**Sb**	**12 06 46.6**	**+0.9**
	baz=289						
TWQ1	**Liyutan**	**0.99**	**303**	⇑*i*P	**Pn**	**12 06 33.2**	**+1.2**
	baz=302						
TWQ1				*e*S	**Sn**	**12 06 45.4**	**+0.5**
	baz=302						
NSTT	**Nanjuang**	**1.03**	**323**	⇑*i*P	**Pn**	**12 06 33.7**	**+1.2**
	baz=322						
NSTT				*e*S	**Sn**	**12 06 45.7**	**-0.1**
	baz=322						
NSY	**Sanyi**	**1.04**	**306**	⇑*i*P	**Pn**	**12 06 33.9**	**+1.2**
	baz=305						
NSY				*e*S	**Sn**	**12 06 46.7**	**+0.7**
	baz=305						
WGK	**Gukeng**	**1.04**	**263**	*e*P	**Pn**	**12 06 33.6**	**+1.0**
	baz=263						
WGK				*e*S	**Sn**	**12 06 47.2**	**+1.2**
	baz=263						
STYT	**Tauyuan**	**1.07**	**233**	⇑*i*P	**Pn**	**12 06 34.0**	**+0.8**
	baz=228						
STYT				*e*S	**Sn**	**12 06 47.5**	**+0.6**
	baz=228						
WTP	**Ta-pu**	**1.13**	**240**	⇑*i*P	**Pn**	**12 06 35.2**	**+1.2**
	baz=240						
WTP				*e*S	**Sn**	**12 06 49.4**	**+0.9**
	baz=240						
TWG	**Pinlang**	**1.14**	**210**	*e*P	**Pn**	**12 06 33.1**	**-1.0**
	baz=196						
TTN	**Taitung**	**1.17**	**205**	*e*P	**Pn**	**12 06 34.9**	**+0.5**
	baz=206						
TTN				*e*S	**Sn**	**12 06 49.6**	**+0.5**
	baz=206						
HSN	**Hsinchu**	**1.18**	**327**	⇑*e*P	**Pn**	**12 06 36.0**	**+1.4**
	baz=327						
HSN				*e*S	**Sb**	**12 06 51.5**	**+0.1**
	baz=327						
CHY	**Chiayi**	**1.20**	**255**	*e*P	**Pn**	**12 06 36.1**	**+1.2**
	baz=255						
CHY				*e*S	**Sn**	**12 06 51.4**	**+1.4**
	baz=255						
TWB1	**Santiao Chiao**	**1.22**	**13**	*e*P	**Pn**	**12 06 36.3**	**+1.1**
	baz=12						
TWB1				*e*S	**Sn**	**12 06 51.9**	**+1.3**
	baz=12						
TWK	**Hsinying**	**1.23**	**244**	*e*P	**Pn**	**12 06 36.5**	**+1.2**
	baz=244						
TWK				*e*S	**Sn**	**12 06 52.7**	**+2.0**
	baz=244						
TAP1	**Taipei**	**1.23**	**353**	*e*P	**Pn**	**12 06 35.7**	**+0.4**
	baz=351						
TAP1				*e*S	**Sn**	**12 06 51.7**	**+1.0**
	baz=351						
TAP	**Taipei**	**1.23**	**352**	*e*P	**Pn**	**12 06 35.5**	**+0.1**
	baz=351						
TAP				*e*S	**Sn**	**12 06 51.5**	**+0.7**
	baz=351						
CHN1	**Nanshi**	**1.23**	**240**	⇑P	**Pn**	**12 06 36.6**	**+1.3**
	baz=240						
CHN1				*e*S	**Sn**	**12 06 52.0**	**+1.1**
	baz=240						
NCU	**National Centr**	**1.24**	**339**	*e*P	**Pn**	**12 06 36.3**	**+0.9**
	baz=337						
NCU				*e*S	**Sn**	**12 06 52.3**	**+1.3**
	baz=337						
SGST	**Jiashian**	**1.25**	**235**	⇓*e*P	**Pn**	**12 06 37.2**	**+1.7**
	baz=235						
SGST				*e*S	**Sb**	**12 06 53.5**	**+0.2**
	baz=235						
NWF	**Wu-fen Shan**	**1.26**	**4**	*e*P	**Pn**	**12 06 36.2**	**+0.4**
	baz=350						
NWF				*e*S	**Sn**	**12 06 52.7**	**+1.2**
	baz=350						
WTCT	**Ta-ch'eng**	**1.29**	**273**	⇑*i*P	**Pn**	**12 06 37.3**	**+1.2**
	baz=272						
WTCT				*e*S	**Sn**	**12 06 54.4**	**+2.2**
	baz=272						
TWS1	**Kuangyinshan**	**1.30**	**349**	*e*P	**Pn**	**12 06 37.0**	**+0.6**
	baz=356						
TWS1				*e*S	**Sn**	**12 06 53.7**	**+1.1**
	baz=356						
WSF	**Szhu**	**1.35**	**263**	*e*P	**Pn**	**12 06 38.2**	**+1.2**
	baz=263						
WSF				*e*S	**Sn**	**12 06 55.7**	**+1.9**
	baz=263						
YOJ	**Yonaguni jima**	**1.37**	**62**	P	**Pn**	**12 06 38.0**	**+0.8**
YOJ				S	**Sn**	**12 06 55.3**	**+1.0**
YOJ	**Yonaguni jima**	**1.37**	**62**	*i* P	**Pn**	**12 06 37.9**	**+0.6**
	baz=66						
YOJ				*e*S	**Sn**	**12 06 55.1**	**+0.8**
	baz=66						
ECL	**Taimali**	**1.39**	**209**	*e*P	**Pn**	**12 06 36.4**	**-1.0**
	baz=197						
CHN3	**Shinhua**	**1.42**	**239**	*e*P	**Pb**	**12 06 40.4**	**0.0**
	baz=252						
CHN8	**Yiju**	**1.43**	**251**	*e*P	**Pn**	**12 06 39.2**	**+1.2**
	baz=252						
CHN8				*e*S	**Sn**	**12 06 57.1**	**+1.4**
	baz=252						
SSD	**Sandimen**	**1.44**	**223**	*e*P	**Pn**	**12 06 38.8**	**+0.7**
	baz=224						
SSD				*e*S	**Sn**	**12 06 58.0**	**+2.1**
	baz=224						
TWY	**Chenhua**	**1.46**	**357**	*e*P	**Pn**	**12 06 39.1**	**+0.7**
	baz=356						
SCLT	**Jiali**	**1.51**	**245**	*e*P	**Pn**	**12 06 40.2**	**+1.0**
	baz=246						
SCLT				*e*S	**Sn**	**12 06 59.4**	**+1.7**
	baz=246						
TWM1	**Shoushan**	**1.52**	**230**	*e*P	**Pb**	**12 06 42.4**	**+0.2**
	baz=231						
TWM1				*e*S	**Sb**	**12 07 01.2**	**+0.1**
	baz=231						
SGLT	**Jiouru**	**1.54**	**226**	*e*P	**Pb**	**12 06 42.2**	**-0.3**
	baz=227						
SGLT				*e*S	**Sb**	**12 07 03.1**	**+1.5**
	baz=227						
TAI1	**Yung-k'ang**	**1.54**	**240**	*e*P	**Pn**	**12 06 40.5**	**+1.0**
	baz=254						
TAI1				*e*S	**Sn**	**12 06 59.9**	**+1.4**
	baz=254						
EAST	**Anshuo**	**1.62**	**209**	*e*P	**Pn**	**12 06 40.2**	**-0.5**
	baz=199						
TAW	**Tawu**	**1.62**	**207**	*e*P	**Pn**	**12 06 42.0**	**+1.3**
	baz=194						
TAW				*e*S	**Sn**	**12 07 00.9**	**+0.5**
	baz=194						
LAY	**Lan-yu**	**1.77**	**184**	*e*P	**Pn**	**12 06 42.1**	**-0.7**
	baz=171						
LAY				*e*S	**Sn**	**12 07 04.3**	**+0.2**
	baz=171						
PCYT	**Pengchaiyu**	**1.84**	**11**	*e*P	**Pn**	**12 06 45.0**	**+1.3**
	baz=356						
IRIF	**Iriomote-Funau**	**1.94**	**74**	P	**Pn**	**12 06 46.0**	**+1.0**
IRIF				S	**Sn**	**12 07 09.6**	**+1.3**
WDGT	**Dungji**	**1.94**	**254**	*e*P	**Pn**	**12 06 45.3**	**+0.2**
	baz=244						
WDGT				*e*S	**Sn**	**12 07 09.0**	**+0.7**
	baz=244						
HATJ	**Hateruma jima**	**1.95**	**82**	P	**Pn**	**12 06 46.3**	**+1.1**
HATJ				S	**Sn**	**12 07 09.8**	**+1.2**
HEN	**Hengchun**	**2.00**	**206**	*e*P	**Pb**	**12 06 50.0**	**-0.2**
	baz=192						
TWK1	**Hengchun**	**2.03**	**204**	*e*P	**Pn**	**12 06 47.4**	**+1.1**
	baz=186						
TWK1				*e*S	**Sn**	**12 07 11.2**	**+0.7**
	baz=186						
TSEB	**Hengchuen, Pin**	**2.04**	**201**	*e*P	**Pn**	**12 06 48.1**	**+1.7**
	baz=196						
TSEB				*e*S	**Sn**	**12 07 12.7**	**+2.0**
	baz=196						
JKRS	**Kuro-shima**	**2.17**	**78**	P	**Pn**	**12 06 49.6**	**+1.4**
JKRS				*e*S	**Sn**	**12 07 15.8**	**+1.9**
JIJ	**Ishigaki jima**	**2.31**	**76**	P	**Pn**	**12 06 50.8**	**+0.6**
JIJ				S	**Sn**	**12 07 17.5**	**0.0**
JTJ	**Tarama**	**2.87**	**73**	P	**Pn**	**12 06 58.8**	**+0.9**
JTJ				S	**Sn**	**12 07 32.7**	**+1.4**
KNM	**Kinmen**	**3.03**	**282**	⇑*e*P	**Pn**	**12 07 01.4**	**+1.3**
	baz=282						
KNM				*e*S	**Sn**	**12 07 35.5**	**+0.2**
	baz=282						
JOGS	**Gusukube**	**3.52**	**74**	P	**Pn**	**12 07 07.8**	**+1.0**
JOGS				*e*S	**Sn**	**12 07 48.6**	**+1.2**
JKE	**Kume jima 2**	**5.26**	**61**	P	**Pn**	**12 07 31.2**	**+0.5**
JKE				*e*S	**Sn**	**12 08 29.5**	**-0.7**
SONM	**Songino Array**	**26.89**	**337**	P	**P**	**12 11 52.0**	**-0.3**
	0.3nm,0.6s,baz=163,slow=10,SNR=3.1						
ZALV	**Zalesovo Beam**	**40.80**	**327**	P	**P**	**12 13 51.3**	**-1.2**
	0.2nm,0.3s,baz=111,slow=8.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**42.69**	**320**	P	**P**	**12 14 08.8**	**+0.8**
	0.2nm,0.3s,baz=101,slow=8.6,SNR=4.9						
WRA	**Warramunga Arr**	**45.21**	**163**	P	**P**	**12 14 27.1**	**-1.4**
	0.6nm,0.6s,baz=346,slow=8.7,SNR=11						
ASAR	**Alice Springs**	**48.66**	**165**	P	**P**	**12 14 54.6**	**-0.9**
	0.2nm,0.5s,baz=323,slow=6.0,SNR=4.0						
STKA	**Stephens Creek**	**58.56**	**160**	P	**P**	**12 16 06.8**	**-1.1**
	1.4nm,0.5s,baz=323,slow=9.4,SNR=6.3						
ILAR	**Eielson Array**	**69.33**	**27**	P	**P**	**12 17 18.9**	**+0.5**
	0.3nm,0.7s,baz=292,slow=6.5,SNR=5.0						
YKA	**Yellowknife Ar**	**83.13**	**23**	P	**P**	**12 18 35.5**	**-1.1**
	0.2nm,0.6s,baz=312,slow=4.9,SNR=15						

*IDC **20** 12:06:29.1±1.1, 48°.86N×156°.23E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/26, mbtmp3.5/7, ML2.9/1, Error ellipse: s-maj=32.9km s-min=24.2km az=125.0*
*KRSC **20** 12:06:30.4±9.3, 48°.83N×156°.56E, h52km±51km, ML4.2*
*SKHL **20** 12:06:30.4±3.0, 49°.00N×155°.90E, h25km±4km, mb4.1/2*
*MOS **20** 12:06:32.6±1.9, 49°.03N×156°.20E, h33km, mb4.2/2, Error ellipse: s-maj=47.3km s-min=12.1km az=82.1*

ISC 20 12:06:34.1±0.8, 49°.11N±0°.07×155°.91E±0°.10, h34km, n36, σ1§67/40, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.58**	**5**	*e*PN	Pn	12 06 56.4	-3.3
SKR				*e*S	**Sb**	**12 07 22.0**	**-0.4**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax	smax		
	comp=E,410nm,0.4s						
SKR				smax	smax		
	comp=N,230nm,0.5s						
SKR	**Severo-Kuril's**	**1.58**	**5**	*e*P	**Pb**	**12 07 02.0**	**-0.8**
SKR				*i* S	**Sb**	**12 07 24.3**	**+1.9**
SKR	**Severo-Kuril's**	**1.58**	**5**	*e*P	Pn	12 06 56.4	-3.3
SKR				AMB	AMB	12 06 57.0	
	comp=N,60nm,0.5s						
SKR				*e*S	**Sn**	**12 07 15.9**	**-3.1**
SKR				A	A	12 07 24.0	
	comp=N,230nm,0.5s						
SKR				A	A	12 07 24.0	
	comp=N,410nm,0.5s						
PAU	**Pauzhetka**	**2.43**	**13**	PN	**Pn**	**12 07 13.2**	**+1.8**
PAU				S	**Sb**	**12 07 43.8**	**-2.9**
PAU	**Pauzhetka**	**2.43**	**13**	*e*P	**Pn**	**12 07 13.2**	**+1.8**
PAU				*i* S	**Sb**	**12 07 43.8**	**-2.9**
ASAK	**Asacha**	**3.52**	**20**	*e*P	**Pn**	**12 07 27.5**	**+1.1**
MTVR	**Mutnovka**	**3.68**	**22**	*e*P	**Pn**	**12 07 29.1**	**+0.5**
MTVR				*i* S	**Sn**	**12 08 10.0**	**-0.8**
PETK	**Petropavlovsk-**	**4.16**	**15**	PN	**Pn**	**12 07 37.1**	**+1.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.16**	**15**	Pn	**Pn**	**12 07 37.1**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=275,slow=15,SNR=32						
PETK				Sn	**Sb**	**12 08 35.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=188,slow=18,SNR=2.9						
UGLR	**Uglovaya**	**4.50**	**23**	*e*P	**Pn**	**12 07 41.0**	**+1.1**
AVH	**Avacha**	**4.53**	**22**	*e*P	**Pn**	**12 07 42.0**	**+1.7**
KOK	**Koryaka**	**4.53**	**21**	*e*P	**Pn**	**12 07 42.0**	**+1.7**
SMAR	**Somma**	**4.54**	**23**	*e*P	**Pn**	**12 07 41.9**	**+1.3**
KRER	**Koryakskii**	**4.57**	**22**	*e*P	**Pn**	**12 07 42.2**	**+1.3**
SDLR	**Sedlovina**	**4.58**	**23**	*e*P	**Pn**	**12 07 41.2**	**+0.2**
KRX	**Arik**	**4.59**	**21**	*e*P	**Pn**	**12 07 42.8**	**+1.6**
GNL	**Ganaly**	**4.77**	**15**	*e*P	**Pn**	**12 07 45.9**	**+2.3**
KZV	**Kizimen**	**6.59**	**23**	*e*P	**Pn**	**12 08 10.5**	**+1.8**
KUR	**Kuril'sk**	**6.71**	**238**	*e*P	**Pn**	**12 08 07.8**	**-2.4**
KUR				*e*S	**Sn**	**12 09 22.0**	**-3.3**
TUMR	**Tumrok**	**6.71**	**21**	*e*P	**Pn**	**12 08 11.7**	**+1.4**
KBTR	**Krutoberegovo**	**8.26**	**28**	PN	**Pn**	**12 08 30.4**	**-0.9**
KBTR	**Krutoberegovo**	**8.26**	**28**	*e*P	**Pn**	**12 08 30.4**	**-0.9**
EKMR	**Ekimchan**	**14.94**	**294**	*e*P	**P**	**12 10 07.1**	**-0.7**
EKMR				AMB	AMB	12 10 16.1	
	comp=Z,4.0nm,0.5s						
KROS	**Kirovskiy**	**18.61**	**298**	*e*P	**Pn**	**12 10 49.0**	**+0.2**
INK	**Inuvik**	**38.65**	**34**	*e*P	**P**	**12 13 54.9**	**+1.1**
INK	**Inuvik**	**38.65**	**34**	P	**P**	**12 13 54.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=300,slow=4.0,SNR=4.6						
KURK	**Kurchatov**	**47.64**	**303**	P	P	12 15 10.2	+3.6
KURK	**Kurchatov**	**47.64**	**303**	*e*P	P	12 15 10.2	+3.6
KURBB	**Kurchatov Arra**	**47.74**	**303**	P	**P**	**12 15 10.2**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=68,slow=8.1,SNR=2.9						
YKA	**Yellowknife Ar**	**47.91**	**39**	*e*P	**P**	**12 15 08.4**	**-0.1**
YKA	**Yellowknife Ar**	**47.91**	**39**	P	**P**	**12 15 08.4**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=297,slow=6.9,SNR=3.1						
FINES	**FINESS Array B**	**62.69**	**335**	P	**P**	**12 16 56.3**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=57,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**71.38**	**201**	*e*P	**P**	**12 17 49.9**	**-0.6**
WRA	**Warramunga Arr**	**71.38**	**201**	P	**P**	**12 17 49.9**	**-0.6**
	comp=Z,0.8nm,1.1s,baz=22,slow=6.3,SNR=2.7						
TXAR	**Lajitas Array**	**74.72**	**63**	*e*P	**P**	**12 18 10.4**	**-0.1**
TXAR	**Lajitas Array**	**74.72**	**63**	P	**P**	**12 18 10.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=295,slow=4.6,SNR=6.5						

*IDC **20** 12:26:15.7±6.8, 21°.26S×176°.47W, h170km±59km, mb3.8/10, mb1 4.0/11, mb1mx3.7/23, mbtmp3.8/11, Error ellipse: s-maj=26.3km s-min=21.2km az=9.0*
*ISCJB **20** 12:26:19.3±0.8, 21°.5S±0°.1×176°.4W±0°.1, h219km, mb3.8/10, Error ellipse: s-maj=20.2km s-min=13.5km az=145.4*
*AUST **20** 12:26:23.8±0.0, 21°.68S×174°.56W, h380km, Error ellipse: s-maj=4.1km s-min=1.5km az=297.0*

ISC 20 12:26:20.8±0.7, 21°.4S±0°.2×176°.5W±0°.1, h219km, n34, σ1§12/34, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.56**	**71**	P	Pn	12 27 46.3	-9.3
	baz=5.1,SNR=8.5						
DZM	**Mont Dzumac**	**15.88**	**264**	P	**Pn**	**12 29 55.4**	**+2.3**
	0.6nm,0.3s,baz=75,slow=18,SNR=13						
URZ	**Urewera**	**17.72**	**197**	P	**P**	**12 30 10.2**	**-2.0**
	3.9nm,0.3s,baz=0.3,slow=1.8,SNR=30						
RPZ	**Rata Peaks**	**24.58**	**202**	P	**P**	**12 31 20.9**	**+0.2**
	16nm,0.5s,baz=212,slow=0.5,SNR=16						
ARMA	**Armidale**	**29.99**	**246**	P	**P**	**12 32 10.8**	**+1.6**
	baz=32,SNR=9.6						
RMQ	**Roma**	**32.12**	**254**	P	**P**	**12 32 29.4**	**+1.7**
	baz=34,SNR=5.9						
CTA	**Charters Tower**	**34.83**	**265**	P	**P**	**12 32 51.7**	**+0.5**
	3.3nm,0.5s,baz=102,slow=12,SNR=8.4						
RABL	**Rabaul**	**34.90**	**295**	P	P	12 32 56.0	+4.1
	baz=37,SNR=3.5						
CMSA	**Cobar Meteorol**	**35.20**	**245**	P	**P**	**12 32 55.4**	**+1.2**
	baz=37,SNR=15						
QLP	**Quilpie**	**36.17**	**254**	P	**P**	**12 33 02.9**	**+0.3**
	baz=38,SNR=5.6						
TOO	**Toolangi**	**36.55**	**235**	P	**P**	**12 33 06.1**	**+0.4**
	baz=38,SNR=3.8						
PMG	**Port Moresby**	**36.92**	**283**	P	**P**	**12 33 08.8**	**-0.3**
	6.1nm,0.7s,baz=166,slow=8.3,SNR=3.4						
STKA	**Stephens Creek**	**38.70**	**245**	P	**P**	**12 33 23.9**	**+0.2**
	3.7nm,0.5s,baz=94,slow=9.6,SNR=29						
STKA				PcP	**PcP**	**12 35 32.5**	**+1.5**
	1.2nm,0.5s,baz=53,slow=5.1,SNR=3.6						
STKA	**Stephens Creek**	**38.70**	**245**	P	**P**	**12 33 24.6**	**+0.8**
	baz=40,SNR=29						
HTT	**Hallett**	**41.09**	**243**	P	**P**	**12 33 44.6**	**+1.2**
	baz=42,SN

*NEIC **20** 12:26:25.8, 38.79N×122.77W, h4km, MW3.8(BRK), After NCEDC.*
NEIC Felt [III] at Middletown and [II] at Calistoga, Geyserville, Healdsburg, Hidden Valley Lake, Saint Helena, Santa Rosa and Windsor. Also felt at Alameda, Angwin, Brentwood, Cloverdale, Kelseyville, Kenwood, Napa, San Francisco and Vacaville.

ISC 20 12:26:24.8±1.5, 38.77N±0.03×122.77W±0.04, h2km±13km, n59, σ1§22/58, 2C-5D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPS	**Hopland**	**0.33**	**314**	*e*Pg	**Pb**	**12 26 32.5**	**-0.9**
MCCM	**Marconi Confer**	**0.63**	**188**	*e*Pg	**Pb**	**12 26 38.9**	**+0.4**
KCPM	**Cahto Peak**	**1.11**	**326**	*e*Pn	**Pn**	**12 26 47.5**	**0.0**
OHCM	**Honcut**	**1.15**	**60**	*e*Pg	**Pb**	**12 26 45.3**	**-2.1**
KIPM	**Iron Peak**	**1.18**	**332**	*e*Pn	**Pg**	**12 26 48.8**	**+1.5**
SAC	**San Andreas**	**1.22**	**167**	*e*Pn	**Pn**	**12 26 47.2**	**-1.6**
WDC	**Whiskeytown Da**	**1.82**	**6**	*e*Pn	**Pn**	**12 26 56.4**	**-0.7**
CMB	**Columbia Colle**	**2.01**	**111**	*e*Pn	**Pn**	**12 26 59.3**	**-0.6**
CMB				*e*Sn	**Sn**	**12 27 24.0**	**-1.6**
BEKR	**Beckworth**	**2.17**	**59**	*e*Pn	**Pb**	**12 27 02.9**	**-2.0**
BEKR				*e*Sg	**Sb**	**12 27 31.8**	**-0.6**
N02D	**Trinity Center** baz=2.2	**2.20**	**1**	P	**Pb**	**12 27 03.7**	**-1.8**
SAO	**San Andreas Ge**	**2.26**	**152**	*e*Pn	**Pn**	**12 27 01.6**	**-1.6**
M02C	**Callahan** baz=2.6	**2.62**	**359**	P	**Pn**	**12 27 08.5**	**+0.3**
WAKR	**Walker**	**2.62**	**95**	*e*Pn	**Pn**	**12 27 09.4**	**+1.0**
WAKR				*e*Sg	**Sb**	**12 27 45.7**	**+0.3**
PAHR	**Pah Rah Range**	**2.79**	**69**	*e*Pn	**Pn**	**12 27 11.2**	**+0.5**
YBH	**Yreka Blue Hor**	**2.96**	**1**	*e*Pn	**Pn**	**12 27 14.7**	**+1.8**
M04C	**Macdoel** baz=3.1	**3.09**	**13**	P	**Pb**	**12 27 18.1**	**-2.5**
MLAC	**Mammoth Lakes** baz=3.3	**3.30**	**109**	P	**Pb**	**12 27 21.5**	**-2.7**
MLAC				S	**Sg**	**12 28 10.2**	**-0.7**
NV11	**Mina Array Sit**	**3.63**	**94**	*e*Pn	**Pn**	**12 27 22.5**	**+0.3**
NV11				*e*Pg	**Pb**	**12 27 31.6**	**+1.8**
NV11				*e*Sg	**Sg**	**12 28 21.6**	**+0.2**
MOD	**Modoc**	**3.65**	**30**	*e*Pn	**Pn**	**12 27 23.1**	**+0.5**
PTRM	**Twissleman Ran**	**3.72**	**146**	*e*Pn	**Pn**	**12 27 22.8**	**-0.5**
RCTC	**Rector, Farmer** baz=3.7	**3.73**	**130**	P	**Pn**	**12 27 24.0**	**+0.7**
HUMO	**Hull Mountain**	**3.84**	**358**	*e*Pn	**Pn**	**12 27 24.6**	**-0.3**
TIN	**Tinemaha** baz=4.0	**3.98**	**114**	P	Pb	12 27 31.3	-4.4
TIN				S	**Sb**	**12 28 25.5**	**+1.1**
K05A	**Summer Lake**	**4.20**	**19**	*e*Pb	**Pb**	**12 27 38.1**	**-1.4**
CWC	**Cottonwood Cre** baz=4.4	**4.39**	**121**	P	Pn	12 27 35.3	+2.7
PKM	**Peak Mountain** baz=4.6	**4.53**	**148**	P	**Pn**	**12 27 32.7**	**-1.9**
GRAC	**Grapevine Rang** baz=4.6,SNR=5.1	**4.62**	**111**	⇓P	Pb	12 27 41.3	-5.4
ISA	**Isabella**	**4.62**	**131**	*e*Pn	**Pn**	**12 27 36.0**	**+0.3**
ISA	**Isabella** baz=4.6,SNR=37	**4.62**	**131**	P	**Pn**	**12 27 36.2**	**+0.5**
ISA				S	Sb	12 28 35.9	-7.0
J05D	**Fort Rock, OR** baz=4.6	**4.66**	**14**	P	Pn	12 27 39.2	+2.9
ARVC	**Arvin** baz=4.8,SNR=28	**4.81**	**138**	⇑P	**Pn**	**12 27 38.3**	**0.0**
ARVC				S	**Sn**	**12 28 37.6**	**+3.0**
WVOR	**Wild Horse Val** baz=4.8	**4.83**	**39**	*e*Pn	**Pn**	**12 27 39.2**	**+0.6**
MPMC	**Manual Prospec** baz=5.0	**5.00**	**121**	P	**Pn**	**12 27 42.1**	**+1.0**
FURC	**Furnace Creek,** baz=5.2	**5.22**	**114**	⇓P	Pn	12 27 47.2	+3.3
LRMC	**Laurel Mountai** baz=5.2	**5.22**	**127**	P	**Pn**	**12 27 45.0**	**+0.9**
OSI	**Osito Adit** 27nm,0.7s	**5.27**	**141**	*e*Pn	**Pn**	**12 27 45.2**	**+0.6**
EDW2	**Edwards Air Fo** baz=5.5,SNR=13	**5.46**	**134**	P	**Pn**	**12 27 47.5**	**+0.3**
TPNV	**Topopah Spring**	**5.47**	**107**	*e*Pb	Pb	12 27 57.5	-3.7
TPNV	**Topopah Spring** baz=5.5,SNR=12	**5.47**	**107**	⇓P	Pn	12 27 52.1	+4.6
J08A	**Circle Bar Ran**	**5.62**	**34**	*e*Pg	**Pg**	**12 28 12.6**	**+0.2**
R11A	**Troy Canyon, C**	**5.65**	**92**	*e*Pn	Pn	12 27 52.6	+2.7
PASC	**Pasadena Art C**	**5.89**	**140**	*e*Pn	**Pn**	**12 27 52.7**	**-0.4**
GSC	**Goldstone**	**5.89**	**124**	*e*Pn	**Pn**	**12 27 53.3**	**+0.1**
GSC	**Goldstone** baz=5.9	**5.89**	**124**	P	**Pn**	**12 27 54.3**	**+1.1**
MWC	**Mount Wilson**	**5.91**	**139**	*e*Pn	**Pn**	**12 27 53.6**	**0.0**
BFSC	**Mount Baldy Ra** baz=6.1,SNR=17	**6.11**	**136**	P	**Pn**	**12 27 55.9**	**-0.4**
ELK	**Elko**	**6.13**	**69**	*e*Pn	**Pn**	**12 27 58.8**	**+2.1**
SHPR	**Sheep Range**	**6.45**	**108**	*e*Pn	**Pn**	**12 28 02.4**	**+1.5**
HEC	**Hector,Ludlow** baz=6.5,SNR=5.7	**6.49**	**125**	⇓P	**Pn**	**12 28 02.6**	**+1.2**
BBRC	**Big Bear Solar** baz=6.5	**6.51**	**132**	⇑P	**Pn**	**12 28 01.7**	**-0.1**
MURC	**Murrieta** baz=6.9	**6.85**	**137**	P	**Pn**	**12 28 05.7**	**-0.6**
BELC	**Belle Mtn. Jos** baz=7.2	**7.24**	**129**	⇓P	**Pn**	**12 28 12.1**	**+0.3**
PFO	**Pinyon Flat Ob**	**7.25**	**133**	*e*Pn	**Pn**	**12 28 11.8**	**-0.1**
PFO	**Pinyon Flat Ob** baz=7.3	**7.25**	**133**	P	**Pn**	**12 28 11.0**	**-0.9**
BGU	**Big Grassy Mou**	**7.80**	**71**	*e*Pn	**Pn**	**12 28 19.7**	**+0.2**
MONP	**Monument Peak** baz=7.8	**7.81**	**137**	P	**Pn**	**12 28 19.1**	**-0.6**
BC3	**Big Chuckawall** baz=7.8	**7.81**	**129**	P	**Pn**	**12 28 19.4**	**-0.1**
DUG	**Dugway**	**7.83**	**76**	*e*Pn	**Pn**	**12 28 21.9**	**+1.9**
HAWA	**Hanford** 18nm,1.5s	**7.98**	**16**	*e*Pn	Pn	12 28 25.3	+3.5

*IDC **20** 12:35:39.6±1.1, 0.53S×133.13E, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.8/23, mbtmp4.0/7, ML4.1/2, Error ellipse: s-maj=45.4km s-min=16.3km az=83.0*
*AUST **20** 12:35:42.8, 0.98S×133.50E, h10km*
*ISCJB **20** 12:35:43.0±0.7, 0.66S±0.07×132.88E±0.07, h32km, mb3.9/6, Error ellipse: s-maj=10.7km s-min=9.3km az=158.5*
*NEIC **20** 12:35:44.9±0.8, 0.60S×133.03E, h35km, mb4.1/5, Error ellipse: s-maj=24.0km s-min=11.9km az=82.0*
*DJA **20** 12:35:45.1±1.4, 1.S±7×13.3E±°, h12km±14km, M4.1/3, MLv4.1/3*

ISC 20 12:35:44.1±0.9, 0.52S±0.08×132.99E±0.05, h32km, n31, σ1§64/33, mb4.2/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWPI	**Manokwari, Pap**	**1.13**	**111**	P	**Pn**	**12 36 03.7**	**0.0**
MWPI				S	**Sb**	**12 36 19.3**	**-0.2**
SWI	**Sorong**	**1.76**	**259**	P	**Pb**	**12 36 14.9**	**-0.9**
SWI				S	**Sb**	**12 36 37.3**	**-0.2**
FAKI	**Fak Fak**	**2.49**	**197**	P	**Pn**	**12 36 23.1**	**+0.6**
FAKI				S	**Sn**	**12 36 52.4**	**+0.6**
FAKI	**Fak Fak** baz=2.3,SNR=374	**2.49**	**197**	P	**Pn**	**12 36 23.1**	**+0.6**
KDU	**Kakadu** baz=12,SNR=50	**12.10**	**182**	P	**Pn**	**12 38 32.4**	**-2.0**
MTN	**Manton Dam** baz=12,SNR=34	**12.38**	**188**	P	**Pn**	**12 38 36.5**	**-1.7**
KNRA	**Kununurra** baz=15,SNR=10	**15.62**	**195**	P	**Pn**	**12 39 18.9**	**-3.2**
FITZ	**Fitzroy Crossi** 89nm,1.9s	**18.90**	**202**	*e*P	**Pn**	**12 40 02.2**	**-0.8**
FITZ				S	Sn	12 43 20.9	-13
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=34,slow=13,SNR=22	**18.90**	**202**	P	**P**	**12 40 01.2**	**-1.0**
FITZ				S	Sn	12 43 20.9	-13
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=197,slow=17,SNR=3.0 baz=19,SNR=9.1	**18.90**	**202**	P	**P**	**12 40 01.4**	**-0.9**
WRAB	**Tennant Creek** 3.7nm,0.7s	**19.34**	**176**	*e*P	**P**	**12 40 06.6**	**-0.4**
WRA	**Warramunga Arr**	**19.34**	**176**	P	**P**	**12 40 05.7**	**-1.4**
WRA				S	Sn	12 43 33.3	-11
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=357,slow=11,SNR=28	**19.34**	**176**	P	**P**	**12 40 05.7**	**-1.4**
WRA	0.1nm,0.3s,baz=2.0,slow=23,SNR=5.7			S	Sn	12 43 33.3	-11
AS31	**Alice Springs**	**23.02**	**178**	*e*P	**P**	**12 40 46.4**	**-0.2**
ASAR	**Alice Springs**	**23.02**	**178**	P	**P**	**12 40 46.1**	**-0.6**
ASAR				S	**S**	**12 45 00.2**	**+4.8**
ASAR	**Alice Springs** 3.5nm,0.5s,baz=356,slow=9.8,SNR=48	**23.02**	**178**	P	**P**	**12 40 46.1**	**-0.6**
ASAR	0.8nm,0.7s,baz=2.1,slow=27,SNR=5.7			S	**S**	**12 45 00.2**	**+4.8**
CTA	**Charters Tower**	**23.38**	**147**	P	**P**	**12 40 50.6**	**+0.4**
CTA	**Charters Tower** 5.6nm,0.8s,baz=334,slow=12,SNR=9.7	**23.38**	**147**	P	**P**	**12 40 50.6**	**+0.4**
CTAO	**Charters Tower** 7.8nm,0.8s	**23.38**	**147**	*e*P	**P**	**12 40 50.5**	**+0.2**
WRKA	**Warakurna** baz=25,SNR=5.9	**24.79**	**190**	P	**P**	**12 41 03.9**	**+0.5**
STKA	**Stephens Creek** 2.0nm,1.1s	**32.23**	**166**	*e*P	**P**	**12 42 08.7**	**-0.9**
STKA	**Stephens Creek** 2.1nm,0.4s,baz=355,slow=8.2,SNR=14	**32.23**	**166**	P	**P**	**12 42 08.9**	**-0.7**
STKA	**Stephens Creek** baz=32,SNR=12	**32.23**	**166**	P	**P**	**12 42 08.9**	**-0.7**
ARPS	**Mount Arapiles** baz=37,SNR=5.3	**36.99**	**168**	P	**P**	**12 42 51.0**	**+0.3**
H11N1	**WAKE ISLAND Hy** baz=245,slow=75,SNR=29	**38.85**	**57**	T	T	13 24 21.4	
H11N2	**WAKE ISLAND Hy** baz=245,slow=75,SNR=66	**38.86**	**57**	T	T	13 24 21.5	
H11N3	**WAKE ISLAND Hy** baz=245,slow=75,SNR=26	**38.87**	**57**	T	T	13 24 19.6	
KURK	**Kurchatov** 4.2nm,1.7s	**68.69**	**326**	*e*P	**P**	**12 46 46.1**	**+1.6**
KURBB	**Kurchatov Arra** 0.5nm,0.6s,baz=119,slow=5.6,SNR=7.2	**68.70**	**326**	P	**P**	**12 46 46.3**	**+1.7**
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**	**12 48 22.0**	**-0.4**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=268,slow=4.3,SNR=5.4	**86.26**	**25**	P	**P**	**12 48 22.0**	**-0.4**

KRSC 20 12:43:05.7±3.5, 51.38N×160.05E, h5km±5km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.42**	**319**	*e*P	Pn	12 43 32.4	+0.2
RUS				*e*S	Sb	12 43 49.6	-1.5
MTVR	**Mutnovka**	**1.60**	**314**	P	Pn	12 43 35.2	+0.4
MTVR				*i* S	Sn	12 43 55.0	-1.0
ASAK	**Asacha**	**1.67**	**308**	P	Pb	12 43 36.5	-0.5
ASAK				*i* Sg	Pb	12 43 59.1	-0.4
GRL	**Gorelyy**	**1.69**	**315**	*e*P	Pb	12 43 37.9	+0.4
PET	**Petropavlovsk**	**1.86**	**333**	P	Pn	12 43 38.7	+0.6
UGLR	**Uglovaya**	**1.98**	**338**	P	Pb	12 43 41.8	-0.6
SDLR	**Sedlovina**	**2.03**	**340**	*e*P	Pn	12 43 41.4	+0.7
SMAR	**Somma**	**2.04**	**338**	P	Pb	12 43 43.9	+0.4
AVH	**Avacha**	**2.05**	**337**	P	Pb	12 43 42.8	-0.8
KRER	**Koryakskii**	**2.09**	**338**	P	Pb	12 43 43.3	-1.0
KOK	**Koryaka**	**2.10**	**336**	P	Pb	12 43 43.6	-0.8
KRX	**Arik**	**2.16**	**337**	P	Pn	12 43 43.9	+1.4
APC	**Apacha**	**2.36**	**312**	P	Pb	12 43 47.0	-1.7
APC				*i* S	Sb	12 44 16.8	-1.3
SKR	**Severo-Kuril's**	**2.58**	**256**	*e*P	Pn	12 43 49.6	+1.5
SKR				*e*S	Sn	12 44 18.8	-1.0
GNL	**Ganaly**	**2.65**	**332**	P	Pn	12 43 50.7	+1.4
KZV	**Kizimen**	**3.74**	**2**	P	Pn	12 44 06.2	+1.9
KZV				*i* S	Sn	12 44 48.6	-0.3
TUMR	**Tumrok**	**3.91**	**1**	P	Pn	12 44 08.9	+2.4
KBTR	**Krutoberegovo**	**5.11**	**18**	*e*P	Pn	12 44 24.6	+1.8

*IDC **20** 12:47:47.4±0.7, 21.74S×174.31W, h0km, mb4.4/16, mb1 4.6/16, mb1mx4.5/21, mbtmp4.4/16, MS3.8/11, Ms1 3.9/11, ms1mx3.6/38, Error ellipse: s-maj=28.1km s-min=16.1km az=151.0*
*ISCJB **20** 12:47:51.3±3.5, 21.60S±0.09×174.43W±0.07, h31km±23km, mb4.7/47, MS4.3/14, Error ellipse: s-maj=16.7km s-min=9.2km az=152.8*
*NEIC **20** 12:47:53.5±0.3, 21.53S×174.46W, h35km, mb4.9/23, Error ellipse: s-maj=15.1km s-min=7.7km az=144.0*

ISC 20 12:47:53.9±0.5, 21.59S±0.10×174.39W±0.08, h41km±3km, h40km:pP-P, n123, σ1§82/146, mb4.8/47, MS4.2/14, 9C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.03**	**18**	*e*Pn	Pn	12 49 41.2	-7.0
AFI				*e*Sn	Sn	12 50 59.2	-19
AFI	**Afiamalu** 1.1nm,0.3s,baz=241,slow=19,SNR=3.3	**8.03**	**18**	Pn	Pn	12 49 41.3	-6.8
AFI	6.5nm,0.3s,baz=102,slow=20,SNR=4.3			Sn	Sn	12 50 59.2	-19
AFI	comp=Z,287nm,18.8s,baz=194,slow=32			LR	LR	12 52 08.0	
RAR	**Rarotonga**	**13.62**	**91**	*e*Pn	Pn	12 50 52.2	-12
RAR	**Rarotonga** 17nm,0.3s,baz=1.6,slow=0.0,SNR=22	**13.62**	**91**	Pn	Pn	12 50 52.1	-12
RAR	comp=Z,320nm,18.4s,baz=45,slow=33			LR	LR	12 55 16.8	
DZM	**Mont Dzumac** 329nm,22.9s	**17.81**	**265**	*e*LR	LR	12 56 25.1	
DZM	**Mont Dzumac**	**17.81**	**265**	P	**P**	**12 52 01.9**	**+2.7**
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=79,slow=18,SNR=9.1	**17.81**	**265**	P	**P**	**12 52 01.9**	**+2.7**
DZM	comp=Z,152nm,19.0s,baz=154,slow=28			LR	LR	12 56 08.2	
TBI	**Tubuai** 447nm,30.5s	**23.09**	**99**	*e*LR	LR	12 57 54.8	
PPT2	**Papeete2** 322nm,26.5s	**23.70**	**85**	*e*S	**S**	**12 57 10.4**	**-4.3**
PPT2	533nm,26.5s			*e*LR	LR	12 58 11.6	
PPT	**Papeete** comp=Z,403nm,18.3s,baz=238,slow=32	**23.71**	**85**	LR	LR	13 00 29.7	
RPZ	**Rata Peaks** 47nm,1.1s	**25.17**	**205**	*e*P	**P**	**12 53 18.1**	**+2.8**
HNR	**Honiara** comp=Z,98nm,21.9s,baz=135,slow=33	**27.47**	**292**	LR	LR	13 02 49.4	
WHZ	**Wether Hill Ro**	**28.22**	**207**	*e*P	**P**	**12 53 45.5**	**+2.6**
DCZ	**Deep Cove** 329nm,2.2s	**28.23**	**208**	*e*P	**P**	**12 53 44.1**	**+1.2**
RKT	**Rikitea** 301nm,26.8s	**36.41**	**100**	*e*LR	LR	13 04 18.1	
CTA	**Charters Tower**	**36.75**	**265**	P	**P**	**12 54 57.0**	**-0.7**
CTA	**Charters Tower** 4.1nm,0.7s,baz=89,slow=12,SNR=6.8	**36.75**	**265**	P	**P**	**12 54 57.0**	**-0.7**
CTAO	**Charters Tower** 6.2nm,0.8s	**36.75**	**265**	*e*P	**P**	**12 54 56.0**	**-1.7**
PMG	**Port Moresby** 8.1nm,0.9s	**38.87**	**282**	*e*P	**P**	**12 55 15.9**	**+0.2**
PMG	**Port Moresby** 9.3nm,0.9s,baz=45,slow=7.9,SNR=3.6	**38.87**	**282**	P	**P**	**12 55 16.2**	**+0.5**
STKA	**Stephens Creek** 1.4nm,1.1s	**40.39**	**246**	*e*P	**P**	**12 55 27.3**	**-0.8**
STKA	**Stephens Creek** 2.8nm,0.8s,baz=82,slow=7.5,SNR=6.8	**40.39**	**246**	P	**P**	**12 55 26.9**	**-1.2**
STKA	comp=Z,265nm,18.6s,baz=26,slow=35			LR	LR	13 11 03.7	
COEN	**Coen** 33nm,0.8s	**41.02**	**273**	*e*P	**P**	**12 55 32.1**	**-1.4**
AS31	**Alice Springs**	**47.56**	**257**	*e*P	**P**	**12 56 24.6**	**-1.3**
ASAR	**Alice Springs**	**47.56**	**257**	P	**P**	**12 56 24.8**	**-1.0**
ASAR				PcP	**PcP**	**12 57 56.2**	**+0.8**
ASAR				S	**S**	**13 03 17.8**	**-0.8**
ASAR	**Alice Springs** 9.5nm,0.8s,baz=92,slow=7.8,SNR=55	**47.56**	**257**	P	**P**	**12 56 24.8**	**-1.0**
ASAR	1.0nm,0.7s,baz=104,slow=4.1,SNR=4.8			PcP	**PcP**	**12 57 56.2**	**+0.8**
ASAR	0.7nm,1.0s,baz=94,slow=17,SNR=5.2			S	**S**	**13 03 17.8**	**-0.8**
WRAB	**Tennant Creek** 10nm,0.8s	**47.79**	**262**	*e*P	**P**	**12 56 25.2**	**-2.4**
WRA	**Warramunga Arr**	**47.80**	**262**	P	**P**	**12 56 25.7**	**-2.0**
WRA	**Warramunga Arr** 8.7nm,0.8s,baz=100,slow=7.9,SNR=43	**47.80**	**262**	P	**P**	**12 56 25.7**	**-2.0**
FORT	**Forrest** 32nm,0.7s	**51.98**	**247**	*e*P	**P**	**12 56 57.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**56.23**	**262**	P	**P**	**12 57 29.1**	**-1.3**
FITZ	**Fitzroy Crossi** 6.1nm,0.9s,baz=74,slow=16,SNR=4.2	**56.23**	**262**	P	**P**	**12 57 29.1**	**-1.3**
VNDA	**Vanda** comp=Z,76nm,19.6s,baz=349,slow=33	**57.16**	**186**	LR	LR	13 19 05.2	
MJAR	**Matsushiro Arr**	**73.12**	**322**	P	**P**	**12 59 20.1**	**0.0**
MJAR	**Matsushiro Arr** 5.6nm,0.8s,baz=154,slow=5.8,SNR=12	**73.12**	**322**	P	**P**	**12 59 20.1**	**0.0**
MAT	**Matsushiro**	**73.12**	**322**	P	**P**	**12 59 20.6**	**+0.4**
CMB	**Columbia Colle** 13nm,1.8s	**78.02**	**41**	*e*P	**P**	**12 59 48.0**	**-0.3**
PETK	**Petropavlovsk-**	**78.23**	**343**	P	**P**	**12 59 49.4**	**+0.4**
PETK	**Petropavlovsk-** 9.0nm,0.9s,baz=115,slow=7.7,SNR=7.5	**78.23**	**343**	P	**P**	**12 59 49.4**	**+0.4**
WAKR	**Walker** 8.7nm,1.4s	**78.90**	**41**	*e*P	**P**	**12 59 53.2**	**-0.1**
NVAR	**Mina Array Bea**	**79.55**	**42**	P	**P**	**12 59 56.7**	**-0.2**
NVAR	**Mina Array Bea** 1.7nm,0.8s,baz=228,slow=8.1,SNR=12	**79.55**	**42**	P	**P**	**12 59 56.7**	**-0.2**
KSRS	**Korea Array** 1.8nm,0.9s,baz=133,slow=5.3,SNR=4.2	**79.96**	**317**	P	**P**	**13 00 00.3**	**+1.5**
KSAR	**Wonju Array Be**	**79.98**	**317**	P	**P**	**13 00 00.3**	**+1.4**
MAW	**Mawson**	**81.66**	**199**	P	**P**	**13 00 07.9**	**+0.4**
MAW	**Mawson** 2.3nm,0.6s,baz=121,slow=12,SNR=7.2	**81.66**	**199**	P	**P**	**13 00 07.9**	**+0.4**
USRK	**Ussuriysk Arra** 3.4nm,0.9s,baz=156,slow=7.7,SNR=4.1	**81.79**	**324**	P	P	13 00 11.8	+3.4
J08A	**Circle Bar Ran** 92nm,3.0s	**82.52**	**38**	*e*P	**P**	**13 00 13.3**	**+0.9**
D05A	**Enumclaw** 102nm,1.8s	**83.12**	**33**	*e*P	**P**	**13 00 16.8**	**+1.5**
NJ2	**Nanjing**	**83.19**	**308**	*e*P	**P**	**13 00 17.8**	**+1.8**
NJ2				pmax	pmax		
NJ2	comp=Z,10.0nm,0.8s			pmax	pmax		
MDJ	**Mudanjiang**	**83.37**	**323**	P	**P**	**13 00 15.0**	**-1.7**
MDJ				pmax	pmax		
MDJ	comp=Z,17nm,1.7s			pmax	pmax		
G08A	**Pilot Rock** 28nm,1.8s	**83.47**	**36**	*e*P	**P**	**13 00 17.6**	**+0.3**
E07A	**Sunnyside** 86nm,2.2s	**83.81**	**34**	*e*P	**P**	**13 00 19.5**	**+0.6**
HAWA	**Hanford** 11nm,1.4s	**83.87**	**35**	*e*P	**P**	**13 00 19.0**	**-0.2**
MFID	**Camas Ranch** 4.1nm,0.9s	**84.07**	**39**	*e*P	**P**	**13 00 19.8**	**-0.7**
QIZ	**Qiongzhong**	**84.38**	**293**	P	**P**	**13 00 22.8**	**+0.4**
QIZ				S	**S**	**13 10 45.8**	**-0.1**
QIZ				pmax	pmax		
QIZ	comp=Z,20nm,2.4s			pmax	pmax		
TMUT	**Trail Mountain** 8.7nm,1.0s	**84.54**	**44**	*e*P	**P**	**13 00 23.9**	**+0.7**
D08A	**Wollman Farm,** 86nm,2.5s	**84.62**	**34**	*e*P	**P**	**13 00 23.4**	**+0.4**
E09A	**Wood Farm, Sta** 7.0nm,1.1s	**84.69**	**35**	*e*P	**P**	**13 00 23.6**	**+0.3**
TXAR	**Lajitas Array**	**84.83**	**56**	P	**P**	**13 00 24.1**	**-0.5**
TXAR	**Lajitas Array** 0.9nm,1.0s,baz=206,slow=7.8,SNR=7.4	**84.83**	**56**	P	**P**	**13 00 24.1**	**-0.5**
TXAR				LR	LR	13 32 25.2	
SRU	**San Rafael** 7.3nm,1.1s	**84.89**	**45**	*e*P	**P**	**13 00 24.6**	**-0.1**
HLID	**Hailey** 3.3nm,0.9s	**84.99**	**39**	*e*P	**P**	**13 00 25.0**	**-0.2**
CN2	**Changchun**	**85.24**	**321**	*e*P	**P**	**13 00 28.4**	**+2.2**
CN2				*e*pP	**pP**	**13 00 40.8**	**+2.3**
CN2				*e*S	**S**	**13 10 54.6**	**+1.2**
CN2				pmax	pmax		
CN2	comp=Z,10.0nm,1.0s			pmax	pmax		
CN2	comp=Z,200nm,5.0s			LR	LR		
CN2	comp=N,300nm,18.0s			LR	LR		
CN2	comp=E,100nm,18.0s			LR	LR		
CN2	comp=Z,200nm,19.0s			LR	LR		
ANMO	**Albuquerque** 10.0nm,1.3s	**85.49**	**50**	*e*P	**P**	**13 00 27.6**	**-0.3**
PLCA	**Paso Flores** comp=Z,98nm,18.5s,baz=284,slow=31	**86.06**	**132**	LR	LR	13 32 00.4	
SYO	**Syowa Base**	**86.38**	**192**	⇓*e*X	**P**	**13 00 29.2**	**-2.3**
SYO	**Syowa Base**	**86.38**	**192**	⇓*e*sP	sP	13 00 49.8	+1.3
SNAA	**Sanae** 5.9nm,1.1s	**86.80**	**177**	*e*P	**P**	**13 00 32.4**	**-1.3**
SNAA	**Sanae** comp=Z,42nm,19.1s,baz=237,slow=34	**86.80**	**177**	LR	LR	13 36 21.5	
PDAR	**Pinedale Array**	**87.48**	**42**	P	**P**	**13 00 36.5**	**-1.0**
PDAR	**Pinedale Array** 1.5nm,0.8s,baz=196,slow=3.2,SNR=10	**87.48**	**42**	P	**P**	**13 00 36.5**	**-1.0**
GSI	**Gunungsitoli** 31nm,1.2s	**88.65**	**272**	*e*P	**P**	**13 00 45.7**	**+2.2**
ILAR	**Eielson Array**	**88.66**	**11**	P	**P**	**13 00 42.1**	**-0.2**
ILAR	**Eielson Array** 0.9nm,0.9s,baz=217,slow=4.9,SNR=7.3	**88.66**	**11**	P	**P**	**13 00 42.1**	**-0.2**
GYA	**Guiyang**	**90.12**	**298**	P	**P**	**13 00 51.3**	**+1.1**
GYA				pP	**pP**	**13 01 02.3**	**-0.4**
GYA				sP	**sP**	**13 01 09.8**	**+2.6**
GYA				PP	**PP**	**13 04 26.0**	**+1.6**
GYA				SKS	**SKSac**	**13 11 16.5**	**-2.0**
GYA				S	**S**	**13 11 38.0**	**-3.2**
GYA				SS	**SS**	**13 17 40.3**	**-0.9**
GYA	comp=Z,20nm,1.0s			pmax	pmax		
GYA	comp=Z,130nm,5.8s			pmax	pmax		
GYA	comp=N,610nm,18.8s			LR	LR		
GYA	comp=E,520nm,19.0s			LR	LR		
GYA	comp=Z,580nm,18.4s			LR	LR		
XAN	**Xi'an**	**91.48**	**306**	P	**P**	**13 00 58.3**	**+2.0**
XAN				pmax	pmax		
XAN	comp=Z,2.0nm,1.1s			pmax	pmax		
XAN	comp=Z,17nm,4.3s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**92.54**	**313**	*e*P	**P**	**13 00 59.3**	**-1.8**
HHC				pP	**pP**	**13 01 09.9**	**-3.6**
HHC				sP	**sP**	**13 01 13.6**	**-4.5**
HHC				PP	**PP**	**13 04 41.8**	**-1.3**
HHC				S	**S**	**13 12 00.0**	**-2.5**
HHC				sS	sS	13 12 15.1	-8.2
HHC	comp=Z,29nm,1.2s			pmax	pmax		
HHC	comp=Z,270nm,8.3s			pmax	pmax		
HHC	comp=N,320nm,19.4s			LR	LR		
HHC	comp=E,320nm,19.4s			LR	LR		
HHC	comp=Z,150nm,18.8s			LR	LR		
KMI	**Kunming**	**92.85**	**296**	P	**P**	**13 01 05.5**	**+2.4**
KMI				pP	**pP**	**13 01 13.6**	**-1.9**
KMI				sP	**sP**	**13 01 17.5**	**-2.6**
KMI				S	**S**	**13 12 03.1**	**-3.1**
KMI	comp=Z,10.0nm,1.1s			pmax	pmax		
KMI	comp=Z,130nm,3.3s			pmax	pmax		
KMI	comp=N,160nm,20.2s			LR	LR		
KMI	comp=E,120nm,23.8s			LR	LR		
KMI	comp=Z,240nm,29.5s			LR	LR		
CMAR	**Chiang Mai Arr**

SONM	**Songino Array**	**98.80**	**318**	P		Pdif	13 01 32.8	+3.3
	0.7nm,1.0s,baz=77,slow=7.6,SNR=3.6							
GTA	**Gaotai**	**100.28**	**308**	*e*P		**Pdif**	**13 01 38.3**	**+2.0**
GTA				pP		pP	13 01 48.9	+0.1
GTA				sP		sP	13 01 53.4	0.0
GTA				S		**Sdif**	**13 13 08.6**	**-0.6**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.9s							
GTA				LR		LR		
	comp=N,200nm,19.5s							
GTA				LR		LR		
	comp=E,210nm,23.8s							
GTA				LR		LR		
	comp=Z,180nm,18.5s							
ZALV	**Zalesovo Beam**	**113.46**	**321**	PKiKP		**PKiKP**	**13 06 27.7**	**+0.5**
ZALV	**Zalesovo Beam**	**113.46**	**321**	PKiKP		**PKiKP**	**13 06 27.7**	**+0.5**
	0.3nm,0.4s,baz=64,slow=3.4,SNR=3.1							
FINES	**FINESS Array B**	**137.71**	**346**	PKP		**PKPdf**	**13 07 14.9**	**+1.8**
FINES	**FINESS Array B**	**137.71**	**346**	PKP		**PKPdf**	**13 07 14.9**	**+1.8**
	1.3nm,0.8s,baz=318,slow=1.9,SNR=3.8							
SUW	**Suwalki**	**144.98**	**342**	*e*PKP		**PKPdf**	**13 07 26.8**	**+0.4**
SUW	**Suwalki**	**144.98**	**342**	*e*PKPdf		**PKPdf**	**13 07 26.3**	**-0.1**
AKASG	**Malin Array Be**	**145.55**	**333**	PKPbc		**PKPab**	**13 07 27.7**	**-0.3**
AKASG	**Malin Array Be**	**145.55**	**333**	PKPbc		**PKPab**	**13 07 27.7**	**-0.3**
	2.6nm,0.5s,baz=38,slow=4.0,SNR=30							
AK01	**Malin Array Si**	**145.56**	**333**	*e*PKPdf		**PKPab**	**13 07 28.0**	**0.0**
KIEV	**Kiev**	**145.56**	**333**	*e*PKPdf		**PKPab**	**13 07 28.0**	**0.0**
AK02	**Malin Array Si**	**145.59**	**333**	*e*PKPdf		**PKPab**	**13 07 28.1**	**0.0**
KWP	**Kalwaria Pacla**	**148.91**	**338**	*e*PKPbc		**PKPbc**	**13 07 38.0**	**+0.8**
STHS	**Stebnicka Huta**	**149.58**	**340**	*e*PKP		**PKPbc**	**13 07 37.9**	**-1.0**
KOLS	**Kolonicke sedl**	**149.65**	**338**	*e*PKP		**PKPbc**	**13 07 37.7**	**-1.4**
CLL	**Collm**	**149.78**	**351**	*e*PKPbc		**PKPbc**	**13 07 40.0**	**+0.8**
	comp=Z,51nm,2.0s							
CLL				*i* pPKiKP		**pPKiKP**	**13 07 51.3**	**-1.7**
	comp=Z,36nm,1.5s							
CRVS	**Cervenica-Dubn**	**149.96**	**339**	*e*PKP		**PKPbc**	**13 07 37.9**	**-1.9**
UPC	**Upice**	**150.00**	**347**↑	*e*PKP		**PKPbc**	**13 07 41.9**	**+2.1**
BR131	**Keskin Array S**	**150.05**	**313**	*e*PKPbc		**PKPbc**	**13 07 41.5**	**+0.9**
BRG	**Berggiesshubel**	**150.05**	**349**	*e*PKP		**PKPbc**	**13 07 40.7**	**+0.7**
	comp=Z,12nm,1.4s							
BRG				*e*			13 07 52.3	
	comp=Z,39nm,1.3s							
BRTR	**Keskin Array B**	**150.05**	**313**	PKPbc		**PKPbc**	**13 07 40.6**	**+0.1**
BRTR	**Keskin Array B**	**150.05**	**313**	PKPbc		**PKPbc**	**13 07 40.6**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=38,slow=7.3,SNR=5.7							
DPC	**Dobruska-Polom**	**150.08**	**346**↑	*e*PKP		**PKPbc**	**13 07 40.7**	**+0.6**
DPC				*ep*PKP		**pPKPdf**	**13 07 51.8**	**+3.9**
OKC	**Ostrava-Krasne**	**150.11**	**344**↑	*e*PKP		**PKPbc**	**13 07 40.5**	**+0.4**
OKC				*ep*PKP		**pPKPdf**	**13 07 52.5**	**+4.6**
KRLC	**Kraliky**	**150.23**	**345**↑	*e*PKP		**PKPbc**	**13 07 41.4**	**+0.9**
KRLC				*ep*PKP		**pPKPdf**	**13 07 52.8**	**+4.6**
PVCC	**Panska Ves**	**150.27**	**348**↑	*e*PKP		**PKPbc**	**13 07 39.7**	**-0.8**
PVCC				*e*PKPAB		**PKPab**	**13 07 47.3**	**+0.6**
PVCC				*ep*PKP		**pPKPdf**	**13 07 53.1**	**+5.0**
PRU	**Pruhonice**	**150.79**	**348**↑	*e*PKP		**PKPbc**	**13 07 42.5**	**+0.8**
PRU				*e*PKPAB		**PKPab**	**13 07 49.2**	**+0.3**
PRU				*ep*PKP		**pPKPdf**	**13 07 53.9**	**+4.9**
NKC	**Novy Kostel**	**150.91**	**351**↑	*e*PKP		**PKPbc**	**13 07 43.5**	**+1.5**
NKC				*ep*PKP		**PKPab**	**13 07 54.2**	**+4.8**
TREC	**Trest**	**151.26**	**346**↑	*e*PKP		**PKPbc**	**13 07 42.1**	**-0.8**
TREC				*ep*PKP		**PKPab**	**13 07 54.7**	**+3.8**
PSZ	**Piszkesteto**	**151.33**	**340**	*e*PKPdf		**PKPdf**	**13 07 37.5**	**+0.4**
KHC	**Kasperske Hory**	**151.79**	**349**↑	*e*PKP		**PKPbc**	**13 07 45.0**	**+0.8**
KHC				*ep*PKP		**PKPab**	**13 07 56.6**	**+3.5**
KHC	**Kasperske Hory**	**151.79**	**349**	*e*PKPbc		**PKPbc**	**13 07 45.0**	**+0.8**
GERES	**GERESS Array B**	**152.04**	**349**	PKPbc		**PKPbc**	**13 07 45.0**	**+0.1**
GERES				PKPab		**PKPab**	**13 07 56.1**	**+1.9**
GERES	**GERESS Array B**	**152.04**	**349**	PKPbc		**PKPbc**	**13 07 45.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=12,slow=3.1,SNR=5.7							
GERES				PKPab		**PKPab**	**13 07 56.1**	**+1.9**
	comp=Z,4.3nm,1.1s,baz=48,slow=2.0,SNR=8.0							
TORD	**Torodi Ar. Bea**	**170.81**	**155**	PKPab		**PKPab**	**13 09 14.3**	**-2.2**
TORD	**Torodi Ar. Bea**	**170.81**	**155**	PKPab		**PKPab**	**13 09 14.3**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=211,slow=4.4,SNR=2.9							

IDC ***20*** *12:48:01.6±1.3, 15°.79S×69°.29W, h193km±11km, mb3.4/7, mb1 3.5/8, mb1mx3.3/21, mbtmp3.4/8, Error ellipse: s-maj=75.3km s-min=17.3km az=21.0*

ISC 20 12:48:01.9±1.5, 16°.2S±0°.4×69°.3W±0°.2, h213km, n12, σ1§33/13, mb3.8/6, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.14**	**95**	P		**Pn**		**12 48 32.6**	**-2.1**
	101nm,0.3s,baz=273,slow=7.2,SNR=1580								
LPAZ				S		**S**		**12 48 57.6**	**-2.3**
	13nm,0.3s,baz=37,slow=15,SNR=3.0								
SIV	**San Ignacio**	**7.93**	**90**	P		**Pn**		**12 49 54.0**	**-0.3**
	1.4nm,0.3s,baz=282,slow=13,SNR=15								
BDFB	**Brasilia**	**20.49**	**91**	P		**P**		**12 52 24.9**	**+0.9**
	2.2nm,0.5s,baz=252,slow=11,SNR=4.7								
TXAR	**Lajitas Array**	**56.11**	**324**	P		**P**		**12 57 18.7**	**-0.8**
	0.1nm,0.5s,baz=150,slow=9.3,SNR=3.1								
DBIC	**Dimbokro**	**67.69**	**76**	P		**P**		**12 58 37.7**	**+0.9**
	1.6nm,0.4s,baz=191,slow=4.1,SNR=4.6								
PDAR	**Pinedale Array**	**69.35**	**329**	P		**P**		**12 58 46.7**	**-0.1**
	0.2nm,0.6s,baz=119,slow=7.3,SNR=2.9								
ULM	**Lac du Bonnet**	**70.17**	**342**	P		**P**		**12 58 50.4**	**-0.9**
	1.7nm,0.5s,baz=200,slow=4.2,SNR=5.2								
TORD	**Torodi Ar. Bea**	**76.00**	**72**	P		**P**		**12 59 27.0**	**+0.8**
	2.5nm,0.6s,baz=246,slow=4.8,SNR=19								
YKA	**Yellowknife Ar**	**86.08**	**341**	P		**P**		**13 00 18.6**	**+0.4**
	0.6nm,0.6s,baz=134,slow=4.8,SNR=17								
WRA	**Warramunga Arr**	**137.22**	**214**	PKP		**PKPdf**		**13 07 01.3**	**+0.6**
	0.2nm,0.9s,baz=150,slow=2.0,SNR=5.2								
ZALV	**Zalesovo Beam**	**137.27**	**22**	PKP		**PKPdf**		**13 07 00.8**	**+1.1**
	1.5nm,0.7s,baz=296,slow=2.7,SNR=6.8								
SONM	**Songino Array**	**148.25**	**5**	PKPbc		**PKPbc**		**13 07 24.4**	**+1.4**
	2.1nm,0.4s,baz=315,slow=1.8,SNR=32								

KRSC 20 12:53:00.3±4.1, 51°.69N×159°.77E, h5km±5km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTVR	**Mutnovka**	**1.26**	**310**	P		P	Pg	12 53 24.2	-0.5
MTVR				*i* S		S	Sn	12 53 43.8	+1.6
ASAK	**Asacha**	**1.35**	**302**	P		P	Pn	12 53 25.8	-0.1
ASAK				*i* S		S	Sn	12 53 47.2	+3.0
UGLR	**Uglovaya**	**1.63**	**340**	P		P	Pg	12 53 31.7	0.0
KRER	**Koryakskii**	**1.73**	**339**	P		P	Pb	12 53 32.5	-0.4
KOK	**Koryaka**	**1.75**	**337**	P		P	Pb	12 53 32.6	-0.4
KRX	**Arik**	**1.81**	**338**	P		P	Pn	12 53 32.8	+0.5
GNL	**Ganaly**	**2.30**	**332**	P		P	Pn	12 53 39.7	+0.7

AUST ***20*** *13:10:11.3±0.7, 0°.53N×123°.56E, h105km, Error ellipse: s-maj=1.7km s-min=1.4km az=7.0*

ISCJB ***20*** *13:10:18.4±0.3, 0°.10N±0°.05×123°.71E±0°.06, h157km, mb3.9/13, Error ellipse: s-maj=9.6km s-min=5.2km az=143.5*

DJA ***20*** *13:10:19.6±0.7, 0°S±5°×12°4E±°, h123km±7km, M4.2/4, MLv4.2/4*

IDC ***20*** *13:10:21.2±5.3, 0°.09N×123°.60E, h171km±53km, mb3.6/13, mb1 3.8/14, mb1mx3.7/23, mbtmp3.6/14, Error ellipse: s-maj=29.1km s-min=12.4km az=70.0*

ISC 20 13:10:19.8±0.5, 0°.11N±0°.07×123°.71E±0°.09, h157km, n47, σ1§13/46, mb3.8/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.53**	**30**	P		**Pn**		**13 10 40.6**	**-1.5**
KMSI				S		**Sn**		**13 10 57.5**	**-1.7**
GTOI	**Gorontalo**	**0.87**	**306**	P		**Pn**		**13 10 43.4**	**-0.8**
LUWI	**Luwuk**	**1.48**	**219**	P		Pn		13 10 45.5	-4.2
LUWI				S		Sn		13 11 05.1	-7.6
LUWI	**Luwuk**	**1.48**	**219**	P		Pn		13 10 45.4	-4.4
	baz=1.8,SNR=70								
MRSI	**Marisa**	**1.81**	**282**	P		Pn		13 10 49.6	-3.6
LBMI	**Labuha**	**3.86**	**101**	P		**Pn**		**13 11 16.5**	**-2.0**
NLAI	**Namlea**	**4.75**	**135**	P		**Pn**		**13 11 28.7**	**-1.4**
TTSI	**Tana Toraja**	**5.00**	**231**	P		**Pn**		**13 11 31.6**	**-1.8**
FAKI	**Fak Fak**	**9.05**	**110**	P		**Pn**		**13 12 26.4**	**-0.8**
	baz=9.3,SNR=5.5								
MTN	**Manton Dam**	**14.83**	**151**	P		**Pn**		**13 13 42.5**	**+0.6**
	baz=15,SNR=22								
KDU	**Kakadu**	**15.40**	**146**	P		**Pn**		**13 13 47.9**	**-1.1**
	baz=16,SNR=7.4								
KNRA	**Kununurra**	**16.46**	**163**	P		**Pn**		**13 14 02.1**	**+0.2**
	baz=17,SNR=18								
FITZ	**Fitzroy Crossi**	**18.20**	**174**	P		**P**		**13 14 20.8**	**0.0**
	1.2nm,0.3s,baz=337,slow=4.6,SNR=64								
FITZ	**Fitzroy Crossi**	**18.20**	**174**	P		**P**		**13 14 20.7**	**-0.1**
	baz=19,SNR=18								
WRA	**Warramunga Arr**	**22.49**	**153**	P		**P**		**13 15 05.8**	**-0.5**
	4.0nm,0.4s,baz=333,slow=10,SNR=126								
COEN	**Coen**	**23.81**	**127**	P		**P**		**13 15 19.5**	**+1.0**
	baz=24,SNR=7.9								
WRKA	**Warakurna**	**25.39**	**170**	P		**P**		**13 15 32.9**	**+0.1**
	baz=26,SNR=16								
ASAR	**Alice Springs**	**25.63**	**158**	P		**P**		**13 15 35.2**	**+0.3**
	1.2nm,0.4s,baz=342,slow=15,SNR=42								
ASAR				PcP		**PcP**		**13 19 02.8**	**+1.0**
	0.4nm,0.4s,baz=342,slow=2.5,SNR=5.6								
QIS	**Mount Isa**	**25.77**	**144**	P		**P**		**13 15 37.3**	**+1.1**
	baz=26,SNR=9.3								
MEEK	**Meekatharra**	**27.05**	**190**	P		**P**		**13 15 46.9**	**-0.7**
	baz=28,SNR=3.3								
CMAR	**Chiang Mai Arr**	**30.40**	**308**	P		**P**		**13 16 18.1**	**+0.6**
	1.0nm,0.9s,baz=137,slow=7.7,SNR=7.0								
STKA	**Stephens Creek**	**36.04**	**154**	P		**P**		**13 17 07.0**	**+0.9**
	2.8nm,0.4s,baz=330,slow=7.9,SNR=18								
STKA	**Stephens Creek**	**36.04**	**154**	P		**P**		**13 17 07.2**	**+1.0**
	baz=37,SNR=15								
HTT	**Hallett**	**36.30**	**158**	P		**P**		**13 17 10.0**	**+1.6**
	baz=37,SNR=9.2								
MJAR	**Matsushiro Arr**	**38.66**	**19**	P		**P**		**13 17 28.2**	**0.0**
	1.2nm,0.6s,baz=188,slow=10,SNR=5.9								
ARPS	**Mount Arapiles**	**40.36**	**157**	P		**P**		**13 17 43.7**	**+1.4**
	baz=41,SNR=7.6								
ODAN	**Odare**	**43.89**	**310**	*e*P		**P**		**13 18 13.4**	**+2.1**
	2.7nm,0.5s								
TAPN	**Taplejung**	**43.91**	**311**	*e*P		**P**		**13 18 12.9**	**+1.4**
USRK	**Ussuriysk Arra**	**44.51**	**8**	P		**P**		**13 18 16.7**	**+1.1**
	1.1nm,0.5s,baz=191,slow=5.8,SNR=5.8								
RAMN	**Ramite**	**44.55**	**310**	*e*P		**P**		**13 18 17.6**	**+1.1**
	7.1nm,0.6s								
JIRN	**Jiri**	**45.22**	**310**	*e*P		**P**		**13 18 22.8**	**+0.8**
	6.1nm,0.4s								
GUN	**Gumba**	**45.58**	**311**	*e*P		**P**		**13 18 25.6**	**+0.8**
	9.3nm,0.4s								
PKI	**Pulchoki**	**45.77**	**310**	*e*P		**P**		**13 18 27.4**	**+1.1**
PKIN	**Phulchoki**	**45.78**	**310**	*e*P		**P**		**13 18 27.8**	**+1.5**
	2.3nm,0.5s								
KKN	**Kakani**	**45.98**	**310**	*e*P		**P**		**13 18 28.2**	**+0.4**
	2.7nm,0.5s								
DMN	**Daman**	**46.02**	**310**	*e*P		**P**		**13 18 28.9**	**+0.7**
GKN	**Gorkha**	**46.58**	**310**	*e*P		**P**		**13 18 32.6**	**+0.2**
	3.8nm,0.3s								
KOLN	**Koldanda**	**47.27**	**309**	*e*P		**P**		**13 18 38.0**	**+0.2**
DANN	**Dangsing**	**47.42**	**310**	*e*P		**P**		**13 18 39.1**	**0.0**
	6.0nm,0.5s								
PYUN	**Piuthan**	**47.90**	**309**	*e*P		**P**		**13 18 41.9**	**-0.7**
	16nm,0.8s								
SONM	**Songino Array**	**49.86**	**345**	P		**P**		**13 18 57.6**	**+0.4**
	0.7nm,0.7s,baz=158,slow=8.4,SNR=5.7								
PETK	**Petpavlovsk-**	**59.90**	**23**	P		**P**		**13 20 10.7**	**+1.7**
	1.4nm,0.7s,baz=211,slow=2.9,SNR=4.1								
ZALV	**Zalesovo Beam**	**62.51**	**335**	P		**P**		**13 20 25.0**	**-1.5**
	0.7nm,0.5s,baz=118,slow=5.7,SNR=4.6								
KURBB	**Kurchatov Arra**	**63.23**	**330**	P		**P**		**13 20 31.0**	**-0.3**
	1.7nm,0.6s,baz=131,slow=6.0,SNR=12								
ILAR	**Eielson Array**	**89.64**	**25**	P		**P**		**13 22 58.5**	**-1.1**
	0.2nm,0.6s,baz=260,slow=5.2,SNR=5.1								
ARCES	**ARCESS Array B**	**92.77**	**340**	P		**P**		**13 23 12.7**	**-1.3**
	2.9nm,0.9s,baz=89,slow=4.7,SNR=6.7								
FINES	**FINESS Array B**	**93.56**	**332**	P		**P**		**13 23 15.7**	**-2.0**
	2.9nm,1.0s,baz=132,slow=2.1,SNR=3.2								

IDC 20 13:13:08.5±2.6, 15°.23S×173°.28W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/21, mbtmp4.1/3, MS4.8/1, Ms1 4.8/1, ms1mx3.2/33, Error ellipse: s-maj=155.8km s-min=24.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.96**	**48**	Pn		Pn		13 13 41.6	-1.5
	47nm,0.3s,baz=128,slow=2.6,SNR=57								
AFI				Sn		Sn		13 14 00.4	-8.1
	191nm,0.3s,baz=90,slow=21,SNR=17								
AFI				LR		LR		13 14 12.5	
	comp=Z,679nm,20.4s,baz=287,slow=33								
RPZ	**Rata Peaks**	**31.38**	**202**	LR		LR		13 30 07.7	
	comp=Z,2μm,19.8s,baz=97,slow=32								
H11S2	**WAKE ISLAND Hy**	**38.88**	**329**	T		T		14 02 04.6	
	baz=152,slow=77,SNR=6.1								
H11S3	**WAKE ISLAND Hy**	**38.89**	**329**	T		T		14 02 05.8	
	baz=152,slow=77,SNR=7.3								
H11S1	**WAKE ISLAND Hy**	**38.90**	**329**	T		T		14 02 11.0	
	baz=152,slow=77,SNR=9.8								
H11N3	**WAKE ISLAND Hy**	**39.82**	**330**	T		T		14 03 24.0	
	baz=152,slow=78,SNR=7.5								
H11N1	**WAKE ISLAND Hy**	**39.83**	**330**	T		T		14 03 18.5	
	baz=152,slow=78,SNR=7.8								
H11N2	**WAKE ISLAND Hy**	**39.84**	**330**	T		T		14 03 22.9	
	baz=152,slow=78,SNR=7.1								
STKA	**Stephens Creek**	**44.22**	**240**	P		P		13 21 19.0	-0.7
	1.9nm,0.9s,baz=89,slow=12,SNR=4.2								
WRA	**Warramunga Arr**	**49.99**	**257**	P		P		13 22 04.3	-0.7
	1.0nm,0.6s,baz=91,slow=7.0,SNR=32								
WRA				PcP		PcP		13 23 26.1	+0.9
	0.5nm,0.6s,baz=95,slow=3.4,SNR=5.0								
ASAR	**Alice Springs**	**50.27**	**252**	P		P		13 22 06.5	-0.6
	2.5nm,0.6s,baz=88,slow=8.6,SNR=68								
BRTR	**Keskin Array B**	**146.10**	**321**	PKPbc		PKPab		13 32 51.8	+0.2
	0.7nm,0.7s,baz=82,slow=3.2,SNR=2.7								

MOS ***20*** *13:25:43.6±1.1, 0°.16S×124°.42E, h33km, mb5.1/33, Error ellipse: s-maj=12.3km s-min=5.5km az=119.5*

ISCJB ***20*** *13:25:47.6±0.3, 0°.18S±0°.02×124°.57E±0°.02, h69km±3km, mb4.9/109, Error ellipse: s-maj=4.0km s-min=3.1km az=136.3*

IDC ***20*** *13:25:47.3±1.5, 0°.16S×124°.40E, h47km±13km, mb4.7/32, mb1 4.7/33, mb1mx4.6/36, mbtmp4.6/33, ML4.8/1, MS3.9/18, Ms1 3.9/18, ms1mx3.7/41, Error ellipse: s-maj=14.6km s-min=7.9km az=70.0*

NEIC ***20*** *13:25:48.0±0.7, 0°.18S×124°.48E, h57km±6km, mb5.0/47, Error ellipse: s-maj=6.2km s-min=4.0km az=62.0*

AUST ***20*** *13:25:48.1±1.1, 0°.38S×124°.51E, h47km±9km, Error ellipse: s-maj=10.3km s-min=8.0km az=14.0*

DJA ***20*** *13:25:48.5±0.2, 0°S±2°×12°5E±°, h30km, M5.1/42, mb5.3/42, mB5.5/20, MLv5.5/20, Mw(mB)5.0/20*

BJI ***20*** *13:25:49.0, 0°.10S×124°.60E, h74km, mB5.1/32, mb5.0/44, Ms4.8/27, Ms7 4.5/25*

BKK ***20*** *13:25:50.0±0.5, 0°S±4°×12°5E±°, h60km±5km, M5.4/22, mB5.5/4, mb5.0/22, MLv5.7/4, Mw(mB)5.0/4*

ISC 20 13:25:50.4±0.3, 0°.20S±0°.03×124°.55E±0°.04, h76km±2km, h76km:pP-P, n368, σ1§57/416, mb4.9/109, 7C-10D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.96**	**324**	P		Pn		13 26 04.2	-4.5
KMSI				S		**Sn**		**13 26 17.9**	**-4.4**
GTOI	**Gorontalo**	**1.75**	**298**	P		**Pn**		**13 26 17.8**	**-1.0**
LUWI	**Luwuk**	**1.96**	**245**	P		**Pn**		**13 26 19.4**	**-2.3**
LUWI	**Luwuk**	**1.96**	**245**	P		**Pn**		**13 26 19.1**	**-2.6**
	baz=1.9,SNR=441								
MRSI	**Marisa**	**2.70**	**284**	P		Pn		13 26 26.9	-4.6
TNTI	**Ternate**	**2.98**	**71**	P		**Pn**		**13 26 34.2**	**-1.1**
TNTI				S		**Sn**		**13 27 09.2**	**-0.8**
TNTI	**Ternate**	**2.98**	**71**	ePb		**Pn**		**13 26 33.9**	**-1.5**
LBMI	**Labuha**	**2.98**	**98**	P		Pn		13 26 32.1	-3.3
LBMI				S		**Sn**		**13 27 07.5**	**-2.6**
APSI	**Ampana**	**2.99**	**256**	P		Pn		13 26 52.7	+17
NLAI	**Namlea**	**3.95**	**140**	P		**Pn**		**13 26 45.4**	**-3.2**
TOLI	**Toli-Toli**	**3.98**	**289**	P		**Pn**		**13 26 47.1**	**-1.9**
SGSI	**Sangihe**	**3.98**	**14**	P		**Pn**		**13 26 49.2**	**+0.1**
KKSI	**Kolaka, Sulawe**	**4.89**	**216**	P		**Pn**		**13 27 00.0**	**-1.5**
TTSI	**Tana Toraja**	**5.51**	**239**	P		**Pn**		**13 27 09.7**	**-0.2**
	1μm,0.5s,17μm5.1nm								
BBSI	**Bau Bau**	**5.61**	**201**	P		**Pn**		**13 27 11.5**	**+0.2**
	273nm,0.9s,3μm1.4nm								
SPSI	**Sidrap Palu**	**6.07**	**232**	P		**Pn**		**13 27 17.3**	**-0.2**
	472nm,0.6s,7μm2.1nm								
SPSI				S		**Pn**		**13 27 17.5**	**0.0**
	2.1nm7μm472nm,0.6s								
BNSI	**Bone**	**6.09**	**227**	P		**Pn**		**13 27 17.3**	**-0.5**
	378nm,0.6s,4μm1.9nm								
MMSI	**Mamuju**	**6.16**	**246**	P		**Pn**		**13 27 18.8**	**0.0**
	323nm,0.6s,5μm2.4nm								
MJSI	**Majene**	**6.49**	**239**	P		**Pn**		**13 27 25.0**	**+1.8**
	380nm,0.8s,4μm3.5nm								
BKSI	**Bulukumba**	**6.74**	**221**	P		**Pn**		**13 27 26.3**	**-0.4**
	167nm,0.6s,4μm2.0nm								
SWI	**Sorong**	**6.74**	**96**	P		**Pn**		**13 27 25.6**	**-1.1**
	113nm,1.3s,1μm0.4nm								
KAPI	**Kappang**	**6.77**	**225**	*e*Pn		**Pn**		**13 27 26.4**	**-0.7**
KAPI	**Kappang**	**6.77**	**225**	Pn		**Pn**		**13 27 26.2**	**-0.9**
	2μm,0.5s,SNR=63								
BNDI	**Bandanaira**	**6.86**	**129**	P		**Pn**		**13 27 26.7**	**-1.6**
	578nm,1.2s,5μm2.8nm								
DAV	**Davao City (W)**	**7.30**	**8**	*e*P		**Pn**		**13 27 33.7**	**-0.6**
BKB	**Balikpapan**	**7.73**	**262**	P		**Pn**		**13 27 40.7**	**+0.5**
	332nm,0.6s,3μm1.1nm								
TSM	**Tawau**	**8.03**	**304**	P		**Pn**		**13 27 42.6**	**-1.8**
FAKI	**Fak Fak**	**8.15**	**109**	P		Pn		13 27 42.6	-3.4
	126nm,0.7s,2μm								
FAKI	**Fak Fak**	**8.15**	**109**	⇓P		Pn		13 27 42.6	-3.4
	baz=8.1,SNR=26								
KBKI	**Kotabaru**	**8.93**	**250**	P		**Pn**		**13 27 56.7**	**+0.1**
	105nm,1.1s,1μm								
SDKM	**Sandakan**	**9.36**	**308**	P		**Pn**		**13 28 03.4**	**+0.8**
MWPI	**Manokwari, Pap**	**9.52**	**94**	P		**Pn**		**13 28 05.0**	**+0.3**
	262nm,1.1s,3μm								
MTKI	**Muara Teweh, K**	**9.68**	**266**	P		Pn		13 28 12.6	+5.7
BBKI	**Banjar Baru**	**10.23**	**251**	P		**Pn**		**13 28 15.7**	**+1.3**
	99nm,0.7s								
KDM	**Kudat**	**10.45**	**313**	P		**Pn**		**13 28 17.1**	**-0.3**
MTNI	**Mataram**	**11.83**	**225**	P		Pn		13 28 52.4	+16
BTM	**Bintulu**	**11.95**	**287**	P		**Pn**		**13 28 37.7**	**-0.2**
SBUM	**Sibu**	**12.61**	**282**	P		**Pn**		**13 28 46.5**	**-0.3**
SBUM	**Sibu**	**12.61**	**282**	P		**Pn**		**13 28 49.6**	**+2.8**
	21nm,1.2s								
SBUM	**Sibu**	**12.61**	**282**	*e*Pn		**Pn**		**13 28 48.4**	**+1.6**
STKI	**Sintang**	**13.08**	**271**	P		Pn		13 28 56.6	+3.5
	43nm,1.2s								
PBKI	**Pangkalan Bun**	**13.11**	**259**	P		P		13 29 09.4	+8.4
MTN	**Manton Dam**	**14.15**	**153**	P		**Pn**		**13 29 05.2**	**-2.1**
	baz=14,SNR=32								
KSM	**Kuching**	**14.34**	**277**	P		**P**		**13 29 13.9**	**-0.7**
KSM	**Kuching**	**14.34**	**277**	P		P		13 29 19.9	+5.3
KSM	**Kuching**	**14.34**	**277**	*e*P		**P**		**13 29 13.1**	**-1.5**
KRKI	**Karangkates**	**14.42**	**236**	P		P		13 29 20.2	+4.8
KDU	**Kakadu**	**14.68**	**148**	⇑P		**Pn**		**13 29 11.3**	**-2.9**
	baz=15,SNR=42								
NGJI	**Ngawi**	**14.87**	**241**	P		P		13 29 24.7	+4.2
PWJI	**Pagerwojo**	**14.89**	**238**	P		**Pn**		**13 29 18.6**	**+1.7**
	68nm,0.9s								
PCJI	**Pacitan**	**15.51**	**239**	P		P		13 29 39.2	+12
GENI	**Genyem**	**15.79**	**99**	P		**Pn**		**13 29 28.4**	**+0.1**
	128nm,1.5s								
KNRA	**Kununurra**	**

FORT Forrest 30.59 174 *e*P P 13 31 56.6 -0.6
comp=Z,7.1nm,0.7s
FORT Forrest 30.59 174 P P 13 31 56.5 -0.6
baz=31,SNR=18
LAMP Lampang 30.75 309 P P 13 32 00.5 +1.8
comp=Z,5.4nm,0.8s
KMBL Kambalda 31.10 184 P P 13 32 00.9 -0.8
baz=31,SNR=5.7
BLDU Ballidu 31.15 193 P P 13 32 01.0 -1.0
baz=31,SNR=7.9
CRAI Chiangrai 31.19 312 P P 13 32 04.1 +1.6
comp=Z,39nm,1.4s,comp=Z,5μm
CMAR Chiang Mai Arr 31.26 308 P P 13 32 02.6 -0.6
CMAR PcP **PcP** 13 34 57.2 +1.0
CMAR ScP **ScP** 13 38 36.5 +3.8
CMAR Chiang Mai Arr 31.26 308 P P 13 32 02.6 -0.6
comp=Z,3.2nm,0.9s,baz=142,slow=7.8,SNR=27
CMAR PcP **PcP** 13 34 57.2 +1.0
comp=Z,3.6nm,0.8s,baz=178,slow=2.0,SNR=13
CMAR ScP **ScP** 13 38 36.5 +3.8
comp=Z,2.4nm,0.9s,baz=158,slow=2.9,SNR=9.4
CMAR LR LR 13 44 45.5
comp=Z,260nm,20.4s,baz=150,slow=37
CMMT Chiang Mai 31.45 308 P P 13 32 05.6 +0.7
comp=Z,18nm,1.1s
CHTO Chiang Mai 31.45 308 *e*P P 13 32 04.2 -0.7
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CHTO Chiang Mai 31.45 308 *e*P P 13 32 04.2 -0.7
comp=Z,5.5nm,1.1s
CHTO Chiang Mai 31.45 308 P P 13 32 05.6 +0.7
comp=Z,78nm,1.1s
GYA Guiyang 31.62 328 P P 13 32 06.9 +0.5
GYA pP **pP** 13 32 25.8 +1.5
GYA sP **sP** 13 32 35.0 +1.8
GYA PP **PnPn** 13 33 14.3 +1.4
GYA sS **sS** 13 37 42.0 +1.0
GYA ScP **ScP** 13 38 33.3 -0.6
GYA ScS **ScS** 13 42 30.8 -1.4
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,640nm,16.8s
GYA LR LR
comp=Z,560nm,17.0s
GYA LR LR
comp=Z,580nm,17.4s
KLBR Kellerberrin 31.88 191 P P 13 32 07.5 -0.9
baz=32,SNR=5.5
MHMT Maesarieng 31.91 306 P P 13 32 10.4 +1.5
comp=Z,8.7nm,1.4s
CMAI Chiengmai2 32.01 310 P P 13 32 10.5 +0.5
comp=Z,13nm,1.2s
QLP Quilpie 32.36 146 P P 13 32 13.0 +0.3
baz=32,SNR=27
NJ2 Nanjing 32.53 351 *e*P P 13 32 14.4 +0.3
NJ2 S **S** 13 37 26.0 +2.0
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 LR LR
comp=Z,1μm,26.9s
NJ2 LR LR
comp=Z,4μm,22.7s
NJ2 LR LR
comp=Z,520nm,20.7s
KMI Kunming 32.85 322 P P 13 32 16.8 -0.5
KMI S **S** 13 37 28.4 -1.2
KMI pmax pmax
comp=Z,7.0nm,0.8s
KMI pmax pmax
comp=Z,94nm,3.1s
KMI LR LR
comp=Z,160nm,24.4s
KMI LR LR
comp=Z,120nm,20.0s
NWAO Narrogin (SRO) 33.27 191 P P 13 32 19.7 -1.0
NWAO Narrogin (SRO) 33.27 191 P P 13 32 19.7 -1.0
comp=Z,14nm,0.8s,baz=20,slow=8.6,SNR=5.6
ENH Enshi 33.53 336 *e*P P 13 32 22.7 -0.3
comp=Z,14nm,0.8s
JNU Nakatsue 33.68 10 *e*P P 13 32 23.7 -0.5
comp=Z,251nm,2.6s
JNU Nakatsue 33.68 10 P P 13 32 23.6 -0.5
comp=Z,32nm,0.9s,baz=183,slow=4.1,SNR=8.0
JNU LR LR 13 45 11.1
comp=Z,61nm,21.8s,baz=346,slow=35
BBOO Buckleboo 34.20 163 *e*P P 13 32 28.1 -0.5
comp=Z,364nm,0.8s
BBOO Buckleboo 34.20 163 P P 13 32 28.2 -0.5
baz=34,SNR=23
RMQ Roma 35.02 140 P P 13 32 36.0 +0.1
baz=35,SNR=13
STKA Stephens Creek 35.39 154 *e*P P 13 32 38.8 -0.2
comp=Z,7.6nm,0.7s
STKA PcP **PcP** 13 35 08.3 +0.8
STKA Stephens Creek 35.39 154 P P 13 32 39.1 +0.2
comp=Z,34nm,0.6s,baz=327,slow=8.5,SNR=159
STKA PcP **PcP** 13 35 08.3 +0.8
comp=Z,6.7nm,0.9s,baz=37,slow=3.6,SNR=3.0
STKA LR LR 13 46 11.6
comp=Z,239nm,21.0s,baz=25,slow=34
STKA Stephens Creek 35.39 154 P P 13 32 38.9 -0.1
baz=35,SNR=112
HTT Hallett 35.71 159 P P 13 32 41.6 -0.1
baz=36,SNR=28
EIDS Eidsvold 35.82 136 *e*P P 13 32 41.9 -0.8
EIDS Eidsvold 35.82 136 P P 13 32 42.2 -0.5
baz=36,SNR=4.6
HNR Honiara 36.40 106 P P 13 32 47.7 -0.2
HNR Honiara 36.40 106 P P 13 32 47.7 -0.2
comp=Z,25nm,0.4s,baz=295,slow=19,SNR=4.3
CD2 Chengdu 36.71 329 P P 13 32 51.1 +0.8
CD2 pP **pP** 13 33 09.1 +0.6
CD2 sP **sP** 13 33 18.0 +0.7
CD2 PP **PnPn** 13 34 18.3 +2.3
CD2 S **S** 13 38 29.3 +0.8
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,170nm,6.0s
CD2 LR LR
comp=Z,110nm,21.4s
CD2 LR LR
comp=Z,200nm,20.2s
CD2 LR LR
comp=Z,220nm,19.0s
CMSA Cobar Meteorol 37.04 149 P P 13 32 53.9 +0.9
baz=37,SNR=271
XAN Xi'an 37.09 338 P P 13 32 54.1 +0.6
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN pmax pmax
comp=Z,26nm,5.4s
KSAR Wonju Array Be 37.58 4 P P 13 32 58.2 +0.7
KSRS Korea Array 37.60 4 P P 13 32 58.2 +0.6
comp=Z,3.4nm,0.5s,baz=179,slow=9.0,SNR=14
KSRS LR LR 13 48 26.2
comp=Z,133nm,21.1s,baz=182,slow=36
MAT Matsushiro 38.70 18 P P 13 33 05.9 -1.0
MAT *e*S **S** 13 38 55.2 -3.2
MJAR Matsushiro Arr 38.70 18 P P 13 33 06.0 -0.9
MJAR Matsushiro Arr 38.70 18 P P 13 33 06.0 -0.9
comp=Z,21nm,0.9s,baz=193,slow=9.2,SNR=33
ARMA Armidale 39.56 142 P P 13 33 15.5 +1.1
baz=40,SNR=32
ARPS Mount Arapiles 39.76 158 P P 13 33 16.2 +0.4
baz=40,SNR=27
YNG Young 40.61 149 P P 13 33 24.5 +1.6
baz=41,SNR=34
BJI Beijing 40.77 350 P P 13 33 23.3 -0.8
BJI S **S** 13 39 33.8 +4.5
BJI pmax pmax
comp=Z,13nm,0.5s
LZH Lanzhou 40.92 334 *e*P P 13 33 27.4 +1.8
LZH pP **pP** 13 33 43.3 -0.7
LZH PP **PnPn** 13 35 06.0 -0.2
LZH *e*S **S** 13 39 33.1 +1.1
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.5s
LZH LR LR
comp=Z,470nm,12.9s
LZH LR LR
comp=Z,510nm,14.7s
LZH LR LR
comp=Z,570nm,15.1s
MGCD Mangrove Creek 41.25 145 P P 13 33 30.4 +2.2
baz=41,SNR=12
CAN Canberra 41.72 149 *e*P P 13 33 33.7 +1.7
CAN pmax pmax
comp=Z,92nm,0.9s
CAN Canberra 41.72 149 *e*P P 13 33 33.7 +1.7
comp=Z,92nm,0.9s
CNB Canberra Magne 41.90 149 P P 13 33 35.7 +2.2
baz=42,SNR=8.3
TOO Toolangi 41.91 155 P P 13 33 35.1 +1.6
baz=42,SNR=12
HHC Hu-ho-hao-te 42.53 345 *e*P P 13 33 40.1 +1.5
HHC pP **pP** 13 33 59.6 +2.5
HHC sP **sP** 13 34 06.3 +0.5
HHC PP **PP** 13 35 19.8 +1.2
HHC S **S** 13 39 56.8 +1.3
HHC sS **sS** 13 40 29.1 +1.9
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=Z,300nm,14.9s
HHC LR LR
comp=Z,330nm,14.2s
HHC LR LR
comp=Z,270nm,14.3s
LSA Lhasa 43.56 316 *e*P P 13 33 46.9 -0.6
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 43.56 316 *e*P P 13 33 46.9 -0.6
comp=Z,11nm,0.7s
VLA Vladivostok 43.63 8 *e*P P 13 33 48.0 +0.8
VLA pmax pmax
comp=Z,62nm,1.0s
CN2 Changchun 43.82 1 *e*P P 13 33 51.5 +2.7
CN2 *e*pP **pP** 13 34 09.6 +2.2
CN2 *e*S **S** 13 40 17.5 +3.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
USRK Ussuriysk Arra 44.70 8 P P 13 33 56.1 +0.3
comp=Z,19nm,0.4s,baz=192,slow=7.1,SNR=105
ODAN Odare 44.74 310 *e*P P 13 33 56.1 -0.6
comp=Z,18nm,0.8s
ODAN Odare 44.74 310 *e*P P 13 33 56.1 -0.6
comp=Z,18nm,0.8s
TAPN Taplejung 44.75 311 *e*P P 13 33 55.8 -1.0
comp=Z,7.7nm,0.4s
TAPN Taplejung 44.75 311 *e*P P 13 33 55.8 -1.0
comp=Z,7.7nm,0.4s
MDJ Mudanjiang 44.85 5 P P 13 33 57.3 +0.3
MDJ pmax pmax
comp=Z,55nm,0.7s
MDJ pmax pmax
comp=Z,180nm,4.4s
MDJ Mudanjiang 44.85 5 *e*P P 13 33 56.8 -0.2
comp=Z,36nm,0.6s
RAMN Ramite 45.39 310 *e*P P 13 34 01.7 -0.2
comp=Z,32nm,0.5s
RAMN Ramite 45.39 310 *e*P P 13 34 01.7 -0.2
comp=Z,32nm,0.5s
GTA Gaotai 45.46 333 *e*P P 13 34 01.9 -0.2
GTA pP **pP** 13 34 20.1 -0.7
GTA sP **sP** 13 34 29.5 0.0
GTA S **S** 13 40 38.0 -0.3
GTA pmax pmax
comp=Z,26nm,0.8s
GTA pmax pmax
comp=Z,81nm,5.2s
GTA LR LR
comp=Z,220nm,20.0s
GTA LR LR
comp=Z,160nm,17.1s
GTA LR LR
comp=Z,180nm,18.5s
JIRN Jiri 46.06 310 *e*P P 13 34 06.6 -0.7
comp=Z,16nm,0.5s
JIRN Jiri 46.06 310 *e*P P 13 34 06.6 -0.7
comp=Z,16nm,0.5s
DZM Mont Dzumac 46.23 121 P P 13 34 09.4 +1.0
DZM Mont Dzumac 46.23 121 P P 13 34 09.4 +1.0
comp=Z,22nm,0.8s,baz=297,slow=7.9,SNR=13
GUN Gumba 46.42 310 *e*P P 13 34 09.9 -0.3
comp=Z,23nm,0.5s
GUN Gumba 46.42 310 *e*P **ScP** 13 39 33.8 +3.0
comp=Z,19nm,0.9s
GUN Gumba 46.42 310 *e*P P 13 34 09.9 -0.3
comp=Z,23nm,0.5s
PKI Pulchoki 46.62 310 *e*P P 13 34 10.5 -1.1
PKI Pulchoki 46.62 310 *e*P **ScP** 13 39 34.4 +2.8
comp=Z,24nm,1.0s
PKI Pulchoki 46.62 310 *e*P P 13 34 10.8 -0.8
PKI pmax pmax
comp=Z,5.0nm,0.4s
PKI Pulchoki 46.62 310 *e*P P 13 34 10.8 -0.8
comp=Z,5.1nm,0.4s
PKIN Phulchoki 46.63 310 *e*P P 13 34 10.8 -0.9
comp=Z,5.1nm,0.4s
PKIN Phulchoki 46.63 310 *e*P **ScP** 13 39 34.1 +2.5
comp=Z,7.5nm,0.9s
KKN Kakani 46.82 310 *e*P P 13 34 12.1 -1.0
comp=Z,7.0nm,0.5s
KKN Kakani 46.82 310 *e*P **ScP** 13 39 35.3 +2.9
comp=Z,21nm,0.9s
KKN Kakani 46.82 310 *e*P P 13 34 12.1 -1.0
KKN pmax pmax
comp=Z,7.0nm,0.5s
KKN Kakani 46.82 310 *e*P P 13 34 12.1 -1.0
comp=Z,7.0nm,0.5s
DMN Daman 46.87 309 *e*P P 13 34 12.8 -0.7
comp=Z,30nm,1.1s
DMN Daman 46.87 309 *e*P **ScP** 13 39 34.8 +2.2
comp=Z,36nm,1.2s
DMN Daman 46.87 309 *e*P P 13 34 12.8 -0.7
comp=Z,30nm,1.1s
ASAJ Asahikawa 46.97 18 P P 13 34 14.1 +0.4
ASAJ Asahikawa 46.97 18 P P 13 34 14.1 +0.4
comp=Z,5.4nm,0.3s,baz=242,slow=10,SNR=24
ASAJ LR LR 13 53 11.8
comp=Z,98nm,18.2s,baz=190,slow=35
GKN Gorkha 47.42 310 *e*P P 13 34 16.7 -1.0
comp=Z,13nm,0.5s
GKN Gorkha 47.42 310 *e*P **ScP** 13 39 37.3 +2.5
comp=Z,17nm,0.8s
GKN Gorkha 47.42 310 *e*P P 13 34 16.7 -1.0
comp=Z,13nm,0.5s
KOLN Koldanda 48.12 309 *e*P P 13 34 22.5 -0.6
comp=Z,29nm,0.6s
KOLN Koldanda 48.12 309 *e*P **ScP** 13 39 40.0 +2.2
comp=Z,18nm,1.0s
KOLN Koldanda 48.12 309 *e*P P 13 34 22.5 -0.6
comp=Z,29nm,0.6s
DANN Dangsing 48.27 310 *e*P P 13 34 22.7 -1.7
comp=Z,36nm,0.7s
DANN Dangsing 48.27 310 *e*P **ScP** 13 39 40.3 +1.8
comp=Z,15nm,0.8s
DANN Dangsing 48.27 310 *e*P P 13 34 22.7 -1.7
comp=Z,36nm,0.7s
HYB Hyderabad 48.53 294 *i*P P 13 34 24.0 -2.3
PYUN Piuthan 48.75 309 *e*P P 13 34 27.5 -0.5
comp=Z,45nm,0.5s
PYUN Piuthan 48.75 309 *e*P **ScP** 13 39 43.0 +2.5
PYUN Piuthan 48.75 309 *e*P P 13 34 27.5 -0.5
comp=Z,45nm,0.5s
HABR Khabarovsk 49.33 9 *e*P P 13 34 30.5 -1.3
HABR *e**PP pP 13 34 43.4 -7.3
HABR *e* 13 36 24.6
HABR *e*S **S** 13 41 34.7 +2.1
HABR *e* 13 44 17.1
HABR *e*SSS SSS 13 46 31.0
HABR pmax pmax
comp=Z,26nm,1.9s
HABR MLR MLR
comp=Z,59nm,15.0s
KLR Kul'dur 49.63 6 *e*P P 13 34 30.8 -3.3
ULN Ulaanbaatar 50.24 345 *e*P P 13 34 37.0 -2.0
comp=Z,5.6nm,0.6s
SONM Songino Array 50.39 344 P P 13 34 39.3 -0.7
SONM ScP **ScP** 13 39 48.5 +1.6
SONM Songino Array 50.39 344 P P 13 34 39.3 -0.7
comp=Z,7.4nm,0.7s,baz=157,slow=8.9,SNR=37
SONM ScP **ScP** 13 39 48.5 +1.6
comp=Z,0.9nm,0.8s,baz=175,slow=3.1,SNR=3.9
SONM LR LR 13 56 43.2
comp=Z,149nm,21.0s,baz=165,slow=37
ZAK Zakamensk 53.57 343 *e*P P 13 35 02.4 -1.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 54.63 344 *e*P P 13 35 11.2 0.0
TLY *e* 13 44 50.8
TLY *e*SS **SS** 13 46 24.1 -5.1
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY MLR MLR
comp=Z,69nm,17.0s
WMQ Urumqi 54.78 328 P P 13 35 12.0 -0.5
WMQ pP **pP** 13 35 31.0 -0.7
WMQ sP **sP** 13 35 40.0 -0.2
WMQ PcP **PcP** 13 36 14.0 -0.1
WMQ PP **PP** 13 37 17.0 +1.0
WMQ PcS **PcS** 13 40 12.0 -1.9
WMQ S **S** 13 42 45.0 -2.6
WMQ ScS **ScS** 13 44 50.0 -4.8
WMQ pmax pmax
comp=Z,16nm,1.0s
WMQ pmax pmax
comp=Z,120nm,5.0s
WMQ LR LR
comp=Z,140nm,18.0s
WMQ LR LR
comp=Z,140nm,18.0s
WMQ LR LR
comp=Z,180nm,18.0s
MOY Mondy 55.38 342 *e*P P 13 35 16.3 -0.4
CLNS Chul'man 56.86 0 *e*P P 13 35 27.1 0.0
CLNS *e* 13 36 21.2
CLNS *e* 13 37 33.0
CLNS *e*PPP PPP 13 38 51.2
CLNS *e*S **S** 13 43 09.7 -5.1
CLNS *e*SSS SSS 13 49 16.1
CLNS pmax pmax
comp=Z,22nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=N,20nm,1.0s
CLNS pmax pmax
comp=N,4.0nm,1.0s
CLNS pmax pmax
comp=Z,3.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS smax smax
comp=E,141nm,12.4s
CLNS smax smax
comp=N,133nm,12.0s
HVS Khovu-Aksy 57.44 337 *e*P P 13 35 30.4 -0.9
HVS pmax pmax
comp=Z,33nm,0.8s
KSH Kashi 59.37 318 P P 13 35 46.1 +1.1
KSH sP **sP** 13 36 16.1 +3.1
KSH PP **PP** 13 38 00.1 +3.1
KSH PcS **PcS** 13 40 33.1 -1.3
KSH SS **SS** 13 47 47.1 +2.7
KSH pmax pmax
comp=Z,7.0nm,0.6s
KSH pmax pmax
comp=Z,160nm,6.0s
KSH LR LR
comp=Z,230nm,5.2s
KSH LR LR
comp=Z,160nm,4.8s
KSH LR LR
comp=Z,230nm,5.8s
MK31 Makanchi Array 59.61 328 *e*P P 13 35 45.2 -1.2
MK31 Makanchi Array 59.61 328 *e*P P 13 35 45.2 -1.2
PETK Petropavlovsk- 59.87 22 P P 13 35 49.7 +1.6
PETK Petropavlovsk- 59.87 22 P P 13 35 49.7 +1.6
PETK Petropavlovsk- 59.87 22 P P 13 35 49.7 +1.6
comp=Z,9.4nm,0.8s,baz=184,slow=6.2,SNR=23
RPZ Rata Peaks 59.90 143 P P 13 35 49.7 +1.3
RPZ Rata Peaks 59.90 143 P P 13 35 49.7 +1.3
comp=Z,36nm,0.7s,baz=261,slow=4.0,SNR=16
ULHL Ulahol 60.56 320 *i*P P 13 35 54.3 +1.1
ULHL Ulahol 60.56 320 P P 13 35 54.4 +1.1
SNR=5.8
KZA Kyzart 61.11 320 *i*P P 13 35 58.7 +1.5
KZA Kyzart 61.11 320 P P 13 35 58.8 +1.5
SNR=12
URZ Urewera 61.27 135 *e*P P 13 35 57.8 0.0
comp=Z,22nm,0.9s
URZ Urewera 61.27 135 P P 13 35 58.1 +0.3
comp=Z,23nm,0.8s,baz=77,slow=0.9,SNR=11
TKM2 Tokmak 2 61.32 321 P P 13 35 58.0 -0.4
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 61.32 321 P P 13 35 57.6 -0.8
SNR=18
TKM2 Tokmak 2 61.32 321 *e*P P 13 35 56.9 -1.5
comp=Z,11nm,0.8s
KBK Karagaybulak 61.59 320 *i*P P 13 35 59.5 -0.7
KBK Karagaybulak 61.59 320 P P 13 35 59.5 -0.7
SNR=9.1
UCH Uchtor 61.66 320 *i*P P 13 36 02.4 +1.4
UCH Uchtor 61.66 320 P P 13 36 02.5 +1.4
SNR=12
AAK Ala-Archa 61.87 320 P P 13 36 01.4 -0.7
comp=Z,55nm,0.8s,SNR=7.1
AAK Ala-Archa 61.87 320 *i*P P 13 36 01.4 -0.7
AAK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 61.87 320 P P 13 36 03.5 +1.4
SNR=10
AAK Ala-Archa 61.87 320 *e*P P 13 36 01.1 -0.9
comp=Z,7.3nm,0.8s
AAK Ala-Archa 61.87 320 P P 13 36 01.4 -0.7
comp=Z,8.0nm,0.8s,baz=129,slow=4.6,SNR=30
AML Almayashu 62.15 319 *i*P P 13 36 03.5 -0.7
AML Almayashu 62.15 319 P P 13 36 03.5 -0.7
SNR=17
USP Ospenovka 62.18 321 *i*P P 13 36 02.6 -1.4
USP Ospenovka 62.18 321 P P 13 36 02.7 -1.4
SNR=14
YAK Yakutsk 62.20 3 *e*P P 13 36 02.8 -0.8
YAK *e* 13 36 41.8
YAK *e* 13 38 20.4
YAK *e*S **S** 13 44 22.1 -1.0
YAK *e* 13 45 43.8
YAK *e*SS **SS** 13 48 30.4 +2.9
YAK *e*SSS SSS 13 51 13.7
YAK pmax pmax
comp=Z,42nm,0.8s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=Z,170nm,4.5s
YAK pmax pmax
comp=E,140nm,3.4s
YAK pmax pmax
comp=N,261nm,3.8s
YAK smax smax
comp=N,98nm,1.9s
YAK smax smax
comp=E,75nm,1.6s
YAK Yakutsk 62.20 3 *e*P P 13 36 02.3 -1.3
comp=E,57nm,0.6s
KBL Kabul 62.26 310 *e*P P 13 36 02.8 -2.1
KBL pmax pmax
comp=Z,13nm,1.0s
KBL Kabul 62.26 310 *e*P P 13 36 02.8 -2.1
comp=Z,13nm,1.0s
EKS2 Erkin-Say 62.35 320 *i*P P 13 36 04.7 -0.5
EKS2 Erkin-Say 62.35 320 P P 13 36 04.7 -0.5
SNR=18
EKS2 Erkin-Say 62.35 320 *e*P P 13 36 04.5 -0.7
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 63.14 335 *e*P P 13 36 07.4 -2.7
ZALV Zalesovo Beam 63.14 335 P P 13 36 07.9 -2.2
ZALV S **S** 13 44 35.0 -0.4
ZALV Zalesovo Beam 63.14 335 P P 13 36 07.9 -2.2
ZALV S **S** 13 44 35.0 -0.4
ZALV Zalesovo Beam 63.14 335 P P 13 36 07.9 -2.2
comp=Z,3.1nm,0.3s,baz=130,slow=6.6,SNR=29
ZALV S **S** 13 44 35.0 -0.4
comp=Z,0.2nm,0.3s,baz=137,slow=16,SNR=4.4
ZALV LR LR 14 04 40.3

comp=Z,119nm,18.8s,baz=117,slow=37
KURBB Kurchatov Arra 63.92 329 P **P** **13 36 13.8 -1.5**
comp=Z,9.4nm,0.7s,baz=131,slow=6.0,SNR=53
KURK Kurchatov 63.93 329 *e*P **P** **13 36 13.7 -1.6**
KURK pmax pmax
comp=Z,10.0nm,0.6s
KURK Kurchatov 63.93 329 *e*P **P** **13 36 13.7 -1.6**
comp=Z,9.9nm,0.6s
KURK Kurchatov 63.93 329 P **P** **13 36 13.3 -2.0**
comp=Z,240nm,0.6s,SNR=39
NVS Novosibirsk 64.43 335⇑ *i*P P 13 36 15.2 -3.3
NVS *i* S **S** **13 44 52.2 +0.9**
NVS pmax pmax
comp=Z,6.0nm,0.7s
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS smax smax
comp=N,8.0nm,1.6s
NVS smax smax
comp=E,20nm,1.6s
AFI Afiamalu 64.44 105 LR LR 14 04 19.9
comp=E,115nm,19.5s,baz=149,slow=36
KK31 Karatay Array 64.68 319 *i* P **P** **13 36 19.5 -0.9**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 64.68 319 P **P** **13 36 19.8 -0.6**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 64.68 319 P **P** **13 36 19.8 -0.6**
comp=Z,2.3nm,0.6s
SEY Seymchan 66.33 13 P **P** **13 36 32.0 +1.3**
SEY Seymchan 66.33 13 P **P** **13 36 31.9 +1.3**
SEY Seymchan 66.33 13 P **P** **13 36 31.9 +1.3**
comp=Z,8.2nm,0.8s,baz=232,slow=12,SNR=8.9
BVA0 Borovoye Array 69.46 328 *i* P **P** **13 36 49.1 -1.4**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 69.46 328 P **P** **13 36 48.8 -1.7**
BVAR Borovoye Array 69.46 328 P **P** **13 36 48.8 -1.7**
BVAR Borovoye Array 69.46 328 P **P** **13 36 48.8 -1.7**
comp=Z,1.9nm,0.3s,baz=138,slow=9.6,SNR=16
BVAR LR LR 14 08 26.1
comp=Z,71nm,18.9s,baz=208,slow=37
BRVK Borovoye 69.53 328⇑ *e*P **P** **13 36 49.5 -1.4**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 71.79 1⇓ *e*P **P** **13 37 04.0 -0.2**
TIXI pmax pmax
comp=Z,25nm,1.3s
TIXI Tiksi 71.79 1 *e*P **P** **13 37 03.2 -1.0**
comp=Z,9.6nm,0.4s
AB31 Akbulak array 73.84 322 *i* P **P** **13 37 15.1 -1.8**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 73.84 322 *e*P **P** **13 37 14.7 -2.2**
comp=Z,4.8nm,0.8s
AKTO Aktyubinsk 75.41 323 P **P** **13 37 24.3 -1.6**
AKTO pmax pmax
comp=Z,12nm,0.8s
SVE Sverdlovsk 76.18 329⇓ *e*P **P** **13 37 29.0 -1.2**
SVE pmax pmax
comp=Z,17nm,1.2s
ARU Arti 77.11 329 *d i*P **P** **13 37 33.4 -2.0**
ARU 13 40 25.1
ARU S **S** **13 47 19.8 +1.5**
ARU SS SS 13 52 25.4 +8.2
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 77.11 329 *e*P **P** **13 37 33.6 -1.8**
comp=Z,8.9nm,1.0s
ABPO Ambohimpanom 77.95 251 *e*P **P** **13 37 41.1 0.0**
ABPO Ambohimpanom 77.95 251 *e*P **P** **13 37 41.1 0.0**
MAW Mawson 79.34 200 P **P** **13 37 47.6 +0.1**
MAW Mawson 79.34 200 P **P** **13 37 47.6 +0.1**
comp=Z,6.0nm,0.8s,baz=68,slow=11,SNR=4.9
MAW LR LR 14 05 39.7
comp=Z,99nm,22.0s,baz=67,slow=30
VNDA Vanda 79.84 172 *e*P **P** **13 37 50.7 +0.6**
comp=Z,10.0nm,0.8s
VNDA Vanda 79.84 172 P **P** **13 37 50.7 +0.6**
comp=Z,10nm,0.7s,baz=313,slow=6.1,SNR=24
VNDA LR LR 14 13 34.5
comp=Z,71nm,20.1s,baz=337,slow=36
GNI Garni 82.34 310 LR LR 14 15 38.3
comp=Z,70nm,18.7s,baz=293,slow=36
ZEI Tsey 83.27 313 *e*P **P** **13 38 07.1 -2.0**
ZEI pmax pmax
comp=Z,10.0nm,1.3s
PRGR Permogore 84.91 332 *e*P **P** **13 38 14.6 -2.2**
PRGR pmax pmax
comp=Z,18nm,0.9s
VRHR Novokhopersk 85.70 321 *e*P **P** **13 38 19.4 -1.5**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,10.0nm,1.5s
VORD Divnogorie 87.16 321 *e*P **P** **13 38 25.7 -2.4**
VORD pmax pmax
comp=Z,9.0nm,0.8s
VORD pmax pmax
comp=N,8.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.7s
VSR Storozhevoye 87.26 321 *e*P **P** **13 38 25.8 -2.7**
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=Z,7.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.4s
KMBO Kilima Mbogo 87.30 269 *e*P **P** **13 38 29.7 -0.2**
comp=E,7.9nm,1.0s
KMBO Kilima Mbogo 87.30 269 P **P** **13 38 30.6 +0.7**
comp=E,4.5nm,0.7s,baz=56,slow=8.4,SNR=12
KMBO LR LR 14 13 10.2
comp=E,85nm,21.4s,baz=94,slow=33
SYO Syowa Base 88.00 201⇑ *e*P **P** **13 38 30.8 -0.9**
SYO Syowa Base 88.00 201⇓ *e*PcP **PcP** **13 38 33.9 +0.5**
ANN Anapa 88.09 315 *e*P P 13 38 43.1 +10
ANN *e* 13 39 00.1
ANN pmax pmax
comp=Z,101nm,1.0s
COLD Coldfoot 88.34 23 *e*P **P** **13 38 34.5 +1.1**
comp=Z,13nm,0.9s
TMCR Tamitsa 88.66 334 *e*P P 13 38 31.6 -3.3
TMCR *e* 13 41 58.5
TMCR pmax pmax
comp=Z,14nm,1.4s
OBN Obninsk 89.00 325⇑ *e*P **P** **13 38 35.6 -1.1**
OBN pmax pmax
comp=Z,10.0nm,1.2s
ILAR Eielson Array 89.56 25 P **P** **13 38 37.9 -1.4**
ILAR Eielson Array 89.56 25 P **P** **13 38 37.9 -1.4**
comp=Z,1.2nm,0.5s,baz=247,slow=4.8,SNR=28
QSPA South Pole Qui 89.73 180 P **P** **13 38 40.5 +0.5**
QSPA South Pole Qui 89.73 180 P **P** **13 38 40.5 +0.5**
comp=Z,13nm,0.8s,baz=323,slow=2.0,SNR=22
APA Apatity 90.62 337 *e*P P 13 38 56.6 +13
APA MLR MLR
comp=Z,2μm,21.0s
BRTR Keskin Array B 90.83 310 P **P** **13 38 43.1 -2.8**
BRTR Keskin Array B 90.83 310 P **P** **13 38 43.1 -2.8**
comp=Z,1.2nm,0.8s,baz=139,slow=4.2,SNR=3.6
BRTR LR LR 14 25 57.3
comp=Z,50nm,19.7s,baz=286,slow=40
ARCES ARCESS Array B 93.36 340 P **P** **13 38 55.0 -1.7**
ARCES ARCESS Array B 93.36 340 P **P** **13 38 55.0 -1.7**
comp=Z,2.4nm,0.7s,baz=81,slow=7.5,SNR=8.5
AKASG Malin Array Be 93.54 321 P **P** **13 38 55.8 -2.1**
AKASG Malin Array Be 93.54 321 P **P** **13 38 55.8 -2.1**
AKASG Malin Array Be 93.54 321 P **P** **13 38 55.8 -2.1**
comp=Z,0.6nm,0.5s,baz=69,slow=5.0,SNR=4.5
SPITS Spitsbergen Ar 93.89 349 P **P** **13 38 58.5 -0.4**
SPITS Spitsbergen Ar 93.89 349 P **P** **13 38 58.5 -0.4**
comp=Z,8.3nm,0.8s,baz=98,slow=4.4,SNR=16
SPITS LR LR 14 32 23.4
comp=Z,92nm,18.7s,baz=270,slow=43
HYT Haines Junctio 94.06 29 *e*P **P** **13 39 01.0 +0.7**
FINES FINESS Array B 94.24 332 P **P** **13 38 59.9 -1.0**
FINES FINESS Array B 94.24 332 P **P** **13 38 59.9 -1.0**
comp=Z,2.4nm,0.9s,baz=69,slow=7.6,SNR=3.9
BOSA Boshof 98.07 241 LR LR 14 18 15.9
comp=Z,91nm,18.6s,baz=284,slow=32
HFS Hagfors 100.44 332 P **Pdif** **13 39 29.5 +0.6**
HFS Hagfors 100.44 332 P **Pdif** **13 39 29.5 +0.6**
comp=Z,3.3nm,1.0s,baz=113,slow=6.7,SNR=3.4
SNAA Sanae 100.88 195 P **Pdif** **13 39 31.7 +1.0**
SNAA Sanae 100.88 195 P **Pdif** **13 39 31.7 +1.0**
comp=Z,0.7nm,1.0s,baz=180,slow=9.1,SNR=4.2
RES Resolute Bay 102.04 10 P **Pdif** **13 39 36.4 +0.7**
RES Resolute Bay 102.04 10 P **Pdif** **13 39 36.4 +0.7**
comp=Z,1.4nm,0.7s,baz=321,slow=6.5,SNR=4.1
YKA Yellowknife Ar 103.95 24 Pdif **Pdif** **13 39 45.0 +0.5**
YKA PKiKP **PKiKP** **13 44 01.9 +0.3**
YKA PKKPbc **PKKPbc** **13 55 33.7 -3.0**
YKA Yellowknife Ar 103.95 24 Pdiff **Pdif** **13 39 45.0 +0.5**
comp=Z,0.4nm,0.8s,baz=300,slow=4.8,SNR=6.8
YKA PKiKP **PKiKP** **13 44 01.9 +0.3**
comp=Z,0.2nm,0.5s,baz=303,slow=1.8,SNR=5.7
YKA PKKPbc **PKKPbc** **13 55 33.7 -3.0**
comp=Z,0.5nm,0.8s,baz=118,slow=2.7,SNR=8.2
PDAR Pinedale Array 115.73 41 PKP **PKPdf** **13 44 25.4 +0.8**
PDAR PKKPab **PKKPab** **13 55 02.0 -0.7**
PDAR Pinedale Array 115.73 41 PKP **PKPdf** **13 44 25.5 +0.8**
comp=Z,0.9nm,1.1s,baz=235,slow=3.2,SNR=3.5
PDAR PKKPab **PKKPab** **13 55 02.0 -0.7**
comp=Z,1.1nm,0.8s,baz=124,slow=5.1,SNR=8.9
ULM Lac du Bonnet 119.43 29 PKP **PKPdf** **13 44 32.0 +0.7**
ULM Lac du Bonnet 119.43 29 PKP **PKPdf** **13 44 32.0 +0.7**
comp=Z,1.3nm,0.5s,baz=206,slow=2.1,SNR=3.2
TORD Torodi Ar. Bea 121.96 285 PKP **PKPdf** **13 44 37.0 -0.1**
TORD pPKP **pPKPdf** **13 44 51.6 -7.0**
TORD SKP 13 48 08.3
TORD PKKPab **PKKPab** **13 54 37.0 +1.6**
TORD Torodi Ar. Bea 121.96 285 PKP **PKPdf** **13 44 37.0 -0.1**
comp=Z,1.7nm,0.6s,baz=63,slow=1.4,SNR=12
TORD pPKP **pPKPdf** **13 44 51.6 -7.0**
comp=Z,2.8nm,0.8s,baz=51,slow=1.8,SNR=10
TORD SKP 13 48 08.3
comp=Z,1.0nm,1.1s,baz=72,slow=2.5,SNR=4.2
TORD PKKPab **PKKPab** **13 54 37.0 +1.6**
comp=Z,3.5nm,0.9s,baz=282,slow=4.0,SNR=16
SCHQ Schefferville 124.75 8 PKP **PKPdf** **13 44 41.8 +0.5**
SCHQ Schefferville 124.75 8 PKP **PKPdf** **13 44 41.8 +0.5**
comp=Z,1.9nm,0.5s,baz=30,slow=8.1,SNR=3.2
TXAR Lajitas Array 125.70 53 PKP **PKPdf** **13 44 45.0 +1.0**
TXAR Lajitas Array 125.70 53 PKP **PKPdf** **13 44 45.0 +1.0**
comp=Z,1.1nm,0.9s,baz=198,slow=0.8,SNR=8.6
JCT Junction City 128.25 50 *e*PKIKP **PKPdf** **13 44 49.8 +1.0**
JCT Junction City 128.25 50 *e*PKPdf **PKPdf** **13 44 49.8 +1.0**
TKL Tuckaleechee C 135.96 34 SKPbc **SKPab** **13 48 31.4 -2.1**
TKL Tuckaleechee C 135.96 34 SKPbc **SKPab** **13 48 31.4 -2.1**
comp=Z,5.0nm,0.8s,baz=225,slow=5.7,SNR=6.4
PLCA Paso Flores 137.00 163 PKP **PKPdf** **13 45 07.1 +2.1**
PLCA Paso Flores 137.00 163 PKP **PKPdf** **13 45 07.1 +2.1**
comp=Z,3.3nm,0.8s,baz=166,slow=1.2,SNR=9.4
CFAA Coronel Fontan 146.12 160 PKPbc **PKPab** **13 45 23.1 -0.2**
CFAA Coronel Fontan 146.12 160 PKPbc **PKPab** **13 45 23.1 -0.2**
comp=Z,1.4nm,0.7s,baz=258,slow=3.7,SNR=13
JTS JuntasAbangare 149.00 70 PKPbc **PKPbc** **13 45 31.9 +1.1**
JTS JuntasAbangare 149.00 70 PKPbc **PKPbc** **13 45 31.9 +1.1**
comp=Z,7.6nm,0.6s,baz=216,slow=5.6,SNR=7.9
CPUP Villa Florida 153.56 176 PKPbc **PKPbc** **13 45 41.5 +0.4**
CPUP PKPab **PKPab** **13 45 54.7 +1.2**
CPUP Villa Florida 153.56 176 PKPbc **PKPbc** **13 45 41.5 +0.4**
comp=Z,4.7nm,0.7s,baz=173,slow=3.6,SNR=6.5
CPUP PKPab **PKPab** **13 45 54.7 +1.2**
comp=Z,3.5nm,0.7s,baz=154,slow=6.9,SNR=7.6
LVC Limon Verde 153.81 151 *e*PKPbc **PKPbc** **13 45 43.0 +0.9**
LPAZ La Paz 159.38 143 *e*PKPdf **PKPdf** **13 45 43.5 +1.6**
LPAZ PKP **PKPdf** **13 45 43.8 +1.9**
LPAZ PKPab **PKPab** **13 46 22.2 +2.6**
LPAZ La Paz 159.38 143 PKP **PKPdf** **13 45 43.8 +1.9**
comp=Z,2.3nm,0.8s,baz=235,slow=4.9,SNR=10
LPAZ PKPab **PKPab** **13 46 22.2 +2.6**
comp=Z,7.6nm,0.8s,baz=189,slow=3.6,SNR=16
SIV San Ignacio 162.98 161 PKP **PKPdf** **13 45 46.2 +1.2**
SIV PKPab **PKPab** **13 46 35.6 +1.1**
SIV San Ignacio 162.98 161 PKP **PKPdf** **13 45 46.2 +1.2**
comp=Z,3.1nm,1.1s,baz=255,slow=9.9,SNR=5.3
SIV PKPab **PKPab** **13 46 35.6 +1.1**
comp=Z,3.3nm,0.8s,baz=161,slow=1.9,SNR=6.3
SAML Samuel 168.08 140 *e*PKPdf **PKPdf** **13 45 49.8 +0.6**

*IDC **20** 13:27:47.2±1.8, 52.°88N×35.°10W, h0km, mb3.3/5, mb1 3.7/6, mb1mx3.4/32, mbtmp3.4/6, ML2.9/1, MS3.5/3, Ms1 3.6/3, ms1mx3.1/30, Error ellipse: s-maj=61.3km s-min=28.1km az=173.0*

ISC 20 13:27:49.3±1.8, 52.°9N±0.°4×35.°2W±0.°2, h13km, n12, σ0s84/11, mb3.2/5, MS3.4/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.69**	**289**	P	**P**	**13 32 05.5**	**-1.4**
	0.4nm,0.3s,baz=20,slow=8.4,SNR=7.2						
NOA	**NORSAR Array B**	**26.06**	**53**	LR	LR	13 42 49.8	
	comp=Z,92nm,18.2s,baz=275,slow=35						
GERES	**GERESS Array B**	**30.63**	**78**	LR	LR	13 44 29.7	
	comp=Z,104nm,19.8s,baz=288,slow=33						
ARCES	**ARCESS Array B**	**31.89**	**35**	LR	LR	13 45 52.7	
	comp=Z,75nm,18.4s,baz=241,slow=34						
YKA	**Yellowknife Ar**	**40.87**	**316**	P	**P**	**13 35 30.3**	**0.0**
	0.2nm,0.8s,baz=67,slow=8.1,SNR=3.9						
YKA				PcP	**PcP**	**13 37 30.2**	**-0.5**
	0.2nm,0.6s,baz=66,slow=3.7,SNR=5.0						
PDAR	**Pinedale Array**	**48.82**	**290**	P	**P**	**13 36 34.2**	**-0.1**
	0.4nm,0.6s,baz=61,slow=8.6,SNR=6.0						
ILAR	**Eielson Array**	**51.48**	**329**	P	**P**	**13 36 54.7**	**+0.9**
	0.3nm,0.9s,baz=60,slow=5.3,SNR=4.0						
ILAR				PcP	**PcP**	**13 38 07.7**	**-0.2**
	0.2nm,0.7s,baz=3.7,slow=4.1,SNR=4.9						
TXAR	**Lajitas Array**	**54.43**	**273**	P	**P**	**13 37 17.3**	**+1.2**
	0.1nm,0.6s,baz=69,slow=7.8,SNR=3.1						
SONM	**Songino Array**	**74.45**	**26**	P	**P**	**13 39 27.1**	**+0.1**
	0.4nm,0.6s,baz=347,slow=5.9,SNR=5.5						
WRA	**Warramunga Arr**	**146.12**	**18**	PKPbc	**PKPdf**	**13 47 28.4**	**+0.3**
	0.4nm,0.8s,baz=346,slow=3.2,SNR=5.0						
CTA	**Charters Tower**	**147.24**	**358**	PKPbc	**PKPbc**	**13 47 31.8**	**-0.4**
	1.5nm,0.8s,baz=336,slow=10.0,SNR=3.7						
ASAR	**Alice Springs**	**149.66**	**20**	PKPbc	**PKPbc**	**13 47 37.5**	**-0.9**
	0.6nm,0.8s,baz=0.5,slow=2.1,SNR=11						

IDC 20 13:32:47.9±2.8, 30.°33S×177.°26W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/18, mbtmp3.4/2, Error ellipse: s-maj=58.2km s-min=28.4km az=85.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.22**	**332**	Pn	Pn	13 33 12.3	0.0
	125nm,0.3s,baz=124,slow=4.6,SNR=11						
RAO				Sn	Sn	13 33 30.5	+1.1
	274nm,0.3s,baz=125,slow=21,SNR=8.9						
ASAR	**Alice Springs**	**43.75**	**267**	P	P	13 40 55.5	0.0
	0.3nm,0.7s,baz=104,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**44.74**	**272**	P	P	13 41 03.0	-0.3
	0.3nm,0.4s,baz=110,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**145.30**	**340**	PKPbc	PKPbc	13 52 25.9	-0.9
	4.2nm,1.0s,baz=64,slow=3.2,SNR=6.6						

IDC 20 13:51:10.1±9.2, 2.°28N×127.°43E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=144.0km s-min=102.0km az=148.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.33**	**185**	P	P	13 55 48.9	+0.9
	5.2nm,1.1s,baz=19,slow=14,SNR=6.0						
WRA	**Warramunga Arr**	**23.10**	**163**	P	P	13 56 18.1	+0.3
	2.2nm,0.8s,baz=342,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.54**	**167**	P	P	13 56 48.5	-1.3
	0.2nm,0.5s,baz=346,slow=6.9,SNR=9.8						
STKA	**Stephens Creek**	**36.53**	**160**	P	P	13 58 18.3	+0.7
	1.4nm,0.8s,baz=323,slow=12,SNR=2.8						

GUC 20 14:05:15.0±0.4, 27.°32S×71.°21W, h48km±6km, ML3.5, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.43**	**54**	*e*P	Pn	14 05 25.5	+0.1
CDCH				*i* S	Sn	14 05 33.2	+0.5
CDCH				AML	AML	14 05 33.9	
CPCH	**Copiapo**	**0.77**	**93**⇓	*i*P	Pn	14 05 29.8	+0.2
CPCH				*i* S	Sn	14 05 41.4	+1.2
CPCH				AML	AML	14 05 42.4	
	comp=N,17μm,0.1s						
VACH	**Vallenar**	**1.31**	**162**⇑	*i*P	Pn	14 05 37.6	+0.6
VACH				*i* S	Sn	14 05 54.5	+1.1
VACH				AML	AML	14 05 59.0	
	comp=N,1μm,0.5s						
LCO	**Las Campanas**	**1.74**	**165**⇑	*i*P	Pn	14 05 43.8	+0.7
LCO				*i* S	Sn	14 06 05.7	+1.3
LCO				AML	AML	14 06 14.1	
	comp=E,397nm,0.6s						
TLL	**Tololo Astrono**	**2.86**	**173**	*e*P	Pn	14 05 59.3	+0.9
TLL				*e*S	Sn	14 06 32.9	+1.1
TLL				AML	AML	14 06 54.1	
	comp=N,140nm,0.5s						

*ISCJB **20** 14:21:06.9±0.3, 34.°91N±0.°04×113.°67E±0.°05, h10km, mb4.3/30, MS2.8/1, Error ellipse: s-maj=6.1km s-min=4.9km az=42.4*
*BJI **20** 14:21:07.6, 35.°17N×113.°53E, h5km, mB4.3/1, mb4.0/4, ML4.3/20, Ms3.7/2, Ms7 3.6/1*
*IDC **20** 14:21:07.6±0.6, 34.°90N×113.°62E, h0km, mb4.0/16, mb1 4.1/18, mb1mx4.0/30, mbtmp3.9/18, ML3.3/2, MS3.0/3, Ms1 3.1/3, ms1mx2.9/35, Error ellipse: s-maj=20.5km s-min=14.0km az=65.0*
*NEIC **20** 14:21:09.0±0.3, 34.°93N×113.°60E, h10km, mb4.7/13, Error ellipse: s-maj=6.5km s-min=5.1km az=134.0*

ISC 20 14:21:09.1±0.4, 35.°00N±0.°04×113.°77E±0.°04, h10km, n79, σ1s56/83, mb4.4/31, 1C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	**4.12**	**258**	Pn	Pn	14 22 07.4	-4.7
XAN				Pg	**Pb**	**14 22 21.3**	**-0.4**
XAN				Sn	**Sn**	**14 23 02.1**	**+1.8**
XAN				Sg	**Sg**	**14 23 18.8**	**-2.5**
XAN				smax	smax		
	comp=N,300nm,0.8s						
XAN				smax	smax		
	comp=E,85nm,0.8s						
XAN				LR	LR		
	comp=N,500nm,10.0s						
XAN				LR	LR		
	comp=E,120nm,12.9s						
WHN	**Wuhan**	**4.47**	**174**	Pn	**Pn**	**14 22 17.3**	**+0.4**
WHN				Pg	**Pg**	**14 22 32.6**	**-2.1**
WHN				Sg	**Sg**	**14 23 30.9**	**-1.7**
WHN				smax	smax		
	comp=N,2μm,0.6s						
WHN				smax	smax		
	comp=E,1μm,0.8s						
NJ2	**Nanjing**	**5.16**	**123**	*e*Pn	Pb	14 22 33.8	-5.7
NJ2				Sg	**Sg**	**14 23 53.0**	**-1.9**
NJ2				smax	smax		
	comp=N,270nm,0.5s						
NJ2				smax	smax		
	comp=E,290nm,0.7s						
BJT	**Baijiatuau**	**5.36**	**20**	*e*Pn	**Pn**	**14 22 30.0**	**+0.9**
	61nm,0.5s						
BJI	**Beijing**	**5.38**	**20**	Pn	Pn	14 22 22.9	-6.5
BJI				Pg	Pb	14 22 39.6	-3.6
BJI				Sg	**Sb**	**14 23 49.3**	**+1.4**
BJI				smax	smax		
	comp=N,330nm,0.8s						
BJI				smax	smax		
	comp=E,270nm,1.2s						
ENH	**Enshi**	**5.94**	**219**	*e*Pn	**Pn**	**14 22 39.0**	**+1.9**
	18nm,0.5s						
ENH				*e*Sg	**Sb**	**14 24 09.7**	**+5.8**
HHC	**Hu-ho-hao-te**	**6.10**	**344**	*e*Pg	**Pb**	**14 22 53.0**	**-2.4**
HHC				Sg	**Sb**	**14 24 07.6**	**-0.9**
HHC				smax	smax		
	comp=N,190nm,0.7s						
HHC				smax	smax		
	comp=E,230nm,0.6s						
BTO	**Baotou**	**6.34**	**333**	*e*P	Pn	14 22 49.8	+7.2
LZH	**Lanzhou**	**8.16**	**281**	Pg	Pb	14 23 36.0	+5.3
LZH				Sg	Sb	14 25 14.3	+6.0
LZH				smax	smax		
	comp=N,250nm,1.0s						
LZH				smax	smax		
	comp=E,180nm,1.0s						
LZH				LR	LR		
	comp=N,510nm,7.4s						
LZH				LR	LR		
	comp=E,580nm,7.6s						
LZH				LR	LR		
	comp=Z,660nm,8.0s						
GYA	**Guiyang**	**10.48**	**218**⇑	*i*P	**Pn**	**14 23 42.4**	**+2.9**
GYA				S	**Sn**	**14 25 35.3**	**-1.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
KSAR	**Wonju Array Be**	**11.66**	**74**	Pn	**Pn**	**14 23 56.6**	**+1.1**
KSRS	**Korea Array**	**11.69**	**74**	Pn	**Pn**	**14 23 56.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=266,slow=13,SNR=4.4						
KSRS				LR	LR	14 29 16.4	
	comp=Z,39nm,18.7s,baz=170,slow=41						
GTA	**Gaotai**	**11.97**	**296**	*e*P	Pn	14 23 54.4	-5.4
GTA				pP		14 24 00.3	
GTA				sP		14 24 03.0	
GTA				S	Sn	14 26 02.3	-11
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				LR	LR		
	comp=Z,240nm,9.0s						
ULN	**Ulaanbaatar**	**13.80**	**341**	Pn	**Pn**	**14 24 23.8**	**-1.1**
SONM	**Songino Array**	**13.96**	**339**	Pn	**Pn**	**14 24 26.7**	**-0.3**
SONM	**Songino Array**	**13.96**	**339**	Pn	**Pn**	**14 24 26.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=157,slow=11,SNR=6.8						
SONM				LR	LR	14 29 52.3	
	comp=Z,119nm,18.7s,baz=178,slow=38						
CHTO	**Chiang Mai**	**20.81**	**223**	*e*P	**P**	**14 25 50.3**	**-0.4**
	comp=Z,4.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.09**	**222**	P	**P**	**14 25 53.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.09**	**222**	P	**P**	**14 25 53.1**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=30,slow=8.2,SNR=5.9						
CMAR				LR	LR	14 34 05.3	
	comp=Z,34nm,18.3s,baz=0.0,slow=37						
TAPN	**Taplejung**	**23.52**	**258**	*e*P	**P**	**14 26 18.2**	**-1.5**
	comp=Z,30nm,0.9s						
TAPN	**Taplejung**	**23.52**	**258**	*e*P	**P**	**14 26 18.2**	**-1.5**
	comp=Z,30nm,0.9s						
ODAN	**Odare**	**23.99**	**258**	*e*P	**P**	**14 26 22.0**	**-2.2**
	comp=Z,25nm,1.2s						
ODAN	**Odare**	**23.99**	**258**	*e*P	**P**	**14 26 22.0**	**-2.2**
	comp=Z,25nm,1.2s						
RAMN	**Ramite**	**24.59**	**258**	*e*P	**P**	**14 26 27.8**	**-1.9**
	comp=Z,15nm,0.7s						
RAMN	**Ramite**	**24.59**	**258**	*e*P	**P**	**14 26 27.8**	**-1.9**
	comp=Z,15nm,0.7s						
JIRN	**Jiri**	**24.62**	**260**	*e*P	**P**	**14 26 28.7**	**-1.4**
	comp=Z,14nm,0.6s						
JIRN	**Jiri**	**24.62**	**260**	*e*P	**P**	**14 26 28.7**	**-1.4**
	comp=Z,14nm,0.6s						
GUN	**Gumba**	**24.77**	**261**	*e*P	**P**	**14 26 30.0**	**-1.5**
	comp=Z,54nm,0.7s						
GUN	**Gumba**	**24.77**	**261**	*e*P	**P**	**14 26 30.0**	**-1.5**
	comp=Z,54nm,0.7s						
PKI	**Pulchoki**	**25.29**	**261**	*e*P	**P**	**14 26 34.2**	**-1.9**
	comp=Z,31nm,1.1s						
PKI	**Pulchoki**	**25.29**	**261**	*e*P	**P**	**14 26 34.5**	**-1.6**
	comp=Z,9.2nm,0.6s						
PKIN	**Phulchoki**	**25.29**	**261**	*e*P	**P**	**14 26 34.5**	**-1.6**
	comp=Z,9.2nm,0.6s						
KKN	**Kakani**	**25.30**	**261**	*e*P	**P**	**14 26 34.4**	**-1.7**
	comp=Z,22nm,0.9s						
KKN	**Kakani**	**25.30**	**261**	*e*P	**P**	**14 26 34.4**	**-1.7**
	comp=Z,22nm,0.9s						
DMN	**Daman**	**25.52**	**261**	*e*P	**P**	**14 26 37.1**	**-1.0**
	comp=Z,34nm,0.9s						
DMN	**Daman**	**25.52**	**261**	*e*P	**P**	**14 26 37.1**	**-1.0**
	comp=Z,34nm,0.9s						
GKN	**Gorkha**	**25.74**	**262**	*e*P	**P**	**14 26 37.8**	**-2.3**
	comp=Z,25nm,0.8s						
GKN	**Gorkha**	**25.74**	**262**	*e*P	**P**	**14 26 37.8**	**-2.3**
	comp=Z,25nm,0.8s						
DANN	**Dangsing**	**26.32**	**264**	*e*P	**P**	**14 26 43.7**	**-1.8**
	comp=Z,22nm,0.7s						
DANN	**Dangsing**	**26.32**	**264**	*e*P	**P**	**14 26 43.7**	**-1.8**
	comp=Z,22nm,0.7s						
MK31	**Makanchi Array**	**26.38**	**306**	*e*P	**P**	**14 26 45.3**	**-0.2**
KOLN	**Koldanda**	**26.68**	**263**	*e*P	**P**	**14 26 46.8**	**-1.8**

	comp=Z,19nm,0.8s								
KOLN	**Koldanda**	**26.68**	**263**	*e*P		**P**	**14 26 46.8**	**-1.8**
	comp=Z,19nm,0.8s								
PYUN	**Piuthan**	**27.05**	**264**	*e*P		**P**	**14 26 49.7**	**-2.2**
	comp=Z,27nm,0.9s								
PYUN	**Piuthan**	**27.05**	**264**	*e*P		**P**	**14 26 49.7**	**-2.2**
	comp=Z,27nm,0.9s								
ZALV	**Zalesovo Beam**	**27.73**	**322**	P		**P**	**14 26 57.2**	**-0.3**
ZALV	**Zalesovo Beam**	**27.73**	**322**	P		**P**	**14 26 57.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=117,slow=12,SNR=5.2								
KURK	**Kurchatov**	**29.83**	**313**	*e*P		**P**	**14 27 16.0**	**-0.2**
	comp=Z,1.6nm,1.0s								
KURBB	**Kurchatov Arra**	**29.86**	**312**	P		**P**	**14 27 16.5**	**0.0**
	comp=Z,1.5nm,1.0s,baz=109,slow=9.8,SNR=5.1								
BVAR	**Borovoye Array**	**35.37**	**314**	P		**P**	**14 28 04.4**	**-0.3**
BVAR	**Borovoye Array**	**35.37**	**314**	P		**P**	**14 28 04.4**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=104,slow=10,SNR=7.3								
SEY	**Seymchan**	**36.76**	**28**	P		**P**	**14 28 19.0**	**+2.6**
SEY	**Seymchan**	**36.76**	**28**	P		**P**	**14 28 19.0**	**+2.6**
	comp=Z,2.0nm,0.7s,baz=21,slow=23,SNR=5.3								
ARCES	**ARCESS Array B**	**57.10**	**335**	P		**P**	**14 30 55.5**	**+0.3**
ARCES	**ARCESS Array B**	**57.10**	**335**	P		**P**	**14 30 55.5**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=62,slow=8.4,SNR=4.2								
WRAB	**Tennant Creek**	**58.02**	**157**	*e*P		**P**	**14 31 01.5**	**-0.7**
	comp=Z,2.3nm,0.7s								
WRA	**Warramunga Arr**	**58.03**	**157**	P		**P**	**14 31 01.7**	**-0.6**
WRA	**Warramunga Arr**	**58.03**	**157**	P		**P**	**14 31 01.7**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=348,slow=7.9,SNR=12								
FINES	**FINESS Array B**	**58.90**	**326**	P		**P**	**14 31 08.4**	**+0.5**
FINES	**FINESS Array B**	**58.90**	**326**	P		**P**	**14 31 08.4**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=76,slow=8.0,SNR=15								
AKASG	**Malin Array Be**	**60.64**	**313**	P		**P**	**14 31 18.3**	**-1.8**
AKASG	**Malin Array Be**	**60.64**	**313**	P		**P**	**14 31 18.3**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=64,slow=6.3,SNR=3.8								
ASAR	**Alice Springs**	**61.39**	**159**	P		**P**	**14 31 25.2**	**-0.2**
ASAR	**Alice Springs**	**61.39**	**159**	P		**P**	**14 31 25.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=345,slow=7.1,SNR=19								
BR131	**Keskin Array S**	**61.84**	**300**	*e*P		**P**	**14 31 28.9**	**+0.3**
	comp=Z,3.0nm,0.9s								
BRTR	**Keskin Array B**	**61.84**	**300**	P		**P**	**14 31 29.1**	**+0.5**
BRTR	**Keskin Array B**	**61.84**	**300**	P		**P**	**14 31 29.1**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=81,slow=5.4,SNR=10								
COLA	**College**	**62.27**	**29**	*e*P		**P**	**14 31 32.8**	**+2.0**
	comp=Z,2.5nm,0.7s								
ILAR	**Eielson Array**	**62.69**	**28**	P		**P**	**14 31 35.0**	**+1.2**
ILAR	**Eielson Array**	**62.69**	**28**	P		**P**	**14 31 35.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=288,slow=5.5,SNR=12								
INK	**Inuvik**	**65.66**	**22**	P		**P**	**14 31 53.4**	**+0.4**
INK	**Inuvik**	**65.66**	**22**	P		**P**	**14 31 53.4**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=328,slow=6.9,SNR=4.8								
NB2	**NORSAR Subarra**	**65.67**	**329**	P		**P**	**14 31 53.3**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=61,slow=6.2								
NOA	**NORSAR Array B**	**65.67**	**329**	P		**P**	**14 31 53.3**	**-0.1**
NOA	**NORSAR Array B**	**65.67**	**329**	P		**P**	**14 31 53.3**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=60,slow=6.1,SNR=4.8								
STKA	**Stephens Creek**	**71.48**	**155**	P		**P**	**14 32 29.4**	**-0.4**
STKA	**Stephens Creek**	**71.48**	**155**	P		**P**	**14 32 29.4**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=7.0,slow=3.5,SNR=6.3								
YKA	**Yellowknife Ar**	**75.38**	**21**	P		**P**	**14 32 53.2**	**+0.8**
YKA	**Yellowknife Ar**	**75.38**	**21**	P		**P**	**14 32 53.2**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=320,slow=5.1,SNR=6.7								

NNC 20 14:23:29.4±7.2, 36.91N×70.58E, h0km, mb 3.8, mpv 3.5, 5C-3D, Error ellipse: s-maj=63.8km s-min=45.0km az=154.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.18**	**360**	⇑P	Pn	14 25 04.6	+2.7
	2.2nm,0.4s,baz=178,slow=12,SNR=74						
KK31				⇓S	Sn	14 26 15.0	+1.6
	1.9nm,0.3s,baz=175,slow=24,SNR=10						
AAK	**Ala-Archa**	**6.46**	**27**	⇑P	Pn	14 25 07.4	+1.5
	1.6nm,0.5s						
AAK				⇓S	Sn	14 26 21.2	+0.6
	4.0nm,0.8s						
TKM2	**Tokmak 2**	**7.13**	**31**	⇑P	Pn	14 25 15.3	+0.1
	2.5nm,0.7s						
TKM2				⇑S	Sn	14 26 37.1	-0.1
	1.5nm,0.8s						
AB31	**Akbulak array**	**14.56**	**331**	⇑P	Pn	14 26 52.7	-3.9
	0.2nm,0.3s,baz=166,slow=11,SNR=4.7						
AKTO	**Aktyubinsk**	**16.26**	**330**	⇓P	Pn	14 27 12.5	-6.5
	1.2nm,0.6s						

NIED ***20*** *14:30:00, 41.00N×143.30E, h29km, Mw4.6 Best double couple: M0 1.05000×10^16 NP1:φs=34.00000°, δ70.00000°, λ107.00000°. NP2:φs=172.00000°, δ26.00000°, λ52.00000°.*

IDC ***20*** *14:30:21.8±0.5, 41.02N×143.13E, h0km, mb4.4/24, mb1 4.6/26, mb1mx4.5/30, mbtmp4.4/26, ML3.4/2, MS4.1/19, Ms1 4.1/19, ms1mx3.9/38, Error ellipse: s-maj=14.7km s-min=13.6km az=105.0*

BJI ***20*** *14:30:23.5, 40.98N×143.30E, h36km, mB5.1/39, mb4.9/49, Ms4.5/42, Ms7 4.2/42*

MOS ***20*** *14:30:25.8±1.0, 41.03N×143.12E, h39km, mb5.1/54, MS4.1/19, Error ellipse: s-maj=8.0km s-min=5.1km az=110.7*

JMA ***20*** *14:30:25.3±0.1, 40.99N×143.27E, h44km, M4.7*

JMA Felt II J1.

ISCJB ***20*** *14:30:25.7±0.5, 41.03N±0.03×143.18E±0.04, h38km±3km, mb4.9/107, MS4.3/32, Error ellipse: s-maj=5.7km s-min=3.2km az=41.9*

NEIC ***20*** *14:30:28.1±0.5, 41.08N×143.06E, h41km±4km, mb5.2/46, MW4.6(NIED), Error ellipse: s-maj=5.5km s-min=3.7km az=134.0*

NEIC Recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu. Also recorded [1 JMA] in southern and southwestern Hokkaido.

ISC 20 14:30:27.5±0.4, 41.10N±0.04×143.11E±0.04, h39km±2km, h38km: pP-P, n325, σ1s38/373, mb4.9/107, MS4.4/32, 21C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.92**	**2**	⇓*i*P	**Pn**	**14 30 43.6**	**-0.3**
ERM				*e*S	**Sn**	**14 30 55.5**	**-0.3**
ERM	**Erimo**	**0.92**	**2**	⇓*i*P	**Pn**	**14 30 43.5**	**-0.3**
ERM				*e*S	**Sn**	**14 30 55.5**	**-0.3**
ERM	**Erimo**	**0.92**	**2**	Pn	**Pn**	**14 30 43.2**	**-0.7**
	15μm,0.5s						
JEM	**Erimo**	**0.92**	**2**	⇑P	**Pn**	**14 30 43.4**	**-0.5**
JEM				S	**Sn**	**14 30 56.9**	**+1.0**
JNBK	**Urakawa-nobuka**	**1.21**	**347**	⇑P	**Pn**	**14 30 48.4**	**+0.5**
JANG	**Nango**	**1.41**	**240**	⇑P	**Pn**	**14 30 50.0**	**-0.6**
JANG				*e*S	**Sn**	**14 31 07.9**	**-0.1**
JCH	**Churui**	**1.53**	**7**	P	**Pn**	**14 30 51.8**	**-0.4**
JCH				*e*S	**Sn**	**14 31 12.1**	**+1.3**
JTM	**Tenmabayashi**	**1.57**	**259**	⇑P	**Pn**	**14 30 53.4**	**+0.5**
JTM				S	**Sn**	**14 31 14.4**	**+2.4**
JOT	**Ohata**	**1.58**	**281**	P	**Pn**	**14 30 53.7**	**+0.8**
JOT				*e*S	**Sn**	**14 31 14.5**	**+2.4**
JKB	**Kayabe**	**1.75**	**298**	⇑P	**Pn**	**14 30 56.1**	**+0.9**
JBT2	**Biratori 2**	**1.77**	**342**	⇑P	**Pn**	**14 30 56.7**	**+1.2**
JFR	**Furan**	**2.10**	**350**	P	**Pn**	**14 30 59.6**	**-0.5**
JEW	**Eniwo**	**2.13**	**325**	P	**Pn**	**14 31 02.0**	**+1.4**
JOM	**Obasama**	**2.14**	**221**	⇑P	**Pn**	**14 31 00.2**	**-0.4**
JAK	**Akkeshi**	**2.24**	**31**	P	**Pn**	**14 31 00.3**	**-1.6**
JAK				*e*S	**Sn**	**14 31 26.5**	**-1.8**
JAR	**Ashorobuto**	**2.25**	**12**	⇑P	**Pn**	**14 31 01.4**	**-0.8**
JAR				S	**Sn**	**14 31 27.7**	**-1.0**
JMK	**Ichinoseki**	**2.59**	**215**	⇑P	**Pn**	**14 31 06.2**	**-0.6**
ASAJ	**Asahikawa**	**3.04**	**353**	*e*P	**Pn**	**14 31 13.2**	**+0.2**
ASAJ				Sn	Sn	14 31 59.5	+11
ASAJ	**Asahikawa**	**3.04**	**353**	Pn	**Pn**	**14 31 13.7**	**+0.7**
	6.5nm,0.3s,baz=211,slow=16,SNR=61						
ASAJ				Sn	Sn	14 31 59.5	+11
	42nm,0.3s,baz=46,slow=32,SNR=7.4						
ASAJ				LR	LR	14 32 48.4	
	comp=Z,742nm,20.4s,baz=0.7,slow=47						
YUK	**Yuzh-Kuril'sk**	**3.57**	**34**	*d i*P	**Pn**	**14 31 19.1**	**-1.2**
YUK				*i* S	**Sn**	**14 31 57.7**	**-3.5**
YUK				pmax	pmax		
	comp=Z,611nm,0.4s						
YUK				pmax	pmax		
	comp=E,165nm,0.2s						
YUK				pmax	pmax		
	comp=N,266nm,0.3s						
YUK				smax	smax		
	comp=N,3μm,0.6s						
YUK				smax	smax		
	comp=E,3μm,0.6s						
YUK				MLR	MLR		
	comp=E,2μm,17.0s						
YUK				MLR	MLR		
	comp=Z,2μm,17.0s						
KUR	**Kuril'sk**	**5.40**	**39**	⇑*i*P	**Pn**	**14 31 45.0**	**-0.4**
KUR				S	**Sn**	**14 32 45.0**	**-1.3**
KUR				pmax	pmax		
	comp=Z,441nm,0.8s						
KUR				pmax	pmax		
	comp=N,156nm,0.9s						
KUR				pmax	pmax		
	comp=E,106nm,0.6s						
KUR				smax	smax		
	comp=N,410nm,0.5s						
KUR				smax	smax		
	comp=E,327nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.86**	**358**	*e*P	Pn	14 31 56.0	+4.3
YSS				*e*S	**Sn**	**14 33 01.5**	**+3.9**
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.86**	**358**	*e*P	**Pn**	**14 31 53.4**	**+1.7**
	comp=E,58nm,0.9s						
MAJO	**Matsushiro**	**5.94**	**222**	*e*P	**Pn**	**14 31 52.9**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,64nm,0.6s						
MAJO	**Matsushiro**	**5.94**	**222**	*e*P	**Pn**	**14 31 52.9**	**-0.1**
	comp=Z,64nm,0.6s						
MAT	**Matsushiro**	**5.94**	**222**	P	**Pn**	**14 31 53.2**	**+0.3**
MAT				*e*S	**Sn**	**14 32 58.4**	**-1.4**
MJAR	**Matsushiro Arr**	**5.94**	**222**	Pn	**Pn**	**14 31 53.7**	**+0.7**
MJAR	**Matsushiro Arr**	**5.94**	**222**	Pn	**Pn**	**14 31 53.7**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=30,slow=13,SNR=50						
MJAR				LR	LR	14 34 32.8	
	comp=Z,1μm,19.1s,baz=55,slow=43						
VLA	**Vladivostok**	**8.58**	**287**	⇓*e*P	Pn	14 32 32.7	+3.6
VLA				*i* S	Sn	14 34 10.9	+6.3
USRK	**Ussuriysk Arra**	**8.76**	**294**	Pn	**Pn**	**14 32 32.5**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=107,slow=14,SNR=33						
USRK				LR	LR	14 36 16.8	
	comp=Z,2μm,18.1s,baz=53,slow=40						
HABR	**Khabarovsk**	**9.33**	**325**	*e*P	**Pn**	**14 32 38.6**	**-0.7**
HABR				*e*		14 34 23.9	
HABR				pmax	pmax		
	comp=Z,25nm,1.9s						
HABR				MLR	MLR		
	comp=Z,1μm,17.0s						
MDJ	**Mudanjiang**	**10.53**	**294**	P	Pn	14 32 59.3	+3.6
MDJ				pmax	pmax		
	comp=Z,48nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,220nm,6.0s						
MDJ				LR	LR		
	comp=Z,230nm,8.0s						
MDJ				LR	LR		
	comp=Z,1μm,14.3s						
MDJ				LR	LR		
	comp=Z,2μm,14.3s						
KLR	**Kul'dur**	**11.41**	**319**	*e*P	**Pn**	**14 33 06.7**	**-1.0**
KLR				pmax	pmax		
	comp=Z,48nm,1.4s						
KSRS	**Korea Array**	**12.32**	**258**	Pn	**Pn**	**14 33 22.0**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=70,slow=13,SNR=10						
KSRS				Sn	Sn	14 35 48.4	+12
	comp=Z,0.5nm,0.3s,baz=68,slow=24,SNR=4.7						
KSRS				LR	LR	14 37 58.0	
	comp=Z,923nm,18.1s,baz=71,slow=37						
KSAR	**Wonju Array Be**	**12.35**	**258**	Pn	**Pn**	**14 33 22.0**	**+1.4**
KSAR				Sn	Sn	14 35 48.4	+11
JNU	**Nakatsue**	**12.59**	**235**	LR	LR	14 38 37.6	
	comp=Z,229nm,20.4s,baz=52,slow=40						
CN2	**Changchun**	**13.32**	**288**	⇑P	**Pn**	**14 33 35.6**	**+1.7**
CN2				*e*S	**Sn**	**14 36 02.3**	**+1.8**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,700nm,14.0s						
CN2				LR	LR		
	comp=Z,600nm,14.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
PETK	**Petropavlovsk-**	**15.55**	**35**	P	Pn	14 33 58.3	-5.5
PETK				MLR	MLR		
	comp=Z,193nm,18.6s						
PETK	**Petropavlovsk-**	**15.55**	**35**	Pn	Pn	14 33 58.3	-5.5
PETK	**Petropavlovsk-**	**15.55**	**35**	Pn	Pn	14 33 58.3	-5.5
	comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=3.3						
PETK				LR	LR	14 40 29.8	
	comp=Z,193nm,18.6s,baz=38,slow=39						
CLNS	**Chul'man**	**19.67**	**329**	*e*P	**P**	**14 34 52.5**	**-0.5**
CLNS				pmax	pmax		
	comp=N,14nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.8s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
CLNS				MLR	MLR		
	comp=E,442nm,14.0s						
CLNS				MLR	MLR		
	comp=N,767nm,15.0s						
CLNS				MLR	MLR		
	comp=Z,730nm,16.0s						
BJI	**Beijing**	**20.46**	**276**	P	**P**	**14 35 00.3**	**-1.4**
BJI				sP	**sP**	**14 35 13.5**	**-2.8**
BJI				S	**S**	**14 38 47.8**	**-0.7**
BJI				sS	**sS**	**14 39 01.3**	**-2.9**
BJI				pmax	pmax		
	comp=Z,26nm,0.8s						
BJI				pmax	pmax		
	comp=Z,97nm,4.3s						
BJI				LR	LR		
	comp=Z,330nm,16.4s						
BJI				LR	LR		
	comp=Z,590nm,20.1s						
BJI				LR	LR		
	comp=Z,380nm,18.4s						
NJ2	**Nanjing**	**21.41**	**253**	*e*P	**P**	**14 35 10.1**	**-1.9**
NJ2				pP	**pP**	**14 35 19.6**	**-2.2**
NJ2				sP	**sP**	**14 35 23.4**	**-3.3**
NJ2				S	**S**	**14 39 09.0**	**+1.5**
NJ2				sS	**sS**	**14 39 21.0**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,50nm,1.1s						
NJ2				LR	LR		
	comp=Z,2μm,21.6s						
NJ2				LR	LR		
	comp=Z,2μm,19.0s						
NJ2				LR	LR		
	comp=Z,650nm,17.4s						
YAK	**Yakutsk**	**22.47**	**343**	*e*P	**P**	**14 35 19.0**	**-4.0**
YAK				*e*S	**S**	**14 39 21.0**	**-6.0**
YAK				pmax	pmax		
	comp=Z,29nm,0.8s						
YAK				pmax	pmax		
	comp=N,22nm,1.0s						
YAK				smax	smax		
	comp=N,102nm,1.3s						
YAK				smax	smax		
	comp=E,136nm,3.0s						
YAK	**Yakutsk**	**22.47**	**343**	*e*P	**P**	**14 35 18.7**	**-4.3**
	comp=E,58nm,0.8s						
SEY	**Seymchan**	**22.55**	**11**	P	**P**	**14 35 20.7**	**-3.2**
SEY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SEY	**Seymchan**	**22.55**	**11**	P	**P**	**14 35 20.7**	**-3.2**
SEY	**Seymchan**	**22.55**	**11**	P	**P**	**14 35 20.7**	**-3.2**
	comp=Z,6.3nm,0.8s,baz=204,slow=12,SNR=15						
HHC	**Hu-ho-hao-te**	**23.75**	**280**	*e*P	**P**	**14 35 33.9**	**-2.4**
HHC				pP	**pP**	**14 35 44.1**	**-2.7**
HHC				sP	**sP**	**14 35 48.9**	**-2.6**
HHC				PP	**PnPn**	**14 36 06.6**	**+1.8**
HHC				S	S	14 39 40.4	-8.6
HHC				SS	**SnSn**	**14 40 33.0**	**+3.9**
HHC				pmax	pmax		
	comp=Z,48nm,0.6s						
HHC				pmax	pmax		
	comp=Z,460nm,5.0s						
HHC				LR	LR		
	comp=Z,520nm,12.8s						
HHC				LR	LR		
	comp=Z,760nm,12.7s						
HHC				LR	LR		
	comp=Z,1μm,12.9s						
WHN	**Wuhan**	**25.48**	**255**	P	**P**	**14 35 52.3**	**+0.3**
WHN				S	**S**	**14 40 12.3**	**-4.2**
WHN				LR	LR		
	comp=Z,2μm,16.9s						
ULN	**Ulaanbaatar**	**26.42**	**297**	*e*P	**P**	**14 36 01.0**	**+0.5**
	comp=Z,16nm,0.8s						
SONM	**Songino Array**	**26.86**	**297**	P	**P**	**14 36 05.1**	**+0.6**
SONM	**Songino Array**	**26.86**	**297**	P	**P**	**14 36 05.1**	**+0.6**
	comp=Z,16nm,0.9s,baz=81,slow=9.3,SNR=41						
SONM				LR	LR	14 47 42.7	
	comp=Z,721nm,18.4s,baz=93,slow=39						
XAN	**Xi'an**	**27.87**	**266**	P	**P**	**14 36 12.6**	**-1.0**
XAN				pmax	pmax		
	comp=Z,37nm,6.5s						
TLY	**Talaya**	**28.87**	**305**	*e*P	**P**	**14 36 23.6**	**+1.3**
TLY				*e*		14 36 35.3	
TLY				pmax	pmax		
	comp=Z,13nm,1.3s						
TLY				MLR	MLR		
	comp=Z,262nm,13.0s						
ZAK	**Zakamensk**	**29.00**	**302**	*e*P	**P**	**14 36 23.3**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**29.40**	**129**	T	T	15 08 08.0	
	baz=325,slow=76,SNR=528						
H11N1	**WAKE ISLAND Hy**	**29.41**	**129**	T	T	15 08 02.0	
	baz=325,slow=76,SNR=1176						
H11N3	**WAKE ISLAND Hy**	**29.42**	**129**	T	T	15 07 53.3	
	baz=325,slow=76,SNR=718						
H11S1	**WAKE ISLAND Hy**	**30.25**	**131**	T	T	15 09 12.8	
	baz=328,slow=76,SNR=540						
H11S3	**WAKE ISLAND Hy**	**30.25**	**131**	T	T	15 09 09.4	
	baz=328,slow=76,SNR=475						
H11S2	**WAKE ISLAND Hy**	**30.27**	**131**	T	T	15 09 14.0	
	baz=328,slow=76,SNR=388						
MOY	**Mondy**	**30.51**	**305**	*e*P	**P**	**14 36 37.3**	**+0.4**
LZH	**Lanzhou**	**30.91**	**274**	*e*P	**P**	**14 36 42.3**	**+1.7**
LZH				pP	**pP**	**14 36 50.4**	**-1.0**
LZH				sP	**sP**	**14 36 54.4**	**-1.6**
LZH				PP	**PnPn**	**14 37 41.1**	**-0.9**
LZH				*e*S	**S**	**14 41 37.3**	**-5.0**
LZH				SS	**SnSn**	**14 43 22.0**	**-1.8**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,64nm,4.2s						
LZH				LR	LR		
	comp=Z,800nm,15.5s						
LZH				LR	LR		
	comp=Z,710nm,14.7s						
LZH				LR	LR		
	comp=Z,880nm,16.0s						
TIXI	**Tiksi**	**31.44**	**351**	*i* P	**P**	**14 36 47.3**	**+2.6**
TIXI				MLR	MLR		
	comp=Z,166nm,16.0s						
GTA	**Gaotai**	**32.84**	**282**	*e*P	**P**	**14 36 57.9**	**+0.4**
GTA				pP	**pP**	**14 37 08.3**	**0.0**
GTA				sP	**sP**	**14 37 13.0**	**+0.1**
GTA				PcP	**PcP**	**14 39 42.6**	**+1.0**
GTA				S	**S**	**14 42 11.1**	**-1.1**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GTA				LR	LR		
	comp=Z,260nm,17.1s						
GTA				LR	LR		
	comp=Z,520nm,17.6s						
GTA				LR	LR		
	comp=Z,590nm,17.6s						
CD2	**Chengdu**	**33.17**	**265**	P	P	**14 37 00.8**	**+0.4**
CD2				pP	**pP**	**14 37 11.8**	**+0.6**
CD2				sP	**sP**	**14 37 15.8**	**0.0**
CD2				PP	**PnPn**	**14 38 12.1**	**+1.1**
CD2				S	**S**	**14 42 15.3**	**-2.1**
CD2				sS	**sS**	**14 42 32.8**	**-2.5**
CD2				SS	**SnSn**	**14 44 16.8**	**-2.0**
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
CD2				pmax	pmax		
	comp=Z,160nm,5.9s						
CD2				LR	LR		
	comp=Z,300nm,14.2s						
CD2				LR	LR		
	comp=Z,290nm,17.8s						
CD2				LR	LR		
	comp=Z,320nm,16.6s						
GYA	**Guiyang**	**33.36**	**256**	⇑*i*P	**P**	**14 37 02.3**	**+0.1**
GYA				pP	**pP**	**14 37 12.8**	**-0.2**
GYA				sP	**sP**	**14 37 18.8**	**+1.2**
GYA				PP	**PnPn**	**14 38 15.0**	**+1.4**
GYA				PcP	**PcP**	**14 39 44.8**	**+1.5**
GYA				S	**S**	**14 42 19.4**	**-1.2**
GYA				sS	**sS**	**14 42 37.0**	**-1.5**
GYA				ScP	**ScP**	**14 43 25.5**	**+0.9**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,340nm,13.3s						
GYA				LR	LR		
	comp=Z,490nm,15.9s						
GYA				LR	LR		
	comp=Z,560nm,15.5s						
HVS	**Khovu-Aksy**	**35.08**	**304**	*d i*P	**P**	**14 37 17.5**	**+0.7**
HVS				pmax	pmax		
	comp=Z,60nm,1.3s						
QIZ	**Qiongzhong**	**35.90**	**242**	P	**P**	**14 37 23.3**	**-0.7**
QIZ				S	**S**	**14 43 00.6**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,23nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,130nm,4.1s						
KMI	**Kunming**	**37.02**	**257**	P	**P**	**14 37 34.0**	**+0.2**
KMI				pP	**pP**	**14 37 44.4**	**-0.2**
KMI				sP	**sP**	**14 37 48.6**	**-0.6**
KMI				PP	**PnPn**	**14 38 10.5**	**+1.6**
KMI				S	**S**	**14 43 16.6**	**-0.3**
KMI				sS	**sS**	**14 43 33.8**	**-1.2**
KMI				SS	**SnSn**	**14 45 45.4**	**-6.9**
KMI				pmax	pmax		
	comp=Z,22nm,1.1s						
KMI				pmax	pmax		
	comp=Z,95nm,4.2s						
KMI				LR	LR		
	comp=Z,320nm,17.4s						
KMI				LR	LR		
	comp=Z,310nm,17.4s						
KMI				LR	LR		
	comp=Z,440nm,16.5s						
ZAA0	**Zalesovo Array**	**40.27**	**309**	*e*P	**P**	**14 38 00.8**	**+0.4**
ZALV	**Zalesovo Beam**	**40.27**	**309**	P	**P**	**14 38 00.9**	**+0.5**
ZALV						14 40 04.2	
ZALV				pmax	pmax		
	comp=Z,28nm,0.9s						
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV				MLR	MLR		
	comp=Z,285nm,18.7s						
ZALV	**Zalesovo Beam**	**40.27**	**309**	P	**P**	**14 38 00.9**	**+0.5**
ZALV				PcP	**PcP**	**14 40 04.2**	**+0.7**
ZALV	**Zalesovo Beam**	**40.27**	**309**	P	**P**	**14 38 00.9**	**+0.5**
	comp=Z,28nm,0.8s,baz=87,slow=8.1,SNR=32						
ZALV				PcP	**PcP**	**14 40 04.2**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=93,slow=3.0,SNR=3.6

NVS Novosibirsk 41.10 310 *e*P **P** **14 38 06.7 -0.5**
NVS pmax pmax
comp=Z,26nm,1.9s
NVS pmax pmax
comp=N,19nm,2.5s
NVS pmax pmax
comp=E,18nm,1.7s
IM04 Indian Mountai 42.49 33 *e*P **P** **14 38 19.2 +0.7**
MK31 Makanchi Array 43.20 299 *i* P **P** **14 38 24.3 -0.2**
MK31 pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 43.20 299 *e*P **P** **14 38 24.6 0.0**
CHTO Chiang Mai 43.66 253 *e*P **P** **14 38 29.0 +0.5**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 43.66 253 *e*P **P** **14 38 29.0 +0.5**
comp=Z,10nm,0.9s
KTH Kantishna Hill 43.67 36 *e*P P 14 38 31.8 +3.6
comp=Z,19nm,1.0s
CMAR Chiang Mai Arr 43.89 253 P **P** **14 38 29.9 -0.4**
CMAR Chiang Mai Arr 43.89 253 P **P** **14 38 29.9 -0.4**
comp=Z,2.5nm,0.6s,baz=46,slow=6.3,SNR=21
CMAR LR LR 14 58 43.9
comp=Z,136nm,18.3s,baz=170,slow=39
KURK Kurchatov 44.57 305 *e*P **P** **14 38 35.5 +0.1**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 44.57 305 *e*P **P** **14 38 35.5 +0.1**
comp=Z,10nm,0.8s
KURK Kurchatov 44.57 305 P **P** **14 38 35.5 +0.1**
comp=Z,184nm,0.6s,SNR=18
KURBB Kurchatov Arra 44.65 305 P **P** **14 38 36.2 +0.2**
comp=Z,14nm,0.7s,baz=78,slow=8.5,SNR=107
COLA College 44.96 34 *e*P **P** **14 38 40.5 +2.2**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 44.96 34 *e*P **P** **14 38 40.5 +2.2**
comp=Z,11nm,0.9s
ILAR Eielson Array 45.38 34 P **P** **14 38 42.0 +0.2**
ILAR Eielson Array 45.38 34 P **P** **14 38 42.0 +0.2**
comp=Z,2.3nm,0.6s,baz=264,slow=5.8,SNR=21
ILAR LR LR 14 58 18.6
comp=Z,83nm,18.2s,baz=332,slow=37
TAPN Taplejung 47.08 271 *e*P **P** **14 38 56.4 +0.5**
comp=Z,34nm,0.9s
TAPN Taplejung 47.08 271 *e*P **P** **14 38 56.4 +0.5**
comp=Z,34nm,0.9s
ODAN Odare 47.58 271 *e*P **P** **14 39 00.2 +0.5**
comp=Z,48nm,1.1s
ODAN Odare 47.58 271 *e*P **P** **14 39 00.2 +0.5**
comp=Z,48nm,1.1s
JIRN Jiri 48.06 272 *e*P **P** **14 39 04.0 +0.4**
comp=Z,23nm,0.5s
JIRN Jiri 48.06 272 *e*P **P** **14 39 04.0 +0.4**
comp=Z,23nm,0.5s
RAMN Ramite 48.13 271 *e*P **P** **14 39 04.1 +0.1**
comp=Z,42nm,0.8s
RAMN Ramite 48.13 271 *e*P **P** **14 39 04.1 +0.1**
comp=Z,42nm,0.8s
GUN Gumba 48.17 273 *e*P **P** **14 39 04.7 +0.3**
comp=Z,55nm,0.5s
GUN Gumba 48.17 273 *e*P **P** **14 39 04.7 +0.3**
comp=Z,55nm,0.5s
KKN Kakani 48.68 273 *e*P **P** **14 39 08.3 +0.1**
comp=Z,25nm,0.7s
KKN Kakani 48.68 273 *e*P **P** **14 39 08.3 +0.1**
KKN pmax pmax
comp=Z,25nm,0.7s
KKN Kakani 48.68 273 *e*P **P** **14 39 08.3 +0.1**
comp=Z,25nm,0.7s
PKI Pulchoki 48.70 273 *e*P **P** **14 39 08.0 -0.5**
comp=Z,15nm,0.6s
PKI Pulchoki 48.70 273 *e*P **P** **14 39 08.0 -0.5**
PKI pmax pmax
comp=Z,15nm,0.6s
PKI Pulchoki 48.70 273 *e*P **P** **14 39 08.0 -0.5**
comp=Z,15nm,0.6s
PKIN Phulchoki 48.71 273 *e*P **P** **14 39 08.0 -0.5**
comp=Z,26nm,1.0s
BVA0 Borovoye Array 48.89 310 *i* P **P** **14 39 10.0 +0.8**
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 48.89 310 P **P** **14 39 09.8 +0.6**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR MLR MLR
comp=Z,262nm,19.3s
BVAR Borovoye Array 48.89 310 P **P** **14 39 09.8 +0.6**
BVAR Borovoye Array 48.89 310 P **P** **14 39 09.8 +0.6**
comp=Z,2.5nm,0.5s,baz=81,slow=9.2,SNR=19
BVAR LR LR 15 01 25.8
comp=Z,262nm,19.3s,baz=77,slow=38
DMN Daman 48.91 273 *e*P **P** **14 39 10.1 +0.1**
comp=Z,14nm,0.6s
DMN Daman 48.91 273 *e*P **P** **14 39 10.1 +0.1**
comp=Z,14nm,0.6s
BRVK Borovoye 48.94 310 *c i*P **P** **14 39 10.2 +0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 48.94 310 *e*P **P** **14 39 10.0 +0.4**
comp=Z,9.1nm,0.6s
TKM2 Tokmak 2 48.95 296 *i* P **P** **14 39 10.1 0.0**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 48.95 296 P **P** **14 39 11.0 +0.9**
SNR=30
TKM2 Tokmak 2 48.95 296 *e*P **P** **14 39 10.7 +0.6**
comp=Z,26nm,0.9s
GKN Gorkha 49.06 274 *e*P **P** **14 39 10.8 -0.2**
comp=Z,14nm,0.5s
GKN Gorkha 49.06 274 *e*P **P** **14 39 10.8 -0.2**
comp=Z,14nm,0.5s
KBK Karagaybulak 49.49 296 *i* P **P** **14 39 14.8 +0.6**
KBK Karagaybulak 49.49 296 P **P** **14 39 14.8 +0.6**
SNR=25
KZA Kyzart 49.51 295 *i* P **P** **14 39 15.9 +1.3**
KZA Kyzart 49.51 295 P **P** **14 39 16.0 +1.3**
SNR=5.7
DANN Dangsing 49.54 275 *e*P **P** **14 39 15.3 +0.5**
comp=Z,65nm,0.6s
DANN Dangsing 49.54 275 *e*P **P** **14 39 15.3 +0.5**
comp=Z,65nm,0.6s
USP Ospenovka 49.56 297 *i* P **P** **14 39 15.2 +0.7**
USP Ospenovka 49.56 297 P **P** **14 39 15.3 +0.7**
SNR=6.1
AAK Ala-Archa 49.81 296⇑ *e*P **P** **14 39 16.6 0.0**
AAK pmax pmax
comp=Z,16nm,1.7s
AAK MLR MLR
comp=Z,708nm,20.0s
AAK Ala-Archa 49.81 296 *e*P **P** **14 39 16.2 -0.5**
comp=Z,8.1nm,0.8s
KOLN Koldanda 49.96 274 *e*P **P** **14 39 17.8 -0.2**
comp=Z,28nm,0.8s
KOLN Koldanda 49.96 274 *e*P **P** **14 39 17.8 -0.2**
comp=Z,28nm,0.8s
KSH Kashi 50.05 292 P P 14 39 22.1 +3.7
KSH sP sP 14 39 36.3 +2.2
KSH PP **PP** **14 41 18.1 +4.7**
KSH PcS **PcS** **14 44 36.1 +1.2**
KSH S **S** **14 46 29.5 +2.7**
KSH SS **SS** **14 50 00.3 +0.5**
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,150nm,6.5s
KSH LR LR
comp=Z,170nm,4.8s
KSH LR LR
comp=Z,180nm,4.9s
KSH LR LR
comp=Z,260nm,6.2s
INK Inuvik 50.18 29 *e*P **P** **14 39 19.5 +0.7**
comp=Z,17nm,1.1s
INK Inuvik 50.18 29 P **P** **14 39 19.8 +1.0**
comp=Z,5.3nm,0.8s,baz=297,slow=6.5,SNR=23
EKS2 Erkin-Say 50.29 296 *e*P **P** **14 39 20.1 -0.1**
EKS2 pmax pmax
comp=Z,9.0nm,0.7s
EKS2 Erkin-Say 50.29 296 P **P** **14 39 20.5 +0.3**
SNR=8.6
EKS2 Erkin-Say 50.29 296 *e*P **P** **14 39 20.1 -0.1**
comp=Z,9.5nm,0.7s
AML Almayashu 50.55 296 *i* P **P** **14 39 23.2 +0.7**
AML Almayashu 50.55 296 P **P** **14 39 23.2 +0.7**
SNR=10.0
KK31 Karatay Array 52.31 298 *i* P **P** **14 39 34.5 -0.7**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 52.31 298 *e*P **P** **14 39 35.0 -0.1**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 52.31 298 *e*P **P** **14 39 35.0 -0.1**
comp=Z,9.3nm,0.7s
SVE Sverdlovsk 53.03 317⇑ *i*P **P** **14 39 41.6 +1.4**
SVE *e*S **S** **14 47 10.0 +2.9**
SVE pmax pmax
comp=Z,28nm,0.9s
SVE MLR MLR
comp=Z,844nm,20.0s
ARU Arti 54.24 317 P **P** **14 39 49.1 0.0**
comp=Z,134nm,0.9s,SNR=6.1
ARU Arti 54.24 317 *c i*P **P** **14 39 49.4 +0.3**
ARU 14 41 52.2
ARU S **S** **14 47 26.6 +3.1**
ARU SS **SS** **14 51 04.5 -0.6**
ARU pmax pmax
comp=Z,31nm,1.2s
ARU MLR MLR
comp=Z,352nm,17.0s
ARU Arti 54.24 317 *e*P **P** **14 39 49.0 0.0**
comp=Z,20nm,1.0s
AB31 Akbulak array 56.38 309 *i* P **P** **14 40 05.1 +0.5**
AB31 pmax pmax
comp=Z,12nm,0.7s
ABKAR Akbulak array 56.38 309 *e*P **P** **14 40 04.9 +0.3**
comp=Z,24nm,1.0s
AKTO Aktyubinsk 56.99 311 P **P** **14 40 08.1 -0.8**
AKTO pmax pmax
comp=Z,13nm,0.8s
AKTO Aktyubinsk 56.99 311 P **P** **14 40 08.1 -0.8**
AKTO Aktyubinsk 56.99 311 P **P** **14 40 08.1 -0.8**
comp=Z,13nm,0.8s,baz=73,slow=13,SNR=34
KBL Kabul 57.26 289 *e*P **P** **14 40 10.4 -0.9**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 57.26 289 *e*P **P** **14 40 10.4 -0.9**
comp=Z,5.7nm,0.6s
PRGR Permogore 58.10 326 *e*P **P** **14 40 15.9 -0.7**
PRGR pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 58.34 15 P **P** **14 40 18.1 +0.1**
RES Resolute Bay 58.34 15 P **P** **14 40 18.1 +0.1**
comp=Z,4.1nm,0.7s,baz=315,slow=5.5,SNR=9.2
YKA Yellowknife Ar 59.65 32 P **P** **14 40 27.1 -0.1**
YKA Yellowknife Ar 59.65 32 P **P** **14 40 27.1 -0.1**
comp=Z,0.6nm,0.7s,baz=301,slow=6.8,SNR=9.9
KEV Kevo 60.12 339 *e*P **P** **14 40 30.5 +0.1**
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 60.12 339 *ep* **P** **14 40 30.5 +0.1**
comp=Z,4.6nm,0.7s
ARCES ARCESS Array B 60.67 339 P **P** **14 40 35.4 +1.2**
ARCES ARCESS Array B 60.67 339 P **P** **14 40 35.4 +1.2**
comp=Z,3.3nm,0.9s,baz=46,slow=8.8,SNR=6.3
ARCES LR LR 15 11 57.7
comp=Z,260nm,19.4s,baz=204,slow=41
WRAB Tennant Creek 61.26 189 *i* P **P** **14 40 37.4 -1.3**
WRAB MLR MLR
comp=Z,101nm,16.0s
WRA Warramunga Arr 61.27 189 P **P** **14 40 37.4 -1.4**
WRA Warramunga Arr 61.27 189 P **P** **14 40 37.4 -1.4**
comp=Z,1.5nm,0.5s,baz=6.2,slow=6.8,SNR=51
JOF Joensuu 63.01 332 *e*P **P** **14 40 49.2 -0.8**
JOF pmax pmax
comp=Z,6.0nm,0.8s
JOF Joensuu 63.01 332 *ep* **P** **14 40 49.2 -0.8**
comp=Z,5.8nm,0.8s
ABKT Aibek 63.06 298 P **P** **14 40 51.1 +0.3**
comp=Z,86nm,0.7s,SNR=5.9
AS31 Alice Springs 65.00 189 *e*P **P** **14 41 03.1 -0.4**
ASAR Alice Springs 65.00 189 P **P** **14 41 02.8 -0.7**
ASAR Alice Springs 65.00 189 P **P** **14 41 02.8 -0.7**
comp=Z,1.9nm,0.8s,baz=11,slow=8.6,SNR=30
KAF Kangasniemi 65.31 332 *e*P **P** **14 41 04.5 -0.6**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 65.31 332 *ep* **P** **14 41 04.5 -0.6**
comp=Z,2.8nm,0.5s
PUL Pulkovo 65.38 329 *i* P **P** **14 41 06.9 +1.4**
PUL pmax pmax
comp=Z,91nm,0.5s
PUL MLR MLR
comp=Z,290nm,19.0s
VRHR Novokhopersk 65.58 317 *e*P **P** **14 41 05.5 -1.5**
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,20nm,1.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
OBN Obninsk 65.65 323 *e*P **P** **14 41 07.8 +0.5**
OBN *e**PP **pP** **14 41 17.4 -1.5**
OBN *e* 14 43 29.2
OBN *e*S **S** **14 49 52.6 +2.6**
OBN pmax pmax
comp=Z,12nm,0.9s
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,400nm,18.0s
FINES FINESS Array B 65.84 332 P **P** **14 41 08.8 +0.3**
FINES FINESS Array B 65.84 332 P **P** **14 41 08.8 +0.3**
comp=Z,7.0nm,0.6s,baz=52,slow=7.0,SNR=15
FINES LR LR 15 12 44.2
comp=Z,378nm,19.7s,baz=184,slow=39
SUMG Summit 66.62 1 *e*P **P** **14 41 14.6 +0.7**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 66.62 1 *i* P **P** **14 41 14.8 +0.9**
comp=Z,9.4nm,0.8s
SUMG Summit 66.62 1 *e*P **P** **14 41 14.6 +0.7**
comp=Z,8.6nm,0.8s
VSR Storozhevoye 66.76 318 *e*P **P** **14 41 13.8 -0.8**
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
JTMT Jette 68.17 45 *e*P **P** **14 41 24.2 +0.4**
comp=E,4.4nm,1.1s
JTMT *ep*P **pP** **14 41 36.3 +0.9**
GOF Gofitskoye 68.39 311⇑ *i*P **P** **14 41 25.8 +0.8**
GOF pmax pmax
comp=Z,70nm,1.3s
SWMT Swartz Lake 68.47 45 *e*P **P** **14 41 26.6 +1.0**
comp=Z,9.2nm,1.1s
KIV Kislovodsk 69.25 311 P **P** **14 41 32.3 +1.8**
comp=Z,399nm,1.1s,SNR=5.4
KIV Kislovodsk 69.25 311 *e*P **P** **14 41 31.8 +1.3**
KIV pmax pmax
comp=Z,76nm,1.1s
KIV Kislovodsk 69.25 311 *e*P **P** **14 41 32.4 +1.8**
comp=Z,84nm,1.1s
ZEI Tsey 69.25 309 *e*P **P** **14 41 30.6 -0.1**
ZEI pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 69.27 310 P **P** **14 41 31.6 +1.2**
KBZ pmax pmax
comp=Z,16nm,0.8s
KBZ MLR MLR
comp=Z,234nm,18.8s
KBZ Khabaz 69.27 310 P **P** **14 41 31.6 +1.2**
KBZ Khabaz 69.27 310 P **P** **14 41 31.6 +1.2**
comp=Z,16nm,0.8s,baz=54,slow=5.8,SNR=27
KBZ LR LR 15 15 05.4
comp=Z,234nm,18.8s,baz=127,slow=39
BEKR Beckworth 69.40 55 *e*P **P** **14 41 32.9 +1.3**
comp=Z,9.5nm,1.5s
LRM Limekiln Ridge 70.35 46 *e*P **P** **14 41 38.1 +0.7**
comp=Z,103nm,1.1s
NB2 NORSAR Subarra 70.95 337 P **P** **14 41 40.2 -0.3**
comp=Z,7.6nm,1.0s,baz=37,slow=6.2
NOA NORSAR Array B 70.95 337 P **P** **14 41 40.7 +0.2**
NOA NORSAR Array B 70.95 337 P **P** **14 41 40.7 +0.2**
comp=Z,3.5nm,0.8s,baz=38,slow=6.1,SNR=9.5
NOA LR LR 15 16 44.0
comp=Z,218nm,18.8s,baz=20,slow=39
NVAR Mina Array Bea 71.54 55 P **P** **14 41 45.5 +0.8**
NVAR Mina Array Bea 71.54 55 P **P** **14 41 45.5 +0.8**
comp=Z,1.1nm,0.8s,baz=302,slow=6.9,SNR=6.2
ANN Anapa 71.67 314 *e*P P 14 41 41.4 -3.7
ANN *e**PP pP 14 41 51.5 -5.2
ANN *e* 14 42 01.2
ANN *e*S **S** **14 50 57.2 -4.6**
ANN pmax pmax
comp=Z,128nm,1.5s
AKASG Malin Array Be 71.89 322 P **P** **14 41 46.3 0.0**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 71.89 322 P **P** **14 41 46.2 0.0**
AKASG Malin Array Be 71.89 322 P **P** **14 41 46.2 0.0**
comp=Z,5.5nm,0.7s,baz=44,slow=6.0,SNR=32
AKBB Malin Array Si 71.89 322 *e*P **P** **14 41 46.0 -0.3**
AKBB Malin Array Si 71.89 322 *e*P **P** **14 41 46.0 -0.3**
AK01 Malin Array Si 71.90 322 *e*P **P** **14 41 46.5 +0.2**
KIEV Kiev 71.90 322⇓ *i*P **P** **14 41 45.9 -0.5**
KIEV Kiev 71.90 322 *e*P **P** **14 41 46.3 -0.1**
comp=Z,4.6nm,0.6s
AK02 Malin Array Si 71.93 322 *e*P **P** **14 41 46.0 -0.6**
H17A Grant Village 72.28 46 *e*P **P** **14 41 51.7 +2.6**
STKA Stephens Creek 72.63 181 P **P** **14 41 52.4 +1.7**
STKA Stephens Creek 72.63 181 P **P** **14 41 52.4 +1.7**
comp=Z,1.2nm,0.9s,baz=342,slow=9.6,SNR=2.4
PDAR Pinedale Array 73.91 47 P **P** **14 41 58.9 +0.2**
PDAR Pinedale Array 73.91 47 P **P** **14 41 58.9 +0.2**
comp=Z,1.4nm,0.7s,baz=256,slow=1.8,SNR=11
MALT Malatya 75.31 308⇑ *i*P **P** **14 42 08.9 +2.1**
BUR08 Bucovina Ar. S 75.92 322 *e*P **P** **14 42 10.7 +0.6**
BURAR Bucovina Array 75.94 322⇓ *i*P **P** **14 42 10.6 +0.4**
KOLS Kolonicke sedl 76.30 324 *e*P **P** **14 42 12.3 +0.2**
KOLS Kolonicke sedl 76.30 324 *e*P **P** **14 42 12.3 +0.2**
STHS Stebnicka Huta 76.39 325 *e*P P 14 42 16.7 +4.1
STHS Stebnicka Huta 76.39 325 *e* P 14 42 16.7 +4.1
TRPA Tarpa 76.78 324⇑ *i*P **P** **14 42 16.0 +1.2**
BRTR Keskin Array B 77.14 312 P **P** **14 42 17.7 +0.5**
BRTR Keskin Array B 77.14 312 P **P** **14 42 17.7 +0.5**
comp=Z,1.4nm,1.0s,baz=147,slow=7.1,SNR=3.6
BRTR LR LR 15 24 37.9
comp=Z,82nm,18.2s,baz=101,slow=42
MSAB Monastry St. A 77.20 318⇑ *i*P **P** **14 42 18.2 +0.9**
UPC Upice 77.71 329 *e*P **P** **14 42 21.3 +1.3**
UPC Upice 77.71 329 *e*P **P** **14 42 21.3 +1.3**
DPC Dobruska-Polom 77.71 328 *e*P **P** **14 42 21.1 +1.0**
DPC *e* 14 42 30.9
DPC Dobruska-Polom 77.71 328 *e*P **P** **14 42 21.1 +1.0**
DPC *ep*P **PcP** **14 42 30.9 +0.9**
CLL Collm 78.22 331 *e*P **P** **14 42 23.0 +0.2**
CLL *e* 14 42 30.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL MLR MLR
comp=Z,300nm,18.5s
CLL Collm 78.22 331 *e*P **P** **14 42 23.0 +0.2**
comp=Z,7.0nm,1.0s
CLL LmV 15 20 00.0
comp=Z,300nm,18.5s
PRU Pruhonice 78.69 329 *e*P **P** **14 42 26.6 +1.2**
PRU Pruhonice 78.69 329 *e*P **P** **14 42 26.6 +1.2**
NKC Novy Kostel 79.30 330 *e*P **P** **14 42 30.9 +2.1**
NKC Novy Kostel 79.30 330 *e*P **P** **14 42 30.9 +2.1**
KHC Kasperske Hory 79.76 329 *e*P **P** **14 42 32.1 +0.8**
KHC *e* 14 42 47.2
KHC Kasperske Hory 79.76 329 *e*P **P** **14 42 32.1 +0.8**
KHC *ep*P **pP** **14 42 47.2 +4.1**
KHC Kasperske Hory 79.76 329 *e*P **P** **14 42 31.7 +0.4**
comp=Z,8.0nm,1.3s
CONA Conrad Observa 79.81 327⇓ *i*P **P** **14 42 33.1 +1.5**
comp=Z,6.5nm,1.0s
GERES GERESS Array B 79.94 329 P **P** **14 42 33.0 +0.6**
GERES GERESS Array B 79.94 329 P **P** **14 42 33.0 +0.6**
comp=Z,1.4nm,0.9s,baz=20,slow=4.3,SNR=8.3
GERES LR LR 15 19 32.5
comp=Z,138nm,19.7s,baz=74,slow=37
SCHQ Schefferville 81.07 17 P **P** **14 42 38.9 +0.6**
SCHQ Schefferville 81.07 17 P **P** **14 42 38.9 +0.6**
comp=Z,4.5nm,0.8s,baz=286,slow=7.4,SNR=4.1
PERS Pernice 81.14 327 *i* P **P** **14 42 39.5 +0.7**
SOKA Soboth 81.14 327⇑ *i*P **P** **14 42 39.7 +0.8**
comp=Z,8.4nm,0.9s,SNR=8.7
VISS Visnje 81.92 326 *i* P **P** **14 42 42.6 -0.3**
BOJS Bojanci 81.99 326 *i* P **P** **14 42 43.3 +0.1**
JAVS Javornik 82.17 327 *i* P **P** **14 42 44.2 -0.2**
MOTA Moosalm 82.17 329⇓ *i*P **P** **14 42 44.4 0.0**
comp=Z,7.1nm,0.8s
FETA Feichten 82.58 329⇓ *i*P **P** **14 42 47.1 +0.6**
comp=Z,4.1nm,0.9s,SNR=4.1
CDF Champ du Feu 82.69 332 *e*P **P** **14 42 47.1 +0.1**
comp=Z,5.8nm,0.8s
CDF Champ du Feu 82.69 332 *e*P **P** **14 42 47.1 +0.1**
CDF pmax pmax
comp=Z,6.0nm,0.8s
CDF Champ du Feu 82.69 332 *e*P **P** **14 42 47.1 +0.1**
comp=Z,5.8nm,0.8s
PAGF Fort de Pagny 83.11 333 *e*P **P** **14 42 49.4 +0.3**
PAGF Fort de Pagny 83.11 333 *e*P **P** **14 42 49.4 +0.3**
HAU Haudompre 83.37 332 *e*P **P** **14 42 50.4 0.0**
HAU *e*R
comp=Z,177nm,22.8s
HAU Haudompre 83.37 332 *e*P **P** **14 42 50.4 0.0**
HAU Haudompre 83.37 332 *e*P **P** **14 42 50.4 0.0**
MEZF Maizieres J'vi 83.39 333 *e*P **P** **14 42 50.9 +0.5**
MEZF Maizieres J'vi 83.39 333 *e*P **P** **14 42 50.9 +0.5**
SFTF Sexfontaines 83.65 333 *e*P **P** **14 42 52.0 +0.2**
comp=Z,20nm,1.0s
SFTF Sexfontaines 83.65 333 *e*P **P** **14 42 52.0 +0.2**
comp=Z,20nm,1.0s
PMOR Pomariorio Ree 84.65 115 *e*T T 16 16 07.3
comp=Z,7.6nm,0.2s
LOR Lormes 84.86 333 *e*P **P** **14 42 58.1 +0.1**
comp=Z,18nm,1.1s
LOR *e*R
comp=Z,306nm,17.0s
LOR Lormes 84.86 333 *e*P **P** **14 42 58.1 +0.1**
comp=Z,18nm,1.1s
SSF Saint Saulge 85.16 334 *e*P **P** **14 43 00.5 +1.0**
SSF Saint Saulge 85.16 334 *e*P **P** **14 43 00.5 +1.0**
SSF Saint Saulge 85.16 334 *e*P **P** **14 43 00.5 +1.0**
PPT Papeete 85.32 118 LR LR 15 15 38.9
comp=Z,224nm,20.0s,baz=185,slow=32
PPT2 Papeete2 85.34 118 *e*LR LR 15 09 54.3
comp=Z,213nm,21.0s
PPT2 Papeete2 85.34 118 *e*T T 16 17 02.0
comp=Z,2.0nm,0.3s
LPL La Plagne 85.35 331 *e*P **P** **14 43 01.3 +0.5**
comp=Z,18nm,0.9s
LPL La Plagne 85.35 331 *e*P **P** **14 43 01.3 +0.5**
LPL pmax pmax
comp=Z,19nm,0.9s
LPL La Plagne 85.35 331 *e*P **P** **14 43 01.3 +0.5**
comp=Z,18nm,0.9s
LPG La Plagne 85.36 331 *e*P **P** **14 43 01.4 +0.5**
comp=Z,19nm,0.9s
LPG La Plagne 85.36 331 *e*P **P** **14 43 01.4 +0.5**
LPG pmax pmax
comp=Z,19nm,0.9s
LPG La Plagne 85.36 331 *e*P **P** **14 43 01.4 +0.5**
comp=Z,19nm,0.9s
SMF Signal de Mont 85.41 333 *e*P **P** **14 43 01.0 +0.3**
comp=Z,18nm,1.0s
SMF Signal de Mont 85.41 333 *e*P **P** **14 43 01.0 +0.3**
SMF pmax pmax
comp=Z,18nm,1.0s
SMF Signal de Mont 85.41 333 *e*P **P** **14 43 01.0 +0.3**
comp=Z,18nm,1.0s
AVF Avril sur Loir 85.44 334 *e*P **P** **14 43 01.3 +0.4**
comp=Z,23nm,0.9s
AVF Avril sur Loir 85.44 334 *e*P **P** **14 43 01.3 +0.4**
AVF pmax pmax
comp=Z,23nm,0.9s
AVF Avril sur Loir 85.44 334 *e*P **P** **14 43 01.3 +0.4**
comp=Z,23nm,0.9s
MBDF Montbardon 86.01 330 *e*P **P** **14 43 03.8 -0.2**
comp=Z,21nm,1.0s
MBDF Montbardon 86.01 330 *e*P **P** **14 43 03.8 -0.2**
MBDF pmax pmax
comp=Z,21nm,1.0s
MBDF Montbardon 86.01 330 *e*P **P** **14 43 03.8 -0.2**
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 86.18 331 *e*P **P** **14 43 05.0 +0.3**
comp=Z,16nm,0.9s
ORIF *e*R
comp=Z,225nm,17.5s
ORIF Oris-en-Rattie 86.18 331 *e*P **P** **14 43 05.0 +0.3**
ORIF pmax pmax
comp=Z,16nm,0.9s
ORIF Oris-en-Rattie 86.18 331 *e*P **P** **14 43 05.0 +0.3**

	comp=Z,16nm,0.9s							
TCF	**Toulx Ste Croi**	**86.27**	**334**	*e*P		**P**	**14 43 05.5**	**+0.5**
	comp=Z,24nm,1.0s							
TCF	**Toulx Ste Croi**	**86.27**	**334**	*e*P		**P**	**14 43 05.5**	**+0.5**
TCF				pmax	pmax			
	comp=Z,24nm,1.0s							
TCF	**Toulx Ste Croi**	**86.27**	**334**	*e*P		**P**	**14 43 05.5**	**+0.5**
	comp=Z,24nm,1.0s							
TXAR	**Lajitas Array**	**86.62**	**53**	P		**P**	**14 43 07.6**	**+0.4**
TXAR	**Lajitas Array**	**86.62**	**53**	P		**P**	**14 43 07.6**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=253,slow=1.3,SNR=6.1							
VIVF	**Saint-Julien-l**	**86.67**	**332**	*e*P		**P**	**14 43 07.5**	**+0.5**
	comp=Z,22nm,1.2s							
VIVF	**Saint-Julien-l**	**86.67**	**332**	*e*P		**P**	**14 43 07.5**	**+0.5**
VIVF				pmax	pmax			
	comp=Z,22nm,1.2s							
VIVF	**Saint-Julien-l**	**86.67**	**332**	*e*P		**P**	**14 43 07.5**	**+0.5**
	comp=Z,22nm,1.2s							
MFF	**Saint Martin d**	**86.75**	**336**	*e*P		**P**	**14 43 07.9**	**+0.6**
	comp=Z,44nm,1.0s							
MFF	**Saint Martin d**	**86.75**	**336**	*e*P		**P**	**14 43 07.9**	**+0.6**
MFF				pmax	pmax			
	comp=Z,44nm,1.0s							
MFF	**Saint Martin d**	**86.75**	**336**	*e*P		**P**	**14 43 07.9**	**+0.6**
	comp=Z,44nm,1.0s							
RJF	**Les Rejaudoux**	**87.36**	**334**	*e*P		**P**	**14 43 11.2**	**+0.8**
RJF				*e*R				
	comp=Z,321nm,19.0s							
RJF	**Les Rejaudoux**	**87.36**	**334**	*e*P		**P**	**14 43 11.2**	**+0.8**
RJF	**Les Rejaudoux**	**87.36**	**334**	*e*P		**P**	**14 43 11.2**	**+0.8**
CAF	**Calviac**	**87.51**	**333**	*e*P		**P**	**14 43 12.3**	**+1.2**
	comp=Z,17nm,1.0s							
CAF	**Calviac**	**87.51**	**333**	*e*P		**P**	**14 43 12.3**	**+1.2**
CAF				pmax	pmax			
	comp=Z,17nm,1.0s							
CAF	**Calviac**	**87.51**	**333**	*e*P		**P**	**14 43 12.3**	**+1.2**
	comp=Z,17nm,1.0s							
LFF	**La Frestale**	**87.94**	**334**	*e*P		**P**	**14 43 14.2**	**+1.1**
LFF	**La Frestale**	**87.94**	**334**	*e*P		**P**	**14 43 14.2**	**+1.1**
LFF	**La Frestale**	**87.94**	**334**	*e*P		**P**	**14 43 14.2**	**+1.1**
TBI	**Tubuai**	**89.51**	**122**	*e*LR		LR	15 11 35.8	
	comp=Z,96nm,24.0s							
TBI	**Tubuai**	**89.51**	**122**	*e*T		T	16 22 16.8	
	comp=Z,6.4nm,0.3s							
KEST	**Kesra**	**92.55**	**324**	LR		LR	15 30 56.5	
	comp=Z,57nm,19.1s,baz=309,slow=39							
TORD	**Torodi Ar. Bea**	**115.31**	**318**	PKP		**PKPdf**	**14 49 07.6**	**+2.3**
TORD				PP		PP	14 49 58.6	-6.9
TORD	**Torodi Ar. Bea**	**115.31**	**318**	PKP		**PKPdf**	**14 49 07.6**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=30,slow=1.8,SNR=4.1							
TORD				PP		PP	14 49 58.6	-6.9
	comp=Z,1.2nm,1.0s,baz=24,slow=6.7,SNR=4.3							
SNAA	**Sanae**	**145.02**	**198**	PKP		**PKPbc**	**14 49 58.3**	**-0.5**
SNAA	**Sanae**	**145.02**	**198**	PKP		**PKPbc**	**14 49 58.3**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=116,slow=3.7,SNR=12							
H03N2	**Juan Fernandez**	**145.94**	**91**	T		T	17 33 25.6	
	baz=297,slow=75,SNR=12							
H03N3	**Juan Fernandez**	**145.96**	**91**	T		T	17 33 28.4	
	baz=297,slow=75,SNR=15							
H03N1	**Juan Fernandez**	**145.96**	**91**	T		T	17 33 28.2	
	baz=297,slow=75,SNR=16							
BDFB	**Brasilia**	**152.86**	**24**	PKPbc		**PKPbc**	**14 50 20.7**	**-0.2**
BDFB	**Brasilia**	**152.86**	**24**	PKPbc		**PKPbc**	**14 50 20.7**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=0.0,slow=1.0,SNR=3.4							

NIED ***20*** *14:48:00.41˝00N×143˝30.3E,h26km,Mw3.9 Best double couple: M₀7.43000×10¹⁴ NP1:φ₀s5.00000°,δ84.00000°, λ-12.00000°. NP2:φ₀s96.00000°,δ78.00000°, λ-174.00000°.*

IDC ***20*** *14:48:27.7±0.8,40˝90N×143˝13E,h0km,mb3.8/13, mb1 3.9/14,mb1mx3.8/27,mbtmp3.8/14,ML3.3/1,MS3.2/2, Ms1 3.3/2,ms1mx2.7/41,Error ellipse: s-maj=19.8km s-min=18.6km az=73.0*

MOS ***20*** *14:48:31.5±0.7,40˝98N×143˝25E,h42km,mb4.4/7,Error ellipse: s-maj=15.4km s-min=9.6km az=86.9*

JMA ***20*** *14:48:31.7±0.1,41˝00N×143˝26E,h43km,M4.0*

ISCJB ***20*** *14:48:31.5±0.7,41˝00N±0˝04×143˝31E±0˝06,h42km±5km, mb4.1/23,MS3.1/1,Error ellipse: s-maj=9.4km s-min=4.3km az=38.5*

NEIC ***20*** *14:48:33.8±1.0,41˝04N×143˝18E,h39km±8km,mb4.6/7, MW3.8(NIED),Error ellipse: s-maj=12.2km s-min=7.6km az=120.0*

ISC 20 14:48:33.1±0.8,41˚05N±0˚05×143˚28E±0˚06,h36km±1km, n100,σ1$12/97,mb4.2/23,2C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.97**	**354**	*e*P	**Pn**	**14 48 49.9**	**-0.3**
ERM	**Erimo**	**0.97**	**354**	*e*P	**Pn**	**14 48 49.9**	**-0.3**
JEM	**Erimo**	**0.97**	**355**	P	**Pn**	**14 48 49.7**	**-0.5**
JEM				S	**Sn**	**14 49 03.2**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.30**	**342**	⇑P	**Pn**	**14 48 54.7**	**+0.1**
JANG	**Nango**	**1.50**	**244**	P	**Pn**	**14 48 56.2**	**-1.2**
JANG				*e*S	**Sn**	**14 49 14.5**	**-1.2**
JCH	**Churui**	**1.57**	**2**	P	**Pn**	**14 48 58.2**	**-0.1**
JCH				S	**Sn**	**14 49 18.4**	**+1.0**
JTM	**Tenmabayashi**	**1.70**	**262**	P	**Pn**	**14 48 59.6**	**-0.5**
JTM				*e*S	**Sn**	**14 49 20.6**	**+0.1**
JOT	**Ohata**	**1.72**	**282**	⇑P	**Pn**	**14 49 00.0**	**-0.4**
JOT				S	**Sn**	**14 49 20.8**	**-0.3**
JBT2	**Biratori 2**	**1.86**	**339**	P	**Pn**	**14 49 02.9**	**+0.5**
JKB	**Kayabe**	**1.89**	**297**	P	**Pn**	**14 49 02.3**	**-0.4**
JFR	**Furan**	**2.18**	**347**	P	**Pn**	**14 49 06.7**	**0.0**
JOM	**Ohasama**	**2.19**	**225**	P	**Pn**	**14 49 06.4**	**-0.4**
JAK	**Akkeshi**	**2.22**	**28**	P	**Pn**	**14 49 06.6**	**-0.6**
JAK				*e*S	**Sn**	**14 49 32.9**	**-0.4**
JEW	**Eniwo**	**2.26**	**323**	P	**Pn**	**14 49 08.9**	**+1.1**
JAR	**Ashorobuto**	**2.28**	**9**	⇓P	**Pn**	**14 49 07.6**	**-0.5**
JAR				S	**Sn**	**14 49 34.1**	**-0.8**
JMK	**Ichinoseki**	**2.62**	**218**	P	**Pn**	**14 49 12.5**	**-0.3**
ASAJ	**Asahikawa**	**3.11**	**351**	*e*P	**Pn**	**14 49 20.4**	**+0.9**
ASAJ				Sn	Sn	14 50 07.6	+12
ASAJ	**Asahikawa**	**3.11**	**351**	Pn	**Pn**	**14 49 20.0**	**+0.5**
	2.5nm,0.3s,baz=200,slow=7.5,SNR=39						
ASAJ				Sn	Sn	14 50 07.6	+12
	3.7nm,0.3s,baz=250,slow=32,SNR=3.7						
YUK	**Yuzh-Kuril'sk**	**3.54**	**32**	*d*P	**Pn**	**14 49 26.0**	**+0.6**
YUK				*i* S	**Sn**	**14 50 04.3**	**-1.8**
YUK				pmax	pmax		
	comp=N,30nm,0.2s						
YUK				pmax	pmax		
	comp=E,82nm,0.2s						
YUK				pmax	pmax		
	comp=Z,120nm,0.2s						
YUK				smax	smax		
	comp=N,398nm,0.3s						
YUK				smax	smax		
	comp=E,423nm,0.3s						
MJAR	**Matsushiro Arr**	**5.99**	**223**	Pn	**Pn**	**14 50 00.0**	**+0.8**
MJAR	**Matsushiro Arr**	**5.99**	**223**	Pn	**Pn**	**14 50 00.0**	**+0.8**
	comp=E,1.0nm,0.3s,baz=30,slow=13,SNR=18						
MAJO	**Matsushiro**	**5.99**	**223**	*e*P	**Pn**	**14 49 59.0**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,58nm,1.4s						
MAJO	**Matsushiro**	**5.99**	**223**	*e*P	**Pn**	**14 49 59.0**	**-0.1**
	comp=Z,58nm,1.4s						
USRK	**Ussuriysk Arra**	**8.90**	**294**	Pn	**Pn**	**14 50 42.1**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=91,slow=14,SNR=6.5						
USRK				LR	LR	14 54 13.7	
	comp=Z,158nm,18.0s,baz=121,slow=39						
SEY	**Seymchan**	**22.58**	**11**	P	**P**	**14 53 26.9**	**-3.0**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SEY	**Seymchan**	**22.58**	**11**	P	**P**	**14 53 26.9**	**-3.0**
SEY	**Seymchan**	**22.58**	**11**	P	**P**	**14 53 26.9**	**-3.0**
	comp=Z,0.9nm,0.4s,baz=19,slow=23,SNR=6.1						
SONM	**Songino Array**	**27.00**	**297**	P	**P**	**14 54 11.8**	**+0.3**
SONM	**Songino Array**	**27.00**	**297**	P	**P**	**14 54 11.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=86,slow=9.4,SNR=10						
H11N2	**WAKE ISLAND Hy**	**29.26**	**129**	T	T	15 25 18.7	
	baz=324,slow=75,SNR=66						
H11N1	**WAKE ISLAND Hy**	**29.27**	**130**	T	T	15 25 24.0	
	baz=324,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hy**	**29.28**	**129**	T	T	15 25 20.8	
	baz=324,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**30.11**	**131**	T	T	15 27 07.6	
	baz=328,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**30.12**	**131**	T	T	15 27 04.4	
	baz=328,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**30.13**	**131**	T	T	15 27 06.7	
	baz=328,slow=76,SNR=25						
ZAA0	**Zalesovo Array**	**40.41**	**309**	*e*P	**P**	**14 56 07.4**	**+0.1**
ZALV	**Zalesovo Beam**	**40.41**	**309**	P	**P**	**14 56 07.5**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**40.41**	**309**	P	**P**	**14 56 07.5**	**+0.2**
ZALV	**Zalesovo Beam**	**40.41**	**309**	P	**P**	**14 56 07.5**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=89,slow=8.9,SNR=14						
MK31	**Makanchi Array**	**43.34**	**299**	*e*P	**P**	**14 56 31.0**	**-0.4**
MK31	**Makanchi Array**	**43.34**	**299**	*e*P	**P**	**14 56 31.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**44.00**	**253**	LR	LR	15 16 00.6	
	comp=Z,21nm,19.2s,baz=10.0,slow=38						
KURK	**Kurchatov**	**44.71**	**305**	*e*P	**P**	**14 56 41.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**44.71**	**305**	*e*P	**P**	**14 56 41.8**	**-0.5**
	comp=Z,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**44.78**	**305**	P	**P**	**14 56 42.8**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=76,slow=8.7,SNR=16						
ILAR	**Eielson Array**	**45.35**	**34**	P	**P**	**14 56 48.5**	**+1.3**
ILAR	**Eielson Array**	**45.35**	**34**	P	**P**	**14 56 48.5**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=261,slow=5.8,SNR=4.3						
TAPN	**Taplejung**	**47.21**	**271**	*e*P	**P**	**14 57 04.7**	**+2.0**
	comp=Z,18nm,1.3s						
TAPN	**Taplejung**	**47.21**	**271**	*e*P	**P**	**14 57 04.7**	**+2.0**
	comp=Z,18nm,1.3s						
ODAN	**Odare**	**47.71**	**271**	*e*P	**P**	**14 57 05.6**	**-0.9**
ODAN	**Odare**	**47.71**	**271**	*e*P	**P**	**14 57 05.6**	**-0.9**
JIRN	**Jiri**	**48.20**	**273**	*e*P	**P**	**14 57 12.1**	**+1.7**
	comp=Z,2.8nm,0.3s						
JIRN	**Jiri**	**48.20**	**273**	*e*P	**P**	**14 57 12.1**	**+1.7**
	comp=Z,2.8nm,0.3s						
RAMN	**Ramite**	**48.26**	**272**	*e*P	**P**	**14 57 09.2**	**-1.6**
	comp=Z,3.0nm,0.4s						
RAMN	**Ramite**	**48.26**	**272**	*e*P	**P**	**14 57 09.2**	**-1.6**
	comp=Z,3.0nm,0.4s						
GUN	**Gumba**	**48.30**	**273**	*e*P	**P**	**14 57 12.5**	**+1.3**
	comp=Z,13nm,0.4s						
GUN	**Gumba**	**48.30**	**273**	*e*P	**P**	**14 57 12.5**	**+1.3**
	comp=Z,13nm,0.4s						
KKN	**Kakani**	**48.82**	**273**	*e*P	**P**	**14 57 14.9**	**-0.1**
KKN	**Kakani**	**48.82**	**273**	*e*P	**P**	**14 57 14.9**	**-0.1**
KKN	**Kakani**	**48.82**	**273**	*e*P	**P**	**14 57 14.9**	**-0.1**
PKI	**Pulchoki**	**48.84**	**273**	*e*P	**P**	**14 57 13.9**	**-1.4**
	comp=Z,3.7nm,0.4s						
PKI	**Pulchoki**	**48.84**	**273**	*e*P	**P**	**14 57 14.1**	**-1.2**
PKI	**Pulchoki**	**48.84**	**273**	*e*P	**P**	**14 57 14.1**	**-1.2**
PKIN	**Phulchoki**	**48.84**	**273**	*e*P	**P**	**14 57 14.1**	**-1.2**
BVAR	**Borovoye Array**	**49.03**	**310**	P	**P**	**14 57 16.4**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.03**	**310**	P	**P**	**14 57 16.4**	**+0.4**
BVAR	**Borovoye Array**	**49.03**	**310**	P	**P**	**14 57 16.4**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=78,slow=8.7,SNR=7.4						
DMN	**Daman**	**49.04**	**273**	*e*P	**P**	**14 57 15.4**	**-1.4**
DMN	**Daman**	**49.04**	**273**	*e*P	**P**	**14 57 15.4**	**-1.4**
TKM2	**Tokmak 2**	**49.09**	**296**	*e*P	**P**	**14 57 17.0**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TKM2	**Tokmak 2**	**49.09**	**296**	*e*P	**P**	**14 57 17.0**	**+0.1**
	comp=Z,3.0nm,0.8s						
GKN	**Gorkha**	**49.19**	**274**	*e*P	**P**	**14 57 18.1**	**+0.3**
	comp=Z,3.8nm,0.4s						
GKN	**Gorkha**	**49.19**	**274**	*e*P	**P**	**14 57 18.1**	**+0.3**
	comp=Z,3.8nm,0.4s						
DANN	**Dangsing**	**49.67**	**275**	*e*P	**P**	**14 57 21.8**	**+0.2**
	comp=Z,11nm,0.4s						
DANN	**Dangsing**	**49.67**	**275**	*e*P	**P**	**14 57 21.8**	**+0.2**
	comp=Z,11nm,0.4s						
KOLN	**Koldanda**	**50.10**	**274**	*e*P	P	14 57 20.7	-4.0
KOLN	**Koldanda**	**50.10**	**274**	*e*P	P	14 57 20.7	-4.0
INK	**Inuvik**	**50.17**	**29**	*e*P	**P**	**14 57 26.0**	**+1.6**
INK	**Inuvik**	**50.17**	**29**	P	**P**	**14 57 26.1**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=198,slow=20,SNR=6.0						
PYUN	**Piuthan**	**50.38**	**275**	*e*P	P	14 57 22.8	-4.1
PYUN	**Piuthan**	**50.38**	**275**	*e*P	P	14 57 22.8	-4.1
KKAR	**Karatay Array**	**52.45**	**298**	P	**P**	**14 57 40.4**	**-1.6**
KKAR	**Karatay Array**	**52.45**	**298**	P	**P**	**14 57 40.4**	**-1.6**
ABKAR	**Akbulak array**	**56.52**	**309**	*e*P	**P**	**14 58 11.2**	**-0.1**
	comp=Z,1.2nm,0.4s						
WRA	**Warramunga Arr**	**61.24**	**190**	P	**P**	**14 58 43.8**	**-0.6**
WRA	**Warramunga Arr**	**61.24**	**190**	P	**P**	**14 58 43.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=7.3,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**64.97**	**189**	P	**P**	**14 59 07.7**	**-1.4**
ASAR	**Alice Springs**	**64.97**	**189**	P	**P**	**14 59 07.7**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=17,slow=12,SNR=5.8						
FINES	**FINESS Array B**	**65.95**	**332**	P	**P**	**14 59 15.0**	**0.0**
FINES	**FINESS Array B**	**65.95**	**332**	P	**P**	**14 59 15.0**	**0.0**
	comp=Z,5.2nm,1.0s,baz=60,slow=8.2,SNR=7.7						
KBZ	**Khabaz**	**69.41**	**310**	P	**P**	**14 59 37.2**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**69.41**	**310**	P	**P**	**14 59 37.2**	**+0.1**
KBZ	**Khabaz**	**69.41**	**310**	P	**P**	**14 59 37.2**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=28,slow=2.2,SNR=4.1						
NVAR	**Mina Array Bea**	**71.46**	**55**	P	**P**	**14 59 51.8**	**+1.8**
NVAR	**Mina Array Bea**	**71.46**	**55**	P	**P**	**14 59 51.8**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=277,slow=9.9,SNR=2.4						
AKASG	**Malin Array Be**	**72.02**	**322**	P	**P**	**14 59 52.3**	**-0.6**
AKASG	**Malin Array Be**	**72.02**	**322**	P	**P**	**14 59 52.2**	**-0.6**
AKASG	**Malin Array Be**	**72.02**	**322**	P	**P**	**14 59 52.2**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=43,slow=6.5,SNR=6.6						
PDAR	**Pinedale Array**	**73.85**	**47**	P	**P**	**15 00 05.4**	**+1.2**
PDAR	**Pinedale Array**	**73.85**	**47**	P	**P**	**15 00 05.4**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=309,slow=8.8,SNR=2.4						

IDC 20 14:53:54.1±6.3,16˚04S×167˚62E,h173km±60km,mb3.4/5, mb1 3.6/6,mb1mx3.4/20,mbtmp3.4/6,Error ellipse: s-maj=66.4km s-min=53.1km az=104.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.10**	**190**	P	Pn	14 55 23.0	+0.7
	3.6nm,0.3s,baz=59,slow=18,SNR=44						
DZM				S	Sn	14 56 31.2	-0.7
	baz=102,slow=19,SNR=2.1						
CTA	**Charters Tower**	**20.71**	**256**	P	P	14 58 22.6	+1.6
	2.5nm,0.6s,baz=86,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**28.43**	**232**	P	P	14 59 33.5	+0.8
	1.2nm,0.5s,baz=53,slow=11,SNR=10						
WRA	**Warramunga Arr**	**31.86**	**258**	P	P	15 00 01.7	-1.4
	0.4nm,0.5s,baz=83,slow=8.0,SNR=8.8						
ASAR	**Alice Springs**	**32.55**	**251**	P	P	15 00 08.7	-0.4
	2.5nm,0.5s,baz=78,slow=8.9,SNR=51						
CMAR	**Chiang Mai Arr**	**75.80**	**294**	P	P	15 05 21.6	+0.1
	0.5nm,0.8s,baz=110,slow=4.4,SNR=4.2						

WEL 20 15:05:19.4±0.1,40˚04S×176˚85E,h46km±1km,ML3.5/9, 10C-7D,Error ellipse: s-maj=1.2km s-min=0.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PXZ	**Pawanui**	**0.01**	**44**	⇓PN	Pn	15 05 26.8	+0.1
PXZ				SN	Sn	15 05 31.3	-0.3
PXZ				AML	AML	15 05 33.1	
PXZ				AML	AML	15 05 33.1	
PXZ				AML	AML	15 05 33.2	
KAHZ	**Kahuranaki**	**0.25**	**5**	⇓PN	Pn	15 05 27.5	-0.3
KAHZ				SN	Sn	15 05 34.0	+0.2
PRHZ	**Porangahau**	**0.28**	**216**	PN	Pn	15 05 28.5	+0.4
WPHZ	**Waipukurau**	**0.32**	**265**	⇓PN	Pn	15 05 28.0	-0.4
CKHZ	**Cape Kidnapper**	**0.42**	**25**	PN	Pn	15 05 29.5	0.0
CKHZ				*e*SN	Sn	15 05 37.3	+0.6
ANWZ	**Angora Road**	**0.51**	**214**	PN	Pn	15 05 31.0	+0.4
PNHZ	**Pukenui**	**0.52**	**284**	⇑PN	Pn	15 05 29.6	-1.1
DVHZ	**Dannevirke**	**0.58**	**243**	⇑PN	Pn	15 05 31.2	-0.4
MCHZ	**McNeill Hill**	**0.61**	**349**	⇓PN	Pn	15 05 31.5	-0.4
TSZ	**Takapari Road**	**0.68**	**268**	PN	Pn	15 05 31.8	-1.1
TSZ				SN	Sn	15 05 40.9	-1.7
TSZ				AML	AML	15 05 41.2	
BFZ	**Birch Farm**	**0.79**	**216**	⇑PN	Pn	15 05 34.4	+0.1
BHHZ	**Black Hill Sta**	**0.82**	**312**	⇑PN	Pn	15 05 33.6	-1.1
PRWZ	**Pori Road**	**0.85**	**232**	PN	Pn	15 05 35.1	+0.1
POWZ	**Post Office Ro**	**0.90**	**247**	PN	Pn	15 05 35.4	-0.4
BKZ	**Black Stump Fm**	**0.92**	**342**	PN	Pn	15 05 35.1	-0.9
BKZ				SN	Sn	15 05 46.8	-1.4
BKZ				AML	AML	15 05 47.1	
NMHZ	**Naumai**	**0.94**	**358**	⇑PN	Pn	15 05 36.3	-0.1
WHHZ	**Waihua**	**1.01**	**17**	PN	Pn	15 05 37.1	-0.1
TIWZ	**Tintock**	**1.04**	**225**	PN	Pn	15 05 37.5	-0.2
TIWZ				AML	AML	15 05 53.6	
TIWZ				AML	AML	15 05 54.5	
MOVZ	**Moawhango**	**1.06**	**306**	⇑PN	Pn	15 05 37.3	-0.6
RAHZ	**Arahi**	**1.14**	**9**	PN	Pn	15 05 38.8	-0.2
MRZ	**Mangatainoka R**	**1.15**	**237**	⇑PN	Pn	15 05 38.6	-0.6
MRZ				SN	Sn	15 05 53.2	-0.6
MRZ				AML	AML	15 05 54.1	
KNZ	**Kokohu**	**1.20**	**32**	PN	Pn	15 05 39.4	-0.4
WNVZ	**Wahianoa**	**1.20**	**306**	PN	Pn	15 05 39.8	-0.2
TUVZ	**Tukino**	**1.20**	**309**	PN	Pn	15 05 40.0	-0.1
WHVZ	**Whangaehu Hut**	**1.23**	**307**	PN	Pn	15 05 40.3	-0.3
TRVZ	**Turoa**	**1.25**	**306**	PN	Pn	15 05 40.4	-0.3
MTVZ	**Mangateitei**	**1.25**	**301**	PN	Pn	15 05 40.6	0.0
DRZ	**Dome Shelter**	**1.25**	**307**	PN	Pn	15 05 40.7	-0.2
OTVZ	**Oturere**	**1.27**	**313**	PN	Pn	15 05 40.7	-0.3
FWVZ	**Far West T-bar**	**1.27**	**308**	PN	Pn	15 05 40.9	-0.2
HATZ	**Hinemaiaia**	**1.29**	**333**	PN	Pn	15 05 40.7	-0.4
TMWZ	**Te Maipa**	**1.29**	**214**	PN	Pn	15 05 40.5	-0.6
NGZ	**Ngauruhoe**	**1.29**	**311**	PN	Pn	15 05 41.0	-0.3
WPVZ	**Whakapapa**	**1.31**	**309**	PN	Pn	15 05 41.1	-0.4
RITZ	**Rihia Road**	**1.31**	**324**	PN	Pn	15 05 41.4	0.0
COVZ	**Chateau Observ**	**1.31**	**309**	PN	Pn	15 05 41.4	-0.2
SNGZ	**Shannon Statio**	**1.31**	**17**	PN	Pn	15 05 41.0	-0.4
KRVZ	**Karewarewa**	**1.33**	**315**	⇓PN	Pn	15 05 41.6	-0.1
HOWZ	**Holdsworth Sta**	**1.33**	**230**	PN	Pn	15 05 40.7	-0.9
WTVZ	**West Tongariro**	**1.34**	**313**	PN	Pn	15 05 41.6	-0.3
PRGZ	**Paritu Road**	**1.37**	**36**	*e*PN	Pn	15 05 42.0	-0.2
PKVZ	**Pokaka**	**1.38**	**302**	PN	Pn	15 05 42.3	0.0
KATZ	**Kakaramea**	**1.39**	**320**	PN	Pn	15 05 42.3	-0.2
RATZ	**Rangitukua**	**1.44**	**324**	PN	Pn	15 05 42.7	-0.5
TWVZ	**Taurewa**	**1.46**	**311**	PN	Pn	15 05 43.2	-0.3
WAZ	**Wanganui**	**1.46**	**281**	PN	Pn	15 05 43.9	+0.5
OGWZ	**Otaki Gorge**	**1.50**	**238**	PN	Pn	15 05 43.0	-0.9
RIGZ	**Rimuhau**	**1.51**	**28**	PN	Pn	15 05 43.8	-0.3
MTW	**Mount Morrison**	**1.52**	**222**	PN	Pn	15 05 42.8	-1.3
MTW				AML	AML	15 06 02.7	
MTW				AML	AML	15 06 03.5	
ALRZ	**Allen Road**	**1.53**	**345**	PN	Pn	15 05 43.8	-0.5
WHTZ	**Whakaora**	**1.54**	**333**	PN	Pn	15 05 44.2	-0.3
PRRZ	**Plateau Road**	**1.58**	**347**	⇓PN	Pn	15 05 44.5	-0.6
WATZ	**Wairara**	**1.59**	**327**	PN	Pn	15 05 44.2	-0.9
TRWZ	**Traveller**	**1.62**	**213**	PN	Pn	15 05 44.3	-1.2
KIW	**Kapiti Island**	**1.69**	**240**	PN	Pn	15 05 45.7	-0.9
HRRZ	**Handcock Road**	**1.71**	**345**	PN	Pn	15 05 46.2	-0.6
RRRZ	**Republican Roa**	**1.72**	**351**	⇑PN	Pn	15 05 46.1	-0.8
PAWZ	**Paruwai Farm**	**1.72**	**218**	PN	Pn	15 05 45.7	-1.3
CAW	**Cannon Point**	**1.73**	**231**	PN	Pn	15 05 45.7	-1.4
MWZ	**Matawai**	**1.78**	**17**	PN	Pn	15 05 46.8	-1.1
MWZ				SN	Sn	15 06 08.8	-0.5
MWZ				AML	AML	15 06 08.9	
URZ	**Urewera**	**1.79**	**7**	⇑PN	Pn	15 05 46.9	-0.9
TARZ	**Mount Tarawera**	**1.82**	**351**	⇑PN	Pn	15 05 47.9	-0.6
MSWZ	**Moikau Station**	**1.83**	**221**	PN	Pn	15 05 46.7	-1.8
VRZ	**Vera Road**	**1.86**	**299**	PN	Pn	15 05 48.5	-0.3
PLWZ	**Palliser**	**1.95**	**218**	PN	Pn	15 05 48.2	-1.9
TLZ	**Tolley Road**	**1.99**	**329**	PN	Pn	15 05

WRA			Sn	Sn	16 11 30.2	-3.2
	0.5nm,0.3s,baz=5.1,slow=22,SNR=8.5					
ASAR	**Alice Springs**	**17.10 170**	P	**P**	**16 09 51.8**	**+1.3**
	0.1nm,0.3s,baz=344,slow=12,SNR=19					
ASAR			S	**Sn**	**16 12 56.1**	**-2.9**
	0.1nm,0.3s,baz=3.3,slow=26,SNR=7.8					
MKAR	**Makanchi Array**	**68.40 326**	P	**P**	**16 16 50.6**	**-0.8**
	0.5nm,0.4s,baz=123,slow=8.4,SNR=8.1					

*ISCJB **20** 16:17:01.4±0.6,40°.98N±0°.02×32°.51E±0°.03, h4km±4km, Error ellipse: s-maj=4.4km s-min=2.7km az=36.1*
*ISK **20** 16:17:01.9,40°.92N×32°.47E, h5km, ML3.5*
*DDA **20** 16:17:02.2,40°.89N×32°.50E, h9km, MD3.2*
*CSEM **20** 16:17:02.4±0.1,40°.92N×32°.48E, h2km, MD3.2, Error ellipse: s-maj=3.3km s-min=2.2km az=32.0*
*IDC **20** 16:17:02.0±1.8,40°.90N×32°.60E, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.2/26, mbtmp3.8/2, ML4.1/1, Error ellipse: s-maj=52.2km s-min=13.3km az=68.0*
ISC 20 16:17:02.5±1.1, 40°.92N±0°.02×32°.49E±0°.02, h9km±9km, n115, σ1§06/135, 10C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.33**	**252**	*i* P	**Pg**	**16 17 08.6**	**-0.5**
BCAM				*i* S	**Sg**	**16 17 14.1**	**+0.5**
BCAM	**Yenicaga**	**0.33**	**252**	*i* P	**Pg**	**16 17 08.6**	**-0.5**
BCAM				*i* S	**Sg**	**16 17 14.1**	**+0.5**
KDZE	**Karadeniz Ereo**	**0.88**	**297**	*e*PG	**Pg**	**16 17 19.0**	**-0.5**
KDZE				*e*SG	**Sb**	**16 17 31.6**	**-0.3**
KDZE	**Karadeniz Ereo**	**0.88**	**297**	*e*Pg	**Pg**	**16 17 19.0**	**-0.5**
KDZE				*e*Sg	**Sb**	**16 17 31.6**	**-0.3**
CANT	**Cankiri**	**0.92**	**109**	*e*PG	**Pg**	**16 17 19.6**	**-0.6**
CANT				*e*SG	**Sb**	**16 17 33.5**	**+0.5**
LOD	**Lodumlu**	**1.05**	**168**	*e*Pg	**Pg**	**16 17 22.3**	**-0.3**
LOD				*e*SG	**Sb**	**16 17 37.7**	**+0.9**
LOD	**Lodumlu**	**1.05**	**168**	*e*Pg	**Pg**	**16 17 22.3**	**-0.3**
LOD				*e*Sg	**Sb**	**16 17 37.7**	**+0.9**
ANTO	**Ankara**	**1.07**	**167**	*e*PG	**Pb**	**16 17 23.5**	**+0.2**
ANTO	**Ankara**	**1.07**	**167**	‖ *i*P	**Pn**	**16 17 23.8**	**0.0**
ANTO				S	**Sn**	**16 17 38.7**	**-0.2**
ANTO	**Ankara**	**1.07**	**167**	*e*Pg	**Pb**	**16 17 23.5**	**+0.2**
MDUB	**Mudurnu**	**1.07**	**246**	*e*PG	**Pg**	**16 17 22.4**	**-0.8**
MDUB				*e*SG	**Sb**	**16 17 38.0**	**+0.4**
MDUB	**Mudurnu**	**1.07**	**246**	*e*Pg	**Pg**	**16 17 22.4**	**-0.8**
MDUB				*e*Sg	**Sb**	**16 17 38.0**	**+0.4**
TOS	**Tosya**	**1.17**	**84**	*e*PN	**Pg**	**16 17 24.6**	**-0.4**
TOS	**Tosya**	**1.17**	**84**	*e*Pn	**Pg**	**16 17 24.6**	**-0.4**
BTAS	**Taskesti**	**1.18**	**253**	*i* P	**Pg**	**16 17 24.3**	**-0.9**
BTAS				S	**Sn**	**16 17 43.5**	**+2.0**
BTAS	**Taskesti**	**1.18**	**253**	*i* P	**Pg**	**16 17 24.3**	**-0.9**
BBAL	**Bala**	**1.46**	**160**	*i* P	**Pn**	**16 17 28.6**	**-0.5**
BBAL				*i* S	**Sb**	**16 17 49.3**	**+0.7**
BBAL	**Bala**	**1.46**	**160**	*i* P	**Pn**	**16 17 28.6**	**-0.5**
BBAL				*i* S	**Sb**	**16 17 49.3**	**+0.7**
BRTR	**Keskin Array B**	**1.48**	**143**	Pn	**Pn**	**16 17 29.0**	**-0.5**
	55nm,0.3s,baz=324,slow=14,SNR=323						
BRTR				S	**Sn**	**16 17 49.2**	**+0.1**
	18nm,0.3s,baz=323,slow=18,SNR=4.9						
AFSR	**Afar-Bala (A**	**1.54**	**163**	*e*PN	**Pn**	**16 17 30.5**	**+0.3**
AFSR	**Afar-Bala (A**	**1.54**	**163**	*e*Pn	**Pn**	**16 17 30.5**	**+0.3**
BZK	**Bozkurt**	**1.55**	**47**	*e*PN	**Pg**	**16 17 31.6**	**-0.6**
BZK	**Bozkurt**	**1.55**	**47**	*e*Pn	**Pg**	**16 17 31.6**	**-0.6**
GULT	**Gulveren**	**1.57**	**253**	*e*PN	**Pn**	**16 17 30.6**	**-0.1**
GULT	**Gulveren**	**1.57**	**253**	*e*Pn	**Pn**	**16 17 30.6**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.64**	**207**	*e*PN	**Pn**	**16 17 31.5**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.64**	**207**	*e*Pn	**Pn**	**16 17 31.5**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.67**	**263**	*e*PN	**Pn**	**16 17 32.2**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.67**	**263**	*e*Pn	**Pn**	**16 17 32.3**	**+0.4**
GPA	**Golpazari**	**1.77**	**250**	*e*PN	**Pn**	**16 17 33.9**	**+0.6**
GPA	**Golpazari**	**1.77**	**250**	*e*Pn	**Pn**	**16 17 33.9**	**+0.6**
CTKT	**Corum**	**1.77**	**99**	*i* P	**Pn**	**16 17 33.8**	**+0.2**
CTKT	**Corum**	**1.77**	**99**	*i* P	**Pn**	**16 17 33.8**	**+0.2**
CORM	**Corum**	**1.79**	**114**	*e*PN	**Pn**	**16 17 34.6**	**+0.8**
CORM	**Corum**	**1.79**	**114**	*e*Pn	**Pn**	**16 17 34.6**	**+0.8**
KAMT	**Kaman**	**1.81**	**148**	*e*PN	**Pn**	**16 17 34.6**	**+0.6**
KAMT	**Kaman**	**1.81**	**148**	Pn	**Pn**	**16 17 34.6**	**+0.6**
BORA	**Eskisehir**	**1.87**	**237**	*i* P	**Pb**	**16 17 36.1**	**-0.7**
BORA				*i* S	**Sg**	**16 18 02.4**	**-0.1**
BORA	**Eskisehir**	**1.87**	**237**	*i* P	**Pb**	**16 17 36.1**	**-0.7**
SEYT	**Eskypehyr**	**1.88**	**222**	*i* P	**Pn**	**16 17 34.5**	**-0.3**
SEYT	**Eskypehyr**	**1.88**	**222**	*i* P	**Pn**	**16 17 34.5**	**-0.3**
KIZT	**Kizilcal**	**2.09**	**193**	*e*PN	**Pn**	**16 17 37.5**	**-0.3**
KIZT	**Kizilcal**	**2.09**	**193**	*e*Pn	**Pn**	**16 17 37.5**	**-0.3**
CAVI	**Cavuskoy**	**2.14**	**251**	*e*PN	**Pn**	**16 17 39.1**	**+0.8**
CAVI	**Cavuskoy**	**2.14**	**251**	*e*Pn	**Pn**	**16 17 39.2**	**+0.8**
HRT	**Hereke**	**2.14**	**268**	*e*PN	**Pn**	**16 17 39.1**	**+0.7**
HRT	**Hereke**	**2.14**	**268**	*e*Pn	**Pn**	**16 17 39.2**	**+0.7**
ADVT	**Abdulvahap**	**2.14**	**258**	*e*PN	**Pn**	**16 17 38.9**	**+0.4**
ADVT	**Abdulvahap**	**2.14**	**258**	*e*Pn	**Pn**	**16 17 38.9**	**+0.4**
SILT	**Sile**	**2.16**	**277**	*e*PN	**Pn**	**16 17 39.3**	**+0.6**
SILT	**Sile**	**2.16**	**277**	*e*Pn	**Pn**	**16 17 39.3**	**+0.6**
GEMT	**Gemlik**	**2.55**	**260**	*e*PN	**Pn**	**16 17 45.3**	**+1.2**
GEMT	**Gemlik**	**2.55**	**260**	*e*Pn	**Pn**	**16 17 45.3**	**+1.2**
KLYT	**Kilyos**	**2.62**	**278**	*e*PN	**Pn**	**16 17 46.0**	**+0.9**
KLYT	**Kilyos**	**2.62**	**278**	*e*Pn	**Pn**	**16 17 46.0**	**+0.9**
LADK	**Ladik-KONYA**	**2.72**	**182**	*e*PN	**Pn**	**16 17 47.2**	**+0.8**
LADK	**Ladik-KONYA**	**2.72**	**182**	*e*Pn	**Pn**	**16 17 47.2**	**+0.8**
TVSB	**Tavsanli**	**2.74**	**239**	*e*PN	**Pn**	**16 17 47.7**	**+0.9**
TVSB	**Tavsanli**	**2.74**	**239**	*e*Pn	**Pn**	**16 17 47.7**	**+0.9**
SHUT	**Suhut-Afyon**	**2.79**	**213**	*e*PN	**Pn**	**16 17 48.0**	**+0.5**
SHUT	**Suhut-Afyon**	**2.79**	**213**	*e*Pn	**Pn**	**16 17 48.0**	**+0.5**
BGKT	**Bogazkoy**	**2.82**	**277**	*e*PN	**Pn**	**16 17 49.1**	**+1.4**
BGKT	**Bogazkoy**	**2.82**	**277**	*e*Pn	**Pn**	**16 17 49.1**	**+1.4**
SULT	**Sultanhani-AKS**	**2.83**	**163**	*e*PN	**Pn**	**16 17 49.1**	**+1.1**
SULT	**Sultanhani-AKS**	**2.83**	**163**	*e*Pn	**Pn**	**16 17 49.1**	**+1.1**
CTKS	**Kestanelik-??a**	**3.02**	**277**	*e*PN	**Pn**	**16 17 52.0**	**+1.4**
CTKS	**Kestanelik-??a**	**3.02**	**277**	*e*Pn	**Pn**	**16 17 52.0**	**+1.4**
KCTX	**Karacabey (Bur**	**3.21**	**260**	*e*PN	**Pn**	**16 17 54.8**	**+1.7**
KCTX	**Karacabey (Bur**	**3.21**	**260**	*e*Pn	**Pn**	**16 17 54.8**	**+1.7**
SLVT	**Silivri**	**3.25**	**277**	*e*PN	**Pn**	**16 17 54.7**	**+1.1**
SLVT	**Silivri**	**3.25**	**277**	*e*Pn	**Pn**	**16 17 54.7**	**+1.1**
BNN	**Bunyan**	**3.31**	**127**	*e*PN	**Pn**	**16 17 56.2**	**+1.6**
BNN	**Bunyan**	**3.31**	**127**	*e*Pn	**Pn**	**16 17 56.2**	**+1.6**
EDC	**Edincik**	**3.56**	**262**	*e*PN	**Pn**	**16 17 59.5**	**+1.6**
EDC	**Edincik**	**3.56**	**262**	*e*Pn	**Pn**	**16 17 59.5**	**+1.6**
SVSK	**Karacayir**	**3.59**	**105**	*e*PN	**Pn**	**16 17 59.9**	**+1.6**
SVSK	**Karacayir**	**3.59**	**105**	*e*Pn	**Pn**	**16 17 59.9**	**+1.6**
SUTC	**Sutluce-Ispart**	**3.62**	**199**	*e*PN	**Pn**	**16 17 59.5**	**+0.5**
SUTC	**Sutluce-Ispart**	**3.62**	**199**	*e*Pn	**Pn**	**16 17 59.5**	**+0.5**
RSDY	**Resadiye-TOKAT**	**3.72**	**96**	*e*PN	**Pn**	**16 18 02.0**	**+1.8**
RSDY	**Resadiye-TOKAT**	**3.72**	**96**	*e*Pn	**Pn**	**16 18 02.0**	**+1.8**
GONE	**Gonen-Balikesi**	**3.76**	**258**	*e*PN	**Pn**	**16 18 02.2**	**+1.5**
GONE	**Gonen-Balikesi**	**3.76**	**258**	*e*Pn	**Pn**	**16 18 02.2**	**+1.5**
PHSR	**Pinarhisar**	**3.81**	**282**	*e*PN	**Pn**	**16 18 02.9**	**+1.6**
PHSR	**Pinarhisar**	**3.81**	**282**	*e*Pn	**Pn**	**16 18 02.9**	**+1.6**
KRBG	**Karabiga-Canak**	**3.98**	**264**	*e*PN	**Pn**	**16 18 05.7**	**+2.0**
KRBG	**Karabiga-Canak**	**3.98**	**264**	*e*Pn	**Pn**	**16 18 05.7**	**+2.0**
MANR	**Mangalia**	**4.09**	**316**	⇑ *i*P	**Pn**	**16 18 06.2**	**+1.0**
MANR	**Mangalia**	**4.09**	**316**	⇑ *i*P	**Pn**	**16 18 06.2**	**+1.0**
KARA	**Karaisali**	**4.16**	**150**	*e*PN	**Pn**	**16 18 08.1**	**+1.9**
KARA	**Karaisali**	**4.16**	**150**	*e*Pn	**Pn**	**16 18 08.1**	**+1.9**
KOZT	**Kozan**	**4.30**	**142**	*e*PN	**Pn**	**16 18 09.7**	**+1.5**
KOZT	**Kozan**	**4.30**	**142**	*e*Pn	**Pn**	**16 18 09.7**	**+1.5**
EDRB	**Edirne**	**4.42**	**284**	*e*PN	**Pn**	**16 18 11.4**	**+1.7**
EDRB	**Edirne**	**4.42**	**284**	*e*Pn	**Pn**	**16 18 11.4**	**+1.7**
TIRR	**Tirgusor**	**4.64**	**321**	*e*PN	**Pn**	**16 18 14.2**	**+1.5**
TIRR	**Tirgusor**	**4.64**	**321**	‖ *i*P	**Pn**	**16 18 13.3**	**+0.6**
TIRR	**Tirgusor**	**4.64**	**321**	‖ *i*P	**Pn**	**16 18 13.3**	**+0.6**
TIRR	**Tirgusor**	**4.64**	**321**	*e*Pn	**Pn**	**16 18 14.3**	**+1.5**
TIRR				S	**Sn**	**16 19 07.3**	**+0.6**
MSAB	**Monastry St. A**	**4.68**	**314**	‖ *i*P	**Pn**	**16 18 14.2**	**+0.9**
MSAB	**Monastry St. A**	**4.68**	**314**	‖ *i*P	**Pn**	**16 18 14.2**	**+0.9**
MSAB				S	**Sn**	**16 19 07.6**	**-0.1**
TLB	**Topalu**	**4.91**	**320**	⇑ *i*P	**Pn**	**16 18 17.4**	**+0.9**
TLB	**Topalu**	**4.91**	**320**	⇑ *i*P	**Pn**	**16 18 17.4**	**+0.9**
TLB				S	**Sn**	**16 19 14.6**	**+1.2**
TLCR		**5.04**	**329**	⇑ *i*P	**Pn**	**16 18 18.0**	**-0.3**
TLCR		**5.04**	**329**	⇑ *i*P	**Pn**	**16 18 18.0**	**-0.3**
MALT	**Malatya**	**5.27**	**118**	‖ *i*P	**Pn**	**16 18 21.2**	**-0.4**
MALT	**Malatya**	**5.27**	**118**	‖ *i*P	**Pn**	**16 18 21.2**	**-0.4**
CFR	**Carcaliu**	**5.32**	**325**	⇑ *i*P	**Pn**	**16 18 23.1**	**+1.1**
CFR	**Carcaliu**	**5.32**	**325**	⇑ *i*P	**Pn**	**16 18 23.1**	**+1.1**
CFR				S	**Sn**	**16 19 23.5**	**+0.1**
MLR	**Muntele Rosu**	**6.61**	**316**	‖ *i*P	**Pn**	**16 18 39.8**	**-0.2**
MLR	**Muntele Rosu**	**6.61**	**316**	⇑ *i*P	**Pn**	**16 18 39.8**	**-0.2**
DOPR	**Dopca**	**7.22**	**317**	⇑ *i*P	**Pn**	**16 18 49.4**	**+1.2**
DOPR	**Dopca**	**7.22**	**317**	⇑ *i*P	**Pn**	**16 18 49.4**	**+1.2**
DOPR				S	**Sn**	**16 20 09.6**	**-0.7**

AKASG	**Malin Array Be**	**10.04**	**348**	Pn	**Pn**	**16 19 25.9**	**-1.0**
	1.6nm,0.3s,baz=166,slow=13,SNR=11						
AKASG				Sn	**Sn**	**16 21 15.0**	**-4.6**
	1.0nm,0.3s,baz=159,slow=24,SNR=5.2						
FINES	**FINESS Array B**	**20.92**	**351**	P	Pn	16 21 47.1	-0.5
	4.9nm,0.9s,baz=176,slow=11,SNR=3.6						

*ISCJB **20** 16:19:26.5±1.3,24°.8N±0°.2×95°.0E±0°.1, h104km, mb3.1/2, Error ellipse: s-maj=31.1km s-min=11.5km az=31.4*
*IDC **20** 16:19:29.9±3.8,24°.81N×95°.21E, h132km±39km, mb2.8/2, mb1 2.9/3, mb1mx2.7/28, mbtmp2.7/3, Error ellipse: s-maj=93.9km s-min=24.1km az=61.0*
ISC 20 16:19:27.6±1.4, 24°.9N±0°.2×95°.1E±0°.2, h104km, n4, σ1§69/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.96**	**285**	*e*PN	**Pn**	**16 20 14.0**	**+0.9**
SHL				*i* SN	**Sn**	**16 20 47.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**7.32**	**150**	P	**Pn**	**16 21 12.8**	**+0.9**
	0.2nm,0.3s,baz=327,slow=13,SNR=8.2						
MKAR	**Makanchi Array**	**24.16**	**338**	P	**P**	**16 24 34.5**	**+0.5**
	0.3nm,0.4s,baz=150,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**61.19**	**139**	P	**P**	**16 29 30.0**	**-1.6**
	0.2nm,0.9s,baz=322,slow=7.0,SNR=3.2						

*ISCJB **20** 16:26:05.5±0.4,25°.42S±0°.05×70°.93W±0°.08, h35km, mb4.6/20, MS3.1/6, Error ellipse: s-maj=10.7km s-min=7.3km az=164.3*
*NEIC **20** 16:26:07.2±2.2,25°.43S×70°.93W, h35km±15km, mb4.8/11, Error ellipse: s-maj=12.4km s-min=7.2km az=83.0*
*BJI **20** 16:26:08.7,25°.50S×70°.90W, h35km, mB5.5/7, Ms6.6/4, Ms7 5.5/5*
*IDC **20** 16:26:09.2±2.7,25°.41S×70°.92W, h52km±23km, mb4.2/10, mb1 4.4/14, mb1mx4.2/21, mbtmp4.4/14, ML4.7/3, MS3.5/11, Ms1 3.5/11, ms1mx3.4/19, Error ellipse: s-maj=23.1km s-min=18.0km az=63.0*
ISC 20 16:26:06.6±0.4, 25°.49S±0°.06×71°.03W±0°.08, h35km, n91, σ1§24/91, mb4.9/21, MS3.2/6, 1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.46**	**35**	*e*Pn	**Pn**	**16 26 59.7**	**+1.5**
LCO	**Las Campanas**	**3.52**	**175**	*e*Pn	**Pn**	**16 26 58.3**	**-0.8**
CFAA	**Coronel Fontan**	**6.57**	**159**	P	Pn	16 27 45.0	+4.2
CFAA				S	**Sn**	**16 28 52.6**	**-1.9**
CFAA	**Coronel Fontan**	**6.57**	**159**	P	Pn	16 27 45.0	+4.2
	0.7nm,0.3s,baz=14,slow=15,SNR=11						
CFAA				S	**Sn**	**16 28 52.6**	**-1.9**
	1.5nm,0.3s,baz=322,slow=13,SNR=3.1						
CFAA				LR	LR	16 30 26.3	
	comp=Z,90nm,19.8s,baz=330,slow=39						
ARE	**Arequipa**	**8.99**	**357**	*e*P	**Pn**	**16 28 12.0**	**-2.3**
ARE				*e*S	**Sn**	**16 29 50.0**	**-4.5**
LPAZ	**La Paz**	**9.55**	**17**	*e*Pn	**Pn**	**16 28 23.1**	**+0.9**
LPAZ	**La Paz**	**9.55**	**17**	P	**Pn**	**16 28 23.0**	**+0.9**
	6.8nm,0.3s,baz=185,slow=6.0,SNR=148						
LPAZ				LR	LR	16 32 34.7	
	comp=Z,276nm,18.5s,baz=182,slow=41						
H03N1	**Juan Fernandez**	**10.48**	**219**	T	T	16 39 21.9	
	baz=44,slow=74,SNR=92						
H03N2	**Juan Fernandez**	**10.49**	**219**	T	T	16 39 17.2	
	baz=44,slow=74,SNR=117						
H03N3	**Juan Fernandez**	**10.50**	**219**	T	T	16 39 28.6	
	baz=44,slow=74,SNR=124						
CPUP	**Villa Florida**	**12.37**	**97**	P	**Pn**	**16 29 00.2**	**0.0**
CPUP	**Villa Florida**	**12.37**	**97**	P	**Pn**	**16 29 00.2**	**0.0**
	0.4nm,0.3s,baz=203,slow=7.7,SNR=2.4						
CPUP				LR	LR	16 34 13.7	
	comp=Z,482nm,21.9s,baz=254,slow=40						
SIV	**San Ignacio**	**13.26**	**46**	P	Pn	16 29 08.9	-3.6
SIV				S	Sn	16 31 29.4	-9.5
SIV	**San Ignacio**	**13.26**	**46**	P	Pn	16 29 08.9	-3.6
	1.7nm,0.3s,baz=239,slow=10,SNR=27						
SIV				S	Sn	16 31 29.4	-9.5
	0.5nm,0.3s,baz=156,slow=20,SNR=4.8						
TRQA	**Tornquist**	**14.69**	**151**	*e*Pn	**Pn**	**16 29 31.8**	**-0.1**
PLCA	**Paso Flores**	**15.21**	**179**	*e*P	**P**	**16 29 44.3**	**+0.9**
	25nm,1.1s						
PLCA	**Paso Flores**	**15.21**	**179**	P	**P**	**16 29 43.4**	**0.0**
	0.7nm,0.3s,baz=0.7,slow=12,SNR=35						
PLCA				LR	LR	16 35 31.0	
	comp=Z,188nm,19.3s,baz=306,slow=37						
SAML	**Samuel**	**18.07**	**26**	*e*Pn	**Pn**	**16 30 13.3**	**-1.7**
	10nm,0.8s						
ATAH	**Atahualpa**	**19.56**	**338**	LR	LR	16 36 56.0	
	comp=Z,15nm,28.6s,baz=190,slow=33						
SPB	**Sao Paulo**	**21.55**	**90**	*e*P	**P**	**16 30 52.9**	**-0.1**
	14nm,0.8s						
BDFB	**Brasilia**	**23.64**	**70**	*e*P	**P**	**16 31 14.2**	**-0.8**
BDFB	**Brasilia**	**23.64**	**70**	P	**P**	**16 31 13.8**	**-1.1**
	20nm,0.8s,baz=240,slow=11,SNR=9.0						
BDFB				LR	LR	16 41 42.8	
	comp=Z,16nm,28.6s,baz=228,slow=40						
PTGA	**Pitinga**	**26.83**	**25**	*e*P	**P**	**16 31 43.3**	**-0.5**
	10nm,0.8s						
ROSC	**El Rosal**	**30.33**	**353**	LR	LR	16 44 34.9	
	comp=Z,15nm,28.6s,baz=200,slow=36						
RKT	**Rikitea**	**57.82**	**258**	*e*LR	LR	16 52 56.3	
	197nm,30.0s						
H06E1	**SOCORRO T-PHAS**	**58.67**	**315**	T	T	17 39 46.5	
	SNR=28						
JCT	**Junction City**	**62.10**	**332**	*e*P	**P**	**16 36 24.4**	**+0.4**
	5.7nm,0.7s						
TXAR	**Lajitas Array**	**62.87**	**328**	P	**P**	**16 36 29.8**	**+0.5**
TXAR	**Lajitas Array**	**62.87**	**328**	P	**P**	**16 36 29.8**	**+0.5**
	0.6nm,0.8s,baz=146,slow=9.1,SNR=7.9						
QSPA	**South Pole Qui**	**64.72**	**180**	*e*P	**P**	**16 36 42.2**	**+1.2**
	14nm,1.0s						
MNTX	**Cornudas Mount**	**65.65**	**328**	*e*P	**P**	**16 36 47.6**	**+0.3**
	52nm,2.5s						
MSTX	**Muleshoe**	**66.38**	**331**	*e*P	**P**	**16 36 52.8**	**+0.7**
	155nm,3.0s						
TBI	**Tubuai**	**70.41**	**253**	*e*LR	LR	16 58 45.9	
	70nm,25.2s						
LIC	**Lanzo**	**71.38**	**73**	*e*P	**P**	**16 37 23.8**	**+0.3**
	26nm,0.9s						
TIC	**Toumodi**	**71.59**	**73**	*e*P	**P**	**16 37 25.1**	**+0.3**
	18nm,0.8s						
KIC	**Kosan Boka**	**71.69**	**73**	*e*P	**P**	**16 37 25.9**	**+0.5**
	47nm,1.0s						
DBIC	**Dimbokro**	**71.75**	**73**	*e*P	**P**	**16 37 26.3**	**+0.6**
	20nm,0.8s						
DBIC	**Dimbokro**	**71.75**	**73**	P	**P**	**16 37 26.4**	**+0.6**
	15nm,0.6s,baz=210,slow=6.7,SNR=25						
DBIC				LR	LR	17 08 37.7	
	comp=Z,16nm,28.6s,baz=230,slow=36						
PPT2	**Papeete2**	**72.56**	**258**	*e*LR	LR	16 59 45.4	
	160nm,27.5s						
SMCO	**Snowmass**	**72.57**	**331**	*e*P	**P**	**16 37 32.3**	**+1.6**
	49nm,2.3s						
PLM	**Palomar**	**72.97**	**321**	*e*P	**P**	**16 37 33.5**	**+0.7**
SYO	**Syowa Base**	**73.47**	**159**	⇑ *i*P	**P**	**16 37 34.5**	**-0.6**
PDAR	**Pinedale Array**	**76.64**	**332**	P	**P**	**16 37 54.4**	**+0.5**
PDAR	**Pinedale Array**	**76.64**	**332**	P	**P**	**16 37 54.4**	**+0.5**
	0.3nm,0.5s,baz=129,slow=7.1,SNR=3.5						
NVAR	**Mina Array Bea**	**77.48**	**324**	P	**P**	**16 37 59.8**	**+1.1**
NVAR	**Mina Array Bea**	**77.48**	**324**	P	**P**	**16 37 59.8**	**+1.1**
	0.3nm,0.5s,baz=133,slow=6.6,SNR=4.1						
HLID	**Hailey**	**79.42**	**329**	*e*P	**P**	**16 38 10.9**	**+1.7**
	5.5nm,1.2s						
HOPS	**Hopland**	**80.50**	**321**	*e*P	**P**	**16 38 18.0**	**+3.0**
TOA0	**Torodi Ar. Sit**	**80.52**	**71**	*e*P	**P**	**16 38 15.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**80.52**	**71**	P	**P**	**16 38 16.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**80.52**	**71**	P	**P**	**16 38 16.1**	**+0.5**
	14nm,0.7s,baz=264,slow=5.1,SNR=79						
TORD				LR	LR	17 11 24.9	
	comp=Z,16nm,28.6s,baz=250,slow=34						
MAW	**Mawson**	**81.07**	**164**	P	**P**	**16 38 18.3**	**+0.6**
MAW	**Mawson**	**81.07**	**164**	P	**P**	**16 38 18.3**	**+0.6**
	4.3nm,0.7s,baz=232,slow=7.7,SNR=4.8						
MAW				LR	LR	17 15 09.5	
	comp=Z,69nm,18.1s,baz=235,slow=36						
BOSA	**Boshof**	**83.29**	**118**	P	**P**	**16 38 29.7**	**-0.6**
BOSA	**Boshof**	**83.29**	**118**	P	**P**	**16 38 29.7**	**-0.6**
	12nm,0.9s,baz=270,slow=6.3,SNR=12						
MDT	**Midelt**	**85.78**	**51**	P	**P**	**16 38 43.2**	**+0.6**
MDT	**Midelt**	**85.78**	**51**	P	**P**	**16 38 43.2**	**+0.6**
	8.0nm,1.1s,baz=218,slow=5.8,SNR=6.0						
YKA	**Yellowknife Ar**	**94.30**	**341**	P	**P**	**16 39 21.2**	**-0.6**
YKA	**Yellowknife Ar**	**94.30**	**341**	P	**P**	**16 39 21.2**	**-0.6**

	0.9nm,0.7s,baz=137,slow=4.4,SNR=26						
KEST	**Kesra**	**97.24**	**54**	LR	LR	17 23 40.0	
	comp=Z,16nm,28.6s,baz=286,slow=36						
AKASG	**Malin Array Be**	**115.64**	**44**	PKP	**PKPdf**	**16 44 43.7**	**-1.1**
AKASG	**Malin Array Be**	**115.64**	**44**	PKP	**PKPdf**	**16 44 43.7**	**-1.1**
	0.5nm,0.5s,baz=261,slow=2.5,SNR=5.0						
AS31	**Alice Springs**	**125.49**	**208**	*e*PKPdf	**PKPdf**	**16 45 04.7**	**-0.1**
ASAR	**Alice Springs**	**125.49**	**208**	PKP	**PKPdf**	**16 45 04.5**	**-0.2**
ASAR	**Alice Springs**	**125.49**	**208**	PKP	**PKPdf**	**16 45 04.5**	**-0.2**
	1.7nm,0.7s,baz=136,slow=1.9,SNR=27						
H11S2	**WAKE ISLAND Hyl**	**26.35**	**275**	T	T	19 04 38.8	
	baz=111,slow=73,SNR=32						
H11S1	**WAKE ISLAND Hyl**	**26.36**	**275**	T	T	19 04 41.2	
	baz=111,slow=73,SNR=30						
H11S3	**WAKE ISLAND Hyl**	**26.37**	**275**	T	T	19 04 40.0	
	baz=111,slow=73,SNR=32						
WRA	**Warramunga Arr**	**128.54**	**211**	PKP	**PKPdf**	**16 45 10.8**	**+0.1**
WRA	**Warramunga Arr**	**128.54**	**211**	PKP	**PKPdf**	**16 45 10.8**	**+0.1**
	2.9nm,0.7s,baz=158,slow=1.7,SNR=31						
ABKAR	**Akbulak array**	**135.37**	**45**	*e*PKPdf	**PKPdf**	**16 45 23.3**	**+0.8**
ZAA0	**Zalesovo Array**	**146.38**	**26**	*e*PKPdf	**PKPdf**	**16 45 42.8**	**+0.7**
ZALV	**Zalesovo Beam**	**146.38**	**26**	PKPbc	**PKPbc**	**16 45 43.2**	**-0.2**
ZALV	**Zalesovo Beam**	**146.38**	**26**	PKPbc	**PKPbc**	**16 45 43.2**	**-0.2**
	13nm,0.7s,baz=312,slow=4.0,SNR=46						
AAK	**Ala-Archa**	**147.00**	**50**	*e*PKPbc	**PKPbc**	**16 45 45.4**	**-0.5**
TKM2	**Tokmak 2**	**147.66**	**49**	PKPdf	**PKPdf**	**16 45 45.4**	**+0.5**
TKM2				*e*PKPbc	**PKPbc**	**16 45 48.5**	**+0.8**
KSH	**Kashi**	**149.05**	**55**	PKPbc	**PKPdf**	**16 45 49.3**	**+2.1**
KSH				sPKP		16 46 00.3

SKR	Severo-Kuril's	1.69	15	P	Pn	17 27 17.8	-0.4
SKR				*i* S	Sn	17 27 36.8	-1.9
PAU	Pauzhetka	2.57	19	P	Pn	17 27 32.2	+1.9
PAU				*i* S	Sn	17 27 58.8	-1.5
ASAK	Asacha	3.68	24	P	Pn	17 27 47.4	+1.8
MTVR	Mutnovka	3.85	26	P	Pn	17 27 50.8	+2.8
MTVR				*i* S	Sn	17 28 32.2	+0.3
PETK	Petropavlovsk- 0.9nm,0.3s,baz=184,slow=14,SNR=8.6	4.30	18	Pn	Pn	17 27 56.1	+2.1
PETK				Sn	Sn	17 28 55.4	+13
	0.3nm,0.3s,baz=158,slow=20,SNR=2.7						
UGLR	Uglovaya	4.67	26	P	Pn	17 28 00.8	+1.6
KOK	Koryaka	4.69	24	P	Pn	17 28 02.2	+2.7
AVH	Avacha	4.70	25	P	Pn	17 28 01.5	+2.0
KRER	Koryakskii	4.73	25	P	Pn	17 28 02.2	+2.0
SDLR	Sedlovina	4.75	26	P	Pn	17 28 01.8	+1.5
KRX	Arik	4.76	24	P	Pn	17 28 02.5	+2.1
GNL	Ganaly	4.90	18	P	Pn	17 28 03.9	+1.5
ASAJ	Asahikawa 0.4nm,0.3s,baz=12,slow=33,SNR=5.6	10.13	246	Pn	Pn	17 29 14.9	+1.0
H11S1	WAKE ISLAND Hy 31.80 baz=360,slow=71,SNR=10		159	T	T	18 06 55.0	
H11S3	WAKE ISLAND Hy 31.81 baz=360,slow=71,SNR=11		159	T	T	18 06 49.8	
H11S2	WAKE ISLAND Hy 31.82 baz=360,slow=71,SNR=7.1		159	T	T	18 06 55.2	
YKA	Yellowknife Ar 0.2nm,0.7s,baz=298,slow=7.4,SNR=2.6	48.14	39	P	P	17 35 24.4	-1.2
ASAR	Alice Springs 0.2nm,0.5s,baz=4.3,slow=5.3,SNR=7.8	74.91	200	P	P	17 38 25.3	-1.2
TXAR	Lajitas Array 0.4nm,0.7s,baz=310,slow=4.5,SNR=5.0	75.01	63	P	P	17 38 27.0	-0.4

IDC 20 17:32:54.3±5.4, 33.00S×179.14W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/17, mbtmp3.7/2, Error ellipse: s-maj=236.8km s-min=53.3km az=161.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs 0.4nm,0.4s,baz=109,slow=7.4,SNR=14	42.08	270	P	P	17 40 48.4	+0.3
WRA	Warramunga Arr 0.5nm,0.4s,baz=117,slow=7.6,SNR=20	43.30	276	P	P	17 40 57.5	-0.6
H03N3	Juan Fernandez baz=237,slow=74,SNR=8.7	80.05	123	T	T	19 13 41.7	
H03N2	Juan Fernandez baz=237,slow=74,SNR=6.0	80.05	123	T	T	19 13 41.3	
H03N1	Juan Fernandez baz=237,slow=74,SNR=8.1	80.06	123	T	T	19 13 35.9	
FINES	FINESS Array B 1.3nm,0.5s,baz=48,slow=4.1,SNR=12	147.21	338	PKPbc	PKPbc	17 52 38.0	-0.7

*NIED **20** 17:36:00, 43.40N×147.00E, h29km, Mw3.4 Best double couple: M0 1.65000×10^14 NP1:φs 27.00000°, δ 61.00000°, λ 84.00000°. NP2:φs 219.00000°, δ 29.00000°, λ 100.00000°.*
*JMA **20** 17:36:09.5±0.4, 43.36N×147.00E, h31km±4km, M3.6*
*SKHL **20** 17:36:10.6±0.1, 43.47N×147.07E, h53km±3km, mb4.8/2*
*IDC **20** 17:36:10.6±7.3, 42.63N×147.15E, h78km±39km, mb3.4/8, mb1 3.5/10, mb1mx3.3/27, mbtmp3.4/10, ML3.3/2, Error ellipse: s-maj=88.6km s-min=17.8km az=172.0*
*ISCJB **20** 17:36:10.1±1.0, 43.46N±0.07×147.04E±0.08, h48km±7km, mb3.6/8, Error ellipse: s-maj=13.6km s-min=6.3km az=138.8*
*MOS **20** 17:36:11.4±1.3, 43.46N×146.98E, h62km, mb4.0/6, Error ellipse: s-maj=20.5km s-min=15.8km az=123.7*

ISC 20 17:36:10.0±3.3, 43.42N±0.07×147.08E±0.07, h32km±22km, n42, σ1°19/43, mb3.7/8, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	Shikotan	0.48	338	*e*P	Pn	17 36 20.8	+0.1
SHO				AMB	AMB	17 36 21.0	
	260nm,0.2s						
SHO				*e*S	Sn	17 36 28.4	+0.4
SHO				A	A	17 36 28.9	
	920nm,0.4s						
NEM2	Nemuro 2	0.97	267	P	Pn	17 36 26.3	-1.2
NEM2				*e*S	Sn	17 36 38.6	-1.6
YUK	Yuzh-Kuril'sk	1.07	305	*d* iPN	Pn	17 36 28.5	-0.3
YUK				*i* S	Sn	17 36 42.0	-0.6
YUK				pmax	pmax		
	comp=N,39nm,0.3s						
YUK				pmax	pmax		
	comp=E,50nm,0.3s						
YUK				pmax	pmax		
	comp=Z,579nm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK	Yuzh-Kuril'sk	1.07	305	⇓*i*P	Pn	17 36 28.5	-0.3
YUK				AMB	AMB	17 36 29.0	
	comp=E,580nm,0.3s						
YUK				*i* S	Sn	17 36 42.0	-0.6
YUK				A	A	17 36 42.8	
	comp=E,1μm,0.4s						
YUK				A	A	17 36 42.8	
	comp=E,2μm,0.4s						
JRA	Rausu	1.51	291	P	Pn	17 36 35.1	+0.3
JNK	Nakash	1.72	276	P	Pn	17 36 37.0	-0.8
JAK	Akkeshi	1.79	257	P	Pn	17 36 37.8	-0.9
KUR	Kuril'sk	1.90	17	*e*P	Pn	17 36 39.7	-0.4
KUR				*e*S	Sn	17 37 02.4	-0.5
KUR				A	A	17 37 07.5	
	comp=E,170nm,0.5s						
KUR				A	A	17 37 07.5	
	comp=E,110nm,0.5s						
JTKR	Abashiri--Toko	2.36	284	P	Pn	17 36 47.4	+0.9
JTKR				*e*S	Sn	17 37 15.5	+1.1
JAR	Ashorobuto	2.42	268	P	Pn	17 36 47.4	+0.1
JOB	Onbets	2.43	259	P	Pn	17 36 47.4	-0.1
JMP	Maruseppu	2.76	284	P	Pn	17 36 53.2	+1.2
JCH	Churui	2.84	255	P	Pn	17 36 53.5	+0.4
JCH				*e*S	Sn	17 37 26.8	+0.6
JKK2	Kamakawa 2	3.17	280	P	Pn	17 37 00.2	+2.5
ERM	Erimo	3.21	245	*i* PN	Pn	17 37 00.3	+2.1
ASAJ	Asahikawa comp=E,1.9nm,0.3s,baz=189,slow=10.0,SNR=32	3.32	284	P	Pn	17 37 02.7	+3.0
ASAJ				S	Sb	17 37 47.1	-1.0
	comp=E,2.3nm,0.3s,baz=324,slow=26,SNR=7.7						
YSS	Yuzh-Sakhalins	4.67	321	*i* PN	Pn	17 37 20.9	+2.7
YSS	Yuzh-Sakhalins	4.67	321	*e*P	Pn	17 37 19.1	+0.9
YSS				*e*S	Sn	17 38 09.8	-1.5
PETK	Petropavlovsk-	11.99	32	PN	Pn	17 39 08.3	+10
PETK	Petropavlovsk- comp=E,0.1nm,0.3s,baz=187,slow=10,SNR=3.6	11.99	32	P	Pn	17 39 08.3	+10
SONM	Songino Array comp=E,0.5nm,0.5s,baz=92,slow=9.1,SNR=5.4	28.55	293	P	P	17 42 03.1	+0.2
H11N2	WAKE ISLAND Hy 28.89 baz=332,slow=76,SNR=99		139	T	T	18 12 46.0	
H11N1	WAKE ISLAND Hy 28.90 baz=332,slow=76,SNR=101		139	T	T	18 12 48.6	
H11N3	WAKE ISLAND Hy 28.91 baz=332,slow=76,SNR=95		139	T	T	18 12 47.5	
H11S1	WAKE ISLAND Hy 29.85 baz=334,slow=77,SNR=95		140	T	T	18 13 58.8	
H11S3	WAKE ISLAND Hy 29.85 baz=334,slow=77,SNR=71		140	T	T	18 13 59.0	
H11S2	WAKE ISLAND Hy 29.87 baz=334,slow=77,SNR=74		140	T	T	18 14 00.1	
ILAR	Eielson Array	41.78	36	*e*P	P	17 43 58.3	+2.2
ILAR	Eielson Array comp=E,0.5nm,1.0s,baz=276,slow=8.1,SNR=3.9	41.78	36	P	P	17 43 58.2	+2.2
MKAR	Makanchi Array	44.69	298	P	P	17 44 19.6	-0.2
MKAR	Makanchi Array	44.69	298	*e*P	P	17 44 19.6	-0.2
MKAR	Makanchi Array comp=E,0.3nm,0.5s,baz=78,slow=10.0,SNR=6.5	44.69	298	P	P	17 44 19.6	-0.2
INK	Inuvik	46.71	30	*e*P	P	17 44 35.9	+0.5
INK	Inuvik comp=E,0.6nm,0.4s,baz=279,slow=6.2,SNR=8.5	46.71	30	P	P	17 44 35.9	+0.5
YKA	Yellowknife Ar	56.10	34	*e*P	P	17 45 44.8	-0.9
YKA	Yellowknife Ar comp=E,0.2nm,0.7s,baz=295,slow=6.1,SNR=3.4	56.10	34	P	P	17 45 44.8	-0.9
FINES	FINESS Array B comp=E,1.3nm,0.6s,baz=44,slow=8.8,SNR=7.8	65.14	333	P	P	17 46 46.6	-0.7
NB2	NORSAR Subarra comp=Z,0.2nm,0.8s,baz=46,slow=6.2	69.89	339	P	P	17 47 17.5	+0.1
NOA	NORSAR Array B	69.89	339	*e*P	P	17 47 16.6	-0.8
NOA	NORSAR Array B comp=Z,1.5nm,0.8s,baz=43,slow=5.4,SNR=6.1	69.89	339	P	P	17 47 16.6	-0.8
AKASG	Malin Array Be	71.81	324	P	P	17 47 28.9	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be comp=Z,0.7nm,0.5s,baz=41,slow=6.6,SNR=10	71.81	324	P	P	17 47 28.9	-0.3

JMA 20 17:36:51.7, 34.98N×139.14E, h3km±1km, M0.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AJI	Ajiro2	0.08	329	P	Pg	17 36 53.4	+0.1
AJI				*e*S	Sg	17 36 54.9	+0.6
KTJJ	Kamata 2	0.08	229	P	Pg	17 36 53.4	0.0
KTJJ				S	Sg	17 36 54.9	+0.4
JOD2	Odawara 2	0.29	351	P	Pg	17 36 57.6	+0.3
JOD2				S	Sg	17 37 02.0	+0.9
JIZS	Izushimoda	0.34	220	S	Sg	17 37 03.0	+0.3
JYN	Shimob	0.71	317	P	Pg	17 37 05.1	-0.4
SHZ3	Shizuoka 3	0.77	277	P	Pg	17 37 06.8	+0.2

GUC 20 18:08:06.4±0.6, 27.39S×71.22W, h40km±3km, ML3.5, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	Caldera	0.48	47	*e*P	Pn	18 08 16.5	-0.3
CDCH				*i* S	Sn	18 08 24.3	+0.2
CDCH				AML	AML	18 08 25.0	
	comp=N,4μm,0.3s						
CPCH	Copiapo	0.77	88	⇓*i*P	Pn	18 08 20.8	0.0
CPCH				*i* S	Sn	18 08 32.3	+1.1
CPCH				AML	AML	18 08 33.0	
	comp=E,22μm,0.1s						
VACH	Vallenar	1.25	161	*e*P	Pn	18 08 28.4	+1.0
VACH				*i* P		18 08 28.7	
VACH				*i* S	Sn	18 08 44.9	+1.8
LCO	Las Campanas	1.68	164	⇑*i*P	Pn	18 08 34.9	+1.3
LCO				*i* S	Sn	18 08 56.5	+2.4
LCO				AML	AML	18 09 01.2	
	comp=E,346nm,0.4s						
TLL	Tololo Astrono	2.79	173	*e*P	Pn	18 08 50.4	+1.4
TLL				*i* S	Sn	18 09 23.5	+1.9
TLL				AML	AML	18 09 45.3	
	comp=N,116nm,0.4s						

*ISCJB **20** 18:27:44.4±0.6, 2.54N±0.08×128.5E±0.1, h150km, mb3.6/10, Error ellipse: s-maj=19.6km s-min=9.5km az=157.8*
*IDC **20** 18:27:45.3±5.0, 2.53N×128.43E, h142km±49km, mb3.4/11, mb1 3.5/11, mb1mx3.4/23, mbtmp3.4/11, Error ellipse: s-maj=31.1km s-min=11.5km az=78.0*

ISC 20 18:27:46.1±0.8, 2.5N±0.1×128.5E±0.2, h150km, n31, σ0°54/27, mb3.8/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi 2.9nm,0.9s,baz=0.0,slow=13,SNR=5.1	20.69	188	P	P	18 32 13.3	-1.2
WRA	Warramunga Arr 0.5nm,0.4s,baz=343,slow=10,SNR=17	23.06	166	P	P	18 32 38.0	-0.5
ASAR	Alice Springs 0.2nm,0.7s,baz=350,slow=7.6,SNR=7.1	26.57	169	P	P	18 33 10.8	+0.5
ASAR				PcP	PcP	18 36 31.6	+0.6
	0.3nm,0.4s,baz=352,slow=1.9,SNR=8.7						
CMAR	Chiang Mai Arr 0.3nm,0.7s,baz=116,slow=7.3,SNR=7.2	32.98	301	P	P	18 34 08.0	+1.0
KSRS	Korea Array 0.8nm,0.4s,baz=179,slow=10.0,SNR=5.1	34.76	359	P	P	18 34 22.7	+0.7
MJAR	Matsushiro Arr 1.2nm,0.5s,baz=187,slow=9.3,SNR=3.8	35.02	14	P	P	18 34 23.9	-0.5
STKA	Stephens Creek 0.6nm,0.3s,baz=345,slow=14,SNR=11	36.41	161	P	P	18 34 36.8	+0.5
H11S3	WAKE ISLAND Hy 40.65 baz=248		64	T	T	19 19 07.3	
H11S2	WAKE ISLAND Hy 40.66 baz=248		64	T	T	19 18 55.8	
H11S1	WAKE ISLAND Hy 40.66 baz=248		64	T	T	19 18 58.0	
H11N1	WAKE ISLAND Hy 41.22 baz=248,slow=75,SNR=5.0		63	T	T	19 19 34.3	
H11N2	WAKE ISLAND Hy 41.23 baz=249		63	T	T	19 19 43.4	
H11N3	WAKE ISLAND Hy 41.24 baz=248,slow=75,SNR=4.0		63	T	T	19 19 33.7	
USRK	Ussuriysk Arra 1.7nm,0.8s,baz=200,slow=12,SNR=3.6	41.61	4	P	P	18 35 19.9	+0.6
TAPN	Taplejung 3.3nm,0.6s	46.13	306	*e*P	P	18 35 56.1	+0.1
ODAN	Odare 6.6nm,0.5s	46.18	306	*e*P	P	18 35 56.4	0.0
RAMN	Ramite 13nm,0.6s	46.86	305	*e*P	P	18 36 02.0	+0.3
JIRN	Jiri	47.48	306	*e*P	P	18 36 06.8	+0.2
GUN	Gumba 14nm,0.5s	47.84	306	*e*P	P	18 36 09.4	+0.1
PKI	Pulchoki	48.08	305	*e*P	P	18 36 10.7	-0.5
PKIN	Phulchoki	48.09	305	*e*P	P	18 36 11.0	-0.2
KKN	Kakani	48.27	306	*e*P	P	18 36 12.2	-0.3
DMN	Daman	48.34	305	*e*P	P	18 36 12.9	-0.2
GKN	Gorkha	48.88	306	*e*P	P	18 36 16.7	-0.4
SONM	Songino Array 1.0nm,0.6s,baz=151,slow=7.8,SNR=10	49.00	340	P	P	18 36 17.0	-0.6
KOLN	Koldanda	49.64	305	*e*P	P	18 36 23.2	+0.3
DANN	Dangsing 20nm,0.6s	49.73	306	*e*P	P	18 36 23.6	-0.1
PYUN	Piuthan	50.26	305	*e*P	P	18 36 27.8	+0.2
MKAR	Makanchi Array 2.2nm,0.4s,baz=116,slow=8.1,SNR=58	59.53	325	P	P	18 37 33.3	-0.4
MKAR				PcP	PcP	18 38 19.4	-0.1
	0.4nm,0.5s,baz=113,slow=5.6,SNR=4.3						
ZALV	Zalesovo Beam 0.5nm,0.4s,baz=101,slow=7.9,SNR=4.2	62.45	333	P	P	18 37 52.2	-0.9
TORD	Torodi Ar. Bea 0.3nm,0.6s,baz=48,slow=1.9,SNR=3.3	124.95	288	PKP	PKPdf	18 46 28.9	-0.6

*IDC **20** 18:31:20.7±2.1, 36.24N×141.36E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.3/28, mbtmp3.7/4, ML2.8/2, Error ellipse: s-maj=45.3km s-min=27.7km az=76.0*
*ISCJB **20** 18:31:29.3±0.9, 36.57N±0.06×140.77E±0.07, h98km±6km, mb3.7/1, Error ellipse: s-maj=11.6km s-min=7.4km az=135.7*
*JMA **20** 18:31:31.2±0.1, 36.57N×140.64E, h89km±1km, M3.3*
JMA Felt I J1.

ISC 20 18:31:29.9±1.3, 36.55N±0.07×140.75E±0.07, h95km±9km, n18, σ1°19/26, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.16	291	⇓P	Pn	18 31 43.8	+0.4
JHO				S	Sn	18 31 53.0	-0.5
JFK	Kawauchi	0.82	7	P	Pn	18 31 48.5	+0.4
JFK				*e*S	Sn	18 32 01.4	-0.3
JFT	Otama	1.02	341	⇓P	Pn	18 31 50.7	+0.5
JFT				*e*S	Sn	18 32 05.3	-0.2
JAG	Ashikaga	1.05	263	P	Pn	18 31 50.7	+0.1
JAG				S	Sn	18 32 05.2	-1.0
JFY	Yanaizu	1.20	316	P	Pn	18 31 52.6	+0.3
JFY				*e*S	Sn	18 32 08.8	-0.3
JKT	Katashina	1.23	280	P	Pn	18 31 53.0	+0.3
JKT				*e*S	Sn	18 32 10.1	+0.2
JMM	Marumori	1.31	1	P	Pn	18 31 53.9	+0.3
JMM				S	Sn	18 32 10.9	-0.6
JHK	Hiroka	1.55	297	P	Pn	18 31 56.9	+0.3
JHK				*e*S	Sn	18 32 16.4	-0.4
JRY	Ryogami san	1.59	251	P	Pn	18 31 57.7	+0.6
JNS	Sasagawa	1.71	318	P	Pn	18 31 58.7	+0.2
JNS				*e*S	Sn	18 32 19.5	-0.7
MJAR	Matsushiro Arr 3.5nm,0.3s,baz=93,slow=14,SNR=43	2.05	270	Pn	Pn	18 32 03.5	+0.6
MJAR				Sn	Sn	18 32 23.6	-4.6
	5.8nm,0.3s,baz=90,slow=27,SNR=13						
MAT	Matsushiro	2.05	270	P	Pn	18 32 03.8	+0.8
MAT				S	Sn	18 32 28.7	+0.5
ASAJ	Asahikawa 0.2nm,0.3s,baz=172,slow=14,SNR=4.0	7.68	10	Pn	Pn	18 33 17.7	-1.3
USRK	Ussuriysk Arra 0.1nm,0.3s,baz=136,slow=14,SNR=3.0	10.14	322	Pn	Pn	18 33 54.2	+1.7
H11N2	WAKE ISLAND Hy 28.37 baz=311,slow=76,SNR=3.3		119	T	T	19 05 49.8	
H11N1	WAKE ISLAND Hy 28.38 baz=311,slow=76,SNR=11		119	T	T	19 05 50.9	
H11N3	WAKE ISLAND Hy 28.39 baz=311,slow=76,SNR=3.9		119	T	T	19 05 51.7	
WRA	Warramunga Arr 0.4nm,0.5s,baz=3.7,slow=7.1,SNR=8.1	56.52	187	P	P	18 41 02.8	+0.4

*ISCJB **20** 18:31:42.6±1.7, 22.8N±0.1×12.2W±0.2, h10km, mb3.7/4, Error ellipse: s-maj=32.4km s-min=12.1km az=152.6*
*IDC **20** 18:31:43.9±2.1, 22.81N×12.00W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/27, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=57.4km s-min=28.0km az=84.0*

ISC 20 18:31:44.7±1.8, 22.8N±0.1×12.1W±0.2, h10km, n8, σ1°12/9, mb3.7/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	Torodi Ar. Bea 0.2nm,0.3s,baz=312,slow=11,SNR=10	16.21	124	Pn	Pn	18 35 31.2	-1.5
TORD				Sn	Sn	18 38 33.2	+0.5
	0.1nm,0.3s,baz=312,slow=21,SNR=2.5						
DBIC	Dimbokro 0.2nm,0.3s,baz=338,slow=11,SNR=2.9	17.45	155	P	Pn	18 35 48.6	+0.3
KEST	Kesra 2.0nm,0.9s,baz=256,slow=8.3,SNR=2.5	22.66	50	P	P	18 36 47.7	+1.5
GERES	GERESS Array B 1.1nm,1.0s,baz=230,slow=7.5,SNR=5.1	33.08	32	P	P	18 38 19.3	-1.3
FINES	FINESS Array B 2.9nm,0.9s,baz=248,slow=8.0,SNR=4.4	46.67	24	P	P	18 40 12.9	-0.2
MKAR	Makanchi Array 0.2nm,0.6s,baz=273,slow=6.1,SNR=6.3	76.62	45	P	P	18 43 36.2	+0.5
WRA	Warramunga Arr 0.4nm,0.8s,baz=271,slow=3.1,SNR=3.6	148.63	91	PKPbc	PKPbc	18 51 33.5	+0.7
ASAR	Alice Springs 0.4nm,0.6s,baz=274,slow=1.6,SNR=8.4	148.76	98	PKPbc	PKPbc	18 51 33.6	+0.5

IDC 20 18:54:24.6±47.0, 15.39S×171.77W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, Error ellipse: s-maj=924.1km s-min=188.6km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek 0.4nm,0.5s,baz=69,slow=14,SNR=4.1	45.40	240	P	P	19 02 45.6	+0.3
WRA	Warramunga Arr 0.3nm,0.5s,baz=95,slow=6.9,SNR=12	51.37	257	P	P	19 03 31.3	-0.2
ASAR	Alice Springs 2.2nm,0.4s,baz=87,slow=8.3,SNR=91	51.61	252	P	P	19 03 33.0	-0.3

IDC 20 19:22:45.3±60.0, 22.19S×176.34W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=1110.0km s-min=172.0km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek 0.7nm,0.4s,baz=98,slow=12,SNR=4.4	38.49	246	P	P	19 30 08.2	-1.2
ASAR	Alice Springs 0.2nm,0.4s,baz=91,slow=6.4,SNR=7.5	45.66	258	P	P	19 31 07.9	-0.2
WRA	Warramunga Arr 0.6nm,0.4s,baz=97,slow=8.4,SNR=10	45.92	263	P	P	19 31 10.9	+0.7

*IDC **20** 19:26:28.5±2.9, 27.50S×65.32E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/24, mbtmp3.8/5, Error ellipse: s-maj=93.5km s-min=32.0km az=50.0*
*NEIC **20** 19:26:29.7±1.9, 27.55S×65.27E, h10km, mb4.6/1, Error ellipse: s-maj=63.0km s-min=21.1km az=50.0*

ISC 20 19:26:30.5±3.0, 27.5S±0.4×65.3E±0.5, h14km, n16, σ0°24/13, mb4.0/6, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	Diego Carcia H baz=199,slow=76,SNR=16	20.91	20	T	T	19 52 20.0	
H08S2	Diego Garcia H baz=199,slow=76,SNR=31	20.91	20	T	T	19 52 20.4	
H08S3	Diego Garcia H baz=199,slow=76,SNR=12	20.93	20	T	T	19 52 21.5	
CMAR	Chiang Mai Arr	56.15	39	P	P	19 36 09.9	0.0
CMAR	Chiang Mai Arr 0.4nm,0.6s,baz=232,slow=8.2,SNR=6.2	56.15	39	P	P	19 36 09.9	0.0
ASAR	Alice Springs	61.29	103	P	P	19 36 45.8	0.0
ASAR	Alice Springs 0.8nm,0.6s,baz=251,slow=6.4,SNR=18	61.29	103	P	P	19 36 45.8	0.0
WRA	Warramunga Arr	62.96	99	P	P	19 36 57.2	+0.2
WRA	Warramunga Arr 1.0nm,0.7s,baz=248,slow=6.3,SNR=8.1	62.96	99	P	P	19 36 57.2	+0.2
WRAB	Tennant Creek 5.6nm,1.4s	62.97	99	*e*P	P	19 36 56.7	-0.4
MKAR	Makanchi Array	75.55	12	P	P	19 38 14.1	-0.2
MKAR	Makanchi Array 2.4nm,0.7s,baz=193,slow=3.8,SNR=3.0	75.55	12	P	P	19 38 14.1	-0.2
ZALV	Zalesovo Beam	82.88	11	P	P	19 38 54.5	+0.3
ZALV	Zalesovo Beam 0.7nm,0.5s,baz=196,slow=6.4,SNR=5.1	82.88	11	P	P	19 38 54.5	+0.3
YKA	Yellowknife Ar	145.03	360	PKPbc	PKPbc	19 46 06.0	-0.1
YKA	Yellowknife Ar 2.2nm,0.8s,baz=345,slow=3.5,SNR=39	145.03	360	PKPbc	PKPbc	19 46 05.9	-0.1

*NIED **20** 19:29:00, 23.40N×123.50E, h29km, Mw4.1 Best double couple: M0 1.72000×10^15 NP1:φs 17.00000°, δ 84.00000°, λ 164.00000°. NP2:φs 109.00000°, δ 74.00000°, λ 7.00000°.*
*IDC **20** 19:29:51.6±0.8, 23.43N×123.29E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/26, mbtmp3.8/12, ML3.5/1, MS3.8/3, Ms1 3.8/3, ms1mx3.0/36, Error ellipse: s-maj=32.9km s-min=18.5km az=65.0*
*JMA **20** 19:29:54.8±0.2, 23.43N×123.50E, h49km±3km, M4.0*

ISC 20 19:29:53.5±2.2, 23.51N±0.08×123.50E±0.06, h13km±13km, n25, σ0°88/31, mb3.9/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	0.61	27	P	Pn	19 30 08.4	+0.4
HATJ				S	Sn	19 30 17.8	+0.1
IRIF	Iriomote-Funau	0.85	14	P	Pn	19 30 11.8	+0.6
IRIF				S	Sn	19 30 23.8	+0.2
JKRS	Kuro-shima	0.86	32	P	Pn	19 30 12.0	+0.6
JKRS				S	Sn	19 30 24.0	+0.1
JIJ	Ishigaki jima	1.04	34	P	Pg	19 30 13.9	+0.4
JIJ				S	Sb	19 30 27.4	+0.6
YOJ	Yonaguni jima	1.05	335	P	Pn	19 30 14.8	+0.8
YOJ				S	Sn	19 30 28.8	+0.3
JTJ	Tarama	1.57	44	P	Pn	19 30 21.7	+0.5
JTJ				S	Sn	19 30 41.2	-0.3
JMJ	Miyako jima 2	2.09	51	P	Pn	19 30 28.7	+0.4
JMJ				S	Sn	19 30 54.2	0.0
JOGS	Gusukube	2.14	54	P	Pn	19 30 29.5	+0.5
JOGS				*e*S	Sn	19 30 55.5	0.0
JKE	Kume jima 2	4.10	46	P	Pn	19 30 54.5	-1.4
JNU	Nakatsue 0.5nm,0.3s,baz=256,slow=10.0,SNR=7.2	11.57	32	Pn	Pn	19 32 37.2	-1.3
KS

YKA Yellowknife Ar 82.76 23 P **P** **19 42 18.1 +1.1**
0.8nm,0.8s,baz=310,slow=5.3,SNR=15
GERES GERESS Array B 84.70 321 P **P** **19 42 27.7 +0.3**
0.9nm,0.8s,baz=72,slow=4.3,SNR=4.3
PPT Papeete 94.13 107 LR LR 20 18 04.7
comp=Z,230nm,22.0s,baz=356,slow=31

KRSC ***20*** *19:44:31.5±4.2,60˚.90N×167˚.31E,h11km±28km,ML4.9*
IDC ***20*** *19:44:33.6±0.5,60˚.93N×166˚.53E,h0km,mb4.3/27,*
mb1 4.5/27,mb1mx4.4/31,mbtmp4.3/27,MS3.7/12,
Ms1 3.7/12,ms1mx3.4/45,Error ellipse: s-maj=16.5km
s-min=10.9km az=158.0
MOS ***20*** *19:44:33.4±0.8,60˚.93N×166˚.49E,h10km,mb4.9/29,Error*
ellipse: s-maj=11.9km s-min=6.1km az=89.9
ISCJB ***20*** *19:44:36.7±0.1,60˚.98N±0˚.03×166˚.46E±0˚.04,h29km,*
mb4.6/90,MS3.8/16,Error ellipse: s-maj=4.1km
s-min=2.5km az=150.5
BJI ***20*** *19:44:38.2,61˚.28N×166˚.13E,h36km,mB4.9/7,mb4.5/12,*
Ms4.4/3,Ms7 4.2/2
NEIC ***20*** *19:44:41.4±0.5,60˚.99N×166˚.49E,h55km±5km,mb4.8/60,*
Error ellipse: s-maj=5.4km s-min=2.9km az=175.0

ISC 20 19:44:38.3±0.3,60˚.90N±0˚.04×166˚.51E±0˚.04,h29km,n373,
σ1s04/381,mb4.7/92,MS3.9/16,67C-61D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILK	**Tilichiki**	**0.49**	**202**	*eP*	**Pb**	**19 44 45.5**	**-3.0**
TILK				*i* S	**Sb**	**19 44 55.3**	**-0.1**
OSSR	**Ossora**	**2.39**	**228**	P	**Pn**	**19 45 14.8**	**-0.7**
OSSR				*i* S	**Sb**	**19 45 50.2**	**+0.6**
KBG	**Krutoberegovo**	**5.06**	**205**	PN	**Pn**	**19 45 52.2**	**0.0**
KBG				S	**Sn**	**19 46 52.2**	**+2.6**
KBG	**Krutoberegovo**	**5.06**	**205**	*eP*	**Pn**	**19 45 52.2**	**0.0**
KBG				*i* S	**Sn**	**19 46 52.2**	**+2.6**
BKI	**Bering**	**5.72**	**183**	PN	**Pn**	**19 45 59.9**	**-1.3**
BKI	**Bering**	**5.72**	**183**	*eP*	**Pn**	**19 45 59.9**	**-1.3**
BKI				*i* S	**Sn**	**19 47 01.3**	**-4.4**
SRDR	**Sredinnyy**	**5.80**	**221**	P	Pn	19 46 05.5	+3.1
KMNR	**Kamenistaya**	**6.12**	**215**	P	**Pn**	**19 46 08.9**	**+2.1**
TUMR	**Tumrok**	**6.56**	**214**	P	**Pn**	**19 46 15.6**	**+2.7**
KZV	**Kizimen**	**6.67**	**212**	P	**Pn**	**19 46 16.3**	**+1.9**
SEY	**Seymchan**	**6.97**	**292**	PN	**Pn**	**19 46 19.0**	**+0.6**
SEY	**Seymchan**	**6.97**	**293**	Pn	**Pn**	**19 46 18.9**	**+0.6**
SEY				Lg	Lg	19 48 14.2	
	1.4nm,0.3s,baz=97,slow=13,SNR=20						
SEY	**Seymchan**	**6.97**	**293**	Pn	**Pn**	**19 46 18.9**	**+0.6**
SEY				Lg	Lg	19 48 14.2	
	3.2nm,0.3s,baz=60,slow=23,SNR=5.8						
GNL	**Ganaly**	**8.57**	**216**	P	Pn	19 46 43.7	+3.2
KRX	**Arik**	**8.68**	**213**	P	**Pn**	**19 46 44.5**	**+2.6**
SDLR	**Sedlovina**	**8.69**	**212**	P	Pn	19 46 45.0	+3.0
SMAR	**Somma**	**8.72**	**212**	P	**Pn**	**19 46 44.8**	**+2.2**
AVH	**Avacha**	**8.74**	**212**	P	**Pn**	**19 46 43.9**	**+1.2**
UGLR	**Uglovaya**	**8.77**	**212**	*eP*	**Pn**	**19 46 45.7**	**+2.6**
FX1	**Attu Island--F**	**8.82**	**153**	Pn	Pn	19 46 46.5	+2.7
FX1	**Attu Island--F**	**8.82**	**153**	Pn	Pn	19 46 46.5	+2.7
	4.3nm,0.3s,baz=45,slow=7.1,SNR=2.1						
PET	**Petropavlovsk**	**8.98**	**212**	*e*PN	**Pn**	**19 46 44.1**	**-1.8**
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PETK	**Petropavlovsk-**	**9.16**	**215**	PN	Pn	19 46 52.1	+3.7
PETK	**Petropavlovsk-**	**9.16**	**215**	Pn	Pn	19 46 52.1	+3.7
PETK	**Petropavlovsk-**	**9.16**	**215**	Pn	Pn	19 46 52.1	+3.7
	comp=Z,0.2nm,0.3s,baz=53,slow=24,SNR=5.3						
APC	**Apacha**	**9.48**	**217**	*e*P	Pn	19 46 55.7	+3.0
TNA	**Tin City**	**12.38**	**57**	*e*Pn	**Pn**	**19 47 33.6**	**+1.3**
YAK	**Yakutsk**	**17.48**	**290**	*c iP*	**P**	**19 48 41.4**	**+0.8**
YAK				*e*S	**S**	**19 51 59.6**	**-0.9**
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				smax	smax		
	comp=N,162nm,3.8s						
YAK				smax	smax		
	comp=E,97nm,4.3s						
YAK	**Yakutsk**	**17.48**	**290**	*e*P	**P**	**19 48 41.6**	**+1.0**
	comp=E,32nm,0.6s						
TIXI	**Tiksi**	**18.18**	**322**	*e*P	**P**	**19 48 49.7**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIXI	**Tiksi**	**18.18**	**322**	*e*Pn	**P**	**19 48 49.7**	**+1.5**
	comp=Z,8.0nm,1.1s						
IM04	**Indian Mountai**	**18.22**	**57**	*e*P	**Pn**	**19 48 47.0**	**-1.7**
CAST	**Castle Rocks**	**19.26**	**64**	*e*Pn	**Pn**	**19 49 01.8**	**+0.6**
	comp=Z,8.7nm,0.8s						
COLD	**Coldfoot**	**19.60**	**53**	*e*P	**P**	**19 49 03.8**	**0.0**
	comp=Z,7.2nm,0.8s						
RSO	**Redoubt South**	**19.73**	**73**	*e*Pn	**Pn**	**19 49 10.7**	**+3.6**
KTH	**Kantishna Hill**	**19.74**	**64**	*e*Pn	**Pn**	**19 49 07.5**	**+0.4**
	comp=Z,118nm,1.0s						
TRF	**Thorofare Moun**	**20.04**	**64**	*e*P	**P**	**19 49 09.3**	**+0.5**
	comp=Z,23nm,1.0s						
MCK	**McKinley**	**20.57**	**63**	*e*P	**P**	**19 49 14.8**	**+0.4**
MCK				pmax	pmax		
	comp=Z,56nm,1.0s						
MCK	**McKinley**	**20.57**	**63**	*e*P	**P**	**19 49 14.8**	**+0.4**
	comp=Z,56nm,1.0s						
COLA	**College**	**20.81**	**59**	*e*P	**P**	**19 49 16.9**	**0.0**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
COLA	**College**	**20.81**	**59**	*e*P	**P**	**19 49 16.9**	**0.0**
	comp=Z,4.7nm,1.1s						
ILAR	**Eielson Array**	**21.23**	**59**	P	**P**	**19 49 20.7**	**-0.8**
ILAR	**Eielson Array**	**21.23**	**59**	P	**P**	**19 49 20.7**	**-0.8**
	comp=Z,17nm,0.7s,baz=274,slow=10,SNR=75						
ILAR				LR	LR	19 57 25.5	
	comp=Z,70nm,20.3s,baz=217,slow=36						
PAX	**Paxson**	**22.27**	**64**	*e*P	**P**	**19 49 31.1**	**-1.7**
PAX				pmax	pmax		
	comp=Z,17nm,1.2s						
PAX	**Paxson**	**22.27**	**64**	*e*P	**P**	**19 49 31.1**	**-1.7**
	comp=Z,17nm,1.2s						
DOT	**Dot Lake**	**22.70**	**61**	*e*P	**P**	**19 49 36.0**	**-1.2**
	comp=Z,18nm,0.8s						
KLR	**Kul'dur**	**22.77**	**255**	*e*P	**P**	**19 49 35.3**	**-2.8**
DAWY	**Dawson**	**24.56**	**59**	*e*P	**P**	**19 49 54.0**	**-1.3**
INK	**Inuvik**	**25.74**	**48**	*e*P	**P**	**19 50 05.1**	**-0.6**
INK	**Inuvik**	**25.74**	**48**	P	**P**	**19 50 04.2**	**-1.6**
	comp=Z,4.4nm,0.6s,baz=300,slow=9.9,SNR=23						
HYT	**Haines Junctio**	**26.56**	**65**	*e*P	**P**	**19 50 12.6**	**-0.9**
VLA	**Vladivostok**	**27.29**	**245**	⇓P	**P**	**19 50 18.1**	**-1.9**
VLA				*e*		19 53 37.0	
VLA				S	**S**	**19 54 56.0**	**-1.3**
VLA				pmax	pmax		
	comp=Z,25nm,1.3s						
MAT	**Matsushiro**	**30.25**	**229**	P	**P**	**19 50 46.3**	**-0.1**
MJAR	**Matsushiro Arr**	**30.25**	**229**	P	**P**	**19 50 46.5**	**+0.1**
MJAR	**Matsushiro Arr**	**30.25**	**229**	P	**P**	**19 50 46.5**	**+0.1**
	comp=Z,7.7nm,0.8s,baz=21,slow=7.9,SNR=16						
MJAR				LR	LR	20 04 26.3	
	comp=Z,78nm,19.1s,baz=5.0,slow=39						
DLBC	**Dease Lake**	**31.04**	**66**	P	**P**	**19 50 54.0**	**+0.8**
DLBC	**Dease Lake**	**31.04**	**66**	P	**P**	**19 50 54.0**	**+0.8**
	comp=Z,6.6nm,0.8s,baz=283,slow=12,SNR=6.3						
KSRS	**Korea Array**	**33.66**	**244**	P	**P**	**19 51 16.5**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=31,slow=8.5,SNR=7.2						
KSRS				LR	LR	20 04 23.9	
	comp=Z,56nm,19.9s,baz=167,slow=35						
KSAR	**Wonju Array Be**	**33.68**	**244**	P	**P**	**19 51 16.5**	**0.0**
TLY	**Talaya**	**34.77**	**284**	*e*P	**P**	**19 51 26.9**	**+1.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,158nm,19.0s						
YKA	**Yellowknife Ar**	**35.28**	**52**	P	**P**	**19 51 29.1**	**-0.9**
YKA				PcP	**PcP**	**19 53 58.7**	**-1.1**
YKA	**Yellowknife Ar**	**35.28**	**52**	P	**P**	**19 51 29.0**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=304,slow=8.4,SNR=48						
YKA				PcP	**PcP**	**19 53 58.7**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=312,slow=3.7,SNR=7.1						
ULN	**Ulaanbaatar**	**35.68**	**276**	*e*P	**P**	**19 51 34.2**	**+0.4**
	comp=Z,3.6nm,0.9s						
ZAK	**Zakamensk**	**35.79**	**282**	⇑*i*P	**P**	**19 51 35.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**36.02**	**277**	P	**P**	**19 51 37.4**	**+0.7**
SONM				PcP	**PcP**	**19 54 02.5**	**0.0**
SONM	**Songino Array**	**36.02**	**277**	P	**P**	**19 51 37.4**	**+0.7**
	comp=Z,4.0nm,1.1s,baz=59,slow=7.9,SNR=15						
SONM				PcP	**PcP**	**19 54 02.5**	**0.0**
	comp=Z,1.3nm,0.8s,baz=42,slow=1.6,SNR=7.5						
SONM				LR	LR	20 07 06.6	
	comp=Z,188nm,19.1s,baz=39,slow=38						
MOY	**Mondy**	**36.03**	**286**	*e*P	**P**	**19 51 37.9**	**+1.2**
HHC	**Hu-ho-hao-te**	**38.61**	**264**	*e*P	**P**	**19 52 00.6**	**+1.9**
HHC				S	**S**	**19 57 52.0**	**-1.0**
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,5.9s						
SPITS	**Spitsbergen Ar**	**39.99**	**351**	LR	LR	20 09 19.7	
	comp=Z,65nm,19.2s,baz=215,slow=37						
EDM	**Edmonton**	**41.64**	**63**	*e*P	**P**	**19 52 23.9**	**+0.4**
EDM	**Edmonton**	**41.64**	**63**	*e*P	**P**	**19 52 23.9**	**+0.4**
EDM				*e*ScP	**ScP**	**19 58 04.5**	**-3.1**
ZALV	**Zalesovo Beam**	**41.80**	**299**	P	**P**	**19 52 24.4**	**-0.4**
ZALV						19 54 19.3	
ZALV	**Zalesovo Beam**	**41.80**	**299**	P	**P**	**19 52 24.4**	**-0.4**
ZALV				PcP	**PcP**	**19 54 19.2**	**-1.1**
ZALV	**Zalesovo Beam**	**41.80**	**299**	P	**P**	**19 52 24.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=38,slow=5.9,SNR=2.2						
ZALV				PcP	**PcP**	**19 54 19.2**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=48,slow=4.4,SNR=4.7						
ZALV				LR	LR	20 11 29.9	
	comp=Z,205nm,18.2s,baz=64,slow=39						
E07A	**Sunnyside**	**43.41**	**74**	*e*P	**P**	**19 52 38.3**	**+0.3**
	comp=Z,10nm,1.1s						
NEW	**Newport**	**43.45**	**71**	*e*P	**P**	**19 52 38.3**	**0.0**
	comp=Z,37nm,2.2s						
E09A	**Wood Farm, Sta**	**44.25**	**73**	*e*P	**P**	**19 52 44.1**	**-0.6**
	comp=Z,180nm,3.0s						
WALA	**Waterton Lakes**	**44.34**	**68**	*e*P	**P**	**19 52 45.5**	**-0.1**
	comp=Z,0.6nm,1.0s						
BSMT	**Bassoo Peak**	**44.82**	**70**	*e*P	**P**	**19 52 50.3**	**+0.8**
F10A	**Beach Ranch, E**	**45.08**	**73**	*e*P	**P**	**19 52 51.4**	**-0.1**
	comp=Z,37nm,1.9s						
YBMT	**Yellow Bay**	**45.17**	**69**	*e*P	P	19 52 48.5	-3.7
FFC	**Flin Flon**	**45.32**	**55**	*e*P	**P**	**19 52 52.6**	**-0.5**
FFC				pmax	pmax		
	comp=Z,19nm,1.3s						
FFC	**Flin Flon**	**45.32**	**55**	*e*P	**P**	**19 52 52.6**	**-0.5**
	comp=Z,19nm,1.3s						
FCC	**Fort Churchill**	**45.34**	**46**	*e*P	**P**	**19 52 52.3**	**-0.9**
FCC				pmax	pmax		
	comp=Z,6.0nm,2.8s						
FCC	**Fort Churchill**	**45.34**	**46**	*e*P	**P**	**19 52 52.3**	**-0.9**
	comp=Z,6.0nm,2.8s						
GTA	**Gaotai**	**45.45**	**273**	*e*P	**P**	**19 52 54.8**	**+0.2**
GTA				pP	**pP**	**19 53 00.6**	**-2.7**
GTA				sP	**sP**	**19 53 04.3**	**-2.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				LR	LR		
	comp=Z,150nm,16.1s						
GTA				LR	LR		
	comp=Z,150nm,13.3s						
GTA				LR	LR		
	comp=Z,100nm,20.4s						
SLMT	**Seeley Lake**	**45.86**	**69**	*e*P	**P**	**19 52 57.6**	**-0.2**
MSO	**Missoula**	**45.97**	**70**	*e*P	**P**	**19 52 58.5**	**0.0**
	comp=Z,36nm,2.0s						
A19A	**Klindworth Far**	**46.74**	**64**	⇑P	**P**	**19 53 04.2**	**-0.3**
	baz=46,SNR=7.1						
KURK	**Kurchatov**	**46.78**	**299**	*e*P	**P**	**19 53 04.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURK	**Kurchatov**	**46.78**	**299**	*e*P	**P**	**19 53 04.2**	**-0.4**
	comp=Z,5.2nm,1.1s						
ARCES	**ARCESS Array B**	**46.92**	**342**	P	**P**	**19 53 04.9**	**-0.6**
ARCES	**ARCESS Array B**	**46.92**	**342**	P	**P**	**19 53 04.9**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=27,slow=8.2,SNR=8.8						
ARCES				LR	LR	20 14 31.9	
	comp=Z,68nm,19.0s,baz=228,slow=38						
EGMT	**Eagleton**	**46.97**	**66**	*e*P	**P**	**19 53 05.8**	**-0.5**
	comp=Z,17nm,0.8s						
EGMT	**Eagleton**	**46.97**	**66**	⇑P	**P**	**19 53 05.6**	**-0.7**
	baz=47,SNR=7.5						
B19A	**Brinkman Farms**	**47.01**	**65**	⇓P	**P**	**19 53 05.7**	**-0.8**
	baz=47						
HRY	**Holter Researc**	**47.02**	**69**	*e*P	**P**	**19 53 07.0**	**+0.3**
A20A	**Cobblestone Ra**	**47.14**	**64**	⇓P	**P**	**19 53 07.7**	**+0.1**
	baz=47,SNR=17						
B20A	**Solberg Farm,**	**47.43**	**64**	⇑P	**P**	**19 53 09.3**	**-0.6**
	baz=47						
A21A	**Bergtoll Ranch**	**47.49**	**63**	⇓P	**P**	**19 53 10.9**	**+0.6**
	baz=47,SNR=7.0						
C19A	**Slack Wire Ran**	**47.50**	**66**	⇑P	**P**	**19 53 10.5**	**0.0**
	baz=47,SNR=16						
MFID	**Camas Ranch**	**47.66**	**74**	*e*P	**P**	**19 53 11.7**	**-0.1**
	comp=Z,5.0nm,0.9s						
DLMT	**Dillon**	**47.68**	**70**	*e*P	**P**	**19 53 12.5**	**+0.6**
	comp=Z,86nm,2.8s						
C20A	**Veth Ranch,**	**47.98**	**65**	⇑P	**P**	**19 53 14.3**	**+0.2**
	baz=48,SNR=12						
D19A	**Cripps Ranch,**	**48.01**	**66**	⇑P	**P**	**19 53 14.2**	**-0.1**
	baz=48						
MK31	**Makanchi Array**	**48.11**	**293**	*i* P	**P**	**19 53 12.0**	**-3.1**
MKAR	**Makanchi Array**	**48.11**	**293**	P	**P**	**19 53 14.0**	**-1.1**
MKAR	**Makanchi Array**	**48.11**	**293**	P	**P**	**19 53 14.0**	**-1.1**
MKAR	**Makanchi Array**	**48.11**	**293**	P	**P**	**19 53 14.0**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=38,slow=6.7,SNR=9.9						
MKAR				LR	LR	20 14 41.9	
	comp=Z,144nm,20.2s,baz=233,slow=38						
HLID	**Hailey**	**48.21**	**73**	*e*P	**P**	**19 53 16.0**	**-0.1**
	comp=Z,46nm,2.8s						
D20A	**Manuel Ranch,**	**48.39**	**66**	⇓P	**P**	**19 53 17.0**	**-0.4**
	baz=48,SNR=9.6						
BVA0	**Borovoye Array**	**48.41**	**307**	*i* P	**P**	**19 53 17.2**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**48.43**	**307**	*d iP*	**P**	**19 53 17.9**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRVK				MLR	MLR		
	comp=Z,246nm,18.0s						
BRVK	**Borovoye**	**48.43**	**307**	*e*P	**P**	**19 53 17.6**	**+0.2**
	comp=Z,6.4nm,0.8s						
E19A	**Rath Farm, Rou**	**48.58**	**67**	⇓P	**P**	**19 53 18.7**	**-0.1**
	baz=48,SNR=8.1						
GCMT	**Greycliff**	**48.70**	**68**	*e*P	**P**	**19 53 19.4**	**-0.4**
	comp=Z,13nm,0.9s						
B23A	**Brockton**	**48.73**	**62**	⇑P	**P**	**19 53 19.8**	**0.0**
	baz=48,SNR=5.3						
A24A	**Westby**	**48.81**	**61**	⇑P	**P**	**19 53 20.5**	**0.0**
	baz=48,SNR=5.6						
E20A	**Meyer Farm, Mu**	**48.84**	**66**	⇑P	**P**	**19 53 20.9**	**+0.1**
	baz=49						
C22A	**Vida**	**48.89**	**64**	⇓P	**P**	**19 53 21.0**	**-0.1**
	baz=49,SNR=7.5						
D21A	**La Casta Ranch**	**48.92**	**65**	⇓P	**P**	**19 53 21.5**	**+0.1**
	baz=49,SNR=5.5						
F19A	**Roth Farm, Mol**	**48.98**	**67**	⇓P	**P**	**19 53 22.2**	**+0.3**
	baz=49,SNR=7.2						
SVE	**Sverdlovsk**	**49.06**	**316**	*e*P	**P**	**19 53 22.9**	**+0.7**
SVE				pmax	pmax		
	comp=Z,10.0nm,1.2s						
C23A	**Lambert**	**49.15**	**63**	⇑P	**P**	**19 53 23.5**	**+0.4**
	baz=49,SNR=18						
YFT	**Old Faithful**	**49.19**	**70**	*e*P	**P**	**19 53 25.8**	**+2.1**
	comp=Z,8.7nm,0.9s						
D22A	**Cohagen**	**49.22**	**64**	⇑P	**P**	**19 53 24.0**	**+0.4**
	baz=49,SNR=6.8						
H17A	**Grant Village**	**49.35**	**70**	*e*P	**P**	**19 53 26.6**	**+1.6**
	comp=Z,15nm,1.2s						
F20A	**Billings**	**49.37**	**67**	⇑P	**P**	**19 53 24.0**	**-0.9**
	baz=49						
TMCR	**Tamitsa**	**49.39**	**333**	*e*P	**P**	**19 53 23.7**	**-0.9**
TMCR				pmax	pmax		
	comp=Z,20nm,0.5s						
FLWY	**Flagg Ranch**	**49.53**	**70**	*e*P	**P**	**19 53 27.3**	**+1.0**
	comp=Z,13nm,0.9s						
H18A	**Shoshone NF, C**	**49.55**	**69**	⇓P	**P**	**19 53 26.6**	**+0.1**
	baz=49						
D23A	**Lindsay**	**49.62**	**64**	⇑P	**P**	**19 53 27.1**	**+0.3**
	baz=49						
PRGR	**Permogore**	**49.71**	**328**	P	**P**	**19 53 26.2**	**-0.9**
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FXWY	**Fox Creek**	**49.73**	**71**	*e*P	**P**	**19 53 28.3**	**+0.5**
	comp=Z,5.9nm,1.0s						
G20A	**Bridger**	**49.79**	**67**	⇓P	**P**	**19 53 27.2**	**-0.9**
	baz=50,SNR=8.3						
LOHW	**Long Hollow**	**49.94**	**70**	*e*P	**P**	**19 53 29.7**	**+0.3**
	comp=Z,8.3nm,1.0s						
REDW	**Red Top Meadow**	**50.02**	**71**	*e*P	**P**	**19 53 30.6**	**+0.6**
	comp=Z,7.1nm,1.1s						
ARU	**Arti**	**50.08**	**316**	*d iP*	**P**	**19 53 29.2**	**-0.8**
ARU						19 55 22.7	
ARU				S	**S**	**20 00 39.5**	**+0.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s						
F22A	**Rosebud**	**50.23**	**65**	⇑P	**P**	**19 53 31.5**	**+0.1**
	baz=50						
G21A	**Lodge Grass**	**50.24**	**67**	⇑P	**P**	**19 53 31.3**	**-0.2**
	baz=50,SNR=5.1						
NVAR	**Mina Array Bea**	**50.35**	**80**	P	**P**	**19 53 32.3**	**-0.2**
NVAR	**Mina Array Bea**	**50.35**	**80**	P	**P**	**19 53 32.3**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=301,slow=7.2,SNR=3.7						
I19A	**Meeteetse**	**50.35**	**69**	⇓P	**P**	**19 53 32.3**	**-0.2**
	baz=50						
HVU	**Hansel Valley**	**50.35**	**73**	*e*P	**P**	**19 53 33.0**	**+0.5**
HVU				pmax	pmax		
	comp=Z,76nm,2.6s						
HVU	**Hansel Valley**	**50.35**	**73**	*e*P	**P**	**19 53 33.0**	**+0.5**
	comp=Z,76nm,2.6s						
H20A	**Greybull**	**50.45**	**68**	⇑P	**P**	**19 53 32.2**	**-0.9**
	baz=50						
G22A	**Birney**	**50.65**	**66**	⇑P	**P**	**19 53 34.5**	**-0.1**
	baz=50,SNR=5.6						
F23A	**Volborg**	**50.66**	**65**	⇑P	**P**	**19 53 34.6**	**0.0**
	baz=50,SNR=5.3						
H21A	**Big Horn, Sher**	**50.78**	**67**	⇓P	**P**	**19 53 35.6**	**0.0**
	baz=50,SNR=6.3						
I20A	**Worland**	**50.81**	**68**	⇓P	**P**	**19 53 35.8**	**-0.1**
	baz=51						
J19A	**Crowheart**	**50.92**	**69**	⇑P	**P**	**19 53 37.3**	**+0.5**
	baz=51						
G23A	**Biddle**	**51.07**	**65**	⇑P	**P**	**19 53 37.4**	**-0.4**
	baz=51						
MTUM	**Tungsten Hills**	**51.07**	**82**	*e*ScP	**ScP**	**19 58 42.9**	**-4.5**
BW06	**Boulder Array**	**51.08**	**70**	*e*P	**P**	**19 53 38.0**	**0.0**
	comp=Z,8.0nm,0.9s						
PDAR	**Pinedale Array**	**51.08**	**70**	P	**P**	**19 53 38.0**	**-0.1**
PDAR	**Pinedale Array**	**51.08**	**70**	P	**P**	**19 53 38.0**	**-0.1**
	comp=Z,6.5nm,0.8s,baz=321,slow=3.2,SNR=48						
H22A	**Clearmont**	**51.11**	**66**	⇑P	**P**	**19 53 38.3**	**+0.2**
	baz=51						
ULM	**Lac du Bonnet**	**51.15**	**55**	P	**P**	**19 53 37.2**	**-0.9**
ULM	**Lac du Bonnet**	**51.15**	**55**	P	**P**	**19 53 37.2**	**-0.9**
	comp=Z,3.9nm,0.9s,baz=285,slow=6.2,SNR=3.9						
J20A	**Shoshoni**	**51.30**	**69**	⇓P	**P**	**19 53 39.8**	**+0.3**
	baz=51,SNR=6.6						
I21A	**Big Trails, Te**	**51.30**	**68**	⇓P	**P**	**19 53 39.4**	**-0.2**
	baz=51,SNR=5.9						
F25A	**Bowman**	**51.35**	**63**	⇓P	**P**	**19 53 40.0**	**+0.1**
	baz=51						
G24A	**Alzada**	**51.40**	**64**	⇑P	**P**	**19 53 40.4**	**+0.1**
	baz=51						
DUG	**Dugway**	**51.58**	**75**	*e*P	**P**	**19 53 41.9**	**+0.2**
DUG				pmax	pmax		
	comp=Z,39nm,2.5s						
DUG	**Dugway**	**51.58**	**75**	*e*P	**P**	**19 53 41.9**	**+0.2**
	comp=Z,39nm,2.5s						
J21A	**Lysite**	**51.59**	**68**	⇑P	**P**	**19 53 42.0**	**+0.1**
	baz=51,SNR=9.6						
I22A	**9 Mile Ranch,**	**51.60**	**67**	⇓P	**P**	**19 53 41.9**	**+0.2**
	baz=51						
F26A	**Lodgepole**	**51.76**	**63**	⇓P	**P**	**19 53 43.2**	**+0.3**
	baz=52						
H24A	**Dirks Ranch, A**	**51.79**	**65**	⇓P	**P**	**19 53 43.1**	**-0.1**
	baz=52,SNR=7.3						
G25A	**Newell**	**51.95**	**64**	⇑P	**P**	**19 53 44.9**	**+0.7**
	baz=52						
J22A	**Midwest**	**51.98**	**67**	⇓P	**P**	**19 53 44.4**	**-0.2**
	baz=52						
E28A	**Huff**	**52.04**	**61**	⇑P	**P**	**19 53 46.0**	**+1.1**
	baz=52						
G26A	**Maurine**	**52.23**	**63**	⇑P	**P**	**19 53 46.5**	**+0.1**
	baz=52						
K21A	**Alcova**	**52.24**	**69**	⇑P	**P**	**19 53 46.5**	**-0.2**
	baz=52						
H25A	**Fruitdale**	**52.31**	**64**	⇑P	**P**	**19 53 47.4**	**+0.4**
	baz=52						
G27A	**Dupree**	**52.45**	**63**	⇑P	**P**	**19 53 48.0**	**0.0**
	baz=52						
RSSD	**Black Hills**	**52.52**	**65**	*e*P	**P**	**19 53 48.7**	**0.0**
RSSD				pmax	pmax		
	comp=Z,11nm,0.8s						
RSSD	**Black Hills**	**52.52**	**65**	*e*P	**P**	**19 53 48.7**	**0.0**
	comp=Z,11nm,0.8s						
K22A	**Casper**	**52.56**	**68**	*e*P	**P**	**19 53 48.8**	**-0.2**
	comp=Z,13nm,0.9s						
K22A	**Casper**	**52.56**	**68**	⇓P	**P**	**19 53 48.6**	**-0.3**
	baz=52,SNR=5.1						
H26A	**Fairpoint**	**52.68**	**64**	⇓P	**P**	**19 53 50.4**	**+0.7**
	baz=52						
I25A	**Rochford**	**52.73**	**65**

O27A	**Beecher Island**	**56.35**	**67**	⇑P		**P**	**19 54 17.6**	**+1.2**
	baz=56							
R23A	**Moffat**	**56.44**	**71**	⇓P		**P**	**19 54 18.8**	**+1.4**
	baz=56							
P26A	**Davis Ranch, A**	**56.47**	**68**	⇓P		**P**	**19 54 18.1**	**+0.7**
	baz=56							
Q25A	**Bedland, Calha**	**56.58**	**69**	⇑P		**P**	**19 54 18.9**	**+0.6**
	baz=56							
R24A	**Sanders Place,**	**56.74**	**70**	⇓P		**P**	**19 54 19.2**	**-0.2**
	baz=56							
S23A	**Nye Farm, Mont**	**56.75**	**71**	⇓P		**P**	**19 54 21.2**	**+1.6**
	baz=56							
X16A	**Lo Mia Camp, P**	**56.86**	**78**	⇑P		**P**	**19 54 21.4**	**+1.2**
	baz=57							
NB2	**NORSAR Subarra**	**56.91**	**346**	P		**P**	**19 54 19.5**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=15,slow=7.4							
NOA	**NORSAR Array B**	**56.91**	**346**	P		**P**	**19 54 19.6**	**-0.5**
NOA	**NORSAR Array B**	**56.91**	**346**	P		**P**	**19 54 19.6**	**-0.5**
	comp=Z,6.7nm,0.9s,baz=14,slow=7.3,SNR=10							
SDCO	**Great Sand Dun**	**56.95**	**71**	*e*P		**P**	**19 54 21.7**	**+0.8**
	comp=Z,44nm,2.3s							
SCHQ	**Schefferville**	**57.13**	**34**	P		**P**	**19 54 20.3**	**-1.4**
SCHQ	**Schefferville**	**57.13**	**34**	P		**P**	**19 54 20.3**	**-1.4**
	comp=Z,8.5nm,1.0s,baz=18,slow=7.2,SNR=4.6							
S24A	**Houchin Ranch,**	**57.17**	**71**	⇓P		**P**	**19 54 23.4**	**+0.9**
	baz=57							
R25A	**Fountain Ranch**	**57.19**	**70**	⇓P		**P**	**19 54 23.6**	**+1.2**
	baz=57							
KSCO	**Kaye Shedlock'**	**57.24**	**68**	*e*P		**P**	**19 54 23.4**	**+0.6**
	comp=Z,16nm,0.9s							
KSCO	**Kaye Shedlock'**	**57.24**	**68**	⇓P		**P**	**19 54 24.0**	**+1.2**
	baz=57							
BGNE	**Belgrade**	**57.28**	**63**	*e*P		**P**	**19 54 23.0**	**+0.1**
	comp=Z,44nm,0.9s							
U22A	**Llaves**	**57.43**	**73**	⇓P		**P**	**19 54 26.1**	**+1.8**
	baz=57							
R26A	**Arlington**	**57.44**	**69**	⇓P		**P**	**19 54 24.9**	**+0.6**
	baz=57,SNR=11							
X18A	**Snowflake**	**57.48**	**77**	⇑P		**P**	**19 54 25.7**	**+1.1**
	baz=57							
S25A	**Robets Cordova**	**57.51**	**70**	⇓P		**P**	**19 54 26.2**	**+1.4**
	baz=57							
T24B	**San Luis**	**57.56**	**71**	⇑P		**P**	**19 54 26.6**	**+1.3**
	baz=57							
OBN	**Obninsk**	**57.74**	**329**	P		**P**	**19 54 25.7**	**-0.2**
OBN				*e*SS		**SS**	**20 06 11.3**	**-0.8**
OBN				pmax	pmax			
	comp=Z,4.0nm,1.1s							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s							
R27A	**Eads**	**57.75**	**68**	⇓P		**P**	**19 54 27.7**	**+1.3**
	baz=58							
U23A	**El Rito**	**57.78**	**72**	⇓P		**P**	**19 54 28.5**	**+1.7**
	baz=58							
V22A	**San Miguel Ran**	**57.78**	**73**	⇓P		**P**	**19 54 27.4**	**+0.6**
	baz=58							
P30A	**Selden**	**57.87**	**66**	⇑P		**P**	**19 54 28.1**	**+0.9**
	baz=58							
S26A	**Kim**	**57.98**	**69**	⇑P		**P**	**19 54 28.8**	**+0.7**
	baz=58,SNR=6.4							
Q29A	**Oakley**	**58.08**	**67**	⇑P		**P**	**19 54 29.4**	**+0.8**
	baz=58							
R28A	**Tribune**	**58.15**	**68**	⇑P		**P**	**19 54 30.5**	**+1.3**
	baz=58							
S27A	**Las Animas**	**58.20**	**69**	⇑P		**P**	**19 54 30.6**	**+1.0**
	baz=58							
214A	**Organ Pipe Nat**	**58.21**	**81**	⇑P		**P**	**19 54 31.3**	**+1.7**
	baz=58							
V23A	**Ortiz Mt. (NFS**	**58.26**	**73**	⇓P		**P**	**19 54 31.6**	**+1.4**
	baz=58							
T26A	**Comanche Natio**	**58.29**	**70**	⇑P		**P**	**19 54 30.7**	**+0.4**
	baz=58							
Q30A	**Quinter**	**58.35**	**66**	⇑P		**P**	**19 54 31.3**	**+0.8**
	baz=58							
U25A	**Circle Dot Ran**	**58.55**	**71**	⇑P		**P**	**19 54 33.4**	**+1.2**
	baz=58							
Q31A	**Ellis**	**58.69**	**65**	⇑P		**P**	**19 54 33.2**	**+0.3**
	baz=58							
V24A	**Rampart Ranch,**	**58.70**	**72**	⇑P		**P**	**19 54 34.7**	**+1.4**
	baz=58							
S28A	**Manter**	**58.73**	**68**	⇑P		**P**	**19 54 33.8**	**+0.6**
	baz=58,SNR=5.6							
T27A	**Campo**	**58.79**	**69**	⇓P		**P**	**19 54 35.1**	**+1.4**
	baz=59							
ANMO	**Albuquerque**	**58.79**	**74**	*e*P		**P**	**19 54 34.3**	**+0.5**
	comp=Z,33nm,2.5s							
U26A	**Atchley Ranch,**	**58.86**	**70**	⇓P		**P**	**19 54 35.0**	**+0.7**
	baz=59							
R30A	**Dighton**	**58.89**	**67**	⇓P		**P**	**19 54 35.0**	**+0.8**
	baz=59							
V25A	**Rancho No Teng**	**58.91**	**72**	⇓P		**P**	**19 54 35.8**	**+1.1**
	baz=59,SNR=8.3							
S29A	**Ulysses**	**59.06**	**68**	⇓P		**P**	**19 54 36.2**	**+0.7**
	baz=59							
W24A	**Lazy 6 Ranch,**	**59.06**	**73**	⇑P		**P**	**19 54 37.2**	**+1.5**
	baz=59							
R31A	**Burdett**	**59.22**	**66**	⇓P		**P**	**19 54 36.9**	**+0.3**
	baz=59							
U27A	**Thompson Grove**	**59.26**	**70**	⇑P		**P**	**19 54 37.0**	**0.0**
	baz=59							
V26A	**Tequesquite Ra**	**59.33**	**71**	⇑P		**P**	**19 54 38.1**	**+0.6**
	baz=59							
S30A	**Montezuma**	**59.34**	**67**	⇓P		**P**	**19 54 38.0**	**+0.6**
	baz=59							
Y22A	**Socorro**	**59.38**	**75**	⇓P		**P**	**19 54 39.3**	**+1.5**
	baz=59							
R32A	**Long Quarter,**	**59.48**	**65**	⇓P		**P**	**19 54 38.6**	**+0.3**
	baz=59							
W25A	**X Bar L Ranch,**	**59.50**	**72**	⇓P		**P**	**19 54 39.9**	**+1.2**
	baz=59							
Z22A	**Elephant Butte**	**59.94**	**75**	⇓P		**P**	**19 54 43.1**	**+1.4**
	baz=60							
Y24A	**Capitan**	**60.10**	**73**	⇓P		**P**	**19 54 44.0**	**+1.2**
	baz=60							
Z24A	**Sheeppen Canyo**	**60.63**	**74**	⇑P		**P**	**19 54 48.2**	**+1.7**
	baz=60							
MSTX	**Muleshoe**	**61.31**	**71**	*e*P		**P**	**19 54 51.2**	**+0.3**
	comp=Z,6.8nm,0.9s							
GDL2	**Guadalupe Moun**	**62.03**	**74**	*e*P		**P**	**19 54 57.6**	**+1.7**
WMOK	**Wichita Mounta**	**62.50**	**68**	*e*P		**P**	**19 54 58.6**	**-0.3**
WMOK				pmax	pmax			
	comp=Z,93nm,2.5s							
WMOK	**Wichita Mounta**	**62.50**	**68**	*e*P		**P**	**19 54 58.5**	**-0.3**
	comp=Z,93nm,2.5s							
CHTO	**Chiang Mai**	**62.85**	**260**	*e*P		**P**	**19 55 01.6**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CHTO	**Chiang Mai**	**62.85**	**260**	*e*P		**P**	**19 55 01.6**	**+0.3**
	comp=Z,5.5nm,0.9s							
CM31	**Chiang Mai Arr**	**63.15**	**260**	*e*P		**P**	**19 55 02.9**	**-0.5**
	comp=Z,2.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.15**	**260**	P		**P**	**19 55 03.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**63.15**	**260**	P		**P**	**19 55 03.5**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=4.5,slow=5.8,SNR=16							
CMAR				LR		LR	20 25 28.9	
	comp=Z,30nm,18.7s,baz=110,slow=39							
AKASG	**Malin Array Be**	**63.59**	**331**	P		**P**	**19 55 05.3**	**-0.5**
AKASG	**Malin Array Be**	**63.59**	**331**	P		**P**	**19 55 05.2**	**-0.5**
AKASG	**Malin Array Be**	**63.59**	**331**	P		**P**	**19 55 05.2**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=24,slow=6.3,SNR=15							
ABTX	**Abilene, Hawle**	**63.87**	**70**	*e*P		**P**	**19 55 07.7**	**-0.3**
	comp=Z,10.0nm,1.0s							
TXAR	**Lajitas Array**	**64.75**	**75**	P		**P**	**19 55 14.6**	**+0.7**
TXAR	**Lajitas Array**	**64.75**	**75**	P		**P**	**19 55 14.6**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=321,slow=5.2,SNR=8.8							
KIV	**Kislovodsk**	**65.99**	**319**	*e*P		**P**	**19 55 22.3**	**+0.6**
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KWP	**Kalwaria Pacla**	**66.03**	**335**	*e*P		**P**	**19 55 21.9**	**+0.2**
KWP	**Kalwaria Pacla**	**66.03**	**335**	*e*P		**P**	**19 55 21.8**	**+0.1**
OJC	**Ojcow**	**66.04**	**337**	*e*P		**P**	**19 55 21.8**	**0.0**
OJC	**Ojcow**	**66.04**	**337**	*e*P		**P**	**19 55 21.8**	**0.0**
KBZ	**Khabaz**	**66.12**	**319**	P		**P**	**19 55 23.4**	**+1.0**
KBZ	**Khabaz**	**66.12**	**319**	P		**P**	**19 55 23.4**	**+1.0**
KBZ	**Khabaz**	**66.12**	**319**	P		**P**	**19 55 23.4**	**+1.0**
	comp=Z,2.3nm,1.0s,baz=224,slow=4.8,SNR=4.3							
KBZ				LR		LR	20 29 16.1	
	comp=Z,65nm,19.7s,baz=263,slow=41							
CLL	**Collm**	**66.14**	**342**	*i* P		**P**	**19 55 21.5**	**-0.9**
CLL				pmax	pmax			
	comp=Z,5.0nm,1.2s							
CLL	**Collm**	**66.14**	**342**	*i* P		**P**	**19 55 21.5**	**-0.9**
	comp=Z,5.0nm,1.2s							
DPC	**Dobruska-Polom**	**66.54**	**340**	*e*P		**P**	**19 55 24.9**	**-0.1**
DPC	**Dobruska-Polom**	**66.54**	**340**	*e*P		**P**	**19 55 24.9**	**-0.1**
ANN	**Anapa**	**66.84**	**323**	*e*P		**P**	**19 55 29.2**	**+2.2**
ANN				*e*			19 55 56.4	
ANN				*e*S		**S**	**20 04 23.0**	**+5.8**
ANN				*e*SS		SS	20 08 44.3	+10
BUR08	**Bucovina Ar. S**	**67.38**	**333**	*e*P		**P**	**19 55 27.7**	**-2.7**
TKL	**Tuckaleechee C**	**68.16**	**56**	LR		LR	20 26 07.2	
	comp=Z,108nm,18.5s,baz=349,slow=37							
GERES	**GERESS Array B**	**68.43**	**341**	P		**P**	**19 55 36.8**	**-0.2**
GERES	**GERESS Array B**	**68.43**	**341**	P		**P**	**19 55 36.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=33,slow=5.1,SNR=8.8							
GERES				LR		LR	20 28 08.0	
	comp=Z,111nm,19.3s,baz=315,slow=38							
BAIF	**Baives**	**68.48**	**348**	*e*P		**P**	**19 55 37.0**	**-0.2**
	comp=Z,5.9nm,0.7s							
BAIF	**Baives**	**68.48**	**348**	*e*P		**P**	**19 55 37.0**	**-0.2**
BAIF				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BAIF	**Baives**	**68.48**	**348**	*e*P		**P**	**19 55 37.0**	**-0.2**
	comp=Z,5.9nm,0.7s							
PAGF	**Fort de Pagny**	**69.80**	**347**	*e*P		**P**	**19 55 44.9**	**-0.5**
	comp=Z,2.7nm,0.7s							
PAGF	**Fort de Pagny**	**69.80**	**347**	*e*P		**P**	**19 55 44.9**	**-0.5**
	comp=Z,2.7nm,0.7s							
HAU	**Haudompre**	**70.27**	**346**	*e*P		**P**	**19 55 47.8**	**-0.6**
HAU	**Haudompre**	**70.27**	**346**	*e*P		**P**	**19 55 47.8**	**-0.6**
HAU	**Haudompre**	**70.27**	**346**	*e*P		**P**	**19 55 47.8**	**-0.6**
LDF	**La Druitiere**	**70.33**	**351**	*e*P		**P**	**19 55 48.0**	**-0.7**
	comp=Z,35nm,1.1s							
LDF	**La Druitiere**	**70.33**	**351**	*e*P		**P**	**19 55 48.0**	**-0.7**
LDF				pmax	pmax			
	comp=Z,35nm,1.1s							
LDF	**La Druitiere**	**70.33**	**351**	*e*P		**P**	**19 55 48.0**	**-0.7**
	comp=Z,35nm,1.1s							
GRR	**Gorron**	**70.59**	**351**	*e*P		**P**	**19 55 49.8**	**-0.5**
GRR	**Gorron**	**70.59**	**351**	*e*P		**P**	**19 55 49.8**	**-0.5**
GRR	**Gorron**	**70.59**	**351**	*e*P		**P**	**19 55 49.8**	**-0.5**
LOR	**Lormes**	**71.28**	**348**	*e*P		**P**	**19 55 53.3**	**-1.2**
	comp=Z,12nm,0.7s,baz=25							
LOR	**Lormes**	**71.28**	**348**	*e*P		**P**	**19 55 53.3**	**-1.2**
	comp=Z,12nm,0.7s							
AVF	**Avril sur Loir**	**71.80**	**348**	*e*P		**P**	**19 55 56.6**	**-1.0**
	comp=Z,16nm,1.0s							
AVF	**Avril sur Loir**	**71.80**	**348**	*e*P		**P**	**19 55 56.6**	**-1.0**
AVF				pmax	pmax			
	comp=Z,16nm,1.0s							
AVF	**Avril sur Loir**	**71.80**	**348**	*e*P		**P**	**19 55 56.6**	**-1.0**
	comp=Z,16nm,1.0s							
BGF	**Bois d'Agland**	**72.08**	**348**	*e*P		**P**	**19 55 58.9**	**-0.4**
BGF	**Bois d'Agland**	**72.08**	**348**	*e*P		**P**	**19 55 58.9**	**-0.4**
BGF	**Bois d'Agland**	**72.08**	**348**	*e*P		**P**	**19 55 58.9**	**-0.4**
TCF	**Toulx Ste Croi**	**72.41**	**349**	*e*P		**P**	**19 56 00.3**	**-1.0**
TCF	**Toulx Ste Croi**	**72.41**	**349**	*e*P		**P**	**19 56 00.3**	**-1.0**
TCF	**Toulx Ste Croi**	**72.41**	**349**	*e*P		**P**	**19 56 00.3**	**-1.0**
BRTR	**Keskin Array B**	**72.61**	**324**	P		**P**	**19 56 01.9**	**-0.8**
BRTR	**Keskin Array B**	**72.61**	**324**	P		**P**	**19 56 02.0**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=54,slow=6.1,SNR=3.1							
LPL	**La Plagne**	**72.67**	**345**	*e*P		**P**	**19 56 02.8**	**-0.3**
LPL	**La Plagne**	**72.67**	**345**	*e*P		**P**	**19 56 02.8**	**-0.3**
LPL	**La Plagne**	**72.67**	**345**	*e*P		**P**	**19 56 02.8**	**-0.3**
LPG	**La Plagne**	**72.69**	**345**	*e*P		**P**	**19 56 03.0**	**-0.3**
LPG	**La Plagne**	**72.69**	**345**	*e*P		**P**	**19 56 03.0**	**-0.3**
LPG	**La Plagne**	**72.69**	**345**	*e*P		**P**	**19 56 03.0**	**-0.3**
ORIF	**Oris-en-Rattie**	**73.37**	**346**	*e*P		**P**	**19 56 06.6**	**-0.5**
ORIF	**Oris-en-Rattie**	**73.37**	**346**	*e*P		**P**	**19 56 06.6**	**-0.5**
ORIF	**Oris-en-Rattie**	**73.37**	**346**	*e*P		**P**	**19 56 06.6**	**-0.5**
MBDF	**Montbardon**	**73.45**	**345**	*e*P		**P**	**19 56 06.9**	**-0.7**
	comp=Z,6.6nm,0.8s							
MBDF	**Montbardon**	**73.45**	**345**	*e*P		**P**	**19 56 06.9**	**-0.7**
MBDF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MBDF	**Montbardon**	**73.45**	**345**	*e*P		**P**	**19 56 06.9**	**-0.7**
	comp=Z,6.6nm,0.8s							
CAF	**Calviac**	**73.77**	**349**	*e*P		**P**	**19 56 08.9**	**-0.5**
	comp=Z,8.0nm,0.8s							
CAF	**Calviac**	**73.77**	**349**	*e*P		**P**	**19 56 08.9**	**-0.5**
CAF				pmax	pmax			
	comp=Z,8.0nm,0.8s							
CAF	**Calviac**	**73.77**	**349**	*e*P		**P**	**19 56 08.9**	**-0.5**
	comp=Z,8.0nm,0.8s							
LFF	**La Frestale**	**73.88**	**350**	*e*P		**P**	**19 56 09.3**	**-0.7**
	comp=Z,11nm,0.6s							
LFF	**La Frestale**	**73.88**	**350**	*e*P		**P**	**19 56 09.3**	**-0.7**
LFF				pmax	pmax			
	comp=Z,11nm,0.6s							
LFF	**La Frestale**	**73.88**	**350**	*e*P		**P**	**19 56 09.3**	**-0.7**
	comp=Z,11nm,0.6s							
ETSF	**Etsaut**	**76.02**	**350**	*e*P		**P**	**19 56 22.1**	**-0.4**
ETSF	**Etsaut**	**76.02**	**350**	*e*P		**P**	**19 56 22.1**	**-0.4**
ETSF	**Etsaut**	**76.02**	**350**	*e*P		**P**	**19 56 22.1**	**-0.4**
ESDC	**Sonseca Array**	**79.48**	**353**	P		**P**	**19 56 41.3**	**-0.4**
ESDC	**Sonseca Array**	**79.48**	**353**	P		**P**	**19 56 41.3**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=8.1,slow=5.8,SNR=16							
WRAB	**Tennant Creek**	**84.62**	**210**	*e*P		**P**	**19 57 08.6**	**-0.1**
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.9s							
WRAB	**Tennant Creek**	**84.62**	**210**	*e*P		**P**	**19 57 08.6**	**-0.1**
	comp=Z,7.8nm,0.9s							
WRA	**Warramunga Arr**	**84.63**	**210**	P		**P**	**19 57 08.6**	**-0.1**
WRA	**Warramunga Arr**	**84.63**	**210**	P		**P**	**19 57 08.6**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=17,slow=5.5,SNR=30							
ASAR	**Alice Springs**	**88.32**	**210**	P		**P**	**19 57 26.5**	**-0.3**
ASAR	**Alice Springs**	**88.32**	**210**	P		**P**	**19 57 26.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=11,slow=4.9,SNR=19							
STKA	**Stephens Creek**	**94.66**	**201**	P		**P**	**19 57 55.8**	**-0.2**
STKA	**Stephens Creek**	**94.66**	**201**	P		**P**	**19 57 55.8**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=359,slow=6.9,SNR=4.2							
MAW	**Mawson**	**148.21**	**225**	PKPbc		**PKPbc**	**20 04 19.3**	**-0.3**
MAW	**Mawson**	**148.21**	**225**	PKPbc		**PKPbc**	**20 04 19.3**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=345,slow=7.9,SNR=3.9							
QSPA	**South Pole Qui**	**150.67**	**180**	PKPbc		**PKPbc**	**20 04 24.3**	**-1.6**
QSPA	**South Pole Qui**	**150.67**	**180**	PKPbc		**PKPbc**	**20 04 24.3**	**-1.6**
	comp=Z,4.9nm,0.8s,baz=312,slow=0.9,SNR=12							

IDC 20 19:58:01.9±5.4, 29°.43S×178°.34W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/17, mbtmp3.3/2, Error ellipse: s-maj=261.6km s-min=83.6km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.87**	**266**	P	P	20 06 01.7	-0.6
	0.3nm,0.7s,baz=106,slow=8.0,SNR=4.9						
WRA	**Warramunga Arr**	**43.77**	**271**	P	P	20 06 09.9	+0.3
	0.2nm,0.3s,baz=112,slow=7.9,SNR=5.6						
FINES	**FINESS Array B**	**144.13**	**340**	PKP	PKPdf	20 17 38.2	-0.7
	6.2nm,1.0s,baz=62,slow=3.6,SNR=4.5						

WEL 20 20:06:30.0±0.5, 39°.49S×174°.40E, h242km±4km, ML3.5/11, 4C-2D, Error ellipse: s-maj=4.3km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.53**	**121**	⇑PN	Pn	20 07 02.4	+0.4
WAZ				*e*SN	S	20 07 26.7	-0.4
MTVZ	**Mangateitei**	**0.84**	**83**	⇓PN	Pn	20 07 03.1	-0.2
TRVZ	**Turoa**	**0.91**	**79**	PN	Pn	20 07 03.5	-0.4
FWVZ	**Far West T-bar**	**0.92**	**76**	⇑PN	Pn	20 07 03.6	-0.4
WNVZ	**Wahianoa**	**0.94**	**81**	PN	Pn	20 07 03.8	-0.2
WTVZ	**West Tongariro**	**1.00**	**69**	PN	Pn	20 07 03.9	-0.4
MOVZ	**Moawhango**	**1.05**	**86**	PN	Pn	20 07 04.0	-0.5
MOVZ				SN	S	20 07 29.1	-2.5
BHHZ	**Black Hill Sta**	**1.29**	**91**	PN	Pn	20 07 05.5	-0.5
TSZ	**Takapari Road**	**1.33**	**116**	PN	Pn	20 07 06.6	+0.3
DUWZ	**D'Urville Isla**	**1.36**	**195**	PN	Pn	20 07 06.2	-0.3
KIW	**Kapiti Island**	**1.43**	**164**	PN	Pn	20 07 06.8	-0.1
KIW				AML	AML	20 07 35.9	
PNHZ	**Pukenui**	**1.46**	**108**	PN	Pn	20 07 07.3	+0.1
OGWZ	**Otaki Gorge**	**1.46**	**156**	PN	Pn	20 07 07.1	0.0
MRZ	**Mangatainoka R**	**1.48**	**143**	PN	Pn	20 07 07.2	-0.1
MRZ				SN	S	20 07 35.9	-0.8
DVHZ	**Dannevirke**	**1.58**	**121**	PN	Pn	20 07 08.1	-0.1
PRWZ	**Pori Road**	**1.61**	**132**	PN	Pn	20 07 08.6	+0.3
BKZ	**Black Stump Fm**	**1.66**	**80**	⇑PN	Pn	20 07 08.2	-0.6
CAW	**Cannon Point**	**1.70**	**163**	PN	Pn	20 07 08.8	-0.2
CAW				AML	AML	20 07 40.9	
TIWZ	**Tintock**	**1.72**	**139**	PN	Pn	20 07 09.3	0.0
TCW	**Tory Channel**	**1.73**	**183**	PN	Pn	20 07 09.2	0.0
TCW				AML	AML	20 07 40.7	
TCW				AML	AML	20 07 40.8	
ANWZ	**Angora Road**	**1.87**	**122**	PN	Pn	20 07 10.9	+0.4
MTW	**Mount Morrison**	**1.87**	**154**	PN	Pn	20 07 10.3	-0.2
PRHZ	**Porangahau**	**1.89**	**115**	PN	Pn	20 07 11.1	+0.4
NNZ	**Nelson**	**1.90**	**204**	⇑PN	Pn	20 07 10.0	-0.7
KAHZ	**Kahuranaki**	**1.94**	**100**	PN	Pn	20 07 11.7	+0.5
QRZ	**Quartz Range**	**1.96**	**226**	PN	Pn	20 07 09.7	-1.7
TUWZ	**Tuamarina**	**1.97**	**190**	PN	Pn	20 07 10.9	-0.5
TUWZ				AML	AML	20 07 43.5	
TUWZ				AML	AML	20 07 43.7	
PXZ	**Pawanui**	**1.98**	**107**	PN	Pn	20 07 11.7	+0.2
PAWZ	**Paruwai Farm**	**2.05**	**158**	PN	Pn	20 07 12.2	0.0
PAWZ				AML	AML	20 07 46.1	
THZ	**Tophouse**	**2.54**	**206**	⇓PN	Pn	20 07 16.0	-1.0
RIGZ	**Rimuhau**	**2.73**	**74**	PN	Pn	20 07 18.4	-0.7
KHZ	**Kahutara**	**3.00**	**192**	PN	Pn	20 07 20.9	-0.9

*IDC **20** 20:25:30.0±5.5, 4°.22S×143°.27E, h72km±62km, mb3.3/8, mb1 3.5/10, mb1mx3.5/19, mbtmp3.7/10, ML4.4/1, Error ellipse: s-maj=37.0km s-min=24.0km az=111.0*

*ISCJB **20** 20:25:30.8±0.7, 4°.27S±0°.09×143°.4E±0°.1, h103km, mb3.4/8, Error ellipse: s-maj=19.3km s-min=8.8km az=149.0*

ISC 20 20:25:32.5±0.9, 4°.3S±0°.1×143°.4E±0°.2, h103km, n10, σ0s89/11, mb3.5/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.32**	**144**	P	Pn	**20 27 02.1**	**-1.1**
	0.7nm,0.3s,baz=352,slow=14,SNR=1.8						
PMG				S	Sn	**20 28 14.6**	**+0.6**
	1.5nm,0.3s,baz=316,slow=24,SNR=6.3						
WRA	**Warramunga Arr**	**17.87**	**209**	P	P	**20 29 34.2**	**+0.4**
	1.2nm,0.3s,baz=29,slow=12,SNR=62						
ASAR	**Alice Springs**	**21.31**	**205**	P	P	**20 30 11.8**	**+0.6**
	1.4nm,0.6s,baz=37,slow=8.6,SNR=25						
FITZ	**Fitzroy Crossi**	**22.11**	**230**	P	P	**20 30 19.3**	**-0.5**
	1.3nm,0.5s,baz=113,slow=21,SNR=8.9						
STKA	**Stephens Creek**	**27.49**	**183**	P	P	**20 31 10.2**	**+1.0**
	0.4nm,0.4s,baz=3.0,slow=11,SNR=1.9						
KSRS	**Korea Array**	**43.96**	**342**	P	P	**20 33 29.5**	**+0.2**
	1.2nm,0.7s,baz=160,slow=6.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**49.26**	**299**	P	P	**20 34 09.9**	**-1.2**
	0.4nm,0.7s,baz=108,slow=5.8,SNR=4.1						
SONM	**Songino Array**	**61.20**	**332**	P	P	**20 35 37.7**	**+1.2**
	0.2nm,0.6s,baz=156,slow=7.4,SNR=1.7						
MKAR	**Makanchi Array**	**73.90**	**321**	P	P	**20 36 56.6**	**+0.2**
	0.5nm,0.9s,baz=120,slow=7.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**75.67**	**329**	P	P	**20 37 06.0**	**-0.4**
	0.3nm,0.4s,baz=98,slow=4.5,SNR=3.7						

*ISCJB **20** 20:34:26.7±0.2, 62°.10N±0°.02×150°.33W±0°.05, h79km±4km, mb3.6/7, Error ellipse: s-maj=3.8km s-min=3.4km az=174.0*

*NEIC **20** 20:34:28.8, 62°.09N×150°.33W, h58km, ML3.4(AEIC), After AEIC.*

*IDC **20** 20:34:30.8±5.1, 62°.36N×150°.42W, h89km±33km, mb3.4/7, mb1 3.4/10, mb1mx3.3/28, mbtmp3.3/10, MS3.8/1, Ms1 3.8/1, ms1mx2.9/23, Error ellipse: s-maj=52.0km s-min=29.2km az=166.0*

ISC 20 20:34:27.7±0.8, 62°.10N±0°.03×150°.36W±0°.03, h69km±7km, n85, σ0s78/99, mb3.6/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.31**	**8**	P	Pn	**20 34 38.4**	**-0.4**
SKT	**Skwentna**	**0.56**	**258**	P	Pn	20 34 40.4	-0.7
SKT				S	Sn	20 34 50.4	-0.6
SUA	**Susitna One**	**0.67**	**196**	P	Pn	20 34 41.9	-0.4
SUA				S

ZALV	**Zalesovo Beam**	**56.42**	**324**	P		**P**	**20 44 00.8**	**-0.7**
	0.4nm,0.4s,baz=26,slow=7.9,SNR=3.3							
FINES	**FINESS Array B**	**56.75**	**2**	P		**P**	**20 44 03.2**	**-0.4**
FINES	**FINESS Array B**	**56.75**	**2**	P		**P**	**20 44 03.2**	**-0.4**
	2.8nm,0.9s,baz=236,slow=20,SNR=1.8							
FINES				LR		LR	21 10 59.4	
	comp=Z,79nm,18.9s,baz=282,slow=39							
MKAR	**Makanchi Array**	**63.57**	**322**	P		**P**	**20 44 49.2**	**-1.3**
	0.1nm,0.3s,baz=43,slow=8.0,SNR=5.1							
AKASG	**Malin Array Be**	**67.55**	**0**	P		**P**	**20 45 14.5**	**-1.5**
	0.3nm,0.3s,baz=2.1,slow=6.4,SNR=7.8							
ESDC	**Sonseca Array**	**75.00**	**26**	P		**P**	**20 46 01.2**	**0.0**
ESDC	**Sonseca Array**	**75.00**	**26**	P		**P**	**20 46 01.2**	**0.0**
	0.4nm,0.5s,baz=340,slow=5.5,SNR=2.6							

IDC 20 20:36:11.0±2.1,4.96N×127.51E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.3/23,mbtmp3.5/3,Error ellipse: s-maj=170.6km s-min=25.8km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.64**	**165**	P	P	20 41 42.6	0.0
	0.5nm,0.5s,baz=345,slow=10,SNR=8.5						
STKA	**Stephens Creek**	**39.01**	**161**	P	P	20 43 39.2	-0.2
	1.1nm,0.9s,baz=319,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**57.01**	**324**	P	P	20 45 58.6	-0.1
	0.2nm,0.4s,baz=121,slow=6.7,SNR=8.7						

*ISCJB **20** 20:44:54.2±0.4,60.02N±0.03×153.07W±0.08, h126km±4km,mb3.0/1,Error ellipse: s-maj=6.8km s-min=4.6km az=25.4*
*NEIC **20** 20:44:56.1,60.01N×153.12W,h116km,MG2.9(AEIC), After AEIC.*
*IDC **20** 20:44:60.0±8.0,60.36N×152.69W,h136km±63km,mb2.9/1, mb1 3.3/5,mb1mx3.0/29,mbtmp3.0/5,Error ellipse: s-maj=83.4km s-min=50.4km az=80.0*

ISC 20 20:44:55.2±1.0,60.04N±0.04×153.10W±0.05, h123km±6km,n66,σ0.98/75,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILW	**Iliamna West**	**0.03**	**324**	P	**Pn**	**20 45 11.5**	**-0.7**
IVS	**Iliamna South**	**0.03**	**159**	P	**Pn**	**20 45 12.1**	**-0.2**
OPT	**Oil Point**	**0.39**	**190**	P	**Pn**	**20 45 12.3**	**-0.6**
OPT				S	**Sn**	**20 45 25.0**	**-1.3**
RSO	**Redoubt South**	**0.46**	**22**	*e*Pn	**Pn**	**20 45 13.0**	**-0.5**
RSO				*e*Sn	**Sn**	**20 45 26.2**	**-1.1**
RDN	**Redoubt North**	**0.51**	**19**	P	**Pn**	**20 45 13.3**	**-0.4**
NCT	**North Crescent**	**0.53**	**9**	P	**Pn**	**20 45 13.4**	**-0.4**
DFR	**Drift River**	**0.59**	**20**	P	**Pn**	**20 45 13.7**	**-0.5**
AUL	**Augustine Lava**	**0.68**	**195**	P	**Pn**	**20 45 14.3**	**-0.3**
AUL				S	**Sn**	**20 45 28.7**	**-0.6**
HOM	**Homer**	**0.83**	**117**	P	**Pn**	**20 45 15.8**	**-0.1**
HOM				S	**Sn**	**20 45 31.1**	**-0.3**
MCNL	**McNeil River**	**1.06**	**217**	P	**Pn**	**20 45 17.3**	**-0.8**
BRLK	**Bradley Lake**	**1.15**	**103**	P	**Pn**	**20 45 18.6**	**-0.3**
BRLK				S	**Sn**	**20 45 36.2**	**-0.8**
CKL	**Chakachamna La**	**1.22**	**18**	P	**Pn**	**20 45 20.1**	**+0.2**
SPBG	**Spurr Blockage**	**1.28**	**16**	P	**Pn**	**20 45 20.8**	**+0.4**
SPBG				S	**Sn**	**20 45 39.8**	**+0.3**
BGL	**Barrier Glacie**	**1.28**	**16**	P	**Pn**	**20 45 21.0**	**+0.5**
CGLM	**Capps Glacier**	**1.39**	**22**	P	**Pn**	**20 45 21.8**	**+0.3**
SLKM	**Skilak Lake**	**1.51**	**71**	P	**Pn**	**20 45 22.5**	**-0.4**
KAPH	**Katmai Pasha**	**1.58**	**204**	P	**Pn**	**20 45 23.4**	**-0.3**
STLK	**Strandline Lak**	**1.59**	**22**	P	**Pn**	**20 45 24.4**	**+0.5**
SEW	**Seward**	**1.83**	**86**	P	**Pn**	**20 45 26.0**	**-0.7**
FIB	**Fire Island**	**1.83**	**51**	P	**Pn**	**20 45 27.7**	**+1.0**
FIB				S	**Sn**	**20 45 52.3**	**+1.6**
SUA	**Susitna One**	**1.84**	**38**	P	**Pn**	**20 45 27.3**	**+0.4**
SUA				S	**Sn**	**20 45 51.6**	**+0.5**
KAWH	**Katmai**	**1.87**	**208**	P	**Pn**	**20 45 26.9**	**-0.4**
RC01	**Rabbit Creek A**	**1.97**	**56**	*e*Pn	**Pn**	**20 45 28.1**	**-0.3**
RC01				*e*Sn	**Sn**	**20 45 52.5**	**-1.2**
KAKN	**Katmai Knife C**	**2.02**	**211**	P	**Pn**	**20 45 28.6**	**-0.5**
SKT	**Skwentna**	**2.10**	**21**	P	**Pn**	**20 45 30.4**	**+0.5**
KABR	**Katmai Barrier**	**2.14**	**208**	P	**Pn**	**20 45 30.3**	**-0.3**
PTE	**Portage**	**2.19**	**66**	P	**Pn**	**20 45 30.5**	**-0.5**
KDAK	**Kodiak Island**	**2.28**	**173**	P	**Pn**	**20 45 31.8**	**-0.4**
PWL	**Port Wells**	**2.50**	**69**	P	**Pn**	**20 45 33.9**	**-1.2**
CUT	**Chulitna**	**2.74**	**29**	P	**Pn**	**20 45 38.5**	**+0.4**
OHAK	**Old Harbor**	**2.82**	**182**	P	**Pn**	**20 45 38.7**	**-0.6**
TT01	**Tatalina**	**3.20**	**335**	P	**Pn**	**20 45 44.0**	**-0.1**
HIN	**Hinchinbrook I**	**3.31**	**81**	P	**Pn**	**20 45 45.5**	**-0.1**
SCM	**Sheep Creek Mo**	**3.34**	**55**	P	**Pn**	**20 45 45.2**	**-0.9**
FID	**Port Fidalgo**	**3.36**	**75**	P	**Pn**	**20 45 45.8**	**-0.5**
CAST	**Castle Rocks**	**3.43**	**8**	P	**Pn**	**20 45 47.1**	**0.0**
MID	**Middleton Isla**	**3.48**	**97**	P	**Pn**	**20 45 47.6**	**-0.1**
RND	**Reindeer**	**3.94**	**29**	P	**Pn**	**20 45 54.0**	**0.0**
SGAM	**Sherman Glacie**	**3.96**	**80**	P	**Pn**	**20 45 53.9**	**-0.2**
MCK	**McKinley**	**4.20**	**26**	*e*Pn	**Pn**	**20 45 57.6**	**+0.3**
HARP	**HAARP**	**4.52**	**55**	P	**Pn**	**20 46 01.7**	**+0.1**
PAX	**Paxson**	**4.69**	**48**	P	**Pn**	**20 46 03.8**	**-0.2**
VRDI	**Verde Repeater**	**4.90**	**72**	P	**Pn**	**20 46 07.0**	**+0.1**
WRH	**Wood River Hil**	**5.03**	**26**	P	**Pn**	**20 46 08.2**	**-0.2**
CCB	**Clear Creek Bu**	**5.24**	**26**	P	**Pn**	**20 46 10.7**	**-0.5**
BARK	**Barkley Ridge**	**5.30**	**81**	P	**Pn**	**20 46 12.4**	**+0.2**
PTPK	**Patty Peak**	**5.37**	**73**	P	**Pn**	**20 46 12.1**	**-1.0**
ISLE	**Juniper Island**	**5.38**	**79**	P	**Pn**	**20 46 13.2**	**-0.1**
KIAG	**Kiagna River**	**5.39**	**76**	P	**Pn**	**20 46 13.5**	**+0.1**
BALM	**Baldy**	**5.41**	**75**	P	**Pn**	**20 46 13.8**	**+0.2**
MDM	**Murphy Dome**	**5.43**	**22**	P	**Pn**	**20 46 13.8**	**0.0**
IL1	**Eielson Array**	**5.56**	**29**	P	**Pn**	**20 46 15.0**	**-0.6**
ILAR	**Eielson Array**	**5.56**	**29**	P	**Pn**	**20 46 15.0**	**-0.6**
ILAR				S	**Sn**	**20 47 13.7**	**-4.5**
ILAR	**Eielson Array**	**5.56**	**29**	P	**Pn**	**20 46 15.0**	**-0.6**
	2.4nm,0.3s,baz=215,slow=14,SNR=51						
ILAR				S	**Sn**	**20 47 13.7**	**-4.5**
	1.0nm,0.3s,baz=149,slow=18,SNR=5.2						
ILB	**Eielson Array**	**5.56**	**29**	P	**Pn**	**20 46 14.9**	**-0.6**
GRNC	**Granite Creek**	**5.67**	**78**	P	**Pn**	**20 46 17.6**	**+0.3**
BARN	**Barnard Glacie**	**5.74**	**75**	P	**Pn**	**20 46 18.1**	**-0.1**
IM3	**Indian Mountai**	**5.98**	**357**	P	**Pn**	**20 46 21.1**	**0.0**
INK	**Inuvik**	**11.84**	**37**	P	**Pn**	**20 47 41.1**	**+1.3**
INK	**Inuvik**	**11.84**	**37**	P	**Pn**	**20 47 41.1**	**+1.3**
	0.1nm,0.3s,baz=225,slow=16,SNR=2.5						
DLBC	**Dease Lake**	**11.91**	**88**	P	Pn	20 47 44.1	+3.2
DLBC	**Dease Lake**	**11.91**	**88**	P	Pn	20 47 44.1	+3.2
	0.3nm,0.3s,baz=312,slow=10,SNR=3.3						
YKA	**Yellowknife Ar**	**18.48**	**66**	P	**Pn**	**20 49 02.5**	**-0.4**
YKA	**Yellowknife Ar**	**18.48**	**66**	P	**Pn**	**20 49 02.4**	**-0.4**
	0.1nm,0.3s,baz=277,slow=10.0,SNR=7.0						
PDAR	**Pinedale Array**	**31.45**	**104**	P	**P**	**20 51 06.3**	**+1.3**
PDAR	**Pinedale Array**	**31.45**	**104**	P	**P**	**20 51 06.3**	**+1.3**
	0.3nm,0.9s,baz=291,slow=7.6,SNR=1.9						

IDC 20 20:46:28.3±2.9,31.60S×177.81W,h0km,mb3.7/2, mb1 4.0/4,mb1mx3.8/19,mbtmp3.8/4,ML3.7/2,Error ellipse: s-maj=68.3km s-min=25.9km az=110.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.34**	**358**	Pn	Pn	20 47 08.8	+0.8
	34nm,0.3s,baz=151,slow=21,SNR=1.9						
RAO				Sn	Sn	20 47 37.8	+0.4
	34nm,0.3s,baz=73,slow=22,SNR=1.6						
URZ	**Urewera**	**7.85**	**211**	Pn	Pn	20 48 22.9	-0.8
	0.5nm,0.3s,baz=341,slow=17,SNR=1.8						
URZ				Sn	Sn	20 49 48.3	-4.9
	1.3nm,0.3s,baz=119,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**43.22**	**268**	P	P	20 54 31.1	-0.3
	0.3nm,0.4s,baz=107,slow=7.5,SNR=5.3						
WRA	**Warramunga Arr**	**44.32**	**273**	P	P	20 54 40.4	+0.2
	0.8nm,0.4s,baz=112,slow=7.9,SNR=18						
FINES	**FINESS Array B**	**146.32**	**339**	PKPbc	PKPdf	21 06 09.1	+0.1
	6.4nm,1.1s,baz=42,slow=4.3,SNR=7.7						

*JMA **20** 21:07:28.8±0.1,23.79N×121.65E,h47km±2km,M3.5*
*ISCJB **20** 21:07:30.3±0.2,23.83N±0.01×121.73E±0.02,h48km±4km, Error ellipse: s-maj=3.0km s-min=2.0km az=38.6*
*TAP **20** 21:07:30.0,23.86N×121.68E,h50km,ML3.9,B*

ISC 20 21:07:30.9±1.2,23.84N±0.02×121.71E±0.02,h44km±5km, n70,σ0.75/131,16C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.17**	**325**	⇓P	**Pn**	**21 07 38.3**	**-0.1**
	baz=338						
HWA				*e*S	**Sn**	**21 07 45.1**	**+1.3**
	baz=338						
ESF	**Shoufeng Towns**	**0.19**	**280**	P	**Pn**	**21 07 38.4**	**-0.2**
	baz=287						
ESF				*e*S	**Sn**	**21 07 44.7**	**+0.7**
	baz=287						
TEGC	**Jichi Village**	**0.20**	**231**	P	**Pn**	**21 07 39.2**	**+0.6**
	baz=208						
TEGC				*e*S	**Sn**	**21 07 46.0**	**+1.9**
	baz=208						
ESL	**Shilin**	**0.26**	**265**	⇑*i*P	**Pn**	**21 07 38.5**	**-0.7**
	baz=266						
ESL				*e*S	**Sn**	**21 07 44.5**	**-0.4**
	baz=266						
TWD	**Chiawan**	**0.26**	**336**	⇓*i*P	**Pn**	**21 07 38.7**	**-0.5**
	baz=332						
TWD				S	**Sn**	**21 07 44.9**	**-0.2**
	baz=332						
EHP	**Heping Village**	**0.47**	**3**	*e*P	**Pn**	**21 07 40.7**	**-0.8**
	baz=15						
EHP				*e*S	**Sn**	**21 07 49.8**	**+0.7**
	baz=15						
EHY	**Hungye**	**0.49**	**227**	⇑*i*P	**Pn**	**21 07 40.6**	**-1.1**
	baz=221						
EHY				*e*S	**Sn**	**21 07 47.7**	**-1.6**
	baz=221						
WHF	**Hehuan Shan**	**0.51**	**307**	⇑*i*P	**Pn**	**21 07 41.4**	**-1.0**
	baz=301						
WHF				S	**Sn**	**21 07 50.0**	**-0.6**
	baz=301						
ENA	**Nanau**	**0.59**	**3**	⇓*i*P	**Pn**	**21 07 42.2**	**-0.8**
	baz=13						
ENA				*e*S	**Sn**	**21 07 51.3**	**-0.3**
	baz=13						
TWF1	**Yuli**	**0.61**	**218**	⇑*i*P	**Pn**	**21 07 42.3**	**-1.1**
	baz=219						
TWF1				*e*S	**Sn**	**21 07 51.0**	**-1.3**
	baz=219						
TWT	**Tachien**	**0.64**	**310**	⇑*i*P	**Pn**	**21 07 43.5**	**-0.4**
	baz=309						
TWT				*i* S	**Sn**	**21 07 52.4**	**-0.8**
	baz=309						
NNS	**Nan Shan**	**0.68**	**333**	⇑*i*P	**Pn**	**21 07 43.4**	**-0.9**
	baz=335						
NNS				*e*S	**Sn**	**21 07 52.4**	**-1.4**
	baz=335						
SMLT	**Sun Moon Lake**	**0.74**	**274**	⇑*i*P	**Pn**	**21 07 44.7**	**-0.5**
	baz=271						
SMLT				*e*S	**Sn**	**21 07 54.9**	**-0.6**
	baz=271						
YUS	**Yu-Shan**	**0.78**	**244**	⇑*i*P	**Pn**	**21 07 45.7**	**-0.3**
	baz=235						
YUS				S	**Sn**	**21 07 56.0**	**-0.8**
	baz=235						
TWC	**Suao**	**0.78**	**9**	⇓*i*P	**Pn**	**21 07 45.2**	**-0.3**
	baz=22						
TWC				S	**Sn**	**21 07 56.5**	**+0.4**
	baz=22						
TYC	**Yuchr**	**0.79**	**275**	⇑*i*P	**Pn**	**21 07 45.0**	**-0.6**
	baz=275						
TYC				S	**Sn**	**21 07 56.2**	**0.0**
	baz=275						
CHKT	**Chengkung**	**0.80**	**204**	*e*P	**Pn**	**21 07 45.4**	**-0.4**
	baz=190						
CHKT				*e*S	**Sn**	**21 07 56.6**	**0.0**
	baz=190						
ENTT	**Nioudou**	**0.81**	**351**	⇑*i*P	**Pn**	**21 07 45.2**	**-0.8**
	baz=354						
ENTT				S	**Sn**	**21 07 56.1**	**-0.8**
	baz=354						
ALS	**Alishan**	**0.89**	**249**	⇑P	**Pn**	**21 07 47.3**	**-0.1**
	baz=240						
ALS				*e*S	**Sn**	**21 07 59.3**	**-0.1**
	baz=240						
NSK	**Sanguang**	**0.90**	**339**	⇑*i*P	**Pn**	**21 07 46.6**	**-0.6**
	baz=341						
NSK				S	**Sn**	**21 07 57.7**	**-1.4**
	baz=341						
ELDTW	**Lidau**	**0.91**	**225**	⇑*i*P	**Pn**	**21 07 46.3**	**-1.1**
	baz=216						
ELDTW				*e*S	**Sn**	**21 07 58.4**	**-1.0**
	baz=216						
ILA	**Ilan**	**0.93**	**2**	*e*P	**Pn**	**21 07 47.0**	**-0.6**
	baz=357						
ILA				*e*S	**Sn**	**21 07 59.6**	**0.0**
	baz=357						
WNT	**Mingjian**	**0.94**	**273**	⇑P	**Pn**	**21 07 48.0**	**+0.3**
	baz=270						
WNT				*e*S	**Sn**	**21 08 00.8**	**+0.7**
	baz=270						
CHN5	**Tsauling**	**0.98**	**256**	⇑*i*P	**Pn**	**21 07 48.4**	**+0.1**
	baz=253						
CHN5				*e*S	**Sn**	**21 08 01.5**	**+0.4**
	baz=253						
TCU	**Taichung**	**1.00**	**288**	*e*P	**Pn**	**21 07 48.8**	**+0.3**
	baz=287						
TCU				*e*S	**Sn**	**21 08 02.3**	**+0.9**
	baz=287						
TWQ1	**Liyutan**	**1.00**	**301**	⇑*i*P	**Pn**	**21 07 48.5**	**0.0**
	baz=300						
TWQ1				*e*S	**Sn**	**21 08 01.4**	**0.0**
	baz=300						
NSTT	**Nanjuang**	**1.02**	**321**	*e*P	**Pn**	**21 07 48.9**	**0.0**
	baz=309						
NSTT				*e*S	**Sn**	**21 08 01.6**	**-0.5**
	baz=309						
NSY	**Sanyi**	**1.04**	**304**	*e*P	**Pn**	**21 07 49.1**	**0.0**
	baz=303						
NSY				*e*S	**Sn**	**21 08 02.8**	**+0.2**
	baz=303						
WGK	**Gukeng**	**1.06**	**262**	*e*P	**Pn**	**21 07 49.8**	**+0.4**
	baz=259						
WGK				*e*S	**Sn**	**21 08 03.3**	**+0.2**
	baz=259						
STYT	**Tauyuan**	**1.10**	**233**	*e*P	**Pn**	**21 07 50.0**	**0.0**
	baz=238						
STYT				*e*S	**Sn**	**21 08 04.4**	**+0.2**
	baz=238						
CHN4	**Tsaushan**	**1.14**	**245**	*e*P	**Pn**	**21 07 50.6**	**+0.2**
	baz=234						
CHN4				*e*S	**Sn**	**21 08 06.0**	**+1.2**
	baz=234						
WTP	**Ta-pu**	**1.17**	**240**	*e*P	**Pn**	**21 07 51.2**	**+0.3**
	baz=236						
WTP				*e*S	**Sn**	**21 08 06.4**	**+0.7**
	baz=236						
TWG	**Pinlang**	**1.17**	**210**	*e*P	**Pn**	**21 07 49.2**	**-1.7**
	baz=197						
TWG				*e*S	**Sn**	**21 08 03.9**	**-1.8**
	baz=197						
HSN	**Hsinchu**	**1.18**	**325**	*e*P	**Pn**	**21 07 51.1**	**+0.2**
	baz=327						
HSN				*e*S	**Sn**	**21 08 06.5**	**+0.7**
	baz=327						
TWB1	**Santiao Chiao**	**1.19**	**12**	*e*P	**Pn**	**21 07 51.0**	**-0.2**
	baz=28						
TWB1				*e*S	**Sn**	**21 08 06.4**	**+0.2**
	baz=28						
TTN	**Taitung**	**1.20**	**206**	*e*P	**Pn**	**21 07 50.3**	**-0.9**
	baz=201						
TTN				*e*S	**Sn**	**21 08 06.4**	**+0.1**
	baz=201						
TAP1	**Taipei**	**1.21**	**352**	*e*P	**Pn**	**21 07 51.2**	**-0.2**
	baz=353						
TAP1				*e*S	**Sn**	**21 08 06.9**	**+0.4**
	baz=353						
TAP	**Taipei**	**1.21**	**351**	*e*P	**Pn**	**21 07 51.1**	**-0.3**
	baz=353						
TAP				*e*S	**Sn**	**21 08 06.6**	**0.0**
	baz=353						
NCU	**National Centr**	**1.23**	**337**	*e*P	**Pn**	**21 07 51.6**	**0.0**
	baz=337						
NCU				*e*S	**Sn**	**21 08 07.6**	**+0.6**
	baz=337						
CHY	**Chiayi**	**1.23**	**254**	*e*P	**Pn**	**21 07 51.8**	**+0.2**
	baz=251						
CHY				*e*S	**Sn**	**21 08 08.1**	**+1.0**
	baz=251						
NWF	**Wu-fen Shan**	**1.23**	**3**	*e*P	**Pn**	**21 07 51.6**	**-0.1**
	baz=354						
NWF				S	**Sn**	**21 08 07.6**	**+0.3**
	baz=354						
TWK	**Hsinying**	**1.26**	**243**	*e*P	**Pn**	**21 07 52.1**	**-0.1**
	baz=240						
TWK				*e*S	**Sn**	**21 08 08.7**	**+0.8**
	baz=240						
CHN1	**Nanshi**	**1.27**	**239**	*e*P	**Pn**	**21 07 52.6**	**+0.4**
	baz=236						
CHN1				*e*S	**Sn**	**21 08 08.8**	**+0.7**
	baz=236						
SGST	**Jiashian**	**1.28**	**234**	⇓*e*P	**Pn**	**21 07 53.2**	**+0.8**
	baz=231						
SGST				*e*S	**Sn**	**21 08 09.8**	**+1.4**
	baz=231						
TWS1	**Kuangyinshan**	**1.29**	**348**	*e*P	**Pn**	**21 07 52.4**	**-0.1**
	baz=349						
TWS1				*e*S	**Sn**	**21 08 08.3**	**-0.2**
	baz=349						
WTCT	**Ta-ch'eng**	**1.31**	**271**	*e*P	**Pn**	**21 07 52.8**	**0.0**
	baz=270						
WTCT				*e*S	**Sn**	**21 08 09.8**	**+0.7**
	baz=270						
YOJ	**Yonaguni jima**	**1.34**	**62**	P	**Pn**	**21 07 53.0**	**-0.2**
YOJ				S	**Sn**	**21 08 09.8**	**0.0**
YOJ	**Yonaguni jima**	**1.34**	**62**	*e*P	**Pn**	**21 07 52.9**	**-0.3**
	baz=66						
YOJ				*e*S	**Sn**	**21 08 09.8**	**0.0**
	baz=66						
WSF	**Szhu**	**1.38**	**262**	*e*P	**Pn**	**21 07 53.7**	**-0.1**
	baz=260						
WSF				*e*S	**Sn**	**21 08 11.4**	**+0.7**
	baz=260						
ECL	**Taimali**	**1.42**	**210**	*e*P	**Pn**	**21 07 52.6**	**-1.7**
	baz=200						
TWY	**Chenhua**	**1.44**	**356**	*e*P	**Pn**	**21 07 54.8**	**+0.3**
	baz=346						
CHN3	**Shinhua**	**1.45**	**239**	*e*P	**Pn**	**21 07 54.4**	**-0.3**
	baz=236						
CHN3				*e*S	**Sn**	**21 08 14.8**	**+2.3**
	baz=236						
CHN8	**Yiju**	**1.46**	**251**	*e*P	**Pn**	**21 07 54.8**	**-0.1**
	baz=249						
CHN8				*e*S	**Sn**	**21 08 12.9**	**+0.2**
	baz=249						
SSD	**Sandimen**	**1.47**	**223**	*e*P	**Pn**	**21 07 55.0**	**+0.1**
	baz=219						
SSD				*e*S	**Sn**	**21 08 13.2**	**+0.1**
	baz=219						
SCLT	**Jiali**	**1.54**	**245**	*e*P	**Pn**	**21 07 55.8**	**-0.1**
	baz=243						
SCLT				*e*S	**Sn**	**21 08 15.7**	**+0.9**
	baz=243						
TWM1	**Shoushan**	**1.56**	**230**	*e*P	**Pn**	**21 07 57.3**	**+1.1**
	baz=228						
SGLT	**Jiouru**	**1.58**	**226**	*e*P	**Pn**	**21 07 56.2**	**-0.3**
	baz=224						
EAST	**Anshuo**	**1.65**	**209**	*e*P	**Pn**	**21 07 56.5**	**-1.0**
	baz=200						
TAW	**Tawu**	**1.65**	**207**	*e*P	**Pn**	**21 07 59.0**	**+1.6**
	baz=199						
LAY	**Lan-yu**	**1.80**	**185**	*e*P	**Pn**	**21 07 59.0**	**-0.5**
	baz=174						
LAY				*e*S	**Sn**	**21 08 20.5**	**-0.6**
	baz=174						
IRIF	**Iriomote-Funau**	**1.91**	**75**	P	**Pn**	**21 08 01.0**	**0.0**
IRIF				S	**Sn**	**21 08 24.1**	**+0.3**
HATJ	**Hateruma jima**	**1.93**	**83**	P	**Pn**	**21 08 01.4**	**+0.2**
HATJ				S	**Sn**	**21 08 24.6**	**+0.4**
WDGT	**Dungji**	**1.97**	**253**	*e*P	**Pn**	**21 08 00.8**	**-1.0**
	baz=252						
WDGT				*e*S	**Sn**	**21 08 23.8**	**-1.5**
	baz=252						
HEN	**Hengchun**	**2.03**	**206**	*e*P	**Pn**	**21 08 03.8**	**+1.1**
	baz=194						
TWK1	**Hengchun**	**2.06**	**204**	*e*P	**Pn**	**21 08 03.5**	**+0.4**
	baz=200						
TWK1				*e*S	**Sn**	**21 08 27.4**	**-0.2**
	baz=200						
JKRS	**Kuro-shima**	**2.14**	**79**	P	**Pn**	**21 08 04.6**	**+0.5**
JKRS				S	**Sn**	**21 08 30.6**	**+1.2**
JIJ	**Ishigaki jima**	**2.28**	**76**	P	**Pn**	**21 08 05.8**	**-0.3**
JIJ				S	**Sn**	**21 08 31.8**	**-1.2**
JTJ	**Tarama**	**2.84**	**73**	P	**Pn**	**21 08 13.7**	**-0.1**
JTJ				*e*S	**Sn**	**21 08 47.0**	**+0.2**
KNM	**Kinmen**	**3.05**	**282**	*e*P	**Pn**	**21 08 16.8**	**+0.1**
	baz=280						
JOGS	**Gusukube**	**3.49**	**74**	*e*S	**Sn**	**21 09 03.5**	**+0.7**

*IDC **20** 21:31:10.6±0.5,44.42N×123.08E,h0km,mb4.4/29, mb1 4.6/30,mb1mx4.5/33,mbtmp4.4/30,ML2.4/1,MS3.6/13, Ms1 3.6/13,ms1mx3.4/47,Error ellipse: s-maj=13.4km s-min=12.1km az=26.0*
*ISCJB **20** 21:31:11.2±0.2,44.44N±0.02×123.09E±0.03,h10km, mb4.6/93,MS3.8/15,Error ellipse: s-maj=3.1km s-min=2.9km az=157.0*
*NEIC **20** 21:31:12.9±0.2,44.45N×123.06E,h10km,mb4.8/52,Error ellipse: s-maj=4.3km s-min=3.6km az=153.0*
NEIC Felt [II] at Changchun. Also felt at Tongliao.
*BJI **20** 21:31:12.3,44.49N×123.01E,h8km,mB4.7/18,mb4.6/25, ML5.0/16,Ms4.5/30,Ms7 4.3/30*
*MOS **20** 21:31:14.2±0.9,44.42N×123.05E,h33km,mb4.9/29,Error ellipse: s-maj=9.2km s-min=5.6km az=112.1*

ISC 20 21:31:13.3±0.4,44.44N±0.03×123.16E±0.03,h14km±2km, h13km:pP-P,n285,σ1.49/323,mb4.7/96,MS3.8/15,13C-6D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CN2	**Changchun**	**1.77**	**110**	*e*Pg	**Pg**	**21 31 47.6**	**+0.3**
CN2				*e*Sg	**Sg**	**21 32 11.8**	**+1.5**
SNY	**Shenyang**	**2.63**	**173**	⇑Pn	**Pn**	**21 31 55.3**	**0.0**
SNY				Pg	**Pb**	**21 32 01.6**	**+1.4**
SNY				Sn	**Sn**	**21 32 28.0**	**+1.0**
SNY				Sg	**Sb**	**21 32 35.1**	**+2.8**
SNY				smax	smax		
	comp=N,3μm,0.3s						
SNY				smax	smax		
	comp=E,3μm,0.5s						
MDJ	**Mudanjiang**	**4.61**	**86**	Pn	**Pn**	**21 32 23.6**	**+1.1**
MDJ				Sn	**Sn**	**21 33 19.3**	**+3.5**
MDJ				LR	LR		
	comp=N,2μm,6.9s						
MDJ				LR	LR		
	comp=E,3μm,7.4s						
MDJ				LR	LR		
	comp=Z,4μm,7.9s						
MDJ	**Mudanjiang**	**4.61**	**86**	*e*Pn	**Pn**	**21 32 23.6**	**+1.1**
MDJ				*e*Pg	**Pg**	**21 32 42.2**	**+0.7**
MDJ				*e*S	**Sg**	**21 33 40.8**

KSAR Pg **Pg** **21 33 40.6 -3.0**
KSAR Lg Lg 21 35 20.6
KSRS Korea Array 7.85 151 Pn **Pn** **21 33 08.9 +1.8**
comp=Z,2.4nm,0.3s,baz=331,slow=13,SNR=21
KSRS Pg Pg 21 33 40.6 -3.0
comp=Z,4.5nm,0.3s,baz=334,slow=17,SNR=13
KSRS Lg Lg 21 35 20.6
comp=Z,28nm,0.3s,baz=334,slow=29,SNR=18
KSRS LR LR 21 35 50.5
comp=Z,149nm,19.7s,baz=325,slow=36
HHC Hu-ho-hao-te 9.26 251 *e*P Pn 21 33 31.4 +4.8
HHC sP 21 33 37.3
HHC S **Sn** **21 35 14.5 +3.9**
HHC PcS **PcS** **21 43 23.5 +3.5**
HHC pmax pmax
comp=Z,39nm,0.6s
HHC LR LR
comp=Z,2μm,6.6s
HHC LR LR
comp=Z,2μm,8.2s
HHC LR LR
comp=Z,2μm,8.4s
TIA Tai'an 9.42 211 P **Pn** **21 33 29.9 +1.3**
TIA S **Sn** **21 35 12.3 -1.9**
TIA smax smax
comp=Z,80nm,1.1s
TIA smax smax
comp=Z,160nm,1.4s
BTO Baotou 10.42 253 *e*P Pn 21 33 47.3 +4.9
ULN Ulaanbaatar 11.68 293 *e*Pn Pn 21 33 54.8 -4.9
ULN eSn Sn 21 35 56.8 -13
SONM Songino Array 12.11 292 Pn Pn 21 34 00.1 -5.5
SONM Sn Sn 21 36 07.9 -13
SONM Lg Lg 21 37 29.7
SONM Songino Array 12.11 292 Pn Pn 21 34 00.1 -5.5
comp=Z,0.3nm,0.3s,baz=97,slow=12,SNR=13
SONM Sn Sn 21 36 07.9 -13
comp=Z,1.3nm,0.3s,baz=107,slow=16,SNR=5.8
SONM Lg Lg 21 37 29.7
comp=Z,3.4nm,0.3s,baz=92,slow=16,SNR=4.1
SONM LR LR 21 39 15.9
comp=Z,240nm,19.1s,baz=347,slow=40
JNU Nakatsue 12.80 149 Pn **Pn** **21 34 14.9 +0.1**
JNU Lg Lg 21 38 03.2
JNU Nakatsue 12.80 149 Lg Lg 21 38 03.2
comp=Z,0.4nm,0.3s,baz=268,slow=20,SNR=6.0
NJ2 Nanjing 12.82 197 *e*P **Pn** **21 34 13.4 -1.7**
NJ2 S **Sn** **21 36 36.0 -1.5**
NJ2 pmax pmax
comp=Z,40nm,0.6s
NJ2 pmax pmax
comp=Z,80nm,4.3s
NJ2 LR LR
comp=Z,2μm,21.8s
NJ2 LR LR
comp=Z,4μm,11.8s
NJ2 LR LR
comp=Z,480nm,13.4s
MJAR Matsushiro Arr 13.89 119 Pn **P** **21 34 39.0 +1.0**
MJAR Matsushiro Arr 13.89 119 Pn **P** **21 34 39.0 +1.0**
comp=Z,0.3nm,0.3s,baz=300,slow=9.1,SNR=9.3
MJAR LR LR 21 39 39.3
comp=Z,221nm,18.0s,baz=315,slow=36
ASAJ Asahikawa 13.94 85 LR LR 21 40 07.4
comp=Z,263nm,18.0s,baz=328,slow=38
ZAK Zakamensk 14.69 301 *e*P **Pn** **21 34 40.0 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
ERM Erimo 14.78 92 *e*P **Pn** **21 34 43.0 +1.1**
ERM Erimo 14.78 92 *e*Pn **Pn** **21 34 43.0 +1.1**
TLY Talaya 14.89 306 *e*P P 21 34 55.4 +6.3
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,295nm,9.0s
XAN Xi'an 15.13 231 P **P** **21 34 52.5 +0.8**
XAN pP **pP** **21 34 55.5 -0.1**
XAN LR LR
comp=Z,430nm,12.5s
XAN LR LR
comp=Z,240nm,11.6s
XAN LR LR
comp=Z,280nm,10.7s
WHN Wuhan 15.52 210 P **P** **21 34 58.6 +2.6**
WHN S **Sn** **21 37 45.3 +2.0**
WHN LR LR
comp=N,2μm,14.6s
WHN LR LR
comp=E,640nm,9.9s
WHN LR LR
comp=Z,2μm,12.1s
MOY Mondy 16.45 304 *e*P **P** **21 35 08.2 +1.8**
LZH Lanzhou 16.91 247 *e*P **Pn** **21 35 10.3 +0.6**
LZH pP **pP** **21 35 13.8 -1.8**
LZH sP **sP** **21 35 16.4 -1.0**
LZH PP PnPn 21 35 29.3 +10
LZH eS **Sn** **21 38 17.5 +0.1**
LZH sS **S** **21 38 23.1 -4.6**
LZH SS **SnSn** **21 38 36.3 +5.9**
LZH pmax pmax
comp=Z,49nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.2s
LZH LR LR
comp=Z,770nm,10.8s
LZH LR LR
comp=Z,860nm,11.7s
LZH LR LR
comp=Z,920nm,13.2s
ENH Enshi 17.80 222 *e*Pn **Pn** **21 35 18.8 -1.8**
comp=Z,5.8nm,0.7s
YAK Yakutsk 18.03 10 *e*P **Pn** **21 35 22.8 -0.5**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK Yakutsk 18.03 10 *e*Pn **P** **21 35 23.5 -0.1**
comp=E,24nm,0.6s
GTA Gaotai 18.06 262 ⇑P **Pn** **21 35 24.1 +0.2**
GTA pP **pP** **21 35 28.4 +0.2**
GTA sP **sP** **21 35 30.6 +0.6**
GTA S **Sn** **21 38 43.8 -1.3**
GTA sS **S** **21 38 49.4 -1.6**
GTA SS **SnSn** **21 39 05.3 +6.8**
GTA pmax pmax
comp=E,13nm,1.2s
GTA pmax pmax
comp=E,130nm,3.8s
GTA LR LR
comp=E,400nm,7.1s
GTA LR LR
comp=E,1μm,9.5s
GTA LR LR
comp=E,1μm,9.0s
CD2 Chengdu 20.38 235 P **P** **21 35 49.8 +0.1**
CD2 sP **sP** **21 35 56.8 +1.4**
CD2 PP **PnPn** **21 36 10.0 +3.3**
CD2 S **S** **21 39 31.8 -5.8**
CD2 sS Sn 21 39 37.5 -3.7
CD2 SS **SnSn** **21 40 00.8 +5.1**
CD2 pmax pmax
comp=E,50nm,0.9s
CD2 pmax pmax
comp=E,120nm,6.8s
CD2 LR LR
comp=E,600nm,11.8s
CD2 LR LR
comp=E,670nm,11.6s
CD2 LR LR
comp=E,410nm,11.6s
HVS Khovu-Aksy 20.80 299 *i* P Pn 21 35 56.8 +0.2
GYA Guiyang 22.34 222 *e*P **P** **21 36 11.0 +0.1**
GYA S **S** **21 40 11.8 -4.3**
GYA SS **SnSn** **21 40 50.5 +6.6**
GYA pmax pmax
comp=E,10.0nm,0.8s
GYA pmax pmax
comp=E,90nm,4.6s
GYA LR LR
comp=E,380nm,15.7s
GYA LR LR
comp=E,440nm,15.9s
GYA LR LR

comp=E,520nm,15.3s
PETK Petropavlovsk- 24.16 57 P **P** **21 36 29.6 +0.7**
PETK Petropavlovsk- 24.16 57 P **P** **21 36 29.6 +0.7**
PETK Petropavlovsk- 24.16 57 P **P** **21 36 29.6 +0.7**
comp=E,14nm,0.9s,baz=224,slow=4.1,SNR=7.2
PETK LR LR 21 47 06.5
comp=E,182nm,18.6s,baz=80,slow=40
SEY Seymchan 24.98 32 P **P** **21 36 36.6 +0.4**
SEY Seymchan 24.98 32 P **P** **21 36 36.6 +0.4**
SEY Seymchan 24.98 32 P **P** **21 36 36.6 +0.4**
comp=E,9.3nm,0.8s,baz=79,slow=23,SNR=13
WMQ Urumqi 25.34 281 P **P** **21 36 40.0 +0.2**
WMQ sP **sP** **21 36 47.0 +1.3**
WMQ PP **PnPn** **21 37 18.0 +3.6**
WMQ PcP **PcP** **21 40 14.0 +1.9**
WMQ S **S** **21 41 03.0 -2.5**
WMQ SS **SnSn** **21 42 03.0 +6.1**
WMQ pmax pmax
comp=E,16nm,0.8s
WMQ pmax pmax
comp=E,220nm,3.0s
WMQ LR LR
comp=E,490nm,12.0s
WMQ LR LR
comp=E,750nm,12.0s
WMQ LR LR
comp=E,280nm,12.0s
KMI Kunming 25.42 227 P **P** **21 36 41.1 +0.3**
KMI pP **pP** **21 36 44.5 -0.5**
KMI sP **sP** **21 36 45.8 -0.9**
KMI S **S** **21 41 04.6 -2.7**
KMI SS **SnSn** **21 42 04.8 +5.3**
KMI pmax pmax
comp=E,13nm,0.8s
KMI pmax pmax
comp=E,120nm,3.4s
KMI LR LR
comp=E,300nm,13.1s
KMI LR LR
comp=E,340nm,12.1s
KMI LR LR
comp=E,340nm,11.7s
ZALV Zalesovo Beam 26.50 305 P **P** **21 36 49.5 -0.6**
ZALV 21 40 12.3
ZALV Zalesovo Beam 26.50 305 P **P** **21 36 49.5 -0.6**
ZALV PcP **PcP** **21 40 12.3 -2.1**
ZALV Zalesovo Beam 26.50 305 P **P** **21 36 49.5 -0.6**
comp=E,1.5nm,0.6s,baz=104,slow=9.1,SNR=8.3
ZALV PcP **PcP** **21 40 12.3 -2.1**
comp=E,0.8nm,0.6s,baz=142,slow=7.4,SNR=3.7
ZALV LR LR 21 47 53.2
comp=E,111nm,19.9s,baz=69,slow=38
TIXI Tiksi 27.43 4 *e*P **P** **21 36 57.5 -0.7**
TIXI pmax pmax
comp=Z,13nm,0.9s
TIXI Tiksi 27.43 4 *e*P **P** **21 36 57.5 -0.7**
comp=Z,13nm,0.9s
NVS Novosibirsk 27.51 307 *e*P **P** **21 37 01.4 +2.3**
NVS pmax pmax
comp=Z,8.0nm,1.4s
NVS pmax pmax
comp=N,14nm,2.2s
NVS pmax pmax
comp=E,9.0nm,1.5s
QIZ Qiongzhong 27.67 208 P **P** **21 36 59.6 -1.3**
QIZ S **S** **21 41 43.6 +1.1**
QIZ pmax pmax
comp=E,35nm,2.1s
QIZ LR LR
comp=E,450nm,15.3s
MK31 Makanchi Array 28.45 289 *e*P **P** **21 37 06.5 -1.2**
MK31 Makanchi Array 28.45 289 *e*P **P** **21 37 06.5 -1.2**
MKAR Makanchi Array 28.45 289 P **P** **21 37 07.7 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,71nm,19.9s
MKAR Makanchi Array 28.45 289 *e*P **P** **21 37 07.8 +0.1**
MKAR Makanchi Array 28.45 289 P **P** **21 37 07.7 0.0**
comp=Z,2.1nm,0.8s,baz=87,slow=9.4,SNR=16
MKAR LR LR 21 49 06.1
comp=Z,71nm,19.9s,baz=243,slow=38
LSA Lhasa 29.25 251 *e*P **P** **21 37 14.6 -0.8**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 29.25 251 *e*P **P** **21 37 14.6 -0.8**
comp=Z,3.8nm,0.8s
KURK Kurchatov 30.32 298 *e*P **P** **21 37 23.4 -0.7**
KURK pmax pmax
comp=Z,11nm,1.1s
KURK Kurchatov 30.32 298 *e*P **P** **21 37 23.4 -0.7**
comp=Z,11nm,1.1s
CHTO Chiang Mai 32.59 226 *e*P **P** **21 37 43.3 -1.1**
CHTO pmax pmax
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 32.59 226 *e*P **P** **21 37 43.3 -1.1**
comp=Z,3.7nm,1.1s
CMAR Chiang Mai Arr 32.89 226 P **P** **21 37 46.2 -0.8**
CMAR Chiang Mai Arr 32.89 226 P **P** **21 37 46.2 -0.8**
comp=Z,4.1nm,0.9s,baz=26,slow=7.8,SNR=20
CMAR LR LR 21 52 46.2
comp=Z,98nm,19.6s,baz=42,slow=40
TAPN Taplejung 33.08 251 *e*P **P** **21 37 50.2 +1.2**
comp=Z,13nm,1.0s
TAPN Taplejung 33.08 251 *e*P **P** **21 37 50.2 +1.2**
comp=Z,13nm,1.0s
ODAN Odare 33.61 251 *e*P **P** **21 37 55.9 +2.4**
ODAN Odare 33.61 251 *e*P **P** **21 37 55.9 +2.4**
JIRN Jiri 33.91 253 *e*P **P** **21 37 57.2 +0.9**
comp=Z,12nm,0.7s
JIRN Jiri 33.91 253 *e*P **P** **21 37 57.2 +0.9**
comp=Z,12nm,0.7s
GUN Gumba 33.97 254 *e*P **P** **21 37 56.7 -0.1**
GUN Gumba 33.97 254 *e*P **P** **21 37 56.7 -0.1**
TKM2 Tokmak 2 34.05 284 *e*P **P** **21 37 57.1 -0.1**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 34.05 284 *e*P **P** **21 37 57.1 -0.1**
comp=Z,7.6nm,0.8s
RAMN Ramite 34.09 252 *e*P **P** **21 37 59.4 +1.7**
comp=Z,24nm,0.8s
RAMN Ramite 34.09 252 *e*P **P** **21 37 59.4 +1.7**
comp=Z,24nm,0.8s
KKN Kakani 34.46 254 *e*P **P** **21 38 00.9 0.0**
comp=Z,12nm,0.7s
KKN Kakani 34.46 254 *e*P **P** **21 38 00.9 0.0**
KKN pmax pmax
comp=Z,12nm,0.7s
KKN Kakani 34.46 254 *e*P **P** **21 38 00.9 0.0**
comp=Z,12nm,0.7s
PKI Pulchoki 34.51 254 *e*P **P** **21 38 02.0 +0.6**
PKI Pulchoki 34.51 254 *e*P **P** **21 38 02.7 +1.3**
PKI Pulchoki 34.51 254 *e*P **P** **21 38 02.7 +1.3**
PKIN Phulchoki 34.51 254 *e*P **P** **21 38 02.7 +1.3**
GKN Gorkha 34.77 255 *e*P **P** **21 38 03.1 -0.4**
GKN Gorkha 34.77 255 *e*P **P** **21 38 03.1 -0.4**
KSH Kashi 35.03 279 P P 21 38 09.1 +3.5
KSH sP sP 21 38 16.3 +4.6
KSH PP **PP** **21 39 26.4 +1.4**
KSH S **S** **21 43 40.3 +2.9**
KSH PcS **PcS** **21 44 26.1 +1.8**
KSH SS **SnSn** **21 45 57.0 +4.0**
KSH pmax pmax
comp=Z,130nm,5.9s
KSH LR LR
comp=Z,270nm,5.0s
KSH LR LR
comp=Z,280nm,5.2s
KSH LR LR
comp=Z,300nm,6.4s
BVAR Borovoye Array 35.13 303 P **P** **21 38 06.0 -0.1**
BVAR 21 40 35.9
BVAR Borovoye Array 35.13 303 P **P** **21 38 06.0 -0.1**
BVAR PcP **PcP** **21 40 35.9 -1.4**
BVAR Borovoye Array 35.13 303 P P **21 38 06.0 -0.1**
comp=Z,1.9nm,0.8s,baz=87,slow=10,SNR=11
BVAR PcP **PcP** **21 40 35.9 -1.4**
comp=Z,1.9nm,0.6s,baz=102,slow=2.4,SNR=7.7
BVAR LR LR 21 51 51.2
comp=Z,89nm,18.3s,baz=77,slow=35
DANN Dangsing 35.16 256 *e*P **P** **21 38 06.9 -0.1**
comp=Z,26nm,0.7s
DANN Dangsing 35.16 256 *e*P **P** **21 38 06.9 -0.1**
comp=Z,26nm,0.7s
BRVK Borovoye 35.19 303 *e*P **P** **21 38 06.6 -0.1**

BRVK pmax pmax
comp=Z,41nm,2.4s
BRVK Borovoye 35.19 303 *e*P **P** **21 38 06.6 -0.1**
comp=Z,41nm,2.4s
KOLN Koldanda 35.63 256 *e*P **P** **21 38 11.3 +0.3**
comp=Z,12nm,0.7s
KOLN Koldanda 35.63 256 *e*P **P** **21 38 11.3 +0.3**
comp=Z,12nm,0.7s
PYUN Piuthan 35.85 257 *e*P **P** **21 38 13.5 +0.6**
comp=Z,30nm,0.9s
PYUN Piuthan 35.85 257 *e*P **P** **21 38 13.5 +0.6**
comp=Z,30nm,0.9s
KKAR Karatay Array 37.49 287 *e*P **P** **21 38 26.2 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 37.49 287 *e*P **P** **21 38 26.2 -0.3**
comp=Z,3.0nm,0.9s
SVE Sverdlovsk 40.13 311 *e*P **P** **21 38 47.7 -0.7**
SVE pmax pmax
comp=Z,14nm,1.0s
ARU Arti 41.33 311 *c i*P **P** **21 38 57.4 -0.9**
ARU S **S** **21 45 12.5 +0.5**
ARU SS **SS** **21 48 14.0 -1.3**
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 41.33 311 *e*P **P** **21 38 58.0 -0.3**
comp=Z,9.0nm,1.0s
TNA Tin City 42.12 35 *e*P **P** **21 39 04.8 +0.2**
comp=Z,38nm,1.8s
KBL Kabul 42.23 276 *e*P **P** **21 39 06.0 -0.2**
KBL pmax pmax
comp=Z,4.0nm,0.9s
KBL Kabul 42.23 276 *e*P **P** **21 39 06.0 -0.2**
comp=Z,3.9nm,0.9s
ABKAR Akbulak array 42.38 300 *e*P **P** **21 39 07.0 0.0**
PRGR Permogore 46.61 320 *e*P **P** **21 39 39.4 -1.2**
PRGR pmax pmax
comp=Z,12nm,0.9s
COLD Coldfoot 48.77 31 *e*P **P** **21 39 58.0 +0.7**
comp=Z,8.7nm,0.9s
SPITS Spitsbergen Ar 50.20 345 P **P** **21 40 08.0 -0.1**
SPITS Spitsbergen Ar 50.20 345 P **P** **21 40 08.0 -0.1**
comp=Z,3.6nm,0.5s,baz=69,slow=7.9,SNR=15
COLA College 50.48 34 *e*P **P** **21 40 10.7 +0.4**
COLA pmax pmax
comp=Z,39nm,2.8s
COLA College 50.48 34 *e*P **P** **21 40 10.7 +0.4**
comp=Z,39nm,2.8s
ILAR Eielson Array 50.90 34 P **P** **21 40 13.2 -0.3**
ILAR Eielson Array 50.90 34 P **P** **21 40 13.2 -0.3**
comp=Z,8.8nm,0.7s,baz=286,slow=6.4,SNR=111
KEV Kevo 51.14 334 *e*P P 21 40 08.3 -6.9
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 51.14 334 *e*p P 21 40 08.3 -6.9
comp=Z,4.7nm,0.7s
ARCES ARCESS Array B 51.71 334 P **P** **21 40 18.7 -0.9**
ARCES ARCESS Array B 51.71 334 P **P** **21 40 18.7 -0.9**
comp=Z,1.8nm,0.5s,baz=64,slow=8.2,SNR=14
ARCES LR LR 22 05 31.6
comp=Z,72nm,19.3s,baz=180,slow=40
JOF Joensuu 52.42 325 *e*P **P** **21 40 22.1 -2.8**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 52.42 325 *e*p **P** **21 40 22.1 -2.8**
comp=Z,2.2nm,0.6s
DOT Dot Lake 52.49 34 *e*P **P** **21 40 25.2 -0.3**
comp=Z,13nm,0.6s
MENT Mentasta 52.94 35 *e*P **P** **21 40 29.0 +0.2**
OBN Obninsk 53.45 314 *i* P **P** **21 40 33.3 +0.8**
OBN *e*SS SKiKP 21 51 40.7 -7.1
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,15.0s
KAF Kangasniemi 54.86 325 *e*P **P** **21 40 40.8 -1.9**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 54.86 325 *e*p **P** **21 40 40.8 -1.9**
comp=Z,2.3nm,0.7s
FINES FINESS Array B 55.28 325 P **P** **21 40 45.0 -0.8**
FINES FINESS Array B 55.28 325 P **P** **21 40 45.0 -0.8**
comp=Z,2.9nm,0.6s,baz=77,slow=6.3,SNR=16
KBZ Khabaz 55.35 300 P **P** **21 40 47.0 +0.4**
KBZ Khabaz 55.35 300 P **P** **21 40 47.0 +0.4**
KBZ Khabaz 55.35 300 P **P** **21 40 47.0 +0.4**
comp=Z,3.2nm,0.9s,baz=17,slow=9.2,SNR=4.4
KIV Kislovodsk 55.37 300 *e*P **P** **21 40 47.1 +0.2**
KIV pmax pmax
comp=Z,25nm,0.8s
KIV MLR MLR
comp=Z,64nm,16.0s
KIV Kislovodsk 55.37 300 *e*P **P** **21 40 47.3 +0.4**
comp=Z,24nm,0.9s
GNI Garni 56.05 295 *e*P **P** **21 40 51.8 -0.1**
comp=Z,12nm,1.0s
HYT Haines Junctio 56.55 35 *e*P **P** **21 40 56.5 +1.5**
PMG Port Moresby 57.83 152 LR LR 22 04 29.8
comp=Z,57nm,18.9s,baz=280,slow=35
RES Resolute Bay 58.48 11 P **P** **21 41 08.0 -0.3**
RES Resolute Bay 58.48 11 P **P** **21 41 08.0 -0.3**
comp=Z,9.0nm,0.8s,baz=316,slow=7.2,SNR=28
AKASG Malin Array Be 59.52 313 P **P** **21 41 14.7 -1.2**
AKASG Malin Array Be 59.52 313 P **P** **21 41 14.7 -1.2**
AKASG Malin Array Be 59.52 313 P **P** **21 41 14.7 -1.2**
comp=Z,2.5nm,0.7s,baz=49,slow=7.3,SNR=13
KIEV Kiev 59.53 313 *i* P **P** **21 41 17.5 +1.6**
HFS Hagfors 61.01 327 P **P** **21 41 24.8 -1.2**
HFS Hagfors 61.01 327 P **P** **21 41 24.8 -1.2**
comp=Z,3.8nm,0.6s,baz=66,slow=5.0,SNR=17
MALT Malatya 61.15 297⇑ *i*P **P** **21 41 26.0 -1.3**
NB2 NORSAR Subarra 61.36 329 P **P** **21 41 27.5 -0.9**
comp=Z,8.1nm,0.8s,baz=53,slow=6.9
NOA NORSAR Array B 61.36 329 P **P** **21 41 27.4 -0.9**
NOA NORSAR Array B 61.36 329 P **P** **21 41 27.4 -0.9**
comp=Z,5.8nm,0.7s,baz=47,slow=6.5,SNR=25
SUMG Summit 62.58 354 *e*P **P** **21 41 36.6 -0.2**
SUMG pmax pmax
comp=Z,162nm,3.0s
SUMG Summit 62.58 354 *i* P **P** **21 41 36.7 -0.1**
comp=Z,5.5nm,0.7s
SUMG Summit 62.58 354 *e*P **P** **21 41 36.6 -0.2**
comp=Z,162nm,3.0s
SCO Scoresbysund 62.63 347 *i* P **P** **21 41 37.2 +0.5**
SCO Scoresbysund 62.63 347 *i* P **P** **21 41 37.2 +0.5**
comp=Z,2.2nm,0.9s
BR131 Keskin Array S 63.33 300 *e*P **P** **21 41 41.2 -0.8**
comp=Z,3.4nm,0.8s
BRTR Keskin Array B 63.33 300 P **P** **21 41 41.4 -0.7**
BRTR Keskin Array B 63.33 300 P **P** **21 41 41.4 -0.7**
comp=Z,5.0nm,0.8s,baz=89,slow=4.8,SNR=11
BURAR Bucovina Array 63.46 311⇓ *i*P **P** **21 41 42.2 -0.5**
YKA Yellowknife Ar 63.86 26 P **P** **21 41 44.1 -0.8**
YKA Yellowknife Ar 63.86 26 P **P** **21 41 44.1 -0.8**
comp=Z,7.0nm,0.7s,baz=316,slow=6.8,SNR=62
MLR Muntele Rosu 64.36 309⇑ *i*P **P** **21 41 48.4 -0.3**
TRPA Tarpa 64.56 313⇑ *i*P **P** **21 41 50.4 +0.7**
WRAB Tennant Creek 64.87 168⇑ *e*P **P** **21 41 50.7 -1.3**
WRAB pmax pmax
comp=Z,23nm,0.8s
WRAB Tennant Creek 64.87 168 *e*P **P** **21 41 50.9 -1.1**
comp=Z,8.8nm,0.8s
WRA Warramunga Arr 64.88 168 P **P** **21 41 51.0 -1.0**
WRA Warramunga Arr 64.88 168 P **P** **21 41 51.0 -1.0**
comp=Z,6.9nm,0.7s,baz=352,slow=7.3,SNR=57
GZR Gura Zlata 66.16 311⇓ *i*P **P** **21 42 00.7 +0.4**
KRLC Kraliky 66.20 317 *e*P **P** **21 42 00.9 +0.5**
KRLC Kraliky 66.20 317 *e*P **P** **21 42 00.9 +0.5**
DPC Dobruska-Polom 66.24 318 *e*P **P** **21 42 01.4 +0.7**
DPC Dobruska-Polom 66.24 318 *e*P **P** **21 42 01.4 +0.7**
DPC *e*pP **pP** **21 42 05.7 +0.5**
DPC Dobruska-Polom 66.24 318 *e*P **P** **21 42 00.6 -0.1**
UPC Upice 66.29 318 *e*P **P** **21 42 01.7 +0.8**
UPC Upice 66.29 318 *e*P **P** **21 42 01.7 +0.8**
BZS Buzias 66.64 311⇑ *i*P **P** **21 42 02.7 -0.6**
CLL Collm 67.15 320⇓ *i*P **P** **21 42 06.4 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 67.15 320⇓ *i*P **P** **21 42 06.4 0.0**
comp=Z,7.0nm,0.9s
CLL *i* pP **pP** **21 42 10.0 -0.9**
PRU Pruhonice 67.33 318 *e*P **P** **21 42 08.0 +0.4**
PRU Pruhonice 67.33 318 *e*P **P** **21 42 08.0 +0.4**
PRU *e*pP **pP** **21 42 12.8 +0.7**
TREC Trest 67.35 317 *e*P **P** **21 42 08.2 +0.5**

TREC	Trest	67.35	317	eP		P	21 42 08.2	+0.5
VTS	Vitosha	67.72	308	⇑iP		P	21 42 10.1	-0.3
PKSM	Moragy	67.83	313	⇓iP		P	21 42 09.9	-0.8
CONA	Conrad Observa	68.09	316	⇓ipP		P	21 42 13.5	+0.9
	comp=Z,4.3nm,0.9s							
NKC	Novy Kostel	68.15	320	eP		P	21 42 13.3	+0.5
NKC	Novy Kostel	68.15	320	eP		P	21 42 13.3	+0.5
KHC	Kasperske Hory	68.38	318	eP		P	21 42 14.5	+0.3
KHC	Kasperske Hory	68.38	318	eP		P	21 42 14.5	+0.3
KHC				epP		pP	21 42 18.2	-0.6
KHC	Kasperske Hory	68.38	318	eP		P	21 42 14.8	+0.6
	comp=Z,90nm,2.7s							
AS31	Alice Springs	68.48	169	eP		P	21 42 13.9	-1.1
ASAR	Alice Springs	68.48	169	P		P	21 42 14.6	-0.4
ASAR	Alice Springs	68.48	169	P		P	21 42 14.6	-0.4
	comp=Z,3.1nm,0.7s,baz=353,slow=6.9,SNR=24							
GERES	GERESS Array B	68.52	318	P		P	21 42 14.8	-0.3
GERES	GERESS Array B	68.52	318	P		P	21 42 14.8	-0.3
	comp=Z,1.3nm,0.8s,baz=47,slow=7.8,SNR=8.2							
KBA	Koelnbreinsper	69.91	317	⇑ipP		P	21 42 24.3	+0.3
	comp=Z,5.6nm,0.8s							
EKA	Eskdalemuir Ar	70.72	331	P		P	21 42 27.9	-0.6
EKA	Eskdalemuir Ar	70.72	331	P		P	21 42 27.9	-0.6
	comp=Z,3.6nm,0.8s,baz=49,slow=7.0,SNR=9.6							
MEM	Membach	70.76	323	AP		pP	21 42 32.4	-1.0
	comp=Z,16nm,2.5s							
EDM	Edmonton	71.35	32	eP		P	21 42 33.1	+0.7
EDM	Edmonton	71.35	32	eP		P	21 42 33.1	+0.7
BFO	Black Forest	71.40	320	eP		P	21 42 33.2	+0.4
BFO				pmax		pmax		
	comp=Z,24nm,1.4s							
BFO	Black Forest	71.40	320	eP		P	21 42 33.2	+0.4
	comp=Z,24nm,1.4s							
DAVA	Damuels	71.44	319	⇑ipP		P	21 42 33.3	+0.1
	comp=Z,15nm,1.1s							
FRB	Frobisher Bay	71.76	5	P		P	21 42 33.7	-0.9
FRB	Frobisher Bay	71.76	5	P		P	21 42 33.7	-0.9
	comp=Z,4.7nm,0.6s,baz=1.1,slow=4.0,SNR=5.8							
DAVOX	Davos/Dischmat	71.80	318	P		P	21 42 34.6	-0.8
DAVOX	Davos/Dischmat	71.80	318	P		P	21 42 34.6	-0.8
	comp=Z,4.2nm,0.8s,baz=45,slow=8.1							
CDF	Champ du Feu	71.82	321	eP		P	21 42 38.8	+3.4
CDF	Champ du Feu	71.82	321	eP		P	21 42 38.8	+3.4
CDF	Champ du Feu	71.82	321	eP		P	21 42 38.8	+3.4
TUE	Stuetta	72.28	318	eP		P	21 42 38.2	-0.1
	comp=Z,28nm,1.7s							
PAGF	Fort de Pagny	72.41	322	eP		P	21 42 38.4	-0.4
	comp=Z,4.7nm,1.0s							
PAGF	Fort de Pagny	72.41	322	eP		P	21 42 38.4	-0.4
	comp=Z,4.7nm,1.0s							
HINF	Hinteralfeld	72.45	321	eP		P	21 42 38.8	-0.3
	comp=Z,7.3nm,0.9s							
HINF	Hinteralfeld	72.45	321	eP		P	21 42 38.8	-0.3
HINF				pmax		pmax		
	comp=Z,7.0nm,0.9s							
HINF	Hinteralfeld	72.45	321	eP		P	21 42 38.8	-0.3
	comp=Z,7.3nm,0.9s							
HAU	Haudompre	72.54	321	eP		P	21 42 39.2	-0.4
	comp=Z,12nm,1.0s							
HAU	Haudompre	72.54	321	eP		P	21 42 39.2	-0.4
HAU				pmax		pmax		
	comp=Z,12nm,1.0s							
HAU	Haudompre	72.54	321	eP		P	21 42 39.2	-0.4
	comp=Z,12nm,1.0s							
FCC	Fort Churchill	72.64	19	eP		P	21 42 39.5	-0.5
FCC	Fort Churchill	72.64	19	eP		P	21 42 39.5	-0.5
	comp=Z,0.4nm,1.0s							
SFTF	Sexfontaines	72.97	322	eP		P	21 42 41.9	-0.3
SFTF	Sexfontaines	72.97	322	eP		P	21 42 41.9	-0.3
NEW	Newport	73.63	37	eP		P	21 42 47.1	+1.0
	comp=Z,7.0nm,0.9s							
E07A	Sunnyside	73.70	40	eP		P	21 42 47.8	+1.3
	comp=Z,9.0nm,1.0s							
D08A	Wollman Farm,	73.75	39	eP		P	21 42 48.3	+1.5
	comp=Z,7.8nm,1.0s							
HAWA	Hanford	73.97	40	eP		P	21 42 49.3	+1.2
	comp=Z,6.8nm,0.9s							
LOR	Lormes	74.20	322	eP		P	21 42 48.8	-0.7
	comp=Z,38nm,1.2s							
LOR	Lormes	74.20	322	eP		P	21 42 48.8	-0.7
	comp=Z,38nm,1.3s							
LPL	La Plagne	74.21	319	eP		P	21 42 49.7	-0.1
	comp=Z,14nm,0.9s							
LPL	La Plagne	74.21	319	eP		P	21 42 49.7	-0.1
LPL				pmax		pmax		
	comp=Z,14nm,0.9s							
LPL	La Plagne	74.21	319	eP		P	21 42 49.7	-0.1
	comp=Z,14nm,0.9s							
LPG	La Plagne	74.22	319	eP		P	21 42 49.9	0.0
	comp=Z,13nm,1.0s							
LPG	La Plagne	74.22	319	eP		P	21 42 49.9	0.0
LPG				pmax		pmax		
	comp=Z,13nm,1.0s							
LPG	La Plagne	74.22	319	eP		P	21 42 49.9	0.0
	comp=Z,13nm,1.0s							
WALA	Waterton Lakes	74.37	35	eP		P	21 42 51.4	+0.8
	comp=Z,0.5nm,1.4s							
SSF	Saint Saulge	74.52	322	eP		P	21 42 50.5	-0.8
SSF	Saint Saulge	74.52	322	eP		P	21 42 50.5	-0.8
SSF	Saint Saulge	74.52	322	eP		P	21 42 50.5	-0.8
SMF	Signal de Mont	74.69	321	eP		P	21 42 51.8	-0.5
	comp=Z,20nm,1.1s							
SMF	Signal de Mont	74.69	321	eP		P	21 42 51.8	-0.5
SMF				pmax		pmax		
	comp=Z,20nm,1.1s							
SMF	Signal de Mont	74.69	321	eP		P	21 42 51.8	-0.5
	comp=Z,20nm,1.1s							
MBDF	Montbardon	74.78	319	eP		P	21 42 52.2	-0.9
	comp=Z,6.1nm,0.7s							
MBDF	Montbardon	74.78	319	eP		P	21 42 52.2	-0.9
MBDF				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MBDF	Montbardon	74.78	319	eP		P	21 42 52.2	-0.9
	comp=Z,6.1nm,0.7s							
BSMT	Bassoo Peak	74.95	36	eP		P	21 42 55.5	+1.4
JTMT	Jette	75.25	36	eP		P	21 42 56.1	+0.5
	comp=Z,5.2nm,1.1s							
YBMT	Yellow Bay	75.27	36	eP		P	21 42 57.1	+1.3
SWMT	Swartz Lake	75.55	36	eP		P	21 42 58.7	+1.3
TCF	Toulx Ste Croi	75.68	322	eP		P	21 42 57.8	-0.2
TCF	Toulx Ste Croi	75.68	322	eP		P	21 42 57.8	-0.2
TCF	Toulx Ste Croi	75.68	322	eP		P	21 42 57.8	-0.2
SLMT	Seeley Lake	75.97	36	eP		P	21 43 00.9	+1.1
MSO	Missoula	76.11	36	eP		P	21 43 01.4	+0.8
	comp=Z,7.7nm,1.0s							
CHMT	Chamberlain Mo	76.33	36	eP		P	21 43 03.1	+1.2
	comp=Z,1.8nm,0.9s							
STKA	Stephens Creek	77.79	164	eP		P	21 43 10.1	+0.3
STKA	Stephens Creek	77.79	164	P		P	21 43 09.6	-0.3
	comp=Z,3.8nm,0.6s,baz=348,slow=6.5,SNR=5.1							
MFID	Camas Ranch	77.94	40	eP		P	21 43 12.6	+1.6
	comp=Z,90nm,2.8s							
HLID	Hailey	78.47	39	eP		P	21 43 15.4	+1.4
	comp=Z,4.7nm,1.0s							
DGMT	Dagmar	78.59	30	eP		P	21 43 12.6	-1.7
	comp=Z,10nm,1.0s							
ULM	Lac du Bonnet	79.76	24	eP		P	21 43 19.3	-1.3
	comp=Z,8.9nm,0.8s							
ULM	Lac du Bonnet	79.76	24	P		P	21 43 19.5	-1.1
	comp=Z,10nm,0.8s,baz=327,slow=5.7,SNR=18							
MOOW	Moose Ponds	79.93	36	eP		P	21 43 22.8	+0.8
	comp=Z,38nm,2.6s							
NVAR	Mina Array Bea	80.61	44	P		P	21 43 27.1	+1.4
NVAR	Mina Array Bea	80.61	44	P		P	21 43 27.1	+1.4
	comp=Z,1.5nm,0.6s,baz=316,slow=4.5,SNR=8.3							
SCHQ	Schefferville	80.74	6	P		P	21 43 25.4	-0.4
SCHQ	Schefferville	80.74	6	P		P	21 43 25.4	-0.4
	comp=Z,8.8nm,0.8s,baz=272,slow=1.9,SNR=9.1							
R11A	Troy Canyon, C	82.02	43	eP		P	21 43 34.5	+1.3
	comp=Z,51nm,2.8s							
JLU	Jordanelle	82.16	39	eP		P	21 43 28.1	-5.9
	comp=Z,16nm,1.8s							
ESDC	Sonseca Array	83.68	322	P		P	21 43 41.3	-0.3
ESDC	Sonseca Array	83.68	322	P		P	21 43 41.3	-0.3
	comp=Z,1.3nm,0.9s,baz=6.2,slow=4.6,SNR=3.8							
PFO	Pinyon Flat Ob	85.30	46	eP		P	21 43 50.1	+0.1
	comp=Z,34nm,2.0s							
KMBO	Kilima Mbogo	87.85	266	LR		LR	22 28 32.1	
	comp=Z,65nm,20.3s,baz=99,slow=39							
TXAR	Lajitas Array	95.04	40	P		P	21 44 37.0	+1.0
TXAR	Lajitas Array	95.04	40	P		P	21 44 37.0	+1.0
	comp=Z,0.2nm,0.8s,baz=346,slow=6.5,SNR=3.0							
VNDA	Vanda	124.02	171	PKP		PKPdf	21 50 08.8	-0.8
VNDA	Vanda	124.02	171	PKP		PKPdf	21 50 08.8	-0.8
	comp=Z,1.3nm,0.6s,baz=354,slow=3.3,SNR=6.2							
SAML	Samuel	144.22	11	ePKPdf		PKPab	21 50 46.0	-0.8
BDFB	Brasilia	150.33	343	PKPbc		PKPbc	21 51 03.1	-1.4
BDFB	Brasilia	150.33	343	PKPbc		PKPbc	21 51 03.1	-1.4
	comp=Z,0.0nm,0.3s,baz=30,slow=4.1,SNR=5.2							
LPAZ	La Paz	150.36	22	ePKPbc		PKPbc	21 51 04.0	-1.3
LPAZ	La Paz	150.36	22	PKPbc		PKPbc	21 51 04.4	-0.9
	comp=Z,4.6nm,0.8s,baz=318,slow=1.3,SNR=15							

*NEIC **20** 21:52:47.8, 18.82N×67.33W, h4km, MD2.6(RSPR), After RSPR.*

RSPR 20 21:52:47.8, 18.82N×67.33W, h4km±2km, MD2.6/5, 15C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.41	149	⇑eP			Pg	21 52 55.9	+0.1
AGPR	Aguadilla, PR	0.41	149	eS			Sb	21 53 02.7	-1.5
AGPR	Aguadilla, PR	0.41	149	⇑eP			Pg	21 52 55.7	0.0
AGPR	Aguadilla, PR	0.41	149	eS			Sg	21 53 01.7	+0.6
AGPR	Aguadilla, PR	0.41	149	⇑eP			Pg	21 52 55.7	0.0
AGPR				eS			Sg	21 53 01.7	+0.6
IDE	Isla Desecheo	0.45	197	⇑eP			Pg	21 52 56.9	+0.3
IDE	Isla Desecheo	0.45	197	⇑eP			Pg	21 52 56.7	+0.1
IDE	Isla Desecheo	0.45	197	eS			Sg	21 53 03.7	+1.2
IDE	Isla Desecheo	0.45	197	⇑eP			Pg	21 52 56.7	+0.1
IDE				eS			Sg	21 53 03.7	+1.2
LSP	Las Mesas	0.68	160	⇑eP			Pg	21 53 00.9	-0.1
LSP	Las Mesas	0.68	160	⇑eP			Pg	21 53 00.9	-0.1
LSP	Las Mesas	0.68	160	eS			Sg	21 53 10.2	+0.2
LSP	Las Mesas	0.68	160	⇑eP			Pg	21 53 00.9	-0.1
LSP				eS			Sg	21 53 10.2	+0.2
CRPR	Cabo Rojo, PR	0.84	165	eS			Sg	21 53 14.8	0.0
CRPR	Cabo Rojo, PR	0.84	165	⇑eP			Pg	21 53 03.4	-0.6
CRPR	Cabo Rojo, PR	0.84	165	eS			Sg	21 53 13.8	-1.0
CRPR	Cabo Rojo, PR	0.84	165	⇑eP			Pg	21 53 03.3	-0.6
CRPR	Cabo Rojo, PR	0.84	165	⇑eP			Pg	21 53 03.3	-0.6
CRPR				eS			Sg	21 53 13.8	-1.0
MTP	Monte Pirata	1.84	113	⇑eP			Pn	21 53 17.1	-3.1
MTP	Monte Pirata	1.84	113	⇑eP			Pn	21 53 16.5	-3.7
MTP	Monte Pirata	1.84	113	eS			Sn	21 53 38.1	-5.7
MTP	Monte Pirata	1.84	113	⇑eP			Pn	21 53 16.5	-3.7
MTP				eS			Sn	21 53 38.1	-5.7

*IDC **20** 22:05:57.8±2.7, 6.75S×131.41E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=108.5km s-min=30.6km az=80.0*
*AUST **20** 22:06:02.9, 6.64S×130.93E, h20km*

ISC 20 22:06:02.9±1.8, 7.0S±0.1×131.5E±0.3, h36km, n8, σ2s52/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.10	11	P			Pn	22 07 05.0	+2.0
	baz=3.9,SNR=7.8								
KDU	Kakadu	5.77	170	P			Pn	22 07 31.9	+5.9
	baz=6.2,SNR=9.0								
MTN	Manton Dam	5.84	183	P			Pn	22 07 33.2	+6.2
	baz=6.2,SNR=17								
KNRA	Kununurra	9.05	197	P			Pn	22 08 16.3	+5.3
	baz=9.3,SNR=8.9								
FITZ	Fitzroy Crossi	12.43	207	Pn			**Pn**	**22 08 58.4**	**+1.1**
	0.5nm,0.3s,baz=260,slow=17,SNR=1.5								
FITZ				Sn			Sn	22 11 09.2	-5.5
	0.4nm,0.3s,baz=252,slow=14,SNR=2.1								
WRA	Warramunga Arr	13.20	168	Pn			**Pn**	**22 09 09.8**	**+2.0**
	0.1nm,0.3s,baz=347,slow=14,SNR=2.4								
WRA				Sn			**Sn**	**22 11 30.8**	**-2.6**
	0.5nm,0.3s,baz=347,slow=25,SNR=5.3								
ASAR	Alice Springs	16.77	172	Pn			**P**	**22 09 57.1**	**+0.1**
	0.1nm,0.3s,baz=2.5,slow=8.8,SNR=2.1								
MKAR	Makanchi Array	69.00	326	P			**P**	**22 17 03.9**	**-0.8**
	0.3nm,0.4s,baz=118,slow=6.9,SNR=5.0								

IDC 20 22:20:03.2±3.5, 28.25S×179.05W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=112.6km s-min=26.5km az=26.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.41	135	Pn			Pb	22 20 30.7	+0.2
	55nm,0.3s,baz=86,slow=23,SNR=2.7								
RAO				Sn			Sn	22 20 58.0	+8.4
	75nm,0.3s,baz=64,slow=21,SNR=2.9								
STKA	Stephens Creek	34.12	254	P			P	22 26 49.5	-0.5
	0.7nm,0.6s,baz=212,slow=16,SNR=2.9								
ASAR	Alice Springs	42.34	265	P			P	22 27 58.4	-0.9
	0.2nm,0.5s,baz=110,slow=8.2,SNR=4.3								
WRA	Warramunga Arr	43.13	270	P			P	22 28 06.6	+0.9
	0.4nm,0.4s,baz=111,slow=8.0,SNR=14								
FINES	FINESS Array B	142.81	340	PKP			PKPdf	22 39 34.9	-3.1
	0.9nm,0.4s,baz=62,slow=2.9,SNR=10								

IDC 20 22:26:05.8±6.0, 19.51S×178.95E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/18, mbtmp3.6/2, Error ellipse: s-maj=331.9km s-min=90.3km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.90	262	P			P	22 33 58.4	0.0
	0.3nm,0.3s,baz=98,slow=7.9,SNR=24								
ASAR	Alice Springs	41.96	256	P			P	22 33 58.6	-0.3
	0.5nm,0.5s,baz=88,slow=7.9,SNR=11								
BRTR	Keskin Array B	144.05	312	PKP			PKPdf	22 45 43.3	-0.6
	1.7nm,1.1s,baz=43,slow=6.5,SNR=3.6								

IDC 20 22:35:19.5±47.0, 18.48S×173.76W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/20, mbtmp4.1/3, Error ellipse: s-maj=901.9km s-min=173.1km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.26	243	P			P	22 43 15.1	+0.2
	1.9nm,0.6s,baz=90,slow=9.1,SNR=4.7								
WRA	Warramunga Arr	48.87	259	P			P	22 44 07.2	-0.2
	0.4nm,0.4s,baz=97,slow=7.1,SNR=14								
ASAR	Alice Springs	48.89	254	P			P	22 44 07.3	-0.3
	3.6nm,0.6s,baz=93,slow=8.4,SNR=64								

WEL 20 22:49:46.4±0.4, 45.73S×166.22E, h2km, ML4.0/13, 3C-1D, Error ellipse: s-maj=3.6km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.70	69	P*			Pg	22 50 00.5	+0.6
DCZ				SG			Sg	22 50 09.8	+0.8
DCZ				AML		AML		22 50 10.6	
DCZ				AML		AML		22 50 10.6	
DCZ				AML		AML		22 50 10.9	
WHZ	Wether Hill Ro	1.22	98	⇑P*			Pg	22 50 09.5	-0.3
WHZ				S*			Sb	22 50 26.5	+0.1
WHZ				AML		AML		22 50 30.4	
MLZ	Mavora Lakes	1.43	75	PN			Pn	22 50 12.0	-1.4
MLZ				S*			Sg	22 50 30.5	-1.8
MLZ				AML		AML		22 50 31.5	
MSZ	Milford Sound	1.61	49	ePN			Pn	22 50 14.7	-1.1
MSZ				AML		AML		22 50 38.3	
MSZ				AML		AML		22 50 38.3	
MSZ				AML		AML		22 50 38.3	
MSZ				AML		AML		22 50 38.3	
APZ	The Paps	1.65	133	⇑PN			Pn	22 50 15.4	-1.1
APZ				AML		AML		22 50 38.2	
APZ				AML		AML		22 50 38.9	
WKZ	Wanaka	2.17	66	PN			Pn	22 50 24.9	+1.2
WKZ				AML		AML		22 51 02.3	
WKZ				AML		AML		22 51 02.9	
SYZ	Scrubby Hill	2.18	113	⇑PN			Pn	22 50 23.5	-0.2
SYZ				SN		Sn		22 50 50.6	-0.7
SYZ				AML		AML		22 50 55.9	
EAZ	Earnscleugh	2.23	78	PN			Pn	22 50 25.0	+0.6
EAZ				AML		AML		22 50 54.2	
EAZ				AML		AML		22 50 56.7	
TUZ	Tuapeka	2.39	97	PN			Pn	22 50 26.3	-0.4
TUZ				AML		AML		22 50 59.3	
TUZ				AML		AML		22 50 59.4	
JCZ	Jackson Bay	2.45	48	PN			Pn	22 50 27.5	-0.1
JCZ				AML		AML		22 51 10.1	
JCZ				AML		AML		22 51 14.3	
LBZ	Lake Benmore	3.11	66	ePN			Pn	22 50 36.3	-0.3
LBZ				AML		AML		22 51 14.0	
LBZ				AML		AML		22 51 27.4	
ODZ	Otahuna Downs	3.19	79	⇓PN			Pn	22 50 36.7	-1.0
FOZ	Fox Glacier	3.29	50	AML		AML		22 51 40.2	
RPZ	Rata Peaks	3.99	61	ePN			Pn	22 50 47.8	-0.9
RPZ				AML		AML		22 51 39.8	
RPZ				AML		AML		22 51 40.6	

*JMA **20** 23:19:08.2±0.1, 23.75N×121.58E, h18km±2km, M2.9*
*TAP **20** 23:19:08.8, 23.78N×121.54E, h18km, ML3.6, C*
*ISCJB **20** 23:19:09.0±0.3, 23.76N±0.01×121.60E±0.02, h19km±3km, Error ellipse: s-maj=3.2km s-min=2.0km az=34.2*

ISC 20 23:19:08.9±0.8, 23.76N±0.02×121.58E±0.02, h18km±4km, n58, σ0s64/104, 6C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.06	217	⇑P			Pg	23 19 12.8	+0.7
	baz=174								
TEGC				S			Sg	23 19 15.6	+1.3
	baz=174								
ESF	Shoufeng Towns	0.13	330	⇑iP			Pg	23 19 12.9	0.0
	baz=330								
ESF				iS			Sg	23 19 15.7	+0.1
	baz=330								
ESL	Shilin	0.15	293	⇑iP			Pb	23 19 12.7	-0.2
	baz=280								
ESL				eS			Sg	23 19 15.0	-0.8
	baz=280								
HWA	Hwalien	0.22	6	⇓eP			Pb	23 19 14.4	0.0
	baz=7.0								
HWA				eS			Sg	23 19 18.2	+0.5
	baz=7.0								
TWD	Chiawan	0.32	3	⇓iP			Pg	23 19 15.7	-0.1
	baz=1.0								
TWD				S			Sg	23 19 20.6	0.0
	baz=1.0								
EHY	Hungye	0.34	223	⇓P			Pg	23 19 15.9	-0.2
	baz=224								
EHY				eS			Sg	23 19 21.1	0.0
	baz=224								
TWF1	Yuli	0.48	213	⇓iP			Pg	23 19 18.1	-0.5
	baz=222								
TWF1				eS			Sb	23 19 26.0	+0.5
	baz=222								
WHF	Hehuan Shan	0.48	323	⇑iP			Pg	23 19 18.0	-0.9
	baz=324								
WHF				iS			Sg	23 19 24.2	-1.3
	baz=324								
EHP	Heping Village	0.57	15	eP			Pg	23 19 21.1	+0.8
	baz=14								
TWT	Tachien	0.62	323	⇑iP			Pb	23 19 20.9	-0.4
	baz=315								
TWT				S			Sb	23 19 28.5	-1.2
	baz=315								
YUS	Yu-Shan	0.63	245	⇓iP			Pb	23 19 21.6	-0.1
	baz=252								
YUS				iS			Sb	23 19 29.9	-0.6
	baz=252								
SMLT	Sun Moon Lake	0.64	282	⇓iP			Pb	23 19 20.9	-0.6
	baz=280								
SMLT				iS			Sb	23 19 29.6	-0.5
	baz=280								
TYC	Yuchr	0.68	283	⇓iP			Pb	23 19 21.5	-0.7
	baz=288								
TYC				S			Sb	23 19 30.4	-0.8
	baz=288								
CHKT	Chengkung	0.68	197	eP			Pb	23 19 22.6	+0.3
	baz=192								
CHKT				eS			Sn	23 19 33.7	-0.2
	baz=192								
ENA	Nanau	0.69	12	eP			Pb	23 19 21.9	-0.4
	baz=5.0								
ENA				S			Sb	23 19 31.5	0.0
	baz=5.0								
NNS	Nan Shan	0.71	345	⇑iP			Pb	23 19 22.2	-0.5
	baz=346								
NNS				iS			Sb	23 19 31.2	-1.1
	baz=346								
ALS	Alishan	0.75	251	⇓iP			Pb	23 19 23.6	-0.1
	baz=257								
ALS				S			Sb	23 19 33.3	-0.4
	baz=257								
ELDTW	Lidau	0.77	223	eP			Pb	23 19 23.0	-0.8
	baz=219								
WNT	Mingjian	0.83	279	eP			Pb	23 19 25.0	+0.3
	baz=279								
WNT				eS			Sb	23 19 36.0	+0.3
	baz=279								
CHN5	Tsauling	0.84	259	⇓iP			Pb	23 19 25.4	+0.3
	baz=251								
CHN5				S			Sg	23 19 36.8	+0.3
	baz=251								
ENTT	Nioudou	0.88	359	eP			Pb	23 19 25.2	-0.5
ENTT				S			Sb	23 19 37.0	-0.2
TWC	Suao	0.89	16	P			Pb	23 19 25.7	0.0
	baz=9.0								
TWC				eS			Sb	23 19 37.6	+0.3
	baz=9.0								
TCU	Taichung	0.91	295	eP			Pb	23 19 26.0	-0.2
	baz=295								
TCU				eS			Sg	23 19 39.4	+0.6
	baz=295								
WGK	Gukeng	0.94	266	eP			Pb	23 19 26.8	+0.2
	baz=264								
WGK				eS			Sg	23 19 39.6	+0.2
	baz=264								
NSK	Sanguang	0.94	348	P			Pb	23 19 26.2	-0.5
	baz=339								
NSK				S			Sb	23 19 38.2	-0.7
	baz=339								
TWQ1	Liyutan	0.94

baz=274
WTCT eS Sn 23 19 46.5 0.0
baz=274
WSF Szhu 1.25 265 eP Pn 23 19 31.2 -0.3
baz=264
WSF eS Sn 23 19 48.3 +0.4
baz=264
NCU National Centr 1.26 344 eP Pn 23 19 31.2 -0.5
baz=340
NCU eS Sn 23 19 48.4 +0.2
baz=340
ECL Taimali 1.29 207 eP Pn 23 19 31.2 -0.8
baz=193
TWB1 Santiao Chiao 1.30 17 eP Pb 23 19 33.0 +0.1
baz=4.0
CHN8 Yiju 1.32 252 eP Pn 23 19 32.2 -0.3
baz=251
CHN8 eS Sb 23 19 50.5 +0.7
baz=251
NWF Wu-fen Shan 1.32 8 eP Pn 23 19 32.5 -0.1
baz=8.0
SSD Sandimen 1.33 221 eP Pn 23 19 33.2 +0.6
baz=212
TWS1 Kuangyinshan 1.35 354 eP Pn 23 19 33.2 +0.4
baz=7.0
TWS1 eS Sb 23 19 51.2 +0.6
baz=7.0
TWM1 Shoushan 1.41 229 eP Pn 23 19 34.4 +0.6
baz=228
YOJ Yonaguni jima 1.48 61 P Pn 23 19 35.3 +0.6
EAST Anshuo 1.52 206 eP Pn 23 19 35.5 +0.1
baz=195
LAY Lan-yu 1.71 181 eP Pn 23 19 36.4 -1.4
baz=170
TWK1 Hengchun 1.94 202 eP Pb 23 19 43.9 +0.1
baz=191
IRIF Iriomote-Funau 2.05 73 P Pn 23 19 42.6 +0.1
IRIF S Sn 23 20 08.4 +0.8
HATJ Hateruma jima 2.06 81 P Pn 23 19 42.3 -0.3
HATJ S Sn 23 20 07.7 -0.2
JKRS Kuro-shima 2.27 77 P Pn 23 19 45.9 +0.3
JKRS S Sn 23 20 14.2 +1.0
JIJ Ishigaki jima 2.42 75 P Pn 23 19 47.4 -0.2
JIJ S Sn 23 20 16.4 -0.4
KNM Kinmen 2.95 284 eP Pn 23 19 56.4 +1.5
baz=282
KNM eS Sn 23 20 32.4 +2.5
baz=282
JTJ Tarama 2.98 72 S Sn 23 20 32.0 +1.3

IDC ***20*** *23:52:33.5±0.6, 51.˚41N×179.˚98E, h0km, mb4.1/26, mb1 4.3/26, mb1mx4.2/30, mbtmp4.1/26, MS3.7/20, Ms1 3.8/20, ms1mx3.6/38, Error ellipse: s-maj=19.3km s-min=12.6km az=158.0*

ISCJB ***20*** *23:52:38.1±1.3, 50.˚71N±0.˚05×179.˚56W±0.˚04, h33km±8km, mb4.8/158, MS3.8/24, Error ellipse: s-maj=7.7km s-min=3.6km az=11.0*

BJI ***20*** *23:52:39.2, 51.˚86N×179.˚22W, h39km, mB5.2/19, mb4.9/40, Ms4.9/11, Ms7 4.7/10*

MOS ***20*** *23:52:40.3±1.2, 51.˚04N×179.˚98W, h33km, mb5.1/57, Error ellipse: s-maj=9.9km s-min=6.5km az=95.4*

NEIC ***20*** *23:52:44.7±0.4, 51.˚57N×179.˚85W, h35km, mb5.0/113, ML4.5(AEIC), Error ellipse: s-maj=11.5km s-min=4.7km az=6.0*

ISC 20 23:52:41.0±0.2, 50.˚91N±0.˚04×179.˚57W±0.˚02, h39km±1km, n703, σ1$48/574, mb4.9/159, **MS3.8**/24, **128C-98D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.99**	**30**	P	Pn	23 52 55.7	-2.7
GAEA	**Gareloi East**	**1.01**	**30**	P	Pn	23 52 56.0	-2.8
GANE	**Gareloi Northe**	**1.04**	**28**	P	Pn	23 52 56.0	-3.1
TASE	**Tanaga Southea**	**1.33**	**45**	P	**Pn**	**23 53 01.8**	**-1.4**
TAFL	**Tanaga Flats**	**1.35**	**50**	P	**Pn**	**23 53 02.4**	**-0.9**
TANO	**Tanaga North**	**1.35**	**41**	P	**Pn**	**23 53 02.0**	**-1.4**
TAFP	**Tanaga Falls P**	**1.40**	**44**	P	**Pn**	**23 53 02.5**	**-1.6**
TAFP				S	**Sn**	**23 53 24.6**	**+3.2**
KIKV	**Kanaga Island**	**1.79**	**56**	P	**Pn**	**23 53 09.2**	**-0.2**
KINC	**Kanaga Island**	**1.84**	**55**	P	**Pn**	**23 53 09.7**	**-0.3**
KIRH	**Kanaga Island**	**1.84**	**56**	P	**Pn**	**23 53 09.9**	**-0.2**
ADK	**Adak**	**2.05**	**60**	P	**Pn**	**23 53 12.8**	**-0.2**
ADK				S	Sn	23 53 46.0	+8.7
ADK	**Adak**	**2.05**	**60**	P	**Pn**	**23 53 12.8**	**-0.2**
ADK				S	Sn	23 53 46.0	+8.7
ADAG	**Mount Adagdak**	**2.14**	**59**	P	**Pn**	**23 53 14.7**	**+0.4**
ETKA	**Kagalaska Isla**	**2.20**	**63**	P	**Pn**	**23 53 15.6**	**+0.6**
GSCK	**Great Sitkin C**	**2.40**	**61**	P	**Pn**	**23 53 18.2**	**+0.4**
GSTD	**Great Sitkin T**	**2.43**	**60**	P	**Pn**	**23 53 19.1**	**+0.9**
GSTD				S	Sn	23 53 55.5	+8.7
GSMY	**Great Sitkin M**	**2.47**	**61**	P	**Pn**	**23 53 19.1**	**+0.3**
GSTR	**Great Sitkin T**	**2.49**	**60**	ePn	**Pn**	**23 53 20.5**	**+1.5**
SMY	**Shemya**	**4.33**	**297**	eP	Pn	23 53 39.6	-4.7
SMY	**Shemya**	**4.33**	**297**	ePn	Pn	23 53 39.6	-4.7
FX1	**Attu Island--F**	**4.92**	**297**	ePn	Pn	23 53 47.0	-5.3
FX1				eSn	**Sn**	**23 54 47.5**	**-0.4**
FX1	**Attu Island--F** 17nm,0.3s,baz=164,slow=23,SNR=26	**4.92**	**297**	Pn	Pn	23 53 46.7	-5.6
FX1	54nm,0.3s,baz=257,slow=22,SNR=5.7			Sn	**Sn**	**23 54 47.0**	**-0.8**
NIKH	**Nikolski High**	**6.94**	**69**	P	**Pn**	**23 54 21.4**	**+1.4**
OKFG	**Magazine Ridge**	**7.59**	**66**	P	**Pn**	**23 54 31.1**	**+2.0**
SPIA	**Saint Paul Isl**	**8.33**	**37**	P	**Pn**	**23 54 37.7**	**-1.4**
MREP	**Makushin Rep't**	**8.37**	**65**	P	**Pn**	**23 54 42.1**	**+2.5**
MSW	**Makushin Switc**	**8.38**	**64**	P	**Pn**	**23 54 41.1**	**+1.4**
UNV	**Unalaska Valle**	**8.52**	**65**	P	**Pn**	**23 54 44.5**	**+2.9**
AKRB	**Akutan Reef Bi**	**8.84**	**63**	P	**Pn**	**23 54 48.9**	**+2.8**
AKUT	**Akutan**	**9.01**	**64**	ePn	Pn	23 54 51.8	+3.5
GAMB	**Gambell**	**13.57**	**15**	ePn	Pn	23 55 47.1	-3.5
PETK	**Petropavlovsk-**	**14.16**	**288**	P	P	23 56 01.4	-4.2
PETK	**Petropavlovsk-**	**14.16**	**288**	Pn	P	23 56 01.4	-4.2
PETK	**Petropavlovsk-** 0.4nm,0.3s,baz=90,slow=14,SNR=3.1	**14.16**	**288**	Pn	P	23 56 01.4	-4.2
PETK				LR	LR	00 00 06.1	
	comp=Z,224nm,20.8s,baz=97,slow=33						
TNA	**Tin City** 67nm,1.8s	**15.87**	**18**	ePn	**Pn**	**23 56 22.0**	**-2.5**
KDAK	**Kodiak Island**	**17.09**	**56**	ePn	**Pn**	**23 56 34.5**	**-2.1**
RSO	**Redoubt South**	**17.76**	**47**	eP	**P**	**23 56 45.7**	**0.0**
PPLA	**Purkeypile** 50nm,1.1s	**18.99**	**40**	eP	**Pn**	**23 57 02.4**	**+2.4**
CAST	**Castle Rocks** 13nm,0.7s	**19.27**	**39**	eP	**Pn**	**23 57 06.1**	**+2.8**
SEY	**Seymchan**	**19.28**	**319**	*i* P	P	23 56 54.7	-7.3
RC01	**Rabbit Creek A** 19nm,1.0s	**19.37**	**47**	eP	**Pn**	**23 57 04.8**	**+0.4**
KTH	**Kantishna Hill** 272nm,0.8s	**19.79**	**39**	eP	**P**	**23 57 06.0**	**-1.8**
TRF	**Thorofare Moun** 62nm,1.2s	**20.01**	**40**	eP	**P**	**23 57 09.3**	**-0.8**
IM04	**Indian Mountai**	**20.01**	**31**	eP	**P**	**23 57 06.8**	**-3.3**
MCK	**McKinley**	**20.67**	**40**	eP	Pn	23 57 18.0	-1.8
MCK	comp=Z,29nm,1.1s			pmax	pmax		
MCK	**McKinley** comp=Z,29nm,1.1s	**20.67**	**40**	eP	Pn	23 57 17.9	-1.8
COLA	**College**	**21.58**	**38**	eP	**P**	**23 57 24.2**	**-2.7**
COLA	comp=Z,17nm,0.9s			pmax	pmax		
COLA	**College** comp=Z,17nm,0.9s	**21.58**	**38**	eP	**P**	**23 57 24.2**	**-2.7**
PAX	**Paxson**	**21.86**	**43**	eP	**P**	**23 57 27.1**	**-3.0**
PAX	comp=Z,15nm,0.7s			pmax	pmax		
PAX	**Paxson** comp=Z,15nm,0.7s	**21.86**	**43**	eP	**P**	**23 57 27.1**	**-3.0**
COLD	**Coldfoot** comp=Z,26nm,1.6s	**21.91**	**31**	eP	**P**	**23 57 29.5**	**-0.9**
IL1	**Eielson Array**	**21.91**	**38**	eP	**P**	**23 57 31.5**	**+1.0**
IL1				eS	**S**	**00 01 30.1**	**+0.1**
ILAR	**Eielson Array**	**21.91**	**38**	P	**P**	**23 57 26.7**	**-3.8**
ILAR				PcP	**PcP**	**00 01 25.1**	**-3.0**
ILAR				ScP	**ScP**	**00 04 58.9**	**-3.1**
ILAR	**Eielson Array** comp=Z,0.7nm,0.6s,baz=242,slow=7.6,SNR=13	**21.91**	**38**	P	**P**	**23 57 26.7**	**-3.8**
ILAR	comp=Z,0.3nm,0.6s,baz=294,slow=3.9,SNR=4.4			PcP	**PcP**	**00 01 25.1**	**-3.0**
ILAR	comp=Z,1.1nm,1.0s,baz=290,slow=4.4,SNR=4.4			ScP	**ScP**	**00 04 58.9**	**-3.1**
ILAR	comp=Z,127nm,18.1s,baz=223,slow=39			LR	LR	00 06 44.6	
DOT	**Dot Lake**	**22.67**	**42**	eP	**P**	**23 57 40.6**	**+1.9**
	comp=Z,28nm,1.3s						
DAWY	**Dawson**	**24.78**	**43**	eP	**P**	**23 58 00.2**	**+1.4**
DAWY				eS	**S**	**00 02 21.0**	**+2.7**
YSS	**Yuzh-Sakhalins**	**24.88**	**276**	eP	**P**	**23 58 00.0**	**+0.2**
YSS	comp=Z,60nm,1.0s			pmax	pmax		
YSS	**Yuzh-Sakhalins** comp=Z,45nm,0.9s	**24.88**	**276**	eP	**P**	**23 57 58.1**	**-1.7**
HYT	**Haines Junctio**	**25.17**	**51**	eP	**P**	**23 58 03.6**	**+1.2**
ASAJ	**Asahikawa**	**26.22**	**270**	P	**P**	**23 58 12.7**	**+0.7**
ASAJ	**Asahikawa** comp=Z,19nm,0.8s,baz=52,slow=3.8,SNR=6.5	**26.22**	**270**	P	**P**	**23 58 12.7**	**+0.7**
ASAJ	comp=Z,103nm,22.0s,baz=185,slow=32			LR	LR	00 06 15.8	
INK	**Inuvik** comp=Z,161nm,3.0s	**28.12**	**35**	eP	**P**	**23 58 25.4**	**-3.4**
INK				PcP	**PcP**	**00 01 43.0**	**+1.2**
INK	**Inuvik** comp=Z,0.7nm,0.4s,baz=250,slow=8.6,SNR=8.0	**28.12**	**35**	P	**P**	**23 58 25.5**	**-3.3**
INK	comp=Z,1.6nm,0.6s,baz=305,slow=2.2,SNR=8.5			PcP	**PcP**	**00 01 43.0**	**+1.2**
INK	comp=Z,154nm,18.6s,baz=298,slow=36			LR	LR	00 09 29.2	
DLBC	**Dease Lake** comp=Z,80nm,19.3s,baz=286,slow=35	**29.02**	**56**	LR	LR	00 09 29.5	
YAK	**Yakutsk**	**29.37**	**312**	*i* P	**P**	**23 58 38.8**	**-1.1**
USRK	**Ussuriysk Arra** comp=Z,1.1nm,0.6s,baz=77,slow=6.4,SNR=2.0	**32.88**	**277**	P	P	23 59 05.1	-5.8
USRK	comp=Z,2.7nm,0.8s,baz=169,slow=2.9,SNR=3.1			PcP	**PcP**	**00 01 54.9**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=20,slow=75,SNR=394	**32.90**	**204**	T	T	00 34 43.7	
H11N3	**WAKE ISLAND Hy** baz=20,slow=75,SNR=403	**32.91**	**204**	T	T	00 34 47.3	
H11N1	**WAKE ISLAND Hy** baz=20,slow=75,SNR=350	**32.92**	**204**	T	T	00 34 45.6	
MJAR	**Matsushiro Arr**	**33.23**	**261**	P	P	23 59 10.6	-3.6
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.6s,baz=47,slow=9.0,SNR=1.9	**33.23**	**261**	P	P	23 59 10.6	-3.6
H11S1	**WAKE ISLAND Hy**	**34.12**	**204**	T	T	00 36 15.3	
H11S2	**WAKE ISLAND Hy**	**34.14**	**204**	T	T	00 36 16.5	
H11S3	**WAKE ISLAND Hy**	**34.14**	**204**	T	T	00 36 16.5	
YKA	**Yellowknife Ar**	**35.91**	**46**	P	P	23 59 33.6	-3.4
YKA				PcP	**PcP**	**00 02 01.0**	**-2.1**
YKA				ScP	**ScP**	**00 05 42.1**	**-3.8**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.5s,baz=281,slow=7.8,SNR=15	**35.91**	**46**	P	P	23 59 33.6	-3.4
YKA	comp=Z,0.3nm,0.7s,baz=284,slow=3.8,SNR=2.6			PcP	**PcP**	**00 02 01.0**	**-2.1**
YKA	comp=Z,0.2nm,0.8s,baz=293,slow=3.7,SNR=2.9			ScP	**ScP**	**00 05 42.1**	**-3.8**
D05A	**Enumclaw** comp=Z,20nm,0.8s	**37.10**	**73**	eP	P	23 59 53.9	+6.5
LON	**Longmire**	**37.41**	**73**	eP	P	23 59 56.0	+5.9
LON	comp=Z,6.0nm,0.7s			pmax	pmax		
LON	**Longmire** comp=Z,6.4nm,0.7s	**37.41**	**73**	eP	P	23 59 56.0	+5.9
LTY	**Liberty** comp=Z,7.8nm,0.6s	**37.86**	**72**	eP	P	23 59 59.1	+5.2
H04A	**Detroit Lake** comp=Z,24nm,0.9s	**38.19**	**76**	eP	P	00 00 03.1	+6.4
G05D	**Wamic, OR** baz=38	**38.45**	**75**	⇑P	**P**	**00 00 00.4**	**+1.6**
I04A	**Tendick Farm,** baz=38	**38.51**	**78**	⇓P	**P**	**00 00 00.8**	**+1.5**
E07A	**Sunnyside** comp=Z,41nm,1.6s	**38.69**	**72**	eP	P	00 00 06.2	+5.5
KRMB	**Red Mountain**	**38.80**	**82**	ePcP	**PcP**	**00 02 16.2**	**+3.7**
HAWA	**Hanford** comp=Z,16nm,0.6s	**38.96**	**72**	eP	P	00 00 08.5	+5.5
D08A	**Wollman Farm,** comp=Z,47nm,1.8s	**39.01**	**71**	eP	P	00 00 08.3	+4.9
C09A	**Chrisman Ranch** comp=Z,8.0nm,0.5s	**39.04**	**70**	eP	P	00 00 08.4	+4.8
KSRS	**Korea Array** comp=Z,2.2nm,0.6s,baz=60,slow=7.2,SNR=2.5	**39.16**	**271**	P	**P**	**00 00 02.8**	**-2.0**
KSRS	comp=Z,65nm,20.0s,baz=247,slow=32			LR	LR	00 13 38.8	
KSAR	**Wonju Array Be**	**39.19**	**271**	P	**P**	**00 00 02.8**	**-2.3**
YBH	**Yreka Blue Hor** comp=Z,32nm,1.7s	**39.43**	**81**	eP	P	00 00 14.8	+7.7
EDM	**Edmonton**	**39.47**	**60**	eP	**P**	**00 00 10.2**	**+3.0**
EDM	**Edmonton**	**39.47**	**60**	eP	**P**	**00 00 10.2**	**+3.0**
NEW	**Newport** baz=39,SNR=8.3	**39.50**	**69**	⇑P	**P**	**00 00 06.8**	**-0.8**
E09A	**Wood Farm, Sta** comp=Z,19nm,1.3s	**39.74**	**72**	eP	P	00 00 14.4	+5.0
M04C	**Macdoel** baz=40	**39.95**	**80**	⇓P	**P**	**00 00 12.6**	**+1.1**
I07A	**Izee** comp=Z,54nm,2.0s	**40.15**	**76**	eP	P	00 00 19.0	+5.9
WDC	**Whiskeytown Da**	**40.18**	**82**	eP	P	00 00 20.1	+6.9
WDC	comp=Z,67nm,2.2s			pmax	pmax		
WDC	**Whiskeytown Da** comp=Z,67nm,2.2s	**40.18**	**82**	eP	P	00 00 20.1	+6.9
RES	**Resolute Bay** comp=Z,6.6nm,0.9s	**40.37**	**24**	eP	**P**	**00 00 15.7**	**+1.3**
RES	**Resolute Bay** comp=Z,1.8nm,0.7s,baz=253,slow=9.1,SNR=22	**40.37**	**24**	P	P	00 00 10.7	-3.7
F10A	**Beach Ranch, E** comp=Z,13nm,1.3s	**40.56**	**72**	eP	P	00 00 21.3	+4.9
MOD	**Modoc** comp=Z,37nm,1.6s	**40.84**	**79**	eP	**P**	**00 00 19.8**	**+0.9**
WALA	**Waterton Lakes**	**41.00**	**66**	eP	P	00 00 24.5	+4.5
J08A	**Circle Bar Ran** comp=Z,124nm,2.8s	**41.17**	**76**	eP	P	00 00 27.5	+6.0
WVOR	**Wild Horse Val**	**41.57**	**77**	eP	P	00 00 30.7	+5.8
WVOR	comp=Z,10.0nm,0.6s			pmax	pmax		
WVOR	**Wild Horse Val** comp=Z,9.7nm,0.6s	**41.57**	**77**	eP	P	00 00 30.6	+5.8
SLMT	**Seeley Lake**	**42.14**	**68**	eP	P	00 00 33.4	+4.0
PAHR	**Pah Rah Range** comp=Z,88nm,2.4s	**42.66**	**81**	eP	P	00 00 40.1	+6.3
MFID	**Camas Ranch** comp=Z,29nm,1.6s	**42.76**	**74**	eP	P	00 00 39.9	+5.4
ALE	**Alert** comp=Z,47nm,0.5s,SNR=5.6	**43.17**	**10**	P	**P**	**00 00 37.3**	**+0.1**
WAKR	**Walker**	**43.34**	**82**	eP	P	00 00 44.1	+4.7
HRY	**Holter Researc**	**43.39**	**68**	eP	P	00 00 43.6	+4.0
LRM	**Limekiln Ridge**	**43.49**	**69**	eP	P	00 00 44.5	+4.0
HLID	**Hailey** baz=43,SNR=12	**43.54**	**73**	⇑P	**P**	**00 00 40.8**	**-0.1**
EGMT	**Eagleton** baz=44	**43.91**	**65**	⇓P	**P**	**00 00 42.8**	**-0.9**
A19A	**Klindworth Far** baz=44	**44.03**	**64**	⇑P	**P**	**00 00 43.2**	**-1.4**
NV01	**Mina Array Sit**	**44.09**	**82**	eP	**P**	**00 00 48.1**	**+2.6**
B19A	**Brinkman Farms** baz=44	**44.16**	**64**	⇑P	**P**	**00 00 44.1**	**-1.5**
C19A	**Slack Wire Ran** baz=44,SNR=7.5	**44.47**	**65**	⇑P	**P**	**00 00 47.1**	**-1.0**
A20A	**Cobblestone Ra** baz=44	**44.52**	**63**	⇓P	**P**	**00 00 46.9**	**-1.6**
ELK	**Elko** comp=Z,7.1nm,0.8s	**44.63**	**77**	eP	P	00 00 55.1	+5.4
D19A	**Cripps Ranch,** baz=45	**44.87**	**66**	⇑P	**P**	**00 00 50.5**	**-0.8**
YMR	**Madison River** comp=Z,20nm,0.9s	**45.00**	**70**	eP	P	00 00 57.3	+4.7
BJI	**Beijing**	**45.00**	**282**	P	**P**	**00 00 54.3**	**+2.0**
BJI				S	**S**	**00 07 25.9**	**-2.1**
BJI	comp=Z,14nm,0.9s			pmax	pmax		
BJI	comp=Z,57nm,32.8s			LR	LR		
BJI	**Beijing**	**45.00**	**282**	P	**P**	**00 00 54.3**	**+2.0**
BJI				S	**S**	**00 07 25.9**	**-2.1**
BJI	comp=Z,14nm,0.9s			pmax	pmax		
A21A	**Bergtoll Ranch** baz=45	**45.02**	**63**	⇓P	**P**	**00 00 50.0**	**-2.5**
C20A	**Veseth Ranch,** baz=45	**45.08**	**65**	⇓P	**P**	**00 00 51.2**	**-1.7**
YNR	**Norris Junctio** comp=Z,15nm,1.0s	**45.14**	**70**	eP	P	00 00 59.0	+5.3
YFT	**Old Faithful** comp=Z,20nm,0.7s	**45.20**	**70**	eP	P	00 00 59.7	+5.5
D20A	**Manuel Ranch,** baz=45	**45.34**	**66**	⇓P	**P**	**00 00 54.3**	**-0.7**
YLT	**Little Thumb C**	**45.35**	**70**	eP	P	00 01 01.3	+5.9
H17A	**Grant Village**	**45.38**	**70**	eP	**P**	**00 00 56.1**	**+0.4**
H17A	**Grant Village** baz=45,SNR=10	**45.38**	**70**	⇑P	**P**	**00 00 55.0**	**-0.6**
FXWY	**Fox Creek** comp=Z,4.1nm,1.1s	**45.54**	**71**	eP	P	00 01 01.8	+5.0
F19A	**Roth Farm, Mol** baz=45	**45.54**	**67**	⇓P	**P**	**00 00 55.5**	**-1.2**
HVU	**Hansel Valley**	**45.54**	**74**	eP	**P**	**00 00 57.7**	**+0.9**
HVU	comp=Z,16nm,0.5s			pmax	pmax		
HVU	**Hansel Valley** comp=Z,16nm,0.5s	**45.54**	**74**	eP	**P**	**00 00 57.7**	**+0.9**
GRAC	**Grapevine Rang** baz=46	**45.55**	**83**	⇑P	**P**	**00 00 58.8**	**+2.0**
A22A	**Carney Farms,** baz=45	**45.59**	**62**	⇓P	**P**	**00 00 54.9**	**-2.1**
MOOW	**Moose Ponds** comp=Z,78nm,2.9s	**45.64**	**71**	eP	P	00 01 02.5	+4.8
E20A	**Meyer Farm, Mu** baz=45	**45.66**	**66**	⇓P	**P**	**00 00 56.7**	**-0.9**
ISA	**Isabella**	**45.69**	**85**	eP	P	00 01 03.3	+5.3
ISA	comp=Z,1.0nm,1.1s			pmax	pmax		
ISA	**Isabella** comp=Z,1.1nm,1.1s	**45.69**	**85**	eP	P	00 01 03.3	+5.3
ISA	**Isabella** baz=46	**45.69**	**85**	⇓P	**P**	**00 00 59.4**	**+1.4**
RLMT	**Red Lodge** comp=Z,19nm,1.0s	**45.75**	**69**	eP	**P**	**00 00 58.5**	**-0.1**
H18A	**Shoshone NF, C** baz=46,SNR=5.9	**45.77**	**69**	⇑P	**P**	**00 00 58.0**	**-0.6**
REDW	**Red Top Meadow** comp=Z,15nm,1.4s	**45.80**	**71**	eP	P	00 01 04.1	+5.1
R11A	**Troy Canyon, C** baz=46,SNR=8.1	**45.84**	**80**	⇑P	**P**	**00 00 59.9**	**+0.7**
BGU	**Big Grassy Mou** comp=Z,15nm,1.8s	**45.88**	**76**	eP	P	00 01 05.1	+5.5
TLY	**Talaya**	**45.91**	**302**	eP	**P**	**00 00 59.9**	**+0.5**
TLY	comp=Z,6.0nm,0.6s			pmax	pmax		
TLY	comp=Z,100nm,18.0s			MLR	MLR		
AHID	**Auburn Hatcher** comp=Z,16nm,1.1s	**45.99**	**72**	eP	P	00 01 05.3	+4.9
D21A	**La Casta Ranch** baz=46	**46.01**	**65**	⇑P	**P**	**00 00 58.8**	**-1.5**
F20A	**Billings** baz=46	**46.03**	**67**	⇑P	**P**	**00 00 58.7**	**-1.9**
MPMC	**Manual Prospec** baz=46	**46.06**	**84**	⇓P	**P**	**00 01 03.0**	**+1.9**
H19A	**Powell** baz=46,SNR=7.5	**46.17**	**69**	⇑P	**P**	**00 01 00.7**	**-1.0**
TPNV	**Topopah Spring** baz=46,SNR=13	**46.29**	**82**	⇓P	**P**	**00 01 03.9**	**+1.1**
G20A	**Bridger** baz=46,SNR=11	**46.32**	**68**	⇑P	**P**	**00 01 01.1**	**-1.8**
B23A	**Brockton** baz=46	**46.39**	**62**	⇓P	**P**	**00 01 01.2**	**-2.1**
SONM	**Songino Array**	**46.42**	**297**	P	P	00 00 59.4	-4.3
SONM				PcP	PcP	00 02 32.6	-5.2
SONM				ScP	**ScP**	**00 06 28.8**	**+0.9**
SONM	**Songino Array** comp=Z,2.2nm,0.6s,baz=62,slow=8.3,SNR=18	**46.42**	**297**	P	P	00 00 59.4	-4.3
SONM	comp=Z,0.6nm,0.7s,baz=72,slow=5.0,SNR=1.3			PcP	PcP	00 02 32.6	-5.2
SONM	comp=Z,1.4nm,1.1s,baz=114,slow=2.4,SNR=4.3			ScP	**ScP**	**00 06 28.8**	**+0.9**
SONM	comp=Z,131nm,19.6s,baz=18,slow=38			LR	LR	00 21 19.2	
D22A	**Cohagen** baz=46	**46.43**	**65**	⇓P	**P**	**00 01 01.9**	**-1.7**
DUG	**Dugway**	**46.45**	**76**	eP	**P**	**00 01 04.4**	**+0.4**
DUG	comp=Z,22nm,1.2s			pmax	pmax		
DUG	**Dugway** comp=Z,22nm,1.2s	**46.45**	**76**	eP	**P**	**00 01 04.4**	**+0.4**
DUG	**Dugway** baz=46,SNR=9.0	**46.45**	**76**	⇑P	**P**	**00 01 04.4**	**+0.4**
I19A	**Meeteetse** baz=46	**46.52**	**70**	⇑P	**P**	**00 01 03.5**	**-1.1**
FCC	**Fort Churchill**	**46.63**	**46**	eP	**P**	**00 01 06.7**	**+1.7**
FCC	**Fort Churchill**	**46.63**	**46**	eP	**P**	**00 01 06.7**	**+1.7**
C23A	**Lambert** baz=46	**46.64**	**63**	⇓P	**P**	**00 01 03.3**	**-1.9**
A24A	**Westby** baz=46	**46.69**	**61**	⇑P	**P**	**00 01 03.3**	**-2.4**
ZAK	**Zakamensk**	**46.78**	**301**	eP	P	00 01 00.6	-5.8
ZAK				e		00 01 06.1	
ZAK				e		00 02 40.5	
ZAK	comp=Z,5.0nm,1.5s			pmax	pmax		
DGMT	**Dagmar**	**46.83**	**62**	ePcP	**PcP**	**00 02 43.2**	**+4.1**
H20A	**Greybull** baz=47	**46.85**	**69**	⇑P	**P**	**00 01 06.2**	**-0.8**
MWC	**Mount Wilson**	**46.88**	**86**	eP	P	00 01 18.4	+11
MWC	comp=Z,14nm,1.3s			pmax	pmax		
MWC	**Mount Wilson** comp=Z,14nm,1.3s	**46.88**	**86**	eP	P	00 01 18.4	+11
PDAR	**Pinedale Array**	**46.91**	**71**	P	**P**	**00 01 06.8**	**-1.0**
PDAR				ScP	**ScP**	**00 06 35.5**	**+5.3**
PDAR	**Pinedale Array** comp=Z,5.4nm,0.5s,baz=309,slow=3.3,SNR=53	**46.91**	**71**	P	**P**	**00 01 06.8**	**-1.0**
PDAR	comp=Z,0.5nm,0.9s,baz=288,slow=0.9,SNR=3.8			ScP	**ScP**	**00 06 35.5**	**+5.3**
J19A	**Crowheart** baz=47,SNR=8.4	**46.93**	**71**	⇑P	**P**	**00 01 06.4**	**-1.3**
E22A	**Miles City** baz=47	**46.95**	**65**	⇑P	**P**	**00 01 06.0**	**-1.7**
GSC	**Goldstone**	**46.97**	**84**	eP	P	00 01 13.2	+5.1
GSC	comp=Z,33nm,0.7s			pmax	pmax		
GSC	**Goldstone** comp=Z,33nm,0.7s	**46.97**	**84**	eP	P	00 01 13.2	+5.1
GSC	**Goldstone** baz=47,SNR=5.3	**46.97**	**84**	⇑P	**P**	**00 01 11.1**	**+3.0**
JLU	**Jordanelle** comp=Z,8.6nm,1.0s	**47.04**	**75**	eP	P	00 01 14.2	+5.5
NLU	**North Lily Min** comp=Z,5.3nm,0.8s	**47.05**	**76**	eP	P	00 01 14.2	+5.5
I20A	**Worland** baz=47,SNR=5.1	**47.09**	**69**	⇑P	**P**	**00 01 08.0**	**-0.9**
BFSC	**Mount Baldy Ra**	**47.12**	**86**	eP	P	00 01 15.2	+6.0
A25A	**Svangstu Ranch** baz=47	**47.18**	**61**	⇓P	P	00 01 06.6	-2.8
DAU	**Daniels Canyon**	**47.27**	**75**	eP	**P**	**00 01 10.9**	**+0.3**
DAU	**Daniels Canyon**	**47.27**	**75**	eP	**P**	**00 01 10.9**	**+0.3**
MPU	**Maple Canyon** comp=Z,7.8nm,0.6s	**47.28**	**76**	eP	P	00 01 16.3	+5.8
E23A	**Ismay** baz=47	**47.29**	**65**	⇑P	**P**	**00 01 08.5**	**-1.8**
HHC	**Hu-ho-hao-te**	**47.35**	**286**	eP	**P**	**00 01 12.6**	**+1.6**
HHC				pP	pP	00 01 37.3	+15
HHC				sP	sP	00 01 50.6	+24
HHC				ScP	**ScP**	**00 06 24.9**	**-7.0**
HHC				S	S	00 07 52.5	-9.5
HHC				sS	sS	00 08 40.3	+20
HHC	**Hu-ho-hao-te**	**47.35**	**286**	SS	SS	00 11 15.1	-14
HHC	comp=Z,34nm,1.0s			pmax	pmax		
HHC	comp=Z,170nm,6.4s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**47.35**	**286**	eP	**P**	**00 01 12.6**	**+1.6**
HHC				S	S	00 07 52.5	-9.5
HHC	comp=Z,34nm,1.0s			pmax	pmax		
HHC	comp=Z,170nm,6.4s			pmax	pmax		
J20A	**Shoshoni** baz=47,SNR=6.3	**47.45**	**70**	⇓P	**P**	**00 01 11.2**	**-0.6**
ARUT	**Antelope Range**	**47.52**	**79**	eP	**P**	**00 01 14.0**	**+1.6**
ARUT	**Antelope Range**	**47.52**	**79**	eP

baz=48
J22A **Midwest** 48.37 69 ⇓P P 00 01 17.9 -1.0
baz=48,SNR=8.3
K21A **Alcova** 48.37 70 ⇓P P 00 01 17.9 -1.1
baz=48,SNR=5.7
KNB **Kanab** 48.39 80 eP P 00 01 21.7 +2.6
KNB pmax pmax
comp=Z,43nm,1.8s
KNB **Kanab** 48.39 80 eP P 00 01 21.6 +2.6
comp=Z,43nm,1.8s
G24A **Alzada** 48.46 66 ⇑P P 00 01 17.4 -2.1
baz=48
SRU **San Rafael** 48.51 76 eP P 00 01 19.0 -1.1
SRU pmax pmax
comp=Z,12nm,0.5s
SRU **San Rafael** 48.51 76 eP P 00 01 18.9 -1.1
comp=Z,12nm,0.5s
D26A **Manning** 48.62 63 ⇑P P 00 01 18.5 -2.0
baz=48
BAR **Barrett** 48.76 87 eP P 00 01 27.3 +5.5
comp=Z,4.7nm,0.8s
MONP **Monument Peak** 48.78 86 ⇓P P 00 01 24.2 +2.0
baz=49
K22A **Casper** 48.79 70 eP P 00 01 26.0 +3.9
K22A **Casper** 48.79 70 ⇑P P 00 01 21.2 -1.0
baz=48
N20A **Spence Gulch,** 48.84 73 ⇓P P 00 01 22.0 -0.6
baz=49,SNR=6.5
U15A **North Rim** 49.09 80 ⇑P P 00 01 25.3 +0.6
baz=49,SNR=9.5
O20A **White River Ci** 49.28 73 ⇓P P 00 01 25.5 -0.4
baz=49,SNR=9.3
M22A **Cedar Creek Ra** 49.50 71 ⇓P P 00 01 26.9 -0.8
baz=49,SNR=8.1
G26A **Maurine** 49.53 65 ⇑P P 00 01 26.5 -1.1
baz=49
D28A **Regan** 49.57 62 ⇓P P 00 01 25.5 -2.4
baz=49
L23A **Garrett** 49.60 70 ⇑P P 00 01 27.4 -1.0
baz=49,SNR=8.9
GLA **Glamis** 49.68 85 eP P 00 01 37.6 +8.7
GLA pmax pmax
comp=Z,7.0nm,0.8s
GLA **Glamis** 49.68 85 eP P 00 01 37.6 +8.7
comp=Z,7.1nm,0.8s
A30A **Hoffart Farm,** 49.81 59 ⇑P P 00 01 27.6 -2.0
baz=49
N22A **Wattenberg Ran** 49.95 72 ⇓P P 00 01 30.5 -0.6
baz=50,SNR=7.3
M23A **Laramie** 49.98 70 ⇑P P 00 01 30.4 -1.0
baz=50
PV05 **Paradox Valley** 50.02 76 eP P 00 01 36.7 +5.1
N23A **Red Feather La** 50.20 71 ⇑P P 00 01 32.3 -0.7
baz=50,SNR=5.6
WUAZ **Wupatki** 50.24 80 eP P 00 01 39.2 +5.9
comp=Z,7.6nm,0.8s
WUAZ **Wupatki** 50.24 80 ⇓P P 00 01 34.1 +0.8
baz=50,SNR=7.0
O22A **Kremmling** 50.28 72 ⇑P P 00 01 33.0 -0.7
baz=50,SNR=5.4
ULM **Lac du Bonnet** 50.35 56 P P 00 01 30.7 -3.0
ULM **Lac du Bonnet** 50.35 56 P P 00 01 30.7 -3.0
comp=Z,3.2nm,0.5s,baz=311,slow=9.3,SNR=1.5
ULM LR LR 00 21 53.2
comp=Z,163nm,18.6s,baz=334,slow=35
P22A **Eagle** 50.51 73 ⇑P P 00 01 35.2 -0.1
baz=50
M24A **Cheyenne** 50.52 70 ⇑P P 00 01 33.1 -2.3
baz=50
D30A **Buchanan** 50.62 61 ⇑P P 00 01 32.7 -3.1
baz=50
O23A **Lake Granby, G** 50.63 72 ⇑P P 00 01 36.3 0.0
baz=50,SNR=9.6
SMCO **Snowmass** 50.64 74 eP P 00 01 41.2 +4.7
comp=Z,4.2nm,0.8s
H28A **Mission Ridge** 50.80 64 ⇑P P 00 01 36.0 -1.2
baz=50
SPITS **Spitsbergen Ar** 50.81 356 P P 00 01 31.1 -5.7
SPITS **Spitsbergen Ar** 50.81 356 P P 00 01 31.1 -5.7
comp=Z,2.1nm,0.5s,baz=23,slow=7.8,SNR=1.6
X16A **Lo Mia Camp, P** 50.91 81 ⇑P P 00 01 39.3 +0.9
baz=51
MVCO **Mesa Verde** 50.94 77 eP P 00 01 43.6 +5.0
comp=Z,36nm,1.9s
MVCO **Mesa Verde** 50.94 77 ⇑P P 00 01 39.2 +0.6
baz=51
ISCO **Idaho Springs** 51.07 72 eP P 00 01 44.7 +5.0
ISCO pmax pmax
comp=Z,43nm,2.0s
ISCO **Idaho Springs** 51.07 72 eP P 00 01 44.7 +5.0
comp=Z,42nm,2.0s
ISCO **Idaho Springs** 51.07 72 ⇑P P 00 01 39.2 -0.5
baz=51,SNR=6.1
P23A **Jefferson** 51.20 73 ⇑P P 00 01 39.8 -0.9
baz=51
HVS **Khovu-Aksy** 51.40 306 ⇓iP P 00 01 42.1 +0.4
HVS pmax pmax
comp=Z,100nm,1.4s
S22A **4UR Ranch, Cre** 51.63 75 ⇑P P 00 01 44.1 +0.3
baz=52,SNR=7.4
214A **Organ Pipe Nat** 51.68 85 ⇓P P 00 01 46.5 +2.5
baz=52
X18A **Snowflake** 51.77 80 ⇑P P 00 01 46.1 +1.3
baz=52,SNR=6.3
N26A **Koester Ranch,** 51.86 70 ⇑P P 00 01 44.3 -1.0
baz=52
Q24A **Divide** 51.88 73 ⇑P P 00 01 45.5 -0.2
baz=52
P25A **Willow Gulch B** 52.12 72 ⇑P P 00 01 47.4 0.0
baz=52,SNR=9.3
O26A **Horse Wrangler** 52.17 70 ⇓P P 00 01 46.7 -0.9
baz=52
R24A **Sanders Place,** 52.37 73 ⇓P P 00 01 49.0 -0.2
baz=52,SNR=5.6
SDCO **Great Sand Dun** 52.44 74 eP P 00 01 51.2 +1.4
comp=Z,59nm,2.1s
Q25A **Bedland, Calha** 52.45 72 ⇑P P 00 01 49.3 -0.5
baz=52,SNR=6.2
P26A **Davis Ranch, A** 52.58 71 ⇑P P 00 01 50.2 -0.6
baz=52,SNR=8.4
S24A **Houchin Ranch,** 52.68 74 ⇑P P 00 01 52.2 +0.5
baz=52
TUC **Tucson** 52.72 83 eP P 00 01 51.3 -0.4
TUC pmax pmax
comp=Z,16nm,1.3s
TUC **Tucson** 52.72 83 eP P 00 01 51.3 -0.4
comp=Z,16nm,1.3s
V22A **San Miguel Ran** 52.75 77 ⇑P P 00 01 52.5 +0.3
baz=53
Q26A **Hugo** 52.88 72 ⇑P P 00 01 52.6 -0.3
baz=53
U23A **El Rito** 52.93 76 ⇓P P 00 01 53.8 +0.4
baz=53,SNR=8.1
S25A **Robets Cordova** 53.14 73 ⇓P P 00 01 54.1 -0.8
baz=53,SNR=5.2
XAN **Xi'an** 53.27 281 P P 00 01 56.6 +0.9
XAN pP pP 00 02 06.1 -1.0
XAN sP sP 00 02 10.8 -0.9
XAN pmax pmax
comp=Z,2.0nm,0.9s
XAN **Xi'an** 53.27 281 P P 00 01 56.6 +0.9
XAN pP pP 00 02 06.1 -1.0
XAN sP sP 00 02 10.8 -0.9
XAN pmax pmax
comp=Z,2.0nm,0.9s
V23A **Ortiz Mt. (NFS** 53.31 76 ⇑P P 00 01 56.5 +0.3
baz=53
R26A **Arlington** 53.33 72 ⇓P P 00 01 55.4 -0.8
baz=53,SNR=8.0
KSCO **Kaye Shedlock'** 53.36 71 eP P 00 02 01.7 +5.3
comp=Z,45nm,1.3s
T25A **Trinidad** 53.49 74 ⇓P P 00 01 57.1 -0.5
baz=53,SNR=6.9
LAZ **Ladron** 53.60 78 eP P 00 01 58.7 +0.3
R27A **Eads** 53.73 72 ⇓P P 00 01 59.1 0.0
baz=54,SNR=7.5
S26A **Kim** 53.75 73 ⇓P P 00 01 59.0 -0.3
baz=54,SNR=5.9
SUMG **Summit** 53.87 14 eP P 00 02 00.6 +0.6
SUMG pmax pmax
comp=Z,59nm,2.1s
SUMG **Summit** 53.87 14 eP P 00 02 00.6 +0.6
comp=Z,59nm,2.1s
V24A **Rampart Ranch,** 53.88 76 ⇓P P 00 02 00.3 -0.1
baz=54
U25A **Circle Dot Ran** 53.97 75 ⇓P P 00 02 01.0 0.0
baz=54

P29A **Atwood** 54.00 69 ⇑P P 00 01 59.7 -1.3
baz=54
ZAA0 **Zalesovo Array** 54.00 313 eP P 00 01 59.2 -1.6
ZAA0 eP cP P 00 03 07.0 +1.6
ZALV **Zalesovo Beam** 54.00 313 P P 00 01 54.7 -6.0
ZALV 00 03 02.4
ZALV **Zalesovo Beam** 54.00 313 P P 00 01 54.7 -6.0
ZALV cP P 00 03 02.4 -3.0
ZALV **Zalesovo Beam** 54.00 313 P P 00 01 54.7 -6.0
comp=Z,1.2nm,0.5s,baz=45,slow=7.0,SNR=2.9
ZALV PcP P 00 03 02.4 -3.0
comp=Z,1.5nm,0.7s,baz=39,slow=5.5,SNR=1.7
ZALV LR LR 00 25 38.1
comp=Z,67nm,19.5s,baz=72,slow=37
Y22A **Socorro** 54.02 79 ⇑P P 00 02 01.7 +0.3
baz=54
X23A **Hourglass Bar** 54.07 78 ⇑P P 00 02 02.1 +0.3
baz=54
W24A **Lazy 6 Ranch,** 54.14 76 ⇑P P 00 02 02.2 -0.1
baz=54
NVS **Novosibirsk** 54.16 315 eP P 00 02 01.9 +0.1
V25A **Rancho No Teng** 54.21 75 ⇓P P 00 02 02.6 -0.2
baz=54
R28A **Tribune** 54.28 71 ⇑P P 00 02 02.6 -0.5
baz=54
U26A **Atchley Ranch,** 54.38 74 ⇑P P 00 02 03.9 -0.1
baz=54
P30A **Selden** 54.44 69 ⇑P P 00 02 03.5 -0.7
baz=54,SNR=6.4
121A **Cows Peak, D** 54.45 80 ⇑P P 00 02 05.1 +0.7
baz=54
Z22A **Elephant Butte** 54.47 79 ⇓P P 00 02 05.0 +0.3
baz=54
Y23A **Lovelace Mesa,** 54.59 78 ⇓P P 00 02 06.3 +0.8
baz=54,SNR=9.4
R29A **Marienthal** 54.63 71 ⇓P P 00 02 04.9 -0.8
baz=54,SNR=6.6
W25A **X Bar L Ranch,** 54.72 76 ⇑P P 00 02 06.4 0.0
baz=55
V26A **Tequesquite Ra** 54.75 75 ⇑P P 00 02 06.8 +0.2
baz=55
320A **Kipp Ranch, An** 54.79 82 ⇓P P 00 02 08.8 +1.8
baz=55
Q30A **Quinter** 54.82 70 ⇓P P 00 02 06.4 -0.6
baz=55
T28A **Walsh** 54.90 72 ⇑P P 00 02 06.9 -0.7
baz=55,SNR=5.1
Z23A **Rita Site, Whi** 54.92 79 ⇑P P 00 02 09.3 +1.4
baz=55
Y24A **Capitan** 54.97 78 ⇑P P 00 02 08.7 +0.3
baz=55,SNR=11
R30A **Dighton** 55.24 70 ⇑P P 00 02 09.1 -0.9
baz=55,SNR=10
GTA **Gaotai** 55.29 292 eP P 00 02 06.6 -3.9
GTA pP P 00 02 11.8 +1.3
GTA **Gaotai** 55.29 292 P P 00 02 11.8 +1.3
GTA sP sP 00 02 14.4 -12
GTA pP pP 00 02 23.6 +1.7
GTA sP sP 00 02 26.4 -0.1
GTA pmax pmax
comp=Z,4.0nm,0.6s
GTA pmax pmax
comp=Z,18nm,0.6s
GTA **Gaotai** 55.29 292 P P 00 02 11.8 +1.3
GTA pP pP 00 02 23.6 +1.7
GTA sP sP 00 02 26.4 -0.1
GTA pmax pmax
comp=Z,18nm,0.6s
U28A **Mallet** 55.31 73 ⇑P P 00 02 10.0 -0.6
baz=55,SNR=6.4
Z24A **Sheeppen Canyo** 55.41 78 ⇓P P 00 02 11.9 +0.4
baz=55
Y25A **Mesa, Roswell** 55.43 77 ⇓P P 00 02 12.3 +0.7
baz=55
S30A **Montezuma** 55.55 71 ⇓P P 00 02 11.3 -1.0
baz=55,SNR=9.0
X26A **CR and CF Fran** 55.56 76 ⇓P P 00 02 12.3 -0.1
baz=55
W27A **Bowe Ranch, En** 55.67 75 ⇓P P 00 02 13.0 -0.3
baz=56
R31A **Burdett** 55.68 70 ⇓P P 00 02 11.8 -1.3
baz=55
124A **Stringfield Ra** 55.78 79 ⇓P P 00 02 15.3 +1.1
baz=56
Q32A **Meitler Ranch,** 55.79 69 ⇑P P 00 02 12.4 -1.5
baz=56,SNR=7.8
Z25A **Roswell** 55.85 78 ⇑P P 00 02 15.5 +0.9
baz=56
Y26A **Elida** 55.97 77 ⇑P P 00 02 15.4 0.0
baz=56
P33A **Williams Farm,** 56.01 68 ⇑P P 00 02 14.8 -0.7
baz=56
R32A **Long Quarter,** 56.08 69 ⇑P P 00 02 14.2 -1.8
baz=56
S31A **Mullinville** 56.15 70 ⇓P P 00 02 15.6 -0.9
baz=56
224A **Cornudas Mount** 56.16 79 ⇑P P 00 02 17.3 +0.4
baz=56
Q33A **Connelly Farm,** 56.22 68 ⇑P P 00 02 15.5 -1.4
baz=56,SNR=7.6
125A **Gardner Draw,** 56.31 78 ⇓P P 00 02 18.1 +0.3
baz=56
Z26A **Caprock** 56.31 77 ⇓P P 00 02 17.6 -0.3
baz=56
T31A **Randall Ranch,** 56.38 71 ⇓P P 00 02 17.1 -1.0
baz=56,SNR=5.4
Y27A **Causey** 56.40 76 ⇓P P 00 02 18.0 -0.5
baz=56
MNTX **Cornudas Mount** 56.51 80 eP P 00 02 18.9 -0.3
comp=Z,7.0nm,1.0s
225A **Deer Hill, Car** 56.58 79 ⇑P P 00 02 19.9 0.0
baz=56
MSTX **Muleshoe** 56.58 76 eP P 00 02 24.4 +4.7
comp=Z,69nm,1.9s
MSTX **Muleshoe** 56.58 76 ⇓P P 00 02 19.7 0.0
baz=56
324A **Moseley Ranch,** 56.62 80 ⇑P P 00 02 20.6 +0.5
baz=56
T32A **Huddler Ranch,** 56.77 70 ⇓P P 00 02 19.6 -1.3
baz=56,SNR=5.3
Y28A **McKinney Farm,** 56.95 75 ⇑P P 00 02 22.3 -0.1
baz=57
325A **Bean Ranch, Si** 56.99 80 ⇓P P 00 02 23.2 +0.4
baz=57
226B **Tecolote Peak,** 57.01 78 ⇓P P 00 02 23.1 +0.3
baz=57
U32A **Winter Ranch,** 57.26 71 ⇓P P 00 02 23.7 -0.7
baz=57
Y29A **Porterfield Fa** 57.33 75 ⇑P P 00 02 25.8 +0.8
baz=57,SNR=5.6
425A **Indio Mountain** 57.38 80 ⇑P P 00 02 27.0 +1.5
baz=57
X30A **Coker Ranch, T** 57.42 74 ⇓P P 00 02 26.1 +0.5
baz=57
326A **Caldwell Ranch** 57.64 79 ⇑P P 00 02 27.8 +0.5
baz=58
128A **Castleberry Fa** 57.67 77 ⇑P P 00 02 28.4 +0.9
baz=58
V32A **Arapaho** 57.67 72 ⇑P P 00 02 27.2 -0.1
baz=58
Z29A **Hungry Hill Ra** 57.72 76 ⇑P P 00 02 28.7 +1.0
baz=58
U33A **Lingo Farm, Me** 57.75 71 ⇑P P 00 02 26.2 -1.7
baz=58
Y30A **Stafford Cattl** 57.80 75 ⇑P P 00 02 28.7 +0.4
baz=58
X31A **McDonald Ranch** 57.84 73 ⇑P P 00 02 28.8 +0.3
baz=58
JFWS **Jewell Farm** 57.95 60 eP P 00 02 31.6 +2.5
JFWS pmax pmax
comp=Z,13nm,0.7s
JFWS **Jewell Farm** 57.95 60 eP P 00 02 31.6 +2.5
comp=Z,13nm,0.7s
426A **McDonald Obser** 58.05 79 ⇓P P 00 02 30.8 +0.5
baz=58
Z30A **Sanderson Ranc** 58.05 75 ⇓P P 00 02 30.7 +0.7
baz=58
V33A **Lossen Ranch,** 58.06 71 ⇓P P 00 02 29.7 -0.3
baz=58
U34A **Anderson Ranch** 58.09 70 ⇓P P 00 02 28.7 -1.6
baz=58,SNR=8.1
328A **Wristen Ranch,** 58.32 78 ⇑P P 00 02 31.5 -0.4
baz=58,SNR=5.8
W33A **Caddo, Fort Co** 58.40 72 ⇑P P 00 02 32.9 +0.5
baz=58
X32A **Elmer** 58.41 73 ⇓P P 00 02 32.3 -0.2
baz=58

526A **Mary Lane Ranc** 58.44 80 ⇑P P 00 02 32.9 0.0
baz=58,SNR=6.3
ARCES **ARCESS Array B** 58.47 350 P P 00 02 26.2 -6.2
ARCES **ARCESS Array B** 58.47 350 P P 00 02 26.2 -6.2
comp=Z,1.9nm,0.7s,baz=24,slow=7.8,SNR=9.8
ARCES LR LR 00 26 53.3
comp=Z,90nm,20.2s,baz=337,slow=36
WMOK **Wichita Mounta** 58.49 72 eP P 00 02 37.5 +4.4
WMOK pmax pmax
comp=Z,9.0nm,0.9s
WMOK **Wichita Mounta** 58.49 72 eP P 00 02 37.5 +4.4
comp=Z,9.1nm,0.9s
V34A **Guthrie** 58.51 71 ⇑P P 00 02 30.9 -2.2
baz=58,SNR=5.1
Y32A **R-V Farms, Ver** 58.59 74 ⇑P P 00 02 33.2 -0.6
baz=58
CD2 **Chengdu** 58.59 282 eP P 00 02 35.3 +1.4
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 **Chengdu** 58.59 282 eP P 00 02 35.3 +1.4
CD2 pmax pmax
comp=Z,10.0nm,1.0s
130A **Snyder** 58.63 76 ⇑P P 00 02 34.9 +0.9
baz=58
Z31A **Sharp Cattle R** 58.63 75 ⇓P P 00 02 34.7 +0.6
baz=58
527A **Woodward Ranch** 58.68 80 ⇓P P 00 02 35.6 +1.1
baz=59
329A **Wagon Wheel Ra** 58.76 77 ⇑P P 00 02 35.2 +0.1
baz=59
626A **Big Bend Ranch** 58.76 81 ⇑P P 00 02 35.9 +0.8
baz=59
X33A **Lawton** 58.80 72 ⇑P P 00 02 34.8 -0.4
baz=59
428A **Kincaid Ranch,** 58.85 79 ⇑P P 00 02 35.8 +0.1
baz=59,SNR=6.9
131A **Roby** 58.93 75 ⇑P P 00 02 36.1 -0.1
baz=59
KURK **Kurchatov** 58.99 313 P P 00 02 31.9 -4.4
KURK **Kurchatov** 58.99 313 P P 00 02 31.9 -4.4
KURK **Kurchatov** 58.99 313 P P 00 02 36.2 -0.1
comp=Z,108nm,0.4s,SNR=5.2
230A **Sterling City** 59.02 76 ⇓P P 00 02 36.2 -0.6
baz=59,SNR=8.9
Z32A **Haskell** 59.05 74 ⇑P P 00 02 36.2 -0.8
baz=59,SNR=7.0
Y33A **Hilltop Ranch,** 59.09 73 ⇑P P 00 02 36.8 -0.4
baz=59
KURBB **Kurchatov Arra** 59.10 313 P P 00 02 31.9 -5.1
comp=Z,1.4nm,0.4s,baz=41,slow=6.6,SNR=44
X34A **Smith Ranch, M** 59.16 72 ⇑P P 00 02 37.6 -0.1
baz=59
528A **Cox Ranch, San** 59.18 79 ⇓P P 00 02 38.4 +0.4
baz=59
WMQ **Urumqi** 59.19 303 P P 00 02 38.0 +0.2
WMQ sP **sP** 00 02 52.0 -1.9
WMQ PcP **PcP** 00 03 29.0 +3.0
WMQ PP **PP** 00 04 49.0 +0.6
WMQ ScP **ScP** 00 07 24.0 +0.7
WMQ S **S** 00 10 37.0 -5.6
WMQ ScS **ScS** 00 12 21.0 -3.5
WMQ **Urumqi** 59.19 303 P P 00 02 38.0 +0.2
WMQ sP **sP** 00 02 52.0 -1.9
WMQ PcP **PcP** 00 03 29.0 +3.0
WMQ PP **PP** 00 04 49.0 +0.6
WMQ ScP **ScP** 00 07 24.0 +0.7
WMQ S **S** 00 10 37.0 -5.6
WMQ ScS **ScS** 00 12 21.0 -3.5
WMQ SS **SS** 00 14 31.0 -5.6
WMQ pmax pmax
comp=Z,14nm,1.0s
WMQ pmax pmax
comp=Z,130nm,5.0s
WMQ LR LR
comp=Z,84nm,18.0s
WMQ LR LR
comp=Z,79nm,18.0s
WMQ LR LR
comp=Z,110nm,18.0s
TX31 **Lajitas Ar. Si** 59.20 80 eP P 00 02 41.5 +3.3
TXAR **Lajitas Array** 59.21 80 P P 00 02 37.8 -0.4
TXAR **Lajitas Array** 59.21 80 P P 00 02 37.8 -0.4
comp=Z,1.8nm,0.8s,baz=301,slow=4.8,SNR=15
627A **Terlingua Ranc** 59.30 80 ⇑P P 00 02 40.1 +1.3
baz=59
330A **Mertzon** 59.31 77 ⇓P P 00 02 38.7 -0.2
baz=59
429A **Davenport Ranc** 59.41 78 ⇑P P 00 02 40.5 +1.0
baz=59
ABTX **Abilene, Hawle** 59.42 75 eP P 00 02 41.5 +2.0
ABTX **Abilene, Hawle** 59.42 75 ⇑P P 00 02 39.9 +0.4
baz=59
TUL1 **Tulsa** 59.49 70 eP P 00 02 43.9 +3.9
comp=Z,13nm,0.9s
TUL1 **Tulsa** 59.49 70 ⇓P P 00 02 38.6 -1.4
baz=59
Z33A **Whitaker Ranch** 59.50 74 ⇑P P 00 02 39.8 -0.2
baz=59
529A **Stev Forest Ra** 59.56 79 ⇑P P 00 02 41.8 +1.2
baz=59
628A **Black Gap, Mar** 59.59 80 ⇓P P 00 02 41.0 +0.3
baz=60
Y34A **Reagan Ranch,** 59.65 72 ⇓P P 00 02 40.7 -0.4
baz=59,SNR=5.7
430A **Baggett Ranch,** 59.71 77 ⇓P P 00 02 41.1 -0.5
baz=60,SNR=6.6
133A **Hamilton Ranch** 59.87 74 ⇓P P 00 02 42.8 +0.2
baz=60
232A **Coleman** 59.92 75 ⇓P P 00 02 42.6 -0.4
baz=60,SNR=7.1
MKAR **Makanchi Array** 59.95 308 P P 00 02 37.4 -5.6
MKAR **Makanchi Array** 59.95 308 P P 00 02 37.4 -5.6
MKAR **Makanchi Array** 59.95 308 P P 00 02 37.4 -5.6
comp=Z,2.7nm,0.4s,baz=50,slow=6.5,SNR=123
MKAR LR LR 00 29 42.9
comp=Z,45nm,19.7s,baz=183,slow=38
530A **J-C Ranch, Com** 60.09 78 ⇓P P 00 02 44.2 0.0
baz=60,SNR=8.3
431A **Sonora** 60.17 77 ⇓P P 00 02 45.4 +0.7
baz=60,SNR=6.9
332A **Millersview** 60.21 76 ⇓P P 00 02 45.9 +0.9
baz=60,SNR=8.3
Z35A **Perchaven, San** 60.38 73 ⇑P P 00 02 46.5 +0.4
baz=60
134A **White-Moore Ra** 60.40 74 ⇑P P 00 02 46.3 +0.1
baz=60,SNR=5.7
531A **Rocksprings** 60.56 77 ⇓P P 00 02 47.7 +0.3
baz=60
SCHQ **Schefferville** 60.67 38 P P 00 02 43.4 -4.4
SCHQ **Schefferville** 60.67 38 P P 00 02 43.4 -4.4
comp=Z,4.9nm,0.9s,baz=229,slow=9.5,SNR=6.0
333A **Richland Sprin** 60.72 75 ⇓P P 00 02 49.0 +0.6
baz=61
BVAR **Borovoye Array** 60.93 320 LR LR 00 30 22.3
comp=Z,126nm,18.4s,baz=46,slow=38
BRVK **Borovoye** 60.95 320 *d* iP P 00 02 49.9 +0.2
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK MLR MLR
comp=Z,123nm,21.0s
BRVK **Borovoye** 60.95 320 eP P 00 02 50.3 +0.6
comp=Z,4.7nm,0.6s
532A **Rocksprings** 60.99 77 ⇓P P 00 02 49.9 -0.4
baz=61
433A **Art** 61.05 76 ⇓P P 00 02 50.4 -0.3
baz=61
631A **Perdido Creek** 61.07 78 ⇓P P 00 02 51.7 +0.8
baz=61
334A **Lometa** 61.17 75 ⇑P P 00 02 50.8 -0.7
baz=61,SNR=7.8
WHTX **Lake Whitney** 61.19 74 eP P 00 02 56.5 +4.9
comp=Z,12nm,0.6s
WHTX **Lake Whitney** 61.19 74 ⇑P P 00 02 52.1 +0.5
baz=61
SFIN **Scholer Farm** 61.40 60 eP P 00 02 51.1 -1.7
SFIN **Scholer Farm** 61.40 60 ⇓P P 00 02 51.2 -1.7
baz=61,SNR=5.2
632A **Uvalde** 61.50 77 ⇑P P 00 02 54.9 +1.2
baz=61
434A **Burnet** 61.51 75 ⇑P P 00 02 53.0 -0.8
baz=61
TMCR **Tamitsa** 61.57 342 eP P 00 02 52.5 -1.2
TMCR *e* 00 03 35.1
TMCR *e* 00 05 08.2
TMCR pmax pmax
comp=Z,12nm,0.8s
MIAR **Mount Ida** 61.74 69 eP P 00 02 59.6 +4.3

MIAR pmax pmax
comp=Z,16nm,1.0s
MIAR Mount Ida 61.74 69 *e*P P 00 02 59.5 +4.3
comp=Z,16nm,1.0s
732A Laxson Ranch, 61.93 78 ⇓P **P 00 02 57.6 +1.0**
baz=62
534A Blanco 61.94 76 ⇑P **P 00 02 57.9 +1.2**
baz=62
ARU Arti 62.75 328 *c i*P **P 00 03 01.4 -0.3**
ARU 00 05 20.7
ARU S **S 00 11 27.0 -0.3**
ARU pmax pmax
comp=Z,16nm,2.5s
KMI Kunming 63.31 278 P **P 00 03 08.5 +2.3**
KMI pP pP 00 03 25.4 +7.6
KMI pmax pmax
comp=Z,5.0nm,1.0s
KMI LR LR
comp=Z,36nm,23.0s
KMI Kunming 63.31 278 P **P 00 03 08.5 +2.3**
KMI pmax pmax
comp=Z,5.0nm,1.0s
HKT Hockley 63.61 74 *e*P **P 00 03 07.3 -0.4**
HKT pmax pmax
comp=Z,88nm,2.7s
HKT Hockley 63.61 74 *e*P **P 00 03 07.3 -0.4**
comp=Z,88nm,2.7s
JOF Joensuu 63.92 345 *e*P P 00 03 02.5 -6.8
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 63.92 345 *e*p P 00 03 02.5 -6.8
comp=Z,2.4nm,0.5s
WVT Waverly 63.97 64 *e*P **P 00 03 12.5 +2.4**
WVT pmax pmax
comp=Z,206nm,3.0s
WVT Waverly 63.97 64 *e*P **P 00 03 12.5 +2.4**
comp=Z,206nm,3.0s
KAF Kangasniemi 65.46 347 *e*P P 00 03 12.6 -6.8
KAF Kangasniemi 65.46 347 *e*p P 00 03 12.6 -6.8
baz=15,slow=5.9
TKM2 Tokmak 2 66.04 309 *e*P P 00 03 19.5 -4.2
TKM2 pmax pmax
comp=Z,13nm,0.7s
TKM2 Tokmak 2 66.04 309 P **P 00 03 25.0 +1.3**
SNR=10
TKM2 Tokmak 2 66.04 309 *e*P P 00 03 19.5 -4.2
comp=Z,13nm,0.7s
FINES FINESS Array B 66.13 347 P P 00 03 17.7 -6.0
FINES FINESS Array B 66.13 347 P P 00 03 17.7 -6.0
comp=Z,2.6nm,0.6s,baz=12,slow=7.8,SNR=12
ULHL Ulahol 66.22 308 *i*P **P 00 03 25.8 +1.0**
ULHL Ulahol 66.22 308 P **P 00 03 25.9 +1.0**
SNR=7.6
USP Ospenovka 66.31 310 P P 00 03 21.5 -3.8
SNR=6.0
CHMS Chumysh 66.39 310 *i*P **P 00 03 26.9 +1.2**
CHMS Chumysh 66.39 310 P **P 00 03 27.0 +1.2**
SNR=7.0
KBK Karagaybulak 66.55 309 *i*P **P 00 03 28.1 +1.1**
KBK Karagaybulak 66.55 309 P **P 00 03 28.1 +1.1**
SNR=10
PMG Port Moresby 66.63 216 LR LR 00 30 50.3
comp=Z,41nm,18.7s,baz=67,slow=34
AAK Ala-Archa 66.79 309 *e*P P 00 03 24.6 -3.9
AAK pmax pmax
comp=Z,19nm,0.6s
AAK Ala-Archa 66.79 309 P P 00 03 24.6 -3.9
SNR=5.5
AAK Ala-Archa 66.79 309 *e*P P 00 03 24.6 -3.9
comp=Z,19nm,0.6s
KZA Kyzart 66.84 309 *i*P **P 00 03 30.6 +1.6**
KZA Kyzart 66.84 309 P **P 00 03 30.6 +1.6**
SNR=8.5
UCH Uchtor 67.09 309 *i*P **P 00 03 31.9 +1.2**
UCH Uchtor 67.09 309 P **P 00 03 32.0 +1.2**
SNR=6.0
EKS2 Erkin-Say 67.12 310 *i*P **P 00 03 32.0 +1.5**
EKS2 Erkin-Say 67.12 310 P **P 00 03 32.0 +1.5**
SNR=10
AML Almayashu 67.56 310 *i*P **P 00 03 35.6 +2.0**
AML Almayashu 67.56 310 P **P 00 03 35.6 +2.0**
SNR=9.2
AKTO Aktyubinsk 67.79 324 LR LR 00 32 50.4
comp=Z,106nm,18.2s,baz=222,slow=36
ABKAR Akbulak array 68.02 322 *e*P **P 00 03 35.0 -0.9**
NB2 NORSAR Subarra 68.07 354 P P 00 03 31.1 -5.0
comp=Z,10nm,0.8s,baz=8.8,slow=6.5
NOA NORSAR Array B 68.07 354 P P 00 03 31.0 -5.0
NOA NORSAR Array B 68.07 354 P P 00 03 31.0 -5.0
comp=Z,2.6nm,1.0s,baz=7.0,slow=6.4,SNR=3.9
KMSC Kings Mountain 68.33 61 ⇓P **P 00 03 36.5 -1.6**
baz=68
KSH Kashi 68.39 306 P **P 00 03 38.0 -0.5**
KSH sP sP 00 04 18.9 +24
KSH PP **PP 00 06 12.1 +2.8**
KSH PcS 00 08 07.1
KSH S S 00 12 22.6 -14
KSH Kashi 68.39 306 SS SS 00 16 53.0 -7.2
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,200nm,4.3s
KSH LR LR
comp=N,170nm,5.7s
KSH LR LR
comp=E,240nm,5.3s
KSH LR LR
comp=Z,180nm,5.7s
KSH Kashi 68.39 306 P **P 00 03 38.0 -0.5**
KSH PP **PP 00 06 12.1 +2.8**
KSH PcS 00 08 07.1
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,200nm,4.3s
KSH LR LR
comp=Z,170nm,5.7s
KSH LR LR
comp=Z,240nm,5.3s
KSH LR LR
comp=Z,180nm,5.7s
VSU Vasula 68.89 346 *i*P **P 00 03 40.3 -0.8**
VSU pmax pmax
comp=Z,50nm,1.4s
OBN Obninsk 70.14 339 *i*P **P 00 03 47.5 -1.4**
OBN *e**PP **pP 00 03 57.7 -2.9**
OBN *e* 00 06 24.4
OBN pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 70.31 276 *e*P **P 00 03 52.3 +1.8**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 70.31 276 *e*P **P 00 03 52.3 +1.8**
comp=Z,6.8nm,1.0s
CMAR Chiang Mai Arr 70.58 276 P P 00 03 48.7 -3.5
CMAR Chiang Mai Arr 70.58 276 P P 00 03 48.7 -3.5
comp=Z,0.8nm,0.5s,baz=24,slow=7.5,SNR=5.2
CMAR LR LR 00 33 11.6
comp=Z,18nm,19.1s,baz=50,slow=35
TAPN Taplejung 70.91 290 *e*P P 00 03 51.2 -3.3
comp=Z,46nm,0.8s
PMOR Pomariorio Ree 71.24 148 *e*T T 01 22 05.8
comp=Z,13nm,0.2s
ODAN Odare 71.47 290 *e*P P 00 03 54.5 -3.3
comp=Z,20nm,0.7s
GUN Gumba 71.58 292 *e*P P 00 03 55.3 -3.3
comp=Z,92nm,0.7s
JIRN Jiri 71.58 291 *e*P **P 00 03 55.5 -3.1**
comp=Z,59nm,0.7s
RAMN Ramite 71.87 290 *e*P P 00 03 56.8 -3.4
comp=Z,54nm,0.5s
KKN Kakani 72.02 292 *e*P P 00 03 57.8 -3.3
comp=Z,40nm,0.5s
PKI Pulchoki 72.11 292 *e*P P 00 03 58.0 -3.7
comp=Z,29nm,0.6s
PKIN Phulchoki 72.11 292 *e*P P 00 03 57.5 -4.2
comp=Z,21nm,0.6s
GKN Gorkha 72.24 293 *e*P P 00 03 58.9 -3.4
comp=Z,36nm,0.5s
DMN Daman 72.26 292 *e*P P 00 03 59.1 -3.4
comp=Z,16nm,0.5s
DANN Dangsing 72.49 293 *e*P P 00 04 00.6 -3.4
comp=Z,38nm,0.6s
KOLN Koldanda 73.02 293 *e*P P 00 04 02.8 -4.2
comp=Z,22nm,0.8s
PPT2 Papeete2 73.11 150 *e*T T 01 24 27.3
comp=Z,8.3nm,0.3s
PYUN Piuthan 73.13 294 *e*P P 00 04 04.2 -3.4
comp=Z,50nm,0.9s
TIAR Tiarei 73.15 150 *e*T T 01 24 30.0
comp=Z,3.0nm,0.2s
AKASG Malin Array Be 75.84 342 P P 00 04 17.2 -5.5
AKASG Malin Array Be 75.84 342 P P 00 04 17.2 -5.5
AKASG Malin Array Be 75.84 342 P P 00 04 17.2 -5.5
comp=Z,2.1nm,0.5s,baz=19,slow=6.1,SNR=5.5
AKASG LR LR 00 37 48.0
comp=Z,91nm,20.0s,baz=285,slow=36
KIEV Kiev 75.85 342 ⇑*i*P **P 00 04 21.9 -0.9**
KIEV Kiev 75.85 342 *e*P **P 00 04 21.4 -1.3**
comp=Z,143nm,2.6s
AK01 Malin Array Si 75.86 342 *e*P P 00 04 16.7 -6.1
AK02 Malin Array Si 75.89 342 *e*P P 00 04 16.9 -6.1
CLL Collm 77.60 352 *i*P **P 00 04 32.7 +0.1**
CLL *e* 00 04 42.0
CLL Collm 77.60 352 *i*P **P 00 04 32.7 +0.1**
CLL *e*sP **sP 00 04 48.0 -1.0**
OJC Ojcow 77.90 347 *e*P **P 00 04 34.8 +0.4**
OJC pmax pmax
comp=Z,11nm,1.2s
OJC Ojcow 77.90 347 *e*P **P 00 04 34.8 +0.4**
comp=Z,11nm,1.2s
KWP Kalwaria Pacla 78.05 345 *e*P **P 00 04 36.0 +0.8**
KWP Kalwaria Pacla 78.05 345 *e*P **P 00 04 35.9 +0.8**
UPC Upice 78.09 350 *e*P P 00 04 39.0 +3.6
UPC Upice 78.09 350 *e*P P 00 04 39.0 +3.6
DPC Dobruska-Polom 78.21 350 *e*P **P 00 04 36.3 +0.2**
DPC Dobruska-Polom 78.21 350 *e*P **P 00 04 36.3 +0.2**
KRLC Kraliky 78.43 349 *e*P **P 00 04 37.9 +0.6**
KRLC Kraliky 78.43 349 *e*P **P 00 04 37.9 +0.6**
STHS Stebnicka Huta 78.48 346 *e*P **P 00 04 37.1 -0.5**
STHS pmax pmax
comp=Z,5.0nm,1.0s
OKC Ostrava-Krasne 78.50 348 *e*P **P 00 04 37.2 -0.4**
OKC Ostrava-Krasne 78.50 348 *e*P **P 00 04 37.2 -0.4**
TBI Tubuai 78.56 152 *e*LR LR 00 29 20.1
comp=Z,95nm,23.5s
TBI Tubuai 78.56 152 *e*T T 01 31 16.7
comp=Z,4.6nm,0.2s
BEBN Eben Emael 78.57 357 P **P 00 04 38.6 +0.6**
NKC Novy Kostel 78.72 352 *e*P **P 00 04 39.2 +0.3**
NKC *e* 00 04 42.5
NKC Novy Kostel 78.72 352 *e*P **P 00 04 39.2 +0.3**
NKC *ex* x 00 04 42.5
MEM Membach 78.75 356 P **P 00 04 40.3 +1.3**
PRU Pruhonice 78.76 351 *e*P **P 00 04 39.4 +0.3**
PRU Pruhonice 78.76 351 *e*P **P 00 04 39.4 +0.3**
KBZ Khabaz 78.78 330 LR LR 00 42 25.1
comp=Z,83nm,18.1s,baz=82,slow=38
KOLS Kolonicke sedl 78.79 346 *e*P **P 00 04 39.6 +0.3**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
CRVS Cervenica-Dubn 78.95 346 *e*P **P 00 04 39.4 -0.8**
CRVS pmax pmax
comp=Z,3.0nm,0.8s
BCLA Clavier 78.96 357 P **P 00 04 40.7 +0.5**
VRAC Vranov 79.21 349 ⇑*i*P **P 00 04 41.7 +0.1**
GIVF Givet 79.30 357 *e*P **P 00 04 42.5 +0.5**
GIVF Givet 79.30 357 *e*P **P 00 04 42.5 +0.5**
GIVF Givet 79.30 357 *e*P **P 00 04 42.5 +0.5**
DOU Dourbes 79.31 357 P **P 00 04 42.8 +0.7**
TREC Trest 79.35 350 *e*P **P 00 04 42.3 0.0**
TREC Trest 79.35 350 *e*P **P 00 04 42.3 0.0**
BAIF Baives 79.36 358 *e*P **P 00 04 43.1 +0.8**
comp=Z,14nm,0.6s
BAIF Baives 79.36 358 *e*P **P 00 04 43.1 +0.8**
BAIF pmax pmax
comp=Z,14nm,0.6s
BAIF Baives 79.36 358 *e*P **P 00 04 43.1 +0.8**
comp=Z,14nm,0.6s
TRPA Tarpa 79.53 345 ⇑*i*P **P 00 04 44.1 +0.8**
BUR08 Bucovina Ar. S 79.54 343 *e*P P 00 04 38.2 -5.3
BURAR Bucovina Array 79.57 343 ⇑*i*P **P 00 04 44.1 +0.4**
KHC Kasperske Hory 79.70 351 *e*P **P 00 04 45.0 +0.7**
KHC *e* 00 04 49.0
KHC Kasperske Hory 79.70 351 *e*P **P 00 04 45.0 +0.7**
KHC *ex* x 00 04 49.0
KHC Kasperske Hory 79.70 351 *e*P **P 00 04 45.0 +0.7**
comp=Z,98nm,2.6s
GERES GERESS Array B 79.98 351 P P 00 04 39.9 -6.0
GERES GERESS Array B 79.98 351 P P 00 04 39.9 -6.0
comp=Z,0.7nm,0.6s,baz=38,slow=7.4,SNR=4.7
GERES LR LR 00 44 12.2
comp=Z,125nm,19.8s,baz=291,slow=39
PSZ Piszkesteto 80.14 347 *e*P **P 00 04 48.0 +1.3**
PSZ Piszkesteto 80.14 347 *e*P **P 00 04 48.0 +1.3**
CONA Conrad Observa 80.65 350 *i*P **P 00 04 50.3 +0.8**
comp=Z,4.2nm,0.6s,SNR=6.1
FLN La Foliniere 80.70 1 *e*P **P 00 04 49.9 +0.3**
comp=Z,9.6nm,0.5s
FLN La Foliniere 80.70 1 *e*P **P 00 04 49.9 +0.3**
FLN pmax pmax
comp=Z,10.0nm,0.5s
FLN La Foliniere 80.70 1 *e*P **P 00 04 49.9 +0.3**
comp=Z,9.6nm,0.5s
DRGR 80.80 345 ⇓*i*P **P 00 04 50.7 +0.4**
PAGF Fort de Pagny 80.81 356 *e*P **P 00 04 51.2 +1.0**
comp=Z,10.0nm,0.7s
PAGF Fort de Pagny 80.81 356 *e*P **P 00 04 51.2 +1.0**
comp=Z,10.0nm,0.7s
LDF La Druitiere 80.88 0 *e*P **P 00 04 50.8 +0.2**
comp=Z,34nm,0.6s
LDF La Druitiere 80.88 0 *e*P **P 00 04 50.8 +0.2**
LDF pmax pmax
comp=Z,35nm,0.6s
LDF La Druitiere 80.88 0 *e*P **P 00 04 50.8 +0.2**
comp=Z,34nm,0.6s
CDF Champ du Feu 80.88 355 *e*P **P 00 04 51.0 +0.3**
comp=Z,7.2nm,0.7s
CDF Champ du Feu 80.88 355 *e*P **P 00 04 51.0 +0.3**
CDF pmax pmax
comp=Z,7.0nm,0.7s
CDF Champ du Feu 80.88 355 *e*P **P 00 04 51.0 +0.3**
comp=Z,7.2nm,0.7s
MEZF Maizieres J'vi 80.89 357 *e*P **P 00 04 51.4 +0.8**
MEZF Maizieres J'vi 80.89 357 *e*P **P 00 04 51.4 +0.8**
GRR Gorron 81.08 1 *e*P **P 00 04 52.2 +0.6**
comp=Z,45nm,0.8s
GRR Gorron 81.08 1 *e*P **P 00 04 52.2 +0.6**
GRR pmax pmax
comp=Z,45nm,0.8s
GRR Gorron 81.08 1 *e*P **P 00 04 52.2 +0.6**
comp=Z,45nm,0.8s
ROSF Rostrenen 81.08 3 *e*P **P 00 04 52.3 +0.6**
comp=Z,11nm,0.5s
ROSF Rostrenen 81.08 3 *e*P **P 00 04 52.3 +0.6**
ROSF pmax pmax
comp=Z,11nm,0.5s
ROSF Rostrenen 81.08 3 *e*P **P 00 04 52.3 +0.6**
comp=Z,11nm,0.5s
DOPR Dopca 81.12 343 ⇑*i*P **P 00 04 53.7 +1.7**
SGMF Saint Gilles 81.18 2 *e*P **P 00 04 53.0 +0.8**
comp=Z,41nm,0.7s
SGMF Saint Gilles 81.18 2 *e*P **P 00 04 53.0 +0.8**
SGMF pmax pmax
comp=Z,41nm,0.7s
SGMF Saint Gilles 81.18 2 *e*P **P 00 04 53.0 +0.8**
comp=Z,41nm,0.7s
SFTF Sexfontaines 81.19 357 *e*P **P 00 04 52.8 +0.6**
comp=Z,25nm,0.8s
SFTF Sexfontaines 81.19 357 *e*P **P 00 04 52.8 +0.6**
comp=Z,25nm,0.8s
HAU Haudompre 81.33 356 *e*P **P 00 04 53.3 +0.2**
comp=Z,12nm,0.7s
HAU Haudompre 81.33 356 *e*P **P 00 04 53.3 +0.2**
HAU pmax pmax
comp=Z,12nm,0.7s
HAU Haudompre 81.33 356 *e*P **P 00 04 53.3 +0.2**
comp=Z,12nm,0.7s
WRA Warramunga Arr 81.34 223 P **P 00 04 51.8 -1.5**
WRA Warramunga Arr 81.34 223 P **P 00 04 51.8 -1.5**
comp=Z,1.1nm,0.9s,baz=33,slow=5.9,SNR=6.0
MLR Muntele Rosu 81.47 342 ⇑*i*P **P 00 04 55.7 +1.7**
HINF Hinteralfeld 81.50 356 *e*P **P 00 04 54.0 0.0**
HINF Hinteralfeld 81.50 356 *e*P **P 00 04 54.0 0.0**
HINF Hinteralfeld 81.50 356 *e*P **P 00 04 54.0 0.0**
VOIR 81.69 343 ⇑*i*P **P 00 04 56.1 +1.0**
WTTA Wattenberg 81.73 352 *i*P P 00 04 51.4 -4.0
comp=Z,13nm,0.6s,SNR=4.1
KBA Koelnbreinsper 81.76 351 *i*P P 00 04 51.4 -4.1
comp=Z,27nm,0.5s,SNR=7.4
SOKA Soboth 81.98 350 *i*P **P 00 04 57.5 +1.0**
SNR=7.6
PKSM Moragy 81.99 347 ⇑*i*P **P 00 04 56.6 +0.1**
PERS Pernice 82.01 350 *i*P **P 00 04 57.5 +0.8**
FETA Feichten 82.05 353 *i*P **P 00 04 58.0 +1.0**
comp=Z,11nm,1.2s,SNR=5.3
BZS Buzias 82.12 345 ⇓*i*P **P 00 04 57.5 +0.3**
GZR Gura Zlata 82.14 344 ⇑*i*P **P 00 04 58.1 +0.7**
LOR Lormes 82.16 358 *e*P **P 00 04 57.9 +0.5**
comp=Z,4.8nm,0.6s
LOR Lormes 82.16 358 *e*P **P 00 04 57.9 +0.5**
comp=Z,4.8nm,0.6s
ABTA Abfaltersbach 82.17 352 ⇓*i*P P 00 04 52.9 -4.7
comp=Z,11nm,1.1s,SNR=5.1
HYF Humbligny 82.18 358 *e*P **P 00 04 58.5 +1.0**
HYF Humbligny 82.18 358 *e*P **P 00 04 58.5 +1.0**
OBKA Obir 82.20 350 ⇑*i*P P 00 04 53.8 -4.0
comp=Z,9.6nm,0.5s,SNR=8.7
SSF Saint Saulge 82.37 358 *e*P **P 00 04 59.0 +0.5**
comp=Z,8.0nm,0.6s
SSF Saint Saulge 82.37 358 *e*P **P 00 04 59.0 +0.5**
SSF pmax pmax
comp=Z,8.0nm,0.6s
SSF Saint Saulge 82.37 358 *e*P **P 00 04 59.0 +0.5**
comp=Z,8.0nm,0.6s
AVF Avril sur Loir 82.65 358 *e*P **P 00 05 00.4 +0.5**
comp=Z,28nm,1.1s
AVF Avril sur Loir 82.65 358 *e*P **P 00 05 00.4 +0.5**
AVF pmax pmax
comp=Z,28nm,1.1s
AVF Avril sur Loir 82.65 358 *e*P **P 00 05 00.4 +0.5**
comp=Z,28nm,1.1s
TUE Stuetta 82.69 354 *e*P **P 00 05 01.7 +1.2**
comp=Z,9.4nm,0.8s
CABF La Chapelle 82.74 356 *e*P **P 00 05 01.2 +0.7**
comp=Z,27nm,1.1s
CABF La Chapelle 82.74 356 *e*P **P 00 05 01.2 +0.7**
CABF pmax pmax
comp=Z,27nm,1.1s
CABF La Chapelle 82.74 356 *e*P **P 00 05 01.2 +0.7**
comp=Z,27nm,1.1s
SMF Signal de Mont 82.78 358 *e*P **P 00 05 01.1 +0.4**
comp=Z,19nm,0.8s
SMF Signal de Mont 82.78 358 *e*P **P 00 05 01.1 +0.4**
SMF pmax pmax
comp=Z,19nm,0.8s
SMF Signal de Mont 82.78 358 *e*P **P 00 05 01.1 +0.4**
comp=Z,19nm,0.8s
MFF Saint Martin d 82.87 0 *e*P **P 00 05 01.9 +0.8**
comp=Z,36nm,1.0s
MFF Saint Martin d 82.87 0 *e*P **P 00 05 01.9 +0.8**
MFF pmax pmax
comp=Z,36nm,1.0s
MFF Saint Martin d 82.87 0 *e*P **P 00 05 01.9 +0.8**
comp=Z,36nm,1.0s
BGF Bois d'Agland 82.89 358 *e*P **P 00 05 01.8 +0.6**
comp=Z,12nm,0.8s
BGF Bois d'Agland 82.89 358 *e*P **P 00 05 01.8 +0.6**
BGF pmax pmax
comp=Z,12nm,0.8s
BGF Bois d'Agland 82.89 358 *e*P **P 00 05 01.8 +0.6**
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 83.17 359 *e*P **P 00 05 03.2 +0.5**
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 83.17 359 *e*P **P 00 05 03.2 +0.5**
TCF pmax pmax
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 83.17 359 *e*P **P 00 05 03.2 +0.5**
comp=Z,17nm,0.9s
RKT Rikitea 83.52 139 *e*LR LR 00 31 40.8
comp=Z,295nm,35.5s
LPL La Plagne 83.80 356 *e*P **P 00 05 07.5 +1.3**
LPL La Plagne 83.80 356 *e*P **P 00 05 07.5 +1.3**
LPL La Plagne 83.80 356 *e*P **P 00 05 07.5 +1.3**
LPG La Plagne 83.82 356 *e*P **P 00 05 07.8 +1.4**
comp=Z,7.2nm,0.7s
LPG La Plagne 83.82 356 *e*P **P 00 05 07.8 +1.4**
LPG pmax pmax
comp=Z,7.0nm,0.7s
LPG La Plagne 83.82 356 *e*P **P 00 05 07.8 +1.4**
comp=Z,7.2nm,0.7s
RJF Les Rejaudoux 84.16 359 *e*P **P 00 05 08.3 +0.5**
RJF Les Rejaudoux 84.16 359 *e*P **P 00 05 08.3 +0.5**
RJF Les Rejaudoux 84.16 359 *e*P **P 00 05 08.3 +0.5**
ORIF Oris-en-Rattie 84.44 356 *e*P **P 00 05 10.6 +1.3**
comp=Z,4.5nm,0.6s
ORIF Oris-en-Rattie 84.44 356 *e*P **P 00 05 10.6 +1.3**
ORIF pmax pmax
comp=Z,5.0nm,0.6s
ORIF Oris-en-Rattie 84.44 356 *e*P **P 00 05 10.6 +1.3**
comp=Z,4.5nm,0.6s
LFF La Frestale 84.53 360 *e*P **P 00 05 10.5 +0.9**
comp=Z,20nm,0.8s
LFF La Frestale 84.53 360 *e*P **P 00 05 10.5 +0.9**
LFF pmax pmax
comp=Z,20nm,0.8s
LFF La Frestale 84.53 360 *e*P **P 00 05 10.5 +0.9**
comp=Z,20nm,0.8s
VIVF Saint-Julien-l 84.55 357 *e*P **P 00 05 10.1 +0.4**
VIVF Saint-Julien-l 84.55 357 *e*P **P 00 05 10.1 +0.4**
VIVF Saint-Julien-l 84.55 357 *e*P **P 00 05 10.1 +0.4**
MBDF Montbardon 84.59 355 *e*P **P 00 05 11.3 +1.2**
comp=Z,9.5nm,0.6s
MBDF Montbardon 84.59 355 *e*P **P 00 05 11.3 +1.2**
MBDF pmax pmax
comp=Z,10.0nm,0.6s
MBDF Montbardon 84.59 355 *e*P **P 00 05 11.3 +1.2**
comp=Z,9.5nm,0.6s
AS01 Alice Springs 84.79 222 *e*P P 00 05 15.5 +4.4
ASAR Alice Springs 84.81 222 P **P 00 05 10.4 -0.8**
ASAR Alice Springs 84.81 222 P **P 00 05 10.4 -0.8**
comp=Z,2.6nm,0.8s,baz=15,slow=3.7,SNR=5.1
MALT Malatya 85.10 331 ⇑*i*P **P 00 05 14.1 +1.4**
BRTR Keskin Array B 85.17 335 P P 00 05 09.6 -3.6
BRTR Keskin Array B 85.17 335 P P 00 05 09.6 -3.6
comp=Z,1.5nm,0.8s,baz=42,slow=2.9,SNR=6.6
BRTR LR LR 00 48 56.8
comp=Z,27nm,18.5s,baz=104,slow=40
LASF Ste Croix 85.35 358 *e*P **P 00 05 14.7 +0.9**
comp=Z,12nm,1.0s
LASF Ste Croix 85.35 358 *e*P **P 00 05 14.7 +0.9**
comp=Z,12nm,1.0s
SMRF Simiane la Rot 85.39 356 *e*P **P 00 05 15.6 +1.6**
comp=Z,17nm,0.8s
SMRF Simiane la Rot 85.39 356 *e*P **P 00 05 15.6 +1.6**
comp=Z,17nm,0.8s
FRF La Foret Royal 85.75 355 *e*P **P 00 05 15.7 -0.1**
comp=Z,8.4nm,0.6s
FRF La Foret Royal 85.75 355 *e*P **P 00 05 15.7 -0.1**
FRF pmax pmax
comp=Z,8.0nm,0.6s
FRF La Foret Royal 85.75 355 *e*P **P 00 05 15.7 -0.1**
comp=Z,8.4nm,0.6s
LMR La Mourre 85.99 356 *e*P **P 00 05 17.7 +0.8**
comp=Z,7.9nm,0.6s
LMR La Mourre 85.99 356 *e*P **P 00 05 17.7 +0.8**
LMR pmax pmax
comp=Z,8.0nm,0.6s
LMR La Mourre 85.99 356 *e*P **P 00 05 17.7 +0.8**
comp=Z,7.9nm,0.6s
MTLF Montolieu 86.12 359 *e*P **P 00 05 18.6 +1.0**
MTLF Montolieu 86.12 359 *e*P **P 00 05 18.6 +1.0**
MTLF Montolieu 86.12 359 *e*P **P 00 05 18.6 +1.0**
SJPF Ste Jean 86.35 1 *e*P **P 00 05 20.2 +1.5**
comp=Z,8.0nm,0.7s
SJPF Ste Jean 86.35 1 *e*P **P 00 05 20.2 +1.5**
SJPF pmax pmax
comp=Z,8.0nm,0.7s
SJPF Ste Jean 86.35 1 *e*P **P 00 05 20.2 +1.5**
comp=Z,8.0nm,0.7s
EPF Esparros 86.44 0 *e*P **P 00 05 19.5 +0.3**
EPF Esparros 86.44 0 *e*P **P 00 05 19.5 +0.3**
EPF Esparros 86.44 0 *e*P **P 00 05 19.5 +0.3**
ETSF Etsaut 86.57 1 *e*P **P 00 05 21.2 +1.3**
comp=Z,6.3nm,0.6s
ETSF Etsaut 86.57 1 *e*P **P 00 05 21.2 +1.3**
ETSF pmax pmax
comp=Z,6.0nm,0.6s
ETSF Etsaut 86.57 1 *e*P **P 00 05 21.2 +1.3**
comp=Z,6.3nm,0.6s
PGF Pioggiola 86.62 354 *e*P **P 00 05 20.8 +0.6**
comp=Z,64nm,1.1s
PGF Pioggiola 86.62 354 *e*P **P 00 05 20.8 +0.6**
PGF pmax pmax
comp=Z,64nm,1.1s
PGF Pioggiola 86.62 354 *e*P **P 00 05 20.8 +0.6**
comp=Z,64nm,1.1s

STKA	**Stephens Creek**	**89.27**	**212**	P	**P**	**00 05 32.2**	**-0.4**
STKA	**Stephens Creek**	**89.27**	**212**	P	**P**	**00 05 32.2**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=346,slow=8.3,SNR=2.5						
STKA				LR	LR	00 40 56.7	
	comp=Z,72nm,19.7s,baz=24,slow=32						
ESDC	**Sonseca Array**	**89.71**	**3**	P	P	00 05 30.4	-4.5
ESDC	**Sonseca Array**	**89.71**	**3**	P	P	00 05 30.4	-4.5
	comp=Z,0.8nm,0.7s,baz=346,slow=3.9,SNR=1.4						
TOA0	**Torodi Ar. Sit**	**116.21**	**359**	*e*PKPdf	**PKPdf**	**00 11 21.5**	**+1.3**
TORD	**Torodi Ar. Bea**	**116.21**	**359**	PKP	**PKPdf**	**00 11 16.2**	**-4.0**
TORD	**Torodi Ar. Bea**	**116.21**	**359**	PKP	**PKPdf**	**00 11 16.2**	**-4.0**
	comp=Z,0.4nm,0.5s,baz=349,slow=2.2,SNR=6.3						
H03N2	**Juan Fernandez**	**121.48**	**105**	T	T	02 24 52.9	
	baz=315,slow=75,SNR=31						
H03N1	**Juan Fernandez**	**121.50**	**105**	T	T	02 24 52.8	
	baz=315,slow=75,SNR=51						
H03N3	**Juan Fernandez**	**121.50**	**106**	T	T	02 24 54.8	
	baz=315,slow=75,SNR=33						
DBIC	**Dimbokro**	**122.47**	**6**	PKP	**PKPdf**	**00 11 27.9**	**-4.3**
DBIC	**Dimbokro**	**122.47**	**6**	PKP	**PKPdf**	**00 11 27.9**	**-4.3**
	comp=Z,1.1nm,0.5s,baz=161,slow=21,SNR=5.1						
PLCA	**Paso Flores**	**131.29**	**107**	PKP	**PKPdf**	**00 11 49.6**	**+1.3**
PLCA	**Paso Flores**	**131.29**	**107**	PKP	**PKPdf**	**00 11 49.6**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=338,slow=6.8,SNR=4.9						
TSUM	**Tsumeb**	**145.57**	**330**	*e*PKPdf	**PKPdf**	**00 12 16.3**	**+1.2**
MAW	**Mawson**	**145.82**	**217**	PKPbc	**PKPdf**	**00 12 13.2**	**-0.6**
MAW	**Mawson**	**145.82**	**217**	PKPbc	**PKPdf**	**00 12 13.2**	**-0.6**
	comp=Z,5.8nm,1.2s,baz=90,slow=9.1,SNR=1.9						
BOSA	**Boshof**	**150.93**	**311**	*e*PKPdf	**PKPdf**	**00 12 26.3**	**+2.7**
BOSA				*e*PKPbc	**PKiKP**	**00 12 31.9**	**+2.0**
BOSA	**Boshof**	**150.93**	**311**	PKPbc	**PKPbc**	**00 12 26.7**	**-2.6**
	comp=Z,7.1nm,0.8s,baz=133,slow=1.5,SNR=9.0						
SYO	**Syowa Base**	**154.02**	**211**⇑	*e*P	PKPab	00 13 02.4	+14

*ATH **20** 23:58:24.2, 40.43N×19.82E, h5km, MD3.1/5*
*SKO **20** 23:58:24.4, 39.56N×21.69E, h30km, M1.9, ML2.6*
CSEM 20 23:58:26.5±0.3, 40.28N×19.96E, h15km, MD3.1, Error ellipse: s-maj=9.7km s-min=6.6km az=88.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.58**	**192**	*e*PB	Pb	23 58 38.4	0.0
KEK	**Kerkira**	**0.58**	**192**	*e*Pb	Pb	23 58 38.4	0.0
IGT	**Igoumenitsa**	**0.80**	**159**	*e*PG	Pb	23 58 42.4	+0.2
IGT				*e*SB	Sn	23 58 57.0	+2.0
IGT	**Igoumenitsa**	**0.80**	**159**	*e*Pg	Pb	23 58 42.4	+0.2
JAN	**Janina**	**0.93**	**132**	*e*PG	Pb	23 58 44.2	-0.2
JAN	**Janina**	**0.93**	**132**	*e*Pg	Pb	23 58 44.2	-0.2
FNA	**Florina**	**1.19**	**65**	*e*PB	Pn	23 58 47.9	-0.8
FNA	**Florina**	**1.19**	**65**	*e*Pb	Pn	23 58 47.9	-0.8
BIA	**Bitola**	**1.27**	**54**	*i* Pg	Pg	23 58 51.4	+0.2
BIA				*i* Sg	Sg	23 59 10.6	+2.8
BIA	**Bitola**	**1.27**	**54**	*i* Pg	Pg	23 58 51.3	+0.1
THL	**Klokotos Trika**	**1.74**	**114**	*e*PN	Pg	23 59 00.4	+0.5
SKO	**Skopje**	**2.03**	**33**	*i* Pn	Pb	23 59 03.0	-0.1
SKO				*i* Sn	Sg	23 59 30.2	-1.6
SKO				*e*Lg	Lg	23 59 30.9	
	comp=E,27nm,0.8s						
SKO				*e*Lg	Lg	23 59 31.6	
	comp=N,15nm,0.5s						
SKO	**Skopje**	**2.03**	**33**	*i* Pn	Pn	23 59 01.4	+1.3
SKO				*e*Lg	Lg	23 59 31.4	
	comp=N,27nm,0.8s						
STON	**Ston**	**3.09**	**328**	*e*Pn	Pn	23 59 14.5	-0.2
STON				Sn	Sn	23 59 50.3	-1.1
STON	**Ston**	**3.09**	**328**	*e*Pn	Pn	23 59 14.5	-0.2
STON				Sn	Sn	23 59 50.2	-1.2

*KRSC **21** 00:10:01.7±4.8, 60.96N×167.05E, h5km±5km, ML3.9*
*IDC **21** 00:10:04.6±0.8, 60.91N×166.46E, h0km, mb3.5/7, mb1 3.8/9, mb1mx3.6/31, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=19.7km s-min=16.7km az=28.0*
*ISCJB **21** 00:10:06.5±0.6, 60.91N±0.06×166.6E±0.2, h29km, mb3.5/7, Error ellipse: s-maj=12.2km s-min=7.4km az=28.5*
ISC 21 00:10:08.4±0.8, 60.86N±0.08×166.53E±0.09, h29km, n13, σ1s04/15, mb3.5/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.46**	**205**	*e*P	**Pb**	**00 10 16.2**	**-1.8**
TILK				*i* S	**Sn**	**00 10 25.9**	**-0.2**
OSSR	**Ossora**	**2.38**	**229**	*e*P	**Pn**	**00 10 45.8**	**+0.5**
OSSR				*i* S	**Sb**	**00 11 20.7**	**+1.5**
KBTR	**Krutoberegovo**	**5.05**	**204**	*e*P	**Pn**	**00 11 23.4**	**+1.3**
BKI	**Bering**	**5.68**	**183**	*e*P	**Pn**	**00 11 31.2**	**+0.5**
SEY	**Seymchan**	**7.00**	**293**	Pn	**Pn**	**00 11 48.0**	**-0.8**
	0.1nm,0.3s,baz=216,slow=19,SNR=2.8						
SEY				Lg	Lg	00 13 41.5	
	0.2nm,0.3s,baz=336,slow=20,SNR=2.6						
FX1	**Attu Island--F**	**8.78**	**153**	Pn	**Pn**	**00 12 13.0**	**-0.2**
	3.5nm,0.3s,baz=135,slow=20,SNR=5.3						
ILAR	**Eielson Array**	**21.24**	**59**	P	**P**	**00 14 52.0**	**+0.4**
	2.5nm,0.7s,baz=275,slow=10,SNR=25						
INK	**Inuvik**	**25.76**	**48**	P	**P**	**00 15 37.5**	**+1.6**
	0.4nm,0.5s,baz=300,slow=8.3,SNR=7.0						
YKA	**Yellowknife Ar**	**35.29**	**52**	P	**P**	**00 17 00.1**	**0.0**
	0.4nm,0.6s,baz=304,slow=7.9,SNR=8.9						
KURBB	**Kurchatov Arra**	**46.91**	**299**	P	**P**	**00 18 36.2**	**+0.4**
	0.3nm,0.6s,baz=43,slow=7.6,SNR=5.0						
MKAR	**Makanchi Array**	**48.14**	**293**	P	**P**	**00 18 44.4**	**-0.9**
	0.2nm,0.8s,baz=54,slow=7.3,SNR=2.3						
PDAR	**Pinedale Array**	**51.08**	**70**	P	**P**	**00 19 07.4**	**-0.7**
	0.7nm,0.9s,baz=302,slow=3.3,SNR=4.8						
WRA	**Warramunga Arr**	**84.61**	**210**	P	**P**	**00 22 39.1**	**+0.5**
	0.4nm,0.8s,baz=20,slow=5.8,SNR=4.6						

*ISCJB **21** 00:18:49.3±0.7, 21.24S±0.06×68.76W±0.1, h118km, mb3.3/4, Error ellipse: s-maj=19.1km s-min=8.7km az=3.7*
*IDC **21** 00:18:49.5±2.3, 21.22S×68.76W, h100km±21km, mb3.3/5, mb1 3.6/7, mb1mx3.6/17, mbtmp3.8/7, Error ellipse: s-maj=25.9km s-min=20.1km az=86.0*
ISC 21 00:18:50.9±0.8, 21.25S±0.08×68.7W±0.1, h118km, n9, σ1s02/12, mb3.3/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.96**	**6**	P	**Pn**	**00 20 03.0**	**-1.0**
	3.7nm,0.3s,baz=205,slow=8.5,SNR=50						
SIV	**San Ignacio**	**8.89**	**55**	P	**Pn**	**00 20 55.0**	**-1.6**
	4.9nm,0.3s,baz=250,slow=13,SNR=53						
CFAA	**Coronel Fontan**	**10.32**	**178**	P	**Pn**	**00 21 15.0**	**-0.7**
	0.1nm,0.3s,baz=350,slow=15,SNR=9.8						
CFAA				S	**Sn**	**00 23 09.4**	**-0.1**
	0.1nm,0.3s,baz=295,slow=2.4,SNR=3.5						
BDFB	**Brasilia**	**20.35**	**78**	P	**P**	**00 23 19.6**	**+1.3**
	3.8nm,0.5s,baz=259,slow=8.0,SNR=12						
TXAR	**Lajitas Array**	**60.56**	**325**	P	**P**	**00 28 48.6**	**-0.6**
	0.1nm,0.6s,baz=153,slow=8.1,SNR=4.1						
PDAR	**Pinedale Array**	**74.02**	**330**	P	**P**	**00 30 14.5**	**+0.5**
	0.2nm,0.7s,baz=115,slow=6.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P	**P**	**00 30 32.4**	**+0.8**
	1.3nm,0.7s,baz=256,slow=5.4,SNR=12						
YKA	**Yellowknife Ar**	**91.03**	**341**	P	**P**	**00 31 41.1**	**-0.3**
	0.2nm,0.5s,baz=128,slow=4.5,SNR=5.0						
YKA				pP	**pP**	**00 32 12.2**	**+0.2**
	0.3nm,0.7s,baz=135,slow=4.5,SNR=4.2						
MKAR	**Makanchi Array**	**145.29**	**36**	PKP	**PKPab**	**00 38 16.3**	**+1.3**
	0.5nm,0.5s,baz=311,slow=3.5,SNR=8.6						
MKAR				pPKP	**pPKPdf**	**00 38 47.4**	**+0.7**
	0.2nm,0.8s,baz=223,slow=23,SNR=2.1						

FUNV 21 00:22:48.6, 5.90N×72.44W, h16km, MW3.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.95**	**4**	*e*P	Pn	00 23 21.2	-0.3
CAPV				*e*S	Sn	00 23 44.9	-1.0
SOCV	**Socops**	**2.84**	**34**	*e*P	Pn	00 23 32.5	-1.0
SOCV				*e*S	Sn	00 24 04.7	-2.7
ELOV	**Elorza**	**3.13**	**69**	*e*P	Pn	00 23 36.4	-1.1
VIRV	**Villa del Rosa**	**4.57**	**0**	*e*P	Pn	00 23 55.4	-1.8
VIRV				*e*S	Sn	00 24 45.2	-4.9
CURV	**Curarigua**	**4.76**	**31**	*e*P	Pn	00 23 58.1	-1.8
DABV	**Dabajuro**	**5.30**	**20**	*e*P	Pn	00 24 06.5	-0.7
BAUV	**El Baul**	**5.30**	**55**	*e*P	Pn	00 24 05.3	-2.0
BAUV				*e*S	Sn	00 25 03.0	-5.2
MONV	**Montecano**	**6.49**	**22**	*e*P	Pn	00 24 21.3	-2.3

*NEIC **21** 00:48:15.2, 67.72N×166.93W, h25km, ML3.3(AEIC), After AEIC.*
*IDC **21** 00:48:17.5±4.6, 68.35N×167.22W, h0km, mb3.1/2, mb1 3.7/4, mb1mx3.3/29, mbtmp3.3/4, ML3.7/2, Error ellipse: s-maj=70.2km s-min=52.0km az=156.0*
ISC 21 00:48:14.5±1.8, 67.7N±0.1×167.1W±0.1, h10km, n8, σ2s85/11, Bering Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.13**	**190**	*e*Pn	**Pn**	**00 48 52.2**	**+2.1**
TNA				*e*Sn	**Sn**	**00 49 15.4**	**-1.2**
GAMB	**Gambell**	**4.34**	**208**	*e*Pn	**Pn**	**00 49 18.6**	**-1.8**
IM04	**Indian Mountai**	**5.51**	**102**	*e*Pn	**Pn**	**00 49 37.6**	**+1.1**
IM04				*e*Sn	**Sn**	**00 50 37.3**	**-2.5**
COLD	**Coldfoot**	**6.50**	**86**	*e*Pn	**Pn**	**00 49 52.3**	**+2.3**
	11nm,1.0s						
ILAR	**Eielson Array**	**8.63**	**100**	Pn	**Pn**	**00 50 22.1**	**+2.8**
	0.6nm,0.3s,baz=299,slow=13,SNR=28						
ILAR				Sn	**Sn**	**00 51 55.1**	**-1.5**
	0.0nm,0.3s,baz=301,slow=23,SNR=4.4						
INK	**Inuvik**	**12.51**	**72**	Pn	**Pn**	**00 51 12.7**	**+0.5**
	0.1nm,0.3s,baz=304,slow=11,SNR=7.4						
INK				Sn	**Sn**	**00 53 26.5**	**-4.9**
	0.1nm,0.3s,baz=114,slow=18,SNR=2.6						
YKA	**Yellowknife Ar**	**22.09**	**78**	P	**P**	**00 53 12.4**	**+3.1**
	0.2nm,0.5s,baz=302,slow=10.0,SNR=5.1						
NVAR	**Mina Array Bea**	**39.65**	**112**	P	P	00 55 53.3	+6.9
	0.4nm,0.7s,baz=336,slow=8.0,SNR=3.1						

TAP 21 01:18:25.1, 23.78N×121.56E, h20km, ML3.5, 5C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.07**	**191**	P	Pb	01 18 29.1	+0.3
	baz=182						
TEGC				*e*S	Sb	01 18 32.1	+0.7
	baz=182						
ESF	**Shoufeng Towns**	**0.10**	**334**⇑	*i* P	Pb	01 18 29.4	-1.7
	baz=325						
ESF				S	Sb	01 18 32.6	-2.7
	baz=325						
ESL	**Shilin**	**0.12**	**287**⇑	*e*P	Pb	01 18 29.1	-1.8
	baz=287						
HWA	**Hwalien**	**0.20**	**13**	*e*P	Pb	01 18 30.7	0.0
	baz=25						
HWA				*e*S	Sb	01 18 35.4	+0.7
	baz=25						
TWD	**Chiawan**	**0.30**	**7**⇓	*i* P	Pb	01 18 32.2	+0.4
	baz=3.0						
TWD				*i* S	Sb	01 18 37.4	+1.0
	baz=3.0						
EHY	**Hungye**	**0.35**	**218**⇓	*i* P	Pb	01 18 32.3	-0.1
	baz=225						
EHY				S	Sb	01 18 38.1	+0.6
	baz=225						
WHF	**Hehuan Shan**	**0.45**	**324**⇑	*i* P	Pb	01 18 34.5	-0.3
	baz=323						
WHF				*i* S	Sb	01 18 40.9	-0.6
	baz=323						
TWF1	**Yuli**	**0.49**	**209**⇓	*i* P	Pb	01 18 34.5	-0.5
	baz=220						
TWF1				*e*S	Sb	01 18 43.1	+1.4
	baz=220						
EHP	**Heping Village**	**0.56**	**18**	*e*P	Pb	01 18 34.9	-1.3
	baz=17						
TWT	**Tachien**	**0.59**	**324**⇑	*i* P	Pb	01 18 37.3	+0.4
	baz=316						
TWT				S	Sb	01 18 44.9	-0.1
	baz=316						
SMLT	**Sun Moon Lake**	**0.61**	**280**	*e*P	Pb	01 18 37.3	0.0
	baz=279						
SMLT				S	Sb	01 18 45.6	0.0
	baz=279						
YUS	**Yu-Shan**	**0.62**	**243**	⇓P	Pb	01 18 38.0	0.0
	baz=240						
YUS				*e*S	Sb	01 18 45.7	-1.1
	baz=240						
TYC	**Yuchr**	**0.65**	**281**	P	Pb	01 18 38.0	+0.2
	baz=280						
TYC				S	Sb	01 18 46.9	+0.5
	baz=280						
ENA	**Nanau**	**0.67**	**15**	P	Pb	01 18 38.5	+0.4
	baz=7.0						
ENA				S	Sn	01 18 48.2	-1.0
	baz=7.0						
NNS	**Nan Shan**	**0.68**	**346**	*e*P	Pb	01 18 38.7	+0.3
	baz=347						
NNS				*e*S	Sb	01 18 47.5	0.0
	baz=347						
CHKT	**Chengkung**	**0.70**	**194**	*e*P	Pb	01 18 39.0	+0.4
	baz=193						
CHKT				*e*S	Sn	01 18 49.6	-0.3
	baz=193						
ALS	**Alishan**	**0.74**	**249**	*e*P	Pb	01 18 39.7	+0.1
	baz=247						
ALS				*e*S	Sb	01 18 49.8	+0.2
	baz=247						
ELDTW	**Lidau**	**0.77**	**220**	*e*P	Pb	01 18 39.3	-0.5
	baz=210						
ELDTW				*e*S	Sb	01 18 50.9	+0.9
	baz=210						
WNT	**Mingjian**	**0.80**	**277**	*e*P	Pn	01 18 40.9	-0.3
	baz=278						
WNT				*e*S	Sn	01 18 52.4	-0.1
	baz=278						
CHN5	**Tsauling**	**0.82**	**257**	⇓P	Pn	01 18 41.8	+0.1
	baz=250						
CHN5				*e*S	Sn	01 18 53.2	-0.1
	baz=250						
ENTT	**Nioudou**	**0.86**	**1**	*e*P	Pn	01 18 42.0	0.0
	baz=4.0						
ENTT				*e*S	Sn	01 18 53.4	-0.6
	baz=4.0						
TWC	**Suao**	**0.87**	**18**	*e*P	Pn	01 18 42.3	+0.2
	baz=14						
TWC				*e*S	Sn	01 18 54.6	+0.5
	baz=14						
TCU	**Taichung**	**0.88**	**295**	*e*P	Pn	01 18 42.1	-0.2
	baz=291						
TCU				*e*S	Sn	01 18 55.1	+0.6
	baz=291						
NSK	**Sanguang**	**0.91**	**349**	*e*P	Pn	01 18 42.6	-0.2
	baz=341						
NSK				S	Sn	01 18 54.8	-0.6
	baz=341						
TWQ1	**Liyutan**	**0.91**	**309**	*e*P	Pn	01 18 43.6	+0.9
	baz=306						
TWQ1				*e*S	Sn	01 18 55.8	+0.5
	baz=306						
WGK	**Gukeng**	**0.92**	**264**	*e*P	Pn	01 18 43.1	+0.4
	baz=262						
WGK				*e*S	Sn	01 18 55.3	0.0
	baz=262						
TWE	**Neicheng**	**0.94**	**6**	*e*P	Pn	01 18 43.7	+0.6
	baz=11						
TWE				S	Sn	01 18 56.7	+0.7
	baz=11						
STYT	**Tauyuan**	**0.95**	**230**	*e*P	Pb	01 18 43.1	+0.1
	baz=218						
STYT				*e*S	Sn	01 18 56.6	+0.1
	baz=218						
NSY	**Sanyi**	**0.96**	**311**⇑	*e*P	Pn	01 18 45.2	+1.8
	baz=309						
NSY				*e*S	Sn	01 18 57.6	+1.0
	baz=309						
CHN4	**Tsaushan**	**0.98**	**244**	*e*P	Pn	01 18 44.3	+0.7
	baz=242						
CHN4				*e*S	Sn	01 18 57.8	+0.9
	baz=242						
NSTT	**Nanjuang**	**0.99**	**329**	*e*P	Pn	01 18 44.1	+0.4
	baz=328						
NSTT				*e*S	Sn	01 18 57.0	-0.1
	baz=328						
WTP	**Ta-pu**	**1.01**	**239**	*e*P	Pn	01 18 44.4	+0.2
	baz=236						
WTP				*e*S	Sn	01 18 58.5	+0.7
	baz=236						
TWG	**Pinlang**	**1.05**	**205**	*e*P	Pb	01 18 42.7	-1.9
	baz=203						
TWG				*e*S	Sn	01 18 59.8	+1.1
	baz=203						
CHY	**Chiayi**	**1.07**	**255**	*e*P	Pb	01 18 45.5	+0.6
	baz=253						
CHY				*e*S	Sn	01 19 00.1	+0.9
	baz=253						
TTN	**Taitung**	**1.09**	**200**	*e*P	Pn	01 18 43.9	-1.2
	baz=200						
TWK	**Hsinying**	**1.10**	**243**	*e*P	Pb	01 18 46.1	+0.5
	baz=240						
TWK				*e*S	Sn	01 19 01.3	+1.1
	baz=240						
CHN1	**Nanshi**	**1.11**	**238**	*e*P	Pb	01 18 46.5	+0.8
	baz=236						
CHN1				*e*S	Sn	01 19 02.3	+2.0
	baz=236						
SGST	**Jiashian**	**1.13**	**232**	*e*P	Pb	01 18 46.3	+0.3
	baz=223						
SGST				*e*S	Sn	01 19 03.1	+2.4
	baz=223						
HSN	**Hsinchu**	**1.15**	**332**	*e*P	Pb	01 18 46.5	+0.3
	baz=341						
TWA	**Mucha**	**1.20**	**1**	*e*P	Pb	01 18 47.8	+0.7
	baz=3.0						
NCU	**National Centr**	**1.23**	**344**	*e*P	Pb	01 18 48.0	+0.3
	baz=360						
NCU				*e*S	Sn	01 19 05.0	+1.8
	baz=360						
TWB1	**Santiao Chiao**	**1.29**	**18**	*e*P	Pb	01 18 48.9	+0.3
	baz=7.0						
TWB1				*e*S	Sb	01 19 06.7	+2.0
	baz=7.0						
ECL	**Taimali**	**1.30**	**205**	*e*P	Pb	01 18 48.5	-0.3
	baz=193						
NWF	**Wu-fen Shan**	**1.30**	**9**	*e*P	Pb	01 18 49.5	+0.5
	baz=12						
NWF				*e*S	Sb	01 19 07.1	+1.8
	baz=12						
TWS1	**Kuangyinshan**	**1.32**	**355**	*e*P	Pb	01 18 49.6	+0.4
	baz=12						
TWS1				*e*S	Sb	01 19 07.3	+1.7
	baz=12						
SSD	**Sandimen**	**1.33**	**220**	*e*P	Pn	01 18 48.6	+0.1
	baz=212						
YOJ	**Yonaguni jima**	**1.49**	**63**	*e*P	Pn	01 18 50.3	-0.4
	baz=65						
EAST	**Anshuo**	**1.53**	**205**	*e*P	Pb	01 18 53.1	+0.2
	baz=196						
LAY	**Lan-yu**	**1.73**	**180**	*e*P	Pn	01 18 52.5	-1.5
	baz=171						
TWK1	**Hengchun**	**1.95**	**201**	*e*P	Pn	01 18 57.7	+0.6
	baz=190						
KNM	**Kinmen**	**2.92**	**283**	*e*P	Pn	01 19 12.2	+1.9
	baz=279						

IDC 21 01:38:03.9±1.3, 4.36N×127.05E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/23, mbtmp3.7/5, Error ellipse: s-maj=108.2km s-min=19.5km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.36**	**184**	P	P	01 43 04.6	+0.9
	16nm,1.4s,baz=17,slow=9.1,SNR=5.6						
WRA	**Warramunga Arr**	**25.19**	**164**	P	P	01 43 31.4	+0.1
	0.9nm,0.6s,baz=343,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**28.64**	**167**	P	P	01 44 01.7	-0.7
	0.3nm,0.7s,baz=343,slow=6.8,SNR=3.0						
SONM	**Songino Array**	**46.81**	**341**	P	P	01 46 36.0	+0.4
	0.5nm,0.5s,baz=155,slow=7.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**60.18**	**333**	P	P	01 48 13.1	-0.4
	0.2nm,0.4s,baz=122,slow=7.5,SNR=2.4						

IDC 21 01:38:11.4±1.9, 15.05S×173.81W, h0km, mb3.7/7, mb1 4.1/7, mb1mx3.9/19, mbtmp3.7/7, MS3.2/3, Ms1 3.2/3, ms1mx2.8/22, Error ellipse: s-maj=126.5km s-min=22.5km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.27**	**60**	Pn	Pn	01 38 42.7	-7.6
	14nm,0.3s,baz=123,slow=2.8,SNR=12						
AFI				Sn	Sn	01 39 05.3	-14
	53nm,0.3s,baz=42,slow=20,SNR=11						
PMG	**Port Moresby**	**38.51**	**274**	LR	LR	01 59 47.6	
	comp=Z,34nm,20.5s,baz=176,slow=34						
WRA	**Warramunga Arr**	**49.54**	**256**	P	P	01 47 04.4	0.0
	0.5nm,0.7s,baz=92,slow=7.1,SNR=9.5						
ASAR	**Alice Springs**	**49.84**	**252**	P	P	01 47 06.5	-0.2
	2.8nm,0.6s,baz=86,slow=8.2,SNR=39						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	P	01 49 51.6	+0.4
	0.5nm,0.8s,baz=214,slow=6.3,SNR=2.9						
KSRS	**Korea Array**	**75.63**	**316**	LR	LR	02 18 32.9	
	comp=Z,21nm,19.6s,baz=89,slow=32						
TXAR	**Lajitas Array**	**80.75**	**56**	P	P	01 50 27.3	+0.2
	1.0nm,1.1s,baz=201,slow=6.7,SNR=4.7						
ILAR	**Eielson Array**	**82.18**	**11**	P	P	01 50 33.7	-0.1
	0.5nm,1.0s,baz=214,slow=6.2,SNR=3.8						
PDAR	**Pinedale Array**	**82.27**	**42**	P	P	01 50 34.6	-0.5
	0.5nm,0.6s,baz=208,slow=2.5,SNR=5.1						
YKA	**Yellowknife Ar**	**89.94**	**24**	P	P	01 51 12.4	+0.2
	0.2nm,0.7s,baz=234,slow=5.3,SNR=3.6						
CMAR	**Chiang Mai Arr**	**92.13**	**288**	LR	LR	02 26 13.0	
	comp=Z,15nm,28.6s,baz=155,slow=31						

*CRAAG **21** 02:45:00.7, 35.55N×0.01W, Ml4.8*
*INMG **21** 02:45:03.0±1.7, 35.20N×0.23W, h0km, ML3.2, Error ellipse: s-maj=7.1km s-min=4.9km az=160.0*
*CSEM **21** 02:45:03.5±0.2, 35.23N×0.22W, h10km, mb4.6, Error ellipse: s-maj=5.5km s-min=2.7km az=165.0*
*IDC **21** 02:45:03.9±0.7, 35.50N×0.22W, h0km, mb4.1/15, mb1 4.2/20, mb1mx4.1/36, mbtmp4.0/20, ML4.1/5, MS3.5/5, Ms1 3.5/5, ms1mx2.9/37, Error ellipse: s-maj=17.4km s-min=15.3km az=93.0*
*LDG **21** 02:45:03.0±0.3, 35.45N±0.10W, h2km, Ml3.5/5, Error ellipse: s-maj=7.2km s-min=4.0km az=164.0*
*MDD **21** 02:45:04.1±0.6, 35.21N±0.11W, h13km±4km, mb4.6/35, Error ellipse: s-maj=7.1km s-min=3.9km az=158.0, PRIXMO*
*SFS **21** 02:45:04.0, 35.29N±0.16W, h0km, ML4.7*
*IGIL **21** 02:45:05.2, 35.30N±0.17W, h0km, ML3.0*
*CNRM **21** 02:45:05.3, 35.14N±0.05W, h30km, MD4.0*
ISC 21 02:45:04.6±1.1, 35.42N±0.03×0.22W±0.03, h7km±8km, n268, σ1s62/328, mb4.0/15, MS3.2/5, 10C-5D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.10**	**148**	P	**Pg**	**02 45 07.0**	**0.0**
ODJA	**Bouhanifia**	**0.10**	**148**	P	**Pg**	**02 45 07.0**	**0.0**
ODJA	**

80nm,0.2s
EMEL Melilla 2.24 268 ⇑P Pn 02 45 41.9 -0.3
180nm,0.2s,SNR=18
EMEL S Sn 02 46 09.5 -0.6
80nm,0.2s
EMUR La Murta 2.56 342 P Pn 02 45 46.1 -0.4
26nm,0.4s,SNR=75
EMUR S Sn 02 46 15.9 -2.1
160nm,0.4s,SNR=7.7
EMUR La Murta 2.56 342 P Pn 02 45 46.1 -0.4
26nm,0.4s,SNR=75
EBER Berja 2.62 305 P Pn 02 45 47.4 -0.2
54nm,0.3s,SNR=155
EBER S Sn 02 46 20.1 +0.4
270nm,0.3s
EBER Berja 2.62 305 P Pn 02 45 47.4 -0.2
54nm,0.3s,SNR=155
EBER S Sn 02 46 20.1 +0.4
270nm,0.3s
EMHD Djebel Mahouad 2.69 72 P Pb 02 45 51.3 -1.9
EMHD Djebel Mahouad 2.69 72 P Pb 02 45 51.3 -1.9
EMHD Djebel Mahouad 2.69 72 P Pb 02 45 51.3 -1.9
TOU Touzarine 2.93 262 P Pn 02 45 49.0 -2.8
TOU S Sn 02 46 23.0 -4.3
TOU Touzarine 2.93 262 P Pn 02 45 49.0 -2.8
TOU S Sn 02 46 23.0 -4.3
ABA Alger-Bouzarea 2.97 61 P Pn 02 45 50.1 -2.1
ABA Alger-Bouzarea 2.97 61 P Pn 02 45 50.1 -2.1
ABA Alger-Bouzarea 2.97 61 P Pn 02 45 50.1 -2.1
EHUE Huescar 3.06 322 P Pn 02 45 54.5 +0.9
14nm,0.3s,SNR=7.9
EHUE S Sn 02 46 32.0 +1.5
56nm,0.4s,SNR=7.9
EHUE Huescar 3.06 322 P Pn 02 45 54.5 +0.9
14nm,0.3s,SNR=7.9
EHUE S Sn 02 46 32.0 +1.5
56nm,0.4s,SNR=7.9
GORA Gorafe 3.07 313 P Pn 02 45 54.7 +1.1
88nm,0.3s,SNR=18
GORA S Sn 02 46 31.7 +1.0
267nm,0.4s,SNR=7.9
GORA Gorafe 3.07 313 P Pn 02 45 54.7 +1.1
88nm,0.3s,SNR=18
GORA S Sn 02 46 31.7 +1.0
267nm,0.4s,SNR=7.9
EQUE Quentar 3.16 305 ⇑P Pn 02 45 55.9 +1.0
25nm,0.3s,SNR=18
EQUE S Sn 02 46 33.1 +0.3
104nm,0.5s
EQUE Quentar 3.16 305 P Pn 02 45 55.9 +1.0
25nm,0.3s,SNR=18
EQUE S Sn 02 46 33.1 +0.3
104nm,0.5s
ECOG Cogollos-Vega 3.28 305 ⇑P Pn 02 45 57.6 +1.1
107nm,0.4s,SNR=18
ECOG S Sn 02 46 35.6 -0.3
114nm,0.6s
ECOG Cogollos-Vega 3.28 305 P Pn 02 45 57.6 +1.1
107nm,0.4s,SNR=18
ECOG S Sn 02 46 35.6 -0.3
114nm,0.6s
EBEN Beniarda 3.28 360 P Pn 02 45 56.4 -0.1
0.6nm,0.3s,SNR=14
EBEN S Sn 02 46 36.6 +0.8
63nm,0.8s,SNR=10
EBEN Beniarda 3.28 360 P Pn 02 45 56.4 -0.1
0.6nm,0.3s,SNR=14
EQES Quesada 3.31 317 P Pn 02 45 58.6 +1.7
218nm,0.3s,SNR=1021
EQES S Sn 02 46 37.5 +0.9
169nm,0.6s,SNR=5.5
EQES Quesada 3.31 317 P Pn 02 45 58.6 +1.7
217nm,0.3s,SNR=1000
EQES S Sn 02 46 37.5 +0.9
169nm,0.6s,SNR=5.5
SELV Sierra Elvira 3.37 304 P Pn 02 45 58.9 +1.2
34nm,0.4s,SNR=7.9
SELV S Sn 02 46 38.1 +0.1
51nm,0.5s,SNR=7.9
SELV Sierra Elvira 3.37 304 P Pn 02 45 58.9 +1.2
34nm,0.4s,SNR=7.9
SELV S Sn 02 46 38.1 +0.1
51nm,0.5s,SNR=7.9
ETOB Tobarra 3.40 342 P Pn 02 45 58.7 +0.6
39nm,0.2s,SNR=180
ETOB S Sn 02 46 36.8 -1.8
87nm,0.5s,SNR=12
ETOB Tobarra 3.40 342 P Pn 02 45 58.7 +0.6
39nm,0.2s,SNR=180
EMAL Malaga-Limoner 3.67 293 P Pn 02 46 00.5 -1.2
EMAL S Sn 02 46 43.6 -1.6
EMAL Malaga-Limoner 3.67 293 P Pn 02 46 00.5 -1.2
EMAL S Sn 02 46 43.6 -1.6
EVIA Vianos 3.70 331 P Pn 02 46 02.9 +0.6
79nm,0.4s,SNR=63
EVIA S Sn 02 46 46.4 +0.1
267nm,0.4s,SNR=4.9
EVIA Vianos 3.70 331 P Pn 02 46 02.9 +0.6
79nm,0.4s,SNR=63
EVIA S Sn 02 46 46.4 +0.1
267nm,0.4s,SNR=4.9
EIBI Ibiza 3.81 19 P Pn 02 46 03.8 +0.1
30nm,0.3s,SNR=91
EIBI S Sn 02 46 46.5 -2.3
48nm,0.3s
EIBI Ibiza 3.81 19 P Pn 02 46 03.8 +0.1
30nm,0.3s,SNR=91
EMIJ Mijas 3.87 289 P Pn 02 46 03.1 -1.5
18nm,0.3s,SNR=33
EMIJ S Sn 02 46 48.0 -2.3
31nm,0.3s
EMIJ Mijas 3.87 289 P Pn 02 46 03.1 -1.5
18nm,0.3s,SNR=33
EMIJ S Sn 02 46 48.0 -2.3
31nm,0.3s
ELUQ Luque 3.90 304 P Pn 02 46 06.0 +1.0
12nm,0.3s,SNR=7.9
ELUQ S Sn 02 46 50.0 -1.2
68nm,0.6s,SNR=7.9
ELUQ Luque 3.90 304 P Pn 02 46 06.0 +1.0
12nm,0.3s,SNR=7.9
ELUQ S Sn 02 46 50.0 -1.2
68nm,0.6s,SNR=7.9
EADA Adamuz 4.45 309 P Pn 02 46 13.2 +0.7
0.7nm,0.3s,SNR=15
EADA S Sn 02 47 05.7 +1.1
37nm,0.4s
EADA Adamuz 4.45 309 P Pn 02 46 13.2 +0.7
0.7nm,0.3s,SNR=15
EADA S Sn 02 47 05.7 +1.1
37nm,0.4s
LIJA Lijar 4.45 291 P Pn 02 46 16.0 +3.4
LIJA Lijar 4.45 291 *e*P Pn 02 46 16.0 +3.4
LIJA *e*S **Sn** **02 47 06.0 +1.2**
MDT Midelt 4.47 236 Pn **Pn** **02 46 13.6 +0.6**
2.2nm,0.3s,baz=63,slow=12,SNR=6.4
MDT Lg Lg 02 47 32.1
9.6nm,0.3s,baz=210,slow=20,SNR=4.7
SET Setif 4.63 79 P Pg 02 46 35.0 +1.6
SET Setif 4.63 79 P Pg 02 46 35.0 +1.6
CZD Col de Zad 4.65 241 P Pn 02 46 13.0 -2.5
CZD S Sn 02 47 02.0 -7.9
CZD Col de Zad 4.65 241 P Pn 02 46 13.0 -2.5
CZD *e*S Sn 02 47 02.0 -7.9
CKHR Kef el Ahmar 4.70 81 P Pg 02 46 36.2 +1.5
CKHR Kef el Ahmar 4.70 81 P Pg 02 46 36.2 +1.5
ZFT Errachidia 4.82 227 P Pn 02 46 14.0 -3.8
ZFT S Sn 02 47 03.0 -11
ZFT Errachidia 4.82 227 P Pn 02 46 14.0 -3.8
EMOS Mosqueruela 4.94 358 P Pn 02 46 20.4 +0.9
2.6nm,0.2s,SNR=25
EMOS S Sn 02 47 16.5 -0.5
58nm,0.8s
EMOS Mosqueruela 4.94 358 P Pn 02 46 20.4 +0.9
2.6nm,0.2s,SNR=25
ECAB El Cabril 4.95 304 P Pn 02 46 19.2 -0.2
4.7nm,0.4s,SNR=43
ECAB S Sn 02 47 14.9 -2.0
52nm,0.7s
ECAB El Cabril 4.95 304 P Pn 02 46 19.2 -0.2
4.7nm,0.4s,SNR=43
ETOS Mallorca 4.97 28 P Pn 02 46 18.8 -0.8
7.1nm,0.3s,SNR=30
ETOS S Sn 02 47 13.1 -4.2
23nm,0.7s
ETOS Mallorca 4.97 28 P Pn 02 46 18.8 -0.8
7.1nm,0.3s,SNR=30

ESDC Sonseca Array 5.19 326 ⇓P Pn 02 46 22.8 0.0
7.8nm,0.1s,baz=139,slow=13,SNR=18
ESDC S Sn 02 47 20.8 -2.1
10.0nm,0.3s,baz=142,slow=22,SNR=5.7
ESDC Sonseca Array 5.19 326 P Pn 02 46 22.8 0.0
7.8nm,0.1s,SNR=18
ESDC Sonseca Array 5.19 326 Pn Pn 02 46 23.0 +0.3
24nm,0.3s,baz=138,slow=13,SNR=209
ESDC Lg Lg 02 47 34.4
13nm,0.3s,baz=141,slow=30,SNR=6.4
CTEI Djebel Teioual 5.42 81 P Pg 02 46 53.0 +4.4
CTEI Djebel Teioual 5.42 81 P Pg 02 46 53.0 +4.4
ETOR Torete 5.59 346 P Pn 02 46 29.5 +1.3
14nm,0.4s,SNR=28
ETOR S Sn 02 47 30.4 -2.3
7.0nm,0.6s
ETOR Torete 5.59 346 P Pn 02 46 29.5 +1.3
14nm,0.4s,SNR=28
KIB El Ksiba 5.61 241 P Pn 02 46 25.0 -3.5
KIB S Sn 02 47 26.0 -7.2
KIB El Ksiba 5.61 241 P Pn 02 46 25.0 -3.5
EMIN Mina Concepcio 5.70 296 P Pn 02 46 28.9 -0.8
22nm,0.8s,SNR=16
EMIN S Sn 02 47 33.7 -1.7
2.6nm,0.4s
EMIN Mina Concepcio 5.70 296 P Pn 02 46 28.9 -0.8
22nm,0.8s,SNR=16
EMIN S Sn 02 47 33.7 -1.7
2.6nm,0.4s
EPOB Poblet 6.01 9 S Sn 02 47 40.2 -3.0
7.4nm,0.4s,SNR=7.9
GUD Guadarrama 6.07 330 P Pn 02 46 36.1 +1.2
18nm,0.4s,SNR=65
GUD S Sn 02 47 42.0 -2.8
5.3nm,0.3s
GUD Guadarrama 6.07 330 P Pn 02 46 36.1 +1.2
18nm,0.4s,SNR=65
PBAR Barrancos 6.13 299 *e*Pn Pn 02 46 35.7 +0.1
PBAR *e*Sn **Sn** **02 47 45.1 -0.8**
PBAR A A 02 48 31.9
9.9nm,0.6s
PBAR Barrancos 6.13 299 *e*Pn Pn 02 46 35.7 +0.1
PBAR *e*Sn **Sn** **02 47 45.1 -0.8**
9.9nm,0.6s
EGRO El Granado 6.22 292 P Pn 02 46 36.1 -0.8
8.5nm,0.4s,SNR=16
EGRO S Sn 02 47 45.4 -2.9
1.2nm,0.6s,SNR=7.9
EGRO El Granado 6.22 292 P Pn 02 46 36.1 -0.8
8.5nm,0.4s,SNR=16
PVAQ Vaqueiros 6.37 290 *e*Pn Pn 02 46 38.3 -0.5
PVAQ *e*Sn **Sn** **02 47 48.3 -3.5**
PVAQ Vaqueiros 6.37 290 *e*Pn Pn 02 46 38.3 -0.5
EBAD Badajoz 6.37 304 P Pn 02 46 38.5 -0.5
20nm,0.6s,SNR=36
EBAD S Sn 02 47 48.9 -3.1
3.0nm,0.2s,SNR=13
EBAD Badajoz 6.37 304 P Pn 02 46 38.5 -0.5
20nm,0.6s,SNR=36
PBDV Barranco-do-Ve 6.49 289 *e*Pn Pn 02 46 40.3 -0.3
PBDV *e*Sn **Sn** **02 47 53.0 -1.9**
PBDV A A 02 48 44.2
12nm,0.7s
PBDV Barranco-do-Ve 6.49 289 *e*Pn Pn 02 46 40.3 -0.3
PBDV *e*Sn **Sn** **02 47 53.0 -1.9**
12nm,0.7s
EMIR Miracle 6.63 11 P Pn 02 46 43.9 +1.4
2.5nm,0.4s,SNR=11
EMIR S Sn 02 47 55.9 -2.5
9.9nm,0.4s,SNR=6.6
EMIR Miracle 6.63 11 P Pn 02 46 43.9 +1.4
2.5nm,0.4s,SNR=11
CFON Fontmartina 6.67 17 P Pn 02 46 43.0 0.0
7.9nm,0.2s,SNR=31
CFON S Sn 02 47 56.1 -3.2
4.0nm,0.3s,SNR=5.8
CFON Fontmartina 6.67 17 P Pn 02 46 43.0 0.0
7.9nm,0.2s,SNR=31
PBEJ Beja 6.67 295 *e*Pn Pn 02 46 42.6 -0.5
PBEJ Beja 6.67 295 *e*Pn Pn 02 46 42.6 -0.5
PCVE Castro Verde 6.68 292 *e*Pn Pn 02 46 42.6 -0.5
PCVE *e*Sn **Sn** **02 47 57.7 -1.7**
PCVE A A 02 48 18.1
8.0nm,0.5s
PCVE Castro Verde 6.68 292 *e*Pn Pn 02 46 42.6 -0.5
PCVE *e*Sn **Sn** **02 47 57.7 -1.7**
8.0nm,0.5s
PESTR Estremoz 6.82 302 *e*Pn Pn 02 46 44.5 -0.6
PESTR A A 02 48 43.4
12nm,0.7s
PESTR Estremoz 6.82 302 *e*Pn Pn 02 46 44.5 -0.6
12nm,0.7s
MESJ Messejana 6.88 293 *e*P Pn 02 46 45.5 -0.4
MESJ *e*S **Sn** **02 47 58.8 -5.5**
MESJ AML AML 02 48 03.7
comp=N,11nm,0.8s
MESJ Messejana 6.88 293 P Pn 02 46 45.4 -0.4
SNR=7.9
MESJ S Sn 02 47 58.1 -6.2
SNR=7.9
MESJ Messejana 6.88 293 P Pn 02 46 45.4 -0.4
SNR=7.9
EVO Evora 6.97 299 *e*Pn Pn 02 46 47.6 +0.4
EVO *e*Sn **Sn** **02 48 01.9 -4.8**
comp=N,17nm,0.6s
EVO Evora 6.97 299 *e*Pn Pn 02 46 46.9 -0.3
EVO *e*Sn **Sn** **02 48 03.8 -2.9**
EVO A A 02 48 12.2
comp=N,9.5nm,0.6s
EVO Evora 6.97 299 *e*Pn Pn 02 46 46.9 -0.3
PMRV Marv??o 6.97 307 *e*Pn Pn 02 46 47.2 0.0
PMRV *e*Sn **Sn** **02 48 04.5 -2.3**
PMRV A A 02 48 46.6
comp=N,19nm,0.5s
PMRV Marv??o 6.97 307 *e*Pn Pn 02 46 47.2 0.0
CSOR Sort 7.03 8 P Pn 02 46 49.3 +1.2
comp=N,1.6nm,0.2s,SNR=17
CSOR S Sn 02 48 05.6 -2.7
comp=N,3.0nm,0.5s,SNR=7.9
CSOR Sort 7.03 8 P Pn 02 46 49.3 +1.2
comp=N,1.6nm,0.2s,SNR=17
EVOP Sao Brissos 7.05 298 *e*Pn Pn 02 46 47.6 -0.6
MORF Marmelete 7.06 288 P Pn 02 46 47.3 -1.2
SNR=7.9
MORF Marmelete 7.06 288 *e*Pn Pn 02 46 47.8 -0.7
MORF Marmelete 7.06 288 P Pn 02 46 47.3 -1.2
SNR=7.9
MORF Marmelete 7.06 288 *e*Pn Pn 02 46 47.8 -0.7
PTEO Sao Teotonio 7.18 290 *e*Pn Pn 02 46 49.7 -0.2
PTEO Sao Teotonio 7.18 290 *e*Pn Pn 02 46 49.7 -0.2
PNCL Nicolau / Gran 7.19 294 *e*Pn Pn 02 46 50.1 -0.1
PNCL A A 02 48 50.3
comp=N,5.7nm,0.6s
PNCL Nicolau / Gran 7.19 294 *e*Pn Pn 02 46 50.1 -0.1
comp=N,5.7nm,0.6s
CLLI Llivia 7.26 13 P Pn 02 46 52.5 +1.3
comp=N,0.8nm,0.2s,SNR=9.6
CLLI S Sn 02 48 11.1 -2.8
comp=N,0.6nm,0.2s,SNR=7.9
CLLI Llivia 7.26 13 P Pn 02 46 52.5 +1.3
comp=N,0.8nm,0.2s,SNR=9.6
PCBR Castelo Branco 7.26 310 *e*Pn Pn 02 46 51.4 +0.3
PCBR *e*Sn **Sn** **02 48 10.2 -3.5**
PCBR A A 02 48 14.1
comp=N,15nm,0.6s
PCBR Castelo Branco 7.26 310 *e*Pn Pn 02 46 51.4 +0.3
EBIE Bielsa 7.27 2 P Pn 02 46 53.4 +2.0
comp=N,0.4nm,0.3s,SNR=6.4
EBIE Bielsa 7.27 2 P Pn 02 46 53.4 +2.0
comp=N,0.4nm,0.3s,SNR=6.4
PMTG Montargil 7.36 302 *e*Pn Pn 02 46 52.0 -0.4
PMTG *e*Sn **Sn** **02 48 13.6 -2.5**
PMTG A A 02 48 54.1
comp=N,11nm,0.6s
PMTG Montargil 7.36 302 *e*Pn Pn 02 46 52.0 -0.4
IUNC Unciti 7.40 353 P Pn 02 46 54.3 +1.3
comp=N,4.6nm,0.3s,SNR=7.9
IUNC Unciti 7.40 353 P Pn 02 46 54.3 +1.3
comp=N,4.6nm,0.3s,SNR=7.9
IEPA Eparoz 7.40 354 P Pn 02 46 54.9 +1.8
comp=N,1.0nm,0.3s,SNR=4.0
IEPA Eparoz 7.40 354 P Pn 02 46 54.8 +1.8
comp=N,1.0nm,0.3s,SNR=4.0
EJON La Jonquera 7.43 18 P Pn 02 46 54.4 +1.0
comp=N,1.4nm,0.2s,SNR=7.9
EJON S Sn 02 48 14.3 -3.6

comp=N,2.6nm,0.5s,SNR=7.9
EJON La Jonquera 7.43 18 P Pn 02 46 54.4 +1.0
comp=N,1.4nm,0.2s,SNR=7.9
SJAF Saint Jean de 7.46 18 P Pn 02 46 54.8 +0.9
comp=N,4.4nm,0.4s,SNR=7.9
IELO Elcoad 7.46 354 P Pn 02 46 57.3 +3.4
comp=N,0.7nm,0.2s,SNR=7.9
IELO Elcoad 7.46 354 P Pn 02 46 57.3 +3.4
comp=N,0.7nm,0.2s,SNR=7.9
ETSF Etsaut 7.48 358 *e*P Pn 02 46 55.3 +1.1
ETSF *e*Sn Sn 02 48 10.2 -9.0
comp=N,9.4nm,0.7s
ETSF Etsaut 7.48 358 *e*P Pn 02 46 55.3 +1.1
IUSE Utxeti 7.59 353 P Pn 02 46 59.2 +3.5
comp=N,2.5nm,0.3s,SNR=7.9
IUSE Utxeti 7.59 353 P Pn 02 46 59.2 +3.5
comp=N,2.5nm,0.3s,SNR=7.9
EPF Esparros 7.62 3 *e*P Pn 02 46 57.8 +1.7
EPF *e*Sn Sn 02 48 13.5 -9.1
comp=N,4.7nm,0.5s
EPF Esparros 7.62 3 *e*P Pn 02 46 57.8 +1.7
MTE Manteigas 7.63 313 *e*Pn Pn 02 46 56.7 +0.4
MTE *e*Sn **Sn** **02 48 21.3 -1.8**
MTE A A 02 49 07.2
comp=N,18nm,0.6s
MTE Manteigas 7.63 313 *e*Pn Pn 02 46 56.7 +0.4
PACT Alcochete 7.66 298 *e*Pn Pn 02 46 56.8 +0.3
PACT Alcochete 7.66 298 *e*Pn Pn 02 46 56.8 +0.3
ATE Arette 7.67 357 P Pn 02 46 57.8 +1.1
comp=N,0.7nm,0.3s,SNR=7.9
SJPF Ste Jean 7.73 354 *e*P Pn 02 46 59.1 +1.6
SJPF *e*Sn Sn 02 48 16.0 -9.3
comp=N,4.0nm,0.5s
SJPF Ste Jean 7.73 354 *e*P Pn 02 46 59.1 +1.6
KEST Kesra 7.80 85 Pn Pn 02 46 57.8 -0.8
comp=N,0.6nm,0.3s,baz=200,slow=4.7,SNR=36
ELIZ Elizondo 7.80 353 P Pn 02 46 59.7 +1.1
comp=N,4.8nm,0.2s,SNR=7.9
ELIZ Elizondo 7.80 353 P Pn 02 46 59.7 +1.1
comp=N,4.8nm,0.2s,SNR=7.9
MVO Moncorvo 7.85 319 P Pn 02 47 00.1 +0.8
comp=N,9.7nm,0.4s,SNR=21
MVO S Sn 02 48 24.6 -3.8
comp=N,9.0nm,0.6s,SNR=6.3
MVO Moncorvo 7.85 319 *e*Pn Pn 02 47 00.4 +1.1
MVO *e*Sn **Sn** **02 48 25.9 -2.5**
MVO A A 02 49 13.9
comp=N,11nm,0.6s
MVO Moncorvo 7.85 319 P Pn 02 47 00.1 +0.8
comp=N,9.7nm,0.4s,SNR=21
MVO Moncorvo 7.85 319 *e*Pn Pn 02 47 00.4 +1.1
PCAS Casmilo, Conde 8.03 308 *e*Pn Pn 02 47 02.0 +0.3
PCAS *e*Sn **Sn** **02 48 28.8 -3.9**
PCAS A A 02 49 06.3
comp=N,14nm,0.6s
PCAS Casmilo, Conde 8.03 308 *e*Pn Pn 02 47 02.0 +0.3
PVIS Viseu 8.04 313 *e*Pn Pn 02 47 02.4 +0.5
PVIS *e*Sn **Sn** **02 48 30.2 -2.8**
PVIS A A 02 48 34.2
comp=N,11nm,0.6s
PVIS Viseu 8.04 313 *e*Pn Pn 02 47 02.4 +0.5
PMAFR Mafra 8.05 299 P Pn 02 47 02.0 0.0
comp=N,5.5nm,0.2s,SNR=7.9
PMAFR S Sn 02 48 29.0 -4.2
comp=N,11nm,0.3s,SNR=7.9
PMAFR Mafra 8.05 299 *e*Pn Pn 02 47 02.0 0.0
PMAFR Mafra 8.05 299 P Pn 02 47 02.0 0.0
comp=N,5.5nm,0.2s,SNR=7.9
PBRG Braganca 8.17 323 *e*Pn Pn 02 47 04.2 +0.6
PBRG *e*Sn **Sn** **02 48 32.7 -3.5**
PBRG A A 02 49 12.6
comp=N,7.4nm,0.6s
PBRG Braganca 8.17 323 *e*Pn Pn 02 47 04.2 +0.6
ELAN Lanestosa 8.19 343 P Pn 02 47 05.6 +1.7
comp=N,2.2nm,0.3s,SNR=9.4
ELAN Lanestosa 8.19 343 P Pn 02 47 05.6 +1.7
comp=N,2.2nm,0.3s,SNR=9.4
ECAL Calabor 8.27 324 P Pn 02 47 05.6 +0.5
comp=N,18nm,0.4s,SNR=85
ECAL S Sn 02 48 35.7 -3.1
comp=N,4.6nm,0.4s,SNR=7.9
ECAL Calabor 8.27 324 P Pn 02 47 05.6 +0.5
comp=N,18nm,0.4s,SNR=85
PVRL Vila Real 8.30 317 *e*Pn Pn 02 47 06.5 +1.1
PVRL *e*Sn **Sn** **02 48 36.5 -2.9**
PVRL A A 02 48 56.2
comp=N,7.6nm,0.7s
PVRL Vila Real 8.30 317 *e*Pn Pn 02 47 06.5 +1.1
POLO Lamas de Olo 8.41 317 *e*Pn Pn 02 47 07.9 +0.9
POLO *e*Sn **Sn** **02 48 37.0 -5.2**
POLO A A 02 48 41.8
comp=N,3.9nm,0.5s
POLO Lamas de Olo 8.41 317 *e*Pn Pn 02 47 07.9 +0.9
PTO Porto 8.72 313 *e*Pn Pn 02 47 11.4 +0.3
PTO *e*Sn **Sn** **02 48 47.4 -2.3**
PTO Porto 8.72 313 *e*Pn Pn 02 47 11.4 +0.3
PCAB Cabril 8.77 318 *e*Pn Pn 02 47 06.9 -4.9
EARI Arriondas 8.77 335 P Pn 02 47 12.8 +0.9
comp=N,9.5nm,0.3s,SNR=29
EARI S Sn 02 48 48.2 -2.8
comp=N,2.2nm,0.5s,SNR=7.9
EARI Arriondas 8.77 335 P Pn 02 47 12.8 +0.9
comp=N,9.5nm,0.3s,SNR=29
PGAV Gavieira, Arco 9.07 319 *e*Pn Pn 02 47 17.0 +0.9
PGAV Gavieira, Arco 9.07 319 *e*Pn Pn 02 47 17.0 +0.9
LASF Ste Croix 9.20 19 *e*P Pn 02 47 19.2 +1.5
LASF Ste Croix 9.20 19 *e*P Pn 02 47 19.2 +1.5
LMR La Mourre 9.46 31 *e*P Pn 02 47 22.2 +0.9
LMR La Mourre 9.46 31 *e*P Pn 02 47 22.2 +0.9
LFF La Frestale 9.54 4 *e*P Pn 02 47 23.5 +1.1
LFF La Frestale 9.54 4 *e*P Pn 02 47 23.5 +1.1
EPON Pontenova 9.55 328 P Pn 02 47 23.5 +1.0
comp=N,6.0nm,0.3s,SNR=11
EPON Pontenova 9.55 328 P Pn 02 47 23.5 +1.0
comp=N,6.0nm,0.3s,SNR=11
SMRF Simiane la Rot 9.64 26 *e*P Pn 02 47 25.0 +1.2
SMRF Simiane la Rot 9.64 26 *e*P Pn 02 47 25.0 +1.2
CAF Calviac 9.66 10 *e*P Pn 02 47 25.4 +1.4
CAF Calviac 9.66 10 *e*P Pn 02 47 25.4 +1.4
FRF La Foret Royal 9.71 31 *e*P Pn 02 47 25.3 +0.7
FRF *e*Sn Sn 02 49 03.4 -11
comp=N,12nm,0.8s
FRF La Foret Royal 9.71 31 *e*P Pn 02 47 25.3 +0.7
STS Santiago 9.87 322 P Pn 02 47 28.8 +1.9
comp=N,5.0nm,0.4s,SNR=4.0
STS Santiago 9.87 322 P Pn 02 47 28.8 +1.9
comp=N,5.0nm,0.4s,SNR=4.0
RJF Les Rejaudoux 9.97 7 *e*P Pn 02 47 29.5 +1.3
RJF Les Rejaudoux 9.97 7 *e*P Pn 02 47 29.5 +1.3
PGF Pioggiola 10.10 42 *e*P Pn 02 47 31.1 +0.9
PGF Pioggiola 10.10 42 *e*P Pn 02 47 31.1 +0.9
EMAZ Mazaricos 10.13 321 P Pn 02 47 32.1 +1.6
comp=N,0.3nm,0.2s,SNR=7.9
EMAZ Mazaricos 10.13 321 P Pn 02 47 32.1 +1.6
comp=N,0.3nm,0.2s,SNR=7.9
VIVF Saint-Julien-l 10.14 20 *e*P Pn 02 47 32.0 +1.4
VIVF Saint-Julien-l 10.14 20 *e*P Pn 02 47 32.0 +1.4
SBF Sospel 10.29 33 *e*P Pn 02 47 33.9 +1.2
SBF Sospel 10.29 33 *e*P Pn 02 47 33.9 +1.2
LPG La Plagne 11.38 26 *e*P Pn 02 47 49.9 +2.1
LPG La Plagne 11.38 26 *e*P Pn 02 47 49.9 +2.1
AVF Avril sur Loir 11.68 12 *e*P Pn 02 47 54.0 +2.4
AVF Avril sur Loir 11.68 12 *e*P Pn 02 47 54.0 +2.4
CABF La Chapelle 12.15 21 *e*P Pn 02 47 58.7 +0.5
CABF La Chapelle 12.15 21 *e*P Pn 02 47 58.7 +0.5
QUIF Quistinic 12.68 351 *e*P Pn 02 48 06.8 +1.5
QUIF Quistinic 12.68 351 *e*P Pn 02 48 06.8 +1.5
SGMF Saint Gilles 12.95 353 *e*P Pn 02 48 10.7 +1.8
SGMF Saint Gilles 12.95 353 *e*P Pn 02 48 10.7 +1.8
ROSF Rostrenen 13.11 351 *e*P Pn 02 48 12.5 +1.4
ROSF Rostrenen 13.11 351 *e*P Pn 02 48 12.5 +1.4
LDF La Druitiere 13.17 0 *e*P Pn 02 48 13.2 +1.2
LDF La Druitiere 13.17 0 *e*P Pn 02 48 13.2 +1.2
GERES GERESS Array B 16.89 33 Pn P 02 49 03.1 -0.5
comp=N,0.2nm,0.3s,baz=218,slow=11,SNR=13
EKA Eskdalemuir Ar 20.02 355 P P 02 49 38.1 +0.3
baz=176,slow=11,SNR=4.0
VOIR 21.60 55 ⇑*i*P P 02 49 58.4 +3.3
DOPR Dopca 22.00 54 ⇓*i*P P 02 50 01.5 +2.2
DOPR Dopca 22.00 54 ⇓*i*P P 02 50 01.5 +2.2
MLR Muntele Rosu 22.22 55 ⇑*i*P P 02 50 04.4 +2.6
MLR Muntele Rosu 22.22 55 P P 02 50 03.3 +1.5
comp=N,3.6nm,1.1s,baz=133,slow=7.9,SNR=6.9
TORD Torodi Ar. Bea 22.24 175 P P 02 50 02.1 +0.1

comp=N,3.4nm,0.7s,baz=354,slow=11,SNR=19
TORD LR LR 02 57 57.2
comp=N,76nm,20.7s,baz=340,slow=35
BURAR Bucovina Array 22.50 49 ⇑i P P 02 50 06.3 +1.6
BURAR Bucovina Array 22.50 49 ⇑i P P 02 50 06.3 +1.6
VRI Vrincioaia 22.86 55 ⇑i P P 02 50 10.3 +1.9
VRI Vrincioaia 22.86 55 ⇑i P P 02 50 10.3 +1.9
CFR Carcaliu 23.62 57 ⇓i P P 02 50 14.6 -1.5
CFR Carcaliu 23.62 57 ⇓i P P 02 50 14.6 -1.5
BBTS Babate 25.34 219 LR LR 03 00 15.8
comp=N,72nm,18.9s,baz=314,slow=36
AKASG Malin Array Be 26.16 45 P **P 02 50 38.6 -0.8**
comp=N,1.9nm,0.6s,baz=243,slow=11,SNR=9.5
HFS Hagfors 26.33 16 P **P 02 50 39.8 -1.0**
comp=N,3.9nm,0.8s,baz=178,slow=8.6,SNR=6.3
BRTR Keskin Array B 27.08 71 P **P 02 50 48.4 +0.4**
comp=N,1.9nm,0.9s,baz=293,slow=7.9,SNR=5.9
DBIC Dimbokro 28.93 190 LR LR 03 02 05.3
comp=N,49nm,19.0s,baz=100,slow=35
FINES FINESS Array B 30.93 24 P **P 02 51 21.2 -0.5**
comp=N,2.6nm,0.6s,baz=224,slow=7.8,SNR=14
ARCES ARCESS Array B 36.98 15 P **P 02 52 12.9 -1.4**
comp=N,3.3nm,0.8s,baz=217,slow=5.7,SNR=8.9
KMBO Kilima Mbogo 50.44 128 P **P 02 54 04.8 +1.4**
comp=N,3.5nm,1.0s,baz=332,slow=7.3,SNR=8.6
KSH Kashi 58.91 61 P **P 02 55 04.6 +0.1**
KSH pmax pmax
comp=Z,150nm,6.2s
ZALV Zalesovo Beam 59.53 43 P **P 02 55 08.0 -0.4**
comp=Z,1.7nm,0.5s,baz=285,slow=7.5,SNR=9.0
BOSA Boshof 68.07 156 P **P 02 56 06.1 +1.1**
BOSA LR LR 03 25 33.5
comp=Z,3.1nm,0.8s,baz=329,slow=5.9,SNR=5.4
YKA Yellowknife Ar 69.25 333 P **P 02 56 10.9 -0.9**
comp=Z,0.4nm,0.7s,baz=55,slow=6.5,SNR=9.6
SONM Songino Array 74.39 42 P **P 02 56 42.8 -0.5**
comp=Z,0.7nm,0.8s,baz=305,slow=5.1,SNR=7.3
PDAR Pinedale Array 78.98 315 P **P 02 57 09.6 +0.1**
comp=Z,1.3nm,0.9s,baz=71,slow=5.3,SNR=8.7
TXAR Lajitas Array 83.38 301 P **P 02 57 34.4 +1.5**
comp=Z,0.8nm,0.9s,baz=89,slow=6.6,SNR=9.4
TXAR LR LR 03 33 18.8
comp=Z,53nm,18.8s,baz=355,slow=35
CMAR Chiang Mai Arr 86.67 70 P **P 02 57 50.8 +1.4**
comp=Z,1.0nm,0.3s,baz=316,slow=6.3,SNR=4.2

*CRAAG **21** 02:54:03.1, 35˚.44N×0˚.10W, Ml3.5*
*MDD **21** 02:54:05.1±2.6, 35˚.16N×0˚.24W, h0km, mb3.5/5, Error ellipse: s-maj=26.3km s-min=6.7km az=166.0, PRXIMO*
*CSEM **21** 02:54:06.7±0.4, 35˚.41N×0˚.21W, h2km, mb3.5, Error ellipse: s-maj=8.9km s-min=5.6km az=2.0*
ISC 21 02:54:07.6±2.2, 35˚.4N±0˚.1×0˚.16W±0˚.06, h10km, n25, σ0§92/39, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODJA	**Bouhanifia**	**0.09**	**177**	P	Pg	02 54 08.0	-2.1
ODJA	**Bouhanifia**	**0.09**	**177**	P	Pg	02 54 08.0	-2.1
ODJA	**Bouhanifia**	**0.09**	**177**	P	Pg	02 54 08.0	-2.1
OKGL	**Djebel Kef Gue**	**0.90**	**46**	P	**Pb**	**02 54 25.0**	**-0.2**
	8.6nm,0.1s,SNR=7.9						
OKGL				S	**Sb**	**02 54 37.7**	**+0.4**
	102nm,0.2s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.90**	**46**	P	**Pb**	**02 54 25.0**	**-0.2**
	8.6nm,0.1s,SNR=7.9						
OKGL				S	**Sb**	**02 54 37.7**	**+0.4**
	102nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.57**	**340**	P	**Pn**	**02 54 48.8**	**-0.5**
	0.9nm,0.2s,SNR=4.0						
EMUR				S	**Sn**	**02 55 19.6**	**-1.0**
	1.2nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**2.57**	**340**	P	**Pn**	**02 54 48.8**	**-0.5**
	0.9nm,0.2s,SNR=4.0						
EMUR				S	**Sn**	**02 55 19.6**	**-1.0**
	1.2nm,0.5s,SNR=7.9						
EBER	**Berja**	**2.66**	**304**	P	**Pn**	**02 54 49.9**	**-0.7**
	1.4nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**02 55 22.4**	**-0.6**
	3.0nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.66**	**304**	P	**Pn**	**02 54 49.9**	**-0.7**
	1.4nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**02 55 22.4**	**-0.6**
	3.0nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**3.09**	**321**	P	**Pn**	**02 54 56.7**	**+0.2**
	0.4nm,0.3s,SNR=7.9						
EHUE				S	**Sn**	**02 55 33.6**	**0.0**
	0.4nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.09**	**321**	P	**Pn**	**02 54 56.7**	**+0.2**
	0.4nm,0.3s,SNR=7.9						
EHUE				S	**Sn**	**02 55 33.6**	**0.0**
	0.4nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**3.10**	**312**	P	**Pn**	**02 54 56.3**	**-0.4**
	1.5nm,0.1s,SNR=4.0						
GORA				S	**Sn**	**02 55 37.6**	**+3.7**
	13nm,0.2s,SNR=4.0						
GORA	**Gorafe**	**3.10**	**312**	P	**Pn**	**02 54 56.3**	**-0.4**
	1.5nm,0.1s,SNR=4.0						
EQUE	**Quentar**	**3.19**	**305**	P	**Pn**	**02 54 58.4**	**+0.5**
	1.9nm,0.3s,SNR=6.3						
EQUE				S	**Sn**	**02 55 35.9**	**-0.2**
	0.9nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**3.19**	**305**	P	**Pn**	**02 54 58.4**	**+0.5**
	1.9nm,0.3s,SNR=6.3						
EQUE				S	**Sn**	**02 55 35.9**	**-0.2**
	0.9nm,0.5s,SNR=7.9						
EQES	**Quesada**	**3.34**	**316**	P	**Pn**	**02 55 00.7**	**+0.7**
	2.3nm,0.2s,SNR=21						
EQES				S	**Sn**	**02 55 38.8**	**-1.0**
	2.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.34**	**316**	P	**Pn**	**02 55 00.7**	**+0.7**
	2.3nm,0.2s,SNR=21						
EQES				S	**Sn**	**02 55 38.8**	**-1.0**
	2.0nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.41**	**341**	P	**Pn**	**02 55 01.1**	**+0.3**
	0.3nm,0.2s,SNR=7.8						
ETOB				S	**Sn**	**02 55 39.8**	**-1.5**
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.41**	**341**	P	**Pn**	**02 55 01.1**	**+0.3**
	0.3nm,0.2s,SNR=7.8						
ETOB				S	**Sn**	**02 55 39.8**	**-1.5**
	0.6nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.72**	**330**	P	**Pn**	**02 55 06.3**	**+1.1**
	2.3nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**02 55 49.5**	**+0.4**
	1.2nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.72**	**330**	P	**Pn**	**02 55 06.3**	**+1.1**
	2.3nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**02 55 49.5**	**+0.4**
	1.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.79**	**18**	P	**Pn**	**02 55 06.2**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EIBI				S	Sn	02 55 47.2	-3.6
	0.4nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.79**	**18**	P	**Pn**	**02 55 06.2**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.21**	**326**	P	**Pn**	**02 55 26.1**	**+0.4**
	0.4nm,0.2s,baz=140,slow=13,SNR=7.9						
ESDC	**Sonseca Array**	**5.21**	**326**	P	**Pn**	**02 55 26.1**	**+0.4**
	0.4nm,0.2s,SNR=7.9						

*ISCJB **21** 02:55:04.7±0.6, 23˚.93N±0˚.02×122˚.31E±0˚.02, h8km±4km, mb3.8/4, Error ellipse: s-maj=2.9km s-min=2.2km az=158.9*
*JMA **21** 02:55:05.1±0.2, 23˚.91N×122˚.30E, h17km±4km, M3.3*
*TAP **21** 02:55:05.5, 23˚.95N×122˚.30E, h8km±1km, ML3.7, D*
*IDC **21** 02:55:52.0±7.5, 25˚.36N×125˚.36E, h650km±148km, mb2.8/4, mb1 2.8/5, mb1mx2.5/25, mbtmp2.7/5, Error ellipse: s-maj=142.2km s-min=21.9km az=60.0*
ISC 21 02:55:04.4±1.1, 23˚.93N±0˚.02×122˚.30E±0˚.02, h12km±8km, n56, σ0§72/99, mb3.9/4, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.64**	**274**	*e*P	**Pb**	**02 55 18.3**	**+0.8**
	baz=271						
HWA				*e*S	**Sb**	**02 55 26.7**	**+0.4**
	baz=271						
TWD	**Chiawan**	**0.66**	**283**	⇓*i*P	**Pb**	**02 55 18.1**	**+0.3**
	baz=281						
TWD				*e*S	**Sb**	**02 55 27.2**	**+0.2**
	baz=281						
ENA	**Nanau**	**0.71**	**314**	*e*P	**Pb**	**02 55 18.9**	**+0.2**
	baz=313						
ENA				*e*S	**Sb**	**02 55 29.4**	**+0.9**
	baz=313						
TWC	**Suao**	**0.79**	**329**	⇑*i*P	**Pg**	**02 55 19.7**	**-0.1**
	baz=328						
TWC				*e*S	**Sg**	**02 55 29.4**	**-0.6**
	baz=328						
ESL	**Shilin**	**0.80**	**262**	*e*P	**Pg**	**02 55 20.0**	**0.0**
	baz=259						
ESL				S	**Sg**	**02 55 31.0**	**+0.5**
	baz=259						
YOJ	**Yonaguni jima**	**0.84**	**51**	P	**Pg**	**02 55 21.0**	**+0.4**
YOJ				S	**Sg**	**02 55 31.1**	**-0.5**
WHF	**Hehuan Shan**	**0.97**	**283**	P	**Pg**	**02 55 23.2**	**0.0**
	baz=281						
WHF				S	**Sg**	**02 55 36.0**	**0.0**
	baz=281						
ILA	**Ilan**	**0.97**	**329**	*e*P	**Pg**	**02 55 23.2**	**0.0**
	baz=328						
ILA				*e*S	**Sg**	**02 55 36.0**	**+0.2**
	baz=328						
ENTT	**Nioudou**	**0.97**	**317**	*e*P	**Pg**	**02 55 23.3**	**+0.1**
	baz=315						
ENTT				*e*S	**Sb**	**02 55 36.8**	**+0.8**
	baz=315						
TWE	**Neicheng**	**0.97**	**324**	P	**Pg**	**02 55 23.3**	**0.0**
	baz=323						
TWE				*e*S	**Sb**	**02 55 36.4**	**+0.3**
	baz=323						
NNS	**Nan Shan**	**0.98**	**301**	*e*P	**Pg**	**02 55 23.4**	**-0.1**
	baz=299						
NNS				*e*S	**Sg**	**02 55 36.5**	**+0.1**
	baz=299						
EHY	**Hungye**	**0.99**	**245**	*e*P	**Pg**	**02 55 23.6**	**+0.1**
	baz=243						
EHY				*e*S	**Sg**	**02 55 36.4**	**-0.1**
	baz=243						
TWT	**Tachien**	**1.07**	**287**	*e*P	**Pg**	**02 55 25.2**	**0.0**
	baz=285						
TWT				*e*S	**Sg**	**02 55 39.7**	**+0.4**
	baz=285						
TWF1	**Yuli**	**1.08**	**238**	⇓P	**Pg**	**02 55 25.1**	**-0.3**
	baz=236						
TWF1				*e*S	**Sg**	**02 55 39.7**	**+0.2**
	baz=236						
TWB1	**Santiao Chiao**	**1.11**	**345**	*e*P	**Pg**	**02 55 25.3**	**-0.5**
	baz=345						
TWB1				*e*S	**Sb**	**02 55 40.6**	**+0.8**
	baz=345						
NSK	**Sanguang**	**1.13**	**311**	*i* P	**Pg**	**02 55 25.9**	**-0.4**
	baz=310						
NSK				*e*S	**Sg**	**02 55 40.6**	**-0.4**
	baz=310						
CHKT	**Chengkung**	**1.19**	**226**	*e*P	**Pb**	**02 55 26.8**	**-0.2**
	baz=224						
NWF	**Wu-fen Shan**	**1.23**	**337**	*i* P	**Pn**	**02 55 27.5**	**0.0**
	baz=336						
NWF				S	**Sb**	**02 55 43.3**	**-0.1**
	baz=336						
TWA	**Mucha**	**1.23**	**328**	*e*P	**Pn**	**02 55 28.1**	**+0.6**
	baz=327						
TWA				*e*S	**Sb**	**02 55 43.8**	**+0.3**
	baz=327						
SMLT	**Sun Moon Lake**	**1.28**	**268**	P	**Pn**	**02 55 28.6**	**+0.3**
	baz=266						
SMLT				*e*S	**Sb**	**02 55 44.4**	**-0.6**
	baz=266						
TAP1	**Taipei**	**1.31**	**327**	*e*P	**Pn**	**02 55 29.0**	**+0.5**
	baz=326						
TAP1				*e*S	**Sn**	**02 55 46.8**	**+0.9**
	baz=326						
YUS	**Yu-Shan**	**1.31**	**251**	*e*P	**Pn**	**02 55 29.3**	**+0.3**
	baz=249						
YUS				*e*S	**Sb**	**02 55 45.6**	**-0.6**
	baz=249						
TAP	**Taipei**	**1.32**	**327**	*e*P	**Pn**	**02 55 29.1**	**+0.5**
	baz=326						
TAP				*e*S	**Sb**	**02 55 46.7**	**+0.8**
	baz=326						
TYC	**Yuchr**	**1.32**	**269**	*e*P	**Pn**	**02 55 28.9**	**+0.2**
	baz=267						
TYC				*e*S	**Sb**	**02 55 46.4**	**+0.4**
	baz=267						
IRIF	**Iriomote-Funau**	**1.37**	**73**	P	**Pb**	**02 55 30.3**	**+0.4**
IRIF				S	**Sn**	**02 55 48.2**	**+0.9**
NSTT	**Nanjuang**	**1.37**	**301**	*e*P	**Pb**	**02 55 30.3**	**+0.3**
	baz=299						
NSTT				*e*S	**Sb**	**02 55 47.9**	**+0.3**
	baz=299						
HATJ	**Hateruma jima**	**1.38**	**85**	P	**Pn**	**02 55 29.8**	**+0.3**
HATJ				S	**Sb**	**02 55 47.9**	**+0.1**
ELDTW	**Lidau**	**1.39**	**238**	*e*P	**Pn**	**02 55 29.2**	**-0.6**
	baz=236						
TWS1	**Kuangyinshan**	**1.41**	**326**	*e*P	**Pn**	**02 55 30.5**	**+0.6**
	baz=325						
TWS1				*e*S	**Sb**	**02 55 49.4**	**+0.7**
	baz=325						
ALS	**Alishan**	**1.43**	**253**	*e*P	**Pn**	**02 55 31.1**	**+0.6**
	baz=251						
ALS				*e*S	**Sn**	**02 55 49.7**	**+0.3**
	baz=251						
TWQ1	**Liyutan**	**1.45**	**287**	*e*P	**Pb**	**02 55 31.8**	**+0.4**
	baz=285						
TWQ1				*e*S	**Sb**	**02 55 50.8**	**+0.9**
	baz=285						
WNT	**Mingjian**	**1.48**	**268**	*e*P	**Pb**	**02 55 32.5**	**+0.6**
	baz=267						
WNT				*e*S	**Sg**	**02 55 51.7**	**-0.4**
	baz=267						
TWY	**Chenhua**	**1.48**	**335**	*e*P	**Pn**	**02 55 31.5**	**+0.7**
	baz=334						
TWY				*e*S	**Sn**	**02 55 50.9**	**+0.8**
	baz=334						
NSY	**Sanyi**	**1.48**	**289**	*e*P	**Pb**	**02 55 32.5**	**+0.5**
	baz=288						
NSY				*e*S	**Sn**	**02 55 51.0**	**+0.7**
	baz=288						
TCU	**Taichung**	**1.50**	**279**	*e*P	**Pb**	**02 55 32.8**	**+0.6**
	baz=277						
TCU				*e*S	**Sg**	**02 55 53.0**	**+0.3**
	baz=277						
CHN5	**Tsauling**	**1.52**	**258**	P	**Pb**	**02 55 32.8**	**+0.1**
	baz=256						
CHN5				*e*S	**Sb**	**02 55 52.5**	**+0.6**
	baz=256						
TWG	**Pinlang**	**1.58**	**226**	*e*P	**Pn**	**02 55 32.0**	**-0.3**
	baz=224						
JKRS	**Kuro-shima**	**1.59**	**79**	P	**Pn**	**02 55 33.5**	**+1.1**
JKRS				S	**Sn**	**02 55 54.0**	**+1.1**
STYT	**Tauyuan**	**1.61**	**242**	*e*P	**Pn**	**02 55 33.7**	**+1.0**
	baz=240						
STYT				*e*S	**Sn**	**02 55 53.9**	**+0.5**
	baz=240						
CHN4	**Tsaushan**	**1.67**	**250**	*e*P	**Pb**	**02 55 35.3**	**+0.2**
	baz=249						
CHN4				*e*S	**Sb**	**02 55 56.6**	**+0.6**
	baz=249						
WTP	**Ta-pu**	**1.69**	**246**	*e*P	**Pb**	**02 55 35.4**	**-0.1**
	baz=245						
WTP				*e*S	**Sb**	**02 55 57.1**	**+0.4**
	baz=245						
JIJ	**Ishigaki jima**	**1.74**	**75**	P	**Pn**	**02 55 34.6**	**+0.2**
JIJ				S	**Sn**	**02 55 57.3**	**+0.8**
CHN1	**Nanshi**	**1.79**	**246**	*e*P	**Pb**	**02 55 37.2**	**+0.1**
	baz=244						
CHN1				*e*S	**Sb**	**02 55 59.7**	**+0.2**
	baz=244						
SGST	**Jiashian**	**1.79**	**242**	*e*P	**Pn**	**02 55 35.9**	**+0.8**
	baz=241						
SGST				*e*S	**Sb**	**02 55 59.7**	**+0.2**
	baz=241						
TWK	**Hsinying**	**1.79**	**249**	*e*P	**Pb**	**02 55 37.0**	**-0.1**
	baz=247						
TWK				*e*S	**Sn**	**02 55 59.4**	**+1.6**
	baz=247						
ECL	**Taimali**	**1.82**	**223**	*e*P	**Pb**	**02 55 37.3**	**-0.3**
	baz=222						
SSD	**Sandimen**	**1.94**	**233**	*e*P	**Pn**	**02 55 38.7**	**+1.6**
	baz=231						
SSD				*e*S	**Sb**	**02 56 03.6**	**-0.1**
	baz=231						
EAST	**Anshuo**	**2.04**	**221**	*e*P	**Pn**	**02 55 39.2**	**+0.6**
	baz=220						
TWM1	**Shoushan**	**2.05**	**238**	*e*P	**Pn**	**02 55 39.5**	**+0.8**
	baz=236						
TWM1				*e*S	**Sn**	**02 56 06.1**	**+2.0**
	baz=236						
JTJ	**Tarama**	**2.30**	**72**	P	**Pn**	**02 55 44.3**	**+2.1**
JTJ				S	**Sn**	**02 56 11.6**	**+1.2**
TWK1	**Hengchun**	**2.41**	**215**	*e*P	**Pn**	**02 55 46.1**	**+2.4**
	baz=214						
KSRS	**Korea Array**	**14.31**	**18**	P	**P**	**02 58 32.0**	**-2.0**
	0.1nm,0.3s,baz=196,slow=12,SNR=3.0						
SONM	**Songino Array**	**27.00**	**336**	P	**P**	**03 00 45.0**	**-1.2**
	3.1nm,0.7s,baz=151,slow=9.9,SNR=27						
ZALV	**Zalesovo Beam**	**41.01**	**327**	P	P	03 02 44.5	-2.7
	0.8nm,0.5s,baz=123,slow=8.1,SNR=7.0						
WRA	**Warramunga Arr**	**45.16**	**164**	P	**P**	**03 03 20.2**	**-0.9**
	0.4nm,0.8s,baz=344,slow=8.8,SNR=4.5						
STKA	**Stephens Creek**	**58.48**	**161**	P	P	03 04 50.5	-10
	2.8nm,1.0s,baz=347,slow=6.4,SNR=4.5						

*CSEM **21** 03:40:25.1, 37˚.56N×24˚.46W, h15km, ML2.5, After PDA*
PDA 21 03:40:25.1±0.7, 37˚.56N×24˚.46W, h15km, MD3.6, ML2.5, Error ellipse: s-maj=6.8km s-min=2.5km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BART	**Pico Bartolome**	**0.60**	**292**	*e*P	Pg	03 40 34.7	-2.4
BART				*e*S	Sg	03 40 41.6	-3.6
BART				A	A	03 40 42.7	
	232nm,0.2s						
BART	**Pico Bartolome**	**0.60**	**292**	*e*P	Pg	03 40 34.7	-2.4
BART				*e*S	Sg	03 40 41.6	-3.6
PSMN	**Pico do Norte,**	**0.73**	**221**	*e*P	Pg	03 40 36.5	-2.9
PSMN				*e*S	Sg	03 40 45.0	-4.0
PSMN				A	A	03 40 46.6	
	21nm,0.2s						
PSMN	**Pico do Norte,**	**0.73**	**221**	*e*P	Pg	03 40 36.5	-2.9
PSMN				*e*S	Sg	03 40 45.0	-4.0
PSMA	**Santa Maria**	**0.77**	**224**	*e*S	Sg	03 40 46.0	-4.3
PSMA				A	A	03 40 46.5	
	44nm,0.1s						
GRON	**Grota Negra**	**0.88**	**284**	*e*P	Pb	03 40 37.3	-4.8
GRON				*e*S	Sb	03 40 46.0	-7.6
GRON				A	A	03 40 47.6	
	47nm,0.2s						
PDA	**Ponta Delgada**	**0.97**	**282**	*e*P	Pb	03 40 39.8	-3.8
PDA				*e*S	Sb	03 40 50.9	-5.3
PDA				A	A	03 40 52.7	
	51nm,0.2s						
PDA	**Ponta Delgada**	**0.97**	**282**	*e*P	Pb	03 40 39.8	-3.8
PDA				*e*S	Sb	03 40 50.9	-5.3
PSET	**Sete Cidades**	**1.03**	**285**	*e*P	Pb	03 40 40.7	-4.0
PSET				*e*S	Sb	03 40 52.6	-5.5
PSET				A	A	03 40 53.4	
	132nm,0.2s						
PSET	**Sete Cidades**	**1.03**	**285**	*e*P	Pb	03 40 40.7	-4.0
PSET				*e*S	Sb	03 40 52.6	-5.5

*ISCJB **21** 03:47:55.7±0.6, 8˚.1S±0˚.1×118˚.01E±0˚.05, h200km, mb3.4/3, Error ellipse: s-maj=15.5km s-min=6.6km az=1.1*
*IDC **21** 03:47:57.0±8.7, 8˚.15S×117˚.95E, h229km±91km, mb3.0/3, mb1 3.1/5, mb1mx3.0/22, mbtmp3.0/5, Error ellipse: s-maj=125.0km s-min=30.2km az=56.0*
*DJA **21** 03:47:59.6±0.4, 8˚.S±.6˚×117˚.8E±.˚, h10km, M3.8/7, MLv3.8/7*
ISC 21 03:47:55.6±0.9, 8˚.0S±0˚.1×117˚.99E±0˚.05, h200km, n12, σ1§45/15, mb3.4/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**1.89**	**252**	P	**Pn**	**03 48 32.8**	**-0.2**
MTNI				S	**Sn**	**03 49 04.8**	**+2.7**
LBFI	**Labuhan Bajo,**	**1.93**	**103**	P	**Pn**	**03 48 35.1**	**+1.6**
LBFI				S	**Sn**	**03 49 03.9**	**+1.1**
SRBI	**Singaraja**	**2.75**	**269**	P	**Pn**	**03 48 42.9**	**+0.6**
IGBI	**Denpasar**	**2.92**	**254**	P	**Pn**	**03 48 44.3**	**0.0**
IGBI				S	**Sn**	**03 49 22.2**	**0.0**
BKSI	**Bulukumba**	**3.43**	**38**	P	**Pn**	**03 48 51.6**	**+1.1**
ABJI	**Asem Bagus**	**3.73**	**273**	P	**Pn**	**03 48 55.8**	**+1.8**
GMJI	**Gumukmas**	**4.50**	**267**	P	**Pn**	**03 49 05.6**	**+1.9**
FITZ	**Fitzroy Crossi**	**12.47**	**144**	P	**Pn**	**03 50 46.7**	**+0.3**
	0.1nm,0.3s,baz=329,slow=12,SNR=8.2						
FITZ				S	Sn	03 52 53.8	-12
	0.2nm,0.3s,baz=205,slow=17,SNR=2.9						
WRA	**Warramunga Arr**	**19.77**	**128**	P	**P**	**03 52 09.3**	**-1.3**
	0.5nm,0.3s,baz=301,slow=12,SNR=59						
WRA				S	S	03 55 50.0	+7.4
	0.1nm,0.3s,baz=300,slow=25,SNR=4.3						
ASAR	**Alice Springs**	**21.78**	**137**	P	**P**	**03 52 30.6**	**-1.2**
	0.7nm,0.5s,baz=312,slow=9.2,SNR=16						
SONM	**Songino Array**	**56.57**	**351**	P	**P**	**03 57 16.9**	**-0.6**
	0.4nm,0.6s,baz=178,slow=5.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**67.80**	**340**	P	**P**	**03 58 30.3**	**-1.5**
	0.3nm,0.3s,baz=141,slow=4.8,SNR=2.6						

JMA 21 03:55:40.1±0.1, 27˚.28N×128˚.41E, h44km±3km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.46**	**195**	P	Pn	03 55 50.4	-0.2
JOW				S	Sn	03 55 57.6	-0.4
JIH	**Iheya**	**0.46**	**238**	P	Pn	03 55 50.5	-0.1
JIH				S	Sn	03 55 57.8	-0.2
JTK	**Tokunoshima**	**0.70**	**43**	P	Pn	03 55 53.7	+0.1
JTK				*e*S	Sn	03 56 03.2	-0.1
JAMN	**Amaminishikomi**	**1.18**	**35**	P	Pn	03 56 00.1	0.0
JAMN				S	Sn	03 56 14.2	-0.7
JAGN	**Aguni-jima**	**1.25**	**237**	P	Pn	03 56 00.9	-0.2
JAGN				*e*S	Sn	03 56 16.2	-0.5
JJT2	**Tamagusuku 2**	**1.28**	**208**	P	Pn	03 56 02.8	+1.2
JAM	**Amami Oshima**	**1.55**	**43**	P	Pn	03 56 05.7	+0.5
JAM				*e*S	Sn	03 56 24.3	+0.3
JZK	**Kikaishima**	**1.73**	**53**	P	Pn	03 56 08.3	+0.7
JKE	**Kume jima 2**	**1.73**	**237**	P	Pn	03 56 07.8	0.0

IDC 21 04:01:48.5±8.7, 1˚.93N×125˚.81E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=172.5km s-min=134.2km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.30**	**159**	P	P	04 06 58.9	+0.7
	0.2nm,0.3s,baz=337,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**26.64**	**163**	P	P	04 07 30.1	+1.1
	0.2nm,0.5s,baz=350,slow=8.0,SNR=4.6						
STKA	**Stephens Creek**	**36.81**	**157**	P	P	04 08 56.5	-1.8
	0.5nm,0.3s,baz=320,slow=8.2,SNR=3.8						

IDC 21 04:11:26.3±14.0, 5˚.45S×147˚.93E, h506km±201km, mb2.7/2, mb1 2.9/3, mb1mx2.6/16, mbtmp3.4/3, Error ellipse: s-maj=293.8km s-min=47.3km az=136.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.55**	**221**	P	P	04 15 20.3	-0.4
	0.1nm,0.3s,baz=52,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**22.59**	**215**	P	P	04 15 48.7	+0.5
	0.3nm,0.4s,baz=59

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**0.82**	**266**	**P**	**Pn**	**04 28 19.2**	**+0.6**
MTNI				S	Sn	04 28 37.3	+0.2
DNP	**Denpasar**	**1.77**	**267**	**P**	**Pn**	**04 28 27.5**	**0.0**
DNP				S	Sn	04 28 49.3	-3.6
SRBI	**Singaraja**	**1.84**	**285**	**P**	**Pn**	**04 28 28.0**	**-0.2**
SRBI				S	Sn	04 28 53.1	-1.1
IGBI	**Denpasar**	**1.85**	**263**	**P**	**Pn**	**04 28 28.0**	**-0.4**
IGBI				S	Sn	04 28 53.6	-0.8
ABJI	**Asem Bagus**	**2.85**	**286**	**P**	**Pn**	**04 28 41.1**	**+0.8**
LBFI	**Labuhan Bajo,**	**2.86**	**88**	**P**	**Pn**	**04 28 39.7**	**-0.7**
LBFI				S	Sn	04 29 14.8	-1.1
KMMI	**Kalianget**	**3.37**	**297**	**P**	**Pn**	**04 28 48.7**	**+1.9**
BLJI	**Banyuglugur**	**3.47**	**284**	**P**	**Pn**	**04 28 48.8**	**+0.7**
BLJI				S	Sn	04 29 30.7	+0.9
GMJI	**Gumukmas**	**3.53**	**275**	**P**	**Pn**	**04 28 47.6**	**-1.3**
GMJI				S	Sn	04 29 28.9	-2.3
KAPI	**Kappang**	**4.47**	**38**	*eP*	**Pn**	**04 29 02.2**	**+1.0**
KAPI				*eS*	Sn	04 29 54.6	+1.5
BKSI	**Bulukumba**	**4.48**	**44**	**P**	**Pn**	**04 29 02.5**	**+1.3**
KRKI	**Karangkates**	**4.52**	**275**	**P**	**Pn**	**04 29 02.2**	**+0.5**
GRJI	**Gresik**	**4.78**	**290**	**P**	**Pn**	**04 29 06.3**	**+1.2**
BNSI	**Bone**	**5.17**	**37**	**P**	Pn	04 29 13.2	+2.8
	180nm,0.8s,2μm0.6nm						
PWJI	**Pagerwojo**	**5.17**	**276**	**P**	**Pn**	**04 29 09.8**	**-0.5**
	281nm,0.8s,4μm0.9nm						
MMRI	**Maumere**	**5.18**	**91**	**P**	Pn	04 29 13.8	+3.4
	342nm,0.5s,7μm2.8nm						
MMRI				S	**Sn**	**04 30 08.5**	**-1.3**
	342nm,0.5s,7μm2.8nm						
KBKI	**Kotabaru**	**5.31**	**351**	**P**	**Pn**	**04 29 13.6**	**+1.4**
	300nm,0.9s,3μm1.0nm						
SPSI	**Sidrap Palu**	**5.35**	**31**	**P**	Pn	04 29 16.8	+4.1
	60nm,1.0s,0.2nm						
BBKI	**Banjar Baru**	**5.52**	**337**	**P**	**Pn**	**04 29 16.7**	**+1.8**
	230nm,1.1s,2μm0.9nm						
NGJI	**Ngawi**	**5.62**	**282**	**P**	**Pn**	**04 29 18.2**	**+2.0**
	195nm,0.9s,2μm0.6nm						
PCJI	**Pacitan**	**5.78**	**273**	**P**	**Pn**	**04 29 17.2**	**-1.1**
	302nm,0.9s,4μm1.0nm						
PCJI				S	**Sn**	**04 30 22.2**	**-1.7**
	302nm,0.9s,4μm1.0nm						
TTSI	**Tana Toraja**	**6.17**	**27**	**P**	Pn	04 29 27.2	+3.6
	126nm,1.1s,3μm0.5nm						
KKSI	**Kolaka, Sulawe**	**6.37**	**47**	**P**	Pn	04 29 31.1	+4.9
	223nm,0.7s,2μm0.7nm						
UGM	**Wanagama**	**6.45**	**275**	**P**	**Pn**	**04 29 27.4**	**+0.1**
	254nm,0.7s,4μm1.0nm						
UGM				S	**Sn**	**04 30 40.5**	**+0.5**
	254nm,0.7s,4μm1.0nm						
UGM	**Wanagama**	**6.45**	**275**	**P**	**Pn**	**04 29 25.7**	**-1.5**
	baz=6.4,SNR=27						
SOEI	**Soe**	**7.27**	**100**	**P**	**Pn**	**04 29 36.7**	**-1.6**
	263nm,1.0s,4μm1.4nm						
SOEI	**Soe**	**7.27**	**100**	**P**	**Pn**	**04 29 36.6**	**-1.7**
	baz=7.3,SNR=9.9						
MTKI	**Muara Teweh, K**	**7.87**	**344**	**P**	Pn	04 29 59.3	+13
TGJI	**Tegal**	**7.99**	**282**	**P**	**Pn**	**04 29 47.2**	**-0.6**
	53nm,0.7s,0.2nm						
KPJI	**Karang Pucung**	**8.09**	**278**	**P**	**Pn**	**04 29 47.5**	**-1.6**
	82nm,0.7s,1μm						
KPJI				S	**Sn**	**04 31 21.0**	**+1.6**
	82nm,0.7s,1μm						
CMJI	**Cimerak**	**8.50**	**275**	**P**	**Pn**	**04 29 52.0**	**-2.6**
	65nm,0.9s,2μm						
CMJI				S	**Sn**	**04 31 30.5**	**+1.2**
	65nm,0.9s,2μm						
CISI	**Cisompet, Garu**	**9.15**	**276**	**P**	**Pn**	**04 30 00.3**	**-3.0**
	99nm,0.8s,9μm						
CISI	**Cisompet, Garu**	**9.15**	**276**	**P**	**Pn**	**04 30 00.5**	**-2.8**
	baz=9.1,SNR=11						
CBJI	**Citeko**	**10.29**	**281**	**P**	**Pn**	**04 30 16.4**	**-1.9**
	426nm,0.8s						
GTOI	**Gorontalo**	**10.94**	**33**	**P**	Pn	04 30 38.8	+12
XMIS	**Christmas Isla**	**11.35**	**260**	*eP*	Pn	04 30 27.1	-5.1
	199nm,1.0s						
XMIS				*eS*	Sn	04 32 20.7	-17
XMIS	**Christmas Isla**	**11.35**	**260**	**P**	Pn	04 30 27.3	-4.9
	baz=11,SNR=4.9						
NLAI	**Namlea**	**11.36**	**63**	**P**	**P**	**04 30 40.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**12.65**	**139**	*eP*	**Pn**	**04 30 49.1**	**+0.1**
	14nm,0.7s						
FITZ				S	Sn	04 33 01.8	-7.3
FITZ	**Fitzroy Crossi**	**12.65**	**139**	**P**	**Pn**	**04 30 48.5**	**-0.5**
	1.7nm,0.3s,baz=328,slow=5.3,SNR=27						
FITZ				S	Sn	04 33 01.8	-7.3
	11nm,0.3s,baz=150,slow=20,SNR=14						
FITZ				LR	LR	04 36 22.8	
	comp=Z,41nm,19.9s,baz=325,slow=40						
FITZ	**Fitzroy Crossi**	**12.65**	**139**	**P**	**Pn**	**04 30 48.9**	**-0.1**
	baz=13,SNR=24						
KASI	**Kota Agung**	**12.78**	**283**	**P**	**P**	**04 30 55.0**	**-0.5**
	88nm,0.9s,2μm						
KLSI		**12.79**	**287**	**P**	**P**	**04 30 55.9**	**+0.2**
	79nm,0.8s						
LBMI	**Labuha**	**13.10**	**54**	**P**	P	04 31 02.4	+3.2
LWLI	**Liwa**	**13.33**	**285**	**P**	P	04 31 07.5	+5.7
MDSI	**Maura Dua**	**13.37**	**287**	**P**	**P**	**04 31 02.3**	**+0.1**
	19nm,1.0s,1μm						
BNDI	**Bandanaira**	**13.44**	**73**	**P**	**P**	**04 31 03.4**	**+0.5**
	995nm,1.1s						
KNRA	**Kununurra**	**13.48**	**123**	**P**	**Pn**	**04 30 58.8**	**-0.8**
	baz=14,SNR=74						
LHSI	**Lahat**	**14.20**	**289**	**P**	**P**	**04 31 13.6**	**+2.2**
	66nm,0.9s						
GIRL	**Giralia**	**14.23**	**190**	**P**	**Pn**	**04 31 09.7**	**+0.6**
	baz=14,SNR=9.8						
MTN	**Manton Dam**	**14.52**	**108**	**P**	**Pn**	**04 31 10.8**	**-1.8**
	baz=15,SNR=12						
MNAI	**Manna**	**14.57**	**286**	**P**	Pn	04 31 10.0	-3.3
	baz=14,SNR=4.8						
MASI	**Maura Aman, Be**	**15.64**	**289**	**P**	**P**	**04 31 30.7**	**+3.3**
	108nm,1.2s,3μm						
KDU	**Kakadu**	**15.74**	**106**	**P**	**Pn**	**04 31 25.8**	**-2.0**
	baz=16,SNR=18						
FAKI	**Fak Fak**	**16.18**	**71**	**P**	**Pn**	**04 31 30.0**	**-3.1**
	baz=16,SNR=56						
MEEK	**Meekatharra**	**18.02**	**175**	**P**	**Pn**	**04 31 54.5**	**-0.7**
	baz=18,SNR=34						
WRKA	**Warakurna**	**19.59**	**148**	**P**	**Pn**	**04 32 11.9**	**-1.7**
	baz=20,SNR=64						
WRA	**Warramunga Arr**	**20.22**	**126**	**P**	**P**	**04 32 17.3**	**-0.1**
WRA				S	**S**	**04 35 53.6**	**-2.2**
WRA				ScP	**ScP**	**04 39 44.7**	**-2.2**
WRA	**Warramunga Arr**	**20.22**	**126**	**P**	**P**	**04 32 17.3**	**-0.1**
	3.9nm,0.4s,baz=299,slow=12,SNR=67						
WRA				S	**S**	**04 35 53.6**	**-2.2**
	3.8nm,0.7s,baz=296,slow=21,SNR=5.0						
WRA				ScP	**ScP**	**04 39 44.7**	**-2.2**
	2.4nm,0.8s,baz=300,slow=1.7,SNR=5.5						
WRAB	**Tennant Creek**	**20.23**	**126**	*eP*	**P**	**04 32 17.9**	**+0.5**
	17nm,0.6s						
WRAB				*eS*	**S**	**04 35 57.2**	**+1.3**
MORW	**Morawa**	**20.40**	**182**	**P**	Pn	04 32 23.0	-0.1
	baz=20,SNR=11						
BLDU	**Ballidu**	**21.92**	**181**	**P**	**P**	**04 32 36.7**	**+1.4**
	baz=22,SNR=24						
AS31	**Alice Springs**	**22.07**	**135**	*eP*	**P**	**04 32 37.0**	**+0.1**
AS31				*e*		04 36 34.0	
ASAR	**Alice Springs**	**22.07**	**135**	**P**	**P**	**04 32 37.0**	**+0.1**
ASAR				S	**S**	**04 36 31.9**	**+2.7**
ASAR	**Alice Springs**	**22.07**	**135**	**P**	**P**	**04 32 37.0**	**+0.1**
	22nm,0.6s,baz=313,slow=9.8,SNR=253						
ASAR				S	**S**	**04 36 31.9**	**+2.7**
	3.6nm,0.7s,baz=315,slow=24,SNR=6.7						
KLBR	**Kellerberrin**	**22.91**	**178**	**P**	**P**	**04 32 45.5**	**+0.7**
	baz=23,SNR=9.0						
KMBL	**Kambalda**	**23.12**	**169**	**P**	**P**	**04 32 47.4**	**+0.7**
	baz=23,SNR=20						
NWAO	**Narrogin (SRO)**	**24.23**	**180**	**P**	**P**	**04 32 57.7**	**+0.9**
NWAO	**Narrogin (SRO)**	**24.23**	**180**	**P**	**P**	**04 32 57.7**	**+0.9**
	5.2nm,0.4s,baz=2.0,slow=9.4,SNR=5.6						
FORT	**Forrest**	**24.38**	**156**	*eP*	**P**	**04 32 57.9**	**-0.2**
	61nm,0.6s						
FORT	**Forrest**	**24.38**	**156**	**P**	**P**	**04 32 59.0**	**+0.9**
	baz=24,SNR=28						
QIS	**Mount Isa**	**24.87**	**121**	**P**	**P**	**04 33 03.6**	**+0.9**
	baz=25,SNR=14						
COEN	**Coen**	**26.21**	**104**	*eP*	**P**	**04 33 15.1**	**+0.3**
	171nm,0.5s						
COEN	**Coen**	**26.21**	**104**	**P**	**P**	**04 33 15.4**	**+0.6**
	baz=26,SNR=75						
BBOO	**Buckleboo**	**29.88**	**146**	**P**	**P**	**04 33 47.9**	**+0.7**
	baz=30,SNR=6.0						
QLP	**Quilpie**	**31.42**	**128**	**P**	**P**	**04 34 02.5**	**+1.6**
	baz=32,SNR=11						
HTT	**Hallett**	**31.95**	**144**	**P**	**P**	**04 34 06.8**	**+1.2**
	baz=32,SNR=5.8						
STKA	**Stephens Creek**	**32.55**	**139**	*eP*	**P**	**04 34 11.5**	**+0.8**
	1.5nm,0.6s						
STKA	**Stephens Creek**	**32.55**	**139**	**P**	**P**	**04 34 11.7**	**+1.0**
	11nm,0.7s,baz=311,slow=11,SNR=40						
STKA	**Stephens Creek**	**32.55**	**139**	**P**	**P**	**04 34 11.7**	**+1.0**
	baz=33,SNR=34						
CMSA	**Cobar Meteorol**	**35.12**	**135**	**P**	**P**	**04 34 35.4**	**+2.5**
	baz=35,SNR=9.0						
ARPS	**Mount Arapiles**	**36.00**	**145**	**P**	**P**	**04 34 41.8**	**+1.4**
	baz=36,SNR=11						
YNG	**Young**	**38.56**	**136**	**P**	**P**	**04 35 04.0**	**+2.1**
	baz=39,SNR=5.4						
TOO	**Toolangi**	**38.68**	**143**	**P**	**P**	**04 35 05.4**	**+2.4**
	baz=39,SNR=8.4						
USRK	**Ussuriysk Arra**	**54.26**	**13**	**P**	**P**	**04 37 03.3**	**-0.7**
	1.3nm,0.6s,baz=182,slow=6.8,SNR=5.2						
SONM	**Songino Array**	**56.95**	**351**	**P**	**P**	**04 37 21.9**	**-1.5**
SONM	**Songino Array**	**56.95**	**351**	**P**	**P**	**04 37 21.9**	**-1.5**
	1.0nm,0.7s,baz=175,slow=9.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**67.96**	**340**	**P**	P	04 38 32.8	-3.3
ZALV				PcP	**PcP**	**04 38 58.5**	**-2.8**
ZALV	**Zalesovo Beam**	**67.96**	**340**	**P**	P	04 38 32.8	-3.3
	0.5nm,0.3s,baz=148,slow=5.0,SNR=2.8						
ZALV				PcP	**PcP**	**04 38 58.5**	**-2.8**
	1.5nm,0.5s,baz=143,slow=5.0,SNR=5.1						
VNDA	**Vanda**	**72.71**	**171**	**P**	**P**	**04 39 05.9**	**+1.2**
VNDA	**Vanda**	**72.71**	**171**	**P**	**P**	**04 39 05.9**	**+1.2**
	1.8nm,0.5s,baz=308,slow=5.9,SNR=18						
SYO	**Syowa Base**	**77.53**	**201⇑**	*eP*	**P**	**04 39 32.4**	**0.0**
QSPA	**South Pole Qui**	**81.41**	**180**	*eP*	**P**	**04 39 54.5**	**+0.8**
	3.6nm,0.8s						
SNAA	**Sanae**	**90.86**	**196**	*eP*	**P**	**04 40 40.9**	**+1.1**
	8.3nm,1.1s						
YKA	**Yellowknife Ar**	**114.61**	**24**	PKP	PKPdf	04 46 14.2	-1.4
YKA	**Yellowknife Ar**	**114.61**	**24**	PKP	PKPdf	04 46 14.2	-1.4
	0.2nm,0.6s,baz=303,slow=1.8,SNR=8.3						
TORD	**Torodi Ar. Bea**	**116.44**	**280**	PKP	**PKPdf**	**04 46 18.9**	**-1.6**
TORD	**Torodi Ar. Bea**	**116.44**	**280**	PKP	**PKPdf**	**04 46 18.9**	**-1.6**
	0.2nm,0.5s,baz=99,slow=1.1,SNR=6.5						
NVAR	**Mina Array Bea**	**122.27**	**50**	PKP	**PKPdf**	**04 46 30.9**	**-0.5**
NVAR	**Mina Array Bea**	**122.27**	**50**	PKP	**PKPdf**	**04 46 30.9**	**-0.5**
	0.5nm,0.7s,baz=318,slow=1.2,SNR=4.0						
CPUP	**Villa Florida**	**144.86**	**189**	*e*PKPbc	PKPbc	04 47 13.8	+0.9
CPUP	**Villa Florida**	**144.86**	**189**	PKPbc	PKPbc	04 47 13.8	+0.9
	2.2nm,0.3s,baz=166,slow=3.3,SNR=16						
BDFB	**Brasilia**	**151.72**	**212**	PKPbc	**PKPbc**	**04 47 31.2**	**-0.3**
BDFB	**Brasilia**	**151.72**	**212**	PKPbc	**PKPbc**	**04 47 31.2**	**-0.3**
	1.9nm,0.5s,baz=132,slow=4.1,SNR=6.1						
LPAZ	**La Paz**	**154.78**	**168**	PKPab	**PKPab**	**04 47 55.1**	**+1.0**
LPAZ	**La Paz**	**154.78**	**168**	PKPab	**PKPab**	**04 47 55.1**	**+1.0**
	3.9nm,0.8s,baz=68,slow=2.7,SNR=11						

IDC 21 04:59:09.2±1.6, 8°.11S×158°.03E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=33.5km s-min=30.1km az=48.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.31**	**125**	Pn	Pn	04 59 48.7	+0.2
	18nm,0.3s,baz=207,slow=4.5,SNR=4.0						
HNR				Sn	Sn	05 00 11.5	-6.1
	109nm,0.3s,baz=308,slow=19,SNR=9.7						
WRA	**Warramunga Arr**	**25.78**	**240**	P	P	05 04 42.9	+0.8
	0.4nm,0.3s,baz=67,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**27.82**	**233**	P	P	05 05 00.3	-0.2
	0.3nm,0.4s,baz=62,slow=9.6,SNR=6.0						
STKA	**Stephens Creek**	**28.17**	**211**	P	P	05 05 02.6	-0.8
	0.7nm,0.6s,baz=34,slow=11,SNR=2.9						
SONM	**Songino Array**	**71.91**	**326**	P	P	05 10 34.4	0.0
	0.3nm,0.5s,baz=128,slow=5.9,SNR=3.1						

IDC 21 05:15:06.9±0.3, 37°.51N×96°.76E, h0km, mb4.9/36, mb1 5.0/40, mb1mx5.0/40, mbtmp4.8/40, ML4.6/4, MS4.3/27, Ms1 4.3/27, ms1mx4.2/42, Error ellipse: s-maj=12.0km s-min=8.9km az=28.0

ISCJB 21 05:15:07.4±0.1, 37°.52N±0°.02×96°.64E±0°.02, h10km, mb5.1/198, MS4.6/79, Error ellipse: s-maj=2.5km s-min=2.0km az=8.3

BJI 21 05:15:07.0, 37°.57N×96°.65E, h6km, mB5.2/34, mb5.1/53, ML5.3/9, Ms5.0/66, Ms7 4.8/58

MOS 21 05:15:08.0±0.9, 37°.52N×96°.66E, h17km, mb5.4/91, MS4.5/38, Error ellipse: s-maj=5.6km s-min=3.6km az=119.2

NEIC 21 05:15:08.9±0.1, 37°.53N×96°.64E, h10km, mb5.4/101, Error ellipse: s-maj=2.7km s-min=2.6km az=4.0

BKK 21 05:15:10.7±0.3, 38°.N±4°×9°.7E±°, h10km, M4.6/24, mB5.1/11, mb5.0/24, Mw(mB)4.5/11

SZGRF 21 05:15:11.1, 38°.58N×97°.44E, h12km, mb5.1, MS4.9, Qinghai, China

GCMT 21 05:15:13.6±0.2, 37°.57N×96°.68E, h22km, MW5.0, Moment Tensor Solution. s43,c50; s90,c138; Moment tensor: Scale 10^16 Nm; Mrr 3.57±.18; Mθθ 4.02±.12; Mφφ 0.45±.12; Mrθ -0.80±.17; Mθφ 1.50±.08; Mφr -0.56±.21; Best double couple: Mo 4.20000×10^16 NP1: φs 273.00000°, δ51.00000°, λ71.00000°. NP2: φs 122.00000°, δ43.00000°, λ112.00000°. Principal axes: T 3.8200, Plg75.0000°, Azm122.0000°; N 0.7000, Plg15.0000°, Azm285.0000°; P -4.5200, Plg4.0000°, Azm16.0000°; Data Used: IU II CU CN G IC.

ISC 21 05:15:09.4±0.3, 37°.56N±0°.03×96°.75E±0°.03, h15km±1km, h15km: pP-P, n852, σ1§16/940, mb5.2/201, MS4.6/80, 126C-88D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.03**	**51**	Pn	**Pb**	**05 16 01.0**	**-2.1**
GTA				Pg	**Pg**	**05 16 06.3**	**-1.2**
GTA				Sn	**Sb**	**05 16 39.3**	**-0.6**
GTA				Sg	**Sg**	**05 16 48.1**	**+1.4**
GTA				smax	smax		
	comp=N,3μm,1.2s						
GTA				smax	smax		
	comp=E,3μm,0.8s						
GTA				LR	LR		
	comp=N,38μm,8.4s						
GTA				LR	LR		
	comp=E,22μm,8.8s						
GTA				LR	LR		
	comp=Z,22μm,7.4s						
LZH	**Lanzhou**	**5.88**	**102**	Pn	**Pn**	**05 16 38.0**	**+2.0**
LZH				Pg	Pg	05 16 57.5	-4.4
LZH				Sn	**Sn**	**05 17 46.8**	**+3.6**
LZH				Sg	**Sg**	**05 18 13.6**	**-4.3**
LZH				smax	smax		
	comp=N,4μm,1.2s						
LZH				smax	smax		
	comp=E,5μm,1.2s						
LZH				LR	LR		
	comp=N,10μm,8.2s						
LZH				LR	LR		
	comp=E,9μm,8.4s						
LZH				LR	LR		
	comp=Z,11μm,9.3s						
LSA	**Lhasa**	**9.12**	**212**	P	**Pn**	**05 17 22.3**	**+1.4**
LSA				S	**Sn**	**05 19 05.5**	**+2.0**
LSA				LR	LR		
	comp=N,3μm,8.4s						
LSA				LR	LR		
	comp=E,7μm,9.7s						
LSA				LR	LR		
	comp=Z,9μm,8.8s						
LSA	**Lhasa**	**9.12**	**212**	*eP*	**Pn**	**05 17 22.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,64nm,0.8s						
LSA	**Lhasa**	**9.12**	**212**	*e*Pn	**Pn**	**05 17 22.3**	**+1.4**
	comp=Z,64nm,0.8s						
WMQ	**Urumqi**	**9.29**	**315**	P	**Pn**	**05 17 24.0**	**+1.2**
WMQ				S	**Sn**	**05 19 02.6**	**-4.5**
WMQ				smax	smax		
	comp=Z,1μm,1.2s						
WMQ				smax	smax		
	comp=Z,1μm,1.0s						
XAN	**Xi'an**	**10.49**	**106**	P	**Pn**	**05 17 37.5**	**-1.7**
XAN				pP		05 17 42.4	
XAN				S	**Sn**	**05 19 32.8**	**-3.6**
XAN				LR	LR		
	comp=Z,2μm,11.3s						
XAN				LR	LR		
	comp=Z,620nm,9.1s						
XAN				LR	LR		
	comp=Z,840nm,8.2s						
BTO	**Baotou**	**10.75**	**69**	*eP*	**Pn**	**05 17 44.3**	**+1.5**
HHC	**Hu-ho-hao-te**	**11.95**	**69**	*eP*	**Pn**	**05 18 00.3**	**+1.1**
HHC				pP		05 18 03.8	
HHC				sP		05 18 05.8	
HHC				PP	**PnPn**	**05 18 10.0**	**+3.1**
HHC				S	**Sn**	**05 20 11.8**	**-0.5**
HHC				sS		05 20 19.6	
HHC				pmax	pmax		
	comp=Z,180nm,0.9s						
HHC				pmax	pmax		
	comp=Z,780nm,4.9s						
HHC				LR	LR		
	comp=Z,8μm,9.8s						
HHC				LR	LR		
	comp=Z,5μm,9.0s						
HHC				LR	LR		
	comp=Z,5μm,9.4s						
TIY	**Taiyuan**	**12.44**	**85**	*eP*	**Pn**	**05 18 05.3**	**-0.5**
TIY				S	**Sn**	**05 20 23.5**	**-0.6**
TIY				LR	LR		
	comp=Z,2μm,6.3s						
TIY				LR	LR		
	comp=Z,2μm,6.7s						
TIY				LR	LR		
	comp=Z,4μm,9.5s						
SONM	**Songino Array**	**12.47**	**32**	Pn	**Pn**	**05 18 08.2**	**+1.9**
SONM				Lg	Lg	05 21 28.7	
SONM	**Songino Array**	**12.47**	**32**	Pn	**Pn**	**05 18 08.2**	**+1.9**
	comp=Z,5.4nm,0.3s,baz=214,slow=15,SNR=113						
SONM				Lg	Lg	05 21 28.7	
	comp=Z,0.6nm,0.3s,baz=213,slow=30,SNR=5.5						
SONM				LR	LR	05 23 17.8	
	comp=Z,1μm,20.2s,baz=31,slow=39						
SHL	**Shillong**	**12.65**	**200**	*eP*	**Pn**	**05 18 08.3**	**-0.7**
SHL				*ex*	x	05 20 05.0	
TAPN	**Taplejung**	**12.72**	**219**	*eP*	**Pn**	**05 18 09.4**	**-0.5**
	comp=Z,351nm,1.3s						
TAPN	**Taplejung**	**12.72**	**219**	*eP*	**Pn**	**05 18 09.4**	**-0.5**
	comp=Z,351nm,1.3s						
ULN	**Ulaanbaatar**	**12.77**	**33**	*e*Pn	**Pn**	**05 18 12.4**	**+2.0**
ULN				*e*Sn	**Sn**	**05 20 29.6**	**-2.7**
ENH	**Enshi**	**12.82**	**121**	*e*Pn	**Pn**	**05 18 11.6**	**+0.4**
	comp=Z,78nm,0.9s						
IMP	**Imphal**	**12.96**	**192**	*ex*	**Pn**	**05 18 12.0**	**-1.1**
IMP				*ex*	x	05 20 56.0	
GUN	**Gumba**	**13.27**	**227**	*eP*	**Pn**	**05 18 18.1**	**+0.6**
	comp=Z,143nm,0.9s						
GUN	**Gumba**	**13.27**	**227**	*eP*	**Pn**	**05 18 18.1**	**+0.6**
	comp=Z,143nm,0.9s						
ODAN	**Odare**	**13.28**	**219**	*eP*	**Pn**	**05 18 16.5**	**-1.1**
	comp=Z,194nm,0.9s						
ODAN	**Odare**	**13.28**	**219**	*eP*	**Pn**	**05 18 16.5**	**-1.1**
	comp=Z,194nm,0.9s						
JIRN	**Jiri**	**13.28**	**225**	*eP*	**Pn**	**05 18 17.9**	**+0.2**
	comp=Z,50nm,0.7s						
JIRN	**Jiri**	**13.28**	**225**	*eP*	**Pn**	**05 18 17.9**	**+0.2**
	comp=Z,50nm,0.7s						
KMI	**Kunming**	**13.41**	**156**	*i*P	**Pn**	**05 18 18.8**	**-0.5**
KMI				pP	**P**	**05 18 26.4**	**-2.3**
KMI				PP	**PnPn**	**05 18 29.8**	**+2.6**
KMI				sP		05 18 32.4	
KMI				S	**Sn**	**05 20 46.1**	**-2.1**
KMI				sS	S	05 20 58.4	-14
KMI				pmax	pmax		
	comp=Z,31nm,1.2s						
KMI				pmax	pmax		
	comp=Z,100nm,3.1s						
KMI				LR	LR		
	comp=Z,3μm,14.6s						
KMI				LR	LR		
	comp=Z,5μm,17.1s						
KMI				LR	LR		
	comp=Z,4μm,10.3s						
RAMN	**Ramite**	**13.62**	**222**	*eP*	**Pn**	**05 18 20.2**	**-2.0**
	comp=Z,190nm,1.0s						
RAMN	**Ramite**	**13.62**	**222**	*eP*	**Pn**	**05 18 20.2**	**-2.0**
	comp=Z,190nm,1.0s						
ZAK	**Zakamensk**	**13.64**	**18**	*eP*	**Pn**	**05 18 25.2**	**+2.9**
ZAK				pmax	pmax		
	comp=Z,23nm,1.6s						
KKN	**Kakani**	**13.71**	**228**	*eP*	**Pn**	**05 18 22.6**	**-0.8**
	comp=Z,160nm,1.4s						
KKN	**Kakani**	**13.71**	**228**	*eP*	**Pn**	**05 18 22.6**	**-0.8**
KKN				pmax	pmax		
	comp=Z,160nm,1.4s						
KKN	**Kakani**	**13.71**	**228**	*eP*	**Pn**	**05 18 22.6**	**-0.8**
	comp=Z,160nm,1.4s						
HVS	**Khovu-Aksy**	**13.75**	**352⇓**	*i*P	**Pn**	**05 18 26.5**	**+2.8**
HVS				pmax	pmax		
	comp=Z,399nm,1.8s						
PKI	**Pulchoki**	**13.80**	**227**	*eP*	**Pn**	**05 18 23.6**	**-1.1**
	comp=Z,91nm,1.0s						
PKI	**Pulchoki**	**13.80**	**227**	*eP*	**Pn**	**05 18 23.6**	**-1.1**
PKI				pmax	pmax		
	comp=Z,40nm,1.0s						
PKI	**Pulchoki**	**13.80**	**227**	*eP*	**Pn**	**05 18 23.6**	**-1.1**
	comp=Z,40nm,1.0s						
PKIN	**Phulchoki**	**13.80**	**227**	*eP*	**Pn**	**05 18 23.6**	**-1.1**
	comp=Z,40nm,1.0s						
GYA	**Guiyang**	**13.89**	**140⇑**	*i*P	**Pn**	**05 18 25.3**	**-0.5**
GYA				PP	P	05 18 39.3	+5.3
GYA				S	**Sn**	**05 20 57.5**	**-2.3**
GYA				SS	**S**	**05 21 19.0**	**-2.7**
GYA				PcP	**PcP**	**05 23 50.4**	**+2.5**
GYA				pmax	pmax		
	comp=Z,130nm,1.0s						
GYA				pmax	pmax		
	comp=Z,210nm,4.8s						
GYA				LR	LR		
	comp=Z,4μm,11.4s						
GYA				LR	LR		
	comp=Z

BJI LR LR
comp=Z,2μm,13.7s
BJI LR LR
comp=Z,650nm,16.6s
IRK Irkutsk 15.60 17 *e*P **P 05 18 52.7 -0.1**
IRK pmax pmax
comp=Z,152nm,1.6s
LGTI Lohaghat 15.95 244 *e* P 05 19 05.2 +8.4
WHN Wuhan 16.16 110 ⇑*i*P **P 05 19 00.3 +1.2**
WHN S **S 05 22 01.9 -6.1**
WHN pmax pmax
comp=Z,260nm,0.8s
WHN LR LR
comp=Z,4μm,5.9s
WHN LR LR
comp=Z,4μm,5.5s
WHN LR LR
comp=Z,5μm,12.0s
TIA Tai'an 16.36 89 P **Pn 05 18 56.3 -2.1**
TIA pmax pmax
comp=Z,30nm,1.7s
TIA LR LR
comp=Z,1μm,10.1s
TIA LR LR
comp=Z,3μm,11.3s
TIA LR LR
comp=Z,2μm,11.3s
KSH Kashi 16.38 283 P **Pn 05 18 59.3 +0.5**
KSH sP **sP 05 19 10.1 +2.3**
KSH PP PnPn 05 19 17.3 +10
KSH S **Sn 05 21 59.3 -0.9**
KSH sS **S 05 22 11.6 -1.0**
KSH SS SnSn 05 22 26.1 +13
KSH pmax pmax
comp=Z,16nm,0.6s
KSH pmax pmax
comp=Z,56nm,1.7s
KSH LR LR
comp=Z,1μm,4.8s
KSH LR LR
comp=Z,1μm,4.9s
KSH LR LR
comp=Z,730nm,8.8s
BOK Bokaro 16.58 217 *e*P **Pn 05 18 58.9 -2.5**
TKM2 Tokmak 2 17.00 295 *e*P **Pn 05 19 04.5 -2.3**
TKM2 *e* 05 22 13.9
TKM2 pmax pmax
comp=Z,121nm,1.3s
TKM2 Tokmak 2 17.00 295 P **Pn 05 19 05.8 -0.9**
SNR=24
TKM2 Tokmak 2 17.00 295 *e*Pn **Pn 05 19 04.5 -2.3**
comp=Z,120nm,1.3s
TKM2 *e*Sn **Sn 05 22 13.9 -1.6**
KZA Kyzart 17.11 292 *i* P **Pn 05 19 06.8 -1.6**
KZA Kyzart 17.11 292 P **Pn 05 19 06.8 -1.6**
SNR=20
SLVN Son La 17.32 157 *e*Pn **Pn 05 19 10.2 -0.4**
SMLA Simla 17.39 254 *e*P **Pn 05 19 11.5 +0.1**
KBK Karagaybulak 17.43 294 P **Pn 05 19 11.8 -0.2**
SNR=19
DHRM DHARAMSHALA 17.58 259 *e*P **Pn 05 19 14.4 +0.3**
DHRM AMB AMB 05 19 20.0
comp=Z,97nm,0.9s
UCH Uchtor 17.68 292 *i* P **Pn 05 19 14.2 -1.2**
UCH Uchtor 17.68 292 P **Pn 05 19 14.2 -1.2**
SNR=21
FRU Bishkek 17.70 294 *e*P **Pn 05 19 14.0 -1.2**
FRU *e*S **Sn 05 22 34.0 +2.0**
FRU pmax pmax
comp=Z,70nm,1.6s
AAK Ala-Archa 17.75 294 Pn **Pn 05 19 14.3 -1.7**
comp=Z,171nm,0.7s,SNR=9.8
AAK Ala-Archa 17.75 294 *i* P **P 05 19 16.7 -0.1**
AAK Ala-Archa 17.75 294 P **P 05 19 16.8 -0.1**
SNR=17
USP Ospenovka 17.86 296 *i* P **Pn 05 19 17.2 0.0**
USP Ospenovka 17.86 296 P **Pn 05 19 17.2 0.0**
SNR=12
AML Almayashu 18.27 292 P **P 05 19 23.0 +0.3**
SNR=26
EKS2 Erkin-Say 18.28 293 *i* P **Pn 05 19 20.8 -1.7**
EKS2 Erkin-Say 18.28 293 P **Pn 05 19 20.9 -1.7**
SNR=9.5
EKS2 Erkin-Say 18.28 293 *e*Pn **Pn 05 19 20.7 -1.7**
comp=Z,157nm,2.1s
ZAA0 Zalesovo Array 18.34 337 *e*Pn **P 05 19 23.2 +0.2**
ZALV Zalesovo Beam 18.34 337 P **P 05 19 23.1 +0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,2μm,19.5s
ZALV Zalesovo Beam 18.34 337 P **P 05 19 23.1 +0.1**
ZALV PcP **PcP 05 23 53.3 -0.6**
ZALV Zalesovo Beam 18.34 337 P **P 05 19 23.1 +0.1**
comp=Z,1.2nm,0.3s,baz=150,slow=10,SNR=32
ZALV PcP **PcP 05 23 53.3 -0.6**
comp=Z,0.3nm,0.3s,baz=186,slow=2.6,SNR=3.5
ZALV LR LR 05 26 39.5
comp=Z,2μm,19.5s,baz=152,slow=38
KURBB Kurchatov Arra 18.42 321 P **P 05 19 22.7 -1.3**
comp=Z,1.0nm,0.3s,baz=130,slow=12,SNR=64
KURBB PcP **PcP 05 23 54.1 0.0**
comp=Z,0.2nm,0.3s,baz=118,slow=1.8,SNR=4.9
KURBB PKiKP **PKiKP 05 31 43.2 -1.6**
comp=Z,0.0nm,0.3s,baz=158,slow=0.6,SNR=5.4
KURK Kurchatov 18.44 321 P **P 05 19 22.0 -2.1**
KURK pmax pmax
comp=Z,63nm,1.4s
KURK Kurchatov 18.44 321 *e*P **P 05 19 22.9 -1.1**
comp=Z,220nm,2.1s
KURK PcP **PcP 05 23 54.1 0.0**
KURK PKiKP **PKiKP 05 31 43.2 -1.6**
KURK Kurchatov 18.44 321 P **P 05 19 23.6 -0.5**
comp=Z,305nm,0.7s,SNR=25
CIT Chita 18.67 34 *e*P **Pn 05 19 28.6 +1.5**
CIT pmax pmax
comp=Z,111nm,2.3s
CHTO Chiang Mai 18.77 174 *e*P **Pn 05 19 29.4 +0.9**
CHTO pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 18.77 174 *e*Pn **Pn 05 19 29.4 +0.9**
comp=Z,4.1nm,1.0s
CHTO Chiang Mai 18.77 174 P **Pn 05 19 31.0 +2.5**
comp=Z,85nm,1.0s
CMMT Chiang Mai 18.78 174 P **Pn 05 19 31.0 +2.5**
comp=Z,19nm,1.0s
NJ2 Nanjing 18.95 100 *e*P **Pn 05 19 31.9 +1.4**
NJ2 sP **sP 05 19 35.0 -1.1**
NJ2 S **Sn 05 23 03.5 +1.2**
NJ2 sS **sS 05 23 12.5 +1.1**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,440nm,3.5s
NJ2 LR LR
comp=Z,1μm,18.0s
NJ2 LR LR
comp=Z,7μm,28.8s
NJ2 LR LR
comp=Z,2μm,18.7s
CMAR Chiang Mai Arr 19.13 174 P **Pn 05 19 32.7 -0.1**
CMAR PKiKP **PKiKP 05 31 44.8 -1.2**
CMAR Chiang Mai Arr 19.13 174 P **Pn 05 19 32.7 -0.1**
comp=Z,0.7nm,0.3s,baz=345,slow=9.9,SNR=22
CMAR LR LR 05 27 24.0
comp=Z,1μm,20.1s,baz=352,slow=39
CMAR PKiKP **PKiKP 05 31 44.8 -1.2**
comp=Z,0.7nm,0.3s,baz=316,slow=6.0,SNR=6.2
LAMP Lampang 19.13 172 P **Pn 05 19 34.0 +1.2**
comp=Z,15nm,0.8s,comp=Z,183nm
MHMT Maesarieng 19.34 177 P **Pn 05 19 37.3 +2.0**
comp=Z,36nm,0.9s,comp=Z,456nm
DL2 Dalian 19.57 78 P **Pn 05 19 40.0 +2.0**
DL2 S **Sn 05 23 22.4 +5.0**
DL2 pmax pmax
comp=Z,140nm,1.4s
DL2 pmax pmax
comp=Z,450nm,6.0s
DL2 LR LR
comp=Z,2μm,18.0s
DL2 LR LR
comp=Z,910nm,21.0s
DL2 LR LR
comp=Z,840nm,16.9s
NVS Novosibirsk 19.59 336 ⇑*i*P **P 05 19 36.1 -0.6**
NVS *i* S **S 05 23 13.1 -4.2**
NVS pmax pmax
comp=N,89nm,1.7s
NVS pmax pmax
comp=E,67nm,1.7s
NVS pmax pmax
comp=Z,108nm,1.7s
NVS smax smax
comp=N,62nm,1.9s
NVS smax smax
comp=E,51nm,1.7s
GZH Guangzhou 20.28 131 P **P 05 19 42.6 -1.8**
GZH S **S 05 23 28.6 -2.8**
GZH pmax pmax
comp=E,1μm,9.4s
GZH LR LR
comp=E,5μm,12.4s
GZH LR LR
comp=E,4μm,13.5s
HIA Hailar 20.30 48 *e*P Pn 05 19 46.8 +0.2
comp=E,146nm,1.4s
HIA LR LR
comp=Z,732nm,20.0s
KK31 Karatay Array 20.72 294 *e*P **P 05 19 49.1 0.0**
KK31 pmax pmax
comp=Z,27nm,0.7s
KKAR Karatay Array 20.72 294 *e*P **P 05 19 49.2 +0.1**
KKAR Karatay Array 20.72 294 *e*P **P 05 19 49.2 +0.1**
SNY Shenyang 21.04 70 ⇑P **P 05 19 54.3 +1.7**
SNY S **S 05 23 49.5 +3.2**
SNY pmax pmax
comp=Z,240nm,0.8s
SNY pmax pmax
comp=Z,1μm,6.0s
SNY LR LR
comp=Z,1μm,10.8s
SNY LR LR
comp=Z,2μm,9.6s
SNY LR LR
comp=Z,3μm,9.8s
SSE Sheshan 21.15 100 P **P 05 19 54.3 +0.5**
SSE S **S 05 23 51.0 +2.3**
SSE pmax pmax
comp=Z,94nm,1.0s
SSE pmax pmax
comp=Z,410nm,9.8s
SSE LR LR
comp=Z,840nm,10.7s
SSE LR LR
comp=Z,500nm,10.7s
SSE LR LR
comp=Z,960nm,10.2s
PBKT Sadao Pong 21.24 169 P **P 05 19 55.8 +1.0**
comp=Z,67nm,0.9s
QIZ Qiongzhong 21.72 145 P **P 05 20 00.8 +0.8**
QIZ pP **pP 05 20 03.8 -0.6**
QIZ sP **sP 05 20 05.1 -1.2**
QIZ S **S 05 24 02.8 +2.8**
QIZ sS **sS 05 24 07.4 +0.5**
QIZ pmax pmax
comp=Z,46nm,0.8s
QIZ pmax pmax
comp=Z,480nm,2.6s
QIZ LR LR
comp=Z,2μm,11.4s
QIZ LR LR
comp=Z,1μm,11.0s
QIZ LR LR
comp=Z,4μm,12.4s
QIZ Qiongzhong 21.72 145 *e*P **P 05 19 59.6 -0.4**
comp=Z,99nm,1.3s
QIZ LR LR
comp=Z,1μm,21.0s
BHPL Bhopal 21.89 235 *e*P **P 05 20 00.1 -1.7**
CHAI Chaiyaphum 22.07 166 P **P 05 20 04.1 +0.4**
comp=Z,19nm,0.9s,comp=Z,208nm
NGP Nagpur 22.42 228 *e*P **P 05 20 06.7 -0.8**
NGP *ex* x 05 24 11.8
QZH Quanzhou 22.45 118 P **P 05 20 05.6 -2.2**
QZH S **S 05 24 08.1 -5.6**
QZH LR LR
comp=Z,3μm,8.8s
QZH LR LR
comp=Z,3μm,9.0s
QZH LR LR
comp=Z,2μm,10.1s
CN2 Changchun 22.57 65 ⇑P **P 05 20 09.8 +0.8**
CN2 *ep*P **pP 05 20 14.1 +0.8**
CN2 *es*P **sP 05 20 16.8 +1.5**
CN2 *e*S **S 05 24 12.0 -3.8**
CN2 pmax pmax
comp=Z,110nm,0.9s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,2μm,11.0s
CN2 LR LR
comp=Z,2μm,11.0s
CN2 LR LR
comp=Z,1μm,10.0s
KBL Kabul 22.57 271 *e*P **P 05 20 09.4 +0.1**
KBL pmax pmax
comp=Z,55nm,0.9s
KBL Kabul 22.57 271 *e*P **P 05 20 09.4 +0.1**
comp=Z,55nm,0.9s
KHLT Khaolaem Dam 22.73 175 P **P 05 20 13.9 +3.1**
comp=Z,23nm,1.4s,comp=Z,354nm
INCN Inchon 23.66 81 *e*P **P 05 20 20.9 +0.8**
comp=Z,148nm,1.0s
BVA0 Borovoye Array 23.96 319 *i* P **P 05 20 23.0 +0.2**
BVA0 pmax pmax
comp=Z,103nm,1.1s
BVAR Borovoye Array 23.96 319 P **P 05 20 22.9 +0.1**
BVAR 05 24 05.0
BVAR S **S 05 24 43.4 +4.6**
BVAR pmax pmax
comp=Z,26nm,0.7s
BVAR MLR MLR
comp=Z,2μm,19.9s
BVAR Borovoye Array 23.96 319 P **P 05 20 22.9 +0.1**
BVAR PcP **PcP 05 24 05.0 +0.2**
BVAR S **S 05 24 43.4 +4.6**
BVAR Borovoye Array 23.96 319 P **P 05 20 22.9 +0.1**
comp=Z,26nm,0.7s,baz=118,slow=9.8,SNR=40
BVAR PcP **PcP 05 24 05.0 +0.2**
comp=Z,6.0nm,0.6s,baz=198,slow=0.4,SNR=9.8
BVAR S **S 05 24 43.4 +4.6**
comp=Z,0.4nm,0.4s,baz=233,slow=39,SNR=1.1
BVAR LR LR 05 30 19.4
BRVK Borovoye 24.03 319 ⇑*e*P **P 05 20 24.0 +0.5**
BRVK pmax pmax
comp=Z,156nm,2.5s
BRVK MLR MLR
comp=Z,2μm,17.0s
BRVK Borovoye 24.03 319 *e*P **P 05 20 23.8 +0.2**
comp=Z,90nm,0.9s
BRVK LR LR
comp=Z,4μm,19.0s
BRVK Borovoye 24.03 319 P **P 05 20 24.9 +1.4**
comp=Z,647nm,0.8s,SNR=21
DGPR DIGLIPUR 24.52 189 *e*P **P 05 20 29.3 +1.0**
DGPR AMB AMB 05 20 36.3
comp=Z,160nm,1.5s
YHNB Yeheng 24.60 114 *e*P **P 05 20 30.4 +1.3**
comp=Z,35nm,0.8s
KSAR Wonju Array Be 24.64 81 P **P 05 20 29.5 +0.2**
KSRS Korea Array 24.67 81 P **P 05 20 29.5 -0.1**
comp=Z,6.1nm,0.8s,baz=278,slow=8.5,SNR=4.5
KSRS LR LR 05 30 45.0
comp=Z,226nm,19.1s,baz=283,slow=38
PATY Pattaya 24.81 170 P **P 05 20 32.6 +1.7**
comp=Z,35nm,0.9s,comp=Z,1μm
SSLB Suanglung 24.84 117 *e*P **P 05 20 32.0 +0.7**
comp=Z,83nm,1.3s
NACB Ninganchiao 25.06 115 *e*P **P 05 20 34.5 +1.4**
comp=Z,98nm,0.9s
CHBT CHBT 25.20 167 P **P 05 20 36.0 +1.6**
comp=Z,104nm,1.3s
TWG Pinlang 25.54 118 *e*P **P 05 20 39.5 +2.0**
comp=Z,320nm,1.0s
MDJ Mudanjiang 25.61 64 P **P 05 20 38.1 +0.1**
MDJ pP **pP 05 20 41.5 -1.1**
MDJ sP **sP 05 20 42.8 -1.7**
MDJ PcP **PcP 05 24 08.8 +0.3**
MDJ S **S 05 25 06.4 +1.0**
MDJ ScP **ScP 05 27 48.0 +0.7**
MDJ PcS **PcS 05 27 49.6 +0.6**
MDJ ScS **ScS 05 31 39.3 +3.0**
MDJ pmax pmax
comp=Z,28nm,1.1s
MDJ pmax pmax
comp=Z,190nm,5.2s
MDJ LR LR
comp=Z,2μm,14.9s
MDJ LR LR
comp=Z,350nm,8.9s
MDJ LR LR
comp=Z,2μm,11.1s
MDJ Mudanjiang 25.61 64 *e*P **P 05 20 39.7 +1.7**
comp=Z,39nm,1.3s
HYB Hyderabad 25.67 224 *i* P **P 05 20 39.5 +0.8**
HYB Hyderabad 25.67 224 *e*P **P 05 20 38.9 +0.2**
CLNS Chul'man 26.84 35 *e*P **P 05 20 50.8 +1.8**
CLNS *e* 05 21 34.6
CLNS *e* 05 24 10.5
CLNS *e*S **S 05 25 22.3 -2.4**
CLNS pmax pmax
comp=E,13nm,1.2s
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax smax
comp=N,67nm,14.9s
CLNS smax smax
comp=E,353nm,13.0s
CLNS MLR MLR
comp=Z,2μm,11.0s
CLNS MLR MLR
comp=E,1μm,10.0s
CLNS MLR MLR
comp=N,825nm,11.0s
USRK Ussuriysk Arra 27.30 65 P **P 05 20 53.9 +0.6**
comp=N,8.3nm,1.0s,baz=256,slow=7.7,SNR=9.9
POO Poona 27.59 233 *e*P **P 05 20 55.0 -1.1**
KLR Kul'dur 27.73 54 *e*P **P 05 20 53.8 -3.2**
KLR pmax pmax
comp=Z,57nm,1.6s
KLR MLR MLR
comp=N,1μm,11.0s
KLR MLR MLR
comp=E,1μm,11.0s
KLR MLR MLR
comp=Z,3μm,11.0s
JNU Nakatsue 28.09 89 P **P 05 21 00.6 +0.1**
JNU Nakatsue 28.09 89 P **P 05 21 00.6 +0.1**
comp=Z,14nm,0.8s,baz=288,slow=9.6,SNR=3.1
JNU LR LR 05 32 27.3
comp=Z,499nm,18.3s,baz=293,slow=37
AB31 Akbulak array 28.90 306 P **P 05 21 06.2 -1.3**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 28.90 306 *e*P **P 05 21 07.8 +0.4**
comp=Z,8.5nm,1.0s
IMYA Miami 29.20 279 *e*P **P 05 21 09.2 -1.3**
ISRO Mashad 29.70 279 *e*P **P 05 21 12.6 -2.3**
HABR Khabarovsk 29.76 56 *e*P **P 05 21 14.8 -0.3**
HABR *e**PP **pP 05 21 17.9 -1.8**
HABR 05 24 17.4
HABR *e*SS SS 05 27 45.2 -32
HABR *e* 05 28 00.5
HABR *e* 05 31 54.5
HABR pmax pmax
comp=Z,60nm,1.8s
HABR MLR MLR
comp=Z,698nm,14.0s
IKRD Kardeh 30.34 280 *e*P P 05 21 14.4 -6.3
IDAH Dahanechah 30.41 272 *e*P **P 05 21 21.0 -0.3**
SVE Sverdlovsk 30.69 321 *e*P **P 05 21 23.6 +0.4**
SVE pmax pmax
comp=Z,47nm,1.4s
SVE MLR MLR
comp=Z,1μm,14.0s
IKOO Kooshah 31.20 272 *e*P **P 05 21 29.1 +0.8**
ITEG Tejag 31.25 273 *e*P **P 05 21 29.6 +1.0**
ARU Arti 31.60 319 P **P 05 21 31.5 +0.2**
comp=Z,293nm,0.9s,SNR=16
ARU Arti 31.60 319 *d* *i*P **P 05 21 31.3 0.0**
ARU 05 22 32.8
ARU 05 24 21.8
ARU S **S 05 26 43.3 +3.9**
ARU SS **SnSn 05 28 28.2 +3.1**
ARU pmax pmax
comp=Z,72nm,1.2s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 31.60 319 *e*P **P 05 21 31.4 +0.2**
comp=Z,56nm,1.0s
ARU LR LR
comp=Z,2μm,19.0s
YAK Yakutsk 31.81 29 *e*P **P 05 21 33.4 +0.4**
YAK *e**PP **pP 05 21 39.5 +1.8**
YAK *e*PPP PPP 05 22 46.8
YAK *e*S **S 05 26 40.0 -2.5**
YAK *e**SS **sS 05 26 52.6 +2.4**
YAK *e* 05 32 02.9
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax smax
comp=N,56nm,2.9s
YAK MLR MLR
comp=E,805nm,12.0s
YAK MLR MLR
comp=Z,1μm,11.0s
YAK MLR MLR
comp=N,665nm,11.0s
YAK Yakutsk 31.81 29 PFAKE 05 21 50.0 +17
YAK LR LR
comp=Z,629nm,22.0s
KULM Kulim 32.32 173 *e*P **P 05 21 38.1 +0.2**
comp=Z,25nm,0.8s
MAJO Matsushiro 32.91 79 *e*P **P 05 21 41.4 -1.6**
MAJO pmax pmax
comp=Z,220nm,2.2s
MAJO Matsushiro 32.91 79 *e*P **P 05 21 41.4 -1.6**
comp=Z,220nm,2.2s
MAT Matsushiro 32.91 79 P **P 05 21 42.1 -0.9**
MAT *e*S **S 05 27 01.6 +1.3**
MJAR Matsushiro Arr 32.91 79 P **P 05 21 41.9 -1.1**
MJAR PcP **PcP 05 24 26.1 -1.1**
MJAR Matsushiro Arr 32.91 79 P **P 05 21 41.9 -1.1**
comp=Z,10.0nm,0.8s,baz=286,slow=9.4,SNR=15
MJAR PcP **PcP 05 24 26.1 -1.1**
comp=Z,1.1nm,0.7s,baz=310,slow=1.8,SNR=5.3
MJAR LR LR 05 34 29.1
comp=Z,218nm,19.5s,baz=270,slow=35
IPM Ipoh 33.16 172 P **P 05 21 45.1 -0.1**
IPM Ipoh 33.16 172 *e*P **P 05 21 45.0 -0.3**
comp=Z,35nm,1.0s
IANJ Anjilo 34.28 280 *e*P **P 05 21 56.2 +1.0**
FRIM Kepong 34.45 171 P **P 05 21 57.3 +0.9**
PSI Prapat 34.65 176 P **P 05 21 58.4 +0.1**
PSI PcP **PcP 05 24 32.0 -0.5**
PSI Prapat 34.65 176 P **P 05 21 58.4 +0.1**
comp=Z,7.3nm,0.8s,baz=34,slow=7.6,SNR=3.2
PSI PcP **PcP 05 24 32.0 -0.5**
comp=Z,6.5nm,0.6s,baz=300,slow=4.9,SNR=4.1
YSS Yuzh-Sakhalins 34.88 60 *e*P **P 05 22 00.0 +0.1**
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,600nm,12.0s
YSS MLR MLR
comp=E,1μm,13.0s
ICHK Chekchek 34.91 274 *e*P **P 05 22 01.4 +0.7**
ASAJ Asahikawa 34.93 64 *e*P **P 05 22 01.8 +1.4**
comp=E,68nm,1.8s
ASAJ Asahikawa 34.93 64 P **P 05 22 01.9 +1.4**
comp=E,17nm,0.8s,baz=253,slow=16,SNR=6.6
ASAJ LR LR 05 35 11.2
comp=E,308nm,18.7s,baz=170,slow=34
ISAD Sadrabad 35.60 274 *e*P **P 05 22 08.0 +1.3**

IDMV Damavand 35.72 281 *e*P **P** 05 22 09.2 +1.5
KGM Kluang 35.88 169 P **P** 05 22 10.2 +1.3
IZEF Zefreh 36.33 276 *e*P **P** 05 22 13.1 +0.2
IKLH Kolahrood 36.78 277 *e*P P 05 22 10.7 -6.0
SDKM Sandakan 36.84 145 P **P** 05 22 17.2 +0.2
IR5 Iran Long-Peri 36.96 281 *e*P **P** 05 22 18.3 +0.2
YUK Yuzh-Kuril'sk 37.28 64 *e*P P 05 22 34.3 +14
YUK MLR MLR
comp=N,766nm,22.0s
YUK MLR MLR
comp=Z,2µm,22.0s
BTM Bintulu 37.33 152 P **P** 05 22 24.0 +2.8
MAK Makhachkala 37.53 294 *e*P P 05 22 26.0 +3.3
MAK MLR MLR
comp=Z,868nm,13.0s
SBUM Sibu 37.72 154 P **P** 05 22 26.7 +2.2
SBUM Sibu 37.72 154 *e*P **P** 05 22 26.3 +1.8
TIXI Tiksi 37.91 16 *e*P **P** 05 22 25.6 +0.1
TIXI Tiksi 37.91 16 *e*P **P** 05 22 25.6 +0.1
TIXI LR LR
comp=Z,176nm,20.0s
DGRG David-gareji 39.36 292 P **P** 05 22 39.6 +1.4
PRGR Permogore 39.51 324 *e*P **P** 05 22 38.4 -0.6
PRGR 05 24 09.6
PRGR 05 24 44.8
PRGR pmax pmax
comp=Z,29nm,0.8s
DUS Dusheti 39.73 293 P **P** 05 22 43.3 +2.1
TBLG Delisi 39.77 293 P **P** 05 22 40.5 -1.1
GUDG Gudauri 39.82 294 P **P** 05 22 44.6 +2.5
DAV Davao City (W) 40.07 132 PFAKE 05 23 00.0 +16
DAV LR LR
comp=Z,597nm,20.0s
GNI Garni 40.11 290 *e*P **P** 05 22 42.9 -1.7
comp=Z,26nm,1.0s
GNI LR LR
comp=Z,307nm,20.0s
GNI Garni 40.11 290 P **P** 05 22 45.2 +0.6
comp=Z,7.4nm,0.8s,baz=236,slow=15,SNR=3.5
ZEI Tsey 40.17 295 *e*P **P** 05 22 44.7 -0.4
ZEI pmax pmax
comp=Z,17nm,1.4s
GOF Gofitskoye 40.40 298 *e*P **P** 05 22 47.9 +1.2
ONI Oni 40.53 294 P **P** 05 22 49.3 +1.4
KBZ Khabaz 40.72 296 P **P** 05 22 49.8 +0.5
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ MLR MLR
comp=Z,594nm,19.2s
KBZ Khabaz 40.72 296 P **P** 05 22 49.8 +0.5
KBZ Khabaz 40.72 296 P **P** 05 22 49.8 +0.5
comp=Z,5.6nm,0.8s,baz=71,slow=4.0,SNR=6.4
KBZ LR LR 05 41 56.5
comp=Z,594nm,19.2s,baz=294,slow=40
VRHR Novokhopersk 40.74 308 *e*P **P** 05 22 47.6 -1.8
VRHR pmax pmax
comp=E,40nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.7s
AKH Akhalkalaki 40.75 293 P **P** 05 22 52.0 +2.2
KIV Kislovodsk 40.83 297 *e*P **P** 05 22 51.8 +1.4
KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,551nm,15.0s
KIV Kislovodsk 40.83 297 PFAKE 05 23 00.0 +10
KIV LR LR
comp=Z,690nm,21.0s
UMR Umm Al-Rimmam 41.25 274 *e*P **P** 05 22 54.5 +0.7
UMR AMb AMB 05 22 55.1
comp=Z,92nm,0.7s
KBD Kabd 41.43 273 *e*P **P** 05 22 56.0 +0.7
KBD AMb AMB 05 23 00.5
comp=Z,39nm,1.5s
RDF Al-Radifah 41.65 273 *e*P **P** 05 22 58.2 +1.1
RDF AMb AMB 05 23 04.3
comp=Z,71nm,1.4s
SEY Seymchan 41.84 34 P **P** 05 22 59.1 +0.8
SEY 05 24 54.3
SEY pmax pmax
comp=Z,8.0nm,1.0s
SEY Seymchan 41.84 34 P **P** 05 22 59.1 +0.8
SEY PcP **PcP** 05 24 54.3 +0.4
SEY Seymchan 41.84 34 P **P** 05 22 59.1 +0.8
comp=Z,7.9nm,1.0s,baz=253,slow=15,SNR=5.6
SEY PcP **PcP** 05 24 54.3 +0.4
comp=Z,12nm,1.0s,baz=267,slow=23,SNR=6.8
RST Umm Al-Ruwaisa 41.84 274 *e*P **P** 05 22 59.2 +0.5
RST AMb AMB 05 23 00.3
comp=Z,1µm,0.8s
VORD Divnogorie 42.22 308 *e*P **P** 05 23 00.1 -1.4
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=E,50nm,1.0s
VSR Storozhevoye 42.28 308 *e*P **P** 05 23 01.2 -0.8
VSR pmax pmax
comp=Z,40nm,0.8s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,80nm,1.1s
MOS Moscow 43.01 315 *e*P P 05 23 03.7 -4.2
MOS *e* 05 23 07.3
MOS *e* 05 24 53.2
MOS pmax pmax
comp=Z,45nm,0.8s
MOS MLR MLR
comp=Z,1µm,18.0s
TMCR Tamitsa 43.41 327 *e*P **P** 05 23 11.4 +0.4
TMCR *e* 05 24 54.9
TMCR *e* 05 24 55.0
TMCR pmax pmax
comp=Z,66nm,1.3s
OBN Obninsk 43.63 314 ||*i*P **P** 05 23 13.1 +0.3
OBN *e* 05 24 56.0
OBN *e*S **S** 05 29 42.2 +0.6
OBN *e*SS **ScS** 05 33 08.9 -2.6
OBN pmax pmax
comp=Z,84nm,1.2s
OBN MLR MLR
comp=Z,2µm,20.0s
OBN Obninsk 43.63 314 *e*P **P** 05 23 13.2 +0.4
OBN LR LR
comp=Z,2µm,19.0s
GUMT Gumushane 43.93 292 *e*P **P** 05 23 16.7 +1.0
PETK Petropavlovsk- 44.20 49 P **P** 05 23 18.4 +0.9
PETK 05 25 01.3
PETK pmax pmax
comp=Z,8.0nm,1.0s
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK MLR MLR
comp=Z,209nm,20.5s
PETK Petropavlovsk- 44.20 49 P **P** 05 23 18.4 +0.9
PETK PcP **PcP** 05 25 01.3 -0.7
PETK Petropavlovsk- 44.20 49 P **P** 05 23 18.4 +0.9
comp=Z,8.3nm,0.9s,baz=229,slow=4.3,SNR=5.4
PETK PcP **PcP** 05 25 01.3 -0.7
comp=Z,3.9nm,0.7s,baz=152,slow=1.8,SNR=5.3
PETK LR LR 05 42 05.6
comp=Z,209nm,20.5s,baz=271,slow=37
MALT Malatya 45.33 290 *e*P **P** 05 23 27.4 +0.6
LVZ Lovozero 45.37 332 *i*P **P** 05 23 26.3 -0.4
LVZ pmax pmax
comp=Z,149nm,2.8s
LVZ MLR MLR
comp=Z,859nm,15.0s
APA Apatity 45.79 331 ⇑*i*P **P** 05 23 31.0 +1.1
APA *i*S **S** 05 30 14.0 +1.3
APA *i* 05 33 24.0
APA MLR MLR
comp=Z,1µm,11.0s
SVSK Karacayir 45.91 292 *e*P **P** 05 23 30.8 -0.5
DARE Darende-Malaty 45.95 290 *e*P **P** 05 23 30.8 -1.0
JOF Joensuu 46.30 325 *e*P **P** 05 23 33.3 -0.7
JOF Joensuu 46.30 325 *e*p **P** 05 23 33.3 -0.7
SIM Simferopol' 46.63 300 *e*P **P** 05 23 37.6 +0.7
SIM pmax pmax
comp=Z,36nm,0.7s
BNN Bunyan 47.08 291 *e*P **P** 05 23 39.5 -1.2

KAPI Kappang 47.46 148 *e*P **P** 05 23 43.8 +0.1
KAPI LR LR
comp=Z,249nm,19.0s
KOZT Kozan 47.55 290 *e*P **P** 05 23 44.7 +0.5
TAHT Tahtakopru-Hat 47.66 288 *e*P **P** 05 23 44.8 -0.2
ARNB Al Arnab 48.00 287 *e*P **P** 05 23 48.1 +0.3
BIDA Albida 48.04 286 *e*P **P** 05 23 47.9 -0.2
MARH Ras Al Marh 48.29 285 *e*P **P** 05 23 52.3 +2.0
BR131 Keskin Array S 48.43 293 *e*P **P** 05 23 51.7 +0.5
comp=Z,14nm,0.6s
BRTR Keskin Array B 48.43 293 P **P** 05 23 51.6 +0.4
BRTR PcP **PcP** 05 25 17.7 +0.4
BRTR Keskin Array B 48.43 293 P **P** 05 23 51.6 +0.4
comp=Z,19nm,0.7s,baz=95,slow=7.5,SNR=94
BRTR PcP **PcP** 05 25 17.7 +0.4
comp=Z,1.5nm,0.7s,baz=108,slow=5.8,SNR=2.2
AKASG Malin Array Be 48.58 308 P **P** 05 23 51.4 -0.5
AKASG 05 25 17.1
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG MLR MLR
comp=Z,317nm,19.8s
AKASG Malin Array Be 48.58 308 P **P** 05 23 51.4 -0.5
AKASG PcP **PcP** 05 25 17.1 -0.3
AKASG Malin Array Be 48.58 308 P **P** 05 23 51.4 -0.5
comp=Z,5.8nm,0.5s,baz=68,slow=7.3,SNR=37
AKASG PcP **PcP** 05 25 17.1 -0.3
comp=Z,3.2nm,0.7s,baz=65,slow=4.2,SNR=5.5
AKASG LR LR 05 45 48.5
comp=Z,317nm,19.8s,baz=65,slow=38
AKBB Malin Array Si 48.58 308 *e*P **P** 05 23 52.0 +0.1
AKBB Malin Array Si 48.58 308 *e*P **P** 05 23 52.0 +0.1
AK01 Malin Array Si 48.59 308 *e*P **P** 05 23 51.6 -0.4
KIEV Kiev 48.59 308 *d*P **P** 05 23 52.0 0.0
KIEV Kiev 48.59 308 *e*P **P** 05 23 52.1 +0.1
comp=Z,36nm,1.2s
KIEV LR LR
comp=Z,383nm,20.0s
AK02 Malin Array Si 48.60 308 *e*P **P** 05 23 52.0 -0.1
SALA Sala 48.60 283 *e*P **P** 05 23 54.6 +2.0
KAF Kangasniemi 48.64 324 *e*P **P** 05 23 50.6 -1.6
KAF pmax pmax
comp=Z,11nm,0.9s
KAF Kangasniemi 48.64 324 *e*p **P** 05 23 50.6 -1.6
comp=Z,11nm,0.9s
SAFT Safranbolu 48.65 295 *e*P **P** 05 23 53.0 +0.4
ASF Jabal al Asfar 48.69 283 P **P** 05 23 54.8 +1.6
ASF Jabal al Asfar 48.69 283 P **P** 05 23 54.8 +1.6
comp=Z,14nm,0.8s,baz=26,slow=4.4,SNR=19
MERS Mersin 48.73 289 *e*P **P** 05 23 54.0 +0.6
VSU Vasula 48.77 319⇑*e*P **P** 05 23 53.4 +0.2
VSU pmax pmax
comp=Z,115nm,1.3s
VSU MLR MLR
comp=Z,2µm,15.0s
FINES FINESS Array B 48.80 323 P **P** 05 23 53.7 +0.2
FINES PcP **PcP** 05 25 18.0 0.0
FINES FINESS Array B 48.80 323 P **P** 05 23 53.7 +0.2
comp=Z,14nm,0.7s,baz=91,slow=8.6,SNR=27
FINES PcP **PcP** 05 25 18.0 0.0
comp=Z,3.3nm,0.6s,baz=89,slow=5.5,SNR=5.5
FINES LR LR 05 45 49.3
comp=Z,439nm,20.2s,baz=247,slow=38
ARCES ARCESS Array B 48.85 334 P **P** 05 23 54.4 +0.6
ARCES PcP **PcP** 05 25 18.6 +0.4
ARCES ARCESS Array B 48.85 334 P **P** 05 23 54.4 +0.6
comp=Z,3.4nm,0.4s,baz=78,slow=8.0,SNR=43
ARCES PcP **PcP** 05 25 18.6 +0.4
comp=Z,5.6nm,0.5s,baz=94,slow=3.6,SNR=15
ARCES LR LR 05 44 20.5
comp=Z,349nm,20.3s,baz=99,slow=36
ARE0 ARCESS Array S 48.85 334 *e*P **P** 05 23 54.1 +0.4
ANTO Ankara 49.00 294 *e*P **P** 05 23 56.6 +1.1
ANTO pmax pmax
comp=Z,97nm,1.7s
ANTO MLR MLR
comp=Z,318nm,19.0s
ANTO Ankara 49.00 294 ||*i*P **P** 05 23 56.5 +1.1
ANTO Ankara 49.00 294 *e*P **P** 05 23 56.6 +1.1
comp=Z,97nm,1.7s
ANTO LR LR
comp=Z,318nm,19.0s
NACGM Naroch 49.25 314 *e* **P** 05 23 54.0 -3.0
LADK Ladik-KONYA 49.87 292 *e*P **P** 05 24 01.1 -1.0
MDUB Mudurnu 49.96 295 *e*P **P** 05 24 02.9 +0.1
KIZT Kizilcal 50.00 293 *e*P **P** 05 24 02.8 -0.3
SVRH Sivrihisar-ESK 50.06 294 *e*P **P** 05 24 03.2 -0.4
CSS Prodhromos 50.34 287 PFAKE 05 24 20.0 +14
CSS LR LR
comp=Z,67nm,20.0s
GULT Gulveren 50.46 295 *e*P **P** 05 24 06.0 -0.6
CFR Carcaliu 50.65 302⇑*i*P **P** 05 24 08.1 +0.3
TIRR Tirgusor 50.67 301⇑*i*P **P** 05 24 08.5 +0.5
HARR Harsova 50.93 301⇑*i*P **P** 05 24 11.0 +1.1
SHUT Suhut-Afyon 51.08 293 *e*P **P** 05 24 10.2 -1.1
TESR Tescani 51.26 304⇑*i*P **P** 05 24 12.9 +0.5
VRI Vrincioaia 51.40 303⇑*i*P **P** 05 24 14.1 +0.7
PLOR Plostina 51.45 303⇑*i*P **P** 05 24 15.4 +1.5
SUW Suwalki 51.49 314 *e*P **P** 05 24 13.5 -0.5
SUW pmax pmax
comp=Z,61nm,1.0s
SUW Suwalki 51.49 314 *e*P **P** 05 24 13.5 -0.5
comp=Z,61nm,1.0s
ISR Istrita 51.74 302⇑*i*P **P** 05 24 17.5 +1.4
BURAR Bucovina Array 51.88 305⇑*i*P **P** 05 24 18.0 +0.8
BUR08 Bucovina Ar. S 51.89 305 *e*P **P** 05 24 17.7 +0.5
LVV L'vov 52.02 308 *i*P **P** 05 24 18.0 0.0
LVV MLR MLR
comp=Z,250nm,20.0s
LVV MLR MLR
comp=N,250nm,19.0s
LVV MLR MLR
comp=E,200nm,19.0s
MLR Muntele Rosu 52.03 303⇑*i*P **P** 05 24 19.4 +1.1
DOPR Dopca 52.26 303||*i*P **P** 05 24 21.1 +1.2
KBS Kingsbay 52.45 346 PFAKE 05 24 30.0 +9.2
KBS LR LR
comp=Z,1µm,19.0s
JMB Yambol 52.57 299||*i*P **P** 05 24 24.0 +1.8
VOIR 52.65 303⇑*i*P **P** 05 24 23.2 +0.3
KWP Kalwaria Pacla 52.90 308 *e*P **P** 05 24 25.7 +1.2
KWP Kalwaria Pacla 52.90 308 *e*P **P** 05 24 25.6 +1.0
KWP Kalwaria Pacla 52.90 308 *e*P **P** 05 24 25.8 +1.2
comp=Z,83nm,0.8s
ARR Arges 52.95 303⇑*i*P **P** 05 24 25.4 +0.3
KOLS Kolonicke sedl 53.38 308 *e*P **P** 05 24 28.1 0.0
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 53.38 308 *e*P **P** 05 24 28.1 0.0
FX1 Attu Island--F 53.42 47 *e*P **P** 05 24 28.5 +0.2
FX1 Attu Island--F 53.42 47 P **P** 05 24 27.9 -0.4
comp=Z,25nm,0.7s,baz=278,slow=8.9,SNR=5.3
BEL Belsk 53.44 311 *e*P **P** 05 24 29.6 +1.1
BEL Belsk 53.44 311 *e*P **P** 05 24 29.5 +1.1
TRPA Tarpa 53.45 307⇑*i*P **P** 05 24 29.3 +0.7
LOT Lotru 53.50 303⇑*i*P **P** 05 24 30.2 +1.0
KDZ Kurdzhali 53.67 298⇑*i*P **P** 05 24 31.1 +0.8
DRGR 53.76 305⇑*i*P **P** 05 24 31.7 +0.7
STHS Stebnicka Huta 53.88 308 *e*P **P** 05 24 32.1 +0.4
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 53.88 308 *e*P **P** 05 24 32.1 +0.4
CRVS Cervenica-Dubn 53.90 308 *e*P **P** 05 24 31.6 -0.3
CRVS pmax pmax
comp=Z,6.0nm,1.1s
CRVS Cervenica-Dubn 53.90 308 *e*P **P** 05 24 31.6 -0.3
GZR Gura Zlata 54.18 303||*i*P **P** 05 24 34.9 +0.8
OJC Ojcow 54.52 310 *e*P **P** 05 24 36.9 +0.5
OJC Ojcow 54.52 310 *e*P **P** 05 24 36.9 +0.5
VTS Vitosha 54.86 300⇑*i*P **P** 05 24 39.8 +0.6
BZS Buzias 54.87 304⇑*i*P **P** 05 24 39.2 +0.2
MMB Musomiste 54.87 299||*i*P **P** 05 24 39.7 +0.6
PSZ Piszkesteto 55.20 307 *e*P **P** 05 24 42.1 +0.6
PSZ pmax pmax
comp=Z,20nm,1.2s
PSZ Piszkesteto 55.20 307⇑*i*P **P** 05 24 42.6 +1.1
PSZ Piszkesteto 55.20 307 *e*P **P** 05 24 42.1 +0.6
comp=Z,20nm,1.2s
OKC Ostrava-Krasne 55.65 310 *e*P **P** 05 24 45.0 +0.4
OKC *e* 05 24 47.9
OKC MLR MLR
comp=Z,700nm,17.5s
OKC Ostrava-Krasne 55.65 310 *e*P **P** 05 24 45.0 +0.4
OKC *e*pP **pP** 05 24 47.9 -1.5

OKC AMS AMS 05 49 30.0
comp=Z,700nm,17.5s
NB2 NORSAR Subarra 55.92 324 P **P** 05 24 46.0 -0.4
comp=Z,18nm,0.9s,baz=72,slow=7.4
NOA NORSAR Array B 55.92 324 P **P** 05 24 46.0 -0.4
NOA NORSAR Array B 55.92 324 P **P** 05 24 46.0 -0.4
comp=Z,8.2nm,0.7s,baz=72,slow=7.0,SNR=26
NOA LR LR 05 49 59.4
comp=Z,343nm,19.6s,baz=70,slow=37
MORC Moravsky Berou 56.04 310 *e*P **P** 05 24 47.9 +0.5
MORC pmax pmax
comp=Z,21nm,1.1s
MORC Moravsky Berou 56.04 310 *e*P **P** 05 24 47.9 +0.5
comp=Z,21nm,1.1s
PKSG 56.34 307||*e*P **P** 05 24 50.3 +0.8
KRLC Kraliky 56.40 310 *e*P **P** 05 24 50.5 +0.5
KRLC *e* 05 24 53.9
KRLC Kraliky 56.40 310 *e*P **P** 05 24 50.5 +0.5
KRLC *e*pP **pP** 05 24 53.9 -1.0
KSP Ksiaz 56.43 311 *e*P **P** 05 24 50.7 +0.5
KSP MLR MLR
comp=Z,4µm,17.2s
KSP Ksiaz 56.43 311 *e*P **P** 05 24 51.2 +1.0
DPC Dobruska-Polom 56.58 311 *e*P **P** 05 24 52.3 +1.0
DPC *e* 05 24 56.1
DPC Dobruska-Polom 56.58 311 *e*P **P** 05 24 52.3 +1.0
DPC *e*pP **pP** 05 24 56.1 -0.1
DPC AMS AMS 05 50 10.0
DPC Dobruska-Polom 56.58 311 *e*P **P** 05 24 52.0 +0.7
PKSM Moragy 56.60 306⇑*i*P **P** 05 24 51.7 +0.3
PKSM Moragy 56.60 306||*e*P **P** 05 24 52.0 +0.6
UPC Upice 56.72 311 *e*P **P** 05 24 52.8 +0.6
UPC *e* 05 24 56.4
UPC Upice 56.72 311 *e*P **P** 05 24 52.8 +0.6
UPC *e*pP **pP** 05 24 56.4 -0.7
VRAC Vranov 56.78 310⇑*i*P **P** 05 24 53.7 +1.0
RUE Ruedersdorf 57.34 314 *e*P **P** 05 24 57.1 +0.6
comp=Z,18nm,0.6s
TREC Trest 57.46 310 *e*P **P** 05 24 58.8 +1.3
TREC *e* 05 25 01.7
TREC Trest 57.46 310 *e*P **P** 05 24 58.8 +1.3
TREC *e*pP **pP** 05 25 01.7 -0.7
TREC AMS AMS 05 50 40.0
PVCC Panska Ves 57.57 311 *e*P **P** 05 24 58.8 +0.6
PVCC *e* 05 25 01.7
PVCC MLR MLR
comp=Z,1µm,16.7s
PVCC Panska Ves 57.57 311 *e*P **P** 05 24 58.8 +0.6
PVCC *e*pP **pP** 05 25 01.7 -1.4
PVCC AMS AMS 05 50 40.0
comp=Z,1µm,16.7s
CONA Conrad Observa 57.73 308⇑*i*P **P** 05 24 59.5 0.0
comp=Z,27nm,1.5s,SNR=5.3
PRU Pruhonice 57.78 311 *e*P **P** 05 25 00.5 +0.8
PRU *e* 05 25 03.8
PRU MLR MLR
comp=Z,1µm,18.3s
PRU Pruhonice 57.78 311 *e*P **P** 05 25 00.5 +0.8
PRU *e*pP **pP** 05 25 03.8 -0.8
PRU AMS AMS 05 50 50.0
comp=Z,1µm,18.3s
BRG Berggiesshubel 57.82 312 *i*P **P** 05 25 00.3 +0.4
comp=Z,17nm,1.0s
BRG Berggiesshubel 57.82 312 *i*P **P** 05 25 00.3 +0.4
BRG pmax pmax
comp=Z,17nm,1.0s
BRG Berggiesshubel 57.82 312 *e*P **P** 05 25 00.4 +0.4
comp=Z,17nm,1.0s
BRG *e*pP **pP** 05 25 03.8 -1.0
PRA Prague 57.82 311 P **P** 05 25 01.0 +1.1
ARSA Arzberg 58.20 308⇑*i*P **P** 05 25 02.0 -0.7
comp=Z,7.5nm,0.7s,SNR=5.6
CLL Collm 58.21 313 *e*P **P** 05 25 03.0 +0.3
CLL *i* 05 25 06.3
CLL pmax pmax
comp=Z,14nm,0.9s
CLL MLR MLR
comp=Z,900nm,18.8s
CLL Collm 58.21 313 *e*P **P** 05 25 02.8 +0.1
comp=Z,14nm,0.9s
CLL Collm 58.21 313 *e*P **P** 05 25 03.0 +0.3
comp=Z,14nm,0.9s
CLL *i*pP **pP** 05 25 06.3 -1.2
CLL Lm MLR 05 51 00.0
comp=Z,900nm,18.8s
TNA Tin City 58.58 29 *e*P **P** 05 25 05.6 +0.6
comp=Z,36nm,1.4s
GOLS Golise 58.62 306 *i*P **P** 05 25 06.3 +0.6
KHC Kasperske Hory 58.69 310 *e*P **P** 05 25 06.7 +0.6
KHC MLR MLR
comp=Z,1µm,15.0s
KHC Kasperske Hory 58.69 310 *e*P **P** 05 25 06.7 +0.6
KHC AMS AMS 05 51 20.0
comp=Z,1µm,15.0s
KHC Kasperske Hory 58.69 310 *e*P **P** 05 25 06.9 +0.8
comp=Z,32nm,1.8s
PERS Pernice 58.70 307 *e*P **P** 05 25 06.4 +0.1
GEC2 GERESS Array S 58.72 310 *e*P **P** 05 25 06.8 +0.4
GEC2 GERESS Array S 58.72 310 *e*P **P** 05 25 06.8 +0.4
GERES GERESS Array B 58.72 310 P **P** 05 25 06.8 +0.4
GERES GERESS Array B 58.72 310 P **P** 05 25 06.8 +0.4
comp=Z,3.8nm,0.7s,baz=69,slow=7.3,SNR=26
GERES LR LR 05 51 11.6
comp=Z,698nm,18.4s,baz=255,slow=37
SOKA Soboth 58.73 307⇑||*pP **P** 05 25 06.8 +0.3
comp=Z,14nm,0.7s,SNR=8.8
MOA Molln 58.76 309⇑*i*P **P** 05 25 05.9 -0.7
comp=Z,19nm,1.3s
TANN Tannenbergstha 58.86 312 *e*P **P** 05 25 07.9 +0.6
comp=Z,12nm,1.1s
TANN *e*pP **pP** 05 25 11.1 -1.1
NKC Novy Kostel 58.94 312 *e*P **P** 05 25 08.9 +1.1
NKC *e* 05 25 12.1
NKC Novy Kostel 58.94 312 *e*P **P** 05 25 08.9 +1.1
NKC *e*pP **pP** 05 25 12.1 -0.6
NKC AMS AMS 05 51 40.0
WERD Werda 58.94 312 *e*P **P** 05 25 08.3 +0.5
comp=Z,12nm,1.1s
WERD *e*pP **pP** 05 25 11.7 -1.0
GUNZ Gunzen 58.96 312 *e*P **P** 05 25 08.3 +0.3
comp=Z,21nm,1.1s
GUNZ *e*pP **pP** 05 25 11.9 -1.0
NEUB Neuenburg 58.96 313 *e*P **P** 05 25 08.3 +0.4
comp=Z,40nm,1.4s
NEUB *e*pP **pP** 05 25 11.8 -1.0
WERN Wernitzgruen 58.96 312 *e*P **P** 05 25 08.6 +0.6
comp=Z,44nm,1.6s
PLN Plauen 59.02 312 *e*P **P** 05 25 08.8 +0.5
comp=Z,62nm,1.2s
WET Wettzell 59.10 310 *e*P **P** 05 25 10.3 +1.3
comp=Z,14nm,1.1s
MANZ Manzenberg 59.24 312 *e*P **P** 05 25 10.6 +0.7
comp=Z,6.0nm,0.9s
MANZ *e*pP **pP** 05 25 13.9 -0.9
ROTZ Rotzenmuhle 59.26 311 *e*P **P** 05 25 11.0 +0.9
comp=Z,25nm,1.1s
CLZ Clausthal 59.52 314 *e*P **P** 05 25 12.6 +0.7
comp=Z,24nm,1.0s
KBA Koelnbreinsper 59.64 308⇑*i*pP **P** 05 25 13.5 +0.6
comp=Z,5.3nm,0.6s
RJOB Jochberg 59.71 309 *e*pP pP 05 25 17.5 -0.7
GRF Grafenberg Arr 59.88 312 *e*P **P** 05 25 15.3 +1.0
comp=Z,34nm,1.0s
GRF *e*L L 05 51 47.4
comp=Z,881nm,19.6s
ABTA Abfaltersbach 60.29 308⇑*i*P **P** 05 25 16.6 -0.7
comp=Z,9.7nm,0.9s
FUR Furstenfeldbru 60.47 310 *e*P **P** 05 25 19.5 +1.1
comp=Z,28nm,0.9s
FUR *e*pP **pP** 05 25 22.9 -0.4
WTTA Wattenberg 60.62 309⇑*i*pP **P** 05 25 19.9 +0.2
comp=Z,20nm,0.7s,SNR=7.7
WATA Walderalm 60.63 309||*i*pP **P** 05 25 20.0 +0.3
comp=Z,9.5nm,0.7s
TIP Timpagrande 60.71 299 PFAKE 05 25 30.0 +10
TIP LR LR
comp=Z,139nm,19.0s
MOTA Moosalm 60.92 309⇑*i*P **P** 05 25 21.7 +0.1
comp=Z,13nm,0.7s,SNR=10
CUC Castrocucco 61.00 300 *e*P **P** 05 25 23.4 +1.2
comp=Z,19nm,0.8s
CUC LR LR
comp=Z,250nm,19.0s
FETA Feichten 61.29 309⇑*i*P **P** 05 25 24.0 -0.2
comp=Z,11nm,0.8s,SNR=5.7

STU Stuttgart 61.47 311 *e*P **P** 05 25 25.5 +0.3
comp=Z,17nm,0.9s
FITZ Fitzroy Crossi 61.68 149 LR LR 05 54 06.8
comp=Z,117nm,18.9s,baz=338,slow=38
BFO Black Forest 62.18 311 *e*P **P** 05 25 30.0 0.0
BFO pmax pmax
comp=Z,27nm,1.4s
BFO MLR MLR
comp=Z,812nm,21.0s
BFO Black Forest 62.18 311 *e*P **P** 05 25 30.1 0.0
comp=Z,24nm,1.5s
BFO *e*pP **pP** 05 25 33.6 -1.3
BFO Black Forest 62.18 311 *e*P **P** 05 25 30.0 0.0
comp=Z,27nm,1.4s
BFO LR LR
comp=Z,812nm,21.0s
TUE Stuetta 62.38 309 *e*P **P** 05 25 31.8 +0.2
comp=Z,14nm,0.8s
MEM Membach 62.53 314 P **P** 05 25 33.4 +1.2
comp=Z,7.1nm,1.3s
VLC Villacollemand 62.76 306 PFAKE 05 25 50.0 +16
VLC LR LR
comp=Z,620nm,22.0s
CDF Champ du Feu 62.77 311 *e*P **P** 05 25 33.9 -0.1
comp=Z,29nm,1.1s
CDF Champ du Feu 62.77 311 *e*P **P** 05 25 33.9 -0.1
CDF pmax pmax
comp=Z,29nm,1.1s
CDF Champ du Feu 62.77 311 *e*P **P** 05 25 33.9 -0.1
comp=Z,29nm,1.1s
WLF Walferdange 62.87 313 P **P** 05 25 35.8 +1.3
comp=Z,28nm,1.6s
WLF Walferdange 62.87 313 *e*P **P** 05 25 35.5 +1.0
WLF pmax pmax
comp=Z,41nm,1.2s
WLF Walferdange 62.87 313 *e*P **P** 05 25 35.6 +1.0
comp=Z,40nm,1.1s
WLF Walferdange 62.87 313 *e*P **P** 05 25 35.5 +1.0
comp=Z,41nm,1.2s
ECH Echery 62.93 311 PFAKE 05 25 50.0 +15
ECH LR LR
comp=Z,420nm,19.0s
BCLA Clavier 63.02 314 P **P** 05 25 36.2 +0.7
HINF Hinteralfeld 63.30 311 *e*P **P** 05 25 37.2 -0.3
comp=Z,25nm,1.0s
HINF Hinteralfeld 63.30 311 *e*P **P** 05 25 37.2 -0.3
HINF pmax pmax
comp=Z,25nm,1.0s
HINF Hinteralfeld 63.30 311 *e*P **P** 05 25 37.2 -0.3
comp=Z,25nm,1.0s
GIVF Givet 63.44 314 *e*P **P** 05 25 38.7 +0.4
comp=Z,32nm,0.9s
GIVF Givet 63.44 314 *e*P **P** 05 25 38.7 +0.4
GIVF pmax pmax
comp=Z,32nm,0.9s
GIVF Givet 63.44 314 *e*P **P** 05 25 38.7 +0.4
comp=Z,32nm,0.9s
HAU Haudompre 63.51 311 *e*P **P** 05 25 38.7 -0.2
comp=Z,23nm,1.0s
HAU *e*R
comp=Z,793nm,20.9s
HAU Haudompre 63.51 311 *e*P **P** 05 25 38.7 -0.2
HAU pmax pmax
comp=Z,23nm,1.0s
HAU Haudompre 63.51 311 *e*P **P** 05 25 38.7 -0.2
comp=Z,23nm,1.0s
DOU Dourbes 63.57 314 P **P** 05 25 40.0 +0.8
PAGF Fort de Pagny 63.63 312 *e*P **P** 05 25 40.1 +0.5
comp=Z,25nm,1.3s
PAGF Fort de Pagny 63.63 312 *e*P **P** 05 25 40.1 +0.5
comp=Z,25nm,1.3s
SCO Scoresbysund 63.68 341 *i* P **P** 05 25 40.3 +0.8
SCO Scoresbysund 63.68 341 *i* P **P** 05 25 40.3 +0.8
comp=Z,5.3nm,1.0s
SENIN Lac Senin/Sane 63.70 309 *e*P **P** 05 25 40.7 +0.4
comp=Z,124nm,2.3s
BAIF Baives 63.81 314 *e*P **P** 05 25 41.2 +0.5
comp=Z,22nm,0.9s
BAIF Baives 63.81 314 *e*P **P** 05 25 41.2 +0.5
BAIF pmax pmax
comp=Z,22nm,0.9s
BAIF Baives 63.81 314 *e*P **P** 05 25 41.2 +0.5
comp=Z,22nm,0.9s
COLD Coldfoot 64.02 23 *e*P **P** 05 25 42.8 +1.0
SFTF Sexfontaines 64.20 312 *e*P **P** 05 25 43.2 -0.1
comp=Z,31nm,1.0s
SFTF Sexfontaines 64.20 312 *e*P **P** 05 25 43.2 -0.1
comp=Z,31nm,1.0s
CABF La Chapelle 64.32 310 *e*P **P** 05 25 44.3 0.0
CABF La Chapelle 64.32 310 *e*P **P** 05 25 44.3 0.0
CABF La Chapelle 64.32 310 *e*P **P** 05 25 44.3 0.0
PGF Pioggiola 64.41 305 *e*P **P** 05 25 45.2 +0.3
comp=Z,111nm,1.3s
PGF Pioggiola 64.41 305 *e*P **P** 05 25 45.2 +0.3
PGF pmax pmax
comp=Z,111nm,1.3s
PGF Pioggiola 64.41 305 *e*P **P** 05 25 45.2 +0.3
comp=Z,111nm,1.3s
LPG La Plagne 64.44 309 *e*P **P** 05 25 45.8 +0.5
comp=Z,31nm,0.7s
LPG La Plagne 64.44 309 *e*P **P** 05 25 45.8 +0.5
LPG pmax pmax
comp=Z,31nm,0.7s
LPG La Plagne 64.44 309 *e*P **P** 05 25 45.8 +0.5
comp=Z,31nm,0.7s
LPL La Plagne 64.44 309 *e*P **P** 05 25 45.7 +0.5
comp=Z,28nm,0.7s
LPL La Plagne 64.44 309 *e*P **P** 05 25 45.7 +0.5
LPL pmax pmax
comp=Z,28nm,0.7s
LPL La Plagne 64.44 309 *e*P **P** 05 25 45.7 +0.5
comp=Z,28nm,0.7s
SBF Sospel 64.79 307 *e*P **P** 05 25 47.3 0.0
comp=Z,79nm,0.9s
SBF Sospel 64.79 307 *e*P **P** 05 25 47.3 0.0
SBF pmax pmax
comp=Z,79nm,0.9s
SBF Sospel 64.79 307 *e*P **P** 05 25 47.3 0.0
comp=Z,79nm,0.9s
MBDF Montbardon 64.79 308 *e*P **P** 05 25 46.7 -0.8
comp=Z,10nm,0.6s
MBDF Montbardon 64.79 308 *e*P **P** 05 25 46.7 -0.8
MBDF pmax pmax
comp=Z,10.0nm,0.6s
MBDF Montbardon 64.79 308 *e*P **P** 05 25 46.7 -0.8
comp=Z,10nm,0.6s
ORIF Oris-en-Rattie 65.26 309 *e*P **P** 05 25 50.2 -0.2
comp=Z,20nm,0.7s
ORIF *e*R
comp=Z,956nm,18.0s
ORIF Oris-en-Rattie 65.26 309 *e*P **P** 05 25 50.2 -0.2
ORIF pmax pmax
comp=Z,21nm,0.7s
ORIF Oris-en-Rattie 65.26 309 *e*P **P** 05 25 50.2 -0.2
comp=Z,20nm,0.7s
LOR Lormes 65.34 312 *e*P **P** 05 25 50.1 -0.7
comp=Z,22nm,1.0s
LOR *e*R
comp=Z,750nm,17.5s
LOR Lormes 65.34 312 *e*P **P** 05 25 50.1 -0.7
comp=Z,22nm,1.0s
LMR La Mourre 65.63 307 *e*P **P** 05 25 52.5 -0.2
comp=Z,54nm,1.2s
LMR La Mourre 65.63 307 *e*P **P** 05 25 52.5 -0.2
LMR pmax pmax
comp=Z,54nm,1.2s
LMR La Mourre 65.63 307 *e*P **P** 05 25 52.5 -0.2
comp=Z,54nm,1.2s
SSF Saint Saulge 65.66 311 *e*P **P** 05 25 52.4 -0.4
comp=Z,37nm,1.4s
SSF Saint Saulge 65.66 311 *e*P **P** 05 25 52.4 -0.4
SSF pmax pmax
comp=Z,37nm,1.4s
SSF Saint Saulge 65.66 311 *e*P **P** 05 25 52.4 -0.4
comp=Z,37nm,1.4s
SMF Signal de Mont 65.66 311 *e*P **P** 05 25 52.7 -0.2
comp=Z,30nm,0.7s
SMF Signal de Mont 65.66 311 *e*P **P** 05 25 52.7 -0.2
SMF pmax pmax
comp=Z,30nm,0.7s
SMF Signal de Mont 65.66 311 *e*P **P** 05 25 52.7 -0.2
comp=Z,30nm,0.7s
SUMG Summit 65.86 347 *e*P **P** 05 25 54.0 -0.3
SUMG Summit 65.86 347 ⇑ *i*P **P** 05 25 53.8 -0.4
comp=Z,12nm,0.9s
SUMG Summit 65.86 347 *e*P **P** 05 25 54.0 -0.3
PPLA Purkeypile 65.87 28 *e*P **P** 05 25 55.5 +1.4
comp=Z,150nm,1.6s
AVF Avril sur Loir 65.88 311 *e*P **P** 05 25 54.0 -0.3
comp=Z,26nm,0.9s
AVF Avril sur Loir 65.88 311 *e*P **P** 05 25 54.0 -0.3
AVF pmax pmax
comp=Z,26nm,0.9s
AVF Avril sur Loir 65.88 311 *e*P **P** 05 25 54.0 -0.3
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 66.03 309 *e*P **P** 05 25 55.2 -0.2
VIVF Saint-Julien-l 66.03 309 *e*P **P** 05 25 55.2 -0.2
VIVF Saint-Julien-l 66.03 309 *e*P **P** 05 25 55.2 -0.2
HYF Humbligny 66.07 312 *e*P **P** 05 25 55.6 +0.1
HYF Humbligny 66.07 312 *e*P **P** 05 25 55.6 +0.1
COLA College 66.21 25 *e*P **P** 05 25 56.1 0.0
COLA pmax pmax
comp=Z,9.0nm,1.0s
COLA College 66.21 25 *e*P **P** 05 25 56.0 0.0
comp=Z,9.5nm,1.0s
BGF Bois d'Agland 66.30 311 *e*P **P** 05 25 56.7 -0.3
comp=Z,26nm,0.9s
BGF Bois d'Agland 66.30 311 *e*P **P** 05 25 56.7 -0.3
BGF pmax pmax
comp=Z,26nm,0.9s
BGF Bois d'Agland 66.30 311 *e*P **P** 05 25 56.7 -0.3
comp=Z,26nm,0.9s
PMG Port Moresby 66.35 124 *e*P **P** 05 25 58.4 +0.8
comp=Z,40nm,1.0s
PMG LR LR
comp=Z,138nm,19.0s
ILAR Eielson Array 66.60 25 P **P** 05 25 58.2 -0.4
ILAR PP **PP** 05 28 21.4 -3.4
ILAR Eielson Array 66.60 25 P **P** 05 25 58.2 -0.4
comp=Z,11nm,0.9s,baz=293,slow=5.4,SNR=74
ILAR PP **PP** 05 28 21.4 -3.4
comp=Z,0.7nm,1.0s,baz=302,slow=8.4,SNR=3.7
ILAR LR LR 05 58 22.5
comp=Z,207nm,18.1s,baz=297,slow=39
TCF Toulx Ste Croi 66.81 311 *e*P **P** 05 26 00.5 +0.2
comp=Z,57nm,1.1s
TCF Toulx Ste Croi 66.81 311 *e*P **P** 05 26 00.5 +0.2
TCF pmax pmax
comp=Z,57nm,1.1s
TCF Toulx Ste Croi 66.81 311 *e*P **P** 05 26 00.5 +0.2
comp=Z,57nm,1.1s
LASF Ste Croix 66.93 309 *e*P **P** 05 26 01.3 +0.2
comp=Z,63nm,1.1s
LASF Ste Croix 66.93 309 *e*P **P** 05 26 01.3 +0.2
comp=Z,63nm,1.1s
KMBO Kilima Mbogo 66.96 249 *e*P **P** 05 26 01.7 -0.2
comp=Z,16nm,1.1s
KMBO LR LR
comp=Z,159nm,20.0s
KMBO Kilima Mbogo 66.96 249 P **P** 05 26 02.1 +0.2
comp=Z,7.6nm,0.9s,baz=39,slow=11,SNR=19
LDF La Druitiere 67.00 314 *e*P **P** 05 26 01.2 -0.2
comp=Z,22nm,0.7s
LDF La Druitiere 67.00 314 *e*P **P** 05 26 01.2 -0.2
LDF pmax pmax
comp=Z,22nm,0.7s
LDF La Druitiere 67.00 314 *e*P **P** 05 26 01.2 -0.2
comp=Z,22nm,0.7s
FLN La Foliniere 67.11 315 *e*P **P** 05 26 01.9 -0.2
comp=Z,39nm,1.0s
FLN *e*R
comp=Z,1μm,19.2s
FLN La Foliniere 67.11 315 *e*P **P** 05 26 01.9 -0.2
FLN pmax pmax
comp=Z,39nm,1.0s
FLN La Foliniere 67.11 315 *e*P **P** 05 26 01.9 -0.2
comp=Z,39nm,1.0s
WRAB Tennant Creek 67.25 142 *e*P **P** 05 26 02.6 -0.7
WRAB pmax pmax
comp=Z,42nm,1.0s
WRAB Tennant Creek 67.25 142 *e*P **P** 05 26 02.6 -0.7
comp=Z,42nm,1.0s
WRAB Tennant Creek 67.25 142 P **P** 05 26 02.4 -0.9
comp=Z,251nm,0.9s,SNR=13
WRA Warramunga Arr 67.25 142 P **P** 05 26 03.0 -0.3
WRA ⇑ *e* 05 54 29.9
WRA Warramunga Arr 67.25 142 P **P** 05 26 03.0 -0.3
comp=Z,24nm,0.9s,baz=339,slow=6.6,SNR=120
WRA PKP2bc 05 54 29.9
comp=Z,1.6nm,1.0s,baz=148,slow=3.1,SNR=5.9
COEN Coen 67.27 130 *e*P **P** 05 26 03.6 +0.2
comp=Z,242nm,0.9s
GRR Gorron 67.52 314 *e*P **P** 05 26 04.6 -0.1
comp=Z,44nm,0.7s
GRR Gorron 67.52 314 *e*P **P** 05 26 04.6 -0.1
GRR pmax pmax
comp=Z,45nm,0.7s
GRR Gorron 67.52 314 *e*P **P** 05 26 04.6 -0.1
comp=Z,44nm,0.7s
KEST Kesra 67.53 298 P **P** 05 26 04.7 -0.4
KEST Kesra 67.53 298 P **P** 05 26 04.7 -0.4
comp=Z,2.9nm,0.9s,baz=318,slow=4.4,SNR=5.7
KEST LR LR 05 59 52.3
comp=Z,52nm,18.9s,baz=316,slow=40
CAF Calviac 67.60 310 *e*P **P** 05 26 05.8 +0.5
comp=Z,65nm,1.4s
CAF Calviac 67.60 310 *e*P **P** 05 26 05.8 +0.5
CAF pmax pmax
comp=Z,65nm,1.4s
CAF Calviac 67.60 310 *e*P **P** 05 26 05.8 +0.5
comp=Z,65nm,1.4s
RJF Les Rejaudoux 67.74 311 *e*P **P** 05 26 06.5 +0.3
RJF *e*R
comp=Z,651nm,23.0s
RJF Les Rejaudoux 67.74 311 *e*P **P** 05 26 06.5 +0.3
RJF Les Rejaudoux 67.74 311 *e*P **P** 05 26 06.5 +0.3
PMR Palmer 67.80 28 *e*P **P** 05 26 06.6 +0.4
PMR pmax pmax
comp=Z,17nm,0.9s
PMR Palmer 67.80 28 *e*P **P** 05 26 06.6 +0.4
comp=Z,17nm,0.9s
RC01 Rabbit Creek A 67.88 29 *e*P **P** 05 26 07.5 +0.8
comp=Z,58nm,1.4s
INK Inuvik 68.00 18 *e*P **P** 05 26 06.7 -0.6
comp=Z,40nm,0.8s
INK Inuvik 68.00 18 P **P** 05 26 07.9 +0.6
comp=Z,30nm,0.7s,baz=338,slow=7.2,SNR=167
MFF Saint Martin d 68.05 312 *e*P **P** 05 26 08.0 -0.1
comp=Z,16nm,0.8s
MFF Saint Martin d 68.05 312 *e*P **P** 05 26 08.0 -0.1
MFF pmax pmax
comp=Z,16nm,0.8s
MFF Saint Martin d 68.05 312 *e*P **P** 05 26 08.0 -0.1
comp=Z,16nm,0.8s
PAX Paxson 68.24 26 *e*P **P** 05 26 09.3 +0.2
PAX pmax pmax
comp=Z,18nm,1.2s
PAX Paxson 68.24 26 *e*P **P** 05 26 09.3 +0.2
comp=Z,18nm,1.2s
DOT Dot Lake 68.27 25 *e*P **P** 05 26 09.0 -0.2
comp=Z,25nm,1.0s
MTLF Montolieu 68.33 308 *e*P **P** 05 26 10.2 +0.3
MTLF Montolieu 68.33 308 *e*P **P** 05 26 10.2 +0.3
MTLF Montolieu 68.33 308 *e*P **P** 05 26 10.2 +0.3
LFF La Frestale 68.40 311 *e*P **P** 05 26 10.8 +0.5
comp=Z,39nm,0.8s
LFF La Frestale 68.40 311 *e*P **P** 05 26 10.8 +0.5
LFF pmax pmax
comp=Z,39nm,0.8s
LFF La Frestale 68.40 311 *e*P **P** 05 26 10.8 +0.5
comp=Z,39nm,0.8s
SGMF Saint Gilles 68.55 315 *e*P **P** 05 26 11.5 +0.3
comp=Z,30nm,0.6s
SGMF Saint Gilles 68.55 315 *e*P **P** 05 26 11.5 +0.3
SGMF pmax pmax
comp=Z,30nm,0.6s
SGMF Saint Gilles 68.55 315 *e*P **P** 05 26 11.5 +0.3
comp=Z,30nm,0.6s
ROSF Rostrenen 68.91 315 *e*P **P** 05 26 13.7 +0.3
ROSF Rostrenen 68.91 315 *e*P **P** 05 26 13.7 +0.3
ROSF Rostrenen 68.91 315 *e*P **P** 05 26 13.7 +0.3
QUIF Quistinic 69.08 315 *e*P **P** 05 26 14.7 +0.2
comp=Z,88nm,1.2s
QUIF Quistinic 69.08 315 *e*P **P** 05 26 14.7 +0.2
QUIF pmax pmax
comp=Z,88nm,1.2s
QUIF Quistinic 69.08 315 *e*P **P** 05 26 14.7 +0.2
comp=Z,88nm,1.2s
EPF Esparros 69.66 309 *e*P **P** 05 26 17.0 -1.2
comp=Z,17nm,1.0s
EPF Esparros 69.66 309 *e*P **P** 05 26 17.0 -1.2
EPF pmax pmax
comp=Z,17nm,1.0s
EPF Esparros 69.66 309 *e*P **P** 05 26 17.0 -1.2
comp=Z,17nm,1.0s
AS31 Alice Springs 70.22 144 *e*P **P** 05 26 22.0 +0.2
ASAR Alice Springs 70.22 144 P **P** 05 26 21.7 -0.1
ASAR ⇑ *e* 05 54 21.4
ASAR Alice Springs 70.22 144 P **P** 05 26 21.7 -0.1
comp=Z,17nm,0.8s,baz=330,slow=6.0,SNR=147
ASAR PKP2bc 05 54 21.4
comp=Z,0.8nm,1.0s,baz=138,slow=0.7,SNR=5.3
ETSF Etsaut 70.28 309 *e*P **P** 05 26 22.6 +0.5
comp=Z,23nm,1.0s
ETSF Etsaut 70.28 309 *e*P **P** 05 26 22.6 +0.5
ETSF pmax pmax
comp=Z,23nm,1.0s
ETSF Etsaut 70.28 309 *e*P **P** 05 26 22.6 +0.5
comp=Z,23nm,1.0s
SJPF Ste Jean 70.57 310 *e*P **P** 05 26 23.7 -0.1
SJPF Ste Jean 70.57 310 *e*P **P** 05 26 23.7 -0.1
SJPF Ste Jean 70.57 310 *e*P **P** 05 26 23.7 -0.1
ILULI Ilulissat 70.93 348 *e*P **P** 05 26 25.1 -0.3
ILULI Ilulissat 70.93 348 *i* P **P** 05 26 25.1 -0.3
comp=Z,12nm,0.7s
HYT Haines Junctio 72.44 25 *e*P **P** 05 26 35.4 +0.6
SFJD Kangerlussuaq 72.84 347 *i* P **P** 05 26 36.1 -0.8
comp=Z,16nm,0.8s
SFJD Kangerlussuaq 72.84 347 *e*P **P** 05 26 36.6 -0.3
comp=Z,32nm,1.2s
CTA Charters Tower 73.87 132 P **P** 05 26 43.9 +0.2
CTA Charters Tower 73.87 132 P **P** 05 26 43.9 +0.2
comp=Z,25nm,1.0s,baz=332,slow=7.2,SNR=25
CTAO Charters Tower 73.87 132 *e*P **P** 05 26 43.7 0.0
CTAO pmax pmax
comp=Z,40nm,1.1s
CTAO MLR MLR
comp=Z,218nm,20.0s
CTAO Charters Tower 73.87 132 *e*P **P** 05 26 43.7 0.0
comp=Z,40nm,1.1s
CTAO LR LR
comp=Z,218nm,20.0s
FORT Forrest 74.02 152 *e*P **P** 05 26 44.8 +0.5
comp=Z,54nm,1.2s
ESDC Sonseca Array 74.22 308 P **P** 05 26 46.2 +0.5
ESDC Sonseca Array 74.22 308 P **P** 05 26 46.2 +0.5
comp=Z,3.5nm,0.5s,baz=46,slow=5.9,SNR=38
ESDC LR LR 06 01 11.6
comp=Z,184nm,21.6s,baz=315,slow=37
PAB San Pablo 74.54 308 PFAKE 05 27 00.0 +12
PAB LR LR
comp=Z,372nm,21.0s
PBRG Braganca 74.66 311 *e*P **P** 05 26 48.8 +0.6
comp=Z,42nm,1.8s
MVO Moncorvo 75.22 311 *e*P **P** 05 26 52.5 +1.0
comp=Z,38nm,1.5s
MTE Manteigas 76.00 310 *e*P **P** 05 26 57.4 +1.5
comp=Z,50nm,1.7s
PVIS Viseu 76.02 311 *e*P **P** 05 26 56.9 +0.9
comp=Z,46nm,1.3s
PMRV Marv??o 76.49 309 *e*P **P** 05 26 59.8 +1.1
comp=Z,48nm,2.3s
NRS Narsarsuaq 76.91 342 *e*P **P** 05 27 00.2 -0.4
YKW3 Yellowknife Ar 77.08 14 *e*P **P** 05 27 01.4 -0.1
comp=Z,0.6nm,1.3s
YKA Yellowknife Ar 77.14 14 P **P** 05 27 01.6 -0.3
YKA Yellowknife Ar 77.14 14 P **P** 05 27 01.6 -0.3
comp=Z,6.4nm,0.7s,baz=339,slow=5.5,SNR=101
TAM Tamanrasset 77.41 289 *e*P **P** 05 27 04.1 -0.2
TAM pmax pmax
comp=Z,12nm,1.4s
TAM MLR MLR
comp=Z,102nm,19.0s
TAM Tamanrasset 77.41 289 *e*P **P** 05 27 04.1 -0.2
comp=Z,12nm,1.4s
TAM LR LR
comp=Z,102nm,19.0s
EVO Evora 77.42 309 *e*P **P** 05 27 04.3 +0.4
comp=Z,36nm,1.0s
EVO *e*R
comp=Z,399nm,17.5s
EVO Evora 77.42 309 *e*P **P** 05 27 05.2 +1.3
comp=Z,75nm,1.6s
EVOP Sao Brissos 77.50 309 *e*P **P** 05 27 04.3 0.0
EVOP pmax pmax
comp=Z,36nm,1.0s
EVOP Sao Brissos 77.50 309 *e*P **P** 05 27 04.3 0.0
comp=Z,36nm,1.0s
MDT Midelt 78.72 303 LR LR 06 05 22.5
comp=Z,172nm,19.2s,baz=340,slow=38
BBOO Buckleboo 79.02 147 *e*P **P** 05 27 12.5 -0.1
comp=Z,562nm,1.0s
EIDS Eidsvold 80.76 132 *e*P **P** 05 27 22.9 +0.8
comp=Z,77nm,1.7s
STKA Stephens Creek 80.77 143 *e*P **P** 05 27 21.2 -0.8
comp=Z,6.6nm,0.9s
STKA Stephens Creek 80.77 143 P **P** 05 27 21.6 -0.5
comp=Z,27nm,0.8s,baz=328,slow=5.2,SNR=65
LSZ Lusaka 83.03 245 *e*P **P** 05 27 34.6 +0.2
comp=Z,8.7nm,0.7s
LSZ LR LR
comp=Z,154nm,19.0s
ARMA Armidale 84.88 135 *e*P **P** 05 27 44.8 +1.2
EDM Edmonton 85.89 18 *e*P **P** 05 27 49.1 +0.7
EDM Edmonton 85.89 18 *e*P **P** 05 27 49.0 +0.7
TOA0 Torodi Ar. Sit 86.05 283 *e*P **P** 05 27 49.6 -0.1
TORD Torodi Ar. Bea 86.05 283 P **P** 05 27 49.0 -0.8
TORD PP **PP** 05 31 09.7 -0.1
TORD Torodi Ar. Bea 86.05 283 P **P** 05 27 49.0 -0.8
comp=Z,4.5nm,0.9s,baz=37,slow=5.2,SNR=26
TORD PP **PP** 05 31 09.7 -0.1
comp=Z,1.0nm,0.9s,baz=57,slow=8.6,SNR=3.6
TORD LR LR 06 15 27.6
comp=Z,90nm,20.4s,baz=355,slow=42
FFC Flin Flon 86.68 11 *e*P **P** 05 27 51.6 -0.6
FFC pmax pmax
comp=Z,8.0nm,0.9s
FFC Flin Flon 86.68 11 *e*P **P** 05 27 51.6 -0.6
comp=Z,7.6nm,0.9s
FFC Flin Flon 86.68 11 P **P** 05 27 51.5 -0.6
comp=Z,115nm,0.9s,SNR=5.7
SCHQ Schefferville 86.90 351 P **P** 05 27 52.7 -0.6
SCHQ Schefferville 86.90 351 P **P** 05 27 52.7 -0.6
comp=Z,12nm,0.8s,baz=8.1,slow=3.6,SNR=9.0
SCHQ LR LR 06 08 23.1
comp=Z,262nm,18.2s,baz=32,slow=37
D05A Enumclaw 88.79 25 *e*P **P** 05 28 04.5 +2.1
comp=Z,45nm,1.2s
WTV Waterville 89.01 24 P **P** 05 28 04.5 +0.9
LTY Liberty 89.17 24 *e*P **P** 05 28 05.4 +1.1
comp=Z,21nm,1.0s
SAW Saint Andrews 89.19 23 P **P** 05 28 05.5 +1.1
TWW Teanaway 89.21 25 P **P** 05 28 06.2 +1.7
LON Longmire 89.23 25 *e*P **P** 05 28 06.0 +1.4
LON pmax pmax
comp=Z,9.0nm,0.9s
LON Longmire 89.23 25 *e*P **P** 05 28 06.0 +1.4
comp=Z,8.6nm,0.9s
NEW Newport 89.38 22 *e*P **P** 05 28 06.4 +1.1
comp=Z,20nm,0.9s
NEW Newport 89.38 22 ⇓ *e*P **P** 05 28 06.2 +0.8
baz=89,SNR=21
DPW Davenport 89.41 23 P **P** 05 28 07.0 +1.5
DPW Davenport 89.41 23 P **P** 05 28 07.0 +1.5
C09A Chrisman Ranch 89.45 23 *e*P **P** 05 28 06.9 +1.3
WALA Watertown Lakes 89.57 20 *e*P **P** 05 28 06.9 +0.6
comp=Z,0.5nm,1.1s
NAC Naches 89.57 25 P **P** 05 28 07.9 +1.6
F04A Amboy 89.73 26 *e*P **P** 05 28 08.9 +2.0
comp=Z,30nm,1.2s
G03D McMinnville, O 90.05 27 ⇓ *e*P **P** 05 28 09.2 +0.8
baz=90
E07A Sunnyside 90.05 24 *e*P **P** 05 28 10.1 +1.7
comp=Z,33nm,0.9s
TRW Toppenish Ridg 90.06 25 P **P** 05 28 10.1 +1.6
HAWA Hanford 90.30 24 *e*P **P** 05 28 10.9 +1.3
comp=Z,19nm,1.0s
BLMT Blacktail Moun 90.40 20 *e*P **P** 05 28 11.7 +1.4
BSMT Bassoo Peak 90.43 21 *e*P **P** 05 28 11.7 +1.3
BLTW Bickleton 90.51 25 P **P** 05 28 12.2 +1.6
YBMT Yellow Bay 90.63 20 *e*P **P** 05 28 12.3 +1.0
E09A Wood Farm, Sta 90.64 23 *e*P **P** 05 28 11.4 +0.3
JTMT Jette 90.67 20 *e*P **P** 05 28 12.5 +1.1
G05D Wamic, OR 90.71 26 ⇑ P **P** 05 28 12.2 +0.6
baz=90
H04A Detroit Lake 90.89 27 *e*P **P** 05 28 13.8 +1.4
comp=Z,20nm,1.1s
G06A Carlson Farm, 90.95 25 *e*P **P** 05 28 14.4 +1.7
comp=Z,221nm,2.6s

SWMT Swartz Lake 90.96 20 eP P 05 28 13.5 +0.7
A19A Klindworth Far 90.96 16 ⇑P P 05 28 12.9 +0.2
baz=91,SNR=20
A20A Cobblestone Ra 91.19 16 ⇑P P 05 28 14.1 +0.4
baz=91,SNR=13
A21A Bergtoll Ranch 91.30 15 ⇑P P 05 28 14.3 +0.1
baz=91,SNR=13
SLMT Seeley Lake 91.34 20 eP P 05 28 15.0 +0.4
B19A Brinkman Farms 91.36 17 ⇑P P 05 28 14.8 +0.3
baz=91,SNR=17
F10A Beach Ranch, E 91.41 23 eP P 05 28 16.1 +1.2
comp=Z,26nm,1.1s
G08A Pilot Rock 91.46 24 eP P 05 28 16.7 +1.6
comp=Z,9.3nm,1.3s
I05D Terrebonne, OR 91.49 26 ⇑P P 05 28 16.1 +0.9
baz=91
A22A Carney Farms, 91.50 15 ⇓P P 05 28 15.4 +0.2
baz=91,SNR=6.8
EGMT Eagleton 91.58 17 eP P 05 28 15.9 +0.3
comp=Z,30nm,1.0s
EGMT Eagleton 91.58 17 ⇑P P 05 28 15.8 +0.2
baz=91,SNR=14
I04A Tendick Farm, 91.58 27 ⇑P P 05 28 15.7 +0.1
baz=91
B20A Solberg Farm, 91.58 16 ⇓P P 05 28 15.4 -0.1
baz=91
MSO Missoula 91.60 21 eP P 05 28 16.1 +0.3
MSO Missoula 91.60 21 ⇑P P 05 28 16.3 +0.6
baz=91,SNR=15
CHMT Chamberlain Mo 91.71 20 eP P 05 28 16.4 0.0
A23A Redstone 91.74 14 ⇑P P 05 28 16.1 -0.1
baz=91
B21A Ellsworth Farm 91.81 16 ⇑P P 05 28 16.9 +0.3
baz=92,SNR=8.2
ULM Lac du Bonnet 91.86 8 P P 05 28 15.6 -1.1
ULM Lac du Bonnet 91.86 8 P P 05 28 15.6 -1.1
comp=Z,11nm,1.0s,baz=347,slow=6.5,SNR=9.7
ULM LR LR 06 12 07.6
comp=Z,203nm,19.2s,baz=347,slow=37
A24A Westby 91.94 14 ⇑P P 05 28 18.0 +0.9
baz=92,SNR=9.5
C19A Slack Wire Ran 92.01 17 ⇓P P 05 28 18.2 +0.6
baz=92,SNR=12
A25A Svangstu Ranch 92.09 13 ⇑P P 05 28 18.0 +0.1
baz=92
B22A Reddig Ranch S 92.15 15 ⇑P P 05 28 18.9 +0.7
baz=92,SNR=11
B23A Brockton 92.19 14 ⇑P P 05 28 18.8 +0.5
baz=92,SNR=11
C20A Veseth Ranch, 92.27 16 ⇑P P 05 28 18.9 +0.1
baz=92,SNR=11
HRY Holter Researc 92.28 19 eP P 05 28 19.8 +0.9
A26A Wade Farm, Ken 92.31 12 ⇑P P 05 28 19.8 +0.9
baz=92,SNR=8.0
DGMT Dagmar 92.34 14 eP P 05 28 19.9 +0.9
DGMT Dagmar 92.34 14 ⇑P P 05 28 19.9 +0.9
baz=92,SNR=8.8
I07A Izee 92.35 25 eP P 05 28 21.1 +1.8
A27A Ledoux Ranch, 92.39 12 ⇓P P 05 28 19.9 +0.6
baz=92
J05D Fort Rock, OR 92.45 27 ⇓P P 05 28 20.4 +0.7
baz=92
D19A Cripps Ranch, 92.59 17 ⇓P P 05 28 20.9 +0.7
baz=92,SNR=20
A28A Rude Farm, Bot 92.59 11 ⇑P P 05 28 20.6 +0.5
baz=92
C22A Vida 92.70 15 ⇓P P 05 28 21.3 +0.6
baz=92,SNR=11
B25A Knox Farm, Ray 92.72 13 ⇓P P 05 28 22.0 +1.2
baz=92,SNR=5.2
A29A Manning Farm, 92.73 10 ⇑P P 05 28 21.0 +0.2
baz=92,SNR=8.5
B26A Jensen Ranch, 92.79 13 ⇓P P 05 28 21.7 +0.6
baz=92
C23A Lambert 92.79 15 ⇓P P 05 28 22.2 +1.1
baz=92,SNR=19
D20A Manuel Ranch, 92.83 17 ⇓P P 05 28 21.6 +0.2
baz=92,SNR=7.9
A30A Hoffart Farm, 92.84 10 ⇓P P 05 28 21.5 +0.2
baz=92,SNR=7.6
B27A Peters Farms, 92.92 12 ⇓P P 05 28 21.8 +0.1
baz=93
LRM Limekiln Ridge 92.93 20 eP P 05 28 22.2 +0.1
B28A Dugan Ranch, T 93.02 11 ⇓P P 05 28 22.5 +0.4
baz=93
D21A La Casta Ranch 93.11 16 ⇑P P 05 28 23.0 +0.3
baz=93,SNR=14
B29A Wagenman Farm, 93.16 11 ⇑P P 05 28 22.9 +0.1
baz=93
C24A Savage 93.20 14 ⇑P P 05 28 23.7 +0.7
baz=93
D22A Cohagen 93.20 15 ⇑P P 05 28 23.8 +0.7
baz=93,SNR=18
C25A Freed Ranch, W 93.24 13 ⇓P P 05 28 24.0 +0.8
baz=93
E19A Rath Farm, Rou 93.27 17 ⇑P P 05 28 24.1 +0.7
baz=93,SNR=13
BOZ Bozeman (W) 93.31 20 eP P 05 28 24.7 +0.9
BOZ MLR MLR
comp=Z,465nm,21.0s
BOZ Bozeman (W) 93.31 20 eP P 05 28 24.7 +0.9
BOZ LR LR
comp=Z,465nm,21.0s
DLMT Dillon 93.32 20 eP P 05 28 24.7 +1.0
B30A Myrvik Farm, E 93.32 10 ⇓P P 05 28 23.7 +0.2
baz=93,SNR=5.6
J08A Circle Bar Ran 93.34 25 eP P 05 28 25.4 +1.6
C26A Wahner Farm, P 93.34 13 ⇓P P 05 28 24.5 +0.8
baz=93
D23A Lindsay 93.38 15 ⇓P P 05 28 24.8 +0.9
baz=93,SNR=9.5
E20A Meyer Farm, Mu 93.38 17 ⇓P P 05 28 24.2 +0.3
baz=93,SNR=11
M02C Callahan 93.49 29 ⇑P P 05 28 25.3 +0.8
baz=93
M04C Macdoel 93.53 28 ⇓P P 05 28 25.6 +0.8
baz=93
C27A Sayler Ranch, 93.55 12 ⇑P P 05 28 25.4 +0.8
baz=93
D24A Glendive 93.61 14 ⇑P P 05 28 25.6 +0.7
baz=93,SNR=6.7
MDND Maddock 93.72 11 ⇑P P 05 28 25.5 +0.1
baz=93
C28A Hausauer Farms 93.73 12 ⇓P P 05 28 26.1 +0.7
baz=93
MCMT McKenzie Canyo 93.74 21 eP P 05 28 26.3 +0.5
comp=Z,1.3nm,0.6s
D25A Fairfield 93.77 14 ⇑P P 05 28 26.7 +1.0
baz=94,SNR=5.1
F19A Roth Farm, Mol 93.80 18 ⇑P P 05 28 26.4 +0.5
baz=94,SNR=11
BOSA Boshof 93.87 237 P P 05 28 25.4 -1.0
BOSA Boshof 93.87 237 P P 05 28 25.4 -1.0
comp=Z,2.2nm,0.6s,baz=72,slow=3.7,SNR=5.3
BOSA LR LR 06 11 08.0
comp=Z,94nm,18.2s,baz=53,slow=36
E22A Miles City 93.93 16 ⇑P P 05 28 26.8 +0.4
baz=94,SNR=5.7
E23A Ismay 94.01 15 ⇓P P 05 28 27.3 +0.6
baz=94,SNR=5.8
C30A Mose, Pekin 94.03 10 ⇓P P 05 28 26.9 +0.1
baz=94
F20A Billings 94.04 17 ⇓P P 05 28 27.1 +0.1
baz=94
D26A Manning 94.05 13 ⇓P P 05 28 27.1 +0.2
baz=94
WVOR Wild Horse Val 94.10 25 eP P 05 28 28.9 +1.5
WVOR Wild Horse Val 94.10 25 eP P 05 28 28.9 +1.5
D27A Center 94.14 12 ⇓P P 05 28 27.6 +0.3
baz=94
MFID Camas Ranch 94.14 23 eP P 05 28 29.1 +1.5
E24A Baker 94.15 14 ⇑P P 05 28 27.3 -0.1
baz=94
D28A Regan 94.21 12 ⇓P P 05 28 28.0 +0.3
baz=94
F21A Absaloka Mine, 94.26 16 ⇑P P 05 28 27.9 -0.1
baz=94
E25A Miller Ranch, 94.38 14 ⇓P P 05 28 29.0 +0.5
baz=94
HLID Hailey 94.44 22 eP P 05 28 29.1 +0.1
comp=Z,8.6nm,1.0s
HLID Hailey 94.44 22 ⇑P P 05 28 29.7 +0.7
baz=94
F22A Rosebud 94.49 16 ⇓P P 05 28 29.3 +0.3
baz=94,SNR=5.0
D29A Pettibone, Tap 94.49 11 ⇑P P 05 28 28.9 -0.1
baz=94
D30A Buchanan 94.57 11 ⇓P P 05 28 29.5 +0.2
baz=94,SNR=12
G20A Bridger 94.57 17 ⇓P P 05 28 29.8 +0.3
baz=94,SNR=15
E26A Carlson Angus 94.59 13 ⇑P P 05 28 29.7 +0.3
baz=94
YFT Old Faithful 94.63 19 eP P 05 28 32.6 +2.7
LKWY Lake 94.64 19 eP P 05 28 32.3 +2.3
LKWY pmax pmax
comp=Z,10.0nm,0.6s
LKWY Lake 94.64 19 eP P 05 28 32.3 +2.3
comp=Z,9.7nm,0.6s
H18A Shoshone NF, C 94.73 19 ⇑P P 05 28 30.8 +0.4
baz=94,SNR=6.2
F23A Volborg 94.73 15 ⇑P P 05 28 30.4 +0.2
baz=94
H17A Grant Village 94.75 19 eP P 05 28 32.9 +2.4
H17A Grant Village 94.75 19 ⇑P P 05 28 32.7 +2.1
baz=94
E27A Carson 94.78 13 ⇑P P 05 28 31.2 +0.9
baz=94
E28A Huff 94.79 12 ⇑P P 05 28 30.9 +0.5
baz=94
G21A Lodge Grass 94.80 17 ⇓P P 05 28 30.9 +0.3
baz=94
F24A Ekalaka 94.81 15 ⇑P P 05 28 30.6 +0.1
baz=94
H19A Powell 94.90 18 ⇑P P 05 28 31.5 +0.4
baz=95
E29A Napoleon 94.97 11 ⇓P P 05 28 31.2 0.0
baz=95
FLWY Flagg Ranch 95.01 19 eP P 05 28 33.1 +1.5
G22A Birney 95.02 16 ⇓P P 05 28 31.7 +0.2
baz=95
DBIC Dimbokro 95.10 282 P P 05 28 31.8 -0.4
DBIC Dimbokro 95.10 282 P P 05 28 31.8 -0.4
comp=Z,7.9nm,0.8s,baz=41,slow=4.8,SNR=8.5
DBIC LR LR 06 18 34.9
comp=Z,183nm,18.6s,baz=37,slow=40
E30A Jud 95.14 11 ⇓P P 05 28 32.6 +0.6
baz=95
F26A Lodgepole 95.15 13 ⇓P P 05 28 32.6 +0.6
baz=95
I17A Pilgrim Ck. 95.20 19 ⇑P P 05 28 33.7 +1.2
baz=95
G23A Biddle 95.23 16 ⇓P P 05 28 32.8 +0.3
baz=95
F27A Lemmon 95.24 13 ⇑P P 05 28 33.1 +0.6
baz=95
G24A Alzada 95.31 15 ⇑P P 05 28 33.0 +0.2
baz=95
MOOW Moose Ponds 95.31 20 eP P 05 28 34.2 +1.2
H20A Greybull 95.32 18 ⇓P P 05 28 33.3 +0.4
baz=95
H21A Big Horn, Sher 95.41 17 ⇑P P 05 28 33.6 +0.3
baz=95
F28A McLaughlin 95.48 12 ⇓P P 05 28 34.1 +0.6
baz=95
I19A Meeteetse 95.50 18 ⇓P P 05 28 34.8 +0.9
baz=95
G25A Newell 95.64 14 ⇑P P 05 28 34.4 +0.1
baz=95
F29A Eureka 95.65 12 ⇑P P 05 28 34.5 +0.3
baz=95
G26A Maurine 95.70 14 ⇓P P 05 28 34.9 +0.3
baz=95
G27A Dupree 95.74 13 ⇓P P 05 28 34.9 +0.2
baz=95
F30A Leola 95.78 11 ⇓P P 05 28 35.3 +0.5
baz=96
I20A Worland 95.79 18 ⇑P P 05 28 35.7 +0.7
baz=96
H24A Dirks Ranch, A 95.84 15 ⇓P P 05 28 34.7 -0.6
baz=96
I21A Big Trails, Te 96.12 17 ⇓P P 05 28 37.0 +0.3
baz=96
H25A Fruitdale 96.15 14 ⇑P P 05 28 36.9 +0.3
baz=96
J19A Crowheart 96.20 19 ⇑P P 05 28 37.5 +0.5
baz=96
I22A 9 Mile Ranch, 96.23 17 ⇓P P 05 28 37.6 +0.5
baz=96
G29A Hoven 96.26 12 ⇓P P 05 28 37.0 0.0
baz=96
H27A Howes 96.43 13 ⇑P P 05 28 38.4 +0.6
baz=96
G30A Faulkton 96.45 11 ⇑P P 05 28 38.2 +0.4
baz=96
J21A Lysite 96.52 18 ⇑P P 05 28 38.7 +0.2
baz=96
PDAR Pinedale Array 96.54 19 P P 05 28 38.2 -0.4
PDAR PKiKP PKiKP 05 33 17.3 +1.4
PDAR Pinedale Array 96.54 19 P P 05 28 38.2 -0.4
comp=Z,1.6nm,0.8s,baz=40,slow=2.3,SNR=12
PDAR PKiKP PKiKP 05 33 17.3 +1.4
comp=Z,0.4nm,0.5s,baz=0.0,slow=1.2,SNR=2.7
PDAR LR LR 06 17 04.8
comp=Z,126nm,19.2s,baz=117,slow=38
RSSD Black Hills 96.54 15 eP P 05 28 39.0 +0.4
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 96.54 15 eP P 05 28 39.0 +0.4
comp=Z,9.2nm,0.7s
J22A Midwest 96.69 17 ⇓P P 05 28 39.3 +0.1
baz=96
I25A Rochford 96.70 15 ⇑P P 05 28 39.2 -0.1
baz=96
H29A Onida 96.77 12 ⇑P P 05 28 39.4 +0.1
baz=96
J23A Dilts Ranch, B 96.91 16 ⇑P P 05 28 39.9 -0.3
baz=97
I27A Quinn 96.98 14 ⇓P P 05 28 40.4 0.0
baz=97
SPMN St. Paul 97.14 7 ⇓P Pdif 05 28 41.2 +0.1
baz=97
BRSD Miller 97.15 11 ⇓P Pdif 05 28 41.1 0.0
baz=97
I28A Midland 97.21 13 ⇑P P 05 28 40.2 -1.2
baz=97
K21A Alcova 97.24 18 ⇑P Pdif 05 28 42.0 +0.2
baz=97
I29A Vivian Onida 97.34 12 ⇓P Pdif 05 28 42.5 +0.5
baz=97
K22A Casper 97.40 17 ⇑P P 05 28 42.5 0.0
baz=97
J26A Sides Ranch, S 97.51 14 ⇓P Pdif 05 28 43.1 +0.2
baz=97
I30A Oacoma 97.59 12 ⇓P P 05 28 43.0 -0.1
baz=97
J28A Allard Ranch, 97.75 13 ⇑P P 05 28 43.8 -0.1
baz=97
NVAR Mina Array Bea 97.77 27 P Pdif 05 28 44.6 +0.3
NVAR PKiKP PKiKP 05 33 19.1 +0.9
NVAR Mina Array Bea 97.77 27 P Pdif 05 28 44.6 +0.3
comp=Z,1.6nm,0.8s,baz=324,slow=4.5,SNR=9.8
NVAR PKiKP PKiKP 05 33 19.1 +0.9
comp=Z,0.5nm,0.7s,baz=321,slow=2.0,SNR=4.4
J27A Elkhorn Farm, 97.78 14 ⇑P P 05 28 43.9 -0.2
baz=98
J29A Okreek 97.93 12 ⇓P P 05 28 44.6 -0.1
baz=98
SADO Sadowa 97.97 357 LR LR 06 15 30.5
comp=Z,323nm,19.0s,baz=6.1,slow=37
DUG Dugway 98.00 22 eP Pdif 05 28 46.3 +1.1
DUG pmax pmax
comp=Z,1.0nm,0.8s
DUG Dugway 98.00 22 eP Pdif 05 28 46.3 +1.1
comp=Z,1.4nm,0.8s
DUG Dugway 98.00 22 ⇓P P 05 28 45.1 0.0
baz=98
L23A Garrett 98.10 17 ⇓P P 05 28 45.0 -0.7
baz=98
J30A Dallas 98.15 12 ⇓P P 05 28 45.5 -0.1
baz=98
ECSD EROS Data Cent 98.18 10 eP P 05 28 45.7 -0.1
P25A Willow Gulch B 100.93 16 ⇓Pdiff Pdif 05 28 56.9 -1.4
baz=101
PV01 Paradox Valley 101.14 20 ePdif Pdif 05 28 59.7 +0.4
comp=Z,206nm,0.8s
S22A 4UR Ranch, Cre 101.97 19 ⇓Pdiff Pdif 05 29 01.8 -1.3
baz=102
R26A Arlington 102.25 16 ⇑Pdiff Pdif 05 29 03.4 -0.7
baz=102
S24A Houchin Ranch, 102.47 18 ⇑Pdiff Pdif 05 29 04.9 -0.4
baz=102
SCI San Clemente I 102.49 30 ⇑Pdiff Pdif 05 29 05.0 -0.1
baz=102
S26A Kim 102.89 16 ⇑Pdiff Pdif 05 29 06.4 -0.6
baz=103
MONP Monument Peak 103.39 28 ⇑Pdiff Pdif 05 29 09.2 -0.2
baz=103
U23A El Rito 103.47 19 ⇑Pdiff Pdif 05 29 09.8 0.0
baz=103
W24A Lazy 6 Ranch, 104.73 19 ⇑Pdiff Pdif 05 29 15.1 -0.2
baz=104
Y23A Lovelace Mesa, 105.77 20 ⇑PKiKP PKiKP 05 33 32.7 +0.1
baz=106
V34A Guthrie 105.78 12 ⇓PKiKP PKiKP 05 33 32.5 +0.1
baz=106
Y24A Capitan 105.94 19 ⇑PKiKP PKiKP 05 33 33.2 +0.2
baz=106
Z22A Elephant Butte 106.16 21 ⇓PKiKP PKiKP 05 33 32.7 -0.7
baz=106
Z24A Sheeppen Canyo 106.52 19 ⇑PKiKP PKiKP 05 33 33.8 -0.4
baz=106
121A Cookes Peak, D 106.61 21 ⇓PKiKP PKiKP 05 33 33.9 -0.3
baz=106
Z26A Caprock 106.93 18 ⇑PKiKP PKiKP 05 33 34.3 -0.5
baz=107
Z27A Tatum 107.07 17 ⇓PKiKP PKiKP 05 33 34.8 -0.2
baz=107
Y32A R-V Farms, Ver 107.22 14 ⇑PKiKP PKiKP 05 33 34.7 -0.5
baz=107
Z28A Tucker Farm, M 107.29 17 ⇓PKiKP PKiKP 05 33 34.7 -0.7
baz=107
Z32A Haskell 107.89 14 ⇑PKiKP PKiKP 05 33 35.9 -0.5
baz=108
325A Bean Ranch, Si 108.48 20 ⇓PKiKP PKiKP 05 33 37.3 -0.5
baz=108
134A White-Moore Ra 108.87 13 ⇑PKiKP PKiKP 05 33 37.7 -0.5
baz=109
425A Indio Mountain 109.03 20 ⇓PKiKP PKiKP 05 33 38.0 -0.8
baz=109
330A Mertzon 109.37 16 ⇑PKiKP PKiKP 05 33 38.8 -0.5
baz=109
427A Hayter Ranch, 109.38 18 ⇓PKiKP PKiKP 05 33 38.9 -0.5
baz=109
GOGA Godfrey 109.39 0 PFAKE 05 33 50.0
GOGA LR LR
comp=Z,376nm,20.0s
428A Kincaid Ranch, 109.68 18 ⇑PKiKP PKiKP 05 33 40.0 +0.1
baz=109
431A Sonora 110.20 16 ⇑PKiKP PKiKP 05 33 40.6 -0.2
baz=110
529A Stev Forest Ra 110.36 17 ⇓PKiKP PKiKP 05 33 40.7 -0.5
baz=110
626A Big Bend Ranch 110.43 19 ⇑PKiKP PKiKP 05 33 41.0 -0.4
baz=110
434A Burnet 110.54 14 ⇓PKiKP PKiKP 05 33 40.6 -0.8
baz=110
530A J-C Ranch, Com 110.55 17 ⇓PKiKP PKiKP 05 33 41.3 -0.2
baz=110
JCT Junction City 110.56 15 ⇓PKiKP PKiKP 05 33 41.3 -0.2
baz=110
531A Rocksprings 110.71 16 ⇑PKiKP PKiKP 05 33 41.3 -0.5
baz=110
627A Terlingua Ranc 110.72 19 ⇓PKiKP PKiKP 05 33 41.6 -0.3
baz=110
TXAR Lajitas Array 110.76 19 Pdif Pdif 05 29 47.0 +4.8
TXAR PKiKP PKiKP 05 33 42.0 0.0
TXAR PP PP 05 34 20.8 +3.0
TXAR Lajitas Array 110.76 19 Pdiff Pdif 05 29 47.0 +4.8
comp=Z,0.1nm,0.4s,baz=64,slow=2.1,SNR=2.5
TXAR PKiKP PKiKP 05 33 42.0 0.0
comp=Z,0.9nm,1.0s,baz=214,slow=1.0,SNR=5.2
TXAR PP PP 05 34 20.8 +3.0
comp=Z,0.6nm,1.0s,baz=308,slow=4.5,SNR=3.5
628A Black Gap, Mar 110.81 18 ⇑PKiKP PKiKP 05 33 41.6 -0.5
baz=110
532A Rocksprings 110.88 15 ⇑PKiKP PKiKP 05 33 42.0 -0.1
baz=111
TIGA Tifton 111.36 0 ⇓PKiKP PKiKP 05 33 43.3 +0.3
baz=111
ASCN Ascension 111.52 277 PFAKE 05 34 00.0
ASCN LR LR
comp=Z,644nm,22.0s
KVTX Kingsville 113.79 14 PFAKE 05 34 00.0
KVTX LR LR
comp=Z,602nm,20.0s
SNAA Sanae 128.15 203 ePKPdf PKPdf 05 34 13.6 -0.3
TGUH Tegucigalpa,Un 128.52 5 PFAKE 05 34 30.0 +14
TGUH LR LR
comp=Z,201nm,19.0s
SDV Santo Domingo 132.31 343 ePKPdf PKPdf 05 34 22.9 -0.8
JTS JuntasAbangare 132.38 2 PFAKE 05 34 40.0 +16
JTS LR LR
comp=Z,171nm,20.0s
RKT Rikitea 133.64 87 eLR LR 05 34 53.5
comp=Z,385nm,28.2s,baz=161
ROSC El Rosal 136.99 347 ePKPdf PKPdf 05 34 33.7 +1.0
ROSC PKP PKiKP 05 34 33.9 -0.7
ROSC El Rosal 136.99 347 PKhKP PKPpre 05 34 23.1
comp=Z,2.2nm,0.4s,baz=100,slow=18,SNR=2.9
ROSC PKP PKiKP 05 34 33.9 -0.7
comp=Z,9.0nm,0.7s,baz=137,slow=5.1,SNR=7.4
PTGA Pitinga 137.53 324 ePKPdf PKPdf 05 34 33.3 +0.1
BDFB Brasilia 142.00 295 PKPpre PKPpre 05 34 37.0
BDFB Brasilia 142.00 295 PKhKP PKPpre 05 34 37.0
comp=Z,1.7nm,0.7s,baz=160,slow=8.8,SNR=4.6
OTAV Otavalo 142.13 352 ePKPdf PKPdf 05 34 42.9 +0.7
SAML Samuel 146.23 322 ePKPdf PKPdf 05 34 48.7 0.0
SPB Sao Paulo 146.38 284 ePKPbc PKPab 05 34 50.9 +0.2
SPB ePKPab PKiKP 05 34 52.5 -0.4
ATAH Atahualpa 149.39 351 PKPbc PKPbc 05 34 59.7 +0.9
ATAH Atahualpa 149.39 351 PKPbc PKPbc 05 34 59.7 +0.9
comp=Z,43nm,0.8s,baz=158,slow=0.4,SNR=22
SIV San Ignacio 150.93 312 PKP PKPdf 05 34 56.3 +0.1
SIV PKPbc PKPbc 05 35 02.0 +0.1
SIV San Ignacio 150.93 312 PKP PKPdf 05 34 56.3 +0.1
comp=Z,7.6nm,0.9s,baz=114,slow=3.4,SNR=13
SIV PKPbc PKPbc 05 35 02.0 +0.1
comp=Z,23nm,0.8s,baz=90,slow=4.0,SNR=36
LPAZ La Paz 154.96 324 PKP PKPdf 05 35 01.3 -1.5
LPAZ ePKPdf PKPbc 05 35 02.6 -8.9
LPAZ PKPbc PKPbc 05 35 10.1 -1.4
LPAZ ePKPbc PKPbc 05 35 10.7 -0.9
LPAZ PKPab PKPab 05 35 25.8 -1.1
LPAZ ePKPab PKPab 05 35 26.2 -0.6
LPAZ La Paz 154.96 324 PKP PKPdf 05 35 01.3 -1.5
comp=Z,3.8nm,1.0s,baz=34,slow=2.8,SNR=5.6
LPAZ PKPbc PKPbc 05 35 10.1 -1.4
comp=Z,3.3nm,0.7s,baz=279,slow=3.1,SNR=3.7
LPAZ PKPab PKPab 05 35 25.8 -1.1
comp=Z,3.2nm,0.8s,baz=30,slow=7.0,SNR=4.9
CFAA Coronel Fontan 166.29 291 PKP PKPdf 05 35 13.4 -0.6
CFAA PKPab PKPab 05 36 13.1 -2.2
CFAA Coronel Fontan 166.29 291 PKP PKPdf 05 35 13.4 -0.6
comp=Z,0.4nm,1.0s,baz=15,slow=5.1,SNR=4.1
CFAA PKPab PKPab 05 36 13.1 -2.2
comp=Z,0.5nm,0.7s,baz=50,slow=5.2,SNR=8.2

*CSEM **21** 05:15:39.8s 1.1, 49.90N x 18.58E, h1km, Error ellipse: s-maj=15.4km s-min=7.5km az=82.0*

PRU 21 05:15:41.0, 49.83N x 18.54E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.25	272	eP	Pg		Pg	05 15 46.1	+0.2
OKC				eS	Sg		Sg	05 15 49.5	+0.3
	6.6nm,0.5s								
OKC	Ostrava-Krasne	0.25	272		Pg		Pg	05 15 46.1	+0.2
OKC					Sg		Sg	05 15 49.5	+0.3
	6.6nm,0.5s								
MORC	Moravsky Berou	0.65	266	eP	Pg		Pg	05 15 54.0	+0.5
MORC				eS	Sg		Sg	05 16 02.2	+0.2
KRLC	Kraliky	1.16	283	eP	Pg		Pg	05 16 02.3	-1.1
KRLC				eS	Sg		Sg	05 16 18.0	-0.5
KRLC	Kraliky	1.16	283		Pg		Pg	05 16 02.3	-1.1
KRLC					Sg		Sg	05 16 18.0	-0.5
VRAC	Vranov	1.37	248	eP	Pg		Pg	05 16 06.4	-0.9
VRAC				eS	Sg		Sg	05 16 24.2	-0.9
DPC	Dobruska-Polom	1.52	291	eP	Pg		Pn	05 16 08.5	-1.0
DPC				eS	Sg		Sg	05 16 29.0	-1.0
DPC	Dobruska-Polom	1.52	291		Pg		Pn	05 16 08.5	-1.0
DPC					Sg		Sg	05 16 29.0	-1.0

*ISCJB **21** 05:21:42.7s 1.0, 21.44S x 0.07x 68.3W x 0.2, h121km, mb3.5/2, Error ellipse: s-maj=25.9km s-min=9.4km az=8.7*
*IDC **21** 05:21:43.5s 2.3, 21.39S x 68.35W, h114km ± 20km, mb3.4/3, mb1 3.5/5, mb1mx3.4/18, mbtmp3.9/5, Error ellipse:*

s-maj=34.6km s-min=20.4km az=98.0

ISC 21 05:21:44.1±1.0,**21°42S**±0°08×**68°2W**±0°2,**h121**km,**n7,** σ1§**29/8,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
LPAZ	**La Paz**	**5.10**	**0**	P	**Pn**	**05 22 58.9**	**-0.1**
	1.2nm,0.3s,baz=186,slow=9.9,SNR=9.3						
SIV	**San Ignacio**	**8.61**	**52**	P	**Pn**	**05 23 45.3**	**-0.6**
	2.2nm,0.3s,baz=245,slow=14,SNR=36						
CFAA	**Coronel Fontan**	**10.15**	**180**	P	**Pn**	**05 24 07.9**	**+1.4**
	0.0nm,0.3s,baz=18,slow=16,SNR=8.6						
CFAA				S	**Sn**	**05 25 56.5**	**-1.9**
	0.0nm,0.3s,baz=137,slow=23,SNR=1.6						
BDFB	**Brasilia**	**19.93**	**77**	P	**Pn**	**05 26 09.6**	**+0.1**
	1.1nm,0.4s,baz=252,slow=8.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**76.67**	**70**	P	**P**	**05 33 23.0**	**+0.8**
	0.7nm,0.6s,baz=255,slow=4.7,SNR=9.8						
YKA	**Yellowknife Ar**	**91.34**	**340**	P	**P**	**05 34 34.5**	**-1.1**
	0.3nm,0.8s,baz=130,slow=4.1,SNR=6.5						
MKAR	**Makanchi Array**	**145.15**	**36**	PKPbc	**PKPdf**	**05 41 07.9**	**+0.6**
	0.8nm,0.7s,baz=346,slow=3.1,SNR=6.2						

*ISCJB **21** 05:29:50.2±0.6, 19°54S±0°04×69°4W±0°1, h120km±6km, mb3.8/3, Error ellipse: s-maj=16.9km s-min=6.2km az=1.3*

*IDC **21** 05:29:51.7±7.0, 19°63S×68°95W, h120km±47km, mb3.7/3, mb1 3.7/5, mb1mx3.3/19, mbtmp3.6/5, Error ellipse: s-maj=67.7km s-min=31.3km az=38.0*

*GUC **21** 05:29:51.0±0.3, 19°55S×69°34W, h105km±2km, ML3.9*

ISC 21 05:29:50.7±0.8,**19°54S**±0°04×**69°4W**±0°1,**h113**km±7km, **n25,** σ0§**89/21,mb3.8/3,3C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
PB11	**Plate Boundary**	**0.34**	**231**	*i*P	**Pn**	**05 30 07.1**	**-0.2**
PB11				*i*S	**Sn**	**05 30 19.3**	**-0.4**
PB11				AML	AML	05 30 21.0	
	comp=E,16μm,0.1s						
MNMC	**Minimini**	**0.46**	**333**	*i*P	**Pn**	**05 30 07.8**	**-0.2**
MNMC				*i*S	**Sn**	**05 30 20.6**	**-0.5**
MNMC				AML	AML	05 30 21.0	
	comp=N,9μm,0.2s						
ARCH	**Arica**	**1.36**	**320**	*i*P	**Pn**	**05 30 16.7**	**+0.6**
ARCH				*i*S	**Sn**	**05 30 36.1**	**+0.7**
ARCH				AML	AML	05 30 40.8	
	comp=E,2μm,0.1s						
PATCX	**Punta Patache**	**1.47**	**210**	*e*P	**Pn**	**05 30 18.0**	**+0.5**
PATCX				*i*S	**Sn**	**05 30 38.4**	**+0.7**
PATCX				AML	AML	05 30 45.8	
	comp=N,955nm,0.7s						
PB01	**Plate Boundary**	**1.50**	**184**	*i*P	**Pn**	**05 30 18.0**	**+0.2**
PB01				*i*S	**Sn**	**05 30 38.7**	**+0.3**
PB01				AML	AML	05 30 42.0	
	comp=N,2μm,0.4s						
PB09	**Plate Boundary**	**2.25**	**177**	*e*P	**Pn**	**05 30 28.1**	**+0.9**
PB09				*e*S	**Sn**	**05 30 56.3**	**+1.2**
PB09				AML	AML	05 31 01.4	
	comp=N,1μm,0.5s						
PB04	**Plate Boundary**	**2.71**	**182**	AML	AML	05 31 28.2	
	comp=E,278nm,0.5s						
PB06	**Plate Boundary**	**3.15**	**183**	AML	AML	05 31 26.6	
	comp=N,217nm,0.1s						
LPAZ	**La Paz**	**3.45**	**20**	P	**Pn**	**05 30 44.6**	**+1.2**
	comp=N,1.2nm,0.3s,baz=188,slow=9.7,SNR=21						
LPAZ				S	**Sn**	**05 31 24.8**	**+0.9**
	baz=166,slow=19,SNR=1.6						
SIV	**San Ignacio**	**8.66**	**67**	P	Pn	05 31 49.0	-4.3
	comp=N,1.7nm,0.3s,baz=268,slow=13,SNR=26						
H03N1	**Juan Fernandez**	**16.25**	**210**	T	T	05 50 14.9	
	baz=31,slow=75,SNR=5.2						
H03N2	**Juan Fernandez**	**16.26**	**210**	T	T	05 50 15.5	
	baz=31,slow=75,SNR=5.7						
H03N3	**Juan Fernandez**	**16.27**	**210**	T	T	05 50 15.3	
	baz=31,slow=75,SNR=4.8						
BDFB	**Brasilia**	**20.72**	**83**	P	**P**	**05 34 22.9**	**+0.4**
	comp=N,2.4nm,0.5s,baz=254,slow=10,SNR=9.6						
H06S1	**SOCORRO T**	**55.78**	**310**	T	T	06 39 10.6	
	SNR=5.1						
DBIC	**Dimbokro**	**68.61**	**74**	P	**P**	**05 40 40.8**	**-1.3**
	comp=N,2.0nm,0.6s,baz=209,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**77.12**	**71**	P	**P**	**05 41 30.6**	**-1.7**
	comp=N,0.6nm,0.3s,baz=254,slow=5.4,SNR=19						
TORD				pP	**pP**	**05 42 01.5**	**+0.5**
	comp=N,0.2nm,0.6s,baz=255,slow=5.2,SNR=1.2						
YKA	**Yellowknife Ar**	**89.20**	**341**	P	**P**	**05 42 34.5**	**+1.2**
	comp=N,0.3nm,0.5s,baz=134,slow=4.9,SNR=9.5						
YKA				pP	**pP**	**05 43 02.7**	**0.0**
	comp=N,0.3nm,0.6s,baz=144,slow=4.4,SNR=4.2						
H11S2	**WAKE ISLAND Hyl**	**27.18**	**279**	T	T	08 08 21.5	
	baz=104,slow=72,SNR=11						
H11S1	**WAKE ISLAND Hyl**	**27.19**	**279**	T	T	08 08 23.3	
	baz=104,slow=72,SNR=7.4						
H11S3	**WAKE ISLAND Hyl**	**27.19**	**279**	T	T	08 08 23.1	
	baz=104,slow=72,SNR=8.9						
H11N3	**WAKE ISLAND Hyl**	**27.21**	**280**	T	T	08 08 22.3	
	baz=101						
H11N2	**WAKE ISLAND Hyl**	**27.22**	**280**	T	T	08 08 23.1	
	baz=101,SNR=2.8						
H11N1	**WAKE ISLAND Hyl**	**27.22**	**280**	T	T	08 08 24.9	
	baz=101						
SONM	**Songino Array**	**151.57**	**6**	PKPbc	**PKPbc**	**05 49 31.4**	**-0.4**
	comp=N,0.2nm,0.5s,baz=344,slow=1.6,SNR=4.4						

*IDC **21** 05:34:08.6±1.4, 5°19S×146°16E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.6/20, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=46.4km s-min=24.2km az=112.0*

*ISCJB **21** 05:34:21.6±1.4, 5°8S×146°5E±0°2, h123km, mb3.4/4, Error ellipse: s-maj=26.7km s-min=13.7km az=164.5*

ISC 21 05:34:22.7±1.5,**5°8S**±0°1×**146°6E**±0°2,**h123**km,**n7,** σ1§**79/8,mb3.6/4,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**171**	Pn	**Pn**	**05 35 15.9**	**-1.4**
	4.9nm,0.3s,baz=308,slow=12,SNR=9.2						
PMG				Sn	**Sn**	**05 36 00.2**	**+0.5**
	5.9nm,0.3s,baz=177,slow=22,SNR=5.7						
CTA	**Charters Tower**	**14.20**	**181**	Pn	**P**	**05 37 41.5**	**-0.6**
	0.3nm,0.3s,baz=2.8,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**18.42**	**219**	P	**P**	**05 38 27.8**	**-0.8**
	0.1nm,0.3s,baz=40,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**21.55**	**213**	P	**P**	**05 39 02.7**	**+0.3**
	1.0nm,1.0s,baz=50,slow=7.4,SNR=5.8						
FITZ	**Fitzroy Crossi**	**23.82**	**237**	P	**P**	**05 39 23.6**	**-1.0**
	1.4nm,0.5s,baz=65,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**26.36**	**190**	P	**P**	**05 39 50.8**	**+3.4**
	1.2nm,0.9s,baz=340,slow=13,SNR=2.7						
ILAR	**Eielson Array**	**85.46**	**23**	P	**P**	**05 46 46.3**	**0.0**
	0.7nm,0.7s,baz=251,slow=5.2,SNR=12						

*ISCJB **21** 05:37:35.3±0.2, 46°12N±0°01×13°33E±0°01, h15km±1km, Error ellipse: s-maj=1.9km s-min=1.3km az=6.4*

*LJU **21** 05:37:35.5, 46°13N×13°34E, h18km, ML3.0*

*ROM **21** 05:37:35.0±0.2, 46°10N×13°46E, h2km, Ml3.4/24, Error ellipse: s-maj=2.0km s-min=1.4km az=101.0*

*CSEM **21** 05:37:35.9±0.1, 46°11N×13°33E, h5km, ML3.9/43*

*VIE **21** 05:37:35.9±0.1, 46°13N×13°37E, h10km±1km, mb2.9/15, ML3.4/17, Error ellipse: s-maj=1.2km s-min=0.8km az=15.0 6 km NW of Cividale*

*LDG **21** 05:37:36.1±0.1, 46°13N×13°44E, h10km, Ml3.3/16, Error ellipse: s-maj=2.5km s-min=1.8km az=170.0*

*PRU **21** 05:37:37.7, 46°10N×13°41E, h13km*

*STR **21** 05:37:37.0±0.5, 46°14N×13°38E, h10km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*BGR **21** 05:37:38.7±0.5, 46°17N×13°38E, h10km, ML3.3/11, Error ellipse: s-maj=6.7km s-min=3.3km az=7.0*

*GEN **21** 05:37:39.2, 46°07N×13°18E, h9km, ML3.4*

ISC 21 05:37:35.7±0.5,**46°11N**±0°01×**13°347E**±0°009,**h17**km±2km, **n306,** σ1§**53/488,38C-52D,Austria**

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
COLI	**Coloredo**	**0.03**	**39**	*e*Pg	**Pg**	**05 37 38.6**	**-0.1**
COLI				*e*Sg	**Sg**	**05 37 40.2**	**-0.6**
COLI	**Coloredo**	**0.03**	**39**	*e*Pg	**Pg**	**05 37 38.6**	**-0.1**
COLI				*e*Sg	**Sg**	**05 37 40.2**	**-0.6**
BAD	**Bernadia**	**0.15**	**331**	*e*Pg	**Pg**	**05 37 39.6**	**-0.2**
BAD				*e*Sg	**Sg**	**05 37 42.0**	**-0.7**
BAD	**Bernadia**	**0.15**	**331**	*e*Pg	**Pg**	**05 37 39.6**	**-0.2**
BAD				*e*Sg	**Sg**	**05 37 42.0**	**-0.7**
VINO	**Villanova**	**0.16**	**343**	*e*Pg	**Pg**	**05 37 39.7**	**-0.3**
VINO				*e*Sg	**Sg**	**05 37 42.1**	**-0.8**
VINO	**Villanova**	**0.16**	**343**	*e*Pg	**Pg**	**05 37 39.7**	**-0.3**
VINO				*e*Sg	**Sg**	**05 37 42.1**	**-0.8**
ROBS	**Robic**	**0.18**	**39**	*i*Pg	**Pg**	**05 37 40.1**	**-0.1**
ROBS				*i*Sg	**Sg**	**05 37 42.9**	**-0.4**
ROBS							
	comp=Z,4μm,0.1s						
ROBS	**Robic**	**0.18**	**39**	*i*Pg	**Pg**	**05 37 40.1**	**-0.1**
ROBS				*i*Sg	**Sg**	**05 37 42.9**	**-0.4**
	comp=Z,4μm,0.1s						
BUA	**Buia**	**0.19**	**306**	*e*Pg	**Pg**	**05 37 40.6**	**+0.2**
BUA				*e*Sg	**Sg**	**05 37 43.8**	**+0.2**
BUA	**Buia**	**0.19**	**306**	*e*Pg	**Pg**	**05 37 40.6**	**+0.2**
BUA				*e*Sg	**Sg**	**05 37 43.8**	**+0.2**
DRE	**Drenchia**	**0.22**	**72**	*e*Pg	**Pg**	**05 37 41.1**	**+0.3**
DRE				Sg	**Sg**	**05 37 44.6**	**+0.3**
DRE	**Drenchia**	**0.22**	**72**	*e*Pg	**Pg**	**05 37 41.1**	**+0.3**
DRE				Sg	**Sg**	**05 37 44.6**	**+0.3**
TLI	**Talmassons**	**0.25**	**223**	*e*Pg	**Pg**	**05 37 42.0**	**+0.7**
TLI	**Talmassons**	**0.25**	**223**	*e*Pg	**Pg**	**05 37 42.0**	**+0.7**
BOO	**Bordano**	**0.27**	**321**	*e*Pg	**Pg**	**05 37 41.5**	**-0.2**
BOO				*e*Sg	**Sg**	**05 37 45.7**	**-0.2**
BOO	**Bordano**	**0.27**	**321**	*e*Pg	**Pg**	**05 37 41.5**	**-0.2**
BOO				*e*Sg	**Sg**	**05 37 45.7**	**-0.2**
MPRI	**Monte Prat**	**0.28**	**299**	*e*Pg	**Pg**	**05 37 42.3**	**+0.4**
MPRI	**Monte Prat**	**0.28**	**299**	*e*Pg	**Pg**	**05 37 42.3**	**+0.4**
CADS	**Cadrg**	**0.30**	**66**	*i*Pg	**Pg**	**05 37 42.2**	**+0.1**
CADS				*i*Sg	**Sg**	**05 37 46.9**	**+0.3**
CADS							
	comp=Z,1μm,0.2s						
CADS	**Cadrg**	**0.30**	**66**	*i*Pg	**Pg**	**05 37 42.2**	**+0.1**
CADS				*i*Sg	**Sg**	**05 37 46.8**	**+0.3**
	comp=Z,1μm,0.2s						
PTCC	**Patocco-Chiusa**	**0.30**	**1**	Pg	**Pg**	**05 37 41.8**	**-0.4**
PTCC				Sg	**Sg**	**05 37 46.1**	**-0.5**
	comp=Z,1μm,0.4s						
PTCC	**Patocco-Chiusa**	**0.30**	**1**	Pg	**Pg**	**05 37 41.8**	**-0.4**
PTCC				Sg	**Sg**	**05 37 46.1**	**-0.5**
	comp=Z,1μm,0.4s						
VOJS	**Vojsko**	**0.38**	**101**	*i*Pg	**Pg**	**05 37 44.0**	**+0.4**
VOJS				*i*Sg	**Sb**	**05 37 50.2**	**+0.6**
VOJS							
	comp=Z,255nm,0.1s						
VOJS	**Vojsko**	**0.38**	**101**	*i*Pg	**Pg**	**05 37 44.0**	**+0.4**
VOJS				*i*Sg	**Sb**	**05 37 50.2**	**+0.6**
	comp=Z,255nm,0.1s						
FUSE	**Fusea**	**0.39**	**322**	*e*Pg	**Pg**	**05 37 43.3**	**-0.4**
FUSE				*e*Sg	**Sg**	**05 37 49.1**	**-0.1**
FUSE	**Fusea**	**0.39**	**322**	*e*Pg	**Pg**	**05 37 43.3**	**-0.4**
FUSE				*e*Sg	**Sg**	**05 37 49.1**	**-0.1**
ACOM	**Acomizza, Ital**	**0.46**	**15**	*e*Pg	**Pg**	**05 37 44.7**	**-0.3**
ACOM				*e*Sg	**Sb**	**05 37 52.9**	**+1.0**
ACOM	**Acomizza, Ital**	**0.46**	**15**	Pg	**Pg**	**05 37 44.7**	**-0.3**
ACOM				Sg	**Sb**	**05 37 52.6**	**+0.7**
	comp=Z,1μm,0.6s						
ACOM	**Acomizza, Ital**	**0.46**	**15**	*e*Pg	**Pg**	**05 37 44.7**	**-0.3**
ACOM				Sg	**Sb**	**05 37 52.6**	**+0.7**
	comp=Z,1μm,0.6s						
PLRO	**Paularo**	**0.46**	**343**	*e*Pg	**Pg**	**05 37 44.6**	**-0.5**
PLRO				*e*Sg	**Sg**	**05 37 51.4**	**-0.1**
PLRO	**Paularo**	**0.46**	**343**	*e*Pg	**Pg**	**05 37 44.6**	**-0.5**
PLRO				*e*Sg	**Sg**	**05 37 51.4**	**-0.1**
TRI	**Trieste**	**0.49**	**144**	*e*Pg	**Pg**	**05 37 45.9**	**+0.4**
TRI	**Trieste**	**0.49**	**144**	*e*Pg	**Pg**	**05 37 45.9**	**+0.4**
GORS	**Gorjuse**	**0.50**	**65**	*i*Pg	**Pg**	**05 37 45.4**	**-0.3**
GORS				*i*Sg	**Sg**	**05 37 53.1**	**+0.7**
GORS							
	comp=Z,187nm,0.1s						
GORS	**Gorjuse**	**0.50**	**65**	*i*Pg	**Pg**	**05 37 45.4**	**-0.3**
GORS				*i*Sg	**Sg**	**05 37 53.1**	**+0.7**
	comp=Z,187nm,0.1s						
MLNI	**Malnisio**	**0.52**	**275**	*e*Pg	**Pg**	**05 37 46.2**	**+0.2**
MLNI	**Malnisio**	**0.52**	**275**	*e*Pg	**Pg**	**05 37 46.2**	**+0.2**
ZOU	**Zoufplan**	**0.52**	**330**	*e*Pg	**Pg**	**05 37 45.7**	**-0.4**
ZOU				*e*Sg	**Sg**	**05 37 53.4**	**+0.2**
ZOU	**Zoufplan**	**0.52**	**330**	*e*Pg	**Pg**	**05 37 45.7**	**-0.4**
ZOU				*e*Sg	**Sg**	**05 37 53.4**	**+0.2**
JAVS	**Javornik**	**0.54**	**113**	*i*Pg	**Pg**	**05 37 46.7**	**+0.2**
JAVS				*i*Sg	**Sb**	**05 37 55.6**	**+1.3**
JAVS							
	comp=Z,162nm,0.1s						
JAVS	**Javornik**	**0.54**	**113**	*i*Pg	**Pg**	**05 37 46.7**	**+0.2**
JAVS				*i*Sg	**Sb**	**05 37 55.6**	**+1.3**
	comp=Z,162nm,0.1s						
MYKA	**Terra Mystica**	**0.56**	**21**	*e*Pg	**Pg**	**05 37 46.7**	**-0.2**
	SNR=251						
MYKA				*i*Sg	**Sg**	**05 37 54.2**	**-0.2**
	comp=Z,297nm,0.3s						
MYKA	**Terra Mystica**	**0.56**	**21**	*e*Pg	**Pg**	**05 37 46.7**	**-0.2**
MYKA				Sg	**Sg**	**05 37 54.2**	**-0.2**
	comp=Z,297nm,0.3s						
POLC	**Polcenigo**	**0.59**	**263**	*e*Pg	**Pg**	**05 37 48.1**	**+0.7**
POLC				*e*Sg	**Sb**	**05 37 58.1**	**+2.4**
CSMI	**Casera Mimoias**	**0.63**	**310**	*e*Pg	**Pg**	**05 37 47.6**	**-0.6**
CSMI	**Casera Mimoias**	**0.63**	**310**	*e*Pg	**Pg**	**05 37 47.6**	**-0.6**
CRNS	**Crni Vrh**	**0.64**	**92**	*i*Pg	**Pg**	**05 37 48.0**	**-0.2**
CRNS				*i*Sg	**Sb**	**05 37 58.6**	**+1.6**
CRNS							
	comp=Z,192nm,0.1s						
CAE	**Caneva**	**0.64**	**261**	*e*Pg	**Pg**	**05 37 48.6**	**+0.3**
CAE				*e*Sg	**Sb**	**05 37 59.3**	**+2.1**
CAE	**Caneva**	**0.64**	**261**	*e*Pg	**Pg**	**05 37 48.7**	**+0.3**
CAE				*e*Sg	**Sb**	**05 37 59.3**	**+2.1**
SKDS	**Skadanscina**	**0.73**	**140**	*i*Pg	**Pg**	**05 37 49.7**	**-0.2**
SKDS				*i*Sg	**Sb**	**05 38 01.6**	**+2.0**
SKDS							
	comp=Z,304nm,0.2s						
SKDS	**Skadanscina**	**0.73**	**140**	*i*Pg	**Pg**	**05 37 49.7**	**-0.2**
SKDS				*e*Sg	**Sb**	**05 38 01.6**	**+2.0**
	comp=Z,304nm,0.2s						
MOZS	**Mozjanca**	**0.78**	**76**	*i*Pg	**Pg**	**05 37 50.9**	**-0.2**
MOZS				*i*Sg	**Sb**	**05 38 03.1**	**+1.9**
MOZS							
	comp=Z,179nm,0.1s						
MOZS	**Mozjanca**	**0.78**	**76**	*i*Pg	**Pg**	**05 37 50.8**	**-0.2**
MOZS				*i*Sg	**Sb**	**05 38 03.1**	**+1.9**
	comp=Z,179nm,0.1s						
LJU	**Ljubljana**	**0.82**	**94**	*i*Pg	**Pg**	**05 37 52.3**	**+0.6**
LJU				*i*Sg	**Sn**	**05 38 04.8**	**+0.6**
LJU							
	comp=Z,173nm,0.1s						
LJU	**Ljubljana**	**0.82**	**94**	*i*Pg	**Pg**	**05 37 52.3**	**+0.6**
LJU				*i*Sg	**Sn**	**05 38 04.8**	**+0.6**
	comp=Z,173nm,0.1s						
CEY	**Cerknica**	**0.84**	**116**	*i*Pg	**Pg**	**05 37 51.8**	**-0.2**
CEY				*i*Sg	**Sb**	**05 38 04.8**	**+2.0**
CEY							
	comp=Z,142nm,0.1s						
CEY	**Cerknica**	**0.84**	**116**	*i*Pg	**Pg**	**05 37 51.8**	**-0.2**
CEY				*i*Sg	**Sb**	**05 38 04.8**	**+2.0**
	comp=Z,169nm,0.1s						
ABTA	**Abfaltersbach**	**0.86**	**318**	*i*Pg	**Pb**	**05 37 51.9**	**-0.3**
ABTA				*i*Sg	**Sb**	**05 38 04.7**	**+1.2**
	comp=Z,69nm,0.3s						
ABTA	**Abfaltersbach**	**0.86**	**318**	*i*Pg	**Pb**	**05 37 51.9**	**-0.3**
ABTA				Sg	**Sb**	**05 38 04.7**	**+1.2**
	comp=Z,69nm,0.3s						
VARN	**Col Varnada, M**	**0.87**	**263**	*e*Pg	**Pb**	**05 37 53.1**	**+0.8**
VARN	**Col Varnada, M**	**0.87**	**263**	*e*Pg	**Pb**	**05 37 53.2**	**+0.8**
AGOR	**Agordo**	**0.92**	**282**	Pg	**Pn**	**05 37 54.5**	**+0.9**
AGOR				Sg	**Sn**	**05 38 08.2**	**+1.5**
	comp=Z,556nm,0.4s						
AGOR	**Agordo**	**0.92**	**282**	Pg	**Pg**	**05 37 54.5**	**+0.9**
AGOR				Sg	**Sn**	**05 38 08.2**	**+1.5**
	comp=Z,556nm,0.4s						
OBKA	**Obir**	**0.93**	**64**	*e*Pg	**Pb**	**05 37 53.1**	**-0.2**
OBKA				*e*Sg	**Sn**	**05 38 07.4**	**+0.5**
OBKA	**Obir**	**0.93**	**64**	*e*Pg	**Pb**	**05 37 53.0**	**-0.2**
	SNR=102						
OBKA				*i*Sg	**Sb**	**05 38 06.4**	**+1.1**
	comp=Z,403nm,0.3s						
OBKA	**Obir**	**0.93**	**64**	Pg	**Pb**	**05 37 53.1**	**-0.2**
OBKA				Sg	**Sb**	**05 38 06.4**	**+1.1**
	comp=Z,403nm,0.3s						
VNDS	**Vrh nad Dolski**	**0.94**	**90**	*i*Pg	**Pb**	**05 37 53.7**	**+0.2**
VNDS				*e*Sg	**Sn**	**05 38 08.6**	**+1.4**
VNDS							
	comp=Z,236nm,0.2s						
KBA	**Koelnbreinsper**	**0.97**	**360**	*e*Pg	**Pb**	**05 37 54.4**	**+0.3**
KBA				*e*Sg	**Sn**	**05 38 08.8**	**+0.7**
KBA	**Koelnbreinsper**	**0.97**	**360**	*e*Pg	**Pb**	**05 37 54.3**	**+0.2**
	SNR=146						
KBA				*i*Sg	**Sb**	**05 38 07.6**	**+0.8**
	comp=Z,363nm,0.3s						
KBA	**Koelnbreinsper**	**0.97**	**360**	Pg	**Pb**	**05 37 54.4**	**+0.2**
KBA				Sg	**Sb**	**05 38 07.6**	**+0.8**
	comp=Z,363nm,0.3s						
VISS	**Visnje**	**1.08**	**106**	*i*Pg	**Pb**	**05 37 56.5**	**+0.5**
VISS				*i*Sg	**Sn**	**05 38 11.9**	**+1.2**
VISS							
	comp=Z,157nm,0.1s						
VISS	**Visnje**	**1.08**	**106**	*i*Pg	**Pb**	**05 37 56.5**	**+0.5**
VISS				*i*Sg	**Sn**	**05 38 11.9**	**+1.2**
	comp=Z,157nm,0.1s						
PDKS	**Podkum**	**1.15**	**92**	*i*Pg	**Pn**	**05 37 58.1**	**+1.1**
PDKS				*e*Sg	**Sg**	**05 38 14.7**	**+1.8**
PDKS							
	comp=Z,196nm,0.1s						
PDKS	**Podkum**	**1.15**	**92**	*i*Pg	**Pn**	**05 37 58.1**	**+1.1**
PDKS				*e*Sg	**Sg**	**05 38 14.7**	**+1.8**
	comp=Z,196nm,0.1s						
SOKA	**Soboth**	**1.30**	**63**	*e*Pn	**Pn**	**05 37 59.8**	**+0.7**
	SNR=165						
SOKA				*i*Sg	**Sg**	**05 38 18.5**	**+0.8**
	comp=Z,101nm,0.3s						
SOKA	**Soboth**	**1.30**	**63**	*e*Pn	**Pn**	**05 37 59.8**	**+0.7**
SOKA				Sg	**Sg**	**05 38 18.5**	**+0.8**
	comp=Z,101nm,0.3s						
PERS	**Pernice**	**1.33**	**66**	*i*Pg	**Pn**	**05 38 00.3**	**+0.7**
PERS				*e*Sg	**Sg**	**05 38 19.3**	**+0.5**
PERS							
	comp=Z,131nm,0.2s						
PERS	**Pernice**	**1.33**	**66**	*i*Pg	**Pn**	**05 38 00.3**	**+0.7**
PERS				*e*Sg	**Sg**	**05 38 19.3**	**+0.5**
	comp=Z,131nm,0.2s						
LEGS	**Legarje**	**1.38**	**96**	*i*Pg	**Pb**	**05 38 02.2**	**+1.2**
LEGS				*e*Sg	**Sg**	**05 38 21.3**	**+1.0**
LEGS	**Legarje**	**1.38**	**96**	*i*Pg	**Pb**	**05 38 02.2**	**+1.2**
LEGS				*e*Sg	**Sg**	**05 38 21.3**	**+1.0**
TEOL	**Teolo**	**1.39**	**238**	Pg	**Pb**	**05 38 02.3**	**+1.1**
TEOL				Sg	**Sg**	**05 38 21.8**	**+1.2**
	comp=Z,3μm,0.6s						
TEOL	**Teolo**	**1.39**	**238**	Pg	**Pb**	**05 38 02.3**	**+1.1**
TEOL				Sg	**Sg**	**05 38 21.8**	**+1.2**
	comp=Z,3μm,0.6s						
KOSI	**Kohlern**	**1.41**	**285**	Pg	**Pg**	**05 38 03.7**	**+0.8**
KOSI				Sg	**Sg**	**05 38 23.1**	**+1.8**
	comp=Z,1μm,0.5s						
KOSI	**Kohlern**	**1.41**	**285**	Pg	**Pg**	**05 38 03.7**	**+0.8**
KOSI				Sg	**Sg**	**05 38 23.1**	**+1.8**
	comp=Z,1μm,0.5s						
PANI	**Panarotta**	**1.42**	**268**	*e*Pg	**Pb**	**05 38 03.1**	**+1.3**
PANI	**Panarotta**	**1.42**	**268**	*e*Pg	**Pb**	**05 38 03.1**	**+1.3**
BOSI	**Bolzano**	**1.46**	**286**	Pg	**Pg**	**05 38 04.8**	**+1.0**
BOSI				Sg	**Sg**	**05 38 24.9**	**+2.1**
	comp=Z,3μm,0.6s						
BOSI	**Bolzano**	**1.46**	**286**	Pg	**Pg**	**05 38 04.8**	**+1.0**
BOSI				Sg	**Sg**	**05 38 24.9**	**+2.1**
	comp=Z,3μm,0.6s						
BOJS	**Bojanci**	**1.46**	**114**	*i*Pg	**Pb**	**05 38 03.8**	**+1.4**
BOJS							
	comp=Z,100nm,0.2s						
BOJS	**Bojanci**	**1.46**	**114**	*i*Pg	**Pb**	**05 38 03.8**	**+1.4**
	comp=Z,100nm,0.2s						
CESS	**Cesta pri Krsk**	**1.48**	**94**	*i*Pg	**Pb**	**05 38 03.5**	**+0.8**
CESS				*e*Sg	**Sg**	**05 38 24.3**	**+0.9**
CESS							
	comp=Z,171nm,0.2s						
CESS	**Cesta pri Krsk**	**1.48**	**94**	*i*Pg	**Pb**	**05 38 03.5**	**+0.8**
CESS				*e*Sg	**Sg**	**05 38 24.3**	**+0.9**
	comp=Z,171nm,0.2s						
CRES	**Cresnjev**	**1.50**	**100**	*i*Pg	**Pb**	**05 38 03.9**	**+0.9**
CRES				*e*Sg	**Sg**	**05 38 24.1**	**+0.1**
CRES							
	comp=Z,119nm,0.2s						
CRES	**Cresnjev**	**1.50**	**100**	*i*Pg	**Pb**	**05 38 03.9**	**+0.9**
CRES				*e*Sg	**Sg**	**05 38 24.1**	**+0.1**
	comp=Z,119nm,0.2s						
APPI	**Appiano**	**1.52**	**285**	Pg	**Pb**	**05 38 05.0**	**+1.6**
APPI				Sg	**Sg**	**05 38 26.4**	**+1.8**
	comp=Z,454nm,0.3s						
APPI	**Appiano**	**1.52**	**285**	*e*Pg	**Pb**	**05 38 05.0**	**+1.6**
APPI				Sg	**Sg**	**05 38 26.4**	**+1.8**
	comp=Z,454nm,0.3s						
DDS	**Dosso del Somm**	**1.52**	**262**	*e*Pg	**Pb**	**05 38 04.5**	**+1.1**
**DDS

MABI	**Malga Bissina**	**1.97**	**270**	Pg	**Pb**	**05 38 11.2**	**0.0**
MABI				Sg	**Sb**	**05 38 38.4**	**+2.8**
	comp=Z,179nm,0.6s						
MABI	**Malga Bissina**	**1.97**	**270**	Pg	**Pb**	**05 38 11.2**	**0.0**
MABI				Sg	**Sb**	**05 38 38.4**	**+2.8**
	comp=Z,179nm,0.6s						
MOTA	**Moosalm**	**1.98**	**310**⇑	*e*Pg	**Pb**	**05 38 12.6**	**+1.3**
	SNR=38						
MOTA			⇑	*i*Sg	**Sg**	**05 38 40.7**	**+1.3**
	comp=Z,95nm,0.4s						
MOTA	**Moosalm**	**1.98**	**310**⇑	*e*Pg	**Pb**	**05 38 12.6**	**+1.3**
MOTA				Sg	**Sg**	**05 38 40.7**	**+1.3**
	comp=Z,95nm,0.4s						
MOSI	**Grossmontoni**	**2.00**	**286**	Pg	**Pb**	**05 38 11.9**	**+0.2**
	comp=Z,1µm,0.8s						
MOSI	**Grossmontoni**	**2.00**	**286**	*e*Pn	**Pb**	**05 38 11.7**	**0.0**
FETA	**Feichten**	**2.02**	**298**⇓	*e*Pn	**Pn**	**05 38 10.4**	**+1.3**
	SNR=64						
FETA			⇑	*i*Pg	**Pg**	**05 38 14.8**	**+0.3**
FETA	**Feichten**	**2.02**	**298**⇓	*e*Pn	**Pn**	**05 38 10.4**	**+1.3**
SALO	**Salr**	**2.03**	**257**	Pg	**Pn**	**05 38 11.4**	**+2.3**
	comp=Z,250nm,0.8s						
SALO	**Salr**	**2.03**	**257**	Pg	**Pn**	**05 38 11.4**	**+2.3**
	comp=Z,250nm,0.8s						
BRMO	**Bormio**	**2.10**	**281**	Pg	**Pn**	**05 38 12.5**	**+2.4**
BRMO				Sg	**Sb**	**05 38 42.2**	**+3.2**
	comp=Z,116nm,0.5s						
BRMO	**Bormio**	**2.10**	**281**	Pg	**Pn**	**05 38 12.5**	**+2.4**
BRMO				Sg	**Sb**	**05 38 42.2**	**+3.2**
	comp=Z,116nm,0.5s						
MTRZ	**Monterenzio**	**2.18**	**218**	Pg	**Pb**	**05 38 15.5**	**+0.8**
MTRZ	**Monterenzio**	**2.18**	**218**	Pg	**Pb**	**05 38 15.5**	**+0.8**
RETA	**Reutte**	**2.25**	**309**⇓	*e*Pn	**Pn**	**05 38 13.4**	**+1.2**
	SNR=32						
RETA			⇓	*i*Sn	**Sn**	**05 38 41.4**	**+1.9**
RETA	**Reutte**	**2.25**	**309**⇑	*e*Pn	**Pn**	**05 38 13.4**	**+1.2**
RETA				*i*Sn	**Sn**	**05 38 41.4**	**+1.9**
NOVE	**Novellara**	**2.27**	**236**	Pg	**Pb**	**05 38 16.7**	**+0.6**
NOVE	**Novellara**	**2.27**	**236**	Pg	**Pb**	**05 38 16.7**	**+0.6**
RSM	**Repubblica di**	**2.27**	**197**	Pg	**Pn**	**05 38 14.5**	**+2.1**
	comp=Z,117nm,0.9s						
RSM	**Repubblica di**	**2.27**	**197**	Pg	**Pn**	**05 38 14.5**	**+2.1**
	comp=Z,117nm,0.9s						
UDBI	**Udbina**	**2.32**	**132**	*e*Pn	**Pb**	**05 38 16.4**	**-0.8**
UDBI				Sn	**Sb**	**05 38 46.2**	**+0.6**
UDBI	**Udbina**	**2.32**	**132**	*e*Pn	**Pb**	**05 38 16.3**	**-0.8**
UDBI				Sn	**Sb**	**05 38 46.1**	**+0.6**
FSSB	**Fossombrone**	**2.45**	**190**	Pg	**Pn**	**05 38 16.5**	**+1.7**
	comp=Z,23nm,0.2s						
OBER	**Oberstdorf**	**2.47**	**303**	*e*Pn	**Pb**	**05 38 19.0**	**-0.6**
OBER				*e*Sg	**Sg**	**05 38 55.7**	**+0.6**
OBER	**Oberstdorf**	**2.47**	**303**	Pn	**Pb**	**05 38 19.0**	**-0.6**
OBER				Sg	**Sg**	**05 38 55.7**	**+0.6**
SEI	**Scarperia**	**2.49**	**215**	Pg	**Pn**	**05 38 17.3**	**+1.9**
	comp=Z,128nm,0.4s						
DAVOX	**Davos/Dischmat**	**2.49**	**287**	Pg	**Pb**	**05 38 19.1**	**-0.9**
DAVOX	**Davos/Dischmat**	**2.49**	**287**	Pg	**Pb**	**05 38 19.1**	**-0.9**
VMG	**Vicchio**	**2.50**	**211**	Pg	**Pn**	**05 38 17.3**	**+1.8**
	comp=Z,40nm,0.5s						
FUR	**Furstenfeldbru**	**2.50**	**326**	*e*Sg	**Sg**	**05 38 55.4**	**-0.6**
FUR	**Furstenfeldbru**	**2.50**	**326**	Sg	**Sg**	**05 38 55.4**	**-0.6**
CONA	**Conrad Observa**	**2.51**	**42**⇓	*e*Pn	**Pn**	**05 38 17.4**	**+1.7**
	SNR=21						
CONA			⇑	*i*Sn	**Sn**	**05 38 48.1**	**+2.2**
CONA	**Conrad Observa**	**2.51**	**42**⇓	*e*Pn	**Pn**	**05 38 17.5**	**+1.8**
CONA				*i*Sn	**Sn**	**05 38 48.1**	**+2.2**
MDI	**Monti di Nese**	**2.56**	**264**	Pg	**Pn**	**05 38 18.9**	**+2.5**
ASQU	**Asqua**	**2.56**	**206**	Pg	**Pn**	**05 38 18.3**	**+1.9**
	comp=Z,93nm,0.3s						
ARVD	**Arcevia**	**2.62**	**186**	Pg	**Pn**	**05 38 19.3**	**+2.1**
	comp=Z,82nm,0.6s						
PIEI	**Pieia**	**2.63**	**193**	Pg	**Pn**	**05 38 19.0**	**+1.6**
	comp=Z,83nm,0.5s						
DAVA	**Damuels**	**2.66**	**298**	*e*Pn	**Pn**	**05 38 21.0**	**+3.1**
DAVA	**Damuels**	**2.66**	**298**⇓	*i*Pn	**Pn**	**05 38 18.8**	**+0.9**
DAVA	**Damuels**	**2.66**	**298**⇓	*i*Pn	**Pn**	**05 38 18.8**	**+0.9**
CRE	**Caprese Michel**	**2.68**	**202**	Pg	**Pn**	**05 38 20.5**	**+2.4**
	comp=Z,47nm,0.6s						
CING	**Cingoli**	**2.73**	**182**	Pg	**Pn**	**05 38 20.7**	**+1.9**
GEC2	**GERESS Array S**	**2.75**	**5**	*e*Pn	**Pn**	**05 38 21.6**	**+2.5**
GEC2				*e*Pg	**Pg**	**05 38 28.0**	**-0.4**
GEC2				*e*Sg	**Sg**	**05 39 04.6**	**+0.6**
GEC2	**GERESS Array S**	**2.75**	**5**	Pn	**Pn**	**05 38 21.6**	**+2.5**
GEC2	**GERESS Array S**	**2.75**	**5**	Pg	**Pg**	**05 38 28.0**	**-0.4**
GEC2				Sg	**Sg**	**05 39 04.6**	**+0.6**
MURB	**Monte Urbino**	**2.90**	**192**	Pg	**Pn**	**05 38 23.7**	**+2.6**
	comp=Z,189nm,0.3s						
BACM	**Baccana**	**2.95**	**233**	P	**Pn**	**05 38 23.5**	**+1.8**
MAIM	**Mastiano**	**2.98**	**224**	P	**Pn**	**05 38 24.0**	**+1.8**
CODM	**Codolo**	**3.01**	**236**	P	**Pn**	**05 38 24.3**	**+1.8**
BLY	**Banja Luka**	**3.02**	**115**	*e*Pn	**Pn**	**05 38 23.9**	**+1.2**
KHC	**Kasperske Hory**	**3.03**	**3**	*e*PN	**Pn**	**05 38 25.4**	**+2.6**
KHC				*e*PG	**Pg**	**05 38 32.5**	**-1.2**
KHC				*e*SN	**Sn**	**05 39 02.0**	**+3.3**
KHC				*e*SG	**Sg**	**05 39 13.5**	**+0.5**
	comp=Z,45nm,0.5s						
KHC	**Kasperske Hory**	**3.03**	**3**	Pn	**Pn**	**05 38 25.4**	**+2.6**
WET	**Wettzell**	**3.06**	**354**	*e*Pn	**Pn**	**05 38 26.3**	**+3.1**
WET	**Wettzell**	**3.06**	**354**	Pn	**Pn**	**05 38 26.3**	**+3.1**
FDMO	**Fiordimonte**	**3.08**	**184**	Pg	**Pn**	**05 38 25.3**	**+1.9**
	comp=Z,58nm,0.5s						
SC2M	**Scurtabo**	**3.19**	**239**	P	**Pn**	**05 38 27.0**	**+2.0**
TREC	**Trest**	**3.50**	**24**	*e*PN	**Pn**	**05 38 31.1**	**+1.8**
TREC				*e*PG	**Pg**	**05 38 40.9**	**-1.8**
TREC				*e*SN	**Sn**	**05 39 11.7**	**+1.4**
TREC	**Trest**	**3.50**	**24**	Pn	**Pn**	**05 38 31.1**	**+1.8**
TREC	**Trest**	**3.50**	**24**	Pg	**Pg**	**05 38 40.9**	**-1.8**
TREC				Sn	**Sn**	**05 39 11.7**	**+1.4**
SMOL	**Smolenice**	**3.67**	**48**	*e*PN	**Pn**	**05 38 33.4**	**+1.7**
SMOL	**Smolenice**	**3.67**	**48**	*e*Pn	**Pn**	**05 38 33.4**	**+1.7**
SPAK	**Spaichingen-Ko**	**3.70**	**304**	P	**Pn**	**05 38 34.6**	**+2.5**
SPAK				S	**Sn**	**05 39 21.1**	**+5.8**
PCP	**Piancastagn**	**3.73**	**247**	P	**Pn**	**05 38 34.7**	**+2.2**
GRA1	**Grafenberg Arr**	**3.86**	**339**	Pg	**Pg**	**05 38 49.7**	**+0.1**
GRA1				Sg	**Sg**	**05 39 39.7**	**+0.1**
GRF	**Grafenberg Arr**	**3.86**	**339**	*e*Pg	**Pg**	**05 38 49.7**	**+0.1**
GRF				*e*Sg	**Sg**	**05 39 39.7**	**+0.1**
VRAC	**Vranov**	**3.88**	**33**	*e*Pn	**Pn**	**05 38 36.9**	**+2.4**
TRAV	**Traversella**	**3.96**	**263**	P	**Pn**	**05 38 37.0**	**+1.3**
PRU	**Pruhonice**	**3.97**	**11**	*e*PN	**Pn**	**05 38 38.0**	**+2.4**
PRU				*e*PG	**Pg**	**05 38 49.4**	**-2.2**
PRU				*e*SN	**Sn**	**05 39 23.7**	**+2.0**
PRU				*e*SG	**Sg**	**05 39 43.2**	**+0.3**
	comp=Z,33nm,0.6s						
PRU	**Pruhonice**	**3.97**	**11**	Pn	**Pn**	**05 38 38.0**	**+2.4**
FELD	**Feldberg im Sc**	**4.06**	**298**	P	**Pn**	**05 38 39.2**	**+2.1**
FELD	**Feldberg im Sc**	**4.06**	**298**	P	**Pn**	**05 38 39.2**	**+2.1**
BFO	**Black Forest**	**4.08**	**305**	*e*Pn	**Pn**	**05 38 39.7**	**+2.5**
BFO				*e*Sg	**Sg**	**05 39 46.1**	**-0.5**
BFO	**Black Forest**	**4.08**	**305**	Pn	**Pn**	**05 38 39.7**	**+2.5**
BFO				Sg	**Sg**	**05 39 46.1**	**-0.5**
NKC	**Novy Kostel**	**4.17**	**352**	*e*PN	**Pn**	**05 38 41.2**	**+2.7**
NKC				*e*PG	**Pg**	**05 38 53.4**	**-2.2**
NKC				*e*SN	**Sn**	**05 39 28.1**	**+1.2**
NKC				*e*SG	**Sg**	**05 39 50.5**	**+0.9**
	comp=Z,11nm,0.5s						
NKC	**Novy Kostel**	**4.17**	**352**	Pn	**Pn**	**05 38 41.2**	**+2.7**
BBS	**Basel-Blauen**	**4.23**	**291**	P	**Pn**	**05 38 41.8**	**+2.4**
TANN	**Tannenbergstha**	**4.35**	**353**	*e*Pn	**Pn**	**05 38 43.3**	**+2.3**
TANN	**Tannenbergstha**	**4.35**	**353**	Pn	**Pn**	**05 38 43.3**	**+2.3**
RSP	**Reno Superiore**	**4.37**	**260**	P	**Pn**	**05 38 40.9**	**-0.5**
STON	**Ston**	**4.49**	**135**	*e*Pn	**Pn**	**05 38 46.0**	**+3.1**
STON				Sn	**Sn**	**05 39 37.6**	**+3.0**
STON	**Ston**	**4.49**	**135**	*e*Pn	**Pn**	**05 38 45.9**	**+3.1**
STON				Sn	**Sn**	**05 39 37.6**	**+3.0**
PVCC	**Panska Ves**	**4.50**	**10**	*e*PN	**Pn**	**05 38 45.2**	**+2.2**
PVCC				*e*PG	**Pg**	**05 38 59.5**	**-2.3**
PVCC				*e*SN	**Sn**	**05 39 35.6**	**+0.7**
PVCC				*e*SG	**Sg**	**05 40 00.4**	**+0.4**
	comp=Z,45nm,0.5s						
PVCC	**Panska Ves**	**4.50**	**10**	Pn	**Pn**	**05 38 45.2**	**+2.2**
KRLC	**Kraliky**	**4.59**	**29**	*e*PN	**Pn**	**05 38 46.4**	**+2.1**
KRLC				*e*PG	Pb	05 39 00.2	+4.5
KRLC				*e*SN	**Sn**	**05 39 37.5**	**+0.3**
KRLC				*e*SG	**Sg**	**05 40 03.0**	**+0.1**
KRLC	**Kraliky**	**4.59**	**29**	Pn	**Pn**	**05 38 46.4**	**+2.1**
KRLC	**Kraliky**	**4.59**	**29**	Pg	Pb	05 39 00.2	+4.5
KRLC				Sn	**Sn**	**05 39 37.5**	**+0.3**
KRLC				Sg	**Sg**	**05 40 03.0**	**+0.1**
MOF	**Molkenrain**	**4.60**	**295**	P	**Pn**	**05 38 46.4**	**+2.0**
MOF	**Molkenrain**	**4.60**	**295**	P	**Pn**	**05 38 46.4**	**+2.0**
SAOF	**Saorge**	**4.62**	**245**	P	**Pn**	**05 38 47.4**	**+2.7**
SAOF	**Saorge**	**4.62**	**245**	P	**Pn**	**05 38 47.4**	**+2.7**
MORC	**Moravsky Berou**	**4.63**	**36**	*e*Pn	**Pn**	**05 38 47.1**	**+2.3**
TEKS	**Tekeris**	**4.63**	**107**⇑	*i*Pn	**Pn**	**05 38 47.6**	**+2.8**
FGSL	**Fruska Gora**	**4.63**	**100**⇓	*i*Pn	**Pn**	**05 38 46.7**	**+1.9**
TOD	**Tromm**	**4.65**	**321**	P	**Pn**	**05 38 47.1**	**+2.0**
TOD				S	**Sn**	**05 39 44.2**	**+5.6**
LOMF	**Lomont**	**4.65**	**288**	P	**Pn**	**05 38 47.3**	**+2.1**
LOMF	**Lomont**	**4.65**	**288**	P	**Pn**	**05 38 47.3**	**+2.1**
LPG	**La Plagne**	**4.65**	**265**	*e*Pn	**Pn**	**05 38 45.9**	**+0.5**
LPG	**La Plagne**	**4.65**	**265**	*e*P	Pn	05 38 49.6	+4.2
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 39 37.0**	**-2.1**
	comp=Z,31nm,0.8s						
LPG	**La Plagne**	**4.65**	**265**	*e*Pn	**Pn**	**05 38 45.9**	**+0.5**
LPG	**La Plagne**	**4.65**	**265**	*e*P	Pn	05 38 49.6	+4.2
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 39 37.0**	**-2.1**
	comp=Z,15nm,0.8s						
LPL	**La Plagne**	**4.66**	**265**	*e*P	Pn	05 38 49.1	+3.7
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 39 36.9**	**-2.3**
	comp=Z,5.7nm,0.4s						
LPL	**La Plagne**	**4.66**	**265**	*e*P	Pn	05 38 49.1	+3.7
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 39 36.9**	**-2.3**
	comp=Z,2.8nm,0.4s						
WLS	**Welschbruch**	**4.69**	**302**	P	**Pn**	**05 38 48.1**	**+2.5**
WLS	**Welschbruch**	**4.69**	**302**	P	**Pn**	**05 38 48.1**	**+2.5**
DPC	**Dobruska-Polom**	**4.69**	**24**	*e*PN	**Pn**	**05 38 46.9**	**+1.3**
DPC				*e*PG	Pb	05 39 00.8	+3.4
DPC				*e*SN	**Sn**	**05 39 39.5**	**-0.1**
DPC				*e*SG	**Sg**	**05 40 07.1**	**+1.0**
	comp=Z,71nm,0.6s						
DPC	**Dobruska-Polom**	**4.69**	**24**	Pn	**Pn**	**05 38 46.9**	**+1.3**
DPC				Sn	**Sn**	**05 39 39.5**	**-0.1**
DPC				Sg	**Sg**	**05 40 07.1**	**+1.0**
	comp=Z,71nm,0.6s						
RSL	**Roselend**	**4.71**	**267**	P	**Pn**	**05 38 48.6**	**+2.5**
RSL	**Roselend**	**4.71**	**267**	P	**Pn**	**05 38 48.6**	**+2.5**
LANF	**Langenberg**	**4.73**	**309**	P	**Pn**	**05 38 48.3**	**+2.2**
LANF	**Langenberg**	**4.73**	**309**	P	**Pn**	**05 38 48.3**	**+2.2**
PGF	**Pioggiola**	**4.73**	**223**	*e*Pn	**Pn**	**05 38 46.9**	**+0.6**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**05 39 38.7**	**-2.1**
	comp=Z,4.4nm,0.3s						
PGF	**Pioggiola**	**4.73**	**223**	*e*Pn	**Pn**	**05 38 46.9**	**+0.6**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**05 39 38.7**	**-2.1**
	comp=Z,2.2nm,0.3s						
CDF	**Champ du Feu**	**4.73**	**301**	*e*Pn	**Pn**	**05 38 46.4**	**+0.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**05 39 38.5**	**-2.3**
CDF				*e*Sg	**Sg**	**05 40 05.9**	**-1.6**
	comp=Z,9.3nm,0.6s,SNR=1.0						
CDF	**Champ du Feu**	**4.73**	**301**	*e*Pn	**Pn**	**05 38 46.4**	**+0.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**05 39 38.5**	**-2.3**
CDF				*e*Sg	**Sg**	**05 40 05.9**	**-1.6**
	comp=Z,4.7nm,0.6s,SNR=1.0						
UPC	**Upice**	**4.75**	**21**	*e*PG	Pg	05 39 03.3	-3.3
UPC				*e*SN	**Sn**	**05 39 42.0**	**+1.0**
UPC				*e*SG	**Sg**	**05 40 08.3**	**+0.3**
	comp=Z,18nm,0.8s						
UPC	**Upice**	**4.75**	**21**	Pg	Pg	05 39 03.3	-3.3
UPC				Sn	**Sn**	**05 39 42.0**	**+1.0**
UPC				Sg	**Sg**	**05 40 08.3**	**+0.3**
	comp=Z,18nm,0.8s						
SBF	**Sospel**	**4.76**	**244**	*e*Pn	**Pn**	**05 38 47.6**	**+1.0**
SBF				*e*Sn	**Sn**	**05 39 39.6**	**-1.7**
	comp=Z,14nm,0.3s						
SBF	**Sospel**	**4.76**	**244**	*e*Pn	**Pn**	**05 38 47.6**	**+1.0**
SBF				*e*Sn	**Sn**	**05 39 39.6**	**-1.7**
	comp=Z,7.0nm,0.3s						
HINF	**Hinteralfeld**	**4.76**	**293**	*e*Pn	**Pn**	**05 38 48.3**	**+1.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 39 39.4**	**-2.1**
	comp=Z,15nm,0.3s						
HINF	**Hinteralfeld**	**4.76**	**293**	*e*Pn	**Pn**	**05 38 48.3**	**+1.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 39 39.4**	**-2.1**
	comp=Z,7.7nm,0.3s						
BRG	**Berggiesshubel**	**4.79**	**5**	PN	**Pn**	**05 38 49.1**	**+2.2**
BRG				PG	Pg	05 39 04.5	-2.8
BRG				SN	**Sn**	**05 39 41.9**	**0.0**
BRG				SG	**Sg**	**05 40 07.5**	**-1.7**
	comp=Z,25nm,0.8s						
BRG	**Berggiesshubel**	**4.79**	**5**	*e*Pn	**Pn**	**05 38 48.9**	**+2.0**
BRG	**Berggiesshubel**	**4.79**	**5**	Pn	**Pn**	**05 38 48.9**	**+2.0**
TOUF	**Mont Tournerai**	**4.80**	**246**	P	**Pn**	**05 38 49.5**	**+2.2**
TOUF	**Mont Tournerai**	**4.80**	**246**	P	**Pn**	**05 38 49.5**	**+2.2**
MBDF	**Montbardon**	**4.83**	**256**	*e*Pn	**Pn**	**05 38 47.4**	**-0.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**05 39 41.3**	**-2.0**
	comp=Z,8.5nm,0.4s						
MBDF	**Montbardon**	**4.83**	**256**	*e*Pn	**Pn**	**05 38 47.4**	**-0.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**05 39 41.3**	**-2.0**
	comp=Z,4.2nm,0.4s						
BBLS	**Lazići**	**4.85**	**115**⇑	*i*Pn	Pn	05 38 51.4	+3.6
OKC	**Ostrava-Krasne**	**4.93**	**39**	*e*PN	**Pn**	**05 38 51.3**	**+2.4**
OKC	**Ostrava-Krasne**	**4.93**	**39**	Pn	**Pn**	**05 38 51.3**	**+2.4**
TREB	**Trebinje**	**4.93**	**132**	*e*Pn	Pn	05 38 53.7	+4.8
CABF	**La Chapelle**	**5.05**	**278**	*e*Pn	**Pn**	**05 38 52.9**	**+2.2**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**05 39 50.1**	**+1.5**
	comp=Z,8.7nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**5.05**	**278**	*e*Pn	**Pn**	**05 38 52.9**	**+2.2**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**05 39 50.1**	**+1.5**
	comp=Z,4.3nm,0.6s,SNR=1.0						
DIVS	**Divibare**	**5.11**	**111**	*e*Pn	**Pn**	**05 38 53.1**	**+1.6**
HAU	**Haudompre**	**5.15**	**294**	*e*Pn	**Pn**	**05 38 52.7**	**+0.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**05 39 48.3**	**-2.6**
	comp=Z,17nm,0.5s						
HAU	**Haudompre**	**5.15**	**294**	*e*Pn	**Pn**	**05 38 52.7**	**+0.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**05 39 48.3**	**-2.6**
	comp=Z,8.4nm,0.5s						
CLL	**Collm**	**5.21**	**358**	*e*Pn	**Pn**	**05 38 55.3**	**+2.6**
CLL				*e*Sg	**Sg**	**05 40 22.7**	**-0.1**
CLL	**Collm**	**5.21**	**358**	*i*Pn	**Pn**	**05 38 55.4**	**+2.7**
CLL				*e*Pg	**Pg**	**05 39 15.0**	**-0.4**
CLL				*i*Sn	**Sn**	**05 39 53.0**	**+0.6**
CLL				*e*Sg	**Sg**	**05 40 22.0**	**-0.8**
	comp=Z,23nm,0.7s						
CLL	**Collm**	**5.21**	**358**	Pn	**Pn**	**05 38 55.3**	**+2.6**
CLL				Sg	**Sg**	**05 40 22.7**	**-0.1**
ORIF	**Oris-en-Rattie**	**5.38**	**260**	*e*P	Pn	05 38 59.3	+4.1
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**05 39 54.6**	**-2.2**
	comp=Z,11nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**5.38**	**260**	*e*P	Pn	05 38 59.3	+4.1
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**05 39 54.6**	**-2.2**
	comp=Z,5.5nm,0.5s,SNR=1.0						
FRF	**La Foret Royal**	**5.40**	**244**	*e*Pn	**Pn**	**05 38 55.9**	**+0.5**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**05 39 54.9**	**-2.2**
	comp=Z,5.1nm,0.3s						
FRF	**La Foret Royal**	**5.40**	**244**	*e*Pn	**Pn**	**05 38 55.9**	**+0.5**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**05 39 54.9**	**-2.2**
	comp=Z,2.5nm,0.3s						
THEF	**They Montfort**	**5.45**	**296**	P	**Pn**	**05 38 59.2**	**+3.2**
THEF	**They Montfort**	**5.45**	**296**	P	**Pn**	**05 38 59.2**	**+3.2**
LMR	**La Mourre**	**5.61**	**243**	*e*Pn	**Pn**	**05 38 58.7**	**+0.5**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**05 40 01.1**	**-1.0**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**05 40 33.6**	**-1.9**
	comp=Z,6.3nm,0.6s,SNR=1.0						
LMR	**La Mourre**	**5.61**	**243**	*e*Pn	**Pn**	**05 38 58.7**	**+0.5**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**05 40 33.6**	**-1.9**
	comp=Z,3.2nm,0.6s,SNR=1.0						
GRUS	**Gruza**	**5.68**	**110**	*e*Pn	Pn	05 39 02.7	+3.6
SMRF	**Simiane la Rot**	**5.91**	**252**	*e*Pn	**Pn**	**05 39 02.5**	**+0.2**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**05 40 06.7**	**-2.9**
	comp=Z,3.8nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**5.91**	**252**	*e*Pn	**Pn**	**05 39 02.5**	**+0.2**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**6.23**	**262**	*e*Pn	**Pn**	**05 39 07.6**	**+0.9**
	SNR=1.0						
SMF	**Signal de Mont**	**6.60**	**278**	*e*Pn	**Pn**	**05 39 13.8**	**+2.0**
	SNR=1.0						
SMF	**Signal de Mont**	**6.60**	**278**	*e*Pn	**Pn**	**05 39 13.8**	**+2.0**
	SNR=1.0						
LOR	**Lormes**	**6.63**	**284**	*e*Pn	**Pn**	**05 39 13.1**	**+0.8**
	baz=104,SNR=1.0						
LOR				*e*Sn	**Sn**	**05 40 25.8**	**-1.6**
	comp=Z,7.4nm,0.5s,SNR=1.0						
LOR	**Lormes**	**6.63**	**284**	*e*Pn	**Pn**	**05 39 13.1**	**+0.8**
	SNR=1.0						
PLDF	**La Plantade**	**6.77**	**272**	P	**Pn**	**05 39 16.1**	**+1.8**
PLDF	**La Plantade**	**6.77**	**272**	P	**Pn**	**05 39 16.1**	**+1.8**
SSF	**Saint Saulge**	**6.85**	**282**	*e*Pn	**Pn**	**05 39 16.3**	**+1.0**
	SNR=1.0						
SSF	**Saint Saulge**	**6.85**	**282**	*e*Pn	**Pn**	**05 39 16.3**	**+1.0**
	SNR=1.0						
AVF	**Avril sur Loir**	**6.94**	**279**	*e*Pn	**Pn**	**05 39 18.4**	**+1.9**
	SNR=1.0						
AVF	**Avril sur Loir**	**6.94**	**279**	*e*Pn	**Pn**	**05 39 18.4**	**+1.9**
	SNR=1.0						
LASF	**Ste Croix**	**7.02**	**257**	*e*Pn	**Pn**	**05 39 18.6**	**+1.0**
LASF				*e*Sn	**Sn**	**05 40 33.2**	**-3.7**
	comp=Z,5.1nm,0.5s						
LASF	**Ste Croix**	**7.02**	**257**	*e*Pn	**Pn**	**05 39 18.6**	**+1.0**
AGO	**Saint Agoulin**	**7.11**	**273**	P	**Pn**	**05 39 20.5**	**+1.7**
AGO	**Saint Agoulin**	**7.11**	**273**	P	**Pn**	**05 39 20.5**	**+1.7**
LBL	**Lubilhac**	**7.13**	**267**	P	**Pn**	**05 39 20.9**	**+1.7**
LBL	**Lubilhac**	**7.13**	**267**	P	**Pn**	**05 39 20.9**	**+1.7**
BGF	**Bois d'Agland**	**7.29**	**277**	*e*Pn	**Pn**	**05 39 21.5**	**+0.3**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**05 40 39.3**	**-4.2**
	comp=Z,7.0nm,0.4s						
BGF	**Bois d'Agland**	**7.29**	**277**	*e*Pn	**Pn**	**05 39 21.5**	**+0.3**
	SNR=1.0						
BAIF	**Baives**	**7.29**	**306**	*e*P	Pn	05 39 24.9	+3.7
BAIF	**Baives**	**7.29**	**306**	*e*P	Pn	05 39 24.9	+3.7
TCF	**Toulx Ste Croi**	**7.73**	**275**	*e*Pn	**Pn**	**05 39 28.2**	**+0.8**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**7.73**	**275**	*e*Pn	**Pn**	**05 39 28.2**	**+0.8**
	SNR=1.0						
CAF	**Calviac**	**8.01**	**266**	*e*Pn	**Pn**	**05 39 31.1**	**-0.2**
	SNR=1.0						
CAF	**Calviac**	**8.01**	**266**	*e*Pn	**Pn**	**05 39 31.1**	**-0.2**
	SNR=1.0						
RJF	**Les Rejaudoux**	**8.32**	**269**	*e*Pn	**Pn**	**05 39 35.1**	**-0.4**
	SNR=1.0						
RJF	**Les Rejaudoux**	**8.32**	**269**	*e*Pn	**Pn**	**05 39 35.1**	**-0.4**
	SNR=1.0						

*IDC **21** 05:43:44.0±1.0,56°.20S×26°.12W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/15,mbtmp3.8/3,Error ellipse: s-maj=44.7km s-min=33.0km az=79.0*

**ISC 21 05:43:45.6±1.1,56°.2S±0°.2×26°.1W±0°.3,h10km,n6,σ2s60/6, mb3

APE	Apeiranthos	2.65	32	*e*Pn	Pn	05 57 29.2	+0.5
ITM	Ithomi	2.77	328	*e*PN	Pn	05 57 30.2	-0.1
ITM	Ithomi	2.77	328	*e*Pn	Pn	05 57 30.2	-0.1
GUR	Goura	3.30	340	*e*PN	Pn	05 57 38.3	+0.7
GUR	Goura	3.30	340	*e*Pn	Pn	05 57 38.3	+0.7
KALE	Kalithea	3.78	340	*e*PN	Pn	05 57 45.1	+0.9
KALE	Kalithea	3.78	340	*e*Pn	Pn	05 57 45.1	+0.9
ARG	Arkhangelos	3.82	68	*e*PN	Pn	05 57 45.5	+0.8
ARG	Arkhangelos	3.82	68	*e*Pn	Pn	05 57 45.5	+0.8
MAKR	Makrakomi, Fth	4.37	343	*e*PN	Pn	05 57 53.0	+0.8
MAKR	Makrakomi, Fth	4.37	343	*e*Pn	Pn	05 57 53.0	+0.8
GERES	GERESS Array B	15.86	335	P	Pn	06 00 29.4	+1.1
	0.1nm,0.3s,baz=156,slow=12,SNR=4.1						
AKASG	Malin Array Be	16.35	12	P	Pn	06 00 34.1	-0.3
	0.7nm,0.3s,baz=205,slow=9.5,SNR=6.5						
HFS	Hagfors	26.15	349	P	P	06 02 15.8	-1.9
	1.4nm,0.4s,baz=146,slow=11,SNR=11						
FINES	FINESS Array B	26.67	2	P	P	06 02 20.2	-2.2
	3.1nm,1.0s,baz=142,slow=21,SNR=2.6						
NOA	NORSAR Array B	27.43	347	P	P	06 02 27.8	-1.6
	1.0nm,0.9s,baz=149,slow=9.8,SNR=3.4						
EKA	Eskdalemuir Ar	27.65	326	P	P	06 02 33.5	+2.2
	3.0nm,1.0s,baz=124,slow=6.0,SNR=3.7						
TORD	Torodi Ar. Bea	29.41	228	P	P	06 02 46.5	-0.9
	0.1nm,0.4s,baz=29,slow=8.2,SNR=3.5						
ARCES	ARCESS Array B	34.77	1	P	P	06 03 33.9	+0.1
	3.8nm,1.0s,baz=196,slow=9.4,SNR=4.1						
MKAR	Makanchi Array	44.91	56	P	P	06 04 57.4	-0.8
	0.8nm,0.4s,baz=266,slow=7.8,SNR=27						
YKA	Yellowknife Ar	77.40	342	P	P	06 08 37.1	-0.8
	0.1nm,0.5s,baz=33,slow=5.0,SNR=3.0						

*ISCJB **21** 06:02:48.2±0.7, 35°.29N±0°.09×139°.1E±0°.1, h180km±5km, mb3.4/4, Error ellipse: s-maj=19.0km s-min=9.3km az=139.9*
*IDC **21** 06:02:48.5±1.4, 35°.03N×138°.82E, h161km±15km, mb3.1/4, mb1 3.3/4, mb1mx3.0/25, mbtmp3.1/4, Error ellipse: s-maj=51.3km s-min=19.4km az=62.0*
*JMA **21** 06:02:49.5±0.2, 35°.28N×139°.12E, h172km±2km, M3.3*

ISC 21 06:02:49.2±0.9, 35°.29N±0°.09×139°.05E±0°.09, h176km±7km, n14, σ0°68/22, mb3.4/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	Odawara 2	0.04	133	P	Pn	06 03 12.3	-0.3
JOD2				*e*S	Sn	06 03 30.3	-0.1
JYN	Shimob	0.46	297	P	Pn	06 03 13.8	+0.3
JYO	Yokosk	0.51	97	P	Pn	06 03 13.7	+0.1
JYO				S	Sn	06 03 33.4	+1.2
JRY	Ryogami san	0.73	350	P	Pn	06 03 15.2	+0.4
JRY				S	Sn	06 03 34.7	0.0
JAG	Ashikaga	1.18	16	P	Pn	06 03 17.8	-0.1
JAG				S	Sn	06 03 39.3	-1.0
MJAR	Matsushiro Arr	1.42	332	P	Pn	06 03 19.8	-0.3
	6.7nm,0.3s,baz=169,slow=10,SNR=38						
MJAR				S	Sn	06 03 43.5	-0.6
	3.1nm,0.3s,baz=159,slow=17,SNR=8.4						
MAT	Matsushiro	1.43	331	P	Pn	06 03 20.4	+0.2
MAT				S	Sn	06 03 43.3	-0.9
MAT	Matsushiro	1.43	331	P	Pn	06 03 20.4	+0.2
MAT				S	Sn	06 03 43.7	-0.5
BSO1	Boso 1	1.70	111	P	Pn	06 03 22.3	0.0
BSO1				*e*S	Sn	06 03 47.7	-0.2
JFT	Otama	2.45	25	P	Pn	06 03 31.3	+0.2
SONM	Songino Array	27.25	307	P	P	06 08 18.3	+1.3
	0.2nm,0.5s,baz=108,slow=7.3,SNR=2.8						
ZALV	Zalesovo Beam	41.71	314	P	P	06 10 21.1	+0.6
	0.5nm,0.3s,baz=94,slow=4.6,SNR=3.5						
MKAR	Makanchi Array	43.45	303	P	P	06 10 34.9	+0.2
	0.3nm,0.5s,baz=79,slow=9.6,SNR=5.3						
WRA	Warramunga Arr	55.11	185	P	P	06 12 01.8	-1.3
	0.8nm,0.5s,baz=1.6,slow=7.6,SNR=18						

JMA 21 06:02:50.7, 34°.96N×139°.16E, h0km, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTJJ	Kamata 2	0.09	246	P	Pg	06 02 52.6	+0.2
KTJJ				S	Sg	06 02 54.5	+1.0
AJI	Ajiro2	0.10	327	P	Pg	06 02 52.8	+0.1
AJI				S	Sg	06 02 54.8	+0.8

IDC 21 06:07:11.3±1.8, 1°.57N×128°.44E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, Error ellipse: s-maj=139.1km s-min=22.3km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.15	165	P	P	06 12 09.4	+0.5
	0.7nm,0.5s,baz=345,slow=11,SNR=9.8						
ASAR	Alice Springs	25.64	168	P	P	06 12 42.5	-0.4
	0.6nm,0.9s,baz=355,slow=9.3,SNR=4.4						
MKAR	Makanchi Array	60.29	325	P	P	06 17 22.9	+1.0
	0.2nm,0.5s,baz=111,slow=8.0,SNR=4.1						
KURBB	Kurchatov Arra	64.46	327	P	P	06 17 48.8	-0.9
	0.1nm,0.4s,baz=125,slow=6.3,SNR=5.3						

IDC 21 06:08:56.0±4.2, 6°.52N×96°.17E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, Error ellipse: s-maj=216.1km s-min=10.5km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	41.87	346	P	P	06 16 47.6	-0.3
	0.4nm,0.4s,baz=172,slow=8.0,SNR=6.2						
WRA	Warramunga Arr	45.84	126	P	P	06 17 20.1	-0.1
	0.1nm,0.3s,baz=306,slow=8.9,SNR=3.3						
KURBB	Kurchatov Arra	46.37	345	P	P	06 17 23.9	-0.1
	0.4nm,0.4s,baz=164,slow=6.1,SNR=4.6						
ZALV	Zalesovo Beam	48.18	351	P	P	06 17 38.0	-0.1
	0.5nm,0.3s,baz=134,slow=8.2,SNR=3.6						

*ISCJB **21** 06:14:59.9±0.7, 19°.8N±0°.1×121°.5E±0°.2, h40km, mb3.8/12, Error ellipse: s-maj=25.3km s-min=13.7km az=167.5*
*IDC **21** 06:15:02.9±5.9, 19°.78N×121°.50E, h51km±54km, mb3.7/12, mb1 3.9/13, mb1mx3.7/28, mbtmp3.7/13, ML4.3/1, Error ellipse: s-maj=30.5km s-min=15.0km az=73.0*

ISC 21 06:15:01.5±0.9, 19°.8N±0°.1×121°.5E±0°.3, h40km, n21, σ0°46/15, mb3.8/12, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	Korea Array	18.51	16	P	P	06 19 14.6	+0.2
	0.9nm,0.3s,baz=197,slow=11,SNR=15						
USRK	Ussuriysk Arra	25.91	17	P	P	06 20 30.5	+0.7
	2.4nm,0.8s,baz=186,slow=9.9,SNR=4.0						
SONM	Songino Array	30.57	340	P	P	06 21 11.5	0.0
	0.9nm,0.8s,baz=153,slow=9.2,SNR=6.7						
WRA	Warramunga Arr	41.42	162	P	P	06 22 44.0	-0.3
	2.0nm,0.6s,baz=342,slow=9.0,SNR=29						
MKAR	Makanchi Array	41.77	319	P	P	06 22 47.4	+0.4
	1.3nm,0.8s,baz=108,slow=10,SNR=10						
MKAR				PcP	PcP	06 24 42.9	+0.1
	0.3nm,0.6s,baz=109,slow=3.5,SNR=3.5						
H11S3	WAKE ISLAND Hy 42.65	84		T	T	07 08 30.4	
	baz=285,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy 42.65	82		T	T	07 08 38.1	
	baz=281,slow=75,SNR=4.9						
H11N2	WAKE ISLAND Hy 42.66	82		T	T	07 08 39.2	
	baz=281,slow=75,SNR=4.2						
H11S1	WAKE ISLAND Hy 42.66	84		T	T	07 08 32.5	
	baz=285						
H11S2	WAKE ISLAND Hy 42.66	84		T	T	07 08 36.2	
	baz=285,slow=75,SNR=8.9						
H11N3	WAKE ISLAND Hy 42.67	82		T	T	07 08 39.5	
	baz=281,slow=75,SNR=4.6						
ZALV	Zalesovo Beam	44.13	330	P	P	06 23 05.9	-0.1
	0.8nm,0.5s,baz=125,slow=7.4,SNR=5.5						
ASAR	Alice Springs	44.83	164	P	P	06 23 12.5	+0.6
	1.5nm,0.3s,baz=342,slow=7.0,SNR=29						
KURBB	Kurchatov Arra	45.71	323	P	P	06 23 18.7	+0.1
	1.4nm,0.7s,baz=120,slow=7.6,SNR=5.9						
BVAR	Borovoye Array	51.30	323	PcP	PcP	06 25 15.1	-1.0
	1.2nm,0.6s,baz=96,slow=3.0,SNR=5.0						
ILAR	Eielson Array	73.02	27	P	P	06 26 26.4	-0.5
	0.3nm,0.5s,baz=270,slow=4.8,SNR=9.4						
ARCES	ARCESS Array B	73.73	339	P	P	06 26 31.1	0.0
	1.7nm,0.8s,baz=76,slow=9.4,SNR=3.6						
FINES	FINESS Array B	75.39	330	P	P	06 26 40.9	0.0
	0.9nm,0.7s,baz=48,slow=3.1,SNR=4.8						
INK	Inuvik	77.22	22	P	P	06 26 51.2	+0.2
	0.3nm,0.3s,baz=252,slow=8.8,SNR=5.9						
YKA	Yellowknife Ar	86.93	23	P	P	06 27 41.9	-0.2
	0.6nm,0.5s,baz=308,slow=4.7,SNR=26						
TXAR	Lajitas Array	114.61	43	PKP	PKPdf	06 33 38.4	+0.2
	0.2nm,0.8s,baz=116,slow=2.1,SNR=3.3						

*ISCJB **21** 06:16:49.6±0.6, 19°.04N±0°.10×145°.4E±0°.2, h10km, mb3.9/11, MS3.5/1, Error ellipse: s-maj=26.1km s-min=13.4km az=11.2*
*IDC **21** 06:16:49.7±0.8, 19°.00N×145°.55E, h0km, mb4.0/8, mb1 4.3/8, mb1mx3.9/26, mbtmp4.0/8, MS3.5/1, Ms1 3.5/1, ms1mx2.6/36, Error ellipse: s-maj=35.1km s-min=17.2km az=109.0*
*NEIC **21** 06:16:51.3±0.4, 19°.02N×145°.49E, h10km, mb4.4/2, Error ellipse: s-maj=19.6km s-min=9.4km az=104.0*

ISC 21 06:16:51.3±0.8, 19°.0N±0°.2×145°.5E±0°.2, h10km, n21, σ0°37/21, mb4.0/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	Tennant Creek	40.22	196	*e*P	P	06 24 28.6	+0.3
	3.9nm,0.4s						
WRA	Warramunga Arr	40.23	196	P	P	06 24 28.5	+0.1
WRA	Warramunga Arr	40.23	196	P	P	06 24 28.5	+0.1
	4.7nm,0.5s,baz=22,slow=9.1,SNR=50						
FITZ	Fitzroy Crossi	41.72	209	P	P	06 24 40.5	-0.1
FITZ	Fitzroy Crossi	41.72	209	P	P	06 24 40.5	-0.1
	2.2nm,0.8s,baz=43,slow=9.4,SNR=9.3						
ASAR	Alice Springs	43.90	195	P	P	06 24 58.1	-0.2
ASAR	Alice Springs	43.90	195	P	P	06 24 58.1	-0.2
	0.6nm,0.5s,baz=20,slow=8.3,SNR=8.4						
MKAR	Makanchi Array	58.11	314	P	P	06 26 45.2	+0.1
MKAR	Makanchi Array	58.11	314	P	P	06 26 45.2	+0.1
	0.1nm,0.6s,baz=97,slow=6.0,SNR=2.8						
NWAO	Longjin (SRO)	58.28	208	LR	LR	06 52 25.8	
	comp=Z,41nm,20.2s,baz=315,slow=37						
KURK	Kurchatov	60.91	318	*e*P	P	06 27 04.7	+0.4
KURK				P	P	06 27 05.1	+0.8
KURBB	Kurchatov Arra	60.96	318	P	P	06 27 05.1	+0.5
	0.2nm,0.3s,baz=96,slow=7.2,SNR=4.6						
ILAR	Eielson Array	63.45	26	P	P	06 27 21.0	-0.1
ILAR	Eielson Array	63.45	26	P	P	06 27 21.0	-0.1
	0.5nm,0.6s,baz=254,slow=5.5,SNR=6.7						
INK	Inuvik	69.16	23	P	P	06 27 58.1	+0.5
INK	Inuvik	69.16	23	P	P	06 27 58.1	+0.5
	0.8nm,0.7s,baz=235,slow=4.3,SNR=3.4						
ABKAR	Akbulak array	72.98	317	P	P	06 28 20.4	-0.7
	0.5nm,0.1s						
YKA	Yellowknife Ar	77.80	28	P	P	06 28 48.4	-0.2
YKA	Yellowknife Ar	77.80	28	P	P	06 28 48.4	-0.2
	0.6nm,0.6s,baz=290,slow=5.4,SNR=11						
NVAR	Mina Array Bea	83.10	52	P	P	06 29 17.9	0.0
NVAR	Mina Array Bea	83.10	52	P	P	06 29 17.9	0.0
	1.5nm,0.5s,baz=272,slow=5.9,SNR=14						

*IDC **21** 06:17:07.8±8.1, 30°.60N×83°.39E, h46km±77km, mb3.3/8, mb1 3.5/9, mb1mx3.3/29, mbtmp3.3/9, ML3.3/1, Error ellipse: s-maj=42.7km s-min=23.7km az=47.0*

ISC 21 06:17:04.7±1.0, 30°.8N±0°.1×83°.9E±0°.1, h10km, n10, σ1°52/10, mb3.5/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	Lohaghat	3.44	248	*e*PN	Pg	06 18 11.9	+1.2
LGTI				*e*SN	Sg	06 18 54.9	-0.4
MKAR	Makanchi Array	16.00	356	P	P	06 20 53.9	+0.5
	0.1nm,0.3s,baz=179,slow=11,SNR=6.4						
KURBB	Kurchatov Arra	20.19	350	P	P	06 21 38.5	-0.9
	1.3nm,0.8s,baz=173,slow=9.9,SNR=7.6						
ZALV	Zalesovo Beam	23.13	1	P	P	06 22 11.5	+0.7
	0.4nm,0.4s,baz=191,slow=8.0,SNR=4.1						
SONM	Songino Array	24.19	39	P	P	06 22 24.2	+2.8
	0.5nm,0.8s,baz=222,slow=1.9,SNR=3.0						
AKASG	Malin Array Be	44.78	313	P	P	06 25 15.2	-3.2
	0.1nm,0.3s,baz=86,slow=6.8,SNR=4.0						
FINES	FINESS Array B	48.15	327	P	P	06 25 42.8	-1.9
	3.7nm,1.0s,baz=119,slow=8.1,SNR=5.6						
WRA	Warramunga Arr	69.96	129	P	P	06 28 16.0	-0.6
	0.8nm,0.6s,baz=323,slow=6.4,SNR=16						
ASAR	Alice Springs	72.33	133	P	P	06 28 29.9	-1.1
	0.4nm,0.6s,baz=320,slow=5.9,SNR=7.6						
ILAR	Eielson Array	76.86	20	P	P	06 28 56.6	0.0
	0.3nm,0.7s,baz=306,slow=5.0,SNR=3.7						

*IDC **21** 06:24:15.1±1.4, 36°.04N×141°.04E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/27, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=30.9km s-min=27.0km az=14.0*
*ISCJB **21** 06:24:18.7±0.8, 36°.21N±0°.04×141°.04E±0°.07, h37km±10km, mb3.5/3, Error ellipse: s-maj=9.4km s-min=6.5km az=6.6*
*JMA **21** 06:24:19.5±0.1, 36°.18N×140°.95E, h44km±1km, M3.2*
JMA Felt I J1.

ISC 21 06:24:19.0±1.3, 36°.22N±0°.04×141°.01E±0°.06, h28km±9km, n17, σ1°09/19, mb3.7/3, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.53	194	∥P	Pn	06 24 30.1	-0.5
CHOJ				S	Sb	06 24 37.1	0.0
JHO	Hitachi	0.53	318	∥P	Pb	06 24 30.4	+0.6
JHO				S	Sb	06 24 38.0	+0.8
JYT	Yasato	0.66	271	P	Pb	06 24 32.0	0.0
JYT				S	Sb	06 24 40.5	-0.3
ONAJ	Iwakimizuishiy	0.90	349	P	Pb	06 24 35.6	-0.5
ONAJ				S	Sb	06 24 46.7	-1.0
JFK	Kawauchi	1.15	355	P	Pn	06 24 39.0	-0.3
JFK				S	Sn	06 24 53.1	-1.1
JAG	Ashikaga	1.27	280	P	Pn	06 24 40.8	-0.1
JAG				S	Sn	06 24 55.7	-1.4
MJAR	Matsushiro Arr	2.28	279	Pn	Pn	06 24 55.6	+0.8
	4.6nm,0.3s,baz=98,slow=8.1,SNR=30						
MJAR				Sn	Sb	06 25 24.9	-2.5
	2.8nm,0.3s,baz=5.1,slow=33,SNR=3.0						
MAT	Matsushiro	2.29	279	P	Pn	06 24 55.8	+1.0
MAT				*e*S	Sn	06 25 22.9	+0.8
H11N2	WAKE ISLAND Hy 28.02	119		T	T	06 59 18.7	
	baz=314,slow=76,SNR=29						
H11N1	WAKE ISLAND Hy 28.03	119		T	T	06 59 19.7	
	baz=314,slow=76,SNR=40						
H11N3	WAKE ISLAND Hy 28.04	119		T	T	06 59 20.0	
	baz=314,slow=76,SNR=41						
H11S1	WAKE ISLAND Hy 28.70	121		T	T	07 00 13.0	
	baz=318,slow=75,SNR=28						
H11S3	WAKE ISLAND Hy 28.70	121		T	T	07 00 12.8	
	baz=318,slow=75,SNR=22						
H11S2	WAKE ISLAND Hy 28.72	121		T	T	07 00 15.6	
	baz=318,slow=75,SNR=36						
KURBB	Kurchatov Arra	46.25	309	P	P	06 32 41.8	+0.2
	0.4nm,0.4s,baz=82,slow=7.8,SNR=4.5						
ILAR	Eielson Array	50.36	32	P	P	06 33 14.8	+1.7
	0.2nm,0.7s,baz=236,slow=6.4,SNR=2.8						
WRA	Warramunga Arr	56.21	188	P	P	06 33 55.6	-0.9
	0.4nm,0.5s,baz=6.2,slow=7.4,SNR=6.7						

*MAN **21** 06:39:16, 5°.28N×126°.71E, h30km, mb5.1, ML4.1, MS4.2*
*BJI **21** 06:39:17.7, 5°.05N×126°.53E, h120km, mB5.1/17, mb4.6/29*
*AUST **21** 06:39:18.3, 6°.00N×126°.51E, h100km*
*IDC **21** 06:39:19.8±1.8, 5°.57N×126°.18E, h82km±15km, mb4.1/24, mb1 4.2/24, mb1mx4.2/30, mbtmp4.1/24, MS3.3/3, Ms1 3.3/3, ms1mx2.9/35, Error ellipse: s-maj=21.5km s-min=9.3km az=76.0*
*ISCJB **21** 06:39:20.7±0.3, 5°.60N±0°.02×126°.50E±0°.04, h109km±3km, mb4.7/62, Error ellipse: s-maj=7.0km s-min=3.6km az=163.4*
*NEIC **21** 06:39:22.1±0.8, 5°.58N×126°.36E, h107km±7km, mb4.8/14, Error ellipse: s-maj=9.7km s-min=4.5km az=63.0*
*DJA **21** 06:39:24.4±1.5, 5°.N±13°.×12°.6E±°, h66km±10km, M5.0/17, mb4.9/17, mB5.4/10, MLv5.2/8, Mw(mB)4.9/10*

ISC 21 06:39:24.1±0.4, 5°.61N±0°.04×126°.45E±0°.06, h119km±3km, n187, σ1°72/222, mb4.7/61, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	1.34	352	*e*P	Pn	06 39 44.7	-5.0
MATI				*e*S	Sn	06 40 05.4	-3.7
GSPH	General Santos	1.56	288	∥*i*P	Pn	06 39 45.3	-7.1
GSPH				*i* S	Sn	06 40 05.3	-8.5
DAV	Davao City (W)	1.69	329	*e*Pn	Pn	06 39 50.9	-2.8
DAV				*e*Sn	Sn	06 40 14.5	-1.8
DMPH	Davao City--Mi	1.74	328	∥*e*P	Pn	06 39 49.6	-4.7
DMPH				*e*S	Sn	06 40 10.6	-6.7
SGSI	Sangihe	2.12	206	P	Pn	06 39 54.1	-4.9
BIPH	Bislig	2.56	358	∥*e*P	Pn	06 40 00.6	-4.1
BIPH				*i* S	Sn	06 40 33.0	-2.8
BUKP	Musuan	2.64	329	*e*P	Pn	06 40 02.4	-3.3
BUKP				*e*S	Sn	06 40 42.3	+4.5
CTBH	Cotabato--PC H	2.71	306	∥*e*P	Pn	06 40 05.1	-1.5
CTBH				*i* S	Sn	06 40 37.4	-1.9
CGP	Cagayan de Oro	3.32	329	∥*e*P	Pn	06 40 13.4	-1.2
CGP				*e*S	Sn	06 40 57.4	+3.8
PAGZ	Pagadian	3.77	306	*e*P	Pn	06 40 17.6	-2.9
PAGZ				*e*S	Sn	06 41 11.7	+7.4
SCPH	Surigao	4.25	347	∥*e*P	Pn	06 40 27.1	0.0
TNTI	Ternate	4.89	169	P	Pn	06 40 31.2	-4.4
TNTI	Ternate	4.89	169	*e*Pn	Pn	06 40 32.0	-3.7
KMSI	Cibinong	5.57	206	P	Pn	06 40 50.7	+5.9
OCLP	Ormoc	5.71	342	*e*P	Pn	06 40 47.5	+0.9
GTOI	Gorontalo	6.01	215	P	Pn	06 40 46.8	-4.0
	266nm,0.7s,4μm1.1nm						
LBMI	Labuha	6.29	170	P	Pn	06 40 50.8	-3.8
	142nm,0.8s,2μm0.8nm						
MRSI	Marisa	6.80	222	P	Pn	06 40 58.6	-2.8
	284nm,0.7s,4μm1.1nm						
LUWI	Luwuk	7.56	209	P	Pn	06 41 09.9	-1.7
	300nm,0.7s,4μm1.1nm						
LUWI	Luwuk	7.56	209	P	Pn	06 41 12.7	+1.0
	baz=8.0,SNR=4.2						
SWI	Sorong	8.03	143	P	Pn	06 41 17.7	-0.3
	34nm,0.7s,943nm0.1nm						
APSI	Ampana	8.05	217	P	Pn	06 41 20.9	+2.5
	139nm,0.6s,3μm0.7nm						
PALU	Palau	8.16	77	P	Pn	06 41 14.3	-5.5
	baz=8.0,SNR=5.7						
TSM	Tawau	8.64	262	P	Pn	06 41 27.2	+0.9
NLAI	Namlea	8.81	176	P	Pn	06 41 23.4	-5.2
	120nm,0.6s,6μm						
SDKM	Sandakan	9.21	271	P	Pn	06 41 33.8	-0.3
FAKI	Fak Fak	10.26	145	P	Pn	06 41 46.2	-2.0
	baz=11,SNR=5.1						
TTSI	Tana Toraja	10.85	218	P	Pn	06 41 58.6	+2.5
SBUM	Sibu	14.53	258	P	P	06 42 46.6	-0.9
SBUM	Sibu	14.53	258	P	P	06 42 47.3	-0.1
	84nm,0.8s,782nm						
SBUM	Sibu	14.53	258	*e*Pn	P	06 42 46.4	-1.0
KSM	Kuching	16.62	256	P	P	06 43 11.4	+0.8
KSM	Kuching	16.62	256	P	P	06 43 11.8	+1.2
	39nm,1.1s						
KSM	Kuching	16.62	256	*e*Pn	P	06 43 11.0	+0.4
	28nm,0.8s						
KSM	Kuching	16.62	256	P	P	06 43 11.4	+0.8
	baz=17,SNR=4.4						
MTN	Manton Dam	18.91	166	P	P	06 43 34.8	-0.9
	baz=19,SNR=9.8						
KDU	Kakadu	19.14	162	P	P	06 43 38.4	+0.2
	baz=20,SNR=6.8						
PWJI	Pagerwojo	19.91	227	P	Pn	06 43 50.8	+1.4
	25nm,0.8s						
UGM	Wanagama	20.80	230	P	Pn	06 44 09.1	+9.3
	baz=21,SNR=6.2						
QIZ	Qiongzhong	20.97	311	P	P	06 43 58.3	+0.3
QIZ				pmax	pmax		
	comp=Z,24nm,1.1s						
KNRA	Kununurra	21.27	174	P	P	06 43 59.6	-1.6
	baz=22,SNR=28						
KPJI	Karang Pucung	21.70	234	P	P	06 44 06.3	+0.6
	27nm,0.8s						
MANU	Manus Island	22.23	109	P	P	06 44 15.7	+4.3
	baz=22,SNR=3.5						
CISI	Cisompet, Garu	22.73	235	P	P	06 44 21.1	+4.8
	50nm,0.5s,27μm						
MYKOM	Kota Tinggi	22.86	261	P	P	06 44 17.1	-0.5
PMBI	Palembang	23.25	249	P	P	06 44 13.5	-7.7
	baz=24,SNR=5.8						
KGM	Kluang	23.35	262	P	P	06 44 22.9	+0.8
FITZ	Fitzroy Crossi	23.57	182	P	P	06 44 23.2	-0.9
FITZ				PcP	PcP	06 48 06.9	+0.7
FITZ	Fitzroy Crossi	23.57	182	P	P	06 44 23.2	-0.9
	6.2nm,0.5s,baz=3.8,slow=6.2,SNR=42						
FITZ				PcP	PcP	06 48 06.9	+0.7
	2.6nm,0.9s,baz=180,slow=4.0,SNR=3.7						
FITZ				LR	LR	06 54 13.9	
	comp=Z,26nm,18.9s,baz=129,slow=38						
KLSI		23.98	245	P	P	06 44 28.1	+0.2
	36nm,0.8s						
MDSI	Maura Dua	24.39	246	P	P	06 44 32.1	+0.5
	16nm,0.8s,1μm						
FRIM	Kepong	24.86	266	P	P	06 44 37.8	+1.9
IPM	Ipoh	25.35	269	P	P	06 44 40.1	-0.3
PMG	Port Moresby	25.47	126	LR	LR	06 54 09.9	
	comp=Z,51nm,19.8s,baz=50,slow=35						
COEN	Coen	25.56	140	*e*P	P	06 44 41.7	-0.6
	514nm,2.4s						
COEN	Coen	25.56	140	P	P	06 44 41.0	-1.2
	baz=26,SNR=14						
WRAB	Tennant Creek	26.55	163	*e*P	P	06 44 49.5	-1.5
	236nm,3.0s						
WRA	Warramunga Arr	26.55	163	P	P	06 44 49.4	-1.7
WRA				ScP	ScP	06 51 45.4	+3.3
WRA	Warramunga Arr	26.55

baz=37,SNR=4.5
LZH Lanzhou 36.76 329 *e*P **P** 06 46 20.1 -0.3
LZH pP **pP** 06 46 47.5 +0.6
LZH sP **sP** 06 47 02.0 +1.5
LZH PP **PnPn** 06 47 50.3 +2.3
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,75nm,4.8s
LZH LR LR
comp=N,220nm,13.5s
LZH LR LR
comp=E,230nm,13.2s
LZH LR LR
comp=Z,300nm,17.8s
KMBL Kambalda 37.02 186 P **P** 06 46 21.6 -0.9
baz=38,SNR=5.9
BLDU Balliduu 37.20 194 P **P** 06 46 22.6 -1.4
baz=38,SNR=9.1
HHC Hu-ho-hao-te 37.54 341 *e*P **P** 06 46 27.1 +0.2
HHC pP **pP** 06 46 52.3 -1.1
HHC sP **sP** 06 47 05.3 -1.7
HHC PP **PnPn** 06 47 57.8 +0.6
HHC S **S** 06 52 06.3 -1.0
HHC pmax pmax
comp=Z,54nm,0.8s
HHC pmax pmax
comp=Z,200nm,5.3s
KLBR Kellerberrin 37.91 192 P **P** 06 46 28.7 -1.2
baz=38,SNR=12
CN2 Changchun 38.05 359 *e*P **P** 06 46 30.4 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
USRK Ussuriysk Arra 38.74 6 P **P** 06 46 37.7 +0.9
2.4nm,0.5s,baz=183,slow=8.4,SNR=11
MDJ Mudanjiang 38.95 4 P **P** 06 46 39.3 +0.8
MDJ pmax pmax
comp=Z,7.0nm,1.7s
MDJ pmax pmax
comp=Z,110nm,4.7s
BBOO Buckleboo 39.28 167 *e*P **P** 06 46 40.6 -0.8
224nm,0.8s
BBOO Buckleboo 39.28 167 P **P** 06 46 40.6 -0.8
baz=40,SNR=40
NWAO Narrogin (SRO) 39.31 192 P **P** 06 46 40.7 -0.9
NWAO Narrogin (SRO) 39.31 192 P **P** 06 46 40.7 -0.9
6.7nm,0.3s,baz=33,slow=7.3,SNR=18
STKA Stephens Creek 39.98 160 *e*P **P** 06 46 46.7 -0.5
STKA PcP **PcP** 06 48 50.2 0.0
STKA ScP **ScP** 06 52 31.8 +3.3
STKA Stephens Creek 39.98 160 P **P** 06 46 46.6 -0.6
7.9nm,0.7s,baz=344,slow=6.8,SNR=20
STKA PcP **PcP** 06 48 50.2 0.0
3.6nm,0.6s,baz=347,slow=7.3,SNR=3.8
STKA ScP **ScP** 06 52 31.8 +3.3
1.1nm,0.9s,baz=348,slow=7.7,SNR=3.1
STKA Stephens Creek 39.98 160 P **P** 06 46 46.5 -0.7
baz=40,SNR=12
HTT Hallett 40.59 164 P **P** 06 46 52.6 +0.3
baz=41,SNR=14
RKGY Rocky Gully 40.99 192 P **P** 06 46 55.7 +0.3
baz=42,SNR=19
CMSA Cobar Meteorol 41.25 155 P **P** 06 47 00.4 +2.7
baz=42,SNR=6.9
GTA Gaotai 41.36 328 *e*P **P** 06 46 58.1 -0.5
GTA pP **pP** 06 47 25.8 +0.2
GTA sP **sP** 06 47 40.0 +1.0
GTA PcP **PcP** 06 48 55.8 +1.0
GTA pmax pmax
comp=Z,4.0nm,0.7s
H11N1 WAKE ISLAND Hy 41.74 67 T T 07 31 49.2
baz=258,slow=75,SNR=4.5
H11N2 WAKE ISLAND Hy 41.75 67 T T 07 31 52.1
baz=258,slow=75,SNR=4.5
H11N3 WAKE ISLAND Hy 41.76 67 T T 07 31 50.8
baz=258,slow=75,SNR=4.3
TAPN Taplejung 42.70 305 *e*P **P** 06 47 08.4 -1.5
18nm,0.5s
TAPN Taplejung 42.70 305 *e*P **P** 06 47 08.4 -1.5
18nm,0.5s
ODAN Odare 42.77 304 *e*P **P** 06 47 09.4 -1.0
36nm,0.6s
ODAN Odare 42.77 304 *e*P **P** 06 47 09.4 -1.0
36nm,0.6s
ARMA Armidale 43.19 148 P **P** 06 47 15.3 +1.8
baz=44,SNR=5.9
RAMN Ramite 43.46 304 *e*P **P** 06 47 14.7 -1.3
34nm,0.5s
RAMN Ramite 43.46 304 *e*P **P** 06 47 14.7 -1.3
34nm,0.5s
JIRN Jiri 44.06 304 *e*P **P** 06 47 19.6 -1.4
49nm,0.6s
JIRN Jiri 44.06 304 *e*P **P** 06 47 19.6 -1.4
49nm,0.6s
GUN Gumba 44.41 305 *e*P **P** 06 47 22.2 -1.5
45nm,0.6s
GUN Gumba 44.41 305 *e*P **P** 06 47 22.2 -1.5
45nm,0.6s
ARPS Mount Arapiles 44.55 162 P **P** 06 47 24.4 +0.3
baz=45,SNR=12
PKI Pulchoki 44.67 304 *e*P **P** 06 47 24.1 -1.7
12nm,0.6s
PKI Pulchoki 44.67 304 *e*P **P** 06 47 24.1 -1.7
12nm,0.6s
KKN Kakani 44.86 304 *e*P **P** 06 47 25.7 -1.4
14nm,0.5s
KKN Kakani 44.86 304 *e*P **P** 06 47 25.7 -1.4
14nm,0.5s
DMN Daman 44.94 304 *e*P **P** 06 47 26.6 -1.2
24nm,0.8s
DMN Daman 44.94 304 *e*P **P** 06 47 26.6 -1.2
24nm,0.8s
ULN Ulaanbaatar 45.26 342 *e*P **P** 06 47 29.9 0.0
5.2nm,0.9s
SONM Songino Array 45.44 341 P **P** 06 47 30.6 -0.6
SONM PcP **PcP** 06 49 08.7 +0.3
SONM ScP **ScP** 06 52 54.1 +3.7
SONM Songino Array 45.44 341 P **P** 06 47 30.6 -0.6
1.7nm,0.6s,baz=162,slow=8.8,SNR=13
SONM PcP **PcP** 06 49 08.7 +0.3
1.3nm,0.4s,baz=167,slow=3.7,SNR=8.8
SONM ScP **ScP** 06 52 54.1 +3.7
0.3nm,0.7s,baz=199,slow=3.2,SNR=3.0
GKN Gorkha 45.47 304 *e*P **P** 06 47 29.8 -2.1
17nm,0.5s
GKN Gorkha 45.47 304 *e*P **P** 06 47 29.8 -2.1
17nm,0.5s
KOLN Koldanda 46.24 303 *e*P **P** 06 47 36.5 -1.5
64nm,0.5s
KOLN Koldanda 46.24 303 *e*P **P** 06 47 36.5 -1.5
64nm,0.5s
DANN Dangsing 46.31 304 *e*P **P** 06 47 37.1 -1.6
82nm,0.5s
DANN Dangsing 46.31 304 *e*P **P** 06 47 37.1 -1.6
82nm,0.5s
PYUN Piuthan 46.86 304 *e*P **P** 06 47 41.7 -1.1
62nm,0.5s
PYUN Piuthan 46.86 304 *e*P **P** 06 47 41.7 -1.1
62nm,0.5s
WMQ Urumqi 51.04 324 P **P** 06 48 15.4 +1.1
WMQ pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 53.81 23 P **P** 06 48 35.6 +1.2
PETK Petropavlovsk- 53.81 23 P **P** 06 48 35.6 +1.2
1.6nm,0.5s,baz=235,slow=5.1,SNR=3.7
MK31 Makanchi Array 55.87 325 *e*P **P** 06 48 48.3 -1.2
MK31 *e*PcP **PcP** 06 49 46.5 -0.4
MKAR Makanchi Array 55.87 325 P **P** 06 48 48.2 -1.3
MKAR PcP **PcP** 06 49 46.6 -0.2
MKAR ScP **ScP** 06 53 37.5 +2.4
MKAR Makanchi Array 55.87 325 P **P** 06 48 48.2 -1.3
6.4nm,0.4s,baz=120,slow=7.8,SNR=166
MKAR PcP **PcP** 06 49 46.6 -0.2
3.4nm,0.6s,baz=124,slow=4.6,SNR=7.7
MKAR ScP **ScP** 06 53 37.5 +2.4
0.9nm,0.8s,baz=126,slow=5.1,SNR=5.5
KSH Kashi 56.53 314 P **P** 06 48 55.0 +0.6
KSH sP **sP** 06 49 40.0 +4.1
KSH PP **PP** 06 51 06.1 +4.6
KSH PcS **PcS** 06 53 50.3 -0.3
KSH S **S** 06 56 32.0 -5.0
KSH SS **SS** 07 00 29.0 +2.8
KSH pmax pmax
comp=Z,130nm,4.9s
KSH LR LR
comp=N,170nm,5.4s
KSH LR LR
comp=E,220nm,5.3s
KSH LR LR
comp=Z,120nm,5.2s
TKM2 Tokmak 2 58.17 318 *e*P **P** 06 49 05.0 -0.9
21nm,1.9s
AAK Ala-Archa 58.79 317 *e*P **P** 06 49 09.7 -0.5
AAK PcP **PcP** 06 49 58.3 -0.3
AAK Ala-Archa 58.79 317 P **P** 06 49 08.1 -2.1
1.1nm,0.4s,baz=133,slow=8.2,SNR=6.2
AAK PcP **PcP** 06 49 58.3 -0.3
1.0nm,0.5s,baz=195,slow=4.1,SNR=3.6
ZAA0 Zalesovo Array 58.80 333 *e*P **P** 06 49 08.2 -1.6
ZALV Zalesovo Beam 58.80 333 P **P** 06 49 07.9 -1.9
ZALV PcP **PcP** 06 49 57.2 -1.0
ZALV Zalesovo Beam 58.80 333 P **P** 06 49 07.9 -1.9
3.5nm,0.6s,baz=131,slow=6.3,SNR=16
ZALV PcP **PcP** 06 49 57.2 -1.0
1.3nm,0.7s,baz=166,slow=0.6,SNR=3.8
EKS2 Erkin-Say 59.29 317 *e*P **P** 06 49 13.2 -0.5
4.0nm,0.6s
KURBB Kurchatov Arra 60.02 327 P **P** 06 49 17.0 -1.3
4.0nm,0.5s,baz=130,slow=6.7,SNR=43
KURK Kurchatov 60.02 327 *e*P **P** 06 49 17.1 -1.2
KKAR Karatay Array 61.68 316 *e*P **P** 06 49 28.4 -1.4
4.1nm,0.6s
AFI Afiamalu 64.29 108 LR LR 07 14 17.2
comp=Z,95nm,19.2s,baz=185,slow=32
BVAR Borovoye Array 65.60 327 P **P** 06 49 53.9 -1.4
BVAR Borovoye Array 65.60 327 P **P** 06 49 53.9 -1.4
2.2nm,0.5s,baz=130,slow=4.9,SNR=9.9
BRVK Borovoye 65.68 327 *e*P **P** 06 49 54.7 -1.0
7.2nm,0.6s
TIXI Tiksi 65.98 1 *e*P **P** 06 49 57.4 +0.1
9.2nm,1.4s
ABKAR Akbulak array 70.53 320 *e*P **P** 06 50 24.8 -1.3
1.7nm,0.5s
AKTO Aktyubinsk 72.02 321 P **P** 06 50 34.0 -1.1
AKTO Aktyubinsk 72.02 321 P **P** 06 50 34.0 -1.1
3.4nm,0.5s,baz=103,slow=10,SNR=14
ARU Arti 73.21 327 *e*P **P** 06 50 40.5 -1.5
7.9nm,0.5s
ILAR Eielson Array 83.54 26 P **P** 06 51 38.2 -0.4
ILAR Eielson Array 83.54 26 P **P** 06 51 38.3 -0.4
0.6nm,0.5s,baz=251,slow=5.3,SNR=22
VNDA Vanda 85.31 173 *e*P **P** 06 51 47.5 +0.2
VNDA Vanda 85.31 173 P **P** 06 51 47.3 +0.1
1.2nm,0.5s,baz=29,slow=3.3,SNR=4.1
ARCES ARCESS Array B 88.60 340 P **P** 06 52 02.7 -0.7
ARCES ARCESS Array B 88.60 340 P **P** 06 52 02.7 -0.7
5.0nm,0.6s,baz=77,slow=5.8,SNR=26
BRTR Keskin Array B 88.61 310 P **P** 06 52 01.8 -2.5
BRTR Keskin Array B 88.61 310 P **P** 06 52 01.8 -2.5
1.2nm,0.8s,baz=126,slow=4.2,SNR=4.6
FINES FINESS Array B 90.05 332 P **P** 06 52 09.4 -0.9
FINES FINESS Array B 90.05 332 P **P** 06 52 09.4 -0.9
2.8nm,0.5s,baz=50,slow=4.5,SNR=32
AKASG Malin Array Be 90.27 321 P **P** 06 52 09.3 -2.2
AKASG Malin Array Be 90.27 321 P **P** 06 52 09.3 -2.2
0.6nm,0.5s,baz=66,slow=4.8,SNR=6.1
NB2 NORSAR Subarra 96.99 334 P **P** 06 52 40.4 -1.9
comp=Z,1.7nm,0.7s,baz=65,slow=4.6
NOA NORSAR Array B 96.99 334 P **P** 06 52 40.6 -1.6
NOA NORSAR Array B 96.99 334 P **P** 06 52 40.6 -1.6
comp=Z,1.4nm,0.7s,baz=66,slow=4.7,SNR=5.7
YKA Yellowknife Ar 97.92 24 P Pdif 06 52 46.9 +0.6
YKA PKKPbc **PKKPbc** 07 09 18.4 -4.1
YKA Yellowknife Ar 97.92 24 P Pdif 06 52 46.9 +0.6
comp=Z,0.1nm,0.5s,baz=294,slow=4.4,SNR=3.7
YKA PKKPbc **PKKPbc** 07 09 18.4 -4.1
comp=Z,0.3nm,0.5s,baz=121,slow=3.0,SNR=10.0
AHID Auburn Hatcher 109.12 41 *e*PKPdf **PKiKP** 06 57 39.8 -0.8
SCHQ Schefferville 118.77 9 PKP **PKPdf** 06 57 58.9 +0.5
SCHQ Schefferville 118.77 9 PKP **PKPdf** 06 57 58.9 +0.5
comp=Z,1.6nm,0.4s,baz=342,slow=3.2,SNR=5.7
TXAR Lajitas Array 120.66 51 PKP **PKPdf** 06 58 03.8 +0.9
TXAR Lajitas Array 120.66 51 PKP **PKPdf** 06 58 03.8 +0.9
comp=Z,0.1nm,0.3s,baz=287,slow=0.6,SNR=4.8
TORD Torodi Ar. Bea 122.05 289 PKP **PKPdf** 06 58 05.3 -0.5
TORD Torodi Ar. Bea 122.05 289 PKP **PKPdf** 06 58 05.3 -0.5
comp=Z,2.2nm,0.5s,baz=60,slow=1.9,SNR=31
KIC Kosan Boka 129.85 283 *e*PKIKP **PKPdf** 06 58 21.3 +0.6
comp=Z,9.7nm,0.8s
DBIC Dimbokro 129.89 283 PKP **PKPdf** 06 58 21.4 +0.6
DBIC *e*PKPdf **PKiKP** 06 58 21.6 0.0
DBIC Dimbokro 129.89 283 PKP **PKPdf** 06 58 21.4 +0.6
comp=Z,2.4nm,0.8s,baz=27,slow=2.1,SNR=3.2
TIC Toumodi 130.06 283 *e*PKIKP **PKPdf** 06 58 21.2 +0.1
comp=Z,5.6nm,0.2s
LIC Lamto 130.16 283 *e*PKIKP **PKPdf** 06 58 21.8 +0.5
comp=Z,25nm,0.9s

IDC 21 06:41:15.3±2.9, 14°28N×93°41E, h97km±25km, mb3.5/4, mb1 3.4/5, mb1mx3.2/28, mbtmp3.4/5, Error ellipse: s-maj=25.9km s-min=14.7km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.74**	**51**	P	Pn	06 42 51.7	0.0
	0.3nm,0.3s,baz=239,slow=16,SNR=4.0						
CMAR				S	Sn	06 44 07.5	+0.5
	baz=287,slow=21,SNR=1.6						
H08S3	**Diego Garcia H**	**30.08**	**225**	T	T	07 18 06.5	
	baz=42,slow=76,SNR=3.5						
H08S2	**Diego Garcia H**	**30.09**	**225**	T	T	07 18 05.3	
	baz=42,slow=76,SNR=3.0						
H08S1	**Diego Carcia H**	**30.10**	**225**	T	T	07 18 11.7	
	baz=42,slow=76,SNR=2.2						
MKAR	**Makanchi Array**	**33.73**	**346**	P	P	06 47 47.2	-0.2
	0.8nm,0.8s,baz=162,slow=9.3,SNR=8.3						
KURBB	**Kurchatov Arra**	**38.21**	**345**	P	P	06 48 25.2	-0.2
	0.3nm,0.3s,baz=166,slow=7.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**40.15**	**352**	P	P	06 48 41.8	+0.2
	0.4nm,0.3s,baz=167,slow=7.3,SNR=5.0						
ASAR	**Alice Springs**	**54.68**	**133**	P	P	06 50 34.6	-0.1
	0.3nm,0.4s,baz=302,slow=6.3,SNR=4.2						

*AUST **21** 07:01:15.3, 11°.97S×166°.97E, h0km*
*IDC **21** 07:01:33.3±3.9, 12°.70S×166°.72E, h127km±34km, mb4.1/21, mb1 4.1/22, mb1mx4.0/27, mbtmp4.0/22, MS3.5/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=20.8km s-min=14.0km az=89.0*
*NEIC **21** 07:01:34.3±1.9, 12°.68S×166°.72E, h137km±17km, mb4.3/4, Error ellipse: s-maj=12.0km s-min=9.9km az=91.0*

ISC 21 07:01:41.0±0.6, 13°00S±0°.07×166°8E±0°.1, h200km, n72, σ1s57/63, mb4.2/22, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.02**	**182**	P	**Pn**	**07 03 46.1**	**-1.6**
DZM				S	**Sn**	**07 05 25.2**	**-3.8**
DZM	**Mont Dzumac**	**9.02**	**182**	P	**Pn**	**07 03 46.1**	**-1.6**
	1.2nm,0.3s,baz=80,slow=19,SNR=18						
DZM				S	**Sn**	**07 05 25.2**	**-3.8**
	0.2nm,0.3s,baz=128,slow=23,SNR=1.9						
EIDS	**Eidsvold**	**19.25**	**228**	*e*P	**P**	**07 05 50.7**	**+0.3**
	10.0nm,1.0s						
EIDS	**Eidsvold**	**19.25**	**228**	P	**P**	**07 05 51.6**	**+1.3**
	baz=20,SNR=3.3						
CTA	**Charters Tower**	**20.90**	**248**	P	**P**	**07 06 06.8**	**-1.2**
CTA	**Charters Tower**	**20.90**	**248**	P	**P**	**07 06 06.8**	**-1.2**
	0.8nm,0.3s,baz=45,slow=16,SNR=2.2						
RMQ	**Roma**	**21.60**	**229**	P	**P**	**07 06 16.3**	**+1.0**
	baz=22,SNR=10						
ARMA	**Armidale**	**22.29**	**217**	P	**P**	**07 06 23.9**	**+1.8**
	baz=23,SNR=12						
QLP	**Quilpie**	**25.10**	**234**	P	**P**	**07 06 48.1**	**+0.6**
	baz=26,SNR=6.9						
CMSA	**Cobar Meteorol**	**26.77**	**223**	P	**P**	**07 07 06.9**	**+4.5**
	baz=28,SNR=5.9						
STKA	**Stephens Creek**	**29.79**	**227**	*e*P	**P**	**07 07 30.6**	**+1.4**
STKA	**Stephens Creek**	**29.79**	**227**	P	**P**	**07 07 29.3**	**+0.1**
	4.8nm,0.8s,baz=32,slow=9.6,SNR=10						
STKA				LR	LR	07 18 52.2	
	comp=Z,77nm,19.1s,baz=25,slow=35						
STKA	**Stephens Creek**	**29.79**	**227**	P	**P**	**07 07 30.5**	**+1.3**
	baz=31,SNR=9.2						
RPZ	**Rata Peaks**	**30.82**	**174**	P	**P**	**07 07 39.4**	**+1.2**
RPZ	**Rata Peaks**	**30.82**	**174**	P	**P**	**07 07 39.4**	**+1.2**
	15nm,0.9s,baz=254,slow=7.4,SNR=3.1						
TOO	**Toolangi**	**30.99**	**214**	P	**P**	**07 07 41.7**	**+2.0**
	baz=32,SNR=4.3						
WRAB	**Tennant Creek**	**31.83**	**253**	*e*P	**P**	**07 07 45.6**	**-1.6**
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**31.84**	**253**	P	P	07 07 45.6	-1.8
WRA	**Warramunga Arr**	**31.84**	**253**	P	P	07 07 45.6	-1.8
	2.3nm,0.8s,baz=83,slow=8.8,SNR=15						
ARPS	**Mount Arapiles**	**32.56**	**219**	P	**P**	**07 07 55.1**	**+1.8**
	baz=34,SNR=5.5						
AS31	**Alice Springs**	**32.89**	**246**	*e*P	**P**	**07 07 55.5**	**-1.1**
ASAR	**Alice Springs**	**32.90**	**246**	P	**P**	**07 07 55.0**	**-1.6**
ASAR	**Alice Springs**	**32.90**	**246**	P	**P**	**07 07 54.9**	**-1.6**
	2.3nm,0.6s,baz=72,slow=9.7,SNR=40						
ASAR				LR	LR	07 20 23.7	
	comp=Z,73nm,19.8s,baz=121,slow=34						
BBOO	**Buckleboo**	**34.30**	**230**	P	**P**	**07 08 09.4**	**+0.9**
	baz=35,SNR=6.4						
WRKA	**Warakurna**	**38.18**	**246**	P	**P**	**07 08 40.8**	**-0.8**
	baz=39,SNR=6.0						
WSI	**Waingapu**	**45.66**	**269**	P	P	07 09 36.5	-5.6
	baz=46,SNR=3.4						
MEEK	**Meekatharra**	**47.05**	**246**	P	**P**	**07 09 53.3**	**+0.5**
	baz=48,SNR=10						
NWAO	**Narrogin (SRO)**	**49.26**	**238**	P	**P**	**07 10 09.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**49.26**	**238**	P	**P**	**07 10 09.9**	**+0.3**
	7.5nm,0.6s,baz=114,slow=10.0,SNR=5.6						
MORW	**Morawa**	**49.62**	**243**	P	**P**	**07 10 13.0**	**+0.6**
	baz=50,SNR=3.7						
MJAR	**Matsushiro Arr**	**56.17**	**332**	P	P	07 10 57.1	-2.9
MJAR	**Matsushiro Arr**	**56.17**	**332**	P	P	07 10 57.1	-2.9
	0.8nm,0.4s,baz=191,slow=2.0,SNR=5.2						
JNU	**Nakatsue**	**57.26**	**324**	*e*P	P	07 11 06.0	-1.8
JNU	**Nakatsue**	**57.26**	**324**	P	P	07 11 05.6	-2.2
	8.5nm,0.7s,baz=67,slow=7.0,SNR=3.9						
ASAJ	**Asahikawa**	**60.97**	**340**	P	P	07 11 31.4	-1.5
ASAJ	**Asahikawa**	**60.97**	**340**	P	P	07 11 31.4	-1.5
	5.2nm,0.4s,baz=199,slow=11,SNR=4.7						
KSRS	**Korea Array**	**62.06**	**326**	P	P	07 11 39.0	-1.4
	1.7nm,0.7s,baz=138,slow=6.9,SNR=5.3						
KSAR	**Wonju Array Be**	**62.08**	**326**	P	P	07 11 39.0	-1.5
VNDA	**Vanda**	**64.57**	**181**	P	**P**	**07 11 59.1**	**+2.8**
VNDA	**Vanda**	**64.57**	**181**	P	**P**	**07 11 59.1**	**+2.8**
	3.0nm,0.9s,baz=4.5,slow=7.1,SNR=7.8						
USRK	**Ussuriysk Arra**	**65.15**	**333**	P	**P**	**07 11 59.6**	**-0.9**
	6.5nm,0.9s,baz=138,slow=6.5,SNR=8.7						
CMAR	**Chiang Mai Arr**	**73.83**	**294**	P	**P**	**07 12 54.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**73.83**	**294**	P	**P**	**07 12 54.6**	**+0.4**
	2.1nm,0.4s,baz=109,slow=5.6,SNR=7.8						
SEY	**Seymchan**	**76.52**	**353**	P	P	07 13 06.9	-1.7
SEY	**Seymchan**	**76.52**	**353**	P	P	07 13 06.9	-1.7
	3.3nm,0.5s,baz=183,slow=17,SNR=5.9						
QSPA	**South Pole Qui**	**77.01**	**180**	*e*P	**P**	**07 13 14.3**	**+2.7**
	11nm,1.1s						
ULN	**Ulaanbaatar**	**80.48**	**324**	*e*P	**P**	**07 13 30.5**	**-0.2**
	6.6nm,0.9s						
SONM	**Songino Array**	**80.84**	**324**	P	**P**	**07 13 32.0**	**-0.7**
SONM	**Songino Array**	**80.84**	**324**	P	**P**	**07 13 32.0**	**-0.7**
	1.5nm,0.6s,baz=137,slow=4.8,SNR=11						
MAW	**Mawson**	**83.30**	**202**	P	**P**	**07 13 47.2**	**+2.2**
MAW	**Mawson**	**83.30**	**202**	P	**P**	**07 13 47.2**	**+2.2**
	2.4nm,0.7s,baz=106,slow=7.6,SNR=4.5						
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**07 13 51.9**	**-1.7**
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**07 13 51.9**	**-1.7**
	1.0nm,0.7s,baz=248,slow=5.2,SNR=27						
MK31	**Makanchi Array**	**95.64**	**317**	*e*P	**P**	**07 14 43.5**	**-0.3**
MKAR	**Makanchi Array**	**95.64**	**317**	P	**P**	**07 14 43.2**	**-0.6**
MKAR	**Makanchi Array**	**95.64**	**317**	P	**P**	**07 14 43.2**	**-0.6**
	2.5nm,0.7s,baz=98,slow=6.3,SNR=26						
ZALV	**Zalesovo Beam**	**95.73**	**324**	P	P	07 14 42.3	-1.7
ZALV	**Zalesovo Beam**	**95.73**	**324**	P	P	07 14 42.3	-1.7
	2.5nm,0.7s,baz=118,slow=5.0,SNR=10.0						
YKA	**Yellowknife Ar**	**96.23**	**27**	P	**P**	**07 14 44.2**	**-1.8**
YKA	**Yellowknife Ar**	**96.23**	**27**	P	**P**	**07 14 44.2**	**-1.8**
	0.1nm,0.5s,baz=257,slow=4.8,SNR=5.6						
KURK	**Kurchatov**	**98.79**	**320**	P	**P**	**07 14 56.7**	**-1.1**
KURBB	**Kurchatov Arra**	**98.83**	**320**	P	**Pdif**	**07 14 56.7**	**-1.3**
	0.4nm,0.5s,baz=96,slow=3.9,SNR=3.7						
ARCES	**ARCESS Array B**	**118.48**	**346**	PKP	**PKPdf**	**07 20 04.3**	**+0.1**
ARCES				PKKPbc	**PKKPab**	**07 30 23.4**	**-1.3**
ARCES	**ARCESS Array B**	**118.48**	**346**	PKP	**PKPdf**	**07 20 04.3**	**+0.1**
	1.0nm,0.4s,baz=42,slow=1.0,SNR=18						
ARCES				PKKPbc	**PKKPab**	**07 30 23.4**	**-1.3**
	2.3nm,0.8s,baz=222,slow=1.2,SNR=5.3						
FINES	**FINESS Array B**	**123.96**	**338**	PKP	**PKPdf**	**07 20 14.4**	**-0.5**
FINES	**FINESS Array B**	**123.96**	**338**	PKP	**PKPdf**	**07 20 14.4**	**-0.5**
	1.4nm,0.8s,baz=0.0,slow=1.9,SNR=3.9						
KEST	**Kesra**	**149.58**	**322**	PKPbc	**PKPbc**	**07 21 08.2**	**+1.0**
KEST	**Kesra**	**149.58**	**322**	PKPbc	**PKPbc**	**07 21 08.2**	**+1.0**
	3.2nm,0.6s,baz=76,slow=1.8,SNR=11						
ESDC	**Sonseca Array**	**152.21**	**345**	PKPbc	**PKPbc**	**07 21 14.2**	**+0.9**
ESDC				PKPab	**PKPab**	**07 21 24.0**	**+0.3**
ESDC	**Sonseca Array**	**152.21**	**345**	PKPbc	**PKPbc**	**07 21 14.2**	**+0.9**
	1.5nm,0.7s,baz=4.7,slow=3.0,SNR=5.7						
ESDC				PKPab	**PKPab**	**07 21 24.0**	**+0.3**
	1.8nm,0.6s,baz=13,slow=3.9,SNR=6.7						
TORD	**Torodi Ar. Bea**	**165.48**	**272**	PKPab	**PKPab**	**07 22 22.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**165.48**	**272**	PKPab	**PKPab**	**07 22 22.6**	**+0.5**
	2.2nm,0.8s,baz=84,slow=4.3,SNR=10						

IDC 21 07:16:55.1±8.0, 7°80S×120°25E, h144km±85km, mb2.9/3, mb1 3.0/5, mb1mx2.9/23, mbtmp2.9/5, Error ellipse: s-maj=175.7km s-min=29.4km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.51**	**153**	P	Pn	07 19 34.6	-0.5
	0.2nm,0.3s,baz=338,slow=14,SNR=6.7						
FITZ				S	Sn	07 21 34.7	-7.6
	0.3nm,0.3s,baz=253,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**18.22**	**133**	P	P	07 20 57.6	+0.3
	0.1nm,0.3s,baz=310,slow=12,SNR=4.8						
WRA				S	S	07 24 12.6	-6.0
	0.1nm,0.3s,baz=307,slow=22,SNR=1.6						
ASAR	**Alice Springs**	**20.50**	**142**	P	P	07 21 22.6	+0.6
	0.3nm,0.5s,baz=321,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**31.13**	**143**	P	P	07 22 59.7	-0.4
	1.3nm,0.8s,baz=335,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**63.97**	**332**	P	P	07 27 13.0	0.0
	0.1nm,0.5s,baz=145,slow=5.3,SNR=2.9						

*ISCJB **21** 07:30:40.0±0.4, 8°.81S±0°.07×117°.52E±0°.04, h120km±7km, mb4.0/7, Error ellipse: s-maj=11.8km s-min=6.6km az=13.9*
*IDC **21** 07:30:40.8±2.4, 8°.81S×117°.44E, h110km±20km, mb3.8/7, mb1 3.9/8, mb1mx3.7/22, mbtmp3.8/8, Error ellipse: s-maj=33.1km s-min=12.4km az=62.0*
*AUST **21** 07:30:41.9, 8°.98S×117°.45E, h100km*
*DJA **21** 07:30:43.1±0.7, 9°S±14'×11°7E±°, h112km±9km, M4.4/9, MLv4.4/9*

ISC 21 07:30:41.2±0.8, 8°83S±0°09×117°50E±0°06, h114km±8km, n40, σ1s22/40, mb4.1/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**1.33**	**278**	P	**Pn**	**07 31 07.3**	**+1.0**
MTNI				S	**Sn**	**07 31 26.3**	**+0.9**
DNP	**Denpasar**	**2.27**	**274**	P	**Pn**	**07 31 20.1**	**+2.3**
DNP				S	**Sn**	**07 31 46.2**	**+0.3**
IGBI	**Denpasar**	**2.33**	**270**	P	**Pn**	**07 31 18.9**	**+0.3**
IGBI				S	**Sn**	**07 31 46.4**	**-0.9**
SRBI	**Singaraja**	**2.38**	**288**	P	**Pn**	**07 31 19.3**	**0.0**
SRBI				S	**Sn**	**07 31 47.5**	**-1.0**
LBFI	**Labuhan Bajo,**	**2.38**	**82**	P	**Pn**	**07 31 20.2**	**+0.9**
WSI	**Waingapu**	**2.88**	**107**	P	Pn	07 31 30.1	+4.3
WSI	**Waingapu**	**2.88**	**107**	P	Pn	07 31 30.5	+4.7
	baz=2.9,SNR=5.2						
BYJI	**Banyuwangi**	**3.17**	**281**	P	**Pn**	**07 31 30.2**	**+0.6**
ABJI	**Asem Bagus**	**3.39**	**287**	P	**Pn**	**07 31 35.3**	**+2.8**
GMJI	**Gumukmas**	**4.05**	**277**	P	**Pn**	**07 31 40.3**	**-1.0**
GMJI				S	**Sn**	**07 32 26.6**	**-1.4**
SOEI	**Soe**	**6.74**	**98**	P	**Pn**	**

FAKI	**Fak Fak**	**15.79**	**69**	P		**Pn**	**07 34 17.5**	**+0.1**
	baz=16,SNR=3.7							
MEEK	**Meekatharra**	**17.75**	**177**	P		**P**	**07 34 40.8**	**+0.5**
	baz=18,SNR=17							
WRKA	**Warakurna**	**19.12**	**149**	P		**P**	**07 34 56.0**	**+0.6**
	baz=19,SNR=28							
WRA	**Warramunga Arr**	**19.68**	**126**	P		**P**	**07 35 01.3**	**-0.2**
	3.4nm,0.3s,baz=300,slow=12,SNR=207							
WRA				S		S	07 38 29.8	-7.6
	0.3nm,0.3s,baz=71,slow=21,SNR=3.0							
WRA				ScP		**ScP**	**07 42 41.1**	**-0.9**
	0.1nm,0.3s,baz=309,slow=2.4,SNR=5.3							
MORW	**Morawa**	**20.18**	**184**	P		Pn	07 35 10.0	+0.2
	baz=20,SNR=3.4							
ASAR	**Alice Springs**	**21.54**	**135**	P		**P**	**07 35 21.2**	**-0.4**
	3.5nm,0.6s,baz=313,slow=9.8,SNR=87							
ASAR				S		**S**	**07 39 16.4**	**+2.6**
	0.8nm,0.7s,baz=308,slow=22,SNR=2.6							
ASAR				ScP		**ScP**	**07 42 46.0**	**-0.4**
	0.4nm,0.9s,baz=320,slow=1.3,SNR=4.4							
FORT	**Forrest**	**23.96**	**157**	P		**P**	**07 35 45.7**	**+0.7**
	baz=24,SNR=8.7							
NWAO	**Narrogin (SRO)**	**23.99**	**181**	P		**P**	**07 35 45.3**	**+0.1**
	5.5nm,0.6s,baz=356,slow=11,SNR=5.7							
NWAO				S		S	07 40 07.5	+14
	5.4nm,0.4s,baz=238,slow=14,SNR=6.0							
QIS	**Mount Isa**	**24.32**	**121**	P		**P**	**07 35 50.1**	**+1.7**
	baz=24,SNR=7.5							
COEN	**Coen**	**25.67**	**104**	P		**P**	**07 36 00.6**	**-0.1**
	baz=26,SNR=7.0							
BBOO	**Buckleboo**	**29.40**	**147**	P		**P**	**07 36 33.8**	**-0.1**
	baz=29,SNR=12							
HTT	**Hallett**	**31.46**	**144**	P		**P**	**07 36 53.0**	**+0.9**
	baz=31,SNR=3.6							
STKA	**Stephens Creek**	**32.04**	**139**	P		**P**	**07 36 57.5**	**+0.4**
	2.3nm,0.5s,baz=320,slow=9.7,SNR=13							
STKA				PcP		**PcP**	**07 39 44.5**	**+0.2**
	1.5nm,0.5s,baz=320,slow=3.9,SNR=4.2							
STKA	**Stephens Creek**	**32.04**	**139**	P		**P**	**07 36 57.5**	**+0.4**
	baz=32,SNR=7.2							
PATS	**Pohnpei**	**43.55**	**70**	P		P	07 38 49.0	+15
	baz=44,SNR=4.1							
H08S2	**Diego Garcia H**	**44.54**	**268**	T		T	08 26 14.0	
	baz=95,slow=76,SNR=7.5							
H08S3	**Diego Garcia H**	**44.55**	**268**	T		T	08 26 14.1	
	baz=95,slow=76,SNR=8.3							
H08S1	**Diego Carcia H**	**44.56**	**268**	T		T	08 26 15.5	
	baz=95,slow=76,SNR=7.9							
USRK	**Ussuriysk Arra**	**54.38**	**13**	P		**P**	**07 39 56.6**	**+0.4**
	3.4nm,0.6s,baz=180,slow=5.3,SNR=9.0							
SONM	**Songino Array**	**57.26**	**351**	P		**P**	**07 40 16.8**	**-0.1**
	0.5nm,0.6s,baz=170,slow=8.5,SNR=6.9							
MKAR	**Makanchi Array**	**63.64**	**334**	P		**P**	**07 40 59.4**	**-0.7**
	0.2nm,0.4s,baz=146,slow=5.4,SNR=5.6							
VNDA	**Vanda**	**72.39**	**171**	P		**P**	**07 41 55.2**	**+0.9**
	4.2nm,1.2s,baz=359,slow=10,SNR=6.7							
YKA	**Yellowknife Ar**	**114.63**	**24**	PKP		PKPdf	07 49 07.2	-0.4
	0.1nm,0.4s,baz=303,slow=2.0,SNR=5.7							
TORD	**Torodi Ar. Bea**	**116.97**	**280**	PKP		**PKPdf**	**07 49 13.0**	**-0.5**
	0.2nm,0.5s,baz=61,slow=1.2,SNR=3.2							

*ISCJB **21** 07:32:02.7±1.6, 1.2S±0.4×100.6E±0.5, h86km, mb3.8/5, Error ellipse: s-maj=88.9km s-min=24.3km az=149.3*
*IDC **21** 07:32:08.7±21.0, 1.24S×100.48E, h128km±184km, mb3.5/5, mb1 3.6/5, mb1mx3.2/23, mbtmp3.5/5, Error ellipse: s-maj=123.6km s-min=23.3km az=61.0*

ISC 21 07:32:04.0±2.0, 1.3S±0.4×100.4E±0.6, h86km, n9, σ0.9s12/5, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H08S2	**Diego Garcia H**	**28.50**	**256**	T	T		08 05 54.4	
	baz=79,slow=75,SNR=4.1							
H08S3	**Diego Garcia H**	**28.51**	**256**	T	T		08 05 55.2	
	baz=79							
H08S1	**Diego Carcia H**	**28.52**	**256**	T	T		08 05 53.6	
	baz=79,slow=75,SNR=4.5							
SONM	**Songino Array**	**49.20**	**5**	P		**P**	**07 40 43.6**	**0.0**
	0.4nm,0.6s,baz=177,slow=8.6,SNR=3.0							
STKA	**Stephens Creek**	**49.34**	**132**	P		**P**	**07 40 44.8**	**0.0**
	0.5nm,0.4s,baz=333,slow=6.8,SNR=2.0							
MKAR	**Makanchi Array**	**50.45**	**344**	P		**P**	**07 40 52.9**	**-0.1**
	0.3nm,0.3s,baz=158,slow=8.6,SNR=10.0							
FINES	**FINESS Array B**	**83.66**	**332**	P		**P**	**07 44 22.9**	**0.0**
	1.9nm,0.9s,baz=147,slow=3.3,SNR=3.2							
ARCES	**ARCESS Array B**	**85.90**	**340**	P		**P**	**07 44 34.3**	**+0.1**
	2.7nm,0.9s,baz=110,slow=2.8,SNR=6.8							
TXAR	**Lajitas Array**	**143.90**	**37**	PKP		PKPbc	07 51 28.1	-0.1
	0.1nm,0.4s,baz=357,slow=1.9,SNR=2.9							

*IDC **21** 07:55:44.4±4.2, 5.17S×145.13E, h52km±40km, mb3.7/7, mb1 4.0/10, mb1mx3.8/20, mbtmp3.9/10, ML4.0/3, MS3.4/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=26.8km s-min=23.4km az=49.0*
*ISCJB **21** 07:55:45.6±0.9, 5.34S±0.07×145.02E±0.09, h68km, mb3.8/7, Error ellipse: s-maj=13.9km s-min=8.2km az=149.1*
*AUST **21** 07:55:50.1±0.0, 5.58S×144.74E, h39km, Error ellipse: s-maj=1.5km s-min=1.1km az=234.0*

ISC 21 07:55:48.0±1.1, 5.43S±0.10×144.9E±0.1, h68km, n15, σ1.9s33/17, mb3.8/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**4.54**	**151**	P		**Pn**	**07 56 53.8**	**-0.6**
	14nm,0.3s,baz=33,slow=4.1,SNR=40							
PMG				S		**Sn**	**07 57 45.6**	**-0.3**
	46nm,0.3s,baz=132,slow=23,SNR=20							
PMG	**Port Moresby**	**4.54**	**151**	P		**Pn**	**07 56 53.8**	**-0.6**
	baz=4.5,SNR=17							
PMG				P		**Pn**	**07 56 53.8**	**-0.6**
	baz=4.5,SNR=17							
PMG				P		**Pn**	**07 56 53.8**	**-0.6**
	baz=4.5,SNR=17							
JAY	**Jayapura**	**5.09**	**304**	P		**Pn**	**07 57 03.0**	**+1.1**
	baz=5.1,SNR=8.3							
RABL	**Rabaul**	**7.34**	**81**	P		Pn	07 57 38.1	+5.5
	baz=7.5,SNR=4.0							
COEN	**Coen**	**8.65**	**191**	P		**Pn**	**07 57 52.3**	**+1.8**
	baz=8.5,SNR=171							
CTA	**Charters Tower**	**14.63**	**175**	P		**Pn**	**07 59 13.0**	**+1.4**
	1.5nm,0.3s,baz=5.0,slow=14,SNR=17							
WRA	**Warramunga Arr**	**17.72**	**215**	P		**P**	**07 59 50.3**	**0.0**
	0.6nm,0.3s,baz=41,slow=12,SNR=49							
WRA				S		**Sn**	**08 03 03.8**	**-3.5**
	0.1nm,0.3s,baz=20,slow=20,SNR=2.8							
KNRA	**Kununurra**	**18.84**	**236**	P		**Pn**	**08 00 04.8**	**+0.9**
	baz=19,SNR=5.7							
ASAR	**Alice Springs**	**21.00**	**209**	P		**P**	**08 00 26.6**	**+0.4**
	2.2nm,0.6s,baz=32,slow=13,SNR=54							
FITZ	**Fitzroy Crossi**	**22.65**	**235**	P		**P**	**08 00 44.1**	**+0.4**
	2.0nm,0.6s,baz=58,slow=13,SNR=4.4							
STKA	**Stephens Creek**	**26.50**	**180**	P		**P**	**08 01 19.3**	**+0.2**
	0.6nm,0.4s,baz=19,slow=12,SNR=4.9							
STKA				LR		LR	08 11 27.1	
	comp=Z,71nm,18.0s,baz=23,slow=35							
CMAR	**Chiang Mai Arr**	**51.15**	**299**	P		**P**	**08 04 43.2**	**-1.4**
	2.0nm,0.5s,baz=120,slow=6.2,SNR=7.3							
VNDA	**Vanda**	**72.61**	**176**	P		**P**	**08 07 08.2**	**+0.5**
	1.3nm,0.7s,baz=335,slow=6.6,SNR=6.1							
ZALV	**Zalesovo Beam**	**77.42**	**328**	P		**P**	**08 07 34.6**	**-1.2**
	0.4nm,0.3s,baz=101,slow=7.5,SNR=2.4							
ILAR	**Eielson Array**	**85.78**	**24**	P		P	08 08 14.7	-5.0
	0.7nm,0.7s,baz=251,slow=5.2,SNR=11							

WEL 21 07:58:00.2±0.3, 38.35S×176.16E, h158km±2km, ML3.6/11, 5C-2D, Error ellipse: s-maj=2.3km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**0.75**	**84**	↓P	Pn		07 58 23.7	-0.1
URZ				S	Sn		07 58 41.9	0.0
BKZ	**Black Stump Fm**	**0.86**	**163**	P	Pn		07 58 24.6	-0.1
BKZ				S	Sn		07 58 43.3	-0.2
WPVZ	**Whakapapa**	**0.98**	**209**	P	Pn		07 58 25.7	0.0
TUVZ	**Tukino**	**1.00**	**203**	↑P	Pn		07 58 26.0	+0.1
TRVZ	**Turoa**	**1.07**	**207**	P	Pn		07 58 26.5	0.0
MWZ	**Matawai**	**1.07**	**90**	P	Pn		07 58 26.6	+0.3
MWZ				S	Sn		07 58 46.6	+0.1
WNVZ	**Wahianoa**	**1.07**	**204**	↑P	Pn		07 58 26.5	-0.1
MOVZ	**Moawhango**	**1.11**	**197**	P	Pn		07 58 26.3	-0.4
BHHZ	**Black Hill Sta**	**1.14**	**184**	P	Pn		07 58 26.9	-0.1
MCHZ	**McNeill Hill**	**1.17**	**159**	P	Pn		07 58 28.1	+1.0
KAHZ	**Kahuranaki**	**1.55**	**159**	P	Pn		07 58 31.4	+0.5
PNHZ	**Pukenui**	**1.56**	**179**	P	Pn		07 58 30.7	-0.4
TSZ	**Takapari Road**	**1.72**	**185**	↑P	Pn		07 58 32.1	-0.5
WPHZ	**Waipukurau**	**1.73**	**173**	P	Pn		07 58 32.5	-0.3
PXZ	**Pawanui**	**1.77**	**162**	↑P	Pn		07 58 33.1	-0.1
PXZ				S	Sn		07 58 57.9	-0.8
DVHZ	**Dannevirke**	**1.95**	**180**	P	Pn		07 58 34.3	-0.9
PRHZ	**Porangahau**	**1.95**	**169**	P	Pn		07 58 34.8	-0.4
POWZ	**Post Office Ro**	**2.07**	**188**	P	Pn		07 58 35.4	-1.1
ANWZ	**Angora Road**	**2.12**	**174**	P	Pn		07 58 36.7	-0.5
PRWZ	**Pori Road**	**2.21**	**184**	P	Pn		07 58 37.2	-1.0
BFZ	**Birch Farm**	**2.33**	**178**	P	Pn		07 58 38.3	-1.4
MRZ	**Mangatainoka R**	**2.35**	**191**	P	Pn		07 58 38.2	-1.7
MRZ				S	Sn		07 59 08.5	-2.2
TIWZ	**Tintock**	**2.44**	**185**	P	Pn		07 58 39.4	-1.5
OGWZ	**Otaki Gorge**	**2.58**	**197**	↑P	Pn		07 58 40.8	-1.8
HOWZ	**Holdsworth Sta**	**2.60**	**191**	P	Pn		07 58 40.7	-2.1
KIW	**Kapiti Island**	**2.69**	**201**	P	Pn		07 58 41.6	-2.4
TMWZ	**Te Maipa**	**2.77**	**184**	P	Pn		07 58 43.0	-1.9
MTW	**Mount Morrison**	**2.85**	**190**	P	Pn		07 58 43.4	-2.6
CAW	**Cannon Point**	**2.88**	**197**	↓P	Pn		07 58 44.0	-2.4
MSWZ	**Moikau Station**	**3.14**	**193**	P	Pn		07 58 46.7	-2.9
TCW	**Tory Channel**	**3.21**	**206**	P	Pn		07 58 47.5	-2.9
PLWZ	**Palliser**	**3.29**	**192**	P	Pn		07 58 48.5	-3.1
TUWZ	**Tuamarina**	**3.52**	**208**	P	Pn		07 58 51.3	-3.1
NNZ	**Nelson**	**3.58**	**216**	P	Pn		07 58 52.0	-3.2
THZ	**Tophouse**	**4.23**	**215**	*e*P	Pn		07 58 59.8	-3.9

MEX 21 08:40:14.0±0.4, 18.65N×102.51W, h71km±10km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MMIG	**Aquila**	**0.87**	**246**	*e*P	Pn		08 40 29.5	-1.5
MMIG				*i* S	Sn		08 40 41.8	-1.6
EZ5V		**1.32**	**309**	*i* P	Pn		08 40 35.8	-1.2
EZ5V				*i* S	Sn		08 40 52.1	-2.1
ZIIG	**Zihuatanejo**	**1.44**	**136**	*e*P	Pn		08 40 36.6	-1.6
ZIIG				*i* S	Sn		08 40 55.2	-1.2
R15V		**1.48**	**291**	*e*P	Pn		08 40 37.5	-1.3
R15V				*i* S	Sn		08 40 55.0	-2.6
MOIG	**Morelia**	**1.62**	**51**	*e*P	Pn		08 40 39.1	-1.7
MOIG				*i* S	Sn		08 40 59.8	-1.4
SFJM	**Santa Fe**	**1.89**	**345**	*i* P	Pn		08 40 34.8	-10
SFJM				*i* S	Sn		08 40 57.7	-10

*IDC **21** 08:53:09.4±0.9, 28.99N×113.04W, h0km, mb4.0/5, mb1 4.2/11, mb1mx4.0/30, mbtmp3.9/11, ML3.7/4, MS4.0/24, Ms1 4.0/24, ms1mx3.9/37, Error ellipse: s-maj=16.3km s-min=9.7km az=30.0*
*GCMT **21** 08:53:10.9±0.5, 29.08N×113.28W, h15km±2km, MW4.8, Moment Tensor Solution. s10,c10; s69,c90; Moment tensor: Scale 10^16 Nm; Mrr=0.37±.10; Mθθ=1.41±.08; Mϕϕ 1.78±.09; Mrθ=0.55±.31; Mθϕ=0.32±.07; Mϕr 0.70±.28; Best double couple: M0 1.90000×10^16 NP1:ϕs 132.00000°, δ86.00000°, λ=-150.00000°. NP2:ϕs 40.00000°, δ60.00000°, λ=-4.00000°. Principal axes: T 2.0500, Plg18.0000°, Azm262.0000°; N -0.4100, Plg60.0000°, Azm138.0000°; P -1.6500, Plg23.0000°, Azm360.0000°; Data Used: ll CU G IU CN IC.*
*ISCJB **21** 08:53:10.5±0.4, 29.03N±0.03×112.88W±0.03, h10km, mb4.4/16, MS4.1/20 Error ellipse: s-maj=5.0km s-min=3.5km az=34.5*
*NEIC **21** 08:53:10.2±0.6, 28.94N×113.13W, h10km, mb4.6/19, MD4.5(MEX), Error ellipse: s-maj=9.4km s-min=5.3km az=217.0*
*BJI **21** 08:53:12.2, 29.37N×112.24W, h18km, mb5.0/3, Ms5.0/2, Ms7 4.7/2*
*MEX **21** 08:53:15.3±0.3, 28.84N×112.82W, h16km±5km, MD4.5*

ISC 21 08:53:13.5±0.9, 28.85N±0.04×112.85W±0.04, h23km±6km, n128, σ1.8s79/119, mb4.7/16, MS4.2/20, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SRIG	**Santa Rosalia**	**1.61**	**160**	*i* P	**Pn**		**08 53 39.3**	**-1.2**
SRIG				*i* S	**Sn**		**08 53 57.8**	**-2.7**
SRIG	**Santa Rosalia**	**1.61**	**160**	*i* P	**Pn**		**08 53 39.3**	**-1.2**
SRIG				*i* S	**Sn**		**08 53 57.8**	**-2.7**
HSIG		**1.67**	**84**	*i* P	**Pn**		**08 53 40.2**	**-1.1**
HSIG				*i* S	**Sn**		**08 53 59.4**	**-2.7**
HSIG		**1.67**	**84**	*i* P	**Pn**		**08 53 40.2**	**-1.1**
HSIG				*i* S	**Sn**		**08 53 59.4**	**-2.7**
214A	**Organ Pipe Nat**	**3.10**	**1**	*i* Pn	Pn		08 53 53.9	-7.1
214A				*e*Pg	**Pb**		**08 54 06.8**	**-1.1**
214A				*e*Sg	**Sb**		**08 54 42.8**	**-2.5**
SPIG	**San Pedro Mart**	**3.16**	**315**	*i* P	**Pn**		**08 54 02.0**	**-0.1**
SPIG				*i* S	**Sn**		**08 54 39.0**	**-0.3**
SPIG	**San Pedro Mart**	**3.16**	**315**	*i* P	**Pn**		**08 54 02.0**	**-0.1**
SPIG				*i* S	**Sn**		**08 54 39.0**	**-0.3**
TUC	**Tucson**	**3.88**	**27**	*e*Pn	Pn		08 54 08.3	-3.5
TUC				*e*Sg	**Sb**		**08 55 11.3**	**+3.4**
MBIG	**Mexicali**	**4.09**	**331**	*i* P	**Pn**		**08 54 14.4**	**-0.1**
GLA	**Glamis**	**4.53**	**338**	*e*Pn	Pn		08 54 13.4	-7.2
GLA				*e*Sn	**Sn**		**08 55 07.9**	**-4.6**
BAR	**Barrett**	**5.04**	**320**	*e*Pn	Pn		08 54 21.0	-6.7
BAR				*e*Sg	**Sb**		**08 55 44.0**	**+2.8**
LPIG	**La Paz**	**5.24**	**154**	*i* P	**Pn**		**08 54 30.6**	**+0.2**
LPIG				*i* S	**Sn**		**08 55 29.6**	**-0.5**
LPIG	**La Paz**	**5.24**	**154**	*i* P	**Pn**		**08 54 30.6**	**+0.2**
LPIG				*i* S	**Sn**		**08 55 29.6**	**-0.5**
LPIG				Lg	Lg		08 56 05.0	
LPIG	**La Paz**	**5.24**	**154**	Pn	**Pn**		**08 54 32.4**	**+1.9**
	14nm,0.3s,baz=307,slow=4.3,SNR=21							
LPIG				Lg	Lg		08 56 05.0	
	2.0nm,0.3s,baz=72,slow=21,SNR=5.8							
LPIG				LR	LR		08 56 32.7	
	comp=Z,539nm,19.3s,baz=337,slow=37							
PFO	**Pinyon Flat Ob**	**5.67**	**328**	*e*Pn	Pn		08 54 29.1	-7.2
PFO				Sg	Sb		08 56 06.8	+7.5
PFO	**Pinyon Flat Ob**	**5.67**	**328**	Pn	Pn		08 54 30.1	-6.2
	baz=140,slow=13							
PFO				LR	LR		08 56 13.1	
	comp=Z,644nm,21.8s,baz=166,slow=34							
121A	**Cookes Peak, D**	**5.70**	**49**	*e*Pn	**Pn**		**08 54 35.6**	**-1.3**
121A				*e*Sg	Sb		08 56 14.7	+14
LDFC	**Landfair**	**6.50**	**343**	*e*Pn	Pn		08 54 43.0	-4.9
LDFC				*e*Sn	**Sn**		**08 56 02.3**	**+0.9**
WUAZ	**Wupatki**	**6.77**	**10**	*e*Pn	Pn		08 54 48.2	-3.4
WUAZ				*e*Sn	**Sn**		**08 56 10.7**	**+2.7**
MWC	**Mount Wilson**	**6.96**	**322**	Pn	Pn		08 54 50.8	-3.4
MNTX	**Cornudas Mount**	**7.05**	**64**	*e*Pn	**Pn**		**08 54 54.5**	**-0.9**
MNTX				*e*Sg	Sb		08 56 57.4	+18
GSC	**Goldstone**	**7.26**	**333**	*e*Pn	Pn		08 54 53.8	-4.4
GSC				*e*Sg	Sb		08 57 07.4	+22
LENM	**Lemitar**	**7.30**	**42**	*e*Pn	**Pn**		**08 54 57.2**	**-1.6**
LENM				*e*Sg	Sb		08 57 09.6	+23
LAZ	**Ladron**	**7.37**	**40**	*e*Pn	**Pn**		**08 54 57.8**	**-2.1**
LAZ				*e*Sg	Sb		08 57 10.8	+22
BNM	**Barren Site**	**7.49**	**44**	*e*Pn	**Pn**		**08 55 00.2**	**-1.3**
BNM				*e*Sg	Sb		08 57 08.6	+16
LPM	**Los Pinos Moun**	**7.60**	**43**	*e*Pn	**Pn**		**08 55 01.0**	**-2.0**
SHPR	**Sheep Range**	**7.88**	**346**	*e*Pn	Pn		08 55 01.0	-5.8
SHPR				*e*Sn	**Sn**		**08 56 37.0**	**+1.6**
GDL2	**Guadalupe Moun**	**8.04**	**63**	*e*Pn	**Pn**		**08 55 10.0**	**+1.0**
TXAR	**Lajitas Array**	**8.05**	**84**	Pn	**Pn**		**08 55 09.9**	**+0.9**
TXAR				Sn	**Sn**		**08 56 42.4**	**+3.0**
TXAR				Lg	Lg		08 57 27.5	
TXAR	**Lajitas Array**	**8.05**	**84**	Pn	**Pn**		**08 55 09.9**	**+0.9**
	4.0nm,0.3s,baz=258,slow=13,SNR=255							
TXAR				Sn	**Sn**		**08 56 42.4**	**+3.0**
	0.8nm,0.3s,baz=257,slow=31,SNR=1.3							
TXAR				Lg	Lg		08 57 27.5	
	0.9nm,0.3s,baz=278,slow=27,SNR=2.6							
ANMO	**Albuquerque**	**8.15**	**40**	*e*Pn	**Pn**		**08 55 08.9**	**-1.7**
ANMO				Sn	**Sn**		**08 56 39.7**	**-2.4**
ANMO				*e*Sn	Sb		08 56 45.7	-25
ANMO				Lg	Lg		08 57 30.5	
ANMO	**Albuquerque**	**8.15**	**40**	Pn	**Pn**		**08 55 09.1**	**-1.4**
	0.7nm,0.3s,baz=228,slow=15,SNR=34							
ANMO				Sn	**Sn**		**08 56 39.7**	**-2.4**
	0.3nm,0.3s,baz=304,slow=8.7,SNR=2.0							
ANMO				Lg	Lg		08 57 30.5	
	2.2nm,0.3s,baz=187,slow=16,SNR=3.3							
ANMO				LR	LR		08 58 31.3	
	comp=Z,291nm,18.5s,baz=46,slow=40							

TPNV	**Topopah Spring**	**8.57**	**341**	*e*Pn	Pn		08 55 11.9	-4.4
CCUT	**Cedar City**	**8.69**	**357**	*e*Pn	Pn		08 55 14.4	-3.5
CCUT				*e*Sn	**Sn**		**08 56 57.8**	**+2.4**
ARUT	**Antelope Range**	**8.93**	**357**	*e*Pn	**Pn**		**08 55 18.8**	**-2.5**
	531nm,0.6s							
MVCO	**Mesa Verde**	**9.10**	**22**	*e*Pn	Pn		08 55 20.4	-3.2
MVCO				*e*Sn	**Sn**		**08 57 09.1**	**+3.6**
R11A	**Troy Canyon, C**	**9.75**	**347**	*e*Pn	Pn		08 55 27.5	-5.0
PV01	**Paradox Valley**	**9.93**	**20**	*e*Pn	**Pn**		**08 55 34.4**	**-0.5**
	45nm,1.2s							
PV04	**Paradox Valley**	**10.07**	**18**	*e*Pn	**Pn**		**08 55 35.0**	**-1.8**
PV04				*e*Sn	**Sn**		**08 57 29.7**	**+0.5**
SRU	**San Rafael**	**10.42**	**10**	*e*Pn	**Pn**		**08 55 40.0**	**-1.6**
TMUT	**Trail Mountain**	**10.51**	**7**	*e*Pn	**Pn**		**08 55 41.1**	**-1.9**
NVAR	**Mina Array Bea**	**10.58**	**336**	Pn	**Pn**		**08 55 42.0**	**-1.8**
NVAR	**Mina Array Bea**	**10.58**	**336**	Pn	**Pn**		**08 55 42.0**	**-1.8**
	0.1nm,0.3s,baz=162,slow=14,SNR=13							
NVAR				LR	LR		08 59 19.9	
	comp=Z,648nm,21.6s,baz=211,slow=36							
SDCO	**Great Sand Dun**	**10.79**	**33**	*e*Pn	**Pn**		**08 55 49.1**	**+2.3**
WAKR	**Walker**	**11.08**	**332**	*e*Pn	**Pn**		**08 55 47.9**	**-2.8**
AMTX	**Amarillo**	**11.24**	**55**	*e*Pn	**Pn**		**08 55 54.7**	**+2.0**
JCT	**Junction City**	**11.46**	**79**	*e*Pn	**Pn**		**08 55 58.7**	**+2.9**
	45nm,1.0s							
JLU	**Jordanelle**	**11.79**	**5**	*e*Pn	**Pn**		**08 55 59.7**	**-0.6**
ABTX	**Abilene, Hawle**	**11.97**	**68**	*e*Pn	**Pn**		**08 56 05.2**	**+2.5**
ELK	**Elko**	**12.03**	**351**	*e*Pn	**Pn**		**08 56 02.7**	**-1.0**
ELK				Lg	Lg		08 59 28.5	
ELK	**Elko**	**12.03**	**351**	Lg	Lg		08 59 28.5	
	0.1nm,0.3s,baz=207,slow=21,SNR=3.2							
BGU	**Big Grassy Mou**	**12.05**	**359**	*e*Pn	**Pn**		**08 56 03.3**	**-0.6**
BEKR	**Beckworth**	**12.62**	**333**	*e*Pn	Pn		08 56 07.4	-4.2
	20nm,1.5s							
HVU	**Hansel Valley**	**12.91**	**0**	*e*Pn	**Pn**		**08 56 14.8**	**-0.7**
WMOK	**Wichita Mounta**	**13.32**	**60**	*e*Pn	**Pn**		**08 56 22.4**	**+1.2**
WHTX	**Lake Whitney**	**13.65**	**73**	*e*Pn	**Pn**		**08 56 27.1**	**+1.5**
PDAR	**Pinedale Array**	**14.14**	**10**	Pn	**Pn**		**08 56 34.8**	**+2.2**
PDAR	**Pinedale Array**	**14.14**	**10**	Pn	**Pn**		**08 56 34.8**	**+2.2**
	0.1nm,0.3s,baz=184,slow=12,SNR=12							
PDAR				Lg	Lg		09 00 31.5	
	0.1nm,0.3s,baz=195,slow=26,SNR=2.9							
WVOR	**Wild Horse Val**	**14.35**	**342**	*e*Pn	**Pn**		**08 56 32.5**	**-2.8**
K22A	**Casper**	**14.69**	**19**	*e*Pn	**Pn**		**08 56 40.8**	**+0.8**
HLID	**Hailey**	**14.74**	**356**	*e*Pn	**Pn**		**08 56 39.1**	**-1.5**
HKT	**Hockley**	**14.87**	**82**	*e*Pn	**Pn**		**08 56 44.3**	**+2.1**
YBH	**Yreka Blue Hor**	**15.15**	**331**	LR	LR		09 02 24.0	
	comp=Z,824nm,19.6s,baz=179,slow=37							
MCMT	**McKenzie Canyo**	**15.95**	**360**	*e*Pn	**Pn**		**08 56 54.6**	**-1.9**
	10nm,1.4s							
TUL1	**Tulsa**	**16.03**	**60**	*e*Pn	**Pn**		**08 56 57.6**	**+0.2**
RSSD	**Black Hills**	**16.79**	**22**	*e*Pn	**Pn**		**08 57 08.1**	**+0.8**
	5.4nm,1.6s							
KSU1	**Kansas State U**	**16.89**	**49**	*e*Pn	**Pn**		**08 57 08.5**	**+0.2**
LRM	**Limekiln Ridge**	**16.95**	**1**	*e*P	**Pn**		**08 57 10.1**	**+0.8**
CHMT	**Chamberlain Mo**	**18.04**	**359**	*e*P	**Pn**		**08 57 21.5**	**-1.2**
SLMT	**Seeley Lake**	**18.37**	**359**	*e*P	**P**		**08 57 26.0**	**-0.7**
UALR	**University of**	**18.39**	**66**	*e*P	**P**		**08 57 23.5**	**-3.3**
	24nm,1.1s							
LAO	**LASA Array**	**18.55**	**14**	*e*P	**P**		**08 57 26.9**	**-1.6**
	28nm,1.0s							
**SWMT

comp=E,360nm,18.8s
HHC LR LR
comp=Z,180nm,18.3s
NJ2 Nanjing 102.02 317 *e*P **Pdif 09 07 07.9 +1.9**
CD2 Chengdu 111.10 327 *e*PKP **PKiKP 09 11 48.5 +3.0**
WRA Warramunga Arr 118.86 262 PKP **PKPdf 09 11 59.1 -1.5**
WRA Warramunga Arr 118.86 262 PKP **PKPdf 09 11 59.1 -1.5**
0.4nm,1.0s,baz=71,slow=2.2,SNR=3.1
ASAR Alice Springs 120.60 258 PKP **PKPdf 09 12 02.7 -1.1**
ASAR Alice Springs 120.60 258 PKP **PKPdf 09 12 02.7 -1.1**
0.2nm,0.6s,baz=96,slow=2.5,SNR=3.4

*IDC **21** 09:03:51.5±1.0, 53.50N×35.37W, h0km, mb3.2/6, mb1 3.6/7, mb1mx3.4/32, mbtmp3.3/7, ML2.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/23, Error ellipse: s-maj=62.0km s-min=20.8km az=23.0*
*ISCJB **21** 09:03:52.3±0.9, 53.4N±0.4×35.4W±0.3, h16km, mb3.2/6, MS3.3/1, Error ellipse: s-maj=62.7km s-min=14.3km az=24.0*
ISC 21 09:03:53.9±0.9, **53.5N**±0.4×**35.4W**±0.2, **h16**km, **n10, s0.54/9, mb3.3/6, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCHQ	**Schefferville**	**18.40**	**287**	P		**Pn**	**09 08 08.9**	**+0.9**
	0.2nm,0.3s,baz=63,slow=14,SNR=4.1							
ESDC	**Sonseca Array**	**25.38**	**110**	P		**P**	**09 09 20.6**	**+0.4**
	0.2nm,0.3s,baz=312,slow=8.5,SNR=2.6							
DAVOX	**Davos/Dischmat**	**29.34**	**85**	LR		LR	09 21 59.6	
	comp=Z,64nm,18.2s,baz=268,slow=37							
YKA	**Yellowknife Ar**	**40.35**	**315**	P		**P**	**09 11 30.2**	**0.0**
	0.2nm,0.8s,baz=66,slow=9.3,SNR=4.7							
PDAR	**Pinedale Array**	**48.52**	**289**	P		**P**	**09 12 36.0**	**0.0**
	0.3nm,0.6s,baz=55,slow=7.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**49.79**	**130**	P		**P**	**09 12 45.8**	**+0.1**
	0.3nm,0.5s,baz=335,slow=8.7,SNR=3.1							
TXAR	**Lajitas Array**	**54.30**	**272**	P		**P**	**09 13 18.7**	**-0.7**
	0.2nm,0.9s,baz=54,slow=9.1,SNR=2.3							
NVAR	**Mina Array Bea**	**56.36**	**291**	P		**P**	**09 13 34.3**	**+0.1**
	0.2nm,0.6s,baz=46,slow=7.7,SNR=2.0							
WRA	**Warramunga Arr**	**145.55**	**17**	PKPbc		**PKPdf**	**09 23 30.7**	**-0.5**
	0.2nm,0.5s,baz=348,slow=2.9,SNR=2.7							
ASAR	**Alice Springs**	**149.10**	**19**	PKPbc		**PKPbc**	**09 23 40.9**	**-0.3**
	0.4nm,0.9s,baz=351,slow=2.3,SNR=6.6							

SKHL 21 09:33:05.9±0.4, **53.77N**×**142.79E**, **h10**km, **mb5.1**/2, **Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKH	**Okha**	**0.24**	**159**	*e*Pg		Pg	09 33 09.2	-1.5
OKH						AMB	09 33 09.3	
	8μm,0.2s							
OKH				*i* Sg		Sg	09 33 11.5	-2.5
OKH				A		A	09 33 12.9	
	8μm,0.4s							
OKH				A		A	09 33 12.9	
	13μm,0.4s							
NKL	**Nikolayevsk**	**1.41**	**245**	*e*Pg		Pg	09 33 33.8	+0.9
NKL						AMB	09 33 37.4	
	47nm,0.2s							
NKL						AMB	09 33 37.4	
	43nm,0.2s							
NKL				*i* Sg		Sg	09 33 53.7	+2.6
NKL				A		A	09 33 54.7	
	60nm,0.3s							
NKL				A		A	09 33 54.7	
	100nm,0.3s							
TYV	**Tymovskoe**	**2.91**	**182**	*e*Pg		Pg	09 34 03.6	+1.9
TYV				*e*Sg		Sg	09 34 44.0	+4.6
EKMR	**Ekimchan**	**5.93**	**267**	*e*Pg		Pg	09 35 02.8	+3.4
EKMR						AMB	09 35 04.1	
	2.0nm,0.3s							
EKMR				*e*Sg		Sg	09 36 24.8	+8.7
EKMR				A		A	09 36 37.7	
	5.0nm,0.6s							
BMKR	**Bomnak**	**8.23**	**282**	*e*S		Sn	09 36 42.2	+4.0
BMKR				A		A	09 36 42.6	
	12nm,0.4s							
KROS	**Kirovskiy**	**9.32**	**280**	*e*S		Sn	09 37 09.3	+4.3
KROS				A		A	09 37 09.8	
	5.0nm,0.4s							

*ISCJB **21** 09:40:58.3±0.7, 20.75S±0.05×66.88W±0.10, h200km, mb3.3/4, Error ellipse: s-maj=12.6km s-min=7.1km az=9.8*
*IDC **21** 09:41:00.2±1.8, 20.62S×66.88W, h205km±15km, mb3.1/4, mb1 3.5/7, mb1mx3.3/20, mbtmp3.8/7, Error ellipse: s-maj=20.9km s-min=18.3km az=51.0*
ISC 21 09:40:59.7±0.8, **20.65S**±0.09×**66.88W**±0.10, **h200**km, **n12, s0.69/13, mb3.4/4, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**4.50**	**344**	P		**Pn**	**09 42 09.5**	**+1.0**
	13nm,0.3s,baz=153,slow=9.0,SNR=183							
LPAZ				S		**Sn**	**09 43 02.8**	**+0.3**
	baz=266,slow=13,SNR=1.7							
SIV	**San Ignacio**	**7.20**	**51**	P		**Pn**	**09 42 43.7**	**+1.0**
	5.5nm,0.3s,baz=248,slow=10,SNR=51							
SIV				S		**Sn**	**09 44 03.7**	**-0.8**
	baz=209,slow=19,SNR=2.9							
CFAA	**Coronel Fontan**	**10.97**	**186**	P		**Pn**	**09 43 31.9**	**+0.3**
	0.1nm,0.3s,baz=7.4,slow=12,SNR=21							
CFAA				S		Sn	09 45 28.0	-6.0
	0.1nm,0.3s,baz=273,slow=23,SNR=5.6							
TXAR	**Lajitas Array**	**61.06**	**323**	P		**P**	**09 50 51.4**	**-1.2**
	0.2nm,0.8s,baz=142,slow=10,SNR=2.6							
PDAR	**Pinedale Array**	**74.35**	**329**	P		**P**	**09 52 15.4**	**-0.3**
	0.2nm,0.4s,baz=137,slow=8.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**75.28**	**70**	P		**P**	**09 52 21.2**	**-0.1**
	0.7nm,0.5s,baz=248,slow=5.4,SNR=12							
YKA	**Yellowknife Ar**	**91.04**	**340**	P		**P**	**09 53 40.6**	**-0.2**
	0.6nm,0.5s,baz=130,slow=4.9,SNR=19							
ASAR	**Alice Springs**	**131.52**	**206**	PKP		**PKPdf**	**09 59 49.3**	**0.0**
	0.2nm,0.4s,baz=137,slow=1.7,SNR=6.9							
WRA	**Warramunga Arr**	**134.62**	**209**	PKP		**PKPdf**	**09 59 55.1**	**-0.1**
	0.4nm,0.8s,baz=152,slow=1.7,SNR=4.2							
ZALV	**Zalesovo Beam**	**140.37**	**26**	PKP		**PKPdf**	**10 00 05.2**	**+0.6**
	0.4nm,0.3s,baz=349,slow=2.9,SNR=2.5							
MKAR	**Makanchi Array**	**143.83**	**37**	PKP		PKPbc	10 00 10.4	+1.1
	0.2nm,0.5s,baz=323,slow=3.2,SNR=5.0							
SONM	**Songino Array**	**152.34**	**10**	PKPbc		**PKPbc**	**10 00 32.0**	**0.0**
	0.1nm,0.3s,baz=298,slow=1.4,SNR=6.2							

RSPR 21 10:01:00.3, 19.18N×68.91W, h125km±3km, **MD3.6**/9, **10C-1D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.59**	**229**	*i* P		Pn	10 01 19.0	-0.5
DR12				*e*S		Sn	10 01 33.4	-0.5
IDE	**Isla Desecheo**	**1.57**	**120**	*e*P		Pn	10 01 29.0	+0.1
IDE	**Isla Desecheo**	**1.57**	**120**	*e*S		Sn	10 01 51.1	+0.5
AGPR	**Aguadilla, PR**	**1.84**	**112**	*e*P		Pn	10 01 32.1	0.0
CRPR	**Cabo Rojo, PR**	**2.07**	**124**	*e*P		Pn	10 01 34.0	-0.8
AOPR	**Arecibo Observ**	**2.21**	**112**	*e*P		Pn	10 01 36.7	+0.1
CELP	**Cerrillos**	**2.47**	**116**	*e*P		Pn	10 01 39.9	0.0
CELP				*e*S		Sn	10 02 11.2	+0.9
CBYP	**Canovanas**	**3.03**	**107**	*e*P		Pn	10 01 47.6	+0.3
CBYP	**Canovanas**	**3.03**	**107**	*e*S		Sn	10 02 23.6	+0.2
CPD	**Cerro la Pandu**	**3.06**	**111**	*e*P		Pn	10 01 47.5	-0.1
CPD	**Cerro la Pandu**	**3.06**	**111**	*e*S		Sn	10 02 24.1	+0.1
HUMP	**Col San Antoni**	**3.08**	**109**	*e*P		Pn	10 01 47.6	-0.2
MTP	**Monte Pirata**	**3.36**	**108**	*e*P		Pn	10 01 51.5	0.0
MTP	**Monte Pirata**	**3.36**	**108**	*e*S		Sn	10 02 31.4	+0.3
ABV	**Anegada**	**4.36**	**95**	*e*P		Pn	10 02 05.8	+1.1
ABV	**Anegada**	**4.36**	**95**	*e*S		Sn	10 02 55.7	+1.0

*IDC **21** 10:18:21.1±0.8, 16.84S×173.12W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/23, mbtmp4.1/11, MS3.6/4, Ms1 3.6/4, ms1mx3.2/33, Error ellipse: s-maj=42.5km s-min=16.7km az=142.0*
*NEIC **21** 10:18:22.3±0.5, 16.71S×173.18W, h10km, mb4.1/2, Error ellipse: s-maj=23.0km s-min=9.4km az=133.0*
*ISCJB **21** 10:18:25.3±0.6, 16.8S±0.1×173.2W±0.1, h41km, mb4.0/12, MS3.6/3, Error ellipse: s-maj=22.9km s-min=11.6km az=39.6*
ISC 21 10:18:26.4±0.7, **16.8S**±0.1×**173.1W**±0.2, **h41**km, **n37, s0.70/40, mb3.9/12, MS3.7/3, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.14**	**24**	Pn		Pn	10 19 08.8	-4.7
AFI				Sn		**Sn**	**10 19 45.9**	**-4.0**
AFI	**Afiamalu**	**3.14**	**24**	Pn		Pn	10 19 08.8	-4.7
	4.6nm,0.3s,baz=228,slow=15,SNR=10							
AFI				Sn		**Sn**	**10 19 45.9**	**-4.0**
	13nm,0.3s,baz=209,slow=24,SNR=8.2							
RAR	**Rarotonga**	**13.35**	**111**	LR		LR	10 25 27.9	
	comp=Z,231nm,21.0s,baz=135,slow=32							
URZ	**Urewera**	**23.05**	**200**	P		**P**	**10 23 26.9**	**-1.2**
URZ				S		**S**	**10 27 31.6**	**-4.4**
URZ	**Urewera**	**23.05**	**200**	P		**P**	**10 23 26.9**	**-1.2**
	16nm,0.7s,baz=9.0,slow=6.0,SNR=13							
URZ				S		**S**	**10 27 31.6**	**-4.4**
	8.2nm,0.9s,baz=345,slow=19,SNR=3.7							
HNR	**Honiara**	**27.23**	**282**	LR		LR	10 33 24.8	
	comp=Z,206nm,19.5s,baz=152,slow=33							
RPZ	**Rata Peaks**	**30.01**	**203**	P		**P**	**10 24 31.6**	**+0.3**
CTA	**Charters Tower**	**38.63**	**259**	P		**P**	**10 25 45.5**	**-0.6**
CTA	**Charters Tower**	**38.63**	**259**	P		**P**	**10 25 45.5**	**-0.6**
	2.1nm,0.7s,baz=93,slow=9.0,SNR=3.6							
CTAO	**Charters Tower**	**38.63**	**259**	P		**P**	**10 25 44.8**	**-1.4**
	3.4nm,1.0s							
STKA	**Stephens Creek**	**43.60**	**241**	P		**P**	**10 26 26.2**	**-0.6**
STKA	**Stephens Creek**	**43.60**	**241**	P		**P**	**10 26 26.2**	**-0.6**
	1.0nm,0.6s,baz=78,slow=12,SNR=5.0							
WRAB	**Tennant Creek**	**49.81**	**258**	P		**P**	**10 27 14.9**	**-0.8**
	2.8nm,0.8s							
WRA	**Warramunga Arr**	**49.82**	**258**	P		**P**	**10 27 15.3**	**-0.4**
WRA				PcP		**PcP**	**10 28 37.9**	**+1.8**
WRA	**Warramunga Arr**	**49.82**	**258**	P		**P**	**10 27 15.3**	**-0.4**
	1.2nm,0.5s,baz=96,slow=7.5,SNR=33							
WRA				PcP		**PcP**	**10 28 37.9**	**+1.8**
	0.7nm,0.9s,baz=96,slow=3.2,SNR=2.9							
AS31	**Alice Springs**	**49.97**	**253**	*e*P		**P**	**10 27 16.8**	**-0.1**
ASAR	**Alice Springs**	**49.97**	**253**	P		**P**	**10 27 16.4**	**-0.4**
ASAR				PcP		**PcP**	**10 28 37.9**	**+1.3**
ASAR	**Alice Springs**	**49.97**	**253**	P		**P**	**10 27 16.4**	**-0.4**
	9.2nm,0.9s,baz=89,slow=8.3,SNR=143							
ASAR				PcP		**PcP**	**10 28 37.9**	**+1.3**
	1.2nm,0.9s,baz=100,slow=3.0,SNR=2.9							
FITZ	**Fitzroy Crossi**	**58.21**	**259**	LR		LR	10 48 59.4	
	comp=Z,63nm,20.2s,baz=5.7,slow=32							
NVAR	**Mina Array Bea**	**75.17**	**42**	P		**P**	**10 30 05.4**	**+0.4**
NVAR	**Mina Array Bea**	**75.17**	**42**	P		**P**	**10 30 05.4**	**+0.4**
	0.7nm,0.7s,baz=233,slow=8.6,SNR=5.3							
TXAR	**Lajitas Array**	**81.15**	**56**	P		**P**	**10 30 39.4**	**+1.3**
TXAR	**Lajitas Array**	**81.15**	**56**	P		**P**	**10 30 39.4**	**+1.3**
	0.3nm,1.0s,baz=227,slow=6.1,SNR=3.4							
PDAR	**Pinedale Array**	**83.11**	**42**	P		**P**	**10 30 48.8**	**+0.5**
PDAR	**Pinedale Array**	**83.11**	**42**	P		**P**	**10 30 48.8**	**+0.5**
	0.3nm,0.5s,baz=222,slow=2.4,SNR=3.7							
ILAR	**Eielson Array**	**83.75**	**11**	P		**P**	**10 30 51.4**	**+0.7**
ILAR	**Eielson Array**	**83.75**	**11**	P		**P**	**10 30 51.4**	**+0.7**
	0.6nm,0.7s,baz=200,slow=5.3,SNR=7.2							
YKA	**Yellowknife Ar**	**91.26**	**23**	P		**P**	**10 31 27.7**	**+0.7**
YKA	**Yellowknife Ar**	**91.26**	**23**	P		**P**	**10 31 27.7**	**+0.7**
	0.3nm,1.0s,baz=246,slow=4.6,SNR=4.3							
CMAR	**Chiang Mai Arr**	**93.32**	**288**	P		**P**	**10 31 39.5**	**+1.8**
CMAR	**Chiang Mai Arr**	**93.32**	**288**	P		**P**	**10 31 39.5**	**+1.8**
	1.6nm,0.4s,baz=103,slow=2.9,SNR=5.1							
CMAR						LR	11 06 41.9	
	comp=Z,11nm,21.0s,baz=180,slow=31							
KMBO	**Kilima Mbogo**	**145.17**	**242**	PKPbc		**PKPdf**	**10 38 02.5**	**+1.5**
KMBO	**Kilima Mbogo**	**145.17**	**242**	PKPbc		**PKPdf**	**10 38 02.5**	**+1.5**
	2.7nm,0.8s,baz=80,slow=2.8,SNR=5.9							
BRTR	**Keskin Array B**	**147.41**	**320**	PKPbc		**PKPab**	**10 38 07.6**	**-0.7**
BRTR	**Keskin Array B**	**147.41**	**320**	PKPbc		**PKPab**	**10 38 07.6**	**-0.7**
	1.3nm,0.7s,baz=92,slow=2.3,SNR=4.9							
GERES	**GERESS Array B**	**147.56**	**352**	PKPbc		**PKPbc**	**10 38 06.8**	**+0.4**
GERES	**GERESS Array B**	**147.56**	**352**	PKPbc		**PKPbc**	**10 38 06.8**	**+0.4**
	0.3nm,0.5s,baz=29,slow=2.2,SNR=2.9							

MAN 21 10:39:58, 9.77N×124.70E, h0km, **mb4.3, ML3.2, MS3.0, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**0.78**	**89**	*e*P		Pg	10 40 13.0	+0.1
TBP	**Tagbilaran**	**0.83**	**265**	*e*P		Pb	10 40 15.7	+0.4
TBP				*e*S		Sb	10 40 28.4	+1.3
LLP	**Lapu-Lapu**	**0.91**	**307**	*e*P		Pg	10 40 15.9	+0.5
LLP				*e*S		Sb	10 40 29.8	+0.5
OCLP	**Ormoc**	**1.28**	**356**	*e*P		Pn	10 40 24.8	+1.7
OCLP				*e*S		Sn	10 40 45.3	+4.3

IDC 21 10:42:34.6±1.0, **19.75N**×**145.53E**, **h0**km, **mb3.4**/7, **mb1 3.6/7, mb1mx3.5**/25, **mbtmp3.4/7, Error ellipse: s-maj=35.4km s-min=21.9km az=87.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**23.38**	**323**	P		P	10 47 45.5	+0.6
	1.0nm,0.7s,baz=145,slow=8.7,SNR=4.6							
WRA	**Warramunga Arr**	**40.95**	**196**	P		P	10 50 19.1	0.0
	0.2nm,0.5s,baz=19,slow=8.3,SNR=5.3							
SONM	**Songino Array**	**42.23**	**321**	P		P	10 50 29.7	+0.1
	0.3nm,0.4s,baz=132,slow=9.0,SNR=6.3							
ASAR	**Alice Springs**	**44.62**	**195**	P		P	10 50 48.8	-0.2
	0.2nm,0.7s,baz=17,slow=9.7,SNR=4.1							
MKAR	**Makanchi Array**	**57.62**	**313**	P		P	10 52 26.1	-0.5
	0.4nm,0.6s,baz=90,slow=8.4,SNR=3.6							
YKA	**Yellowknife Ar**	**77.14**	**28**	P		P	10 54 29.4	-0.4
	0.2nm,0.6s,baz=288,slow=5.5,SNR=4.2							
NVAR	**Mina Array Bea**	**82.61**	**52**	P		P	10 55 00.7	+0.4
	0.2nm,0.5s,baz=286,slow=7.4,SNR=3.1							

IDC 21 10:47:46.4±1.1, **21.73N**×**143.61E**, **h0**km, **mb3.2**/5, **mb1 3.5**/5, **mb1mx3.3**/26, **mbtmp3.2**/5, **Error ellipse: s-maj=55.8km s-min=23.2km az=103.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.40**	**193**	P		P	10 55 42.8	0.0
	0.3nm,0.9s,baz=16,slow=9.6,SNR=8.2							
ASAR	**Alice Springs**	**46.10**	**192**	P		P	10 56 12.3	-0.2
	0.2nm,0.8s,baz=14,slow=6.7,SNR=3.7							
MKAR	**Makanchi Array**	**54.97**	**313**	P		P	10 57 19.0	-0.3
	0.1nm,0.4s,baz=93,slow=5.7,SNR=3.2							
ILAR	**Eielson Array**	**61.83**	**27**	P		P	10 58 07.5	+0.5
	0.2nm,0.8s,baz=273,slow=6.0,SNR=3.5							
YKA	**Yellowknife Ar**	**76.24**	**28**	P		P	10 59 36.1	-0.3
	0.2nm,0.5s,baz=290,slow=6.0,SNR=5.8							

*CSEM **21** 10:49:31.9±0.5, 59.32N×27.07E, h2km, ML2.4, Error ellipse: s-maj=11.7km s-min=6.8km az=110.0, Mining explosion.*
*HEL **21** 10:49:31.9±0.4, 59.25N×27.18E, h0km, ML2.0, Explosion*
*ISCJB **21** 10:49:31.1±0.6, 59.33N±0.03×27.12E±0.08, h0km, Error ellipse: s-maj=5.8km s-min=3.7km az=14.0*
*NAO **21** 10:49:32.9±1.3, 59.25N×26.86E, ML2.4*
*BER **21** 10:49:32.0±1.4, 59.32N×27.12E, h0km, ML2.4(NAO), Suspected explosion*
*IDC **21** 10:49:33.5±2.1, 59.39N×27.08E, h0km, mb1 3.2/4, mb1mx3.0/28, mbtmp3.2/4, ML2.7/4, Error ellipse: s-maj=18.7km s-min=11.0km az=119.0*
ISC 21 10:49:31.5±0.9, **59.32N**±0.03×**27.00E**±0.04, **h0**km, **n37, s0.66/54, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VSU	**Vasula**	**0.87**	**189**	Pg		**Pg**	**10 49 48.0**	**-0.2**
VSU				Lg		Lg	10 49 59.3	
VSU	**Vasula**	**0.87**	**189**	Pg		**Pg**	**10 49 48.0**	**-0.2**
VSU				Lg		Lg	10 49 59.3	
VSU	**Vasula**	**0.87**	**189**	Pg		**Pg**	**10 49 48.0**	**-0.2**
VSU				*e*S		**Sg**	**10 49 59.3**	**-0.2**
	338nm,0.8s,SNR=90							
VJF	**Virojoki**	**1.25**	**13**	*e*P		**Pg**	**10 49 54.7**	**-0.8**
VJF				*e*SB		**Sg**	**10 50 11.7**	**-0.1**
VJF				MSG			10 50 11.9	
	comp=Z,4.4nm,0.1s							
VJF	**Virojoki**	**1.25**	**13**	Pg		**Pg**	**10 49 54.7**	**-0.8**
VJF				Sg		**Sg**	**10 50 11.6**	**-0.1**
SRPE	**Suurupi**	**1.35**	**277**	*e*P		**Pb**	**10 49 58.0**	**+0.4**
SRPE				*e*SN		**Sn**	**10 50 20.6**	**+4.5**
SRPE	**Suurupi**	**1.35**	**277**	*e*P		**Pb**	**10 49 57.6**	**0.0**
	SNR=50							
SRPE				*e*S		**Sn**	**10 50 20.2**	**+4.1**
	comp=Z,133nm,0.5s,SNR=50							
PVF	**Pernaja**	**1.35**	**335**	*e*P		**Pb**	**10 49 57.6**	**-0.2**
PVF				*e*S		**Sb**	**10 50 15.5**	**0.0**
PVF				MSG			10 50 15.8	
	comp=Z,8.6nm,0.1s							
PVF	**Pernaja**	**1.35**	**335**	Pg		**Pb**	**10 49 57.5**	**-0.2**
PVF				Sg		**Sb**	**10 50 15.5**	**0.0**
MEF	**Metsahovi**	**1.59**	**305**	*e*P		**Pg**	**10 50 02.4**	**+0.3**
MEF				MSG		**Sg**	**10 50 24.2**	**+1.6**
	comp=Z,8.3nm,0.2s							
MEF				*e*SG		**Sg**	**10 50 24.2**	**+1.6**
MEF	**Metsahovi**	**1.59**	**305**	*e*P		**Pg**	**10 50 01.8**	**-0.2**
	SNR=50							
MEF	**Metsahovi**	**1.59**	**305**	Pg		**Pg**	**10 50 02.3**	**+0.3**
MEF				*e*S		**Sg**	**10 50 24.0**	**+1.3**
	comp=Z,23nm,0.2s,SNR=50							
MTSE	**Matsula**	**1.76**	**251**	*e*P		**Pg**	**10 50 04.5**	**-0.6**
	SNR=50							
MTSE	**Matsula**	**1.76**	**251**	Pn		**Pg**	**10 50 04.8**	**-0.3**
MTSE				*e*S		**Sg**	**10 50 28.2**	**+0.3**
	SNR=50							
FINES	**FINESS Array B**	**2.18**	**348**	Pn		**Pn**	**10 50 09.9**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=164,slow=15,SNR=54							
FINES				Lg		Lg	10 50 40.4	
	comp=Z,3.7nm,0.3s,baz=168,slow=30,SNR=20							
KAF	**Kangasniemi**	**2.82**	**353**	*e*P		**Pn**	**10 50 19.1**	**+1.4**
KAF				*e*SG		**Sg**	**10 51 00.2**	**-1.8**
KAF				MSG			10 51 00.2	
	comp=Z,4.9nm,0.4s							
KAF	**Kangasniemi**	**2.82**	**353**	Pn		**Pn**	**10 50 19.3**	**+1.5**
KAF				Sg		**Sg**	**10 51 00.2**	**-1.8**
SLIT	**Slitere, Latvi**	**3.00**	**238**	*e*P		**Pb**	**10 50 23.4**	**-2.3**
KEF	**Keuruu**	**3.04**	**341**	*e*P		**Pn**	**10 50 23.3**	**+2.5**
RAF	**Rauma**	**3.12**	**305**	*e*P		**Pb**	**10 50 24.6**	**-3.2**
RAF	**Rauma**	**3.12**	**305**	*e*P		**Pb**	**10 50 24.7**	**-3.2**
	SNR=50							
RAF				*e*S		**Sb**	**10 51 03.0**	**-3.4**
	comp=Z,6.2nm,0.9s,SNR=50							
SUF	**Sumiainen**	**3.43**	**353**	*e*P		**Pn**	**10 50 27.8**	**+1.6**
SUF	**Sumiainen**	**3.43**	**353**	Pn		**Pn**	**10 50 28.3**	**+2.1**
JOF	**Joensuu**	**4.17**	**28**	*e*P		**Pn**	**10 50 37.5**	**+1.2**
JOF				*e*SG		**Sb**	**10 50 39.0**	**+2.5**
JOF				MSG			10 51 39.0	
	comp=Z,3.4nm,0.4s							
JOF	**Joensuu**	**4.17**	**28**	Pn		**Pn**	**10 50 37.7**	**+1.4**
JOF				Sg		**Sb**	**10 51 39.0**	**+2.5**
HFS	**Hagfors**	**6.78**	**283**	Pn		**Pn**	**10 51 11.0**	**-1.1**
	baz=97,slow=14							
HFS				Lg		Lg	10 53 03.2	
	baz=91,slow=37							
HFS	**Hagfors**	**6.78**	**283**	Pn		**Pn**	**10 51 11.0**	**-1.1**
	baz=97,slow=14							
HFS				Lg		Lg	10 53 03.2	
	baz=91,slow=37							
HFS	**Hagfors**	**6.78**	**283**	Pn		**Pn**	**10 51 11.0**	**-1.1**
	SNR=4.3							
HFS	**Hagfors**	**6.78**	**283**	Pn		**Pn**	**10 51 12.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=95,slow=16,SNR=4.4							
HFS				Sn		**Sn**	**10 52 27.9**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=96,slow=26,SNR=4.3							
HFS				Lg		Lg	10 53 02.9	
	comp=Z,0.7nm,0.3s,baz=93,slow=28,SNR=6.4							
NB2	**NORSAR Subarra**	**8.05**	**289**	Pn		**Pn**	**10 51 29.4**	**-0.2**
NB2	**NORSAR Subarra**	**8.05**	**289**	Pn		**Pn**	**10 51 29.4**	**-0.2**
NB2	**NORSAR Subarra**	**8.05**	**289**	Pn		**Pn**	**10 51 29.5**	**-0.2**
NOA	**NORSAR Array B**	**8.05**	**289**	Pn		**Pn**	**10 51 29.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=92,slow=12,SNR=4.3							
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn		**Pn**	**10 51 58.5**	**-1.5**
	baz=174,slow=14							
ARA0				Sn		Sn	10 53 49.2	-6.5
	baz=178,slow=37							
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn		**Pn**	**10 51 58.5**	**-1.5**
	baz=174,slow=14							
ARA0				Sn		Sn	10 53 49.2	-6.5
	baz=178,slow=37							
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn		**Pn**	**10 51 58.5**	**-1.5**
	SNR=8.7							
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn		**Pn**	**10 51 58.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=175,slow=13,SNR=4.2							

MEX 21 11:01:25.7±0.5, **14.92N**×**93.47W**, **h20**km±50km, **MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

ASAR				LR	LR	11 27 19.7	
	comp=Z,238nm,18.1s,baz=112,slow=38						
WRAB	**Tennant Creek**	**33.10**	**266**	*e*P	**P**	**11 12 59.6**	**+0.6**
	comp=Z,22nm,1.8s						
WRA	**Warramunga Arr**	**33.11**	**266**	P	**P**	**11 12 58.6**	**-0.6**
WRA	**Warramunga Arr**	**33.11**	**266**	P	**P**	**11 12 58.6**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=98,slow=8.0,SNR=7.9						
WRA				LR	LR	11 26 46.9	
	comp=Z,321nm,18.5s,baz=100,slow=37						
TBI	**Tubuai**	**37.63**	**101**	*e*LR	LR	11 24 17.3	
	comp=Z,111nm,25.5s						
VNDA	**Vanda**	**56.07**	**182**	LR	LR	11 36 55.9	
	comp=Z,60nm,18.6s,baz=0.5,slow=33						
MJAR	**Matsushiro Arr**	**65.08**	**332**	P	**P**	**11 17 03.1**	**-0.2**
MJAR	**Matsushiro Arr**	**65.08**	**332**	P	**P**	**11 17 03.1**	**-0.2**
	comp=Z,4.5nm,1.0s,baz=159,slow=7.1,SNR=6.3						
QSPA	**South Pole Qui**	**68.43**	**180**	*e*P	**P**	**11 17 24.6**	**+0.2**
	comp=Z,5.8nm,1.1s						
ASAJ	**Asahikawa**	**70.00**	**340**	LR	LR	11 47 25.6	
	comp=Z,88nm,18.7s,baz=348,slow=35						
USRK	**Ussuriysk Arra**	**74.08**	**333**	P	**P**	**11 17 58.7**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=159,slow=5.7,SNR=5.8						
PETK	**Petropavlovsk-**	**75.16**	**353**	LR	LR	11 47 05.5	
	comp=Z,56nm,20.3s,baz=294,slow=32						
CMAR	**Chiang Mai Arr**	**79.93**	**294**	P	**P**	**11 18 33.9**	**+1.9**
CMAR	**Chiang Mai Arr**	**79.93**	**294**	P	**P**	**11 18 33.9**	**+1.9**
	comp=Z,1.6nm,0.9s,baz=131,slow=4.5,SNR=8.0						
SONM	**Songino Array**	**89.41**	**323**	P	**P**	**11 19 19.6**	**+0.2**
SONM	**Songino Array**	**89.41**	**323**	P	**P**	**11 19 19.6**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=142,slow=5.6,SNR=11						
NVAR	**Mina Array Bea**	**90.02**	**48**	P	**P**	**11 19 22.4**	**-0.2**
NVAR	**Mina Array Bea**	**90.02**	**48**	P	**P**	**11 19 22.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=226,slow=7.5,SNR=9.5						
ILAR	**Eielson Array**	**92.36**	**17**	P	**P**	**11 19 30.8**	**-1.7**
ILAR	**Eielson Array**	**92.36**	**17**	P	**P**	**11 19 30.8**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=236,slow=4.8,SNR=9.0						
TXAR	**Lajitas Array**	**97.48**	**62**	LR	LR	11 56 57.3	
	comp=Z,102nm,18.7s,baz=285,slow=31						
AKTO	**Aktyubinsk**	**120.14**	**317**	PKP	**PKPdf**	**11 25 12.8**	**-0.4**
AKTO	**Aktyubinsk**	**120.14**	**317**	PKP	**PKPdf**	**11 25 12.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=1.7,slow=3.3,SNR=4.7						
ARCES	**ARCESS Array B**	**127.49**	**345**	PKP	**PKPdf**	**11 25 25.9**	**-0.8**
ARCES	**ARCESS Array B**	**127.49**	**345**	PKP	**PKPdf**	**11 25 25.9**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=64,slow=1.9,SNR=15						
FINES	**FINESS Array B**	**132.97**	**337**	PKP	**PKPdf**	**11 25 37.4**	**+0.1**
FINES	**FINESS Array B**	**132.97**	**337**	PKP	**PKPdf**	**11 25 37.4**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=54,slow=3.3,SNR=3.9						
AKASG	**Malin Array Be**	**137.70**	**323**	PKP	**PKPdf**	**11 25 46.0**	**-0.5**
AKASG	**Malin Array Be**	**137.70**	**323**	PKP	**PKPdf**	**11 25 46.0**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=63,slow=2.5,SNR=4.8						
DPC	**Dobruska-Polom**	**144.54**	**330**	*e*PKP	PKPbc	11 25 58.0	+0.5
DPC				*ep*PKP	pPKPdf	11 26 10.4	-0.2
UPC	**Upice**	**144.57**	**331**	*e*PKP	PKPbc	11 25 57.9	+0.3
PVCC	**Panska Ves**	**145.20**	**332**	*e*PKP	**PKPdf**	**11 26 00.1**	**+0.2**
BRG	**Berggiesshubel**	**145.22**	**333**	*i* PKP	**PKPdf**	**11 25 59.8**	**-0.1**
	comp=Z,12nm,0.7s						
CLL	**Collm**	**145.28**	**334**	*i* PKPbc	**PKPab**	**11 25 59.8**	**-0.1**
	comp=Z,13nm,0.7s						
CLL				*ep*PKPdf	**pPKPdf**	**11 26 12.0**	**+0.3**
PRU	**Pruhonice**	**145.61**	**331**	*e*PKP	**PKPab**	**11 26 01.1**	**-0.1**
CONA	**Conrad Observa**	**146.42**	**328**	⇓*i*PKPab	**PKPab**	**11 26 04.1**	**-0.4**
	comp=Z,9.0nm,1.0s						
KHC	**Kasperske Hory**	**146.66**	**331**	*e*PKP	**PKPbc**	**11 26 04.4**	**+0.3**
KHC				*ep*PKP	**pPKPdf**	**11 26 17.6**	**+3.3**
GERES	**GERESS Array B**	**146.81**	**331**	PKPbc	**PKPbc**	**11 26 04.7**	**0.0**
GERES	**GERESS Array B**	**146.81**	**331**	PKPbc	**PKPbc**	**11 26 04.7**	**0.0**
	comp=Z,6.4nm,0.8s,baz=36,slow=2.9,SNR=46						
MOA	**Molln**	**147.26**	**329**	⇑*i*PKPab	**PKPbc**	**11 26 05.9**	**+0.1**
	comp=Z,5.4nm,0.9s						
SOKA	**Soboth**	**147.68**	**327**	⇑*i*PKPab	**PKPbc**	**11 26 07.7**	**+0.6**
	comp=Z,9.1nm,1.2s						
ABTA	**Abfaltersbach**	**148.88**	**329**	⇑*i*PKPbc	**PKPbc**	**11 26 09.8**	**-0.5**
	comp=Z,8.3nm,0.8s						
WTTA	**Wattenberg**	**148.91**	**331**	⇑*i*PKiKP	**PKPbc**	**11 26 10.4**	**0.0**
	comp=Z,14nm,1.3s						
MOTA	**Moosalm**	**149.10**	**331**	⇑*i*PKPbc	**PKPbc**	**11 26 10.6**	**-0.3**
	comp=Z,9.8nm,0.9s						
WLF	**Walferdange**	**149.16**	**339**	*e*PKPbc	**PKPbc**	**11 26 11.4**	**+0.6**
FETA	**Feichten**	**149.51**	**331**	⇑*i*PKiKP	**PKPbc**	**11 26 12.0**	**+0.1**
	comp=Z,12nm,0.9s						
TUE	**Stuetta**	**150.54**	**332**	*e*PKPbc	**PKPbc**	**11 26 14.4**	**-0.1**

*NEIC **21** 11:28:29.5,38.°37S×176.°04E,h173km,MG4.0(WEL), After WEL.*

WEL 21 11:28:30.5±0.3,38.°40S×176.°07E,h165km±2km,ML3.9/18, 43C-7D,Error ellipse: s-maj=1.3km s-min=1.3km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.17**	**89**	⇑PN	Pn	11 28 52.5	0.0
HRRZ	**Handcock Road**	**0.17**	**89**	Pn	Pn	11 28 52.5	0.0
ALRZ	**Allen Road**	**0.27**	**128**	⇓PN	Pn	11 28 52.6	-0.1
ALRZ	**Allen Road**	**0.27**	**128**	Pn	Pn	11 28 52.6	-0.1
PRRZ	**Plateau Road**	**0.27**	**112**	PN	Pn	11 28 52.7	0.0
PRRZ	**Plateau Road**	**0.27**	**112**	Pn	Pn	11 28 52.7	0.0
WHTZ	**Whakaora**	**0.28**	**198**	PN	Pn	11 28 53.1	+0.3
WHTZ	**Whakaora**	**0.28**	**198**	Pn	Pn	11 28 53.1	+0.3
RRRZ	**Republican Roa**	**0.35**	**81**	PN	Pn	11 28 52.7	-0.2
RRRZ				*e*SN	Sn	11 29 09.7	-0.5
RRRZ	**Republican Roa**	**0.35**	**81**	Pn	Pn	11 28 52.7	-0.2
TARZ	**Mount Tarawera**	**0.38**	**65**	PN	Pn	11 28 53.1	0.0
TARZ	**Mount Tarawera**	**0.38**	**65**	Pn	Pn	11 28 53.1	0.0
WATZ	**Wairara**	**0.41**	**220**	PN	Pn	11 28 53.3	+0.2
WATZ	**Wairara**	**0.41**	**220**	Pn	Pn	11 28 53.3	+0.2
TLZ	**Tolley Road**	**0.42**	**279**	⇓PN	Pn	11 28 53.6	+0.3
HATZ	**Hinemaiaia**	**0.49**	**178**	PN	Pn	11 28 53.3	-0.2
HATZ	**Hinemaiaia**	**0.49**	**178**	Pn	Pn	11 28 53.3	-0.2
RATZ	**Rangitukua**	**0.53**	**206**	⇑PN	Pn	11 28 53.6	0.0
RATZ	**Rangitukua**	**0.53**	**206**	Pn	Pn	11 28 53.6	0.0
EDRZ	**Edgecumbe**	**0.60**	**61**	*e*PN	Pn	11 28 53.7	-0.4
EDRZ	**Edgecumbe**	**0.60**	**61**	Pn	Pn	11 28 52.8	-1.3
RITZ	**Rihia Road**	**0.60**	**196**	PN	Pn	11 28 54.4	+0.3
RITZ	**Rihia Road**	**0.60**	**196**	Pn	Pn	11 28 54.4	+0.3
MARZ	**Manawahe**	**0.63**	**49**	PN	Pn	11 28 54.1	-0.1
MARZ	**Manawahe**	**0.63**	**49**	Pn	Pn	11 28 54.1	-0.1
KATZ	**Kakaramea**	**0.65**	**207**	PN	Pn	11 28 54.4	-0.1
KATZ	**Kakaramea**	**0.65**	**207**	Pn	Pn	11 28 54.4	-0.1
OPRZ	**Ohinepanea**	**0.67**	**35**	⇓PN	Pn	11 28 54.1	-0.2
OPRZ	**Ohinepanea**	**0.67**	**35**	Pn	Pn	11 28 54.1	-0.2
TGRZ	**Tauranga**	**0.68**	**13**	PN	Pn	11 28 54.3	-0.1
KRVZ	**Karewarewa**	**0.78**	**206**	PN	Pn	11 28 55.0	-0.2
TOZ	**Tahuroa Road**	**0.80**	**326**	PN	Pn	11 28 55.2	+0.1
WTVZ	**West Tongariro**	**0.81**	**207**	PN	Pn	11 28 55.3	-0.1
URZ	**Urewera**	**0.83**	**81**	PN	Pn	11 28 54.7	-0.6
URZ				SN	Sn	11 29 13.1	-1.2
URZ				AML	AML	11 29 13.9	
URZ	**Urewera**	**0.83**	**81**	Pn	Pn	11 28 54.7	-0.6
OTVZ	**Oturere**	**0.83**	**202**	⇓PN	Pn	11 28 55.6	0.0
OTVZ	**Oturere**	**0.83**	**202**	Pn	Pn	11 28 55.6	0.0
TWVZ	**Taurewa**	**0.84**	**216**	PN	Pn	11 28 55.5	-0.1
BKZ	**Black Stump Fm**	**0.84**	**157**	⇑PN	Pn	11 28 55.4	-0.1
BKZ				SN	Sn	11 29 13.9	-1.0
BKZ				AML	AML	11 29 15.4	
BKZ	**Black Stump Fm**	**0.84**	**157**	Pn	Pn	11 28 55.3	-0.2
NGZ	**Ngauruhoe**	**0.86**	**205**	PN	Pn	11 28 55.6	-0.2
NGZ	**Ngauruhoe**	**0.86**	**205**	Pn	Pn	11 28 55.6	-0.2
COVZ	**Chateau Observ**	**0.90**	**207**	⇑PN	Pn	11 28 55.9	-0.1
WPVZ	**Whakapapa**	**0.91**	**207**	⇑PN	Pn	11 28 56.1	0.0
WPVZ	**Whakapapa**	**0.91**	**207**	Pn	Pn	11 28 56.1	0.0
NMHZ	**Naumai**	**0.91**	**141**	⇑PN	Pn	11 28 56.9	+0.8
NMHZ	**Naumai**	**0.91**	**141**	Pn	Pn	11 28 56.9	+0.8
TUVZ	**Tukino**	**0.93**	**200**	⇑PN	Pn	11 28 56.3	0.0
TUVZ	**Tukino**	**0.93**	**200**	Pn	Pn	11 28 56.3	0.0
FWVZ	**Far West T-bar**	**0.95**	**205**	⇑PN	Pn	11 28 56.1	-0.4
FWVZ	**Far West T-bar**	**0.95**	**205**	Pn	Pn	11 28 56.1	-0.4
RAHZ	**Arahi**	**0.95**	**124**	⇑PN	Pn	11 28 56.7	+0.5
RAHZ				SN	Sn	11 29 16.6	+0.5
RAHZ	**Arahi**	**0.95**	**124**	Pn	Pn	11 28 56.7	+0.5
RAHZ				Sn	Sn	11 29 16.6	+0.5
HIZ	**Hauiti**	**0.96**	**263**	⇓PN	Pn	11 28 56.4	+0.1
HIZ	**Hauiti**	**0.96**	**263**	Pn	Pn	11 28 56.4	+0.1
WHVZ	**Whangaehu Hut**	**0.96**	**203**	PN	Pn	11 28 56.3	-0.3
DRZ	**Dome Shelter**	**0.96**	**204**	PN	Pn	11 28 56.8	0.0
DRZ	**Dome Shelter**	**0.96**	**204**	Pn	Pn	11 28 56.8	0.0
TRVZ	**Turoa**	**0.99**	**204**	PN	Pn	11 28 56.6	-0.2
TRVZ	**Turoa**	**0.99**	**204**	Pn	Pn	11 28 56.6	-0.2
WNVZ	**Wahianoa**	**1.00**	**201**	⇑PN	Pn	11 28 56.8	-0.1
WNVZ	**Wahianoa**	**1.00**	**201**	Pn	Pn	11 28 56.8	-0.1
MOVZ	**Moawhango**	**1.04**	**194**	⇑PN	Pn	11 28 56.6	-0.4
MOVZ	**Moawhango**	**1.04**	**194**	Pn	Pn	11 28 56.6	-0.4
PKVZ	**Pokaka**	**1.06**	**212**	⇑PN	Pn	11 28 57.0	-0.2
PKVZ				SN	Sn	11 29 18.0	+0.2
PKVZ	**Pokaka**	**1.06**	**212**	Pn	Pn	11 28 57.0	-0.2
PKVZ				Sn	Sn	11 29 18.0	+0.2
SNGZ	**Shannon Statio**	**1.07**	**112**	⇑PN	Pn	11 28 57.5	+0.3
SNGZ				SN	Sn	11 29 17.4	-0.4
BHHZ	**Black Hill Sta**	**1.09**	**180**	⇑PN	Pn	11 28 57.2	-0.3
BHHZ	**Black Hill Sta**	**1.09**	**180**	Pn	Pn	11 28 57.2	-0.3
MTVZ	**Mangateitei**	**1.09**	**205**	⇑PN	Pn	11 28 57.4	-0.1
MTVZ	**Mangateitei**	**1.09**	**205**	Pn	Pn	11 28 57.4	-0.1
WHHZ	**Waihua**	**1.14**	**127**	⇑PN	Pn	11 28 58.2	+0.4
MWZ	**Matawai**	**1.15**	**87**	PN	Pn	11 28 57.6	-0.4
MWZ				AML	AML	11 29 18.9	
MWZ				AML	AML	11 29 19.0	
MWZ				AML	AML	11 29 19.3	
MWZ				AML	AML	11 29 19.3	
MWZ	**Matawai**	**1.15**	**87**	Pn	Pn	11 28 57.5	-0.4
MCHZ	**McNeill Hill**	**1.16**	**155**	⇑PN	Pn	11 28 58.6	+0.7
MCHZ	**McNeill Hill**	**1.16**	**155**	Pn	Pn	11 28 58.6	+0.7
VRZ	**Vera Road**	**1.26**	**234**	⇑PN	Pn	11 28 58.8	0.0
VRZ	**Vera Road**	**1.26**	**234**	Pn	Pn	11 28 58.8	0.0
RIGZ	**Rimuhau**	**1.36**	**104**	⇑PN	Pn	11 28 60.0	+0.1
KNZ	**Kokohu**	**1.40**	**117**	⇑PN	Pn	11 29 00.2	0.0
KNZ	**Kokohu**	**1.40**	**117**	Pn	Pn	11 29 00.2	0.0
MKAZ	**Moumakai**	**1.47**	**331**	⇑PN	Pn	11 29 00.4	-0.4
MKAZ	**Moumakai**	**1.47**	**331**	Pn	Pn	11 29 00.5	-0.4
CKHZ	**Cape Kidnapper**	**1.49**	**148**	⇑PN	Pn	11 29 01.4	+0.4
CKHZ	**Cape Kidnapper**	**1.49**	**148**	Pn	Pn	11 29 01.4	+0.4
PRGZ	**Paritu Road**	**1.51**	**111**	PN	Pn	11 29 01.3	0.0
PRGZ	**Paritu Road**	**1.51**	**111**	Pn	Pn	11 29 01.4	0.0
PNHZ	**Pukenui**	**1.52**	**176**	⇑PN	Pn	11 29 01.0	-0.4
PNHZ	**Pukenui**	**1.52**	**176**	Pn	Pn	11 29 01.0	-0.4
KAHZ	**Kahuranaki**	**1.53**	**156**	⇑PN	Pn	11 29 01.8	+0.3
KAHZ	**Kahuranaki**	**1.53**	**156**	Pn	Pn	11 29 01.8	+0.3
WAZ	**Wanganui**	**1.60**	**212**	⇑PN	Pn	11 29 01.7	-0.4
WAZ	**Wanganui**	**1.60**	**212**	Pn	Pn	11 29 01.7	-0.4
MHGZ	**Mahia Peninsul**	**1.62**	**118**	⇑PN	Pn	11 29 02.7	+0.3
MHGZ	**Mahia Peninsul**	**1.62**	**118**	Pn	Pn	11 29 02.7	+0.3
TSZ	**Takapari Road**	**1.66**	**183**	⇑PN	Pn	11 29 02.3	-0.6
TSZ				AML	AML	11 29 29.0	
TSZ				AML	AML	11 29 29.4	
TSZ	**Takapari Road**	**1.66**	**183**	Pn	Pn	11 29 02.3	-0.6
KUZ	**Kuaotunu**	**1.67**	**350**	⇑PN	Pn	11 29 02.4	-0.5
KUZ	**Kuaotunu**	**1.67**	**350**	Pn	Pn	11 29 02.4	-0.5
CNGZ	**Carnagh Statio**	**1.68**	**94**	⇑PN	Pn	11 29 03.3	+0.3
CNGZ	**Carnagh Statio**	**1.68**	**94**	Pn	Pn	11 29 03.3	+0.3
WPHZ	**Waipukurau**	**1.69**	**170**	⇑PN	Pn	11 29 02.8	-0.3
WPHZ	**Waipukurau**	**1.69**	**170**	Pn	Pn	11 29 02.8	-0.3
PXZ	**Pawanui**	**1.75**	**160**	⇑PN	Pn	11 29 03.4	-0.2
PXZ				AML	AML	11 29 29.9	
PXZ				AML	AML	11 29 30.5	
PXZ	**Pawanui**	**1.75**	**160**	Pn	Pn	11 29 03.5	-0.2
PUZ	**Puketiti**	**1.75**	**80**	PN	Pn	11 29 03.2	-0.6
PUZ				AML	AML	11 29 35.3	
PUZ				AML	AML	11 29 39.1	
PUZ	**Puketiti**	**1.75**	**80**	Pn	Pn	11 29 03.2	-0.6
NEZ	**North Egmont**	**1.77**	**240**	PN	Pn	11 29 04.4	+0.3
DFE	**Dawson Falls**	**1.79**	**238**	PN	Pn	11 29 04.3	-0.1
KHEZ	**Kahui Hut**	**1.84**	**240**	PN	Pn	11 29 04.7	-0.1
DVHZ	**Dannevirke**	**1.90**	**178**	⇑PN	Pn	11 29 04.5	-0.9
DVHZ	**Dannevirke**	**1.90**	**178**	Pn	Pn	11 29 04.5	-0.9
PRHZ	**Porangahau**	**1.92**	**167**	⇑PN	Pn	11 29 05.1	-0.5
PRHZ	**Porangahau**	**1.92**	**167**	Pn	Pn	11 29 05.1	-0.5
MXZ	**Matakaoa Point**	**1.95**	**65**	PN	Pn	11 29 05.4	-0.5
MXZ	**Matakaoa Point**	**1.95**	**65**	Pn	Pn	11 29 05.4	-0.5
POWZ	**Post Office Ro**	**2.01**	**187**	⇑PN	Pn	11 29 05.6	-1.0
POWZ	**Post Office Ro**	**2.01**	**187**	Pn	Pn	11 29 05.6	-1.0
ANGZ	**Angora Road**	**2.09**	**171**	PN	Pn	11 29 06.8	-0.6
PRWZ	**Pori Road**	**2.16**	**182**	⇑PN	Pn	11 29 07.4	-0.9
BFZ	**Birch Farm**	**2.29**	**177**	⇓PN	Pn	11 29 08.5	-1.3
BFZ	**Birch Farm**	**2.29**	**177**	Pn	Pn	11 29 08.5	-1.3
MRZ	**Mangatainoka R**	**2.29**	**189**	PN	Pn	11 29 08.4	-1.5
MRZ				SN	Sn	11 29 37.1	-3.4
MRZ				AML	AML	11 29 39.3	
MRZ	**Mangatainoka R**	**2.29**	**189**	Pn	Pn	11 29 08.4	-1.5
TIWZ	**Tintock**	**2.38**	**183**	⇑PN	Pn	11 29 09.4	-1.5
TIWZ				AML	AML	11 29 40.1	
TIWZ				AML	AML	11 29 42.7	
TIWZ	**Tintock**	**2.38**	**183**	Pn	Pn	11 29 09.4	-1.5
CPWZ	**Castlepoint**	**2.51**	**178**	PN	Pn	11 29 11.5	-0.9
OGWZ	**Otaki Gorge**	**2.52**	**196**	⇑PN	Pn	11 29 10.9	-1.5
OGWZ	**Otaki Gorge**	**2.52**	**196**	Pn	Pn	11 29 10.9	-1.5
HOWZ	**Holdsworth Sta**	**2.54**	**190**	⇑PN	Pn	11 29 10.8	-1.9
HOWZ	**Holdsworth Sta**	**2.54**	**190**	Pn	Pn	11 29 10.8	-1.9
KIW	**Kapiti Island**	**2.62**	**200**	⇑PN	Pn	11 29 11.7	-2.0
KIW				AML	AML	11 29 44.8	
KIW				AML	AML	11 29 46.7	
KIW	**Kapiti Island**	**2.62**	**200**	Pn	Pn	11 29 11.8	-2.0
TMWZ	**Te Maipa**	**2.71**	**183**	PN	Pn	11 29 12.9	-2.0
TMWZ	**Te Maipa**	**2.71**	**183**	Pn	Pn	11 29 12.9	-2.0
MTW	**Mount Morrison**	**2.79**	**189**	⇑PN	Pn	11 29 13.5	-2.3
MTW				AML	AML	11 29 49.6	
MTW				AML	AML	11 29 49.9	
MTW	**Mount Morrison**	**2.79**	**189**	Pn	Pn	11 29 13.5	-2.3
CAW	**Cannon Point**	**2.82**	**196**	⇑PN	Pn	11 29 14.0	-2.1
CAW				AML	AML	11 29 49.3	
CAW				AML	AML	11 29 50.7	
CAW	**Cannon Point**	**2.82**	**196**	Pn	Pn	11 29 14.0	-2.1
DUWZ	**D'Urville Isla**	**2.92**	**214**	PN	Pn	11 29 15.0	-2.5
DUWZ	**D'Urville Isla**	**2.92**	**214**	Pn	Pn	11 29 15.0	-2.5
TRWZ	**Traveller**	**3.01**	**185**	PN	Pn	11 29 16.2	-2.3
TRWZ				AML	AML	11 29 54.2	
TRWZ				AML	AML	11 29 54.5	
TRWZ	**Traveller**	**3.01**	**185**	Pn	Pn	11 29 16.2	-2.3
PAWZ	**Paruwai Farm**	**3.02**	**189**	PN	Pn	11 29 16.2	-2.5
PAWZ				AML	AML	11 29 51.8	
PAWZ				AML	AML	11 29 52.9	
PAWZ	**Paruwai Farm**	**3.02**	**189**	Pn	Pn	11 29 16.2	-2.5
WEL	**Wellington**	**3.06**	**199**	PN	Pn	11 29 16.5	-2.5
WEL	**Wellington**	**3.06**	**199**	Pn	Pn	11 29 16.5	-2.5
MSWZ	**Moikau Station**	**3.08**	**192**	PN	Pn	11 29 16.8	-2.6
MSWZ				AML	AML	11 29 55.2	
MSWZ				AML	AML	11 29 55.5	
MSWZ	**Moikau Station**	**3.08**	**192**	Pn	Pn	11 29 16.8	-2.6
SNZO	**South Karori**	**3.09**	**199**	PN	Pn	11 29 16.9	-2.6
SNZO				AML	AML	11 29 54.7	
SNZO				AML	AML	11 29 56.0	
SNZO	**South Karori**	**3.09**	**199**	Pn	Pn	11 29 16.9	-2.6
TCW	**Tory Channel**	**3.13**	**206**	⇓PN	Pn	11 29 17.6	-2.4
TCW				AML	AML	11 29 56.3	
TCW				AML	AML	11 29 58.7	
TCW	**Tory Channel**	**3.13**	**206**	Pn	Pn	11 29 17.6	-2.4
PLWZ	**Palliser**	**3.23**	**191**	PN	Pn	11 29 18.6	-2.8
PLWZ	**Palliser**	**3.23**	**191**	Pn	Pn	11 29 18.6	-2.8
TUWZ	**Tuamarina**	**3.44**	**208**	PN	Pn	11 29 21.1	-2.8
TUWZ				AML	AML	11 30 02.8	
TUWZ				AML	AML	11 30 03.5	
TUWZ	**Tuamarina**	**3.44**	**208**	Pn	Pn	11 29 21.1	-2.8
NNZ	**Nelson**	**3.50**	**215**	PN	Pn	11 29 21.6	-3.0
NNZ	**Nelson**	**3.50**	**215**	Pn	Pn	11 29 21.6	-3.0
QRZ	**Quartz Range**	**3.66**	**227**	⇑PN	Pn	11 29 23.1	-3.6
QRZ	**Quartz Range**	**3.66**	**227**	Pn	Pn	11 29 23.1	-3.6
BSWZ	**Blackbirch Sta**	**3.72**	**206**	PN	Pn	11 29 24.4	-3.0
BSWZ	**Blackbirch Sta**	**3.72**	**206**	Pn	Pn	11 29 24.4	-3.0
THZ	**Tophouse**	**4.15**	**215**	PN	Pn	11 29 29.5	-3.6
THZ	**Tophouse**	**4.15**	**215**	Pn	Pn	11 29 29.5	-3.6
KHZ	**Kahutara**	**4.46**	**205**	PN	Pn	11 29 33.7	-3.2
KHZ				AML	AML	11 30 25.6	
KHZ	**Kahutara**	**4.46**	**205**	Pn	Pn	11 29 33.8	-3.2
DSZ	**Denniston Nort**	**4.68**	**223**	PN	Pn	11 29 35.5	-4.5
DSZ	**Denniston Nort**	**4.68**	**223**	Pn	Pn	11 29 35.5	-4.5
LTZ	**Lake Taylor**	**5.25**	**212**	PN	Pn	11 29 42.8	-4.6
LTZ	**Lake Taylor**	**5.25**	**212**	Pn	Pn	11 29 42.8	-4.6
OXZ	**Oxford**	**5.79**	**211**	PN	Pn	11 29 49.3	-5.3
CRLZ	**Canterbury Las**	**5.80**	**206**	PN	Pn	11 29 50.2	-4.3
CRLZ	**Canterbury Las**	**5.80**	**206**	Pn	Pn	11 29 50.2	-4.3
MQZ	**McQueen's Vall**	**5.90**	**205**	PN	Pn	11 29 50.9	-5.0
MQZ	**McQueen's Vall**	**5.90**	**205**	Pn	Pn	11 29 50.9	-5.0
RPZ	**Rata Peaks**	**6.53**	**214**	PN	Pn	11 29 60.0	-4.3
RPZ	**Rata Peaks**	**6.53**	**214**	Pn	Pn	11 29 60.0	-4.3
FOZ	**Fox Glacier**	**7.07**	**221**	PN	Pn	11 30 05.6	-5.7
FOZ	**Fox Glacier**	**7.07**	**221**	Pn	Pn	11 30 05.6	-5.7
LBZ	**Lake Benmore**	**7.44**	**215**	*e*PN	Pn	11 30 11.3	-5.0
ODZ	**Otahua Downs**	**7.78**	**210**	PN	Pn	11 30 16.3	-4.6
ODZ	**Otahua Downs**	**7.78**	**210**	Pn	Pn	11 30 16.3	-4.6

*ISCJB **21** 11:44:11.0±0.6,6.°92S±0.°09×155.°52E±0.°08,h50km, mb3.9/10,MS3.8/2,Error ellipse: s-maj=14.0km s-min=9.5km az=145.8*

*IDC **21** 11:44:17.6±2.5,7.°04S×155.°41E,h95km±23km,mb3.7/10, mb1 3.8/14,mb1mx3.7/22,mbtmp3.7/14,MS3.4/4, Ms1 3.4/4,ms1mx3.1/29,Error ellipse: s-maj=18.3km s-min=15.8km az=152.0*

ISC 21 11:44:12.6±0.7,6.°9S±0.°1×155.°6E±0.°1,h50km,n19, σ1°19/19,mb3.9/10,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.97**	**120**	P	Pn	11 45 32.4	+7.6
	6.4nm,0.3s,baz=233,slow=7.5,SNR=3.0						
HNR				S	Sn	11 46 36.9	+16
	7.7nm,0.3s,baz=319,slow=19,SNR=3.0						
HNR				LR	LR	11 47 22.5	
	comp=Z,165nm,20.4s,baz=34,slow=36						
PMG	**Port Moresby**	**8.70**	**253**	P	**Pn**	**11 46 17.8**	**+1.9**
	1.2nm,0.3s,baz=59,slow=9.7,SNR=6.0						
PMG				S	**Sn**	**11 47 53.5**	**+0.9**
	0.5nm,0.3s,baz=116,slow=17,SNR=5.9						
PMG				LR	LR	11 49 28.5	
	comp=Z,102nm,18.9s,baz=59,slow=37						
CTA	**Charters Tower**	**15.91**	**214**	P	**Pn**	**11 47 53.7**	**+0.5**
	0.4nm,0.3s,baz=48,slow=12,SNR=3.4						
DZM	**Mont Dzumac**	**18.33**	**146**	P	**

89nm,0.8s,876nm0.3nm
MATI Mati 6.54 7 *e*P **Pn** **12 28 20.5 +0.6**
MATI *e*S **Sn** **12 29 38.1 +5.0**
TTSI Tana Toraja 6.60 239 P **Pn** **12 28 18.8 -2.0**
369nm,0.8s,3μm1.2nm
SPSI Sidrap Palu 7.16 233 P **Pn** **12 28 27.4 -1.0**
204nm,0.6s,2μm0.7nm
BNSI Bone 7.17 228 P **Pn** **12 28 27.4 -1.2**
126nm,0.7s,1μm0.4nm
MMSI Mamuju 7.24 245 P **Pn** **12 28 29.6 +0.1**
182nm,0.7s,2μm0.6nm
BUKP Musuan 7.43 357 *e*P **Pn** **12 28 32.2 +0.1**
BUKP *e*S Sn 12 30 01.3 +6.4
FAKI Fak Fak 7.55 116 P **Pn** **12 28 30.7 -3.0**
baz=7.5,SNR=22
MJSI Majene 7.58 239 P Pn 12 28 37.1 +3.0
119nm,0.9s,1μm0.5nm
BKSI Bulukumba 7.80 223 P **Pn** **12 28 36.1 -1.0**
57nm,0.6s,652nm0.2nm
KAPI Kappang 7.85 227 *e*Pn **Pn** **12 28 36.5 -1.3**
TSM Tawau 8.51 297 P **Pn** **12 28 44.4 -2.4**
MWPI Manokwari, Pap 8.68 99 P Pn 12 28 54.0 +4.9
SDKM Sandakan 9.75 302 P **Pn** **12 29 04.6 +0.8**
BBKI Banjar Baru 11.29 250 P Pn 12 29 40.5 +16
BTM Bintulu 12.68 283 P **Pn** **12 29 43.3 0.0**
SBUM Sibu 13.39 279 P **Pn** **12 29 51.8 -0.9**
SBUM Sibu 13.39 279 P **Pn** **12 29 51.8 -0.9**
30nm,0.9s
SBUM Sibu 13.39 279 *e*Pn **Pn** **12 29 51.5 -1.3**
MTN Manton Dam 14.32 157 P **Pn** **12 30 02.4 -2.3**
baz=14,SNR=34
BLJI Banyuglugur 14.34 235 P **P** **12 30 10.9 +1.5**
KDU Kakadu 14.76 152 P Pn 12 30 06.5 -3.8
baz=15,SNR=16
GMJI Gumukmas 14.76 234 P P 12 30 20.5 +6.4
KSM Kuching 15.19 274 P **P** **12 30 19.0 +0.2**
KSM Kuching 15.19 274 P **P** **12 30 19.0 +0.2**
208nm,0.8s,2μm
KSM Kuching 15.19 274 *e*Pn **Pn** **12 30 16.5 +0.6**
127nm,0.6s
KSM Kuching 15.19 274 P **P** **12 30 19.0 +0.2**
baz=15,SNR=33
KRKI Karangkates 15.51 236 P **P** **12 30 24.9 +2.5**
201nm,0.8s
NGJI Ngawi 15.96 241 P **P** **12 30 28.1 +0.7**
56nm,0.9s
PWJI Pagerwojo 15.99 238 P **Pn** **12 30 26.3 +0.4**
112nm,0.7s
KNRA Kununurra 16.31 169 P **Pn** **12 30 28.4 -1.6**
baz=16,SNR=22
PCJI Pacitan 16.61 239 P **P** **12 30 35.2 +0.6**
134nm,0.7s
SMRI Semarang 16.72 243 *e*P **P** **12 30 36.0 +0.2**
87nm,0.6s
UGM Wanagama 17.04 241 P **P** **12 30 39.7 +0.4**
baz=17,SNR=3.8
BJII Banjamegara 17.49 244 P **Pn** **12 30 45.3 +0.7**
58nm,1.0s
TGJI Tegal 17.84 246 P **Pn** **12 30 49.0 +0.3**
33nm,1.0s
KPJI Karang Pucung 18.19 245 P **P** **12 30 51.7 -0.4**
84nm,1.1s
FITZ Fitzroy Crossi 18.40 179 P **P** **12 30 52.8 -1.4**
FITZ Fitzroy Crossi 18.40 179 P **P** **12 30 52.8 -1.4**
0.3nm,0.3s,baz=15,slow=9.7,SNR=6.9
FITZ Fitzroy Crossi 18.40 179 P **P** **12 30 53.5 -0.7**
baz=19,SNR=6.4
CISI Cisompet, Garu 19.30 245 P **P** **12 31 02.4 -1.8**
89nm,0.8s,909nm
CISI Cisompet, Garu 19.30 245 *e*P **P** **12 31 01.6 -2.6**
57nm,0.6s
CISI Cisompet, Garu 19.30 245 P **P** **12 31 02.0 -2.2**
baz=19,SNR=6.0
CBJI Citeko 19.78 250 P **P** **12 31 08.1 -1.2**
MYKOM **Kota Tinggi 21.65 274** P **P** **12 31 29.7 +0.2**
WRAB Tennant Creek 22.02 157 *ce*P **P** **12 31 31.8 -1.5**
WRAB pmax pmax
comp=Z,63nm,0.8s
WRAB Tennant Creek 22.02 157 *e*P **P** **12 31 31.6 -1.7**
comp=Z,34nm,0.6s
WRA Warramunga Arr 22.02 157 P **P** **12 31 31.6 -1.7**
WRA PcP **PcP** **12 35 29.7 +1.2**
WRA S **S** **12 35 34.7 +3.7**
WRA Warramunga Arr 22.02 157 P **P** **12 31 31.6 -1.7**
comp=Z,20nm,0.5s,baz=338,slow=10,SNR=201
WRA PcP **PcP** **12 35 29.7 +1.2**
comp=Z,0.9nm,0.4s,baz=332,slow=2.0,SNR=4.6
WRA S **S** **12 35 34.7 +3.7**
comp=Z,2.2nm,0.9s,baz=336,slow=18,SNR=6.9
KGM Kluang 22.19 274 P **P** **12 31 35.7 +0.4**
XMI Christmas Isla 22.43 241 P **P** **12 31 35.4 -2.4**
baz=23,SNR=7.4
XMIS Christmas Isla 22.48 241 *e*P **P** **12 31 35.2 -3.1**
comp=Z,533nm,1.4s
XMIS Christmas Isla 22.48 241 P **P** **12 31 35.2 -3.1**
baz=23,SNR=11
COEN Coen 22.62 130 *e*P **P** **12 31 37.6 -2.1**
comp=Z,174nm,1.1s
COEN Coen 22.62 130 P **P** **12 31 38.3 -1.4**
baz=23,SNR=31
TWG Pinlang 22.68 349 *e*P **P** **12 31 36.2 -4.1**
comp=Z,98nm,0.6s
KTGM Kuala Trenggan 22.82 283 P **P** **12 31 43.1 +1.3**
TPUB Ta-pu 23.23 349 *e*P **P** **12 31 41.5 -4.2**
comp=Z,34nm,0.7s
PMG Port Moresby 23.70 115 *e*P **P** **12 31 49.6 -0.4**
comp=Z,13nm,0.9s
PMG Port Moresby 23.70 115 P **P** **12 31 50.0 -0.1**
comp=Z,5.3nm,0.5s,baz=346,slow=4.2,SNR=6.8
FRIM Kepong 23.99 277 P **P** **12 31 53.2 +0.6**
QIZ Qiongzhong 24.02 321 P **P** **12 31 53.5 +0.6**
QIZ S **S** **12 36 08.4 +4.8**
QIZ LR LR
comp=Z,170nm,30.6s
IPM Ipoh 24.74 280 P **P** **12 31 58.5 -1.0**
IPM Ipoh 24.74 280 *e*P **P** **12 31 58.2 -1.2**
comp=Z,29nm,0.5s
QIS Mount Isa 25.02 147 P **P** **12 32 02.0 +0.1**
baz=25,SNR=34
KULM Kulim 25.24 282 P **P** **12 32 02.8 -1.3**
KULM Kulim 25.24 282 *e*P **P** **12 32 02.7 -1.3**
comp=Z,19nm,0.9s
AS31 Alice Springs 25.30 162 *e*P **P** **12 32 04.7 +0.2**
ASAR Alice Springs 25.30 162 P **P** **12 32 04.3 -0.1**
ASAR PcP **PcP** **12 35 36.5 +1.0**
ASAR S **S** **12 36 26.9 +3.0**
ASAR ScP **ScP** **12 39 10.2 +3.7**
ASAR Alice Springs 25.30 162 P **P** **12 32 04.3 -0.1**
comp=Z,20nm,0.8s,baz=342,slow=8.6,SNR=128
ASAR PcP **PcP** **12 35 36.5 +1.0**
comp=Z,2.7nm,0.5s,baz=353,slow=1.9,SNR=12
ASAR S **S** **12 36 27.0 +3.0**
comp=Z,1.5nm,1.0s,baz=349,slow=18,SNR=5.1
ASAR ScP **ScP** **12 39 10.2 +3.7**
comp=Z,0.8nm,0.7s,baz=347,slow=2.4,SNR=6.7
WRKA Warakurna 25.45 174 P **P** **12 32 05.9 +0.2**
baz=26,SNR=20
PSI Prapat 26.63 275 P **P** **12 32 14.5 -2.2**
PSI Prapat 26.63 275 P **P** **12 32 14.5 -2.2**
comp=Z,14nm,0.8s,baz=108,slow=11,SNR=6.6
PSI Prapat 26.63 275 P **P** **12 32 16.5 -0.3**
baz=27,SNR=5.2
MEEK Meekatharra 27.69 193 P **P** **12 32 25.4 -0.5**
baz=28,SNR=7.3
CHAI Chaiyaphum 27.81 305 P **P** **12 32 26.8 -0.3**
comp=Z,5.8nm,0.9s
GSI Gunungsitoli 27.90 272 *e*P **P** **12 32 24.4 -3.5**
comp=Z,16nm,0.6s
CTA Charters Tower 28.81 136 P **P** **12 32 37.0 +1.1**
CTA Charters Tower 28.81 136 P **P** **12 32 37.0 +1.1**
comp=Z,1.4nm,0.6s,baz=325,slow=8.5,SNR=3.7
LAMP Lampang 31.10 307 P **P** **12 32 57.3 +1.1**
comp=Z,3.9nm,0.8s
GYA Guiyang 31.60 327 *e*P **P** **12 33 02.0 +1.4**
GYA pP **pP** **12 33 21.8 +0.2**
GYA sP **sP** **12 33 33.0 +0.7**
GYA PP **PP** **12 34 10.6 -3.1**
GYA PcP **PcP** **12 35 50.5 -0.6**
GYA S **S** **12 38 04.3 +1.2**
GYA sS **sS** **12 38 40.0 +0.7**
GYA ScP **ScP** **12 39 25.5 -0.7**
GYA ScS **ScS** **12 43 22.0 -2.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
CMAR Chiang Mai Arr 31.62 306 P **P** **12 32 59.4 -1.4**
CMAR PcP **PcP** **12 35 52.8 +1.6**
CMAR Chiang Mai Arr 31.62 306 P **P** **12 32 59.4 -1.4**
comp=Z,4.4nm,0.9s,baz=136,slow=8.0,SNR=22
CMAR PcP **PcP** **12 35 52.8 +1.6**
comp=Z,1.3nm,0.6s,baz=157,slow=1.1,SNR=7.1
CMAR LR LR 12 45 24.3
comp=Z,53nm,20.3s,baz=147,slow=36
CMMT Chiang Mai 31.80 307 P **P** **12 33 01.7 -0.7**
comp=Z,20nm,0.9s
CHTO Chiang Mai 31.81 307 *e*P **P** **12 33 02.1 -0.3**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 31.81 307 *e*P **P** **12 33 02.1 -0.3**
comp=Z,3.1nm,0.8s
CHTO Chiang Mai 31.81 307 P **P** **12 33 01.8 -0.6**
comp=Z,90nm,0.9s
BLDU Ballidu 31.96 194 P **P** **12 33 03.9 +0.4**
baz=32,SNR=5.2
NJ2 Nanjing 32.09 349 *e*P **P** **12 33 06.0 +1.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
CMAI Chiengmai2 32.33 308 P **P** **12 33 06.4 -0.8**
comp=Z,8.6nm,0.8s,comp=Z,8μm
QLP Quilpie 32.36 147 P **P** **12 33 07.0 -0.1**
baz=32,SNR=5.6
KLBR Kellerberrin 32.66 192 P **P** **12 33 09.7 0.0**
baz=33,SNR=5.5
JNU Nakatsue 32.94 8 P **P** **12 33 11.8 -0.3**
JNU Nakatsue 32.94 8 P **P** **12 33 11.8 -0.3**
comp=Z,14nm,1.0s,baz=194,slow=8.7,SNR=7.8
KMI Kunming 32.95 320 P **P** **12 33 14.3 +1.7**
KMI pP **pP** **12 33 30.8 -2.9**
KMI S **S** **12 38 28.8 +4.4**
KMI pmax pmax
comp=Z,14nm,0.9s
KMI pmax pmax
comp=Z,62nm,3.1s
KMI LR LR
comp=Z,120nm,10.7s
KMI LR LR
comp=Z,97nm,14.1s
KMI LR LR
comp=Z,100nm,21.1s
ENH Enshi 33.36 334 *e*P **P** **12 33 13.8 -2.0**
comp=Z,10nm,0.5s
NWAO Narrogin (SRO) 34.06 192 P **P** **12 33 21.5 -0.4**
NWAO Narrogin (SRO) 34.06 192 P **P** **12 33 21.5 -0.4**
comp=Z,6.3nm,0.8s,baz=5.7,slow=10,SNR=4.6
BBOO Buckleboo 34.52 164 P **P** **12 33 26.1 +0.2**
baz=35,SNR=5.7
STKA Stephens Creek 35.56 156 *e*P **P** **12 33 35.4 +0.6**
STKA PcP **PcP** **12 36 02.8 +0.7**
STKA Stephens Creek 35.56 156 P **P** **12 33 35.2 +0.4**
comp=Z,5.4nm,0.5s,baz=330,slow=8.6,SNR=25
STKA PcP **PcP** **12 36 02.8 +0.7**
comp=Z,1.4nm,0.5s,baz=344,slow=3.9,SNR=3.0
STKA Stephens Creek 35.56 156 P **P** **12 33 35.4 +0.6**
baz=36,SNR=20
RKGY Rocky Gully 35.73 192 P **P** **12 33 37.7 +1.5**
baz=36,SNR=5.3
HTT Hallett 35.97 161 P **P** **12 33 39.8 +1.5**
baz=36,SNR=3.3
CD2 Chengdu 36.66 328 *e*P **P** **12 33 44.6 +0.3**
CD2 sP **sP** **12 34 16.8 +0.6**
CD2 PP **PnPn** **12 35 13.3 +2.8**
CD2 S **S** **12 39 22.5 +1.5**
CD2 sS **sS** **12 39 58.1 +0.4**
CD2 SS **SnSn** **12 41 56.1 -4.7**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,80nm,4.8s
CD2 LR LR
comp=Z,140nm,11.8s
CD2 LR LR
comp=Z,150nm,13.8s
XAN Xi'an 36.87 337 P **P** **12 33 44.3 -1.7**
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN pmax pmax
comp=Z,32nm,5.8s
KSAR Wonju Array Be 36.92 3 P **P** **12 33 46.1 -0.1**
KSRS Korea Array 36.93 3 P **P** **12 33 46.1 -0.2**
comp=Z,7.6nm,0.8s,baz=184,slow=9.6,SNR=22
KSRS LR LR 12 47 27.0
comp=Z,35nm,20.9s,baz=37,slow=34
CMSA Cobar Meteorol 37.11 151 P **P** **12 33 49.3 +1.3**
baz=37,SNR=11
MJAR Matsushiro Arr 37.84 17 P **P** **12 33 53.1 -1.0**
MJAR Matsushiro Arr 37.84 17 P **P** **12 33 53.1 -1.0**
comp=Z,12nm,0.8s,baz=190,slow=9.0,SNR=27
MJAR LR LR 12 48 37.0
comp=Z,27nm,19.2s,baz=285,slow=35
MAJO Matsushiro 37.84 17 *e*P **P** **12 33 53.3 -0.9**
MAJO pmax pmax
comp=Z,16nm,0.8s
MAJO Matsushiro 37.84 17 *e*P **P** **12 33 53.2 -0.9**
comp=Z,16nm,0.8s
MAT Matsushiro 37.84 17 P **P** **12 33 53.2 -1.0**
ARMA Armidale 39.49 143 *e*P **P** **12 34 09.1 +0.9**
comp=Z,7.7nm,0.8s
ARMA Armidale 39.49 143 P **P** **12 34 09.6 +1.4**
baz=40,SNR=12
ARPS Mount Arapiles 39.99 159 P **P** **12 34 13.7 +1.7**
baz=40,SNR=7.0
BJI Beijing 40.34 349 P **P** **12 34 15.9 +1.0**
BJI S **S** **12 40 21.3 +5.3**
BJI pmax pmax
comp=Z,14nm,0.7s
LZH Lanzhou 40.78 333 *e*P P 12 34 15.3 -3.5
LZH pP pP 12 34 37.5 -2.9
LZH sP sP 12 34 48.6 -2.3
LZH PP **PP** **12 35 54.5 -0.1**
LZH *e*S **S** **12 40 20.3 -2.8**
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.6s
HHC Hu-ho-hao-te 42.18 344 *e*P **P** **12 34 30.4 +0.3**
HHC pP **pP** **12 34 52.8 +1.0**
HHC sP **sP** **12 35 05.3 +3.0**
HHC PP PP 12 36 15.6 +6.0
HHC S **S** **12 40 46.1 +2.6**
HHC sS sS 12 41 26.6 +5.8
HHC pmax pmax
comp=Z,39nm,0.8s
HHC pmax pmax
comp=Z,190nm,5.4s
HHC LR LR
comp=Z,220nm,13.6s
HHC LR LR
comp=Z,250nm,13.1s
HHC LR LR
comp=Z,160nm,13.3s
CN2 Changchun 43.20 360 *e*P **P** **12 34 37.9 -0.2**
CN2 *es*P **sP** **12 35 12.3 +1.9**
CN2 *e*S **S** **12 40 58.8 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
LSA Lhasa 43.77 315 *e*P **P** **12 34 43.0 -0.5**
LSA pmax pmax
comp=Z,10.0nm,0.5s
LSA Lhasa 43.77 315 *e*P **P** **12 34 43.0 -0.5**
comp=Z,9.8nm,0.5s
USRK Ussuriysk Arra 43.99 7 P **P** **12 34 44.6 +0.2**
comp=Z,6.7nm,0.5s,baz=185,slow=7.4,SNR=26
MDJ Mudanjiang 44.17 4 P **P** **12 34 47.0 +1.1**
MDJ pmax pmax
comp=Z,15nm,0.8s
MDJ pmax pmax
comp=Z,100nm,4.9s
MDJ Mudanjiang 44.17 4 *e*P **P** **12 34 47.0 +1.1**
comp=Z,15nm,0.9s
TAPN Taplejung 45.05 310 *e*P **P** **12 34 52.3 -1.3**
comp=Z,24nm,0.5s
TAPN Taplejung 45.05 310 *e*P **P** **12 34 52.3 -1.3**
comp=Z,24nm,0.5s
ODAN Odare 45.05 309 *e*P **P** **12 34 51.6 -1.9**
comp=Z,36nm,0.6s
ODAN Odare 45.05 309 *e*P **P** **12 34 51.6 -1.9**
comp=Z,36nm,0.6s
GTA Gaotai 45.34 332 P **P** **12 34 54.3 -1.2**
GTA pP **pP** **12 35 16.0 -1.5**
GTA sP **sP** **12 35 26.6 -1.3**
GTA PcP **PcP** **12 36 34.8 +1.2**
GTA S **S** **12 41 29.9 +0.3**
GTA pmax pmax
comp=Z,12nm,0.9s
GTA pmax pmax
comp=Z,86nm,4.0s
GTA LR LR
comp=Z,150nm,21.4s
GTA LR LR
comp=Z,140nm,21.4s
GTA LR LR
comp=Z,120nm,19.0s
RAMN Ramite 45.71 309 *e*P **P** **12 34 57.8 -1.0**
comp=Z,76nm,0.7s
RAMN Ramite 45.71 309 *e*P **P** **12 34 57.8 -1.0**
comp=Z,76nm,0.7s
ASAJ Asahikawa 46.12 17 *e*P **P** **12 35 02.5 +1.2**
ASAJ Asahikawa 46.12 17 P **P** **12 35 01.9 +0.6**
comp=Z,26nm,0.5s,baz=229,slow=8.7,SNR=53
JIRN Jiri 46.38 309 *e*P **P** **12 35 03.1 -1.0**
comp=Z,50nm,0.6s
JIRN Jiri 46.38 309 *e*P **P** **12 35 03.1 -1.0**
comp=Z,50nm,0.6s
GUN Gumba 46.74 309 *e*P **P** **12 35 05.5 -1.4**
comp=Z,70nm,0.5s
GUN Gumba 46.74 309 *e*P **P** **12 35 05.5 -1.4**
comp=Z,70nm,0.5s
PKI Pulchoki 46.94 309 *e*P **P** **12 35 07.2 -1.2**
comp=Z,18nm,0.6s
PKI Pulchoki 46.94 309 *e*P **P** **12 35 07.3 -1.2**
PKI pmax pmax
comp=Z,6.0nm,0.3s
PKI Pulchoki 46.94 309 *e*P **P** **12 35 07.3 -1.2**
comp=Z,6.4nm,0.3s
PKIN Phulchoki 46.95 309 *e*P **P** **12 35 07.3 -1.2**
comp=Z,6.4nm,0.3s
KKN Kakani 47.15 309 *e*P **P** **12 35 08.9 -1.0**
comp=Z,34nm,0.8s
KKN Kakani 47.15 309 *e*P **P** **12 35 08.9 -1.0**
KKN pmax pmax
comp=Z,34nm,0.8s
KKN Kakani 47.15 309 *e*P **P** **12 35 08.9 -1.0**
comp=Z,34nm,0.8s
DMN Daman 47.20 308 *e*P **P** **12 35 08.8 -1.6**
comp=Z,43nm,0.9s
DMN Daman 47.20 308 *e*P **P** **12 35 08.8 -1.6**
comp=Z,43nm,0.9s
GKN Gorkha 47.75 309 *e*P **P** **12 35 13.8 -0.7**
comp=Z,45nm,0.7s
GKN Gorkha 47.75 309 *e*P **P** **12 35 13.8 -0.7**
comp=Z,45nm,0.7s
KOLN Koldanda 48.45 308 *e*P **P** **12 35 18.7 -1.3**
comp=Z,127nm,0.7s
KOLN Koldanda 48.45 308 *e*P **P** **12 35 18.7 -1.3**
comp=Z,127nm,0.7s
DANN Dangsing 48.59 309 *e*P **P** **12 35 19.7 -1.5**
comp=Z,146nm,0.7s
DANN Dangsing 48.59 309 *e*P **P** **12 35 19.7 -1.5**
comp=Z,146nm,0.7s
KLR Kul'dur 48.93 5 *e*P P 12 35 19.8 -3.2
PYUN Piuthan 49.08 308 *e*P **P** **12 35 23.6 -1.3**
comp=Z,144nm,0.7s
PYUN Piuthan 49.08 308 *e*P **P** **12 35 23.6 -1.3**
comp=Z,144nm,0.7s
HYB Hyderabad 49.13 293 *i* P **P** **12 35 25.0 -0.2**
ULN Ulaanbaatar 49.90 344 *e*P **P** **12 35 29.8 -0.8**
comp=Z,6.6nm,1.1s
SONM Songino Array 50.06 343 P **P** **12 35 30.7 -1.1**
SONM PcP **PcP** **12 36 50.7 +0.4**
SONM Songino Array 50.06 343 P **P** **12 35 30.7 -1.1**
comp=Z,3.8nm,0.7s,baz=160,slow=8.7,SNR=30
SONM PcP **PcP** **12 36 50.7 +0.4**
comp=Z,1.5nm,0.7s,baz=160,slow=3.3,SNR=5.2
SONM LR LR 12 57 32.8
comp=Z,95nm,20.0s,baz=5.9,slow=37
TLY Talaya 54.30 343 *e*P **P** **12 36 02.2 -0.8**
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 54.30 343 *e*P **P** **12 36 02.9 -0.1**
comp=Z,5.6nm,0.6s
WMQ Urumqi 54.75 327 P **P** **12 36 06.0 -0.5**
WMQ pP **pP** **12 36 30.0 +0.8**
WMQ sP **sP** **12 36 42.0 +2.6**
WMQ PcP **PcP** **12 37 06.0 -2.0**
WMQ PP **PP** **12 38 11.0 +0.8**
WMQ S **S** **12 43 38.0 -2.3**
WMQ ScS **ScS** **12 45 42.0 -5.1**
WMQ SS **SS** **12 47 23.0 -1.7**
WMQ pmax pmax
comp=Z,38nm,1.0s
WMQ pmax pmax
comp=Z,120nm,4.5s
WMQ LR LR
comp=Z,72nm,18.0s
WMQ LR LR
comp=Z,79nm,18.0s
WMQ LR LR
comp=Z,78nm,18.0s
MOY Mondy 55.08 342 *e*P **P** **12 36 08.6 -0.2**
HVS Khovu-Aksy 57.23 337 *e*P **P** **12 36 23.7 -0.4**
HVS pmax pmax
comp=Z,62nm,1.0s
PETK Petropavlovsk- 58.96 22 P **P** **12 36 37.1 +1.1**
PETK Petropavlovsk- 58.96 22 P **P** **12 36 37.1 +1.1**
PETK Petropavlovsk- 58.96 22 P **P** **12 36 37.1 +1.1**
comp=Z,9.2nm,0.6s,baz=201,slow=5.3,SNR=9.8
KSH Kashi 59.54 317 P **P** **12 36 41.6 +1.2**
KSH sP **sP** **12 37 16.1 +2.6**
KSH PP **PP** **12 38 56.0 +3.1**
KSH PcS **PcS** **12 41 27.0 -2.2**
KSH S **S** **12 44 41.3 -2.1**
KSH SS **SS** **12 48 42.1 +1.8**
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,110nm,4.2s
KSH LR LR
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,180nm,5.8s
KSH LR LR
comp=Z,270nm,5.6s
MK31 Makanchi Array 59.59 327 *e*P **P** **12 36 39.2 -1.3**
MK31 pmax pmax
comp=Z,9.0nm,0.4s
MK31 Makanchi Array 59.59 327 *e*P **P** **12 36 39.2 -1.3**
MKAR Makanchi Array 59.59 327 P **P** **12 36 39.6 -0.9**
MKAR 12 37 26.9
MKAR Makanchi Array 59.59 327 P **P** **12 36 39.6 -0.9**
MKAR PcP **PcP** **12 37 26.9 0.0**
MKAR Makanchi Array 59.59 327 P **P** **12 36 39.6 -0.9**
comp=Z,12nm,0.4s,baz=124,slow=7.6,SNR=65
MKAR PcP **PcP** **12 37 26.9 0.0**
comp=Z,4.1nm,0.6s,baz=118,slow=4.9,SNR=5.5
MKAR LR LR 13 02 42.7
comp=Z,58nm,21.8s,baz=278,slow=36
URZ Urewera 61.05 135 P **P** **12 36 51.6 +1.1**
URZ Urewera 61.05 135 P **P** **12 36 51.6 +1.1**
comp=Z,21nm,1.1s,baz=292,slow=5.4,SNR=3.7
KZA Kyzart 61.24 319 *i* P **P** **12 36 51.9 -0.4**
KZA Kyzart 61.24 319 P **P** **12 36 52.0 -0.4**
SNR=17
TKM2 Tokmak 2 61.42 320 *i* P **P** **12 36 52.4 -0.9**
TKM2 Tokmak 2 61.42 320 P **P** **12 36 52.4 -0.9**
SNR=13
TKM2 Tokmak 2 61.42 320 *e*P **P** **12 36 52.5 -0.8**
comp=Z,15nm,1.2s
YAK Yakutsk 61.55 2 *e*P **P** **12 36 52.9 -0.5**
YAK pmax pmax
comp=Z,52nm,0.9s
YAK Yakutsk 61.55 2 *e*P **P** **12 36 53.7 +0.3**
comp=Z,63nm,0.8s
UCH Uchtor 61.79 319 *i* P **P** **12 36 55.9 -0.2**
UCH Uchtor 61.79 319 P **P** **12 36 55.9 -0.2**
SNR=16
AAK Ala-Archa 62.00 320 *e*P **P** **12 36 54.2 -2.9**
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 62.00 320 P **P** **12 36 57.3 +0.2**
SNR=7.8
AAK Ala-Archa 62.00 320 *e*P **P** **12 36 56.8 -0.3**
comp=Z,11nm,1.2s
AML Almayashu 62.28 319 P **P** **12 36 58.6 -0.7**
SNR=14
USP Ospenovka 62.30 320 *i* P **P** **12 36 58.1 -0.8**

USP	Ospenovka	62.30	320	P		P		12 36 58.1	-0.8
	SNR=7.4								
EKS2	Erkin-Say	62.48	319	*i* P		P		12 36 59.2	-1.0
EKS2	Erkin-Say	62.48	319	P		P		12 36 59.3	-1.0
	SNR=13								
EKS2	Erkin-Say	62.48	319	*eP*		P		12 36 59.7	-0.6
	comp=Z,9.7nm,1.0s								
KBL	Kabul	62.57	309	P		P		12 37 01.1	0.0
	baz=63,SNR=9.0								
ZAA0	Zalesovo Array	62.98	334	*eP*		P		12 37 01.1	-2.1
ZALV	Zalesovo Beam	62.98	334	P		P		12 37 01.5	-1.7
ZALV	Zalesovo Beam	62.98	334	P		P		12 37 01.5	-1.7
ZALV	Zalesovo Beam	62.98	334	P		P		12 37 01.5	-1.7
	comp=Z,8.0nm,0.6s,baz=134,slow=5.3,SNR=22								
KURK	Kurchatov	63.88	329	P		P		12 37 07.2	-1.9
KURK				pmax		pmax			
	comp=Z,14nm,0.4s								
KURK	Kurchatov	63.88	329	*eP*		P		12 37 07.8	-1.3
	comp=Z,30nm,0.5s								
NVS	Novosibirsk	64.27	334	*eP*		P		12 37 07.9	-3.7
NVS				pmax		pmax			
	comp=N,6.0nm,0.6s								
NVS				pmax		pmax			
	comp=Z,11nm,0.6s								
NVS				pmax		pmax			
	comp=E,6.0nm,0.5s								
KK31	Karatay Array	64.82	319	*i* P		P		12 37 14.1	-1.4
KK31				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KKAR	Karatay Array	64.82	319	*eP*		P		12 37 14.5	-1.1
KKAR	Karatay Array	64.82	319	*eP*		P		12 37 14.5	-1.1
BVA0	Borovoye Array	69.42	328	*i* P		P		12 37 43.1	-1.3
BVA0				pmax		pmax			
	comp=Z,4.0nm,0.6s								
BRVK	Borovoye	69.49	328	*ce*P		P		12 37 44.0	-0.8
BRVK				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BRVK	Borovoye	69.49	328	*eP*		P		12 37 43.5	-1.4
	comp=Z,7.1nm,0.8s								
TIXI	Tiksi	71.16	1	*eP*		P		12 37 54.5	-0.1
TIXI				pmax		pmax			
	comp=Z,8.0nm,1.0s								
TIXI				MLR		MLR			
	comp=Z,70nm,17.0s								
TIXI	Tiksi	71.16	1	*eP*		P		12 37 54.1	-0.5
	comp=Z,8.9nm,0.6s								
AB31	Akbulak array	73.93	322	*i* P		P		12 38 10.2	-1.3
AB31				pmax		pmax			
	comp=Z,2.0nm,0.3s								
ABKAR	Akbulak array	73.93	322	*eP*		P		12 38 10.4	-1.1
AKTO	Aktyubinsk	75.48	322	LR		LR		13 12 00.6	
	comp=Z,68nm,19.5s,baz=299,slow=36								
SVE	Sverdlovsk	76.13	329	⇑*i* P		P		12 38 23.5	-0.5
SVE				pmax		pmax			
	comp=Z,23nm,1.1s								
ARU	Arti	77.06	328	*c i* P		P		12 38 28.8	-0.5
ARU								12 41 18.9	
ARU				S		S		12 48 14.4	+3.8
ARU				SS		SS		12 53 07.5	-2.1
ARU				pmax		pmax			
	comp=Z,14nm,1.0s								
ARU	Arti	77.06	328	*eP*		P		12 38 28.3	-1.0
	comp=Z,12nm,0.9s								
MAW	Mawson	80.22	200	P		P		12 38 47.4	+1.0
MAW	Mawson	80.22	200	P		P		12 38 47.4	+1.0
	comp=Z,2.1nm,0.7s,baz=58,slow=7.7,SNR=6.6								
VNDA	Vanda	80.32	172	P		P		12 38 48.0	+1.2
VNDA	Vanda	80.32	172	P		P		12 38 48.0	+1.2
	comp=Z,1.0nm,0.8s,baz=325,slow=6.6,SNR=5.7								
ZEI	Tsey	83.52	313	*eP*		P		12 39 04.1	-0.4
ZEI				pmax		pmax			
	comp=Z,18nm,1.0s								
KBZ	Khabaz	84.33	314	P		P		12 39 07.9	-0.5
KBZ	Khabaz	84.33	314	P		P		12 39 07.9	-0.5
KBZ	Khabaz	84.33	314	P		P		12 39 07.9	-0.5
	comp=Z,3.8nm,0.8s,baz=94,slow=3.7,SNR=7.0								
KIV	Kislovodsk	84.51	314	*eP*		P		12 39 11.6	+2.2
KIV				pmax		pmax			
	comp=Z,10.0nm,1.0s								
PRGR	Permogore	84.81	332	*eP*		P		12 39 08.2	-2.1
PRGR				pmax		pmax			
	comp=Z,27nm,0.5s								
VRHR	Novokhopersk	85.80	321	*eP*		P		12 39 14.0	-1.5
VRHR				pmax		pmax			
	comp=N,10.0nm,0.7s								
VRHR				pmax		pmax			
	comp=E,20nm,0.7s								
VRHR				pmax		pmax			
	comp=Z,50nm,0.7s								
VORD	Divnogorie	87.26	321	*eP*		P		12 39 20.8	-1.8
VORD				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VORD				pmax		pmax			
	comp=N,6.0nm,0.6s								
VORD				pmax		pmax			
	comp=E,20nm,1.0s								
VSR	Storozhevoye	87.35	321	*eP*		P		12 39 20.8	-2.3
VSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VSR				pmax		pmax			
	comp=N,5.0nm,0.7s								
VSR				pmax		pmax			
	comp=E,8.0nm,0.7s								
COLD	Coldfoot	87.42	23	*eP*		P		12 39 24.8	+1.7
	comp=E,9.8nm,1.2s								
KMBO	Kilima Mbogo	88.22	269	*eP*		P		12 39 29.1	+0.8
	comp=E,16nm,1.0s								
KMBO	Kilima Mbogo	88.22	269	P		P		12 39 29.1	+0.8
	comp=E,11nm,0.8s,baz=53,slow=7.0,SNR=34								
KMBO	Kilima Mbogo	88.22	269	P		P		12 39 29.6	+1.3
	baz=88,SNR=4.5								
ANN	Anapa	88.31	315	*eP*		P		12 39 25.7	-2.1
ANN				pmax		pmax			
	comp=Z,66nm,1.0s								
ILAR	Eielson Array	88.62	25	P		P		12 39 28.1	-0.8
ILAR	Eielson Array	88.62	25	P		P		12 39 28.1	-0.8
	comp=Z,0.9nm,0.5s,baz=250,slow=4.5,SNR=26								
OBN	Obninsk	89.03	325	⇓*i* P		P		12 39 29.3	-1.6
OBN				*i*				12 42 59.6	
OBN				*i* PPP		PPP		12 45 01.1	
OBN				pmax		pmax			
	comp=Z,63nm,2.5s								
DOT	Dot Lake	89.85	27	*e*PKKPbc		PKKPbc		12 57 06.5	-3.0
BRTR	Keskin Array B	91.15	310	P		P		12 39 40.2	-1.2
BRTR	Keskin Array B	91.15	310	P		P		12 39 40.2	-1.2
	comp=Z,1.9nm,0.7s,baz=133,slow=4.6,SNR=6.5								
JOF	Joensuu	91.53	333	*eP*		P		12 39 41.3	-1.1
JOF	Joensuu	91.53	333	*ep*		P		12 39 41.3	-1.1
ARCES	ARCESS Array B	93.10	340	P		P		12 39 48.3	-1.3
ARCES	ARCESS Array B	93.10	340	P		P		12 39 48.3	-1.3
	comp=Z,2.6nm,0.7s,baz=64,slow=5.5,SNR=16								
AKASG	Malin Array Be	93.65	321	P		P		12 39 51.1	-1.3
AKASG	Malin Array Be	93.65	321	P		P		12 39 51.1	-1.3
AKASG	Malin Array Be	93.65	321	P		P		12 39 51.1	-1.3
	comp=Z,1.1nm,0.5s,baz=69,slow=4.7,SNR=9.0								
KIEV	Kiev	93.66	321	*eP*		P		12 39 50.1	-2.4
AK02	Malin Array Si	93.66	321	*eP*		P		12 39 51.1	-1.4
FINES	FINESS Array B	94.14	332	P		P		12 39 52.9	-1.6
FINES	FINESS Array B	94.14	332	P		P		12 39 52.9	-1.6
	comp=Z,2.7nm,0.8s,baz=92,slow=4.9,SNR=5.7								
BUR08	Bucovina Ar. S	96.62	318	*eP*		P		12 40 05.3	-0.9
SUW	Suwalki	96.88	324	*e*PKKPbc		PKKPbc		12 56 48.4	-2.3
NOA	NORSAR Array B	101.17	333	P		Pdif		12 40 24.5	-1.7
NOA	NORSAR Array B	101.17	333	P		Pdif		12 40 24.5	-1.7
	comp=Z,1.0nm,0.7s,baz=66,slow=4.5,SNR=3.8								
YKA	Yellowknife Ar	103.03	24	Pdif		Pdif		12 40 35.3	+0.9
YKA				PKiKP		PKiKP		12 44 54.6	+0.8
YKA	Yellowknife Ar	103.03	24	Pdiff		Pdif		12 40 35.3	+0.9
	comp=Z,0.2nm,0.7s,baz=300,slow=4.7,SNR=4.4								
YKA				PKiKP		PKiKP		12 44 54.6	+0.8
	comp=Z,0.2nm,0.6s,baz=305,slow=2.1,SNR=6.5								
PDAR	Pinedale Array	114.67	42	PKKPbc		PKKPbc		12 55 52.2	-3.8
PDAR	Pinedale Array	114.67	42	PKKPbc		PKKPbc		12 55 52.2	-3.8
	comp=Z,0.3nm,0.6s,baz=128,slow=5.8,SNR=3.5								
ULM	Lac du Bonnet	118.46	29	PKP		PKPdf		12 45 23.5	+0.1
ULM	Lac du Bonnet	118.46	29	PKP		PKPdf		12 45 23.5	+0.1
	comp=Z,2.0nm,0.6s,baz=294,slow=2.0,SNR=3.8								
TORD	Torodi Ar. Bea	122.67	286	PKP		PKPdf		12 45 32.7	+0.2
TORD	Torodi Ar. Bea	122.67	286	PKP		PKPdf		12 45 32.7	+0.2
	comp=Z,2.2nm,0.6s,baz=66,slow=1.6,SNR=14								
MSTX	Muleshoe	123.34	48	*e*PKPdf		PKPdf		12 45 31.4	-1.9
SCHQ	Schefferville	124.02	9	PKP		PKPdf		12 45 34.9	+1.0
SCHQ	Schefferville	124.02	9	PKP		PKPdf		12 45 34.9	+1.0
	comp=Z,3.1nm,0.5s,baz=283,slow=2.6,SNR=10								
TXAR	Lajitas Array	124.60	53	PKP		PKPdf		12 45 37.8	+1.9
	comp=Z,0.6nm,0.6s,baz=236,slow=1.4,SNR=9.6								
JCT	Junction City	127.16	50	*e*PKIKP		PKPdf		12 45 43.0	+2.3
JCT	Junction City	127.16	50	*e*PKPdf		PKPdf		12 45 43.0	+2.3
UTMT	University of	131.50	37	*e*PKPdf		PKPdf		12 45 44.0	-4.7
CFAA	Coronel Fontan	146.37	159	PKPbc		PKPab		12 46 18.6	+0.4
CFAA	Coronel Fontan	146.37	159	PKPbc		PKPab		12 46 18.6	+0.4
	comp=Z,0.6nm,0.5s,baz=194,slow=3.3,SNR=8.6								
CPUP	Villa Florida	154.09	174	PKPbc		PKPbc		12 46 38.0	+1.8
CPUP	Villa Florida	154.09	174	PKPbc		PKPbc		12 46 38.0	+1.8
	comp=Z,0.9nm,0.4s,baz=304,slow=3.6,SNR=3.4								

*ISCJB **21** 12:40:50.1±0.4, 37.87S±0.03×177.36E±0.06, h143km±3km, mb3.9/6, Error ellipse: s-maj=7.8km s-min=5.1km az=177.8*

*IDC **21** 12:40:50.9±0.9, 38.10S×177.33E, h134km±3km, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, Error ellipse: s-maj=29.2km s-min=21.7km az=144.0*

*NEIC **21** 12:40:51.6, 37.64S×177.34E, h120km, MG4.7(WEL), After WEL.*

*WEL **21** 12:40:51.5±0.2, 37.65S×177.34E, h121km±1km, ML4.7/20, Error ellipse: s-maj=1.1km s-min=1.0km az=0.0*

WEL Felt from Bay of Plenty to Gisborne, maximum reported intensity MM 4.

*AUST **21** 12:40:51.5±4.8, 37.97S×177.11E, h114km, Error ellipse: s-maj=5.0km s-min=1.2km az=269.0*

ISC 21 12:40:51.1±0.7, 37.80S±0.04×177.34E±0.05, h133km±5km, n213, σ1°21/207, mb4.0/6, 26C-29D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.29	336	⇑PN		Pn		12 41 07.7	-1.8
WIZ	White Island	0.29	336	Pn		Pn		12 41 07.7	-1.8
URZ	Urewera	0.50	201	⇑PN		Pn		12 41 10.2	-0.2
URZ				SN		Sn		12 41 24.3	-1.0
URZ				AML		AML		12 41 25.0	
URZ	Urewera	0.50	201	⇑Pn		Pn		12 41 10.2	-0.2
URZ				Sn		Sn		12 41 24.3	-1.0
URZ	Urewera	0.50	201	P		Pn		12 41 10.0	-0.5
	867nm,0.3s,baz=320,slow=2.4								
URZ				S		Sn		12 41 24.5	-0.7
	738nm,0.3s,baz=233,slow=20,SNR=67								
MARZ	Manawahe	0.56	250	⇑PN		Pn		12 41 10.4	-0.4
MARZ	Manawahe	0.56	250	Pn		Pn		12 41 10.4	-0.4
MWZ	Matawai	0.56	165	⇑PN		Pn		12 41 10.9	0.0
MWZ				SN		Sn		12 41 25.9	-0.1
MWZ				AML		AML		12 41 26.8	
MWZ				AML		AML		12 41 26.8	
MWZ				AML		AML		12 41 27.1	
MWZ	Matawai	0.56	165	⇑Pn		Pn		12 41 10.9	0.0
MWZ				Sn		Sn		12 41 26.2	+0.3
EDRZ	Edgecumbe	0.57	236	⇑PN		Pn		12 41 10.8	-0.2
EDRZ	Edgecumbe	0.57	236	Pn		Pn		12 41 10.8	-0.2
OPRZ	Ohinepanea	0.62	265	PN		Pn		12 41 10.1	-1.1
OPRZ	Ohinepanea	0.62	265	Pn		Pn		12 41 10.2	-1.1
MKRZ	Makatiti	0.77	243	PN		Pn		12 41 12.8	+0.5
MKRZ	Makatiti	0.77	243	Pn		Pn		12 41 12.8	+0.5
PUZ	Puketiti	0.78	111	⇑PN		Pn		12 41 12.2	-0.2
PUZ				SN		Sn		12 41 27.4	-1.1
PUZ				AML		AML		12 41 30.4	
PUZ	Puketiti	0.78	111	⇑Pn		Pn		12 41 12.2	-0.2
LIRZ	Lichensteins R	0.78	254	⇑PN		Pn		12 41 12.3	-0.1
LIRZ	Lichensteins R	0.78	254	Pn		Pn		12 41 12.3	-0.1
TARZ	Mount Tarawera	0.79	236	⇑PN		Pn		12 41 12.9	+0.3
TARZ	Mount Tarawera	0.79	236	Pn		Pn		12 41 12.9	+0.3
MXZ	Matakaoa Point	0.80	74	PN		Pn		12 41 11.4	-1.1
MXZ				SN		Sn		12 41 27.2	-1.6
MXZ				AML		AML		12 41 29.7	
MXZ	Matakaoa Point	0.80	74	Pn		Pn		12 41 11.4	-1.1
OMRZ	Omania	0.83	247	⇑PN		Pn		12 41 12.8	0.0
OMRZ	Omania	0.83	247	Pn		Pn		12 41 12.8	0.0
RRRZ	Republican Roa	0.85	230	⇑PN		Pn		12 41 13.1	+0.2
RRRZ	Republican Roa	0.85	230	Pn		Pn		12 41 13.1	+0.2
TGRZ	Tauranga	0.86	274	⇑PN		Pn		12 41 12.4	-0.6
TGRZ	Tauranga	0.86	274	Pn		Pn		12 41 12.4	-0.6
KARZ	Kaharoa	0.90	255	⇑PN		Pn		12 41 13.2	-0.1
KARZ	Kaharoa	0.90	255	Pn		Pn		12 41 13.2	-0.1
RIGZ	Rimuhau	0.97	160	⇑PN		Pn		12 41 14.8	+0.8
CNGZ	Carnagh Statio	0.97	135	⇑PN		Pn		12 41 14.9	+1.0
CNGZ	Carnagh Statio	0.97	135	Pn		Pn		12 41 14.9	+1.0
SNGZ	Shannon Statio	0.98	180	⇑PN		Pn		12 41 14.9	+0.7
MYRZ	Mayor Island	1.01	300	PN		Pn		12 41 13.5	-0.9
HRRZ	Handcock Road	1.02	234	⇑PN		Pn		12 41 14.9	+0.4
HRRZ	Handcock Road	1.02	234	Pn		Pn		12 41 14.9	+0.4
PRRZ	Plateau Road	1.02	226	⇑PN		Pn		12 41 14.9	+0.4
PRRZ	Plateau Road	1.02	226	Pn		Pn		12 41 14.9	+0.4
ALRZ	Allen Road	1.10	225	PN		Pn		12 41 15.7	+0.5
ALRZ	Allen Road	1.10	225	Pn		Pn		12 41 15.7	+0.5
RAHZ	Arahi	1.14	190	PN		Pn		12 41 16.6	+1.0
RAHZ	Arahi	1.14	190	Pn		Pn		12 41 16.6	+1.0
PRGZ	Paritu Road	1.21	159	PN		Pn		12 41 17.0	+0.7
KNZ	Kokohu	1.25	168	PN		Pn		12 41 17.5	+0.8
WHHZ	Waihua	1.28	184	⇓PN		Pn		12 41 18.1	+1.1
NMHZ	Naumai	1.37	198	PN		Pn		12 41 19.2	+1.2
NMHZ	Naumai	1.37	198	Pn		Pn		12 41 19.2	+1.2
WHTZ	Whakaora	1.39	231	PN		Pn		12 41 19.4	+1.1
WHTZ	Whakaora	1.39	231	Pn		Pn		12 41 19.4	+1.1
MHGZ	Mahia Peninsul	1.43	162	⇓PN		Pn		12 41 19.7	+1.1
MHGZ	Mahia Peninsul	1.43	162	Pn		Pn		12 41 19.7	+1.1
TOZ	Tahuroa Road	1.46	272	PN		Pn		12 41 19.1	+0.3
TOZ	Tahuroa Road	1.46	272	Pn		Pn		12 41 19.1	+0.3
HATZ	Hinemaiaia	1.47	221	⇓PN		Pn		12 41 19.6	+0.6
HATZ	Hinemaiaia	1.47	221	Pn		Pn		12 41 19.6	+0.6
TLZ	Tolley Road	1.52	249	⇑PN		Pn		12 41 20.3	+0.7
BKZ	Black Stump Fm	1.52	206	⇓PN		Pn		12 41 20.0	+0.3
BKZ				AML		AML		12 41 43.9	
BKZ				AML		AML		12 41 44.2	
BKZ	Black Stump Fm	1.52	206	Pn		Pn		12 41 20.0	+0.3
WATZ	Wairara	1.56	234	PN		Pn		12 41 20.8	+0.8
WATZ	Wairara	1.56	234	Pn		Pn		12 41 20.8	+0.8
RATZ	Rangitukua	1.63	228	PN		Pn		12 41 21.6	+0.7
RATZ	Rangitukua	1.63	228	Pn		Pn		12 41 21.6	+0.7
RITZ	Rihia Road	1.66	224	⇓PN		Pn		12 41 22.2	+1.0
RITZ	Rihia Road	1.66	224	Pn		Pn		12 41 22.2	+1.0
KUZ	Kuaotunu	1.66	309	⇓PN		Pn		12 41 19.4	-1.8
KUZ	Kuaotunu	1.66	309	Pn		Pn		12 41 19.4	-1.8
MCHZ	McNeill Hill	1.72	197	PN		Pn		12 41 22.7	+0.8
MCHZ	McNeill Hill	1.72	197	Pn		Pn		12 41 22.7	+0.8
KATZ	Kakaramea	1.75	227	PN		Pn		12 41 22.9	+0.6
KATZ	Kakaramea	1.75	227	Pn		Pn		12 41 22.9	+0.6
MKAZ	Moumakai	1.86	291	PN		Pn		12 41 23.1	-0.4
MKAZ	Moumakai	1.86	291	Pn		Pn		12 41 23.1	-0.4
KRVZ	Karewarewa	1.86	225	⇓PN		Pn		12 41 24.4	+0.7
KRVZ	Karewarewa	1.86	225	Pn		Pn		12 41 24.4	+0.7
CKHZ	Cape Kidnapper	1.87	186	⇓PN		Pn		12 41 24.3	+0.6
CKHZ	Cape Kidnapper	1.87	186	Pn		Pn		12 41 24.3	+0.6
OTVZ	Oturere	1.90	223	⇓PN		Pn		12 41 24.8	+0.7
OTVZ	Oturere	1.90	223	Pn		Pn		12 41 24.8	+0.7
WTVZ	West Tongariro	1.91	226	⇓PN		Pn		12 41 24.8	+0.7
WTVZ	West Tongariro	1.91	226	Pn		Pn		12 41 24.8	+0.7
NGZ	Ngauruhoe	1.94	224	⇓PN		Pn		12 41 25.3	+0.7
NGZ	Ngauruhoe	1.94	224	Pn		Pn		12 41 25.3	+0.7
TWVZ	Taurewa	1.96	229	PN		Pn		12 41 25.5	+0.6
TWVZ	Taurewa	1.96	229	Pn		Pn		12 41 25.5	+0.6
BHHZ	Black Hill Sta	1.96	210	⇓PN		Pn		12 41 24.9	+0.1
BHHZ	Black Hill Sta	1.96	210	Pn		Pn		12 41 24.9	+0.1
TUVZ	Tukino	1.98	221	⇓PN		Pn		12 41 25.6	+0.5
TUVZ	Tukino	1.98	221	Pn		Pn		12 41 25.6	+0.5
COVZ	Chateau Observ	1.99	225	⇓PN		Pn		12 41 25.6	+0.5
WPVZ	Whakapapa	1.99	224	⇓PN		Pn		12 41 25.7	+0.5
WPVZ	Whakapapa	1.99	224	Pn		Pn		12 41 25.7	+0.5
WHVZ	Whangaehu Hut	2.02	222	PN		Pn		12 41 26.1	+0.4
FWVZ	Far West T-bar	2.02	223	⇓PN		Pn		12 41 26.1	+0.5
FWVZ	Far West T-bar	2.02	223	Pn		Pn		12 41 26.1	+0.5
DRZ	Dome Shelter	2.03	223	PN		Pn		12 41 26.3	+0.5
DRZ	Dome Shelter	2.03	223	Pn		Pn		12 41 26.3	+0.5
KAHZ	Kahuranaki	2.03	190	⇓PN		Pn		12 41 26.2	+0.6
KAHZ	Kahuranaki	2.03	190	Pn		Pn		12 41 26.2	+0.6
MOVZ	Moawhango	2.04	217	⇓PN		Pn		12 41 25.6	0.0
MOVZ	Moawhango	2.04	217	Pn		Pn		12 41 25.6	0.0
WNVZ	Wahianoa	2.05	221	⇓PN		Pn		12 41 26.3	+0.3
WNVZ	Wahianoa	2.05	221	Pn		Pn		12 41 26.3	+0.3
TRVZ	Turoa	2.06	222	⇓PN		Pn		12 41 26.5	+0.4
TRVZ	Turoa	2.06	222	Pn		Pn		12 41 26.5	+0.4
HIZ	Hauiti	2.08	249	PN		Pn		12 41 27.5	+1.2
HIZ	Hauiti	2.08	249	Pn		Pn		12 41 27.5	+1.2
OTAZ	Otara	2.10	293	PN		Pn		12 41 26.7	+0.3
MTVZ	Mangateitei	2.16	222	⇓PN		Pn		12 41 27.6	+0.4
MTVZ	Mangateitei	2.16	222	Pn		Pn		12 41 27.6	+0.4
PKVZ	Pokaka	2.16	226	PN		Pn		12 41 27.7	+0.5
PKVZ	Pokaka	2.16	226	Pn		Pn		12 41 27.7	+0.5
MTAZ	Motutapu	2.18	297	PN		Pn		12 41 27.5	+0.1
MTAZ	Motutapu	2.18	297	Pn		Pn		12 41 27.5	+0.1
PXZ	Pawanui	2.27	189	PN		Pn		12 41 28.3	-0.1
PXZ				SN		Sn		12 41 52.5	-4.6
PXZ				AML		AML		12 41 58.5	
PXZ				AML		AML		12 41 58.5	
PXZ				AML		AML		12 41 59.9	
PXZ	Pawanui	2.27	189	Pn		Pn		12 41 28.3	-0.1
PNHZ	Pukenui	2.30	202	⇓PN		Pn		12 41 28.5	-0.4
PNHZ	Pukenui	2.30	202	Pn		Pn		12 41 28.5	-0.4
WPHZ	Waipukurau	2.37	197	PN		Pn		12 41 29.4	-0.3
WPHZ	Waipukurau	2.37	197	Pn		Pn		12 41 29.4	-0.3
VRZ	Vera Road	2.42	236	PN		Pn		12 41 31.4	+1.0
VRZ	Vera Road	2.42	236	Pn		Pn		12 41 30.2	-0.2
TSZ	Takapari Road	2.50	205	⇓PN		Pn		12 41 30.8	-0.6
TSZ				AML		AML		12 42 03.6	
TSZ				AML		AML		12 42 05.2	
TSZ	Takapari Road	2.50	205	Pn		Pn		12 41 30.8	-0.6
PRHZ	Porangahau	2.53	192	⇓PN		Pn		12 41 31.5	-0.3
PRHZ	Porangahau	2.53	192	Pn		Pn		12 41 31.5	-0.3
DVHZ	Dannevirke	2.66	200	PN		Pn		12 41 32.6	-0.9
DVHZ	Dannevirke	2.66	200	Pn		Pn		12 41 32.6	-0.9
WAZ	Wanganui	2.69	222	⇓PN		Pn		12 41 34.0	+0.3
WAZ	Wanganui	2.69	222	Pn		Pn		12 41 34.0	+0.3
ANWZ	Angora Road	2.75	194	⇑PN		Pn		12 41 34.1	-0.3
POWZ	Post Office Ro	2.87	205	PN		Pn		12 41 35.3	-0.8
POWZ	Post Office Ro	2.87	205	Pn		Pn		12 41 35.3	-0.8
PRWZ	Pori Road	2.96	201	PN		Pn		12 41 36.5	-0.7
BFZ	Birch Farm	3.00	196	PN		Pn		12 41 36.8	-1.1
BFZ				SN		Sn		12 42 13.2	-0.8
BFZ	Birch Farm	3.00	196	Pn		Pn		12 41 36.8	-1.1
MRZ	Mangatainoka R	3.17	205	⇓PN		Pn		12 41 38.6	-1.4
MRZ				SN		Sn		12 42 16.3	-1.6
MRZ				AML		AML		12 42 17.3	
MRZ	Mangatainoka R	3.17	205	Pn		Pn		12 41 38.6	-1.4
TIWZ	Tintock	3.19	200	PN		Pn		12 41 39.0	-1.2
TIWZ				AML		AML		12 42 18.8	
TIWZ				AML		AML		12 42 20.1	
TIWZ	Tintock	3.19	200	Pn		Pn		12 41 39.0	-1.2
CPWZ	Castlepoint	3.23	195	⇑PN		Pn		12 41 40.4	-0.3
HOWZ	Holdsworth Sta	3.41	204	⇓PN		Pn		12 41 41.3	-1.8
HOWZ	Holdsworth Sta	3.41	204	Pn		Pn		12 41 41.3	-1.8
OGWZ	Otaki Gorge	3.46	208	PN		Pn		12 41 42.1	-1.6
OGWZ	Otaki Gorge	3.46	208	Pn		Pn		12 41 42.1	-1.6
TMWZ	Te Maipa	3.49	198	⇓PN		Pn

0.4nm,0.4s,baz=176,slow=0.9,SNR=6.9

*ISCJB **21** 13:07:57.0±0.5, 6°83.N±0.07'×73°.01W±0.08, h166km, mb3.5/7, Error ellipse: s-maj=13.4km s-min=6.4km az=42.0*
*IDC **21** 13:07:57.0±2.5, 6°79.N×72°.93W, h151km±21km, mb3.3/7, mb1 3.6/8, mb1mx3.4/22, mbtmp3.7/8, Error ellipse: s-maj=34.1km s-min=17.9km az=74.0*
*FUNV **21** 13:08:04.6, 7°.23N×72°.88W, h137km, MW3.6*

ISC 21 13:07:58.2±0.6, 6°88.N±0.08'×72°.91W±0.07', h166km, n27, σ1§79/34, mb3.2/7, 1C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.15**	**311**	*eP*		**Pn**	**13 08 26.7**	**+0.7**
CAPV				*eS*		**Sn**	**13 08 42.5**	**-4.9**
ROSC	**El Rosal**	**2.46**	**215**	P		**Pn**	**13 08 39.0**	**-0.9**
	23nm,0.3s,baz=300,slow=9.3,SNR=35							
ROSC				S		**Sn**	**13 09 08.1**	**-4.3**
	93nm,0.3s,baz=97,slow=20,SNR=14							
SOCV	**Socops**	**2.47**	**55**	*eP*		**Pn**	**13 08 41.1**	**+1.3**
SOCV				*eS*		**Sn**	**13 09 08.7**	**-3.3**
VIRV	**Villa del Rosa**	**3.64**	**8**	*iP*		**Pn**	**13 08 53.7**	**-0.5**
VIRV				*eS*		Sn	13 09 30.1	-7.8
QARV	**Quebrada Arrib**	**4.06**	**35**	*iP*		**Pn**	**13 09 00.9**	**+1.2**
SANV	**Sanarito**	**4.24**	**52**	*eP*		**Pn**	**13 09 03.1**	**+1.0**
CURV	**Curarigua**	**4.27**	**43**	*eP*		**Pn**	**13 09 03.6**	**+1.2**
DABV	**Dabajuro**	**4.60**	**29**	*eP*		**Pn**	**13 09 06.4**	**-0.3**
TEPV	**Terepaima**	**4.79**	**50**	*eP*		**Pn**	**13 09 10.5**	**+1.3**
SIQV	**Siquisique**	**4.84**	**39**	*iP*		**Pn**	**13 09 10.7**	**+0.8**
BAUV	**El Baul**	**5.24**	**67**	*eS*		**Sn**	**13 10 10.8**	**-4.6**
MAPV	**Macapo**	**5.29**	**56**	*eP*		**Pn**	**13 09 16.8**	**+1.0**
MONV	**Montecano**	**5.82**	**30**	*eP*		**Pn**	**13 09 22.9**	**+0.2**
TURV	**Turiamo**	**6.14**	**54**	*eP*		**Pn**	**13 09 28.1**	**+1.2**
CUPV	**Cœpira**	**7.72**	**65**	*eP*		**Pn**	**13 09 48.4**	**+0.5**
TXAR	**Lajitas Array**	**36.58**	**311**	P		**P**	**13 14 49.0**	**+0.6**
	0.2nm,0.4s,baz=121,slow=9.5,SNR=7.4							
TXAR				pP		**pP**	**13 15 23.1**	**-0.8**
	0.2nm,0.7s,baz=134,slow=5.2,SNR=1.9							
TXAR				PcP		**PcP**	**13 17 09.5**	**+1.2**
	0.2nm,0.6s,baz=122,slow=4.5,SNR=4.1							
ULM	**Lac du Bonnet**	**47.30**	**340**	P		**P**	**13 16 15.2**	**+0.4**
	1.3nm,0.4s,baz=142,slow=8.5,SNR=3.4							
PLCA	**Paso Flores**	**47.42**	**178**	P		**P**	**13 16 16.4**	**+0.3**
	2.9nm,0.9s,baz=333,slow=9.9,SNR=2.9							
PDAR	**Pinedale Array**	**48.15**	**324**	P		**P**	**13 16 22.6**	**+0.7**
	0.4nm,0.6s,baz=130,slow=10.0,SNR=4.3							
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	**13 18 09.7**	**+0.8**
	1.2nm,0.6s,baz=132,slow=6.7,SNR=42							
TORD	**Torodi Ar. Bea**	**73.52**	**78**	P		**P**	**13 19 13.4**	**0.0**
	0.2nm,0.5s,baz=278,slow=7.2,SNR=2.6							
ILAR	**Eielson Array**	**77.00**	**335**	P		**P**	**13 19 33.3**	**+0.9**
	0.2nm,0.5s,baz=90,slow=5.4,SNR=4.0							
MKAR	**Makanchi Array**	**122.20**	**20**	PKP		**PKPdf**	**13 26 34.1**	**+0.6**
	0.2nm,0.4s,baz=296,slow=2.9,SNR=6.6							
SONM	**Songino Array**	**125.52**	**1**	PKP		**PKPdf**	**13 26 40.8**	**+0.8**
	0.2nm,0.5s,baz=289,slow=1.3,SNR=1.9							
ASAR	**Alice Springs**	**149.31**	**234**	PKP		**PKPdf**	**13 27 24.2**	**+0.5**
	0.9nm,0.5s,baz=115,slow=3.6,SNR=7.0							
ASAR				PKPbc		**PKPbc**	**13 27 27.7**	**-0.5**
	1.0nm,0.5s,baz=115,slow=3.6,SNR=39							
WRA	**Warramunga Arr**	**150.54**	**241**	PKPbc		**PKPbc**	**13 27 31.0**	**-0.3**
	1.2nm,0.4s,baz=108,slow=2.5,SNR=4.8							
WRA				pPKPbc		**pPKPbc**	**13 28 12.1**	**-2.6**
	0.4nm,0.6s,baz=106,slow=2.6,SNR=2.0							
CMAR	**Chiang Mai Arr**	**153.57**	**18**	PKPbc		**PKPbc**	**13 27 38.7**	**+0.6**
	0.4nm,0.5s,baz=347,slow=3.7,SNR=3.8							

IDC 21 13:17:55.9±21.0, 23°.13S×176°.73E, h584km±267km, mb2.8/5, mb1 3.0/5, mb1mx2.8/18, mbtmp2.8/5, Error ellipse: s-maj=107.7km s-min=23.3km az=69.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**28.47**	**270**	P		P	13 23 05.9	+0.4
	1.9nm,0.5s,baz=105,slow=12,SNR=5.1							
ASAR	**Alice Springs**	**39.20**	**260**	P		P	13 24 34.9	-0.4
	0.4nm,0.5s,baz=95,slow=7.2,SNR=16							
WRA	**Warramunga Arr**	**39.46**	**266**	P		P	13 24 37.1	-0.2
	0.2nm,0.3s,baz=91,slow=8.4,SNR=19							
VNDA	**Vanda**	**54.92**	**184**	P		P	13 26 31.8	-0.2
	0.5nm,0.4s,baz=13,slow=6.4,SNR=3.8							
PETK	**Petropavlovsk-**	**77.70**	**348**	P		P	13 28 53.1	+0.2
	0.9nm,0.4s,baz=168,slow=8.7,SNR=12							

*CASC **21** 13:23:40.9±3.2, 12°.13N×86°.21W, h0km±9km, MD4.1*
*IDC **21** 13:23:45.2±2.7, 11°.94N×86°.24W, h51km±30km, mb3.3/7, mb1 3.6/8, mb1mx3.5/24, mbtmp3.3/8, ML3.2/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/20, Error ellipse: s-maj=76.3km s-min=17.3km az=54.0*

ISC 21 13:23:41.0±1.4, 12°.14N±0.09'×86°.2W±0.1', h13km±10km, n22, σ1§70/25, mb3.6/7, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUEN		**0.20**	**3**	*eP*		**Pg**	**13 23 45.9**	**+0.5**
GBS2	**Las Lilas**	**1.48**	**151**	*iP*		**Pn**	**13 24 07.5**	**+0.2**
GBS2				*iS*		**Sn**	**13 24 31.8**	**+5.3**
MESS	**Mesas**	**1.69**	**145**	*iP*		**Pb**	**13 24 12.1**	**+0.1**
CNCH	**Conchagua**	**1.97**	**305**	*eP*		**Pb**	**13 24 15.7**	**-1.0**
CNCH				*eS*		**Sb**	**13 24 42.1**	**+0.8**
VCR	**Vista de Mar**	**2.07**	**165**	*eP*		**Pn**	**13 24 15.3**	**-0.3**
VCR				*eS*		**Sn**	**13 24 43.6**	**+2.4**
JTS	**JuntasAbangare**	**2.20**	**147**	P		**Pn**	**13 24 17.7**	**+0.5**
	7.8nm,0.3s,baz=306,slow=18,SNR=16							
JTS				S		**Sn**	**13 24 42.7**	**-1.6**
	21nm,0.3s,baz=305,slow=18,SNR=5.4							
BLLM	**Bellamira**	**2.39**	**303**	*eS*		**Sb**	**13 24 52.8**	**-0.5**
JCR	**Jicaral**	**2.50**	**155**	*eP*		Pn	13 24 18.8	-2.7
CAHU	**Cacacuatique**	**2.56**	**310**	*eP*		**Pn**	**13 24 22.2**	**-0.2**
CGA2	**Cerro Gallo 2**	**2.70**	**141**	*eP*		**Pb**	**13 24 27.5**	**-1.7**
SNVI	**San Vicente**	**2.98**	**300**	*eP*		**Pn**	**13 24 29.5**	**+1.4**
SNVI				*eS*		**Sb**	**13 25 08.9**	**-1.4**
BUS	**Buena Vista**	**3.50**	**137**	*eP*		Pn	13 24 38.8	+3.3
TEIG	**Tepich**	**8.29**	**346**	LR		LR	13 29 19.1	
	comp=Z,52nm,21.4s,baz=19,slow=39							
ATAH	**Atahualpa**	**20.65**	**158**	LR		LR	13 35 06.0	
	comp=Z,44nm,19.0s,baz=32,slow=33							
TXAR	**Lajitas Array**	**23.61**	**319**	P		**P**	**13 28 52.4**	**+0.5**
	0.3nm,0.4s,baz=144,slow=9.2,SNR=10.0							
PDAR	**Pinedale Array**	**36.64**	**331**	P		**P**	**13 30 48.2**	**+0.7**
	0.3nm,0.6s,baz=136,slow=11,SNR=4.0							
SIV	**San Ignacio**	**37.39**	**138**	P		**P**	**13 30 52.2**	**-1.7**
	1.7nm,0.6s,baz=306,slow=8.5,SNR=7.1							
NVAR	**Mina Array Bea**	**38.76**	**318**	P		**P**	**13 31 06.0**	**+0.6**
	0.1nm,0.3s,baz=118,slow=7.2,SNR=2.3							
NVAR				PcP		**PcP**	**13 33 16.8**	**-0.2**
	0.7nm,0.7s,baz=111,slow=4.0,SNR=6.9							
ULM	**Lac du Bonnet**	**38.83**	**350**	P		**P**	**13 31 07.0**	**+1.4**
	2.3nm,0.7s,baz=153,slow=6.8,SNR=4.3							
YKA	**Yellowknife Ar**	**54.24**	**344**	P		**P**	**13 33 06.7**	**+0.4**
	0.5nm,0.8s,baz=140,slow=7.4,SNR=9.5							
YKA				PcP		**PcP**	**13 34 09.5**	**-1.0**
	0.2nm,0.6s,baz=145,slow=4.2,SNR=5.6							
ILAR	**Eielson Array**	**66.81**	**336**	P		**P**	**13 34 32.0**	**0.0**
	0.3nm,0.6s,baz=143,slow=4.8,SNR=9.1							
WRA	**Warramunga Arr**	**140.37**	**253**	PKP		**PKPdf**	**13 43 07.8**	**-2.9**
	0.2nm,0.6s,baz=95,slow=2.7,SNR=3.3							

*ISCJB **21** 13:26:27.8±0.7, 20°.8S±0.2'×178°.4W±0.1', h495km, mb3.7/7, Error ellipse: s-maj=20.4km s-min=16.2km az=168.5*
*IDC **21** 13:26:31.4±2.2, 21°.03S×178°.24W, h542km±25km, mb3.3/7, mb1 3.4/10, mb1mx3.2/22, mbtmp4.3/10, Error ellipse: s-maj=26.5km s-min=16.8km az=165.0*

ISC 21 13:26:28.0±0.8, 20°.9S±0.2'×178°.2W±0.1', h495km, n13, σ2§26/14, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.37**	**262**	P		**P**	**13 29 34.4**	**+2.6**
	0.3nm,0.3s,baz=116,slow=14,SNR=4.2							
RAR	**Rarotonga**	**17.19**	**95**	P		**P**	**13 30 02.3**	**+1.1**
	0.8nm,0.3s,baz=106,slow=0.1,SNR=2.2							
URZ	**Urewera**	**17.82**	**192**	P		**P**	**13 30 06.8**	**-0.1**
	0.4nm,0.3s,baz=23,slow=7.7,SNR=5.1							
CTA	**Charters Tower**	**33.29**	**265**	P		**P**	**13 32 24.1**	**+0.1**
	1.4nm,0.5s,baz=96,slow=9.2,SNR=3.7							
ASAR	**Alice Springs**	**44.27**	**257**	P		**P**	**13 33 52.4**	**-0.9**
	4.6nm,0.3s,baz=91,slow=8.3,SNR=46							
ASAR				PcP		**pP**	**13 35 25.7**	**+0.5**
	0.4nm,0.6s,baz=111,slow=4.7,SNR=4.6							
ASAR				ScP		**ScP**	**13 38 25.3**	**-6.5**
	0.3nm,0.7s,baz=93,slow=5.0,SNR=4.8							
WRA	**Warramunga Arr**	**44.38**	**262**	P		**P**	**13 33 52.8**	**-1.3**
	0.4nm,0.3s,baz=97,slow=7.6,SNR=39							
MJAR	**Matsushiro Arr**	**70.39**	**324**	P		**P**	**13 36 50.7**	**-1.0**
	0.9nm,0.5s,baz=166,slow=7.7,SNR=4.0							
PETK	**Petropavlovsk-**	**76.56**	**345**	P		**P**	**13 37 27.4**	**+0.8**
	6.7nm,1.0s,baz=146,slow=10,SNR=4.2							
ILAR	**Eielson Array**	**88.69**	**13**	P		**P**	**13 38 27.6**	**0.0**
	0.4nm,0.7s,baz=226,slow=5.6,SNR=5.3							
CMAR	**Chiang Mai Arr**	**90.07**	**290**	P		**P**	**13 38 35.6**	**+0.5**
	0.4nm,0.3s,baz=103,slow=3.9,SNR=3.4							
AKASG	**Malin Array Be**	**143.23**	**331**	PKP		PKPab	13 45 01.4	-1.6
	0.7nm,0.4s,baz=43,slow=4.2,SNR=14							
BRTR	**Keskin Array B**	**146.94**	**312**	PKPbc		**PKPdf**	**13 45 13.3**	**+1.1**
	0.5nm,0.6s,baz=75,slow=3.6,SNR=3.0							
GERES	**GERESS Array B**	**150.49**	**344**	PKPbc		**PKPbc**	**13 45 22.4**	**-0.9**
	0.4nm,0.7s,baz=303,slow=5.5,SNR=2.6							

*ISK **21** 13:31:22.5, 40°.71N×27°.46E, h6km, MD2.6*
*DDA **21** 13:31:22.8, 40°.73N×27°.45E, h7km, MD2.3*
*CSEM **21** 13:31:23.1±0.1, 40°.72N×27°.43E, h5km, MD2.6, Error ellipse: s-maj=2.3km s-min=1.8km az=175.0*

ISC 21 13:31:23.1±1.1, 40°.72N±0.04'×27°.44E±0.03', h10km±15km, n16, σ0§29/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.20**	**261**	*i* P		**Pg**	**13 31 27.2**	**-0.2**
SART				*i* S		**Sg**	**13 31 30.5**	**+0.1**
SART	**Tekirdag**	**0.20**	**261**	*i* P		**Pg**	**13 31 27.2**	**-0.2**
SART				*i* S		**Sg**	**13 31 30.5**	**+0.1**
KRBG	**Karabiga-Canak**	**0.34**	**199**	*e*PG		**Pg**	**13 31 29.7**	**-0.3**
KRBG				*e*SG		**Sg**	**13 31 35.0**	**+0.5**
KRBG	**Karabiga-Canak**	**0.34**	**199**	*e*Pg		**Pg**	**13 31 29.7**	**-0.3**
KRBG				*e*Sg		**Sg**	**13 31 35.0**	**+0.5**
EDC	**Edincik**	**0.49**	**139**	*e*PG		**Pg**	**13 31 32.6**	**-0.1**
EDC				*e*SG		**Sg**	**13 31 39.1**	**0.0**
EDC	**Edincik**	**0.49**	**139**	*e*Pg		**Pg**	**13 31 32.6**	**-0.1**
EDC				*e*Sg		**Sg**	**13 31 39.1**	**0.0**
GONE	**Gonen-Balikesi**	**0.70**	**165**	*e*PG		**Pg**	**13 31 36.6**	**0.0**
GONE				*e*SG		**Sg**	**13 31 45.3**	**-0.4**
GONE	**Gonen-Balikesi**	**0.70**	**165**	*e*Pg		**Pg**	**13 31 36.6**	**0.0**
GONE				*e*Sg		**Sg**	**13 31 45.3**	**-0.4**
ERIK	**Erikli-Kesan**	**0.71**	**266**	*e*PG		**Pg**	**13 31 36.6**	**-0.2**
ERIK	**Erikli-Kesan**	**0.71**	**266**	*e*Pg		**Pg**	**13 31 36.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.81**	**247**	*e*PG		**Pg**	**13 31 38.2**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.81**	**247**	*e*Pg		**Pg**	**13 31 38.2**	**-0.4**
KCTX	**Karacabey (Bur**	**0.83**	**123**	*e*PG		**Pg**	**13 31 38.8**	**-0.3**
KCTX	**Karacabey (Bur**	**0.83**	**123**	*e*Pg		**Pg**	**13 31 38.8**	**-0.3**
CTKS	**Kestanelik-??a**	**0.96**	**57**	*e*PG		**Pb**	**13 31 42.0**	**+0.3**
CTKS				*e*SG		**Sg**	**13 31 53.9**	**0.0**
CTKS	**Kestanelik-??a**	**0.96**	**57**	*e*Pg		**Pb**	**13 31 42.0**	**+0.3**
CTKS				*e*Sg		**Sg**	**13 31 53.9**	**0.0**

MEX 21 13:56:31.2±0.3, 18°.09N×103°.35W, h8km±2km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.20**	**0**	*i* P		Pg	13 56 34.8	-0.4
MMIG				*i* S		Sg	13 56 37.8	-0.2
R15V		**1.23**	**331**	*i* P		Pn	13 56 50.9	-4.0
R15V				*i* S		Sb	13 57 06.6	-4.4
EZ5V		**1.40**	**350**	*i* P		Pn	13 56 53.8	-3.7
EZ5V				*i* S		Sb	13 57 10.9	-5.5
ZIIG	**Zihuatanejo**	**1.86**	**105**	*i* P		Pn	13 56 59.7	-3.6
ZIIG				*i* S		Sn	13 57 22.7	-4.2
ARIG	**Puente Sto Nin**	**2.86**	**86**	*i* P		Pn	13 57 14.0	-3.2
ARIG				*i* S		Sn	13 57 47.6	-4.2

IDC 21 14:08:17.6±11.0, 30°.36S×177°.79W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=345.6km s-min=51.7km az=143.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.29**	**267**	P		P	14 16 21.0	-0.3
	0.4nm,0.8s,baz=105,slow=7.1,SNR=4.4							
WRA	**Warramunga Arr**	**44.27**	**272**	P		P	14 16 29.3	0.0
	0.1nm,0.3s,baz=113,slow=8.1,SNR=3.2							
PETK	**Petropavlovsk-**	**85.81**	**345**	P		P	14 20 58.5	0.0
	3.6nm,1.0s,baz=118,slow=5.5,SNR=5.7							

*ISCJB **21** 14:33:00.7±0.5, 20°.27S±0.06'×68°.06W±0.07', h147km±7km, mb3.8/5, Error ellipse: s-maj=11.2km s-min=7.8km az=35.7*
*GUC **21** 14:33:03.4±0.5, 20°.27S×68°.53W, h169km±6km, ML4.1*
*IDC **21** 14:33:05.3±1.6, 20°.06S×67°.86W, h166km±13km, mb3.9/5, mb1 3.7/9, mb1mx3.6/20, mbtmp4.2/9, Error ellipse: s-maj=17.1km s-min=14.0km az=69.0*

ISC 21 14:33:01.6±0.9, 20°.27S±0.06'×68°.06W±0.07', h139km±9km, n24, σ1§18/28, mb4.0/5, 8D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**1.54**	**240**	*i*P		**Pn**	**14 33 32.1**	**+1.2**
PB01				*i* S		**Sn**	**14 33 54.3**	**+0.9**
PB01				AML	AML		14 33 55.5	
	comp=N,2µm,0.6s							
PB11	**Plate Boundary**	**1.58**	**288**	*i*P		**Pn**	**14 33 32.1**	**+0.7**
PB11				*i* S		**Sn**	**14 33 54.2**	**0.0**
PB11				AML	AML		14 33 54.9	
	comp=N,7µm,0.4s							
HMBC	**Humberstone**	**1.72**	**269**	*i*P		**Pn**	**14 33 33.0**	**+0.1**
HMBC				*i* S		**Sn**	**14 33 55.6**	**-1.2**
HMBC				AML	AML		14 34 00.4	
	comp=E,936nm,0.2s							
MNMC	**Minimini**	**1.84**	**308**	*i*P		**Pn**	**14 33 35.7**	**+1.3**
MNMC				*i* S		**Sn**	**14 34 00.2**	**+0.7**
MNMC				AML	AML		14 34 04.1	
	comp=N,2µm,0.4s							
PB09	**Plate Boundary**	**1.88**	**216**	*i*P		**Pn**	**14 33 37.2**	**+2.3**
PB09				AML	AML		14 34 05.5	
	comp=N,3µm,0.3s							
PATCX	**Punta Patache**	**2.04**	**254**	*i*P		**Pn**	**14 33 36.8**	**+0.2**
PATCX				*i* S		**Sn**	**14 34 01.9**	**-1.6**
PATCX				AML	AML		14 34 10.7	
	comp=E,806nm,0.3s							
PSGC	**Pisagua**	**2.05**	**289**	*i*P		**Pn**	**14 33 36.8**	**0.0**
PSGC				*i* S		**Sn**	**14 34 01.9**	**-1.9**
PSGC				AML	AML		14 34 03.0	
	comp=N,1µm,0.3s							
PB07	**Plate Boundary**	**2.24**	**229**	*i*P		**Pn**	**14 33 40.0**	**+0.8**
PB07				*i* S		**Sn**	**14 34 07.8**	**-0.2**
PB07				AML	AML		14 34 12.3	
	comp=E,1µm,0.4s							
PB04	**Plate Boundary**	**2.39**	**214**	AML	AML		14 34 31.6	
	comp=E,752nm,0.2s							
PB06	**Plate Boundary**	**2.81**	**210**	AML	AML		14 34 21.5	
	comp=E,1µm,0.5s							
LPAZ	**La Paz**	**3.96**	**359**	P		**Pn**	**14 34 03.7**	**+2.1**
	comp=E,3.8nm,0.3s,baz=161,slow=18,SNR=33							
LPAZ				S		**Sn**	**14 34 49.8**	**+1.7**
	comp=E,0.6nm,0.3s,baz=56,slow=23,SNR=4.6							
SIV	**San Ignacio**	**7.89**	**58**	P		**Pn**	**14 34 52.6**	**-1.0**
	comp=E,5.0nm,0.3s,baz=248,slow=12,SNR=51							
SIV				S		**Sn**	**14 36 19.4**	**-2.1**
	baz=306,slow=21,SNR=3.9							
CFAA	**Coronel Fontan**	**11.29**	**181**	P		Pn	14 35 45.0	+6.1
	comp=E,0.1nm,0.3s,baz=357,slow=11,SNR=5.1							
BDFB	**Brasilia**	**19.61**	**80**	P		**P**	**14 37 19.6**	**+0.2**
	comp=E,0.7nm,0.3s,baz=254,slow=10,SNR=6.5							
PLCA	**Paso Flores**	**20.51**	**185**	P		Pn	14 37 32.8	+0.3
	comp=E,7.1nm,0.8s,baz=12,slow=11,SNR=11							
TXAR	**Lajitas Array**	**60.09**	**324**	P		**P**	**14 42 54.5**	**+0.1**
	comp=E,0.1nm,0.5s,baz=148,slow=7.0,SNR=2.6							
DBIC	**Dimbokro**	**67.52**	**74**	P		**P**	**14 43 43.3**	**-0.6**
	comp=E,1.9nm,0.6s,baz=233,slow=8.7,SNR=2.8							
ULM	**Lac du Bonnet**	**74.39**	**342**	P		**P**	**14 44 23.4**	**-0.5**
	comp=E,1.4nm,0.5s,baz=151,slow=8.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**76.19**	**70**	P		**P**	**14 44 34.4**	**-0.6**
	comp=E,5.1nm,0.4s,baz=254,slow=5.5,SNR=78							
YKA	**Yellowknife Ar**	**90.30**	**340**	P		**P**	**14 45 46.4**	**+0.2**
	comp=E,0.8nm,0.8s,baz=132,slow=4.4,SNR=18							
YKA				pP		pP	14 46 27.9	+6.2
	comp=E,0.2nm,0.6s,baz=130,slow=4.9,SNR=2.3							
ASAR	**Alice Springs**	**131.37**	**207**	PKP		**PKPdf**	**14 51 58.8**	**+0.6**
	comp=E,0.3nm,0.9s,baz=146,slow=1.8,SNR=3.0							
WRA	**Warramunga Arr**	**134.41**	**210**	PKP		**PKPdf**	**14 52 04.9**	**+0.9**
	comp=E,0.2nm,0.7s,baz=154,slow=2.0,SNR=4.0							
MKAR	**Makanchi Array**	**144.17**	**35**	PKP		PKPbc	14 52 20.1	+0.7
	comp=E,0.6nm,0.7s,baz=253,slow=1.3,SNR=5.1							
SONM	**Songino Array**	**152.13**	**8**	PKPbc		**PKPbc**	**14 52 41.5**	**+0.8**
	comp=E,0.3nm,0.3s,baz=314,slow=1.2,SNR=4.6							

*ISCJB **21** 14:46:39.0±1.0, 5°.3N±0.1'×94°.1E±0.2', h43km, mb3.8/8, Error ellipse: s-maj=29.2km s-min=12.7km az=143.9*
*IDC **21** 14:46:44.4±5.5, 5°.44N×94°.39E, h72km±46km, mb3.5/8, mb1 3.7/10, mb1mx3.4/28, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=68.9km s-min=16.7km az=59.0*

ISC 21 14:46:40.9±1.2, 5°.3N±0.2'×94°.1E±0.2', h43km, n14, σ0§98/11, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.44**	**117**	P		**Pn**	**14 48 00.5**	**+0.9**
	1.8nm,0.3s,baz=322,slow=6.6,SNR=4.7							
CMAR	**Chiang Mai Arr**	**13.93**	**20**	P		**Pn**	**14 49 56.5**	**+0.8**
	0.2nm,0.3s,baz=209,slow=14,SNR=11							
H08S3	**Diego Garcia H**	**25.07**	**239**	T		T	15 18 10.9	
	baz=59,slow=76,SNR=34							
H08S2	**Diego Garcia H**	**25.07**	**239**	T		T	15 18 06.5	
	baz=59,slow=76,SNR=36							
H08S1	**Diego Garcia H**	**25.08**	**239**	T		T	15 18 06.8	
	baz=59,slow=76,SNR=29							
MKAR	**Makanchi Array**	**42.58**	**348**	P		**P**	**14 54 32.4**	**-0.2**
	1.6nm,0.6s,baz=170,slow=7.5,SNR=22							
SONM	**Songino Array**	**43.69**	**12**	P		**P**	**14 54 40.0**	**-1.6**
	0.2nm,0.4s,baz=190,slow=11,SNR=3.4							
WRA	**Warramunga Arr**	**46.87**	**124**	P		**P**	**14 55 05.9**	**-1.3**
	0.4nm,0.6s,baz=304,slow=9.4,SNR=14							
ASAR	**Alice Springs**	**48.36**	**128**	P		**P**	**14 55 18.2**	**-0.6**
	0.3nm,0.5s,baz=299,slow=7.7,SNR=16							
ZALV	**Zalesovo Beam**	**49.09**	**353**	P		**P**	**14 55 23.4**	**-0.4**
	0.9nm,0.3s,baz=182,slow=7.4,SNR=5.1							
FINES	**FINESS Array B**	**74.95**	**329**	P		**P**	**14 58 17.4**	**+0.2**
	2.8nm,0.9s,baz=99,slow=8.6,SNR=2.8							
ARCES	**ARCESS Array B**	**77.66**	**340**	P		**P**	**14 58 32.9**	**+0.3**
	2.4nm,0.9s,baz=97,slow=7.4,SNR=4.1							
GERES	**GERESS Array B**	**79.69**	**319**	P		**P**	**14 58 45.2**	**+0.9**
	0.3nm,0.6s,baz=123,slow=4.9,SNR=4.0							
TXAR	**Lajitas Array**	**141.59**	**25**	PKP		**PKPdf**	**15 06 09.0**	**+0.6**
	0.1nm,0.5s,baz=90,slow=0.9,SNR=2.9							

*SKHL **21** 14:47:40.5±3.0, 49°.04N×155°.54E, h50km±2km, mb4.0/1*
*MOS **21** 14:47:45.2±2.5, 49°.21N×156°.75E, h83km, mb4.3/1, Error ellipse: s-maj=91.3km s-min=15.0km az=82.3*
*KRSC **21** 14:47:45.2±8.1, 49°.21N×156°.75E, h83km±82km, ML4.2*

ISC 21 14:47:48.4±3.1, 49°.3N±0.3'×156°.5E±0.3', h92km±59km, n26, σ0§96/38, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.42**	**350**	*e*PN		Pn	14 48 06.5	-6.7
SKR				*e*S		Sn	14 48 26.0	-5.9
SKR				pmax	pmax			
	comp=N,60nm,0.5s							
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax	smax			
	comp=N,470nm,0.2s							
SKR				smax	smax			
	comp=E,310nm,0.2s							
SKR	**Severo-Kuril's**	**1.42**	**350**	*e*P		**Pn**	**14 48 12.6**	**-0.6**
SKR				*e*S	

NOUC	**Port Laguerre**	**3.02**	**229**	*e*S	**Sn**	**14 53 11.2 +1.0**
NOUC				AMP		14 53 16.7
	comp=Z,14nm,3.2s					
NOUC	**Port Laguerre**	**3.02**	**229**	*e*S	**Sn**	**14 53 11.2 +1.0**
NOUC				AMP		14 53 16.7
	comp=Z,14nm,3.2s					
WRA	**Warramunga Arr**	**32.32**	**264**	P	**P**	**14 58 15.3 -0.5**
	comp=Z,0.5nm,0.9s,baz=96,slow=8.0,SNR=2.6					
ASAR	**Alice Springs**	**32.50**	**257**	P	**P**	**14 58 17.0 -0.3**
	comp=Z,0.7nm,0.8s,baz=88,slow=8.7,SNR=9.5					
FITZ	**Fitzroy Crossi**	**40.73**	**265**	LR	LR	15 14 15.6
	comp=Z,26nm,18.3s,baz=334,slow=33					
GERES	**GERESS Array B**	**145.07**	**331**	PKP	**PKPdf**	**15 11 25.3 +1.8**
	comp=Z,0.7nm,0.7s,baz=35,slow=4.9,SNR=4.6					

IDC 21 14:58:44.4±14.0, 2°.38S×127°.49E, h457km±126km, mb2.7/3, mb1 2.9/5, mb1mx2.6/24, mbtmp2.7/5, Error ellipse: s-maj=187.6km s-min=68.5km az=150.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.73**	**187**	P	P	15 02 04.4	+1.1
	0.1nm,0.3s,baz=10,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**18.70**	**160**	P	P	15 02 33.8	+0.2
	0.2nm,0.3s,baz=336,slow=10,SNR=13						
ASAR	**Alice Springs**	**22.06**	**164**	P	P	15 03 04.5	+0.2
	0.2nm,0.7s,baz=345,slow=7.1,SNR=10						
CTA	**Charters Tower**	**25.41**	**135**	P	P	15 03 34.2	0.0
	1.8nm,0.8s,baz=293,slow=15,SNR=2.0						
STKA	**Stephens Creek**	**32.21**	**157**	P	P	15 04 32.1	-1.5
	0.3nm,0.4s,baz=329,slow=7.3,SNR=3.5						

MEX 21 15:13:05.5±0.6, 17°.35N×101°.23W, h13km±38km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.34**	**319**	*i* P	Pg	15 13 11.7	-0.7
ZIIG				*i* S	Sg	15 13 17.4	+0.3
ARIG	**Puente Sto Nin**	**1.25**	**42**	*i* P	Pn	15 13 24.8	-4.0
ARIG				*i* S	Sb	15 13 40.2	-5.0
PLIG	**Platanillo**	**1.95**	**58**	*i* P	Pn	15 13 35.7	-2.8
PLIG				*i* S	Sn	15 13 57.9	-5.0
MMIG	**Aquila**	**2.22**	**295**	*i* P	Pn	15 13 38.1	-3.9
MMIG				*i* S	Sn	15 14 04.6	-4.7
YAIG	**Yautepec**	**2.55**	**54**	*i* P	Pn	15 13 44.1	-2.7
YAIG				*i* S	Sn	15 14 14.1	-3.9
TLIG	**Tlapa**	**2.55**	**85**	*i* P	Pn	15 13 44.2	-2.7
TLIG				*i* S	Sn	15 14 13.5	-4.4

*JMA **21** 15:13:48.2, 23°.70N×121°.63E, h42km±2km, M2.6*
*TAP **21** 15:13:49.5, 23°.75N×121°.60E, h37km, ML2.8, C*
ISC 21 15:13:49.5±1.0, 23°.75N±0°.02×121°.64E±0°.03, h32km±8km, n44, σ0§70/75, 1C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.10**	**245**	*e*P	**Pb**	**15 13 55.7**	**+0.6**
	baz=232						
ESF	**Shoufeng Towns**	**0.17**	**314**	*e*P	**Pn**	**15 13 56.0**	**+0.1**
	baz=316						
ESL	**Shilin**	**0.20**	**288**	*e*P	**Pn**	**15 13 56.0**	**-0.4**
	baz=293						
ESL				S	**Sn**	**15 14 00.6**	**0.0**
	baz=293						
HWA	**Hwalien**	**0.23**	**352**	*e*P	**Pn**	**15 13 56.6**	**-0.1**
	baz=8.0						
TWD	**Chiawan**	**0.33**	**353**	P	**Pb**	**15 13 58.0**	**+0.5**
	baz=350						
TWD				*e*S	**Sn**	**15 14 04.2**	**+0.4**
	baz=350						
EHY	**Hungye**	**0.38**	**230**	*e*P	**Pb**	**15 13 58.2**	**0.0**
	baz=234						
TWF1	**Yuli**	**0.51**	**218⇑**	*i* P	**Pb**	**15 13 59.4**	**-0.7**
	baz=226						
TWF1				*e*S	**Sb**	**15 14 06.1**	**-1.4**
	baz=226						
WHF	**Hehuan Shan**	**0.52**	**319⇓**	*i* P	**Pb**	**15 14 00.3**	**-0.4**
	baz=316						
WHF				S	**Sb**	**15 14 07.8**	**-0.6**
	baz=316						
TWT	**Tachien**	**0.66**	**320**	P	**Pn**	**15 14 02.7**	**-0.1**
	baz=315						
TWT				S	**Sn**	**15 14 11.4**	**-0.8**
	baz=315						
ENA	**Nanau**	**0.68**	**8**	*e*P	**Pn**	**15 14 02.7**	**-0.3**
	baz=356						
ENA				*e*S	**Sn**	**15 14 12.5**	**0.0**
	baz=356						
YUS	**Yu-Shan**	**0.68**	**248**	*i* P	**Pn**	**15 14 03.1**	**-0.3**
	baz=247						
YUS				*e*S	**Sn**	**15 14 11.8**	**-1.4**
	baz=247						
SMLT	**Sun Moon Lake**	**0.69**	**281**	*i* P	**Pn**	**15 14 02.8**	**-0.4**
	baz=284						
SMLT				S	**Sn**	**15 14 12.9**	**0.0**
	baz=284						
CHKT	**Chengkung**	**0.70**	**201**	P	**Pn**	**15 14 03.2**	**+0.1**
	baz=189						
CHKT				*e*S	**Sn**	**15 14 13.3**	**+0.4**
	baz=189						
NNS	**Nan Shan**	**0.73**	**340**	*e*P	**Pn**	**15 14 03.6**	**-0.1**
	baz=347						
NNS				S	**Sn**	**15 14 12.9**	**-0.9**
	baz=347						
TYC	**Yuchr**	**0.73**	**282**	*e*P	**Pn**	**15 14 03.3**	**-0.4**
	baz=287						
TYC				*e*S	**Sn**	**15 14 13.6**	**-0.2**
	baz=287						
ELDTW	**Lidau**	**0.80**	**226**	*e*P	**Pn**	**15 14 03.7**	**-1.1**
	baz=219						
ALS	**Alishan**	**0.80**	**253**	*i* P	**Pn**	**15 14 04.9**	**0.0**
	baz=252						
ALS				*i* S	**Sn**	**15 14 15.2**	**-0.7**
	baz=252						
TWC	**Suao**	**0.88**	**13**	*e*P	**Pn**	**15 14 06.0**	**+0.4**
TWC				*e*S	**Sn**	**15 14 18.2**	**+0.9**
WNT	**Mingjian**	**0.89**	**278**	*e*P	**Pn**	**15 14 06.0**	**+0.2**
	baz=279						
ENTT	**Nioudou**	**0.89**	**356**	*e*P	**Pn**	**15 14 05.5**	**-0.3**
	baz=355						
ENTT				*e*S	**Sn**	**15 14 17.6**	**-0.1**
	baz=355						
CHN5	**Tsauling**	**0.90**	**260**	P	**Pn**	**15 14 06.5**	**+0.4**
	baz=260						
CHN5				S	**Sn**	**15 14 18.6**	**+0.7**
	baz=260						
NSK	**Sanguang**	**0.96**	**344**	P	**Pn**	**15 14 07.1**	**+0.2**
	baz=353						
NSK				*e*S	**Sn**	**15 14 18.9**	**-0.5**
	baz=353						
TWE	**Neicheng**	**0.97**	**1**	*e*P	**Pn**	**15 14 07.0**	**+0.1**
	baz=355						
TWE				*e*S	**Sn**	**15 14 19.7**	**+0.2**
	baz=355						
TCU	**Taichung**	**0.97**	**294**	*e*P	**Pn**	**15 14 08.1**	**+1.2**
	baz=295						
TWQ1	**Liyutan**	**0.99**	**307**	*e*P	**Pn**	**15 14 08.1**	**+0.8**
	baz=307						
TWQ1				*e*S	**Sn**	**15 14 20.7**	**+0.5**
	baz=307						
STYT	**Tauyuan**	**1.00**	**234**	*e*P	**Pn**	**15 14 07.8**	**+0.4**
	baz=230						
STYT				*e*S	**Sn**	**15 14 20.4**	**0.0**
	baz=230						
CHN4	**Tsaushan**	**1.04**	**248**	*e*P	**Pn**	**15 14 08.4**	**+0.5**
	baz=248						
CHN4				*e*S	**Sn**	**15 14 22.3**	**+0.9**
	baz=248						
NSY	**Sanyi**	**1.04**	**310**	*e*P	**Pn**	**15 14 09.2**	**+1.3**
	baz=311						
NSTT	**Nanjuang**	**1.05**	**326**	*e*P	**Pn**	**15 14 08.7**	**+0.6**
	baz=312						
NSTT				*e*S	**Sn**	**15 14 22.2**	**+0.5**
	baz=312						
TWG	**Pinlang**	**1.06**	**210**	*e*P	**Pn**	**15 14 07.7**	**-0.5**
	baz=198						
WTP	**Ta-pu**	**1.07**	**242**	*e*P	**Pn**	**15 14 08.8**	**+0.5**
	baz=242						
WTP				*e*S	**Sn**	**15 14 23.2**	**+1.0**
	baz=242						
TWK	**Hsinying**	**1.16**	**246**	*e*P	**Pn**	**15 14 10.4**	**+0.8**
	baz=246						
TWK				*e*S	**Sn**	**15 14 25.4**	**+0.9**
	baz=246						
CHN1	**Nanshi**	**1.17**	**241**	*e*P	**Pn**	**15 14 10.7**	**+1.0**
	baz=242						
CHN1				*e*S	**Sn**	**15 14 25.5**	**+1.0**
	baz=242						
SGST	**Jiashian**	**1.18**	**236**	*e*P	**Pn**	**15 14 10.9**	**+1.0**
	baz=236						
SGST				*e*S	**Sn**	**15 14 26.4**	**+1.6**
	baz=236						
WTCT	**Ta-ch'eng**	**1.25**	**275**	*e*P	**Pn**	**15 14 11.9**	**+1.2**
	baz=276						
ECL	**Taimali**	**1.31**	**209**	*e*P	**Pn**	**15 14 10.6**	**-1.0**
	baz=201						
SSD	**Sandimen**	**1.36**	**223**	*e*P	**Pn**	**15 14 13.6**	**+1.2**
	baz=223						
YOJ	**Yonaguni jima**	**1.44**	**60**	P	**Pn**	**15 14 12.8**	**-0.6**
EAST	**Anshuo**	**1.54**	**208**	*e*P	**Pn**	**15 14 16.1**	**+1.2**
	baz=203						
EAST				*e*S	**Sn**	**15 14 33.7**	**-0.2**
	baz=203						
IRIF	**Iriomote-Funau**	**2.00**	**73**	P	**Pn**	**15 14 21.8**	**+0.7**
IRIF				*e*S	**Sn**	**15 14 45.1**	**+0.1**
HATJ	**Hateruma jima**	**2.00**	**81**	P	**Pn**	**15 14 21.2**	**0.0**
HATJ				*e*S	**Sn**	**15 14 45.5**	**+0.3**
JKRS	**Kuro-shima**	**2.22**	**77**	P	**Pn**	**15 14 25.0**	**+0.9**
JKRS				*e*S	**Sn**	**15 14 51.4**	**+0.9**
JIJ	**Ishigaki jima**	**2.37**	**75**	P	**Pn**	**15 14 26.1**	**-0.1**
JIJ				*e*S	**Sn**	**15 14 53.4**	**-0.7**
JTJ	**Tarama**	**2.93**	**72**	P	**Pn**	**15 14 34.2**	**+0.3**
JTJ				*e*S	**Sn**	**15 15 08.3**	**+0.2**

*IDC **21** 15:20:22.8±2.5, 23°.07S×179°.46E, h578km±37km, mb3.1/4, mb1 3.3/7, mb1mx3.0/22, mbtmp4.3/7, Error ellipse: s-maj=39.8km s-min=27.8km az=154.0*
ISC 21 15:20:21.7±1.2, 23°.3S±0°.2×179°.5E±0°.2, h548km, n18, σ1§44/17, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.15**	**273**	P	**P**	**15 23 04.1**	**+2.2**
	0.2nm,0.3s,baz=267,slow=22,SNR=2.6						
AFI	**Afiamalu**	**12.41**	**43**	P	**P**	**15 23 04.7**	**0.0**
	1.9nm,0.3s,baz=244,slow=11,SNR=3.7						
URZ	**Urewera**	**15.10**	**187**	P	**P**	**15 23 33.0**	**+0.9**
	1.5nm,0.3s,baz=281,slow=5.4,SNR=15						
ARMA	**Armidale**	**25.86**	**248**	P	**P**	**15 25 11.0**	**+0.6**
	baz=20,SNR=6.8						
RMQ	**Roma**	**28.08**	**257**	P	**P**	**15 25 29.9**	**+0.2**
	baz=22,SNR=4.5						
CTA	**Charters Tower**	**31.05**	**269**	P	**P**	**15 25 54.7**	**-0.9**
	5.8nm,0.4s,baz=99,slow=12,SNR=22						
CMSA	**Cobar Meteorol**	**31.07**	**247**	P	**P**	**15 25 55.1**	**-0.4**
	baz=26,SNR=7.7						
QLP	**Quilpie**	**32.13**	**257**	P	**P**	**15 26 03.7**	**-0.9**
	baz=26,SNR=4.4						
TOO	**Toolangi**	**32.45**	**236**	P	**P**	**15 26 07.4**	**+0.2**
	baz=27,SNR=4.0						
STKA	**Stephens Creek**	**34.57**	**247**	P	**P**	**15 26 24.7**	**-0.4**
	0.8nm,0.4s,baz=108,slow=14,SNR=13						
STKA	**Stephens Creek**	**34.57**	**247**	P	**P**	**15 26 24.8**	**-0.3**
	baz=29,SNR=9.3						
BBOO	**Buckleboo**	**39.31**	**246**	P	**P**	**15 27 02.8**	**-1.1**
	baz=34,SNR=5.2						
ASAR	**Alice Springs**	**41.73**	**260**	P	**P**	**15 27 21.8**	**-1.6**
	1.3nm,0.6s,baz=93,slow=7.0,SNR=30						
WRA	**Warramunga Arr**	**42.03**	**266**	P	**P**	**15 27 23.5**	**-2.3**
	1.0nm,0.6s,baz=95,slow=8.3,SNR=53						
WRKA	**Warakurna**	**46.56**	**257**	P	**P**	**15 27 59.2**	**-1.6**
	baz=41,SNR=9.2						
KNRA	**Kununurra**	**48.27**	**269**	P	**P**	**15 28 11.6**	**-1.9**
	baz=43,SNR=3.1						
WSI	**Waingapu**	**58.04**	**273**	P	**P**	**15 29 25.5**	**+2.5**
	baz=52,SNR=3.7						
AKASG	**Malin Array Be**	**144.21**	**327**	PKP	PKPbc	15 38 53.4	-1.4
	0.3nm,0.4s,baz=44,slow=3.8,SNR=5.3						

*ISCJB **21** 15:58:51.7±0.9, 32°.82N±0°.05×140°.78E±0°.07, h67km±7km, mb3.6/12, Error ellipse: s-maj=10.4km s-min=7.5km az=19.0*
*JMA **21** 15:58:53.1±0.1, 32°.89N×140°.77E, h54km, M3.9*
JMA Felt I J1.
*IDC **21** 15:58:54.6±1.9, 32°.83N×140°.70E, h78km±16km, mb3.4/12, mb1 3.7/15, mb1mx3.5/27, mbtmp3.5/15, Error ellipse: s-maj=18.3km s-min=12.9km az=89.0*
ISC 21 15:58:53.5±0.8, 32°.83N±0°.06×140°.75E±0°.07, h68km±6km, n34, σ1§26/42, mb3.7/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.83**	**290**	P	**Pn**	**15 59 09.0**	**-0.8**
JHJ2				S	**Sn**	**15 59 19.9**	**-2.1**
JHCJ	**Hachijojimakas**	**0.84**	**287**	P	**Pn**	**15 59 08.9**	**-1.0**
JHCJ				S	**Sn**	**15 59 19.9**	**-2.2**
JMY	**Miyakejima3**	**1.61**	**320**	P	**Pn**	**15 59 19.1**	**-0.8**
BSO1	**Boso 1**	**1.82**	**6**	P	**Pn**	**15 59 21.4**	**-0.8**
BSO1				S	**Sn**	**15 59 42.9**	**-1.2**
JKO	**Kozu shima**	**1.91**	**315**	P	**Pn**	**15 59 23.6**	**-0.3**
JKO				*e*S	**Sn**	**15 59 46.0**	**-1.0**
BSO3	**Boso 3**	**1.97**	**354**	P	**Pn**	**15 59 23.8**	**-0.7**
BSO3				*e*S	**Sn**	**15 59 47.4**	**-0.7**
JIM2	**Oshima 2**	**2.18**	**330**	P	**Pn**	**15 59 27.0**	**-0.5**
JIM2				S	**Sn**	**15 59 52.1**	**-1.4**
JIZS	**Izushimoda**	**2.44**	**321**	P	**Pn**	**15 59 31.2**	**+0.1**
TK02	**Tokai 2**	**2.74**	**295**	P	**Pn**	**15 59 35.6**	**+0.7**
TK02				*e*S	**Sn**	**16 00 07.8**	**+1.0**
JOD2	**Odawara 2**	**2.79**	**331**	P	**Pn**	**15 59 35.4**	**-0.4**
JOD2				S	**Sn**	**16 00 06.0**	**-2.4**
JYN	**Shimob**	**3.23**	**326**	P	**Pn**	**15 59 43.3**	**+1.5**
JYN				*e*S	**Sn**	**16 00 21.6**	**+2.5**
MJAR	**Matsushiro Arr**	**4.25**	**331**	P	**Pn**	**15 59 56.8**	**+1.1**
	4.6nm,0.3s,baz=158,slow=12,SNR=31						
MJAR				S	**Sn**	**16 00 44.7**	**+0.6**
	0.8nm,0.3s,baz=23,slow=20,SNR=3.1						
MAT	**Matsushiro**	**4.25**	**331**	P	Pn	15 59 58.4	+2.6
MAT				*e*S	**Sn**	**16 00 45.0**	**+0.8**
JNU	**Nakatsue**	**8.30**	**275**	P	**Pn**	**16 00 52.7**	**+1.5**
	0.8nm,0.3s,baz=100,slow=7.8,SNR=8.4						
ASAJ	**Asahikawa**	**11.36**	**7**	P	**Pn**	**16 01 33.4**	**+0.6**
	0.5nm,0.3s,baz=207,slow=9.7,SNR=7.3						
ASAJ				S	Sn	16 03 28.1	-10
	0.4nm,0.3s,baz=114,slow=23,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**26.74**	**113**	T	T	16 33 26.8	
	baz=307,slow=76,SNR=74						
H11N1	**WAKE ISLAND Hy**	**26.75**	**113**	T	T	16 33 21.6	
	baz=307,slow=76,SNR=53						
H11N3	**WAKE ISLAND Hy**	**26.76**	**113**	T	T	16 33 25.0	
	baz=307,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**27.30**	**115**	T	T	16 34 03.6	
	baz=309,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**27.30**	**115**	T	T	16 34 13.5	
	baz=309,slow=74,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**27.31**	**115**	T	T	16 34 12.9	
	baz=309,slow=74,SNR=7.9						
SONM	**Songino Array**	**29.89**	**310**	P	**P**	**16 04 54.6**	**0.0**
	0.3nm,0.8s,baz=108,slow=9.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**40.05**	**260**	P	**P**	**16 06 20.9**	**-1.3**
	0.6nm,0.7s,baz=51,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**46.00**	**306**	P	**P**	**16 07 09.6**	**-0.3**
	0.4nm,0.4s,baz=85,slow=9.2,SNR=15						
MKAR				ScP	**ScP**	**16 12 30.8**	**-1.9**
	0.1nm,0.4s,baz=70,slow=4.8,SNR=4.3						
WRA	**Warramunga Arr**	**52.84**	**188**	P	**P**	**16 08 01.2**	**-0.9**
	0.4nm,0.3s,baz=6.0,slow=7.5,SNR=20						
WRA				ScP	**ScP**	**16 13 00.1**	**-1.9**
	0.3nm,0.9s,baz=19,slow=5.3,SNR=2.9						
ILAR	**Eielson Array**	**53.35**	**31**	P	**P**	**16 08 04.8**	**-0.6**
	0.8nm,0.7s,baz=269,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**56.56**	**188**	P	**P**	**16 08 28.4**	**-0.7**
	0.6nm,0.8s,baz=360,slow=5.5,SNR=15						
ASAR				pP	**pP**	**16 08 46.7**	**-0.1**
	0.2nm,0.5s,baz=1.8,slow=5.9,SNR=1.8						
STKA	**Stephens Creek**	**64.37**	**179**	P	**P**	**16 09 23.4**	**+1.3**
	0.5nm,0.5s,baz=0.0,slow=5.1,SNR=1.5						
YKA	**Yellowknife Ar**	**67.72**	**29**	P	**P**	**16 09 42.9**	**-0.4**
	0.2nm,0.5s,baz=294,slow=6.0,SNR=4.6						
ARCES	**ARCESS Array B**	**67.74**	**340**	P	**P**	**16 09 43.5**	**+0.2**
	3.2nm,1.0s,baz=58,slow=6.8,SNR=2.8						
NVAR	**Mina Array Bea**	**77.97**	**52**	P	**P**	**16 10 45.6**	**+1.0**
	0.1nm,0.4s,baz=282,slow=4.5,SNR=2.9						
BRTR	**Keskin Array B**	**81.23**	**312**	P	**P**	**16 11 03.0**	**+0.7**
	0.4nm,0.6s,baz=22,slow=8.1,SNR=2.6						
TXAR	**Lajitas Array**	**93.12**	**52**	P	**P**	**16 12 01.0**	**+0.7**
	0.6nm,0.7s,baz=311,slow=3.7,SNR=9.0						
TXAR				pP	**pP**	**16 12 22.0**	**+2.7**
	0.3nm,0.7s,baz=302,slow=5.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**119.84**	**313**	PKP	**PKPdf**	**16 17 36.4**	**-0.2**
	0.2nm,0.6s,baz=304,slow=1.0,SNR=2.3						

*ISCJB **21** 16:06:25.8±1.1, 25°.4N±0°.2×141°.2E±0°.2, h160km, mb3.4/5, Error ellipse: s-maj=29.3km s-min=20.2km az=156.7*
*IDC **21** 16:06:25.1±12.0, 25°.39N×141°.17E, h135km±116km, mb3.2/5, mb1 3.5/6, mb1mx3.2/25, mbtmp3.2/6, ML3.5/1, Error ellipse: s-maj=44.0km s-min=20.6km az=90.0*
ISC 21 16:06:27.6±1.2, 25°.4N±0°.2×141°.1E±0°.2, h160km, n12, σ0§51/6, mb3.3/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**16.45**	**320**	P	**P**	**16 10 08.9**	**-0.2**
	0.2nm,0.3s,baz=130,slow=11,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**24.45**	**98**	T	T	16 36 38.6	
	baz=300						
H11N1	**WAKE ISLAND Hy**	**24.45**	**98**	T	T	16 36 38.6	
	baz=300						
H11N3	**WAKE ISLAND Hy**	**24.46**	**98**	T	T	16 36 40.3	
	baz=300						
H11S3	**WAKE ISLAND Hy**	**24.67**	**101**	T	T	16 36 55.0	
	baz=294,slow=73,SNR=101						
H11S1	**WAKE ISLAND Hy**	**24.67**	**101**	T	T	16 36 55.5	
	baz=294,slow=73,SNR=140						
H11S2	**WAKE ISLAND Hy**	**24.68**	**101**	T	T	16 36 56.3	
	baz=294,slow=73,SNR=134						
SONM	**Songino Array**	**35.31**	**318**	P	**P**	**16 13 07.6**	**+0.1**
	0.4nm,0.7s,baz=121,slow=7.7,SNR=3.8						
WRA	**Warramunga Arr**	**45.54**	**189**	P	**P**	**16 14 31.4**	**-0.1**
	2.1nm,0.7s,baz=8.6,slow=8.6,SNR=21						
MKAR	**Makanchi Array**	**50.84**	**311**	P	**P**	**16 15 11.9**	**0.0**
	0.5nm,0.8s,baz=106,slow=6.7,SNR=4.3						
ILAR	**Eielson Array**	**59.67**	**28**	P	**P**	**16 16 14.1**	**-0.6**
	0.6nm,1.0s,baz=260,slow=5.3,SNR=4.8						
YKA	**Yellowknife Ar**	**74.09**	**28**	P	**P**	**16 17 46.5**	**+0.6**
	0.3nm,0.7s,baz=291,slow=5.9,SNR=7.3						

*ISCJB **21** 16:10:24.0±0.8, 25°.4N±0°.1×141°.6E±0°.2, h98km, mb3.8/9, Error ellipse: s-maj=25.3km s-min=16.0km az=163.5*
*IDC **21** 16:10:29.7±10.0, 25°.36N×141°.28E, h133km±98km, mb3.4/7, mb1 3.6/8, mb1mx3.4/23, mbtmp3.4/8, ML3.5/1, Error ellipse: s-maj=38.1km s-min=16.9km az=86.0*
ISC 21 16:10:26.0±0.9, 25°.4N±0°.1×141°.6E±0°.2, h98km, n16, σ1§46/9, mb3.7/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**16.70**	**319**	P	**Pn**	**16 14 13.9**	**-0.1**
	0.2nm,0.3s,baz=134,slow=10,SNR=11						
H11N1	**WAKE ISLAND Hy**	**24.05**	**98**	T	T	16 40 46.3	
	baz=290,slow=73,SNR=18						
H11N2	**WAKE ISLAND Hy**	**24.05**	**98**	T	T	16 40 43.9	
	baz=290,slow=73,SNR=18						
H11N3	**WAKE ISLAND Hy**	**24.07**	**98**	T	T	16 40 46.3	
	baz=290,slow=73,SNR=19						
H11S3	**WAKE ISLAND Hy**	**24.28**	**101**	T	T	16 41 00.4	
	baz=294,slow=73,SNR=105						
H11S1	**WAKE ISLAND Hy**	**24.28**	**101**	T	T	16 41 00.9	
	baz=294,slow=73,SNR=133						
H11S2	**WAKE ISLAND Hy**	**24.29**	**101**	T	T	16 41 01.7	
	baz=294,slow=73,SNR=127						
PETK	**Petropavlovsk-**	**30.22**	**19**	P	P	16 16 19.0	-8.0
	8.8nm,1.1s,baz=193,slow=5.6,SNR=3.8						
SONM	**Songino Array**	**35.57**	**318**	P	**P**	**16 17 13.0**	**-0.9**
	0.6nm,0.7s,baz=126,slow=6.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**40.00**	**269**	P	**P**	**16 17 53.6**	**+2.2**
	0.2nm,0.4s,baz=55,slow=8.1,SNR=4.1						
WRA	**Warramunga Arr**	**45.62**	**190**	P	**P**	**16 18 36.2**	**-0.4**
	2.5nm,0.8s,baz=9.1,slow=8.5,SNR=21						
MKAR	**Makanchi Array**	**51.13**	**311**	P	**P**	**16 19 18.6**	**-0.2**
	0.5nm,0.8s,baz=86,slow=9.8,SNR=5.1						
STKA	**Stephens Creek**	**56.96**	**180**	P	**P**	**16 20 00.6**	**-0.5**
	1.3nm,0.6s,baz=0.0,slow=6.1,SNR=4.7						
ILAR	**Eielson Array**	**59.46**	**28**	P	**P**	**16 20 19.1**	**+0.8**
	0.5nm,0.8s,baz=271,slow=5.2,SNR=4.6						
YKA	**Yellowknife Ar**	**73.89**	**28**	P	**P**	**16 21 51.2**	**+1.2**
	0.5nm,0.8s,baz=292,slow=5.9,SNR=12						
FINES	**FINESS Array B**	**79.21**	**334**	P	**P**	**16 22 17.9**	**-2.1**
	2.5nm,0.9s,baz=64,slow=4.4,SNR=3.6						

MAN 21 16:26:14, 6°.43N×126°.11E, h34km, mb4.1, ML2.9, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.54**	**16**	*e*P	Pb	16 26 26.6	+1.4
MATI				*e*S	Sn	16 26 34.7	+1.7
DMPH	**Davao City--Mi**	**0.88**	**318⇑**	*e*P	Pb	16 26 30.9	0.0
DMPH				*e*S	Sb	16 26 42.1	-0.4
BUKP	**Musuan**	**1.77**	**324**	*e*P	Pn	16 26 42.5	+0.1
BUKP				*e*S	Sb	16 27 06.5	-1.5

*IDC **21** 16:41:04.0±1.8, 20°.71S×178°.64E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=142.9km s-min=26.6km az=173.0*
*NOU **21** 16:42:11.1±1.9, 20°.39S×170°.71E, h30km, MD3.2, ML3.2, MS3.8*
ISC 21 16:42:14.3±4.6, 22°.2S±0°.7×170°.9E±0°.2, h65km±34km, n15, σ0§52/27, mb3.8/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.69**	**270**	*e*P	**P

ADH	**Angra Heroismo**	**0.67**	**317**	*e*P	Pg	17 19 30.3	-1.1
ADH				*e*S	Sg	17 19 39.2	-1.0
ADH				A	A	17 19 40.4	
	2μm,0.4s						
ADH	**Angra Heroismo**	**0.67**	**317**	*e*P	Pg	17 19 30.3	-1.1
ADH				*e*S	Sg	17 19 39.2	-1.0
PSET	**Sete Cidades**	**0.81**	**115**	*e*P	Pg	17 19 32.0	-2.0
PSET				*e*S	Sg	17 19 42.5	-2.0
PSET				A	A	17 19 45.1	
	890nm,0.4s						
PSET	**Sete Cidades**	**0.81**	**115**	*e*P	Pg	17 19 32.0	-2.0
PSET				*e*S	Sg	17 19 42.5	-2.0
PDA	**Ponta Delgada**	**0.88**	**118**	*e*S	Sg	17 19 44.5	-2.3
PDA	**Ponta Delgada**	**0.88**	**118**	*e*S	Sg	17 19 44.5	-2.3
PMAN	**Manadas**	**1.23**	**293**	*e*S	Sg	17 19 52.4	-5.6
PMAN				A	A	17 19 56.5	
	94nm,0.2s						
PMAN	**Manadas**	**1.23**	**293**	*e*S	Sg	17 19 52.4	-5.6
BART	**Pico Bartolome**	**1.23**	**108**	*e*P	Pg	17 19 37.7	-4.5
BART				*e*S	Sg	17 19 52.9	-5.3
BART				A	A	17 19 55.9	
	236nm,0.5s						
BART	**Pico Bartolome**	**1.23**	**108**	*e*P	Pg	17 19 37.7	-4.5
BART				*e*S	Sg	17 19 52.9	-5.3
ROSA	**Rosais**	**1.37**	**294**	*e*P	Pg	17 19 40.1	-4.7
ROSA				*e*S	Sg	17 19 56.3	-6.3
PICO	**Pico**	**1.44**	**284**	*e*P	Pn	17 19 41.3	-4.6
PICO				*e*S	Sg	17 19 58.1	-6.9
PICO	**Pico**	**1.44**	**284**	*e*P	Pn	17 19 41.3	-4.6
PICO				*e*S	Sg	17 19 58.1	-6.9
CALA	**Caldeira**	**1.67**	**285**	*e*S	Sn	17 20 03.4	-7.9
CALA	**Caldeira**	**1.67**	**285**	*e*S	Sn	17 20 03.4	-7.9

CSEM ***21*** *17:20:34.4, 38°.15N×26°.67W, h0km, ML3.4, After PDA*

PDA 21 17:20:34.4±1.2, 38°.15N×26°.67W, h0km±6km, MD3.6, ML3.4, Error ellipse: s-maj=9.9km s-min=2.0km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.68**	**319**	*e*P	Pg	17 20 46.0	-1.4
ADH				*e*S	Sg	17 20 55.3	-0.9
ADH				A	A	17 20 56.5	
	1μm,0.3s						
ADH	**Angra Heroismo**	**0.68**	**319**	*e*P	Pg	17 20 46.0	-1.4
ADH				*e*S	Sg	17 20 55.3	-0.9
PSET	**Sete Cidades**	**0.81**	**113**	*e*P	Pg	17 20 48.1	-2.0
PSET				*e*S	Sg	17 20 58.5	-2.2
PSET				A	A	17 21 00.4	
	667nm,0.3s						
PSET	**Sete Cidades**	**0.81**	**113**	*e*P	Pg	17 20 48.1	-2.0
PSET				*e*S	Sg	17 20 58.5	-2.2
PDA	**Ponta Delgada**	**0.89**	**116**	*e*P	Pg	17 20 49.2	-2.2
PDA				*e*S	Sg	17 21 00.4	-2.6
PDA				A	A	17 21 02.9	
	315nm,0.2s						
PDA	**Ponta Delgada**	**0.89**	**116**	*e*P	Pg	17 20 49.2	-2.2
PDA				*e*S	Sg	17 21 00.4	-2.6
PMAN	**Manadas**	**1.22**	**294**	*e*P	Pg	17 20 53.7	-4.1
PMAN				*e*S	Sg	17 21 07.5	-6.1
BART	**Pico Bartolome**	**1.24**	**107**	*e*P	Pg	17 20 53.8	-4.5
BART				*e*S	Sg	17 21 09.0	-5.5
BART				A	A	17 21 12.2	
	146nm,0.3s						
BART	**Pico Bartolome**	**1.24**	**107**	*e*P	Pg	17 20 53.8	-4.5
BART				*e*S	Sg	17 21 09.0	-5.5
ROSA	**Rosais**	**1.36**	**295**	*e*P	Pg	17 20 55.7	-4.9
ROSA				*e*S	Sg	17 21 11.9	-6.3
ROSA				A	A	17 21 18.4	
	112nm,0.3s						
ROSA	**Rosais**	**1.36**	**295**	*e*P	Pg	17 20 55.7	-4.9
ROSA				*e*S	Sg	17 21 11.9	-6.3
PICO	**Pico**	**1.43**	**285**	*e*P	Pn	17 20 57.1	-4.5
PICO				*e*S	Sg	17 21 13.6	-6.9
PICO	**Pico**	**1.43**	**285**	*e*P	Pn	17 20 57.1	-4.5
PICO				*e*S	Sg	17 21 13.6	-6.9

IDC 21 17:32:34.9±1.4, 5°.17N×125°.53E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/23, mbtmp3.3/4, Error ellipse: s-maj=148.6km s-min=21.7km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.41**	**161**	P	P	17 38 13.0	-0.5
	0.3nm,0.8s,baz=340,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**29.80**	**164**	P	P	17 38 44.3	+0.6
	0.2nm,0.7s,baz=347,slow=7.0,SNR=5.7						
SONM	**Songino Array**	**45.56**	**342**	P	P	17 40 57.0	+0.3
	0.1nm,0.3s,baz=145,slow=5.3,SNR=3.6						
MKAR	**Makanchi Array**	**55.70**	**325**	P	P	17 42 12.8	-0.4
	0.4nm,0.4s,baz=118,slow=7.3,SNR=9.9						

IDC 21 17:53:13.3±2.1, 4°.97N×126°.58E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=158.9km s-min=26.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.90**	**163**	P	P	17 58 46.9	-0.4
	0.4nm,0.3s,baz=344,slow=10,SNR=14						
ASAR	**Alice Springs**	**29.34**	**166**	P	P	17 59 18.6	+0.4
	0.3nm,0.9s,baz=340,slow=7.7,SNR=6.2						
MKAR	**Makanchi Array**	**56.46**	**325**	P	P	18 02 57.0	-0.1
	0.2nm,0.4s,baz=117,slow=7.7,SNR=6.3						

IDC 21 18:01:12.2±48.0, 16°.69S×175°.94W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=905.9km s-min=186.0km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.28**	**241**	P	P	18 08 59.7	+0.2
	0.4nm,0.5s,baz=77,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**47.19**	**258**	P	P	18 09 47.0	0.0
	0.1nm,0.5s,baz=94,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**47.40**	**253**	P	P	18 09 48.2	-0.4
	1.0nm,0.5s,baz=88,slow=8.8,SNR=59						

IDC 21 18:06:20.4±1.7, 5°.27N×125°.86E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/24, mbtmp3.5/5, Error ellipse: s-maj=112.8km s-min=22.5km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.22**	**181**	P	P	18 11 30.1	+0.7
	2.4nm,0.9s,baz=15,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	**26.40**	**162**	P	P	18 11 59.2	+0.3
	0.5nm,0.8s,baz=339,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**29.81**	**165**	P	P	18 12 28.9	-0.5
	0.1nm,0.5s,baz=347,slow=7.6,SNR=4.6						
STKA	**Stephens Creek**	**39.87**	**159**	P	P	18 13 55.4	-0.6
	1.2nm,0.9s,baz=322,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**55.81**	**325**	P	P	18 15 59.4	-0.1
	0.3nm,0.5s,baz=117,slow=7.9,SNR=11						

ISCJB ***21*** *18:23:41.6±1.2, 1°.9S×0°.1×29°.04E×0°.09, h10km, mb3.6/3, Error ellipse: s-maj=22.0km s-min=10.4km az=22.1*

IDC ***21*** *18:23:45.8±3.4, 0°.65S×29°.27E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=118.9km s-min=26.1km az=10.0*

ISC 21 18:23:43.6±1.3, 1°.7S±0°.2×29°.1E±0°.1, h10km, n6, σ2ŝ17/9, mb3.7/3, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**7.69**	**98**	*i* P	**Pn**	**18 25 36.2**	**+0.3**
MAUS				*i* S	**Sn**	**18 27 00.6**	**-2.7**
DODT	**Dodoma, Tanzan**	**8.00**	**124**	*i* P	**Pn**	**18 25 41.6**	**+1.5**
DODT				*i* S	**Sn**	**18 27 10.4**	**-0.4**
KMBO	**Kilima Mbogo**	**8.21**	**86**	Pn	**Pn**	**18 25 44.9**	**+1.8**
	0.8nm,0.3s,baz=251,slow=18,SNR=5.8						
KMBO				Sn	**Sn**	18 27 18.9	+2.8
	1.4nm,0.3s,baz=61,slow=24,SNR=3.2						
KMBO				Lg	Lg	18 27 51.9	
	1.3nm,0.3s,baz=213,slow=21,SNR=5.6						
TORD	**Torodi Ar. Bea**	**30.92**	**299**	P	**P**	18 30 02.1	+1.2
	0.7nm,0.7s,baz=108,slow=8.8,SNR=5.5						
MKAR	**Makanchi Array**	**67.09**	**37**	P	**P**	18 34 35.1	-2.3
	0.3nm,0.6s,baz=247,slow=6.3,SNR=3.4						
CMAR	**Chiang Mai Arr**	**71.52**	**70**	P	**P**	18 35 04.7	-0.7
	0.6nm,0.8s,baz=270,slow=6.6,SNR=5.2						

AUST ***21*** *18:29:19.3, 19°.30S×175°.72W, h600km*

VIE ***21*** *18:29:23.2, 18°.53S×177°.88W, h475km, mb3.3 393 km E of Suva*

ISCJB ***21*** *18:29:28.6±0.5, 19°.2S±0°.1×177°.68W±0°.10, h570km, mb3.8/14, Error ellipse: s-maj=17.1km s-min=9.2km az=149.2*

IDC ***21*** *18:29:32.9±2.3, 19°.16S×177°.79W, h603km±26km, mb3.3/14, mb1 3.5/15, mb1mx3.3/24, mbtmp3.3/15, Error ellipse: s-maj=18.0km s-min=12.8km az=156.0*

ISC 21 18:29:29.3±0.5, 19°.1S±0°.1×177°.59W±0°.10, h570km, n39, σ1ŝ21/43, mb4.0/14, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**48**	P	**P**	18 31 23.6	-0.3
	7.9nm,0.3s,baz=144,slow=1.9,SNR=6.6						
AFI				S	**S**	18 32 53.3	-4.5
	1.8nm,0.3s,baz=34,slow=23,SNR=1.3						
DZM	**Mont Dzumac**	**15.24**	**256**	P	**P**	18 32 42.6	+1.7
	0.4nm,0.3s,baz=293,slow=21,SNR=6.4						
URZ	**Urewera**	**19.64**	**192**	P	**P**	18 33 18.9	-2.1
	0.9nm,0.3s,baz=303,slow=3.7,SNR=4.1						
CTA	**Charters Tower**	**34.03**	**262**	P	**P**	18 35 27.1	0.0
	6.2nm,0.6s,baz=100,slow=11,SNR=12						
CMSA	**Cobar Meteorol**	**35.26**	**242**	P	**P**	18 35 36.9	-0.2
	baz=37,SNR=6.0						
PMG	**Port Moresby**	**35.43**	**281**	P	**P**	18 35 39.3	+0.6
	7.4nm,0.8s,baz=116,slow=14,SNR=4.8						
QLP	**Quilpie**	**35.86**	**251**	P	**P**	18 35 41.9	-0.3
	baz=37,SNR=7.6						
COEN	**Coen**	**37.90**	**272**	P	**P**	18 35 59.4	+0.4
	baz=40,SNR=18						
STKA	**Stephens Creek**	**38.76**	**243**	P	**P**	18 36 06.1	+0.4
	1.9nm,0.4s,baz=58,slow=8.9,SNR=13						
STKA				PcP	**PcP**	18 38 02.9	+0.4
	2.0nm,0.9s,baz=17,slow=5.3,SNR=3.6						
STKA	**Stephens Creek**	**38.76**	**243**	P	**P**	18 36 05.9	+0.2
	baz=40,SNR=6.2						
HTT	**Hallett**	**41.23**	**241**	P	**P**	18 36 25.4	-0.1
	baz=43,SNR=6.5						
BBOO	**Buckleboo**	**43.53**	**242**	P	**P**	18 36 43.0	-0.4
	baz=45,SNR=11						
WRA	**Warramunga Arr**	**45.19**	**261**	P	**P**	18 36 55.2	-1.2
	2.0nm,0.4s,baz=98,slow=8.2,SNR=92						
WRA				PcP	**PcP**	18 38 24.2	-0.3
	0.8nm,0.4s,baz=87,slow=3.5,SNR=6.3						
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	18 36 56.1	-0.6
	3.5nm,0.6s,baz=86,slow=8.1,SNR=84						
ASAR				PcP	**PcP**	18 38 24.2	-0.3
	1.5nm,0.6s,baz=102,slow=3.9,SNR=10						
ASAR				S	**S**	18 42 52.8	-3.2
	0.9nm,0.8s,baz=92,slow=14,SNR=10.0						
WRKA	**Warakurna**	**50.23**	**253**	P	**P**	18 37 33.3	-0.7
	baz=52,SNR=6.3						
KNRA	**Kununurra**	**51.15**	**265**	P	**P**	18 37 40.3	-0.5
	baz=53,SNR=4.1						
FITZ	**Fitzroy Crossi**	**53.61**	**261**	P	**P**	18 37 58.1	-0.2
	baz=55,SNR=4.1						
SOEI	**Soe**	**56.85**	**271**	P	**P**	18 38 22.3	+1.2
	baz=59,SNR=3.7						
MEEK	**Meekatharra**	**58.75**	**250**	P	**P**	18 38 32.4	-1.2
	baz=60,SNR=6.2						
KLBR	**Kellerberrin**	**59.00**	**244**	P	**P**	18 38 34.6	-0.6
	baz=60,SNR=6.9						
VNDA	**Vanda**	**59.33**	**185**	P	**P**	18 38 37.5	+1.0
	0.9nm,0.6s,baz=53,slow=7.0,SNR=5.4						
NWAO	**Narrogin (SRO)**	**59.35**	**243**	P	**P**	18 38 36.8	-0.6
	9.3nm,1.0s,baz=34,slow=7.3,SNR=2.0						
UGM	**Wanagama**	**70.38**	**268**	P	**P**	18 39 46.8	-0.3
	baz=72,SNR=3.7						
QSPA	**South Pole Qui**	**70.96**	**180**	P	**P**	18 39 50.1	+0.4
	4.8nm,0.7s,baz=5.2,slow=1.9,SNR=23						
NVAR	**Mina Array Bea**	**79.75**	**43**	P	**P**	18 40 40.7	+1.7
	0.9nm,0.7s,baz=223,slow=8.1,SNR=4.7						
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	18 41 12.5	+2.2
	1.3nm,0.7s,baz=222,slow=7.2,SNR=18						
ILAR	**Eielson Array**	**86.87**	**13**	P	**P**	18 41 13.3	-0.2
	0.6nm,0.7s,baz=235,slow=5.3,SNR=9.8						
PDAR	**Pinedale Array**	**87.68**	**43**	P	**P**	18 41 19.1	+0.9
	0.9nm,0.8s,baz=222,slow=2.0,SNR=6.2						
CMAR	**Chiang Mai Arr**	**90.01**	**289**	P	**P**	18 41 30.6	+1.4
	1.4nm,0.9s,baz=110,slow=2.9,SNR=12						
YKA	**Yellowknife Ar**	**95.08**	**25**	P	**P**	18 41 51.9	+0.5
	0.2nm,0.7s,baz=226,slow=5.0,SNR=3.2						
MKAR	**Makanchi Array**	**110.52**	**314**	PKiKP	**PKiKP**	18 46 56.5	-1.0
	0.4nm,0.5s,baz=117,slow=1.4,SNR=12						
ARCES	**ARCESS Array B**	**127.62**	**350**	PKP	**PKPdf**	18 47 29.7	+0.1
	4.8nm,1.0s,baz=18,slow=1.0,SNR=12						
AKASG	**Malin Array Be**	**141.97**	**332**	PKhKP	PKPpre	18 47 52.0	
	0.5nm,0.3s,baz=39,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**146.16**	**314**	PKPbc	**PKPbc**	18 48 06.5	-0.2
	1.9nm,0.7s,baz=143,slow=4.4,SNR=7.5						
GERES	**GERESS Array B**	**148.95**	**345**	PKPbc	**PKPbc**	18 48 13.8	+0.2
	2.1nm,0.7s,baz=42,slow=2.2,SNR=13						
CONA	**Conrad Observa**	**149.23**	**342**	*i* PKPbc	**PKPbc**	18 48 14.5	+0.3
	4.1nm,0.7s						
ABTA	**Abfaltersbach**	**151.20**	**345**	*i* PKPbc	**PKPbc**	18 48 18.4	-0.5
	8.2nm,0.6s						
FETA	**Feichten**	**151.33**	**348**	*i* PKPbc	**PKPbc**	18 48 19.0	-0.2
	3.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**174.04**	**173**	PKPab	**PKPab**	18 50 09.4	-0.5
	0.4nm,0.8s,baz=219,slow=3.7,SNR=2.3						

IGQ 21 18:34:15.6, 1°.50S×80°.52W, h12km±172km, Mb4.0, Ms3.8, 5C-3D, Error ellipse: s-maj=13.3km s-min=2.5km az=12.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.27**	**14**	S	Sg	18 34 57.0	+0.1
JAMA	**Jama**	**1.27**	**14**	P	Pb	18 34 39.9	+0.3
MAG1	**Magdalena**	**1.61**	**28**	P	Pn	18 34 44.1	+0.2
IGUA	**Igualata**	**1.88**	**90**	P	Pb	18 34 49.7	-0.9
RIOE	**Riobamba**	**1.91**	**97**	P	Pb	18 34 50.0	-0.7
JUI6	**Juive**	**2.06**	**88**	P	Pb	18 34 52.4	-0.9
ARRY	**Arrayan**	**2.07**	**90**	⇑S	Sb	18 35 19.1	-0.4
ARRY	**Arrayan**	**2.07**	**90**	⇑P	Pb	18 34 52.6	-0.9
RETU	**Refugio**	**2.08**	**89**	P	Pb	18 34 53.4	-0.5
PAT1	**Patacocha**	**2.08**	**90**	S	Sb	18 35 19.9	-0.4
PAT1	**Patacocha**	**2.08**	**90**	P	Pb	18 34 53.3	-0.7
RUN5	**Runtun**	**2.10**	**88**	S	Sb	18 35 19.4	-1.0
RUN5	**Runtun**	**2.10**	**88**	P	Pb	18 34 52.8	-1.3
ULBA	**Ulba**	**2.12**	**89**	P	Pb	18 34 53.7	-0.7
CAMI	**Rancho Maria**	**2.18**	**68**	⇑P	Pb	18 34 55.7	+0.1
PISA	**Pisayambo**	**2.18**	**78**	⇓S	Sb	18 35 23.7	+0.5
PISA	**Pisayambo**	**2.18**	**78**	⇓P	Pb	18 34 54.9	-0.8
BMOR	**Cotopaxi Volca**	**2.20**	**70**	P	Pn	18 34 54.3	+1.6
BNAS	**Cotopaxi Volca**	**2.20**	**68**	P	Pb	18 34 54.8	-1.2
MOV1	**Cotopaxi Vol s**	**2.23**	**69**	P	Pb	18 34 55.4	-1.2
BREF	**Cotopaxi Volca**	**2.24**	**68**	P	Pb	18 34 55.6	-1.3
BVC2	**Cotopaxi Volca**	**2.27**	**68**	P	Pb	18 34 55.8	-1.5
BTAM	**Cotopaxi Volca**	**2.28**	**69**	P	Pb	18 34 55.9	-1.5
VC1	**Cotopaxi 1**	**2.29**	**68**	⇑P	Pb	18 34 56.1	-1.4
TAMB	**Tambo**	**2.30**	**70**	P	Pb	18 34 56.8	-0.9
JUA2	**San Juan 2**	**2.31**	**56**	⇓P	Pb	18 34 56.4	-1.4
TERV	**Terraza Guagua**	**2.33**	**55**	P	Pb	18 34 56.6	-1.6
COV1	**Cotopaxi Volc**	**2.33**	**69**	P	Pn	18 34 55.5	+0.9
PINO	**Pino**	**2.33**	**55**	P	Pn	18 34 55.2	+0.6
GGP	**Refugio Guagua**	**2.34**	**56**	P	Pn	18 34 55.5	+0.9
MACE	**Macas**	**2.44**	**108**	S	Sb	18 35 27.8	-2.1
MACE	**Macas**	**2.44**	**108**	P	Pb	18 34 58.5	-1.2
ANTI	**Antisana**	**2.58**	**66**	P	Pb	18 35 00.4	-2.3
OTAV	**Otavalo**	**2.70**	**50**	⇑P	Pn	18 35 00.9	+1.5
CAYA	**Cayambe**	**2.98**	**58**	P	Pb	18 35 07.4	-1.9

IDC ***21*** *18:40:44.9±1.4, 35°.37N×141°.37E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.4/5, ML2.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/22, Error ellipse: s-maj=35.1km s-min=24.1km az=59.0*

ISCJB ***21*** *18:40:47.6±1.1, 35°.37N±0°.04×141°.34E±0°.08, h29km±6km, mb3.5/4, Error ellipse: s-maj=11.4km s-min=6.0km az=162.8*

JMA ***21*** *18:40:47.9±0.1, 35°.39N×141°.31E, h30km±2km, M3.0*

ISC 21 18:40:46.5±2.8, 35°.36N±0°.05×141°.32E±0°.09, h10km±16km, n25, σ0ŝ83/21, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.51**	**313**	P	Pb	**18 40 57.8**	**+0.4**
CHOJ				S	**Sb**	**18 41 05.0**	**+0.2**
BSO1	**Boso 1**	**0.76**	**202**	P	**Pn**	**18 41 03.1**	**+0.5**
BSO1				*e*S	**Sn**	**18 41 12.6**	**-1.2**
BSO2	**Boso 2**	**0.76**	**217**	*e*S	**Sn**	**18 41 15.5**	**+1.2**
KTR	**Katsuura**	**0.85**	**256**	*e*S	**Sg**	**18 41 13.5**	**-0.3**
BSO3	**Boso 3**	**0.86**	**230**	P	**Pn**	**18 41 04.2**	**-0.2**
BSO4	**Boso 4**	**0.88**	**246**	P	**Pn**	**18 41 04.3**	**-0.5**
JCN	**Nagara**	**0.91**	**274**	P	**Pn**	**18 41 05.0**	**-0.3**
JYT	**Yasato**	**1.26**	**314**	P	**Pn**	**18 41 09.8**	**-0.2**
JYT				*e*S	**Sb**	**18 41 26.1**	**-0.3**
JHO	**Hitachi**	**1.39**	**334**	P	**Pn**	**18 41 11.9**	**+0.1**
JHO				*e*S	**Sb**	**18 41 29.4**	**-0.8**
MJAR	**Matsushiro Arr**	**2.78**	**296**	Pn	**Pn**	**18 41 31.7**	**+0.7**
	1.2nm,0.3s,baz=109,slow=7.4,SNR=12						
MJAR				Sn	**Sn**	**18 42 05.9**	**+1.2**
	2.0nm,0.3s,baz=141,slow=17,SNR=7.5						
MAT	**Matsushiro**	**2.79**	**296**	P	**Pn**	**18 41 32.4**	**+1.3**
MAT				*e*S	**Sn**	**18 42 03.5**	**-1.2**
KSRS	**Korea Array**	**10.99**	**285**	LR	LR	18 47 27.8	
	comp=Z,40nm,20.7s,baz=120,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.40**	**118**	T	T	19 15 27.2	
	baz=313,slow=76,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**27.41**	**118**	T	T	19 15 33.9	
	baz=313,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**27.42**	**118**	T	T	19 15 36.5	
	baz=313,slow=76,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	19 16 11.6	
	baz=316,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	19 16 13.6	
	baz=316,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**28.07**	**120**	T	T	19 16 12.3	
	baz=316,slow=75,SNR=22						
MKAR	**Makanchi Array**	**44.96**	**304**	P	**P**	**18 49 01.0**	**-0.5**
	0.5nm,0.9s,baz=85,slow=8.5,SNR=2.7						
ILAR	**Eielson Array**	**50.95**	**32**	P	**P**	**18 49 47.5**	**-0.2**
	0.2nm,0.6s,baz=276,slow=6.0,SNR=2.3						
WRA	**Warramunga Arr**	**55.40**	**188**	P	**P**	**18 50 20.4**	**-0.4**
	1.0nm,0.4s,baz=5.2,slow=7.7,SNR=22						
ASAR	**Alice Springs**	**59.12**	**188**	P	**P**	**18 50 48.4**	**+1.2**
	0.2nm,0.6s,baz=0.7,slow=6.7,SNR=1.7						
H03N2	**Juan Fernandez**	**146.89**	**98**	T	T	21 44 50.9	
	baz=286,slow=75,SNR=4.1						
H03N3	**Juan Fernandez**	**146.90**	**99**	T	T	21 44 49.5	
	baz=286,slow=75,SNR=5.1						
H03N1	**Juan Fernandez**	**146.91**	**98**	T	T	21 44 51.2	
	baz=286,slow=75,SNR=4.7						

MEX 21 18:54:22.6±0.6, 17°.50N×101°.68W, h6km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.23**	**63**	*i* P	Pg	18 54 26.4	-0.8
ZIIG				*i* S	Sg	18 54 30.8	+0.4
MMIG	**Aquila**	**1.77**	**297**	*i* P	Pn	18 54 50.1	-3.6
MMIG				*i* S	Sn	18 55 12.0	-4.6
ACX	**Acapulco**	**1.85**	**110**	*i* P	Pn	18 54 50.4	-4.6
ACX				*i* S	Sn	18 55 12.8	-6.1
PLIG	**Platanillo**	**2.26**	**67**	*i* P	Pn	18 54 58.1	-2.6
PLIG				*i* S	Sn	18 55 24.7	-4.3
YAIG	**Yautepec**	**2.83**	**61**	*i* P	Pn	18 55 05.7	-3.0
YAIG				*i* S	Sn	18 55 38.8	-4.5

ISCJB ***21*** *19:15:39.3±0.6, 21°.52S±0°.05×66°.81W±0°.08, h230km±9km, mb3.7/3, Error ellipse: s-maj=13.0km s-min=7.7km az=25.2*

IDC ***21*** *19:15:39.1±1.8, 21°.54S×66°.64W, h214km±16km, mb3.7/3, mb1 3.7/6, mb1mx3.4/19, mbtmp3.6/6, Error ellipse: s-maj=23.3km s-min=18.9km az=92.0*

GUC ***21*** *19:15:41.2±0.5, 21°.42S×67°.34W, h258km±9km, ML4.5*

ISC 21 19:15:40.0±1.1, 21°.43S±0°.08×66°.8W±0°.1, h221km±12km, n21, σ1ŝ33/29, mb3.9/3, 1C-4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**2.33**	**261**	⇓*e*P	**Pn**	**19 16 24.5**	**+0.9**
PB09				*i* S	**S**	**19 16 57.5**	**+0.1**
PB09				AML	AML	19 17 01.9	
	comp=E,796nm,0.2s						
PB01	**Plate Boundary**	**2.56**	**278**	⇑*i* P	**Pn**	**19 16 26.6**	**+0.7**
PB01				*i* S	**S**	**19 17 00.8**	**-0.9**
PB01				AML	AML	19 17 02.8	
	comp=N,492nm,0.5s						
MACH	**Maria Elena**	**2.88**	**254**	⇓*i* P	**Pn**	**19 16 30.2**	**+0.6**
MACH				*e*S	**S**	**19 17 07.1**	**-1.1**
PB06	**Plate Boundary**	**2.89**	**243**	*i* P	**Pn**	**19 16 29.9**	**+0.3**
PB06				*i* S	**S**	**19 17 07.5**	**-0.8**
PB06				AML	AML	19 17 08.9	
	comp=N,410nm,0.2s						
**

TLIG *i* S Sn 19 22 51.2 -3.0

ISCJB ***21*** *19:28:24.8±0.6,20.˚78S±0.˚05×67.˚44W±0.˚08,h212km±7km, mb3.4/5,Error ellipse: s-maj=12.6km s-min=8.3km az=174.4*

IDC ***21*** *19:28:24.5±1.8,20.˚74S×67.˚07W,h195km±14km,mb3.3/5, mb1 3.6/8,mb1mx3.4/19,mbtmp3.3/8,Error ellipse: s-maj=20.8km s-min=17.3km az=54.0*

GUC ***21*** *19:28:25.9±0.6,20.˚77S×67.˚82W,h231km±7km,ML4.5*

ISC 21 19:28:25.3±0.8,20.˚75S±0.˚06×67.˚36W±0.˚09,h201km±8km, n24,σ0s92/30,mb3.7/5,4C-4D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PB01	**Plate Boundary**	**2.01**	**261**	⇑*iP*		**Pn**	**19 29 04.4**	**+0.2**
PB01				*i* S		**S**	**19 29 33.9**	**+0.1**
PB01				AML		AML	19 29 35.7	
	comp=N,2μm,0.2s							
PB09	**Plate Boundary**	**2.04**	**239**	⇑*iP*		**Pn**	**19 29 05.5**	**+0.9**
PB09				*i* S		**S**	**19 29 35.6**	**+1.0**
PB09				AML		AML	19 29 39.2	
	comp=N,2μm,0.2s							
PB11	**Plate Boundary**	**2.37**	**294**	⇓*iP*		**Pn**	**19 29 08.5**	**+0.4**
PB11				*i* S		**S**	**19 29 40.7**	**0.0**
PB11				AML		AML	19 29 43.1	
	comp=E,7μm,0.2s							
HMBC	**Humberstone**	**2.42**	**281**	⇓*iP*		**Pn**	**19 29 08.5**	**-0.1**
HMBC				*i* S		**S**	**19 29 41.0**	**-0.5**
HMBC				AML		AML	19 29 44.0	
	comp=N,2μm,0.6s							
PB04	**Plate Boundary**	**2.49**	**232**	⇑*iP*		Pn	19 29 15.8	+6.6
PB04				*i* S		S	19 29 53.4	+11
PB07	**Plate Boundary**	**2.55**	**247**	⇑*eP*		**Pn**	**19 29 10.3**	**+0.2**
PB07				*i* S		**S**	**19 29 43.6**	**-0.8**
PB07				AML		AML	19 29 44.0	
	comp=N,1μm,0.3s							
PATCX	**Punta Patache**	**2.62**	**268**	⇓*iP*		**Pn**	**19 29 10.9**	**+0.2**
PATCX				*i* S		**S**	**19 29 44.3**	**-1.2**
PATCX				AML		AML	19 29 46.9	
	comp=N,1μm,0.2s							
MNMC	**Minimini**	**2.65**	**307**	⇓*iP*		**Pn**	**19 29 12.2**	**+0.9**
MNMC				*i* S		**S**	**19 29 47.5**	**+0.9**
MNMC				AML		AML	19 29 53.5	
	comp=N,761nm,0.2s							
MACH	**Maria Elena**	**2.66**	**237**	*eP*		**Pn**	**19 29 11.7**	**+0.3**
PB06	**Plate Boundary**	**2.83**	**226**	AML		AML	19 29 51.4	
	comp=N,584nm,0.5s							
PSGC	**Pisagua**	**2.84**	**293**	*i* P		**Pn**	**19 29 13.1**	**-0.3**
PSGC				*i* S		**S**	**19 29 49.2**	**-0.8**
PSGC				AML		AML	19 29 50.9	
	comp=N,444nm,0.1s							
LPAZ	**La Paz**	**4.50**	**350**	P		**Pn**	**19 29 35.2**	**+1.1**
	comp=N,7.8nm,0.3s,baz=158,slow=6.1,SNR=106							
LPAZ				S		**S**	**19 30 27.6**	**+0.1**
	comp=N,0.6nm,0.3s,baz=287,slow=17,SNR=8.6							
SIV	**San Ignacio**	**7.62**	**53**	P		**Pn**	**19 30 11.2**	**-2.5**
	comp=N,8.2nm,0.3s,baz=245,slow=12,SNR=71							
SIV				S		S	19 31 32.5	-7.2
	baz=299,slow=21,SNR=2.2							
CPUP	**Villa Florida**	**10.74**	**123**	P		**Pn**	**19 30 55.2**	**+1.1**
	comp=N,1.5nm,0.3s,baz=284,slow=12,SNR=5.6							
CFAA	**Coronel Fontan**	**10.84**	**184**	P		**Pn**	**19 30 54.0**	**-1.3**
	comp=N,0.1nm,0.3s,baz=5.7,slow=11,SNR=11							
CFAA				S		S	19 32 46.8	-10
	comp=N,0.2nm,0.3s,baz=96,slow=21,SNR=8.8							
TXAR	**Lajitas Array**	**60.87**	**324**	P		**P**	**19 38 17.2**	**+0.4**
	comp=N,0.2nm,0.6s,baz=146,slow=6.6,SNR=3.2							
PDAR	**Pinedale Array**	**74.20**	**329**	P		**P**	**19 39 41.0**	**+0.9**
	comp=N,2.0nm,0.5s,baz=121,slow=8.7,SNR=2.2							
ULM	**Lac du Bonnet**	**75.06**	**342**	P		**P**	**19 39 44.0**	**-0.6**
	comp=N,2.0nm,0.5s,baz=156,slow=3.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**75.74**	**70**	P		**P**	**19 39 47.7**	**-1.6**
	comp=N,0.5nm,0.3s,baz=256,slow=5.5,SNR=16							
YKA	**Yellowknife Ar**	**90.97**	**340**	P		**P**	**19 41 06.4**	**+0.5**
	comp=N,0.4nm,0.4s,baz=130,slow=4.3,SNR=12							
ASAR	**Alice Springs**	**131.24**	**206**	PKP		**PKPdf**	**19 47 14.7**	**+0.5**
	comp=N,0.4nm,1.1s,baz=123,slow=1.6,SNR=4.1							
WRA	**Warramunga Arr**	**134.32**	**209**	PKP		**PKPdf**	**19 47 20.6**	**+0.6**
	comp=N,0.4nm,0.9s,baz=154,slow=1.8,SNR=2.2							
MKAR	**Makanchi Array**	**144.18**	**36**	PKP		PKPbc	19 47 35.9	+0.1
	comp=N,0.4nm,0.7s,baz=341,slow=2.5,SNR=8.4							
SONM	**Songino Array**	**152.51**	**9**	PKPbc		**PKPbc**	**19 47 58.1**	**+0.4**
	comp=N,0.1nm,0.3s,baz=285,slow=3.0,SNR=4.5							

MAN 21 19:50:17,12.˚33N×125.˚76E,h33km,mb4.2,ML3.0,MS2.7, 1C,Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BESP	**Borongan**	**0.79**	**204**	*eP*		Pb	19 50 33.7	+1.2
BESP				*eS*		Sb	19 50 43.9	+1.0
CNP	**Catarman**	**1.09**	**279**	*eP*		Pn	19 50 36.2	+0.2
CNP				*eS*		Sb	19 50 51.4	+0.1
PLP	**Palo**	**1.39**	**214**	⇑*eP*		Pn	19 50 41.1	+1.0
PLP				*eS*		Sn	19 50 58.5	+1.1

BJI ***21*** *19:59:20.4,17.˚33N×121.˚60E,h12km,mB5.3/49,mb4.9/57, Ms5.0/73,Ms7 4.9/59*

ISCJB ***21*** *19:59:21.5±0.1,17.˚50N±0.˚01×121.˚50E±0.˚02,h10km, mb5.1/156,MS4.8/112,Error ellipse: s-maj=3.0km s-min=2.1km az=175.4*

NEIC ***21*** *19:59:22.1±0.2,17.˚28N×121.˚49E,h10km,mb5.5/68, MS4.8/73,Error ellipse: s-maj=4.1km s-min=3.6km az=99.0*

NEIC Felt [III PIVS] at Baguio, Callao and Tuguegarao City; [II PIVS] at Laoag and Pasuquin. Also felt at Penablanca, Santiago and Tabuk.

MOS ***21*** *19:59:23.9±1.1,17.˚36N×121.˚48E,h33km,mb5.4/53, MS4.8/25,Error ellipse: s-maj=8.6km s-min=4.5km az=117.9*

BKK ***21*** *19:59:23.6±0.4,18˚N±4˚×12˚2E±˚,h10km,M5.0/37, mB5.6/28,mb5.1/37,Mw(mB)5.0/28*

MAN ***21*** *19:59:24,17.˚51N×121.˚43E,h16km,mb5.6,ML4.6,MS5.1*

MAN Intensity III -Baguio City; Tuguegarao City; Callao Caves Cagayan; Intensity II - Laoag City; Pasuquin Ilocos Norte.

IDC ***21*** *19:59:25.2±3.0,17.˚28N×121.˚33E,h28km±20km,mb4.5/22, mb1 4.6/23,mb1mx4.6/27,mbtmp4.5/23,ML4.2/1,MS4.6/21, Ms1 4.7/21,ms1mx4.5/30,Error ellipse: s-maj=16.3km s-min=11.7km az=78.0*

GCMT ***21*** *19:59:26.8±0.2,17.˚39N×121.˚43E,h21km,MW5.3, Moment Tensor Solution. s81,c116; s90,c164; Moment tensor: Scale 10^17^Nm; Mrr0.94±.02; Mθθ0.07±.02; Mφφ-1.01±.02; Mrθ0.04±.03; Mθφ-0.23±.01; Mφr0.18±.03; Best double couple: Mo1.00000×10^17^ NP1:φs12.00000°, δ50.00000°,λ91.00000°. NP2:φs191.00000°,δ40.00000°, λ89.00000°. Principal axes: T 0.9500, Plg85.0000°, Azm286.0000°; N 0.1200, Plg0.0000°, Azm192.0000°; P -1.0700, Plg5.0000°, Azm101.0000°; Data Used: II IU CU IC G CN.*

DJA ***21*** *19:59:40.8±1.8,17˚N±11˚×12˚1E±˚,h76km±14km,M5.0/41, mb5.1/41,mB5.5/36,Mw(mB)5.0/36*

ISC 21 19:59:24.2±0.3,17.42N±0.02×121.47E±0.03,h18km±1km, h18km:pP-P,n577,σ1s55/587,mb5.2/158,MS4.8/114, 30C-22D,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CVP	**Callao Caves**	**0.44**	**50**	⇑*iP*		**Pn**	**19 59 35.2**	**-0.4**
CVP				*i* S		**Sn**	**19 59 42.8**	**-0.4**
APYP	**Conner**	**0.49**	**334**	*eP*		**Pg**	**19 59 33.6**	**-0.4**
APYP				*eS*		**Sn**	**19 59 43.1**	**-1.2**
CAUP	**Cauayan**	**0.58**	**144**	*eP*		**Pn**	**19 59 38.8**	**+1.3**
CAUP				*eS*		**Sn**	**19 59 51.5**	**+4.9**
ABRA	**Dolores**	**0.75**	**288**	*eP*		**Pb**	**19 59 37.4**	**-1.4**
ABRA				*eS*		**Sb**	**19 59 47.1**	**-1.6**
SZP	**Santa**	**0.97**	**278**	*eP*		**Pb**	**19 59 41.2**	**-1.3**
SGCP	**Mt. Cagua**	**0.99**	**34**	*eP*		**Pb**	**19 59 43.0**	**+0.2**
SGCP				*eS*		**Sn**	**19 59 57.3**	**+0.7**
SIPP	**Brgy, Tapao**	**1.08**	**298**	⇑*iP*		**Pn**	**19 59 44.6**	**+0.1**
SIPP				*i* S		**Sn**	**19 59 58.5**	**-0.5**
PIP	**Pasuquin**	**1.21**	**318**	⇓*iP*		**Pn**	**19 59 45.5**	**-0.7**
PIP				*eS*		**Sg**	**20 00 03.2**	**-0.3**
BALP	**Baler**	**1.67**	**176**	*eP*		**Pn**	**19 59 52.4**	**-0.2**
BOLP	**Bolinao**	**1.81**	**235**	*eP*		**Pb**	**19 59 55.7**	**-1.0**
BOLP				*eS*		**Sb**	**20 00 20.6**	**+1.5**
PCPH	**Palayan**	**1.88**	**191**	⇑*eP*		**Pb**	**19 59 56.7**	**-1.3**
PCPH				*eS*		**Sb**	**20 00 21.6**	**+0.5**
SCZP	**Santa Cruz**	**2.21**	**223**	*eP*		**Pn**	**20 00 01.3**	**+1.3**
SCZP				*eS*		**Sb**	**20 00 30.5**	**-0.2**
POLP	**Polilio Island**	**2.71**	**170**	*eP*		**Pn**	**20 00 08.8**	**+1.9**
TGY	**Tagaytay City**	**3.34**	**189**	Pn		**Pb**	**20 00 19.8**	**-3.1**
TGY	**Tagaytay City**	**3.34**	**189**	⇓*iP*		**Pb**	**20 00 20.4**	**-2.5**
TGY				*i* S		Sn	20 00 35.8	-19
TGY	**Tagaytay City**	**3.34**	**189**	Pn		**Pb**	**20 00 19.8**	**-3.1**
	306nm,0.3s,baz=54,slow=1.1,SNR=25							
GQP	**Guinayangan**	**3.62**	**165**	⇓*eP*		**Pn**	**20 00 21.0**	**+1.7**
GQP				*eS*		**Sn**	**20 01 02.7**	**+1.1**
LUBP	**Lubang**	**3.85**	**198**	*eP*		Pb	20 00 27.0	-4.5
LUBP				*eS*		**Sb**	**20 01 21.7**	**+3.9**
AUQP	**San Andres**	**4.24**	**164**	*eP*		**Pn**	**20 00 30.7**	**+2.8**
PVCP	**Virac**	**4.60**	**145**	⇓*iP*		**Pn**	**20 00 34.3**	**+1.5**
PVCP				*i* S		Sn	20 01 19.3	-6.5
SJMP	**San Jose**	**4.94**	**184**	*eP*		Pn	20 00 42.0	+4.5
OTRP	**Odiongan**	**5.06**	**174**	*eP*		**Pn**	**20 00 42.2**	**+3.1**
TWG	**Pinlang**	**5.39**	**356**	*ePn*		**Pn**	**20 00 43.9**	**+0.2**
	442nm,0.5s							
TPUB	**Ta-pu**	**5.90**	**353**	*ePn*		**Pn**	**20 00 52.1**	**+1.3**
	92nm,0.5s							
YULB	**Yu-li**	**5.95**	**359**	*eP*		**Pn**	**20 00 52.2**	**+0.9**
	76nm,0.5s							
RCP	**Roxas**	**5.96**	**168**	⇑*eP*		Pn	20 00 59.1	+7.6
SSLB	**Suanglung**	**6.36**	**356**	*ePn*		**Pn**	**20 00 58.8**	**+1.8**
	115nm,0.7s							
ENPP	**El Nido**	**6.49**	**198**	*eP*		**Pn**	**20 01 01.8**	**+3.0**
CUYO	**Cuyo Island**	**6.54**	**184**	*eP*		Pn	20 00 48.9	-11
NACB	**Ninganchiao**	**6.72**	**1**	*eP*		**Pn**	**20 01 03.1**	**+1.1**
	133nm,0.8s							
GUIM	**Jordan**	**6.84**	**171**	*eP*		Pn	20 01 10.3	+6.7
PLP	**Palo**	**7.09**	**151**	⇑*eP*		**Pn**	**20 01 08.9**	**+1.8**
YOJ	**Yonaguni jima**	**7.16**	**11**	*eP*		**Pn**	**20 01 09.0**	**+1.1**
YOJ					pmax	pmax		
	comp=Z,105nm,0.8s							
YOJ	**Yonaguni jima**	**7.16**	**11**	*eP*		**Pn**	**20 01 09.0**	**+1.1**
	comp=Z,105nm,0.8s							
YHNB	**Yeheng**	**7.21**	**359**	*eP*		**Pn**	**20 01 11.0**	**+2.2**
	comp=Z,118nm,0.6s							
LLP	**Lapu-Lapu**	**7.46**	**161**	*eP*		**Pn**	**20 01 14.0**	**+1.7**
TATO	**Taipei**	**7.52**	**0**	*eP*		**Pn**	**20 01 15.1**	**+2.2**
	comp=Z,207nm,1.1s							
QZH	**Quanzhou**	**7.95**	**341**	P		**Pn**	**20 01 17.9**	**-1.0**
QZH				S		**Sn**	**20 02 46.9**	**-1.5**
QZH				LR		LR		
	comp=Z,9μm,12.9s							
QZH				LR		LR		
	comp=Z,4μm,12.9s							
QZH				LR		LR		
	comp=Z,13μm,15.4s							
HKC	**Hong Kong Obse**	**8.40**	**306**	P		**Pn**	**20 01 25.0**	**-0.1**
GZH	**Guangzhou**	**9.48**	**308**	P		**Pn**	**20 01 40.6**	**+0.8**
GZH				S		**Sn**	**20 03 26.6**	**+0.6**
GZH				LR		LR		
	comp=Z,12μm,13.0s							
GZH				LR		LR		
	comp=Z,9μm,13.8s							
PAGZ	**Pagadian**	**9.70**	**169**	*eP*		Pn	20 01 47.4	+4.6
BUKP	**Musuan**	**10.11**	**159**	*eP*		Pn	20 01 55.7	+7.2
QIZ	**Qiongzhong**	**11.16**	**280**	P		**Pn**	**20 02 02.4**	**-0.5**
QIZ				S		**Sn**	**20 04 08.6**	**+1.3**
QIZ				LR		LR		
	comp=Z,2μm,17.0s							
QIZ				LR		LR		
	comp=Z,3μm,17.0s							
QIZ				LR		LR		
	comp=Z,9μm,15.9s							
JOW	**Kunigami**	**11.29**	**33**	*eP*		**Pn**	**20 02 05.5**	**+0.9**
	comp=Z,28nm,0.8s							
SDKM	**Sandakan**	**12.43**	**200**	P		Pn	20 02 24.8	+4.4
TSM	**Tawau**	**13.51**	**196**	P		Pn	20 02 38.9	+3.9
SSE	**Sheshan**	**13.62**	**359**	P		**Pn**	**20 02 37.6**	**+1.2**
SSE				S		**Sn**	**20 05 11.9**	**+4.6**
SSE				pmax		pmax		
	comp=Z,32nm,1.0s							
SSE				pmax		pmax		
	comp=Z,200nm,5.9s							
SSE				LR		LR		
	comp=Z,1μm,14.1s							
SSE				LR		LR		
	comp=Z,2μm,14.1s							
SSE				LR		LR		
	comp=Z,2μm,15.2s							
DLV	**T Lat**	**13.68**	**248**	P		**Pn**	**20 02 38.0**	**+0.5**
WHN	**Wuhan**	**14.59**	**335**	P		**Pn**	**20 02 51.4**	**+1.7**
WHN				S		**Sn**	**20 05 34.8**	**+3.9**
WHN				LR		LR		
	comp=Z,10μm,15.4s							
WHN				LR		LR		
	comp=Z,8μm,13.4s							
NJ2	**Nanjing**	**14.76**	**351**	*eP*		**Pn**	**20 02 53.1**	**+1.1**
NJ2				pP		**P**	**20 02 57.0**	**-1.0**
NJ2				sP			20 03 00.8	
NJ2				S		**Sn**	**20 05 41.0**	**+5.8**
NJ2				sS		S	20 05 46.5	-7.1
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,240nm,3.8s							
NJ2				LR		LR		
	comp=Z,3μm,19.5s							
NJ2				LR		LR		
	comp=Z,3μm,19.7s							
NJ2				LR		LR		
	comp=Z,2μm,18.0s							
UBPT	**Khong Chiam**	**15.50**	**264**	P		**P**	**20 03 10.3**	**+4.0**
BTM	**Bintulu**	**16.35**	**211**	P		**Pn**	**20 03 14.0**	**+1.1**
GYA	**Guiyang**	**16.40**	**306**	⇑*iP*		**Pn**	**20 03 14.8**	**+1.1**
GYA				PP		**PnPn**	**20 03 27.8**	**+5.0**
GYA				S		**S**	**20 06 24.9**	**-2.6**
GYA				PcP		**PcP**	**20 08 06.0**	**-0.1**
GYA				pmax		pmax		
	comp=Z,60nm,1.0s							
GYA				pmax		pmax		
	comp=Z,590nm,11.1s							
GYA				LR		LR		
	comp=Z,2μm,15.5s							
GYA				LR		LR		
	comp=Z,3μm,16.1s							
GYA				LR		LR		
	comp=Z,5μm,15.8s							
GTOI	**Gorontalo**	**16.75**	**175**	P		**P**	**20 03 19.7**	**-0.4**
	comp=Z,251nm,1.5s,comp=Z,4μm							
ENH	**Enshi**	**16.83**	**322**	*eP*		**P**	**20 03 21.0**	**0.0**
	comp=Z,55nm,1.3s							
MRSI	**Marisa**	**16.84**	**178**	P		**Pn**	**20 03 18.6**	**-0.5**
	comp=Z,111nm,1.6s,comp=Z,2μm							
KMSI	**Cibinong**	**16.92**	**171**	P		**P**	**20 03 26.0**	**+4.0**
	comp=Z,409nm,1.0s,comp=Z,6μm							
SLVN	**Son La**	**17.02**	**286**	*eP*		**Pn**	**20 03 21.4**	**0.0**
SBUM	**Sibu**	**17.43**	**212**	P		**P**	**20 03 28.7**	**+1.0**
SBUM	**Sibu**	**17.43**	**212**	P		**Pn**	**20 03 26.7**	**+0.2**
	comp=Z,71nm,1.7s,comp=Z,1μm							
TNTI	**Ternate**	**17.53**	**160**	P		P	20 03 34.7	+5.9
	comp=Z,163nm,1.7s,comp=Z,2μm							
JNU	**Nakatsue**	**17.79**	**27**	*eP*		**P**	**20 03 32.2**	**+0.6**
	comp=Z,64nm,1.2s							
JNU	**Nakatsue**	**17.79**	**27**	P		**P**	**20 03 32.9**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=240,slow=12,SNR=7.2							
JNU				LR		LR	20 10 11.1	
	comp=Z,1μm,21.3s,baz=42,slow=36							
APSI	**Ampana**	**18.21**	**179**	P		**P**	**20 03 38.4**	**+2.1**
	comp=Z,363nm,1.1s,comp=Z,4μm							
LUWI	**Luwuk**	**18.39**	**176**	P		**Pn**	**20 03 40.0**	**+1.7**
	comp=Z,709nm,1.1s,comp=Z,6μm							
CHAI	**Chaiyaphum**	**18.72**	**268**	P		**Pn**	**20 03 43.9**	**+1.5**
	comp=Z,18nm,1.3s,comp=Z,2μm							
LBMI	**Labuha**	**18.90**	**161**	P		**Pn**	**20 03 45.5**	**+0.9**
	comp=Z,129nm,1.4s,comp=Z,2μm							
CHBT	**CHBT**	**19.05**	**259**	P		**Pn**	**20 03 49.0**	**+2.7**
	comp=Z,296nm,1.0s							
KMI	**Kunming**	**19.05**	**297**	P		**Pn**	**20 03 48.8**	**+2.3**
KMI				pP		**pP**	**20 03 52.0**	**+1.1**
KMI				sP		**sP**	**20 03 53.4**	**+0.1**
KMI				PP		PnPn	20 04 08.3	+9.1
KMI				S		**Sn**	**20 07 17.9**	**-1.7**
KMI				sS		**sS**	**20 07 26.9**	**-2.8**
KMI				SS		SnSn	20 07 44.3	+10
KMI				pmax		pmax		
	comp=Z,1μm,4.8s							
KMI				LR		LR		
	comp=Z,6μm,14.5s							
KMI				LR		LR		
	comp=Z,6μm,15.3s							
KMI				LR		LR		
	comp=Z,6μm,16.7s							
KSM	**Kuching**	**19.27**	**216**	P		**Pn**	**20 03 49.4**	**+0.3**
KSM	**Kuching**	**19.27**	**216**	P		**Pn**	**20 03 49.9**	**+0.9**
	comp=Z,83nm,1.2s,comp=Z,2μm							
KSM	**Kuching**	**19.27**	**216**	*eP*		**P**	**20 03 47.0**	**-1.0**
	comp=Z,107nm,1.2s							
MTKI	**Muara Teweh, K**	**19.36**	**200**	P		**Pn**	**20 03 50.3**	**+0.2**
	comp=Z,76nm,1.5s,comp=Z,2μm							
PBKT	**Sadao Pong**	**19.62**	**271**	P		**Pn**	**20 03 54.1**	**+0.9**
	comp=Z,99nm,1.0s,comp=Z,2μm							
STKI	**Sintang**	**19.85**	**211**	P		**P**	**20 03 54.3**	**0.0**
	comp=Z,80nm,1.5s,comp=Z,2μm							
XAN	**Xi'an**	**20.01**	**328**	P		Pn	20 03 57.5	-0.3
XAN				pP		pP	20 04 03.8	+2.7
XAN				PP		**PnPn**	**20 04 16.3**	**+4.1**
XAN				S		Sn	20 07 42.8	+0.3
XAN				sS		sS	20 07 48.9	+0.3
XAN				pmax		pmax		
	comp=Z,38nm,1.2s							
XAN				pmax		pmax		
	comp=Z,260nm,9.9s							
XAN				LR		LR		
	comp=Z,2μm,16.4s							
XAN				LR		LR		
	comp=Z,620nm,13.3s							
XAN				LR		LR		
	comp=Z,950nm,15.0s							
PHIT	**Phitsanulok**	**20.10**	**272**	P		Pn	20 03 59.1	+0.2
	comp=Z,38nm,1.1s							
MMSI	**Mamuju**	**20.14**	**187**	P		Pn	20 03 58.6	-0.8
	comp=Z,200nm,1.0s,comp=Z,3μm							
PATY	**Pattaya**	**20.37**	**260**	P		Pn	20 04 02.8	+0.7
	comp=Z,41nm,1.2s,comp=Z,725nm							
TTSI	**Tana Toraja**	**20.40**	**185**	P		Pn	20 04 03.9	+1.5
	comp=Z,103nm,1.3s,comp=Z,2μm							
INCN	**Inchon**	**20.50**	**12**	*eP*		**P**	**20 04 00.8**	**-0.5**
	comp=Z,41nm,0.8s							
INCN				LR		LR		
	comp=Z,2μm,20.0s							
SWI	**Sorong**	**20.57**	**151**	P		Pn	20 04 04.5	+0.1
	comp=Z,88nm,1.2s,comp=Z,2μm							
KSAR	**Wonju Array Be**	**20.73**	**15**	P		**P**	**20 04 03.9**	**+0.1**
KSAR				PcP		**PcP**	**20 08 13.1**	**0.0**
KSRS	**Korea Array**	**20.75**	**15**	P		**P**	**20 04 03.9**	**-0.1**
	comp=Z,16nm,0.6s,baz=197,slow=11,SNR=46							
KSRS				PcP		**PcP**	**20 08 13.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=230,slow=1.9,SNR=5.7							
KSRS				LR		LR	20 12 29.9	
	comp=Z,2μm,19.6s,baz=200,slow=38							
LAMP	**Lampang**	**20.80**	**276**	P		Pn	20 04 06.8	-0.3
	comp=Z,11nm,1.0s,comp=Z,127nm							
CD2	**Chengdu**	**20.97**	**313**	⇑*iP*		Pn	20 04 08.3	-0.8
CD2				pP		pP	20 04 12.3	+0.7
CD2				sP		sP	20 04 15.3	+1.3
CD2				PP		**PnPn**	**20 04 30.6**	**+5.2**
CD2				S		**S**	**20 07 57.5**	**-2.0**
CD2				sS		Sn	20 08 03.6	-2.1
CD2				SS		**SnSn**	**20 08 30.3**	**+10**
CD2				pmax		pmax		
	comp=Z,170nm,1.2s							
CD2				pmax		pmax		
	comp=Z,1μm,10.8s							
CD2				LR		LR		
	comp=Z,5μm,14.2s							
CD2				LR		LR		
	comp=Z,6μm,11.8s							
CD2				LR		LR		
	comp=Z,6μm,14.3s							
MJSI	**Majene**	**20.98**	**187**	P		Pn	20 04 09.6	+0.4
	comp=Z,276nm,1.2s,comp=Z,4μm							
NLAI	**Namlea**	**21.27**	**164**	P		**P**	**20 04 10.8**	**+1.2**
	comp=Z,104nm,1.0s,comp=Z,1μm							
SPSI	**Sidrap Palu**	**21.31**	**185**	P		**P**	**20 04 12.4**	**+2.3**
	comp=Z,63nm,1.4s,comp=Z,1μm							
CMAI	**Chiengmai2**	**21.38**	**280**	P		**P**	**20 04 13.7**	**+2.6**
	comp=Z,93nm,1.4s,comp=Z,6μm							
DL2	**Dalian**	**21.41**	**0**	P		**P**	**20 04 09.5**	**-1.5**
DL2				S		**S**	**20 08 06.9**	**-1.0**
DL2				pmax		pmax		
	comp=Z,110nm,1.7s							
DL2				pmax		pmax		
	comp=Z,310nm,3.1s							
DL2				LR		LR		
	comp=Z,980nm,13.8s							
DL2				LR		LR		
	comp=Z,2μm,14.4s							
DL2				LR		LR		
	comp=Z,1μm,14.5s							
CMMT	**Chiang Mai**	**21.45**	**277**	P		**P**	**20 04 13.0**	**+1.4**
	comp=Z,72nm,1.6s,comp=Z,1μm							
CHTO	**Chiang Mai**	**21.45**	**277**	*eP*		**P**	**20 04 12.2**	**+0.5**
CHTO				pmax		pmax		
	comp=Z,95nm,1.4s							
CHTO				MLR		MLR		
	comp=Z,2μm,19.0s							
CHTO	**Chiang Mai**	**21.45**	**277**	*eP*		**P**	**20 04 12.2**	**+0.5**
	comp=Z,95nm,1.4s							
CHTO				LR		LR		
	comp=Z,2μm,19.0s							
CHTO	**Chiang Mai**	**21.45**	**277**	P		**P**	**20 04 13.1**	**+1.4**
	comp=Z,327nm,1.6s,comp=Z,6μm							
CM31	**Chiang Mai Arr**	**21.45**	**276**	*eP*		**P**	**20 04 12.4**	**+0.7**
	comp=Z,90nm,1.3s							
CMAR	**Chiang Mai Arr**	**21.45**	**276**	P		**P**	**20 04 13.6**	**+1.9**
CMAR				PcP		**PcP**	**20 08 15.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**21.45**	**276**	P		**P**	**20 04 13.6**	**+1.9**
	comp=Z,38nm,1.0s,baz=79,slow=10,SNR=134							
CMAR				PcP		**PcP**	**20 08 15.0**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=48,slow=0.7,SNR=9.0							
CMAR				LR		LR	20 12 45.5	
	comp=Z,1μ

IPM	**Ipoh**	**23.80**	**240**	P	**P**	**20 04 35.6**	**-0.5**		
	comp=Z,161nm,1.5s,comp=Z,3µm								
IPM	**Ipoh**	**23.80**	**240**	*e*P	**P**	**20 04 34.9**	**-1.3**		
	comp=Z,254nm,1.3s								
FRIM	**Kepong**	**24.03**	**236**	P	**P**	**20 04 37.5**	**-0.9**		
SRPI	**Serui, Papua**	**24.07**	**141**	P	**P**	**20 04 41.7**	**+3.0**		
	comp=Z,162nm,1.2s,comp=Z,2µm								
MAJO	**Matsushiro**	**24.13**	**35**	*e*P	**P**	**20 04 37.2**	**-1.9**		
MAJO				pmax	pmax				
	comp=Z,91nm,1.8s								
MAJO				MLR	MLR				
	comp=Z,1µm,20.0s								
MAJO	**Matsushiro**	**24.13**	**35**	*e*P	**P**	**20 04 37.2**	**-1.9**		
	comp=Z,91nm,1.8s								
MAJO				LR	LR				
	comp=Z,1µm,20.0s								
MAT	**Matsushiro**	**24.13**	**35**	P	**P**	**20 04 37.0**	**-2.1**		
MAT				S	**S**	**20 09 00.8**	**+4.7**		
MJAR	**Matsushiro Arr**	**24.13**	**35**	P	**P**	**20 04 40.7**	**+1.6**		
MJAR	**Matsushiro Arr**	**24.13**	**35**	P	**P**	**20 04 40.7**	**+1.6**		
	comp=Z,4.0nm,1.0s,baz=256,slow=5.2,SNR=11								
MJAR				LR	LR	20 13 13.6			
	comp=Z,901nm,18.4s,baz=235,slow=34								
TPI	**Tanjungpandan**	**24.24**	**216**	P	**P**	**20 04 40.3**	**+0.1**		
	comp=Z,102nm,1.7s,comp=Z,2µm								
LZH	**Lanzhou**	**24.29**	**323**	⇑P	**P**	**20 04 42.3**	**+1.6**		
LZH				pP	**pP**	**20 04 45.3**	**-1.0**		
LZH				sP	**sP**	**20 04 47.0**	**-1.5**		
LZH				PP	PnPn	20 05 18.5	+7.7		
LZH				S	**S**	**20 08 58.0**	**-0.9**		
LZH				sS	**sS**	**20 09 05.1**	**-2.9**		
LZH				SS	SnSn	20 09 52.5	+10		
LZH				pmax	pmax				
	comp=Z,200nm,1.5s								
LZH				pmax	pmax				
	comp=Z,960nm,7.2s								
LZH				LR	LR				
	comp=Z,3µm,13.5s								
LZH				LR	LR				
	comp=Z,3µm,14.0s								
LZH				LR	LR				
	comp=Z,4µm,16.1s								
SNY	**Shenyang**	**24.39**	**4**	⇑P	**P**	**20 04 40.0**	**-1.4**		
SNY				S	**S**	**20 09 04.8**	**+4.6**		
SNY				pmax	pmax				
	comp=Z,400nm,1.4s								
SNY				LR	LR				
	comp=Z,1µm,14.1s								
SNY				LR	LR				
	comp=Z,1µm,12.0s								
SNY				LR	LR				
	comp=Z,1µm,16.9s								
HHC	**Hu-ho-hao-te**	**24.86**	**342**	*e*P	**P**	**20 04 47.3**	**+1.5**		
HHC				sP	**sP**	**20 04 54.4**	**+0.8**		
HHC				PP	**PnPn**	**20 05 24.4**	**+5.8**		
HHC				S	**S**	**20 09 09.1**	**+1.1**		
HHC				sS	**sS**	**20 09 13.6**	**-3.6**		
HHC				SS	SnSn	20 10 06.4	+10		
HHC				pmax	pmax				
	comp=Z,93nm,0.9s								
HHC				pmax	pmax				
	comp=Z,2µm,3.8s								
HHC				LR	LR				
	comp=Z,7µm,12.6s								
HHC				LR	LR				
	comp=Z,2µm,12.7s								
JMBI	**JAMBI**	**25.83**	**225**	P	P	20 05 08.2	+14		
BKNI	**Bangkinang**	**26.32**	**232**	P	**P**	**20 05 00.7**	**+1.6**		
	comp=Z,131nm,1.3s,comp=Z,2µm								
TSI	**Tuntungan**	**26.38**	**241**	P	**P**	**20 05 00.9**	**+1.2**		
	comp=Z,123nm,1.3s,comp=Z,2µm								
PSI	**Prapat**	**26.47**	**239**	P	**P**	**20 05 00.0**	**-0.6**		
PSI	**Prapat**	**26.47**	**239**	P	**P**	**20 05 00.0**	**-0.6**		
	comp=Z,41nm,1.1s,baz=32,slow=6.5,SNR=33								
CN2	**Changchun**	**26.52**	**6**	*e*P	**P**	**20 05 02.8**	**+2.2**		
CN2				*es*P	**sP**	**20 05 09.6**	**+1.2**		
CN2				PcP	**PcP**	**20 08 25.8**	**+0.6**		
CN2				*e*S	**S**	**20 09 35.4**	**+1.5**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=Z,2µm,12.0s								
CN2				LR	LR				
	comp=Z,2µm,12.0s								
CN2				LR	LR				
	comp=Z,1µm,13.0s								
KCSI	**Kotacane, Aceh**	**27.03**	**242**	P	**P**	**20 05 04.6**	**-1.0**		
	comp=Z,47nm,1.2s,comp=Z,553nm								
TGJI	**Tegal**	**27.04**	**208**	P	**P**	**20 05 08.3**	**+2.7**		
	comp=Z,53nm,1.2s								
MNSI	**Mandailing Nat**	**27.14**	**235**	P	**P**	**20 05 07.1**	**+0.6**		
	comp=Z,72nm,1.5s,comp=Z,1µm								
BJII	**Banjamegara**	**27.20**	**206**	P	**P**	**20 05 07.8**	**+0.7**		
	comp=Z,140nm,1.4s,comp=Z,2µm								
PPI	**Padang Panjang**	**27.31**	**232**	P	**P**	**20 05 09.1**	**+1.0**		
	comp=Z,52nm,1.6s,comp=Z,746nm								
KLSI		**27.49**	**218**	P	**P**	**20 05 11.9**	**+2.2**		
	comp=Z,65nm,0.9s,comp=Z,1µm								
KPJI	**Karang Pucung**	**27.54**	**208**	P	**P**	**20 05 11.2**	**+1.2**		
	comp=Z,54nm,0.9s,comp=Z,1µm								
MDSI	**Maura Dua**	**27.66**	**220**	P	P	20 05 16.8	+5.6		
	comp=Z,34nm,1.2s								
MDJ	**Mudanjiang**	**27.96**	**12**	P	**P**	**20 05 14.4**	**+0.8**		
MDJ				pP	**pP**	**20 05 17.4**	**-1.8**		
MDJ				sP	**sP**	**20 05 18.8**	**-2.7**		
MDJ				PcP	**PcP**	**20 08 27.4**	**-1.2**		
MDJ				S	**S**	**20 09 59.9**	**+3.1**		
MDJ				ScP	**ScP**	**20 12 08.6**	**-0.1**		
MDJ				PcS	**PcS**	**20 12 09.6**	**-0.9**		
MDJ				ScS	**ScS**	**20 16 01.8**	**+0.8**		
MDJ				pmax	pmax				
	comp=Z,180nm,6.7s								
MDJ				LR	LR				
	comp=Z,1µm,23.2s								
MDJ				LR	LR				
	comp=Z,1µm,21.9s								
MDJ				LR	LR				
	comp=Z,2µm,19.4s								
MDJ	**Mudanjiang**	**27.96**	**12**	PFAKE		20 05 30.0	+16		
MDJ				LR	LR				
	comp=Z,2µm,20.0s								
USRK	**Ussuriysk Arra**	**28.14**	**16**	P	**P**	**20 05 17.8**	**+2.7**		
	comp=Z,4.3nm,0.8s,baz=208,slow=10,SNR=7.2								
USRK				LR	LR	20 17 46.6			
	comp=Z,2µm,18.0s,baz=349,slow=39								
LWLI	**Liwa**	**28.15**	**219**	P	**P**	**20 05 18.4**	**+2.7**		
	comp=Z,67nm,1.1s,comp=Z,3µm								
CISI	**Cisompet, Garu**	**28.25**	**210**	P	**P**	**20 05 15.5**	**-1.0**		
	comp=Z,40nm,2.2s								
KASI	**Kota Agung**	**28.30**	**218**	P	P	20 05 25.7	+8.9		
SHL	**Shillong**	**28.64**	**292**	*i* P	**P**	**20 05 20.0**	**-0.2**		
SHL				*i* S	**ScP**	**20 12 11.0**	**-0.5**		
SNSI	**Sinabang, Aceh**	**28.84**	**242**	P	**P**	**20 05 21.1**	**-0.7**		
GTA	**Gaotai**	**28.89**	**324**	⇑P	**P**	**20 05 22.9**	**+0.8**		
GTA				pP	**pP**	**20 05 27.4**	**-0.3**		
GTA				sP	**sP**	**20 05 30.0**	**+0.1**		
GTA				PcP	**PcP**	**20 08 31.5**	**+0.3**		
GTA				S	**S**	**20 10 16.1**	**+4.4**		
GTA				sS	**sS**	**20 10 23.0**	**+2.1**		
GTA				PcS	**PcS**	**20 12 13.3**	**-0.7**		
GTA				ScS	**ScS**	**20 16 03.5**	**-2.2**		
GTA				pmax	pmax				
	comp=Z,17nm,1.4s								
GTA				pmax	pmax				
	comp=Z,220nm,6.2s								
GTA				LR	LR				
	comp=Z,1µm,17.1s								
GTA				LR	LR				
	comp=Z,1µm,16.6s								
GTA				LR	LR				
	comp=Z,2µm,16.9s								
LSA	**Lhasa**	**30.26**	**299**	P	**P**	**20 05 35.3**	**+0.5**		
LSA				pmax	pmax				
	comp=Z,30nm,1.3s								
LSA				LR	LR				
	comp=Z,1µm,16.2s								
LSA				LR	LR				
	comp=Z,2µm,18.0s								
LSA	**Lhasa**	**30.26**	**299**	*e*P	**P**	**20 05 35.3**	**+0.5**		
LSA				pmax	pmax				
	comp=Z,16nm,0.6s								
LSA				MLR	MLR				
	comp=Z,2µm,20.0s								
LSA	**Lhasa**	**30.26**	**299**	*e*P	**P**	**20 05 35.3**	**+0.5**		
	comp=Z,16nm,0.6s								
LSA				LR	LR				
	comp=Z,2µm,20.0s								
ERM	**Erimo**	**30.74**	**33**	PFAKE		20 05 50.0	+12		
ERM				LR	LR				
	comp=Z,1µm,20.0s								
HIA	**Hailar**	**31.80**	**358**	PFAKE		20 06 00.0	+12		
HIA				LR	LR				
	comp=Z,1µm,21.0s								
ULN	**Ulaanbaatar**	**32.59**	**342**	*e*P	**P**	**20 05 55.3**	**+0.7**		
	comp=Z,65nm,1.4s								
ULN				LR	LR				
	comp=Z,2µm,19.0s								
TAPN	**Taplejung**	**32.65**	**294**	*e*P	**P**	**20 05 55.9**	**+0.3**		
	comp=Z,50nm,1.0s								
TAPN	**Taplejung**	**32.65**	**294**	*e*P	**P**	**20 05 55.9**	**+0.3**		
	comp=Z,50nm,1.0s								
SONM	**Songino Array**	**32.76**	**341**	P	**P**	**20 05 56.8**	**+0.7**		
SONM				PcP	**PcP**	**20 08 41.2**	**0.0**		
SONM				ScP	**ScP**	**20 12 23.0**	**-1.6**		
SONM	**Songino Array**	**32.76**	**341**	P	**P**	**20 05 56.8**	**+0.7**		
	comp=Z,10nm,0.8s,baz=160,slow=9.3,SNR=73								
SONM				PcP	**PcP**	**20 08 41.2**	**0.0**		
	comp=Z,3.8nm,0.7s,baz=159,slow=4.3,SNR=7.5								
SONM				ScP	**ScP**	**20 12 23.0**	**-1.6**		
	comp=Z,2.5nm,1.0s,baz=140,slow=0.6,SNR=7.3								
SONM				LR	LR	20 20 30.2			
	comp=Z,3µm,18.1s,baz=246,slow=38								
KLR	**Kul'dur**	**32.81**	**12**	*e*P	P	20 05 52.3	-4.1		
KLR				*e*		20 08 37.1			
KLR				*e*		20 13 28.5			
KLR				pmax	pmax				
	comp=Z,100nm,1.8s								
ODAN	**Odare**	**32.84**	**293**	*e*P	**P**	**20 05 57.4**	**+0.1**		
	comp=Z,49nm,0.5s								
ODAN	**Odare**	**32.84**	**293**	*e*P	**P**	**20 05 57.4**	**+0.1**		
	comp=Z,49nm,0.5s								
HABR	**Khabarovsk**	**32.90**	**17**	P	**P**	**20 05 55.0**	**-2.1**		
HABR				*e**PP	**pP**	**20 06 04.5**	**+1.8**		
HABR				*e**SP	**sP**	**20 06 08.7**	**+3.7**		
HABR				*e*		20 07 04.3			
HABR				*e*		20 08 38.5			
HABR				*e*S	**S**	**20 11 11.3**	**-2.7**		
HABR				*e**SS	**sS**	**20 11 27.7**	**+4.5**		
HABR				*e*SS	**SnSn**	**20 13 10.7**	**-0.7**		
HABR						20 16 20.3			
HABR				MLR	MLR				
	comp=Z,2µm,17.0s								
RAMN	**Ramite**	**33.55**	**293**	*e*P	**P**	**20 06 03.9**	**+0.4**		
	comp=Z,92nm,0.5s								
RAMN	**Ramite**	**33.55**	**293**	*e*P	**P**	**20 06 03.9**	**+0.4**		
	comp=Z,92nm,0.5s								
JIRN	**Jiri**	**34.03**	**294**	*e*P	**P**	**20 06 08.0**	**+0.2**		
JIRN	**Jiri**	**34.03**	**294**	*e*P	**P**	**20 06 08.0**	**+0.2**		
YSS	**Yuzh-Sakhalins**	**34.30**	**26**	*e*P	P	20 06 16.0	+6.6		
YSS				*e*		20 06 25.8			
YSS				MLR	MLR				
	comp=Z,600nm,15.0s								
YSS				MLR	MLR				
	comp=N,700nm,16.0s								
YSS				MLR	MLR				
	comp=E,600nm,13.0s								
YSS	**Yuzh-Sakhalins**	**34.30**	**26**	PFAKE		20 06 20.0	+11		
YSS				LR	LR				
	comp=Z,573nm,20.0s								
GUN	**Gumba**	**34.35**	**294**	*e*P	**P**	**20 06 10.7**	**+0.2**		
	comp=Z,140nm,0.9s								
GUN	**Gumba**	**34.35**	**294**	*e*P	**P**	**20 06 10.7**	**+0.2**		
	comp=Z,140nm,0.9s								
PKI	**Pulchoki**	**34.70**	**293**	*e*P	**P**	**20 06 13.0**	**-0.5**		
PKI	**Pulchoki**	**34.70**	**293**	*e*P	**P**	**20 06 13.0**	**-0.5**		
PKI				pmax	pmax				
	comp=Z,21nm,0.5s								
PKI	**Pulchoki**	**34.70**	**293**	*e*P	**P**	**20 06 13.0**	**-0.5**		
	comp=Z,21nm,0.5s								
PKIN	**Phulchoki**	**34.71**	**293**	*e*P	**P**	**20 06 13.0**	**-0.6**		
	comp=Z,21nm,0.5s								
KKN	**Kakani**	**34.85**	**294**	*e*P	**P**	**20 06 14.4**	**-0.3**		
	comp=Z,79nm,1.1s								
KKN	**Kakani**	**34.85**	**294**	*e*P	**P**	**20 06 14.4**	**-0.3**		
KKN				pmax	pmax				
	comp=Z,79nm,1.1s								
KKN	**Kakani**	**34.85**	**294**	*e*P	**P**	**20 06 14.4**	**-0.3**		
	comp=Z,79nm,1.1s								
DMN	**Daman**	**34.97**	**293**	*e*P	**P**	**20 06 15.4**	**-0.4**		
	comp=Z,108nm,1.1s								
DMN	**Daman**	**34.97**	**293**	*e*P	**P**	**20 06 15.4**	**-0.4**		
	comp=Z,108nm,1.1s								
CIT	**Chita**	**35.09**	**351**	*e*P	**P**	**20 06 16.0**	**-0.2**		
CIT				*e*		20 06 31.3			
CIT				pmax	pmax				
	comp=Z,68nm,2.2s								
GKN	**Gorkha**	**35.44**	**294**	*e*P	**P**	**20 06 19.1**	**-0.7**		
	comp=Z,79nm,0.8s								
GKN	**Gorkha**	**35.44**	**294**	*e*P	**P**	**20 06 19.1**	**-0.7**		
	comp=Z,79nm,0.8s								
ZAK	**Zakamensk**	**35.98**	**340**	*e*P	**P**	**20 06 23.9**	**-0.1**		
ZAK				*e*		20 07 48.8			
ZAK				*e*		20 08 49.1			
ZAK				pmax	pmax				
	comp=Z,21nm,1.8s								
DANN	**Dangsing**	**36.26**	**294**	*e*P	**P**	**20 06 26.4**	**-0.5**		
	comp=Z,95nm,1.1s								
DANN	**Dangsing**	**36.26**	**294**	*e*P	**P**	**20 06 26.4**	**-0.5**		
	comp=Z,95nm,1.1s								
KOLN	**Koldanda**	**36.32**	**293**	*e*P	**P**	**20 06 26.8**	**-0.5**		
	comp=Z,126nm,1.2s								
KOLN	**Koldanda**	**36.32**	**293**	*e*P	**P**	**20 06 26.8**	**-0.5**		
	comp=Z,126nm,1.2s								
PMG	**Port Moresby**	**36.81**	**134**	*e*P	**P**	**20 06 28.4**	**-2.9**		
	comp=Z,44nm,1.2s								
PMG				LR	LR				
	comp=Z,541nm,22.0s								
PYUN	**Piuthan**	**36.90**	**294**	*e*P	**P**	**20 06 31.9**	**-0.4**		
	comp=Z,169nm,1.2s								
PYUN	**Piuthan**	**36.90**	**294**	*e*P	**P**	**20 06 31.9**	**-0.4**		
	comp=Z,169nm,1.2s								
TLY	**Talaya**	**36.99**	**342**	P	**P**	**20 06 33.1**	**+0.6**		
	comp=Z,169nm,1.2s,SNR=13								
TLY	**Talaya**	**36.99**	**342**	*e*P	**P**	**20 06 33.4**	**+0.9**		
TLY				*e*S	**S**	**20 12 21.8**	**+4.8**		
TLY				pmax	pmax				
	comp=Z,88nm,2.0s								
TLY				MLR	MLR				
	comp=Z,2µm,19.0s								
TLY	**Talaya**	**36.99**	**342**	*e*P	**P**	**20 06 32.8**	**+0.3**		
	comp=Z,164nm,1.8s								
TLY				LR	LR				
	comp=Z,2µm,19.0s								
IRK	**Irkutsk**	**37.30**	**343**	*e*P	**P**	**20 06 35.4**	**+0.3**		
IRK				pmax	pmax				
	comp=Z,137nm,1.8s								
COEN	**Coen**	**37.83**	**144**	*e*P	**P**	**20 06 37.9**	**-2.0**		
	comp=Z,410nm,1.7s								
MOY	**Mondy**	**37.83**	**339**	*e*P	**P**	**20 06 39.9**	**+0.2**		
MOY				pmax	pmax				
	comp=Z,99nm,2.2s								
COCO	**West Island**	**38.18**	**221**	PFAKE		20 06 50.0	+7.2		
COCO				LR	LR				
	comp=Z,721nm,20.0s								
WMQ	**Urumqi**	**38.76**	**320**	P	**P**	**20 06 48.0**	**+0.4**		
WMQ				sP	**sP**	**20 06 55.0**	**-0.6**		
WMQ				PP	**PnPn**	**20 08 22.0**	**+3.3**		
WMQ				PcP	**PcP**	**20 08 59.0**	**0.0**		
WMQ				S	**ScP**	**20 12 48.0**	**+1.5**		
WMQ				SS	**SnSn**	**20 15 30.0**	**-3.7**		
WMQ				ScS	**ScS**	**20 16 55.0**	**-2.2**		
WMQ				pmax	pmax				
	comp=Z,31nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,380nm,4.0s								
WMQ				LR	LR				
	comp=Z,2µm,15.0s								
WMQ				LR	LR				
	comp=Z,2µm,15.0s								
WMQ				LR	LR				
	comp=Z,1µm,15.0s								
WRAB	**Tennant Creek**	**39.22**	**161**	*e*P	**P**	**20 06 49.3**	**-2.2**		
WRAB				pmax	pmax				
	comp=Z,56nm,1.3s								
WRAB	**Tennant Creek**	**39.22**	**161**	*e*P	**P**	**20 06 48.6**	**-2.9**		
	comp=Z,154nm,1.4s								
WRAB				LR	LR				
	comp=Z,663nm,22.0s								
WRAB	**Tennant Creek**	**39.22**	**161**	P	**P**	**20 06 49.5**	**-2.0**		
	comp=Z,106nm,0.9s,SNR=14								
WRA	**Warramunga Arr**	**39.22**	**161**	P	**P**	**20 06 49.1**	**-2.5**		
WRA				PcP	**PcP**	**20 09 00.5**	**-0.2**		
WRA	**Warramunga Arr**	**39.22**	**161**	P	**P**	**20 06 49.1**	**-2.5**		
	comp=Z,7.1nm,0.6s,baz=342,slow=9.0,SNR=72								
WRA				PcP	**PcP**	**20 09 00.5**	**-0.2**		
	comp=Z,4.1nm,0.6s,baz=345,slow=3.3,SNR=6.1								
HVS	**Khovu-Aksy**	**40.24**	**333**	*c* P	**P**	**20 07 00.7**	**+0.8**		
HYB	**Hyderabad**	**40.88**	**277**	*i* P	**P**	**20 07 04.0**	**-1.5**		
AS31	**Alice Springs**	**42.60**	**163**	*e*P	**P**	**20 07 17.1**	**-2.3**		
ASAR	**Alice Springs**	**42.60**	**163**	P	**P**	**20 07 17.1**	**-2.3**		
ASAR	**Alice Springs**	**42.60**	**163**	P	**P**	**20 07 17.1**	**-2.3**		
	comp=Z,5.7nm,0.6s,baz=340,slow=6.9,SNR=103								
H11S3	**WAKE ISLAND Hy**	**42.95**	**81**	T	T	20 52 44.6			
	baz=278,slow=72,SNR=444								
H11S1	**WAKE ISLAND Hy**	**42.96**	**81**	T	T	20 52 45.4			
	baz=278,slow=72,SNR=274								
H11S2	**WAKE ISLAND Hy**	**42.97**	**81**	T	T	20 52 45.9			
	baz=278,slow=72,SNR=366								
H11N1	**WAKE ISLAND Hy**	**43.03**	**80**	T	T	20 52 48.4			
	baz=278,slow=75,SNR=178								
H11N2	**WAKE ISLAND Hy**	**43.03**	**80**	T	T	20 52 48.0			
	baz=278,slow=75,SNR=179								
H11N3	**WAKE ISLAND Hy**	**43.05**	**80**	T	T	20 52 52.3			
	baz=278,slow=75,SNR=152								
MK31	**Makanchi Array**	**43.56**	**321**	*e*P	**P**	**20 07 27.1**	**+0.1**		
MK31	**Makanchi Array**	**43.56**	**321**	*e*P	**P**	**20 07 27.1**	**+0.1**		
MKAR	**Makanchi Array**	**43.56**	**321**	P	**P**	**20 07 27.3**	**+0.3**		
MKAR						20 09 14.6			
MKAR	**Makanchi Array**	**43.56**	**321**	P	**P**	**20 07 27.3**	**+0.3**		
MKAR				PcP	**PcP**	**20 09 14.6**	**0.0**		
MKAR	**Makanchi Array**	**43.56**	**321**	P	**P**	**20 07 27.3**	**+0.3**		
	comp=Z,13nm,0.8s,baz=97,slow=9.2,SNR=141								
MKAR				PcP	**PcP**	**20 09 14.6**	**0.0**		
	comp=Z,13nm,0.7s,baz=100,slow=3.8,SNR=11								
MKAR				LR	LR	20 26 14.2			
	comp=Z,705nm,19.5s,baz=126,slow=37								
CTAO	**Charters Tower**	**44.52**	**146**	*e*P	**P**	**20 07 34.1**	**-0.8**		
CTAO				pmax	pmax				
	comp=Z,53nm,1.3s								
CTAO				MLR	MLR				
	comp=Z,733nm,20.0s								
CTAO	**Charters Tower**	**44.52**	**146**	*e*P	**P**	**20 07 34.1**	**-0.8**		
	comp=Z,53nm,1.3s								
CTAO				LR	LR				
	comp=Z,733nm,20.0s								
YAK	**Yakutsk**	**44.94**	**5**	*e*P	**P**	**20 07 35.3**	**-2.4**		
YAK				*e*		20 09 17.9			
YAK				pmax	pmax				
	comp=Z,19nm,1.5s								
YAK				MLR	MLR				
	comp=E,379nm,15.0s								
YAK				MLR	MLR				
	comp=N,573nm,12.0s								
YAK				MLR	MLR				
	comp=Z,1µm,14.0s								
YAK	**Yakutsk**	**44.94**	**5**	*e*P	**P**	**20 07 37.0**	**-0.7**		
	comp=Z,25nm,1.2s								
YAK				LR	LR				
	comp=Z,717nm,20.0s								
KSH	**Kashi**	**45.07**	**309**	P	**P**	**20 07 41.6**	**+2.3**		
KSH				sP	**sP**	**20 07 49.1**	**+1.8**		
KSH				PP	**PP**	**20 09 29.0**	**+4.3**		
KSH				PcS	**PcS**	**20 13 14.1**	**+0.3**		
KSH				S	**S**	**20 14 21.3**	**+3.6**		
KSH				SS	**ScS**	**20 17 36.3**	**+0.3**		
KSH				pmax	pmax				
	comp=Z,62nm,1.4s								
KSH				pmax	pmax				
	comp=Z,110nm,2.7s								
KSH				LR	LR				
	comp=Z,850nm,12.0s								
KSH				LR	LR				
	comp=Z,2µm,14.9s								
KSH				LR	LR				
	comp=Z,2µm,14.9s								
PETK	**Petropavlovsk-**	**45.44**	**30**	P	**P**	**20 07 42.5**	**+0.6**		
PETK						20 09 20.7			
PETK	**Petropavlovsk-**	**45.44**	**30**	P	**P**	**20 07 42.5**	**+0.6**		
PETK				PcP	**PcP**	**20 09 20.7**	**-0.1**		
PETK	**Petropavlovsk-**	**45.44**	**30**	P	**P**	**20 07 42.5**	**+0.6**		
	comp=Z,10nm,0.7s,baz=201,slow=6.8,SNR=10								
PETK				PcP	**PcP**	**20 09 20.7**	**-0.1**		
	comp=Z,6.9nm,0.7s,baz=216,slow=4.6,SNR=3.0								
PETK				LR	LR	20 26 04.2			
	comp=Z,438nm,19.2s,baz=80,slow=35								
AAA	**Alma-Ata**	**45.54**	**314**	*e*P	P	20 07 49.2	+6.3		
AAA				*e*S	S	20 14 16.1	-8.1		
AAA				pmax	pmax				
	comp=Z,300nm,6.5s								
AAA				smax	smax				
	comp=E,300nm,5.7s								
AAA				MLR	MLR				
	comp=Z,2µm,28.0s								
ULHL	**Ulahol**	**45.69**	**313**	*i* P	**P**	**20 07 45.0**	**+0.7**		
ULHL	**Ulahol**	**45.69**	**313**	P	**P**	**20 07 45.0**	**+0.7**		
	SNR=12								
PET	**Petropavlovsk**	**45.85**	**31**	*e*P	**P**	**20 07 46.4**	**+1.3**		
PET				*e*S	**S**	**20 14 25.7**	**-2.5**		
PET				pmax	pmax				
	comp=Z,34nm,0.6s								
PET				MLR	MLR				
	comp=Z,500nm,20.0s								
ZAA0	**Zalesovo Array**	**46.15**	**331**	*e*P	**P**	**20 07 45.6**	**-1.8**		
ZALV	**Zalesovo Beam**	**46.15**	**331**	P	**P**	**20 07 46.9**	**-0.6**		
ZALV	**Zalesovo Beam**	**46.15**	**331**	P	**P**	**20 07 46.9**	**-0.6**		
ZALV				ScP	**ScP**	**20 13 12.0**	**-3.8**		
ZALV	**Zalesovo Beam**	**46.15**	**331**	P	**P**	**20 07 46.9**	**-0.6**		
	comp=Z,4.6nm,0.5s,baz=116,slow=6.8,SNR=28								
ZALV				ScP	**ScP**	**20 13 12.0**	**-3.8**		
	comp=Z,0.5nm,0.5s,baz=131,slow=5.9,SNR=2.3								
ZALV				LR	LR	20 28 10.1			
	comp=Z,1µm,18.9s,baz=253,slow=37								
KZA	**Kyzart**	**46.33**	**312**	*i* P	**P**	**20 07 50.9**	**+1.3**		
KZA	**Kyzart**	**46.33**	**312**	P	**P**	**20 07 51.0**	**+1.3**		
	SNR=24								
TKM2	**Tokmak 2**	**46.35**	**313**	*i* P	**P**	**20 07 50.2**	**+0.7**		
TKM2	**Tokmak 2**	**46.35**	**313**	P

KURK pmax pmax
comp=Z,47nm,1.4s
KURK Kurchatov 47.57 324 *eP* **P 20 07 58.5 -0.1**
comp=Z,60nm,1.3s
KURK LR LR
comp=Z,231nm,21.0s
KURK Kurchatov 47.57 324 P **P 20 07 58.1 -0.5**
comp=Z,352nm,0.9s,SNR=36
FORT Forrest 48.34 172 *eP* **P 20 08 01.7 -3.0**
comp=Z,25nm,0.7s
KBL Kabul 49.57 301 *eP* **P 20 08 14.4 -0.2**
KBL pmax pmax
comp=Z,83nm,1.3s
KBL Kabul 49.57 301 *eP* **P 20 08 14.4 -0.2**
comp=Z,82nm,1.3s
KK31 Karatay Array 49.98 312 *i* P **P 20 08 16.7 -0.6**
KK31 pmax pmax
comp=Z,24nm,1.0s
KKAR Karatay Array 49.98 312 *eP* **P 20 08 17.0 -0.3**
KKAR pmax pmax
comp=Z,16nm,0.9s
KKAR Karatay Array 49.98 312 *eP* **P 20 08 17.0 -0.3**
comp=Z,16nm,0.9s
EIDS Eidsvold 51.38 145 *eP* **P 20 08 26.9 -1.1**
comp=Z,14nm,1.1s
BBOO Buckleboo 51.86 164 *eP* **P 20 08 28.9 -2.5**
comp=Z,1µm,1.4s
STKA Stephens Creek 52.68 158 *eP* **P 20 08 35.5 -2.1**
comp=Z,3.3nm,0.8s
STKA Stephens Creek 52.68 158 P **P 20 08 35.7 -1.9**
comp=Z,12nm,0.6s,baz=336,slow=6.7,SNR=63
TARA Tarawa 53.01 102 PFAKE 20 08 50.0 +10
TARA LR LR
comp=Z,2µm,21.0s
BVA0 Borovoye Array 53.17 324 *i* P **P 20 08 40.8 -0.2**
BVA0 pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 53.24 324 *ceP* **P 20 08 41.6 0.0**
BRVK pmax pmax
comp=Z,75nm,1.7s
BRVK Borovoye 53.24 324 *eP* **P 20 08 41.5 0.0**
comp=Z,90nm,1.5s
BRVK LR LR
comp=Z,686nm,19.0s
BRVK Borovoye 53.24 324 P **P 20 08 41.0 -0.5**
comp=Z,186nm,1.6s,SNR=18
TIXI Tiksi 54.40 3⇑ *iP* **P 20 08 48.1 -1.6**
TIXI pmax pmax
comp=Z,46nm,2.5s
TIXI Tiksi 54.40 3 *eP* **P 20 08 47.8 -1.9**
comp=Z,13nm,0.9s
TIXI LR LR
comp=Z,980nm,20.0s
IMYA Miami 56.98 302 *eP* **P 20 09 09.5 +0.5**
IDAH Dahanechah 57.12 298 *eP* **P 20 09 10.1 -0.1**
ISRO Mashad 57.49 302 *eP* **P 20 09 12.7 +0.1**
ITEG Tejag 58.06 298 *eP* **P 20 09 17.1 +0.4**
IKRD Kardeh 58.27 303 *eP* P 20 09 13.5 -4.7
AB31 Akbulak array 58.46 317 *i* P **P 20 09 18.3 -0.7**
AB31 pmax pmax
comp=Z,11nm,0.7s
ABKAR Akbulak array 58.46 317 *eP* **P 20 09 18.4 -0.6**
comp=Z,3.6nm,0.5s
CAN Canberra 58.60 154 PFAKE 20 09 30.0 +10
CAN LR LR
comp=Z,253nm,19.0s
ABKT Ailbek 58.62 304 P **P 20 09 20.8 +0.4**
comp=Z,174nm,1.6s,SNR=8.9
DZM Mont Dzumac 58.98 130 *eS* S 20 17 19.7 -9.3
comp=Z,862nm,31.9s
DZM *e*LR LR 20 26 40.3
comp=Z,516nm,23.4s
SVE Sverdlovsk 59.71 326⇑ *iP* **P 20 09 27.7 +0.2**
SVE *eS* S 20 17 46.2 +8.8
SVE pmax pmax
comp=Z,64nm,1.5s
SVE MLR MLR
comp=Z,889nm,16.0s
AKTO Aktyubinsk 59.89 319 P **P 20 09 28.0 -0.9**
AKTO pmax pmax
comp=Z,23nm,1.4s
AKTO Aktyubinsk 59.89 319 P **P 20 09 28.4 -0.5**
AKTO Aktyubinsk 59.89 319 P **P 20 09 28.4 -0.5**
comp=Z,4.3nm,0.8s,baz=94,slow=6.9,SNR=16
IBND Bandar-abas 60.27 292 *eP* **P 20 09 33.0 +1.2**
ARU Arti 60.73 325 P **P 20 09 33.2 -1.3**
comp=Z,143nm,0.7s,SNR=12
ARU Arti 60.73 325*c iP* **P 20 09 33.6 -0.9**
ARU 20 10 16.4
ARU 20 11 49.2
ARU S **S 20 17 49.2 -1.2**
ARU SS **SS 20 21 42.5 -6.5**
ARU pmax pmax
comp=Z,59nm,1.7s
ARU MLR MLR
comp=Z,858nm,17.0s
ARU Arti 60.73 325 *eP* **P 20 09 33.4 -1.1**
comp=Z,16nm,0.8s
ARU LR LR
comp=Z,565nm,20.0s
IBAF Bafgh 60.80 297 *eP* **P 20 09 35.7 0.0**
IMEH Mehriz 61.63 297 *eP* **P 20 09 40.5 -0.9**
IANJ Anjilo 62.00 301 *eP* **P 20 09 43.4 -0.4**
IGLO Ghaloghah 62.04 302 *eP* **P 20 09 44.2 +0.2**
IKIA Kiasar 62.16 302 *eP* **P 20 09 44.9 0.0**
SOKR Solikamsk 62.36 329*d iP* **P 20 09 45.1 -0.3**
SOKR pmax pmax
comp=Z,30nm,1.5s
SOKR MLR MLR
comp=Z,1µm,18.0s
ISAD Sadrabad 62.38 297 *eP* **P 20 09 45.7 -0.8**
ILAS Lasjerd 62.78 301 *eP* **P 20 09 48.6 -0.5**
ISRV Sarvestan 63.09 295 *eP* **P 20 09 50.7 -0.6**
IPAR Pars 63.10 295 *eP* **P 20 09 50.4 -0.9**
IZEF Zefreh 63.46 299 *eP* **P 20 09 52.8 -0.8**
IVRN Varamin 63.81 301 *eP* **P 20 09 54.9 -0.8**
IKLH Kolahrood 64.05 299 *eP* **P 20 09 57.5 0.0**
IR3 Iran Long-Peri 64.36 301 *eP* **P 20 09 59.1 -0.2**
IMHD Mahdasht 64.63 302 *eP* **P 20 10 01.1 0.0**
IRAZ Razeghan 65.25 301 *eP* **P 20 10 05.1 -0.2**
TNA Tin City 66.27 25 *eP* **P 20 10 11.8 +0.8**
comp=Z,42nm,1.5s
IHRS Heris 67.33 305 *eP* **P 20 10 18.1 -0.5**
UMR Umm Al-Rimmam 67.74 295 *eP* **P 20 10 19.4 -1.6**
UMR AMb AMB 20 10 22.0
comp=Z,67nm,1.2s
RDF Al-Radifah 67.97 295 *eP* **P 20 10 21.5 -1.0**
RDF AMb AMB 20 10 25.8
comp=Z,82nm,2.1s
ITBZ Tabriz 68.04 305 *eP* **P 20 10 23.3 +0.3**
NAY Al-Naaiem 68.19 295 *eP* **P 20 10 22.3 -1.6**
NAY AMb AMB 20 10 24.8
comp=Z,42nm,1.4s
IMRD Marand 68.34 305 *eP* **P 20 10 24.6 -0.3**
DGRG David-gareji 68.36 308 P **P 20 10 25.7 +0.9**
RST Umm Al-Ruwaisa 68.37 295 *eP* **P 20 10 23.1 -1.9**
MSEY Mahe Island 68.70 258 PFAKE 20 10 40.0 +13
MSEY LR LR
comp=Z,710nm,19.0s
DUS Dusheti 68.81 309 P P 20 10 36.2 +8.6
TBLG Delisi 68.82 309 P **P 20 10 26.9 -0.7**
GUDG Gudauri 68.95 309 P **P 20 10 29.3 +0.6**
GNI Garni 68.95 307 *eP* **P 20 10 28.5 -0.1**
comp=Z,104nm,1.6s
GNI LR LR
comp=Z,416nm,21.0s
ZEI Tsey 69.35 310 *eP* **P 20 10 30.5 -0.6**
ZEI pmax pmax
comp=Z,25nm,1.6s
ONI Oni 69.69 310 P **P 20 10 33.1 0.0**
AKH Akhalkalaki 69.78 308 P **P 20 10 34.2 +0.5**
GOF Gofitskoye 69.78 312 *eP* **P 20 10 33.4 0.0**
KBZ Khabaz 69.99 311 P **P 20 10 34.6 -0.2**
KBZ Khabaz 69.99 311 P **P 20 10 34.6 -0.2**
KBZ Khabaz 69.99 311 P **P 20 10 34.6 -0.2**
comp=Z,15nm,1.2s,baz=87,slow=8.6,SNR=9.5
KBZ LR LR 20 44 33.5
comp=Z,448nm,19.6s,baz=237,slow=39
HAKT HAKKARI 70.03 304 *i* P **P 20 10 35.5 +0.1**
KIV Kislovodsk 70.12 311 *eP* **P 20 10 35.5 -0.2**
KIV *e*PPP PPP 20 14 53.8
KIV *e*S **S 20 19 47.4 +1.2**
KIV *e*SS **SS 20 24 19.0 +3.2**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,847nm,18.0s
KIV Kislovodsk 70.12 311 *eP* **P 20 10 35.5 -0.2**
comp=Z,28nm,0.9s
KIV LR LR
comp=Z,762nm,19.0s
VRHR Novokhopersk 70.30 319 *eP* **P 20 10 33.8 -2.7**
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,50nm,1.6s
CHVG Ch'k'valeri 70.69 310 P **P 20 10 39.3 +0.2**
RAYN Ar Rayn 70.69 289 P **P 20 10 38.6 -0.9**
comp=E,158nm,1.1s,SNR=19
TMCR Tamitsa 71.62 333 *eP* **P 20 10 44.1 -0.1**
TMCR *e* 20 11 00.8
TMCR *e* 20 13 24.6
TMCR pmax pmax
comp=Z,50nm,1.1s
VORD Divnogorie 71.78 319 *eP* P 20 10 41.0 -4.4
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD pmax pmax
comp=N,50nm,0.7s
VSR Storozhevoye 71.83 319 *eP* **P 20 10 42.9 -2.9**
VSR pmax pmax
comp=Z,20nm,1.1s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.5s
IM04 Indian Mountai 72.11 25 *eP* **P 20 10 47.7 +0.5**
MOS Moscow 72.34 324 *eP* **P 20 10 46.5 -2.2**
MOS pmax pmax
comp=Z,66nm,1.5s
LVZ Lovozero 72.81 337 PFAKE
LVZ LR LR 20 11 00.0 +8.6
comp=Z,446nm,21.0s
RSO Redoubt South 72.95 31 *eP* **P 20 10 52.8 +0.2**
comp=Z,83nm,0.8s
PPLA Purkeypile 73.00 29 *eP* **P 20 10 53.9 +1.1**
comp=Z,177nm,1.5s
OBN Obninsk 73.00 323⇓ *iP* **P 20 10 51.9 -0.8**
OBN *i* S **S 20 20 19.3 +0.6**
OBN pmax pmax
comp=Z,61nm,1.7s
OBN MLR MLR
comp=Z,700nm,16.0s
OBN Obninsk 73.00 323 PFAKE
OBN LR LR 20 11 00.0 +7.3
comp=Z,709nm,19.0s
KDAK Kodiak Island 73.30 34 *eP* **P 20 10 55.7 +1.3**
comp=Z,63nm,0.9s
KDAK Kodiak Island 73.30 34 P **P 20 10 54.9 +0.5**
comp=Z,412nm,0.6s,SNR=9.6
APA Apatity 73.31 336 *eP* **P 20 10 54.0 -0.3**
APA MLR MLR
comp=Z,1µm,20.0s
COLD Coldfoot 73.45 24 *eP* **P 20 10 55.6 +0.4**
comp=Z,22nm,0.8s
KTH Kantishna Hill 73.51 28 *eP* **P 20 10 56.0 +0.4**
comp=Z,13nm,0.7s
TRF Thorofare Moun 73.81 28 *eP* **P 20 10 58.3 +0.8**
comp=Z,21nm,0.8s
MALT Malatya 74.05 306⇓ *iP* **P 20 10 58.8 -0.6**
RC01 Rabbit Creek A 74.35 30 *eP* **P 20 11 00.5 0.0**
comp=Z,13nm,0.6s
MCK McKinley 74.37 28 *eP* **P 20 11 00.2 -0.4**
MCK pmax pmax
comp=Z,76nm,1.2s
MCK McKinley 74.37 28 *eP* **P 20 11 00.2 -0.4**
comp=Z,76nm,1.2s
PMR Palmer 74.57 30 *eP* **P 20 11 01.7 0.0**
PMR pmax pmax
comp=Z,41nm,0.6s
PMR Palmer 74.57 30 *eP* **P 20 11 01.7 0.0**
comp=Z,41nm,0.6s
COLA College 74.68 26 *eP* **P 20 11 02.5 +0.2**
COLA pmax pmax
comp=Z,12nm,0.6s
COLA College 74.68 26 *eP* **P 20 11 02.5 +0.2**
comp=Z,12nm,0.6s
JOF Joensuu 74.73 332 *eP* **P 20 11 01.5 -1.2**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 74.73 332 *ep* **P 20 11 01.5 -1.2**
comp=Z,6.9nm,0.6s
GZT Gaziantep 74.89 305 *i* P **P 20 11 04.9 +0.6**
ILAR Eielson Array 75.11 26 P **P 20 11 04.0 -0.8**
ILAR Eielson Array 75.11 26 P **P 20 11 04.0 -0.8**
comp=Z,5.5nm,0.6s,baz=267,slow=4.7,SNR=79
KEV Kevo 75.34 339 *eP* **P 20 11 05.5 -0.5**
KEV Kevo 75.34 339 *ep* **P 20 11 05.5 -0.5**
ARCES ARCESS Array B 75.90 339 P **P 20 11 08.9 -0.3**
ARCES ARCESS Array B 75.90 339 P **P 20 11 08.9 -0.3**
comp=Z,3.9nm,0.7s,baz=74,slow=8.9,SNR=9.6
ARCES LR LR 20 50 51.4
comp=Z,504nm,19.6s,baz=318,slow=41
PAX Paxson 76.03 28 *eP* **P 20 11 10.7 +0.4**
PAX pmax pmax
comp=Z,40nm,1.1s
PAX Paxson 76.03 28 *eP* **P 20 11 10.7 +0.4**
comp=Z,40nm,1.1s
SIM Simferopol' 76.06 313 *eP* **P 20 11 09.6 -1.1**
SIM pmax pmax
comp=Z,22nm,1.1s
SIM MLR MLR
comp=N,62nm,10.6s
DIV Divide 76.24 30 *eP* **P 20 11 11.8 +0.3**
comp=N,48nm,0.7s
DOT Dot Lake 76.52 27 *eP* **P 20 11 13.3 +0.3**
comp=N,28nm,0.7s
KBS Kingsbay 76.69 349 PFAKE
KBS LR LR 20 11 30.0 +16
comp=Z,926nm,20.0s
AVNT Avonos 76.72 307 *i* P **P 20 11 15.8 +1.0**
MENT Mentasta 76.83 28 *eP* **P 20 11 15.9 +1.2**
BMRM Bremner River 76.83 30 *eP* **P 20 11 14.9 +0.1**
comp=Z,23nm,0.8s
KAF Kangasniemi 77.16 331 *eP* **P 20 11 16.6 +0.1**
KAF Kangasniemi 77.16 331 *ep* **P 20 11 16.6 +0.1**
FINES FINESS Array B 77.42 331 P **P 20 11 17.4 -0.6**
FINES FINESS Array B 77.42 331 P **P 20 11 17.4 -0.6**
comp=Z,4.2nm,0.9s,baz=106,slow=6.8,SNR=18
FINES LR LR 20 49 46.1
comp=Z,636nm,18.1s,baz=238,slow=39
BR131 Keskin Array S 77.45 308 *eP* **P 20 11 18.0 -0.9**
comp=Z,1.7nm,0.7s
BR131 *e* 20 11 25.9
BRTR Keskin Array B 77.45 308 P **P 20 11 17.7 -1.1**
BRTR Keskin Array B 77.45 308 P **P 20 11 17.7 -1.1**
comp=Z,2.0nm,0.8s,baz=179,slow=9.9,SNR=8.1
BRTR LR LR 20 50 25.1
comp=Z,277nm,21.4s,baz=232,slow=40
VSU Vasula 77.78 328 *eP* **P 20 11 19.7 -0.3**
VSU pmax pmax
comp=Z,67nm,1.3s
ANTO Ankara 78.05 308 PFAKE
ANTO LR LR 20 11 30.0 +7.9
comp=Z,293nm,19.0s
AKASG Malin Array Be 78.12 320 P **P 20 11 20.6 -1.5**
AKASG Malin Array Be 78.12 320 P **P 20 11 20.6 -1.5**
AKASG Malin Array Be 78.12 320 P **P 20 11 20.6 -1.5**
comp=Z,2.7nm,0.6s,baz=63,slow=5.5,SNR=21
AKASG LR LR 20 47 47.6
comp=Z,443nm,18.5s,baz=55,slow=37
AK01 Malin Array Si 78.13 320 *eP* **P 20 11 21.1 -1.0**
KIEV Kiev 78.13 320⇑ *iP* **P 20 11 19.6 -2.6**
KIEV Kiev 78.13 320 *eP* **P 20 11 20.6 -1.6**
comp=Z,26nm,1.4s
KIEV LR LR
comp=Z,527nm,20.0s
AK02 Malin Array Si 78.14 319 *eP* **P 20 11 21.1 -1.2**
CSS Prodhromos 78.74 303 PFAKE
CSS LR LR 20 11 40.0 +14
comp=Z,77nm,19.0s
INK Inuvik 79.38 21 *eP* **P 20 11 28.2 -0.5**
comp=Z,26nm,0.8s
CFR Carcaliu 80.15 314⇓ *iP* **P 20 11 32.6 -0.7**
HYT Haines Junctio 80.22 29 *eP* **P 20 11 34.6 +1.0**
ISP Isparta 80.26 307 PFAKE
ISP LR LR 20 11 50.0 +16
comp=Z,541nm,20.0s
MSAB Monastry St. A 80.64 313⇓ *iP* **P 20 11 35.0 -1.0**
ULDT Uludag 80.72 309 *eP* **P 20 11 34.3 -2.5**
TESR Tescani 80.80 316⇓ *iP* **P 20 11 36.3 -0.6**
SUW Suwalki 80.85 324 *eP* **P 20 11 36.1 -0.8**
SUW pmax pmax
comp=Z,61nm,1.1s
SUW Suwalki 80.85 324 *eP* **P 20 11 36.3 -0.6**
SUW Suwalki 80.85 324 *eP* **P 20 11 36.1 -0.8**
comp=Z,61nm,1.1s
VRI Vrincioaia 80.92 315⇑ *iP* **P 20 11 37.7 +0.2**
PLOR Plostina 80.98 315⇓ *iP* **P 20 11 38.5 +0.6**
ABPO Ambohimpanom 81.43 247 *eP* **P 20 11 40.1 -0.7**
ABPO pmax pmax
comp=Z,84nm,1.9s
ABPO MLR MLR
comp=Z,308nm,19.0s
ABPO Ambohimpanom 81.43 247 *eP* **P 20 11 40.1 -0.7**
comp=Z,84nm,1.9s
ABPO LR LR
comp=Z,308nm,19.0s
BURAR Bucovina Array 81.44 317⇓ *iP* **P 20 11 40.1 -0.3**
BUR08 Bucovina Ar. S 81.45 317 *eP* **P 20 11 39.3 -1.1**
MLR Muntele Rosu 81.55 315⇓ *iP* **P 20 11 40.8 -0.2**
LVV L'vov 81.57 320 *eP* **P 20 11 38.6 -2.2**
DOPR Dopca 81.80 316⇓ *iP* **P 20 11 42.1 -0.1**
VOIR 82.17 315⇑ *iP* **P 20 11 44.0 -0.2**
KWP Kalwaria Pacla 82.44 320 *eP* **P 20 11 44.6 -0.9**
KWP MLR MLR
comp=Z,537nm,21.0s
KWP Kalwaria Pacla 82.44 320 *eP* **P 20 11 45.4 -0.1**
KWP Kalwaria Pacla 82.44 320 *eP* **P 20 11 44.6 -0.9**
KWP LR LR
comp=Z,537nm,21.0s
KOLS Kolonicke sedl 82.93 319 *eP* **P 20 11 46.9 -1.1**
KOLS Kolonicke sedl 82.93 319 *eP* **P 20 11 46.9 -1.1**
DRGR 83.32 317⇓ *iP* **P 20 11 50.0 -0.2**
STHS Stebnicka Huta 83.42 320 *eP* **P 20 11 48.9 -1.6**
STHS Stebnicka Huta 83.42 320 *eP* **P 20 11 48.9 -1.6**
CRVS Cervenica-Dubn 83.45 319 *eP* **P 20 11 49.7 -1.0**
CRVS pmax pmax
comp=Z,37nm,1.9s
CRVS Cervenica-Dubn 83.45 319 *eP* **P 20 11 49.7 -1.0**
MMB Musomiste 84.24 312⇓ *iP* **P 20 11 53.8 -1.2**
VTS Vitosha 84.30 313⇓ *iP* **P 20 11 54.5 -0.9**
NB2 NORSAR Subarra 84.31 333 P **P 20 11 53.4 -1.5**
comp=Z,21nm,1.2s,baz=64,slow=5.3
NB2 NORSAR Subarra 84.31 333 P **P 20 11 53.4 -1.5**
baz=64,slow=5.3
NOA NORSAR Array B 84.31 333 P **P 20 11 53.6 -1.3**
NOA NORSAR Array B 84.31 333 P **P 20 11 53.6 -1.3**
comp=Z,2.9nm,0.9s,baz=64,slow=5.1,SNR=7.1
NOA LR LR 20 52 42.6
comp=Z,870nm,19.5s,baz=60,slow=38
BZS Buzias 84.42 316⇑ *iP* **P 20 11 55.0 -0.7**
SANT Santorini 84.55 306 PFAKE 20 12 10.0 +13
SANT LR LR
comp=Z,305nm,21.0s
PSZ Piszkesteto 84.76 319 P **P 20 11 57.1 -0.4**
PSZ pmax pmax
comp=Z,19nm,1.4s
PSZ MLR MLR
comp=Z,283nm,20.0s
PSZ Piszkesteto 84.76 319 P **P 20 11 57.1 -0.4**
comp=Z,19nm,1.4s
PSZ LR LR
comp=Z,283nm,20.0s
KMBO Kilima Mbogo 84.81 267 *eP* **P 20 11 59.1 +0.5**
comp=Z,55nm,1.4s
KMBO Kilima Mbogo 84.81 267 P **P 20 11 58.8 +0.2**
comp=Z,12nm,1.0s,baz=45,slow=5.9,SNR=34
KMBO LR LR 20 47 42.7
comp=Z,283nm,20.2s,baz=95,slow=34
PKSN Nyarlorinc 85.13 318⇓ *eP* **P 20 11 59.9 +0.7**
VAY Valandovo 85.15 312 *i* P **P 20 11 57.5 -2.0**
OKC Ostrava-Krasne 85.16 321 *eP* **P 20 11 58.8 -0.6**
OKC *e* 20 12 06.8
OKC Ostrava-Krasne 85.16 321 *eP* **P 20 11 58.8 -0.6**
OKC *ex* x 20 12 06.8
SKO Skopje 85.74 313 *i* P **P 20 12 00.6 -1.8**
KSP Ksiaz 85.89 322⇑ *eP* **P 20 12 02.5 -0.5**
KSP Ksiaz 85.89 322 *eP* **P 20 12 02.4 -0.5**
KRLC Kraliky 85.89 321 *eP* **P 20 12 02.1 -1.0**
KRLC *e* 20 12 10.4
KRLC Kraliky 85.89 321 *eP* **P 20 12 02.1 -1.0**
KRLC *ex* x 20 12 10.4
PKSG 85.90 318⇓ *eP* **P 20 12 03.2 +0.1**
DPC Dobruska-Polom 86.06 322 *eP* **P 20 12 01.0 -2.9**
DPC Dobruska-Polom 86.06 322 *eP* **P 20 12 01.0 -2.9**
DPC AMS AMS 20 54 30.0
PKSM Moragy 86.16 317⇓ *iP* **P 20 12 03.6 -0.8**
PKSM Moragy 86.16 317⇑ *eP* **P 20 12 03.5 -0.8**
PKST T''s 86.17 318⇓ *eP* **P 20 12 04.2 -0.3**
UPC Upice 86.18 322 *eP* **P 20 12 04.2 -0.2**
UPC *e* 20 12 12.9
UPC Upice 86.18 322 *eP* **P 20 12 04.2 -0.2**
UPC *ex* x 20 12 12.9
PKS9 Tamasi 86.26 318⇓ *eP* **P 20 12 04.9 0.0**
TREC Trest 86.97 321 AMS AMS 20 58 10.0
comp=Z,600nm,16.9s
PVCC Panska Ves 87.02 322 AMS AMS 20 56 20.0
BRG Berggiesshubel 87.25 323 *eP* **P 20 12 08.5 -1.1**
comp=Z,12nm,1.6s
BRG *e* 20 12 44.2
comp=Z,11nm,1.4s
BRG
comp=N,623nm,21.1s
BRG
comp=E,423nm,17.4s
BRG
comp=Z,568nm,12.2s
BRG Berggiesshubel 87.25 323 *eP* **P 20 12 08.5 -1.1**
BRG pmax pmax
comp=Z,12nm,1.6s
BRG MLR MLR
comp=N,623nm,21.1s
BRG MLR MLR
comp=E,423nm,17.4s
BRG MLR MLR
comp=Z,568nm,12.2s
PRU Pruhonice 87.26 322 *eP* **P 20 12 08.1 -1.6**
PRU *e* 20 12 16.1
PRU MLR MLR
comp=Z,500nm,16.1s
PRU Pruhonice 87.26 322 *eP* **P 20 12 08.1 -1.6**
PRU *ep*P **pP 20 12 16.1 +0.3**
PRU AMS AMS 20 54 00.0
comp=Z,500nm,16.1s
CONA Conrad Observa 87.28 320⇑ *iP* **P 20 12 09.6 -0.4**
comp=Z,12nm,1.5s
PRA Prague 87.29 322 P **P 20 12 08.0 -1.8**
CLL Collm 87.60 323 *eP* P 20 12 06.0 -5.3
CLL Collm 87.60 323 *e*(P) P 20 12 06.0 -5.3
CLL *e* 20 12 27.0
CLL *e*PPS PPS 20 24 19.0
CLL LmH 20 53 00.0
comp=N,600nm,18.4s
CLL LmH 20 53 00.0
comp=E,400nm,20.1s
GERES GERESS Array B 88.23 321 P **P 20 12 13.4 -1.1**
GERES GERESS Array B 88.23 321 P **P 20 12 13.4 -1.1**
comp=E,1.0nm,0.7s,baz=72,slow=4.3,SNR=6.4
GERES LR LR 20 57 45.4
comp=E,441nm,19.7s,baz=73,slow=40
SOKA Soboth 88.29 319⇑ *iP*cP **P 20 12 14.5 -0.3**
comp=E,12nm,1.4s
MOA Molln 88.29 320⇑ *iP* **P 20 12 13.9 -0.9**
comp=E,16nm,1.6s
YKW3 Yellowknife Ar 89.03 23 *eP* **P 20 12 17.7 -0.1**
comp=E,0.5nm,0.9s
YKA Yellowknife Ar 89.08 23 P **P 20 12 18.1 0.0**
YKA PKKPbc **PKKPdf 20 29 53.1 +1.6**
YKA Yellowknife Ar 89.08 23 P **P 20 12 18.0 0.0**
comp=E,7.6nm,0.7s,baz=307,slow=4.3,SNR=127
YKA PKKPbc **PKKPdf 20 29 53.1 +1.6**
comp=E,0.2nm,0.7s,baz=129,slow=2.6,SNR=6.1
SUMG Summit 89.22 354 *eP* **P 20 12 18.4 -0.7**
SUMG pmax pmax
comp=Z,11nm,1.3s
SUMG Summit 89.22 354 *i* P **P 20 12 19.3 +0.2**
SUMG Summit 89.22 354 *eP* **P 20 12 18.4 -0.7**
comp=Z,11nm,1.3s
TIP Timpagrande 90.07 311 PFAKE 20 12 30.0 +6.7
TIP LR LR

comp=Z,174nm,19.0s
CUC Castrocucco 90.42 312 PFAKE 20 12 40.0 +15
CUC LR LR
comp=Z,190nm,20.0s
MOTA Moosalm 90.44 320⇑ *i*PcP **P 20 12 25.1 +0.1**
comp=Z,9.7nm,1.2s
FETA Feichten 90.82 320⇑ *i*PcP **P 20 12 26.5 -0.3**
comp=Z,12nm,1.6s
CEL Celeste 91.05 311 PFAKE 20 12 40.0 +12
CEL LR LR
comp=Z,230nm,21.0s
TUE Stuetta 91.91 320 PFAKE 20 12 40.0 +8.1
TUE LR LR
comp=Z,673nm,20.0s
WLF Walferdange 92.24 324 P **P 20 12 34.1 +1.0**
WLF pmax pmax
comp=Z,23nm,0.7s
WLF MLR MLR
comp=Z,914nm,19.0s
WLF Walferdange 92.24 324 P **P 20 12 34.1 +1.0**
comp=Z,23nm,0.7s
WLF LR LR
comp=Z,914nm,19.0s
VLC Villacollemand 92.33 318 PFAKE 20 12 40.0 +6.4
VLC LR LR
comp=Z,529nm,21.0s
CLTB Caltabellotta 93.26 311 PFAKE 20 12 50.0 +12
CLTB LR LR
comp=Z,528nm,19.0s
LPG La Plagne 93.97 320 *e*P **P 20 12 40.9 -0.6**
comp=Z,35nm,1.1s
LPG La Plagne 93.97 320 *e*P **P 20 12 40.9 -0.6**
LPG pmax pmax
comp=Z,35nm,1.1s
LPG La Plagne 93.97 320 *e*P **P 20 12 40.9 -0.6**
comp=Z,35nm,1.1s
LPL La Plagne 93.97 320 *e*P **P 20 12 40.7 -0.7**
LPL La Plagne 93.97 320 *e*P **P 20 12 40.7 -0.7**
LPL La Plagne 93.97 320 *e*P **P 20 12 40.7 -0.7**
PPT Papeete 94.17 107 LR LR 20 49 03.9
comp=Z,262nm,18.6s,baz=188,slow=32
PPT2 Papeete2 94.18 107 *e*LR LR 20 42 55.4
comp=Z,223nm,21.2s
BNI Bardonecchia 94.23 320 PFAKE 20 12 50.0 +7.4
BNI LR LR
comp=Z,787nm,19.0s
MBDF Montbardon 94.34 319 *e*P **P 20 12 42.4 -0.7**
comp=Z,74nm,1.4s
MBDF Montbardon 94.34 319 *e*P **P 20 12 42.4 -0.7**
MBDF pmax pmax
comp=Z,74nm,1.4s
MBDF Montbardon 94.34 319 *e*P **P 20 12 42.4 -0.7**
comp=Z,74nm,1.4s
MAW Mawson 94.83 199 LR LR 20 55 00.2
comp=Z,159nm,18.5s,baz=44,slow=35
EDM Edmonton 95.34 30 *e*P **P 20 12 47.0 -0.3**
EDM Edmonton 95.34 30 *e*P **P 20 12 47.0 -0.3**
TBI Tubuai 95.92 113 *e*LR LR 20 43 42.3
comp=Z,325nm,33.6s
KEST Kesra 96.86 311 LR LR 21 07 25.4
comp=Z,95nm,18.5s,baz=212,slow=42
LSZ Lusaka 97.50 256 *e*P **P 20 12 56.7 -1.2**
comp=Z,34nm,1.7s
LSZ LR LR
comp=Z,539nm,19.0s
VNDA Vanda 97.60 172 LR LR 21 00 06.9
comp=Z,236nm,18.3s,baz=328,slow=37
SBA Scott Base 98.54 171 PFAKE 20 13 10.0 +9.0
SBA LR LR
comp=Z,344nm,21.0s
BOZ Bozeman (W) 100.96 35 PFAKE 20 13 20.0 +7.1
BOZ LR LR
comp=Z,415nm,19.0s
SYO Syowa Base 103.23 201⇑ *e*X **Pdif 20 13 17.8 -4.2**
PDAR Pinedale Array 103.94 36 PKKPbc PKKPbc 20 29 14.7 -2.4
PDAR Pinedale Array 103.94 36 PKKPbc PKKPbc 20 29 14.7 -2.4
comp=Z,0.5nm,0.7s,baz=136,slow=4.5,SNR=4.2
TAM Tamanrasset 105.71 300 PFAKE 20 18 00.0
TAM LR LR
comp=Z,271nm,19.0s
QSPA South Pole Qui 107.24 180 PFAKE 20 18 00.0
QSPA LR LR
comp=Z,171nm,20.0s
MVCO Mesa Verde 108.13 40 PFAKE 20 18 00.0
MVCO LR LR
comp=Z,370nm,19.0s
TSUM Tsumeb 108.28 255 PFAKE 20 18 00.0
TSUM LR LR
comp=Z,357nm,21.0s
OGNE Ogallala 109.29 34 PFAKE 20 18 00.0
OGNE LR LR
comp=Z,436nm,21.0s
TUC Tucson 109.67 45 PFAKE 20 18 10.0
TUC LR LR
comp=Z,258nm,19.0s
ANMO Albuquerque 110.85 41 PFAKE 20 18 10.0
ANMO LR LR
comp=Z,298nm,21.0s
TORD Torodi Ar. Bea 113.24 293 PKiKP **PKiKP 20 17 59.9 -1.7**
TORD PKKPbc **PKKPbc 20 28 46.9 +0.3**
TORD Torodi Ar. Bea 113.24 293 PKiKP **PKiKP 20 17 59.9 -1.7**
comp=Z,1.8nm,0.7s,baz=15,slow=2.0,SNR=12
TORD PKKPbc **PKKPbc 20 28 46.9 +0.3**
comp=Z,0.6nm,0.5s,baz=263,slow=2.8,SNR=11
MNTX Cornudas Mount 113.64 43 PFAKE 20 18 10.0
MNTX LR LR
comp=Z,185nm,19.0s
TXAR Lajitas Array 116.30 44 PKP **PKPdf 20 18 06.7 -0.6**
TXAR PKKPbc **PKKPab 20 28 40.6 -1.9**
TXAR Lajitas Array 116.30 44 PKP **PKPdf 20 18 06.7 -0.6**
comp=Z,1.2nm,0.7s,baz=241,slow=0.9,SNR=13
TXAR PKKPbc **PKKPab 20 28 40.6 -1.9**
comp=Z,0.4nm,0.7s,baz=131,slow=7.0,SNR=4.0
JCT Junction City 117.99 40 *e*PKiKP **PKPdf 20 18 10.5 0.0**
JCT Junction City 117.99 40 *e*PKPdf **PKPdf 20 18 10.5 0.0**
WVT Waverly 119.96 27 *e*PKiKP **PKPdf 20 18 13.1 -1.0**
WVT Waverly 119.96 27 *e*PKPdf **PKPdf 20 18 13.1 -1.0**
KVTX Kingsville 121.24 41 PFAKE 20 18 30.0 +13
KVTX LR LR
comp=Z,2μm,20.0s
DBIC Dimbokro 121.83 290 PKP **PKPdf 20 18 17.2 -1.0**
DBIC Dimbokro 121.83 290 PKP **PKPdf 20 18 17.2 -1.0**
comp=Z,6.5nm,0.7s,baz=86,slow=2.7,SNR=13
KIC Kosan Boka 121.86 289 *e*PKiKP **PKPdf 20 18 16.7 -1.6**
comp=Z,18nm,0.7s
BLA Blacksburg 121.88 21 PFAKE 20 18 30.0 +12
BLA LR LR
comp=Z,476nm,20.0s
TIC Toumodi 121.99 290 *e*PKiKP **PKPdf 20 18 17.0 -1.5**
comp=Z,18nm,0.7s
LIC Lamto 122.17 289⇑ *i*PKiKP **PKPdf 20 18 17.3 -1.6**
comp=Z,19nm,0.7s
LIC Lamto 122.17 289 *e*PKiKP **PKPdf 20 18 17.1 -1.8**
comp=Z,31nm,0.7s
LIC Lamto 122.17 289⇑ *i*PKPdf **PKPdf 20 18 17.3 -1.6**
JSRW J. Sargeant Re 122.24 18 *e*PKPdf **PKPdf 20 18 18.4 +0.1**
GOGA Godfrey 124.13 25 PFAKE 20 18 30.0 +7.8
GOGA LR LR
comp=Z,377nm,19.0s
PMSA Palmer Station 132.54 177 PFAKE 20 18 50.0 +13
PMSA LR LR
comp=Z,2μm,21.0s
TRIS Tristan da Cun 134.99 235 PFAKE 20 18 50.0 +7.5
TRIS LR LR
comp=Z,2μm,19.0s
ASCN Ascension 135.98 277 PFAKE 20 19 00.0 +15
ASCN LR LR
comp=Z,1μm,20.0s
TGUH Tegucigalpa,Un 137.78 44 PFAKE 20 19 00.0 +12
TGUH LR LR
comp=Z,242nm,20.0s
SDDR Presa de Saban 141.72 20 *e*PKPpre PKPpre 20 18 49.6
SDDR LR LR
comp=Z,294nm,19.0s
JTS JuntasAbangare 142.06 45 PFAKE 20 19 10.0 +14
JTS LR LR
comp=Z,208nm,22.0s
LSP Las Mesas 143.64 14 *e*PKPpre PKPpre 20 18 56.4
CRPR Cabo Rojo, PR 143.80 14 *e*PKPpre PKPpre 20 18 56.1
CBYP Canovanas 143.81 12 *e*PKPpre PKPpre 20 18 55.5
CELP Cerrillos 143.85 13 *e*PKPpre PKPpre 20 18 56.6
OBIP Obispado Ponce 143.88 13 *e*PKPpre PKPpre 20 18 55.6
MTP Monte Pirata 144.04 11 *e*PKPpre PKPpre 20 18 56.5
CDVI St. Croix 144.52 10 *e*PKP **PKPab 20 18 58.1 -0.6**
ANWB Willy Bob 144.99 5 *e*PKP **PKPab 20 18 59.2 -1.1**

BCIP Isla Barro Col 146.22 40 PFAKE 20 19 10.0 +4.9
BCIP LR LR
comp=Z,153nm,21.0s
FDF Fort de France 147.95 5 *e*PKP2 **PKPbc 20 19 09.1 -0.2**
FDF Fort de France 147.95 5 *e*PKPbc **PKPbc 20 19 09.1 -0.2**
SDV Santo Domingo 151.26 26 PKPdf **PKPdf 20 19 11.0 -0.8**
SDV *e*PKPbc **PKPbc 20 19 17.3 -0.5**
ROSC El Rosal 152.92 37 *e*PKPbc **PKPbc 20 19 23.3 +1.4**
ROSC El Rosal 152.92 37 PKPbc **PKPbc 20 19 22.4 +0.5**
comp=Z,14nm,0.5s,baz=90,slow=19,SNR=8.6
OTAV Otavalo 153.69 50 PFAKE 20 19 30.0 -6.2
OTAV LR LR
comp=Z,187nm,21.0s
PLCA Paso Flores 154.56 158 PKPbc **PKPbc 20 19 24.1 -0.1**
PLCA Paso Flores 154.56 158 PKPbc **PKPbc 20 19 24.1 -0.1**
comp=Z,2.7nm,0.7s,baz=252,slow=4.4,SNR=4.7
RCBR Riachuelo 155.05 295 PFAKE 20 19 30.0 -12
RCBR LR LR
comp=Z,374nm,20.0s
ATAH Atahualpa 158.09 65 PKPab **PKPab 20 19 57.3 +2.2**
ATAH Atahualpa 158.09 65 PKPab **PKPab 20 19 57.3 +2.2**
comp=Z,10.0nm,0.8s,baz=77,slow=6.9,SNR=3.5
TRQA Tornquist 159.22 172 PFAKE 20 19 30.0 +8.3
TRQA LR LR
comp=Z,165nm,19.0s
PTGA Pitinga 163.36 5 PFAKE 20 19 40.0 +13
PTGA LR LR
comp=Z,201nm,21.0s
SAML Samuel 170.44 29 *e*PKPdf **PKPdf 20 19 31.3 -0.8**
LPAZ La Paz 170.74 84 PKP **PKPdf 20 19 33.3 +0.4**
LPAZ PKPab **PKPab 20 20 52.5 +1.5**
LPAZ La Paz 170.74 84 PKP **PKPdf 20 19 33.3 +0.4**
comp=Z,7.2nm,1.1s,baz=315,slow=1.3,SNR=13
LPAZ PKPab **PKPab 20 20 52.5 +1.5**
comp=Z,3.8nm,0.6s,baz=257,slow=3.2,SNR=9.8
SIV San Ignacio 177.18 60 PKP **PKPdf 20 19 34.1 -0.3**
SIV San Ignacio 177.18 60 PKP **PKPdf 20 19 34.1 -0.3**
comp=Z,2.6nm,0.9s,baz=278,slow=3.4,SNR=11

TAP 21 20:00:13.8, 23.14N×120.76E, h12km±1km, ML0.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.02**	**5**	*i* P	Pg	20 00 16.2	+0.2
	baz=24						
STYT				*i* S	Sg	20 00 18.1	+0.6
	baz=24						
WTP	**Ta-pu**	**0.17**	**309**	P	Pb	20 00 18.3	-0.6
	baz=310						
WTP				S	Sg	20 00 21.4	+1.1
	baz=310						
SGST	**Jiashian**	**0.17**	**250**	*e*P	Pb	20 00 18.8	-0.1
	baz=248						
SGST				*e*S	Sg	20 00 21.5	+1.2
	baz=248						
CHN1	**Nanshi**	**0.21**	**282**	P	Pg	20 00 18.8	+0.4
	baz=282						
CHN1				S	Sg	20 00 23.0	+1.4
	baz=282						

IDC 21 20:46:10.7±4.4, 8.24S×159.48E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=116.4km s-min=37.5km az=104.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.97**	**242**	P	P	20 51 54.6	+0.2
	1.1nm,0.5s,baz=71,slow=9.2,SNR=8.9						
STKA	**Stephens Creek**	**28.81**	**213**	P	P	20 52 11.1	+0.4
	0.5nm,0.4s,baz=44,slow=13,SNR=5.4						
ASAR	**Alice Springs**	**28.90**	**235**	P	P	20 52 11.1	-0.6
	0.5nm,0.5s,baz=64,slow=9.4,SNR=9.9						
SONM	**Songino Array**	**72.82**	**326**	P	P	20 57 41.5	0.0
	0.3nm,0.6s,baz=113,slow=5.6,SNR=2.8						

*ISCJB **21** 20:49:40.1±0.5, 35.37N±0.04×140.37E±0.06, h67km±4km, mb3.6/6, Error ellipse: s-maj=8.7km s-min=5.7km az=149.2*
*JMA **21** 20:49:40.8±0.1, 35.41N×140.39E, h58km±2km, M3.4 Broadband fault plane solution: P waves. NP1: φs355.00000°, δ67.00000°, λ85.00000°. NP2: φs188.00000°, δ23.00000°, λ102.00000°. Principal axes: T Plg67.0000°, Azm256.0000°; N Plg5.0000°, Azm357.0000°; P Plg22.0000°, Azm89.0000°;*
JMA Felt I J1.
*IDC **21** 20:49:45.6±2.5, 35.13N×139.62E, h80km±24km, mb3.4/6, mb1 3.6/7, mb1mx3.3/25, mbtmp3.5/7 Error ellipse: s-maj=48.7km s-min=19.1km az=69.0*

ISC 21 20:49:41.2±0.8, 35.38N±0.04×140.36E±0.05, h60km±6km, n31, σ0.8s79/29, mb3.8/6, 6C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.13**	**288**	⇑P	Pn	20 49 50.3	-0.1
JCN				S	Sn	20 49 57.6	+0.6
KTR	**Katsuura**	**0.23**	**188**	⇑P	Pn	20 49 50.4	-0.5
KTR				S	Sn	20 49 57.5	-0.3
BSO4	**Boso 4**	**0.39**	**182**	⇑P	Pn	20 49 51.9	-0.1
BSO4				S	Sn	20 50 00.1	+0.4
CHOJ	**Chosi**	**0.52**	**51**	⇑P	Pn	20 49 52.8	-0.6
BSO3	**Boso 3**	**0.59**	**168**	⇑P	Pn	20 49 53.7	-0.2
BSO3				S	Sn	20 50 04.1	+1.0
BSO2	**Boso 2**	**0.70**	**152**	S	Sn	20 50 07.3	+1.8
JYT	**Yasato**	**0.86**	**351**	P	Pn	20 49 56.9	-0.6
JYT				S	Sn	20 50 08.4	-1.0
BSO1	**Boso 1**	**0.88**	**145**	⇑P	Pn	20 49 56.6	-0.6
BSO1				S	Sn	20 50 09.3	+0.2
JIM2	**Oshima 3**	**1.00**	**229**	P	Pn	20 49 58.5	-0.9
JIM2				S	Sn	20 50 11.6	-1.2
JOD2	**Odawara 2**	**1.04**	**264**	⇓P	Pn	20 49 59.6	-0.3
JOD2				S	Sn	20 50 13.2	-0.5
JAG	**Ashikaga**	**1.28**	**325**	⇓P	Pn	20 50 02.8	-0.2
JIZS	**Izushimoda**	**1.38**	**242**	⇓P	Pn	20 50 04.0	-0.3
MJAR	**Matsushiro Arr**	**2.09**	**304**	P	Pn	20 50 13.5	-0.5
	14nm,0.3s,baz=325,slow=7.2,SNR=135						
MAT	**Matsushiro**	**2.10**	**304**	P	Pn	20 50 14.6	+0.6
MAT				*e*S	Sn	20 50 41.2	+2.2
ASAJ	**Asahikawa**	**8.90**	**10**	P	Pn	20 51 58.2	+11
	2.7nm,0.3s,baz=196,slow=9.0,SNR=6.7						
SONM	**Songino Array**	**28.05**	**307**	P	**P**	**20 55 26.7**	**-0.2**
	0.4nm,0.6s,baz=110,slow=9.2,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**28.10**	**117**	T	T	21 25 15.3	
	baz=311,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.11**	**117**	T	T	21 25 15.9	
	baz=311,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.12**	**117**	T	T	21 25 14.1	
	baz=311,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.74**	**119**	T	T	21 25 32.6	
	baz=315,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**28.75**	**119**	T	T	21 25 26.8	
	baz=315,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy**	**28.76**	**119**	T	T	21 25 29.4	
	baz=315,slow=75,SNR=28						
ZALV	**Zalesovo Beam**	**42.42**	**314**	P	**P**	**20 57 30.1**	**+0.4**
	0.5nm,0.3s,baz=106,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**44.29**	**303**	P	**P**	**20 57 45.1**	**+0.1**
	0.2nm,0.4s,baz=84,slow=9.9,SNR=11						
WRA	**Warramunga Arr**	**55.31**	**187**	P	**P**	**20 59 08.4**	**-0.3**
	1.1nm,0.4s,baz=1.8,slow=7.6,SNR=28						
ASAR	**Alice Springs**	**59.04**	**187**	P	**P**	**20 59 35.3**	**+0.2**
	0.3nm,0.4s,baz=16,slow=13,SNR=9.2						
FINES	**FINESS Array B**	**69.88**	**332**	P	**P**	**21 00 45.3**	**-0.1**
	1.7nm,1.0s,baz=134,slow=5.5,SNR=4.2						
H06E1	**SOCORRO T-PHAS**	**93.67**	**64**	T	T	22 47 03.3	
	SNR=30						
H03N2	**Juan Fernandez**	**147.67**	**98**	T	T	23 54 08.5	
	baz=286,slow=75,SNR=3.9						
H03N3	**Juan Fernandez**	**147.68**	**98**	T	T	23 54 08.0	
	baz=286,slow=75,SNR=5.0						
H03N1	**Juan Fernandez**	**147.69**	**98**	T	T	23 54 10.5	
	baz=286,slow=75,SNR=5.0						

*IDC **21** 20:52:21.1±2.4, 10.69N×126.06E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=101.1km s-min=23.6km az=57.0*
*ISCJB **21** 20:52:23.4±1.1, 10.8N±0.1×126.32E±0.08, h33km, mb3.4/4, Error ellipse: s-maj=19.8km s-min=9.9km az=18.8*

ISC 21 20:52:27.1±1.4, 10.8N±0.1×126.2E±0.1, h49km, n12, σ0.6s64/8, mb3.3/4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.24**	**289⇓**	*e*P	**Pn**	**20 52 48.5**	**+0.3**
PLP				*i* S	**Sn**	**20 53 02.8**	**-1.0**
LLP	**Lapu-Lapu**	**2.22**	**259**	*e*P	**Pn**	**20 53 01.5**	**-0.1**
LLP				*e*S	**Sn**	**20 53 28.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.41**	**289**	P	**P**	**20 58 08.1**	**-0.4**
	0.5nm,0.8s,baz=90,slow=6.6,SNR=5.1						
WRA	**Warramunga Arr**	**31.56**	**165**	P	**P**	**20 58 44.6**	**-0.5**
	0.2nm,0.5s,baz=345,slow=9.3,SNR=4.5						
ASAR	**Alice Springs**	**35.05**	**168**	P	**P**	**20 59 15.6**	**+0.1**
	0.2nm,0.3s,baz=346,slow=7.5,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**39.87**	**74**	T	T	21 42 52.2	
H11S1	**WAKE ISLAND Hy**	**39.88**	**74**	T	T	21 42 53.3	
H11S2	**WAKE ISLAND Hy**	**39.88**	**74**	T	T	21 42 52.8	
	SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**40.19**	**72**	T	T	21 43 15.9	
	baz=267,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**40.19**	**72**	T	T	21 43 16.6	
	baz=267,slow=75,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**40.20**	**72**	T	T	21 43 18.9	
	baz=267,slow=75,SNR=4.8						
MKAR	**Makanchi Array**	**51.58**	**323**	P	**P**	**21 01 29.0**	**+0.5**
	0.6nm,0.8s,baz=120,slow=7.1,SNR=4.9						

*CSEM **21** 21:08:16.3, 40.80N×15.22E, h13km, MD2.0/4, After ROM*
ROM 21 21:08:16.3±0.2, 40.80N×15.22E, h13km±3km, Md2.0/4, Ml2.0/3, 2C-2D, Error ellipse: s-maj=2.7km s-min=1.4km az=88.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRV	**Calabrutti - M**	**0.04**	**250⇑**	*i*Pg	Pg	21 08 18.9	0.0
MCRV				Sg	Sg	21 08 20.9	+0.2
	2μm,0.2s						
MCRV	**Calabrutti - M**	**0.04**	**250⇑**	*i*Pg	Pg	21 08 18.9	0.0
MCRV				Sg	Sg	21 08 20.9	+0.2
	2μm,0.2s						
SNAL	**S. Angelo Dei**	**0.13**	**358⇓**	*i*Pg	Pg	21 08 19.9	+0.1
SNAL				Sg	Sg	21 08 22.9	+0.6
	392nm,0.6s						
SNAL	**S. Angelo Dei**	**0.13**	**358⇓**	*i*Pg	Pg	21 08 19.9	+0.1
SNAL				Sg	Sg	21 08 22.9	+0.6
	392nm,0.6s						
MRLC	**Muro Lucano**	**0.21**	**101**	Pg	Pg	21 08 21.0	0.0
MRLC				Sg	Sb	21 08 25.2	-0.8
MRLC	**Muro Lucano**	**0.21**	**101**	Pg	Pg	21 08 21.0	0.0
MRLC				Sg	Sb	21 08 25.2	-0.8
CAFE	**Carife**	**0.23**	**4**	Pg	Pg	21 08 21.5	0.0
CAFE				Sg	Sb	21 08 26.1	-0.7
	302nm,0.5s						
CAFE	**Carife**	**0.23**	**4**	Pg	Pg	21 08 21.5	0.0
CAFE				Sg	Sb	21 08 26.1	-0.7
	302nm,0.5s						
CDRU	**Civita di Ruta**	**0.31**	**168**	Pg	Pg	21 08 22.9	0.0
CDRU				Sg	Sb	21 08 28.7	-0.3
	82nm,0.2s						
CDRU	**Civita di Ruta**	**0.31**	**168**	Pg	Pg	21 08 22.9	0.0
CDRU				Sg	Sb	21 08 28.7	-0.3
	82nm,0.2s						

*DDA **21** 21:09:01.7, 38.70N×31.26E, h11km, ML3.8*
*IDC **21** 21:09:01.4±1.1, 38.67N×31.28E, h0km, mb3.3/4, mb1 3.4/10, mb1mx3.3/30, mbtmp3.3/10, ML3.3/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=20.0km s-min=14.0km az=72.0*
*ISK **21** 21:09:01.8, 38.70N×31.23E, h4km, ML3.6*
*ISCJB **21** 21:09:02.4±0.5, 38.71N±0.02×31.22E±0.02, h8km±3km, mb3.3/4, Error ellipse: s-maj=2.9km s-min=2.7km az=179.3*
*CSEM **21** 21:09:02.8±0.1, 38.69N×31.23E, h2km, ML3.8, Error ellipse: s-maj=2.1km s-min=1.7km az=23.0*

ISC 21 21:09:02.8±0.9, 38.70N±0.02×31.23E±0.02, h11km±6km, n219, σ1.9s40/240, mb3.3/4, 18C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.22**	**275**	*i* P	**Pg**	**21 09 07.4**	**-0.2**
BOLV				*i* S	**Sg**	**21 09 10.6**	**-0.2**
BOLV	**Bolvadin**	**0.22**	**275**	*i* P	**Pg**	**21 09 07.4**	**-0.2**
BOLV				*i* S	**Sg**	**21 09 10.6**	**-0.2**
KIZT	**Kizilcal**	**0.54**	**70**	PG	**Pg**	**21 09 12.8**	**-0.5**
KIZT	**Kizilcal**	**0.54**	**70**	*i* Pg	**Pg**	**21 09 12.8**	**-0.5**
SHUT	**Suhut-Afyon**	**0.55**	**255**	PG	**Pg**	**21 09 13.0**	**-0.6**
SHUT				*e*SG	**Sg**	**21 09 21.3**	**+0.4**
SHUT	**Suhut-Afyon**	**0.55**	**255**	*i* Pg	**Pg**	**21 09 13.0**	**-0.6**
SHUT				*e*Sg	**Sg**	**21 09 21.3**	**+0.4**
SVRH	**Sivrihisar-ESK**	**0.78**	**17**	*e*PG	**Pg**	**21 09 17.2**	**-0.7**
SVRH				*e*SG	**Sg**	**21 09 28.3**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.78**	**17**	*e*Pg	**Pg**	**21 09 17.2**	**-0.7**
SVRH				*e*Sg	**Sg**	**21 09 28.3**	**+0.1**
SEYT	**Eskypehyr**	**0.87**	**340**	*i* P	**Pg**	**21 09 18.5**	**-1.2**
SEYT	**Eskypehyr**	**0.87**	**340**	*i* P	**Pg**	**21 09 18.5**	**-1.2**
LADK	**Ladik-KONYA**	**1.02**	**119**	*e*PG	**Pg**	**21 09 21.4**	**-1.0**
LADK	**Ladik-KONYA**	**1.02**	**119**	*e*Pg	**Pg**	**21 09 21.4**	**-1.0**
ISP	**Isparta**	**1.04**	**213**	*e*PG	**Pg**	**21 09 21.7**	**-1.1**
ISP	**Isparta**	**1.04**	**213**	⇑P	**Pg**	**21 09 21.3**	**-1.5**
ISP				S	**Sg**	**21 09 35.3**	**-1.0**
ISP	**Isparta**	**1.04**	**213**	*e*Pg	**Pg**	**21 09 21.7**	**-1.1**
SUTC	**Sutluce-Ispart**	**1.23**	**189**	*e*PN	**Pn**	**21 09 25.0**	**-1.0**
SUTC	**Sutluce-Ispart**	**1.23**	**189**	*e*Pn	**Pn**	**21 09 25.0**	**-1.0**
BORA	**Eskisehir**	**1.33**	**333**	*i* P	**Pn**	**21 09 27.2**	**-0.1**
BORA				*i* S	**Sg**	**21 09 46.3**	**+0.8**
BORA	**Eskisehir**	**1.33**	**333**	*i* P	**Pn**	**21 09 27.2**	**-0.1**
BORA				*i* S	**Sg**	**21 09 46.3**	**+0.8**
BCK	**Bucak**	**1.34**	**203**	*e*PN	**Pn**	**21 09 27.8**	**+0.4**
BCK				*e*SN	**Sg**	**21 09 46.6**	**+0.8**
BCK	**Bucak**	**1.34**	**203**	*e*Pn	**Pn**	**21 09 27.8**	**+0.4**
BCK				*e*Sn	**Sg**	**21 09 46.6**	**+0.8**
KHL	**Karahalli**	**1.39**	**255**	*e*PN	**Pn**	**21 09 28.4**	**+0.2**
KHL	**Karahalli**	**1.39**	**255**	*e*Pn	**Pn**	**21 09 28.4**	**+0.2**
KHAL	**Karahalli**	**1.40**	**257**	*i* P	**Pn**	**21 09 28.4**	**0.0**
KHAL				*i* S	**Sg**	**21 09 48.7**	**+0.7**
KHAL	**Karahalli**	**1.40**	**257**	*i* P	**Pn**	**21 09 28.4**	**0.0**
KHAL				*i* S	**Sg**	**21 09 48.7**	**+0.7**
GDZ	**Gediz**	**1.42**	**286**	*i* P	**Pn**	**21 09 29.0**	**+0.3**
GDZ				*i* S	**Sg**	**21 09 49.2**	**+0.6**
GDZ	**Gediz**	**1.42**	**286**	*i* P	**Pn**	**21 09 29.0**	**+0.3**
GDZ				*i* S	**Sg**	**21 09 49.2**	**+0.6**
AFSR	**Afar-Bala (A**	**1.61**	**62**	*e*PN	**Pn**	**21 09 31.9**	**+0.6**
AFSR	**Afar-Bala (A**	**1.61**	**62**	*e*Pn	**Pn**	**21 09 31.9**	**+0.6**
LOD	**Lodumlu**	**1.68**	**44**	*e*PN	**Pn**	**21 09 32.6**	**+0.4**
LOD	**Lodumlu**	**1.68**	**44**	*e*Pn	**Pn**	**21 09 32.6**	**+0.4**
ANTO	**Ankara**	**1.68**	**46**	*e*PN	**Pb**	**21 09 33.3**	**-0.5**
ANTO	**Ankara**	**1.68**	**46**	*e*Pn	**Pb**	**21 09 33.3**	**-0.5**
BBAL	**Bala**	**1.69**	**60**	*i* P	**Pb**	**21 09 33.4**	**-0.6**
BBAL				*i* S	**Sg**	**21 09 56.5**	**-0.8**
BBAL	**Bala**	**1.69**	**60**	*i* P	**Pb**	**21 09 33.4**	**-0.6**
BBAL				*i* S	**Sg**	**21 09 56.5**	**-0.8**
MDUB	**Mudurnu**	**1.77**	**359**	*e*PN	**Pn**	**21 09 34.2**	**+0.8**
MDUB	**Mudurnu**	**1.77**	**359**	*e*Pn	**Pn**	**21 09 34.2**	**+0.8**
GULT	**Gulveren**	**1.82**	**342**	*e*PN	**Pn**	**21 09 35.0**	**+0.9**
GULT	**Gulveren**	**1.82**	**342**	*e*Pn	**Pn**	**21 09 35.0**	**+0.9**
CAVI	**Cavuskoy**	**1.85**	**325**	*e*PN	**Pn**	**21 09 35.2**	**+0.8**
CAVI	**Cavuskoy**	**1.85**	**325**	*e*Pn	**Pn**	**21 09 35.2**	**+0.8**
ANTB	**Antalya**	**1.85**	**195**	*e*PN	**Pb**	**21 09 36.0**	**-0.6**
ANTB	**Antalya**	**1.85**	**195**	*e*Pn	**Pb**	**21 09 36.0**	**-0.6**
SULT	**Sultanhani-AKS**	**1.86**	**105**	*e*PN	**Pn**	**21 09 35.5**	**+0.9**
SULT	**Sultanhani-AKS**	**1.86**	**105**	*e*Pn	**Pn**	**21 09 35.5**	**+0.9**
BTAS	**Taskesti**	**1.88**	**355**	*i* P	**Pb**	**21 09 36.3**	**-0.8**
BTAS				*i* S	**Sg**	**21 10 06.8**	**+3.6**
BTAS	**Taskesti**	**1.88**	**355**	*i* P	**Pb**	**21 09 36.3**	**-0.8**
GOLH	**Golhisar**

BRTR	Keskin Array B	2.13	60	Pn	Pn	21 09 39.4 +1.0
	5.1nm,0.3s,baz=236,slow=18,SNR=30					
BRTR				Sn	Sg	21 10 11.2 -0.1
	6.2nm,0.3s,baz=219,slow=25,SNR=11					
ULDT	Uludag	2.17	312	eP	Pn	21 09 40.5 +1.5
ULDT				iS	Sg	21 10 11.3 -1.3
ULDT	Uludag	2.17	312	eP	Pn	21 09 40.5 +1.5
BCAM	Yenicaga	2.21	17	eP	Pn	21 09 40.4 +0.9
BCAM	Yenicaga	2.21	17	eP	Pn	21 09 40.4 +0.9
ELL	Elmali	2.21	209	ePN	Pn	21 09 40.4 +0.9
ELL	Elmali	2.21	209	ePn	Pn	21 09 40.4 +0.9
ORLT	Orhaneli	2.26	307	ePN	Pn	21 09 40.8 +0.8
ORLT	Orhaneli	2.26	307	ePn	Pn	21 09 40.8 +0.8
DURS	Dursunbey	2.33	294	iP	Pn	21 09 42.0 +0.9
DURS				eS	Sg	21 10 16.5 -1.1
DURS	Dursunbey	2.33	294	iP	Pn	21 09 42.0 +0.9
GEMT	Gemlik	2.35	318	ePN	Pn	21 09 42.2 +1.0
GEMT	Gemlik	2.35	318	ePn	Pn	21 09 42.2 +1.0
HRT	Hereke	2.44	331	ePN	Pn	21 09 43.4 +0.8
HRT	Hereke	2.44	331	ePn	Pn	21 09 43.4 +0.8
ERMK	Ermenek	2.45	146	eP	Pb	21 09 46.7 -0.1
MDNY	Mudanya-Bursa	2.47	313	ePN	Pn	21 09 44.2 +1.3
MDNY	Mudanya-Bursa	2.47	313	ePn	Pn	21 09 44.2 +1.3
GAZI	Gazipasa	2.60	160	iP	Pn	21 09 46.6 +1.8
GAZI	Gazipasa	2.60	160	iP	Pn	21 09 46.6 +1.8
ARMT	Armutlu	2.61	316	ePN	Pn	21 09 45.9 +1.0
ARMT	Armutlu	2.61	316	ePn	Pn	21 09 45.9 +1.0
KDZE	Karadeniz Ereo	2.62	3	ePN	Pn	21 09 46.2 +1.2
KDZE	Karadeniz Ereo	2.62	3	ePn	Pn	21 09 46.2 +1.2
CANT	Cankiri	2.65	43	ePN	Pn	21 09 46.5 +1.0
AKS	Akhisar	2.68	275	ePN	Pn	21 09 46.6 +0.8
AKS	Akhisar	2.68	275	ePn	Pn	21 09 46.6 +0.8
NIG	Nigde	2.72	101	ePN	Pn	21 09 47.8 +1.2
NIG	Nigde	2.72	101	ePn	Pn	21 09 47.8 +1.2
KCTX	Karacabey (Bur	2.72	306	ePN	Pn	21 09 47.6 +1.2
KCTX	Karacabey (Bur	2.72	306	ePn	Pn	21 09 47.6 +1.2
AYDB	Zeytinkoy-Aydi	2.73	255	ePN	Pn	21 09 47.5 +0.8
AYDB	Zeytinkoy-Aydi	2.73	255	ePn	Pn	21 09 47.5 +0.8
SILT	Sile	2.74	334	ePN	Pn	21 09 47.7 +1.1
SILT	Sile	2.74	334	ePn	Pn	21 09 47.7 +1.1
SAFT	Safranbolu	2.77	23	ePN	Pn	21 09 48.7 +1.6
SAFT	Safranbolu	2.77	23	ePn	Pn	21 09 48.7 +1.6
DALY	Dalyan (Mu˘la	2.78	228	ePN	Pn	21 09 48.2 +1.1
DALY	Dalyan (Mu˘la	2.78	228	ePn	Pn	21 09 48.2 +1.1
CORM	Corum	3.02	60	ePN	Pn	21 09 51.4 +0.8
CORM	Corum	3.02	60	ePn	Pn	21 09 51.4 +0.8
BNT	Bandirma	3.05	304	ePN	Pn	21 09 52.9 +2.0
BNT	Bandirma	3.05	304	ePn	Pn	21 09 52.9 +2.0
KLYT	Kilyos	3.06	327	ePN	Pn	21 09 52.4 +1.4
KLYT	Kilyos	3.06	327	ePn	Pn	21 09 52.4 +1.4
GONE	Gonen-Balikesi	3.06	297	ePN	Pn	21 09 52.2 +1.2
GONE	Gonen-Balikesi	3.06	297	ePn	Pn	21 09 52.2 +1.2
EDC	Edincik	3.08	303	ePN	Pn	21 09 51.9 +0.6
EDC	Edincik	3.08	303	ePn	Pn	21 09 51.9 +0.6
BGKT	Bogazkoy	3.12	323	ePN	Pn	21 09 53.2 +1.4
BGKT	Bogazkoy	3.12	323	ePn	Pn	21 09 53.2 +1.4
IKL	Isikli	3.14	141	ePN	Pn	21 09 53.6 +1.5
IKL	Isikli	3.14	141	ePn	Pn	21 09 53.6 +1.5
TOS	Tosya	3.17	42	ePN	Pn	21 09 54.4 +1.7
TOS	Tosya	3.17	42	ePn	Pn	21 09 54.4 +1.7
MERS	Mersin	3.18	124	ePN	Pn	21 09 54.2 +1.4
MERS	Mersin	3.18	124	ePn	Pn	21 09 54.2 +1.4
CTKS	Kestanelik-??a	3.29	321	ePN	Pn	21 09 55.4 +1.2
CTKS	Kestanelik-??a	3.29	321	ePn	Pn	21 09 55.4 +1.2
YOZ	Yozgat	3.31	72	ePN	Pn	21 09 55.8 +1.1
YOZ	Yozgat	3.31	72	ePn	Pn	21 09 55.8 +1.1
KARA	Karaisali	3.34	114	ePN	Pn	21 09 56.6 +1.7
KARA	Karaisali	3.34	114	ePn	Pn	21 09 56.6 +1.7
SLVT	Silivri	3.43	318	ePN	Pn	21 09 57.5 +1.3
SLVT	Silivri	3.43	318	ePn	Pn	21 09 57.5 +1.3
KRBG	Karabiga-Canak	3.48	300	ePN	Pn	21 09 58.4 +1.6
KRBG	Karabiga-Canak	3.48	300	ePn	Pn	21 09 58.4 +1.6
CTYL	Yal??k??y-??at	3.58	322	ePN	Pn	21 09 59.3 +1.2
CTYL	Yal??k??y-??at	3.58	322	ePn	Pn	21 09 59.3 +1.2
CRLT	Corlu	3.62	313	ePN	Pn	21 10 00.1 +1.3
CRLT	Corlu	3.62	313	ePn	Pn	21 10 00.1 +1.3
KOZT	Kozan	3.82	107	ePN	Pn	21 10 03.4 +1.9
KOZT	Kozan	3.82	107	ePn	Pn	21 10 03.4 +1.9
LPK	Lapseki	3.84	297	ePN	Pn	21 10 03.5 +1.7
LPK	Lapseki	3.84	297	ePn	Pn	21 10 03.5 +1.7
LFK	Lefkose	3.88	151	ePN	Pn	21 10 04.2 +1.9
LFK	Lefkose	3.88	151	ePn	Pn	21 10 04.2 +1.9
GELI	Tayfur-Gelibol	4.05	296	ePN	Pn	21 10 06.5 +1.9
GELI	Tayfur-Gelibol	4.05	296	ePn	Pn	21 10 06.5 +1.9
PHSR	Pinarhisar	4.08	317	ePN	Pn	21 10 06.9 +1.9
PHSR	Pinarhisar	4.08	317	ePn	Pn	21 10 06.9 +1.9
CSS	Prodhromos	4.09	155	ePN	Pn	21 10 07.7 +2.5
CSS	Prodhromos	4.09	155	ePn	Pn	21 10 07.7 +2.5
ERIK	Erikli-Kesan	4.14	300	ePN	Pn	21 10 07.6 +1.8
ERIK	Erikli-Kesan	4.14	300	ePn	Pn	21 10 07.6 +1.8
ALN	Alexandroupoli	4.56	300	eP	Pn	21 10 12.7 +1.1
TAHT	Tahtakopru-Hat	4.57	119	ePN	Pn	21 10 13.9 +2.1
TAHT	Tahtakopru-Hat	4.57	119	ePn	Pn	21 10 13.9 +2.1
SVSK	Karacayir	4.63	73	ePN	Pn	21 10 14.8 +2.2
SVSK	Karacayir	4.63	73	ePn	Pn	21 10 14.8 +2.2
SMTH	Samothraki Isl	4.75	294	eP	Pn	21 10 15.5 +1.3
RSDY	Resadiye-TOKAT	5.01	68	ePN	Pn	21 10 20.3 +2.5
RSDY	Resadiye-TOKAT	5.01	68	ePn	Pn	21 10 20.3 +2.5
JMB	Yambol	5.17	318	P	Pn	21 10 22.7 +2.7
JMB	Yambol	5.17	318	iP	Pn	21 10 21.8 +1.8
JMB	Yambol	5.17	318	P	Pn	21 10 22.7 +2.7
KDZ	Kurdzhali	5.34	305	P	Pn	21 10 23.9 +1.5
KDZ	Kurdzhali	5.34	305	iP	Pn	21 10 23.9 +1.5
KDZ	Kurdzhali	5.34	305	P	Pn	21 10 23.9 +1.5
PSN	Preselentsi	5.49	336	P	Pn	21 10 26.5 +2.2
PSN	Preselentsi	5.49	336	iP	Pn	21 10 24.9 +0.6
PSN	Preselentsi	5.49	336	S	Sn	21 11 26.8 -0.6
PSN	Preselentsi	5.49	336	iP	Pn	21 10 24.9 +0.6
DIM	Dimitrovgrad	5.49	309	P	Pn	21 10 26.8 +2.4
DIM	Dimitrovgrad	5.49	309	P	Pn	21 10 26.8 +2.4
RZN	Rozhen	5.81	303	P	Pn	21 10 30.5 +1.4
RZN	Rozhen	5.81	303	P	Pn	21 10 30.5 +1.4
PLD	Plovdiv	6.04	306	P	Pn	21 10 33.3 +1.4
PLD	Plovdiv	6.04	306	P	Pn	21 10 33.3 +1.4
SZH	Strazhica	6.08	320	P	Pn	21 10 33.0 +0.6
SZH	Strazhica	6.08	320	P	Pn	21 10 33.0 +0.6
IDI	Anoyia	6.11	238	Pn	Pn	21 10 33.9 +0.8
	0.2nm,0.3s,baz=78,slow=19,SNR=1.5					
TIRR	Tirgusor	6.13	341	iP	Pn	21 10 34.1 +0.9
TIRR	Tirgusor	6.13	341	S	Sn	21 11 40.5 -2.8
TIRR	Tirgusor	6.13	341	iP	Pn	21 10 34.1 +0.9
NVR	Nevrokopi	6.25	297	eP	Pn	21 10 36.2 +1.3
TLB	Topalu	6.35	339	iP	Pn	21 10 37.0 +0.8
TLB	Topalu	6.35	339	iP	Pn	21 10 37.0 +0.8
SRS	Serrai	6.35	295	eP	Pn	21 10 37.5 +1.2
SOH	Sokhos	6.43	292	eP	Pn	21 10 38.0 +0.6
MMB	Musomiste	6.43	299	P	Pn	21 10 38.8 +1.3
MMB	Musomiste	6.43	299	iP	Pn	21 10 38.7 +1.3
MMB	Musomiste	6.43	299	S	Pg	21 11 09.9 +4.0
MMB	Musomiste	6.43	299	iP	Pn	21 10 38.7 +1.3
HORT	Hortiatis	6.56	289	eP	Pb	21 10 49.1 -7.7
MMAI	Mount Meron Ar	6.60	148	Pn	Pn	21 10 38.9 -0.9
	1.1nm,0.3s,baz=340,slow=12,SNR=9.1					
CFR	Carcaliu	6.87	341	iP	Pn	21 10 43.9 +0.5
CFR	Carcaliu	6.87	341	S	Sn	21 11 59.7 -1.8
AGG	Agios Georgios	6.96	275	eP	Pn	21 10 46.4 +1.8
MAKR	Makrakomi, Fth	7.11	275	eP	Pn	21 10 49.2 +2.5
KLV	Kalavryta, Ach	7.17	268	eP	Pn	21 10 49.7 +2.2
THL	Klokotos Trika	7.22	280	eP	Pn	21 10 50.1 +2.0
VTS	Vitosha	7.24	305	iP	Pn	21 10 49.5 +1.0
VTS	Vitosha	7.24	305	iP	Pn	21 10 49.5 +1.0
LAKA	Lakka	7.28	269	eP	Pn	21 10 50.5 +1.5
MPEP	Malo Peshtene	7.33	312	P	Pn	21 10 51.6 +1.9
MLR	Muntele Rosu	7.84	332	iP	Pn	21 10 58.8 +2.0
MLR	Muntele Rosu	7.84	332	iP	Pn	21 10 58.8 +2.0
MLR	Muntele Rosu	7.84	332	Pn	Pn	21 10 58.7 +1.9
	0.1nm,0.3s,baz=198,slow=13,SNR=12					
MLR				Sn	Sn	21 12 28.2 +2.6
	0.0nm,0.3s,baz=123,slow=17,SNR=1.1					
FNA	Florina	7.88	288	eP	Pn	21 10 59.8 +2.6
VRI	Vrincioaia	7.90	336	iP	Pn	21 10 59.2 +1.7
VRI	Vrincioaia	7.90	336	S	Sn	21 12 29.8 +2.9
VRI	Vrincioaia	7.90	336	iP	Pn	21 10 59.2 +1.7
PLOR	Plostina	7.91	336	iP	Pn	21 11 00.0 +2.3
PLOR	Plostina	7.91	336	iP	Pn	21 11 00.0 +2.3
VOIR		8.15	328	iP	Pn	21 11 02.1 +1.1
VOIR		8.15	328	iP	Pn	21 11 02.1 +1.1
DOPR	Dopca	8.45	331	iP	Pn	21 11 06.9 +1.8
DOPR	Dopca	8.45	331	iP	Pn	21 11 06.9 +1.8
TESR	Tescani	8.51	338	iP	Pn	21 11 07.1 +1.3
TESR	Tescani	8.51	338	iP	Pn	21 11 07.1 +1.3
EIL	Elat	9.52	160	Pn	Pn	21 11 21.2 +1.5
	0.2nm,0.3s,baz=344,slow=17,SNR=2.1					
EIL				LR	LR	21 15 58.9
	comp=Z,54nm,18.0s,baz=48,slow=44					
BURAR	Bucovina Array	9.93	336	iP	Pn	21 11 28.0 +2.5
BURAR	Bucovina Array	9.93	336	iP	Pn	21 11 28.0 +2.5
AKASG	Malin Array Be	12.09	354	Pn	Pn	21 11 55.1 +0.3
	0.8nm,0.3s,baz=179,slow=12,SNR=11					
AKASG				Sn	Sn	21 14 05.0 -4.4
	0.5nm,0.3s,baz=184,slow=23,SNR=5.1					
CLL	Collm	17.97	320	eP	Pn	21 13 09.0 -3.3
AKTO	Aktyubinsk	22.27	50	P	P	21 13 59.5 -0.1
	0.8nm,0.7s,baz=304,slow=7.3,SNR=3.1					
TORD	Torodi Ar. Bea	36.49	234	P	P	21 16 08.2 +0.1
	0.4nm,0.7s,baz=26,slow=10,SNR=3.1					
MKAR	Makanchi Array	37.78	61	P	P	21 16 18.4 -0.5
	0.2nm,0.7s,baz=269,slow=7.2,SNR=2.2					
YKA	Yellowknife Ar	75.47	344	P	P	21 20 46.1 -0.3
	0.4nm,0.9s,baz=35,slow=5.8,SNR=4.7					

KRSC 21 21:39:39.4±8.8, 48.98N×156.87E, h5km±5km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.77	344	P	Pn	21 40 11.2	+0.5
SKR				iS	Sn	21 40 34.1	+0.5
PAU	Pauzhetka	2.49	359	P	Pb	21 40 23.1	-1.5
PAU				iS	Sb	21 40 54.3	-1.2
ASAK	Asacha	3.47	10	P	Pn	21 40 37.0	+2.9
RUS	Russkaya	3.61	16	P	Pn	21 40 37.0	+1.0
RUS				iS	Sn	21 41 19.6	+0.7
UGLR	Uglovaya	4.41	15	P	Pn	21 40 49.6	+2.5
AVH	Avacha	4.45	15	P	Pn	21 40 51.3	+3.7
SMAR	Somma	4.46	15	P	Pn	21 40 51.7	+3.8
SDLR	Sedlovina	4.49	16	P	Pn	21 40 51.0	+2.8
GNL	Ganaly	4.77	8	P	Pn	21 40 55.2	+3.2
TUMR	Tumrok	6.63	16	P	Pn	21 41 19.8	+2.3
KBTR	Krutoberegovo	8.09	24	P	Pn	21 41 40.0	+2.6

NIED 21 21:51:00, 33.60N×142.00E, h5km, Mw3.7 Best double couple: M0 3.45000×10^14 NP1:ϕ=290.00000°, δ=74.00000°, λ=-78.00000°. NP2:ϕ=73.00000°, δ=19.00000°, λ=-126.00000°.

IDC 21 21:51:19.0±1.2, 33.53N×141.80E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=32.4km s-min=20.2km az=71.0

JMA 21 21:51:20.4±0.3, 33.57N×142.00E, h69km, M3.5

ISC 21 21:51:20.3±2.2, 33.53N±0.07×141.7E±0.1, h8km±12km, n19, σ1=11/28, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.27	332	P	Pn	21 51 43.7	-0.3
BSO1				eS	Sn	21 52 03.1	+2.1
BSO2	Boso 2	1.45	327	S	Sg	21 52 07.1	+0.1
BSO3	Boso 3	1.61	322	P	Pb	21 51 49.5	-0.7
BSO3				S	Sg	21 52 12.4	+0.4
JHJ2	Mitsune	1.64	256	P	Pg	21 51 51.6	-0.1
BSO4	Boso 4	1.84	322	P	Pn	21 51 53.1	+0.9
BSO4				eS	Sb	21 52 17.2	-0.3
KTR	Katsuura	1.98	325	S	Sn	21 52 19.1	-0.1
TATJ	Tateyama 2	2.12	315	S	Sb	21 52 24.6	-1.0
JIM2	Oshima 3	2.23	303	P	Pn	21 51 58.5	+0.9
JIM2				S	Sn	21 52 24.4	-1.0
JOD2	Odawara 2	2.77	309	P	Pn	21 52 05.1	0.0
JOD2				S	Sn	21 52 37.0	-1.8
JRY	Ryogami san	3.39	318	P	Pn	21 52 15.2	+1.6
JRY				S	Sn	21 52 55.5	+1.5
JAG	Ashikaga	3.43	328	P	Pn	21 52 14.1	0.0
JAG				S	Sn	21 52 52.8	-2.2
MJAR	Matsushiro Arr	4.15	317	Pn	Pn	21 52 25.3	+1.2
	1.6nm,0.3s,baz=238,slow=7.3,SNR=13						
MJAR				Sn	Sn	21 53 12.7	-0.2
	4.0nm,0.3s,baz=182,slow=33,SNR=7.3						
MAT	Matsushiro	4.16	317	P	Pn	21 52 26.0	+1.9
MAT				S	Sn	21 53 13.2	+0.3
SONM	Songino Array	30.06	309	P	P	21 57 31.3	+1.2
	0.5nm,0.8s,baz=108,slow=7.2,SNR=3.9						
CMAR	Chiang Mai Arr	40.97	259	P	P	21 59 03.5	-0.4
	0.7nm,0.7s,baz=51,slow=7.2,SNR=8.0						
MKAR	Makanchi Array	46.25	305	P	P	21 59 46.4	+0.2
	0.7nm,0.7s,baz=93,slow=10,SNR=9.0						
ILAR	Eielson Array	52.34	31	P	P	22 00 31.6	-0.9
	0.5nm,0.7s,baz=256,slow=5.8,SNR=5.7						
WRA	Warramunga Arr	53.64	189	P	P	22 00 41.8	-0.6
	1.4nm,0.6s,baz=4.8,slow=7.6,SNR=115						
ASAR	Alice Springs	57.36	189	P	P	22 01 09.8	+0.6
	0.3nm,0.5s,baz=356,slow=5.4,SNR=8.2						

DJA 21 22:10:50.9±1.5, 6°S±10°×10°4E±1°5, h32km±33km, M3.6/4, MLv3.6/4

IDC 21 22:10:51.5±4.5, 5.31S×103.02E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=252.6km s-min=30.0km az=60.0

ISCJB 21 22:10:55.1±1.4, 5.3S±0.2×103.20E±0.09, h38km, mb3.5/3, Error ellipse: s-maj=22.9km s-min=13.1km az=170.9

ISC 21 22:10:56.9±1.6, 5.3S±0.2×103.2E±0.1, h38km, n6, σ2=8/14/6, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	0.91	70	P	Pn	22 11 09.4	-3.9
LWLI				S	Sn	22 11 23.5	-1.8
MNAI	Manna	0.99	346	P	Pn	22 11 20.8	+6.5
MDSI	Maura Dua	1.29	50	P	Pn	22 11 17.4	-0.9
MDSI				S	Sn	22 11 37.1	+2.8
CMAR	Chiang Mai Arr	24.00	350	P	P	22 16 08.2	0.0
	0.5nm,0.3s,baz=180,slow=9.4,SNR=5.1						
STKA	Stephens Creek	44.57	131	P	P	22 19 06.6	+1.2
	1.4nm,0.9s,baz=286,slow=7.4,SNR=3.4						
MKAR	Makanchi Array	55.10	343	P	P	22 20 24.6	-0.6
	0.2nm,0.5s,baz=146,slow=8.8,SNR=7.3						

SGS 21 22:40:02.8, 17.02N×43.45E, h11km

ISCJB 21 22:40:03.2±0.6, 16.99N±0.03×43.43E±0.05, h10km, Error ellipse: s-maj=7.0km s-min=4.2km az=156.0

CSEM 21 22:40:04.9, 16.86N×43.74E, h3km, ML4.1, After DHMR

DHMR 21 22:40:04.9±0.7, 16.86N×43.74E, h3km±3km, ML4.1

ISC 21 22:40:01.5±0.9, 16.95N±0.03×43.51E±0.06, h10km, n13, σ1=9/60/16, 3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAZS	Jizan	0.58	282	S	Sg	22 40 20.7	+0.2
JAZS	Jizan	0.58	282	P	Pg	22 40 13.1	+0.3
DJNS	Zahran al Janu	0.75	2	S	Sg	22 40 26.2	+0.4
DJNS	Zahran al Janu	0.75	2	P	Pg	22 40 16.1	+0.1
HAJJ	Hajjah	1.25	176	iP	Pg	22 40 26.6	+1.2
HAJJ				iS	Sn	22 40 43.6	+1.5
HAJJ				AML	AML	22 40 48.4	
	comp=Z,3μm,0.2s						
HAJJ	Hajjah	1.25	176	iP	Pg	22 40 26.6	+1.2
HAJJ				iS	Sn	22 40 43.6	+1.5
	comp=Z,2μm,0.2s						
FRSS	Farasan al Kab	1.36	261	P	Pn	22 40 25.1	-1.3
SANA	San'a	1.69	157	iP	Pb	22 40 33.5	+0.7
SANA				iS	Sg	22 40 55.4	-0.5
SANA				AML	AML	22 41 03.8	
	comp=E,4μm,0.2s						
NAMS	An Nimas	2.54	331	P	Pn	22 40 45.0	+2.0
TATS	Tathlith	2.58	359	P	Pb	22 40 47.0	-0.9
BDHA	Al Bayda'	3.56	146	iP	Pn	22 41 00.9	+3.9
BDHA				iS	Sb	22 41 45.5	-2.6
BDHA	Al Bayda'	3.56	146	iP	Pn	22 41 00.9	+3.9
BDHA				iS	Sb	22 41 45.5	-2.6
TRBA	At Turbah	3.74	171	iS	Sb	22 41 51.1	-2.3

IDC 21 22:58:19.6±1.3, 17.12N×99.45W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/26, mbtmp3.9/11, ML3.3/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/35, Error ellipse: s-maj=38.5km s-min=23.1km az=67.0

ISCJB 21 22:58:23.7±0.4, 16.97N±0.04×99.70W±0.03, h50km±4km, mb4.1/11, MS3.8/3, Error ellipse: s-maj=6.4km s-min=4.9km az=35.6

NEIC 21 22:58:25.0, 17.04N×99.73W, h30km, mb4.2/9, MD4.0(MEX), After MEX.

NEIC Felt at Coyuca.

MEX 21 22:58:25.9±0.6, 17.05N×99.74W, h30km±5km, MD4.0

ISC 21 22:58:24.7±0.7, 17.04N±0.05×99.71W±0.04, h43km±7km, n166, σ1=43/158, mb4.1/11, MS3.9/3, 58C-49D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.22	219	iP	Pn	22 58 32.0	-0.5
ACP2	Acapulco	0.24	225	eP	Pn	22 58 30.7	-1.9
ACP2				iS	Sn	22 58 35.6	-2.6
TLIG	Tlapa	1.21	65	iP	Pn	22 58 44.9	-0.4
TLIG				iS	Sn	22 59 00.6	0.0
PLIG	Platanillo	1.36	8	eP	Pn	22 58 46.4	-0.9
PLIG				iS	Sn	22 59 03.1	-1.1
ARIG	Puente Sto Nin	1.37	334	iP	Pn	22 58 46.7	-0.8
ARIG				iS	Sn	22 59 03.5	-0.9
PNIG	Pinotepa	1.65	113	eP	Pn	22 58 51.1	-0.2
PNIG				iS	Sn	22 59 11.4	+0.1
ZIIG	Zihuatanejo	1.77	289	eP	Pn	22 58 51.9	-0.9
ZIIG				iS	Sn	22 59 13.5	-0.6
YAIG	Yautepec	1.91	19	eP	Pn	22 58 54.0	-0.9
YAIG				iS	Sn	22 59 16.7	-1.1
APG	El Apazote	9.12	102	LR	LR	23 04 34.7	
	comp=Z,88nm,20.0s,baz=328,slow=42						
H06E1	SOCORRO T-PHAS	10.81	281	T	T	23 11 47.4	
	SNR=40						
TEIG	Tepich	11.29	72	ePn	Pn	23 01 03.7	+0.2
TEIG				eSn	Sn	23 03 05.9	-2.5
TEIG	Tepich	11.29	72	Pn	Pn	23 01 02.0	-1.6
	0.9nm,0.3s,baz=260,slow=6.1,SNR=1.6						
TEIG				Sn	Sn	23 03 01.3	-7.2
	0.3nm,0.3s,baz=321,slow=20,SNR=2.1						
TEIG				LR	LR	23 06 16.7	
	comp=Z,126nm,20.2s,baz=179,slow=43						
631A	Perdido Creek	12.34	356	iP	Pn	23 01 19.7	+1.9
	baz=12						
TGUH	Tegucigalpa,Un	12.35	102	Pn	Pn	23 01 18.6	+0.6
632A	Uvalde	12.41	360	iP	Pn	23 01 20.8	+2.1
	baz=12						
628A	Black Gap, Mar	12.72	347	iP	Pn	23 01 26.2	+3.1
	baz=13						
TXAR	Lajitas Array	12.76	344	Pn	Pn	23 01 24.7	+1.0
TXAR				Lg	Lg	23 05 10.7	
TXAR	Lajitas Array	12.76	344	Pn	Pn	23 01 24.7	+1.0
	0.0nm,0.3s,baz=163,slow=13,SNR=7.4						
TXAR				Lg	Lg	23 05 10.7	
	0.0nm,0.3s,baz=3.3,slow=24,SNR=3.4						
TXAR				LR	LR	23 06 09.6	
	comp=Z,112nm,20.9s,baz=5.0,slow=37						
627A	Terlingua Ranc	12.80	345	iP	Pn	23 01 27.2	+2.9
	baz=13						
534A	Blanco	12.98	5	iP	Pn	23 01 29.7	+3.2
	baz=13						
533A	Kerrville	12.98	3	iP	Pn	23 01 29.9	+3.2
	baz=13						
532A	Rocksprings	13.03	359	iP	Pn	23 01 30.2	+2.9
	baz=13						
531A	Rocksprings	13.09	357	iP	Pn	23 01 30.8	+2.8
	baz=13						
626A	Big Bend Ranch	13.10	343	iP	Pn	23 01 31.0	+2.7
	baz=13						
530A	J-C Ranch, Com	13.13	354	iP	Pn	23 01 31.6	+2.9
	baz=13						
529A	Stev Forest Ra	13.22	350	iP	Pn	23 01 33.6	+3.6
	baz=13						
HKT	Hockley	13.33	15	ePn	P	23 01 35.8	-4.2
528A	Cox Ranch, San	13.36	348	iP	Pn	23 01 34.3	+2.4
	baz=13,SNR=9.8						
JCT	Junction City	13.38	360	iP	Pn	23 01 34.3	+2.2
	baz=13						
527A	Woodward Ranch	13.52	345	iP	Pn	23 01 36.6	+2.5
	baz=14						
526A	Mary Lane Ranc	13.56	344	iP	Pn	23 01 37.8	+3.1
	baz=14						
431A	Sonora	13.60	357	iP	Pn	23 01 37.5	+2.4
	baz=14						
433A	Art	13.66	2	iP	Pn	23 01 38.9	+3.0
	baz=14						
429A	Davenport Ranc	13.67	352	iP	Pn	23 01 38.8	+2.8
	baz=14						
430A	Baggett Ranch,	13.75	354	iP	Pn	23 01 39.8	+2.6
	baz=14						
434A	Burnet	13.77

Y25A	**Mesa, Roswell**	**17.39**	**346**	⇑P	**P**	**23 02 25.4**	**+0.1**
	baz=18						
Z22A	**Elephant Butte**	**17.42**	**339**	⇑P	**P**	**23 02 26.3**	**+0.7**
	baz=18						
X33A	**Lawton**	**17.46**	**3**	⇓P	**P**	**23 02 26.9**	**+1.0**
	baz=18						
Y24A	**Capitan**	**17.58**	**344**	⇑P	**P**	**23 02 28.2**	**+0.8**
	baz=18						
WMOK	**Wichita Mounta**	**17.64**	**3**	*e*Pn	**P**	**23 02 28.0**	**+0.1**
	7.8nm,0.9s						
Y23A	**Lovelace Mesa,**	**17.76**	**342**	⇓P	**P**	**23 02 30.4**	**+1.0**
	baz=18						
X26A	**CR and CF Fran**	**17.82**	**349**	⇑P	**P**	**23 02 31.0**	**+1.0**
	baz=18						
AMTX	**Amarillo**	**17.86**	**355**	*e*Pn	**Pn**	**23 02 29.6**	**-0.4**
	64nm,2.0s						
AMTX	**Amarillo**	**17.86**	**355**	⇑P	**Pn**	**23 02 29.7**	**-0.4**
	baz=18						
W33A	**Caddo, Fort Co**	**18.07**	**3**	⇓P	**P**	**23 02 33.3**	**+0.7**
	baz=18						
W31A	**Holland Ranch,**	**18.07**	**359**	⇑P	**P**	**23 02 33.2**	**+0.5**
	baz=18						
W29A	**Amraillo**	**18.09**	**355**	⇑P	**P**	**23 02 33.7**	**+0.8**
	baz=18						
W27A	**Bowe Ranch, En**	**18.20**	**351**	⇓P	**Pn**	**23 02 34.5**	**+0.3**
	baz=18						
MIAR	**Mount Ida**	**18.28**	**16**	*e*P	**P**	**23 02 34.7**	**-0.1**
	14nm,0.9s						
W26A	**Owens Ranch, T**	**18.33**	**349**	⇓P	**Pn**	**23 02 37.4**	**+1.5**
	baz=18						
W25A	**X Bar L Ranch,**	**18.59**	**348**	⇓P	**P**	**23 02 38.8**	**+0.3**
	baz=19						
V32A	**Arapaho**	**18.61**	**2**	⇓P	**Pn**	**23 02 39.0**	**-0.2**
	baz=19						
V31A	**Spring Creek L**	**18.66**	**360**	⇓P	**P**	**23 02 38.8**	**-0.3**
	baz=19						
V33A	**Lossen Ranch,**	**18.75**	**4**	⇑P	**Pn**	**23 02 41.0**	**+0.2**
	baz=19						
W24A	**Lazy 6 Ranch,**	**18.80**	**345**	⇓P	**Pn**	**23 02 41.3**	**-0.3**
	baz=19						
V34A	**Guthrie**	**18.82**	**6**	⇓P	**P**	**23 02 41.2**	**+0.4**
	baz=19						
ANMO	**Albuquerque**	**18.82**	**343**	*e*P	**Pn**	**23 02 42.0**	**+0.2**
	4.5nm,1.0s						
ANMO	**Albuquerque**	**18.82**	**343**	P	**Pn**	**23 02 41.8**	**-0.1**
	0.1nm,0.3s,baz=142,slow=14,SNR=4.8						
ANMO				LR	LR	23 10 58.2	
	comp=Z,239nm,18.1s,baz=335,slow=40						
V26A	**Tequesquite Ra**	**19.03**	**350**	⇓P	**P**	**23 02 43.7**	**+0.4**
	baz=19,SNR=7.6						
TUL1	**Tulsa**	**19.11**	**10**	*e*P	**P**	**23 02 41.7**	**-2.3**
	22nm,0.9s						
TUL1	**Tulsa**	**19.11**	**10**	⇑P	**Pn**	**23 02 44.9**	**-0.3**
	baz=19						
V25A	**Rancho No Teng**	**19.22**	**348**	⇑P	**P**	**23 02 46.1**	**+0.7**
	baz=19						
V24A	**Rampart Ranch,**	**19.25**	**346**	⇑P	**Pn**	**23 02 47.1**	**0.0**
	baz=19						
U27A	**Thompson Grove**	**19.50**	**352**	⇑P	**P**	**23 02 48.9**	**+0.5**
	baz=20						
U26A	**Atchley Ranch,**	**19.61**	**350**	⇓P	**P**	**23 02 50.4**	**+0.8**
	baz=20						
OXF	**Oxford**	**19.69**	**26**	*e*P	**Pn**	**23 02 51.6**	**-0.5**
	18nm,1.0s						
T31A	**Randall Ranch,**	**19.98**	**0**	⇑P	**P**	**23 02 53.9**	**+0.4**
	baz=20						
T32A	**Huddler Ranch,**	**20.07**	**2**	⇓P	**P**	**23 02 54.7**	**+0.2**
	baz=20						
T28A	**Walsh**	**20.11**	**354**	⇑P	**P**	**23 02 55.1**	**+0.1**
	baz=20						
T27A	**Campo**	**20.12**	**353**	⇑P	**P**	**23 02 55.6**	**+0.4**
	baz=20						
DWPF	**Disney**	**20.13**	**54**	*e*P	**P**	**23 02 55.9**	**+0.8**
	0.3nm,0.8s						
X16A	**Lo Mia Camp, P**	**20.24**	**331**	⇓P	Pn	23 02 59.1	+0.2
	baz=20,SNR=6.2						
T26A	**Comanche Natio**	**20.34**	**351**	⇑P	**P**	**23 02 58.6**	**+0.9**
	baz=20						
T25A	**Trinidad**	**20.44**	**349**	⇑P	**P**	**23 02 59.8**	**+1.1**
	baz=20						
S31A	**Mullinville**	**20.50**	**1**	⇓P	**P**	**23 02 59.0**	**-0.2**
	baz=21						
S30A	**Montezuma**	**20.53**	**358**	⇑P	**P**	**23 02 59.7**	**+0.2**
	baz=21						
S29A	**Ulysses**	**20.54**	**357**	⇑P	**P**	**23 02 59.5**	**-0.1**
	baz=21						
S28A	**Manter**	**20.56**	**355**	⇑P	**P**	**23 02 59.5**	**-0.4**
	baz=21,SNR=8.9						
T24B	**San Luis**	**20.56**	**347**	⇓P	**P**	**23 03 01.0**	**+0.8**
	baz=21						
S27A	**Las Animas**	**20.75**	**353**	⇓P	**P**	**23 03 02.0**	**0.0**
	baz=21						
S25A	**Robets Cordova**	**20.96**	**349**	⇓P	**P**	**23 03 04.7**	**+0.4**
	baz=21						
R31A	**Burdett**	**21.17**	**0**	⇑P	**P**	**23 03 06.5**	**+0.1**
	baz=21						
R30A	**Dighton**	**21.17**	**359**	⇑P	**P**	**23 03 05.9**	**-0.5**
	baz=21,SNR=5.2						
R33A	**Olander Ranch,**	**21.24**	**4**	⇓P	**P**	**23 03 07.2**	**0.0**
	baz=21						
R28A	**Tribune**	**21.30**	**355**	⇑P	**P**	**23 03 07.1**	**-0.8**
	baz=21,SNR=5.7						
Y12C	**Blythe**	**21.31**	**324**	⇑P	**P**	**23 03 07.6**	**-0.2**
	baz=21						
S23A	**Nye Farm, Mont**	**21.32**	**346**	⇓P	**P**	**23 03 08.2**	**0.0**
	baz=21						
R26A	**Arlington**	**21.43**	**352**	⇓P	**P**	**23 03 09.8**	**+0.5**
	baz=22						
S22A	**4UR Ranch, Cre**	**21.55**	**344**	⇑P	**P**	**23 03 11.8**	**+1.0**
	baz=22						
WVT	**Waverly**	**21.74**	**27**	*e*P	**P**	**23 03 11.0**	**-1.5**
	129nm,2.7s						
SWET	**Sewanee**	**21.88**	**32**	*e*P	**P**	**23 03 13.1**	**-0.9**
	50nm,1.8s						
IRM	**Iron Mountain**	**21.96**	**324**	⇑P	**P**	**23 03 16.8**	**+1.9**
	baz=22						
U15A	**North Rim**	**22.30**	**332**	⇓P	**P**	**23 03 19.9**	**+1.1**
	baz=22						
TKL	**Tuckaleechee C**	**23.34**	**34**	P	**P**	**23 03 27.6**	**-1.7**
TKL	**Tuckaleechee C**	**23.34**	**34**	P	**P**	**23 03 27.6**	**-1.7**
	4.0nm,0.6s,baz=191,slow=11,SNR=6.2						
PDAR	**Pinedale Array**	**26.98**	**344**	P	**P**	**23 04 04.6**	**+1.9**
PDAR	**Pinedale Array**	**26.98**	**344**	P	**P**	**23 04 04.6**	**+1.9**
	1.0nm,0.6s,baz=156,slow=6.9,SNR=1.0						
PDAR				LR	LR	23 15 47.1	
	comp=Z,308nm,18.9s,baz=153,slow=39						
SADO	**Sadowa**	**32.60**	**28**	P	**P**	**23 04 50.5**	**-1.7**
SADO	**Sadowa**	**32.60**	**28**	P	**P**	**23 04 50.5**	**-1.7**
	1.4nm,0.5s,baz=254,slow=7.4,SNR=1.3						
ULM	**Lac du Bonnet**	**33.27**	**4**	P	**P**	**23 04 57.8**	**-0.1**
ULM	**Lac du Bonnet**	**33.27**	**4**	P	**P**	**23 04 57.8**	**-0.1**
	1.3nm,0.6s,baz=183,slow=6.6,SNR=1.9						
SCHQ	**Schefferville**	**45.38**	**26**	P	**P**	**23 06 38.0**	**-0.8**
SCHQ	**Schefferville**	**45.38**	**26**	P	**P**	**23 06 38.0**	**-0.8**
	6.6nm,0.8s,baz=228,slow=7.2,SNR=7.3						
LPAZ	**La Paz**	**45.45**	**135**	*e*P	**P**	**23 06 41.3**	**+0.7**
	1.0nm,0.6s						
LPAZ	**La Paz**	**45.45**	**135**	P	**P**	**23 06 41.1**	**+0.5**
	1.0nm,0.7s,baz=339,slow=12,SNR=5.0						
YKA	**Yellowknife Ar**	**46.59**	**351**	P	**P**	**23 06 48.1**	**0.0**
YKA	**Yellowknife Ar**	**46.59**	**351**	P	**P**	**23 06 48.1**	**0.0**
	1.5nm,0.7s,baz=157,slow=7.4,SNR=23						
LVC	**Limon Verde**	**49.61**	**142**	*e*P	**P**	**23 07 13.8**	**+1.5**
RKT	**Rikitea**	**52.74**	**222**	*e*T	T	00 03 56.1	
	6.1nm,0.3s						
LCO	**Las Campanas**	**53.68**	**148**	P	**P**	**23 07 43.9**	**+1.2**
H03N2	**Juan Fernandez**	**53.98**	**158**	T	T	00 05 39.2	
	baz=337,slow=76,SNR=50						
H03N1	**Juan Fernandez**	**53.99**	**158**	T	T	00 05 44.4	
	baz=337,slow=76,SNR=66						
H03N3	**Juan Fernandez**	**53.99**	**158**	T	T	00 05 40.5	
	baz=337,slow=76,SNR=42						
INK	**Inuvik**	**55.53**	**345**	P	**P**	**23 07 56.1**	**+0.9**
INK	**Inuvik**	**55.53**	**345**	P	**P**	**23 07 56.1**	**+0.9**
	1.6nm,0.7s,baz=136,slow=6.0,SNR=6.6						
ILAR	**Eielson Array**	**57.19**	**338**	P	**P**	**23 08 08.2**	**+1.1**
ILAR	**Eielson Array**	**57.19**	**338**	P	**P**	**23 08 08.2**	**+1.1**
	0.4nm,0.6s,baz=142,slow=4.1,SNR=6.5						
PMOR	**Pomariorio Ree**	**57.22**	**239**	*e*T	T	00 09 26.9	
	4.1nm,0.2s						
PPT	**Papeete**	**59.94**	**237**	LR	LR	23 27 54.7	
	comp=Z,79nm,19.5s,baz=352,slow=30						
PPT2	**Papeete2**	**59.95**	**237**	*e*LR	LR	23 26 00.7	
	73nm,24.5s						
NOA	**NORSAR Array B**	**84.94**	**27**	LR	LR	23 47 07.2	
	comp=Z,33nm,20.4s,baz=270,slow=34						
WRA	**Warramunga Arr**	**128.84**	**258**	PKP	**PKPdf**	**23 17 29.2**	**+0.8**
WRA	**Warramunga Arr**	**128.84**	**258**	PKP	**PKPdf**	**23 17 29.2**	**+0.8**
	0.6nm,0.9s,baz=81,slow=3.0,SNR=4.7						

*IDC **21** 23:08:35.8±1.1,31°.94N×49°.25E, h0km, mb3.8/14, mb1 3.9/17,mb1mx3.8/32, mbtmp3.8/17, ML3.6/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/34, Error ellipse: s-maj=26.4km s-min=14.8km az=163.0*

*ISCJB **21** 23:08:37.6±0.4,31°.83N±0°.04×49°.23E±0°.03, h20km, mb3.9/18, MS3.4/1, Error ellipse: s-maj=5.9km s-min=3.9km az=3.4*

*THR **21** 23:08:37.8±1.4,31°.88N×49°.29E, h14km±13km, ML3.7*

*CSEM **21** 23:08:38.8±0.2,31°.91N×49°.24E, h10km, ML3.7, Error ellipse: s-maj=5.4km s-min=4.5km az=1.0*

*TEH **21** 23:08:39.0,31°.88N×49°.29E, h6km, ML3.8*

*VIE **21** 23:08:50.3,32°.06N×49°.23E, h123km, mb3.5, ML4.1*

ISC 21 23:08:38.6±0.6,31°.88N±0°.04×49°.28E±0°.03, h20km, n131, s156/133, mb4.0/18, 19C-7D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.47**	**300**	*e*Pg	**Pb**		**23 08 47.3**	**-0.9**
SHGR					AML	AML	23 09 07.0	
	comp=N,6μm,0.4s							
SHGR	**Shooshtar-Gavs**	**0.47**	**300**	*e*Pg	**Pb**		**23 08 47.3**	**-0.9**
IKMR	**Kamar-syah**	**1.80**	**335**	*e*Pn	**Pb**		**23 09 10.7**	**-0.3**
IKMR				*e*Sg	**Sb**		**23 09 36.2**	**+3.1**
IKMR	**Kamar-syah**	**1.80**	**335**	*e*Pn	**Pb**		**23 09 10.7**	**-0.3**
KHMZ	**Khomeyn**	**1.94**	**17**	*e*Pg	**Pb**		**23 09 12.6**	**-0.9**
KHMZ				*e*Sg	**Sb**		**23 09 39.4**	**+1.9**
KHMZ					AML	AML	23 09 46.0	
	comp=E,508nm,0.2s							
KHMZ	**Khomeyn**	**1.94**	**17**	*e*Pg	**Pb**		**23 09 12.6**	**-0.9**
KHMZ				*e*Sg	**Sb**		**23 09 39.4**	**+1.9**
IKFM	**Kafar-mosalman**	**2.04**	**324**	*e*Pn	**Pb**		**23 09 14.0**	**-1.0**
IKFM				*e*Sg	**Sb**		**23 09 42.9**	**+3.0**
IDOB	**Doab**	**2.12**	**334**	*e*Pn	**Pn**		**23 09 14.8**	**+1.7**
IDOB				*e*Sg	**Sb**		**23 09 45.2**	**+2.7**
IDOB	**Doab**	**2.12**	**334**	*e*Pn	**Pn**		**23 09 14.8**	**+1.7**
IGAR	**Gharneh**	**2.40**	**77**	*e*Pn	**Pn**		**23 09 18.9**	**+1.8**
IGAR				*e*			23 09 55.3	
	comp=E,511nm,0.1s							
IKLH	**Kolahrood**	**2.42**	**53**	*e*Pn	**Pn**		**23 09 19.0**	**+1.7**
IKLH				*e*			23 09 25.0	
	comp=Z,5μm,0.1s							
IKLH	**Kolahrood**	**2.42**	**53**	*e*Pn	**Pn**		**23 09 19.0**	**+1.7**
IKOM	**Komasi**	**2.73**	**328**	*e*Pn	**Pn**		**23 09 23.7**	**+2.2**
IKOM				*e*			23 10 07.7	
	comp=Z,4μm,0.2s							
IKOM	**Komasi**	**2.73**	**328**	*e*Pn	**Pn**		**23 09 23.7**	**+2.2**
ASAO	**Ashtian**	**2.74**	**13**	*e*Pn	**Pn**		**23 09 24.1**	**+2.4**
ASAO					AML	AML	23 10 10.3	
	comp=E,272nm,0.5s							
ASAO					AML	AML	23 10 13.7	
	comp=N,372nm,0.2s							
ASAO	**Ashtian**	**2.74**	**13**	*e*Pn	**Pn**		**23 09 24.1**	**+2.4**
IZEF	**Zefreh**	**2.77**	**68**	*e*Pn	**Pn**		**23 09 23.7**	**+1.5**
IZEF				*e*			23 09 32.5	
	comp=Z,2μm,0.1s							
IZEF	**Zefreh**	**2.77**	**68**	*e*Pn	**Pn**		**23 09 23.7**	**+1.5**
KBD	**Kabd**	**3.02**	**207**	*e*P	**Pn**		**23 09 27.9**	**+2.6**
KBD					AML	AML	23 10 08.4	
	comp=Z,172nm,0.3s							
KBD	**Kabd**	**3.02**	**207**	*e*P	**Pn**		**23 09 27.9**	**+2.6**
GHVR	**GHOM**	**3.10**	**33**	*e*Pn	**Pn**		**23 09 28.6**	**+2.0**
GHVR					AML	AML	23 10 28.7	
	comp=E,189nm,0.8s							
GHVR	**GHOM**	**3.10**	**33**	*e*Pn	**Pn**		**23 09 28.5**	**+2.0**
NASN	**Na'in**	**3.13**	**72**	*e*Pn	**Pn**		**23 09 28.8**	**+1.7**
NASN	**Na'in**	**3.13**	**72**	*e*Pn	**Pn**		**23 09 28.8**	**+1.7**
NAY	**Al-Naaiem**	**3.15**	**214**	*e*P	**Pn**		**23 09 29.5**	**+2.4**
NAY					AML	AML	23 10 12.2	
	comp=Z,132nm,0.5s							
NAY	**Al-Naaiem**	**3.15**	**214**	*e*P	**Pn**		**23 09 29.5**	**+2.4**
RDF	**Al-Radifah**	**3.30**	**207**	*e*P	**Pn**		**23 09 32.3**	**+3.2**
RDF					AML	AML	23 10 14.1	
	comp=Z,161nm,0.2s							
RDF	**Al-Radifah**	**3.30**	**207**	*e*P	**Pn**		**23 09 32.3**	**+3.2**
QRN	**Al-Qurain**	**3.33**	**201**	*e*P	**Pn**		**23 09 32.0**	**+2.3**
QRN					AML	AML	23 10 14.6	
	comp=Z,306nm,0.3s							
IVIS	**Veis**	**3.34**	**323**	*e*Pn	**Pn**		**23 09 31.2**	**+1.4**
IVIS				*e*			23 10 34.1	
	comp=Z,2μm,0.1s							
IVIS	**Veis**	**3.34**	**323**	*e*Pn	**Pn**		**23 09 31.2**	**+1.4**
IGHG	**Ghaleghazi**	**3.34**	**318**	*e*Pn	**Pn**		**23 09 31.2**	**+1.2**
IGHG				*e*			23 10 28.1	
	comp=Z,2μm,0.2s							
IGHG	**Ghaleghazi**	**3.34**	**318**	*e*Pn	**Pn**		**23 09 31.2**	**+1.2**
IRAZ	**Razeghan**	**3.56**	**9**	*e*Pn	**Pn**		**23 09 34.9**	**+1.9**
IRAZ				*e*			23 09 37.5	
	comp=Z,2μm,0.1s							
IRAZ	**Razeghan**	**3.56**	**9**	*e*Pn	**Pn**		**23 09 34.9**	**+1.9**
SNGE	**Sanandaj**	**3.59**	**334**	*e*Pn	**Pn**		**23 09 35.2**	**+1.8**
SNGE					AML	AML	23 10 37.7	
	comp=N,120nm,0.9s							
SNGE	**Sanandaj**	**3.59**	**334**	*e*Pn	**Pn**		**23 09 35.2**	**+1.8**
ILIN	**Lien**	**3.60**	**328**	*e*Pn	**Pn**		**23 09 35.4**	**+1.9**
ILIN				*e*			23 10 23.4	
	comp=Z,3μm,0.1s							
ILIN	**Lien**	**3.60**	**328**	*e*Pn	**Pn**		**23 09 35.4**	**+1.9**
IVRN	**Varamin**	**3.72**	**33**	*e*Pn	**Pn**		**23 09 36.6**	**+1.5**
IVRN				*e*			23 09 55.0	
	comp=Z,1μm,0.2s							
IVRN	**Varamin**	**3.72**	**33**	*e*Pn	**Pn**		**23 09 36.6**	**+1.5**
ISAD	**Sadrabad**	**3.75**	**88**	*e*Pn	**Pn**		**23 09 37.3**	**+1.7**
ISAD				*e*			23 10 41.9	
	comp=Z,2μm,0.4s							
ISAD	**Sadrabad**	**3.75**	**88**	*e*Pn	**Pn**		**23 09 37.3**	**+1.7**
IPAR	**Pars**	**3.82**	**121**	*e*Pn	**Pn**		**23 09 38.4**	**+1.7**
IPAR				*e*			23 10 31.5	
	comp=Z,978nm,0.5s							
IPAR	**Pars**	**3.82**	**121**	*e*Pn	**Pn**		**23 09 38.4**	**+1.7**
IMHD	**Mahdasht**	**3.97**	**17**	*e*Pn	**Pn**		**23 09 40.0**	**+1.5**
IMHD				*e*			23 09 55.1	
	comp=Z,1μm,0.2s							
IMHD	**Mahdasht**	**3.97**	**17**	*e*Pn	**Pn**		**23 09 40.0**	**+1.5**
CHTH	**Charan**	**4.30**	**20**	*e*Pn	**Pn**		**23 09 44.6**	**+1.4**
CHTH	**Charan**	**4.30**	**20**	*e*Pn	**Pn**		**23 09 44.6**	**+1.4**
IDMV	**Damavand**	**4.35**	**31**	*e*Pn	**Pn**		**23 09 45.2**	**+1.4**
IDMV				*e*			23 11 11.9	
	comp=Z,926nm,0.5s							
IDMV	**Damavand**	**4.35**	**31**	*e*Pn	**Pn**		**23 09 45.2**	**+1.4**
DAMV	**Damavand**	**4.37**	**30**	*e*Pn	**Pn**		**23 09 45.6**	**+1.5**
DAMV	**Damavand**	**4.37**	**30**	*e*Pn	**Pn**		**23 09 45.6**	**+1.5**
ICHK	**Chekchek**	**4.37**	**84**	*e*Pn	**Pn**		**23 09 45.4**	**+1.3**
ICHK				*e*			23 09 47.7	
	comp=Z,1μm,0.2s							
ICHK	**Chekchek**	**4.37**	**84**	*e*Pn	**Pn**		**23 09 45.4**	**+1.3**
IMEH	**Mehriz**	**4.58**	**95**	*e*Pn	**Pn**		**23 09 48.2**	**+1.2**
IMEH				*e*			23 09 51.6	
	comp=Z,522nm,0.2s							
IMEH	**Mehriz**	**4.58**	**95**	*e*Pn	**Pn**		**23 09 48.2**	**+1.2**
ILAS	**Lasjerd**	**4.65**	**40**	*e*Pn	**Pn**		**23 09 48.9**	**+0.9**
ILAS				*e*			23 09 54.3	
	comp=Z,721nm,0.1s							
ILAS	**Lasjerd**	**4.65**	**40**	*e*Pn	**Pn**		**23 09 48.9**	**+0.9**
IFIR	**Firoozkooh**	**4.74**	**37**	*e*Pn	**Pn**		**23 09 50.5**	**+1.3**
IFIR				*e*			23 09 55.5	
	comp=Z,820nm,0.1s							
IFIR	**Firoozkooh**	**4.74**	**37**	*e*Pn	**Pn**		**23 09 50.5**	**+1.3**
IALA	**Alasht**	**5.12**	**34**	*e*Pn	**Pn**		**23 09 56.6**	**+2.1**
IALA	**Alasht**	**5.12**	**34**	*e*Pn	**Pn**		**23 09 56.6**	**+2.1**
ISHM	**Shahmirzad**	**5.15**	**39**	*e*Pn	**Pn**		**23 09 56.0**	**+1.1**
ISHM				*e*			23 10 34.9	
	comp=Z,863nm,0.2s							
ISHM	**Shahmirzad**	**5.15**	**39**	*e*Pn	**Pn**		**23 09 56.0**	**+1.1**
IANJ	**Anjilo**	**5.27**	**46**	*e*	Pb		23 10 16.4	+6.2
	comp=Z,254nm,0.2s							
IBAF	**Bafgh**	**5.37**	**91**	*e*Pn	**Pn**		**23 09 59.0**	**+1.3**
IBAF				*e*			23 10 13.0	
	comp=Z,309nm,0.1s							
IBAF	**Bafgh**	**5.37**	**91**	*e*Pn	**Pn**		**23 09 59.0**	**+1.3**
IKIA	**Kiasar**	**5.66**	**39**	*e*Pn	**Pn**		**23 10 03.0**	**+1.2**
IKIA	**Kiasar**	**5.66**	**39**	*e*Pn	**Pn**		**23 10 03.0**	**+1.2**
IGLO	**Ghaloghah**	**5.96**	**38**	*e*Pn	**Pn**		**23 10 07.4**	**+1.5**
ISRB	**Sarab**	**6.08**	**348**	*e*Pn	**Pn**		**23 10 08.7**	**+1.1**
ISRB				*e*			23 12 02.0	
	comp=Z,141nm,0.2s							
ISRB	**Sarab**	**6.08**	**348**	*e*Pn	**Pn**		**23 10 08.7**	**+1.1**
IBST	**Bostanabad**	**6.13**	**342**	*e*Pn	**Pn**		**23 10 09.8**	**+1.5**
IBST	**Bostanabad**	**6.13**	**342**	*e*Pn	**Pn**		**23 10 09.8**	**+1.5**
IHRS	**Heris**	**6.68**	**345**	*e*Pn	**Pn**		**23 10 16.4**	**+0.5**
IHRS				*e*			23 11 16.9	
	comp=Z,206nm,0.1s							
IHRS	**Heris**	**6.68**	**345**	*e*Pn	**Pn**		**23 10 16.4**	**+0.5**
ITEG	**Tejag**	**8.07**	**80**	*e*Pn	**Pn**		**23 10 35.7**	**+0.7**
ITEG	**Tejag**	**8.07**	**80**	*e*Pn	**Pn**		**23 10 35.7**	**+0.7**
ASF	**Jabal al Asfar**	**10.52**	**275**	Pn	**Pn**		**23 11 07.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=55,slow=7.9,SNR=7.7							
ASF					Sn	**Sn**	**23 13 01.4**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=210,slow=19,SNR=1.9							
ASF					Lg	Lg	23 14 26.6	
	comp=Z,0.1nm,0.3s,baz=236,slow=21,SNR=2.0							
MMAI	**Mount Meron Ar**	**11.78**	**279**	Pn	**Pn**		**23 11 25.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=94,slow=15,SNR=1.2							
EIL	**Elat**	**12.52**	**264**	LR	LR		23 17 01.7	
	comp=Z,16nm,20.2s,baz=71,slow=40							
BRTR	**Keskin Array B**	**14.90**	**306**	Pn	**P**		**23 12 14.8**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=131,slow=13,SNR=30							
AKTO	**Aktyubinsk**	**19.65**	**17**	P	**P**		**23 13 06.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=194,slow=11,SNR=7.3							
IDI	**Amoyia**	**20.59**	**286**	P	Pn		23 13 17.9	-0.9
	comp=Z,8.1nm,0.8s,baz=55,slow=18,SNR=7.5							
TIRR	**Tirgusor**	**20.59**	**314**	⇑*i*P	**P**		**23 13 17.0**	**+0.7**
TIRR	**Tirgusor**	**20.59**	**314**	⇑*i*P	**P**		**23 13 17.0**	**+0.7**
TLB	**Topalu**	**20.89**	**313**	⇓*i*P	**P**		**23 13 19.4**	**-0.1**
TLB	**Topalu**	**20.89**	**313**	⇓*i*P	**P**		**23 13 19.4**	**-0.1**
CFR	**Carcaliu**	**21.13**	**315**	⇑*i*P	**P**		**23 13 20.8**	**-1.3**
CFR	**Carcaliu**	**21.13**	**315**	⇑*i*P	**P**		**23 13 20.8**	**-1.3**
VRI	**Vrincioaia**	**22.34**	**315**	⇓*i*P	**P**		**23 13 35.3**	**+0.2**
VRI	**Vrincioaia**	**22.34**	**315**	⇓*i*P	**P**		**23 13 35.3**	**+0.2**
PLOR	**Plostina**	**22.38**	**315**	⇑*i*P	**P**		**23 13 33.3**	**-2.2**
PLOR	**Plostina**	**22.38**	**315**	⇑*i*P	**P**		**23 13 33.3**	**-2.2**
MMB	**Musomiste**	**22.59**	**303**	⇑*i*P	**P**		**23 13 39.4**	**+1.6**
MMB	**Musomiste**	**22.59**	**303**	⇑*i*P	**P**		**23 13 39.4**	**+1.6**
MLR	**Muntele Rosu**	**22.62**	**314**	⇑*i*P	**P**		**23 13 39.9**	**+1.6**
MLR	**Muntele Rosu**	**22.62**	**314**	⇑*i*P	**P**		**23 13 39.9**	**+1.6**
MLR	**Muntele Rosu**	**22.62**	**314**	P	**P**		**23 13 40.2**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=290,slow=8.3,SNR=6.5							
VOIR			**23.16**	**313**	⇑*i*P	**P**		**23 13 44.9**	**+1.1**
VOIR			**23.16**	**313**	⇑*i*P	**P**		**23 13 44.9**	**+1.1**
DOPR	**Dopca**		**23.20**	**314**	⇑*i*P	**P**		**23 13 45.6**	**+1.5**
DOPR	**Dopca**		**23.20**	**314**	⇑*i*P	**P**		**23 13 45.6**	**+1.5**
AKASG	**Malin Array Be**		**23.96**	**328**	P	**P**		**23 13 50.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=139,slow=8.9,SNR=6.5								
BURAR	**Bucovina Array**		**24.14**	**318**	⇑*i*P	**P**		**23 13 53.5**	**+0.2**
BURAR	**Bucovina Array**		**24.14**	**318**	⇑*i*P	**P**		**23 13 53.5**	**+0.2**
DRGR			**25.22**	**314**	⇑*i*P	**P**		**23 14 04.3**	**+1.2**
DRGR			**25.22**	**314**	⇑*i*P	**P**		**23 14 04.3**	**+1.2**
BVAR	**Borovoye Array**		**26.07**	**30**	P	**P**		**23 14 10.8**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=225,slow=7.7,SNR=19								
KURBB	**Kurchatov Arra**		**28.61**	**41**	P	**P**		**23 14 34.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=241,slow=9.8,SNR=3.5								
MKAR	**Makanchi Array**		**29.31**	**50**	P	**P**		**23 14 39.6**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=249,slow=

KUDL				*e*S		Sn	23 19 37.3	-6.1
KUDL				AML		AML	23 19 43.4	
	comp=E,25nm,0.1s							
KUDL				AML		AML	23 19 44.6	
	comp=N,25nm,0.6s							
KALG	**Kalgarh**	**9.47**	**133**	*e*P		**Pn**	**23 18 02.7**	**+1.8**
KALG				*e*S4			23 19 19.9	
KALG				AML		AML	23 19 27.7	
	comp=E,38nm,0.2s							
BISR	**Bishrakh**	**9.47**	**142**	*ex*		x	23 18 55.2	
PYUN	**Piuthan**	**13.12**	**125**	*e*P		**Pn**	**23 18 49.0**	**-1.1**
PYUN				*e*S		Sn	23 21 06.6	-8.0
PYUN	**Piuthan**	**13.12**	**125**	*e*P		**Pn**	**23 18 49.0**	**-1.1**
PYUN				*e*S		Sn	23 21 06.6	-8.0
DANN	**Dangsing**	**13.48**	**122**	*e*P		**Pn**	**23 18 54.6**	**-0.3**
	comp=E,13nm,0.3s							
DANN	**Dangsing**	**13.48**	**122**	*e*P		**Pn**	**23 18 54.6**	**-0.3**
	comp=E,13nm,0.3s							
MK31	**Makanchi Array**	**13.63**	**36**	*e*Pn		**Pn**	**23 18 56.1**	**-0.4**
MK31	**Makanchi Array**	**13.63**	**36**	⇑P		**P**	**23 19 00.9**	**-0.9**
	comp=E,0.3nm,0.5s,baz=220,slow=14,SNR=3.7							
MKAR	**Makanchi Array**	**13.63**	**36**	P		**Pn**	**23 18 58.5**	**+2.0**
	comp=E,0.0nm,0.3s,baz=228,slow=14,SNR=4.7							
KOLN	**Koldanda**	**13.75**	**124**	*e*P		**Pn**	**23 18 58.2**	**0.0**
	comp=E,6.1nm,0.2s							
KOLN	**Koldanda**	**13.75**	**124**	*e*P		**Pn**	**23 18 58.2**	**0.0**
	comp=E,6.1nm,0.2s							
GKN	**Gorkha**	**14.30**	**121**	*e*P		**Pn**	**23 19 05.3**	**-0.1**
	comp=E,13nm,0.3s							
GKN	**Gorkha**	**14.30**	**121**	*e*P		**Pn**	**23 19 05.3**	**-0.1**
	comp=E,13nm,0.3s							
DMN	**Daman**	**14.87**	**121**	*e*P		**Pn**	**23 19 12.6**	**-0.2**
DMN	**Daman**	**14.87**	**121**	*e*P		**Pn**	**23 19 12.6**	**-0.2**
KKN	**Kakani**	**14.88**	**120**	*e*P		**Pn**	**23 19 12.5**	**-0.3**
KKN	**Kakani**	**14.88**	**120**	*e*P		**Pn**	**23 19 12.5**	**-0.3**
PKIN	**Phulchoki**	**15.10**	**121**	*e*P		**Pn**	**23 19 16.4**	**+0.8**
	comp=E,9.6nm,0.3s							
PKI	**Pulchoki**	**15.11**	**121**	*e*P		**Pn**	**23 19 16.2**	**+0.4**
PKI				*e*S		Sn	23 21 53.3	-10
PKI	**Pulchoki**	**15.11**	**121**	*e*P		**Pn**	**23 19 16.4**	**+0.6**
	comp=E,9.6nm,0.3s							
GUN	**Gumba**	**15.23**	**119**	*e*P		**Pn**	**23 19 18.4**	**+1.0**
	comp=E,8.6nm,0.3s							
GUN	**Gumba**	**15.23**	**119**	*e*P		**Pn**	**23 19 18.4**	**+1.0**
	comp=E,8.6nm,0.3s							
AB31	**Akbulak array**	**15.25**	**332**	P		**Pn**	**23 19 18.1**	**+1.0**
AB31				S		Sn	23 21 53.5	-12
AB31	**Akbulak array**	**15.25**	**332**	⇓P		**Pn**	**23 19 17.3**	**+0.2**
	comp=E,1.9nm,0.3s,baz=151,slow=12,SNR=147							
AB31				S		**Sn**	**23 21 59.4**	**-6.1**
	comp=E,1.7nm,0.4s,baz=151,slow=23,SNR=9.2							
ABKAR	**Akbulak array**	**15.25**	**332**	*e*Pn		**Pn**	**23 19 17.9**	**+0.8**
	comp=E,8.0nm,0.5s							
ABKAR				*e*Sn		Sn	23 21 53.3	-12
KURBB	**Kurchatov Arra**	**15.46**	**19**	P		**P**	**23 19 23.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=210,slow=10,SNR=6.2							
JIRN	**Jiri**	**15.60**	**119**	*e*P		**Pn**	**23 19 23.0**	**+0.9**
	comp=E,19nm,0.3s							
JIRN				*e*S		Sn	23 22 04.8	-10
JIRN	**Jiri**	**15.60**	**119**	*e*P		**Pn**	**23 19 23.0**	**+0.9**
	comp=E,19nm,0.3s							
JIRN				*e*S		Sn	23 22 04.8	-10
RAMN	**Ramite**	**16.32**	**120**	*e*P		**Pn**	**23 19 32.0**	**+1.1**
	comp=E,8.8nm,0.4s							
RAMN	**Ramite**	**16.32**	**120**	*e*P		**Pn**	**23 19 32.0**	**+1.1**
	comp=E,8.8nm,0.4s							
BVA0	**Borovoye Array**	**16.82**	**359**	P		**P**	**23 19 38.7**	**+1.7**
	comp=E,3.4nm,1.1s,baz=180,slow=11,SNR=4.6							
BVAR	**Borovoye Array**	**16.82**	**359**	P		**P**	**23 19 38.0**	**+1.0**
	comp=E,0.2nm,0.3s,baz=170,slow=12,SNR=5.3							
BRVK	**Borovoye**	**16.85**	**359**	*e*Pn		**Pn**	**23 19 36.9**	**0.0**
TAPN	**Taplejung**	**16.87**	**117**	*e*P		**Pn**	**23 19 38.2**	**+0.5**
TAPN	**Taplejung**	**16.87**	**117**	*e*P		**Pn**	**23 19 38.2**	**+0.5**
ODAN	**Odare**	**16.93**	**119**	*e*P		**P**	**23 19 40.0**	**+1.3**
	comp=E,8.0nm,0.4s							
ODAN	**Odare**	**16.93**	**119**	*e*P		**P**	**23 19 40.0**	**+1.3**
	comp=E,8.0nm,0.4s							
AKTO	**Aktyubinsk**	**16.94**	**331**	P		**Pn**	**23 19 37.8**	**-0.3**
AKTO				S		Sn	23 22 35.2	-11
AKTO	**Aktyubinsk**	**16.94**	**331**	P		**P**	**23 19 40.2**	**+1.8**
	comp=E,0.6nm,0.3s,baz=138,slow=15,SNR=22							
AKTO				S		Sn	23 22 38.6	-7.7
	comp=E,0.5nm,0.3s,baz=117,slow=14,SNR=8.0							
AKTO	**Aktyubinsk**	**16.94**	**331**	⇑P		**P**	**23 19 39.8**	**+1.4**
	comp=E,3.4nm,0.6s							
AKTO				⇑S		**Sn**	**23 22 39.5**	**-6.7**
	comp=E,5.3nm,1.1s							
LSA	**Lhasa**	**18.27**	**105**	*e*P		**P**	**23 19 53.0**	**-0.7**
	comp=E,4.1nm,0.5s							
ZALV	**Zalesovo Beam**	**20.25**	**24**	P		**P**	**23 20 15.6**	**+1.1**
	comp=E,1.7nm,0.3s,baz=217,slow=9.7,SNR=12							
SONM	**Songino Array**	**28.65**	**55**	P		**P**	**23 21 35.7**	**+1.2**
	comp=E,0.1nm,0.6s,baz=258,slow=8.4,SNR=1.7							
ENH	**Enshi**	**32.76**	**89**	*e*P		**P**	**23 22 08.8**	**-2.0**
NOA	**NORSAR Array B**	**44.50**	**323**	P		**P**	**23 23 48.1**	**-0.3**
	comp=E,0.5nm,0.5s,baz=103,slow=6.1,SNR=2.2							
TORD	**Torodi Ar. Bea**	**65.53**	**269**	P		**P**	**23 26 18.7**	**-1.6**
	comp=E,0.2nm,0.5s,baz=324,slow=5.0,SNR=6.0							

*AUST **21** 23:23:13.6±1.1, 3°.63S×155°.49E, h86km, Error ellipse: s-maj=2.3km s-min=1.3km az=31.0*
*IDC **21** 23:23:30.3±0.8, 5°.94S×153°.45E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.3/21, mbtmp4.2/16, ML3.9/1, MS3.3/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=28.9km s-min=15.7km az=110.0*
*ISCJB **21** 23:23:33.3±0.5, 5°.97S±0°.07×153°.38E±0°.09, h32km, mb4.2/21, MS3.2/1, Error ellipse: s-maj=13.8km s-min=8.2km az=34.2*
*NEIC **21** 23:23:35.2±0.4, 6°.00S×153°.45E, h35km, mb4.4/8, Error ellipse: s-maj=12.2km s-min=7.7km az=121.0*

ISC 21 23:23:35.2±0.6, **5°.98S**±0°.09×**153°.42E**±0°.10, **h32**km, **n51**, σ1§**07**/52, **mb4.2**/21, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.17**	**325**	P		Pb	23 24 20.3	+6.5
	baz=3.4,SNR=3.5							
PMG	**Port Moresby**	**7.08**	**241**	Pn		**Pn**	**23 25 16.4**	**-0.3**
PMG				Sn		**Sn**	**23 26 34.4**	**-1.6**
PMG	**Port Moresby**	**7.08**	**241**	Pn		**Pn**	**23 25 16.4**	**-0.3**
	12nm,0.3s,baz=55,slow=4.8,SNR=30							
PMG				Sn		**Sn**	**23 26 34.4**	**-1.6**
	8.5nm,0.3s,baz=129,slow=22,SNR=6.6							
PMG	**Port Moresby**	**7.08**	**241**	P		**Pn**	**23 25 17.6**	**+1.0**
	baz=10,SNR=14							
PMG				P		**Pn**	**23 25 17.6**	**+1.0**
	baz=10,SNR=14							
PMG				P		**Pn**	**23 25 17.6**	**+1.0**
	baz=10,SNR=14							
MANU	**Manus Island**	**7.19**	**303**	P		Pn	23 25 11.3	-6.9
	baz=8.3,SNR=4.8							
COEN	**Coen**	**12.83**	**231**	*e*Pn		**Pn**	**23 26 34.6**	**-0.9**
	51nm,0.8s							
COEN	**Coen**	**12.83**	**231**	P		P	23 26 50.4	+4.5
	baz=16,SNR=6.3							
DZM	**Mont Dzumac**	**20.36**	**143**	*e*P		**P**	**23 28 08.4**	**-0.9**
	18nm,1.0s							
KDU	**Kakadu**	**21.70**	**251**	P		**P**	**23 28 22.6**	**-1.2**
	baz=24,SNR=4.4							
QLP	**Quilpie**	**22.29**	**202**	P		**P**	**23 28 32.3**	**+2.4**
	baz=25,SNR=4.2							
WRAB	**Tennant Creek**	**23.15**	**231**	*e*P		**P**	**23 28 39.1**	**+0.1**
	7.5nm,1.0s							
WRA	**Warramunga Arr**	**23.16**	**231**	P		**P**	**23 28 39.2**	**0.0**
WRA	**Warramunga Arr**	**23.16**	**231**	P		**P**	**23 28 39.3**	**0.0**
	2.8nm,0.9s,baz=58,slow=9.3,SNR=15							
ASAR	**Alice Springs**	**25.73**	**225**	P		**P**	**23 29 02.5**	**-0.5**
ASAR	**Alice Springs**	**25.73**	**225**	P		**P**	**23 29 02.5**	**-0.5**
	3.3nm,0.9s,baz=58,slow=7.8,SNR=17							
KNRA	**Kununurra**	**26.03**	**246**	P		**P**	**23 29 09.4**	**+3.6**
	baz=29,SNR=8.4							
STKA	**Stephens Creek**	**28.04**	**202**	*e*P		**P**	**23 29 22.8**	**-0.9**
STKA	**Stephens Creek**	**28.04**	**202**	P		**P**	**23 29 24.6**	**+1.0**
	1.1nm,0.5s,baz=46,slow=14,SNR=5.1							
STKA				LR		LR	23 40 26.2	
	comp=Z,59nm,18.0s,baz=207,slow=36							
FITZ	**Fitzroy Crossi**	**29.66**	**244**	*e*P		**P**	**23 29 37.3**	**-1.0**
	5.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**29.66**	**244**	P		**P**	**23 29 37.4**	**-0.8**
	2.9nm,0.5s,baz=187,slow=22,SNR=12							
WRKA	**Warakurna**	**30.63**	**229**	P		**P**	**23 29 47.8**	**+1.0**
	baz=34,SNR=4.7							
USRK	**Ussuriysk Arra**	**53.55**	**341**	P		**P**	**23 32 53.6**	**+0.7**
	1.5nm,0.6s,baz=211,slow=7.9,SNR=5.7							
CMAR	**Chiang Mai Arr**	**58.93**	**296**	P		**P**	**23 33 33.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**58.93**	**296**	P		**P**	**23 33 33.2**	**+1.3**
	0.9nm,0.3s,baz=105,slow=5.0,SNR=5.2							
PETK	**Petropavlovsk-**	**58.97**	**3**	P		**P**	**23 33 31.5**	**0.0**
PETK	**Petropavlovsk-**	**58.97**	**3**	P		**P**	**23 33 31.5**	**0.0**
	2.8nm,0.6s,baz=176,slow=10,SNR=3.8							
ULN	**Ulaanbaatar**	**67.31**	**328**	*e*P		**P**	**23 34 26.8**	**-0.3**
	1.1nm,0.7s							
SONM	**Songino Array**	**67.64**	**328**	P		**P**	**23 34 30.0**	**+0.8**
SONM	**Songino Array**	**67.64**	**328**	P		**P**	**23 34 30.0**	**+0.8**
	0.8nm,0.5s,baz=143,slow=5.8,SNR=12							
VNDA	**Vanda**	**71.64**	**178**	P		**P**	**23 34 54.0**	**+0.8**
	1.5nm,0.6s,baz=2.5,slow=6.6,SNR=3.5							
MKAR	**Makanchi Array**	**81.61**	**319**	P		**P**	**23 35 50.3**	**+0.2**
MKAR	**Makanchi Array**	**81.61**	**319**	P		**P**	**23 35 50.3**	**+0.2**
	0.7nm,0.6s,baz=91,slow=7.7,SNR=8.7							
DIV	**Divide**	**81.66**	**25**	*e*P		**P**	**23 35 47.5**	**-2.6**
	10nm,0.6s							
ZALV	**Zalesovo Beam**	**82.47**	**326**	P		**P**	**23 35 54.1**	**-0.3**
ZALV	**Zalesovo Beam**	**82.47**	**326**	P		**P**	**23 35 54.1**	**-0.3**
	1.9nm,0.5s,baz=119,slow=5.8,SNR=11							
ILAR	**Eielson Array**	**83.01**	**22**	P		**P**	**23 35 56.0**	**-1.1**
ILAR	**Eielson Array**	**83.01**	**22**	P		**P**	**23 35 56.0**	**-1.1**
	1.0nm,0.8s,baz=250,slow=4.9,SNR=6.9							
QSPA	**South Pole Qui**	**83.99**	**180**	*e*P		**P**	**23 36 02.5**	**+0.2**
	5.3nm,1.0s							
KURK	**Kurchatov**	**85.07**	**322**	*e*P		**P**	**23 36 06.4**	**-1.4**
	2.1nm,0.9s							
KURBB	**Kurchatov Arra**	**85.10**	**322**	P		**P**	**23 36 07.7**	**-0.3**
	1.9nm,0.9s,baz=110,slow=3.7,SNR=14							
BVAR	**Borovoye Array**	**90.54**	**323**	P		**P**	**23 36 33.3**	**-0.7**
BVAR	**Borovoye Array**	**90.54**	**323**	P		**P**	**23 36 33.3**	**-0.7**
	3.5nm,0.7s,baz=104,slow=6.3,SNR=15							
BRVK	**Borovoye**	**90.61**	**323**	*e*P		**P**	**23 36 34.2**	**-0.2**
	4.1nm,1.0s							
YKA	**Yellowknife Ar**	**96.17**	**28**	P		**P**	**23 36 59.1**	**-0.7**
YKA	**Yellowknife Ar**	**96.17**	**28**	P		**P**	**23 36 59.1**	**-0.7**
	0.3nm,0.8s,baz=274,slow=5.0,SNR=2.4							
GERES	**GERESS Array B**	**125.37**	**328**	PKP		**PKPdf**	**23 42 33.4**	**+0.2**
GERES	**GERESS Array B**	**125.37**	**328**	PKP		**PKPdf**	**23 42 33.4**	**+0.2**
	0.4nm,0.5s,baz=132,slow=1.5,SNR=2.9							
BDFB	**Brasilia**	**149.80**	**136**	PKPbc		**PKPbc**	**23 43 24.1**	**+0.9**
BDFB	**Brasilia**	**149.80**	**136**	PKPbc		**PKPbc**	**23 43 24.1**	**+0.9**
	2.2nm,0.5s,baz=150,slow=0.9,SNR=5.6							
TORD	**Torodi Ar. Bea**	**151.24**	**286**	PKPbc		**PKPbc**	**23 43 26.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**151.24**	**286**	PKPbc		**PKPbc**	**23 43 26.4**	**-0.1**
	1.9nm,0.8s,baz=44,slow=2.3,SNR=10							

*IDC **21** 23:54:33.8±2.1, 49°.94N×87°.89E, h0km, mb3.6/2, mb1 3.7/7, mb1mx3.4/30, mbtmp3.7/7, ML3.7/5, Error ellipse: s-maj=21.1km s-min=13.6km az=96.0*
*NNC **21** 23:54:35.6±1.9, 49°.92N×87°.72E, h2km±9km, mb4.1, mpv3.8, Error ellipse: s-maj=15.1km s-min=8.7km az=78.0*

ISC 21 23:54:36.0±1.9, **50°.00N**±0°.07×**87°.8E**±0°.1, **h11**km, **n15**, σ1§**47**/24, **9C-7D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**4.38**	**336**	Pn		**Pn**	**23 55 41.4**	**-0.9**
	3.2nm,0.3s,baz=156,slow=13,SNR=35							
ZALV				Sn		**Sn**	**23 56 32.5**	**-0.8**
	2.6nm,0.3s,baz=148,slow=28,SNR=2.3							
ZALV				Lg		Lg	23 56 52.0	
	6.3nm,0.3s,baz=162,slow=26,SNR=5.1							
MK31	**Makanchi Array**	**4.89**	**231**	⇑Pn		**Pn**	**23 55 49.3**	**-0.2**
	2.6nm,0.3s,baz=56,slow=14,SNR=271							
MK31				⇑Pg		**Pb**	**23 56 02.7**	**+1.1**
	7.7nm,0.5s,baz=60,slow=12,SNR=8.7							
MK31				⇓Sn		**Sn**	**23 56 46.1**	**+0.1**
	5.4nm,0.3s,baz=53,slow=22,SNR=4.4							
MK31				⇓Lg		Lg	23 57 07.3	
	21nm,0.5s,baz=58,slow=34,SNR=8.1							
MKAR	**Makanchi Array**	**4.89**	**231**	Pn		**Pn**	**23 55 49.3**	**-0.2**
	4.6nm,0.3s,baz=52,slow=15,SNR=99							
MKAR				Sn		**Sn**	**23 56 46.2**	**+0.2**
	9.3nm,0.3s,baz=62,slow=26,SNR=6.5							
MKAR				Lg		Lg	23 57 06.4	
	9.1nm,0.3s,baz=55,slow=30,SNR=4.8							
KURK	**Kurchatov**	**5.94**	**280**	⇑Pn		**Pn**	**23 56 03.5**	**-0.3**
	3.3nm,0.6s							
KURK				⇑Sn		**Sn**	**23 57 13.0**	**+1.2**
	8.7nm,0.6s							
KURK				⇑Lg		Lg	23 57 43.3	
	17nm,0.6s							
KURBB	**Kurchatov Arra**	**6.00**	**280**	Pn		**Pn**	**23 56 04.3**	**-0.2**
	2.2nm,0.3s,baz=94,slow=14,SNR=59							
KURBB				Sn		**Sn**	**23 57 15.2**	**+2.0**
	2.9nm,0.3s,baz=90,slow=26,SNR=4.9							
KURBB				Lg		Lg	23 57 45.5	
	3.4nm,0.3s,baz=88,slow=33,SNR=7.1							
KURBB	**Kurchatov Arra**	**6.00**	**280**	⇓Pn		**Pn**	**23 56 04.3**	**-0.2**
	13nm,0.7s							
KURBB				⇑Sn		**Sn**	**23 57 13.7**	**+0.6**
	40nm,0.7s							
KURBB				⇓Lg		Lg	23 57 44.0	
	108nm,0.8s							
TKM2	**Tokmak 2**	**11.01**	**235**	⇑Pn		**Pn**	**23 57 12.0**	**-1.5**
	2.1nm,0.8s							
BVA0	**Borovoye Array**	**11.29**	**292**	⇑Pn		**Pn**	**23 57 18.1**	**+1.1**
	1.4nm,0.6s,baz=111,slow=15,SNR=15							
BVA0				⇓Sn		**Sn**	**23 59 22.9**	**-0.2**
	5.5nm,1.2s,baz=100,slow=20,SNR=9.2							
BVAR	**Borovoye Array**	**11.29**	**292**	Pn		**Pn**	**23 57 15.5**	**-1.6**
	0.2nm,0.3s,baz=102,slow=14,SNR=5.8							
BVAR				Sn		**Sn**	**23 59 18.2**	**-4.9**
	0.4nm,0.3s,baz=98,slow=21,SNR=7.8							
BRVK	**Borovoye**	**11.36**	**292**	⇓Pn		**Pn**	**23 57 19.0**	**+1.0**
	8.9nm,1.5s							
BRVK				⇓Sn		**Sn**	**23 59 26.1**	**+1.4**
	6.4nm,0.6s							
AAK	**Ala-Archa**	**11.79**	**236**	⇑Pn		**Pn**	**23 57 22.7**	**-1.5**
	1.6nm,0.7s							
SONM	**Songino Array**	**12.40**	**93**	Pg		P	23 58 13.3	+29
	0.1nm,0.3s,baz=285,slow=17,SNR=2.5							
SONM				Lg		Lg	00 00 56.7	
	0.1nm,0.3s,baz=290,slow=27,SNR=8.5							
AKTO	**Aktyubinsk**	**19.04**	**283**	Pn		**P**	**23 58 56.9**	**-0.9**
	0.2nm,0.3s,baz=86,slow=15,SNR=2.2							
FINES	**FINESS Array B**	**35.25**	**313**	P		**P**	**00 01 30.9**	**+0.8**
	1.9nm,0.9s,baz=90,slow=9.7,SNR=1.5							
BRTR	**Keskin Array B**	**38.98**	**276**	P		**P**	**00 02 02.4**	**+0.2**
	0.3nm,0.5s,baz=78,slow=6.6,SNR=1.4							

*ISCJB **22** 00:03:21.4±0.9, 85°.3N±0°.1×1°.1E±°, h10km, mb3.4/7, MS3.3/1, Error ellipse: s-maj=19.2km s-min=15.8km az=15.3*
*IDC **22** 00:03:22.0±1.3, 85°.37N×12°.03E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/28, mbtmp3.6/7, ML3.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=32.7km s-min=25.8km az=62.0*

ISC 22 00:03:23.2±1.0, **85°.2N**±0°.2×**10°.7E**±0°.1, **h10**km, **n9**, σ1§**65**/8, **mb3.4**/7, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SUMG	**Summit**	**14.83**	**243**	*i* P		**Pn**	**00 06 51.6**	**-1.2**
	5.5nm,1.3s							
ARCES	**ARCESS Array B**	**15.99**	**161**	Pn		**Pn**	**00 07 05.9**	**-1.8**
	0.1nm,0.3s,baz=359,slow=9.0,SNR=4.2							
ARCES				Sn		Sn	00 09 54.2	-11
	0.1nm,0.3s,baz=360,slow=22,SNR=2.8							
ARCES				LR		LR	00 12 17.7	
	comp=Z,15nm,28.6s,baz=15,slow=33							
FINES	**FINESS Array B**	**24.11**	**162**	P		**P**	**00 08 39.3**	**+0.8**
	2.1nm,0.7s,baz=1.6,slow=9.7,SNR=6.5							
NOA	**NORSAR Array B**	**24.31**	**179**	P		**P**	**00 08 42.8**	**+2.4**
	0.9nm,0.8s,baz=1.8,slow=10,SNR=3.5							
YKA	**Yellowknife Ar**	**30.68**	**312**	P		**P**	**00 09 37.4**	**+0.2**
	0.3nm,0.9s,baz=9.2,slow=8.0,SNR=4.3							
ZALV	**Zalesovo Beam**	**35.18**	**99**	P		P	00 10 24.8	+8.2
	0.3nm,0.3s,baz=335,slow=6.5,SNR=2.9							
ZALV				LR		LR	00 25 52.6	
	comp=Z,46nm,18.1s,baz=204,slow=38							
KURBB	**Kurchatov Arra**	**37.97**	**106**	P		**P**	**00 10 40.0**	**-0.4**
	0.2nm,0.5s,baz=355,slow=7.1,SNR=4.1							
SONM	**Songino Array**	**43.05**	**79**	P		**P**	**00 11 22.2**	**-0.5**
	0.5nm,0.8s,baz=346,slow=6.8,SNR=2.8							
TORD	**Torodi Ar. Bea**	**72.19**	**189**	P		**P**	**00 14 49.3**	**+1.5**
	0.7nm,0.7s,baz=360,slow=6.1,SNR=4.9							

IDC 22 00:04:10.2±4.1, **19°.74N**×**120°.31E**, **h0**km, **mb3.5**/3,
mb1 3.8/3, **mb1mx3.4**/23, **mbtmp3.5**/3, **Error ellipse: s-maj=97.0km s-min=25.7km az=44.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.23**	**270**	P		P	00 08 47.7	+0.7
	1.1nm,0.4s,baz=78,slow=13,SNR=4.0							
WRA	**Warramunga Arr**	**41.77**	**160**	P		P	00 12 00.5	-0.9
	0.3nm,0.8s,baz=336,slow=9.5,SNR=3.5							
WRA				S		S	00 18 23.3	+3.3
	0.4nm,0.9s,baz=334,slow=13,SNR=7.5							
ASAR	**Alice Springs**	**45.14**	**162**	P		P	00 12 28.5	-0.2
	0.6nm,0.5s,baz=333,slow=6.6,SNR=8.8							
ASAR				S		S	00 19 08.2	-1.1
	0.2nm,0.3s,baz=342,slow=9.1,SNR=3.1							

*MAN **22** 01:16:44.5±2.6N×126°.57E, h33km, mb4.8, ML3.8, MS3.8*
*IDC **22** 01:16:45.4±3.7, 5°.47N×126°.64E, h43km±33km, mb3.7/10, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, Error ellipse: s-maj=61.6km s-min=15.6km az=72.0*
*ISCJB **22** 01:16:46.2±0.6, 5°.30N±0°.06×126°.23E±0°.09, h66km, mb3.8/10, Error ellipse: s-maj=13.6km s-min=7.3km az=162.0*

ISC 22 01:16:48.0±0.7, **5°.27N**±0°.07×**126°.2E**±0°.1, **h66**km, **n17**, σ1§**40**/20, **mb3.9**/10, **3C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.46**	**304**	⇑*i*P		**Pn**	**01 17 10.6**	**-1.9**
GSPH				*i* S		**Sn**	**01 17 30.4**	**-0.5**
DMPH	**Davao City--Mi**	**1.92**	**340**	⇑*e*P		**Pn**	**01 17 18.1**	**-0.3**
DMPH				*i* S		**Sn**	**01 17 45.1**	**+3.5**
BIPH	**Bislig**	**2.90**	**4**	⇑*e*P		**Pn**	**01 17 30.5**	**-1.2**
BIPH				*i* S		**Sn**	**01 18 04.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**23.23**	**181**	P		**P**	**01 21 50.6**	**+0.9**
	1.0nm,0.4s,baz=194,slow=23,SNR=6.5							
WRA	**Warramunga Arr**	**26.31**	**162**	P		**P**	**01 22 17.5**	**-0.2**
	1.7nm,0.6s,baz=348,slow=10.0,SNR=21							
ASAR	**Alice Springs**	**29.73**	**166**	P		**P**	**01 22 48.2**	**-0.1**
	0.5nm,0.5s,baz=341,slow=6.5,SNR=7.3							
STKA	**Stephens Creek**	**39.76**	**159**	P		**P**	**01 24 14.7**	**+0.3**
	3.5nm,0.7s,baz=321,slow=5.8,SNR=10.0							
H11N1	**WAKE ISLAND Hy**	**42.12**	**66**	T		T	02 09 00.3	
	baz=258,slow=75,SNR=15							
H11N2	**WAKE ISLAND Hy**	**42.13**	**66**	T		T	02 08 58.9	
	baz=258,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**42.14**	**66**	T		T	02 08 59.9	
	baz=258,slow=75,SNR=11							
SONM	**Songino Array**	**45.67**	**341**	P		**P**	**01 25 02.4**	**+0.1**
	0.6nm,0.8s,baz=154,slow=7.8,SNR=3.9							
SONM				PcP		**PcP**	**01 26 40.1**	**+0.7**
	0.5nm,0.7s,baz=146,slow=4.6,SNR=3.5							
MKAR	**Makanchi Array**	**55.98**	**325**	P		**P**	**01 26 20.2**	**+0.5**
	1.8nm,0.5s,baz=120,slow=7.9,SNR=31							
MKAR				PcP		**PcP**	**01 27 18.8**	**+1.3**
	0.7nm,0.7s,baz=110,slow=3.8,SNR=3.5							
MKAR				ScP		**ScP**	**01 31 13.1**	**+2.0**
	0.4nm,0.8s,baz=129,slow=3.9,SNR=3.8							
ZALV	**Zalesovo Beam**	**58.97**	**333**	P		**P**	**01 26 39.9**	**-0.6**
	0.6nm,0.5s,baz=110,slow=7.7,SNR=4.2							
ILAR	**Eielson Array**	**83.36**	**25**	P		**P**	**

comp=Z,2.9nm,0.9s,baz=185,slow=13,SNR=4.2
ILAR Eielson Array 74.81 26 P P 01 40 31.2 -0.3
comp=Z,0.1nm,0.6s,baz=266,slow=5.3,SNR=2.7
ARCES ARCESS Array B 76.56 339 P P 01 40 41.2 -0.3
comp=Z,1.8nm,0.7s,baz=74,slow=8.9,SNR=4.6
FINES FINESS Array B 78.22 331 P P 01 40 51.0 +0.1
comp=Z,3.1nm,0.7s,baz=50,slow=6.0,SNR=10
BRTR Keskin Array B 78.53 308 P P 01 40 52.7 -0.6
comp=Z,1.6nm,0.8s,baz=73,slow=2.9,SNR=6.5
AKASG Malin Array Be 79.08 320 P P 01 40 54.9 -0.9
comp=Z,1.6nm,0.7s,baz=64,slow=5.5,SNR=7.6
INK Inuvik 79.19 22 P P 01 40 56.6 +0.5
comp=Z,0.4nm,0.6s,baz=270,slow=4.0,SNR=3.3
CFR Carcaliu 81.17 314 i/P P 01 41 07.0 -0.2
TESR Tescani 81.81 316 i/P P 01 41 10.8 +0.2
VRI Vrincioaia 81.94 315 i/P P 01 41 12.2 +0.9
BURAR Bucovina Array 82.43 317 i/P P 01 41 14.4 +0.4
MLR Muntele Rosu 82.57 315 i/P P 01 41 15.2 +0.4
DOPR Dopca 82.80 316 i/P P 01 41 12.6 -3.3
VOIR 83.19 315 i/P P 01 41 17.4 -0.5
DRGR 84.31 317 i/P P 01 41 21.5 -2.1
NB2 NORSAR Subarra 85.08 333 P P 01 41 26.9 -0.3
comp=Z,2.7nm,0.7s,baz=65,slow=4.8
NOA NORSAR Array B 85.08 333 P P 01 41 26.9 -0.3
comp=Z,2.2nm,0.7s,baz=64,slow=4.9,SNR=6.8
VTS Vitosha 85.34 313 i/P P 01 41 28.9 -0.1
YKA Yellowknife Ar 88.86 23 P P 01 41 46.9 +1.5
comp=Z,1.1nm,0.6s,baz=305,slow=4.3,SNR=41
GERES GERESS Array B 89.17 321 P P 01 41 47.0 -0.4
comp=Z,0.5nm,0.7s,baz=66,slow=3.6,SNR=5.2
TORD Torodi Ar. Bea 114.42 294 PKP PKPdf 01 47 31.3 -1.0
comp=Z,0.5nm,0.8s,baz=74,slow=2.1,SNR=3.0

IDC ***22*** *01:38:55.4±1.2, 10.92S×164.75E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, ML3.9/2, Error ellipse: s-maj=32.6km s-min=22.2km az=136.0*
ISCJB ***22*** *01:38:58.4±0.9, 11.1S±0.1×164.70E±0.09, h31km, mb3.6/6, Error ellipse: s-maj=16.4km s-min=10.7km az=31.7*

ISC 22 01:39:00.1±1.0, 11.0S±0.1×164.8E±0.1, h31km, n15, σ0s89/10, mb3.6/6, Santa Cruz Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
HNR Honiara 4.98 288 Pn Pn 01 40 13.2 +0.5
8.8nm,0.3s,baz=167,slow=14,SNR=2.4
HNR Sn Sn 01 41 09.2 -0.1
4.2nm,0.3s,baz=162,slow=19,SNR=2.2
DZM Mont Dzumac 11.12 172 Pn Pn 01 41 36.8 -0.3
0.4nm,0.3s,baz=294,slow=20,SNR=4.7
CTA Charters Tower 19.96 241 P Pn 01 43 31.1 -0.5
5.1nm,0.9s,baz=71,slow=12,SNR=7.0
H11S2 WAKE ISLAND Hy 29.38 4 T T 02 15 32.6
baz=182,SNR=7.7
H11S3 WAKE ISLAND Hy 29.38 4 T T 02 15 32.9
baz=182,SNR=4.5
H11S1 WAKE ISLAND Hy 29.39 4 T T 02 15 33.8
baz=182,SNR=5.1
STKA Stephens Creek 29.80 222 P P 01 45 05.9 +1.6
1.6nm,0.7s,baz=25,slow=12,SNR=4.5
WRA Warramunga Arr 30.58 249 P P 01 45 10.3 -1.1
0.3nm,0.6s,baz=79,slow=9.3,SNR=5.2
H11N1 WAKE ISLAND Hy 30.60 4 T T 02 17 03.8
baz=186,slow=77,SNR=7.0
H11N3 WAKE ISLAND Hy 30.61 4 T T 02 17 04.3
baz=186,slow=77,SNR=6.4
H11N2 WAKE ISLAND Hy 30.62 4 T T 02 17 05.2
baz=186,slow=77,SNR=7.2
ASAR Alice Springs 31.94 243 P P 01 45 22.5 -0.8
0.7nm,0.8s,baz=79,slow=9.3,SNR=7.0
ILAR Eielson Array 83.79 19 P P 01 51 25.4 -0.5
0.2nm,0.7s,baz=251,slow=5.6,SNR=3.0
MKAR Makanchi Array 92.83 317 P P 01 52 09.7 -0.1
0.5nm,0.7s,baz=107,slow=5.5,SNR=5.3
YKA Yellowknife Ar 95.39 27 P P 01 52 21.7 +0.6
0.2nm,0.9s,baz=252,slow=3.8,SNR=3.4

IDC 22 01:54:58.0±3.7, 20.91S×170.72E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/27, Error ellipse: s-maj=130.2km s-min=47.1km az=141.0, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DZM Mont Dzumac 4.14 253 Pn Pn 01 55 53.7 -9.0
0.4nm,0.3s,baz=30,slow=15,SNR=18
DZM Sn Sn 01 56 38.9 -13
2.9nm,0.3s,baz=161,slow=16,SNR=10
DZM Mont Dzumac 4.14 253 *e*P Pn 01 55 58.4 -4.3
DZM *e*S Sn 01 56 39.0 -13
HNR Honiara 15.42 316 LR LR 02 03 57.5
comp=Z,92nm,18.8s,baz=93,slow=35
RPZ Rata Peaks 22.74 179 LR LR 02 07 32.1
comp=Z,82nm,21.2s,baz=127,slow=33
PMG Port Moresby 25.41 293 LR LR 02 08 25.2
comp=Z,43nm,18.7s,baz=164,slow=32
STKA Stephens Creek 28.20 241 P P 02 00 52.2 -0.2
1.1nm,0.8s,baz=79,slow=16,SNR=2.4
WRA Warramunga Arr 34.06 265 P P 02 01 43.6 -0.7
0.4nm,0.4s,baz=97,slow=8.1,SNR=11
ASAR Alice Springs 34.11 258 P P 02 01 45.5 +0.7
0.7nm,0.7s,baz=81,slow=9.0,SNR=6.5
JNU Nakatsue 55.83 324 LR LR 02 29 23.5
comp=Z,76nm,18.8s,baz=238,slow=31
GERES GERESS Array B 146.61 332 PKPbc PKPbc 02 14 40.9 -0.8
0.5nm,0.7s,baz=28,slow=4.4,SNR=3.2

CRAAG ***22*** *02:17:30.5, 35.39N×0.05E, Ml4.4*
CSEM ***22*** *02:17:31.6±0.4, 35.25N×0.17W, h10km, mb4.2, Error ellipse: s-maj=9.3km s-min=4.1km az=174.0*
IDC ***22*** *02:17:31.3±0.9, 35.46N×0.06W, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.6/33, mbtmp3.5/11, ML3.5/3, Error ellipse: s-maj=26.6km s-min=17.5km az=137.0*
INMG ***22*** *02:17:32.7±1.4, 35.25N×0.08W, h17km±11km, Error ellipse: s-maj=10.5km s-min=5.0km az=130.0*
MDD ***22*** *02:17:32.2±0.8, 35.22N×0.12W, h9km±3km, mb4.2/40, Error ellipse: s-maj=9.8km s-min=4.6km az=169.0, PRIMO*

ISC 22 02:17:31.8±1.0, 35.30N±0.04×0.13W±0.03, h11km±5km, n115, σ1s89/167, mb3.5/8, Northern Algeria

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ODJA Bouhanifia 0.04 339 P Pg 02 17 34.0 0.0
ODJA Bouhanifia 0.04 339 P Pg 02 17 34.0 0.0
ODJA Bouhanifia 0.04 339 P Pg 02 17 34.0 0.0
USTO Oran 0.55 322 P Pb 02 17 44.0 +0.5
USTO Oran 0.55 322 P Pb 02 17 44.0 +0.5
OKGL Djebel Kef Gue 0.97 40 P Pb 02 17 50.8 +0.1
153nm,0.4s,SNR=7.9
OKGL S Sb 02 18 03.5 -0.1
2µm,0.3s,SNR=7.9
OKGL Djebel Kef Gue 0.97 40 P Pb 02 17 50.8 +0.1
153nm,0.4s,SNR=7.9
OKGL S Sb 02 18 03.5 -0.1
2µm,0.3s,SNR=7.9
ETRT Tiaret 1.18 85 P Pb 02 17 53.0 -1.2
ETRT Tiaret 1.18 85 P Pb 02 17 53.0 -1.2
ETRT Tiaret 1.18 85 P Pb 02 17 53.0 -1.2
EANR 'Ain N'Sour 1.20 57 P Pg 02 17 57.1 +2.3
EANR 'Ain N'Sour 1.20 57 P Pg 02 17 57.1 +2.3
EANR 'Ain N'Sour 1.20 57 P Pg 02 17 57.1 +2.3
ECHF Ech Chlef 1.48 54 P Pb 02 17 59.3 +0.1
ECHF Ech Chlef 1.48 54 P Pb 02 17 59.3 +0.1
ECHA Ech Chlef 1.49 55 P Pb 02 17 59.3 -0.1
ECHA Ech Chlef 1.49 55 P Pb 02 17 59.3 -0.1
EBNR Beni Rached 1.68 53 P Pg 02 18 05.4 +1.4
EBNR Beni Rached 1.68 53 P Pg 02 18 05.4 +1.4
EMLI Melilla 2.30 271 P Pn 02 18 09.4 -0.3
15nm,0.2s,SNR=7.9
EMLI S Sn 02 18 36.5 -1.5
150nm,0.6s,SNR=7.9
EMEL Melilla 2.31 271 P Pn 02 18 09.3 -0.4
15nm,0.2s,SNR=7.9
EMEL S Sn 02 18 36.5 -1.6
150nm,0.6s,SNR=7.9
EMHD Djebel Mahouad 2.67 69 P Pg 02 18 24.0 +1.1
EMHD Djebel Mahouad 2.67 69 P Pg 02 18 24.0 +1.1
EMHD Djebel Mahouad 2.67 69 P Pg 02 18 24.0 +1.1
EBER Berja 2.75 306 P Pn 02 18 15.7 -0.2
6.4nm,0.2s,SNR=39
EBER S Sn 02 18 47.9 -1.3
32nm,0.3s
EBER Berja 2.75 306 P Pn 02 18 15.7 -0.2
6.4nm,0.2s,SNR=39
EBER S Sn 02 18 47.9 -1.3
32nm,0.3s
ABA Alger-Bouzarea 2.98 59 P Pg 02 18 27.3 -1.5
ABA Alger-Bouzarea 2.98 59 P Pg 02 18 27.3 -1.5
EHUE Huescar 3.20 322 P Pn 02 18 22.3 +0.2
5.9nm,0.1s,SNR=7.9
EHUE S Sn 02 19 00.6 +0.4
8.7nm,0.2s,SNR=7.9
EHUE Huescar 3.20 322 P Pn 02 18 22.3 +0.2
5.9nm,0.1s,SNR=7.9
EHUE S Sn 02 19 00.6 +0.4
8.7nm,0.2s,SNR=7.9
GORA Gorafe 3.20 314 P Pn 02 18 23.0 +0.9
14nm,0.2s,SNR=7.9
GORA S Sn 02 18 59.0 -1.3
42nm,0.4s,SNR=7.9
GORA Gorafe 3.20 314 P Pn 02 18 23.0 +0.9
14nm,0.2s,SNR=7.9
GORA S Sn 02 18 59.0 -1.3
42nm,0.4s,SNR=7.9
EQUE Quentar 3.28 306 P Pn 02 18 23.8 +0.6
23nm,0.3s,SNR=76
EQUE S Sn 02 19 01.7 -0.6
24nm,0.6s
EQUE Quentar 3.28 306 P Pn 02 18 23.8 +0.6
23nm,0.3s,SNR=76
EQUE S Sn 02 19 01.7 -0.6
24nm,0.6s
EBEN Beniarda 3.40 359 P Pn 02 18 25.3 +0.5
2.3nm,0.3s,SNR=7.9
EBEN S Sn 02 19 02.1 -3.1
5.4nm,0.3s,SNR=7.9
EBEN Beniarda 3.40 359 P Pn 02 18 25.3 +0.5
2.3nm,0.3s,SNR=7.9
EBEN S Sn 02 19 02.1 -3.1
5.4nm,0.3s,SNR=7.9
ECOG Cogollos-Vega 3.41 306 P Pn 02 18 26.5 +1.5
20nm,0.3s,SNR=7.9
ECOG S Sn 02 19 05.1 -0.2
23nm,0.6s,SNR=7.9
ECOG Cogollos-Vega 3.41 306 P Pn 02 18 26.5 +1.5
20nm,0.3s,SNR=7.9
ECOG S Sn 02 19 05.1 -0.2
23nm,0.6s,SNR=7.9
EQES Quesada 3.44 317 P Pn 02 18 26.5 +1.1
52nm,0.4s,SNR=196
EQES S Sn 02 19 05.8 -0.5
69nm,0.3s
EQES Quesada 3.44 317 P Pn 02 18 26.5 +1.1
52nm,0.4s,SNR=196
EQES S Sn 02 19 05.8 -0.5
69nm,0.3s
SELV Sierra Elvira 3.49 305 P Pn 02 18 26.4 +0.3
37nm,0.6s,SNR=7.9
SELV S Sn 02 19 05.8 -1.6
20nm,0.6s,SNR=4.0
SELV Sierra Elvira 3.49 305 P Pn 02 18 26.4 +0.3
37nm,0.6s,SNR=7.9
SELV S Sn 02 19 05.8 -1.6
20nm,0.6s,SNR=4.0
ETOB Tobarra 3.53 342 P Pn 02 18 27.3 +0.7
12nm,0.3s,SNR=44
ETOB S Sn 02 19 06.4 -2.0
15nm,0.3s,SNR=67
ETOB Tobarra 3.53 342 P Pn 02 18 27.3 +0.7
12nm,0.3s,SNR=44
ETOB S Sn 02 19 06.4 -2.0
15nm,0.3s,SNR=67
EVIA Vianos 3.84 331 P Pn 02 18 30.9 0.0
22nm,0.2s,SNR=16
EVIA S Sn 02 19 14.5 -1.5
42nm,0.2s,SNR=9.3
EVIA Vianos 3.84 331 P Pn 02 18 30.9 0.0
22nm,0.2s,SNR=16
EVIA S Sn 02 19 14.5 -1.5
42nm,0.2s,SNR=9.3
EIBI Ibiza 3.91 17 P Pn 02 18 31.8 +0.1
8.5nm,0.3s,SNR=24
EIBI S Sn 02 19 13.4 -4.2
16nm,0.3s
EIBI Ibiza 3.91 17 P Pn 02 18 31.8 +0.1
8.5nm,0.3s,SNR=24
EIBI S Sn 02 19 13.4 -4.2
16nm,0.3s
EMIJ Mijas 3.97 290 P Pn 02 18 32.1 -0.5
3.6nm,0.3s,SNR=7.4
EMIJ S Sn 02 19 16.3 -2.9
6.7nm,0.3s
EMIJ Mijas 3.97 290 P Pn 02 18 32.1 -0.5
3.6nm,0.3s,SNR=7.4
EMIJ S Sn 02 19 16.3 -2.9
6.7nm,0.3s
MDT Midelt 4.47 238 Pn Pn 02 18 41.3 +1.7
0.5nm,0.3s,baz=55,slow=12,SNR=12
MDT Pg Pg 02 18 56.2 -1.2
1.0nm,0.3s,baz=71,slow=13,SNR=10
MDT Lg Lg 02 20 08.8
2.3nm,0.3s,baz=287,slow=23,SNR=6.2
EADA Adamuz 4.58 310 P Pn 02 18 41.2 +0.2
2.0nm,0.5s,SNR=12
EADA S Sn 02 19 33.3 -0.8
11nm,0.6s,SNR=7.9
EADA Adamuz 4.58 310 P Pn 02 18 41.2 +0.2
2.0nm,0.5s,SNR=12
EADA S Sn 02 19 33.3 -0.8
11nm,0.6s,SNR=7.9
ETOS Mallorca 5.04 27 P Pn 02 18 47.0 -0.3
5.8nm,0.6s,SNR=7.9
ETOS S Sn 02 19 42.0 -3.5
8.7nm,0.5s,SNR=7.9
ETOS Mallorca 5.04 27 P Pn 02 18 47.0 -0.3
5.8nm,0.6s,SNR=7.9
ETOS S Sn 02 19 42.0 -3.5
8.7nm,0.5s,SNR=7.9
EMOS Mosqueruela 5.07 357 P Pn 02 18 48.5 +0.7
2.6nm,0.4s,SNR=7.8
EMOS S Sn 02 19 43.3 -3.1
3.3nm,0.3s
ECAB El Cabril 5.07 305 P Pn 02 18 47.2 -0.6
1.9nm,0.3s,SNR=13
ECAB S Sn 02 19 43.0 -3.4
3.7nm,0.4s
ECAB El Cabril 5.07 305 P Pn 02 18 47.2 -0.6
1.9nm,0.3s,SNR=13
ECAB S Sn 02 19 43.0 -3.4
3.7nm,0.4s
ESDC Sonseca Array 5.33 326 Pn Pn 02 18 50.5 -0.8
2.8nm,0.3s,baz=142,slow=14,SNR=25
ESDC Sn Sn 02 19 47.0 -5.7
6.2nm,0.3s,baz=142,slow=23,SNR=12
ERTA Horta de San J 5.66 4 P Pn 02 18 56.3 +0.4
4.0nm,0.5s,SNR=7.9
ERTA S Sn 02 19 58.5 -2.4
4.0nm,0.5s,SNR=7.9
ERTA Horta de San J 5.66 4 P Pn 02 18 56.3 +0.4
4.0nm,0.5s,SNR=7.9
ERTA S Sn 02 19 58.5 -2.4
4.0nm,0.5s,SNR=7.9
ETOR Torete 5.72 345 P Pn 02 18 58.5 +1.8
3.4nm,0.3s,SNR=6.9
ETOR S Sn 02 19 58.8 -3.5
5.0nm,0.5s,SNR=7.9
ETOR Torete 5.72 345 P Pn 02 18 58.5 +1.8
3.4nm,0.3s,SNR=6.9
ETOR S Sn 02 19 58.8 -3.5
5.0nm,0.5s,SNR=7.9
EMIN Mina Concepcio 5.81 297 P Pn 02 18 58.2 +0.3
2.9nm,0.5s,SNR=7.9
EMIN S Sn 02 20 00.4 -4.2
1.8nm,0.5s,SNR=7.9
EMIN Mina Concepcio 5.81 297 P Pn 02 18 58.2 +0.3
2.9nm,0.5s,SNR=7.9
EMIN S Sn 02 20 00.4 -4.2
1.8nm,0.5s,SNR=7.9
GUD Guadarrama 6.21 330 P Pn 02 19 04.0 +0.5
2.2nm,0.2s,SNR=11
GUD S Sn 02 20 09.3 -5.2
3.5nm,0.4s
GUD Guadarrama 6.21 330 P Pn 02 19 04.0 +0.5
2.2nm,0.2s,SNR=11
GUD S Sn 02 20 09.3 -5.2
3.5nm,0.4s
PBAR Barrancos 6.24 299 *e*Pn Pn 02 19 04.9 +1.1
PBAR Barrancos 6.24 299 *e*Pn Pn 02 19 04.9 +1.1
EGRO El Granado 6.33 293 P Pn 02 19 04.9 -0.1
2.0nm,0.3s,SNR=7.9
EGRO El Granado 6.33 293 P Pn 02 19 04.9 -0.1
2.0nm,0.3s,SNR=7.9
PVAQ Vaqueiros 6.47 291 *e*Pn Pn 02 19 05.7 -1.2
PVAQ Vaqueiros 6.47 291 *e*Pn Pn 02 19 05.7 -1.2
EBAD Badajoz 6.50 304 P Pn 02 19 06.4 -0.9
1.9nm,0.3s,SNR=7.8
EBAD S Sn 02 20 18.1 -3.3
2.4nm,0.2s,SNR=7.9
EBAD Badajoz 6.50 304 P Pn 02 19 06.4 -0.9
1.9nm,0.3s,SNR=7.8
EBAD S Sn 02 20 18.1 -3.3
2.4nm,0.2s,SNR=7.9
EPLA Plasencia 6.70 317 P Pn 02 19 09.6 -0.5
2.8nm,0.3s,SNR=10
EPLA S Sn 02 20 22.6 -3.8
5.7nm,0.5s,SNR=4.0
EPLA Plasencia 6.70 317 P Pn 02 19 09.6 -0.5
2.8nm,0.3s,SNR=10
EPLA S Sn 02 20 22.6 -3.8
5.7nm,0.5s,SNR=4.0
EMIR Miracle 6.73 11 P Pn 02 19 11.1 +0.5
2.5nm,0.4s,SNR=7.9
EMIR S Sn 02 20 24.0 -3.3
2.3nm,0.3s,SNR=7.9
EMIR Miracle 6.73 11 P Pn 02 19 11.1 +0.5
2.5nm,0.4s,SNR=7.9
EMIR S Sn 02 20 24.0 -3.3
2.3nm,0.3s,SNR=7.9
CFON Fontmartina 6.76 17 P Pn 02 19 11.8 +0.8
2.7nm,0.3s,SNR=7.9
CFON S Sn 02 20 22.4 -5.7
2.8nm,0.3s,SNR=7.9
CFON Fontmartina 6.76 17 P Pn 02 19 11.8 +0.8
2.7nm,0.3s,SNR=7.9
CFON S Sn 02 20 22.4 -5.7
2.8nm,0.3s,SNR=7.9
PESTR Estremoz 6.94 303 *e*Pn Pn 02 19 02.1 -11
CSOR Sort 7.14 8 P Pn 02 19 17.8 +1.6
3.1nm,0.5s,SNR=7.9
CSOR Sort 7.14 8 P Pn 02 19 17.8 +1.6
3.1nm,0.5s,SNR=7.9
CLLI Llivia 7.36 12 P Pn 02 19 18.8 -0.5
1.3nm,0.5s,SNR=7.9
CLLI Llivia 7.36 12 P Pn 02 19 18.8 -0.5
1.3nm,0.5s,SNR=7.9
EBIE Bielsa 7.38 2 P Pn 02 19 18.5 -1.2
0.2nm,0.2s,SNR=7.9
EBIE Bielsa 7.38 2 P Pn 02 19 18.5 -1.2
0.2nm,0.2s,SNR=7.9
SJAF Saint Jean de 7.55 17 P Pn 02 19 23.6 +1.8
7.6nm,0.4s,SNR=7.9
IELO Elcoad 7.58 354 P Pn 02 19 23.9 +1.6
1.6nm,0.4s,SNR=7.9
IELO Elcoad 7.58 354 P Pn 02 19 23.9 +1.6
1.6nm,0.4s,SNR=7.9
IUSE Utxeti 7.72 352 P Pn 02 19 25.4 +1.3
1.4nm,0.2s,SNR=7.9
IUSE Utxeti 7.72 352 P Pn 02 19 25.5 +1.3
1.4nm,0.2s,SNR=7.9
ATE Arette 7.79 357 P Pn 02 19 26.7 +1.6
1.3nm,0.3s,SNR=7.9
ELIZ Elizondo 7.93 353 P Pn 02 19 27.5 +0.5
2.7nm,0.6s,SNR=7.9
ELIZ Elizondo 7.93 353 P Pn 02 19 27.5 +0.5
2.7nm,0.6s,SNR=7.9
MVO Moncorvo 7.98 319 P Pn 02 19 28.6 +0.8
2.6nm,0.3s,SNR=7.9
MVO Moncorvo 7.98 319 P Pn 02 19 28.6 +0.8
2.6nm,0.3s,SNR=7.9
EALK Alkurruntz 7.98 353 P Pn 02 19 30.7 +3.0
3.4nm,0.3s,SNR=4.0
EALK Alkurruntz 7.98 353 P Pn 02 19 30.7 +3.0
3.4nm,0.3s,SNR=4.0
ELAN Lanestosa 8.33 343 P Pn 02 19 32.7 +0.3
2.7nm,0.5s,SNR=7.9
ELAN Lanestosa 8.33 343 P Pn 02 19 32.7 +0.3
2.7nm,0.5s,SNR=7.9
ECAL Calabor 8.41 324 P Pn 02 19 34.0 +0.4
4.9nm,0.3s,SNR=7.9
ECAL Calabor 8.41 324 P Pn 02 19 34.0 +0.4
4.9nm,0.3s,SNR=7.9
EARI Arriondas 8.91 335 P Pn 02 19 41.4 +1.0
6.1nm,0.7s,SNR=7.0
EARI Arriondas 8.91 335 P Pn 02 19 41.4 +1.0
6.1nm,0.7s,SNR=7.0
GERES GERESS Array B 16.95 33 Pn Pn 02 21 29.0 +0.1
0.0nm,0.3s,baz=210,slow=11,SNR=3.4
TORD Torodi Ar. Bea 22.11 175 P P 02 22 29.8 +2.5
0.8nm,0.7s,baz=350,slow=11,SNR=8.2
AKASG Malin Array Be 26.19 45 P P 02 23 06.1 -0.1
0.1nm,0.3s,baz=241,slow=10,SNR=2.2
FINES FINESS Array B 31.01 24 P P 02 23 46.8 -2.3
2.9nm,0.9s,baz=242,slow=11,SNR=3.9
ZALV Zalesovo Beam 59.57 43 P P 02 27 35.7 +0.5
0.5nm,0.5s,baz=308,slow=7.1,SNR=3.0
MKAR Makanchi Array 60.52 51 P P 02 27 42.6 +0.7
0.8nm,0.7s,baz=281,slow=5.7,SNR=8.5
YKA Yellowknife Ar 69.38 333 P P 02 28 41.1 +1.9
0.2nm,0.6s,baz=55,slow=4.4,SNR=4.0
PDAR Pinedale Array 79.11 315 P P 02 29 37.7 +1.0
0.3nm,0.6s,baz=71,slow=6.8,SNR=2.7
TXAR Lajitas Array 83.50 301 P P 02 30 00.7 +0.7
0.3nm,0.9s,baz=101,slow=3.8,SNR=2.9

IDC 22 02:18:00.7±8.4, 10.41S×164.18E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=257.5km s-min=45.2km az=123.0, Santa Cruz Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CTA Charters Tower 19.77 239 P Pn 02 22 34.2 +0.1
0.3nm,0.3s,baz=70,slow=13,SNR=6.5
H11S2 WAKE ISLAND Hy 28.83 5 T T 02 54 38.1
baz=185,slow=78,SNR=12
H11S3 WAKE ISLAND Hy 28.83 5 T T 02 54 40.2
baz=185,slow=78,SNR=8.8
H11S1 WAKE ISLAND Hy 28.84 5 T T 02 54 38.3
baz=185,slow=78,SNR=11
H11N1 WAKE ISLAND Hy 30.05 5 T T 02 56 09.3
baz=186,slow=77,SNR=9.9
H11N3 WAKE ISLAND Hy 30.06 5 T T 02 56 07.6
baz=186,slow=77,SNR=10
H11N2 WAKE ISLAND Hy 30.07 5 T T 02 56 10.8
baz=186,slow=77,SNR=7.8
WRA Warramunga Arr 30.27 248 P P 02 24 13.5 -0.3
0.5nm,1.0s,baz=79,slow=9.3,SNR=3.4
ASAR Alice Springs 31.72 242 P P 02 24 25.8 -0.8
0.3nm,0.7s,baz=68,slow=10,SNR=4.2
MKAR Makanchi Array 92.01 317 P P 02 31 11.7 +0.1
0.2nm,0.7s,baz=121,slow=5.6,SNR=3.5

IDC ***22*** *02:23:22.0±0.9, 21.76N×143.38E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.5/26, mbtmp3.5/6, Error ellipse: s-maj=47.5km s-min=19.9km az=100.0*
ISCJB ***22*** *02:23:24.9±0.9, 21.7N±0.1×143.3E±0.3, h33km, mb3.5/6, Error ellipse: s-maj=46.2km s-min=19.4km az=8.0*

ISC 22 02:23:27.2±1.0, 21.7N±0.2×143.4E±0.3, h35km, n6, σ0s86/6, mb3.6/6, Mariana Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 42.35 193 P P 02 31 19.2 +1.1
0.4nm,0.3s,baz=16,slow=9.4,SNR=38
ASAR Alice Springs 46.06 192 P P 02 31 46.8 -1.0
0.2nm,0.5s,baz=16,slow=11,SNR=3.9
STKA Stephens Creek 53.34 182 P P 02 32 42.8 -0.2
0.6nm,0.7s,baz=8.4,slow=10,SNR=4.5
MKAR Makanchi Array 54.79 313 P P 02 32 53.6 0.0
0.1nm,0.3s,baz=100,slow=7.5,SNR=2.8
ILAR Eielson Array 61.93 27 P P 02 33 43.1 0.0
0.4nm,1.0s,baz=267,slow=5.6,SNR=4.1
YKA Yellowknife Ar 76.35 28 P P 02 35 12.5 +0.1
0.4nm,0.5s,baz=292,slow=5.9,SNR=6.5

IDC 22 02:23:57.5±2.8, 8.37S×147.68E, h0km, mb3.0/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=86.9km s-min=18.6km az=109.0, Eastern New Guinea region

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

PMG	**Port Moresby**	**1.15**	**206**	Pg	Pg	02 24 19.4	-0.3
	45nm,0.3s,baz=8.0,slow=6.9,SNR=85						
PMG				Lg	Lg	02 24 35.2	
	91nm,0.3s,baz=344,slow=21,SNR=30						
CTA	**Charters Tower**	**11.73**	**187**	Pn	Pn	02 26 45.4	-0.9
	0.2nm,0.3s,baz=11,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**17.30**	**227**	P	Pn	02 28 00.9	+0.3
	0.1nm,0.3s,baz=50,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**20.14**	**219**	P	Pn	02 28 35.0	-0.2
	0.6nm,0.8s,baz=41,slow=12,SNR=9.0						
TORD	**Torodi Ar. Bea**	**146.27**	**281**	PKPbc	PKPdf	02 43 40.1	0.0
	0.3nm,0.8s,baz=88,slow=4.5,SNR=3.0						

JMA ***22*** *02:28:20.6±0.1,23°.78N×121°.67E,h35km±3km,M2.9*
TAP ***22*** *02:28:21.2,23°.80N×121°.64E,h39km,ML3.1,C*
ISC 22 02:28:21.2±1.2,23°.78N±0°.03×121°.68E±0°.03,h33km±2km,
n34,σ0966/57,3C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.21**	**341**	*e*P	**Pb**	**02 28 28.4**	**+0.4**
	baz=352						
TWD	**Chiawan**	**0.31**	**346**	P	**Pn**	**02 28 29.4**	**0.0**
	baz=346						
TWD				S	**Sb**	**02 28 35.4**	**+0.8**
	baz=346						
EHY	**Hungye**	**0.42**	**230**	*i* P	**Pb**	**02 28 30.3**	**-0.4**
	baz=223						
EHY				S	**Sb**	**02 28 37.1**	**-0.2**
	baz=223						
WHF	**Hehuan Shan**	**0.53**	**314**	P	**Pn**	**02 28 31.8**	**-1.0**
	baz=310						
WHF				*e*S	**Sb**	**02 28 39.4**	**-1.0**
	baz=310						
TWF1	**Yuli**	**0.55**	**220**	P	**Pn**	**02 28 32.0**	**-0.6**
	baz=223						
TWF1				S	**Sn**	**02 28 39.7**	**-1.0**
	baz=223						
ENA	**Nanau**	**0.65**	**5**	*e*P	**Pn**	**02 28 33.8**	**-0.2**
	baz=19						
ENA				*e*S	**Sn**	**02 28 43.1**	**-0.1**
	baz=19						
TWT	**Tachien**	**0.66**	**316**	P	**Pn**	**02 28 34.4**	**0.0**
	baz=316						
TWT				*e*S	**Sn**	**02 28 43.0**	**-0.7**
	baz=316						
SMLT	**Sun Moon Lake**	**0.72**	**279⇑**	*i*P	**Pn**	**02 28 34.9**	**-0.3**
	baz=280						
SMLT				*i* S	**Sn**	**02 28 44.4**	**-0.7**
	baz=280						
YUS	**Yu-Shan**	**0.72**	**247⇑**	*i*P	**Pn**	**02 28 35.5**	**-0.1**
	baz=244						
YUS				*i* S	**Sn**	**02 28 45.2**	**-0.5**
	baz=244						
CHKT	**Chengkung**	**0.73**	**203**	*e*P	**Pn**	**02 28 35.3**	**0.0**
	baz=188						
TYC	**Yuchr**	**0.76**	**280⇑**	*i*P	**Pn**	**02 28 35.2**	**-0.4**
	baz=283						
TYC				*e*S	**Sn**	**02 28 44.9**	**-1.0**
	baz=283						
ELDTW	**Lidau**	**0.84**	**226**	*e*P	**Pn**	**02 28 36.0**	**-0.8**
	baz=217						
TWC	**Suao**	**0.84**	**11**	P	**Pn**	**02 28 37.0**	**+0.2**
	baz=22						
TWC				*e*S	**Sn**	**02 28 48.2**	**+0.3**
	baz=22						
ALS	**Alishan**	**0.84**	**252**	*e*P	**Pn**	**02 28 37.2**	**+0.2**
	baz=249						
ALS				*e*S	**Sn**	**02 28 48.5**	**+0.1**
	baz=249						
ENTT	**Nioudou**	**0.86**	**353**	*e*P	**Pn**	**02 28 36.7**	**-0.4**
	baz=356						
WNT	**Mingjian**	**0.92**	**276**	*e*P	**Pn**	**02 28 38.2**	**+0.5**
	baz=275						
CHN5	**Tsauling**	**0.93**	**259**	*e*P	**Pn**	**02 28 38.2**	**+0.1**
	baz=257						
CHN5				*e*S	**Sn**	**02 28 51.2**	**+0.9**
	baz=257						
NSK	**Sanguang**	**0.94**	**342**	*e*P	**Pn**	**02 28 37.6**	**-0.6**
	baz=352						
NSK				*e*S	**Sn**	**02 28 49.3**	**-1.2**
	baz=352						
TCU	**Taichung**	**0.99**	**292**	*e*P	**Pn**	**02 28 39.8**	**+1.0**
	baz=291						
TWQ1	**Liyutan**	**1.00**	**305**	*e*P	**Pn**	**02 28 39.5**	**+0.5**
	baz=304						
TWQ1				*e*S	**Sn**	**02 28 52.7**	**+0.7**
	baz=304						
STYT	**Tauyuan**	**1.04**	**234**	*e*P	**Pn**	**02 28 39.7**	**+0.1**
	baz=227						
STYT				*e*S	**Sn**	**02 28 53.5**	**+0.4**
	baz=227						
NSTT	**Nanjuang**	**1.05**	**324**	*e*P	**Pb**	**02 28 41.6**	**+0.6**
	baz=310						
NSTT				*e*S	**Sn**	**02 28 53.1**	**0.0**
	baz=310						
CHN4	**Tsaushan**	**1.08**	**247**	*e*P	**Pn**	**02 28 40.4**	**+0.3**
	baz=245						
CHN4				*e*S	**Sb**	**02 28 55.3**	**0.0**
	baz=245						
TWG	**Pinlang**	**1.10**	**210**	*e*P	**Pn**	**02 28 40.1**	**-0.2**
	baz=197						
WTP	**Ta-pu**	**1.11**	**242**	*e*P	**Pn**	**02 28 40.9**	**+0.4**
	baz=239						
TWK	**Hsinying**	**1.21**	**245**	*e*P	**Pn**	**02 28 42.3**	**+0.6**
	baz=243						
TWK				*e*S	**Sn**	**02 28 58.3**	**+1.3**
	baz=243						
CHN1	**Nanshi**	**1.21**	**241**	*e*P	**Pn**	**02 28 42.4**	**+0.6**
	baz=239						
CHN1				*e*S	**Sb**	**02 28 58.9**	**0.0**
	baz=239						
SGST	**Jiashian**	**1.22**	**236**	*e*P	**Pn**	**02 28 43.0**	**+1.0**
	baz=234						
NWF	**Wu-fen Shan**	**1.29**	**4**	*e*P	**Pn**	**02 28 43.0**	**0.0**
	baz=354						
YOJ	**Yonaguni jima**	**1.40**	**60**	P	**Pn**	**02 28 44.4**	**+0.1**
YOJ				*e*S	**Sn**	**02 29 00.2**	**-1.4**
HATJ	**Hateruma jima**	**1.97**	**81**	P	**Pn**	**02 28 52.5**	**+0.3**
JKRS	**Kuro-shima**	**2.18**	**77**	P	**Pn**	**02 28 55.5**	**+0.4**
JKRS				*e*S	**Sn**	**02 29 22.8**	**+1.8**
JIJ	**Ishigaki jima**	**2.33**	**75**	P	**Pn**	**02 28 56.9**	**-0.3**
JIJ				*e*S	**Sn**	**02 29 24.0**	**-0.6**
JTJ	**Tarama**	**2.89**	**72**	P	**Pn**	**02 29 04.7**	**-0.2**
JTJ				*e*S	**Sn**	**02 29 38.5**	**0.0**

IDC ***22*** *02:46:25.7±0.9,15°.72S×172°.81W,h0km,mb3.9/8,*
mb1 4.2/9,mb1mx4.0/23,mbtmp3.9/9,ML2.8/1,Error
ellipse: s-maj=47.4km s-min=17.3km az=135.0
ISCJB ***22*** *02:46:28.7±0.7,15°.6S±0°.2×172°.9W±0°.2,h29km,mb3.9/8,*
Error ellipse: s-maj=38.0km s-min=8.7km az=39.6
ISC 22 02:46:30.1±0.9,15°.6S±0°.2×172°.8W±0°.3,h29km,n16,
σ0880/11,mb3.8/8,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.98**	**31**	Pn	**Pn**	**02 47 02.0**	**+0.2**
	210nm,0.3s,baz=45,slow=1.7,SNR=84						
AFI				Sn	**Sn**	**02 47 24.3**	**-1.4**
	406nm,0.3s,baz=280,slow=23,SNR=14						
URZ	**Urewera**	**24.24**	**200**	P	**P**	**02 51 44.0**	**-0.6**
	4.2nm,0.3s,baz=0.0,slow=14,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**39.43**	**329**	T	T	03 34 23.3	
	baz=151						
H11S3	**WAKE ISLAND Hy**	**39.44**	**328**	T	T	03 34 51.0	
	baz=151						
H11S1	**WAKE ISLAND Hy**	**39.45**	**329**	T	T	03 35 37.9	
	baz=151						
H11N3	**WAKE ISLAND Hy**	**40.37**	**330**	T	T	03 36 58.3	
	baz=149						
H11N1	**WAKE ISLAND Hy**	**40.37**	**330**	T	T	03 37 25.8	
	baz=149						
H11N2	**WAKE ISLAND Hy**	**40.39**	**330**	T	T	03 36 57.2	
	baz=149						
STKA	**Stephens Creek**	**44.40**	**240**	P	**P**	**02 54 38.5**	**0.0**
	1.6nm,0.7s,baz=68,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**50.33**	**257**	P	**P**	**02 55 24.0**	**-0.8**
	0.8nm,0.6s,baz=93,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**50.56**	**252**	P	**P**	**02 55 26.0**	**-0.5**
	2.6nm,0.5s,baz=85,slow=8.5,SNR=34						
TXAR	**Lajitas Array**	**80.28**	**56**	P	**P**	**02 58 38.2**	**-0.6**
	0.7nm,1.0s,baz=210,slow=3.0,SNR=4.7						
PDAR	**Pinedale Array**	**82.06**	**42**	P	**P**	**02 58 48.7**	**+0.5**
	0.9nm,0.9s,baz=258,slow=3.6,SNR=4.8						
ILAR	**Eielson Array**	**82.55**	**11**	P	**P**	**02 58 50.5**	**+0.7**
	0.4nm,0.6s,baz=230,slow=6.4,SNR=12						
YKA	**Yellowknife Ar**	**90.08**	**23**	P	**P**	**02 59 27.7**	**+0.8**
	0.1nm,0.3s,baz=231,slow=4.8,SNR=4.1						
BRTR	**Keskin Array B**	**146.67**	**321**	PKPbc	**PKPab**	**03 06 11.2**	**+0.5**
	0.9nm,0.9s,baz=10,slow=3.2,SNR=2.7						

IDC ***22*** *02:55:20.1±0.5,16°.82S×172°.79W,h0km,mb4.3/19,*
mb1 4.5/19,mb1mx4.4/26,mbtmp4.3/19,MS4.1/20,
Ms1 4.2/20,ms1mx4.0/36,Error ellipse: s-maj=20.3km
s-min=14.6km az=126.0
NEIC ***22*** *02:55:22.2±0.3,16°.78S×172°.98W,h10km,mb4.9/22,*
Error ellipse: s-maj=12.7km s-min=7.3km az=131.0
ISCJB ***22*** *02:55:25.5±0.3,16°.88S±0°.06×173°.01W±0°.08,h41km,*
mb4.8/48,MS4.3/24,Error ellipse: s-maj=11.8km
s-min=7.6km az=36.5
BJI ***22*** *02:55:25.7,16°.80S×173°.10W,h30km,mB5.4/20,*
mb4.8/28,Ms5.2/9,Ms7 4.8/14
ISC 22 02:55:26.7±0.4,16°.93S±0°.07×172°.92W±0°.08,h41km,
n129,σ1667/136,mb4.7/48,MS4.2/24,7C-3D,Samoa
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.20**	**20**	*e*Pn	Pn	02 56 04.2	-10
AFI				*e*Sn	Sn	02 56 38.6	-13
AFI	**Afiamalu**	**3.20**	**20**	Pn	Pn	02 56 04.0	-11
	38nm,0.3s,baz=38,slow=0.9,SNR=20						
AFI				Sn	Sn	02 56 37.1	-15
	140nm,0.3s,baz=4.7,slow=23,SNR=5.9						
RAR	**Rarotonga**	**13.14**	**111**	*e*Pn	Pn	02 58 17.9	-13
RAR	**Rarotonga**	**13.14**	**111**	Pn	Pn	02 58 17.1	-14
	3.0nm,0.3s,baz=298,slow=0.0,SNR=5.5						
RAR				LR	LR	03 01 35.5	
	comp=Z,806nm,22.0s,baz=225,slow=29						
DZM	**Mont Dzumac**	**20.11**	**252**	*e*P	Pn	03 00 08.9	+10
	82nm,1.6s						
DZM				*e*LR	LR	03 04 33.5	
	666nm,25.1s						
DZM	**Mont Dzumac**	**20.11**	**252**	*e*P	**P**	**02 59 56.2**	**-1.0**
	72nm,1.7s						
DZM	**Mont Dzumac**	**20.11**	**252**	P	**P**	**02 59 57.6**	**+0.4**
	3.1nm,0.6s,baz=81,slow=19,SNR=2.9						
DZM				LR	LR	03 05 22.5	
	comp=Z,74nm,21.8s,baz=40,slow=30						
OUZ	**Omahuta**	**21.83**	**211**	*e*P	**P**	**03 00 16.5**	**+0.9**
	41nm,1.4s						
PPT2	**Papeete2**	**22.30**	**95**	*e*LQ	LQ	03 04 22.7	
	761nm,25.8s						
PPT2				*e*LR	LR	03 05 01.3	
	832nm,28.8s						
PPT	**Papeete**	**22.31**	**95**	LR	LR	03 05 58.9	
	comp=Z,414nm,20.0s,baz=281,slow=29						
TBI	**Tubuai**	**22.92**	**110**	*e*LR	LR	03 05 27.2	
	913nm,29.5s,baz=287						
URZ	**Urewera**	**22.98**	**200**	*e*P	**P**	**03 00 27.8**	**0.0**
	130nm,1.6s						
URZ	**Urewera**	**22.98**	**200**	P	**P**	**03 00 28.6**	**+0.8**
	32nm,0.6s,baz=19,slow=4.8,SNR=36						
BKZ	**Black Stump Fm**	**24.01**	**201**	*e*P	**P**	**03 00 37.9**	**+0.2**
	17nm,0.6s						
BFZ	**Bin Farm**	**25.46**	**199**	*e*P	**P**	**03 00 51.8**	**+0.9**
	306nm,2.5s						
HNR	**Honiara**	**27.42**	**282**	LR	LR	03 10 34.9	
	comp=Z,866nm,18.2s,baz=118,slow=33						
KHZ	**Kahutara**	**27.92**	**202**	*e*P	**P**	**03 01 17.1**	**+4.2**
	394nm,2.8s						
RPZ	**Rata Peaks**	**29.96**	**204**	*e*P	**P**	**03 01 32.1**	**+1.0**
	86nm,1.7s						
RPZ	**Rata Peaks**	**29.96**	**204**	P	P	03 01 35.3	+4.2
	10.0nm,0.5s,baz=26,slow=1.3,SNR=11						
WHZ	**Wether Hill Ro**	**32.99**	**205**	*e*P	P	03 02 02.6	+4.9
	271nm,2.6s						
RKT	**Rikitea**	**36.11**	**106**	*e*LR	LR	03 11 38.3	
	460nm,27.5s						
CTAO	**Charters Tower**	**38.77**	**259**	*e*P	**P**	**03 02 46.3**	**-1.3**
	7.8nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**40.50**	**329**	T	T	03 46 47.1	
	baz=160						
H11S3	**WAKE ISLAND Hy**	**40.52**	**329**	T	T	03 47 07.7	
	baz=160						
H11S1	**WAKE ISLAND Hy**	**40.52**	**329**	T	T	03 46 53.5	
	baz=160						
H11N3	**WAKE ISLAND Hy**	**41.46**	**331**	T	T	03 48 22.2	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**41.47**	**331**	T	T	03 48 16.3	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**41.48**	**331**	T	T	03 48 27.6	
	baz=152						
COEN	**Coen**	**42.36**	**268**	*e*P	**P**	**03 03 15.8**	**-1.5**
	38nm,1.1s						
STKA	**Stephens Creek**	**43.69**	**241**	*e*P	**P**	**03 03 27.3**	**-0.6**
STKA	**Stephens Creek**	**43.69**	**241**	P	**P**	**03 03 27.0**	**-0.9**
	3.0nm,0.6s,baz=59,slow=5.5,SNR=7.4						
STKA				LR	LR	03 20 33.8	
	comp=Z,241nm,18.2s,baz=32,slow=34						
BBOO	**Buckleboo**	**48.46**	**241**	*e*P	**P**	**03 04 04.7**	**-0.8**
	686nm,1.5s						
WRAB	**Tennant Creek**	**49.95**	**258**	*e*P	**P**	**03 04 16.4**	**-0.6**
	4.1nm,0.8s						
WRA	**Warramunga Arr**	**49.96**	**258**	P	**P**	**03 04 15.8**	**-1.3**
WRA	**Warramunga Arr**	**49.96**	**258**	P	**P**	**03 04 15.8**	**-1.3**
	2.3nm,0.6s,baz=96,slow=6.9,SNR=47						
WRA				LR	LR	03 25 05.6	
	comp=Z,342nm,18.3s,baz=90,slow=36						
AS31	**Alice Springs**	**50.09**	**253**	*e*P	**P**	**03 04 17.0**	**-1.1**
ASAR	**Alice Springs**	**50.09**	**253**	P	**P**	**03 04 17.5**	**-0.6**
ASAR	**Alice Springs**	**50.09**	**253**	P	**P**	**03 04 17.5**	**-0.6**
	8.3nm,0.6s,baz=88,slow=8.7,SNR=115						
FORT	**Forrest**	**55.15**	**244**	*e*P	**P**	**03 04 55.2**	**-0.2**
	12nm,0.6s						
JCJ	**Chichijima**	**61.74**	**314**	LR	LR	03 29 13.6	
	comp=Z,247nm,18.6s,baz=178,slow=33						
VNDA	**Vanda**	**61.91**	**186**	*e*P	**P**	**03 05 42.3**	**+0.7**
	7.3nm,1.2s						
VNDA	**Vanda**	**61.91**	**186**	P	**P**	**03 05 42.9**	**+1.2**
	2.9nm,1.0s,baz=38,slow=10,SNR=4.5						
KAPI	**Kappang**	**66.88**	**272**	P	**P**	**03 06 14.6**	**-0.6**
	54nm,1.2s						
MJAR	**Matsushiro Arr**	**70.40**	**320**	P	**P**	**03 06 37.2**	**+0.6**
MJAR	**Matsushiro Arr**	**70.40**	**320**	P	**P**	**03 06 37.2**	**+0.6**
	2.3nm,0.8s,baz=172,slow=6.9,SNR=4.2						
MJAR				LR	LR	03 30 23.6	
	comp=Z,93nm,21.6s,baz=95,slow=30						
TGY	**Tagaytay City**	**72.21**	**291**	P	**P**	**03 06 48.0**	**-0.1**
TGY	**Tagaytay City**	**72.21**	**291**	P	**P**	**03 06 48.0**	**-0.1**
	110nm,0.3s,baz=176,slow=14,SNR=1.9						
QSPA	**South Pole Qui**	**73.12**	**180**	*e*P	**P**	**03 06 54.5**	**+1.7**
QSPA	**South Pole Qui**	**73.12**	**180**	P	**P**	**03 06 52.6**	**-0.2**
	1.5nm,0.3s,baz=272,slow=4.3,SNR=3.9						
JNU	**Nakatsue**	**73.17**	**313**	LR	LR	03 35 33.3	
	comp=Z,84nm,18.3s,baz=76,slow=33						
PETK	**Petropavlovsk-**	**74.22**	**342**	P	**P**	**03 06 57.6**	**-1.5**
PETK	**Petropavlovsk-**	**74.22**	**342**	P	**P**	**03 06 57.6**	**-1.5**
	6.6nm,1.0s,baz=177,slow=3.0,SNR=4.0						
PETK				LR	LR	03 40 49.9	
	comp=Z,122nm,18.6s,baz=141,slow=37						
NVAR	**Mina Array Bea**	**75.16**	**41**	P	**P**	**03 07 03.5**	**-1.7**
NVAR	**Mina Array Bea**	**75.16**	**41**	P	**P**	**03 07 03.5**	**-1.7**
	1.7nm,0.8s,baz=229,slow=7.7,SNR=3.8						
TPH	**Tonopah**	**75.64**	**42**	*e*P	P	03 07 11.0	+3.1
	6.8nm,1.0s						
KSRS	**Korea Array**	**77.56**	**316**	LR	LR	03 42 06.8	
	comp=Z,80nm,18.2s,baz=279,slow=36						
ELK	**Elko**	**78.43**	**41**	*e*P	**P**	**03 07 21.7**	**-1.9**
	4.0nm,1.0s						
ELK	**Elko**	**78.43**	**41**	P	**P**	**03 07 22.4**	**-1.2**
	1.3nm,0.8s,baz=231,slow=2.9,SNR=5.3						
USRK	**Ussuriysk Arra**	**78.87**	**323**	P	**P**	**03 07 25.4**	**-0.3**
	3.0nm,1.1s,baz=115,slow=9.7,SNR=2.0						
USRK				LR	LR	03 40 12.0	
	comp=Z,100nm,18.3s,baz=168,slow=34						
LTY	**Liberty**	**79.21**	**33**	*e*P	**P**	**03 07 30.3**	**+2.8**
	12nm,0.5s						
MDJ	**Mudanjiang**	**80.51**	**322**	P	**P**	**03 07 36.3**	**+1.8**
MDJ				pP	**pP**	**03 07 45.8**	**-1.1**
MDJ				sP	**sP**	**03 07 49.5**	**-2.0**
MDJ				PP	**PP**	**03 10 41.8**	**+3.3**
MDJ				S	**S**	**03 17 41.3**	**+3.2**
MDJ				SS	**SS**	**03 22 56.0**	**+4.5**
MDJ				pmax	pmax		
	comp=Z,11nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.6s						
HLID	**Hailey**	**80.52**	**39**	*e*P	**P**	**03 07 33.3**	**-1.5**
	4.8nm,1.1s						
MNTX	**Cornudas Mount**	**80.77**	**53**	*e*P	**P**	**03 07 35.7**	**-0.5**
	2.1nm,1.0s						
TXAR	**Lajitas Array**	**81.08**	**56**	P	**P**	**03 07 37.4**	**-0.6**
TXAR	**Lajitas Array**	**81.08**	**56**	P	**P**	**03 07 37.4**	**-0.6**
	0.6nm,0.9s,baz=255,slow=5.3,SNR=4.3						
TXAR				LR	LR	03 40 19.2	
	comp=Z,114nm,18.1s,baz=255,slow=33						
NJ2	**Nanjing**	**81.45**	**307**	*e*P	**P**	**03 07 41.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2	**Changchun**	**82.55**	**320**	*e*P	**P**	**03 07 46.1**	**+0.8**
SMCO	**Snowmass**	**83.04**	**46**	*e*P	**P**	**03 07 49.4**	**+0.9**
	76nm,2.5s						
BW06	**Boulder Array**	**83.10**	**42**	*e*P	**P**	**03 07 47.9**	**-0.6**
	9.3nm,1.5s						
PDAR	**Pinedale Array**	**83.10**	**42**	P	**P**	**03 07 46.5**	**-2.0**
PDAR	**Pinedale Array**	**83.10**	**42**	P	**P**	**03 07 46.5**	**-2.0**
	1.0nm,0.9s,baz=182,slow=4.0,SNR=4.7						
PDAR				LR	LR	03 41 01.2	
	comp=Z,203nm,18.5s,baz=170,slow=33						
ILAR	**Eielson Array**	**83.85**	**11**	P	**P**	**03 07 50.4**	**-1.1**
ILAR	**Eielson Array**	**83.85**	**11**	P	**P**	**03 07 50.4**	**-1.1**
	0.9nm,0.8s,baz=226,slow=4.6,SNR=9.7						
ILAR				LR	LR	03 42 25.6	
	comp=Z,162nm,18.5s,baz=176,slow=34						
QIZ	**Qiongzhong**	**83.90**	**292**	P	**P**	**03 07 53.3**	**+0.5**
QIZ				S	**S**	**03 18 14.4**	**+0.5**
QIZ				LR	LR		
	comp=Z,68nm,25.9s						
MAW	**Mawson**	**86.50**	**199**	P	**P**	**03 08 04.6**	**-0.3**
MAW	**Mawson**	**86.50**	**199**	P	**P**	**03 08 04.6**	**-0.3**
	3.2nm,0.9s,baz=181,slow=13,SNR=4.2						
MAW				LR	LR	03 45 59.3	
	comp=Z,176nm,19.9s,baz=300,slow=35						
EDM	**Edmonton**	**86.55**	**31**	*e*P	**P**	**03 08 06.8**	**+1.4**
BJI	**Beijing**	**86.85**	**313**	P	**P**	**03 08 08.3**	**+1.3**
BJI				S	**S**	**03 18 45.0**	**+2.8**
BJI				sS	**sS**	**03 19 00.0**	**-3.0**
BJI				pmax	pmax		
	comp=Z,15nm,1.7s						
BJI				pmax	pmax		
	comp=Z,190nm,5.5s						
GYA	**Guiyang**	**89.16**	**298**	P	**P**	**03 08 19.0**	**+0.4**
GYA				pP	**pP**	**03 08 30.4**	**-0.7**
GYA				PP	**PP**	**03 11 51.3**	**+1.8**
GYA				SKS	**SKSac**	**03 18 44.0**	**-1.7**
GYA				S	**S**	**03 19 02.8**	**-2.3**
GYA				sS	sS	03 19 20.0	-6.0
GYA				SS	**SS**	**03 25 01.3**	**+1.3**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,550nm,19.0s						
GYA				LR	LR		
	comp=E,490nm,20.1s						
GYA				LR	LR		
	comp=Z,520nm,19.2s						
XAN	**Xi'an**	**89.89**	**306**	P	**P**	**03 08 23.3**	**+1.6**
XAN				pP	**pP**	**03 08 33.8**	**-0.5**
XAN				S	**S**	**03 19 09.1**	**-2.3**
XAN				SS	**SS**	**03 25 13.3**	**+3.1**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,32nm,6.2s						
XAN				LR	LR		
	comp=N,69nm,9.2s						
XAN				LR	LR		
	comp=Z,34nm,7.2s						
HHC	**Hu-ho-hao-te**	**90.40**	**313**	*e*P	**P**	**03 08 24.8**	**+0.8**
HHC				PP	**PP**	**03 12 00.3**	**+1.3**
HHC				SKS	**SKSac**	**03 18 50.9**	**-1.4**
HHC				S	**S**	**03 19 12.5**	**-3.4**
HHC				sS	sS	03 19 29.0	-7.9
HHC				SS	**SS**	**03 25 16.9**	**-0.4**
HHC				pmax	pmax		
	comp=Z,34nm,1.2s						
HHC				pmax	pmax		
	comp=Z,160nm,7.8s						
HHC				LR	LR		
	comp=N,280nm,17.7s						
HHC				LR	LR		
	comp=E,280nm,18.1s						
HHC				LR	LR		
	comp=Z,260nm,17.6s						
JTS	**JuntasAbangare**	**91.03**	**80**	*e*P	**P**	**03 08 29.0**	**+1.6**
	24nm,1.4s						
YKA	**Yellowknife Ar**	**91.31**	**23**	P	**P**	**03 08 25.5**	**-2.1**
YKA	**Yellowknife Ar**	**91.31**	**23**	P	**P**	**03 08 25.5**	**-2.1**
	0.5nm,0.9s,baz=242,slow=4.1,SNR=4.2						
SNAA	**Sanae**	**91.36**	**177**	*e*P	**P**	**03 08 29.4**	**+1.4**
	5.5nm,1.6s						
SNAA	**Sanae**	**91.36**	**177**	P	**P**	**03 08 29.5**	**+1.5**
	0.5nm,1.0s,baz=209,slow=5.2,SNR=3.8						
KMI	**Kunming**	**92.10**	**295**	P	**P**	**03 08 34.3**	**+1.9**
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
CD2	**Chengdu**	**92.99**	**301**	*e*P	**P**	**03 08 37.3**	**+1.1**
CD2				pP	**pP**	**03 08 47.5**	**-1.3**
CD2				sP	**sP**	**03 08 52.3**	**-1.1**
CD2				PP	**PP**	**03 12 22.3**	**+2.6**
CD2				SKS	**SKSac**	**03 19 06.8**	**-0.5**
CD2				S	**S**	**03 19 37.3**	**-2.4**
CD2				sS	**sS**	**03 19 56.0**	**-4.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CD2				pmax	pmax		
	comp=Z,120nm,8.2s						
CD2				LR	LR		
	comp=E,220nm,17.8s						
CD2				LR	LR		
	comp=Z,130nm,14.4s						
CMAR	**Chiang Mai Arr**	**93.53**	**288**	P	**P**	**03 08 40.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**93.53**	**288**	P	**P**	**03 08 40.6**	**+1.7**
	1.8nm,0.4s,baz=97,slow=2.3,SNR=6.3						
CMAR				LR	LR	03 46 41.6	
	comp=Z,41nm,19.3s,baz=100,slow=33						
LZH	**Lanzhou**	**94.49**	**306**	*e*P	**P**	**03 08 42.4**	**-0.7**
LZH				pP	**pP**	**03 08 53.0**	**-2.7**
LZH				sP	**sP**	**03 08 56.9**	**-3.4**
LZ

PVCC			*ex*	x	03 15 11.4		
BURAR	**Bucovina Array**	**145.95 338**	⫛*iP*	**PKPdf**	**03 15 00.7**	**-0.6**	
OKC	**Ostrava-Krasne**	**145.97 347**	*e*PKP	**PKPab**	**03 15 04.3**	**+1.9**	
OKC			*ex*	x	03 15 11.7		
KRLC	**Kraliky**	**146.02 349**	*e*PKP	**PKPab**	**03 15 05.2**	**+2.5**	
MORC	**Moravsky Berou**	**146.16 348**	*e*PKPbc	**PKPab**	**03 15 03.8**	**+0.6**	
TRPA	**Tarpa**	**146.40 341**	⫛*iP*	**PKPab**	**03 15 03.7**	**-0.4**	
PRU	**Pruhonice**	**146.48 351**	*e*PKP	**PKPab**	**03 15 04.8**	**+0.4**	
PRU			*ex*	x	03 15 16.7		
NKC	**Novy Kostel**	**146.50 354**	*e*PKP	**PKPab**	**03 15 05.4**	**+0.9**	
VRI	**Vrincioaia**	**146.82 335**	⫛*iP*	**PKPbc**	**03 15 04.8**	**+0.2**	
DOPR	**Dopca**	**147.27 336**	⫝̸*iP*	**PKPab**	**03 15 06.9**	**-0.7**	
MLR	**Muntele Rosu**	**147.44 335**	⫛*iP*	**PKPbc**	**03 15 05.3**	**-1.2**	
KHC	**Kasperske Hory**	**147.45 352**	*e*PKP	**PKPab**	**03 15 08.5**	**+0.2**	
KHC			*x*	x	03 15 17.6		
DRGR		**147.53 340**	⫛*iP*	**PKPab**	**03 15 09.9**	**+1.2**	
BR131	**Keskin Array S**	**147.62 320**	*e*PKPbc	**PKPbc**	**03 15 07.5**	**+0.2**	
BRTR	**Keskin Array B**	**147.62 320**	PKPbc	**PKPbc**	**03 15 07.4**	**+0.2**	
BRTR	**Keskin Array B**	**147.62 320**	PKPbc	**PKPbc**	**03 15 07.4**	**+0.2**	
	5.4nm,1.1s,baz=150,slow=2.1,SNR=16						
GERES	**GERESS Array B**	**147.71 352**	PKPbc	**PKPdf**	**03 15 04.9**	**+0.6**	
GERES	**GERESS Array B**	**147.71 352**	PKPbc	**PKPdf**	**03 15 04.9**	**+0.6**	
	0.7nm,0.8s,baz=48,slow=2.9,SNR=2.9						
VOIR		**147.84 336**	⫝̸*iP*	**PKPbc**	**03 15 07.3**	**-0.2**	
CONA	**Conrad Observa**	**148.25 349**	⫝̸*i*pPKiKP	**PKPab**	**03 15 12.8**	**+1.2**	
	19nm,1.9s						
VTS	**Vitosha**	**150.95 335**	⫝̸*iP*	**PKPbc**	**03 15 17.2**	**+1.8**	
TORD	**Torodi Ar. Bea**	**173.58 125**	PKPab	**PKPab**	**03 16 59.1**	**-2.8**	
TORD	**Torodi Ar. Bea**	**173.58 125**	PKPab	**PKPab**	**03 16 59.1**	**-2.8**	
	0.8nm,0.7s,baz=252,slow=4.3,SNR=8.2						

IDC ***22*** *02:58:09.4±2.6, 30.49N×113.85W, h0km, mb3.9/2, mb1 3.8/6, mb1mx3.6/27, mbtmp3.4/6, ML3.3/4, MS3.2/4, Ms1 3.2/4, ms1mx2.9/45, Error ellipse: s-maj=45.6km s-min=12.0km az=34.0*

ISC 22 02:58:08.0±2.6, 30.3N±0.3×114.2W±0.1, h10km, n10, σ2ꟾ42/7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flat Ob**	**3.82**	**330**	Pn	**Pn**	**02 59 04.9**	**-2.2**
	0.4nm,0.3s,baz=134,slow=13,SNR=5.2						
PFO				Pg	**Pg**	**02 59 14.5**	**-1.2**
	0.5nm,0.3s,baz=164,slow=12,SNR=6.3						
PFO				Lg	Lg	03 00 09.8	
	5.0nm,0.3s,baz=85,slow=15,SNR=5.9						
PFO				LR	LR	03 00 38.9	
	comp=Z,398nm,18.8s,baz=134,slow=39						
LPIG	**La Paz**	**7.07**	**150**	LR	LR	03 02 38.5	
	comp=Z,162nm,18.5s,baz=288,slow=38						
ANMO	**Albuquerque**	**7.99**	**53**	Pn	**Pn**	**03 00 01.8**	**-2.6**
	0.1nm,0.3s,baz=243,slow=15,SNR=4.8						
ANMO				Lg	Lg	03 02 24.7	
	0.2nm,0.3s,baz=342,slow=20,SNR=3.9						
NVAR	**Mina Array Bea**	**8.79**	**338**	Pn	Pn	03 00 19.7	+4.3
	0.1nm,0.3s,baz=161,slow=14,SNR=5.9						
NVAR				Lg	Lg	03 03 04.9	
	baz=169,slow=26,SNR=3.2						
TXAR	**Lajitas Array**	**9.18**	**93**	Pn	**Pn**	**03 00 20.6**	**-0.1**
	0.1nm,0.3s,baz=266,slow=14,SNR=6.8						
TXAR				Lg	Lg	03 03 02.4	
	0.3nm,0.3s,baz=275,slow=34,SNR=9.3						
PDAR	**Pinedale Array**	**12.98**	**15**	Pn	**Pn**	**03 01 15.1**	**+2.4**
	0.1nm,0.3s,baz=187,slow=13,SNR=2.5						
PDAR				Lg	Lg	03 05 09.7	
	0.1nm,0.3s,baz=174,slow=27,SNR=2.9						
YBH	**Yreka Blue Hor**	**13.32**	**331**	LR	LR	03 05 34.2	
	comp=Z,26nm,20.0s,baz=94,slow=34						
BBB	**Bella Bella**	**24.16**	**339**	LR	LR	03 13 14.5	
	comp=Z,117nm,19.6s,baz=225,slow=38						
INK	**Inuvik**	**39.70**	**349**	P	**P**	**03 05 41.8**	**+1.8**
	3.2nm,1.2s,baz=146,slow=3.6,SNR=3.1						
ILAR	**Eielson Array**	**40.05**	**339**	P	**P**	**03 05 44.3**	**+1.3**
	1.3nm,0.7s,baz=150,slow=7.3,SNR=24						

IDC ***22*** *03:11:29.6±2.3, 6.36S×131.01E, h0km, mb3.8/1, mb1 4.4/4, mb1mx3.9/19, mbtmp4.2/4, ML4.3/2, Error ellipse: s-maj=87.8km s-min=28.5km az=79.0*

ISCJB ***22*** *03:11:33.2±1.2, 6.46S±0.09×131.2E±0.1, h42km, mb3.8/1, Error ellipse: s-maj=20.7km s-min=13.1km az=170.4*

AUST ***22*** *03:11:33.9±9.2, 6.19S×131.38E, h27km, Error ellipse: s-maj=2.2km s-min=0.9km az=280.0*

ISC 22 03:11:35.5±1.5, 6.6S±0.1×131.1E±0.1, h42km, n11, σ2ꟾ65/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.82**	**17**	P	Pn	03 12 26.0	-6.0
	baz=3.4,SNR=28						
KDU	**Kakadu**	**6.19**	**168**	P	Pn	03 13 09.6	+5.1
	baz=6.6,SNR=49						
MTN	**Manton Dam**	**6.20**	**180**	P	Pn	03 13 11.0	+6.4
	baz=6.7,SNR=111						
KNRA	**Kununurra**	**9.31**	**194**	P	Pn	03 13 53.0	+5.7
	baz=9.8,SNR=41						
FITZ	**Fitzroy Crossi**	**12.63**	**205**	Pn	**Pn**	**03 14 34.8**	**+2.1**
	1.4nm,0.3s,baz=32,slow=14,SNR=39						
FITZ				Sn	**Sn**	**03 16 51.3**	**-0.7**
	0.6nm,0.3s,baz=147,slow=17,SNR=4.7						
WRA	**Warramunga Arr**	**13.62**	**167**	Pn	**Pn**	**03 14 46.2**	**0.0**
	1.5nm,0.3s,baz=348,slow=13,SNR=47						
WRA				Sn	**Sn**	**03 17 13.4**	**-2.9**
	2.3nm,0.3s,baz=344,slow=22,SNR=9.3						
COEN	**Coen**	**13.91**	**123**	P	**Pn**	**03 14 50.1**	**-0.1**
	baz=14,SNR=23						
QIS	**Mount Isa**	**16.12**	**150**	P	**Pn**	**03 15 21.6**	**+2.3**
	baz=16,SNR=5.2						
ASAR	**Alice Springs**	**17.17**	**171**	P	**Pn**	**03 15 34.5**	**+1.9**
	1.0nm,0.3s,baz=356,slow=14,SNR=43						
ASAR				S	**Sn**	**03 18 40.5**	**-2.2**
	0.5nm,0.3s,baz=355,slow=27,SNR=6.8						
WRKA	**Warakurna**	**18.53**	**188**	P	**Pn**	**03 15 53.6**	**+4.4**
	baz=19,SNR=5.5						
MKAR	**Makanchi Array**	**68.52**	**326**	P	**P**	**03 22 32.3**	**-1.5**
	0.6nm,0.6s,baz=123,slow=7.8,SNR=6.4						

GUC 22 03:12:19.7±0.7, 31.55S×71.66W, h25km±3km, MD3.9, ML3.4, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.68**	**56**	⫛*iP*	Pb	03 12 32.4	-0.7
CMCH				*e*S	Sb	03 12 42.0	-0.2
CMCH				AML	AML	03 12 43.8	
	comp=E,3μm,0.6s						
ROCH	**El Roble**	**1.52**	**159**	*e*P	Pn	03 12 45.3	-0.3
ROCH				*e*S	Sb	03 13 05.9	-0.7
ROCH				AML	AML	03 13 10.6	
	comp=N,640nm,0.5s						
TLL	**Tololo Astrono**	**1.56**	**28**	⫝̸*iP*	Pn	03 12 47.0	+0.8
TLL				*i* S	Sb	03 13 07.7	-0.2
TLL				AML	AML	03 13 14.9	
	comp=N,377nm,0.5s						
PEL	**Peldehue**	**1.79**	**153**	⫝̸*iP*	Pn	03 12 50.2	+1.2
PEL				*i* S	Sb	03 13 13.4	-0.6
PEL				AML	AML	03 13 17.8	
	comp=E,848nm,0.3s						
RCDM	**Rinconada Maip**	**2.06**	**160**	*e*P	Pn	03 12 53.9	+1.1
RCDM				*i* S	Sn	03 13 19.8	+2.0
RCDM				AML	AML	03 13 30.1	
	comp=N,342nm,0.2s						
CLCH	**Cerro Calan**	**2.07**	**153**	*e*P	Pn	03 12 54.2	+1.2
CLCH				*i* S	Sb	03 13 20.6	-1.6
CLCH				AML	AML	03 13 28.4	
	comp=E,483nm,0.4s						
LNV	**Longovilo**	**2.41**	**175**	*e*P	Pn	03 12 58.5	+1.0
LNV				*e*S	Sn	03 13 28.2	+2.1
LMEL	**Las Melosas**	**2.60**	**152**	*e*P	Pn	03 13 01.6	+1.2
LMEL				*e*S	Sn	03 13 33.7	+2.5
LMEL				AML	AML	03 13 39.3	
	comp=N,222nm,0.1s						
CACH	**El Canelo**	**2.71**	**161**	*e*P	Pn	03 13 03.5	+1.6
CACH				*e*S	Sb	03 13 37.5	-3.1
VACH	**Vallenar**	**3.07**	**15**	*e*S	Sn	03 13 44.6	+2.1

ISCJB ***22*** *03:20:28.4±0.4, 51.46N±0.02×16.06E±0.02, h0km, mb3.2/1, Error ellipse: s-maj=3.1km s-min=1.9km az=8.0*

IPEC ***22*** *03:20:28.4±0.3, 51.59N×16.23E, h0km, ML2.9/3, Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*

CSEM ***22*** *03:20:29.9±0.2, 51.48N×16.06E, h2km, ML3.8/12, Error ellipse: s-maj=3.8km s-min=2.6km az=8.0*

PRU ***22*** *03:20:30.9, 51.47N×16.07E, h0km*

IDC ***22*** *03:20:30.2±0.7, 51.52N×16.04E, h0km, mb3.1/1, mb1 3.5/7, mb1mx3.3/28, mbtmp3.3/7, ML2.9/6, Error ellipse: s-maj=12.7km s-min=7.7km az=107.0*

BGR ***22*** *03:20:30.3±0.3, 51.51N×16.10E, h1km, ML3.2/15, Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*

VIE ***22*** *03:20:32.3±0.8, 51.25N×16.12E, h0km±4km, mb2.7/6, ML3.1/6, Error ellipse: s-maj=4.4km s-min=2.4km az=17.0 64 km WNW of Wroclaw Suspected Mining induced.*

ISC 22 03:20:28.8±0.7, 51.51N±0.02×16.09E±0.02, h0km, n101, σ1ꟾ12/178, 6C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pb**	**03 20 43.2**	**-0.3**
KSP				*e*Sg	**Sb**	**03 20 52.7**	**-0.8**
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pb**	03 20 43.1	-0.5
KSP				*e*Sg	**Sb**	**03 20 52.7**	**-0.8**
KSP	**Ksiaz**	**0.68**	**169**	*e*	Sn	03 20 57.2	+0.2
KSP	**Ksiaz**	**0.68**	**169**	Pg	**Pb**	**03 20 43.2**	**-0.3**
KSP				Sg	**Sb**	**03 20 52.7**	**-0.8**
UPC	**Upice**	**1.01**	**183**	*e*PG	**Pb**	03 20 49.1	0.0
UPC	**Upice**	**1.01**	**183**	Pg	**Pb**	03 20 49.1	0.0
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg	**Pb**	03 20 52.0	+0.1
DPC				*e*Sg	**Sb**	**03 21 07.7**	**+0.1**
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	**Pg**	03 20 51.9	+0.7
DPC				*e*SG	**Sg**	**03 21 07.3**	**+0.9**
DPC	**Dobruska-Polom**	**1.17**	**173**	Pg	**Pb**	03 20 52.0	+0.1
DPC				Sg	**Sg**	**03 21 07.3**	**+0.9**
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	**Pb**	03 20 55.8	+0.4
PVCC				*e*SG	**Sn**	**03 21 14.8**	**+0.6**
	350nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**225**	Pg	**Pb**	**03 20 55.8**	**+0.4**
PVCC				Sg	**Sn**	**03 21 14.8**	**+0.6**
	350nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**246**	PN	**Pn**	**03 20 56.7**	**-0.2**
BRG				PG	**Pg**	**03 20 58.1**	**+0.7**
BRG				SG	**Sn**	**03 21 18.5**	**+1.4**
	295nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn	**Pn**	03 20 56.8	-0.2
BRG				*e*Pg	**Pg**	03 20 58.2	+0.7
BRG				*e*Sg	**Sn**	03 21 18.6	+1.4
BRG	**Berggiesshubel**	**1.50**	**246**	Pn	**Pn**	03 20 56.8	-0.2
KRLC	**Kraliky**	**1.50**	**163**	*e*PG	**Pn**	03 20 57.1	0.0
KRLC				*e*SG	**Sb**	03 21 17.8	+0.6
KRLC	**Kraliky**	**1.50**	**163**	Pg	**Pn**	03 20 57.1	0.0
KRLC				Sg	**Sb**	03 21 17.8	+0.6
PRA	**Prague**	**1.79**	**217**	PN	**Pn**	03 21 00.0	-0.9
PRA				PG	**Pg**	03 21 02.0	-0.4
PRA				SG	**Sb**	03 21 26.0	+0.7
PRU	**Pruhonice**	**1.82**	**213**	*e*PN	**Pn**	03 21 01.5	+0.2
PRU				*e*PG	**Pb**	03 21 03.2	+0.3
PRU				*e*SG	**Sg**	03 21 27.7	+0.6
	129nm,0.6s						
PRU	**Pruhonice**	**1.82**	**213**	Pn	**Pn**	03 21 01.5	+0.2
PRU	**Pruhonice**	**1.82**	**213**	Pg	**Pb**	03 21 03.2	+0.3
PRU				Sg	**Sg**	03 21 27.7	+0.6
	129nm,0.6s						
FBE	**Freiberg**	**1.82**	**252**	*e*Pn	**Pn**	03 21 01.4	0.0
FBE				*e*Pg	**Pg**	03 21 04.1	+0.4
FBE				*e*Sg	**Sg**	03 21 28.2	+0.9
FBE	**Freiberg**	**1.82**	**252**	Pn	**Pn**	03 21 01.4	0.0
GKP	**Gorka Klasztor**	**1.89**	**21**	*e*Pg	Pg	03 21 09.0	+3.9
GKP				*e*Sn	**Sg**	03 21 31.7	+2.1
GKP	**Gorka Klasztor**	**1.89**	**21**	*e*Pg	Pg	03 21 09.0	+3.9
GKP				*e*Sn	**Sg**	**03 21 31.7**	**+2.1**
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	03 21 02.8	-0.3
CLL				*e*Pg	**Pg**	03 21 06.1	-0.1
CLL				*e*Sg	**Sg**	03 21 31.2	-0.1
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	03 21 03.0	-0.1
CLL				*e*Pg	**Pg**	03 21 06.0	-0.1
CLL				*e*Sg	**Sg**	03 21 32.0	+0.7
	comp=Z,93nm,0.7s						
CLL	**Collm**	**1.95**	**265**	Pn	**Pn**	03 21 02.8	-0.3
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn	**Pn**	03 21 03.4	0.0
MORC				*e*Sg	**Sg**	03 21 33.0	+1.1
MORC	**Moravsky Berou**	**1.97**	**151**	Pn	**Pn**	03 21 03.4	0.0
MORC				Sg	**Sg**	03 21 33.0	+1.1
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*Pn	**Pn**	03 21 05.4	0.0
OKC				*e*Pg	**Pb**	03 21 09.0	+0.8
OKC				*e*Sg	**Sg**	03 21 37.5	+0.4
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*PN	**Pn**	03 21 05.4	-0.1
OKC				*e*PG	**Pb**	03 21 08.7	+0.5
OKC				*e*SG	**Sg**	03 21 37.8	+0.8
	comp=Z,56nm,0.5s						
OKC	**Ostrava-Krasne**	**2.13**	**141**	Pn	**Pn**	03 21 05.6	0.0
OKC	**Ostrava-Krasne**	**2.13**	**141**	Pg	**Pb**	03 21 09.0	+0.8
OKC				Sg	**Sg**	03 21 37.8	+0.8
	comp=Z,56nm,0.5s						
CHZP	**Chorzow**	**2.21**	**123**	*e*Pg	**Pg**	03 21 11.7	+0.7
CHZP				*e*Sg	**Sg**	03 21 40.5	+0.9
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**	03 21 07.6	+0.6
VRAC				*e*Sg	**Sg**	03 21 40.5	+0.1
	comp=Z,81nm,0.5s						
VRAC	**Vranov**	**2.23**	**172**	Pn	**Pn**	03 21 08.3	+1.3
	comp=Z,2.4nm,0.3s,baz=353,slow=16,SNR=21						
VRAC				Lg	Lg	03 21 40.7	
	comp=Z,10nm,0.3s,baz=76,slow=16,SNR=9.0						
TREC	**Trest**	**2.25**	**190**	*e*Pn	**Pn**	03 21 08.2	+0.9
TREC				*e*Pg	**Pg**	03 21 11.9	-0.1
TREC				*e*SG	**Sg**	03 21 41.6	+0.4
	comp=Z,70nm,0.6s						
TREC	**Trest**	**2.25**	**190**	Pn	**Pn**	03 21 08.2	+0.9
TREC	**Trest**	**2.25**	**190**	Pg	**Pg**	03 21 11.9	-0.1
TREC				Sg	**Sg**	03 21 41.6	+0.4
	comp=Z,70nm,0.6s						
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	03 21 10.8	+0.6
KRUC				*e*Sg	**Sg**	03 21 47.8	0.0
	comp=Z,43nm,0.6s						
TANN	**Tannenbergstha**	**2.55**	**246**	*e*Pn	**Pn**	03 21 12.0	+0.6
TANN				*e*Pg	**Pg**	03 21 18.1	+0.6
TANN				*e*Sg	**Sg**	03 21 51.0	+0.5
TANN	**Tannenbergstha**	**2.55**	**246**	Pn	**Pn**	03 21 12.0	+0.6
TANN	**Tannenbergstha**	**2.55**	**246**	Pg	**Pg**	03 21 18.1	+0.6
TANN				Sg	**Sg**	03 21 51.0	+0.5
WERD	**Werda**	**2.62**	**247**	*e*Pn	**Pn**	03 21 12.9	+0.5
WERD				*e*Pg	**Pg**	03 21 18.9	-0.1
WERD				*e*Sg	**Sg**	03 21 52.9	0.0
WERD	**Werda**	**2.62**	**247**	Pn	**Pn**	03 21 12.9	+0.5
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN	**Pn**	03 21 13.6	+0.9
NKC				*e*PG	**Pg**	03 21 19.3	-0.1
NKC				*e*SG	**Sg**	03 21 55.4	+1.8
	comp=Z,131nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**242**	Pn	**Pn**	03 21 13.6	+0.9
OJC	**Ojcow**	**2.68**	**117**	*e*Pn	**Pn**	03 21 12.3	-0.9
OJC				*e*Pg	**Pg**	03 21 20.2	0.0
OJC				*e*Sg	**Sg**	03 21 56.5	+1.7
OJC	**Ojcow**	**2.68**	**117**	*e*Pn	**Pn**	03 21 12.2	-0.9
OJC				*e*Pg	**Pg**	03 21 21.2	+1.1
OJC				*e*Sg	**Sg**	03 21 56.2	+1.4
OJC	**Ojcow**	**2.68**	**117**	Pn	**Pn**	03 21 12.3	-0.9
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	03 21 16.5	+0.6
KHC				*e*PG	**Pb**	03 21 22.6	+1.6
KHC				*e*SN	**Sn**	03 21 50.9	-0.4
KHC				*e*SG	**Sg**	03 22 01.3	+0.1
	comp=Z,25nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**215**	Pn	**Pn**	03 21 16.5	+0.6
MANZ	**Manzenberg**	**2.96**	**240**	*e*Pn	**Pn**	03 21 17.7	+0.7
MANZ				*e*Pg	**Pg**	03 21 26.5	+1.1
MANZ				*e*Sg	**Sg**	03 22 03.8	0.0
MANZ	**Manzenberg**	**2.96**	**240**	Pn	**Pn**	03 21 17.7	+0.7
ROTZ	**Rotzenmuhle**	**3.03**	**236**	*e*Pn	**Pn**	03 21 19.1	+1.1
ROTZ				*e*Sg	**Sg**	03 22 06.7	+0.6
ROTZ	**Rotzenmuhle**	**3.03**	**236**	Pn	**Pn**	03 21 19.1	+1.1
ROTZ				Sg	**Sg**	03 22 06.7	+0.6
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	03 21 20.0	+1.2
GEC2				*e*Pg	**Pg**	03 21 27.7	-0.1
GEC2				*e*Sg	**Sg**	03 22 07.2	-0.5
GEC2	**GERESS Array S**	**3.08**	**211**	Pn	**Pn**	03 21 20.0	+1.2
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	03 21 20.0	+1.2
	comp=Z,2.2nm,0.3s,baz=30,slow=13,SNR=59						
GERES				Pg	**Pg**	03 21 26.8	-1.0
	comp=Z,3.9nm,0.3s,baz=29,slow=16,SNR=26						
GERES				Lg	Lg	03 22 05.5	
	comp=Z,3.8nm,0.3s,baz=35,slow=26,SNR=5.7						
SMOL	**Smolenice**	**3.12**	**163**	*e*Pg	**Pg**	03 21 29.0	+0.4
SMOL				*e*SG	**Sg**	03 22 09.9	+0.8
WET	**Wettzell**	**3.14**	**222**	*e*Pn	**Pn**	03 21 21.2	+1.6
WET				*e*Sg	**Sg**	03 22 09.3	-0.3
WET	**Wettzell**	**3.14**	**222**	Pn	**Pn**	**03 21 21.2**	**+1.6**
WET				Sg	**Sg**	**03 22 09.3**	**-0.3**
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	03 21 33.8	-0.4
NIE				*e*S	**Sg**	03 22 17.5	-0.9
CLZ	**Clausthal**	**3.58**	**278**	*e*Pn	**Pn**	03 21 26.4	+0.9
CLZ				*e*Sg	**Sg**	03 22 25.0	+1.4
CLZ	**Clausthal**	**3.58**	**278**	Pn	**Pn**	03 21 26.4	+0.9
CLZ				Sg	**Sg**	03 22 25.0	+1.4
CONA	**Conrad Observa**	**3.59**	**182**	⫝̸*iPn*	**Pn**	03 21 25.7	-0.1
CONA				⫝̸*i*Sg	**Sg**	03 22 22.0	-2.1
	comp=Z,28nm,0.4s						
CONA	**Conrad Observa**	**3.59**	**182**	Pn	**Pn**	03 21 25.7	-0.1
CONA				Sg	**Sg**	03 22 22.0	-2.1
	comp=Z,28nm,0.4s						
GRA1	**Grafenberg Arr**	**3.60**	**241**	Pn	**Pn**	03 21 27.0	+1.2
GRA1				Sg	**Sg**	03 22 25.1	+0.7
GRF	**Grafenberg Arr**	**3.60**	**241**	*e*Pn	**Pn**	03 21 27.0	+1.2
GRF				*e*Sg	**Sg**	03 22 25.1	+0.7
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	03 21 25.4	-1.4
BSD				*i* S	**Sn**	03 22 05.8	-5.0
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	03 21 25.5	-1.4
	SNR=49						
SOP	**Sopron**	**3.84**	**175**	*e*	**Sg**	03 22 29.0	-3.2
MOA	**Molln**	**3.85**	**199**	⫛*iPn*	**Pn**	03 21 30.4	+1.1
MOA				⫛*i*Sg	**Sg**	03 22 31.4	-1.1
	comp=Z,45nm,0.6s						
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	03 21 30.4	+1.1
MOA				Sg	**Sg**	03 22 31.4	-1.1
	comp=Z,45nm,0.6s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	Pn	03 21 33.7	+3.7
STHS				*e*PG	**Pg**	03 21 45.0	+1.5
STHS				*e*SG	**Sg**	03 22 38.0	+3.9
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*Pn	Pn	03 21 33.7	+3.7
ARSA	**Arzberg**	**4.28**	**185**	⫝̸*iPn*	**Pn**	03 21 35.0	-0.2
ARSA				⫛*i*Sg	**Sg**	03 22 44.5	-1.8
	comp=Z,48nm,0.7s						
ARSA	**Arzberg**	**4.28**	**185**	Pn	**Pn**	03 21 35.0	-0.2
ARSA				Sg	**Sg**	03 22 44.5	-1.8
	comp=Z,48nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*PN	**Pn**	03 21 37.9	+2.1
CRVS				*e*PG	**Pg**	03 21 53.3	+1.7
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*Pn	**Pn**	03 21 37.9	+2.1
PKSG		**4.39**	**159**	⫛*e*	**Pn**	03 21 37.2	+0.6
PKSG				*e*		03 22 42.4	
KWP	**Kalwaria Pacla**	**4.62**	**111**	*e*Pn	**Pg**	03 21 54.6	-2.6
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN	**Pn**	03 21 41.5	+0.1
KOLS				*e*PG	**Pg**	03 22 00.1	+0.7
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*Pn	**Pn**	03 21 41.5	+0.1
KBA	**Koelnbreinsper**	**4.79**	**203**	⫝̸*iPn*	**Pn**	03 21 42.8	+0.5
KBA				⫛*i*Sg	**Sg**	03 23 02.0	-0.5
	comp=Z,37nm,0.8s						
KBA	**Koelnbreinsper**	**4.79**	**203**	Pn	**Pn**	03 21 42.8	+0.5
KBA				Sg	**Sg**	03 23 02.0	-0.5
	comp=Z,37nm,0.8s						
PERS	**Pernice**	**4.92**	**188**	*i* Pn	**Pn**	03 21 45.9	+1.9
PERS	**Pernice**	**4.92**	**188**	*i* Pn	**Pn**	03 21 45.9	+1.9
KOGS	**Kog**	**5.07**	**179**	*i* Pn	**Pn**	03 21 48.2	+2.2
KOGS	**Kog**	**5.07**	**179**	*i* Pn	**Pn**	03 21 48.2	+2.2
PKSM	**Moragy**	**5.56**	**161**	*e*	**Pn**	03 21 53.7	+0.9
CRES	**Cresnjev**	**5.71**	**184**	*i* Pn	**Pn**	03 21 56.3	+1.6
BOJS	**Bojanci**	**6.04**	**186**	*i* Pn	**Pn**	03 22 01.2	+1.9
BOJS	**Bojanci**	**6.04**	**186**	*i* Pn	**Pn**	03 22 01.2	+1.9
DAVOX	**Davos/Dischmat**	**6.25**	**223

YOJ	**Yonaguni jima**	**2.48**	**227**	P		**Pn**	**03 33 30.8**	**-0.8**
YOJ				*eS*		**Sn**	**03 34 03.8**	**-0.7**
JIH	**Iheya**	**2.79**	**71**	P		**Pn**	**03 33 35.3**	**+0.2**
JIH				*eS*		**Sn**	**03 34 09.0**	**-1.9**
JOW	**Kunigami**	**3.00**	**77**	P		**Pn**	**03 33 37.7**	**0.0**
JOW				*eS*		**Sn**	**03 34 12.7**	**-2.9**
JTK	**Tokunoshima**	**3.87**	**65**	P		**Pn**	**03 33 47.7**	**-0.8**
JTK				*eS*		**Sn**	**03 34 31.8**	**-3.1**
JAMN	**Amaminishikomi**	**4.25**	**60**	P		**Pn**	**03 33 52.2**	**-1.1**
JAMN				*eS*		**Sn**	**03 34 40.1**	**-3.5**
JAM	**Amami Oshima**	**4.66**	**60**	P		**Pn**	**03 33 57.3**	**-1.3**
JAM				*eS*		**Sn**	**03 34 49.5**	**-3.6**
JMZ	**Minamidaito 2**	**5.60**	**92**	P		**Pn**	**03 34 10.0**	**-1.0**
JMZ				*eS*		**Sn**	**03 35 09.8**	**-5.4**
JNU	**Nakatsue**	**8.60**	**35**	P		**Pn**	**03 34 52.0**	**+1.7**
	1.8nm,0.3s,baz=179,slow=9.9,SNR=11							
KSRS	**Korea Array**	**11.51**	**12**	P		**Pn**	**03 35 30.5**	**+2.3**
	2.7nm,0.3s,baz=198,slow=13,SNR=11							
MJAR	**Matsushiro Arr**	**15.28**	**44**	P		**P**	**03 36 16.3**	**-0.2**
	0.5nm,0.3s,baz=225,slow=11,SNR=11							
USRK	**Ussuriysk Arra**	**18.85**	**16**	P		**P**	**03 36 56.0**	**+0.4**
	0.4nm,0.3s,baz=196,slow=9.5,SNR=11							
SONM	**Songino Array**	**26.10**	**331**	P		**P**	**03 38 06.6**	**0.0**
	0.7nm,0.8s,baz=149,slow=10,SNR=6.7							
SONM				pP		**pP**	**03 38 43.7**	**+0.8**
	1.1nm,0.8s,baz=148,slow=11,SNR=6.7							
MKAR	**Makanchi Array**	**39.43**	**313**	P		**P**	**03 40 01.2**	**-0.5**
	0.4nm,0.5s,baz=95,slow=7.9,SNR=6.4							
MKAR				pP		**pP**	**03 40 41.3**	**+1.4**
	0.5nm,0.7s,baz=97,slow=10,SNR=3.2							
ZALV	**Zalesovo Beam**	**40.56**	**324**	P		**P**	**03 40 10.0**	**-1.0**
	0.6nm,0.4s,baz=101,slow=7.5,SNR=4.5							
KURBB	**Kurchatov Arra**	**42.91**	**317**	P		**P**	**03 40 29.2**	**-0.8**
	0.6nm,0.2s,baz=111,slow=8.9,SNR=6.3							
FITZ	**Fitzroy Crossi**	**44.02**	**179**	P		**P**	**03 40 38.7**	**-0.5**
	8.0nm,0.8s,baz=9.8,slow=9.6,SNR=12							
WRA	**Warramunga Arr**	**46.73**	**168**	P		**P**	**03 41 01.3**	**+0.8**
	4.9nm,0.6s,baz=350,slow=8.4,SNR=41							
ASAR	**Alice Springs**	**50.29**	**169**	P		**P**	**03 41 29.0**	**+1.4**
	4.0nm,0.5s,baz=354,slow=7.5,SNR=57							
CTA	**Charters Tower**	**50.40**	**154**	P		**P**	**03 41 30.4**	**+1.8**
	0.9nm,0.4s,baz=325,slow=9.0,SNR=3.6							
STKA	**Stephens Creek**	**59.86**	**164**	P		**P**	**03 42 37.0**	**+1.0**
	0.9nm,0.6s,baz=344,slow=7.4,SNR=3.3							
INK	**Inuvik**	**70.07**	**23**	P		**P**	**03 43 41.0**	**-0.3**
	0.8nm,0.8s,baz=301,slow=7.0,SNR=4.3							
AKASG	**Malin Array Be**	**73.68**	**319**	P		**P**	**03 44 02.1**	**-1.1**
	0.3nm,0.4s,baz=62,slow=6.5,SNR=4.2							
BRTR	**Keskin Array B**	**74.77**	**307**	P		**P**	**03 44 09.8**	**-0.1**
	0.6nm,0.8s,baz=80,slow=5.0,SNR=3.7							
YKA	**Yellowknife Ar**	**79.77**	**24**	P		**P**	**03 44 37.4**	**+0.3**
	0.4nm,0.7s,baz=305,slow=5.4,SNR=8.3							

*IDC **22** 03:39:06.0±2.1,23˚.66S×179˚.79W,h500km±22km, mb3.7/10,mb1 3.8/11,mb1mx3.5/21,mbtmp4.5/11,Error ellipse: s-maj=23.7km s-min=17.5km az=156.0*
*ISCJB **22** 03:39:07.6±0.7,23˚.7S±0˚.1×179˚.9W±0˚.1,h532km, mb4.2/10,Error ellipse: s-maj=16.3km s-min=12.1km az=138.9*
*AUST **22** 03:39:10.2,25˚.07S×178˚.95W,h600km*

ISC 22 03:39:07.8±1.0,23˚.7S±0˚.2×179˚.8W±0˚.2,h532km,n38, σ1§52/30,mb4.3/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.24**	**65**	P		P	P	03 41 36.2	+8.1
	baz=10,SNR=4.5								
URZ	**Urewera**	**14.81**	**190**	P		**P**	**P**	**03 42 14.5**	**-0.9**
	0.8nm,0.3s,baz=255,slow=3.6,SNR=4.6								
RPZ	**Rata Peaks**	**21.39**	**198**	P		**P**	**P**	**03 43 16.6**	**-0.6**
	4.6nm,0.5s,baz=35,slow=5.8,SNR=5.8								
ARMA	**Armidale**	**26.31**	**249**	P		**P**	**P**	**03 44 02.8**	**+1.5**
	baz=26,SNR=6.2								
EIDS	**Eidsvold**	**26.56**	**260**	P		**P**	**P**	**03 44 04.1**	**+0.7**
	baz=27,SNR=6.0								
RMQ	**Roma**	**28.61**	**258**	P		P	P	03 44 23.0	+1.7
	baz=29,SNR=7.4								
CNB	**Canberra Magne**	**29.16**	**239**	P		P	P	03 44 27.4	+1.4
	baz=29,SNR=7.9								
CMSA	**Cobar Meteorol**	**31.50**	**248**	P		**P**	**P**	**03 44 46.8**	**+0.6**
	baz=32,SNR=9.0								
CTA	**Charters Tower**	**31.69**	**270**	P		P	P	03 44 48.7	+0.8
	23nm,0.4s,baz=101,slow=11,SNR=54								
QLP	**Quilpie**	**32.66**	**257**	P		**P**	**P**	**03 44 56.4**	**+0.3**
	baz=33,SNR=6.7								
TOO	**Toolangi**	**32.76**	**237**	P		**P**	**P**	**03 44 57.5**	**+0.6**
	baz=33,SNR=7.5								
PMG	**Port Moresby**	**34.61**	**289**	P		**P**	**P**	**03 45 13.0**	**+0.3**
	9.7nm,0.7s,baz=136,slow=5.5,SNR=4.7								
STKA	**Stephens Creek**	**35.01**	**248**	P		**P**	**P**	**03 45 15.8**	**-0.1**
	6.2nm,0.8s,baz=94,slow=12,SNR=13								
STKA	**Stephens Creek**	**35.01**	**248**	P		**P**	**P**	**03 45 15.9**	**+0.1**
	baz=35,SNR=6.0								
ARPS	**Mount Arapiles**	**35.43**	**239**	P		**P**	**P**	**03 45 19.6**	**+0.4**
	baz=35,SNR=6.3								
COEN	**Coen**	**36.29**	**279**	P		P	P	03 45 27.3	+0.7
	baz=37,SNR=7.3								
PATS	**Pohnpei**	**37.10**	**322**	P		P	P	03 45 45.5	+12
	baz=39,SNR=4.0								
HTT	**Hallett**	**37.37**	**245**	P		**P**	**P**	**03 45 35.5**	**+0.1**
	baz=37,SNR=14								
BBOO	**Buckleboo**	**39.74**	**247**	P		**P**	**P**	**03 45 54.0**	**-0.5**
	baz=40,SNR=19								
ASAR	**Alice Springs**	**42.28**	**260**	P		**P**	**P**	**03 46 14.9**	**0.0**
	11nm,0.8s,baz=99,slow=7.6,SNR=99								
ASAR					ScP		**ScP**	**03 51 00.8**	**+4.2**
	1.9nm,0.8s,baz=108,slow=4.3,SNR=12								
WRA	**Warramunga Arr**	**42.63**	**266**	P		**P**	**P**	**03 46 17.2**	**-0.5**
	8.7nm,0.4s,baz=93,slow=8.5,SNR=193								
WRA					ScP		**ScP**	**03 51 02.0**	**+4.1**
	1.4nm,0.9s,baz=94,slow=4.1,SNR=5.6								
KDU	**Kakadu**	**46.48**	**275**	P		**P**	**P**	**03 46 47.0**	**-0.3**
	baz=47,SNR=5.1								
FORT	**Forrest**	**46.60**	**249**	P		**P**	**P**	**03 46 47.5**	**-0.6**
	baz=47,SNR=37								
WRKA	**Warakurna**	**47.10**	**257**	P		**P**	**P**	**03 46 51.8**	**-0.1**
	baz=48,SNR=18								
MTN	**Manton Dam**	**47.65**	**274**	P		**P**	**P**	**03 46 55.7**	**-0.5**
	baz=48,SNR=4.8								
KNRA	**Kununurra**	**48.90**	**269**	P		**P**	**P**	**03 47 05.6**	**+0.2**
	baz=50,SNR=5.6								
KLBR	**Kellerberrin**	**55.28**	**247**	P		**P**	**P**	**03 47 51.1**	**-0.1**
	baz=55,SNR=6.0								
MEEK	**Meekatharra**	**55.39**	**253**	P		**P**	**P**	**03 47 51.3**	**-0.7**
	baz=56,SNR=3.6								
MORW	**Morawa**	**57.16**	**250**	P		**P**	**P**	**03 48 04.1**	**-0.1**
	baz=57,SNR=4.3								
PETK	**Petropavlovsk-**	**78.91**	**346**	P		P	P	03 50 17.1	+1.3
	2.2nm,0.8s,baz=127,slow=6.3,SNR=3.7								
TXAR	**Lajitas Array**	**90.12**	**58**	P		P	P	03 51 13.8	+2.3
	1.0nm,0.7s,baz=224,slow=6.8,SNR=14								
ILAR	**Eielson Array**	**91.74**	**13**	P		**P**	**P**	**03 51 17.7**	**-0.3**
	0.3nm,0.8s,baz=216,slow=5.5,SNR=3.6								
PDAR	**Pinedale Array**	**92.36**	**44**	P		**P**	**P**	**03 51 22.6**	**+0.9**
	0.7nm,0.7s,baz=197,slow=4.5,SNR=4.2								
ARCES	**ARCESS Array B**	**131.69**	**348**	PKP			**PKPdf**	**03 57 20.6**	**+1.1**
	3.7nm,1.0s,baz=32,slow=2.4,SNR=3.8								
NOA	**NORSAR Array B**	**141.87**	**351**	PKhKP			PKPpre	03 57 34.8	
	1.1nm,0.8s,baz=16,slow=4.5,SNR=3.7								
HFS	**Hagfors**	**142.34**	**349**	PKhKP			PKPpre	03 57 36.4	
	2.4nm,0.3s,baz=48,slow=2.1,SNR=35								
AKASG	**Malin Array Be**	**144.88**	**328**	PKP			**PKPab**	**03 57 44.1**	**-1.2**
	0.6nm,0.4s,baz=43,slow=4.0,SNR=11								
BRTR	**Keskin Array B**	**147.60**	**308**	PKPbc			**PKPab**	**03 57 52.6**	**-4.2**
	0.5nm,0.9s,baz=135,slow=0.8,SNR=4.0								

*DHMR **22** 03:39:05.5±0.7,10˚.2Nx40˚.81E,h10km,mb4.8*
*CSEM **22** 03:39:06.1±0.2,10˚.15Nx40˚.81E,h2km,mb4.4/5,Mw5.0, Error ellipse: s-maj=9.2km s-min=5.1km az=154.0*
*ISCJB **22** 03:39:06.1±0.4,10˚.21N±0˚.05×40˚.77E±0˚.04,h10km, mb4.2/17,MS4.0/26,Error ellipse: s-maj=8.4km s-min=4.1km az=150.2*
*IDC **22** 03:39:06.5±1.2,10˚.25Nx40˚.76E,h0km,mb4.1/12, mb1 4.2/14,mb1mx4.0/31,mbtmp4.1/14,ML3.6/2,MS4.0/28, Ms1 4.0/28,ms1mx3.9/37,Error ellipse: s-maj=24.7km s-min=21.6km az=150.0*
*NEIC **22** 03:39:07.7±0.4,10˚.22Nx40˚.85E,h10km,mb4.6/7,Error ellipse: s-maj=10.1km s-min=6.8km az=142.0*
*GCMT **22** 03:39:10.2±0.3,10˚.30Nx40˚.84E,h19km±1km,MW5.0, Moment Tensor Solution. s16,c17; s68,c96; Moment tensor: Scale 10¹⁶Nm; Mrr-2.12±.23; Mθθ-1.02±.11;*

Mθθ3.13±.15; Mrθ-1.17±.31; Mθφ-0.33±.09; Mφr-1.46±.27; Best double couple: Mo3.40000×10¹⁶ NP1:φ22.00000°, δ65.00000°,λ-58.00000°. NP2:φ146.00000°,δ39.00000°, λ-139.00000°. Principal axes: T 3.5100, Plg14.0000°, Azm90.0000°; N -0.3400, Plg28.0000°, Azm188.0000°; P -3.1800, Plg57.0000°, Azm336.0000°; Data Used: CU IU ll G IC.

ISC 22 03:39:08.1±0.5,10˚.23N±0˚.07×40˚.79E±0˚.06,h10km,n154, σ1§16/137,mb4.3/17,MS4.1/26,17C-6D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
GBR	**Grand-Bara**	**1.89**	**61**	*eP*		**P**	**Pn**	**03 39 38.5**	**-2.0**
GBR	**Grand-Bara**	**1.89**	**61**	*eP*		**P**	**Pn**	**03 39 38.5**	**-2.0**
GBR	**Grand-Bara**	**1.89**	**61**	*eP*		**P**	**Pn**	**03 39 38.5**	**-2.0**
SGH	**Sud-Ghoubbet**	**2.17**	**56**	*eP*		**P**	**Pn**	**03 39 42.5**	**-2.0**
SGH	**Sud-Ghoubbet**	**2.17**	**56**	*eP*		**P**	**Pn**	**03 39 42.5**	**-2.0**
SGH	**Sud-Ghoubbet**	**2.17**	**56**	*eP*		**P**	**Pn**	**03 39 42.5**	**-2.0**
MAOD	**Malaho**	**2.33**	**37**	*i*	P		Pn	03 39 43.2	-3.4
ATD	**Arta Tunnel**	**2.40**	**57**	*eP*		**P**	**Pn**	**03 39 45.7**	**-1.9**
ATD	**Arta Tunnel**	**2.40**	**57**	*eP*		**P**	**Pn**	**03 39 44.4**	**-3.2**
ATD	**Arta Tunnel**	**2.40**	**57**	*eP*		**P**	**Pn**	**03 39 44.4**	**-3.2**
FURI	**Furi**	**2.46**	**238**	*e*	PN		**Pn**	**03 39 48.7**	**0.0**
FURI				*eS*			**Sb**	**03 40 24.4**	**+1.1**
FURI	**Furi**	**2.46**	**238**	*i*	Pn		**Pn**	**03 39 48.0**	**-0.7**
FURI				*eSg*			**Sb**	**03 40 23.9**	**+0.6**
FURI	**Furi**	**2.46**	**238**	*i*	Pn		**Pn**	**03 39 48.0**	**-0.7**
FURI				*eSg*			**Sb**	**03 40 23.9**	**+0.6**
TDD	**Tadjoura Ara**	**2.60**	**53**	*eP*			**Pn**	**03 39 50.0**	**-0.3**
TDD	**Tadjoura Ara**	**2.60**	**53**	*eP*			**Pn**	**03 39 50.0**	**-0.3**
TDD	**Tadjoura Ara**	**2.60**	**53**	*eP*			**Pn**	**03 39 50.0**	**-0.3**
ATA	**Atar**	**2.67**	**63**	*eP*			**Pn**	**03 39 50.0**	**-1.2**
ATA	**Atar**	**2.67**	**63**	*eP*			**Pn**	**03 39 50.0**	**-1.2**
ATA	**Atar**	**2.67**	**63**	*eP*			**Pn**	**03 39 50.0**	**-1.2**
OBO	**Obock**	**3.02**	**54**	*eP*			**Pn**	**03 39 56.0**	**+0.1**
OBO	**Obock**	**3.02**	**54**	*eP*			**Pn**	**03 39 56.0**	**+0.1**
OBO	**Obock**	**3.02**	**54**	*eP*			**Pn**	**03 39 56.0**	**+0.1**
TRBA	**At Turbah**	**4.42**	**47**	*i*	Pn		**Pn**	**03 40 14.8**	**-0.7**
TRBA					AMb		AMB	03 40 15.6	
	comp=Z,112nm,1.2s								
TRBA				*i*	S		**Sn**	**03 41 09.5**	**+2.3**
UDYN	**Al 'Udayn**	**4.85**	**40**	*i*	P		**Pn**	**03 40 21.0**	**-0.3**
UDYN				*i*	S		**Sn**	**03 41 19.3**	**+1.7**
DHBB	**Dhamar BB**	**5.57**	**39**	*i*	P		**Pn**	**03 40 30.2**	**-1.2**
DHBB				*i*	S		**Sn**	**03 41 37.1**	**+1.5**
LBOS		**5.67**	**50**	*i*	P		**Pn**	**03 40 32.1**	**-0.7**
LBOS					AMb		AMB	03 40 32.8	
	comp=Z,39nm,1.2s								
LBOS				*i*	S		**Sn**	**03 41 38.7**	**+0.5**
BDHA	**Al Bayda'**	**5.98**	**51**	*i*	P		**Pn**	**03 40 35.9**	**-1.0**
BDHA				*i*	S		**Sn**	**03 41 46.4**	**+0.8**
BDHA	**Al Bayda'**	**5.98**	**51**	*i*	P		**Pn**	**03 40 35.9**	**-1.0**
BDHA				*i*	S		**Sn**	**03 41 46.4**	**+0.8**
KMBO	**Kilima Mbogo**	**11.81**	**198**	*e*	Pn		**Pn**	**03 41 59.4**	**+2.3**
KMBO				*eS*			Sn	03 44 33.1	+24
KMBO	**Kilima Mbogo**	**11.81**	**198**	*e*	Pn		**Pn**	**03 41 58.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=16,slow=16,SNR=3.1								
KMBO					Lg		Lg	03 45 07.8	
	comp=Z,0.5nm,0.3s,baz=24,slow=20,SNR=3.7								
KMBO					LR		LR	03 46 29.4	
	comp=Z,585nm,19.6s,baz=335,slow=37								
MBAR	**Mbarara**	**14.69**	**223**	Pn			**Pn**	**03 42 35.0**	**-1.3**
MBAR	**Mbarara**	**14.69**	**223**	Pn			**Pn**	**03 42 35.0**	**-1.3**
MBAR	**Mbarara**	**14.69**	**223**	Pn			**Pn**	**03 42 35.0**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=319,slow=19,SNR=2.0								
MBAR					Lg		Lg	03 46 41.8	
	comp=Z,1.7nm,0.3s,baz=180,slow=20,SNR=2.9								
MBAR					LR		LR	03 47 55.9	
	comp=Z,832nm,18.8s,baz=214,slow=36								
NAY	**Al-Naaiem**	**19.87**	**17**	*eP*			**P**	**03 43 39.7**	**+0.2**
NAY					AMb		AMB	03 43 44.0	
	comp=Z,37nm,1.1s								
NAY	**Al-Naaiem**	**19.87**	**17**	*eP*			**P**	**03 43 39.7**	**+0.2**
	comp=Z,37nm,1.1s								
ARQ	**Araqi**	**19.89**	**47**	P			**Pn**	**03 43 44.4**	**+2.9**
	SNR=6.5								
KBD	**Kabd**	**19.93**	**18**	*eP*			**P**	**03 43 40.6**	**+0.5**
KBD					AMb		AMB	03 43 43.2	
	comp=Z,50nm,1.3s								
KBD	**Kabd**	**19.93**	**18**	*eP*			**P**	**03 43 40.7**	**+0.5**
	comp=Z,50nm,1.3s								
RST	**Umm Al-Ruwaisa**	**20.04**	**16**	*eP*			**P**	**03 43 41.5**	**+0.1**
RST					AMb		AMB	03 43 43.8	
	comp=Z,456nm,1.2s								
RST	**Umm Al-Ruwaisa**	**20.04**	**16**	*eP*			**P**	**03 43 41.5**	**+0.1**
	comp=Z,456nm,1.2s								
EIL	**Elat**	**20.10**	**345**	LR			LR	03 50 08.5	
	comp=Z,117nm,19.3s,baz=224,slow=33								
ASHO	**Ashiyiah**	**20.44**	**43**	P			**P**	**03 43 46.6**	**+0.8**
	SNR=9.7								
ASHO	**Ashiyiah**	**20.44**	**43**	P			**P**	**03 43 46.6**	**+0.8**
	SNR=9.7								
JMDO	**Jabal Madar**	**20.52**	**52**	P			Pn	03 43 50.1	+1.2
	SNR=11								
HOQ	**Hoqain**	**20.62**	**48**	P			Pn	03 43 51.3	+1.2
	SNR=7.1								
MSEY	**Mahe Island**	**20.82**	**135**	P			**P**	**03 43 48.4**	**-1.6**
	comp=Z,55nm,0.9s								
MSEY	**Mahe Island**	**20.82**	**135**	P			**P**	**03 43 48.4**	**-1.6**
	comp=Z,55nm,0.9s								
SMDO	**Samad**	**20.86**	**50**	P			Pn	03 43 53.7	+0.7
	SNR=16								
WBK	**Wadi Bani Khal**	**21.32**	**52**	P			**P**	**03 43 58.9**	**+3.5**
	SNR=15								
BANOM	**Banah**	**21.44**	**41**	P			**P**	**03 43 59.3**	**+2.6**
	SNR=6.2								
ASF	**Jabal al Asfar**	**22.13**	**351**	P			**P**	**03 44 04.8**	**+0.7**
ASF	**Jabal al Asfar**	**22.13**	**351**	P			**P**	**03 44 04.8**	**+0.7**
	comp=Z,17nm,1.1s,baz=126,slow=3.9,SNR=8.9								
LSZ	**Lusaka**	**28.25**	**206**	LR			LR	03 56 06.9	
	comp=Z,495nm,18.8s,baz=208,slow=36								
IDI	**Anoyia**	**28.85**	**332**	LR			LR	03 58 13.6	
	comp=Z,208nm,18.6s,baz=314,slow=40								
ABPO	**Ambohimpanom**	**29.75**	**168**	P			P	03 45 19.4	+4.4
	comp=Z,18nm,1.1s								
GNI	**Garni**	**30.01**	**6**	LR			LR	03 58 34.4	
	comp=Z,197nm,18.3s,baz=272,slow=39								
BR131	**Keskin Array S**	**30.06**	**349**	*eP*			**P**	**03 45 18.7**	**+0.9**
	comp=Z,6.3nm,1.1s								
BR131	**Keskin Array S**	**30.06**	**349**	*eP*			**P**	**03 45 18.7**	**+0.9**
	comp=Z,6.3nm,1.1s								
BRTR	**Keskin Array B**	**30.06**	**349**	P			**P**	**03 45 18.6**	**+0.9**
BRTR	**Keskin Array B**	**30.06**	**349**	P			**P**	**03 45 18.6**	**+0.9**
BRTR	**Keskin Array B**	**30.06**	**349**	P			**P**	**03 45 18.6**	**+0.9**
	comp=Z,5.6nm,1.1s,baz=177,slow=9.5,SNR=15								
KBZ	**Khabaz**	**33.43**	**3**	LR			LR	03 59 41.8	
	comp=Z,164nm,19.9s,baz=199,slow=37								
VTS	**Vitosha**	**35.72**	**338**	*i*	P		**P**	**03 46 07.4**	**+0.3**
VTS	**Vitosha**	**35.72**	**338**	*i*	P		**P**	**03 46 07.4**	**+0.3**
CFR	**Carcaliu**	**36.49**	**345**	*i*	P		**P**	**03 46 14.1**	**+0.7**
CFR	**Carcaliu**	**36.49**	**345**	*i*	P		**P**	**03 46 14.1**	**+0.7**
MLR	**Muntele Rosu**	**37.38**	**343**	*i*	P		**P**	**03 46 22.9**	**+1.7**
MLR	**Muntele Rosu**	**37.38**	**343**	P			**P**	**03 46 22.0**	**+0.8**
MLR	**Muntele Rosu**	**37.38**	**343**	P			**P**	**03 46 22.0**	**+0.8**
MLR	**Muntele Rosu**	**37.38**	**343**	P			**P**	**03 46 22.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=276,slow=12,SNR=3.5								
VRI	**Vrincioaia**	**37.50**	**344**	*i*	P		**P**	**03 46 23.2**	**+1.1**
VRI	**Vrincioaia**	**37.50**	**344**	*i*	P		**P**	**03 46 23.2**	**+1.1**
PLOR	**Plostina**	**37.51**	**344**	*i*	P		**P**	**03 46 23.7**	**+1.5**
PLOR	**Plostina**	**37.51**	**344**	*i*	P		**P**	**03 46 23.7**	**+1.5**
VOIR		**37.60**	**342**	*i*	P		**P**	**03 46 23.5**	**+0.5**
VOIR		**37.60**	**342**	*i*	P		**P**	**03 46 23.5**	**+0.5**
DOPR	**Dopca**	**37.97**	**342**	*i*	P		**P**	**03 46 25.0**	**-1.1**
DOPR	**Dopca**	**37.97**	**342**	*i*	P		**P**	**03 46 25.0**	**-1.1**
KEST	**Kesra**	**38.20**	**317**	LR			LR	04 03 41.0	
	comp=Z,74nm,19.3s,baz=213,slow=39								
TORD	**Torodi Ar. Bea**	**38.37**	**278**	P			**P**	**03 46 29.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**38.37**	**278**	P			**P**	**03 46 29.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**38.37**	**278**	P			**P**	**03 46 29.7**	**-0.1**
	comp=Z,2.7nm,1.2s,baz=93,slow=10,SNR=7.7								
TORD					LR		LR	04 02 49.0	
	comp=Z,449nm,18.3s,baz=85,slow=37								
BZS	**Buzias**	**38.91**	**338**	*i*	P		**P**	**03 46 32.9**	**-1.0**
BZS	**Buzias**	**38.91**	**338**	*i*	P		**P**	**03 46 32.9**	**-1.0**
BURAR	**Bucovina Array**	**39.52**	**343**	*i*	P		**P**	**03 46 39.9**	**+0.7**
BURAR	**Bucovina Array**	**39.52**	**343**	*i*	P		**P**	**03 46 39.9**	**+0.7**
BUR08	**Bucovina Ar. S**	**39.55**	**343**	*eP*			**P**	**03 46 38.4**	**-1.1**
BUR08	**Bucovina Ar. S**	**39.55**	**343**	*eP*			**P**	**03 46 38.4**	**-1.1**
PKSM	**Moragy**	**40.53**	**336**	*i*	P		**P**	**03 46 47.2**	**-0.3**
PKSM	**Moragy**	**40.53**	**336**	*i*	P		**P**	**03 46 47.2**	**-0.3**
BOSA	**Boshof**	**41.43**	**201**	LR			LR	04 06 20.4	
	comp=Z,224nm,19.8s,baz=27,slow=39								
KIEV	**Kiev**	**41.46**	**349**	*eP*			**P**	**03 46 53.8**	**-1.2**
	comp=Z,10nm,1.2s								
KIEV	**Kiev**	**41.46**	**349**	*eP*			**P**	**03 46 53.8**	**-1.2**
	comp=Z,10nm,1.2s								
AKASG	**Malin Array Be**	**41.46**	**349**	P			**P**	**03 46 53.9**	**-1.2**
AKASG	**Malin Array Be**	**41.46**	**349**	P			**P**	**03 46 53.9**	**-1.2**
AKASG	**Malin Array Be**	**41.46**	**349**	P			**P**	**03 46 53.9**	**-1.2**
	comp=Z,6.8nm,1.1s,baz=168,slow=7.1,SNR=19								
ABKAR	**Akbulak array**	**42.06**	**19**	*eP*			**P**	**03 47 00.1**	**+0.2**
	comp=Z,8.2nm,1.1s								
ABKAR	**Akbulak array**	**42.06**	**19**	*eP*			**P**	**03 47 00.1**	**+0.2**
	comp=Z,8.2nm,1.1s								
AKTO	**Aktyubinsk**	**42.54**	**16**	P			**P**	**03 47 04.1**	**+0.2**
AKTO	**Aktyubinsk**	**42.54**	**16**	P			**P**	**03 47 04.1**	**+0.2**
AKTO	**Aktyubinsk**	**42.54**	**16**	P			**P**	**03 47 04.1**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=209,slow=10,SNR=6.7								
OKC	**Ostrava-Krasne**	**43.73**	**339**	*eP*			**P**	**03 47 13.2**	**-0.3**
OKC	**Ostrava-Krasne**	**43.73**	**339**	P			**P**	**03 47 13.2**	**-0.3**
VRAC	**Vranov**	**43.86**	**337**	P			**P**	**03 47 13.6**	**-1.0**
VRAC	**Vranov**	**43.86**	**337**	P			**P**	**03 47 13.6**	**-1.0**
VRAC	**Vranov**	**43.86**	**337**	P			**P**	**03 47 13.6**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=162,slow=10,SNR=4.5								
MORC	**Moravsky Berou**	**43.89**	**338**	P			**P**	**03 47 14.6**	**-0.3**
	comp=Z,4.5nm,1.2s								
MORC	**Moravsky Berou**	**43.89**	**338**	P			**P**	**03 47 14.6**	**-0.3**
	comp=Z,4.5nm,1.2s								
TREC	**Trest**	**44.28**	**336**	*eP*			**P**	**03 47 16.6**	**-1.4**
TREC	**Trest**	**44.28**	**336**	P			**P**	**03 47 16.6**	**-1.4**
KRLC	**Kraliky**	**44.42**	**338**	*eP*			**P**	**03 47 18.7**	**-0.4**
KRLC	**Kraliky**	**44.42**	**338**	P			**P**	**03 47 18.7**	**-0.4**
GERES	**GERESS Array B**	**44.66**	**335**	P			**P**	**03 47 19.1**	**-2.0**
GERES	**GERESS Array B**	**44.66**	**335**	P			**P**	**03 47 19.1**	**-2.0**
GERES	**GERESS Array B**	**44.66**	**335**	P			**P**	**03 47 19.2**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=140,slow=7.7,SNR=8.0								
DPC	**Dobruska-Polom**	**44.81**	**338**	*eP*			**P**	**03 47 21.1**	**-1.2**
DPC	**Dobruska-Polom**	**44.81**	**338**	P			**P**	**03 47

KULA	Kula-Manisa	2.12	80	*e*Pn	Pn	04 07 27.5	+0.3
GELI	Tayfur-Gelibol	2.23	10	*e*PN	Pn	04 07 29.5	+0.8
GELI	Tayfur-Gelibol	2.23	10	*e*Pn	Pn	04 07 29.5	+0.8
GONE	Gonen-Balikesi	2.27	35	*e*PN	Pn	04 07 30.1	+0.9
GONE	Gonen-Balikesi	2.27	35	*e*Pn	Pn	04 07 30.1	+0.9
KRBG	Karabiga-Canak	2.42	24	*e*Pn	Pn	04 07 32.2	+1.0
KRBG	Karabiga-Canak	2.42	24	*e*Pn	Pn	04 07 32.2	+1.0

DJA 22 04:14:18.4±0.8, 10°S±5°×11°5E±°, h24km±6km, M3.5/9, MLv3.5/9, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**0.76**	**344**	P	Pb	04 14 32.6	-0.3
IGBI				S	Sb	04 14 42.8	0.0
DNP	**Denpasar**	**0.88**	**351**	P	Pb	04 14 34.3	-0.7
DNP				S	Sn	04 14 47.9	+0.6
KHKI	**Kahang-Kahang**	**1.21**	**12**	P	Pn	04 14 38.2	-1.6
MTNI	**Mataram**	**1.22**	**42**	P	Pn	04 14 39.4	-0.6
MTNI				S	Sn	04 14 55.2	-0.5
SRBI	**Singaraja**	**1.46**	**355**	P	Pn	04 14 43.0	-0.3
SRBI				S	Sn	04 15 00.8	-0.9
BYJI	**Banyuwangi**	**1.65**	**323**	P	Pb	04 14 47.3	-0.9
BYJI				S	Sb	04 15 07.6	-1.0
ABJI	**Asem Bagus**	**2.06**	**328**	P	Pb	04 14 53.4	-1.8
GMJI	**Gumukmas**	**2.27**	**304**	P	Pn	04 14 53.5	-0.9
GMJI				S	Sn	04 15 21.6	-0.1
BLJI	**Banyuglugur**	**2.50**	**316**	P	Pn	04 14 57.5	0.0
BLJI				S	Sn	04 15 29.5	+2.3
KMMI	**Kalianget**	**2.84**	**331**	P	Pn	04 15 02.7	+0.5
PWJI	**Pagerwojo**	**3.82**	**293**	S	Sn	04 15 59.7	-0.2

*CSEM **22** 04:23:19.4, 45°53N×27°05E, h18km, MD3.0/2, After BUC*
BUC 22 04:23:19.4±0.6, 45°53N×27°05E, h18km±4km, MD3.0/2, 39C-24D, Error ellipse: s-maj=6.3km s-min=4.9km az=114.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRER		**0.15**	**200**	⇓*i*P	Pb	04 23 24.0	+0.2
GRER		**0.15**	**200**	⇓*i*P	Pb	04 23 24.0	+0.2
GRER		**0.15**	**200**	⇓*i*P	Pb	04 23 24.0	+0.2
PETR	**Petresti**	**0.23**	**33**	⇑*i*P	Pb	04 23 25.8	+0.6
PETR	**Petresti**	**0.23**	**33**	S	Sb	04 23 29.1	0.0
PETR	**Petresti**	**0.23**	**33**	⇑*i*P	Pb	04 23 25.8	+0.6
PETR				*i* S	Sb	04 23 29.1	0.0
PETR	**Petresti**	**0.23**	**33**	⇑*i*P	Pb	04 23 25.8	+0.6
PETR				*i* S	Sb	04 23 29.1	0.0
ODBI	**Odobesti**	**0.24**	**1**	⇓*i*P	Pb	04 23 25.5	+0.2
ODBI	**Odobesti**	**0.24**	**1**	⇓*i*P	Pb	04 23 25.5	+0.2
ODBI	**Odobesti**	**0.24**	**1**	⇓*i*P	Pb	04 23 25.5	+0.2
VRI	**Vrincioaia**	**0.41**	**327**	⇑*i*P	Pg	04 23 27.4	-0.5
VRI	**Vrincioaia**	**0.41**	**327**	⇑*i*P	Pg	04 23 27.4	-0.5
VRI				*i* S	Sb	04 23 34.4	+0.2
VRI	**Vrincioaia**	**0.41**	**327**	⇑*i*P	Pg	04 23 27.4	-0.5
VRI				*i* S	Sb	04 23 34.4	+0.2
PLOR	**Plostina**	**0.43**	**319**	⇑*i*P	Pg	04 23 28.2	-0.1
PLOR	**Plostina**	**0.43**	**319**	⇑*i*P	Pg	04 23 28.2	-0.1
PLOR				*i* S	Sb	04 23 35.5	+0.7
PLOR	**Plostina**	**0.43**	**319**	⇑*i*P	Pg	04 23 28.2	-0.1
PLOR				*i* S	Sb	04 23 35.5	+0.7
ISR	**Istrita**	**0.54**	**222**	⇓*i*P	Pb	04 23 31.0	+0.5
ISR	**Istrita**	**0.54**	**222**	⇓*i*P	Pb	04 23 31.0	+0.5
ISR				*i* S	Sn	04 23 39.6	-1.5
ISR	**Istrita**	**0.54**	**222**	⇓*i*P	Pb	04 23 31.0	+0.5
ISR				*i* S	Sn	04 23 39.6	-1.5
GHRR		**0.59**	**25**	⇓*i*P	Pg	04 23 31.1	-0.1
GHRR		**0.59**	**25**	⇓*i*P	Pg	04 23 31.1	-0.1
GHRR		**0.59**	**25**	⇓*i*P	Pg	04 23 31.1	-0.1
MLR	**Muntele Rosu**	**0.78**	**268**	⇑*i*P	Pg	04 23 34.8	0.0
MLR	**Muntele Rosu**	**0.78**	**268**	⇑*i*P	Pg	04 23 34.8	0.0
MLR				*i* S	Sg	04 23 46.0	+0.7
MLR	**Muntele Rosu**	**0.78**	**268**	⇑*i*P	Pg	04 23 34.8	0.0
MLR				*i* S	Sg	04 23 46.0	+0.7
SECR		**0.85**	**235**	⇑*i*P	Pg	04 23 36.2	+0.2
SECR		**0.85**	**235**	⇑*i*P	Pg	04 23 36.2	+0.2
SECR				*i* S	Sg	04 23 47.5	+0.2
SECR		**0.85**	**235**	⇑*i*P	Pg	04 23 36.2	+0.2
SECR				*i* S	Sg	04 23 47.5	+0.2
SULR		**1.02**	**214**	⇑*i*P	Pn	04 23 38.7	-0.1
SULR		**1.02**	**214**	⇑*i*P	Pn	04 23 38.7	-0.1
SULR		**1.02**	**214**	⇑*i*P	Pn	04 23 38.7	-0.1
TESR	**Tescani**	**1.03**	**344**	⇑*i*P	Pn	04 23 38.9	-0.1
TESR	**Tescani**	**1.03**	**344**	⇑*i*P	Pn	04 23 38.9	-0.1
TESR				*i* S	Sn	04 23 53.6	+0.6
TESR	**Tescani**	**1.03**	**344**	⇑*i*P	Pn	04 23 38.9	-0.1
TESR				*i* S	Sn	04 23 53.6	+0.6
HARR	**Harsova**	**1.04**	**143**	⇓*i*P	Pb	04 23 38.0	-0.9
HARR	**Harsova**	**1.04**	**143**	⇓*i*P	Pb	04 23 38.0	-0.9
HARR	**Harsova**	**1.04**	**143**	⇓*i*P	Pb	04 23 38.0	-0.9
TLB	**Topalu**	**1.17**	**143**	⇑*i*P	Pn	04 23 40.2	-0.7
TLB	**Topalu**	**1.17**	**143**	⇑*i*P	Pn	04 23 40.2	-0.7
TLB				*i* S	Sn	04 23 56.5	0.0
TLB	**Topalu**	**1.17**	**143**	⇑*i*P	Pn	04 23 40.2	-0.7
TLB				*i* S	Sn	04 23 56.5	0.0
DOPR	**Dopca**	**1.25**	**291**	⇑*i*P	Pn	04 23 42.0	0.0
DOPR	**Dopca**	**1.25**	**291**	⇑*i*P	Pn	04 23 42.0	0.0
DOPR				*i* S	Sg	04 24 00.6	+0.8
DOPR	**Dopca**	**1.25**	**291**	⇑*i*P	Pn	04 23 42.0	0.0
DOPR				*i* S	Sg	04 24 00.6	+0.8
LEOM	**Leova**	**1.26**	**41**	S	Sg	04 23 59.7	-0.6
LEOM	**Leova**	**1.26**	**41**	*i* S	Sg	04 23 59.7	-0.6
LEOM	**Leova**	**1.26**	**41**	*i* S	Sg	04 23 59.7	-0.6
TLCR		**1.29**	**105**	⇓*i*P	Pn	04 23 42.5	0.0
TLCR		**1.29**	**105**	⇓*i*P	Pn	04 23 42.5	0.0
TLCR				*i* S	Sg	04 24 00.9	-0.2
TLCR		**1.29**	**105**	⇓*i*P	Pn	04 23 42.5	0.0
TLCR				*i* S	Sg	04 24 00.9	-0.2
CVD	**Cernavoda**	**1.40**	**150**	S	Sb	04 24 03.2	+0.7
CVD	**Cernavoda**	**1.40**	**150**	*i* S	Sb	04 24 03.2	+0.7
CVD	**Cernavoda**	**1.40**	**150**	*i* S	Sb	04 24 03.2	+0.7
VOIR		**1.41**	**267**	⇑*i*P	Pb	04 23 45.5	+0.1
VOIR		**1.41**	**267**	⇑*i*P	Pb	04 23 45.5	+0.1
VOIR		**1.41**	**267**	⇑*i*P	Pb	04 23 45.5	+0.1
MTUR	**Matau**	**1.43**	**259**	⇓*i*P	Pn	04 23 45.1	+0.4
MTUR	**Matau**	**1.43**	**259**	⇓*i*P	Pn	04 23 45.1	+0.4
MTUR	**Matau**	**1.43**	**259**	⇓*i*P	Pn	04 23 45.1	+0.4
TIRR	**Tirgusor**	**1.44**	**137**	⇑*i*P	Pn	04 23 44.4	-0.2
TIRR	**Tirgusor**	**1.44**	**137**	⇑*i*P	Pn	04 23 44.4	-0.2
TIRR				*i* S	Sb	04 24 03.8	+0.1
TIRR	**Tirgusor**	**1.44**	**137**	⇑*i*P	Pn	04 23 44.4	-0.2
TIRR				*i* S	Sb	04 24 03.8	+0.1
MSAB	**Monastry St. A**	**1.54**	**159**	⇑*i*P	Pn	04 23 44.9	-1.0
MSAB	**Monastry St. A**	**1.54**	**159**	⇑*i*P	Pn	04 23 44.9	-1.0
MSAB				*i* S	Sb	04 24 07.6	+1.1
MSAB	**Monastry St. A**	**1.54**	**159**	⇑*i*P	Pn	04 23 44.9	-1.0
MSAB				*i* S	Sb	04 24 07.6	+1.1
EFOR	**EFORIE**	**1.83**	**142**	⇑*i*P	Pb	04 23 51.2	-1.2
EFOR	**EFORIE**	**1.83**	**142**	⇑*i*P	Pb	04 23 51.2	-1.2
EFOR				*i* S	Sb	04 24 14.8	-0.2
EFOR	**EFORIE**	**1.83**	**142**	⇑*i*P	Pb	04 23 51.2	-1.2
EFOR				*i* S	Sb	04 24 14.8	-0.2
PSN	**Preselentsi**	**2.01**	**156**	⇓*i*P	Pb	04 23 55.8	+0.3
PSN				S	Sb	04 24 18.8	-1.4
PSN	**Preselentsi**	**2.01**	**156**	⇓*i*P	Pb	04 23 55.8	+0.3
PSN				*i* S	Sb	04 24 18.8	-1.4
PSN	**Preselentsi**	**2.01**	**156**	⇓*i*P	Pb	04 23 55.8	+0.3
PSN				*i* S	Sb	04 24 18.8	-1.4

KRSC 22 04:32:48.2±9.1, 48°75N×157°21E, h10km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.06**	**340**	P	Pn	04 33 22.3	-0.5
PAU	**Pauzhetka**	**2.73**	**355**	P	Pn	04 33 32.1	0.0
PAU				S	Sn	04 34 03.8	-1.3
ASAK	**Asacha**	**3.66**	**7**	P	Pn	04 33 46.7	+1.7
RUS	**Russkaya**	**3.78**	**12**	P	Pn	04 33 47.7	+1.2
RUS				S	Sn	04 34 31.1	+0.1
MTVR	**Mutnovka**	**3.79**	**9**	P	Pn	04 33 48.0	+1.2
MTVR				S	Sn	04 34 31.4	-0.1
APC	**Apacha**	**4.18**	**360**	P	Pn	04 33 54.1	+2.1
UGLR	**Uglovaya**	**4.58**	**12**	P	Pn	04 33 59.6	+2.0
AVH	**Avacha**	**4.62**	**11**	P	Pn	04 34 00.5	+2.3
AVH				S	Sn	04 34 53.3	+1.3
NLC	**Nalytchevo**	**4.63**	**16**	S	Sn	04 34 51.1	-0.7
SMAR	**Somma**	**4.63**	**12**	P	Pn	04 34 00.4	+2.0
KOK	**Koryaka**	**4.64**	**11**	P	Pn	04 34 00.7	+2.3
SDLR	**Sedlovina**	**4.66**	**12**	P	Pn	04 34 00.3	+1.6
KRER	**Koryakskii**	**4.66**	**11**	P	Pn	04 34 01.0	+2.1
KRER				S	Sn	04 34 54.9	+1.7
KRX	**Arik**	**4.70**	**11**	P	Pn	04 34 01.6	+2.2
KRX				S	Sn	04 34 55.4	+1.3
GNL	**Ganaly**	**4.97**	**5**	P	Pn	04 34 05.1	+2.1
KZV	**Kizimen**	**6.65**	**15**	P	Pn	04 34 29.1	+3.0
TUMR	**Tumrok**	**6.79**	**14**	P	Pn	04 34 30.0	+2.0
KBTR	**Krutoberegovo**	**8.21**	**22**	P	Pn	04 34 48.1	+0.8

IDC 22 05:02:03.4±3.6, 31°40S×178°00W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.9/18, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=82.8km s-min=28.1km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.15**	**2**	P	Pn	05 02 40.2	-0.3
	38nm,0.3s,baz=108,slow=20,SNR=4.1						
RAO				S	Sb	05 03 10.1	-0.3
	95nm,0.3s,baz=260,slow=23,SNR=4.0						
URZ	**Urewera**	**7.93**	**209**	Pn	Pn	05 03 53.4	-6.6
	0.3nm,0.3s,baz=90,slow=7.1,SNR=2.6						
URZ				S	Sn	05 05 20.4	-10
	1.9nm,0.3s,baz=190,slow=14,SNR=12						
ASAR	**Alice Springs**	**43.06**	**268**	P	P	05 10 05.0	-0.3
	0.8nm,0.5s,baz=104,slow=7.5,SNR=8.2						
WRA	**Warramunga Arr**	**44.14**	**273**	P	P	05 10 14.2	+0.2
	1.2nm,0.4s,baz=113,slow=8.0,SNR=5.3						
FINES	**FINESS Array B**	**146.08**	**339**	PKPbc	PKPdf	05 21 43.6	-0.1
	2.1nm,0.7s,baz=46,slow=5.5,SNR=5.4						

*IDC **22** 05:03:50.0±0.9, 14°11S×166°74E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/21, mbtmp3.9/12, ML3.7/1, MS3.6/8, Ms1 3.6/8, ms1mx3.3/28, Error ellipse: s-maj=31.2km s-min=17.6km az=104.0*
*ISCJB **22** 05:03:54.4±0.7, 14°16S±0°06×166°6E±0°2, h43km, mb3.9/10, MS3.6/6, Error ellipse: s-maj=21.9km s-min=8.9km az=0.1*
ISC 22 05:03:56.2±0.8, 14°12S±0°08×166°7E±0°2, h43km, n19, σ1§11/14, mb4.0/10, MS3.6/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.92**	**181**	Pn	Pn	05 05 48.6	-0.3
	1.2nm,0.3s,baz=191,slow=23,SNR=10						
DZM				Sn	Sn	05 07 18.3	+1.1
	baz=148,slow=19,SNR=1.7						
HNR	**Honiara**	**8.05**	**305**	LR	LR	05 08 12.6	
	comp=Z,116nm,19.8s,baz=157,slow=32						
PMG	**Port Moresby**	**19.66**	**282**	LR	LR	05 14 56.8	
	comp=Z,145nm,18.7s,baz=56,slow=34						
CTA	**Charters Tower**	**20.38**	**250**	P	P	05 08 29.2	-0.3
	2.5nm,0.6s,baz=75,slow=14,SNR=5.8						
AFI	**Afiamalu**	**20.92**	**92**	LR	LR	05 15 02.9	
	comp=Z,167nm,18.3s,baz=158,slow=32						
STKA	**Stephens Creek**	**28.35**	**228**	P	P	05 09 51.0	-0.6
	0.7nm,0.6s,baz=11,slow=10,SNR=2.2						
STKA				LR	LR	05 21 11.9	
	comp=Z,176nm,18.4s,baz=27,slow=36						
WRA	**Warramunga Arr**	**31.41**	**255**	LR	LR	05 22 09.8	
	comp=Z,110nm,18.2s,baz=80,slow=35						
ASAR	**Alice Springs**	**32.35**	**248**	P	P	05 10 20.1	-1.7
	0.8nm,0.6s,baz=79,slow=9.2,SNR=8.3						
ASAR				LR	LR	05 22 52.9	
	comp=Z,97nm,18.7s,baz=109,slow=35						
FITZ	**Fitzroy Crossi**	**39.55**	**259**	LR	LR	05 26 48.2	
	comp=Z,86nm,18.4s,baz=110,slow=35						
NWAO	**Narrogin (SRO)**	**48.56**	**238**	LR	LR	05 31 39.8	
	comp=Z,66nm,19.5s,baz=46,slow=34						
VNDA	**Vanda**	**63.46**	**181**	P	P	05 14 21.8	+0.6
	1.1nm,1.0s,baz=0.0,slow=10,SNR=2.7						
USRK	**Ussuriysk Arra**	**66.08**	**333**	P	P	05 14 39.7	+1.0
	1.0nm,0.6s,baz=190,slow=5.7,SNR=3.4						
PETK	**Petropavlovsk-**	**67.39**	**354**	P	P	05 14 47.1	+0.2
	3.2nm,0.8s,baz=149,slow=5.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**74.16**	**294**	P	P	05 15 31.1	+2.3
	0.6nm,0.3s,baz=133,slow=6.3,SNR=3.8						
SONM	**Songino Array**	**81.66**	**324**	P	P	05 16 10.5	+0.5
	0.3nm,0.7s,baz=157,slow=6.7,SNR=3.5						
ILAR	**Eielson Array**	**86.13**	**18**	P	P	05 16 31.7	-0.6
	0.9nm,0.5s,baz=232,slow=5.6,SNR=2.4						
MKAR	**Makanchi Array**	**96.36**	**317**	P	P	05 17 20.2	-0.3
	0.4nm,0.6s,baz=101,slow=6.3,SNR=4.2						
YKA	**Yellowknife Ar**	**97.27**	**27**	P	P	05 17 22.9	-1.3
	0.2nm,0.7s,baz=257,slow=5.0,SNR=4.3						
ARCES	**ARCESS Array B**	**119.51**	**345**	PKP	PKPdf	05 22 40.2	-0.4
	2.5nm,0.8s,baz=77,slow=2.2,SNR=5.8						

IDC 22 05:17:48.1±2.7, 23°25S×148°88E, h0km, mb1 3.5/4, mb1mx3.4/15, mbtmp3.4/4, ML3.1/4, Error ellipse: s-maj=45.4km s-min=30.6km az=66.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**3.98**	**322**	Pn	Pn	05 18 51.4	+0.9
	1.4nm,0.3s,baz=134,slow=14,SNR=21						
CTA				Pg	Pb	05 19 01.6	+2.4
	3.6nm,0.3s,baz=142,slow=18,SNR=10.0						
CTA				Lg	Lg	05 19 50.1	
	2.0nm,0.3s,baz=217,slow=20,SNR=3.7						
STKA	**Stephens Creek**	**10.75**	**215**	Pn	Pn	05 20 22.1	-1.3
	0.2nm,0.3s,baz=27,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**13.75**	**265**	Pn	Pn	05 21 03.6	-0.8
	0.1nm,0.3s,baz=94,slow=14,SNR=7.9						
WRA	**Warramunga Arr**	**13.91**	**281**	Pn	Pn	05 21 05.5	-1.3
	0.0nm,0.3s,baz=99,slow=13,SNR=2.9						
WRA				Lg	Lg	05 25 10.4	
	0.1nm,0.3s,baz=117,slow=28,SNR=3.5						
TORD	**Torodi Ar. Bea**	**147.31**	**258**	PKPbc	PKPbc	05 37 33.9	-0.6
	0.2nm,0.5s,baz=106,slow=4.1,SNR=2.9						

GUC 22 05:30:05.6±0.5, 30°15S×69°91W, h160km±11km, MD3.7, ML4.1, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.77**	**269**	⇑*i*P	Pn	05 30 30.9	+1.0
TLL				*i* S	Sn	05 30 49.6	+1.1
TLL				AML	AML	05 30 52.2	
	comp=N,2μm,0.7s						
LCO	**Las Campanas**	**1.33**	**329**	⇑*i*P	Pn	05 30 35.3	+0.7
LCO				*i* S	Sn	05 30 57.5	+0.7
LCO				AML	AML	05 30 59.2	
	comp=E,859nm,0.5s						
CMCH	**Combarbala**	**1.38**	**222**	⇓*i*P	Pn	05 30 34.9	+0.1
CMCH				*e*S	Sn	05 30 57.8	+0.4
CMCH				AML	AML	05 30 58.8	
	comp=E,7μm,0.5s						
VACH	**Vallenar**	**1.74**	**335**	⇑*i*P	Pn	05 30 38.7	+0.2
VACH				*i* S	Sn	05 31 03.8	+0.1
JACH	**Jahuel**	**2.59**	**193**	*i* S	Sn	05 31 22.0	+0.4
PEL	**Peldehue**	**3.05**	**192**	*i* P	Pn	05 30 53.4	-0.7
PEL				*i* S	Sn	05 31 30.8	-1.0
PEL				AML	AML	05 31 43.3	
	comp=N,502nm,0.7s						
CLCH	**Cerro Calan**	**3.28**	**189**	⇑*i*P	Pn	05 30 56.5	-0.4
CLCH				*i* S	Sn	05 31 36.1	-0.7

*GUC **22** 05:42:48.7±0.6, 22°09S×68°77W, h127km±4km, ML3.8*
*IDC **22** 05:42:59.0±8.3, 21°31S×67°94W, h188km±55km, mb3.0/3, mb1 3.2/6, mb1mx3.2/18, mbtmp3.0/6, Error ellipse: s-maj=95.8km s-min=21.1km az=16.0*
ISC 22 05:42:49.0±0.9, 21°79S±0°07×68°32W±0°08, h114km±9km, n16, σ2§41/21, mb3.5/3, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.86**	**269**	⇑*i*P	Pn	05 43 08.4	-1.0
PB09				*i* S	Sn	05 43 23.0	-1.8
PB09				AML	AML	05 43 24.1	
	comp=N,6μm,0.4s						
PB04	**Plate Boundary**	**1.19**	**246**	⇑*i*P	Pn	05 43 15.3	+2.9
PB04				*i* S	Sn	05 43 35.5	+5.2
PB04				AML	AML	05 43 41.4	
	comp=N,930nm,0.1s						
PB01	**Plate Boundary**	**1.32**	**304**	⇑*i*P	Pn	05 43 14.3	+0.2
PB01				*i* S	Sn	05 43 34.0	+0.9
PB01				AML	AML	05 43 35.0	
	comp=E,1μm,0.2s						
PB07	**Plate Boundary**	**1.46**	**272**	⇑*i*P	Pn	05 43 13.5	-2.3
PB07				*e*S	Sn	05 43 31.8	-4.4
PB07				AML	AML	05 43 33.0	
	comp=N,1μm,0.2s						
PB06	**Plate Boundary**	**1.48**	**232**	⇑*i*P	Pn	05 43 11.5	-4.6
PB06				*e*S	Sn	05 43 29.0	-7.5
PB06				AML	AML	05 43 30.2	
	comp=N,1μm,0.4s						
PATCX	**Punta Patache**	**1.97**	**299**	⇑*i*P	Pn	05 43 20.9	-0.9
PATCX				*i* S	Sn	05 43 45.5	-1.4
PATCX				AML	AML	05 43 55.0	
	comp=N,474nm,0.1s						
HMBC	**Humberstone**	**2.10**	**315**	⇑*i*P	Pn	05 43 23.7	+0.1
HMBC				*i* S	Sn	05 43 51.0	+0.9
HMBC				AML	AML	05 43 54.7	
	comp=E,473nm,0.4s						
PB11	**Plate Boundary**	**2.38**	**328**	AML	AML	05 43 59.9	
	comp=E,2μm,0.2s						
MNMC	**Minimini**	**2.90**	**335**	*i* P	Pn	05 43 36.2	+2.0
MNMC				*e*S	Sn	05 44 13.2	+4.3
MNMC				AML	AML	05 44 15.1	
	comp=N,423nm,0.3s						
LPAZ	**La Paz**	**5.47**	**2**	P	Pn	05 44 14.4	+5.5
	comp=N,0.3nm,0.3s,baz=190,slow=12,SNR=6.2						
SIV	**San Ignacio**	**8.96**	**51**	P	Pn	05 44 56.5	+1.0
	comp=N,1.7nm,0.3s,baz=246,slow=14,SNR=12						
SIV				S	Sn	05 46 32.3	-2.4
	comp=N,0.1nm,0.3s,baz=169,slow=19,SNR=3.5						
BDFB	**Brasilia**	**20.17**	**76**	P	P	05 47 14.8	+0.1
	comp=N,0.6nm,0.3s,baz=251,slow=10,SNR=6.6						
TXAR	**Lajitas Array**	**61.18**	**325**	P	P	05 52 52.5	+0.7
	comp=N,0.1nm,0.5s,baz=127,slow=5.7,SNR=2.4						
SYO	**Syowa Base**	**76.04**	**159**	⇑*e*P	P	05 54 23.2	-0.2
TORD	**Torodi Ar. Bea**	**76.93**	**70**	P	P	05 54 28.4	-0.9
	comp=N,0.7nm,0.3s,baz=251,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**91.64**	**340**	P	P	05 55 42.8	+0.1
	comp=N,0.2nm,0.6s,baz=137,slow=4.4,SNR=5.0						

*KNET **22** 05:54:31.4±0.8, 41°70N×73°21E, h3km±3km, ml4.1, Error ellipse: s-maj=5.9km s-min=3.7km az=61.0*
*ISCJB **22** 05:54:33.4±0.2, 41°69N±0°02×73°34E±0°03, h9km, mb4.4/44, MS3.7/1, Error ellipse: s-maj=3.0km s-min=2.6km az=34.7*
*IDC **22** 05:54:34.0±0.6, 41°64N×73°28E, h0km, mb4.2/26, mb1 4.4/31, mb1mx4.3/39, mbtmp4.3/31, ML5.0/5, MS3.1/2, Ms1 3.1/2, ms1mx2.9/45, Error ellipse: s-maj=11.7km s-min=9.6km az=157.0*
*NNC **22** 05:54:34.8±0.6, 41°85N×73°27E, h0km, mb5.1, mpv5.0, Error ellipse: s-maj=7.0km s-min=2.5km az=166.0*
*NEIC **22** 05:54:35.0±0.3, 41°68N×73°42E, h10km, mb4.4/21, Error ellipse: s-maj=6.7km s-min=4.4km az=53.0*
*BJI **22** 05:54:35.3, 41°71N×73°42E, h5km, mB4.5/2, mb4.0/5, ML4.3/5, Ms4.0/5, Ms7 3.8/5*
*TEH **22** 05:54:38.6, 42°15N×73°37E, h1km, ML5.3*
*MOS **22** 05:54:38.0±1.2, 41°86N×73°31E, h33km, mb4.6/27, Error ellipse: s-maj=6.7km s-min=5.0km az=81.6*
ISC 22 05:54:35.4±0.3, 41°74N±0°03×73°38E±0°03, h9km, n222, σ1§57/236, mb4.4/44, 26C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.46**	**31**	P	Pg	05 54 42.7	-1.7
	8μm,0.3s						
AML				⇑S	Sg	05 54 51.5	+1.0
	21μm,0.6s						
EKS2	**Erkin-Say**	**0.97**	**18**	*i* PG	Pg	05 54 51.6	-2.3
EKS2	**Erkin-Say**	**0.97**	**18**	P	Pg	05 54 51.7	-2.3
	413nm,0.4s,SNR=448						
EKS2	**Erkin-Say**	**0.97**	**18**	*i* Pg	Pg	05 54 51.7	-2.3
UCH	**Uchtor**	**0.98**	**60**	*i* PG	Pg	05 54 52.7	-1.5
UCH	**Uchtor**	**0.98**	**60**	P	Pg	05 54 52.7	-1.5
	466nm,0.2s,SNR=680						
AAK	**Ala-Archa**	**1.22**	**43**	*ce*PG	Pn	05 54 56.6	-2.2
AAK	**Ala-Archa**	**1.22**	**43**	P	Pn	05 54 56.8	-2.0
	691nm,0.2s,SNR=1448						
AAK	**Ala-Archa**	**1.22**	**43**	⇑P	Pn	05 54 56.8	-2.0
	950nm,0.6s						
AAK				⇓S	Sb	05 55 13.9	-0.8
	830nm,0.5s						
AAK				⇓Rg	Rg	05 55 19.6	
FRU	**Bishkek**	**1.43**	**40**	⇑*i*PG	Pn	05 55 00.0	-1.5
FRU				*i*		05 55 22.0	
FRU				pmax	pmax		
	comp=Z,700nm,1.2s						
FRU				pmax	pmax		
	comp=E,2μm,1.6s						
KZA	**Kyzart**	**1.44**	**76**	*i* PG	Pn	05 55 01.5	-0.5
KZA	**Kyzart**	**1.44**	**76**	P	Pn	05 55 01.5	-0.5
	comp=E,1μm,0.3s,SNR=978						
KBK	**Karagaybulak**

KURBB Lg Lg 05 59 35.3
comp=Z,2.5nm,0.3s,baz=205,slow=30,SNR=7.4
KURBB Kurchatov Arra 9.57 20 ⇓Pn **Pn 05 56 52.8 -0.5**
comp=Z,28nm,0.5s
KURBB ⇑Lg Lg 05 59 36.1
comp=Z,151nm,0.8s
KURK Kurchatov 9.68 20 P **Pn 05 56 55.3 +0.6**
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK Kurchatov 9.68 20 *e*Pn **Pn 05 56 55.0 +0.3**
KURK Lg Lg 05 59 35.3
KURK Kurchatov 9.68 20 ⇑Pn **Pn 05 56 54.5 -0.2**
comp=Z,2.8nm,0.4s
KURK ⇑Lg Lg 05 59 40.3
comp=Z,141nm,1.2s
DHRM DHARAMSHALA 9.76 165 *e*P **Pn 05 56 53.9 -2.2**
DHRM *e*S **Sn 05 58 48.4 +2.6**
DHRM AML AML 05 58 56.1
comp=E,93nm,1.0s
DHRM AML AML 05 58 57.7
comp=N,105nm,1.1s
SMLA Simla 11.02 163 *e*P **Pn 05 57 12.6 -0.5**
SMLA *ex* x 05 59 07.8
VOSK Vostochnaya 11.11 352 *i* P **Pn 05 57 13.2 -1.0**
VOSK pmax pmax
comp=Z,10.0nm,0.4s
VOSK Vostochnaya 11.11 352 ⇑Pn **Pn 05 57 13.3 -1.0**
comp=Z,9.6nm,0.4s
VOSK ⇑Sn **Sn 05 59 18.1 -0.4**
comp=Z,30nm,1.4s
BVA0 Borovoye Array 11.47 351 ⇑Pn **Pn 05 57 18.5 -0.8**
comp=Z,6.6nm,0.3s,baz=162,slow=13,SNR=137
BVA0 ⇑Lg Lg 06 00 35.5
comp=Z,89nm,1.4s
BVAR Borovoye Array 11.47 351 P **Pn 05 57 18.7 -0.5**
BVAR 05 59 23.2
BVAR pmax pmax
comp=Z,9.0nm,0.3s
BVAR smax smax
comp=N,2.0nm,0.3s
BVAR Borovoye Array 11.47 351 Pn **Pn 05 57 18.7 -0.5**
BVAR Sn **Sn 05 59 23.2 -4.2**
BVAR Lg Lg 06 00 32.9
BVAR Borovoye Array 11.47 351 Pn **Pn 05 57 18.7 -0.5**
comp=N,8.7nm,0.3s,baz=154,slow=11,SNR=65
BVAR Sn **Sn 05 59 23.2 -4.2**
comp=N,2.0nm,0.3s,baz=166,slow=24,SNR=3.8
BVAR Lg Lg 06 00 32.9
comp=N,1.1nm,0.3s,baz=154,slow=24,SNR=3.6
BRVK Borovoye 11.52 351 *c* *i*P **Pn 05 57 19.2 -0.6**
BRVK pmax pmax
comp=Z,19nm,0.6s
BRVK Borovoye 11.52 351 *e*Pn **Pn 05 57 18.6 -1.2**
BRVK Borovoye 11.52 351 ⇓Pn **Pn 05 57 18.8 -1.0**
comp=Z,22nm,0.5s
BRVK ⇑Sn **Sn 05 59 27.4 -1.1**
comp=Z,40nm,0.7s
BRVK ⇓Lg Lg 06 00 37.5
comp=Z,213nm,1.2s
IMYA Miami 11.64 247 *e*P **Pn 05 57 20.8 -1.0**
DDI Dehra Dun 12.00 160 *e*P **Pn 05 57 25.3 -1.3**
AB31 Akbulak array 12.04 313 *e*P **Pn 05 57 25.5 -1.6**
AB31 pmax pmax
comp=Z,55nm,0.7s
AB31 Akbulak array 12.04 313 ⇑Pn **Pn 05 57 25.5 -1.6**
comp=Z,55nm,0.7s,baz=124,slow=14,SNR=634
AB31 ⇓Sn **Sn 05 59 40.3 -1.1**
comp=Z,14nm,0.7s,baz=122,slow=23,SNR=4.6
ABKAR Akbulak array 12.04 313 *e*Pn **Pn 05 57 25.6 -1.4**
ISRO Mashad 12.09 248 *e*P **Pn 05 57 28.1 +0.2**
IMOG Moghan 12.29 247 *e*P **Pn 05 57 28.8 -2.0**
IPAY Payeh 12.35 249 *e*P **Pn 05 57 30.4 -1.2**
IAKL Akhelmad 12.45 250 *e*P **Pn 05 57 31.1 -1.8**
ISFI Sfrayin 12.78 254 *e*P **Pn 05 57 36.6 -0.8**
ISHV Shirvan 12.79 256 *e*P **Pn 05 57 34.9 -2.6**
NDI New Delhi 13.40 165 *e*P **Pn 05 57 45.1 -0.6**
AKTO Aktyubinsk 13.73 314 P **Pn 05 57 49.9 -0.3**
AKTO 06 00 20.0
AKTO pmax pmax
comp=Z,5.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO MLR MLR
comp=Z,47nm,20.7s
AKTO Aktyubinsk 13.73 314 Pn **Pn 05 57 49.9 -0.3**
AKTO Sn **Sn 06 00 20.0 -2.8**
AKTO Aktyubinsk 13.73 314 Pn **Pn 05 57 49.9 -0.3**
comp=Z,5.0nm,0.3s,baz=119,slow=14,SNR=64
AKTO Sn **Sn 06 00 20.0 -2.8**
comp=Z,0.7nm,0.3s,baz=262,slow=14,SNR=3.8
AKTO LR LR 06 03 42.4
comp=Z,47nm,20.7s,baz=278,slow=40
AKTO Aktyubinsk 13.73 314 ⇓Pn **Pn 05 57 48.7 -1.4**
comp=Z,81nm,1.1s
AKTO ⇓Sn **Sn 06 00 21.3 -1.5**
comp=Z,27nm,1.1s
IDAH Dahanechah 14.00 234 *e*P Pn 05 57 50.7 -3.5
ZAA0 Zalesovo Array 14.40 28 *e*P **Pn 05 58 00.6 +1.3**
ZALV Zalesovo Beam 14.40 28 P **Pn 05 57 59.1 -0.2**
ZALV 06 00 42.4
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV smax smax
comp=N,1.0nm,0.3s
ZALV MLR MLR
comp=Z,122nm,18.1s
ZALV Zalesovo Beam 14.40 28 Pn **Pn 05 57 59.0 -0.2**
ZALV Sn **Sn 06 00 42.4 +3.4**
ZALV Zalesovo Beam 14.40 28 Pn **Pn 05 57 59.0 -0.2**
comp=Z,3.4nm,0.3s,baz=223,slow=11,SNR=33
ZALV Sn **Sn 06 00 42.4 +3.4**
comp=Z,0.6nm,0.3s,baz=227,slow=24,SNR=5.1
ZALV LR LR 06 03 45.4
comp=Z,122nm,18.1s,baz=238,slow=38
ITEG Tejag 14.59 237 *e*P **Pn 05 58 03.6 +1.5**
NVS Novosibirsk 14.64 23 *i*P **Pn 05 58 05.2 +2.7**
NVS *e* 06 00 42.8
PYUN Piuthan 15.71 147 *e*P **Pn 05 58 14.2 -2.9**
comp=Z,24nm,0.3s
PYUN Piuthan 15.71 147 *e*P **Pn 05 58 14.2 -2.9**
comp=Z,24nm,0.3s
DANN Dangsing 15.82 144 *e*P **Pn 05 58 15.8 -2.7**
comp=Z,17nm,0.5s
DANN Dangsing 15.82 144 *e*P **Pn 05 58 15.8 -2.7**
comp=Z,17nm,0.5s
KOLN Koldanda 16.25 146 *e*P **Pn 05 58 21.1 -3.0**
comp=Z,14nm,0.4s
KOLN Koldanda 16.25 146 *e*P **Pn 05 58 21.1 -3.0**
comp=Z,14nm,0.4s
GKN Gorkha 16.50 143 *e*P **Pn 05 58 24.6 -2.6**
comp=Z,26nm,0.8s
GKN Gorkha 16.50 143 *e*P **Pn 05 58 24.6 -2.6**
comp=Z,26nm,0.8s
HVS Khovu-Aksy 16.82 49 *e*P **P 05 58 32.2 -1.0**
KKN Kakani 16.98 141 *e*P **Pn 05 58 31.2 -2.2**
comp=Z,8.2nm,0.5s
KKN Kakani 16.98 141 *e*P **Pn 05 58 31.2 -2.2**
KKN pmax pmax
comp=Z,8.0nm,0.5s
KKN Kakani 16.98 141 *e*P **Pn 05 58 31.2 -2.2**
comp=Z,8.2nm,0.5s
DMN Daman 17.06 142 *e*P **Pn 05 58 31.8 -2.5**
comp=Z,21nm,1.0s
DMN Daman 17.06 142 *e*P **Pn 05 58 31.8 -2.5**
comp=Z,21nm,1.0s
GUN Gumba 17.17 140 *e*P **Pn 05 58 34.2 -1.6**
comp=Z,10nm,0.5s
GUN Gumba 17.17 140 *e*P **Pn 05 58 34.2 -1.6**
comp=Z,10nm,0.5s
SVE Sverdlovsk 17.19 336 *e*P **Pn 05 58 34.4 -1.1**
SVE *e*S **Sn 06 01 40.5 -6.1**
SVE pmax pmax
comp=Z,29nm,1.1s
IFIR Firoozkooh 17.20 256 *e*P **Pn 05 58 33.0 -3.0**
PKIN Phulchoki 17.22 141 *e*P **Pn 05 58 33.9 -2.4**
comp=Z,9.2nm,0.6s
PKI Pulchoki 17.23 141 *e*P **Pn 05 58 34.0 -2.5**
comp=Z,23nm,0.9s
PKI Pulchoki 17.23 141 *e*P **Pn 05 58 34.0 -2.5**
PKI pmax pmax
comp=Z,23nm,0.9s
PKI Pulchoki 17.23 141 *e*P **Pn 05 58 34.0 -2.5**
comp=Z,23nm,0.9s
JIRN Jiri 17.53 139 *e*P **Pn 05 58 37.9 -2.4**
comp=Z,12nm,0.4s
JIRN Jiri 17.53 139 *e*P **Pn 05 58 37.9 -2.4**
comp=Z,12nm,0.4s
ARU Arti 17.55 332 *d* *i*P **Pn 05 58 39.9 -0.2**
ARU S **Sn 06 01 54.9 -0.6**
ARU pmax pmax
comp=Z,16nm,0.5s
ARU Arti 17.55 332 *e*P **Pn 05 58 37.8 -2.3**
comp=Z,23nm,0.5s
ICHK Chekchek 17.84 244 *e*P **P 05 58 45.8 +1.0**
RAMN Ramite 18.32 139 *e*P **Pn 05 58 48.3 -1.6**
comp=Z,34nm,0.8s
RAMN Ramite 18.32 139 *e*P **Pn 05 58 48.3 -1.6**
comp=Z,34nm,0.8s
ISAD Sadrabad 18.53 244 *e*P Pn 05 58 59.5 +7.0
TAPN Taplejung 18.55 136 *e*P **P 05 58 52.2 -0.4**
comp=Z,23nm,1.0s
TAPN Taplejung 18.55 136 *e*P **P 05 58 52.2 -0.4**
comp=Z,23nm,1.0s
BHPL Bhopal 18.75 168 *e*P **P 05 58 53.9 -0.8**
ODAN Odare 18.79 138 *e*P **P 05 58 54.1 -1.1**
comp=Z,14nm,0.7s
ODAN Odare 18.79 138 *e*P **P 05 58 54.1 -1.1**
comp=Z,14nm,0.7s
IZEF Zefreh 18.89 249 *e*P **Pn 05 58 58.1 +1.2**
GTA Gaotai 20.19 88 *e*P Pn 05 59 13.6 +1.3
GTA pP pP 05 59 17.1 +4.2
GTA sP sP 05 59 20.1 +6.0
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=Z,160nm,16.2s
GTA LR LR
comp=Z,160nm,14.7s
GTA LR LR
comp=Z,310nm,18.1s
IPAR Pars 20.26 241 *e*P Pn 05 59 13.5 +0.1
ISRV Sarvestan 20.53 240 *e*P Pn 05 59 17.9 +1.3
NGP Nagpur 21.08 165 *e*P **P 05 59 17.5 -2.5**
MOY Mondy 21.27 53 *e*P P 05 59 27.5 +5.6
GNI Garni 21.65 275 *e*P **P 05 59 28.6 +2.4**
comp=Z,20nm,0.8s
GNI Garni 21.65 275 P **P 05 59 28.4 +2.2**
comp=Z,22nm,0.9s,baz=4.5,slow=3.4,SNR=7.5
ZEI Tsey 21.79 283 *e*P **P 05 59 28.2 +0.5**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
ZAK Zakamensk 22.35 57 *e*P **P 05 59 36.1 +2.5**
ZAK pmax pmax
comp=Z,7.0nm,1.9s
KBZ Khabaz 22.42 285 P **P 05 59 34.8 +0.6**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 22.42 285 P **P 05 59 34.8 +0.6**
KBZ Khabaz 22.42 285 P **P 05 59 34.8 +0.6**
comp=Z,6.1nm,1.0s,baz=110,slow=5.9,SNR=9.1
KIV Kislovodsk 22.55 286 *e*P **P 05 59 36.3 +0.6**
KIV pmax pmax
comp=Z,20nm,0.9s
KIV Kislovodsk 22.55 286 *e*P **P 05 59 36.1 +0.4**
comp=Z,14nm,0.6s
VRHR Novokhopersk 23.64 304 *e*P P 05 59 54.9 +8.2
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,40nm,0.9s
SONM Songino Array 24.09 64 P **P 05 59 52.8 +1.6**
SONM PcP **PcP 06 03 32.2 -0.1**
SONM Songino Array 24.09 64 P **P 05 59 52.8 +1.6**
comp=Z,2.3nm,0.7s,baz=275,slow=9.6,SNR=21
SONM PcP **PcP 06 03 32.2 -0.1**
comp=Z,0.4nm,0.6s,baz=260,slow=4.0,SNR=2.9
ULN Ulaanbaatar 24.53 64 *e*P **P 05 59 57.0 +1.7**
comp=Z,8.2nm,0.6s
RDF Al-Radifah 24.54 247 *e*P **P 05 59 56.8 +1.5**
RDF AMb AMB 05 59 59.7
comp=Z,35nm,0.8s
NAY Al-Naaiem 24.55 248 *e*P **P 05 59 56.6 +1.2**
NAY AMb AMB 05 59 59.2
comp=Z,60nm,0.7s
RST Umm Al-Ruwaisa 24.57 249 *e*P **P 05 59 56.3 +0.7**
RST AMb AMB 05 59 59.2
comp=Z,719nm,0.7s
HYB Hyderabad 24.64 168 *i*P **P 05 59 57.0 +0.7**
VSR Storozhevoye 25.19 304 *e*P **P 05 59 59.6 -1.4**
VSR pmax pmax
comp=N,1.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,9.0nm,0.7s
PRGR Permogore 25.97 329 P **P 06 00 07.8 -0.1**
PRGR pmax pmax
comp=Z,11nm,0.5s
OBN Obninsk 27.49 312 *e*P **P 06 00 22.2 +0.6**
OBN *i* 06 01 02.9
OBN pmax pmax
comp=Z,4.0nm,1.2s
HHC Hu-ho-hao-te 28.55 79 *e*P **P 06 00 32.1 +0.6**
HHC S **S 06 05 18.6 -1.0**
BR131 Keskin Array S 30.00 280 *e*P **P 06 00 44.8 +0.4**
comp=Z,2.7nm,0.6s
BRTR Keskin Array B 30.00 280 P **P 06 00 45.1 +0.8**
BRTR Keskin Array B 30.00 280 P **P 06 00 45.1 +0.8**
comp=Z,3.3nm,0.6s,baz=101,slow=6.9,SNR=14
AKASG Malin Array Be 31.42 302 P **P 06 00 55.3 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 31.42 302 P **P 06 00 55.3 -1.3**
AKASG Malin Array Be 31.42 302 P **P 06 00 55.3 -1.3**
comp=Z,1.0nm,0.5s,baz=76,slow=8.2,SNR=12
AK01 Malin Array Si 31.43 302 *e*P **P 06 00 55.9 -0.8**
KIEV Kiev 31.43 302 *e*P **P 06 00 57.0 +0.3**
AK02 Malin Array Si 31.44 302 *e*P **P 06 00 55.6 -1.2**
SLVN Son La 32.77 119 P **P 06 01 08.6 -0.1**
comp=Z,4.5nm,0.9s
FINES FINESS Array B 34.36 321 P **P 06 01 21.5 -0.6**
FINES FINESS Array B 34.36 321 P **P 06 01 21.5 -0.6**
comp=Z,2.0nm,0.5s,baz=104,slow=8.0,SNR=9.8
ARCES ARCESS Array B 37.11 334 P **P 06 01 46.2 +0.5**
ARCES ARCESS Array B 37.11 334 P **P 06 01 46.2 +0.5**
comp=Z,5.8nm,0.4s,baz=108,slow=8.4,SNR=52
IDI Anoyia 38.07 277 P **P 06 01 54.3 0.0**
IDI Anoyia 38.07 277 P **P 06 01 54.3 0.0**
comp=Z,4.4nm,0.5s,baz=4.4,slow=12
YAK Yakutsk 38.68 39 *e*P **P 06 01 59.8 +0.8**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
TIXI Tiksi 40.23 24 *e*P **P 06 02 13.0 +1.2**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
KLR Kul'dur 40.70 59 *e*P **P 06 02 14.3 -1.7**
NB2 NORSAR Subarra 41.45 319 P **P 06 02 21.2 -0.9**
comp=Z,1.5nm,0.7s,baz=90,slow=8.6
NOA NORSAR Array B 41.45 319 P **P 06 02 21.5 -0.6**
NOA NORSAR Array B 41.45 319 P **P 06 02 21.5 -0.6**
comp=Z,1.0nm,0.5s,baz=90,slow=8.3,SNR=6.5
CLL Collm 41.54 305 *e*P **P 06 02 24.0 +1.1**
CLL Collm 41.54 305 *e*P **P 06 02 24.0 +1.1**
GERES GERESS Array B 41.62 301 P **P 06 02 23.6 -0.1**
GERES GERESS Array B 41.62 301 P **P 06 02 23.6 -0.1**
comp=Z,2.0nm,0.5s,baz=75,slow=7.9,SNR=19
USRK Ussuriysk Arra 42.17 66 P **P 06 02 30.6 +2.5**
comp=Z,0.8nm,0.6s,baz=309,slow=9.1,SNR=4.7
SPITS Spitsbergen Ar 42.86 345 P **P 06 02 34.7 +1.4**
SPITS Spitsbergen Ar 42.86 345 P **P 06 02 34.7 +1.4**
comp=Z,7.3nm,0.6s,baz=92,slow=4.6,SNR=15
LPG La Plagne 47.13 298 *e*P **P 06 03 08.6 +0.5**
LPG La Plagne 47.13 298 *e*P **P 06 03 08.6 +0.5**
LPG La Plagne 47.13 298 *e*P **P 06 03 08.6 +0.5**
LPL La Plagne 47.14 298 *e*P **P 06 03 08.0 0.0**
LPL La Plagne 47.14 298 *e*P **P 06 03 08.0 0.0**
LPL La Plagne 47.14 298 *e*P **P 06 03 08.0 0.0**
CABF La Chapelle 47.18 300 *e*P **P 06 03 09.7 +1.5**
CABF La Chapelle 47.18 300 *e*P **P 06 03 09.7 +1.5**
CABF La Chapelle 47.18 300 *e*P **P 06 03 09.7 +1.5**
MBDF Montbardon 47.39 297 *e*P **P 06 03 10.6 +0.7**
comp=Z,17nm,0.9s
MBDF Montbardon 47.39 297 *e*P **P 06 03 10.6 +0.7**
comp=Z,17nm,0.9s
AVF Avril sur Loir 48.89 301 *e*P **P 06 03 22.3 +1.0**
comp=Z,20nm,1.1s
AVF Avril sur Loir 48.89 301 *e*P **P 06 03 22.3 +1.0**
AVF pmax pmax
comp=Z,20nm,1.1s
AVF Avril sur Loir 48.89 301 *e*P **P 06 03 22.3 +1.0**
comp=Z,20nm,1.1s
SEY Seymchan 49.08 36 P **P 06 03 24.0 +1.5**
SEY pmax pmax
comp=Z,2.0nm,0.8s
SEY Seymchan 49.08 36 P **P 06 03 24.0 +1.5**
SEY Seymchan 49.08 36 P **P 06 03 24.0 +1.5**
comp=Z,1.8nm,0.8s,baz=17,slow=19,SNR=2.7
KEST Kesra 49.29 285 P **P 06 03 24.8 +0.1**
KEST Kesra 49.29 285 P **P 06 03 24.8 +0.1**
comp=Z,0.8nm,0.5s,baz=0.4,slow=11,SNR=4.7
KMBO Kilima Mbogo 53.74 227 P **P 06 03 58.3 0.0**
KMBO Kilima Mbogo 53.74 227 P **P 06 03 58.3 0.0**
comp=Z,2.7nm,0.7s,baz=52,slow=12,SNR=5.7
SUMG Summit 56.73 340 *e*P **P 06 04 21.3 +2.0**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 56.73 340 *i* P **P 06 04 21.9 +2.6**
comp=Z,5.3nm,0.9s
SUMG Summit 56.73 340 *e*P **P 06 04 21.3 +2.0**
comp=Z,6.1nm,0.9s
ESDC Sonseca Array 56.75 296 P **P 06 04 19.5 -0.1**
ESDC Sonseca Array 56.75 296 P **P 06 04 19.5 -0.1**
comp=Z,0.7nm,0.6s,baz=67,slow=6.1,SNR=5.0
SFJD Kangerlussuaq 63.55 339 P **P 06 05 05.8 +0.2**
SFJD Kangerlussuaq 63.55 339 P **P 06 05 05.8 +0.2**
comp=Z,4.5nm,0.3s,baz=111,slow=8.6,SNR=5.1
RES Resolute Bay 63.60 357 P **P 06 05 06.0 +0.2**
RES Resolute Bay 63.60 357 P **P 06 05 06.0 +0.2**
comp=Z,0.4nm,0.5s,baz=12,slow=11
TOA0 Torodi Ar. Sit 67.73 268 *e*P **P 06 05 32.2 -1.2**
TORD Torodi Ar. Bea 67.73 268 P **P 06 05 32.4 -1.0**
TORD Torodi Ar. Bea 67.73 268 P **P 06 05 32.4 -1.0**
comp=Z,4.1nm,0.5s,baz=58,slow=4.9,SNR=50
ILAR Eielson Array 69.24 17 P **P 06 05 42.4 +0.3**
ILAR Eielson Array 69.24 17 P **P 06 05 42.4 +0.3**
comp=Z,1.9nm,0.8s,baz=328,slow=5.2,SNR=19
FRB Frobisher Bay 70.61 343 P **P 06 05 50.4 -0.1**
FRB Frobisher Bay 70.61 343 P **P 06 05 50.4 -0.1**
comp=Z,6.4nm,1.0s,baz=36,slow=6.4
YKA Yellowknife Ar 75.92 4 P **P 06 06 22.1 +0.2**
YKA Yellowknife Ar 75.92 4 P **P 06 06 22.1 +0.2**
comp=Z,4.8nm,0.5s,baz=350,slow=5.9,SNR=114
DBIC Dimbokro 76.81 267 P **P 06 06 26.9 -0.8**
DBIC Dimbokro 76.81 267 P **P 06 06 26.9 -0.8**
comp=Z,3.4nm,0.9s,baz=43,slow=6.8,SNR=3.1
SCHQ Schefferville 77.98 338 P **P 06 06 33.8 +0.1**
SCHQ Schefferville 77.98 338 P **P 06 06 33.8 +0.1**
comp=Z,2.4nm,0.6s,baz=350,slow=8.5,SNR=6.1
FCC Fort Churchill 79.32 353 *e*P **P 06 06 41.4 +0.5**
FCC Fort Churchill 79.32 353 *e*P **P 06 06 41.4 +0.5**
WRA Warramunga Arr 83.29 124 P **P 06 07 02.3 -0.2**
WRA Warramunga Arr 83.29 124 P **P 06 07 02.3 -0.2**
comp=Z,0.7nm,0.8s,baz=333,slow=4.7,SNR=6.8
ASAR Alice Springs 85.82 127 P **P 06 07 14.9 -0.4**
ASAR Alice Springs 85.82 127 P **P 06 07 14.9 -0.4**
comp=Z,0.6nm,0.6s,baz=319,slow=5.1,SNR=6.8
PDAR Pinedale Array 95.83 2 P **P 06 08 02.8 +0.4**
PDAR Pinedale Array 95.83 2 P **P 06 08 02.8 +0.4**
comp=Z,0.9nm,0.6s,baz=41,slow=3.6,SNR=5.8

IDC 22 06:00:44.2± 7.2, 30.61S × 178.43W, h0 km, mb 3.7/2, mb1 4.0/2, mb1mx3.7/17, mbtmp3.7/2, Error ellipse: s-maj=302.0km s-min=56.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.73**	**267**	P	P	06 08 43.2	-0.3
	0.3nm,0.5s,baz=110,slow=7.9,SNR=5.7						
WRA	**Warramunga Arr**	**43.74**	**273**	P	P	06 08 51.5	-0.1
	0.6nm,0.3s,baz=111,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**145.21**	**340**	PKPbc	PKPbc	06 20 21.9	-0.8
	5.1nm,0.9s,baz=47,slow=6.1,SNR=2.4						

SZGRF ***22*** *06:06:07.4, 34.98N × 32.85E, h33 km, mb5.1, Cyprus region*
NSSC ***22*** *06:06:18.1± 2.3, 35.76N × 31.53E, h0 km ± 60 km, ML4.8*
BJI ***22*** *06:06:18.2, 35.78N × 31.00E, h50 km, mB5.3/36, mb5.3/58, Ms5.2/52, Ms7 4.9/51*
DDA ***22*** *06:06:18.7, 35.67N × 31.49E, h15 km, ML5.6*
NIC ***22*** *06:06:19.6± 0.2, 35.91N × 31.43E, h25 km, mb5.0, ML5.0*
ISK ***22*** *06:06:20.5, 35.62N × 31.46E, h33 km, ML5.4*
HLW ***22*** *06:06:21.5, 35.85N × 31.45E, h26 km ± 34 km, Md0.0, Ml5.0*
BGS ***22*** *06:06:21.9± 1.6, 35.63N × 31.43E, h64 km, mb5.0*
ISCJB ***22*** *06:06:21.1± 0.1, 35.66N ± 0.01 × 31.486E ± 0.010, h55 km ± 1km, mb5.2/229, MS4.7/50, Error ellipse: s-maj=1.9km s-min=1.1km az=25.8*
IDC ***22*** *06:06:22.6± 0.8, 35.87N × 31.56E, h49 km ± 6km, mb5.0/33, mb1 5.0/42, mb1mx5.0/43, mbtmp5.0/42, MS4.6/30, Ms1 4.6/30, ms1mx4.5/37, Error ellipse: s-maj=10.2km s-min=8.4km az=27.0*
MOS ***22*** *06:06:22.9± 0.9, 35.79N × 31.46E, h71 km, mb5.5/99, MS4.5/44, Error ellipse: s-maj=4.1km s-min=2.6km az=112.0*
TEH ***22*** *06:06:23.0, 35.81N × 31.48E, h52 km, ML5.3*
THE ***22*** *06:06:23.4, 35.64N × 31.47E, h28 km ± 54 km, MLS.6/5, Error ellipse: s-maj=54.0km s-min=1.1km az=68.0*
NEIC ***22*** *06:06:23.4± 0.3, 35.72N × 31.51E, h64 km ± 2km, mb5.3/137, Error ellipse: s-maj=3.9km s-min=2.4km az=195.0*
NEIC Felt [IV] at Paphos and [III] at Larnaca, Limassol and Nicosia. Also felt at Lapithos. Felt [IV] at Alanya, Turkey. Also felt at Antalya and Manavgat.
CSEM ***22*** *06:06:23.0± 0.1, 35.66N × 31.48E, h64 km, mb5.2/99, Ms4.5, Mw5.2, Error ellipse: s-maj=2.0km s-min=1.3km az=28.0*
GCMT ***22*** *06:06:24.8± 0.2, 35.50N × 31.30E, h57 km ± 1km, MW5.3*
Best double couple: NP1:ϕ=133.00000°, δ=63.00000°, λ=90.00000°. NP2:ϕ=313.00000°, δ=27.00000°, λ=90.00000°. Principal axes: T 1.0200, Plg72.0000°, Azm43.0000°; N 0.2700, Plg0.0000°, Azm133.0000°; P -1.2900, Plg18.0000°, Azm223.0000°; Data Used: II IU CU IC G CN. Surface waves from 100 sta.

ISC 22 06:06:22.3± 0.2, 35.73N ± 0.02 × 31.54E ± 0.02, h52 km ± 1km, h51 km:pP-P, n2067, σ=1.37 (2333), mb5.2/228, MS4.7/50, 190C-180D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.81**	**51**	*i* P	**Pn**	**06 06 36.2**	**-1.3**
GAZI				*i* S	**Sn**	**06 06 47.7**	**-0.9**
AKMC	**Akamas**	**0.96**	**137**	P	**Pn**	**06 06 38.4**	**-1.1**
	baz=320						
AKMC	**Akamas**	**0.96**	**137**	P	**Pn**	**06 06 38.4**	**-1.1**
AKMC	**Akamas**	**0.96**	**137**	P	**Pn**	**06 06 38.4**	**-1.1**
ALFC	**Alevga**	**1.04**	**123**	P	**Pn**	**06 06 39.2**	**-1.4**
	baz=308						
ALFC				S	**Sn**	**06 06 54.7**	**+0.5**
ALFC	**Alevga**	**1.04**	**123**	P	**Pn**	**06 06 39.2**	**-1.4**
ALFC				S	**Sn**	**06 06 54.7**	**+0.5**
ALFC	**Alevga**	**1.04**	**123**	P	**Pn**	**06 06 39.2**	**-1.4**
ALFC				S	**Sn**	**06 06 54.7**	**+0.5**
PPCY	**Paphos**	**1.07**	**142**	P	**Pn**	**06 06 40.2**	**-0.8**
	baz=324						
PPCY	**Paphos**	**1.07**	**142**	P	**Pn**	**06 06 40.2**	**-0.8**
PPCY	**Paphos**	**1.07**	**142**	P	**Pn**	**06 06 40.2**	**-0.8**
AKDN	**Akdeniz- K¨–br**	**1.25**	**110**	*e*PN	**Pn**	**06 06 43.1**	**-0.2**
AKDN				*e*SN	**Sn**	**06 06 58.7**	**-0.4**
AKDN	**Akdeniz- K¨–br**	**1.25**	**110**	*e*Pn	**Pn**	**06 06 43.1**	**-0.2**
AKDN				*e*Sn	**Sn**	**06 06 58.7**	**-0.4**
LEF	**Lefka**	**1.27**	**119**	*e*PN	**Pn**	**06 06 42.1**	**-1.5**
LEF				*e*SN	**Sn**	**06 06 57.5**	**-2.0**
LEF	**Lefka**	**1.27**	**119**	*e*Pn	**Pn**	**06 06 42.1**	**-1.5**
LEF				*e*Sn	**Sn**	**06 06 57.5**	**-2.0**
ANTB	**Antalya**	**1.36**	**329**	*e*PN	**Pn**	**06 06 44.4**	**-0.6**
ANTB	**Antalya**	**1.36**	**329**	*e*Pn	**Pn**	**06 06 44.4**	**-0.6**
ERMK	**Ermenek**	**1.44**	**50**	*i* P	**Pn**	**06 06 47.4**	**+1.3**
ERMK				*i* S	**Sn**	**06 07 09.2**	**+5.2**
ERMK	**Ermenek**	**1.44**	**50**	*i* P	**Pn**	**06 06 47.4**	**+1.3**

ERMK *i* S **Sn** 06 07 09.2 +5.2
MAMC Mammari 1.48 112 P **Pn** 06 06 45.5 -1.1
baz=297
MAMC Mammari 1.48 112 P **Pn** 06 06 45.5 -1.1
MAMC Mammari 1.48 112 P **Pn** 06 06 45.5 -1.1
AKAS Kas 1.64 288 *i* P **Pn** 06 06 49.5 +0.6
AKAS *i* Sn 06 07 19.5 +10
AKAS Kas 1.64 288 *i* P **Pn** 06 06 49.4 +0.6
CSS Prodhromos 1.66 117 *e*PN **Pn** 06 06 47.8 -1.2
CSS Prodhromos 1.66 117 P **Pn** 06 06 47.6 -1.4
baz=302
CSS S **Sn** 06 07 09.9 +0.8
CSS Prodhromos 1.66 117 P **Pn** 06 06 47.5 -1.4
CSS S **Sn** 06 07 09.9 +0.8
CSS Prodhromos 1.66 117 *e*Pn **Pn** 06 06 48.0 -1.0
CSS Prodhromos 1.66 117 P **Pn** 06 06 47.6 -1.4
CSS Prodhromos 1.66 117 *e*Pn **Pn** 06 06 48.0 -1.0
CSS S **Sn** 06 07 09.9 +0.8
ELL Elmali 1.66 308 *e*PN **Pn** 06 06 49.0 -0.1
ELL Elmali 1.66 308 *e*Pn **Pn** 06 06 49.0 -0.1
LFK Lefkose 1.69 105 *e*PN **Pn** 06 06 49.1 -0.4
LFK Lefkose 1.69 105 *e*Pn **Pn** 06 06 49.1 -0.4
SUTC Sutluce-Ispart 1.79 346 *e*PN **Pn** 06 06 51.3 +0.4
SUTC Sutluce-Ispart 1.79 346 *e*Pn **Pn** 06 06 51.3 +0.4
IKL Isikli 1.82 73 *e*PN **Pn** 06 06 51.4 +0.3
IKL Isikli 1.82 73 *e*Pn **Pn** 06 06 51.4 +0.3
BCK Bucak 1.89 336 *e*PN **Pn** 06 06 52.1 0.0
BCK Bucak 1.89 336 *e*Pn **Pn** 06 06 52.1 0.0
EREN Erenkoy 2.16 95 *e*PN **Pn** 06 06 55.2 -0.5
EREN Erenkoy 2.16 95 *e*Pn **Pn** 06 06 55.2 -0.5
GLHS Glhisar (BURDU 2.17 311 *e*PN **Pn** 06 06 55.8 -0.3
GLHS Glhisar (BURDU 2.17 311 *e*Pn **Pn** 06 06 55.8 -0.3
GOLH Golhisar 2.19 314 *i* P Pn 06 07 00.2 +3.9
ISP Isparta 2.24 339 *e*PN **Pn** 06 06 57.9 +0.9
ISP Isparta 2.24 339 P **Pn** 06 06 57.3 +0.3
ISP S **Sn** 06 07 24.9 +1.4
ISP Isparta 2.24 339 *e*P **Pn** 06 06 58.5 +1.5
ISP Isparta 2.24 339 ⍐ *i*P **Pn** 06 06 58.5 +1.5
ISP Isparta 2.24 339 *e*Pn **Pn** 06 06 58.2 +1.2
ISP S **Sn** 06 07 24.9 +1.4
ISP Isparta 2.24 339 *e*Pn **Pn** 06 06 58.2 +1.2
ISP Isparta 2.24 339 *e*P **Pn** 06 06 58.5 +1.5
ISP S **Sn** 06 07 24.9 +1.4
ISP S Sn 06 07 25.5 +1.9
KIZK Mersin 2.24 70 *i* P **Pn** 06 06 59.1 +2.2
KIZK *i* S **Sn** 06 07 26.8 +3.4
KIZK Mersin 2.24 70 *i* P **Pn** 06 06 59.1 +2.2
KIZK *i* S **Sn** 06 07 26.8 +3.4
LADK Ladik-KONYA 2.55 15 *e*PN **Pn** 06 07 02.5 +1.2
LADK Ladik-KONYA 2.55 15 *e*Pn **Pn** 06 07 02.5 +1.2
DALY Dalyan (Mu¨la 2.57 296 *e*PN **Pn** 06 07 01.1 -0.3
DALY Dalyan (Mu¨la 2.57 296 *e*Pn **Pn** 06 07 01.1 -0.3
MERS Mersin 2.67 64 *e*PN **Pn** 06 07 03.6 +0.8
MERS Mersin 2.67 64 *e*Pn **Pn** 06 07 03.6 +0.8
ARG Arkhangelos 2.81 281 P **Pn** 06 07 04.7 0.0
ARG S **Sn** 06 07 37.2 -0.1
ARG Arkhangelos 2.81 281 P **Pn** 06 07 04.7 0.0
ARG S **Sn** 06 07 37.2 -0.1
ARG Arkhangelos 2.81 281 P **Pn** 06 07 04.7 0.0
ARG S **Sn** 06 07 37.2 -0.1
ARG Arkhangelos 2.81 281 P **Pn** 06 07 04.7 0.0
ARG S **Sn** 06 07 37.2 -0.1
KARA Karaisali 3.22 61 *e*PN **Pn** 06 07 11.8 +1.4
KARA Karaisali 3.22 61 *e*Pn **Pn** 06 07 11.8 +1.4
NIG Nigde 3.42 45 *e*PN **Pn** 06 07 14.8 +1.5
NIG Nigde 3.42 45 *e*Pn **Pn** 06 07 14.9 +1.5
AYN Tasoluk 3.51 304 *i* P **Pn** 06 07 14.5 +0.1
AYDN *i* S **Sn** 06 07 49.6 -5.1
AYDN Tasoluk 3.51 304 *i* P **Pn** 06 07 14.5 +0.1
BDRM Kayabasi 3.56 293 *i* P **Pn** 06 07 16.4 +1.4
BDRM *i* S **Sn** 06 07 55.4 -0.4
BDRM Kayabasi 3.56 293 *i* P **Pn** 06 07 16.4 +1.4
BDRM *i* S **Sn** 06 07 55.4 -0.4
KARP Karpathos 3.57 268 P **Pn** 06 07 15.6 +0.5
KARP S **Sn** 06 07 54.3 -1.8
KARP Karpathos 3.57 268 P **Pn** 06 07 15.6 +0.5
KARP S **Sn** 06 07 54.3 -1.8
KARP Karpathos 3.57 268 P **Pn** 06 07 15.6 +0.5
KARP S **Sn** 06 07 54.3 -1.8
KULA Kula-Manisa 3.60 321 *e*PN **Pn** 06 07 16.5 +0.9
KULA Kula-Manisa 3.60 321 *e*Pn **Pn** 06 07 16.5 +0.9
ARNB Al Arnab 3.61 87 *e*P **Pn** 06 07 16.4 +0.7
ARNB *i* S **Sn** 06 07 57.4 +0.2
ARNB AMP 06 08 04.5
ARNB AMP 06 08 06.5
ARNB AML AML 06 08 08.9
comp=E,12µm,0.6s
ARNB Al Arnab 3.61 87 *e*P **Pn** 06 07 16.4 +0.7
SNR=45
ARNB *i* S **Sn** 06 07 57.3 +0.2
comp=E,12µm,0.6s,SNR=40
CEYT Ceyhan 3.63 68 *e*PN **Pn** 06 07 17.0 +1.0
CEYT Ceyhan 3.63 68 *e*Pn **Pn** 06 07 17.0 +1.0
MANT Manisa 3.64 320 *i* P **Pn** 06 07 17.3 +1.0
MANT *i* S Sn 06 08 06.6 +8.5
MANT Manisa 3.64 320 *i* P **Pn** 06 07 17.3 +1.0
BODT Bodrum 3.66 292 *e*PN **Pn** 06 07 17.1 +0.7
BODT Bodrum 3.66 292 *e*Pn **Pn** 06 07 17.1 +0.7
AYDB Zeytinkoy-Aydi 3.66 308 *e*PN **Pn** 06 07 17.1 +0.6
AYDB Zeytinkoy-Aydi 3.66 308 *e*Pn **Pn** 06 07 17.1 +0.6
SVRH Sivrihisar-ESK 3.71 360 *e*PN **Pn** 06 07 18.4 +1.3
SVRH Sivrihisar-ESK 3.71 360 *e*Pn **Pn** 06 07 18.4 +1.3
GDZ Gediz 3.73 335 *i* P **Pn** 06 07 18.9 +1.5
GDZ *i* S **Sn** 06 08 04.8 +4.7
GDZ Gediz 3.73 335 *i* P **Pn** 06 07 18.9 +1.5
BEYL Beirut 3.75 119 *e*P **Pn** 06 07 17.3 -0.3
BEYL Beirut 3.75 119 *e*P **Pn** 06 07 17.3 -0.3
TAHT Tahtakopru-Hat 3.82 79 *e*PN **Pn** 06 07 20.2 +1.6
TAHT Tahtakopru-Hat 3.82 79 *e*Pn **Pn** 06 07 20.2 +1.6
MATL Matarih 3.85 124 *e*P **Pn** 06 07 18.9 -0.1
MATL Matarih 3.85 124 *e*P **Pn** 06 07 18.9 -0.1
BHL Bhannes 3.85 117 *e*P **Pn** 06 07 18.1 -1.0
BHL Bhannes 3.85 117 *e*P **Pn** 06 07 18.1 -1.0
KOZT Kozan 3.87 62 *e*PN **Pn** 06 07 20.9 +1.7
KOZT Kozan 3.87 62 *e*Pn **Pn** 06 07 20.9 +1.7
HWQ Hawqa 3.90 111 *e*P **Pn** 06 07 20.3 +0.5
HWQ Hawqa 3.90 111 *e*P **Pn** 06 07 20.3 +0.5
AFSR Af¨ar-Bala (A 3.90 18 *e*PN **Pn** 06 07 22.2 +2.4
AFSR Af¨ar-Bala (A 3.90 18 *e*Pn **Pn** 06 07 22.2 +2.4
NAQL Naqoura 3.96 130 *e*P **Pn** 06 07 20.2 -0.3
GCAM G?zelcaml? 3.97 301 *i* P **Pn** 06 07 21.2 +0.5
GCAM *i* S **Sn** 06 08 03.7 -2.3
GCAM G?zelcaml? 3.97 301 *i* P **Pn** 06 07 21.2 +0.5
BIDA Albida 3.98 99 *e*P **Pn** 06 07 20.9 +0.1
BIDA *i* S **Sn** 06 08 06.2 0.0
BIDA AML AML 06 08 13.4
comp=Z,35µm,0.8s
BIDA AML AML 06 08 15.2
comp=E,28µm,0.6s
BIDA Albida 3.98 99 *e*P **Pn** 06 07 20.9 +0.1
SNR=45
BIDA *i* S **Sn** 06 08 06.2 0.0
comp=E,28µm,0.6s,SNR=40
WRDH Warideh 3.98 92 *e*P **Pn** 06 07 20.5 -0.3
WRDH *i* S **Sn** 06 08 07.4 +1.1
WRDH AML AML 06 08 25.0
comp=Z,11µm,0.5s
WRDH AML AML 06 08 27.4
comp=N,6µm,0.7s
WRDH Warideh 3.98 92 *e*P **Pn** 06 07 20.5 -0.3
SNR=45
WRDH *i* S **Sn** 06 08 07.4 +1.1
comp=N,6µm,0.7s,SNR=40
HNTI Hanita 4.00 130 Pn **Pn** 06 07 21.3 +0.2
HNTI Sn **Sn** 06 08 05.8 -1.0
BBAL Bala 4.01 18 *i* P **Pn** 06 07 23.3 +2.1
BBAL *i* S **Sn** 06 08 12.3 +5.3

BBAL Bala 4.01 18 *i* P **Pn** 06 07 23.3 +2.1
KAMT Kaman 4.02 25 *e*PN **Pn** 06 07 23.9 +2.5
KAMT Kaman 4.02 25 *e*Pn **Pn** 06 07 23.9 +2.5
HAWK Haweek 4.17 105 *e*P **Pn** 06 07 23.7 +0.2
HAWK *i* S **Sn** 06 08 09.4 -1.6
HAWK AML AML 06 08 19.5
comp=N,3µm,0.4s
HAWK AML AML 06 08 21.0
comp=Z,6µm,0.6s
HAWK Haweek 4.17 105 *e*P **Pn** 06 07 23.7 +0.2
SNR=45
HAWK *i* S **Sn** 06 08 09.4 -1.6
comp=Z,6µm,0.6s,SNR=40
RCY Rachaya 4.19 121 *e*P **Pn** 06 07 23.7 -0.1
RCY Rachaya 4.19 121 *e*P **Pn** 06 07 23.7 -0.1
MMA0B Mount Meron ar 4.19 129 Pn **Pn** 06 07 23.9 +0.1
MMA0B Sn **Sn** 06 08 10.4 -1.1
MMAI Mount Meron Ar 4.19 129 P **Pn** 06 07 24.4 +0.6
MMAI S **Sn** 06 08 09.9 -1.6
MMAI Mount Meron Ar 4.19 129 P **Pn** 06 07 24.4 +0.6
MMAI S **Sn** 06 08 09.9 -1.6
MMAI Mount Meron Ar 4.19 129 P **Pn** 06 07 24.4 +0.6
comp=Z,394nm,0.3s,baz=310,slow=11,SNR=724
MMAI S **Sn** 06 08 09.9 -1.6
comp=Z,1µm,0.3s,baz=314,slow=26,SNR=15
MMB1 Mount Meron ar 4.20 129 Pn **Pn** 06 07 24.1 +0.3
MMB1 Sn **Sn** 06 08 10.3 -1.3
BORA Eskisehir 4.23 349 *i* P **Pn** 06 07 25.3 +1.1
BORA Eskisehir 4.23 349 *i* P **Pn** 06 07 25.3 +1.1
ANTO Ankara 4.25 13 *e*PN **Pn** 06 07 27.4 +2.9
ANTO Ankara 4.25 13 *e*P **Pn** 06 07 26.5 +2.0
ANTO Ankara 4.25 13 ⍐ *i*P **Pn** 06 07 26.5 +2.0
ANTO Ankara 4.25 13 *e*Pn **Pn** 06 07 26.5 +2.0
ANTO Ankara 4.25 13 *e*P **Pn** 06 07 26.5 +2.0
KSDI Kefar Szold 4.25 125 Pn **Pn** 06 07 24.8 +0.4
KSDI Sn **Sn** 06 08 11.4 -1.3
BLGI Bet Lehem HaGe 4.26 134 Pn **Pn** 06 07 24.8 +0.2
SMG Samos 4.26 299 P **Pn** 06 07 24.6 0.0
SMG S **Sn** 06 08 12.2 -0.8
SMG Samos 4.26 299 P **Pn** 06 07 24.6 0.0
SMG S **Sn** 06 08 12.2 -0.8
SMG Samos 4.26 299 P **Pn** 06 07 24.6 0.0
SMG S **Sn** 06 08 12.2 -0.8
LOD Lodumlu 4.26 13 *e*PN **Pn** 06 07 26.7 +2.0
LOD Lodumlu 4.26 13 *e*Pn **Pn** 06 07 26.7 +2.0
FKH Fakeheh 4.27 109 *e*P **Pn** 06 07 25.6 +0.8
FKH Fakeheh 4.27 109 *e*P **Pn** 06 07 25.6 +0.8
BRBR Barbar 4.32 121 *e*P **Pn** 06 07 25.6 0.0
BRBR *i* S **Sn** 06 08 12.8 -1.9
BRBR AML AML 06 08 23.4
comp=E,8µm,0.6s
BRBR AML AML 06 08 27.6
comp=Z,4µm,0.6s
BRBR AML AML 06 08 32.5
comp=N,8µm,0.6s
BRBR Barbar 4.32 121 *e*P **Pn** 06 07 25.6 0.0
SNR=45
BRBR *i* S **Sn** 06 08 12.9 -1.9
comp=N,8µm,0.6s,SNR=40
AKS Akhisar 4.32 318 *e*PN **Pn** 06 07 25.9 +0.5
AKS Akhisar 4.32 318 *e*Pn **Pn** 06 07 25.9 +0.5
BR131 Keskin Array S 4.32 22 *e*Pn **Pn** 06 07 27.4 +1.9
BR131 *e*Sn **Sn** 06 08 13.3 -1.4
BR131 Keskin Array S 4.32 22 *e*Pn **Pn** 06 07 27.5 +1.9
BR131 *e*Sn **Sn** 06 08 13.3 -1.4
BRTR Keskin Array B 4.32 22 P **Pn** 06 07 27.1 +1.5
BRTR S **Sn** 06 08 17.8 +3.1
BRTR Keskin Array B 4.32 22 P **Pn** 06 07 27.1 +1.5
comp=N,158nm,0.3s
BRTR S **Sn** 06 08 17.8 +3.1
comp=N,17µm,19.2s
BRTR Keskin Array B 4.32 22 P **Pn** 06 07 27.1 +1.5
comp=N,158nm,0.3s,baz=191,slow=16,SNR=574
BRTR S **Sn** 06 08 17.8 +3.1
comp=N,45nm,0.3s,baz=202,slow=19,SNR=5.4
BRTR LR LR 06 09 32.4
comp=N,17µm,19.2s,baz=183,slow=45
ZKR Zakros 4.39 263 *e*PN **Pn** 06 07 26.0 -0.4
ZKR Zakros 4.39 263 P **Pn** 06 07 26.2 -0.1
ZKR S **Sn** 06 08 14.8 -1.4
ZKR Zakros 4.39 263 P **Pn** 06 07 26.2 -0.1
ZKR S **Sn** 06 08 14.8 -1.4
ZKR Zakros 4.39 263 *e*Pn **Pn** 06 07 26.0 -0.4
ZKR S **Sn** 06 08 14.8 -1.4
MARH Ras Al Marh 4.41 111 *e*P **Pn** 06 07 27.6 +0.6
MARH *i* S **Sn** 06 08 17.4 +0.3
MARH AML AML 06 08 27.6
comp=Z,7µm,0.6s
MARH AML AML 06 08 29.6
comp=E,3µm,0.5s
MARH Ras Al Marh 4.41 111 *e*P **Pn** 06 07 27.6 +0.6
SNR=45
MARH *i* S **Sn** 06 08 17.4 +0.3
comp=E,3µm,0.5s,SNR=40
BLCB Balcova 4.46 308 *e*PN **Pn** 06 07 28.0 +0.7
BLCB Balcova 4.46 308 *e*Pn **Pn** 06 07 28.0 +0.7
QASN Qassioun 4.48 118 *e*P **Pn** 06 07 28.9 +1.1
QASN *i* S **Sn** 06 08 17.4 -1.3
QASN AML AML 06 08 34.7
comp=Z,5µm,0.6s
QASN AML AML 06 08 35.3
comp=N,13µm,0.7s
QASN Qassioun 4.48 118 *e*P **Pn** 06 07 28.9 +1.1
SNR=45
QASN *i* S **Sn** 06 08 17.4 -1.3
comp=N,13µm,0.7s,SNR=40
SLTI Sal'it 4.54 139 Pn **Pn** 06 07 28.0 -0.5
SLTI Sn **Sn** 06 08 18.5 -1.5
DURS Dursunbey 4.56 329 *i* P **Pn** 06 07 30.3 +1.5
DURS *i* S **Sn** 06 08 22.0 +1.5
DURS Dursunbey 4.56 329 *i* P **Pn** 06 07 30.3 +1.5
DURS *i* S **Sn** 06 08 22.0 +1.5
KUZU Kuzuini 4.60 75 *i* P **Pn** 06 07 30.6 +1.3
KUZU *i* S **Sn** 06 08 20.6 -0.8
KUZU Kuzuini 4.60 75 *i* P **Pn** 06 07 30.6 +1.3
MMLI Mount Malkishu 4.61 134 Pn **Pn** 06 07 29.8 +0.4
MMLI Sn **Sn** 06 08 19.6 -2.0
CAVI Cavuskoy 4.66 344 *e*PN **Pn** 06 07 31.5 +1.4
CAVI Cavuskoy 4.66 344 *e*Pn **Pn** 06 07 31.5 +1.4
KMRS Kahramanmaras 4.66 66 *e*PN **Pn** 06 07 31.6 +1.4
KMRS Kahramanmaras 4.66 66 *e*Pn **Pn** 06 07 31.6 +1.4
TOTH TOTAH 4.68 119 *e*P **Pn** 06 07 31.5 +1.1
TOTH *i* S **Sn** 06 08 23.4 -0.1
TOTH AML AML 06 08 34.1
comp=E,5µm,0.8s
TOTH AML AML 06 08 36.6
comp=Z,3µm,0.4s
TOTH TOTAH 4.68 119 *e*P **Pn** 06 07 31.5 +1.1
SNR=45
TOTH *i* S **Sn** 06 08 23.4 -0.1
comp=Z,3µm,0.4s,SNR=40
MDUB Mudurnu 4.74 357 *e*PN **Pn** 06 07 32.8 +1.5
MDUB Mudurnu 4.74 357 *e*Pn **Pn** 06 07 32.8 +1.5
GULT Gulveren 4.76 351 *e*PN **Pn** 06 07 34.2 +2.7
GULT Gulveren 4.76 351 *e*Pn **Pn** 06 07 34.2 +2.7
TCHB Talchebab 4.78 128 *e*P **Pn** 06 07 32.5 +0.7
TCHB *i* S **Sn** 06 08 26.1 +0.2
TCHB AML AML 06 08 36.2
comp=E,7µm,0.4s
TCHB AML AML 06 08 45.0
comp=Z,7µm,0.6s
TCHB Talchebab 4.78 128 *e*P **Pn** 06 07 32.5 +0.7
SNR=45
TCHB *i* S **Sn** 06 08 26.1 +0.2
comp=Z,7µm,0.6s,SNR=40
ORLT Orhaneli 4.78 335 *e*PN **Pn** 06 07 34.0 +2.2
ORLT Orhaneli 4.78 335 *e*Pn **Pn** 06 07 34.0 +2.2
HMDT Nahal Hemdat 4.80 135 Pn **Pn** 06 07 32.6 +0.6
HMDT Sn **Sn** 06 08 24.6 -1.7
BTAS Taskesti 4.85 355 *i* P **Pn** 06 07 34.5 +1.8
BTAS *i* S **Sn** 06 08 32.9 +5.3
BTAS Taskesti 4.85 355 *i* P **Pn** 06 07 34.5 +1.8
NPS Neapolis 4.85 266 P **Pn** 06 07 32.7 -0.1
NPS S **Sn** 06 08 27.0 -0.7
NPS Neapolis 4.85 266 P **Pn** 06 07 32.7 -0.1
NPS S **Sn** 06 08 27.0 -0.7
NPS Neapolis 4.85 266 P **Pn** 06 07 32.7 -0.1
NPS S **Sn** 06 08 27.0 -0.7
NPS Neapolis 4.85 266 P **Pn** 06 07 32.7 -0.1
NPS S **Sn** 06 08 27.0 -0.7
ADVT Abdulvahap 4.90 344 *e*PN **Pn** 06 07 35.6 +2.2
ADVT Abdulvahap 4.90 344 *e*Pn **Pn** 06 07 35.6 +2.2
YOZ Yozgat 4.92 36 *e*PN **Pn** 06 07 36.8 +3.0

YOZ Yozgat 4.92 36 *e*Pn **Pn** 06 07 36.8 +3.0
SANT Santorini 4.96 279 *e*PN **Pn** 06 07 34.3 0.0
SANT Santorini 4.96 279 P **Pn** 06 07 34.0 -0.3
SANT S **Sn** 06 08 28.8 -1.6
SANT Santorini 4.96 279 *e*Pn **Pn** 06 07 34.2 -0.1
SANT *e*Sn **Sn** 06 08 27.9 -2.5
SANT S **Sn** 06 08 28.8 -1.6
SANT Santorini 4.96 279 *e*Pn **Pn** 06 07 34.2 -0.1
SANT *e*Sn **Sn** 06 08 27.9 -2.5
SANT S **Sn** 06 08 28.8 -1.6
LAST Lasithi 4.98 265 P **Pn** 06 07 34.5 0.0
LAST Lasithi 4.98 265 P **Pn** 06 07 34.5 0.0
LAST Lasithi 4.98 265 P **Pn** 06 07 34.5 0.0
ROOS tl_alroos 4.98 107 *e*P **Pn** 06 07 35.5 +1.0
ROOS *i* S **Sn** 06 08 32.1 +1.3
ROOS AML AML 06 08 42.3
comp=Z,30nm,0.4s
ROOS AML AML 06 08 42.9
comp=E,62nm,0.5s
ROOS tl_alroos 4.98 107 *e*P **Pn** 06 07 35.5 +1.0
SNR=45
ROOS *i* S **Sn** 06 08 32.1 +1.3
comp=E,62nm,0.5s,SNR=40
ELDT Eldivan 4.98 17 *i* P **Pn** 06 07 36.4 +1.8
ELDT *i* S **Sn** 06 08 35.8 +4.9
ELDT Eldivan 4.98 17 *i* P **Pn** 06 07 36.4 +1.8
ELDT *i* S **Sn** 06 08 35.8 +4.9
APE Apeiranthos 5.02 287 *e*PN **Pn** 06 07 36.3 +1.2
APE Apeiranthos 5.02 287 P **Pn** 06 07 36.0 +0.9
APE S **Sn** 06 08 30.9 -1.0
APE Apeiranthos 5.02 287 *e*P **Pn** 06 07 35.2 +0.1
APE Apeiranthos 5.02 287 ⍐ *i*P **Pn** 06 07 35.7 +0.6
APE Apeiranthos 5.02 287 P **Pn** 06 07 36.0 +0.9
APE S **Sn** 06 08 30.9 -1.0
APE Apeiranthos 5.02 287 *e*P **Pn** 06 07 35.2 +0.1
APE Apeiranthos 5.02 287 *e*Pn **Pn** 06 07 36.3 +1.2
APE S **Sn** 06 08 30.9 -1.0
SPNC Sapanca-Adapaz 5.04 349 *e*PN **Pn** 06 07 37.7 +2.5
SPNC Sapanca-Adapaz 5.04 349 *e*Pn **Pn** 06 07 37.7 +2.5
GEMT Gemlik 5.04 339 *e*PN **Pn** 06 07 37.7 +2.3
GEMT Gemlik 5.04 339 *e*Pn **Pn** 06 07 37.7 +2.3
CORM Corum 5.07 28 *e*PN **Pn** 06 07 38.9 +3.1
CORM Corum 5.07 28 *e*Pn **Pn** 06 07 38.9 +3.1
MDNY Mudanya-Bursa 5.08 336 *e*PN **Pn** 06 07 37.7 +1.9
MDNY Mudanya-Bursa 5.08 336 *e*Pn **Pn** 06 07 37.7 +1.9
BCAM Yenicaga 5.09 5 *i* P **Pn** 06 07 37.2 +1.1
BCAM *i* S **Sn** 06 08 34.1 +0.4
BCAM Yenicaga 5.09 5 *i* P **Pn** 06 07 37.2 +1.1
BCAM *i* S **Sn** 06 08 34.1 +0.4
CHOS Chios island 5.12 303 *e*PN **Pn** 06 07 37.2 +0.8
CHOS Chios island 5.12 303 P **Pn** 06 07 36.9 +0.4
CHOS Chios island 5.12 303 P **Pn** 06 07 36.9 +0.4
CHOS Chios island 5.12 303 P **Pn** 06 07 36.9 +0.4
CHOS Chios island 5.12 303 *e*Pn **Pn** 06 07 37.3 +0.8
CANT Cankiri 5.13 18 *e*PN **Pn** 06 07 39.4 +2.8
KCTX Karacabey (Bur 5.17 332 *e*PN **Pn** 06 07 38.8 +1.7
KCTX Karacabey (Bur 5.17 332 *e*Pn **Pn** 06 07 38.8 +1.7
SLMH Al Salmeh 5.21 83 *e*P **Pn** 06 07 37.5 -0.1
SLMH *i* S **Sn** 06 08 35.4 -0.9
SLMH AML AML 06 08 58.9
comp=Z,6µm,0.6s
SLMH AML AML 06 08 59.1
comp=N,9µm,0.7s
SLMH Al Salmeh 5.21 83 *e*P **Pn** 06 07 37.5 -0.1
SNR=45
SALA Sala 5.26 124 *e*P **Pn** 06 07 39.3 +0.9
SALA *i* S **Sn** 06 08 38.3 +0.5
SALA AML AML 06 08 51.2
comp=E,274nm,0.7s
SALA AML AML 06 08 51.4
comp=Z,4µm,0.6s
SALA Sala 5.26 124 *e*P **Pn** 06 07 39.3 +0.9
SNR=45
SALA *i* S **Sn** 06 08 38.3 +0.5
comp=Z,4µm,0.6s,SNR=40
ARMT Armutlu 5.26 337 *e*PN **Pn** 06 07 39.5 +1.1
ARMT Armutlu 5.26 337 *e*Pn **Pn** 06 07 39.5 +1.1
GONE Gonen-Balikesi 5.27 326 *e*PN **Pn** 06 07 40.0 +1.5
GONE Gonen-Balikesi 5.27 326 *e*Pn **Pn** 06 07 40.0 +1.5
HRT Hereke 5.29 344 *e*PN **Pn** 06 07 40.9 +2.1
HRT Hereke 5.29 344 *e*Pn **Pn** 06 07 40.9 +2.1
HBRG Burj al 'Arab 5.34 196 P **Pn** 06 07 40.0 +0.6
baz=195
HBRG AMP 06 08 00.0
comp=E,5160µm,0.3s,logA/T=7.2,baz=195
HBRG Burj al 'Arab 5.34 196 P **Pn** 06 07 40.0 +0.6
KZIT Kziot 5.38 153 Pn **Pn** 06 07 39.9 -0.1
BNT Bandirma 5.42 329 *e*PN **Pn** 06 07 42.0 +1.4
BNT Bandirma 5.42 329 *e*Pn **Pn** 06 07 42.0 +1.4
IDI Anoyia 5.44 267 *e*PN **Pn** 06 07 41.0 +0.1
IDI Anoyia 5.44 267 P **Pn** 06 07 40.2 -0.6
IDI S **Sn** 06 08 41.2 -0.9
IDI Anoyia 5.44 267 *e*Pn **Pn** 06 07 40.0 -0.9
IDI S **Sn** 06 08 39.1 -3.0
IDI *e*Sn **Sn** 06 08 41.0 -1.1
IDI S **Sn** 06 08 41.2 -0.9
IDI Anoyia 5.44 267 P **Pn** 06 07 40.2 -0.6
IDI Anoyia 5.44 267 *e*Pn **Pn** 06 07 41.0 +0.1
IDI S **Sn** 06 08 39.1 -3.0
IDI Anoyia 5.44 267 P **Pn** 06 07 40.2 -0.6
comp=E,68nm,0.3s,baz=77,slow=14,SNR=118
IDI S **Sn** 06 08 39.1 -3.0
comp=E,145nm,0.3s,baz=288,slow=16,SNR=5.4
EDC Edincik 5.44 329 *e*PN **Pn** 06 07 43.1 +2.3
EDC Edincik 5.44 329 *e*Pn **Pn** 06 07 43.1 +2.3
PRK Paraskevi 5.46 312 P **Pn** 06 07 42.0 +1.0
PRK Paraskevi 5.46 312 P **Pn** 06 07 42.0 +1.0
PRK Paraskevi 5.46 312 P **Pn** 06 07 42.0 +1.0
PRK Paraskevi 5.46 312 P **Pn** 06 07 42.0 +1.0
DARE Darende-Malaty 5.53 57 *e*PN **Pn** 06 07 44.4 +2.3
DARE Darende-Malaty 5.53 57 *e*Pn **Pn** 06 07 44.4 +2.3
SIVA Sivas 5.54 265 P **Pn** 06 07 42.3 +0.1
SIVA S **Sn** 06 08 42.5 -2.0
SIVA Sivas 5.54 265 P **Pn** 06 07 42.3 +0.1
SIVA S **Sn** 06 08 42.5 -2.0
SIVA Sivas 5.54 265 P **Pn** 06 07 42.3 +0.1
SIVA S **Sn** 06 08 42.5 -2.0
ZALF Zalf 5.56 119 *e*P **Pn** 06 07 43.1 +0.6
ZALF *i* S **Sn** 06 08 46.4 +1.4
ZALF AML AML 06 09 02.1
comp=N,2µm,0.5s
ZALF AML AML 06 09 02.6
comp=Z,1µm,0.7s
ZALF Zalf 5.56 119 *e*P **Pn** 06 07 43.1 +0.6
SNR=45
ZALF *i* S **Sn** 06 08 46.4 +1.4
comp=Z,1µm,0.7s,SNR=40
KDZE Karadeniz Ereo 5.57 359 *e*PN **Pn** 06 07 45.7 +3.1
KDZE Karadeniz Ereo 5.57 359 *e*Pn **Pn** 06 07 45.7 +3.1
SAFT Safranbolu 5.57 9 *e*PN **Pn** 06 07 44.7 +2.1
SAFT Safranbolu 5.57 9 *e*Pn **Pn** 06 07 44.7 +2.1
SILT Sile 5.61 345 *e*PN **Pn** 06 07 44.8 +1.7
SILT Sile 5.61 345 *e*Pn **Pn** 06 07 44.8 +1.7
TOS Tosya 5.64 20 *e*PN **Pn** 06 07 46.4 +2.8
TOS Tosya 5.64 20 *e*Pn **Pn** 06 07 46.4 +2.8
MATC Matruh 5.66 221 P **Pn** 06 07 42.1 -1.7
baz=220
MATC Matruh 5.66 221 P **Pn** 06 07 42.1 -1.7
SIGR SIGRI 5.70 309 P **Pn** 06 07 45.1 +0.8
SIGR SIGRI 5.70 309 P **Pn** 06 07 45.1 +0.8
SIGR SIGRI 5.70 309 P **Pn** 06 07 45.1 +0.8
ASF Jabal al Asfar 5.70 127 P **Pn** 06 07 46.1 +1.6
ASF S **Sn** 06 08 49.5 +0.9
ASF Jabal al Asfar 5.70 127 P **Pn** 06 07 46.1 +1.6
comp=Z,14nm,0.3s,baz=286,slow=3.3,SNR=56
ASF S **Sn** 06 08 49.5 +0.9
comp=Z,55nm,0.3s,baz=54,slow=3.5,SNR=5.8
ASF LR LR 06 10 22.5
comp=Z,2µm,19.0s,baz=268,slow=42
ATAB Bozova 5.71 70 *i* P **Pn** 06 07 45.8 +1.3
ATAB *i* S **Sn** 06 08 52.2 +3.5
ATAB Bozova 5.71 70 *i* P **Pn** 06 07 45.8 +1.3
ATAB *i* S **Sn** 06 08 52.2 +3.5
KRBG Karabiga-Canak 5.73 326 *e*PN **Pn** 06 07 46.9 +2.2
KRBG Karabiga-Canak 5.73 326 *e*Pn **Pn** 06 07 46.9 +2.2
RMNI Mount Ramon 5.79 151 Pn **Pn** 06 07 45.9 +0.2
SQR 5.84 183 P **Pn** 06 07 46.5 +0.2
baz=183
SQR 5.84 183 P **Pn** 06 07 46.5 +0.2
KLYT Kilyos 5.85 341 *e*PN **Pn** 06 07 48.9 +2.6
KLYT Kilyos 5.85 341 *e*Pn **Pn** 06 07 48.9 +2.6
BGKT Bogazkoy 5.86 339 *e*PN **Pn** 06 07 48.2 +1.8

BGKT **Bogazkoy** 5.86 339 *e*Pn **Pn** 06 07 48.2 +1.8
HMAT **Matruh** 5.93 220 P **Pn** 06 07 46.5 -1.0
baz=219
HMAT AMP 06 09 00.0
comp=E,1110µm,0.4s,logA/T=6.5,baz=219
HMAT **Matruh** 5.93 220 P **Pn** 06 07 46.5 -1.0
HMYD **Mayadein** 5.95 186 P **Pn** 06 07 48.0 +0.2
baz=186
HMYD **Mayadein** 5.95 186 P **Pn** 06 07 48.0 +0.2
LPK **Lapseki** 5.97 322 *e*PN **Pn** 06 07 50.1 +2.1
LPK **Lapseki** 5.97 322 *e*Pn **Pn** 06 07 50.1 +2.1
SUZ 5.98 169 P **Pn** 06 07 48.4 +0.2
baz=168
SUZ 5.98 169 P **Pn** 06 07 48.4 +0.2
CTKS **Kestanelik-??a** 5.99 338 *e*PN **Pn** 06 07 50.5 +2.3
CTKS **Kestanelik-??a** 5.99 338 *e*Pn **Pn** 06 07 50.5 +2.3
VAM **Vamos** 5.99 269 P **Pn** 06 07 48.3 0.0
VAM **Vamos** 5.99 269 P **Pn** 06 07 48.3 0.0
VAM **Vamos** 5.99 269 P **Pn** 06 07 48.3 0.0
VAM **Vamos** 5.99 269 P **Pn** 06 07 48.3 0.0
ZFRI **Zfri** 6.00 148 Pn **Pn** 06 07 48.2 -0.3
SVSK **Karacayir** 6.01 44 *e*PN **Pn** 06 07 51.6 +3.0
SVSK **Karacayir** 6.01 44 *e*Pn **Pn** 06 07 51.6 +3.0
AYT **Al 'Ayyat** 6.02 183 P **Pn** 06 07 49.3 +0.5
baz=183
AYT **Al 'Ayyat** 6.02 183 P **Pn** 06 07 49.3 +0.5
KSRV **Kasrt alli** 6.07 87 *e*P **Pn** 06 07 49.6 +0.2
KSRV AML AML 06 09 32.4
comp=Z,991nm,0.6s
KSRV **Kasrt alli** 6.07 87 *e*P **Pn** 06 07 49.6 +0.2
SNR=45
SLVT **Silivri** 6.08 336 *e*PN **Pn** 06 07 52.1 +2.7
SLVT **Silivri** 6.08 336 *e*Pn **Pn** 06 07 52.2 +2.7
MALT **Malatya** 6.09 63 *i*P **Pn** 06 07 51.2 +1.5
MALT **Malatya** 6.09 63 Pn **Pn** 06 07 51.8 +2.1
HSAF **As Saff** 6.10 180 P **Pn** 06 07 49.5 -0.4
baz=179
HSAF **As Saff** 6.10 180 P **Pn** 06 07 49.4 -0.4
PRNI **Paran** 6.11 151 Pn **Pn** 06 07 49.5 -0.5
TKR **Tekirdag** 6.12 330 *e*PN **Pn** 06 07 52.1 +2.1
TKR **Tekirdag** 6.12 330 *e*Pn **Pn** 06 07 52.1 +2.1
GELI **Tayfur-Gelibol** 6.13 321 *e*PN **Pn** 06 07 51.7 +1.5
GELI **Tayfur-Gelibol** 6.13 321 *e*Pn **Pn** 06 07 51.7 +1.5
GLL **Jalalah** 6.14 179 P **Pn** 06 07 50.2 -0.3
baz=177
GLL **Jalalah** 6.14 179 P **Pn** 06 07 50.2 -0.3
MRMA **Marmari** 6.18 294 P **Pn** 06 07 52.1 +1.1
MRMA **Marmari** 6.18 294 P **Pn** 06 07 52.1 +1.1
KRMI **Paran Flat** 6.21 154 Pn **Pn** 06 07 50.8 -0.6
KRMI Sn **Sn** 06 08 59.9 -1.2
KARN **Karanos** 6.22 269 P **Pn** 06 07 50.6 -0.9
KARN S **Sn** 06 09 00.5 -0.7
KARN **Karanos** 6.22 269 P **Pn** 06 07 50.6 -0.9
KARN **Karanos** 6.22 269 P **Pn** 06 07 50.6 -0.9
KARN S **Sn** 06 09 00.5 -0.7
CTYL **Yal??k??y-??at** 6.27 337 *e*PN **Pn** 06 07 53.9 +1.8
CTYL **Yal??k??y-??at** 6.27 337 *e*Pn **Pn** 06 07 53.9 +1.8
MNKR **ALMNKUR** 6.29 86 *e*P **Pn** 06 07 52.8 +0.4
MNKR AML AML 06 09 38.9
comp=Z,1µm,0.6s
MNKR **ALMNKUR** 6.29 86 *e*P **Pn** 06 07 52.8 +0.4
SNR=45
ERIK **Erikli-Kesan** 6.32 323 *e*PN **Pn** 06 07 55.2 +2.4
ERIK **Erikli-Kesan** 6.32 323 *e*Pn **Pn** 06 07 55.2 +2.4
KVT **Kavak** 6.41 32 *e*PN **Pn** 06 07 57.3 +2.9
KVT **Kavak** 6.41 32 *e*Pn **Pn** 06 07 57.0 +2.9
ZNM 6.44 170 P **Pn** 06 07 54.5 -0.1
baz=169
ZNM 6.44 170 P **Pn** 06 07 54.4 -0.1
ZAF 6.49 172 P **Pn** 06 07 54.5 -0.7
baz=171
ZAF 6.49 172 P **Pn** 06 07 54.5 -0.7
BZK **Bozkurt** 6.51 16 *e*PN **Pn** 06 07 58.4 +3.0
BZK **Bozkurt** 6.51 16 *e*Pn **Pn** 06 07 58.4 +3.0
LIA **Limnos Island** 6.52 311 P **Pn** 06 07 56.6 +1.0
LIA **Limnos Island** 6.52 311 P **Pn** 06 07 56.6 +1.0
LIA **Limnos Island** 6.52 311 P **Pn** 06 07 56.6 +1.0
ENEZ **Enez** 6.55 321 *e*PN **Pn** 06 07 57.9 +2.0
ENEZ **Enez** 6.55 321 *e*Pn **Pn** 06 07 57.9 +2.0
PTL **Penteli** 6.57 293 P **Pn** 06 07 57.9 +1.6
PTL **Penteli** 6.57 293 P **Pn** 06 07 57.9 +1.6
PTL **Penteli** 6.57 293 P **Pn** 06 07 57.9 +1.6
DIKM **Dikmen** 6.58 25 *e*PN **Pn** 06 07 59.5 +3.0
DIKM **Dikmen** 6.58 25 *e*Pn **Pn** 06 07 59.5 +3.0
ATHU **Athens Univers** 6.60 292 P **Pn** 06 07 58.2 +1.5
ATHU **Athens Univers** 6.60 292 P **Pn** 06 07 58.2 +1.5
ATHU **Athens Univers** 6.60 292 P **Pn** 06 07 58.2 +1.5
ATH **Athens Observa** 6.65 292 P **Pn** 06 07 58.8 +1.4
ATH **Athens Observa** 6.65 292 P **Pn** 06 07 58.8 +1.4
ATH **Athens Observa** 6.65 292 P **Pn** 06 07 58.8 +1.4
ATH **Athens Observa** 6.65 292 P **Pn** 06 07 58.8 +1.4
PHSR **Pinarhisar** 6.67 333 *e*PN **Pn** 06 07 59.8 +2.2
PHSR **Pinarhisar** 6.67 333 *e*Pn **Pn** 06 07 59.8 +2.2
SMTH **Samothraki Isl** 6.69 317 P **Pn** 06 07 58.5 +0.6
SMTH **Samothraki Isl** 6.69 317 P **Pn** 06 07 58.5 +0.6
SMTH **Samothraki Isl** 6.69 317 P **Pn** 06 07 58.5 +0.6
ANKY **Antikythira Is** 6.69 274 P **Pn** 06 07 57.4 -0.6
ANKY S **Sn** 06 09 12.7 -0.1
ANKY **Antikythira Is** 6.69 274 P **Pn** 06 07 57.4 -0.6
ANKY S **Sn** 06 09 12.7 -0.1
EIL **Elat** 6.70 154 P **Pn** 06 07 58.1 +0.1
EIL S **Sn** 06 09 10.1 -2.9
EIL **Elat** 6.70 154 P **Pn** 06 07 58.2 +0.1
EIL S **Sn** 06 09 10.1 -2.9
EIL **Elat** 6.70 154 P **Pn** 06 07 58.1 +0.1
comp=Z,48nm,0.3s,baz=327,slow=8.4,SNR=265
EIL S **Sn** 06 09 10.1 -2.9
comp=Z,129nm,0.3s,baz=43,slow=15,SNR=7.5
EIL LR LR 06 11 08.7
comp=Z,2µm,19.5s,baz=341,slow=42
ALN **Alexandroupoli** 6.72 322 *e*PN **Pn** 06 08 00.3 +2.0
ALN **Alexandroupoli** 6.72 322 P **Pn** 06 07 59.4 +1.1
ALN **Alexandroupoli** 6.72 322 P **Pn** 06 07 59.4 +1.1
ALN **Alexandroupoli** 6.72 322 P **Pn** 06 07 59.4 +1.1
ALN **Alexandroupoli** 6.72 322 P **Pn** 06 07 59.4 +1.1
ALN **Alexandroupoli** 6.72 322 *e*Pn **Pn** 06 08 00.3 +2.0
ERET **Eretria** 6.74 296 P **Pn** 06 07 59.6 +0.9
ERET **Eretria** 6.74 296 P **Pn** 06 07 59.6 +0.9
DID **Didima** 6.90 287 P **Pn** 06 08 02.0 +1.1
DID **Didima** 6.90 287 P **Pn** 06 08 02.0 +1.1
DID **Didima** 6.90 287 P **Pn** 06 08 02.0 +1.1
KYTH **Kithira** 6.91 277 P **Pn** 06 08 00.5 -0.5
KYTH **Kithira** 6.91 277 P **Pn** 06 08 00.5 -0.5
KYTH **Kithira** 6.91 277 P **Pn** 06 08 00.5 -0.5
SFNV **Sufian** 6.98 82 *e*P **Pn** 06 08 02.1 +0.1
SFNV AML AML 06 09 57.1
comp=Z,1µm,0.5s
SFNV **Sufian** 6.98 82 *e*P **Pn** 06 08 02.1 +0.1
SNR=45
AOS **Alonnisos** 6.99 302 *e*PN **Pn** 06 08 03.6 +1.6
AOS **Alonnisos** 6.99 302 P **Pn** 06 08 04.1 +2.1
AOS **Alonnisos** 6.99 302 P **Pn** 06 08 04.1 +2.1
AOS **Alonnisos** 6.99 302 *e*Pn **Pn** 06 08 03.6 +1.6
AOS **Alonnisos** 6.99 302 P **Pn** 06 08 04.1 +2.1
MRKA **Markates** 7.00 297 P **Pn** 06 08 03.4 +1.2
MRKA **Markates** 7.00 297 P **Pn** 06 08 03.4 +1.2
VLI **Veliai** 7.02 281 P **Pn** 06 08 02.0 -0.4
VLI S **Sn** 06 09 20.9 0.0
VLI **Veliai** 7.02 281 P **Pn** 06 08 02.0 -0.4
VLI S **Sn** 06 09 20.9 0.0
VLI **Veliai** 7.02 281 P **Pn** 06 08 02.0 -0.4
VLI S **Sn** 06 09 20.9 0.0
HBST **Basata** 7.04 157 P **Pn** 06 08 02.5 -0.2
baz=156
HBST **Basata** 7.04 157 P **Pn** 06 08 02.5 -0.2
HRDS **Abu Rudays** 7.16 167 P **Pn** 06 08 03.9 -0.5
baz=167
RDO **Rodhopi** 7.17 321 P **Pn** 06 08 06.4 +2.0
RDO **Rodhopi** 7.17 321 P **Pn** 06 08 06.4 +2.0
RDO **Rodhopi** 7.17 321 P **Pn** 06 08 06.4 +2.0
LTK **Loutraki** 7.24 291 P **Pn** 06 08 06.8 +1.4
LTK **Loutraki** 7.24 291 P **Pn** 06 08 06.8 +1.4
LTK **Loutraki** 7.24 291 P **Pn** 06 08 06.8 +1.4
SKIA **Skiathos** 7.28 300 P **Pn** 06 08 07.5 +1.6
SKIA **Skiathos** 7.28 300 P **Pn** 06 08 07.5 +1.6
LTBQ **Tobruq** 7.32 242 *i* P **Pn** 06 08 04.8 -1.7
SNR=22
KBSD **Kabsdagh** 7.38 77 *e*P **Pn** 06 08 08.3 +0.9
KBSD AML AML 06 10 08.5
comp=Z,779nm,0.5s
KBSD **Kabsdagh** 7.38 77 *e*P **Pn** 06 08 08.3 +0.9
SNR=45
PAIG **Paliouri** 7.49 306 P **Pn** 06 08 11.3 +2.4
PAIG **Paliouri** 7.49 306 P **Pn** 06 08 11.3 +2.4
PAIG **Paliouri** 7.49 306 P **Pn** 06 08 11.3 +2.4
PAIG **Paliouri** 7.49 306 P **Pn** 06 08 11.3 +2.4
OUR **Ouranopolis** 7.52 310 P **Pn** 06 08 10.9 +1.6
OUR **Ouranopolis** 7.52 310 P **Pn** 06 08 10.9 +1.6
OUR **Ouranopolis** 7.52 310 P **Pn** 06 08 10.9 +1.6
OUR **Ouranopolis** 7.52 310 P **Pn** 06 08 10.9 +1.6
VLX **Vlachokerasia** 7.55 285 P **Pn** 06 08 10.7 +0.9
VLX **Vlachokerasia** 7.55 285 P **Pn** 06 08 10.7 +0.9
VLX **Vlachokerasia** 7.55 285 P **Pn** 06 08 10.7 +0.9
XOR **Xorichti** 7.55 301 P **Pn** 06 08 10.9 +1.1
XOR **Xorichti** 7.55 301 P **Pn** 06 08 10.9 +1.1
XOR **Xorichti** 7.55 301 P **Pn** 06 08 10.9 +1.1
KDZ **Kurdzhali** 7.60 323 ||*i*P **Pn** 06 08 12.1 +1.7
KAVA **Kavala** 7.62 316 P **Pn** 06 08 11.6 +1.0
KAVA **Kavala** 7.62 316 P **Pn** 06 08 11.6 +1.0
KAVA **Kavala** 7.62 316 P **Pn** 06 08 11.6 +1.0
DSF **Desfina** 7.68 293 P **Pn** 06 08 13.9 +2.4
DSF **Desfina** 7.68 293 P **Pn** 06 08 13.9 +2.4
DSF **Desfina** 7.68 293 P **Pn** 06 08 13.9 +2.4
GUR **Goura** 7.69 289 P **Pn** 06 08 13.4 +1.7
GUR **Goura** 7.69 289 P **Pn** 06 08 13.4 +1.7
GUR **Goura** 7.69 289 P **Pn** 06 08 13.4 +1.7
JMB **Yambol** 7.75 332 P **Pn** 06 08 14.9 +2.5
JMB **Yambol** 7.75 332 P **Pn** 06 08 14.9 +2.5
JMB **Yambol** 7.75 332 ||*i*P **Pn** 06 08 15.4 +3.0
JMB **Yambol** 7.75 332 P **Pn** 06 08 14.9 +2.5
JMB **Yambol** 7.75 332 P **Pn** 06 08 14.9 +2.5
FYTO **Fytoko, Volos** 7.75 301 P **Pn** 06 08 14.0 +1.6
FYTO **Fytoko, Volos** 7.75 301 P **Pn** 06 08 14.0 +1.6
FYTO **Fytoko, Volos** 7.75 301 P **Pn** 06 08 14.0 +1.6
KLV **Kalavryta, Ach** 7.87 290 P **Pn** 06 08 16.1 +2.0
KLV **Kalavryta, Ach** 7.87 290 P **Pn** 06 08 16.1 +2.0
KLV **Kalavryta, Ach** 7.87 290 P **Pn** 06 08 16.1 +2.0
ITM **Ithomi** 7.88 283 P **Pn** 06 08 14.9 +0.7
ITM S **Sn** 06 09 41.6 -0.3
ITM **Ithomi** 7.88 283 P **Pn** 06 08 14.9 +0.7
ITM S **Sn** 06 09 41.6 -0.3
ITM **Ithomi** 7.88 283 P **Pn** 06 08 14.9 +0.7
ITM S **Sn** 06 09 41.6 -0.3
PLG **Polygyros** 7.88 308 P **Pn** 06 08 16.1 +1.8
PLG **Polygyros** 7.88 308 P **Pn** 06 08 16.1 +1.8
PLG **Polygyros** 7.88 308 P **Pn** 06 08 16.1 +1.8
PLG **Polygyros** 7.88 308 P **Pn** 06 08 16.1 +1.8
KALE **Kalithea** 7.96 292 P **Pn** 06 08 18.0 +2.6
KALE **Kalithea** 7.96 292 P **Pn** 06 08 18.0 +2.6
KALE **Kalithea** 7.96 292 P **Pn** 06 08 18.0 +2.6
PYL **PYLOS** 7.99 281 P **Pn** 06 08 15.5 -0.2
PYL **PYLOS** 7.99 281 P **Pn** 06 08 15.5 -0.2
PYL **PYLOS** 7.99 281 P **Pn** 06 08 15.5 -0.2
AGG **Agios Georgios** 8.03 297 P **Pn** 06 08 18.3 +2.0
AGG **Agios Georgios** 8.03 297 P **Pn** 06 08 18.3 +2.0
AGG **Agios Georgios** 8.03 297 P **Pn** 06 08 18.3 +2.0
AGG **Agios Georgios** 8.03 297 P **Pn** 06 08 18.3 +2.0
LAKA **Lakka** 8.05 291 P **Pn** 06 08 18.8 +2.3
LAKA **Lakka** 8.05 291 P **Pn** 06 08 18.8 +2.3
LAKA **Lakka** 8.05 291 P **Pn** 06 08 18.8 +2.3
AMT **Artemida-Makis** 8.10 286 P **Pn** 06 08 19.2 +1.9
AMT **Artemida-Makis** 8.10 286 P **Pn** 06 08 19.2 +1.9
EFP **Efpalio** 8.15 292 P **Pn** 06 08 20.7 +2.8
MAKR **Makrakomi, Fth** 8.17 296 P **Pn** 06 08 20.9 +2.7
MAKR **Makrakomi, Fth** 8.17 296 P **Pn** 06 08 20.9 +2.7
MAKR **Makrakomi, Fth** 8.17 296 P **Pn** 06 08 20.9 +2.7
DRO **Drossia** 8.18 289 P **Pn** 06 08 19.4 +1.0
DRO **Drossia** 8.18 289 P **Pn** 06 08 19.4 +1.0
SOH **Sokhos** 8.20 311 P **Pn** 06 08 20.3 +1.7
SOH **Sokhos** 8.20 311 P **Pn** 06 08 20.3 +1.7
SOH **Sokhos** 8.20 311 P **Pn** 06 08 20.3 +1.7
SOH **Sokhos** 8.20 311 P **Pn** 06 08 20.3 +1.7
NVR **Nevrokopi** 8.22 315 P **Pn** 06 08 20.2 +1.3
NVR **Nevrokopi** 8.22 315 P **Pn** 06 08 20.2 +1.3
NVR **Nevrokopi** 8.22 315 P **Pn** 06 08 20.2 +1.3
SRS **Serrai** 8.23 313 P **Pn** 06 08 20.2 +1.2
SRS **Serrai** 8.23 313 P **Pn** 06 08 20.2 +1.2
SRS **Serrai** 8.23 313 P **Pn** 06 08 20.2 +1.2
SRS **Serrai** 8.23 313 P **Pn** 06 08 20.2 +1.2
PLD **Plovdiv** 8.29 322 P **Pn** 06 08 21.4 +1.5
PLD S **Sn** 06 09 54.3 +2.2
PLD **Plovdiv** 8.29 322 P **Pn** 06 08 21.4 +1.5
PLD S **Sn** 06 09 54.3 +2.2
PLD **Plovdiv** 8.29 322 P **Pn** 06 08 21.4 +1.5
PLD S **Sn** 06 09 54.3 +2.2
PLD **Plovdiv** 8.29 322 P **Pn** 06 08 21.4 +1.5
PLD S **Sn** 06 09 54.3 +2.2
PSN **Preselentsi** 8.35 343 ||*i*P **Pn** 06 08 22.0 +1.4
LIT **Litokhoron** 8.37 304 P **Pn** 06 08 23.1 +2.1
LIT **Litokhoron** 8.37 304 P **Pn** 06 08 23.1 +2.1
LIT **Litokhoron** 8.37 304 P **Pn** 06 08 23.1 +2.1
LIT **Litokhoron** 8.37 304 P **Pn** 06 08 23.1 +2.1
EVR **Evrytania** 8.37 295 P **Pn** 06 08 23.3 +2.2
EVR **Evrytania** 8.37 295 P **Pn** 06 08 23.3 +2.2
EVR **Evrytania** 8.37 295 P **Pn** 06 08 23.3 +2.2
MANR **Mangalia** 8.38 345 ||*i*P **Pn** 06 08 23.8 +2.7
RLS **Riolos of Patr** 8.39 289 P **Pn** 06 08 24.0 +2.8
RLS **Riolos of Patr** 8.39 289 P **Pn** 06 08 24.0 +2.8
MMB **Musomiste** 8.45 316 *i*P **Pn** 06 08 23.0 +0.9
HHRG **Al Ghardaqah** 8.66 168 P **Pn** 06 08 26.0 +1.0
baz=167
HHRG **Al Ghardaqah** 8.66 168 P **Pn** 06 08 26.0 +1.0
KNT **Kendrikon** 8.67 311 P **Pn** 06 08 27.1 +2.0
KNT **Kendrikon** 8.67 311 P **Pn** 06 08 27.1 +2.0
KNT **Kendrikon** 8.67 311 P **Pn** 06 08 27.1 +2.0
KNT **Kendrikon** 8.67 311 P **Pn** 06 08 27.1 +2.0
PDO **Prodromos** 8.74 292 P **Pn** 06 08 28.2 +2.2
PDO **Prodromos** 8.74 292 P **Pn** 06 08 28.2 +2.2
MSAB **Monastry St. A** 8.82 342 ||*i*P **Pn** 06 08 30.0 +3.0
GRG **Griva** 8.87 309 P **Pn** 06 08 30.2 +2.4
GRG **Griva** 8.87 309 P **Pn** 06 08 30.2 +2.4
GRG **Griva** 8.87 309 P **Pn** 06 08 30.2 +2.4
GRG **Griva** 8.87 309 P **Pn** 06 08 30.2 +2.4
KFL **Anninata** 8.93 289 P **Pn** 06 08 29.8 +1.2
KFL **Anninata** 8.93 289 P **Pn** 06 08 29.8 +1.2
SEV **Sevastopol'** 8.95 10 *e*P **Pn** 06 08 32.0 +3.2
SEV S **Sn** 06 10 10.6 +2.4
SEV pmax pmax
comp=Z,14nm,0.5s
SEV smax smax
comp=N,48nm,0.6s
SEV **Sevastopol'** 8.95 10 *e*P **Pn** 06 08 32.0 +3.2
comp=N,14nm,0.5s
SEV *e*S **Sn** 06 10 10.6 +2.4
comp=N,48nm,0.6s
VAY **Valandovo** 8.97 311 P **Pn** 06 08 31.6 +2.5
VAY **Valandovo** 8.97 311 P **Pn** 06 08 31.6 +2.5
VAY **Valandovo** 8.97 311 P **Pn** 06 08 31.6 +2.5
VAY **Valandovo** 8.97 311 *i* Pn **Pn** 06 08 31.8 +2.7
VAY **Valandovo** 8.97 311 P **Pn** 06 08 31.6 +2.5
YAL **Yalta** 8.97 12 *e*P **Pn** 06 08 31.7 +2.6
YAL S **Sn** 06 10 08.7 +0.1
YAL pmax pmax
comp=Z,1µm,1.6s
YAL smax smax
comp=N,195nm,1.0s
YAL smax smax
comp=E,152nm,1.2s
YAL MLR MLR
comp=Z,30µm,15.5s
YAL **Yalta** 8.97 12 *e*P **Pn** 06 08 31.7 +2.6
comp=Z,1µm,1.6s
YAL *e*S **Sn** 06 10 08.7 +0.1
comp=Z,30µm,15.5s
TIRR **Tirgusor** 9.04 346 *e*P **Pn** 06 08 32.9 +2.9
TIRR **Tirgusor** 9.04 346 *i*P **Pn** 06 08 32.7 +2.7
TIRR **Tirgusor** 9.04 346 *e*Pn **Pn** 06 08 31.8 +1.8
TIRR **Tirgusor** 9.04 346 *e*Pn **Pn** 06 08 31.8 +1.8
TIRR **Tirgusor** 9.04 346 *e*P **Pn** 06 08 32.9 +2.9
VLS **Valsamata** 9.09 289 P **Pn** 06 08 31.4 +0.5
VLS **Valsamata** 9.09 289 P **Pn** 06 08 31.4 +0.5
VLS **Valsamata** 9.09 289 P **Pn** 06 08 31.4 +0.5
VLS **Valsamata** 9.09 289 P **Pn** 06 08 31.4 +0.5
ALU **Alushta** 9.20 13 *e*P **Pn** 06 08 34.9 +2.6
ALU *e*S **Sn** 06 10 15.5 +1.2
ALU pmax pmax
comp=Z,96nm,0.5s
ALU smax smax
comp=N,195nm,0.8s
ALU smax smax
comp=E,111nm,0.6s
ALU **Alushta** 9.20 13 *e*P **Pn** 06 08 34.9 +2.6
comp=E,96nm,0.5s
ALU *e*S **Sn** 06 10 15.5 +1.2
comp=E,195nm,0.8s
TLB **Topalu** 9.24 344 ||*i*P **Pn** 06 08 34.3 +1.6
HARR **Harsova** 9.36 344 *e*P **Pn** 06 08 36.6 +2.2
HARR **Harsova** 9.36 344 ||*i*P **Pn** 06 08 36.7 +2.3
HARR **Harsova** 9.36 344 *e*P **Pn** 06 08 36.6 +2.2
SIM **Simferopol'** 9.41 11 *e*P **Pn** 06 08 38.6 +3.4
SIM *e*S **Sn** 06 10 20.5 +1.0
SIM pmax pmax
comp=Z,507nm,1.3s
SIM smax smax
comp=N,320nm,1.0s
SIM smax smax
comp=E,161nm,1.4s
SIM MLR MLR
comp=Z,3µm,16.5s
SIM **Simferopol'** 9.41 11 *e*P Pn 06 08 38.6 +3.4
comp=Z,507nm,1.3s
SIM *e*S **Sn** 06 10 20.5 +1.0
comp=Z,3µm,16.5s
VTS **Vitosha** 9.41 319 P **Pn** 06 08 37.8 +2.5
VTS **Vitosha** 9.41 319 P **Pn** 06 08 37.8 +2.5
VTS **Vitosha** 9.41 319 ||*i*P **Pn** 06 08 37.8 +2.5
VTS **Vitosha** 9.41 319 P **Pn** 06 08 37.8 +2.5
VTS **Vitosha** 9.41 319 P **Pn** 06 08 37.8 +2.5
FNA **Florina** 9.45 305 P **Pn** 06 08 38.3 +2.6
FNA **Florina** 9.45 305 P **Pn** 06 08 38.3 +2.6
FNA **Florina** 9.45 305 P **Pn** 06 08 38.3 +2.6
FNA **Florina** 9.45 305 P **Pn** 06 08 38.3 +2.6
NEST **Nestorio** 9.49 303 P **Pn** 06 08 39.1 +2.7
NEST **Nestorio** 9.49 303 P **Pn** 06 08 39.1 +2.7
SUDU **Sudak** 9.52 15 *e*P **Pn** 06 08 38.9 +2.3
SUDU *e*S **Sn** 06 10 22.1 0.0
SUDU pmax pmax
comp=Z,148nm,0.6s
SUDU smax smax
comp=N,98nm,0.6s
SUDU smax smax
comp=E,58nm,0.6s
SUDU **Sudak** 9.52 15 *e*P **Pn** 06 08 38.9 +2.3
comp=E,148nm,0.6s
TLCR 9.67 348 *e*P **Pn** 06 08 41.7 +3.1
TLCR 9.67 348 ||*i*P **Pn** 06 08 41.7 +3.1
TLCR 9.67 348 *e*P **Pn** 06 08 41.7 +3.1
FEO **Feodosiya** 9.73 16 *e*P Pn 06 08 42.7 +3.2
FEO *e*S **Sn** 06 10 27.5 +0.3
FEO pmax pmax
comp=Z,562nm,1.2s
FEO smax smax
comp=N,262nm,0.9s
FEO smax smax
comp=E,665nm,1.0s
FEO **Feodosiya** 9.73 16 *e*P Pn 06 08 42.7 +3.2
comp=E,562nm,1.2s
FEO *e*S **Sn** 06 10 27.5 +0.3
comp=E,262nm,0.9s
CFR **Carcaliu** 9.78 346 ||*i*P **Pn** 06 08 41.6 +1.4
SRN **Sarande** 10.02 298 P **Pn** 06 08 45.7 +2.2
SRN **Sarande** 10.02 298 P **Pn** 06 08 45.7 +2.2
SRN **Sarande** 10.02 298 P **Pn** 06 08 45.7 +2.2
SOC **Sochi** 10.06 36 *c i*P **Pn** 06 08 45.8 +1.8
SOC *e* 06 10 37.2
SOC pmax pmax
comp=Z,200nm,1.0s
SOC MLR MLR
comp=Z,6µm,14.0s
SOC MLR MLR
comp=E,4µm,14.0s
SOC MLR MLR
comp=N,4µm,14.0s
SOC **Sochi** 10.06 36 *i* P **Pn** 06 08 45.8 +1.8
comp=N,6µm,14.0s
SOC *e*S **Sn** 06 10 37.2 +1.9
comp=N,4µm,14.0s
KEK **Kerkira** 10.11 297 P **Pn** 06 08 46.5 +1.8
KEK **Kerkira** 10.11 297 P **Pn** 06 08 46.5 +1.8
KEK **Kerkira** 10.11 297 P **Pn** 06 08 46.5 +1.8
ANN **Anapa** 10.11 25 *c i*P **Pn** 06 08 46.1 +1.4
ANN *e*S **Sn** 06 10 41.6 +5.0
ANN pmax pmax
comp=Z,475nm,1.6s
ANN pmax pmax
comp=E,146nm,1.6s
ANN **Anapa** 10.11 25 *i* P **Pn** 06 08 46.1 +1.4
comp=E,475nm,1.6s
ANN *e*S **Sn** 06 10 41.6 +5.0
ISR **Istrita** 10.12 339 *e*P **Pn** 06 08 47.0 +2.2
ISR **Istrita** 10.12 339 ||*i*P **Pn** 06 08 47.0 +2.2
ISR **Istrita** 10.12 339 *e*P **Pn** 06 08 47.0 +2.2
MLR **Muntele Rosu** 10.63 338 ||*i*P **Pn** 06 08 54.5 +2.5
MLR **Muntele Rosu** 10.63 338 P **Pn** 06 08 54.4 +2.5
MLR ScP **ScP** 06 18 19.9 +0.2
MLR **Muntele Rosu** 10.63 338 P **Pn** 06 08 54.4 +2.5
comp=E,1.0nm,0.3s
MLR ScP **ScP** 06 18 19.9 +0.2
MLR **Muntele Rosu** 10.63 338 P **Pn** 06 08 54.4 +2.5
comp=E,0.5nm,0.3s,baz=159,slow=1.5,SNR=20
MLR ScP **ScP** 06 18 19.9 +0.2
comp=E,0.1nm,0.3s,baz=190,slow=7.7,SNR=4.0
MTUR **Matau** 10.68 335 ||*i*P **Pn** 06 08 54.2 +1.6
CHVG **Ch'k'valeri** 10.75 46 P Pn 06 08 57.4 +4.0
VRI **Vrincioaia** 10.76 342 ||*i*P **Pn** 06 08 55.8 +2.3
PLOR **Plostina** 10.76 341 ||*i*P **Pn** 06 08 51.3 -2.3
LUJL **Ujela** 10.87 236 *i* P **Pn** 06 08 52.7 -2.5
SNR=22
VOIR 10.87 335 ||*i*P **Pn** 06 08 57.5 +2.3
ARR **Arges** 10.96 334 ||*i*P **Pn** 06 08 57.5 +1.2
DOPR **Dopca** 11.23 337 ||*i*P **Pn** 06 09 02.1 +2.1
GNI **Garni** 11.32 63 *e*Pn Pn 06 09 05.7 +4.3
GNI **Garni** 11.32 63 P **Pn** 06 09 04.5 +3.1
comp=E,5µm,18.5s
GNI **Garni** 11.32 63 *e*Pn Pn 06 09 05.7 +4.3
GNI **Garni** 11.32 63 P **Pn** 06 09 04.5 +3.1
comp=E,4.3nm,0.3s,baz=312,slow=4.4,SNR=31
GNI LR LR 06 14 10.6
comp=E,5µm,18.5s,baz=264,slow=42
LOT **Lotru** 11.35 331 ||*i*P **Pn** 06 09 04.8 +3.0
TESR **Tescani** 11.38 343 ||*i*P **Pn** 06 09 03.3 +1.3
KIS **Kishinev** 11.44 351 *e*P **Pn** 06 09 03.0 +0.2
KIS **Kishinev** 11.44 351 *i* PP Pn 06 09 10.0 +7.2
comp=E,500nm,2.0s
KIS *i* S **Sn** 06 11 11.0 +2.0
comp=E,1µm,1.0s
KIS LRM MLR 06 14 12.0
comp=E,2µm,16.0s
IAZR **Azarshahr** 11.76 76 *e*P **Pn** 06 09 10.4 +2.9
IAZR **Azarshahr** 11.76 76 *e*P **Pn** 06 09 10.4 +2.9
KBZ **Khabaz** 11.84 44 P **Pn** 06 09 11.2 +3.0
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ MLR MLR
comp=Z,4µm,21.3s
KBZ **Khabaz** 11.84 44 P **Pn** 06 09 11.2 +3.0
KBZ **Khabaz** 11.84 44 P **Pn** 06 09 11.2 +3.0
comp=Z,4µm,21.3s
KBZ **Khabaz** 11.84 44 P **Pn** 06 09 11.2 +3.0
comp=Z,1.1nm,0.3s,baz=226,slow=10,SNR=34
KBZ LR LR 06 14 37.0
comp=Z,4µm,21.3s,baz=234,slow=42
KIV **Kislovodsk** 11.86 43 Pn Pn 06 09 13.2 +4.5
comp=Z,1µm,1.2s,SNR=13
KIV **Kislovodsk** 11.86 43 *e*P **Pn** 06 09 10.3 +1.6
KIV *e*S **Sn** 06 11 22.1 +2.6
KIV pmax pmax
comp=Z,215nm,1.1s
KIV MLR MLR
comp=Z,780nm,10.0s
KIV **Kislovodsk** 11.86 43 *e*Pn Pn 06 09 12.9 +4.2
KIV **Kislovodsk** 11.86 43 *e*P **Pn** 06 09 10.3 +1.6
comp=Z,215nm,1.1s
KIV **Kislovodsk** 11.86 43 *e*Pn Pn 06 09 12.9 +4.2
KIV *e*S **Sn** 06 11 22.1 +2.6
comp=Z,780nm,10.0s
ZEI **Tsey** 11.89 50 *e*P Pn 06 09 12.9 +3.7
ZEI pmax pmax
comp=Z,52nm,0.8s
ZEI **Tsey** 11.89 50 *e*P Pn 06 09 12.9 +3.7
comp=Z,52nm,0.8s
ITBZ **Tabriz** 11.95 74 *e*P Pn 06 09 13.7 +3.6
ITBZ **Tabriz** 11.95 74 *e*P Pn 06 09 13.7 +3.6
SEAG **Tbilisi Sea** 11.98 56 P Pn 06 09 19.8 +10
DUS **Dusheti** 12.05 54 P **P** 06 09 19.8 -3.0

GUDG **Gudauri** 12.09 52 P **P** 06 09 25.4 +2.1
TIP **Timpagrande** 12.23 291 *e*Pn **Pn** 06 09 11.8 -2.1
TIP *e*Sn Sn 06 11 15.3 -13
TIP Timpagrande 12.23 291 *e*Pn **Pn** 06 09 11.8 -2.1
TIP *e*Sn Sn 06 11 15.3 -13
IGHG **Ghaleghazi** 12.40 92 *e*P **Pn** 06 09 18.9 +2.6
IGHG **Ghaleghazi** 12.40 92 *e*P **Pn** 06 09 18.9 +2.6
IBST **Bostanabad** 12.48 76 *e*P **Pn** 06 09 20.3 +3.0
IBST **Bostanabad** 12.48 76 *e*P **Pn** 06 09 20.3 +3.0
IVIS **Veis** 12.60 91 *e*P P 06 09 24.4 -4.5
ILIN **Lien** 12.63 89 *e*P **Pn** 06 09 21.6 +2.2
ILIN **Lien** 12.63 89 *e*P **Pn** 06 09 21.6 +2.2
IHRS **Heris** 12.66 74 *e*P Pn 06 09 23.2 +3.4
IHRS **Heris** 12.66 74 *e*P Pn 06 09 23.2 +3.4
CEL **Celeste** 12.76 286 *e*Pn Pn 06 09 17.5 -3.4
CEL **Celeste** 12.76 286 *e*Pn Pn 06 09 17.5 -3.4
BURAR **Bucovina Array** 12.77 340⇑ *i*P **Pn** 06 09 24.1 +3.0
GOF **Gofitskoye** 12.78 40⇓ *i*P **Pn** 06 09 24.1 +2.9
GOF pmax pmax
comp=Z,360nm,1.4s
GOF Gofitskoye 12.78 40 *i* P **Pn** 06 09 24.1 +2.9
comp=Z,360nm,1.4s
BUR08 **Bucovina Ar. S** 12.80 340 *e*Pn **Pn** 06 09 24.6 +3.1
BUR08 **Bucovina Ar. S** 12.80 340 *e*Pn **Pn** 06 09 24.6 +3.1
DRGR 12.88 332⇓ *i*P **Pn** 06 09 25.1 +2.6
ISRB **Sarab** 13.10 76 *e*P Pn 06 09 29.5 +3.7
ISRB **Sarab** 13.10 76 *e*P Pn 06 09 29.5 +3.7
CUC **Castrocucco** 13.13 294 *e*Pn **Pn** 06 09 25.7 -0.3
CUC **Castrocucco** 13.13 294 *e*Pn **Pn** 06 09 25.7 -0.3
IKOM **Komasi** 13.20 92 *e*P **Pn** 06 09 29.3 +2.2
IKOM **Komasi** 13.20 92 *e*P **Pn** 06 09 29.3 +2.2
BMR **Baia Mare** 13.35 336⇑ *i*P **Pn** 06 09 30.5 +1.6
TRPA **Tarpa** 14.07 334⇓ *i*P **Pn** 06 09 41.4 +2.8
TRPA **Tarpa** 14.07 334 *e*Pn **P** 06 09 45.7 +0.7
PKSM **Moragy** 14.28 321⇑ *i*P **Pn** 06 09 44.1 +2.6
PKSM **Moragy** 14.28 321 *e*Pn **P** 06 09 45.7 -1.6
UZH **Uzhgorod** 14.58 335 *e*P **P** 06 09 50.6 -0.1
UZH *e*S Sn 06 12 33.0 +7.4
UZH MLR MLR
comp=Z,2µm,19.0s
UZH Uzhgorod 14.58 335 *e*P **P** 06 09 50.6 -0.1
comp=Z,2µm,19.0s
PKS9 **Tamasi** 14.72 322 *e*Pn **P** 06 09 52.3 +0.1
NAY **Al-Naaiem** 14.74 112 *e*P **P** 06 09 50.6 -2.0
NAY AMb AMB 06 09 59.5
comp=Z,180nm,0.9s
NAY Al-Naaiem 14.74 112 *e*P **P** 06 09 50.6 -2.0
comp=Z,180nm,0.9s
CLTB **Caltabellotta** 14.82 283 *e*Pn **Pn** 06 09 50.6 +1.8
CLTB **Caltabellotta** 14.82 283 *e*Pn **Pn** 06 09 50.6 +1.8
KOLS **Kolonicke sedl** 14.85 336 *e*P **P** 06 09 55.4 +1.7
KOLS pmax pmax
comp=Z,62nm,0.7s
KOLS **Kolonicke sedl** 14.85 336 *e*P **P** 06 09 55.4 +1.7
KOLS **Kolonicke sedl** 14.85 336 *e*P **P** 06 09 55.4 +1.7
comp=Z,62nm,0.7s
PSZ **Piszkesteto** 14.93 328 *e*P **P** 06 09 55.3 +0.7
PSZ **Piszkesteto** 14.93 328⇑ *i*P **P** 06 09 53.3 -1.4
PSZ **Piszkesteto** 14.93 328 *e*P **P** 06 09 55.3 +0.7
PSZ **Piszkesteto** 14.93 328 *e*P **P** 06 09 55.3 +0.7
IRAZ **Razeghan** 14.98 86 *e*P **P** 06 09 53.4 -2.0
AK02 **Malin Array Si** 15.01 354 *e*Pn **Pn** 06 09 50.4 -0.6
AK02 **Malin Array Si** 15.01 354 *e*Pn **Pn** 06 09 50.4 -0.6
AK01 **Malin Array Si** 15.04 354 *e*Pn **Pn** 06 09 51.3 -0.2
AK01 **Malin Array Si** 15.04 354 *e*Pn **Pn** 06 09 51.3 -0.2
KIEV **Kiev** 15.05 354 *c i*P **Pn** 06 09 53.1 +1.6
KIEV **Kiev** 15.05 354 *e*Pn **Pn** 06 09 51.5 0.0
KIEV **Kiev** 15.05 354 *e*Pn **Pn** 06 09 51.5 0.0
AKASG **Malin Array Be** 15.05 354 *ce*P **Pn** 06 09 49.7 -1.9
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG **Malin Array Be** 15.05 354 P **Pn** 06 09 50.1 -1.4
AKASG S **Sn** 06 12 30.9 -6.2
AKASG ScP **ScP** 06 18 24.9 -1.3
AKASG **Malin Array Be** 15.05 354 P **Pn** 06 09 50.2 -1.4
AKASG S **Sn** 06 12 30.9 -6.2
AKASG **Malin Array Be** 15.05 354 P **Pn** 06 09 50.1 -1.4
comp=Z,3.4nm,0.3s,baz=172,slow=11,SNR=30
AKASG S **Sn** 06 12 30.9 -6.2
comp=Z,2.6nm,0.3s,baz=173,slow=23,SNR=5.7
AKASG LR LR 06 16 36.8
comp=Z,2µm,19.9s,baz=160,slow=41
AKASG ScP **ScP** 06 18 24.9 -1.3
comp=Z,0.9nm,0.3s,baz=148,slow=1.4,SNR=7.5
AKBB Malin Array Si 15.05 354 *e*P **Pn** 06 09 50.6 -1.0
AKBB Malin Array Si 15.05 354 *e*Pn **Pn** 06 09 50.5 -1.0
AKBB Malin Array Si 15.05 354 *e*Pn **Pn** 06 09 50.5 -1.0
CRVS **Cervenica-Dubn** 15.10 334 *e*P **P** 06 09 55.2 -1.3
CRVS pmax pmax
comp=Z,10.0nm,1.3s
CRVS Cervenica-Dubn 15.10 334 *e*P **P** 06 09 55.2 -1.3
CRVS Cervenica-Dubn 15.10 334 *e*P **P** 06 09 55.2 -1.3
comp=Z,10.0nm,1.3s
LVV **L'vov** 15.11 341 *e*P **P** 06 09 59.0 +2.5
LVV MLR MLR
comp=Z,2µm,17.0s
LVV L'vov 15.11 341 *e*P **P** 06 09 59.0 +2.5
comp=Z,2µm,17.0s
KBD **Kabd** 15.12 111 *e*P **P** 06 09 55.6 -1.2
KBD AMb AMB 06 10 03.8
comp=Z,128nm,1.3s
KBD Kabd 15.12 111 *e*P **P** 06 09 55.6 -1.2
comp=Z,128nm,1.3s
RDF **Al-Radifah** 15.14 112 *e*P **P** 06 09 56.2 -0.8
RDF AMb AMB 06 10 04.0
comp=Z,290nm,0.8s
RDF Al-Radifah 15.14 112 *e*P **P** 06 09 56.2 -0.8
comp=Z,290nm,0.8s
PKST **T''s** 15.30 323 *e*Pn **P** 06 09 59.5 +0.8
KWP **Kalwaria Pacla** 15.31 338 *e*P **P** 06 09 59.6 +0.8
KWP pmax pmax
comp=Z,320nm,1.0s
KWP **Kalwaria Pacla** 15.31 338 *e*P **P** 06 10 00.6 +1.7
KWP *e*S **S** 06 12 59.3 +1.8
KWP LMZ LR 06 15 49.7
KWP Kalwaria Pacla 15.31 338 *e*P **P** 06 09 59.6 +0.8
comp=Z,320nm,1.0s
KWP Kalwaria Pacla 15.31 338 *e*P **P** 06 09 59.6 +0.8
comp=Z,320nm,1.0s
KWP *e*S **S** 06 12 59.3 +1.8
NVLJ Novalja 15.47 310 P **P** 06 10 00.2 -0.4
NVLJ Novalja 15.47 310 *i* P **P** 06 10 00.2 -0.4
IR5 **Iran Long-Peri** 15.53 86 *e*P **Pn** 06 09 59.7 +1.7
IR5 **Iran Long-Peri** 15.53 86 *e*P **Pn** 06 09 59.7 +1.7
STHS **Stebnicka Huta** 15.61 334 *e*P **P** 06 10 03.5 +1.3
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 15.61 334 *e*P **P** 06 10 03.4 +1.3
STHS Stebnicka Huta 15.61 334 *e*P **P** 06 10 03.5 +1.3
comp=Z,8.0nm,0.9s
BOJS Bojanci 15.72 313 *i* Pn **P** 06 10 03.9 +0.4
CRES Cresnjev 15.78 315 *e*Pn **Pn** 06 10 02.0 +1.0
NIE Niedzica 15.95 332 *e*P **P** 06 10 07.5 +1.5
NIE Niedzica 15.95 332 *e*P **P** 06 10 07.5 +1.5
NIE *es*P **sP** 06 10 22.2 -1.9
NIE Niedzica 15.95 332 *e*P **P** 06 10 07.5 +1.5
VORD Divnogorie 16.22 18 *e*P **Pn** 06 10 06.5 0.0
VORD pmax pmax
comp=N,250nm,1.0s
VORD pmax pmax
comp=E,150nm,1.0s
VORD pmax pmax
comp=Z,70nm,1.0s
VORD MLR MLR
comp=N,870nm,17.0s
VORD MLR MLR
comp=E,450nm,17.0s
VORD MLR MLR
comp=Z,1µm,17.0s
SOP Sopron 16.32 322 *e*Pn **P** 06 10 10.3 +0.3
CEY Cerknica 16.34 313 *i* Pn **P** 06 10 11.1 +0.9
VSR Storozhevoye 16.42 17 *e*P **Pn** 06 10 08.8 -0.2
VSR pmax pmax
comp=N,60nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,70nm,0.6s
VSR MLR MLR
comp=N,700nm,19.0s
VSR MLR MLR
comp=E,750nm,19.0s
VSR MLR MLR
comp=Z,1µm,19.0s
IVRN Varamin 16.49 87 *e*P **Pn** 06 10 09.7 -0.4
SOKA Soboth 16.51 317⇑ *i*Pn **Pn** 06 10 10.9 +0.6
comp=Z,27nm,0.7s,SNR=8.4
SOKA Soboth 16.51 317 Pn **Pn** 06 10 10.9 +0.6
comp=Z,27nm,0.7s,SNR=8.4
ARSA Arzberg 16.59 319⇑ *i*P **P** 06 10 14.0 +1.0
comp=Z,51nm,0.9s,SNR=15
ARSA Arzberg 16.59 319 P **P** 06 10 14.0 +1.0
comp=Z,51nm,0.9s,SNR=15
CRNS **Crni Vrh** 16.62 314 *e*Pn **Pn** 06 10 12.2 +0.5
JAVS **Javornik** 16.64 313 *e*Pn **P** 06 10 13.5 -0.2
IDMV **Damavand** 16.66 85 *e*P **P** 06 10 14.1 -0.1
IDMV **Damavand** 16.66 85 *e*P **P** 06 10 14.1 -0.1
OBKA **Obir** 16.69 315⇓ *i*P **P** 06 10 14.7 +0.5
comp=Z,34nm,0.8s
OBKA Obir 16.69 315 P **P** 06 10 14.7 +0.5
comp=Z,34nm,0.8s
IKLH **Kolahrood** 16.69 93 *e*P **P** 06 10 14.1 -0.4
IKLH **Kolahrood** 16.69 93 *e*P **P** 06 10 14.1 -0.4
OJC **Ojcow** 16.80 333 *e*P **P** 06 10 15.8 +0.5
OJC **Ojcow** 16.80 333 *e*P **P** 06 10 15.8 +0.5
OJC *es*P **sP** 06 10 31.9 -1.6
OJC Ojcow 16.80 333 *e*P **P** 06 10 15.8 +0.5
VOY Vojsko 16.81 313 *e*Pn **P** 06 10 16.2 +0.6
VOY *e* 06 10 32.4
CONA Conrad Observa 16.84 321⇑ *i*Pn **Pn** 06 10 14.9 +0.5
comp=Z,15nm,0.9s
CONA Conrad Observa 16.84 321 Pn **Pn** 06 10 14.9 +0.5
comp=Z,15nm,0.9s
IPRN Peran 16.85 82 *e*P **P** 06 10 17.5 +1.4
VOR Voronezh 16.91 17 *e*P **Pn** 06 10 14.0 -1.1
VOR pmax pmax
comp=Z,300nm,2.0s
VRHR Novokhopersk 16.99 22 *e*P **P** 06 10 17.2 -0.1
VRHR pmax pmax
comp=N,180nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,190nm,0.6s
VRHR MLR MLR
comp=N,850nm,18.0s
VRHR MLR MLR
comp=E,650nm,18.0s
VRHR MLR MLR
comp=Z,2µm,18.0s
VRHR Novokhopersk 16.99 22 *e*P **P** 06 10 17.2 -0.1
OKC Ostrava-Krasne 17.14 329 *e*P **P** 06 10 19.7 +0.6
OKC MLR MLR
comp=Z,2µm,12.8s
OKC Ostrava-Krasne 17.14 329 *e*P **P** 06 10 19.7 +0.6
OKC *ex* x 06 10 25.3
OKC *e*S **S** 06 13 38.3 +3.5
OKC AMS AMS 06 18 20.0
comp=Z,2µm,12.8s
OKC Ostrava-Krasne 17.14 329 *e*P **P** 06 10 19.7 +0.6
comp=Z,2µm,12.8s
IFIR Firoozkooh 17.24 84 *e*P **P** 06 10 22.5 +1.9
IFIR Firoozkooh 17.24 84 *e*P **P** 06 10 22.5 +1.9
IALA **Alasht** 17.24 83 *e*P **P** 06 10 22.5 +1.9
IALA **Alasht** 17.24 83 *e*P **P** 06 10 22.5 +1.9
MYKA **Terra Mystica** 17.28 315⇓ *i*P **P** 06 10 20.7 +0.1
comp=Z,46nm,0.5s,SNR=7.7
MORC Moravsky Berou 17.35 328 *e*P **P** 06 10 21.5 +0.1
MORC pmax pmax
comp=Z,34nm,0.8s
MORC Moravsky Berou 17.35 328⇑ *i*P **P** 06 10 21.9 +0.5
MORC Moravsky Berou 17.35 328 *e*P **P** 06 10 21.5 +0.1
comp=Z,34nm,0.8s
MORC Moravsky Berou 17.35 328 *e*P **P** 06 10 21.5 +0.1
comp=Z,34nm,0.8s
IZEF Zefreh 17.41 93 *e*P **P** 06 10 23.1 +0.6
IZEF Zefreh 17.41 93 *e*P **P** 06 10 23.1 +0.6
VRAC **Vranov** 17.43 326⇓ *i*P **P** 06 10 23.0 +0.7
VRAC **Vranov** 17.43 326 P **P** 06 10 22.3 0.0
VRAC **Vranov** 17.43 326 P **P** 06 10 22.3 0.0
comp=Z,1.0nm,0.3s
VRAC Vranov 17.43 326 P **P** 06 10 22.3 0.0
comp=Z,0.7nm,0.3s,baz=120,slow=12,SNR=14
ILAS Lasjerd 17.44 85 *e*P **Pn** 06 10 22.0 -0.1
ILAS Lasjerd 17.44 85 *e*P **Pn** 06 10 22.0 -0.1
MOA Molln 17.63 319⇑ *i*P **P** 06 10 24.9 +0.4
comp=Z,36nm,0.9s
ISHM Shahmirzad 17.66 83 *e*P **P** 06 10 26.1 +0.9
ISHM Shahmirzad 17.66 83 *e*P **P** 06 10 26.1 +0.9
KBA Koelnbreinsper 17.69 315⇑ *i*P **P** 06 10 25.6 +0.3
comp=Z,53nm,0.6s,SNR=11
BEL Belsk 17.84 338 *e*P **P** 06 10 30.0 +3.3
BEL Belsk 17.84 338 *e*P **P** 06 10 29.9 +3.3
BEL LMZ LR 06 17 01.8
KRLC Kraliky 17.90 328 *e*P **P** 06 10 30.5 +3.0
KRLC Kraliky 17.90 328 *e*P **P** 06 10 30.5 +3.0
IKIA Kiasar 17.93 82 *e*P **P** 06 10 30.6 +2.4
IKIA Kiasar 17.93 82 *e*P **P** 06 10 30.6 +2.4
TREC Trest 17.94 324 *e*P **P** 06 10 28.3 +0.4
TREC *e*S **Sn** 06 13 48.3 +1.4
TREC MLR MLR
comp=Z,2µm,19.0s
TREC Trest 17.94 324 *e*P **P** 06 10 28.3 +0.4
TREC *ex* x 06 10 35.7
TREC *e*S **Sn** 06 13 48.3 +1.4
TREC AMS AMS 06 17 40.0
comp=Z,2µm,19.0s
TREC Trest 17.94 324 *e*P **P** 06 10 28.3 +0.4
VSL Villasalto 17.94 289 *e*P **P** 06 10 29.9 +1.9
comp=Z,87nm,0.8s
VSL Villasalto 17.94 289 *e*P **P** 06 10 29.9 +1.9
comp=Z,87nm,0.8s
ABTA Abfaltersbach 18.00 314⇓ *i*Pn **Pn** 06 10 29.4 +0.7
comp=Z,28nm,0.6s
KEST Kesra 18.01 276 *e*P **Pn** 06 10 29.3 +0.3
KEST S Sn 06 13 37.2 -12
KEST ScP **ScP** 06 18 34.8 +2.3
KEST Kesra 18.01 276 *e*P **Pn** 06 10 29.3 +0.3
KEST S Sn 06 13 37.2 -12
KEST Kesra 18.01 276 P **Pn** 06 10 29.4 +0.5
comp=Z,0.8nm,0.3s,baz=63,slow=1.4,SNR=37
KEST S Sn 06 13 37.2 -12
comp=Z,0.2nm,0.3s,baz=39,slow=20,SNR=4.7
KEST ScP **ScP** 06 18 34.8 +2.3
comp=Z,0.1nm,0.3s,baz=342,slow=5.5,SNR=5.0
IGLO Ghaloghah 18.03 81 *e*P **Pn** 06 10 29.6 +0.3
IANJ Anjilo 18.20 84 *e*P **Pn** 06 10 32.3 +0.9
IANJ Anjilo 18.20 84 *e*P **Pn** 06 10 32.3 +0.9
DPC Dobruska-Polom 18.30 328 *e*P **Pn** 06 10 32.5 +0.1
DPC Dobruska-Polom 18.30 328 *e*P **Pn** 06 10 32.2 -0.1
DPC *ex* x 06 10 37.9
DPC *e*S **S** 06 13 58.2 -0.2
DPC AMS AMS 06 19 20.0
DPC Dobruska-Polom 18.30 328 *e*Pn **Pn** 06 10 32.5 +0.1
DPC Dobruska-Polom 18.30 328 *e*P **Pn** 06 10 32.5 +0.1
RJOB Jochberg 18.37 317 *e*P **Pn** 06 10 33.3 +0.2
comp=Z,57nm,0.9s
GEC2 GERESS Array S 18.53 320 *e*P **Pn** 06 10 35.3 +0.1
GEC2 GERESS Array S 18.53 320 *e*P **Pn** 06 10 35.4 +0.2
comp=Z,91nm,0.8s
GEC2 GERESS Array S 18.53 320 *e*Pn **Pn** 06 10 35.2 +0.1
GEC2 GERESS Array S 18.53 320 *e*Pn **Pn** 06 10 35.2 0.0
GERES GERESS Array B 18.53 320 P **Pn** 06 10 35.2 0.0
GERES PcP **PcP** 06 15 03.0 +0.8
GERES ScP **ScP** 06 18 33.7 +0.3
GERES GERESS Array B 18.53 320 P **Pn** 06 10 35.2 0.0
comp=Z,2µm,20.6s
GERES GERESS Array B 18.53 320 PcP **PcP** 06 15 03.0 +0.8
GERES GERESS Array B 18.53 320 P **Pn** 06 10 35.2 0.0
comp=Z,5.6nm,0.3s,baz=127,slow=8.0,SNR=116
GERES PcP **PcP** 06 15 03.0 +0.8
comp=Z,0.2nm,0.3s,baz=143,slow=2.5,SNR=2.8
GERES LR LR 06 18 27.4
comp=Z,1µm,20.6s,baz=130,slow=39
GERES ScP **ScP** 06 18 33.7 +0.3
comp=Z,0.4nm,0.3s,baz=155,slow=3.0,SNR=8.8
UPC Upice 18.55 328 *e*P **Pn** 06 10 35.0 -0.3
UPC Upice 18.55 328 *e*P **Pn** 06 10 35.0 -0.3
UPC *ex* x 06 10 40.5
UPC Upice 18.55 328 *e*P **Pn** 06 10 35.0 -0.3
KSP Ksiaz 18.68 329⇑ *e*P **P** 06 10 36.3 +0.2
KSP *e*S **S** 06 14 05.5 -0.4
KSP Ksiaz 18.68 329 *e*P **P** 06 10 36.2 +0.2
KSP LMZ LR 06 17 55.9
KSP Ksiaz 18.68 329⇑ *e*P **P** 06 10 36.3 +0.2
KSP *e*S **S** 06 14 05.5 -0.4
PGF Pioggiola 18.73 298 *e*P **Pn** 06 10 37.6 0.0
comp=Z,74nm,0.6s
PGF pmax pmax
comp=Z,74nm,0.6s
PGF Pioggiola 18.73 298 *e*P **Pn** 06 10 37.6 0.0
comp=Z,74nm,0.6s
PGF Pioggiola 18.73 298 *e*P **Pn** 06 10 37.6 0.0
comp=Z,37nm,0.6s
KHC Kasperske Hory 18.77 321 *e*P **Pn** 06 10 37.6 -0.4
KHC *e*S **Sn** 06 14 06.6 -0.6
KHC MLR MLR
comp=Z,1µm,17.3s
KHC Kasperske Hory 18.77 321 *e*P **Pn** 06 10 37.6 -0.4
KHC *e*pP pP 06 10 54.0 +5.2
KHC *e*S **Sn** 06 14 06.6 -0.6
KHC AMS AMS 06 18 10.0
comp=Z,1µm,17.3s
KHC Kasperske Hory 18.77 321 *e*P **P** 06 10 37.0 -0.1
comp=Z,54nm,0.6s
KHC Kasperske Hory 18.77 321 *e*P **P** 06 10 37.0 -0.1
comp=Z,54nm,0.6s
KHC *e*S **Sn** 06 14 06.6 -0.6
comp=Z,1µm,17.3s
ISAD Sadrabad 18.79 95 *e*P **Pn** 06 10 39.2 +0.6
ISAD Sadrabad 18.79 95 *e*P **Pn** 06 10 39.2 +0.6
WATA Walderalm 18.85 314⇑ *i*Pn **Pn** 06 10 38.8 -0.3
comp=Z,61nm,0.6s,SNR=26
PRU Pruhonice 18.86 324 *e*P **P** 06 10 38.1 +0.1
PRU *e*S **Sn** 06 14 04.4 -4.7
PRU MLR MLR
comp=Z,2µm,21.0s
PRU Pruhonice 18.86 324 *e*P **P** 06 10 38.1 +0.1
PRU *e*pP **pP** 06 10 52.6 +3.0
PRU *e*S **Sn** 06 14 04.4 -4.7
PRU AMS AMS 06 18 00.0
comp=Z,2µm,21.0s
PRU Pruhonice 18.86 324 *e*P **P** 06 10 38.1 +0.1
PRA Prague 18.97 324 P **P** 06 10 38.0 -1.1
PRA pP **pP** 06 10 53.0 +2.2
PRA S **S** 06 14 06.0 -5.7
IPAR Pars 19.00 102 *e*P **Pn** 06 10 41.4 +0.2
IPAR Pars 19.00 102 *e*P **Pn** 06 10 41.4 +0.2
MOTA Moosalm 19.13 314⇓ *i*Pn **P** 06 10 41.7 +0.5
comp=Z,132nm,0.7s,SNR=44
WET Wettzell 19.14 320 *e*P **Pn** 06 10 42.4 0.0
comp=Z,85nm,0.8s
SUW Suwalki 19.19 345 *e*P **P** 06 10 40.7 -0.8
SUW *e*S **S** 06 14 16.2 +0.2
SUW MLR MLR
comp=Z,2µm,22.1s
SUW Suwalki 19.19 345 *e*P **P** 06 10 40.6 -0.8
SUW *e*S **S** 06 14 16.1 +0.1
SUW LMZ LR 06 18 44.8
SUW Suwalki 19.19 345 *e*P **P** 06 10 40.7 -0.8
comp=Z,165nm,0.7s
SUW Suwalki 19.19 345 *e*P **P** 06 10 40.7 -0.8
comp=Z,165nm,0.7s
SUW *e*S **S** 06 14 16.2 +0.2
FETA Feichten 19.20 312⇑ *i*Pn **Pn** 06 10 43.3 +0.1
comp=Z,155nm,0.9s,SNR=16
FETA Feichten 19.20 312 Pn **Pn** 06 10 43.3 +0.1
comp=Z,155nm,0.9s,SNR=16
PVCC Panska Ves 19.22 326 *e*P **Pn** 06 10 42.7 -0.5
PVCC MLR MLR
comp=Z,2µm,20.5s
PVCC Panska Ves 19.22 326 *e*P **Pn** 06 10 42.7 -0.5
PVCC AMS AMS 06 18 40.0
comp=Z,2µm,20.5s
PVCC Panska Ves 19.22 326 *e*P **Pn** 06 10 42.7 -0.5
comp=Z,2µm,20.5s
ISRV Sarvestan 19.24 103 *e*P **Pn** 06 10 43.6 -0.5
ISRV Sarvestan 19.24 103 *e*P **Pn** 06 10 43.6 -0.5
ICHK Chekchek 19.27 94 *e*P **Pn** 06 10 44.1 -0.2
ICHK Chekchek 19.27 94 *e*P **Pn** 06 10 44.1 -0.2
RETA Reutte 19.40 314 *i* P **P** 06 10 44.7 +0.7
comp=Z,103nm,0.4s,SNR=16
RETA Reutte 19.40 314 P **P** 06 10 44.7 +0.7
comp=Z,103nm,0.4s,SNR=16
NACGM **Naroch** 19.45 352 *e*P **P** 06 10 41.0 -3.3
FUR Furstenfeldbru 19.46 316 *e*P **P** 06 10 44.9 +0.3
comp=Z,188nm,0.7s
CMAH Djebel Manchou 19.48 280 P **Pn** 06 10 48.7 +2.1
CMAH Djebel Manchou 19.48 280 P **Pn** 06 10 48.7 +2.1
DAVOX **Davos/Dischmat** 19.60 311 P **Pn** 06 10 47.8 -0.2
DAVOX ScP **ScP** 06 18 36.5 +0.6
DAVOX Davos/Dischmat 19.60 311 P **Pn** 06 10 47.8 -0.2
comp=Z,6.0nm,0.3s
DAVOX ScP **ScP** 06 18 36.5 +0.6
DAVOX Davos/Dischmat 19.60 311 P **Pn** 06 10 47.8 -0.2
comp=Z,6.4nm,0.3s,baz=123,slow=8.8,SNR=132
DAVOX ScP **ScP** 06 18 36.5 +0.6
comp=Z,0.6nm,0.3s,baz=178,slow=7.5,SNR=7.5
OBN Obninsk 19.69 9 P **P** 06 10 46.7 -0.3
comp=Z,2µm,0.5s,SNR=9.4
OBN Obninsk 19.69 9 *e*P **P** 06 10 46.3 -0.7
OBN *i* S **S** 06 14 21.7 -4.3
OBN pmax pmax
comp=Z,187nm,1.6s
OBN MLR MLR
comp=Z,2µm,19.0s
OBN Obninsk 19.69 9 *e*P **P** 06 10 45.9 -1.1
comp=Z,204nm,0.5s
OBN Obninsk 19.69 9 *e*P **P** 06 10 45.9 -1.1
comp=Z,204nm,0.5s
IMEH Mehriz 19.70 96 *e*P **Pn** 06 10 49.3 -0.1
IMEH Mehriz 19.70 96 *e*P **Pn** 06 10 49.3 -0.1
BRG Berggiesshubel 19.74 325⇑ *i*P **P** 06 10 48.0 +0.3
comp=Z,44nm,0.7s
BRG S **S** 06 14 28.0 +0.8
BRG
comp=N,1µm,24.6s
BRG
comp=E,1µm,16.5s
BRG
comp=Z,2µm,26.1s
BRG Berggiesshubel 19.74 325⇑ *i*P **P** 06 10 48.0 +0.3
BRG S **S** 06 14 28.0 +0.8
BRG pmax pmax
comp=Z,44nm,0.7s
BRG MLR MLR
comp=N,1µm,24.6s
BRG MLR MLR
comp=E,1µm,16.5s
BRG MLR MLR
comp=Z,2µm,26.1s
BRG Berggiesshubel 19.74 325 *e*P **P** 06 10 47.9 +0.3
comp=Z,86nm,1.0s
BRG Berggiesshubel 19.74 325 *i* P **P** 06 10 48.0 +0.3
comp=Z,44nm,0.7s
BRG S **S** 06 14 28.0 +0.8
comp=Z,2µm,26.1s
TUE Stuetta 19.80 310 *e*P **Pn** 06 10 49.7 -0.7
comp=Z,42nm,0.7s
TUE Stuetta 19.80 310 *e*P **Pn** 06 10 49.7 -0.7
comp=Z,42nm,0.7s
DAVA Damuels 19.83 312⇑ *i*P **P** 06 10 49.3 +0.5
comp=Z,147nm,0.7s,SNR=28
DAVA Damuels 19.83 312 P **P** 06 10 49.3 +0.5
comp=Z,147nm,0.7s,SNR=28
IDID Didziasalis 19.86 352 *e*P **P** 06 10 48.3 -0.5
IDID AMB AMB 06 10 56.3
comp=Z,86nm,0.8s
IDID Didziasalis 19.86 352 *e*P **P** 06 10 48.3 -0.5
comp=Z,86nm,0.8s,SNR=33
ROTZ Rotzenmuhle 19.87 321 *e*P **P** 06 10 49.4 +0.4
comp=Z,163nm,1.4s
IIGN Ignalina 19.96 351 *e*P **P** 06 10 49.0 -0.9
IIGN AMB AMB 06 10 59.2
comp=Z,74nm,1.3s
IIGN Ignalina 19.96 351 *e*P **P** 06 10 49.0 -0.9
comp=Z,74nm,1.3s,SNR=33
NKC Novy Kostel 20.04 322 *e*P **P** 06 10 50.8 -0.1
NKC Novy Kostel 20.04 322 *e*P **P** 06 10 50.8 -0.1
NKC *e*pP pP 06 11 13.6 +11
NKC Novy Kostel 20.04 322 *e*P **P** 06 10 50.8 -0.1
FBE Freiberg 20.05 325 *e*P **P** 06 10 51.4 +0.5
comp=Z,57nm,0.9s
MANZ Manzenberg 20.06 321 *e*P **P** 06 10 51.4 +0.3
comp=Z,152nm,1.1s
CKFL Kef-Lekhel 20.06 279 P Pn 06 10 54.7 +1.2
CKFL Kef-Lekhel 20.06 279 P Pn 06 10 54.7 +1.2
WERN Wernitzgruen 20.11 322 *e*P **P** 06 10 52.1 +0.4
comp=Z,88nm,1.2s
TANN Tannenbergstha 20.15 323 *e*P **P** 06 10 52.5 +0.4
comp=Z,86nm,1.2s

SBF Sospel 20.17 301 *e*P P 06 10 52.4 0.0
comp=Z,208nm,0.8s
SBF Sospel 20.17 301 *e*P P 06 10 52.4 0.0
SBF pmax pmax
comp=Z,208nm,0.8s
SBF Sospel 20.17 301 *e*P P 06 10 52.4 0.0
comp=Z,208nm,0.8s
SBF Sospel 20.17 301 *e*P P 06 10 52.4 0.0
comp=Z,104nm,0.8s
GUNZ Gunzen 20.18 322 *e*P P 06 10 53.0 +0.6
comp=Z,144nm,0.6s
ISAL Salakas 20.18 351 *e*P P 06 10 51.3 -1.0
ISAL AMB AMB 06 11 00.6
comp=Z,63nm,0.8s
GKP Gorka Klasztor 20.21 335 *e*P P 06 10 52.4 -0.3
GKP MLR MLR
comp=Z,2μm,21.3s
GKP Gorka Klasztor 20.21 335 *e*P P 06 10 52.4 -0.3
GKP LMZ LR 06 20 31.2
GKP Gorka Klasztor 20.21 335 *e*P P 06 10 52.4 -0.3
comp=Z,2μm,21.3s
WERD Werda 20.25 323 *e*P P 06 10 53.4 +0.3
comp=Z,68nm,0.7s
CASM Ain Smara 20.26 279 P Pn 06 10 56.4 +0.6
CASM Ain Smara 20.26 279 P Pn 06 10 56.4 +0.6
GRF Grafenberg Arr 20.34 320 *e*P P 06 10 54.2 +0.1
comp=Z,69nm,0.7s
PLN Plauen 20.34 322 *e*P P 06 10 54.5 +0.4
comp=Z,58nm,0.6s
CTEI Djebel Teioual 20.35 278 P Pn 06 10 58.1 +1.2
CTEI Djebel Teioual 20.35 278 P Pn 06 10 58.1 +1.2
IBAF Bafgh 20.41 95 *e*P P 06 10 55.6 +0.4
IBAF Bafgh 20.41 95 *e*P P 06 10 55.6 +0.4
MOS Moscow 20.44 10 *e*P P 06 10 54.0 -1.1
MOS *e* 06 11 12.8
MOS *e*S S 06 14 40.2 -0.7
MOS pmax pmax
comp=Z,303nm,0.9s
MOS pmax pmax
comp=Z,2μm,2.0s
MOS smax smax
comp=N,900nm,2.6s
MOS smax smax
comp=E,700nm,2.3s
MOS MLR MLR
comp=E,600nm,20.0s
MOS MLR MLR
comp=Z,2μm,20.0s
MOS MLR MLR
comp=N,1μm,19.0s
MOS Moscow 20.44 10 *e*P P 06 10 54.0 -1.1
comp=N,2μm,2.0s
MOS *e*S S 06 14 40.2 -0.7
comp=N,1μm,19.0s
CLL Collm 20.48 325⇑ *i*P P 06 10 55.4 -0.1
CLL *e*S S 06 14 42.0 +0.3
CLL pmax pmax
comp=Z,26nm,0.7s
CLL MLR MLR
comp=Z,1μm,21.9s
CLL Collm 20.48 325 *e*P P 06 10 55.5 -0.1
comp=Z,39nm,0.7s
CLL Collm 20.48 325⇑ *i*P P 06 10 55.4 -0.1
comp=Z,26nm,0.7s
CLL *i* 06 10 58.2
CLL *i* 06 11 02.4
CLL *e*S S 06 14 42.0 +0.3
comp=N,1μm,28.4s
CLL *e*S S 06 14 42.0 +0.3
comp=E,1μm,23.2s
CLL LmH 06 18 00.0
comp=N,1μm,20.9s
CLL LmH 06 18 00.0
comp=E,800nm,18.5s
CLL LmV 06 19 00.0
comp=Z,1μm,21.9s
CLL Collm 20.48 325 *i* P P 06 10 55.4 -0.1
comp=Z,1μm,21.9s
CLL *e*S S 06 14 42.0 +0.3
CALN Calern 20.52 300 *e*P P 06 10 57.5 +1.2
CALN Calern 20.52 300 *e*P P 06 10 57.5 +1.2
FRF La Foret Royal 20.64 300 *e*P P 06 10 57.4 -0.1
comp=Z,94nm,0.9s
FRF La Foret Royal 20.64 300 *e*P P 06 10 57.4 -0.1
FRF pmax pmax
comp=Z,94nm,0.9s
FRF La Foret Royal 20.64 300 *e*P P 06 10 57.4 -0.1
comp=Z,94nm,0.9s
FRF La Foret Royal 20.64 300 *e*P P 06 10 57.4 -0.1
comp=Z,47nm,0.9s
LMR La Mourre 20.69 299 *e*P P 06 10 58.4 +0.5
comp=Z,66nm,0.8s
LMR La Mourre 20.69 299 *e*P P 06 10 58.4 +0.5
LMR pmax pmax
comp=Z,67nm,0.8s
LMR La Mourre 20.69 299 *e*P P 06 10 58.4 +0.5
comp=Z,66nm,0.8s
LMR La Mourre 20.69 299 *e*P P 06 10 58.4 +0.5
comp=Z,33nm,0.8s
MBDF Montbardon 20.87 303 *e*P P 06 10 59.5 -0.5
comp=Z,181nm,0.7s
MBDF Montbardon 20.87 303 *e*P P 06 10 59.5 -0.5
MBDF pmax pmax
comp=Z,181nm,0.7s
MBDF Montbardon 20.87 303 *e*P P 06 10 59.5 -0.5
comp=Z,181nm,0.7s
MBDF Montbardon 20.87 303 *e*P P 06 10 59.5 -0.5
comp=Z,90nm,0.7s
SPAK Spaichingen-Ko 20.87 313 *e*P P 06 10 59.1 -0.8
RUE Ruedersdorf 20.95 329 *e*P P 06 10 59.9 -0.7
comp=Z,75nm,0.6s
RUE Ruedersdorf 20.95 329 *e*P P 06 10 59.9 -0.7
comp=Z,75nm,0.6s
STU Stuttgart 20.96 315 *e*P P 06 11 00.6 -0.2
STU pmax pmax
comp=Z,136nm,0.8s
STU Stuttgart 20.96 315 *e*P P 06 11 00.9 +0.1
comp=Z,85nm,0.7s
STU Stuttgart 20.96 315 *e*P P 06 11 00.6 -0.2
comp=Z,136nm,0.8s
STU Stuttgart 20.96 315 *e*P P 06 11 00.6 -0.2
comp=Z,136nm,0.8s
NEUB Neuenburg 20.99 324 *e*P P 06 11 01.2 +0.1
comp=Z,65nm,0.6s
BNI Bardonecchia 21.03 304 *e*P P 06 11 02.3 +0.6
BNI pmax pmax
comp=Z,66nm,0.8s
BNI Bardonecchia 21.03 304 *e*P P 06 11 02.3 +0.6
comp=Z,66nm,0.8s
BNI Bardonecchia 21.03 304 *e*P P 06 11 02.3 +0.6
comp=Z,66nm,0.8s
ISHV Shirvan 21.06 77 *e*P P 06 11 02.8 +0.6
ISHV Shirvan 21.06 77 *e*P P 06 11 02.8 +0.6
SENIN Lac Senin/Sane 21.06 308 *e*P P 06 11 02.1 0.0
comp=Z,102nm,0.6s
SENIN Lac Senin/Sane 21.06 308 *e*P P 06 11 02.2 0.0
comp=Z,102nm,0.6s
CKHR Kef el Ahmar 21.07 278 P P 06 11 05.0 +2.7
CKHR Kef el Ahmar 21.07 278 P P 06 11 05.0 +2.7
LPG La Plagne 21.12 305 *e*P P 06 11 04.3 +1.4
comp=Z,230nm,0.7s
LPG La Plagne 21.12 305 *e*P P 06 11 04.3 +1.4
LPG pmax pmax
comp=Z,230nm,0.7s
LPG La Plagne 21.12 305 *e*P P 06 11 04.3 +1.4
comp=Z,230nm,0.7s
LPG La Plagne 21.12 305 *e*P P 06 11 04.3 +1.4
comp=Z,115nm,0.7s
LPL La Plagne 21.14 305 *e*P P 06 11 04.7 +1.7
comp=Z,126nm,0.5s
LPL La Plagne 21.14 305 *e*P P 06 11 04.7 +1.7
LPL pmax pmax
comp=Z,126nm,0.5s
LPL La Plagne 21.14 305 *e*P P 06 11 04.7 +1.7
comp=Z,126nm,0.5s
LPL La Plagne 21.14 305 *e*P P 06 11 04.7 +1.7
comp=Z,63nm,0.5s
SET Setif 21.14 279 P P 06 11 06.0 +3.0
SET Setif 21.14 279 P P 06 11 06.0 +3.0
FELD Feldberg im Sc 21.23 312 *e*P P 06 11 01.8 -2.1
FELD Feldberg im Sc 21.23 312 *e*P P 06 11 01.8 -2.1
BFO Black Forest 21.25 313 P P 06 11 04.6 +0.7
comp=Z,1μm,0.5s,SNR=37
BFO Black Forest 21.25 313 *i* P P 06 11 04.3 +0.4
BFO Black Forest 21.25 313 *e*P P 06 11 04.0 +0.1
comp=Z,111nm,0.6s
BFO Black Forest 21.25 313 *e*P P 06 11 04.0 +0.1
comp=Z,94nm,0.6s
BFO Black Forest 21.25 313 *e*P P 06 11 04.0 +0.1
comp=Z,94nm,0.6s
RSL Roseland 21.26 306 *e*P P 06 11 04.6 +0.3
RSL Roseland 21.26 306 *e*P P 06 11 04.6 +0.3
ISFR Sfrayin 21.33 79 *e*P P 06 11 06.6 +1.4
ISFR Sfrayin 21.33 79 *e*P P 06 11 06.6 +1.4
BBS Basel-Blauen 21.36 311 *e*P P 06 11 05.1 0.0
ABKT Ailbek 21.37 76 P P 06 11 06.8 +1.4
comp=Z,774nm,0.8s,SNR=17
OG01 Vacheresse 21.44 307 *e*P P 06 11 05.4 -0.7
OG01 Vacheresse 21.44 307 *e*P P 06 11 05.4 -0.7
GDM Grand'Maison 21.45 304 *e*P P 06 11 08.0 +1.7
GDM Grand'Maison 21.45 304 *e*P P 06 11 08.0 +1.7
SMRF Simiane la Rot 21.50 300 *e*P P 06 11 06.6 -0.1
comp=Z,88nm,0.9s
SMRF Simiane la Rot 21.50 300 *e*P P 06 11 06.6 -0.1
comp=Z,88nm,0.9s
SMRF Simiane la Rot 21.50 300 *e*P P 06 11 06.6 -0.1
comp=Z,44nm,0.9s
ORIF Oris-en-Rattie 21.53 303 *e*P P 06 11 06.4 -0.7
comp=Z,71nm,0.7s
ORIF *e*R
comp=Z,2μm,22.8s
ORIF Oris-en-Rattie 21.53 303 *e*P P 06 11 06.4 -0.7
ORIF pmax pmax
comp=Z,71nm,0.7s
ORIF Oris-en-Rattie 21.53 303 *e*P P 06 11 06.4 -0.7
comp=Z,71nm,0.7s
ORIF Oris-en-Rattie 21.53 303 *e*P P 06 11 06.4 -0.7
comp=Z,36nm,0.7s
LIBD Limburg 21.60 312 *e*P P 06 11 07.6 0.0
TOD Tromm 21.60 317 *e*P P 06 11 06.6 -1.1
UBBA Unterbreizbach 21.64 321 *e*P P 06 11 08.0 +0.1
comp=Z,43nm,1.3s
GRN Grenoble 21.71 304 *e*P P 06 11 10.0 +1.0
GRN Grenoble 21.71 304 *e*P P 06 11 10.0 +1.0
LOMF Lomont 21.73 310 *e*P P 06 11 08.2 -1.0
LOMF Lomont 21.73 310 *e*P P 06 11 08.2 -1.0
MOF Molkenrain 21.75 311 *e*P P 06 11 07.6 -1.8
MOF Molkenrain 21.75 311 *e*P P 06 11 07.6 -1.8
IKRD Kardeh 21.76 79 *e*P P 06 11 20.2 +10
LANF Langenberg 21.86 315 *e*P P 06 11 09.5 -0.9
LANF Langenberg 21.86 315 *e*P P 06 11 09.5 -0.9
WLS Welschbruch 21.86 313 *e*P P 06 11 11.1 +0.6
WLS Welschbruch 21.86 313 *e*P P 06 11 11.1 +0.6
KTD Kalmit 21.86 316 *e*P P 06 11 09.6 -0.9
ECH Echery 21.89 312 *e*P P 06 11 10.4 -0.4
ECH Echery 21.89 312 *e*P P 06 11 10.0 -0.8
ECH pmax pmax
comp=Z,34nm,0.8s
ECH Echery 21.89 312 *e*P P 06 11 10.0 -0.8
comp=Z,34nm,0.8s
ECH Echery 21.89 312 *e*P P 06 11 10.0 -0.8
comp=Z,34nm,0.8s
CDF Champ du Feu 21.91 313 *e*P P 06 11 10.7 -0.4
comp=Z,165nm,0.9s
CDF Champ du Feu 21.91 313 *e*P P 06 11 10.7 -0.4
CDF pmax pmax
comp=Z,165nm,0.9s
CDF Champ du Feu 21.91 313 *e*P P 06 11 10.7 -0.4
comp=Z,165nm,0.9s
CDF Champ du Feu 21.91 313 *e*P P 06 11 10.7 -0.4
comp=Z,83nm,0.9s
HINF Hinteralfeld 21.91 311 *e*P P 06 11 10.1 -0.9
comp=Z,94nm,0.7s
HINF Hinteralfeld 21.91 311 *e*P P 06 11 10.1 -0.9
HINF pmax pmax
comp=Z,94nm,0.7s
HINF Hinteralfeld 21.91 311 *e*P P 06 11 10.1 -0.9
comp=Z,94nm,0.7s
HINF Hinteralfeld 21.91 311 *e*P P 06 11 10.1 -0.9
comp=Z,47nm,0.7s
CABF La Chapelle 21.93 308 *e*P P 06 11 11.3 0.0
comp=Z,79nm,0.5s
CABF La Chapelle 21.93 308 *e*P P 06 11 11.3 0.0
CABF pmax pmax
comp=Z,79nm,0.5s
CABF La Chapelle 21.93 308 *e*P P 06 11 11.3 0.0
comp=Z,79nm,0.5s
CABF La Chapelle 21.93 308 *e*P P 06 11 11.3 0.0
comp=Z,40nm,0.5s
IAKL Akhelmad 21.97 80 *e*P P 06 11 13.7 +1.6
CLZ Clausthal 22.07 323 *e*P P 06 11 11.9 -0.8
comp=Z,47nm,0.7s
TNS Taunus Mts 22.12 318 *e*P P 06 11 13.6 +0.3
comp=Z,71nm,0.6s
IPAY Payeh 22.18 80 *e*P P 06 11 14.9 +0.6
IPAY Payeh 22.18 80 *e*P P 06 11 14.9 +0.6
HAU Haudompre 22.30 311 *e*P P 06 11 14.5 -0.7
comp=Z,133nm,0.7s
HAU *e*R
comp=Z,2μm,20.5s
HAU Haudompre 22.30 311 *e*P P 06 11 14.5 -0.7
HAU pmax pmax
comp=Z,133nm,0.7s
HAU Haudompre 22.30 311 *e*P P 06 11 14.5 -0.7
comp=Z,133nm,0.7s
HAU Haudompre 22.30 311 *e*P P 06 11 14.5 -0.7
comp=Z,66nm,0.7s
VIVF Saint-Julien-l 22.34 302 *e*P P 06 11 14.6 -1.1
comp=Z,101nm,1.1s
VIVF Saint-Julien-l 22.34 302 *e*P P 06 11 14.6 -1.1
VIVF pmax pmax
comp=Z,101nm,1.1s
VIVF Saint-Julien-l 22.34 302 *e*P P 06 11 14.6 -1.1
comp=Z,101nm,1.1s
VIVF Saint-Julien-l 22.34 302 *e*P P 06 11 14.6 -1.1
comp=Z,51nm,1.1s
ABH Alteburg 22.45 316 *e*P P 06 11 16.2 -0.6
IMOG Moghan 22.50 81 *e*P P 06 11 18.6 +0.9
IMOG Moghan 22.50 81 *e*P P 06 11 18.6 +0.9
BSD Bornholm Skovb 22.51 335 *e*P P 06 11 15.3 -2.0
BSD Bornholm Skovb 22.51 335 *i* P P 06 11 15.3 -2.0
comp=Z,27nm,0.6s
BSD Bornholm Skovb 22.51 335 *e*P P 06 11 15.4 -1.9
SNR=59
SSB Saint Sauveur 22.54 303 *e*P P 06 11 18.0 +0.1
SSB pmax pmax
comp=Z,24nm,0.8s
SSB Saint Sauveur 22.54 303 *e*P P 06 11 17.9 +0.1
comp=Z,24nm,0.8s
SSB Saint Sauveur 22.54 303 *e*P P 06 11 18.0 +0.1
comp=Z,24nm,0.8s
ISRO Mashad 22.58 80 *e*P P 06 11 18.8 +0.4
ISRO Mashad 22.58 80 *e*P P 06 11 18.8 +0.4
THEF They Montfort 22.61 311 *e*P P 06 11 17.3 -1.2
THEF They Montfort 22.61 311 *e*P P 06 11 17.3 -1.2
ITEG Tejag 22.63 89 *e*P P 06 11 20.9 +1.8
ITEG Tejag 22.63 89 *e*P P 06 11 20.9 +1.8
RUP Ruppelstein 22.63 316 *e*P P 06 11 17.2 -1.6
LASF Ste Croix 22.73 300 *e*P P 06 11 20.7 +0.9
comp=Z,55nm,0.8s
LASF Ste Croix 22.73 300 *e*P P 06 11 20.7 +0.9
comp=Z,55nm,0.8s
LASF Ste Croix 22.73 300 *e*P P 06 11 20.7 +0.9
comp=Z,28nm,0.8s
PAGF Fort de Pagny 22.90 312 *e*P P 06 11 20.1 -1.4
comp=Z,12nm,0.6s
PAGF Fort de Pagny 22.90 312 *e*P P 06 11 20.1 -1.4
comp=Z,12nm,0.6s
PAGF Fort de Pagny 22.90 312 *e*P P 06 11 20.1 -1.4
comp=Z,6.2nm,0.6s
VSU Vasula 22.96 354 *d* *i*P P 06 11 22.4 +0.4
VSU pmax pmax
comp=Z,56nm,0.7s
VSU Vasula 22.96 354 *i* P P 06 11 22.4 +0.4
comp=Z,56nm,0.7s
IKOO Oshah 22.96 90 *e*P P 06 11 25.6 +3.0
IMYA Miami 23.08 80 *e*P P 06 11 23.6 0.0
IMYA Miami 23.08 80 *e*P P 06 11 23.6 0.0
EMHD Djebel Mahouad 23.11 280 P P 06 11 26.1 +2.2
EMHD Djebel Mahouad 23.11 280 P P 06 11 26.1 +2.2
WLF Walferdange 23.13 315 P P 06 11 22.8 -1.1
comp=Z,37nm,1.2s
WLF Walferdange 23.13 315 *e*P P 06 11 23.0 -0.9
WLF pmax pmax
comp=Z,57nm,0.9s
WLF Walferdange 23.13 315 *e*P P 06 11 22.7 -1.1
comp=Z,44nm,0.9s
WLF Walferdange 23.13 315 *e*P P 06 11 23.0 -0.9
comp=Z,57nm,0.9s
WLF Walferdange 23.13 315 *e*P P 06 11 23.0 -0.9
comp=Z,57nm,0.9s
SFTF Sexfontaines 23.18 311 *e*P P 06 11 23.1 -1.2
comp=Z,67nm,0.7s
SFTF Sexfontaines 23.18 311 *e*P P 06 11 23.1 -1.2
comp=Z,67nm,0.7s
SFTF Sexfontaines 23.18 311 *e*P P 06 11 23.1 -1.2
comp=Z,34nm,0.7s
MEZF Maizieres J'vi 23.29 311 *e*P P 06 11 24.0 -1.4
comp=Z,88nm,0.5s
MEZF Maizieres J'vi 23.29 311 *e*P P 06 11 24.0 -1.4
comp=Z,88nm,0.5s
MEZF Maizieres J'vi 23.29 311 *e*P P 06 11 24.0 -1.4
comp=Z,44nm,0.5s
ASUD Al Ashush, Dub 23.30 112 P P 06 11 26.9 +1.2
PLDF La Plantade 23.35 305 *e*P P 06 11 25.4 -0.7
PLDF La Plantade 23.35 305 *e*P P 06 11 25.4 -0.7
NAZ Nazwa, Dubai 23.35 111 P P 06 11 27.2 +1.0
SMF Signal de Mont 23.40 306 *e*P P 06 11 25.8 -0.7
comp=Z,199nm,0.8s
SMF Signal de Mont 23.40 306 *e*P P 06 11 25.8 -0.7
SMF pmax pmax
comp=Z,199nm,0.8s
SMF Signal de Mont 23.40 306 *e*P P 06 11 25.8 -0.7
comp=Z,199nm,0.8s
SMF Signal de Mont 23.40 306 *e*P P 06 11 25.8 -0.7
comp=Z,100nm,0.8s
BUG Bochum--Univer 23.41 320 *e*P P 06 11 25.2 -1.2
comp=Z,83nm,1.4s
LBL Lubilhac 23.41 303 *e*P P 06 11 27.2 +0.5
LBL Lubilhac 23.41 303 *e*P P 06 11 27.2 +0.5
FAQ Al Faqa, Dubai 23.43 111 P P 06 11 28.2 +1.3
BSEG Bad Segeberg 23.46 327 *e*P P 06 11 25.0 -1.9
comp=Z,82nm,1.2s
IDAH Dahanechah 23.58 89 *e*P P 06 11 30.1 +1.5
IDAH Dahanechah 23.58 89 *e*P P 06 11 30.1 +1.5
LOR Lormes 23.59 308 *e*P P 06 11 27.5 -0.7
comp=Z,163nm,0.6s
LOR *e*R
comp=Z,1μm,22.0s
LOR Lormes 23.59 308 *e*P P 06 11 27.5 -0.7
comp=Z,163nm,0.6s
LOR Lormes 23.59 308 *e*P P 06 11 27.5 -0.7
comp=Z,82nm,0.6s
IBBN Ibbenburen 23.64 322 *e*P P 06 11 28.0 -0.6
comp=Z,153nm,1.5s
MEM Membach 23.66 317 P P 06 11 28.2 -0.7
comp=Z,18nm,1.5s
MEM Membach 23.66 317 *e*P P 06 11 28.9 0.0
MEM pmax pmax
comp=Z,51nm,1.1s
MEM Membach 23.66 317 *e*P P 06 11 28.9 0.0
comp=Z,51nm,1.1s
MEM Membach 23.66 317 *e*P P 06 11 28.9 0.0
comp=Z,51nm,1.1s
LLD Lille Linde 23.67 332 *e*P P 06 11 27.7 -1.1
LLD Lille Linde 23.67 332 *i* P P 06 11 27.7 -1.1
LLD Lille Linde 23.67 332 *e*P P 06 11 27.7 -1.1
AGO Saint Agoulin 23.70 305 *e*P P 06 11 28.3 -1.0
AGO Saint Agoulin 23.70 305 *e*P P 06 11 28.3 -1.0
SSF Saint Saulge 23.75 307 *e*P P 06 11 28.2 -1.5
comp=Z,211nm,0.8s
SSF Saint Saulge 23.75 307 *e*P P 06 11 28.2 -1.5
SSF pmax pmax
comp=Z,211nm,0.8s
SSF Saint Saulge 23.75 307 *e*P P 06 11 28.2 -1.5
comp=Z,211nm,0.8s
SSF Saint Saulge 23.75 307 *e*P P 06 11 28.2 -1.5
comp=Z,106nm,0.8s
AVF Avril sur Loir 23.77 306 *e*P P 06 11 29.4 -0.5
comp=Z,108nm,0.7s
AVF Avril sur Loir 23.77 306 *e*P P 06 11 29.4 -0.5
AVF pmax pmax
comp=Z,108nm,0.7s
AVF Avril sur Loir 23.77 306 *e*P P 06 11 29.4 -0.5
comp=Z,108nm,0.7s
AVF Avril sur Loir 23.77 306 *e*P P 06 11 29.4 -0.5
comp=Z,54nm,0.7s
MTLF Montolieu 23.77 298 *e*P P 06 11 29.5 -0.4
comp=Z,72nm,1.0s
MTLF Montolieu 23.77 298 *e*P P 06 11 29.5 -0.4
MTLF pmax pmax
comp=Z,72nm,1.0s
MTLF Montolieu 23.77 298 *e*P P 06 11 29.5 -0.4
comp=Z,72nm,1.0s
MTLF Montolieu 23.77 298 *e*P P 06 11 29.5 -0.4
comp=Z,36nm,1.0s
HGN Heimansgroeve 23.78 317 *e*P P 06 11 29.6 -0.4
comp=Z,102nm,1.9s
HGN Heimansgroeve 23.78 317 *e*P P 06 11 29.6 -0.4
comp=Z,102nm,1.9s
UOSS Wadi Hilu 23.79 110 P P 06 11 30.2 -0.1
comp=Z,406nm,0.6s,SNR=6.9
HATD Hatta, Dubai 23.80 110 P P 06 11 31.2 +0.8
COP Copenhagen 23.85 333 *i* S S 06 15 41.5 -1.2
SNR=41
WTSB Winterswijk 23.94 320 *e*P P 06 11 30.5 -0.9
comp=Z,25nm,0.7s
WTSB Winterswijk 23.94 320 *e*P P 06 11 30.5 -0.9
comp=Z,25nm,0.7s
BCLA Clavier 23.97 316 P P 06 11 31.3 -0.4
comp=Z,37nm,2.2s
BGF Bois d'Agland 24.03 306 *e*P P 06 11 32.2 -0.1
comp=Z,46nm,0.6s
BGF Bois d'Agland 24.03 306 *e*P P 06 11 32.2 -0.1
BGF pmax pmax
comp=Z,46nm,0.6s
BGF Bois d'Agland 24.03 306 *e*P P 06 11 32.2 -0.1
comp=Z,46nm,0.6s
BGF Bois d'Agland 24.03 306 *e*P P 06 11 32.2 -0.1
comp=Z,23nm,0.6s
GIVF Givet 24.10 315 *e*P P 06 11 31.9 -1.0
comp=Z,79nm,0.6s
GIVF Givet 24.10 315 *e*P P 06 11 31.9 -1.0
GIVF pmax pmax
comp=Z,79nm,0.6s
GIVF Givet 24.10 315 *e*P P 06 11 31.9 -1.0
comp=Z,79nm,0.6s
GIVF Givet 24.10 315 *e*P P 06 11 31.9 -1.0
comp=Z,39nm,0.6s
AKTK Aktyubinsk 24.12 44 P P 06 11 33.1 0.0
comp=Z,216nm,1.0s
AKTO Aktyubinsk 24.12 44 P P 06 11 33.1 0.0
AKTO pmax pmax
comp=Z,216nm,1.0s
AKTO Aktyubinsk 24.12 44 P P 06 11 33.2 +0.2
AKTO ScP ScP 06 18 46.5 -0.6
AKTO Aktyubinsk 24.12 44 P P 06 11 33.2 +0.2
AKTO ScP ScP 06 18 46.5 -0.6
AKTO Aktyubinsk 24.12 44 P P 06 11 33.2 +0.2
comp=Z,48nm,0.5s,baz=250,slow=6.7,SNR=128
AKTO ScP ScP 06 18 46.5 -0.6
comp=Z,4.7nm,0.7s,baz=256,slow=3.5,SNR=4.4
AKTO LR LR 06 23 28.7
comp=Z,1μm,18.6s,baz=70,slow=43
CAF Calviac 24.16 301 *e*P P 06 11 33.2 -0.3
comp=Z,33nm,0.8s
CAF Calviac 24.16 301 *e*P P 06 11 33.2 -0.3
CAF pmax pmax
comp=Z,33nm,0.8s
CAF Calviac 24.16 301 *e*P P 06 11 33.2 -0.3
comp=Z,33nm,0.8s
CAF Calviac 24.16 301 *e*P P 06 11 33.2 -0.3
comp=Z,16nm,0.8s
DOU Dourbes 24.23 315 P P 06 11 33.3 -0.8
comp=Z,27nm,1.3s
HYF Humbligny 24.38 307 *e*P P 06 11 35.9 +0.4
HYF Humbligny 24.38 307 *e*P P 06 11 35.9 +0.4
HYF Humbligny 24.38 307 *e*P P 06 11 35.9 +0.4
BAIF Baives 24.44 314 *e*P P 06 11 34.9 -1.0
comp=Z,80nm,0.7s
BAIF Baives 24.44 314 *e*P P 06 11 34.9 -1.0
BAIF pmax pmax
comp=Z,80nm,0.7s
BAIF Baives 24.44 314 *e*P P 06 11 34.9 -1.0
comp=Z,80nm,0.7s
BAIF Baives 24.44 314 *e*P P 06 11 34.9 -1.0
comp=Z,40nm,0.7s
MLS Moulis 24.53 296 *e*P P 06 11 36.6 -0.3
MLS Moulis 24.53 296 *e*P P 06 11 36.6 -0.3
SNF Seneffe 24.59 315 P P 06 11 36.5 -0.8
RJF Les Rejaudoux 24.62 302 *e*P P 06 11 37.5 -0.2
comp=Z,64nm,0.6s
RJF *e*R
comp=Z,1μm,20.0s
RJF Les Rejaudoux 24.62 302 *e*P P 06 11 37.5 -0.2
RJF pmax pmax
comp=Z,65nm,0.6s

RJF **Les Rejaudoux** 24.62 302 *e*P P 06 11 37.5 -0.2
comp=Z,64nm,0.6s
RJF **Les Rejaudoux** 24.62 302 *e*P P 06 11 37.5 -0.2
comp=Z,32nm,0.6s
AB31 **Akbulak array** 24.75 48 *e*P P 06 11 38.8 0.0
AB31 pmax pmax
comp=Z,44nm,0.4s
AB31 **Akbulak array** 24.75 48 *e*P P 06 11 38.8 0.0
comp=Z,44nm,0.4s
ABKAR **Akbulak array** 24.75 48 *e*P P 06 11 39.0 +0.2
ABKAR **Akbulak array** 24.75 48 *e*P P 06 11 39.0 +0.2
RESF **Ens** 25.07 296 *e*P P 06 11 42.8 +0.9
RESF **Ens** 25.07 296 *e*P P 06 11 42.8 +0.9
LFF **La Frestale** 25.09 301 *e*P P 06 11 41.8 -0.1
comp=Z,69nm,0.7s
LFF **La Frestale** 25.09 301 *e*P P 06 11 41.8 -0.1
LFF pmax pmax
comp=Z,69nm,0.7s
LFF **La Frestale** 25.09 301 *e*P P 06 11 41.8 -0.1
comp=Z,69nm,0.7s
LFF **La Frestale** 25.09 301 *e*P P 06 11 41.8 -0.1
comp=Z,34nm,0.7s
EPF **Esparros** 25.09 296 *e*P P 06 11 41.3 -0.7
comp=Z,65nm,0.7s
EPF **Esparros** 25.09 296 *e*P P 06 11 41.3 -0.7
EPF pmax pmax
comp=Z,65nm,0.7s
EPF **Esparros** 25.09 296 *e*P P 06 11 41.3 -0.7
comp=Z,65nm,0.7s
EPF **Esparros** 25.09 296 *e*P P 06 11 41.3 -0.7
comp=Z,32nm,0.7s
LABF **Labassere** 25.28 296 *e*P P 06 11 44.8 +1.0
LABF **Labassere** 25.28 296 *e*P P 06 11 44.8 +1.0
VIEF **Viey** 25.30 296 *e*P P 06 11 44.7 +0.7
VIEF **Viey** 25.30 296 *e*P P 06 11 44.7 +0.7
REYF **Montagne du Re** 25.62 296 *e*P P 06 11 47.6 +0.7
REYF **Montagne du Re** 25.62 296 *e*P P 06 11 47.6 +0.7
MUD **Monsted U'grnd** 25.67 331 *i*P P 06 11 47.0 0.0
MUD **Monsted U'grnd** 25.67 331 *i*P P 06 11 47.0 0.0
comp=Z,25nm,0.6s
MUD **Monsted U'grnd** 25.67 331 *i*P P 06 11 47.1 0.0
SNR=41
ETSF **Etsaut** 25.73 296 *e*P P 06 11 48.6 +0.7
comp=Z,113nm,0.7s
ETSF **Etsaut** 25.73 296 *e*P P 06 11 48.6 +0.7
ETSF pmax pmax
comp=Z,113nm,0.7s
ETSF **Etsaut** 25.73 296 *e*P P 06 11 48.6 +0.7
comp=Z,113nm,0.7s
ETSF **Etsaut** 25.73 296 *e*P P 06 11 48.6 +0.7
comp=Z,56nm,0.7s
MENF **Mencas** 25.84 314 *e*P P 06 11 47.7 -1.0
MENF **Mencas** 25.84 314 *e*P P 06 11 47.7 -1.0
ATE **Arette** 25.85 296 *e*P P 06 11 48.5 -0.4
ATE **Arette** 25.85 296 *e*P P 06 11 48.5 -0.4
FINES **FINESS Array B** 25.96 354 P P 06 11 48.5 -1.2
FINES ScP ScP 06 18 51.5 -0.5
FINES **FINESS Array B** 25.96 354 P P 06 11 48.5 -1.2
comp=Z,1µm,20.5s
FINES ScP ScP 06 18 51.5 -0.5
FINES **FINESS Array B** 25.96 354 P P 06 11 48.5 -1.2
comp=Z,80nm,0.6s,baz=156,slow=10,SNR=379
FINES ScP ScP 06 18 51.5 -0.5
comp=Z,5.8nm,0.6s,baz=144,slow=3.6,SNR=6.7
FINES LR LR 06 22 58.0
comp=Z,1µm,20.5s,baz=174,slow=38
TAM **Tamanrasset** 26.01 247 *e*P P 06 11 52.8 +2.1
TAM pmax pmax
comp=Z,62nm,1.1s
TAM **Tamanrasset** 26.01 247 *e*P P 06 11 52.8 +2.1
comp=Z,62nm,1.1s
TAM **Tamanrasset** 26.01 247 *e*P P 06 11 52.8 +2.1
comp=Z,62nm,1.1s
MFF **Saint Martin d** 26.04 304 *e*P P 06 11 49.2 -1.3
comp=Z,88nm,0.9s
MFF **Saint Martin d** 26.04 304 *e*P P 06 11 49.2 -1.3
MFF pmax pmax
comp=Z,88nm,0.9s
MFF **Saint Martin d** 26.04 304 *e*P P 06 11 49.2 -1.3
comp=Z,88nm,0.9s
MFF **Saint Martin d** 26.04 304 *e*P P 06 11 49.2 -1.3
comp=Z,44nm,0.9s
LARF **Larrau** 26.06 296 *e*P P 06 11 51.8 +1.0
LARF **Larrau** 26.06 296 *e*P P 06 11 51.8 +1.0
SJPF **Ste Jean** 26.24 296 *e*P P 06 11 53.1 +0.7
comp=Z,86nm,0.8s
SJPF **Ste Jean** 26.24 296 *e*P P 06 11 53.1 +0.7
SJPF pmax pmax
comp=Z,87nm,0.8s
SJPF **Ste Jean** 26.24 296 *e*P P 06 11 53.1 +0.7
comp=Z,86nm,0.8s
SJPF **Ste Jean** 26.24 296 *e*P P 06 11 53.1 +0.7
comp=Z,43nm,0.8s
LDF **La Druitiere** 26.55 309 *e*P P 06 11 53.0 -2.1
comp=Z,56nm,0.6s
LDF **La Druitiere** 26.55 309 *e*P P 06 11 53.0 -2.1
LDF pmax pmax
comp=Z,56nm,0.6s
LDF **La Druitiere** 26.55 309 *e*P P 06 11 53.0 -2.1
comp=Z,56nm,0.6s
LDF **La Druitiere** 26.55 309 *e*P P 06 11 53.0 -2.1
comp=Z,28nm,0.6s
KAF **Kangasniemi** 26.61 355 *e*P P 06 11 54.4 -1.1
KAF **Kangasniemi** 26.61 355 *e*P P 06 11 54.4 -1.1
FLN **La Foliniere** 26.82 309 *e*P P 06 11 55.4 -2.2
comp=Z,48nm,0.5s
FLN *e*R
comp=Z,2µm,22.8s
FLN **La Foliniere** 26.82 309 *e*P P 06 11 55.4 -2.2
FLN pmax pmax
comp=Z,48nm,0.5s
FLN **La Foliniere** 26.82 309 *e*P P 06 11 55.4 -2.2
comp=Z,48nm,0.5s
FLN **La Foliniere** 26.82 309 *e*P P 06 11 55.4 -2.2
comp=Z,24nm,0.5s
GRR **Gorron** 26.96 308 *e*P P 06 11 56.6 -2.2
comp=Z,98nm,0.8s
GRR **Gorron** 26.96 308 *e*P P 06 11 56.6 -2.2
GRR pmax pmax
comp=Z,98nm,0.8s
GRR **Gorron** 26.96 308 *e*P P 06 11 56.6 -2.2
comp=Z,98nm,0.8s
GRR **Gorron** 26.96 308 *e*P P 06 11 56.6 -2.2
comp=Z,49nm,0.8s
HFS **Hagfors** 27.00 340 P P 06 11 58.2 -0.8
HFS **Hagfors** 27.00 340 P P 06 11 58.2 -0.8
comp=Z,1µm,18.2s
HFS **Hagfors** 27.00 340 P P 06 11 58.2 -0.8
comp=Z,23nm,0.5s,baz=139,slow=7.0,SNR=37
HFS LR LR 06 24 57.5
comp=Z,1µm,18.2s,baz=43,slow=42
JOF **Joensuu** 27.21 360 *e*P P 06 12 00.5 -0.4
JOF **Joensuu** 27.21 360 *e*P P 06 12 00.5 -0.4
HOMB **Homborsund** 27.21 333 *e*P P 06 11 59.5 -1.4
HOMB **Homborsund** 27.21 333 *e*P P 06 11 59.5 -1.4
SNR=41
PRGR **Permogore** 27.42 15 ⇓*i*P P 06 12 02.2 -0.5
PRGR *e*S S 06 16 37.7 -1.4
PRGR pmax pmax
comp=Z,61nm,0.6s
PRGR **Permogore** 27.42 15 *i*P P 06 12 02.2 -0.5
comp=Z,61nm,0.6s
PRGR *e*S S 06 16 37.7 -1.4
ARU **Arti** 27.61 33 P P 06 12 04.1 -0.5
comp=Z,1µm,0.4s,SNR=10
ARU **Arti** 27.61 33 *c i*P P 06 12 04.5 -0.1
ARU 06 12 52.0
ARU PPP PPP 06 13 02.3
ARU S S 06 16 43.8 +1.4
ARU SS SnSn 06 17 59.8 +2.3
ARU pmax pmax
comp=Z,108nm,1.2s
ARU MLR MLR
comp=Z,670nm,17.0s
ARU **Arti** 27.61 33 *e*P P 06 12 04.7 +0.1
comp=Z,110nm,0.6s
ARU **Arti** 27.61 33 *e*P P 06 12 04.7 +0.1
comp=Z,110nm,0.6s
ARU S S 06 16 43.8 +1.4
comp=Z,670nm,17.0s
OSL **Oslo** 27.72 337 *e* P 06 12 05.6 +0.2
KONO **Kongsberg** 27.86 336 *e*P P 06 12 03.8 -2.8
KONO **Kongsberg** 27.86 336 *e*P P 06 12 06.1 -0.6
KONO pmax pmax
comp=Z,16nm,1.1s
KONO **Kongsberg** 27.86 336 *e*P P 06 12 06.1 -0.6
comp=Z,16nm,1.1s
KONO **Kongsberg** 27.86 336 *e*P P 06 12 06.1 -0.6
comp=Z,16nm,1.1s
SGMF **Saint Gilles** 28.02 307 *e*P P 06 12 05.9 -2.4
SGMF **Saint Gilles** 28.02 307 *e*P P 06 12 05.9 -2.4
SGMF **Saint Gilles** 28.02 307 *e*P P 06 12 05.9 -2.4
SGMF **Saint Gilles** 28.02 307 *e*P P 06 12 05.9 -2.4
WOL **Wolverton** 28.11 314⇓*e*P P 06 12 07.5 -1.5
WOL AMB AMB 06 12 12.5
comp=Z,73nm,1.6s
WOL **Wolverton** 28.11 314⇓*e*P P 06 12 07.5 -1.5
NC602 **NORSAR Array S** 28.11 339 *e*P P 06 12 07.4 -1.5
NC602 **NORSAR Array S** 28.11 339 *e*P P 06 12 07.4 -1.5
SNR=41
ESDC **Sonseca Array** 28.25 289 P P 06 12 11.1 +0.6
ESDC ScP **ScP** 06 19 00.1 +0.7
ESDC **Sonseca Array** 28.25 289 P P 06 12 11.1 +0.6
ESDC ScP **ScP** 06 19 00.1 +0.7
ESDC **Sonseca Array** 28.25 289 P P 06 12 11.1 +0.6
comp=Z,5.8nm,0.6s,baz=79,slow=9.3,SNR=30
ESDC ScP **ScP** 06 19 00.1 +0.7
comp=Z,2.0nm,0.6s,baz=58,slow=3.2,SNR=7.9
ESDC LR LR 06 23 55.6
comp=Z,515nm,21.5s,baz=85,slow=37
ESLA **Sonseca Array** 28.25 289 *e*P P 06 12 10.7 +0.2
comp=Z,4.7nm,0.8s
ESLA **Sonseca Array** 28.25 289 *e*P P 06 12 10.7 +0.2
comp=Z,4.7nm,0.8s
QUIF **Quistinic** 28.34 306 *e*P P 06 12 08.6 -2.5
QUIF **Quistinic** 28.34 306 *e*P P 06 12 08.6 -2.5
QUIF **Quistinic** 28.34 306 *e*P P 06 12 08.6 -2.5
QUIF **Quistinic** 28.34 306 *e*P P 06 12 08.6 -2.5
NAO01 **NORSAR Array S** 28.39 339 *e*P P 06 12 10.3 -1.0
comp=Z,43nm,0.6s
NAO01 **NORSAR Array S** 28.39 339 *e*P P 06 12 10.4 -1.0
comp=Z,43nm,0.6s
NB2 **NORSAR Subarra** 28.45 339 P P 06 12 10.5 -1.5
comp=Z,26nm,0.6s,baz=142,slow=9.3
NB2 **NORSAR Subarra** 28.45 339 P P 06 12 10.5 -1.5
baz=142,slow=9.3
NB2 **NORSAR Subarra** 28.45 339 P P 06 12 10.5 -1.5
SNR=40
NOA **NORSAR Array B** 28.45 339 P P 06 12 10.4 -1.5
NOA ScP **ScP** 06 19 00.2 +0.6
NOA **NORSAR Array B** 28.45 339 P P 06 12 10.4 -1.5
comp=Z,1µm,19.3s
NOA ScP **ScP** 06 19 00.2 +0.6
NOA **NORSAR Array B** 28.45 339 P P 06 12 10.4 -1.5
comp=Z,26nm,0.6s,baz=141,slow=9.1,SNR=156
NOA ScP **ScP** 06 19 00.2 +0.6
comp=Z,2.3nm,0.7s,baz=126,slow=3.9,SNR=3.4
NOA LR LR 06 25 40.4
comp=Z,1µm,19.3s,baz=140,slow=41
LMK **Market Rasen** 28.45 318 *e*P P 06 12 10.9 -1.1
LMK AMB AMB 06 12 15.6
comp=Z,133nm,1.9s
LMK **Market Rasen** 28.45 318 *e*P P 06 12 10.9 -1.1
ROSF **Rostrenen** 28.50 307 *e*P P 06 12 09.9 -2.7
comp=Z,21nm,0.5s
ROSF **Rostrenen** 28.50 307 *e*P P 06 12 09.9 -2.7
ROSF pmax pmax
comp=Z,21nm,0.5s
ROSF **Rostrenen** 28.50 307 *e*P P 06 12 09.9 -2.7
comp=Z,21nm,0.5s
ROSF **Rostrenen** 28.50 307 *e*P P 06 12 09.9 -2.7
comp=Z,11nm,0.5s
PAB **San Pablo** 28.55 289 *e*P P 06 12 13.6 +0.4
PAB pmax pmax
comp=Z,51nm,2.6s
PAB **San Pablo** 28.55 289 *e*P P 06 12 13.6 +0.4
comp=Z,51nm,2.6s
PAB **San Pablo** 28.55 289 *e*P P 06 12 13.6 +0.4
comp=Z,51nm,2.6s
SVE **Sverdlovsk** 28.78 34 ⇑*i*P P 06 12 15.7 +0.8
SVE *e*S S 06 16 57.8 -2.9
SVE pmax pmax
comp=Z,179nm,1.1s
SVE MLR MLR
comp=Z,1µm,18.0s
SVE **Sverdlovsk** 28.78 34 *i*P P 06 12 15.7 +0.8
comp=Z,179nm,1.1s
BLS5 **Blasjo** 28.79 333 *e*P P 06 12 14.8 -0.2
KBI1 **Birley Grange** 29.02 317⇓*e*P P 06 12 15.5 -1.6
KBI1 **Birley Grange** 29.02 317⇓*e*P P 06 12 15.5 -1.6
ODD1 **Odda** 29.07 334 *e*P P 06 12 18.0 +0.5
HPK **Haverah Park** 29.36 319 *e*P P 06 12 18.5 -1.6
HPK AMB AMB 06 12 25.5
comp=Z,83nm,4.3s
HPK **Haverah Park** 29.36 319 *e*P P 06 12 18.5 -1.6
MCH1 **Michaelchurch** 29.38 314⇓*e*P P 06 12 18.3 -2.0
MCH1 AMB AMB 06 12 21.5
comp=Z,54nm,2.4s
MCH1 **Michaelchurch** 29.38 314⇓*e*P P 06 12 18.3 -2.0
HLM1 **Long Mynd** 29.50 315 *e*P P 06 12 19.8 -1.5
HLM1 AMB AMB 06 12 30.7
comp=Z,61nm,3.0s
HLM1 **Long Mynd** 29.50 315 *e*P P 06 12 19.8 -1.5
FOEL **Foel Wylfa** 29.81 316⇓*e*P P 06 12 23.2 -1.0
FOEL **Foel Wylfa** 29.81 316⇓*e*P P 06 12 23.2 -1.0
EGD **Espegrend** 29.82 334 *e*P P 06 12 24.3 +0.2
BER **Bergen** 29.86 334 *e*P P 06 12 24.6 +0.2
BER **Bergen** 29.86 334 *e*P P 06 12 24.6 +0.2
SNR=40
RUND **Rundenannen** 29.87 334 *e*P P 06 12 23.0 -1.6
MDT **Midelt** 29.91 275 P P 06 12 27.2 +1.8
MDT **Midelt** 29.91 275 P P 06 12 27.2 +1.8
MDT **Midelt** 29.91 275 P P 06 12 27.2 +1.8
comp=Z,2.9nm,0.6s,baz=97,slow=10,SNR=6.1
LPW **Lampeter** 30.04 314 *e*P P 06 12 24.7 -1.5
LPW **Lampeter** 30.04 314 *e*P P 06 12 24.7 -1.5
HYA **Hoyanger** 30.12 336 *e*P P 06 12 26.6 -0.1
PBRG **Braganca** 30.27 293 *e*P P 06 12 29.0 +0.6
comp=Z,49nm,2.2s
WPM1 **Penmaenmawr** 30.34 316⇓*e*P P 06 12 27.6 -1.2
WPM1 **Penmaenmawr** 30.34 316⇓*e*P P 06 12 27.6 -1.2
KESW **Keswick, Cumbr** 30.41 319 *e*P P 06 12 27.8 -1.6
KESW AMB AMB 06 12 29.6
comp=Z,126nm,3.1s
KESW **Keswick, Cumbr** 30.41 319 *e*P P 06 12 27.8 -1.6
MVO **Moncorvo** 30.51 292 *e*P P 06 12 32.7 +2.2
comp=Z,62nm,1.8s
KBL **Kabul** 30.58 81 *e*P P 06 12 32.9 +1.5
KBL **Kabul** 30.58 81 *e*P P 06 12 32.9 +1.5
KBL **Kabul** 30.58 81 *e*P P 06 12 32.9 +1.5
YRC **Rhoscolyn** 30.71 316 *e*P P 06 12 31.0 -1.1
YRC **Rhoscolyn** 30.71 316 *e*P P 06 12 31.0 -1.1
ESY **Stoneypath** 30.73 322 *e*P P 06 12 31.0 -1.2
ESY **Stoneypath** 30.73 322 *e*P P 06 12 31.0 -1.2
MOL **Molde** 30.73 338 *e*P P 06 12 32.0 -0.1
MOL **Molde** 30.73 338 *e*P P 06 12 32.0 -0.1
SNR=40
EKA **Eskdalemuir Ar** 30.75 321 P P 06 12 30.8 -1.6
EKA PcP PcP 06 15 29.5 +0.8
EKA ScP ScP 06 19 09.0 +1.9
EKA **Eskdalemuir Ar** 30.75 321 P P 06 12 30.8 -1.6
comp=Z,10.0nm,0.5s
EKA **Eskdalemuir Ar** 30.75 321 P P 06 12 30.8 -1.6
comp=Z,10nm,0.5s,baz=119,slow=10,SNR=77
EKA PcP PcP 06 15 29.5 +0.8
comp=Z,4.8nm,0.6s,baz=114,slow=2.8,SNR=8.0
EKA ScP ScP 06 19 09.0 +1.9
comp=Z,1.6nm,0.7s,baz=122,slow=4.9,SNR=4.2
ESK **Eskdalemuir** 30.77 320⇓*e*P P 06 12 31.1 -1.4
ESK AMB AMB 06 12 33.9
comp=Z,113nm,3.4s
ESK **Eskdalemuir** 30.77 320 *e*P P 06 12 31.4 -1.2
ESK pmax pmax
comp=Z,109nm,1.6s
ESK **Eskdalemuir** 30.77 320 *e*P P 06 12 31.4 -1.2
comp=Z,109nm,1.6s
ESK **Eskdalemuir** 30.77 320 P P 06 12 31.7 -0.8
comp=Z,140nm,0.6s,SNR=7.8
ESK **Eskdalemuir** 30.77 320 *e*P P 06 12 31.4 -1.2
comp=Z,109nm,1.6s
PBAR **Barrancos** 30.77 286 *e*P P 06 12 33.3 +0.5
comp=Z,74nm,1.5s
KKAR **Karatay Array** 30.78 64 *e*P P 06 12 33.6 +0.7
KKAR **Karatay Array** 30.78 64 *e*P P 06 12 33.6 +0.7
KKAR **Karatay Array** 30.78 64 *e*P P 06 12 33.6 +0.7
EBL **Broad Law** 30.88 321 ⇓*i*P P 06 12 32.6 -0.9
EBL **Broad Law** 30.88 321 ⇓*i*P P 06 12 32.6 -0.9
PMRV **Marv??o** 30.91 289 *e*P P 06 12 34.5 +0.5
comp=Z,62nm,1.7s
MTE **Manteigas** 30.94 291 *e*P P 06 12 33.3 -1.1
comp=Z,55nm,2.9s
PESTR **Estremoz** 31.12 288 *e*P P 06 12 36.1 +0.2
comp=Z,59nm,2.4s
DRUM **Mains of Drumt** 31.13 324⇓*e*P P 06 12 34.0 -1.7
DRUM AMB AMB 06 12 35.2
comp=Z,140nm,2.7s
DRUM **Mains of Drumt** 31.13 324⇓*e*P P 06 12 34.0 -1.7
NSS **Namsos** 31.16 344 *e*P P 06 12 35.1 -0.7
NSS **Namsos** 31.16 344 *e*P P 06 12 35.1 -0.7
SNR=40
GAL1 **Galloway** 31.38 319 *e*P P 06 12 36.9 -1.0
GAL1 **Galloway** 31.38 319 *e*P P 06 12 36.9 -1.0
PGAV **Gavieira, Arco** 31.41 294 *e*P P 06 12 39.8 +1.3
PVAQ **Vaqueiros** 31.42 285 *e*P P 06 12 38.9 +0.4
comp=Z,88nm,1.9s
EVO **Evora** 31.49 287 *e*P P 06 12 39.6 +0.5
comp=Z,77nm,1.8s
PMTG **Montargil** 31.59 288 *e*P P 06 12 39.2 -0.8
comp=Z,65nm,1.7s
PBDV **Barranco-do-Ve** 31.61 285 *e*P P 06 12 41.0 +0.8
comp=Z,192nm,1.7s
PCVE **Castro Verde** 31.64 285 *e*P P 06 12 41.7 +1.3
comp=Z,99nm,2.0s
PGBU **Glenifferbraes** 31.64 321 *e*P P 06 12 39.3 -0.9
PGBU AMB AMB 06 12 44.6
comp=Z,117nm,2.1s
PGBU **Glenifferbraes** 31.64 321 *e*P P 06 12 39.3 -0.9
EAB **Aberfoyle** 31.72 321 ⇓*i*P P 06 12 39.9 -1.0
EAB **Aberfoyle** 31.72 321 ⇓*i*P P 06 12 39.9 -1.0
MCD **Coleburn Disti** 31.81 324⇓*e*P P 06 12 40.5 -1.2
MCD **Coleburn Disti** 31.81 324⇓*e*P P 06 12 40.5 -1.2
APA **Apatity** 31.90 1 ⇑*i*P P 06 12 41.6 -0.7
APA *i* 06 13 45.8
APA *i*S S 06 17 56.0 +6.7
APA *i*SS SnSn 06 19 40.0 -1.4
APA MLR MLR
comp=Z,2µm,21.0s
APA **Apatity** 31.90 1 *i*P P 06 12 41.6 -0.7
PNCL **Nicolau / Gran** 31.95 286 *e*P P 06 12 43.8 +0.7
comp=Z,83nm,1.5s
MOR8 **Moi Rana** 32.09 347 ⇓*i*P P 06 12 43.6 -0.5
MOR8 AMB AMB 06 12 45.2
comp=Z,31nm,0.7s
MOR8 **Moi Rana** 32.09 347 ⇓*i*P P 06 12 43.6 -0.5
comp=Z,31nm,0.7s,SNR=40
BRVK **Borovoye** 32.16 45 *c i*P P 06 12 45.3 +0.5
BRVK pmax pmax
comp=Z,44nm,1.2s
BRVK **Borovoye** 32.16 45 *e*P P 06 12 45.3 +0.5
comp=Z,70nm,1.0s
BRVK **Borovoye** 32.16 45 P P 06 12 45.6 +0.8
comp=Z,421nm,0.8s,SNR=18
BRVK **Borovoye** 32.16 45 *e*P P 06 12 45.3 +0.5
comp=Z,70nm,1.0s
BVA0 **Borovoye Array** 32.21 45 *i*P P 06 12 45.5 +0.2
BVA0 pmax pmax
comp=Z,59nm,1.2s
BVA0 **Borovoye Array** 32.21 45 *i*P P 06 12 45.5 +0.2
comp=Z,59nm,1.2s
LVZ **Lovozero** 32.26 2 *e*P P 06 12 45.1 -0.5
LVZ **Lovozero** 32.26 2 *e*P P 06 12 45.0 -0.5
LVZ **Lovozero** 32.26 2 *e*P P 06 12 45.0 -0.5
FLOS **Flostrand** 32.44 346 *e*P P 06 12 46.9 -0.1
BIGH **Upper Bighouse** 32.55 326⇓*e*P P 06 12 46.8 -1.4
BIGH AMB AMB 06 12 48.2
comp=Z,229nm,3.8s
BIGH **Upper Bighouse** 32.55 326⇓*e*P P 06 12 46.8 -1.4
KONS **Konsvik** 32.63 346 *e*P P 06 12 48.1 -0.6
KAC **Achnashellach** 32.76 323 *e*P P 06 12 48.3 -1.7
KAC **Achnashellach** 32.76 323 *e*P P 06 12 48.3 -1.7
KPL **Plockton** 32.86 323 *e*P P 06 12 49.4 -1.5
KPL **Plockton** 32.86 323 *e*P P 06 12 49.4 -1.5
AML **Almayashu** 33.15 66 P P 06 12 56.1 +2.0
SNR=13
AML **Almayashu** 33.15 66 P P 06 12 54.9 +0.8
SNR=15
EKS2 **Erkin-Say** 33.19 65 *i*P P 06 12 55.6 +1.5
EKS2 **Erkin-Say** 33.19 65 P P 06 12 55.6 +1.5
SNR=22
EKS2 **Erkin-Say** 33.19 65 *e*P P 06 12 54.8 +0.7
comp=Z,37nm,1.1s
EKS2 **Erkin-Say** 33.19 65 *e*P P 06 12 54.8 +0.7
comp=Z,37nm,1.1s
STEI **Steigen** 33.55 349 *e*P P 06 12 57.3 +0.6
KTK1 **Kautokeino** 33.65 355 *e*P P 06 12 57.1 -0.5
VAL **Valentia** 33.67 312 *e*P P 06 12 56.8 -1.2
USP **Ospenovka** 33.70 64 *i*P P 06 12 59.0 +0.6
USP **Ospenovka** 33.70 64 P P 06 12 59.0 +0.6
SNR=34
USP **Ospenovka** 33.70 64 *i*P P 06 12 59.0 +0.6
AAK **Ala-Archa** 33.72 65 *c e*P P 06 13 00.0 +1.2
AAK pmax pmax
comp=Z,44nm,0.5s
AAK **Ala-Archa** 33.72 65 P P 06 13 00.2 +1.5
SNR=52
AAK **Ala-Archa** 33.72 65 *e*P P 06 13 00.0 +1.2
comp=Z,44nm,0.5s
UCH **Uchtor** 33.76 66 *i*P P 06 13 00.6 +1.2
UCH **Uchtor** 33.76 66 P P 06 13 00.6 +1.2
SNR=36
UCH **Uchtor** 33.76 66 *i*P P 06 13 00.6 +1.2
FRU **Bishkek** 33.80 65 *i*P P 06 13 00.0 +0.7
FRU pmax pmax
comp=Z,290nm,2.0s
FRU MLR MLR
comp=Z,2µm,16.0s
FRU **Bishkek** 33.80 65 *i*P P 06 13 00.0 +0.7
comp=Z,2µm,16.0s
CHMS **Chumysh** 33.89 64 *i*P P 06 13 01.2 +1.1
CHMS **Chumysh** 33.89 64 P P 06 13 01.3 +1.1
SNR=22
CHMS **Chumysh** 33.89 64 *i*P P 06 13 01.2 +1.1
LOF **Lofoten** 34.01 348 *e*P P 06 13 00.3 -0.4
LOF **Lofoten** 34.01 348 *e*P P 06 13 00.3 -0.4
SNR=39
ARCES **ARCESS Array B** 34.02 356 P P 06 12 59.8 -1.1
ARCES PcP **PcP** 06 15 38.4 +0.9
ARCES ScP **ScP** 06 19 17.2 -0.8
ARCES **ARCESS Array B** 34.02 356 P P 06 12 59.8 -1.1
comp=Z,45nm,0.5s
ARCES **ARCESS Array B** 34.02 356 PcP **PcP** 06 15 38.4 +0.9
comp=Z,1µm,19.8s
ARCES **ARCESS Array B** 34.02 356 P P 06 12 59.8 -1.1
comp=Z,45nm,0.5s,baz=167,slow=6.9,SNR=308
ARCES PcP **PcP** 06 15 38.4 +0.9
comp=Z,5.0nm,0.7s,baz=193,slow=3.7,SNR=2.5
ARCES ScP **ScP** 06 19 17.2 -0.8
comp=Z,3.2nm,0.7s,baz=168,slow=4.6,SNR=4.1
ARCES LR LR 06 29 01.9
comp=Z,1µm,19.8s,baz=174,slow=40
ARE0 **ARCESS Array S** 34.02 356 *e*P P 06 12 60.0 -0.9
ARE0 **ARCESS Array S** 34.02 356 *e*P P 06 12 59.6 -1.2
ARE0 **ARCESS Array S** 34.02 356 *e*P P 06 12 59.6 -1.2
KBK **Karagaybulak** 34.05 65 P P 06 13 03.4 +1.7
SNR=34
KEV **Kevo** 34.17 357 *e*P P 06 13 01.6 -0.5
KEV pmax pmax
comp=Z,16nm,0.4s
KEV **Kevo** 34.17 357 *e*P P 06 13 01.2 -0.9
comp=Z,72nm,1.4s
KEV **Kevo** 34.17 357 *e*P P 06 13 01.2 -0.9
comp=Z,72nm,1.4s
KZA **Kyzart** 34.31 66 *i*P P 06 13 06.0 +1.8
KZA **Kyzart** 34.31 66 P P 06 13 06.0 +1.8
SNR=20
KZA **Kyzart** 34.31 66 *i*P P 06 13 06.0 +1.8
TKM2 **Tokmak 2** 34.52 64 *i*P P 06 13 06.6 +0.9
TKM2 pmax pmax
comp=Z,45nm,0.9s
TKM2 **Tokmak 2** 34.52 64 P P 06 13 06.7 +0.9
SNR=61
TKM2 **Tokmak 2** 34.52 64 *e*P P 06 13 06.6 +0.9
comp=Z,40nm,0.8s
TKM2 **Tokmak 2** 34.52 64 *e*P P 06 13 06.6 +0.9
comp=Z,40nm,0.8s
TRO **Tromso** 34.65 352 *e*P P 06 13 07.0 +0.8
TRO **Tromso** 34.65 352 *e*P P 06 13 07.1 +0.8
SNR=39
TOA0 **Torodi Ar. Sit** 35.03 238 *e*P P 06 13 11.0 +0.9
TOA0 **Torodi Ar. Sit** 35.03 238 *e*P P 06 13 11.0 +0.9
TORD **Torodi Ar. Bea** 35.03 238 P P 06 13 11.3 +1.2
TORD PP **PP** 06 14 29.8 -0.6
TORD ScP **ScP** 06 19 23.4 +0.9
TORD **Torodi Ar. Bea** 35.03 238 P P 06 13 11.3 +1.2
TORD **Torodi Ar. Bea** 35.03 238 P P 06 13 11.3 +1.2
comp=Z,44nm,0.9s,baz=36,slow=7.7,SNR=154

TORD PP **PP** 06 14 29.8 -0.6
comp=Z,16nm,0.8s,baz=41,slow=10,SNR=3.5
TORD ScP **ScP** 06 19 23.4 +0.9
comp=Z,1.4nm,0.6s,baz=15,slow=3.4,SNR=4.2
TORD LR LR 06 30 02.5
comp=Z,1μm,21.7s,baz=45,slow=40
ULHL Ulahol 35.03 65 *i* P **P** 06 13 12.2 +2.0
ULHL Ulahol 35.03 65 P **P** 06 13 12.2 +2.0
SNR=42
ULHL Ulahol 35.03 65 *i* P **P** 06 13 12.2 +2.0
KSH Kashi 35.13 70 P **P** 06 13 09.6 -1.4
KSH sP **sP** 06 13 27.1 -3.3
KSH PP **PnPn** 06 14 30.1 +0.4
KSH S **S** 06 18 36.5 -3.8
KSH sS **sS** 06 18 58.1 -4.7
KSH SS **SnSn** 06 20 53.3 -7.3
KSH pmax pmax
comp=Z,12nm,0.5s
KSH LR LR
comp=Z,200nm,5.4s
KSH LR LR
comp=Z,330nm,10.5s
KSH LR LR
comp=Z,570nm,14.5s
KURK Kurchatov 36.77 51 *e*P **P** 06 13 25.0 +0.3
KURK pmax pmax
comp=Z,36nm,1.1s
KURK Kurchatov 36.77 51 *e*P **P** 06 13 25.0 +0.3
comp=Z,36nm,1.1s
KURK Kurchatov 36.77 51 P **P** 06 13 25.0 +0.3
comp=Z,482nm,0.5s,SNR=32
KURK Kurchatov 36.77 51 *e*P **P** 06 13 25.0 +0.3
comp=Z,36nm,1.1s
KMBO Kilima Mbogo 37.06 170 *e*P P 06 13 31.9 +4.2
comp=Z,18nm,1.6s
KMBO Kilima Mbogo 37.06 170 P P 06 13 32.2 +4.5
comp=Z,0.8nm,0.3s,baz=58,slow=21,SNR=4.6
KMBO LR LR 06 32 22.3
comp=Z,576nm,18.8s,baz=289,slow=42
MK31 Makanchi Array 39.09 58 *e*P **P** 06 13 45.2 +0.8
MK31 Makanchi Array 39.09 58 *e*P **P** 06 13 45.1 +0.8
MK31 Makanchi Array 39.09 58 *e*P **P** 06 13 45.2 +0.8
MKAR Makanchi Array 39.09 58 P **P** 06 13 45.1 +0.7
MKAR 06 19 35.6
MKAR pmax pmax
comp=Z,71nm,0.5s
MKAR MLR MLR
comp=Z,2μm,21.2s
MKAR Makanchi Array 39.09 58 P **P** 06 13 45.1 +0.7
MKAR ScP **ScP** 06 19 35.6 -1.7
MKAR Makanchi Array 39.09 58 P **P** 06 13 45.1 +0.7
comp=Z,71nm,0.5s
MKAR ScP **ScP** 06 19 35.6 -1.7
MKAR Makanchi Array 39.09 58 P **P** 06 13 45.1 +0.7
comp=Z,71nm,0.5s,baz=270,slow=7.9,SNR=536
MKAR ScP **ScP** 06 19 35.6 -1.7
comp=Z,1.9nm,0.5s,baz=259,slow=3.9,SNR=9.2
MKAR LR LR 06 32 14.8
comp=Z,2μm,21.2s,baz=272,slow=40
NVS Novosibirsk 40.01 45⇑ *i*P **P** 06 13 51.2 -0.6
NVS *i* 06 15 22.2
NVS *e*S S 06 19 45.0 -8.5
NVS *e*SSS SSS 06 22 47.3
NVS *e* 06 23 48.2
NVS pmax pmax
comp=Z,65nm,0.9s
NVS pmax pmax
comp=E,50nm,1.2s
NVS pmax pmax
comp=Z,39nm,0.9s
NVS pmax pmax
comp=E,78nm,1.7s
NVS smax smax
comp=E,24nm,1.4s
NVS Novosibirsk 40.01 45 *i* P **P** 06 13 51.2 -0.6
comp=E,39nm,0.9s
ZAA0 Zalesovo Array 40.84 46 *e*P **P** 06 13 57.8 -0.9
ZAA0 Zalesovo Array 40.84 46 *e*P **P** 06 13 57.8 -0.9
ZALV Zalesovo Beam 40.84 46 *i* P **P** 06 13 58.0 -0.7
ZALV pmax pmax
comp=Z,24nm,0.4s
ZALV Zalesovo Beam 40.84 46 P **P** 06 13 58.1 -0.7
ZALV ScP **ScP** 06 19 42.1 -1.8
ZALV Zalesovo Beam 40.84 46 P **P** 06 13 58.1 -0.7
ZALV ScP **ScP** 06 19 42.1 -1.8
ZALV Zalesovo Beam 40.84 46 P **P** 06 13 58.1 -0.7
comp=Z,24nm,0.4s,baz=268,slow=8.7,SNR=68
ZALV ScP **ScP** 06 19 42.1 -1.8
comp=Z,1.5nm,0.5s,baz=227,slow=3.1,SNR=3.9
ZALV LR LR 06 33 42.9
comp=Z,659nm,18.7s,baz=125,slow=40
HOPEN Hopen 40.98 358 *e*P **P** 06 13 59.2 -0.3
HOPEN Hopen 40.98 358 *e*P **P** 06 13 59.2 -0.3
SNR=37
BORG Borgarnes 42.62 330 P **P** 06 14 15.0 +2.0
BORG Borgarnes 42.62 330 P **P** 06 14 15.0 +2.0
comp=Z,18nm,0.8s
BORG Borgarnes 42.62 330 P **P** 06 14 15.0 +2.0
comp=Z,18nm,0.8s,baz=102,slow=7.6,SNR=7.4
SPA0 Spitsbergen Ar 43.04 355 *e*P **P** 06 14 16.1 -0.3
SPA0 Spitsbergen Ar 43.04 355 *e*P **P** 06 14 16.1 -0.3
SNR=36
WMQ Urumqi 43.19 61⇑ *i*P **P** 06 14 19.5 +1.4
WMQ pP **pP** 06 14 34.0 +2.3
WMQ sP **sP** 06 14 40.0 +2.2
WMQ PP **PcP** 06 16 03.0 -3.7
WMQ PcP PP 06 16 08.0 +9.0
WMQ ScP **ScP** 06 19 53.5 -0.1
WMQ S **S** 06 20 42.0 +0.9
WMQ sS **sS** 06 21 07.5 +3.5
WMQ SS **SS** 06 23 49.5 -5.7
WMQ ScS **ScS** 06 24 11.5 -2.1
WMQ pmax pmax
comp=Z,89nm,1.0s
WMQ pmax pmax
comp=Z,410nm,4.0s
WMQ LR LR
comp=Z,1μm,18.0s
WMQ LR LR
comp=Z,2μm,18.0s
WMQ LR LR
comp=Z,1μm,18.0s
PYUN Piuthan 43.92 85 *e*P **P** 06 14 25.1 +0.8
comp=Z,199nm,0.6s
PYUN Piuthan 43.92 85 *e*P **P** 06 14 25.1 +0.8
comp=Z,199nm,0.6s
PYUN Piuthan 43.92 85 *e*P **P** 06 14 25.1 +0.8
comp=Z,199nm,0.6s
DBIC Dimbokro 44.14 238 *e*P **P** 06 14 26.7 +0.8
DBIC Dimbokro 44.14 238 *e*P **P** 06 14 26.7 +0.8
DBIC Dimbokro 44.14 238 P **P** 06 14 26.4 +0.4
comp=Z,61nm,0.8s,baz=25,slow=9.7,SNR=47
DBIC LR LR 06 35 14.5
comp=Z,1μm,20.7s,baz=27,slow=39
TIC Toumodi 44.27 238 *e*P **P** 06 14 27.3 +0.3
comp=Z,23nm,0.3s
KIC Kosan Boka 44.28 237 *e*P **P** 06 14 27.6 +0.5
comp=Z,151nm,0.8s
DANN Dangsing 44.45 84 *e*P **P** 06 14 29.9 +1.3
comp=Z,348nm,0.5s
DANN Dangsing 44.45 84 *e*P **P** 06 14 29.9 +1.3
comp=Z,348nm,0.5s
DANN Dangsing 44.45 84 *e*P **P** 06 14 29.9 +1.3
comp=Z,348nm,0.5s
KOLN Koldanda 44.55 85 *e*P **P** 06 14 30.5 +1.2
comp=Z,104nm,0.6s
KOLN Koldanda 44.55 85 *e*P **P** 06 14 30.5 +1.2
comp=Z,104nm,0.6s
KOLN Koldanda 44.55 85 *e*P **P** 06 14 30.5 +1.2
comp=Z,104nm,0.6s
LIC Lamto 44.58 238 *e*P **P** 06 14 29.6 +0.2
comp=Z,119nm,0.8s,baz=50
LIC *e*R
comp=Z,2μm,23.0s
LIC Lamto 44.58 238 *e*P **P** 06 14 29.8 +0.4
comp=Z,184nm,0.8s
LIC Lamto 44.58 238 *e*P **P** 06 14 29.6 +0.2
comp=Z,119nm,0.8s
LIC Lamto 44.58 238 *e*P **P** 06 14 29.6 +0.2
comp=Z,60nm,0.8s
SCO Scoresbysund 44.74 337 *i* P **P** 06 14 31.1 +1.1
SCO Scoresbysund 44.74 337 *i* P **P** 06 14 31.1 +1.1
comp=Z,11nm,0.7s
SCO Scoresbysund 44.74 337 *i* P **P** 06 14 31.1 +1.1
GKN Gorkha 45.29 84 *e*P **P** 06 14 36.0 +0.8
comp=Z,381nm,0.5s
GKN Gorkha 45.29 84 *e*P **P** 06 14 36.0 +0.8
comp=Z,381nm,0.5s
GKN Gorkha 45.29 84 *e*P **P** 06 14 36.0 +0.8
comp=Z,381nm,0.5s
HYB Hyderabad 45.37 101 *i* P **P** 06 14 35.0 -0.8
KRAR Krasnoyarsk 45.55 44 *e*P **P** 06 14 37.3 +0.6
KRAR pmax pmax
comp=Z,7.0nm,0.5s
KRAR Krasnoyarsk 45.55 44 *e*P **P** 06 14 37.3 +0.6
comp=Z,7.0nm,0.5s
DMN Daman 45.83 85 *e*P **P** 06 14 40.5 +0.9
comp=Z,374nm,0.6s
DMN Daman 45.83 85 *e*P **P** 06 14 40.5 +0.9
comp=Z,374nm,0.6s
DMN Daman 45.83 85 *e*P **P** 06 14 40.5 +0.9
comp=Z,374nm,0.6s
KKN Kakani 45.90 84 *e*P **P** 06 14 40.6 +0.5
comp=Z,330nm,0.5s
KKN Kakani 45.90 84 *e*P **P** 06 14 40.6 +0.5
KKN Kakani 45.90 84 *e*P **P** 06 14 40.6 +0.5
comp=Z,330nm,0.5s
KKN Kakani 45.90 84 *e*P **P** 06 14 40.6 +0.5
comp=Z,330nm,0.5s
PKIN Phulchoki 46.08 84 *e*P **P** 06 14 42.2 +0.6
comp=Z,103nm,0.6s
PKI Pulchoki 46.09 84 *e*P **P** 06 14 42.3 +0.6
comp=Z,222nm,0.6s
PKI Pulchoki 46.09 84 *e*P **P** 06 14 42.3 +0.6
PKI Pulchoki 46.09 84 *e*P **P** 06 14 42.3 +0.6
comp=Z,222nm,0.6s
PKI Pulchoki 46.09 84 *e*P **P** 06 14 42.3 +0.6
comp=Z,222nm,0.6s
HVS Khovu-Aksy 46.30 50 *e*P **P** 06 14 43.0 +0.2
HVS Khovu-Aksy 46.30 50 *e*P **P** 06 14 43.0 +0.2
GUN Gumba 46.34 84 *e*P **P** 06 14 44.2 +0.5
comp=Z,185nm,0.7s
GUN Gumba 46.34 84 *e*P **P** 06 14 44.2 +0.5
comp=Z,185nm,0.7s
GUN Gumba 46.34 84 *e*P **P** 06 14 44.2 +0.5
comp=Z,185nm,0.7s
JIRN Jiri 46.69 84 *e*P **P** 06 14 47.1 +0.6
comp=Z,293nm,0.5s
JIRN Jiri 46.69 84 *e*P **P** 06 14 47.1 +0.6
comp=Z,293nm,0.5s
JIRN Jiri 46.69 84 *e*P **P** 06 14 47.1 +0.6
comp=Z,293nm,0.5s
DAG Danmarks Havn 46.70 346 *i* P **P** 06 14 44.8 -0.6
DAG Danmarks Havn 46.70 346 *i* P **P** 06 14 44.8 -0.6
comp=Z,8.4nm,0.6s
RAMN Ramite 47.31 85 *e*P **P** 06 14 51.3 +0.1
comp=Z,171nm,0.6s
RAMN Ramite 47.31 85 *e*P **P** 06 14 51.3 +0.1
comp=Z,171nm,0.6s
RAMN Ramite 47.31 85 *e*P **P** 06 14 51.3 +0.1
comp=Z,171nm,0.6s
ODAN Odare 47.99 84 *e*P **P** 06 14 56.6 +0.2
comp=Z,112nm,0.5s
ODAN Odare 47.99 84 *e*P **P** 06 14 56.6 +0.2
comp=Z,112nm,0.5s
ODAN Odare 47.99 84 *e*P **P** 06 14 56.6 +0.2
comp=Z,112nm,0.5s
TAPN Taplejung 48.05 84 *e*P **P** 06 14 57.2 +0.3
comp=Z,87nm,0.7s
TAPN Taplejung 48.05 84 *e*P **P** 06 14 57.2 +0.3
comp=Z,87nm,0.7s
TAPN Taplejung 48.05 84 *e*P **P** 06 14 57.2 +0.3
comp=Z,87nm,0.7s
LSA Lhasa 49.86 79 P **P** 06 15 11.3 +0.3
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 49.86 79 *e*P **P** 06 15 11.6 +0.6
LSA pmax pmax
comp=Z,22nm,0.5s
LSA Lhasa 49.86 79 *e*P **P** 06 15 11.6 +0.6
comp=Z,22nm,0.5s
LSA Lhasa 49.86 79 P **P** 06 15 11.6 +0.6
SUMG Summit 50.34 338 *i* P **P** 06 15 14.1 +0.2
SUMG Summit 50.34 338 *i* P **P** 06 15 14.1 +0.2
comp=Z,18nm,0.7s
SUMG Summit 50.34 338 *e*P **P** 06 15 13.6 -0.3
comp=Z,27nm,0.5s
SUMG Summit 50.34 338 *e*P **P** 06 15 13.6 -0.3
comp=Z,27nm,0.5s
LSZ Lusaka 50.83 184 *e*P **P** 06 15 19.8 +1.9
comp=Z,6.7nm,0.7s
LSZ Lusaka 50.83 184 *e*P **P** 06 15 19.8 +1.9
comp=Z,6.7nm,0.7s
SHL Shillong 52.19 84 *i* P **P** 06 15 27.5 -0.7
SHL *i* S **S** 06 22 45.0 -4.3
TLY Talaya 52.37 48 *e*P P 06 15 35.0 +6.0
TLY *e* 06 17 23.9
TLY *e*S S 06 23 11.6 +21
TLY pmax pmax
comp=Z,15nm,0.8s
TLY MLR MLR
comp=Z,596nm,14.0s
TLY Talaya 52.37 48 *e*P **P** 06 15 31.8 +2.8
TLY Talaya 52.37 48 *e*P **P** 06 15 31.8 +2.8
ZAK Zakamensk 52.42 50 *e*P **P** 06 15 29.6 +0.1
ZAK pmax pmax
comp=Z,14nm,0.9s
ZAK Zakamensk 52.42 50 *e*P **P** 06 15 29.6 +0.1
comp=Z,14nm,0.9s
GTA Gaotai 53.06 64⇑ P **P** 06 15 35.0 +0.6
GTA pP **pP** 06 15 47.4 -1.1
GTA sP **sP** 06 15 52.9 -1.5
GTA S **S** 06 22 59.8 -1.1
GTA sS **sS** 06 23 22.0 -2.4
GTA ScS **ScS** 06 25 19.6 -0.1
GTA SS **SS** 06 26 39.1 -1.2
GTA pmax pmax
comp=Z,21nm,1.2s
GTA pmax pmax
comp=Z,220nm,7.1s
GTA LR LR
comp=Z,540nm,19.5s
GTA LR LR
comp=Z,590nm,18.5s
GTA LR LR
comp=Z,1μm,19.0s
IMP Imphal 54.20 83 *e*P **P** 06 15 43.0 +0.2
IMP *e*S **sP** 06 16 02.0 -0.8
ILULI Ilulissat 54.53 334 *i* P **P** 06 15 43.5 -0.9
ILULI Ilulissat 54.53 334 *i* P **P** 06 15 43.5 -0.9
comp=Z,10nm,0.5s
ILULI Ilulissat 54.53 334 *i* P **P** 06 15 43.5 -0.9
SNR=32
SFJD Kangerlussuaq 54.67 331 *i* P **P** 06 15 44.6 -0.9
comp=Z,19nm,0.6s
SFJD Kangerlussuaq 54.67 331 *e*P **P** 06 15 44.1 -1.4
comp=Z,22nm,0.6s
SFJD Kangerlussuaq 54.67 331 *e*P **P** 06 15 44.1 -1.4
comp=Z,22nm,0.6s
SFJD Kangerlussuaq 54.67 331 P **P** 06 15 45.0 -0.5
comp=Z,26nm,0.6s,baz=65,slow=6.9,SNR=28
SONM Songino Array 55.05 53 P **P** 06 15 49.4 +0.6
SONM PP **PP** 06 17 51.2 -0.9
SONM ScP **ScP** 06 20 44.7 +0.7
SONM Songino Array 55.05 53 P **P** 06 15 49.4 +0.6
comp=Z,33nm,0.5s
SONM Songino Array 55.05 53 PP PP 06 17 51.2 -0.9
SONM Songino Array 55.05 53 P **P** 06 15 49.4 +0.6
comp=Z,33nm,0.5s,baz=286,slow=7.8,SNR=339
SONM PP **PP** 06 17 51.2 -0.9
comp=Z,2.4nm,0.7s,baz=268,slow=6.6,SNR=2.1
SONM ScP **ScP** 06 20 44.7 +0.7
comp=Z,0.6nm,0.7s,baz=319,slow=5.7,SNR=3.2
SONM LR LR 06 42 25.3
comp=Z,2μm,21.1s,baz=304,slow=39
ULN Ulaanbaatar 55.47 52 *e*P **P** 06 15 52.2 +0.4
comp=Z,18nm,0.5s
ULN Ulaanbaatar 55.47 52 *e*P **P** 06 15 52.2 +0.4
comp=Z,18nm,0.5s
TSUM Tsmeb 56.21 196 *e*P **P** 06 15 59.3 +2.1
ABPO Ambohimpanom 56.45 162 *e*P **P** 06 16 01.7 +2.7
ABPO pmax pmax
comp=Z,15nm,1.0s
ABPO Ambohimpanom 56.45 162 *e*P **P** 06 16 01.7 +2.7
comp=Z,15nm,1.0s
LZH Lanzhou 57.23 67 *e*P **P** 06 16 05.3 +0.7
LZH pP **pP** 06 16 19.5 +0.8
LZH sP **sP** 06 16 25.6 +1.0
LZH PP **PP** 06 18 13.8 +2.0
LZH *e*S **S** 06 23 55.0 -1.8
LZH sS **sS** 06 24 18.3 -2.2
LZH pmax pmax
comp=Z,62nm,1.4s
LZH pmax pmax
comp=Z,210nm,6.4s
LZH LR LR
comp=Z,580nm,15.9s
LZH LR LR
comp=Z,870nm,17.0s
LZH LR LR
comp=Z,1μm,18.0s
TIXI Tiksi 58.76 22⇑ *i*P **P** 06 16 14.3 -0.1
TIXI pmax pmax
comp=Z,63nm,1.7s
TIXI Tiksi 58.76 22 *e*P **P** 06 16 14.3 -0.1
comp=Z,97nm,0.8s
TIXI Tiksi 58.76 22 *e*P **P** 06 16 14.4 -0.1
comp=Z,97nm,0.8s
CD2 Chengdu 59.29 72 P **P** 06 16 19.3 +0.4
CD2 pP **pP** 06 16 35.0 +1.9
CD2 sP **sP** 06 16 40.3 +1.3
CD2 PcP **PcP** 06 17 08.1 +1.5
CD2 PP **PP** 06 18 32.8 +2.7
CD2 S **S** 06 24 21.3 -2.2
CD2 sS **sS** 06 24 46.0 -1.4
CD2 ScS **ScS** 06 26 00.9 -3.8
CD2 SS **SS** 06 28 18.1 -0.4
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,240nm,10.8s
CD2 LR LR
comp=Z,710nm,21.4s
CD2 LR LR
comp=Z,1μm,20.2s
CD2 LR LR
comp=Z,500nm,23.8s
HHC Hu-ho-hao-te 60.94 59 *e*P **P** 06 16 30.8 +0.7
HHC sP **sP** 06 16 51.4 +1.1
HHC PP **PP** 06 18 45.4 +0.9
HHC S **S** 06 24 49.5 +5.0
HHC sS **sS** 06 25 08.8 +0.3
HHC ScS SKKSac 06 26 09.8 -7.0
HHC SS **SS** 06 28 46.3 +2.3
HHC pmax pmax
comp=Z,250nm,1.0s
HHC pmax pmax
comp=Z,790nm,6.7s
HHC LR LR
comp=Z,550nm,16.5s
HHC LR LR
comp=Z,1μm,16.5s
HHC LR LR
comp=Z,1μm,16.4s
KMI Kunming 61.11 79 P **P** 06 16 33.4 +1.8
KMI pP **pP** 06 16 43.1 -2.8
KMI S **S** 06 24 44.5 -2.8
KMI pmax pmax
comp=Z,23nm,0.6s
KMI LR LR
comp=Z,250nm,19.0s
KMI LR LR
comp=Z,250nm,20.9s
KMI LR LR
comp=Z,340nm,25.4s
CHTO Chiang Mai 61.16 87 *e*P **P** 06 16 31.0 -0.7
CHTO pmax pmax
comp=Z,27nm,0.8s
CHTO Chiang Mai 61.16 87 *e*P **P** 06 16 31.0 -0.7
comp=Z,27nm,0.8s
CHTO Chiang Mai 61.16 87 *e*P **P** 06 16 31.0 -0.7
comp=Z,27nm,0.8s
CM31 Chiang Mai Arr 61.34 87 *e*P **P** 06 16 33.2 +0.2
comp=Z,14nm,0.5s
CM31 Chiang Mai Arr 61.34 87 *e*P **P** 06 16 33.2 +0.2
comp=Z,14nm,0.5s
CMAR Chiang Mai Arr 61.34 87 P **P** 06 16 32.9 -0.1
CMAR Chiang Mai Arr 61.34 87 P **P** 06 16 32.8 -0.1
CMAR Chiang Mai Arr 61.34 87 P **P** 06 16 32.9 -0.1
comp=Z,16nm,0.6s,baz=294,slow=8.6,SNR=48
CMAR LR LR 06 48 27.9
comp=Z,233nm,19.2s,baz=147,slow=41
XAN Xi'an 61.87 67 P **P** 06 16 36.3 -0.1
XAN pP **pP** 06 16 49.3 -1.4
XAN sP **sP** 06 16 55.8 -0.8
XAN PP **PP** 06 16 54.0 +1.2
XAN S **S** 06 24 52.0 -4.4
XAN pmax pmax
comp=Z,5.0nm,0.5s
XAN LR LR
comp=Z,500nm,21.5s
XAN LR LR
comp=Z,160nm,21.5s
XAN LR LR
comp=Z,230nm,20.5s
YAK Yakutsk 62.72 32 *e*P P 06 16 45.0 +3.5
YAK pmax pmax
comp=Z,35nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 62.72 32 P **P** 06 16 41.4 -0.1
comp=E,40nm,0.6s
YAK Yakutsk 62.72 32 P **P** 06 16 41.4 -0.1
comp=E,40nm,0.6s
FRB Frobisher Bay 62.78 331 P **P** 06 16 41.2 -0.7
FRB Frobisher Bay 62.78 331 P **P** 06 16 41.2 -0.7
comp=E,46nm,0.6s
FRB Frobisher Bay 62.78 331 P **P** 06 16 41.2 -0.7
comp=E,46nm,0.6s,baz=67,slow=7.1,SNR=223
HIA Hailar 62.87 47 *e*P **P** 06 16 43.3 +0.5
comp=E,12nm,0.6s
HIA Hailar 62.87 47 *e*P **P** 06 16 43.3 +0.5
comp=E,12nm,0.6s
GYA Guiyang 63.59 75⇑ *i*P **P** 06 16 47.6 -0.4
GYA pP **pP** 06 17 03.8 +1.4
GYA sP **sP** 06 17 11.3 +3.1
GYA PP **PP** 06 19 12.0 +3.9
GYA ScP 06 21 22.3
GYA S **S** 06 25 17.0 -1.2
GYA sS **sS** 06 25 41.8 -0.5
GYA SKS **SKSac** 06 26 34.0 -3.3
GYA SS **SS** 06 29 25.4 -0.6
GYA pmax pmax
comp=E,20nm,0.8s
GYA pmax pmax
comp=E,130nm,5.4s
GYA LR LR
comp=E,750nm,19.4s
GYA LR LR
comp=E,690nm,20.0s
GYA LR LR
comp=E,840nm,19.8s
ENH Enshi 63.99 70 *e*P **P** 06 16 50.6 +0.1
comp=E,27nm,0.7s
ENH Enshi 63.99 70 *e*P **P** 06 16 50.6 +0.1
comp=E,27nm,0.7s
BOSA Boshof 64.28 186 *e*P **P** 06 16 54.4 +2.1
comp=E,29nm,1.3s
BOSA Boshof 64.28 186 *e*P **P** 06 16 54.4 +2.1
comp=E,29nm,1.3s
BOSA Boshof 64.28 186 P **P** 06 16 54.7 +2.4
comp=E,11nm,0.8s,baz=346,slow=6.7,SNR=20
BOSA LR LR 06 46 29.3
comp=E,384nm,20.7s,baz=7.8,slow=37
RES Resolute Bay 64.40 346 P **P** 06 16 52.4 0.0
RES Resolute Bay 64.40 346 P **P** 06 16 52.4 0.0
comp=E,4.0nm,0.5s
RES Resolute Bay 64.40 346 P **P** 06 16 52.4 0.0
comp=E,4.1nm,0.5s,baz=36,slow=8.8,SNR=28
BJI Beijing 64.47 58 P **P** 06 16 54.0 +0.6
BJI sP **sP** 06 17 13.9 +0.2
BJI S S 06 25 34.6 +6.1
BJI sS **sS** 06 25 52.0 -0.7
BJI pmax pmax
comp=E,69nm,0.6s
BJI pmax pmax
comp=E,300nm,7.8s
BJI LR LR
comp=E,720nm,21.5s
BJI LR LR
comp=E,650nm,20.1s
BJI LR LR
comp=E,720nm,21.5s
BJT Baijiatuao 64.48 58 *e*P **P** 06 16 53.6 +0.1
comp=E,70nm,0.6s
BJT Baijiatuao 64.48 58 *e*P **P** 06 16 53.6 +0.1

comp=E,70nm,0.6s
SCHQ Schefferville 66.06 321 *e*P **P** **06 17 02.5 -1.0**
comp=E,23nm,0.6s
SCHQ Schefferville 66.06 321 *e*P **P** **06 17 02.5 -1.0**
comp=E,23nm,0.6s
SCHQ Schefferville 66.06 321 P **P** **06 17 02.7 -0.8**
comp=E,21nm,0.6s,baz=69,slow=5.1,SNR=60
SCHQ LR LR 06 44 31.7
comp=E,359nm,18.7s,baz=263,slow=35
WHN Wuhan 67.56 68 ⇑P **P** **06 17 13.3 -0.1**
WHN S **S** **06 26 03.6 -2.7**
WHN LR LR
comp=E,1µm,16.6s
SUR Sutherland 68.50 190 *e*P **P** **06 17 22.2 +3.0**
comp=E,15nm,0.8s
SUR Sutherland 68.50 190 P P 06 17 22.7 +3.4
comp=E,120nm,0.8s,SNR=5.4
SNY Shenyang 68.62 53 ⇓P **P** **06 17 18.8 -1.0**
SNY pmax pmax
comp=E,10.0nm,0.5s
SNY pmax pmax
comp=E,250nm,5.5s
SNY LR LR
comp=E,650nm,19.6s
SNY LR LR
comp=E,940nm,20.8s
SNY LR LR
comp=E,1µm,25.6s
CN2 Changchun 68.85 51 *e*P **P** **06 17 21.5 +0.2**
CN2 pmax pmax
comp=E,20nm,0.8s
CN2 pmax pmax
comp=E,310nm,4.0s
CN2 LR LR
comp=E,960nm,19.0s
CN2 LR LR
comp=E,950nm,19.0s
CN2 LR LR
comp=E,420nm,19.0s
KLR Kul'dur 69.85 43 *e*P P 06 17 23.4 -4.0
QIZ Qiongzhong 69.85 81 P **P** **06 17 28.1 +0.2**
QIZ pP **pP** **06 17 42.3 -0.1**
QIZ sP **sP** **06 17 48.1 -0.1**
QIZ PP **PP** **06 20 02.8 0.0**
QIZ S **S** **06 26 34.5 +0.6**
QIZ sS **sS** **06 26 57.3 -1.0**
QIZ pmax pmax
comp=E,18nm,0.6s
QIZ LR LR
comp=E,140nm,18.7s
QIZ LR LR
comp=E,340nm,18.7s
KULM Kulim 70.00 98 *e*P **P** **06 17 27.9 -0.9**
comp=E,16nm,0.6s
KULM Kulim 70.00 98 *e*P **P** **06 17 27.9 -0.9**
comp=E,16nm,0.6s
NJ2 Nanjing 70.16 64 *e*P P 06 17 38.4 +8.8
NJ2 S **S** **06 26 37.0 -0.1**
NJ2 pmax pmax
comp=Z,30nm,0.8s
NJ2 LR LR
comp=Z,600nm,27.3s
SEY Seymchan 70.96 25 P **P** **06 17 34.9 +1.0**
SEY pmax pmax
comp=Z,17nm,0.5s
SEY Seymchan 70.96 25 P **P** **06 17 34.9 +1.0**
SEY Seymchan 70.96 25 P **P** **06 17 34.9 +1.0**
comp=Z,17nm,0.5s
SEY Seymchan 70.96 25 P **P** **06 17 34.9 +1.0**
comp=Z,16nm,0.5s,baz=7.8,slow=23,SNR=70
MDJ Mudanjiang 71.00 48 P **P** **06 17 34.0 -0.5**
MDJ pP **pP** **06 17 48.1 -1.0**
MDJ sP **sP** **06 17 54.0 -0.9**
MDJ PP **PP** **06 20 09.3 -2.6**
MDJ S **S** **06 26 44.5 -2.0**
MDJ ScS **ScS** **06 27 33.9 -0.3**
MDJ pmax pmax
comp=Z,5.0nm,0.6s
MDJ pmax pmax
comp=Z,140nm,4.5s
MDJ LR LR
comp=Z,280nm,19.0s
MDJ LR LR
comp=Z,240nm,22.8s
MDJ LR LR
comp=Z,250nm,28.1s
MDJ Mudanjiang 71.00 48 *e*P **P** **06 17 36.3 +1.8**
MDJ Mudanjiang 71.00 48 *e*P **P** **06 17 36.3 +1.8**
HABR Khabarovsk 72.09 43 *e*P **P** **06 17 39.6 -1.4**
HABR *e* 06 17 57.7
HABR *e* 06 20 20.1
HABR *e*S **S** **06 26 58.6 -0.3**
HABR *e**SS **sS** **06 27 22.9 -0.6**
HABR *e* 06 27 41.1
HABR *e*SS **SS** **06 31 36.6 +0.5**
HABR pmax pmax
comp=Z,41nm,1.4s
HABR MLR MLR
comp=Z,636nm,20.0s
HABR Khabarovsk 72.09 43 *e*P **P** **06 17 39.6 -1.4**
comp=Z,41nm,1.4s
HABR Khabarovsk 72.09 43 *e*PcP **PcP** **06 17 57.7 -1.4**
USRK Ussuriysk Arra 72.68 48 P **P** **06 17 44.0 -0.6**
comp=Z,20nm,0.5s,baz=298,slow=5.1,SNR=109
USRK LR LR 06 55 42.3
comp=Z,427nm,19.1s,baz=299,slow=41
KSAR Wonju Array Be 73.72 55 P **P** **06 17 50.8 0.0**
KSAR Wonju Array Be 73.72 55 P **P** **06 17 50.8 0.0**
KSRS Korea Array 73.74 55 P **P** **06 17 50.8 -0.1**
comp=Z,800nm,20.4s
KSRS Korea Array 73.74 55 P **P** **06 17 50.8 -0.1**
comp=Z,40nm,0.6s,baz=309,slow=4.3,SNR=121
KSRS LR LR 06 54 07.9
comp=Z,800nm,20.4s,baz=304,slow=39
FCC Fort Churchill 75.56 334 *e*P **P** **06 18 00.3 -0.7**
FCC Fort Churchill 75.56 334 *e*P **P** **06 18 00.3 -0.7**
comp=Z,0.4nm,0.6s
FCC Fort Churchill 75.56 334 *e*P **P** **06 18 00.3 -0.7**
comp=Z,0.4nm,0.6s
INK Inuvik 75.67 354 *e*P **P** **06 18 00.9 -0.6**
comp=Z,15nm,0.9s
INK Inuvik 75.67 354 *e*P **P** **06 18 00.9 -0.6**
comp=Z,15nm,0.9s
YSS Yuzh-Sakhalins 77.18 41⇑ *e*P **P** **06 18 11.0 +0.6**
YSS *e* 06 18 29.0
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS Yuzh-Sakhalins 77.18 41 *e*P **P** **06 18 11.1 +0.6**
comp=Z,27nm,0.6s
YSS Yuzh-Sakhalins 77.18 41 *e*P **P** **06 18 11.1 +0.6**
comp=Z,27nm,0.6s
COLD Coldfoot 77.35 1 *e*P **P** **06 18 11.5 +0.4**
comp=Z,40nm,1.2s
COLD Coldfoot 77.35 1 *e*P **P** **06 18 11.5 +0.4**
comp=Z,40nm,1.2s
TNA Tin City 77.90 8 *e*P **P** **06 18 14.2 +0.1**
comp=Z,34nm,0.9s
TNA Tin City 77.90 8 *e*P **P** **06 18 14.2 +0.1**
comp=Z,34nm,0.9s
JNU Nakatsue 78.15 58 P **P** **06 18 18.1 +1.8**
comp=Z,1.7nm,0.6s
JNU Nakatsue 78.15 58 P **P** **06 18 18.0 +1.8**
comp=Z,1.7nm,0.6s
JNU Nakatsue 78.15 58 P **P** **06 18 18.1 +1.8**
comp=Z,13nm,0.5s,baz=34,slow=1.2,SNR=7.8
SADO Sadowa 78.26 317 P **P** **06 18 16.8 +0.2**
SADO Sadowa 78.26 317 P **P** **06 18 16.8 +0.2**
SADO Sadowa 78.26 317 P **P** **06 18 16.8 +0.2**
baz=100,slow=3.1
YKA Yellowknife Ar 78.39 345 P **P** **06 18 16.4 -0.5**
YKA Yellowknife Ar 78.39 345 P **P** **06 18 16.4 -0.5**
YKA Yellowknife Ar 78.39 345 P **P** **06 18 16.4 -0.5**
comp=Z,11nm,0.5s,baz=26,slow=5.4,SNR=436
IM04 Indian Mountai 78.53 2 *e*P **P** **06 18 17.9 +0.3**
IM04 Indian Mountai 78.53 2 *e*P **P** **06 18 18.0 +0.3**
ASAJ Asahikawa 78.89 43 *e*P **P** **06 18 20.0 0.0**
ASAJ Asahikawa 78.89 43 *e*P **P** **06 18 20.0 0.0**
ASAJ Asahikawa 78.89 43 P **P** **06 18 19.8 -0.2**
comp=Z,22nm,0.6s,baz=343,slow=4.3,SNR=15
GAMB Gambell 79.12 10 *e*P **P** **06 18 20.4 -0.5**
comp=Z,11nm,0.6s
GAMB Gambell 79.12 10 *e*P **P** **06 18 20.4 -0.5**
comp=Z,11nm,0.6s
COLA College 79.72 360 *e*P **P** **06 18 24.9 +0.8**
COLA pmax pmax
comp=Z,23nm,1.0s
COLA College 79.72 360 *e*P **P** **06 18 24.9 +0.8**
comp=Z,23nm,1.0s
COLA College 79.72 360 *e*P **P** **06 18 24.9 +0.8**
comp=Z,23nm,1.0s
ILAR Eielson Array 79.82 359 P **P** **06 18 24.6 -0.1**
ILAR PKKPbc **PKKPbc** **06 37 11.5 +0.8**
ILAR Eielson Array 79.82 359 P **P** **06 18 24.6 -0.1**
ILAR Eielson Array 79.82 359 P **P** **06 18 24.6 -0.1**
comp=Z,3.2nm,0.6s,baz=340,slow=3.8,SNR=71
ILAR PKKPbc **PKKPbc** **06 37 11.5 +0.8**
comp=Z,0.4nm,1.0s,baz=196,slow=2.3,SNR=4.3
JOW Kunigami 79.88 64 *e*P **P** **06 18 26.4 +0.7**
comp=Z,12nm,0.7s
JOW Kunigami 79.88 64 *e*P **P** **06 18 26.4 +0.7**
comp=Z,12nm,0.7s
PETK Petropavlovsk- 79.95 30 P **P** **06 18 25.0 -0.7**
PETK pmax pmax
comp=Z,8.0nm,1.0s
PETK MLR MLR
comp=Z,296nm,19.7s
PETK Petropavlovsk- 79.95 30 P **P** **06 18 25.0 -0.7**
PETK Petropavlovsk- 79.95 30 P **P** **06 18 25.0 -0.7**
PETK Petropavlovsk- 79.95 30 P **P** **06 18 25.0 -0.7**
comp=Z,7.7nm,1.0s,baz=216,slow=4.8,SNR=3.7
PETK LR LR 06 57 44.4
comp=Z,296nm,19.7s,baz=310,slow=39
PET Petropavlovsk 80.40 29 *e*P P 06 18 37.3 +9.3
PET *e*S S 06 28 38.0 +8.1
PET MLR MLR
comp=Z,700nm,17.0s
MCK McKinley 80.87 0 *e*P **P** **06 18 29.5 -0.9**
MCK pmax pmax
comp=Z,43nm,1.3s
MCK McKinley 80.87 0 *e*P **P** **06 18 29.5 -0.9**
comp=Z,43nm,1.3s
MCK McKinley 80.87 0 *e*P **P** **06 18 29.5 -0.9**
comp=Z,43nm,1.3s
MAJO Matsushiro 80.98 51 *e*P **P** **06 18 31.0 -0.5**
MAJO pmax pmax
comp=Z,24nm,0.8s
MAJO Matsushiro 80.98 51 *e*P **P** **06 18 31.0 -0.5**
comp=Z,24nm,0.8s
MAJO Matsushiro 80.98 51 *e*P **P** **06 18 31.0 -0.5**
comp=Z,24nm,0.8s
MAT Matsushiro 80.98 51 P **P** **06 18 31.1 -0.4**
MAT *e*S **S** **06 28 36.0 -0.7**
MJAR Matsushiro Arr 80.98 51 P **P** **06 18 31.6 +0.1**
MJAR Matsushiro Arr 80.98 51 P **P** **06 18 31.6 +0.1**
MJAR Matsushiro Arr 80.98 51 P **P** **06 18 31.6 +0.1**
comp=Z,21nm,0.8s,baz=332,slow=1.8,SNR=44
MJAR LR LR 06 58 17.5
comp=Z,904nm,19.3s,baz=305,slow=38
KTH Kantishna Hill 81.03 1 *e*P **P** **06 18 31.5 +0.2**
comp=Z,87nm,1.4s
KTH Kantishna Hill 81.03 1 *e*P **P** **06 18 31.5 +0.2**
comp=Z,87nm,1.4s
TRF Thorofare Moun 81.14 1 *e*P **P** **06 18 32.8 +0.8**
comp=Z,18nm,0.6s
TRF Thorofare Moun 81.14 1 *e*P **P** **06 18 32.8 +0.8**
comp=Z,18nm,0.6s
FFC Flin Flon 81.45 335 *e*P **P** **06 18 32.8 -0.8**
FFC pmax pmax
comp=Z,11nm,0.6s
FFC Flin Flon 81.45 335 *e*P **P** **06 18 32.8 -0.8**
comp=Z,10nm,0.6s
FFC Flin Flon 81.45 335 P **P** **06 18 33.9 +0.3**
comp=Z,118nm,0.7s,SNR=9.2
FFC Flin Flon 81.45 335 *e*P **P** **06 18 32.8 -0.8**
comp=Z,10nm,0.6s
PAX Paxson 81.61 359 *e*P **P** **06 18 33.7 -0.7**
PAX pmax pmax
comp=Z,5.0nm,0.6s
PAX Paxson 81.61 359 *e*P **P** **06 18 33.7 -0.7**
comp=Z,5.1nm,0.6s
PAX Paxson 81.61 359 *e*P **P** **06 18 33.7 -0.7**
comp=Z,5.1nm,0.6s
PPLA Purkeypile 81.66 2 *e*P **P** **06 18 34.5 -0.3**
comp=Z,28nm,0.4s
PPLA Purkeypile 81.66 2 *e*P **P** **06 18 34.5 -0.3**
comp=Z,28nm,0.4s
JSRW J. Sargeant Re 81.98 311 *e*P **P** **06 18 36.9 +0.2**
JSRW J. Sargeant Re 81.98 311 *e*P **P** **06 18 36.9 +0.2**
ULM Lac du Bonnet 82.62 329 *e*P **P** **06 18 38.3 -1.5**
comp=Z,15nm,0.5s
ULM Lac du Bonnet 82.62 329 *e*P **P** **06 18 38.3 -1.5**
comp=Z,15nm,0.5s
ULM Lac du Bonnet 82.62 329 P **P** **06 18 38.9 -0.9**
comp=Z,18nm,0.5s,baz=48,slow=5.2,SNR=42
ULM LR LR 06 54 31.5
comp=Z,334nm,19.8s,baz=27,slow=35
PMR Palmer 83.02 0 *e*P **P** **06 18 41.1 -0.5**
PMR pmax pmax
comp=Z,90nm,1.4s
PMR Palmer 83.02 0 *e*P **P** **06 18 41.1 -0.5**
comp=Z,90nm,1.4s
PMR Palmer 83.02 0 *e*P **P** **06 18 41.1 -0.5**
comp=Z,90nm,1.4s
HYT Haines Junctio 83.37 355 *e*P **P** **06 18 44.1 +0.4**
HYT Haines Junctio 83.37 355 *e*P **P** **06 18 44.1 +0.4**
RC01 Rabbit Creek A 83.52 1 *e*P **P** **06 18 44.0 -0.2**
comp=Z,25nm,0.5s
RC01 Rabbit Creek A 83.52 1 *e*P **P** **06 18 44.0 -0.2**
comp=Z,25nm,0.5s
VWCC Virginia Weste 83.55 312 *e*P **P** **06 18 44.3 -0.6**
VWCC Virginia Weste 83.55 312 *e*P **P** **06 18 44.3 -0.6**
AGMN Agassiz Nation 84.10 328 *e*P **P** **06 18 46.3 -1.2**
comp=Z,8.0nm,0.5s
AGMN Agassiz Nation 84.10 328 *e*P **P** **06 18 46.3 -1.2**
comp=Z,8.0nm,0.5s
A30A Hoffart Farm, 84.64 329 ⇓P **P** **06 18 49.7 -0.5**
baz=84,SNR=49
DLBC Dease Lake 84.92 350 P **P** **06 18 52.5 +1.0**
DLBC Dease Lake 84.92 350 P **P** **06 18 52.5 +1.0**
DLBC Dease Lake 84.92 350 P **P** **06 18 52.5 +1.0**
comp=Z,5.4nm,0.6s,baz=41,slow=7.6,SNR=10
SPMN St. Paul 85.01 324 *e*P **P** **06 18 51.3 -0.8**
SPMN St. Paul 85.01 324 ⇓P **P** **06 18 51.2 -0.8**
baz=85
SPMN St. Paul 85.01 324 *e*P **P** **06 18 51.3 -0.8**
B30A Myrvik Farm, E 85.03 329 ⇓P **P** **06 18 51.5 -0.7**
baz=85,SNR=15
A29A Manning Farm, 85.03 330 ⇓P **P** **06 18 51.6 -0.6**
baz=85,SNR=48
MTP Monte Pirata 85.18 289 *e*P **P** **06 18 54.3 +0.9**
comp=Z,14nm,0.9s
MTP Monte Pirata 85.18 289 *e*P **P** **06 18 54.3 +0.9**
comp=Z,14nm,0.9s
CBYP Canovanas 85.31 289 *e*P **P** **06 18 54.7 +0.5**
comp=Z,11nm,0.7s
CBYP Canovanas 85.31 289 *e*P **P** **06 18 54.7 +0.5**
comp=Z,11nm,0.7s
JFWS Jewell Farm 85.43 321 *e*P **P** **06 18 52.2 -2.1**
JFWS pmax pmax
comp=Z,16nm,0.6s
JFWS Jewell Farm 85.43 321 *e*P **P** **06 18 52.2 -2.1**
comp=Z,16nm,0.6s
JFWS Jewell Farm 85.43 321 *e*P **P** **06 18 52.2 -2.1**
comp=Z,16nm,0.6s
B29A Wagenman Farm, 85.44 330 ⇓P **P** **06 18 53.5 -0.7**
baz=85,SNR=9.3
A28A Rude Farm, Bot 85.46 330 ⇓P **P** **06 18 54.2 -0.1**
baz=85,SNR=14
SFIN Scholer Farm 85.56 318 *e*P **P** **06 18 53.2 -1.8**
SFIN Scholer Farm 85.56 318 ⇑P **P** **06 18 54.5 -0.4**
baz=85
SFIN Scholer Farm 85.56 318 *e*P **P** **06 18 53.2 -1.8**
FX1 Attu Island--F 85.65 22 *e*P **P** **06 18 55.0 -0.1**
FX1 Attu Island--F 85.65 22 *e*P **P** **06 18 55.0 -0.1**
C30A Mose, Pekin 85.67 329 ⇓P **P** **06 18 55.2 -0.2**
baz=85,SNR=16
KMSC Kings Mountain 85.75 311 *e*P **P** **06 18 55.3 -0.7**
KMSC Kings Mountain 85.75 311 ⇓P **P** **06 18 56.3 +0.3**
baz=86
KMSC Kings Mountain 85.75 311 *e*P **P** **06 18 55.3 -0.7**
A27A Ledoux Ranch, 85.81 331 ⇑P **P** **06 18 56.2 +0.2**
baz=86
B28A Dugan Ranch, T 85.86 330 ⇑P **P** **06 18 56.1 -0.2**
baz=86,SNR=10
CELP Cerrillos 85.98 289 *e*P **P** **06 18 57.2 -0.2**
CELP Cerrillos 85.98 289 *e*P **P** **06 18 57.2 -0.2**
OBIP Obispado Ponce 86.02 289 *e*P **P** **06 18 57.7 +0.1**
comp=Z,32nm,0.9s
OBIP Obispado Ponce 86.02 289 *e*P **P** **06 18 57.7 +0.1**
comp=Z,32nm,0.9s
MDND Maddock 86.03 329 *e*P **P** **06 18 56.6 -0.6**
MDND Maddock 86.03 329 ⇑P **P** **06 18 56.7 -0.5**
baz=86
MDND Maddock 86.03 329 *e*P **P** **06 18 56.6 -0.6**
A26A Wade Farm, Ken 86.17 331 ⇓P **P** **06 18 58.0 +0.1**
baz=86,SNR=16
D30A Buchanan 86.26 329 ⇑P **P** **06 18 57.9 -0.5**
baz=86,SNR=10.0
EDM Edmonton 86.31 340 *e*P **P** **06 18 57.7 -0.8**
EDM Edmonton 86.31 340 *e*P **P** **06 18 57.7 -0.8**
EDM Edmonton 86.31 340 *e*P **P** **06 18 57.7 -0.8**
LSP Las Mesas 86.31 290 *e*P **P** **06 18 58.9 -0.2**
LSP Las Mesas 86.31 290 *e*P **P** **06 18 58.9 -0.2**
CRPR Cabo Rojo, PR 86.43 289 *e*P **P** **06 19 00.1 +0.5**
comp=Z,27nm,0.6s
CRPR Cabo Rojo, PR 86.43 289 *e*P **P** **06 19 00.1 +0.5**
comp=Z,27nm,0.6s
C28A Hausauer Farms 86.46 330 ⇑P **P** **06 18 58.9 -0.3**
baz=86
A25A Svangstu Ranch 86.55 332 ⇓P **P** **06 18 59.6 -0.1**
baz=86
WCI Wyandotte Cave 86.61 316 *e*P **P** **06 18 59.4 -0.8**
WCI pmax pmax
comp=Z,12nm,0.6s
WCI Wyandotte Cave 86.61 316 *e*P **P** **06 18 59.4 -0.8**
comp=Z,12nm,0.6s
WCI Wyandotte Cave 86.61 316 *e*P **P** **06 18 59.4 -0.8**
comp=Z,12nm,0.6s
D29A Pettibone, Tap 86.65 329 ⇑P **P** **06 19 00.3 0.0**
baz=86,SNR=7.0
B26A Jensen Ranch, 86.67 331 ⇓P **P** **06 19 00.1 -0.3**
baz=86
E30A Jud 86.80 328 ⇓P **P** **06 19 00.6 -0.3**
baz=86
TKL Tuckaleechee C 86.89 312 *e*P **P** **06 19 01.7 +0.1**
TKL Tuckaleechee C 86.89 312 *e*P **P** **06 19 01.7 +0.1**
TKL Tuckaleechee C 86.89 312 P **P** **06 19 02.4 +0.7**
comp=Z,21nm,0.7s,baz=99,slow=5.8,SNR=6.0
A24A Westby 86.90 332 ⇓P **P** **06 19 01.7 +0.2**
baz=87,SNR=12
D28A Regan 86.95 330 ⇓P **P** **06 19 01.6 -0.1**
baz=87
E29A Napoleon 87.06 329 ⇓P **P** **06 19 02.1 -0.1**
baz=87
B25A Knox Farm, Ray 87.11 332 ⇑P **P** **06 19 02.8 +0.2**
baz=87,SNR=9.5
A23A Redstone 87.20 333 ⇑P **P** **06 19 03.0 +0.1**
baz=87,SNR=6.5
DGMT Dagmar 87.35 332 *e*P **P** **06 19 03.7 +0.1**
comp=Z,20nm,0.6s
DGMT Dagmar 87.35 332 ⇑P **P** **06 19 03.7 +0.1**
baz=87,SNR=7.3
DGMT Dagmar 87.35 332 *e*P **P** **06 19 03.7 +0.1**
comp=Z,20nm,0.6s
F30A Leola 87.37 328 ⇑P **P** **06 19 03.9 +0.1**
baz=87
D27A Center 87.41 330 ⇓P **P** **06 19 04.2 +0.3**
baz=87
E28A Huff 87.49 329 ⇓P **P** **06 19 04.1 -0.2**
baz=87
A22A Carney Farms, 87.55 334 ⇑P **P** **06 19 05.0 +0.3**
baz=87,SNR=14
USIN University of 87.57 316 *e*P **P** **06 19 04.3 -0.5**
comp=Z,27nm,0.6s
USIN University of 87.57 316 *e*P **P** **06 19 04.3 -0.5**
comp=Z,27nm,0.6s
C25A Freed Ranch, W 87.61 331 ⇓P **P** **06 19 05.4 +0.5**
baz=87,SNR=8.8
B23A Brockton 87.65 333 ⇑P **P** **06 19 05.2 +0.1**
baz=87,SNR=8.7
F29A Eureka 87.72 328 ⇓P **P** **06 19 05.2 -0.2**
baz=87
D26A Manning 87.84 330 ⇓P **P** **06 19 06.4 +0.4**
baz=88,SNR=6.3
A21A Bergtoll Ranch 87.92 334 ⇑P **P** **06 19 06.3 0.0**
baz=88
ECSD EROS Data Cent 87.92 325 *e*P **P** **06 19 05.7 -0.8**
comp=Z,17nm,0.6s
ECSD EROS Data Cent 87.92 325 *e*P **P** **06 19 05.7 -0.8**
comp=Z,17nm,0.6s
E27A Carson 87.97 330 ⇓P **P** **06 19 07.2 +0.5**
baz=88
G30A Faulkton 87.98 328 ⇓P **P** **06 19 06.4 -0.3**
baz=88
D25A Fairfield 88.09 331 ⇓P **P** **06 19 06.8 -0.4**
baz=88
F28A McLaughlin 88.12 329 ⇓P **P** **06 19 07.0 -0.4**
baz=88
B22A Reddig Ranch S 88.16 333 ⇓P **P** **06 19 08.0 +0.5**
baz=88,SNR=5.3
C24A Savage 88.21 332 ⇓P **P** **06 19 08.1 +0.4**
baz=88
GOGA Godfrey 88.22 311 *e*P **P** **06 19 08.1 +0.1**
GOGA pmax pmax
comp=Z,47nm,1.5s
GOGA Godfrey 88.22 311 *e*P **P** **06 19 08.1 +0.1**
comp=Z,47nm,1.5s
GOGA Godfrey 88.22 311 *e*P **P** **06 19 08.1 +0.1**
comp=Z,47nm,1.5s
C23A Lambert 88.27 332 ⇑P **P** **06 19 08.3 +0.2**
baz=88,SNR=9.0
E26A Carlson Angus 88.30 330 ⇓P **P** **06 19 08.1 -0.2**
baz=88
A20A Cobblestone Ra 88.36 335 ⇓P **P** **06 19 08.6 +0.1**
baz=88,SNR=11
B21A Ellsworth Farm 88.42 334 ⇓P **P** **06 19 08.9 +0.1**
baz=88,SNR=6.3
BRSD Miller 88.44 327 *e*P **P** **06 19 08.5 -0.4**
BRSD Miller 88.44 327 ⇓P **P** **06 19 08.8 -0.1**
baz=88
BRSD Miller 88.44 327 *e*P **P** **06 19 08.5 -0.4**
D24A Glendive 88.52 332 ⇑P **P** **06 19 09.2 0.0**
baz=88
C22A Vida 88.58 333 ⇑P **P** **06 19 09.7 +0.2**
baz=88,SNR=8.5
A19A Klindworth Far 88.60 335 ⇓P **P** **06 19 09.8 +0.2**
baz=88,SNR=8.1
F27A Lemmon 88.61 330 ⇓P **P** **06 19 09.4 -0.3**
baz=88,SNR=9.7
SIUC Southern Illin 88.61 317 *e*P **P** **06 19 09.4 -0.3**
comp=Z,26nm,0.7s
SIUC Southern Illin 88.61 317 *e*P **P** **06 19 09.4 -0.3**
comp=Z,26nm,0.7s
E25A Miller Ranch, 88.66 331 ⇑P **P** **06 19 10.2 +0.3**
baz=88
B20A Solberg Farm, 88.77 334 ⇑P **P** **06 19 10.9 +0.4**
baz=88,SNR=11
G28A Parade 88.79 328 ⇑P **P** **06 19 10.4 -0.1**
baz=88
D23A Lindsay 88.81 332 ⇓P **P** **06 19 10.9 +0.3**
baz=88,SNR=8.0
H29A Onida 88.84 328 ⇓P **P** **06 19 10.6 -0.2**
baz=88
F26A Lodgepole 88.89 330 ⇓P **P** **06 19 10.9 -0.2**
baz=89,SNR=11
WVT Waverly 88.95 315 *e*P **P** **06 19 09.5 -1.9**
WVT pmax pmax
comp=Z,8.0nm,0.6s
WVT Waverly 88.95 315 *e*P **P** **06 19 09.5 -1.9**
comp=Z,7.9nm,0.6s
WVT Waverly 88.95 315 *e*P **P** **06 19 09.5 -1.9**
comp=Z,7.9nm,0.6s
E24A Baker 88.96 331 ⇓P **P** **06 19 11.6 +0.2**
baz=89
G27A Dupree 88.97 329 ⇓P **P** **06 19 10.9 -0.5**
baz=89
SDDR Presa de Saban 89.02 293 *e*P **P** **06 19 13.5 +1.4**
comp=Z,16nm,0.7s
SDDR Presa de Saban 89.02 293 *e*P **P** **06 19 13.5 +1.4**
comp=Z,16nm,0.7s
I30A Oacoma 89.06 327 ⇑P **P** **06 19 11.8 0.0**
baz=89
B19A Brinkman Farms 89.08 335 ⇑P **P** **06 19 12.2 +0.3**
baz=89,SNR=9.2
F25A Bowman 89.15 330 ⇑P **P** **06 19 12.1 -0.2**
baz=89
H28A Mission Ridge 89.15 328 ⇓P **P** **06 19 12.1 -0.1**
baz=89
D22A Cohagen 89.19 333 ⇓P **P** **06 19 13.1 +0.7**
baz=89,SNR=11
G26A Maurine 89.31 330 ⇑P **P** **06 19 12.6 -0.4**
baz=89,SNR=17
I29A Vivian Onida 89.36 327 ⇑P **P** **06 19 13.1 -0.1**
baz=89
C20A Veseth Ranch, 89.38 334 ⇑P **P** **06 19 13.6 +0.3**
baz=89,SNR=13
E23A Ismay 89.40 332 ⇑P **P** **06 19 13.6 +0.2**
baz=89,SNR=9.7

J30A	Dallas	baz=89	89.55	327	⇑P	P	06 19 14.4	+0.3
D21A	La Casta Ranch	baz=89,SNR=11	89.56	333	⇑P	P	06 19 14.5	+0.3
LAO	LASA Array	comp=Z,29nm,0.6s	89.59	332	eP	P	06 19 14.5	+0.2
LAO	LASA Array	comp=Z,28nm,0.6s	89.59	332	eP	P	06 19 14.5	+0.2
F24A	Ekalaka	baz=89,SNR=8.2	89.61	331	⇑P	P	06 19 14.3	-0.1
TIGA	Tifton	baz=89	89.63	309	⇑P	P	06 19 14.8	+0.2
H27A	Howes	baz=89	89.63	329	⇓P	P	06 19 14.2	-0.3
PARMO	Parma		89.66	317	eP	P	06 19 14.0	-0.7
PARMO	Parma		89.66	317	eP	P	06 19 14.0	-0.7
E22A	Miles City	baz=89,SNR=6.8	89.70	332	⇓P	P	06 19 14.7	0.0
EGMT	Eagleton	comp=Z,6.5nm,0.6s	89.73	335	eP	P	06 19 14.8	-0.1
EGMT	Eagleton	baz=89,SNR=5.9	89.73	335	⇓P	P	06 19 14.8	-0.1
EGMT	Eagleton	comp=Z,6.4nm,0.6s	89.73	335	eP	P	06 19 14.8	-0.1
G25A	Newell	baz=89,SNR=8.8	89.73	330	⇓P	P	06 19 14.4	-0.6
C19A	Slack Wire Ran	baz=89,SNR=8.9	89.73	335	⇓P	P	06 19 15.2	+0.3
I28A	Midland	baz=89	89.75	328	⇑P	P	06 19 14.7	-0.4
J29A	Okreek	baz=90	89.86	327	⇑P	P	06 19 15.7	+0.1
H26A	Fairpoint	baz=90,SNR=9.0	89.94	329	⇓P	P	06 19 15.5	-0.4
D20A	Manuel Ranch,	baz=90,SNR=19	89.96	334	⇑P	P	06 19 16.2	+0.2
G24A	Alzada	baz=90	90.02	331	⇑P	P	06 19 16.2	-0.2
E21A	Keefer Ranch,	baz=90,SNR=5.4	90.04	333	⇓P	P	06 19 16.7	+0.3
I27A	Quinn	baz=90	90.08	329	⇓P	P	06 19 17.2	+0.6
F23A	Volborg	baz=90	90.09	331	⇓P	P	06 19 16.5	-0.2
K30A	Basset	baz=90	90.12	326	⇓P	P	06 19 17.4	+0.6
D19A	Cripps Ranch,	baz=90,SNR=7.1	90.16	334	⇓P	P	06 19 17.2	+0.3
L31A	Butterfield Fa	baz=90	90.16	326	⇑P	P	06 19 17.1	+0.1
WALA	Waterton Lakes	comp=Z,0.2nm,0.6s	90.16	338	eP	P	06 19 16.0	-1.0
WALA	Waterton Lakes	comp=Z,0.2nm,0.6s	90.16	338	eP	P	06 19 16.0	-1.0
J28A	Allard Ranch,	baz=90	90.25	328	⇓P	P	06 19 17.7	+0.3
H25A	Fruitdale	baz=90,SNR=5.6	90.27	330	⇑P	P	06 19 17.2	-0.3
F22A	Rosebud	baz=90	90.37	332	⇓P	P	06 19 18.0	0.0
K29A	Lazy Trails An	baz=90	90.37	327	⇑P	P	06 19 18.1	+0.1
BGNE	Belgrade		90.44	325	eP	P	06 19 18.0	-0.3
BGNE	Belgrade	baz=90	90.44	325	⇑P	P	06 19 18.5	+0.1
BGNE	Belgrade		90.44	325	eP	P	06 19 18.0	-0.3
I26A	New Underwood	baz=90	90.45	329	⇑P	P	06 19 18.4	0.0
E20A	Meyer Farm, Mu	baz=90	90.45	333	⇓P	P	06 19 18.4	0.0
G23A	Biddle	baz=90	90.51	331	⇑P	P	06 19 18.4	-0.2
H24A	Dirks Ranch, A	baz=90	90.56	330	⇓P	P	06 19 18.0	-0.9
LRAL	Lakeview Retre	comp=Z,8.9nm,0.6s	90.63	312	eP	P	06 19 18.8	-0.5
LRAL	Lakeview Retre	comp=Z,8.9nm,0.6s	90.63	312	eP	P	06 19 18.8	-0.5
J27A	Elkhorn Farm,	baz=90	90.72	328	⇑P	P	06 19 19.7	0.0
E19A	Rath Farm, Rou	baz=90,SNR=8.2	90.73	334	⇑P	P	06 19 19.6	0.0
L30A	Spencer Herefo	baz=90	90.74	326	⇓P	P	06 19 19.7	0.0
BDFB	Brasilia		90.78	251	P	P	06 19 22.7	+2.4
BDFB	Brasilia	comp=Z,6.0nm,0.7s,baz=90,slow=2.6,SNR=11	90.78	251	P	P	06 19 22.7	+2.4
BDFB		comp=Z,399nm,21.9s,baz=48,slow=36			LR	LR	07 00 26.7	
I25A	Rochford	baz=90	90.82	329	⇑P	P	06 19 19.5	-0.7
G22A	Birney	baz=90	90.85	332	⇓P	P	06 19 19.7	-0.5
RSSD	Black Hills		90.86	330	eP	P	06 19 19.8	-0.7
RSSD		comp=Z,4.0nm,0.7s			pmax	pmax		
RSSD	Black Hills	comp=Z,3.6nm,0.7s	90.86	330	eP	P	06 19 19.8	-0.7
RSSD	Black Hills	comp=Z,3.6nm,0.7s	90.86	330	eP	P	06 19 19.8	-0.7
K28A	Ten Mile Ranch	baz=91	90.87	327	⇑P	P	06 19 20.3	-0.1
M31A	Lambtecht Ranc	baz=91	90.88	325	⇓P	P	06 19 20.9	+0.5
N32A	Stulken Farm,	baz=91	91.01	324	⇑P	P	06 19 21.0	0.0
F20A	Billings	baz=91,SNR=6.4	91.06	333	⇑P	P	06 19 21.7	+0.5
J26A	Sides Ranch, S	baz=91	91.12	329	⇓P	P	06 19 21.7	+0.2
M30A	Dale-Ortello V	baz=91	91.14	326	⇓P	P	06 19 21.7	+0.1
G21A	Lodge Grass	baz=91	91.20	332	⇑P	P	06 19 22.1	+0.2
K27A	Flueckinger Fa	baz=91	91.26	328	⇑P	P	06 19 22.5	+0.3
N31A	Bailey Ranch,	baz=91	91.28	325	⇑P	P	06 19 22.7	+0.5
F19A	Roth Farm, Mol	baz=91,SNR=7.9	91.31	334	⇑P	P	06 19 22.7	+0.3
I24A	Kuemmerle Ranc	baz=91	91.32	330	⇑P	P	06 19 22.6	+0.1
J25A	Sunshine Ranch	baz=91	91.37	329	⇑P	P	06 19 22.6	-0.1
O32A	Brockman Farm,	baz=91	91.39	324	⇑P	P	06 19 23.0	+0.3
H22A	Clearmont	baz=91	91.40	331	⇑P	P	06 19 22.8	0.0
KSU1	Kansas State U	comp=Z,9.8nm,0.6s	91.48	322	eP	P	06 19 21.3	-1.8
KSU1	Kansas State U	comp=Z,9.8nm,0.6s	91.48	322	eP	P	06 19 21.3	-1.8
BSMT	Bassoo Peak	comp=Z,5.5nm,0.6s	91.50	338	eP	P	06 19 23.2	-0.2
BSMT	Bassoo Peak	comp=Z,5.4nm,0.6s	91.50	338	eP	P	06 19 23.2	-0.2
L28A	Connealy Angus	baz=91	91.51	327	⇓P	P	06 19 23.7	+0.4
HRY	Holter Researc	comp=Z,4.6nm,0.5s	91.57	336	eP	P	06 19 22.3	-1.3
HRY	Holter Researc	comp=Z,4.6nm,0.5s	91.57	336	eP	P	06 19 22.3	-1.3
G20A	Bridger	baz=91	91.58	333	⇓P	P	06 19 23.7	+0.1
M29A	Burnside Ranch	baz=91	91.59	326	⇓P	P	06 19 23.5	-0.2
GCMT	Greycliff		91.62	334	eP	P	06 19 23.5	-0.4
GCMT	Greycliff		91.62	334	eP	P	06 19 23.5	-0.4
H21A	Big Horn, Sher	baz=91,SNR=8.2	91.64	332	⇓P	P	06 19 23.8	-0.2
K26A	Motz Farm, Whi	baz=91	91.67	328	⇑P	P	06 19 24.1	0.0
P33A	Williams Farm,	baz=92	91.75	323	⇑P	P	06 19 24.7	+0.3
J24A	Dixon Ranch, L	baz=92	91.77	330	⇓P	P	06 19 24.4	-0.2
L27A	T5 Ranch, Ells	baz=92	91.80	328	⇓P	P	06 19 24.7	0.0
NEW	Newport	comp=Z,10nm,0.6s	91.82	340	eP	P	06 19 24.0	-0.6
NEW	Newport	baz=92,SNR=6.9	91.82	340	⇑P	P	06 19 25.0	+0.4
NEW	Newport	comp=Z,10nm,0.6s	91.82	340	eP	P	06 19 24.0	-0.6
N30A	Hueftle Ranch,	baz=92	91.83	325	⇑P	P	06 19 24.9	+0.1
M28A	Bar X Bar Ranc	baz=92	91.93	327	⇓P	P	06 19 25.3	0.0
O31A	Woolen Ranch,	baz=92	91.98	325	⇓P	P	06 19 25.5	0.0
K25A	Mack Ranch, Ha	baz=92	92.03	329	⇑P	P	06 19 25.8	-0.1
I22A	9 Mile Ranch,	baz=92	92.04	331	⇑P	P	06 19 25.6	-0.2
P32A	Huiting Farm,	baz=92	92.05	324	⇓P	P	06 19 25.3	-0.5
RLMT	Red Lodge	comp=Z,9.6nm,0.8s	92.05	333	eP	P	06 19 26.2	+0.2
RLMT	Red Lodge	comp=Z,9.6nm,0.8s	92.05	333	eP	P	06 19 26.2	+0.2
N29A	Votaw Ranch, W	baz=92,SNR=7.7	92.06	326	⇓P	P	06 19 25.6	-0.3
H20A	Greybull	baz=92	92.12	332	⇑P	P	06 19 26.1	-0.1
MSO	Missoula	baz=92	92.15	337	⇑P	P	06 19 26.1	-0.2
Q33A	Connelly Farm,	baz=92	92.16	323	⇓P	P	06 19 25.7	-0.6
O30A	MW Ranch, Wils	baz=92,SNR=7.4	92.30	325	⇓P	P	06 19 26.6	-0.4
H19A	Powell	baz=92,SNR=13	92.33	333	⇑P	P	06 19 27.7	+0.5
I21A	Big Trails, Te	baz=92,SNR=9.9	92.42	332	⇑P	P	06 19 27.0	-0.6
J22A	Midwest	baz=92	92.44	331	⇑P	P	06 19 26.7	-1.0
P31A	Stockton	baz=92,SNR=6.0	92.50	324	⇑P	P	06 19 27.1	-0.8
Q32A	Meitler Ranch,	baz=92	92.52	323	⇓P	P	06 19 27.6	-0.4
LRM	Limekiln Ridge	comp=Z,30nm,0.7s	92.56	336	eP	P	06 19 27.8	-0.5
LRM	Limekiln Ridge	comp=Z,30nm,0.7s	92.56	336	eP	P	06 19 27.8	-0.5
H18A	Shoshone NF, C	baz=92,SNR=12	92.58	333	⇓P	P	06 19 28.4	0.0
N28A	Pribbeno Ranch	baz=92	92.58	326	⇓P	P	06 19 28.3	0.0
OGNE	Ogallala	baz=92	92.59	327	⇓P	P	06 19 28.6	+0.2
I20A	Worland	baz=92,SNR=13	92.63	332	⇑P	P	06 19 28.4	-0.1
K23A	Bowen Ranch, D	baz=92	92.64	330	⇑P	P	06 19 28.1	-0.6
R33A	Olander Ranch,	baz=92	92.77	323	⇑P	P	06 19 29.2	0.0
J21A	Lysite	baz=93	92.87	331	⇓P	P	06 19 29.4	-0.4
I19A	Meeteetse	baz=93,SNR=13	92.88	333	⇓P	P	06 19 30.0	+0.2
P30A	Selden	baz=93	92.89	325	⇑P	P	06 19 29.3	-0.4
Q31A	Ellis	baz=93	92.91	324	⇑P	P	06 19 29.7	-0.2
N27A	Anderson Farm,	baz=93	92.93	327	⇑P	P	06 19 29.7	-0.3
R32A	Long Quarter,	baz=93	93.04	323	⇑P	P	06 19 29.8	-0.6
YMR	Madison River	comp=Z,6.1nm,0.7s	93.05	334	eP	P	06 19 31.2	+0.6
YMR	Madison River	comp=Z,6.1nm,0.7s	93.05	334	eP	P	06 19 31.2	+0.6
M25A	Palm-Egli Farm	baz=93	93.08	328	⇓P	P	06 19 29.8	-0.9
K22A	Casper	baz=93,SNR=6.7	93.09	330	⇑P	P	06 19 29.9	-0.9
J20A	Shoshoni	baz=93	93.11	332	⇑P	P	06 19 29.8	-1.0
O28A	Krutsinger Ran	baz=93,SNR=6.6	93.13	326	⇓P	P	06 19 30.6	-0.3
H17A	Grant Village	baz=93	93.15	334	⇑P	P	06 19 30.2	-0.9
P29A	Atwood	baz=93	93.17	325	⇑P	P	06 19 30.3	-0.7
YFT	Old Faithful	comp=Z,14nm,0.9s	93.19	334	eP	P	06 19 32.4	+1.0
YFT	Old Faithful	comp=Z,14nm,0.9s	93.19	334	eP	P	06 19 32.3	+1.0
L23A	Garrett	baz=93,SNR=7.1	93.21	330	⇓P	P	06 19 30.3	-1.1
N26A	Koester Ranch,	baz=93	93.21	327	⇑P	P	06 19 30.6	-0.7
MIAR	Mount Ida		93.33	317	eP	P	06 19 31.4	-0.4
MIAR		comp=Z,10.0nm,0.6s			pmax	pmax		
MIAR	Mount Ida	comp=Z,9.9nm,0.6s	93.33	317	eP	P	06 19 31.4	-0.4
MIAR	Mount Ida	comp=Z,9.9nm,0.6s	93.33	317	eP	P	06 19 31.4	-0.4
M24A	Cheyenne	baz=93	93.38	329	⇑P	P	06 19 31.8	-0.3
K21A	Alcova	baz=93,SNR=7.1	93.40	331	⇑P	P	06 19 31.3	-0.9
O27A	Beecher Island	baz=93,SNR=7.7	93.40	327	⇓P	P	06 19 32.1	0.0
TUL1	Tulsa		93.50	320	eP	P	06 19 31.9	-0.6
TUL1	Tulsa	baz=93	93.50	320	⇓P	P	06 19 32.1	-0.4
TUL1	Tulsa		93.50	320	eP	P	06 19 31.9	-0.6
R31A	Burdett	baz=93,SNR=5.8	93.54	324	⇑P	P	06 19 32.4	-0.3
I17A	Pilgrim Ck.	baz=93,SNR=5.8	93.56	334	⇑P	P	06 19 32.6	-0.4
J19A	Crowheart	baz=93,SNR=13	93.56	332	⇓P	P	06 19 32.5	-0.4
P28A	Saint Francis	baz=93	93.57	326	⇓P	P	06 19 32.6	-0.3
L22A	Ellis Ranch, M	baz=93,SNR=5.8	93.58	330	⇓P	P	06 19 32.7	-0.3
N25A	Grover	baz=93	93.60	328	⇓P	P	06 19 33.0	-0.1
S32A	Newby Ranch, P	baz=93	93.72	323	⇑P	P	06 19 33.3	-0.3
O26A	Horse Wrangler	baz=93	93.73	327	⇓P	P	06 19 33.6	-0.1
Q29A	Oakley	baz=94	93.76	325	⇑P	P	06 19 33.5	-0.2
R30A	Dighton	baz=94	93.91	324	⇓P	P	06 19 34.4	-0.1
N24A	Carr	baz=94	93.93	328	⇑P	P	06 19 34.5	-0.2
P27A	Ficken Ranch,	baz=94,SNR=5.7	93.96	326	⇓P	P	06 19 34.2	-0.6
U34A	Anderson Ranch	baz=94	94.00	321	⇑P	P	06 19 34.3	-0.5
Q28A	Sharon Springs	baz=94,SNR=7.5	94.02	325	⇓P	P	06 19 34.6	-0.4
S31A	Mullinville	baz=94	94.05	323	⇑P	P	06 19 34.8	-0.3
T32A	Huddler Ranch,	baz=94	94.12	322	⇓P	P	06 19 35.1	-0.3
M22A	Cedar Creek Ra	baz=94,SNR=9.4	94.17	330	⇓P	P	06 19 35.3	-0.5
PDAR	Pinedale Array		94.18	332	P	P	06 19 34.8	-1.1
PDAR	Pinedale Array		94.18	332	P	P	06 19 34.8	-1.1
PDAR	Pinedale Array	comp=Z,2.4nm,0.6s,baz=61,slow=4.5,SNR=27	94.18	332	P	P	06 19 34.8	-1.1
PDAR		comp=Z,337nm,21.2s,baz=37,slow=38			LR	LR	07 06 31.6	
O25A	Wiggins	baz=94	94.19	327	⇑P	P	06 19 35.8	0.0
P26A	Davis Ranch, A	baz=94	94.30	327	⇓P	P	06 19 36.1	-0.3
N23A	Red Feather La	baz=94	94.32	329	⇓P	P	06 19 36.0	-0.5
KSCO	Kaye Shedlock'	baz=94	94.42	326	⇑P	P	06 19 36.6	-0.3
T31A	Randall Ranch,	baz=94	94.55	323	⇓P	P	06 19 36.7	-0.7
R28A	Tribune	baz=94	94.58	325	⇓P	P	06 19 37.2	-0.4
O24A	Longmont	baz=94	94.60	328	⇑P	P	06 19 36.8	-0.9
N22A	Wattenberg Ran	baz=94	94.61	329	⇑P	P	06 19 37.5	-0.4
S29A	Ulysses	baz=94	94.84	324	⇑P	P	06 19 39.0	+0.2
V33A	Lossen Ranch,	baz=95	94.86	321	⇓P	P	06 19 38.9	+0.1
W34A	Bridge Creek,	baz=95	95.05	321	⇓P	P	06 19 39.8	+0.1
R27A	Eads	baz=95	95.09	326	⇑P	P	06 19 39.6	-0.3
ISCO	Idaho Springs	baz=95	95.09	328	⇓P	P	06 19 39.6	-0.6
O22A	Kremmling	baz=95	95.19	329	⇑P	P	06 19 40.5	-0.1
S28A	Manter	baz=95	95.23	325	⇑P	P	06 19 40.3	-0.3
T29A	Hugoton	baz=95	95.29	324	⇑P	P	06 19 40.9	+0.1
V32A	Arapaho	baz=95	95.32	322	⇓P	P	06 19 41.0	+0.1
N20A	Spence Gulch,	baz=95	95.32	331	⇓P	P	06 19 41.1	0.0
R26A	Arlington	baz=95	95.37	326	⇑P	P	06 19 41.3	0.0
P23A	Jefferson	baz=95	95.55	328	⇓P	P	06 19 42.2	-0.1
X34A	Smith Ranch, M	baz=95	95.57	320	⇓P	P	06 19 42.4	+0.3
Q24A	Divide	baz=95	95.59	327	⇓P	P	06 19 42.3	-0.1
T28A	Walsh	baz=95	95.71	324	⇑P	P	06 19 42.6	-0.2
MFID	Camas Ranch	comp=Z,5.2nm,0.6s	95.80	337	eP	P	06 19 42.9	-0.2
MFID	Camas Ranch	comp=Z,5.2nm,0.6s	95.80	337	eP	P	06 19 42.9	-0.2
R25A	Fountain Ranch	baz=96	95.88	326	⇑P	P	06 19 42.9	-0.7
O20A	White River Ci	baz=96	95.91	330	⇓P	P	06 19 42.7	-1.0
WMOK	Wichita Mounta		95.95	321	eP	P	06 19 42.9	-0.9
WMOK		comp=Z,7.0nm,0.6s			pmax	pmax		
WMOK	Wichita Mounta	comp=Z,6.6nm,0.6s	95.95	321	eP	P	06 19 42.9	-0.9
WMOK	Wichita Mounta	comp=Z,6.6nm,0.6s	95.95	321	eP	P	06 19 42.9	-0.9
X33A	Lawton	baz=96	95.96	321	⇓P	P	06 19 43.4	-0.4
Y34A	Reagan Ranch,	baz=96	96.03	320	⇓P	P	06 19 43.9	-0.3
W31A	Holland Ranch,	baz=96	96.19	322	⇓P	P	06 19 44.7	-0.2
S25A	Robets Cordova	baz=96	96.34	326	⇓P	P	06 19 45.0	-0.7
T26A	Comanche Natio	baz=96	96.36	325	⇑P	P	06 19 45.1	-0.7
U28A	Mallet	baz=96	96.36	324	⇑P	P	06 19 45.4	-0.4
Y33A	Hilltop Ranch,	baz=96	96.44	320	⇑P	P	06 19 45.9	-0.2
X32A	Elmer	baz=96	96.46	321	⇑P	P	06 19 45.9	-0.2
Z34A	Collier Ranch,	baz=96	96.56	319	⇑P	P	06 19 46.4	-0.2
U27A	Thompson Grove	baz=96	96.61	325	⇑P	P	06 19 46.9	0.0
X31A	McDonald Ranch	baz=96	96.65	322	⇑P	P	06 19 46.5	-0.5
S24A	Houchin Ranch,	baz=96	96.71	327	⇑P	P	06 19 46.3	-1.3
JLU	Jordanelle	comp=Z,2.9nm,0.6s	96.76	333	eP	P	06 19 46.8	-0.9
JLU	Jordanelle	comp=Z,2.9nm,0.6s	96.76	333	eP	P	06 19 46.8	-0.9
V28A	Channing	baz=97	96.86	324	⇓P	P	06 19 47.6	-0.5
Y32A	R-V Farms, Ver	baz=97,SNR=7.5	96.87	321	⇑P	P	06 19 47.6	-0.3
U26A	Atchley Ranch,	baz=97	97.06	325	⇑P	P	06 19 48.9	-0.1
Z33A	Whitaker Ranch	baz=97	97.08	320	⇓P	P	06 19 48.7	-0.2
X30A	Coker Ranch, T	baz=97,SNR=12	97.24	322	⇓P	P	06 19 49.4	-0.3
T24B	San Luis	baz=97	97.26	327	⇓P	P	06 19 50.0	0.0
134A	White-Moore Ra	baz=97	97.27	319	⇑P	P	06 19 49.5	-0.3
Y31A	Rekieta Farm,	baz=97	97.32	321	⇑P	P	06 19 49.4	-0.6
S22A	4UR Ranch, Cre	baz=97	97.33	328	⇓P	P	06 19 49.8	-0.5
Z32A	Haskell	baz=97,SNR=8.4	97.43	320	⇑P	P	06 19 50.2	-0.4
T23A	Casias Ranch,	baz=97	97.58	327	⇑P	P	06 19 50.6	-0.9
DUG	Dugway	baz=97	97.62	333	⇑P	Pdif	06 19 51.5	0.0
133A	Hamilton Ranch	baz=97	97.68	320	⇓P	Pdif	06 19 51.8	+0.1
PV01	Paradox Valley	comp=Z,127nm,0.6s	97.74	329	eP	P	06 19 50.6	-1.5
PV01	Paradox Valley	comp=Z,127nm,0.6s	97.74	329	eP	P	06 19 50.6	-1.5
Z31A	Sharp Cattle R	baz=98,SNR=5.6	97.77	321	⇑P	P	06 19 51.3	-0.8
W27A	Bowe Ranch, En	baz=98	97.82	324	⇑P	P	06 19 51.7	-0.7
335A	Moody	baz=98	97.91	318	⇑P	Pdif	06 19 52.9	+0.2
ABTX	Abilene, Hawle	baz=98	98.05	320	⇓P	Pdif	06 19 53.6	+0.2
Y29A	Porterfield Fa	baz=98	98.11	322	⇑P	P	06 19 53.3	-0.4
Z30A	Sanderson Ranc	baz=98	98.29	322	⇑P	P	06 19 53.9	-0.6
334A	Lometa	baz=98	98.31	318	⇑P	P	06 19 54.0	-0.5
Y28A	McKinney Farm,	baz=98	98.36	323	⇑P	P	06 19 54.4	-0.4
W25A	X Bar L Ranch,	baz=98	98.36	325	⇑P	P	06 19 54.2	-0.6
U22A	Llaves	baz=98	98.49	327	⇓P	P	06 19 55.1	-0.4
232A	Coleman	baz=98,SNR=5.2	98.63	320	⇑P	P	06 19 55.8	-0.2
333A	Richland Sprin	baz=98,SNR=9.5	98.72	319	⇑P	P	06 19 56.0	-0.4
434A	Burnet	baz=98	98.73	318	⇑P	Pdif	06 19 56.5	+0.1
Z28A	Tucker Farm, M	baz=99	98.92	322	⇓P	Pdif	06 19 57.4	+0.1
332A	Millersview	baz=99	99.08	319	⇑P	Pdif	06 19 57.8	-0.2
M04C	Macdoel	baz=99	99.09	340	⇓P	Pdif	06 19 57.9	-0.1
433A	Art	baz=99,SNR=13	99.22	319	⇑P	Pdif	06 19 58.2	-0.4
534A	Blanco	baz=99,SNR=9.9	99.45	318	⇓P	Pdif	06 19 59.4	-0.3
331A	San Angelo	baz=99,SNR=5.9	99.50	320	⇓P	Pdif	06 19 59.4	-0.5
432A	Menard	baz=99	99.50	319	⇑P	Pdif	06 19 59.6	-0.3
ANMO	Albuquerque	comp=Z,315nm,20.9s,baz=38,slow=35	99.50	326	LR	LR	07 04 13.9	
Z26A	Caprock	baz=99	99.72	323	⇓P	Pdif	06 20 00.6	-0.3
330A	Mertzon	baz=100,SNR=6.6	99.81	320	⇑P	Pdif	06 20 01.0	-0.2
JCT	Junction City	baz=100	99.81	319	⇑P	Pdif	06 20 01.2	-0.1
Z25A	Roswell	baz=100	100.07	324	⇑P	Pdif	06 20 01.8	-0.6
431A	Sonora	baz=100	100.08	320	⇑P	Pdif	06 20 02.9	+0.4
532A	Rocksprings	baz=100	100.14	319	⇓P	Pdif	06 20 03.2	+0.4
329A	Wagon Wheel Ra	baz=100,SNR=9.2	100.16	321	⇑P	Pdif	06 20 02.6	-0.3
430A	Baggett Ranch,	baz=100	100.33	320	⇑P	Pdif	06 20 03.4	-0.3
531A	Rocksprings	baz=100,SNR=6.9	100.46	319	⇓P	Pdif	06 20 04.1	-0.1
328A	Wristen Ranch,	baz=100	100.67	322	⇑P	Pdif	06 20 04.8	-0.3
429A	Davenport Ranc	baz=100	100.80	320	⇓P	Pdif	06 20 05.4	-0.3
530A	J-C Ranch, Com	baz=101,SNR=8.9	100.89	320	⇓P	Pdif	06 20 06.3	+0.3
631A	Perdido Creek	baz=101	101.07	319	⇓P	Pdif	06 20 06.9	+0.1
NVAR	Mina Array Bea		101.10	336	P	Pdif	06 20 06.5	-0.6
NVAR	Mina Array Bea		101.10	336	P	Pdif	06 20 06.5	-0.6
NVAR	Mina Array Bea	comp=Z,0.4nm,0.6s,baz=316,slow=3.8,SNR=4.0	101.10	336	P	Pdif	06 20 06.5	-0.6
WUAZ	Wupatki	baz=101	101.14	330	⇓P	Pdif	06 20 07.1	-0.1
326A	Caldwell Ranch	baz=101	101.31	322	⇑P	Pdif	06 20 08.0	0.0

529A	**Stev Forest Ra**	**101.37**	**320**	⇓P		**Pdif**	**06 20 08.2**	**0.0**	
	baz=101								
427A	**Hayter Ranch,**	**101.39**	**322**	⇓P		**Pdif**	**06 20 08.5**	**+0.2**	
	baz=101								
528A	**Cox Ranch, San**	**101.63**	**321**	⇑P		**Pdif**	**06 20 09.3**	**-0.2**	
	baz=101								
426A	**McDonald Obser**	**101.86**	**322**	⇓P		**Pdif**	**06 20 10.3**	**-0.3**	
	baz=102								
324A	**Moseley Ranch,**	**101.94**	**323**	⇓P		**Pdif**	**06 20 10.8**	**-0.1**	
	baz=102								
527A	**Woodward Ranch**	**102.07**	**321**	⇓P		**Pdif**	**06 20 11.7**	**+0.2**	
	baz=102								
628A	**Black Gap, Mar**	**102.23**	**320**	⇓P		**Pdif**	**06 20 12.9**	**+0.8**	
	baz=102								
526A	**Mary Lane Ranc**	**102.38**	**322**	⇓P		**Pdif**	**06 20 13.4**	**+0.6**	
	baz=102								
627A	**Terlingua Ranc**	**102.51**	**321**	⇓P		**Pdif**	**06 20 13.7**	**+0.3**	
	baz=102								
TXAR	**Lajitas Array**	**102.75**	**321**	P		**Pdif**	**06 20 14.5**	**+0.1**	
TXAR	**Lajitas Array**	**102.75**	**321**	P		**Pdif**	**06 20 14.5**	**+0.1**	
TXAR	**Lajitas Array**	**102.75**	**321**	P		**Pdif**	**06 20 14.5**	**+0.1**	
	comp=Z,0.9nm,0.6s,baz=57,slow=4.3,SNR=18								
LPAZ	**La Paz**	**107.05**	**262**	PKKPab	PKKPab		06 36 17.3	+2.4	
LPAZ	**La Paz**	**107.05**	**262**	PKKPab	PKKPab		06 36 17.3	+2.4	
	comp=Z,1.0nm,0.7s,baz=292,slow=3.8,SNR=5.1								
WRA	**Warramunga Arr**	**111.52**	**100**	Pdif		**Pdif**	**06 20 56.0**	**+2.7**	
WRA				PKiKP		**PKiKP**	**06 24 50.5**	**-0.7**	
WRA				PKKPbc		**PKKPbc**	**06 35 46.8**	**+2.1**	
WRA				PKKP		**PKKPdf**	**06 36 00.5**	**-3.0**	
WRA	**Warramunga Arr**	**111.52**	**100**	PKiKP		**PKiKP**	**06 24 50.5**	**-0.7**	
WRA	**Warramunga Arr**	**111.52**	**100**	Pdiff		**Pdif**	**06 20 56.0**	**+2.7**	
	comp=Z,0.5nm,0.9s,baz=319,slow=3.8,SNR=5.1								
WRA				PKiKP		**PKiKP**	**06 24 50.5**	**-0.7**	
	comp=Z,0.6nm,0.5s,baz=317,slow=1.5,SNR=12								
WRA				PKKPbc		**PKKPbc**	**06 35 46.8**	**+2.1**	
	comp=Z,0.2nm,0.4s,baz=130,slow=2.9,SNR=5.5								
WRA				PKKP		**PKKPdf**	**06 36 00.5**	**-3.0**	
	comp=Z,0.7nm,0.8s,baz=128,slow=4.4,SNR=5.5								
ASAR	**Alice Springs**	**113.07**	**103**	PKiKP		**PKiKP**	**06 24 53.4**	**-0.7**	
ASAR				PP		**PP**	**06 25 41.1**	**-3.2**	
ASAR				PKKPbc		**PKKPbc**	**06 35 41.7**	**+2.1**	
ASAR	**Alice Springs**	**113.07**	**103**	PKiKP		**PKiKP**	**06 24 53.4**	**-0.7**	
ASAR	**Alice Springs**	**113.07**	**103**	PP		PP	06 25 41.1	-3.2	
ASAR	**Alice Springs**	**113.07**	**103**	PKiKP		**PKiKP**	**06 24 53.4**	**-0.7**	
	comp=Z,1.5nm,0.5s,baz=320,slow=1.4,SNR=24								
ASAR				PP		**PP**	**06 25 41.1**	**-3.2**	
	comp=Z,1.3nm,1.0s,baz=319,slow=5.2,SNR=4.5								
ASAR				PKKPbc		**PKKPbc**	**06 35 41.7**	**+2.1**	
	comp=Z,0.3nm,0.4s,baz=118,slow=3.8,SNR=7.2								
PLCA	**Paso Flores**	**120.49**	**240**	PKP		**PKPdf**	**06 25 08.5**	**+0.6**	
PLCA				SKP			06 28 40.0		
PLCA	**Paso Flores**	**120.49**	**240**	PKiKP		**PKPdf**	**06 25 08.5**	**+0.6**	
PLCA	**Paso Flores**	**120.49**	**240**	PKP		**PKPdf**	**06 25 08.5**	**+0.6**	
	comp=Z,3.6nm,0.9s,baz=54,slow=3.1,SNR=7.4								
PLCA				SKP			06 28 40.0		
	comp=Z,1.4nm,0.8s,baz=216,slow=6.7,SNR=3.3								
STKA	**Stephens Creek**	**122.89**	**108**	*e*PKPdf		**PKPdf**	**06 25 11.7**	**-1.0**	
STKA				PKP		**PKPdf**	**06 25 12.5**	**-0.2**	
STKA				PKKP		**PKKPdf**	**06 35 44.8**	**+2.5**	
STKA	**Stephens Creek**	**122.89**	**108**	PKiKP		**PKPdf**	**06 25 12.5**	**-0.2**	
STKA	**Stephens Creek**	**122.89**	**108**	PKP		**PKPdf**	**06 25 12.5**	**-0.2**	
	comp=Z,4.2nm,0.7s,baz=334,slow=4.1,SNR=18								
STKA				PKKP		**PKKPdf**	**06 35 44.8**	**+2.5**	
	comp=Z,0.4nm,0.5s,baz=199,slow=2.7,SNR=3.0								
VNDA	**Vanda**	**133.00**	**167**	PKP		**PKPdf**	**06 25 32.0**	**+1.4**	
VNDA				SKPbc		**SKPbc**	**06 28 52.3**	**-1.6**	
VNDA	**Vanda**	**133.00**	**167**	PKiKP		**PKPdf**	**06 25 32.0**	**+1.4**	
VNDA	**Vanda**	**133.00**	**167**	PKP		**PKPdf**	**06 25 32.0**	**+1.4**	
	comp=Z,0.8nm,0.7s,baz=332,slow=2.9,SNR=1.7								
VNDA				SKPbc		**SKPbc**	**06 28 52.3**	**-1.6**	
	comp=Z,1.5nm,0.8s,baz=211,slow=8.2,SNR=4.0								
DZM	**Mont Dzumac**	**138.59**	**83**	*e*LR		LR	07 10 39.0		
	comp=Z,259nm,24.9s								
DZM	**Mont Dzumac**	**138.59**	**83**	PKP		**PKPdf**	**06 25 42.2**	**-0.5**	
DZM				SKPbc		**SKPbc**	**06 29 12.7**	**-0.3**	
DZM	**Mont Dzumac**	**138.59**	**83**	PKiKP		**PKPdf**	**06 25 42.2**	**-0.5**	
DZM	**Mont Dzumac**	**138.59**	**83**	PKP		**PKPdf**	**06 25 42.2**	**-0.5**	
	comp=Z,7.0nm,1.0s,baz=309,slow=14,SNR=3.0								
DZM				SKPbc		**SKPbc**	**06 29 12.7**	**-0.3**	
	comp=Z,5.9nm,0.8s,baz=346,slow=4.2,SNR=3.8								
RPZ	**Rata Peaks**	**148.12**	**117**	*e*PKPbc		**PKPbc**	**06 26 02.0**	**0.0**	
RPZ	**Rata Peaks**	**148.12**	**117**	*e*PKPbc		**PKPbc**	**06 26 02.0**	**0.0**	
RPZ	**Rata Peaks**	**148.12**	**117**	PKPbc		**PKPbc**	**06 26 02.5**	**+0.5**	
	comp=Z,14nm,0.5s,baz=207,slow=2.5,SNR=14								
KHZ	**Kahutara**	**149.94**	**114**	*e*PKPbc		**PKPbc**	**06 26 06.3**	**-0.3**	
KHZ	**Kahutara**	**149.94**	**114**	*e*PKPbc		**PKPbc**	**06 26 06.3**	**-0.3**	
URZ	**Urewera**	**152.48**	**106**	*e*PKPdf		**PKPdf**	**06 26 07.4**	**+1.7**	
URZ	**Urewera**	**152.48**	**106**	*e*PKiKP		**PKPdf**	**06 26 07.4**	**+1.7**	
PPT2	**Papeete2**	**161.90**	**3**	*e*PP		PP	06 30 38.3	-8.4	
	comp=Z,138nm,27.8s								
PPT2	**Papeete2**	**161.90**	**3**	*e*LR		LR	07 21 18.9		
	comp=Z,512nm,31.8s								
RKT	**Rikitea**	**162.82**	**313**	*e*LR		LR	07 21 46.9		
	comp=Z,255nm,27.5s								
TBI	**Tubuai**	**167.63**	**4**	*e*PP		PP	06 31 14.4	-2.1	
	comp=Z,114nm,28.8s								
TBI	**Tubuai**	**167.63**	**4**	*e*LR		LR	07 23 56.1		
	comp=Z,328nm,26.5s								

*CSEM **22** 06:25:37.7, 14.˚54N×44.˚43E, h6km, ML3.9, After DHMR*

DHMR 22 06:25:37.7±1.5, 14.˚54N×44.˚43E, h7km±5km, ML3.9, 5C-4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHBB	**Dhamar BB**	**0.05**	**313**	⇓*i*P	Pg	06 25 39.2	-0.5
DHBB				*i* S	Sg	06 25 40.3	-0.7
DHBB	**Dhamar BB**	**0.05**	**313**	⇓*i*P	Pg	06 25 39.2	-0.5
DHBB				*i* S	Sg	06 25 40.3	-0.8
RADA	**Ahram - Rada'a**	**0.42**	**103**	*i* P	Pg	06 25 45.8	-0.5
RADA				*i* S	Sg	06 25 52.0	-0.2
RADA	**Ahram - Rada'a**	**0.42**	**103**	*i* P	Pg	06 25 45.8	-0.5
RADA				*i* S	Sg	06 25 52.0	-0.2
UDYN	**Al 'Udayn**	**0.72**	**218**	⇑*i*P	Pg	06 25 51.3	-0.6
UDYN				*i* S	Sg	06 26 00.8	-0.6
SANA	**San'a**	**0.87**	**346**	*i* P	Pg	06 25 54.1	-0.8
SANA				*i* S	Sg	06 26 06.0	-0.5
SANA				AML	AML	06 26 13.3	
	comp=E,6μm,0.3s						
LBOS		**1.04**	**130**	⇑*i*P	Pg	06 25 57.9	-0.1
LBOS				*i* S	Sg	06 26 11.9	+0.2
BDHA	**Al Bayda'**	**1.24**	**117**	⇑*i*P	Pb	06 26 01.1	-0.7
BDHA				*i* S	Sg	06 26 17.6	-0.5
BDHA				AML	AML	06 26 21.9	
	comp=N,2μm,0.4s						
BDHA	**Al Bayda'**	**1.24**	**117**	⇑*i*P	Pb	06 26 01.1	-0.7
BDHA				*i* S	Sg	06 26 17.6	-0.5
	comp=N,953nm,0.4s						
TRBA	**At Turbah**	**1.33**	**193**	⇑*i*P	Pn	06 26 03.1	0.0
TRBA				*i* S	Sn	06 26 21.4	+0.1
HAJJ	**Hajjah**	**1.41**	**325**	⇓*i*P	Pn	06 26 04.1	0.0
HAJJ				*i* S	Sg	06 26 24.5	+1.0
HAJJ				AML	AML	06 26 25.5	
	comp=Z,2μm,0.3s						
HAJJ	**Hajjah**	**1.41**	**325**	⇓*i*P	Pn	06 26 04.1	0.0
HAJJ				*i* S	Sg	06 26 24.5	+1.1
	comp=Z,1μm,0.3s						

GUC 22 06:30:46.8±0.4, 30.˚23S×71.˚03W, h79km±16km, MD3.3, ML3.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.20**	**73**	*e*P	Pn	06 30 59.6	+0.7
TLL				*i* S	Sn	06 31 08.9	+1.1
TLL				AML	AML	06 31 10.6	
	comp=E,2μm,0.3s						
CMCH	**Combarbala**	**0.94**	**178**	⇑*i*P	Pn	06 31 05.7	+0.4
CMCH				*i* S	Sn	06 31 19.7	+0.6
CMCH				AML	AML	06 31 20.8	
	comp=N,2μm,0.7s						
LCO	**Las Campanas**	**1.25**	**13**	*i* P	Pn	06 31 09.7	+0.5
LCO				*i* S	Sn	06 31 27.0	+1.1
LCO				AML	AML	06 31 28.3	
	comp=N,849nm,0.2s						
VACH	**Vallenar**	**1.66**	**8**	*e*P	Pn	06 31 14.7	+0.4
VACH				*e*S	Sn	06 31 35.7	+0.7
VACH				AML	AML	06 31 39.8	
	comp=E,2μm,0.2s						

*ISCJB **22** 06:43:23.9±0.8, 31.˚79S±0.˚07×179.˚9E±0.˚1, h350km, mb3.6/4, Error ellipse: s-maj=16.3km s-min=9.4km az=16.0*

*IDC **22** 06:43:24.4±1.2, 31.˚76S×179.˚86E, h344km±15km, mb3.5/4, mb1 3.7/9, mb1mx3.5/22, mbtmp3.6/9, Error ellipse: s-maj=22.0km s-min=13.7km az=117.0*

ISC 22 06:43:24.1±1.0, 31.9S±0.˚1×180.0W±0.˚2, h350km, n15, σ1§01/15, mb3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.16**	**35**	P	**Pn**	**06 44 24.7**	**-0.3**
	38nm,0.3s,baz=90,slow=20,SNR=4.8						
RAO				S	S	06 45 04.8	-9.2
	54nm,0.3s,baz=240,slow=20,SNR=2.9						
URZ	**Urewera**	**6.80**	**200**	P	**Pn**	**06 45 05.7**	**+1.6**
	15nm,0.3s,baz=17,slow=3.4,SNR=181						
URZ				S	**S**	**06 46 24.6**	**-0.8**
	20nm,0.3s,baz=61,slow=22,SNR=23						
RPZ	**Rata Peaks**	**13.77**	**208**	P	**Pn**	**06 46 25.6**	**-1.0**
	0.5nm,0.3s,baz=90,slow=20,SNR=2.3						
RPZ				S	S	06 48 47.5	-7.7
	2.0nm,0.3s,baz=351,slow=20,SNR=8.2						
DZM	**Mont Dzumac**	**15.53**	**306**	P	**P**	**06 46 44.9**	**+0.2**
	0.1nm,0.3s,baz=39,slow=20,SNR=3.7						
AFI	**Afiamalu**	**19.40**	**25**	P	**P**	**06 47 26.5**	**+0.4**
	2.6nm,0.3s,baz=201,slow=23,SNR=5.3						
CMSA	**Cobar Meteorol**	**29.14**	**261**	P	**P**	**06 48 55.4**	**+1.3**
	baz=24,SNR=12						
STKA	**Stephens Creek**	**32.51**	**260**	P	**P**	**06 49 24.7**	**+1.2**
	4.0nm,0.5s,baz=99,slow=11,SNR=23						
STKA	**Stephens Creek**	**32.51**	**260**	P	**P**	**06 49 24.8**	**+1.2**
	baz=27,SNR=22						
HTT	**Hallett**	**34.48**	**256**	P	**P**	**06 49 41.1**	**+0.7**
	baz=28,SNR=4.5						
BBOO	**Buckleboo**	**36.95**	**257**	P	**P**	**06 50 00.9**	**-0.2**
	baz=31,SNR=6.2						
ASAR	**Alice Springs**	**41.36**	**270**	P	**P**	**06 50 36.6**	**-0.8**
	1.0nm,0.4s,baz=106,slow=7.2,SNR=26						
WRA	**Warramunga Arr**	**42.49**	**275**	P	**P**	**06 50 45.2**	**-1.2**
	1.9nm,0.4s,baz=111,slow=8.1,SNR=38						
QSPA	**South Pole Qui**	**58.24**	**180**	P	P	06 52 45.2	+2.5
	1.7nm,0.7s,baz=324,slow=2.1,SNR=5.3						
FINES	**FINESS Array B**	**145.90**	**338**	PKPbc	**PKPdf**	**07 02 20.2**	**-0.5**
	2.7nm,0.9s,baz=32,slow=4.7,SNR=4.3						

KRSC 22 06:44:48.7±7.0, 49.˚01N×158.˚44E, h41km±41km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.25**	**319**	P	Pn	06 45 24.8	+1.4
SKR				*e*S	Sn	06 45 53.9	+4.0
PAU	**Pauzhetka**	**2.67**	**338**	S	Sn	06 46 04.0	+3.7
MTVR	**Mutnovka**	**3.48**	**357**	S	Sn	06 46 19.8	-0.8
UGLR	**Uglovaya**	**4.21**	**3**	P	Pn	06 45 55.1	+4.6
AVH	**Avacha**	**4.26**	**2**	P	Pn	06 45 55.3	+4.1
SDLR	**Sedlovina**	**4.28**	**4**	P	Pn	06 45 55.6	+4.1
KOK	**Koryaka**	**4.29**	**2**	P	Pn	06 45 56.0	+4.5
KRER	**Koryakskii**	**4.30**	**2**	P	Pn	06 45 56.5	+4.6
GNL	**Ganaly**	**4.70**	**356**	P	Pn	06 46 02.3	+5.1

IDC 22 07:21:05.2±3.6, 30.˚31N×108.˚42E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/25, mbtmp3.3/3, Error ellipse: s-maj=456.2km s-min=29.0km az=53.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**26.07**	**316**	P	P	07 26 40.4	0.0
	0.3nm,0.5s,baz=121,slow=9.0,SNR=4.3						
WRA	**Warramunga Arr**	**55.84**	**150**	P	P	07 30 44.4	-0.2
	0.4nm,0.8s,baz=340,slow=7.6,SNR=4.8						
ASAR	**Alice Springs**	**58.98**	**153**	P	P	07 31 06.8	+0.1
	0.2nm,0.5s,baz=336,slow=7.1,SNR=4.8						

*ISCJB **22** 07:21:56.1±0.6, 26.˚23N±0.˚08×124.˚95E±0.˚07, h171km±5km, mb3.3/6, Error ellipse: s-maj=15.9km s-min=4.4km az=140.9*

*JMA **22** 07:21:57.4±0.3, 26.˚23N×124.˚83E, h167km, M3.7*

*IDC **22** 07:22:06.8±3.9, 26.˚19N×124.˚77E, h261km±42km, mb3.0/6, mb1 3.3/7, mb1mx3.0/26, mbtmp3.1/7, Error ellipse: s-maj=33.2km s-min=13.6km az=85.0*

ISC 22 07:21:57.3±0.8, 26.˚24N±0.˚09×124.˚93E±0.˚07, h168km±9km, n24, σ1§31/35, mb3.4/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**1.45**	**167**	P	**Pn**	**07 22 28.6**	**+0.8**
JMJ				S	**Sn**	**07 22 51.0**	**-0.4**
JOGS	**Gusukube**	**1.53**	**164**	S	**Sn**	**07 22 53.0**	**+0.3**
JTJ	**Tarama**	**1.60**	**188**	P	**Pn**	**07 22 29.5**	**+0.2**
JTJ				S	**Sn**	**07 22 52.7**	**-1.3**
JKE	**Kume jima 2**	**1.67**	**87**	P	**Pn**	**07 22 31.0**	**+1.1**
JIJ	**Ishigaki jima**	**2.00**	**201**	P	**Pn**	**07 22 32.9**	**-0.7**
JIJ				S	**Sn**	**07 22 59.3**	**-2.3**
JAGN	**Aguni-jima**	**2.10**	**80**	P	**Pn**	**07 22 35.6**	**+1.0**
JAGN				S	**Sn**	**07 23 03.4**	**-0.1**
JKRS	**Kuro-shima**	**2.16**	**203**	P	**Pn**	**07 22 34.9**	**-0.5**
JKRS				S	**Sn**	**07 23 03.3**	**-1.5**
IRIF	**Iriomote-Funau**	**2.19**	**210**	P	**Pn**	**07 22 35.0**	**-0.7**
HATJ	**Hateruma jima**	**2.40**	**205**	P	**Pn**	**07 22 37.5**	**-0.7**
HATJ				S	**Sn**	**07 23 07.9**	**-1.9**
YOJ	**Yonaguni jima**	**2.48**	**225**	P	**Pn**	**07 22 39.2**	**+0.1**
YOJ				S	**Sn**	**07 23 11.5**	**0.0**
JJT2	**Tamagusuku 2**	**2.53**	**92**	P	**Pn**	**07 22 40.9**	**+1.2**
JIH	**Iheya**	**2.83**	**73**	P	**Pn**	**07 22 44.0**	**+0.8**
JIH				S	**Sn**	**07 23 19.1**	**+0.1**
JOW	**Kunigami**	**3.05**	**78**	P	**Pn**	**07 22 46.3**	**+0.3**
JOW				S	**Sn**	**07 23 22.2**	**-1.7**
JTK	**Tokunoshima**	**3.90**	**66**	P	**Pn**	**07 22 56.3**	**-0.4**
JTK				S	**Sn**	**07 23 40.8**	**-2.3**
JAMN	**Amaminishikomi**	**4.27**	**61**	P	Pn	07 22 58.4	-3.1
JAMN				S	**Sn**	**07 23 48.5**	**-3.2**
JAM	**Amami Oshima**	**4.69**	**61**	P	**Pn**	**07 23 05.9**	**-1.0**
JAM				S	**Sn**	**07 23 58.1**	**-3.2**
JMZ	**Minamidaito 2**	**5.67**	**93**	P	**Pn**	**07 23 19.1**	**-0.7**
JMZ				S	Sn	07 24 18.4	-6.1
KSRS	**Korea Array**	**11.47**	**12**	P	P	**07 24 44.3**	**+1.4**
	1.1nm,0.3s,baz=195,slow=11,SNR=17						
MKAR	**Makanchi Array**	**39.34**	**313**	P	**P**	**07 29 10.3**	**+0.3**
	0.2nm,0.3s,baz=95,slow=6.9,SNR=7.9						
FITZ	**Fitzroy Crossi**	**44.08**	**179**	P	**P**	**07 29 48.5**	**-0.2**
	2.7nm,1.0s,baz=3.5,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**46.80**	**168**	P	**P**	**07 30 09.9**	**-0.2**
	0.8nm,0.5s,baz=350,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**50.36**	**169**	P	**P**	**07 30 38.2**	**+1.0**
	0.5nm,0.4s,baz=356,slow=14,SNR=16						
ILAR	**Eielson Array**	**65.83**	**28**	P	**P**	**07 32 24.6**	**+0.3**
	0.2nm,0.5s,baz=240,slow=5.0,SNR=5.9						
YKA	**Yellowknife Ar**	**79.75**	**24**	P	**P**	**07 33 46.2**	**+0.1**
	0.1nm,0.4s,baz=300,slow=5.2,SNR=6.0						

*IDC **22** 07:28:53.6±3.9, 3.˚25S×100.˚87E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.8/5, MS4.5/1, Ms1 4.5/1, ms1mx2.9/36, Error ellipse: s-maj=168.5km s-min=20.5km az=55.0*

ISC 22 07:28:56.8±3.4, 3.˚5S±0.˚6×100.˚4E±0.˚9, h29km, n16, σ0§38/5, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.03**	**260**	T	T	08 04 08.4	
	baz=83,slow=75,SNR=378						
H08S3	**Diego Garcia H**	**28.04**	**260**	T	T	08 04 10.2	
	baz=83,slow=75,SNR=380						
H08S1	**Diego Garcia H**	**28.05**	**260**	T	T	08 04 09.8	
	baz=83,slow=75,SNR=427						
H08N1	**Diego Garcia H**	**29.36**	**263**	T	T	08 06 27.2	
	baz=328,slow=75,SNR=17						
H08N2	**Diego Garcia H**	**29.38**	**263**	T	T	08 06 22.2	
	baz=328,SNR=5.6						
H08N3	**Diego Garcia H**	**29.39**	**263**	T	T	08 06 20.4	
	baz=328,slow=75,SNR=9.0						
H01W3	**Cape Leeuwin H**	**33.78**	**159**	T	T	08 11 00.2	
	baz=215,slow=74,SNR=9.8						
H01W2	**Cape Leeuwin H**	**33.80**	**159**	T	T	08 10 57.6	
	baz=215,slow=74,SNR=8.4						
H01W1	**Cape Leeuwin H**	**33.80**	**159**	T	T	08 10 57.0	
	baz=215,slow=74,SNR=11						

WRA	**Warramunga Arr**	**36.97**	**119**	P		P	07 36 00.1	-3.8	
	0.4nm,0.5s,baz=306,slow=8.9,SNR=15								
ASAR	**Alice Springs**	**38.12**	**125**	P		**P**	**07 36 13.8**	**+0.1**	
	0.6nm,0.4s,baz=298,slow=7.6,SNR=16								
JCJ	**Chichijima**	**50.52**	**50**	LR		LR	07 55 41.9		
	comp=Z,587nm,21.4s,baz=338,slow=32								
SONM	**Songino Array**	**51.36**	**5**	P		**P**	**07 37 58.8**	**-0.1**	
	1.3nm,0.7s,baz=182,slow=9.3,SNR=9.4								
MKAR	**Makanchi Array**	**52.52**	**344**	P		**P**	**07 38 07.8**	**+0.3**	
	1.0nm,0.7s,baz=154,slow=9.3,SNR=8.2								
ZALV	**Zalesovo Beam**	**58.66**	**349**	P		**P**	**07 38 51.4**	**0.0**	
	1.2nm,0.8s,baz=175,slow=6.6,SNR=5.8								
TXAR	**Lajitas Array**	**145.63**	**39**	PKPbc		**PKPdf**	**07 48 32.9**	**-0.4**	
	1.0nm,0.6s,baz=294,slow=1.1,SNR=14								

*IDC **22** 07:45:18.1±1.4, 54.˚29N×86.˚15E, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.4/31, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=14.0km s-min=11.8km az=151.0*

*ISCJB **22** 07:45:19.2±1.2, 54.˚29N±0.˚07×86.˚2E±0.˚2, h33km, mb3.2/1, Error ellipse: s-maj=14.1km s-min=9.2km az=14.1*

*NNC **22** 07:45:19.4±4.2, 53.˚86N×86.˚63E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=31.3km s-min=25.3km az=29.0*

ISC 22 07:45:22.3±1.5, 54.˚37N±0.˚10×86.˚1E±0.˚1, h35km, n9, σ2§07/14, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**0.86**	**241**	Pg	Pn	07 45 33.3	-4.6
	3.9nm,0.3s,baz=68,slow=17,SNR=49						
ZALV				Lg	Lg	07 45 46.9	
	16nm,0.3s,baz=60,slow=25,SNR=44						
KURK	**Kurchatov**	**5.85**	**234**	⇓Pn	**Pn**	**07 46 46.6**	**+0.2**
	2.1nm,0.6s						
KURK				⇑Sn	**Sn**	**07 47 54.7**	**+2.6**
	1.7nm,0.7s						
KURK				⇑Lg	Lg	07 48 23.2	
	4.0nm,0.6s						
KURBB	**Kurchatov Arra**	**5.95**	**234**	Pn	**Pn**	**07 46 47.9**	**+0.1**
	1.3nm,0.3s,baz=54,slow=14,SNR=72						
KURBB				Sn	**Sn**	**07 47 57.1**	**+2.4**
	baz=39,slow=17,SNR=2.3						
KURBB				Lg	Lg	07 48 25.2	
	0.4nm,0.3s,baz=50,slow=32,SNR=8.5						
KURBB	**Kurchatov Arra**	**5.95**	**234**	⇓Pn	**Pn**	**07 46 47.6**	**-0.2**
	8.5nm,0.6s,baz=52,slow=14						
KURBB				⇓Sn	**Sn**	**07 47 58.6**	**+3.9**
	7.4nm,0.7s						
KURBB				⇑Lg	Lg	07 48 28.7	
	19nm,0.7s						
MK31	**Makanchi Array**	**7.96**	**199**	Pn	**Pn**	**07 47 14.5**	**-1.0**
	3.4nm,0.6s,baz=24,slow=13,SNR=45						
MK31				⇑Sn	**Sn**	**07 48 44.5**	**+0.2**
	0.9nm,0.6s,baz=26,slow=25,SNR=3.2						
MK31				⇓Lg	Lg	07 49 18.9	
	3.8nm,0.8s,baz=25,slow=33,SNR=4.5						
MKAR	**Makanchi Array**	**7.96**	**199**	Pn	**Pn**	**07 47 14.6**	**-0.9**
	1.1nm,0.3s,baz=24,slow=12,SNR=46						
MKAR				Sn	**Sn**	**07 48 43.6**	**-0.7**
	0.3nm,0.3s,baz=26,slow=26,SNR=7.0						
MKAR				Lg	Lg	07 49 24.5	
	0.1nm,0.3s,baz=24,slow=22,SNR=3.4						
BVAR	**Borovoye Array**	**9.42**	**268**	Pn	**Pn**	**07 47 35.8**	**+0.5**
	0.5nm,0.3s,baz=68,slow=13,SNR=17						
BVAR				Sn	**Sn**	**07 49 16.1**	**-3.7**
	0.4nm,0.3s,baz=70,slow=22,SNR=5.0						
AKTO	**Aktyubinsk**	**17.52**	**269**	P	**Pn**	**07 49 22.5**	**-1.0**
	0.1nm,0.3s,baz=67,slow=7.7,SNR=3.8						
ILAR	**Eielson Array**	**54.43**	**25**	P	**P**	**07 54 46.7**	**+1.4**
	0.2nm,0.7s,baz=315,slow=5.1,SNR=5.0						

*ISCJB **22** 07:57:22.8±0.4, 47.˚59S±0.˚09×100.˚4E±0.˚1, h10km, mb4.7/21, MS5.0/29, Error ellipse: s-maj=14.3km s-min=9.4km az=137.3*

*IDC **22** 07:57:23.7±0.6, 47.˚56S×100

CTA	**Charters Tower**	**46.11**	**70**	P		**P**	**08 05 48.9**	**-0.8**	
	5.0nm,0.9s,baz=223,slow=11,SNR=4.4								
CTAO	**Charters Tower**	**46.11**	**70**	*e*P		**P**	**08 05 47.6**	**-2.0**	
	13nm,1.1s								
H08S2	**Diego Garcia H**	**46.36**	**320**	T		T	08 55 00.2		
	baz=152,SNR=54								
H08S1	**Diego Carcia H**	**46.37**	**320**	T		T	08 54 55.7		
	baz=152,SNR=30								
H08S3	**Diego Garcia H**	**46.38**	**320**	T		T	08 54 58.0		
	baz=152,SNR=63								
SNAA	**Sanae**	**49.42**	**204**	*e*P		**P**	**08 06 13.2**	**-1.6**	
	24nm,1.2s								
SNAA	**Sanae**	**49.42**	**204**	P		**P**	**08 06 14.6**	**-0.2**	
	4.1nm,1.0s,baz=131,slow=7.3,SNR=10.0								
SNAA				LR		LR	08 25 20.5		
	comp=Z,1μm,19.4s,baz=112,slow=34								
PSI	**Prapat**	**50.26**	**358**	LR		LR	08 22 39.7		
	comp=Z,1μm,21.6s,baz=168,slow=30								
OPO	**Ambohidratompo**	**51.81**	**285**	LR		LR	08 21 48.7		
	comp=Z,330nm,18.8s,baz=128,slow=28								
PMG	**Port Moresby**	**54.85**	**62**	LR		LR	08 28 38.1		
	comp=Z,1μm,18.9s,baz=37,slow=34								
JAY	**Jayapura**	**56.88**	**51**	LR		LR	08 30 48.0		
	comp=Z,1μm,20.1s,baz=236,slow=35								
DZM	**Mont Dzumac**	**58.07**	**88**	*e*S		**S**	**08 15 20.5**	**+0.7**	
	300nm,26.1s								
DZM				*e*LR		LR	08 24 27.8		
	3μm,28.1s								
BOSA	**Boshof**	**59.70**	**260**	P		**P**	**08 07 30.0**	**-0.1**	
BOSA	**Boshof**	**59.70**	**260**	P		**P**	**08 07 30.0**	**-0.1**	
	4.2nm,0.9s,baz=133,slow=5.7,SNR=4.2								
BOSA				LR		LR	08 28 07.5		
	comp=Z,2μm,18.8s,baz=138,slow=31								
CM01	**Chiang Mai Arr**	**65.78**	**359**	*e*P		**P**	**08 08 07.4**	**-3.0**	
CMAR	**Chiang Mai Arr**	**65.82**	**359**	P		**P**	**08 08 10.0**	**-0.6**	
CMAR	**Chiang Mai Arr**	**65.82**	**359**	P		**P**	**08 08 10.0**	**-0.6**	
	2.5nm,0.7s,baz=190,slow=6.1,SNR=9.9								
CMAR				LR		LR	08 33 38.2		
	comp=Z,2μm,19.5s,baz=198,slow=33								
LSZ	**Lusaka**	**66.83**	**273**	*e*P		**P**	**08 08 16.1**	**-1.4**	
	13nm,1.4s								
QIZ	**Qiongzhong**	**66.93**	**10**	P		**P**	**08 08 14.8**	**-2.9**	
QIZ				LR		LR			
	comp=N,980nm,20.7s								
QIZ				LR		LR			
	comp=Z,1μm,20.7s								
KMBO	**Kilima Mbogo**	**71.29**	**290**	*e*P		**P**	**08 08 45.4**	**0.0**	
	4.3nm,1.0s								
KMBO	**Kilima Mbogo**	**71.29**	**290**	P		**P**	**08 08 46.0**	**+0.6**	
	1.4nm,0.7s,baz=72,slow=4.6,SNR=4.5								
KMBO				LR		LR	08 33 24.9		
	comp=Z,547nm,19.1s,baz=272,slow=30								
KMI	**Kunming**	**72.48**	**2**	P		**P**	**08 08 52.9**	**+0.8**	
KMI				pP		**pP**	**08 08 59.4**	**+4.1**	
KMI				sP		**sP**	**08 09 01.3**	**+4.8**	
KMI				S		**S**	**08 18 18.9**	**+2.7**	
KMI				pmax	pmax				
	comp=Z,15nm,1.0s								
KMI				pmax	pmax				
	comp=Z,150nm,5.6s								
KMI				LR	LR				
	comp=N,610nm,21.7s								
KMI				LR	LR				
	comp=E,320nm,23.2s								
KMI				LR	LR				
	comp=Z,1μm,23.3s								
USHA	**Ushuaia**	**77.44**	**187**	LR		LR	08 42 28.8		
	comp=Z,2μm,21.0s,baz=148,slow=35								
NJ2	**Nanjing**	**81.08**	**16**	*e*P		**P**	**08 09 41.0**	**+0.8**	
NJ2				S		**S**	**08 19 53.0**	**+3.6**	
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
NJ2				LR	LR				
	comp=N,440nm,25.8s								
NJ2				LR	LR				
	comp=E,730nm,28.0s								
NJ2				LR	LR				
	comp=Z,350nm,23.4s								
XAN	**Xi'an**	**81.70**	**7**	SS		SS	08 25 18.0	+3.6	
XAN				pmax	pmax				
	comp=Z,1.0nm,1.1s								
XAN				pmax	pmax				
	comp=Z,42nm,5.9s								
XAN				LR	LR				
	comp=N,660nm,20.5s								
XAN				LR	LR				
	comp=E,170nm,17.4s								
XAN				LR	LR				
	comp=Z,330nm,21.5s								
JNU	**Nakatsue**	**84.97**	**25**	LR		LR	08 49 55.9		
	comp=Z,241nm,18.3s,baz=20,slow=37								
TBI	**Tubuai**	**85.68**	**120**	*e*LR		LR	08 37 14.3		
	comp=Z,519nm,29.2s								
KBL	**Kabul**	**86.49**	**335**	*e*P		**P**	**08 10 07.5**	**-0.6**	
	comp=Z,12nm,0.9s								
KSRS	**Korea Array**	**88.26**	**22**	LR		LR	08 53 07.7		
	comp=Z,202nm,18.1s,baz=88,slow=38								
HHC	**Hu-ho-hao-te**	**88.69**	**9**	*e*P		P	08 10 22.5	+4.1	
HHC				sP		sP	08 10 29.3	+6.4	
HHC				S		**ScS**	**08 21 08.3**	**-2.0**	
HHC				sS		sS	08 21 14.3	+3.9	
HHC				pmax	pmax				
	comp=Z,34nm,1.2s								
HHC				pmax	pmax				
	comp=Z,160nm,8.3s								
PPT2	**Papeete2**	**90.03**	**116**	*e*LR		LR	08 39 14.8		
	comp=Z,686nm,23.5s								
PPT	**Papeete**	**90.05**	**116**	LR		LR	08 43 09.2		
	comp=Z,324nm,20.4s,baz=217,slow=30								
MJAR	**Matsushiro Arr**	**90.42**	**30**	LR		LR	08 50 35.0		
	comp=Z,112nm,18.3s,baz=235,slow=35								
PLCA	**Paso Flores**	**91.61**	**187**	LR		LR	08 50 00.2		
	comp=Z,1μm,21.1s,baz=150,slow=34								
WMQ	**Urumqi**	**91.77**	**351**	P		**P**	**08 10 32.3**	**-0.3**	
WMQ				sP		**sP**	**08 10 39.0**	**+1.8**	
WMQ				PP		**PP**	**08 14 14.0**	**+1.9**	
WMQ				SKS		**SKSac**	**08 21 03.0**	**-2.0**	
WMQ				S		**S**	**08 21 30.0**	**-3.1**	
WMQ				sS		**sS**	**08 21 38.0**	**-0.6**	
WMQ				pmax	pmax				
	comp=Z,14nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,220nm,8.0s								
WMQ				LR	LR				
	comp=Z,750nm,22.0s								
WMQ				LR	LR				
	comp=Z,420nm,20.0s								
WMQ				LR	LR				
	comp=Z,760nm,22.0s								
RKT	**Rikitea**	**93.83**	**131**	*e*LR		LR	08 40 59.5		
	comp=Z,445nm,23.2s								
SONM	**Songino Array**	**95.26**	**4**	P		**P**	**08 10 48.6**	**-0.1**	
SONM	**Songino Array**	**95.26**	**4**	P		**P**	**08 10 48.6**	**-0.1**	
	2.0.3nm,0.8s,baz=160,slow=4.6,SNR=2.8								
SONM				LR		LR	08 54 33.3		
	comp=Z,653nm,19.1s,baz=189,slow=36								
MKAR	**Makanchi Array**	**95.38**	**348**	LR		LR	08 53 31.2		
	comp=Z,559nm,19.7s,baz=169,slow=35								
USRK	**Ussuriysk Arra**	**95.64**	**22**	LR		LR	08 54 15.9		
	comp=Z,186nm,20.9s,baz=308,slow=36								
ILAR	**Eielson Array**	**141.09**	**39**	PKP		**PKPdf**	**08 16 55.5**	**+1.0**	
ILAR	**Eielson Array**	**141.09**	**39**	PKP		**PKPdf**	**08 16 55.5**	**+1.0**	
	comp=Z,0.5nm,0.9s,baz=251,slow=3.7,SNR=5.1								
NVAR	**Mina Array Bea**	**150.59**	**94**	PKPbc		**PKPbc**	**08 17 17.7**	**+0.6**	
NVAR	**Mina Array Bea**	**150.59**	**94**	PKPbc		**PKPbc**	**08 17 17.7**	**+0.6**	
	comp=Z,2.3nm,0.9s,baz=217,slow=4.4,SNR=10								
RES	**Resolute Bay**	**152.10**	**9**	PKPbc		**PKPbc**	**08 17 18.8**	**-0.4**	
RES	**Resolute Bay**	**152.10**	**9**	PKPbc		**PKPbc**	**08 17 18.8**	**-0.4**	
	comp=Z,3.4nm,0.7s,baz=306,slow=2.4,SNR=13								
TXAR	**Lajitas Array**	**153.97**	**126**	PKPbc		**PKPbc**	**08 17 26.9**	**+2.0**	
TXAR	**Lajitas Array**	**153.97**	**126**	PKPbc		**PKPbc**	**08 17 26.9**	**+2.0**	
	comp=Z,0.3nm,0.8s,baz=226,slow=3.6,SNR=3.4								
YKA	**Yellowknife Ar**	**155.51**	**40**	PKPbc		PKPbc	08 17 28.3		
YKA	**Yellowknife Ar**	**155.51**	**40**	PKPbc		PKPbc	08 17 28.3		
	comp=Z,0.3nm,0.8s,baz=284,slow=2.5,SNR=6.2								

IDC 22 08:00:22.4±3.7, 60.36S×17.16W, h0km, mb3.9/1, mb1 4.3/2, mb1mx3.7/17, mbtmp4.3/2, Error ellipse: s-maj=190.9km s-min=42.6km az=80.0, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**12.70**	**159**	Pn		Pn	08 03 23.3	-0.8
	3.4nm,0.3s,baz=322,slow=15,SNR=208							
SNAA				Sn		Sn	08 05 33.8	-12
	0.0nm,0.3s,baz=180,slow=20,SNR=3.0							
H10S2	**ASCENSION HYDR**	**51.33**	**3**	T		T	09 05 07.7	
	baz=182,slow=75,SNR=4.0							
H10S3	**ASCENSION HYDR**	**51.34**	**3**	T		T	09 04 58.6	
	baz=182,slow=75,SNR=4.0							
H10S1	**ASCENSION HYDR**	**51.35**	**3**	T		T	09 05 00.7	
	baz=182,slow=75,SNR=4.0							
TORD	**Torodi Ar. Bea**	**74.81**	**19**	P		P	08 12 03.8	-0.4
	0.5nm,0.7s,baz=196,slow=7.3,SNR=4.4							
YKA	**Yellowknife Ar**	**142.98**	**310**	PKP		PKPdf	08 19 56.1	-0.2
	0.2nm,0.6s,baz=125,slow=2.1,SNR=4.0							
SONM	**Songino Array**	**145.72**	**86**	PKPbc		PKPdf	08 20 01.9	+0.1
	0.4nm,0.6s,baz=216,slow=6.0,SNR=3.5							

IDC 22 08:05:27.1±2.7, 47.54S×100.19E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=82.4km s-min=23.8km az=125.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**16.39**	**45**	T		T	08 26 03.0	
	baz=214,slow=74,SNR=13							
H01W3	**Cape Leeuwin H**	**16.40**	**45**	T		T	08 25 59.1	
	baz=214,slow=74,SNR=15							
H01W1	**Cape Leeuwin H**	**16.40**	**45**	T		T	08 26 03.3	
	baz=214,slow=74,SNR=18							
STKA	**Stephens Creek**	**35.03**	**79**	P		P	08 12 21.7	+0.4
	1.2nm,0.6s,baz=253,slow=5.2,SNR=5.0							
ASAR	**Alice Springs**	**35.87**	**60**	P		P	08 12 28.6	-0.2
	0.8nm,1.0s,baz=214,slow=6.6,SNR=5.2							
VNDA	**Vanda**	**38.01**	**162**	P		P	08 12 46.0	-0.3
	1.2nm,0.9s,baz=292,slow=11,SNR=2.7							
WRA	**Warramunga Arr**	**39.02**	**57**	P		P	08 12 55.1	-0.3
	1.3nm,1.1s,baz=217,slow=10,SNR=7.1							
SNAA	**Sanae**	**49.50**	**204**	P		P	08 14 18.8	0.0
	0.7nm,1.0s,baz=152,slow=15,SNR=4.7							

IDC 22 08:09:56.5±2.0, 3.60N×126.82E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/23, mbtmp3.4/3, Error ellipse: s-maj=188.6km s-min=26.8km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.54**	**163**	P		P	08 15 18.6	+0.5
	0.3nm,0.6s,baz=342,slow=10,SNR=4.8							
STKA	**Stephens Creek**	**37.98**	**159**	P		P	08 17 15.6	-0.6
	0.8nm,0.7s,baz=354,slow=9.2,SNR=3.3							
MKAR	**Makanchi Array**	**57.71**	**325**	P		P	08 19 49.1	-0.1
	0.2nm,0.7s,baz=122,slow=8.0,SNR=3.0							

GUC 22 08:26:59.1±0.6, 35.13S×72.63W, h41km±3km, MD3.5, ML4.0, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTCH	**Constitucion**	**0.27**	**138**	↑*i* P		Pn	08 27 07.2	+0.1
CTCH				*i* S		Sn	08 27 13.0	+0.4
CTCH				AML		AML	08 27 16.1	
	comp=E,53μm,0.5s							
TALC	**Talca**	**0.86**	**108**	↓*i* P		Pn	08 27 15.1	+0.4
TALC				*i* S		Sn	08 27 27.1	+1.1
TALC				AML		AML	08 27 29.5	
	comp=E,14μm,0.3s							
COCH	**Cobquecura**	**1.01**	**187**	*e*P		Pn	08 27 17.3	+0.6
COCH				*i* S		Sn	08 27 30.8	+1.1
NICH	**Los Niches**	**1.15**	**84**	↓*i* P		Pn	08 27 19.3	+0.5
NICH				*i* S		Sn	08 27 35.2	+1.8
NICH				AML		AML	08 27 38.0	
	comp=N,8μm,0.4s							
CCHI	**Chillan**	**1.54**	**163**	*i* P		Pn	08 27 35.5	+11
CCHI				*i* S		Sn	08 27 55.3	+13
CCHI				AML		AML	08 27 58.1	
	comp=E,870nm,0.5s							
PCH	**Pirque**	**2.31**	**50**	*e*P		Pn	08 27 35.9	+1.2

*ISCJB **22** 08:36:02.0±1.1, 3.8S±0.1×100.5E±0.2, h29km, mb3.7/8, Error ellipse: s-maj=35.5km s-min=11.4km az=149.5*
*IDC **22** 08:36:02.3±2.4, 3.325S×101.20E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/27, mbtmp3.7/8, Error ellipse: s-maj=113.7km s-min=16.9km az=54.0*
ISC 22 08:36:05.0±1.6, 3.7S±0.2×100.6E±0.3, h29km, n15, σ1§64/11, mb3.7/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKNI	**Bangkinang**	**4.02**	**6**	P		**Pn**	**08 37 05.2**	**+0.5**
	baz=5,SNR=3.8							
WSI	**Waingapu**	**20.43**	**108**	P		**P**	**08 40 41.0**	**+0.8**
	baz=30,SNR=3.5							
H08S2	**Diego Garcia H**	**28.24**	**261**	T		T	09 11 42.5	
	baz=79,slow=76,SNR=31							
H08S3	**Diego Garcia H**	**28.25**	**261**	T		T	09 11 43.1	
	baz=79,slow=76,SNR=1.3							
H08S1	**Diego Carcia H**	**28.26**	**261**	T		T	09 11 51.6	
	baz=79,SNR=3.7							
FITZ	**Fitzroy Crossi**	**28.38**	**122**	P		**P**	**08 41 57.0**	**-0.1**
	0.9nm,0.7s,baz=348,slow=9.3,SNR=3.3							
KLBR	**Kellerberrin**	**32.10**	**152**	P		P	08 42 25.9	-3.9
	baz=41,SNR=8.8							
KDU	**Kakadu**	**32.75**	**108**	P		**P**	**08 42 37.0**	**+1.3**
	baz=43,SNR=39							
WRA	**Warramunga Arr**	**36.63**	**119**	P		**P**	**08 43 06.5**	**-2.8**
	0.2nm,0.3s,baz=285,slow=10,SNR=8.6							
ASAR	**Alice Springs**	**37.78**	**125**	P		**P**	**08 43 18.1**	**-0.9**
	0.4nm,0.5s,baz=298,slow=7.9,SNR=9.2							
STKA	**Stephens Creek**	**47.58**	**131**	P		**P**	**08 44 39.9**	**+1.6**
	0.7nm,0.5s,baz=302,slow=12,SNR=3.2							
SONM	**Songino Array**	**51.57**	**5**	P		**P**	**08 45 06.0**	**-2.5**
	1.1nm,0.6s,baz=186,slow=10.0,SNR=6.6							
MKAR	**Makanchi Array**	**52.82**	**344**	P		**P**	**08 45 18.5**	**+0.8**
	0.4nm,0.4s,baz=154,slow=8.9,SNR=12							
KURBB	**Kurchatov Arra**	**57.34**	**343**	P		**P**	**08 45 50.6**	**+0.3**
	0.5nm,0.6s,baz=159,slow=7.3,SNR=3.1							
BVAR	**Borovoye Array**	**61.98**	**340**	P		**P**	**08 46 23.1**	**+0.8**
	0.4nm,0.3s,baz=150,slow=9.6,SNR=3.6							

*NIED **22** 08:38:00, 23.90N×122.40E, h32km, Mw4.1 Best double couple: M0 1.62000×10^15 NP1:φs56.00000°, δ83.00000°, λ88.00000°. NP2:φs250.00000°, δ7.00000°, λ103.00000°.*
*ISCJB **22** 08:38:41.7±0.4, 23.90N±0.02×122.47E±0.01, h19km±3km, mb3.9/13, Error ellipse: s-maj=3.0km s-min=2.1km az=157.4*
*JMA **22** 08:38:41.7±0.2, 23.91N×122.45E, h18km±4km, M3.8*
*TAP **22** 08:38:42.5, 23.98N×122.44E, h27km, ML4.3, C*
*IDC **22** 08:38:46.6±5.6, 24.06N×122.43E, h65km±52km, mb3.7/13, mb1 3.8/14, mb1mx3.6/27, mbtmp3.7/14, ML3.9/1, Error ellipse: s-maj=31.1km s-min=15.9km az=65.0*
ISC 22 08:38:40.9±1.0, 23.90N±0.02×122.45E±0.02, h18km±4km, n87, σ0§92/152, mb3.9/13, 1C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.76**	**42**	P		**Pg**	**08 38 56.0**	**+0.1**
YOJ				S		**Sb**	**08 39 04.9**	**-0.8**
EHP	**Heping Village**	**0.77**	**303**	*e*P		**Pg**	**08 38 56.3**	**+0.4**
	baz=297							
HWA	**Hwalien**	**0.78**	**276**	P		**Pn**	**08 38 56.9**	**0.0**
	baz=257							
HWA				*e*S		**Sg**	**08 39 07.6**	**+1.2**
	baz=257							
TWD	**Chiawan**	**0.80**	**284**	*i* P		**Pg**	**08 38 57.0**	**+0.4**
	baz=277							
TWD				S		**Sg**	**08 39 07.8**	**+0.6**
	baz=277							
ENA	**Nanau**	**0.83**	**310**	P		**Pg**	**08 38 57.3**	**+0.1**
	baz=305							
ENA				*e*S		**Sg**	**08 39 08.2**	**-0.1**
	baz=305							
ESF	**Shoufeng Towns**	**0.86**	**269**	*e*P		**Pb**	**08 38 57.4**	**+0.1**
	baz=254							
ESF				*e*S		**Sg**	**08 39 09.7**	**+0.6**
	baz=254							
TWC	**Suao**	**0.90**	**323**	↑*i* P		**Pb**	**08 38 57.9**	**0.0**
	baz=320							
TWC				*e*S		**Sg**	**08 39 10.1**	**-0.2**
	baz=320							
ESL	**Shilin**	**0.93**	**265**	P		**Pb**	**08 38 58.8**	**+0.2**
	baz=259							
ESL				S		**Sb**	**08 39 11.2**	**+0.7**
	baz=259							
ILA	**Ilan**	**1.08**	**324**	*e*P		**Pg**	**08 39 01.8**	**0.0**
	baz=321							
ILA				*e*S		**Sg**	**08 39 16.6**	**+0.6**
	baz=321							
TWE	**Neicheng**	**1.09**	**319**	P		**Pn**	**08 39 01.7**	**+0.4**
	baz=317							
TWE				*e*S		**Sg**	**08 39 16.2**	**-0.1**
	baz=317							
ENTT	**Nioudou**	**1.09**	**313**	↓*i* P		Pn	**08 39 01.9**	**+0.5**
	baz=295							
ENTT				S		**Sg**	**08 39 16.9**	**+0.4**
	baz=295							
EHY	**Hungye**	**1.10**	**250**	⇓P		**Pb**	**08 39 01.9**	**+0.5**
	baz=245							
EHY				*e*S		**Sn**	**08 39 16.4**	**+0.2**
	baz=245							
WHF	**Hehuan Shan**	**1.11**	**283**	⇓*i* P		Pn	**08 39 02.0**	**+0.1**
	baz=266							
WHF				S		**Sb**	**08 39 16.1**	**0.0**
	baz=266							
NNS	**Nan Shan**	**1.12**	**299**	*e*P		**Pb**	**08 39 02.2**	**+0.4**
	baz=295							
NNS				*e*S		**Sb**	**08 39 16.7**	**+0.5**
	baz=295							
TWB1	**Santiao Chiao**	**1.19**	**339**	*e*P		**Pn**	**08 39 02.6**	**0.0**
	baz=356							
TWB1				S		**Sb**	**08 39 18.0**	**+0.1**
	baz=356							
TWF1	**Yuli**	**1.19**	**243**	P		**Pb**	**08 39 03.5**	**+0.6**
	baz=239							
TWF1				*e*S		**Sn**	**08 39 18.9**	**+0.7**
	baz=239							
TWT	**Tachien**	**1.22**	**287**	P		**Pb**	**08 39 04.2**	**+0.8**
	baz=271							
TWT				S		**Sg**	**08 39 20.5**	**0.0**
	baz=271							
IRIF	**Iriomote-Funau**	**1.25**	**69**	P		**Pb**	**08 39 04.3**	**+0.3**
IRIF				S		**Sn**	**08 39 20.7**	**+0.8**
HATJ	**Hateruma jima**	**1.25**	**82**	P		**Pb**	**08 39 04.6**	**+0.6**
HATJ				S		**Sg**	**08 39 21.0**	**-0.5**
NSK	**Sanguang**	**1.26**	**308**	⇓*i* P		**Pb**	**08 39 04.3**	**+0.1**
	baz=292							
NSK				*e*S		**Sn**	**08 39 20.4**	**+0.1**
	baz=292							
CHKT	**Chengkung**	**1.27**	**232**	*e*P		**Pn**	**08 39 04.1**	**+0.3**
	baz=228							
CHKT				*e*S		**Sn**	**08 39 18.5**	**-1.8**
	baz=228							
NWF	**Wu-fen Shan**	**1.32**	**333**	*i* P		Pn	**08 39 04.9**	**+0.4**
	baz=331							
NWF				S		**Sg**	**08 39 22.9**	**-0.8**
	baz=331							
TWA	**Mucha**	**1.34**	**324**	*e*P		**Pb**	**08 39 05.8**	**+0.3**
	baz=322							
TWA				*e*S		**Sb**	**08 39 22.6**	**+0.4**
	baz=322							
SMLT	**Sun Moon Lake**	**1.42**	**270**	P		**Pb**	**08 39 07.0**	**+0.2**
	baz=265							
SMLT				*e*S		**Sb**	**08 39 24.9**	**+0.3**
	baz=265							
TAP1	**Taipei**	**1.42**	**324**	*e*P		**Pb**	**08 39 06.9**	**+0.1**
	baz=321							
TAP1				*e*S		**Sb**	**08 39 25.1**	**+0.6**
	baz=321							
TAP	**Taipei**	**1.43**	**323**	*e*P		**Pb**	**08 39 06.8**	**-0.2**
	baz=321							
TAP				*e*S		**Sb**	**08 39 25.3**	**+0.5**
	baz=321							
YUS	**Yu-Shan**	**1.43**	**254**	*e*P		**Pn**	**08 39 07.5**	**+1.1**
	baz=250							
YUS				*e*S		**Sn**	**08 39 25.4**	**+0.4**
	baz=250							
TYC	**Yuchr**	**1.46**	**271**	P		**Pb**	**08 39 07.4**	**0.0**
	baz=266							
TYC				*e*S		**Sn**	**08 39 25.6**	**+0.7**
	baz=266							
JKRS	**Kuro-shima**	**1.47**	**76**	P		**Pb**	**08 39 07.8**	**+0.1**
JKRS				S		**Sb**	**08 39 27.1**	**+1.1**
ELDTW	**Lidau**	**1.49**	**242**	*e*P		**Pn**	**08 39 07.5**	**+0.6**
	baz=238							
ELDTW				*e*S		**Sn**	**08 39 25.6**	**-0.3**
	baz=238							
NSTT	**Nanjuang**	**1.51**	**299**	*e*P		**Pb**	**08 39 08.8**	**+0.4**
	baz=284							
NSTT				*e*S		**Sb**	**08 39 27.5**	**+0.3**
	baz=284							
TWS1	**Kuangyinshan**	**1.52**	**322**	*e*P		**Pn**	**08 39 07.9**	**+0.6**
	baz=338							
TWS1				*e*S		**Sb**	**08 39 28.6**	**+1.0**
	baz=338							
ALS	**Alishan**	**1.55**	**256**	*e*P		**Pb**	**08 39 09.6**	**+0.3**
	baz=252							
ALS				*e*S		**Sb**	**08 39 29.1**	**+0.3**
	baz=252							
NCU	**National Centr**	**1.57**	**313**	*e*P		**Pb**	**08 39 09.1**	**-0.3**
	baz=310							
NCU				*e*S		**Sb**	**08 39 29.6**	**+0.6**
	baz=310							
TWY	**Chenhua**	**1.58**	**331**	*e*P		**Pb**	**08 39 09.4**	**-0.1**
	baz=329							
TWY				*e*S		**Sb**	**08 39 29.2**	**0.0**
	baz=329							
TWQ1	**Liyutan**	**1.59**	**287**	*e*P		**Pb**	**08 39 10.3**	**+0.5**
	baz=283							
TWQ1				*e*S		**Sb**	**08 39 30.6**	**+1.0**
	baz=283							
WNT	**Mingjian**	**1.61**	**270**	*e*P		**Pb**	**08 39 10.7**	**+0.5**
	baz=266							
WNT				*e*S		**Sb**	**08 39 31.0**	**+0.8**
	baz=266							
JIJ	**Ishigaki jima**	**1.62**	**73**	P		**Pn**	**08 39 09.2**	**+0.7**
JIJ				S		**Sn**	**08 39 28.8**	**-0.2**
HSN	**Hsinchu**	**1.62**	**304**	*e*P		**Pb**	**08 39 09.8**	**-0.5**
	baz=302							
HSN				*e*S		**Sb**	**08 39 30.3**	**-0.2**
	baz=302							
NSY	**Sanyi**	**1.62**	**289**	*e*P		**Pb**	**08 39 10.5**	**+0.1**
	baz=285							
NSY				*e*S		**Sb**	**08 39 30.9**	**+0.3**
	baz=285							
TCU	**Taichung**	**1.64**	**279**	*e*P		**Pb**	**08 39 11.0**	**+0.4**
	baz=275							
TCU				*e*S		**Sb**	**08 39 31.5**	**+0.6**
	baz=275							
CHN5	**Tsauling**	**1.65**	**260**	P		**Pb**	**08 39 11.3**	**+0.5**

	baz=245								
CHN1					*e*S		**Sb**	**08 39 39.1**	**+0.7**
	baz=245								
TWK	**Hsinying**	**1.90**	**251**	*e*P		**Pb**	**08 39 15.3**	**+0.2**
	baz=248								
TWK					*e*S		**Sb**	**08 39 38.5**	**-0.1**
	baz=248								
WTCT	**Ta-ch'eng**	**1.98**	**270**	*e*P		**Pb**	**08 39 15.6**	**-0.8**
	baz=266								
WTCT					*e*S		**Sb**	**08 39 41.3**	**+0.5**
	baz=266								
SSD	**Sandimen**	**2.02**	**236**	*e*P		**Pb**	**08 39 16.2**	**-1.0**
	baz=226								
WSF	**Szhu**	**2.05**	**263**	*e*P		**Pb**	**08 39 16.6**	**-1.1**
	baz=260								
WSF					*e*S		**Sb**	**08 39 43.3**	**+0.4**
	baz=260								
TAW	**Tawu**	**2.09**	**223**	*e*P		**Pb**	**08 39 17.5**	**-0.8**
	baz=231								
EAST	**Anshuo**	**2.10**	**225**	*e*P		**Pn**	**08 39 14.9**	**-0.4**
	baz=223								
EAST					*e*S		**Sn**	**08 39 43.0**	**+2.0**
	baz=223								
CHN8	**Yiju**	**2.12**	**256**	*e*P		**Pn**	**08 39 17.3**	**+1.9**
	baz=252								
CHN8					*e*S		**Sb**	**08 39 44.2**	**-0.7**
	baz=252								
JTJ	**Tarama**	**2.19**	**70**	P		**Pn**	**08 39 17.6**	**+1.2**
JTJ				S		**Sn**	**08 39 44.9**	**+1.9**
SCLT	**Jiali**	**2.19**	**251**	*e*P		**Pn**	**08 39 18.3**	**+1.9**
	baz=248								
SCLT					*e*S		**Sb**	**08 39 46.2**	**-0.6**
	baz=248								
TAI1	**Yung-k'ang**	**2.21**	**248**	*e*P		**Pb**	**08 39 19.9**	**-0.4**
	baz=245								
TAI1					*e*S		**Sb**	**08 39 48.0**	**+0.7**
	baz=245								
TSEB	**Hengchuen, Pin**	**2.44**	**216**	*e*P		**Pb**	**08 39 22.7**	**-1.7**
	baz=224								
TSEB					*e*S		**Sn**	**08 39 51.5**	**+2.2**
	baz=224								
HEN	**Hengchun**	**2.45**	**220**	*e*P		**Pn**	**08 39 21.7**	**+1.7**
	baz=219								
HEN					*e*S		**Sn**	**08 39 51.4**	**+1.8**
	baz=219								
TWK1	**Hengchun**	**2.46**	**218**	*e*P		**Pn**	**08 39 21.6**	**+1.5**
	baz=217								
TWK1					*e*S		**Sn**	**08 39 50.5**	**+0.7**
	baz=217								
WDGT	**Dungji**	**2.63**	**257**	*e*P		**Pn**	**08 39 24.2**	**+1.6**
	baz=253								
WDGT					*e*S		**Sn**	**08 39 55.1**	**+1.1**
	baz=253								
JOGS	**Gusukube**	**2.83**	**72**	*e*S		**Sn**	**08 40 01.4**	**+2.4**
KNM	**Kinmen**	**3.70**	**279**	*e*P		**Pn**	**08 39 39.6**	**+2.4**
	baz=277								
JKE	**Kume jima 2**	**4.62**	**57**	P		**Pn**	**08 39 52.4**	**+2.6**
JOW	**Kunigami**	**6.03**	**60**	P		**Pn**	**08 40 08.2**	**-1.0**
JOW				S		**Sn**	**08 41 16.4**	**-1.4**
JTK	**Tokunoshima**	**7.02**	**55**	P		**Pn**	**08 40 21.2**	**-1.7**
JAMN	**Amaminishikomi**	**7.44**	**53**	P		**Pn**	**08 40 26.8**	**-1.8**
KSRS	**Korea Array**	**14.31**	**18**	P		**Pn**	**08 42 05.5**	**+2.9**
	0.6nm,0.3s,baz=197,slow=11,SNR=17								
SONM	**Songino Array**	**27.09**	**336**	P		**P**	**08 44 21.7**	**-1.0**
	1.8nm,0.7s,baz=151,slow=9.3,SNR=14								
MKAR	**Makanchi Array**	**39.35**	**316**	P		**P**	**08 46 08.6**	**-0.6**
	2.2nm,0.5s,baz=102,slow=9.4,SNR=40								
ZALV	**Zalesovo Beam**	**41.12**	**327**	P		**P**	**08 46 21.8**	**-1.8**
	3.0nm,0.5s,baz=113,slow=7.6,SNR=13								
KURBB	**Kurchatov Arra**	**43.07**	**320**	P		**P**	**08 46 38.7**	**-1.0**
	0.8nm,0.4s,baz=113,slow=9.2,SNR=10								
WRA	**Warramunga Arr**	**45.09**	**164**	P		**P**	**08 46 57.2**	**+1.0**
	1.5nm,0.9s,baz=347,slow=9.0,SNR=7.5								
ASAR	**Alice Springs**	**48.57**	**166**	P		**P**	**08 47 25.0**	**+1.6**
	0.6nm,0.8s,baz=343,slow=6.0,SNR=8.2								
BVAR	**Borovoye Array**	**48.63**	**321**	P		**P**	**08 47 22.4**	**-1.1**
	1.0nm,0.5s,baz=105,slow=7.7,SNR=8.0								
BVAR					PcP	**PcP**	**08 48 48.4**	**-0.4**
	0.5nm,0.7s,baz=132,slow=2.1,SNR=2.8								
ILAR	**Eielson Array**	**68.94**	**27**	P		**P**	**08 49 43.8**	**-0.8**
	0.1nm,0.5s,baz=280,slow=5.2,SNR=2.7								
ARCES	**ARCESS Array B**	**70.24**	**338**	P		**P**	**08 49 51.6**	**-0.9**
	11nm,1.1s,baz=77,slow=8.6,SNR=3.1								
FINES	**FINESS Array B**	**72.28**	**330**	P		**P**	**08 50 02.9**	**-2.1**
	2.8nm,0.9s,baz=60,slow=11,SNR=3.4								
BRTR	**Keskin Array B**	**74.27**	**307**	P		**P**	**08 50 17.8**	**+0.4**
	1.8nm,0.8s,baz=91,slow=7.4,SNR=6.3								
NOA	**NORSAR Array B**	**79.02**	**332**	P		**P**	**08 50 42.7**	**-0.9**
	0.7nm,0.6s,baz=60,slow=4.3,SNR=2.7								
YKA	**Yellowknife Ar**	**82.78**	**23**	P		**P**	**08 51 02.3**	**-1.3**
	0.3nm,0.7s,baz=310,slow=4.8,SNR=11								

IDC ***22*** *08:45:29.5±2.0, 17.87S×176.18W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/20, mbtmp4.0/6, Error ellipse: s-maj=53.2km s-min=33.6km az=122.0*

ISCJB ***22*** *08:45:33.0±1.6, 17°.9S±0.2×176°.2W±0.3, h33km, mb4.0/6, Error ellipse: s-maj=41.5km s-min=28.2km az=23.4*

ISC 22 08:45:34.9±1.8, 17°.9S±0.2×176°.2W±0.3, h35km, n6, σ1s01/6, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**21.12**	**195**	P		**P**	**08 50 16.9**	**+0.3**
	1.7nm,0.3s,baz=289,slow=6.1,SNR=7.3							
STKA	**Stephens Creek**	**40.46**	**242**	P		**P**	**08 53 09.1**	**-1.2**
	0.9nm,0.5s,baz=85,slow=8.9,SNR=4.6							
WRA	**Warramunga Arr**	**46.57**	**259**	P		**P**	**08 54 00.8**	**+0.4**
	1.0nm,0.5s,baz=97,slow=7.4,SNR=27							
ASAR	**Alice Springs**	**46.79**	**254**	P		**P**	**08 54 01.3**	**-0.1**
	4.2nm,0.6s,baz=92,slow=8.2,SNR=82							
FITZ	**Fitzroy Crossi**	**55.07**	**260**	P		**P**	**08 55 04.9**	**+1.2**
	1.4nm,0.6s,baz=101,slow=5.2,SNR=5.1							
ILAR	**Eielson Array**	**85.41**	**12**	P		**P**	**08 58 08.1**	**-0.2**
	1.1nm,1.1s,baz=186,slow=8.1,SNR=4.2							

IDC ***22*** *08:49:23.5±0.6, 21.62S×170.35E, h0km, mb4.5/20, mb1 4.6/23, mb1mx4.6/27, mbtmp4.5/23, ML3.9/2, MS4.1/15, Ms1 4.1/15, ms1mx4.0/25, Error ellipse: s-maj=17.1km s-min=14.4km az=85.0*

NOU ***22*** *08:49:25.1±1.4, 20.16S×169.86E, h30km, MD3.5, MS2.1*

ISCJB ***22*** *08:49:28.2±0.4, 21.64S±0.05×170.21E±0.04, h33km, mb4.9/43, MS4.1/14, Error ellipse: s-maj=7.9km s-min=5.8km az=4.7*

GCMT ***22*** *08:49:28.6±0.3, 21.62S×170.33E, h16km±1km, MW4.9, Moment Tensor Solution. s27,c40; s58,c78; Moment tensor: Scale 10¹⁶Nm; Mrr=2.69±.21; Mθθ=1.49±.15; Mφφ=1.20±.15; Mrθ=1.28±.48; Mrφ=0.79±.09; Mθφ=0.48±.43; Best double couple: M0=3.20000×10¹⁶ NP1:ϕ=249.00000°, δ=55.00000°, λ=-62.00000°; NP2:ϕ=26.00000°, δ=43.00000°, λ=-124.00000°. Principal axes: T 3.2100, Plg6.0000°, Azm319.0000°; N 0.0700, Plg23.0000°, Azm52.0000°; P -3.2800, Plg66.0000°, Azm215.0000°; Data Used: ll IU IC G CU.*

NEIC ***22*** *08:49:29.3±0.4, 21.61S×170.39E, h35km, mb4.9/23 Error ellipse: s-maj=10.4km s-min=9.1km az=53.0*

SZGRF ***22*** *08:49:32.2, 19.58S×172.25E, h33km, Vanuatu Islands region*

AUST ***22*** *08:49:55.8, 22.50S×170.54E, h300km*

DJA ***22*** *08:50:21.7±4.0, 22°S±10°×16°8E±3°0, h361km±28km, M5.1/24, mB5.8/6, mb4.7/24, Mw(mB)5.4/6*

ISC 22 08:49:30.1±2.3, 21.60S±0.08×170.48E±0.08, h46km±21km, n176, σ1s05/153, mb4.9/43, MS4.1/14, 9C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAYA	**Yate Dam**	**3.39**	**260**	*e*P		Pn	08 50 15.0	-5.5
BAYA				*e*S		Sn	08 50 51.6	-7.8
NORM	**Noumea**	**3.77**	**260**	*e*P		Pn	08 50 19.9	-5.8
NORM				*e*S		Sn	08 51 01.0	-7.8
DZM	**Mont Dzumac**	**3.78**	**262**	*e*Pn		Pn	08 50 20.9	-5.1
	78nm,0.2s							
DZM				*e*Sn		Sn	08 51 00.0	-9.3
	126nm,0.3s							
DZM	**Mont Dzumac**	**3.78**	**262**	Pn		Pn	08 50 20.4	-5.6
DZM				Sn		Sn	08 51 01.1	-8.2
DZM	**Mont Dzumac**	**3.78**	**262**	Pn		Pn	08 50 20.4	-5.6
	13nm,0.3s,baz=89,slow=16,SNR=529							
DZM				Sn		Sn	08 51 01.1	-8.2
	21nm,0.3s,baz=155,slow=18,SNR=13							
DZM	**Mont Dzumac**	**3.78**	**262**	*e*P		Pn	08 50 19.8	-6.2
DZM				*e*S		Sn	08 51 02.0	-8.5
MVNO	**Noumea**	**3.81**	**259**	*e*P		Pn	08 50 20.4	-5.9
NOUC	**Port Laguerre**	**3.91**	**262**	*e*P		Pn	08 50 22.1	-5.7
NOUC				*e*S		Sn	08 51 03.2	-9.3
NOUC				AMP			08 51 11.2	
	comp=Z,72nm,11.1s							
URZ	**Urewera**	**17.56**	**162**	*e*P		**Pn**	**08 53 31.6**	**+0.1**
	comp=Z,100nm,1.2s							
URZ	**Urewera**	**17.56**	**162**	P		**Pn**	**08 53 31.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=3.0,slow=5.4,SNR=14							
URZ					LR	LR	08 58 57.9	
	comp=Z,957nm,18.1s,baz=347,slow=33							
EIDS	**Eidsvold**	**18.19**	**254**	*e*P		**Pn**	**08 53 40.8**	**+1.5**
	comp=Z,37nm,1.4s							
BKZ	**Black Stump Fm**	**18.26**	**165**	*e*Pn		**Pn**	**08 53 40.3**	**+0.2**
	comp=Z,92nm,1.2s							
AFI	**Afiamalu**	**18.53**	**69**	P		**Pn**	**08 53 44.4**	**+0.7**
AFI	**Afiamalu**	**18.53**	**69**	P		**Pn**	**08 53 44.4**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=6.2,slow=13,SNR=3.8							
ARMA	**Armidale**	**19.07**	**239**	*e*P		**Pn**	**08 53 50.2**	**+0.2**
	comp=Z,129nm,2.3s							
ARMA	**Armidale**	**19.07**	**239**	P		**Pn**	**08 53 51.5**	**+1.5**
	baz=19,SNR=3.8							
BFZ	**Birch Farm**	**19.65**	**167**	*e*Pn		**P**	**08 53 54.1**	**-0.9**
	comp=Z,58nm,0.9s							
RMQ	**Roma**	**20.42**	**252**	P		Pn	08 54 06.1	+0.1
	baz=20,SNR=12							
RMQ	**Roma**	**20.42**	**252**	P		Pn	08 54 06.2	+0.2
	baz=7.1,SNR=5.5							
KHZ	**Kahutara**	**20.92**	**174**	*e*P		**P**	**08 54 08.3**	**-0.5**
	comp=Z,37nm,0.9s							
RPZ	**Rata Peaks**	**22.07**	**179**	*e*P		**P**	**08 54 20.5**	**-0.6**
	comp=Z,33nm,1.0s							
RPZ	**Rata Peaks**	**22.07**	**179**	P		**P**	**08 54 20.1**	**-0.9**
	comp=Z,16nm,0.9s,baz=32,slow=3.1,SNR=5.8							
CTA	**Charters Tower**	**22.69**	**269**	P		**P**	**08 54 26.1**	**-1.9**
CTA	**Charters Tower**	**22.69**	**269**	P		**P**	**08 54 26.1**	**-1.9**
	comp=Z,17nm,0.8s,baz=85,slow=11,SNR=13							
CTAO	**Chrs Tower**	**22.69**	**269**	*e*P		**P**	**08 54 27.5**	**-0.5**
	comp=Z,22nm,0.9s							
CNB	**Canberra Magne**	**22.99**	**229**	P		**P**	**08 54 32.3**	**+1.3**
	baz=22,SNR=7.4							
CNB	**Canberra Magne**	**22.99**	**229**	P		**P**	**08 54 32.3**	**+1.3**
	baz=8.8,SNR=7.4							
YNG	**Young**	**23.19**	**232**	P		**P**	**08 54 34.5**	**+1.5**
	baz=23,SNR=5.6							
CAN	**Canberra**	**23.25**	**229**	*e*P		**P**	**08 54 33.8**	**+0.2**
	comp=Z,61nm,1.4s							
DCZ	**Deep Cove**	**23.98**	**186**	*e*P		**P**	**08 54 42.1**	**+1.9**
	comp=Z,33nm,1.1s							
MILA	**Mila**	**24.06**	**226**	P		**P**	**08 54 42.9**	**+1.7**
	baz=24,SNR=10							
MILA	**Mila**	**24.06**	**226**	P		**P**	**08 54 43.0**	**+1.7**
	baz=9.9,SNR=7.0							
CMSA	**Cobar Meteorol**	**24.23**	**241**	P		**P**	**08 54 43.4**	**+0.7**
	baz=24,SNR=75							
QLP	**Quiple**	**24.45**	**253**	P		**P**	**08 54 45.9**	**+1.1**
	baz=24,SNR=15							
PMG	**Port Moresby**	**25.49**	**295**	P		**P**	**08 54 52.0**	**-2.3**
PMG	**Port Moresby**	**25.49**	**295**	*e*P		**P**	**08 54 53.4**	**-0.9**
	comp=Z,35nm,0.7s							
PMG	**Port Moresby**	**25.49**	**295**	P		**P**	**08 54 53.5**	**-0.8**
	comp=Z,15nm,0.6s,baz=98,slow=4.8,SNR=7.7							
COEN	**Coen**	**27.06**	**282**	*e*P		**P**	**08 55 08.9**	**+0.4**
	comp=Z,103nm,0.7s							
COEN	**Coen**	**27.06**	**282**	P		**P**	**08 55 08.6**	**+0.1**
	baz=27,SNR=19							
RAR	**Rarotonga**	**27.68**	**95**	LR		LR	09 03 35.7	
	comp=Z,236nm,21.2s,baz=45,slow=31							
STKA	**Stephens Creek**	**27.68**	**242**	*e*P		**P**	**08 55 13.4**	**-0.5**
	comp=Z,3.0nm,0.9s							
STKA					PcP	**PcP**	**08 58 28.9**	**-1.3**
STKA	**Stephens Creek**	**27.68**	**242**	P		**P**	**08 55 13.1**	**-0.8**
	comp=Z,7.7nm,0.8s,baz=82,slow=8.8,SNR=21							
STKA					PcP	**PcP**	**08 58 28.9**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=90,slow=3.0,SNR=3.4							
STKA					LR	LR	09 05 11.6	
	comp=Z,337nm,20.9s,baz=44,slow=34							
STKA	**Stephens Creek**	**27.68**	**242**	P		**P**	**08 55 14.7**	**+0.8**
	baz=27,SNR=6.1							
HTT	**Hallett**	**30.25**	**240**	P		**P**	**08 55 37.5**	**+0.6**
	baz=30,SNR=5.7							
BBOO	**Buckleboo**	**32.45**	**243**	*e*P		**P**	**08 55 56.2**	**0.0**
	comp=Z,288nm,1.0s							
BBOO	**Buckleboo**	**32.45**	**243**	P		**P**	**08 55 56.4**	**+0.3**
	baz=32,SNR=8.9							
AS31	**Alice Springs**	**33.77**	**259**	*e*P		**P**	**08 56 07.0**	**-0.8**
ASAR	**Alice Springs**	**33.77**	**259**	P		**P**	**08 56 05.7**	**-2.1**
ASAR					PcP	**PcP**	**08 58 46.1**	**-0.4**
ASAR	**Alice Springs**	**33.77**	**259**	P		**P**	**08 56 05.7**	**-2.1**
	comp=Z,4.3nm,0.8s,baz=88,slow=9.2,SNR=38							
ASAR					PcP	**PcP**	**08 58 46.1**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=87,slow=3.0,SNR=4.7							
ASAR					LR	LR	09 08 54.7	
	comp=Z,384nm,18.5s,baz=94,slow=35							
WRAB	**Tennant Creek**	**33.78**	**266**	*e*P		**P**	**08 56 06.6**	**-1.3**
	comp=Z,26nm,1.2s							
WRA	**Warramunga Arr**	**33.79**	**266**	P		**P**	**08 56 05.6**	**-2.3**
WRA	**Warramunga Arr**	**33.79**	**266**	P		**P**	**08 56 05.6**	**-2.3**
	comp=Z,9.0nm,0.7s,baz=97,slow=8.3,SNR=69							
WRA					LR	LR	09 09 50.0	
	comp=Z,492nm,18.5s,baz=90,slow=36							
TBI	**Tubuai**	**36.98**	**100**	*e*LR		LR	09 06 41.6	
	comp=Z,485nm,30.8s							
KDU	**Kakadu**	**37.30**	**277**	P		**P**	**08 56 38.9**	**+0.8**
	baz=38,SNR=8.1							
PPT2	**Papeete2**	**37.77**	**91**	*e*LR		LR	09 07 20.3	
	comp=Z,490nm,27.5s							
MTN	**Manton Dam**	**38.49**	**276**	P		**P**	**08 56 46.9**	**-1.3**
	baz=39,SNR=28							
WRKA	**Warakurna**	**38.78**	**257**	P		**P**	**08 56 50.5**	**-0.1**
	baz=39,SNR=24							
FORT	**Forrest**	**38.96**	**247**	*e*P		**P**	**08 56 51.8**	**-0.2**
	comp=Z,85nm,1.6s							
KNRA	**Kununurra**	**39.88**	**271**	P		**P**	**08 57 00.4**	**+0.6**
	baz=40,SNR=12							
FITZ	**Fitzroy Crossi**	**42.22**	**267**	*e*P		**P**	**08 57 18.5**	**-0.4**
	comp=Z,41nm,0.8s							
FITZ	**Fitzroy Crossi**	**42.22**	**267**	P		**P**	**08 57 16.7**	**-2.3**
	comp=Z,25nm,0.9s,baz=109,slow=7.2,SNR=19							
FITZ					LR	LR	09 15 00.7	
	comp=Z,588nm,18.2s,baz=102,slow=36							
FITZ	**Fitzroy Crossi**	**42.22**	**267**	P		**P**	**08 57 18.1**	**-0.8**
	baz=42,SNR=14							
SWI	**Soroti**	**43.42**	**293**	P		P	08 57 34.5	+5.8
	comp=Z,48nm,1.1s,comp=Z,2um							
NLAI	**Namlea**	**45.91**	**287**	P		P	08 57 55.5	+6.9
MEEK	**Meekatharra**	**47.35**	**253**	P		**P**	**08 58 00.1**	**+0.3**
	baz=47,SNR=9.3							
KLBR	**Kellerberrin**	**47.80**	**246**	P		**P**	**08 58 03.4**	**+0.2**
	baz=47,SNR=12							
NWAO	**Narrogin (SRO)**	**48.22**	**245**	P		**P**	**08 58 04.8**	**-1.6**
NWAO	**Narrogin (SRO)**	**48.22**	**245**	P		**P**	**08 58 04.8**	**-1.6**
	comp=Z,29nm,0.8s,baz=94,slow=10,SNR=9.9							
BLDU	**Ballidu**	**48.73**	**248**	P		**P**	**08 58 10.2**	**-0.3**
	baz=48,SNR=6.6							
WSI	**Waingapu**	**49.56**	**276**	P		P	08 58 21.4	+4.5
	baz=50,SNR=4.8							
RKT	**Rikitea**	**50.22**	**103**	*e*LR		LR	09 12 55.6	
	comp=Z,304nm,27.5s							
BKSI	**Bulukumba**	**51.32**	**281**	P		P	08 58 35.1	+4.8
	comp=Z,33nm,1.0s							
BNSI	**Bone**	**51.71**	**282**	P		P	08 58 38.1	+5.0
	comp=Z,33nm,1.0s							
KAPI	**Kappang**	**51.78**	**281**	*e*P		**P**	**08 58 35.2**	**+1.5**
	comp=Z,146nm,1.0s							
VNDA	**Vanda**	**56.13**	**182**	*e*P		P	08 59 08.1	+3.7
	comp=Z,7.9nm,1.2s							
VNDA	**Vanda**	**56.13**	**182**	P		**P**	**08 59 03.8**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=29,slow=9.8,SNR=4.9							
VNDA					LR	LR	09 19 12.5	
	comp=Z,232nm,19.3s,baz=11,slow=32							
SBA	**Scott Base**	**56.34**	**181**	*e*P		**P**	**08 59 08.3**	**+2.3**
	comp=Z,26nm,1.0s							
SJI	**Sawahan**	**58.14**	**274**	P		P	08 59 25.6	+5.9
KPJI	**Karang Pucung**	**60.91**	**274**	P		P	08 59 43.9	+5.1
	comp=Z,24nm,1.1s,comp=Z,1um							
DBJI	**Dramaga**	**63.21**	**274**	P		P	08 59 58.2	+4.0
	comp=Z,94nm,0.9s,comp=Z,7um							
MJAR	**Matsushiro Arr**	**65.37**	**332**	P		**P**	**09 00 06.3**	**-1.6**
MJAR	**Matsushiro Arr**	**65.37**	**332**	P		**P**	**09 00 06.3**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=166,slow=7.5,SNR=3.0							
MJAR					LR	LR	09 24 28.7	
	comp=Z,101nm,18.4s,baz=165,slow=32							
KASI	**Kota Agung**	**65.67**	**274**	P		P	09 00 13.7	+3.4
	comp=Z,51nm,0.9s							
JNU	**Nakatsue**	**66.25**	**324**	LR		LR	09 27 19.9	
	comp=Z,99nm,18.1s,baz=86,slow=34							
MDSI	**Maura Dua**	**66.34**	**275**	P		**P**	**09 00 13.5**	**-1.1**
	comp=Z,18nm,1.1s							
QSPA	**South Pole Qui**	**68.47**	**180**	P		**P**	**09 00 27.2**	**-0.2**
QSPA	**South Pole Qui**	**68.47**	**180**	P		**P**	**09 00 27.2**	**-0.2**
	comp=Z,11nm,1.0s,baz=13,slow=3.9,SNR=8.0							
KSRS	**Korea Array**	**71.10**	**325**	P		**P**	**09 00 44.0**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=142,slow=6.2,SNR=4.3							
KSRS					LR	LR	09 26 24.8	
	comp=Z,91nm,19.8s,baz=295,slow=31							
KSAR	**Wonju Array Be**	**71.11**	**325**	P		**P**	**09 00 44.0**	**+0.2**
MNSI	**Mandailing Nat**	**72.58**	**278**	P		**P**	**09 00 52.6**	**-0.5**
	comp=Z,27nm,1.0s,comp=Z,5um							
IPM	**Ipoh**	**72.71**	**282**	P		**P**	**09 00 56.1**	**+2.2**
	comp=Z,35nm,1.1s							
PSI	**Prapat**	**73.96**	**280**	P		**P**	**09 01 04.2**	**+2.8**
	comp=Z,22nm,1.0s							
USRK	**Ussuriysk Arra**	**74.36**	**332**	P		**P**	**09 01 02.3**	**-0.5**
	comp=Z,4.4nm,1.1s,baz=146,slow=3.7,SNR=4.8							
USRK					LR	LR	09 27 41.4	
	comp=Z,104nm,20.5s,baz=298,slow=31							
GSI	**Gunungsitoli**	**74.62**	**278**	P		**P**	**09 01 08.1**	**+3.0**
PETK	**Petropavlovsk-**	**75.21**	**352**	P		**P**	**09 01 09.0**	**+1.4**
PETK	**Petropavlovsk-**	**75.21**	**352**	P		**P**	**09 01 09.0**	**+1.4**
	comp=Z,6.6nm,0.9s,baz=142,slow=7.4,SNR=4.2							
PETK					LR	LR	09 31 51.6	
	comp=Z,111nm,18.2s,baz=199,slow=34							
MAW	**Mawson**	**76.70**	**202**	*e*P		**P**	**09 01 15.8**	**-0.2**
	comp=Z,3.5nm,1.1s							
MAW	**Mawson**	**76.70**	**202**	P		**P**	**09 01 16.6**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=110,slow=7.6,SNR=4.6							
UTHA	**Uthaitani**	**78.82**	**292**	P		P	09 01 37.9	+9.2
	comp=Z,3.6nm,1.1s							
LAMP	**Lampang**	**79.97**	**294**	P		**P**	**09 01 37.0**	**+2.0**
	comp=Z,8.4nm,0.9s,comp=Z,96nm							
CMAR	**Chiang Mai Arr**	**80.53**	**294**	P		**P**	**09 01 39.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**80.53**	**294**	P		**P**	**09 01 39.5**	**+1.5**
	comp=Z,3.4nm,0.6s,baz=134,slow=4.1,SNR=17							
CMMT	**Chiang Mai**	**80.68**	**294**	P		**P**	**09 01 40.4**	**+1.6**
	comp=Z,1.6nm,1.1s							
CHTO	**Chiang Mai**	**80.69**	**294**	*e*P		**P**	**09 01 40.1**	**+1.3**
	comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	**80.69**	**294**	P		**P**	**09 01 40.8**	**+2.0**
	comp=Z,72nm,1.1s							
SEY	**Seymchan**	**85.45**	**352**	P		**P**	**09 02 01.9**	**-0.5**
SEY	**Seymchan**	**85.45**	**352**	P		**P**	**09 02 01.9**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=104,slow=12,SNR=3.9							
SNAA	**Sanae**	**86.86**	**182**	*e*P		**P**	**09 02 08.2**	**-1.4**
	comp=Z,20nm,1.1s							
SNAA	**Sanae**	**86.86**	**182**	P		**P**	**09 02 08.4**	**-1.2**
	comp=Z,1.7nm,1.0s,baz=180,slow=4.2,SNR=11							
SNAA					LR	LR	09 35 30.7	
	comp=Z,56nm,19.8s,baz=209,slow=32							
USHA	**Ushuaia**	**88.83**	**150**	LR		LR	09 31 37.3	
	comp=Z,130nm,21.6s,baz=281,slow=28							
ULN	**Ulaanbaatar**	**89.44**	**323**	*e*P		**P**	**09 02 23.0**	**+0.8**
	comp=Z,4.8nm,1.0s							
SONM	**Songino Array**	**89.79**	**323**	P		**P**	**09 02 23.7**	**-0.2**
SONM	**Songino Array**	**89.79**	**323**	P		**P**	**09 02 23.7**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=131,slow=4.3,SNR=16							
ILAR	**Eielson Array**	**92.13**	**17**	P		**P**	**09 02 33.2**	**-0.9**
ILAR	**Eielson Array**	**92.13**	**17**	P		**P**	**09 02 33.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=233,slow=5.0,SNR=6.1							
PLCA	**Paso Flores**	**96.01**	**138**	LR		LR	09 35 54.7	
	comp=Z,151nm,21.2s,baz=190,slow=29							
MKAR	**Makanchi Array**	**104.22**	**315**	PP		PP	09 07 51.9	+3.9
MKAR	**Makanchi Array**	**104.22**	**315**	PP		PP	09 07 51.9	+3.9
	comp=Z,1.3nm,1.1s,baz=113,slow=9.3,SNR=3.7							
ARCES	**ARCESS Array B**	**127.63**	**345**	PKP		**PKPdf**	**09 08 28.9**	**-0.7**
ARCES	**ARCESS Array B**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.59**	**51**	*e*Pg	**Pg**	**08 59 46.0**	**-0.6**
YSS	40nm,0.2s			AMB	AMB	08 59 47.8	
YSS				*e*Sg	**Sb**	**08 59 55.6**	**+0.3**
YSS	980nm,0.7s			A	A	08 59 56.7	
YSS	440nm,0.7s			A	A	08 59 56.7	
JWK2	**Keihoku**	**1.28**	**186**	P	**Pn**	**08 59 57.7**	**-0.8**
JWK2				*e*S	**Sg**	**09 00 16.9**	**+0.7**
JRR	**Rishiri**	**1.55**	**201**	*e*S	**Sb**	**09 00 23.0**	**+0.1**
UGL	**Uglegorsk**	**2.49**	**360**	*e*Sg	**Sg**	**09 00 56.0**	**+0.8**
UGL	77nm,0.5s			A	A	09 00 57.0	
UGL	69nm,0.5s			A	A	09 00 57.0	
JAR	**Ashorobuto**	**3.50**	**159**	P	**Pn**	**09 00 29.5**	**+0.5**

NNC ***22*** *09:07:33.5±1.8, 42°.38N×80°.66E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=20.5km s-min=5.8km az=141.0*

ISC 22 09:07:49.6±2.7, 43°.6N±0°.3×79°.4E±0°.2, h10km, n12, σ1§96/11, 6C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.69**	**241**	P	**Pn**	**09 08 30.9**	**-2.2**
	SNR=11						
TKM2	**Tokmak 2**	**2.87**	**258**	P	**Pn**	**09 08 34.3**	**-1.2**
	SNR=15						
TKM2	**Tokmak 2**	**2.87**	**258**	⇑Pn	**Pn**	**09 08 33.5**	**-2.1**
	8.7nm,0.6s						
TKM2				⇑Lg	Lg	09 09 32.2	
	28nm,0.6s						
KBK	**Karagaybulak**	**3.40**	**256**	P	**Pn**	**09 08 42.1**	**-0.7**
	SNR=6.8						
KZA	**Kyzart**	**3.42**	**245**	P	**Pn**	**09 08 44.5**	**+1.3**
	SNR=12						
AAK	**Ala-Archa**	**3.73**	**257**	P	**Pb**	**09 08 57.2**	**+1.6**
	SNR=9.1						
AAK	**Ala-Archa**	**3.73**	**257**	⇓Pn	**Pn**	**09 08 44.4**	**-2.9**
	4.1nm,1.1s						
AAK				⇓Pg	**Pb**	**09 08 56.4**	**+0.8**
	12nm,0.7s						
AAK				⇑Lg	Lg	09 09 58.5	
	17nm,0.6s						
MK31	**Makanchi Array**	**3.79**	**31**	⇓Pn	**Pn**	**09 08 46.4**	**-1.7**
	2.6nm,0.7s,baz=200,slow=14,SNR=56						
MK31				⇑Sn	**Sb**	**09 09 44.2**	**+1.6**
	5.8nm,0.6s,baz=191,slow=22,SNR=7.0						
MK31				⇑Lg	Lg	09 09 59.4	
	11nm,0.8s,baz=182,slow=32,SNR=4.9						
UCH	**Uchtor**	**3.85**	**251**	P	Pb	09 08 54.0	-3.8
	SNR=11						
EKS2	**Erkin-Say**	**4.23**	**259**	P	**Pb**	**09 09 05.0**	**+0.9**
	SNR=11						
AML	**Almayashu**	**4.45**	**253**	P	Pn	09 09 01.7	+4.2
	SNR=12						
KK31	**Karatay Array**	**6.51**	**269**	⇑Lg	Lg	09 11 28.4	
	1.0nm,0.5s,baz=96,slow=29,SNR=6.2						

WEL 22 09:08:31.2±0.5, 38°.74S×178°.75E, h12km, ML2.5/4, Error ellipse: s-maj=3.7km s-min=1.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.50**	**300**	S*	Sg	09 08 48.2	+0.6
PRGZ	**Paritu Road**	**0.70**	**254**	P*	Pg	09 08 44.8	-0.2
PUZ	**Puketiti**	**0.77**	**329**	P*	Pg	09 08 45.9	-0.3
PUZ				*e*S*	Sg	09 08 55.2	-1.2
RIGZ	**Rimuhau**	**0.78**	**272**	P*	Pg	09 08 46.2	-0.1
KNZ	**Kokohu**	**0.89**	**251**	P*	Pg	09 08 47.1	-1.3
KNZ				S*	Sg	09 08 59.6	-0.4
MWZ	**Matawai**	**1.04**	**292**	P*	Pb	09 08 50.0	-1.3
MWZ				S*	Sb	09 09 03.4	-1.6
MXZ	**Matakaoa Point**	**1.22**	**343**	P*	Pn	09 08 53.1	-1.0
MXZ				S*	Sb	09 09 09.6	-0.5
URZ	**Urewera**	**1.38**	**290**	PN	Pn	09 08 55.3	-1.0
URZ				*e*SN	Sn	09 09 12.7	-1.6

WEL 22 09:09:24.3±0.2, 37°.81S×177°.72E, h52km±3km, ML3.5/4, 2C-5D, Error ellipse: s-maj=1.3km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.50**	**122**	⇑PN	Pn	09 09 35.2	-0.6
PUZ				SN	Sn	09 09 44.3	+0.2
PUZ				AML	AML	09 09 45.5	
WIZ	**White Island**	**0.50**	**304**	PN	Pn	09 09 35.3	-0.5
MXZ	**Matakaoa Point**	**0.53**	**63**	⇑PN	Pn	09 09 36.3	+0.2
MXZ				AML	AML	09 09 46.9	
MXZ				AML	AML	09 09 47.2	
MXZ				AML	AML	09 09 47.2	
MWZ	**Matawai**	**0.55**	**196**	⇓PN	Pn	09 09 36.0	-0.3
MWZ				SN	Sn	09 09 44.4	-0.6
MWZ				AML	AML	09 09 47.0	
MWZ				AML	AML	09 09 47.0	
MWZ				AML	AML	09 09 48.7	
URZ	**Urewera**	**0.66**	**227**	⇓PN	Pn	09 09 37.2	-0.4
URZ				SN	Sn	09 09 47.3	+0.1
URZ				SN		09 09 47.4	
CNGZ	**Carnagh Statio**	**0.78**	**150**	PN	Pn	09 09 39.1	-0.1
EDRZ	**Edgecumbe**	**0.83**	**249**	PN	Pn	09 09 39.8	-0.1
RIGZ	**Rimuhau**	**0.90**	**178**	PN	Pn	09 09 40.4	-0.4
OPRZ	**Ohinepanea**	**0.92**	**267**	⇓PN	Pn	09 09 40.6	-0.4
SNGZ	**Shannon Statio**	**1.01**	**197**	PN	Pn	09 09 42.7	+0.4
TARZ	**Mount Tarawera**	**1.04**	**246**	PN	Pn	09 09 43.0	+0.2
RRRZ	**Republican Roa**	**1.09**	**240**	PN	Pn	09 09 43.2	-0.1
TGRZ	**Tauranga**	**1.16**	**273**	PN	Pn	09 09 43.6	-0.5
KNZ	**Kokohu**	**1.21**	**182**	PN	Pn	09 09 43.9	-1.0
RAHZ	**Arahi**	**1.21**	**204**	PN	Pn	09 09 45.8	+0.8
PRRZ	**Plateau Road**	**1.25**	**236**	PN	Pn	09 09 45.2	-0.2
ALRZ	**Allen Road**	**1.32**	**235**	PN	Pn	09 09 43.9	-2.5
NMHZ	**Naumai**	**1.47**	**209**	PN	Pn	09 09 49.6	+1.0
BKZ	**Black Stump Fm**	**1.66**	**215**	PN	Pn	09 09 51.5	+0.4
KUZ	**Kuaotunu**	**1.91**	**303**	⇓PN	Pn	09 09 53.8	-0.6
KUZ				SN	Sn	09 10 16.6	-0.8
KAHZ	**Kahuranaki**	**2.09**	**198**	PN	Pn	09 09 56.3	-0.7
BHHZ	**Black Hill Sta**	**2.12**	**217**	*e*PN	Pn	09 09 59.3	+1.9
MKAZ	**Moumakai**	**2.15**	**288**	⇓PN	Pn	09 09 57.7	0.0
MOVZ	**Moawhango**	**2.22**	**223**	PN	Pn	09 10 00.5	+1.8
WNVZ	**Wahianoa**	**2.25**	**227**	PN	Pn	09 10 01.2	+1.9

ISCJB ***22*** *09:26:03.5±0.7, 38°.84N±0°.04×141°.73E±0°.08, h68km±4km, mb3.4/5, Error ellipse: s-maj=10.3km s-min=5.7km az=19.8*

JMA ***22*** *09:26:04.8, 38°.86N×141°.64E, h65km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs155.00000°, δ88.00000°, λ46.00000°. NP2: φs63.00000°, δ44.00000°, λ177.00000°. Principal axes: T Plg32.0000°, Azm29.0000°; N Plg44.0000°, Azm156.0000°; P Plg29.0000°, Azm279.0000°;*

JMA Felt I J1.

IDC ***22*** *09:26:05.5±2.6, 38°.82N×141°.90E, h80km±23km, mb3.2/5, mb1 3.4/9, mb1mx3.2/27, mbtmp3.3/9 Error ellipse: s-maj=26.9km s-min=19.9km az=105.0*

ISC 22 09:26:04.2±0.9, 38°.86N±0°.04×141°.73E±0°.07, h61km±6km, n28, σ1§28/33, mb3.5/5, 5C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.23**	**347**	⇓P	**Pn**	**09 26 15.0**	**+1.0**
OFUJ				*e*S	**Sn**	**09 26 22.3**	**+1.2**
JMK	**Ichinoseki**	**0.41**	**283**	⇑P	**Pn**	**09 26 15.6**	**+0.2**
JMK				S	**Sn**	**09 26 23.5**	**0.0**
JIO	**Ouri**	**0.51**	**217**	⇑P	**Pn**	**09 26 16.7**	**+0.4**
JIO				*e*S	**Sn**	**09 26 25.2**	**+0.1**
JOM	**Ohasama**	**0.70**	**331**	P	**Pn**	**09 26 19.1**	**+0.5**
JOM				S	**Sn**	**09 26 29.5**	**+0.4**
JOU	**Okura**	**0.97**	**240**	⇑P	**Pn**	**09 26 21.9**	**-0.1**
JOU				S	**Sn**	**09 26 34.7**	**-0.4**
JRG	**Rokugo**	**1.01**	**302**	⇓P	**Pn**	**09 26 22.5**	**+0.1**
JRG				*e*S	**Sn**	**09 26 35.6**	**-0.3**
JYK	**Kaneyama**	**1.07**	**273**	P	**Pn**	**09 26 23.3**	**0.0**
JYK				*e*S	**Sn**	**09 26 37.1**	**-0.4**
JMM	**Marumori**	**1.24**	**217**	⇑P	**Pn**	**09 26 25.0**	**-0.4**
JMM				*e*S	**Sn**	**09 26 40.4**	**-0.9**
JYS	**Shirataka**	**1.46**	**245**	⇑P	**Pn**	**09 26 28.4**	**0.0**
JYS				*e*S	**Sn**	**09 26 46.3**	**-0.2**
JANG	**Nango**	**1.52**	**354**	P	**Pn**	**09 26 29.9**	**+0.7**
JAH	**Hinai**	**1.57**	**328**	P	**Pn**	**09 26 30.7**	**+0.8**
JAH				*e*S	**Sn**	**09 26 49.7**	**+0.4**
JYA	**Atsumi**	**1.60**	**261**	P	**Pn**	**09 26 30.3**	**0.0**
JYA				*e*S	**Sn**	**09 26 49.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.63**	**231**	P	**Pn**	**09 27 00.1**	**+2.1**
	1.7nm,0.3s,baz=40,slow=12,SNR=22						
MAT	**Matsushiro**	**3.63**	**231**	P	**Pn**	**09 26 59.7**	**+1.7**
MAT				*e*S	**Sn**	**09 27 44.4**	**+4.8**
ASAJ	**Asahikawa**	**5.29**	**7**	P	**Pn**	**09 27 20.7**	**0.0**
	2.8nm,0.3s,baz=229,slow=13,SNR=11						
USRK	**Ussuriysk Arra**	**9.04**	**309**	P	Pn	09 28 15.6	+3.6
	0.2nm,0.3s,baz=121,slow=14,SNR=11						
KSRS	**Korea Array**	**10.97**	**267**	P	Pn	09 28 42.8	+4.6
	0.3nm,0.3s,baz=77,slow=12,SNR=3.4						
SONM	**Songino Array**	**27.02**	**301**	P	**P**	**09 31 43.0**	**+2.4**
	0.4nm,0.5s,baz=86,slow=8.9,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	10 02 25.5	
	baz=319,slow=76,SNR=114						
H11N1	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	10 02 26.1	
	baz=319,slow=76,SNR=133						
H11N3	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	10 02 26.9	
	baz=319,slow=76,SNR=153						
H11S1	**WAKE ISLAND Hy**	**29.68**	**126**	T	T	10 03 20.6	
	baz=322,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**29.68**	**126**	T	T	10 03 20.3	
	baz=322,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**29.70**	**126**	T	T	10 03 21.4	
	baz=322,slow=76,SNR=34						
ZALV	**Zalesovo Beam**	**40.89**	**311**	P	**P**	**09 33 39.6**	**-0.5**
	0.4nm,0.4s,baz=79,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**43.39**	**301**	P	**P**	**09 33 59.2**	**-1.3**
	0.4nm,0.6s,baz=81,slow=14,SNR=5.2						
ILAR	**Eielson Array**	**47.82**	**33**	P	**P**	**09 34 35.0**	**-0.3**
	0.6nm,0.7s,baz=266,slow=6.1,SNR=7.3						
WRA	**Warramunga Arr**	**58.90**	**188**	P	**P**	**09 35 55.8**	**-1.1**
	0.2nm,0.4s,baz=6.4,slow=7.3,SNR=3.8						
WRA				pP	**pP**	**09 36 12.1**	**-1.2**
	0.5nm,0.8s,baz=4.7,slow=7.0,SNR=7.4						

IDC ***22*** *09:28:01.8±0.8, 55°.51S×26°.70W, h0km, mb4.4/7, mb1 4.4/8, mb1mx4.2/18, mbtmp4.3/8, ML3.5/1, Error ellipse: s-maj=31.1km s-min=20.0km az=85.0*

NEIC ***22*** *09:28:04.3±0.4, 55°.44S×26°.55W, h10km, mb4.5/7, Error ellipse: s-maj=17.2km s-min=11.5km az=59.0*

ISCJB ***22*** *09:28:05.7±0.6, 55°.55S±0°.1×26°.6W±0°.2, h38km, mb4.4/10, Error ellipse: s-maj=19.4km s-min=12.9km az=149.1*

ISC 22 09:28:07.5±0.6, 55°.5S±0°.1×26°.6W±0°.1, h38km, n27, σ0§85/27, mb4.5/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.12**	**157**	*e*P	**P**	**09 32 26.4**	**-0.5**
	4.2nm,0.6s						
SNAA	**Sanae**	**19.12**	**157**	P	**P**	**09 32 26.4**	**-0.5**
	0.1nm,0.3s,baz=326,slow=9.6,SNR=19						
TRQA	**Tornquist**	**29.44**	**291**	*e*P	**P**	**09 34 06.7**	**-0.6**
	5.7nm,0.9s						
QSPA	**South Pole Qui**	**34.77**	**180**	*e*P	**P**	**09 34 54.2**	**+0.2**
	4.7nm,0.6s						
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**09 34 53.0**	**-1.0**
	4.8nm,0.5s,baz=198,slow=2.7,SNR=15						
LVC	**Limon Verde**	**45.33**	**299**	*e*P	**P**	**09 36 22.1**	**+0.2**
	5.2nm,0.6s						
BOSA	**Boshof**	**45.48**	**76**	P	**P**	**09 36 21.7**	**-1.2**
BOSA	**Boshof**	**45.48**	**76**	P	**P**	**09 36 21.7**	**-1.2**
	4.5nm,1.0s,baz=167,slow=15,SNR=3.2						
VNDA	**Vanda**	**47.16**	**182**	*e*P	**P**	**09 36 36.9**	**+1.5**
	4.9nm,0.8s						
VNDA	**Vanda**	**47.16**	**182**	P	**P**	**09 36 34.5**	**-0.9**
	5.5nm,0.8s,baz=199,slow=6.5,SNR=21						
LPAZ	**La Paz**	**50.35**	**304**	*e*P	**P**	**09 37 01.2**	**0.0**
	4.8nm,0.7s						
LPAZ	**La Paz**	**50.35**	**304**	P	**P**	**09 36 59.7**	**-1.5**
	2.3nm,0.8s,baz=169,slow=8.0,SNR=10						
SAML	**Samuel**	**54.66**	**314**	*e*P	**P**	**09 37 31.5**	**-0.9**
	7.3nm,1.3s						
TOA0	**Torodi Ar. Sit**	**72.38**	**29**	*e*P	**P**	**09 39 30.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**72.38**	**29**	P	**P**	**09 39 30.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**72.38**	**29**	P	**P**	**09 39 30.4**	**+1.0**
	6.0nm,0.9s,baz=199,slow=6.7,SNR=37						
STKA	**Stephens Creek**	**92.40**	**170**	P	**P**	**09 41 14.8**	**+0.8**
STKA	**Stephens Creek**	**92.40**	**170**	P	**P**	**09 41 14.8**	**+0.8**
	1.7nm,1.1s,baz=76,slow=4.8,SNR=3.6						
ASAR	**Alice Springs**	**99.42**	**162**	P	**Pdif**	**09 41 46.7**	**+0.7**
ASAR	**Alice Springs**	**99.42**	**162**	P	**Pdif**	**09 41 46.7**	**+0.7**
	0.7nm,0.7s,baz=197,slow=4.7,SNR=7.1						
YKA	**Yellowknife Ar**	**135.99**	**318**	PKP	**PKPdf**	**09 47 23.1**	**+0.3**
YKA	**Yellowknife Ar**	**135.99**	**318**	PKP	**PKPdf**	**09 47 23.0**	**+0.3**
	0.5nm,0.7s,baz=127,slow=2.3,SNR=13						
INK	**Inuvik**	**145.59**	**321**	*e*PKPbc	**PKPab**	**09 47 40.8**	**+0.3**
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc	**PKPbc**	**09 47 52.5**	**+0.3**
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc	**PKPbc**	**09 47 52.5**	**+0.3**
	4.4nm,0.8s,baz=119,slow=1.7,SNR=26						
SONM	**Songino Array**	**150.33**	**85**	PKPbc	**PKPbc**	**09 47 53.9**	**+0.2**
SONM	**Songino Array**	**150.33**	**85**	PKPbc	**PKPbc**	**09 47 53.9**	**+0.2**
	2.6nm,0.8s,baz=206,slow=3.5,SNR=13						

JMA ***22*** *09:55:55.5±0.1, 33°.49N×140°.58E, h30km±4km, M3.1*

IDC ***22*** *09:55:55.2±2.9, 33°.15N×139°.62E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=163.0km s-min=25.3km az=79.0*

ISC 22 09:55:54.2±2.7, 33°.44N±0°.06×140°.53E±0°.09, h13km±15km, n13, σ1§13/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.68**	**242**	P	**Pn**	**09 56 09.4**	**0.0**
JHJ2				S	**Sn**	**09 56 18.6**	**-1.2**
JMY	**Miyakejima3**	**1.06**	**307**	P	**Pb**	**09 56 14.8**	**+0.4**
JMY				S	**Sg**	**09 56 28.1**	**-0.3**
BSO1	**Boso 1**	**1.27**	**17**	P	**Pn**	**09 56 16.7**	**-0.4**
BSO3	**Boso 3**	**1.36**	**359**	P	**Pn**	**09 56 18.4**	**-0.2**
JKO	**Kozu shima**	**1.38**	**303**	*e*S	**Sg**	**09 56 37.8**	**-0.9**
JIM2	**Oshima 3**	**1.57**	**325**	P	**Pn**	**09 56 21.6**	**-0.2**
JIM2				*e*S	**Sn**	**09 56 40.0**	**-2.0**
JIZS	**Izushimoda**	**1.88**	**314**	P	**Pn**	**09 56 26.7**	**+0.8**
JIZS				S	**Sn**	**09 56 49.5**	**+0.1**
KTJJ	**Kamata 2**	**1.92**	**321**	P	**Pn**	**09 56 26.7**	**+0.2**
KTJJ				S	**Sn**	**09 56 49.1**	**-1.4**
JOD2	**Odawara 2**	**2.18**	**327**	P	**Pn**	**09 56 30.1**	**0.0**
JOD2				*e*S	**Sn**	**09 56 55.1**	**-1.9**
MJAR	**Matsushiro Arr**	**3.64**	**329**	Pn	**Pn**	**09 56 52.5**	**+2.3**
	2.7nm,0.3s,baz=158,slow=12,SNR=23						
MJAR				Sn	**Sn**	**09 57 33.5**	**+0.6**
	0.8nm,0.3s,baz=136,slow=15,SNR=2.6						
MAT	**Matsushiro**	**3.64**	**329**	P	**Pn**	**09 56 51.9**	**+1.7**
MAT				S	**Sn**	**09 57 33.2**	**+0.2**
WRA	**Warramunga Arr**	**53.41**	**187**	P	**P**	**10 05 14.2**	**+0.6**
	0.3nm,0.4s,baz=4.4,slow=7.6,SNR=9.5						
ASAR	**Alice Springs**	**57.13**	**187**	P	**P**	**10 05 40.5**	**0.0**
	0.2nm,0.5s,baz=0.1,slow=5.8,SNR=7.3						

NIED ***22*** *10:00:00, 25°.30N×124°.40E, h5km, Mw3.9 Best double couple: M0 9.31000×10^14 NP1: φs81.00000°, δ67.00000°, λ-94.00000°. NP2: φs271.00000°, δ24.00000°, λ-81.00000°.*

JMA ***22*** *10:00:22.6±0.1, 25°.32N×124°.44E, h0km, M3.5*

ISCJB ***22*** *10:00:23.0±0.5, 25°.33N±0°.03×124°.43E±0°.04, h10km, mb3.5/7, MS3.3/1, Error ellipse: s-maj=5.5km s-min=4.6km az=16.4*

IDC ***22*** *10:00:33.2±4.9, 25°.27N×124°.22E, h84km±46km, mb3.2/7, mb1 3.4/9, mb1mx3.3/27, mbtmp3.2/9, ML2.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/19, Error ellipse: s-maj=33.1km s-min=17.4km az=76.0*

ISC 22 10:00:23.8±0.7, 25°.22N±0°.05×124°.44E±0°.05, h10km, n24, σ0§90/26, mb3.6/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.62**	**158**	P	**Pb**	**10 00 36.8**	**0.0**
JTJ				S	**Sb**	**10 00 47.1**	**+1.4**
JMJ	**Miyako jima 2**	**0.87**	**118**	P	**Pn**	**10 00 40.7**	**-1.5**
JMJ				S	**Sb**	**10 00 52.8**	**0.0**
JIJ	**Ishigaki jima**	**0.90**	**198**	P	**Pn**	**10 00 41.9**	**-0.6**
JIJ				S	**Sn**	**10 00 55.4**	**-0.2**
JOGS	**Gusukube**	**0.99**	**118**	P	**Pn**	**10 00 42.8**	**-1.0**
JOGS				S	**Sn**	**10 00 56.8**	**-1.0**
JKRS	**Kuro-shima**	**1.06**	**202**	P	**Pn**	**10 00 44.7**	**0.0**
IRIF	**Iriomote-Funau**	**1.10**	**216**	P	**Pg**	**10 00 45.1**	**+0.2**
HATJ	**Hateruma jima**	**1.30**	**207**	P	**Pg**	**10 00 48.4**	**-0.4**
YOJ	**Yonaguni jima**	**1.51**	**240**	P	**Pg**	**10 00 51.7**	**-1.1**
JKE	**Kume jima 2**	**2.38**	**62**	P	**Pn**	**10 01 01.3**	**-1.6**
JAGN	**Aguni-jima**	**2.86**	**61**	P	**Pn**	**10 01 09.8**	**+0.2**
JIH	**Iheya**	**3.65**	**60**	P	**Pn**	**10 01 20.6**	**+0.3**
JOW	**Kunigami**	**3.80**	**64**	P	**Pn**	**10 01 22.6**	**+0.1**
JTK	**Tokunoshima**	**4.78**	**57**	P	**Pn**	**10 01 36.3**	**+0.4**
JAMN	**Amaminishikomi**	**5.19**	**54**	P	Pn	10 01 42.9	+1.3
KSRS	**Korea Array**	**12.55**	**13**	P	Pn	10 03 28.6	+6.2
	0.2nm,0.3s,baz=170,slow=11,SNR=3.5						
KSRS				LR	LR	10 08 27.4	
	comp=Z,90nm,19.1s,baz=195,slow=38						
USRK	**Ussuriysk Arra**	**19.91**	**16**	P	**Pn**	**10 04 58.8**	**+1.7**
	0.1nm,0.3s,baz=186,slow=13,SNR=3.1						
SONM	**Songino Array**	**26.70**	**332**	P	**P**	**10 06 03.1**	**-0.2**
	1.1nm,0.9s,baz=147,slow=8.3,SNR=6.5						
PETK	**Petropavlovsk-**	**37.37**	**33**	LR	LR	10 24 34.5	
	comp=Z,46nm,19.2s,baz=15,slow=38						
MKAR	**Makanchi Array**	**39.71**	**314**	P	**P**	**10 07 55.3**	**-1.1**
	0.7nm,0.7s,baz=93,slow=10,SNR=5.2						
MKAR				PcP	**PcP**	**10 10 02.8**	**-0.2**
	0.5nm,0.7s,baz=86,slow=4.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**41.04**	**325**	P	**P**	**10 08 06.5**	**-0.8**
	0.9nm,0.6s,baz=102,slow=6.8,SNR=4.2						
WRA	**Warramunga Arr**	**45.91**	**167**	P	**P**	**10 08 47.8**	**+0.9**
	0.5nm,0.8s,baz=349,slow=8.3,SNR=6.4						
ASAR	**Alice Springs**	**49.46**	**169**	P	**P**	**10 09 15.8**	**+1.4**
	0.3nm,0.6s,baz=356,slow=12,SNR=8.4						
ILAR	**Eielson Array**	**66.93**	**28**	P	**P**	**10 11 16.6**	**+0.4**
	0.8nm,1.1s,baz=241,slow=4.9,SNR=5.6						
YKA	**Yellowknife Ar**	**80.85**	**24**	P	**P**	**10 12 37.2**	**-0.5**
	0.3nm,0.7s,baz=302,slow=5.4,SNR=9.0						

KRSC 22 10:10:20.0±2.2, 59°.03N×161°.39E, h5km±5km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALN	**Palana**	**0.74**	**275**	*i* P	Pb	10 10 35.7	+0.4
PALN				*i* S	Sb	10 10 46.1	+0.4
OSSR	**Ossora**	**0.89**	**75**	*i* P	Pb	10 10 38.2	+0.3
OSSR				*i* S	Sb	10 10 50.9	+0.9
SRKR	**Sorokina**	**2.39**	**183**	*e*P	Pn	10 11 00.6	+0.8
SRKR				*i* S	Sn	10 11 30.1	+0.6
SMKR	**Semkarok**	**2.46**	**179**	*e*P	Pn	10 11 02.0	+1.2
SMKR				*i* S	Sn	10 11 32.8	+1.6
BDR	**Baidarnaya**	**2.47**	**182**	*e*P	Pn	10 11 01.7	+0.7
BDR				*i* S	Sn	10 11 31.8	+0.2
TILK	**Tilichiki**	**2.79**	**57**	P	Pn	10 11 07.8	+2.5
TILK				*i* S	Sb	10 11 43.0	-1.8
SRDR	**Sredinnyy**	**2.87**	**199**	*e*P	Pn	10 11 08.8	+2.4
SRDR				*i* S	Sb	10 11 44.5	-2.6
KBTR	**Krutoberegovo**	**2.93**	**164**	P	Pn	10 11 09.1	+1.9
KMNR	**Kamenistaya**	**3.34**	**191**	P	Pn	10 11 15.6	+2.6
ESO	**Esso**	**3.44**	**206**	P	Pn	10 11 16.3	+2.1
ESO				*i* S	Sn	10 11 57.7	+2.4
TUMR	**Tumrok**	**3.82**	**191**	P	Pn	10 11 22.0	+2.4

IDC ***22*** *10:16:23.2±0.9, 47°.02N×155°.93E, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.8/29, mbtmp3.7/14, ML3.0/3, Error ellipse: s-maj=23.4km s-min=17.0km az=141.0*

ISCJB ***22*** *10:16:24.1±0.7, 47°.1N±0°.1×155°.9E±0°.2, h18km, mb3.7/11, Error ellipse: s-maj=18.8km s-min=11.2km az=138.9*

ISC 22 10:16:25.9±0.9, 47°.1N±0°.1×155°.8E±0°.1, h18km, n17, σ1§23/14, mb3.6/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.16**	**11**	Pn	**Pn**	**10 17 54.6**	**-1.3**
	0.5nm,0.3s,baz=182,slow=16,SNR=9.7						
MJAR	**Matsushiro Arr**	**16.79**	**238**	Pn	**Pn**	**10 20 18.1**	**-2.0**
	0.1nm,0.3s,baz=7.4,slow=11,SNR=3.3						
USRK	**Ussuriysk Arra**	**16.90**	**269**	Pn	**Pn**	**10 20 20.6**	**-0.8**
	0.2nm,0.3s,baz=64,slow=13,SNR=5.7						
KSRS	**Korea Array**	**22.67**	**255**	P	**P**	**10 21 26.4**	**+0.2**
	1.2nm,0.7s,baz=56,slow=9.7,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**29.86**	**159**	T	T	10 53 43.6	
	baz=348,slow=76,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**29.86**	**159**	T	T	10 53 39.8	
	baz=348,slow=76,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**29.87**	**159**	T	T	10 53 42.0	
	baz=348,slow=76,SNR=12						
SONM	**Songino Array

NEIC **22** 10:27:28.4, 39°.22N×20°.49E, h12km, mb4.7/27, ML4.3(ATH), ML4.5(THE), After ATH,
CSEM **22** 10:27:28.3±0.1, 39°.17N×20°.45E, h5km, mb4.5/28, Ms3.5, Error ellipse: s-maj=3.3km s-min=2.0km az=46.0
ATH **22** 10:27:28.4, 39°.22N×20°.49E, h12km±1km, MD3.7/58, ML4.3
PDG **22** 10:27:28.6±0.6, 39°.21N×20°.44E, h4km±1km, ML4.3/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0
THE **22** 10:27:28.3, 39°.18N×20°.48E, h1km±1km, ML4.5/15, Error ellipse: s-maj=1.2km s-min=0.4km az=251.0
ISCJB **22** 10:27:29.3±0.1, 39°.24N±0°.01×20°.56E±0°.01, h10km, mb4.5/60, MS4.0/26, Error ellipse: s-maj=1.9km s-min=1.3km az=43.6
BJI **22** 10:27:29.5, 40°.19N×20°.36E, h11km, mB5.0/16, mb4.7/22, Ms5.0/11, Ms7 4.6/10
TEH **22** 10:27:33.0, 39°.63N×20°.86E, h10km, ML4.8
ISC 22 10:27:28.6±0.6, 39°.19N±0°.01×20°.50E±0°.02, h6km±3km, n987, σ1§41/1105, mb4.6/60, MS4.1/26, 142C-140D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.37**	**340**	P	**Pg**	**10 27 35.0**	**-0.7**
IGT				S	**Sg**	**10 27 40.9**	**+0.3**
IGT	**Igoumenitsa**	**0.37**	**340**	P	**Pg**	**10 27 35.0**	**-0.7**
IGT				S	**Sg**	**10 27 40.9**	**+0.3**
IGT	**Igoumenitsa**	**0.37**	**340**	*e*PB	**Pg**	**10 27 35.5**	**-0.2**
IGT				*e*SB	**Sg**	**10 27 40.6**	**0.0**
IGT	**Igoumenitsa**	**0.37**	**340**	P	**Pg**	**10 27 35.0**	**-0.7**
IGT				S	**Sg**	**10 27 40.9**	**+0.3**
IGT	**Igoumenitsa**	**0.37**	**340**	P	**Pg**	**10 27 35.0**	**-0.7**
IGT				S	**Sb**	**10 27 42.9**	**-0.7**
JAN	**Janina**	**0.54**	**30**	P	**Pg**	**10 27 38.3**	**-0.7**
JAN				S	**Sg**	**10 27 46.7**	**+0.6**
JAN	**Janina**	**0.54**	**30**	P	**Pg**	**10 27 38.3**	**-0.7**
JAN				S	**Sg**	**10 27 46.7**	**+0.6**
JAN	**Janina**	**0.54**	**30**	*e*PB	**Pg**	**10 27 38.3**	**-0.7**
JAN				*e*SB	**Sg**	**10 27 45.8**	**-0.3**
JAN	**Janina**	**0.54**	**30**	P	**Pg**	**10 27 38.3**	**-0.7**
JAN				S	**Sg**	**10 27 46.7**	**+0.6**
JAN	**Janina**	**0.54**	**30**	P	**Pg**	**10 27 37.9**	**-1.1**
JAN				S	**Sb**	**10 27 48.8**	**+0.2**
KEK	**Kerkira**	**0.75**	**314**	P	**Pg**	**10 27 42.2**	**-0.8**
KEK				S	**Sg**	**10 27 52.8**	**-0.1**
KEK	**Kerkira**	**0.75**	**314**	*e*PB	**Pg**	**10 27 42.3**	**-0.8**
KEK	**Kerkira**	**0.75**	**314**	P	**Pg**	**10 27 42.2**	**-0.8**
KEK				S	**Sg**	**10 27 52.8**	**-0.1**
KEK	**Kerkira**	**0.75**	**314**	P	**Pg**	**10 27 42.3**	**-0.8**
KEK				S	**Sg**	**10 27 52.8**	**-0.1**
SRN	**Sarande**	**0.79**	**331**	*i* PG	**Pn**	**10 27 45.9**	**-0.4**
SRN				*i* SG	**Sn**	**10 28 00.1**	**+1.7**
SRN	**Sarande**	**0.79**	**331**	P	**Pg**	**10 27 42.8**	**-1.0**
SRN				S	**Sg**	**10 27 54.0**	**-0.1**
SRN	**Sarande**	**0.79**	**331**	P	**Pg**	**10 27 42.8**	**-1.0**
SRN				S	**Sg**	**10 27 54.0**	**-0.1**
SRN	**Sarande**	**0.79**	**331**	P	**Pg**	**10 27 42.8**	**-1.0**
SRN	**Sarande**	**0.79**	**331**	*i* Pg	**Pn**	**10 27 45.9**	**-0.4**
SRN				S	**Sg**	**10 27 54.0**	**-0.1**
SRN				*i* Sg	**Sn**	**10 28 00.1**	**+1.7**
PDO	**Prodromos**	**0.80**	**137**	P	**Pg**	**10 27 42.8**	**-1.1**
PDO				S	**Sg**	**10 27 54.6**	**+0.4**
PDO	**Prodromos**	**0.80**	**137**	*e*PB	**Pg**	**10 27 43.3**	**-0.6**
PDO	**Prodromos**	**0.80**	**137**	*e*Pb	**Pg**	**10 27 43.3**	**-0.6**
PDO				S	**Sb**	**10 27 55.3**	**-0.5**
MEV	**Metsovon**	**0.82**	**43**	P	**Pg**	**10 27 43.5**	**-0.9**
MEV	**Metsovon**	**0.82**	**43**	P	**Pg**	**10 27 43.5**	**-0.9**
MEV	**Metsovon**	**0.82**	**43**	P	**Pg**	**10 27 43.5**	**-0.9**
PVO	**Paravola**	**0.98**	**125**	P	**Pg**	**10 27 46.4**	**-1.0**
PVO				S	**Sb**	**10 28 01.1**	**-0.2**
PVO	**Paravola**	**0.98**	**125**	P	**Pg**	**10 27 46.5**	**-1.0**
PVO				S	**Sb**	**10 28 01.1**	**-0.2**
VLS	**Valsamata**	**1.01**	**176**	P	**Pg**	**10 27 46.7**	**-1.3**
VLS				S	**Sg**	**10 28 01.1**	**0.0**
VLS	**Valsamata**	**1.01**	**176**	P	**Pg**	**10 27 46.7**	**-1.3**
VLS	**Valsamata**	**1.01**	**176**	*e*PN	**Pn**	**10 27 48.8**	**-0.5**
VLS	**Valsamata**	**1.01**	**176**	P	**Pg**	**10 27 46.7**	**-1.3**
VLS	**Valsamata**	**1.01**	**176**	P	**Pg**	**10 27 47.4**	**-0.6**
VLS	**Valsamata**	**1.01**	**176**	*e*Pn	**Pn**	**10 27 48.8**	**-0.5**
VLS				S	**Sg**	**10 28 01.1**	**0.0**
EVR	**Evrytania**	**1.06**	**104**	P	**Pg**	**10 27 47.9**	**-1.0**
EVR				S	**Sb**	**10 28 03.8**	**+0.3**
EVR	**Evrytania**	**1.06**	**104**	*e*PG	**Pg**	**10 27 48.5**	**-0.4**
EVR	**Evrytania**	**1.06**	**104**	P	**Pg**	**10 27 47.9**	**-1.0**
EVR	**Evrytania**	**1.06**	**104**	P	**Pg**	**10 27 48.1**	**-0.8**
EVR	**Evrytania**	**1.06**	**104**	*e*Pg	**Pg**	**10 27 48.5**	**-0.4**
EVR				S	**Sb**	**10 28 03.8**	**+0.3**
KFL	**Anninata**	**1.10**	**168**	P	**Pg**	**10 27 49.0**	**-0.7**
KFL				S	**Sb**	**10 28 04.6**	**0.0**
KFL	**Anninata**	**1.10**	**168**	P	**Pg**	**10 27 49.4**	**-0.3**
KFL				S	**Sb**	**10 28 04.6**	**0.0**
THL	**Klokotos Trika**	**1.23**	**72**	P	**Pg**	**10 27 51.0**	**-1.3**
THL				S	**Sn**	**10 28 10.0**	**+0.6**
THL	**Klokotos Trika**	**1.23**	**72**	*e*PB	**Pg**	**10 27 51.6**	**-0.7**
THL				*e*SB	**Sg**	**10 28 08.1**	**-0.2**
THL	**Klokotos Trika**	**1.23**	**72**	P	**Pg**	**10 27 51.5**	**-0.7**
THL				*e*Sb	**Sg**	**10 28 08.1**	**-0.2**
THL				S	**Sn**	**10 28 10.0**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.28**	**97**	P	**Pg**	**10 27 52.1**	**-1.1**
MAKR				S	**Sb**	**10 28 10.6**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.28**	**97**	*e*PG	**Pg**	**10 27 52.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.28**	**97**	P	**Pg**	**10 27 52.1**	**-1.1**
MAKR				S	**Sb**	**10 28 10.6**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.28**	**97**	P	**Pg**	**10 27 52.2**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.28**	**97**	*e*Pg	**Pg**	**10 27 52.5**	**-0.7**
MAKR				S	**Sb**	**10 28 10.6**	**+0.6**
NEST	**Nestorio**	**1.30**	**19**	P	**Pg**	**10 27 52.1**	**-1.4**
NEST				S	**Sb**	**10 28 11.2**	**+0.8**
NEST	**Nestorio**	**1.30**	**19**	P	**Pg**	**10 27 53.2**	**-0.3**
NEST				S	**Sb**	**10 28 11.2**	**+0.8**
EFP	**Efpalio**	**1.34**	**124**	P	**Pg**	**10 27 53.1**	**-1.2**
EFP				S	**Sb**	**10 28 12.0**	**+0.6**
EFP	**Efpalio**	**1.34**	**124**	*e*PN	**Pg**	**10 27 53.0**	**-1.2**
EFP	**Efpalio**	**1.34**	**124**	P	**Pg**	**10 27 53.1**	**-1.2**
EFP				S	**Sb**	**10 28 12.0**	**+0.6**
RLS	**Riolos of Patr**	**1.36**	**146**	P	**Pg**	**10 27 52.9**	**-1.8**
RLS				S	**Sb**	**10 28 12.4**	**+0.3**
RLS	**Riolos of Patr**	**1.36**	**146**	*e*PN	**Pg**	**10 27 53.5**	**-1.2**
RLS	**Riolos of Patr**	**1.36**	**146**	P	**Pg**	**10 27 52.9**	**-1.8**
RLS				S	**Sb**	**10 28 12.4**	**+0.3**
RLS	**Riolos of Patr**	**1.36**	**146**	*e*Pn	**Pg**	**10 27 53.5**	**-1.2**
RLS				S	**Sb**	**10 28 12.4**	**+0.3**
PSA1	**Psathopyrgos**	**1.39**	**128**	*e*PB	**Pb**	**10 27 55.6**	**+0.7**
AGG	**Agios Georgios**	**1.44**	**96**	P	**Pn**	**10 27 54.9**	**-0.3**
AGG				S	**Sn**	**10 28 15.5**	**+1.1**
AGG	**Agios Georgios**	**1.44**	**96**	P	**Pn**	**10 27 54.9**	**-0.3**
AGG				S	**Sn**	**10 28 15.5**	**+1.1**
AGG	**Agios Georgios**	**1.44**	**96**	*e*PG	**Pn**	**10 27 55.1**	**-0.1**
AGG	**Agios Georgios**	**1.44**	**96**	P	**Pn**	**10 27 54.9**	**-0.3**
AGG				S	**Sn**	**10 28 15.5**	**+1.1**
AGG	**Agios Georgios**	**1.44**	**96**	P	**Pn**	**10 27 54.9**	**-0.3**
AGG				S	**Sn**	**10 28 15.5**	**+1.1**
KBN	**Korca**	**1.45**	**9**	*i* PG	**Pg**	**10 27 56.7**	**+0.3**
KBN	**Korca**	**1.45**	**9**	P	**Pn**	**10 27 54.9**	**-0.6**
KBN				S	**Sg**	**10 28 15.1**	**-0.1**
KBN	**Korca**	**1.45**	**9**	P	**Pn**	**10 27 54.9**	**-0.6**
KBN				S	**Sg**	**10 28 15.1**	**-0.1**
KBN	**Korca**	**1.45**	**9**	P	**Pn**	**10 27 54.9**	**-0.6**
KBN				S	**Sg**	**10 28 15.1**	**-0.1**
KBN	**Korca**	**1.45**	**9**	P	**Pn**	**10 27 54.9**	**-0.6**
KBN	**Korca**	**1.45**	**9**	*i* Pg	**Pg**	**10 27 56.7**	**+0.3**
KBN				S	**Sg**	**10 28 15.1**	**-0.1**
KZN	**Kozani**	**1.49**	**41**	P	**Pn**	**10 27 55.8**	**-0.2**
KZN				S	**Sb**	**10 28 16.3**	**+0.4**
KZN	**Kozani**	**1.49**	**41**	P	**Pn**	**10 27 55.8**	**-0.2**
KZN				S	**Sb**	**10 28 16.3**	**+0.4**
KZN	**Kozani**	**1.49**	**41**	*e*PB	**Pn**	**10 27 56.1**	**+0.1**
KZN	**Kozani**	**1.49**	**41**	P	**Pn**	**10 27 55.8**	**-0.2**
KZN				S	**Sb**	**10 28 16.3**	**+0.4**
KZN	**Kozani**	**1.49**	**41**	P	**Pn**	**10 27 56.0**	**+0.1**
KZN				S	**Sb**	**10 28 16.3**	**+0.4**
VLO	**Vlora**	**1.49**	**329**	P	**Pn**	**10 27 55.9**	**-0.1**
VLO	**Vlora**	**1.49**	**329**	P	**Pn**	**10 27 55.9**	**-0.1**
VLO	**Vlora**	**1.49**	**329**	P	**Pn**	**10 27 55.9**	**-0.1**
VLO	**Vlora**	**1.49**	**329**	P	**Pn**	**10 27 55.9**	**-0.1**
LAKA	**Lakka**	**1.50**	**129**	P	**Pn**	**10 27 56.0**	**0.0**
LAKA	**Lakka**	**1.50**	**129**	*e*PG	**Pn**	**10 27 56.3**	**+0.3**
LAKA	**Lakka**	**1.50**	**129**	P	**Pn**	**10 27 56.0**	**0.0**
LAKA	**Lakka**	**1.50**	**129**	P	**Pn**	**10 27 56.0**	**0.0**
LAKA	**Lakka**	**1.50**	**129**	*e*Pg	**Pn**	**10 27 56.3**	**+0.3**
KALE	**Kalithea**	**1.51**	**121**	P	**Pn**	**10 27 56.2**	**-0.1**
KALE				S	**Sg**	**10 28 17.6**	**+0.5**
KALE	**Kalithea**	**1.51**	**121**	*e*PG	**Pb**	**10 27 57.0**	**-0.1**
KALE	**Kalithea**	**1.51**	**121**	P	**Pn**	**10 27 56.2**	**-0.1**
KALE				S	**Sg**	**10 28 17.6**	**+0.5**
KALE	**Kalithea**	**1.51**	**121**	P	**Pn**	**10 27 56.2**	**-0.1**
KALE	**Kalithea**	**1.51**	**121**	*e*Pg	**Pb**	**10 27 57.0**	**-0.1**
KALE				S	**Sg**	**10 28 17.6**	**+0.5**
DRO	**Drossia**	**1.56**	**142**	P	**Pn**	**10 27 56.1**	**-0.8**
DRO				S	**Sb**	**10 28 18.0**	**+0.2**
DRO	**Drossia**	**1.56**	**142**	*e*PN	**Pn**	**10 27 56.7**	**-0.2**
DRO	**Drossia**	**1.56**	**142**	P	**Pn**	**10 27 56.3**	**-0.6**
DRO	**Drossia**	**1.56**	**142**	*e*Pn	**Pn**	**10 27 56.7**	**-0.2**
DRO				S	**Sb**	**10 28 18.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.73**	**131**	P	**Pn**	**10 27 59.5**	**+0.3**
KLV	**Kalavryta, Ach**	**1.73**	**131**	*e*PB	**Pb**	**10 28 00.2**	**-0.6**
KLV	**Kalavryta, Ach**	**1.73**	**131**	P	**Pn**	**10 27 59.5**	**+0.3**
KLV	**Kalavryta, Ach**	**1.73**	**131**	P	**Pn**	**10 27 59.5**	**+0.3**
KLV	**Kalavryta, Ach**	**1.73**	**131**	*e*Pn	**Pb**	**10 28 00.2**	**-0.6**
FNA	**Florina**	**1.73**	**23**	P	**Pn**	**10 27 59.5**	**+0.2**
FNA				S	**Sn**	**10 28 22.5**	**+0.7**
FNA	**Florina**	**1.73**	**23**	P	**Pn**	**10 27 59.5**	**+0.2**
FNA				S	**Sn**	**10 28 22.5**	**+0.7**
FNA	**Florina**	**1.73**	**23**	*e*PG	**Pb**	**10 28 00.6**	**-0.2**
FNA	**Florina**	**1.73**	**23**	P	**Pn**	**10 27 59.5**	**+0.2**
FNA				S	**Sn**	**10 28 22.5**	**+0.7**
FNA	**Florina**	**1.73**	**23**	P	**Pn**	**10 27 59.5**	**+0.2**
FNA	**Florina**	**1.73**	**23**	*e*Pg	**Pb**	**10 28 00.6**	**-0.2**
FNA				S	**Sn**	**10 28 22.5**	**+0.7**
AXAR	**Agios Charalam**	**1.74**	**103**	P	**Pb**	**10 28 00.9**	**0.0**
DSF	**Desfina**	**1.77**	**115**	*e*PG	**Pb**	**10 28 01.7**	**+0.3**
DSF	**Desfina**	**1.77**	**115**	*e*Pg	**Pb**	**10 28 01.7**	**+0.3**
LIT	**Litokhoron**	**1.79**	**59**	P	**Pn**	**10 27 59.9**	**-0.2**
LIT				S	**Sn**	**10 28 23.9**	**+0.8**
LIT	**Litokhoron**	**1.79**	**59**	P	**Pn**	**10 27 59.9**	**-0.2**
LIT				S	**Sn**	**10 28 23.9**	**+0.8**
LIT	**Litokhoron**	**1.79**	**59**	*e*PG	**Pb**	**10 28 01.6**	**-0.2**
LIT	**Litokhoron**	**1.79**	**59**	P	**Pn**	**10 27 59.9**	**-0.2**
LIT				S	**Sn**	**10 28 23.9**	**+0.8**
LIT	**Litokhoron**	**1.79**	**59**	P	**Pn**	**10 27 59.9**	**-0.2**
LIT	**Litokhoron**	**1.79**	**59**	*e*Pg	**Pb**	**10 28 01.6**	**-0.2**
LIT				S	**Sn**	**10 28 23.9**	**+0.8**
AMT	**Artemida-Makis**	**1.91**	**150**	*e*PN	**Pb**	**10 28 03.7**	**-0.1**
FYTO	**Fytoko, Volos**	**1.91**	**83**	P	**Pn**	**10 28 02.1**	**+0.4**
FYTO	**Fytoko, Volos**	**1.91**	**83**	P	**Pn**	**10 28 02.1**	**+0.4**
FYTO	**Fytoko, Volos**	**1.91**	**83**	P	**Pn**	**10 28 02.1**	**+0.4**
GUR	**Goura**	**1.91**	**130**	*e*PG	**Pb**	**10 28 04.0**	**+0.1**
GUR	**Goura**	**1.91**	**130**	*e*Pg	**Pb**	**10 28 04.0**	**+0.1**
BIA	**Bitola**	**1.94**	**19**	*e*Pn	**Pb**	**10 28 04.8**	**+0.4**
BIA				*e*Sn	**Sg**	**10 28 30.5**	**-0.3**
BIA	**Bitola**	**1.94**	**19**	*e*Pn	**Pb**	**10 28 04.7**	**+0.4**
BIA				*e*Sn	**Sg**	**10 28 30.5**	**-0.3**
SFD	**Strofades**	**1.98**	**168**	*e*PN	**Pb**	**10 28 04.7**	**-0.3**
LKR	**Lokris**	**2.02**	**105**	*e*PN	**Pb**	**10 28 04.9**	**-0.9**
LKR	**Lokris**	**2.02**	**105**	*e*Pn	**Pb**	**10 28 04.9**	**-0.9**
XOR	**Xorichti**	**2.10**	**84**	P	**Pn**	**10 28 04.9**	**+0.6**
XOR				S	**Sn**	**10 28 32.0**	**+1.2**
XOR	**Xorichti**	**2.10**	**84**	*e*PN	**Pn**	**10 28 05.8**	**+1.5**
XOR	**Xorichti**	**2.10**	**84**	P	**Pn**	**10 28 04.9**	**+0.6**
XOR	**Xorichti**	**2.10**	**84**	*e*Pn	**Pn**	**10 28 05.8**	**+1.5**
XOR				S	**Sn**	**10 28 32.0**	**+1.2**
NEO	**Neokhori**	**2.12**	**86**	*e*PN	**Pn**	**10 28 06.1**	**+1.5**
NEO	**Neokhori**	**2.12**	**86**	*e*Pn	**Pn**	**10 28 06.1**	**+1.5**
SMIA	**Simia**	**2.13**	**97**	*e*PN	**Pb**	**10 28 07.1**	**-0.6**
SMIA	**Simia**	**2.13**	**97**	*e*Pn	**Pb**	**10 28 07.1**	**-0.6**
LTK	**Loutraki**	**2.26**	**120**	*e*PN	**Pn**	**10 28 08.2**	**+1.7**
LTK	**Loutraki**	**2.26**	**120**	*e*Pn	**Pn**	**10 28 08.2**	**+1.7**
GRG	**Griva**	**2.29**	**39**	P	**Pn**	**10 28 07.2**	**+0.2**
GRG	**Griva**	**2.29**	**39**	P	**Pn**	**10 28 07.2**	**+0.2**
GRG	**Griva**	**2.29**	**39**	*e*PN	**Pn**	**10 28 08.3**	**+1.3**
GRG	**Griva**	**2.29**	**39**	P	**Pn**	**10 28 07.2**	**+0.2**
GRG	**Griva**	**2.29**	**39**	P	**Pn**	**10 28 07.2**	**+0.2**
GRG	**Griva**	**2.29**	**39**	*e*Pn	**Pn**	**10 28 08.3**	**+1.3**
ITM	**Ithomi**	**2.30**	**150**	*e*PN	**Pb**	**10 28 08.9**	**-1.6**
ITM	**Ithomi**	**2.30**	**150**	*e*Pn	**Pb**	**10 28 08.9**	**-1.6**
SKIA	**Skiathos**	**2.31**	**90**	*e*PN	**Pb**	**10 28 09.6**	**-1.0**
SKIA	**Skiathos**	**2.31**	**90**	*e*Pn	**Pb**	**10 28 09.6**	**-1.0**
VLX	**Vlachokerasia**	**2.34**	**140**	*e*PN	**Pn**	**10 28 09.2**	**+1.5**
VLX	**Vlachokerasia**	**2.34**	**140**	*e*Pn	**Pn**	**10 28 09.2**	**+1.5**
THE	**Thessaloniki**	**2.38**	**52**	P	**Pn**	**10 28 08.5**	**+0.3**
THE	**Thessaloniki**	**2.38**	**52**	P	**Pn**	**10 28 08.5**	**+0.3**
THE	**Thessaloniki**	**2.38**	**52**	*e*PN	**Pb**	**10 28 10.4**	**-1.5**
THE	**Thessaloniki**	**2.38**	**52**	P	**Pn**	**10 28 08.5**	**+0.3**
THE	**Thessaloniki**	**2.38**	**52**	P	**Pn**	**10 28 08.5**	**+0.3**
THE	**Thessaloniki**	**2.38**	**52**	*e*Pn	**Pb**	**10 28 10.4**	**-1.5**
HORT	**Hortiatis**	**2.45**	**54**	P	**Pn**	**10 28 09.3**	**+0.1**
HORT	**Hortiatis**	**2.45**	**54**	*e*PN	**Pn**	**10 28 10.5**	**+1.3**
HORT	**Hortiatis**	**2.45**	**54**	P	**Pn**	**10 28 09.3**	**+0.1**
HORT	**Hortiatis**	**2.45**	**54**	P	**Pn**	**10 28 09.3**	**+0.1**
HORT	**Hortiatis**	**2.45**	**54**	*e*Pn	**Pn**	**10 28 10.5**	**+1.3**
MRKA	**Markates**	**2.46**	**100**	*e*PN	**Pn**	**10 28 11.2**	**+2.0**
MRKA	**Markates**	**2.46**	**100**	*e*Pn	**Pn**	**10 28 11.2**	**+2.0**
MRKA	**Markates**	**2.46**	**100**	P	**Pb**	**10 28 11.5**	**-1.7**
PYL	**PYLOS**	**2.49**	**156**	P	**Pn**	**10 28 09.9**	**+0.2**
PYL	**PYLOS**	**2.49**	**156**	*e*PB	**Pn**	**10 28 10.6**	**+0.9**
PYL	**PYLOS**	**2.49**	**156**	P	**Pn**	**10 28 09.9**	**+0.2**
PYL	**PYLOS**	**2.49**	**156**	P	**Pn**	**10 28 09.9**	**+0.2**
PYL	**PYLOS**	**2.49**	**156**	*e*Pb	**Pn**	**10 28 10.6**	**+0.9**
PHP	**Peshkopia**	**2.49**	**359**	*i* PN	**Pn**	**10 28 11.5**	**+1.7**
PHP	**Peshkopia**	**2.49**	**359**	P	**Pn**	**10 28 10.2**	**+0.4**
PHP				S	**Sn**	**10 28 41.0**	**+0.4

BBLS Lazići 4.75 350 *e*Pn **Pn 10 28 41.6 +0.9**
GELI Tayfur-Gelibol 4.76 73 *e*PN **Pn 10 28 40.7 -0.1**
GELI Tayfur-Gelibol 4.76 73 *e*Pn **Pn 10 28 40.7 -0.1**
BOLS Boljevac 4.76 13 *e*Pn **Pn 10 28 39.7 -1.2**
SANT Santorini 4.83 124 *e*PN **Pn 10 28 40.4 -1.5**
SANT Santorini 4.83 124 *e*Pn **Pn 10 28 39.0 -3.0**
SANT *e*Sn **Sn 10 29 35.2 -3.0**
SANT Santorini 4.83 124 *e*Pn **Pn 10 28 40.4 -1.5**
SANT *e*Sn **Sn 10 29 35.2 -3.0**
ERIK Erikli-Kesan 4.86 70 *e*PN **Pn 10 28 43.2 +1.0**
ERIK Erikli-Kesan 4.86 70 *e*Pn **Pn 10 28 43.2 +1.0**
DIVS Divibare 4.92 356 *e*Pn **Pn 10 28 42.4 -0.8**
LPK Lapseki 4.97 74 *e*PN **Pn 10 28 45.5 +1.8**
LPK Lapseki 4.97 74 *e*Pn **Pn 10 28 45.5 +1.8**
BLCB Balcova 5.18 97 *e*PN Pn 10 28 51.0 +4.4
BLCB Balcova 5.18 97 *e*Pn Pn 10 28 51.8 +4.3
IDI Anoyia 5.24 137 *e*PN **Pn 10 28 47.9 +0.4**
IDI Anoyia 5.24 137 *e*Pn **Pn 10 28 47.6 +0.1**
IDI *e*Sn **Sn 10 29 49.3 +1.1**
IDI Anoyia 5.24 137 *e*Pn **Pn 10 28 47.6 +0.1**
IDI *e*Sn **Sn 10 29 49.3 +1.1**
IDI Anoyia 5.24 137 Pn **Pn 10 28 46.7 -0.8**
comp=N,2.8nm,0.3s,baz=317,slow=14,SNR=15
IDI Sn **Sn 10 29 47.1 -1.2**
comp=N,2.7nm,0.3s,baz=289,slow=18,SNR=3.6
KRBG Karabiga-Canak 5.38 75 *e*PN **Pn 10 28 51.1 +1.8**
SIVA Sivas 5.40 139 *e*PN **Pn 10 28 52.0 +2.3**
GONE Gonen-Balikesi 5.62 79 *e*PN **Pn 10 28 55.4 +2.8**
LAST Lasithi 5.65 134 *e*PN **Pn 10 28 53.9 +0.7**
LAST Lasithi 5.65 134 *e*Pn **Pn 10 28 53.9 +0.7**
JMB Yambol 5.66 53⇑ *i*P **Pn 10 28 54.2 +1.0**
BALB Balikesir 5.74 83 *e*PN **Pn 10 28 55.1 +0.9**
ZKR Zakros 6.11 130 *e*PN **Pn 10 29 01.7 +2.2**
ZKR Zakros 6.11 130 *e*Pn **Pn 10 29 01.7 +2.2**
KCTX Karacabey (Bur 6.15 77 *e*PN **Pn 10 29 02.1 +2.1**
CTYL Yal??k??y-??at 6.38 67 *e*PN **Pn 10 29 04.0 +0.9**
KULA Kula-Manisa 6.41 93 *e*PN **Pn 10 29 05.9 +2.4**
KARP Karpathos 6.43 122 *e*PN **Pn 10 29 06.5 +2.6**
CTKS Kestanelik-??a 6.46 69 *e*PN **Pn 10 29 05.9 +1.6**
BZS Buzias 6.48 7⇓ *i*P **Pn 10 29 05.5 +1.1**
ARMT Armutlu 6.58 75 *e*PN Pn 10 29 09.6 +3.8
LOT Lotru 6.71 20⇑ *i*P **Pn 10 29 09.9 +2.2**
NVLJ Novalja 6.82 324 *e*Pn **Pn 10 29 08.4 -0.7**
NVLJ Sn **Sn 10 30 23.1 -3.8**
NVLJ Novalja 6.82 324 *e*Pn **Pn 10 29 08.3 -0.7**
ARR Arges 6.89 25⇑ *i*P **Pn 10 29 11.7 +1.5**
MTUR Matau 6.92 28⇓ *i*P **Pn 10 29 12.3 +1.7**
VOIR 7.10 27⇑ *i*P **Pn 10 29 14.9 +1.9**
PKSM Moragy 7.15 350⇑ *i*P **Pn 10 29 13.4 -0.3**
CAVI Cavuskoy 7.28 79 *e*PN Pn 10 29 10.9 -4.6
PSN Preselentsi 7.31 50⇓ *i*P **Pn 10 29 17.7 +1.8**
BOJS Bojanci 7.41 330 *i* Pn **Pn 10 29 17.5 +0.3**
BOJS *i* Sn **Sn 10 30 38.2 -3.4**
MLR Muntele Rosu 7.48 31⇑ *i*P Pn 10 29 21.5 +3.2
MLR Muntele Rosu 7.48 31 Pn **Pn 10 29 18.2 -0.1**
MLR Muntele Rosu 7.48 31 P **Pn 10 29 18.2 -0.1**
MLR Muntele Rosu 7.48 31 Pn **Pn 10 29 18.2 -0.1**
comp=N,0.2nm,0.3s,baz=204,slow=4.6,SNR=27
CRES Cresnjev 7.61 332 *i* Pn **Pn 10 29 18.5 -1.4**
CRES *e*Sn **Sn 10 30 42.5 -4.0**
CRES
comp=Z,176nm,0.9s
DOPR Dopca 7.67 26⇑ *i*P **Pn 10 29 23.4 +2.5**
DRGR 7.77 11⇓ *i*P **Pn 10 29 23.9 +1.6**
GRER 7.83 36⇑ *i*P Pn 10 29 26.2 +3.2
CEY Cerknica 7.93 328 *i* Pn **Pn 10 29 24.5 +0.1**
CEY *i* Sn **Sn 10 30 51.9 -2.7**
ISP Isparta 7.98 97 *e*P **Pn 10 29 22.6 -2.5**
ISP pmax pmax
comp=Z,24nm,0.8s
ISP Isparta 7.98 97⇑ *i*P Pn 10 29 28.7 +3.5
ISP Isparta 7.98 97 *e*Pn **Pn 10 29 22.6 -2.5**
comp=Z,24nm,0.8s
PLOR Plostina 8.06 32⇓ *i*P Pn 10 29 29.6 +3.4
VRI Vrincioaia 8.10 33⇑ *i*P **Pn 10 29 29.5 +2.7**
JAVS Javornik 8.21 327 *i* Pn **Pn 10 29 27.4 -0.9**
JAVS *e*Sn Sn 10 30 55.3 -6.1
VOY Vojsko 8.39 327 *e*Pn **Pn 10 29 30.4 -0.4**
VOY *e*Sn **Sn 10 31 02.7 -3.2**
PERS Pernice 8.42 334 *i* Pn **Pn 10 29 30.0 -1.2**
PERS *i* Sn Sn 10 31 00.7 -5.9
SOKA Soboth 8.49 334⇑ *i*Pn **Pn 10 29 30.2 -1.9**
SNR=11
SOKA ⇑ *i*Sn Sn 10 31 02.5 -5.8
SOKA Soboth 8.49 334 Pn **Pn 10 29 30.2 -1.9**
SNR=11
OBKA Obir 8.52 331⇓ *i*Pn **Pn 10 29 31.7 -0.8**
OBKA ⇓ *i*Sn **Sn 10 31 05.7 -3.4**
OBKA Obir 8.52 331 Pn **Pn 10 29 31.7 -0.8**
SVRH Sivrihisar-ESK 8.55 85 *e*PN **Pn 10 29 34.6 +1.6**
SVRH Sivrihisar-ESK 8.55 85 *e*Pn **Pn 10 29 34.6 +1.6**
PSZ Piszkesteto 8.74 357 *e*P **Pn 10 29 34.8 -0.7**
PSZ *e* 10 31 12.1
PSZ pmax pmax
comp=Z,26nm,0.8s
PSZ Piszkesteto 8.74 357⇓ *i*P **Pn 10 29 36.6 +1.1**
PSZ Piszkesteto 8.74 357 *e*Pn **Pn 10 29 34.8 -0.7**
comp=Z,26nm,0.8s
PSZ *e*Sn **Sn 10 31 12.1 -2.3**
PSZ Piszkesteto 8.74 357 *e*P **Pn 10 29 34.8 -0.7**
comp=Z,26nm,0.8s
PSZ *e*S **Sn 10 31 12.1 -2.3**
ARSA Arzberg 8.84 337⇑ *i*Pn **Pn 10 29 35.6 -1.2**
ARSA Arzberg 8.84 337 Pn **Pn 10 29 35.6 -1.2**
TRPA Tarpa 9.06 9⇑ *i*P **Pn 10 29 40.7 +0.9**
TRPA Tarpa 9.06 9⇑ *i*P **Pn 10 29 40.7 +0.9**
BURAR Bucovina Array 9.09 21⇑ *i*P **Pn 10 29 42.7 +2.3**
BURAR Bucovina Array 9.09 21⇑ *i*P **Pn 10 29 42.7 +2.3**
BUR08 Bucovina Ar. S 9.12 20 *e*Pn **Pn 10 29 39.2 -1.5**
BUR08 Bucovina Ar. S 9.12 20 *e*Pn **Pn 10 29 39.2 -1.5**
CONA Conrad Observa 9.36 340⇑ *i*Pn **Pn 10 29 43.9 -0.2**
CONA ⇓ *i*Sn **Sn 10 31 25.6 -4.0**
CONA Conrad Observa 9.36 340 Pn **Pn 10 29 43.9 -0.2**
KBA Koelnbreinsper 9.46 329⇑ *i*Pn **Pn 10 29 44.3 -1.2**
KBA ⇑ *i*Sn **Sn 10 31 27.9 -4.3**
KBA Koelnbreinsper 9.46 329 Pn **Pn 10 29 44.3 -1.2**
KEST Kesra 9.51 252 *e*Pn **Pn 10 29 48.1 +1.9**
KEST Kesra 9.51 252 Pn **Pn 10 29 48.5 +2.3**
comp=Z,0.1nm,0.3s,baz=186,slow=3.4,SNR=5.1
ANTO Ankara 9.53 82 *e*PN **Pn 10 29 49.0 +2.6**
ANTO Ankara 9.53 82 *e*Pn **Pn 10 29 49.0 +2.6**
CRVS Cervenica-Dubn 9.74 4 *e*P **Pn 10 29 49.7 +0.6**
CRVS MLR MLR
comp=Z,300nm,21.6s
CRVS Cervenica-Dubn 9.74 4 *e*PN **Pn 10 29 49.7 +0.6**
CRVS Cervenica-Dubn 9.74 4 *e*P **Pn 10 29 49.7 +0.6**
comp=Z,300nm,21.6s
AFSR Af˙ar-Bala (A 9.75 85 *e*P **Pn 10 29 50.5 +1.1**
AFSR Af˙ar-Bala (A 9.75 85 *e*P **Pn 10 29 50.5 +1.1**
MOA Molln 9.77 334⇑ *i*Pn **Pn 10 29 48.8 -0.8**
SNR=10
MOA Molln 9.77 334 Pn **Pn 10 29 48.8 -0.8**
SNR=10
KOLS Kolonicke sedl 9.83 7 *e*P **Pn 10 29 52.0 +1.6**
KOLS MLR MLR
comp=Z,800nm,14.6s
KOLS Kolonicke sedl 9.83 7 *e*PN **Pn 10 29 52.0 +1.6**
KOLS Kolonicke sedl 9.83 7 *e*P **Pn 10 29 52.0 +1.6**
comp=Z,800nm,14.6s
BR131 Keskin Array S 10.18 83 *e*Pn Pn 10 29 49.6 -5.7
comp=Z,7.2nm,1.0s
BRTR Keskin Array B 10.18 83 Pn **Pn 10 29 55.4 0.0**
BRTR Keskin Array B 10.18 83 P **Pn 10 29 55.4 0.0**
BRTR Keskin Array B 10.18 83 Pn **Pn 10 29 55.4 0.0**
comp=Z,0.1nm,0.3s,baz=257,slow=9.8,SNR=3.1
STHS Stebnicka Huta 10.24 3 *e*P **Pn 10 29 53.3 -2.8**
STHS Stebnicka Huta 10.24 3 *e*PN **Pn 10 29 53.3 -2.8**
WATA Walderalm 10.42 324⇑ *i*Pn **Pn 10 29 57.2 -1.4**
WATA ⇑ *i*Sn **Sn 10 31 51.5 -4.1**
WATA Walderalm 10.42 324 Pn **Pn 10 29 57.2 -1.4**
VRAC Vranov 10.50 346⇑ *i*P **Pn 10 30 00.6 +1.1**
VRAC Vranov 10.50 346 Pn **Pn 10 29 59.8 +0.2**
VRAC Vranov 10.50 346 P **Pn 10 29 59.8 +0.2**
VRAC Vranov 10.50 346 Pn **Pn 10 29 59.8 +0.2**
comp=Z,0.2nm,0.3s,baz=189,slow=14,SNR=4.2
MOTA Moosalm 10.64 323⇑ *i*Pn **Pn 10 30 01.0 -0.6**
SNR=13
MOTA ⇓ *i*Sn **Sn 10 31 58.1 -3.1**
MOTA Moosalm 10.64 323 Pn **Pn 10 30 01.0 -0.6**
SNR=13
MOTA Sn **Sn 10 31 58.1 -3.1**

TREC Trest 10.72 342 AMS AMS 10 35 10.0
comp=Z,800nm,8.8s
OKC Ostrava-Krasne 10.78 352 *e*P **Pn 10 30 04.0 +0.6**
OKC MLR MLR
comp=Z,1µm,12.9s
OKC Ostrava-Krasne 10.78 352 *e*P **Pn 10 30 04.0 +0.6**
OKC *ex* x 10 30 17.1
OKC *ex* x 10 30 36.5
OKC AMS AMS 10 35 20.0
comp=Z,1µm,12.9s
OKC Ostrava-Krasne 10.78 352 *e*P **Pn 10 30 04.0 +0.6**
comp=Z,1µm,12.9s
MORC Moravsky Berou 10.79 350 *e*P **Pn 10 30 04.3 +0.6**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 10.79 350 *e*Pn **Pn 10 30 04.3 +0.6**
comp=Z,9.5nm,0.9s
MORC *e*Sn Sn 10 31 55.6 -9.1
MORC Moravsky Berou 10.79 350 *e*P **Pn 10 30 04.3 +0.6**
comp=Z,9.0nm,0.9s
GEC2 GERESS Array S 10.82 335 *e*P **Pn 10 30 03.3 -0.7**
GEC2 GERESS Array S 10.82 335 *e*Pn **Pn 10 30 03.3 -0.7**
GEC2 GERESS Array S 10.82 335 *e*P **Pn 10 30 03.3 -0.7**
GERES GERESS Array B 10.82 335 Pn **Pn 10 30 03.3 -0.7**
GERES Sn **Sn 10 32 04.4 -1.0**
GERES GERESS Array B 10.82 335 P **Pn 10 30 03.3 -0.7**
comp=Z,1.0nm,0.3s
GERES S **Sn 10 32 04.4 -1.0**
comp=Z,1.0nm,0.3s
GERES GERESS Array B 10.82 335 Pn **Pn 10 30 03.3 -0.7**
comp=Z,1.1nm,0.3s,baz=159,slow=14,SNR=14
GERES Sn **Sn 10 32 04.4 -1.0**
comp=Z,1.3nm,0.3s,baz=149,slow=24,SNR=7.4
DAVOX Davos/Dischmat 10.86 318 Pn **Pn 10 30 04.9 +0.2**
DAVOX Sn **Sn 10 32 08.7 +2.1**
DAVOX Davos/Dischmat 10.86 318 P **Pn 10 30 04.9 +0.2**
comp=Z,1.0nm,0.3s
DAVOX Davos/Dischmat 10.86 318 Pn **Pn 10 30 04.9 +0.2**
comp=Z,0.5nm,0.3s,baz=225,slow=7.1,SNR=5.7
DAVOX Sn **Sn 10 32 08.7 +2.1**
comp=Z,1.0nm,0.3s,baz=72,slow=5.1,SNR=6.5
DAVOX LR LR 10 34 53.7
comp=Z,443nm,18.7s,baz=246,slow=41
LVV L'vov 10.92 12 *e*P Pn 10 30 10.7 +5.3
TUE Stuetta 10.95 315 *e*Pn **Pn 10 30 06.0 +0.1**
TUE *e*Sn Sn 10 32 01.5 -7.3
TUE Stuetta 10.95 315 *e*Pn **Pn 10 30 06.0 +0.1**
KHC Kasperske Hory 11.11 336 *e*P **Pn 10 30 08.2 +0.3**
KHC MLR MLR
comp=Z,1µm,6.0s
KHC Kasperske Hory 11.11 336 *e*P **Pn 10 30 08.2 +0.3**
KHC *ex* x 10 30 43.6
KHC AMS AMS 10 35 10.0
comp=Z,1µm,6.0s
KHC Kasperske Hory 11.11 336 *e*Pn **Pn 10 30 05.9 -2.0**
KHC *e*Sn **Sn 10 32 10.0 -2.4**
KHC Kasperske Hory 11.11 336 *e*Pn **Pn 10 30 05.9 -2.0**
KHC Kasperske Hory 11.11 336 *e*P **Pn 10 30 08.2 +0.3**
comp=Z,1µm,6.0s
KHC *e*Sn **Sn 10 32 10.0 -2.4**
DPC Dobruska-Polom 11.55 347 *e*P **Pn 10 30 15.4 +1.5**
DPC Dobruska-Polom 11.55 347 *e*P **Pn 10 30 15.4 +1.5**
DPC *ex* x 10 30 34.6
DPC AMS AMS 10 36 40.0
DPC Dobruska-Polom 11.55 347 *e*P **Pn 10 30 15.4 +1.5**
PRU Pruhonice 11.60 341 *e*P **Pn 10 30 16.1 +1.5**
PRU MLR MLR
comp=Z,900nm,7.2s
PRU Pruhonice 11.60 341 *e*P **Pn 10 30 16.1 +1.5**
PRU *ex* x 10 30 24.8
PRU *ex* x 10 30 40.8
PRU AMS AMS 10 37 50.0
comp=Z,900nm,7.2s
PRU Pruhonice 11.60 341 *e*P **Pn 10 30 16.1 +1.5**
comp=Z,900nm,7.2s
MBDF Montbardon 11.62 303 *e*P Pn 10 30 18.5 +3.5
MBDF Montbardon 11.62 303 *e*P Pn 10 30 18.5 +3.5
MBDF Montbardon 11.62 303 *e*P Pn 10 30 18.5 +3.5
UPC Upice 11.75 346 *e*P **Pn 10 30 18.2 +1.5**
UPC Upice 11.75 346 *e*P **Pn 10 30 18.2 +1.5**
UPC Upice 11.75 346 *e*P **Pn 10 30 18.2 +1.5**
LPG La Plagne 11.96 306 *e*P **Pn 10 30 20.9 +1.1**
comp=Z,24nm,0.8s
LPG La Plagne 11.96 306 *e*P **Pn 10 30 20.9 +1.1**
LPG pmax pmax
comp=Z,24nm,0.8s
LPG La Plagne 11.96 306 *e*P **Pn 10 30 20.9 +1.1**
comp=Z,24nm,0.8s
LPG La Plagne 11.96 306 *e*P **Pn 10 30 20.9 +1.1**
comp=Z,12nm,0.8s
LPL La Plagne 11.98 306 *e*P **Pn 10 30 20.5 +0.4**
LPL La Plagne 11.98 306 *e*P **Pn 10 30 20.5 +0.4**
LPL La Plagne 11.98 306 *e*P **Pn 10 30 20.5 +0.4**
LPL La Plagne 11.98 306 *e*P **Pn 10 30 20.5 +0.4**
SENIN Lac Senin/Sane 12.05 311 *e*Pn Pn 10 30 24.6 +3.6
PVCC Panska Ves 12.09 342 AMS AMS 10 35 10.0
comp=Z,1µm,6.6s
BRG Berggiesshubel 12.56 341 *e*P **Pn 10 30 29.6 +1.8**
comp=Z,19nm,1.6s
BRG Berggiesshubel 12.56 341 *e*P **Pn 10 30 29.6 +1.8**
comp=Z,19nm,1.6s
BRG pmax pmax
comp=Z,19nm,1.6s
BRG Berggiesshubel 12.56 341 *e*P **Pn 10 30 29.6 +1.8**
comp=Z,19nm,1.6s
BFO Black Forest 12.67 320 *i* P Pn 10 30 33.4 +4.1
BFO Black Forest 12.67 320 *e*Pn **Pn 10 30 28.5 -0.8**
BFO Black Forest 12.67 320 *e*Pn **Pn 10 30 28.5 -0.8**
CABF La Chapelle 12.90 310 *e*P **Pn 10 30 32.0 -0.5**
comp=Z,87nm,1.4s
CABF La Chapelle 12.90 310 *e*P **Pn 10 30 32.0 -0.5**
CABF pmax pmax
comp=Z,87nm,1.4s
CABF La Chapelle 12.90 310 *e*P **Pn 10 30 32.0 -0.5**
comp=Z,87nm,1.4s
CABF La Chapelle 12.90 310 *e*P **Pn 10 30 32.0 -0.5**
comp=Z,44nm,1.4s
AK02 Malin Array Si 13.01 25 *e*Pn **Pn 10 30 33.6 -0.3**
AK02 Malin Array Si 13.01 25 *e*Pn **Pn 10 30 33.6 -0.3**
KIEV Kiev 13.04 25⇑ *e*P **Pn 10 30 35.7 +1.4**
KIEV Kiev 13.04 25 *e*Pn Pn 10 30 30.9 -3.4
KIEV *e*Sn **Sn 10 32 57.4 -2.2**
KIEV Kiev 13.04 25 *e*P **Pn 10 30 35.7 +1.4**
AKASG Malin Array Be 13.05 25 P **Pn 10 30 33.1 -1.4**
AKASG Malin Array Be 13.05 25 Pn **Pn 10 30 33.1 -1.4**
AKASG Malin Array Be 13.05 25 P **Pn 10 30 33.1 -1.4**
AKASG Malin Array Be 13.05 25 Pn **Pn 10 30 33.1 -1.4**
comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=11
HINF Hinteralfeld 13.12 316 *e*P **Pn 10 30 35.6 +0.2**
comp=Z,26nm,0.9s
HINF Hinteralfeld 13.12 316 *e*P **Pn 10 30 35.6 +0.2**
HINF pmax pmax
comp=Z,26nm,0.9s
HINF Hinteralfeld 13.12 316 *e*P **Pn 10 30 35.6 +0.2**
comp=Z,26nm,0.9s
HINF Hinteralfeld 13.12 316 *e*P **Pn 10 30 35.6 +0.2**
comp=Z,13nm,0.9s
CLL Champ du Feu 13.26 318 *e*P **Pn 10 30 37.4 0.0**
comp=Z,28nm,1.1s
CDF Champ du Feu 13.26 318 *e*P **Pn 10 30 37.4 0.0**
CDF pmax pmax
comp=Z,28nm,1.1s
CDF Champ du Feu 13.26 318 *e*P **Pn 10 30 37.4 0.0**
comp=Z,28nm,1.1s
CDF Champ du Feu 13.26 318 *e*P **Pn 10 30 37.4 0.0**
comp=Z,14nm,1.1s
HAU Haudompre 13.50 315 *e*P **Pn 10 30 40.5 -0.2**
comp=Z,36nm,1.0s
HAU *e*R
comp=Z,388nm,18.0s
HAU Haudompre 13.50 315 *e*P **Pn 10 30 40.5 -0.2**
HAU pmax pmax
comp=Z,36nm,1.0s
HAU Haudompre 13.50 315 *e*P **Pn 10 30 40.5 -0.2**
comp=Z,36nm,1.0s
HAU Haudompre 13.50 315 *e*P **Pn 10 30 40.5 -0.2**
comp=Z,18nm,1.0s
MMAI Mount Meron Ar 13.53 112 LR LR 10 36 54.5

MALT Malatya 14.03 88⇓ *i*P Pn 10 30 51.8 +3.9
LOR Lormes 14.55 309 *e*P **Pn 10 30 55.2 +0.2**
LOR *e*R
comp=Z,314nm,19.0s
LOR Lormes 14.55 309 *e*P **Pn 10 30 55.2 +0.2**
SSF Saint Saulge 14.67 308 *e*P **Pn 10 30 57.4 +0.8**
comp=Z,22nm,1.1s
SSF Saint Saulge 14.67 308 *e*P **Pn 10 30 57.4 +0.8**
SSF pmax pmax
comp=Z,22nm,1.1s
SSF Saint Saulge 14.67 308 *e*P **Pn 10 30 57.4 +0.8**
comp=Z,22nm,1.1s
ASF Jabal al Asfar 15.04 113 Pn **Pn 10 31 02.1 +0.3**
ASF Jabal al Asfar 15.04 113 Pn **Pn 10 31 02.1 +0.3**
comp=Z,0.2nm,0.3s,baz=252,slow=3.5,SNR=3.7
EIL Elat 15.23 124 Pn **Pn 10 31 05.0 +0.8**
EIL Elat 15.23 124 Pn **Pn 10 31 04.9 +0.8**
EIL Elat 15.23 124 Pn **Pn 10 31 05.0 +0.8**
comp=Z,0.3nm,0.3s,baz=312,slow=16,SNR=3.4
BAIF Baives 15.86 319 *e*P **Pn 10 31 11.1 -1.2**
BAIF Baives 15.86 319 *e*P **Pn 10 31 11.1 -1.2**
BAIF Baives 15.86 319 *e*P **Pn 10 31 11.1 -1.2**
NACGM Naroch 16.28 13 *e* **Pn 10 31 14.0 -3.7**
ETSF Etsaut 16.31 290 *e*P **P 10 31 21.2 0.0**
comp=Z,46nm,1.4s
ETSF Etsaut 16.31 290 *e*P **P 10 31 21.2 0.0**
ETSF pmax pmax
comp=Z,46nm,1.4s
ETSF Etsaut 16.31 290 *e*P **P 10 31 21.2 0.0**
comp=Z,46nm,1.4s
ETSF Etsaut 16.31 290 *e*P **P 10 31 21.2 0.0**
comp=Z,23nm,1.4s
IIGN Ignalina 16.62 11 *e*P **Pn 10 31 21.8 -0.2**
IIGN AMB AMB 10 31 25.1
comp=Z,16nm,1.6s
IIGN Ignalina 16.62 11 *e*P **Pn 10 31 21.8 -0.2**
comp=Z,16nm,1.6s,SNR=35
IDID Didziasalis 16.67 13 *e*P **Pn 10 31 22.6 0.0**
IDID AMB AMB 10 31 26.0
comp=Z,13nm,1.6s
IDID Didziasalis 16.67 13 *e*P **Pn 10 31 22.6 0.0**
comp=Z,13nm,1.6s,SNR=35
MFF Saint Martin d 16.82 303 *e*P **Pn 10 31 24.1 -0.5**
comp=Z,64nm,1.4s
MFF Saint Martin d 16.82 303 *e*P **Pn 10 31 24.1 -0.5**
MFF pmax pmax
comp=Z,64nm,1.4s
MFF Saint Martin d 16.82 303 *e*P **Pn 10 31 24.1 -0.5**
comp=Z,64nm,1.4s
MFF Saint Martin d 16.82 303 *e*P **Pn 10 31 24.1 -0.5**
comp=Z,32nm,1.4s
ISAL Salakas 16.82 11 *e*P **Pn 10 31 23.8 -0.7**
ISAL AMB AMB 10 31 30.0
comp=Z,12nm,1.0s
KIV Kislovodsk 17.26 67 *e*P **Pn 10 31 30.1 -0.1**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,68nm,13.0s
KIV Kislovodsk 17.26 67 *e*P **Pn 10 31 30.1 -0.1**
comp=Z,68nm,13.0s
KBZ Khabaz 17.38 68 P **Pn 10 31 31.1 -0.5**
KBZ Khabaz 17.38 68 P **Pn 10 31 31.1 -0.5**
KBZ Khabaz 17.38 68 P **Pn 10 31 31.1 -0.5**
KBZ Khabaz 17.38 68 P **Pn 10 31 31.1 -0.5**
comp=Z,0.1nm,0.3s,baz=245,slow=17,SNR=2.3
VORD Divnogorie 17.68 42 *e*P **Pn 10 31 35.6 +0.2**
VORD pmax pmax
comp=N,5.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,6.0nm,0.9s
VORD MLR MLR
comp=N,420nm,14.0s
VORD MLR MLR
comp=E,770nm,14.0s
VORD MLR MLR
comp=Z,980nm,14.0s
VORD Divnogorie 17.68 42 *e*P **Pn 10 31 35.6 +0.2**
GOF Gofitskoye 17.70 63 *e*P P 10 31 43.4 +6.9
VSR Storozhevoye 17.76 41 *e*P **Pn 10 31 35.0 -1.4**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,6.0nm,0.8s
VSR MLR MLR
comp=N,630nm,14.0s
VSR MLR MLR
comp=E,520nm,14.0s
VSR MLR MLR
comp=Z,940nm,14.0s
VSR Storozhevoye 17.76 41 *e*P **Pn 10 31 35.0 -1.4**
ZEI Tsey 18.02 71 *e*P **P 10 31 42.0 +1.7**
ZEI pmax pmax
comp=Z,13nm,1.3s
ZEI Tsey 18.02 71 *e*P **P 10 31 42.0 +1.7**
comp=Z,13nm,1.3s
GNI Garni 18.68 79 P **P 10 31 47.4 -0.2**
GNI Garni 18.68 79 P **P 10 31 47.4 -0.2**
comp=Z,250nm,19.0s
GNI Garni 18.68 79 P **P 10 31 47.4 -0.2**
comp=Z,0.9nm,0.3s,baz=186,slow=20,SNR=4.1
GNI LR LR 10 39 23.5
comp=Z,250nm,19.0s,baz=104,slow=39
ESDC Sonseca Array 18.89 279 P **Pn 10 31 51.5 +1.2**
ESDC Sonseca Array 18.89 279 P **Pn 10 31 51.5 +1.2**
comp=Z,0.2nm,0.3s,baz=73,slow=9.0,SNR=3.3
ESDC LR LR 10 39 21.1
comp=Z,355nm,18.2s,baz=85,slow=38
VRHR Novokhopersk 19.00 44 *e*P **Pn 10 31 51.6 +0.2**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR MLR MLR
comp=N,440nm,16.0s
VRHR MLR MLR
comp=E,470nm,16.0s
VRHR MLR MLR
comp=Z,610nm,16.0s
VRHR Novokhopersk 19.00 44 *e*P **Pn 10 31 51.6 +0.2**
OBN Obninsk 19.24 29 *e*P **P 10 31 53.8 +0.4**
OBN *e*S **S 10 35 31.9 +0.4**
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,800nm,17.0s
OBN Obninsk 19.24 29 *e*P **P 10 31 53.8 +0.4**
comp=Z,800nm,17.0s
OBN *e*S **S 10 35 31.9 +0.4**
VSU Vasula 19.71 10⇑ *e*P **P 10 31 58.1 -0.3**
VSU pmax pmax
comp=Z,114nm,1.2s
VSU Vasula 19.71 10 *e*P **P 10 31 58.1 -0.3**
comp=Z,114nm,1.2s
MOS Moscow 20.11 29 *e*P **P 10 32 01.2 -1.7**
MOS *e* 10 32 32.9
MOS pmax pmax
comp=Z,54nm,0.8s
MOS Moscow 20.11 29 *e*P **P 10 32 01.2 -1.7**
comp=Z,54nm,0.8s
MDT Midelt 21.25 260 LR LR 10 40 38.1
comp=Z,277nm,21.4s,baz=153,slow=37
HFS Hagfors 21.40 351 P **P 10 32 14.9 -1.9**
HFS Hagfors 21.40 351 P **P 10 32 14.9 -1.9**
comp=Z,31nm,18.7s
HFS Hagfors 21.40 351 P **P 10 32 14.9 -1.9**
comp=Z,11nm,0.7s,baz=163,slow=11,SNR=19
HFS LR LR 10 40 18.7
comp=Z,31nm,18.6s,baz=345,slow=36
NAO01 NORSAR Array S 22.49 348 *e*P **P 10 32 27.6 -1.0**
comp=Z,13nm,0.7s
NAO01 NORSAR Array S 22.49 348 *e*P **P 10 32 27.6 -1.0**
comp=Z,13nm,0.7s
FINES FINESS Array B 22.55 7 P **P 10 32 27.1 -2.0**
FINES FINESS Array B 22.55 7 P **P 10 32 27.1 -2.0**
comp=Z,111nm,20.3s
FINES FINESS Array B 22.55 7 P **P 10 32 27.1 -2.0**
comp=Z,13nm,0.8s,baz=173,slow=9.0,SNR=14
FINES LR LR 10 40 39.7

comp=Z,111nm,20.2s,baz=6.1,slow=35
EKA Eskdalemuir Ar 22.60 323 P **P 10 32 28.3 -1.4**
EKA Eskdalemuir Ar 22.60 323 P **P 10 32 28.3 -1.4**
comp=Z,15nm,0.9s
EKA Eskdalemuir Ar 22.60 323 P **P 10 32 28.3 -1.4**
comp=Z,15nm,0.9s,baz=126,slow=9.5,SNR=16
NB2 NORSAR Subarra 22.63 348 P **P 10 32 28.7 -1.3**
comp=Z,14nm,0.7s,baz=153,slow=10
NB2 NORSAR Subarra 22.63 348 P **P 10 32 28.7 -1.3**
comp=Z,14nm,0.7s,SNR=0.8
NOA NORSAR Array B 22.63 348 P **P 10 32 28.3 -1.7**
NOA NORSAR Array B 22.63 348 P **P 10 32 28.3 -1.7**
comp=Z,145nm,19.3s
NOA NORSAR Array B 22.63 348 P **P 10 32 28.3 -1.7**
comp=Z,29nm,1.1s,baz=166,slow=10,SNR=25
NOA LR LR 10 42 24.6
comp=Z,145nm,19.3s,baz=160,slow=40
IRAZ Razeghan 23.67 90 *e*P **P 10 32 42.3 +1.2**
IRAZ Razeghan 23.67 90 *e*P **P 10 32 42.3 +1.2**
NAY Al-Naaiem 24.16 106 *e*P **P 10 32 43.3 -2.3**
NAY Al-Naaiem 24.16 106 *e*P **P 10 32 43.3 -2.3**
IR5 Iran Long-Peri 24.23 90 *e*P **P 10 32 45.7 -0.7**
IR5 Iran Long-Peri 24.23 90 *e*P **P 10 32 45.7 -0.7**
RDF Al-Radifah 24.56 106 *e*P **P 10 32 45.1 -4.1**
IVRN Varamin 25.19 90 *e*P **P 10 32 56.0 +1.0**
IVRN Varamin 25.19 90 *e*P **P 10 32 56.0 +1.0**
IFIR Firoozkooh 25.79 88 *e*P **P 10 33 00.6 0.0**
IFIR Firoozkooh 25.79 88 *e*P **P 10 33 00.6 0.0**
ISHM Shahmirzad 26.16 87 *e*P **P 10 33 06.1 +2.1**
ISHM Shahmirzad 26.16 87 *e*P **P 10 33 06.1 +2.1**
IGLO Ghaloghah 26.38 85 *e*P **P 10 33 05.4 -0.5**
IZEF Zefreh 26.41 94 *e*P **P 10 33 07.4 +1.2**
IZEF Zefreh 26.41 94 *e*P **P 10 33 07.4 +1.2**
IANJ Anjilo 26.74 87 *e*P **P 10 33 08.5 -0.7**
IANJ Anjilo 26.74 87 *e*P **P 10 33 08.5 -0.7**
TMCR Tamitsa 27.08 17 *e*P **P 10 33 11.5 -0.1**
TMCR *e* 10 33 53.5
TMCR *e* 10 36 27.8
TMCR Tamitsa 27.08 17 *e*P **P 10 33 11.5 -0.1**
PRGR Permogore 27.26 26 *e*P **P 10 33 11.0 -2.3**
PRGR pmax pmax
comp=Z,11nm,0.5s
PRGR Permogore 27.26 26 *e*P **P 10 33 11.0 -2.3**
comp=Z,11nm,0.5s
AKTK Aktyubinsk 28.60 54 P **P 10 33 23.4 -2.0**
comp=Z,207nm,19.9s
AKTO Aktyubinsk 28.60 54 P **P 10 33 23.4 -2.0**
AKTO pmax pmax
comp=Z,3.0nm,0.9s
AKTO MLR MLR
comp=Z,207nm,19.9s
AKTO Aktyubinsk 28.60 54 P **P 10 33 23.4 -2.0**
AKTO Aktyubinsk 28.60 54 P **P 10 33 23.4 -2.0**
AKTO Aktyubinsk 28.60 54 P **P 10 33 23.4 -2.0**
comp=Z,3.3nm,0.9s,baz=260,slow=9.3,SNR=6.9
AKTO LR LR 10 46 46.1
comp=Z,207nm,19.9s,baz=320,slow=41
APA Apatity 29.33 10 *j*P **P 10 33 32.8 +1.1**
APA Apatity 29.33 10 *i*P **P 10 33 32.8 +1.1**
ABKAR Akbulak array 29.70 57 *e*P **P 10 33 34.4 -0.8**
comp=Z,1.5nm,0.6s
ABKAR Akbulak array 29.70 57 *e*P **P 10 33 34.4 -0.8**
comp=Z,1.5nm,0.6s
ARU Arti 30.32 43 *d i*P **P 10 33 41.2 +0.6**
ARU 10 34 36.1
ARU S **S 10 38 41.5 +0.6**
ARU SS **SnSn 10 40 11.2 -3.7**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU MLR MLR
comp=Z,312nm,14.0s
ARU Arti 30.32 43 *e*P **P 10 33 39.5 -1.2**
comp=Z,14nm,1.3s
ARU Arti 30.32 43 *i*P **P 10 33 41.2 +0.6**
comp=Z,12nm,1.2s
ARU S **S 10 38 41.5 +0.6**
ARCES ARCESS Array B 30.53 3 P **P 10 33 39.7 -2.6**
ARCES ARCESS Array B 30.53 3 P **P 10 33 39.7 -2.6**
comp=Z,5.5nm,1.0s,baz=188,slow=11,SNR=12
ARCES LR LR 10 46 47.8
comp=Z,207nm,18.4s,baz=10,slow=38
IMOG Moghan 30.75 83 *e*P **P 10 33 44.8 -0.2**
IMOG Moghan 30.75 83 *e*P **P 10 33 44.8 -0.2**
TOA0 Torodi Ar. Sit 30.81 218 *e*P **P 10 33 46.5 +1.3**
TORD Torodi Ar. Bea 30.81 218 P **P 10 33 45.4 +0.1**
TORD Torodi Ar. Bea 30.81 218 P **P 10 33 45.3 +0.1**
TORD Torodi Ar. Bea 30.81 218 P **P 10 33 45.4 +0.1**
comp=Z,2.5nm,0.8s,baz=35,slow=7.2,SNR=14
TORD LR LR 10 48 07.8
comp=Z,181nm,18.8s,baz=25,slow=40
SVE Sverdlovsk 31.54 43 *e*P **P 10 33 50.6 -0.7**
SVE pmax pmax
comp=Z,26nm,1.1s
SVE Sverdlovsk 31.54 43 *e*P **P 10 33 50.6 -0.7**
comp=Z,26nm,1.1s
BRVK Borovoye 36.43 51 *c e*P **P 10 34 33.0 -0.9**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 36.43 51 *e*P **P 10 34 32.9 -0.9**
comp=Z,10.0nm,0.9s
BRVK Borovoye 36.43 51 *e*P **P 10 34 33.0 -0.9**
comp=Z,15nm,1.2s
BVAR Borovoye Array 36.49 51 P **P 10 34 33.0 -1.4**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 36.49 51 P **P 10 34 33.0 -1.4**
BVAR Borovoye Array 36.49 51 P **P 10 34 33.0 -1.4**
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 36.49 51 P **P 10 34 33.0 -1.4**
comp=Z,2.7nm,0.7s,baz=260,slow=5.4,SNR=13
KKAR Karatay Array 37.42 67 *e*P **P 10 34 42.9 +0.5**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 37.42 67 *e*P **P 10 34 42.9 +0.5**
comp=Z,6.0nm,0.8s
KKAR Karatay Array 37.42 67 *e*P **P 10 34 42.9 +0.5**
comp=Z,6.0nm,0.8s
DBIC Dimbokro 39.63 222 P **P 10 35 02.8 +1.7**
DBIC Dimbokro 39.63 222 P **P 10 35 02.8 +1.7**
comp=Z,4.6nm,0.8s,baz=11,slow=9.7,SNR=3.8
DBIC LR LR 10 52 33.8
comp=Z,349nm,19.6s,baz=11,slow=38
EKS2 Erkin-Say 39.85 67 *e*P **P 10 35 03.2 +0.2**
EKS2 pmax pmax
comp=Z,22nm,1.5s
EKS2 Erkin-Say 39.85 67 *e*P **P 10 35 03.2 +0.2**
comp=Z,22nm,1.5s
EKS2 Erkin-Say 39.85 67 *e*P **P 10 35 03.2 +0.2**
comp=Z,22nm,1.5s
KURBB Kurchatov Arra 41.65 54 P **P 10 35 15.5 -2.0**
comp=Z,5.5nm,0.8s,baz=284,slow=8.8,SNR=16
KURK Kurchatov 41.70 54 *e*P **P 10 35 17.1 -0.8**
KURK pmax pmax
comp=Z,9.0nm,1.2s
KURK Kurchatov 41.70 54 *e*P **P 10 35 17.1 -0.8**
comp=Z,9.5nm,1.2s
KURK Kurchatov 41.70 54 *e*P **P 10 35 17.1 -0.8**
comp=Z,9.5nm,1.2s
KSH Kashi 42.31 71 *e*P **P 10 35 23.1 -0.1**
KSH sP sP 10 35 29.3 +3.5
KSH PP **PP 10 37 01.3 +0.3**
KSH PcS **PcS 10 41 10.1 +1.3**
KSH S S 10 41 38.1 -6.5
KSH SS SS 10 44 37.1 -16
KSH pmax pmax
comp=Z,97nm,4.4s
KSH LR LR
comp=Z,130nm,5.5s
KSH LR LR
comp=Z,97nm,4.4s
KSH LR LR
comp=Z,180nm,5.9s
NVS Novosibirsk 44.01 48 *e*P **P 10 35 34.7 -1.9**
NVS pmax pmax
comp=Z,16nm,1.3s
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,4.0nm,0.9s
NVS Novosibirsk 44.01 48 *e*P **P 10 35 34.7 -1.9**
comp=E,5.0nm,1.4s
MK31 Makanchi Array 44.80 59 *e*P **P 10 35 41.9 -1.2**
MK31 Makanchi Array 44.80 59 *e*P **P 10 35 41.9 -1.2**
MK31 Makanchi Array 44.80 59 *e*P **P 10 35 41.9 -1.2**
MKAR Makanchi Array 44.80 59 P **P 10 35 41.8 -1.3**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR MLR MLR
comp=Z,140nm,18.1s
MKAR Makanchi Array 44.80 59 *e*P **P 10 35 42.7 -0.4**
MKAR Makanchi Array 44.80 59 *e*P **P 10 35 42.7 -0.4**
MKAR Makanchi Array 44.80 59 P **P 10 35 41.8 -1.3**
comp=Z,3.7nm,0.6s,baz=279,slow=7.2,SNR=38
MKAR LR LR 10 56 54.4
comp=Z,140nm,18.1s,baz=76,slow=40
ZAA0 Zalesovo Array 45.04 49 *e*P **P 10 35 42.6 -2.2**
ZAA0 Zalesovo Array 45.04 49 *e*P **P 10 35 42.6 -2.2**
ZALV Zalesovo Beam 45.04 49 *i*P **P 10 35 43.9 -0.9**
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 45.04 49 P **P 10 35 42.5 -2.3**
ZALV Zalesovo Beam 45.04 49 *i*P **P 10 35 43.9 -0.9**
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 45.04 49 P **P 10 35 42.5 -2.3**
comp=Z,7.2nm,0.5s,baz=278,slow=8.6,SNR=34
ZALV LR LR 10 56 44.6
comp=Z,205nm,18.3s,baz=67,slow=39
WMQ Urumqi 49.29 62 P **P 10 36 20.0 +1.7**
WMQ sP sP 10 36 27.0 +6.2
WMQ PcP **PcP 10 37 45.0 +4.0**
WMQ PP **PP 10 38 13.0 +1.1**
WMQ PcS **PcS 10 41 40.0 +2.5**
WMQ S **S 10 43 22.0 -2.9**
WMQ ScS **ScS 10 46 09.0 -1.9**
WMQ SS SS 10 46 48.0 -8.0
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,130nm,4.0s
WMQ LR LR
comp=Z,97nm,18.0s
WMQ LR LR
comp=Z,79nm,18.0s
HVS Khovu-Aksy 50.94 51 *e*P **P 10 36 28.8 -1.9**
HVS pmax pmax
comp=Z,27nm,0.8s
HVS Khovu-Aksy 50.94 51 *e*P **P 10 36 28.8 -1.9**
comp=Z,27nm,0.8s
SCHQ Schefferville 57.71 317 P **P 10 37 19.2 -0.6**
SCHQ Schefferville 57.71 317 P **P 10 37 19.2 -0.6**
SCHQ Schefferville 57.71 317 P **P 10 37 19.2 -0.6**
comp=Z,3.2nm,0.8s,baz=41,slow=11,SNR=5.5
TIXI Tiksi 58.71 21 *e*P **P 10 37 24.5 -2.0**
TIXI pmax pmax
comp=Z,13nm,2.5s
TIXI Tiksi 58.71 21 *e*P P 10 37 23.5 -3.0
comp=Z,4.6nm,0.7s
TIXI Tiksi 58.71 21 *e*P **P 10 37 24.5 -2.0**
comp=Z,13nm,2.5s
GTA Gaotai 59.37 62 P **P 10 37 32.5 +0.7**
GTA pP pP 10 37 36.6 +2.9
GTA sP sP 10 37 39.8 +5.4
GTA S **S 10 45 37.3 -3.7**
GTA sS sS 10 45 44.9 +0.8
GTA SS **SS 10 49 32.0 -3.3**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,82nm,4.7s
GTA LR LR
comp=Z,180nm,15.7s
GTA LR LR
comp=Z,140nm,16.6s
GTA LR LR
comp=Z,160nm,18.5s
SONM Songino Array 59.84 51 P **P 10 37 34.3 -0.6**
SONM Songino Array 59.84 51 P **P 10 37 34.3 -0.6**
comp=Z,3.0nm,1.1s
SONM Songino Array 59.84 51 P **P 10 37 34.3 -0.6**
comp=Z,3.3nm,1.1s,baz=278,slow=7.3,SNR=11
LZH Lanzhou 63.77 64 *e*P **P 10 38 00.6 -1.0**
LZH pP pP 10 38 04.0 +0.5
LZH PP **PP 10 40 21.0 -0.5**
LZH pmax pmax
comp=Z,23nm,1.4s
LZH pmax pmax
comp=Z,75nm,8.0s
LZH LR LR
comp=Z,380nm,15.3s
LZH LR LR
comp=Z,350nm,16.0s
LZH LR LR
comp=Z,400nm,18.1s
CD2 Chengdu 66.42 69 *e*P **P 10 38 20.0 +1.2**
CD2 pP pP 10 38 24.8 +4.1
CD2 sP sP 10 38 27.0 +5.6
CD2 PP **PP 10 40 47.3 +2.6**
CD2 S **S 10 47 05.3 -4.2**
CD2 SS **SS 10 51 21.3 -4.3**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,100nm,6.8s
CD2 LR LR
comp=Z,180nm,9.6s
CD2 LR LR
comp=Z,210nm,10.8s
HHC Hu-ho-hao-te 66.48 56 *e*P **P 10 38 18.3 -0.8**
HHC pP pP 10 38 23.3 +2.3
HHC PP **PP 10 40 48.8 +3.7**
HHC S S 10 47 00.9 -9.2
HHC ScS SKSac 10 48 09.6 -6.7
HHC SS SS 10 51 19.8 -6.4
HHC pmax pmax
comp=Z,26nm,1.1s
HHC pmax pmax
comp=Z,230nm,6.7s
HHC LR LR
comp=Z,240nm,13.3s
HHC LR LR
comp=Z,380nm,13.6s
HHC LR LR
comp=Z,260nm,13.1s
BOSA Boshof 67.60 175 LR LR 11 09 41.0
comp=Z,183nm,18.2s,baz=1.5,slow=37
FCC Fort Churchill 68.37 329 *e*P **P 10 38 32.1 +1.6**
FCC Fort Churchill 68.37 329 *e*P **P 10 38 32.1 +1.6**
FCC Fort Churchill 68.37 329 *e*P **P 10 38 32.1 +1.6**
CMAR Chiang Mai Arr 69.77 82 P **P 10 38 39.0 -0.9**
CMAR Chiang Mai Arr 69.77 82 P **P 10 38 39.0 -0.9**
CMAR Chiang Mai Arr 69.77 82 P **P 10 38 39.0 -0.9**
comp=Z,0.9nm,0.3s,baz=296,slow=7.0,SNR=8.9
GYA Guiyang 71.01 71 *e*P **P 10 38 49.0 +1.4**
GYA PP **PP 10 41 27.3 +2.7**
GYA S **S 10 48 01.6 -2.7**
GYA SS **SS 10 52 33.4 -3.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.4s
GYA LR LR
comp=Z,450nm,20.2s
GYA LR LR
comp=Z,390nm,21.1s
GYA LR LR
comp=Z,440nm,20.6s
YKA Yellowknife Ar 72.44 340 P **P 10 38 55.6 +0.2**
YKA Yellowknife Ar 72.44 340 P **P 10 38 55.6 +0.2**
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 72.44 340 P **P 10 38 55.6 +0.2**
comp=Z,2.7nm,0.9s,baz=38,slow=5.3,SNR=29
CN2 Changchun 73.21 47 *e*P **P 10 38 58.9 -1.4**
COLD Coldfoot 73.67 356 *e*P **P 10 39 04.4 +1.8**
comp=Z,14nm,1.4s
COLD Coldfoot 73.67 356 *e*P **P 10 39 04.4 +1.8**
comp=Z,14nm,1.4s
ULM Lac du Bonnet 74.88 323 P **P 10 39 10.5 +0.6**
ULM Lac du Bonnet 74.88 323 P **P 10 39 10.5 +0.6**
comp=Z,126nm,19.1s
ULM Lac du Bonnet 74.88 323 P **P 10 39 10.5 +0.6**
comp=Z,2.6nm,0.8s,baz=42,slow=6.5,SNR=4.7
ULM LR LR 11 11 52.9
comp=Z,126nm,19.1s,baz=349,slow=36
DAWY Dawson 75.86 351 *e*P **P 10 39 15.7 +0.3**
DAWY Dawson 75.86 351 *e*P **P 10 39 15.7 +0.3**
ILAR Eielson Array 75.90 354 P **P 10 39 15.8 +0.2**
ILAR Eielson Array 75.90 354 P **P 10 39 15.8 +0.2**
comp=Z,2.0nm,0.9s
ILAR Eielson Array 75.90 354 P **P 10 39 15.8 +0.2**
comp=Z,1.5nm,0.8s,baz=358,slow=4.2,SNR=17
NJ2 Nanjing 76.32 60 *e*P **P 10 39 19.1 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
USRK Ussuriysk Arra 76.56 43 P **P 10 39 18.6 -1.1**
comp=Z,2.1nm,0.8s,baz=269,slow=7.6,SNR=6.1
USRK LR LR 11 16 27.0
comp=Z,86nm,18.5s,baz=70,slow=38
A30A Hoffart Farm, baz=77 76.92 324 ⇑P **P 10 39 23.9 +2.3**
B30A Myrvik Farm, E baz=77 77.28 323 ⇓P **P 10 39 25.4 +1.7**
A29A Manning Farm, baz=77 77.36 324 ⇓P **P 10 39 25.5 +1.4**
QIZ Qiongzhong 77.74 75 P **P 10 39 28.0 +1.3**
QIZ S **S 10 49 17.5 -2.2**
B29A Wagenman Farm, baz=77 77.75 324 ⇑P **P 10 39 28.0 +1.7**
A28A Rude Farm, Bot baz=78 77.84 325 ⇑P **P 10 39 28.4 +1.6**
C30A Mose, Pekin baz=78 77.89 323 ⇓P **P 10 39 29.3 +2.2**
D30A Buchanan baz=78 78.45 323 ⇑P **P 10 39 32.0 +1.7**
A26A Wade Farm, Ken baz=78 78.64 325 ⇓P **P 10 39 33.2 +1.9**
KSAR Wonju Array Be 78.69 51 P **P 10 39 30.7 -1.0**
KSAR Wonju Array Be 78.69 51 P **P 10 39 30.7 -1.0**
KSRS Korea Array 78.70 51 P **P 10 39 30.7 -1.0**
comp=Z,75nm,18.7s
KSRS Korea Array 78.70 51 P **P 10 39 30.7 -1.0**
comp=Z,1.7nm,0.9s,baz=312,slow=4.4,SNR=4.0
KSRS LR LR 11 18 03.8
comp=Z,74nm,18.7s,baz=180,slow=39
HYT Haines Junctio 78.72 349 *e*P **P 10 39 34.5 +2.9**
C28A Hausauer Farms baz=78 78.77 324 ⇑P **P 10 39 34.0 +2.0**
A25A Svangstu Ranch baz=79 79.08 326 ⇑P **P 10 39 35.1 +1.4**
E29A Napoleon baz=79 79.26 323 ⇓P **P 10 39 36.7 +1.9**
A24A Westby baz=79 79.47 326 ⇑P **P 10 39 37.8 +2.0**
B25A Knox Farm, Ray baz=79 79.60 326 ⇓P **P 10 39 38.8 +2.3**
EDM Edmonton 79.68 334 *e*P **P 10 39 39.4 +2.5**
EDM Edmonton 79.68 334 *e*P **P 10 39 39.4 +2.5**
E28A Huff baz=79 79.75 323 ⇑P **P 10 39 39.3 +1.9**
YSS Yuzh-Sakhalins 79.96 36⇑ *e*P **P 10 39 39.0 +0.6**
YSS Yuzh-Sakhalins 79.96 36 *e*P **P 10 39 39.0 +0.6**
C25A Freed Ranch, W baz=80 80.06 325 ⇓P **P 10 39 41.5 +2.4**
G30A Faulkton baz=80 80.07 321 ⇓P **P 10 39 41.1 +1.9**
D26A Manning baz=80 80.21 324 ⇓P **P 10 39 42.2 +2.4**
A22A Carney Farms, baz=80 80.23 327 ⇑P **P 10 39 41.9 +1.9**
B23A Brockton baz=80 80.25 327 ⇓P **P 10 39 42.4 +2.4**
E27A Carson baz=80 80.26 324 ⇓P **P 10 39 42.8 +2.6**
BRSD Miller 80.48 321 *e*P P 10 39 37.8 -3.6
D25A Fairfield baz=80 80.52 325 ⇓P **P 10 39 43.2 +1.7**
A21A Bergtoll Ranch baz=80 80.65 328 ⇑P **P 10 39 44.5 +2.3**
C24A Savage baz=80 80.72 326 ⇓P **P 10 39 43.8 +1.2**
C23A Lambert baz=80 80.84 326 ⇓P **P 10 39 44.8 +1.5**
F27A Lemmon baz=81 80.89 323 ⇓P **P 10 39 45.6 +2.0**
PETK Petropavlovsk- 80.89 25 LR LR 11 19 08.6
comp=Z,99nm,18.2s,baz=164,slow=38
G28A Parade baz=81 80.96 322 ⇑P **P 10 39 46.0 +2.1**
D24A Glendive baz=81 80.99 325 ⇓P **P 10 39 46.3 +2.2**
E25A Miller Ranch, baz=81 81.05 325 ⇑P **P 10 39 46.7 +2.3**
A20A Cobblestone Ra baz=81 81.15 328 ⇑P **P 10 39 46.8 +1.9**
C22A Vida baz=81 81.18 327 ⇓P **P 10 39 47.0 +1.9**
F26A Lodgepole baz=81 81.20 324 ⇓P **P 10 39 47.5 +2.2**
G27A Dupree baz=81 81.22 323 ⇓P **P 10 39 47.5 +2.2**
H28A Mission Ridge baz=81 81.31 322 ⇑P **P 10 39 47.9 +2.1**
D23A Lindsay baz=81 81.33 326 ⇑P **P 10 39 47.8 +1.9**
A19A Klindworth Far baz=81 81.44 329 ⇑P **P 10 39 48.3 +1.8**
I29A Vivian Onida baz=81 81.45 321 ⇓P **P 10 39 48.7 +2.2**
B20A Solberg Farm, baz=81,SNR=5.9 81.53 328 ⇑P **P 10 39 48.0 +1.0**
J30A Dallas baz=81 81.56 320 ⇑P **P 10 39 49.2 +2.1**
D22A Cohagen baz=81 81.77 326 ⇑P **P 10 39 49.7 +1.5**
H27A Howes baz=82 81.84 323 ⇑P **P 10 39 50.0 +1.3**
I28A Midland baz=82 81.88 322 ⇓P **P 10 39 50.2 +1.4**
B19A Brinkman Farms baz=82 81.90 329 ⇓P **P 10 39 50.3 +1.4**
J29A Okreek baz=82 81.91 321 ⇓P **P 10 39 50.1 +1.1**
F24A Ekalaka baz=82 82.02 325 ⇑P **P 10 39 50.6 +1.0**
G25A Newell baz=82 82.05 324 ⇑P **P 10 39 50.6 +0.9**
K30A Basset baz=82 82.10 320 ⇓P **P 10 39 51.2 +1.2**
C20A Veseth Ranch, baz=82,SNR=9.1 82.10 328 ⇑P **P 10 39 50.5 +0.6**
D21A La Casta Ranch baz=82 82.19 327 ⇓P **P 10 39 51.8 +1.3**
I27A Quinn baz=82 82.25 322 ⇑P **P 10 39 52.4 +1.6**
BGNE Belgrade baz=82 82.28 318 ⇑P **P 10 39 52.7 +1.7**
J28A Allard Ranch, baz=82 82.34 321 ⇑P **P 10 39 52.9 +1.6**
K29A Lazy Trails An baz=82 82.38 320 ⇑P **P 10 39 53.2 +1.7**
C19A Slack Wire Ran baz=82 82.51 328 P **P 10 39 53.3 +1.1**
F23A Volborg baz=82 82.54 325 ⇓P **P 10 39 52.9 +0.5**
H25A Fruitdale baz=82 82.56 323 ⇑P **P 10 39 53.6 +1.1**
EGMT Eagleton comp=Z,23nm,1.0s 82.57 329 *e*P **P 10 39 53.8 +1.4**
EGMT Eagleton baz=82,SNR=9.1 82.57 329 ⇓P **P 10 39 52.7 +0.2**
EGMT Eagleton comp=Z,23nm,1.0s 82.57 329 *e*P **P 10 39 53.8 +1.4**
E21A Keefer Ranch, baz=82 82.63 327 ⇓P **P 10 39 54.0 +1.2**
D20A Manuel Ranch, baz=82 82.65 327 ⇑P **P 10 39 53.8 +0.9**
I26A New Underwood baz=82 82.67 323 ⇑P **P 10 39 54.2 +1.2**
M31A Lambtecht Ranc baz=82 82.75 319 ⇑P **P 10 39 55.0 +1.5**
F22A Rosebud baz=82 82.87 326 ⇑P **P 10 39 55.2 +1.2**
D19A Cripps Ranch, baz=83 82.90 328 ⇑P **P 10 39 55.4 +1.3**
H24A Dirks Ranch, A baz=83 82.91 324 ⇑P **P 10 39 55.3 +1.1**
G23A Biddle baz=83 82.94 325 ⇑P **P 10 39 55.2 +0.8**
K28A Ten Mile Ranch baz=83 82.94 321 ⇓P **P 10 39 56.1 +1.6**
I25A Rochford baz=83 83.08 323 ⇓P **P 10 39 56.7 +1.4**
E20A Meyer Farm, Mu baz=83 83.11 327 ⇓P **P 10 39 56.8 +1.6**
RSSD Black Hills 83.15 323 *e*P P 10 39 58.9 +3.2
RSSD pmax pmax
comp=Z,5.0nm,1.0s
RSSD Black Hills 83.15 323 *e*P P 10 39 58.9 +3.2
comp=Z,5.0nm,1.0s

F21A **Absaloka Mine,** 83.22 326 ⇓P P 10 39 56.9 +1.1
baz=83
J26A **Sides Ranch, S** 83.31 322 ⇓P P 10 39 58.3 +1.9
baz=83
G22A **Birney** 83.32 325 ⇓P P 10 39 57.7 +1.2
baz=83
K27A **Flueckinger Fa** 83.37 321 ⇑P P 10 39 58.5 +1.8
baz=83
JNU **Nakatsue** 83.39 52 P P 10 39 54.9 -2.0
JNU **Nakatsue** 83.39 52 P P 10 39 54.9 -2.0
JNU **Nakatsue** 83.39 52 P P 10 39 54.9 -2.0
comp=Z,4.3nm,0.7s,baz=218,slow=19,SNR=4.4
E19A **Rath Farm, Rou** 83.42 327 ⇑P P 10 39 57.9 +1.0
baz=83
J25A **Sunshine Ranch** 83.60 323 ⇓P P 10 39 59.7 +1.9
baz=83
F20A **Billings** 83.67 327 ⇑P P 10 39 59.8 +1.6
baz=83
G21A **Lodge Grass** 83.72 326 ⇓P P 10 39 59.6 +1.1
baz=83
O31A **Woolen Ranch,** 83.80 318 ⇓P P 10 40 00.5 +1.6
baz=84
P32A **Huiting Farm,** 83.81 317 ⇓P P 10 40 00.8 +1.9
baz=84
K26A **Motz Farm, Whi** 83.82 322 ⇓P P 10 40 00.5 +1.4
baz=84
H22A **Clearmont** 83.84 325 ⇑P P 10 40 00.5 +1.4
baz=84
Q33A **Connelly Farm,** 83.86 316 ⇑P P 10 40 01.1 +1.9
baz=84
M28A **Bar X Bar Ranc** 83.92 320 ⇓P P 10 40 01.3 +1.8
baz=84
BDFB **Brasilia** 83.94 244 LR LR 11 18 52.0
comp=Z,97nm,19.6s,baz=31,slow=37
F19A **Roth Farm, Mol** 83.97 327 ⇓P P 10 40 00.0 +0.3
baz=84,SNR=7.2
N29A **Votaw Ranch, W** 83.98 319 ⇓P P 10 40 01.4 +1.6
baz=84
O30A **MW Ranch, Wils** 84.16 318 ⇓P P 10 40 02.7 +1.9
baz=84
G20A **Bridger** 84.16 326 ⇑P P 10 40 02.4 +1.7
baz=84
P31A **Stockton** 84.29 318 ⇓P P 10 40 03.8 +2.3
baz=84
M27A **Reverse DX Ran** 84.33 321 ⇓P P 10 40 03.6 +2.0
baz=84
R33A **Olander Ranch,** 84.44 316 ⇓P P 10 40 04.6 +2.5
baz=84
I22A **9 Mile Ranch,** 84.44 325 ⇑P P 10 40 04.0 +1.7
baz=84
HRY **Holter Researc** 84.46 329 eP P 10 40 02.9 +0.7
HRY **Holter Researc** 84.46 329 eP P 10 40 02.9 +0.7
N28A **Pribbeno Ranch** 84.54 320 ⇑P P 10 40 04.4 +1.7
baz=84
JTMT **Jette** 84.55 331 eP P 10 40 04.3 +1.6
JTMT **Jette** 84.55 331 eP P 10 40 04.3 +1.6
K24A **Anderson Ranch** 84.58 323 ⇓P P 10 40 04.3 +1.3
baz=84
SWMT **Swartz Lake** 84.64 331 eP P 10 40 03.8 +0.7
SWMT **Swartz Lake** 84.64 331 eP P 10 40 03.8 +0.7
H20A **Greybull** 84.65 326 ⇓P P 10 40 04.8 +1.6
baz=84
Q31A **Ellis** 84.68 317 ⇓P P 10 40 05.1 +1.7
baz=84
P30A **Selden** 84.73 318 ⇑P P 10 40 05.1 +1.4
baz=84
R32A **Long Quarter,** 84.75 316 ⇑P P 10 40 04.9 +1.2
baz=84
J22A **Midwest** 84.82 324 ⇓P P 10 40 04.8 +0.6
baz=84
I21A **Big Trails, Te** 84.87 325 ⇓P P 10 40 04.7 +0.3
baz=84
H19A **Powell** 84.93 326 ⇓P P 10 40 04.7 0.0
baz=85,SNR=9.2
K23A **Bowen Ranch, D** 84.94 323 ⇓P P 10 40 05.2 +0.4
baz=85
N27A **Anderson Farm,** 84.95 320 ⇓P P 10 40 05.2 +0.4
baz=85
TUL1 **Tulsa** 84.95 313 eP P 10 40 08.2 +3.5
TUL1 **Tulsa** 84.95 313 ⇑P P 10 40 06.4 +1.7
baz=85
P29A **Atwood** 85.04 319 ⇓P P 10 40 06.4 +1.1
baz=85
O28A **Krutsinger Ran** 85.08 319 ⇓P P 10 40 06.6 +1.2
baz=85
I20A **Worland** 85.13 326 ⇓P P 10 40 06.0 +0.4
baz=85,SNR=6.6
Q30A **Quinter** 85.14 318 ⇓P P 10 40 06.8 +1.1
baz=85
NEW **Newport** 85.15 333 ⇓P P 10 40 05.9 +0.4
baz=85
MSO **Missoula** 85.19 331 eP P 10 40 08.6 +2.7
comp=Z,68nm,2.8s
MSO **Missoula** 85.19 331 ⇓P P 10 40 06.6 +0.8
baz=85
H18A **Shoshone NF, C** 85.22 327 ⇓P P 10 40 06.7 +0.5
baz=85,SNR=8.8
BOZ **Bozeman (W)** 85.25 329 eP P 10 40 07.0 +0.7
BOZ pmax pmax
comp=Z,13nm,1.4s
BOZ **Bozeman (W)** 85.25 329 eP P 10 40 07.0 +0.7
comp=Z,13nm,1.4s
BOZ **Bozeman (W)** 85.25 329 eP P 10 40 07.0 +0.7
comp=Z,13nm,1.4s
R31A **Burdett** 85.28 317 ⇑P P 10 40 07.8 +1.4
baz=85
MJAR **Matsushiro Arr** 85.30 46 P P 10 40 05.5 -1.0
MJAR **Matsushiro Arr** 85.30 46 P P 10 40 05.5 -1.0
comp=Z,46nm,18.7s
MJAR **Matsushiro Arr** 85.30 46 P P 10 40 05.5 -1.0
comp=Z,4.1nm,0.9s,baz=298,slow=5.6,SNR=6.2
MJAR LR LR 11 19 23.5
comp=Z,46nm,18.7s,baz=40,slow=37
J21A **Lysite** 85.31 325 ⇑P P 10 40 07.4 +0.8
baz=85
O27A **Beecher Island** 85.38 320 ⇑P P 10 40 08.1 +1.1
baz=85
S32A **Newby Ranch, P** 85.39 316 ⇓P P 10 40 08.4 +1.4
baz=85
K22A **Casper** 85.43 324 eP P 10 40 07.6 +0.3
K22A **Casper** 85.43 324 ⇑P P 10 40 08.4 +1.1
baz=85
K22A **Casper** 85.43 324 eP P 10 40 07.6 +0.3
I19A **Meeteetse** 85.44 326 ⇑P P 10 40 07.6 +0.2
baz=85,SNR=5.7
L23A **Garrett** 85.47 323 ⇓P P 10 40 08.5 +1.0
baz=85
P28A **Saint Francis** 85.48 319 ⇓P P 10 40 08.7 +1.2
baz=85
J20A **Shoshoni** 85.59 325 ⇑P P 10 40 09.1 +1.1
baz=85
Q29A **Oakley** 85.59 318 ⇑P P 10 40 09.0 +1.0
baz=85
R30A **Dighton** 85.68 317 ⇓P P 10 40 09.0 +0.6
baz=85
T32A **Huddler Ranch,** 85.77 316 ⇑P P 10 40 11.1 +2.2
baz=86
YMR **Madison River** 85.77 328 eP P 10 40 13.3 +4.3
comp=Z,22nm,1.7s
K21A **Alcova** 85.78 324 ⇑P P 10 40 09.2 +0.2
baz=85
H17A **Grant Village** 85.83 327 eP P 10 40 13.5 +4.2
comp=Z,10nm,1.2s
DLMT **Dillon** 85.87 329 eP P 10 40 12.4 +3.0
comp=Z,23nm,1.7s
P27A **Ficken Ranch,** 85.91 319 ⇑P P 10 40 11.3 +1.7
baz=86
C09A **Chrisman Ranch** 85.94 334 eP P 10 40 12.9 +3.4
comp=Z,7.2nm,0.8s
V34A **Guthrie** 85.97 314 ⇓P P 10 40 12.1 +2.2
baz=86
M23A **Laramie** 85.98 323 ⇓P P 10 40 11.3 +1.2
baz=86
J19A **Crowheart** 86.08 326 ⇑P P 10 40 12.1 +1.6
baz=86
I17A **Pilgrim Ck.** 86.21 327 ⇓P P 10 40 12.2 +1.0
baz=86
MOOW **Moose Ponds** 86.42 327 eP P 10 40 15.2 +2.9
N23A **Red Feather La** 86.53 322 ⇑P P 10 40 14.4 +1.6
baz=86
BW06 **Boulder Array** 86.70 326 eP P 10 40 12.8 -0.8
comp=Z,0.8nm,0.6s
PDAR **Pinedale Array** 86.70 326 P P 10 40 12.6 -1.0
PDAR **Pinedale Array** 86.70 326 P P 10 40 12.6 -1.0
comp=Z,0.8nm,0.7s,baz=74,slow=4.3,SNR=7.4
PDAR LR LR 11 19 22.4
comp=Z,113nm,18.1s,baz=168,slow=36
N22A **Wattenberg Ran** 86.85 323 ⇑P P 10 40 15.1 +0.7
baz=86
S28A **Manter** 87.05 318 ⇓P P 10 40 16.9 +1.7
baz=87
ISCO **Idaho Springs** 87.23 321 ⇓P P 10 40 17.7 +1.3
baz=87
R26A **Arlington** 87.31 319 ⇓P P 10 40 18.1 +1.6
baz=87
O22A **Kremmling** 87.39 322 ⇓P P 10 40 19.0 +1.9
baz=87
T28A **Walsh** 87.51 318 ⇓P P 10 40 19.5 +2.0
baz=87
N20A **Spence Gulch,** 87.67 324 ⇓P P 10 40 20.3 +1.9
baz=87
P23A **Jefferson** 87.67 321 ⇓P P 10 40 20.3 +1.8
baz=87
R25A **Fountain Ranch** 87.85 320 ⇑P P 10 40 21.1 +2.0
baz=88
T27A **Campo** 87.88 318 ⇑P P 10 40 21.3 +2.0
baz=88
Y33A **Hilltop Ranch,** 87.93 313 ⇓P P 10 40 21.9 +2.5
baz=88
P22A **Eagle** 87.94 322 ⇑P P 10 40 21.1 +1.4
baz=88
X32A **Elmer** 87.99 314 ⇓P P 10 40 21.8 +2.1
baz=88
O20A **White River Ci** 88.21 323 ⇑P P 10 40 22.0 +1.1
baz=88
X31A **McDonald Ranch** 88.22 315 ⇑P P 10 40 22.6 +1.8
baz=88
S25A **Robets Cordova** 88.30 319 ⇑P P 10 40 22.1 +0.7
baz=88
U27A **Thompson Grove** 88.41 318 ⇑P P 10 40 23.8 +2.0
baz=88
R23A **Moffat** 88.58 321 ⇑P P 10 40 24.1 +1.3
baz=88
T25A **Trinidad** 88.69 319 ⇓P P 10 40 24.4 +1.2
baz=88
SDCO **Great Sand Dun** 88.77 320 eP P 10 40 27.2 +3.5
comp=Z,10nm,2.0s
X30A **Coker Ranch, T** 88.86 315 ⇑P P 10 40 24.1 +0.2
baz=89,SNR=5.3
Y31A **Rekieta Farm,** 88.88 314 ⇑P P 10 40 24.6 +0.7
baz=89
HVU **Hansel Valley** 88.89 327 eP P 10 40 27.0 +2.9
HVU pmax pmax
comp=Z,12nm,1.6s
HVU **Hansel Valley** 88.89 327 eP P 10 40 27.0 +2.9
comp=Z,12nm,1.6s
U26A **Atchley Ranch,** 88.91 318 ⇑P P 10 40 25.6 +1.3
baz=89
Z32A **Haskell** 88.92 313 ⇑P P 10 40 25.9 +1.7
baz=89
133A **Hamilton Ranch** 89.12 313 ⇑P P 10 40 26.7 +1.7
baz=89
T24B **San Luis** 89.24 320 ⇓P P 10 40 27.4 +1.4
baz=89
U25A **Circle Dot Ran** 89.25 319 ⇓P P 10 40 27.4 +1.5
baz=89
JLU **Jordanelle** 89.29 326 eP P 10 40 28.8 +2.7
comp=Z,6.0nm,1.1s
Z31A **Sharp Cattle R** 89.29 314 ⇓P P 10 40 27.5 +1.6
baz=89
V26A **Tequesquite Ra** 89.39 318 ⇑P P 10 40 27.8 +1.4
baz=89
S22A **4UR Ranch, Cre** 89.42 321 ⇓P P 10 40 27.7 +0.9
baz=89
ABTX **Abilene, Hawle** 89.52 313 ⇑P P 10 40 29.7 +2.7
baz=89
X28A **Dimmitt** 89.52 316 ⇓P P 10 40 28.3 +1.2
baz=89
W27A **Bowe Ranch, En** 89.57 317 ⇑P P 10 40 29.3 +2.1
baz=89
T23A **Casias Ranch,** 89.59 320 ⇓P P 10 40 29.0 +1.5
baz=89
334A **Lometa** 89.66 311 ⇑P P 10 40 29.7 +2.1
baz=89
BGU **Big Grassy Mou** 89.71 327 eP P 10 40 28.6 +0.8
comp=Z,2.1nm,1.2s
Y29A **Porterfield Fa** 89.73 315 ⇑P P 10 40 30.1 +2.1
baz=89
V25A **Rancho No Teng** 89.79 318 ⇓P P 10 40 30.2 +1.8
baz=90
Z30A **Sanderson Ranc** 89.86 315 ⇓P P 10 40 30.5 +1.9
baz=90
W26A **Owens Ranch, T** 89.92 317 ⇑P P 10 40 31.3 +2.4
baz=90
PV01 **Paradox Valley** 89.96 322 eP P 10 40 29.1 -0.1
Y28A **McKinney Farm,** 90.01 316 ⇓P P 10 40 30.8 +1.5
baz=90
434A **Burnet** 90.06 311 ⇓P P 10 40 31.2 +1.7
baz=90
232A **Coleman** 90.07 313 ⇓P P 10 40 31.2 +1.6
baz=90
SRU **San Rafael** 90.08 324 eP P 10 40 32.0 +2.3
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU **San Rafael** 90.08 324 eP P 10 40 32.0 +2.3
comp=Z,4.2nm,0.8s
333A **Richland Sprin** 90.10 312 ⇑P P 10 40 31.5 +1.8
baz=90
Z29A **Hungry Hill Ra** 90.20 315 ⇑P P 10 40 32.5 +2.3
baz=90
DUG **Dugway** 90.22 326 eP P 10 40 31.4 +1.2
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG **Dugway** 90.22 326 eP P 10 40 31.4 +1.2
comp=Z,4.4nm,0.9s
DUG **Dugway** 90.22 326 ⇓P P 10 40 30.9 +0.7
baz=90
V24A **Rampart Ranch,** 90.22 319 ⇓P P 10 40 31.8 +1.3
baz=90
X26A **CR and CF Fran** 90.36 317 ⇓P P 10 40 32.5 +1.5
baz=90
332A **Millersview** 90.49 312 ⇓P P 10 40 33.8 +2.3
baz=90
U22A **Llaves** 90.51 320 ⇓P P 10 40 33.7 +1.9
baz=90
Y27A **Causey** 90.52 316 ⇑P P 10 40 33.1 +1.3
baz=90
433A **Art** 90.58 312 ⇑P P 10 40 34.0 +2.1
baz=90
MVCO **Mesa Verde** 90.66 322 eP P 10 40 31.5 -0.9
comp=Z,0.6nm,0.3s
MVCO **Mesa Verde** 90.66 322 ⇑P P 10 40 33.5 +1.0
baz=90
331A **San Angelo** 90.94 313 ⇓P P 10 40 35.6 +2.0
baz=91
128A **Castleberry Fa** 91.11 315 ⇑P P 10 40 36.4 +1.9
baz=91
330A **Mertzon** 91.29 313 ⇑P P 10 40 38.0 +2.7
baz=91
Z26A **Caprock** 91.43 316 ⇓P P 10 40 36.7 +0.7
baz=91,SNR=5.2
431A **Sonora** 91.51 312 ⇓P P 10 40 38.7 +2.4
baz=91
228A **UT Block 9, Go** 91.55 315 ⇑P P 10 40 38.6 +2.1
baz=91
329A **Wagon Wheel Ra** 91.69 314 ⇓P P 10 40 40.0 +2.9
baz=91
Y24A **Capitan** 91.70 318 ⇑P P 10 40 39.6 +2.3
baz=91
430A **Baggett Ranch,** 91.79 313 ⇓P P 10 40 40.1 +2.4
baz=92
Z25A **Roswell** 91.82 317 ⇓P P 10 40 40.0 +2.3
baz=92
531A **Rocksprings** 91.86 312 ⇓P P 10 40 39.3 +1.4
baz=92
632A **Uvalde** 91.91 311 ⇓P P 10 40 40.3 +2.2
baz=92
Z24A **Sheeppen Canyo** 92.12 317 ⇑P P 10 40 41.2 +1.9
baz=92
328A **Wristen Ranch,** 92.23 314 ⇓P P 10 40 41.5 +1.9
baz=92
125A **Gardner Draw,** 92.26 316 ⇑P P 10 40 41.8 +1.9
baz=92
530A **J-C Ranch, Com** 92.33 313 ⇓P P 10 40 42.9 +2.8
baz=92
631A **Perdido Creek** 92.44 312 ⇑P P 10 40 42.5 +2.0
baz=92
226B **Tecolote Peak,** 92.44 316 ⇓P P 10 40 43.0 +2.4
baz=92
Z23A **Rita Site, Whi** 92.63 318 ⇑P P 10 40 43.2 +1.7
baz=92
428A **Kincaid Ranch,** 92.66 314 ⇑P P 10 40 44.1 +2.5
baz=92
529A **Stev Forest Ra** 92.85 313 ⇓P P 10 40 44.4 +1.9
baz=93
326A **Caldwell Ranch** 92.92 315 ⇑P P 10 40 44.2 +1.3
baz=93
427A **Hayter Ranch,** 92.96 314 ⇓P P 10 40 45.1 +2.1
baz=93
U15A **North Rim** 93.08 324 ⇓P P 10 40 45.1 +1.4
baz=93
528A **Cox Ranch, San** 93.14 314 ⇓P P 10 40 46.2 +2.3
baz=93
WUAZ **Wupatki** 93.39 323 ⇑P P 10 40 46.6 +1.5
baz=93
426A **McDonald Obser** 93.45 315 ⇓P P 10 40 46.8 +1.4
baz=93
527A **Woodward Ranch** 93.61 314 ⇓P P 10 40 48.0 +1.9
baz=93
324A **Moseley Ranch,** 93.64 316 ⇓P P 10 40 47.8 +1.5
baz=93
627A **Terlingua Ranc** 94.02 313 ⇑P P 10 40 49.9 +1.9
baz=94
TXAR **Lajitas Array** 94.26 314 P P 10 40 49.0 0.0
TXAR **Lajitas Array** 94.26 314 P P 10 40 49.0 0.0
comp=Z,1.6nm,0.9s,baz=72,slow=4,1,SNR=15
626A **Big Bend Ranch** 94.36 314 ⇑P P 10 40 51.1 +1.6
baz=94
320A **Kipp Ranch, An** 95.34 318 ⇑P P 10 40 55.9 +1.9
baz=95
ISA **Isabella** 96.44 327 ⇓P P 10 41 00.6 +1.7
baz=96
BLG **Laguna Peak** 98.02 327 ⇑P Pdif 10 41 07.4 +1.4
baz=98
LPAZ **La Paz** 99.06 256 LR LR 11 27 18.6
comp=Z,62nm,19.5s,baz=225,slow=36
WRA **Warramunga Arr** 120.59 92 PKP PKPdf 10 46 20.2 -1.4
WRA **Warramunga Arr** 120.59 92 PKP PKPdf 10 46 20.2 -1.4
comp=Z,0.5nm,0.7s,baz=325,slow=1.8,SNR=7.1
ASAR **Alice Springs** 122.29 95 PKP PKPdf 10 46 23.9 -1.0
ASAR **Alice Springs** 122.29 95 PKP PKPdf 10 46 23.9 -1.0
comp=Z,0.7nm,0.7s,baz=307,slow=1.0,SNR=15

IDC ***22*** *10:27:52.5±36.0, 20.49S×177.18W, h376km±323km, mb3.6/5, mb1 3.7/5, mb1mx3.3/19, mbtmp3.6/5, Error ellipse: s-maj=180.0km s-min=100.8km az=75.0*

ISC 22 10:27:46.1±3.5, 20.5S±0.9×177.2W±0.5, h297km, n7, σ0.63/6, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.20**	**264**	P	**P**	**P**	**10 34 05.2**	**+0.7**
	2.8nm,0.4s,baz=94,slow=11,SNR=7.0							
STKA	**Stephens Creek**	**38.42**	**244**	P	**P**		**10 34 40.0**	**+0.1**
	1.2nm,0.5s,baz=89,slow=11,SNR=6.8							
ASAR	**Alice Springs**	**45.21**	**257**	P	**P**	**P**	**10 35 34.4**	**-0.3**
	5.4nm,0.5s,baz=94,slow=8.0,SNR=150							
WRA	**Warramunga Arr**	**45.30**	**262**	P	**P**	**P**	**10 35 34.8**	**-0.6**
	4.5nm,0.7s,baz=97,slow=7.1,SNR=96							
FITZ	**Fitzroy Crossi**	**53.73**	**262**	P	**P**	**P**	**10 36 38.2**	**-0.4**
	2.6nm,0.6s,baz=83,slow=7.3,SNR=4.9							
AKASG	**Malin Array Be**	**143.36**	**332**	PKP		PKPab	10 46 41.3	-0.6
	0.9nm,0.5s,baz=42,slow=4.7,SNR=9.7							
BRTR	**Keskin Array B**	**147.37**	**313**	PKPbc		**PKPdf**	**10 46 52.7**	**+0.2**
	0.4nm,0.6s,baz=73,slow=4.8,SNR=2.7							

WEL 22 10:30:20.3±0.7, 46.00S×166.23E, h12km, ML3.5/9, 2C-2D, Error ellipse: s-maj=6.8km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.35**	**118**	⇑P*		Pg	10 30 27.7	+0.3
PYZ				eS*		Sg	10 30 33.0	+0.8
DCZ	**Deep Cove**	**0.83**	**51**	⇓P*		Pg	10 30 35.7	-0.6
DCZ				eS*		Sb	10 30 47.5	-0.3
DCZ					AML	AML	10 30 52.3	
WHZ	**Wether Hill Ro**	**1.20**	**85**	⇓P*		Pn	10 30 41.6	-1.3
WHZ				S*		Sb	10 30 58.0	-0.4
WHZ					AML	AML	10 31 02.4	
APZ	**The Paps**	**1.47**	**125**	⇑PN		Pn	10 30 44.2	-2.5
APZ					AML	AML	10 31 04.1	
APZ					AML	AML	10 31 06.3	
MLZ	**Mavora Lakes**	**1.51**	**65**	PN		Pn	10 30 46.7	-0.5
MLZ					AML	AML	10 31 12.6	
MLZ					AML	AML	10 31 17.2	
MSZ	**Milford Sound**	**1.79**	**43**	ePN		Pn	10 30 50.5	-0.4
MSZ					AML	AML	10 31 36.4	
MSZ					AML	AML	10 31 39.4	
SYZ	**Scrubby Hill**	**2.09**	**106**	PN		Pn	10 30 54.0	-1.0
SYZ					AML	AML	10 31 25.8	
WKZ	**Wanaka**	**2.29**	**60**	PN		Pb	10 31 00.0	-1.5
WKZ					AML	AML	10 31 38.3	
EAZ	**Earnscleugh**	**2.29**	**71**	PN		Pn	10 30 59.1	+1.2
EAZ					AML	AML	10 31 37.5	
EAZ					AML	AML	10 31 39.0	
JCZ	**Jackson Bay**	**2.63**	**44**	PN		Pn	10 31 04.9	+2.3
JCZ					AML	AML	10 31 53.3	
JCZ					AML	AML	10 31 53.6	
LBZ	**Lake Benmore**	**3.23**	**61**	PN		Pn	10 31 11.1	+0.4
ODZ	**Otahua Downs**	**3.25**	**74**	PN		Pn	10 31 10.2	-0.8
FOZ	**Fox Glacier**	**3.46**	**47**	PN		Pn	10 31 16.9	+3.0
RPZ	**Rata Peaks**	**4.12**	**58**	PN		Pn	10 31 23.1	0.0

FUNV 22 11:08:13.1, 6.36N×73.45W, h128km, MW3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.87**	**37**	eP		Pn	11 08 45.0	-0.7
CAPV				eS		Sn	11 09 08.7	-2.0
SOCV	**Socops**	**3.21**	**53**	eP		Pn	11 09 01.1	-1.2
SOCV				eS		Sn	11 09 36.6	-3.8
QARV	**Quebrada Arrib**	**4.80**	**37**	eP		Pn	11 09 20.9	-2.7
CURV	**Curarigua**	**5.01**	**43**	eP		Pn	11 09 24.5	-2.0
CURV				eS		Sn	11 10 18.6	-4.9
DABV	**Dabajuro**	**5.32**	**31**	eP		Pn	11 09 29.0	-1.5
DABV				eS		Sn	11 10 24.0	-6.8
BAUV	**El Baul**	**5.94**	**64**	eP		Pn	11 09 36.4	-2.5
BAUV				eS		Sn	11 10 38.2	-7.6
MAPV	**Macapo**	**6.03**	**55**	eP		Pn	11 09 38.6	-1.5
TURV	**Turiamo**	**6.88**	**53**	eP		Pn	11 09 49.2	-2.3
CUPV	**Cœpira**	**8.43**	**64**	eP		Pn	11 10 09.8	-2.7

ISCJB ***22*** *11:58:48.0±0.7, 45.33N±0.05×124.92E±0.07, h10km, mb3.8/3, MS3.9/1, Error ellipse: s-maj=7.8km s-min=6.8km az=34.4*

BJI ***22*** *11:58:49.8, 45.21N×124.91E, h7km, mB4.3/2, mb4.1/2, ML4.1/14*

IDC ***22*** *11:58:49.1±1.3, 45.38N×124.82E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/26, mbtmp3.6/5, ML2.5/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/47, Error ellipse: s-maj=27.8km s-min=17.2km az=41.0*

ISC 22 11:58:49.6±0.8, 45.22N±0.06×124.87E±0.06, h10km, n11, σ2.802/15, mb3.6/3, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.47**	**163**	ePn		**Pg**	**11 59 17.9**	**+0.1**
CN2					Pg	Pb	11 59 19.6	+2.6
CN2					Sg	**Sg**	**11 59 40.3**	**+3.4**
CN2					smax	smax		
	comp=N,1μm,0.7s							
CN2					smax	smax		
	comp=E,2μm,0.7s							
MDJ	**Mudanjiang**	**3.41**	**98**		Pg	**Pg**	**11 59 54.3**	**-0.6**
MDJ					Sg	**Sg**	**12 00 40.3**	**+1.2**
MDJ					smax	smax		
	comp=N,350nm,0.8s							
MDJ					smax	smax		
	comp=E,240nm,0.6s							
SNY	**Shenyang**	**3.51**	**196**	⇑Pn		**Pn**	**11 59 45.1**	**+0.9**
SNY					Pg	**Pb**	**11 59 51.1**	**-0.7**
SNY					Sg	**Sg**	**12 00 40.8**	**-1.5**
SNY					smax	smax		
	comp=N,78nm,0.4s							
SNY					smax	smax		
	comp=E,83nm,0.4s							
USRK	**Ussuriysk Arra**	**5.18**	**99**	Pn		Pn	12 00 09.3	+2.3
	0.6nm,0.3s,baz=281,slow=13,SNR=10							
USRK					Pg	**Pg**	**12 00 26.4**	**-2.3**
	4.5nm,0.3s,baz=289,slow=18,SNR=21							
USRK					Lg	Lg	12 01 33.4	
	11nm,0.3s,baz=285,slow=28,SNR=7.3							
KSRS	**Korea Array**	**8.09**	**162**	Pn		Pn	12 00 50.2	+3.2
	0.1nm,0.3s,baz=348,slow=13,SNR=2.9							

KSRS Pg **Pg** **12 01 21.2 -3.1**
1.7nm,0.3s,baz=345,slow=18,SNR=16
KSRS Lg Lg 12 03 09.4
3.5nm,0.3s,baz=342,slow=29,SNR=9.5
SONM Songino Array 12.99 288 LR LR 12 07 28.0
comp=Z,26nm,20.3s,baz=217,slow=40
LZH Lanzhou 18.33 248 *e*P **Pn** **12 03 03.8 -0.2**
LZH pP **pP** **12 03 06.3 -0.6**
LZH PP **PnPn** **12 03 19.3 +4.0**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,65nm,4.1s
ILAR Eielson Array 49.58 34 P **P** **12 07 40.4 0.0**
0.5nm,1.1s,baz=286,slow=6.5,SNR=3.6
FINES FINESS Array B 55.35 325 P **P** **12 08 22.9 -0.2**
5.1nm,1.1s,baz=40,slow=9.1,SNR=3.6
AKASG Malin Array Be 59.88 313 P **P** **12 08 55.5 +0.3**
0.2nm,0.4s,baz=46,slow=7.7,SNR=4.8
STKA Stephens Creek 78.22 166 LR LR 12 45 42.7
comp=Z,54nm,18.5s,baz=205,slow=36

IDC 22 12:03:52.7±1.2, 55°50S×26°14W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/16, mbtmp4.0/4, Error ellipse: s-maj=97.3km s-min=27.5km az=97.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.76**	**180**	P	P	12 10 43.5	-1.0
	1.6nm,0.6s,baz=170,slow=2.0,SNR=4.9						
VNDA	**Vanda**	**47.16**	**182**	P	P	12 12 26.1	0.0
	2.0nm,0.8s,baz=195,slow=6.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**72.28**	**29**	P	P	12 15 19.5	-0.3
	0.6nm,0.6s,baz=199,slow=6.5,SNR=6.7						
ASAR	**Alice Springs**	**99.34**	**162**	P	Pdif	12 17 38.1	+1.3
	0.2nm,0.7s,baz=180,slow=3.2,SNR=4.4						
ILAR	**Eielson Array**	**150.8**	**312**	PKPbc	PKPbc	12 23 43.7	-0.3
	0.8nm,0.8s,baz=127,slow=0.8,SNR=8.3						

*IDC **22** 12:05:10.4±0.8, 10°.55N×69°.63W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/23, mbtmp3.9/8, ML2.8/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/33, Error ellipse: s-maj=29.7km s-min=21.8km az=66.0*
*ISCJB **22** 12:05:12.0±0.6, 10°.51N±0°.02×69°.78W±0°.03, h11km±3km, mb3.9/8, MS3.4/3, Error ellipse: s-maj=4.3km s-min=3.6km az=16.2*
*FUNV **22** 12:05:12.9, 10°.48N×69°.78W, h5km, MW4.0*
*NEIC **22** 12:05:12.5, 10°.46N×69°.78W, h5km, mb4.2/2, MW4.0(CAR), After CAR.*
ISC 22 12:05:12.1±0.9, 10°.47N±0°.02×69°.75W±0°.02, h9km±6km, n53, σ1s06/72, mb4.1/8, MS3.4/3, 6C-5D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIQV	**Siquisique**	**0.18**	**342**	⇓*e*P	**Pg**	**12 05 15.8**	**-0.2**
SIQV				*e*S	**Sg**	**12 05 18.4**	**-0.1**
SIQV	**Siquisique**	**0.18**	**342**	*e*P	**Pg**	**12 05 15.8**	**-0.2**
SIQV				*e*S	**Sg**	**12 05 18.5**	**-0.1**
CURV	**Curarigua**	**0.50**	**204**	⇑*e*P	**Pg**	**12 05 21.1**	**-0.8**
CURV				*e*S	**Sg**	**12 05 29.1**	**+0.6**
CURV	**Curarigua**	**0.50**	**204**	⇑*i*P	**Pg**	**12 05 21.2**	**-0.7**
CURV				*e*S	**Sg**	**12 05 28.6**	**+0.1**
TEPV	**Terepaima**	**0.75**	**133**	⇓*e*P	**Pg**	**12 05 26.6**	**0.0**
TEPV	**Terepaima**	**0.75**	**133**	*e*P	**Pg**	**12 05 26.6**	**0.0**
QARV	**Quebrada Arrib**	**0.81**	**251**	⇑*e*P	**Pg**	**12 05 27.6**	**-0.1**
QARV				*e*S	**Sg**	**12 05 38.6**	**+0.4**
QARV	**Quebrada Arrib**	**0.81**	**251**	*e*P	**Pg**	**12 05 27.6**	**-0.1**
QARV				*e*S	**Sg**	**12 05 38.6**	**+0.4**
DABV	**Dabajuro**	**0.98**	**297**	⇓*e*P	**Pn**	**12 05 31.8**	**-0.3**
DABV				*e*S	**Sb**	**12 05 44.1**	**-0.2**
SANV	**Sanarito**	**0.99**	**168**	⇓*e*P	**Pg**	**12 05 30.7**	**-0.4**
SANV				*e*S	**Sb**	**12 05 45.6**	**+0.8**
SANV	**Sanarito**	**0.99**	**168**	*e*P	**Pg**	**12 05 30.8**	**-0.4**
SANV				*e*S	**Sb**	**12 05 45.0**	**+0.3**
JACV	**Jacura**	**1.09**	**56**	⇑*e*P	**Pg**	**12 05 33.5**	**+0.4**
JACV				*e*S	**Sn**	**12 05 49.3**	**+0.3**
JACV	**Jacura**	**1.09**	**56**	*e*P	**Pg**	**12 05 33.5**	**+0.4**
JACV				*e*S	**Sn**	**12 05 49.3**	**+0.3**
MAPV	**Macapo**	**1.43**	**117**	⇓*e*P	**Pn**	**12 05 38.9**	**+0.6**
MAPV				*e*S	**Sg**	**12 05 58.9**	**+0.9**
SDV	**Santo Domingo**	**1.80**	**209**	*e*Pn	**Pb**	**12 05 44.9**	**-0.6**
SDV				*e*Sn	**Sb**	**12 06 08.8**	**+0.5**
TURV	**Turiamo**	**1.88**	**91**	⇑*e*P	**Pn**	**12 05 44.0**	**-0.5**
TURV				*e*S	**Sn**	**12 06 09.8**	**+1.4**
TURV	**Turiamo**	**1.88**	**91**	*e*P	**Pn**	**12 05 44.4**	**-0.1**
TURV				*e*S	**Sn**	**12 06 09.8**	**+1.4**
BAUV	**El Baul**	**2.27**	**132**	*e*P	**Pn**	**12 05 51.0**	**+1.2**
BAUV				*e*S	**Sb**	**12 06 20.3**	**-1.3**
SOCV	**Socops**	**2.43**	**207**	*e*P	**Pn**	**12 05 53.3**	**+1.1**
SOCV				*e*S	**Sn**	**12 06 22.9**	**+0.8**
ELOV	**Elorza**	**3.46**	**176**	⇑*e*P	**Pn**	**12 06 07.3**	**+1.1**
CAPV	**Capacho**	**3.62**	**225**	*e*P	**Pn**	**12 06 10.0**	**+1.3**
CUPV	**Cœpira**	**3.92**	**96**	*e*P	**Pn**	**12 06 13.6**	**+0.9**
ROSC	**El Rosal**	**7.19**	**219**	*e*Pn	**Pn**	**12 07 00.9**	**+3.0**
ROSC				*e*Sn	**Sn**	**12 08 20.8**	**+0.7**
ROSC	**El Rosal**	**7.19**	**219**	Pn	**Pn**	**12 07 01.1**	**+3.1**
	3.4nm,0.3s,baz=89,slow=17,SNR=4.2						
CELP	**Cerrillos**	**8.16**	**22**	*e*Pn	**Pn**	**12 07 13.5**	**+2.6**
CELP				*e*Sn	**Sn**	**12 08 46.8**	**+3.5**
SDDR	**Presa de Saban**	**8.59**	**350**	Pn	**Pn**	**12 07 16.7**	**-0.1**
SDDR				*e*Sn	**Sn**	**12 08 54.5**	**+0.6**
MTP	**Monte Pirata**	**8.60**	**28**	*e*Pn	**Pn**	**12 07 16.8**	**-0.2**
MTP				*e*Sn	Sn	12 08 48.3	-5.9
SAML	**Samuel**	**20.37**	**161**	*e*P	**P**	**12 09 49.5**	**+0.2**
	2.4nm,0.7s						
SAML				*e*S	S	12 13 28.3	-9.5
LPAZ	**La Paz**	**26.64**	**177**	LR	LR	12 22 08.2	
	comp=Z,107nm,19.0s,baz=245,slow=38						
SIV	**San Ignacio**	**27.66**	**162**	LR	LR	12 22 50.1	
	comp=Z,81nm,19.3s,slow=38						
BDFB	**Brasilia**	**33.71**	**140**	LR	LR	12 24 37.0	
	comp=Z,62nm,18.1s,baz=32,slow=35						
TXAR	**Lajitas Array**	**36.80**	**306**	P	**P**	**12 12 21.4**	**+0.6**
TXAR	**Lajitas Array**	**36.80**	**306**	P	**P**	**12 12 21.4**	**+0.6**
	0.4nm,0.7s,baz=116,slow=11,SNR=5.4						
ULM	**Lac du Bonnet**	**45.14**	**336**	P	**P**	**12 13 28.4**	**-0.6**
ULM	**Lac du Bonnet**	**45.14**	**336**	P	**P**	**12 13 28.4**	**-0.6**
	1.6nm,0.6s,baz=136,slow=4.2,SNR=3.8						
PDAR	**Pinedale Array**	**47.27**	**320**	P	**P**	**12 13 46.1**	**-0.1**
PDAR	**Pinedale Array**	**47.27**	**320**	P	**P**	**12 13 46.1**	**-0.1**
	0.5nm,0.5s,baz=123,slow=9.6,SNR=5.2						
MCMT	**McKenzie Canyo**	**50.36**	**321**	*e*P	**P**	**12 14 11.6**	**+1.6**
	4.6nm,1.5s						
PLCA	**Paso Flores**	**50.95**	**181**	*e*P	**P**	**12 14 15.7**	**+1.6**
PLCA	**Paso Flores**	**50.95**	**181**	P	**P**	**12 14 14.3**	**+0.1**
	1.2nm,0.6s,baz=349,slow=10,SNR=5.3						
YKA	**Yellowknife Ar**	**61.07**	**338**	P	**P**	**12 15 25.8**	**-0.5**
YKA	**Yellowknife Ar**	**61.07**	**338**	P	**P**	**12 15 25.7**	**-0.5**
	1.6nm,0.8s,baz=121,slow=6.9,SNR=17						
TORD	**Torodi Ar. Bea**	**69.78**	**80**	P	**P**	**12 16 23.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**69.78**	**80**	P	**P**	**12 16 23.1**	**-0.5**
	0.7nm,0.5s,baz=280,slow=6.2,SNR=11						
ILAR	**Eielson Array**	**75.11**	**334**	P	**P**	**12 16 53.8**	**-0.6**
ILAR	**Eielson Array**	**75.11**	**334**	P	**P**	**12 16 53.8**	**-0.6**
	0.3nm,0.6s,baz=118,slow=5.6,SNR=6.1						
KMBO	**Kilima Mbogo**	**106.92**	**88**	*e*PKPdf	**PKiKP**	**12 23 38.6**	**-1.2**
CMAR	**Chiang Mai Arr**	**149.16**	**21**	PKPbc	**PKPbc**	**12 25 00.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**149.16**	**21**	PKPbc	**PKPbc**	**12 25 00.9**	**-1.2**
	0.5nm,0.5s,baz=334,slow=6.0,SNR=3.7						
ASAR	**Alice Springs**	**153.91**	**237**	PKP	**PKPdf**	**12 25 04.0**	**-1.1**
ASAR				PKPbc	**PKPbc**	**12 25 11.8**	**-1.2**
ASAR	**Alice Springs**	**153.91**	**237**	PKP	**PKPdf**	**12 25 04.0**	**-1.1**
	0.2nm,0.7s,baz=101,slow=0.9,SNR=3.3						
ASAR				PKPbc	**PKPbc**	**12 25 11.8**	**-1.2**
	0.8nm,0.6s,baz=116,slow=2.5,SNR=19						
WRA	**Warramunga Arr**	**154.95**	**245**	PKPbc	**PKPbc**	**12 25 14.3**	**-0.9**
WRA	**Warramunga Arr**	**154.95**	**245**	PKPbc	**PKPbc**	**12 25 14.3**	**-0.9**
	0.6nm,0.8s,baz=106,slow=2.8,SNR=13						

*CSEM **22** 12:09:35.8±0.2, 41°.01N×16°.44E, h35km±2km, ML3.9/7, Error ellipse: s-maj=5.3km s-min=4.6km az=27.0*
*ROM **22** 12:09:35.1±0.2, 41°.04N×16°.44E, h35km±1km, MI3.4/10, Error ellipse: s-maj=2.8km s-min=1.5km az=18.0*
ISC 22 12:09:35.5±1.4, 41°03N±0°.03×16°43E±0°.02, h31km±14km, n41, σ0s74/60, 2C-4D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRVN	**Minervino Murg**	**0.18**	**279**	⇓*i*Pg	**Pn**	**12 09 42.2**	**+0.1**
MRVN				Sg	**Sn**	**12 09 46.4**	**+0.2**
	2µm,0.1s						
MRVN	**Minervino Murg**	**0.18**	**279**	⇓*i*Pg	**Pn**	**12 09 42.2**	**+0.1**
MRVN				Sg	**Sn**	**12 09 46.4**	**+0.2**
	2µm,0.1s						
AMUR	**Altamura**	**0.18**	**134**	⇑*i*Pg	**Pn**	**12 09 42.2**	**+0.1**
AMUR				Sg	**Sn**	**12 09 46.4**	**+0.2**
	1µm,0.2s						
AMUR	**Altamura**	**0.18**	**134**	⇑*i*Pg	**Pn**	**12 09 42.2**	**+0.1**
AMUR				Sg	**Sn**	**12 09 46.4**	**+0.2**
	1µm,0.2s						
BAI	**Bari**	**0.35**	**78**	*i* Pg	**Pn**	**12 09 44.5**	**+0.2**
BAI				*e*Sg	**Sn**	**12 09 50.1**	**-0.1**
PALZ	**Palazzo San Ge**	**0.37**	**256**	Pg	**Pn**	**12 09 44.3**	**-0.4**
PALZ				Sg	**Sn**	**12 09 50.9**	**+0.1**
	1µm,0.4s						
PALZ	**Palazzo San Ge**	**0.37**	**256**	Pg	**Pn**	**12 09 44.3**	**-0.4**
PALZ				Sg	**Sn**	**12 09 50.9**	**+0.1**
	1µm,0.4s						
MIGL	**Miglionico**	**0.43**	**179**	Pg	**Pn**	**12 09 45.2**	**-0.3**
MIGL				Sg	**Sn**	**12 09 52.3**	**0.0**
	10µm,0.3s						
MIGL	**Miglionico**	**0.43**	**179**	Pg	**Pn**	**12 09 45.2**	**-0.3**
MIGL				Sg	**Sn**	**12 09 52.3**	**0.0**
	10µm,0.3s						
MATE	**Matera**	**0.44**	**151**	⇓*i*Pg	**Pn**	**12 09 45.2**	**-0.4**
MATE				Sg	**Sn**	**12 09 51.7**	**-0.7**
	4µm,0.2s						
MATE	**Matera**	**0.44**	**151**	⇓*i*Pg	**Pn**	**12 09 45.2**	**-0.4**
MATE				Sg	**Sn**	**12 09 51.7**	**-0.7**
	4µm,0.2s						
ACER	**Acerenza**	**0.44**	**237**	Pg	**Pn**	**12 09 45.6**	**-0.2**
ACER				Sg	**Sn**	**12 09 52.6**	**-0.2**
	3µm,0.3s						
ACER	**Acerenza**	**0.44**	**237**	Pg	**Pn**	**12 09 45.6**	**-0.2**
ACER				Sg	**Sn**	**12 09 52.6**	**-0.2**
	3µm,0.3s						
NOCI	**Noci**	**0.54**	**117**	Pg	**Pn**	**12 09 46.8**	**-0.2**
NOCI				Sg	**Sn**	**12 09 54.8**	**-0.2**
NOCI	**Noci**	**0.54**	**117**	Pg	**Pn**	**12 09 46.8**	**-0.2**
NOCI				Sg	**Sn**	**12 09 54.8**	**-0.2**
PTRP	**Pietrapertosa**	**0.58**	**209**	Pg	**Pn**	**12 09 48.3**	**+0.6**
	97µm,3.7s						
PTRP	**Pietrapertosa**	**0.58**	**209**	Pg	**Pn**	**12 09 48.3**	**+0.6**
	97µm,3.7s						
PZUN	**Potenza**	**0.61**	**231**	Pg	**Pn**	**12 09 48.7**	**+0.7**
PZUN	**Potenza**	**0.61**	**231**	Pg	**Pn**	**12 09 48.7**	**+0.7**
CRAC	**Craco**	**0.67**	**180**	Pg	**Pn**	**12 09 48.5**	**-0.3**
CRAC				Sg	**Sn**	**12 09 58.8**	**+0.6**
	1µm,0.3s						
CRAC	**Craco**	**0.67**	**180**	Pg	**Pn**	**12 09 48.5**	**-0.3**
CRAC				Sg	**Sn**	**12 09 58.8**	**+0.6**
	1µm,0.3s						
MRLC	**Muro Lucano**	**0.77**	**249**	Pg	**Pb**	**12 09 50.0**	**-0.3**
MRLC	**Muro Lucano**	**0.77**	**249**	Pg	**Pb**	**12 09 50.0**	**-0.3**
MS1	**Monte Sant'Ang**	**0.77**	**331**	*e*Pg	Pb	12 09 53.1	+2.7
MSAG	**Monte S. Angel**	**0.78**	**330**	Pg	**Pn**	**12 09 49.9**	**-0.6**
	455nm,0.2s						
MSAG	**Monte S. Angel**	**0.78**	**330**	Pg	**Pn**	**12 09 49.9**	**-0.6**
	455nm,0.2s						
PE1	**Pezze di Greco**	**0.79**	**107**	*e*Pg	**Pb**	**12 09 50.5**	**-0.1**
PE1				*e*Sg	**Sn**	**12 10 02.8**	**+1.7**
TAR1	**Taranto**	**0.82**	**128**	*e*Pg	**Pn**	**12 09 49.1**	**-1.8**
SCHR	**S. Chirico Rap**	**0.88**	**198**	Pg	**Pb**	**12 09 53.0**	**+0.8**
SGRT	**San Giovanni R**	**0.89**	**325**	Pg	**Pb**	**12 09 52.1**	**-0.3**
	179nm,0.2s						
SGRT	**San Giovanni R**	**0.89**	**325**	Pg	**Pb**	**12 09 52.1**	**-0.3**
	179nm,0.2s						
SIRI	**Monte Sirino -**	**0.95**	**207**	Pg	**Pb**	**12 09 53.7**	**+0.2**
SIRI	**Monte Sirino -**	**0.95**	**207**	Pg	**Pb**	**12 09 53.7**	**+0.2**
MCRV	**Calabrutti - M**	**0.99**	**256**	Pg	**Pn**	**12 09 52.7**	**-0.6**
MCRV	**Calabrutti - M**	**0.99**	**256**	Pg	**Pn**	**12 09 52.7**	**-0.6**
CDRU	**Civita di Ruta**	**1.01**	**238**	Pg	**Pn**	**12 09 53.0**	**-0.6**
CDRU	**Civita di Ruta**	**1.01**	**238**	Pg	**Pn**	**12 09 53.0**	**-0.6**
SALB	**San Lorenzo Be**	**1.16**	**183**	Pg	**Pn**	**12 09 55.1**	**-0.5**
SALB	**San Lorenzo Be**	**1.16**	**183**	Pg	**Pn**	**12 09 55.1**	**-0.5**
NVLJ	**Novalja**	**3.71**	**343**	*i* Pn	**Pn**	**12 10 32.9**	**+2.3**
NVLJ				Sn	**Sn**	**12 11 11.7**	**-1.6**
NVLJ	**Novalja**	**3.71**	**343**	*i* Pn	**Pn**	**12 10 32.9**	**+2.3**
NVLJ				Sn	**Sn**	**12 11 11.6**	**-1.6**

*BJI **22** 12:20:57.9, 1°.20N×127°.58E, h142km, mB5.0/33, mb5.1/59*
*IDC **22** 12:21:02.8±0.8, 1°.65N×127°.23E, h132km±7km, mb4.5/31, mb1 4.6/32, mb1mx4.6/34, mbtmp4.5/32, MS3.4/4, Ms1 3.4/4, ms1mx3.0/35, Error ellipse: s-maj=14.3km s-min=7.0km az=78.0*
*ISCJB **22** 12:21:02.3±0.3, 1°.73N±0°.02×127°.30E±0°.03, h140km±3km, mb5.0/122, Error ellipse: s-maj=4.3km s-min=2.8km az=166.0*
*NEIC **22** 12:21:03.7±0.5, 1°.68N×127°.29E, h140km±4km, mb5.2/36, Error ellipse: s-maj=5.5km s-min=3.6km az=67.0*
*MOS **22** 12:21:03.7±0.9, 1°.72N×127°.25E, h156km, mb5.0/43, Error ellipse: s-maj=12.3km s-min=5.3km az=115.2*
*DJA **22** 12:21:04.2±0.3, 2°N±3°×12°7E±°, h112km±2km, M5.1/47, mb5.2/47, mB5.5/23, MLv5.4/13, Mw(mB)5.0/23*
*AUST **22** 12:21:04.6±0.7, 1°.56N×127°.21E, h151km±6km, Error ellipse: s-maj=7.5km s-min=4.0km az=55.0*
ISC 22 12:21:04.5±0.3, 1°.68N±0°.03×127°.28E±0°.04, h144km±2km, h144km:pP-P, n358, σ1s57/463, mb5.0/122, 36C-28D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.91**	**174**	P	**Pn**	**12 21 26.3**	**-1.7**
TNTI				S	**Sn**	**12 21 43.7**	**-2.2**
TNTI	**Ternate**	**0.91**	**174**	*e*Pn	**Pn**	**12 21 26.4**	**-1.5**
LBMI	**Labuha**	**2.32**	**174**	P	**Pn**	**12 21 43.0**	**-0.1**
LBMI				S	**Sn**	**12 22 12.0**	**-0.9**
SGSI	**Sangihe**	**2.65**	**319**	P	Pn	12 21 43.8	-3.4
SGSI				S	**Sn**	**12 22 14.7**	**-5.4**
KMSI	**Cibinong**	**3.48**	**252**	P	**Pn**	**12 21 55.7**	**-2.0**
KMSI				S	**Sn**	**12 22 37.5**	**-1.5**
GTOI	**Gorontalo**	**4.39**	**256**	P	**Pn**	**12 22 09.6**	**-0.2**
SWI	**Sorong**	**4.72**	**122**	P	**Pn**	**12 22 14.6**	**+0.5**
SWI	**Sorong**	**4.72**	**122**	⇓P	**Pn**	**12 22 14.6**	**+0.5**
	baz=4.7						
NLAI	**Namlea**	**4.89**	**182**	P	**Pn**	**12 22 15.8**	**-0.6**
NLAI				S	**Sn**	**12 23 07.8**	**-4.7**
GSPH	**General Santos**	**4.95**	**332**	⇑*i*P	Pn	12 22 13.2	-4.4
GSPH				*i* S	Sn	12 23 06.4	-7.7
LUWI	**Luwuk**	**5.26**	**239**	P	**Pn**	**12 22 21.6**	**+0.4**
	430nm,0.7s,17µm14nm						
LUWI				S	**Sn**	**12 23 20.1**	**-1.0**
	430nm,0.7s,17µm14nm						
LUWI	**Luwuk**	**5.26**	**239**	⇑P	**Pn**	**12 22 21.4**	**+0.1**
	baz=5.1,SNR=4.7						
MSAI	**Masohi**	**5.26**	**162**	P	**Pn**	**12 22 23.2**	**+1.8**
	66nm,0.8s,627nm0.4nm						
MSAI				S	**Sn**	**12 23 23.2**	**+1.9**
	66nm,0.8s,627nm0.4nm						
MATI	**Mati**	**5.33**	**349**	*e*P	**Pn**	**12 22 20.1**	**-2.1**
MRSI	**Marisa**	**5.47**	**257**	P	**Pn**	**12 22 21.3**	**-2.8**
	316nm,0.7s,3µm1.3nm						
APSI	**Ampana**	**6.19**	**245**	P	Pn	12 22 30.3	-3.4
	318nm,0.5s,7µm5.1nm						
CTBH	**Cotabato--PC H**	**6.28**	**331**	⇑*i*P	**Pn**	**12 22 31.9**	**-3.0**
CTBH				*i* S	**Sn**	**12 23 40.3**	**-5.2**
BIPH	**Bislig**	**6.52**	**352**	⇑*e*P	**Pn**	**12 22 35.8**	**-2.4**
BIPH				*e*S	**Sn**	**12 23 51.2**	**-0.3**
BUKP	**Musuan**	**6.54**	**340**	*e*P	**Pn**	**12 22 36.7**	**-1.7**
FAKI	**Fak Fak**	**6.75**	**133**	P	**Pn**	**12 22 42.7**	**+1.4**
	117nm,0.7s,0.4nm						
FAKI	**Fak Fak**	**6.75**	**133**	P	Pn	**12 22 42.5**	**+1.2**
	baz=6.7,SNR=36						
CGP	**Cagayan de Oro**	**7.20**	**339**	⇑*e*P	**Pn**	**12 22 46.3**	**-0.9**
CGP				*e*S	Sn	12 24 00.1	-7.7
PAGZ	**Pagadian**	**7.25**	**328**	*e*P	**Pn**	**12 22 44.8**	**-3.1**
IPIL	**Ipil**	**7.66**	**322**	*e*P	**Pn**	**12 22 51.0**	**-2.4**
PCI	**Palu**	**7.87**	**251**	P	Sn	12 24 14.5	-10
KKSI	**Kolaka, Sulawe**	**8.09**	**224**	P	**Pn**	**12 22 57.0**	**-2.2**
	208nm,0.5s,5µm						
SCPH	**Surigao**	**8.24**	**348**	⇑*e*P	**Pn**	**12 22 59.7**	**-1.5**
BBSI	**Bau Bau**	**8.54**	**213**	P	**Pn**	**12 23 05.8**	**+0.7**
	156nm,1.0s,2µm						
MSLP	**Maasin**	**8.73**	**344**	*e*P	Pn	12 23 03.4	-4.4
TTSI	**Tana Toraja**	**8.81**	**238**	P	**Pn**	**12 23 06.6**	**-2.2**
	209nm,0.8s,2µm						
SPSI	**Sidrap Palu**	**9.37**	**233**	P	Pn	**12 23 15.1**	**-1.2**
	244nm,0.7s,3µm						
BNSI	**Bone**	**9.37**	**230**	P	Pn	**12 23 15.1**	**-1.2**
	169nm,0.8s,2µm						
TSM	**Tawau**	**9.74**	**286**	P	**Pn**	**12 23 19.8**	**-1.4**
BKSI	**Bulukumba**	**9.97**	**226**	P	**Pn**	**12 23 22.7**	**-1.6**
	152nm,0.7s,2µm						
KAPI	**Kappang**	**10.04**	**228**	*e*Pn	**Pn**	**12 23 23.9**	**-1.3**
KAPI				*e*Sn	**Sn**	**12 25 14.3**	**-2.0**
KAPI	**Kappang**	**10.04**	**228**	Pn	**Pn**	**12 23 25.0**	**-0.2**
	866nm,0.4s,SNR=24						
SDKM	**Sandakan**	**10.80**	**292**	P	**Pn**	**12 23 36.6**	**+1.2**
KDM	**Kudat**	**11.64**	**297**	P	**Pn**	**12 23 46.0**	**-0.3**
SOEI	**Soe**	**11.75**	**195**	P	**Pn**	**12 23 51.0**	**+3.1**
	176nm,0.9s						
LBFI	**Labuhan Bajo,**	**12.50**	**216**	P	**Pn**	**12 23 57.5**	**0.0**
	232nm,1.2s,2µm						
WSI	**Waingapu**	**13.25**	**212**	P	**Pn**	**12 24 07.7**	**+0.5**
	345nm,0.6s,15µm						
BBKI	**Banjar Baru**	**13.44**	**248**	P	**Pn**	**12 24 08.0**	**-1.7**
	53nm,0.3s,4µm						
GENI	**Genyem**	**13.57**	**108**	P	**P**	**12 24 17.0**	**+1.6**
	92nm,1.2s						
JAY	**Jayapura**	**14.06**	**107**	LR	LR	12 29 39.2	
	comp=Z,94nm,18.8s,baz=192,slow=37						
BTM	**Bintulu**	**14.26**	**276**	P	**Pn**	**12 24 20.3**	**+0.3**
MTN	**Manton Dam**	**14.93**	**165**	⇑P	**Pn**	**12 24 26.2**	**-2.2**
	baz=15						
SBUM	**Sibu**	**15.07**	**273**	P	**P**	**12 24 32.6**	**+0.7**
SBUM	**Sibu**	**15.07**	**273**	P	**P**	**12 24 32.1**	**+0.1**
	63nm,1.4s,780nm						
SBUM	**Sibu**	**15.07**	**273**	*e*P	**P**	**12 24 32.1**	**+0.1**
	39nm,0.8s						
MTNI	**Mataram**	**15.09**	**227**	P	**Pn**	**12 24 30.8**	**+0.4**
	116nm,0.6s,2µm						
KDU	**Kakadu**	**15.18**	**160**	⇓P	**Pn**	**12 24 28.9**	**-2.6**
	baz=15,SNR=11						
KHKI	**Kahang-Kahang**	**15.33**	**229**	P	**P**	**12 24 35.4**	**+0.5**
	240nm,0.8s,2µm						
SRBI	**Singaraja**	**15.46**	**231**	P	**P**	**12 24 38.0**	**+1.7**
	109nm,1.2s						
KMMI	**Kalianget**	**15.87**	**237**	P	**P**	**12 24 43.3**	**+2.5**
	103nm,0.9s,2µm						
IGBI	**Denpasar**	**15.97**	**229**	P	**P**	**12 24 42.7**	**+0.7**
	132nm,0.8s						
BYJI	**Banyuwangi**	**16.21**	**232**	P	**P**	**12 24 47.5**	**+2.9**
	295nm,0.8s,8µm						
BLJI	**Banyuglugur**	**16.55**	**235**	P	P	12 24 55.3	+6.9
KSM	**Kuching**	**16.96**	**270**	P	**Pn**	**12 24 54.7**	**+1.3**
GMJI	**Gumukmas**	**16.97**	**234**	P	**Pn**	**12 24 58.1**	**+4.6**
	73nm,0.9s						
KNRA	**Kununurra**	**17.31**	**175**	⇓P	**P**	**12 24 56.4**	**-0.4**
	baz=17,SNR=111						
KRKI	**Karangkates**	**17.72**	**236**	P	**Pn**	**12 25 04.0**	**+1.5**
	261nm,0.8s,21µm						
SJI	**Sawahan**	**18.08**	**239**	P	**Pn**	**12 25 06.3**	**-0.5**
	72nm,1.0s						
NGJI	**Ngawi**	**18.16**	**240**	P	Pn	12 25 22.4	+15
PWJI	**Pagerwojo**	**18.20**	**238**	P	**Pn**	**12 25 08.1**	**0.0**
	58nm,1.1s						
PCJI	**Pacitan**	**18.82**	**238**	P	**Pn**	**12 25 15.2**	**-0.2**
	98nm,0.7s,2µm						
WOJI	**Wonogiri, Jawa**	**18.86**	**240**	P	**Pn**	**12 25 15.2**	**-0.6**
	49nm,0.7s,7µm						
SMRI	**Semarang**	**18.91**	**243**	P	**P**	**12 25 15.3**	**+1.0**
	78nm,1.6s						
BJII	**Banjamegara**	**19.68**	**243**	P	**Pn**	**12 25 25.1**	**-0.5**
	59nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.73**	**185**	*e*P	**P**	**12 25 21.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.73**	**185**	P	**P**	**12 25 21.6**	**-1.5**
	4.9nm,0.3s,baz=25,slow=9.0,SNR=119						
FITZ				LR	LR	12 32 46.0	
	comp=Z,56nm,18.3s,baz=28,slow=36						
FITZ	**Fitzroy Crossi**	**19.73**	**185**	⇓P	**P**	**12 25 21.4**	**-1.6**
	baz=20,SNR=71						
TGJI	**Tegal**	**20.01**	**245**	P	Pn	12 25

baz=26
AS19 Alice Springs 26.06 166 ⇓P P 12 26 24.0 -0.7
baz=26
IPM Ipoh 26.36 277 P P 12 26 27.9 +0.3
WRKA Warakurna 26.58 178 P P 12 26 28.7 -0.7
baz=27,SNR=70
PSI Prapat 28.35 273 P P 12 26 44.5 -0.9
comp=Z,21nm,0.7s
PSI Prapat 28.35 273 P P 12 26 44.6 -0.9
PSI Prapat 28.35 273 P P 12 26 44.6 -0.9
comp=Z,14nm,0.7s,baz=64,slow=6.8,SNR=10.0
PSI Prapat 28.35 273 ⇑P P 12 26 44.5 -0.9
baz=28,SNR=6.8
CTA Charters Tower 28.54 140 P P 12 26 47.1 +0.2
CTA ScP **ScP** 12 33 24.6 +1.7
CTA Charters Tower 28.54 140 P P 12 26 47.1 +0.2
comp=Z,5.0nm,1.0s,baz=322,slow=10,SNR=4.2
CTA ScP **ScP** 12 33 24.6 +1.7
comp=Z,2.2nm,0.7s,baz=310,slow=1.4,SNR=3.5
CTAO Charters Tower 28.54 140 *e*P P 12 26 47.8 +0.9
CTAO pmax pmax
comp=Z,32nm,1.5s
CTAO Charters Tower 28.54 140 *e*P P 12 26 47.8 +0.9
comp=Z,32nm,1.5s
CHAI Chaiyaphum 28.65 301 P P 12 26 46.9 -1.0
comp=Z,24nm,0.7s,comp=Z,198nm
MEEK Meekatharra 29.37 196 P P 12 26 53.6 -0.5
baz=29,SNR=49
GSI Gunungsitoli 29.69 270 P P 12 26 56.6 -0.6
comp=Z,54nm,0.7s
GSI Gunungsitoli 29.69 270 *e*P P 12 26 56.2 -1.0
comp=Z,35nm,0.6s
PBKT Sadao Pong 29.82 301 P P 12 26 57.8 -0.4
comp=Z,17nm,0.6s,comp=Z,763nm
SLVN Son La 30.00 312 *e*P P 12 27 00.3 +0.4
PHIT Phitsanulok 30.57 302 P P 12 27 04.9 0.0
comp=Z,46nm,0.8s
KHLT Khaolaem Dam 31.18 296 P P 12 27 10.4 +0.2
comp=Z,17nm,1.2s
WHN Wuhan 31.21 338 ⇓P P 12 27 11.5 +1.2
WHN pmax pmax
comp=Z,88nm,0.5s
NJ2 Nanjing 31.23 346 *e*P P 12 27 11.4 +1.0
NJ2 pmax pmax
comp=Z,40nm,1.1s
JNU Nakatsue 31.45 6 P P 12 27 12.2 -0.2
JNU Nakatsue 31.45 6 P P 12 27 12.2 -0.2
comp=Z,8.2nm,0.7s,baz=35,slow=8.7,SNR=5.8
GYA Guiyang 31.61 323 ⇑*i*P P 12 27 14.3 +0.3
GYA pP **pP** 12 27 47.4 +2.6
GYA sP **sP** 12 28 03.8 +2.4
GYA PP **PP** 12 28 27.3 -1.0
GYA PcP **PcP** 12 30 03.9 +0.9
GYA S **S** 12 32 15.0 +2.4
GYA sS sS 12 33 15.4 +8.8
GYA ScP **ScP** 12 33 33.8 +0.8
GYA PcS **PcS** 12 33 48.0 +0.1
GYA ScS **ScS** 12 37 30.1 -1.4
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
LAMP Lampang 31.86 303 P P 12 27 16.9 +0.8
comp=Z,6.0nm,0.8s
FORT Forrest 32.29 179 ⇑P P 12 27 19.1 -0.6
baz=32
CMAR Chiang Mai Arr 32.40 303 P P 12 27 20.1 -0.8
CMAR PcP **PcP** 12 30 06.5 +1.3
CMAR ScP **ScP** 12 33 37.6 +1.9
CMAR Chiang Mai Arr 32.40 303 P P 12 27 20.1 -0.8
comp=Z,5.9nm,0.9s,baz=120,slow=7.1,SNR=36
CMAR PcP **PcP** 12 30 06.5 +1.3
comp=Z,0.8nm,0.6s,baz=153,slow=2.9,SNR=5.2
CMAR ScP **ScP** 12 33 37.6 +1.9
comp=Z,2.5nm,1.0s,baz=154,slow=1.7,SNR=13
MORW Morawa 32.42 199 ⇑P P 12 27 20.2 -0.7
baz=32
QLP Quilpie 32.52 151 ⇓P P 12 27 21.6 -0.2
baz=33
CMMT Chiang Mai 32.56 303 P P 12 27 21.9 -0.4
comp=Z,23nm,0.9s
CHTO Chiang Mai 32.57 303 *e*P P 12 27 22.0 -0.3
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 32.57 303 *e*P P 12 27 22.0 -0.3
comp=Z,6.2nm,0.6s
CHTO Chiang Mai 32.57 303 P P 12 27 22.0 -0.3
comp=Z,102nm,1.0s
CMAI Chiengmai2 33.02 305 P P 12 27 26.1 -0.4
comp=Z,38nm,1.5s,comp=Z,3µm
ENH Enshi 33.07 331 *e*P P 12 27 26.4 -0.1
comp=Z,28nm,0.8s
MHMT Maesariang 33.13 302 P P 12 27 27.3 0.0
comp=Z,14nm,0.8s
KMI Kunming 33.22 317 P P 12 27 28.8 +0.6
KMI pP **pP** 12 28 03.9 +4.8
KMI pmax pmax
comp=Z,31nm,1.3s
KMBL Kambalda 33.27 188 ⇓P P 12 27 27.5 -0.8
baz=33
BLDU Ballidu 33.66 197 ⇑P P 12 27 31.0 -0.7
baz=34
KLBR Kellerberrin 34.31 195 ⇓P P 12 27 36.8 -0.4
baz=34,SNR=49
RMQ Roma 34.85 145 ⇑P P 12 27 41.9 -0.1
baz=35,SNR=5.8
BBOO Buckleboo 35.30 167 *e*P P 12 27 45.1 -0.7
comp=Z,298nm,0.8s
BBOO Buckleboo 35.30 167 ⇑P P 12 27 44.9 -0.8
baz=35,SNR=30
EIDS Eidsvold 35.42 141 ⇑P P 12 27 46.8 -0.1
baz=36
KSAR Wonju Array Be 35.59 1 P P 12 27 48.1 0.0
KSAR PcP **PcP** 12 30 14.7 +0.8
KSRS Korea Array 35.60 1 P P 12 27 48.1 -0.1
comp=Z,20nm,0.6s,baz=176,slow=9.5,SNR=81
KSRS PcP **PcP** 12 30 14.7 +0.8
comp=Z,2.8nm,0.8s,baz=194,slow=2.4,SNR=6.4
NWAO Narrogin (SRO) 35.71 195 P P 12 27 48.6 -0.6
NWAO Narrogin (SRO) 35.71 195 P P 12 27 48.6 -0.6
comp=Z,28nm,0.7s,baz=13,slow=7.9,SNR=22
STKA Stephens Creek 36.04 159 P P 12 27 51.8 -0.3
STKA *e*PP **PP** 12 29 14.9 -2.1
STKA Stephens Creek 36.04 159 P P 12 27 51.8 -0.3
comp=Z,37nm,0.7s,baz=329,slow=8.2,SNR=88
STKA Stephens Creek 36.04 159 ⇑P P 12 27 51.8 -0.3
baz=36
MJAR Matsushiro Arr 36.13 15 P P 12 27 51.2 -1.6
MJAR PcP **PcP** 12 30 15.9 +0.4
MJAR Matsushiro Arr 36.13 15 P P 12 27 51.2 -1.6
comp=Z,17nm,0.8s,baz=183,slow=9.9,SNR=37
MJAR PcP **PcP** 12 30 15.9 +0.4
comp=Z,0.9nm,0.7s,baz=225,slow=8.1,SNR=4.5
MAJO Matsushiro 36.13 15 *e*P P 12 27 51.3 -1.5
MAJO pmax pmax
comp=Z,28nm,0.9s
MAJO Matsushiro 36.13 15 *e*P P 12 27 51.3 -1.5
comp=Z,28nm,0.9s
MAT Matsushiro 36.13 15 P P 12 27 51.0 -1.8
XAN Xi'an 36.48 334 P P 12 27 55.5 -0.4
XAN pP **pP** 12 28 29.6 +2.4
XAN S **S** 12 33 21.8 -5.5
XAN pmax pmax
comp=Z,31nm,0.8s
XAN pmax pmax
comp=Z,25nm,5.5s
CD2 Chengdu 36.61 325 ⇑*i*P P 12 27 57.3 +0.3
CD2 pP **pP** 12 28 28.5 +0.1
CD2 sP **sP** 12 28 45.3 +0.5
CD2 PP **PnPn** 12 29 27.6 +2.4
CD2 S **S** 12 33 30.3 +0.9
CD2 sS **sS** 12 34 25.1 +1.0
CD2 SS **SS** 12 36 07.3 -8.4
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,150nm,5.9s
HTT Hallett 36.61 164 ⇑P P 12 27 56.7 -0.3
baz=37,SNR=5.1
RKGY Rocky Gully 37.38 194 ⇓P P 12 28 04.2 +0.9
baz=37,SNR=26
CMSA Cobar Meteorol 37.38 154 ⇓P P 12 28 03.4 -0.1
baz=38,SNR=33
BJT Baijiatuan 39.47 347 *e*P P 12 28 20.1 -0.7
comp=Z,30nm,0.6s
ARMA Armidale 39.47 146 *e*P P 12 28 22.0 +0.9
comp=Z,51nm,0.8s
ARMA Armidale 39.47 146 ⇓P P 12 28 22.0 +0.9
baz=40
BJI Beijing 39.49 347 P P 12 28 20.8 -0.1
BJI pP **pP** 12 28 53.5 +0.9
BJI sP **sP** 12 29 09.4 +0.5
BJI PcP **PcP** 12 30 26.6 +0.8
BJI S **S** 12 34 15.8 +3.5
BJI sS **sS** 12 35 06.1 -1.4
BJI pmax pmax
comp=Z,66nm,0.7s
BJI LR LR
comp=Z,26nm,18.2s
SNY Shenyang 40.10 356 ⇓P P 12 28 25.6 -0.3
SNY pmax pmax
comp=Z,23nm,0.7s
LZH Lanzhou 40.53 330 ⇓P P 12 28 31.1 +1.3
LZH pP **pP** 12 29 02.6 +0.9
LZH sP **sP** 12 29 19.3 +1.3
LZH PP **PnPn** 12 30 10.3 -1.2
LZH S **S** 12 34 33.0 +4.6
LZH sS **sS** 12 35 25.1 +1.3
LZH SS **SS** 12 37 30.0 -4.2
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,200nm,4.6s
ARPS Mount Arapiles 40.59 162 ⇓P P 12 28 29.9 -0.2
baz=41
YNG Young 40.93 153 ⇓P P 12 28 33.5 +0.6
baz=41,SNR=10
VLA Vladivostok 41.46 5 ⇑*e*P P 12 28 37.5 +0.5
VLA pmax pmax
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 41.50 342 *e*P P 12 28 37.9 +0.3
HHC pP **pP** 12 29 11.3 +1.8
HHC PP **PP** 12 30 18.5 +2.0
HHC S **S** 12 34 37.8 -4.6
HHC sS **sS** 12 35 38.3 +0.3
HHC SS **SS** 12 37 46.9 -6.0
HHC ScS **ScS** 12 38 27.4 +1.3
HHC pmax pmax
comp=Z,47nm,0.9s
HHC pmax pmax
comp=Z,210nm,5.5s
CN2 Changchun 41.97 358 *e*P P 12 28 40.4 -0.8
CAN Canberra 42.05 153 *e*P P 12 28 43.1 +1.0
CAN pmax pmax
comp=Z,39nm,1.0s
CAN Canberra 42.05 153 *e*P P 12 28 43.1 +1.0
comp=Z,39nm,1.0s
CAN Canberra 42.05 153 ⇓P P 12 28 43.1 +1.0
baz=42
CNB Canberra Magne 42.21 153 ⇑P P 12 28 44.3 +0.8
baz=42,SNR=4.8
USRK Ussuriysk Arra 42.54 5 P P 12 28 45.9 +0.1
comp=Z,20nm,0.9s,baz=190,slow=7.6,SNR=41
TOO Toolangi 42.55 158 ⇑P P 12 28 47.2 +1.2
baz=43
MDJ Mudanjiang 42.80 2 P P 12 28 47.8 -0.1
MDJ pP **pP** 12 29 19.0 -1.0
MDJ sP **sP** 12 29 34.6 -1.7
MDJ PP **PP** 12 30 29.8 -0.4
MDJ S **S** 12 34 59.6 -1.6
MDJ sS **sS** 12 35 55.3 -1.7
MDJ pmax pmax
comp=Z,34nm,1.2s
MDJ pmax pmax
comp=Z,88nm,5.4s
MDJ LR LR
comp=Z,19nm,17.4s
MDJ LR LR
comp=Z,13nm,17.7s
MDJ LR LR
comp=Z,25nm,18.5s
MDJ Mudanjiang 42.80 2 *e*P P 12 28 48.2 +0.3
comp=Z,34nm,1.0s
MILA Mila 43.57 154 ⇑P P 12 28 55.2 +0.9
baz=44
LSA Lhasa 44.20 313 P P 12 29 00.5 +0.5
LSA pmax pmax
comp=Z,20nm,1.2s
LSA Lhasa 44.20 313 *e*P P 12 29 00.9 +0.9
LSA pmax pmax
comp=Z,67nm,1.5s
LSA Lhasa 44.20 313 *e*P P 12 29 00.9 +0.9
comp=Z,67nm,1.5s
ASAJ Asahikawa 44.39 16 P P 12 29 01.1 +0.5
ASAJ Asahikawa 44.39 16 P P 12 29 01.1 +0.5
comp=Z,18nm,0.8s,baz=310,slow=25,SNR=16
GTA Gaotai 45.12 330 ⇓P P 12 29 07.3 +0.6
GTA pP **pP** 12 29 37.1 -2.0
GTA sP **sP** 12 29 53.3 -2.0
GTA PcP **PcP** 12 30 46.0 +1.2
GTA ScP **ScP** 12 34 25.0 +0.9
GTA S **S** 12 35 39.9 +4.5
GTA sS **sS** 12 36 34.6 +3.0
GTA ScS **ScS** 12 38 48.4 -0.5
GTA pmax pmax
comp=Z,33nm,0.9s
GTA pmax pmax
comp=Z,130nm,4.8s
TAPN Taplejung 45.67 308 *e*P P 12 29 11.3 -0.2
comp=Z,36nm,0.8s
TAPN Taplejung 45.67 308 *e*P P 12 29 11.3 -0.2
comp=Z,36nm,0.8s
ODAN Odare 45.71 307 *e*P P 12 29 11.6 -0.1
comp=Z,56nm,0.7s
ODAN Odare 45.71 307 *e*P P 12 29 11.6 -0.1
comp=Z,56nm,0.7s
RAMN Ramite 46.38 307 *e*P P 12 29 17.2 +0.2
comp=Z,64nm,0.7s
RAMN Ramite 46.38 307 *e*P P 12 29 17.2 +0.2
comp=Z,64nm,0.7s
JIRN Jiri 47.02 307 *e*P P 12 29 22.0 -0.1
comp=Z,53nm,0.7s
JIRN Jiri 47.02 307 *e*P P 12 29 22.0 -0.1
comp=Z,53nm,0.7s
YSS Yuzh-Sakhalins 47.06 14 ⇓*e*P P 12 29 20.7 -0.9
HABR Khabarovsk 47.09 7 *ce*P P 12 29 20.5 -1.2
HABR *e**PP **pP** 12 29 52.2 -2.2
HABR *e* 12 30 49.9
HABR *e*PPP PPP 12 32 02.0
HABR *e*S **S** 12 36 02.7 -0.1
HABR *e* 12 38 59.8
HABR pmax pmax
comp=N,22nm,1.6s
HABR pmax pmax
comp=Z,34nm,1.6s
HABR pmax pmax
comp=E,32nm,1.6s
HABR MLR MLR
comp=Z,62nm,18.0s
GUN Gumba 47.38 307 *e*P P 12 29 24.7 -0.1
comp=Z,91nm,0.7s
GUN Gumba 47.38 307 *e*P P 12 29 24.7 -0.1
comp=Z,91nm,0.7s
KLR Kul'dur 47.52 4 *e*P P 12 29 20.1 -5.0
KLR pmax pmax
comp=Z,34nm,1.2s
PKI Pulchoki 47.61 307 *e*P P 12 29 26.1 -0.4
comp=Z,14nm,0.5s
PKI Pulchoki 47.61 307 *e*P P 12 29 26.7 +0.2
PKI pmax pmax
comp=Z,15nm,0.8s
PKI Pulchoki 47.61 307 *e*P P 12 29 26.7 +0.2
comp=Z,15nm,0.8s
PKIN Phulchoki 47.62 307 *e*P P 12 29 26.7 +0.1
comp=Z,15nm,0.8s
KKN Kakani 47.80 307 *e*P P 12 29 27.5 -0.4
comp=Z,24nm,0.6s
KKN Kakani 47.80 307 *e*P P 12 29 27.5 -0.4
KKN pmax pmax
comp=Z,24nm,0.6s
KKN Kakani 47.80 307 *e*P P 12 29 27.5 -0.4
comp=Z,24nm,0.6s
HIA Hailar 47.84 353 *e*P P 12 29 28.5 +0.8
comp=Z,7.8nm,0.5s
DMN Daman 47.87 307 *e*P P 12 29 28.2 -0.3
comp=Z,59nm,1.0s
DMN Daman 47.87 307 *e*P P 12 29 28.2 -0.3
comp=Z,59nm,1.0s
GKN Gorkha 48.41 307 *e*P P 12 29 32.3 -0.2
comp=Z,67nm,1.2s
GKN Gorkha 48.41 307 *e*P P 12 29 32.3 -0.2
comp=Z,67nm,1.2s
KOLN Koldanda 49.15 306 *e*P P 12 29 38.4 +0.2
comp=Z,83nm,0.8s
KOLN Koldanda 49.15 306 *e*P P 12 29 38.4 +0.2
comp=Z,83nm,0.8s
ULN Ulaanbaatar 49.22 342 *e*P P 12 29 38.6 +0.3
comp=Z,40nm,0.9s
DANN Dangsing 49.26 307 *e*P P 12 29 39.0 -0.1
comp=Z,90nm,0.9s
DANN Dangsing 49.26 307 *e*P P 12 29 39.0 -0.1
comp=Z,90nm,0.9s
SONM Songino Array 49.40 342 P P 12 29 39.7 +0.1
SONM PcP **PcP** 12 31 00.2 +0.3
SONM PP **PP** 12 31 38.6 +3.4
SONM Songino Array 49.40 342 P P 12 29 39.7 +0.1
comp=Z,13nm,0.7s,baz=156,slow=8.4,SNR=97
SONM PcP **PcP** 12 31 00.2 +0.3
comp=Z,3.4nm,0.8s,baz=157,slow=2.9,SNR=4.2
SONM PP **PP** 12 31 38.6 +3.4
comp=Z,2.1nm,0.9s,baz=157,slow=10,SNR=3.5
PYUN Piuthan 49.77 306 *e*P P 12 29 43.1 +0.1
comp=Z,268nm,1.1s
PYUN Piuthan 49.77 306 *e*P P 12 29 43.1 +0.1
comp=Z,268nm,1.1s
HYB Hyderabad 50.34 291 *i* P P 12 29 48.0 +0.8
ZAK Zakamensk 52.62 341 *e*P P 12 30 02.5 -1.2
TLY Talaya 53.63 342 *e*P P 12 30 11.5 +0.6
TLY pmax pmax
comp=Z,13nm,1.1s
MOY Mondy 54.48 340 *e*P P 12 30 17.5 +0.3
MOY pmax pmax
comp=Z,26nm,1.4s
NDI New Delhi 54.71 304 *e*P P 12 30 11.0 -8.1
WMQ Urumqi 54.71 326 P P 12 30 20.0 +1.1
WMQ pP **pP** 12 30 53.0 +0.5
WMQ sP **sP** 12 31 09.0 +0.7
WMQ PcP **PcP** 12 31 20.0 +0.1
WMQ PP **PP** 12 32 26.0 +2.9
WMQ ScP **ScP** 12 35 04.0 -1.0
WMQ S **S** 12 37 48.0 -0.2
WMQ ScS **ScS** 12 39 51.0 -2.9
WMQ SS **SS** 12 41 33.0 -0.4
WMQ pmax pmax
comp=Z,55nm,1.0s
WMQ pmax pmax
comp=Z,130nm,5.0s
WMQ LR LR
comp=Z,48nm,17.0s
WMQ LR LR
comp=Z,39nm,16.0s
WMQ LR LR
comp=Z,33nm,16.0s
POO Poona 54.95 291 *ex* P 12 30 20.0 -1.1
CLNS Chul'man 55.02 358 *e*P P 12 30 19.2 -1.7
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,1.0s
HVS Khovu-Aksy 56.81 335 *d*P P 12 30 34.1 +0.3
PEA0B Petropavlovsk- 57.12 21 *e*P P 12 30 35.5 -0.3
PETK Petropavlovsk- 57.12 21 P P 12 30 36.3 +0.5
PETK Petropavlovsk- 57.12 21 P P 12 30 36.3 +0.5
PETK Petropavlovsk- 57.12 21 P P 12 30 36.3 +0.5
comp=N,8.9nm,0.6s,baz=183,slow=4.2,SNR=29
MK31 Makanchi Array 59.54 326 *e*P P 12 30 52.9 +0.1
MK31 pmax pmax
comp=Z,46nm,0.7s
MK31 Makanchi Array 59.54 326 *e*P P 12 30 52.9 +0.1
MK31 *e*PcP **PcP** 12 31 38.5 -0.2
MKAR Makanchi Array 59.54 326 P P 12 30 53.0 +0.2
MKAR Makanchi Array 59.54 326 P P 12 30 53.0 +0.2
MKAR ScP **ScP** 12 35 26.6 +0.4
MKAR Makanchi Array 59.54 326 P P 12 30 53.0 +0.2
comp=Z,46nm,0.6s,baz=118,slow=8.3,SNR=499
MKAR ScP **ScP** 12 35 26.6 +0.4
comp=Z,0.8nm,0.7s,baz=127,slow=4.5,SNR=4.2
MKAR Makanchi Array 59.54 326 ⇓P P 12 30 53.2 +0.4
baz=60
MKAR ⇑P P 12 30 53.7 +0.9
baz=60
KSH Kashi 59.87 316 P P 12 30 56.5 +1.1
KSH pP **pP** 12 31 33.3 +3.9
KSH sP **sP** 12 31 48.1 +2.9
KSH PP **PP** 12 33 13.0 +3.8
KSH PcS **PcS** 12 35 44.0 +1.2
KSH S **S** 12 38 53.8 -2.3
KSH SS **SS** 12 43 01.1 +6.2
KSH pmax pmax
comp=Z,13nm,0.8s
KSH pmax pmax
comp=Z,130nm,4.8s
KSH LR LR
comp=Z,80nm,5.7s
KSH LR LR
comp=Z,110nm,4.4s
KSH LR LR
comp=Z,150nm,4.7s
YAK Yakutsk 60.23 1 *e*P P 12 30 56.0 -1.1
YAK *e* 12 31 33.0
YAK *e* 12 31 41.7
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 60.23 1 *e*P P 12 30 56.8 -0.3
comp=E,50nm,0.8s
KZA Kyzart 61.49 318 *i* P P 12 31 07.6 +1.0
KZA Kyzart 61.49 318 P P 12 31 07.6 +1.0
SNR=20
TKM2 Tokmak 2 61.63 319 *i* P P 12 31 07.4 +0.1
TKM2 pmax pmax
comp=Z,19nm,0.6s
TKM2 Tokmak 2 61.63 319 P P 12 31 07.7 +0.4
SNR=26
TKM2 Tokmak 2 61.63 319 *e*P P 12 31 07.4 +0.1
comp=Z,22nm,0.6s
KBK Karagaybulak 61.94 319 P P 12 31 10.1 +0.7
SNR=8.2
UCH Uchtor 62.04 318 *i* P P 12 31 11.3 +0.9
UCH Uchtor 62.04 318 P P 12 31 11.3 +0.9
SNR=23
CHMS Chumysh 62.22 319 *i* P P 12 31 10.7 -0.3
CHMS Chumysh 62.22 319 P P 12 31 10.8 -0.3
SNR=7.7
AAK Ala-Archa 62.23 318 *i* P P 12 31 11.9 +0.6
AAK Ala-Archa 62.23 318 P P 12 31 11.9 +0.6
SNR=7.4
USP Ospenovka 62.51 319 *i* P P 12 31 13.2 +0.3
USP Ospenovka 62.51 319 P P 12 31 13.3 +0.3
SNR=24
AML Almayashu 62.55 318 P P 12 31 14.3 +0.6
SNR=26
ZAA0 Zalesovo Array 62.65 333 *e*P P 12 31 12.2 -1.4
ZALV Zalesovo Beam 62.65 333 *i* P P 12 31 12.3 -1.2
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV Zalesovo Beam 62.65 333 P P 12 31 12.3 -1.2
ZALV Zalesovo Beam 62.65 333 P P 12 31 12.3 -1.2
comp=Z,6.5nm,0.4s,baz=112,slow=6.6,SNR=37
ZALV LR LR 13 00 05.5
comp=Z,27nm,18.4s,baz=245,slow=37
EKS2 Erkin-Say 62.72 318 *i* P P 12 31 15.2 +0.7
EKS2 Erkin-Say 62.72 318 P P 12 31 15.2 +0.7
SNR=23
EKS2 Erkin-Say 62.72 318 *e*P P 12 31 15.0 +0.5
comp=Z,17nm,0.8s
KBL Kabul 63.20 308 *e*P P 12 31 18.0 +0.1
KBL pmax pmax
comp=Z,17nm,0.6s
KBL Kabul 63.20 308 *e*P P 12 31 18.0 +0.1
comp=Z,17nm,0.6s
KBL Kabul 63.20 308 ⇑P P 12 31 17.6 -0.3
baz=63
FX1 Attu Island--F 63.58 29 *e*P P 12 31 20.4 +0.7
KURBB Kurchatov Arra 63.75 328 P P 12 31 20.6 -0.3
comp=Z,36nm,0.7s,baz=124,slow=6.0,SNR=319
KURK Kurchatov 63.75 328 *e*P P 12 31 20.6 -0.3
KURK pmax pmax
comp=Z,37nm,0.8s
KURK Kurchatov 63.75 328 *e*P P 12 31 20.6 -0.3
comp=Z,37nm,0.8s
KURK Kurchatov 63.75 328 P P 12 31 20.8 -0.1

comp=Z,615nm,0.7s,SNR=49
SEY Seymchan 63.89 12 P **P** **12 31 21.5 -0.1**
SEY Seymchan 63.89 12 P **P** **12 31 21.5 -0.1**
SEY Seymchan 63.89 12 P **P** **12 31 21.5 -0.1**
comp=Z,19nm,0.9s,baz=4.3,slow=23,SNR=22
NVS Novosibirsk 63.93 333 *i* P **P** **12 31 19.5 -2.5**
NVS pmax pmax
comp=N,12nm,0.9s
NVS pmax pmax
comp=E,13nm,0.9s
NVS pmax pmax
comp=Z,20nm,0.9s
KK31 Karatay Array 65.09 318 *i* P **P** **12 31 29.5 -0.3**
KK31 pmax pmax
comp=Z,18nm,0.7s
KKAR Karatay Array 65.09 318 *e*P **P** **12 31 29.7 -0.2**
KKAR pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 65.09 318 *e*P **P** **12 31 29.7 -0.2**
comp=Z,23nm,0.8s
BVA0 Borovoye Array 69.32 327 P **P** **12 31 55.7 -0.6**
BVA0 pmax pmax
comp=Z,31nm,1.1s
BVAR Borovoye Array 69.32 327 P **P** **12 31 55.7 -0.5**
BVAR Borovoye Array 69.32 327 P **P** **12 31 55.7 -0.5**
BVAR Borovoye Array 69.32 327 P **P** **12 31 55.7 -0.5**
comp=Z,17nm,0.7s,baz=131,slow=8.1,SNR=79
BRVK Borovoye 69.39 327 *ce*P **P** **12 31 56.1 -0.6**
BRVK pmax pmax
comp=Z,51nm,1.2s
BRVK Borovoye 69.39 327 *e*P **P** **12 31 56.3 -0.4**
comp=Z,32nm,0.8s
BRVK Borovoye 69.39 327 P **P** **12 31 56.3 -0.4**
comp=Z,253nm,0.7s,SNR=13
TIXI Tiksi 69.87 1 *ce*P **P** **12 31 58.4 -0.8**
TIXI **PP **pP** **12 32 35.3 +1.0**
TIXI pmax pmax
comp=Z,17nm,1.5s
AB31 Akbulak array 74.07 321 *i* P **P** **12 32 23.8 -0.9**
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 74.07 321 *e*P **P** **12 32 24.0 -0.7**
comp=Z,12nm,0.7s
ABKAR Akbulak array 74.07 321 ⇑P **P** **12 32 24.2 -0.5**
baz=74
AKTO Aktyubinsk 75.59 322 P **P** **12 32 32.9 -0.6**
AKTO Aktyubinsk 75.59 322 P **P** **12 32 32.9 -0.6**
AKTO Aktyubinsk 75.59 322 P **P** **12 32 32.9 -0.6**
comp=Z,21nm,0.7s,baz=104,slow=7.4,SNR=72
SVE Sverdlovsk 75.98 329 *ce*P **P** **12 32 34.8 -0.7**
SVE pmax pmax
comp=Z,56nm,0.8s
ARU Arti 76.95 328 P **P** **12 32 39.0 -2.0**
comp=Z,234nm,0.7s,SNR=8.5
ARU Arti 76.95 328 *d i*P **P** **12 32 39.5 -1.5**
ARU **PP **pP** **12 33 16.1 -0.5**
ARU 12 35 30.5
ARU S **S** **12 42 15.8 -1.4**
ARU pmax pmax
comp=Z,39nm,1.0s
ARU Arti 76.95 328 *e*P **P** **12 32 39.6 -1.3**
comp=Z,25nm,0.8s
VNDA Vanda 81.34 173 *e*P **P** **12 33 04.1 -0.3**
comp=Z,7.3nm,0.9s
VNDA Vanda 81.34 173 P **P** **12 33 04.3 -0.1**
comp=Z,6.6nm,0.8s,baz=314,slow=6.0,SNR=18
RAYN Ar Rayn 81.79 293 P **P** **12 33 07.1 -0.9**
comp=Z,65nm,1.1s,SNR=5.2
MAW Mawson 82.04 200 P **P** **12 33 08.0 -0.2**
MAW Mawson 82.04 200 P **P** **12 33 08.0 -0.2**
comp=Z,13nm,0.9s,baz=62,slow=3.5,SNR=8.8
ZEI Tsey 83.99 313 *e*P **P** **12 33 18.2 -1.0**
ZEI pmax pmax
comp=Z,12nm,0.6s
PRGR Permogore 84.55 332 *e*P **P** **12 33 19.4 -1.8**
PRGR pmax pmax
comp=Z,16nm,0.5s
KBZ Khabaz 84.77 314 P **P** **12 33 22.5 -0.3**
KBZ Khabaz 84.77 314 P **P** **12 33 22.4 -0.3**
KBZ Khabaz 84.77 314 P **P** **12 33 22.4 -0.3**
comp=Z,8.0nm,1.0s,baz=210,slow=3.2,SNR=8.2
KIV Kislovodsk 84.94 314 *e*P **P** **12 33 22.7 -1.0**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,23nm,19.0s
RC01 Rabbit Creek A 85.13 29 *e*P **P** **12 33 24.3 +0.1**
COLD Coldfoot 85.55 23 *e*P **P** **12 33 26.8 +0.7**
comp=Z,7.8nm,0.8s
VRHR Novokhopersk 85.96 321 *e*P **P** **12 33 26.6 -1.9**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
ILAR Eielson Array 86.70 25 P **P** **12 33 29.9 -1.9**
ILAR PP **PP** **12 37 00.8 +4.8**
ILAR Eielson Array 86.70 25 P **P** **12 33 29.9 -1.9**
comp=Z,1.3nm,0.9s,baz=309,slow=4.1,SNR=18
ILAR PP **PP** **12 37 00.8 +4.8**
comp=Z,0.9nm,0.9s,baz=266,slow=6.9,SNR=4.5
VORD Divnogorie 87.43 321 *e*P **P** **12 33 33.3 -2.3**
VORD pmax pmax
comp=N,7.0nm,0.7s
VORD pmax pmax
comp=E,5.0nm,0.7s
VORD pmax pmax
comp=Z,9.0nm,0.7s
VSR Storozhevoye 87.51 321 *e*P **P** **12 33 33.6 -2.4**
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.6s
TMCR Tamitsa 88.16 334 *e*P **P** **12 33 37.1 -1.7**
TMCR *e* 12 37 03.2
TMCR pmax pmax
comp=Z,45nm,1.5s
OBN Obninsk 89.04 325 *e*P **P** **12 33 41.6 -1.5**
OBN *i *PP **pP** **12 34 21.2 +1.5**
OBN *e* 12 37 17.8
OBN pmax pmax
comp=Z,41nm,1.4s
ASF Jabal al Asfar 89.44 302 P **P** **12 33 45.1 -0.5**
ASF Jabal al Asfar 89.44 302 P **P** **12 33 45.1 -0.5**
comp=Z,2.7nm,0.6s,baz=78,slow=7.6,SNR=4.5
BRTR Keskin Array B 91.74 310 P **P** **12 33 55.1 -1.2**
BRTR Keskin Array B 91.74 310 P **P** **12 33 55.1 -1.2**
comp=Z,2.0nm,0.8s,baz=112,slow=5.5,SNR=7.8
ARCES ARCESS Array B 92.54 340 P **P** **12 33 57.7 -1.4**
ARCES ARCESS Array B 92.54 340 P **P** **12 33 57.7 -1.4**
comp=Z,6.6nm,0.7s,baz=69,slow=6.6,SNR=13
ARCES LR LR 13 16 41.1
comp=Z,33nm,18.7s,baz=267,slow=36
AKASG Malin Array Be 93.81 321 *ce*P **P** **12 34 03.4 -1.9**
AKASG Malin Array Be 93.81 321 P **P** **12 34 03.4 -1.9**
AKASG Malin Array Be 93.81 321 P **P** **12 34 03.4 -1.9**
comp=Z,1.4nm,0.9s,baz=75,slow=4.0,SNR=4.4
FINES FINESS Array B 93.88 332 P **P** **12 34 03.5 -1.9**
FINES pP **pP** **12 34 39.1 -2.9**
FINES FINESS Array B 93.88 332 P **P** **12 34 03.5 -1.9**
comp=Z,2.2nm,0.5s,baz=66,slow=4.6,SNR=15
FINES pP **pP** **12 34 39.1 -2.9**
comp=Z,8.6nm,1.1s,baz=64,slow=4.4,SNR=2.7
MLR Muntele Rosu 96.74 316 P **P** **12 34 17.0 -2.0**
MLR Muntele Rosu 96.74 316 P **P** **12 34 17.0 -2.0**
comp=Z,1.0nm,0.7s,baz=58,slow=6.3,SNR=6.3
NOA NORSAR Array B 100.85 334 P **Pdif** **12 34 34.6 -2.3**
NOA NORSAR Array B 100.85 334 P **Pdif** **12 34 34.6 -2.3**
comp=Z,1.6nm,0.8s,baz=66,slow=4.6,SNR=4.1
YKA Yellowknife Ar 101.12 25 P **Pdif** **12 34 37.2 -0.8**
YKA PKiKP **PKiKP** **12 39 02.2 +0.1**
YKA Yellowknife Ar 101.12 25 P **Pdif** **12 34 37.2 -0.8**
comp=Z,0.6nm,0.7s,baz=296,slow=4.7,SNR=11
YKA PKiKP **PKiKP** **12 39 02.2 +0.1**
comp=Z,0.2nm,0.5s,baz=294,slow=1.6,SNR=6.2
TXAR Lajitas Array 122.39 53 PKP **PKPdf** **12 39 44.0 +0.5**
TXAR Lajitas Array 122.39 53 PKP **PKPdf** **12 39 44.0 +0.5**
comp=Z,0.6nm,0.7s,baz=234,slow=1.0,SNR=9.1
SCHQ Schefferville 122.48 10 PKP **PKPdf** **12 39 42.2 -0.5**
SCHQ Schefferville 122.48 10 PKP **PKPdf** **12 39 42.2 -0.5**
comp=Z,1.6nm,0.6s,baz=30,slow=19,SNR=5.9
TORD Torodi Ar. Bea 124.05 287 PKP **PKPdf** **12 39 46.5 -0.4**
TORD PP **PP** **12 41 37.1 +4.3**
TORD Torodi Ar. Bea 124.05 287 PKP **PKPdf** **12 39 46.5 -0.4**
comp=Z,2.2nm,0.7s,baz=52,slow=1.9,SNR=16
TORD PP **PP** **12 41 37.1 +4.3**
comp=Z,0.8nm,1.0s,baz=44,slow=4.2,SNR=4.5
JCT Junction City 124.95 50 *e*PKIKP **PKPdf** **12 39 48.1 -0.2**
JCT Junction City 124.95 50 *e*PKPdf **PKPdf** **12 39 48.1 -0.2**
DBIC Dimbokro 131.51 280 SKPbc **SKPab** **12 43 14.0 0.0**
DBIC Dimbokro 131.51 280 SKPbc **SKPab** **12 43 14.0 0.0**
comp=Z,6.7nm,0.9s,baz=90,slow=1.9,SNR=6.7
PLCA Paso Flores 137.91 160 SKPbc **SKPbc** **12 43 34.4 +1.1**
PLCA Paso Flores 137.91 160 SKPbc **SKPbc** **12 43 34.4 +1.1**
comp=Z,2.7nm,0.9s,baz=256,slow=2.9,SNR=5.2

IDC 22 12:30:52.1±2.9, 20.36S×177.99W, h544km±24km, mb3.4/7, mb1 3.6/9, mb1mx3.3/21, mbtmp3.4/9, Error ellipse: s-maj=86.2km s-min=17.3km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.74**	**44**	P	P	12 32 57.1	-0.2
	2.1nm,0.3s,baz=291,slow=22,SNR=4.9						
DZM	**Mont Dzumac**	**14.62**	**261**	P	P	12 33 59.7	+1.8
	0.4nm,0.3s,baz=63,slow=18,SNR=6.5						
CTA	**Charters Tower**	**33.51**	**264**	P	P	12 36 47.2	+0.2
	2.7nm,0.3s,baz=86,slow=9.6,SNR=8.8						
STKA	**Stephens Creek**	**37.86**	**244**	P	P	12 37 23.6	+0.7
	2.0nm,0.6s,baz=318,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**44.56**	**257**	P	P	12 38 15.8	-0.3
	6.5nm,0.8s,baz=95,slow=7.6,SNR=64						
ASAR				PcP	PcP	12 39 47.8	+0.3
	0.9nm,0.6s,baz=104,slow=4.0,SNR=8.3						
WRA	**Warramunga Arr**	**44.63**	**262**	P	P	12 38 15.7	-1.0
	2.7nm,0.5s,baz=97,slow=7.8,SNR=37						
FITZ	**Fitzroy Crossi**	**53.06**	**262**	P	P	12 39 17.8	-1.2
	3.1nm,0.7s,baz=10,slow=9.5,SNR=9.2						
ILAR	**Eielson Array**	**88.17**	**13**	P	P	12 42 44.4	-0.3
	0.4nm,0.7s,baz=217,slow=4.9,SNR=6.4						
CMAR	**Chiang Mai Arr**	**90.08**	**290**	P	P	12 42 56.3	+1.6
	0.4nm,0.4s,baz=126,slow=4.6,SNR=3.9						
HFS	**Hagfors**	**139.40**	**351**	PKhKP	PKPpre	12 49 10.3	
	2.1nm,0.8s,baz=86,slow=8.8,SNR=4.6						
AKASG	**Malin Array Be**	**142.89**	**331**	PKhKP	PKPpre	12 49 14.9	
	0.4nm,0.3s,baz=42,slow=3.9,SNR=6.4						
AKASG				PKP	PKPdf	12 49 20.7	-3.0
	0.9nm,0.6s,baz=43,slow=4.2,SNR=5.3						
BRTR	**Keskin Array B**	**146.75**	**312**	PKPbc	PKPbc	12 49 33.8	+0.2
	1.0nm,0.6s,baz=114,slow=3.3,SNR=5.3						
GERES	**GERESS Array B**	**150.07**	**344**	PKPbc	PKPbc	12 49 41.1	-0.4
	0.8nm,0.7s,baz=45,slow=2.9,SNR=4.2						

IDC 22 12:43:19.5±2.0, 14.93S×173.67W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/18, mbtmp3.8/6, MS3.3/2, Ms1 3.3/2, ms1mx2.9/26, Error ellipse: s-maj=113.2km s-min=23.7km az=149.0

ISC 22 12:43:24.1±1.9, 14.9S±0.7×173.7W±0.4, h30km, n15, σ0§68/7, mb3.7/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.13**	**63**	Pn	Pn	12 43 48.0	-10
	84nm,0.3s,baz=180,slow=12,SNR=54						
AFI				Sn	Sn	12 44 07.3	-16
	345nm,0.3s,baz=94,slow=17,SNR=20						
DZM	**Mont Dzumac**	**20.10**	**246**	LR	LR	12 53 16.0	
	comp=Z,36nm,18.2s,baz=42,slow=30						
H11S2	**WAKE ISLAND Hy**	**38.38**	**329**	T	T	13 32 30.7	
	baz=150,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**38.39**	**329**	T	T	13 32 31.1	
	baz=150,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**38.40**	**329**	T	T	13 32 29.3	
	baz=150,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**39.33**	**330**	T	T	13 33 28.2	
	baz=152,slow=77,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**39.33**	**330**	T	T	13 33 21.2	
	baz=152,slow=77,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**39.34**	**330**	T	T	13 33 11.7	
	baz=152,slow=77,SNR=4.1						
WRA	**Warramunga Arr**	**49.66**	**256**	P	**P**	**12 52 13.3**	**-0.2**
	0.3nm,0.6s,baz=98,slow=6.6,SNR=9.2						
ASAR	**Alice Springs**	**49.97**	**252**	P	**P**	**12 52 15.8**	**-0.1**
	1.9nm,0.6s,baz=86,slow=8.1,SNR=49						
ASAR				LR	LR	13 10 30.5	
	comp=Z,65nm,19.2s,baz=294,slow=33						
TXAR	**Lajitas Array**	**80.60**	**56**	P	**P**	**12 55 34.4**	**0.0**
	0.7nm,1.1s,baz=215,slow=11,SNR=3.9						
ILAR	**Eielson Array**	**82.02**	**11**	P	**P**	**12 55 40.5**	**-0.4**
	0.9nm,0.8s,baz=232,slow=6.4,SNR=9.3						
PDAR	**Pinedale Array**	**82.11**	**42**	P	**P**	**12 55 42.5**	**+0.3**
	0.2nm,0.3s,baz=45,slow=0.2,SNR=3.6						
YKA	**Yellowknife Ar**	**89.77**	**23**	P	**P**	**12 56 18.9**	**-0.4**
	0.5nm,0.8s,baz=239,slow=4.7,SNR=11						
BRTR	**Keskin Array B**	**145.58**	**321**	PKPbc	**PKPab**	**13 03 01.6**	**+1.2**
	2.4nm,0.8s,baz=94,slow=3.2,SNR=11						

MEX 22 13:11:25.1±0.6, 16.08N×97.65W, h6km±8km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.55**	**304**	*i* P	Pg	13 11 35.0	-0.8
PNIG				*i* S	Sg	13 11 43.9	+0.8
VHO	**Vista Hermosa**	**1.32**	**42**	*i* P	Pn	13 11 46.6	-3.8
VHO				*i* S	Sb	13 12 03.2	-4.7
HUIG	**Huatulco**	**1.52**	**102**	*i* P	Pn	13 11 49.4	-3.4
HUIG				*i* S	Sn	13 12 07.8	-5.1
TLIG	**Tlapa**	**1.71**	**329**	*i* P	Pn	13 11 51.5	-4.2
TLIG				*i* S	Sn	13 12 12.4	-5.6

IDC 22 13:40:58.2±1.9, 16.60S×173.57W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/21, mbtmp4.0/5, ML2.4/1, Error ellipse: s-maj=55.7km s-min=28.2km az=124.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.19**	**33**	Pn	Pn	13 41 49.7	-0.1
	27nm,0.3s,baz=182,slow=2.5,SNR=43						
AFI				Sn	Sn	13 42 22.4	-6.3
	23nm,0.3s,baz=63,slow=22,SNR=8.7						
URZ	**Urewera**	**23.08**	**199**	P	P	13 46 05.7	+0.2
	2.6nm,0.3s,baz=22,slow=11,SNR=15						
STKA	**Stephens Creek**	**43.30**	**241**	P	P	13 49 02.1	+0.1
	0.7nm,0.4s,baz=78,slow=9.6,SNR=7.0						
WRA	**Warramunga Arr**	**49.42**	**258**	P	P	13 49 49.8	-0.6
	0.2nm,0.5s,baz=98,slow=6.9,SNR=7.1						
ASAR	**Alice Springs**	**49.59**	**253**	P	P	13 49 51.6	0.0
	2.4nm,0.5s,baz=88,slow=8.5,SNR=87						

IDC 22 14:27:05.0±20.0, 22.58N×127.30E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=515.8km s-min=49.3km az=3.0
JMA 22 14:27:28.2±0.3, 23.87N×124.96E, h22km, M3.1

ISC 22 14:27:27.3±2.2, 23.8N±0.2×125.0E±0.1, h21km±6km, n11, σ0§38/16, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.84**	**341**	P	**Pb**	**14 27 43.2**	**+0.1**
JTJ				S	**Sb**	**14 27 54.1**	**+0.1**
JIJ	**Ishigaki jima**	**0.93**	**304**	P	**Pb**	**14 27 44.4**	**-0.4**
JIJ				S	**Sb**	**14 27 56.4**	**-0.4**
JKRS	**Kuro-shima**	**0.98**	**294**	P	**Pn**	**14 27 46.2**	**+0.4**
JOGS	**Gusukube**	**0.99**	**22**	P	**Pn**	**14 27 46.1**	**+0.2**
JOGS				S	**Sn**	**14 27 59.6**	**+0.4**
JMJ	**Miyako jima 2**	**1.00**	**16**	P	**Pn**	**14 27 46.2**	**0.0**
JMJ				S	**Sb**	**14 27 59.1**	**+0.3**
HATJ	**Hateruma jima**	**1.11**	**281**	P	**Pb**	**14 27 47.9**	**+0.1**
HATJ				S	**Sb**	**14 28 01.7**	**0.0**
IRIF	**Iriomote-Funau**	**1.25**	**293**	P	**Pn**	**14 27 49.8**	**+0.2**
YOJ	**Yonaguni jima**	**1.91**	**289**	P	**Pn**	**14 27 59.2**	**+0.5**
JKE	**Kume jima 2**	**2.96**	**33**	P	**Pn**	**14 28 13.1**	**+0.1**
MKAR	**Makanchi Array**	**41.03**	**315**	P	**P**	**14 35 09.2**	**+0.2**
	0.5nm,0.5s,baz=101,slow=9.2,SNR=14						
ZALV	**Zalesovo Beam**	**42.46**	**326**	P	**P**	**14 35 19.8**	**-0.8**
	0.9nm,0.6s,baz=117,slow=8.6,SNR=4.1						

IDC 22 14:27:56.5±2.3, 1.11S×127.41E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=203.4km s-min=26.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.91**	**161**	P	P	14 32 28.5	-1.5
	0.1nm,0.3s,baz=342,slow=12,SNR=18						
ASAR	**Alice Springs**	**23.29**	**165**	P	P	14 33 07.1	+1.0
	1.4nm,0.7s,baz=350,slow=10,SNR=21						
MKAR	**Makanchi Array**	**61.92**	**327**	P	P	14 38 18.0	-0.1
	0.1nm,0.3s,baz=119,slow=7.3,SNR=5.0						

IDC 22 14:32:09.3±0.8, 2.17N×126.50E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, Error ellipse: s-maj=46.8km s-min=14.5km az=73.0
ISCJB 22 14:32:14.8±0.6, 2.31N±0.06×126.91E±0.08, h53km, mb3.7/8, Error ellipse: s-maj=12.7km s-min=7.2km az=157.2
DJA 22 14:32:14.5±0.9, 2°N±6'×12°7E±', h10km, M4.5/4, mb4.9/2, mB4.8/2, MLv4.3/4, Mw(mB)4.0/2

ISC 22 14:32:16.1±0.8, 2.30N±0.07×126.87E±0.10, h53km, n17, σ1§46/17, mb3.8/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.59**	**162**	P	**Pn**	**14 32 43.2**	**+1.2**
TNTI				S	**Sn**	**14 32 59.9**	**-1.6**
SGSI	**Sangihe**	**1.93**	**316**	P	**Pn**	**14 32 47.1**	**+0.6**
SGSI				S	Sn	14 33 02.0	-7.6
LBMI	**Labuha**	**2.98**	**168**	P	**Pn**	**14 33 02.4**	**+1.4**
KMSI	**Cibinong**	**3.36**	**239**	P	Pn	14 33 10.6	+4.4
GTOI	**Gorontalo**	**4.20**	**247**	P	**Pn**	**14 33 17.9**	**+0.2**
MRSI	**Marisa**	**5.25**	**250**	P	**Pn**	**14 33 33.8**	**+1.7**
	80nm,0.9s,725nm						
APSI	**Ampana**	**6.12**	**239**	P	**Pn**	**14 33 46.5**	**+2.5**
FITZ	**Fitzroy Crossi**	**20.31**	**183**	P	**P**	**14 36 45.9**	**-1.9**
	1.9nm,0.4s,baz=12,slow=11,SNR=12						
WRA	**Warramunga Arr**	**23.29**	**162**	P	**P**	**14 37 18.5**	**-1.0**
	1.5nm,0.4s,baz=336,slow=10.0,SNR=36						
ASAR	**Alice Springs**	**26.70**	**166**	P	**P**	**14 37 50.1**	**-0.5**
	0.6nm,0.4s,baz=344,slow=9.5,SNR=25						
ASAR				PcP	**PcP**	**14 41 13.5**	**+0.2**
	0.3nm,0.7s,baz=342,slow=1.8,SNR=4.0						
CMAR	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**14 38 34.0**	**-1.4**
	0.7nm,0.8s,baz=122,slow=6.5,SNR=5.9						
KSRS	**Korea Array**	**35.00**	**1**	P	**P**	**14 39 05.1**	**+1.6**
	0.5nm,0.5s,baz=174,slow=9.6,SNR=3.3						
STKA	**Stephens Creek**	**36.75**	**159**	P	**P**	**14 39 19.2**	**+0.7**
	1.0nm,0.3s,baz=336,slow=9.5,SNR=12						
USRK	**Ussuriysk Arra**	**41.97**	**6**	P	**P**	**14 40 03.7**	**+1.8**
	1.6nm,0.8s,baz=184,slow=5.5,SNR=5.3						
SONM	**Songino Array**	**48.69**	**342**	P	**P**	**14 40 54.9**	**-0.4**
	0.2nm,0.4s,baz=148,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**58.81**	**326**	P	**P**	**14 42 08.1**	**-1.1**
	0.6nm,0.4s,baz=125,slow=8.6,SNR=21						
H06E1	**SOCORRO T-PHASE**	**19.45**	**67**	T	T	17 01 44.0	
	SNR=4.3						

KRSC 22 14:41:38.9±3.4, 49.54N×156.59E, h101km±61km, ML4.4
MOS 22 14:41:41.4±1.7, 49.84N×156.19E, h80km, mb4.4/6, Error ellipse: s-maj=14.8km s-min=7.3km az=74.2
ISCJB 22 14:41:43.5±0.8, 49.84N±0.07×156.3E±0.1, h103km±6km, mb3.7/15, Error ellipse: s-maj=14.0km s-min=6.9km az=137.4
IDC 22 14:41:49.4±3.5, 50.21N×156.06E, h120km±27km, mb3.4/13, mb1 3.6/14, mb1mx3.4/25, mbtmp3.4/14, Error ellipse: s-maj=36.9km s-min=14.8km az=167.0

ISC 22 14:41:42.7±1.3, 49.69N±0.10×156.45E±0.08, h85km±9km, n62, σ1§49/68, mb3.8/15, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.01**	**348**	*e*PN	Pn	14 41 56.0	-6.2
SKR				*e*S	Sn	14 42 09.5	-7.3
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=E,100nm,0.3s						
SKR				smax	smax		
	comp=N,4μm,0.2s						
SKR				smax	smax		
	comp=E,2μm,0.2s						
SKR	**Severo-Kuril's**	**1.01**	**348**	*i* P	**Pn**	**14 42 02.4**	**+0.2**
SKR				*e*S	**Sn**	**14 42 16.2**	**-0.6**
PAU	**Pauzhetka**	**1.79**	**7**	PN	**Pn**	**14 42 13.0**	**+1.0**
PAU				S	**Sn**	**14 42 34.4**	**+0.2**
PAU	**Pauzhetka**	**1.79**	**7**	*i* P	**Pn**	**14 42 13.0**	**+1.0**
PAU				*i* S	**Sn**	**14 42 34.4**	**+0.2**
MIPR	**Malaya Ipel'ka**	**2.59**	**4**	*e*P	**Pn**	**14 42 24.2**	**+1.5**
ASAK	**Asacha**	**2.85**	**18**	*e*P	**Pn**	**14 42 27.8**	**+1.7**
ASAK				*e*S	**Sn**	**14 43 00.0**	**+0.5**
MTVR	**Mutnovka**	**3.00**	**21**	*i* P	**Pn**	**14 42 29.4**	**+1.1**
MTVR				*i* S	**Sn**	**14 43 02.9**	**-0.4**
RUS	**Russkaya**	**3.04**	**25**	PN	**Pn**	**14 42 28.8**	**+0.2**
RUS				S	**Sn**	**14 43 02.0**	**-1.9**
RUS	**Russkaya**	**3.04**	**25**	*i* P	**Pn**	**14 42 28.8**	**+0.2**
RUS				*i* S	**Sn**	**14 43 02.0**	**-1.9**
GRL	**Gorelyy**	**3.04**	**19**	*i* P	**Pn**	**14 42 30.4**	**+1.6**
GRL				*e*S	**Sn**	**14 43 04.2**	**0.0**
APC	**Apacha**	**3.27**	**8**	*i* P	**Pn**	**14 42 33.6**	**+1.9**
APC				*e*S	**Sn**	**14 43 10.2**	**+0.7**
PETK	**Petropavlovsk-**	**3.51**	**12**	PN	**Pn**	**14 42 36.9**	**+1.9**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.51**	**12**	P	**Pn**	**14 42 36.9**	**+1.9**
	comp=Z,8.5nm,0.3s,baz=171,slow=14,SNR=311						
PETK				S	**Sn**	**14 43 19.0**	**+3.6**
	comp=Z,3.1nm,0.3s,baz=137,slow=22,SNR=4.5						
PET	**Petropavlovsk**	**3.61**	**22**	*e*PN	**Pn**	**14 42 37.3**	**+1.0**
PET				*e*S	**Sn**	**14 43 17.9**	**+0.1**
PET				pmax	pmax		
	comp=Z,62nm,0.5s						
PET				smax	smax		
	comp=N,180nm,0.6s						
PET				smax	smax		
	comp=E,144nm,0.5s						
PET	**Petropavlovsk**	**3.61**	**22**	*i* P	**Pn**	**14 42 37.7**	**+1.4**
PET				*e*S	**Sn**	**14 43 16.7**	**-1.1**
SDLR	**Sedlovina**	**3.90**	**22**	*e*P	**Pn**	**14 42 41.4**	**+1.0**
SDLR				*e*S	**Sn**	**14 43 23.1**	**-1.9**
NLC	**Nalytchevo**	**3.93**	**26**	PN	**Pn**	**14 42 40.2**	**-0.4**
NLC				S	**Sn**	**14 43 22.0**	**-3.5**
NLC	**Nalytchevo**	**3.93**	**26**	*e*P	**Pn**	**14 42 40.2**	**-0.4**
NLC				*e*S	**Sn**	**14 43 22.0**	**-3.5**
SPN	**Mys Shipunski**	**4.08**	**32**	*e*S	**Sn**	**14 43 27.2**	**-2.0**
GNL	**Ganaly**	**4.12**	**12**	*e*P	**Pn**	**14 42 45.4**	**+2.1**
GNL				S	**Sn**	**14 43 29.8**	**-0.5**
KZV	**Kizimen**	**5.92**	**22**	*e*P	**Pn**	**14 43 09.2**	**+1.4**
KZV				S	**Sn**	**14 44 12.1**	**-2.1**
TUMR	**Tumrok**	**6.04**	**21**	*e*P	**Pn**	**14 43 11.3**	**+1.9**
SRKR	**Sorokina**	**7.53**	**20**	*e*P	**Pn**	**14 43 31.1**	**+1.4**
KBTR	**Krutoberegovo**	**7.57**	**28**	PN	**Pn**	**14 43 30.1**	**-0.1**
KBTR	**Krutoberegovo**	**7.57**	**28**	*e*P	**Pn**	**14 43 30.1**	**-0.1**
BKI	**Bering**	**8.02**	**43**	PN	**Pn**	**14 43 35.1**	**-1.1**
BKI	**Bering**	**8.02**	**43**	*e*P	**Pn**	**14 43 35.1**	**-1.1**
BKI				*e*S	Sn	14 44 56.4	-8.7
SHO	**Shikotan**	**8.80**	**232**	S	Sn	14 45 15.1

SONM	**Songino Array**	**32.56**	**286**	P	**P**	**14 48 04.4**	**-1.2**	
	comp=Z,0.2nm,0.4s,baz=68,slow=8.2,SNR=3.3							
ILAR	**Eielson Array**	**32.86**	**41**	P	**P**	**14 48 09.0**	**+1.0**	
	comp=Z,0.4nm,0.9s,baz=257,slow=5.9,SNR=5.7							
ZALV	**Zalesovo Beam**	**42.75**	**304**	*eP*	**P**	**14 49 30.5**	**-0.7**	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**42.75**	**304**	P	**P**	**14 49 30.2**	**-1.0**	
	comp=Z,1.0nm,0.5s,baz=63,slow=7.1,SNR=7.8							
YKA	**Yellowknife Ar**	**47.23**	**39**	P	**P**	**14 50 08.1**	**+1.5**	
	comp=Z,0.1nm,0.6s,baz=295,slow=7.2,SNR=3.2							
MKAR	**Makanchi Array**	**47.60**	**296**	*eP*	**P**	**14 50 08.8**	**-1.0**	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**47.60**	**296**	P	**P**	**14 50 09.0**	**-0.7**	
	comp=Z,1.5nm,0.7s,baz=59,slow=7.5,SNR=18							
QIZ	**Qiongzhong**	**48.05**	**248**	P	P	14 50 09.0	-4.5	
QIZ				S	**S**	**14 57 04.1**	**-1.3**	
QIZ				LR	LR			
	comp=Z,51nm,22.9s							
BRVK	**Borovoye**	**50.77**	**309**⇓	*eP*	**P**	**14 50 32.7**	**-1.0**	
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ARU	**Arti**	**54.35**	**317**	*eP*	**P**	**14 50 59.5**	**-0.7**	
ARU				*i* XP	x	14 51 16.8		
CMAR	**Chiang Mai Arr**	**55.22**	**257**	P	**P**	**14 51 09.3**	**+2.4**	
	comp=Z,2.0nm,0.8s,baz=34,slow=7.2,SNR=14							
PDAR	**Pinedale Array**	**61.24**	**57**	P	**P**	**14 51 51.2**	**+2.3**	
	comp=Z,0.9nm,1.0s,baz=318,slow=2.0,SNR=4.7							
FINES	**FINESS Array B**	**62.31**	**336**	P	**P**	**14 51 54.2**	**-1.2**	
	comp=Z,4.5nm,1.0s,baz=46,slow=8.0,SNR=3.4							
NOA	**NORSAR Array B**	**66.13**	**342**	P	**P**	**14 52 19.4**	**-1.0**	
	comp=Z,0.9nm,0.7s,baz=24,slow=6.3,SNR=3.5							
AKASG	**Malin Array Be**	**70.30**	**327**	P	**P**	**14 52 45.5**	**-1.1**	
AKASG	**Malin Array Be**	**70.30**	**327**	P	**P**	**14 52 45.5**	**-1.1**	
	comp=Z,0.2nm,0.3s,baz=35,slow=6.8,SNR=2.2							
TXAR	**Lajitas Array**	**74.14**	**63**	P	**P**	**14 53 12.0**	**+2.0**	
	comp=Z,0.4nm,0.6s,baz=316,slow=5.0,SNR=6.3							
GERES	**GERESS Array B**	**76.74**	**336**	P	**P**	**14 53 24.3**	**-0.2**	
	comp=Z,0.3nm,0.5s,baz=27,slow=6.6,SNR=3.6							
BRTR	**Keskin Array B**	**77.72**	**318**	P	**P**	**14 53 30.9**	**+0.6**	
	comp=Z,0.9nm,0.5s,baz=49,slow=4.9,SNR=4.3							
H03N2	**Juan Fernandez**	**136.52**	**90**	T	T	17 33 07.9		
	baz=310,slow=75,SNR=5.8							
H03N1	**Juan Fernandez**	**136.53**	**90**	T	T	17 33 09.8		
	baz=310,slow=75,SNR=5.7							
H03N3	**Juan Fernandez**	**136.53**	**90**	T	T	17 33 08.0		
	baz=310,slow=75,SNR=5.2							

*IDC **22** 15:50:22.5±2.1,20.07°S×178.26W,h568km±28km, mb3.1/10,mb1 3.3/12,mb1mx3.2/20,mbtmp3.1/12,Error ellipse: s-maj=27.3km s-min=14.9km az=148.0*
*ISCJB **22** 15:50:23.2±0.8,20.02°S±0.2°×178.2W±0.2°,h602km, mb3.5/10,Error ellipse: s-maj=24.4km s-min=14.4km az=139.7*

ISC 22 15:50:25.0±1.0,20.2°S±0.2°×178.3W±0.2°,h602km,n13, σ1♀11/11,mb3.6/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.83**	**46**	P	P	15 52 28.4	-4.1
	1.4nm,0.3s,baz=244,slow=22,SNR=3.8						
URZ	**Urewera**	**18.44**	**191**	P	**P**	**15 54 02.9**	**-1.4**
	1.1nm,0.3s,baz=3.1,slow=3.4,SNR=12						
CTA	**Charters Tower**	**33.23**	**264**	P	**P**	**15 56 14.6**	**+0.4**
	2.2nm,0.4s,baz=90,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**44.31**	**256**	P	**P**	**15 57 43.7**	**+0.5**
	0.9nm,0.7s,baz=89,slow=7.6,SNR=31						
WRA	**Warramunga Arr**	**44.36**	**262**	P	**P**	**15 57 43.5**	**-0.1**
	1.1nm,0.6s,baz=98,slow=8.3,SNR=63						
MJAR	**Matsushiro Arr**	**69.79**	**324**	P	**P**	**16 00 35.1**	**-1.1**
	1.3nm,0.5s,baz=152,slow=5.4,SNR=5.7						
PETK	**Petropavlovsk-**	**75.90**	**345**	P	**P**	**16 01 09.6**	**-1.0**
	3.1nm,0.9s,baz=141,slow=8.3,SNR=5.1						
KSRS	**Korea Array**	**76.46**	**319**	P	**P**	**16 01 14.1**	**0.0**
	0.7nm,0.6s,baz=129,slow=6.1,SNR=3.7						
TXAR	**Lajitas Array**	**87.13**	**57**	P	**P**	**16 02 09.9**	**+1.4**
	0.8nm,0.8s,baz=205,slow=5.5,SNR=7.6						
ILAR	**Eielson Array**	**88.08**	**13**	P	**P**	**16 02 10.8**	**-1.1**
	0.2nm,0.5s,baz=217,slow=4.4,SNR=5.2						
PDAR	**Pinedale Array**	**88.93**	**43**	P	**P**	**16 02 17.1**	**+0.4**
	0.3nm,0.5s,baz=247,slow=3.4,SNR=2.9						
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**16 02 22.1**	**+1.4**
	0.6nm,0.7s,baz=91,slow=3.6,SNR=4.6						
AKASG	**Malin Array Be**	**142.60**	**331**	PKhKP	PKPpre	16 08 46.3	
	0.3nm,0.3s,baz=42,slow=3.5,SNR=5.8						

IDC 22 16:09:25.6±2.7,5.22°S×158.57E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.3/18,mbtmp3.4/3,Error ellipse: s-maj=175.4km s-min=28.8km az=131.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.75**	**236**	P	P	16 15 16.6	+0.3
	0.3nm,0.6s,baz=62,slow=9.2,SNR=7.5						
ASAR	**Alice Springs**	**30.02**	**230**	P	P	16 15 36.1	-0.3
	0.3nm,0.8s,baz=62,slow=9.7,SNR=7.0						
ILAR	**Eielson Array**	**80.44**	**21**	P	P	16 21 39.0	0.0
	0.2nm,0.6s,baz=239,slow=5.1,SNR=3.2						

*IDC **22** 16:16:13.7±2.0,2.46N×95.31E,h0km,mb3.5/5,mb1 3.6/7, mb1mx3.4/28,mbtmp3.4/7,ML3.5/2,Error ellipse: s-maj=61.6km s-min=20.9km az=57.0*
*ISCJD **22** 16:16:16.8±1.3,2.6N±0.1°×95.6E±0.1°,h25km,mb3.4/5, Error ellipse: s-maj=22.5km s-min=13.9km az=42.8*

ISC 22 16:16:18.9±1.7,2.7N±0.2°×95.6E±0.2°,h25km,n10, σ1♀05/10,mb3.4/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.34**	**88**	Pn	**Pn**	**16 17 11.5**	**+1.8**
	1.3nm,0.3s,baz=320,slow=8.3,SNR=4.7						
KULM	**Kulim**	**5.68**	**63**	P	**Pn**	**16 17 41.1**	**-0.7**
IPM	**Ipoh**	**5.72**	**72**	P	**Pn**	**16 17 41.1**	**-1.3**
KSM	**Kuching**	**14.77**	**94**	P	**Pn**	**16 19 46.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.02**	**12**	Pn	**Pn**	**16 20 03.9**	**+1.0**
	0.1nm,0.3s,baz=198,slow=11,SNR=7.6						
WRA	**Warramunga Arr**	**44.19**	**122**	P	**P**	**16 24 25.6**	**-0.6**
	0.5nm,1.1s,baz=297,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**45.44**	**347**	P	**P**	**16 24 35.9**	**+0.1**
	0.7nm,0.5s,baz=151,slow=8.5,SNR=5.4						
ASAR	**Alice Springs**	**45.57**	**127**	P	**P**	**16 24 36.3**	**-0.9**
	0.4nm,0.9s,baz=299,slow=8.4,SNR=3.5						
SONM	**Songino Array**	**45.94**	**10**	P	**P**	**16 24 40.2**	**+0.3**
	0.1nm,0.5s,baz=121,slow=10,SNR=2.3						
ZALV	**Zalesovo Beam**	**51.87**	**352**	P	**P**	**16 25 24.9**	**-0.2**
	0.8nm,0.5s,baz=164,slow=5.7,SNR=5.9						

*IDC **22** 16:25:21.4±9.2,14.70°S×167.22E,h112km±68km,mb3.6/5, mb1 3.7/6,mb1mx3.4/21,mbtmp3.6/6,Error ellipse: s-maj=124.0km s-min=53.4km az=73.0*

ISC 22 16:25:23.8±4.8,14.8°S±0.2°×166.9E±0.5°,h100km,n8, σ1♀39/10,mb3.9/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.25**	**183**	P	**Pn**	**16 27 07.2**	**0.0**
	5.2nm,0.3s,baz=137,slow=15,SNR=54						
DZM				S	**Sn**	**16 28 27.4**	**-0.6**
	1.7nm,0.3s,baz=312,slow=23,SNR=4.0						
DZM	**Mont Dzumac**	**7.25**	**183**	*eP*	**Pn**	**16 27 07.0**	**-0.2**
DZM				*eS*	**Sn**	**16 28 27.6**	**-0.4**
NORM	**Noumea**	**7.41**	**183**	*eP*	**Pn**	**16 27 10.9**	**+1.7**
CTA	**Charters Tower**	**20.36**	**252**	P	**P**	**16 29 54.8**	**+2.3**
	2.2nm,0.8s,baz=90,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**28.66**	**229**	P	**P**	**16 31 11.2**	**0.0**
	3.4nm,0.5s,baz=49,slow=10,SNR=24						
WRA	**Warramunga Arr**	**31.44**	**256**	P	**P**	**16 31 34.2**	**-1.8**
	0.5nm,0.8s,baz=85,slow=8.9,SNR=9.7						
ASAR	**Alice Springs**	**32.29**	**249**	P	**P**	**16 31 42.1**	**-1.3**
	1.1nm,0.5s,baz=78,slow=9.1,SNR=26						
FITZ	**Fitzroy Crossi**	**39.63**	**259**	P	**P**	**16 32 45.6**	**-0.5**
	1.6nm,0.8s,baz=284,slow=22,SNR=4.8						

GUC 22 16:33:18.6±0.6,32.44S×70.73W,h77km±3km,MD3.5, ML3.3,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**0.27**	**154**	*i* P	Pn	16 33 31.0	+0.4
JACH				*i* S	Sn	16 33 40.2	+0.9
ROCH	**El Roble**	**0.58**	**204**	*i* P	Pn	16 33 33.5	+0.4
ROCH				*i* S	Sn	16 33 44.9	+1.1
ROCH				AML	AML	16 33 45.7	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**0.70**	**177**⇑	*i* P	Pn	16 33 34.2	+0.1
PEL				*i* S	Sn	16 33 46.5	+0.9
PEL				AML	AML	16 33 47.7	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**0.96**	**170**	*e*P	Pn	16 33 37.3	+0.2
CLCH				*i* S	Sn	16 33 51.8	+0.8
CLCH				AML	AML	16 33 54.0	
	comp=E,676nm,0.4s						
STL	**Santa Lucia**	**0.99**	**176**	*e*P	Pn	16 33 37.7	+0.3
STL				*e*S	Sn	16 33 52.1	+0.6
SAN	**Santiago**	**1.01**	**177**	*i* S	Sn	16 33 52.4	+0.6
SAN				AML	AML	16 33 53.8	
	comp=N,396nm,0.3s						
RCDM	**Rinconada Maip**	**1.04**	**183**	*i* P	Pn	16 33 36.1	-2.0
RCDM				*i* S	Sn	16 33 51.1	-1.5
RCDM				AML	AML	16 33 55.6	
	comp=E,3μm,0.1s						
CMCH	**Combarbala**	**1.29**	**350**	*e*P	Pn	16 33 41.6	+0.4
CMCH				*i* S	Sn	16 33 58.9	+0.7
CMCH				AML	AML	16 34 01.9	
	comp=E,1μm,0.5s						
LMEL	**Las Melosas**	**1.47**	**163**	*i* P	Pn	16 33 44.3	+0.7
LMEL				*i* S	Sn	16 34 03.4	+0.9
LMEL				AML	AML	16 34 07.3	
	comp=N,1μm,0.2s						
LNV	**Longovilo**	**1.61**	**200**⇑	*i* P	Pn	16 33 45.5	+0.2
LNV				*i* S	Sn	16 34 06.5	+1.0

MEX 22 16:52:30.3±0.4,18.04N×103.37W,h4km±3km,MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.25**	**5**	*i* P	Pg	16 52 34.9	-0.2
MMIG				*i* S	Sg	16 52 38.5	+0.2
R15V		**1.27**	**333**	*e*P	Pg	16 52 51.0	-3.7
R15V				*i* S	Sg	16 53 07.7	-3.5
EZ5V		**1.45**	**351**	*i* P	Pn	16 52 53.7	-4.0
EZ5V				*i* S	Sb	16 53 12.1	-5.3
ZIIG	**Zihuatanejo**	**1.86**	**103**	*i* P	Pn	16 52 59.9	-3.2
ZIIG				*i* S	Sn	16 53 22.1	-5.0
SFJM	**Santa Fe**	**2.45**	**7**	*i* P	Pn	16 53 07.9	-3.5
SFJM				*i* S	Sn	16 53 37.5	-4.5
ARIG	**Puente Sto Nin**	**2.88**	**85**	*i* P	Pn	16 53 13.9	-3.2
ARIG				*i* S	Sn	16 53 49.2	-3.2

*IDC **22** 16:54:17.6±1.8,14.75°S×165.87E,h0km,mb3.8/6, mb1 3.8/8,mb1mx3.7/20,mbtmp3.7/8,ML3.3/2,MS3.2/2, Ms1 3.2/2,ms1mx2.5/22,Error ellipse: s-maj=39.7km s-min=28.9km az=99.0*
*ISCJB **22** 16:54:21.7±1.5,14.88S±0.10°×165.7E±0.2°,h33km, mb3.7/7,MS3.8/1,Error ellipse: s-maj=29.2km s-min=10.7km az=160.2*

ISC 22 16:54:22.9±1.6,14.8S±0.1°×165.8E±0.2°,h35km,n11, σ0♀75/10,mb3.9/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.28**	**176**	Pn	**Pn**	**16 56 05.9**	**-1.0**
	0.6nm,0.3s,baz=343,slow=23,SNR=10.0						
DZM				Sn	**Sn**	**16 57 29.4**	**+1.1**
	baz=139,slow=19,SNR=2.7						
DZM				LR	LR	16 57 56.2	
	comp=Z,52nm,18.1s,baz=38,slow=30						
CTA	**Charters Tower**	**19.42**	**251**	P	**P**	**16 58 46.1**	**-0.2**
	0.1nm,0.3s,baz=88,slow=8.9,SNR=1.9						
STKA	**Stephens Creek**	**27.92**	**228**	P	**P**	**17 00 10.9**	**+1.0**
	2.4nm,1.0s,baz=50,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**30.48**	**256**	P	**P**	**17 00 32.4**	**-0.4**
	0.5nm,0.8s,baz=86,slow=9.3,SNR=4.5						
ASAR	**Alice Springs**	**31.37**	**249**	P	**P**	**17 00 40.3**	**-0.3**
	0.3nm,0.7s,baz=72,slow=10.0,SNR=4.5						
FITZ	**Fitzroy Crossi**	**38.65**	**259**	P	**P**	**17 01 43.4**	**0.0**
	2.4nm,0.9s,baz=134,slow=24,SNR=3.0						
PPT	**Papeete**	**42.84**	**100**	LR	LR	17 16 46.9	
	comp=Z,105nm,18.2s,baz=22,slow=32						
ILAR	**Eielson Array**	**87.00**	**18**	P	P	17 06 55.0	-9.2
	0.9nm,0.7s,baz=241,slow=5.1,SNR=8.3						
MKAR	**Makanchi Array**	**96.29**	**317**	P	**P**	**17 07 48.3**	**+0.4**
	0.3nm,0.7s,baz=90,slow=5.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**96.62**	**324**	P	**P**	**17 07 49.7**	**+0.6**
	0.2nm,0.3s,baz=116,slow=3.4,SNR=3.0						
ARCES	**ARCESS Array B**	**119.95**	**345**	PKP	**PKPdf**	**17 13 08.8**	**-0.3**
	2.2nm,0.8s,baz=41,slow=1.7,SNR=4.5						

*IDC **22** 17:23:52.4±1.1,27.16N×90.78E,h0km,mb3.5/9, mb1 3.6/9,mb1mx3.4/29,mbtmp3.5/9,MS3.7/1,Ms1 3.7/1, ms1mx2.4/40,Error ellipse: s-maj=75.2km s-min=17.6km az=57.0*
*ISCJB **22** 17:23:56.6±0.7,27.5N±0.2°×91.0E±0.4,h33km,mb3.5/8, MS3.5/1,Error ellipse: s-maj=58.0km s-min=7.7km az=154.2*

ISC 22 17:23:58.5±0.8,27.5N±0.2°×91.1E±0.4,h35km,n11, σ0♀90/11,mb3.4/8,Bhutan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.02**	**158**	*e*PN	**Pn**	**17 24 31.0**	**+0.7**
SHL				*e*SN	**Sn**	**17 24 55.0**	**+0.5**
MKAR	**Makanchi Array**	**20.50**	**343**	P	**P**	**17 28 34.2**	**+0.8**
	0.4nm,0.4s,baz=170,slow=10.0,SNR=9.3						
KURBB	**Kurchatov Arra**	**25.02**	**341**	P	**P**	**17 29 19.6**	**+0.5**
	0.4nm,0.6s,baz=152,slow=9.1,SNR=5.5						
PSI	**Prapat**	**25.65**	**162**	LR	LR	17 41 19.9	
	comp=Z,163nm,21.4s,baz=62,slow=41						
ZALV	**Zalesovo Beam**	**26.86**	**352**	P	**P**	**17 29 37.0**	**+1.3**
	0.4nm,0.5s,baz=169,slow=8.8,SNR=3.1						
BVAR	**Borovoye Array**	**29.80**	**335**	P	**P**	**17 30 02.6**	**+0.7**
	0.3nm,0.4s,baz=138,slow=9.3,SNR=3.1						
AKASG	**Malin Array Be**	**51.63**	**314**	P	**P**	**17 33 00.8**	**-0.6**
	0.1nm,0.3s,baz=84,slow=6.3,SNR=3.5						
FINES	**FINESS Array B**	**54.35**	**328**	P	**P**	**17 33 21.0**	**-0.3**
	3.0nm,0.9s,baz=108,slow=10,SNR=4.9						
NOA	**NORSAR Array B**	**61.51**	**327**	P	**P**	**17 34 11.6**	**0.0**
	0.7nm,0.8s,baz=79,slow=7.2,SNR=2.7						
WRA	**Warramunga Arr**	**63.06**	**134**	P	**P**	**17 34 21.5**	**-1.0**
	0.5nm,1.2s,baz=316,slow=8.3,SNR=5.1						
ASAR	**Alice Springs**	**65.53**	**137**	P	**P**	**17 34 37.5**	**-1.1**
	0.2nm,0.5s,baz=320,slow=5.9,SNR=8.2						

MEX 22 17:31:46.7±0.5,17.32N×100.82W,h24km±13km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.68**	**295**	*i* P	Pb	17 31 58.2	-1.8
ZIIG				*e*S	Sb	17 32 06.2	-2.9
ACP2	**Acapulco**	**0.99**	**116**	*i* P	Pn	17 32 01.9	-3.2
ACP2				*i* S	Sb	17 32 14.4	-3.5
ACX	**Acapulco**	**1.02**	**116**	*i* P	Pn	17 32 01.6	-3.9
ACX				*i* S	Sb	17 32 13.0	-5.7
ARIG	**Puente Sto Nin**	**1.06**	**25**	*i* P	Pn	17 32 02.8	-3.3
ARIG				*i* S	Sb	17 32 15.8	-4.1
PLIG	**Platanillo**	**1.65**	**49**	*e*P	Pn	17 32 11.6	-2.7
PLIG				*i* S	Sn	17 32 31.6	-3.2
TLIG	**Tlapa**	**2.16**	**83**	*e*P	Pn	17 32 19.4	-1.9
TLIG				*i* S	Sn	17 32 44.5	-3.0
YAIG	**Yautepec**	**2.27**	**47**	*e*P	Pn	17 32 20.7	-2.2
YAIG				*i* S	Sn	17 32 47.0	-3.2
PNIG	**Pinotepa**	**2.73**	**109**	*i* P	Pn	17 32 26.3	-2.8
PNIG				*i* S	Sn	17 32 58.7	-2.8

*TIR **22** 17:31:46.9,38.68N×20.38E,h6km,ML3.2*
*ISCJB **22** 17:31:48.5±0.6,38.74N±0.02°×20.40E±0.03°,h4km±4km, Error ellipse: s-maj=4.8km s-min=2.8km az=151.6*
*CSEM **22** 17:31:48.7±0.2,38.72N×20.41E,h5km,MD3.5,Error ellipse: s-maj=5.5km s-min=2.9km az=65.0*
*ATH **22** 17:31:49.3,38.75N×20.49E,h15km±1km,MD3.5/31*
*THE **22** 17:31:49.1,38.74N×20.41E,h4km,ML3.4/9,Error ellipse: s-maj=0.8km s-min=0.4km az=258.0*

ISC 22 17:31:49.7±0.9,38.75N±0.02°×20.46E±0.02°,h9km±7km, n118,σ0♀93/157,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD2	**Lefkada island**	**0.16**	**76**	P	**Pg**	**17 31 53.1**	**-0.1**
LKD2				S	**Sg**	**17 31 56.1**	**+0.5**
LKD2	**Lefkada island**	**0.16**	**76**	*e*PB	**Pg**	**17 31 53.1**	**-0.1**
LKD2				*e*SB	**Sg**	**17 31 55.7**	**+0.1**
LKD2	**Lefkada island**	**0.16**	**76**	*e*Pg	**Pg**	**17 31 53.1**	**-0.1**
LKD2				S	**Sg**	**17 31 56.1**	**+0.5**
VLS	**Valsamata**	**0.58**	**170**	P	**Pg**	**17 32 00.0**	**-0.9**
VLS				S	**Sg**	**17 32 09.1**	**+0.6**
VLS	**Valsamata**	**0.58**	**170**	*e*PN	**Pg**	**17 32 00.4**	**-0.5**
VLS	**Valsamata**	**0.58**	**170**	P	**Pg**	**17 32 00.0**	**-0.9**
VLS	**Valsamata**	**0.58**	**170**	*e*Pg	**Pg**	**17 32 00.4**	**-0.5**
VLS				S	**Sg**	**17 32 09.1**	**+0.6**
PDO	**Prodromos**	**0.59**	**104**	P	**Pg**	**17 32 00.9**	**-0.2**
PDO				S	**Sb**	**17 32 10.2**	**-0.5**
PDO	**Prodromos**	**0.59**	**104**	*e*PN	**Pg**	**17 32 00.5**	**-0.6**
PDO				*e*SN	**Sg**	**17 32 08.5**	**-0.3**
PDO	**Prodromos**	**0.59**	**104**	*e*Pb	**Pg**	**17 32 00.5**	**-0.6**
PDO	**Prodromos**	**0.59**	**104**	P	**Pg**	**17 32 00.9**	**-0.2**
PDO				*e*Sb	**Sg**	**17 32 08.5**	**-0.3**
PDO				S	**Sb**	**17 32 10.2**	**-0.5**
KFL	**Anninata**	**0.69**	**158**	P	**Pg**	**17 32 02.3**	**-0.7**
KFL				S	**Sg**	**17 32 12.3**	**+0.3**
KFL	**Anninata**	**0.69**	**158**	P	**Pg**	**17 32 02.3**	**-0.7**
KFL				S	**Sg**	**17 32 12.3**	**+0.3**
IGT	**Igoumenitsa**	**0.79**	**353**	P	**Pg**	**17 32 03.7**	**-1.2**
IGT				S	**Sg**	**17 32 15.6**	**+0.4**
IGT	**Igoumenitsa**	**0.79**	**353**	*e*PN	**Pg**	**17 32 03.8**	**-1.2**
IGT				*e*SN	**Sb**	**17 32 16.0**	**-0.5**
IGT	**Igoumenitsa**	**0.79**	**353**	P	**Pg**	**17 32 03.7**	**-1.2**
IGT				S	**Sg**	**17 32 15.6**	**+0.4**
IGT				*e*Sb	**Sb**	**17 32 16.0**	**-0.5**
PVO	**Paravola**	**0.85**	**99**	P	**Pg**	**17 32 05.7**	**-0.3**
PVO				S	**Sb**	**17 32 18.7**	**+0.6**
PVO	**Paravola**	**0.85**	**99**	P	**Pg**	**17 32 05.7**	**-0.3**
PVO				S	**Sb**	**17 32 18.7**	**+0.6**
JAN	**Janina**	**0.96**	**19**	P	**Pg**	**17 32 07.8**	**-0.3**
JAN				S	**Sb**	**17 32 21.5**	**+0.2**
JAN	**Janina**	**0.96**	**19**	*e*PN	**Pg**	**17 32 07.8**	**-0.3**
JAN	**Janina**	**0.96**	**19**	P	**Pg**	**17 32 07.8**	**-0.3**
JAN				S	**Sb**	**17 32 21.5**	**+0.2**
RLS	**Riolos of Patr**	**1.05**	**131**	P	**Pg**	**17 32 09.1**	**-0.9**
RLS	**Riolos of Patr**	**1.05**	**131**	*e*PN	**Pg**	**17 32 09.0**	**-0.9**
RLS	**Riolos of Patr**	**1.05**	**131**	*e*Pb	**Pg**	**17 32 09.0**	**-0.9**
EVR	**Evrytania**	**1.07**	**81**	P	**Pg**	**17 32 09.6**	**-0.7**
EVR				S	**Sn**	**17 32 25.8**	**-0.3**
EVR	**Evrytania**	**1.07**	**81**	*e*PN	**Pg**	**17 32 09.2**	**-1.1**
EVR	**Evrytania**	**1.07**	**81**	*e*Pn	**Pg**	**17 32 09.2**	**-1.1**
EVR	**Evrytania**	**1.07**	**81**	P	**Pg**	**17 32 09.6**	**-0.7**
EVR				S	**Sn**	**17 32 25.8**	**-0.3**
KEK	**Kerkira**	**1.09**	**332**	P	**Pg**	**17 32 09.3**	**-1.4**
KEK				S	**Sb**	**17 32 25.3**	**+0.2**
KEK	**Kerkira**	**1.09**	**332**	*e*PB	**Pg**	**17 32 09.3**	**-1.4**
KEK				*e*SN	**Sn**	**17 32 26.0**	**-0.4**
KEK	**Kerkira**	**1.09**	**332**	P	**Pg**	**17 32 09.3**	**-1.4**
KEK				S	**Sb**	**17 32 25.3**	**+0.2**
EFP	**Efpalio**	**1.18**	**105**	P	**Pg**	**17 32 11.3**	**-1.1**
EFP				S	**Sn**	**17 32 29.7**	**+1.1**
EFP	**Efpalio**	**1.18**	**105**	*e*PB	**Pg**	**17 32 10.5**	**-1.9**
EFP	**Efpalio**	**1.18**	**105**	*e*Pg	**Pg**	**17 32 10.5**	**-1.9**
EFP	**Efpalio**	**1.18**	**105**	P	**Pg**	**17 32 11.3**	**-1.1**
EFP				S	**Sn**	**17 32 29.7**	**+1.1**
SRN	**Sarande**	**1.18**	**343**	*i* PG	**Pb**	**17 32 12.2**	**-0.1**
SRN				*i* SG	**Sn**	**17 32 32.0**	**+3.3**
SRN	**Sarande**	**1.18**	**343**	*i* Pg	**Pb**	**17 32 12.2**	**-0.1**
MEV	**Metsovon**	**1.20**	**30**	P	**Pb**	**17 32 12.0**	**-0.7**
MEV	**Metsovon**	**1.20**	**30**	P	**Pb**	**17 32 12.0**	**-0.7**
DRO	**Drossia**	**1.27**	**128**	P	**Pn**	**17 32 12.7**	**-0.9**
DRO	**Drossia**	**1.27**	**128**	*e*PN	**Pn**	**17 32 12.6**	**-1.0**
DRO	**Drossia**	**1.27**	**128**	*e*Pg	**Pn**	**17 32 12.6**	**-1.0**
LAKA	**Lakka**	**1.30**	**113**	P	**Pn**	**17 32 13.3**	**-0.8**
LAKA	**Lakka**	**1.30**	**113**	*e*PN	**Pn**	**17 32 13.1**	**-1.0**
LAKA	**Lakka**	**1.30**	**113**	P	**Pn**	**17 32 13.3**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.33**	**78**	P	**Pn**	**17 32 14.0**	**-0.6**
MAKR				S	**Sg**	**17 32 34.2**	**+1.6**
MAKR	**Makrakomi, Fth**	**1.33**	**78**	*e*PN	**Pn**	**17

*CSEM **22** 17:32:02.7, 40.35N×25.47E, h8km, MD2.8, After ISK*
*DDA **22** 17:32:02.9, 40.13N×25.52E, h7km, MD3.0*

ISK 22 17:32:02.7, 40.35N×25.47E, h8km, MD2.8, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.65**	**53**	*e*PG	Pg	17 32 15.7	+0.4
ENEZ				*e*SG	Sb	17 32 25.4	-0.2
ENEZ	**Enez**	**0.65**	**53**	*e*Pg	Pg	17 32 15.7	+0.4
ENEZ				*e*Sg	Sb	17 32 25.4	-0.2
ALN	**Alexandroupoli**	**0.70**	**39**	*e*PG	Pb	17 32 16.8	-0.4
ALN				*e*SG	Sb	17 32 27.3	+0.3
ALN	**Alexandroupoli**	**0.70**	**39**	*e*Pg	Pb	17 32 16.8	-0.4
ALN				*e*Sg	Sb	17 32 27.3	+0.2
GELI	**Tayfur-Gelibol**	**0.77**	**86**	*e*PG	Pb	17 32 18.0	-0.4
GELI				*e*SG	Sb	17 32 29.2	+0.2
GELI	**Tayfur-Gelibol**	**0.77**	**86**	*e*Pg	Pb	17 32 18.0	-0.4
GELI				*e*Sg	Sb	17 32 29.2	+0.2
ERIK	**Erikli-Kesan**	**0.86**	**68**	*e*PG	Pg	17 32 19.5	+0.3
ERIK	**Erikli-Kesan**	**0.86**	**68**	*e*Pg	Pg	17 32 19.5	+0.2
KRBG	**Karabiga-Canak**	**1.40**	**88**	*e*PG	Pb	17 32 28.8	-0.3
KRBG	**Karabiga-Canak**	**1.40**	**88**	*e*Pn	Pn	17 32 28.8	+0.3
MRMT	**Marmara Adasi**	**1.64**	**80**	*e*PN	Pb	17 32 32.7	-0.7
MRMT	**Marmara Adasi**	**1.64**	**80**	*e*Pn	Pb	17 32 32.7	-0.7
AOS	**Alonnisos**	**1.70**	**227**	*e*PN	Pb	17 32 33.6	-0.6
AOS	**Alonnisos**	**1.70**	**227**	*e*PN	Pb	17 32 33.7	-0.5
AOS	**Alonnisos**	**1.70**	**227**	*e*Pn	Pb	17 32 33.7	-0.5
AOS	**Alonnisos**	**1.70**	**227**	*e*Pn	Pb	17 32 33.6	-0.6
GONE	**Gonen-Balikesi**	**1.73**	**99**	*e*PN	Pn	17 32 33.8	+0.8
GONE	**Gonen-Balikesi**	**1.73**	**99**	*e*Pn	Pn	17 32 33.8	+0.8
EDRB	**Edirne**	**1.78**	**32**	*e*PN	Pn	17 32 34.2	+0.5
EDRB	**Edirne**	**1.78**	**32**	*e*Pn	Pn	17 32 34.3	+0.5
CHOS	**Chios island**	**2.01**	**167**	*e*PN	Pn	17 32 38.2	+1.1
CHOS	**Chios island**	**2.01**	**167**	*e*Pn	Pn	17 32 38.2	+1.2

IDC 22 17:37:18.3±10.0, 14.64S×178.67W, h440km±118km, mb3.0/6, mb1 3.3/6, mb1mx3.1/18, mbtmp3.0/6, Error ellipse: s-maj=82.0km s-min=35.1km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.07**	**238**	P	P	17 44 14.1	0.0
	3.4nm,0.8s,baz=80,slow=9.3,SNR=8.9						
WRA	**Warramunga Arr**	**45.07**	**256**	P	P	17 44 54.0	+0.3
	0.2nm,0.3s,baz=97,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**45.52**	**251**	P	P	17 44 56.5	-0.7
	2.3nm,0.3s,baz=84,slow=8.4,SNR=169						
ILAR	**Eielson Array**	**82.78**	**13**	P	P	17 48 54.7	+0.1
	0.3nm,0.5s,baz=215,slow=6.4,SNR=5.7						
TXAR	**Lajitas Array**	**84.47**	**58**	P	P	17 49 04.3	+0.3
	0.3nm,0.7s,baz=212,slow=4.4,SNR=4.0						
PDAR	**Pinedale Array**	**85.17**	**44**	P	P	17 49 06.8	-0.5
	0.3nm,0.5s,baz=227,slow=2.1,SNR=3.4						
ARCES	**ARCESS Array B**	**123.07**	**350**	PKP	PKPdf	17 55 22.6	-0.6
	2.2nm,0.9s,baz=40,slow=2.1,SNR=6.0						
GERES	**GERESS Array B**	**144.40**	**346**	PKP	PKPdf	17 56 03.6	+0.1
	0.4nm,0.5s,baz=7.6,slow=3.0,SNR=4.4						

*DJA **22** 17:42:11.7±1.0, 6˚S±7˚×10˚3E±˚, h10km, M3.3/6, MLv3.3/6*
*IDC **22** 17:42:15.5±6.8, 3.96S×104.62E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.5/4, Error ellipse: s-maj=366.6km s-min=23.4km az=52.0*
*ISCJB **22** 17:42:16.7±0.9, 4.3S±0.1×104.2E±0.1, h33km, mb3.5/4, Error ellipse: s-maj=17.8km s-min=15.1km az=141.2*

ISC 22 17:42:18.7±1.0, 4.37S±0.08×104.18E±0.09, h35km, n9, σ2.72/10, mb3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLSI		**0.63**	**120**	P	**Sn**	**17 42 41.6**	**+1.5**
LWLI	**Liwa**	**0.65**	**191**	P	**Pn**	**17 42 30.9**	**-0.7**
LWLI				S	**Sn**	**17 42 45.4**	**+4.7**
LHSI	**Lahat**	**0.85**	**310**	P	**Sn**	**17 42 46.2**	**+0.7**
KASI	**Kota Agung**	**1.19**	**165**	P	Pn	17 42 31.9	-6.9
KASI				S	**Sn**	**17 42 48.9**	**-4.9**
MNAI	**Manna**	**1.22**	**271**	P	**Pn**	**17 42 37.8**	**-1.5**
WRA	**Warramunga Arr**	**33.20**	**120**	P	**P**	**17 48 52.8**	**+0.2**
	0.4nm,1.0s,baz=290,slow=8.1,SNR=3.6						
ASAR	**Alice Springs**	**34.49**	**127**	P	**P**	**17 49 04.7**	**+0.9**
	0.1nm,0.5s,baz=302,slow=7.7,SNR=4.4						
MKAR	**Makanchi Array**	**54.50**	**342**	P	**P**	**17 51 43.0**	**0.0**
	0.7nm,0.6s,baz=158,slow=8.9,SNR=10.0						
ZALV	**Zalesovo Beam**	**60.33**	**347**	P	**P**	**17 52 24.1**	**+0.2**
	0.8nm,0.4s,baz=158,slow=5.5,SNR=4.9						

TAP 22 17:50:29.3, 23.20N×120.41E, h7km±1km, ML1.6, 1C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.10**	**46**	⇓*i*P	Pg	17 50 32.2	+0.5
	baz=51						
TWK				*i* S	Sg	17 50 35.0	+1.6
	baz=51						
CHN1	**Nanshi**	**0.11**	**96**	⇑*i*P	Pg	17 50 32.2	+0.4
	baz=95						
CHN1				*e*S	Sg	17 50 34.3	+0.7
	baz=95						
CHN3	**Shinhua**	**0.13**	**199**	*e*P	Pg	17 50 32.6	+0.6
	baz=199						
CHN3				*e*S	Sg	17 50 35.9	+2.0
	baz=199						
WTP	**Ta-pu**	**0.19**	**75**	P	Pg	17 50 34.0	+0.7
	baz=76						
WTP				*i* S	Sg	17 50 38.1	+2.0
	baz=76						
SGST	**Jiashian**	**0.20**	**125**	P	Pg	17 50 34.2	+0.9
	baz=124						
SGST				S	Sg	17 50 38.8	+2.8
	baz=124						
SCLT	**Jiali**	**0.20**	**264**	*e*P	Pg	17 50 34.1	+0.8
	baz=263						
SCLT				*e*S	Sg	17 50 38.7	+2.6
	baz=263						
CHN4	**Tsaushan**	**0.23**	**47**	*e*P	Pg	17 50 34.9	+1.0
	baz=47						
CHN4				S	Sg	17 50 39.3	+2.3
	baz=47						
STYT	**Tauyuan**	**0.32**	**96**	*e*P	Pb	17 50 37.0	-0.5
	baz=96						
STYT				*e*S	Sb	17 50 42.5	-0.4
	baz=96						
TYC	**Yuchr**	**0.81**	**30**	*e*P	Pb	17 50 46.2	+0.4
	baz=30						

*IDC **22** 17:56:45.6±0.9, 3.56S×123.60E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, ML3.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/31, Error ellipse: s-maj=93.2km s-min=17.7km az=63.0*
*ISCJB **22** 17:56:49.1±0.5, 3.67S±0.06×123.47E±0.06, h33km, mb3.9/6, MS3.0/1, Error ellipse: s-maj=8.2km s-min=8.0km az=19.3*
*DJA **22** 17:56:52.8±0.7, 4˚S±5˚×12˚3E±˚, h102km±20km, M4.3/14, mb4.6/3, mB5.1/1, MLv4.2/14, Mw(mB)4.4/1*

ISC 22 17:56:51.1±0.8, 3.63S±0.06×123.44E±0.07, h35km, n23, σ98/20, mb3.9/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.86**	**253**	P	**Pn**	**17 57 22.7**	**+2.2**
LUWI	**Luwuk**	**2.66**	**345**	P	**Pn**	**17 57 31.4**	**0.0**
APSI	**Ampana**	**3.24**	**326**	P	**Pn**	**17 57 39.6**	**+0.2**
BNSI	**Bone**	**3.41**	**257**	P	**Pn**	**17 57 41.3**	**-0.5**
TTSI	**Tana Toraja**	**3.66**	**279**	P	Pn	17 57 49.9	+4.7
SPSI	**Sidrap Palu**	**3.67**	**265**	P	**Pn**	**17 57 45.7**	**+0.3**
NLAI	**Namlea**	**3.68**	**84**	P	**Pn**	**17 57 47.0**	**+1.5**
BKSI	**Bulukumba**	**3.71**	**243**	P	**Pn**	**17 57 45.9**	**0.0**
KMSI	**Cibinong**	**4.21**	**7**	P	Pn	17 57 58.7	+5.9
GTOI	**Gorontalo**	**4.26**	**354**	P	**Pn**	**17 57 55.2**	**+1.7**
MRSI	**Marisa**	**4.34**	**340**	P	**Pn**	**17 57 54.9**	**+0.2**
LBMI	**Labuha**	**5.03**	**54**	P	Pn	17 58 11.6	+7.5
	34nm,1.0s,0.1nm						
TOLI	**Toli-Toli**	**5.41**	**331**	P	Pn	17 58 20.2	+11
TNTI	**Ternate**	**5.88**	**42**	P	**Pn**	**17 58 15.3**	**-0.5**
	134nm,0.8s,2µm0.5nm						
SWI	**Sorong**	**8.29**	**71**	P	**Pn**	**17 58 49.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**14.54**	**172**	Pn	**Pn**	**18 00 14.1**	**-0.4**
	0.1nm,0.3s,baz=0.0,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	**19.39**	**148**	P	**P**	**18 01 12.4**	**-1.8**
	0.1nm,0.3s,baz=320,slow=12,SNR=10						
ASAR	**Alice Springs**	**22.34**	**154**	P	**P**	**18 01 46.1**	**0.0**
	2.7nm,0.8s,baz=335,slow=12,SNR=15						
ASAR				PcP	**PcP**	**18 05 39.7**	**-1.2**
	0.2nm,0.7s,baz=353,slow=2.2,SNR=2.6						
ASAR				LR	LR	18 09 46.2	
	comp=Z,58nm,19.7s,baz=298,slow=35						
CMAR	**Chiang Mai Arr**	**32.62**	**313**	P	**P**	**18 03 20.1**	**+0.3**
	0.3nm,0.5s,baz=137,slow=8.1,SNR=4.6						
SONM	**Songino Array**	**53.39**	**346**	P	**P**	**18 06 07.8**	**+0.4**
	0.6nm,0.6s,baz=173,slow=6.4,SNR=4.9						
MKAR	**Makanchi Array**	**61.92**	**329**	P	**P**	**18 07 07.6**	**+0.3**
	0.9nm,0.6s,baz=126,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**65.78**	**336**	P	**P**	**18 07 32.2**	**-0.3**
	3.0nm,0.7s,baz=128,slow=6.9,SNR=17						
BVAR	**Borovoye Array**	**71.80**	**329**	P	**P**	**18 08 09.9**	**-0.2**
	2.2nm,1.0s,baz=132,slow=8.0,SNR=7.5						

*ISCJB **22** 18:00:56.4±0.4, 67.07N±0.02×20.95E±0.08, h0km, Error ellipse: s-maj=4.4km s-min=3.1km az=5.9*
*NAO **22** 18:00:56.9±1.1, 67.18N×20.56E, ML2.8*
*CSEM **22** 18:00:57.4±0.1, 67.09N×20.86E, h2km, ML2.1, Error ellipse: s-maj=3.9km s-min=3.1km az=100.0, Mining explosion.*
*UPP **22** 18:00:57.3, 67.08N×20.90E, h0km, ML2.1, Mining explosion.*
*HEL **22** 18:00:58.0±0.1, 67.08N×20.89E, h0km, ML2.1, ML2.1(UPP), Explosion*
*IDC **22** 18:00:58.5±0.9, 67.08N×21.08E, h0km, mb1 3.2/4, mb1mx3.0/28, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=16.7km s-min=8.0km az=117.0*
*BER **22** 18:01:00.3±6.0, 67.13N×20.89E, h0km, ML1.9, ML2.8(NAO), Suspected explosion*

ISC 22 18:00:57.2±0.7, 67.07N±0.03×20.86E±0.03, h0km, n56, σ91/71, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.59**	**48**	*i* P	**Pg**	**18 01 08.2**	**-0.2**
MASU	**Masugnsbyn**	**0.59**	**48**	P	**Pg**	**18 01 08.2**	**-0.2**
KUA	**Kurravaara**	**0.91**	**347**	*e*P	**Pg**	**18 01 14.1**	**-0.4**
KUA				*e*S	**Sg**	**18 01 27.3**	**+1.0**
KUA	**Kurravaara**	**0.91**	**347**	P	**Pg**	**18 01 14.1**	**-0.4**
KUA				S	**Sg**	**18 01 27.3**	**+1.0**
HARU	**Harads**	**0.91**	**177**	*e*P	**Pg**	**18 01 14.4**	**-0.2**
HARU	**Harads**	**0.91**	**177**	P	**Pg**	**18 01 14.4**	**-0.2**
SALU	**Saltoluokta**	**0.97**	**290**	*e*P	**Pg**	**18 01 15.8**	**+0.2**
SALU	**Saltoluokta**	**0.97**	**290**	P	**Pg**	**18 01 15.8**	**+0.2**
NIKU	**Nikkaluokta**	**1.06**	**319**	*e*P	**Pg**	**18 01 17.1**	**-0.4**
NIKU	**Nikkaluokta**	**1.06**	**319**	P	**Pg**	**18 01 17.1**	**-0.4**
LANU	**Lannavaara**	**1.07**	**23**	*e*P	**Pg**	**18 01 16.7**	**-1.0**
LANU	**Lannavaara**	**1.07**	**23**	P	**Pg**	**18 01 16.7**	**-1.0**
KALU	**Kalix**	**1.58**	**139**	*e*P	**Pn**	**18 01 25.9**	**-0.5**
KALU	**Kalix**	**1.58**	**139**	P	**Pn**	**18 01 25.9**	**-0.5**
SJUU	**Sjulsmark**	**1.60**	**169**	*e*P	**Pn**	**18 01 26.6**	**-0.1**
SJUU	**Sjulsmark**	**1.60**	**169**	P	**Pn**	**18 01 26.6**	**-0.1**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**18 01 27.9**	**-0.4**
HEF				*e*S	**Sn**	**18 01 49.9**	**-0.9**
HEF	**Hetta**	**1.71**	**37**	P	**Pn**	**18 01 27.8**	**-0.4**
HEF				S	**Sn**	**18 01 49.9**	**-0.9**
LILU	**Lilltraesk**	**1.84**	**193**	*e*P	**Pn**	**18 01 30.6**	**+0.6**
LILU	**Lilltraesk**	**1.84**	**193**	P	**Pn**	**18 01 30.5**	**+0.6**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pb**	**18 01 32.9**	**-0.5**
KIF				*e*SG	**Sg**	**18 01 59.8**	**+0.3**
KIF				MSG		18 02 02.9	
	comp=Z,26nm,0.2s						
KIF	**Kilpisjarvi**	**1.94**	**359**	P	**Pb**	**18 01 32.8**	**-0.5**
KIF				Sg	**Sg**	**18 01 59.7**	**+0.3**
RNF	**Rovaniemi**	**2.09**	**100**	*e*P	**Pn**	**18 01 34.3**	**+0.9**
RNF				*e*SG	**Sb**	**18 02 03.0**	**+0.6**
RNF	**Rovaniemi**	**2.09**	**100**	P	**Pn**	**18 01 34.3**	**+0.9**
RNF				Sg	**Sb**	**18 02 03.0**	**+0.6**
KTK1	**Kautokeino**	**2.14**	**24**	*e*P	**Pn**	**18 01 35.4**	**+1.3**
KTK1				*e*Sg	**Sb**	**18 02 04.3**	**+0.4**
KTK1				IAML		18 02 08.3	
	comp=N,18nm,0.2s						
SGF	**Sodankyl**	**2.23**	**78**	*e*P	**Pn**	**18 01 36.0**	**+0.7**
SGF				*e*SG	**Sb**	**18 02 07.4**	**+0.9**
SGF	**Sodankyl**	**2.23**	**78**	P	**Pn**	**18 01 36.0**	**+0.7**
SGF				Sg	**Sb**	**18 02 07.4**	**+0.9**
BURU	**Burvik**	**2.51**	**175**	*e*P	**Pn**	**18 01 40.2**	**+1.1**
BURU	**Burvik**	**2.51**	**175**	P	**Pn**	**18 01 40.2**	**+1.1**
MOR8	**Moi Rana**	**2.71**	**253**	*e*P	**Pn**	**18 01 42.7**	**+0.7**
MOR8	**Moi Rana**	**2.71**	**253**	*e*P	**Pn**	**18 01 42.7**	**+0.7**
	SNR=50						
OUL	**Oulu**	**2.86**	**132**	*e*P	**Pn**	**18 01 46.0**	**+2.0**
OUL	**Oulu**	**2.86**	**132**	P	**Pn**	**18 01 45.9**	**+2.0**
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn	**Pn**	**18 01 46.3**	**+0.2**
	baz=217,slow=12						
ARA0				Sn	**Sn**	**18 02 23.6**	**+0.7**
	baz=212,slow=28						
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn	**Pn**	**18 01 46.3**	**+0.2**
	baz=217,slow=12						
ARA0				Sn	**Sn**	**18 02 23.6**	**+0.7**
	baz=212,slow=28						
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn	**Pn**	**18 01 46.3**	**+0.2**
	baz=217,slow=12,SNR=50						
ARA0				Sn	**Sn**	**18 02 23.6**	**+0.7**
	baz=212,slow=23,SNR=50						
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn	**Pn**	**18 01 46.5**	**+0.4**
	comp=N,0.6nm,0.3s,baz=211,slow=14,SNR=36						
ARCES				Sn	**Sn**	**18 02 24.0**	**+1.1**
	comp=N,0.9nm,0.3s,baz=212,slow=22,SNR=8.6						
UMAU	**Umeaa**	**3.21**	**181**	*e*P	**Pn**	**18 01 49.6**	**+1.0**
UMAU	**Umeaa**	**3.21**	**181**	P	**Pn**	**18 01 49.6**	**+1.0**
VRF	**Varrio**	**3.44**	**75**	MSG		18 02 45.7	
	comp=Z,4.7nm,0.2s						
KEV	**Kevo**	**3.52**	**37**	MSG		18 02 51.3	
	comp=Z,3.6nm,0.2s						
VAF	**Ylistaro**	**4.12**	**168**	MSG		18 03 11.6	
	comp=Z,2.1nm,0.2s						
APA0	**Apatity Array**	**4.72**	**78**	Pn	**Pn**	**18 02 09.3**	**-0.2**
	baz=264,slow=12						
APA0	**Apatity Array**	**4.72**	**78**	Pn	**Pn**	**18 02 09.3**	**-0.2**
	baz=264,slow=12						
APA0	**Apatity Array**	**4.72**	**78**	Pn	**Pn**	**18 02 09.3**	**-0.2**
	baz=264,slow=12,SNR=50						
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**18 02 29.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=339,slow=11,SNR=11						
FINES				Sn	**Sn**	**18 03 39.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=350,slow=21,SNR=12						
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn	**Pn**	**18 02 46.1**	**+0.1**
	baz=21,slow=14						
NB2				Sn	**Sn**	**18 04 10.4**	**+0.1**
NB2				Lg	Lg	18 04 47.1	
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn	**Pn**	**18 02 46.1**	**+0.1**
	baz=21,slow=14						
NB2				Sn	**Sn**	**18 04 10.4**	**+0.1**
NB2				Lg	Lg	18 04 47.1	
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn	**Pn**	**18 02 46.1**	**+0.1**
	baz=21,slow=14,SNR=50						
NB2				Sn	**Sn**	**18 04 10.4**	**+0.1**
	SNR=50						
NOA	**NORSAR Array B**	**7.38**	**219**	Pn	**Pn**	**18 02 47.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=34,slow=11,SNR=3.9						
NOA				Sn	**Sn**	**18 04 07.5**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=37,slow=16,SNR=2.6						
NOA				Lg	Lg	18 04 52.2	
	comp=Z,0.3nm,0.3s,baz=347,slow=18,SNR=4.2						
HFS	**Hagfors**	**7.66**	**208**	Sn	**Sn**	**18 04 15.1**	**-2.0**
HFS	**Hagfors**	**7.66**	**208**	Sn	**Sn**	**18 04 15.1**	**-2.0**
HFS	**Hagfors**	**7.66**	**208**	Sn	**Sn**	**18 04 15.1**	**-2.0**
	SNR=50						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 02 50.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=26,slow=15,SNR=8.0						
SPA0	**Spitsbergen Ar**	**11.24**	**355**	Pn	Pn	18 03 33.9	-4.9
	baz=221,slow=18						
SPA0	**Spitsbergen Ar**	**11.24**	**355**	P	Pn	18 03 33.9	-4.9
	baz=221,slow=18						

*ISCJB **22** 18:01:53.1±1.0, 72.37N±0.08×2.8E±0.5, h10km, mb3.2/4, MS3.2/5, Error ellipse: s-maj=21.6km s-min=11.7km az=176.5*
*IDC **22** 18:01:53.5±1.2, 72.32N×2.26E, h0km, mb3.3/4, mb1 3.6/8, mb1mx3.4/30, mbtmp3.5/8, ML3.6/3, MS3.2/8, Ms1 3.2/8, ms1mx3.0/31, Error ellipse: s-maj=28.1km s-min=18.7km az=82.0*

ISC 22 18:01:55.0±1.2, 72.39N±0.10×2.5E±0.2, h10km, n13, σ86/8, mb3.2/4, MS3.2/5, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**6.77**	**25**	Pn	**Pn**	**18 03 34.0**	**-0.3**
	baz=214,slow=15,SNR=24						
ARCES	**ARCESS Array B**	**8.01**	**100**	Pn	**Pn**	**18 03 51.2**	**0.0**
	baz=302,slow=14,SNR=3.5						
NOA	**NORSAR Array B**	**11.88**	**159**	Pn	**Pn**	**18 04 44.7**	**+0.5**
	0.2nm,0.3s,baz=330,slow=13,SNR=2.7						
NOA				LR	LR	18 09 14.8	
	comp=Z,90nm,18.6s,baz=345,slow=37						
HFS	**Hagfors**	**13.06**	**155**	Pn	**Pn**	**18 04 58.8**	**-1.5**
	0.2nm,0.3s,baz=355,slow=9.3,SNR=5.7						
HFS				LR	LR	18 09 40.8	
	comp=Z,96nm,21.9s,baz=74,slow=36						
FINES	**FINESS Array B**	**14.20**	**128**	LR	LR	18 09 57.2	
	comp=Z,83nm,21.9s,baz=247,slow=34						
VRAC	**Vranov**	**24.02**	**157**	LR	LR	18 16 23.9	
	comp=Z,59nm,18.6s,baz=269,slow=36						
GERES	**GERESS Array B**	**24.16**	**162**	P	**P**	**18 07 11.9**	**+0.8**
	0.5nm,0.6s,baz=355,slow=11,SNR=4.5						
GERES				LR	LR	18 15 34.6	
	comp=Z,72nm,19.7s,baz=332,slow=34						
DAVOX	**Davos/Dischmat**	**25.92**	**168**	LR	LR	18 17 37.8	
	comp=Z,68nm,18.8s,baz=353,slow=36						
KBZ	**Khabaz**	**34.49**	**124**	LR	LR	18 22 47.5	
	comp=Z,82nm,19.5s,baz=204,slow=36						
GNI	**Garni**	**38.32**	**124**	LR	LR	18 24 58.4	
	comp=Z,29nm,20.7s,baz=89,slow=36						
ILAR	**Eielson Array**	**41.55**	**341**	P	**P**	**18 09 41.9**	**-0.1**
	0.2nm,0.7s,baz=21,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**43.17**	**81**	P	**P**	**18 09 56.1**	**+0.7**
	0.2nm,0.6s,baz=327,slow=6.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**59.22**	**181**	P	**P**	**18 11 55.9**	**-0.1**
	0.5nm,0.7s,baz=346,slow=5.9,SNR=3.2						

*AUST **22** 18:18:43.2±3.2, 8.54N×129.23E, h69km±1km, Error ellipse: s-maj=3.7km s-min=1.6km az=334.0*
*IDC **22** 18:19:42.5±6.9, 2.85N×128.44E, h127km±68km, mb3.6/10, mb1 3.8/10, mb1mx3.6/24, mbtmp3.6/10, Error ellipse: s-maj=30.9km s-min=12.9km az=74.0*
*ISCJB **22** 18:19:43.0±0.5, 2.90N±0.05×128.48E±0.05, h150km, mb3.9/10, Error ellipse: s-maj=8.0km s-min=7.1km az=34.5*
*DJA **22** 18:19:48.5±0.7, 3˚N±6˚×12˚8E±˚, h10km, M4.5/5, mb4.7/5, mB4.8/4, MLv4.5/4, Mw(mB)4.1/4*

ISC 22 18:19:45.0±0.7, 2.88N±0.07×128.36E±0.08, h150km, n28, σ135/29, mb3.7/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.31**	**205**	P	**Pn**	**18 20 26.3**	**+2.4**
SGSI	**Sangihe**	**2.94**	**286**	P	**Pn**	**18 20 33.5**	**+1.9**
SGSI				S	**Sn**	**18 21 08.5**	**+0.9**
LBMI	**Labuha**	**3.59**	**194**	P	**Pn**	**18 20 43.1**	**+3.0**
SWI	**Sorong**	**4.71**	**142**	P	Pn	18 20 58.5	+3.8
KMSI	**Cibinong**	**4.94**	**242**	P	**Pn**	**18 20 59.3**	**+1.7**
KMSI				S	**Sn**	**18 21 54.1**	**-0.1**
GTOI	**Gorontalo**	**5.79**	**247**	P	**Pn**	**18 21 10.4**	**+1.4**
	38nm,0.7s,991nm						
NLAI	**Namlea**	**6.20**	**192**	P	**Pn**	**18 21 16.1**	**+1.6**
	29nm,0.4s,875nm						
LUWI	**Luwuk**	**6.81**	**235**	P	**Pn**	**18 21 24.0**	**+1.5**
	baz=12,SNR=3.5						
MRSI	**Marisa**	**6.84**	**250**	P	**Pn**	**18 21 24.7**	**+1.7**
	86nm,0.9s,747nm						
FAKI	**Fak Fak**	**6.95**	**146**	P	Pn	18 21 29.3	+4.8
	baz=12,SNR=3.8						
APSI	**Ampana**	**7.69**	**241**	P	**Pn**	**18 21 33.6**	**-0.8**
	30nm,1.1s,488nm						
TOLI	**Toli-Toli**	**7.76**	**257**	P	**Pn**	**18 21 35.9**	**+0.6**
TTSI	**Tana Toraja**	**10.37**	**235**	P	**Pn**	**18 22 08.0**	**-2.0**
KDU	**Kakadu**	**15.99**	**165**	P	**Pn**	**18 23 21.6**	**-0.2**
	baz=22,SNR=3.8						
KNRA	**Kununurra**	**18.44**	**179**	P	**P**	**18 23 49.8**	**+0.6**
	baz=24,SNR=7.6						
FITZ	**Fitzroy Crossi**	**21.02**	**187**	P	**P**	**18 24 15.2**	**-1.7**
	1.4nm,0.5s,baz=76,slow=17,SNR=17						
WRA	**Warramunga Arr**	**23.43**	**166**	P	**P**	**18 24 39.8**	**-1.0**
	10nm,0.5s,baz=345,slow=10,SNR=166						
ASAR	**Alice Springs**	**26.93**	**169**	P	**P**	**18 25 11.8**	**-0.7**
	0.6nm,0.4s,baz=349,slow=8.1,SNR=37						
ASAR				PcP	**PcP**	**18 28 30.3**	**-0.5**
	0.5nm,0.6s,baz=357,slow=2.1,SNR=8.7						
WRKA	**Warakurna**	**27.75**	**180**	P	**P**	**18 25 18.7**	**-1.0**
	baz=34,SNR=4.9						
MEEK	**Meekatharra**	**30.82**	**197**	P	**P**	**18 25 45.4**	**-1.5**
	baz=37,SNR=3.1						
CMAR	**Chiang Mai Arr**	**32.70**	**300**	P	**P**	**18 26 04.0**	**+0.5**
	0.4nm,0.3s,baz=114,slow=6.2,

KHET				*e*S		**Sn**	**18 30 38.4**	**-3.8**
KHET				AML		AML	18 30 41.8	
	comp=N,218nm,0.2s							
KHET				AML		AML	18 30 42.8	
	comp=E,212nm,0.5s							
NDI	**New Delhi**	**9.02**	**146**	*e*S3		**Sn**	**18 30 37.0**	**-5.9**
KALG	**Kalgarh**	**9.14**	**136**	*e*		x	18 30 30.3	
KALG				AML		AML	18 30 34.8	
	comp=E,94nm,0.3s							
KUDL	**Kundal**	**9.18**	**151**	*e*P		**Pn**	**18 29 06.2**	**+0.9**
KUDL				*e*S		**Sn**	**18 30 43.0**	**-3.7**
KUDL				AML		AML	18 30 46.6	
	comp=E,34nm,0.3s							
KUDL				AML		AML	18 30 48.6	
	comp=N,33nm,0.3s							
PYUN	**Piuthan**	**12.73**	**127**	*e*P		**Pn**	**18 29 54.3**	**+1.3**
DANN	**Dangsing**	**13.08**	**124**	*e*P		**Pn**	**18 29 58.6**	**+1.1**
	comp=N,23nm,0.3s							
DANN				*e*S		**Sn**	**18 32 16.2**	**-5.4**
MKAR	**Makanchi Array**	**13.25**	**34**	P		**Pn**	**18 30 00.7**	**+1.3**
	comp=N,0.1nm,0.3s,baz=220,slow=11,SNR=4.2							
MKAR				LR		LR	18 35 42.7	
	comp=N,42nm,18.3s,baz=181,slow=40							
KOLN	**Koldanda**	**13.35**	**126**	*e*P		**Pn**	**18 30 02.2**	**+1.2**
	comp=N,11nm,0.4s							
KOLN				*e*S		**Sn**	**18 32 24.5**	**-3.7**
GKN	**Gorkha**	**13.89**	**123**	*e*P		**Pn**	**18 30 08.9**	**+1.0**
	comp=N,34nm,0.4s							
GKN				*e*S		**Sn**	**18 32 35.4**	**-5.7**
DMN	**Daman**	**14.46**	**123**	*e*P		**Pn**	**18 30 16.7**	**+1.4**
	comp=N,22nm,0.5s							
DMN				*e*S		Sn	18 32 48.8	-6.3
KKN	**Kakani**	**14.46**	**122**	*e*P		**Pn**	**18 30 16.2**	**+0.9**
	comp=N,24nm,0.6s							
KKN				*e*S		Sn	18 32 48.7	-6.4
PKIN	**Phulchoki**	**14.68**	**122**	*e*P		**P**	**18 30 19.7**	**-1.6**
	comp=N,12nm,0.3s							
PKIN				*e*S		**Sn**	**18 32 54.8**	**-5.5**
PKI	**Pulchoki**	**14.69**	**122**	*e*P		**Pn**	**18 30 19.5**	**+1.2**
	comp=N,15nm,0.4s							
PKI				*e*S		**Sn**	**18 32 54.8**	**-5.9**
GUN	**Gumba**	**14.80**	**120**	*e*P		**Pn**	**18 30 20.5**	**+0.8**
	comp=N,24nm,0.5s							
JIRN	**Jiri**	**15.17**	**120**	*e*P		**Pn**	**18 30 25.5**	**+1.1**
	comp=N,73nm,0.4s							
JIRN				*e*S		**Sn**	**18 33 06.1**	**-6.3**
KURBB	**Kurchatov Arra**	**15.20**	**17**	P		**Pn**	**18 30 23.0**	**-1.2**
	comp=N,0.2nm,0.3s,baz=209,slow=10,SNR=9.1							
AB31	**Akbulak array**	**15.44**	**331**	P		**Pn**	**18 30 25.1**	**-2.1**
	comp=N,1.3nm,0.5s,baz=144,slow=12,SNR=47							
AB31				⇓S		Sn	18 33 04.0	-14
	comp=N,12nm,0.7s,baz=153,slow=22,SNR=14							
RAMN	**Ramite**	**15.90**	**122**	*e*P		**P**	**18 30 35.2**	**+0.4**
	comp=N,14nm,0.3s							
RAMN				*e*S		**Sn**	**18 33 23.1**	**-6.7**
TAPN	**Taplejung**	**16.43**	**118**	*e*P		**P**	**18 30 41.1**	**+0.4**
	comp=N,21nm,0.4s							
ODAN	**Odare**	**16.51**	**120**	*e*P		**P**	**18 30 43.2**	**+1.7**
	comp=N,27nm,0.5s							
ODAN				*e*S		**Sn**	**18 33 37.5**	**-6.8**
BVA0	**Borovoye Array**	**16.74**	**358**	P		**P**	**18 30 44.4**	**+0.9**
	comp=N,0.7nm,0.5s,baz=165,slow=11,SNR=14							
BVA0				S		**Sn**	**18 33 42.8**	**-6.4**
	comp=N,0.1nm,0.5s,baz=169,slow=24,SNR=4.1							
BVAR	**Borovoye Array**	**16.74**	**358**	P		**Pn**	**18 30 41.8**	**-1.5**
	comp=N,0.5nm,0.3s,baz=161,slow=12,SNR=15							
BRVK	**Borovoye**	**16.78**	**358**	⇑P		**P**	**18 30 45.7**	**+1.7**
	comp=N,2.1nm,0.5s							
AKTO	**Aktyubinsk**	**17.14**	**330**	P		**P**	**18 30 47.0**	**-0.9**
	comp=N,0.6nm,0.3s,baz=146,slow=10.0,SNR=18							
AKTO				S		Sn	18 33 40.7	-18
	comp=N,0.1nm,0.3s,baz=130,slow=18,SNR=3.4							
AKTO	**Aktyubinsk**	**17.14**	**330**	⇓P		**P**	**18 30 46.8**	**-1.1**
	comp=N,6.1nm,0.9s							
AKTO				⇓S		Sn	18 33 43.9	-15
	comp=N,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**19.95**	**24**	P		**P**	**18 31 19.3**	**+0.7**
	comp=N,2.2nm,0.4s,baz=216,slow=9.6,SNR=15							
GNI	**Garni**	**21.30**	**288**	P		**P**	**18 31 32.4**	**-1.0**
	comp=N,3.4nm,0.6s,baz=45,slow=2.9,SNR=1.9							
FINES	**FINESS Array B**	**37.85**	**326**	P		**P**	**18 34 01.7**	**+0.6**
	comp=N,3.1nm,0.9s,baz=125,slow=12,SNR=2.4							
NOA	**NORSAR Array B**	**44.76**	**323**	P		**P**	**18 34 58.2**	**+0.6**
	comp=N,0.5nm,0.7s,baz=97,slow=7.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**66.07**	**269**	P		**P**	**18 37 28.8**	**-2.0**
	comp=N,0.7nm,0.8s,baz=51,slow=5.1,SNR=5.0							
ILAR	**Eielson Array**	**74.87**	**16**	P		**P**	**18 38 25.1**	**+1.6**
	comp=N,0.4nm,0.7s,baz=344,slow=9.5,SNR=5.1							
BOSA	**Boshof**	**77.83**	**220**	P		**P**	**18 38 40.4**	**-0.4**
	comp=N,3.1nm,1.1s,baz=354,slow=7.2,SNR=3.4							
YKA	**Yellowknife Ar**	**81.43**	**3**	P		**P**	**18 38 58.7**	**-0.9**
	comp=N,0.3nm,0.8s,baz=352,slow=5.2,SNR=7.1							
WRA	**Warramunga Arr**	**81.58**	**122**	P		**P**	**18 39 01.8**	**+0.7**
	comp=N,0.3nm,0.6s,baz=323,slow=4.8,SNR=12							
ASAR	**Alice Springs**	**83.84**	**125**	P		**P**	**18 39 14.6**	**+1.8**
	comp=N,0.3nm,0.7s,baz=307,slow=4.9,SNR=6.7							

*ISCJB **22** 18:32:05.1±0.7, 42.°16N±0.°05×85.°78E±0.°06, h10km, mb3.6/4, Error ellipse: s-maj=7.5km s-min=6.1km az=144.2*
*IDC **22** 18:32:06.5±1.0, 42.°41N×86.°46E, h0km, mb3.6/4, mb1 3.5/8, mb1mx3.4/29, mbtmp3.3/8, ML3.2/3, Error ellipse: s-maj=41.7km s-min=13.7km az=55.0*
*BJI **22** 18:32:10.0, 42.°10N×85.°73E, h10km, ML3.5/11*
*NNC **22** 18:32:10.2±3.0, 42.°45N×85.°43E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=23.9km s-min=15.7km az=121.0*
ISC 22 18:32:07.5±0.9, **42.°14N**±0.°07×**85.°81E**±0.°06, **h10**km, **n16,** σ1**°77**/17, **mb3.5**/4, **6C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WMQ	**Urumqi**	**2.18**	**39**	Pn		**Pb**	**18 32 47.1**	**+0.1**
WMQ				Sg		**Sb**	**18 33 17.0**	**+2.9**
WMQ				smax		smax		
	comp=N,370nm,0.5s							
WMQ				smax		smax		
	comp=E,510nm,0.5s							
MK31	**Makanchi Array**	**5.29**	**333**	⇑Pn		**Pn**	**18 33 27.3**	**+0.7**
	0.5nm,0.3s,baz=145,slow=15,SNR=24							
MK31				⇑Pg		**Pb**	**18 33 38.7**	**-1.4**
	0.6nm,0.3s,baz=153,slow=13,SNR=5.1							
MK31				⇓Sn		**Sn**	**18 34 28.6**	**+0.9**
	3.7nm,0.5s							
MK31				⇓Lg		Lg	18 34 46.6	
	6.5nm,0.5s,baz=155,slow=28,SNR=2.7							
MKAR	**Makanchi Array**	**5.29**	**333**	Pn		**Pn**	**18 33 27.1**	**+0.5**
	0.4nm,0.3s,baz=153,slow=14,SNR=17							
MKAR				Sn		**Sn**	**18 34 27.1**	**-0.5**
	1.4nm,0.3s,baz=139,slow=24,SNR=4.4							
MKAR				Lg		Lg	18 34 51.6	
	4.4nm,0.3s,baz=156,slow=27,SNR=6.9							
TKM2	**Tokmak 2**	**7.58**	**279**	⇓Pn		**Pn**	**18 33 58.7**	**+0.4**
	3.4nm,0.9s							
TKM2				⇑Sn		**Sn**	**18 35 23.0**	**-1.4**
	1.9nm,0.6s							
TKM2				⇓Lg		Lg	18 36 02.0	
	18nm,1.1s							
KSH	**Kashi**	**7.91**	**254**	Pn		**Pg**	**18 34 37.5**	**-1.3**
KSH				Sn		**Sg**	**18 36 25.9**	**+4.7**
KSH				smax		smax		
	comp=N,11nm,0.6s							
KSH				smax		smax		
	comp=E,11nm,0.7s							
KSH	**Kashi**	**7.91**	**254**	Sn		**Sn**	**18 35 32.8**	**+0.6**
KSH				smax		smax		
	comp=N,15nm,0.2s							
KSH				smax		smax		
	comp=E,22nm,0.4s							
AAK	**Ala-Archa**	**8.39**	**277**	⇑Lg		Lg	18 36 30.1	
	comp=E,5.8nm,0.8s							
KURBB	**Kurchatov Arra**	**9.86**	**332**	Pn		**Pn**	**18 34 28.9**	**-0.3**
	comp=E,0.1nm,0.3s,baz=135,slow=20,SNR=4.3							
KURBB	**Kurchatov Arra**	**9.86**	**332**	⇑Lg		Lg	18 37 11.2	
	comp=E,15nm,0.7s							
KURK	**Kurchatov**	**9.91**	**332**	⇑Lg		Lg	18 37 14.9	
	comp=E,7.4nm,1.1s							
ZALV	**Zalesovo Beam**	**11.84**	**357**	Pn		**Pn**	**18 34 54.5**	**-1.7**
	comp=E,0.2nm,0.3s,baz=184,slow=13,SNR=3.4							
ZALV				Sn		Sn	18 36 59.3	-9.0
	comp=E,0.3nm,0.3s,baz=180,slow=23,SNR=5.3							
SONM	**Songino Array**	**15.62**	**62**	Pn		Pn	18 35 42.7	-5.1
	comp=E,0.1nm,0.3s,baz=254,slow=16,SNR=2.3							
CMAR	**Chiang Mai Arr**	**26.12**	**151**	P		**P**	**18 37 41.3**	**-0.4**
	comp=E,1.3nm,0.3s,baz=322,slow=12,SNR=3.2							
BRTR	**Keskin Array B**	**38.99**	**284**	P		P	18 39 39.1	+5.1
	comp=E,0.6nm,0.5s,baz=58,slow=14,SNR=4.0							
WRA	**Warramunga Arr**	**76.31**	**133**	P		**P**	**18 43 55.4**	**-1.2**
	comp=E,0.3nm,0.7s,baz=337,slow=6.4,SNR=4.2							
ASAR	**Alice Springs**	**79.12**	**136**	P		**P**	**18 44 13.0**	**+0.7**
	comp=E,0.5nm,0.8s,baz=330,slow=5.4,SNR=6.1							

*IDC **22** 19:09:48.5±0.9, 40.°87S×174.°64E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.8/18, mbtmp3.8/6, ML3.0/2, MS2.9/2, Ms1 2.8/2, ms1mx2.6/23, Error ellipse: s-maj=26.4km s-min=22.8km az=128.0*
*ISCJB **22** 19:09:53.9±0.3, 41.°16S±0.°03×174.°73E±0.°04, h71km±4km, mb3.9/4, Error ellipse: s-maj=5.9km s-min=3.2km az=40.5*
*WEL **22** 19:09:56.1±0.0, 41.°00S×174.°68E, h44km, ML4.3/20, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
WEL Felt from Manawatu to Nelson, maximum reported intensity MM 5.
ISC 22 19:09:55.5±0.8, **41.°08S**±0.°03×**174.°72E**±0.°03, **h56**km±5km, **n103,** σ1**°12**/104, **mb3.9**/4, **23C-9D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WEL	**Wellington**	**0.20**	**170**	⇑P*		**Pn**	**19 10 04.5**	**+0.1**
WEL				S*		**Sn**	**19 10 11.0**	**+0.1**
SNZO	**South Karori**	**0.23**	**183**	⇑P*		**Pn**	**19 10 04.7**	**+0.1**
SNZO				S*		**Sn**	**19 10 11.0**	**-0.1**
SNZO				AML		AML	19 10 12.2	
SNZO				AML		AML	19 10 12.2	
SNZO				AML		AML	19 10 12.8	
KIW	**Kapiti Island**	**0.26**	**33**	⇓P*		**Pn**	**19 10 03.7**	**-1.1**
KIW				S*		**Sn**	**19 10 09.2**	**-2.4**
KIW				AML		AML	19 10 10.1	
CAW	**Cannon Point**	**0.27**	**95**	⇑P*		**Pn**	**19 10 04.7**	**-0.2**
CAW				AML		AML	19 10 12.8	
CAW				AML		AML	19 10 12.8	
BHW	**Baring Head**	**0.34**	**161**	⇑P*		**Pn**	**19 10 03.7**	**+0.6**
BHW				S*		**Sn**	**19 10 13.7**	**+1.0**
BHW				AML		AML	19 10 14.3	
TCW	**Tory Channel**	**0.36**	**249**	⇓P*		**Pn**	**19 10 05.2**	**-0.5**
TCW				S*		**Sn**	**19 10 11.5**	**-1.5**
TCW				AML		AML	19 10 13.4	
OGWZ	**Otaki Gorge**	**0.43**	**52**	⇑P*		**Pn**	**19 10 05.9**	**-0.5**
MSWZ	**Moikau Station**	**0.52**	**130**	⇑P*		**Pn**	**19 10 08.2**	**+0.8**
MSWZ				AML		AML	19 10 18.5	
MSWZ				AML		AML	19 10 20.1	
MTW	**Mount Morrison**	**0.60**	**98**	⇑P*		**Pn**	**19 10 08.6**	**+0.4**
MTW				AML		AML	19 10 18.9	
MTW				AML		AML	19 10 19.0	
PAWZ	**Paruwai Farm**	**0.61**	**119**	⇑P*		**Pn**	**19 10 09.2**	**+0.8**
PAWZ				AML		AML	19 10 19.9	
PAWZ				AML		AML	19 10 21.6	
HOWZ	**Holdsworth Sta**	**0.63**	**73**	⇑P*		**Pn**	**19 10 08.7**	**+0.1**
PLWZ	**Palliser**	**0.63**	**140**	⇑P*		**Pn**	**19 10 09.5**	**+0.8**
DUWZ	**D'Urville Isla**	**0.67**	**295**	⇑P*		**Pn**	**19 10 08.2**	**-0.8**
TUWZ	**Tuamarina**	**0.68**	**239**	⇑P*		**Pn**	**19 10 09.5**	**+0.3**
TUWZ				AML		AML	19 10 21.1	
TUWZ				AML		AML	19 10 21.3	
CMWZ	**Cape Campbell**	**0.77**	**210**	AML		AML	19 10 30.5	
CMWZ				AML		AML	19 10 31.7	
MRZ	**Mangatainoka R**	**0.78**	**57**	⇑PN		**Pn**	**19 10 10.4**	**-0.1**
MRZ				AML		AML	19 10 23.7	
MRZ				AML		AML	19 10 24.5	
TRWZ	**Traveller**	**0.80**	**114**	⇑PN		**Pn**	**19 10 11.3**	**+0.6**
TRWZ				AML		AML	19 10 23.9	
TRWZ				AML		AML	19 10 26.7	
TMWZ	**Te Maipa**	**0.89**	**92**	⇑PN		**Pn**	**19 10 12.1**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.89**	**225**	PN		**Pn**	**19 10 12.8**	**+0.9**
BSWZ				AML		AML	19 10 28.0	
BSWZ				AML		AML	19 10 32.0	
TIWZ	**Tintock**	**0.94**	**71**	⇑PN		**Pn**	**19 10 12.5**	**-0.1**
TIWZ				AML		AML	19 10 29.2	
TIWZ				AML		AML	19 10 29.7	
NNZ	**Nelson**	**1.02**	**262**	PN		**Pn**	**19 10 13.5**	**-0.1**
POWZ	**Post Office Ro**	**1.05**	**49**	⇑PN		**Pn**	**19 10 13.7**	**-0.4**
PRWZ	**Pori Road**	**1.09**	**61**	⇑PN		**Pn**	**19 10 14.4**	**-0.1**
CPWZ	**Castlepoint**	**1.14**	**82**	PN		**Pn**	**19 10 15.6**	**+0.5**
BFZ	**Birch Farm**	**1.23**	**71**	PN		**Pn**	**19 10 15.8**	**-0.5**
WAZ	**Wanganui**	**1.34**	**9**	⇑PN		**Pn**	**19 10 18.7**	**+0.7**
DVHZ	**Dannevirke**	**1.35**	**55**	⇑PN		**Pn**	**19 10 17.2**	**-0.8**
TSZ	**Takapari Road**	**1.39**	**43**	⇑PN		**Pn**	**19 10 18.1**	**-0.5**
TSZ				AML		AML	19 10 38.5	
TSZ				AML		AML	19 10 38.6	
ANWZ	**Angora Road**	**1.47**	**66**	PN		**Pn**	**19 10 19.0**	**-0.6**
THZ	**Tophouse**	**1.52**	**243**	⇓PN		**Pn**	**19 10 20.8**	**+0.4**
KHZ	**Kahutara**	**1.60**	**213**	PN		**Pn**	**19 10 21.9**	**+0.5**
PNHZ	**Pukenui**	**1.62**	**45**	⇑PN		**Pn**	**19 10 20.9**	**-0.9**
WPHZ	**Waipukurau**	**1.66**	**53**	PN		**Pn**	**19 10 21.6**	**-0.7**
PRHZ	**Porangahau**	**1.67**	**61**	PN		**Pn**	**19 10 21.3**	**-1.0**
QRZ	**Quartz Range**	**1.68**	**278**	PN		**Pn**	**19 10 22.1**	**+0.1**
NMEZ	**Namu Road**	**1.79**	**339**	PN		**Pn**	**19 10 24.7**	**+0.7**
MTVZ	**Mangateitei**	**1.79**	**19**	PN		**Pn**	**19 10 24.9**	**+0.8**
DFE	**Dawson Falls**	**1.82**	**345**	PN		**Pn**	**19 10 25.2**	**+0.8**
MOVZ	**Moawhango**	**1.85**	**26**	PN		**Pn**	**19 10 24.6**	**-0.4**
PKVZ	**Pokaka**	**1.85**	**15**	PN		**Pn**	**19 10 26.0**	**+1.1**
KHEZ	**Kahui Hut**	**1.87**	**343**	⇓PN		**Pn**	**19 10 25.7**	**+0.6**
NEZ	**North Egmont**	**1.87**	**345**	PN		**Pn**	**19 10 26.0**	**+0.8**
WNVZ	**Wahianoa**	**1.88**	**21**	⇓PN		**Pn**	**19 10 25.6**	**+0.3**
TRVZ	**Turoa**	**1.89**	**20**	PN		**Pn**	**19 10 25.9**	**+0.3**
BHHZ	**Black Hill Sta**	**1.90**	**33**	PN		**Pn**	**19 10 25.2**	**-0.3**
DRZ	**Dome Shelter**	**1.92**	**20**	PN		**Pn**	**19 10 26.6**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.92**	**21**	PN		**Pn**	**19 10 26.3**	**+0.3**
NWEZ	**Newall Road**	**1.92**	**340**	PN		**Pn**	**19 10 26.2**	**+0.4**
DREZ	**Durham Road**	**1.93**	**348**	⇓PN		**Pn**	**19 10 26.9**	**+1.0**
FWVZ	**Far West T-bar**	**1.93**	**20**	PN		**Pn**	**19 10 26.3**	**+0.1**
PXZ	**Pawanui**	**1.94**	**58**	PN		**Pn**	**19 10 25.0**	**-1.1**
PXZ				AML		AML	19 10 52.7	
PXZ				AML		AML	19 11 07.7	
PXZ				AML		AML	19 11 08.5	
PXZ				AML		AML	19 11 08.5	
TUVZ	**Tukino**	**1.95**	**22**	PN		**Pn**	**19 10 26.6**	**+0.3**
VRZ	**Vera Road**	**1.96**	**1**	PN		**Pn**	**19 10 26.9**	**+0.7**
PKE	**Pukeiti**	**1.97**	**343**	PN		**Pn**	**19 10 26.9**	**+0.5**
WPVZ	**Whakapapa**	**1.98**	**19**	PN		**Pn**	**19 10 27.2**	**+0.5**
NGZ	**Ngauruhoe**	**2.02**	**20**	PN		**Pn**	**19 10 27.8**	**+0.5**
MHEZ	**Mangahewa**	**2.03**	**351**	PN		**Pn**	**19 10 28.5**	**+1.3**
OTVZ	**Oturere**	**2.05**	**21**	PN		**Pn**	**19 10 27.8**	**+0.1**
TWVZ	**Taurewa**	**2.08**	**16**	PN		**Pn**	**19 10 28.2**	**+0.1**
KAHZ	**Kahuranaki**	**2.09**	**53**	PN		**Pn**	**19 10 26.9**	**-1.2**
KRVZ	**Karewarewa**	**2.11**	**20**	PN		**Pn**	**19 10 28.7**	**+0.2**
MCHZ	**McNeill Hill**	**2.23**	**43**	PN		Pn	19 10 36.4	+6.3
KATZ	**Kakaramea**	**2.23**	**20**	PN		**Pn**	**19 10 30.6**	**+0.4**
RITZ	**Rihia Road**	**2.28**	**23**	PN		**Pn**	**19 10 33.0**	**+2.3**
DSZ	**Denniston Nort**	**2.29**	**252**	PN		**Pn**	**19 10 31.1**	**+0.2**
BKZ	**Black Stump Fm**	**2.35**	**36**	AML		AML	19 11 13.4	
BKZ				AML		AML	19 11 28.2	
RATZ	**Rangitukua**	**2.36**	**20**	PN		Pn	19 10 35.7	+3.9
LTZ	**Lake Taylor**	**2.49**	**226**	⇓PN		**Pn**	**19 10 33.7**	**+0.1**
WATZ	**Wairara**	**2.50**	**19**	PN		**Pn**	**19 10 36.3**	**+2.6**
NMHZ	**Naumai**	**2.55**	**40**	PN		**Pn**	**19 10 33.5**	**-1.0**
HIZ	**Hauiti**	**2.57**	**2**	PN		**Pn**	**19 10 35.4**	**+0.8**
CRLZ	**Canterbury Las**	**2.94**	**211**	PN		**Pn**	**19 10 39.0**	**-0.6**
OXZ	**Oxford**	**3.00**	**221**	⇓PN		**Pn**	**19 10 39.4**	**-1.1**
MQZ	**McQueen's Vall**	**3.04**	**210**	⇓PN		**Pn**	**19 10 39.6**	**-1.4**
SNGZ	**Shannon Statio**	**3.06**	**42**	PN		**Pn**	**19 10 39.2**	**-2.1**
KNZ	**Kokohu**	**3.06**	**49**	PN		**Pn**	**19 10 39.6**	**-1.7**
PRGZ	**Paritu Road**	**3.25**	**49**	PN		**Pn**	**19 10 41.9**	**-2.0**
RIGZ	**Rimuhau**	**3.33**	**46**	PN		**Pn**	**19 10 45.4**	**+0.2**
URZ	**Urewera**	**3.37**	**34**	PN		**Pn**	**19 10 42.9**	**-2.7**
URZ				AML		AML	19 11 55.5	
URZ				AML		AML	19 11 56.4	
URZ	**Urewera**	**3.37**	**34**	Pn		Pn	19 10 42.4	-3.2
	1.3nm,0.3s,baz=215,slow=7.3,SNR=11							
URZ				Sn		**Sn**	**19 11 21.1**	**-3.2**
	11nm,0.3s,baz=116,slow=15,SNR=4.4							
TOZ	**Tahuroa Road**	**3.40**	**11**	PN		**Pn**	**19 10 46.0**	**0.0**
MWZ	**Matawai**	**3.50**	**39**	*e*PN		Pn	19 10 43.7	-3.7
MWZ				AML		AML	19 11 34.0	
MWZ				AML		AML	19 11 56.6	
WVZ	**Waitaha Valley**	**3.57**	**235**	⇑PN		**Pn**	**19 10 47.9**	**-0.4**
RPZ	**Rata Peaks**	**3.78**	**225**	PN		**Pn**	**19 10 50.4**	**-0.8**
RPZ	**Rata Peaks**	**3.78**	**225**	Pn		**Pn**	**19 10 50.4**	**-0.8**
	1.1nm,0.3s,baz=15,slow=4.3,SNR=27							
RPZ				Sn		**Sn**	**19 11 31.8**	**-2.6**
	9.1nm,0.3s,baz=298,slow=14,SNR=14							
RPZ				LR		LR	19 12 41.4	
	comp=Z,130nm,18.9s,baz=204,slow=44							
MKAZ	**Moumakai**	**3.98**	**5**	PN		**Pn**	**19 10 54.1**	**+0.1**
PUZ	**Puketiti**	**4.06**	**43**	AML		AML	19 11 39.1	
FOZ	**Fox Glacier**	**4.48**	**235**	PN		**Pn**	**19 10 58.3**	**-2.4**
LBZ	**Lake Benmore**	**4.70**	**224**	PN		**Pn**	**19 11 02.4**	**-1.3**
ODZ	**Otahua Downs**	**4.96**	**216**	PN		**Pn**	**19 11 05.7**	**-1.6**
JCZ	**Jackson Bay**	**5.32**	**234**	PN		**Pn**	**19 11 10.4**	**-1.9**
WKZ	**Wanaka**	**5.61**	**226**	PN		**Pn**	**19 11 13.8**	**-2.5**
CTZ	**Chatham Island**	**6.94**	**115**	PN		**Pn**	**19 11 34.0**	**-0.5**
DCZ	**Deep Cove**	**7.05**	**229**	PN		**Pn**	**19 11 34.5**	**-1.5**
STKA	**Stephens Creek**	**28.04**	**278**	LR		LR	19 25 53.9	
	comp=Z,26nm,20.0s,baz=30,slow=34							
ASAR	**Alice Springs**	**38.20**	**284**	P		**P**	**19 17 09.4**	**-0.4**
	0.5nm,0.4s,baz=130,slow=7.2,SNR=23							
WRA	**Warramunga Arr**	**40.21**	**289**	P		**P**	**19 17 26.0**	**-0.6**
	0.7nm,0.5s,baz=126,slow=8.3,SNR=16							
FITZ	**Fitzroy Crossi**	**47.69**	**284**	P		**P**	**19 18 25.7**	**-0.9**
	1.8nm,0.8s,baz=117,slow=11,SNR=6.3							
QSPA	**South Pole Qui**	**49.04**	**180**	P		**P**	**19 18 39.0**	**+2.4**
	3.0nm,0.9s,baz=18,slow=1.5,SNR=4.4							
ARCES	**ARCESS Array B**	**147.27**	**341**	PKPbc		**PKPdf**	**19 29 29.9**	**+0.8**
	2.5nm,0.8s,baz=90,slow=1.3,SNR=5.6							
BRTR	**Keskin Array B**	**150.49**	**280**	PKPbc		**PKPbc**	**19 29 40.4**	**-0.3**
	0.6nm,0.7s,baz=149,slow=4.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**151.51**	**194**	PKP		**PKPdf**	**19 29 38.7**	**+1.3**
	0.6nm,0.8s,baz=193,slow=3.0,SNR=3.2							
TORD				PKPbc		**PKPbc**	**19 29 44.3**	**+0.7**
	1.5nm,0.7s,baz=130,slow=2.0,SNR=7.5							
TORD				PKPab		**PKPab**	**19 29 54.0**	**+2.0**
	0.8nm,0.7s,baz=156,slow=4.5,SNR=5.2							
FINES	**FINESS Array B**	**152.16**	**328**	PKPbc		**PKPbc**	**19 29 44.2**	**+0.6**
	4.4nm,1.1s,baz=42,slow=2.3,SNR=2.4							

*SZGRF **22** 19:18:52.2, 16.°80S×174.°25W, h33km, Tonga Islands*
*ISCJB **22** 19:19:16.0±0.9, 17.°29S±0.°05×175.°00W±0.°04, h256km±9km, mb4.9/130, Error ellipse: s-maj=8.9km s-min=4.7km az=149.2*
*MOS **22** 19:19:16.9±1.4, 17.°20S×175.°07W, h257km, mb4.9/16, Error ellipse: s-maj=11.5km s-min=9.7km az=45.3*
*BJI **22** 19:19:16.5, 17.°20S×175.°00W, h254km, mB5.2/6, mb4.7/14*
*AUST **22** 19:19:16.8±1.4, 17.°04S×174.°97W, h250km±28km, Error ellipse: s-maj=27.3km s-min=5.7km az=73.0*
*DJA **22** 19:19:16.0±1.2, 18.°5±21.°×17.°5W±1.°2, h243km±10km, M5.2/54, mb5.2/54, mB5.6/18, Mw(mB)5.2/18*
*NEIC **22** 19:19:17.0±0.8, 17.°27S×175.°00W, h256km±7km, mb4.8/61, Error ellipse: s-maj=6.4km s-min=3.8km az=143.0*
*BGS **22** 19:19:17.2±2.8, 17.°27S×175.°00W, h256km, mb4.8(NEIC)*
*IDC **22** 19:19:20.2±0.6, 17.°30S×175.°12W, h283km±5km, mb4.3/22, mb1 4.4/23, mb1mx4.4/25, mbtmp4.9/23, Error ellipse: s-maj=11.5km s-min=8.7km az=121.0*
ISC 22 19:19:20.1±0.4, **17.°27S**±0.°06×**174.°99W**±0.°06, **h285**km±4km, **n466,** σ0**°95**/498, **mb5.0**/131, **59C-20D, Tonga Islands**

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

	comp=Z,9,9nm,0.8s,baz=99,slow=5.2,SNR=5.5										
ASAR				S		S		19 34 05.8	-2.7		
	comp=Z,5.4nm,0.9s,baz=90,slow=15,SNR=25										
KDU	Kakadu	50.83	268	⇑P		P		19 27 52.1	-0.4		
	baz=51,SNR=7.2										
WRKA	Warakurna	53.14	251	⇑P		P		19 28 09.0	-0.4		
	baz=53,SNR=52										
KNRA	Kununurra	53.80	263	⇓P		P		19 28 14.3	+0.1		
	baz=54,SNR=10										
SWI	Sorong	55.29	281	P		P		19 28 25.2	+0.3		
	comp=Z,166nm,1.2s										
FITZ	Fitzroy Crossi	56.35	259	*e*P		P		19 28 32.2	-0.1		
	comp=Z,59nm,1.8s										
FITZ	Fitzroy Crossi	56.35	259	⇓P		P		19 28 32.3	-0.1		
	baz=56,SNR=12										
NLAI	Namlea	58.44	277	P		P		19 28 47.5	+0.6		
	comp=Z,74nm,1.2s,comp=Z,726nm										
LBMI	Labuha	58.90	280	P		P		19 28 51.7	+1.6		
	comp=Z,78nm,1.1s,comp=Z,783nm										
SOEI	Soe	59.33	269	P		P		19 28 55.2	+2.0		
	comp=Z,179nm,1.0s,comp=Z,2µm										
SOEI	Soe	59.33	269	⇓P		P		19 28 54.7	+1.4		
	baz=59,SNR=28										
TNTI	Ternate	59.51	281	P		P		19 28 55.1	+0.9		
	comp=Z,89nm,1.2s										
TNTI	Ternate	59.51	281	*e*P		P		19 28 55.2	+0.9		
	comp=Z,73nm,1.0s										
SBA	Scott Base	61.28	184	*e*P		P		19 29 06.5	+1.4		
SBA					pmax		pmax				
	comp=Z,24nm,0.8s										
SBA	Scott Base	61.28	184	*e*P		P		19 29 06.5	+1.4		
	comp=Z,24nm,0.8s										
VNDA	Vanda	61.37	186	*e*P		P		19 29 07.4	+1.7		
	comp=Z,19nm,0.8s										
VNDA	Vanda	61.37	186	P		P		19 29 06.9	+1.1		
	comp=Z,21nm,0.9s,baz=6.9,slow=6.3,SNR=42										
MMRI	Maumere	61.55	269	P		P		19 29 08.1	+0.1		
	comp=Z,118nm,1.1s										
MEEK	Meekatharra	61.70	249	⇑P		P		19 29 08.3	-0.6		
	baz=62,SNR=9.2										
KLBR	Kellerberrin	62.02	243	⇓P		P		19 29 10.6	-0.3		
	baz=62,SNR=14										
KMSI	Cibinong	62.62	280	P		P		19 29 15.6	+0.5		
	comp=Z,75nm,1.2s										
WSI	Waingapu	63.15	268	P		P		19 29 19.0	+0.5		
	comp=Z,213nm,0.9s										
WSI	Waingapu	63.15	268	⇑P		P		19 29 19.2	+0.7		
	baz=63,SNR=3.5										
LUWI	Luwuk	63.23	278	P		P		19 29 20.2	+1.1		
	comp=Z,97nm,1.1s,comp=Z,1µm										
LUWI	Luwuk	63.23	278	⇑P		P		19 29 20.6	+1.5		
	baz=63,SNR=3.6										
LBFI	Labuhan Bajo,	63.84	269	P		P		19 29 22.4	-0.6		
	comp=Z,290nm,0.7s,comp=Z,3µm										
APSI	Ampana	64.34	277	P		P		19 29 28.3	+2.0		
	comp=Z,121nm,1.2s,comp=Z,1µmcomp=Z,0.4nm										
APSI	Ampana	64.34	277	P		P		19 29 28.0	+1.7		
	comp=Z,121nm,1.3s,comp=Z,1µm										
BKSI	Bulukumba	64.47	272	P		P		19 29 27.7	+0.6		
	comp=Z,22nm,1.1s										
MRSI	Marisa	64.51	279	P		P		19 29 28.8	+1.4		
	comp=Z,24nm,1.2s,comp=Z,0.1nm										
MRSI	Marisa	64.51	279	P		P		19 29 28.5	+1.1		
	comp=Z,24nm,1.2s										
BNSI	Bone	64.75	273	P		P		19 29 30.2	+1.3		
	comp=Z,74nm,1.2s,comp=Z,722ncomp=Z,0.2nm										
BNSI	Bone	64.75	273	P		P		19 29 29.4	+0.5		
	comp=Z,74nm,1.2s,comp=Z,722nm										
KAPI	Kappang	64.91	273	*e*P		P		19 29 30.6	+0.7		
	comp=Z,52nm,1.1s										
SPSI	Sidrap Palu	65.19	274	P		P		19 29 31.9	+0.1		
	comp=Z,26nm,1.0s,comp=Z,0.1nm										
SPSI	Sidrap Palu	65.19	274	P		P		19 29 31.6	-0.2		
	comp=Z,26nm,1.0s										
TTSI	Tana Toraja	65.42	275	P		P		19 29 36.3	+3.1		
TTSI	Tana Toraja	65.42	275	P		P		19 29 33.7	+0.5		
	comp=Z,20nm,1.1s										
MJSI	Majene	66.07	274	P		P		19 29 38.9	+1.5		
	comp=Z,108nm,1.1s,comp=Z,1µm										
MMSI	Mamuju	66.39	275	P		P		19 29 40.9	+1.5		
	comp=Z,33nm,1.3s										
MTNI	Mataram	67.35	268	P		P		19 29 46.0	+0.6		
	comp=Z,50nm,0.9s										
KHKI	Kahang-Kahang	67.96	268	P		P		19 29 48.8	-0.4		
	comp=Z,57nm,1.4s,comp=Z,1µm										
DNP	Denpasar	68.25	267	P		P		19 29 51.5	+0.5		
	comp=Z,208nm,0.9s										
SRBI	Singaraja	68.41	268	P		P		19 29 52.2	+0.2		
	comp=Z,80nm,1.3s										
BYJI	Banyuwangi	69.19	268	P		P		19 29 58.2	+1.4		
	comp=Z,93nm,0.8s,comp=Z,5µm										
MJAR	Matsushiro Arr	69.40	321	P		P		19 29 57.4	-0.1		
MJAR	Matsushiro Arr	69.40	321	P		P		19 29 57.4	-0.1		
	comp=Z,7.3nm,0.8s,baz=160,slow=6.7,SNR=16										
MAT	Matsushiro	69.40	321	P		P		19 29 57.3	-0.3		
ABJI	Asem Bagus	69.42	268	P		P		19 29 59.1	+0.9		
	comp=Z,84nm,1.2s,comp=Z,0.3nm										
ABJI	Asem Bagus	69.42	268	P		P		19 29 58.6	+0.4		
	comp=Z,84nm,1.2s										
KMMI	Kalianget	69.87	269	P		P		19 30 02.3	+1.4		
KMMI	Kalianget	69.87	269	P		P		19 30 02.3	+1.4		
	comp=Z,97nm,1.1s										
BLJI	Banyuglugur	70.04	268	P		P		19 30 02.8	+0.9		
	comp=Z,126nm,0.9s,comp=Z,0.4nm										
BLJI	Banyuglugur	70.04	268	P		P		19 30 02.5	+0.6		
	comp=Z,122nm,0.9s										
BBKI	Banjar Baru	70.04	273	P		P		19 30 03.4	+1.4		
	comp=Z,68nm,1.1s										
GMJI	Gumukmas	70.05	267	P		P		19 30 08.2	+6.2		
	comp=Z,50nm,0.9s										
GMJI	Gumukmas	70.05	267	P		P		19 30 02.3	+0.3		
	comp=Z,50nm,1.0s										
PWJI	Pagerwojo	71.68	267	P		P		19 30 12.0	+0.2		
	comp=Z,74nm,1.5s										
SJI	Sawahan	71.79	267	P		P		19 30 13.4	+0.9		
	comp=Z,50nm,0.9s										
SJI	Sawahan	71.79	267	P		P		19 30 13.1	+0.6		
	comp=Z,49nm,0.9s										
JNU	Nakatsue	71.98	314	P		P		19 30 13.4	+0.3		
JNU	Nakatsue	71.98	314	P		P		19 30 13.4	+0.3		
	comp=Z,14nm,0.8s,baz=46,slow=2.7,SNR=7.9										
NGJI	Ngawi	72.18	268	P		P		19 30 27.8	+13		
PCJI	Pacitan	72.23	267	P		P		19 30 15.9	+0.9		
	comp=Z,287nm,0.9s,comp=Z,2µm										
PCJI	Pacitan	72.23	267	P		P		19 30 16.0	+0.9		
	comp=Z,287nm,0.9s,comp=Z,2µm										
WOJI	Wonogiri, Jawa	72.57	267	P		P		19 30 18.0	+0.9		
	comp=Z,104nm,1.0s,comp=Z,5µm										
WOJI	Wonogiri, Jawa	72.57	267	P		P		19 30 17.9	+0.9		
	comp=Z,104nm,1.0s,comp=Z,5µm										
QSPA	South Pole Qui	72.78	180	*e*P		P		19 30 18.2	+0.7		
	comp=Z,40nm,0.8s										
QSPA	South Pole Qui	72.78	180	P		P		19 30 18.6	+1.1		
	comp=Z,46nm,0.9s,baz=36,slow=1.5,SNR=85										
UGM	Wanagama	72.93	267	P		P		19 30 19.5	+0.3		
	comp=Z,105nm,0.9s										
UGM	Wanagama	72.93	267	⇓P		P		19 30 19.0	-0.2		
	baz=73,SNR=12										
PBKI	Pangkalan Bun	73.29	272	P		P		19 30 23.3	+2.0		
	comp=Z,76nm,1.1s										
BJII	Banjamegara	73.86	267	P		P		19 30 26.4	+1.8		
	comp=Z,30nm,0.9s										
BJII	Banjamegara	73.86	267	P		P		19 30 25.4	+0.8		
	comp=Z,30nm,0.9s										
PEA0	Petropavlovsk-	73.95	343	*e*P		P		19 30 24.1	-0.1		
PETK	Petropavlovsk-	73.95	343	P		P		19 30 24.4	+0.2		
PETK	Petropavlovsk-	73.95	343	P		P		19 30 24.4	+0.2		
PETK	Petropavlovsk-	73.95	343	P		P		19 30 24.4	+0.2		
	comp=Z,13nm,0.7s,baz=120,slow=8.8,SNR=39										
YULB	Yu-li	74.19	301	*e*P		P		19 30 26.0	-0.2		
	comp=Z,97nm,0.7s										
STKI	Sintang	74.30	275	P		P		19 30 28.8	+1.7		
	comp=Z,34nm,1.2s										
NACB	Ninganchiao	74.31	302	*e*P		P		19 30 26.2	-0.7		
	comp=Z,196nm,0.5s										
YSS	Yuzh-Sakhalins	74.36	331⇑	*e*P		P		19 30 27.2	+0.6		
TGJI	Tegal	74.55	267	P		P		19 30 29.3	+0.8		
	comp=Z,47nm,1.0s										
TGJI	Tegal	74.55	267	P		P		19 30 28.8	+0.3		
	comp=Z,47nm,1.0s										
KPJI	Karang Pucung	74.60	267	P		P		19 30 29.6	+0.8		
	comp=Z,45nm,1.2s										
KPJI	Karang Pucung	74.60	267	P		P		19 30 29.4	+0.6		
	comp=Z,45nm,1.2s										
SSLB	Suanglung	74.65	301	*e*P		P		19 30 26.0	-3.0		
	comp=Z,76nm,0.6s										
TPUB	Ta-pu	74.70	301	*e*P		P		19 30 28.6	-0.6		
	comp=Z,19nm,0.8s										
YHNB	Yeheng	74.71	302	*e*P		P		19 30 29.9	+0.6		
	comp=Z,56nm,1.0s										
CISI	Cisompet, Garu	75.61	266	P		P		19 30 35.1	+0.5		
	comp=Z,69nm,1.1s,comp=Z,839nm										
CISI	Cisompet, Garu	75.61	266	P		P		19 30 34.1	-0.5		
	comp=Z,70nm,1.1s,comp=Z,839nm										
CISI	Cisompet, Garu	75.61	266	*e*P		P		19 30 34.2	-0.5		
	comp=Z,126nm,1.4s										
CISI	Cisompet, Garu	75.61	266	⇓P		P		19 30 33.9	-0.7		
	baz=76,SNR=4.9										
KSM	Kuching	75.84	276	P		P		19 30 36.2	+0.3		
KSM	Kuching	75.84	276	P		P		19 30 37.5	+1.6		
	comp=Z,50nm,0.9s										
LEM	Lembang	76.00	267	P		P		19 30 37.9	+1.0		
	comp=Z,121nm,1.0s,comp=Z,1µm										
LEM	Lembang	76.00	267	P		P		19 30 38.0	+1.0		
	comp=Z,122nm,1.0s,comp=Z,1µm										
LEM	Lembang	76.00	267	⇑P		P		19 30 37.6	+0.6		
	baz=76,SNR=6.5										
KSRS	Korea Array	76.44	317	P		P		19 30 40.0	+1.4		
	comp=Z,8.3nm,0.9s,baz=134,slow=6.3,SNR=20										
KSAR	Wonju Array Be	76.45	317	P		P		19 30 40.0	+1.3		
KS01	Wonju Array Si	76.47	317	*e*P		P		19 30 39.5	+0.7		
KS01				*e*S		S		19 39 58.5	-1.9		
NV01	Mina Array Sit	76.73	42	*e*P		P		19 30 40.8	+0.2		
CBJI	Citeko	76.84	267	P		P		19 30 41.3	-0.1		
	comp=Z,126nm,1.0s										
CBJI	Citeko	76.84	267	P		P		19 30 41.1	-0.3		
	comp=Z,126nm,1.0s										
DBJI	Dramaga	76.90	267	P		P		19 30 42.3	+0.5		
	comp=Z,66nm,1.2s										
DBJI	Dramaga	76.90	267	P		P		19 30 42.2	+0.5		
	comp=Z,66nm,1.2s										
COR	Corvallis	77.48	35	*e*P		P		19 30 46.6	+2.4		
COR	Corvallis	77.48	35	*e*P		P		19 30 46.6	+2.4		
SHPR	Sheep Range	77.75	45	*e*P		P		19 30 46.3	+0.1		
	comp=Z,1.7nm,0.6s										
USRK	Ussuriysk Arra	77.97	324	P		P		19 30 48.0	+1.0		
	comp=Z,3.2nm,0.8s,baz=125,slow=6.1,SNR=7.1										
R11A	Troy Canyon, C	78.46	44	*e*P		P		19 30 50.5	+0.4		
	comp=Z,29nm,2.5s										
BLSI	Bandar Lampung	78.67	268	P		P		19 30 54.5	+3.0		
	comp=Z,107nm,0.4s,comp=Z,3µm										
WVOR	Wild Horse Val	78.84	39	*e*P		P		19 30 51.9	-0.1		
WVOR					pmax		pmax				
	comp=Z,107nm,2.7s										
WVOR	Wild Horse Val	78.84	39	*e*P		P		19 30 51.9	-0.1		
	comp=Z,106nm,2.7s										
HABR	Khabarovsk	79.11	329	*i* P		P		19 30 51.6	-1.5		
HABR				*e*				19 30 59.0			
HABR				*e**PP		pP		19 31 52.5	-7.1		
HABR				*e**SP		sP		19 32 20.5	-9.2		
HABR				*e*				19 33 53.5			
HABR				*e*S		S		19 40 28.0	-0.1		
HABR				*e*				19 40 48.5			
HABR				*e*				19 41 42.6			
HABR				*e*SS		SS		19 45 39.9	-1.7		
HABR				*e*SSS		SSS		19 49 07.1			
HABR					pmax		pmax				
	comp=N,20nm,2.1s										
HABR					pmax		pmax				
	comp=E,19nm,2.1s										
HABR					pmax		pmax				
	comp=Z,20nm,2.1s										
HABR					MLR		MLR				
	comp=Z,31nm,17.0s										
KASI	Kota Agung	79.34	267	P		P		19 30 54.9	-0.2		
	comp=Z,69nm,1.0s										
KASI	Kota Agung	79.34	267	P		P		19 30 54.6	-0.5		
	comp=Z,69nm,1.0s										
CCUT	Cedar City	79.53	45	*e*P		P		19 30 56.7	+0.8		
CCUT				*e*pP		pP		19 32 04.1	+1.6		
KNB	Kanab	79.62	46	*e*P		P		19 30 56.7	+0.4		
KNB					pmax		pmax				
	comp=Z,64nm,2.7s										
KNB	Kanab	79.62	46	*e*P		P		19 30 56.7	+0.4		
	comp=Z,64nm,2.7s										
LWLI	Liwa	79.90	268	P		P		19 30 59.6	+1.3		
	comp=Z,54nm,0.7s,comp=Z,2µm										
LWLI	Liwa	79.90	268	P		P		19 30 58.5	+0.2		
	comp=Z,54nm,0.7s,comp=Z,2µm										
MDSI	Maura Dua	79.93	268	P		P		19 30 57.7	-0.6		
	comp=Z,19nm,1.4s										
MDSI	Maura Dua	79.93	268	P		P		19 30 57.6	-0.7		
	comp=Z,19nm,1.4s										
G08A	Pilot Rock	80.34	36	*e*P		P		19 31 00.4	+0.5		
	comp=Z,8.2nm,1.1s										
MFID	Camas Ranch	81.09	39	*e*P		P		19 31 03.7	-0.2		
	comp=Z,64nm,2.8s										
F10A	Beach Ranch, E	81.72	37	*e*P		P		19 31 06.4	-0.8		
	comp=Z,7.4nm,0.7s										
HLID	Hailey	82.03	40	*e*P		P		19 31 09.2	+0.3		
	comp=Z,7.7nm,1.0s										
SRU	San Rafael	82.24	45	*e*P		P		19 31 10.1	0.0		
SRU					pmax		pmax				
	comp=Z,7.0nm,0.8s										
SRU	San Rafael	82.24	45	*e*P		P		19 31 10.1	0.0		
	comp=Z,7.1nm,0.8s										
MNTX	Cornudas Mount	82.56	54	*e*P		P		19 31 11.9	+0.2		
MNTX				*e*pP		pP		19 32 19.6	+0.7		
PV05	Paradox Valley	82.72	47	*e*P		P		19 31 13.9	+1.3		
TRF	Thorofare Moun	82.73	11	*e*P		P		19 31 11.2	-0.8		
	comp=Z,120nm,2.0s										
LPM	Los Pinos Moun	82.76	51	*e*P		P		19 31 13.5	+0.7		
	comp=Z,11nm,1.2s										
PV09	Paradox Valley	82.89	46	*e*P		P		19 31 14.5	+0.9		
PV10	Paradox Valley	82.90	46	*e*P		P		19 31 13.9	+0.3		
TX31	Lajitas Ar. Si	82.92	56	*e*P		P		19 31 14.1	+0.4		
TX31				*e*pP		pP		19 32 21.6	+0.7		
TXAR	Lajitas Array	82.92	56	P		P		19 31 14.2	+0.6		
TXAR				pP		pP		19 32 20.9	+0.1		
TXAR	Lajitas Array	82.92	56	P		P		19 31 14.2	+0.6		
	comp=Z,1.0nm,0.8s,baz=224,slow=8.4,SNR=9.1										
TXAR				pP		pP		19 32 20.9	+0.1		
	comp=Z,2.0nm,1.1s,baz=236,slow=5.9,SNR=5.1										
PV04	Paradox Valley	83.00	46	*e*P		P		19 31 14.3	+0.3		
PV01	Paradox Valley	83.11	47	*e*P		P		19 31 14.5	-0.1		
ANMO	Albuquerque	83.17	50	*e*P		P		19 31 15.3	+0.3		
	comp=Z,4.9nm,1.0s										
MCK	McKinley	83.24	11	*e*P		P		19 31 14.1	-0.3		
MCK					pmax		pmax				
	comp=Z,23nm,1.0s										
MCK	McKinley	83.24	11	*e*P		P		19 31 14.1	-0.3		
	comp=Z,23nm,1.0s										
DLMT	Dillon	84.10	39	*e*P		P		19 31 20.1	+0.7		
	comp=Z,6.8nm,1.0s										
DLMT				*e*PP		PP		19 34 40.1	+2.0		
DLMT				*e*ScS		ScS		19 41 32.7	+2.7		
REDW	Red Top Meadow	84.14	41	*e*P		P		19 31 19.9	+0.2		
	comp=Z,6.9nm,1.0s										
DOT	Dot Lake	84.16	13	*e*P		P		19 31 18.9	-0.2		
	comp=Z,14nm,0.8s										
DOT				*e*pP		pP		19 32 28.7	+2.2		
BSMT	Bassoo Peak	84.17	36	*e*P		P		19 31 19.1	-0.5		
	comp=Z,1.3nm,0.6s										
FXWY	Crow	84.17	41	*e*P		P		19 31 20.4	+0.5		
	comp=Z,5.2nm,1.0s										
MOOW	Moose Ponds	84.40	41	*e*P		P		19 31 20.8	-0.2		
	comp=Z,32nm,2.5s										
LOHW	Long Hollow	84.42	41	*e*P		P		19 31 21.0	-0.1		
	comp=Z,76nm,3.0s										
COLA	College	84.48	11	*e*P		P		19 31 20.0	-0.6		
COLA					pmax		pmax				
	comp=Z,10.0nm,0.8s										
COLA	College	84.48	11	*e*P		P		19 31 20.0	-0.6		
	comp=Z,9.7nm,0.8s										
IM04	Indian Mountai	84.52	9	*e*P		P		19 31 20.6	-0.2		
IL1	Eielson Array	84.57	12	*e*P		P		19 31 20.1	-0.9		
IL1				*e*pP		pP		19 32 27.0	-1.6		
ILAR	Eielson Array	84.57	12	P		P		19 31 20.5	-0.5		
ILAR				pP		pP		19 32 28.5	0.0		
ILAR	Eielson Array	84.57	12	P		P		19 31 20.5	-0.5		
	comp=Z,4.4nm,0.5s,baz=226,slow=6.0,SNR=118										
ILAR				pP		pP		19 32 28.5	0.0		
	comp=Z,3.7nm,1.1s,baz=222,slow=5.1,SNR=3.6										
FLWY	Flagg Ranch	84.60	41	*e*P		P		19 31 22.5	+0.6		
	comp=Z,9.7nm,1.0s										
BW06	Boulder Array	84.67	42	*e*P		P		19 31 21.8	-0.6		
BW06				*e*pP		pP		19 32 29.4	-0.5		
PDAR	Pinedale Array	84.67	42	P		P		19 31 22.1	-0.2		
PDAR				pP		pP		19 32 29.6	-0.3		
PDAR	Pinedale Array	84.67	42	P		P		19 31 22.1	-0.2		
	comp=Z,3.0nm,0.8s,baz=204,slow=3.8,SNR=21										
PDAR				pP		pP		19 32 29.6	-0.3		
	comp=Z,1.3nm,0.8s,baz=213,slow=2.8,SNR=4.8										
SMCO	Snowmass	84.70	46	*e*P		P		19 31 22.8	0.0		
	comp=Z,60nm,2.5s										
YMR	Madison River	84.73	40	*e*P		P		19 31 23.4	+0.8		
	comp=Z,84nm,2.7s										
BOZ	Bozeman (W)	84.83	39	*e*P		P		19 31 23.0	0.0		
BOZ				pmax		pmax					
	comp=Z,5.0nm,1.0s										
BOZ	Bozeman (W)	84.83	39	*e*P		P		19 31 23.0	0.0		
	comp=Z,5.2nm,1.0s										
H17A	Grant Village	84.83	40	*e*P		P		19 31 24.4	+1.3		
	comp=Z,6.1nm,1.0s										
SDCO	Great Sand Dun	85.10	48	*e*P		P		19 31 24.9	+0.2		
SDCO				*e*pP		pP		19 32 33.5	+1.3		
HRY	Holter Researc	85.25	38	*e*P		P		19 31 25.5	+0.5		
MSTX	Muleshoe	85.51	53	*e*P		P		19 31 25.5	-1.1		
	comp=Z,22nm,1.6s										
MAW	Mawson	85.54	199	*e*P		P		19 31 26.8	+0.8		
MAW	Mawson	85.54	199	P		P		19 31 26.6	+0.6		
	comp=Z,25nm,0.7s,baz=128,slow=6.0,SNR=16										
IPM	Ipoh	85.58	276	P		P		19 31 28.7	+1.4		
IPM	Ipoh	85.58	276	P		P		19 31 29.4	+2.1		
IPM	Ipoh	85.58	276	P		P		19 31 28.7	+1.4		
	comp=Z,36nm,1.1s										
IPM	Ipoh	85.58	276	*e*P		P		19 31 28.5	+1.2		
	comp=Z,60nm,1.4s										
RLMT	Red Lodge	86.00	40	*e*P		P		19 31 28.2	-0.7		
	comp=Z,54nm,2.3s										
COLD	Coldfoot	86.22	9	*e*P		P		19 31 29.1	0.0		
	comp=Z,7.7nm,1.0s										
ENH	Enshi	86.63	303	*e*P		P		19 31 33.6	+1.6		
	comp=Z,8.8nm,0.8s										
PSI	Prapat	87.08	274	P		P		19 31 34.9	+0.2		
	comp=Z,28nm,1.1s										
PSI	Prapat	87.08	274	P		P		19 31 35.4	+0.7		
PSI	Prapat	87.08	274	P		P		19 31 35.4	+0.7		
	comp=Z,20nm,1.0s,baz=183,slow=4.6,SNR=9.3										
PSI	Prapat	87.08	274	⇑P		P		19 31 34.8	+0.1		
	baz=87,SNR=7.1										
GYA	Guiyang	87.57	299⇑	*i*P		P		19 31 38.3	+1.6		
GYA					pmax		pmax				
	comp=Z,20nm,0.9s										
EDM	Edmonton	87.87	32	*e*P		P		19 31 36.7	-0.6		
EDM	Edmonton	87.87	32	*e*P		P		19 31 36.7	-0.6		
GSI	Gunungsitoli	87.93	272	P		P		19 31 39.8	+1.3		
	comp=Z,60nm,1.1s										
GSI	Gunungsitoli	87.93	272	*e*P		P		19 31 39.9	+1.4		
	comp=Z,45nm,0.9s										
SLVN	Son La	88.22	293	*e*P		P		19 31 41.5	+1.8		
KCSI	Kotacane, Aceh	88.39	274	P		P		19 31 41.7	+1.0		
	comp=Z,21nm,1.3s,comp=Z,416nm										
XAN	Xi'an	88.49	306	P		P		19 31 41.5	+0.8		
XAN				pmax		pmax					
	comp=Z,4.0nm,1.2s										
TPTI		88.88	274	P		P		19 31 44.5	+1.5		
HHC	Hu-ho-hao-te	89.18	313	*e*P		P		19 31 44.8	+0.9		
HHC				S		S		19 42 10.1	+1.8		
HHC				pmax		pmax					
	comp=Z,32nm,1.1s										
HHC				pmax		pmax					
	comp=Z,190nm,8.5s										
YAK	Yakutsk	90.22	337	*e*P		P		19 31 45.8	-2.2		
YAK

LVV	L'vov	144.08	339	*e*PKIKP	**PKPab**	19 38 19.7	-0.4
HLM1	Long Mynd	144.28	8	*e*P	PKPbc	19 38 21.4	+0.3
MNKR	ALMNKUR	144.41	308	*e*P	**PKPab**	19 38 20.9	-0.9
MNKR	ALMNKUR	144.41	308	*e*P	**PKPab**	19 38 21.0	-0.9
	SNR=158						
NRDL	Niedersach Rie	144.62	355	*e*PKPbc	PKPbc	19 38 22.0	0.0
KSRV	Kasrt alli	144.64	308	*e*P	PKPbc	19 38 21.1	-1.6
KSRV	Kasrt alli	144.64	308	*e*P	PKPbc	19 38 21.1	-1.6
	SNR=164						
MCH1	Michaelchurch	144.77	9	*e*P	PKPbc	19 38 20.9	-1.6
MONM	Monmouth	144.96	8	*e*P	PKPbc	19 38 23.0	-0.1
IBBN	Ibbenburen	144.97	357	*e*PKPbc	**PKPab**	19 38 23.6	+0.2
OJC	Ojcow	145.04	343	*e*PKIKP	**PKPab**	19 38 23.7	-0.1
OJC	Ojcow	145.04	343	*e*PKP	**PKPab**	19 38 23.7	-0.1
OJC	Ojcow	145.04	343	*e*PKPbc	**PKPab**	19 38 23.7	-0.1
LEOM	Leova	145.09	332	⇑PKIKP	**PKPab**	19 38 24.1	+0.1
LEOM	Leova	145.09	332	⇑*i*P	**PKPab**	19 38 24.1	+0.1
STRD	Stroud	145.10	8	*e*P	**PKPdf**	19 38 23.2	-0.2
CLZ	Clausthal	145.24	354	*e*PKPbc	**PKPab**	19 38 24.6	+0.1
KSP	Ksiaz	145.31	347	⇑*e*PKP2	**PKPab**	19 38 24.9	+0.1
KSP	Ksiaz	145.31	347	*e*PKP	**PKPab**	19 38 24.9	+0.1
STHS	Stebnicka Huta	145.34	341	*e*PKP2	**PKPab**	19 38 25.3	+0.3
STHS	Stebnicka Huta	145.34	341	*e*PKP	**PKPab**	19 38 25.3	+0.3
BATH	Bath	145.41	8	*e*P	PKPbc	19 38 24.4	-0.1
KOLS	Kolonicke sedl	145.44	340	*e*PKP2	**PKPab**	19 38 25.3	0.0
KOLS	Kolonicke sedl	145.44	340	*e*PKP	**PKPab**	19 38 25.3	0.0
CLL	Collm	145.45	351	⇑*i*PKP2	**PKPbc**	19 38 24.8	+0.1
CLL	comp=Z,53nm,1.1s			pmax	pmax		
CLL	Collm	145.45	351	*e*PKPbc	**PKPbc**	19 38 24.8	+0.1
CLL	Collm	145.45	351	⇑*i*PKPbc	**PKPbc**	19 38 24.8	+0.1
	comp=Z,53nm,1.1s						
CLL				*e*PKiKP	**PKiKP**	19 38 28.0	-0.2
BUR08	Bucovina Ar. S	145.46	336	*e*PKPdf	**PKPab**	19 38 25.8	+0.2
BUR04	Bucovina Ar. S	145.48	336	*e*PKPdf	**PKPab**	19 38 25.6	+0.1
BURAR	Bucovina Array	145.48	336	⇑PKP2	**PKPab**	19 38 25.7	0.0
BURAR	Bucovina Array	145.48	336	⇑*i*P	**PKPab**	19 38 25.7	0.0
HEX	Exmoor	145.56	10	*e*P	**PKPab**	19 38 25.4	-0.3
NIE	Niedzica	145.62	342	*e*PKP2	**PKPab**	19 38 26.3	+0.3
NIE	Niedzica	145.62	342	*e*PKP	**PKPab**	19 38 26.3	+0.3
WOL	Wolverton	145.67	7	*e*P	**PKPdf**	19 38 24.8	+0.4
UPC	Upice	145.68	348	*e*PKP2	**PKPab**	19 38 25.9	-0.3
UPC	Upice	145.68	348	*e*PKP	**PKPab**	19 38 25.9	-0.3
UPC				*ex*	x	19 39 38.4	
NEUB	Neuenburg	145.71	352	*e*PKPbc	**PKPbc**	19 38 25.8	+0.3
BRG	Berggiesshubel	145.72	350	*e*PKP	**PKPbc**	19 38 25.7	+0.2
	comp=Z,23nm,1.1s						
BRG	Berggiesshubel	145.72	350	*e*PKP2	**PKPbc**	19 38 25.7	+0.2
BRG				pmax	pmax		
	comp=Z,23nm,1.1s						
BRG	Berggiesshubel	145.72	350	*e*PKPbc	**PKPbc**	19 38 25.8	+0.3
CRVS	Cervenica-Dubn	145.72	341	*e*PKP2	**PKPbc**	19 38 25.8	+0.2
CRVS	Cervenica-Dubn	145.72	341	*e*PKP	**PKPbc**	19 38 25.8	+0.2
TESR	Tescani	145.77	333	⇑*i*P	**PKPbc**	19 38 26.2	+0.4
DPC	Dobruska-Polom	145.77	347	*e*PKP2	**PKPab**	19 38 26.5	-0.1
DPC	Dobruska-Polom	145.77	347	*e*PKP	**PKPab**	19 38 26.5	-0.1
DPC				*ex*	x	19 39 35.9	
DPC	Dobruska-Polom	145.77	347	*e*PKPdf	**PKPab**	19 38 26.7	+0.1
FBE	Freiberg	145.77	351	*e*PKPbc	**PKPab**	19 38 26.4	-0.1
OKC	Ostrava-Krasne	145.82	345	*e*PKIKP	**PKPbc**	19 38 25.7	-0.1
OKC	Ostrava-Krasne	145.82	345	*e*PKP	**PKPbc**	19 38 25.7	-0.1
OKC				*ex*	x	19 38 31.9	
OKC				*ex*	x	19 39 39.4	
BUG	Bochum--Univer	145.86	357	*e*PKPbc	**PKPbc**	19 38 26.2	+0.3
PVCC	Panska Ves	145.94	349	*e*PKP2	**PKPab**	19 38 27.1	-0.1
PVCC	Panska Ves	145.94	349	*e*PKP	**PKPab**	19 38 27.1	-0.1
MORC	Moravsky Berou	146.03	345	⇓PKP2	**PKPbc**	19 38 26.6	+0.1
MORC	Moravsky Berou	146.03	345	⇓*i*P	**PKPbc**	19 38 26.6	+0.1
MORC	Moravsky Berou	146.03	345	*e*PKPdf	**PKPbc**	19 38 26.4	-0.1
MORC				*ep*PKPdf	**pPKPdf**	19 39 36.4	-0.8
CFR	Carcaliu	146.10	330	⇑PKP2	**PKPbc**	19 38 27.3	+0.5
CFR	Carcaliu	146.10	330	⇑*i*P	**PKPbc**	19 38 27.3	+0.5
VRI	Vrincioaia	146.23	332	⇑PKP2	**PKPbc**	19 38 27.5	+0.3
VRI	Vrincioaia	146.23	332	⇑*i*P	**PKPbc**	19 38 27.5	+0.3
PLOR	Plostina	146.28	332	⇓PKP2	**PKPbc**	19 38 27.6	+0.2
PLOR	Plostina	146.28	332	⇓*i*P	**PKPbc**	19 38 27.6	+0.2
PLN	Plauen	146.37	352	*e*PKPbc	**PKPbc**	19 38 27.8	+0.4
WERD	Werda	146.39	352	*e*PKPbc	**PKPbc**	19 38 27.9	+0.4
TANN	Tannenbergstha	146.40	351	*e*PKPbc	**PKPbc**	19 38 28.0	+0.4
GUNZ	Gunzen	146.46	351	*e*PKPbc	**PKPbc**	19 38 28.3	+0.5
PRU	Pruhonice	146.47	349	*e*PKP2	**PKPbc**	19 38 28.0	+0.3
PRU	Pruhonice	146.47	349	*e*PKP	**PKPbc**	19 38 28.0	+0.3
PRU				*ex*	x	19 39 37.9	
WERN	Wernitzgruen	146.53	351	*e*PKPbc	**PKPbc**	19 38 28.6	+0.6
HARR	Harsova	146.56	330	⇓PKP2	**PKPab**	19 38 29.3	-0.5
HARR	Harsova	146.56	330	⇓*i*P	**PKPab**	19 38 29.3	-0.5
BR131	Keskin Array S	146.57	318	*e*PKPbc	**PKPbc**	19 38 28.6	+0.1
BR131				*ep*PKPdf	**pPKPdf**	19 39 40.7	+2.1
BRTR	Keskin Array B	146.57	318	PKP	**PKPdf**	19 38 25.4	-1.2
BRTR				PKPbc	**PKPbc**	19 38 28.9	+0.3
BRTR				*ep*PKPbc	pPKPbc	19 39 38.5	-1.0
BRTR	Keskin Array B	146.57	318	PKP	**PKPdf**	19 38 25.4	-1.2
	comp=Z,13nm,0.8s,baz=175,slow=1.6,SNR=31						
BRTR				PKPbc	**PKPbc**	19 38 28.9	+0.3
	comp=Z,13nm,0.8s,baz=140,slow=3.2,SNR=56						
BRTR				*ep*PKPbc	pPKPbc	19 39 38.5	-1.0
	comp=Z,4.6nm,1.0s,baz=333,slow=0.6,SNR=3.3						
NKC	Novy Kostel	146.57	351	*e*PKP2	**PKPbc**	19 38 28.5	+0.4
NKC	Novy Kostel	146.57	351	*e*PKP	**PKPbc**	19 38 28.5	+0.4
NKC				*ex*	x	19 39 41.6	
VRAC	Vranov	146.69	346	⇑*i*P	**PKPbc**	19 38 29.0	+0.6
WRDH	Warideh	146.72	309	*e*P	**PKPab**	19 38 30.3	-0.5
WRDH				*e*P	**PKPab**	19 38 30.3	-0.5
WRDH	Warideh	146.72	309	*e*P	**PKPab**	19 38 30.3	-0.5
	SNR=147						
MEM	Membach	146.73	359	PKP	**PKPbc**	19 38 29.0	+0.6
DOPR	Dopca	146.73	334	⇓*i*P	**PKPab**	19 38 29.8	-0.7
SNF	Seneffe	146.84	1	PKP	**PKPbc**	19 38 29.1	+0.4
CJR	Cluj-Napoca	146.85	336	⇑PKP2	**PKPbc**	19 38 29.8	+0.8
CJR	Cluj-Napoca	146.85	336	⇑*i*P	**PKPbc**	19 38 29.8	+0.8
MANZ	Manzenberg	146.86	352	*e*PKPbc	**PKPbc**	19 38 29.5	+0.6
MLR	Muntele Rosu	146.87	333	⇑*i*P	**PKPbc**	19 38 29.3	+0.1
ARNB	Al Arnab	146.89	310	*e*P	**PKPbc**	19 38 30.0	+0.5
ARNB				*e*P	**PKPab**	19 38 32.8	+1.2
ARNB	Al Arnab	146.89	310	*e*P	**PKPbc**	19 38 30.0	+0.5
	SNR=143						
ARNB	Al Arnab	146.89	310	*e*P	**PKPab**	19 38 32.8	+1.2
	SNR=6.0						
BCLA	Clavier	146.93	360	PKP	**PKPbc**	19 38 27.9	-1.1
TREC	Trest	146.94	347	*e*PKP2	**PKPbc**	19 38 29.4	+0.3
TREC	Trest	146.94	347	*e*PKP	**PKPbc**	19 38 29.4	+0.3
BIDA	Albida	146.99	308	*e*P	**PKPbc**	19 38 30.0	+0.2
BIDA	Albida	146.99	308	*e*P	**PKPbc**	19 38 30.0	+0.2
	SNR=148						
ZALF	Zalf	147.00	304	*e*P	**PKPdf**	19 38 24.5	-2.8
ZALF	Zalf	147.00	304	*e*P	**PKPdf**	19 38 24.5	-2.8
	SNR=155						
TNS	Taunus Mts	147.01	356	*e*PKPbc	**PKPbc**	19 38 29.5	+0.2
ANTO	Ankara	147.03	319	*e*PKIKP	**PKPdf**	19 38 28.0	+0.8
ANTO	Ankara	147.03	319	⇑*i*P	**PKPbc**	19 38 30.2	+0.5
ANTO	Ankara	147.03	319	*e*PKPdf	**PKPdf**	19 38 28.0	+0.8
BR231	Keskin MP Arra	147.06	319	*e*PKPdf	**PKPdf**	19 38 27.2	-0.1
ROTZ	Rotzenmuhle	147.06	351	*e*PKPbc	**PKPbc**	19 38 30.1	+0.7
DRGR		147.12	337	⇑PKP2	**PKPbc**	19 38 29.9	+0.2
DRGR		147.12	337	⇑*i*P	**PKPbc**	19 38 29.9	+0.2
HAWK	Haweek	147.12	308	*e*P	**PKPbc**	19 38 30.9	+0.7
HAWK	Haweek	147.12	308	*e*P	**PKPbc**	19 38 30.9	+0.7
	SNR=150						
SMOL	Smolenice	147.23	345	*e*PKP2	**PKPab**	19 38 31.2	-1.1
SMOL	Smolenice	147.23	345	*e*PKP	**PKPab**	19 38 31.2	-1.1
DOU	Dourbes	147.25	0	PKP	**PKPbc**	19 38 30.3	+0.5
GRF	Grafenberg Arr	147.27	353	*e*PKPbc	**PKPbc**	19 38 30.5	+0.5
VOIR		147.30	333	⇑PKP2	**PKPbc**	19 38 31.2	+0.9
VOIR		147.30	333	⇑*i*P	**PKPbc**	19 38 31.2	+0.9
KHC	Kasperske Hory	147.47	350	*e*PKIKP	**PKPdf**	19 38 27.7	+0.1
KHC				*e*		19 38 30.8	
KHC	Kasperske Hory	147.47	350	*e*PKP	**PKPdf**	19 38 28.1	+0.5
KHC				*ex*	x	19 38 31.2	
KHC				*ex*	x	19 39 42.4	
KHC	Kasperske Hory	147.47	350	*e*PKPdf	**PKPdf**	19 38 27.7	+0.1
KHC				*e*PKPbc	**PKPbc**	19 38 30.8	+0.2
KHC				*ep*PKPdf	**pPKPdf**	19 39 42.1	+2.5
ARR	Arges	147.53	334	⇑*i*P	**PKPbc**	19 38 32.1	+1.2
SALA	Sala	147.55	304	*e*P	**PKPdf**	19 38 26.9	-1.6
SALA	Sala	147.55	304	*e*P	**PKPdf**	19 38 26.9	-1.6
	SNR=150						
WLF	Walferdange	147.67	359	PKP	**PKPbc**	19 38 32.1	+1.1
WLF	Walferdange	147.67	359	*e*PKP2	**PKPbc**	19 38 31.4	+0.4
WLF	Walferdange	147.67	359	*e*PKPbc	**PKPbc**	19 38 32.0	+1.0
WLF	Walferdange	147.67	359	*e*PKPbc	**PKPbc**	19 38 31.4	+0.4
GEC2	GERESS Array S	147.72	349	*e*PKP2	**PKPbc**	19 38 31.8	+0.5
GEC2	GERESS Array S	147.72	349	*e*PKPbc	**PKPbc**	19 38 31.6	+0.3
GEC2	GERESS Array S	147.72	349	*e*PKPdf	**PKPbc**	19 38 31.8	+0.5
GERES	GERESS Array B	147.72	349	PKPbc	**PKPbc**	19 38 31.6	+0.3
GERES				*ep*PKPbc	**pPKPbc**	19 39 42.4	-0.1
GERES	GERESS Array B	147.72	349	PKPbc	**PKPbc**	19 38 31.6	+0.3
	comp=Z,7.0nm,0.7s,baz=24,slow=2.8,SNR=54						
GERES				*ep*PKPbc	**pPKPbc**	19 39 42.4	-0.1
	comp=Z,1.2nm,0.9s,baz=62,slow=3.2,SNR=2.0						
CONA	Conrad Observa	148.15	346	*i* PKiKP	**PKPbc**	19 38 33.2	+0.7
	comp=Z,3.2nm,0.8s,SNR=11						
TCHB	Talchehab	148.16	305	*e*P	**PKPdf**	19 38 29.1	-0.2
TCHB	Talchehab	148.16	305	*e*P	**PKPdf**	19 38 29.1	-0.2
	SNR=145						
LANF	Langenberg	148.29	356	PKP	**PKPbc**	19 38 33.3	+0.6
STU	Stuttgart	148.39	355	*e*PKPbc	**PKPbc**	19 38 33.6	+0.7
BZS	Buzias	148.52	337	⇑PKP2	**PKPbc**	19 38 33.7	+0.4
BZS	Buzias	148.52	337	⇑*i*P	**PKPbc**	19 38 33.7	+0.4
MOA	Molln	148.57	348	⇑*i*PKPbc	**PKPbc**	19 38 33.7	+0.3
	comp=Z,22nm,1.5s						
FUR	Furstenfeldbru	148.76	352	*e*PKPbc	**PKPbc**	19 38 34.6	+0.7
JMB	Yambol	148.86	328	⇑PKP2	**PKPbc**	19 38 35.3	+1.0
JMB	Yambol	148.86	328	⇑*i*P	**PKPbc**	19 38 35.3	+1.0
WLS	Welschbruch	148.88	357	PKP	**PKPbc**	19 38 34.3	+0.1
BFO	Black Forest	148.90	356	*i* PKP2	**PKPbc**	19 38 35.0	+0.7
BFO	Black Forest	148.90	356	*e*PKPbc	**PKPbc**	19 38 34.7	+0.4
BFO	Black Forest	148.90	356	*e*PKPbc	**PKPbc**	19 38 34.3	0.0
RJOB	Jochberg	148.95	350	*e*PKPbc	**PKPbc**	19 38 34.7	+0.3
ECH	Echery	149.09	357	PKP	**PKPbc**	19 38 35.0	+0.3
THEF	They Montfort	149.11	359	PKP	**PKPbc**	19 38 35.1	+0.3
CSS	Prodhromos	149.22	310	*e*PKPbc	**PKPbc**	19 38 35.2	-0.3
FELD	Feldberg im Sc	149.38	356	PKP	**PKPbc**	19 38 35.9	+0.3
KBA	Koelnbreinsper	149.49	349	⇓*i*PKPbc	**PKPbc**	19 38 35.5	-0.4
	comp=Z,10nm,0.7s						
WATA	Walderalm	149.53	351	⇑*i*PKPbc	**PKPbc**	19 38 36.0	0.0
	comp=Z,8.2nm,0.5s,SNR=9.0						
MOTA	Moosalm	149.59	352	⇑*i*PKPbc	**PKPbc**	19 38 36.2	0.0
	comp=Z,25nm,1.1s,SNR=9.8						
DAVA	Damuels	149.80	353	⇓*i*PKiKP	**PKPbc**	19 38 37.0	+0.3
	comp=Z,43nm,1.1s,SNR=8.1						
ABTA	Abfaltersbach	149.95	350	⇓*i*PKPbc	**PKPbc**	19 38 36.3	-0.7
	comp=Z,40nm,1.2s,SNR=8.7						
FETA	Feichten	149.96	352	⇑*i*PKiKP	**PKPbc**	19 38 37.4	+0.4
	comp=Z,30nm,1.0s,SNR=6.3						
LOMF	Lomont	149.96	358	PKP	**PKPbc**	19 38 37.3	+0.4
KDZ	Kurdzhali	150.05	328	⇑*i*P	**PKPbc**	19 38 37.6	+0.4
GCIS	Gornji Cirnik	150.14	345	*i* P	**PKPbc**	19 38 37.5	+0.1
VTS	Vitosha	150.37	332	⇑PKIKP	**PKPbc**	19 38 38.6	+0.4
VTS	Vitosha	150.37	332	⇑*i*P	**PKPbc**	19 38 38.6	+0.4
TUE	Stuetta	150.66	354	*e*PKPbc	**PKPbc**	19 38 38.8	0.0
MMB	Musomiste	150.92	330	⇑PKIKP	**PKPbc**	19 38 39.4	+0.1
MMB	Musomiste	150.92	330	⇑*i*P	**PKPbc**	19 38 39.4	+0.1
SENIN	Lac Senin/Sane	150.93	357	*e*PKPbc	**PKPbc**	19 38 40.4	+1.0
AGO	Saint Agoulin	151.26	3	PKP	**PKPbc**	19 38 40.0	+0.1
PLDF	La Plantade	151.36	2	PKP	**PKPbc**	19 38 40.2	0.0
PYM	Petit Puy Mans	151.55	3	PKP	**PKPbc**	19 38 41.1	+0.4
LBL	Lubilhac	152.08	3	PKP	**PKPbc**	19 38 41.8	-0.1
ESDC	Sonseca Array	156.35	17	PKPab	**PKPab**	19 39 10.8	-0.1
ESDC	Sonseca Array	156.35	17	PKPab	**PKPab**	19 39 10.8	-0.1
	comp=Z,1.4nm,0.6s,baz=334,slow=4.1,SNR=6.9						
DBIC	Dimbokro	165.72	136	PKP	**PKPdf**	19 38 50.9	-0.8
DBIC	Dimbokro	165.72	136	PKP	**PKPdf**	19 38 50.9	-0.8
	comp=Z,1.1nm,0.7s,baz=113,slow=10,SNR=3.5						
TOA0	Torodi Ar. Sit	174.80	142	*e*PKPab	**PKPab**	19 40 33.0	+0.4
TORD	Torodi Ar. Bea	174.80	142	PKP	**PKPdf**	19 38 55.3	-1.4
TORD				PKPab	**PKPab**	19 40 33.0	+0.4
TORD				PP	**PP**	19 44 25.2	+0.7
TORD	Torodi Ar. Bea	174.80	142	PKP	**PKPdf**	19 38 55.3	-1.4
	comp=Z,3.7nm,1.0s,baz=335,slow=1.3,SNR=16						
TORD				PKPab	**PKPab**	19 40 33.0	+0.4
	comp=Z,1.4nm,0.9s,baz=254,slow=4.6,SNR=4.9						
TORD				PP	**PP**	19 44 25.2	+0.7
	comp=Z,0.6nm,0.8s,baz=106,slow=3.4,SNR=4.0						

*ISCJB **22** 19:29:42.4±0.4, 14°.41N±0°.05×93°.02E±0°.05, h33km, mb4.1/19, MS3.1/2, Error ellipse: s-maj=7.7km s-min=6.1km az=40.2*

*IDC **22** 19:29:45.8±0.6, 14°.27N×93°.17E, h42km±5km, mb3.8/19, mb1 4.0/21,mb1mx3.9/31,mbtmp3.8/21, ML4.0/2, MS3.2/2, Ms1 3.2/2,ms1mx2.8/34, Error ellipse: s-maj=15.0km s-min=10.4km az=59.0*

ISC 22 19:29:45.0±0.5, 14°41N±0°.06×92°.92E±0°.06, h35km, n46, σ2s22/57, mb4.0/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KHLT	Khaolaem Dam	5.50	85	S		**Pn**	19 31 06.8	+2.3
SRDT	SRDT	6.01	90	S		**Pn**	19 31 11.7	+0.2
MHMT	Maesarieng	6.09	51	P		**Pn**	19 31 13.0	+0.3
	11nm,0.7s,231nm0.1nm							
MHMT				S		**Sn**	19 32 22.4	+1.2
	11nm,0.7s,231nm0.1nm							
CMAR	Chiang Mai Arr	7.04	54	P		**Pn**	19 31 25.8	+0.1
	0.5nm,0.3s,baz=244,slow=15,SNR=16							
CMAR				S		**Sn**	19 32 41.6	-3.0
	1.3nm,0.3s,baz=139,slow=18,SNR=6.9							
LAMP	Lampang	7.63	57	P		Pn	19 31 27.6	-6.1
PHIT	Phitsanulok	7.73	68	S		**Pn**	19 31 32.5	-2.6
PATY	Pattaya	7.87	100	S		Pn	19 31 32.5	-4.5
VIS	Vishakhapatnam	9.79	291	*i* P		**Pn**	19 32 05.4	+2.1
VIS				*i* S		**Sn**	19 33 47.3	-4.8
VIS				*i* S		**Sn**	19 33 47.3	-4.8
VIS				*ex*		x	19 33 49.2	
	comp=E,40nm,0.2s							
VIS				*ex*		x	19 33 51.1	
	comp=N,74nm,0.3s							
SHL	Shillong	11.14	355	*ex*		**Pn**	19 32 23.0	+1.0
SHL				*ex*		**Sn**	19 34 23.0	-2.5
PSI	Prapat	12.97	152	P		**Pn**	19 32 46.7	-0.4
	comp=N,1.2nm,0.3s,baz=325,slow=11,SNR=9.6							
ODAN	Odare	13.42	338	*e*P		**Pn**	19 32 52.5	-0.7
	comp=N,66nm,0.3s							
ODAN				*e*S		**Sn**	19 35 16.3	-5.0
TAPN	Taplejung	13.76	340	*e*P		**Pn**	19 32 56.9	-1.0
	comp=N,42nm,0.4s							
RAMN	Ramite	13.80	336	*e*P		**Pn**	19 32 58.2	-0.2
	comp=N,69nm,0.4s							
JIRN	Jiri	14.59	336	*e*P		**Pn**	19 33 08.7	-0.7
	comp=N,45nm,0.3s							
PKI	Pulchoki	14.84	333	*e*P		**Pn**	19 33 11.1	-1.6
	comp=N,60nm,0.4s							
PKIN	Phulchoki	14.85	333	*e*P		**Pn**	19 33 12.3	-0.5
	comp=N,103nm,0.5s							
PKIN				*e*S		**Sn**	19 35 50.5	-5.9
GUN	Gumba	14.94	335	*e*P		**Pn**	19 33 13.5	-0.6
	comp=N,27nm,0.4s							
DMN	Daman	15.01	332	*e*P		**Pn**	19 33 13.3	-1.6
	comp=N,29nm,0.3s							
KKN	Kakani	15.09	333	*e*P		**Pn**	19 33 13.9	-2.0
	comp=N,13nm,0.3s							
GKN	Gorkha	15.56	332	*e*P		**Pn**	19 33 20.9	-1.1
	comp=N,72nm,0.3s							
KOLN	Koldanga	15.87	328	*e*P		**Pn**	19 33 25.1	-0.9
	comp=N,35nm,0.3s							
DANN	Dangsing	16.27	330	*e*P		**Pn**	19 33 29.4	-1.8
	comp=N,35nm,0.5s							
H08S3	Diego Garcia H	29.84	224	T		T	20 06 50.9	
	baz=42,slow=76,SNR=7.2							
H08S2	Diego Garcia H	29.85	224	T		T	20 07 02.9	
	baz=42,slow=76,SNR=7.0							
H08S1	Diego Carcia H	29.86	224	T		T	20 06 53.4	
	baz=42,slow=76,SNR=9.0							
MKAR	Makanchi Array	33.48	347	P		**P**	19 36 23.4	+2.4
	comp=N,1.3nm,0.5s,baz=168,slow=8.4,SNR=27							
MKAR				LR		LR	19 52 58.2	
	comp=N,29nm,18.6s,baz=176,slow=41							
SONM	Songino Array	35.15	16	P		**P**	19 36 37.5	+2.0
	comp=N,1.3nm,0.8s,baz=201,slow=9.4,SNR=8.3							
SONM				PcP		**PcP**	19 39 07.3	+0.9
	comp=N,0.5nm,0.6s,baz=190,slow=5.0,SNR=3.6							
KSRS	Korea Array	38.61	47	P		**P**	19 37 03.9	-1.1
	comp=N,0.8nm,0.5s,baz=250,slow=7.8,SNR=4.3							
KSRS				LR		LR	19 55 43.9	
	comp=N,39nm,18.4s,baz=35,slow=40							
ZALV	Zalesovo Beam	39.96	353	P		**P**	19 37 16.7	+0.8
	comp=N,1.4nm,0.5s,baz=179,slow=8.1,SNR=10							
ZALV				pP		**pP**	19 37 29.1	+3.0
	comp=N,1.4nm,0.7s,baz=178,slow=8.9,SNR=4.9							
FITZ	Fitzroy Crossi	45.66	134	P		**P**	19 38 00.4	-2.2
	comp=N,3.1nm,0.9s,baz=338,slow=11,SNR=5.3							
FITZ				pP		**pP**	19 38 11.6	-1.4
	comp=N,1.2nm,0.4s,baz=89,slow=14,SNR=1.5							
AKTO	Aktyubinsk	45.71	329	P		**P**	19 38 05.1	+2.5
	comp=N,1.6nm,0.9s,baz=144,slow=14,SNR=3.8							
NWAO	Narrogin (SRO)	52.50	154	P		**P**	19 38 52.4	-2.3
	comp=N,5.0nm,0.7s,baz=180,slow=3.2,SNR=3.2							
WRA	Warramunga Arr	53.15	129	P		**P**	19 38 57.7	-2.2
	comp=N,0.7nm,0.7s,baz=313,slow=7.8,SNR=16							
WRA				PcP		**PcP**	19 40 07.2	-0.6
	comp=N,0.3nm,0.4s,baz=324,slow=3.3,SNR=6.5							
ASAR	Alice Springs	55.12	133	P		**P**	19 39 12.5	-1.6
	comp=N,0.3nm,0.4s,baz=311,slow=6.6,SNR=11							
ASAR				pP		**pP**	19 39 23.6	-1.2
	comp=N,0.6nm,0.5s,baz=308,slow=6.7,SNR=5.5							
BRTR	Keskin Array B	57.37	308	P		**P**	19 39 31.8	+1.5
	comp=N,1.8nm,0.7s,baz=132,slow=7.9,SNR=3.7							
AKASG	Malin Array Be	62.36	320	P		**P**	19 40 04.2	+0.1
	comp=N,0.7nm,0.5s,baz=87,slow=5.8,SNR=6.1							
STKA	Stephens Creek	65.52	135	P		**P**	19 40 22.4	-2.8
	comp=N,1.0nm,0.7s,baz=358,slow=24,SNR=2.9							
FINES	FINESS Array B	66.42	331	P		**P**	19 40 31.9	+1.5
	comp=N,4.3nm,0.8s,baz=119,slow=6.7,SNR=9.8							
FINES				pP		**pP**	19 40 44.7	+3.5
	comp=N,4.5nm,0.9s,baz=118,slow=5.3,SNR=2.3							
ARCES	ARCESS Array B	68.75	340	P		**P**	19 40 45.5	+0.5
	comp=N,1.4nm,0.5s,baz=79,slow=6.3,SNR=7.4							
ARCES				pP		**pP**	19 40 59.3	+3.4
	comp=N,4.

n47,σ966/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.40**	**215**	*i* P	**Pg**	**20 31 35.7**	**+0.1**
HOMI				*i* S	**Sg**	**20 31 41.3**	**+0.4**
EATA	**Eleskirt**	**0.55**	**157**	*i* P	**Pg**	**20 31 38.8**	**+0.2**
EATA				*i* S	**Sb**	**20 31 47.8**	**-0.9**
EATA	**Eleskirt**	**0.55**	**157**	*i* P	**Pg**	**20 31 38.8**	**+0.2**
EATA				*i* S	**Sb**	**20 31 47.8**	**-0.9**
DDEM	**Demirkent**	**0.63**	**327**	*i* P	**Pb**	**20 31 40.6**	**-0.9**
DDEM				*i* S	**Sb**	**20 31 51.0**	**+0.4**
DDEM	**Demirkent**	**0.63**	**327**	*i* P	**Pb**	**20 31 40.6**	**-0.9**
DDEM				*i* S	**Sb**	**20 31 51.0**	**+0.4**
KARS	**Kars**	**0.71**	**69**	*e*PG	**Pb**	**20 31 42.4**	**-0.6**
KARS				*e*SG	**Sb**	**20 31 52.7**	**-0.5**
KARS	**Kars**	**0.71**	**69**	*e*Pg	**Pb**	**20 31 42.4**	**-0.6**
KARS				*e*Sg	**Sb**	**20 31 52.7**	**-0.5**
DAGI	**Agillar**	**0.74**	**343**	*i* P	**Pb**	**20 31 42.6**	**-0.8**
DAGI				*i* S	**Sb**	**20 31 54.1**	**+0.1**
DBAD	**Bademkaya**	**0.76**	**329**	*i* P	**Pb**	**20 31 42.9**	**-0.7**
DBAD				*i* S	**Sb**	**20 31 54.4**	**+0.1**
DBAD	**Bademkaya**	**0.76**	**329**	*i* P	**Pb**	**20 31 42.9**	**-0.7**
DBAD				*i* S	**Sb**	**20 31 54.4**	**+0.1**
ERZM	**Erzurum**	**0.79**	**234**	*i* P	**Pb**	**20 31 43.6**	**-0.8**
ERZM	**Erzurum**	**0.79**	**234**	*i* P	**Pb**	**20 31 43.6**	**-0.8**
EZM	**Erzurum**	**0.80**	**235**	*e*PG	**Pb**	**20 31 43.5**	**-1.0**
ARTV	**Artvin**	**0.84**	**346**	*i* P	**Pb**	**20 31 44.4**	**-0.8**
ARTV				*i* S	**Sn**	**20 31 59.7**	**+0.1**
ARTV	**Artvin**	**0.84**	**346**	*i* P	**Pb**	**20 31 44.4**	**-0.8**
ARTV				*i* S	**Sn**	**20 31 59.7**	**+0.1**
DIGO	**Kars**	**0.89**	**87**	*i* P	**Pg**	**20 31 45.0**	**-0.1**
DIGO				*i* S	**Sb**	**20 31 59.0**	**+0.6**
DIGO	**Kars**	**0.89**	**87**	*i* P	**Pg**	**20 31 45.0**	**-0.1**
DIGO				*i* S	**Sb**	**20 31 59.0**	**+0.6**
AGRB	**Hanur-Agry**	**1.00**	**142**	*e*PG	**Pg**	**20 31 46.9**	**-0.2**
AGRB	**Hanur-Agry**	**1.00**	**142**	*e*Pg	**Pg**	**20 31 46.9**	**-0.2**
TUTA	**Tutak**	**1.07**	**154**	*i* P	**Pg**	**20 31 48.6**	**+0.1**
TUTA				*i* S	**Sn**	**20 32 06.5**	**+1.2**
TUTA	**Tutak**	**1.07**	**154**	*i* P	**Pg**	**20 31 48.6**	**+0.1**
TUTA				*i* S	**Sn**	**20 32 06.5**	**+1.2**
EKAR	**Karacoban**	**1.12**	**186**	*i* P	**Pn**	**20 31 51.3**	**+0.8**
EKAR				*i* S	Sn	20 32 12.6	+6.2
EKAR	**Karacoban**	**1.12**	**186**	*i* P	**Pn**	**20 31 51.3**	**+0.8**
EKAR				*i* S	Sn	20 32 12.6	+6.2
EPOS	**Posof**	**1.20**	**19**	*i* P	Pb	20 31 40.5	-11
EPOS				*i* S	Sg	20 31 58.8	-7.7
EPOS	**Posof**	**1.20**	**19**	*i* P	Pb	20 31 40.5	-11
EPOS				*i* S	Sg	20 31 58.8	-7.7
VRTB	**Varto-Mus**	**1.34**	**206**	*e*PN	**Pn**	**20 31 53.0**	**-0.4**
VRTB	**Varto-Mus**	**1.34**	**206**	*e*Pn	**Pn**	**20 31 53.0**	**-0.4**
KOPT	**Kop Dagi**	**1.35**	**255**	*i* P	Pn	20 31 46.1	-7.7
KOPT				*i* S	Sb	20 32 04.8	-6.9
KOPT	**Kop Dagi**	**1.35**	**255**	*i* P	Pn	20 31 46.1	-7.7
KOPT				*i* S	Sb	20 32 04.8	-6.9
BAYT	**Ayd¯–ntepe-Bay**	**1.58**	**271**	*e*PN	**Pn**	**20 31 56.5**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.58**	**271**	*e*Pn	**Pn**	**20 31 56.5**	**-0.3**
CLDR	**Caldiran**	**1.80**	**132**	*e*PN	**Pn**	**20 32 00.1**	**+0.2**
CLDR	**Caldiran**	**1.80**	**132**	*e*Pn	**Pn**	**20 32 00.1**	**+0.2**
BNGB	**Bing¯¶l**	**1.81**	**221**	*e*PN	**Pn**	**20 31 59.7**	**-0.3**
MACK	**Trabzon**	**1.94**	**288**	*i* P	**Pg**	**20 32 05.5**	**+0.4**
MACK	**Trabzon**	**1.94**	**288**	*i* P	**Pg**	**20 32 05.5**	**+0.4**
KTUT	**Trabzon**	**1.95**	**289**	*e*PN	**Pn**	**20 32 01.6**	**-0.2**
KTUT	**Trabzon**	**1.95**	**289**	*e*Pn	**Pn**	**20 32 01.6**	**-0.2**
BINT	**Bingol**	**2.00**	**222**	*e*Pn	**Pn**	**20 31 59.7**	**-2.8**
ERZN	**Erzincan**	**2.06**	**248**	*e*PN	**Pn**	**20 32 03.0**	**-0.4**
GUMT	**Gumushane**	**2.08**	**273**	*e*PN	**Pn**	**20 32 03.5**	**-0.1**
GUMT	**Gumushane**	**2.08**	**273**	*e*Pn	**Pn**	**20 32 03.6**	**-0.1**
KELT	**Kelkit**	**2.27**	**265**	*i* P	**Pb**	**20 32 09.4**	**-0.1**
KELT				*i* S	**Sg**	**20 32 41.4**	**+0.6**
KELT	**Kelkit**	**2.27**	**265**	*i* P	**Pb**	**20 32 09.4**	**-0.1**
KELT				*i* S	**Sg**	**20 32 41.4**	**+0.6**
EZC	**Erzincan**	**2.27**	**255**	*e*Pn	Pn	20 32 03.0	-3.3
PTK	**Pertek**	**2.63**	**237**	*e*PN	**Pn**	**20 32 11.2**	**0.0**
PTK	**Pertek**	**2.63**	**237**	*e*Pn	**Pn**	**20 32 11.2**	**0.0**

IDC 22 20:41:52.8±2.3, 6°27S×128°86E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.2/19, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=167.5km s-min=32.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.60**	**159**	Pn	Pn	20 45 21.6	+0.7
	0.1nm,0.3s,baz=342,slow=13,SNR=11						
WRA				Sn	Sn	20 47 48.5	-15
	0.4nm,0.3s,baz=333,slow=22,SNR=9.7						
ASAR	**Alice Springs**	**17.97**	**165**	P	Pn	20 46 03.8	-0.5
	0.1nm,0.3s,baz=338,slow=8.2,SNR=5.7						
ASAR				S	Sn	20 49 11.8	-14
	0.1nm,0.3s,baz=315,slow=16,SNR=5.0						
MKAR	**Makanchi Array**	**67.00**	**327**	P	P	20 52 47.6	0.0
	0.1nm,0.4s,baz=130,slow=6.7,SNR=4.4						

WEL 22 20:49:15.7±0.7, 44°34S×167°02E, h12km, ML3.9/12, 3C, Error ellipse: s-maj=5.5km s-min=4.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.73**	**117**	↑P*	Pg	20 49 29.6	-0.2
MSZ				S*	Sg	20 49 38.6	-0.9
MSZ				S*	Sb	20 49 38.7	-1.6
MSZ				AML	AML	20 49 39.4	
MSZ				AML	AML	20 49 39.7	
DCZ	**Deep Cove**	**1.14**	**175**	P*	Pb	20 49 35.7	-1.7
DCZ				*e*S*	Sb	20 49 49.1	-3.0
DCZ				AML	AML	20 49 58.6	
JCZ	**Jackson Bay**	**1.28**	**78**	PN	Pn	20 49 38.2	-1.4
JCZ				AML	AML	20 49 59.5	
JCZ				AML	AML	20 50 01.7	
MLZ	**Mavora Lakes**	**1.30**	**141**	↑PN	Pn	20 49 39.5	-0.2
MLZ				S*	Sb	20 49 56.2	-0.5
MLZ				AML	AML	20 50 03.2	
WKZ	**Wanaka**	**1.51**	**109**	AML	AML	20 50 04.1	
WKZ				AML	AML	20 50 04.8	
WHZ	**Wether Hill Ro**	**1.68**	**157**	PN	Pn	20 49 45.1	+0.1
WHZ				*e*SN	Sn	20 50 06.5	0.0
WHZ				AML	AML	20 50 07.7	
EAZ	**Earnscleugh**	**1.86**	**119**	↑PN	Pb	20 49 48.6	-1.0
EAZ				AML	AML	20 50 15.6	
EAZ				AML	AML	20 50 15.7	
EAZ				AML	AML	20 50 16.6	
EAZ				AML	AML	20 50 16.6	
FOZ	**Fox Glacier**	**2.08**	**69**	PN	Pn	20 49 49.7	-0.6
FOZ				AML	AML	20 50 29.1	
FOZ				AML	AML	20 50 30.5	
FOZ				AML	AML	20 50 31.5	
FOZ				AML	AML	20 50 31.5	
LBZ	**Lake Benmore**	**2.27**	**92**	PN	Pn	20 49 54.1	+1.1
LBZ				AML	AML	20 50 26.8	
LBZ				AML	AML	20 50 27.4	
TUZ	**Tuapeka**	**2.45**	**132**	AML	AML	20 50 30.8	
TUZ				AML	AML	20 50 33.8	
APZ	**The Paps**	**2.58**	**165**	PN	Pn	20 49 58.1	+0.7
SYZ	**Scrubby Hill**	**2.65**	**147**	PN	Pn	20 49 58.9	+0.6
HHSZ	**Highcliff Hill**	**2.96**	**123**	PN	Pn	20 50 03.4	+0.8
RPZ	**Rata Peaks**	**2.98**	**79**	PN	Pn	20 50 01.6	-1.2
RPZ				AML	AML	20 50 52.5	
RPZ				AML	AML	20 50 52.9	
WVZ	**Waitaha Valley**	**2.98**	**66**	AML	AML	20 50 51.1	

*ISCJB **22** 20:54:03.9±0.2, 7.80S±0.04×111.30E±0.04, h132km, mb4.3/31, Error ellipse: s-maj=6.6km s-min=4.1km az=33.5*
*IDC **22** 20:54:05.9±0.9, 7.71S×111.45E, h139km±8km, mb3.9/17, mb1 4.1/18, mb1mx4.0/24, mbtmp4.0/18, Error ellipse: s-maj=19.5km s-min=9.1km az=65.0*
*NEIC **22** 20:54:06.6±0.2, 7.76S×111.39E, mb4.4/16, Error ellipse: s-maj=8.9km s-min=4.8km az=51.0*
*AUST **22** 20:54:07.2±0.0, 8.12S×111.44E, h128km, Error ellipse: s-maj=1.8km s-min=0.8km az=2.0*
*DJA **22** 20:54:09.2±0.4, 8°S±4°×11°1E±°, h108km±5km, M4.4/28, mb4.5/3, mB4.7/3, MLv4.4/28, Mw(mB)4.0/3*
ISC 22 20:54:05.4±0.3, 7°81S±0°05×111°42E±0°04, h132km, n127, σ1§32/129, mb4.3/31, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJI	**Sawahan**	**0.35**	**78**	P	**Pn**	**20 54 26.0**	**+1.9**
PWJI	**Pagerwojo**	**0.43**	**119**	P	**Pn**	**20 54 25.7**	**+1.3**
PWJI				S	**Sn**	**20 54 40.2**	**+1.5**
NGJI	**Ngawi**	**0.44**	**5**	P	Pn	20 54 28.3	+3.9
PCJI	**Pacitan**	**0.45**	**212**	P	**Pn**	**20 54 26.4**	**+1.9**
PCJI				S	**Sn**	**20 54 40.7**	**+1.8**
WOJI	**Wonogiri, Jawa**	**0.49**	**267**	P	**Pn**	**20 54 26.9**	**+2.2**
UGM	**Wanagama**	**0.90**	**263**	P	**Pn**	**20 54 30.0**	**+2.4**
UGM	**Wanagama**	**0.90**	**263**	P	**Pn**	**20 54 29.9**	**+2.4**
	baz=0.9,SNR=71						
KRKI	**Karangkates**	**1.08**	**109**	P	**Pn**	**20 54 30.7**	**+1.5**
SMRI	**Semarang**	**1.23**	**308**	P	Pn	20 54 34.3	+3.5
SMRI	**Semarang**	**1.23**	**308**	P	Pn	20 54 34.5	+3.7
	baz=1.5,SNR=83						
GRJI	**Gresik**	**1.37**	**50**	P	**Pn**	**20 54 34.9**	**+2.6**
UWJI	**Ujung Watu**	**1.46**	**341**	P	**Pn**	**20 54 36.2**	**+3.0**
BJII	**Banjamegara**	**1.76**	**285**	P	Pn	20 54 39.9	+3.2
GMJI	**Gumukmas**	**2.06**	**103**	P	**Pn**	**20 54 41.0**	**+0.8**
BLJI	**Banyuglugur**	**2.15**	**89**	P	**Pn**	**20 54 43.3**	**+1.9**
BWJI	**Bawean**	**2.30**	**32**	P	**Pn**	**20 54 45.6**	**+2.4**
TGJI	**Tegal**	**2.46**	**292**	P	Pn	20 54 48.8	+3.5
KPJI	**Karang Pucung**	**2.51**	**281**	P	Pn	20 54 49.4	+3.5
KMMI	**Kalianget**	**2.63**	**74**	P	**Pn**	**20 54 48.8**	**+1.4**
ABJI	**Asem Bagus**	**2.79**	**90**	P	**Pn**	**20 54 51.7**	**+2.3**
CMJI	**Cimerak**	**2.94**	**270**	P	Pn	20 55 16.1	+25
CISI	**Cisompet, Garu**	**3.58**	**274**	P	Pn	20 55 04.4	+4.6
CISI	**Cisompet, Garu**	**3.58**	**274**	P	**Pn**	**20 55 02.1**	**+2.3**
	baz=3.6,SNR=86						
SRBI	**Singaraja**	**3.77**	**94**	P	**Pn**	**20 55 03.8**	**+1.7**
IGBI	**Denpasar**	**3.82**	**106**	P	Pn	20 55 19.3	+16
LEM	**Lembang**	**3.90**	**284**	P	Pn	20 55 08.5	+4.5
LEM	**Lembang**	**3.90**	**284**	P	Pn	20 55 08.6	+4.5
	baz=4.0,SNR=7.4						
KHKI	**Kahang-Kahang**	**4.18**	**98**	P	**Pn**	**20 55 09.6**	**+1.9**
CBJI	**Citeko**	**4.74**	**287**	P	**Pn**	**20 55 17.3**	**+2.2**
MTNI	**Mataram**	**4.77**	**100**	P	**Pn**	**20 55 17.8**	**+2.3**
DBJI	**Dramaga**	**4.80**	**285**	P	Pn	20 55 19.9	+4.0
SKJI	**Sukabumi**	**4.89**	**279**	P	Pn	20 55 36.4	+19
PBKI	**Pangkalan Bun**	**5.08**	**3**	P	Pn	20 55 24.3	+4.7
	95nm,1.0s,1µm0.6nm						
BBKI	**Banjar Baru**	**5.50**	**38**	P	Pn	20 55 29.2	+3.9
	77nm,1.0s,2µm0.3nm						
XMI	**Christmas Isla**	**6.24**	**245**	P	**Pn**	**20 55 34.3**	**-1.0**
	baz=6.1,SNR=22						
TPI	**Tanjungpandan**	**6.26**	**323**	P	Pn	20 55 40.0	+4.4
XMIS	**Christmas Isla**	**6.29**	**245**	*e*Pn	**Pn**	**20 55 34.4**	**-1.5**
	283nm,0.3s						
XMIS				*e*Sn	Sn	20 56 35.8	-11
XMIS	**Christmas Isla**	**6.29**	**245**	P	**Pn**	**20 55 34.5**	**-1.3**
	baz=6.2,SNR=60						
BLSI	**Bandar Lampung**	**6.60**	**291**	P	Pn	20 55 52.0	+12
WSI	**Waingapu**	**8.97**	**103**	P	**Pn**	**20 56 11.9**	**0.0**
	baz=8.9,SNR=3.3						
MNAI	**Manna**	**9.09**	**292**	P	**Pn**	**20 56 16.1**	**+2.6**
	baz=9.2,SNR=10.0						
SBUM	**Sibu**	**10.22**	**5**	P	Pn	20 56 33.6	+4.9
SOEI	**Soe**	**12.84**	**100**	P	**Pn**	**20 57 03.6**	**+0.1**
	baz=13,SNR=6.2						
SDKM	**Sandakan**	**14.55**	**23**	P	**P**	**20 57 27.3**	**-0.7**
KULM	**Kulim**	**16.87**	**320**	*e*Pn	**Pn**	**20 57 54.8**	**+1.0**
	28nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.21**	**128**	P	**Pn**	**20 57 58.0**	**+0.1**
FITZ				S	S	21 00 56.0	-14
FITZ	**Fitzroy Crossi**	**17.21**	**128**	P	**Pn**	**20 57 58.0**	**+0.1**
	0.8nm,0.3s,baz=318,slow=6.0,SNR=25						
FITZ				S	S	21 00 56.0	-14
	1.5nm,0.3s,baz=206,slow=18,SNR=7.8						
FITZ	**Fitzroy Crossi**	**17.21**	**128**	P	**Pn**	**20 57 58.2**	**+0.3**
	baz=17,SNR=24						
KNRA	**Kununurra**	**18.68**	**116**	P	**P**	**20 58 13.7**	**+0.1**
	baz=18,SNR=14						
MEEK	**Meekatharra**	**19.94**	**161**	P	**P**	**20 58 28.2**	**+1.1**
	baz=20,SNR=17						
KDU	**Kakadu**	**21.27**	**105**	P	**P**	**20 58 42.8**	**+1.2**
	baz=21,SNR=6.4						
WRKA	**Warakurna**	**23.52**	**139**	P	**P**	**20 59 03.8**	**0.0**
	baz=23,SNR=11						
WRA	**Warramunga Arr**	**25.27**	**121**	P	**P**	**20 59 19.4**	**-0.3**
WRA	**Warramunga Arr**	**25.27**	**121**	P	**P**	**20 59 19.4**	**-0.3**
	15nm,0.5s,baz=296,slow=11,SNR=139						
WRAB	**Tennant Creek**	**25.27**	**121**	*e*P	**P**	**20 59 19.3**	**-0.4**
	21nm,0.6s						
NWAO	**Narrogin (SRO)**	**25.57**	**169**	P	**P**	**20 59 21.9**	**-0.3**
NWAO	**Narrogin (SRO)**	**25.57**	**169**	P	**P**	**20 59 21.9**	**-0.3**
	3.1nm,0.5s,baz=90,slow=16,SNR=6.9						
AS31	**Alice Springs**	**26.71**	**129**	*e*P	**P**	**20 59 32.4**	**-0.2**
AS31				*e*S	S	21 04 37.0	+38
ASAR	**Alice Springs**	**26.71**	**129**	P	**P**	**20 59 32.5**	**-0.1**
ASAR				pP	**pP**	**21 00 02.6**	**+1.9**
ASAR				PcP	**PcP**	**21 02 52.7**	**-0.2**
ASAR	**Alice Springs**	**26.71**	**129**	P	**P**	**20 59 32.5**	**-0.1**
	10nm,0.6s,baz=303,slow=8.3,SNR=184						
ASAR				pP	**pP**	**21 00 02.6**	**+1.9**
	5.8nm,0.9s,baz=305,slow=9.4,SNR=3.7						
ASAR				PcP	**PcP**	**21 02 52.7**	**-0.2**
	1.3nm,0.5s,baz=307,slow=2.0,SNR=9.0						
CMAR	**Chiang Mai Arr**	**28.86**	**335**	P	**P**	**20 59 51.4**	**-0.3**
CMAR				ScP	**ScP**	**21 06 26.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**28.86**	**335**	P	**P**	**20 59 51.4**	**-0.3**
	1.1nm,0.7s,baz=170,slow=7.5,SNR=11						
CMAR				ScP	**ScP**	**21 06 26.2**	**-1.3**
	0.7nm,0.7s,baz=201,slow=3.3,SNR=6.4						
COEN	**Coen**	**31.75**	**104**	*e*P	**P**	**21 00 16.7**	**-0.7**
	50nm,0.8s						
BBOO	**Buckleboo**	**33.77**	**141**	P	**P**	**21 00 34.7**	**-0.1**
	baz=34,SNR=21						
PMG	**Port Moresby**	**35.36**	**95**	P	**P**	**21 00 48.8**	**+0.2**
CTAO	**Charters Tower**	**35.85**	**114**	*e*P	**P**	**21 00 52.5**	**-0.3**
	4.1nm,0.6s						
HTT	**Hallett**	**36.01**	**139**	P	**P**	**21 00 54.6**	**+0.6**
	baz=36,SNR=8.0						
STKA	**Stephens Creek**	**36.90**	**135**	*e*P	**P**	**21 01 01.8**	**+0.3**
	2.6nm,0.6s						
STKA				*e*pP	**pP**	**21 01 30.1**	**-0.4**
STKA				pP	**pwP**	**21 01 31.2**	**+0.7**
STKA				PcP	**PcP**	**21 03 19.9**	**-0.5**
STKA	**Stephens Creek**	**36.90**	**135**	P	**P**	**21 01 02.1**	**+0.6**
	13nm,0.6s,baz=311,slow=8.6,SNR=64						
STKA				pP	**pwP**	**21 01 31.2**	**+0.7**
	5.7nm,0.7s,baz=296,slow=10.0,SNR=3.5						
STKA				PcP	**PcP**	**21 03 19.9**	**-0.5**
	1.3nm,0.4s,baz=343,slow=3.3,SNR=4.2						
ODAN	**Odare**	**41.60**	**327**	*e*P	**P**	**21 01 40.2**	**-0.6**
	14nm,0.6s						
ODAN	**Odare**	**41.60**	**327**	*e*P	**P**	**21 01 40.2**	**-0.6**
	14nm,0.6s						
TAPN	**Taplejung**	**41.82**	**328**	*e*P	**P**	**21 01 42.6**	**-0.1**
	8.4nm,0.5s						
TAPN	**Taplejung**	**41.82**	**328**	*e*P	**P**	**21 01 42.6**	**-0.1**
	8.4nm,0.5s						
LSA	**Lhasa**	**42.08**	**333**	*e*P	**P**	**21 01 44.8**	**-0.2**
	3.8nm,0.6s						
LSA				*e*pP	**pP**	**21 02 19.5**	**+4.9**
LSA				*e*PP	PP	21 03 20.1	-5.1
RAMN	**Ramite**	**42.10**	**326**	*e*P	**P**	**21 01 44.3**	**-0.7**
	4.1nm,0.3s						
JIRN	**Jiri**	**42.88**	**326**	*e*P	**P**	**21 01 50.8**	**-0.6**
	8.8nm,0.4s						
YNG	**Young**	**43.03**	**133**	P	**P**	**21 01 53.6**	**+1.5**
	baz=43,SNR=7.7						
PKI	**Pulchoki**	**43.25**	**325**	*e*P	**P**	**21 01 53.3**	**-1.0**
	3.7nm,0.3s						
PKI	**Pulchoki**	**43.25**	**325**	*e*P	**P**	**21 01 53.9**	**-0.4**
GUN	**Gumba**	**43.25**	**326**	*e*P	**P**	**21 01 53.5**	**-0.8**
	15nm,0.5s						
GUN	**Gumba**	**43.25**	**326**	*e*P	**P**	**21 01 53.5**	**-0.8**
	15nm,0.5s						
PKIN	**Phulchoki**	**43.26**	**325**	*e*P	**P**	**21 01 53.9**	**-0.4**
DMN	**Daman**	**43.45**	**325**	*e*P	**P**	**21 01 54.7**	**-1.1**
DMN	**Daman**	**43.45**	**325**	*e*P	**P**	**21 01 54.7**	**-1.1**
KKN	**Kakani**	**43.49**	**325**	*e*P	**P**	**21 01 55.0**	**-1.1**
KKN	**Kakani**	**43.49**	**325**	*e*P	**P**	**21 01 55.0**	**-1.1**
GKN	**Gorkha**	**44.02**	**325**	*e*P	**P**	**21 01 59.0**	**-1.3**
	5.1nm,0.2s						
KOLN	**Koldanda**	**44.44**	**324**	*e*P	**P**	**21 02 02.6**	**-1.1**
	8.4nm,0.4s						
DANN	**Dangsing**	**44.78**	**324**	*e*P	**P**	**21 02 05.1**	**-1.4**
	20nm,0.9s						
DANN	**Dangsing**	**44.78**	**324**	*e*P	**P**	**21 02 05.1**	**-1.4**
	20nm,0.9s						
PYUN	**Piuthan**	**45.05**	**324**	*e*P	**P**	**21 02 07.1**	**-1.4**
PYUN	**Piuthan**	**45.05**	**324**	*e*P	**P**	**21 02 07.1**	**-1.4**
KSAR	**Wonju Array Be**	**47.58**	**18**	P	**P**	**21 02 28.0**	**+0.2**
KSRS	**Korea Array**	**47.60**	**18**	P	**P**	**21 02 28.0**	**0.0**
	1.6nm,0.9s,baz=196,slow=7.1,SNR=4.9						
USRK	**Ussuriysk Arra**	**55.01**	**18**	P	**P**	**21 03 22.2**	**-0.8**
	2.6nm,0.9s,baz=164,slow=4.7,SNR=6.3						
SONM	**Songino Array**	**55.58**	**356**	P	**P**	**21 03 26.4**	**-0.9**
SONM				PcP	**PcP**	**21 04 24.5**	**-0.9**
SONM				ScP	**ScP**	**21 08 09.8**	**-2.4**
SONM	**Songino Array**	**55.58**	**356**	P	**P**	**21 03 26.4**	**-0.9**
	1.1nm,0.4s,baz=170,slow=9.4,SNR=9.5						
SONM				PcP	**PcP**	**21 04 24.5**	**-0.9**
	0.6nm,0.3s,baz=182,slow=4.4,SNR=4.3						
SONM				ScP	**ScP**	**21 08 09.8**	**-2.4**
	1.2nm,0.7s,baz=177,slow=4.0,SNR=6.4						
TKM2	**Tokmak 2**	**60.09**	**330**	*e*P	**P**	**21 03 57.7**	**-1.4**
	2.3nm,0.6s						
MK31	**Makanchi Array**	**60.22**	**337**	*e*P	**P**	**21 03 58.5**	**-1.1**
MKAR	**Makanchi Array**	**60.22**	**337**	P	**P**	**21 03 58.8**	**-0.8**
MKAR	**Makanchi Array**	**60.22**	**337**	P	**P**	**21 03 58.8**	**-0.8**
	2.1nm,0.3s,baz=151,slow=7.1,SNR=106						
KURBB	**Kurchatov Arra**	**64.79**	**338**	P	**P**	**21 04 28.6**	**-1.2**
	0.6nm,0.5s,baz=155,slow=5.8,SNR=7.8						
KURK	**Kurchatov**	**64.83**	**338**	*e*P	**P**	**21 04 28.4**	**-1.7**
ZAA0	**Zalesovo Array**	**65.49**	**343**	*e*P	**P**	**21 04 32.5**	**-1.7**
ZALV	**Zalesovo Beam**	**65.49**	**343**	P	**P**	**21 04 32.8**	**-1.5**
ZALV				pP	**pP**	**21 05 07.5**	**+1.2**
ZALV	**Zalesovo Beam**	**65.49**	**343**	P	**P**	**21 04 32.8**	**-1.5**
	1.4nm,0.3s,baz=153,slow=5.2,SNR=16						
ZALV				pP	**pP**	**21 05 07.5**	**+1.2**
	2.1nm,0.8s,baz=134,slow=4.6,SNR=2.4						
MAW	**Mawson**	**67.92**	**198**	P	**P**	**21 04 51.0**	**+1.6**
MAW	**Mawson**	**67.92**	**198**	P	**P**	**21 04 51.0**	**+1.6**
	6.2nm,0.5s,baz=44,slow=3.2,SNR=14						
MAW	**Mawson**	**67.92**	**198**	P	**P**	**21 04 51.1**	**+1.6**
	baz=68,SNR=11						
ABKAR	**Akbulak array**	**72.40**	**327**	*e*P	**P**	**21 05 15.6**	**-1.5**
	3.0nm,0.6s						
VNDA	**Vanda**	**74.39**	**170**	P	**P**	**21 05 28.8**	**+0.4**
VNDA	**Vanda**	**74.39**	**170**	P	**P**	**21 05 28.8**	**+0.4**
	2.7nm,0.4s,baz=312,slow=6.5,SNR=36						
SBA	**Scott Base**	**75.45**	**170**	P	**P**	**21 05 34.6**	**+0.2**
KBZ	**Khabaz**	**80.21**	**317**	P	**P**	**21 06 01.0**	**-0.3**
KBZ	**Khabaz**	**80.21**	**317**	P	**P**	**21 06 01.0**	**-0.3**
	2.5nm,1.0s,baz=180,slow=4.0,SNR=3.6						
LSZ	**Lusaka**	**81.49**	**256**	*e*P	**P**	**21 06 09.1**	**+0.2**
	7.5nm,1.4s						
QSPA	**South Pole Qui**	**82.18**	**180**	*e*P	**P**	**21 06 10.8**	**-0.8**
	5.3nm,0.8s						
BOSA	**Boshof**	**82.96**	**242**	P	**P**	**21 06 16.2**	**-0.2**
BOSA	**Boshof**	**82.96**	**242**	P	**P**	**21 06 16.2**	**-0.2**
	1.8nm,0.6s,baz=225,slow=11,SNR=11						
LBTB	**Lobatse**	**82.98**	**246**	*e*P	**P**	**21 06 16.5**	**0.0**
	1.7nm,0.7s						
BRTR	**Keskin Array B**	**85.65**	**311**	P	**P**	**21 06 28.6**	**-1.0**
BRTR	**Keskin Array B**	**85.65**	**311**	P	**P**	**21 06 28.6**	**-1.0**
	1.0nm,0.7s,baz=123,slow=7.0,SNR=7.1						
SNAA	**Sanae**	**90.05**	**197**	*e*P	**P**	**21 06 51.1**	**+1.2**
	5.7nm,0.9s						
AKASG	**Malin Array Be**	**91.07**	**321**	P	**P**	**21 06 53.0**	**-1.9**
AKASG	**Malin Array Be**	**91.07**	**321**	P	**P**	**21 06 53.0**	**-1.9**
	0.3nm,0.4s,baz=74,slow=2.7,SNR=3.1						
BDFB	**Brasilia**	**149.05**	**221**	PKPbc	**PKPbc**	**21 13 39.4**	**+0.1**
BDFB	**Brasilia**	**149.05**	**221**	PKPbc	**PKPbc**	**21 13 39.4**	**+0.1**
	1

s-min=2.3km az=171.8
MOS ***22*** *23:01:09.2±1.1,28°51'S×71°01'W,h33km,mb5.2/27,Error ellipse: s-maj=18.3km s-min=7.0km az=99.8*
IDC ***22*** *23:01:10.5±0.5,28°57'S×71°12'W,h36km±3km,mb4.6/22, mb1 4.7/25,mb1mx4.6/28,mbtmp4.6/25,ML4.4/3,MS4.0/15, Ms1 3.9/15,ms1mx3.8/30,Error ellipse: s-maj=18.1km s-min=10.4km az=65.0*
NEIC ***22*** *23:01:11.4,28°61S×71°04W,h45km,mb5.0/83,After GUC.*
NEIC Felt [IV] at Vallenar; [III] at Alto del Carmen, Copiapo, Freirina and Tierra Amarilla; [II] at Coquimbo, Huasco and La Serena.
GUC ***22*** *23:01:11.4±0.7,28°61S×71°04W,h45km±2km,ML5.1*
BJI ***22*** *23:01:13.4,28°60S×71°00W,h45km,mB5.0/10,Ms5.2/8, Ms7 4.9/8*
ISC 22 23:01:10.4±0.3, 28°56S±0°03×71°09W±0°05, h36km±1km, h37km:pP-P, n728,σ1°34/800, mb5.0/104, MS4.2/12, 179C-183D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.29**	**93**	⇓*i*P		**Pn**	**23 01 20.2**	**+1.7**
VACH				*i* S		**Sn**	**23 01 25.8**	**+0.3**
VACH	**Vallenar**	**0.29**	**93**	⇓*i*P		**Pn**	**23 01 20.2**	**+1.7**
VACH				*i* S		**Sn**	**23 01 25.8**	**+0.3**
LCO	**Las Campanas**	**0.56**	**142**	⇑*e*P		**Pn**	**23 01 23.2**	**+1.0**
LCO				*i* S		**Sn**	**23 01 31.9**	**+1.4**
LCO				AML		AML	23 01 32.9	
	comp=E,102μm,0.3s							
LCO	**Las Campanas**	**0.56**	**142**	⇑*e*P		**Pn**	**23 01 23.2**	**+1.0**
LCO				*i* S		**Sn**	**23 01 31.9**	**+1.4**
CPCH	**Copiapo**	**1.37**	**29**	*e*P		**Pn**	**23 01 34.6**	**+1.7**
CPCH				*i* S		**Sn**	**23 01 53.1**	**+3.3**
CPCH				AML		AML	23 01 55.2	
	comp=N,126μm,0.5s							
CPCH	**Copiapo**	**1.37**	**29**	*e*P		**Pn**	**23 01 34.6**	**+1.7**
CPCH				*i* S		**Sn**	**23 01 53.1**	**+3.3**
TLL	**Tololo Astrono**	**1.62**	**171**	⇓*i*P		**Pn**	**23 01 38.1**	**+1.5**
TLL				*i* S		**Sn**	**23 01 58.7**	**+2.3**
TLL	**Tololo Astrono**	**1.62**	**171**	⇓*i*P		**Pn**	**23 01 38.1**	**+1.5**
TLL				*i* S		**Sn**	**23 01 58.7**	**+2.3**
TLL				AML		AML	23 02 07.1	
	comp=E,39μm,0.5s							
TLL	**Tololo Astrono**	**1.62**	**171**	⇓*i*P		**Pn**	**23 01 38.1**	**+1.5**
TLL				*i* S		**Sn**	**23 01 58.7**	**+2.3**
CMCH	**Combarbala**	**2.60**	**178**	⇓*e*P		**Pn**	**23 01 50.5**	**+0.5**
CMCH				*i* S		**Sn**	**23 02 20.7**	**+0.3**
CMCH	**Combarbala**	**2.60**	**178**	⇓*e*P		**Pn**	**23 01 50.5**	**+0.5**
CMCH				*i* S		**Sn**	**23 02 20.7**	**+0.3**
CFAA	**Coronel Fontan**	**3.91**	**141**	Pn		**Pn**	**23 02 10.3**	**+2.4**
CFAA				Sn		**Sn**	**23 02 57.6**	**+5.0**
CFAA	**Coronel Fontan**	**3.91**	**141**	Pn		**Pn**	**23 02 10.3**	**+2.4**
	comp=E,26nm,0.3s,baz=320,slow=12,SNR=697							
CFAA				Sn		**Sn**	**23 02 57.6**	**+5.0**
	comp=E,18nm,0.3s,baz=230,slow=24,SNR=3.8							
CFAA				LR		LR	23 03 54.1	
	comp=E,308nm,18.5s,baz=316,slow=42							
JACH	**Jahuel**	**4.13**	**174**	*e*P		**Pn**	**23 02 13.2**	**+2.3**
JACH	**Jahuel**	**4.13**	**174**	P		**Pn**	**23 02 13.2**	**+2.3**
ROCH	**El Roble**	**4.40**	**179**	*e*P		**Pn**	**23 02 15.0**	**+0.3**
IHA	**Instituto Hidr**	**4.47**	**186**	*e*P		**Pn**	**23 02 14.1**	**-1.5**
IHA	**Instituto Hidr**	**4.47**	**186**	P		**Pn**	**23 02 14.1**	**-1.5**
PEL	**Peldehue**	**4.58**	**176**	*e*P		**Pn**	**23 02 18.0**	**+0.9**
PEL				*e*S		**Sn**	**23 03 09.1**	**0.0**
CLCH	**Cerro Calan**	**4.84**	**174**	*e*P		**Pn**	**23 02 22.0**	**+1.2**
CLCH				*e*S		**Sn**	**23 03 16.6**	**+1.0**
SAN	**Santiago**	**4.89**	**176**	*e*P		**Pn**	**23 02 22.2**	**+0.9**
SAN	**Santiago**	**4.89**	**176**	*e*P		**Pn**	**23 02 22.2**	**+0.9**
SAN	**Santiago**	**4.89**	**176**	*e*P		**Pn**	**23 02 22.2**	**+0.9**
ANCH	**Antofagasta**	**4.90**	**7**	*e*P		**Pn**	**23 02 19.9**	**-1.6**
ANCH				*e*S		**Sn**	**23 03 14.8**	**-2.2**
ANCH	**Antofagasta**	**4.90**	**7**	*e*P		**Pn**	**23 02 19.9**	**-1.6**
ANCH				*e*S		**Sn**	**23 03 14.8**	**-2.2**
RCDM	**Rinconada Maip**	**4.92**	**177**	*e*P		**Pn**	**23 02 23.1**	**+1.3**
RCDM				*e*S		**Sn**	**23 03 17.2**	**-0.2**
RCDM	**Rinconada Maip**	**4.92**	**177**	*e*P		**Pn**	**23 02 23.1**	**+1.3**
RCDM				*e*S		**Sn**	**23 03 17.2**	**-0.2**
PB10	**Plate Boundary**	**5.05**	**6**	*e*P		**Pn**	**23 02 22.5**	**-1.1**
PCH	**Pirque**	**5.07**	**175**	*e*P		**Pn**	**23 02 25.1**	**+1.2**
PCH	**Pirque**	**5.07**	**175**	*e*P		**Pn**	**23 02 25.1**	**+1.2**
TACH	**Talagante**	**5.08**	**179**	*e*P		**Pn**	**23 02 24.4**	**+0.5**
TACH	**Talagante**	**5.08**	**179**	P		**Pn**	**23 02 24.4**	**+0.5**
CEN1	**Los Morros**	**5.21**	**9**	*e*P		Pn	23 02 22.0	-4.0
CEN1				*e*S		Sn	23 03 17.7	-7.2
CEN1	**Los Morros**	**5.21**	**9**	*e*P		Pn	23 02 22.0	-4.0
CEN1				*e*S		Sn	23 03 17.7	-7.2
LMEL	**Las Melosas**	**5.32**	**172**	*e*P		**Pn**	**23 02 30.1**	**+2.7**
LMEL				*e*S		**Sn**	**23 03 28.9**	**+1.3**
LMEL	**Las Melosas**	**5.32**	**172**	*e*P		**Pn**	**23 02 30.1**	**+2.7**
LMEL				*e*S		**Sn**	**23 03 28.9**	**+1.3**
LNV	**Longovilo**	**5.38**	**183**	*e*P		**Pn**	**23 02 27.1**	**-1.0**
LNV	**Longovilo**	**5.38**	**183**	P		**Pn**	**23 02 27.1**	**-1.0**
CACH	**El Canelo**	**5.55**	**176**	*e*P		**Pn**	**23 02 31.4**	**+0.8**
CACH	**El Canelo**	**5.55**	**176**	P		**Pn**	**23 02 31.4**	**+0.8**
PB06	**Plate Boundary**	**5.99**	**14**	*e*P		**Pn**	**23 02 35.5**	**-1.1**
PB06	**Plate Boundary**	**5.99**	**14**	P		**Pn**	**23 02 35.5**	**-1.1**
LVC	**Limon Verde**	**6.24**	**19**	*e*Pn		**Pn**	**23 02 40.1**	**0.0**
LVC				*e*Sn		**Sn**	**23 03 50.9**	**+0.5**
PB04	**Plate Boundary**	**6.44**	**13**	⇑*e*P		Pn	23 02 38.3	-4.3
PB04	**Plate Boundary**	**6.44**	**13**	P		Pn	23 02 38.3	-4.3
PB07	**Plate Boundary**	**6.89**	**9**	⇓*e*P		**Pn**	**23 02 47.1**	**-1.9**
PB07	**Plate Boundary**	**6.89**	**9**	P		**Pn**	**23 02 47.1**	**-1.9**
PB09	**Plate Boundary**	**6.94**	**14**	⇑*e*P		**Pn**	**23 02 48.8**	**-0.9**
PB09	**Plate Boundary**	**6.94**	**14**	P		**Pn**	**23 02 48.8**	**-0.9**
PB01	**Plate Boundary**	**7.63**	**11**	⇑*e*P		**Pn**	**23 02 56.7**	**-2.3**
PB01	**Plate Boundary**	**7.63**	**11**	P		**Pn**	**23 02 56.7**	**-2.3**
CCHI	**Chillan**	**8.06**	**186**	*e*P		Pn	23 03 17.6	+13
CCHI	**Chillan**	**8.06**	**186**	P		Pn	23 03 17.6	+13
H03N1	**Juan Fernandez**	**8.29**	**232**	T		T	23 11 07.9	
	baz=55,slow=74,SNR=2082							
H03N2	**Juan Fernandez**	**8.30**	**232**	T		T	23 11 27.3	
	baz=55,slow=74,SNR=2261							
H03N3	**Juan Fernandez**	**8.30**	**232**	T		T	23 11 27.1	
	baz=55,slow=74,SNR=1995							
HMBC	**Humberstone**	**8.32**	**8**	⇑*e*P		**Pn**	**23 03 06.0**	**-2.6**
HMBC	**Humberstone**	**8.32**	**8**	P		**Pn**	**23 03 06.0**	**-2.6**
MNMC	**Minimini**	**9.49**	**9**	*e*P		**Pn**	**23 03 22.4**	**-2.4**
MNMC	**Minimini**	**9.49**	**9**	P		**Pn**	**23 03 22.4**	**-2.4**
TRQA	**Tornquist**	**12.15**	**144**	*e*Pn		**Pn**	**23 04 00.8**	**0.0**
TRQA				*e*Sn		**Sn**	**23 06 13.6**	**-1.4**
PLCA	**Paso Flores**	**12.15**	**178**	*e*Pn		**Pn**	**23 04 02.0**	**+1.0**
PLCA	**Paso Flores**	**12.15**	**178**	Pn		**Pn**	**23 04 02.2**	**+1.3**
	comp=E,0.3nm,0.3s,baz=359,slow=13,SNR=3.3							
PLCA				LR		LR	23 09 06.4	
	comp=E,935nm,20.1s,baz=205,slow=39							
LPAZ	**La Paz**	**12.52**	**13**	*e*Pn		**Pn**	**23 04 05.2**	**-1.3**
LPAZ	**La Paz**	**12.52**	**13**	Pn		**Pn**	**23 04 05.2**	**-1.3**
	comp=E,2.3nm,0.3s,baz=208,slow=6.5,SNR=40							
LPAZ				LR		LR	23 07 54.6	
	comp=E,69nm,20.8s,baz=352,slow=32							
SIV	**San Ignacio**	**15.56**	**39**	Pn		**Pn**	**23 04 43.3**	**-3.9**
SIV	**San Ignacio**	**15.56**	**39**	Pn		**Pn**	**23 04 43.3**	**-3.9**
	comp=E,1.9nm,0.3s,baz=267,slow=9.6,SNR=17							
SIV				LR		LR	23 11 43.2	
	comp=E,591nm,21.5s,slow=41							
SAML	**Samuel**	**20.88**	**22**	*e*P		**P**	**23 05 50.1**	**+0.6**
	comp=E,90nm,1.8s							
ATAH	**Atahualpa**	**22.40**	**341**	P		**P**	**23 06 07.8**	**+1.6**
ATAH	**Atahualpa**	**22.40**	**341**	P		**P**	**23 06 07.8**	**+1.6**
	comp=E,13nm,0.9s,baz=112,slow=7.5,SNR=5.4							
ATAH				LR		LR	23 13 24.0	
	comp=E,153nm,19.9s,baz=56,slow=33							
BDFB	**Brasilia**	**24.89**	**64**	*e*P		**P**	**23 06 30.2**	**0.0**
BDFB	**Brasilia**	**24.89**	**64**	P		**P**	**23 06 30.1**	**0.0**
	comp=E,10nm,0.6s,baz=238,slow=9.6,SNR=21							
BDFB				LR		LR	23 17 24.7	
	comp=E,289nm,18.5s,baz=240,slow=39							
EFI	**East Falkland**	**25.07**	**161**	*e*P		**P**	**23 06 31.4**	**+0.2**
EFI				pmax		pmax		
	comp=Z,314nm,2.4s							
EFI	**East Falkland**	**25.07**	**161**	*e*P		**P**	**23 06 31.4**	**+0.2**
	comp=Z,314nm,2.4s							
USHA	**Ushuaia**	**26.32**	**177**	P		**P**	**23 06 42.9**	**+0.5**
USHA	**Ushuaia**	**26.32**	**177**	P		**P**	**23 06 42.9**	**+0.5**
	comp=Z,24nm,0.6s,baz=348,slow=7.4,SNR=28							
USHA				LR		LR	23 17 47.1	
	comp=Z,575nm,19.6s,baz=344,slow=38							
OTAV	**Otavalo**	**29.49**	**345**	*e*P		**P**	**23 07 12.7**	**+1.0**
	comp=Z,15nm,1.3s							
PTGA	**Pitinga**	**29.65**	**23**	*e*P		**P**	**23 07 11.3**	**-1.3**
	comp=Z,14nm,0.9s							
HOPE	**Hope Point**	**35.92**	**145**	*e*P		**P**	**23 08 05.2**	**-1.7**
	comp=Z,0.1nm,0.8s							
SDV	**Santo Domingo**	**37.23**	**1**	*e*P		**P**	**23 08 18.4**	**-0.4**
	comp=Z,2.7nm,0.8s							
SDV				*e*pP		**pP**	**23 08 29.6**	**+0.3**
JTS	**JuntasAbangare**	**40.88**	**339**	P		**P**	**23 08 49.0**	**-0.1**
JTS	**JuntasAbangare**	**40.88**	**339**	P		**P**	**23 08 49.0**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=352,slow=20,SNR=3.8							
CRPR	**Cabo Rojo, PR**	**46.45**	**5**	*e*P		**P**	**23 09 33.7**	**-0.1**
	comp=Z,24nm,0.6s							
CELP	**Cerrillos**	**46.57**	**6**	*e*P		**P**	**23 09 33.6**	**-1.1**
APG	**El Apazote**	**47.19**	**334**	P		**P**	**23 09 38.5**	**-1.4**
APG	**El Apazote**	**47.19**	**334**	P		**P**	**23 09 38.5**	**-1.4**
	comp=Z,6.9nm,0.9s,baz=151,slow=9.5,SNR=6.7							
APG				LR		LR	23 25 33.0	
	comp=Z,94nm,18.5s,baz=262,slow=31							
TEIG	**Tepich**	**51.27**	**339**	*e*P		**P**	**23 10 11.2**	**+0.5**
	comp=Z,27nm,0.7s							
TEIG	**Tepich**	**51.27**	**339**	P		**P**	**23 10 11.2**	**+0.5**
	comp=Z,26nm,0.5s,baz=159,slow=3.9,SNR=24							
SNAA	**Sanae**	**56.34**	**159**	*e*P		**P**	**23 10 47.4**	**0.0**
	comp=Z,28nm,0.8s							
SNAA				*e*pP		**pP**	**23 10 58.8**	**+0.6**
SNAA				*e*PcP		**PcP**	**23 11 43.5**	**-0.7**
RKT	**Rikitea**	**57.16**	**260**	*e*T		T	00 12 14.9	
	comp=Z,8.2nm,0.2s							
H06E1	**SOCORRO T-PHAS**	**60.80**	**316**	T		T	00 17 08.4	
	SNR=20							
TIGA	**Tifton**	**60.84**	**348**	⇑P		**P**	**23 11 19.0**	**0.0**
	baz=61							
NVL	**N'lazarevskaya**	**61.01**	**158**	*e*P		**P**	**23 11 20.5**	**+0.8**
NVL				pmax		pmax		
	comp=Z,16nm,0.8s							
JSC	**Jenkinsville**	**63.24**	**351**	*e*P		**P**	**23 11 35.2**	**+0.2**
JSC	**Jenkinsville**	**63.24**	**351**	*e*P		**P**	**23 11 35.2**	**+0.2**
732A	**Laxson Ranch,**	**63.32**	**332**	⇓P		**P**	**23 11 37.2**	**+1.5**
	baz=64,SNR=9.6							
534A	**Blanco**	**63.86**	**334**	⇓P		**P**	**23 11 40.2**	**+0.9**
	baz=64							
632A	**Uvalde**	**63.92**	**332**	⇑P		**P**	**23 11 41.1**	**+1.4**
	baz=64,SNR=9.3							
KMSC	**Kings Mountain**	**64.09**	**351**	*e*P		**P**	**23 11 41.0**	**+0.3**
	comp=Z,12nm,1.2s							
KMSC	**Kings Mountain**	**64.09**	**351**	⇑P		**P**	**23 11 41.0**	**+0.3**
	baz=64							
533A	**Kerrville**	**64.12**	**333**	⇓P		**P**	**23 11 42.0**	**+1.0**
	baz=64							
631A	**Perdido Creek**	**64.17**	**332**	⇓P		**P**	**23 11 42.6**	**+1.3**
	baz=64,SNR=9.4							
434A	**Burnet**	**64.48**	**334**	⇓P		**P**	**23 11 44.0**	**+0.7**
	baz=65							
532A	**Rocksprings**	**64.52**	**332**	⇓P		**P**	**23 11 45.0**	**+1.4**
	baz=65,SNR=14							
433A	**Art**	**64.75**	**333**	⇑P		**P**	**23 11 46.3**	**+1.2**
	baz=65,SNR=14							
JCT	**Junction City**	**64.79**	**333**	*e*P		**P**	**23 11 47.0**	**+1.6**
JCT				pmax		pmax		
	comp=Z,15nm,0.8s							
JCT	**Junction City**	**64.79**	**333**	*e*P		**P**	**23 11 47.0**	**+1.6**
	comp=Z,15nm,0.8s							
JCT	**Junction City**	**64.79**	**333**	⇓P		**P**	**23 11 46.6**	**+1.3**
	baz=65							
531A	**Rocksprings**	**64.81**	**332**	⇓P		**P**	**23 11 47.2**	**+1.6**
	baz=65,SNR=11							
CPCT	**Cooper Cave**	**64.92**	**348**	*e*P		**P**	**23 11 46.6**	**+0.5**
334A	**Lometa**	**64.93**	**334**	⇓P		**P**	**23 11 47.1**	**+0.9**
	baz=65							
SWET	**Sewanee**	**64.96**	**347**	*e*P		**P**	**23 11 46.5**	**+0.1**
	comp=Z,26nm,0.6s							
TKL	**Tuckaleechee C**	**64.99**	**349**	*e*P		**P**	**23 11 46.3**	**-0.2**
TKL	**Tuckaleechee C**	**64.99**	**349**	P		**P**	**23 11 45.5**	**-1.0**
	comp=Z,8.7nm,0.7s,baz=165,slow=8.1,SNR=12							
432A	**Menard**	**65.13**	**333**	⇑P		**P**	**23 11 48.9**	**+1.3**
	baz=66,SNR=6.8							
530A	**J-C Ranch, Com**	**65.13**	**331**	⇑P		**P**	**23 11 49.1**	**+1.5**
	baz=66,SNR=9.6							
333A	**Richland Sprin**	**65.21**	**334**	⇓P		**P**	**23 11 49.2**	**+1.1**
	baz=66,SNR=9.7							
628A	**Black Gap, Mar**	**65.23**	**330**	⇓P		**P**	**23 11 49.7**	**+1.4**
	baz=66,SNR=12							
WHTX	**Lake Whitney**	**65.23**	**335**	⇑P		**P**	**23 11 49.5**	**+1.3**
	baz=66							
431A	**Sonora**	**65.29**	**332**	⇓P		**P**	**23 11 49.8**	**+1.1**
	baz=66,SNR=7.1							
627A	**Terlingua Ranc**	**65.43**	**329**	⇑P		**P**	**23 11 50.8**	**+1.2**
	baz=66,SNR=6.1							
TXAR	**Lajitas Array**	**65.45**	**329**	P		**P**	**23 11 51.0**	**+1.2**
TXAR				pP		**pP**	**23 12 00.8**	**-0.1**
TXAR	**Lajitas Array**	**65.45**	**329**	P		**P**	**23 11 51.0**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=152,slow=9.0,SNR=27							
TXAR				pP		**pP**	**23 12 00.8**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=152,slow=7.8,SNR=14							
529A	**Stev Forest Ra**	**65.49**	**331**	⇑P		**P**	**23 11 51.5**	**+1.6**
	baz=66,SNR=11							
332A	**Millersview**	**65.56**	**333**	⇓P		**P**	**23 11 51.4**	**+1.1**
	baz=66,SNR=6.1							
430A	**Baggett Ranch,**	**65.64**	**332**	⇑P		**P**	**23 11 52.3**	**+1.3**
	baz=66,SNR=8.1							
135A	**Vickery Place,**	**65.72**	**336**	⇓P		**P**	**23 11 52.6**	**+1.3**
	baz=66							
528A	**Cox Ranch, San**	**65.77**	**330**	⇑P		**P**	**23 11 52.9**	**+1.1**
	baz=66,SNR=5.7							
331A	**San Angelo**	**65.77**	**333**	⇓P		**P**	**23 11 52.6**	**+0.9**
	baz=66,SNR=5.2							
429A	**Davenport Ranc**	**65.78**	**331**	⇓P		**P**	**23 11 53.4**	**+1.6**
	baz=66,SNR=8.9							
626A	**Big Bend Ranch**	**65.85**	**329**	⇑P		**P**	**23 11 54.2**	**+1.8**
	baz=66,SNR=30							
232A	**Coleman**	**65.97**	**334**	⇑P		**P**	**23 11 54.2**	**+1.2**
	baz=66							
134A	**White-Moore Ra**	**65.98**	**335**	⇑P		**P**	**23 11 53.8**	**+0.8**
	baz=66							
527A	**Woodward Ranch**	**66.12**	**329**	⇑P		**P**	**23 11 55.3**	**+1.2**
	baz=66,SNR=12							
330A	**Mertzon**	**66.16**	**332**	⇑P		**P**	**23 11 55.5**	**+1.2**
	baz=66,SNR=10							
428A	**Kincaid Ranch,**	**66.21**	**330**	⇓P		**P**	**23 11 55.8**	**+1.2**
	baz=67							
WVT	**Waverly**	**66.25**	**345**	*e*P		**P**	**23 11 54.6**	**0.0**
WVT				pmax		pmax		
	comp=Z,11nm,0.7s							
WVT	**Waverly**	**66.25**	**345**	*e*P		**P**	**23 11 54.6**	**0.0**
	comp=Z,11nm,0.7s							
526A	**Mary Lane Ranc**	**66.26**	**329**	⇓P		**P**	**23 11 56.7**	**+1.7**
	baz=67,SNR=21							
MIAR	**Mount Ida**	**66.27**	**340**	*e*P		**P**	**23 11 55.3**	**+0.5**
MIAR				pmax		pmax		
	comp=Z,13nm,0.9s							
MIAR	**Mount Ida**	**66.27**	**340**	*e*P		**P**	**23 11 55.3**	**+0.5**
	comp=Z,13nm,0.9s							
231A	**Bronte**	**66.28**	**333**	⇑P		**P**	**23 11 55.7**	**+0.8**
	baz=67,SNR=5.5							
133A	**Hamilton Ranch**	**66.33**	**335**	⇑P		**P**	**23 11 56.5**	**+1.2**
	baz=67,SNR=6.9							
Z35A	**Perchaven, San**	**66.37**	**336**	⇓P		**P**	**23 11 56.6**	**+1.2**
	baz=67							
230A	**Sterling City**	**66.56**	**332**	⇑P		**P**	**23 11 58.0**	**+1.3**
	baz=67							
329A	**Wagon Wheel Ra**	**66.56**	**331**	⇓P		**P**	**23 11 58.1**	**+1.2**
	baz=67,SNR=7.7							
ABTX	**Abilene, Hawle**	**66.62**	**334**	*e*P		**P**	**23 11 58.5**	**+1.4**
ABTX	**Abilene, Hawle**	**66.62**	**334**	⇓P		**P**	**23 11 58.3**	**+1.2**
	baz=67,SNR=9.1							
427A	**Hayter Ranch,**	**66.63**	**330**	⇓P		**P**	**23 11 58.5**	**+1.3**
	baz=67,SNR=6.5							
Z34A	**Collier Ranch,**	**66.64**	**336**	⇑P		**P**	**23 11 58.1**	**+0.9**
	baz=67							
426A	**McDonald Obser**	**66.75**	**329**	⇑P		**P**	**23 11 59.8**	**+1.6**
	baz=67,SNR=12							
328A	**Wristen Ranch,**	**66.83**	**331**	⇑P		**P**	**23 11 59.7**	**+1.2**
	baz=67,SNR=11							
Z33A	**Whitaker Ranch**	**66.88**	**335**	⇑P		**P**	**23 11 60.0**	**+1.3**
	baz=67,SNR=5.9							
229A	**Bryant Ranch,**	**66.91**	**332**	⇓P		**P**	**23 12 00.1**	**+1.1**
	baz=67							
131A	**Roby**	**66.95**	**333**	⇑P		**P**	**23 12 00.5**	**+1.2**
	baz=67							
Y34A	**Reagan Ranch,**	**67.11**	**336**	⇑P		**P**	**23 12 01.2**	**+1.1**
	baz=68							
130A	**Snyder**	**67.12**	**333**	⇓P		**P**	**23 12 01.2**	**+0.9**
	baz=68							
Z32A	**Haskell**	**67.16**	**334**	⇑P		**P**	**23 12 01.9**	**+1.4**
	baz=68							
326A	**Caldwell Ranch**	**67.28**	**330**	⇑P		**P**	**23 12 02.6**	**+1.1**
	baz=68,SNR=6.0							
425A	**Indio Mountain**	**67.28**	**329**	⇑P		**P**	**23 12 02.4**	**+0.9**
	baz=68,SNR=5.8							
228A	**UT Block 9, Go**	**67.37**	**331**	⇓P		**P**	**23 12 03.0**	**+1.1**
	baz=68,SNR=8.6							
Z31A	**Sharp Cattle R**	**67.43**	**334**	⇑P		**P**	**23 12 03.5**	**+1.2**
	baz=68,SNR=7.2							
Y33A	**Hilltop Ranch,**	**67.47**	**335**	⇑P		**P**	**23 12 03.3**	**+0.8**
	baz=68							
227A	**Bennet, Jal**	**67.58**	**331**	⇓P		**P**	**23 12 04.7**	**+1.4**
	baz=68							
X34A	**Smith Ranch, M**	**67.72**	**336**	⇑P		**P**	**23 12 05.1**	**+1.1**
	baz=68,SNR=7.7							
128A	**Castleberry Fa**	**67.76**	**332**	⇓P		**P**	**23 12 05.4**	**+1.0**
	baz=68,SNR=7.3							
Y32A	**R-V Farms, Ver**	**67.77**	**335**	⇑P		**P**	**23 12 05.1**	**+0.8**
	baz=68							
325A	**Bean Ranch, Si**	**67.77**	**329**	⇑P		**P**	**23 12 05.2**	**+0.5**
	baz=68,SNR=14							
Z30A	**Sanderson Ranc**	**67.79**	**333**	⇓P		**P**	**23 12 05.3**	**+0.8**
	baz=68,SNR=7.5							
WCI	**Wyandotte Cave**	**67.95**	**347**	*e*P		**P**	**23 12 04.8**	**-0.6**
WCI				pmax		pmax		
	comp=Z,11nm,0.8s							
WCI	**Wyandotte Cave**	**67.95**	**347**	*e*P		**P**	**23 12 04.8**	**-0.6**
	comp=Z,11nm,0.8s							
Z29A	**Hungry Hill Ra**	**68.00**	**333**	⇓P		**P**	**23 12 06.3**	**+0.4**
	baz=68,SNR=5.3							
226B	**Tecolote Peak,**	**68.01**	**330**	⇑P		**P**	**23 12 07.8**	**+1.8**
	baz=68,SNR=8.3							
Y31A	**Rekieta Farm,**	**68.04**	**334**	⇑P		**P**	**23 12 07.7**	**+1.6**
	baz=68							
324A	**Moseley Ranch,**	**68.07**	**329**	⇓P		**P**	**23 12 06.9**	**+0.4**
	baz=68,SNR=9.6							
X32A	**Elmer**	**68.08**	**335**	⇓P		**P**	**23 12 07.3**	**+1.0**
	baz=68							
SIUC	**Southern Illin**	**68.08**	**345**	*e*P		**P**	**23 12 06.6**	**+0.4**
	comp=Z,26nm,0.7s							
127A	**Arkansas Junct**	**68.18**	**331**	⇓P		**P**	**23 12 08.2**	**+1.1**
	baz=68							
WMOK	**Wichita Mounta**	**68.18**	**336**	*e*P		**P**	**23 12 07.4**	**+0.4**
WMOK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
WMOK	**Wichita Mounta**	**68.18**	**336**	*e*P		**P**	**23 12 07.4**	**+0.4**
	comp=Z,5.7nm,1.0s							
GDL2	**Guadalupe Moun**	**68.20**	**330**	*e*P		**P**	**23 12 08.7**	**+1.4**
Y30A	**Stafford Cattl**	**68.21**	**334**	⇑P		**P**	**23 12 08.4**	**+1.2**
	baz=69							
TUL1	**Tulsa**	**68.22**	**339**	*e*P		**P**	**23 12 07.8**	**+0.6**
TUL1	**Tulsa**	**68.22**	**339**	⇑P		**P**	**23 12 07.6**	**+0.5**
	baz=69,SNR=9.8							
MNTX	**Cornudas Mount**	**68.24**	**329**	*e*P		**P**	**23 12 07.5**	**+0.2**
	comp=Z,5.6nm,0.7s							
MNTX				*e*pP		**pP**	**23 12 18.1**	**-0.4**
W34A	**Bridge Creek,**	**68.27**	**337**	⇓P		**P**	**23 12 08.4**	**+0.9**
	baz=69							
Z28A	**Tucker Farm, M**	**68.30**	**332**	⇑P		**P**	**23 12 08.6**	**+0.8**
	baz=69							
225A	**Deer Hill, Car**	**68.33**	**330**	⇓P		**P**	**23 12 09.0**	**+0.9**
	baz=69							
126A	**Clayton Basin,**	**68.44**	**330**	⇓P		**P**	**23 12 09.7**	**+1.0**
	baz=69							
W33A	**Caddo, Fort Co**	**68.

comp=Z,3.3nm,0.8s
LPM epP pP 23 12 36.6 +0.9
S31A **Mullinville** 71.01 336 ⇓P P 23 12 25.8 +1.4
baz=71
V26A **Tequesquite Ra** 71.04 332 ⇓P P 23 12 25.9 +1.2
baz=71,SNR=10
R33A **Olander Ranch,** 71.12 338 ⇓P P 23 12 26.1 +1.1
baz=72
U27A **Thompson Grove** 71.20 333 ⇓P P 23 12 26.6 +0.9
baz=72
MMNY **Mt. Morris Dam** 71.22 355 eP P 23 12 26.4 +1.0
comp=Z,249nm,1.7s
W24A **Lazy 6 Ranch,** 71.22 331 ⇓P P 23 12 26.9 +1.0
baz=72,SNR=6.4
LAZ **Ladron** 71.30 329 eP P 23 12 27.5 +1.1
comp=Z,5.4nm,1.2s
S30A **Montezuma** 71.38 336 ⇓P P 23 12 28.1 +1.5
baz=72
V25A **Rancho No Teng** 71.42 332 ⇓P P 23 12 28.5 +1.4
baz=72,SNR=14
ANMO **Albuquerque** 71.45 330 eP P 23 12 28.6 +1.3
comp=Z,6.8nm,1.2s
ANMO **Albuquerque** 71.45 330 P P 23 12 28.1 +0.8
comp=Z,2.5nm,0.7s,baz=154,slow=6.4,SNR=6.1
W23A **Werner Place,** 71.50 330 ⇓P P 23 12 29.0 +1.4
baz=72,SNR=5.2
T28A **Walsh** 71.53 334 ⇓P P 23 12 28.9 +1.2
baz=72
U26A **Atchley Ranch,** 71.54 333 ⇑P P 23 12 28.9 +1.1
baz=72,SNR=8.1
S29A **Ulysses** 71.60 335 ⇓P P 23 12 29.3 +1.3
baz=72
V24A **Rampart Ranch,** 71.60 331 ⇑P P 23 12 29.2 +1.0
baz=72
R31A **Burdett** 71.63 337 ⇓P P 23 12 29.3 +1.3
baz=72
Q33A **Connelly Farm,** 71.70 338 ⇑P P 23 12 29.4 +1.0
baz=72
T27A **Campo** 71.72 334 ⇑P P 23 12 29.6 +0.8
baz=72,SNR=6.5
U25A **Circle Dot Ran** 71.82 332 ⇓P P 23 12 30.7 +1.2
baz=72,SNR=8.2
S28A **Manter** 71.86 335 ⇑P P 23 12 30.5 +0.9
baz=72,SNR=8.9
R30A **Dighton** 71.89 336 ⇑P P 23 12 30.9 +1.2
baz=72
PPT2 **Papeete2** 71.92 259 eS S 23 21 53.5 +4.2
comp=Z,85nm,28.0s
PPT2 **Papeete2** 71.92 259 eLR LR 23 34 38.6
comp=Z,188nm,22.2s
Q32A **Meitler Ranch,** 71.93 338 ⇓P P 23 12 31.4 +1.6
baz=72
214A **Organ Pipe Nat** 72.08 324 ⇓P P 23 12 32.7 +1.7
baz=72
T26A **Comanche Natio** 72.16 333 ⇑P P 23 12 33.2 +1.7
baz=72
Q31A **Ellis** 72.22 337 ⇑P P 23 12 33.3 +1.7
baz=73
R29A **Marienthal** 72.32 336 ⇓P P 23 12 33.6 +1.3
baz=73
LIC **Lamto** 72.33 72⇑iP P 23 12 33.0 +0.2
comp=Z,45nm,0.8s
T25A **Trinidad** 72.45 333 ⇓P P 23 12 35.1 +1.8
baz=73,SNR=12
V22A **San Miguel Ran** 72.47 330 ⇑P P 23 12 35.2 +1.8
baz=73,SNR=9.2
Q30A **Quinter** 72.48 337 ⇑P P 23 12 34.5 +1.2
baz=73,SNR=6.5
R28A **Tribune** 72.49 335 ⇑P P 23 12 34.2 +0.9
baz=73,SNR=6.5
S26A **Kim** 72.50 334 ⇑P P 23 12 35.0 +1.6
baz=73,SNR=12
U23A **El Rito** 72.50 331 ⇑P P 23 12 35.3 +1.7
baz=73
TIC **Toumodi** 72.56 72⇑iP P 23 12 34.5 +0.3
comp=Z,43nm,0.9s
KIC **Kosan Boka** 72.64 73⇑iP P 23 12 35.1 +0.4
comp=Z,54nm,0.9s
Q29A **Oakley** 72.67 336 ⇑P P 23 12 35.6 +1.2
baz=73,SNR=6.8
P31A **Stockton** 72.68 337 ⇓P P 23 12 35.3 +0.9
baz=73,SNR=7.6
DBIC **Dimbokro** 72.71 72 eP P 23 12 34.5 -0.6
comp=Z,35nm,0.9s
DBIC **Dimbokro** 72.71 72 P P 23 12 35.6 +0.6
comp=Z,24nm,0.7s,baz=214,slow=6.2,SNR=45
DBIC LR LR 23 40 59.5
comp=Z,148nm,20.6s,baz=223,slow=33
X18A **Snowflake** 72.71 327 ⇓P P 23 12 36.2 +1.4
baz=73
T24B **San Luis** 72.79 332 ⇓P P 23 12 37.2 +1.8
baz=73,SNR=11
R27A **Eads** 72.81 334 ⇑P P 23 12 36.3 +1.0
baz=73,SNR=6.2
U22A **Llaves** 72.83 330 ⇓P P 23 12 37.8 +2.2
baz=73,SNR=8.6
S25A **Robets Cordova** 72.91 333 ⇓P P 23 12 37.7 +1.7
baz=73
P30A **Selden** 73.00 337 ⇓P P 23 12 38.1 +1.9
baz=73
T23A **Casias Ranch,** 73.04 331 ⇑P P 23 12 38.4 +1.6
baz=73
R26A **Arlington** 73.08 334 ⇑P P 23 12 38.4 +1.6
baz=73,SNR=8.0
S24A **Houchin Ranch,** 73.21 332 ⇓P P 23 12 39.9 +2.0
baz=74,SNR=24
O31A **Woolen Ranch,** 73.23 338 ⇑P P 23 12 39.4 +1.8
baz=74
R25A **Fountain Ranch** 73.27 333 ⇓P P 23 12 39.5 +1.5
baz=74
X16A **Lo Mia Camp, P** 73.34 326 ⇓P P 23 12 40.3 +1.7
baz=74,SNR=9.0
SADO **Sadowa** 73.35 354 P P 23 12 38.4 +0.3
SADO **Sadowa** 73.35 354 P P 23 12 38.4 +0.3
comp=Z,21nm,0.7s,baz=222,slow=2.8,SNR=20
KSCO **Kaye Shedlock'** 73.39 335 eP P 23 12 40.7 +2.0
comp=Z,42nm,1.3s
KSCO **Kaye Shedlock'** 73.39 335 ⇓P P 23 12 40.2 +1.6
baz=74
SDCO **Great Sand Dun** 73.42 332 eP P 23 12 40.7 +1.6
comp=Z,7.3nm,0.8s
P28A **Saint Francis** 73.56 336 ⇑P P 23 12 41.3 +1.7
baz=74
R24A **Sanders Place,** 73.67 333 ⇑P P 23 12 42.4 +1.9
baz=74,SNR=13
O29A **4D Ranch, Culb** 73.71 337 ⇑P P 23 12 42.0 +1.6
baz=74
N31A **Bailey Ranch,** 73.71 338 ⇓P P 23 12 42.0 +1.5
baz=74
Y14A **Wickenburg** 73.75 325 ⇑P P 23 12 42.4 +1.6
baz=74
R23A **Moffat** 73.93 332 ⇓P P 23 12 43.9 +1.8
baz=74,SNR=5.9
S22A **4UR Ranch, Cre** 73.97 331 ⇓P P 23 12 44.0 +1.6
baz=74,SNR=5.5
BGNE **Belgrade** 73.99 339 eP P 23 12 43.2 +1.2
BGNE **Belgrade** 73.99 339 ⇑P P 23 12 43.2 +1.2
baz=74,SNR=5.9
GLA **Glamis** 74.00 323 ⇓P P 23 12 43.7 +1.4
baz=74
O28A **Krutsinger Ran** 74.05 336 ⇑P P 23 12 44.3 +1.8
baz=74
P26A **Davis Ranch, A** 74.14 335 ⇓P P 23 12 44.7 +1.7
baz=74
M31A **Lambtecht Ranc** 74.19 339 ⇓P P 23 12 44.7 +1.5
baz=75,SNR=5.4
WUAZ **Wupatki** 74.19 327 eP P 23 12 45.5 +2.0
comp=Z,12nm,0.9s
WUAZ **Wupatki** 74.19 327 ⇑P P 23 12 45.4 +1.9
baz=74,SNR=6.1
MVCO **Mesa Verde** 74.25 330 eP P 23 12 45.6 +1.7
comp=Z,17nm,1.0s
MVCO **Mesa Verde** 74.25 330 ⇑P P 23 12 45.6 +1.7
baz=75,SNR=9.2
N29A **Votaw Ranch, W** 74.27 337 ⇓P P 23 12 45.4 +1.7
baz=75
Q24A **Divide** 74.32 333 ⇑P P 23 12 46.1 +1.8
baz=75,SNR=12
O27A **Beecher Island** 74.36 336 ⇓P P 23 12 46.6 +2.3
baz=75
P25A **Willow Gulch B** 74.41 334 ⇓P P 23 12 46.8 +2.1
baz=75,SNR=6.0
N28A **Pribbeno Ranch** 74.47 336 ⇑P P 23 12 46.7 +1.8
baz=75
O26A **Horse Wrangler** 74.72 335 ⇓P P 23 12 48.6 +2.2
baz=75
BC3 **Big Chuckawall** 74.80 323 ⇑P P 23 12 48.5 +1.5
baz=75
M29A **Burnside Ranch** 74.85 337 ⇓P P 23 12 49.3 +2.2
baz=75
OGNE **Ogallala** 74.87 336 ⇑P P 23 12 49.1 +1.9
baz=75
L31A **Butterfield Fa** 74.90 339 ⇓P P 23 12 48.8 +1.6
baz=75,SNR=6.9
O25A **Wiggins** 74.91 334 ⇓P P 23 12 49.7 +2.2
baz=75
N27A **Anderson Farm,** 74.93 336 ⇓P P 23 12 49.2 +1.6
baz=75,SNR=5.2
P23A **Jefferson** 74.95 333 ⇑P P 23 12 50.1 +2.1
baz=75
L30A **Spencer Herefo** 74.98 338 ⇓P P 23 12 49.5 +1.8
baz=75
M28A **Bar X Bar Ranc** 75.04 337 ⇓P P 23 12 49.8 +1.7
baz=75
PV01 **Paradox Valley** 75.05 330 eP P 23 12 49.9 +1.4
comp=Z,1μm,1.1s
PV01 epP pP 23 13 00.0 +0.3
W13A **Hualapai Mount** 75.11 325 ⇓P P 23 12 50.9 +2.0
baz=75,SNR=5.3
ISCO **Idaho Springs** 75.22 333 eP P 23 12 51.1 +1.6
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO **Idaho Springs** 75.22 333 eP P 23 12 51.1 +1.6
comp=Z,6.9nm,0.8s
ISCO **Idaho Springs** 75.22 333 ⇓P P 23 12 51.0 +1.4
baz=76,SNR=11
SMCO **Snowmass** 75.24 332 eP P 23 12 51.9 +2.1
comp=Z,22nm,0.7s
PFO **Pinyon Flat Ob** 75.30 322 LR LR 23 41 24.6
comp=Z,266nm,18.3s,baz=314,slow=32
U15A **North Rim** 75.37 327 ⇓P P 23 12 52.3 +1.9
baz=76
P22A **Eagle** 75.51 332 ⇓P P 23 12 53.0 +1.9
baz=76,SNR=5.9
K30A **Bassett** 75.59 339 ⇑P P 23 12 52.6 +1.3
baz=76,SNR=7.6
ECSD **EROS Data Cent** 75.66 341 eP P 23 12 52.3 +0.7
comp=Z,39nm,0.9s
O23A **Lake Granby, G** 75.69 333 ⇑P P 23 12 54.2 +1.9
baz=76,SNR=7.8
GMRC **Granite Mounta** 75.77 323 ⇓P P 23 12 54.4 +1.8
baz=76
N24A **Carr** 75.82 334 ⇓P P 23 12 54.9 +2.1
baz=76
K29A **Lazy Trails An** 75.90 338 ⇓P P 23 12 54.7 +1.6
baz=76
O22A **Kremmling** 75.90 333 ⇑P P 23 12 54.9 +1.4
baz=76,SNR=11
L27A **T5 Ranch, Ells** 75.97 337 ⇑P P 23 12 55.3 +1.8
baz=76,SNR=5.0
SPMN **St. Paul** 76.05 344 eP P 23 12 53.7 -0.1
J30A **Dallas** 76.14 339 ⇓P P 23 12 55.3 +0.9
baz=76,SNR=6.0
K28A **Ten Mile Ranch** 76.20 338 ⇑P P 23 12 57.0 +2.2
baz=77
N23A **Red Feather La** 76.29 334 ⇓P P 23 12 56.7 +1.1
baz=77,SNR=6.7
M24A **Cheyenne** 76.35 335 ⇑P P 23 12 58.0 +2.2
baz=77
N22A **Wattenberg Ran** 76.41 333 ⇓P P 23 12 57.6 +1.3
baz=77,SNR=7.8
TUQ **Turquoise Moun** 76.42 324 ⇓P P 23 12 58.2 +1.9
baz=77
BFSC **Mount Baldy Ra** 76.43 322 ⇓P P 23 12 58.2 +1.9
baz=77
J29A **Okreek** 76.48 339 ⇑P P 23 12 57.5 +1.2
baz=77,SNR=19
K27A **Flueckinger Fa** 76.49 337 ⇑P P 23 12 58.3 +1.8
baz=77
O20A **White River Ci** 76.58 332 eP P 23 12 57.3 +0.1
O20A **White River Ci** 76.58 332 ⇓P P 23 12 59.0 +1.9
baz=77,SNR=7.0
L25A **Engebretsen Ra** 76.62 335 ⇓P P 23 12 59.1 +1.8
baz=77
I30A **Oacoma** 76.65 339 ⇓P P 23 12 58.3 +1.1
baz=77,SNR=5.2
M23A **Laramie** 76.69 334 ⇓P P 23 12 59.1 +1.3
baz=77,SNR=5.6
SRU **San Rafael** 76.72 329 eP P 23 12 59.5 +1.5
SRU pmax pmax
comp=Z,16nm,0.7s
SRU **San Rafael** 76.72 329 eP P 23 12 59.5 +1.5
comp=Z,16nm,0.7s
GSC **Goldstone** 76.78 323 ⇑P P 23 13 00.1 +1.9
baz=77
CCUT **Cedar City** 76.78 327 eP P 23 13 00.8 +2.4
comp=Z,14nm,0.9s
J28A **Allard Ranch,** 76.79 338 ⇑P P 23 12 59.7 +1.6
baz=77,SNR=11
SHPR **Sheep Range** 76.85 325 eP P 23 13 00.9 +2.2
J27A **Elkhorn Farm,** 76.90 337 ⇓P P 23 13 00.8 +2.0
baz=77,SNR=9.1
M22A **Cedar Creek Ra** 76.98 333 ⇑P P 23 13 01.3 +1.9
baz=77
BRSD **Miller** 76.99 340 ⇓P P 23 13 00.3 +1.2
baz=77
K25A **Mack Ranch, Ha** 76.99 336 ⇑P P 23 13 01.3 +1.9
baz=77
MVU **Marysvale** 77.00 328 eP P 23 13 01.6 +2.0
comp=Z,12nm,0.9s
ARUT **Antelope Range** 77.00 327 eP P 23 13 01.2 +1.6
ARUT e*PP pP 23 13 10.7 -0.1
ARUT **Antelope Range** 77.00 327 eP P 23 13 01.2 +1.6
comp=Z,199nm,0.9s
ARUT epP pP 23 13 10.7 -0.1
I29A **Vivian Onida** 77.03 339 ⇑P P 23 13 00.4 +1.0
baz=77,SNR=9.0
N20A **Spence Gulch,** 77.17 332 ⇑P P 23 13 01.7 +1.2
baz=78,SNR=9.7
TMUT **Trail Mountain** 77.17 329 eP P 23 13 02.6 +2.0
comp=Z,26nm,1.5s
L23A **Garrett** 77.24 334 ⇑P P 23 13 02.1 +1.3
baz=78
I28A **Midland** 77.28 338 ⇑P P 23 13 02.3 +1.5
baz=78
J26A **Sides Ranch, S** 77.32 337 ⇓P P 23 13 03.0 +1.9
baz=78,SNR=7.6
L22A **Ellis Ranch, M** 77.45 334 ⇑P P 23 13 03.6 +1.5
baz=78,SNR=5.2
H29A **Onida** 77.54 339 ⇑P P 23 13 03.0 +0.8
baz=78,SNR=11
I27A **Quinn** 77.64 338 ⇑P P 23 13 03.9 +1.1
baz=78
J25A **Sunshine Ranch** 77.64 336 ⇑P P 23 13 04.2 +1.2
baz=78,SNR=5.7
G30A **Faulkton** 77.67 340 ⇓P P 23 13 04.7 +1.8
baz=78
K23A **Bowen Ranch, D** 77.76 335 ⇑P P 23 13 05.4 +1.8
baz=78,SNR=8.6
H28A **Mission Ridge** 77.84 339 ⇑P P 23 13 05.2 +1.3
baz=78,SNR=9.5
I26A **New Underwood** 77.88 337 ⇑P P 23 13 05.9 +1.7
baz=78
J24A **Dixon Ranch, L** 77.90 336 ⇓P P 23 13 06.2 +1.8
baz=78,SNR=8.2
ISA **Isabella** 77.94 322 eP P 23 13 06.9 +2.2
ISA pmax pmax
comp=Z,11nm,1.0s
ISA **Isabella** 77.94 322 eP P 23 13 06.9 +2.2
comp=Z,10nm,1.0s
ISA **Isabella** 77.94 322 ⇓P P 23 13 06.3 +1.6
baz=78
MPU **Maple Canyon** 77.95 329 eP P 23 13 06.8 +2.0
comp=Z,21nm,0.9s
K22A **Casper** 78.01 334 eP P 23 13 06.8 +1.6
K22A **Casper** 78.01 334 ⇑P P 23 13 06.7 +1.6
baz=78,SNR=10.0
NLU **North Lily Min** 78.10 329 eP P 23 13 06.9 +1.2
comp=Z,14nm,1.2s
DAU **Daniels Canyon** 78.10 330 eP P 23 13 07.9 +2.0
DAU **Daniels Canyon** 78.10 330 eP P 23 13 07.8 +2.0
PKM **Peak Mountain** 78.11 321 ⇑P P 23 13 07.4 +1.6
baz=78
H27A **Howes** 78.15 338 ⇓P P 23 13 06.8 +1.2
baz=78,SNR=12
MAW **Mawson** 78.15 164 eP P 23 13 04.4 -1.0
comp=Z,8.7nm,1.3s
MAW pP pP 23 13 16.4 -0.3
MAW **Mawson** 78.15 164 P P 23 13 04.6 -0.8
comp=Z,7.7nm,0.5s,baz=213,slow=5.1,SNR=12
MAW pP pP 23 13 16.4 -0.3
comp=Z,9.9nm,0.5s,baz=230,slow=7.4,SNR=5.2
MAW LR LR 23 45 57.3
comp=Z,142nm,21.0s,baz=236,slow=34
G28A **Parade** 78.16 339 ⇑P P 23 13 07.1 +1.4
baz=78,SNR=7.2
I25A **Rochford** 78.17 337 ⇓P P 23 13 07.8 +1.9
baz=78,SNR=16
F30A **Leola** 78.27 340 ⇑P P 23 13 07.7 +1.4
baz=79
K21A **Alcova** 78.28 334 ⇓P P 23 13 08.5 +1.9
baz=79,SNR=34
JLU **Jordanelle** 78.34 330 eP P 23 13 08.7 +1.6
comp=Z,10nm,0.7s
I24A **Kuemmerle Ranc** 78.35 336 ⇓P P 23 13 08.7 +1.8
baz=79,SNR=5.3
RSSD **Black Hills** 78.36 336 eP P 23 13 07.7 +0.6
RSSD pmax pmax
comp=Z,3.0nm,0.6s
RSSD **Black Hills** 78.36 336 eP P 23 13 07.7 +0.6
comp=Z,3.3nm,0.6s
R11A **Troy Canyon, C** 78.49 326 eP P 23 13 09.7 +1.8
comp=Z,7.1nm,1.1s
R11A **Troy Canyon, C** 78.49 326 ⇑P P 23 13 09.5 +1.7
baz=79,SNR=5.7
F29A **Eureka** 78.51 340 ⇑P P 23 13 08.9 +1.3
baz=79,SNR=5.4
DUG **Dugway** 78.63 329 eP P 23 13 09.9 +1.4
DUG pmax pmax
comp=Z,14nm,0.8s
DUG **Dugway** 78.63 329 eP P 23 13 09.9 +1.4
comp=Z,14nm,0.8s
DUG **Dugway** 78.63 329 ⇓P P 23 13 10.2 +1.7
baz=79,SNR=17
J22A **Midwest** 78.64 335 ⇓P P 23 13 09.7 +1.1
baz=79,SNR=16
H25A **Fruitdale** 78.65 337 ⇑P P 23 13 09.7 +1.3
baz=79
G27A **Dupree** 78.76 338 ⇓P P 23 13 10.3 +1.4
baz=79,SNR=9.4
F28A **McLaughlin** 78.82 339 ⇑P P 23 13 10.8 +1.5
baz=79
E30A **Jud** 78.84 341 ⇓P P 23 13 10.9 +1.6
baz=79
G26A **Maurine** 78.90 338 ⇑P P 23 13 10.9 +1.1
baz=79,SNR=5.3
I22A **9 Mile Ranch,** 79.06 335 ⇓P P 23 13 12.0 +1.3
baz=79,SNR=13
G25A **Newell** 79.09 337 ⇑P P 23 13 12.2 +1.4
baz=80,SNR=13
H24A **Dirks Ranch, A** 79.09 336 ⇑P P 23 13 12.1 +1.2
baz=80,SNR=12
J20A **Shoshoni** 79.21 333 ⇑P P 23 13 13.2 +1.6
baz=80,SNR=19
F27A **Lemmon** 79.23 339 ⇓P P 23 13 13.1 +1.6
baz=80,SNR=12
I21A **Big Trails, Te** 79.30 334 ⇓P P 23 13 13.3 +1.2
baz=80,SNR=16
BW06 **Boulder Array** 79.31 332 eP P 23 13 13.2 +0.9
comp=Z,7.3nm,0.7s
PDAR **Pinedale Array** 79.31 332 P P 23 13 13.1 +0.8
PDAR pP pP 23 13 24.1 +0.4
PDAR **Pinedale Array** 79.31 332 P P 23 13 13.1 +0.8
comp=Z,6.1nm,0.5s,baz=128,slow=7.8,SNR=58
PDAR pP pP 23 13 24.1 +0.4
comp=Z,3.3nm,0.7s,baz=126,slow=8.0,SNR=5.8
D30A **Buchanan** 79.35 341 ⇑P P 23 13 13.2 +1.1
baz=80,SNR=16
F26A **Lodgepole** 79.42 338 ⇑P P 23 13 14.0 +1.4
baz=80,SNR=6.6
E28A **Huff** 79.44 340 ⇓P P 23 13 13.9 +1.3
baz=80
J19A **Crowheart** 79.53 333 ⇑P P 23 13 14.7 +1.3
baz=80,SNR=32
D29A **Pettibone, Tap** 79.55 341 ⇓P P 23 13 14.4 +1.2
baz=80
G24A **Alzada** 79.55 337 ⇑P P 23 13 14.0 +0.6
baz=80
E27A **Carson** 79.58 339 ⇓P P 23 13 14.9 +1.5
baz=80
H22A **Clearmont** 79.61 335 ⇓P P 23 13 14.8 +1.0
baz=80
AGMN **Agassiz Nation** 79.67 343 eP P 23 13 14.2 +0.4
comp=Z,14nm,0.7s
I20A **Worland** 79.73 334 ⇑P P 23 13 15.7 +1.2
baz=80,SNR=15
F25A **Bowman** 79.75 338 ⇑P P 23 13 15.8 +1.4
baz=80
G23A **Biddle** 79.78 336 ⇑P P 23 13 15.8 +1.2
baz=80,SNR=7.8
C30A **Mose, Pekin** 79.81 342 ⇓P P 23 13 16.1 +1.4
baz=80,SNR=18
H21A **Big Horn, Sher** 79.89 335 ⇑P P 23 13 16.2 +0.9
baz=80,SNR=6.3
E26A **Carlson Angus** 79.90 339 ⇑P P 23 13 16.1 +0.9
baz=80
TSUM **Tsumeb** 79.94 106 eP P 23 13 16.3 0.0
comp=Z,9.4nm,0.7s
D28A **Regan** 79.96 340 ⇓P P 23 13 16.8 +1.4
baz=80
F24A **Ekalaka** 80.01 337 ⇓P P 23 13 17.1 +1.2
baz=80
G22A **Birney** 80.12 336 ⇑P P 23 13 17.7 +1.2
baz=80
H20A **Greybull** 80.14 334 ⇑P P 23 13 17.6 +1.0
baz=80,SNR=8.1
I19A **Meeteetse** 80.15 333 ⇓P P 23 13 18.1 +1.4
baz=80,SNR=9.6
ELK **Elko** 80.19 328 eP P 23 13 18.7 +1.6
comp=Z,12nm,1.0s
ELK **Elko** 80.19 328 P P 23 13 15.7 -1.4
comp=Z,9.9nm,0.8s,baz=164,slow=2.7,SNR=25
E25A **Miller Ranch,** 80.23 338 ⇓P P 23 13 18.2 +1.2
baz=81,SNR=6.3
F23A **Volborg** 80.24 336 ⇓P P 23 13 17.8 +0.7
baz=81,SNR=8.4
MDND **Maddock** 80.26 341 eP P 23 13 18.2 +1.2
MDND epP pP 23 13 28.7 +0.3
MDND **Maddock** 80.26 341 ⇑P P 23 13 18.2 +1.2
baz=81,SNR=5.7
REDW **Red Top Meadow** 80.34 332 eP P 23 13 19.1 +1.2
comp=Z,14nm,1.1s
D26A **Manning** 80.39 339 ⇑P P 23 13 18.9 +1.1
baz=81
LOHW **Long Hollow** 80.44 332 eP P 23 13 19.5 +1.1
comp=Z,7.5nm,0.7s
B30A **Myrvik Farm, E** 80.46 342 ⇑P P 23 13 19.0 +0.9
baz=81,SNR=29
G21A **Lodge Grass** 80.46 335 ⇓P P 23 13 19.2 +0.9
baz=81,SNR=11
E24A **Baker** 80.59 337 ⇑P P 23 13 20.3 +1.4
baz=81
F22A **Rosebud** 80.59 336 ⇑P P 23 13 20.0 +1.1
baz=81,SNR=9.6
MOOW **Moose Ponds** 80.61 332 eP P 23 13 20.2 +0.8
comp=Z,56nm,2.8s
FXWY **Fox Creek** 80.64 332 eP P 23 13 20.6 +1.1
comp=Z,4.2nm,0.8s
H19A **Powell** 80.67 334 ⇓P P 23 13 20.8 +1.3
baz=81
I17A **Pilgrim Ck.** 80.69 332 ⇓P P 23 13 21.2 +1.5
baz=81,SNR=8.7
C27A **Sayler Ranch,** 80.71 340 ⇓P P 23 13 21.1 +1.6
baz=81
B29A **Wagenman Farm,** 80.75 341 ⇑P P 23 13 20.6 +0.9
baz=81,SNR=11
D25A **Fairfield** 80.78 338 ⇑P P 23 13 21.7 +1.8
baz=81,SNR=6.5
G20A **Bridger** 80.84 334 ⇑P P 23 13 21.5 +1.1
baz=81,SNR=23
FLWY **Flagg Ranch** 80.87 332 eP P 23 13 22.3 +1.7
comp=Z,21nm,0.9s
E23A **Ismay** 80.87 337 ⇑P P 23 13 21.2 +0.8
baz=81
A30A **Hoffart Farm,** 80.90 342 ⇓P P 23 13 21.2 +0.8
baz=81,SNR=8.7
F21A **Absaloka Mine,** 80.94 335 ⇑P P 23 13 22.5 +1.7
baz=81
H18A **Shoshone NF, C** 80.94 333 ⇓P P 23 13 22.4 +1.3
baz=81,SNR=38
C26A **Wahner Farm, P** 80.99 339 ⇑P P 23 13 22.2 +1.2
baz=81
B28A **Dugan Ranch, T** 81.03 341 ⇓P P 23 13 22.5 +1.4
baz=81,SNR=8.6
E22A **Miles City** 81.05 336 ⇑P P 23 13 22.3 +1.0
baz=81,SNR=5.8
D24A **Glendive** 81.08 338 ⇑P P 23 13 22.9 +1.4
baz=82
H17A **Grant Village** 81.08 333 eP P 23 13 24.1 +2.3
comp=Z,8.1nm,1.1s
H17A **Grant Village** 81.08 333 ⇓P P 23 13 23.2 +1.4
baz=81
A29A **Manning Farm,** 81.13 342 ⇓P P 23 13 22.7 +1.0
baz=82,SNR=19

RLMT	**Red Lodge**	81.16	334	*e*P		P		23 13 23.3	+1.1		
	comp=Z,5.6nm,0.4s										
YFT	**Old Faithful**	81.23	332	*e*P		P		23 13 25.5	+2.9		
	comp=Z,16nm,1.1s										
F20A	**Billings**	81.30	335	⇑P		P		23 13 23.5	+0.8		
	baz=82										
LAO	**LASA Array**	81.36	336	*e*P		P		23 13 23.6	+0.6		
	comp=Z,21nm,1.1s										
LAO				*e*pP		pP		23 13 34.5	+0.1		
A28A	**Rude Farm, Bot**	81.41	341	⇑P		P		23 13 24.1	+0.9		
	baz=82										
D23A	**Lindsay**	81.42	337	⇓P		P		23 13 25.2	+1.9		
	baz=82										
PAHR	**Pah Rah Range**	81.44	324	*e*P		P		23 13 25.8	+2.1		
	comp=Z,13nm,1.0s										
YMR	**Madison River**	81.46	332	*e*P		P		23 13 24.8	+1.0		
	comp=Z,24nm,0.9s										
C24A	**Savage**	81.47	338	⇑P		P		23 13 25.2	+1.7		
	baz=82,SNR=9.6										
ULM	**Lac du Bonnet**	81.49	344	*e*P		P		23 13 23.6	+0.2		
	comp=Z,24nm,1.0s										
ULM	**Lac du Bonnet**	81.49	344	P		P		23 13 23.6	+0.1		
	comp=Z,9.7nm,0.4s,baz=157,slow=5.7,SNR=24										
E21A	**Keefer Ranch,**	81.54	336	⇑P		P		23 13 25.3	+1.3		
	baz=82,SNR=10.0										
TOA0	**Torodi Ar. Sit**	81.60	70	*e*P		P		23 13 25.3	+0.3		
TORD	**Torodi Ar. Bea**	81.60	70	P		P		23 13 25.3	+0.3		
TORD				pP		pP		23 13 36.5	+0.2		
	comp=Z,27nm,0.6s,baz=271,slow=4.9,SNR=341										
TORD				pP		pP		23 13 36.5	+0.2		
	comp=Z,15nm,0.8s,baz=227,slow=3.0,SNR=10										
TORD				LR		LR		23 47 47.5			
	comp=Z,128nm,18.9s,baz=240,slow=34										
F19A	**Roth Farm, Mol**	81.65	334	⇓P		P		23 13 25.7	+1.1		
	baz=82,SNR=8.4										
B25A	**Knox Farm, Ray**	81.72	339	⇓P		P		23 13 26.1	+1.3		
	baz=82										
A27A	**Ledoux Ranch,**	81.73	340	⇓P		P		23 13 26.4	+1.5		
	baz=82										
D22A	**Cohagen**	81.74	337	⇓P		P		23 13 26.4	+1.4		
	baz=82,SNR=7.0										
GCMT	**Greycliff**	81.87	334	*e*P		P		23 13 26.8	+0.9		
	comp=Z,4.7nm,0.9s										
GCMT				*e*pP		pP		23 13 36.7	-0.5		
E20A	**Meyer Farm, Mu**	81.89	335	⇓P		P		23 13 27.1	+1.3		
	baz=82,SNR=31										
BOSA	**Boshof**	81.89	118	*e*P		P		23 13 26.7	+0.2		
	comp=Z,28nm,0.9s										
BOSA	**Boshof**	81.89	118	P		P		23 13 26.7	+0.2		
	comp=Z,20nm,0.5s,baz=249,slow=3.9,SNR=100										
BOSA				LR		LR		23 45 33.1			
	comp=Z,104nm,18.5s,baz=181,slow=32										
A26A	**Wade Farm, Ken**	81.92	340	⇓P		P		23 13 26.7	+0.8		
	baz=82,SNR=6.2										
D21A	**La Casta Ranch**	81.95	336	⇓P		P		23 13 27.6	+1.4		
	baz=82,SNR=12										
C23A	**Lambert**	81.96	338	⇓P		P		23 13 27.4	+1.3		
	baz=82,SNR=9.5										
HLID	**Hailey**	82.03	330	*e*P		P		23 13 28.5	+1.6		
	comp=Z,17nm,1.1s										
HLID	**Hailey**	82.03	330	⇑P		P		23 13 28.4	+1.6		
	baz=82,SNR=21										
BEKR	**Beckworth**	82.06	324	*e*P		P		23 13 26.6	-0.4		
	comp=Z,4.0nm,1.0s										
E19A	**Rath Farm, Rou**	82.10	335	⇓P		P		23 13 28.2	+1.3		
	baz=82,SNR=19										
C22A	**Vida**	82.15	337	⇓P		P		23 13 28.0	+0.9		
	baz=82										
DGMT	**Dagmar**	82.22	338	*e*P		P		23 13 28.1	+0.7		
	comp=Z,66nm,1.2s										
DGMT	**Dagmar**	82.22	338	⇑P		P		23 13 29.0	+1.5		
	baz=83,SNR=7.7										
A25A	**Svangstu Ranch**	82.29	339	⇓P		P		23 13 29.2	+1.4		
	baz=83										
MCMT	**McKenzie Canyo**	82.37	331	*e*P		P		23 13 28.7	+0.1		
	comp=Z,5.3nm,0.7s										
MCMT				*e*pP		pP		23 13 41.3	+1.3		
D20A	**Manuel Ranch,**	82.39	335	⇑P		P		23 13 29.5	+1.0		
	baz=83,SNR=16										
B23A	**Brockton**	82.47	338	⇓P		P		23 13 29.8	+1.0		
	baz=83										
BOZ	**Bozeman (W)**	82.53	333	*e*P		P		23 13 30.3	+1.0		
BOZ				pmax		pmax					
	comp=Z,4.0nm,0.7s										
BOZ	**Bozeman (W)**	82.53	333	*e*P		P		23 13 30.3	+1.0		
	comp=Z,3.6nm,0.7s										
MFID	**Camas Ranch**	82.55	329	*e*P		P		23 13 30.9	+1.5		
	comp=Z,15nm,1.5s										
A24A	**Westby**	82.56	339	⇓P		P		23 13 30.7	+1.5		
	baz=83,SNR=5.4										
B22A	**Reddig Ranch S**	82.67	337	⇓P		P		23 13 31.4	+1.6		
	baz=83										
DLMT	**Dillon**	82.70	332	*e*P		P		23 13 32.0	+1.8		
	comp=Z,9.1nm,1.0s										
D19A	**Cripps Ranch,**	82.72	335	⇑P		P		23 13 30.9	+0.8		
	baz=83,SNR=7.7										
C20A	**Veseth Ranch,**	82.87	336	⇓P		P		23 13 31.7	+0.8		
	baz=83,SNR=9.3										
LRM	**Limekiln Ridge**	83.01	332	*e*P		P		23 13 33.4	+1.5		
B21A	**Ellsworth Farm**	83.13	337	⇑P		P		23 13 33.4	+1.2		
	baz=84,SNR=8.6										
A22A	**Carney Farms,**	83.24	338	⇓P		P		23 13 33.9	+1.1		
	baz=84,SNR=17										
C19A	**Slack Wire Ran**	83.26	335	⇓P		P		23 13 34.0	+1.0		
	baz=84,SNR=7.4										
MOD	**Modoc**	83.54	325	*e*P		P		23 13 35.4	+0.8		
	comp=Z,7.1nm,0.6s										
MOD				*e*pP		pP		23 13 46.2	+0.2		
A21A	**Bergtoll Ranch**	83.58	337	⇑P		P		23 13 35.2	+0.7		
	baz=84,SNR=6.1										
J08A	**Circle Bar Ran**	83.74	327	*e*P		P		23 13 37.0	+1.4		
	comp=Z,18nm,0.7s										
EGMT	**Eagleton**	83.77	335	*e*P		P		23 13 36.5	+0.9		
	comp=Z,21nm,0.3s										
EGMT	**Eagleton**	83.77	335	⇓P		P		23 13 36.0	+0.5		
	baz=84										
A20A	**Cobblestone Ra**	83.83	337	⇑P		P		23 13 36.6	+0.8		
	baz=84,SNR=12										
B19A	**Brinkman Farms**	83.83	336	⇓P		P		23 13 36.7	+0.9		
	baz=84,SNR=5.7										
LBTB	**Lobatse**	83.86	115	*e*P		P		23 13 37.0	+0.2		
	comp=Z,36nm,0.6s										
N02D	**Trinity Center**	84.09	323	⇑P		P		23 13 38.1	+0.7		
	baz=84										
A19A	**Klindworth Far**	84.16	336	⇑P		P		23 13 38.1	+0.6		
	baz=84,SNR=6.8										
M04C	**Macdoel**	84.23	324	⇓P		P		23 13 39.2	+1.1		
	baz=85										
M02C	**Callahan**	84.47	324	⇓P		P		23 13 40.4	+1.1		
	baz=85										
SLMT	**Seeley Lake**	84.58	333	*e*P		P		23 13 41.0	+1.2		
YBH	**Yreka Blue Hor**	84.64	324	P		P		23 13 40.2	0.0		
YBH	**Yreka Blue Hor**	84.64	324	P		P		23 13 40.2	0.0		
	comp=Z,4.1nm,0.7s,baz=151,slow=8.1,SNR=9.6										
I07A	**Izee**	84.78	327	*e*P		P		23 13 42.3	+1.5		
	comp=Z,14nm,1.2s										
J05D	**Fort Rock, OR**	85.02	326	⇓P		P		23 13 43.3	+1.2		
	baz=85										
F10A	**Beach Ranch, E**	85.17	330	*e*P		P		23 13 44.2	+1.5		
	comp=Z,82nm,2.4s										
JTMT	**Jette**	85.31	332	*e*P		P		23 13 44.7	+1.3		
L02D	**Cave Junction,**	85.41	324	⇑P		P		23 13 45.2	+1.3		
	baz=86										
J04D	**Umpqua Nationa**	85.43	325	⇑P		P		23 13 45.3	+1.1		
	baz=86										
G08A	**Pilot Rock**	85.43	328	*e*P		P		23 13 45.0	+1.0		
	comp=Z,23nm,1.8s										
BLMT	**Blacktail Moun**	85.55	333	*e*P		P		23 13 45.9	+1.2		
BSMT	**Bassoo Peak**	85.59	332	*e*P		P		23 13 46.1	+1.2		
I05D	**Terrebonne, OR**	85.85	326	⇑P		P		23 13 47.4	+1.3		
	baz=86										
I04A	**Tendick Farm,**	85.98	325	⇑P		P		23 13 47.4	+0.7		
	baz=86										
WALA	**Waterton Lakes**	86.20	333	*e*P		P		23 13 48.7	+0.8		
D08A	**Wollman Farm,**	86.75	330	*e*P		P		23 13 51.5	+1.1		
	comp=Z,7.1nm,0.7s										
NEW	**Newport**	86.89	331	⇑P		P		23 13 51.2	+0.1		
	baz=87										
C09A	**Chrisman Ranch**	87.03	330	*e*P		P		23 13 52.8	+1.1		
	comp=Z,14nm,0.6s										
F04A	**Amboy**	87.54	327	*e*P		P		23 13 55.2	+1.1		
	comp=Z,188nm,2.3s										
FCC	**Fort Churchill**	89.08	348	*e*P		P		23 14 02.0	+0.9		
FCC				pmax		pmax					
	comp=Z,1.0nm,0.8s										
FCC	**Fort Churchill**	89.08	348	*e*P		P		23 14 02.0	+0.9		
	comp=Z,0.5nm,0.8s										
EDM	**Edmonton**	89.34	336	*e*P		P		23 14 02.3	-0.3		
EDM				*e**PP		pP		23 14 14.1	0.0		
EDM	**Edmonton**	89.34	336	*e*P		P		23 14 02.3	-0.3		
EDM				*e*pP		pP		23 14 14.1	0.0		
A05A	**Maple Falls**	89.61	329	*e*P		P		23 14 04.6	+0.6		
	comp=Z,14nm,0.6s										
TAM	**Tamanrasset**	89.73	64	*e*P		P		23 14 04.5	-0.9		
TAM				pmax		pmax					
	comp=Z,4.0nm,1.1s										
TAM	**Tamanrasset**	89.73	64	*e*P		P		23 14 04.5	-0.9		
	comp=Z,4.3nm,1.1s										
LSZ	**Lusaka**	90.71	108	*e*P		P		23 14 09.9	-0.2		
	comp=Z,15nm,1.3s										
FRB	**Frobisher Bay**	92.02	1	P		P		23 14 15.7	+1.0		
FRB	**Frobisher Bay**	92.02	1	P		P		23 14 15.7	+1.0		
	comp=Z,0.8nm,0.4s,baz=199,slow=10,SNR=3.9										
ESDC	**Sonseca Array**	92.21	45	P		P		23 14 17.2	+0.9		
ESDC	**Sonseca Array**	92.21	45	P		P		23 14 17.2	+0.9		
	comp=Z,0.9nm,0.8s,baz=253,slow=4.9,SNR=4.2										
SFJD	**Kangerlussuaq**	96.52	8	LR		LR		23 59 46.7			
	comp=Z,82nm,20.7s,baz=174,slow=36										
YKA	**Yellowknife Ar**	97.18	341	P		P		23 14 38.5	0.0		
YKA				PKKPbc		PKKPbc		23 31 17.3	-2.7		
YKA	**Yellowknife Ar**	97.18	341	P		P		23 14 38.4	0.0		
	comp=Z,1.8nm,0.8s,baz=140,slow=4.4,SNR=33										
YKA				PKKPbc		PKKPbc		23 31 17.3	-2.7		
	comp=Z,0.1nm,0.4s,baz=328,slow=2.6,SNR=5.7										
KEST	**Kesra**	99.07	54	LR		LR		00 04 04.7			
	comp=Z,78nm,18.6s,baz=225,slow=38										
DZM	**Mont Dzumac**	105.09	234	*e*LR		LR		23 50 00.0			
	comp=Z,100nm,24.4s										
ILAR	**Eielson Array**	109.71	334	Pdif		Pdif		23 15 33.7	-0.5		
ILAR				PKKPbc		PKKPbc		23 30 39.7	-2.7		
ILAR	**Eielson Array**	109.71	334	Pdiff		Pdif		23 15 33.7	-0.5		
	comp=Z,0.2nm,0.7s,baz=150,slow=3.8,SNR=4.4										
ILAR				PKKPbc		PKKPbc		23 30 39.7	-2.7		
	comp=Z,0.3nm,0.5s,baz=314,slow=4.6,SNR=5.9										
AKASG	**Malin Array Be**	117.86	45	PKIKP		PKPdf		23 19 52.0	-0.6		
AKASG	**Malin Array Be**	117.86	45	PKP		PKPdf		23 19 52.0	-0.6		
AKASG	**Malin Array Be**	117.86	45	PKP		PKPdf		23 19 52.0	-0.6		
	comp=Z,1.2nm,0.4s,baz=270,slow=3.7,SNR=5.6										
FINES	**FINESS Array B**	118.03	33	PKP		PKPdf		23 19 52.7	+0.2		
FINES	**FINESS Array B**	118.03	33	PKP		PKPdf		23 19 52.7	+0.2		
	comp=Z,5.9nm,1.0s,baz=329,slow=2.2,SNR=8.1										
BRTR	**Keskin Array B**	118.38	58	PKP		PKPdf		23 19 54.1	0.0		
BRTR				pPKP		pPKPdf		23 20 06.7	+0.7		
BRTR	**Keskin Array B**	118.38	58	PKP		PKPdf		23 19 54.1	0.0		
	comp=Z,2.2nm,0.8s,baz=207,slow=1.4,SNR=14										
BRTR				pPKP		pPKPdf		23 20 06.7	+0.7		
	comp=Z,2.0nm,0.9s,baz=181,slow=2.2,SNR=6.7										
ASAR	**Alice Springs**	122.76	207	PKP		PKPdf		23 20 02.2	-0.8		
ASAR				PKKPbc		PKKPbc		23 29 55.4	-0.3		
ASAR	**Alice Springs**	122.76	207	PKP		PKPdf		23 20 02.2	-0.8		
	comp=Z,3.3nm,0.7s,baz=131,slow=1.7,SNR=26										
ASAR				PKKPbc		PKKPbc		23 29 55.4	-0.3		
	comp=Z,0.7nm,0.6s,baz=335,slow=3.4,SNR=8.9										
OBN	**Obninsk**	122.86	41	*e*PKIKP		PKPdf		23 20 00.4	-1.6		
OBN				*i*				23 20 13.5			
OBN				*e*				23 21 39.1			
OBN				pmax		pmax					
	comp=Z,13nm,1.4s										
KIV	**Kislovodsk**	125.81	55	*e*PKIKP		PKPdf		23 20 08.3	+0.1		
KIV				pmax		pmax					
	comp=Z,7.0nm,0.9s										
WRA	**Warramunga Arr**	125.88	210	PKP		PKPdf		23 20 08.8	-0.3		
WRA				pPKP		pPKPdf		23 20 19.9	-0.9		
WRA	**Warramunga Arr**	125.88	210	PKP		PKPdf		23 20 08.8	-0.3		
	comp=Z,7.2nm,0.7s,baz=164,slow=1.6,SNR=106										
WRA				pPKP		pPKPdf		23 20 19.9	-0.9		
	comp=Z,2.9nm,0.7s,baz=160,slow=1.6,SNR=7.4										
WRAB	**Tennant Creek**	125.88	210	*e*PKIKP		PKPdf		23 20 08.5	-0.6		
WRAB	**Tennant Creek**	125.88	210	*e*PKPdf		PKPdf		23 20 08.5	-0.6		
KBZ	**Khabaz**	125.94	55	PKIKP		PKPdf		23 20 09.1	+0.8		
KBZ	**Khabaz**	125.94	55	PKP		PKPdf		23 20 09.1	+0.8		
KBZ	**Khabaz**	125.94	55	PKP		PKPdf		23 20 09.1	+0.8		
	comp=Z,6.0nm,0.9s,baz=146,slow=2.2,SNR=9.0										
ZEI	**Tsey**	126.55	56	*e*PKIKP		PKPdf		23 20 09.5	-0.3		
ZEI				pmax		pmax					
	comp=Z,4.0nm,1.0s										
ARU	**Arti**	135.02	37	*e*PKIKP		PKPdf		23 20 24.5	-0.6		
ARU	**Arti**	135.02	37	*e*PKPdf		PKPdf		23 20 24.5	-0.6		
AB31	**Akbulak array**	137.54	47	*e*PKHKP		PKPpre		23 20 22.6			
AB31				pmax		pmax					
	comp=Z,2.0nm,0.5s										
ABKAR	**Akbulak array**	137.54	47	*e*PKPdf		PKPdf		23 20 30.6	+0.5		
SWI	**Sorong**	143.74	220	P		PKPab		23 20 39.1	0.0		
	comp=Z,29nm,0.9s										
YAK	**Yakutsk**	143.82	344	*e*PKIKP		PKPab		23 20 37.9	-0.1		
YAK				*e*				23 20 52.0			
YAK				pmax		pmax					
	comp=Z,31nm,1.0s										
YAK				pmax		pmax					
	comp=N,3.0nm,1.0s										
YAK				pmax		pmax					
	comp=E,3.0nm,1.2s										
KPJI	**Karang Pucung**	144.31	180	P		PKPbc		23 20 42.0	+0.4		
	comp=E,49nm,1.4s,comp=E,2µm										
KPJI	**Karang Pucung**	144.31	180	P		PKPbc		23 20 41.8	+0.2		
BKSI	**Bulukumba**	144.62	200	P		PKPab		23 20 41.9	-0.5		
TGJI	**Tegal**	144.78	180	P		PKPbc		23 20 43.1	0.0		
	comp=E,71nm,0.8s										
LEM	**Lembang**	144.80	178	P		PKPdf		23 20 44.5	+0.1		
	comp=E,166nm,0.9s,comp=E,1µm										
KAPI	**Kappang**	145.02	199	*e*PKPbc		PKPdf		23 20 44.4	-0.2		
DBJI	**Dramaga**	145.03	176	P		PKPdf		23 20 44.6	0.0		
	comp=E,124nm,1.0s,comp=E,2µm										
DBJI	**Dramaga**	145.03	176	P		PKPab		23 20 43.8	-0.1		
BNSI	**Bone**	145.50	200	P		PKPdf		23 20 45.1	-0.3		
KBL	**Kabul**	145.67	70	*e*PKIKP		PKPdf		23 20 44.4	-1.0		
KBL	**Kabul**	145.67	70	*e*PKPdf		PKPdf		23 20 44.4	-1.0		
KASI	**Kota Agung**	145.85	172	P		PKPbc		23 20 46.7	+0.2		
	comp=E,134nm,1.1s,comp=E,1µm										
KASI	**Kota Agung**	145.85	172	P		PKPbc		23 20 46.6	+0.1		
KK31	**Karatay Array**	145.97	54	*i* PKP2		PKPbc		23 20 46.4	+0.3		
KK31				pmax		pmax					
	comp=Z,15nm,0.5s										
KKAR	**Karatay Array**	145.97	54	*e*PKP2		PKPbc		23 20 46.4	+0.3		
KKAR	**Karatay Array**	145.97	54	*e*PKPdf		PKPbc		23 20 46.4	+0.3		
SPSI	**Sidrap Palu**	146.01	200	P		PKPbc		23 20 47.1	+0.1		
	comp=E,61nm,1.6s,comp=Z,1µm										
SPSI	**Sidrap Palu**	146.01	200	P		PKPab		23 20 47.7	+0.1		
	comp=E,61nm,1.6s,comp=Z,1µm										
LWLI	**Liwa**	146.29	171	P		PKPbc		23 20 47.7	-0.3		
	comp=Z,91nm,0.9s,comp=Z,5µm										
LWLI	**Liwa**	146.29	171	P		PKPab		23 20 48.5	-0.2		
KLSI		146.70	172	P		PKPbc		23 20 49.2	+0.1		
MDSI	**Maura Dua**	146.83	171	P		PKPbc		23 20 48.7	-0.7		
	comp=Z,29nm,1.2s										
MDSI	**Maura Dua**	146.83	171	P		PKPdf		23 20 48.5	+0.8		
TTSI	**Tana Toraja**	146.87	200	P		PKPab		23 20 56.2	+5.4		
TTSI	**Tana Toraja**	146.87	200	P		PKPbc		23 20 49.6	0.0		
	comp=Z,16nm,1.2s,comp=Z,719nm										
MMSI	**Mamuju**	147.47	199	P		PKPdf		23 20 46.5	-2.3		
	comp=Z,69nm,0.8s,comp=Z,857nm										
BBKI	**Banjar Baru**	147.65	191	P		PKPbc		23 20 51.7	-0.1		
	comp=Z,41nm,1.2s,comp=Z,2µm										
MASI	**Maura Aman, Be**	147.83	167	P		PKPdf		23 20 49.5	+0.1		
	comp=Z,122nm,1.2s										
NVS	**Novosibirsk**	147.84	28	⇑*i*PKIKP		PKPdf		23 20 48.0	0.0		
NVS				*i*				23 20 59.8			
NVS				pmax		pmax					
	comp=N,2.0nm,0.6s										
NVS				pmax		pmax					
	comp=Z,29nm,0.6s										
NVS				pmax		pmax					
	comp=E,8.0nm,0.5s										
KURK	**Kurchatov**	148.22	37	PKIKP		PKPdf		23 20 49.4	+0.6		
KURK				pmax		pmax					
	comp=Z,11nm,0.5s										
KURK	**Kurchatov**	148.22	37	*e*PKPdf		PKPdf		23 20 49.7	+0.9		
KURK				*e*PKPbc		PKiKP		23 20 53.0	-0.8		
EKS2	**Erkin-Say**	148.41	54	*e*PKIKP		PKPdf		23 20 50.1	+0.5		
EKS2				*e*				23 20 54.4			
EKS2	**Erkin-Say**	148.41	54	P		PKPdf		23 20 51.3	+1.7		
	SNR=20										
EKS2	**Erkin-Say**	148.41	54	*e*PKPdf		PKPdf		23 20 50.1	+0.5		
EKS2				*e*PKPbc		PKiKP		23 20 54.4	-0.3		
AML	**Almayashu**	148.48	55	P		PKPbc		23 20 55.3	+1.6		
	SNR=14										
USP	**Ospenovka**	148.76	53	P		PKPbc		23 20 55.0	+1.1		
	SNR=16										
AAK	**Ala-Archa**	148.93	54	P		PKPbc		23 20 56.2	+1.7		
	SNR=21										
CHMS	**Chumysh**	149.01	53	P		PKPbc		23 20 55.6	+1.1		
	SNR=20										
UCH	**Uchtor**	149.05	55	P		PKPbc		23 20 56.2	+1.0		
	SNR=46										
GTOI	**Gorontalo**	149.13	208	P		PKPbc		23 20 55.3	-0.3		
	comp=Z,66nm,0.7s,comp=Z,1µm										
GTOI	**Gorontalo**	149.13	208	P		PKPbc		23 20 55.4	-0.2		
ZAA0	**Zalesovo Array**	149.13	28	*e*PKPdf		PKPdf		23 20 50.6	+0.5		
ZAA0				*e*PKPbc		PKiKP		23 20 55.2	-0.4		
ZALV	**Zalesovo Beam**	149.13	28	PKIKP		PKPdf		23 20 51.0	+0.9		
ZALV								23 20 54.6			
ZALV	**Zalesovo Beam**	149.13	28	PKP		PKPdf		23 20 51.0	+0.9		
ZALV				PKPbc		PKPbc		23 20 54.6	+0.3		
ZALV	**Zalesovo Beam**	149.13	28	PKP		PKPdf		23 20 51.0	+0.9		
	comp=Z,111nm,0.6s,baz=288,slow=1.7,SNR=156										
ZALV				PKPbc		PKPbc		23 20 54.6	+0.3		
	comp=Z,111nm,0.6s,baz=306,slow=3.3,SNR=267										
KBK	**Karagaybulak**	149.24	54	P		PKPbc		23 20 56.8	+1.5		
	SNR=15										
CLNS	**Chul'man**	149.56	343	*e*PKP2		PKPbc		23 20 55.0	-0.4		
CLNS				pmax		pmax					
	comp=Z,19nm,1.1s										
CLNS				pmax		pmax					
	comp=N,7.0nm,1.1s										
PDSI	**Padang**	149.60	163	P		PKPbc		23 20 56.3	-0.5		
	comp=N,30nm,1.4s										
KZA	**Kyzart**	149.62	55	P		PKPbc		23 20 58.2	+1.7		
	SNR=10.0										
TKM2	**Tokmak 2**	149.63	53	*e*PKHKP		PKPdf		23 20 52.6	+0.9		
TKM2				*e*				23 20 56.9			
TKM2	**Tokmak 2**	149.63	53	P		PKPdf		23 20 52.9	+1.2		
	SNR=16										
TKM2	**Tokmak 2**	149.63	53	*e*PKPdf		PKPdf		23 20 52.6	+0.9		
TKM2				*e*PKPbc		PKiKP		23 20 56.9	-0.4		
TKM2				*e*PKPab		PKPab		23 21 02.0	+0.5		
PPI	**Padang Panjang**	150.02	163	P		PKPbc		23 20 56.9	-0.9		
	comp=N,23nm,0.9s,comp=N,560nm										
PPI	**Padang Panjang**	150.02	163	P		PKPbc		23 20 57.4	-0.4		
HYB	**Hyderabad**	150.02	105	*i* PKP		PKPbc		23 20 56.0	-1.7		
HYB				*e*pPKP		pPKPdf		23 21 09.0	+4.4		
ULHL	**Ulahol**	150.28	54	P		PKPbc		23 20 59.5	+1.6		
	SNR=9.1										
KSH	**Kashi**	150.75	59	PKPbc		PKPdf		23 20 54.1	+0.7		
KS

GTA					AMB	AMB			
	comp=N,130nm,6.6s								
GTA					LR	LR			
	comp=N,110nm,14.7s								
GTA					LR	LR			
	comp=N,96nm,14.7s								
GTA					LR	LR			
	comp=N,78nm,14.7s								
HHC	**Hu-ho-hao-te**	**167.55**	**351**	*e*PKP	**PKPdf**	**23 21 09.8**	**-2.9**		
HHC				PKS	**PKSdf**	**23 24 43.1**	**-2.3**		
HHC				SKKS		23 32 49.8			
HHC				SS	**SS**	**23 46 49.4**	**-0.8**		
HHC				AMB	AMB				
	comp=N,95nm,10.5s								
HHC				LR	LR				
	comp=N,280nm,21.6s								
HHC				LR	LR				
	comp=N,220nm,22.0s								
HHC				LR	LR				
	comp=N,150nm,21.8s								
LZH	**Lanzhou**	**171.36**	**28**	*e*PKP	**PKPdf**	**23 21 10.8**	**-4.5**		
LZH				AMB	AMB				
	comp=N,110nm,9.3s								
LZH				LR	LR				
	comp=N,200nm,18.0s								
LZH				LR	LR				
	comp=N,190nm,18.1s								
LZH				LR	LR				
	comp=N,240nm,20.2s								
XAN	**Xi'an**	**174.54**	**360**	PKP	**PKPdf**	**23 21 16.5**	**0.0**		
XAN				pPKP	**pPKPdf**	**23 21 27.8**	**-0.5**		
CD2	**Chengdu**	**174.95**	**61**	*e*PKP	**PKPdf**	**23 21 16.8**	**+0.1**		
CD2				sPKP		23 21 33.3			
CD2				PKPab	**PKPab**	**23 22 52.5**	**+0.7**		
CD2				PP	**PP**	**23 26 45.8**	**+1.4**		
CD2				SKKS		23 33 25.9			
CD2				SS	**SS**	**23 48 01.5**	**-4.1**		
CD2				AMB	AMB				
	comp=N,120nm,10.2s								
CD2				LR	LR				
	comp=N,110nm,15.6s								
CD2				LR	LR				
	comp=N,140nm,13.6s								
GYA	**Guiyang**	**177.11**	**136**	*e*PKP	**PKPdf**	**23 21 17.3**	**-0.1**		
GYA				PKPab	PKPab	23 23 03.8	+2.4		
GYA				PKS	**PKSdf**	**23 24 48.4**	**-1.3**		
GYA				PP	**PP**	**23 26 56.8**	**+2.6**		
GYA				AMB	AMB				
	comp=N,120nm,7.8s								

IDC ***22*** *23:40:40.9±1.7,39°.85N×123°.98W,h0km,mb3.4/3, mb1 3.6/6,mb1mx3.5/28,mbtmp3.3/6,ML3.4/2,MS3.3/2, Ms1 3.3/2,ms1mx2.9/25,Error ellipse: s-maj=26.0km s-min=15.6km az=105.0*

ISCJB ***22*** *23:40:42.4±0.4,39°.83N±0°.02×123°.25W±0°.03,h4km±3km, mb3.3/3,MS3.3/2,Error ellipse: s-maj=4.0km s-min=2.8km az=157.8*

NEIC ***22*** *23:40:43.9,39°.78N×123°.34W,h10km,mb3.8/1, MW4.0(BRK),After NCEDC.*

NEIC Felt [II] at Covelo and Laytonville. Also felt at Anderson, Clearlake Oaks, Garberville, Occidental, Redding, San Francisco, San Mateo and Ukiah.

ISC 22 23:40:44.5±0.8,39°.80N±0°.02×123°.40W±0°.03,h15km±6km, n64,σ1§68/70,mb3.3/3,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIPM	**Iron Peak**	**0.06**	**280**	*e*Pg	**Pg**	**23 40 46.7**	**-0.9**
KCPM	**Cahto Peak**	**0.18**	**231**	*e*Pn	**Pg**	**23 40 48.5**	**-0.4**
KCPM				*e*Sg	**Sg**	**23 40 51.5**	**-0.4**
GASB	**Alder Springs**	**0.55**	**105**	*e*Pg	**Pg**	**23 40 54.0**	**-1.4**
HOPS	**Hopland**	**0.84**	**162**	*e*Pg	**Pg**	**23 40 59.3**	**-1.6**
HOPS				*e*Sn	**Sg**	**23 41 09.1**	**-2.9**
WDC	**Whiskeytown Da**	**1.02**	**40**	*e*Pg	**Pg**	**23 41 03.0**	**-1.3**
WDC				*e*Sg	**Sg**	**23 41 15.2**	**-2.4**
KHMM	**Horse Mountain**	**1.10**	**347**	*e*Pg	**Pg**	**23 41 04.8**	**-1.0**
KHMM				*e*Sg	**Sg**	**23 41 19.6**	**-0.7**
JCC	**Jacoby Creek**	**1.12**	**335**	*e*Pn	**Pn**	**23 41 06.3**	**+0.5**
NSHM	**Saint Helena R**	**1.42**	**154**	*e*Pn	**Pn**	**23 41 10.6**	**+0.8**
ORV	**Oroville**	**1.49**	**99**	*e*Pn	Pn	23 41 08.9	-1.9
MCCM	**Marconi Confer**	**1.70**	**166**	*e*Pn	**Pn**	**23 41 12.8**	**-0.9**
MCCM				*e*Sn	**Sg**	**23 41 41.9**	**+2.6**
KRMB	**Red Mountain**	**1.77**	**348**	*e*Pn	**Pn**	**23 41 14.2**	**-0.5**
KRMB				*e*Sn	**Sn**	**23 41 35.1**	**-1.9**
YBH	**Yreka Blue Hor**	**2.00**	**15**	*e*Pn	**Pn**	**23 41 17.7**	**-0.2**
YBH				*e*Sn	**Sn**	**23 41 43.9**	**+1.1**
YBH	**Yreka Blue Hor**	**2.00**	**15**	Pn	**Pn**	**23 41 17.8**	**-0.2**
	64nm,0.3s,baz=204,slow=3.7,SNR=376						
YBH				Lg	Lg	23 41 47.9	
	30nm,0.3s,baz=109,slow=13,SNR=6.2						
SAC	**San Andreas**	**2.34**	**160**	*e*Pn	**Pn**	**23 41 22.8**	**+0.3**
SAC				*e*Pg	**Pb**	**23 41 28.0**	**+1.5**
KBO	**Bosley Butte**	**2.49**	**346**	*e*Pn	**Pn**	**23 41 24.4**	**-0.2**
KBO				*e*Sn	**Sn**	**23 41 55.0**	**+0.2**
HUMO	**Hull Mountain**	**2.83**	**7**	*e*Pn	**Pn**	**23 41 29.7**	**+0.5**
HUMO				*e*Sg	**Sg**	**23 42 15.3**	**0.0**
CMB	**Columbia Colle**	**2.94**	**126**	*e*Pn	**Pn**	**23 41 30.2**	**-0.5**
CMB				*e*Pg	**Pb**	**23 41 37.1**	**+0.5**
CMB				*e*Sn	**Sn**	**23 42 04.0**	**-1.8**
CMB				*e*Sg	**Sb**	**23 42 16.6**	**+4.2**
PAHR	**Pah Rah Range**	**3.10**	**90**	*e*Pn	**Pn**	**23 41 32.9**	**-0.2**
PAHR				*e*Pg	**Pb**	**23 41 41.8**	**+2.4**
PAHR				*e*Sn	**Sn**	**23 42 08.4**	**-1.5**
PAHR				*e*Sg	**Sb**	**23 42 21.0**	**+3.9**
KEBM	**Edson Butte**	**3.15**	**347**	*e*Pn	**Pn**	**23 41 33.4**	**-0.3**
KEBM				*e*Pg	**Pg**	**23 41 45.1**	**+0.2**
KEBM				*e*Sg	**Sg**	**23 42 26.6**	**+0.9**
MOD	**Modoc**	**3.15**	**47**	*e*Pn	**Pn**	**23 41 33.3**	**-0.6**
MOD				*e*Sn	**Sn**	**23 42 09.6**	**-1.7**
MOD				*e*Sg	**Sb**	**23 42 23.7**	**+5.0**
WAKR	**Walker**	**3.34**	**111**	*e*Pn	**Pn**	**23 41 36.1**	**-0.4**
WAKR				*e*Sn	**Sn**	**23 42 14.4**	**-1.6**
SAO	**San Andreas Ge**	**3.40**	**152**	*e*Pn	**Pn**	**23 41 38.7**	**+1.7**
NV01	**Mina Array Sit**	**4.20**	**107**	*e*Pn	**Pn**	**23 41 50.0**	**+1.8**
NV01				*e*Sn	**Sn**	**23 42 35.4**	**-1.7**
NV11	**Mina Array Sit**	**4.30**	**107**	*e*Pn	**Pn**	**23 41 48.7**	**-1.0**
PINOR	**Pine Mountain**	**4.43**	**24**	*e*Pn	**Pn**	**23 41 51.2**	**0.0**
PINOR				*e*Pg	**Pg**	**23 42 08.8**	**-0.6**
PINOR				*e*Sg	**Sg**	**23 43 06.0**	**-0.8**
COR	**Corvallis**	**4.79**	**1**	*e*Pn	**Pn**	**23 41 56.1**	**0.0**
H04A	**Detroit Lake**	**4.96**	**10**	*e*Pn	**Pn**	**23 41 58.6**	**0.0**
TPH	**Tonopah**	**5.12**	**108**	*e*Pn	**Pn**	**23 41 59.1**	**-1.8**
	13nm,0.7s						
TPH				*e*Pg	**Pg**	**23 42 21.1**	**-1.4**
I07A	**Izee**	**5.17**	**33**	*e*Pn	Pn	23 42 07.8	+6.3
G06A	**Carlson Farm,**	**5.81**	**20**	*e*Pn	**Pn**	**23 42 12.5**	**+2.4**
F03A	**Seaside**	**6.13**	**359**	*e*Pn	**Pn**	**23 42 13.8**	**-0.8**
G08A	**Pilot Rock**	**6.39**	**29**	*e*Pn	Pn	23 42 25.2	+6.9
MFID	**Camas Ranch**	**6.73**	**55**	*e*Pn	Pn	23 42 21.0	-1.9
E03A	**Lebam**	**6.75**	**359**	*e*Pn	**Pn**	**23 42 22.8**	**-0.1**
LON	**Longmire**	**7.04**	**9**	*e*Pn	**Pn**	**23 42 27.1**	**0.0**
DSCC	**Desert Studies**	**7.43**	**126**	*e*Pn	**Pn**	**23 42 33.5**	**+1.0**
HLID	**Hailey**	**7.71**	**58**	*e*Pn	Pn	23 42 42.7	+6.3
E09A	**Wood Farm, Sta**	**7.73**	**28**	*e*Pn	**Pn**	**23 42 39.3**	**+2.8**
E09A				*e*Lg	Lg	23 44 56.2	
D08A	**Wollman Farm,**	**7.95**	**23**	*e*Pn	**Pn**	**23 42 41.3**	**+1.7**
DPP	**Dos Picos Cty**	**8.55**	**141**	*e*Pn	**Pn**	**23 42 47.3**	**-0.6**
EML	**El Monte Cty P**	**8.69**	**140**	*e*Pn	Pn	23 42 47.4	-2.3
SWSC	**Sam W. Stewart**	**9.19**	**136**	*e*Pn	**Pn**	**23 42 59.0**	**+2.5**
PDAR	**Pinedale Array**	**10.83**	**70**	Pn	Pn	23 43 27.6	+8.3
PDAR	**Pinedale Array**	**10.83**	**70**	Pn	Pn	23 43 27.6	+8.3
	0.0nm,0.3s,baz=250,slow=11,SNR=5.9						
WALA	**Waterton Lakes**	**11.47**	**33**	*e*Pn	Pn	23 43 35.1	+7.3
O20A	**White River Ci**	**11.64**	**83**	*e*Pn	Pn	23 43 25.8	-4.5
SMCO	**Snowmass**	**12.71**	**88**	*e*Pn	Pn	23 43 54.7	+10
TXAR	**Lajitas Array**	**19.28**	**117**	P	**Pn**	**23 45 12.1**	**+2.3**
TXAR	**Lajitas Array**	**19.28**	**117**	P	**Pn**	**23 45 12.1**	**+2.3**
	0.0nm,0.3s,baz=304,slow=6.4,SNR=3.3						
FFC	**Flin Flon**	**20.72**	**37**	*e*P	**P**	**23 45 21.5**	**-2.7**
	5.4nm,1.2s						
YKA	**Yellowknife Ar**	**23.34**	**10**	P	**P**	**23 45 51.8**	**-0.2**
YKA	**Yellowknife Ar**	**23.34**	**10**	P	**P**	**23 45 51.8**	**-0.2**
	0.2nm,0.5s,baz=195,slow=9.2,SNR=5.1						
ILAR	**Eielson Array**	**28.50**	**339**	P	**P**	**23 46 36.9**	**-2.1**
ILAR	**Eielson Array**	**28.50**	**339**	P	**P**	**23 46 36.9**	**-2.1**
	0.3nm,0.6s,baz=141,slow=9.2,SNR=4.6						
SADO	**Sadowa**	**32.81**	**67**	LR	LR	00 01 14.1	
	comp=Z,166nm,18.7s,baz=188,slow=37						
FRB	**Frobisher Bay**	**39.80**	**35**	P	**P**	**23 48 15.2**	**-1.5**
FRB	**Frobisher Bay**	**39.80**	**35**	P	**P**	**23 48 15.2**	**-1.5**
	2.4nm,1.1s,baz=252,slow=6.4,SNR=3.5						
PETK	**Petropavlovsk-**	**53.27**	**312**	LR	LR	00 08 16.9	
	comp=Z,8.7nm,21.9s,baz=169,slow=31						
H11N3	**WAKE ISLAND Hy 62.24**	**273**		T	T	00 58 26.0	
	baz=57,slow=74,SNR=32						
H11N2	**WAKE ISLAND Hy 62.24**	**273**		T	T	00 58 30.9	
	baz=57,slow=74,SNR=21						
H11N1	**WAKE ISLAND Hy 62.26**	**273**		T	T	00 58 24.5	
	baz=57,slow=74,SNR=21						
H11S1	**WAKE ISLAND Hy 63.10**	**272**		T	T	00 59 27.2	
	baz=54,slow=74,SNR=94						
H11S2	**WAKE ISLAND Hy 63.11**	**272**		T	T	00 59 27.9	
	baz=54,slow=74,SNR=88						
H11S3	**WAKE ISLAND Hy 63.12**	**272**		T	T	00 59 29.0	
	baz=54,slow=74,SNR=72						

IDC 22 23:55:25.0±3.5,10°.56N×91°.69E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/26,mbtmp3.3/4,Error ellipse: s-maj=133.8km s-min=24.9km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.30**	**227**	T	T	00 28 22.1	
	baz=46,slow=75,SNR=114						
H08S2	**Diego Garcia H**	**26.31**	**227**	T	T	00 28 23.1	
	baz=46,slow=75,SNR=102						
H08S1	**Diego Carcia H**	**26.32**	**227**	T	T	00 28 26.1	
	baz=46,slow=75,SNR=108						
MKAR	**Makanchi Array**	**36.99**	**349**	P	P	00 02 36.1	-0.1
	0.2nm,0.6s,baz=172,slow=7.0,SNR=2.8						
SONM	**Songino Array**	**39.17**	**16**	P	P	00 02 54.6	-0.1
	0.2nm,0.5s,baz=205,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**51.78**	**126**	P	P	00 04 34.5	-0.5
	0.2nm,0.4s,baz=306,slow=8.3,SNR=5.7						
ASAR	**Alice Springs**	**53.48**	**130**	P	P	00 04 47.9	+0.4
	0.4nm,0.7s,baz=303,slow=7.4,SNR=4.2						

NIED ***22*** *23:57:00,38°.80N×141°.60E,h53km,Mw3.4 Best double couple: M₀1.27000×10¹⁴ NP1:φ₉172.00000°,δ65.00000°, λ84.00000°. NP2:φ₉6.00000°,δ26.00000°,λ103.00000°.*

ISCJB ***22*** *23:57:26.7±0.7,38°.79N±0°.05×141°.67E±0°.08,h75km±4km, mb3.5/7,Error ellipse: s-maj=11.3km s-min=6.5km az=24.7*

JMA ***22*** *23:57:27.9,38°.78N×141°.60E,h70km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φ₉200.00000°,δ60.00000°,λ91.00000°. NP2:φ₉18.00000°, δ30.00000°,λ88.00000°. Principal axes: T Plg75.0000°, Azm113.0000°; N Plg1.0000°, Azm19.0000°; P Plg15.0000°, Azm289.0000°;*

JMA Felt I J1.

IDC ***22*** *23:57:29.9±3.2,38°.65N×141°.47E,h97km±28km,mb3.3/7, mb1 3.4/9,mb1mx3.2/25,mbtmp3.2/9 Error ellipse: s-maj=28.3km s-min=17.9km az=80.0*

ISC 22 23:57:27.2±0.9,38°.78N±0°.05×141°.70E±0°.07,h68km±6km, n26,σ1§18/31,mb3.6/7,4C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.30**	**356**	⇑P	**Pn**	**23 57 39.0**	**+0.8**
OFUJ				S	**Sn**	**23 57 47.1**	**+0.9**
JMK	**Ichinoseki**	**0.41**	**295**	⇑P	**Pn**	**23 57 39.3**	**+0.3**
JMK				S	**Sn**	**23 57 47.6**	**0.0**
JIO	**Ouri**	**0.42**	**220**	⇑P	**Pn**	**23 57 39.7**	**+0.6**
JIO				S	**Sn**	**23 57 48.0**	**+0.2**
JOM	**Ohasama**	**0.76**	**336**	P	**Pn**	**23 57 43.2**	**+0.5**
JOM				S	**Sn**	**23 57 54.4**	**+0.3**
JOU	**Okura**	**0.91**	**243**	P	**Pn**	**23 57 44.7**	**+0.2**
JOU				S	**Sn**	**23 57 57.1**	**-0.1**
JRG	**Rokugo**	**1.03**	**307**	P	**Pn**	**23 57 45.8**	**-0.2**
JRG				S	**Sn**	**23 58 00.1**	**+0.1**
JYK	**Kaneyama**	**1.05**	**278**	P	**Pn**	**23 57 46.4**	**+0.1**
JMM	**Marumori**	**1.15**	**218**	⇑P	**Pn**	**23 57 47.4**	**-0.2**
JMM				S	**Sn**	**23 58 02.1**	**-0.6**
JYS	**Shirataka**	**1.39**	**247**	P	**Pn**	**23 57 51.1**	**+0.4**
JYS				S	**Sn**	**23 58 08.6**	**+0.2**
JYA	**Atsumi**	**1.56**	**264**	P	**Pn**	**23 57 53.2**	**+0.3**
JYA				S	**Sn**	**23 58 12.7**	**+0.4**
MAT	**Matsushiro**	**3.55**	**232**	P	**Pn**	**23 58 22.3**	**+2.3**
MAT				*e*S	**Sn**	**23 59 04.4**	**+3.6**
MJAR	**Matsushiro Arr**	**3.55**	**232**	P	**Pn**	**23 58 21.1**	**+1.1**
	1.8nm,0.3s,baz=43,slow=10,SNR=22						
USRK	**Ussuriysk Arra**	**9.07**	**310**	P	**Pn**	**23 59 35.5**	**+0.2**
	0.2nm,0.3s,baz=122,slow=13,SNR=6.6						
H11N2	**WAKE ISLAND Hy 28.89**	**124**		T	T	00 33 52.9	
	baz=320,slow=76,SNR=86						
H11N1	**WAKE ISLAND Hy 28.90**	**124**		T	T	00 33 53.2	
	baz=320,slow=76,SNR=188						
H11N3	**WAKE ISLAND Hy 28.91**	**124**		T	T	00 33 54.2	
	baz=320,slow=76,SNR=123						
H11S1	**WAKE ISLAND Hy 29.66**	**126**		T	T	00 34 43.6	
	baz=322,slow=76,SNR=82						
H11S3	**WAKE ISLAND Hy 29.66**	**126**		T	T	00 34 45.2	
	baz=322,slow=76,SNR=131						
H11S2	**WAKE ISLAND Hy 29.68**	**126**		T	T	00 34 46.4	
	baz=322,slow=76,SNR=96						
ZALV	**Zalesovo Beam**	**40.92**	**311**	P	**P**	**00 05 01.4**	**-1.2**
	0.6nm,0.5s,baz=88,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**43.40**	**301**	P	**P**	**00 05 21.9**	**-1.1**
	0.8nm,0.6s,baz=84,slow=12,SNR=10						
KURBB	**Kurchatov Arra**	**45.12**	**307**	P	**P**	**00 05 36.5**	**-0.2**
	1.5nm,0.4s,baz=85,slow=9.8,SNR=25						
ILAR	**Eielson Array**	**47.91**	**33**	P	**P**	**00 05 59.4**	**+1.2**
	0.3nm,0.7s,baz=271,slow=6.8,SNR=4.2						
WRA	**Warramunga Arr**	**58.81**	**188**	P	**P**	**00 07 18.1**	**-0.5**
	0.3nm,0.6s,baz=6.2,slow=6.8,SNR=7.1						
WRA				pP	**pP**	**00 07 35.5**	**-0.8**
	0.2nm,0.4s,baz=5.4,slow=7.3,SNR=6.1						
ASAR	**Alice Springs**	**62.54**	**188**	P	**P**	**00 07 40.9**	**-3.0**
	0.3nm,0.7s,baz=6.1,slow=6.2,SNR=2.9						
PDAR	**Pinedale Array**	**76.29**	**46**	P	**P**	**00 09 10.0**	**+1.1**
	0.3nm,0.6s,baz=299,slow=1.5,SNR=3.6						

IDC 22 23:57:48.6±4.2,11°.26S×165°.43E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/18,mbtmp3.4/4,MS3.0/1,Ms1 2.9/1, ms1mx2.7/12,Error ellipse: s-maj=183.1km s-min=31.6km az=137.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.07**	**223**	LR	LR	00 15 31.0	
	comp=Z,27nm,18.1s,baz=204,slow=35						
WRA	**Warramunga Arr**	**31.12**	**250**	P	P	00 04 08.6	-0.5
	0.2nm,0.8s,baz=84,slow=9.5,SNR=2.6						
ASAR	**Alice Springs**	**32.42**	**243**	P	P	00 04 21.6	+1.0
	0.4nm,0.8s,baz=78,slow=8.9,SNR=3.0						
ILAR	**Eielson Array**	**83.81**	**19**	P	P	00 10 19.9	+0.4
	0.4nm,0.7s,baz=242,slow=5.2,SNR=6.5						
MKAR	**Makanchi Array**	**93.46**	**317**	P	P	00 11 05.6	-0.6
	0.3nm,0.6s,baz=103,slow=6.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**163.99**	**278**	PKPab	PKPab	00 18 47.0	-1.0
	0.5nm,1.1s,baz=96,slow=4.4,SNR=4.6						

WEL 23 00:17:40.5±0.6,44°.29S×167°.00E,h12km,ML3.7/11,1C, Error ellipse: s-maj=5.9km s-min=3.2km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.77**	**120**	⇑P*	Pg	00 17 55.2	-0.2
MSZ				S*	Sg	00 18 04.4	-1.2
MSZ				AML	AML	00 18 05.0	
MSZ				AML	AML	00 18 05.2	
MSZ				AML	AML	00 18 05.2	
DCZ	**Deep Cove**	**1.20**	**175**	P*	Pn	00 18 01.2	-1.9
DCZ				*e*S*	Sb	00 18 16.8	-1.8
DCZ				AML	AML	00 18 18.5	
DCZ				AML	AML	00 18 19.5	
DCZ				AML	AML	00 18 23.1	
JCZ	**Jackson Bay**	**1.29**	**81**	PN	Pn	00 18 03.8	-0.7
JCZ				AML	AML	00 18 23.0	
JCZ				AML	AML	00 18 25.1	
MLZ	**Mavora Lakes**	**1.35**	**142**	PN	Pn	00 18 05.0	-0.3
MLZ				SN	Sb	00 18 22.6	-0.6
MLZ				AML	AML	00 18 23.6	
WKZ	**Wanaka**	**1.54**	**111**	*e*Pn	Pb	00 18 08.6	-0.6
WKZ				AML	AML	00 18 29.6	
WKZ				AML	AML	00 18 30.1	
WKZ				AML	AML	00 18 30.1	
WHZ	**Wether Hill Ro**	**1.75**	**158**	PN	Pn	00 18 10.6	0.0
WHZ				AML	AML	00 18 33.2	
WHZ				AML	AML	00 18 38.3	
EAZ	**Earnscleugh**	**1.90**	**121**	PN	Pb	00 18 14.1	-1.0
EAZ				AML	AML	00 18 41.2	
EAZ				AML	AML	00 18 41.2	
EAZ				AML	AML	00 18 42.2	
EAZ				AML	AML	00 18 42.2	
FOZ	**Fox Glacier**	**2.08**	**71**	PN	Pn	00 18 15.3	+0.2
FOZ				AML	AML	00 18 56.1	
FOZ				AML	AML	00 18 56.1	
FOZ				AML	AML	00 18 56.9	
FOZ				AML	AML	00 18 57.0	
LBZ	**Lake Benmore**	**2.29**	**94**	*e*PN	Pn	00 18 19.3	+1.1
LBZ				AML	AML	00 18 52.2	
LBZ				AML	AML	00 18 52.8	
TUZ	**Tuapeka**	**2.50**	**133**	AML	AML	00 18 56.4	
TUZ				AML	AML	00 18 56.6	
APZ	**The Paps**	**2.64**	**165**	PN	Pn	00 18 23.6	+0.6
ODZ	**Otahua Downs**	**2.71**	**108**	PN	Pn	00 18 24.9	+1.0
SYZ	**Scrubby Hill**	**2.71**	**147**	PN	Pn	00 18 24.4	+0.5
WVZ	**Waitaha Valley**	**2.97**	**67**	*e*PN	Pn	00 18 26.4	-1.0
RPZ	**Rata Peaks**	**2.98**	**80**	*e*PN	Pn	00 18 27.3	-0.4
RPZ				AML	AML	00 19 18.1	
RPZ				AML	AML	00 19 22.2	
DSZ	**Denniston Nort**	**4.34**	**56**	PN	Pn	00 18 45.7	-0.7

IDC 23 00:25:55.0±2.1,10°.13N×103°.67W,h0km,mb3.7/4, mb1 4.1/6,mb1mx3.9/19,mbtmp3.8/6,ML3.5/2,MS3.9/13, Ms1 3.9/13,ms1mx3.7/33,Error ellipse: s-maj=56.1km s-min=40.2km az=98.0,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.11**	**322**	T	T	00 39 52.1	
	SNR=8.6						
APG	**El Apazote**	**13.77**	**68**	Pn	Pn	00 29 11.3	-0.6
	0.8nm,0.3s,baz=218,slow=19,SNR=3.0						
APG				LR	LR	00 33 13.3	
	comp=Z,381nm,21.5s,baz=70,slow=32						
LPIG	**La Paz**	**15.27**	**336**	LR	LR	00 33 56.5	
	comp=Z,228nm,19.0s,baz=167,slow=32						
JTS	**JuntasAbangare**	**18.42**	**88**	LR	LR	00 35 33.1	
	comp=Z,561nm,19.1s,baz=277,slow=31						
TXAR	**Lajitas Array**	**19.11**	**360**	P	Pn	00 30 21.3	+0.8
	0.0nm,0.3s,baz=182,slow=12,SNR=20						
TXAR				LR	LR	00 37 15.6	
	comp=Z,814nm,18.4s,baz=45,slow=36						
ANMO	**Albuquerque**	**24.84**	**355**	P	P	00 31 20.9	+1.4
	2.5nm,1.0s,baz=166,slow=11,SNR=5.9						
ANMO				LR	LR	00 41 00.9	
	comp=Z,179nm,18.3s,baz=305,slow=36						
ROSC	**El Rosal**	**29.54**	**98**	LR	LR	00 41 07.7	
	comp=Z,250nm,21.9s,baz=346,slow=31						
ATAH	**Atahualpa**	**30.45**	**123**	LR	LR	00 42 00.7	
	comp=Z,560nm,19.0s,baz=294,slow=32						
PDAR	**Pinedale Array**	**32.92**	**352**	P	P	00 32 31.2	-0.3
	0.4nm,0.8s,baz=160,slow=11,SNR=3.2						
PDAR				LR	LR	00 46 35.8	
	comp=Z,206nm,20.1s,baz=186,slow=38						
SADO	**Sadowa**	**40.47**	**27**	LR	LR	00 52 59.7	
	comp=Z,172nm,21.1s,baz=305,slow=40						
ULM	**Lac du Bonnet**	**40.52**	**8**	LR	LR	00 50 51.1	
	comp=Z,294nm,18.9s,baz=246,slow=37						
LPAZ	**La Paz**	**43.88**	**126**	LR	LR	00 47 55.7	
	comp=Z,39nm,21.1s,baz=237,slow=30						
H03N2	**Juan Fernandez**	**49.31**	**153**	T	T	01 27 54.8	
	baz=328,slow=75,SNR=13						
H03N1	**Juan Fernandez**	**49.32**	**153**	T	T	01 27 57.4	
	baz=328,slow=75,SNR=15						
H03N3	**Juan Fernandez**	**49.33**	**153**	T	T	01 27 55.8	
	baz=328,slow=75,SNR=13						
YKA	**Yellowknife Ar**	**52.87**	**354**	P	P	00 35 10.8	-1.6
	0.2nm,0.6s,baz=168,slow=7.3,SNR=6.0						
BDFB	**Brasilia**	**60.76**	**114**	LR	LR	01 00 55.5	
	comp=Z,183nm,20.2s,baz=144,slow=35						
INK	**Inuvik**	**61.34**	**348**	LR	LR	01 04 20.0	
	comp=Z,143nm,18.5s,baz=84,slow=38						
ILAR	**Eielson Array**	**62.27**	**341**	P	P	00 36 18.0	-0.6
	3.4nm,1.0s,baz=157,slow=5.3,SNR=12						
WRA	**Warramunga Arr**	**123.37**	**253**	PKP	PKPdf	00 44 55.5	+0.4
	0.5nm,0.8s,baz=78,slow=2.1,SNR=4.0						

IDC 23 00:34:56.8±4.2,4°.33S×153°.91E,h371km±40km,mb3.1/7, mb1 3.3/9,mb1mx3.2/19,mbtmp3.2/9,Error ellipse: s-maj=47.3km s-min=21.0km az=100.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.39**	**233**	P	P	00 36 57.0	-0.4
	1.3nm,0.3s,baz=4.8,slow=8.9,SNR=7.0						
CTA	**Charters Tower**	**17.35**	**205**	P	P	00 38 35.6	-0.2
	0.3nm,0.3s,baz=29,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**24.59**	**229**	P	P	00 39 44.2	-0.7
	1.7nm,0.4s,baz=53,slow=9.4,SNR=27			

DZM	**Mont Dzumac**	20.70	248	eP		P	00 43 20.5	+0.3
	158nm,1.8s							
DZM	**Mont Dzumac**	20.70	248	P		P	00 43 20.7	+0.6
	3.6nm,0.7s,baz=68,slow=19,SNR=3.6							
PPT	**Papeete**	22.51	99	LR		LR	00 51 12.8	
	comp=Z,564nm,18.5s,baz=197,slow=34							
PPT2	**Papeete2**	22.51	99	eLR		LR	00 49 07.6	
	448nm,22.8s							
TBI	**Tubuai**	23.54	114	eLQ		LQ	00 48 28.7	
	722nm,28.5s							
TBI				eLR		LR	00 49 33.9	
	545nm,23.2s							
URZ	**Urewera**	24.58	199	eP		P	00 44 00.9	+1.4
	22nm,0.8s							
URZ	**Urewera**	24.58	199	P		P	00 44 00.3	+0.8
	22nm,0.8s,baz=356,slow=4.4,SNR=20							
URZ				LR		LR	00 53 07.2	
	comp=Z,699nm,18.1s,baz=31,slow=35							
HNR	**Honiara**	27.11	279	LR		LR	00 53 39.8	
	comp=Z,548nm,19.0s,baz=116,slow=33							
SNZO	**South Karori**	28.12	200	P		P	00 44 31.4	0.0
RPZ	**Rata Peaks**	31.52	203	P		P	00 45 02.5	+1.0
RPZ	**Rata Peaks**	31.52	203	P		P	00 45 02.5	+1.0
	4.2nm,0.4s,baz=101,slow=2.2,SNR=5.4							
WHZ	**Wether Hill Ro**	34.54	204	eP		P	00 45 27.6	-0.3
ARMA	**Armidale**	35.83	239	eP		P	00 45 38.4	-1.0
	104nm,2.6s							
RKT	**Rikitea**	36.60	108	eLR		LR	00 55 32.7	
	298nm,21.8s							
H11S2	**WAKE ISLAND Hy**	39.05	328	T		T	01 26 35.6	
	baz=150,slow=76,SNR=84							
H11S3	**WAKE ISLAND Hy**	39.07	328	T		T	01 26 32.0	
	baz=150,slow=76,SNR=48							
H11S1	**WAKE ISLAND Hy**	39.07	328	T		T	01 26 28.1	
	baz=150,slow=76,SNR=47							
CTA	**Charters Tower**	39.14	257	PcP		PcP	00 48 17.8	+1.2
CTA	**Charters Tower**	39.14	257	PcP		PcP	00 48 17.8	+1.2
	4.9nm,0.9s,baz=72,slow=3.2,SNR=5.6							
H11N3	**WAKE ISLAND Hy**	39.99	330	T		T	01 27 41.3	
	baz=149,slow=77,SNR=10							
H11N1	**WAKE ISLAND Hy**	40.00	330	T		T	01 27 32.3	
	baz=149,slow=77,SNR=26							
H11N2	**WAKE ISLAND Hy**	40.01	330	T		T	01 27 42.7	
	baz=149,slow=77,SNR=7.1							
COEN	**Coen**	42.46	266	eP		P	00 46 35.1	+0.3
	57nm,1.0s							
STKA	**Stephens Creek**	44.53	240	eP		P	00 46 50.6	-0.7
	1.4nm,0.9s							
STKA	**Stephens Creek**	44.53	240	P		P	00 46 49.7	-1.6
	6.1nm,0.9s,baz=52,slow=9.1,SNR=8.1							
WRAB	**Tennant Creek**	50.33	257	eP		P	00 47 35.5	-1.1
	5.7nm,0.9s							
WRA	**Warramunga Arr**	50.34	257	P		P	00 47 34.5	-2.2
WRA				PcP		PcP	00 48 56.0	+0.9
WRA	**Warramunga Arr**	50.34	257	P		P	00 47 34.5	-2.2
	3.4nm,1.0s,baz=91,slow=7.0,SNR=21							
WRA				PcP		PcP	00 48 56.0	+0.9
	2.3nm,0.9s,baz=85,slow=4.1,SNR=4.9							
AS31	**Alice Springs**	50.61	252	eP		P	00 47 36.3	-2.4
ASAR	**Alice Springs**	50.61	252	P		P	00 47 37.0	-1.7
ASAR	**Alice Springs**	50.61	252	P		P	00 47 37.0	-1.7
	3.5nm,0.4s,baz=86,slow=8.8,SNR=43							
ASAR				LR		LR	01 07 50.4	
	comp=Z,523nm,19.2s,baz=94,slow=35							
SBA	**Scott Base**	63.46	185	eP		P	00 49 09.9	+1.2
	17nm,0.9s							
VNDA	**Vanda**	63.60	186	eP		P	00 49 09.5	-0.1
	8.1nm,0.9s							
VNDA				ePcP		PcP	00 49 46.7	+0.9
VNDA	**Vanda**	63.60	186	P		P	00 49 09.4	-0.3
	7.9nm,0.9s,baz=359,slow=6.8,SNR=3.3							
MJAR	**Matsushiro Arr**	69.11	320	P		P	00 49 44.3	-1.2
MJAR	**Matsushiro Arr**	69.11	320	P		P	00 49 44.3	-1.2
	4.0nm,0.9s,baz=162,slow=6.3,SNR=7.6							
ASAJ	**Asahikawa**	71.64	328	P		P	00 50 01.0	+0.2
ASAJ	**Asahikawa**	71.64	328	P		P	00 50 01.0	+0.2
	12nm,0.8s,baz=167,slow=7.7,SNR=5.0							
JNU	**Nakatsue**	72.02	313	P		P	00 50 02.7	-0.7
JNU	**Nakatsue**	72.02	313	P		P	00 50 02.7	-0.7
	23nm,0.9s,baz=110,slow=2.7,SNR=6.2							
CMB	**Columbia Colle**	72.32	41	eP		P	00 50 04.9	-0.2
	9.5nm,1.0s							
PETK	**Petropavlovsk-**	72.61	342	P		P	00 50 05.8	-0.6
PETK	**Petropavlovsk-**	72.61	342	P		P	00 50 05.8	-0.6
	7.2nm,0.8s,baz=129,slow=12,SNR=7.3							
YBH	**Yreka Blue Hor**	73.18	37	P		P	00 50 09.8	-0.4
YBH	**Yreka Blue Hor**	73.18	37	P		P	00 50 09.8	-0.4
	6.1nm,1.1s,baz=211,slow=5.1,SNR=5.6							
YBH				LR		LR	01 12 26.8	
	comp=Z,201nm,22.0s,baz=231,slow=28							
IRM	**Iron Mountain**	73.67	47	P		P	00 50 12.9	-0.3
	baz=74							
Y12C	**Blythe**	73.90	48	P		P	00 50 14.8	+0.3
	baz=74							
TPH	**Tonopah**	74.39	43	eP		P	00 50 17.2	-0.3
	169nm,2.8s							
TPH				e			00 50 29.0	
PDMCI	**Parker Dam,Lak**	74.46	47	P		P	00 50 18.4	+0.7
	baz=75							
J04D	**Umpqua Nationa**	74.47	36	P		P	00 50 18.6	+0.7
	baz=75							
I04A	**Tendick Farm,**	74.65	35	P		P	00 50 19.6	+0.9
	baz=75							
QSPA	**South Pole Qui**	74.82	180	eP		P	00 50 20.0	+0.5
	24nm,1.0s							
Z14A	**Wintersburg**	74.84	49	P		P	00 50 19.8	-0.2
	baz=75							
YULB	**Yu-li**	74.89	300	P		P	00 50 20.6	+0.2
J05D	**Fort Rock, OR**	75.00	36	P		P	00 50 21.6	+0.8
	baz=75							
W13A	**Hualapai Mount**	75.05	47	P		P	00 50 20.7	-0.7
	baz=75							
Y14A	**Wickenburg**	75.09	48	P		P	00 50 21.2	-0.3
	baz=75							
PINOR	**Pine Mountain**	75.53	36	eP		P	00 50 24.1	+0.5
PINOR				e			00 50 35.2	
I05D	**Terrebonne, OR**	75.60	35	P		P	00 50 24.8	+0.7
	baz=76							
R11A	**Troy Canyon, C**	75.61	43	P		P	00 50 23.7	-0.8
	baz=76							
TUC	**Tucson**	75.92	51	eP		P	00 50 25.9	-0.4
	7.5nm,0.9s							
TUC				e			00 50 37.8	
KSRS	**Korea Array**	76.36	315	P		P	00 50 28.9	+0.4
	5.3nm,0.9s,baz=128,slow=7.1,SNR=15							
KSAR	**Wonju Array Be**	76.38	315	P		P	00 50 28.9	+0.2
X16A	**Lo Mia Camp, P**	76.45	48	P		P	00 50 29.7	+0.3
	baz=77							
319A	**Douglas**	76.61	52	P		P	00 50 30.9	+0.5
	baz=77							
J08A	**Circle Bar Ran**	76.65	38	eP		P	00 50 30.3	+0.1
	16nm,1.2s							
U15A	**North Rim**	76.84	46	P		P	00 50 31.5	-0.2
	baz=77							
WUAZ	**Wupatki**	77.03	47	P		P	00 50 32.6	-0.1
	baz=77							
320A	**Kipp Ranch, An**	77.17	52	P		P	00 50 34.0	+0.5
	baz=77							
G08A	**Pilot Rock**	77.52	36	eP		P	00 50 35.2	+0.1
	14nm,1.2s							
USRK	**Ussuriysk Arra**	77.53	323	P		P	00 50 34.8	-0.1
	3.0nm,0.9s,baz=91,slow=5.3,SNR=4.7							
E07A	**Sunnyside**	77.79	34	eP		P	00 50 34.2	-2.2
	16nm,1.1s							
MVU	**Marysvale**	77.94	44	eP		P	00 50 36.7	-1.1
	6.2nm,1.1s							
121A	**Cookes Peak, D**	78.27	52	P		P	00 50 40.1	+0.5
	baz=78							
TMUT	**Trail Mountain**	79.02	44	eP		P	00 50 43.1	-0.6
	11nm,0.9s							
TMUT				e			00 50 56.0	
MDJ	**Mudanjiang**	79.17	322	P		P	00 50 45.3	+1.2
MDJ				pP		pP	00 50 54.9	0.0
MDJ				sP		sP	00 50 58.1	-0.7
MDJ				S		S	01 00 43.8	+2.4
MDJ				sS		SKKSac	01 01 00.0	+1.1
MDJ				ScS		ScS	01 01 05.6	+1.5
MDJ				SS		SS	01 05 51.5	+2.9
MDJ				pmax		pmax		
	comp=Z,10.0nm,1.9s							
MDJ				pmax		pmax		
	comp=Z,82nm,4.9s							
HLID	**Hailey**	79.20	39	eP		P	00 50 44.9	+0.4
	113nm,3.0s							
HLID	**Hailey**	79.20	39	P		P	00 50 44.8	+0.4
	baz=79							
Z22A	**Elephant Butte**	79.21	51	P		P	00 50 45.8	+1.1
	baz=79							
324A	**Moseley Ranch,**	79.56	53	P		P	00 50 46.9	+0.2
	baz=80							
425A	**Indio Mountain**	79.67	54	P		P	00 50 47.2	-0.1
	baz=80							
Z23A	**Rita Site, Whi**	79.77	51	P		P	00 50 47.8	+0.1
	baz=80							
224A	**Cornudas Mount**	79.80	53	P		P	00 50 48.3	+0.3
	baz=80							
626A	**Big Bend Ranch**	79.84	56	P		P	00 50 48.6	+0.4
	baz=80							
BNM	**Barren Site**	79.86	50	eP		P	00 50 47.4	-0.9
	5.1nm,1.1s							
BNM				e			00 51 00.3	
325A	**Bean Ranch, Si**	79.93	54	P		P	00 50 49.0	+0.2
	baz=80							
526A	**Mary Lane Ranc**	80.08	55	P		P	00 50 49.8	+0.2
	baz=80							
124A	**Stringfield Ra**	80.11	52	P		P	00 50 50.0	+0.2
	baz=80							
TXAR	**Lajitas Array**	80.13	56	P		P	00 50 49.8	0.0
TXAR	**Lajitas Array**	80.13	56	P		P	00 50 49.8	0.0
	1.8nm,1.1s,baz=199,slow=3.4,SNR=9.8							
PV04	**Paradox Valley**	80.15	46	eP		P	00 50 49.9	+0.1
Y23A	**Lovelace Mesa,**	80.19	51	P		P	00 50 50.3	+0.2
	baz=80							
PV01	**Paradox Valley**	80.26	46	eP		P	00 50 50.4	0.0
	511nm,1.1s							
PV01				e			00 51 03.0	
ANMO	**Albuquerque**	80.33	50	eP		P	00 50 51.5	+0.6
	6.4nm,0.9s							
ANMO	**Albuquerque**	80.33	50	P		P	00 50 50.1	-0.7
	1.7nm,0.8s,baz=218,slow=7.2,SNR=5.5							
225A	**Deer Hill, Car**	80.35	53	P		P	00 50 51.4	+0.4
	baz=80							
X23A	**Hourglass Bar**	80.37	50	P		P	00 50 51.7	+0.6
	baz=80							
426A	**McDonald Obser**	80.38	55	P		P	00 50 51.5	+0.3
	baz=80							
627A	**Terlingua Ranc**	80.40	56	P		P	00 50 52.0	+0.8
	baz=80							
V22A	**San Miguel Ran**	80.43	49	P		P	00 50 51.9	+0.4
	baz=81							
NJ2	**Nanjing**	80.43	307	eP		P	00 50 51.0	-0.2
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
Z24A	**Sheeppen Canyo**	80.45	52	P		P	00 50 51.9	+0.4
	baz=81							
527A	**Woodward Ranch**	80.50	55	P		P	00 50 51.9	+0.1
	baz=81							
Y24A	**Capitan**	80.65	51	P		P	00 50 52.6	0.0
	baz=81							
W23A	**Werner Place,**	80.65	50	P		P	00 50 52.6	0.0
	baz=81							
U22A	**Llaves**	80.67	48	P		P	00 50 52.7	0.0
	baz=81							
628A	**Black Gap, Mar**	80.81	56	P		P	00 50 53.3	-0.1
	baz=81							
MCMT	**McKenzie Canyo**	80.83	39	eP		P	00 50 53.2	-0.2
	2.6nm,1.1s							
MCMT				e			00 51 04.5	
226B	**Tecolote Peak,**	80.84	53	P		P	00 50 53.8	+0.2
	baz=81							
MCK	**McKinley**	80.86	11	eP		P	00 50 52.2	-0.6
	26nm,0.8s							
MCK				e			00 51 04.2	
V23A	**Ortiz Mt. (NFS**	80.88	49	P		P	00 50 54.7	+0.9
	baz=81							
Z25A	**Roswell**	80.92	52	P		P	00 50 54.3	+0.4
	baz=81							
427A	**Hayter Ranch,**	80.94	55	P		P	00 50 54.4	+0.3
	baz=81							
U23A	**El Rito**	81.13	49	P		P	00 50 55.5	+0.3
	baz=81							
528A	**Cox Ranch, San**	81.16	56	P		P	00 50 55.4	+0.1
	baz=81							
126A	**Clayton Basin,**	81.19	53	P		P	00 50 55.2	-0.2
	baz=81							
Y25A	**Mesa, Roswell**	81.21	51	P		P	00 50 55.1	-0.4
	baz=81							
W24A	**Lazy 6 Ranch,**	81.22	50	P		P	00 50 55.2	-0.4
	baz=81							
CN2	**Changchun**	81.25	320	eP		P	00 50 56.0	+0.7
CN2				eSP		sP	00 51 10.3	+0.2
CN2				eS		S	01 01 03.3	0.0
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
S22A	**4UR Ranch, Cre**	81.31	47	P		P	00 50 56.8	+0.7
	baz=81							
BSMT	**Bassoo Peak**	81.35	35	eP		P	00 50 55.6	-0.3
DLBC	**Dease Lake**	81.37	21	P		P	00 50 54.3	-1.4
DLBC	**Dease Lake**	81.37	21	P		P	00 50 54.3	-1.4
	1.9nm,0.8s,baz=324,slow=14,SNR=3.0							
428A	**Kincaid Ranch,**	81.46	55	P		P	00 50 57.3	+0.4
	baz=82							
Z26A	**Caprock**	81.48	52	P		P	00 50 56.7	-0.2
	baz=82							
V24A	**Rampart Ranch,**	81.54	50	P		P	00 50 57.5	+0.1
	baz=82							
T23A	**Casias Ranch,**	81.56	48	P		P	00 50 58.0	+0.5
	baz=82							
529A	**Stev Forest Ra**	81.59	56	P		P	00 50 57.7	+0.2
	baz=82							
328A	**Wristen Ranch,**	81.62	54	P		P	00 50 57.6	-0.1
	baz=82							
CHMT	**Chamberlain Mo**	81.70	37	eP		P	00 50 57.4	-0.5
N20A	**Spence Gulch,**	81.74	44	P		P	00 50 58.8	+0.6
	baz=82							
PDAR	**Pinedale Array**	81.82	42	P		P	00 50 57.6	-1.0
PDAR	**Pinedale Array**	81.82	42	P		P	00 50 57.6	-1.0
	1.1nm,1.0s,baz=221,slow=2.7,SNR=5.4							
SMCO	**Snowmass**	81.85	46	eP		P	00 50 59.6	+0.5
	49nm,2.1s							
Y26A	**Elida**	81.86	52	P		P	00 50 59.1	+0.2
	baz=82							
W25A	**X Bar L Ranch,**	81.92	50	P		P	00 50 59.2	-0.1
	baz=82							
T24B	**San Luis**	82.04	48	P		P	00 51 00.2	+0.2
	baz=82							
429A	**Davenport Ranc**	82.05	55	P		P	00 50 59.8	-0.1
	baz=82							
V25A	**Rancho No Teng**	82.07	50	P		P	00 51 00.3	+0.2
	baz=82							
Z27A	**Tatum**	82.08	52	P		P	00 50 59.9	-0.2
	baz=82							
COLA	**College**	82.10	11	eP		P	00 50 58.9	-0.4
	8.6nm,1.0s							
X26A	**CR and CF Fran**	82.13	51	P		P	00 51 00.1	-0.2
	baz=82							
ILAR	**Eielson Array**	82.18	11	P		P	00 50 58.3	-1.4
ILAR	**Eielson Array**	82.18	11	P		P	00 50 58.3	-1.4
	2.7nm,0.7s,baz=214,slow=4.2,SNR=8.1							
P22A	**Eagle**	82.19	46	P		P	00 51 00.8	+0.1
	baz=82							
R23A	**Moffat**	82.22	47	P		P	00 51 01.0	+0.1
	baz=82							
SDCO	**Great Sand Dun**	82.25	48	eP		P	00 51 03.0	+1.9
	3.2nm,1.0s							
329A	**Wagon Wheel Ra**	82.31	55	P		P	00 51 01.3	0.0
	baz=82							
Y27A	**Causey**	82.35	52	P		P	00 51 01.4	-0.1
	baz=82							
128A	**Castleberry Fa**	82.36	53	P		P	00 51 00.9	-0.6
	baz=82							
J19A	**Crowheart**	82.39	41	P		P	00 51 01.8	+0.3
	baz=82							
S24A	**Houchin Ranch,**	82.41	48	P		P	00 51 02.3	+0.4
	baz=82							
HRY	**Holter Researc**	82.42	37	eP		P	00 51 02.1	+0.6
U25A	**Circle Dot Ran**	82.46	49	P		P	00 51 01.9	-0.3
	baz=83							
O22A	**Kremmling**	82.59	45	P		P	00 51 02.9	0.0
	baz=83							
631A	**Perdido Creek**	82.64	57	P		P	00 51 02.9	-0.1
	baz=83							
V26A	**Tequesquite Ra**	82.67	50	P		P	00 51 02.4	-0.8
	baz=83							
MSTX	**Muleshoe**	82.68	52	P		P	00 51 02.7	-0.5
	baz=83							
Z28A	**Tucker Farm, M**	82.70	53	P		P	00 51 02.5	-0.8
	baz=83							
832A	**Faith Ranch, C**	82.72	58	P		P	00 51 04.0	+0.6
	baz=83							
P23A	**Jefferson**	82.73	46	P		P	00 51 04.3	+0.6
	baz=83							
R24A	**Sanders Place,**	82.74	47	P		P	00 51 03.9	+0.3
	baz=83							
T25A	**Trinidad**	82.77	49	P		P	00 51 03.6	-0.1
	baz=83							
I19A	**Meeteetse**	82.80	41	P		P	00 51 04.7	+0.9
	baz=83							
W27A	**Bowe Ranch, En**	82.90	51	P		P	00 51 04.1	-0.2
	baz=83							
330A	**Mertzon**	82.92	55	P		P	00 51 04.5	0.0
	baz=83							
N22A	**Wattenberg Ran**	82.94	45	P		P	00 51 04.8	+0.2
	baz=83							
U26A	**Atchley Ranch,**	82.95	49	P		P	00 51 04.7	0.0
	baz=83							
531A	**Rocksprings**	82.95	56	P		P	00 51 03.9	-0.7
	baz=83							
S25A	**Robets Cordova**	82.98	48	P		P	00 51 05.0	+0.2
	baz=83							
Q24A	**Divide**	83.03	47	P		P	00 51 06.5	+1.4
	baz=83							
J20A	**Shoshoni**	83.05	42	P		P	00 51 05.5	+0.6
	baz=83							
ISCO	**Idaho Springs**	83.07	46	P		P	00 51 05.5	+0.1
	baz=83							
H19A	**Powell**	83.11	40	P		P	00 51 04.4	-0.8
	baz=83							
DAWY	**Dawson**	83.14	14	eP		P	00 51 04.4	-0.4
833A	**Chaparral WMA,**	83.21	58	P		P	00 51 06.7	+0.7
	baz=83							
Z29A	**Hungry Hill Ra**	83.22	53	P		P	00 51 05.7	-0.2
	baz=83							
K21A	**Alcova**	83.25	43	P		P	00 51 06.3	+0.2
	baz=83							
R25A	**Fountain Ranch**	83.29	48	P		P	00 51 06.0	-0.3
	baz=83							
I20A	**Worland**	83.31	41	P		P	00 51 06.1	-0.1
	baz=83							
632A	**Uvalde**	83.32	57	P		P	00 51 06.1	-0.4
	baz=83							
N23A	**Red Feather La**	83.33	45	P		P	00 51 06.9	+0.3
	baz=84							
X28A	**Dimmitt**	83.34	52	P		P	00 51 06.6	+0.1
	baz=84							
T26A	**Comanche Natio**	83.38	49	P		P	00 51 06.2	-0.7
	baz=84							
532A	**Rocksprings**	83.45	57	P		P	00 51 06.8	-0.4
	baz=84							
J21A	**Lysite**	83.46	42	P		P	00 51 07.3	+0.2
	baz=84							
L22A	**Ellis Ranch, M**	83.52	43	P		P	00 51 07.5	0.0
	baz=84							
U27A	**Thompson Grove**	83.63	50	P		P	00 51 07.2	-0.9
	baz=84							
H20A	**Greybull**	83.64	41	P		P	00 51 07.6	-0.4
	baz=84							
Q25A	**Bedland, Calha**	83.64	47	P		P	00 51 08.0	-0.2
	baz=84							
S26A	**Kim**	83.66	48	P		P	00 51 07.6	-0.6
	baz=84							
JCT	**Junction City**	83.66	56	P		P	00 51 07.6	-0.7
	baz=84							
Z30A	**Sanderson Ranc**	83.67	53	P		P	00 51 07.7	-0.6
	baz=84							
X29A	**Tulia**	83.69	52	P		P	00 51 07.7	-0.6
	baz=84							
F19A	**Roth Farm, Mol**	83.72	39	P		P	00 51 07.8	-0.5
	baz=84							
M23A	**Laramie**	83.74	44	P		P	00 51 07.9	-0.8
	baz=84							
I21A	**Big Trails, Te**	83.78	42	P		P	00 51 08.1	-0.6
	baz=84							
231A	**Bronte**	83.79	55	P		P	00 51 08.8	-0.1
	baz=84							
633A	**Saathoff Ranch**	83.80	57	P		P	00 51 09.4	+0.5
	baz=84							
834A	**Tilden**	83.83	59	P		P	00 51 09.7	+0.6
	baz=84							
AMTX	**Amarillo**	83.87	52	eP		P	00 51 09.3	0.0
	12nm,0.8s							
AMTX	**Amarillo**	83.87	52	P		P	00 51 09.1	-0.2
	baz=84							
COLD	**Coldfoot**	83.90	9	eP		P	00 51 09.4	+0.8
	14nm,1.0s							
P25A	**Willow Gulch B**	83.95	46	P		P	00 51 09.4	-0.3
	baz=84							
R26A	**Arlington**	83.95	48	P		P	00 51 09.4	-0.3
	baz=84							
T27A	**Campo**	83.97	49	P		P	00 51 09.5	-0.3
	baz=84							
W29A	**Amraillo**	83.99	51	P		P	00 51 09.6	-0.4
	baz=84							
L23A	**Garrett**	84.04	44	P		P	00 51 09.8	-0.3
	baz=84							
332A	**Millersview**	84.04	55	P		P	00 51 10.6	+0.5
	baz=84							
Y30A	**Stafford Cattl**	84.08	53	P		P	00 51 10.3	-0.1
	baz=84							
E19A	**Rath Farm, Rou**	84.11	39	P		P	00 51 10.2	0.0
	baz=84							
J22A	**Midwest**	84.11	42	P		P	00 51 10.4	0.0
	baz=84							
533A	**Kerrville**	84.13	57	P		P	00 51 10.9	+0.3
	baz=84							
EGMT	**Eagleton**	84.31	37	P		P	00 51 11.1	-0.1
	baz=84							
I22A	**9 Mile Ranch,**	84.33	42	P		P	00 51 11.6	+0.1
	baz=84							
433A	**Art**	84.33	56	P		P	00 51 11.5	-0.1
	baz=84							
K23A	**Bowen Ranch, D**	84.38	43	P		P	00 51 12.0	+0.2
	baz=84							
D19A	**Cripps Ranch,**	84.40	38	P		P	00 51 11.4	-0.3
	baz=84							
Z31A	**Sharp Cattle R**	84.45	53	P		P	00 51 11.9	-0.3
	baz=85							
E20A	**Meyer Farm, Mu**	84.53	39	P		P	00 51 12.6	+0.3
	baz=85							
534A	**Blanco**	84.57	57	P		P	00 51 12.9	0.0
	baz=85							
C19A	**Slack Wire Ran**	84.58	38	P		P	00 51 13.0	+0.5
	baz=85							
ABTX	**Abilene, Hawle**	84.58	54	eP		P	00 51 13.0	+0.2
ABTX				e			00 51 23.9	
ABTX	**Abilene, Hawle**	84.58	54	P		P	00 51 12.7	-0.2
	baz=85							
333A	**Richland Sprin**	84.62	56	P		P	00 51 13.2	0.0
	baz=85							
D20A	**Manuel Ranch,**	84.81	38	P		P	00 51 13.7	0.0
	baz=85							
F21A	**Absaloka Mine,**	84.82	40	P		P	00 51 14.1	+0.2
	baz=85							
233A	**Rising Star**	84.94	55	P		P	00 51 14.5	-0.2
	baz=85							
Z32A	**Haskell**	84.96	54	P		P	00 51 14.6	-0.2
	baz=85							
434A	**Burnet**	85.02	56

comp=Z,220nm,4.1s
A20A Cobblestone Ra 85.79 37 P P 00 51 18.2 -0.4
baz=86
F23A Volborg 85.84 40 P P 00 51 18.7 -0.2
baz=86
H24A Dirks Ranch, A 85.95 42 P P 00 51 19.1 -0.4
baz=86
D22A Cohagen 86.01 39 P P 00 51 19.8 +0.1
baz=86
WHTX Lake Whitney 86.08 56 P P 00 51 20.1 -0.2
baz=86
X33A Lawton 86.17 53 P P 00 51 19.9 -0.9
baz=86
R30A Dighton 86.23 49 P P 00 51 21.0 0.0
baz=86
A21A Bergtoll Ranch 86.42 37 P P 00 51 21.6 -0.1
baz=86
B22A Reddig Ranch S 86.65 38 P P 00 51 23.5 +0.7
baz=87
C23A Lambert 86.91 39 P P 00 51 24.7 +0.6
baz=87
A22A Carney Farms, 87.01 37 P P 00 51 25.0 +0.4
baz=87
ENH Enshi 87.22 302 *e*P **P 00 51 25.8 -0.2**
14nm,1.1s
B23A Brockton 87.32 38 P P 00 51 26.4 +0.3
baz=87
INK Inuvik 87.99 14 P P 00 51 28.0 -0.7
INK Inuvik 87.99 14 P P 00 51 28.0 -0.7
2.5nm,0.9s,baz=224,slow=5.8,SNR=8.7
MAW Mawson 88.11 198 P P 00 51 29.2 -0.3
MAW Mawson 88.11 198 P P 00 51 29.2 -0.3
18nm,1.0s,baz=119,slow=5.8,SNR=6.0
A24A Westby 88.11 38 P P 00 51 30.0 +0.1
baz=88
GYA Guiyang 88.37 298 ⇑*i*P **P 00 51 33.9 +2.2**
GYA pP **pP 00 51 42.8 +0.2**
GYA sP **sP 00 51 48.0 +1.4**
GYA SKS **SKSac 01 01 55.4 -3.2**
GYA S **S 01 02 12.9 -2.2**
GYA SS **SS 01 08 06.3 +0.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,570nm,20.5s
GYA LR LR
comp=E,490nm,21.0s
GYA LR LR
comp=Z,540nm,20.2s
XAN Xi'an 88.91 306 P P 00 51 36.1 +2.1
XAN pP **pP 00 51 45.5 +0.6**
XAN S **S 01 02 19.0 -0.7**
XAN SS **SS 01 08 14.3 +1.2**
XAN pmax pmax
comp=Z,6.0nm,1.4s
XAN pmax pmax
comp=Z,14nm,3.5s
HHC Hu-ho-hao-te 89.25 313 *e*P **P 00 51 37.6 +2.1**
HHC sP **sP 00 51 50.6 +0.3**
HHC SKS **SKSac 01 02 03.5 +0.4**
HHC S **S 01 02 23.6 +0.9**
HHC pmax pmax
comp=Z,35nm,1.1s
HHC pmax pmax
comp=Z,230nm,8.6s
HHC LR LR
comp=N,200nm,16.0s
HHC LR LR
comp=E,210nm,18.5s
HHC LR LR
comp=Z,120nm,18.5s
PLCA Paso Flores 89.28 132 P P 00 51 37.8 +2.1
PLCA Paso Flores 89.28 132 P P 00 51 37.8 +2.1
3.2nm,1.0s,baz=226,slow=12,SNR=3.1
YKA Yellowknife Ar 89.75 23 P P 00 51 36.6 -0.5
YKA Yellowknife Ar 89.75 23 P P 00 51 36.6 -0.5
2.3nm,0.9s,baz=238,slow=4.5,SNR=34
KMI Kunming 91.37 296 P P 00 51 48.5 +2.6
KMI pmax pmax
comp=Z,10.0nm,1.0s
CD2 Chengdu 92.12 301 *e*P **P 00 51 48.6 -0.4**
CD2 sP **sP 00 52 04.0 +0.1**
CD2 PP **PP 00 55 31.8 +2.3**
CD2 SKS **SKSac 01 02 17.3 -2.6**
CD2 S **S 01 02 45.8 -3.5**
CD2 sS **sS 01 03 04.3 -3.2**
CD2 SS **SS 01 08 59.3 -0.4**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,220nm,6.0s
SYO Syowa Base 92.86 191 ⇓*e*P **P 00 51 51.7 +0.1**
CMAR Chiang Mai Arr 93.00 288 P **P 00 51 53.2 -0.1**
CMAR Chiang Mai Arr 93.00 288 P **P 00 51 53.2 -0.1**
1.7nm,0.7s,baz=83,slow=2.9,SNR=14
SNAA Sanae 93.06 177 *e*P **P 00 51 53.1 +0.5**
5.0nm,1.1s
ULM Lac du Bonnet 93.50 39 P **P 00 51 53.1 -1.7**
ULM Lac du Bonnet 93.50 39 P **P 00 51 53.1 -1.7**
0.6nm,0.4s,baz=165,slow=7.5,SNR=3.0
SONM Songino Array 95.03 318 P **P 00 51 59.9 -2.1**
SONM Songino Array 95.03 318 P **P 00 51 59.9 -2.1**
0.6nm,0.7s,baz=140,slow=7.6,SNR=3.8
GTA Gaotai 97.43 309 *e*P Pdif 00 52 15.6 +2.3
GTA pP pP 00 52 27.5 +3.3
GTA sP sP 00 52 32.0 +3.9
GTA pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 109.37 322 PKiKP **PKiKP 00 57 08.1 -1.2**
ZALV Zalesovo Beam 109.37 322 PKiKP **PKiKP 00 57 08.1 -1.2**
0.6nm,0.6s,baz=90,slow=0.7,SNR=4.3
MKAR Makanchi Array 111.04 315 PKiKP **PKiKP 00 57 12.6 -0.1**
MKAR Makanchi Array 111.04 315 PKiKP **PKiKP 00 57 12.6 -0.1**
0.9nm,0.9s,baz=304,slow=1.0,SNR=4.8
ARCES ARCESS Array B 124.50 352 PKP **PKPdf 00 57 38.0 +0.2**
ARCES ARCESS Array B 124.50 352 PKP **PKPdf 00 57 38.0 +0.2**
2.2nm,0.7s,baz=35,slow=4.4,SNR=3.6
ABKAR Akbulak array 125.38 320 *e*PKPdf **PKPdf 00 57 39.8 -0.2**
AKASG Malin Array Be 140.35 338 PKP **PKPdf 00 58 05.2 -2.9**
AKASG Malin Array Be 140.35 338 PKP **PKPdf 00 58 05.2 -2.9**
4.0nm,0.9s,baz=36,slow=2.7,SNR=4.4
LSZ Lusaka 143.21 215 *e*PKPdf PKPbc 00 58 12.0 +0.6
CLL Collm 143.69 354 *e*PKPbc **PKPdf 00 58 13.1 -1.0**
CLL Collm 143.69 354 *e*PKPdf **PKPdf 00 58 13.0 -1.0**
comp=Z,7.0nm,1.0s
CLL *e* 00 58 15.0
comp=Z,4.0nm,0.9s
CLL *e* 00 58 25.0
NEUB Neuenburg 143.91 355 *e*PKPbc PKPbc 00 58 13.0 +0.8
STHS Stebnicka Huta 143.99 344 *e*PKP **PKPdf 00 58 14.0 -0.7**
MALT Malatya 144.06 316 ⇑*i*PKP **PKPdf 00 58 15.5 +0.2**
DPC Dobruska-Polom 144.17 350 *e*PKP PKPbc 00 58 14.1 +1.0
TSUM Tsumeb 144.26 197 *e*PKPdf **PKPdf 00 58 15.6 -0.6**
OKC Ostrava-Krasne 144.32 348 *e*PKP PKPbc 00 58 14.1 +0.6
BUR08 Bucovina Ar. S 144.36 339 *e*PKPdf **PKPdf 00 58 15.5 0.0**
BURAR Bucovina Array 144.38 339 ⇓*i*P PKPbc 00 58 14.7 +0.8
CRVS Cervenica-Dubn 144.40 344 *e*PKP **PKPdf 00 58 15.7 +0.3**
TESR Tescani 144.78 336 ⇓*i*P **PKPdf 00 58 17.1 +1.0**
TRPA Tarpa 144.79 342 ⇓*i*P **PKPdf 00 58 15.7 -0.3**
PRU Pruhonice 144.80 352 *e*PKP **PKPdf 00 58 16.3 +0.3**
PRU *ex* x 00 58 29.0
BCLA Clavier 144.87 2 PKP **PKPab 00 58 14.3 -0.8**
MANZ Manzenberg 145.09 354 *e*PKPbc **PKPdf 00 58 17.7 +1.1**
VRAC Vranov 145.13 349 ⇑*i*P **PKPdf 00 58 17.1 +0.5**
DOU Dourbes 145.16 3 PKP **PKPbc 00 58 15.7 -0.5**
CFR Carcaliu 145.25 334 ⇑*i*P **PKPdf 00 58 19.5 +2.6**
VRI Vrincioaia 145.28 336 ⇓*i*P **PKPdf 00 58 17.6 +0.6**
ROTZ Rotzenmuhle 145.30 354 *e*PKPbc **PKPdf 00 58 17.7 +0.8**
TREC Trest 145.33 350 *e*PKP **PKPdf 00 58 17.4 +0.4**
TREC *ex* x 00 58 30.0
GRF Grafenberg Arr 145.46 355 *e*PKPbc **PKPab 00 58 18.2 +0.8**
WLF Walferdange 145.64 1 PKP **PKPab 00 58 18.4 +0.4**
WLF E 00 58 31.2
WLF Walferdange 145.64 1 *e*PKPbc **PKPab 00 58 18.8 +0.8**
WLF Walferdange 145.64 1 *e*PKPdf **PKPdf 00 58 17.7 +0.2**
DOPR Dopca 145.71 337 ⇑*i*P **PKPab 00 58 19.5 +1.0**
PSZ Piszkesteto 145.72 345 ⇓*i*P **PKPab 00 58 18.6 +0.1**
PSZ Piszkesteto 145.72 345 *e*PKPdf **PKPdf 00 58 17.8 +0.1**
HARR Harsova 145.73 333 ⇑*i*P **PKPab 00 58 19.8 +1.3**
TLB Topalu 145.76 333 ⇑*i*P **PKPab 00 58 19.2 +0.6**
KHC Kasperske Hory 145.77 352 *e*PKP **PKPbc 00 58 18.4 +0.2**
KHC *ex* x 00 58 31.5
KHC Kasperske Hory 145.77 352 *e*PKPdf **PKPdf 00 58 18.0 +0.2**
KHC *e* 00 58 29.7
MLR Muntele Rosu 145.90 336 ⇓*i*P **PKPab 00 58 20.0 +0.7**
DRGR 145.93 341 ⇑*i*P **PKPbc 00 58 19.1 +0.3**
ISR Istrita 145.97 335 ⇑*i*P **PKPab 00 58 19.4 -0.1**
KMBO Kilima Mbogo 146.03 244 *e*PKPdf **PKPdf 00 58 19.7 +0.2**
KMBO Kilima Mbogo 146.03 244 PKPbc **PKPab 00 58 20.9 0.0**
comp=Z,9.6nm,1.0s,baz=53,slow=4.1,SNR=21
GEC2 GERESS Array S 146.03 352 *e*PKPbc **PKPab 00 58 19.7 0.0**
GEC2 *ep*PKPbc pPKPbc 00 58 31.8 +1.5
GERES GERESS Array B 146.03 352 PKPbc **PKPdf 00 58 18.8 +0.4**
GERES GERESS Array B 146.03 352 PKPbc **PKPdf 00 58 18.8 +0.4**
comp=Z,7.1nm,0.8s,baz=29,slow=3.0,SNR=52
MSAB Monastry St. A 146.25 333 ⇓*i*P **PKPab 00 58 21.3 +0.8**
VOIR 146.29 337 ⇓*i*P **PKPab 00 58 21.0 +0.2**
BR131 Keskin Array S 146.31 322 *e*PKPdf **PKPdf 00 58 19.3 +0.2**
BRTR Keskin Array B 146.31 322 PKPbc **PKPab 00 58 21.1 0.0**
BRTR Keskin Array B 146.31 322 PKPbc **PKPab 00 58 21.1 0.0**
comp=Z,25nm,0.8s,baz=110,slow=2.2,SNR=102
LANF Langenberg 146.33 359 PKP **PKPbc 00 58 20.3 +0.4**
STU Stuttgart 146.50 357 *e*PKPbc **PKPab 00 58 21.3 0.0**
STU Stuttgart 146.50 357 *e*PKPdf **PKPdf 00 58 19.5 +0.5**
ARR Arges 146.50 337 ⇓*i*P **PKPab 00 58 22.0 +0.4**
CONA Conrad Observa 146.59 349 ⇑*i*pPKPdf **PKPbc 00 58 21.0 +0.2**
comp=Z,26nm,1.3s,SNR=8.6
ANTO Ankara 146.72 323 ⇓*i*P **PKPab 00 58 22.7 +0.1**
ANTO Ankara 146.72 323 *e*PKPdf **PKPdf 00 58 20.3 +0.5**
WLS Welschbruch 146.90 360 PKP **PKPbc 00 58 21.6 0.0**
MOA Molln 146.93 351 ⇓*i*pPKPdf **PKPbc 00 58 22.1 +0.4**
comp=Z,19nm,1.0s
FUR Furstenfeldbru 146.97 355 *e*PKPbc **PKPab 00 58 22.7 -0.5**
FUR *ep*PKPbc pPKPbc 00 58 34.9 +1.9
BFO Black Forest 146.97 358 *e*PKPbc **PKPbc 00 58 22.5 +0.7**
BFO *ep*PKPbc pPKPbc 00 58 34.7 +1.7
BFO Black Forest 146.97 358 *e*PKPdf **PKPdf 00 58 19.8 0.0**
THEF They Montfort 147.08 1 PKP **PKPbc 00 58 22.2 +0.1**
ECH Echery 147.10 360 PKP **PKPab 00 58 23.9 +0.2**
RJOB Jochberg 147.24 353 *e*PKPbc **PKPbc 00 58 23.4 +0.8**
RJOB *ep*PKPbc **pPKPbc 00 58 36.1 +2.3**
ARSA Arzberg 147.30 349 ⇑*i*PKPab **PKPbc 00 58 23.2 +0.5**
comp=Z,11nm,1.2s
BZS Buzias 147.32 341 ⇑*i*P **PKPbc 00 58 22.0 -0.8**
PKSM Moragy 147.62 345 ⇓*i*P **PKPbc 00 58 24.3 +0.7**
RETA Reutte 147.69 355 ⇓*i*pPKPdf **PKPbc 00 58 24.0 +0.1**
comp=Z,14nm,0.9s
MOTA Moosalm 147.80 355 ⇑*i*pPKPdf **PKPbc 00 58 23.9 -0.4**
comp=Z,16nm,0.9s,SNR=9.5
KBA Koelnbreinsper 147.81 352 ⇑*i*SPKPdf **PKPbc 00 58 24.5 +0.1**
comp=Z,11nm,1.1s
SOKA Soboth 147.94 350 ⇓*i*pPKPdf **PKPbc 00 58 24.2 -0.4**
comp=Z,15nm,1.0s
DAVA Damuels 147.95 356 ⇑*i*PKPab **PKPbc 00 58 25.4 +0.7**
comp=Z,33nm,1.1s,SNR=6.3
LOMF Lomont 147.97 0 PKP **PKPdf 00 58 20.0 -1.6**
JMB Yambol 148.09 332 ⇓*i*P **PKPab 00 58 26.5 -1.3**
FETA Feichten 148.15 355 ⇑*i*pPKPdf **PKPbc 00 58 24.5 -0.8**
comp=Z,15nm,1.0s
ABTA Abfaltersbach 148.25 353 ⇑*i*SPKPdf **PKPbc 00 58 25.3 -0.1**
comp=Z,18nm,0.8s,SNR=5.2
TUE Stuetta 148.79 357 *e*PKPdf **PKPdf 00 58 23.9 +0.8**
TUE *e*PKPbc **PKPbc 00 58 27.4 +0.4**
AGO Saint Agoulin 149.09 5 PKP **PKPbc 00 58 26.8 -0.7**
KDZ Kurdzhali 149.26 333 ⇑*i*P **PKPbc 00 58 29.0 +0.9**
CSS Prodhromos 149.31 315 *e*PKPbc **PKPbc 00 58 28.9 +0.5**
PYM Petit Puy Mans 149.38 6 PKP **PKPdf 00 58 26.0 +2.1**
VTS Vitosha 149.41 336 ⇓*i*P **PKPbc 00 58 27.8 -0.8**
LBL Lubilhac 149.91 5 PKP **PKPbc 00 58 30.2 +0.6**
MMB Musomiste 150.04 335 ⇑*i*P **PKPbc 00 58 30.7 +0.7**
ESDC Sonseca Array 153.79 20 PKPbc **PKPbc 00 58 38.2 -0.4**
ESDC Sonseca Array 153.79 20 PKPbc **PKPbc 00 58 38.2 -0.4**
comp=Z,0.3nm,0.4s,baz=321,slow=2.2,SNR=7.6
DBIC Dimbokro 165.53 125 PKP **PKPdf 00 58 44.4 -0.4**
DBIC PKPab **PKPab 00 59 44.0 +0.8**
DBIC Dimbokro 165.53 125 PKP **PKPdf 00 58 44.4 -0.4**
comp=Z,3.2nm,1.0s,baz=34,slow=2.8,SNR=3.8
DBIC PKPab **PKPab 00 59 44.0 +0.8**
comp=Z,3.3nm,1.0s,baz=187,slow=8.2,SNR=3.0
TORD Torodi Ar. Bea 174.38 111 PKP **PKPdf 00 58 48.4 -1.4**
TORD PKPab **PKPab 01 00 22.8 +0.3**
TORD Torodi Ar. Bea 174.38 111 PKP **PKPdf 00 58 48.4 -1.4**
comp=Z,2.2nm,0.9s,baz=288,slow=0.8,SNR=11
TORD PKPab **PKPab 01 00 22.8 +0.3**
comp=Z,1.4nm,0.9s,baz=264,slow=4.8,SNR=4.9

IDC 23 00:50:53.6±1.0, 18°47N×119°83E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, Error ellipse: s-maj=75.2km s-min=20.9km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.74**	**159**	P	P	00 58 36.0	-0.6
	0.4nm,0.6s,baz=341,slow=9.0,SNR=5.8						
WRA				PcP	PcP	01 00 38.6	+0.5
	0.3nm,0.9s,baz=341,slow=3.1,SNR=3.2						
MKAR	**Makanchi Array**	**41.77**	**321**	P	P	00 58 45.0	+0.2
	0.3nm,0.8s,baz=119,slow=8.9,SNR=2.4						
ASAR	**Alice Springs**	**44.08**	**161**	P	P	00 59 03.5	-0.2
	0.4nm,0.6s,baz=341,slow=7.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**45.82**	**324**	P	P	00 59 16.4	-0.8
	0.5nm,0.5s,baz=124,slow=7.8,SNR=4.4						
YKA	**Yellowknife Ar**	**88.70**	**22**	P	P	01 03 48.8	0.0
	0.3nm,0.7s,baz=313,slow=4.2,SNR=7.7						

IDC 23 01:00:12.2±2.8, 5°08S×127°74E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=337.0km s-min=29.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.11**	**157**	Pn	P	01 04 02.1	-1.6
	0.1nm,0.3s,baz=334,slow=13,SNR=5.4						
ASAR	**Alice Springs**	**19.41**	**163**	P	P	01 04 39.3	-0.9
	0.1nm,0.3s,baz=349,slow=13,SNR=4.5						
MKAR	**Makanchi Array**	**65.40**	**327**	P	P	01 10 56.8	0.0
	0.1nm,0.4s,baz=110,slow=8.2,SNR=4.4						

*BJI **23** 01:11:49.9, 1°93S×99°66E, h5km, mB5.8/46, mb5.6/71, Ms6.2/80, Ms7 6.0/73*
*IDC **23** 01:11:56.8±2.7, 1°40S×99°49E, h8km±16km, mb5.7/44, mb1 5.7/46, mb1mx5.7/46, mbtmp5.7/46, ML5.5/2, MS5.6/31, Ms1 5.6/31, ms1mx5.5/40, Error ellipse: s-maj=11.0km s-min=7.8km az=51.0*
*MOS **23** 01:11:58.3±1.6, 1°40S×99°53E, h33km, mb6.2/133, MS5.6/84, Error ellipse: s-maj=9.9km s-min=4.6km az=127.0*
*ISCJB **23** 01:11:58.1±0.6, 1°41S±0°02×99°42E±0°02, h29km±4km, mb5.9/291, MS5.7/214, Error ellipse: s-maj=3.3km s-min=2.4km az=36.7*
*BKK **23** 01:11:58.4±0.2, 1°S±2°×9°9E±°, h10km, M6.0/48, mb5.8/48, mB6.3/45, MLv6.5/8, Mw(mB)6.0/45*
*NEIC **23** 01:11:58.2±0.1, 1°43S×99°39E, h19km, mb6.0/104, ME5.8, MS5.8/142, MW5.7, MW6.0, Error ellipse: s-maj=3.9km s-min=3.0km az=222.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^17^Nm; Mrr1.78; Mθθ-0.17; Mφφ-1.61; Mrθ-1.72; Mθφ1.87; Mφr3.23; Best double couple: M○4.40000×10^17^ NP1:φs131.00000°, δ17.00000°, λ70.00000°. NP2:φs333.00000°, δ74.00000°, λ96.00000°. Principal axes: T 3.8100, Plg60.0000°, Azm251.0000°; N 1.0700, Plg5.0000°, Azm150.0000°; P -4.8900, Plg28.0000°, Azm57.0000°; Broadband fault plane solution: P waves. NP1:φs160.00000°, δ15.00000°, λ90.00000°. NP2:φs340.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm250.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm70.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [VI] on Siberut; [V] in Padang Pariaman and at Painan; [IV] at Padang; [III] at Batusangkar, Bukittinggi, Padangpanjang and Solok, Sumatra. Felt [II] in Singapore.
*DJA **23** 01:11:59.5±0.4, 1°S±3°×9°9E±°, h25km, M6.3/14, mb6.1/6, mB6.5/6, MLv6.5/14, Mw(mB)6.3/6, Mwp6.0/2*
*SZGRF **23** 01:11:59.4, 1°.95S×98°.81E, h26km, mb6.1, MS5.5, Southern Sumatera, Indonesia*
*AUST **23** 01:12:01.9±0.5, 1°.31S×99°.54E, h46km±5km, Error ellipse: s-maj=6.7km s-min=3.2km az=51.0*
*GCMT **23** 01:12:01.5±0.1, 1°.45S×99°.38E, h16km, MW5.9, Moment Tensor Solution. s116,c236; s93,c113; Moment tensor: Scale 10^17^Nm; Mrr6.23±.05; Mθθ-1.96±.04; Mφφ-4.27±.05; Mrθ-1.55±.13; Mθφ2.87±.04; Mφr5.74±.16; Best double couple: M○8.60000×10^17^ NP1:φs339.00000°, δ67.00000°, λ100.00000°. NP2:φs135.00000°, δ25.00000°, λ68.00000°. Principal axes: T 8.7700, Plg66.0000°, Azm266.0000°; N -0.3300, Plg9.0000°, Azm155.0000°; P -8.4300, Plg21.0000°, Azm61.0000°; Data Used: II IU CU CN IC G. Surface waves: sta=117, comp=257, per= 50.*
*NEIC **23** 01:12:12.2±0.0, 1°97S×99°24E, h25km Best double couple: NP1:φs341.00000°, δ23.00000°, λ118.00000°. NP2:φs130.00000°, δ69.00000°, λ78.00000°. Principal axes: T 1.1200, Plg63.0000°, Azm21.0000°; N -0.1200, Plg10.0000°, Azm134.0000°; P -1.0000, Plg23.0000°, Azm229.0000°;*

ISC 23 01:11:58.7±0.2, 1°36S±0°02×99°47E±0°03, h23km±1km, h22km: pP-P, n1952, σ1°42/2120, mb6.0/294, MS5.8/215, 423C-253D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.09**	**66**	P	**Pb**	**01 12 19.1**	**+0.3**
PPI	**Padang Panjang**	**1.29**	**46**	P	**Pb**	**01 12 23.0**	**+0.8**
PPI	**Padang Panjang**	**1.29**	**46**	⇑P	**Pb**	**01 12 22.7**	**+0.4**
baz=1.2,SNR=1000							
MNSI	**Mandailing Nat**	**2.14**	**3**	P	**Pn**	**01 12 34.9**	**+1.8**
BKNI	**Bangkinang**	**2.29**	**43**	P	**Pb**	**01 12 38.1**	**-1.3**
BKNI	**Bangkinang**	**2.29**	**43**	⇑P	**Pb**	**01 12 37.5**	**-1.9**
baz=2.2,SNR=85							
RGRI	**Rengat**	**3.03**	**71**	P	**Pn**	**01 12 48.0**	**+2.7**
GSI	**Gunungsitoli**	**3.25**	**324**	P	**Pn**	**01 12 49.5**	**+1.1**
GSI	**Gunungsitoli**	**3.25**	**324**	*e*Pn	**Pn**	**01 12 48.8**	**+0.4**
GSI	**Gunungsitoli**	**3.25**	**324**	⇑P	**Pn**	**01 12 49.6**	**+1.3**
baz=3.3							
MASI	**Maura Aman, Be**	**3.28**	**123**	P	**Pn**	**01 12 50.7**	**+1.9**
MBSI	**MBSI**	**3.68**	**131**	P	**Pn**	**01 12 55.6**	**+1.4**
PSI	**Prapat**	**4.17**	**352**	P	**Pn**	**01 13 01.5**	**+0.4**
PSI	**Prapat**	**4.17**	**352**	Pn	**Pn**	**01 13 00.8**	**-0.3**
PSI	**Prapat**	**4.17**	**352**	Pn	**Pn**	**01 13 00.8**	**-0.3**
82nm,0.3s,baz=166,slow=8.0,SNR=159							
PSI				LR	LR	01 14 57.2	
comp=Z,76μm,19.6s,baz=165,slow=44							
PSI	**Prapat**	**4.17**	**352**	⇑P	**Pn**	**01 13 01.9**	**+0.8**
baz=4.1,SNR=194							
JMBI	**JAMBI**	**4.18**	**94**	P	**Pn**	**01 13 03.9**	**+2.8**
MNAI	**Manna**	**4.58**	**131**	P	**Pn**	**01 13 07.7**	**+1.0**
MNAI	**Manna**	**4.58**	**131**	*e*Pn	**Pn**	**01 13 07.4**	**+0.7**
MNAI	**Manna**	**4.58**	**131**	⇑P	**Pn**	**01 13 07.6**	**+0.9**
baz=4.6,SNR=371							
MNAI				⇓P	**Pn**	**01 13 08.2**	**+1.5**
baz=4.6							
LHSI	**Lahat**	**4.73**	**121**	P	**Pn**	**01 13 10.9**	**+2.2**
SNSI	**Sinabang, Aceh**	**4.89**	**320**	P	**Pn**	**01 13 11.3**	**+0.5**
TSI	**Tuntungan**	**4.91**	**349**	P	**Pn**	**01 13 13.5**	**+2.3**
FRIM	**Kepong**	**5.05**	**25**	P	**Pn**	01 13 07.9	-5.2
BTDF	**Bukit Timah Da**	**5.08**	**58**	⇓P	**Pn**	**01 13 15.7**	**+2.2**
baz=5.0,SNR=15							
BTDF				⇓P	**Pn**	**01 13 15.7**	**+2.2**
baz=5.0,SNR=15							
KGM	**Kluang**	**5.10**	**49**	P	**Pn**	**01 13 16.9**	**+3.1**
TPTI		**5.13**	**333**	P	**Pn**	**01 13 15.1**	**+0.9**
505nm,1.0s,36μm6.8nm							
KCSI	**Kotacane, Aceh**	**5.14**	**341**	P	**Pn**	**01 13 15.8**	**+1.5**
MYKOM	**Kota Tinggi**	**5.38**	**54**	P	Pn	01 13 21.3	+3.7
MYKOM	**Kota Tinggi**	**5.38**	**54**	*e*Pn	**Pn**	**01 13 19.9**	**+2.2**
TPRI	**Tanjung Pinang**	**5.54**	**66**	P	Pn	01 13 23.0	+3.2
2μm,0.6s,73μm145μm27nm							
MDSI	**Maura Dua**	**5.63**	**124**	P	**Pn**	**01 13 22.6**	**+1.5**
LWLI	**Liwa**	**5.85**	**129**	P	**Pn**	**01 13 25.4**	**+1.3**
LASI	**Langsa, Aceh**	**5.97**	**345**	P	Pb	01 13 38.1	-4.0
IPM	**Ipoh**	**6.00**	**15**	P	Pn	01 13 30.7	+4.4
IPM	**Ipoh**	**6.00**	**15**	*e*Pn	Pn	01 13 29.6	+3.3
IPM				*e*Sg	Sb	01 15 13.2	+19
KLSI		**6.21**	**122**	P	**Pn**	**01 13 30.8**	**+1.8**
KASI	**Kota Agung**	**6.50**	**130**	P	**Pn**	**01 13 33.4**	**+0.4**
KULM	**Kulim**	**6.71**	**10**	P	Pn	01 13 39.5	+3.6
KULM	**Kulim**	**6.71**	**10**	P	**Pn**	**01 13 38.5**	**+2.6**
1μm,0.9s,17μm72μm26nm							
KULM	**Kulim**	**6.71**	**10**	*e*Pn	**Pn**	**01 13 38.5**	**+2.6**
KULM				*e*Sn	**Sn**	**01 14 56.5**	**+4.8**
KULM				*e*Sg	Sb	01 15 37.6	+23
BLSI	**Bandar Lampung**	**7.00**	**125**	P	**Pn**	**01 13 41.4**	**+1.4**
LHMI	**Lhok Sumawe**	**7.01**	**339**	P	Pn	01 13 44.7	+4.6
LHMI	**Lhok Sumawe**	**7.01**	**339**	⇓P	**Pn**	**01 13 42.3**	**+2.3**
baz=7.0,SNR=17							
KTGM	**Kuala Trenggan**	**7.58**	**29**	P	Pn	01 13 51.9	+4.0
SBJI	**Serang**	**8.15**	**126**	P	**Pn**	**01 13 56.7**	**+1.0**
TPI	**Tanjungpandan**	**8.29**	**100**	P	**Pn**	**01 14 00.6**	**+2.9**
TNG	**Tangerang**	**8.61**	**124**	P	Pn	01 14 05.4	+3.4
5μm,1.4s,55μm16nm							
DBJI	**Dramaga**	**8.91**	**126**	P	**Pn**	**01 14 06.4**	**+0.3**
SKJI	**Sukabumi**	**9.02**	**129**	P	**Pn**	**01 14 07.4**	**-0.2**
2μm,1.1s,16μm							
LEM	**Lembang**	**9.77**	**124**	P	**Pn**	**01 14 19.2**	**+1.1**
LEM	**Lembang**	**9.77**	**124**	⇓P	**Pn**	**01 14 18.5**	**+0.4**
baz=9.8,SNR=8.1							
CMBY	**CAMPBELL BAY**	**9.99**	**326**	*e*P	**Pn**	**01 14 19.2**	**-1.6**
CMBY				AMB	AMB	01 16 48.3	
comp=Z,488nm,5.0s							
JCJI	**Jatiwangi**	**10.15**	**120**	P	**Pn**	**01 14 26.1**	**+3.0**
SURT	**Suratani**	**10.27**	**356**	P	Pn	01 14 31.6	+6.8
CISI	**Cisompet, Garu**	**10.35**	**127**	P	**Pn**	**01 14 23.8**	**-2.1**
CISI	**Cisompet, Garu**	**10.35**	**127**	*e*Pn	**Pn**	**01 14 23.7**	**-2.1**
XMIS	**Christmas Isla**	**10.95**	**146**	*e*Pn	Pn	01 14 27.8	-6.3
XMIS				*e*Sn	Sn	01 16 23.7	-12
CMJI	**Cimerak**	**10.99**	**126**	P	**Pn**	**01 14 31.9**	**-2.7**
TGJI	**Tegal**	**11.07**	**120**	P	**Pn**	**01 14 38.1**	**+2.4**
COCO	**West Island**	**11.07**	**194**	*i*P	**Pn**	**01 14 34.4**	**-1.4**
COCO	**West Island**	**11.07**	**194**	*e*Pn	**Pn**	**01 14 33.0**	**-2.7**
COCO				*e*Sn	Sn	01 16 28.0	-11
KPJI	**Karang Pucung**	**11.14**	**122**	P	**Pn**	**01 14 36.7**	**0.0**
KSM	**Kuching**	**11.20**	**75**	P	Pn	01 14 43.3	+5.8
KSM	**Kuching**	**11.20**	**75**	P	Pn	01 14 43.3	+5.8
KSM	**Kuching**	**11.20**	**75**	*e*Pn	Pn	01 14 42.6	+5.1
KSM				*e*Lg	Lg	01 17 56.0	
CLJI	**Cilicap**	**11.42**	**124**	P	Pn	01 14 44.7	+4.2
BJII	**Banjamegara**	**11.80**	**120**	P	**Pn**	**01 14 46.5**	**+0.6**
STKI	**Sintang**	**12.09**	**83**	P	Pn	01 14 55.3	+5.6
PBKI	**Pangkalan Bun**	**12.26**	**96**	P	Pn	01 14 58.0	+5.9
SMRI	**Semarang**	**12.31**	**118**	P	**Pn**	**01 14 54.5**	**+1.8**
SMRI	**Semarang**	**12.31**	**118**	⇓P	**Pn**	**01 14 54.7**	**+2.0**
baz=12,SNR=16							
UGM	**Wanagama**	**12.79**	**121**	P	**Pn**	**01 14 57.9**	**-1.4**
SBUM	**Sibu**	**13.30**	**73**	P	P	01 15 11.0	-4.8
SBUM	**Sibu**	**13.30**	**73**	P	P	01 15 12.3	-3.4
SBUM	**Sibu**	**13.30**	**73**	*e*Pn	P	01 15 10.9	-4.8
PATY	**Pattaya**	**14.26**	**6**	P	**P**	**01 15 24.9**	**-1.5**
CHBT	**CHBT**	**14.30**	**11**	P	**P**	**01 15 24.5**	**-2.4**
comp=Z,172nm,1.3s							
BTM	**Bint

comp=Z,36µm,18.5s,baz=182,slow=39
LAMP Lampang 19.76 0 P **P** **01 16 28.0 +0.8**
comp=Z,212nm,0.9s,comp=Z,1µm
CMMT Chiang Mai 20.05 359 P **P** **01 16 30.5 0.0**
comp=Z,134nm,1.0s,comp=Z,3µm
CHTO Chiang Mai 20.05 359 *e*P **P** **01 16 29.9 -0.6**
CHTO *e*S Sn 01 20 18.6 +1.1
CHTO MLR MLR
comp=Z,36µm,19.0s
CHTO Chiang Mai 20.05 359 *e*P **P** **01 16 29.9 -0.6**
CHTO *e*S Sn 01 20 18.6 +1.1
CHTO LR LR
comp=Z,36µm,19.0s
CHTO Chiang Mai 20.05 359 P **P** **01 16 30.5 0.0**
comp=Z,606nm,1.0s,comp=Z,14µm
KAPI Kappang 20.57 101 P **P** **01 16 35.9 -0.2**
comp=Z,5µm,1.1s,SNR=90
KAPI Kappang 20.57 101 *e*P **P** **01 16 35.7 -0.4**
comp=Z,6µm,1.1s
KAPI LR LR
comp=Z,22µm,19.0s
PALK Pallekele 20.60 295 P Pn 01 16 38.0 -0.8
comp=Z,3µm,0.9s,SNR=49
PALK Pallekele 20.60 295 *e*P Pn 01 16 38.5 -0.3
comp=Z,1µm,1.1s
PALK *e*S **S** **01 20 20.1 -5.8**
CMAI Chiengmai2 21.16 359 P **P** **01 16 42.7 0.0**
comp=Z,239nm,1.8s
QIZ Qiongzhong 22.68 26 P **P** **01 16 58.8 +0.1**
QIZ pP **pP** **01 17 02.3 -2.8**
QIZ S **S** **01 21 05.4 -0.6**
QIZ sS **sS** **01 21 14.3 -2.5**
QIZ pmax pmax
comp=Z,120nm,1.1s
QIZ LR LR
comp=Z,22µm,12.6s
QIZ LR LR
comp=Z,32µm,12.6s
QIZ Qiongzhong 22.68 26 *e*P **P** **01 16 58.9 +0.1**
comp=Z,96nm,0.8s
QIZ LR LR
comp=Z,22µm,19.0s
SLVN Son La 22.97 11 *e*P **P** **01 17 01.1 -0.7**
LUWI Luwuk 23.30 89 ⇓P **P** **01 17 06.1 +0.9**
baz=23,SNR=35
MDRS Chennai 23.86 308 *e*P **P** **01 17 11.1 +0.5**
MDRS AMB AMB 01 17 24.3
comp=Z,509nm,5.0s
TRD Trivandrum 24.49 294 *e*P **P** **01 17 16.2 -0.3**
VIS Vishakhapatnam 24.75 321 *e*P **P** **01 17 20.2 +1.5**
VIS AMB AMB 01 17 20.9
comp=Z,543nm,1.9s
PAGZ Pagadian 25.54 69 *e*P **P** **01 17 27.9 +1.9**
GUIM Jordan 25.90 62 *e*P **P** **01 17 31.1 +1.8**
CTBH Cotabato--PC H 26.15 71⇑*e*P **P** **01 17 33.1 +1.6**
TGY Tagaytay City 26.23 53 P **P** **01 17 33.5 +1.2**
TGY Tagaytay City 26.23 53 P **P** **01 17 33.5 +1.2**
comp=Z,394nm,0.4s,baz=211,slow=1.6,SNR=23
TGY LR LR 01 28 44.7
comp=Z,234nm,18.5s,baz=298,slow=38
RCP Roxas 26.45 60⇓*e*P **P** **01 17 35.2 +0.9**
KMI Kunming 26.52 7 ⇓P **P** **01 17 35.6 +0.6**
KMI pP **pP** **01 17 39.6 -2.2**
KMI sP **sP** **01 17 41.9 -2.7**
KMI S **S** **01 22 06.3 -1.9**
KMI pmax pmax
comp=Z,110nm,0.8s
KMI pmax pmax
comp=Z,1µm,8.0s
KMI LR LR
comp=Z,33µm,12.3s
KMI LR LR
comp=Z,21µm,12.5s
KMI LR LR
comp=Z,36µm,13.2s
IMP Imphal 26.54 349 *e* **P** **01 17 35.0 0.0**
LQP Lukban 26.73 54⇑*i*P **P** **01 17 38.3 +1.4**
BUKP Musuan 27.12 70 *e*P **P** **01 17 42.4 +2.0**
DAV Davao City (W) 27.36 72 PFAKE 01 18 00.0 +17
DAV LR LR
comp=Z,15µm,20.0s
HKC Hong Kong Obse 27.55 31 *e*P **P** **01 17 44.0 0.0**
DGAR Diego Garcia 27.59 257⇑*e*P **P** **01 17 43.3 -1.2**
DGAR Diego Garcia 27.59 257 PFAKE 01 18 00.0 +15
DGAR LR LR
comp=Z,21µm,19.0s
H08S2 Diego Garcia H 27.60 256 T T 01 45 49.8
baz=77,slow=75,SNR=7907
H08S3 Diego Garcia H 27.60 256 T T 01 45 50.2
baz=77,slow=75,SNR=7241
H08S1 Diego Garcia H 27.61 256 T T 01 45 51.2
baz=77,slow=75,SNR=7472
MSLP Maasin 27.73 65 *e*P **P** **01 17 46.0 +0.2**
SHL Shillong 27.76 345 *e*P **P** **01 17 47.3 +1.2**
SHL AMB AMB 01 18 07.2
comp=Z,226nm,0.7s
HYB Hyderabad 27.80 313 *i*P **P** **01 17 46.0 -0.4**
HYB *e*S **S** **01 22 28.0 -0.4**
HYB LR LR 01 27 04.0
comp=Z,9.2nm,20.0s
HYB Hyderabad 27.80 313 *e*P **P** **01 17 46.9 +0.4**
HYB AMB AMB 01 17 48.2
comp=Z,116nm,0.6s
SZP Santa 27.94 47 *e*P **P** **01 17 48.2 +0.6**
MATI Mati 27.98 73 *e*P **P** **01 17 47.9 0.0**
BOK Bokaro 28.28 333 *e*P **P** **01 17 52.8 +2.2**
BOK AMB AMB 01 18 02.4
comp=Z,655nm,1.1s
GYA Guiyang 28.51 14⇑*i*P **P** **01 17 52.9 +0.1**
GYA pP **pP** **01 18 02.4 +2.8**
GYA PP **PnPn** **01 18 49.8 +7.1**
GYA PcP **PcP** **01 21 05.0 +0.7**
GYA S **S** **01 22 38.3 -1.2**
GYA SS SnSn 01 24 10.0 +10
GYA ScS **ScS** **01 28 37.4 -0.4**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,990nm,8.4s
GYA LR LR
comp=Z,29µm,14.5s
GYA LR LR
comp=Z,30µm,12.7s
GYA LR LR
comp=Z,42µm,14.8s
H08N1 Diego Garcia H 28.81 259 T T 01 48 01.4
baz=147,slow=75,SNR=205
H08N2 Diego Garcia H 28.82 259 T T 01 47 53.4
baz=147,slow=75,SNR=318
H08N3 Diego Garcia H 28.83 259 T T 01 48 06.2
baz=147,slow=75,SNR=376
NGP Nagpur 29.99 319 *e*P **P** **01 18 06.5 +0.7**
NGP *ex* x 01 19 03.4
comp=Z,365nm,1.9s
NGP *ex* x 01 24 35.7
ODAN Odare 30.38 338 *e*P **P** **01 18 10.9 +1.5**
comp=Z,319nm,0.5s
ODAN Odare 30.38 338 *e*P **P** **01 18 10.9 +1.5**
comp=Z,319nm,0.5s
GOA Goa 30.39 304 *e*P **P** **01 18 09.4 +0.1**
GOA AMB AMB 01 18 12.1
comp=Z,136nm,1.2s
FITZ Fitzroy Crossi 30.61 125 P **P** **01 18 10.0 -1.3**
FITZ PcP **PcP** **01 21 11.7 +2.1**
FITZ Fitzroy Crossi 30.61 125 P **P** **01 18 10.0 -1.3**
comp=Z,168nm,1.1s,baz=310,slow=7.4,SNR=87
FITZ PcP **PcP** **01 21 11.7 +2.1**
comp=Z,9.5nm,0.6s,baz=321,slow=6.5,SNR=3.6
FITZ LR LR 01 31 19.3
comp=Z,4µm,21.1s,baz=317,slow=38
FITZ Fitzroy Crossi 30.61 125 ⇑P **P** **01 18 10.7 -0.5**
baz=31
TAPN Taplejung 30.71 339 *e*P **P** **01 18 14.6 +2.2**
comp=Z,643nm,0.7s
TAPN Taplejung 30.71 339 *e*P **P** **01 18 14.6 +2.2**
comp=Z,643nm,0.7s
RAMN Ramite 30.76 337 *e*P **P** **01 18 15.0 +2.2**
comp=Z,242nm,0.7s
RAMN Ramite 30.76 337 *e*P **P** **01 18 15.0 +2.2**
comp=Z,242nm,0.7s
KAD Karad 31.07 308 *i*P **P** **01 18 16.9 +1.5**
MEEK Meekatharra 31.15 145 ⇑P **P** **01 18 16.8 +0.8**
baz=31,SNR=22
JIRN Jiri 31.55 337 *e*P **P** **01 18 21.9 +2.0**
comp=Z,664nm,0.7s
JIRN Jiri 31.55 337 *e*P **P** **01 18 21.9 +2.0**
comp=Z,664nm,0.7s
MORW Morawa 31.76 152 ⇑P **P** **01 18 22.6 +1.2**
baz=32,SNR=4.5
PKI Pulchoki 31.79 336 *e*P **P** **01 18 23.4 +1.5**
comp=Z,453nm,1.3s
PKI Pulchoki 31.79 336 *e*P **P** **01 18 23.4 +1.5**
PKI pmax pmax
comp=Z,453nm,1.3s
PKI Pulchoki 31.79 336 *e*P **P** **01 18 23.4 +1.5**
comp=Z,453nm,1.3s
PKIN Phulchoki 31.80 336 *e*P **P** **01 18 23.3 +1.3**
comp=Z,218nm,1.1s
LSA Lhasa 31.89 346 P **P** **01 18 25.3 +2.3**
LSA sP **sP** **01 18 36.8 +4.2**
LSA PP **PP** **01 19 34.9 -0.4**
LSA SS SnSn 01 25 33.1 +11
LSA pmax pmax
comp=Z,140nm,1.0s
LSA LR LR
comp=Z,5µm,25.5s
LSA LR LR
comp=Z,12µm,27.0s
LSA LR LR
comp=Z,11µm,21.0s
LSA Lhasa 31.89 346 *e*P **P** **01 18 24.7 +1.7**
LSA *e* 01 21 15.3
LSA *e*S **S** **01 23 34.0 +0.8**
LSA pmax pmax
comp=Z,211nm,0.8s
LSA MLR MLR
comp=Z,12µm,22.0s
LSA Lhasa 31.89 346 *e*P **P** **01 18 24.7 +1.7**
comp=Z,211nm,0.8s
LSA *e*PcP **PcP** **01 21 15.3 +1.8**
LSA *e*S **S** **01 23 34.0 +0.8**
LSA LR LR
comp=Z,12µm,22.0s
GUN Gumba 31.90 337 *e*P **P** **01 18 24.8 +1.8**
comp=Z,652nm,0.6s
GUN Gumba 31.90 337 *e*P **P** **01 18 24.8 +1.8**
comp=Z,652nm,0.6s
DMN Daman 31.95 335 *e*P **P** **01 18 24.9 +1.6**
comp=Z,264nm,0.8s
DMN Daman 31.95 335 *e*P **P** **01 18 24.9 +1.6**
comp=Z,264nm,0.8s
TWG Pinlang 31.95 40 *e*P **P** **01 18 24.7 +1.6**
comp=Z,942nm,1.4s
TPUB Ta-pu 32.02 39 *e*P **P** **01 18 24.8 +1.1**
comp=Z,369nm,1.0s
POO Poona 32.02 309 *e*P **P** **01 18 24.3 +0.5**
POO AMB AMB 01 18 26.1
comp=Z,253nm,1.8s
KKN Kakani 32.03 336 *e*P **P** **01 18 25.5 +1.5**
comp=Z,590nm,1.0s
KKN Kakani 32.03 336 *e*P **P** **01 18 25.5 +1.5**
KKN pmax pmax
comp=Z,590nm,1.0s
KKN Kakani 32.03 336 *e*P **P** **01 18 25.5 +1.5**
comp=Z,590nm,1.0s
QZH Quanzhou 32.05 34 P P 01 18 20.4 -3.5
QZH S **S** **01 23 29.3 -5.5**
QZH pmax pmax
comp=Z,240nm,1.1s
QZH LR LR
comp=Z,17µm,12.0s
QZH LR LR
comp=Z,24µm,14.0s
QZH LR LR
comp=Z,30µm,17.4s
CD2 Chengdu 32.35 7⇑*i*P **P** **01 18 26.6 +0.1**
CD2 pP **pP** **01 18 32.3 -1.0**
CD2 sP **sP** **01 18 34.9 -1.2**
CD2 PP **PP** **01 19 41.1 +1.2**
CD2 PcP **PcP** **01 21 12.8 -1.4**
CD2 S **S** **01 23 40.1 +0.7**
CD2 sS **sS** **01 23 51.3 +0.6**
CD2 ScS **ScS** **01 28 55.3 -0.7**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,780nm,9.6s
CD2 LR LR
comp=Z,29µm,14.2s
CD2 LR LR
comp=Z,27µm,15.6s
CD2 LR LR
comp=Z,27µm,13.2s
GKN Gorkha 32.49 335 *e*P **P** **01 18 29.6 +1.7**
comp=Z,780nm,1.1s
GKN Gorkha 32.49 335 *e*P **P** **01 18 29.6 +1.7**
comp=Z,780nm,1.1s
YULB Yu-li 32.50 39 *e*P **P** **01 18 28.9 +1.0**
comp=Z,149nm,0.9s
YULB *e*PcP **PcP** **01 21 16.5 +1.8**
BHPL Bhopal 32.53 320 *e*P **P** **01 18 29.4 +1.1**
SSLB Suanglung 32.57 39 *e*P **P** **01 18 29.6 +1.1**
comp=Z,187nm,1.0s
KOLN Koldanda 32.74 333 *e*P **P** **01 18 32.0 +1.9**
comp=Z,1µm,1.0s
KOLN Koldanda 32.74 333 *e*P **P** **01 18 32.0 +1.9**
comp=Z,1µm,1.0s
FAKI Fak Fak 32.79 93 P **P** **01 18 30.2 -0.4**
baz=33,SNR=37
ENH Enshi 32.87 16 *e*P **P** **01 18 30.5 -0.6**
comp=Z,102nm,0.6s
ENH *e*PcP **PcP** **01 21 16.8 +1.2**
ENH *e*S **S** **01 23 44.6 -3.0**
ENH LR LR
comp=Z,830nm,19.0s
DANN Dangsing 33.17 334 *e*P **P** **01 18 35.5 +1.5**
comp=Z,790nm,0.9s
DANN Dangsing 33.17 334 *e*P **P** **01 18 35.5 +1.5**
comp=Z,790nm,0.9s
NACB Ninganchiao 33.25 39 *e*P **P** **01 18 36.0 +1.5**
comp=Z,183nm,1.0s
PYUN Piuthan 33.29 333 *e*P **P** **01 18 36.6 +1.6**
comp=Z,1µm,1.0s
PYUN Piuthan 33.29 333 *e*P **P** **01 18 36.6 +1.6**
comp=Z,1µm,1.0s
YHNB Yeheng 33.48 38 *e*P **P** **01 18 37.5 +1.0**
comp=Z,416nm,1.5s
YHNB LR LR
comp=Z,7µm,20.0s
TATO Taipei 33.77 38 *e*P **P** **01 18 40.0 +1.0**
comp=Z,173nm,0.9s
TATO *e*pP **pP** **01 18 48.7 +2.9**
TATO LR LR
comp=Z,7µm,21.0s
KLBR Kellerberrin 34.68 152 ⇓P **P** **01 18 48.1 +1.3**
baz=35,SNR=12
WHN Wuhan 34.75 23 ⇓P **P** **01 18 46.3 -1.0**
WHN pP **pP** **01 18 57.0 +2.8**
WHN PP **PnPn** **01 20 02.9 -0.9**
WHN S **S** **01 24 14.3 -2.2**
WHN LR LR
comp=Z,26µm,16.0s
WHN LR LR
comp=Z,52µm,17.0s
WHN LR LR
comp=Z,46µm,15.0s
NWAO Narrogin (SRO) 35.56 154 P **P** **01 18 54.8 +0.4**
NWAO Narrogin (SRO) 35.56 154 P **P** **01 18 54.8 +0.4**
comp=Z,107nm,1.1s,baz=319,slow=8.6,SNR=14
NWAO LR LR 01 32 19.0
comp=Z,18µm,21.7s,baz=326,slow=34
LGTI Lohaghat 35.73 331 *ex* sP 01 19 06.3 +0.8
PALU Palau 35.98 76 ⇓P **P** **01 18 57.5 -0.7**
baz=36,SNR=5.9
H01W3 Cape Leeuwin H 36.05 159 T T 01 56 56.5
baz=335,slow=75,SNR=475
H01W2 Cape Leeuwin H 36.06 159 T T 01 56 46.9
baz=335,slow=75,SNR=640
H01W1 Cape Leeuwin H 36.06 159 T T 01 56 47.2
baz=335,slow=75,SNR=464
XAN Xi'an 36.32 13 P **P** **01 18 59.8 -1.1**
XAN pP **pP** **01 19 03.4 -4.3**
XAN PcS **PcS** **01 25 12.6 -0.6**
XAN pmax pmax
comp=Z,59nm,0.7s
XAN LR LR
comp=Z,20µm,14.3s
XAN LR LR
comp=Z,4µm,13.3s
XAN LR LR
comp=Z,12µm,14.3s
WRKA Warakurna 36.45 133 P **P** **01 19 02.5 +0.3**
baz=36,SNR=59
KMBL Kambalda 36.60 147 ⇓P **P** **01 19 04.3 +1.0**
baz=37,SNR=23
NDI New Delhi 36.71 326⇑*i*P **P** **01 19 03.0 -1.2**
NDI *ex* x 01 25 44.0
RKGY Rocky Gully 36.90 156 ⇑P **P** **01 19 07.6 +1.9**
baz=37
LZH Lanzhou 37.48 6 ⇓P **P** **01 19 11.3 +0.5**
LZH pP **pP** **01 19 17.4 -0.3**
LZH sP **sP** **01 19 20.6 +0.1**
LZH PP **PnPn** **01 20 40.3 +2.8**
LZH S **S** **01 24 59.5 +1.0**
LZH sS **sS** **01 25 09.6 -0.3**
LZH ScS **ScS** **01 29 21.0 -2.6**
LZH pmax pmax
comp=Z,160nm,1.0s
LZH pmax pmax
comp=Z,1µm,5.2s
LZH LR LR
comp=Z,18µm,12.3s
LZH LR LR
comp=Z,13µm,11.5s
LZH LR LR
comp=Z,22µm,13.7s
DDI Dehra Dun 37.54 329 *e*P **P** **01 19 11.0 -0.4**
DDI AMB AMB 01 19 23.6
comp=Z,468nm,5.9s
BHJ Bhuj 37.95 312 *e*P **P** **01 19 15.2 +0.3**
BHJ AMB AMB 01 19 17.7
comp=Z,275nm,1.3s
NJ2 Nanjing 37.97 27 *e*P **P** **01 19 15.6 +0.8**
NJ2 pP **pP** **01 19 20.3 -1.4**
NJ2 sP **sP** **01 19 23.9 -0.6**
NJ2 PP **PnPn** **01 20 46.0 +2.8**
NJ2 S **S** **01 25 10.0 +4.3**
NJ2 sS **sS** **01 25 17.5 +0.4**
NJ2 pmax pmax
comp=Z,50nm,0.8s
NJ2 pmax pmax
comp=Z,280nm,9.5s
NJ2 LR LR
comp=Z,22µm,15.5s
NJ2 LR LR
comp=Z,7µm,14.0s
NJ2 LR LR
comp=Z,32µm,11.2s
SSE Sheshan 38.31 31 ⇓P **P** **01 19 18.8 +1.0**
SSE pP **pP** **01 19 24.8 +0.1**
SSE PcP **PcP** **01 21 33.3 +1.8**
SSE S **S** **01 25 11.5 +0.5**
SSE sS **sS** **01 25 22.3 0.0**
SSE pmax pmax
comp=Z,74nm,1.1s
SSE pmax pmax
comp=Z,240nm,3.5s
SSE LR LR
comp=Z,16µm,16.6s
SSE LR LR
comp=Z,12µm,16.6s
SSE LR LR
comp=Z,13µm,18.0s
SMLA Simla 38.64 329⇓*i*P **P** **01 19 21.7 +1.1**
SMLA AMB AMB 01 19 23.7
comp=Z,736nm,0.5s
SMLA *i*x x 01 25 12.0
WRA Warramunga Arr 38.77 121 P **P** **01 19 21.2 -0.7**
WRA PcP **PcP** **01 21 34.2 +1.0**
WRA S S 01 25 12.2 -6.2
WRA *e* 01 49 26.1
WRA Warramunga Arr 38.77 121 P **P** **01 19 21.2 -0.7**
comp=Z,216nm,1.1s,baz=300,slow=9.1,SNR=268
WRA PcP **PcP** **01 21 34.2 +1.0**
comp=Z,14nm,0.5s,baz=314,slow=2.6,SNR=7.7
WRA S S 01 25 12.2 -6.2
comp=Z,43nm,1.1s,baz=295,slow=16,SNR=11
WRA LR LR 01 39 36.7
comp=Z,6µm,18.0s,baz=290,slow=43
WRA P3KPbc 01 49 26.1
comp=Z,1.7nm,0.9s,baz=121,slow=3.2,SNR=10
WRAB Tennant Creek 38.78 121*d*P **P** **01 19 20.6 -1.3**
WRAB pmax pmax
comp=Z,933nm,1.2s
WRAB MLR MLR
comp=Z,14µm,19.0s
WRAB Tennant Creek 38.78 121 *e*P **P** **01 19 20.8 -1.1**
comp=Z,352nm,1.1s
WRAB *e*PcP **PcP** **01 21 34.4 +1.1**
WRAB *e*S **S** **01 25 14.2 -4.2**
WRAB LR LR
comp=Z,6µm,21.0s
SDNR Sundarnagar 39.04 329 *e*P **P** **01 19 25.0 +1.1**
BHK Bhakra 39.27 328 *e*P **P** **01 19 26.4 +0.6**
GUW Kunigami 39.45 43 *e*P **P** **01 19 28.2 +0.9**
comp=Z,33nm,0.9s
FORT Forrest 39.87 140 *e*P **P** **01 19 32.0 +1.1**
comp=Z,198nm,0.7s
FORT Forrest 39.87 140 ⇓P **P** **01 19 32.2 +1.4**
baz=40,SNR=15
DHRM DHARAMSHALA 39.98 329 *e*P **P** **01 19 32.5 +0.5**
AS13 Alice Springs 40.04 126 ⇓P **P** **01 19 32.5 +0.1**
baz=40
AS12 Alice Springs 40.05 126 ⇓P **P** **01 19 32.8 +0.2**
baz=40
AS31 Alice Springs 40.05 126 *e*P **P** **01 19 32.2 -0.3**
AS31 *e*S **S** **01 25 35.6 -1.9**
ASAR Alice Springs 40.05 126 P **P** **01 19 32.0 -0.5**
ASAR PcP **PcP** **01 21 38.6 +1.3**
ASAR S **S** **01 25 35.4 -2.2**
ASAR *e* 01 49 20.1
ASAR Alice Springs 40.05 126 P **P** **01 19 32.0 -0.5**
comp=Z,120nm,1.0s,baz=297,slow=7.4,SNR=239
ASAR PcP **PcP** **01 21 38.6 +1.3**
comp=Z,21nm,0.7s,baz=306,slow=2.5,SNR=5.4
ASAR S **S** **01 25 35.4 -2.2**
comp=Z,80nm,1.2s,baz=300,slow=13,SNR=17
ASAR LR LR 01 39 18.1
comp=Z,7µm,19.1s,baz=297,slow=41
ASAR P3KPbc 01 49 20.1
comp=Z,0.3nm,0.5s,baz=120,slow=3.7,SNR=5.2
AS01 Alice Springs 40.09 126 ⇓P **P** **01 19 32.8 0.0**
baz=40
AS09 Alice Springs 40.10 126 ⇑P **P** **01 19 32.8 -0.1**
baz=40
GTA Gaotai 40.57 0 ⇓P **P** **01 19 37.8 +1.1**
GTA pP **pP** **01 19 42.3 -1.3**
GTA sP **sP** **01 19 44.8 -1.6**
GTA PcP **PcP** **01 21 39.4 +0.7**
GTA ScP **ScP** **01 25 27.1 +0.1**
GTA S **S** **01 25 48.4 +3.4**
GTA sS **sS** **01 25 55.3 -1.1**
GTA SS **SS** **01 28 44.3 -1.1**
GTA ScS **ScS** **01 29 39.4 -2.0**
GTA pmax pmax
comp=Z,110nm,1.7s
GTA pmax pmax
comp=Z,1µm,5.5s
GTA LR LR
comp=Z,8µm,21.8s
GTA LR LR
comp=Z,17µm,19.8s
GTA LR LR
comp=Z,12µm,19.8s
TIA Tai'an 40.84 22 ⇓P **P** **01 19 37.8 -1.0**
TIA ScP **ScP** **01 25 26.0 -2.0**
TIA S **S** **01 25 45.1 -3.7**
TIA pmax pmax
comp=Z,70nm,1.0s
TIA pmax pmax
comp=Z,510nm,4.0s
TIA LR LR
comp=Z,28µm,20.0s
TIA LR LR
comp=Z,12µm,14.3s
TIA LR LR
comp=Z,37µm,14.6s
JAY Jayapura 41.23 92 P **P** **01 19 40.6 -1.8**
baz=41,SNR=7.6
BTO Baotou 42.86 12 *e*P **P** **01 19 55.4 0.0**
HHC Hu-ho-hao-te 43.43 13 ⇓P **P** **01 20 01.1 +1.1**
HHC sP **sP** **01 20 09.3 -0.4**
HHC PP **PP** **01 21 43.0 +1.8**
HHC PcP **PcP** **01 21 48.0 -0.1**
HHC S **S** **01 26 29.4 +2.2**
HHC SS **SS** **01 29 35.9 -5.9**
HHC ScS **ScS** **01 29 57.6 -1.2**

HHC pmax pmax
comp=Z,110nm,1.0s
HHC pmax pmax
comp=Z,850nm,6.2s
HHC LR LR
comp=Z,22μm,14.3s
HHC LR LR
comp=Z,21μm,14.9s
HHC LR LR
comp=Z,22μm,15.4s
QIS Mount Isa 43.58 119 ⇑P P 01 20 01.1 -0.3
baz=44,SNR=90
BJT Baijiatuau 43.92 19 eP P 01 20 04.3 +0.5
comp=Z,245nm,1.0s
BJT LR LR
comp=Z,7μm,19.0s
BJI Beijing 43.94 19 P P 01 20 04.4 +0.4
BJI PP PP 01 21 48.0 +1.4
BJI S S 01 26 32.5 -1.9
BJI pmax pmax
comp=Z,190nm,1.0s
BJI LR LR
comp=Z,8μm,18.6s
BJI LR LR
comp=Z,12μm,19.8s
BJI LR LR
comp=Z,7μm,14.9s
MSEY Mahe Island 44.05 265 PFAKE 01 20 20.0 +15
MSEY LR LR
comp=Z,10μm,19.0s
DL2 Dalian 44.95 25 P P 01 20 12.5 +0.4
DL2 S S 01 26 48.3 -0.8
DL2 pmax pmax
comp=Z,160nm,1.7s
DL2 LR LR
comp=Z,11μm,16.2s
DL2 LR LR
comp=Z,12μm,15.7s
COEN Coen 44.98 108 eP P 01 20 10.3 -2.5
comp=Z,477nm,1.3s
COEN Coen 44.98 108 ⇑P P 01 20 11.2 -1.6
baz=45,SNR=16
MRIV Mauritius Mete 45.11 242 eP P 01 20 13.5 -0.1
MRIV eP cP P 01 21 54.8 +0.7
JNU Nakatsue 45.31 38 eP P 01 20 15.6 +0.4
comp=Z,134nm,0.9s
JNU Nakatsue 45.31 38 P P 01 20 15.1 0.0
comp=Z,185nm,0.9s,baz=212,slow=2.8,SNR=47
JNU LR LR 01 41 25.8
comp=Z,5μm,18.0s,baz=245,slow=39
KBL Kabul 45.71 324 eP P 01 20 17.9 -0.5
KBL pmax pmax
comp=Z,60nm,0.9s
KBL Kabul 45.71 324 eP P 01 20 17.9 -0.5
comp=Z,60nm,0.9s
KBL Kabul 45.71 324 P P 01 20 18.1 -0.3
baz=46,SNR=19
KSH Kashi 46.03 335 ⇑iP P 01 20 20.1 -0.7
KSH sP sP 01 20 32.1 +1.5
KSH PP PP 01 22 12.1 +3.1
KSH S S 01 27 00.6 -4.4
KSH SS SS 01 30 25.3 -5.0
KSH pmax pmax
comp=Z,73nm,0.7s
KSH pmax pmax
comp=Z,1μm,5.8s
KSH LR LR
comp=Z,5μm,16.7s
KSH LR LR
comp=Z,4μm,15.9s
KSH LR LR
comp=Z,8μm,19.4s
WBK Wadi Bani Khal 46.10 304 P P 01 20 22.9 +1.5
SNR=22
INCN Inchon 46.11 30 PFAKE 01 20 30.0 +8.7
INCN LR LR
comp=Z,8μm,21.0s
WMQ Urumqi 46.20 348 P P 01 20 24.0 +2.0
WMQ sP sP 01 20 33.0 +1.3
WMQ PcP PcP 01 22 00.0 +2.5
WMQ PP PP 01 22 12.0 +1.3
WMQ ScP ScP 01 25 51.0 +1.3
WMQ S S 01 27 08.0 +0.8
WMQ sS sS 01 27 19.0 +0.3
WMQ ScS ScS 01 30 15.0 -1.3
WMQ SS SS 01 30 28.0 -4.9
WMQ pmax pmax
comp=Z,430nm,1.0s
WMQ pmax pmax
comp=Z,1μm,4.0s
WMQ LR LR
comp=Z,8μm,18.0s
WMQ LR LR
comp=Z,7μm,18.0s
WMQ LR LR
comp=Z,6μm,18.0s
BBOO Buckleboo 46.47 136 eP P 01 20 23.9 -0.3
BBOO eS S 01 27 13.6 +2.3
BBOO Buckleboo 46.47 136 P P 01 20 24.5 +0.3
baz=47,SNR=45
KSAR Wonju Array Be 46.72 31 P P 01 20 26.5 +0.5
KSAR PcP PcP 01 22 01.1 +1.8
JMDO Jabal Madar 46.72 303 P P 01 20 27.3 +1.0
SNR=15
KSRS Korea Array 46.75 31 P P 01 20 26.5 +0.3
comp=Z,48nm,0.8s,baz=224,slow=8.3,SNR=152
KSRS PcP PcP 01 22 01.1 +1.7
comp=Z,5.1nm,0.9s,baz=228,slow=5.9,SNR=4.3
KSRS LR LR 01 43 21.7
comp=Z,4μm,19.9s,baz=224,slow=40
RER Riviere de l'E 46.94 242 eP P 01 20 28.7 +0.5
comp=Z,94nm,0.9s
RER LR LR
comp=Z,6μm,19.0s
SMDO Samad 47.06 304 P P 01 20 30.4 +1.3
SNR=28
GUMO Guam 47.38 70 PFAKE 01 20 40.0 +8.4
GUMO LR LR
comp=Z,2μm,19.0s
HOQ Hoqain 47.89 304 P P 01 20 36.5 +1.0
SNR=24
PMG Port Moresby 48.10 101 eP P 01 20 36.7 -0.4
comp=Z,93nm,0.9s
PMG LR LR
comp=Z,5μm,21.0s
PMG Port Moresby 48.10 101 ⇑P P 01 20 36.9 -0.3
baz=48,SNR=15
PMG ⇑P P 01 20 36.9 -0.3
baz=48,SNR=15
PMG ⇑P P 01 20 36.9 -0.3
baz=48,SNR=15
ULHL Ulahol 48.21 337 iP P 01 20 39.7 +1.8
ULHL Ulahol 48.21 337 P P 01 20 39.8 +1.8
SNR=11
SNY Shenyang 48.22 24 ⇓P P 01 20 35.9 -1.7
SNY pmax pmax
comp=Z,53nm,1.7s
SNY pmax pmax
comp=Z,2μm,5.9s
SNY LR LR
comp=Z,7μm,16.1s
SNY LR LR
comp=Z,15μm,17.8s
SNY LR LR
comp=Z,16μm,16.5s
RBK Rabkut 48.36 295 P P 01 20 40.6 +1.4
SNR=12
ARQ Araqi 48.45 303 P P 01 20 41.1 +1.3
SNR=14
KZA Kyzart 48.47 336 iP P 01 20 42.0 +1.9
KZA Kyzart 48.47 336 P P 01 20 42.0 +1.9
SNR=8.1
HTT Hallett 48.82 135 P P 01 20 43.2 +0.7
baz=49,SNR=78
AAA Alma-Ata 48.82 338 iP P 01 20 43.9 +1.6
AAA iS S 01 27 47.2 +2.8
AAA pmax pmax
comp=Z,5μm,4.0s
AAA smax smax
comp=E,10μm,7.3s
AAA MLR MLR
comp=Z,5μm,19.0s
UCH Uchtor 48.90 335 iP P 01 20 45.0 +1.6
UCH Uchtor 48.90 335 P P 01 20 45.0 +1.6
SNR=154
TKM2 Tokmak 2 49.04 337 iP P 01 20 45.7 +1.5
TKM2 Tokmak 2 49.04 337 P P 01 20 45.8 +1.5
SNR=184
TKM2 Tokmak 2 49.04 337 eP P 01 20 45.0 +0.8
comp=Z,242nm,0.8s
TKM2 eS S 01 27 52.0 +4.1
TKM2 LR LR
comp=Z,8μm,20.0s
ABTO Aybut 49.14 294 P P 01 20 46.4 +1.1
SNR=13
AAK Ala-Archa 49.24 336 iP P 01 20 47.2 +1.5
AAK pmax pmax
comp=Z,190nm,1.3s
AAK Ala-Archa 49.24 336 P P 01 20 47.5 +1.8
SNR=61
CTA Charters Tower 49.35 115 P P 01 20 46.4 -0.3
CTA Charters Tower 49.35 115 P P 01 20 46.4 -0.3
comp=Z,90nm,1.0s,baz=294,slow=9.6,SNR=71
CTA LR LR 01 44 39.6
comp=Z,7μm,20.3s,baz=285,slow=40
CTA Charters Tower 49.35 115 ⇑P P 01 20 46.5 -0.2
baz=49
CTAO Charters Tower 49.35 115 eP P 01 20 46.0 -0.7
CTAO e*PP pP 01 20 55.1 +1.3
CTAO pmax pmax
comp=Z,405nm,1.3s
CTAO MLR MLR
comp=Z,8μm,20.0s
CTAO Charters Tower 49.35 115 eP P 01 20 46.0 -0.7
comp=Z,405nm,1.3s
CTAO epP pP 01 20 55.1 +1.3
CTAO LR LR
comp=Z,8μm,20.0s
FRU Bishkek 49.36 336 ⇑iP P 01 20 46.2 -0.2
FRU i 01 20 53.0
FRU eS S 01 27 53.0 +1.0
FRU pmax pmax
comp=Z,695nm,2.2s
FRU smax smax
comp=E,2μm,4.0s
SONM Songino Array 49.37 6 P P 01 20 47.7 +1.2
SONM PcP PcP 01 22 10.2 +1.3
SONM Songino Array 49.37 6 P P 01 20 47.7 +1.2
comp=E,55nm,0.7s,baz=188,slow=9.4,SNR=244
SONM PcP PcP 01 22 10.2 +1.3
comp=E,40nm,0.6s,baz=189,slow=4.2,SNR=12
SONM LR LR 01 44 25.1
comp=E,14μm,18.1s,baz=192,slow=39
UOSS Wadi Hilu 49.39 305 P P 01 20 46.5 -0.4
comp=E,340nm,1.4s,SNR=17
ASHO Ashiyiah 49.40 305 P P 01 20 48.2 +1.1
SNR=19
CHMS Chumysh 49.44 336 iP P 01 20 49.0 +1.9
CHMS Chumysh 49.44 336 P P 01 20 49.0 +1.9
SNR=6.0
ULN Ulaanbaatar 49.47 7 eP P 01 20 48.3 +1.0
comp=E,61nm,0.8s
ULN LR LR
comp=Z,11μm,19.0s
EKS2 Erkin-Say 49.56 335 eP P 01 20 49.6 +1.4
EKS2 eS S 01 28 02.7 +7.7
EKS2 pmax pmax
comp=Z,216nm,0.8s
EKS2 MLR MLR
comp=Z,6μm,22.0s
EKS2 Erkin-Say 49.56 335 eP P 01 20 49.5 +1.4
comp=Z,216nm,0.8s
EKS2 eS S 01 28 02.7 +7.7
EKS2 LR LR
comp=Z,6μm,22.0s
BANOM Banah 49.73 306 P P 01 20 50.9 +1.3
SNR=7.6
QLP Quilpie 49.75 124 ⇑P P 01 20 50.1 +0.4
baz=50,SNR=70
USP Ospenovka 49.77 336 iP P 01 20 51.2 +1.7
USP Ospenovka 49.77 336 P P 01 20 51.2 +1.7
SNR=31
CBIJ Chichi jima 49.90 52 P P 01 20 50.6 -0.2
JCJ Chichijima 49.90 52 P P 01 20 50.6 -0.2
comp=Z,98nm,0.7s,baz=270,slow=14,SNR=7.2
JCJ LR LR 01 42 59.6
comp=Z,3μm,18.2s,baz=239,slow=37
STKA Stephens Creek 49.97 132 eP P 01 20 51.5 +0.2
comp=Z,32nm,0.9s
STKA eS S 01 28 00.3 -0.5
STKA Stephens Creek 49.97 132 P P 01 20 52.0 +0.8
comp=Z,102nm,0.7s,baz=307,slow=7.5,SNR=102
STKA S S 01 28 01.2 +0.4
comp=Z,5.5nm,0.9s,baz=96,slow=18,SNR=2.9
STKA LR LR 01 43 27.3
comp=Z,8μm,21.8s,baz=293,slow=38
STKA Stephens Creek 49.97 132 ⇑P P 01 20 51.9 +0.6
baz=50,SNR=104
IBND Bandar-abas 50.23 308 eP P 01 20 53.7 +0.4
MK31 Makanchi Array 50.27 345 eP P 01 20 54.2 +0.9
MK31 pmax pmax
comp=Z,260nm,0.8s
MK31 Makanchi Array 50.27 345 eP P 01 20 54.4 +1.0
MK31 eS S 01 28 03.6 -1.0
MKAR Makanchi Array 50.27 345 P P 01 20 54.4 +1.0
MKAR S S 01 28 08.4 +3.8
MKAR pmax pmax
comp=Z,214nm,0.7s
MKAR smax smax
comp=N,6.0nm,1.0s
MKAR MLR MLR
comp=Z,3μm,19.3s
MKAR Makanchi Array 50.27 345 P P 01 20 54.4 +1.0
MKAR S S 01 28 08.4 +3.8
MKAR P'P' 01 51 39.7
MKAR Makanchi Array 50.27 345 P P 01 20 54.4 +1.0
comp=Z,214nm,0.7s,baz=151,slow=7.4,SNR=932
MKAR S S 01 28 08.4 +3.8
comp=Z,6.1nm,1.0s,baz=153,slow=13,SNR=6.1
MKAR LR LR 01 46 08.0
comp=Z,3μm,19.3s,baz=160,slow=41
MKAR PKPPKP **P'P'df** 01 51 39.7 -2.7
comp=Z,1.5nm,1.0s,baz=49,slow=5.6,SNR=4.3
MKAR Makanchi Array 50.27 345 ⇓P P 01 20 54.8 +1.4
baz=50
IDAH Dahanechah 50.47 316 eP P 01 20 55.4 0.0
CN2 Changchun 50.62 24 eP P 01 20 55.5 -0.4
CN2 esP sP 01 21 04.4 -1.4
CN2 eS S 01 28 09.0 -0.4
CN2 ScS ScS 01 30 42.1 -3.5
CN2 SS SS 01 31 41.1 -2.9
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,22μm,18.0s
CN2 LR LR
comp=Z,5μm,18.0s
CN2 LR LR
comp=Z,6μm,15.0s
IMON Monand 50.86 316 eP P 01 20 58.7 +0.4
IKOO Kooshah 50.90 315 eP P 01 20 58.3 -0.3
ITEG Tejag 51.34 315 eP P 01 21 02.0 +0.2
KK31 Karatay Array 51.35 333 iP P 01 21 01.5 0.0
KK31 pmax pmax
comp=Z,286nm,1.5s
KKAR Karatay Array 51.35 333 eP P 01 21 01.5 0.0
KKAR pmax pmax
comp=Z,15nm,0.5s
KKAR Karatay Array 51.35 333 eP P 01 21 01.5 0.0
comp=Z,15nm,0.5s
ZAK Zakamensk 51.65 3 eP P 01 21 04.1 +0.4
ZAK pmax pmax
comp=Z,30nm,1.6s
MAJO Matsushiro 52.12 40 eP P 01 21 06.2 -1.1
MAJO pmax pmax
comp=Z,125nm,1.3s
MAJO MLR MLR
comp=Z,3μm,19.0s
MAJO Matsushiro 52.12 40 eP P 01 21 06.2 -1.1
comp=Z,125nm,1.3s
MAJO LR LR
comp=Z,3μm,19.0s
MAT Matsushiro 52.12 40 P P 01 21 06.7 -0.7
MAT S S 01 28 29.8 -0.6
MJAR Matsushiro Arr 52.12 40 P P 01 21 07.0 -0.4
MJAR Matsushiro Arr 52.12 40 P P 01 21 07.0 -0.4
comp=Z,27nm,0.9s,baz=221,slow=7.5,SNR=44
MUKL Al Mukalla 52.34 289 eP P 01 21 10.8 +1.5
MUKL AMb AMB 01 21 11.7
comp=Z,797nm,1.3s
IMYA Miami 52.40 320 eP P 01 21 07.9 -1.8
ARPS Mount Arapiles 52.62 137 ⇓P P 01 21 12.5 +1.5
baz=53,SNR=22
IMOG Moghan 52.76 319 eP P 01 21 11.4 -1.1
ISRO Mashad 52.79 319 eP P 01 21 12.1 -0.4
MOY Mondy 52.85 1 eP P 01 21 14.0 +1.4
MOY pmax pmax
comp=Z,193nm,2.9s
CMSA Cobar Meteorol 52.92 129 ⇑P P 01 21 14.0 +0.5
baz=53,SNR=176
IBAF Bafgh 52.96 312 eP P 01 21 13.7 -0.1
TLY Talaya 52.96 3 P P 01 21 15.9 +2.6
comp=Z,335nm,1.0s,SNR=10
TLY Talaya 52.96 3 eP P 01 21 14.9 +1.5
TLY pmax pmax
comp=Z,84nm,1.2s
TLY MLR MLR
comp=Z,6μm,19.0s
TLY Talaya 52.96 3 eP P 01 21 14.8 +1.5
comp=Z,84nm,1.2s
TLY LR LR
comp=Z,6μm,19.0s
VLA Vladivostok 52.99 29 deP P 01 21 14.2 +0.6
VLA pmax pmax
comp=Z,167nm,2.5s
MDJ Mudanjiang 53.05 27 P P 01 21 14.5 +0.4
MDJ pP pP 01 21 17.6 -3.6
MDJ sP sP 01 21 19.0 -4.9
MDJ ScP ScP 01 26 20.6 +1.8
MDJ PcS PcS 01 26 22.0 +0.9
MDJ S S 01 28 44.5 +1.6
MDJ pmax pmax
comp=Z,21nm,1.0s
MDJ pmax pmax
comp=Z,150nm,4.1s
MDJ LR LR
comp=Z,9μm,19.7s
MDJ LR LR
comp=Z,10μm,22.6s
MDJ LR LR
comp=Z,13μm,19.2s
MDJ Mudanjiang 53.05 27 eP P 01 21 14.5 +0.4
comp=Z,43nm,0.9s
MDJ LR LR
comp=Z,13μm,19.0s
IPAY Payeh 53.19 319 eP P 01 21 15.7 +0.2
HIA Hailar 53.38 16 eP P 01 21 16.4 -0.1
comp=Z,38nm,1.0s
HIA LR LR
comp=Z,14μm,20.0s
IAKL Akhelmad 53.43 319 eP P 01 21 17.0 -0.4
RMQ Roma 53.50 122 ⇑P P 01 21 18.7 +1.0
baz=54,SNR=37
IRK Irkutsk 53.56 4 eP P 01 21 19.1 +1.4
IRK eS S 01 28 50.0 +0.4
IRK pmax pmax
comp=Z,267nm,3.0s
IMEH Mehriz 53.57 311 eP P 01 21 17.1 -1.4
IKRD Kardeh 53.69 319 eP P 01 21 14.4 -4.9
USRK Ussuriysk Arra 53.85 29 P P 01 21 20.4 +0.5
comp=Z,121nm,0.8s,baz=228,slow=5.8,SNR=207
USRK LR LR 01 47 22.6
comp=Z,7μm,19.4s,baz=210,slow=40
PAF Port-aux-Franc 53.97 203 PFAKE 01 21 30.0 +9.3
PAF LR LR
comp=Z,10μm,19.0s
OPO Ambohidratompo 54.01 248 LR LR 01 40 19.7
comp=Z,14μm,18.5s,baz=159,slow=32
IPAR Pars 54.05 309 eP P 01 21 23.0 +0.9
ABPO Ambohimpanom 54.07 247 eP P 01 21 22.7 +0.5
ABPO pmax pmax
comp=Z,117nm,1.2s
ABPO MLR MLR
comp=Z,13μm,19.0s
ABPO Ambohimpanom 54.07 247 eP P 01 21 22.7 +0.5
comp=Z,116nm,1.2s
ABPO LR LR
comp=Z,13μm,19.0s
ICHK Chekchek 54.14 312 eP P 01 21 22.0 -0.6
ISFR Sfrayin 54.19 319 eP P 01 21 22.5 -0.4
CIT Chita 54.50 11 eP P 01 21 25.8 +1.2
CIT e 01 21 33.5
CIT eS S 01 29 07.3 +4.9
CIT pmax pmax
comp=Z,281nm,2.6s
ISAD Sadrabad 54.52 312 eP P 01 21 24.8 -0.6
ABKT Ailbek 54.62 320 P P 01 21 26.1 +0.3
comp=Z,1μm,1.0s,SNR=82
ISHV Shirvan 54.66 320 eP P 01 21 26.7 +0.4
KURBB Kurchatov Arra 54.79 344 S S 01 29 11.4 +5.3
comp=Z,5.1nm,1.0s,baz=149,slow=13,SNR=7.5
KURK Kurchatov 54.85 344 eP P 01 21 27.6 +0.5
KURK S S 01 29 11.5 +4.5
KURK pmax pmax
comp=Z,165nm,1.0s
KURK MLR MLR
comp=Z,5μm,20.0s
KURK Kurchatov 54.85 344 eP P 01 21 27.6 +0.5
comp=Z,165nm,1.0s
KURK S S 01 29 11.4 +4.5
KURK LR LR
comp=Z,5μm,20.0s
EIDS Eidsvold 55.13 120 eP P 01 21 29.8 +0.1
comp=Z,262nm,1.3s
EIDS epP pP 01 21 37.6 +0.8
EIDS Eidsvold 55.13 120 P P 01 21 29.9 +0.2
baz=55,SNR=28
TOO Toolangi 55.53 136 ⇓P P 01 21 34.5 +2.1
baz=56,SNR=16
LBOS 55.80 288 ⇑eP P 01 21 36.5 +1.5
LBOS AMb AMB 01 21 37.2
comp=Z,140nm,0.8s
IZEF Zefreh 55.99 312 eP P 01 21 34.6 -1.4
IANJ Anjilo 56.10 315 eP P 01 21 36.0 -0.7
YNG Young 56.15 131 ⇑P P 01 21 38.1 +1.2
baz=56,SNR=58
ZAA0 Zalesovo Array 56.45 350 eP P 01 21 39.0 +0.5
ZALV Zalesovo Beam 56.45 350 iP P 01 21 39.0 +0.5
ZALV pmax pmax
comp=Z,371nm,0.8s
ZALV Zalesovo Beam 56.45 350 P P 01 21 39.1 +0.6
ZALV S S 01 29 29.9 +1.8
ZALV P'P' 01 51 18.4
ZALV Zalesovo Beam 56.45 350 P P 01 21 39.1 +0.6
comp=Z,366nm,0.8s,baz=175,slow=5.8,SNR=954
ZALV S S 01 29 29.9 +1.8
comp=Z,17nm,1.0s,baz=165,slow=7.4,SNR=18
ZALV LR LR 01 48 31.2
comp=Z,4μm,19.3s,baz=162,slow=39
ZALV PKPPKP P'P'df 01 51 18.4 -15
comp=Z,1.5nm,0.9s,baz=316,slow=4.1,SNR=5.1
IKIA Kiasar 56.64 316 eP P 01 21 38.7 -1.8
IGLO Ghaloghah 56.69 316 eP P 01 21 42.0 +1.1
ISHM Shahmirzad 56.70 315 eP P 01 21 40.4 -0.7
ILAS Lasjerd 56.73 315 eP P 01 21 40.8 -0.4
IKLH Kolahrood 56.74 312 eP P 01 21 40.3 -1.1
DAMY Dhamar 56.76 288 ⇓P P 01 21 44.2 +2.4
baz=57,SNR=30
DHBB Dhamar BB 56.76 288 ⇑eP P 01 21 43.2 +1.4
DHBB AMb AMB 01 21 44.5
comp=Z,132nm,1.0s
TRBA At Turbah 56.77 287 eP P 01 21 43.2 +1.4
TRBA AMb AMB 01 21 43.7
comp=Z,94nm,0.9s
IFIR Firoozkooh 57.00 315 eP P 01 21 42.8 -0.4
CAN Canberra 57.03 132 eP P 01 21 44.0 +0.9
CAN pmax pmax
comp=Z,150nm,1.0s
CAN MLR MLR
comp=Z,7μm,21.0s
CAN Canberra 57.03 132 eP P 01 21 44.7 +1.6
comp=Z,150nm,1.0s
CAN LR LR
comp=Z,7μm,21.0s
CAN Canberra 57.03 132 ⇑P P 01 21 44.7 +1.6
baz=57
IALA Alasht 57.18 315 eP P 01 21 44.8 +0.3
ARMA Armidale 57.20 126 eP P 01 21 45.6 +1.1
comp=Z,140nm,1.1s
CNB Canberra Magne 57.30 132 ⇑P P 01 21 46.7 +1.7
baz=57,SNR=14
IVRN Varamin 57.42 314 eP P 01 21 45.6 -0.3
IDMV Damavand 57.48 315 eP P 01 21 46.4 -0.2
KLR Kul'dur 57.57 25 iP P 01 21 43.0 -3.6
KLR eS S 01 29 39.0 -4.2

KLR pmax pmax
comp=E,240nm,2.6s
KLR pmax pmax
comp=Z,800nm,2.6s
KLR smax smax
comp=N,4μm,8.0s
KLR smax smax
comp=E,2μm,8.0s
NVS Novosibirsk 57.59 349⇑ *i*P **P 01 21 47.0 +0.4**
NVS *i* 01 22 36.0
NVS *i* S S 01 29 35.2 -8.0
NVS *i* 01 31 26.9
NVS pmax pmax
comp=Z,346nm,1.7s
NVS pmax pmax
comp=N,194nm,1.0s
NVS pmax pmax
comp=E,66nm,0.7s
NVS smax smax
comp=N,453nm,2.6s
NVS smax smax
comp=E,578nm,2.6s
IPRN Peran 57.59 315 *e*P **P 01 21 46.7 -0.5**
HABR Khabarovsk 58.43 27 *de*P **P 01 21 51.0 -1.6**
HABR *e**SP **sP 01 21 59.9 -2.6**
HABR 01 22 41.2
HABR *e*S **S 01 29 54.6 +0.2**
HABR *e**SS **sS 01 30 05.2 -1.0**
HABR *e* 01 31 39.6
HABR pmax pmax
comp=N,50nm,2.1s
HABR pmax pmax
comp=E,34nm,2.1s
HABR pmax pmax
comp=Z,56nm,2.1s
HABR pmax pmax
comp=Z,487nm,3.3s
HABR MLR MLR
comp=N,11μm,17.0s
HABR MLR MLR
comp=Z,19μm,16.0s
HABR MLR MLR
comp=E,11μm,13.0s
ERM Erimo 58.47 37⇑ *e*P **P 01 21 54.2 +1.2**
ERM pmax pmax
comp=Z,52nm,1.2s
ERM MLR MLR
comp=Z,6μm,16.0s
ERM Erimo 58.47 37 *e*P **P 01 21 53.6 +0.7**
comp=Z,54nm,1.0s
ERM LR LR
comp=Z,2μm,20.0s
IRAZ Razeghan 58.91 313 *e*P **P 01 21 56.5 0.0**
MOO Moorlands 59.09 140 P **P 01 21 59.6 +2.3**
baz=59,SNR=5.6
ASAJ Asahikawa 59.39 35 *e*P **P 01 21 59.9 +0.6**
comp=Z,81nm,1.3s
ASAJ Asahikawa 59.39 35 P **P 01 22 00.4 +1.0**
comp=Z,25nm,0.6s,baz=248,slow=14,SNR=15
ASAJ LR LR 01 51 00.5
comp=Z,3μm,18.8s,baz=77,slow=39
BVA0 Borovoye Array 59.41 340 P **P 01 21 59.1 -0.2**
BVA0 pmax pmax
comp=Z,103nm,1.2s
BVAR Borovoye Array 59.41 340 P **P 01 21 59.2 -0.1**
BVAR S **S 01 30 09.5 +2.5**
BVAR pmax pmax
comp=Z,66nm,0.7s
BVAR smax smax
comp=N,3.0nm,0.7s
BVAR MLR MLR
comp=Z,5μm,20.1s
BVAR Borovoye Array 59.41 340 P **P 01 21 59.2 -0.1**
BVAR S **S 01 30 09.5 +2.5**
BVAR Borovoye Array 59.41 340 P **P 01 21 59.2 -0.1**
comp=Z,66nm,0.7s,baz=143,slow=8.5,SNR=251
BVAR S **S 01 30 09.5 +2.5**
comp=Z,2.6nm,0.7s,baz=123,slow=10,SNR=5.2
BVAR LR LR 01 51 12.8
comp=Z,5μm,20.1s,baz=154,slow=40
TAU Tasmania Unive 59.41 141 *e*P **P 01 22 00.5 +1.0**
TAU pmax pmax
comp=Z,223nm,1.5s
TAU MLR MLR
comp=Z,5μm,21.0s
TAU Tasmania Unive 59.41 141 *e*P **P 01 22 00.5 +1.0**
comp=Z,223nm,1.5s
TAU LR LR
comp=Z,5μm,21.0s
BRVK Borovoye 59.47 340 P **P 01 21 59.7 0.0**
comp=Z,541nm,0.6s,SNR=52
BRVK Borovoye 59.47 340 *c i*P **P 01 21 59.2 -0.5**
BRVK pmax pmax
comp=Z,93nm,1.0s
BRVK MLR MLR
comp=Z,6μm,23.0s
BRVK Borovoye 59.47 340 *e*P **P 01 21 59.4 -0.4**
comp=Z,63nm,0.8s
BRVK LR LR
comp=Z,6μm,20.0s
HNR Honiara 60.66 100 P **P 01 22 08.6 -0.1**
HNR Honiara 60.66 100 P **P 01 22 08.6 -0.1**
comp=Z,99nm,0.5s,baz=60,slow=2.3,SNR=8.4
IVIS Veis 60.80 311 *e*P **P 01 22 07.1 -2.3**
AB31 Akbulak array 60.83 331 P **P 01 22 08.6 -0.5**
AB31 pmax pmax
comp=Z,399nm,1.3s
ABKAR Akbulak array 60.83 331 *e*P **P 01 22 08.8 -0.3**
comp=Z,161nm,0.9s
ABKAR Akbulak array 60.83 331 ⇑P **P 01 22 09.1 -0.1**
baz=61
ILIN Lien 60.88 312 *e*P **P 01 22 08.9 -1.2**
IGHG Ghaleghazi 60.94 311 *e*P **P 01 22 09.3 -1.2**
YSS Yuzh-Sakhalins 61.23 32 *ke*P **P 01 22 12.2 +0.3**
YSS *e**SP **sP 01 22 20.9 -0.9**
YSS *e* 01 22 51.2
YSS *e*S **S 01 30 30.0 -0.5**
YSS *e*PS **PnS 01 30 46.0 -0.1**
YSS *e* 01 31 56.0
YSS pmax pmax
comp=N,70nm,1.0s
YSS pmax pmax
comp=E,70nm,1.0s
YSS pmax pmax
comp=Z,250nm,1.0s
YSS pmax pmax
comp=N,400nm,3.0s
YSS pmax pmax
comp=E,500nm,3.0s
YSS pmax pmax
comp=Z,500nm,3.0s
YSS MLR MLR
comp=Z,4μm,15.0s
YSS MLR MLR
comp=N,5μm,16.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS Yuzh-Sakhalins 61.23 32 *e*P **P 01 22 12.6 +0.7**
comp=E,228nm,0.9s
YSS LR LR
comp=Z,1μm,19.0s
YUK Yuzh-Kuril'sk 61.25 37 *c i*P **P 01 22 11.0 -1.1**
YUK *i* 01 24 23.6
YUK *i* S **S 01 30 27.9 -3.0**
FURI Furi 61.42 281 *e*P **P 01 22 16.6 +2.4**
FURI S S 01 30 42.4 +7.6
CLNS Chul'man 61.54 16 *e*P **P 01 22 14.1 +0.2**
CLNS pmax pmax
comp=Z,27nm,0.7s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=N,16nm,0.8s
IBST Bostanabad 62.13 315 *e*P **P 01 22 17.4 -1.1**
KMBO Kilima Mbogo 62.20 269 *e*P **P 01 22 20.6 +1.2**
comp=N,212nm,1.1s
KMBO Kilima Mbogo 62.20 269 P **P 01 22 20.0 +0.6**
comp=N,120nm,0.9s,baz=66,slow=7.9,SNR=222
KMBO LR LR 01 46 15.5
comp=N,8μm,19.3s,baz=87,slow=33
KMBO Kilima Mbogo 62.20 269 ⇓P **P 01 22 20.8 +1.4**
baz=62,SNR=15
IHRS Heris 62.29 315 *e*P **P 01 22 18.5 -1.1**
AKTO Aktyubinsk 62.55 332 P **P 01 22 20.3 -0.4**
AKTO pmax pmax
comp=Z,72nm,1.0s
AKTO MLR MLR
comp=Z,2μm,20.9s
AKTO Aktyubinsk 62.55 332 P **P 01 22 20.2 -0.4**
AKTO Aktyubinsk 62.55 332 P **P 01 22 20.2 -0.4**
comp=Z,72nm,1.0s,baz=132,slow=6.9,SNR=134
AKTO LR LR 01 53 21.9
comp=Z,2μm,20.9s,baz=138,slow=40
IAZR Azarshahr 62.77 314 *e*P **P 01 22 22.8 0.0**
ITBZ Tabriz 62.89 315 *e*P **P 01 22 23.2 -0.3**
MAK Makhachkala 64.14 320 *e*P **P 01 22 29.5 -1.9**
MAK *e* 01 23 01.4
MAK *e* 01 24 49.4
MAK *e*S **S 01 31 04.7 -2.5**
MAK *e* 01 32 17.2
MAK *e*SS **SS 01 35 23.7 +6.9**
MAK pmax pmax
comp=Z,196nm,1.1s
MAK MLR MLR
comp=Z,2μm,20.0s
CUKT Cukurca 64.31 313 *e*P **P 01 22 32.4 -0.5**
GNI Garni 64.70 316 *e*P **P 01 22 35.8 +0.4**
comp=Z,288nm,1.2s
GNI LR LR
comp=Z,2μm,19.0s
GNI Garni 64.70 316 P **P 01 22 35.9 +0.6**
comp=Z,86nm,1.0s,baz=69,slow=2.0,SNR=83
DGRG David-gareji 64.84 318 P **P 01 22 37.4 +1.3**
DGRG S **S 01 31 16.7 +0.6**
CLDR Caldiran 64.86 315 *e*P **P 01 22 37.1 +0.6**
MIR Mirnyy 65.22 183 ⇑ *i*P **P 01 22 39.0 +1.0**
MIR *e* 01 23 18.0
MIR *e*S **S 01 31 24.0 +4.3**
MIR *e*SS **SS 01 35 39.0 +6.4**
MIR pmax pmax
comp=Z,239nm,1.5s
MIR pmax pmax
comp=Z,2μm,7.0s
SIRT Sirnak 65.27 313 *e*P **P 01 22 39.0 0.0**
TBLG Delisi 65.39 318 P **P 01 22 39.5 -0.1**
TBLG S **S 01 31 19.3 -3.5**
AGRB Hanur-Agry 65.69 315 *e*P **P 01 22 42.6 +0.8**
SVE Sverdlovsk 65.89 338 *d i*P **P 01 22 42.9 +0.4**
SVE *e*PPP PPP 01 26 40.5
SVE *e*S **S 01 31 24.9 -3.4**
SVE *e*SSS SSS 01 38 40.7
SVE pmax pmax
comp=Z,283nm,1.1s
SVE pmax pmax
comp=Z,461nm,7.4s
SVE MLR MLR
comp=Z,4μm,22.0s
SVE MLR MLR
comp=E,3μm,18.0s
KARS Kars 66.05 316 *e*P **P 01 22 45.2 +1.1**
AKH Akhalkalaki 66.10 317 P **P 01 22 44.7 +0.3**
AKH S **S 01 31 30.9 -0.9**
BTMT Batman 66.23 313 *e*P **P 01 22 45.2 +0.1**
ZEI Tsey 66.41 319 *e*P **P 01 22 45.4 -1.0**
ZEI pmax pmax
comp=Z,139nm,0.9s
ARU Arti 66.41 337 P **P 01 22 45.5 -0.3**
comp=Z,912nm,0.6s,SNR=37
ARU Arti 66.41 337 *c i*P **P 01 22 45.6 -0.3**
ARU 01 23 10.0
ARU 01 25 12.6
ARU PPP PPP 01 26 47.2
ARU S **S 01 31 34.6 0.0**
ARU 01 32 34.4
ARU SS **SS 01 35 45.4 -6.2**
ARU SSS SSS 01 38 41.7
ARU pmax pmax
comp=Z,256nm,1.7s
ARU Arti 66.41 337 *e*P **P 01 22 45.5 -0.3**
comp=Z,156nm,1.0s
ARU LR LR
comp=Z,5μm,19.0s
SVAN Silvan-Diyarba 66.42 313 *e*P **P 01 22 46.7 +0.3**
KBSD Kabsdagh 66.49 312 *e*P **P 01 22 47.8 +1.0**
KBSD Kabsdagh 66.49 312 *e*P **P 01 22 47.3 +0.5**
KBSD Kabsdagh 66.49 312 *e*P **P 01 22 47.1 +0.3**
SFNV Sufian 66.61 311 *e*P **P 01 22 48.3 +0.6**
SFNV Sufian 66.61 311 *e*P **P 01 22 48.2 +0.6**
SFNV Sufian 66.61 311 *e*P **P 01 22 47.9 +0.3**
VRTB Varto-Mus 66.62 314 *e*P **P 01 22 49.0 +1.2**
ONI Oni 66.62 318 P **P 01 22 48.6 +1.0**
ONI S **S 01 31 35.9 -2.0**
MAZI Mazidag 66.72 312 *e*P **P 01 22 48.8 +0.3**
EZM Erzurum 66.97 315 *e*P **P 01 22 51.3 +1.2**
MNKR ALMNKUR 67.08 310 *e*P **P 01 22 51.1 +0.5**
MNKR ALMNKUR 67.08 310 *e*P **P 01 22 51.1 +0.5**
MNKR ALMNKUR 67.08 310 *e*P **P 01 22 50.9 +0.3**
BNGB Bing¶ll 67.11 314 *e*P **P 01 22 51.5 +0.7**
DYBB Diyarbakir 67.13 312 *e*P **P 01 22 51.9 +0.9**
KSRV Kasrt alli 67.26 310 *e*P **P 01 22 52.8 +1.0**
KSRV Kasrt alli 67.26 310 *e*P **P 01 22 52.6 +0.9**
KSRV Kasrt alli 67.26 310 *e*P **P 01 22 51.0 -0.7**
YAK Yakutsk 67.26 15 *e*P **P 01 22 50.3 -0.8**
YAK *e**PP pP 01 23 04.1 +5.7
YAK *e* 01 23 12.5
YAK *e* 01 25 18.7
YAK *e*S **S 01 31 40.7 -3.9**
YAK *e**SS **sS 01 32 00.5 +3.9**
YAK *e* 01 32 37.5
YAK pmax pmax
comp=Z,169nm,1.1s
YAK pmax pmax
comp=N,66nm,1.2s
YAK pmax pmax
comp=E,58nm,1.3s
YAK pmax pmax
comp=N,44nm,1.4s
YAK pmax pmax
comp=Z,11nm,0.7s
YAK smax smax
comp=E,345nm,2.3s
YAK smax smax
comp=N,542nm,3.5s
YAK MLR MLR
comp=E,5μm,18.0s
YAK MLR MLR
comp=Z,10μm,17.0s
YAK MLR MLR
comp=N,7μm,17.0s
YAK Yakutsk 67.26 15 *e*P **P 01 22 50.8 -0.4**
comp=N,273nm,1.1s
YAK LR LR
comp=Z,9μm,19.0s
BCA Borcka 67.39 316 *e*P **P 01 22 52.7 +0.3**
KBZ Khabaz 67.48 319 P **P 01 22 53.4 +0.5**
KBZ pmax pmax
comp=Z,182nm,0.9s
KBZ Khabaz 67.48 319 P **P 01 22 53.4 +0.5**
KBZ Khabaz 67.48 319 P **P 01 22 53.4 +0.5**
comp=Z,182nm,0.9s,baz=112,slow=5.2,SNR=212
CHVG Ch'k'valeri 67.59 318 P **P 01 22 54.3 +0.6**
ZALF Zalf 67.65 306 *e*P **P 01 22 54.9 +0.6**
ZALF Zalf 67.65 306 *e*P **P 01 22 55.6 +1.3**
ZALF Zalf 67.65 306 *e*P **P 01 22 55.4 +1.1**
KIV Kislovodsk 67.72 319 P **P 01 22 54.3 -0.2**
comp=Z,2μm,0.9s,SNR=60
KIV Kislovodsk 67.72 319 *c i*P **P 01 22 54.6 +0.1**
KIV *e*S **S 01 31 52.4 +1.3**
KIV *e*SS **SS 01 36 14.0 +1.4**
KIV pmax pmax
comp=Z,282nm,1.0s
KIV pmax pmax
comp=Z,643nm,4.3s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 67.72 319 *e*P **P 01 22 54.5 -0.1**
comp=Z,322nm,1.0s
KIV LR LR
comp=Z,2μm,19.0s
ASF Jabal al Asfar 67.79 306 P **P 01 22 56.4 +1.2**
ASF Jabal al Asfar 67.79 306 P **P 01 22 56.4 +1.2**
comp=Z,140nm,1.0s,baz=75,slow=2.9,SNR=99
URFA Urfa 67.93 312 *e*P **P 01 22 57.0 +1.0**
GOF Gofitskoye 67.96 320 *i*P **P 01 22 56.4 +0.4**
GOF *e*S **S 01 31 54.1 +0.3**
GOF pmax pmax
comp=Z,244nm,1.3s
PTK Pertek 68.01 313 *e*P **P 01 22 56.9 +0.3**
BAYT Ayd¨–ntepe-Bay 68.02 315 *e*P **P 01 22 57.4 +0.7**
ERZN Erzincan 68.02 314 *e*P **P 01 22 56.2 -0.4**
SALA Sala 68.08 306 *e*P **P 01 22 58.2 +1.1**
SALA Sala 68.08 306 *e*P **P 01 22 58.3 +1.1**
SALA Sala 68.08 306 *e*P **P 01 22 58.2 +1.1**
DZM Mont Dzumac 68.19 113 *e*P **P 01 22 58.6 +0.6**
comp=Z,156nm,1.1s
DZM *e*S **S 01 31 51.8 -5.7**
comp=Z,3μm,28.2s
DZM Mont Dzumac 68.19 113 *e*LR LR 01 43 30.7
comp=Z,7μm,23.7s
DZM Mont Dzumac 68.19 113 *e*P **P 01 22 58.6 +0.6**
comp=Z,165nm,1.5s
DZM Mont Dzumac 68.19 113 P **P 01 22 57.8 -0.1**
comp=Z,25nm,0.8s,baz=312,slow=5.1,SNR=13
DZM Mont Dzumac 68.19 113 *e*P **P 01 22 57.6 -0.4**
KTUT Trabzon 68.51 315 *e*P **P 01 22 59.3 -0.1**
TOTH TOTAH 68.51 307 *e*P **P 01 23 00.4 +0.7**
TOTH TOTAH 68.51 307 *e*P **P 01 23 00.8 +1.1**
TOTH TOTAH 68.51 307 *e*P **P 01 23 00.5 +0.8**
GUMT Gumushane 68.51 315 *e*P **P 01 23 00.4 +0.7**
MALT Malatya 68.52 312 *e*P **P 01 22 59.0 -0.7**
MALT Malatya 68.52 312 ⇑ *i*P **P 01 23 00.5 +0.8**
TCHB Talchebab 68.68 306 *e*P **P 01 23 01.2 +0.4**
TCHB Talchebab 68.68 306 *e*P **P 01 23 01.6 +0.9**
TCHB Talchebab 68.68 306 *e*P **P 01 23 01.0 +0.3**
MBAR Mbarara 68.72 270 P **P 01 23 01.9 +0.3**
comp=Z,232nm,1.1s,SNR=27
EIL Elat 68.73 303 P **P 01 23 01.8 +0.7**
EIL Elat 68.73 303 P **P 01 23 01.8 +0.7**
comp=Z,269nm,1.0s,baz=102,slow=2.8,SNR=116
EIL Elat 68.73 303 P **P 01 23 01.9 +0.7**
baz=69,SNR=100
ILIC ilic-Erzincan 68.81 313 *e*P **P 01 23 03.9 +2.4**
HAWK Haweek 68.86 308 *e*P **P 01 23 02.4 +0.4**
HAWK Haweek 68.86 308 *e*P **P 01 23 03.2 +1.3**
HAWK Haweek 68.86 308 *e*P **P 01 23 03.0 +1.1**
BRBR Barbar 68.90 307 *e*P **P 01 23 03.4 +1.0**
BRBR Barbar 68.90 307 *e*P **P 01 23 03.3 +1.0**
BRBR Barbar 68.90 307 *e*P **P 01 23 03.4 +1.0**
WAKE Wake Island 68.99 69 *e*P **P 01 23 02.5 -0.4**
comp=Z,934nm,1.9s
RCY Rachaya 69.02 307 *e*P **P 01 23 04.2 +1.2**
BIDA Albida 69.07 308 *e*P **P 01 23 03.7 +0.5**
BIDA Albida 69.07 308 *e*P **P 01 23 03.7 +0.5**
BIDA Albida 69.07 308 *e*P **P 01 23 03.7 +0.5**
WRDH Warideh 69.15 309 *e*P **P 01 23 03.9 +0.2**
WRDH Warideh 69.15 309 *e*P **P 01 23 04.5 +0.9**
ESPY Espiye-Giresun 69.21 315 *e*P **P 01 23 04.3 +0.5**
MMAI Mount Meron Ar 69.23 306 P **P 01 23 05.5 +1.2**
MMAI Mount Meron Ar 69.23 306 P **P 01 23 05.5 +1.2**
comp=Z,114nm,0.8s,baz=95,slow=8.5,SNR=106
BTCH Batrach 69.27 309 *e*P **P 01 23 04.5 +0.1**
BTCH Batrach 69.27 309 *e*P **P 01 23 04.7 +0.2**
BHL Bhannes 69.28 307 *e*P **P 01 23 05.2 +0.6**
KMRS Kahramanmaras 69.39 311 *e*P **P 01 23 05.6 +0.5**
SOC Sochi 69.53 318 *c i*P **P 01 23 05.4 -0.3**
SOC *e**SP **sP 01 23 13.0 -2.7**
SOC *e* 01 23 26.8
SOC *i* 01 25 36.3
SOC *i*S **S 01 32 10.1 -2.3**
SOC *e*S **S 01 32 10.4 -2.0**
SOC *e* 01 33 02.6
SOC *e*SS **SS 01 36 34.2 -6.2**
SOC pmax pmax
comp=Z,300nm,1.0s
SOC pmax pmax
comp=Z,2μm,3.6s
TAHT Tahtakopru-Hat 69.59 310 *e*P **P 01 23 07.1 +0.8**
RSDY Resadiye-TOKAT 70.03 314 *e*P **P 01 23 09.8 +0.8**
SVSK Karacayir 70.11 314 *e*P **P 01 23 10.2 +0.9**
CEYT Ceyhan 70.11 310 *e*P **P 01 23 09.8 +0.3**
KOZT Kozan 70.20 311 *e*P **P 01 23 10.4 +0.4**
BNN Bunyan 70.61 312 *e*P **P 01 23 12.5 -0.1**
SKR Severo-Kuril's 70.64 34 *e*P P 01 23 05.5 -6.9
SKR *e* 01 25 55.0
SKR *e*S S 01 32 14.0 -11
SKR *e* 01 32 54.0
SKR *e*SSS SSS 01 39 55.0
SKR pmax pmax
comp=Z,4μm,8.0s
SKR pmax pmax
comp=Z,800nm,1.5s
SKR smax smax
comp=N,4μm,14.0s
SKR smax smax
comp=E,3μm,14.0s
SKR MLR MLR
comp=N,5μm,18.0s
SKR MLR MLR
comp=E,2μm,18.0s
SKR MLR MLR
comp=Z,6μm,18.0s
KARA Karaisali 70.72 310 *e*P **P 01 23 13.5 +0.3**
MAW Mawson 70.77 194 *e*P **P 01 23 13.5 +0.6**
comp=Z,63nm,1.7s
MAW Mawson 70.77 194 P **P 01 23 13.4 +0.6**
comp=Z,59nm,1.0s,baz=36,slow=7.4,SNR=20
MAW LR LR 01 49 27.5
comp=Z,7μm,19.0s,baz=35,slow=32
MAW Mawson 70.77 194 P **P 01 23 14.0 +1.2**
baz=71,SNR=10
EREN Erenkoy 70.91 308 *e*P **P 01 23 14.1 -0.3**
MERS Mersin 71.01 310 *e*P **P 01 23 15.1 +0.1**
DRV Dumont d'Urvil 71.08 164 P P 01 23 07.0 -7.7
DRV Dumont d'Urvil 71.08 164 PP PP 01 25 39.0 -13
DRV S S 01 32 22.0 -7.6
DRV SS SS 01 36 42.0 -21
DRV L L 01 41 00.0
DRV R 01 45 00.0
NIG Nigde 71.31 311 *e*P **P 01 23 16.8 -0.2**
LFK Lefkose 71.34 308 *e*P **P 01 23 17.5 +0.4**
CSS Prodhromos 71.42 308 *e*P **P 01 23 16.7 -0.8**
CSS Prodhromos 71.42 308 P **P 01 23 17.4 -0.1**
CSS Prodhromos 71.42 308 *e*P **P 01 23 17.1 -0.4**
comp=Z,74nm,1.1s
CSS LR LR
comp=Z,859nm,20.0s
IKL Isikli 71.48 309 *e*P **P 01 23 17.6 -0.2**
VRHR Novokhopersk 71.51 326 *e*P **P 01 23 15.9 -1.7**
VRHR pmax pmax
comp=N,90nm,0.9s
VRHR pmax pmax
comp=Z,230nm,0.9s
VRHR pmax pmax
comp=E,240nm,1.2s
VRHR MLR MLR
comp=E,2μm,19.0s
VRHR MLR MLR
comp=Z,3μm,19.0s
VRHR MLR MLR
comp=N,1μm,17.0s
ANN Anapa 71.51 318 *e*P **P 01 23 16.6 -1.2**
ANN *e*S **S 01 32 31.5 -3.9**
ANN pmax pmax
comp=Z,75nm,1.2s
LSZ Lusaka 71.59 254 *e*P **P 01 23 19.2 +0.1**
comp=Z,199nm,1.3s
LSZ LR LR
comp=Z,8μm,21.0s
LEF Lefka 71.81 308 *e*P **P 01 23 20.3 +0.5**
CORM Corum 71.91 313 *e*P **P 01 23 19.8 -0.7**
DIKM Dikmen 71.92 315 *e*P **P 01 23 17.9 -2.4**
SULT Sultanhani-AKS 72.16 311 *e*P **P 01 23 22.4 +0.4**
KAMT Kaman 72.34 312 *e*P **P 01 23 21.3 -1.8**
BR131 Keskin Array S 72.50 312 *e*P **P 01 23 23.0 -1.1**
comp=Z,71nm,0.9s
BRTR Keskin Array B 72.50 312 P **P 01 23 23.2 -0.8**
BRTR Keskin Array B 72.50 312 P **P 01 23 23.2 -0.8**
comp=Z,58nm,0.9s,baz=132,slow=6.9,SNR=191
TOS Tosya 72.61 314 *e*P **P 01 23 24.6 -0.1**
PETK Petropavlovsk- 72.63 32 P **P 01 23 24.7 +0.3**
PETK pmax pmax
comp=Z,35nm,0.8s
PETK MLR MLR
comp=Z,2μm,18.5s
PETK Petropavlovsk- 72.63 32 P **P 01 23 24.6 +0.3**
PETK Petropavlovsk- 72.63 32 P **P 01 23 24.6 +0.3**
comp=Z,35nm,0.8s,baz=217,slow=4.7,SNR=24
PETK LR LR 01 59 53.6
comp=Z,2μm,18.5s,baz=144,slow=40
VORD Divnogorie 72.78 325 *e*P **P 01 23 22.6 -2.6**
VORD pmax pmax
comp=Z,160nm,0.9s
VORD pmax pmax
comp=N,120nm,1.0s

VORD pmax pmax
comp=E,210nm,1.0s
VORD MLR MLR
comp=E,2μm,19.0s
VORD MLR MLR
comp=Z,2μm,19.0s
VORD MLR MLR
comp=N,2μm,23.0s
CANT Cankiri 72.78 313 *e*P **P 01 23 25.6 0.0**
AFSR Af˙ar-Bala (A 72.84 312 *e*P **P 01 23 25.8 -0.3**
BZK Bozkurt 72.91 315 *e*P **P 01 23 26.6 +0.3**
VSR Storozhevoye 72.95 325 *e*P **P 01 23 24.2 -2.1**
VSR pmax pmax
comp=E,260nm,1.0s
VSR pmax pmax
comp=Z,280nm,1.0s
VSR pmax pmax
comp=N,80nm,0.9s
LADK Ladik-KONYA 73.03 311 *e*P **P 01 23 26.7 -0.5**
PET Petropavlovsk 73.11 33⇓ *e*P **P 01 23 27.9 +0.8**
PET *e*S **S 01 32 52.7 -0.7**
PET *e*SS **SS 01 37 34.1 -0.7**
PET pmax pmax
comp=Z,130nm,0.7s
PET pmax pmax
comp=Z,1μm,11.2s
PET MLR MLR
comp=Z,4μm,17.8s
PET MLR MLR
comp=Z,4μm,15.7s
PET Petropavlovsk 73.11 33 *e*P **P 01 23 27.5 +0.3**
comp=Z,114nm,0.9s
PET LR LR
comp=Z,3μm,21.0s
VOR Voronezh 73.15 326⇑ *i*P **P 01 23 28.0 +0.6**
VOR pmax pmax
comp=Z,500nm,1.4s
ANTO Ankara 73.17 312 *e*P **P 01 23 26.5 -1.5**
ANTO Ankara 73.17 312 *e*P **P 01 23 27.4 -0.6**
ANTO pmax pmax
comp=Z,147nm,1.1s
ANTO MLR MLR
comp=Z,2μm,22.0s
ANTO Ankara 73.17 312⇑ *i*P **P 01 23 27.1 -0.8**
ANTO Ankara 73.17 312 *e*P **P 01 23 27.4 -0.6**
comp=Z,147nm,1.1s
ANTO LR LR
comp=Z,2μm,22.0s
LOD Lodumlu 73.19 312 *e*P **P 01 23 26.8 -1.3**
TARA Tarawa 73.49 88 *e*P **P 01 23 30.1 -0.2**
comp=Z,805nm,1.6s
KIZT Kizilcal 73.58 311 *e*P **P 01 23 29.0 -1.4**
SAFT Safranbolu 73.64 314 *e*P **P 01 23 30.6 0.0**
SIM Simferopol' 73.77 318 *e*P **P 01 23 31.5 +0.2**
SIM *e*S **S 01 33 01.0 -0.3**
SIM pmax pmax
comp=Z,157nm,1.0s
SUTC Sutluce-Ispart 73.88 310 *e*P **P 01 23 31.6 -0.7**
SVRH Sivrihisar-ESK 74.00 312 *e*P **P 01 23 32.6 -0.2**
ANTB Antalya 74.01 309 *e*P **P 01 23 31.2 -1.6**
BCK Bucak 74.20 310 *e*P **P 01 23 32.0 -2.1**
ISP Isparta 74.34 310 *e*P **P 01 23 33.8 -1.2**
ISP Isparta 74.34 310 P **P 01 23 33.6 -1.3**
ISP Isparta 74.34 310 *e*P **P 01 23 34.4 -0.5**
ISP pmax pmax
comp=Z,59nm,0.9s
ISP MLR MLR
comp=Z,2μm,21.0s
ISP Isparta 74.34 310⇑ *i*P **P 01 23 33.7 -1.2**
ISP Isparta 74.34 310 *e*P **P 01 23 34.4 -0.5**
comp=Z,59nm,0.9s
ISP LR LR
comp=Z,2μm,21.0s
SHUT Suhut-Afyon 74.50 311 *e*P **P 01 23 35.5 -0.4**
MDUB Mudurnu 74.51 313 *e*P **P 01 23 35.6 -0.2**
ELL Elmali 74.55 309 *e*P **P 01 23 35.8 -0.4**
KDZE Karadeniz Ereo 74.56 314 *e*P **P 01 23 34.2 -1.8**
LBTB Lobatse 74.82 245 *e*P **P 01 23 38.1 +0.1**
comp=Z,190nm,1.5s
LBTB *e*pP **pP 01 23 46.1 +0.8**
PRGR Permogore 74.87 336⇑ *i*P **P 01 23 37.6 +0.3**
PRGR *PP **pP 01 23 44.2 -0.4**
PRGR *e*S **S 01 33 11.6 -1.3**
PRGR pmax pmax
comp=Z,341nm,0.9s
GLHS Gihisar (BURDU 74.97 309 *e*P **P 01 23 36.0 -2.5**
GULT Gulveren 75.00 312 *e*P **P 01 23 38.0 -0.6**
SPNC Sapanca-Adapaz 75.22 313 *e*P **P 01 23 38.2 -1.5**
SEY Seymchan 75.24 22 P **P 01 23 39.5 +0.1**
SEY pmax pmax
comp=Z,43nm,0.6s
SEY Seymchan 75.24 22 P **P 01 23 39.5 +0.1**
SEY Seymchan 75.24 22 P **P 01 23 39.5 +0.1**
comp=Z,43nm,0.6s,baz=232,slow=5.8,SNR=92
TIXI Tiksi 75.31 9*d* *i*P **P 01 23 39.2 -0.5**
TIXI pmax pmax
comp=Z,77nm,1.0s
TIXI MLR MLR
comp=Z,8μm,21.0s
TIXI Tiksi 75.31 9 *e*P **P 01 23 39.4 -0.3**
comp=Z,250nm,1.1s
TIXI *e*pP **pP 01 23 46.4 -0.6**
TIXI *e*S **S 01 33 14.7 -2.8**
TIXI LR LR
comp=Z,7μm,19.0s
CAVI Cavuskoy 75.44 312 *e*P **P 01 23 40.8 -0.3**
BOSA Boshof 75.50 241 *e*P **P 01 23 41.3 -0.6**
comp=Z,97nm,1.3s
BOSA Boshof 75.50 241 P **P 01 23 41.2 -0.6**
comp=Z,36nm,1.0s,baz=91,slow=6.6,SNR=31
BOSA LR LR 01 50 30.4
comp=Z,6μm,20.8s,baz=82,slow=31
MOS Moscow 75.68 329 *e*P **P 01 23 41.4 -0.7**
MOS *i* 01 23 51.1
MOS *e* 01 23 54.8
MOS *e* 01 26 32.8
MOS *e*S **S 01 33 16.9 -5.2**
MOS *e* 01 33 51.5
MOS pmax pmax
comp=Z,497nm,1.1s
MOS pmax pmax
comp=Z,1μm,2.0s
MOS MLR MLR
comp=Z,5μm,21.0s
HRT Hereke 75.72 313 *e*P **P 01 23 42.5 -0.3**
RPZ Rata Peaks 75.80 135 *e*P **P 01 23 44.1 +1.0**
comp=Z,81nm,0.5s
ARG Arkhangelos 75.83 308 P **P 01 23 43.0 -0.4**
ARG Arkhangelos 75.83 308 P **P 01 23 43.0 -0.4**
ARG Arkhangelos 75.83 308 P **P 01 23 43.0 -0.4**
KULA Kula-Manisa 75.93 310 *e*P **P 01 23 43.0 -1.0**
OBN Obninsk 75.97 328 P **P 01 23 43.6 -0.1**
comp=Z,2μm,1.2s,SNR=35
OBN Obninsk 75.97 328α *i*P **P 01 23 43.9 +0.2**
OBN *i* 01 23 52.2
OBN *i*S **S 01 33 21.2 -4.2**
OBN *i*PS **PnS 01 34 06.6 +2.7**
OBN *i*SS **SS 01 38 18.6 +0.3**
OBN pmax pmax
comp=Z,615nm,1.7s
OBN MLR MLR
comp=Z,3μm,22.0s
OBN Obninsk 75.97 328 *e*P **P 01 23 43.8 0.0**
comp=Z,375nm,1.2s
OBN LR LR
comp=Z,3μm,22.0s
GEMT Gemlik 75.98 312 *e*P **P 01 23 43.4 -0.8**
MDNY Mudanya-Bursa 76.19 312 *e*P **P 01 23 43.4 -2.0**
ARMT Armutlu 76.26 312 *e*P **P 01 23 45.3 -0.4**
KLYT Kilyos 76.29 313 *e*P **P 01 23 45.7 -0.2**
AYDB Zeytinkoy-Aydi 76.39 309 *e*P **P 01 23 46.0 -0.7**
KARP Karpathos 76.46 307 P **P 01 23 47.0 -0.1**
KARP Karpathos 76.46 307 *e*P **P 01 23 47.0 -0.1**
KARP Karpathos 76.46 307 P **P 01 23 47.0 -0.1**
BGKT Bogazkoy 76.47 313 *e*P **P 01 23 45.6 -1.3**
KCTX Karacabey (Bur 76.56 312 *e*P **P 01 23 47.4 -0.1**
BODT Bodrum 76.65 309 *e*P **P 01 23 46.7 -1.4**
AKS Akhisar 76.66 310 *e*P **P 01 23 47.6 -0.5**
CTKS Kestanelik-??a 76.68 313 *e*P **P 01 23 47.1 -1.0**
CTYL Yal??k??y-??at 76.89 313 *e*P **P 01 23 47.5 -1.8**
BNT Bandirma 76.91 312 *e*P **P 01 23 49.7 +0.3**
IZM Izmir 76.97 310 *e*P **P 01 23 50.0 +0.1**
GONE Gonen-Balikesi 77.01 312 *e*P **P 01 23 49.8 -0.2**
ZKR Zakros 77.14 306 P **P 01 23 50.9 +0.1**
ZKR Zakros 77.14 306 *e*P **P 01 23 51.0 +0.1**
ZKR Zakros 77.14 306 P **P 01 23 50.9 +0.1**
BLCB Balcova 77.14 310 *e*P **P 01 23 50.0 -0.7**
SMG Samos 77.16 309 P **P 01 23 51.1 +0.2**
SMG Samos 77.16 309 *e*P **P 01 23 50.7 -0.2**
SMG Samos 77.16 309 P **P 01 23 51.1 +0.2**
MRMT Marmara Adasi 77.20 312 *e*P **P 01 23 50.8 -0.4**
CRLT Corlu 77.22 313 *e*P P 01 23 46.4 -4.8
MANR Mangalia 77.25 315⇑ *i*P **P 01 23 51.9 +0.7**
KHZ Kahutara 77.35 133 *e*P **P 01 23 52.5 +0.6**
comp=Z,133nm,1.2s
KRBG Karabiga-Canak 77.38 312 *e*P **P 01 23 50.1 -2.0**
TLCR 77.44 317⇑ *i*P **P 01 23 52.7 +0.5**
PHSR Pinarhisar 77.49 313 *e*P **P 01 23 51.1 -1.5**
PSN Preselentsi 77.50 315 *i*P **P 01 23 52.5 -0.1**
PSN Preselentsi 77.50 315⇑ *i*P **P 01 23 52.5 -0.1**
TIRR Tirgusor 77.53 316 *e*P **P 01 23 52.6 -0.2**
TIRR pmax pmax
comp=Z,130nm,0.9s
TIRR Tirgusor 77.53 316 *e*P **P 01 23 52.6 -0.2**
comp=Z,130nm,0.9s
NPS Neapolis 77.65 306 P **P 01 23 53.2 -0.5**
NPS Neapolis 77.65 306 P **P 01 23 53.2 -0.5**
NPS Neapolis 77.65 306 *e*P **P 01 23 54.1 +0.4**
NPS Neapolis 77.65 306 P **P 01 23 53.2 -0.5**
LAST Lasithi 77.74 306 P **P 01 23 54.2 -0.1**
LAST Lasithi 77.74 306 *e*P **P 01 23 54.5 +0.2**
LAST Lasithi 77.74 306 P **P 01 23 54.2 -0.1**
LPK Lapseki 77.77 312 *e*P **P 01 23 54.6 +0.4**
TLB Topalu 77.82 316⇑ *i*P **P 01 23 54.3 -0.1**
MSAB Monastry St. A 77.85 316⇑ *i*P **P 01 23 54.5 -0.1**
CHOS Chios island 77.90 310 *e*P **P 01 23 54.3 -0.8**
CHOS Chios island 77.90 310 P **P 01 23 56.5 +1.4**
CHOS Chios island 77.90 310 *e*P **P 01 23 55.4 +0.3**
CHOS Chios island 77.90 310 P **P 01 23 56.5 +1.4**
CFR Carcaliu 77.90 317⇓ *i*P **P 01 23 54.8 0.0**
PRK Paraskevi 77.91 311 P **P 01 23 54.8 -0.2**
PRK Paraskevi 77.91 311 P **P 01 23 54.8 -0.2**
PRK Paraskevi 77.91 311 *e*P **P 01 23 55.1 +0.1**
PRK Paraskevi 77.91 311 P **P 01 23 54.8 -0.2**
KIS Kishinev 77.91 319⇑ *i*P **P 01 23 54.0 -0.8**
comp=Z,600nm,1.0s
KIS Kishinev 77.91 319 *i* PcP **PcP 01 24 02.0 -2.6**
KIS Kishinev 77.91 319 *i* PP PP 01 26 46.0 -4.9
KIS *e*S S 01 33 40.0 -6.8
KIS Kishinev 77.91 319 *e*PS **PnS 01 34 30.0 +1.0**
KIS LRM MLR 02 05 02.0
comp=Z,2μm,16.0s
KIS Kishinev 77.91 319α *i*P **P 01 23 54.0 -0.8**
KIS *i* 01 24 02.0
KIS *e* 01 26 46.0
KIS *e* 01 28 40.0
KIS *e*S S 01 33 40.0 -6.8
KIS *e*PS **PnS 01 34 30.0 +1.0**
KIS pmax pmax
comp=Z,600nm,1.0s
KIS pmax pmax
comp=Z,1μm,6.0s
HARR Harsova 77.92 316⇑ *i*P **P 01 23 55.1 +0.1**
SANT Santorini 77.98 308 *e*P **P 01 23 54.2 -1.4**
SANT Santorini 77.98 308 P **P 01 23 54.3 -1.2**
SANT Santorini 77.98 308 *e*P **P 01 23 55.1 -0.4**
SANT Santorini 77.98 308 *e*P **P 01 23 54.6 -0.9**
comp=Z,193nm,1.0s
SANT LR LR
comp=Z,2μm,19.0s
GELI Tayfur-Gelibol 77.99 312 *e*P **P 01 23 55.6 +0.1**
ERIK Erikli-Kesan 78.02 312 *e*P **P 01 23 55.3 -0.3**
SNZO South Karori 78.03 132 *e*P **P 01 23 55.8 +0.1**
comp=Z,148nm,1.0s
SNZO LR LR
comp=Z,5μm,22.0s
APE Apeiranthos 78.05 308 *e*P P 01 23 52.6 -3.4
APE Apeiranthos 78.05 308 P **P 01 23 55.0 -0.9**
APE Apeiranthos 78.05 308*c* *i*P **P 01 23 54.6 -1.3**
APE pmax pmax
comp=Z,93nm,1.0s
APE Apeiranthos 78.05 308 *e*P **P 01 23 54.8 -1.1**
APE Apeiranthos 78.05 308⇑ *i*P **P 01 23 55.1 -0.9**
APE Apeiranthos 78.05 308 P **P 01 23 55.0 -0.9**
EDRB Edirne 78.11 313 *e*P **P 01 23 55.8 -0.3**
LEOM Leova 78.15 318⇑ *i*P **P 01 23 56.2 0.0**
IDI Anoyia 78.23 306 *e*P **P 01 23 56.7 -0.3**
IDI Anoyia 78.23 306 P **P 01 23 56.0 -1.0**
IDI Anoyia 78.23 306 *e*P **P 01 23 57.0 0.0**
IDI Anoyia 78.23 306 *e*P **P 01 23 57.3 +0.3**
comp=Z,386nm,1.2s
IDI Anoyia 78.23 306 P **P 01 23 57.1 +0.1**
comp=Z,147nm,0.8s,baz=96,slow=6.5,SNR=132
SIVA Sivas 78.25 306 P **P 01 23 57.0 0.0**
SIVA Sivas 78.25 306 *e*P **P 01 23 56.7 -0.3**
SIVA Sivas 78.25 306 P **P 01 23 57.0 0.0**
ENEZ Enez 78.30 312 *e*P **P 01 23 55.2 -2.0**
SYO Syowa Base 78.30 199⇑ *i*P **P 01 23 54.8 -1.8**
SYO Syowa Base 78.30 199⇓ *e*P P 01 24 04.6 +8.0
AMRR Amara 78.31 316⇓ *i*P **P 01 23 57.7 +0.6**
JMB Yambol 78.36 314 P **P 01 23 57.6 +0.1**
JMB Yambol 78.36 314 P **P 01 23 57.6 +0.1**
JMB Yambol 78.36 314 *i*P **P 01 23 58.1 +0.6**
JMB Yambol 78.36 314⇑ *i*P **P 01 23 58.2 +0.7**
JMB Yambol 78.36 314 P **P 01 23 57.6 +0.1**
ALN Alexandroupoli 78.42 312 *e*P **P 01 23 56.6 -1.2**
ALN Alexandroupoli 78.42 312 P **P 01 23 57.0 -0.8**
ALN Alexandroupoli 78.42 312 P **P 01 23 57.0 -0.8**
ALN Alexandroupoli 78.42 312 *e*P **P 01 23 57.1 -0.8**
ALN Alexandroupoli 78.42 312 P **P 01 23 57.0 -0.8**
SORM Soroca 78.51 320⇑ *i*P **P 01 23 58.1 0.0**
GHRR 78.61 317⇓ *i*P **P 01 23 59.7 +0.9**
PGOR Pogoanele 78.63 316⇓ *i*P **P 01 24 00.3 +1.4**
PETR Petresti 78.65 317⇑ *i*P **P 01 24 00.1 +1.1**
AKASG Malin Array Be 78.66 322 P **P 01 23 58.3 -0.6**
AKASG 01 26 54.8
AKASG pmax pmax
comp=Z,13nm,0.6s
AKASG pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 78.66 322 P **P 01 23 58.3 -0.6**
AKASG PP **PP 01 26 54.8 -2.3**
AKASG PKiKP **PKiKP 01 29 34.0 -0.4**
AKASG Malin Array Be 78.66 322 P **P 01 23 58.3 -0.6**
comp=Z,13nm,0.6s,baz=89,slow=4.7,SNR=184
AKASG PP **PP 01 26 54.8 -2.3**
comp=Z,9.0nm,1.0s,baz=90,slow=6.6,SNR=5.1
AKASG PKiKP **PKiKP 01 29 34.0 -0.4**
comp=Z,0.9nm,0.5s,baz=79,slow=2.0,SNR=5.8
AKASG LR LR 02 06 14.4
comp=Z,3μm,19.7s,baz=105,slow=41
KIEV Kiev 78.67 322*c* *i*P **P 01 23 58.2 -0.7**
KIEV Kiev 78.67 322 *e*P **P 01 23 58.1 -0.8**
comp=Z,79nm,1.1s
KIEV LR LR
comp=Z,3μm,20.0s
SMTH Samothraki Isl 78.71 312 P **P 01 23 58.4 -1.1**
SMTH Samothraki Isl 78.71 312 *e*P **P 01 23 58.5 -1.1**
SMTH Samothraki Isl 78.71 312 P **P 01 23 58.4 -1.1**
IAS Iasi 78.79 319⇑ *i*P **P 01 23 59.8 +0.1**
VAM Vamos 78.81 306 P **P 01 24 00.4 +0.3**
VAM Vamos 78.81 306 P **P 01 24 00.4 +0.3**
VAM Vamos 78.81 306 *e*P **P 01 24 00.7 +0.6**
VAM Vamos 78.81 306 P **P 01 24 00.4 +0.3**
RDO Rodhopi 78.84 312 P **P 01 23 58.8 -1.3**
RDO Rodhopi 78.84 312 *e*P **P 01 23 58.9 -1.2**
RDO Rodhopi 78.84 312 P **P 01 23 58.8 -1.3**
LIA Limnos Island 78.86 311 P **P 01 23 59.1 -1.2**
LIA Limnos Island 78.86 311 *e*P **P 01 23 59.9 -0.4**
LIA Limnos Island 78.86 311 P **P 01 23 59.1 -1.2**
ISR Istrita 78.98 316⇑ *i*P **P 01 24 02.0 +1.1**
SZH Strazhica 79.00 314 *i*P **P 01 24 00.7 -0.3**
VRI Vrincioaia 79.03 317⇑ *i*P **P 01 24 01.8 +0.7**
DIM Dimitrovgrad 79.03 313 *i*P **P 01 24 01.0 -0.2**
KDZ Kurdzhali 79.03 313 *i*P **P 01 23 59.8 -1.4**
KDZ Kurdzhali 79.03 313⇑ *i*P **P 01 24 00.6 -0.6**
KARN Karanos 79.04 306 P **P 01 24 01.5 +0.1**
KARN Karanos 79.04 306 *e*P **P 01 24 01.9 +0.5**
KARN Karanos 79.04 306 P **P 01 24 01.5 +0.1**
PLOR Plostina 79.08 317⇑ *i*P **P 01 24 02.0 +0.6**
SULR 79.08 316⇑ *i*P **P 01 24 02.1 +0.7**
MRMA Marmari 79.13 309 P **P 01 24 01.4 -0.4**
TMCR Tamitsa 79.15 337 *e*P **P 01 24 02.2 +0.9**
TMCR *e* 01 27 04.0
TMCR *e*S **S 01 34 05.4 +6.0**
TMCR pmax pmax
comp=Z,189nm,1.0s
TESR Tescani 79.23 318⇑ *i*P **P 01 24 02.6 +0.4**
SECR 79.29 316⇓ *i*P **P 01 24 03.7 +1.1**
PVL Pavlikeni 79.42 314 *i*P **P 01 24 03.8 +0.6**
URZ Urewera 79.45 129 *e*P **P 01 24 03.9 +0.3**
comp=Z,32nm,0.7s
URZ *e*PP **PP 01 27 01.0 -3.0**
MLR Muntele Rosu 79.47 317⇓ *i*P **P 01 24 04.3 +0.6**
MLR Muntele Rosu 79.47 317 P **P 01 24 03.7 0.0**
MLR Muntele Rosu 79.47 317 P **P 01 24 03.7 0.0**
comp=Z,62nm,1.0s,baz=56,slow=7.3
ZIMR 79.48 315⇓ *i*P **P 01 24 04.0 +0.4**
PTL Penteli 79.53 309 P **P 01 24 02.6 -1.4**
PTL Penteli 79.53 309 *e*P **P 01 24 03.2 -0.8**
PTL Penteli 79.53 309 P **P 01 24 02.6 -1.4**
RZN Rozhen 79.56 313 *i*P **P 01 24 03.9 -0.4**
KAVA Kavala 79.57 312 P **P 01 24 03.7 -0.4**
KAVA Kavala 79.57 312 *e*P **P 01 24 04.1 0.0**
KAVA Kavala 79.57 312 P **P 01 24 03.7 -0.4**
ATHU Athens Univers 79.58 309 P **P 01 24 03.4 -0.9**
ATHU Athens Univers 79.58 309 P **P 01 24 03.4 -0.9**
ANKY Antikythira Is 79.61 307 P **P 01 24 04.9 +0.4**
ANKY Antikythira Is 79.61 307 *e*P **P 01 24 04.3 -0.2**
ANKY Antikythira Is 79.61 307 P **P 01 24 04.9 +0.4**
ATH Athens Observa 79.63 309 P **P 01 24 03.5 -1.0**
ATH Athens Observa 79.63 309 P **P 01 24 03.5 -1.0**
ATH Athens Observa 79.63 309 P **P 01 24 03.5 -1.0**
ERET Eretria 79.64 309 P **P 01 24 03.2 -1.5**
PLD Plovdiv 79.65 313 P **P 01 24 04.0 -0.5**
PLD Plovdiv 79.65 313 P **P 01 24 04.0 -0.5**
PLD Plovdiv 79.65 313 *i*P **P 01 24 04.3 -0.2**
PLD Plovdiv 79.65 313 P **P 01 24 04.0 -0.5**
SUR Sutherland 79.69 237 *e*P **P 01 24 06.4 +1.1**
comp=Z,223nm,1.3s
SUR LR LR
comp=Z,7μm,21.0s
PRAR RASCA 79.71 319⇓ *i*P **P 01 24 05.4 +0.6**
AOS Alonnisos 79.71 310 *e*P **P 01 24 03.5 -1.5**
AOS Alonnisos 79.71 310 P **P 01 24 05.2 +0.2**
AOS Alonnisos 79.71 310 P **P 01 24 05.2 +0.2**
NAIG Nisos Aigina 79.77 309 *e*P **P 01 24 03.9 -1.4**
OUR Ouranopolis 79.85 311 *e*P **P 01 24 04.7 -1.0**
OUR Ouranopolis 79.85 311 P **P 01 24 05.0 -0.6**
OUR Ouranopolis 79.85 311 P **P 01 24 05.0 -0.6**
OUR Ouranopolis 79.85 311 *e*P **P 01 24 05.2 -0.4**
OUR Ouranopolis 79.85 311 P **P 01 24 05.0 -0.6**
MRKA Markates 79.86 310 P **P 01 24 04.4 -1.4**
MRKA Markates 79.86 310 *e*P **P 01 24 02.9 -2.9**
KYTH Kithira 79.89 307 *e*P **P 01 24 06.1 +0.1**
DID Didima 79.93 308 P **P 01 24 04.7 -1.5**
DID Didima 79.93 308 *e*P **P 01 24 04.7 -1.5**
DID Didima 79.93 308 P **P 01 24 04.7 -1.5**
HUMR Humele 79.94 316⇑ *i*P **P 01 24 06.0 -0.1**
DOPR Dopca 79.96 317⇓ *i*P **P 01 24 06.2 0.0**
PAIG Paliouri 80.00 311 P **P 01 24 05.7 -0.8**
PAIG Paliouri 80.00 311 P **P 01 24 05.7 -0.8**
PAIG Paliouri 80.00 311 *e*P **P 01 24 06.0 -0.5**
PAIG Paliouri 80.00 311 P **P 01 24 05.7 -0.8**
SKIA Skiathos 80.03 310 *e*P **P 01 24 06.3 -0.4**
VLI Veliai 80.04 307 P **P 01 24 05.5 -1.3**
VLI Veliai 80.04 307 *e*P **P 01 24 05.7 -1.1**
VLI Veliai 80.04 307 P **P 01 24 05.5 -1.3**
VOIR 80.08 316⇑ *i*P **P 01 24 06.6 -0.3**
NVR Nevrokopi 80.12 312 P **P 01 24 05.4 -1.8**
NVR Nevrokopi 80.12 312 *e*P **P 01 24 06.6 -0.6**
NVR Nevrokopi 80.12 312 P **P 01 24 05.4 -1.8**
PGB Panagyurishte 80.12 313 *i*P **P 01 24 06.8 -0.4**
LTK Loutraki 80.22 309 P **P 01 24 05.3 -2.5**
LTK Loutraki 80.22 309 *e*P **P 01 24 06.0 -1.8**
LTK Loutraki 80.22 309 P **P 01 24 05.3 -2.5**
NEO Neokhori 80.24 310 P **P 01 24 06.0 -1.9**
NEO Neokhori 80.24 310 P **P 01 24 06.0 -1.9**
PLG Polygyros 80.26 311 P **P 01 24 07.2 -0.7**
PLG Polygyros 80.26 311 P **P 01 24 07.2 -0.7**
PLG Polygyros 80.26 311 P **P 01 24 07.2 -0.7**
MMB Musomiste 80.27 312 *i*P **P 01 24 07.3 -0.7**
MMB Musomiste 80.27 312⇓ *i*P **P 01 24 07.3 -0.7**
XOR Xorichti 80.27 310 P **P 01 24 06.3 -1.7**
XOR Xorichti 80.27 310 P **P 01 24 06.3 -1.7**
SRS Serrai 80.28 312 P P 01 24 04.6 -3.4
SRS Serrai 80.28 312 P P 01 24 04.6 -3.4
SRS Serrai 80.28 312 *e*P **P 01 24 07.2 -0.8**
SRS Serrai 80.28 312 P P 01 24 04.6 -3.4
LKR Lokris 80.30 309 P **P 01 24 06.3 -1.9**
LKR Lokris 80.30 309 *e*P **P 01 24 05.8 -2.4**
LKR Lokris 80.30 309 P **P 01 24 06.3 -1.9**
ARR Arges 80.35 316⇑ *i*P **P 01 24 08.2 -0.2**
SOH Sokhos 80.40 312 P **P 01 24 07.7 -1.0**
SOH Sokhos 80.40 312 P **P 01 24 07.7 -1.0**
SOH Sokhos 80.40 312 *e*P **P 01 24 07.9 -0.8**
SOH Sokhos 80.40 312 P **P 01 24 07.7 -1.0**
BURAR Bucovina Array 80.43 319 *i*P **P 01 24 10.1 +1.3**
BUR08 Bucovina Ar. S 80.45 319 *e*P **P 01 24 09.7 +0.8**
FYTO Fytoko, Volos 80.47 310 P **P 01 24 07.8 -1.3**
FYTO Fytoko, Volos 80.47 310 P **P 01 24 07.8 -1.3**
MICGM Minsk 80.50 326⇓ *e*P **P 01 24 06.0 -2.9**
MNK Minsk 80.53 326⇑ *i*P **P 01 24 06.0 -3.0**
MNK *e* 01 24 14.0
MNK *e* 01 27 14.0
MNK *e*PPP PPP 01 29 08.0
MNK *e*S S 01 34 08.0 -6.4
MNK pmax pmax
comp=Z,900nm,1.0s
MNK smax smax
comp=N,4μm,20.0s
HORT Hortiatis 80.56 311 P **P 01 24 07.7 -1.9**
HORT Hortiatis 80.56 311 *e*P **P 01 24 06.5 -1.1**
HORT Hortiatis 80.56 311 P **P 01 24 07.7 -1.9**
VLX Vlachokerasia 80.58 308 P **P 01 24 09.2 -0.6**
VLX Vlachokerasia 80.58 308 P **P 01 24 09.2 -0.6**
AXAR Agios Charalam 80.58 310 P **P 01 24 08.4 -1.3**
AXAR Agios Charalam 80.58 310 P **P 01 24 08.4 -1.3**
MPEP Malo Peshtene 80.58 314 *i*P **P 01 24 09.6 0.0**
DSF Desfina 80.63 309 P **P 01 24 07.8 -2.2**
DSF Desfina 80.63 309 *e*P **P 01 24 08.9 -1.1**
DSF Desfina 80.63 309 P **P 01 24 07.8 -2.2**
THE Thessaloniki 80.66 311 P **P 01 24 08.9 -1.1**
THE Thessaloniki 80.66 311 P **P 01 24 08.9 -1.1**
THE Thessaloniki 80.66 311 P **P 01 24 08.9 -1.1**
MDB Medias 80.68 317⇑ *i*P **P 01 24 11.4 +1.3**
GUR Goura 80.70 309 P **P 01 24 09.6 -0.8**
GUR Goura 80.70 309 *e*P **P 01 24 10.0 -0.4**
GUR Goura 80.70 309 P **P 01 24 09.6 -0.8**
KKB Krupnik 80.79 313 *i*P **P 01 24 10.2 -0.5**
KNT Kendrikon 80.80 312 P **P 01 24 09.0 -1.8**
KNT Kendrikon 80.80 312 P **P 01 24 09.0 -1.8**
KNT Kendrikon 80.80 312 *e*P **P 01 24 10.4 -0.4**
KNT Kendrikon 80.80 312 P **P 01 24 09.0 -1.8**
PUL Pulkovo 80.81 331*c* *i*P **P 01 24 11.1 +0.7**
PUL pmax pmax
comp=Z,317nm,1.0s
PUL MLR MLR
comp=Z,5μm,22.0s
VTS Vitosha 80.83 313 *e*P **P 01 24 11.1 0.0**
VTS Vitosha 80.83 313 P **P 01 24 10.7 -0.4**
VTS Vitosha 80.83 313 P **P 01 24 10.7 -0.4**
VTS Vitosha 80.83 313 *i*P **P 01 24 10.9 -0.2**
VTS Vitosha 80.83 313⇑ *i*P **P 01 24 10.9 -0.2**
VTS Vitosha 80.83 313 P **P 01 24 10.7 -0.4**
KLV Kalavryta, Ach 80.86 309 P **P 01 24 09.8 -1.5**
KLV Kalavryta, Ach 80.86 309 *e*P **P 01 24 10.6 -0.7**
KLV Kalavryta, Ach 80.86 309 P **P 01 24 09.8 -1.5**
AGG Agios Georgios 80.88 310 P P 01 24 07.4 -3.9
AGG Agios Georgios 80.88 310 P P 01 24 07.4 -3.9
AGG Agios Georgios 80.88 310 *e*P **P 01 24 08.9 -2.4**
AGG Agios Georgios 80.88 310 P P 01 24 07.4 -3.9
ITM Ithomi 80.91 308 P **P 01 24 10.0 -1.5**
ITM Ithomi 80.91 308 *e*P **P 01 24 11.0 -0.5**
KALE Kalithea 80.93 309 P P 01 24 08.0 -3.6
KALE Kalithea 80.93 309 *e*P **P 01 24 10.4 -1.2**
KALE Kalithea 80.93 309 P P 01 24 08.0 -3.6
LIT Litokhoron 80.93 311 P **P 01 24 09.3 -2.2**
LIT Litokhoron 80.93 311 P **P 01 24 09.3 -2.2**
LIT Litokhoron 80.93 311 *e*P **P 01 24 10.6 -0.9**
LIT Litokhoron 80.93 311 P **P 01 24 09.3 -2.2**
LOT Lotru 80.96 316⇑ *i*P **P 01 24 11.9 +0.2**
PYL PYLOS 81.01 308 P **P 01 24 11.0 -1.0**
PYL PYLOS 81.01 308 *e*P **P 01 24 11.3 -0.7**
PYL PYLOS 81.01 308 P **P 01 24 11.0 -1.0**
LAKA Lakka 81.03 309 P **P 01 24 10.3 -1.8**

LAKA	**Lakka**	**81.03 309**	*eP*	**P**	**01 24 11.8**	**-0.3**
LAKA	**Lakka**	**81.03 309**	P	**P**	**01 24 10.3**	**-1.8**
MAKR	**Makrakomi, Fth**	**81.03 310**	P	**P**	**01 24 11.3**	**-0.8**
MAKR	**Makrakomi, Fth**	**81.03 310**	*eP*	**P**	**01 24 11.2**	**-0.8**
MAKR	**Makrakomi, Fth**	**81.03 310**	P	**P**	**01 24 11.3**	**-0.8**
VAY	**Valandovo**	**81.07 312**	P	**P**	**01 24 11.0**	**-1.2**
VAY	**Valandovo**	**81.07 312**	P	**P**	**01 24 11.0**	**-1.2**
VAY	**Valandovo**	**81.07 312**	P	**P**	**01 24 11.0**	**-1.2**
VAY	**Valandovo**	**81.07 312**	*i* P	**P**	**01 24 09.9**	**-2.3**
EFP	**Efpalio**	**81.11 309**	P	**P**	**01 24 11.6**	**-0.9**
EFP	**Efpalio**	**81.11 309**	*eP*	**P**	**01 24 12.5**	**0.0**
AMT	**Artemida-Makis**	**81.13 308**	P	**P**	**01 24 11.2**	**-1.5**
AMT	**Artemida-Makis**	**81.13 308**	*eP*	**P**	**01 24 12.6**	**-0.1**
DRO	**Drossia**	**81.19 309**	P	**P**	**01 24 12.3**	**-0.7**
DRO	**Drossia**	**81.19 309**	*eP*	**P**	**01 24 12.5**	**-0.9**
THL	**Klokotos Trika**	**81.21 310**	P	**P**	**01 24 11.3**	**-1.7**
THL	**Klokotos Trika**	**81.21 310**	*eP*	**P**	**01 24 11.5**	**-1.5**
NACGM	**Naroch**	**81.22 326**	*eP*	**P**	**01 24 11.0**	**-1.7**
EVR	**Evrytania**	**81.26 310**	P	**P**	**01 24 12.5**	**-0.9**
EVR	**Evrytania**	**81.26 310**	*eP*	**P**	**01 24 12.9**	**-0.5**
EVR	**Evrytania**	**81.26 310**	P	**P**	**01 24 12.5**	**-0.9**
FX1	**Attu Island--F**	**81.29 36**	*eP*	**P**	**01 24 13.2**	**+0.1**
CJR	**Cluj-Napoca**	**81.33 318**⇓	*iP*	**P**	**01 24 15.0**	**+1.5**
IDID	**Didziasalis**	**81.36 326**	*eP*	**P**	**01 24 13.8**	**+0.4**
IDID			AMB	AMB	01 24 15.0	
	comp=Z,94nm,1.2s					
RLS	**Riolos of Patr**	**81.40 309**	P	**P**	**01 24 13.7**	**-0.3**
RLS	**Riolos of Patr**	**81.40 309**	*eP*	**P**	**01 24 14.4**	**+0.4**
RLS	**Riolos of Patr**	**81.40 309**	P	**P**	**01 24 13.7**	**-0.3**
KZN	**Kozani**	**81.51 311**	P	**P**	**01 24 13.1**	**-1.6**
KZN	**Kozani**	**81.51 311**	P	**P**	**01 24 13.1**	**-1.6**
KZN	**Kozani**	**81.51 311**	P	**P**	**01 24 13.1**	**-1.6**
DEV	**Deva**	**81.64 317**⇓	*iP*	**P**	**01 24 16.6**	**+1.5**
IIGN	**Ignalina**	**81.65 326**	*eP*	**P**	**01 24 15.0**	**0.0**
IIGN			AMB	AMB	01 24 16.1	
	comp=Z,127nm,1.3s					
IIGN			*ePP*	**PP**	**01 27 19.4**	**-2.4**
LVV	**L'vov**	**81.67 321**⇓	*iP*	**P**	**01 24 15.4**	**+0.2**
LVV			*e*		01 24 33.2	
LVV			*e*		01 27 22.6	
LVV			*eS*	**S**	**01 34 24.6**	**-1.9**
PDO	**Prodromos**	**81.70 309**	P	**P**	**01 24 14.8**	**-0.8**
PDO	**Prodromos**	**81.70 309**	*eP*	**P**	**01 24 15.9**	**+0.3**
ISAL	**Salakas**	**81.76 327**	*eP*	**P**	**01 24 15.9**	**+0.4**
ISAL			AMB	AMB	01 24 17.1	
	comp=Z,85nm,1.2s					
ISAL			*ePP*	**PP**	**01 27 18.1**	**-4.6**
FNA	**Florina**	**81.88 311**	P	**P**	**01 24 14.3**	**-2.3**
FNA	**Florina**	**81.88 311**	P	**P**	**01 24 14.3**	**-2.3**
FNA	**Florina**	**81.88 311**	*eP*	**P**	**01 24 15.5**	**-1.1**
FNA	**Florina**	**81.88 311**	P	**P**	**01 24 14.3**	**-2.3**
TSUM	**Tsumeb**	**81.89 251**	*eP*	**P**	**01 24 17.6**	**+0.4**
	comp=Z,59nm,1.0s					
TSUM			LR	LR		
	comp=Z,6µm,20.0s					
KFL	**Anninata**	**81.94 309**	P	**P**	**01 24 17.2**	**+0.3**
DRGR		**81.94 318**⇑	*iP*	**P**	**01 24 17.5**	**+0.7**
BIA	**Bitola**	**81.95 312**	P	**P**	**01 24 15.4**	**-1.6**
BIA	**Bitola**	**81.95 312**	P	**P**	**01 24 15.4**	**-1.6**
BIA	**Bitola**	**81.95 312**	*eP*	**P**	**01 24 15.3**	**-1.7**
LVZ	**Lovozero**	**82.00 340**	*c iP*	**P**	**01 24 16.7**	**+0.1**
LVZ			pmax	pmax		
	comp=Z,84nm,1.7s					
LVZ	**Lovozero**	**82.00 340**	*eP*	**P**	**01 24 17.2**	**+0.6**
	comp=Z,488nm,1.8s					
LVZ			LR	LR		
	comp=Z,3µm,19.0s					
SKO	**Skopje**	**82.02 313**	P	**P**	**01 24 16.0**	**-1.2**
SKO	**Skopje**	**82.02 313**	P	**P**	**01 24 16.0**	**-1.2**
SKO	**Skopje**	**82.02 313**	P	**P**	**01 24 16.0**	**-1.2**
SKO	**Skopje**	**82.02 313**	*i* P	**P**	**01 24 16.1**	**-1.1**
NEST	**Nestorio**	**82.07 311**	P	**P**	**01 24 16.2**	**-1.5**
VLS	**Valsamata**	**82.10 309**	P	**P**	**01 24 17.3**	**-0.5**
VLS	**Valsamata**	**82.10 309**	P	**P**	**01 24 17.3**	**-0.5**
VLS	**Valsamata**	**82.10 309**	*eP*	**P**	**01 24 17.7**	**-0.1**
VLS	**Valsamata**	**82.10 309**	P	**P**	**01 24 17.3**	**-0.5**
JAN	**Janina**	**82.11 310**	P	**P**	**01 24 17.5**	**-0.3**
JAN	**Janina**	**82.11 310**	P	**P**	**01 24 17.5**	**-0.3**
JAN	**Janina**	**82.11 310**	*eP*	**P**	**01 24 17.9**	**+0.1**
JAN	**Janina**	**82.11 310**	P	**P**	**01 24 17.5**	**-0.3**
VSU	**Vasula**	**82.19 330**	*c iP*	**P**	**01 24 17.7**	**0.0**
VSU			pmax	pmax		
	comp=Z,534nm,1.7s					
KBN	**Korca**	**82.30 311**	P	**P**	**01 24 18.0**	**-0.8**
KBN	**Korca**	**82.30 311**	P	**P**	**01 24 18.0**	**-0.8**
KBN	**Korca**	**82.30 311**	P	**P**	**01 24 18.0**	**-0.8**
TRPA	**Tarpa**	**82.30 319**⇑	*iP*	**P**	**01 24 19.2**	**+0.7**
TRPA	**Tarpa**	**82.30 319**⇑	*eP*	**P**	**01 24 19.2**	**+0.7**
APA	**Apatity**	**82.31 339**⇓	*iP*	**P**	**01 24 18.6**	**+0.4**
APA			*i*		01 24 26.8	
APA			*i*		01 27 26.0	
APA			*i* PPP	PPP	01 29 21.0	
APA			*i* S	**S**	**01 34 30.0**	**-2.4**
APA			*i* PS	**PnS**	**01 35 26.0**	**+2.6**
APA			*i* SS	**SS**	**01 39 54.0**	**+1.2**
APA			MLR	MLR		
	comp=Z,4µm,19.0s					
KWP	**Kalwaria Pacla**	**82.48 320**	*eP*	**P**	**01 24 19.5**	**0.0**
KWP			pmax	pmax		
	comp=Z,250nm,1.1s					
KWP			MLR	MLR		
	comp=Z,3µm,22.0s					
KWP	**Kalwaria Pacla**	**82.48 320**	*i* P	**P**	**01 24 20.1**	**+0.6**
KWP			*eS*	**S**	**01 34 34.0**	**-0.9**
KWP	**Kalwaria Pacla**	**82.48 320**⇑	*iP*	**P**	**01 24 20.1**	**+0.6**
KWP	**Kalwaria Pacla**	**82.48 320**	*eP*	**P**	**01 24 19.5**	**0.0**
	comp=Z,250nm,1.1s					
KWP			LR	LR		
	comp=Z,3µm,22.0s					
BZS	**Buzias**	**82.48 316**⇑	*iP*	**P**	**01 24 19.9**	**+0.3**
IGT	**Igoumenitsa**	**82.49 310**	P	**P**	**01 24 19.0**	**-0.8**
IGT	**Igoumenitsa**	**82.49 310**	P	**P**	**01 24 19.0**	**-0.8**
IGT	**Igoumenitsa**	**82.49 310**	*eP*	**P**	**01 24 19.4**	**-0.4**
IGT	**Igoumenitsa**	**82.49 310**	P	**P**	**01 24 19.0**	**-0.8**
UZH	**Uzhgorod**	**82.56 319**	*d iP*	**P**	**01 24 20.0**	**+0.1**
UZH			*i* S	**S**	**01 34 33.0**	**-2.6**
KOLS	**Kolonicke sedl**	**82.62 320**	*eP*	**P**	**01 24 21.6**	**+1.3**
KOLS			pmax	pmax		
	comp=Z,279nm,1.1s					
KOLS	**Kolonicke sedl**	**82.62 320**	*eP*	**P**	**01 24 21.6**	**+1.3**
KOLS	**Kolonicke sedl**	**82.62 320**	*eS*	**S**	**01 34 34.7**	**-1.7**
PHP	**Peshkopia**	**82.71 312**	P	**P**	**01 24 19.8**	**-1.1**
PHP	**Peshkopia**	**82.71 312**	P	**P**	**01 24 19.8**	**-1.1**
PHP	**Peshkopia**	**82.71 312**	P	**P**	**01 24 19.8**	**-1.1**
TIM	**Timisoara**	**82.78 316**⇓	*iP*	**P**	**01 24 22.6**	**+1.5**
BANR	**Banloc**	**82.78 316**⇓	*iP*	**P**	**01 24 23.1**	**+2.0**
SRN	**Sarande**	**82.79 310**	P	**P**	**01 24 20.3**	**-1.0**
SRN	**Sarande**	**82.79 310**	P	**P**	**01 24 20.3**	**-1.0**
VNDA	**Vanda**	**82.89 169**	*eP*	**P**	**01 24 21.6**	**+0.6**
	comp=Z,115nm,1.4s					
VNDA	**Vanda**	**82.89 169**	P	**P**	**01 24 20.9**	**-0.1**
	comp=Z,38nm,1.0s,baz=296,slow=5.9,SNR=43					
VNDA			LR	LR	01 55 53.0	
	comp=Z,3µm,21.8s,baz=310,slow=32					
RAO	**Raoul Island**	**82.89 119**	PFAKE		01 24 30.0	+8.0
RAO			LR	LR		
	comp=Z,4µm,21.0s					
KEK	**Kerkira**	**82.92 310**	P	**P**	**01 24 21.9**	**-0.1**
KEK	**Kerkira**	**82.92 310**	*eP*	**P**	**01 24 21.9**	**-0.1**
KEK	**Kerkira**	**82.92 310**	P	**P**	**01 24 21.9**	**-0.1**
SUW	**Suwalki**	**83.06 325**	*eP*	**P**	**01 24 22.1**	**-0.3**
SUW			pmax	pmax		
	comp=Z,638nm,1.0s					
SUW	**Suwalki**	**83.06 325**	*i* P	**P**	**01 24 22.4**	**0.0**
SUW	**Suwalki**	**83.06 325**	*eP*	**P**	**01 24 22.1**	**-0.3**
	comp=Z,638nm,1.0s					
CRVS	**Cervenica-Dubn**	**83.15 319**	*eP*	**P**	**01 24 23.5**	**+0.5**
CRVS			pmax	pmax		
	comp=Z,95nm,1.2s					
CRVS	**Cervenica-Dubn**	**83.15 319**	*eP*	**P**	**01 24 23.5**	**+0.5**
CRVS	**Cervenica-Dubn**	**83.15 319**	*eS*	**S**	**01 34 39.6**	**-2.1**
PVY	**Plav**	**83.20 313**⇑	*iP*	**P**	**01 24 22.1**	**-1.4**
IVA	**Berane**	**83.28 313**	*eP*	**P**	**01 24 22.5**	**-1.4**
FINES	**FINESS Array B**	**83.30 332**	P	**P**	**01 24 24.0**	**+0.5**
FINES			PKiKP	**PKiKP**	**01 29 41.8**	**+0.4**
FINES			PKKPbc	**PKKPbc**	**01 42 44.2**	**-2.0**
FINES	**FINESS Array B**	**83.30 332**	P	**P**	**01 24 24.0**	**+0.5**
	comp=Z,59nm,0.5s,baz=107,slow=5.7,SNR=392					
FINES			PKiKP	**PKiKP**	**01 29 41.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=131,slow=5.3,SNR=4.0					
FINES			PKKPbc	**PKKPbc**	**01 42 44.2**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=172,slow=0.3,SNR=9.9					
FINES			LR	LR	02 09 31.7	
	comp=Z,3µm,18.8s,baz=202,slow=42					
STHS	**Stebnicka Huta**	**83.38 320**	*eP*	**P**	**01 24 25.4**	**+1.2**
STHS			pmax	pmax		
	comp=Z,100nm,0.8s					
STHS	**Stebnicka Huta**	**83.38 320**	*eP*	**P**	**01 24 25.4**	**+1.2**
DIVS	**Divibare**	**83.39 315**	P	**P**	**01 24 24.2**	**-0.2**
ULC	**Ulcinj**	**83.64 312**⇑	*iP*	**P**	**01 24 24.7**	**-1.0**
PDG	**Podgorica**	**83.69 313**	P	**P**	**01 24 24.6**	**-1.3**
TTG	**Podgorica**	**83.69 313**⇑	*iP*	**P**	**01 24 25.5**	**-0.4**
TTG	**Podgorica**	**83.69 313**	P	**P**	**01 24 24.6**	**-1.3**
TTG	**Podgorica**	**83.69 313**	P	**P**	**01 24 24.6**	**-1.3**
PLE	**Pljevlja**	**83.71 314**⇑	*iP*	**P**	**01 24 25.7**	**-0.4**
PKSN	**Nyarlorinc**	**83.88 317**⇑	*eP*	**P**	**01 24 27.6**	**+0.8**
NKY	**Niksic**	**83.93 313**⇑	*iP*	**P**	**01 24 26.1**	**-1.2**
BUM	**Brajici-Budva**	**83.94 313**⇑	*iP*	**P**	**01 24 26.0**	**-1.3**
NKME	**Niksic**	**83.95 313**	*eP*	**P**	**01 24 26.2**	**-1.1**
NIE	**Niedzica**	**83.97 320**⇑	*iP*	**P**	**01 24 28.1**	**+0.8**
NIE			*e* SP	**sP**	**01 24 36.7**	**-0.7**
NIE			*eS*	**SKKSac**	**01 34 52.5**	**-1.8**
NIE	**Niedzica**	**83.97 320**	*i* P	**P**	**01 24 28.1**	**+0.8**
NIE			*es*P	**sP**	**01 24 36.7**	**-0.7**
NIE			*eS*	**SKKSac**	**01 34 52.5**	**-1.8**
NIE			L	L	02 08 17.0	
	comp=Z,2µm,20.4s					
SBA	**Scott Base**	**83.98 169**	*eP*	**P**	**01 24 28.0**	**+1.3**
SBA			pmax	pmax		
	comp=Z,76nm,1.1s					
SBA			MLR	MLR		
	comp=Z,2µm,22.0s					
SBA	**Scott Base**	**83.98 169**	*eP*	**P**	**01 24 28.0**	**+1.3**
	comp=Z,76nm,1.1s					
SBA			LR	LR		
	comp=Z,2µm,22.0s					
PSZ	**Piszkesteto**	**84.02 318**	*eP*	**P**	**01 24 27.7**	**+0.2**
PSZ			pmax	pmax		
	comp=Z,125nm,1.0s					
PSZ			MLR	MLR		
	comp=Z,1µm,19.0s					
PSZ	**Piszkesteto**	**84.02 318**⇑	*iP*	**P**	**01 24 28.0**	**+0.5**
PSZ	**Piszkesteto**	**84.02 318**	*eP*	**P**	**01 24 27.7**	**+0.2**
	comp=Z,125nm,1.0s					
PSZ			LR	LR		
	comp=Z,1µm,19.0s					
PSZ	**Piszkesteto**	**84.02 318**⇑	*eP*	**P**	**01 24 28.0**	**+0.5**
UPM	**Unac-Piva**	**84.05 314**⇑	*iP*	**P**	**01 24 26.5**	**-1.4**
BEL	**Belsk**	**84.07 322**⇑	*iP*	**P**	**01 24 28.3**	**+0.7**
BEL	**Belsk**	**84.07 322**	*i* P	**P**	**01 24 28.3**	**+0.7**
HCY	**Herceg Novi**	**84.25 313**⇑	*iP*	**P**	**01 24 28.3**	**-0.5**
BRY	**Bratogost**	**84.27 313**	*eP*	**P**	**01 24 27.4**	**-1.6**
OJC	**Ojcow**	**84.43 321**⇑	*iP*	**P**	**01 24 30.0**	**+0.5**
OJC			*e* SP	**sP**	**01 24 38.7**	**-0.9**
OJC			*eS*	**S**	**01 34 54.9**	**+0.3**
OJC	**Ojcow**	**84.43 321**	*i* P	**P**	**01 24 30.0**	**+0.5**
OJC			*es*P	**sP**	**01 24 38.7**	**-0.9**
OJC			*eS*	**S**	**01 34 54.9**	**+0.3**
OJC			L	L	02 12 12.0	
	comp=Z,3µm,18.7s					
BUD	**Budapest**	**84.54 318**⇑	*eP*	**P**	**01 24 30.4**	**+0.3**
MIDW	**Midway**	**84.61 62**	PFAKE		01 24 40.0	+9.2
MIDW			LR	LR		
	comp=Z,1µm,19.0s					
PKSM	**Moragy**	**84.62 316**⇓	*iP*	**P**	**01 24 30.6**	**+0.1**
PKSM	**Moragy**	**84.62 316**⇑	*eP*	**P**	**01 24 30.9**	**+0.4**
PKS9	**Tamasi**	**84.92 317**⇑	*eP*	**P**	**01 24 32.4**	**+0.4**
PKSG		**84.95 318**⇑	*eP*	**P**	**01 24 32.8**	**+0.6**
CSKK	**Cs˘tkako**	**85.03 318**⇓	*eP*	**P**	**01 24 33.5**	**+0.9**
PKST	**T˘˘s**	**85.17 317**⇑	*eP*	**P**	**01 24 33.9**	**+0.6**
TIP	**Timpagrande**	**85.20 309**	P	**P**	**01 24 34.2**	**+0.5**
TIP	**Timpagrande**	**85.20 309**	*eP*	**P**	**01 24 34.2**	**+0.5**
	comp=Z,67nm,1.0s					
TIP			LR	LR		
	comp=Z,939nm,20.0s					
KEV	**Kevo**	**85.25 341**	*eP*	**P**	**01 24 34.1**	**+0.9**
KEV			pmax	pmax		
	comp=Z,60nm,0.9s					
KEV			MLR	MLR		
	comp=Z,4µm,19.0s					
KEV	**Kevo**	**85.25 341**	*eP*	**P**	**01 24 34.1**	**+0.9**
	comp=Z,60nm,0.9s					
KEV			LR	LR		
	comp=Z,4µm,19.0s					
OKC	**Ostrava-Krasne**	**85.43 320**⇑	*iP*	**P**	**01 24 35.3**	**+0.8**
OKC			*e* PP	**pP**	**01 24 44.4**	**+2.4**
OKC			*e*		01 35 02.5	
OKC			MLR	MLR		
	comp=Z,1µm,21.2s					
OKC	**Ostrava-Krasne**	**85.43 320**⇑	*iP*	**P**	**01 24 35.3**	**+0.8**
OKC			*epP*	**pP**	**01 24 44.4**	**+2.4**
OKC			*eS*	**S**	**01 35 02.5**	**-2.0**
OKC			*ex*	x	01 35 40.9	
OKC			AMS	AMS	02 10 00.0	
	comp=Z,1µm,21.2s					
ARCES	**ARCESS Array B**	**85.69 340**	P	**P**	**01 24 36.4**	**+0.9**
ARCES	**ARCESS Array B**	**85.69 340**	P	**P**	**01 24 36.4**	**+0.9**
	comp=Z,100nm,1.0s,baz=86,slow=2.2,SNR=55					
ARCES			LR	LR	02 09 46.6	
	comp=Z,4µm,19.0s,baz=212,slow=40					
ARE0	**ARCESS Array S**	**85.69 340**	*eP*	**P**	**01 24 36.6**	**+1.2**
CEL	**Celeste**	**85.78 308**	*eP*	**P**	**01 24 37.1**	**+0.4**
	comp=Z,273nm,1.0s					
CEL			LR	LR		
	comp=Z,1µm,19.0s					
MORC	**Moravsky Berou**	**85.81 320**	*eP*	**P**	**01 24 37.0**	**+0.5**
MORC			pmax	pmax		
	comp=Z,111nm,1.1s					
MORC	**Moravsky Berou**	**85.81 320**⇑	*iP*	**P**	**01 24 37.3**	**+0.8**
MORC	**Moravsky Berou**	**85.81 320**	*eP*	**P**	**01 24 37.0**	**+0.5**
	comp=Z,111nm,1.1s					
BEHE	**Becsehely**	**85.94 317**⇑	*eP*	**P**	**01 24 38.0**	**+0.9**
CUC	**Castrocucco**	**86.00 310**	*eP*	**P**	**01 24 37.6**	**0.0**
	comp=Z,70nm,1.0s					
CUC			LR	LR		
	comp=Z,1µm,21.0s					
SOP	**Sopron**	**86.22 318**⇑	*eP*	**P**	**01 24 38.8**	**+0.3**
KOGS	**Kog**	**86.30 317**	*eP*	**P**	**01 24 39.6**	**+0.7**
KOGS			*i* pP	**pP**	**01 24 47.0**	**+0.7**
KTK1	**Kautokeino**	**86.35 339**	*eP*	**P**	**01 24 39.9**	**+1.2**
VRAC	**Vranov**	**86.37 319**⇑	*iP*	**P**	**01 24 39.7**	**+0.5**
VRAC	**Vranov**	**86.37 319**	P	**P**	**01 24 39.3**	**+0.1**
VRAC	**Vranov**	**86.37 319**	P	**P**	**01 24 39.3**	**+0.1**
	comp=Z,18nm,0.9s,baz=102,slow=5.5,SNR=18					
GKP	**Gorka Klasztor**	**86.43 323**⇑	*eP*	**P**	**01 24 39.8**	**+0.4**
GKP			*eS*	**S**	**01 35 17.3**	**+3.2**
GKP	**Gorka Klasztor**	**86.43 323**	*eP*	**P**	**01 24 39.8**	**+0.4**
GKP			*eS*	**S**	**01 35 17.2**	**+3.2**
DPC	**Dobruska-Polom**	**86.66 320**⇑	*iP*	**P**	**01 24 41.9**	**+1.2**
DPC			*e* PP	**pP**	**01 24 49.8**	**+1.7**
DPC			*e*		01 35 17.3	
DPC	**Dobruska-Polom**	**86.66 320**⇑	*iP*	**P**	**01 24 41.9**	**+1.2**
DPC			*epP*	**pP**	**01 24 49.8**	**+1.7**
DPC			*eS*	**S**	**01 35 17.3**	**+0.7**
DPC			AMS	AMS	02 13 10.0	
WDD	**Wield Dalam**	**86.69 306**	PFAKE		01 24 50.0	+9.0
WDD			LR	LR		
	comp=Z,2µm,20.0s					
CONA	**Conrad Observa**	**86.71 318**⇑	*iP*	**P**	**01 24 41.3**	**+0.2**
	comp=Z,37nm,0.9s,SNR=11					
KSP	**Ksiaz**	**86.73 321**⇑	*eP*	**P**	**01 24 42.0**	**+1.1**
KSP			*e* PP	**pP**	**01 24 48.5**	**+0.1**
KSP			*eS*	**S**	**01 35 16.5**	**-0.7**
KSP	**Ksiaz**	**86.73 321**	*i* P	**P**	**01 24 41.8**	**+0.9**
KSP			*eS*	**S**	**01 35 19.6**	**+2.4**
UPC	**Upice**	**86.87 321**⇑	*iP*	**P**	**01 24 42.6**	**+1.0**
UPC			*e* PP	**pP**	**01 24 51.4**	**+2.3**
UPC	**Upice**	**86.87 321**⇑	*iP*	**P**	**01 24 42.6**	**+1.0**
UPC			*epP*	**pP**	**01 24 51.4**	**+2.3**
ARSA	**Arzberg**	**86.87 317**⇑	*iP*	**P**	**01 24 42.3**	**+0.6**
	comp=Z,97nm,1.1s,SNR=27					
BOJS	**Bojanci**	**86.90 316**	*i* P	**P**	**01 24 42.5**	**+0.6**
TREC	**Trest**	**87.09 319**⇑	*iP*	**P**	**01 24 43.4**	**+0.6**
TREC			*e* PP	**pP**	**01 24 52.5**	**+2.3**
TREC			*e*		01 35 18.8	
TREC			*e*		01 36 30.3	
TREC			MLR	MLR		
	comp=Z,2µm,18.6s					
TREC	**Trest**	**87.09 319**⇑	*iP*	**P**	**01 24 43.4**	**+0.6**
TREC			*epP*	**pP**	**01 24 52.5**	**+2.3**
TREC			*eS*	**S**	**01 35 18.8**	**-2.0**
TREC			*ex*	x	01 36 30.3	
TREC			AMS	AMS	02 13 40.0	
	comp=Z,2µm,18.6s					
PERS	**Pernice**	**87.09 317**	*i* P	**P**	**01 24 43.5**	**+0.6**
SOKA	**Soboth**	**87.16 317**⇑	*iP*	**P**	**01 24 44.0**	**+0.7**
	comp=Z,140nm,1.1s,SNR=25					
ADK	**Adak**	**87.25 38**	*eP*	**P**	**01 24 44.4**	**+1.0**
ADK			pmax	pmax		
	comp=Z,512nm,1.8s					
ADK			MLR	MLR		
	comp=Z,2µm,19.0s					
ADK	**Adak**	**87.25 38**	*eP*	**P**	**01 24 44.4**	**+1.0**
	comp=Z,512nm,1.8s					
ADK			LR	LR		
	comp=Z,2µm,19.0s					
LJU	**Ljubljana**	**87.45 316**	*i* P	**P**	**01 24 45.4**	**+0.8**
OBKA	**Obir**	**87.47 316**⇓	*iP*	**P**	**01 24 45.4**	**+0.6**
	comp=Z,78nm,1.1s,SNR=8.3					
HOPEN	**Hopen**	**87.71 347**	AMS	AMS	02 10 11.8	
	comp=Z,6µm,20.2s					
PRU	**Pruhonice**	**87.76 320**⇑	*iP*	**P**	**01 24 46.6**	**+0.7**
PRU			*e* PP	**pP**	**01 24 55.5**	**+2.1**
PRU			*e*		01 35 26.8	
PRU			MLR	MLR		
	comp=Z,2µm,21.6s					
PRU	**Pruhonice**	**87.76 320**⇑	*iP*	**P**	**01 24 46.6**	**+0.7**
PRU			*epP*	**pP**	**01 24 55.5**	**+2.1**
PRU			*eS*	**S**	**01 35 26.8**	**-0.3**
PRU			AMS	AMS	02 11 00.0	
	comp=Z,2µm,21.6s					
MOA	**Molln**	**87.77 318**⇓	*iP*	**P**	**01 24 46.3**	**+0.2**
	comp=Z,44nm,1.1s,SNR=16					
PVCC	**Panska Ves**	**87.79 320**⇑	*iP*	**P**	**01 24 47.2**	**+1.1**
PVCC			*e* PP	**pP**	**01 24 53.0**	**-0.5**
PVCC			MLR	MLR		
	comp=Z,2µm,17.4s					
PVCC	**Panska Ves**	**87.79 320**⇑	*iP*	**P**	**01 24 47.2**	**+1.1**
PVCC			*epP*	**pP**	**01 24 53.0**	**-0.5**
PVCC			AMS	AMS	02 13 00.0	
	comp=Z,2µm,17.4s					
PRA	**Prague**	**87.84 320**	⇑P	**P**	**01 24 47.0**	**+0.7**
PRA			S	**S**	**01 35 28.0**	**+0.1**
CLTB	**Caltabellotta**	**87.85 308**	PFAKE		01 25 00.0	+13
CLTB			LR	LR		
	comp=Z,410nm,21.0s					
VOY	**Vojsko**	**87.89 316**	*eP*	**P**	**01 24 46.8**	**0.0**
VOY			*e*		01 24 55.7	
NVL	**N'lazarevskaya**	**87.94 199**	*eP*	**P**	**01 24 46.6**	**+0.2**
NVL			*eS*	**SKSac**	**01 35 08.9**	**-4.2**
NVL			pmax	pmax		
	comp=Z,157nm,1.2s					
NVL			MLR	MLR		
	comp=Z,5µm,18.0s					
TRO	**Tromso**	**87.97 340**	*eP*	**P**	**01 24 48.7**	**+2.2**
TRO			AMB	AMB	01 24 52.5	
	comp=Z,153nm,1.7s					
TRO			AMS	AMS	02 10 41.1	
	comp=Z,3µm,15.7s					
BSD	**Bornholm Skovb**	**87.98 325**⇑	*iP*	**P**	**01 24 47.2**	**+0.4**
BSD			*i*		01 24 56.0	
BSD			MLR	MLR		
	comp=Z,2µm,17.0s					
BSD	**Bornholm Skovb**	**87.98 325**⇑	*iP*	**P**	**01 24 47.2**	**+0.4**
	comp=Z,107nm,0.9s					
BSD			*i*		01 24 56.0	
BSD						
	comp=Z,2µm,16.0s					
CADS	**Cadrg**	**88.01 316**	*i* P	**P**	**01 24 47.4**	**+0.1**
CADS			*i* pP	**pP**	**01 24 55.1**	**+0.3**
MYKA	**Terra Mystica**	**88.11 317**⇑	*iP*	**P**	**01 24 48.1**	**+0.4**
	comp=Z,67nm,1.2s,SNR=12					
BRG	**Berggiesshubel**	**88.22 321**⇑	*iP*	**P**	**01 24 49.3**	**+1.2**
	comp=Z,175nm,1.3s					
BRG			*e*		01 24 58.3	
	comp=Z,169nm,1.5s					
BRG	**Berggiesshubel**	**88.22 321**	S	**S**	**01 35 34.0**	**+2.6**
BRG			*e*		01 46 31.0	
BRG			*e*		01 48 19.0	
BRG						
	comp=Z,2µm,17.7s					
BRG						
	comp=N,2µm,19.8s					
BRG						
	comp=E,1µm,19.8s					
BRG	**Berggiesshubel**	**88.22 321**	*i* P	**P**	**01 24 49.3**	**+1.2**
BRG			*e*		01 24 58.3	
BRG			S	**S**	**01 35 34.0**	**+2.6**
BRG			pmax	pmax		
	comp=Z,175nm,1.3s					
BRG			MLR	MLR		
	comp=Z,2µm,17.7s					
BRG			MLR	MLR		
	comp=N,2µm,19.8s					
BRG			MLR	MLR		
	comp=E,1µm,19.8s					
BRG	**Berggiesshubel**	**88.22 321**	*eP*	**P**	**01 24 49.1**	**+1.0**
	comp=Z,175nm,1.3s					
GEC2	**GERESS Array S**	**88.22 319**	*eP*	**P**	**01 24 49.1**	**+0.8**
	comp=Z,259nm,1.5s					
GERES	**GERESS Array B**	**88.22 319**	P	**P**	**01 24 49.0**	**+0.7**
GERES

STEI **Steigen** 89.07 338 *e*P **P** 01 24 52.3 +0.6
STEI AMB AMB 01 25 02.8
comp=Z,194nm,0.4s
NKC **Novy Kostel** 89.12 320⇑*i*P **P** 01 24 53.4 +1.0
NKC *e**PP **pP** 01 25 02.6 +2.7
NKC *e* 01 35 40.2
NKC MLR MLR
comp=Z,1μm,20.5s
NKC **Novy Kostel** 89.12 320⇑*i*P **P** 01 24 53.4 +1.0
NKC *e*pP **pP** 01 25 02.6 +2.7
NKC *e*S **S** 01 35 40.2 +0.1
NKC AMS AMS 02 11 50.0
comp=Z,1μm,20.5s
TANN **Tannenbergstha** 89.13 320 *e*P **P** 01 24 53.3 +0.8
comp=Z,97nm,1.3s
TANN *e*pP **pP** 01 25 00.7 +0.8
WERN **Wernitzgruen** 89.17 320 *e*P **P** 01 24 53.7 +1.0
comp=Z,90nm,1.2s
GUNZ **Gunzen** 89.21 320 *e*P **P** 01 24 53.7 +0.9
comp=Z,132nm,1.3s
MOR8 **Moi Rana** 89.22 336 *e*P **P** 01 24 52.7 +0.2
MOR8 AMB AMB 01 24 54.8
comp=Z,103nm,1.2s
WERD **Werda** 89.23 320 *e*P **P** 01 24 53.7 +0.8
comp=Z,109nm,1.2s
ROTZ **Rotzenmuhle** 89.25 320 *e*P **P** 01 24 54.3 +1.3
comp=Z,128nm,1.2s
PLN **Plauen** 89.32 320 *e*P **P** 01 24 54.3 +1.0
comp=Z,129nm,1.2s
MANZ **Manzenberg** 89.33 320 *e*P **P** 01 24 54.7 +1.3
comp=Z,166nm,1.0s
COP **Copenhagen** 89.44 326 *i* P **P** 01 24 52.8 -0.9
COP MLR MLR
comp=Z,1μm,20.0s
COP **Copenhagen** 89.44 326 *i* P **P** 01 24 52.8 -0.9
comp=Z,54nm,0.8s
COP
comp=Z,1μm,20.0s
WATA **Walderalm** 89.56 317⇑*i*P **P** 01 24 54.5 -0.2
comp=Z,39nm,0.6s,SNR=11
NEUB **Neuenburg** 89.60 321 *e*P **P** 01 24 55.3 +0.7
comp=Z,211nm,0.9s
FUR **Furstenfeldbru** 89.80 318 *e*P **P** 01 24 55.9 +0.3
comp=Z,146nm,1.3s
MOTA **Moosalm** 89.88 317⇑*i*P **P** 01 24 56.1 -0.1
comp=Z,91nm,0.8s,SNR=51
GRF **Grafenberg Arr** 89.89 320 *e*P **P** 01 24 57.2 +1.2
comp=Z,157nm,1.0s
GRF *e*L L 02 12 53.7
comp=Z,2μm,21.8s
SPA0 **Spitsbergen Ar** 89.90 348 *e*P **P** 01 24 56.3 +0.8
SPA0 *e*SKS **SKSac** 01 35 23.9 -0.6
SPITS **Spitsbergen Ar** 89.90 348 P **P** 01 24 56.0 +0.5
SPITS **Spitsbergen Ar** 89.90 348 P **P** 01 24 56.0 +0.5
comp=Z,65nm,0.5s,baz=98,slow=6.1,SNR=15
RETA **Reutte** 90.12 317⇑*i*PcP **P** 01 24 57.6 +0.4
comp=Z,103nm,0.8s,SNR=29
FETA **Feichten** 90.12 317⇑*i*PcP **P** 01 24 57.8 +0.4
comp=Z,101nm,1.1s,SNR=19
NSS **Namsos** 90.14 334 *e* **P** 01 24 58.1 +1.4
NC602 **NORSAR Array S** 90.16 331 *e*P **P** 01 24 57.9 +0.9
VLC **Villacollemand** 90.28 314 PFAKE 01 25 10.0 +12
VLC LR LR
comp=Z,1μm,20.0s
NB2 **NORSAR Subarra** 90.33 331 P **P** 01 24 57.9 +0.1
comp=Z,59nm,1.2s,baz=92,slow=5.1
NB2 **NORSAR Subarra** 90.33 331 P **P** 01 24 57.9 +0.1
baz=92,slow=5.1
NOA **NORSAR Array B** 90.33 331 P **P** 01 24 57.9 +0.1
NOA PP **PP** 01 28 27.9 -4.1
NOA **NORSAR Array B** 90.33 331 P **P** 01 24 57.9 +0.1
comp=Z,9.4nm,0.7s,baz=91,slow=5.2,SNR=22
NOA PP **PP** 01 28 27.9 -4.1
comp=Z,2.2nm,0.8s,baz=94,slow=6.8,SNR=3.9
NOA LR LR 02 09 32.8
comp=Z,3μm,19.8s,baz=90,slow=38
NAO01 **NORSAR Array S** 90.48 331 *e*P **P** 01 24 59.1 +0.6
comp=Z,5.3nm,0.5s
CLZ **Clausthal** 90.50 322 *e*P **P** 01 24 59.8 +1.0
comp=Z,147nm,1.1s
OSL **Oslo** 90.54 330 *e*P **P** 01 25 00.7 +2.0
BSEG **Bad Segeberg** 90.59 324 *e*P **P** 01 25 00.3 +1.2
comp=Z,124nm,1.4s
NRDL **Niedersach Rie** 90.68 322 *e*P **P** 01 25 00.8 +1.3
comp=Z,199nm,1.4s
NRDL *e*pP **pP** 01 25 08.4 +1.4
GAMB **Gambell** 90.69 26 *e*P **P** 01 25 00.2 +0.9
comp=Z,112nm,1.6s
DAVOX **Davos/Dischmat** 90.70 317 P **P** 01 25 01.0 +0.9
DAVOX **Davos/Dischmat** 90.70 317 P **P** 01 25 01.0 +0.9
comp=Z,112nm,0.6s,baz=119,slow=4.8,SNR=213
UBBA **Unterbreizbach** 90.71 321 *e*P **P** 01 25 00.6 +1.0
comp=Z,97nm,1.5s
DAVA **Damuels** 90.71 317⇑*i*PcP **PcP** 01 25 00.7 -0.5
comp=Z,220nm,0.9s,SNR=42
TBLU **Trondheim** 90.85 333 AMS AMS 02 09 54.5
comp=Z,4μm,20.5s
KEST **Kesra** 90.89 306 *e*P **P** 01 25 02.7 +1.7
KEST **Kesra** 90.89 306 P **P** 01 25 02.8 +1.7
comp=Z,77nm,1.0s,baz=274,slow=0.0,SNR=83
KEST LR LR 02 07 17.9
comp=Z,1μm,19.4s,baz=179,slow=36
VSL **Villasalto** 90.93 309 *e*P **P** 01 25 01.7 +0.6
comp=Z,112nm,0.9s
VSL LR LR
comp=Z,1μm,19.0s
TUE **Stuetta** 91.06 316 *e*P **P** 01 25 01.7 -0.1
comp=Z,113nm,1.2s
TUE LR LR
comp=Z,2μm,21.0s
KONO **Kongsberg** 91.10 329 *e*P **P** 01 25 03.0 +1.6
KONO *e* 01 35 58.4
KONO **Kongsberg** 91.10 329 PFAKE 01 25 10.0 +8.6
KONO LR LR
comp=Z,3μm,19.0s
STU **Stuttgart** 91.19 319 *e*P **P** 01 25 02.6 +0.5
STU *e**PP **pP** 01 25 11.7 +2.1
STU pmax pmax
comp=Z,45nm,0.8s
STU **Stuttgart** 91.19 319 *e*P **P** 01 25 02.6 +0.5
comp=Z,135nm,1.3s
STU *e*pP **pP** 01 25 10.7 +1.1
STU **Stuttgart** 91.19 319 *e*P **P** 01 25 02.6 +0.5
comp=Z,45nm,0.8s
STU *e*pP **pP** 01 25 11.7 +2.1
PGF **Pioggiola** 91.26 312⇑*i*P **P** 01 25 03.2 +0.5
comp=Z,263nm,1.1s
PGF **Pioggiola** 91.26 312⇑*i*P **P** 01 25 03.2 +0.5
PGF pmax pmax
comp=Z,263nm,1.1s
PGF **Pioggiola** 91.26 312⇑*i*P **P** 01 25 03.2 +0.5
comp=Z,263nm,1.1s
MUD **Monsted U'grnd** 91.29 326 *i* P **P** 01 25 03.7 +1.4
MUD **Monsted U'grnd** 91.29 326 *i* P **P** 01 25 03.7 +1.4
comp=Z,31nm,0.9s
HOMB **Homborsund** 91.66 328 *e*P P 01 25 08.6 +4.6
TNS **Taunus Mts** 91.69 320 *e*P **P** 01 25 05.4 +1.0
comp=Z,134nm,1.0s
BFO **Black Forest** 91.77 318 P **P** 01 25 05.5 +0.7
comp=Z,339nm,1.1s,SNR=22
BFO **Black Forest** 91.77 318 *e*P **P** 01 25 04.9 +0.1
BFO pmax pmax
comp=Z,61nm,1.0s
BFO MLR MLR
comp=Z,2μm,21.0s
BFO **Black Forest** 91.77 318 *e*P **P** 01 25 05.0 +0.1
comp=Z,66nm,1.0s
BFO **Black Forest** 91.77 318 *e*P **P** 01 25 04.9 +0.1
comp=Z,61nm,1.0s
BFO LR LR
comp=Z,2μm,21.0s
FELD **Feldberg im Sc** 91.99 318 *e*P **P** 01 25 06.1 +0.1
LANF **Langenberg** 92.11 319 *e*P **P** 01 25 07.2 +0.8
IBBN **Ibbenburen** 92.12 322 *e*P **P** 01 25 07.3 +1.1
comp=Z,125nm,1.5s
STR **Strasbourg** 92.14 318 *e*P **P** 01 25 07.3 +0.9
TNA **Tin City** 92.31 25 *e*P **P** 01 25 07.3 +0.5
comp=Z,42nm,1.3s
SAOF **Saorge** 92.32 314 *e*P **P** 01 25 08.0 +0.6
SBF **Sospel** 92.41 314 *e*P **P** 01 25 08.3 +0.4
comp=Z,368nm,1.2s
SBF **Sospel** 92.41 314 *e*P **P** 01 25 08.3 +0.4
SBF pmax pmax
comp=Z,368nm,1.2s
SBF **Sospel** 92.41 314 *e*P **P** 01 25 08.3 +0.4
comp=Z,368nm,1.2s
AUTN **L'Aution** 92.41 314 *e*P **P** 01 25 08.6 +0.5
WLS **Welschbruch** 92.42 318 *e*P **P** 01 25 08.2 +0.4
BUG **Bochum--Univer** 92.43 321 *e*P **P** 01 25 08.6 +0.9
comp=Z,108nm,1.5s
CDF **Champ du Feu** 92.47 318⇑*i*P **P** 01 25 08.3 +0.2
comp=Z,142nm,1.3s
CDF **Champ du Feu** 92.47 318⇑*i*P **P** 01 25 08.3 +0.2
CDF pmax pmax
comp=Z,142nm,1.3s
CDF **Champ du Feu** 92.47 318⇑*i*P **P** 01 25 08.3 +0.2
comp=Z,142nm,1.3s
TOUF **Mont Tournerai** 92.54 314 *e*P **P** 01 25 09.0 +0.3
ECH **Echery** 92.55 318 *e*P **P** 01 25 08.8 +0.4
MOF **Molkenrain** 92.57 318 *e*P **P** 01 25 08.9 +0.3
SNAA **Sanae** 92.58 198 *e*P **P** 01 25 08.6 +0.4
comp=Z,33nm,1.2s
SNAA *e*PP **PP** 01 28 47.5 -1.9
SNAA PKKP **PKKPdf** 01 42 21.2 +0.1
SNAA **Sanae** 92.58 198 PKKP 01 42 21.2
comp=Z,0.6nm,0.8s,baz=313,slow=4.5,SNR=8.7
ODD1 **Odda** 92.60 330 *e*P **P** 01 25 09.9 +1.5
MVIF **Mont Vial** 92.61 314 *e*P **P** 01 25 10.4 +1.5
WTSB **Winterswijk** 92.71 322 *e*P **P** 01 25 09.6 +0.6
comp=Z,310nm,2.7s
HINF **Hinteralfeld** 92.76 318⇑*i*P **P** 01 25 09.4 0.0
comp=Z,174nm,1.8s
HINF **Hinteralfeld** 92.76 318⇑*i*P **P** 01 25 09.4 0.0
HINF pmax pmax
comp=Z,174nm,1.8s
HINF **Hinteralfeld** 92.76 318⇑*i*P **P** 01 25 09.4 0.0
comp=Z,174nm,1.8s
LOMF **Lomont** 92.79 317 *e*P **P** 01 25 09.9 +0.3
CALN **Calern** 92.80 314 *e*P **P** 01 25 10.8 +1.0
MBDF **Montbardon** 92.87 315 *e*P **P** 01 25 09.9 -0.2
comp=Z,95nm,1.2s
MBDF **Montbardon** 92.87 315 *e*P **P** 01 25 09.9 -0.2
MBDF pmax pmax
comp=Z,95nm,1.2s
MBDF **Montbardon** 92.87 315 *e*P **P** 01 25 09.9 -0.2
comp=Z,95nm,1.2s
LPG **La Plagne** 92.87 315⇑*i*P **P** 01 25 10.7 +0.4
comp=Z,137nm,1.1s
LPG **La Plagne** 92.87 315⇑*i*P **P** 01 25 10.7 +0.4
LPG pmax pmax
comp=Z,137nm,1.1s
LPG **La Plagne** 92.87 315⇑*i*P **P** 01 25 10.7 +0.4
comp=Z,137nm,1.1s
LPL **La Plagne** 92.89 315⇑*i*P **P** 01 25 10.7 +0.4
comp=Z,143nm,0.9s
LPL **La Plagne** 92.89 315⇑*i*P **P** 01 25 10.7 +0.4
LPL pmax pmax
comp=Z,143nm,0.9s
LPL **La Plagne** 92.89 315⇑*i*P **P** 01 25 10.7 +0.4
comp=Z,143nm,0.9s
BNI **Bardonecchia** 92.93 315 *e*P **P** 01 25 10.3 -0.1
BNI pmax pmax
comp=Z,44nm,1.0s
BNI MLR MLR
comp=Z,3μm,20.0s
BNI **Bardonecchia** 92.93 315 *e*P **P** 01 25 10.3 -0.1
comp=Z,44nm,1.0s
BNI LR LR
comp=Z,3μm,20.0s
FRF **La Foret Royal** 92.98 313⇑*i*P **P** 01 25 11.0 +0.5
comp=Z,133nm,1.0s
FRF **La Foret Royal** 92.98 313⇑*i*P **P** 01 25 11.0 +0.5
FRF pmax pmax
comp=Z,133nm,1.0s
FRF **La Foret Royal** 92.98 313⇑*i*P **P** 01 25 11.0 +0.5
comp=Z,133nm,1.0s
LMR **La Mourre** 93.08 313 *e*P **P** 01 25 11.3 +0.4
comp=Z,166nm,1.3s
LMR **La Mourre** 93.08 313 *e*P **P** 01 25 11.3 +0.4
LMR pmax pmax
comp=Z,166nm,1.3s
LMR **La Mourre** 93.08 313 *e*P **P** 01 25 11.3 +0.4
comp=Z,166nm,1.3s
HAU **Haudompre** 93.10 318⇑*i*P **P** 01 25 11.1 +0.2
comp=Z,232nm,1.2s
HAU *e*R
comp=Z,2μm,18.0s
HAU **Haudompre** 93.10 318⇑*i*P **P** 01 25 11.1 +0.2
HAU pmax pmax
comp=Z,232nm,1.2s
HAU **Haudompre** 93.10 318⇑*i*P **P** 01 25 11.1 +0.2
comp=Z,232nm,1.2s
WLF **Walferdange** 93.18 319 P **P** 01 25 12.7 +1.5
WLF **Walferdange** 93.18 319 *e*P **P** 01 25 12.0 +0.7
WLF *e**PP **pP** 01 25 20.8 +2.1
WLF pmax pmax
comp=Z,199nm,1.8s
WLF MLR MLR
comp=Z,2μm,19.0s
WLF **Walferdange** 93.18 319 *e*P **P** 01 25 12.3 +1.1
comp=Z,100nm,1.5s
WLF **Walferdange** 93.18 319 *e*P **P** 01 25 12.0 +0.7
comp=Z,199nm,1.8s
WLF *e*pP **pP** 01 25 20.8 +2.1
WLF LR LR
comp=Z,2μm,19.0s
MEM **Membach** 93.25 320 P **P** 01 25 11.6 +0.1
comp=Z,19nm,1.5s
HGN **Heimansgroeve** 93.29 321 *e*P **P** 01 25 11.9 +0.2
comp=Z,273nm,2.6s
CABF **La Chapelle** 93.31 316⇑*i*P **P** 01 25 12.7 +0.7
comp=Z,169nm,1.2s
CABF **La Chapelle** 93.31 316⇑*i*P **P** 01 25 12.7 +0.7
CABF pmax pmax
comp=Z,169nm,1.2s
CABF **La Chapelle** 93.31 316⇑*i*P **P** 01 25 12.7 +0.7
comp=Z,169nm,1.2s
THEF **They Mntfort** 93.33 318 *e*P **P** 01 25 12.0 0.0
PAGF **Fort de Pagny** 93.50 318⇑*i*P **P** 01 25 13.0 +0.3
comp=Z,17nm,1.1s
PAGF **Fort de Pagny** 93.50 318⇑*i*P **P** 01 25 13.0 +0.3
comp=Z,17nm,1.1s
ORIF **Oris-en-Rattie** 93.50 315⇑*i*P **P** 01 25 13.4 +0.4
ORIF *e*R
comp=Z,3μm,22.0s
ORIF **Oris-en-Rattie** 93.50 315⇑*i*P **P** 01 25 13.4 +0.4
ORIF **Oris-en-Rattie** 93.50 315⇑*i*P **P** 01 25 13.4 +0.4
BCLA **Clavier** 93.70 320 P **P** 01 25 13.9 +0.3
SMRF **Simiane la Rot** 93.75 314⇑*i*P **P** 01 25 14.3 +0.3
comp=Z,174nm,1.4s
SMRF **Simiane la Rot** 93.75 314⇑*i*P **P** 01 25 14.3 +0.3
comp=Z,174nm,1.4s
MEZF **Maizieres J'vi** 93.95 318⇑*i*P **P** 01 25 15.3 +0.5
comp=Z,164nm,1.4s
MEZF **Maizieres J'vi** 93.95 318⇑*i*P **P** 01 25 15.3 +0.5
comp=Z,164nm,1.4s
SFTF **Sexfontaines** 93.97 318⇑*i*P **P** 01 25 15.2 +0.3
comp=Z,249nm,1.1s
SFTF **Sexfontaines** 93.97 318⇑*i*P **P** 01 25 15.2 +0.3
comp=Z,249nm,1.1s
GIVF **Givet** 94.03 320⇑*i*P **P** 01 25 15.6 +0.5
comp=Z,77nm,1.3s
GIVF **Givet** 94.03 320⇑*i*P **P** 01 25 15.6 +0.5
GIVF pmax pmax
comp=Z,77nm,1.3s
GIVF **Givet** 94.03 320⇑*i*P **P** 01 25 15.6 +0.5
comp=Z,77nm,1.3s
TAM **Tamanrasset** 94.16 293 *e*P **P** 01 25 17.2 +0.7
TAM pmax pmax
comp=Z,36nm,1.3s
TAM MLR MLR
comp=Z,2μm,21.0s
TAM **Tamanrasset** 94.16 293 *e*P **P** 01 25 17.2 +0.7
comp=Z,36nm,1.3s
TAM *e*PP PP 01 28 56.4 -7.0
TAM LR LR
comp=Z,2μm,21.0s
DOU **Dourbes** 94.17 320 P **P** 01 25 16.3 +0.6
SNF **Senelfe** 94.35 320 P **P** 01 25 17.1 +0.5
VIVF **Saint-Julien-l** 94.36 315⇑*i*P **P** 01 25 17.1 +0.3
comp=Z,44nm,1.2s
VIVF **Saint-Julien-l** 94.36 315⇑*i*P **P** 01 25 17.1 +0.3
VIVF pmax pmax
comp=Z,44nm,1.2s
VIVF **Saint-Julien-l** 94.36 315⇑*i*P **P** 01 25 17.1 +0.3
comp=Z,44nm,1.2s
BAIF **Baives** 94.42 320⇑*i*P **P** 01 25 17.6 +0.7
comp=Z,91nm,1.2s
BAIF **Baives** 94.42 320⇑*i*P **P** 01 25 17.6 +0.7
BAIF pmax pmax
comp=Z,91nm,1.2s
BAIF **Baives** 94.42 320⇑*i*P **P** 01 25 17.6 +0.7
comp=Z,91nm,1.2s
SSB **Saint Sauveur** 94.44 315 *e*P **P** 01 25 17.7 +0.5
SSB *e**PP **pP** 01 25 26.5 +1.8
SSB pmax pmax
comp=Z,17nm,0.8s
SSB MLR MLR
comp=Z,1μm,19.0s
SSB **Saint Sauveur** 94.44 315 *e*P **P** 01 25 17.6 +0.5
comp=Z,17nm,0.8s
SSB *e*pP **pP** 01 25 26.5 +1.8
SSB LR LR
comp=Z,1μm,19.0s
LOR **Lormes** 94.81 317⇑*i*P **P** 01 25 19.1 +0.3
comp=Z,181nm,1.4s
LOR *e*R
comp=Z,2μm,19.5s
LOR **Lormes** 94.81 317⇑*i*P **P** 01 25 19.1 +0.3
comp=Z,181nm,1.4s
SMF **Signal de Mont** 94.86 317⇑*i*P **P** 01 25 19.1 +0.1
comp=Z,84nm,1.1s
SMF **Signal de Mont** 94.86 317⇑*i*P **P** 01 25 19.1 +0.1
SMF pmax pmax
comp=Z,84nm,1.1s
SMF **Signal de Mont** 94.86 317⇑*i*P **P** 01 25 19.1 +0.1
comp=Z,84nm,1.1s
LASF **Ste Croix** 94.98 314⇑*i*P **P** 01 25 20.4 +0.7
comp=Z,130nm,1.4s
LASF **Ste Croix** 94.98 314⇑*i*P **P** 01 25 20.4 +0.7
comp=Z,130nm,1.4s
PLDF **La Plantade** 95.05 316 *e*P **P** 01 25 20.3 +0.3
SSF **Saint Saulge** 95.06 317⇑*i*P **P** 01 25 20.3 +0.3
comp=Z,112nm,1.6s
SSF **Saint Saulge** 95.06 317⇑*i*P **P** 01 25 20.3 +0.3
SSF pmax pmax
comp=Z,112nm,1.6s
SSF **Saint Saulge** 95.06 317⇑*i*P **P** 01 25 20.3 +0.3
comp=Z,112nm,1.6s
AVF **Avril sur Loir** 95.18 317⇑*i*P **P** 01 25 20.7 +0.2
comp=Z,46nm,1.1s
AVF **Avril sur Loir** 95.18 317⇑*i*P **P** 01 25 20.7 +0.2
AVF pmax pmax
comp=Z,46nm,1.1s
AVF **Avril sur Loir** 95.18 317⇑*i*P **P** 01 25 20.7 +0.2
comp=Z,46nm,1.1s
LBL **Lubilhac** 95.35 315 *e*P **P** 01 25 22.2 +0.8
AGO **Saint Agoulin** 95.38 316 *e*P **P** 01 25 21.9 +0.4
PYM **Petit Puy Mans** 95.49 316 *e*P **P** 01 25 22.4 +0.4
BGF **Bois d'Agland** 95.55 316⇑*i*P **P** 01 25 22.8 +0.6
comp=Z,89nm,1.2s
BGF **Bois d'Agland** 95.55 316⇑*i*P **P** 01 25 22.8 +0.6
BGF pmax pmax
comp=Z,89nm,1.2s
BGF **Bois d'Agland** 95.55 316⇑*i*P **P** 01 25 22.8 +0.6
comp=Z,89nm,1.2s
HYF **Humbligny** 95.64 317 *e*P **P** 01 25 23.2 +0.6
HYF **Humbligny** 95.64 317 *e*P **P** 01 25 23.2 +0.6
MENF **Mencas** 95.70 321 *e*P **P** 01 25 23.2 +0.5
CAF **Calviac** 96.21 315⇑*i*P **P** 01 25 25.9 +0.6
comp=Z,96nm,1.5s
CAF **Calviac** 96.21 315⇑*i*P **P** 01 25 25.9 +0.6
CAF pmax pmax
comp=Z,96nm,1.5s
CAF **Calviac** 96.21 315⇑*i*P **P** 01 25 25.9 +0.6
comp=Z,96nm,1.5s
MTLF **Montolieu** 96.21 313⇑*i*P **P** 01 25 25.7 +0.4
comp=Z,83nm,1.3s
MTLF **Montolieu** 96.21 313⇑*i*P **P** 01 25 25.7 +0.4
MTLF pmax pmax
comp=Z,83nm,1.3s
MTLF **Montolieu** 96.21 313⇑*i*P **P** 01 25 25.7 +0.4
comp=Z,83nm,1.3s
RJF **Les Rejaudoux** 96.56 315⇑*i*P **P** 01 25 27.6 +0.7
comp=Z,107nm,1.6s
RJF *e*R
comp=Z,2μm,19.2s
RJF **Les Rejaudoux** 96.56 315⇑*i*P **P** 01 25 27.6 +0.7
RJF pmax pmax
comp=Z,107nm,1.6s
RJF **Les Rejaudoux** 96.56 315⇑*i*P **P** 01 25 27.6 +0.7
comp=Z,107nm,1.6s
LFF **La Frestale** 97.14 315 *e*P Pdif 01 25 30.2 +0.7
comp=Z,163nm,1.5s
LFF **La Frestale** 97.14 315 *e*P Pdif 01 25 30.2 +0.7
LFF pmax pmax
comp=Z,163nm,1.5s
LFF **La Frestale** 97.14 315 *e*P Pdif 01 25 30.2 +0.7
comp=Z,163nm,1.5s
LDF **La Druitiere** 97.37 319⇑*i*P **P** 01 25 30.4 0.0
comp=Z,25nm,0.8s
LDF **La Druitiere** 97.37 319⇑*i*P **P** 01 25 30.4 0.0
LDF pmax pmax
comp=Z,25nm,0.8s
LDF **La Druitiere** 97.37 319⇑*i*P **P** 01 25 30.4 0.0
comp=Z,25nm,0.8s
DAG **Danmarks Havn** 97.55 348⇑*i*P **P** 01 25 30.3 -0.3
DAG MLR MLR
comp=Z,4μm,21.0s
DAG **Danmarks Havn** 97.55 348⇑*i*P **P** 01 25 30.3 -0.3
comp=Z,27nm,0.9s
DAG
comp=Z,4μm,21.0s
FLN **La Foliniere** 97.58 319 *e*P Pdif 01 25 31.4 0.0
comp=Z,50nm,1.0s
FLN *e*R
comp=Z,2μm,19.5s
FLN **La Foliniere** 97.58 319 *e*P Pdif 01 25 31.4 0.0
FLN pmax pmax
comp=Z,50nm,1.0s
FLN **La Foliniere** 97.58 319 *e*P Pdif 01 25 31.4 0.0
comp=Z,50nm,1.0s
MFF **Saint Martin d** 97.60 317⇑*i*P Pdif 01 25 31.7 +0.2
comp=Z,44nm,1.2s
MFF **Saint Martin d** 97.60 317⇑*i*P Pdif 01 25 31.7 +0.2
MFF pmax pmax
comp=Z,44nm,1.2s
MFF **Saint Martin d** 97.60 317⇑*i*P Pdif 01 25 31.7 +0.2
comp=Z,44nm,1.2s
EPF **Esparros** 97.61 313 *e*P **P** 01 25 31.4 -0.3
EPF **Esparros** 97.61 313 *e*P **P** 01 25 31.4 -0.3
EPF **Esparros** 97.61 313 *e*P **P** 01 25 31.4 -0.3
GRR **Gorron** 97.88 319 *e*P Pdif 01 25 32.8 +0.1
comp=Z,91nm,1.5s
GRR **Gorron** 97.88 319 *e*P Pdif 01 25 32.8 +0.1
GRR pmax pmax
comp=Z,91nm,1.5s
GRR **Gorron** 97.88 319 *e*P Pdif 01 25 32.8 +0.1
comp=Z,91nm,1.5s
TOA0 **Torodi Ar. Sit** 97.88 283 *e*P **P** 01 25 33.2 -0.2
TORD **Torodi Ar. Bea** 97.88 283 P **P** 01 25 33.2 -0.2
TORD PP **PP** 01 29 28.2 -3.9
TORD PKKPbc **PKKPbc** 01 42 07.1 -0.6
TORD **Torodi Ar. Bea** 97.88 283 P **P** 01 25 33.2 -0.2
comp=Z,11nm,0.9s,baz=80,slow=3.9,SNR=48
TORD PP **PP** 01 29 28.2 -3.9
comp=Z,4.7nm,1.1s,baz=100,slow=6.9,SNR=4.1
TORD PKKPbc **PKKPbc** 01 42 07.1 -0.6
comp=Z,1.5nm,0.9s,baz=294,slow=2.6,SNR=6.7
TORD LR LR 02 07 15.9
comp=Z,2μm,20.1s,baz=95,slow=34
IM04 **Indian Mountai** 98.02 23 *e*P Pdif 01 25 33.4 +0.4
ETSF **Etsaut** 98.28 313 *e*P **P** 01 25 34.3 -0.4
comp=Z,22nm,1.0s
ETSF **Etsaut** 98.28 313 *e*P **P** 01 25 34.3 -0.4
ETSF pmax pmax
comp=Z,22nm,1.0s
ETSF **Etsaut** 98.28 313 *e*P **P** 01 25 34.3 -0.4
comp=Z,22nm,1.0s
ESK **Eskdalemuir** 98.32 326 PFAKE 01 25 50.0 +15
ESK LR LR
comp=Z,2μm,20.0s
SJPF **Ste Jean** 98.74 313 *e*P Pdif 01 25 37.4 +0.7
comp=Z,34nm,1.1s
SJPF **Ste Jean** 98.74 313 *e*P Pdif 01 25 37.4 +0.7
SJPF pmax pmax
comp=Z,34nm,1.0s
SJPF **Ste Jean** 98.74 313 *e*P Pdif 01 25 37.4 +0.7
comp=Z,34nm,1.0s
PPLA **Purkeypile** 99.50 26 *e*Pdif **Pdif** 01 25 42.5 +2.7
MCK **McKinley** 100.65 25 *e*P **Pdif** 01 25 46.6 +1.8
MCK pmax pmax
comp=Z,28nm,1.1s
MCK **McKinley** 100.65 25 *e*Pdif **Pdif** 01 25 46.6 +1.8
comp=Z,28nm,1.1s
KDAK **Kodiak Island** 100.66 31 PFAKE 01 26 00.0 +15
KDAK LR LR
comp=Z,4μm,19.0s

COLA	**College**	**100.71**	**24**	*e*P	**Pdif**	**01 25 49.4**	**+4.5**
COLA				MLR	MLR		
comp=Z,2µm,20.0s							
COLA	**College**	**100.71**	**24**	*e*Pdif	**Pdif**	**01 25 49.4**	**+4.5**
COLA				LR	LR		
comp=Z,2µm,20.0s							
ILAR	**Eielson Array**	**101.14**	**24**	P	**Pdif**	**01 25 47.5**	**+0.6**
ILAR				PKKPbc	**PKKPbc**	**01 41 57.2**	**-2.9**
ILAR	**Eielson Array**	**101.14**	**24**	P	**Pdif**	**01 25 47.5**	**+0.6**
comp=Z,1.1nm,0.7s,baz=294,slow=4.4,SNR=16							
ILAR				PKKPbc	**PKKPbc**	**01 41 57.2**	**-2.9**
comp=Z,5.9nm,0.8s,baz=139,slow=2.0,SNR=40							
ESDC	**Sonseca Array**	**101.20**	**310**	P	**Pdif**	**01 25 47.2**	**-0.6**
ESDC				PP	**PP**	**01 29 53.2**	**-3.6**
ESDC	**Sonseca Array**	**101.20**	**310**	P	**Pdif**	**01 25 47.2**	**-0.6**
comp=Z,1.4nm,0.7s,baz=66,slow=3.8,SNR=5.9							
ESDC				PP	**PP**	**01 29 53.2**	**-3.6**
comp=Z,5.1nm,1.1s,baz=63,slow=6.4,SNR=4.9							
PAB	**San Pablo**	**101.51**	**310**	PFAKE		01 26 00.0	+11
PAB				LR	LR		
comp=Z,2µm,20.0s							
BMRM	**Bremner River**	**103.52**	**27**	*e*Pdif	**Pdif**	**01 25 59.1**	**+1.5**
comp=Z,34nm,1.1s							
MTE	**Manteigas**	**103.81**	**311**	PFAKE		01 26 10.0	+11
MTE				LR	LR		
comp=Z,1µm,19.0s							
INK	**Inuvik**	**104.22**	**18**	*e*Pdif	**Pdif**	**01 26 01.6**	**+1.2**
comp=Z,10nm,1.2s							
INK				PKiKP	**PKiKP**	**01 30 16.9**	**-0.3**
INK				PKKPbc	**PKKPbc**	**01 41 46.9**	**-4.1**
INK	**Inuvik**	**104.22**	**18**	Pdiff	**Pdif**	**01 26 00.3**	**-0.2**
comp=Z,4.3nm,0.9s,baz=280,slow=2.4,SNR=9.7							
INK				PKiKP	**PKiKP**	**01 30 16.9**	**-0.3**
comp=Z,1.9nm,0.6s,baz=340,slow=6.9,SNR=6.2							
INK				PKKPbc	**PKKPbc**	**01 41 46.9**	**-4.1**
comp=Z,4.6nm,0.9s,baz=116,slow=2.5,SNR=16							
SHEL	**Horse Pasture**	**104.24**	**253**	PFAKE		01 26 10.0	+8.2
SHEL				LR	LR		
comp=Z,7µm,20.0s							
SUMG	**Summit**	**104.24**	**348**	*e*P	**Pdif**	**01 26 03.6**	**+2.6**
SUMG				pmax	pmax		
comp=Z,85nm,1.8s							
SUMG	**Summit**	**104.24**	**348**	*i* P	**Pdif**	**01 26 04.6**	**+3.6**
SUMG				*i*		01 26 12.7	
SUMG							
comp=Z,4µm,19.0s							
SUMG	**Summit**	**104.24**	**348**	*e*Pdif	**Pdif**	**01 26 03.6**	**+2.6**
comp=Z,86nm,1.8s							
KIC	**Kosan Boka**	**104.27**	**276**	*e*P	**Pdif**	**01 26 05.4**	**+3.5**
comp=Z,16nm,0.9s							
RTC	**Rabat Centre**	**104.28**	**305**	PFAKE		01 26 10.0	+8.5
RTC				LR	LR		
comp=Z,2µm,19.0s							
DBIC	**Dimbokro**	**104.39**	**276**	*e*Pdif	**Pdif**	**01 26 02.8**	**+0.4**
comp=Z,9.3nm,1.1s							
DBIC	**Dimbokro**	**104.39**	**276**	Pdiff	**Pdif**	**01 26 03.7**	**+1.3**
comp=Z,7.1nm,1.1s,baz=76,slow=6.2,SNR=7.5							
TIC	**Toumodi**	**104.55**	**276**	*e*P	**Pdif**	**01 26 06.5**	**+3.3**
comp=Z,27nm,1.2s							
LIC	**Lamto**	**104.56**	**276**	*e*P	**Pdif**	**01 26 03.4**	**+0.2**
comp=Z,20nm,1.1s							
LIC				*e*R			
comp=Z,4µm,21.2s							
LIC	**Lamto**	**104.56**	**276**	*e*P	**Pdif**	**01 26 07.6**	**+4.4**
comp=Z,24nm,1.1s							
LIC	**Lamto**	**104.56**	**276**	*e*P	**Pdif**	**01 26 03.4**	**+0.2**
comp=Z,20nm,1.1s							
RES	**Resolute Bay**	**106.27**	**4**	*e*PKP	**PKiKP**	**01 30 21.3**	**+0.5**
RES	**Resolute Bay**	**106.27**	**4**	Pdiff	**Pdif**	**01 26 10.3**	**+0.8**
comp=Z,1.6nm,0.8s,baz=16,slow=7.4,SNR=4.5							
RES				PKiKP	**PKiKP**	**01 30 21.7**	**+0.9**
comp=Z,3.4nm,0.8s,baz=310,slow=6.1,SNR=6.5							
TRIS	**Tristan da Cun**	**106.42**	**231**	PFAKE		01 30 30.0	
TRIS				LR	LR		
comp=Z,3µm,20.0s							
TBI	**Tubuai**	**108.72**	**115**	*e*Pdif	**Pdif**	**01 26 20.5**	**-1.0**
comp=Z,93nm,31.2s							
TBI	**Tubuai**	**108.72**	**115**	*e*PP	PP	01 30 51.7	-1.3
comp=Z,154nm,27.0s							
TBI				*e*Sdif	Sdif	01 38 08.3	-21
comp=Z,601nm,31.0s							
TBI				*e*SP	**SP**	**01 40 12.6**	**-3.3**
comp=Z,513nm,24.0s							
TBI				*e*SS	**SS**	**01 46 05.5**	**-4.2**
comp=Z,1µm,28.0s							
TBI	**Tubuai**	**108.72**	**115**	*e*LR	LR	02 02 24.9	
comp=Z,3µm,28.5s							
PPT2	**Papeete2**	**109.51**	**109**	*e*Pdif	**Pdif**	**01 26 24.8**	**-0.4**
comp=Z,67nm,26.5s							
PPT2	**Papeete2**	**109.51**	**109**	*e*PP	PP	01 30 53.3	-5.6
comp=Z,202nm,27.0s							
PPT2	**Papeete2**	**109.51**	**109**	*e*LR	LR	02 02 40.1	
comp=Z,5µm,23.8s							
DLBC	**Dease Lake**	**111.20**	**25**	PKKPbc	PKKPbc	01 41 28.1	-0.9
DLBC				PKKPab	**PKKPab**	**01 41 37.4**	**+0.1**
DLBC	**Dease Lake**	**111.20**	**25**	PKKPbc	PKKPbc	01 41 28.1	-0.9
comp=Z,3.2nm,0.9s,baz=38,slow=13,SNR=3.5							
DLBC				PKKPab	**PKKPab**	**01 41 37.4**	**+0.1**
comp=Z,2.4nm,1.1s,baz=141,slow=8.0,SNR=3.5							
SFJD	**Kangerlussuaq**	**111.24**	**348**	PFAKE		01 30 40.0	
SFJD				LR	LR		
comp=Z,3µm,20.0s							
WRAK	**Wrangell Islan**	**111.28**	**28**	PFAKE		01 30 40.0	
WRAK				LR	LR		
comp=Z,3µm,20.0s							
PMSA	**Palmer Station**	**112.92**	**188**	PFAKE		01 30 50.0	
PMSA				LR	LR		
comp=Z,3µm,20.0s							
ASCN	**Ascension**	**113.38**	**261**	PFAKE		01 30 50.0	
ASCN				LR	LR		
comp=Z,5µm,19.0s							
YKW3	**Yellowknife Ar**	**113.86**	**16**	*e*P	**PKiKP**	**01 30 34.9**	**-0.5**
YKA	**Yellowknife Ar**	**113.91**	**17**	Pdif	**Pdif**	**01 26 45.4**	**+1.7**
YKA				PKiKP	**PKiKP**	**01 30 35.1**	**-0.4**
YKA				PKKPbc	**PKKPbc**	**01 41 17.4**	**-2.5**
YKA	**Yellowknife Ar**	**113.91**	**17**	Pdiff	**Pdif**	**01 26 45.4**	**+1.7**
comp=Z,0.4nm,0.9s,baz=322,slow=4.8,SNR=7.7							
YKA				PKiKP	**PKiKP**	**01 30 35.1**	**-0.4**
comp=Z,2.6nm,0.7s,baz=358,slow=1.8,SNR=47							
YKA				PKKPbc	**PKKPbc**	**01 41 17.4**	**-2.5**
comp=Z,6.4nm,1.1s,baz=139,slow=3.0,SNR=27							
PGC	**Sidney**	**120.21**	**32**	*e*P	**PKPdf**	**01 30 49.1**	**+1.1**
NLWA	**Neilton Lookou**	**120.75**	**33**	PFAKE		01 31 00.0	+11
NLWA				LR	LR		
comp=Z,3µm,19.0s							
EDM	**Edmonton**	**121.60**	**22**	*e*PKIKP	**PKPdf**	**01 30 50.8**	**+0.1**
EDM	**Edmonton**	**121.60**	**22**	*e*PKPdf	**PKPdf**	**01 30 50.8**	**+0.1**
RKT	**Rikitea**	**121.73**	**118**	*e*PS	PS	01 42 14.9	-3.7
comp=Z,528nm,25.5s							
RKT	**Rikitea**	**121.73**	**118**	*e*LR	LR	02 08 17.9	
comp=Z,5µm,25.5s							
FCC	**Fort Churchill**	**121.78**	**8**	*e*PKIKP	**PKPdf**	**01 30 50.4**	**-0.3**
FCC	**Fort Churchill**	**121.78**	**8**	*e*P	**PKPdf**	**01 30 50.4**	**-0.3**
GSM	**Grass Mountain**	**121.98**	**32**	PKIKP	**PKPdf**	**01 30 53.1**	**+1.4**
GSM	**Grass Mountain**	**121.98**	**32**	P	**PKPdf**	**01 30 53.1**	**+1.4**
NLW	**Nelson Butte**	**122.17**	**30**	P	**PKPdf**	**01 30 53.1**	**+1.0**
SACV	**Santiago Islan**	**122.24**	**287**	PFAKE		01 31 00.0	+7.1
SACV				LR	LR		
comp=Z,2µm,19.0s							
G03D	**McMinnville, O**	**122.39**	**35**	⇓P	**PKPdf**	**01 30 53.0**	**+0.6**
baz=122							
WTV	**Waterville**	**122.62**	**31**	P	**PKPdf**	**01 30 53.2**	**+0.4**
USHA	**Ushuaia**	**123.12**	**188**	PKP	**PKPdf**	**01 30 54.3**	**+0.9**
USHA	**Ushuaia**	**123.12**	**188**	PKP	**PKPdf**	**01 30 54.3**	**+0.9**
comp=Z,18nm,0.9s,baz=299,slow=3.7,SNR=6.1							
VLL	**Laurance Lake**	**123.13**	**34**	P	**PKPdf**	**01 30 56.0**	**+2.0**
I03D	**Drain, OR**	**123.24**	**36**	⇓P	**PKPdf**	**01 30 54.5**	**+0.5**
baz=123							
OD2	**Odessa Site #2**	**123.45**	**30**	P	**PKPdf**	**01 30 54.9**	**+0.5**
G05D	**Wamic, OR**	**123.47**	**34**	⇑P	**PKPdf**	**01 30 55.3**	**+0.8**
baz=124							
NEW	**Newport**	**123.63**	**29**	*e*PKPdf	**PKPdf**	**01 30 55.4**	**+0.7**
NEW				LR	LR		
comp=Z,2µm,20.0s							
NEW	**Newport**	**123.63**	**29**	⇑P	**PKPdf**	**01 30 55.3**	**+0.6**
baz=124							
HAWA	**Hanford**	**123.69**	**32**	*e*PKPdf	**PKPdf**	**01 30 55.8**	**+1.0**
HAWA				LR	LR		
comp=Z,2µm,22.0s							
I04A	**Tendick Farm,**	**123.73**	**36**	⇓P	**PKPdf**	**01 30 55.8**	**+0.8**
baz=124							
EFI	**East Falkland**	**123.84**	**197**	PFAKE		01 31 10.0	+15
EFI				LR	LR		
comp=Z,3µm,19.0s							
L02D	**Cave Junction,**	**123.97**	**38**	⇓P	**PKPdf**	**01 30 56.1**	**+0.6**
baz=124							
FFC	**Flin Flon**	**123.98**	**15**	*e*PKIKP	**PKPdf**	**01 30 54.8**	**-0.3**
FFC				MLR	MLR		
comp=Z,3µm,21.0s							
FFC	**Flin Flon**	**123.98**	**15**	*e*PKPdf	**PKPdf**	**01 30 54.8**	**-0.3**
FFC				LR	LR		
comp=Z,3µm,21.0s							
I05D	**Terrebonne, OR**	**124.01**	**34**	⇓P	**PKPdf**	**01 30 56.5**	**+0.9**
baz=124							
HUMO	**Hull Mountain**	**124.10**	**37**	*e*PKPdf	**PKPdf**	**01 30 56.8**	**+1.0**
J04D	**Umpqua Nationa**	**124.23**	**36**	⇓P	**PKPdf**	**01 30 56.8**	**+0.6**
baz=124							
PINOR	**Pine Mountain**	**124.60**	**35**	*e*PKPdf	**PKPdf**	**01 30 58.1**	**+1.5**
J05D	**Fort Rock, OR**	**124.72**	**35**	⇑P	**PKPdf**	**01 30 57.9**	**+0.8**
baz=125							
K04D	**Chiloquin, OR**	**124.81**	**36**	⇑P	**PKPdf**	**01 30 57.8**	**+0.5**
baz=125							
M02C	**Callahan**	**124.86**	**38**	⇑P	**PKPdf**	**01 30 57.8**	**+0.5**
baz=125							
BSMT	**Basson Peak**	**125.03**	**28**	*e*PKPdf	**PKPdf**	**01 30 57.2**	**-0.4**
N02D	**Trinity Center**	**125.20**	**38**	⇓P	**PKPdf**	**01 30 58.4**	**+0.5**
baz=125							
M04C	**Macdoel**	**125.26**	**37**	⇓P	**PKPdf**	**01 30 58.5**	**+0.4**
baz=125							
PTCN	**Pitcairn Islan**	**125.31**	**122**	PFAKE		01 31 10.0	+11
PTCN				LR	LR		
comp=Z,3µm,21.0s							
JTMT	**Jette**	**125.33**	**27**	*e*PKPdf	**PKPdf**	**01 30 58.4**	**+0.3**
SWMT	**Swartz Lake**	**125.64**	**27**	*e*PKPdf	**PKPdf**	**01 30 59.0**	**+0.3**
SLMT	**Seeley Lake**	**126.07**	**27**	*e*PKPdf	**PKPdf**	**01 30 59.5**	**-0.1**
MOD	**Modoc**	**126.11**	**36**	*e*PKPdf	**PKPdf**	**01 31 01.1**	**+1.3**
MSO	**Missoula**	**126.17**	**28**	⇓P	**PKPdf**	**01 30 59.9**	**+0.2**
baz=126							
CHMT	**Chamberlain Mo**	**126.42**	**27**	*e*PKPdf	**PKPdf**	**01 31 00.5**	**+0.2**
WVOR	**Wild Horse Val**	**126.74**	**35**	*e*PKIKP	**PKPdf**	**01 31 02.2**	**+1.2**
WVOR				MLR	MLR		
comp=Z,2µm,21.0s							
WVOR	**Wild Horse Val**	**126.74**	**35**	*e*PKPdf	**PKPdf**	**01 31 02.2**	**+1.2**
WVOR				LR	LR		
comp=Z,2µm,21.0s							
A19A	**Klindworth Far**	**126.78**	**23**	⇑P	**PKPdf**	**01 31 01.2**	**+0.4**
baz=127							
B19A	**Brinkman Farms**	**127.08**	**23**	⇓P	**PKPdf**	**01 31 01.8**	**+0.4**
baz=127,SNR=16							
EGMT	**Eagleton**	**127.10**	**24**	*e*PKPdf	**PKPdf**	**01 31 02.1**	**+0.6**
EGMT				LR	LR		
comp=Z,2µm,20.0s							
EGMT	**Eagleton**	**127.10**	**24**	⇓P	**PKPdf**	**01 31 01.6**	**+0.2**
baz=127							
A20A	**Cobblestone Ra**	**127.13**	**22**	⇓P	**PKPdf**	**01 31 01.7**	**+0.2**
baz=127,SNR=15							
HRY	**Holter Researc**	**127.22**	**27**	*e*PKPdf	**PKPdf**	**01 31 02.4**	**+0.7**
BEKR	**Beckworth**	**127.30**	**38**	*e*PKPdf	**PKPdf**	**01 31 02.8**	**+0.7**
A21A	**Bergtoll Ranch**	**127.41**	**22**	⇓P	**PKPdf**	**01 31 02.1**	**+0.2**
baz=127,SNR=21							
B20A	**Solberg Farm,**	**127.45**	**23**	⇓P	**PKPdf**	**01 31 02.5**	**+0.4**
baz=127,SNR=24							
LRM	**Limekiln Ridge**	**127.61**	**28**	*e*PKPdf	**PKPdf**	**01 31 02.7**	**0.0**
C19A	**Slack Wire Ran**	**127.61**	**24**	⇑P	**PKPdf**	**01 31 02.8**	**+0.4**
baz=128							
MFID	**Camas Ranch**	**127.64**	**32**	*e*PKPdf	**PKPdf**	**01 31 03.8**	**+1.2**
A22A	**Carney Farms,**	**127.78**	**21**	⇑P	**PKPdf**	**01 31 03.1**	**+0.4**
baz=128,SNR=20							
B21A	**Ellsworth Farm**	**127.85**	**22**	⇑P	**PKPdf**	**01 31 03.1**	**+0.3**
baz=128,SNR=6.4							
PAHR	**Pah Rah Range**	**127.99**	**38**	*e*PKPdf	**PKPdf**	**01 31 04.5**	**+1.0**
C20A	**Veseth Ranch,**	**128.05**	**23**	⇑P	**PKPdf**	**01 31 04.0**	**+0.8**
baz=128,SNR=28							
BOZ	**Bozeman (W)**	**128.12**	**27**	*e*PKIKP	**PKPdf**	**01 31 04.6**	**+1.1**
BOZ				MLR	MLR		
comp=Z,2µm,19.0s							
BOZ	**Bozeman (W)**	**128.12**	**27**	*e*PKPdf	**PKPdf**	**01 31 04.6**	**+1.1**
BOZ				LR	LR		
comp=Z,2µm,19.0s							
D19A	**Cripps Ranch,**	**128.14**	**24**	⇓P	**PKPdf**	**01 31 04.0**	**+0.6**
baz=128							
MCMT	**McKenzie Canyo**	**128.15**	**29**	*e*PKPdf	**PKPdf**	**01 31 04.8**	**+1.1**
A23A	**Redstone**	**128.17**	**20**	⇑P	**PKPdf**	**01 31 03.6**	**+0.2**
baz=128,SNR=5.9							
HLID	**Hailey**	**128.28**	**31**	*e*PKPdf	**PKPdf**	**01 31 05.4**	**+1.4**
HLID				LR	LR		
comp=Z,2µm,20.0s							
HLID	**Hailey**	**128.28**	**31**	⇑P	**PKPdf**	**01 31 04.6**	**+0.7**
baz=128							
B22A	**Reddig Ranch S**	**128.33**	**21**	⇓P	**PKPdf**	**01 31 04.2**	**+0.5**
baz=128							
A24A	**Westby**	**128.50**	**20**	⇑P	**PKPdf**	**01 31 04.8**	**+0.8**
baz=128							
D20A	**Manuel Ranch,**	**128.50**	**24**	⇑P	**PKPdf**	**01 31 04.5**	**+0.4**
baz=128							
B23A	**Brockton**	**128.55**	**21**	⇑P	**PKPdf**	**01 31 04.4**	**+0.3**
baz=128							
WAKR	**Walker**	**128.68**	**39**	*e*PKPdf	**PKPdf**	**01 31 06.1**	**+1.2**
E19A	**Rath Farm, Rou**	**128.74**	**25**	⇑P	**PKPdf**	**01 31 05.0**	**+0.4**
baz=129							
A25A	**Svangstu Ranch**	**128.78**	**19**	⇑P	**PKPdf**	**01 31 05.1**	**+0.5**
baz=129,SNR=10							
DGMT	**Dagmar**	**128.83**	**20**	*e*PKPdf	**PKPdf**	**01 31 05.0**	**+0.4**
DGMT				LR	LR		
comp=Z,4µm,19.0s							
DGMT	**Dagmar**	**128.83**	**20**	⇓P	**PKPdf**	**01 31 05.4**	**+0.7**
baz=129							
C22A	**Vida**	**128.84**	**22**	⇑P	**PKPdf**	**01 31 05.3**	**+0.6**
baz=129							
GCMT	**Greycliff**	**128.89**	**26**	*e*PKPdf	**PKPdf**	**01 31 06.2**	**+1.2**
D21A	**La Casta Ranch**	**128.98**	**23**	⇓P	**PKPdf**	**01 31 05.4**	**+0.3**
baz=129							
E20A	**Meyer Farm, Mu**	**128.98**	**24**	⇓P	**PKPdf**	**01 31 06.0**	**+0.9**
baz=129							
C23A	**Lambert**	**129.04**	**21**	⇓P	**PKPdf**	**01 31 06.3**	**+1.2**
baz=129,SNR=13							
F19A	**Roth Farm, Mol**	**129.15**	**25**	⇓P	**PKPdf**	**01 31 06.7**	**+1.2**
baz=129							
A26A	**Wade Farm, Ken**	**129.16**	**18**	⇑P	**PKPdf**	**01 31 06.4**	**+1.1**
baz=129							
YMR	**Madison River**	**129.16**	**28**	*e*PKPdf	**PKPdf**	**01 31 07.5**	**+1.8**
D22A	**Cohagen**	**129.22**	**22**	⇑P	**PKPdf**	**01 31 06.4**	**+0.9**
baz=129							
YNR	**Norris Junctio**	**129.26**	**28**	*e*PKPdf	**PKPdf**	**01 31 08.2**	**+2.3**
B25A	**Knox Farm, Ray**	**129.35**	**19**	⇓P	**PKPdf**	**01 31 06.6**	**+0.9**
baz=129,SNR=11							
A27A	**Ledoux Ranch,**	**129.35**	**18**	⇓P	**PKPdf**	**01 31 06.3**	**+0.7**
baz=129							
E21A	**Keefer Ranch,**	**129.37**	**24**	⇑P	**PKPdf**	**01 31 06.8**	**+1.0**
baz=129							
YFT	**Old Faithful**	**129.39**	**28**	*e*PKPdf	**PKPdf**	**01 31 09.3**	**+3.1**
LKWY	**Lake**	**129.50**	**27**	*e*PKIKP	**PKPdf**	**01 31 09.2**	**+2.8**
LKWY				MLR	MLR		
comp=Z,5µm,20.0s							
LKWY	**Lake**	**129.50**	**27**	*e*PKPdf	**PKPdf**	**01 31 09.2**	**+2.8**
LKWY				LR	LR		
comp=Z,5µm,20.0s							
F20A	**Billings**	**129.53**	**25**	⇓P	**PKPdf**	**01 31 06.7**	**+0.6**
baz=130							
C24A	**Savage**	**129.55**	**21**	⇑P	**PKPdf**	**01 31 07.4**	**+1.3**
baz=130,SNR=6.1							
H17A	**Grant Village**	**129.55**	**28**	⇑P	**PKPdf**	**01 31 08.1**	**+1.6**
baz=130							
B26A	**Jensen Ranch,**	**129.56**	**19**	⇓P	**PKPdf**	**01 31 07.1**	**+1.1**
baz=130							
D23A	**Lindsay**	**129.57**	**22**	⇑P	**PKPdf**	**01 31 07.4**	**+1.3**
baz=130							
ULM	**Lac du Bonnet**	**129.57**	**13**	*e*PKPdf	**PKPdf**	**01 31 06.0**	**+0.1**
ULM				PKP	**PKPdf**	**01 31 06.2**	**+0.3**
ULM	**Lac du Bonnet**	**129.57**	**13**	PKP	**PKPdf**	**01 31 06.2**	**+0.3**
comp=Z,19nm,0.5s,baz=340,slow=2.8,SNR=38							
RLMT	**Red Lodge**	**129.59**	**26**	*e*PKPdf	**PKPdf**	**01 31 06.5**	**+0.1**
RLMT				*e*PP	PP	01 33 21.5	+5.7
RLMT							
comp=Z,3µm,22.0s							
LAO	**LASA Array**	**129.59**	**23**	*e*PKPdf	**PKPdf**	**01 31 07.6**	**+1.4**
LAO				LR	LR		
comp=Z,2µm,19.0s							
A28A	**Rude Farm, Bot**	**129.68**	**17**	⇓P	**PKPdf**	**01 31 07.0**	**+0.7**
baz=130							
H18A	**Shoshone NF, C**	**129.75**	**27**	⇑P	**PKPdf**	**01 31 07.5**	**+0.7**
baz=130							
ELK	**Elko**	**129.77**	**34**	*e*PKPdf	**PKPdf**	**01 31 07.8**	**+0.9**
C25A	**Freed Ranch, W**	**129.80**	**20**	⇓P	**PKPdf**	**01 31 07.3**	**+0.8**
baz=130,SNR=12							
E22A	**Miles City**	**129.90**	**23**	⇑P	**PKPdf**	**01 31 07.6**	**+0.9**
baz=130							
I17A	**Pilgrim Ck.**	**129.91**	**28**	⇓P	**PKPdf**	**01 31 07.5**	**+0.4**
baz=130							
D24A	**Glendive**	**129.94**	**21**	⇑P	**PKPdf**	**01 31 07.3**	**+0.5**
baz=130,SNR=9.0							
F21A	**Absaloka Mine,**	**129.94**	**24**	⇓P	**PKPdf**	**01 31 07.7**	**+0.8**
baz=130							
A29A	**Manning Farm,**	**129.96**	**16**	⇑P	**PKPdf**	**01 31 07.4**	**+0.6**
baz=130,SNR=10							
G20A	**Bridger**	**129.97**	**25**	⇑P	**PKPdf**	**01 31 07.8**	**+0.7**
baz=130							
H19A	**Powell**	**130.06**	**26**	⇓P	**PKPdf**	**01 31 08.0**	**+0.7**
baz=130							
B28A	**Dugan Ranch, T**	**130.07**	**17**	⇑P	**PKPdf**	**01 31 07.7**	**+0.8**
baz=130,SNR=10							
C26A	**Wahner Farm, P**	**130.09**	**19**	⇑P	**PKPdf**	**01 31 07.8**	**+0.8**
baz=130							
E23A	**Ismay**	**130.10**	**22**	⇑P	**PKPdf**	**01 31 08.0**	**+0.9**
baz=130							
A30A	**Hoffart Farm,**	**130.20**	**15**	⇑P	**PKPdf**	**01 31 07.5**	**+0.3**
baz=130,SNR=9.1							
D25A	**Fairfield**	**130.26**	**20**	⇑P	**PKPdf**	**01 31 08.2**	**+0.7**
baz=130							
F22A	**Rosebud**	**130.32**	**23**	⇑P	**PKPdf**	**01 31 08.4**	**+0.8**
baz=130							
TPH	**Tonopah**	**130.32**	**38**	*e*PKIKP	**PKPdf**	**01 31 09.7**	**+1.7**
TPH	**Tonopah**	**130.32**	**38**	*e*PKPdf	**PKPdf**	**01 31 09.7**	**+1.7**
TPH				*e*SKP		01 34 29.6	
TPH				*e*SKPdf	**SKiKP**	**01 34 45.0**	**+1.3**
B29A	**Wagenman Farm,**	**130.34**	**16**	⇓P	**PKPdf**	**01 31 07.9**	**+0.4**
baz=130							
G21A	**Lodge Grass**	**130.39**	**25**	⇓P	**PKPdf**	**01 31 08.7**	**+0.9**
baz=130							
E24A	**Baker**	**130.41**	**21**	⇓P	**PKPdf**	**01 31 08.6**	**+0.8**
baz=130							
VES	**Vestal, Richgr**	**130.46**	**42**	⇑P	**PKPdf**	**01 31 08.6**	**+0.6**
baz=130							
AHID	**Auburn Hatcher**	**130.53**	**30**	PFAKE		01 31 20.0	+12
AHID				LR	LR		
comp=Z,2µm,21.0s							
I19A	**Meeteetse**	**130.56**	**27**	⇓P	**PKPdf**	**01 31 09.2**	**+0.9**
baz=130							
B30A	**Myrvik Farm, E**	**130.64**	**16**	⇑P	**PKPdf**	**01 31 08.7**	**+0.6**
baz=131,SNR=10							
H20A	**Greybull**	**130.64**	**26**	⇓P	**PKPdf**	**01 31 09.3**	**+1.0**
baz=131							
D26A	**Manning**	**130.67**	**20**	⇑P	**PKPdf**	**01 31 09.5**	**+1.3**
baz=131							
F23A	**Volborg**	**130.71**	**23**	⇓P	**PKPdf**	**01 31 09.5**	**+1.1**
baz=131							
C28A	**Hausauer Farms**	**130.72**	**18**	⇑P	**PKPdf**	**01 31 09.2**	**+1.0**
baz=131							
G22A	**Birney**	**130.77**	**24**	⇑P	**PKPdf**	**01 31 09.5**	**+1.0**
baz=131							
E25A	**Miller Ranch,**	**130.79**	**21**	⇑P	**PKPdf**	**01 31 09.3**	**+0.8**
baz=131							
MDND	**Maddock**	**130.83**	**17**	*e*PKPdf	**PKPdf**	**01 31 08.7**	**+0.3**
MDND				*e*SKP		01 34 32.4	
MDND				*e*SKPdf	**SKiKP**	**01 34 47.1**	**+2.9**
MDND	**Maddock**	**130.83**	**17**	⇓P	**PKPdf**	**01 31 09.4**	**+1.0**
baz=131,SNR=15							
BGU	**Big Grassy Mou**	**130.86**	**33**	*e*PKPdf	**PKPdf**	**01 31 10.1**	**+1.2**
BGU				*e*SKP		01 34 31.5	
BGU				*e*SKPdf	**SKiKP**	**01 34 48.0**	**+3.3**
D27A	**Center**	**130.90**	**19**	⇓P	**PKPdf**	**01 31 10.0**	**+1.4**
baz=131							
H21A	**Big Horn, Sher**	**130.94**	**25**	⇓P	**PKPdf**	**01 31 09.9**	**+1.0**
baz=131							
F24A	**Ekalaka**	**130.97**	**22**	⇑P	**PKPdf**	**01 31 10.7**	**+1.8**
baz=131							
ISA	**Isabella**	**130.97**	**42**	⇑P	**PKPdf**	**01 31 10.8**	**+1.6**
baz=131							
I20A	**Worland**	**131.01**	**26**	⇑P	**PKPdf**	**01 31 10.6**	**+1.6**
baz=131							
ARVC	**Arvin**	**131.04**	**42**	⇓P	**PKPdf**	**01 31 10.6**	**+1.4**
baz=131							
J19A	**Crowheart**	**131.13**	**28**	⇑P	**PKPdf**	**01 31 11.2**	**+1.8**
baz=131							
D28A	**Regan**

baz=132
GSC Goldstone 132.28 41 ePKIKP PKPdf 01 31 14.5 +2.8
GSC Goldstone 132.28 41 ePKPdf PKPdf 01 31 14.5 +2.8
GSC eSKPbc SKPab 01 34 38.1 0.0
GSC eSKPdf SKiKP 01 34 47.9 +0.2
GSC Goldstone 132.28 41 ⇑P PKPdf 01 31 13.9 +2.3
baz=132
K21A Alcova 132.44 27 ⇓P PKPdf 01 31 13.5 +1.6
baz=132
I24A Kuenmmerle Ranc 132.56 24 ⇑P PKPdf 01 31 12.9 +1.0
baz=132
F29A Eureka 132.57 18 ⇑P PKPdf 01 31 13.5 +1.7
baz=132
RSSD Black Hills 132.58 23 ePKIKP PKPdf 01 31 12.6 +0.5
RSSD Black Hills 132.58 23 ePKPdf PKPdf 01 31 12.6 +0.5
RSSD eSKP 01 34 37.8
SHPR Sheep Range 132.59 38 ePKPdf PKPdf 01 31 13.6 +1.2
SHPR eSKPbc SKPab 01 34 39.8 +0.3
EYMN Ely 132.63 10 ePKPdf PKPdf 01 31 12.6 +0.7
EYMN eSKP 01 34 38.9
EYMN LR LR
comp=Z,2µm,20.0s
H26A Fairpoint 132.64 22 ⇑P PKPdf 01 31 13.2 +1.2
baz=133
K22A Casper 132.75 26 ePKPdf PKPdf 01 31 12.9 +0.4
K22A eSKPbc SKPab 01 34 40.2 +0.2
K22A Casper 132.75 26 ⇑P PKPdf 01 31 13.3 +0.9
baz=133
I25A Rochford 132.78 23 ⇓P PKPdf 01 31 13.1 +0.6
baz=133
F30A Leola 132.82 18 ⇓P PKPdf 01 31 13.1 +0.8
baz=133
H27A Howes 132.87 21 ⇓P PKPdf 01 31 14.2 +1.8
baz=133
G28A Parade 132.89 20 ⇑P PKPdf 01 31 14.3 +1.8
baz=133
J24A Dixon Ranch, L 132.99 24 ⇓P PKPdf 01 31 14.4 +1.6
baz=133
TMUT Trail Mountain 133.00 33 ePKPdf PKPdf 01 31 14.3 +1.1
TMUT eSKPbc SKPab 01 34 41.1 -0.3
MVU Marysvale 133.01 34 ePKPdf PKPdf 01 31 14.2 +1.0
MVU eSKPbc SKPab 01 34 41.1 -0.3
MURC Murrieta 133.02 43 ⇑P PKPdf 01 31 14.7 +1.7
baz=133
K23A Bowen Ranch, D 133.06 25 ⇓P PKPdf 01 31 14.5 +1.5
baz=133
I26A New Underwood 133.10 22 ⇓P PKPdf 01 31 14.2 +1.2
baz=133
G29A Hoven 133.12 19 ⇓P PKPdf 01 31 14.6 +1.7
baz=133
H28A Mission Ridge 133.21 20 ⇑P PKPdf 01 31 14.4 +1.3
baz=133
J25A Sunshine Ranch 133.28 23 ⇓P PKPdf 01 31 14.8 +1.4
baz=133
L22A Ellis Ranch, M 133.29 27 ⇓P PKPdf 01 31 15.3 +1.8
baz=133
GMRC Granite Mounta 133.34 41 ⇑P PKPdf 01 31 15.7 +1.9
baz=133
I27A Quinn 133.37 21 ⇑P PKPdf 01 31 14.8 +1.4
baz=133
N20A Spence Gulch, 133.38 29 ⇑P PKPdf 01 31 14.9 +1.1
baz=133
G30A Faulkton 133.42 18 ⇑P PKPdf 01 31 14.7 +1.3
baz=133
K24A Anderson Ranch 133.43 25 ⇓P PKPdf 01 31 14.9 +1.2
baz=133
SRU San Rafael 133.50 32 ePKIKP PKPdf 01 31 14.4 +0.4
SRU San Rafael 133.50 32 ePKPdf PKPdf 01 31 14.4 +0.4
PFO Pinyon Flat Ob 133.52 42 PFAKE 01 31 30.0 +16
PFO LR LR
comp=Z,1µm,20.0s
PFO Pinyon Flat Ob 133.52 42 ⇓P PKPdf 01 31 16.9 +2.8
baz=134
H29A Onida 133.52 19 ⇑P PKPdf 01 31 14.7 +1.1
baz=134
L23A Garrett 133.55 26 ⇓P PKPdf 01 31 15.0 +1.0
baz=134
J26A Sides Ranch, S 133.63 23 ⇑P PKPdf 01 31 15.7 +1.7
baz=134
M22A Cedar Creek Ra 133.72 27 ⇓P PKPdf 01 31 15.9 +1.5
baz=134
I28A Midland 133.75 21 ⇑P PKPdf 01 31 15.9 +1.8
baz=134
K25A Mack Ranch, Ha 133.91 24 ⇓P PKPdf 01 31 16.2 +1.6
baz=134
O20A White River Ci 133.92 30 ePKPdf PKPdf 01 31 15.7 +1.0
O20A eSKPbc SKPbc 01 34 43.9 +1.3
O20A White River Ci 133.92 30 ⇓P PKPdf 01 31 16.8 +2.0
baz=134
L24A Wheatland 133.94 25 ⇑P PKPdf 01 31 16.3 +1.6
baz=134
I29A Vivian Onida 134.03 20 ⇓P PKPdf 01 31 16.4 +1.8
baz=134
IRM Iron Mountain 134.06 41 ⇑P PKPdf 01 31 16.5 +1.5
baz=134
M23A Laramie 134.06 26 ⇑P PKPdf 01 31 16.5 +1.5
baz=134
J27A Elkhorn Farm, 134.09 22 ⇑P PKPdf 01 31 16.9 +2.1
baz=134
BRSD Miller 134.09 18 ⇑P PKPdf 01 31 16.1 +1.4
baz=134
K26A Motz Farm, Whi 134.11 23 ⇓P PKPdf 01 31 16.3 +1.4
baz=134
BC3 Big Chuckawall 134.16 42 ⇑P PKPdf 01 31 17.4 +2.2
baz=134
J28A Allard Ranch, 134.22 21 ⇑P PKPdf 01 31 16.5 +1.5
baz=134
L25A Engebretsen Ra 134.25 24 ⇓P PKPdf 01 31 17.0 +1.7
baz=134
N22A Wattenberg Ran 134.26 28 ⇑P PKPdf 01 31 16.6 +1.2
baz=134
W13A Hualapai Mount 134.28 39 ⇑P PKPdf 01 31 17.1 +1.5
baz=134
DVTC Desert V Tower 134.31 43 ⇓P PKPdf 01 31 17.5 +1.9
baz=134
SWSC Sam W. Stewart 134.36 43 ⇑P PKPdf 01 31 17.1 +1.6
baz=134
U15A North Rim 134.38 36 ⇑P PKPdf 01 31 17.4 +1.6
baz=134
I30A Oacoma 134.41 19 ⇓P PKPdf 01 31 16.7 +1.4
baz=134
N23A Red Feather La 134.42 27 ⇓P PKPdf 01 31 17.0 +1.3
baz=134
M24A Cheyenne 134.45 26 ⇑P PKPdf 01 31 17.3 +1.6
baz=134
K27A Flueckinger Fa 134.47 22 ⇓P PKPdf 01 31 16.7 +1.1
baz=134
J29A Okreek 134.56 20 ⇓P PKPdf 01 31 17.1 +1.4
baz=134
PDMCI Parker Dam,Lak 134.63 40 ⇓P PKPdf 01 31 17.5 +1.5
baz=135
L26A Underwood Farm 134.71 24 ⇑P PKPdf 01 31 17.1 +1.0
baz=135
Y12C Blythe 134.72 41 ⇑P PKPdf 01 31 18.0 +1.8
baz=135
O22A Kremmling 134.72 28 ⇑P PKPdf 01 31 17.6 +1.2
baz=135
K28A Ten Mile Ranch 134.79 22 ⇑P PKPdf 01 31 17.7 +1.5
baz=135
M25A Palm-Egli Farm 134.81 25 ⇓P PKPdf 01 31 18.0 +1.7
baz=135
RCBR Riachuelo 134.87 260 ePKPdf PKPdf 01 31 17.7 +0.7
RCBR PKP PKPdf 01 31 18.0 +1.0
RCBR LR LR
comp=Z,5µm,19.0s
RCBR Riachuelo 134.87 260 PKP PKPdf 01 31 18.0 +1.0
comp=Z,17nm,1.1s,baz=171,slow=3.3,SNR=4.4
PV04 Paradox Valley 134.89 32 ePKPdf PKPdf 01 31 18.0 +1.4
PV04 eSKPbc SKPbc 01 34 46.8 +0.9
J30A Dallas 134.92 20 ⇑P PKPdf 01 31 17.9 +1.6
baz=135
GLA Glamis 134.94 42 ⇑P PKPdf 01 31 18.4 +1.7
baz=135
N24A Carr 134.95 26 ⇑P PKPdf 01 31 18.5 +1.9
baz=135
O23A Lake Granby, G 134.98 28 ⇑P PKPdf 01 31 18.3 +1.5
baz=135
SPMN St. Paul 134.99 12 ePKPdf PKPdf 01 31 16.1 -0.2
SPMN St. Paul 134.99 12 ⇑P PKPdf 01 31 18.4 +2.0
baz=135
P22A Eagle 135.06 29 ⇓P PKPdf 01 31 18.5 +1.5
baz=135
K29A Lazy Trails An 135.13 21 ⇓P PKPdf 01 31 18.6 +1.8
baz=135
M26A McRoberts Ranc 135.16 24 ⇓P PKPdf 01 31 18.2 +1.3
baz=135
PV01 Paradox Valley 135.26 32 ePKPdf PKPdf 01 31 18.5 +1.1
PV01 eSKPbc SKPbc 01 34 47.2 +0.1
L28A Connealy Angus 135.34 22 ⇑P PKPdf 01 31 18.4 +1.2
baz=135
M27A Reverse DX Ran 135.42 23 ⇑P PKPdf 01 31 18.9 +1.5
baz=135
O24A Longmont 135.43 27 ⇑P PKPdf 01 31 19.3 +1.8
baz=135
ECSD EROS Data Cent 135.44 17 ePKPpre PKPpre 01 31 13.7
ECSD ePKPdf PKiKP 01 31 18.3 -0.5
ECSD ePP PP 01 33 51.0 -1.8
ECSD LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 135.44 28 PFAKE 01 31 30.0 +12
ISCO LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 135.44 28 ⇓P PKPdf 01 31 19.3 +1.6
baz=135
K30A Basset 135.45 20 ⇑P PKPdf 01 31 19.2 +1.8
baz=135
WUAZ Wupatki 135.55 37 ePKPdf PKPdf 01 31 17.2 -0.7
WUAZ eSKPbc SKPbc 01 34 49.2 +1.2
WUAZ eSKP 01 34 54.4
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 135.55 37 ⇑P PKPdf 01 31 19.7 +1.8
baz=136
Y14A Wickenburg 135.58 40 ⇓P PKPdf 01 31 19.8 +1.9
baz=136
N26A Koester Ranch, 135.66 25 ⇓P PKPdf 01 31 19.6 +1.7
baz=136
P23A Jefferson 135.68 28 ⇓P PKPdf 01 31 19.3 +1.0
baz=136
L29A Maesberg Ranch 135.68 21 ⇑P PKPdf 01 31 19.6 +1.8
baz=136
113A Mohawk Valley, 135.82 42 ⇑P PKPdf 01 31 19.6 +1.3
baz=136
O25A Wiggins 135.87 26 ⇑P PKPdf 01 31 19.6 +1.3
baz=136
M28A Bar X Bar Ranc 135.93 23 ⇑P PKPdf 01 31 19.8 +1.5
baz=136
N27A Anderson Farm, 135.97 24 ⇓P PKPdf 01 31 19.1 +0.6
baz=136
MVCO Mesa Verde 135.98 33 ePKPdf PKPdf 01 31 20.0 +1.2
MVCO LR LR
comp=Z,2µm,19.0s
MVCO Mesa Verde 135.98 33 ⇑P PKPdf 01 31 19.8 +1.1
baz=136
Z14A Wintersburg 135.99 40 ⇓P PKPdf 01 31 20.0 +1.4
baz=136
P24A Kohler Place, 136.00 27 ⇓P PKPdf 01 31 19.5 +0.8
baz=136
L30A Spencer Herefo 136.06 21 ⇓P PKPdf 01 31 19.9 +1.4
baz=136
O26A Horse Wrangler 136.11 25 ⇓P PKPdf 01 31 19.2 +0.5
baz=136
M29A Burnside Ranch 136.14 22 ⇑P PKPdf 01 31 19.7 +1.0
baz=136
L31A Butterfield Fa 136.16 20 ⇓P PKPdf 01 31 19.6 +0.9
baz=136
X16A Lo Mia Camp, P 136.25 38 ⇓P PKPdf 01 31 20.4 +1.2
baz=136
Q24A Divide 136.33 28 ⇓P PKPdf 01 31 20.8 +1.4
baz=136
P25A Willow Gulch B 136.34 27 ⇑P PKPdf 01 31 20.8 +1.6
baz=136
S22A 4UR Ranch, Cre 136.45 31 ⇓P PKPdf 01 31 21.1 +1.4
baz=136
N28A Prieano Ranch 136.47 23 ⇑P PKPdf 01 31 20.6 +1.2
baz=136
O27A Beecher Island 136.51 25 ⇑P PKPdf 01 31 20.9 +1.4
baz=136
LONY Lake Ozonia 136.60 354 PFAKE 01 31 30.0 +11
LONY LR LR
comp=Z,3µm,19.0s
R23A Moffat 136.61 29 ⇓P PKPdf 01 31 20.9 +1.0
baz=137
LBNH Lisbon 136.62 351 PFAKE 01 31 30.0 +11
LBNH LR LR
comp=Z,4µm,19.0s
P26A Davis Ranch, A 136.66 26 ⇑P PKPdf 01 31 20.9 +1.1
baz=137
N29A Votaw Ranch, W 136.71 22 ⇓P PKPdf 01 31 21.1 +1.3
baz=137
Q25A Bedland, Calha 136.78 27 ⇓P PKPdf 01 31 21.5 +1.4
baz=137
W18A Petrified Fore 136.79 36 ePKPdf PKPdf 01 31 22.4 +2.2
W18A Petrified Fore 136.79 36 ⇑P PKPdf 01 31 21.9 +1.6
baz=137
M31A Lambtecht Ranc 136.85 20 ⇓P PKPdf 01 31 21.5 +1.5
baz=137
O28A Krutsinger Ran 136.85 24 ⇑P PKPdf 01 31 21.8 +1.7
baz=137
S23A Nye Farm, Mont 136.90 30 ⇓P PKPdf 01 31 21.9 +1.4
baz=137
N30A Hueftle Ranch, 136.93 22 ⇓P PKPdf 01 31 21.6 +1.5
baz=137
R24A Sanders Place, 136.93 29 ⇓P PKPdf 01 31 21.6 +1.2
baz=137
P27A Ficken Ranch, 137.00 25 ⇓P PKPdf 01 31 21.7 +1.3
baz=137
MDV Middlebury 137.04 352 ePKPdf PKPdf 01 31 21.5 +1.3
X18A Snowflake 137.07 37 ⇑P PKPdf 01 31 22.6 +1.9
baz=137
BGNE Belgrade 137.07 20 ePKPpre PKPpre 01 31 14.4
BGNE ePKPdf PKPdf 01 31 21.0 +0.6
BGNE ePP PP 01 34 02.6 -0.6
BGNE eSKPbc SKPbc 01 34 54.4 +2.1
BGNE eSKPab SKPab 01 34 59.9 +1.2
BGNE Belgrade 137.07 20 ⇓P PKPdf 01 31 21.8 +1.4
baz=137
Q26A Hugo 137.11 27 ⇓P PKPdf 01 31 21.7 +1.0
baz=137
SDCO Great Sand Dun 137.12 29 PFAKE 01 31 30.0 +9.1
SDCO LR LR
comp=Z,2µm,21.0s
PLCA Paso Flores 137.13 191 ePKPpre PKPpre 01 31 12.1
PLCA ePKPdf PKPdf 01 31 20.2 -0.4
TRQA Tornquist 137.20 202 ePKPpre PKPpre 01 31 13.6
TRQA ePKPdf PKPdf 01 31 21.2 +0.5
TRQA LR LR
comp=Z,2µm,20.0s
O29A 4D Ranch, Culb 137.24 23 ⇓P PKPdf 01 31 22.0 +1.3
baz=137
P28A Saint Francis 137.33 24 ⇑P PKPdf 01 31 22.2 +1.2
baz=137
S24A Houchin Ranch, 137.34 29 ⇓P PKPdf 01 31 22.7 +1.4
baz=137
R25A Fountain Ranch 137.39 28 ⇓P PKPdf 01 31 22.3 +1.1
baz=137
T23A Casias Ranch, 137.40 31 ⇓P PKPdf 01 31 22.9 +1.5
baz=137
KSCO Kaye Shedlock' 137.43 26 ePKPdf PKPdf 01 31 22.1 +0.9
KSCO Kaye Shedlock' 137.43 26 ⇓P PKPdf 01 31 22.4 +1.2
baz=137
O30A MW Ranch, Wils 137.48 22 ⇑P PKPdf 01 31 22.3 +1.1
baz=137
U22A Llaves 137.48 32 ⇑P PKPdf 01 31 23.2 +1.6
baz=138
N32A Stulken Farm, 137.60 20 ⇓P PKPdf 01 31 23.0 +1.6
baz=138
P29A Atwood 137.64 24 ⇑P PKPdf 01 31 23.0 +1.4
baz=138
R26A Arlington 137.65 27 ⇑P PKPdf 01 31 23.0 +1.4
baz=138
S25A Robets Cordova 137.70 29 ⇑P PKPdf 01 31 23.1 +1.3
baz=138
T24B San Luis 137.71 30 ⇑P PKPdf 01 31 23.2 +1.1
baz=138
JFWS Jewell Farm 137.72 11 ePKIKP PKPdf 01 31 23.4 +1.9
JFWS MLR MLR
comp=Z,3µm,20.0s
JFWS Jewell Farm 137.72 11 ePKPdf PKPdf 01 31 23.4 +1.9
JFWS LR LR
comp=Z,3µm,20.0s
Q28A Sharon Springs 137.72 25 ⇑P PKPdf 01 31 23.3 +1.5
baz=138
O31A Woolen Ranch, 137.78 22 ⇑P PKPdf 01 31 23.1 +1.4
baz=138
V22A San Miguel Ran 137.80 32 ⇑P PKPdf 01 31 23.2 +1.1
baz=138
U23A El Rito 137.87 31 ⇓P PKPdf 01 31 23.6 +1.3
baz=138
R27A Eads 137.95 26 ⇓P PKPdf 01 31 23.6 +1.4
baz=138
P30A Selden 137.96 23 ⇑P PKPdf 01 31 23.6 +1.5
baz=138
SCIA State Center 138.05 14 ePKPdf PKPdf 01 31 22.5 +0.4
SCIA LR LR
comp=Z,3µm,20.0s
TUC Tucson 138.05 40 ePKPpre PKPpre 01 31 18.3
TUC ePKPdf PKPdf 01 31 22.8 +0.3
TUC LR LR
comp=Z,2µm,20.0s
O32A Brockman Farm, 138.06 20 ⇑P PKPdf 01 31 23.6 +1.4
baz=138
T25A Trinidad 138.13 29 ⇑P PKPdf 01 31 23.7 +1.0
baz=138
S26A Kim 138.19 28 ⇓P PKPdf 01 31 23.9 +1.2
baz=138
Q29A Oakley 138.22 24 ⇑P PKPdf 01 31 23.7 +1.1
baz=138
U24A Moreno Valley 138.27 30 ⇓P PKPdf 01 31 24.3 +1.2
baz=138
P31A Stockton 138.31 22 ⇑P PKPdf 01 31 24.3 +1.6
baz=138
V23A Ortiz Mt. (NFS 138.31 32 ⇓P PKPdf 01 31 24.8 +1.7
baz=138
R28A Tribune 138.34 25 ⇓P PKPdf 01 31 24.4 +1.5
baz=138
Q30A Quinter 138.46 23 ⇓P PKPdf 01 31 24.5 +1.4
baz=138
T26A Comanche Natio 138.49 28 ⇑P PKPdf 01 31 25.0 +1.7
baz=138
P32A Huiting Farm, 138.51 21 ⇓P PKPdf 01 31 25.1 +2.0
baz=138
R29A Marienthal 138.55 25 ⇑P PKPdf 01 31 24.9 +1.6
baz=138
U25A Circle Dot Ran 138.72 30 ⇓P PKPdf 01 31 25.0 +1.2
baz=139
Q31A Ellis 138.75 22 ⇓P PKPdf 01 31 24.9 +1.3
baz=139
ANMO Albuquerque 138.77 33 ePKPpre PKPpre 01 31 17.4
ANMO ePKPdf PKPdf 01 31 24.8 +0.9
ANMO eSKPbc SKPbc 01 34 58.1 +0.5
ANMO LR LR
comp=Z,2µm,20.0s
W23A Werner Place, 138.77 33 ⇓P PKPdf 01 31 25.4 +1.5
baz=139
LAZ Ladron 138.79 34 ePKPpre PKPpre 01 31 17.9
LAZ ePKPdf PKPdf 01 31 25.0 +1.0
V24A Rampart Ranch, 138.81 31 ⇓P PKPdf 01 31 25.7 +1.7
baz=139
S28A Manter 138.93 26 ⇑P PKPdf 01 31 25.9 +1.9
baz=139
T27A Campo 138.99 27 ⇓P PKPdf 01 31 25.9 +1.7
baz=139
P33A Williams Farm, 138.99 20 ⇑P PKPdf 01 31 25.5 +1.6
baz=139
R30A Dighton 139.03 24 ⇓P PKPdf 01 31 25.9 +1.8
baz=139
U26A Atchley Ranch, 139.05 29 ⇑P PKPdf 01 31 25.5 +1.1
baz=139
V25A Rancho No Teng 139.05 30 ⇑P PKPdf 01 31 25.7 +1.3
baz=139
W24A Lazy 6 Ranch, 139.13 32 ⇓P PKPdf 01 31 26.3 +1.7
baz=139
BINY Binghamton 139.14 355 ePKPdf PKPdf 01 31 25.2 +1.1
BINY LR LR
comp=Z,3µm,20.0s
LPM Los Pinos Moun 139.14 34 ePKPpre PKPpre 01 31 18.3
LPM ePKPdf PKiKP 01 31 25.8 -1.0
AAM Ann Arbor 139.14 4 ePKIKP PKPdf 01 31 24.5 +0.4
AAM MLR MLR
comp=Z,3µm,21.0s
AAM Ann Arbor 139.14 4 ePKPdf PKPdf 01 31 24.5 +0.4
AAM LR LR
comp=Z,3µm,21.0s
T28A Walsh 139.22 27 ⇑P PKPdf 01 31 26.5 +2.0
baz=139
S29A Ulysses 139.24 25 ⇓P PKPdf 01 31 26.2 +1.7
baz=139
BNM Barren Site 139.26 34 ePKPpre PKPpre 01 31 19.1
R31A Burdett 139.32 23 ⇓P PKPdf 01 31 26.5 +1.8
baz=139
Q33A Connelly Farm, 139.33 21 ⇓P PKPdf 01 31 26.9 +2.3
baz=139
U27A Thompson Grove 139.46 28 ⇓P PKPdf 01 31 26.4 +1.4
baz=139
S30A Montezuma 139.50 25 ⇓P PKPdf 01 31 26.8 +1.8
baz=139
V26A Tequesquite Ra 139.50 30 ⇓P PKPdf 01 31 26.3 +1.2
baz=140
R32A Long Quarter, 139.52 22 ⇓P PKPdf 01 31 26.7 +1.8
baz=140
T29A Hugdon 139.55 26 ⇓P PKPdf 01 31 26.7 +1.6
baz=140
X24A Lazy VL Ranch, 139.61 32 ⇑P PKPdf 01 31 27.1 +1.6
baz=140
W25A X Bar L Ranch, 139.62 31 ⇑P PKPdf 01 31 26.8 +1.5
baz=140
319A Douglas 139.63 39 ⇓P PKPdf 01 31 27.1 +1.7
baz=140
KSU1 Kansas State U 139.66 19 ePKPpre PKPpre 01 31 20.4
KSU1 ePKPdf PKPdf 01 31 25.1 0.0
KSU1 ePP PP 01 34 17.3 -1.9
KSU1 eSKP 01 34 60.0
KSU1 eSKPab SKPab 01 35 11.5 +1.3
KSU1 LR LR
comp=Z,4µm,21.0s
Z22A Elephant Butte 139.73 35 ⇑P PKPdf 01 31 27.3 +1.6
baz=140
Y23A Lovelace Mesa, 139.74 34 ⇑P PKPdf 01 31 27.2 +1.5
baz=140
121A Cookes Peak, D 139.76 37 ePKPdf PKPdf 01 31 27.6 +1.9
121A Cookes Peak, D 139.76 37 ⇓P PKPdf 01 31 27.4 +1.6
baz=140
R33A Olander Ranch, 139.89 21 ⇓P PKPdf 01 31 27.3 +1.6
baz=140
T30A Plains 139.97 25 ⇓P PKPdf 01 31 27.7 +1.8
baz=140
V27A Dan Oppiter Fa 140.00 29 ⇓P PKPdf 01 31 27.5 +1.5
baz=140
X25A Clemmons Ranch 140.05 32 ⇑P PKPdf 01 31 28.1 +1.9
baz=140
W26A Owens Ranch, T 140.07 30 ⇑P PKPdf 01 31 28.2 +2.0
baz=140
Y24A Capitan 140.09 33 ⇓P PKPdf 01 31 28.4 +2.0
baz=140
221A Mesquite Ranch 140.13 37 ⇑P PKPdf 01 31 28.5 +2.1
baz=140
320A Kipp Ranch, An 140.13 39 ⇓P PKPdf 01 31 28.4 +1.9
baz=140
Z23A Rita Site, Whi 140.14 35 ⇑P PKPdf 01 31 28.7 +2.3
baz=140
T31A Randall Ranch, 140.29 24 ⇓P PKPdf 01 31 28.5 +2.1
baz=140
RPN Rapa Nui 140.36 138 PFAKE 01 31 40.0 +13
RPN LR LR
comp=Z,2µm,19.0s
W27A Bowe Ranch, En 140.44 30 ⇑P PKPdf 01 31 28.6 +1.8
baz=140
X26A CR and CF Fran 140.47 31 ⇓P PKPdf 01 31 28.7 +1.8
baz=140
222A Williams Famil 140.47 37 ⇓P PKPdf 01 31 29.2 +2.2
baz=140
Y25A Mesa, Roswell 140.49 32 ⇑P PKPdf 01 31 28.8 +1.7
baz=140
V29A Stinnett 140.52 27 ⇑P PKPdf 01 31 28.9 +1.9
baz=140
Z24A Sheeppen Canyo 140.57 34 ⇓P PKPdf 01 31 29.3 +2.1
baz=141
W28A Vega 140.70 29 ⇑P PKPdf 01 31 29.0 +1.7
baz=141
SFIN Scholer Farm 140.71 8 ePKPdf PKPdf 01 31 27.2 +0.2
SFIN Scholer Farm 140.71 8 ⇓P PKPdf 01 31 29.1 +2.1
baz=141
X27A F and S Farms, 140.75 30 ⇓P PKPdf 01 31 29.4 +2.0
baz=141
223A Chaparral, Ant 140.94 36 ⇑P PKPdf 01 31 29.6 +1.7
baz=141
Y26A Elida 140.95 31 ⇑P PKPdf 01 31 29.6 +1.7
baz=141
Z25A Roswell 140.97 33 ⇓P PKPdf 01 31 29.9 +2.1
baz=141
124A Stringfield Ra 140.99 34 ⇓P PKPdf 01 31 30.1 +2.0
baz=141
ACSO Alum Creek Sta 141.24 3 ePKPpre PKPpre 01 31 22.3
ACSO ePKPdf PKPdf 01 31 28.1 +0.1
ACSO LR LR
comp=Z,4µm,20.0s
224A Cornudas Mount 141.41 35 ⇑P PKPdf 01 31 30.7 +2.0
baz=141
MSTX Muleshoe 141.46 30 ePKPpre PKPpre 01 31 24.3
MSTX ePKPdf PKPdf 01 31 29.5 +0.8

MSTX	Muleshoe	141.46	30	⇑P	PKPdf	01 31 31.0	+2.3
	baz=141						
X29A	Tulia	141.60	29	⇑P	PKPdf	01 31 31.1	+2.2
	baz=142						
U34A	Anderson Ranch	141.71	22	⇑P	PKPdf	01 31 31.3	+2.3
	baz=142						
MNTX	Cornudas Mount	141.77	35	*e*PKPpre	PKPpre	01 31 25.6	
MNTX				*e*PKPdf	PKPdf	01 31 30.6	+1.4
MNTX				LR	LR		
	comp=Z,2µm,21.0s						
126A	Clayton Basin,	141.83	33	⇓PKPdf	PKPdf	01 31 25.9	-3.4
	baz=142						
324A	Moseley Ranch,	141.90	36	⇑PKPdf	PKPdf	01 31 25.7	-4.0
	baz=142						
V33A	Lossen Ranch,	141.95	24	⇓PKPdf	PKPdf	01 31 25.6	-3.9
	baz=142						
Y29A	Porterfield Fa	142.09	29	⇓PKPdf	PKPdf	01 31 26.4	-3.4
	baz=142						
127A	Arkansas Junct	142.16	32	⇑PKPdf	PKPdf	01 31 26.8	-3.2
	baz=142						
226B	Tecolote Peak,	142.18	34	⇑PKPdf	PKPdf	01 31 27.0	-3.0
	baz=142						
Z28A	Tucker Farm, M	142.19	31	⇑PKPdf	PKPdf	01 31 26.6	-3.5
	baz=142						
CLNB	Carlsbad	142.20	33	*e*PKPpre	PKPpre	01 31 26.6	
V34A	Guthrie	142.25	23	⇑PKPdf	PKPdf	01 31 26.9	-3.0
	baz=142						
X31A	McDonald Ranch	142.25	27	⇓PKPdf	PKPdf	01 31 26.7	-3.2
	baz=142						
325A	Bean Ranch, Si	142.25	35	⇑PKPdf	PKPdf	01 31 27.7	-2.6
	baz=142						
Y30A	Stafford Cattl	142.45	28	⇓PKPdf	PKPdf	01 31 27.7	-2.7
	baz=142						
W33A	Caddo, Fort Co	142.46	24	⇓PKPdf	PKPdf	01 31 27.2	-3.1
	baz=142						
Z29A	Hungry Hill Ra	142.56	30	⇓PKPdf	PKPdf	01 31 27.8	-2.8
	baz=142						
128A	Castleberry Fa	142.67	31	⇓PKPdf	PKPdf	01 31 28.2	-2.7
	baz=143						
W34A	Bridge Creek,	142.67	24	⇑PKPdf	PKPdf	01 31 28.1	-2.6
	baz=143						
425A	Indio Mountain	142.67	36	⇑PKPdf	PKPdf	01 31 28.6	-2.4
	baz=143						
Y31A	Rekieta Farm,	142.68	28	⇓PKPdf	PKPdf	01 31 28.0	-2.7
	baz=143						
WMOK	Wichita Mounta	142.68	25	*e*PKPpre	PKPpre	01 31 26.0	
WMOK				*e*PKPdf	PKPdf	01 31 31.9	+1.1
WMOK				LR	LR		
	comp=Z,3µm,20.0s						
X32A	Elmer	142.73	26	⇑PKPdf	PKPdf	01 31 27.6	-3.2
	baz=143						
TUL1	Tulsa	142.82	21	*e*PKPpre	PKPpre	01 31 27.3	
TUL1				*e*PKPdf	PKPdf	01 31 31.8	+0.9
TUL1	Tulsa	142.82	21	⇑PKPdf	PKPdf	01 31 27.9	-3.0
	baz=143						
Z30A	Sanderson Ranc	142.82	29	⇑PKPdf	PKPdf	01 31 27.9	-3.2
	baz=143						
326A	Caldwell Ranch	142.86	34	⇑PKPdf	PKPdf	01 31 28.2	-3.1
	baz=143						
WCI	Wyandotte Cave	142.93	8	*e*PKPpre	PKPpre	01 31 26.4	
SIUC	Southern Illin	142.95	11	*e*PKPdf	PKPdf	01 31 30.3	-0.8
X33A	Lawton	142.97	25	⇓PKPdf	PKPdf	01 31 28.5	-2.7
	baz=143						
129A	Stewart Farms,	142.98	31	⇑PKPdf	PKPdf	01 31 28.7	-2.7
	baz=143						
USIN	University of	142.99	9	*e*PKPdf	PKPdf	01 31 31.4	+0.3
228A	UT Block 9, Go	143.00	32	⇓PKPdf	PKPbc	01 31 29.4	+1.2
	baz=143						
Y32A	R-V Farms, Ver	143.01	27	⇓PKPdf	PKPbc	01 31 28.8	+0.8
	baz=143						
X34A	Smith Ranch, M	143.19	24	⇓PKPdf	PKPbc	01 31 29.2	+0.7
	baz=143						
CBN	Corbin	143.22	356	PFAKE		01 31 40.0	+8.5
CBN				LR	LR		
	comp=Z,2µm,20.0s						
Z31A	Sharp Cattle R	143.26	28	⇑PKPdf	PKPbc	01 31 29.5	+0.7
	baz=143						
426A	McDonald Obser	143.31	35	⇓PKPdf	PKPbc	01 31 30.1	+0.8
	baz=143						
Y33A	Hilltop Ranch,	143.37	26	⇑PKPdf	PKPbc	01 31 29.2	+0.2
	baz=143						
328A	Wristen Ranch,	143.46	33	⇓PKPdf	PKPbc	01 31 29.9	+0.4
	baz=143						
130A	Snyder	143.46	30	⇑PKPdf	PKPbc	01 31 29.5	+0.1
	baz=143						
229A	Bryant Ranch,	143.53	31	⇑PKPdf	PKPbc	01 31 30.2	+0.6
	baz=144						
427A	Hayter Ranch,	143.53	34	⇑PKPdf	PKPbc	01 31 30.3	+0.6
	baz=144						
Z32A	Haskell	143.58	27	⇓PKPdf	PKPbc	01 31 29.9	+0.3
	baz=144						
131A	Roby	143.68	29	⇓PKPdf	PKPbc	01 31 30.9	+0.9
	baz=144						
BDFB	Brasilia	143.69	241	PKP	PKPbc	01 31 31.1	+0.5
BDFB	Brasilia	143.69	241	PKP	PKPbc	01 31 31.1	+0.5
	comp=Z,55nm,1.1s,baz=82,slow=3.7,SNR=28						
526A	Mary Lane Ranc	143.73	36	⇓PKPdf	PKPbc	01 31 31.2	+0.8
	baz=144						
JSRW	J. Sargeant Re	143.76	356	*e*PKPpre	PKPpre	01 31 30.0	
Y34A	Reagan Ranch,	143.78	25	⇑PKPdf	PKPbc	01 31 30.6	+0.4
	baz=144						
329A	Wagon Wheel Ra	143.82	32	⇓PKPdf	PKPbc	01 31 31.1	+0.6
	baz=144						
Z33A	Whitaker Ranch	143.92	26	⇓PKPdf	PKPbc	01 31 31.2	+0.5
	baz=144						
527A	Woodward Ranch	143.94	35	⇓PKPdf	PKPbc	01 31 32.1	+1.1
	baz=144						
230A	Sterling City	143.95	31	⇑PKPdf	PKPbc	01 31 31.2	+0.4
	baz=144						
428A	Kincaid Ranch,	144.03	34	⇑PKPdf	PKPdf	01 31 32.5	-0.9
	baz=144						
626A	Big Bend Ranch	144.07	36	⇑PKPdf	PKPdf	01 31 32.5	-1.0
	baz=144						
ABTX	Abilene, Hawle	144.07	28	*e*PKPdf	PKPdf	01 31 32.4	-0.9
ABTX	Abilene, Hawle	144.07	28	⇑PKPdf	PKPbc	01 31 32.1	+0.9
	baz=144						
CLCH	Cerro Calan	144.17	194	⇑*i*P	PKPbc	01 31 31.7	+0.2
Z34A	Collier Ranch,	144.22	25	⇓PKPdf	PKPbc	01 31 31.9	+0.3
	baz=144						
VWCC	Virginia Weste	144.29	359	*e*PKPdf	PKPbc	01 31 31.6	-0.1
330A	Mertzon	144.30	31	⇓PKPdf	PKPbc	01 31 32.6	+0.6
	baz=144						
231A	Bronte	144.31	30	⇑PKPdf	PKPbc	01 31 32.5	+0.5
	baz=144						
BLA	Blacksburg	144.32	360	*e*PKIKP	PKPbc	01 31 31.9	+0.1
BLA				MLR	MLR		
	comp=Z,4µm,21.0s						
BLA	Blacksburg	144.32	360	*e*PKPdf	PKPbc	01 31 31.9	0.0
BLA				LR	LR		
	comp=Z,4µm,21.0s						
UTMT	University of	144.34	12	*e*PKPdf	PKPbc	01 31 32.6	+0.8
528A	Cox Ranch, San	144.40	34	⇑PKPdf	PKPdf	01 31 33.4	-0.6
	baz=144						
133A	Hamilton Ranch	144.42	27	⇓PKPdf	PKPbc	01 31 32.7	+0.4
	baz=144						
GNAR	Gosnell	144.46	13	*e*PKPdf	PKPdf	01 31 33.4	-0.4
TXAR	Lajitas Array	144.51	36	PKP	PKPdf	01 31 33.5	-0.7
TXAR	Lajitas Array	144.51	36	PKP	PKPdf	01 31 33.5	-0.7
	comp=Z,50nm,0.5s,baz=247,slow=0.6,SNR=669						
Z35A	Perchaven, San	144.53	25	⇓PKPdf	PKPbc	01 31 32.8	+0.3
	baz=144						
429A	Davenport Ranc	144.54	33	⇑PKPdf	PKPdf	01 31 33.9	-0.3
	baz=144						
627A	Terlingua Ranc	144.59	36	⇓PKPdf	PKPdf	01 31 34.2	-0.2
	baz=145						
232A	Coleman	144.68	29	⇓PKPdf	PKPbc	01 31 33.7	+0.5
	baz=145						
529A	Stev Forest Ra	144.75	34	⇑PKPdf	PKPdf	01 31 34.5	-0.1
	baz=145						
WVT	Waverly	144.75	10	*e*PKIKP	PKPbc	01 31 33.3	+0.2
WVT	Waverly	144.75	10	*e*PKPdf	PKPbc	01 31 33.3	+0.1
430A	Baggett Ranch,	144.76	32	⇓PKPdf	PKPdf	01 31 34.2	-0.4
	baz=145						
331A	San Angelo	144.76	30	⇑PKPdf	PKPdf	01 31 34.4	-0.1
	baz=145						
IHA	Instituto Hidr	144.78	193	⇑*i*P	PKPbc	01 31 33.8	+0.5
IHA	Instituto Hidr	144.78	193	⇑*i*P	PKPbc	01 31 33.8	+0.5
MIAR	Mount Ida	144.81	19	*e*PKIKP	PKPdf	01 31 34.0	-0.5
MIAR				MLR	MLR		
	comp=Z,3µm,21.0s						
MIAR	Mount Ida	144.81	19	*e*PKPdf	PKPdf	01 31 34.0	-0.5
MIAR				LR	LR		
	comp=Z,3µm,21.0s						
134A	White-Moore Ra	144.83	26	⇑PKPdf	PKPbc	01 31 33.9	+0.4
	baz=145						
628A	Black Gap, Mar	144.85	35	⇑PKPdf	PKPdf	01 31 35.2	+0.4
	baz=145						
UALR	University of	144.97	17	*e*PKPdf	PKPbc	01 31 34.1	+0.2
332A	Millersview	145.04	29	⇑PKPdf	PKPdf	01 31 35.4	+0.4
	baz=145						
135A	Vickery Place,	145.13	25	⇑PKPdf	PKPdf	01 31 35.0	-0.1
	baz=145						
431A	Sonora	145.17	31	⇓PKPdf	PKPdf	01 31 35.7	+0.4
	baz=145						
CFAA	Coronel Fontan	145.20	199	PKPbc	PKPdf	01 31 35.3	0.0
CFAA	Coronel Fontan	145.20	199	PKPbc	PKPdf	01 31 35.3	0.0
	comp=Z,49nm,0.9s,baz=164,slow=3.1,SNR=344						
530A	J-C Ranch, Com	145.21	33	⇑PKPdf	PKPdf	01 31 36.1	+0.8
	baz=145						
432A	Menard	145.43	30	⇓PKPdf	PKPab	01 31 36.3	+0.5
	baz=145						
333A	Richland Sprin	145.46	29	⇓PKPdf	PKPab	01 31 36.4	+0.6
	baz=145						
WHTX	Lake Whitney	145.60	26	*e*PKPbc	PKPbc	01 31 36.0	0.0
WHTX	Lake Whitney	145.60	26	⇑PKPdf	PKPab	01 31 36.5	+0.2
	baz=146						
531A	Rocksprings	145.62	32	⇓PKPdf	PKPab	01 31 37.2	+0.7
	baz=146						
TKL	Tuckaleechee C	145.74	5	*e*PKPbc	PKPbc	01 31 36.2	-0.1
JCT	Junction City	145.75	30	*e*PKP2	PKPab	01 31 37.7	+0.7
JCT				MLR	MLR		
	comp=Z,2µm,21.0s						
JCT	Junction City	145.75	30	*e*PKPbc	PKPab	01 31 37.7	+0.7
JCT				LR	LR		
	comp=Z,2µm,21.0s						
JCT	Junction City	145.75	30	⇓PKPdf	PKPab	01 31 37.6	+0.7
	baz=146						
334A	Lometa	145.81	28	⇓PKPdf	PKPab	01 31 37.0	-0.1
	baz=146						
433A	Art	145.88	29	⇓PKPdf	PKPab	01 31 37.2	-0.2
	baz=146						
CPCT	Cooper Cave	145.88	6	*e*PKPbc	PKPbc	01 31 36.9	0.0
SWET	Sewanee	145.94	8	*e*PKPbc	PKPdf	01 31 36.6	+0.2
532A	Rocksprings	145.98	31	⇑PKPdf	PKPab	01 31 37.9	+0.1
	baz=146						
OXF	Oxford	145.99	13	*e*PKP2	PKPdf	01 31 36.6	+0.1
OXF	Oxford	145.99	13	*e*PKPbc	PKPdf	01 31 36.6	+0.1
631A	Perdido Creek	146.19	33	⇓PKPdf	PKPab	01 31 38.5	-0.1
	baz=146						
CNNC	Cliffs of the	146.20	356	*e*PKPbc	PKPbc	01 31 37.8	+0.1
CNNC				LR	LR		
	comp=Z,2µm,22.0s						
335A	Moody	146.22	27	⇓PKPdf	PKPbc	01 31 38.3	+0.3
	baz=146						
434A	Burnet	146.22	28	⇓PKPdf	PKPbc	01 31 38.2	+0.2
	baz=146						
KMSC	Kings Mountain	146.38	1	*e*PKPbc	PKPbc	01 31 37.9	-0.4
KMSC	Kings Mountain	146.38	1	⇑PKPdf	PKPbc	01 31 38.5	+0.2
	baz=146						
CMCH	Combarbala	146.40	195	⇓*i*P	PKPdf	01 31 37.9	+0.5
CMCH	Combarbala	146.40	195	⇓*i*P	PKPdf	01 31 37.9	+0.5
533A	Kerrville	146.47	30	⇓PKPdf	PKPab	01 31 39.6	-0.1
	baz=146						
632A	Uvalde	146.54	31	⇑PKPdf	PKPab	01 31 39.8	-0.1
	baz=146						
534A	Blanco	146.78	29	⇓PKPdf	PKPab	01 31 40.4	-0.4
	baz=147						
732A	Laxson Ranch,	147.06	33	⇑PKPdf	PKPab	01 31 41.5	-0.5
	baz=147						
TLL	Tololo Astrono	147.31	196	⇓*i*PKP2	PKPdf	01 31 39.9	+0.8
TLL	Tololo Astrono	147.31	196	⇓*i*P	PKPdf	01 31 39.9	+0.8
TLL	Tololo Astrono	147.31	196	⇓*i*P	PKPdf	01 31 39.9	+0.8
LRAL	Lakeview Retre	147.91	10	*e*PKPdf	PKPdf	01 31 40.2	+0.5
LRAL				*e*PKPbc	PKPbc	01 31 42.9	+0.3
GOGA	Godfrey	148.00	5	*e*PKIKP	PKPdf	01 31 40.2	+0.3
GOGA				*e*		01 31 43.9	
GOGA				MLR	MLR		
	comp=Z,4µm,20.0s						
GOGA	Godfrey	148.00	5	*e*PKPdf	PKPdf	01 31 40.2	+0.3
GOGA				*e*PKPbc	PKiKP	01 31 43.9	-0.9
GOGA				LR	LR		
	comp=Z,4µm,20.0s						
HKT	Hockley	148.06	26	*e*PKP2	PKPdf	01 31 40.9	+0.9
HKT	Hockley	148.06	26	*e*PKPdf	PKPdf	01 31 40.9	+0.9
HKT				*e*PKPbc	PKiKP	01 31 44.4	-0.5
LCO	Las Campanas	148.37	197	⇓*i*P	PKPbc	01 31 43.0	-1.4
LCO	Las Campanas	148.37	197	⇓*i*P	PKPbc	01 31 43.0	-1.4
NHSC	New Hope	148.42	359	*e*PKPbc	PKPbc	01 31 44.5	+0.5
NHSC				LR	LR		
	comp=Z,4µm,22.0s						
KVTX	Kingsville	149.10	31	*e*PKPbc	PKPab	01 31 48.2	-1.9
KVTX				LR	LR		
	comp=Z,5µm,20.0s						
BRAL	Brewton	149.87	11	*e*PKPbc	PKPbc	01 31 49.0	+1.2
BRAL				LR	LR		
	comp=Z,4µm,19.0s						
TIGA	Tifton	149.94	5	*e*PKPdf	PKPdf	01 31 44.1	+1.0
TIGA				*e*PKPbc	PKiKP	01 31 49.2	+0.3
TIGA	Tifton	149.94	5	⇓PKPdf	PKPbc	01 31 48.6	+0.7
	baz=150						
LVC	Limon Verde	153.62	205	*e*PKPdf	PKPdf	01 31 50.3	+1.1
LVC				*e*PKPbc	PKiKP	01 31 57.9	+0.9
LVC				*e*PKPab	PKPab	01 32 09.3	0.0
LVC				LR	LR		
	comp=Z,2µm,20.0s						
SIV	San Ignacio	154.18	227	PKP	PKPdf	01 31 50.4	+0.6
SIV				PKPbc	PKiKP	01 31 58.0	0.0
SIV	San Ignacio	154.18	227	PKP	PKPdf	01 31 50.4	+0.6
	comp=Z,10.0nm,0.9s,baz=132,slow=2.6,SNR=22						
SIV				PKPbc	PKiKP	01 31 58.0	0.0
	comp=Z,26nm,0.9s,baz=125,slow=3.2,SNR=27						
ANWB	Willy Bob	155.47	312	PFAKE		01 32 00.0	+8.5
ANWB				LR	LR		
	comp=Z,2µm,20.0s						
BBGH	Gun Hill	156.16	300	PFAKE		01 32 00.0	+7.5
BBGH				LR	LR		
	comp=Z,3µm,19.0s						
FDF	Fort de France	156.70	306	PFAKE		01 32 00.0	+6.8
FDF				LR	LR		
	comp=Z,1µm,21.0s						
MTP	Monte Pirata	157.80	319	*e*PKPdf	PKPdf	01 31 54.7	+0.2
MTP				*e*PKPab	PKPab	01 32 27.4	+0.4
GRTK	Grand Turk	157.97	336	PFAKE		01 32 10.0	+15
GRTK				LR	LR		
	comp=Z,2µm,19.0s						
GRGR	Grenville	158.44	301	PFAKE		01 32 10.0	+15
GRGR				LR	LR		
	comp=Z,1µm,20.0s						
CELP	Cerrillos	158.47	321	*e*PKPdf	PKPdf	01 31 55.0	-0.3
CELP				*e*PKPab	PKPab	01 32 30.4	+0.5
LPAZ	La Paz	158.61	214	*e*PKPdf	PKPdf	01 31 56.7	+0.4
LPAZ				*e*PKPab	PKPab	01 32 31.8	+0.5
LPAZ				*e*PP	PP	01 36 07.7	-2.9
LPAZ	La Paz	158.61	214	PKP	PKPdf	01 31 56.9	+0.6
	comp=Z,19nm,1.1s,baz=55,slow=3.0,SNR=44						
LPAZ				PKPab	PKPab	01 32 31.7	+0.4
	comp=Z,16nm,1.0s,baz=122,slow=5.3,SNR=7.1						
PTGA	Pitinga	159.33	264	*e*PKPdf	PKPdf	01 31 56.3	-0.2
PTGA				*e*PKPab	PKPab	01 32 34.6	+0.6
PTGA				*e*PP	PP	01 36 15.7	+0.2
PTGA				LR	LR		
	comp=Z,3µm,19.0s						
TEIG	Tepich	159.78	21	PFAKE		01 32 10.0	+13
TEIG				LR	LR		
	comp=Z,2µm,21.0s						
SAML	Samuel	159.91	239	*e*PKPdf	PKPdf	01 31 57.0	-0.1
SAML				*e*PKPab	PKPab	01 32 36.3	-0.1
SAML				*e*PP	PP	01 36 18.8	+0.9
SAML				LR	LR		
	comp=Z,4µm,20.0s						
SDDR	Presa de Saban	160.28	333	PFAKE		01 32 10.0	+13
SDDR				LR	LR		
	comp=Z,3µm,22.0s						
GTBY	Guantanamo Bay	160.80	344	PFAKE		01 32 10.0	+12
GTBY				LR	LR		
	comp=Z,2µm,19.0s						
MTDJ	Mount Denham	162.98	350	*e*PKPdf	PKPdf	01 32 01.2	+0.9
MTDJ				*e*PKPab	PKPab	01 32 50.4	+0.8
MTDJ				LR	LR		
	comp=Z,3µm,20.0s						
APG	El Apazote	163.26	35	PKP	PKPdf	01 31 57.8	-3.1
APG				PKPab	PKPab	01 32 49.5	-1.7
APG	El Apazote	163.26	35	PKP	PKPdf	01 31 57.8	-3.1
	comp=Z,12nm,1.1s,baz=3.1,slow=1.7,SNR=7.7						
APG				PKPab	PKPab	01 32 49.5	-1.7
	comp=Z,8.6nm,0.9s,baz=196,slow=1.6,SNR=4.7						
TGUH	Tegucigalpa,Un	165.73	28	PFAKE		01 32 10.0	+7.3
TGUH				LR	LR		
	comp=Z,2µm,19.0s						
NNA	Nana	166.24	195	*e*PKPdf	PKPdf	01 32 04.1	+0.9
NNA				*e*PKPab	PKPab	01 33 03.4	-0.5
NNA				LR	LR		
	comp=Z,2µm,20.0s						
SDV	Santo Domingo	167.63	308	*e*PKPdf	PKPdf	01 32 03.9	-0.6
SDV				*e*PKPab	PKPab	01 33 10.3	-0.2
SDV				*e*PP	PP	01 36 59.6	+1.0
SDV				LR	LR		
	comp=Z,1µm,20.0s						
PAYG	Puerto Ayora	170.04	102	PFAKE		01 32 20.0	+14
PAYG				LR	LR		
	comp=Z,3µm,19.0s						
JTS	JuntasAbangare	170.10	26	PFAKE		01 32 20.0	+14
JTS				LR	LR		
	comp=Z,3µm,20.0s						
ATAH	Atahualpa	171.30	194	PKP	PKPdf	01 32 08.3	+1.3
ATAH	Atahualpa	171.30	194	PKP	PKPdf	01 32 08.3	+1.3
	comp=Z,41nm,1.3s,baz=28,slow=14,SNR=13						
BCIP	Isla Barro Col	172.21	355	PFAKE		01 32 20.0	+13
BCIP				LR	LR		
	comp=Z,2µm,21.0s						
ROSC	El Rosal	172.90	299	PKP	PKPdf	01 32 07.0	-0.7
ROSC				*e*PKPdf	PKPdf	01 32 08.2	+0.4
ROSC				*e*PKPab	PKPab	01 33 34.1	-0.1
ROSC	El Rosal	172.90	299	PKP	PKPdf	01 32 07.0	-0.7
	comp=Z,27nm,0.9s,baz=161,slow=3.0,SNR=22						
OTAV	Otavalo	177.64	242	*e*PKPdf	PKPdf	01 32 09.0	-0.1
OTAV				*e*PKPab	PKPab	01 33 55.3	-0.1
OTAV				*e*PP	PP	01 37 47.8	-0.7
OTAV				LR	LR		
	comp=Z,4µm,19.0s						

*ISCJB **23** 01:22:31.6±0.4, 37°.29N±0°.07×135°.22E±0°.08, h374km±5km, mb3.5/8, Error ellipse: s-maj=11.4km s-min=8.9km az=145.6*
*JMA **23** 01:22:32.3±0.2, 37°.30N×135°.20E, h369km±3km, M3.5*
*IDC **23** 01:22:32.4±0.6, 37°.35N×135°.24E, h367km±9km, mb3.3/8, mb1 3.4/13, mb1mx3.3/29, mbtmp3.3/13, Error ellipse: s-maj=17.5km s-min=11.9km az=64.0*
ISC 23 01:22:32.3±0.7, 37°.29N±0°.08×135°.20E±0°.07, h366km±8km, n25, σ0°.65/33, mb3.4/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	Kaga	1.36	138	P	Pn	01 23 21.6	+0.2
SAI	Saigo	1.85	235	P	Pn	01 23 24.4	+0.3
JGM	Miyama	2.00	142	P	Pn	01 23 25.5	+0.3
JGM				*e*S	S	01 24 06.9	-0.9
JWT	Wachi	2.01	175	P	Pn	01 23 25.8	+0.5
JWT				S	S	01 24 06.6	-1.2
MAT	Matsushiro	2.52	106	P	Pn	01 23 29.4	+0.5
MAT				S	S	01 24 14.8	+0.2
MAT	Matsushiro	2.52	106	P	Pn	01 23 29.5	+0.5
MAT				S	S	01 24 14.7	+0.2
MJAR	Matsushiro Arr	2.53	106	P	Pn	01 23 29.9	+0.9
	3.1nm,0.3s,baz=282,slow=9.2,SNR=27						
MJAR				S	S	01 24 15.4	+0.8
	baz=296,slow=25,SNR=3.3						
JHS	Saijyo	2.84	217	P	Pn	01 23 31.9	+0.3
JWY	Kouya	3.08	174	P	Pn	01 23 34.2	+0.4
JWY				S	S	01 24 22.0	-1.3
JIE	Ise	3.14	157	P	Pn	01 23 35.2	+1.0
JIE				*e*S	S	01 24 23.7	-0.4
JGT	Gotsu	3.23	227	P	Pn	01 23 35.9	+0.9
JGT				*e*S	S	01 24 25.9	+0.4
JWZ	Kozaga	3.77	173	P	Pn	01 23 40.4	+0.2
JMK	Ichinoseki	5.03	69	P	Pn	01 23 53.1	+0.2
JNU	Nakatsue	5.46	222	P	Pn	01 23 57.6	-0.1
	4.5nm,0.3s,baz=44,slow=14,SNR=5.2						
KSRS	Korea Array	5.80	274	P	Pn	01 24 01.8	+0.5
	1.8nm,0.3s,baz=94,slow=12,SNR=38						
USRK	Ussuriysk Arra	7.32	342	P	P	01 24 19.7	0.0
	0.4nm,0.3s,baz=159,slow=11,SNR=5.7						
ASAJ	Asahikawa	8.83	37	P	Pn	01 24 35.1	-1.2
	3.6nm,0.3s,baz=233,slow=9.8,SNR=8.5						
SONM	Songino Array	23.56	306	P	P	01 27 11.9	+0.4
	1.5nm,0.9s,baz=111,slow=9.6,SNR=2.6						
CMAR	Chiang Mai Arr	36.84	249	P	P	01 29 07.1	0.0
	0.8nm,0.4s,baz=42,slow=8.0,SNR=3.9						
MKAR	Makanchi Array	39.75	301	P	P	01 29 30.9	0.0
	1.9nm,0.9s,baz=89,slow=8.8,SNR=4.0						
WRA	Warramunga Arr	56.93	181	P	P	01 31 41.1	+0.5
	4.5nm,0.8s,baz=357,slow=7.5,SNR=32						
ASAR	Alice Springs	60.64	181	P	P	01 32 06.6	+0.7
	1.3nm,0.9s,baz=14,slow=13,SNR=9.5						
FINES	FINESS Array B	66.20	330	P	P	01 32 40.9	-0.5
	4.0nm,0.9s,baz=94,slow=5.7,SNR=3.7						
AKASG	Malin Array Be	70.97	320	P	P	01 33 10.7	-0.2
	0.5nm,0.4s,baz=40,slow=6.2,SNR=4.3						
NOA	NORSAR Array B	71.94	335	P	P	01 33 15.6	-0.9
	0.5nm,0.6s,baz=40,slow=6.2,SNR=2.7						

IDC 23 01:35:08.3±6.9, 23°.34N×93°.42E, h62km±50km, mb3.6/4, mb1 3.8/5, mb1mx3.3/27, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=170.7km s-min=18.4km az=62.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	Imphal	1.51	18	*e*P

LHSI **Lahat** 4.76 120 P Pn 01 48 29.2 +3.1
SNSI **Sinabang, Aceh** 4.91 322 P Pn 01 48 30.3 +2.2
TSI **Tuntungan** 5.00 351 P Pb 01 48 44.3 +1.4
FRIM **Kepong** 5.18 26 P Pn 01 48 33.2 +1.3
TPTI 5.18 335 P Pb 01 48 44.0 -2.0
KCSI **Kotacane, Aceh** 5.21 342 P Pn 01 48 37.8 +5.6
112nm,0.7s,0.7nm
KGM **Kluang** 5.24 49 P Pn 01 48 36.5 +3.8
MYKOM **Kota Tinggi** 5.51 54 P Pn 01 48 40.4 +4.0
MYKOM **Kota Tinggi** 5.51 54 P Pb 01 48 45.1 -6.6
153nm,1.2s,0.9nm
MYKOM **Kota Tinggi** 5.51 54 *e*Pn Pn 01 48 34.8 -1.7
MDSI **Maura Dua** 5.66 122 P Pn 01 48 40.0 +1.6
167nm,0.8s,2µm0.6nm
TPRI **Tanjung Pinang** 5.66 65 P Pb 01 48 46.8 -7.4
242nm,0.7s,39µm2.3nm
LWLI **Liwa** 5.86 127 P Pn 01 48 44.4 +3.1
456nm,0.7s,9µm2.8nm
IPM **Ipoh** 6.13 16 P Pn 01 48 47.2 +2.3
IPM **Ipoh** 6.13 16 P Pn 01 48 49.7 +4.8
143nm,1.1s,0.6nm
IPM **Ipoh** 6.13 16 *e*Pn Pn 01 48 46.2 +1.3
IPM *e*Sg Sb 01 50 26.9 +12
KLSI 6.23 121 P Pn 01 48 48.3 +2.0
221nm,0.7s,0.6nm
KASI **Kota Agung** 6.51 128 P Pn 01 48 51.0 +0.9
233nm,0.7s,1.0nm
KULM **Kulim** 6.83 11 P Pn 01 48 58.0 +3.5
KULM **Kulim** 6.83 11 P Pn 01 49 01.6 +7.1
72nm,0.9s,0.3nm
KULM **Kulim** 6.83 11 *e*Pn Pn 01 48 53.8 -0.7
KTGM **Kuala Trenggan** 7.72 29 P Pn 01 49 09.5 +2.7
TPI **Tanjungpandan** 8.37 99 P Pn 01 49 21.3 +5.6
54nm,1.0s,0.3nm
DBJI **Dramaga** 8.92 125 P Pn 01 49 27.6 +4.3
88nm,0.6s
CISI **Cisompet, Garu** 10.36 126 *e*Pn Pn 01 49 43.0 -0.1
CISI *e*Sn Sn 01 51 28.7 -10
XMIS **Christmas Isla** 10.91 145 *e*Pn Pn 01 49 45.2 -5.4
UGM **Wanagama** 12.82 120 ⇑P Pn 01 50 18.9 +2.2
baz=13,SNR=4.3
SBUM **Sibu** 13.41 73 P P 01 50 36.9 +3.0
PBKT **Sadao Pong** 17.99 5 P P 01 51 35.7 +11
SDKM **Sandakan** 19.14 68 P Pn 01 51 38.9 +0.5
TSM **Tawau** 19.34 73 P P 01 51 39.6 -0.1
MHMT **Maesarieng** 19.57 356 P Pn 01 51 47.4 +4.0
8.9nm,0.9s
CMAR **Chiang Mai Arr** 19.80 359 P P 01 51 44.5 -0.1
CMAR PcP PcP 01 56 02.6 +0.4
CMAR **Chiang Mai Arr** 19.80 359 P P 01 51 44.5 -0.1
1.0nm,0.3s,baz=186,slow=9.7,SNR=16
CMAR PcP PcP 01 56 02.6 +0.4
0.8nm,0.3s,baz=221,slow=3.4,SNR=6.5
LAMP **Lampang** 19.86 1 P Pn 01 51 50.9 +4.0
12nm,0.7s
CMMT **Chiang Mai** 20.15 359 P Pn 01 51 53.5 +3.1
12nm,1.6s
CHTO **Chiang Mai** 20.15 359 *e*P P 01 51 47.7 -0.7
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO **Chiang Mai** 20.15 359 *e*P P 01 51 47.6 -0.7
comp=Z,9.2nm,0.9s
CHTO **Chiang Mai** 20.15 359 P Pn 01 51 53.6 +3.2
comp=Z,259nm,1.4s
PALK **Pallekele** 20.56 295 *e*P P 01 51 53.8 +0.9
KAPI **Kappang** 20.64 100 *e*P Pn 01 51 55.1 -1.1
comp=Z,259nm,1.2s
CMAI **Chiengmai2** 21.26 359 P P 01 52 03.6 +3.0
QIZ **Qiongzhong** 22.81 26 P P 01 52 17.5 +0.5
SLVN **Son La** 23.08 11 *e*P P 01 52 19.5 -0.3
KMI **Kunming** 26.63 7 P P 01 52 58.9 +6.1
KMI pmax pmax
comp=Z,11nm,0.5s
H08S2 **Diego Garcia H** 27.48 256 T T 02 20 55.6
baz=78,slow=75,SNR=374
H08S3 **Diego Garcia H** 27.49 256 T T 02 20 56.0
baz=78,slow=75,SNR=342
H08S1 **Diego Garcia H** 27.50 256 T T 02 20 57.0
baz=78,slow=75,SNR=465
GYA **Guiyang** 28.63 14 ⇑*i*P P 01 53 12.8 +2.2
GYA pP pP 01 53 21.3 +2.7
GYA PP PnPn 01 54 05.4 +4.0
GYA PcP PcP 01 56 21.8 +0.5
GYA S S 01 58 00.6 +2.7
GYA SS SnSn 01 59 28.0 +8.8
GYA ScP ScP 02 00 01.5 +0.5
GYA **Guiyang** 28.63 14 ScS ScS 02 03 54.8 +0.2
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,990nm,8.4s
GYA LR LR
comp=N,630nm,14.8s
GYA LR LR
comp=E,570nm,12.5s
GYA LR LR
comp=Z,590nm,14.0s
GYA **Guiyang** 28.63 14 *e*P P 01 53 12.6 +2.0
GYA pP pP 01 53 20.0 +1.4
GYA PP PnPn 01 54 05.3 +3.9
GYA PcP PcP 01 56 23.0 +1.7
GYA S S 01 58 01.4 +3.5
GYA sS sS 01 58 11.8 +0.8
GYA SS SnSn 01 59 27.4 +8.2
GYA ScP ScP 02 00 01.5 +0.5
GYA ScS ScS 02 03 53.8 -0.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,650nm,14.6s
GYA LR LR
comp=Z,540nm,12.9s
GYA LR LR
comp=Z,560nm,14.2s
ODAN **Odare** 30.44 339 *e*P P 01 53 27.1 +0.3
comp=Z,31nm,0.7s
ODAN **Odare** 30.44 339 *e*P P 01 53 27.1 +0.3
comp=Z,31nm,0.7s
FITZ **Fitzroy Crossi** 30.62 124 *e*P P 01 53 28.2 0.0
FITZ pP pP 01 53 36.6 +0.4
FITZ **Fitzroy Crossi** 30.62 124 P P 01 53 27.3 -0.9
comp=Z,7.5nm,0.9s,baz=304,slow=6.3,SNR=3.2
FITZ pP pP 01 53 36.6 +0.4
comp=Z,9.7nm,0.8s,baz=300,slow=4.7,SNR=4.7
FITZ **Fitzroy Crossi** 30.62 124 ⇑P P 01 53 27.6 -0.7
baz=31,SNR=4.3
TAPN **Taplejung** 30.77 339 *e*P P 01 53 30.4 +0.6
comp=Z,54nm,0.9s
TAPN **Taplejung** 30.77 339 *e*P P 01 53 30.4 +0.6
comp=Z,54nm,0.9s
RAMN **Ramite** 30.82 337 *e*P P 01 53 30.7 +0.6
comp=Z,37nm,1.0s
RAMN **Ramite** 30.82 337 *e*P P 01 53 30.7 +0.6
comp=Z,37nm,1.0s
MEEK **Meekatharra** 31.11 145 ⇑P P 01 53 34.3 +1.8
baz=31,SNR=4.1
JIRN **Jiri** 31.61 337 *e*P P 01 53 37.5 +0.2
comp=Z,41nm,0.8s
JIRN **Jiri** 31.61 337 *e*P P 01 53 37.5 +0.2
comp=Z,41nm,0.8s
PKI **Pulchoki** 31.84 336 *e*P P 01 53 39.0 -0.3
comp=Z,18nm,0.8s
PKI **Pulchoki** 31.84 336 *e*P P 01 53 39.0 -0.3
PKI pmax pmax
comp=Z,19nm,0.8s
PKI **Pulchoki** 31.84 336 *e*P P 01 53 39.0 -0.3
comp=Z,18nm,0.8s
PKIN **Phulchoki** 31.85 336 *e*P P 01 53 39.0 -0.3
comp=Z,7.4nm,0.6s
GUN **Gumba** 31.96 337 *e*P P 01 53 40.5 +0.2
comp=Z,47nm,0.7s
GUN **Gumba** 31.96 337 *e*P P 01 53 40.5 +0.2
comp=Z,47nm,0.7s
LSA **Lhasa** 31.97 346 P P 01 53 40.0 -0.5
LSA **Lhasa** 31.97 346 *e*P P 01 53 40.7 +0.2
LSA pmax pmax
comp=Z,18nm,1.0s
LSA **Lhasa** 31.97 346 *e*P P 01 53 40.7 +0.2
comp=Z,18nm,1.0s
DMN **Daman** 32.00 336 *e*P P 01 53 40.6 0.0
DMN **Daman** 32.00 336 *e*P P 01 53 40.6 0.0
KKN **Kakani** 32.09 336 *e*P P 01 53 41.2 -0.1
KKN **Kakani** 32.09 336 *e*P P 01 53 41.2 -0.1
KKN **Kakani** 32.09 336 *e*P P 01 53 41.2 -0.1
KNRA **Kununurra** 32.23 118 ⇑P P 01 53 42.8 +0.4
baz=32
CD2 **Chengdu** 32.46 7 *e*P P
CD2 PP PnPn 01 54 53.8 +1.9
CD2 S S 01 59 00.1 +2.5
CD2 SS SnSn 02 00 56.3 +4.2
CD2 pmax pmax
comp=Z,10.0nm,0.6s
GKN **Gorkha** 32.54 335 *e*P P 01 53 45.2 0.0
comp=Z,59nm,1.1s
GKN **Gorkha** 32.54 335 *e*P P 01 53 45.2 0.0
comp=Z,59nm,1.1s
KOLN **Koldanda** 32.79 334 *e*P P 01 53 47.6 +0.2
comp=Z,58nm,0.8s
KOLN **Koldanda** 32.79 334 *e*P P 01 53 47.6 +0.2
comp=Z,58nm,0.8s
DANN **Dangsing** 33.22 334 *e*P P 01 53 51.3 0.0
comp=Z,51nm,0.9s
DANN **Dangsing** 33.22 334 *e*P P 01 53 51.3 0.0
comp=Z,51nm,0.9s
PYUN **Piuthan** 33.34 333 *e*P P 01 53 52.5 +0.2
comp=Z,94nm,1.2s
PYUN **Piuthan** 33.34 333 *e*P P 01 53 52.5 +0.2
comp=Z,94nm,1.2s
H01W3 **Cape Leeuwin H** 35.98 159 T T 02 32 07.8
baz=335,slow=75,SNR=126
H01W2 **Cape Leeuwin H** 36.00 159 T T 02 32 08.8
baz=335,slow=75,SNR=117
H01W1 **Cape Leeuwin H** 36.00 159 T T 02 32 08.4
baz=335,slow=75,SNR=110
XAN **Xi'an** 36.44 13 P P 01 54 16.3 -2.4
XAN pP pP 01 54 24.8 -1.9
XAN pmax pmax
comp=Z,2.0nm,0.6s
WRKA **Warakurna** 36.44 132 P P 01 54 19.7 +0.8
baz=37,SNR=15
LZH **Lanzhou** 37.59 6 *e*P P 01 54 29.8 +1.2
LZH pP pP 01 54 37.0 +0.3
LZH sP sP 01 54 40.3 +0.3
LZH *e*PP PnPn 01 55 59.3 +3.6
LZH sS ScP 02 00 31.0 -0.9
LZH *e*SS SnSn 02 02 53.5 -2.8
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,150nm,5.0s
LZH LR LR
comp=Z,890nm,12.0s
LZH LR LR
comp=Z,940nm,12.7s
LZH LR LR
comp=Z,1µm,16.5s
NJ2 **Nanjing** 38.10 27 *e*P P 01 54 34.1 +1.4
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
WRA **Warramunga Arr** 38.80 121 P P 01 54 38.0 -0.9
WRA pP pP 01 54 47.2 +0.2
WRA PcP PcP 01 56 49.8 -0.3
WRA S S 02 00 30.3 -4.8
WRA **Warramunga Arr** 38.80 121 P P 01 54 38.0 -0.9
comp=Z,9.6nm,0.8s,baz=302,slow=9.1,SNR=49
WRA pP pP 01 54 47.2 +0.2
comp=Z,18nm,0.6s,baz=302,slow=8.9,SNR=25
WRA PcP PcP 01 56 49.8 -0.3
comp=Z,2.8nm,0.6s,baz=318,slow=2.4,SNR=7.1
WRA S S 02 00 30.3 -4.8
comp=Z,2.8nm,1.2s,baz=294,slow=17,SNR=4.6
WRAB **Tennant Creek** 38.80 121 *e*P P 01 54 38.1 -0.9
WRAB pmax pmax
comp=Z,27nm,0.6s
WRAB **Tennant Creek** 38.80 121 *e*P P 01 54 38.1 -0.9
comp=Z,26nm,0.6s
WRAB **Tennant Creek** 38.80 121 P P 01 54 38.0 -0.9
comp=Z,248nm,0.6s,SNR=22
AS11 **Alice Springs** 40.07 126 ⇓P P 01 54 49.1 -0.4
baz=40
AS31 **Alice Springs** 40.07 126 *e*P P 01 54 49.2 -0.3
ASAR **Alice Springs** 40.07 126 P P 01 54 49.1 -0.4
ASAR pP pP 01 54 58.5 +0.9
ASAR PcP PcP 01 56 54.0 -0.1
ASAR S S 02 00 52.4 -1.8
ASAR **Alice Springs** 40.07 126 P P 01 54 49.1 -0.4
comp=Z,3.1nm,0.6s,baz=302,slow=7.8,SNR=28
ASAR pP pP 01 54 58.5 +0.9
comp=Z,19nm,0.6s,baz=301,slow=7.9,SNR=45
ASAR PcP PcP 01 56 54.0 -0.1
comp=Z,4.4nm,0.8s,baz=299,slow=2.5,SNR=9.7
ASAR S S 02 00 52.4 -1.8
comp=Z,2.6nm,1.0s,baz=295,slow=14,SNR=13
AS03 **Alice Springs** 40.08 126 ⇑P P 01 54 49.4 -0.2
baz=40
GTA **Gaotai** 40.68 1 *e*P P 01 54 55.0 +0.7
GTA pP pP 01 55 02.1 -0.4
GTA sP sP 01 55 05.9 +0.2
GTA PcP PcP 01 56 56.1 +0.3
GTA pmax pmax
comp=Z,6.0nm,0.8s
HHC **Hu-ho-hao-te** 43.55 13 *e*P P 01 55 20.4 +2.7
HHC sP sP 01 55 29.4 +0.2
HHC PP PP 01 57 01.1 +1.7
HHC S S 02 01 48.0 +2.7
HHC SS SS 02 04 55.0 -5.7
HHC ScS ScS 02 05 16.1 +0.3
HHC pmax pmax
comp=Z,17nm,1.3s
HHC LR LR
comp=Z,1µm,14.1s
HHC LR LR
comp=Z,1µm,14.8s
HHC LR LR
comp=Z,990nm,13.9s
QIS **Mount Isa** 43.61 119 P P 01 55 17.6 -0.8
baz=44,SNR=5.0
BJI **Beijing** 44.07 19 P P 01 55 20.6 -1.2
BJI pmax pmax
comp=Z,13nm,0.5s
COEN **Coen** 45.04 108 *e*P P 01 55 26.8 -3.2
comp=Z,250nm,2.5s
KBL **Kabul** 45.74 324 *e*P P 01 55 34.5 -0.9
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL **Kabul** 45.74 324 *e*P P 01 55 34.5 -0.9
comp=Z,5.4nm,0.9s
KSH **Kashi** 46.09 335 P P 01 55 36.1 -1.9
KSH sP sP 01 55 47.0 -2.5
KSH PP PP 01 57 24.1 -2.3
KSH PcS PcS 02 01 07.1 -1.5
KSH S S 02 02 18.5 -3.7
KSH SS ScS 02 05 38.1 +6.0
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH LR LR
comp=Z,710nm,10.9s
KSH LR LR
comp=Z,700nm,12.4s
KSH LR LR
comp=Z,1µm,12.4s
WMQ **Urumqi** 46.28 348 P P 01 55 40.0 +0.6
WMQ sP sP 01 55 49.0 -1.9
WMQ PcP PcP 01 57 16.0 +1.4
WMQ PP PP 01 57 28.0 -0.4
WMQ ScP ScP 02 01 07.0 +0.7
WMQ S S 02 02 24.0 -0.7
WMQ sS sS 02 02 35.0 -3.3
WMQ ScS ScS 02 05 31.0 -2.1
WMQ SS SS 02 05 44.0 -6.6
WMQ pmax pmax
comp=Z,36nm,1.0s
WMQ pmax pmax
comp=Z,160nm,4.0s
WMQ LR LR
comp=Z,460nm,16.0s
WMQ LR LR
comp=Z,440nm,17.0s
WMQ LR LR
comp=Z,400nm,16.0s
BBOO **Buckleboo** 46.46 136 *e*P P 01 55 41.2 +0.2
comp=Z,570nm,1.3s
BBOO **Buckleboo** 46.46 136 ⇑P P 01 55 41.6 +0.6
baz=47
KSAR **Wonju Array Be** 46.85 31 P P 01 55 42.8 -1.1
KSAR pP pP 01 55 51.5 -0.6
KSRS **Korea Array** 46.88 31 P P 01 55 42.8 -1.3
comp=Z,1.5nm,0.7s,baz=227,slow=9.0,SNR=4.7
KSRS pP pP 01 55 51.5 -0.8
comp=Z,6.7nm,0.7s,baz=226,slow=8.3,SNR=13
PMG **Port Moresby** 48.17 101 *e*P P 01 55 54.0 -0.5
comp=Z,7.4nm,0.9s
HTT **Hallett** 48.81 135 ⇑P P 01 56 00.0 +0.8
baz=49,SNR=7.6
UCH **Uchtor** 48.95 336 *i*P P 01 56 00.8 +0.2
UCH **Uchtor** 48.95 336 P P 01 56 00.9 +0.2
SNR=9.2
TKM2 **Tokmak 2** 49.10 337 *i*P P 01 56 01.6 +0.2
TKM2 **Tokmak 2** 49.10 337 P P 01 56 01.6 +0.2
SNR=14
TKM2 **Tokmak 2** 49.10 337 *e*P P 01 56 01.4 0.0
comp=Z,17nm,0.7s
KBK **Karagaybulak** 49.13 336 P P 01 56 02.8 +1.1
SNR=10
AML **Almayashu** 49.22 335 P P 01 56 02.0 -0.6
SNR=18
AAK **Ala-Archa** 49.30 336 *i*P P 01 56 03.7 +0.8
AAK **Ala-Archa** 49.30 336 P P 01 56 03.8 +0.8
SNR=5.7
CTA **Charters Tower** 49.38 115 ⇓P P 01 56 03.5 -0.3
baz=49
CTAO **Charters Tower** 49.38 115 *e*P P 01 56 03.4 -0.4
CTAO pmax pmax
comp=Z,9.0nm,0.9s
CTAO **Charters Tower** 49.38 115 *e*P P 01 56 03.4 -0.4
comp=Z,8.8nm,0.9s
SONM **Songino Array** 49.48 6 P P 01 56 03.8 -0.3
SONM pP pP 01 56 12.8 +0.3
SONM PcP PcP 01 57 25.3 -0.7
SONM **Songino Array** 49.48 6 P P 01 56 03.8 -0.3
comp=Z,2.9nm,0.8s,baz=192,slow=9.0,SNR=16
SONM pP pP 01 56 12.8 +0.3
comp=Z,7.4nm,0.7s,baz=190,slow=11,SNR=20
SONM PcP PcP 01 57 25.3 -0.7
comp=Z,4.1nm,0.6s,baz=188,slow=3.5,SNR=8.0
ULN **Ulaanbaatar** 49.58 7 *e*P P 01 56 04.7 -0.2
comp=Z,5.9nm,0.7s
ULN *e*pP pP 01 56 13.3 0.0
EKS2 **Erkin-Say** 49.62 335 *e*P P 01 56 05.9 +0.6
EKS2 *e**PP pP 01 56 15.0 +1.4
EKS2 pmax pmax
comp=Z,18nm,0.8s
EKS2 **Erkin-Say** 49.62 335 P P 01 56 05.9 +0.6
SNR=15
EKS2 **Erkin-Say** 49.62 335 *e*P P 01 56 05.9 +0.6
comp=Z,18nm,0.8s
EKS2 *e*pP pP 01 56 15.0 +1.4
QLP **Quilpie** 49.77 124 ⇓P P 01 56 07.1 +0.5
baz=50,SNR=7.6
USP **Ospenovka** 49.82 336 *i*P P 01 56 06.8 0.0
USP **Ospenovka** 49.82 336 P P 01 56 06.8 0.0
SNR=9.9
STKA **Stephens Creek** 49.97 132 *e*P P 01 56 08.9 +0.8
comp=Z,3.9nm,0.8s
STKA pP pP 01 56 16.9 +0.6
STKA **Stephens Creek** 49.97 132 P P 01 56 08.6 +0.5
comp=Z,11nm,0.8s,baz=308,slow=7.8,SNR=24
STKA pP pP 01 56 16.9 +0.6
comp=Z,18nm,0.7s,baz=275,slow=4.8,SNR=18
STKA **Stephens Creek** 49.97 132 P P 01 56 08.6 +0.5
baz=50,SNR=19
MK31 **Makanchi Array** 50.35 345 *i*P P 01 56 10.3 -0.4
MK31 pmax pmax
comp=Z,11nm,0.5s
MK31 **Makanchi Array** 50.35 345 *e*P P 01 56 10.2 -0.5
MKAR **Makanchi Array** 50.35 345 *ce*P P 01 56 10.3 -0.4
MKAR pmax pmax
comp=Z,19nm,0.6s
MKAR **Makanchi Array** 50.35 345 *e*P P 01 56 10.8 +0.1
MKAR pP pP 01 56 19.6 +0.7
MKAR **Makanchi Array** 50.35 345 P P 01 56 10.3 -0.4
comp=Z,18nm,0.6s,baz=149,slow=8.1,SNR=171
MKAR pP pP 01 56 19.6 +0.7
comp=Z,13nm,0.6s,baz=152,slow=7.4,SNR=14
MKAR **Makanchi Array** 50.35 345 ⇑P P 01 56 10.5 -0.2
baz=50
KK31 **Karatay Array** 51.40 333 *i*P P 01 56 17.6 -1.0
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR **Karatay Array** 51.40 333 *e*P P 01 56 18.1 -0.5
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR **Karatay Array** 51.40 333 *e*P P 01 56 18.1 -0.5
comp=Z,2.7nm,0.6s
HVS **Khovu-Aksy** 52.62 356 ⇑*e*P P 01 56 26.6 -1.1
HVS pmax pmax
comp=Z,23nm,1.2s
CMSA **Cobar Meteorol** 52.93 129 P P 01 56 31.1 +0.9
baz=53,SNR=14
VLA **Vladivostok** 53.13 29 ⇑*e*P P 01 56 31.5 +0.1
VLA pmax pmax
comp=Z,25nm,0.7s
MDJ **Mudanjiang** 53.18 27 P P 01 56 32.8 +1.0
MDJ pP pP 01 56 38.8 -1.4
MDJ sP sP 01 56 41.8 -1.6
MDJ ScP ScP 02 01 36.1 +0.4
MDJ PcS PcS 02 01 39.0 +0.6
MDJ S S 02 04 04.4 +3.3
MDJ sS sS 02 04 14.9 +0.1
MDJ pmax pmax
comp=Z,7.0nm,2.1s
MDJ pmax pmax
comp=Z,540nm,10.4s
MDJ LR LR
comp=Z,280nm,16.9s
MDJ LR LR
comp=Z,200nm,20.9s
MDJ LR LR
comp=Z,360nm,17.8s
OPO **Ambohidratompo** 53.89 248 P P 01 56 38.4 +0.7
OPO **Ambohidratompo** 53.89 248 P P 01 56 38.4 +0.7
comp=Z,5.7nm,0.9s,baz=114,slow=5.4,SNR=4.6
ABPO **Ambohimpanom** 53.95 248 *e*P P 01 56 38.1 0.0
ABPO pmax pmax
comp=Z,6.0nm,1.0s
ABPO **Ambohimpanom** 53.95 248 *e*P P 01 56 38.1 0.0
comp=Z,5.8nm,1.0s
USRK **Ussuriysk Arra** 53.98 29 P P 01 56 36.9 -0.8
comp=Z,3.9nm,0.7s,baz=231,slow=6.8,SNR=7.7
USRK pP pP 01 56 45.1 -0.9
comp=Z,11nm,0.6s,baz=229,slow=4.7,SNR=14
ABKT **Ailbek** 54.64 320 P P 01 56 42.5 -0.2
comp=Z,86nm,0.7s,SNR=5.8
KURBB **Kurchatov Arra** 54.86 344 P P 01 56 43.2 -0.7
comp=Z,7.9nm,0.9s,baz=164,slow=7.3,SNR=70
KURBB PcP PcP 01 57 46.1 +0.2
comp=Z,1.9nm,0.7s,baz=161,slow=3.4,SNR=4.8
KURK **Kurchatov** 54.92 344 P P 01 56 43.6 -0.8
KURK pmax pmax
comp=Z,12nm,1.0s
KURK **Kurchatov** 54.92 344 *e*P P 01 56 43.2 -1.2
comp=Z,9.9nm,0.9s
KURK PcP PcP 01 57 46.1 0.0
KURK **Kurchatov** 54.92 344 P P 01 56 43.1 -1.3
comp=Z,137nm,0.9s,SNR=12
EIDS **Eidsvold** 55.16 120 *e*P P 01 56 45.6 -1.0
comp=Z,8.9nm,0.8s
ZAA0 **Zalesovo Array** 56.53 350 *e*P P 01 56 55.0 -0.8
ZAA0 *e*pP pP 01 57 04.2 -0.1
ZALV **Zalesovo Beam** 56.53 350 *i*P P 01 56 55.2 -0.6
ZALV pmax pmax
comp=Z,21nm,0.7s
ZALV **Zalesovo Beam** 56.53 350 P P 01 56 55.2 -0.6
ZALV S S 02 04 44.7 -0.9
ZALV **Zalesovo Beam** 56.53 350 P P 01 56 55.2 -0.6
comp=Z,22nm,0.8s,baz=177,slow=5.9,SNR=110
ZALV S S 02 04 44.7 -0.9
comp=Z,0.3nm,0.4s,baz=151,slow=10,SNR=6.0
CAN **Canberra** 57.03 132 *e*P P 01 57 00.3 +0.4
CAN pmax pmax
comp=Z,12nm,0.8s
CAN **Canberra** 57.03 132 *e*P P 01 57 00.3 +0.4
comp=Z,12nm,0.8s
CAN **Canberra** 57.03 132 ⇓P P 01 57 00.8 +0.9
baz=57
ARMA **Armidale** 57.22 126 *e*P P 01 57 00.5 -0.9
comp=Z,6.4nm,0.9s
NVS **Novosibirsk** 57.67 349 *e*P P 01 57 01.0 -2.9
NVS pmax pmax
comp=Z,19nm,1.4s
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,1.3s

KLR **Kul'dur** 57.70 25 *e*P P 01 57 07.2 +2.9
RAYN **Ar Rayn** 57.94 299 *e*P P 01 57 05.6 -0.9
comp=E,5.5nm,0.8s
BVA0 **Borovoye Array** 59.47 340 *i* P P 01 57 15.0 -1.5
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BRVK **Borovoye** 59.53 340⇓ *e*P P 01 57 15.5 -1.5
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK **Borovoye** 59.53 340 *e*P P 01 57 14.7 -2.2
comp=Z,6.2nm,0.8s
BRVK *e*pP pP 01 57 23.9 -1.5
AB31 **Akbulak array** 60.88 332 *i* P P 01 57 24.8 -1.4
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR **Akbulak array** 60.88 332 *e*P P 01 57 24.8 -1.4
comp=Z,6.9nm,0.6s
ABKAR **Akbulak array** 60.88 332 ⇑P P 01 57 25.1 -1.1
baz=61
YSS **Yuzh-Sakhalins** 61.36 32 *e*P P 01 57 28.6 -0.9
YSS pmax pmax
comp=Z,18nm,0.5s
YSS **Yuzh-Sakhalins** 61.36 32 *e*P P 01 57 28.6 -0.9
comp=Z,18nm,0.5s
KMBO **Kilima Mbogo** 62.11 270 *e*P P 01 57 36.6 +1.0
comp=Z,5.7nm,0.9s
KMBO *e*pP pP 01 57 47.1 +3.1
KMBO **Kilima Mbogo** 62.11 270 P P 01 57 37.0 +1.4
comp=Z,6.3nm,0.9s,baz=57,slow=9.0,SNR=20
GNI **Garni** 64.71 316 *e*P P 01 57 52.0 -0.3
comp=Z,8.9nm,0.9s
SVE **Sverdlovsk** 65.95 338⇑ *i*P P 01 57 59.1 -0.6
SVE *e*S S 02 06 43.2 -2.2
SVE pmax pmax
comp=Z,19nm,0.9s
ZEI **Tsey** 66.43 319 *e*P P 01 58 01.0 -2.3
ZEI pmax pmax
comp=Z,15nm,1.0s
ARU **Arti** 66.47 337 *e*P P 01 58 01.6 -1.4
ARU *e**PP pP 01 58 10.6 -0.9
ARU pmax pmax
comp=Z,15nm,1.1s
ARU **Arti** 66.47 337 *e*P P 01 58 01.6 -1.4
comp=Z,15nm,1.1s
ARU *e*pP pP 01 58 10.6 -0.9
KBZ **Khabaz** 67.50 319 P P 01 58 09.3 -0.5
KBZ **Khabaz** 67.50 319 P P 01 58 09.3 -0.5
KBZ **Khabaz** 67.50 319 P P 01 58 09.3 -0.5
comp=Z,13nm,0.8s,baz=135,slow=7.1,SNR=33
KIV **Kislovodsk** 67.73 319 *e*P P 01 58 10.9 -0.5
KIV pmax pmax
comp=Z,20nm,1.1s
KIV **Kislovodsk** 67.73 319 *e*P P 01 58 10.6 -0.8
comp=Z,15nm,0.8s
EIL **Elat** 68.71 303 P P 01 58 18.2 +0.5
baz=69,SNR=3.4
SOC **Sochi** 69.54 318 *e*P P 01 58 20.5 -2.1
SOC pmax pmax
comp=Z,18nm,0.8s
CSS **Prodhromos** 71.41 308 *e*P P 01 58 33.8 -0.4
comp=Z,4.5nm,1.3s
LSZ **Lusaka** 71.48 254 *e*P P 01 58 35.7 +0.6
comp=Z,6.4nm,1.1s
VRHR **Novokhopersk** 71.54 326 *e*P P 01 58 32.5 -2.1
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.9s
BRTR **Keskin Array B** 72.50 313 P P 01 58 39.5 -1.3
BRTR **Keskin Array B** 72.50 313 P P 01 58 39.5 -1.3
comp=E,3.6nm,0.8s,baz=131,slow=7.7,SNR=22
BR131 **Keskin Array S** 72.50 313 *e*P P 01 58 39.0 -1.8
comp=E,3.1nm,0.7s
VORD **Divnogorie** 72.81 325 *e*P P 01 58 39.8 -2.4
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,9.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR **Storozhevoye** 72.98 325 *e*P P 01 58 40.2 -3.0
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.3s
LBTB **Lobatse** 74.69 245 *e*P P 01 58 53.4 -0.5
comp=E,3.8nm,0.8s
PRGR **Permogore** 74.93 336 *e*P P 01 58 52.4 -2.0
PRGR pmax pmax
comp=Z,32nm,0.9s
PRGR pmax pmax
comp=Z,6.0nm,0.4s
BOSA **Boshof** 75.37 241 *e*P P 01 58 57.9 +0.1
comp=Z,3.8nm,0.8s
BOSA **Boshof** 75.37 241 P P 01 58 57.8 -0.1
comp=Z,3.3nm,0.9s,baz=71,slow=8.2,SNR=5.4
TIXI **Tiksi** 75.43 9⇓ *e*P P 01 58 55.2 -1.9
TIXI pmax pmax
comp=Z,10.0nm,1.2s
MOS **Moscow** 75.72 329 *e*P P 01 58 57.7 -1.4
MOS pmax pmax
comp=Z,40nm,0.8s
RPZ **Rata Peaks** 75.80 135 *e*P P 01 59 00.4 +0.6
comp=Z,11nm,0.6s
RPZ *e*pP pP 01 59 08.2 -0.3
OBN **Obninsk** 76.01 328 *ce*P P 01 58 59.8 -0.9
OBN pmax pmax
comp=Z,51nm,2.5s
TIRR **Tirgusor** 77.54 316⇑ *i*P P 01 59 08.7 -0.9
SYO **Syowa Base** 78.18 199⇑ *e*P P 01 59 12.8 +0.2
AKASG **Malin Array Be** 78.68 322 P P 01 59 14.4 -1.4
AKASG **Malin Array Be** 78.68 322 P P 01 59 14.4 -1.4
AKASG **Malin Array Be** 78.68 322 P P 01 59 14.4 -1.4
comp=Z,2.4nm,0.8s,baz=89,slow=5.1,SNR=10
KIEV **Kiev** 78.69 322 *e*P P 01 59 14.3 -1.5
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV **Kiev** 78.69 322 *e*P P 01 59 14.3 -1.5
comp=Z,4.6nm,0.8s
VRI **Vrincioaia** 79.04 317⇑ *i*P P 01 59 18.0 +0.1
TMCR **Tamitsa** 79.21 337 *e*P P 01 59 18.2 -0.2
TMCR *e* 01 59 27.2
TMCR *e* 02 02 17.1
TMCR pmax pmax
comp=Z,11nm,0.7s
TESR **Tescani** 79.24 318⇑ *i*P P 01 59 18.6 -0.4
MLR **Muntele Rosu** 79.49 317⇓ *i*P P 01 59 20.5 0.0
SUR **Sutherland** 79.56 237 *e*P P 01 59 22.4 +1.1
comp=Z,9.4nm,0.9s
DOPR **Dopca** 79.97 317⇑ *i*P P 01 59 23.4 +0.4
VOIR 80.09 317⇑ *i*P P 01 59 23.0 -0.7
MMB **Musomiste** 80.27 312⇓ *i*P P 01 59 23.6 -1.1
ARR **Arges** 80.36 316⇑ *i*P P 01 59 24.2 -1.0
BURAR **Bucovina Array** 80.45 319⇑ *i*P P 01 59 26.1 +0.4
BUR08 **Bucovina Ar. S** 80.47 319 *e*P P 01 59 26.1 +0.3
BUR08 *e*pP pP 01 59 35.1 +0.7
VTS **Vitosha** 80.83 313⇑ *i*P P 01 59 27.1 -0.8
TSUM **Tsumeb** 81.77 251 *e*P P 01 59 33.2 -0.1
comp=Z,4.8nm,0.9s
DRGR 81.95 318⇑ *i*P P 01 59 34.2 +0.6
TRPA **Tarpa** 82.32 319⇑ *i*P P 01 59 35.1 -0.3
BZS **Buzias** 82.49 316⇓ *i*P P 01 59 36.3 -0.1
KOLS **Kolonicke sedl** 82.64 320 *e*P P 01 59 37.8 +0.7
KOLS pmax pmax
comp=Z,17nm,0.9s
KOLS **Kolonicke sedl** 82.64 320 *e*P P 01 59 37.8 +0.7
VNDA **Vanda** 82.81 169 *e*P P 01 59 37.9 +0.5
comp=Z,4.0nm,0.8s
VNDA **Vanda** 82.81 169 P P 01 59 38.1 +0.8
comp=Z,4.4nm,0.9s,baz=313,slow=4.5,SNR=8.7
SUW **Suwalki** 83.09 325 *e*P P 01 59 38.5 -0.8
SUW pmax pmax
comp=Z,49nm,1.0s
SUW **Suwalki** 83.09 325 *e*P P 01 59 38.5 -0.8
comp=Z,48nm,1.0s
CRVS **Cervenica-Dubn** 83.16 319 *e*P P 01 59 40.2 +0.4
CRVS pmax pmax
comp=Z,3.0nm,0.9s
CRVS **Cervenica-Dubn** 83.16 319 *e*P P 01 59 40.2 +0.4
FINES **FINESS Array B** 83.35 332 P P 01 59 39.9 -0.6
FINES pP pP 01 59 49.4 +0.3

FINES **FINESS Array B** 83.35 332 P P 01 59 39.9 -0.6
comp=Z,6.1nm,0.6s,baz=100,slow=5.6,SNR=29
FINES pP pP 01 59 49.4 +0.3
comp=Z,5.3nm,0.6s,baz=112,slow=5.5,SNR=4.9
STHS **Stebnicka Huta** 83.39 320 *e*P P 01 59 41.5 +0.5
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS **Stebnicka Huta** 83.39 320 *e*P P 01 59 41.5 +0.5
PSZ **Piszkesteto** 84.03 318 *e*P P 01 59 44.0 -0.4
PSZ pmax pmax
comp=Z,3.0nm,0.7s
PSZ **Piszkesteto** 84.03 318⇓ *i*P P 01 59 44.4 0.0
PSZ **Piszkesteto** 84.03 318 *e*P P 01 59 44.0 -0.4
comp=Z,3.4nm,0.7s
PKSM **Moragy** 84.64 316⇑ *i*P P 01 59 46.9 -0.5
TIP **Timpagrande** 85.19 309 *e*P P 01 59 49.5 -1.0
comp=Z,32nm,1.4s
ARCES **ARCESS Array B** 85.76 340 P P 01 59 51.8 -0.7
ARCES **ARCESS Array B** 85.76 340 P P 01 59 51.8 -0.7
comp=Z,9.8nm,0.9s,baz=81,slow=7.5,SNR=6.1
MORC **Moravsky Berou** 85.83 320 *e*P P 01 59 53.2 -0.2
MORC pmax pmax
comp=Z,6.0nm,1.1s
MORC **Moravsky Berou** 85.83 320 *e*P P 01 59 53.2 -0.2
comp=Z,6.3nm,1.1s
BRG **Berggiesshubel** 88.24 321 *i* P P 02 00 05.1 +0.2
comp=Z,7.1nm,1.1s
BRG *i* 02 00 14.3
comp=Z,9.4nm,1.0s
BRG **Berggiesshubel** 88.24 321 *i* P P 02 00 05.1 +0.2
BRG *i* 02 00 14.3
BRG pmax pmax
comp=Z,7.0nm,1.1s
GERES **GERESS Array B** 88.24 319 P P 02 00 04.7 -0.4
GERES **GERESS Array B** 88.24 319 P P 02 00 04.7 -0.4
comp=Z,3.4nm,0.8s,baz=156,slow=3.6,SNR=6.4
QSPA **South Pole Qui** 88.50 180 *e*P P 02 00 06.2 +0.2
comp=Z,6.0nm,0.8s
CLL **Collm** 88.86 321 *i* P P 02 00 07.5 -0.3
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL **Collm** 88.86 321 *i* P P 02 00 07.5 -0.3
comp=Z,8.0nm,1.0s
CLL *e*pP PcP 02 00 12.0 +2.6
MOTA **Moosalm** 89.89 317⇓ *i*P P 02 00 12.2 -0.8
comp=Z,5.7nm,0.8s,SNR=5.7
RETA **Reutte** 90.13 317 *i* P P 02 00 13.9 -0.1
comp=Z,6.4nm,0.6s,SNR=8.6
FETA **Feichten** 90.14 317⇑ *i*P P 02 00 14.0 -0.2
comp=Z,6.1nm,1.0s
DAVA **Damuels** 90.72 317⇑ *i*PcP P 02 00 17.1 +0.2
comp=Z,17nm,1.0s,SNR=8.7
KEST **Kesra** 90.87 306 *e*P P 02 00 18.9 +1.2
KEST **Kesra** 90.87 306 P P 02 00 18.6 +0.8
comp=Z,6.0nm,0.9s,baz=128,slow=0.7,SNR=12
STU **Stuttgart** 91.21 319 *e*P P 02 00 18.6 -0.3
STU **Stuttgart** 91.21 319 *e*P P 02 00 18.6 -0.3
TAM **Tamanrasset** 94.12 293 *e*P P 02 00 33.2 +0.1
TAM pmax pmax
comp=Z,2.0nm,1.0s
TAM **Tamanrasset** 94.12 293 *e*P P 02 00 33.2 +0.1
comp=Z,1.6nm,1.0s
TOA0 **Torodi Ar. Sit** 97.81 283 *e*P P 02 00 49.8 0.0
TORD **Torodi Ar. Bea** 97.81 283 P P 02 00 49.0 -0.8
TORD **Torodi Ar. Bea** 97.81 283 P P 02 00 49.0 -0.8
comp=Z,0.8nm,0.9s,baz=80,slow=4.8,SNR=4.4
ILAR **Eielson Array** 101.26 24 PKKPbc PKKPbc 02 17 13.8 -2.6
ILAR **Eielson Array** 101.26 24 PKKPbc PKKPbc 02 17 13.8 -2.6
comp=Z,0.6nm,0.6s,baz=142,slow=2.8,SNR=12
YKA **Yellowknife Ar** 114.03 17 PKP PKPdf 02 05 50.0 -2.4
YKA PKKPbc **PKKPbc** **02 16 33.9 -2.3**
YKA **Yellowknife Ar** 114.03 17 PKP PKPdf 02 05 50.0 -2.4
comp=Z,0.3nm,0.7s,baz=326,slow=1.9,SNR=5.5
YKA PKKPbc **PKKPbc** **02 16 33.9 -2.3**
comp=Z,0.1nm,0.7s,baz=140,slow=3.5,SNR=6.2
FFC **Flin Flon** 124.11 15 *e*PKIKP **PKPdf** **02 06 11.5 -0.6**
FFC **Flin Flon** 124.11 15 *e*PKPdf **PKPdf** **02 06 11.5 -0.6**
J04D **Umpqua Nationa** 124.37 36 ⇑PKiKP **PKPdf** **02 06 13.1 -0.1**
baz=124
J05D **Fort Rock, OR** 124.85 35 ⇑PKiKP **PKPdf** 02 06 14.1 +0.1
baz=125
MSO **Missoula** 126.30 28 ⇑PKiKP **PKPdf** 02 06 16.3 -0.3
baz=126
A19A **Klindworth Far** 126.91 23 ⇓PKiKP **PKPdf** 02 06 17.6 -0.1
baz=127
B19A **Brinkman Farms** 127.21 23 ⇑PKiKP **PKPdf** 02 06 18.4 +0.1
baz=127
EGMT **Eagleton** 127.23 24 ⇑PKiKP **PKPdf** 02 06 18.3 -0.1
baz=127
A20A **Cobblestone Ra** 127.26 22 ⇓PKiKP **PKPdf** 02 06 18.1 -0.3
baz=127
A21A **Bergtoll Ranch** 127.54 22 ⇑PKiKP **PKPdf** 02 06 18.8 -0.1
baz=127
B20A **Solberg Farm,** 127.58 23 ⇓PKiKP **PKiKP** 02 06 19.4 -0.2
baz=127
C19A **Slack Wire Ran** 127.74 24 ⇑PKiKP **PKPdf** 02 06 19.6 +0.2
baz=128
A22A **Carney Farms,** 127.91 21 ⇓PKiKP **PKPdf** 02 06 19.6 0.0
baz=128
B21A **Ellsworth Farm** 127.97 22 ⇓PKiKP **PKPdf** 02 06 19.9 +0.1
baz=128
C20A **Joseth Ranch,** 128.18 23 ⇑PKiKP **PKiKP** 02 06 20.5 -0.3
baz=128
D19A **Cripps Ranch,** 128.27 24 ⇓PKiKP **PKiKP** 02 06 21.0 0.0
baz=128
HLID **Hailey** 128.41 31 ⇑PKiKP **PKiKP** 02 06 21.6 +0.1
baz=128
A24A **Westby** 128.63 20 ⇓PKiKP **PKiKP** 02 06 21.3 -0.3
baz=128
D20A **Manuel Ranch,** 128.63 24 ⇓PKiKP **PKiKP** 02 06 21.5 -0.2
baz=128
B23A **Brockton** 128.68 21 ⇓PKiKP **PKPdf** 02 06 21.3 +0.2
baz=128
E19A **Rath Farm, Rou** 128.87 25 ⇓PKiKP **PKPdf** 02 06 21.8 +0.2
baz=129
A25A **Svangstu Ranch** 128.91 19 ⇑PKiKP **PKPdf** 02 06 20.9 -0.6
baz=129
C22A **Vida** 128.97 22 ⇑PKiKP **PKPdf** 02 06 21.9 +0.2
baz=129
D21A **La Casta Ranch** 129.10 23 ⇓PKiKP **PKPdf** 02 06 22.1 +0.1
baz=129
E20A **Meyer Farm, Mu** 129.11 24 ⇓PKiKP **PKiKP** 02 06 22.6 -0.1
baz=129
C23A **Lambert** 129.17 21 ⇑PKiKP **PKPdf** 02 06 21.9 -0.2
baz=129
A26A **Wade Farm, Ken** 129.28 18 ⇑PKiKP **PKPdf** 02 06 22.6 +0.4
baz=129
D22A **Cohagen** 129.35 22 ⇑PKiKP **PKPdf** 02 06 22.7 +0.3
baz=129
F20A **Billings** 129.66 25 ⇑PKiKP **PKPdf** 02 06 22.7 -0.4
baz=130
ULM **Lac du Bonnet** 129.69 13 PKP **PKPdf** **02 06 21.7 -1.2**
ULM *e*PKPdf **PKiKP** **02 06 22.3 -1.3**
ULM **Lac du Bonnet** 129.69 13 PKP **PKPdf** **02 06 21.7 -1.2**
comp=Z,4.7nm,0.8s,baz=316,slow=1.1,SNR=8.0
D23A **Lindsay** 129.69 22 ⇓PKiKP **PKiKP** 02 06 23.7 -0.1
baz=130
A28A **Rude Farm, Bot** 129.81 17 ⇓PKiKP **PKiKP** 02 06 24.0 +0.1
baz=130
ELK **Elko** 129.91 34 PKP **PKPdf** **02 06 21.3 -2.7**
ELK **Elko** 129.91 34 PKP **PKPdf** **02 06 21.3 -2.7**
comp=Z,0.5nm,0.4s,baz=278,slow=20,SNR=4.1
G20A **Bridger** 130.10 25 ⇑PKiKP **PKPdf** 02 06 24.4 +0.4
baz=130
H19A **Powell** 130.20 26 ⇓PKiKP **PKiKP** 02 06 24.9 -0.1
baz=130
C26A **Wahner Farm, P** 130.21 19 ⇓PKiKP **PKiKP** 02 06 25.4 +0.6
baz=130
C27A **Sayler Ranch,** 130.50 18 ⇓PKiKP **PKiKP** 02 06 25.8 +0.4
baz=130
G21A **Lodge Grass** 130.52 25 ⇑PKiKP **PKiKP** 02 06 25.7 0.0
baz=130
E24A **Baker** 130.54 21 ⇑PKiKP **PKiKP** 02 06 25.3 -0.3
baz=130
H20A **Greybull** 130.77 26 ⇑PKiKP **PKiKP** 02 06 26.3 +0.1
baz=131
F23A **Volborg** 130.84 23 ⇓PKiKP **PKPdf** 02 06 25.5 +0.2
baz=131
G22A **Birney** 130.90 24 ⇑PKiKP **PKPdf** 02 06 25.6 +0.1
baz=131
E25A **Miller Ranch,** 130.92 21 ⇓PKiKP **PKiKP** 02 06 26.3 -0.1
baz=131
F24A **Ekalaka** 131.10 22 ⇑PKiKP **PKPdf** 02 06 26.1 +0.3
baz=131
I20A **Worland** 131.14 26 ⇑PKiKP **PKPdf** 02 06 26.1 +0.1
baz=131
G23A **Biddle** 131.27 23 ⇓PKiKP **PKiKP** 02 06 26.8 -0.3
baz=131
R11A **Troy Canyon, C** 131.28 37 ⇑PKiKP **PKiKP** 02 06 27.7 +0.2
baz=131
F25A **Bowman** 131.39 21 ⇓PKiKP **PKiKP** 02 06 27.5 +0.2
baz=131
PDAR **Pinedale Array** 131.41 28 PKP **PKPdf** 02 06 26.0 -0.7
PDAR **Pinedale Array** 131.41 28 PKP **PKPdf** 02 06 26.0 -0.7
comp=Z,0.8nm,0.7s,baz=231,slow=0.9,SNR=6.1
E27A **Carson** 131.61 19 ⇓PKiKP **PKiKP** 02 06 27.7 0.0
baz=131
I21A **Big Trails, Te** 131.62 26 ⇑PKiKP **PKiKP** 02 06 27.7 -0.2
baz=132
DUG **Dugway** 131.63 33 ⇓PKiKP **PKPdf** 02 06 27.3 +0.2
baz=132
J20A **Shoshoni** 131.63 27 ⇓PKiKP **PKiKP** 02 06 27.8 -0.2
baz=132
F26A **Lodgepole** 131.74 21 ⇓PKiKP **PKPdf** 02 06 27.3 +0.3
baz=132
J21A **Lysite** 131.92 26 ⇑PKiKP **PKPdf** 02 06 27.8 +0.2
baz=132
H24A **Dirks Ranch, A** 131.98 23 ⇑PKiKP **PKPdf** 02 06 27.3 -0.3
baz=132
G26A **Maurine** 132.24 21 ⇓PKiKP **PKPdf** 02 06 28.3 +0.3
baz=132
I23A **Meade Ranch, G** 132.27 24 ⇓PKiKP **PKPdf** 02 06 28.1 -0.1
baz=132
J22A **Midwest** 132.29 25 ⇑PKiKP **PKPdf** 02 06 28.2 0.0
baz=132
G27A **Dupree** 132.41 20 ⇓PKiKP **PKPdf** 02 06 28.7 +0.4
baz=132
GSC **Goldstone** 132.42 41 ⇓PKiKP **PKiKP** 02 06 29.8 +0.1
baz=132
K21A **Alcova** 132.58 27 ⇓PKiKP **PKPdf** 02 06 29.2 +0.3
baz=132
I24A **Kuemmerle Ranc** 132.69 24 ⇑PKiKP **PKPdf** 02 06 28.1 -0.8
baz=132
K22A **Casper** 132.88 26 ⇓PKiKP **PKPdf** 02 06 29.1 -0.3
baz=133
I25A **Rochford** 132.91 23 ⇓PKiKP **PKPdf** 02 06 29.1 -0.3
baz=133
H27A **Howes** 133.00 21 ⇓PKiKP **PKPdf** 02 06 28.9 -0.5
baz=133
G28A **Parade** 133.02 20 ⇑PKiKP **PKPdf** 02 06 28.7 -0.7
baz=133
MVU **Marysvale** 133.14 34 *e*PKPdf **PKPdf** 02 06 31.6 +1.5
K23A **Bowen Ranch, D** 133.19 25 ⇑PKiKP **PKPdf** 02 06 29.7 -0.3
baz=133
N20A **Spence Gulch,** 133.51 29 ⇑PKiKP **PKPdf** 02 06 30.5 -0.2
baz=133
L23A **Garrett** 133.68 26 ⇓PKiKP **PKPdf** 02 06 31.0 0.0
baz=134
J26A **Sides Ranch, S** 133.76 23 ⇓PKiKP **PKPdf** 02 06 31.5 +0.5
baz=134
M22A **Cedar Creek Ra** 133.85 27 ⇑PKiKP **PKPdf** 02 06 31.7 +0.3
baz=134
I28A **Midland** 133.87 21 ⇑PKiKP **PKPdf** 02 06 31.5 +0.5
baz=134
O20A **White River Ci** 134.05 30 ⇓PKiKP **PKPdf** 02 06 32.0 +0.3
baz=134
M23A **Laramie** 134.19 26 ⇑PKiKP **PKPdf** 02 06 32.4 +0.4
baz=134
BRSD **Miller** 134.22 18 ⇑PKiKP **PKPdf** 02 06 32.1 +0.4
baz=134
K26A **Motz Farm, Whi** 134.24 23 ⇑PKiKP **PKPdf** 02 06 32.0 +0.1
baz=134
J28A **Allard Ranch,** 134.35 21 ⇑PKiKP **PKPdf** 02 06 32.6 +0.6
baz=134
N22A **Wattenberg Ran** 134.39 28 ⇓PKiKP **PKPdf** 02 06 31.5 -0.9
baz=134
DVTC **Desert V Tower** 134.45 43 ⇓PKiKP **PKPdf** 02 06 31.3 -1.3
baz=134
U15A **North Rim** 134.52 36 ⇑PKiKP **PKPdf** 02 06 33.5 +0.6
baz=134
I30A **Oacoma** 134.54 19 ⇓PKiKP **PKPdf** 02 06 32.3 0.0
baz=134
N23A **Red Feather La** 134.55 27 ⇓PKiKP **PKiKP** 02 06 33.5 -0.7
baz=134
O22A **Kremmling** 134.85 28 ⇑PKiKP **PKPdf** 02 06 33.4 0.0
baz=135
J30A **Dallas** 135.04 20 ⇓PKiKP **PKPdf** 02 06 34.0 +0.7
baz=135
O23A **Lake Granby, G** 135.11 28 ⇑PKiKP **PKiKP** 02 06 35.1 -0.2
baz=135
Z14A **Wintersburg** 136.12 40 ⇑PKiKP **PKiKP** 02 06 36.4 -0.7
baz=136
X16A **Lo Mia Camp, P** 136.38 38 ⇑PKiKP **PKiKP** 02 06 37.2 -0.8
baz=136
P25A **Willow Gulch B** 136.47 27 ⇑PKiKP **PKPdf** 02 06 36.7 +0.5
baz=136
R23A **Moffat** 136.75 29 ⇑PKiKP **PKiKP** 02 06 37.9 -0.8
baz=137
P26A **Davis Ranch, A** 136.79 26 ⇑PKiKP **PKiKP** 02 06 37.7 -0.9
baz=137
SADO **Sadowa** 136.85 358 PKP **PKPdf** 02 06 36.3 -0.2
SADO **Sadowa** 136.85 358 PKP **PKPdf** 02 06 36.3 -0.2
comp=Z,2.5nm,0.5s,baz=308,slow=0.6,SNR=3.5
W18A **Petrified Fore** 136.93 36 ⇑PKiKP **PKPdf** 02 06 38.0 +0.8
baz=137
TRQA **Tornquist** 137.07 202 *e*PKPdf **PKPdf** 02 06 36.3 -0.9
214A **Organ Pipe Nat** 137.09 42 ⇑PKiKP **PKPdf** 02 06 37.5 +0.1
baz=137
BGNE **Belgrade** 137.20 19 ⇑PKiKP **PKPdf** 02 06 37.7 +0.4
baz=137
R25A **Fountain Ranch** 137.52 28 ⇓PKiKP **PKPdf** 02 06 38.2 0.0
baz=137
U22A **Llaves** 137.61 32 ⇓PKiKP **PKPdf** 02 06 39.0 +0.5
baz=138
R26A **Arlington** 137.78 27 ⇑PKiKP **PKPdf** 02 06 39.0 +0.4
baz=138
R27A **Eads** 138.08 26 ⇑PKiKP **PKPdf** 02 06 39.8 +0.7
baz=138
P30A **Selden** 138.09 23 ⇑PKiKP **PKPdf** 02 06 39.6 +0.5
baz=138
T25A **Trinidad** 138.26 29 ⇓PKiKP **PKPdf** 02 06 40.2 +0.5
baz=138
S26A **Kim** 138.32 28 ⇓PKiKP **PKPdf** 02 06 40.3 +0.6
baz=138
Q29A **Oakley** 138.35 24 ⇑PKiKP **PKPdf** 02 06 39.9 +0.3
baz=138
P31A **Stockton** 138.44 22 ⇓PKiKP **PKPdf** 02 06 40.2 +0.5
baz=138
V23A **Ortiz Mt. (NFS** 138.45 32 ⇑PKiKP **PKPdf** 02 06 40.9 +0.8
baz=138
R28A **Tribune** 138.47 25 ⇓PKiKP **PKPdf** 02 06 40.6 +0.8
baz=138
T26A **Comanche Natio** 138.62 28 ⇑PKiKP **PKPdf** 02 06 40.9 +0.6
baz=138
U25A **Circle Dot Ran** 138.85 30 ⇓PKiKP **PKPdf** 02 06 41.4 +0.6
baz=139
V24A **Rampart Ranch,** 138.94 31 ⇓PKiKP **PKPdf** 02 06 41.9 +0.9
baz=139
S28A **Manter** 139.06 26 ⇑PKiKP **PKPdf** 02 06 42.0 +1.0
baz=139
T27A **Campo** 139.12 27 ⇓PKiKP **PKPdf** 02 06 42.1 +1.0
baz=139
R30A **Dighton** 139.16 24 ⇓PKiKP **PKiKP** 02 06 42.3 -1.0
baz=139
U26A **Atchley Ranch,** 139.18 29 ⇓PKiKP **PKiKP** 02 06 43.1 -0.5
baz=139
W24A **Lazy 6 Ranch,** 139.26 32 ⇓PKiKP **PKPdf** 02 06 42.1 +0.6
baz=139
S29A **Ulysses** 139.37 25 ⇑PKiKP **PKPdf** 02 06 42.5 +1.0
baz=139
Q33A **Connelly Farm,** 139.46 21 ⇓PKiKP **PKPdf** 02 06 42.7 +1.1
baz=139
W25A **X Bar L Ranch,** 139.75 31 ⇓PKiKP **PKPdf** 02 06 43.4 +1.0
baz=140
Z22A **Elephant Butte** 139.86 35 ⇑PKiKP **PKiKP** 02 06 44.0 -1.1
baz=140
ALLY **Alegheny Colle** 139.99 359 *e*PKPdf **PKPdf** 02 06 42.7 +0.3
X25A **Clemmons Ranch** 140.18 32 ⇑PKiKP **PKPdf** 02 06 44.0 +0.9
baz=140
W26A **Owens Ranch, T** 140.20 30 ⇑PKiKP **PKPdf** 02 06 44.1 +0.9
baz=140
Y24A **Capitan** 140.22 33 ⇓PKiKP **PKPdf** 02 06 44.5 +1.2
baz=140
U30A **WK&E Inc. Balk** 140.49 26 ⇑PKiKP **PKiKP** 02 06 45.2 -0.9
baz=140
W27A **Bowe Ranch, En** 140.57 30 ⇓PKiKP **PKPdf** 02 06 45.0 +1.2
baz=140
X26A **CR and CF Fran** 140.60 31 ⇓PKiKP **PKiKP** 02 06 45.3 -1.2
baz=140
Y25A **Mesa, Roswell** 140.63 32 ⇓PKiKP **PKPdf** 02 06 44.2 +0.2
baz=140
Y27A **Causey** 141.46 31 ⇑PKiKP **PKPdf** 02 06 46.7 +1.2
baz=141
224A **Cornudas Mount** 141.55 35 ⇓PKiKP **PKPdf** 02 06 46.7 +1.0
baz=141

MSTX	Muleshoe baz=141	141.59	30	⇑PKiKP	PKiKP	02 06 47.4	-1.1
X29A	Tulia baz=142	141.73	29	⇑PKiKP	PKPdf	02 06 47.3	+1.4
Z27A	Tatum baz=142	141.88	31	⇓PKiKP	PKiKP	02 06 47.7	-1.4
MNTX	Cornudas Mount	141.91	35	*e*PKPdf	PKPdf	02 06 46.6	+0.4
324A	Moseley Ranch, baz=142	142.04	36	⇑PKPdf	PKPdf	02 06 43.8	-2.8
V33A	Lossen Ranch, baz=142	142.08	24	⇑PKPdf	PKPdf	02 06 43.8	-2.6
325A	Bean Ranch, Si baz=142	142.39	35	⇓PKPdf	PKPdf	02 06 44.2	-3.1
328A	Wristen Ranch, baz=143	143.59	33	⇑PKPdf	PKPbc	02 06 46.6	+0.1
Z32A	Haskell baz=144	143.71	27	⇑PKPdf	PKPbc	02 06 46.7	-0.1
526A	Mary Lane Ranc baz=144	143.86	36	⇑PKPdf	PKPbc	02 06 47.4	-0.1
Y34A	Reagan Ranch, baz=144	143.91	25	⇓PKPdf	PKPbc	02 06 47.1	-0.2
329A	Wagon Wheel Ra baz=144	143.95	32	⇓PKPdf	PKPbc	02 06 47.5	-0.2
Z33A	Whitaker Ranch baz=144	144.05	26	⇑PKPdf	PKPbc	02 06 47.9	+0.1
527A	Woodward Ranch baz=144	144.08	35	⇓PKPdf	PKPbc	02 06 48.2	+0.1
230A	Sterling City baz=144	144.09	31	⇑PKPdf	PKPbc	02 06 48.2	+0.1
428A	Kincaid Ranch, baz=144	144.16	34	⇓PKPdf	PKPbc	02 06 48.6	+0.2
626A	Big Bend Ranch baz=144	144.21	36	⇑PKPdf	PKPbc	02 06 48.7	+0.2
330A	Mertzon baz=144	144.44	31	⇑PKPdf	PKPab	02 06 48.8	-0.1
231A	Bronte baz=144	144.45	30	⇓PKPdf	PKPab	02 06 48.8	-0.1
528A	Cox Ranch, San baz=144	144.53	34	⇓PKPdf	PKPab	02 06 49.0	-0.3
133A	Hamilton Ranch baz=144	144.56	27	⇑PKPdf	PKPab	02 06 48.6	-0.6
TXAR	Lajitas Array	144.64	36	PKP	PKPbc	02 06 50.1	+0.2
TXAR	Lajitas Array comp=Z,7.7nm,0.7s,baz=283,slow=1.7,SNR=101	144.64	36	PKP	PKPbc	02 06 50.1	+0.2
Z35A	Perchaven, San baz=144	144.66	24	⇑PKPdf	PKPab	02 06 48.9	-0.6
429A	Davenport Ranc baz=144	144.67	33	⇑PKPdf	PKPab	02 06 49.2	-0.5
627A	Terlingua Ranc baz=145	144.72	36	⇑PKiKP	PKPbc	02 06 50.5	+0.4
232A	Coleman baz=145	144.81	29	⇑PKiKP	PKPab	02 06 50.1	-0.1
WVT	Waverly	144.86	10	*e*PKiKP	PKPab	02 06 49.1	-1.1
WVT	Waverly	144.86	10	*e*PKPdf	PKPab	02 06 49.1	-1.1
529A	Stev Forest Ra baz=145	144.88	34	⇓PKiKP	PKPab	02 06 50.5	0.0
430A	Baggett Ranch, baz=145	144.90	32	⇑PKiKP	PKPab	02 06 50.4	-0.2
331A	San Angelo baz=145	144.90	30	⇓PKiKP	PKPab	02 06 50.5	0.0
MIAR	Mount Ida	144.93	19	*e*PKiKP	PKPab	02 06 50.1	-0.4
MIAR	Mount Ida	144.93	19	*e*PKPdf	PKPab	02 06 50.0	-0.4
134A	White-Moore Ra baz=145	144.96	26	⇑PKiKP	PKPab	02 06 50.6	-0.1
628A	Black Gap, Mar baz=145	144.99	35	⇓PKiKP	PKPbc	02 06 51.3	+0.4
UALR	University of	145.10	17	*e*PKPbc	PKPbc	02 06 50.2	-0.9
332A	Millersview baz=145	145.18	29	⇓PKiKP	PKPbc	02 06 51.3	-0.2
431A	Sonora baz=145	145.31	31	⇑PKiKP	PKPbc	02 06 51.6	-0.4
530A	J-C Ranch, Com baz=145	145.34	33	⇓PKiKP	PKPdf	02 06 52.4	+0.2
432A	Menard baz=145	145.57	30	⇓PKiKP	PKPdf	02 06 52.7	+0.1
333A	Richland Sprin baz=145	145.59	28	⇑PKiKP	PKPdf	02 06 52.3	-0.3
WHTX	Lake Whitney baz=146	145.73	26	⇓PKiKP	PKPbc	02 06 53.3	+0.2
531A	Rocksprings baz=146	145.75	32	⇑PKiKP	PKPbc	02 06 53.5	+0.1
TKL	Tuckaleechee C	145.85	5	*e*PKPbc	PKPdf	02 06 52.3	-0.7
TKL	Tuckaleechee C comp=Z,23nm,0.7s,baz=126,slow=2.2,SNR=34	145.85	5	PKPbc	PKPdf	02 06 52.7	-0.2
JCT	Junction City	145.88	30	*e*PKPbc	PKPbc	02 06 53.6	-0.2
JCT	Junction City	145.88	30	*e*PKPbc	PKPbc	02 06 53.5	-0.2
JCT	Junction City baz=146	145.88	30	⇑PKiKP	PKPbc	02 06 53.8	0.0
334A	Lometa baz=146	145.94	28	⇑PKiKP	PKPdf	02 06 53.3	+0.1
CPCT	Cooper Cave	145.99	6	*e*PKPbc	PKPdf	02 06 53.3	+0.1
433A	Art baz=146	146.01	29	⇑PKiKP	PKPdf	02 06 53.5	+0.1
SWET	Sewanee	146.05	8	*e*PKPbc	PKPdf	02 06 52.5	-0.9
OXF	Oxford	146.11	13	*e*PKP2	PKPdf	02 06 52.6	-0.8
OXF	Oxford	146.11	13	*e*PKPbc	PKPdf	02 06 52.6	-0.8
532A	Rocksprings baz=146	146.11	31	⇓PKiKP	PKPbc	02 06 54.1	-0.4
631A	Perdido Creek baz=146	146.33	32	⇑PKiKP	PKPbc	02 06 54.6	-0.5
335A	Moody baz=146	146.35	27	⇓PKiKP	PKPbc	02 06 54.8	-0.3
434A	Burnet baz=146	146.36	28	⇑PKiKP	PKPdf	02 06 54.3	+0.3
KMSC	Kings Mountain	146.48	1	*e*PKPbc	PKPdf	02 06 54.2	+0.2
KMSC	Kings Mountain baz=146	146.48	1	⇑PKiKP	PKPbc	02 06 54.9	-0.5
533A	Kerrville baz=146	146.60	30	⇑PKiKP	PKPdf	02 06 55.1	+0.7
632A	Uvalde baz=146	146.67	31	⇑PKiKP	PKPbc	02 06 55.9	-0.2
534A	Blanco baz=147	146.91	29	⇑PKiKP	PKPbc	02 06 55.9	-0.8
732A	Laxson Ranch, baz=147	147.19	32	⇑PKiKP	PKPbc	02 06 58.0	+0.4
GOGA	Godfrey	148.10	5	*e*PKP2	PKPbc	02 06 58.6	-1.3
GOGA	Godfrey	148.10	5	*e*PKPbc	PKPbc	02 06 58.6	-1.3
HKT	Hockley	148.19	26	*e*PKP2	PKPbc	02 07 00.1	0.0
HKT	Hockley	148.19	26	*e*PKPbc	PKPbc	02 07 00.1	0.0
LCO	Las Campanas	148.25	197	*e*PKPbc	PKPbc	02 07 00.5	-0.2
TIGA	Tifton	150.05	5	*e*PKPbc	PKPbc	02 07 04.3	-0.6
TIGA	Tifton baz=150	150.05	5	⇑PKiKP	PKPbc	02 07 04.7	-0.2
LVC	Limon Verde	153.49	205	*e*PKPbc	PKPbc	02 07 12.4	-0.9
LVC				*e*PKPab	PKPab	02 07 24.1	-1.4
SIV	San Ignacio	154.04	227	PKP	PKPdf	02 07 06.8	+0.5
SIV				PKPbc	PKPbc	02 07 13.5	-0.9
SIV	San Ignacio comp=Z,0.7nm,0.5s,baz=194,slow=9.0,SNR=2.8	154.04	227	PKP	PKPdf	02 07 06.8	+0.5
SIV				PKPbc	PKPbc	02 07 13.5	-0.9
	comp=Z,2.6nm,0.8s,baz=123,slow=5.8,SNR=7.2						
LPAZ	La Paz	158.48	214	*e*PKPdf	PKPdf	02 07 13.4	+0.5
LPAZ				PKP	PKPdf	02 07 13.6	+0.7
LPAZ				*e*PKPab	PKPab	02 07 48.4	+1.0
LPAZ	La Paz comp=Z,0.7nm,0.4s,baz=202,slow=5.6,SNR=4.3	158.48	214	PKP	PKPdf	02 07 13.6	+0.7
SAML	Samuel	159.78	239	*e*PKPdf	PKPdf	02 07 13.9	+0.2
SAML				*e*PKPab	PKPab	02 07 52.6	0.0
JTS	JuntasAbangare	170.23	26	*e*PKPdf	PKPdf	02 07 23.1	+0.5
OTAV	Otavalo	177.51	241	*e*PKPdf	PKPdf	02 07 25.3	-0.5

WEL 23 01:50:58.3±0.5, 44°42S×167°06E, h12km, ML4.1/13, 3C, Error ellipse: s-maj=4.2km s-min=3.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.67	113	⇑P*	Pg	01 51 10.9	-0.4
MSZ				S*	Sg	01 51 19.7	-0.4
MSZ				*e*S*	Sb	01 51 19.8	-1.4
MSZ				AML	AML	01 51 20.7	
MSZ				AML	AML	01 51 21.4	
DCZ	Deep Cove	1.06	176	⇑P*	Pb	01 51 16.9	-1.7
DCZ				*e*S*	Sb	01 51 31.1	-1.3
DCZ				AML	AML	01 51 33.5	
MLZ	Mavora Lakes	1.22	140	⇑P*	Pn	01 51 20.8	-0.5
MLZ				*e*S*	Sb	01 51 35.7	-1.5
MLZ				AML	AML	01 51 38.8	
JCZ	Jackson Bay	1.27	75	PN	Pn	01 51 21.0	-0.9
JCZ				AML	AML	01 51 39.4	
JCZ				AML	AML	01 51 43.0	
WKZ	Wanaka	1.46	107	PN	Pn	01 51 24.8	+0.3
WKZ				*e*SN	Sn	01 51 43.2	-0.3
WKZ				AML	AML	01 51 46.3	
WHZ	Wether Hill Ro	1.60	157	PN	Pn	01 51 26.3	-0.1
WHZ				*e*SN	Sn	01 51 46.4	-0.8
WHZ				AML	AML	01 51 55.0	
PYZ	Puysegur Point	1.77	189	*e*PN	Pn	01 51 29.2	+0.5
EAZ	Earnscleugh	1.80	118	*e*PN	Pn	01 51 29.7	+0.6
EAZ				AML	AML	01 51 56.6	
EAZ				AML	AML	01 51 56.6	
EAZ				AML	AML	01 51 57.9	
EAZ				AML	AML	01 51 57.9	
FOZ	Fox Glacier	2.08	67	*e*PN	Pb	01 51 36.8	+0.9
FOZ				AML	AML	01 52 12.2	
FOZ				AML	AML	01 52 12.8	
LBZ	Lake Benmore	2.24	90	*e*PN	Pb	01 51 37.1	-1.7
LBZ				AML	AML	01 52 08.5	
LBZ				AML	AML	01 52 14.3	
TUZ	Tuapeka	2.38	131	PN	Pb	01 51 40.3	-0.8
TUZ				AML	AML	01 52 12.0	
TUZ				AML	AML	01 52 12.3	
APZ	The Paps	2.50	165	PN	Pn	01 51 39.3	+0.5
APZ				AML	AML	01 52 19.3	
SYZ	Scrubby Hill	2.58	146	PN	Pn	01 51 40.2	+0.4
SYZ				AML	AML	01 52 26.4	
SYZ				AML	AML	01 52 36.5	
ODZ	Otahua Downs	2.63	105	PN	Pn	01 51 40.4	-0.1
HHSZ	Highcliff Hill	2.90	122	PN	Pn	01 51 44.6	+0.3
RPZ	Rata Peaks	2.96	78	AML	AML	01 52 33.8	
RPZ				AML	AML	01 52 34.1	
WVZ	Waitaha Valley	2.98	65	*e*PN	Pb	01 51 50.2	-1.1
MQZ	McQueen's Vall	4.09	82	PN	Pn	01 51 57.6	-3.0
DSZ	Denniston Nort	4.38	54	PN	Pn	01 52 01.0	-3.7

IDC 23 02:05:25.5±4.8, 1°08S×100°06E, h23km±7km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=245.2km s-min=27.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.41	121	P	P	02 12 45.9	+0.2
	0.6nm,0.8s,baz=303,slow=9.1,SNR=5.4						
MKAR	Makanchi Array	50.16	344	P	P	02 14 19.0	-0.3
	0.3nm,0.5s,baz=156,slow=9.3,SNR=5.6						
MKAR				pP	pP	02 14 26.4	0.0
	0.6nm,0.4s,baz=159,slow=8.7,SNR=5.4						
ZALV	Zalesovo Beam	56.28	349	P		02 15 04.3	+0.2
	0.2nm,0.3s,baz=151,slow=3.4,SNR=4.5						
ZALV				pP	pP	02 15 11.7	+0.4
	0.8nm,0.4s,baz=169,slow=7.1,SNR=6.2						
TXAR	Lajitas Array	143.93	37	PKP	PKPbc	02 24 57.8	+0.1
	0.3nm,0.6s,baz=209,slow=0.9,SNR=4.6						
TXAR				pPKP	pPKPdf	02 25 06.1	-1.6
	0.2nm,0.5s,baz=308,slow=1.5,SNR=3.5						

*AUST **23** 02:09:47.5, 18°.50S×177°.90W, h450km*
*NEIC **23** 02:09:48.4±1.1, 18°.86S×177°.70W, h491km±11km, mb4.6/7, Error ellipse: s-maj=29.3km s-min=8.2km az=152.0*
*IDC **23** 02:09:48.6±2.1, 18°.86S×177°.73W, h488km±22km, mb3.8/13, mb1 3.9/15, mb1mx3.7/24, mbtmp3.8/15, Error ellipse: s-maj=36.0km s-min=12.3km az=151.0*

ISC 23 02:09:54.3±0.9, 18°.8S±0°.2×178°.1W±0°.2, h532km, n76, σ1=43/60, mb4.4/17, 3C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue baz=7.6,SNR=6.0	7.76	93	P	P	02 11 40.3	-8.8
AFI	Afiamalu	7.80	52	P	P	02 11 39.0	-11
AFI	Afiamalu	7.80	52	P	P	02 11 39.0	-11
	5.1nm,0.3s,baz=222,slow=18,SNR=4.5						
DZM	Mont Dzumac 13nm,0.8s	14.83	255	*e*P	P	02 13 02.8	+0.4
DZM	Mont Dzumac 0.5nm,0.3s,baz=83,slow=12,SNR=8.9	14.83	255	P	P	02 13 02.8	+0.4
EIDS	Eidsvold baz=30,SNR=4.6	29.23	252	P	P	02 15 12.8	-0.4
ARMA	Armidale baz=20,SNR=7.2	29.74	241	P	P	02 15 17.9	+0.2
RMQ	Roma baz=32,SNR=9.8	31.44	250	P	P	02 15 32.8	+0.5
CTA	Charters Tower	33.58	262	P	P	02 15 50.3	-0.2
CTA	Charters Tower 21nm,0.8s,baz=93,slow=11,SNR=36	33.58	262	P	P	02 15 50.3	-0.2
CTAO	Charters Tower 21nm,0.9s	33.58	262	*e*P	P	02 15 50.1	-0.4
PMG	Port Moresby 20nm,0.9s	34.89	281	*e*P	P	02 16 01.5	0.0
PMG	Port Moresby 17nm,0.8s,baz=60,slow=4.2,SNR=7.4	34.89	281	P	P	02 16 02.2	+0.7
CMSA	Cobar Meteorol baz=35,SNR=14	34.95	242	P	P	02 16 01.5	-0.3
QLP	Quilpie baz=36,SNR=19	35.48	250	P	P	02 16 05.9	-0.4
COEN	Coen	37.40	271	*e*P	P	02 16 21.9	-0.3
COEN	Coen baz=38,SNR=20	37.40	271	P	P	02 16 22.3	+0.1
STKA	Stephens Creek	38.45	242	P	P	02 16 30.4	-0.2
STKA	Stephens Creek 7.1nm,0.6s,baz=90,slow=9.4,SNR=18	38.45	242	P	P	02 16 30.4	-0.2
STKA	Stephens Creek baz=39,SNR=13	38.45	242	P	P	02 16 30.7	+0.1
HTT	Hallett baz=41,SNR=4.3	40.93	240	P	P	02 16 50.4	-0.1
BBOO	Buckleboo baz=44,SNR=12	43.22	242	P	P	02 17 08.2	-0.3
JAY	Jayapura	43.43	287	P	P	02 17 11.3	+0.8
JAY	Jayapura 14nm,0.6s,baz=161,slow=10,SNR=7.5	43.43	287	P	P	02 17 11.3	+0.8
WRAB	Tennant Creek 11nm,0.5s	44.74	260	*e*P	P	02 17 19.2	-1.2
WRA	Warramunga Arr	44.75	260	P	P	02 17 19.8	-0.8
WRA	Warramunga Arr 10nm,0.5s,baz=98,slow=6.5,SNR=324	44.75	260	P	P	02 17 19.8	-0.8
AS31	Alice Springs	44.82	255	*e*P	P	02 17 20.4	-0.7
ASAR	Alice Springs	44.82	255	P	P	02 17 20.6	-0.5
ASAR	Alice Springs 46nm,0.6s,baz=90,slow=8.7,SNR=526	44.82	255	P	P	02 17 20.6	-0.5
KDU	Kakadu baz=48,SNR=9.5	47.82	270	P	P	02 17 43.7	-0.2
MTN	Manton Dam baz=49,SNR=11	49.05	269	P	P	02 17 52.6	-0.5
WRKA	Warakurna baz=50,SNR=12	49.84	253	P	P	02 17 58.5	-0.3
FORT	Forrest 28nm,0.9s	49.88	245	*e*P	P	02 17 57.9	-1.0
KNRA	Kununurra baz=51,SNR=9.1	50.68	265	P	P	02 18 04.9	-0.1
FITZ	Fitzroy Crossi	53.16	261	P	P	02 18 22.7	-0.1
FITZ	Fitzroy Crossi 3.1nm,0.4s,baz=99,slow=3.8,SNR=25	53.16	261	P	P	02 18 22.7	-0.1
MEEK	Meekatharra baz=59,SNR=4.4	58.38	250	P	P	02 18 58.0	-1.0
MAJO	Matsushiro	68.80	323	*e*P	P	02 20 04.3	-1.0
CISI	Cisompet, Garu baz=73,SNR=3.6	72.56	268	P	P	02 20 28.1	0.0
PETK	Petropavlovsk-	74.62	345	P	P	02 20 37.7	-1.1
PETK	Petropavlovsk- 6.0nm,0.6s,baz=139,slow=9.3,SNR=6.6	74.62	345	P	P	02 20 37.7	-1.1
MCK	McKinley 16nm,1.1s	85.36	13	*e*P	P	02 21 32.2	-2.6
TXAR	Lajitas Array	86.25	57	P	P	02 21 38.6	-1.3
TXAR	Lajitas Array 1.3nm,0.8s,baz=232,slow=6.2,SNR=17	86.25	57	P	P	02 21 38.6	-1.3
COLA	College	86.59	12	*e*P	P	02 21 37.7	-2.9
ILAR	Eielson Array	86.70	13	P	P	02 21 38.2	-2.9
ILAR	Eielson Array 0.9nm,0.4s,baz=217,slow=4.9,SNR=30	86.70	13	P	P	02 21 38.2	-2.9
PDAR	Pinedale Array	87.82	43	P	P	02 21 44.5	-2.7
PDAR	Pinedale Array 0.6nm,0.7s,baz=202,slow=2.9,SNR=6.2	87.82	43	P	P	02 21 44.5	-2.7
CMAR	Chiang Mai Arr	89.45	290	P	P	02 21 55.1	+0.1
CMAR	Chiang Mai Arr 0.8nm,0.4s,baz=114,slow=2.1,SNR=4.4	89.45	290	P	P	02 21 55.1	+0.1
INK	Inuvik 2.2nm,0.9s	92.69	15	*e*P	P	02 22 06.0	-2.8
YKA	Yellowknife Ar	95.04	25	P	P	02 22 16.9	-2.7
YKA	Yellowknife Ar 0.3nm,0.6s,baz=245,slow=4.4,SNR=7.5	95.04	25	P	P	02 22 16.9	-2.7
ARCES	ARCESS Array B	127.25	350	PKP	PKPdf	02 27 55.9	-1.8
ARCES	ARCESS Array B 4.1nm,0.9s,baz=355,slow=4.3,SNR=4.9	127.25	350	PKP	PKPdf	02 27 55.9	-1.8
AKASG	Malin Array Be	141.49	332	PKPpre	PKPpre	02 28 18.8	
AKASG	Malin Array Be 0.2nm,0.3s,baz=44,slow=4.1,SNR=5.9	141.49	332	PKhKP	PKPpre	02 28 18.8	
EKA	Eskdalemuir Ar	143.34	5	PKP	PKPab	02 28 24.1	-1.8
EKA	Eskdalemuir Ar 2.8nm,0.7s,baz=335,slow=2.3,SNR=8.1	143.34	5	PKP	PKPab	02 28 24.1	-1.8
BUR08	Bucovina Ar. S	145.52	332	*e*PKPbc	PKPdf	02 28 33.9	+1.9
BRTR	Keskin Array B	145.61	314	PKPbc	PKPdf	02 28 33.0	+0.7
BRTR	Keskin Array B 0.7nm,1.0s,baz=114,slow=4.0,SNR=4.0	145.61	314	PKPbc	PKPdf	02 28 33.0	+0.7
CLL	Collm comp=Z,12nm,1.0s	146.40	347	*i* PKPbc	PKPdf	02 28 34.6	+1.5
OKC	Ostrava-Krasne	146.41	341	*e*PKPAB	PKPbc	02 28 37.5	+1.9
DPC	Dobruska-Polom	146.49	343	*e*PKP	PKPdf	02 28 35.2	+1.8
BRG	Berggiesshubel comp=Z,5.5nm,1.1s	146.61	346	*e*(P)	PKPdf	02 28 35.4	+1.9
PRU	Pruhonice	147.29	345	*e*PKPAB	PKPbc	02 28 39.5	+1.6
PSZ	Piszkesteto	147.47	337	*e*PKPdf	PKPdf	02 28 33.4	-1.8
PSZ				*e*PKPbc	PKPbc	02 28 37.2	-1.4
KHC	Kasperske Hory	148.32	345	*e*PKP	PKPdf	02 28 39.8	+3.4
GERES	GERESS Array B	148.55	345	PKPbc	PKPdf	02 28 40.4	+3.4
GERES				PKPab	PKiKP	02 28 45.0	+2.6
GERES	GERESS Array B comp=Z,1.8nm,0.8s,baz=29,slow=3.0,SNR=14	148.55	345	PKPbc	PKPdf	02 28 40.4	+3.4
GERES				PKPab	PKiKP	02 28 45.0	+2.6
	comp=Z,0.4nm,0.6s,baz=20,slow=4.7,SNR=3.7						
CONA	Conrad Observa comp=Z,6.0nm,1.0s	148.81	342	⇓*i* PKiKP	PKPbc	02 28 41.8	-0.1
ABTA	Abfaltersbach comp=Z,7.2nm,0.9s	150.80	345	⇑*i* PKiKP	PKPbc	02 28 45.1	-1.6
FETA	Feichten comp=Z,7.4nm,1.4s	150.94	347	⇓*i* PKPbc	PKPdf	02 28 45.2	+4.4

*IDC **23** 02:12:38.3±1.0, 1°.39S×99°.57E, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.9/40, Error ellipse: s-maj=45.1km s-min=15.8km az=63.0*
*ISCJB **23** 02:12:40.8±0.4, 1°.41S±0°.05×99°.35E±0°.05, h30km, mb4.2/18, Error ellipse: s-maj=7.4km s-min=6.0km az=42.6*
*NEIC **23** 02:12:42.0±2.9, 1°.37S×99°.63E, h25km±20km, mb4.5/11, Error ellipse: s-maj=13.7km s-min=5.6km az=49.0*
*DJA **23** 02:12:44.0±1.1, 1°S±4°×9°E±°, h20km±10km, M4.3/5, mb4.3/2, MLv4.3/5*

ISC 23 02:12:42.7±0.5, 1°27S±0°05×99°46E±0°07, h30km, n57, σ1=22/58, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.06	70	P	Pb	02 13 02.6	+0.1
PDSI				S	Sb	02 13 19.1	+3.0
PPI	Padang Panjang	1.24	49	P	Pb	02 13 05.3	-0.2
MNSI	Mandailing Nat	2.06	3	P	Pb	02 13 18.6	-0.8
BKNI	Bangkinang	2.24	45	P	Pb	02 13 23.8	+1.3
BKNI				S	Sb	02 13 47.7	-2.1
MASI	Maura Aman, Be	3.34	124	P	Pn	02 13 34.2	+1.3
PSI	Prapat	4.08	352	Pn	Pn	02 13 44.2	+1.0
PSI				Sn	Sn	02 14 28.6	-1.6
PSI	Prapat 1.3nm,0.3s,baz=170,slow=15,SNR=2.7	4.08	352	Pn	Pn	02 13 44.2	+1.0
PSI				Sn	Sn	02 14 28.6	-1.6
	1.2nm,0.3s,baz=188,slow=15,SNR=4.0						
PSI				LR	LR	02 14 44.2	
	comp=Z,217nm,19.6s,baz=179,slow=31						
LHSI	Lahat	4.78	122	P	Pn	02 13 54.9	+2.2
MDSI	Maura Dua 17nm,1.1s	5.69	124	P	Pn	02 14 06.3	+1.1
KLSI		6.26	123	P	Pn	02 14 14.0	+1.0
KULM	Kulim	6.63	10	*e*Pn	Pn	02 14 18.2	+0.1
CMAR	Chiang Mai Arr	19.61	359	P	Pn	02 17 10.6	+0.3
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=185,slow=8.7,SNR=3.1	19.61	359	P	Pn	02 17 10.6	+0.3
PALK	Pallekele 190nm,1.8s	20.55	295	*e*P	Pn	02 17 20.8	-0.7
KAPI	Kappang	20.59	101	*e*P	P	02 17 16.2	-3.3
H08S2	Diego Garcia H baz=78,slow=75,SNR=150	27.61	256	T	T	02 46 22.4	
H08S3	Diego Garcia H baz=78,slow=75,SNR=122	27.61	256	T	T	02 46 22.9	
H08S1	Diego Garcia H baz=78,slow=75,SNR=109	27.63	256	T	T	02 46 24.6	
H01W3	Cape Leeuwin H baz=335,slow=75,SNR=14	36.13	159	T	T	02 57 31.9	
H01W2	Cape Leeuwin H baz=335,slow=75,SNR=16	36.14	159	T	T	02 57 38.3	
H01W1	Cape Leeuwin H baz=335,slow=75,SNR=12	36.15	159	T	T	02 57 30.5	
WRA	Warramunga Arr	38.82	121	P	P	02 20 03.6	-1.7
WRA				PcP	PcP	02 22 16.4	0.0
WRA	Warramunga Arr 2.8nm,0.5s,baz=302,slow=9.1,SNR=12	38.82	121	P	P	02 20 03.6	-1.7
WRA				PcP	PcP	02 22 16.4	0.0
	0.4nm,0.5s,baz=309,slow=2.4,SNR=4.9						
WRAB	Tennant Creek 4.0nm,0.6s	38.83	121	*e*P	P	02 20 03.8	-1.6
ASAR	Alice Springs	40.11	126	P	P	02 20 14.9	-1.2
ASAR				PcP	PcP	02 22 20.6	+0.3
ASAR	Alice Springs 1.1nm,0.8s,baz=307,slow=7.8,SNR=5.5	40.11	126	P	P	02 20 14.9	-1.2
ASAR				PcP	PcP	02 22 20.6	+0.3
	0.1nm,0.3s,baz=276,slow=2.4,SNR=4.3						
COEN	Coen	45.02	108	*e*P	P	02 20 54.4	-1.7
TKM2	Tokmak 2 3.6nm,0.8s	48.96	337	*e*P	P	02 21 28.4	+1.8
SONM	Songino Array	49.28	6	P	P	02 21 29.9	+1.0
SONM				PcP	PcP	02 22 52.2	+0.8
SONM	Songino Array 0.3nm,0.4s,baz=191,slow=9.8,SNR=2.6	49.28	6	P	P	02 21 29.9	+1.0
SONM				PcP	PcP	02 22 52.2	+0.8
	0.5nm,0.6s,baz=186,slow=4.6,SNR=2.7						
CTAO	Charters Tower 3.0nm,0.8s	49.39	116	*e*P	P	02 21 28.3	-1.7
EKS2	Erkin-Say 5.0nm,0.9s	49.48	335	*e*P	P	02 21 31.2	+0.7
STKA	Stephens Creek	50.03	132	P	P	02 21 33.9	-0.8
STKA	Stephens Creek 2.5nm,0.7s,baz=308,slow=7.6,SNR=6.4	50.03	132	P	P	02 21 33.9	-0.8
MK31	Makanchi Array	50.19	345	*e*P	P	02 21 36.8	+1.1
MKAR	Makanchi Array	50.19	345	P	P	02 21 37.0	+1.3
MKAR	Makanchi Array 0.7nm,0.5s,baz=159,slow=8.8,SNR=17	50.19	345	P	P	02 21 37.0	+1.3
USRK	Ussuriysk Arra 0.5nm,0.5s,baz=234,slow=4.8,SNR=2.7	53.78	29	P	P	02 22 02.5	+

TXAR	**Lajitas Array**	**145.00**	**36**	PKPbc	PKPab	02 35 32.0	-1.7
	0.2nm,0.4s,baz=243,slow=1.4,SNR=3.7						

*IDC **23** 02:42:28.1±1.9,7.81S×128.94E,h0km,mb3.3/1, mb1 3.4/3,mb1mx3.2/19,mbtmp3.2/3,ML3.2/2,Error ellipse: s-maj=105.3km s-min=32.0km az=66.0*

ISC 23 02:42:34.7±1.6,8.1S±0.2×128.4E±0.2,h44km,n6,σ1§33/6, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.41**	**150**	P		Pn	02 43 58.4	+5.6
	baz=12,SNR=4.5							
KDU	**Kakadu**	**6.06**	**139**	P		**Pn**	**02 44 01.6**	**-0.1**
	baz=12,SNR=12							
WSI	**Waingapu**	**8.13**	**259**	P		**Pn**	**02 44 30.2**	**+0.1**
	baz=14,SNR=4.9							
WRA	**Warramunga Arr**	**13.09**	**154**	Pn		**Pn**	**02 45 36.4**	**-1.6**
	0.1nm,0.3s,baz=336,slow=13,SNR=5.9							
WRA				Sn		Sn	02 48 13.2	+11
	0.5nm,0.3s,baz=332,slow=22,SNR=10							
ASAR	**Alice Springs**	**16.33**	**162**	Pn		**Pn**	**02 46 20.7**	**-0.3**
	0.1nm,0.3s,baz=346,slow=11,SNR=6.6							
ASAR				Sn		**S**	**02 49 33.8**	**+1.6**
	0.1nm,0.3s,baz=354,slow=29,SNR=4.4							
MKAR	**Makanchi Array**	**68.30**	**328**	P		**P**	**02 53 31.4**	**+0.1**
	0.2nm,0.5s,baz=122,slow=8.1,SNR=3.7							

*JMA **23** 02:48:33.7±0.1,23.87N×121.62E,h18km±2km,M2.8*
*ISCJB **23** 02:48:34.5±0.2,23.89N±0.01×121.64E±0.02,h24km±2km, Error ellipse: s-maj=3.0km s-min=2.0km az=35.6*
*TAP **23** 02:48:34.4,23.90N×121.60E,h23km,ML3.7,B*

ISC 23 02:48:34.3±0.9,23.88N±0.02×121.63E±0.02,h26km±4km, n61,σ0§88/108,7C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**350**	⇓*i* P		**Pb**	**02 48 38.9**	**-0.3**
	baz=16							
HWA				*e*S		**Sb**	**02 48 42.1**	**-0.4**
	baz=16							
ESF	**Shoufeng Towns**	**0.11**	**268**	*i* P		**Pb**	**02 48 39.1**	**-0.1**
	baz=259							
ESF				*i* S		**Sb**	**02 48 42.1**	**-0.4**
	baz=259							
TEGC	**Jichi Village**	**0.18**	**205**	P		**Pn**	**02 48 40.4**	**-1.0**
	baz=180							
TEGC				*e*S		**Sb**	**02 48 45.9**	**+2.2**
	baz=180							
ESL	**Shilin**	**0.19**	**251**	⇑*i* P		**Pb**	**02 48 39.6**	**-0.3**
	baz=244							
ESL				S		**Sb**	**02 48 42.9**	**-0.9**
	baz=244							
TWD	**Chiawan**	**0.20**	**353**	⇓*i* P		**Pb**	**02 48 39.8**	**-0.4**
	baz=357							
TWD				*i* S		**Sb**	**02 48 43.6**	**-0.6**
	baz=357							
WHF	**Hehuan Shan**	**0.42**	**309**	⇑*i* P		**Pb**	**02 48 42.8**	**-0.9**
	baz=302							
WHF				*i* S		**Sb**	**02 48 49.0**	**-1.0**
	baz=302							
EHY	**Hungye**	**0.46**	**217**	⇓*i* P		**Pb**	**02 48 43.5**	**-0.4**
	baz=217							
EHY				*e*S		**Sb**	**02 48 50.7**	**+0.2**
	baz=217							
TWT	**Tachien**	**0.56**	**313**	⇑*i* P		**Pb**	**02 48 45.5**	**-0.2**
	baz=305							
TWT				*i* S		**Sb**	**02 48 52.5**	**-0.9**
	baz=305							
ENA	**Nanau**	**0.56**	**11**	⇑*i* P		**Pb**	**02 48 45.3**	**-0.3**
	baz=8.0							
ENA				S		**Sb**	**02 48 53.6**	**+0.3**
	baz=8.0							
TWF1	**Yuli**	**0.60**	**210**	⇓*e*P		**Pb**	**02 48 45.6**	**-0.7**
	baz=216							
TWF1				*e*S		**Sn**	**02 48 55.9**	**-0.2**
	baz=216							
NNS	**Nan Shan**	**0.61**	**338**	P		**Pb**	**02 48 45.9**	**-0.6**
	baz=340							
NNS				*e*S		**Sb**	**02 48 53.5**	**-1.2**
	baz=340							
SMLT	**Sun Moon Lake**	**0.66**	**271**	⇑*i* P		**Pn**	**02 48 47.3**	**-0.9**
	baz=273							
SMLT				*i* S		**Sb**	**02 48 55.7**	**-0.6**
	baz=273							
TYC	**Yuchr**	**0.70**	**272**	⇑*i* P		**Pn**	**02 48 47.7**	**-0.9**
	baz=275							
TYC				*i* S		**Sb**	**02 48 56.6**	**-0.7**
	baz=275							
YUS	**Yu-Shan**	**0.73**	**238**	P		**Pn**	**02 48 48.9**	**-0.5**
	baz=235							
YUS				S		**Sn**	**02 48 58.4**	**-1.5**
	baz=235							
TWC	**Suao**	**0.76**	**16**	P		**Pb**	**02 48 48.6**	**-0.3**
	baz=14							
TWC				S		**Sb**	**02 48 59.0**	**+0.1**
	baz=14							
ENTT	**Nioudou**	**0.76**	**356**	*e*P		**Pb**	**02 48 48.6**	**-0.5**
	baz=359							
ENTT				*e*S		**Sb**	**02 48 58.4**	**-0.6**
	baz=359							
CHKT	**Chengkung**	**0.81**	**197**	*e*P		**Pn**	**02 48 50.0**	**0.0**
	baz=205							
CHKT				*e*S		**Sn**	**02 49 02.0**	**+0.9**
	baz=205							
NSK	**Sanguang**	**0.83**	**343**	⇑P		**Pb**	**02 48 49.7**	**-0.6**
	baz=344							
NSK				S		**Sb**	**02 48 60.0**	**-1.2**
	baz=344							
ALS	**Alishan**	**0.83**	**244**	*e*P		**Pn**	**02 48 50.6**	**-0.1**
	baz=242							
ALS				*e*S		**Sn**	**02 49 01.7**	**-0.6**
	baz=242							
TWE	**Neicheng**	**0.84**	**3**	*e*P		**Pb**	**02 48 49.7**	**-0.7**
	baz=359							
TWE				*e*S		**Sb**	**02 49 00.8**	**-0.5**
	baz=359							
WNT	**Mingjian**	**0.86**	**270**	*e*P		**Pn**	**02 48 50.6**	**-0.1**
	baz=269							
WNT				*e*S		**Sn**	**02 49 03.2**	**+0.7**
	baz=269							
ELDTW	**Lidau**	**0.88**	**219**	*e*P		**Pb**	**02 48 50.0**	**-1.1**
	baz=204							
TCU	**Taichung**	**0.91**	**288**	*e*P		**Pn**	**02 48 51.6**	**+0.1**
	baz=287							
TCU				*e*S		**Sn**	**02 49 04.6**	**+0.9**
	baz=287							
TWQ1	**Liyutan**	**0.91**	**301**	*e*P		**Pb**	**02 48 51.3**	**-0.2**
	baz=309							
TWQ1				*e*S		**Sn**	**02 49 03.1**	**-0.6**
	baz=309							
CHN5	**Tsauling**	**0.91**	**252**	⇓P		**Pn**	**02 48 52.2**	**+0.7**
	baz=241							
CHN5				*e*S		**Sn**	**02 49 05.0**	**+1.1**
	baz=241							
NSTT	**Nanjuang**	**0.94**	**323**	P		**Pb**	**02 48 51.9**	**-0.2**
	baz=323							
NSTT				*e*S		**Sb**	**02 49 03.1**	**-1.1**
	baz=323							
NSY	**Sanyi**	**0.95**	**304**	*e*P		**Pb**	**02 48 52.3**	**0.0**
	baz=310							
NSY				*e*S		**Sn**	**02 49 05.2**	**+0.3**
	baz=310							
WGK	**Gukeng**	**0.99**	**259**	*e*P		**Pb**	**02 48 52.4**	**-0.5**
	baz=257							
WGK				*e*S		**Sn**	**02 49 06.7**	**+1.0**
	baz=257							
STYT	**Tauyuan**	**1.07**	**228**	*e*P		**Pb**	**02 48 54.0**	**-0.2**
	baz=216							
STYT				*e*S		**Sn**	**02 49 08.2**	**+0.6**
	baz=216							
HSN	**Hsinchu**	**1.10**	**327**	*e*P		**Pb**	**02 48 54.3**	**-0.4**
	baz=328							
HSN				*e*S		**Sb**	**02 49 09.8**	**+1.2**
	baz=328							
TWA	**Mucha**	**1.10**	**358**	*e*P		**Pb**	**02 48 54.8**	**+0.1**
	baz=360							
WTP	**Ta-pu**	**1.12**	**236**	*e*P		**Pb**	**02 48 55.3**	**+0.2**
	baz=234							
WTP				*e*S		**Sb**	**02 49 09.8**	**+0.6**
	baz=234							
NCU	**National Centr**	**1.16**	**340**	*e*P		**Pb**	**02 48 56.0**	**+0.2**
	baz=340							
NCU				*e*S		**Sb**	**02 49 10.2**	**-0.2**
	baz=340							
TAP1	**Taipei**	**1.16**	**355**	*e*P		**Pn**	**02 48 54.0**	**-0.9**
	baz=354							
TAP1				*e*S		**Sn**	**02 49 09.8**	**-0.1**
	baz=354							
CHY	**Chiayi**	**1.16**	**251**	*e*P		**Pn**	**02 48 54.5**	**-0.5**
	baz=249							
CHY				*e*S		**Sb**	**02 49 10.4**	**-0.1**
	baz=249							
TWG	**Pinlang**	**1.17**	**206**	*e*P		**Pn**	**02 48 53.8**	**-1.2**
	baz=202							
TWG				*e*S		**Sn**	**02 49 08.1**	**-1.9**
	baz=202							
TWB1	**Santiao Chiao**	**1.18**	**16**	*e*P		**Pb**	**02 48 55.7**	**-0.3**
	baz=8.0							
NWF	**Wu-fen Shan**	**1.20**	**7**	*e*P		**Pn**	**02 48 55.6**	**+0.1**
	baz=9.0							
NWF				*e*S		**Sb**	**02 49 11.3**	**-0.3**
	baz=9.0							
TTN	**Taitung**	**1.20**	**202**	*e*P		**Pb**	**02 48 56.3**	**-0.1**
	baz=197							
TWK	**Hsinying**	**1.21**	**240**	*e*P		**Pb**	**02 48 56.9**	**+0.3**
	baz=237							
TWK				*e*S		**Sb**	**02 49 13.3**	**+1.6**
	baz=237							
CHN1	**Nanshi**	**1.22**	**236**	*e*P		**Pb**	**02 48 56.8**	**0.0**
	baz=234							
CHN1				*e*S		**Sb**	**02 49 13.8**	**+1.7**
	baz=234							
WTCT	**Ta-ch'eng**	**1.23**	**270**	*e*P		**Pb**	**02 48 55.8**	**-1.1**
	baz=268							
WTCT				*e*S		**Sb**	**02 49 12.4**	**0.0**
	baz=268							
TWS1	**Kuangyinshan**	**1.23**	**351**	*e*P		**Pn**	**02 48 56.1**	**+0.2**
	baz=4.0							
TWS1				*e*S		**Sn**	**02 49 11.5**	**-0.2**
	baz=4.0							
SGST	**Jiashian**	**1.24**	**231**	*e*P		**Pb**	**02 48 57.1**	**0.0**
	baz=216							
WSF	**Szhu**	**1.31**	**260**	*e*P		**Pb**	**02 48 57.6**	**-0.6**
	baz=258							
WSF				*e*S		**Sb**	**02 49 15.4**	**+0.8**
	baz=258							
TWY	**Chenhua**	**1.39**	**359**	*e*P		**Pb**	**02 48 58.7**	**-1.1**
	baz=359							
YOJ	**Yonaguni jima**	**1.39**	**65**	P		**Pb**	**02 48 58.8**	**-1.0**
YOJ				*e*S		**Sn**	**02 49 16.2**	**+0.5**
YOJ	**Yonaguni jima**	**1.39**	**65**	*i* P		**Pb**	**02 48 58.7**	**-1.0**
	baz=68							
YOJ				*e*S		**Sn**	**02 49 15.8**	**+0.2**
	baz=68							
ECL	**Taimali**	**1.41**	**206**	*e*P		**Pn**	**02 48 58.2**	**-0.2**
	baz=189							
SSD	**Sandimen**	**1.45**	**219**	*e*P		**Pb**	**02 48 59.5**	**-1.2**
	baz=215							
TWM1	**Shoushan**	**1.52**	**227**	*e*P		**Pb**	**02 49 01.8**	**-0.2**
	baz=240							
EAST	**Anshuo**	**1.65**	**206**	*e*P		**Pn**	**02 49 01.6**	**-0.1**
	baz=192							
PCYT	**Pengchaiyu**	**1.79**	**13**	*e*P		**Pn**	**02 49 04.0**	**+0.4**
	baz=356							
WDGT	**Dungji**	**1.90**	**252**	*e*P		**Pn**	**02 49 05.1**	**0.0**
	baz=238							
WDGT				*e*S		**Sn**	**02 49 28.5**	**+0.3**
	baz=238							
IRIF	**Iriomote-Funau**	**1.98**	**76**	*e*S		**Sn**	**02 49 31.1**	**+1.0**
HATJ	**Hateruma jima**	**2.00**	**84**	*e*S		**Sn**	**02 49 32.0**	**+1.3**
TWK1	**Hengchun**	**2.07**	**202**	*e*P		**Pb**	**02 49 09.4**	**-1.8**
	baz=189							
JKRS	**Kuro-shima**	**2.21**	**80**	P		**Pn**	**02 49 10.9**	**+1.6**
JKRS				*e*S		**Sb**	**02 49 38.1**	**-2.4**
JIJ	**Ishigaki jima**	**2.35**	**78**	P		**Pn**	**02 49 11.7**	**+0.4**
JIJ				*e*S		**Sn**	**02 49 39.6**	**+0.3**
JTJ	**Tarama**	**2.91**	**74**	P		**Pn**	**02 49 20.6**	**+1.6**
JTJ				*e*S		**Sn**	**02 49 54.5**	**+1.4**
KNM	**Kinmen**	**2.96**	**281**	*e*P		**Pn**	**02 49 21.8**	**+2.1**
	baz=278							
KNM				*e*S		**Sn**	**02 49 56.8**	**+2.4**
	baz=278							

*IDC **23** 03:01:20.2±0.8,1.51S×99.48E,h0km,mb4.0/14, mb1 4.1/16,mb1mx4.0/26,mbtmp4.0/16,ML3.0/1,MS3.5/1, Ms1 3.5/1,ms1mx3.0/38,Error ellipse: s-maj=24.3km s-min=14.8km az=50.0*
*ISCJB **23** 03:01:23.1±0.6,1.46S±0.06×99.41E±0.07,h30km, mb4.1/14,Error ellipse: s-maj=11.8km s-min=7.1km az=145.7*
*DJA **23** 03:01:27.4±1.4,1.5S±6.1×10.0E±.1,h30km±12km,M4.3/5, mb4.3/4,mB5.5/2,MLv4.4/5,Mw(mB)5.0/2*

ISC 23 03:01:25.0±0.8,1.40S±0.09×99.5E±0.1,h30km,n34, σ1§18/27,mb4.1/14,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.09**	**64**	P		**Pn**	**03 01 44.2**	**0.0**
PPI	**Padang Panjang**	**1.30**	**44**	P		**Pn**	**03 01 47.9**	**+0.7**
MNSI	**Mandailing Nat**	**2.18**	**2**	P		**Pb**	**03 02 01.6**	**-2.2**
BKNI	**Bangkinang**	**2.31**	**42**	P		**Pn**	**03 02 01.1**	**+0.1**
MASI	**Maura Aman, Be**	**3.25**	**122**	P		Pn	03 02 17.3	+3.3
PSI	**Prapat**	**4.21**	**352**	Pn		**Pn**	**03 02 26.4**	**-0.9**
	0.9nm,0.3s,baz=215,slow=5.6,SNR=3.7							
PSI				Sn		Sn	03 03 09.3	-6.2
	1.6nm,0.3s,baz=180,slow=14,SNR=4.2							
PSI				LR		LR	03 03 36.3	
	comp=Z,500nm,18.6s,baz=136,slow=32							
MNAI	**Manna**	**4.54**	**130**	P		**Pn**	**03 02 33.2**	**+1.4**
LHSI	**Lahat**	**4.70**	**121**	P		Pn	03 02 29.4	-4.4
TPTI		**5.17**	**333**	P		**Pn**	**03 02 41.4**	**+1.0**
	7.6nm,0.8s,39µm							
KCSI	**Kotacane, Aceh**	**5.18**	**341**	P		**Pn**	**03 02 43.0**	**+2.5**
	30nm,0.6s,539nm							
IPM	**Ipoh**	**6.04**	**15**	P		**Pn**	**03 02 52.7**	**+0.4**
	26nm,1.1s							
KLSI		**6.17**	**122**	P		**Pn**	**03 02 56.2**	**+2.1**
CMAR	**Chiang Mai Arr**	**19.74**	**358**	P		**Pn**	**03 05 53.6**	**-0.5**
	0.5nm,0.3s,baz=187,slow=9.7,SNR=12							
H08S2	**Diego Garcia H**	**27.60**	**256**	T		T	03 35 12.1	
	baz=78,slow=75,SNR=377							
H08S3	**Diego Garcia H**	**27.61**	**256**	T		T	03 35 15.6	
	baz=78,slow=75,SNR=466							
H08S1	**Diego Garcia H**	**27.62**	**256**	T		T	03 35 15.7	
	baz=78,slow=75,SNR=361							
H01W3	**Cape Leeuwin H**	**36.00**	**159**	T		T	03 46 09.7	
	baz=334,slow=76,SNR=13							
H01W2	**Cape Leeuwin H**	**36.02**	**159**	T		T	03 46 09.5	
	baz=334,slow=76,SNR=12							
H01W1	**Cape Leeuwin H**	**36.02**	**159**	T		T	03 46 09.7	
	baz=334,slow=76,SNR=11							
WRA	**Warramunga Arr**	**38.74**	**121**	P		**P**	**03 08 45.6**	**-1.3**
	3.0nm,0.9s,baz=297,slow=9.4,SNR=13							
ASAR	**Alice Springs**	**40.02**	**126**	P		**P**	**03 08 57.4**	**-0.1**
	0.7nm,0.5s,baz=299,slow=7.9,SNR=9.2							
JNU	**Nakatsue**	**45.33**	**38**	P		**P**	**03 09 41.2**	**+0.6**
	6.3nm,0.8s,baz=207,slow=9.3,SNR=2.6							
KSRS	**Korea Array**	**46.77**	**31**	P		**P**	**03 09 52.2**	**+0.5**
	1.2nm,0.8s,baz=224,slow=8.5,SNR=2.2							
CTA	**Charters Tower**	**49.31**	**115**	P		**P**	**03 10 10.4**	**-1.3**
	1.7nm,0.7s,baz=254,slow=7.4,SNR=2.8							
SONM	**Songino Array**	**49.40**	**6**	P		**P**	**03 10 12.8**	**+0.7**
	0.6nm,0.6s,baz=185,slow=8.9,SNR=5.4							
SONM				PcP		**PcP**	**03 11 36.5**	**+2.3**
	0.5nm,0.6s,baz=179,slow=4.0,SNR=2.5							
STKA	**Stephens Creek**	**49.93**	**132**	P		**P**	**03 10 15.3**	**-1.0**
	2.1nm,0.9s,baz=322,slow=18,SNR=2.9							
MKAR	**Makanchi Array**	**50.32**	**345**	P		**P**	**03 10 19.5**	**+0.5**
	1.2nm,0.5s,baz=157,slow=8.5,SNR=12							
USRK	**Ussuriysk Arra**	**53.87**	**29**	P		**P**	**03 10 45.6**	**+0.2**
	1.6nm,0.6s,baz=206,slow=8.4,SNR=6.0							
ZALV	**Zalesovo Beam**	**56.49**	**350**	P		**P**	**03 11 04.5**	**+0.4**
	2.7nm,0.6s,baz=162,slow=5.4,SNR=17							
KMBO	**Kilima Mbogo**	**62.22**	**269**	P		**P**	**03 11 45.6**	**+0.8**
	0.9nm,0.7s,baz=82,slow=7.1,SNR=3.2							
KBZ	**Khabaz**	**67.52**	**319**	P		**P**	**03 12 18.5**	**+0.1**
	1.3nm,0.8s,baz=115,slow=4.9,SNR=4.1							
BRTR	**Keskin Array B**	**72.54**	**312**	P		**P**	**03 12 48.7**	**-0.9**
	0.4nm,0.7s,baz=93,slow=5.8,SNR=2.6							
FINES	**FINESS Array B**	**83.35**	**332**	P		**P**	**03 13 49.3**	**+0.4**
	6.0nm,1.0s,baz=147,slow=3.9,SNR=3.8							
TXAR	**Lajitas Array**	**144.53**	**36**	PKP		**PKPdf**	**03 20 59.3**	**-0.1**
	0.8nm,0.6s,baz=240,slow=0.9,SNR=8.7							

MEX 23 03:13:19.1±0.6,17.06N×100.86W,h10km±7km,MD4.0, Guerrero

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

ZIIG	**Zihuatanejo**	**0.80**	**313**	*i* P		Pg	03 13 32.2	-2.3
ZIIG				*i* S		Sg	03 13 42.7	-2.2
ACP2	**Acapulco**	**0.95**	**101**	*e*P		Pg	03 13 34.0	-3.4
ACP2				*i* S		Sg	03 13 46.1	-3.6
ACX	**Acapulco**	**0.97**	**101**	*e*P		Pg	03 13 33.5	-4.4
ACX				*i* S		Sg	03 13 45.9	-4.8
ARIG	**Puente Sto Nin**	**1.31**	**22**	*i* P		Pn	03 13 39.1	-4.3
ARIG				*i* S		Sb	03 13 55.4	-5.4
PLIG	**Platanillo**	**1.85**	**44**	*e*P		Pn	03 13 47.8	-3.3
PLIG				*i* S		Sn	03 14 09.9	-4.7
TLIG	**Tlapa**	**2.25**	**77**	*i* P		Pn	03 13 53.8	-2.7
TLIG				*i* S		Sn	03 14 20.4	-3.9
YAIG	**Yautepec**	**2.48**	**43**	*e*P		Pn	03 13 57.0	-2.6
YAIG				*i* S		Sn	03 14 25.8	-4.3
MMIG	**Aquila**	**2.67**	**298**	*i* P		Pn	03 13 59.7	-2.5
MMIG				*i* S		Sn	03 14 30.8	-3.7

*IDC **23** 03:17:11.8±9.5,6.07S×130.48E,h60km±91km,mb3.9/5, mb1 4.2/8,mb1mx3.9/19,mbtmp4.1/8,ML4.4/3,Error ellipse: s-maj=101.4km s-min=24.9km az=57.0*
*AUST **23** 03:17:18.9,6.48S×130.54E,h60km*
*ISCJB **23** 03:17:19.1±0.4,6.36S±0.03×130.13E±0.06,h146km, mb4.1/6,Error ellipse: s-maj=9.2km s-min=4.1km az=170.2*
*DJA **23** 03:17:21.6±0.4,6.3S±3.3×13.0E±.1,h135km±7km,M4.8/9, mb5.0/7,mB5.4/5,MLv4.7/9,Mw(mB)4.8/5*

ISC 23 03:17:20.4±0.6,6.39S±0.05×130.23E±0.07,h146km,n32, σ2§20/34,mb4.0/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.88**	**350**	P		**Pn**	**03 17 54.0**	**+0.1**
BNDI				S		**Sn**	**03 18 18.6**	**-1.1**
SAUI	**Saumlaki**	**1.90**	**146**	P		Pn	03 17 57.9	+3.8
SAUI				S		**Sn**	**03 18 23.2**	**+3.1**
MSAI	**Masohi**	**3.29**	**337**	P		**Pn**	**03 18 10.3**	**-1.0**
MSAI				S		**Sn**	**03 18 49.2**	**-1.6**
FAKI	**Fak Fak**	**3.99**	**30**	P		**Pn**	**03 18 17.8**	**-2.6**
FAKI	**Fak Fak**	**3.99**	**30**	P		**Pn**	**03 18 17.8**	**-2.6**
	baz=3.9,SNR=45							
SWI	**Sorong**	**5.58**	**11**	P		**Pn**	**03 18 39.0**	**-2.5**
	123nm,0.3s,8µm1.1nm							
LBMI	**Labuha**	**6.33**	**334**	P		**Pn**	**03 18 51.1**	**-0.4**
	44nm,0.5s,1µm0.4nm							
MTN	**Manton Dam**	**6.47**	**172**	P		**Pn**	**03 18 54.3**	**+0.9**
	baz=6.4,SNR=64							
MWPI	**Manokwari, Pap**	**6.62**	**35**	P		**Pn**	**03 18 54.5**	**-0.9**
	349nm,0.6s,5µm1.6nm							
KDU	**Kakadu**	**6.63**	**161**	P		**Pn**	**03 18 55.9**	**+0.4**
	baz=6.5,SNR=95							
SOEI	**Soe**	**6.79**	**240**	P		**Pn**	**03 19 00.6**	**+2.9**
	26nm,1.3s,0.3nm							
SOEI	**Soe**	**6.79**	**240**	P		Pn	03 19 01.6	+3.9
	baz=7.0,SNR=6.9							
TNTI	**Ternate**	**7.67**	**338**	P		**Pn**	**03 19 09.3**	**-0.1**
	51nm,0.4s							
BAKI	**Biak**	**7.81**	**49**	P		**Pn**	**03 19 10.5**	**-0.8**
KNRA	**Kununurra**	**9.34**	**189**	P		**Pn**	**03 19 31.5**	**-0.2**
	baz=9.4,SNR=113							
WSI	**Waingapu**	**10.36**	**251**	P		Pn	03 19 53.0	+7.7
FITZ	**Fitzroy Crossi**	**12.47**	**201**	P		**Pn**	**03 20 11.2**	**-1.7**
	1.8nm,0.3s,baz=34,slow=11,SNR=66							
FITZ				S		**Sn**	**03 22 26.5**	**-4.4**
	2.9nm,0.3s,baz=240,slow=20,SNR=8.7							
FITZ	**Fitzroy Crossi**	**12.47**	**201**	P		**Pn**	**03 20 11.4**	**-1.6**
	baz=13,SNR=42							
WRA	**Warramunga Arr**	**14.05**	**164**	P		**Pn**	**03 20 30.5**	**-2.7**
	1.1nm,0.3s,baz=348,slow=13,SNR=38							
WRA				S		Sn	03 23 00.2	-8.7
	4.0nm,0.3s,baz=334,slow=22,SNR=12							
COEN	**Coen**	**14.79**	**122**	P		**P**	**03 20 44.8**	**+0.3**
	baz=14,SNR=22							
QIS	**Mount Isa**	**16.76**	**148**	P		**Pn**	**03 21 07.9**	**+1.2**
	baz=17,SNR=11							
ASAR	**Alice Springs**	**17.54**	**169**	P		**Pn**	**03 21 17.3**	**+1.3**
	2.1nm,0.3s,baz=343,slow=9.6,SNR=106							
ASAR				S		**S**	**03 24 23.8**	**-6.3**
	0.6nm,0.3s,baz=352,slow=27,SNR=7.1							
MANU	**Manus Island**	**17.62**	**77**	P		**Pn**	**03 21 18.9**	**+1.9**
	baz=17,SNR=3.6							
WRKA	**Warakurna**	**18.64**	**186**	P		**Pn**	**03 21 29.5**	**+0.5**
	baz=19,SNR=12							
QLP	**Quilpie**	**24.11**	**148**	P		**P**	**03 22 24.2**	**+1.5**
	baz=24,SNR=8.8							
STKA	**Stephens Creek**	**27.49**	**159**	P		**P**	**03 22 54.2**	**+1.2**
	1.0nm,0.4s,baz=332,slow=13,SNR=5.7							
STKA	**Stephens Creek**	**27.49**	**159**	P		**P**	**03 22 54.4**	**+1.4**
	baz=27,SNR=4.1							
CMAR	**Chiang Mai Arr**	**39.52**	**309**	P		**P**	**03 24 37.2**	**0.0**
	1.4nm,0.3s,baz=139,slow=7.0,SNR=6.1							
HHC	**Hu-ho-hao-te**	**50.04**	**342**	*e*P		P	03 26 04.0	+3.8
HHC				S		**S**	**03 33 04.6**	**+4.4**
HHC				pmax	pmax			
	comp=Z,38nm,0.9s							
HHC				pmax	pmax			
	comp=Z,370nm,6.4s							
SONM	**Songino Array**	**57.94**	**341**	P		**P**	**03 26 57.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=165,slow=7.1,SNR=6.4							
MKAR	**Makanchi Array**	**67.85**	**327**	P		**P**	**03 28 03.0**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=113,slow=8.8,SNR=80							
ZALV	**Zalesovo Beam**	**71.14**	**334**	P		**P**	**03 28 22.0**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=136,slow=5.5,SNR=6.3							

*DJA **23** 03:28:58.9±0.9,1.5S±5.9×9.9E±.1,h10km,M3.9/5,MLv3.9/5*
*IDC **23** 03:29:03.3±5.4,0.14N×101.52E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/24,mbtmp3.7/4,Error ellipse: s-maj=292.6km s-min=22.6km az=55.0*

**ISC 23 03:29:06.0±1.1,0.4S±0.1×100.89E±0.09,h35km,n10, σ0§80/7,mb3.7/4,Southern

WRA	**Warramunga Arr**	**39.19**	**119**	P		P	03 51 33.8	-0.8
	0.7nm,0.7s,baz=300,slow=9.3,SNR=3.5							
ASAR	**Alice Springs**	**40.36**	**125**	P		P	03 51 44.4	0.0
	0.2nm,0.3s,baz=301,slow=7.4,SNR=3.4							
MKAR	**Makanchi Array**	**50.76**	**346**	P		P	03 53 05.8	-0.6
	1.3nm,0.6s,baz=146,slow=8.2,SNR=9.2							
USRK	**Ussuriysk Arra**	**54.94**	**29**	P		P	03 53 37.7	+0.5
	0.6nm,0.2s,baz=203,slow=14,SNR=5.2							
ZALV	**Zalesovo Beam**	**57.02**	**350**	P		P	03 53 51.1	-0.9
	0.7nm,0.3s,baz=176,slow=4.0,SNR=6.9							
BVAR	**Borovoye Array**	**59.80**	**341**	P		P	03 54 11.3	-0.2
	0.7nm,0.9s,baz=157,slow=7.8,SNR=2.4							
FINES	**FINESS Array B**	**83.54**	**333**	P		P	03 56 35.2	+0.9
	7.5nm,1.1s,baz=131,slow=4.2,SNR=3.8							
TXAR	**Lajitas Array**	**145.65**	**36**	PKPbc		PKPdf	04 03 45.8	-0.1
	1.0nm,0.7s,baz=267,slow=0.6,SNR=9.9							

*IDC **23** 03:49:27.4±1.1, 17°.05N×73°.63E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/27, mbtmp3.9/10, Error ellipse: s-maj=30.9km s-min=20.6km az=58.0*
*NDI **23** 03:49:29.8±2.3, 17°.18N×73°.78E, h10km, ML3.8*
*ISCJB **23** 03:49:30.4±1.2, 17°.22N±0°.04×73°.86E±0°.08, h24km±8km, mb3.8/10, Error ellipse: s-maj=12.1km s-min=7.3km az=172.9*

ISC 23 03:49:29.2±1.8, 17°.19N±0°.05×73.77E±0°.06, h7km±11km, n20,σ1°9 71/27, mb3.9/10, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**0.41**	**74**	*i*	P		**Pg**	**03 49 36.9**	**-0.4**
KAD				*i*	S		**Sg**	**03 49 42.4**	**-0.3**
POO	**Poona**	**1.33**	**3**	*e*	P		**Pn**	**03 49 54.1**	**-0.2**
POO				*e*	S		**Sn**	**03 50 12.2**	**-0.2**
POO					AML	AML		03 50 12.6	
	comp=E,3μm,0.2s								
POO					AML	AML		03 50 13.9	
	comp=N,3μm,0.5s								
GOA	**Goa**	**1.69**	**178**	*e*	P		**Pn**	**03 49 59.3**	**+0.2**
GOA				*e*	S		**Sb**	**03 50 21.9**	**-0.2**
GOA					AML	AML		03 50 22.7	
GOA					AML	AML		03 50 24.0	
	comp=E,5μm,0.4s								
HYB	**Hyderabad**	**4.58**	**86**	*e*	Pn		**Pn**	**03 50 38.0**	**-0.9**
HYB				*e*	Pg		**Pb**	**03 50 49.5**	**-0.4**
HYB				*e*	Sn		**Sn**	**03 51 31.0**	**-1.4**
HYB				*e*	Sg		**Sb**	**03 51 48.0**	**+2.7**
HYB	**Hyderabad**	**4.58**	**86**	*e*	P4		**Pb**	**03 50 48.7**	**-1.1**
HYB				*e*	S4		**Sb**	**03 51 48.1**	**+2.9**
HYB					AML	AML		03 51 52.5	
	comp=N,369nm,0.4s								
HYB					AML	AML		03 51 52.9	
	comp=E,126nm,0.4s								
NGP	**Nagpur**	**6.36**	**51**	*e*	P		**Pn**	**03 51 04.0**	**+0.6**
NGP				*e*	S		**Sn**	**03 52 11.7**	**-4.6**
BHPL	**Bhopal**	**6.93**	**29**	*e*	P		**Pn**	**03 51 12.7**	**+1.4**
BHPL				*e*	S		**Sn**	**03 52 26.1**	**-4.2**
BHPL					AML	AML		03 53 22.7	
	comp=E,87nm,0.9s								
BHPL					AML	AML		03 53 23.1	
	comp=N,92nm,0.8s								
VIS	**Vishakhapatnam**	**9.14**	**85**		AML	AML		03 53 23.8	
	comp=E,22nm,0.4s								
VIS					AML	AML		03 53 24.1	
	comp=N,42nm,1.0s								
ABI	**ADIBADRI**	**13.83**	**20**	*e*	S		Sn	03 55 07.5	-12
ABI					AML	AML		03 56 48.6	
	comp=N,43nm,0.9s								
ABI					AML	AML		03 56 57.6	
	comp=E,44nm,0.2s								
SMLA	**Simla**	**14.22**	**12**	*e*	P		**Pn**	**03 52 50.8**	**-0.2**
SMLA				*ex*			x	03 55 22.1	
CMAR	**Chiang Mai Arr**	**24.00**	**83**	P			**P**	**03 54 46.0**	**+1.3**
	comp=E,1.3nm,0.3s,baz=275,slow=9.1,SNR=6.0								
MKAR	**Makanchi Array**	**30.35**	**12**	P			**P**	**03 55 41.7**	**+0.1**
	comp=E,0.6nm,0.6s,baz=198,slow=11,SNR=4.2								
BVAR	**Borovoye Array**	**35.86**	**357**	P			**P**	**03 56 29.7**	**+0.2**
	comp=E,0.7nm,0.6s,baz=164,slow=8.9,SNR=4.9								
ZALV	**Zalesovo Beam**	**37.68**	**11**	P			**P**	**03 56 45.2**	**+0.3**
	comp=E,1.3nm,0.6s,baz=198,slow=8.0,SNR=7.3								
SONM	**Songino Array**	**40.58**	**34**	P			**P**	**03 57 10.9**	**+1.4**
	comp=E,1.3nm,0.8s,baz=222,slow=9.9,SNR=9.6								
USRK	**Ussuriysk Arra**	**55.52**	**48**	P			**P**	**03 59 06.1**	**+1.1**
	comp=E,1.7nm,0.6s,baz=250,slow=5.2,SNR=5.4								
ARCES	**ARCESS Array B**	**60.08**	**342**	P			**P**	**03 59 36.6**	**-0.1**
	comp=E,6.0nm,1.0s,baz=120,slow=6.5,SNR=4.8								
TORD	**Torodi Ar. Bea**	**69.33**	**278**	P			**P**	**04 00 37.2**	**-0.7**
	comp=E,0.2nm,0.7s,baz=86,slow=5.1,SNR=3.1								
WRA	**Warramunga Arr**	**69.99**	**119**	P			**P**	**04 00 41.3**	**-0.6**
	comp=E,0.7nm,0.5s,baz=308,slow=5.9,SNR=18								
ASAR	**Alice Springs**	**71.39**	**123**	P			**P**	**04 00 50.0**	**-0.4**
	comp=E,0.5nm,0.4s,baz=304,slow=6.0,SNR=8.7								

*IDC **23** 03:55:15.0±2.2, 1°.56S×99°.38E, h26km±5km, mb3.5/6, mb1 3.6/6, mb1mx3.4/24, mbtmp3.7/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=101.7km s-min=19.9km az=55.0*
*ISCJB **23** 03:55:18.8±1.0, 0°.8S±0°.1×99°.30E±0°.08, h33km, mb3.7/6, MS3.4/1, Error ellipse: s-maj=16.9km s-min=9.2km az=30.8*
*DJA **23** 03:55:23.5±0.7, 1°S±4°×10°0E±°, h10km, M4.0/7, MLv4.0/7*

ISC 23 03:55:20.7±1.0, 0°.8S±0°.1×99°.4E±0°.1, h35km, n23, σ1°9 34/15, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.09**	**72**	P		P	**Pn**	**03 55 39.2**	**-0.2**
PDSI	**Padang**	**1.11**	**96**	P		P	Pn	03 55 35.6	-4.1
PDSI				S		S	**Sn**	**03 55 53.3**	**-0.5**
MNSI	**Mandailing Nat**	**1.59**	**8**	P		P	Pn	03 55 54.4	+8.0
BKNI	**Bangkinang**	**2.01**	**57**	P		P	**Pn**	**03 55 52.9**	**+0.7**
MASI	**Maura Aman, Be**	**3.71**	**129**	P		P	Pn	03 56 18.8	+3.3
MBSI	**MBSI**	**4.14**	**135**	P		P	Pn	03 56 24.6	+3.1
MNAI	**Manna**	**5.05**	**135**	P		P	**Pn**	**03 56 33.4**	**-0.5**
LHSI	**Lahat**	**5.14**	**126**	P		P	**Pn**	**03 56 36.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**19.13**	**359**	pP			pP	03 59 52.9	+2.7
	0.7nm,0.3s,baz=182,slow=13,SNR=1.6								
H08S2	**Diego Garcia H**	**27.63**	**255**	T		T		04 28 53.8	
	baz=73								
H08S3	**Diego Garcia H**	**27.64**	**255**	T		T		04 28 52.4	
	baz=73								
H08S1	**Diego Garcia H**	**27.65**	**255**	T		T		04 28 55.7	
	baz=73								
NWAO	**Narrogin (SRO)**	**36.12**	**154**	LR		LR		04 13 49.9	
	comp=Z,64nm,21.5s,baz=216,slow=32								
H01W3	**Cape Leeuwin H**	**36.62**	**159**	T		T		04 40 01.8	
	baz=333								
H01W2	**Cape Leeuwin H**	**36.63**	**159**	T		T		04 40 02.2	
	baz=333								
H01W1	**Cape Leeuwin H**	**36.63**	**159**	T		T		04 40 00.4	
	baz=333								
WRA	**Warramunga Arr**	**39.16**	**121**	P		P		04 02 36.9	-8.5
	2.2nm,0.9s,baz=302,slow=9.1,SNR=8.3								
ASAR	**Alice Springs**	**40.48**	**127**	P		P		04 02 48.2	-8.2
	0.4nm,0.5s,baz=298,slow=7.5,SNR=4.7								
SONM	**Songino Array**	**48.82**	**6**	P		P	**P**	**04 04 03.7**	**+1.1**
	0.2nm,0.5s,baz=184,slow=12,SNR=2.6								
SONM				pP			**pP**	**04 04 12.0**	**-1.1**
	0.4nm,0.7s,baz=182,slow=9.8,SNR=3.2								
MKAR	**Makanchi Array**	**49.70**	**345**	P		P	**P**	**04 04 11.0**	**+1.7**
	0.6nm,0.4s,baz=150,slow=7.9,SNR=7.6								
MKAR				pP			**pP**	**04 04 19.1**	**-0.7**
	1.6nm,0.5s,baz=144,slow=8.4,SNR=10								
ZALV	**Zalesovo Beam**	**55.87**	**350**	P		P	**P**	**04 04 54.8**	**+0.1**
	0.7nm,0.3s,baz=146,slow=5.3,SNR=4.7								
ZALV				pP			**pP**	**04 05 03.8**	**-1.5**
	1.9nm,0.5s,baz=167,slow=5.1,SNR=8.3								
BVAR	**Borovoye Array**	**58.84**	**340**	P		P	**P**	**04 05 15.8**	**+0.1**
	0.3nm,0.6s,baz=127,slow=2.2,SNR=2.7								
BVAR				pP			**pP**	**04 05 23.7**	**-2.7**
	0.1nm,0.3s,baz=134,slow=11,SNR=3.3								
TXAR	**Lajitas Array**	**144.12**	**36**	PKP		**PKPab**		**04 14 50.0**	**-1.2**
	0.7nm,0.6s,baz=232,slow=0.4,SNR=15								
TXAR				pPKP		**PKiKP**		**04 14 58.5**	**+1.3**
	0.5nm,0.7s,baz=279,slow=2.4,SNR=5.0								

*ATH **23** 03:57:51.1, 37°.37N×20°.23E, h10km±2km, MD3.5/14*
*CSEM **23** 03:57:52.9±0.6, 37°.41N×20°.32E, h2km, ML2.8, Error ellipse: s-maj=10.7km s-min=5.8km az=62.0*
*THE **23** 03:57:54.1, 37°.49N×20°.33E, h0km±1km, ML2.8/1, Error ellipse: s-maj=2.2km s-min=0.8km az=243.0*

ISC 23 03:57:50.9±1.9, 37°.36N±0°.05×20°.24E±0°.07, h6km±10km, n67,σ0°95/86, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.63**	**100**	P		P	**Pn**	**03 58 05.9**	**-0.4**
SFD				S		S	**Sn**	**03 58 15.1**	**-1.5**
SFD	**Strofades**	**0.63**	**100**	P		P	**Pn**	**03 58 05.9**	**-0.4**
SFD				S		S	**Sn**	**03 58 15.1**	**-1.5**
VLS	**Valsamata**	**0.86**	**19**	*e*	PB	P	**Pg**	**03 58 07.4**	**0.0**
VLS				*e*	SB	S	**Sg**	**03 58 18.5**	**-0.1**
VLS	**Valsamata**	**0.86**	**19**	*e*	PB	P	**Pg**	**03 58 07.7**	**+0.3**
VLS				*e*	SB	S	**Sb**	**03 58 19.2**	**-0.8**
VLS	**Valsamata**	**0.86**	**19**	*e*	Pb	P	**Pg**	**03 58 07.7**	**+0.3**
VLS				*e*	Sb	S	**Sb**	**03 58 19.2**	**-0.8**
AMT	**Artemida-Makis**	**1.18**	**81**	P		P	**Pg**	**03 58 14.6**	**+1.1**
AMT				S		S	**Sn**	**03 58 30.7**	**+0.4**
AMT	**Artemida-Makis**	**1.18**	**81**	*e*	PB	P	**Pb**	**03 58 13.5**	**-0.2**
AMT	**Artemida-Makis**	**1.18**	**81**	*e*	Pb	P	**Pb**	**03 58 13.5**	**-0.2**
AMT	**Artemida-Makis**	**1.18**	**81**	P		P	**Pg**	**03 58 14.6**	**+1.1**
AMT				S		S	**Sn**	**03 58 30.7**	**+0.4**
RLS	**Riolos of Patr**	**1.20**	**54**	P		P	**Pb**	**03 58 13.6**	**-0.3**
RLS				S		S	**Sn**	**03 58 29.9**	**-0.7**
RLS	**Riolos of Patr**	**1.20**	**54**	*e*	PG	P	**Pb**	**03 58 13.6**	**-0.3**
RLS				*e*	SB	S	**Sn**	**03 58 30.2**	**-0.4**
RLS	**Riolos of Patr**	**1.20**	**54**	P		P	**Pb**	**03 58 13.6**	**-0.3**
RLS				S		S	**Sn**	**03 58 29.9**	**-0.7**
RLS				*e*	Sb	S	**Sn**	**03 58 30.2**	**-0.4**
PYL	**PYLOS**	**1.29**	**111**	*e*	PG	P	**Pn**	**03 58 15.1**	**-0.3**
PYL	**PYLOS**	**1.29**	**111**	*e*	Pg	P	**Pn**	**03 58 15.1**	**-0.3**
DRO	**Drossia**	**1.31**	**63**	P		P	**Pb**	**03 58 15.9**	**+0.1**
DRO	**Drossia**	**1.31**	**63**	*e*	PB	P	**Pb**	**03 58 15.9**	**+0.1**
DRO	**Drossia**	**1.31**	**63**	P		P	**Pb**	**03 58 15.9**	**+0.1**
ITM	**Ithomi**	**1.36**	**97**	*e*	PG	P	**Pb**	**03 58 16.6**	**-0.1**
ITM	**Ithomi**	**1.36**	**97**	*e*	Pb	P	**Pb**	**03 58 16.6**	**-0.1**
PDO	**Prodromos**	**1.44**	**31**	P		P	**Pg**	**03 58 18.4**	**-0.1**
PDO				S		S	**Sg**	**03 58 37.4**	**+0.2**
PDO	**Prodromos**	**1.44**	**31**	*e*	PB	P	**Pg**	**03 58 18.8**	**+0.3**
PDO	**Prodromos**	**1.44**	**31**	P		P	**Pg**	**03 58 18.4**	**-0.1**
PDO	**Prodromos**	**1.44**	**31**	*e*	Pb	P	**Pg**	**03 58 18.8**	**+0.3**
PDO				S		S	**Sg**	**03 58 37.4**	**+0.2**
PVO	**Paravola**	**1.61**	**39**	P		P	**Pg**	**03 58 21.6**	**-0.2**
PVO				S		S	**Sb**	**03 58 41.9**	**+0.3**
PVO	**Paravola**	**1.61**	**39**	P		P	**Pg**	**03 58 21.6**	**-0.2**
PVO				S		S	**Sb**	**03 58 41.9**	**+0.3**
LAKA	**Lakka**	**1.63**	**57**	P		P	**Pg**	**03 58 21.9**	**-0.3**
LAKA	**Lakka**	**1.63**	**57**	P		P	**Pg**	**03 58 21.9**	**-0.3**
KLV	**Kalavryta, Ach**	**1.66**	**65**	P		P	**Pb**	**03 58 21.8**	**-0.1**
KLV				S		S	**Sg**	**03 58 44.0**	**-0.2**
KLV	**Kalavryta, Ach**	**1.66**	**65**	*e*	PB	P	**Pb**	**03 58 21.3**	**-0.6**
KLV	**Kalavryta, Ach**	**1.66**	**65**	*e*	Pg	P	**Pb**	**03 58 21.3**	**-0.6**
KLV	**Kalavryta, Ach**	**1.66**	**65**	P		P	**Pb**	**03 58 21.8**	**-0.1**
KLV				S		S	**Sg**	**03 58 44.0**	**-0.2**
EFP	**Efpalio**	**1.69**	**51**	P		P	**Pb**	**03 58 22.5**	**+0.1**
EFP	**Efpalio**	**1.69**	**51**	*e*	PN	P	**Pg**	**03 58 23.2**	**-0.1**
EFP	**Efpalio**	**1.69**	**51**	P		P	**Pb**	**03 58 22.5**	**+0.1**
EFP	**Efpalio**	**1.69**	**51**	*e*	Pn	P	**Pg**	**03 58 23.2**	**-0.1**
GUR	**Goura**	**1.76**	**70**	P		P	**Pb**	**03 58 23.5**	**-0.2**
GUR	**Goura**	**1.76**	**70**	*e*	PN	P	**Pb**	**03 58 23.5**	**-0.2**
GUR	**Goura**	**1.76**	**70**	P		P	**Pb**	**03 58 23.5**	**-0.2**
EVR	**Evrytania**	**1.98**	**38**	P		P	**Pb**	**03 58 27.6**	**+0.2**
EVR	**Evrytania**	**1.98**	**38**	*e*	PG	P	**Pb**	**03 58 27.7**	**+0.3**
EVR	**Evrytania**	**1.98**	**38**	P		P	**Pb**	**03 58 27.6**	**+0.2**
DSF	**Desfina**	**2.09**	**59**	P		P	**Pb**	**03 58 28.2**	**-1.0**
DSF	**Desfina**	**2.09**	**59**	*e*	PN	P	**Pb**	**03 58 28.9**	**-0.3**
DSF	**Desfina**	**2.09**	**59**	P		P	**Pb**	**03 58 28.2**	**-1.0**
DSF	**Desfina**	**2.09**	**59**	*e*	Pn	P	**Pb**	**03 58 28.9**	**-0.3**
IGT	**Igoumenitsa**	**2.17**	**2**	*e*	PN	P	**Pb**	**03 58 29.4**	**-1.1**
IGT	**Igoumenitsa**	**2.17**	**2**	*e*	Pn	P	**Pb**	**03 58 29.4**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.22**	**42**	P		P	**Pb**	**03 58 29.7**	**-1.7**
MAKR				S		S	**Sn**	**03 58 57.2**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.22**	**42**	P		P	**Pb**	**03 58 29.7**	**-1.7**
MAKR				S		S	**Sn**	**03 58 57.2**	**+1.2**
VLI	**Veliai**	**2.25**	**106**	P		P	**Pb**	**03 58 31.5**	**-0.4**
VLI	**Veliai**	**2.25**	**106**	*e*	PN	P	**Pb**	**03 58 31.6**	**-0.4**
VLI	**Veliai**	**2.25**	**106**	P		P	**Pb**	**03 58 31.5**	**-0.4**
LTK	**Loutraki**	**2.26**	**72**	*e*	PB	P	**Pn**	**03 58 29.4**	**+0.6**
LTK	**Loutraki**	**2.26**	**72**	*e*	Pb	P	**Pn**	**03 58 29.4**	**+0.6**
AGG	**Agios Georgios**	**2.34**	**44**	P		P	**Pn**	**03 58 31.4**	**+1.6**
AGG	**Agios Georgios**	**2.34**	**44**	*e*	PN	P	**Pb**	**03 58 31.7**	**-1.7**
AGG	**Agios Georgios**	**2.34**	**44**	P		P	**Pn**	**03 58 31.4**	**+1.6**
AGG	**Agios Georgios**	**2.34**	**44**	*e*	Pn	P	**Pb**	**03 58 31.7**	**-1.7**
DID	**Didima**	**2.39**	**86**	P		P	**Pb**	**03 58 32.4**	**-1.9**
DID	**Didima**	**2.39**	**86**	*e*	PN	P	**Pb**	**03 58 32.4**	**-1.9**
DID	**Didima**	**2.39**	**86**	P		P	**Pb**	**03 58 32.4**	**-1.9**
KYTH	**Kithira**	**2.49**	**115**	*e*	PN	P	**Pn**	**03 58 33.9**	**+2.0**
KYTH	**Kithira**	**2.49**	**115**	*e*	Pn	P	**Pn**	**03 58 33.9**	**+2.0**
THL	**Klokotos Trika**	**2.60**	**32**	*e*	PN	P	**Pb**	**03 58 35.5**	**-2.4**
THL	**Klokotos Trika**	**2.60**	**32**	*e*	Pn	P	**Pb**	**03 58 35.5**	**-2.4**
FNA	**Florina**	**3.53**	**14**	*e*	PN	P	**Pn**	**03 58 48.1**	**+1.8**
FNA	**Florina**	**3.53**	**14**	*e*	Pn	P	**Pn**	**03 58 48.1**	**+1.8**

IDC 23 04:20:35.2±2.0, 2°.66N×127°.79E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=141.9km s-min=28.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**164**	P		P		04 25 45.5	-0.1
	1.7nm,0.5s,baz=344,slow=10,SNR=27								
ASAR	**Alice Springs**	**26.84**	**168**	P		P		04 26 17.5	-0.2
	0.2nm,0.4s,baz=353,slow=7.8,SNR=3.5								
MKAR	**Makanchi Array**	**59.03**	**325**	P		P		04 30 37.2	+0.2
	0.2nm,0.6s,baz=112,slow=6.5,SNR=2.6								

*IDC **23** 04:29:11.1±1.1, 1°.68S×99°.06E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, ML2.8/1, Error ellipse: s-maj=47.3km s-min=18.4km az=56.0*
*DJA **23** 04:29:12.4±2.8, 2°.5S±27°×10°0E±4°.5, h142km±22km, M3.8/3, MLv3.8/3*
*ISCJB **23** 04:29:14.1±0.9, 1°.54S±0°.09×99°.27E±0°.07, h30km, mb3.9/7, Error ellipse: s-maj=13.6km s-min=10.5km az=178.4*

ISC 23 04:29:16.1±1.0, 1°.5S±0°.1×99°.43E±0°.08, h30km, n21, σ0°86/16, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.20**	**60**	P		P	**Pn**	**04 29 36.1**	**-0.8**
PDSI				S		S	**Sb**	**04 29 54.5**	**+1.0**
PPI	**Padang Panjang**	**1.44**	**42**	P		P	**Pn**	**04 29 39.4**	**-0.7**
MNSI	**Mandailing Nat**	**2.31**	**4**	P		P	**Pn**	**04 29 53.2**	**+1.1**
BKNI	**Bangkinang**	**2.45**	**41**	P		P	**Pb**	**04 29 58.9**	**-0.5**
PSI	**Prapat**	**4.33**	**353**	Pn		Pn	**Pn**	**04 30 19.9**	**-0.2**
	0.6nm,0.3s,baz=133,slow=15,SNR=5.1								
CMAR	**Chiang Mai Arr**	**19.86**	**359**	P			**P**	**04 33 45.3**	**+0.3**
	1.2nm,0.3s,baz=189,slow=9.1,SNR=5.0								
H08S2	**Diego Garcia H**	**27.51**	**256**	T		T		05 02 53.7	
	baz=78,slow=75,SNR=128								
H08S3	**Diego Garcia H**	**27.52**	**256**	T		T		05 02 58.7	
	baz=78,slow=75,SNR=130								
H08S1	**Diego Carcia H**	**27.53**	**256**	T		T		05 02 57.1	
	baz=78,slow=75,SNR=162								
H01W3	**Cape Leeuwin H**	**35.91**	**159**	T		T		05 14 11.8	
	baz=334,slow=75,SNR=11								
H01W2	**Cape Leeuwin H**	**35.92**	**159**	T		T		05 14 10.5	
	baz=334,slow=75,SNR=14								
H01W1	**Cape Leeuwin H**	**35.92**	**159**	T		T		05 14 05.8	
	baz=334,slow=75,SNR=12								
WRA	**Warramunga Arr**	**38.73**	**121**	P		P	**P**	**04 36 38.2**	**+0.3**
	1.1nm,0.8s,baz=300,slow=9.6,SNR=18								
ASAR	**Alice Springs**	**39.99**	**126**	P		P	**P**	**04 36 50.3**	**+1.8**
	0.3nm,0.3s,baz=301,slow=8.1,SNR=5.2								
SONM	**Songino Array**	**49.53**	**6**	P		P	**P**	**04 38 04.6**	**+0.4**
	0.3nm,0.5s,baz=191,slow=8.3,SNR=3.4								
MKAR	**Makanchi Array**	**50.42**	**345**	P		P	**P**	**04 38 10.7**	**-0.2**
	2.1nm,0.6s,baz=156,slow=8.8,SNR=30								
ZALV	**Zalesovo Beam**	**56.60**	**350**	P		P	**P**	**04 38 55.8**	**-0.2**
	1.4nm,0.5s,baz=173,slow=6.0,SNR=8.7								
BRTR	**Keskin Array B**	**72.58**	**313**	P		P	**P**	**04 40 39.5**	**-1.5**
	0.6nm,0.7s,baz=60,slow=5.8,SNR=2.9								
FINES	**FINESS Array B**	**83.43**	**332**	P		P	**P**	**04 41 40.2**	**-0.3**
	5.8nm,1.1s,baz=162,slow=8.0,SNR=4.7								
TXAR	**Lajitas Array**	**144.67**	**36**	PKPbc		**PKPdf**		**04 48 50.7**	**-0.1**
	0.3nm,0.5s,baz=168,slow=0.5,SNR=9.4								
CFAA	**Coronel Fontan**	**145.03**	**199**	PKP		**PKPdf**		**04 48 51.6**	**+0.3**
	0.4nm,0.6s,baz=162,slow=3.9,SNR=10.0								

*IDC **23** 04:34:40.8±1.3, 1°.39S×99°.59E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.9/2, Error ellipse: s-maj=57.0km s-min=18.7km az=64.0*
*ISCJB **23** 04:34:52.5±0.8, 0°.60S±0°.06×100°.10E±0°.08, h57km, mb3.7/5, Error ellipse: s-maj=12.3km s-min=7.2km az=151.3*
*DJA **23** 04:34:58.1±0.3, 1°S±2°×10°1E±°, h15km, M3.9/7, MLv3.9/7*

ISC 23 04:34:51.3±1.0, 0°.76S±0°.09×100°.2E±0°.1, h57km, n24, σ2°9 15/14, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.33**	**117**	P		P	**Pn**	**04 35 04.5**	**+3.1**
PDSI				S		S	**Sn**	**04 35 10.6**	**+1.9**
PPI	**Padang Panjang**	**0.38**	**37**	P		P	Pn	04 35 07.5	+5.7
PPI				S		S	**Sn**	**04 35 11.0**	**+1.6**
BKNI	**Bangkinang**	**1.39**	**39**	P		P	Pn	04 35 24.5	+10
BKNI				S		S	**Sn**	**04 35 31.7**	**-0.1**
MNSI	**Mandailing Nat**	**1.66**	**339**	P		P	**Pn**	**04 35 19.1**	**+1.0**
RGRI	**Rengat**	**2.21**	**79**	P		P	**Pn**	**04 35 24.9**	**-0.7**
MASI	**Maura Aman, Be**	**3.14**	**139**	P		P	Pn	04 35 44.3	+5.9
GSI	**Gunungsitoli**	**3.31**	**308**	P		P	Pn	04 35 54.0	+13
JMBI	**JAMBI**	**3.58**	**104**	P		P	Pn	04 35 49.0	+4.6
MBSI	**MBSI**	**3.65**	**145**	P		P	Pn	04 35 51.0	+5.7
PSI	**Prapat**	**3.75**	**341**	Pn		Pn	**Pn**	**04 35 46.5**	**-0.3**
	1.2nm,0.3s,baz=162,slow=13,SNR=3.0								
CMAR	**Chiang Mai Arr**	**19.14**	**356**	P			**Pn**	**04 39 13.1**	**+1.7**
	0.6nm,0.3s,baz=193,slow=9.4,SNR=4.8								
H08S2	**Diego Garcia H**	**28.42**	**255**	T		T		05 08 34.9	
	baz=78,slow=75,SNR=53								
H08S3	**Diego Garcia H**	**28.42**	**255**	T		T		05 08 32.7	
	baz=78,slow=75,SNR=55								
H08S1	**Diego Carcia H**	**28.43**	**255**	T		T		05 08 33.8	
	baz=78,slow=75,SNR=52								
H01W3	**Cape Leeuwin H**	**36.37**	**160**	T		T		05 19 36.1	
	baz=335,slow=75,SNR=15								
H01W2	**Cape Leeuwin H**	**36.38**	**160**	T		T		05 19 37.3	
	baz=335,slow=75,SNR=14								
H01W1	**Cape Leeuwin H**	**36.38**	**160**	T		T		05 19 41.2	
	baz=335,slow=75,SNR=14								
WRA	**Warramunga Arr**	**38.49**	**122**	P		P	**P**	**04 42 06.5**	**-1.8**
	0.6nm,0.6s,baz=304,slow=9.1,SNR=7.2								
ASAR	**Alice Springs**	**39.85**	**127**	P		P	**P**	**04 42 17.2**	**-2.5**
	0.2nm,0.3s,baz=300,slow=8.4,SNR=3.4								
SONM	**Songino Array**	**48.70**	**6**	P		P	**P**	**04 43 32.1**	**+1.9**
	0.4nm,0.7s,baz=186,slow=7.2,SNR=3.2								
MKAR	**Makanchi Array**	**49.89**	**344**	P		P	**P**	**04 43 39.1**	**0.0**
	0.9nm,0.4s,baz=159,slow=8.6,SNR=22								
ZALV	**Zalesovo Beam**	**55.99**	**349**	P		P	**P**	**04 44 24.1**	**+0.2**
	0.6nm

BDRM	Kayabasi	0.97	125	*i*	P	Pb	04 44 57.9	-1.0	KRBG	Karabiga-Canak	2.84	13	*e*	PN	Pn	04 45 24.4	-0.7	DRO	Drossia	3.77	276		P	Pn	04 45 38.3	+0.2
BDRM				*i*	S	Sg	04 45 12.2	+0.3	KRBG	Karabiga-Canak	2.84	13	*e*	Pn	Pn	04 45 24.4	-0.7	DRO	Drossia	3.77	276	*e*	Pn	Pn	04 45 39.5	+1.4
BDRM	Kayabasi	0.97	125	*i*	P	Pb	04 44 57.9	-1.0	SMIA	Simia	2.85	297	*e*	PN	Pn	04 45 25.2	-0.1	ADVT	Abdulvahap	3.79	41	*e*	PN	Pn	04 45 40.1	+1.8
BDRM				*i*	S	Sg	04 45 12.2	+0.3	SMIA	Simia	2.85	297	*e*	Pn	Pn	04 45 25.2	-0.1	ADVT	Abdulvahap	3.79	41	*e*	Pn	Pn	04 45 40.1	+1.8
IZM	Izmir	1.00	39	*e*	PG	Pb	04 44 58.7	-0.7	VAM	Vamos	2.87	220		P	Pn	04 45 25.2	-0.4	PYL	PYLOS	3.83	260		P	Pn	04 45 38.8	0.0
IZM	Izmir	1.00	39	*e*	Pg	Pb	04 44 58.7	-0.7	VAM	Vamos	2.87	220	*e*	PN	Pn	04 45 25.5	-0.1	PYL	PYLOS	3.83	260	*e*	PN	Pn	04 45 40.7	+1.9
AYDB	Zeytinkoy-Aydi	1.18	74	*e*	PN	Pn	04 45 01.6	-0.8	VAM	Vamos	2.87	220		P	Pn	04 45 25.2	-0.4	PYL	PYLOS	3.83	260		P	Pn	04 45 38.8	0.0
AYDB	Zeytinkoy-Aydi	1.18	74	*e*	Pn	Pn	04 45 01.7	-0.8	VAM	Vamos	2.87	220		P	Pn	04 45 25.2	-0.4	PYL	PYLOS	3.83	260		P	Pn	04 45 38.8	0.0
SANT	Santorini	1.49	213	*e*	PN	Pn	04 45 06.8	+0.2	VAM	Vamos	2.87	220	*e*	Pn	Pn	04 45 25.5	-0.1	PYL	PYLOS	3.83	260	*e*	Pn	Pn	04 45 40.7	+1.9
SANT	Santorini	1.49	213		P	Pn	04 45 05.7	-0.9	AKAS	Kas	2.88	118	*i*	P	Pn	04 45 27.2	+1.3	SLVT	Silivri	3.84	20	*e*	PN	Pn	04 45 39.4	+0.4
SANT					S	Sn	04 45 25.1	-0.7	AKAS				*i*	S	Sb	04 46 07.3	+0.7	SLVT	Silivri	3.84	20	*e*	Pn	Pn	04 45 39.4	+0.4
SANT	Santorini	1.49	213	*e*	PB	Pn	04 45 05.8	-0.9	AKAS	Kas	2.88	118	*i*	P	Pn	04 45 27.2	+1.3	EVR	Evrytania	3.88	291	*e*	PN	Pn	04 45 40.9	+1.3
SANT	Santorini	1.49	213	*e*	Pn	Pn	04 45 05.7	-0.9	ELL	Elmali	2.89	107	*e*	PN	Pn	04 45 27.8	+1.8	EVR	Evrytania	3.88	291	*e*	Pn	Pn	04 45 40.9	+1.3
SANT				*e*	S	Sg	04 45 29.6	+1.2	ELL	Elmali	2.89	107	*e*	Pn	Pn	04 45 27.8	+1.8	CTKS	Kestanelik-??a	3.94	23	*e*	PN	Pn	04 45 40.8	+0.5
SANT	Santorini	1.49	213		P	Pn	04 45 05.7	-0.9	LKR	Lokris	2.91	292	*e*	PN	Pn	04 45 27.3	+1.1	CTKS	Kestanelik-??a	3.94	23	*e*	Pn	Pn	04 45 40.8	+0.5
SANT	Santorini	1.49	213	*e*	Pn	Pn	04 45 06.8	+0.2	LKR	Lokris	2.91	292	*e*	Pn	Pn	04 45 27.3	+1.1	LIT	Litokhoron	3.96	310	*e*	PN	Pn	04 45 41.5	+0.9
SANT					S	Sn	04 45 25.1	-0.7	SIVA	Sivas	2.92	208		P	Pn	04 45 26.1	-0.2	LIT	Litokhoron	3.96	310	*e*	Pn	Pn	04 45 41.5	+0.9
PRK	Paraskevi	1.62	355		P	Pn	04 45 07.5	-1.0	SIVA	Sivas	2.92	208	*e*	PN	Pn	04 45 27.1	+0.8	RLS	Riolos of Patr	3.97	278		P	Pn	04 45 40.9	+0.1
PRK					S	Sn	04 45 28.3	-0.8	SIVA	Sivas	2.92	208		P	Pn	04 45 26.1	-0.2	RLS	Riolos of Patr	3.97	278	*e*	PN	Pn	04 45 42.7	+1.9
PRK	Paraskevi	1.62	355	*e*	PN	Pn	04 45 07.8	-0.7	SIVA	Sivas	2.92	208		P	Pn	04 45 26.1	-0.2	RLS	Riolos of Patr	3.97	278		P	Pn	04 45 40.9	+0.1
PRK				*e*	SN	Sn	04 45 28.5	-0.6	SIVA	Sivas	2.92	208	*e*	Pn	Pn	04 45 27.1	+0.8	RLS	Riolos of Patr	3.97	278		P	Pn	04 45 40.9	+0.1
PRK	Paraskevi	1.62	355		P	Pn	04 45 07.5	-1.0	EDC	Edincik	2.93	22	*e*	PN	Pn	04 45 26.7	+0.3	RLS	Riolos of Patr	3.97	278	*e*	PN	Pn	04 45 42.7	+1.9
PRK					S	Sn	04 45 28.3	-0.8	EDC	Edincik	2.93	22	*e*	Pn	Pn	04 45 26.7	+0.3	BGKT	Bogazkoy	3.98	26	*e*	PN	Pn	04 45 41.5	+0.7
PRK	Paraskevi	1.62	355		P	Pn	04 45 07.5	-1.0	SMTH	Samothraki Isl	2.93	346		P	Pn	04 45 25.5	-0.9	BGKT	Bogazkoy	3.98	26	*e*	Pn	Pn	04 45 41.5	+0.7
PRK	Paraskevi	1.62	355	*e*	Pn	Pn	04 45 07.8	-0.7	SMTH	Samothraki Isl	2.93	346	*e*	PN	Pn	04 45 25.7	-0.7	THL	Klokotos Trika	3.98	300		P	Pn	04 45 41.0	+0.1
PRK				*e*	Sn	Sn	04 45 28.5	-0.6	SMTH	Samothraki Isl	2.93	346	*e*	Pn	Pn	04 45 25.5	-0.9	THL	Klokotos Trika	3.98	300	*e*	PN	Pn	04 45 42.1	+1.2
AKHS	Akhisar	1.64	40	*i*	P	Pn	04 45 07.6	-1.2	SMTH	Samothraki Isl	2.93	346	*e*	Pn	Pn	04 45 25.7	-0.7	THL	Klokotos Trika	3.98	300		P	Pn	04 45 41.0	+0.1
AKHS				*i*	S	Sg	04 45 33.7	+0.3	BNT	Bandirma	2.95	22	*e*	PN	Pn	04 45 27.4	+0.6	THL	Klokotos Trika	3.98	300	*e*	Pn	Pn	04 45 42.1	+1.2
AKHS	Akhisar	1.64	40	*i*	P	Pn	04 45 07.6	-1.2	BNT	Bandirma	2.95	22	*e*	Pn	Pn	04 45 27.4	+0.6	SOH	Sokhos	4.00	324	*e*	PN	Pn	04 45 40.9	-0.3
AKHS				*i*	S	Sg	04 45 33.7	+0.3	VLI	Veliai	2.95	253		P	Pn	04 45 26.5	-0.3	SOH	Sokhos	4.00	324	*e*	Pn	Pn	04 45 40.9	-0.3
AKS	Akhisar	1.64	40	*e*	PN	Pn	04 45 08.5	-0.3	VLI	Veliai	2.95	253	*e*	PN	Pn	04 45 27.0	+0.2	HRT	Hereke	4.05	37	*e*	PN	Pn	04 45 42.4	+0.6
AKS	Akhisar	1.64	40	*e*	Pn	Pn	04 45 08.5	-0.3	VLI	Veliai	2.95	253	*e*	Pn	Pn	04 45 27.0	+0.2	HRT	Hereke	4.05	37	*e*	Pn	Pn	04 45 42.4	+0.6
SIGR	SIGRI	1.65	344		P	Pn	04 45 07.8	-1.0	VLI	Veliai	2.95	253		P	Pn	04 45 26.5	-0.3	CTYL	Yal??k??y-??at	4.09	20	*e*	PN	Pn	04 45 43.1	+0.7
SIGR					S	Sn	04 45 29.6	-0.1	VLI	Veliai	2.95	253	*e*	Pn	Pn	04 45 27.0	+0.2	CTYL	Yal??k??y-??at	4.09	20	*e*	Pn	Pn	04 45 43.1	+0.7
SIGR	SIGRI	1.65	344	*e*	PB	Pn	04 45 07.9	-0.9	KARN	Karanos	3.02	223		P	Pn	04 45 27.5	-0.2	KDZ	Kurdzhali	4.10	349	‖	iP	Pn	04 45 42.1	-0.4
SIGR				*e*	SN	Sn	04 45 29.0	-0.7	KARN	Karanos	3.02	223	*e*	PN	Pn	04 45 29.1	+1.4	KDZ	Kurdzhali	4.10	349	‖	iP	Pn	04 45 42.1	-0.4
SIGR	SIGRI	1.65	344		P	Pn	04 45 07.8	-1.0	KARN	Karanos	3.02	223		P	Pn	04 45 27.5	-0.2	SRS	Serrai	4.13	328		P	Pn	04 45 42.5	-0.5
SIGR					S	Sn	04 45 29.6	-0.1	KARN	Karanos	3.02	223	*e*	Pn	Pn	04 45 27.5	-0.2	SRS	Serrai	4.13	328	*e*	PN	Pn	04 45 43.1	+0.1
SIGR	SIGRI	1.65	344		P	Pn	04 45 07.8	-1.0	KCTX	Karacabey (Bur	3.02	29	*e*	PN	Pn	04 45 29.1	+1.4	SRS	Serrai	4.13	328		P	Pn	04 45 42.5	-0.5
SIGR				*e*	Sn	Sn	04 45 29.0	-0.7	KCTX	Karacabey (Bur	3.02	29	*e*	Pn	Pn	04 45 27.8	+0.1	SRS	Serrai	4.13	328		P	Pn	04 45 42.5	-0.5
MRMA	Marmari	1.70	285		P	Pn	04 45 09.1	-0.4	ERIK	Erikli-Kesan	3.04	1	*e*	PN	Pn	04 45 27.3	-0.6	SRS	Serrai	4.13	328	*e*	PN	Pn	04 45 43.1	+0.1
MRMA					S	Sn	04 45 31.0	0.0	ERIK	Erikli-Kesan	3.04	1	*e*	Pn	Pn	04 45 27.3	-0.6	KLYT	Kilyos	4.14	28	*e*	PN	Pn	04 45 44.1	+1.1
MRMA	Marmari	1.70	285		P	Pn	04 45 09.1	-0.4	NEO	Neokhori	3.04	304		P	Pn	04 45 27.3	-0.6	KLYT	Kilyos	4.14	28	*e*	Pn	Pn	04 45 44.1	+1.1
MRMA					S	Sn	04 45 31.0	0.0	NEO	Neokhori	3.04	304	*e*	PN	Pn	04 45 28.1	+0.1	EDRB	Edirne	4.22	3	*e*	PN	Pn	04 45 44.2	0.0
TURN	Turunc	1.87	113	*i*	P	Pn	04 45 08.2	-3.6	NEO	Neokhori	3.04	304	*e*	PN	Pn	04 45 28.3	+0.3	EDRB	Edirne	4.22	3	*e*	Pn	Pn	04 45 44.2	0.0
TURN				*i*	S	Sn	04 45 33.5	-1.6	NEO	Neokhori	3.04	304	*e*	Pn	Pn	04 45 28.1	+0.1	GULT	Gulveren	4.22	47	*e*	PN	Pn	04 45 46.2	+1.9
TURN	Turunc	1.87	113	*i*	P	Pn	04 45 08.2	-3.6	NEO	Neokhori	3.04	304	*e*	Pn	Pn	04 45 28.3	+0.3	GULT	Gulveren	4.22	47	*e*	Pn	Pn	04 45 46.2	+1.9
TURN				*i*	S	Sn	04 45 33.5	-1.6	ORLT	Orhaneli	3.08	38	*e*	PN	Pn	04 45 29.1	+0.6	NVR	Nevrokopi	4.22	332		P	Pn	04 45 43.8	-0.5
DALY	Dalyan (Mu¨la	1.93	114	*e*	PN	Pb	04 45 14.4	-0.9	ORLT	Orhaneli	3.08	38	*e*	Pn	Pn	04 45 29.1	+0.6	NVR	Nevrokopi	4.22	332	*e*	PN	Pn	04 45 43.8	-0.5
DALY	Dalyan (Mu¨la	1.93	114	*e*	Pn	Pb	04 45 14.4	-0.9	ANKY	Antikythira Is	3.08	236		P	Pn	04 45 28.7	+0.2	NVR	Nevrokopi	4.22	332	*e*	Pn	Pn	04 45 43.8	-0.5
ARG	Arkhangelos	1.94	136		P	Pn	04 45 12.0	-0.8	ANKY	Antikythira Is	3.08	236	*e*	PN	Pn	04 45 29.2	+0.7	NVR	Nevrokopi	4.22	332		P	Pn	04 45 43.8	-0.5
ARG					S	Sn	04 45 34.6	-2.3	ANKY	Antikythira Is	3.08	236		P	Pn	04 45 28.7	+0.2	PDO	Prodromos	4.27	285	*e*	PN	Pn	04 45 45.5	+0.6
ARG	Arkhangelos	1.94	136	*e*	PB	Pn	04 45 12.3	-0.5	ANKY	Antikythira Is	3.08	236		P	Pn	04 45 28.7	+0.2	PDO	Prodromos	4.27	285	*e*	Pn	Pn	04 45 45.5	+0.6
ARG				*e*	SN	Sn	04 45 35.5	-1.4	ANKY	Antikythira Is	3.08	236	*e*	Pn	Pn	04 45 29.2	+0.7	SPNC	Sapanca-Adapaz	4.28	43	*e*	PN	Pn	04 45 46.8	+1.9
ARG	Arkhangelos	1.94	136		P	Pn	04 45 12.0	-0.8	XOR	Xorichti	3.10	305		P	Pn	04 45 28.7	0.0	SPNC	Sapanca-Adapaz	4.28	43	*e*	Pn	Pn	04 45 46.8	+1.9
ARG					S	Sn	04 45 34.6	-2.3	XOR	Xorichti	3.10	305	*e*	PN	Pn	04 45 28.8	0.0	SILT	Sile	4.30	34	*e*	PN	Pn	04 45 46.8	+1.6
ARG	Arkhangelos	1.94	136		P	Pn	04 45 12.0	-0.8	XOR	Xorichti	3.10	305		P	Pn	04 45 28.7	0.0	SILT	Sile	4.30	34	*e*	Pn	Pn	04 45 46.8	+1.6
ARG					S	Sn	04 45 34.6	-2.3	XOR	Xorichti	3.10	305	*e*	Pn	Pn	04 45 28.8	0.0	SVRH	Sivrihisar-ESK	4.37	64	*e*	PN	Pn	04 45 48.6	+2.3
ARG				*e*	Sn	Sn	04 45 35.5	-1.4	MRMT	Marmara Adasi	3.10	16	*e*	PN	Pn	04 45 28.3	-0.5	SVRH	Sivrihisar-ESK	4.37	64	*e*	Pn	Pn	04 45 48.6	+2.3
KULA	Kula-Manisa	1.95	62	*e*	PN	Pn	04 45 13.2	+0.1	MRMT	Marmara Adasi	3.10	16	*e*	Pn	Pn	04 45 28.3	-0.5	KIZT	Kizilcal	4.45	72	*e*	PN	Pn	04 45 48.4	+1.0
KULA	Kula-Manisa	1.95	62	*e*	Pn	Pn	04 45 13.2	+0.1	ENEZ	Enez	3.11	356	*e*	PN	Pn	04 45 28.9	-0.1	KIZT	Kizilcal	4.45	72	*e*	Pn	Pn	04 45 48.4	+1.0
PTL	Penteli	2.10	282		P	Pn	04 45 15.1	+0.1	ENEZ	Enez	3.11	356	*e*	Pn	Pn	04 45 28.9	-0.1	KNT	Kendrikon	4.48	323	*e*	PN	Pn	04 45 48.6	+0.9
PTL	Penteli	2.10	282	*e*	PN	Pn	04 45 15.1	+0.1	PAIG	Paliouri	3.16	317		P	Pn	04 45 29.4	-0.2	KNT	Kendrikon	4.48	323	*e*	Pn	Pn	04 45 48.6	+0.9
PTL	Penteli	2.10	282		P	Pn	04 45 15.1	+0.1	PAIG	Paliouri	3.16	317	*e*	PN	Pn	04 45 29.6	0.0	MMB	Musomiste	4.48	333	⇑	iP	Pn	04 45 47.7	-0.1
PTL	Penteli	2.10	282		P	Pn	04 45 15.1	+0.1	PAIG	Paliouri	3.16	317		P	Pn	04 45 29.4	-0.2	MMB	Musomiste	4.48	333	⇑	iP	Pn	04 45 47.7	-0.1
ATHU	Athens Univers	2.14	280		P	Pn	04 45 15.8	+0.2	PAIG	Paliouri	3.16	317	*e*	Pn	Pn	04 45 29.6	0.0	GRG	Griva	4.58	318		P	Pn	04 45 49.4	+0.3
ATHU	Athens Univers	2.14	280		P	Pn	04 45 15.8	+0.2	AXAR	Agios Charalam	3.20	292		P	Pn	04 45 29.8	+0.4	GRG	Griva	4.58	318		P	Pn	04 45 49.4	+0.3
ATHU	Athens Univers	2.14	280		P	Pn	04 45 15.8	+0.2	AXAR	Agios Charalam	3.20	292		P	Pn	04 45 30.6	+0.4	GRG	Griva	4.58	318		P	Pn	04 45 49.4	+0.3
KARP	Karpathos	2.15	165		P	Pn	04 45 14.8	-1.0	AXAR	Agios Charalam	3.20	292		P	Pn	04 45 30.6	+0.4	MDUB	Mudurnu	4.66	51	*e*	PN	Pn	04 45 52.3	+2.0
KARP					S	Sn	04 45 40.7	-1.5	DSF	Desfina	3.20	285		P	Pn	04 45 30.5	+0.3	MDUB	Mudurnu	4.66	51	*e*	Pn	Pn	04 45 52.3	+2.0
KARP	Karpathos	2.15	165	*e*	PN	Pn	04 45 15.0	-0.8	DSF	Desfina	3.20	285	*e*	PN	Pn	04 45 30.6	+0.3	PLD	Plovdiv	4.67	344		P	Pn	04 45 50.5	+0.2
KARP	Karpathos	2.15	165		P	Pn	04 45 14.8	-1.0	DSF	Desfina	3.20	285		P	Pn	04 45 30.5	+0.3	PLD	Plovdiv	4.67	344		P	Pn	04 45 50.5	+0.2
KARP					S	Sn	04 45 40.7	-1.5	DSF	Desfina	3.20	285		P	Pn	04 45 30.5	+0.3	PLD	Plovdiv	4.67	344		P	Pn	04 45 50.5	+0.2
KARP	Karpathos	2.15	165	*e*	Pn	Pn	04 45 15.0	-0.8	ISP	Isparta	3.23	85	*e*	PN	Pn	04 45 31.2	+0.6	LADK	Ladik-KONYA	4.71	81	*e*	PN	Pn	04 45 53.1	+2.1
KARP					S	Sn	04 45 40.7	-1.5	ISP	Isparta	3.23	85	*e*	Pn	Pn	04 45 29.0	-1.6	LADK	Ladik-KONYA	4.71	81	*e*	Pn	Pn	04 45 53.1	+2.1
ATH	Athens Observa	2.20	280		P	Pn	04 45 16.6	+0.3	ISP	Isparta	3.23	85	‖	iP	Pn	04 45 31.1	+0.5	VAY	Valandovo	4.76	322	*e*	Pn	Pg	04 46 09.3	-2.3
ATH	Athens Observa	2.20	280	*e*	PN	Pn	04 45 16.7	+0.4	ISP	Isparta	3.23	85	*e*	PN	Pn	04 45 30.8	+0.2	VAY				*e*	Sg	Sg	04 47 12.5	-0.8
ATH	Athens Observa	2.20	280		P	Pn	04 45 16.6	+0.3	ISP	Isparta	3.23	85		P	Pn	04 45 29.0	-1.6	JAN	Janina	4.83	297	*e*	PN	Pn	04 45 54.2	+1.6
ATH	Athens Observa	2.20	280		P	Pn	04 45 16.6	+0.3	ISP	Isparta	3.23	85	*e*	Pn	Pn	04 45 30.8	+0.2	JAN	Janina	4.83	297	*e*	Pn	Pn	04 45 54.2	+1.6
ERET	Eretria	2.25	292		P	Pn	04 45 17.1	0.0	GUR	Goura	3.27	277		P	Pn	04 45 31.8	+0.5	JMB	Yambol	4.83	1	‖	iP	Pn	04 45 55.2	+2.6
ERET	Eretria	2.25	292		P	Pn	04 45 17.1	0.0	GUR	Goura	3.27	277	*e*	PN	Pn	04 45 32.0	+0.7	JMB	Yambol	4.83	1	‖	iP	Pn	04 45 55.2	+2.6
DEMI	Demirci	2.27	51	*i*	P	Pb	04 45 20.0	-1.2	GUR	Goura	3.27	277		P	Pn	04 45 31.8	+0.5	ANTO	Ankara	5.43	64	⇑	iP	Pg	04 46 25.7	+1.2
DEMI				*i*	S	Sg	04 45 52.6	-0.9	GUR	Goura	3.27	277	*e*	PN	Pn	04 45 31.8	+0.5	VTS	Vitosha	5.55	334	⇑	iP	Pn	04 46 03.7	+1.1
DEMI	Demirci	2.27	51	*i*	P	Pb	04 45 20.0	-1.2	ALN	Alexandroupoli	3.28	355	*e*	PN	Pn	04 45 30.7	-0.6	VTS	Vitosha	5.55	334	⇑	iP	Pn	04 46 03.7	+1.1
BALY	Balya	2.30	23	*i*	P	Pn	04 45 18.2	+0.4	ALN	Alexandroupoli	3.28	355	*e*	Pn	Pn	04 45 30.6	+0.4	BR131	Keskin Array S	6.00	67	*e*	PN	Pn	04 46 05.9	-2.8
BALY				*i*	S	Sg	04 45 53.9	+0.4	ALN	Alexandroupoli	3.28	355	*e*	PN	Pn	04 45 30.5	+0.7		6.3nm,0.5s							
BALY	Balya	2.30	23	*i*	P	Pn	04 45 18.2	+0.4	ALN	Alexandroupoli	3.28	355		P	Pn	04 45 29.9	-1.3	BRTR	Keskin Array B	6.00	67		Pn	Pn	04 46 09.8	+1.0
NPS	Neapolis	2.46	196		P	Pn	04 45 19.3	-0.6	ALN	Alexandroupoli	3.28	355	*e*	PN	Pn	04 45 29.9	-1.3	BRTR					Sn	Sn	04 47 14.4	-2.8
NPS	Neapolis	2.46	196	*e*	PN	Pn	04 45 20.1	+0.2	ALN	Alexandroupoli	3.28	355	*e*	Pn	Pn	04 45 30.7	-0.6	BRTR					Lg	Lg	04 47 54.8	
NPS	Neapolis	2.46	196		P	Pn	04 45 19.3	-0.6	FYTO	Fytoko, Volos	3.28	304		P	Pn	04 45 31.6	+0.3	BRTR	Keskin Array B	6.00	67		Pn	Pn	04 46 09.8	+1.0
NPS	Neapolis	2.46	196		P	Pn	04 45 19.3	-0.6	FYTO	Fytoko, Volos	3.28	304	*e*	PN	Pn	04 45 31.6	+0.3	BRTR	Keskin Array B	6.00	67		Pn	Pn	04 46 09.8	+1.0
NPS	Neapolis	2.46	196	*e*	PN	Pn	04 45 20.1	+0.2	FYTO	Fytoko, Volos	3.28	304	*e*	PN	Pn	04 45 31.6	+0.3		0.8nm,0.3s,baz=248,slow=15,SNR=21							
GLHS	Glhisar (BURDU	2.47	100	*e*	PN	Pn	04 45 21.7	+1.5	BCK	Bucak	3.29	92	*e*	PN	Pn	04 45 32.1	+0.7	BRTR					Sn	Sn	04 47 14.4	-2.8
GLHS	Glhisar (BURDU	2.47	100	*e*	Pn	Pn	04 45 21.7	+1.5	BCK	Bucak	3.29	92	*e*	Pn	Pn	04 45 32.1	+0.7		baz=258,slow=22,SNR=2.5							
LIA	Limnos Island	2.48	337		P	Pn	04 45 19.7	-0.4	OUR	Ouranopolis	3.32	325	*e*	PN	Pn	04 45 31.6	-0.2	BRTR					Lg	Lg	04 47 54.7	
LIA	Limnos Island	2.48	337	*e*	PN	Pn	04 45 19.8	-0.4	OUR	Ouranopolis	3.32	325		P	Pn	04 45 31.7	-0.1		baz=247,slow=33,SNR=1.5							
LIA	Limnos Island	2.48	337		P	Pn	04 45 19.7	-0.4	OUR	Ouranopolis	3.32	325	*e*	PN	Pn	04 45 31.9	+0.1	PSN	Preselentsi	6.19	12	⇑	iP	Pn	04 46 10.3	-0.9
LIA	Limnos Island	2.48	337	*e*	PN	Pn	04 45 19.8	-0.4	OUR	Ouranopolis	3.32	325		P	Pn	04 45 31.7	-0.1	PSN	Preselentsi	6.19	12	⇑	iP	Pn	04 46 10.3	-0.9
MRKA	Markates	2.50	296		P	Pn	04 45 20.3	-0.3	OUR	Ouranopolis	3.32	325	*e*	PN	Pn	04 45 31.9	+0.1	MSAB	Monastry St. A	6.54	9	⇑	iP	Pn	04 46 15.6	-0.4
MRKA	Markates	2.50	296	*e*	PN	Pn	04 45 21.0	+0.4	MDNY	Mudanya-Bursa	3.33	34	*e*	PN	Pn	04 45 32.1	+0.2	MSAB	Monastry St. A	6.54	9	⇑	iP	Pn	04 46 15.6	-0.4
MRKA	Markates	2.50	296		P	Pn	04 45 20.3	-0.3	MDNY	Mudanya-Bursa	3.33	34	*e*	Pn	Pn	04 45 32.1	+0.2	TIRR	Tirgusor	6.98	12	‖	iP	Pn	04 46 21.5	-0.6
MRKA	Markates	2.50	296	*e*	Pn	Pn	04 45 21.0	+0.4	SHUT	Suhut-Afyon	3.36	73	*e*	PN	Pn	04 45 32.8	+0.3	TIRR	Tirgusor	6.98	12	*e*	Pn	Pn	04 46 21.5	-0.6
KHAL	Karahalli	2.51	72	*i*	P	Pn	04 45 20.5	-0.3	SHUT	Suhut-Afyon	3.36	73	*e*	Pn	Pn	04 45 32.8	+0.3	TIRR				*e*	S	Sn	04 47 37.6	-3.5
KHAL				*i*	S	Sg	04 46 00.2	-1.0	ANTB	Antalya	3.43	101	*e*	PN	Pn	04 45 35.4	+2.2	TIRR	Tirgusor	6.98	12	‖	iP	Pn	04 46 21.5	-0.6
KHAL	Karahalli	2.51	72	*i*	P	Pn	04 45 20.5	-0.3	ANTB	Antalya	3.43	101	*e*	Pn	Pn	04 45 35.4	+2.2	BOLS	Boljevac	7.08	333	⇑	iPn	Pn	04 46 22.3	-1.1
ZKR	Zakros	2.52	184		P	Pn	04 45 20.5	-0.3	KLV	Kalavryta, Ach	3.44	278		P	Pn	04 45 33.8	+0.4	CFR	Carcaliu	7.65	9	⇑	iP	Pn	04 46 30.5	-0.7
ZKR	Zakros	2.52	184	*e*	PN	Pn	04 45 20.4	-0.3	KLV	Kalavryta, Ach	3.44	278	*e*	PN	Pn	04 45 34.3	+0.9	CFR	Carcaliu	7.65	9	⇑	iP	Pn	04 46 30.5	-0.7
ZKR	Zakros	2.52	184		P	Pn	04 45 20.5	-0.3	KLV	Kalavryta, Ach	3.44	278		P	Pn	04 45 33.8	+0.4	TIP	Timpagrande	7.77	284	*e*	PN	Pn	04 46 34.9	+1.9
ZKR	Zakros	2.52	184	*e*	Pn	Pn	04 45 20.5	-0.3	KLV	Kalavryta, Ach	3.44	278	*e*	Pn	Pn	04 45 33.8	+0.4	TIP				*e*	S	Sn	04 47 56.4	-4.3
KHL	Karahalli	2.52	73	*e*	PN	Pn	04 45 22.3	+1.4	KLV	Kalavryta, Ach	3.44	278	*e*	Pn	Pn	04 45 34.3	+0.9	TIP	Timpagrande	7.77	284	*e*	Pn	Pn	04 46 34.9	+1.9
KHL	Karahalli	2.52	73	*e*	Pn	Pn	04 45 22.3	+1.4	TKR	Tekirdag	3.46	14	*e*	PN	Pn	04 45 34.0	+0.3	MLR	Muntele Rosu	7.87	357	⇑	iP	Pn	04 46 35.2	+0.9
DURS	Dursunbey	2.53	38	*i*	P	Pn	04 45 22.1	+1.2	TKR	Tekirdag	3.46	14	*e*	Pn	Pn	04 45 34.0	+0.3	MLR	Muntele Rosu	7.87	357		Pn	Pn	04 46 34.5	+0.1
DURS				*i*	S	Sg	04 46 01.8	+0.2	ARMT	Armutlu	3.48	32	*e*	PN	Pn	04 45 35.2	+1.3	MLR					Lg	Lg	04 48 47.8	
DURS	Dursunbey	2.53	38	*i*	P	Pn	04 45 22.1	+1.2	ARMT	Armutlu	3.48	32	*e*	Pn	Pn	04 45 35.3	+1.3	MLR	Muntele Rosu	7.87	357		Pn	Pn	04 46 34.5	+0.1
AOS	Alonnisos	2.54	308	*e*	PN	Pn	04 45 20.0	-1.2	KALE	Kalithea	3.49	284	*e*	PN	Pn	04 45 35.0	+0.8	MLR	Muntele Rosu	7.87	357	⇑	iP	Pn	04 46 35.2	+0.9
AOS	Alonnisos	2.54	308	

PGF **Pioggiola** 14.23 296 *eP* Pn 04 48 00.3 -1.2
GERES **GERESS Array B** 14.54 324 LR LR 04 53 52.4
comp=Z,112nm,19.0s,baz=157,slow=38
DAVOX **Davos/Dischmat** 15.29 312 LR LR 04 54 48.8
comp=Z,100nm,18.8s,baz=9.1,slow=40
FRF **La Foret Royal** 16.16 298 *eP* P 04 48 29.8 -0.2
90nm,1.3s
FRF **La Foret Royal** 16.16 298 *eP* P 04 48 29.8 -0.2
90nm,1.3s
FRF **La Foret Royal** 16.16 298 *eP* P 04 48 29.8 -0.2
45nm,1.3s
LMR **La Mourre** 16.20 297 *eP* P 04 48 29.0 -1.5
LMR **La Mourre** 16.20 297 *eP* P 04 48 29.0 -1.5
LMR **La Mourre** 16.20 297 *eP* P 04 48 29.0 -1.5
MBDF **Montbardon** 16.41 302 *eP* Pn 04 48 30.5 +0.3
48nm,1.3s
MBDF **Montbardon** 16.41 302 *eP* Pn 04 48 30.5 +0.3
48nm,1.3s
ORIF **Oris-en-Rattie** 17.07 302 *eP* Pn 04 48 38.6 +0.1
129nm,1.7s
ORIF **Oris-en-Rattie** 17.07 302 *eP* Pn 04 48 38.6 +0.1
129nm,1.7s
ORIF **Oris-en-Rattie** 17.07 302 *eP* Pn 04 48 38.6 +0.1
64nm,1.7s
SMF **Signal de Mont** 18.99 305 *eP* Pn 04 49 02.0 0.0
26nm,1.3s
SMF **Signal de Mont** 18.99 305 *eP* Pn 04 49 02.0 0.0
26nm,1.3s
SMF **Signal de Mont** 18.99 305 *eP* Pn 04 49 02.0 0.0
13nm,1.3s
LOR **Lormes** 19.20 307 *eP* Pn 04 49 05.4 +0.9
54nm,1.6s
LOR **Lormes** 19.20 307 *eP* Pn 04 49 05.4 +0.9
54nm,1.6s
LOR **Lormes** 19.20 307 *eP* Pn 04 49 05.4 +0.9
27nm,1.6s
SSF **Saint Saulge** 19.35 306 *eP* Pn 04 49 08.2 +1.9
SSF **Saint Saulge** 19.35 306 *eP* Pn 04 49 08.2 +1.9
RJF **Les Rejaudoux** 20.15 300 *eP* Pn 04 49 16.6 +0.7
RJF **Les Rejaudoux** 20.15 300 *eP* Pn 04 49 16.6 +0.7
RJF **Les Rejaudoux** 20.15 300 *eP* Pn 04 49 16.6 +0.7
BAIF **Baives** 20.20 315 *eP* Pn 04 49 17.8 +1.4
BAIF **Baives** 20.20 315 *eP* Pn 04 49 17.8 +1.4
LFF **La Frestale** 20.61 299 *eP* Pn 04 49 21.0 -0.2
102nm,1.5s
LFF **La Frestale** 20.61 299 *eP* Pn 04 49 21.0 -0.2
102nm,1.5s
LFF **La Frestale** 20.61 299 *eP* Pn 04 49 21.0 -0.2
51nm,1.5s
MFF **Saint Martin d** 21.59 303 *eP* P 04 49 30.9 +1.4
59nm,1.4s
MFF **Saint Martin d** 21.59 303 *eP* P 04 49 30.9 +1.4
59nm,1.4s
MFF **Saint Martin d** 21.59 303 *eP* P 04 49 30.9 +1.4
29nm,1.4s
SJPF **Ste Jean** 21.74 293 *eP* P 04 49 33.6 +2.5
22nm,1.1s
SJPF **Ste Jean** 21.74 293 *eP* P 04 49 33.6 +2.5
22nm,1.1s
SJPF **Ste Jean** 21.74 293 *eP* P 04 49 33.6 +2.5
11nm,1.1s
LDF **La Druitiere** 22.17 308 *eP* P 04 49 36.8 +1.1
LDF **La Druitiere** 22.17 308 *eP* P 04 49 36.8 +1.1
LDF **La Druitiere** 22.17 308 *eP* P 04 49 36.8 +1.1
FLN **La Foliniere** 22.45 308 *eP* P 04 49 40.4 +1.7
20nm,0.9s
FLN **La Foliniere** 22.45 308 *eP* P 04 49 40.4 +1.7
20nm,0.9s
FLN **La Foliniere** 22.45 308 *eP* P 04 49 40.4 +1.7
10nm,0.9s
GRR **Gorron** 22.57 307 *eP* P 04 49 41.7 +1.7
38nm,1.2s
GRR **Gorron** 22.57 307 *eP* P 04 49 41.7 +1.7
38nm,1.2s
GRR **Gorron** 22.57 307 *eP* P 04 49 41.7 +1.7
19nm,1.2s
TAM **Tamanrasset** 23.29 237 *eP* P 04 49 48.7 +0.9
3.0nm,0.8s
TAM **Tamanrasset** 23.29 237 *eP* P 04 49 48.7 +0.9
3.0nm,0.8s
SGMF **Saint Gilles** 23.61 306 *eP* P 04 49 51.3 +0.7
33nm,1.0s
SGMF **Saint Gilles** 23.61 306 *eP* P 04 49 51.3 +0.7
33nm,1.0s
SGMF **Saint Gilles** 23.61 306 *eP* P 04 49 51.3 +0.7
16nm,1.0s
ESDC **Sonseca Array** 23.79 284 P P 04 49 52.7 +0.2
ESDC **Sonseca Array** 23.79 284 P P 04 49 52.7 +0.2
ESDC **Sonseca Array** 23.79 284 P P 04 49 52.7 +0.2
4.7nm,1.0s,baz=75,slow=9.0,SNR=9.3
FINES **FINESS Array B** 23.84 360 P P 04 49 52.5 -0.1
FINES **FINESS Array B** 23.84 360 P P 04 49 52.5 -0.1
FINES **FINESS Array B** 23.84 360 P P 04 49 52.5 -0.1
4.2nm,1.0s,baz=174,slow=7.7,SNR=5.7
QUIF **Quistinic** 23.92 305 *eP* P 04 49 53.7 +0.2
QUIF **Quistinic** 23.92 305 *eP* P 04 49 53.7 +0.2
QUIF **Quistinic** 23.92 305 *eP* P 04 49 53.7 +0.2
NOA **NORSAR Array B** 25.32 343 P P 04 50 06.8 +0.5
NOA **NORSAR Array B** 25.32 343 P P 04 50 06.8 +0.5
NOA **NORSAR Array B** 25.32 343 P P 04 50 06.8 +0.5
1.3nm,0.9s,baz=148,slow=9.9,SNR=2.7
NOA LR LR 05 00 19.3
comp=Z,49nm,18.9s,baz=180,slow=37
AKTO **Aktyubinsk** 25.84 50 P P 04 50 10.5 -0.5
AKTO **Aktyubinsk** 25.84 50 P P 04 50 10.5 -0.5
AKTO **Aktyubinsk** 25.84 50 P P 04 50 10.5 -0.5
1.8nm,0.8s,baz=242,slow=11,SNR=6.1
ARCES **ARCESS Array B** 31.97 359 LR LR 05 03 52.7
comp=Z,58nm,20.1s,baz=186,slow=36
TOA0 **Torodi Ar. Sit** 32.89 229 *eP* P 04 51 13.8 -0.2
TOA0 **Torodi Ar. Sit** 32.89 229 *eP* P 04 51 13.8 -0.2
TORD **Torodi Ar. Bea** 32.89 229 P P 04 51 14.2 +0.3
TORD **Torodi Ar. Bea** 32.89 229 P P 04 51 14.2 +0.3
TORD **Torodi Ar. Bea** 32.89 229 P P 04 51 14.2 +0.3
2.2nm,0.8s,baz=38,slow=9.0,SNR=16
MKAR **Makanchi Array** 41.57 59 P P 04 52 28.0 +0.6
MKAR **Makanchi Array** 41.57 59 P P 04 52 28.0 +0.6
MKAR **Makanchi Array** 41.57 59 P P 04 52 28.0 +0.6
3.0nm,0.7s,baz=273,slow=7.0,SNR=19
DBIC **Dimbokro** 41.93 231 P P 04 52 30.8 +0.2
DBIC **Dimbokro** 41.93 231 P P 04 52 30.8 +0.2
DBIC **Dimbokro** 41.93 231 P P 04 52 30.8 +0.2
1.7nm,0.7s,baz=18,slow=11,SNR=4.3
LIC **Lamto** 42.38 230 *eP* P 04 52 34.2 -0.1
8.1nm,0.7s
LIC **Lamto** 42.38 230 *eP* P 04 52 34.2 -0.1
8.1nm,0.7s
LIC **Lamto** 42.38 230 *eP* P 04 52 34.2 -0.1
4.1nm,0.7s
ZALV **Zalesovo Beam** 42.56 48 P P 04 52 35.0 -0.3
ZALV **Zalesovo Beam** 42.56 48 P P 04 52 35.0 -0.3
ZALV **Zalesovo Beam** 42.56 48 P P 04 52 35.0 -0.3
3.8nm,0.6s,baz=267,slow=8.9,SNR=20
GTA **Gaotai** 55.90 64 *eP* P 04 54 18.8 +1.0
GTA pP pP 04 54 22.6 -0.1
GTA sP sP 04 54 25.5 +0.9
GTA pmax pmax
comp=Z,3.0nm,0.8s
SONM **Songino Array** 57.13 52 P P 04 54 27.0 +0.6
SONM **Songino Array** 57.13 52 P P 04 54 27.0 +0.6
SONM **Songino Array** 57.13 52 P P 04 54 27.0 +0.6
1.3nm,0.8s,baz=293,slow=7.4,SNR=7.3
XAN **Xi'an** 64.84 65 P P 04 55 22.8 +4.0
XAN pP pP 04 55 31.4 +7.5
XAN pmax pmax
comp=Z,1.0nm,1.0s
CMAR **Chiang Mai Arr** 65.28 85 P P 04 55 21.4 -0.5
CMAR **Chiang Mai Arr** 65.28 85 P P 04 55 21.4 -0.5
CMAR **Chiang Mai Arr** 65.28 85 P P 04 55 21.4 -0.5
1.1nm,0.3s,baz=301,slow=8.3,SNR=4.3
RCBR **Riachuelo** 72.23 248 LR LR 05 28 55.5
comp=Z,54nm,18.0s,baz=258,slow=37
YKA **Yellowknife Ar** 75.42 342 P P 04 56 22.6 -0.5
YKA **Yellowknife Ar** 75.42 342 P P 04 56 22.6 -0.5
YKA **Yellowknife Ar** 75.42 342 P P 04 56 22.6 -0.5
0.9nm,0.8s,baz=35,slow=5.4,SNR=15
ILAR **Eielson Array** 77.80 357 P P 04 56 36.2 -0.4
ILAR **Eielson Array** 77.80 357 P P 04 56 36.2 -0.4
ILAR **Eielson Array** 77.80 357 P P 04 56 36.2 -0.4
0.7nm,0.8s,baz=336,slow=3.9,SNR=12
BDFB **Brasilia** 87.60 248 P P 04 57 29.8 +1.5
BDFB **Brasilia** 87.60 248 P P 04 57 29.8 +1.5
BDFB **Brasilia** 87.60 248 P P 04 57 29.8 +1.5
1.7nm,0.8s,baz=324,slow=1.4,SNR=4.3
TXAR **Lajitas Array** 98.65 318 LR LR 05 46 24.2
comp=Z,264nm,18.7s,baz=185,slow=38

AUST ***23*** *04:55:09.6±2.8,31°.24S×175°.23W,h35km±12km, Error ellipse: s-maj=35.6km s-min=11.5km az=92.0*
ISCJB ***23*** *04:55:20.8±3.0,31°.21S±0°.05×177°.92W±0°.05,h2km±19km, mb5.0/46,MS4.5/17, Error ellipse: s-maj=8.4km s-min=6.5km az=140.8*
IDC ***23*** *04:55:21.4±0.4,31°.15S×177°.94W,h0km,mb4.6/18, mb1 4.7/20,mb1mx4.7/21,mbtmp4.6/20,ML2.7/1,MS4.3/14, Ms1 4.3/14,ms1mx4.2/27, Error ellipse: s-maj=17.4km s-min=13.7km az=111.0*
BJI ***23*** *04:55:21.8,31°.19S×177°.78W,h13km,mB5.6/16, mb5.1/16,Ms5.2/9,Ms7 4.8/8*
NEIC ***23*** *04:55:26.0±1.9,31°.17S×177°.88W,h30km±13km,mb5.1/22, Error ellipse: s-maj=7.3km s-min=5.7km az=134.0*
MOS ***23*** *04:55:25.8±1.0,31°.12S×177°.92W,h33km,mb5.4/16, Error ellipse: s-maj=12.2km s-min=10.3km az=84.5*

ISC 23 04:55:24.0±0.5,31°.22S±0°.05×177°.75W±0°.06,h17km±2km, h17km:pP-P,n288,σ1$36/314,mb5.1/45,MS4.5/18, 23C-18D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	1.97	356	*e*Pn		**Pn**		**04 55 55.0**	**-1.6**
RAO				*e*Sn		**Sn**		**04 56 20.2**	**-0.6**
RAO	**Raoul Island**	1.97	356	Pn		**Pn**		**04 55 54.6**	**-2.0**
	976nm,0.3s,baz=229,slow=7.1,SNR=31								
RAO				Sn		**Sn**		**04 56 20.0**	**-0.8**
	1μm,0.3s,baz=270,slow=20,SNR=12								
URZ	**Urewera**	8.20	210	*e*Pn		Pn		04 57 17.0	-5.0
URZ				Sn		Sn		04 58 47.7	-6.6
URZ	**Urewera**	8.20	210	Pn		Pn		04 57 16.7	-5.4
	2.9nm,0.3s,baz=271,slow=2.7,SNR=9.6								
URZ				Sn		Sn		04 58 47.7	-6.6
	12nm,0.3s,baz=59,slow=19,SNR=7.2								
OUZ	**Omahuta**	8.27	239	*e*Pn		**Pn**		**04 57 25.5**	**+2.3**
BKZ	**Black Stump Fm**	9.22	209	*e*Pn		**Pn**		**04 57 35.3**	**-0.9**
RPZ	**Rata Peaks**	15.29	212	*e*Pn		**Pn**		**04 58 54.6**	**-4.5**
	33nm,0.9s								
RPZ				*e*Sn		Sn		05 01 30.8	-17
RPZ	**Rata Peaks**	15.29	212	Pn		**Pn**		**04 58 54.8**	**-4.3**
	2.0nm,0.3s,baz=48,slow=6.3,SNR=7.5								
RPZ				Sn		Sn		05 01 31.1	-17
	1.3nm,0.3s,baz=246,slow=20,SNR=5.6								
ODZ	**Otahua Downs**	16.52	210	*e*P		**Pn**		**04 59 16.0**	**+1.1**
	29nm,0.8s								
DZM	**Mont Dzumac**	16.80	299	*e*P		**P**		**04 59 21.8**	**+1.1**
	385nm,1.6s								
DZM				*e*LR		LR		05 03 03.7	
	2μm,24.9s								
DZM	**Mont Dzumac**	16.80	299	*e*Pn		**P**		**04 59 21.8**	**+1.1**
	138nm,1.2s								
DZM	**Mont Dzumac**	16.80	299	Pn		**P**		**04 59 20.1**	**-0.6**
	0.6nm,0.3s,baz=112,slow=12,SNR=20								
DZM				LR		LR		05 03 07.3	
	comp=Z,614nm,19.5s,baz=206,slow=28								
AFI	**Afiamalu**	18.08	19	*e*Pn		**P**		**04 59 35.3**	**+0.4**
	162nm,1.4s								
AFI				S		Sn		05 02 38.8	-17
AFI	**Afiamalu**	18.08	19	P		**P**		**04 59 34.9**	**0.0**
	1.5nm,0.3s,baz=78,slow=18,SNR=3.9								
AFI				S		Sn		05 02 38.8	-17
	2.3nm,0.3s,baz=47,slow=19,SNR=3.6								
RAR	**Rarotonga**	18.94	63	P		**Pn**		**04 59 45.1**	**+0.3**
RAR	**Rarotonga**	18.94	63	P		**Pn**		**04 59 45.1**	**+0.3**
	2.6nm,0.3s,baz=128,slow=0.0,SNR=3.4								
RAR				LR		LR		05 04 58.4	
	comp=Z,624nm,21.9s,baz=315,slow=30								
ARMA	**Armidale**	26.27	264	*e*P		**P**		**05 01 00.5**	**+1.9**
	29nm,0.7s								
ARMA	**Armidale**	26.27	264	⇓P		**P**		**05 01 00.7**	**+2.0**
	baz=28,SNR=14								
TBI	**Tubuai**	26.29	80	*e*LQ		LQ		05 06 08.3	
	2μm,24.2s								
TBI				*e*LR		LR		05 07 37.3	
	618nm,22.8s,baz=248								
TBI	**Tubuai**	26.29	80	*e*T		T		05 28 05.1	
	31nm,0.4s								
MGCD	**Mangrove Creek**	26.37	257	P		**P**		**05 01 01.4**	**+2.0**
	baz=28,SNR=12								
CNB	**Canberra Magne**	27.72	253	P		**P**		**05 01 12.7**	**+1.1**
	baz=30,SNR=7.4								
MILA	**Mila**	27.91	249	P		**P**		**05 01 14.4**	**+1.2**
	baz=30,SNR=7.2								
EIDS	**Eidsvold**	28.00	274	*e*P		**P**		**05 01 14.1**	**+0.1**
	68nm,0.9s								
CAN	**Canberra**	28.02	253	*e*P		**P**		**05 01 14.7**	**+0.4**
CAN				pmax		pmax			
	comp=Z,55nm,1.4s								
CAN	**Canberra**	28.02	253	*e*P		**P**		**05 01 14.7**	**+0.4**
	comp=Z,54nm,1.4s								
CAN	**Canberra**	28.02	253	⇓P		**P**		**05 01 15.0**	**+0.7**
	baz=30								
YNG	**Young**	28.56	255	⇓P		**P**		**05 01 20.0**	**+1.0**
	baz=31,SNR=18								
PPT2	**Papeete2**	28.93	69	*e*LQ		LQ		05 07 07.7	
	comp=Z,1μm,24.5s								
PPT2				*e*LR		LR		05 08 46.2	
	comp=Z,524nm,24.5s,baz=234								
PPT2	**Papeete2**	28.93	69	*e*T		T		05 31 24.9	
	comp=Z,6.9nm,0.4s								
PPT	**Papeete**	28.94	69	LR		LR		05 11 22.2	
	comp=Z,428nm,19.0s,baz=244,slow=33								
TVO	**Taravao**	29.08	69	*e*T		T		05 31 36.1	
	comp=Z,1.6nm,0.3s								
RMQ	**Roma**	29.64	271	⇓P		**P**		**05 01 30.4**	**+1.7**
	baz=32,SNR=34								
MEH	**Mehetia**	29.99	71	*e*T		T		05 32 44.0	
	comp=Z,18nm,0.3s								
HNR	**Honiara**	30.00	312	LR		LR		05 11 46.8	
	comp=Z,379nm,19.7s,baz=200,slow=33								
TOO	**Toolangi**	30.84	248	⇓P		**P**		**05 01 39.4**	**+0.2**
	baz=33,SNR=7.1								
CMSA	**Cobar Meteorol**	31.12	260	⇑P		**P**		**05 01 42.1**	**+0.4**
	baz=33,SNR=82								
VAH	**Vaihoa**	31.79	67	*e*T		T		05 34 59.2	
	comp=Z,29nm,0.3s								
ARPS	**Mount Arapiles**	33.77	249	⇑P		**P**		**05 02 05.1**	**+0.2**
	baz=36,SNR=6.9								
CTA	**Charters Tower**	34.15	280	⇑P		**P**		**05 02 09.5**	**+1.2**
	baz=36								
CTAO	**Charters Tower**	34.15	280	*e*P		**P**		**05 02 08.7**	**+0.4**
CTAO				pmax		pmax			
	comp=Z,143nm,0.8s								
CTAO	**Charters Tower**	34.15	280	*e*P		**P**		**05 02 08.7**	**+0.4**
	comp=Z,143nm,0.8s								
STKA	**Stephens Creek**	34.51	258	*e*P		**P**		**05 02 11.3**	**0.0**
STKA	**Stephens Creek**	34.51	258	P		**P**		**05 02 10.8**	**-0.6**
	comp=Z,36nm,1.1s,baz=97,slow=9.4,SNR=33								
STKA				LR		LR		05 15 24.0	
	comp=Z,565nm,18.3s,baz=305,slow=35								
STKA	**Stephens Creek**	34.51	258	P		**P**		**05 02 11.3**	**0.0**
	baz=36,SNR=17								
HTT	**Hallett**	36.48	255	⇓P		**P**		**05 02 27.5**	**-0.8**
	baz=38,SNR=19								
RKT	**Rikitea**	38.71	89	*e*LR		LR		05 13 23.6	
	comp=Z,463nm,23.2s,baz=255								
BBOO	**Buckleboo**	38.96	255	*e*P		**P**		**05 02 47.4**	**-1.8**
	comp=Z,788nm,0.7s								
BBOO	**Buckleboo**	38.96	255	⇓P		**P**		**05 02 47.5**	**-1.8**
	baz=41,SNR=23								
PMG	**Port Moresby**	39.15	296	*e*P		**P**		**05 02 52.0**	**+1.0**
	comp=Z,10nm,0.5s								
QIS	**Mount Isa**	39.59	275	P		**P**		**05 02 54.5**	**-0.2**
	baz=42,SNR=6.9								
COEN	**Coen**	39.70	287	*e*P		**P**		**05 02 56.1**	**+0.5**
COEN	**Coen**	39.70	287	⇓P		**P**		**05 02 55.6**	**0.0**
	baz=42,SNR=17								
AS08	**Alice Springs**	43.23	268	⇑P		**P**		**05 03 23.6**	**-0.9**
	baz=45								
AS09	**Alice Springs**	43.24	268	⇑P		**P**		**05 03 23.8**	**-0.8**
	baz=45								
AS31	**Alice Springs**	43.28	268	*e*P		**P**		**05 03 24.0**	**-1.0**
ASAR	**Alice Springs**	43.28	268	P		**P**		**05 03 24.5**	**-0.5**
ASAR				ScP		**ScP**		**05 09 05.1**	**+0.6**
ASAR	**Alice Springs**	43.28	268	P		**P**		**05 03 24.5**	**-0.5**
	comp=Z,35nm,0.8s,baz=106,slow=7.3,SNR=232								
ASAR				ScP		**ScP**		**05 09 05.1**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=114,slow=4.0,SNR=4.3								
ASAR				LR		LR		05 20 31.6	
	comp=Z,465nm,20.0s,baz=253,slow=35								
AS15	**Alice Springs**	43.29	268	⇓P		**P**		**05 03 24.3**	**-0.7**
	baz=45								
WRAB	**Tennant Creek**	44.34	273	*c i*P		**P**		**05 03 32.3**	**-1.2**
WRAB	**Tennant Creek**	44.34	273	*e*P		**P**		**05 03 31.8**	**-1.7**
	comp=Z,159nm,0.8s								
WRAB	**Tennant Creek**	44.34	273	P		**P**		**05 03 32.9**	**-0.6**
	comp=Z,479nm,0.7s,SNR=24								
WRA	**Warramunga Arr**	44.35	273	P		**P**		**05 03 32.2**	**-1.3**
WRA				ScP		**ScP**		**05 09 08.1**	**-0.7**
WRA	**Warramunga Arr**	44.35	273	P		**P**		**05 03 32.2**	**-1.3**
	comp=Z,50nm,0.7s,baz=114,slow=7.8,SNR=177								
WRA				ScP		**ScP**		**05 09 08.1**	**-0.7**
	comp=Z,3.6nm,1.0s,baz=116,slow=4.1,SNR=5.8								
WRA				LR		LR		05 21 33.1	
	comp=Z,782nm,18.6s,baz=115,slow=36								
FORT	**Forrest**	46.05	256	*e*P		**P**		**05 03 44.3**	**-2.6**
	comp=Z,34nm,0.8s								
FORT	**Forrest**	46.05	256	⇑P		**P**		**05 03 44.9**	**-2.0**
	baz=48								
VNDA	**Vanda**	47.30	186	*e*P		**P**		**05 03 57.6**	**+1.5**
	comp=Z,18nm,1.4s								
VNDA	**Vanda**	47.30	186	P		**P**		**05 03 57.0**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=13,slow=5.0,SNR=8.8								
VNDA				LR		LR		05 21 25.3	
	comp=Z,284nm,18.5s,baz=24,slow=33								
WRKA	**Warakurna**	47.59	263	⇑P		**P**		**05 03 56.7**	**-2.4**
	baz=50,SNR=19								
KDU	**Kakadu**	49.27	281	⇑P		**P**		**05 04 10.4**	**-1.6**
	baz=51,SNR=10								
MTN	**Manton Dam**	50.32	279	⇑P		**P**		**05 04 18.7**	**-1.4**
	baz=52								
KNRA	**Kununurra**	50.98	275	⇑P		**P**		**05 04 24.3**	**-0.8**
	baz=53,SNR=3.4								
FITZ	**Fitzroy Crossi**	52.57	270	⇑P		**P**		**05 04 35.4**	**-1.6**
	baz=55								
QSPA	**South Pole Qui**	58.89	180	P		**P**		**05 05 22.6**	**+0.8**
QSPA	**South Pole Qui**	58.89	180	P		**P**		**05 05 22.5**	**+0.8**
	comp=Z,12nm,0.9s,baz=15,slow=2.5,SNR=17								
MIR	**Mirnyy**	61.49	207	*e*P		**P**		**05 05 39.5**	**+0.1**
MIR				*e*				05 05 53.0	
MIR				pmax		pmax			
	comp=Z,81nm,1.5s								
KAPI	**Kappang**	63.96	280	*e*P		**P**		**05 05 55.7**	**-1.0**
	comp=Z,48nm,0.8s								
MAW	**Mawson**	71.62	201	P		**P**		**05 06 45.1**	**+1.1**
MAW	**Mawson**	71.62	201	P		**P**		**05 06 45.1**	**+1.1**
	comp=Z,15nm,1.0s,baz=92,slow=2.3,SNR=4.3								
MAW				LR		LR		05 38 34.5	
	comp=Z,421nm,18.4s,baz=122,slow=36								
USHA	**Ushuaia**	75.12	146	LR		LR		05 35 31.7	
	comp=Z,231nm,18.0s,baz=202,slow=32								
SYO	**Syowa Base**	76.36	193	⇑*e*P		**P**		**05 07 09.7**	**-2.1**
SNAA	**Sanae**	77.33	178	*e*P		**P**		**05 07 16.7**	**-0.6**
	comp=Z,37nm,1.0s								
MJAR	**Matsushiro Arr**	79.03	325	P		**P**		**05 07 25.3**	**-1.8**
MJAR	**Matsushiro Arr**	79.03	325	P		**P**		**05 07 25.3**	**-1.8**
	comp=Z,3.4nm,0.9s,baz=165,slow=5.9,SNR=5.7								
MAJO	**Matsushiro**	79.04	325	*e*P		**P**		**05 07 26.4**	**-0.7**
MAJO				pmax		pmax			
	comp=Z,27nm,1.3s								
MAJO	**Matsushiro**	79.04	325	*e*P		**P**		**05 07 26.4**	**-0.7**
	comp=Z,27nm,1.3s								
H03N3	**Juan Fernandez**	80.03	123	T		T		06 36 40.9	
	baz=238,slow=75,SNR=14								
H03N2	**Juan Fernandez**	80.03	123	T		T		06 36 59.8	
	baz=238,slow=75,SNR=7.6								
H03N1	**Juan Fernandez**	80.05	123	T		T		06 36 53.0	
	baz=238,slow=75,SNR=9.7								
ERM	**Erimo**	81.28	332	⇑*e*P		**P**		**05 07 39.8**	**+0.8**
ERM				pmax		pmax			
	comp=Z,41nm,1.2s								
PLCA	**Paso Flores**	81.79	133	*e*P		**P**		**05 07 43.4**	**+1.2**
	comp=Z,46nm,1.9s								
PLCA	**Paso Flores**	81.79	133	P		**P**		**05 07 43.0**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=215,slow=12,SNR=3.6								
PLCA				LR		LR		05 36 45.2	
	comp=Z,175nm,18.9s,baz=248,slow=30								
KSRS	**Korea Array**	85.11	320	P		**P**		**05 07 58.9**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=136,slow=5.2,SNR=9.1								
KSAR	**Wonju Array Be**	85.12	320	P		**P**		**05 07 59.0**	**0.0**
QIZ	**Qiongzhong**	85.54	295	P		**P**		**05 08 02.3**	**+0.8**
QIZ				PP		**PP**		**05 11 20.5**	**+0.1**
QIZ				S		**S**		**05 18 34.6**	**+1.9**
QIZ				SS		**SS**		**05 24 07.8**	**-1.2**
QIZ				pmax		pmax			
	comp=Z,100nm,5.1s								
YSS	**Yuzh-Sakhalins**	85.58	334	*e*P		**P**		**05 08 00.0**	**-1.0**
YSS				*e*				05 08 13.2	
VES	**Vestal, Richgr**	86.49	44	P		**P**		**05 08 07.1**	**+1.3**
	baz=87								
EDW2	**Edwards Air Fo**	86.50	45	P		**P**		**05 08 07.1**	**+1.2**
	baz=87								
PFO	**Pinyon Flat Ob**	86.61	47	LR		LR		05 38 03.7	
	comp=Z,199nm,18.5s,baz=255,slow=30								
PETK	**Petropavlovsk-**	86.66	345	P		**P**		**05 08 06.3**	**+0.1**
PETK	**Petropavlovsk-**	86.66	345	P		**P**		**05 08 06.2**	**+0.1**
PETK	**Petropavlovsk-**	86.66	345	P		**P**		**05 08 06.2**	**+0.1**
	comp=Z,11nm,0.8s,baz=126,slow=7.9,SNR=13								
ISA	**Isabella**	86.73	45	P		**P**		**05 08 08.1**	**+1.0**
	baz=87								
NJ2	**Nanjing**	86.94	311	*e*P		**P**		**05 08 08.3**	**+0.2**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
BC3	**Big Chuckawall**	87.27	48	P		**P**		**05 08 11.8**	**+2.0**
	baz=88								
GSC	**Goldstone**	87.50	46	P		**P**		**05 08 12.7**	**+1.9**
	baz=88								
MPMC	**Manual Prospec**	87.59	45	P		**P**		**05 08 13.2**	**+1.8**
	baz=88								
USRK	**Ussuriysk Arra**	87.96	326	P		**P**		**05 08 12.3**	**-0.4**
	comp=Z,4.2nm,0.8s,baz=193,slow=4.1,SNR=8.6								
L02D	**Cave Junction,**	88.39	37	P		P		05 08 18.2	+3.4
	baz=89								
PDMCI	**Parker Dam,Lak**	88.52	48	P		**P**		**05 08 17.6**	**+2.0**
	baz=89								
YBH	**Yreka Blue Hor**	88.55	38	P		**P**		**05 08 16.9**	**+1.2**
YBH	**Yreka Blue Hor**	88.55	38	P		**P**		**05 08 16.9**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=204,slow=9.7,SNR=3.2								
NVAR	**Mina Array Bea**	88.70	43	P		**P**		**05 08 17.8**	**+1.1**
NVAR	**Mina Array Bea**	88.70	43	P	

MNTX	**Cornudas Mount**	**92.78**	**54**	*e*P		**P**		**05 08 35.6**	**0.0**
	comp=Z,0.8nm,0.5s								
NNA	**Nana**	**92.99**	**106**	*e*P		**P**		**05 08 37.7**	**+0.7**
	comp=Z,18nm,1.0s								
LVC	**Limon Verde**	**93.35**	**119**	*e*P		**P**		**05 08 38.7**	**-0.1**
	comp=Z,26nm,1.7s								
CMAR	**Chiang Mai Arr**	**93.87**	**289**	P		**P**		**05 08 41.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**93.87**	**289**	P		**P**		**05 08 41.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=154,slow=4.4,SNR=7.5								
ANMO	**Albuquerque**	**93.92**	**51**	P		**P**		**05 08 42.2**	**+1.2**
ANMO	**Albuquerque**	**93.92**	**51**	P		**P**		**05 08 42.2**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=272,slow=8.6,SNR=3.5								
ATAH	**Atahualpa**	**94.28**	**101**	LR		LR		05 40 29.7	
	comp=Z,78nm,20.9s,baz=158,slow=29								
HLID	**Hailey**	**94.29**	**41**	P		**P**		**05 08 43.4**	**+1.0**
	baz=95								
PDAR	**Pinedale Array**	**96.58**	**43**	P		**P**		**05 08 53.9**	**+0.9**
PDAR				PKKPbc		**PKKPbc**		**05 25 37.2**	**-0.4**
PDAR	**Pinedale Array**	**96.58**	**43**	P		**P**		**05 08 53.9**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=222,slow=4.8,SNR=5.5								
PDAR				PKKPbc		**PKKPbc**		**05 25 37.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=76,slow=2.9,SNR=7.1								
CD2	**Chengdu**	**96.70**	**302**	*e*P		**P**		**05 08 53.8**	**+0.2**
CD2				sP		**sP**		**05 09 00.8**	**-0.5**
CD2				PP		**PP**		**05 12 51.3**	**+2.5**
CD2				SKS		**SKSac**		**05 19 29.5**	**-0.4**
CD2				S		**S**		**05 20 11.9**	**-2.6**
CD2				sS		**sS**		**05 20 20.1**	**-3.9**
CD2				SS		**SS**		**05 26 50.8**	**+0.7**
CD2				pmax		pmax			
	comp=Z,10.0nm,1.2s								
CD2				pmax		pmax			
	comp=Z,70nm,7.1s								
CD2				LR		LR			
	comp=Z,100nm,9.6s								
CD2				LR		LR			
	comp=Z,120nm,13.2s								
HHC	**Hu-ho-hao-te**	**96.95**	**314**	*e*P		**P**		**05 08 56.8**	**+2.2**
HHC				pP		**pP**		**05 09 03.6**	**+3.3**
HHC				PP		**PP**		**05 12 52.4**	**+1.8**
HHC				S		**S**		**05 20 17.6**	**+1.2**
HHC				SS		**SS**		**05 26 55.3**	**+1.9**
HHC				pmax		pmax			
	comp=Z,24nm,1.1s								
HHC				pmax		pmax			
	comp=Z,200nm,8.0s								
HHC				LR		LR			
	comp=Z,300nm,18.7s								
HHC				LR		LR			
	comp=Z,200nm,17.4s								
MCK	**McKinley**	**97.35**	**12**	*e*P		Pdif		05 08 56.6	+0.9
MCK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MCK	**McKinley**	**97.35**	**12**	*e*P		Pdif		05 08 56.6	+0.9
	comp=Z,5.6nm,0.8s								
LPAZ	**La Paz**	**97.61**	**114**	P		Pdif		05 09 00.3	+1.4
LPAZ	**La Paz**	**97.61**	**114**	P		Pdif		05 09 00.3	+1.4
	comp=Z,0.8nm,0.6s,baz=154,slow=3.0,SNR=3.9								
LPAZ				LR		LR		05 42 05.6	
	comp=Z,83nm,20.7s,baz=252,slow=29								
ILAR	**Eielson Array**	**98.68**	**13**	P		**P**		**05 09 01.3**	**-0.3**
ILAR	**Eielson Array**	**98.68**	**13**	P		**P**		**05 09 01.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=210,slow=6.0,SNR=7.8								
LZH	**Lanzhou**	**99.38**	**306**	*e*P		**Pdif**		**05 09 06.8**	**+1.1**
LZH				pP		**pP**		**05 09 10.3**	**-1.1**
LZH				sP		**sP**		**05 09 11.5**	**-1.9**
LZH				*e*PP		**PP**		**05 13 12.8**	**+3.4**
LZH				pmax		pmax			
	comp=Z,15nm,1.5s								
LZH				pmax		pmax			
	comp=Z,76nm,9.3s								
LZH				LR		LR			
	comp=Z,260nm,17.0s								
LZH				LR		LR			
	comp=Z,250nm,16.7s								
LZH				LR		LR			
	comp=Z,310nm,19.6s								
YKA	**Yellowknife Ar**	**106.09**	**26**	PKKPbc		PKKPbc		05 25 09.3	-0.8
YKA	**Yellowknife Ar**	**106.09**	**26**	PKKPbc		PKKPbc		05 25 09.3	-0.8
	comp=Z,0.6nm,0.9s,baz=46,slow=3.1,SNR=5.6								
WCI	**Wyandotte Cave**	**109.57**	**57**	*e*PKP		**PKiKP**		**05 13 53.5**	**-0.2**
WMQ	**Urumqi**	**113.90**	**308**	*e*PKP		**PKiKP**		**05 14 02.0**	**+0.2**
WMQ				PP		**PP**		**05 15 00.0**	**+4.0**
WMQ				PKS		**PKSdf**		**05 17 37.0**	**-1.4**
WMQ				SKS		**SKSdf**		**05 21 13.0**	**-0.1**
WMQ				SKKS		**SKKSac**		**05 21 53.0**	**-3.6**
WMQ				SS		**SS**		**05 30 46.0**	**+1.2**
WMQ				AMB		AMB			
	comp=Z,130nm,9.0s								
WMQ				LR		LR			
	comp=Z,230nm,25.0s								
WMQ				LR		LR			
	comp=Z,320nm,25.0s								
WMQ				LR		LR			
	comp=Z,150nm,22.0s								
RES	**Resolute Bay**	**117.96**	**17**	*e*PKPdf		**PKPdf**		**05 14 08.8**	**+0.2**
MK31	**Makanchi Array**	**118.46**	**310**	*e*PKIKP		**PKPdf**		**05 14 09.1**	**-1.3**
MK31	**Makanchi Array**	**118.46**	**310**	*e*PKPdf		**PKPdf**		**05 14 09.1**	**-1.3**
MKAR	**Makanchi Array**	**118.46**	**310**	PKIKP		**PKPdf**		**05 14 09.0**	**-1.4**
MKAR	**Makanchi Array**	**118.46**	**310**	PKP		**PKPdf**		**05 14 09.0**	**-1.4**
MKAR				PKKPbc		**PKKPab**		**05 24 30.7**	**+1.9**
MKAR	**Makanchi Array**	**118.46**	**310**	PKP		**PKPdf**		**05 14 09.0**	**-1.4**
	comp=Z,2.8nm,0.7s,baz=77,slow=1.5,SNR=23								
MKAR				PKKPbc		**PKKPab**		**05 24 30.7**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=308,slow=2.8,SNR=3.6								
ZAA0	**Zalesovo Array**	**118.78**	**318**	*e*PKPdf		**PKPdf**		**05 14 09.5**	**-1.3**
ZALV	**Zalesovo Beam**	**118.78**	**318**	PKIKP		**PKPdf**		**05 14 09.5**	**-1.2**
ZALV	**Zalesovo Beam**	**118.78**	**318**	PKP		**PKPdf**		**05 14 09.5**	**-1.2**
ZALV	**Zalesovo Beam**	**118.78**	**318**	PKP		**PKPdf**		**05 14 09.5**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=180,slow=2.0,SNR=9.1								
KSH	**Kashi**	**120.84**	**300**	PKP		**PKPdf**		**05 14 16.1**	**+0.7**
KSH				PP		**PP**		**05 15 47.3**	**+2.8**
KSH				PKS		**PKSdf**		**05 17 49.1**	**-3.0**
KSH				SKS		**SKSdf**		**05 21 20.1**	**-6.6**
KSH				SKKS		SKKSac		05 22 35.1	-8.0
KSH				SS		**SS**		**05 32 14.1**	**-1.4**
KSH				AMB		AMB			
	comp=Z,140nm,3.8s								
KSH				LR		LR			
	comp=Z,230nm,5.9s								
KSH				LR		LR			
	comp=Z,180nm,6.3s								
KSH				LR		LR			
	comp=Z,140nm,7.1s								
KURK	**Kurchatov**	**121.77**	**313**	*e*PKIKP		**PKPdf**		**05 14 15.2**	**-1.4**
KURK	**Kurchatov**	**121.77**	**313**	*e*PKPdf		**PKPdf**		**05 14 15.2**	**-1.4**
TKM2	**Tokmak 2**	**122.03**	**304**	*e*PKIKP		**PKPdf**		**05 14 16.2**	**-1.5**
TKM2	**Tokmak 2**	**122.03**	**304**	*e*PKPdf		**PKPdf**		**05 14 16.2**	**-1.5**
EKS2	**Erkin-Say**	**123.26**	**303**	*e*PKIKP		**PKPdf**		**05 14 19.5**	**-0.4**
EKS2	**Erkin-Say**	**123.26**	**303**	*e*PKPdf		**PKPdf**		**05 14 19.5**	**-0.4**
KBL	**Kabul**	**124.73**	**293**	*e*PKIKP		**PKPdf**		**05 14 23.1**	**0.0**
KBL	**Kabul**	**124.73**	**293**	*e*PKPdf		**PKPdf**		**05 14 23.1**	**0.0**
KK31	**Karatay Array**	**125.70**	**303**	*i* PKIKP		**PKPdf**		**05 14 23.6**	**-0.8**
KK31				pmax		pmax			
	comp=Z,10.0nm,0.7s								
KKAR	**Karatay Array**	**125.70**	**303**	*e*PKIKP		**PKPdf**		**05 14 23.8**	**-0.7**
KKAR	**Karatay Array**	**125.70**	**303**	*e*PKPdf		**PKPdf**		**05 14 23.8**	**-0.7**
BVA0	**Borovoye Array**	**127.14**	**315**	*i* PKIKP		**PKPdf**		**05 14 26.2**	**-0.6**
BVA0				pmax		pmax			
	comp=Z,16nm,1.0s								
BRVK	**Borovoye**	**127.20**	**315**	*c i* PKIKP		**PKPdf**		**05 14 26.9**	**0.0**
BRVK				pmax		pmax			
	comp=Z,27nm,2.5s								
BRVK	**Borovoye**	**127.20**	**315**	*e*PKPdf		**PKPdf**		**05 14 26.9**	**0.0**
LSZ	**Lusaka**	**127.48**	**212**	*e*PKPdf		**PKPdf**		**05 14 27.9**	**-0.9**
TSUM	**Tsumeb**	**127.75**	**198**	*e*PKPdf		**PKPdf**		**05 14 29.1**	**-0.2**
AB31	**Akbulak array**	**133.60**	**310**	*i* PKIKP		**PKPdf**		**05 14 39.6**	**+0.4**
AB31				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ABKAR	**Akbulak array**	**133.60**	**310**	*e*PKPdf		**PKPdf**		**05 14 38.2**	**-1.0**
ABKAR				*e*SKPbc		**SKPbc**		**05 18 05.1**	**-2.0**
ABKAR				*e*SKPdf		**SKPdf**		**05 18 14.4**	**+0.8**
KMBO	**Kilima Mbogo**	**133.75**	**233**	*e*PKPdf		**PKPdf**		**05 14 41.1**	**+0.2**
KMBO				*e*SKPbc		**SKPab**		**05 18 10.9**	**-0.6**
ARU	**Arti**	**133.86**	**320**	*i* PKIKP		**PKPdf**		**05 14 40.5**	**+1.1**
ARU	**Arti**	**133.86**	**320**	*e*PKPdf		**PKPdf**		**05 14 40.2**	**+0.8**
ASCN	**Ascension**	**137.94**	**155**	*e*PKPdf		**PKPdf**		**05 14 48.5**	**0.0**
ARCES	**ARCESS Array B**	**139.43**	**348**	PKPpre		PKPpre		05 14 42.0	
ARCES				PKP		**PKPdf**		**05 14 48.9**	**-0.5**
ARCES	**ARCESS Array B**	**139.43**	**348**	PKhKP		PKPpre		05 14 42.0	
	comp=Z,5.4nm,0.8s,baz=31,slow=3.5,SNR=9.3								
ARCES				PKP		**PKPdf**		**05 14 48.9**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=356,slow=0.8,SNR=8.7								
DGRG	**David-gareji**	**144.11**	**299**	P		**PKPab**		**05 14 51.5**	**-4.8**
TBLG	**Delisi**	**144.58**	**299**	P		**PKPab**		**05 14 57.2**	**-0.8**
GNI	**Garni**	**144.63**	**297**	*e*PKPdf		PKPbc		05 14 58.9	+0.2
GUDG	**Gudauri**	**144.72**	**301**	P		**PKPdf**		**05 14 59.7**	**-0.3**
VRHR	**Novokhopersk**	**144.88**	**316**	*e*PKIKP		**PKPab**		**05 14 57.2**	**-1.6**
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VRHR				pmax		pmax			
	comp=N,10.0nm,0.7s								
VRHR				pmax		pmax			
	comp=E,20nm,0.7s								
ZEI	**Tsey**	**145.12**	**301**	*i* PKIKP		**PKPbc**		**05 14 58.7**	**-1.5**
ZEI				pmax		pmax			
	comp=Z,38nm,1.3s								
MOS	**Moscow**	**145.13**	**325**	*e*PKIKP		**PKPbc**		**05 14 58.4**	**-1.1**
MOS				*e*				05 15 10.1	
MOS				pmax		pmax			
	comp=Z,95nm,1.4s								
GOF	**Gofitskoye**	**145.44**	**305**	*e*PKIKP		**PKPdf**		**05 15 00.4**	**-0.4**
GOF				pmax		pmax			
	comp=Z,62nm,1.2s								
ONI	**Oni**	**145.47**	**301**	P		**PKPbc**		**05 15 01.1**	**0.0**
KBZ	**Khabaz**	**145.74**	**303**	PKP2		**PKPdf**		**05 15 01.5**	**+0.1**
KBZ	**Khabaz**	**145.74**	**303**	PKPbc		**PKPdf**		**05 15 01.5**	**+0.1**
KBZ	**Khabaz**	**145.74**	**303**	PKPbc		**PKPdf**		**05 15 01.5**	**+0.1**
	comp=Z,21nm,1.1s,baz=107,slow=2.4,SNR=23								
PUL	**Pulkovo**	**145.84**	**335**	*de*PKP2		**PKPdf**		**05 15 01.2**	**+0.2**
KIV	**Kislovodsk**	**145.86**	**303**	*i* PKP2		**PKPdf**		**05 15 01.6**	**-0.1**
KIV				pmax		pmax			
	comp=Z,27nm,1.1s								
KIV	**Kislovodsk**	**145.86**	**303**	*e*PKPbc		**PKPdf**		**05 15 01.6**	**-0.1**
OBN	**Obninsk**	**145.96**	**325**	*α i* PKP2		**PKPdf**		**05 15 01.1**	**-0.2**
OBN				pmax		pmax			
	comp=Z,267nm,1.7s								
OBN	**Obninsk**	**145.96**	**325**	*e*PKPbc		**PKPdf**		**05 15 01.4**	**0.0**
FINES	**FINESS Array B**	**145.99**	**340**	PKPbc		**PKPdf**		**05 15 01.1**	**-0.1**
FINES	**FINESS Array B**	**145.99**	**340**	PKPbc		**PKPdf**		**05 15 01.1**	**-0.1**
	comp=Z,61nm,0.8s,baz=54,slow=3.3,SNR=190								
VSR	**Storozhevoye**	**146.28**	**317**	*e*PKIKP		**PKPdf**		**05 15 01.1**	**-0.9**
VSR				pmax		pmax			
	comp=E,60nm,1.1s								
VSR				pmax		pmax			
	comp=Z,80nm,1.1s								
VSR				pmax		pmax			
	comp=N,10.0nm,1.0s								
VORD	**Divnogorie**	**146.30**	**317**	*e*PKIKP		**PKPdf**		**05 15 01.0**	**-1.1**
VORD				pmax		pmax			
	comp=Z,40nm,1.0s								
VORD				pmax		pmax			
	comp=N,10.0nm,0.7s								
VORD				pmax		pmax			
	comp=E,20nm,0.8s								
CHVG	**Ch'k'valeri**	**146.46**	**301**	P		**PKPdf**		**05 15 01.0**	**-1.7**
SOC	**Sochi**	**148.04**	**303**	*e*PKIKP		**PKPdf**		**05 15 05.2**	**-0.1**
SOC				*i*				05 15 09.2	
SOC				*e*				05 18 35.7	
SOC				*e*SS		SS		05 37 39.8	-2.7
SOC				pmax		pmax			
	comp=Z,23nm,1.1s								
SOC				pmax		pmax			
	comp=Z,20nm,1.0s								
VSU	**Vasula**	**148.06**	**336**	*ce*PKP2		**PKPbc**		**05 15 07.4**	**-0.5**
ANN	**Anapa**	**149.40**	**306**	*i* PKP2		**PKPbc**		**05 15 11.3**	**-0.5**
ANN				pmax		pmax			
	comp=Z,80nm,1.3s								
MALT	**Malatya**	**149.59**	**293**	⇓PKP2		**PKPbc**		**05 15 12.7**	**0.0**
MALT	**Malatya**	**149.59**	**293**	⇓*i* P		**PKPbc**		**05 15 12.6**	**-0.1**
NB2	**NORSAR Subarra**	**149.59**	**351**	PKP		**PKPbc**		**05 15 11.4**	**-0.5**
	comp=Z,15nm,0.8s,baz=21,slow=2.9								
NOA	**NORSAR Array B**	**149.59**	**351**	PKPbc		**PKPbc**		**05 15 11.3**	**-0.5**
NOA	**NORSAR Array B**	**149.59**	**351**	PKPbc		**PKPbc**		**05 15 11.3**	**-0.5**
	comp=Z,7.1nm,0.7s,baz=13,slow=4.1,SNR=20								
ZALF	**Zalf**	**150.30**	**283**	*e*P		**PKPbc**		**05 15 14.3**	**-0.2**
IDID	**Didziasalis**	**150.33**	**331**	*e*P		**PKPbc**		**05 15 13.5**	**-0.2**
IDID				AMB		AMB		05 15 32.8	
	comp=Z,22nm,1.2s								
ISAL	**Salakas**	**150.40**	**332**	*e*P		**PKPbc**		**05 15 13.6**	**-0.3**
ISAL				AMB		AMB		05 15 32.9	
	comp=Z,14nm,1.8s								
MICGM	**Minsk**	**150.40**	**329**	*e*		**PKPdf**		**05 15 10.0**	**+1.3**
MNK	**Minsk**	**150.42**	**329**	*e*PKIKP		**PKPdf**		**05 15 10.0**	**+1.3**
IIGN	**Ignalina**	**150.51**	**332**	*e*P		**PKPbc**		**05 15 13.5**	**-0.7**
IIGN				AMB		AMB		05 15 32.7	
	comp=Z,26nm,1.0s								
NACGM	**Naroch**	**150.60**	**331**	*e*P		**PKPbc**		**05 15 12.0**	**-2.4**
SALA	**Sala**	**150.78**	**282**	*e*P		**PKPbc**		**05 15 15.7**	**-0.1**
TOTH	**TOTAH**	**151.10**	**283**	*e*P		**PKPbc**		**05 15 16.3**	**-0.1**
WRDH	**Warideh**	**151.23**	**288**	*e*P		**PKPbc**		**05 15 16.1**	**-0.5**
BIDA	**Albida**	**151.29**	**287**	*e*P		**PKPbc**		**05 15 16.6**	**-0.2**
TCHB	**Talchebab**	**151.41**	**282**	*e*P		**PKPbc**		**05 15 16.9**	**-0.2**
BRBR	**Barbar**	**151.50**	**283**	*e*P		**PKPbc**		**05 15 16.9**	**-0.6**
SIM	**Simferopol'**	**151.62**	**308**	*e*PKIKP		**PKPbc**		**05 15 18.6**	**+1.5**
SIM				pmax		pmax			
	comp=Z,20nm,0.9s								
AKASG	**Malin Array Be**	**152.08**	**322**	PKIKP		**PKPbc**		**05 15 17.1**	**-0.9**
AKASG								05 15 27.9	
AKASG	**Malin Array Be**	**152.08**	**322**	PKPbc		**PKPbc**		**05 15 17.1**	**-0.9**
AKASG				PKPab		**PKPab**		**05 15 27.9**	**+0.4**
AKASG	**Malin Array Be**	**152.08**	**322**	PKPbc		**PKPbc**		**05 15 17.1**	**-0.9**
	comp=Z,22nm,0.8s,baz=54,slow=2.9,SNR=71								
AKASG				PKPab		**PKPab**		**05 15 27.9**	**+0.4**
	comp=Z,7.6nm,0.6s,baz=45,slow=5.2,SNR=11								
KIEV	**Kiev**	**152.09**	**322**	*e*PKIKP		**PKPbc**		**05 15 17.0**	**-1.0**
KIEV	**Kiev**	**152.09**	**322**	*e*PKPbc		**PKPbc**		**05 15 17.0**	**-1.0**
SUW	**Suwalki**	**152.70**	**333**	*e*PKIKP		**PKPbc**		**05 15 19.4**	**+0.2**
SUW				*e*				05 15 29.7	
SUW	**Suwalki**	**152.70**	**333**	*e*PKP		**PKPbc**		**05 15 19.9**	**+0.7**
SUW	**Suwalki**	**152.70**	**333**	*e*PKPbc		**PKPbc**		**05 15 19.4**	**+0.2**
SUW				*e*PKPab		**PKPab**		**05 15 29.6**	**-0.3**
BR131	**Keskin Array S**	**153.17**	**297**	*e*PKPbc		**PKPbc**		**05 15 20.0**	**-1.1**
BR131				*e*PKPab		**PKPab**		**05 15 32.5**	**-0.2**
BRTR	**Keskin Array B**	**153.17**	**297**	PKPbc		**PKPbc**		**05 15 19.9**	**-1.1**
BRTR				PKPab		**PKPab**		**05 15 30.8**	**-1.9**
BRTR	**Keskin Array B**	**153.17**	**297**	PKPbc		**PKPbc**		**05 15 19.9**	**-1.1**
	comp=Z,8.4nm,0.8s,baz=116,slow=2.9,SNR=33								
BRTR				PKPab		**PKPab**		**05 15 30.8**	**-1.9**
	comp=Z,5.1nm,0.8s,baz=141,slow=4.5,SNR=7.8								
CSS	**Prodhromos**	**153.75**	**287**	*e*PKPdf		**PKPdf**		**05 15 14.6**	**+0.2**
CSS				*e*PKPbc		**PKPbc**		**05 15 22.0**	**-0.2**
CSS				*e*PKPab		**PKPab**		**05 15 34.4**	**-0.8**
ANTO	**Ankara**	**153.79**	**298**	*e*PKIKP		**PKPdf**		**05 15 15.2**	**+0.9**
ANTO				*e*				05 15 22.6	
ANTO	**Ankara**	**153.79**	**298**	⇓*i* P		**PKPbc**		**05 15 21.4**	**-0.8**
ANTO	**Ankara**	**153.79**	**298**	*e*PKPdf		**PKPdf**		**05 15 15.2**	**+0.9**
ANTO				*e*PKPbc		**PKiKP**		**05 15 22.6**	**+0.3**
ANTO				*e*PKPab		**PKPab**		**05 15 35.4**	**+0.1**
LIC	**Lamto**	**154.21**	**163**	*e*P		**PKPbc**		**05 15 23.6**	**-0.2**
	comp=Z,33nm,0.7s								
KIC	**Kosan Boka**	**154.41**	**164**	*e*P		**PKPbc**		**05 15 26.5**	**+2.3**
	comp=Z,28nm,0.9s								
TIC	**Toumodi**	**154.62**	**163**	*e*P		**PKPbc**		**05 15 24.5**	**-0.2**
	comp=Z,4.7nm,0.2s								
DBIC	**Dimbokro**	**154.69**	**163**	*e*PKPdf		**PKPdf**		**05 15 16.7**	**+0.4**
DBIC				PKPbc		**PKPbc**		**05 15 23.9**	**-0.8**
DBIC				*e*PKPbc		**PKiKP**		**05 15 24.4**	**-0.4**
DBIC				PKPab		**PKPab**		**05 15 38.8**	**-0.6**
DBIC				*e*PKPab		PKPab		05 15 39.1	-0.2
DBIC	**Dimbokro**	**154.69**	**163**	PKPbc		**PKPbc**		**05 15 23.9**	**-0.8**
	comp=Z,5.5nm,1.0s,baz=170,slow=9.3,SNR=4.6								
DBIC				PKPab		**PKPab**		**05 15 38.8**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=204,slow=5.4,SNR=6.0								
BEL	**Belsk**	**155.29**	**332**	*e*PKP		PKPdf		05 15 25.8	+10
CFR	**Carcaliu**	**155.47**	**312**	⇑*i* P		PKPdf		05 15 26.0	+10
EKA	**Eskdalemuir Ar**	**155.59**	**7**	PKPab		**PKPab**		**05 15 42.7**	**+0.5**
EKA	**Eskdalemuir Ar**	**155.59**	**7**	PKPab		**PKPab**		**05 15 42.7**	**+0.5**
	baz=324,slow=3.5								
BUR08	**Bucovina Ar. S**	**155.99**	**320**	*e*PKPdf		**PKPdf**		**05 15 17.7**	**+0.5**
BUR08				*e*PKPab		**PKPab**		**05 15 43.8**	**-0.6**
BURAR	**Bucovina Array**	**155.99**	**320**	⇑*i* P		PKPdf		05 15 27.9	+11
KWP	**Kalwaria Pacla**	**156.03**	**326**	*e*PKP2		**PKPab**		**05 15 43.5**	**-0.9**
KWP	**Kalwaria Pacla**	**156.03**	**326**	*e*PKP		**PKPab**		**05 15 44.4**	**0.0**
KWP	**Kalwaria Pacla**	**156.03**	**326**	*e*PKPab		PKPab		05 15 43.5	-0.9
VRI	**Vrincioaia**	**156.03**	**315**	⇓PKP2		PKPab		05 15 37.7	-6.8
VRI	**Vrincioaia**	**156.03**	**315**	⇓*i* P		PKPab		05 15 37.7	-6.8
MLR	**Muntele Rosu**	**156.70**	**314**	⇓*i* P		**PKPdf**		**05 15 19.1**	**+0.9**
KOLS	**Kolonicke sed**	**156.71**	**325**	*e*		PKPab		05 15 36.4	-11
STHS	**Stebnicka Huta**	**156.87**	**327**	*e*		PKPab		05 15 35.1	-13
VOIR		**157.27**	**315**	⇑PKP2		PKPab		05 15 42.0	-7.9
VOIR		**157.27**	**315**	⇑*i* P		PKPab		05 15 42.0	-7.9
KSP	**Ksiaz**	**157.79**	**336**	*e*PKP2		**PKPab**		**05 15 51.8**	**0.0**
KSP	**Ksiaz**	**157.79**	**336**	*e*PKP		**PKPab**		**05 15 52.1**	**+0.3**
CLL	**Collm**	**158.41**	**341**	*e*(PKPdf)		**PKPdf**		**05 15 25.0**	**+5.1**
CLL				*e*PKPdiff		PKPab		05 15 37.0	-17
CLL				*i* PKPab		PKPab		05 15 53.7	-0.8
	comp=Z,27nm,1.6s								
CLL				*e*pPKPab		**pPKPab**		**05 16 04.0**	**+3.8**
CLL				Lm		MLR		06 51 00.0	
	comp=Z,100nm,19.5s								
BRG	**Berggiesshubel**	**158.53**	**339**	*e*PKP		PKPab		05 15 42.6	-12
	comp=Z,12nm,1.4s								
BRG				*e*				05 15 55.0	
	comp=Z,33nm,1.7s								
BRG				*e*				05 16 06.5	
	comp=Z,12nm,1.1s								
HGN	**Heimansgroeve**	**160.28**	**353**	*e*P		**PKPab**		**05 16 02.9**	**+0.3**
	comp=Z,36nm,1.2s								
CONA	**Conrad Observa**	**160.34**	**332**	⇑*i* PKPab		**PKPab**		**05 16 03.3**	**+0.1**
	comp=Z,7.9nm,1.0s								
WLF	**Walferdange**	**161.34**	**352**	*e*PKIKP		**PKPdf**		**05 15 24.0**	**+0.7**
WLF				*e*				05 16 06.3	
WLF	**Walferdange**	**161.34**	**352**	*e*PKPdf		**PKPdf**		**05 15 24.0**	**+0.7**
WLF				*e*PKPab		**PKPab**		**05 16 06.3**	**-1.0**
TOA0	**Torodi Ar. Sit**	**162.00**	**178**	*e*PKPdf		**PKPdf**		**05 15 24.7**	**-0.3**
TOA0				*e*PKPab		**PKPab**		**05 16 10.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**162.00**	**178**	PKP		**PKPdf**		**05 15 24.5**	**-0.5**
TORD				PKPab		**PKPab**		**05 16 10.5**	**-0.5**
TORD				PP		PP		05 20 00.3	+6.9
TORD	**Torodi Ar. Bea**	**162.00**	**178**	PKP		**PKPdf**		**05 15 24.5**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=282,slow=1.6,SNR=6.5								
TORD				PKPab		**PKPab**		**05 16 10.5**	**-0.5**
	comp=Z,11nm,1.1s,baz=177,slow=3.4,SNR=12								
TORD				PP		PP		05 20 00.3	+6.9
	comp=Z,1.2nm,0.9s,baz=178,slow=5.3,SNR=3.7								
ABTA	**Abfaltersbach**	**162.59**	**336**	⇓*i* PKPab		**PKPab**		**05 16 12.4**	**-0.6**
	comp=Z,19nm,1.3s								
FETA	**Feichten**	**162.92**	**340**	⇓*i* PKPab		**PKPab**		**05 16 15.0**	**+0.5**
	comp=Z,11nm,1.2s								
BNI	**Bardonecchia**	**165.76**	**347**	*e*PKP		**PKPab**		**05 16 27.0**	**0.0**
BNI	**Bardonecchia**	**165.76**	**347**	*e*PKPab		**PKPab**		**05 16 27.0**	**0.0**

NEIC 23 04:59:54.0, 39.32N×119.98W, h9km, ML3.7(REN), MW3.5(BRK), After REN., Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**0.60**	**50**	*e*Pg			Pg	05 00 05.7	-0.2
PAHR				*e*Sg			Sg	05 00 14.7	+0.7
BEKR	**Beckworth**	**0.62**	**332**	*e*Pg			Pg	05 00 05.6	-0.7
BEKR				*e*Sg			Sg	05 00 14.1	-0.5

PCIG		2.31	335	eP	Pn	05 12 22.6	-0.9		
PCIG				i S	Sn	05 12 49.6	-2.0		
PCIG		2.31	335	eP	Pn	05 12 22.6	-0.9		
PCIG				i S	Sn	05 12 49.6	-2.0		
RBDL	Robledal	2.52	78	eP	Pn	05 12 24.7	-1.7		
RBDL				eS	Sn	05 12 54.9	-2.0		
RTR	El Retiro	2.52	83	eP	Pn	05 12 25.3	-1.2		
SBLS	San Blas	2.54	84	eP	Pn	05 12 24.1	-2.7		
SNJE	San Jose	2.56	84	eP	Pn	05 12 24.7	-2.4		
SNJE				eS	Sn	05 12 56.5	-1.5		
MRL	Marmol	2.86	59	eP	Pn	05 12 31.1	0.0		
BOQS	Boqueron	2.86	87	eP	Pn	05 12 29.2	-2.0		
LFU	La Fuente	3.02	87	eP	Pn	05 12 31.6	-1.8		
LFRS	El Faro	3.07	89	eP	Pn	05 12 32.5	-1.5		
SNVI	San Vicente	3.29	89	eP	Pn	05 12 36.0	-1.1		
CNCH	Conchagua	4.28	94	eP	Pn	05 12 48.9	-1.8		
HUIG	Huatulco	4.34	300	i P	Pn	05 12 50.2	-1.1		
HUIG				i S	Sn	05 13 39.2	-2.4		
HUIG	Huatulco	4.34	300	i P	Pn	05 12 50.2	-1.1		
HUIG				i S	Sn	05 13 39.2	-2.4		
TGUH	Tegucigalpa,Un	4.83	84	ePn	Pn	05 12 57.1	-1.1		
VHO	Vista Hermosa	5.56	309	i P	Pn	05 13 06.3	-2.1		
VHO				i S	Sn	05 14 11.4	-0.6		
VHO	Vista Hermosa	5.56	309	i P	Pn	05 13 06.3	-2.1		
VHO				i S	Sn	05 14 11.4	-0.6		
TEIG	Tepich	7.60	29	ePn	Pn	05 13 35.2	-1.0		
TEIG				Sn	Sn	05 15 05.1	+3.1		
TEIG	Tepich	7.60	29	Pn	Pn	05 13 35.6	-0.6		
	5.3nm,0.3s,baz=247,slow=8.7,SNR=37								
TEIG	Sn				Sn	05 15 05.1	+3.1		
	1.2nm,0.3s,baz=38,slow=19,SNR=2.3								
TEIG				LR	LR	05 16 51.1			
	comp=Z,306nm,21.3s,baz=359,slow=40								
JTS	JuntasAbangare	7.83	114	ePn	Pn	05 13 40.3	+0.9		
732A	Laxson Ranch,	16.70	336	⇑P	P	05 15 43.8	+2.1		
	baz=17								
632A	Uvalde	17.32	337	⇓P	P	05 15 51.7	+3.1		
	baz=17								
534A	Blanco	17.35	342	⇓P	P	05 15 51.4	+2.5		
	baz=17								
533A	Kerrville	17.57	340	⇓P	P	05 15 53.6	+2.2		
	baz=18								
532A	Rocksprings	17.92	338	⇓P	P	05 15 57.9	+2.6		
	baz=18								
434A	Burnet	18.02	343	⇓P	P	05 15 58.8	+2.5		
	baz=18								
531A	Rocksprings	18.20	336	⇑P	P	05 16 01.1	+2.8		
	baz=18								
433A	Art	18.22	341	⇑P	P	05 16 00.7	+2.3		
	baz=18								
530A	J-C Ranch, Com	18.50	334	⇑P	Pn	05 16 04.8	+2.9		
	baz=18								
432A	Menard	18.56	339	⇑P	Pn	05 16 04.6	+2.0		
	baz=18								
628A	Black Gap, Mar	18.65	330	⇑P	Pn	05 16 07.2	+3.5		
	baz=19								
431A	Sonora	18.68	337	⇑P	Pn	05 16 05.9	+1.8		
	baz=19								
333A	Richland Sprin	18.71	342	⇓P	Pn	05 16 05.6	+1.2		
	baz=19								
529A	Stev Forest Ra	18.87	332	⇓P	Pn	05 16 08.2	+1.8		
	baz=19								
627A	Terlingua Ranc	18.87	329	⇑P	Pn	05 16 10.2	+3.7		
	baz=19,SNR=8.1								
TXAR	Lajitas Array	18.92	328	P	Pn	05 16 09.5	+2.5		
TXAR	Lajitas Array	18.92	328	P	Pn	05 16 09.5	+2.5		
	0.1nm,0.3s,baz=150,slow=10,SNR=17								
332A	Millersview	19.01	340	⇓P	Pn	05 16 09.7	+1.7		
	baz=19								
430A	Baggett Ranch,	19.02	336	⇓P	Pn	05 16 09.5	+1.3		
	baz=19								
OTAV	Otavalo	19.03	133	eP	Pn	05 16 09.7	+1.0		
429A	Davenport Ranc	19.16	334	⇓P	Pn	05 16 11.5	+1.7		
	baz=19								
528A	Cox Ranch, San	19.16	331	⇓P	Pn	05 16 12.3	+2.3		
	baz=19								
331A	San Angelo	19.18	338	⇓P	Pn	05 16 11.1	+1.1		
	baz=19								
626A	Big Bend Ranch	19.34	327	⇓P	Pn	05 16 14.6	+2.6		
	baz=19								
232A	Coleman	19.44	341	⇑P	P	05 16 13.6	+1.6		
	baz=19								
330A	Mertzon	19.55	337	⇑P	P	05 16 14.6	+1.5		
	baz=20								
527A	Woodward Ranch	19.55	329	⇓P	Pn	05 16 16.4	+1.8		
	baz=20								
428A	Kincaid Ranch,	19.59	332	⇑P	Pn	05 16 17.2	+2.1		
	baz=20,SNR=5.8								
ROSC	El Rosal	19.66	115	eP	Pn	05 16 16.7	+0.4		
231A	Bronte	19.71	339	⇓P	P	05 16 16.0	+1.1		
	baz=20								
526A	Mary Lane Ranc	19.72	328	⇑P	Pn	05 16 18.2	+1.6		
	baz=20								
133A	Hamilton Ranch	19.89	343	⇑P	P	05 16 17.9	+1.0		
	baz=20								
329A	Wagon Wheel Ra	19.94	335	⇓P	P	05 16 19.0	+1.6		
	baz=20								
230A	Sterling City	19.95	337	⇓P	P	05 16 18.5	+0.9		
	baz=20								
427A	Hayter Ranch,	20.03	331	⇑P	Pn	05 16 20.9	+0.6		
	baz=20								
ABTX	Abilene, Hawle	20.12	342	⇑P	P	05 16 20.3	+0.9		
	baz=20								
Z35A	Perchaven, San	20.18	348	⇓P	P	05 16 20.5	+0.5		
	baz=20								
426A	McDonald Obser	20.18	329	⇑P	Pn	05 16 24.4	+2.2		
	baz=20								
328A	Wristen Ranch,	20.20	333	⇑P	P	05 16 22.3	+2.0		
	baz=20,SNR=14								
229A	Bryant Ranch,	20.29	336	⇓P	P	05 16 22.1	+0.8		
	baz=20								
Z34A	Collier Ranch,	20.36	346	⇑P	P	05 16 23.1	+1.2		
	baz=20								
Z33A	Whitaker Ranch	20.49	344	⇑P	P	05 16 24.0	+0.7		
	baz=20								
130A	Snyder	20.54	339	⇑P	P	05 16 25.2	+1.3		
	baz=20								
326A	Caldwell Ranch	20.69	330	⇓P	Pn	05 16 28.4	+0.4		
	baz=21								
Z32A	Haskell	20.71	343	⇓P	P	05 16 26.3	+0.6		
	baz=21								
228A	UT Block 9, Go	20.74	334	⇓P	P	05 16 27.2	+1.0		
	baz=21								
425A	Indio Mountain	20.76	328	⇓P	Pn	05 16 29.9	+0.9		
	baz=21								
Y34A	Reagan Ranch,	20.89	347	⇓P	P	05 16 27.5	-0.2		
	baz=21								
129A	Stewart Farms,	20.90	337	⇑P	P	05 16 28.6	+0.8		
	baz=21,SNR=8.2								
Z31A	Sharp Cattle R	20.92	341	⇑P	P	05 16 28.5	+0.4		
	baz=21,SNR=5.6								
227A	Bennet, Jal	20.95	333	⇑P	P	05 16 30.0	+1.5		
	baz=21,SNR=5.6								
128A	Castleberry Fa	21.14	335	⇓P	P	05 16 31.0	+0.5		
	baz=21,SNR=9.0								
Y33A	Hilltop Ranch,	21.14	345	⇓P	P	05 16 31.6	+1.2		
	baz=21								
Z30A	Sanderson Ranc	21.22	339	⇑P	P	05 16 31.8	+0.5		
	baz=21								
325A	Bean Ranch, Si	21.22	329	⇓P	P	05 16 33.9	+2.4		
	baz=21,SNR=7.9								
Y32A	R-V Farms, Ver	21.35	343	⇓P	P	05 16 33.1	+0.4		
	baz=21								
Z29A	Hungry Hill Ra	21.40	338	⇑P	P	05 16 33.0	-0.3		
	baz=21,SNR=6.2								
226B	Tecolote Peak,	21.41	331	⇓P	P	05 16 35.2	+1.8		
	baz=21,SNR=20								
X34A	Smith Ranch, M	21.52	347	⇓P	P	05 16 36.3	+1.8		
	baz=21								
324A	Moseley Ranch,	21.54	328	⇑P	P	05 16 36.8	+2.0		
	baz=22,SNR=12								
127A	Arkansas Junct	21.55	334	⇑P	P	05 16 35.9	+1.0		
	baz=22								
Y31A	Rekieta Farm,	21.55	342	⇑P	P	05 16 35.0	+0.2		
	baz=22,SNR=6.5								
GDL2	Guadalupe Moun	21.60	331	eP	P	05 16 37.2	+1.7		
X33A	Lawton	21.62	346	⇑P	P	05 16 35.3	-0.1		
	baz=22								
Y30A	Stafford Cattl	21.68	340	⇓P	P	05 16 35.8	-0.4		
	baz=22								
Z28A	Tucker Farm, M	21.68	336	⇑P	P	05 16 36.7	+0.4		
	baz=22								
X32A	Elmer	21.70	344	⇑P	P	05 16 36.8	+0.4		
	baz=22								
225A	Deer Hill, Car	21.75	330	⇓P	P	05 16 38.9	+1.8		
	baz=22,SNR=6.7								
126A	Clayton Basin,	21.82	332	⇑P	P	05 16 38.9	+1.2		
	baz=22,SNR=6.7								
WMOK	Wichita Mounta	21.87	345	eP	P	05 16 39.5	+1.3		
	6.6nm,1.0s								
Y29A	Porterfield Fa	21.93	339	⇑P	P	05 16 39.1	+0.1		
	baz=22								
Z27A	Tatum	22.04	335	⇓P	P	05 16 39.9	-0.3		
	baz=22,SNR=9.5								
224A	Cornudas Mount	22.07	329	⇓P	P	05 16 42.1	+1.6		
	baz=22,SNR=8.5								
X31A	McDonald Ranch	22.09	343	⇑P	P	05 16 40.3	-0.3		
	baz=22,SNR=7.2								
125A	Gardner Draw,	22.12	331	⇓P	P	05 16 41.8	+0.8		
	baz=22,SNR=15								
W34A	Bridge Creek,	22.12	348	⇓P	P	05 16 40.2	-0.8		
	baz=22								
Y28A	McKinney Farm,	22.18	337	⇑P	P	05 16 41.7	+0.1		
	baz=22,SNR=8.2								
X30A	Coker Ranch, T	22.19	341	⇓P	P	05 16 41.7	-0.1		
	baz=22,SNR=8.4								
W33A	Caddo, Fort Co	22.20	346	⇑P	P	05 16 41.0	-0.7		
	baz=22								
SWET	Sewanee	22.27	14	eP	P	05 16 41.2	-1.3		
	77nm,2.6s								
Z26A	Caprock	22.33	333	⇓P	P	05 16 44.0	+0.8		
	baz=22,SNR=6.0								
MSTX	Muleshoe	22.44	337	eP	P	05 16 44.3	-0.1		
MSTX	Muleshoe	22.44	337	⇓P	P	05 16 44.1	-0.3		
	baz=22								
Y27A	Causey	22.52	336	⇑P	P	05 16 45.3	+0.1		
	baz=22,SNR=6.4								
124A	Stringfield Ra	22.54	330	⇓P	P	05 16 47.9	+2.3		
	baz=22,SNR=15								
W31A	Holland Ranch,	22.60	343	⇓P	P	05 16 46.5	+0.5		
	baz=22								
Z25A	Roswell	22.66	332	⇓P	P	05 16 47.5	+0.7		
	baz=23								
X28A	Dimmitt	22.71	338	⇓P	P	05 16 46.8	-0.5		
	baz=23								
AMTX	Amarillo	22.86	340	eP	P	05 16 48.6	-0.3		
	18nm,0.6s								
V32A	Arapaho	22.87	346	⇓P	P	05 16 47.8	-1.1		
	baz=23								
Z24A	Sheeppen Canyo	23.01	331	⇑P	P	05 16 52.3	+1.8		
	baz=23,SNR=22								
W29A	Amraillo	23.06	340	⇑P	P	05 16 50.6	-0.4		
	baz=23								
PARMO	Parma	23.08	5	eP	P	05 16 49.6	-1.4		
V31A	Spring Creek L	23.13	344	⇑P	P	05 16 51.5	-0.1		
	baz=23								
X27A	F and S Farms,	23.16	337	⇓P	P	05 16 51.7	-0.3		
	baz=23								
Y25A	Mesa, Roswell	23.19	333	⇓P	P	05 16 53.2	+0.9		
	baz=23,SNR=17								
TKL	Tuckaleechee C	23.25	18	P	P	05 16 50.6	-2.1		
TKL	Tuckaleechee C	23.25	18	P	P	05 16 50.6	-2.1		
	3.4nm,0.9s,baz=163,slow=14,SNR=3.2								
TKL				LR	LR	05 26 48.9			
	comp=Z,150nm,19.8s,baz=31,slow=39								
V30A	Spur Ranch, Mi	23.35	342	⇑P	P	05 16 53.2	-0.7		
	baz=23								
Z23A	Rita Site, Whi	23.37	329	⇓P	P	05 16 56.0	+1.9		
	baz=23								
W28A	Vega	23.38	339	⇓P	P	05 16 53.8	-0.4		
	baz=23								
W27A	Bowe Ranch, En	23.51	337	⇑P	P	05 16 55.5	-0.1		
	baz=24,SNR=10								
Y24A	Capitan	23.53	332	⇓P	P	05 16 57.2	+1.4		
	baz=24								
KMSC	Kings Mountain	23.60	23	P	P	05 16 54.3	-1.9		
121A	Cookes Peak, D	23.62	326	⇑P	P	05 16 59.8	+3.2		
	baz=24								
319A	Douglas	23.64	321	⇓P	P	05 17 02.9	+6.1		
	baz=24								
Z22A	Elephant Butte	23.74	328	⇑P	P	05 17 00.9	+3.1		
	baz=24								
W26A	Owens Ranch, T	23.81	336	⇓P	P	05 16 58.5	+0.1		
	baz=24								
V28A	Channing	23.83	340	⇓P	P	05 16 58.7	+0.1		
	baz=24								
Y23A	Lovelace Mesa,	23.83	331	⇑P	P	05 17 00.9	+2.2		
	baz=24,SNR=15								
V27A	Dan Oppiter Fa	24.05	338	⇓P	P	05 17 00.4	-0.3		
	baz=24								
U30A	WK&E Inc. Balk	24.06	343	⇑P	P	05 17 00.5	-0.2		
	baz=24,SNR=6.1								
X24A	Lazy VL Ranch,	24.07	332	⇑P	P	05 17 02.0	+1.1		
	baz=24								
U29A	Oasis Ranch, S	24.17	342	⇑P	P	05 17 01.8	+0.1		
	baz=24								
W25A	X Bar L Ranch,	24.20	335	⇑P	P	05 17 02.6	+0.5		
	baz=24,SNR=6.2								
BNM	Barren Site	24.28	330	eP	P	05 17 05.4	+2.4		
	5.8nm,1.0s								
LPM	Los Pinos Moun	24.42	330	eP	P	05 17 06.2	+2.1		
	4.4nm,1.0s								
X23A	Hourglass Bar	24.42	331	⇓P	P	05 17 05.9	+1.7		
	baz=24								
V26A	Tequesquite Ra	24.44	337	⇓P	P	05 17 05.2	+1.0		
	baz=24								
W24A	Lazy 6 Ranch,	24.60	333	⇑P	P	05 17 07.1	+1.3		
	baz=25								
U27A	Thompson Grove	24.64	339	⇑P	P	05 17 06.7	+0.6		
	baz=25								
V25A	Rancho No Teng	24.80	335	⇓P	P	05 17 09.3	+1.7		
	baz=25								
T29A	Hugoton	24.83	343	⇓P	P	05 17 07.6	-0.1		
	baz=25								
ANMO	Albuquerque	24.85	331	eP	P	05 17 09.9	+1.8		
	80nm,3.0s								
ANMO	Albuquerque	24.85	331	P	P	05 17 09.6	+1.5		
	1.6nm,0.7s,baz=159,slow=12,SNR=9.1								
W23A	Werner Place,	24.89	332	⇓P	P	05 17 10.1	+1.7		
	baz=25								
U26A	Atchley Ranch,	24.95	338	⇓P	P	05 17 10.1	+1.2		
	baz=25,SNR=7.2								
V24A	Rampart Ranch,	24.97	334	⇑P	P	05 17 09.7	+0.5		
	baz=25								
S30A	Montezuma	25.05	344	⇓P	P	05 17 10.4	+0.7		
	baz=25								
U25A	Circle Dot Ran	25.21	336	⇓P	P	05 17 11.9	+0.6		
	baz=25								
S29A	Ulysses	25.21	343	⇑P	P	05 17 11.8	+0.6		
	baz=25,SNR=6.7								
V23A	Ortiz Mt. (NFS	25.39	333	⇓P	P	05 17 15.6	+2.6		
	baz=25								
S28A	Manter	25.41	342	⇑P	P	05 17 13.9	+0.9		
	baz=25								
T25A	Trinidad	25.86	337	⇓P	P	05 17 18.6	+1.5		
	baz=26								
V22A	San Miguel Ran	25.86	332	⇓P	P	05 17 18.9	+1.7		
	baz=26								
U23A	El Rito	25.88	333	⇑P	P	05 17 19.4	+1.9		
	baz=26,SNR=6.5								
S26A	Kim	25.95	339	⇑P	P	05 17 18.4	+0.5		
	baz=26								
T24B	San Luis	26.17	336	⇓P	P	05 17 21.2	+1.1		
	baz=26								
Q29A	Oakley	26.36	344	⇓P	P	05 17 22.7	+1.1		
	baz=26								
R25A	Fountain Ranch	26.70	338	⇑P	P	05 17 25.7	+1.0		
	baz=27								
S22A	4UR Ranch, Cre	27.35	334	⇓P	P	05 17 32.5	+1.8		
	baz=27								
Q25A	Bedland, Calha	27.38	339	⇓P	P	05 17 32.3	+1.4		
	baz=27								
N32A	Stulken Farm,	27.59	350	⇑P	P	05 17 35.7	+3.2		
	baz=28								
MVCO	Mesa Verde	27.65	331	eP	P	05 17 35.8	+2.3		
	7.3nm,0.9s								
MVCO	Mesa Verde	27.65	331	⇓P	P	05 17 35.7	+2.3		
	baz=28								
P23A	Jefferson	28.35	337	⇑P	P	05 17 42.0	+2.3		
	baz=28								
N27A	Anderson Farm,	28.57	343	⇓P	P	05 17 42.5	+1.0		
	baz=28								
PV04	Paradox Valley	28.80	332	eP	P	05 17 45.9	+2.4		
J26A	Sides Ranch, S	31.06	345	⇓P	P	05 18 05.0	+1.7		
	baz=31								
R11A	Troy Canyon, C	32.21	324	⇑P	P	05 18 19.1	+5.4		
	baz=32								
H25A	Fruitdale	32.41	345	⇑P	P	05 18 16.9	+1.6		
	baz=32								
PDAR	Pinedale Array	32.70	336	P	P	05 18 18.7	+0.7		
PDAR	Pinedale Array	32.70	336	P	P	05 18 18.7	+0.7		
	0.7nm,1.0s,baz=143,slow=9.1,SNR=3.8								
H24A	Dirks Ranch, A	32.78	344	⇓P	P	05 18 19.5	+1.0		
	baz=33								
H22A	Clearmont	33.17	341	⇑P	P	05 18 22.8	+0.9		
	baz=33								
I20A	Worland	33.18	339	⇑P	P	05 18 22.9	+0.8		
	baz=33								
REDW	Red Top Meadow	33.72	335	eP	P	05 18 28.4	+1.5		
I17A	Pilgrim Ck.	34.07	336	⇓P	P	05 18 31.7	+1.7		
	baz=34								
H19A	Powell	34.11	338	⇑P	P	05 18 32.3	+2.1		
	baz=34								
H18A	Shoshone NF, C	34.37	338	⇓P	P	05 18 33.4	+0.9		
	baz=34								
E22A	Miles City	34.72	343	⇑P	P	05 18 36.0	+0.7		
	baz=35								
PTGA	Pitinga	34.99	111	eP	P	05 18 38.3	+0.3		
	16nm,0.7s								
HLID	Hailey	35.43	332	eP	P	05 18 43.6	+2.0		
	4.5nm,1.1s								
HLID	Hailey	35.43	332	⇑P	P	05 18 43.4	+1.8		
	baz=35								
E20A	Meyer Farm, Mu	35.44	341	⇑P	P	05 18 41.6	+0.1		
	baz=35								
D22A	Cohagen	35.44	344	⇓P	P	05 18 42.0	+0.5		
	baz=35								
D21A	La Casta Ranch	35.59	343	⇑P	P	05 18 43.8	+1.0		
	baz=36								
MCMT	McKenzie Canyo	35.74	335	eP	P	05 18 46.4	+2.0		
	2.6nm,0.9s								
C22A	Vida	35.91	344	⇑P	P	05 18 46.0	+0.5		
	baz=36								
D20A	Manuel Ranch,	35.96	341	⇓P	P	05 18 46.3	+0.4		
	baz=36								
D19A	Cripps Ranch,	36.26	341	⇑P	P	05 18 49.2	+0.6		
	baz=36								
C20A	Veseth Ranch,	36.48	342	⇑P	P	05 18 51.1	+0.7		
	baz=36								
C19A	Slack Wire Ran	36.82	341	⇓P	P	05 18 53.4	+0.1		
	baz=37								
J08A	Circle Bar Ran	37.27	328	eP	P	05 18 59.5	+2.2		
F10A	Beach Ranch, E	38.56	332	eP	P	05 19 09.4	+1.2		
SCHQ	Schefferville	45.68	20	P	P	05 20 02.5	-3.5		
SCHQ	Schefferville	45.68	20	P	P	05 20 02.5	-3.5		
	10nm,1.1s,baz=243,slow=3.7,SNR=4.3								
YKA	Yellowknife Ar	51.37	347	P	P	05 20 48.8	-0.9		
YKA				PcP	PcP	05 22 04.2	0.0		
YKA	Yellowknife Ar	51.37	347	P	P	05 20 48.7	-0.9		
	0.8nm,0.6s,baz=148,slow=7.5,SNR=14								
YKA				PcP	PcP	05 22 04.2	0.0		
	0.5nm,0.8s,baz=148,slow=3.8,SNR=7.8								
ILAR	Eielson Array	63.13	337	P	P	05 22 12.7	0.0		
ILAR	Eielson Array	63.13	337	P	P	05 22 12.7	0.0		
	1.9nm,1.1s,baz=129,slow=4.3,SNR=12								
EKA	Eskdalemuir Ar	78.42	36	P	P	05 23 42.0	-4.0		
EKA	Eskdalemuir Ar	78.42	36	P	P	05 23 42.0	-4.0		
	1.7nm,0.7s,baz=273,slow=6.3,SNR=5.7								
URZ	Urewera	98.80	233	LR	LR	05 58 28.4			
	comp=Z,304nm,18.8s,baz=11,slow=28								
CMAR	Chiang Mai Arr	146.30	341	PKPbc	PKPdf	05 31 24.9	-0.9		
CMAR	Chiang Mai Arr	146.30	341	PKPbc	PKPdf	05 31 24.9	-0.9		
	2.5nm,0.6s,baz=347,slow=4.3,SNR=12								

BJI ***23*** *05:41:54.7, 7˚.44S×126˚.11E, h521km, mB4.8/36, mb4.5/43*
MOS ***23*** *05:42:00.9±0.9, 6˚.72S×125˚.68E, h525km, mb4.9/25, Error ellipse: s-maj=13.9km s-min=6.3km az=120.0*
NEIC ***23*** *05:42:01.8±0.4, 6˚.81S×125˚.68E, h528km±4km, mb4.9/40, Error ellipse: s-maj=5.9km s-min=3.6km az=54.0*
IDC ***23*** *05:42:01.3±0.8, 6˚.81S×125˚.66E, h517km±8km, mb4.1/30, mb1 4.2/33, mb1mx4.2/34, mbtmp4.1/33, Error ellipse: s-maj=10.4km s-min=6.5km az=70.0*
ISCJB ***23*** *05:42:01.5±0.2, 6˚.80S±0˚.02×125˚.72E±0˚.02, h533km±2km, mb4.7/100, Error ellipse: s-maj=3.9km s-min=3.1km az=140.7*
DJA ***23*** *05:42:02.2±0.1, 7˚S±2˚×12˚6E±˚, h512km±2km, M5.0/82, mb5.1/82, mB5.5/67, MLv5.5/23, Mw(mB)4.9/67, Mwp5.8/2*
GCMT ***23*** *05:42:05.7±0.2, 6.92S×125.70E, h535km±1km, MW5.7, Moment Tensor Solution. s118,c202; Moment tensor: Scale 10¹⁷Nm; Mrr-3.67±.05; Mθθ0.26±.09; Mϕϕ3.41±.09; Mrθ0.53±.10; Mrϕ-1.12±.08; Mθϕ0.03±.10; Best double couple: M₀3.80000×10¹⁷ NP1:φ₀334.0000°, δ47.00000°, λ-101.00000°. NP2:φ₀170.00000°, δ45.00000°, λ-78.00000°. Principal axes: T 3.7700, Plg1.0000°, Azm72.0000°; N -0.0300, Plg8.0000°, Azm342.0000°; P -3.7500, Plg82.0000°, Azm169.0000°; Data Used: II IU CN CU IC G.*
AUST ***23*** *05:42:06.8, 7˚.00S×125˚.51E, h600km*
ISC 23 05:42:01.7±0.3, 6˚.87S±0˚.03×125˚.69E±0˚.04, h525km±2km, h526km:pP-P, n453, σ1♀39/530, mb4.7/98, 5C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.20	206	P	P	05 43 15.4	-0.8
SOEI				S	S	05 44 14.4	-2.3
SOEI	Soe	3.20	206	P	P	05 43 16.2	+0.1
	baz=3.0,SNR=193						
BBSI	Bau Bau	3.39	294	P	P	05 43 20.0	+2.6
BBSI				S	S	05 44 19.4	+0.5
MMRI	Maumere	3.85	243	P	P	05 43 20.1	-0.6
NLAI	Namlea	3.87	21	P	P	05 43 19.8	-1.1
NLAI				S	S	05 44 23.4	-1.9
MSAI	Masohi	4.76	43	P	P	05 43 28.1	0.0
BNDI	Bandanaira	4.80	61	P	P	05 43 27.7	-0.7
BNDI				S	S	05 44 39.2	+0.2
KKSI	Kolaka, Sulawe	4.83

621nm,1.3s,14µm
FITZ **Fitzroy Crossi** 11.16 180 P P 05 44 31.5 +0.1
FITZ S S 05 46 31.3 -3.4
FITZ **Fitzroy Crossi** 11.16 180 P P 05 44 31.5 +0.1
14nm,0.3s,baz=17,slow=7.9,SNR=275
FITZ S S 05 46 31.3 -3.4
27nm,0.3s,baz=295,slow=19,SNR=18
BBKI **Banjar Baru** 11.32 287 P P 05 44 35.3 +2.1
411nm,1.3s,10µm
ABJI **Asem Bagus** 11.40 265 P P 05 44 34.6 +0.6
432nm,1.7s,14µm
JAGI **Jajag, Banyuwa** 11.55 261 *e*P P 05 44 33.3 -2.3
JAGI **Jajag, Banyuwa** 11.55 261 P P 05 44 33.7 -1.9
baz=11,SNR=63
SRPI **Serui, Papua** 11.63 65 P P 05 44 40.6 +4.2
438nm,0.9s,11µm
KMMI **Kalianget** 11.64 268 P P 05 44 38.6 +2.1
514nm,1.3s,11µm
BAKI **Biak** 11.82 62 P P 05 44 40.3 +1.9
566nm,1.0s,6µm
BLJI **Banyuglugur** 12.03 265 P P 05 44 40.4 -0.2
702nm,1.0s,9µm
GMJI **Gumukmas** 12.22 263 P P 05 44 41.4 -1.2
365nm,1.4s,6µm
GRJI **Gresik** 13.12 269 P P 05 44 54.7 +2.7
95nm,0.8s,875nm
KRKI **Karangkates** 13.19 264 P P 05 44 54.7 +2.0
433nm,1.1s
TSM **Tawau** 13.56 325 P P 05 44 56.4 -0.2
PWJI **Pagerwojo** 13.82 264 P P 05 45 00.0 +0.7
147nm,0.8s,2µm
SJI **Sawahan** 13.84 266 P P 05 44 58.9 -0.7
150nm,0.7s,6µm
MYLDM **Lahad Datu** 13.96 329 P P 05 45 03.6 +2.9
MYLDM **Lahad Datu** 13.96 329 *e*P P 05 45 03.2 +2.5
NGJI **Ngawi** 14.13 267 P P 05 45 09.0 +6.4
PCJI **Pacitan** 14.45 264 P P 05 45 05.6 -0.3
145nm,1.5s,4µm
PBKI **Pangkalan Bun** 14.57 286 P P 05 45 11.9 +4.7
298nm,1.1s,4µm
MMPI **Merauke** 14.65 97 P P 05 45 09.9 +1.9
967nm,0.7s,25µm
WOJI **Wonogiri, Jawa** 14.68 265 P P 05 45 08.7 +0.4
138nm,1.2s,5µm
GENI **Genyem** 15.04 74 P P 05 45 11.8 -0.3
682nm,1.1s,10µm
SDKM **Sandakan** 15.04 325 P P 05 45 14.3 +2.1
UGM **Wanagama** 15.08 265 P P 05 45 13.9 +1.3
258nm,1.6s
UGM **Wanagama** 15.08 265 P P 05 45 12.2 -0.4
baz=15,SNR=9.1
SMRI **Semarang** 15.14 268 P P 05 45 18.8 +5.6
SMRI **Semarang** 15.14 268 *e*P P 05 45 14.1 +0.9
213nm,1.0s
WRAB **Tennant Creek** 15.47 148 *d i*P P 05 45 16.1 -0.4
WRAB **Tennant Creek** 15.47 148 *e*P P 05 45 15.6 -0.9
WRA **Warramunga Arr** 15.47 148 P P 05 45 16.0 -0.5
WRA S S 05 47 54.6 -2.2
WRA **Warramunga Arr** 15.47 148 P P 05 45 16.0 -0.5
12nm,0.3s,baz=339,slow=9.3,SNR=316
WRA S S 05 47 54.6 -2.2
5.5nm,0.3s,baz=327,slow=16,SNR=38
JAY **Jayapura** 15.57 75 P P 05 45 17.1 -0.6
baz=16,SNR=16
STKI **Sintang** 15.77 295 P P 05 45 22.7 +3.1
115nm,0.8s
BJII **Banjamegara** 15.87 267 P P 05 45 21.2 +0.5
243nm,1.4s,5µm
BTM **Bintulu** 16.08 308 P P 05 45 26.4 +3.7
KDM **Kudat** 16.30 327 P P 05 45 26.7 +1.8
SBUM **Sibu** 16.33 304 P P 05 45 26.3 +1.0
SBUM **Sibu** 16.33 304 P P 05 45 27.1 +1.8
75nm,1.1s,1µm
SBUM **Sibu** 16.33 304 *e*P P 05 45 26.2 +1.0
65nm,1.0s
TGJI **Tegal** 16.45 269 P P 05 45 24.7 -1.8
247nm,1.1s,4µm
CLJI **Cilicap** 16.57 266 P P 05 45 26.1 -1.5
362nm,0.8s,4µm
PALU **Palau** 16.61 32 P P 05 45 27.2 -0.9
baz=17,SNR=4.2
KPJI **Karang Pucung** 16.64 267 P P 05 45 27.0 -1.3
522nm,1.0s,5µm
CMJI **Cimerak** 17.13 266 P P 05 45 31.9 -1.0
758nm,0.9s,6µm
JCJI **Jatiwangi** 17.31 270 P P 05 45 36.8 +2.2
340nm,1.0s,6µm
KSM **Kuching** 17.45 298 P P 05 45 37.1 +1.2
KSM **Kuching** 17.45 298 P P 05 45 38.9 +3.0
141nm,1.1s,2µm
KSM **Kuching** 17.45 298 *e*P P 05 45 36.6 +0.7
139nm,1.0s
KSM **Kuching** 17.45 298 P P 05 45 36.7 +0.7
baz=17,SNR=16
CISI **Cisompet, Garu** 17.75 267 P P 05 45 38.4 -0.3
1µm,0.8s,12µm
CISI **Cisompet, Garu** 17.75 267 *e*P P 05 45 36.8 -1.9
770nm,0.8s
CISI **Cisompet, Garu** 17.75 267 P P 05 45 38.3 -0.5
baz=18,SNR=38
LEM **Lembang** 17.95 269 P P 05 45 44.2 +3.5
320nm,1.6s,6µm
WRKA **Warakurna** 18.24 172 P P 05 45 43.9 +0.9
baz=18,SNR=576
TPI **Tanjungpandan** 18.43 282 P P 05 45 48.3 +3.4
204nm,1.3s,3µm
AS31 **Alice Springs** 18.47 156 *e*P P 05 45 45.8 +0.6
ASAR **Alice Springs** 18.47 156 P P 05 45 46.0 +0.8
ASAR S S 05 48 46.2 -0.9
ASAR ScP ScP 05 52 33.0 -1.0
ASAR **Alice Springs** 18.47 156 P P 05 45 46.0 +0.8
16nm,0.3s,baz=320,slow=7.4,SNR=209
ASAR S S 05 48 46.2 -0.9
6.3nm,0.3s,baz=345,slow=22,SNR=93
ASAR ScP ScP 05 52 33.0 -1.0
0.5nm,0.3s,baz=330,slow=2.5,SNR=4.2
COEN **Coen** 18.57 114 *e*P P 05 45 46.1 0.0
COEN **Coen** 18.57 114 P P 05 45 46.1 0.0
baz=19,SNR=173
CBJI **Citeko** 18.72 270 P P 05 45 48.4 +0.9
1µm,1.1s,23µm
DBJI **Dramaga** 18.82 270 P P 05 45 51.0 +2.6
198nm,1.9s,6µm
SKJI **Sukabumi** 19.00 268 P P 05 45 53.9 +3.8
433nm,0.7s,7µm
QIS **Mount Isa** 19.16 137 P P 05 45 51.9 +0.5
baz=19,SNR=98
GIRL **Giralia** 19.18 214 P P 05 45 53.2 +1.6
baz=19,SNR=20
XMI **Christmas Isla** 20.09 258 P P 05 46 00.7 +0.7
baz=20,SNR=10
XMIS **Christmas Isla** 20.13 258 *e*P P 05 45 59.6 -0.8
XMIS **Christmas Isla** 20.13 258 P P 05 46 00.9 +0.5
baz=20,SNR=5.6
MEEK **Meekatharra** 20.78 198 P P 05 46 06.1 -0.1
baz=21,SNR=72
KLSI **** 20.97 275 P P 05 46 11.5 +3.5
58nm,1.6s,1µm
KASI **Kota Agung** 21.11 272 P P 05 46 10.8 +1.5
79nm,1.1s
PMBI **Palembang** 21.20 280 P P 05 46 17.5 +7.4
PMG **Port Moresby** 21.40 98 P P 05 46 13.9 +2.1
71nm,2.0s,942nm
PMG **Port Moresby** 21.40 98 *e*P P 05 46 12.3 +0.5
PMG S S 05 49 32.7 -1.5
PMG ScP ScP 05 52 42.2 +1.0
PMG **Port Moresby** 21.40 98 P P 05 46 12.1 +0.3
10nm,0.4s,baz=300,slow=5.5,SNR=9.3
PMG S S 05 49 32.7 -1.5
4.2nm,0.5s,baz=257,slow=19,SNR=1.5
PMG ScP ScP 05 52 42.2 +1.0
11nm,0.8s,baz=316,slow=5.6,SNR=5.6
PMG **Port Moresby** 21.40 98 P P 05 46 13.4 +1.5
baz=22,SNR=4.4
PMG P P 05 46 13.4 +1.5
baz=22,SNR=4.4
PMG P P 05 46 13.4 +1.5
baz=22,SNR=4.4
MDSI **Maura Dua** 21.54 275 P P 05 46 15.1 +2.0
28nm,1.4s
LHSI **Lahat** 22.28 277 P P 05 46 25.7 +6.0
85nm,1.8s,2µm
CTA **Charters Tower** 23.88 125 P P 05 46 34.7 +0.7
CTA S S 05 50 12.7 -0.6
CTA ScP ScP 05 52 47.8 +0.2
CTA **Charters Tower** 23.88 125 P P 05 46 34.7 +0.7
9.7nm,0.7s,baz=300,slow=13,SNR=10
CTA S S 05 50 12.7 -0.6
2.9nm,0.7s,baz=204,slow=21,SNR=16
CTA ScP ScP 05 52 47.8 +0.2
4.4nm,0.6s,baz=331,slow=6.9,SNR=6.3
CTAO **Charters Tower** 23.88 125 *e*P P 05 46 35.2 +1.2
CTAO pmax pmax
comp=Z,10.0nm,0.8s
CTAO **Charters Tower** 23.88 125 *e*P P 05 46 35.2 +1.2
comp=Z,9.7nm,0.8s
MORW **Morawa** 23.89 201 P P 05 46 35.7 +1.8
baz=24,SNR=12
MORW **Morawa** 23.89 201 P S 05 50 11.6 -1.4
baz=18,SNR=5.4
FORT **Forrest** 23.89 175 *e*P P 05 46 34.3 +0.4
comp=Z,143nm,0.6s
FORT **Forrest** 23.89 175 P P 05 46 35.8 +1.9
baz=24,SNR=25
FORT **Forrest** 23.89 175 P S 05 50 13.1 0.0
baz=19,SNR=6.8
KGM **Kluang** 24.01 291 P P 05 46 35.6 +0.4
KMBL **Kambalda** 24.63 188 P P 05 46 42.9 +2.4
baz=25,SNR=8.8
KMBL **Kambalda** 24.63 188 P S 05 50 24.5 -0.3
baz=19,SNR=15
BLDU **Ballidu** 25.08 199 P P 05 46 46.7 +2.2
baz=25,SNR=6.9
BLDU **Ballidu** 25.08 199 P S 05 50 35.2 +3.4
baz=19,SNR=6.6
KTGM **Kuala Trenggan** 25.57 298 P P 05 46 51.4 +2.4
KLBR **Kellerberrin** 25.69 196 P P 05 46 52.0 +2.1
baz=26,SNR=7.4
KLBR **Kellerberrin** 25.69 196 P S 05 50 40.6 -0.7
baz=20,SNR=6.7
PPI **Padang Panjang** 26.02 283 P P 05 46 55.2 +2.2
comp=Z,28nm,1.0s,comp=Z,1µm
QLP **Quilpie** 26.38 140 P P 05 46 57.2 +1.2
baz=26,SNR=52
NWAO **Narrogin (SRO)** 27.09 196 P P 05 47 02.5 +0.3
NWAO S S 05 51 02.2 -1.1
NWAO **Narrogin (SRO)** 27.09 196 P P 05 47 02.5 +0.3
comp=Z,24nm,0.6s,baz=25,slow=9.9,SNR=20
NWAO S S 05 51 02.2 -1.1
comp=Z,90nm,0.7s,baz=255,slow=21,SNR=13
MNSI **Mandailing Nat** 27.15 285 P P 05 47 03.2 +0.3
comp=Z,67nm,1.0s,comp=Z,4µm
BBOO **Buckleboo** 27.55 161 *e*P P 05 47 06.7 +0.5
BBOO **Buckleboo** 27.55 161 P P 05 47 07.1 +0.8
baz=28,SNR=45
BBOO **Buckleboo** 27.55 161 P S 05 51 13.6 +3.1
baz=24,SNR=12
KULM **Kulim** 27.76 295 P P 05 47 08.2 -0.1
PSI **Prapat** 28.39 289 P P 05 47 13.7 -0.3
comp=Z,84nm,0.8s,comp=Z,984nm
PSI **Prapat** 28.39 289 P P 05 47 13.3 -0.7
PSI S S 05 51 20.7 -3.6
PSI **Prapat** 28.39 289 P P 05 47 13.3 -0.7
comp=Z,50nm,0.8s,baz=122,slow=4.7,SNR=26
PSI S S 05 51 20.7 -3.6
comp=Z,17nm,1.0s,baz=345,slow=22,SNR=15
PSI **Prapat** 28.39 289 P P 05 47 13.9 -0.1
baz=28,SNR=9.0
RKGY **Rocky Gully** 28.75 195 P P 05 47 18.8 +2.2
baz=29,SNR=7.2
STKA **Stephens Creek** 28.97 151 P P 05 47 19.8 +1.1
STKA S S 05 51 32.4 -0.2
STKA **Stephens Creek** 28.97 151 P P 05 47 19.8 +1.1
comp=Z,48nm,0.5s,baz=321,slow=8.3,SNR=68
STKA S S 05 51 32.4 -0.2
comp=Z,107nm,1.1s,baz=239,slow=24,SNR=16
STKA **Stephens Creek** 28.97 151 P P 05 47 19.7 +1.0
baz=29,SNR=88
STKA **Stephens Creek** 28.97 151 P S 05 51 33.7 +1.1
baz=26,SNR=11
HTT **Hallett** 29.14 157 P P 05 47 21.5 +1.4
baz=29,SNR=174
HTT **Hallett** 29.14 157 P S 05 51 32.9 -2.3
baz=26,SNR=7.5
RMQ **Roma** 29.37 134 P P 05 47 22.8 +0.6
baz=30,SNR=11
KCSI **Kotacane, Aceh** 29.72 289 P P 05 47 26.2 +0.8
comp=Z,22nm,0.8s
UBPT **Khong Chiam** 29.77 318 P P 05 47 25.8 +0.1
comp=Z,26nm,0.8s
QIZ **Qiongzhong** 30.11 329 P P 05 47 29.3 +0.7
QIZ sP sP 05 49 57.8 0.0
QIZ S S 05 51 50.6 +0.2
QIZ pmax pmax
comp=Z,130nm,4.7s
CHBT **CHBT** 30.32 310 P P 05 47 30.6 +0.1
comp=Z,46nm,0.8s
TPUB **Ta-pu** 30.39 351 *e*P P 05 47 29.2 -1.8
comp=Z,22nm,0.4s
CMSA **Cobar Meteorol** 30.85 145 P P 05 47 36.0 +1.2
baz=31,SNR=151
CMSA **Cobar Meteorol** 30.85 145 P S 05 52 02.8 +1.3
baz=28,SNR=8.4
CHAI **Chaiyaphum** 32.60 314 P P 05 47 50.0 0.0
comp=Z,15nm,0.8s
ARPS **Mount Arapiles** 33.21 156 P P 05 47 56.4 +1.5
baz=33,SNR=71
SRDT **SRDT** 33.75 309 P P 05 48 00.6 +0.8
comp=Z,71nm,0.8s
PBKT **Sadao Pong** 33.77 314 P P 05 47 59.9 0.0
comp=Z,22nm,0.8s
UTHA **Uthaitani** 34.24 311 P P 05 48 04.1 +0.2
comp=Z,8.9nm,0.8s,comp=Z,76nm
YNG **Yong** 34.42 146 P P 05 48 07.2 +2.0
baz=34,SNR=19
KHLT **Khaolaem Dam** 34.43 309 P P 05 48 06.1 +0.6
comp=Z,13nm,0.8s
SLVN **Son La** 35.26 323 *e*P P 05 48 12.7 +0.3
TOO **Toolangi** 35.47 152 P P 05 48 16.1 +2.2
baz=36,SNR=58
CAN **Canberra** 35.50 146 *e*P P 05 48 16.6 +2.4
CAN pmax pmax
comp=Z,64nm,0.8s
CAN **Canberra** 35.50 146 *e*P P 05 48 16.6 +2.4
comp=Z,64nm,0.8s
CNB **Canberra Magne** 35.70 146 P P 05 48 18.0 +2.1
baz=36,SNR=11
LAMP **Lampang** 36.02 315 P P 05 48 19.3 +0.6
comp=Z,10nm,0.7s,comp=Z,107nm
CMAR **Chiang Mai Arr** 36.47 314 P P 05 48 22.7 +0.3
CMAR PcP PcP 05 50 33.5 +1.2
CMAR ScP ScP 05 53 30.2 +1.2
CMAR **Chiang Mai Arr** 36.47 314 P P 05 48 22.7 +0.3
comp=Z,11nm,0.7s,baz=146,slow=6.6,SNR=55
CMAR PcP PcP 05 50 33.5 +1.2
comp=Z,6.9nm,0.8s,baz=172,slow=2.9,SNR=11
CMAR ScP ScP 05 53 30.2 +1.2
comp=Z,5.3nm,0.8s,baz=163,slow=3.5,SNR=11
CMMT **Chiang Mai** 36.70 314 P P 05 48 24.3 0.0
comp=Z,20nm,1.2s
CHTO **Chiang Mai** 36.70 314 *e*P P 05 48 24.4 +0.1
CHTO pmax pmax
comp=Z,16nm,0.9s
CHTO **Chiang Mai** 36.70 314 *e*P P 05 48 24.4 +0.1
comp=Z,16nm,0.9s
CHTO **Chiang Mai** 36.70 314 P P 05 48 24.4 +0.1
comp=Z,89nm,0.9s,comp=Z,1µm
MILA **Mila** 36.88 148 P P 05 48 29.2 +3.6
baz=37,SNR=13
CBIJ **Chichi jima** 37.35 25 P P 05 48 30.6 +1.1
JCJ **Chichijima** 37.35 25 P P 05 48 30.6 +1.1
comp=Z,46nm,0.6s,baz=3.7,slow=7.4,SNR=4.6
CMAI **Chiengmai2** 37.38 316 P P 05 48 30.3 +0.3
comp=Z,15nm,0.9s,comp=Z,922nm
GYA **Guiyang** 37.93 332 *e*P P 05 48 36.6 +2.2
GYA pP pP 05 50 09.8 +3.2
GYA PcP PcP 05 50 37.5 +0.7
GYA S S 05 53 51.0 +2.4
GYA ScS ScS 05 57 45.5 -0.4
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
WHN **Wuhan** 38.76 344 P P 05 48 40.3 -0.6
KMI **Kunming** 38.86 326 P P 05 48 43.5 +1.4
KMI S S 05 54 03.0 +0.3
KMI SS SS 05 57 18.0 -5.2
KMI pmax pmax
comp=Z,16nm,0.8s
NJ2 **Nanjing** 39.25 351 *e*P P 05 48 44.8 0.0
NJ2 S S 05 54 09.0 +1.4
NJ2 pmax pmax
comp=Z,50nm,0.8s
NJ2 pmax pmax
comp=Z,160nm,8.8s
ENH **Enshi** 40.07 338 *e*P P 05 48 51.0 -0.6
comp=Z,14nm,0.8s
JNU **Nakatsue** 40.07 7 P P 05 48 49.5 -2.0
JNU **Nakatsue** 40.07 7 P P 05 48 49.5 -2.0
comp=Z,12nm,0.9s,baz=123,slow=4.5,SNR=4.5
MOO **Moorlands** 40.21 155 P P 05 48 55.7 +3.3
baz=40,SNR=3.3
DZM **Mont Dzumac** 42.09 115 P P 05 49 08.5 +0.7
DZM **Mont Dzumac** 42.09 115 P P 05 49 08.5 +0.7
comp=Z,8.1nm,0.7s,baz=110,slow=20,SNR=6.4
CD2 **Chengdu** 43.04 332 P P 05 49 15.0 -0.1
CD2 pP pP 05 50 51.3 +0.9
CD2 PcP PcP 05 50 54.0 +0.6
CD2 PP PP 05 51 06.9 -0.1
CD2 sP sP 05 51 48.1 -1.3
CD2 S S 05 54 59.6 -3.1
CD2 ScS ScS 05 58 15.3 -1.5
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,150nm,8.2s
XAN **Xi'an** 43.68 340 P P 05 49 18.3 -1.7
XAN pP PcP 05 50 55.9 +0.3
XAN PP PP 05 51 07.9 -4.8
XAN sP sP 05 51 56.9 +2.3
XAN ScS ScS 05 58 21.6 +0.9
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN pmax pmax
comp=Z,32nm,6.7s
KSAR **Wonju Array Be** 44.13 3 P P 05 49 23.0 -0.3
KSAR PcP PcP 05 50 57.6 +0.6
KSRS **Korea Array** 44.14 3 P P 05 49 23.0 -0.4
comp=Z,7.8nm,1.0s,baz=175,slow=8.9,SNR=17
KSRS PcP PcP 05 50 57.6 +0.6
comp=Z,3.5nm,0.7s,baz=189,slow=3.9,SNR=6.8
MAJO **Matsushiro** 44.75 14 *e*P P 05 49 27.2 -1.0
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MAJO **Matsushiro** 44.75 14 *e*P P 05 49 27.2 -1.0
comp=Z,10nm,0.8s
MAT **Matsushiro** 44.75 14 P P 05 49 27.1 -1.1
MAT S S 05 55 19.0 -7.7
MJAR **Matsushiro Arr** 44.75 14 P P 05 49 27.4 -0.8
MJAR **Matsushiro Arr** 44.75 14 P P 05 49 27.4 -0.8
comp=Z,9.2nm,0.8s,baz=191,slow=8.9,SNR=21
BJI **Beijing** 47.49 350 P P 05 49 47.3 -1.6
BJI PcP PcP 05 51 09.6 +0.8
BJI pP pP 05 51 27.3 +0.3
BJI sP sP 05 52 24.3 -0.8
BJI S S 05 56 02.3 -2.5
BJI pmax pmax
comp=Z,13nm,0.9s
BJI pmax pmax
comp=Z,200nm,5.3s
HHC **Hu-ho-hao-te** 49.23 346 *e*P P 05 50 05.3 +3.3
HHC pP pP 05 51 44.5 +3.5
HHC sP sP 05 52 40.5 +1.6
HHC S S 05 56 31.6 +2.7
HHC sS sS 05 59 30.8 +3.1
HHC SS SS 06 00 14.8 +5.3
HHC pmax pmax
comp=Z,40nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.2s
LSA **Lhasa** 49.23 319 P P 05 50 03.3 +0.6
LSA pmax pmax
comp=Z,20nm,0.9s
LSA **Lhasa** 49.23 319 *e*P P 05 50 03.0 +0.3
LSA pmax pmax
comp=Z,22nm,0.6s
LSA **Lhasa** 49.23 319 *e*P P 05 50 03.0 +0.3
comp=Z,22nm,0.6s
ODAN **Odare** 50.01 314 *e*P P 05 50 07.7 -0.5
comp=Z,39nm,0.6s
ODAN **Odare** 50.01 314 *e*P P 05 50 07.7 -0.5
comp=Z,39nm,0.6s
TAPN **Taplejung** 50.07 314 *e*P P 05 50 08.4 -0.3
comp=Z,22nm,0.3s
TAPN **Taplejung** 50.07 314 *e*P P 05 50 08.4 -0.3
comp=Z,22nm,0.3s
CN2 **Changchun** 50.43 360 *e*P P 05 50 12.3 +1.6
RAMN **Ramite** 50.63 313 *e*P P 05 50 12.8 0.0
comp=Z,88nm,0.6s
RAMN **Ramite** 50.63 313 *e*P P 05 50 12.8 0.0
comp=Z,88nm,0.6s
USRK **Ussuriysk Arra** 51.15 6 P P 05 50 15.7 -0.1
comp=Z,8.5nm,0.7s,baz=193,slow=7.0,SNR=25
USRK pP pP 05 51 56.6 +0.6
comp=Z,3.7nm,0.5s,baz=188,slow=7.8,SNR=5.0
JIRN **Jiri** 51.34 314 *e*P P 05 50 17.9 -0.2
comp=Z,22nm,0.4s
JIRN **Jiri** 51.34 314 *e*P P 05 50 17.9 -0.2
comp=Z,22nm,0.4s
MDJ **Mudanjiang** 51.37 4 P P 05 50 17.5 0.0
MDJ pP pP 05 51 56.6 -1.1
MDJ sP sP 05 52 53.6 -1.6
MDJ ScP ScP 05 54 29.6 +0.2
MDJ S S 05 56 57.8 +0.3
MDJ ScS ScS 05 59 12.1 +0.2
MDJ pmax pmax
comp=Z,31nm,0.9s
MDJ pmax pmax
comp=Z,150nm,8.6s
MDJ **Mudanjiang** 51.37 4 *e*P P 05 50 17.3 -0.1
comp=Z,25nm,0.8s
GUN **Gumba** 51.71 314 *e*P P 05 50 20.6 -0.1
comp=Z,57nm,0.4s
GUN **Gumba** 51.71 314 *e*P P 05 50 20.6 -0.1
comp=Z,57nm,0.4s
PKI **Pulchoki** 51.85 313 *e*P P 05 50 21.2 -0.5
comp=Z,22nm,0.3s
PKI **Pulchoki** 51.85 313 *e*P P 05 50 21.2 -0.5
PKI pmax pmax
comp=Z,21nm,0.3s
PKI **Pulchoki** 51.85 313 *e*P P 05 50 21.2 -0.5
comp=Z,21nm,0.3s
PKIN **Phulchoki** 51.87 313 *e*P P 05 50 21.2 -0.5
comp=Z,21nm,0.3s
GTA **Gaotai** 51.91 335 P P 05 50 21.8 +0.2
GTA PcP PcP 05 51 25.8 +0.3
GTA pP pP 05 52 04.4 +2.3
GTA sP sP 05 52 58.9 -0.7
GTA ScP ScP 05 54 33.1 +1.0
GTA S S 05 57 05.4 +0.2
GTA sS sS 06 00 04.6 -1.6
GTA pmax pmax
comp=Z,16nm,0.7s
GTA pmax pmax
comp=Z,150nm,4.4s
KKN **Kakani** 52.07 313 *e*P P 05 50 23.0 -0.2
comp=Z,31nm,0.8s
KKN **Kakani** 52.07 313 *e*P P 05 50 23.0 -0.2
KKN pmax pmax
comp=Z,31nm,0.8s
KKN **Kakani** 52.07 313 *e*P P 05 50 23.0 -0.2
comp=Z,31nm,0.8s
DMN **Daman** 52.09 313 *e*P P 05 50 23.0 -0.4
comp=Z,32nm,0.8s
DMN **Daman** 52.09 313 *e*P P 05 50 23.0 -0.4
comp=Z,32nm,0.8s
HYB **Hyderabad** 52.45 298 *i*P P 05 50 26.5 +0.7
GKN **Gorkha** 52.66 313 *e*P P 05 50 27.1 -0.2
comp=Z,33nm,0.3s
GKN **Gorkha** 52.66 313 *e*P P 05 50 27.1 -0.2
comp=Z,33nm,0.3s
KOLN **Koldanda** 53.29 312 *e*P P 05 50 31.9 +0.1
comp=Z,76nm,0.7s
KOLN **Koldanda** 53.29 312 *e*P P 05 50 31.9 +0.1
comp=Z,76nm,0.7s
DANN **Dangsing** 53.49 313 *e*P P 05 50 33.1 -0.3
comp=Z,50nm,0.7s
DANN **Dangsing** 53.49 313 *e*P P 05 50 33.1 -0.3
comp=Z,50nm,0.7s
PYUN **Piuthan** 53.92 312 *e*P P 05 50 36.3 0.0
comp=Z,133nm,0.8s
PYUN **Piuthan** 53.92 312 *e*P P 05 50 36.3 0.0
comp=Z,133nm,0.8s
RPZ **Rata Peaks** 54.01 140 *e*P P 05 50 36.9 +0.5
comp=Z,42nm,0.5s
RPZ **Rata Peaks** 54.01 140 P P 05 50 37.6 +1.1
comp=Z,48nm,0.6s,baz=266,slow=3.7,SNR=34
URZ **Urewera** 55.89 132 *e*P P 05 50 49.1 -0.6
comp=Z,13nm,0.5s
URZ **Urewera** 55.89 132 P P 05 50 49.4 -0.3

comp=Z,9.0nm,0.4s,baz=312,slow=3.2,SNR=15
ULN Ulaanbaatar 56.93 345 *e*P **P** 05 50 56.6 -0.2
comp=Z,16nm,0.8s
SONM Songino Array 57.07 345 P **P** 05 50 57.9 +0.1
SONM pP **pP** 05 52 39.8 -1.3
SONM ScP **ScP** 05 54 56.3 +1.7
SONM Songino Array 57.07 345 P **P** 05 50 57.9 +0.1
comp=Z,10nm,0.8s,baz=159,slow=7.6,SNR=55
SONM pP **pP** 05 52 39.8 -1.3
comp=Z,3.1nm,1.0s,baz=179,slow=8.6,SNR=2.9
SONM ScP **ScP** 05 54 56.3 +1.7
comp=Z,3.4nm,0.8s,baz=163,slow=5.6,SNR=7.1
NDI New Delhi 58.56 310 *e*P **P** 05 51 05.0 -3.1
ZAK Zakamensk 60.24 344 *e*P **P** 05 51 17.4 -1.6
ZAK *e* 05 51 57.6
WMQ Urumqi 61.03 329 P **P** 05 51 25.3 +1.0
WMQ pP **pP** 05 53 14.3 +4.8
WMQ S **S** 05 59 01.3 -1.1
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,64nm,5.0s
MOY Mondy 62.04 343 *e*P **P** 05 51 31.3 +0.5
MIR Mirnyy 63.68 194⇑*i*P **P** 05 51 44.0 +3.0
MIR pmax pmax
comp=Z,162nm,1.5s
HVS Khovu-Aksy 64.00 338*de*P **P** 05 51 43.3 -0.1
HVS pmax pmax
comp=Z,54nm,0.8s
KSH Kashi 65.08 319 P **P** 05 51 51.0 +0.4
KSH pP **pP** 05 53 40.1 +2.5
KSH sP **sP** 05 54 32.1 -1.1
KSH SS **SS** 06 04 24.3 +6.7
KSH pmax pmax
comp=Z,13nm,0.9s
PETK Petropavlovsk- 65.62 21 P **P** 05 51 53.5 0.0
PETK Petropavlovsk- 65.62 21 P **P** 05 51 53.5 0.0
PETK Petropavlovsk- 65.62 21 P **P** 05 51 53.5 0.0
comp=Z,7.9nm,0.5s,baz=211,slow=4.8,SNR=10.0
MK31 Makanchi Array 65.84 329 *e*P **P** 05 51 54.6 -0.4
MK31 pmax pmax
comp=Z,19nm,0.9s
MK31 Makanchi Array 65.84 329 *e*P **P** 05 51 53.9 -1.1
MKAR Makanchi Array 65.84 329 P **P** 05 51 55.0 0.0
MKAR Makanchi Array 65.84 329 P **P** 05 51 55.0 0.0
MKAR P'P' 06 20 22.9
MKAR Makanchi Array 65.84 329 P **P** 05 51 55.0 0.0
comp=Z,13nm,0.7s,baz=132,slow=7.9,SNR=110
MKAR PKPPKP **P'P'df** 06 20 22.9 -1.5
comp=Z,0.6nm,0.9s,baz=267,slow=2.2,SNR=3.7
TKM2 Tokmak 2 67.22 322 *i*P **P** 05 52 04.1 +0.2
TKM2 Tokmak 2 67.22 322 *e*P **P** 05 52 03.7 -0.2
comp=Z,7.1nm,0.8s
KBL Kabul 67.45 312 *e*P **P** 05 52 05.2 -0.3
KBL pmax pmax
comp=Z,22nm,0.8s
KBL Kabul 67.45 312 *e*P **P** 05 52 05.2 -0.3
comp=Z,22nm,0.8s
KBL Kabul 67.45 312 P **P** 05 52 05.7 +0.3
baz=68,SNR=3.7
UCH Uchtor 67.50 321 *i*P **P** 05 52 06.7 +0.8
AAK Ala-Archa 67.73 322 *i*P **P** 05 52 07.6 +0.6
EKS2 Erkin-Say 68.19 321 *i*P **P** 05 52 10.3 +0.6
EKS2 Erkin-Say 68.19 321 *e*P **P** 05 52 10.1 +0.4
comp=Z,15nm,1.1s
YAK Yakutsk 68.77 2 *e*P **P** 05 52 10.9 -1.7
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK Yakutsk 68.77 2 *e*P **P** 05 52 11.7 -0.9
comp=E,64nm,0.8s
ZAA0 Zalesovo Array 69.64 336 *e*P **P** 05 52 17.0 -1.0
ZALV Zalesovo Beam 69.64 336 P **P** 05 52 17.5 -0.6
ZALV Zalesovo Beam 69.64 336 P **P** 05 52 17.4 -0.6
ZALV ⇑*e* 06 20 17.6
ZALV Zalesovo Beam 69.64 336 P **P** 05 52 17.4 -0.6
comp=E,21nm,0.3s,baz=128,slow=4.5,SNR=138
ZALV PKP2bc 06 20 17.6
comp=E,0.8nm,0.7s,baz=319,slow=4.3,SNR=5.9
KURBB Kurchatov Arra 70.22 330 PKP2bc **P'P'bc** 06 20 16.1 -0.5
comp=E,0.1nm,0.4s,baz=312,slow=5.3,SNR=7.0
KURK Kurchatov 70.23 330 *e*P **P** 05 52 21.3 -0.3
KURK pmax pmax
comp=Z,31nm,1.0s
KURK Kurchatov 70.23 330 *e*P **P** 05 52 21.3 -0.3
comp=Z,31nm,1.0s
KURK ⇑*e* 06 20 16.1
KKAR Karatay Array 70.47 320 *e*P **P** 05 52 21.4 -1.9
KKAR Karatay Array 70.47 320 *e*P **P** 05 52 21.4 -1.9
NVS Novosibirsk 70.92 336 *e*P **P** 05 52 23.5 -2.1
NVS pmax pmax
comp=Z,50nm,1.1s
NVS pmax pmax
comp=N,22nm,1.0s
NVS pmax pmax
comp=E,23nm,1.0s
VNDA Vanda 73.12 172 *e*P **P** 05 52 38.3 +0.2
comp=E,12nm,0.7s
VNDA Vanda 73.12 172 P **P** 05 52 38.5 +0.4
comp=E,9.2nm,0.6s,baz=317,slow=7.0,SNR=48
MAW Mawson 73.53 201 P **P** 05 52 40.9 +0.3
MAW Mawson 73.53 201 P **P** 05 52 40.9 +0.3
comp=E,11nm,0.8s,baz=52,slow=9.6,SNR=12
IDAH Dahanechah 73.81 307 *e*P **P** 05 52 44.1 +0.9
SBA Scott Base 74.06 172 P **P** 05 52 44.6 +1.2
SBA Scott Base 74.06 172 P **P** 05 52 44.5 +1.2
IKOO Kooshah 74.40 306 *e*P **P** 05 52 46.4 -0.1
ITEG Tejag 74.76 307 *e*P **P** 05 52 49.1 +0.7
IMYA Miami 74.86 310 *e*P **P** 05 52 49.4 +0.5
ISRO Mashad 75.33 310 *e*P **P** 05 52 52.4 +0.9
IMOG Moghan 75.36 310 *e*P **P** 05 52 52.1 +0.2
BVA0 Borovoye Array 75.72 329 *i*P **P** 05 52 52.8 -0.3
BVA0 pmax pmax
comp=Z,67nm,1.2s
IPAY Payeh 75.73 310 *e*P **P** 05 52 54.7 +0.8
BRVK Borovoye 75.79 329*d i*P **P** 05 52 53.1 -0.4
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 75.79 329 *e*P **P** 05 52 53.3 -0.2
comp=Z,26nm,0.9s
IAKL Akhelmad 75.97 310 *e*P **P** 05 52 55.6 +0.4
IKRD Kardeh 76.21 310 *e*P **P** 05 52 53.6 -2.9
ISFR Sfrayin 76.69 310 *e*P **P** 05 52 59.8 +0.6
OPO Ambohidratompo 76.98 253 P **P** 05 53 01.1 +0.1
OPO Ambohidratompo 76.98 253 P **P** 05 53 01.1 +0.1
comp=Z,8.3nm,0.7s,baz=96,slow=5.4,SNR=8.9
ICHK Chekchek 78.06 305 *e*P **P** 05 53 06.7 0.0
TIXI Tiksi 78.39 1 *e*P **P** 05 53 06.3 -0.9
TIXI pmax pmax
comp=Z,13nm,0.4s
TIXI Tiksi 78.39 1 *e*P **P** 05 53 06.3 -0.9
comp=Z,13nm,0.4s
ISAD Sadrabad 78.56 304 *e*P **P** 05 53 08.8 -0.6
AB31 Akbulak array 79.78 323 P **P** 05 53 14.2 -0.9
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 79.78 323 *e*P **P** 05 53 14.7 -0.4
comp=Z,6.4nm,0.7s
IKLH Kolahrood 80.64 305 *e*P **P** 05 53 21.1 +0.8
IDMV Damavand 80.86 308 *e*P **P** 05 53 20.5 -1.0
AKTO Aktyubinsk 81.38 323 P **P** 05 53 22.9 -0.5
AKTO pmax pmax
comp=Z,18nm,0.8s
SYO Syowa Base 82.23 201⇑*e*X **P** 05 53 25.4 -2.0
SVE Sverdlovsk 82.47 330 *e*P **P** 05 53 28.4 -0.4
SVE *e*S **S** 06 02 58.7 -3.0
SVE pmax pmax
comp=Z,43nm,1.5s
IRAZ Razeghan 82.48 307 *e*P **P** 05 53 29.3 -0.3
QSPA South Pole Qui 83.11 180 *e*P **P** 05 53 31.9 -0.2
comp=Z,91nm,1.4s
QSPA South Pole Qui 83.11 180 P **P** 05 53 32.1 0.0
comp=Z,17nm,0.7s,baz=294,slow=0.6,SNR=47
ARU Arti 83.36 329*d i*P **P** 05 53 32.5 -0.8
ARU S S 06 03 03.8 -6.7
ARU pmax pmax
comp=Z,81nm,2.5s
ARU Arti 83.36 329 *e*P **P** 05 53 32.8 -0.5
comp=Z,36nm,1.2s
KMBO Kilima Mbogo 88.32 269 P **P** 05 53 59.0 +0.6
KMBO Kilima Mbogo 88.32 269 P **P** 05 53 59.0 +0.6
comp=Z,3.3nm,0.6s,baz=76,slow=7.9,SNR=11

ZEI Tsey 88.63 313 *e*P **P** 05 53 58.1 -1.0
ZEI pmax pmax
comp=Z,6.0nm,0.6s
KBZ Khabaz 89.52 314 P **P** 05 54 02.3 -0.6
KBZ Khabaz 89.52 314 P **P** 05 54 02.3 -0.6
KBZ Khabaz 89.52 314 P **P** 05 54 02.3 -0.6
comp=Z,2.4nm,0.8s,baz=136,slow=2.0,SNR=6.8
KIV Kislovodsk 89.71 314 *e*P **P** 05 54 01.6 -2.4
KIV *e* 06 03 40.6
KIV pmax pmax
comp=Z,8.0nm,1.1s
PRGR Permogore 91.29 332 P **P** 05 54 08.0 -2.7
PRGR pmax pmax
comp=Z,9.0nm,0.5s
COLD Coldfoot 94.00 23 *e*P **P** 05 54 22.9 -0.1
comp=Z,7.0nm,1.0s
ILAR Eielson Array 95.06 25 P **P** 05 54 26.1 -1.8
ILAR PKKPbc **PKKPdf** 06 11 20.9 -1.0
ILAR Eielson Array 95.06 25 P **P** 05 54 26.1 -1.8
comp=Z,1.1nm,0.7s,baz=249,slow=5.1,SNR=13
ILAR PKKPbc **PKKPdf** 06 11 20.9 -1.0
comp=Z,0.7nm,0.8s,baz=67,slow=2.3,SNR=7.5
OBN Obninsk 95.08 325⇑*i*P **P** 05 54 29.9 +1.7
OBN *PP **pP** 05 56 24.0 -0.8
OBN *e* 05 58 31.8
OBN *e* 06 04 13.9
OBN *e*SP SP 06 06 19.6 +0.6
OBN *e*SS SS 06 11 31.8 -7.1
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,100nm,17.0s
TMCR Tamitsa 95.11 334 *e*P **P** 05 54 27.7 -0.4
TMCR *e* 05 58 21.8
TMCR pmax pmax
comp=Z,16nm,0.5s
LSZ Lusaka 95.40 254 *e*P **P** 05 54 30.8 +0.1
LSZ Lusaka 95.40 254 P **P** 05 54 30.0 -0.7
comp=Z,2.3nm,0.5s,baz=80,slow=6.6,SNR=7.6
BOSA Boshof 95.83 240 P **P** 05 54 32.1 -0.3
BOSA Boshof 95.83 240 P **P** 05 54 32.1 -0.3
comp=Z,4.6nm,0.7s,baz=122,slow=14,SNR=7.9
BR131 Keskin Array S 95.92 309 *e*P **P** 05 54 31.4 -1.2
comp=Z,3.7nm,1.0s
BRTR Keskin Array B 95.92 309 P **P** 05 54 30.8 -1.7
BRTR Keskin Array B 95.92 309 P **P** 05 54 30.8 -1.7
comp=Z,2.1nm,0.8s,baz=129,slow=5.7,SNR=11
AKASG Malin Array Be 99.37 320 P **Pdif** 05 54 46.9 -0.6
AKASG Malin Array Be 99.37 320 P **Pdif** 05 54 46.9 -0.6
AKASG Malin Array Be 99.37 320 P **Pdif** 05 54 46.9 -0.6
comp=Z,0.7nm,0.6s,baz=74,slow=4.7,SNR=5.0
ARCES ARCESS Array B 99.96 339 P **Pdif** 05 54 50.6 +0.9
ARCES PKKPbc **PKKPbc** 06 11 06.9 -2.8
ARCES ARCESS Array B 99.96 339 P **Pdif** 05 54 50.6 +0.9
comp=Z,3.2nm,0.9s,baz=90,slow=3.6,SNR=7.8
ARCES PKKPbc **PKKPbc** 06 11 06.9 -2.8
comp=Z,4.9nm,1.0s,baz=258,slow=3.6,SNR=5.0
INK Inuvik 100.33 22 PKKPbc PKKPbc 06 11 05.5 -3.0
INK Inuvik 100.33 22 PKKPbc PKKPbc 06 11 05.5 -3.0
comp=Z,1.4nm,0.8s,baz=119,slow=3.2,SNR=6.4
YKA Yellowknife Ar 109.49 25 PKiKP **PKiKP** 05 59 31.3 -0.7
YKA PKKPbc **PKKPbc** 06 10 38.0 -2.9
YKA Yellowknife Ar 109.49 25 PKiKP **PKiKP** 05 59 31.3 -0.7
comp=Z,0.5nm,0.4s,baz=303,slow=1.8,SNR=28
YKA PKKPbc **PKKPbc** 06 10 38.0 -2.9
comp=Z,0.7nm,0.6s,baz=113,slow=3.3,SNR=13
GERES GERESS Array B 109.56 319 PKiKP **PKiKP** 05 59 32.3 -0.4
GERES GERESS Array B 109.56 319 PKiKP **PKiKP** 05 59 32.3 -0.4
comp=Z,0.7nm,0.6s,baz=64,slow=3.1,SNR=5.6
CDF Champ du Feu 113.79 320 *e*PKiKP **PKiKP** 05 59 40.1 -0.7
CDF Champ du Feu 113.79 320 *e*PKiKP **PKiKP** 05 59 40.1 -0.7
CDF Champ du Feu 113.79 320 *e*PKPdf **PKiKP** 05 59 40.1 -0.7
HINF Hinteralfeld 114.24 320 *e*PKiKP PKPdf 05 59 41.1 -0.5
comp=Z,13nm,0.9s
HINF Hinteralfeld 114.24 320 *e*PKiKP PKPdf 05 59 41.1 -0.5
HINF Hinteralfeld 114.24 320 *e*PKPdf PKPdf 05 59 41.1 -0.5
HAU Haudompre 114.51 320 *e*PKiKP PKPdf 05 59 41.4 -0.7
HAU Haudompre 114.51 320 *e*PKiKP PKPdf 05 59 41.4 -0.7
HAU Haudompre 114.51 320 *e*PKPdf PKPdf 05 59 41.4 -0.7
LPG La Plagne 114.99 317 *e*PKiKP PKPdf 05 59 41.8 -1.7
comp=Z,15nm,0.9s
LPG La Plagne 114.99 317 *e*PKiKP PKPdf 05 59 41.8 -1.7
LPG La Plagne 114.99 317 *e*PKPdf PKPdf 05 59 41.8 -1.7
CABF La Chapelle 115.10 319 *e*PKiKP **PKPdf** 05 59 42.5 -0.9
CABF La Chapelle 115.10 319 *e*PKiKP **PKPdf** 05 59 42.5 -0.9
CABF La Chapelle 115.10 319 *e*PKiKP **PKPdf** 05 59 42.5 -0.9
BAIF Baives 115.16 323 *e*PKiKP **PKPdf** 05 59 42.7 -0.5
BAIF Baives 115.16 323 *e*PKiKP **PKPdf** 05 59 42.7 -0.5
BAIF Baives 115.16 323 *e*PKPdf **PKPdf** 05 59 42.7 -0.5
SFTF Sexfontaines 115.28 320 *e*PKiKP **PKPdf** 05 59 42.4 -1.2
SFTF Sexfontaines 115.28 320 *e*PKPdf **PKPdf** 05 59 42.4 -1.2
LOR Lormes 116.34 320 *e*PKiKP **PKPdf** 05 59 45.0 -0.7
LOR Lormes 116.34 320 *e*PKPdf **PKPdf** 05 59 45.0 -0.7
SMF Signal de Mont 116.56 319 *e*PKiKP **PKPdf** 05 59 45.2 -0.9
SMF Signal de Mont 116.56 319 *e*PKiKP **PKPdf** 05 59 45.2 -0.9
SMF Signal de Mont 116.56 319 *e*PKPdf **PKPdf** 05 59 45.2 -0.9
SSF Saint Saulge 116.64 320 *e*PKiKP **PKPdf** 05 59 45.7 -0.5
comp=Z,24nm,1.2s
SSF Saint Saulge 116.64 320 *e*PKiKP **PKPdf** 05 59 45.7 -0.5
SSF Saint Saulge 116.64 320 *e*PKPdf **PKPdf** 05 59 45.7 -0.5
AVF Avril sur Loir 116.83 319 *e*PKiKP **PKPdf** 05 59 45.7 -0.9
AVF Avril sur Loir 116.83 319 *e*PKiKP **PKPdf** 05 59 45.7 -0.9
AVF Avril sur Loir 116.83 319 *e*PKPdf **PKPdf** 05 59 45.7 -0.9
BGF Bois d'Agland 117.23 319 *e*PKiKP **PKPdf** 05 59 47.0 -0.4
comp=Z,23nm,0.9s
BGF Bois d'Agland 117.23 319 *e*PKiKP **PKPdf** 05 59 47.0 -0.4
BGF Bois d'Agland 117.23 319 *e*PKPdf **PKPdf** 05 59 47.0 -0.4
CAF Calviac 118.31 318 *e*PKiKP **PKPdf** 05 59 48.7 -0.8
CAF Calviac 118.31 318 *e*PKiKP **PKPdf** 05 59 48.7 -0.8
CAF Calviac 118.31 318 *e*PKPdf **PKPdf** 05 59 48.7 -0.8
MFF Saint Martin d 119.14 320 *e*PKiKP **PKPdf** 05 59 49.7 -1.3
comp=Z,32nm,1.1s
MFF Saint Martin d 119.14 320 *e*PKiKP **PKPdf** 05 59 49.7 -1.3
MFF Saint Martin d 119.14 320 *e*PKPdf **PKPdf** 05 59 49.7 -1.3
PDAR Pinedale Array 119.81 44 PKP **PKPdf** 05 59 52.5 -0.3
PDAR SKP 06 02 39.5
PDAR PKKPbc **PKKPab** 06 10 07.0 -0.6
PDAR Pinedale Array 119.81 44 PKP **PKPdf** 05 59 52.5 -0.3
comp=Z,2.1nm,0.6s,baz=169,slow=0.8,SNR=18
PDAR SKP 06 02 39.5
comp=Z,0.7nm,0.9s,baz=294,slow=1.5,SNR=3.5
PDAR PKKPbc **PKKPab** 06 10 07.0 -0.6
comp=Z,1.7nm,0.7s,baz=127,slow=5.9,SNR=12
ETSF Etsaut 120.80 316 *e*PKiKP **PKPdf** 05 59 54.5 0.0
comp=Z,21nm,1.0s
ETSF Etsaut 120.80 316 *e*PKiKP **PKPdf** 05 59 54.5 0.0
ETSF Etsaut 120.80 316 *e*PKPdf **PKPdf** 05 59 54.5 0.0
SJPF Ste Jean 121.17 317 *e*PKiKP **PKPdf** 05 59 54.0 -1.1
SJPF Ste Jean 121.17 317 *e*PKiKP **PKPdf** 05 59 54.0 -1.1
SJPF Ste Jean 121.17 317 *e*PKPdf **PKPdf** 05 59 54.0 -1.1
O20A White River Ci 121.63 47 *e*PKPdf **PKPdf** 05 59 56.7 +0.4
PV01 Paradox Valley 122.03 49 *e*PKPdf **PKPdf** 05 59 57.6 +0.4
MVCO Mesa Verde 122.37 50 *e*PKPdf **PKPdf** 05 59 58.5 +0.6
RSSD Black Hills 123.00 41 *e*PKiKP **PKPdf** 05 59 58.1 -0.7
RSSD Black Hills 123.00 41 *e*PKPdf **PKPdf** 05 59 58.1 -0.7
LAZ Ladron 124.25 53 *e*PKPdf **PKPdf** 06 00 02.9 +1.4
ESDC Sonseca Array 124.37 314 PKP **PKPdf** 06 00 01.2 -0.2
ESDC Sonseca Array 124.37 314 PKP **PKPdf** 06 00 01.2 -0.2
comp=Z,0.8nm,0.6s,baz=34,slow=3.7,SNR=4.4
TOA0 Torodi Ar. Sit 124.59 281 *e*PKPdf **PKPdf** 06 00 02.2 -0.1
TORD Torodi Ar. Bea 124.59 281 PKP **PKPdf** 06 00 02.2 -0.1
TORD SKPbc SKiKP 06 02 27.1 -22
TORD Torodi Ar. Bea 124.59 281 PKP **PKPdf** 06 00 02.2 -0.1
comp=Z,7.5nm,0.7s,baz=89,slow=2.0,SNR=24
TORD SKPbc SKiKP 06 02 27.1 -22
comp=Z,1.6nm,0.8s,baz=92,slow=3.5,SNR=4.2
ULM Lac du Bonnet 124.61 31 PKP **PKPdf** 06 00 00.4 -1.0
ULM Lac du Bonnet 124.61 31 PKP **PKPdf** 06 00 00.4 -1.0
comp=Z,2.4nm,0.7s,baz=277,slow=1.1,SNR=6.0
ECSD EROS Data Cent 127.89 38 *e*PKPdf **PKPdf** 06 00 07.3 -0.7
TXAR Lajitas Array 128.50 58 PKP **PKPdf** 06 00 10.8 +1.1
TXAR SKPbc SKiKP 06 02 42.4 -14
TXAR Lajitas Array 128.50 58 PKP **PKPdf** 06 00 10.8 +1.1
comp=Z,0.4nm,0.3s,baz=218,slow=2.4,SNR=14
TXAR SKPbc SKiKP 06 02 42.4 -14
comp=Z,7.4nm,0.9s,baz=258,slow=3.1,SNR=30
PLCA Paso Flores 130.33 164 PKP **PKPdf** 06 00 13.7 +0.9
PLCA SKPbc **SKPbc** 06 02 47.0 -0.3
PLCA Paso Flores 130.33 164 PKP **PKPdf** 06 00 13.7 +0.9
comp=Z,3.3nm,0.7s,baz=227,slow=1.6,SNR=7.0
PLCA SKPbc **SKPbc** 06 02 47.0 -0.3
comp=Z,8.1nm,1.0s,baz=312,slow=5.7,SNR=2.8
WMOK Wichita Mounta 130.61 49 *e*PKiKP **PKPdf** 06 00 14.0 +0.6
WMOK Wichita Mounta 130.61 49 *e*PKPdf **PKPdf** 06 00 14.0 +0.6
KIC Kosan Boka 130.78 272 *e*PKiKP **PKPdf** 06 00 14.7 +0.5
comp=Z,34nm,1.2s
KIC Kosan Boka 130.78 272 *e*PKP1 SKPdf 06 02 52.1 -7.7
comp=Z,33nm,0.7s
DBIC Dimbokro 130.91 273 PKP **PKPdf** 06 00 15.3 +0.9
DBIC SKPbc **SKPbc** 06 02 50.1 +0.1
DBIC Dimbokro 130.91 273 PKP **PKPdf** 06 00 15.3 +0.9
comp=Z,1.9nm,0.3s,baz=51,slow=3.4,SNR=8.7
DBIC SKPbc **SKPbc** 06 02 50.1 +0.1
comp=Z,14nm,0.7s,baz=84,slow=4.0,SNR=21
LIC Lamto 131.06 272 *e*PKiKP **PKPdf** 06 00 15.3 +0.6
comp=Z,5.2nm,0.4s
LIC Lamto 131.06 272 *e*PKiKP **PKPdf** 06 00 15.3 +0.6
comp=Z,19nm,0.7s
LIC Lamto 131.06 272 *e*PKP1 **SKPab** 06 02 52.8 +1.5
comp=Z,47nm,0.9s
LIC Lamto 131.06 272 *e*PKPdf **PKPdf** 06 00 15.3 +0.6
TIC Toumodi 131.07 273 *e*PKiKP **PKPdf** 06 00 15.3 +0.5
comp=Z,6.2nm,0.3s
TIC Toumodi 131.07 273 *e*PKP1 **SKPab** 06 02 52.9 +1.5
comp=Z,28nm,0.7s
SCHQ Schefferville 131.12 10 PKP **PKPdf** 06 00 13.9 +0.2
SCHQ SKPbc **SKPbc** 06 02 49.1 -0.4
SCHQ Schefferville 131.12 10 PKP **PKPdf** 06 00 13.9 +0.2
comp=Z,2.4nm,0.3s,baz=278,slow=4.5,SNR=18
SCHQ SKPbc **SKPbc** 06 02 49.1 -0.4
comp=Z,5.9nm,0.8s,baz=34,slow=3.9,SNR=4.9
JCT Junction City 131.36 55 *e*PKiKP **PKPdf** 06 00 14.8 -0.2
JCT Junction City 131.36 55 *e*PKPdf **PKPdf** 06 00 14.8 -0.2
LRAL Lakeview Retre 140.03 45 *e*PKPdf **PKPdf** 06 00 26.7 -4.2
TKL Tuckaleechee C 140.62 39 *e*PKPdf **PKPdf** 06 00 27.6 -4.3
GOGA Godfrey 142.22 42 *e*PKPdf **PKPdf** 06 00 31.0 -3.8
KMSC Kings Mountain 142.46 38 *e*PKPdf **PKPdf** 06 00 32.5 -2.7
TIGA Tifton 143.31 44 *e*PKPdf PKPbc 06 00 35.5 +0.5
CNNC Cliffs of the 144.40 34 *e*PKPbc PKPbc 06 00 37.9 -0.5
TGUH Tegucigalpa,Un 146.84 75 *e*PKPbc **PKPbc** 06 00 46.1 +0.1
LVC Limon Verde 147.40 154 *e*PKPbc **PKPbc** 06 00 47.1 -0.5
JTS JuntasAbangare 149.52 81 *e*PKPbc **PKPbc** 06 00 52.5 -0.2
NNA Nana 150.79 130 *e*PKPbc **PKPbc** 06 00 57.0 +1.2
LPAZ La Paz 153.23 149 PKP **PKPdf** 06 00 55.0 +1.1
LPAZ *e*PKPdf PKPbc 06 00 55.1 -6.7
LPAZ PKPbc **PKiKP** 06 01 03.8 +1.9
LPAZ PKPab **PKPab** 06 01 16.4 +0.3
LPAZ La Paz 153.23 149 PKP **PKPdf** 06 00 55.0 +1.1
comp=Z,3.5nm,1.1s,baz=98,slow=2.7,SNR=8.7
LPAZ PKPbc **PKiKP** 06 01 03.8 +1.9
comp=Z,3.7nm,0.5s,baz=107,slow=4.4,SNR=15
LPAZ PKPab **PKPab** 06 01 16.4 +0.3
comp=Z,6.9nm,0.5s,baz=280,slow=0.6,SNR=6.6
BDFB Brasilia 156.78 196 PKP **PKPdf** 06 01 00.1 +2.0
BDFB PKPab **PKPab** 06 01 31.0 +0.4
BDFB Brasilia 156.78 196 PKP **PKPdf** 06 01 00.1 +2.0
comp=Z,1.6nm,0.5s,baz=255,slow=5.1,SNR=4.1
BDFB PKPab **PKPab** 06 01 31.0 +0.4
comp=Z,4.6nm,0.8s,baz=192,slow=3.3,SNR=6.6
SAML Samuel 161.97 150 *e*PKPdf **PKPdf** 06 01 04.0 +0.1

MEX 23 06:16:44.0±0.5, 14°.81N×93°.61W, h44km±88km, MD3.9,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.97**	**23**	*i*P	Pn	06 16 59.4	-1.9
PCIG				*i*S	Sn	06 17 11.9	-2.0
THIG		**1.31**	**85**	*e*P	Pn	06 17 04.2	-1.6
THIG				*i*S	Sn	06 17 19.8	-2.3
HUIG	**Huatulco**	**2.59**	**292**	*i*P	Pn	06 17 22.5	-0.9
HUIG				*i*S	Sn	06 17 51.2	-2.6
VHO	**Vista Hermosa**	**3.75**	**307**	*i*P	Pn	06 17 38.1	-1.6
VHO				*i*S	Sn	06 18 20.8	-2.0

*ATH **23** 06:16:51.9, 37°.60N×26°.48E, h4km±3km, MD3.2/4*
*ISK **23** 06:16:51.6, 37°.69N×26°.47E, h27km, MD2.6*
*ISCJB **23** 06:16:52.3±0.6, 37°.64N±0°.03×26°.49E±0°.04, h23km±8km, Error ellipse: s-maj=5.5km s-min=5.2km az=25.3*
*CSEM **23** 06:16:52.1±0.3, 37°.64N×26°.50E, h20km, MD3.2, Error ellipse: s-maj=5.2km s-min=4.8km az=38.0*
*DDA **23** 06:16:53.3, 37°.68N×26°.58E, h7km, ML3.6*

ISC 23 06:16:51.7±1.0, 37°.66N±0°.03×26°.48E±0°.03, h17km±7km, n26,σ0°.32/45, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.29**	**79**	*i*PG	**Pg**	**06 16 57.9**	**0.0**
SMG				*e*SG	**Sg**	**06 17 02.1**	**-0.1**
SMG	**Samos**	**0.29**	**79**⇑	*i*Pg	**Pg**	**06 16 57.9**	**0.0**
SMG				*e*Sg	**Sg**	**06 17 02.1**	**-0.1**
GCAM	**G?zelcaml?**	**0.60**	**86**	*e*P	**Pb**	**06 17 03.7**	**0.0**
GCAM				*i*S	**Sb**	**06 17 12.3**	**+0.5**
GCAM	**G?zelcaml?**	**0.60**	**86**	*e*P	**Pb**	**06 17 03.7**	**0.0**
GCAM				*i*S	**Sb**	**06 17 12.3**	**+0.5**
URLA	**Izmir**	**0.71**	**7**	*i*P	**Pn**	**06 17 06.7**	**-0.3**
URLA				*i*S	**Sn**	**06 17 17.1**	**-0.4**
URLA	**Izmir**	**0.71**	**7**	*i*P	**Pn**	**06 17 06.7**	**-0.3**
URLA				*i*S	**Sn**	**06 17 17.1**	**-0.4**
CHOS	**Chios island**	**0.80**	**335**	*e*PG	**Pb**	**06 17 06.9**	**-0.3**
CHOS				*e*SG	**Sg**	**06 17 18.1**	**+0.1**
CHOS	**Chios island**	**0.80**	**335**	*e*PG	**Pg**	**06 17 07.9**	**+0.5**
CHOS				*e*SG	**Sn**	**06 17 19.8**	**-0.1**
CHOS	**Chios island**	**0.80**	**335**	*e*Pg	**Pb**	**06 17 06.9**	**-0.3**
CHOS				*e*Sg	**Sg**	**06 17 18.2**	**+0.1**
BLCB	**Balcova**	**0.85**	**31**	*e*PG	**Pb**	**06 17 07.7**	**-0.3**
BLCB				*e*SG	**Sg**	**06 17 19.8**	**+0.3**
BLCB	**Balcova**	**0.85**	**31**	*e*Pg	**Pb**	**06 17 07.7**	**-0.3**
BLCB				*e*Sg	**Sg**	**06 17 19.8**	**+0.3**
BODT	**Bodrum**	**0.89**	**132**	*e*PG	**Pn**	**06 17 09.3**	**0.0**
BODT				*e*SG	**Sn**	**06 17 21.7**	**-0.1**
BODT	**Bodrum**	**0.89**	**132**	*e*Pg	**Pn**	**06 17 09.3**	**0.0**
BODT				*e*Sg	**Sn**	**06 17 21.7**	**-0.1**
APE	**Apeiranthos**	**0.96**	**233**	*e*PG	**Pb**	**06 17 09.8**	**0.0**
APE	**Apeiranthos**	**0.96**	**233**	*e*PG	**Pb**	**06 17 09.9**	**0.0**
APE				*e*SG	**Sb**	**06 17 21.9**	**-0.3**
APE	**Apeiranthos**	**0.96**	**233**	*e*Pg	**Pb**	**06 17 09.9**	**0.0**
APE				*e*Sg	**Sb**	**06 17 21.9**	**-0.3**
IZM	**Izmir**	**0.96**	**40**	*e*PG	**Pb**	**06 17 09.5**	**-0.4**
IZM				*e*SG	**Sb**	**06 17 22.7**	**+0.3**
IZM	**Izmir**	**0.96**	**40**	*e*Pg	**Pb**	**06 17 09.5**	**-0.4**
IZM				*e*Sg	**Sb**	**06 17 22.7**	**+0.3**
AYDN	**Tasoluk**	**1.11**	**89**	*i*P	**Pn**	**06 17 12.5**	**+0.1**
AYDN				*i*S	**Sb**	**06 17 26.8**	**+0.2**
AYDN	**Tasoluk**	**1.11**	**89**	*i*P	**Pn**	**06 17 12.5**	**+0.1**
AYDN				*i*S	**Sb**	**06 17 26.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.15**	**75**	*e*PN	**Pn**	**06 17 12.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.15**	**75**	*e*Pn	**Pn**	**06 17 12.7**	**-0.4**
PRK	**Paraskevi**	**1.60**	**354**	*e*PB	**Pg**	**06 17 23.1**	**+0.7**
PRK	**Paraskevi**	**1.60**	**354**	*e*Pb	**Pg**	**06 17 23.1**	**+0.7**
KULA	**Kula-Manisa**	**1.92**	**63**	*e*PN	**Pn**	**06 17 23.3**	**-0.3**
KULA	**Kula-Manisa**	**1.92**	**63**	*e*Pn	**Pn**	**06 17 23.3**	**-0.3**

*CSEM **23** 06:29:24.1±0.1, 38°.60N×23°.70E, h10km, MD3.1, Error ellipse: s-maj=2.3km s-min=1.4km az=71.0*
*ATH **23** 06:29:24.8, 38°.61N×23°.66E, h8km±1km, MD3.1/20, ML2.8*
*THE **23** 06:29:24.5, 38°.60N×23°.66E, h3km±1km, ML2.6/13, Error ellipse: s-maj=1.2km s-min=0.3km az=61.0*

ISC 23 06:29:24.4±0.9, 38°.61N±0°.02×23°.67E±0°.02, h9km±6km, n69,σ0°.45/118, 2C, Greece

| Code | Station Name | Δ

LKR	**Lokris**	**0.53**	**275**	*e*PB	**Pg**	**06 29 35.0**	**+0.3**
LKR	**Lokris**	**0.53**	**275**	P	**Pg**	**06 29 34.0**	**-0.7**
LKR	**Lokris**	**0.53**	**275**	*e*Pb	**Pg**	**06 29 35.0**	**+0.3**
LKR				S	**Sg**	**06 29 41.9**	**+0.2**
PTL	**Penteli**	**0.58**	**165**	P	**Pg**	**06 29 35.5**	**-0.1**
PTL				S	**Sg**	**06 29 43.8**	**+0.6**
PTL	**Penteli**	**0.58**	**165**	*e*PB	**Pg**	**06 29 35.6**	**-0.1**
PTL				*e*SB	**Sg**	**06 29 44.2**	**+1.0**
PTL	**Penteli**	**0.58**	**165**	*e*Pb	**Pg**	**06 29 35.6**	**-0.1**
PTL				S	**Sg**	**06 29 43.8**	**+0.6**
PTL				*e*Sb	**Sg**	**06 29 44.2**	**+1.0**
SKIA	**Skiathos**	**0.58**	**344**	P	**Pg**	**06 29 35.9**	**+0.2**
SKIA				S	**Sb**	**06 29 44.6**	**-0.5**
SKIA	**Skiathos**	**0.58**	**344**	*e*PB	**Pg**	**06 29 36.1**	**+0.4**
SKIA				*e*SB	**Sb**	**06 29 45.0**	**-0.1**
SKIA	**Skiathos**	**0.58**	**344**	P	**Pg**	**06 29 35.9**	**+0.2**
SKIA				S	**Sb**	**06 29 44.6**	**-0.5**
SKIA				*e*Sb	**Sb**	**06 29 45.0**	**-0.1**
AOS	**Alonnisos**	**0.58**	**16**	P	**Pg**	**06 29 35.5**	**-0.3**
AOS				S	**Sg**	**06 29 43.9**	**+0.4**
AOS	**Alonnisos**	**0.58**	**16**	*e*PG	**Pg**	**06 29 35.7**	**-0.1**
AOS	**Alonnisos**	**0.58**	**16**	P	**Pg**	**06 29 35.5**	**-0.3**
ATH	**Athens Observa**	**0.64**	**177**	P	**Pg**	**06 29 36.7**	**0.0**
ATH				S	**Sb**	**06 29 45.9**	**-0.7**
ATH	**Athens Observa**	**0.64**	**177**	*e*PG	**Pg**	**06 29 36.7**	**0.0**
ATH				*e*SB	**Sg**	**06 29 45.8**	**+0.8**
ATH	**Athens Observa**	**0.64**	**177**	*e*Pg	**Pg**	**06 29 36.7**	**0.0**
ATH				*e*Sb	**Sg**	**06 29 45.8**	**+0.8**
ATHU	**Athens Univers**	**0.65**	**172**	P	**Pg**	**06 29 36.6**	**-0.3**
ATHU				S	**Sg**	**06 29 45.8**	**+0.4**
MRMA	**Marmari**	**0.78**	**135**	P	**Pg**	**06 29 39.0**	**-0.5**
MRMA				S	**Sg**	**06 29 50.5**	**+0.9**
MRMA	**Marmari**	**0.78**	**135**	P	**Pg**	**06 29 39.0**	**-0.5**
NEO	**Neokhori**	**0.78**	**333**	P	**Pg**	**06 29 39.3**	**-0.2**
NEO				S	**Sb**	**06 29 50.6**	**-0.3**
NEO	**Neokhori**	**0.78**	**333**	*e*PG	**Pg**	**06 29 39.5**	**0.0**
NEO				*e*SB	**Sg**	**06 29 50.3**	**+0.6**
NEO	**Neokhori**	**0.78**	**333**	*e*Pg	**Pg**	**06 29 39.5**	**0.0**
NEO				*e*Sb	**Sg**	**06 29 50.3**	**+0.6**
LTK	**Loutraki**	**0.81**	**224**	P	**Pg**	**06 29 39.2**	**-0.8**
LTK				S	**Sb**	**06 29 51.1**	**-0.5**
LTK	**Loutraki**	**0.81**	**224**	*e*PB	**Pg**	**06 29 40.1**	**+0.1**
LTK				*e*SB	**Sb**	**06 29 51.2**	**-0.4**
LTK	**Loutraki**	**0.81**	**224**	*e*Pb	**Pg**	**06 29 40.1**	**+0.1**
LTK				S	**Sb**	**06 29 51.1**	**-0.5**
AXAR	**Agios Charalam**	**0.81**	**282**	P	**Pg**	**06 29 40.0**	**-0.1**
AXAR				S	**Sb**	**06 29 51.4**	**-0.3**
XOR	**Xorichti**	**0.85**	**334**	P	**Pg**	**06 29 40.1**	**-0.6**
XOR				S	**Sb**	**06 29 52.7**	**-0.1**
XOR	**Xorichti**	**0.85**	**334**	*e*PG	**Pg**	**06 29 40.4**	**-0.3**
XOR				*e*SB	**Sb**	**06 29 52.6**	**-0.2**
XOR	**Xorichti**	**0.85**	**334**	P	**Pg**	**06 29 40.1**	**-0.6**
XOR	**Xorichti**	**0.85**	**334**	*e*Pg	**Pg**	**06 29 40.4**	**-0.3**
XOR				*e*Sb	**Sb**	**06 29 52.6**	**-0.2**
NAIG	**Nisos Aigina**	**0.86**	**190**	*e*PB	**Pg**	**06 29 41.1**	**+0.1**
NAIG	**Nisos Aigina**	**0.86**	**190**	*e*Pb	**Pg**	**06 29 41.1**	**+0.1**
DSF	**Desfina**	**0.92**	**258**	P	**Pg**	**06 29 41.3**	**-0.9**
DSF				S	**Sb**	**06 29 54.8**	**-0.1**
DSF	**Desfina**	**0.92**	**258**	*e*PB	**Pb**	**06 29 42.4**	**-0.2**
DSF				*e*SB	**Sb**	**06 29 55.4**	**+0.5**
DSF	**Desfina**	**0.92**	**258**	*e*Pb	**Pb**	**06 29 42.4**	**-0.2**
DSF				S	**Sb**	**06 29 54.8**	**-0.1**
DSF				*e*Sb	**Sb**	**06 29 55.4**	**+0.5**
AGG	**Agios Georgios**	**1.13**	**292**	P	**Pg**	**06 29 45.5**	**-0.6**
AGG				S	**Sb**	**06 30 01.2**	**+0.3**
AGG	**Agios Georgios**	**1.13**	**292**	*e*PG	**Pg**	**06 29 45.7**	**-0.4**
AGG	**Agios Georgios**	**1.13**	**292**	*e*Pg	**Pg**	**06 29 45.7**	**-0.4**
AGG				S	**Sb**	**06 30 01.2**	**+0.3**
DID	**Didima**	**1.15**	**198**	P	**Pg**	**06 29 45.9**	**-0.6**
DID				S	**Sb**	**06 30 02.1**	**+0.5**
DID	**Didima**	**1.15**	**198**	*e*PG	**Pg**	**06 29 46.0**	**-0.6**
DID				*e*SB	**Sb**	**06 30 02.1**	**+0.5**
DID	**Didima**	**1.15**	**198**	P	**Pg**	**06 29 45.9**	**-0.6**
DID				S	**Sb**	**06 30 02.1**	**+0.5**
KALE	**Kalithea**	**1.22**	**260**	P	**Pb**	**06 29 47.1**	**-0.6**
KALE				S	**Sn**	**06 30 04.3**	**-0.1**
KALE	**Kalithea**	**1.22**	**260**	*e*PN	**Pb**	**06 29 47.4**	**-0.3**
KALE	**Kalithea**	**1.22**	**260**	*e*Pn	**Pb**	**06 29 47.4**	**-0.3**
KALE				S	**Sn**	**06 30 04.3**	**-0.1**
GUR	**Goura**	**1.24**	**238**	P	**Pn**	**06 29 47.5**	**-0.6**
GUR	**Goura**	**1.24**	**238**	*e*PN	**Pn**	**06 29 47.5**	**-0.6**
GUR	**Goura**	**1.24**	**238**	*e*Pn	**Pn**	**06 29 47.5**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.27**	**289**	P	**Pn**	**06 29 48.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.27**	**289**	*e*PB	**Pg**	**06 29 49.2**	**+0.4**
MAKR				*e*SB	**Sn**	**06 30 06.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.27**	**289**	P	**Pn**	**06 29 48.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.27**	**289**	*e*Pb	**Pg**	**06 29 49.2**	**+0.4**
MAKR				*e*Sb	**Sn**	**06 30 06.2**	**+0.6**
KLV	**Kalavryta, Ach**	**1.32**	**245**	P	**Pn**	**06 29 48.6**	**-0.5**
KLV				S	**Sn**	**06 30 07.4**	**+0.5**
KLV	**Kalavryta, Ach**	**1.32**	**245**	*e*PB	**Pn**	**06 29 48.9**	**-0.2**
KLV	**Kalavryta, Ach**	**1.32**	**245**	*e*Pn	**Pn**	**06 29 48.9**	**-0.2**
KLV				S	**Sn**	**06 30 07.4**	**+0.5**
LAKA	**Lakka**	**1.38**	**255**	P	**Pn**	**06 29 50.0**	**+0.2**
LAKA	**Lakka**	**1.38**	**255**	*e*PG	**Pn**	**06 29 50.1**	**+0.2**
LAKA	**Lakka**	**1.38**	**255**	*e*Pg	**Pn**	**06 29 50.1**	**+0.2**
EFP	**Efpalio**	**1.40**	**263**	P	**Pn**	**06 29 49.9**	**-0.2**
EFP	**Efpalio**	**1.40**	**263**	*e*PN	**Pn**	**06 29 50.1**	**0.0**
EFP	**Efpalio**	**1.40**	**263**	*e*Pn	**Pn**	**06 29 50.1**	**0.0**
DRO	**Drossia**	**1.68**	**248**	P	**Pn**	**06 29 54.0**	**0.0**
LIA	**Limnos Island**	**1.74**	**42**	*e*PN	**Pg**	**06 29 57.7**	**-0.1**

GUC 23 06:50:41.5±0.4,**27°47S**×**69°14W**,**h75**km±13km,**ML3.5, 2C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.08**	**275**	⇑*i*P		Pn	06 51 01.4	+0.1
CPCH				*i* S		Sn	06 51 16.8	+0.7
CPCH				AML	AML	AML	06 51 20.0	
	comp=N,4μm,0.1s							
CDCH	**Caldera**	**1.55**	**284**	⇓*i*P		Pn	06 51 07.6	+0.4
CDCH				*i* S		Sn	06 51 27.3	+0.6
CDCH				AML	AML	AML	06 51 28.4	
	comp=E,266nm,0.7s							
VACH	**Vallenar**	**1.81**	**232**	*i* P		Pn	06 51 11.2	+0.5
VACH				*i* S		Sn	06 51 33.6	+0.7
VACH				AML	AML	AML	06 51 37.4	
	comp=E,792nm,0.1s							
LCO	**Las Campanas**	**2.06**	**221**	⇑*i*P		Pn	06 51 15.1	+0.6
LCO				*i* S		Sn	06 51 40.7	+1.0

*JMA **23** 06:53:27.9±0.2, 33°.38N×138°.33E, h321km, M3.1*
*ISCJB **23** 06:53:28.9±0.6, 33°.48N±0°.08×138°.36E±0°.08, h313km±6km, mb3.2/5, Error ellipse: s-maj=13.4km s-min=10.8km az=164.0*
*IDC **23** 06:53:29.6±1.2, 33°.48N×138°.36E, h304km±16km, mb3.0/5, mb1 3.2/7, mb1mx2.9/27, mbtmp3.0/7, Error ellipse: s-maj=44.1km s-min=16.3km az=69.0*

ISC 23 06:53:30.0±1.0,**33°.5N**±0°.1×**138°.28E**±0°.08,**h306**km±9km, **n24**,σ0**s92**/31,**mb3.2**/5,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIE	**Ise**	**1.58**	**305**	P		**Pn**	**06 54 14.7**	**+0.4**
JKN2	**Miekihoku**	**1.83**	**294**	P		**Pn**	**06 54 15.9**	**-0.1**
JOD2	**Odawara 2**	**1.88**	**20**	P		**Pn**	**06 54 16.9**	**+0.5**
JNY	**Yasuok**	**1.89**	**349**	P		**Pn**	**06 54 17.4**	**+0.9**
JYN	**Shimob**	**2.00**	**6**	P		**Pn**	**06 54 18.5**	**+1.1**
BSO3	**Boso 3**	**2.26**	**54**	P		**Pn**	**06 54 19.2**	**+0.1**
JWY	**Kouya**	**2.35**	**288**	P		**Pn**	**06 54 20.3**	**0.0**
JHU	**Hanno**	**2.49**	**19**	P		**Pn**	**06 54 21.5**	**+0.2**
JHU				S		**S**	**06 55 01.3**	**-1.0**
BSO1	**Boso 1**	**2.52**	**62**	P		**Pn**	**06 54 20.8**	**-0.2**
BSO1				S		**S**	**06 55 01.7**	**-0.1**
JRY	**Ryogami san**	**2.56**	**11**	P		**Pn**	**06 54 23.1**	**+1.0**
JRY				S		**S**	**06 55 04.9**	**+1.3**
JWT	**Wachi**	**2.97**	**308**	P		**Pn**	**06 54 25.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.04**	**359**	P		**Pn**	**06 54 26.3**	**-0.2**
	4.7nm,0.3s,baz=174,slow=11,SNR=42							
MJAR				S		**S**	**06 55 11.3**	**-0.3**
	baz=179,slow=23,SNR=2.6							
MAT	**Matsushiro**	**3.04**	**359**	P		**Pn**	**06 54 26.7**	**+0.2**
MAT				S		**S**	**06 55 11.8**	**+0.1**
MAT	**Matsushiro**	**3.04**	**359**	P		**Pn**	**06 54 26.7**	**+0.2**
JAG	**Ashikaga**	**3.07**	**18**	P		**Pn**	**06 54 26.2**	**-0.6**
JAG				S		**S**	**06 55 10.5**	**-1.8**
JYT	**Yasato**	**3.14**	**29**	P		**Pn**	**06 54 27.0**	**-0.5**
JYT				S		**S**	**06 55 11.6**	**-1.9**
JHO	**Hitachi**	**3.63**	**30**	P		**Pn**	**06 54 31.6**	**-0.9**
JMN	**Monobe**	**3.68**	**275**	P		**Pn**	**06 54 32.7**	**-0.5**
KSRS	**Korea Array**	**9.32**	**298**	P		**Pn**	**06 55 39.8**	**0.0**
	0.3nm,0.3s,baz=112,slow=12,SNR=7.3							
SONM	**Songino Array**	**27.88**	**310**	P		**P**	**06 58 54.5**	**+2.3**
	0.5nm,0.6s,baz=124,slow=8.8,SNR=4.0							
MKAR	**Makanchi Array**	**43.92**	**305**	P		**P**	**07 01 06.4**	**-0.7**
	0.3nm,0.5s,baz=100,slow=7.5,SNR=4.8							
WRA	**Warramunga Arr**	**53.27**	**185**	P		**P**	**07 02 16.9**	**-1.2**
	0.4nm,0.4s,baz=0.4,slow=7.8,SNR=13							
ASAR	**Alice Springs**	**57.00**	**185**	P		**P**	**07 02 45.4**	**+0.9**
	0.4nm,0.7s,baz=12,slow=12,SNR=6.5							
FINES	**FINESS Array B**	**70.73**	**332**	P		**P**	**07 04 12.7**	**-0.1**
	3.2nm,1.0s,baz=52,slow=7.2,SNR=3.1							

GUC 23 07:00:35.9±0.7,**21°.22S**×**68°.80W**,**h120**km±5km,**ML3.8, 2C-6D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.67**	**285**	⇓*i*P		Pn	07 00 55.6	+0.5
PB01				*i* S		Sn	07 01 10.3	+0.7
PB01				AML	AML	AML	07 01 12.2	
	comp=E,3μm,0.3s							
PB09	**Plate Boundary**	**0.70**	**216**	*e*P		Pn	07 00 56.3	+0.8
PB09				*i* S		Sn	07 01 11.0	+0.7
PB09				AML	AML	AML	07 01 12.7	
	comp=N,4μm,0.3s							
PB07	**Plate Boundary**	**1.13**	**243**	⇑*i*P		Pn	07 01 00.3	+0.8
PB07				*i* S		Sn	07 01 18.4	+1.1
PB07				AML	AML	AML	07 01 19.9	
	comp=E,2μm,0.3s							
MACH	**Maria Elena**	**1.32**	**222**	⇓*i*P		Pn	07 01 02.2	+0.6
MACH				*i* S		Sn	07 01 22.1	+1.1
PATCX	**Punta Patache**	**1.32**	**287**	⇓*i*P		Pn	07 01 02.8	+1.4
PATCX				*i* S		Sn	07 01 22.6	+1.8
PATCX				AML	AML	AML	07 01 24.7	
	comp=E,3μm,0.3s							
HMBC	**Humberstone**	**1.38**	**312**	⇓*i*P		Pn	07 01 03.0	+0.8
HMBC				*i* S		Sn	07 01 23.2	+1.1
HMBC				AML	AML	AML	07 01 24.4	
	comp=N,1μm,0.5s							
PB06	**Plate Boundary**	**1.64**	**206**	⇑*i*P		Pn	07 01 05.6	+0.4
PB06				AML	AML	AML	07 01 28.8	
	comp=E,922nm,0.3s							
PB11	**Plate Boundary**	**1.66**	**331**	⇓*i*P		Pn	07 01 06.0	+0.6
PB11				*i* S		Sn	07 01 29.0	+1.1
PB11				AML	AML	AML	07 01 31.3	
	comp=E,3μm,0.2s							
PSGC	**Pisagua**	**2.04**	**322**	⇓*i*P		Pn	07 01 10.1	+0.1
PSGC				*i* S		Sn	07 01 36.4	+0.4
PSGC				AML	AML	AML	07 01 38.9	
	comp=E,255nm,0.5s							
MNMC	**Minimini**	**2.21**	**340**	*e*P		Pn	07 01 13.2	+0.8
MNMC				*i* S		Sn	07 01 41.6	+1.4
MNMC				AML	AML	AML	07 01 46.3	
	comp=N,706nm,0.2s							
CEN1	**Los Morros**	**2.52**	**211**	AML	AML	AML	07 01 57.0	
	comp=N,96nm,0.7s							

*CSEM **23** 07:32:42.0, 14°.54N×44°.41E, h6km, ML3.5, After DHMR*

DHMR 23 07:32:42.0±0.7,**14°.54N**×**44°.41E**,**h6**km±2km,**ML3.5,2C-4D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHBB	**Dhamar BB**	**0.04**	**331**	⇓*i*P		Pg	07 32 43.3	-0.5
DHBB				*i* S		Sg	07 32 44.3	-0.7
DHBB	**Dhamar BB**	**0.04**	**331**	⇓*i*P		Pg	07 32 43.3	-0.5
DHBB				*i* S		Sg	07 32 44.3	-0.7
UDYN	**Al 'Udayn**	**0.71**	**217**	⇓*i*P		Pg	07 32 55.4	-0.6
UDYN				*i* S		Sg	07 33 04.9	-0.4
LBOS		**1.05**	**129**	⇓*i*P		Pg	07 33 02.0	-0.6
LBOS				*i* S		Sg	07 33 16.8	+0.3
HAJJ	**Hajjah**	**1.40**	**326**	⇑*i*P		Pn	07 33 07.6	-0.7
HAJJ				*i* S		Sg	07 33 28.1	+0.6
HAJJ				AML	AML	AML	07 33 28.7	
	comp=Z,746nm,0.5s							
HAJJ	**Hajjah**	**1.40**	**326**	⇑*i*P		Pn	07 33 07.6	-0.7
HAJJ				*i* S		Sg	07 33 28.1	+0.7
	comp=Z,373nm,0.5s							

*IDC **23** 07:54:24.0±1.9, 12°.91N×93°.09E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/27, mbtmp3.5/6, ML4.2/1, Error ellipse: s-maj=60.7km s-min=22.6km az=67.0*
*ISCJB **23** 07:54:27.1±1.4, 13°.0N±0°.1×93°.2E±0°.2, h32km, mb3.4/5, Error ellipse: s-maj=33.2km s-min=19.3km az=163.0*

ISC 23 07:54:28.9±1.7,**12°.9N**±0°.2×**93°.2E**±0°.3,**h32**km,**n6**,σ0**s29**/6, **mb3.4**/5,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.82**	**45**	Pn		**Pn**	**07 56 20.7**	**+0.1**
	0.9nm,0.3s,baz=236,slow=14,SNR=16							
MKAR	**Makanchi Array**	**34.96**	**347**	P		**P**	**08 01 18.2**	**+0.2**
	0.5nm,0.6s,baz=167,slow=8.3,SNR=5.4							
SONM	**Songino Array**	**36.50**	**15**	P		**P**	**08 01 31.0**	**-0.4**
	0.4nm,0.8s,baz=212,slow=8.9,SNR=3.5							
ZALV	**Zalesovo Beam**	**41.44**	**353**	P		**P**	**08 02 12.6**	**+0.2**
	0.8nm,0.5s,baz=167,slow=8.7,SNR=5.2							
WRA	**Warramunga Arr**	**52.07**	**128**	P		**P**	**08 03 36.1**	**0.0**
	0.2nm,0.5s,baz=301,slow=11,SNR=5.5							
ASAR	**Alice Springs**	**53.97**	**132**	P		**P**	**08 03 50.0**	**0.0**
	0.1nm,0.4s,baz=307,slow=7.1,SNR=4.4							

*IDC **23** 07:57:25.6±0.9, 35°.61N×27°.02E, h0km, mb3.7/8, mb1 3.9/13, mb1mx3.8/29, mbtmp3.7/13, ML3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.2/41, Error ellipse: s-maj=20.9km s-min=11.2km az=168.0*
*ATH **23** 07:57:27.0, 35°.71N×27°.02E, h27km±2km, MD3.6/13*
*CSEM **23** 07:57:27.6±0.2, 35°.74N×26°.91E, h5km, ML3.9, Error ellipse: s-maj=5.0km s-min=2.9km az=157.0*
*ISK **23** 07:57:28.5, 35°.87N×26°.93E, h10km, MD3.8*
*THE **23** 07:57:28.8, 35°.68N×27°.03E, h16km±1km, ML3.9/3, Error ellipse: s-maj=1.9km s-min=0.5km az=133.0*
*ISCJB **23** 07:57:28.2±0.4, 35°.69N±0°.03×26°.98E±0°.02, h24km±4km, mb3.7/12, MS3.3/1, Error ellipse: s-maj=5.1km s-min=2.5km az=157.9*
*DDA **23** 07:57:34.8, 36°.19N×27°.26E, h33km, ML3.8*

ISC 23 07:57:27.4±0.9,**35°.75N**±0°.02×**26°.94E**±0°.02,**h11**km±7km, **n141**,σ1**s17**/176,**mb3.8**/12,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.27**	**139**	P		**Pg**	**07 57 33.0**	**+0.1**
KARP				S		**Sg**	**07 57 37.0**	**+0.4**
KARP	**Karpathos**	**0.27**	**139**	*e*PB		**Pg**	**07 57 33.1**	**+0.1**
KARP				*e*SB		**Sg**	**07 57 37.2**	**+0.6**
KARP	**Karpathos**	**0.27**	**139**	*e*Pb		**Pg**	**07 57 33.1**	**+0.1**
KARP				*e*Sb		**Sg**	**07 57 37.2**	**+0.6**
ZKR	**Zakros**	**0.87**	**223**	P		**Pb**	**07 57 44.7**	**+0.2**
ZKR				S		**Sb**	**07 57 56.8**	**+0.7**
ZKR	**Zakros**	**0.87**	**223**	*e*PN		**Pb**	**07 57 45.0**	**+0.5**
ZKR				*e*SN		**Sb**	**07 57 56.6**	**+0.5**
ZKR	**Zakros**	**0.87**	**223**	P		**Pb**	**07 57 44.7**	**+0.2**
ZKR	**Zakros**	**0.87**	**223**	*e*Pn		**Pb**	**07 57 45.0**	**+0.5**
ZKR				*e*Sn		**Sb**	**07 57 56.6**	**+0.5**
ARG	**Arkhangelos**	**1.07**	**64**	P		**Pb**	**07 57 47.1**	**-0.8**
ARG				S		**Sg**	**07 58 01.6**	**-0.3**
ARG	**Arkhangelos**	**1.07**	**64**	*e*PN		**Pb**	**07 57 47.2**	**-0.7**
ARG				*e*SN		**Sg**	**07 58 01.5**	**-0.3**
ARG	**Arkhangelos**	**1.07**	**64**	P		**Pb**	**07 57 47.1**	**-0.8**
ARG				S		**Sg**	**07 58 01.6**	**-0.3**
NPS	**Neapolis**	**1.19**	**246**	P		**Pb**	**07 57 50.0**	**0.0**
NPS				S		**Sg**	**07 58 06.0**	**+0.2**
NPS	**Neapolis**	**1.19**	**246**	*e*PN		**Pn**	**07 57 50.2**	**+0.2**
NPS				*e*SN		**Sn**	**07 58 06.2**	**0.0**
NPS	**Neapolis**	**1.19**	**246**	*e*Pn		**Pn**	**07 57 50.2**	**+0.2**
NPS				*e*Sn		**Sn**	**07 58 06.2**	**0.0**
LAST	**Lasithi**	**1.33**	**244**	P		**Pn**	**07 57 52.2**	**+0.2**
LAST				S		**Sn**	**07 58 09.9**	**+0.1**
LAST	**Lasithi**	**1.33**	**244**	*e*PN		**Pb**	**07 57 52.4**	**-0.1**
LAST	**Lasithi**	**1.33**	**244**	P		**Pn**	**07 57 52.2**	**+0.2**
LAST				S		**Sn**	**07 58 09.9**	**+0.1**
BODT	**Bodrum**	**1.34**	**13**	*e*PN		**Pn**	**07 57 52.1**	**-0.1**
BODT				*e*SN		**Sb**	**07 58 09.6**	**-0.3**
BODT	**Bodrum**	**1.34**	**13**	*e*Pn		**Pn**	**07 57 52.1**	**-0.1**
BODT				*e*Sn		**Sb**	**07 58 09.6**	**-0.3**
SANT	**Santorini**	**1.35**	**298**	P		**Pb**	**07 57 53.1**	**+0.3**
SANT				S		**Sg**	**07 58 11.9**	**+0.8**
SANT	**Santorini**	**1.35**	**298**	*e*PN		**Pg**	**07 57 53.8**	**+0.3**
SANT				*e*SN		**Sg**	**07 58 11.8**	**+0.7**
SANT	**Santorini**	**1.35**	**298**	P		**Pb**	**07 57 53.1**	**+0.3**
SANT	**Santorini**	**1.35**	**298**	*e*Pn		**Pg**	**07 57 53.8**	**+0.3**
SANT				*e*Sn		**Sg**	**07 58 11.8**	**+0.7**
BDRM	**Kayabasi**	**1.38**	**17**	*i* P		**Pn**	**07 57 51.7**	**-0.9**
BDRM	**Kayabasi**	**1.38**	**17**	*i* P		**Pn**	**07 57 51.7**	**-0.9**
IDI	**Anoyia**	**1.74**	**255**	P		**Pn**	**07 57 57.5**	**0.0**
IDI				S		**Sn**	**07 58 20.1**	**+0.3**
IDI	**Anoyia**	**1.74**	**255**	*e*PB		**Pn**	**07 57 57.6**	**0.0**
IDI	**Anoyia**	**1.74**	**255**	*e*Pb		**Pn**	**07 57 57.6**	**0.0**
IDI				S		**Sn**	**07 58 20.1**	**+0.3**
IDI	**Anoyia**	**1.74**	**255**	Pn		**Pn**	**07 57 57.4**	**-0.2**
	7.6nm,0.3s,baz=57,slow=16,SNR=32							
IDI				Lg		Lg	07 58 21.9	
	63nm,0.3s,baz=299,slow=19,SNR=19							
APE	**Apeiranthos**	**1.74**	**320**	*e*PN		**Pn**	**07 57 57.9**	**+0.2**
APE				*e*SN		**Sn**	**07 58 20.0**	**+0.1**
APE	**Apeiranthos**	**1.74**	**320**	P		**Pn**	**07 57 57.7**	**0.0**
APE	**Apeiranthos**	**1.74**	**320**	*e*PB		**Pn**	**07 57 57.7**	**0.0**
APE	**Apeiranthos**	**1.74**	**320**	*e*Pn		**Pn**	**07 57 57.9**	**+0.2**
APE				*e*Sn		**Sn**	**07 58 20.0**	**+0.1**
DALY	**Dalyan (Mu¨la**	**1.75**	**52**	*e*PN		**Pb**	**07 57 58.8**	**-0.7**
DALY				*e*SN		**Sb**	**07 58 20.6**	**-0.8**
DALY	**Dalyan (Mu¨la**	**1.75**	**52**	*e*Pn		**Pb**	**07 57 58.8**	**-0.7**
DALY				*e*Sn		**Sb**	**07 58 20.6**	**-0.8**
TURN	**Turunc**	**1.75**	**50**	*i* P		Pn	07 57 53.8	-3.9
TURN				*i* S		Sn	07 58 12.9	-7.0
TURN	**Turunc**	**1.75**	**50**	*i* P		Pn	07 57 53.8	-3.9
SIVA	**Sivas**	**1.89**	**248**	P		**Pn**	**07 57 59.7**	**+0.1**
SIVA				S		**Sn**	**07 58 23.4**	**0.0**
SIVA	**Sivas**	**1.89**	**248**	*e*PB		**Pn**	**07 58 00.6**	**+1.0**
SIVA	**Sivas**	**1.89**	**248**	P		**Pn**	**07 57 59.7**	**+0.1**
SIVA	**Sivas**	**1.89**	**248**	*e*Pb		**Pn**	**07 58 00.6**	**+1.0**
SIVA				S		**Sn**	**07 58 23.4**	**0.0**
SMG	**Samos**	**1.96**	**358**	P		**Pn**	**07 58 00.1**	**-0.5**
SMG	**Samos**	**1.96**	**358**	*e*PN		**Pn**	**07 58 00.2**	**-0.4**
SMG	**Samos**	**1.96**	**358**	*e*Pn		**Pn**	**07 58 00.2**	**-0.4**
AYDN	**Tasoluk**	**2.05**	**21**	*e*P		**Pn**	**07 58 03.3**	**+1.4**
AYDN	**Tasoluk**	**2.05**	**21**	*e*P		**Pn**	**07 58 03.3**	**+1.4**
AKAS	**Kas**	**2.21**	**77**	*i* P		**Pn**	**07 58 05.2**	**+1.0**
AKAS				*i* S		**Sn**	**07 58 32.1**	**+0.5**
AKAS	**Kas**	**2.21**	**77**	*i* P		**Pn**	**07 58 05.2**	**+1.0**
AKAS				*i* S		**Sn**	**07 58 32.1**	**+0.5**
VAM	**Vamos**	**2.26**	**262**	*e*PN		**Pn**	**07 58 05.6**	**+0.8**
VAM	**Vamos**	**2.26**	**262**	*e*Pn		**Pn**	**07 58 05.6**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.32**	**19**	*e*PN		**Pn**	**07 58 06.6**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.32**	**19**	*e*Pn		**Pn**	**07 58 06.6**	**+0.9**
KARN	**Karanos**	**2.49**	**263**	P		**Pn**	**07 58 07.9**	**0.0**
KARN				S		**Sn**	**07 58 38.6**	**+0.3**
KARN	**Karanos**	**2.49**	**263**	*e*PN		**Pn**	**07 58 08.7**	**+0.8**
KARN	**Karanos**	**2.49**	**263**	P		**Pn**	**07 58 07.9**	**0.0**
KARN	**Karanos**	**2.49**	**263**	*e*Pn		**Pn**	**07 58 08.7**	**+0.8**
KARN				S		**Sn**	**07 58 38.6**

1.0nm,0.7s,baz=240,slow=11,SNR=3.9
EKA Eskdalemuir Ar 28.43 323 P P 08 03 24.3 +2.4
1.2nm,0.8s,baz=117,slow=8.8,SNR=4.1
TORD Torodi Ar. Bea 31.99 232 P P 08 03 53.5 -0.2
0.4nm,0.3s,baz=34,slow=9.1,SNR=12
MKAR Makanchi Array 42.23 57 P P 08 05 20.4 -0.1
0.3nm,0.5s,baz=268,slow=9.2,SNR=7.4
MKAR LR LR 08 23 40.6
comp=Z,38nm,18.5s,baz=358,slow=37
ZALV Zalesovo Beam 43.54 47 P P 08 05 30.0 -1.0
0.9nm,0.4s,baz=265,slow=8.8,SNR=5.2
SONM Songino Array 57.98 51 P P 08 07 20.5 +0.4
0.4nm,0.5s,baz=287,slow=6.9,SNR=4.8
YKA Yellowknife Ar 77.33 343 P P 08 09 22.0 +0.3
0.1nm,0.5s,baz=26,slow=5.4,SNR=5.9

NEIC ***23*** *08:08:32.0, 50.55N×130.37W, h10km, MW4.2(OTT), After OTT.*
PGC ***23*** *08:08:32.0±5.0, 50.55N×130.37W, h10km, ML3.5/13, Mw4.2, 208km west of Pt. Hardy, Bc Vancouver Island Region*
IDC ***23*** *08:08:34.9±1.6, 50.69N×129.82W, h0km, mb3.7/3, mb1 4.0/8, mb1mx3.7/30, mbtmp3.7/8, ML3.4/5, MS3.5/3, Ms1 3.5/3, ms1mx2.9/41, Error ellipse: s-maj=25.6km s-min=12.0km az=81.0*
ISC 23 08:08:32.5±2.6, 50.65N±0.06×130.20W±0.06, h8km±17km, n250, σ1$84/213, mb3.6/3, MS3.5/3, 96C-84D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.32**	**89**			**Pn**	**Pn**	**08 08 55.9**	**-1.4**
HOLB				⇑Sn			**Sg**	**08 09 13.0**	**-1.9**
BPBC	**Brooks Peninsu**	**1.63**	**106**	Pn		Pn	Pn	08 08 59.5	-2.2
BPBC				⇓Sn			**Sn**	**08 09 19.0**	**-3.9**
PHC	**Port Hardy**	**1.77**	**87**	Pn		**Pn**	**Pn**	**08 09 02.3**	**-1.1**
PHC				⇑Sn			**Sn**	**08 09 23.7**	**-2.4**
MAYB	**Maynard**	**1.95**	**96**	Pn		**Pn**	**Pn**	**08 09 04.7**	**-1.4**
BBB	**Bella Bella**	**2.02**	**40**	Pn		**Pn**	**Pn**	**08 09 06.5**	**-0.4**
BBB				⇑Sn			**Sn**	**08 09 31.4**	**-1.0**
BBB	**Bella Bella**	**2.02**	**40**	Pn		**Pn**	**Pn**	**08 09 06.4**	**-0.6**
BBB				Sn			**Sn**	**08 09 29.4**	**-3.0**
BBB	**Bella Bella**	**2.02**	**40**	Pn		**Pn**	**Pn**	**08 09 06.4**	**-0.6**
	7.1nm,0.3s,baz=232,slow=14,SNR=109								
BBB				Sn			**Sn**	**08 09 29.4**	**-3.0**
	36nm,0.3s,baz=31,slow=9.1,SNR=10								
FHRB	**Fair Harbour**	**2.06**	**105**	⇓Pn		**Pn**	**Pn**	**08 09 06.0**	**-1.5**
FHRB				⇑Sn			**Sn**	**08 09 30.5**	**-2.9**
EDB	**Eliza Dome**	**2.12**	**110**	⇑Pn		Pn	Pn	08 09 06.2	-2.2
TLCB	**Telegraph Cove**	**2.15**	**91**	⇓Pn		**Pn**	**Pn**	**08 09 08.2**	**-0.4**
TLCB				⇓Sn			**Sn**	**08 09 33.1**	**-2.4**
BNB	**Barry Inlet**	**2.16**	**334**	⇓Pn		**Pn**	**Pn**	**08 09 06.7**	**-2.2**
WOSB	**Woss**	**2.38**	**100**	Pn		**Pn**	**Pn**	**08 09 10.9**	**-0.9**
ETB	**Estevan Point**	**2.68**	**117**	⇓Pn		**Pn**	**Pn**	**08 09 14.2**	**-1.8**
MOBC	**Moresby Island**	**2.73**	**337**	⇓Pn		**Pn**	**Pn**	**08 09 14.8**	**-2.0**
MOBC				⇑Sn			**Sn**	**08 09 47.4**	**-2.6**
BCBC	**Bella Coola**	**2.76**	**50**	⇑Sn		**Sn**	**Sn**	**08 09 50.1**	**-0.5**
GDR	**Gold River**	**2.82**	**106**	Pn		**Pn**	**Pn**	**08 09 16.6**	**-1.3**
DIB	**Dawson Inlet,**	**2.92**	**332**	⇑Pn		**Pn**	**Pn**	**08 09 17.2**	**-2.1**
DIB				⇓Sn			**Sn**	**08 09 51.5**	**-3.1**
TOFB	**Tofino**	**3.15**	**117**	⇓Pn		**Pn**	**Pn**	**08 09 20.5**	**-1.9**
TOFB				⇑Sn			**Sn**	**08 09 56.6**	**-3.6**
BMSB	**Bamfield Mari**	**3.75**	**117**	⇓Pn		**Pn**	**Pn**	**08 09 30.0**	**-0.7**
MGB	**Mount Grey**	**3.93**	**113**	P		**Pn**	**Pn**	**08 09 32.0**	**-1.3**
PGC	**Sidney**	**4.82**	**112**	*e*Pn		**Pn**	**Pn**	**08 09 45.1**	**-0.3**
MCW	**Mount Constitu**	**5.18**	**109**	P		**Pn**	**Pn**	**08 09 51.8**	**+1.4**
A05A	**Maple Falls**	**5.51**	**104**	P		**Pn**	**Pn**	**08 09 56.5**	**+1.7**
CMW	**Cultus Mountai**	**5.71**	**110**	P		**Pn**	**Pn**	**08 09 59.0**	**+1.2**
JCW	**Jim Creek**	**5.93**	**111**	P		**Pn**	**Pn**	**08 10 01.5**	**+0.8**
B06A	**Marblemount**	**6.06**	**107**	P		**Pn**	**Pn**	**08 10 03.8**	**+1.4**
RPW	**Rockport**	**6.07**	**108**	P		**Pn**	**Pn**	**08 10 03.9**	**+1.2**
D05A	**Enumclaw**	**6.42**	**119**	*e*Pn		Pn	Pn	08 10 09.5	+2.1
LON	**Longmire**	**6.79**	**122**	*e*Pn		**Pn**	**Pn**	**08 10 13.5**	**+1.0**
F04A	**Amboy**	**7.01**	**129**	*e*Pn		Pn	Pn	08 10 17.9	+2.4
LTY	**Liberty**	**7.13**	**115**	*e*Pn		**Pn**	**Pn**	**08 10 18.7**	**+1.5**
B08A	**Colville Reser**	**7.44**	**104**	*e*Pn		**Pn**	**Pn**	**08 10 22.6**	**+1.2**
DLBC	**Dease Lake**	**7.81**	**1**	Pn		**Pn**	**Pn**	**08 10 28.4**	**+1.9**
DLBC	**Dease Lake**	**7.81**	**1**	Pn		**Pn**	**Pn**	**08 10 28.4**	**+1.9**
	0.2nm,0.3s,baz=213,slow=18,SNR=5.6								
D08A	**Wollman Farm,**	**8.26**	**111**	*e*Pn		**Pn**	**Pn**	**08 10 33.0**	**+0.4**
HAWA	**Hanford**	**8.26**	**117**	*e*Pn		**Pn**	**Pn**	**08 10 34.0**	**+1.3**
C09A	**Chrisman Ranch**	**8.31**	**105**	*e*Pn		**Pn**	**Pn**	**08 10 34.4**	**+1.0**
NEW	**Newport**	**8.85**	**101**	*e*Pn		**Pn**	**Pn**	**08 10 41.6**	**+0.9**
NEW	**Newport**	**8.85**	**101**	⇓P		**Pn**	**Pn**	**08 10 41.7**	**+0.9**
	baz=8.9,SNR=5.0								
E09A	**Wood Farm, Sta**	**9.00**	**113**	*e*Pn		**Pn**	**Pn**	**08 10 43.1**	**+0.4**
I07A	**Izee**	**9.78**	**128**	*e*Pn		Pn	Pn	08 10 56.1	+2.6
F10A	**Beach Ranch, E**	**9.82**	**113**	*e*Pn		**Pn**	**Pn**	**08 10 55.3**	**+1.1**
YBH	**Yreka Blue Hor**	**10.31**	**147**	Pn		Pn	Pn	08 11 03.6	+2.7
YBH	**Yreka Blue Hor**	**10.31**	**147**	Pn		Pn	Pn	08 11 03.6	+2.7
	0.2nm,0.3s,baz=132,slow=16,SNR=8.0								
WALA	**Waterton Lakes**	**10.64**	**92**	*e*Pn		Pn	Pn	08 11 08.9	+3.5
SWMT	**Swartz Lake**	**11.08**	**100**	*e*Pn		**Pn**	**Pn**	**08 11 12.7**	**+1.4**
MSO	**Missoula**	**11.39**	**103**	*e*Pn		**Pn**	**Pn**	**08 11 17.1**	**+1.4**
MSO	**Missoula**	**11.39**	**103**	⇑P		**Pn**	**Pn**	**08 11 16.5**	**+0.8**
	baz=11								
HLID	**Hailey**	**12.87**	**117**	*e*Pn		Pn	Pn	08 11 39.3	+3.5
HLID	**Hailey**	**12.87**	**117**	⇓P		**Pn**	**Pn**	**08 11 37.3**	**+1.5**
	baz=13								
DLMT	**Dillon**	**12.91**	**107**	*e*Pn		**Pn**	**Pn**	**08 11 37.7**	**+1.3**
MCMT	**McKenzie Canyo**	**13.04**	**110**	*e*Pn		**Pn**	**Pn**	**08 11 38.8**	**+0.6**
EGMT	**Eagleton**	**13.59**	**93**	*e*Pn		Pn	Pn	08 11 49.1	+3.6
EGMT	**Eagleton**	**13.59**	**93**	⇑P		Pn	Pn	08 11 49.1	+3.6
	baz=14								
A19A	**Klindworth Far**	**13.97**	**89**	⇓P		**Pn**	**Pn**	**08 11 53.3**	**+2.6**
	baz=14								
C19A	**Slack Wire Ran**	**14.13**	**94**	⇑P		Pn	Pn	08 11 55.9	+3.0
	baz=14								
YMR	**Madison River**	**14.26**	**107**	*e*Pn		**Pn**	**Pn**	**08 11 56.5**	**+1.6**
D19A	**Cripps Ranch,**	**14.44**	**96**	⇓P		Pn	Pn	08 12 00.4	+3.2
	baz=14,SNR=5.8								
A20A	**Cobblestone Ra**	**14.50**	**88**	⇓P		Pn	Pn	08 12 01.3	+3.3
	baz=15								
B20A	**Solberg Farm,**	**14.56**	**90**	⇓P		**Pn**	**Pn**	**08 12 01.7**	**+2.9**
	baz=15,SNR=6.5								
YKA	**Yellowknife Ar**	**14.60**	**30**	Pn		**Pn**	**Pn**	**08 11 58.4**	**-0.9**
YKA	**Yellowknife Ar**	**14.60**	**30**	Pn		**Pn**	**Pn**	**08 11 58.3**	**-0.9**
	0.1nm,0.3s,baz=221,slow=12,SNR=19								
FLWY	**Flagg Ranch**	**14.73**	**109**	*e*Pn		**Pn**	**Pn**	**08 12 04.4**	**+3.0**
E19A	**Rath Farm, Rou**	**14.77**	**98**	⇓P		Pn	Pn	08 12 05.5	+3.8
	baz=15								
C20A	**Veseth Ranch,**	**14.80**	**93**	⇑P		Pn	Pn	08 12 05.5	+3.4
	baz=15								
MOOW	**Moose Ponds**	**14.89**	**110**	*e*Pn		Pn	Pn	08 12 06.8	+3.2
I17A	**Pilgrim Ck.**	**14.90**	**109**	⇓P		**Pn**	**Pn**	**08 12 06.0**	**+2.4**
	baz=15								
F19A	**Roth Farm, Mol**	**14.94**	**100**	⇓P		**Pn**	**Pn**	**08 12 06.4**	**+2.4**
	baz=15								
D20A	**Manuel Ranch,**	**14.94**	**95**	⇑P		Pn	Pn	08 12 07.3	+3.4
	baz=15								
LOHW	**Long Hollow**	**15.05**	**110**	*e*Pn		**Pn**	**Pn**	**08 12 09.5**	**+3.8**
A21A	**Bergtoll Ranch**	**15.11**	**87**	⇓P		**Pn**	**Pn**	**08 12 08.9**	**+2.7**
	baz=15								
B21A	**Ellsworth Farm**	**15.21**	**89**	⇑P		**Pn**	**Pn**	**08 12 09.7**	**+2.2**
	baz=15								
MLAC	**Mammoth Lakes**	**15.33**	**144**	⇑P		**Pn**	**Pn**	**08 12 09.5**	**0.0**
	baz=15								
H19A	**Powell**	**15.47**	**105**	⇑P		**Pn**	**Pn**	**08 12 13.4**	**+2.3**
	baz=16								
D21A	**La Casta Ranch**	**15.67**	**94**	⇑P		**Pn**	**Pn**	**08 12 16.7**	**+3.1**
	baz=16,SNR=10								
G20A	**Bridger**	**15.68**	**102**	⇑P		**Pn**	**Pn**	**08 12 15.0**	**+1.1**
	baz=16								
A22A	**Carney Farms,**	**15.75**	**87**	⇑P		**Pn**	**Pn**	**08 12 17.4**	**+2.7**
	baz=16								
I19A	**Meeteetse**	**15.79**	**107**	⇓P		**Pn**	**Pn**	**08 12 18.3**	**+2.9**
	baz=16,SNR=5.6								
E21A	**Keefer Ranch,**	**15.82**	**96**	⇑P		**Pn**	**Pn**	**08 12 18.4**	**+2.8**
	baz=16,SNR=5.4								
C22A	**Vida**	**16.14**	**91**	⇓P		**Pn**	**Pn**	**08 12 21.9**	**+2.3**
	baz=16								
D22A	**Cohagen**	**16.16**	**93**	⇑P		**Pn**	**Pn**	**08 12 22.4**	**+2.5**
	baz=16,SNR=6.9								
BW06	**Boulder Array**	**16.17**	**111**	*e*Pn		**P**	**P**	**08 12 23.5**	**0.0**
	11nm,1.2s								
PDAR	**Pinedale Array**	**16.17**	**111**	Pn		**P**	**P**	**08 12 23.4**	**-0.1**
PDAR	**Pinedale Array**	**16.17**	**111**	Pn		**P**	**P**	**08 12 23.4**	**-0.1**
	0.1nm,0.3s,baz=311,slow=12,SNR=26								
H20A	**Greybull**	**16.17**	**104**	⇓P		**Pn**	**Pn**	**08 12 22.1**	**+2.0**
	baz=16,SNR=5.2								
J19A	**Crowheart**	**16.18**	**109**	⇑P		**P**	**P**	**08 12 23.4**	**-0.2**
	baz=16								
I20A	**Worland**	**16.37**	**106**	⇑P		**P**	**P**	**08 12 25.5**	**-0.1**
	baz=16								
B23A	**Brockton**	**16.48**	**88**	⇓P		**Pn**	**Pn**	**08 12 26.6**	**+2.6**
	baz=16,SNR=6.5								
C23A	**Lambert**	**16.57**	**90**	⇑P		**Pn**	**Pn**	**08 12 26.8**	**+1.7**
	baz=17								
E22A	**Miles City**	**16.58**	**95**	⇓P		**Pn**	**Pn**	**08 12 27.1**	**+1.8**
	baz=17,SNR=6.1								
ILAR	**Eielson Array**	**16.64**	**335**	Pn		P	P	08 12 31.9	+3.5
ILAR	**Eielson Array**	**16.64**	**335**	Pn		P	P	08 12 31.9	+3.5
	0.0nm,0.3s,baz=149,slow=9.6,SNR=12								
F22A	**Rosebud**	**16.66**	**98**	⇑P		**Pn**	**Pn**	**08 12 27.4**	**+1.1**
	baz=17								
J20A	**Shoshoni**	**16.72**	**107**	⇑P		**Pn**	**Pn**	**08 12 29.4**	**+2.2**
	baz=17								
D23A	**Lindsay**	**16.77**	**92**	⇓P		**P**	**P**	**08 12 30.3**	**+0.3**
	baz=17,SNR=20								
I21A	**Big Trails, Te**	**16.96**	**105**	⇑P		**Pn**	**Pn**	**08 12 31.2**	**+1.0**
	baz=17								
A24A	**Westby**	**16.98**	**86**	⇓P		**P**	**P**	**08 12 33.3**	**+1.0**
	baz=17								
DGMT	**Dagmar**	**16.99**	**87**	*e*Pn		**Pn**	**Pn**	**08 12 28.8**	**-1.6**
	131nm,2.1s								
DGMT	**Dagmar**	**16.99**	**87**	⇑P		**Pn**	**Pn**	**08 12 32.7**	**+2.3**
	baz=17								
J21A	**Lysite**	**17.11**	**106**	⇑P		**P**	**P**	**08 12 34.5**	**+0.6**
	baz=17								
C24A	**Savage**	**17.14**	**90**	⇓P		**Pn**	**Pn**	**08 12 34.3**	**+2.0**
	baz=17								
F23A	**Volborg**	**17.22**	**97**	⇓P		**Pn**	**Pn**	**08 12 35.0**	**+1.6**
	baz=17								
D24A	**Glendive**	**17.35**	**92**	⇑P		**Pn**	**Pn**	**08 12 37.0**	**+2.1**
	baz=17								
I22A	**9 Mile Ranch,**	**17.41**	**104**	⇓P		**Pn**	**Pn**	**08 12 37.3**	**+1.4**
	baz=17								
G23A	**Bidle**	**17.46**	**99**	⇑P		**Pn**	**Pn**	**08 12 38.2**	**+1.8**
	baz=18								
E24A	**Baker**	**17.57**	**93**	⇑P		**P**	**P**	**08 12 40.3**	**+1.4**
	baz=18,SNR=5.2								
K21A	**Alcova**	**17.63**	**108**	⇓P		**Pn**	**Pn**	**08 12 40.3**	**+1.6**
	baz=18								
J22A	**Midwest**	**17.67**	**105**	⇑P		**Pn**	**Pn**	**08 12 40.7**	**+1.6**
	baz=18,SNR=6.7								
F24A	**Ekalaka**	**17.77**	**96**	⇑P		**Pn**	**Pn**	**08 12 41.7**	**+1.4**
	baz=18								
C25A	**Fred Ranch, W**	**17.82**	**89**	⇓P		**P**	**P**	**08 12 42.9**	**+1.3**
	baz=18,SNR=6.4								
D25A	**Fairfield**	**17.98**	**91**	⇑P		**P**	**P**	**08 12 45.3**	**+2.0**
	baz=18								
G24A	**Alzada**	**18.02**	**97**	⇓P		**Pn**	**Pn**	**08 12 44.3**	**+1.0**
	baz=18								
SRU	**San Rafael**	**18.03**	**122**	*e*Pn		Pn	Pn	08 12 36.7	-6.9
	47nm,2.5s								
N20A	**Spence Gulch,**	**18.12**	**114**	⇑P		**Pn**	**Pn**	**08 12 46.0**	**+1.2**
	baz=18								
E25A	**Miller Ranch,**	**18.17**	**93**	⇑P		**P**	**P**	**08 12 47.4**	**+1.9**
	baz=18,SNR=5.7								
H24A	**Dirks Ranch, A**	**18.20**	**99**	⇑P		**Pn**	**Pn**	**08 12 46.1**	**+0.6**
	baz=18								
F25A	**Bowman**	**18.37**	**95**	⇓P		**Pn**	**Pn**	**08 12 48.3**	**+0.8**
	baz=18								
RRX	**Edison Barstow**	**18.45**	**144**	⇓P		**P**	**P**	**08 12 47.5**	**-1.1**
	baz=18								
C26A	**Wzaher Farm, P**	**18.52**	**88**	⇓P		**Pn**	**Pn**	**08 12 51.2**	**+1.8**
	baz=19								
K23A	**Bowen Ranch, D**	**18.55**	**106**	⇑P		**P**	**P**	**08 12 51.0**	**+1.2**
	baz=19								
D26A	**Manning**	**18.59**	**90**	⇑P		**Pn**	**Pn**	**08 12 51.9**	**+1.8**
	baz=19								
O20A	**White River Ci**	**18.59**	**116**	*e*Pn		P	P	08 12 44.2	-6.1
	102nm,2.5s								
O20A	**White River Ci**	**18.59**	**116**	⇑P		**Pn**	**Pn**	**08 12 52.1**	**+1.6**
	baz=19								
G25A	**Newell**	**18.71**	**97**	⇑P		**Pn**	**Pn**	**08 12 53.2**	**+1.5**
	baz=19,SNR=9.2								
A27A	**Ledoux Ranch,**	**18.72**	**84**	⇑P		**Pn**	**Pn**	**08 12 53.7**	**+1.8**
	baz=19								
HEC	**Hector,Ludlow**	**18.75**	**142**	⇓P		**P**	**P**	**08 12 52.7**	**+0.8**
	baz=19								
E26A	**Carlson Angus**	**18.78**	**92**	⇓P		**Pn**	**Pn**	**08 12 54.2**	**+1.6**
	baz=19,SNR=7.1								
H25A	**Fruitdale**	**18.86**	**98**	⇓P		**Pn**	**Pn**	**08 12 55.8**	**+2.3**
	baz=19,SNR=9.0								
L23A	**Garrett**	**18.87**	**107**	⇑P		**Pn**	**Pn**	**08 12 55.1**	**+1.2**
	baz=19								
F26A	**Lodgepole**	**18.90**	**94**	⇑P		**Pn**	**Pn**	**08 12 56.1**	**+2.1**
	baz=19,SNR=16								
I25A	**Rochford**	**19.06**	**100**	⇓P		**Pn**	**Pn**	**08 12 57.5**	**+1.4**
	baz=19								
U15A	**North Rim**	**19.18**	**131**	⇑P		**Pn**	**Pn**	**08 12 58.3**	**+0.6**
	baz=19								
G26A	**Maurine**	**19.18**	**95**	⇑P		**P**	**P**	**08 12 58.0**	**+1.5**
	baz=19								
F27A	**Lemmon**	**19.30**	**93**	⇓P		**Pn**	**Pn**	**08 13 00.1**	**+1.2**
	baz=19,SNR=9.0								
A28A	**Rude Farm, Bot**	**19.35**	**83**	⇓P		**Pn**	**Pn**	**08 13 00.7**	**+1.2**
	baz=19								
H26A	**Fairpoint**	**19.38**	**97**	⇓P		**Pn**	**Pn**	**08 13 00.8**	**+1.0**
	baz=19								
B28A	**Dugan Ranch, T**	**19.43**	**85**	⇓P		**Pn**	**Pn**	**08 13 01.9**	**+1.6**
	baz=20								
O22A	**Kremmling**	**19.56**	**113**	⇓P		**Pn**	**Pn**	**08 13 03.0**	**+0.7**
	baz=20								
G27A	**Dupree**	**19.57**	**95**	⇑P		**Pn**	**Pn**	**08 13 03.1**	**+1.1**
	baz=20								
C28A	**Hausauer Farms**	**19.65**	**87**	⇑P		**Pn**	**Pn**	**08 13 04.8**	**+1.9**
	baz=20								
K25A	**Mack Ranch, Ha**	**19.71**	**104**	⇓P		**Pn**	**Pn**	**08 13 05.3**	**+1.5**
	baz=20								
D28A	**Regan**	**19.71**	**89**	⇑P		**Pn**	**Pn**	**08 13 05.4**	**+1.6**
	baz=20								
M24A	**Cheyenne**	**19.78**	**108**	⇓P		**Pn**	**Pn**	**08 13 06.6**	**+1.9**
	baz=20								
PV01	**Paradox Valley**	**19.80**	**121**	*e*P		**P**	**P**	**08 13 05.0**	**+1.5**
	287nm,0.8s								
P22A	**Eagle**	**19.81**	**115**	⇑P		**Pn**	**Pn**	**08 13 06.8**	**+1.7**
	baz=20								
H27A	**Howes**	**19.81**	**97**	⇑P		**Pn**	**Pn**	**08 13 06.2**	**+1.2**
	baz=20								
J26A	**Sides Ranch, S**	**19.83**	**101**	⇑P		**Pn**	**Pn**	**08 13 06.5**	**+1.3**
	baz=20								
O23A	**Lake Granby, G**	**19.90**	**112**	⇑P		**Pn**	**Pn**	**08 13 06.9**	**+0.7**
	baz=20								
B29A	**Wagenman Farm,**	**20.06**	**84**	⇓P		Pn	Pn	08 13 09.2	+1.3
	baz=20								
F28A	**McLaughlin**	**20.09**	**92**	⇑P		Pn	Pn	08 13 10.9	+2.7
	baz=20,SNR=5.3								
K26A	**Motz Farm, Whi**	**20.09**	**103**	⇓P		Pn	Pn	08 13 10.0	+1.6
	baz=20								
I27A	**Quinn**	**20.09**	**98**	⇓P		Pn	Pn	08 13 09.9	+1.6
	baz=20								
MDND	**Maddock**	**20.10**	**86**	⇑P		Pn	Pn	08 13 10.5	+2.2
	baz=20,SNR=8.7								
ISCO	**Idaho Springs**	**20.34**	**113**	⇑P		Pn	Pn	08 13 12.4	+0.8
	baz=20								
G28A	**Parade**	**20.35**	**95**	⇓P		Pn	Pn	08 13 12.6	+1.3
	baz=20,SNR=5.3								
WUAZ	**Wupatki**	**20.35**	**131**	⇑P		Pn	Pn	08 13 12.5	+0.9
	baz=20								
D29A	**Pettibone, Tap**	**20.38**	**88**	⇓P		Pn	Pn	08 13 12.9	+1.2
	baz=20,SNR=6.8								
O24A	**Longmont**	**20.45**	**111**	⇓P		Pn	Pn	08 13 13.0	+0.3
	baz=20								
H28A	**Mission Ridge**	**20.46**	**96**	⇑P		Pn	Pn	08 13 13.3	+0.7
	baz=20								
P23A	**Jefferson**	**20.48**	**114**	⇑P		Pn	Pn	08 13 13.5	+0.2
	baz=20								
MVCO	**Mesa Verde**	**20.51**	**123**	⇑P		**P**	**P**	**08 13 13.2**	**+1.9**
	baz=20								
SWSC	**Sam W. Stewart**	**20.63**	**144**	⇑P		**P**	**P**	**08 13 14.1**	**+1.8**
	baz=21								
I28A	**Midland**	**20.69**	**97**	⇑P		Pn	Pn	08 13 15.6	+0.3
	baz=21								
B30A	**Myrvik Farm, E**	**20.72**	**84**	⇓P		**P**	**P**	**08 13 15.7**	**+2.5**
	baz=21,SNR=9.4								
C30A	**Mose, Pekin**	**20.86**	**86**	⇑P		Pn	Pn	08 13 17.8	+0.5
	baz=21								
D30A	**Buchanan**	**20.90**	**87**	⇓P		Pn	Pn	08 13 18.1	+0.5
	baz=21,SNR=12								
Y14A	**Wickenburg**	**20.91**	**136**	⇑P		**P**	**P**	**08 13 16.9**	**+1.5**
	baz=21								
J28A	**Allard Ranch,**	**20.93**	**99**	⇓P		**P**	**P**	**08 13 18.1**	**+2.5**
	baz=21								
E30A	**Jud**	**21.03**	**89**	⇓P		**P**	**P**	**08 13 19.6**	**+3.0**
	baz=21,SNR=7.1								
S22A	**4UR Ranch, Cre**	**21.04**	**119**	⇑P		**P**	**P**	**08 13 18.9**	**+1.8**
	baz=21								
K28A	**Ten Mile Ranch**	**21.21**	**101**	⇑P		**P**	**P**	**08 13 21.5**	**+2.8**
	baz=21								
I29A	**Vivian Onida**	**21.22**	**97**	⇑P		**P**	**P**	**08 13 21.5**	**+2.8**
	baz=21								
F30A	**Leola**	**21.22**	**91**	⇓P		**P**	**P**	**08 13 21.6**	**+2.9**
	baz=21								
R23A	**Moffat**	**21.29**	**116**	⇓P		**P**	**P**	**08 13 21.5**	**+1.8**
	baz=21								
P25A	**Willow Gulch B**	**21.38**	**111**	⇓P		**P**	**P**	**08 13 22.5**	**+2.0**
	baz=21								
G30A	**Faulkton**	**21.45**	**93**	⇑P		**P**	**P**	**08 13 22.7**	**+1.6**
	baz=22								
W18A	**Petrified Fore**	**21.47**	**128**	⇑P		**P**	**P**	**08 13 23.0**	**+1.4**
	baz=22								
J29A	**Okreek**	**21.51**	**98**	⇑P		**P**	**P**	**08 13 25.3**	**+3.5**
	baz=22								
R24A	**Sanders Place,**	**21.68**	**115**	⇑P		**P**	**P**	**08 13 25.5**	**+1.7**
	baz=22								
ULM	**Lac du Bonnet**	**21.75**	**78**	P		**P**	**P**	**08 13 24.4**	**+0.1**
ULM	**Lac du Bonnet**	**21.75**	**78**	P		**P**	**P**	**08 13 24.4**	**+0.1**
	3.2nm,0.7s,baz=287,slow=12,SNR=5.8								
P26A	**Davis Ranch, A**	**21.84**	**110**	⇑P		**P**	**P**	**08 13 28.8**	**+3.4**
	baz=22								
U22A	**Llaves**	**22.01**	**121**	⇓P		**P**	**P**	**08 13 27.8**	**+0.3**
	baz=22								
S24A	**Houchin Ranch,**	**22.02**	**117**	⇓P		**P**	**P**	**08 13 30.0**	**+2.4**
	baz=22								
R25A	**Fountain Ranch**	**22.21**	**114**	⇑P		**P**	**P**	**08 13 32.4**	**+3.0**
	baz=22								
V22A	**San Miguel Ran**	**22.33**	**122**	⇑P		**P**	**P**	**08 13 33.1**	**+2.3**
	baz=22								
U23A	**El Rito**	**22.41**	**120**	⇓P		**P**	**P**	**08 13 33.7**	**+1.9**
	baz=22								
S25A	**Robets Cordova**	**22.45**	**115**	⇓P		**P**	**P**	**08 13 34.3**	**+2.1**
	baz=22								
KSCO	**Kaye Shedlock'**	**22.61**	**110**	P		**P**	**P**	**08 13 35.7**	**+1.9**
KSCO	**Kaye Shedlock'**	**22.61**	**110**	⇑P		**P**	**P**	**08 13 36.3**	**+2.5**
	baz=23								
214A	**Organ Pipe Nat**	**22.69**	**139**	⇑P		**P**	**P**	**08 13 35.8**	**+1.3**
	baz=23								
T25A	**Trinidad**	**22.83**	**116**	⇓P		**P**	**P**	**08 13 37.0**	**+0.8**
	baz=23								
S26A	**Kim**	**23.04**	**114**	⇓P		**P**	**P**	**08 13 40.4**	**

PDO				*e*Sg	Sg	08 44 54.0	+0.1	
EFP	**Efpalio**	**0.53**	**106**	*e*PB	Pg	08 45 00.1	-0.9	
EFP	**Efpalio**	**0.53**	**106**	*e*Pb	Pg	08 45 00.1	-0.9	
RLS	**Riolos of Patr**	**0.54**	**162**	*e*PB	Pg	08 45 01.2	0.0	
RLS	**Riolos of Patr**	**0.54**	**162**	*e*Pb	Pg	08 45 01.2	0.0	
EVR	**Evrytania**	**0.55**	**51**	*e*PB	Pg	08 45 01.1	-0.5	
EVR	**Evrytania**	**0.55**	**51**	*e*Pb	Pg	08 45 01.1	-0.5	
LAKA	**Lakka**	**0.65**	**120**	*e*PB	Pg	08 45 03.5	0.0	
LAKA	**Lakka**	**0.65**	**120**	*e*Pb	Pg	08 45 03.5	0.0	
VLS	**Valsamata**	**0.66**	**234**	*e*PB	Pg	08 45 03.6	+0.1	
VLS	**Valsamata**	**0.66**	**234**	*e*Pb	Pg	08 45 03.6	+0.1	
DRO	**Drossia**	**0.71**	**150**	*e*PB	Pg	08 45 04.5	0.0	
DRO	**Drossia**	**0.71**	**150**	*e*Pb	Pg	08 45 04.5	0.0	
KALE	**Kalithea**	**0.71**	**104**	*e*PB	Pg	08 45 04.9	+0.3	
KALE	**Kalithea**	**0.71**	**104**	*e*Pb	Pg	08 45 04.9	+0.3	
MAKR	**Makrakomi, Fth**	**0.81**	**57**	*e*PG	Pg	08 45 06.0	-0.5	
MAKR	**Makrakomi, Fth**	**0.81**	**57**	*e*Pg	Pg	08 45 06.0	-0.5	
KLV	**Kalavryta, Ach**	**0.88**	**127**	*e*PB	Pg	08 45 07.0	-0.7	
KLV	**Kalavryta, Ach**	**0.88**	**127**	*e*Pg	Pg	08 45 07.0	-0.7	
AGG	**Agios Georgios**	**0.95**	**61**	*e*PB	Pg	08 45 08.9	-0.2	
AGG	**Agios Georgios**	**0.95**	**61**	*e*Pb	Pg	08 45 08.9	-0.2	
GUR	**Goura**	**1.06**	**126**	*e*PG	Pg	08 45 10.4	-0.9	
GUR	**Goura**	**1.06**	**126**	*e*Pg	Pg	08 45 10.4	-0.9	
THL	**Klokotos Trika**	**1.15**	**30**	*e*PB	Pg	08 45 13.0	0.0	
THL	**Klokotos Trika**	**1.15**	**30**	*e*Pb	Pg	08 45 13.0	0.0	

ISK ***23*** *08:46:35.6, 40.00N×28.17E, h15km, MD2.9*
ISCJB ***23*** *08:46:36.1±0.5, 40.02N±0.03×28.17E±0.03, h13km±4km, Error ellipse: s-maj=5.5km s-min=4.1km az=13.1*
DDA ***23*** *08:46:36.1, 39.95N×28.14E, h22km, MD3.0*
CSEM ***23*** *08:46:36.3±0.1, 40.02N×28.17E, h15km, MD2.9, Error ellipse: s-maj=1.5km s-min=1.2km az=14.0*

ISC 23 08:46:36.1±0.9, 40.00N±0.02×28.17E±0.02, h15km±8km, n54, σ0s26/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	**Karacabey (Bur**	**0.30**	**28**	*e*PG	**Pg**	**08 46 42.1**	**-0.3**
KCTX				*e*SG	**Sg**	**08 46 46.9**	**+0.1**
KCTX	**Karacabey (Bur**	**0.30**	**28**	*e*Pg	**Pg**	**08 46 42.1**	**-0.3**
KCTX				*e*Sg	**Sg**	**08 46 46.9**	**+0.1**
GONE	**Gonen-Balikesi**	**0.38**	**277**	*e*PG	**Pg**	**08 46 43.7**	**-0.1**
GONE				*e*SG	**Sg**	**08 46 49.2**	**+0.2**
GONE	**Gonen-Balikesi**	**0.38**	**277**	*e*Pg	**Pg**	**08 46 43.7**	**-0.1**
GONE				*e*Sg	**Sg**	**08 46 49.2**	**+0.2**
BNT	**Bandirma**	**0.40**	**331**	*e*PG	**Pg**	**08 46 44.1**	**-0.1**
BNT				*e*SG	**Sb**	**08 46 50.6**	**-0.3**
BNT	**Bandirma**	**0.40**	**331**	*e*Pg	**Pg**	**08 46 44.2**	**-0.1**
BNT				*e*Sg	**Sb**	**08 46 50.7**	**-0.3**
EDC	**Edincik**	**0.42**	**326**	*e*PG	**Pg**	**08 46 44.4**	**-0.1**
EDC	**Edincik**	**0.42**	**326**	*e*Pg	**Pg**	**08 46 44.4**	**-0.1**
ORLT	**Orhaneli**	**0.56**	**85**	*e*PG	**Pg**	**08 46 46.9**	**-0.3**
ORLT				*e*SG	**Sg**	**08 46 55.1**	**+0.6**
ORLT	**Orhaneli**	**0.56**	**85**	*e*Pg	**Pg**	**08 46 46.9**	**-0.3**
ORLT				*e*Sg	**Sg**	**08 46 55.2**	**+0.6**
MDNY	**Mudanya-Bursa**	**0.66**	**56**	*e*PG	**Pg**	**08 46 48.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.66**	**56**	*e*Pg	**Pg**	**08 46 48.9**	**-0.1**
MRMT	**Marmara Adasi**	**0.74**	**324**	*e*PG	**Pg**	**08 46 50.7**	**0.0**
MRMT	**Marmara Adasi**	**0.74**	**324**	*e*Pg	**Pg**	**08 46 50.7**	**0.0**
ARMT	**Armutlu**	**0.77**	**43**	*e*PG	**Pg**	**08 46 51.3**	**+0.1**
ARMT	**Armutlu**	**0.77**	**43**	*e*Pg	**Pg**	**08 46 51.3**	**+0.1**
KRBG	**Karabiga-Canak**	**0.78**	**300**	*e*PG	**Pg**	**08 46 50.8**	**-0.4**
KRBG	**Karabiga-Canak**	**0.78**	**300**	*e*Pg	**Pg**	**08 46 50.8**	**-0.4**
GEMT	**Gemlik**	**0.89**	**61**	*e*PG	**Pg**	**08 46 53.5**	**+0.1**
GEMT	**Gemlik**	**0.89**	**61**	*e*Pg	**Pg**	**08 46 53.5**	**+0.1**
DEMI	**Demirci**	**1.05**	**156**	*i* P	**Pn**	**08 46 56.3**	**0.0**
DEMI				*i* S	**Sb**	**08 47 08.8**	**-0.8**
DEMI	**Demirci**	**1.05**	**156**	*i* P	**Pn**	**08 46 56.3**	**0.0**
DEMI				*i* S	**Sb**	**08 47 08.8**	**-0.8**
LPK	**Lapseki**	**1.14**	**289**	*e*PN	**Pb**	**08 46 57.6**	**0.0**
LPK	**Lapseki**	**1.14**	**289**	*e*Pn	**Pb**	**08 46 57.6**	**0.0**
AKS	**Akhisar**	**1.16**	**194**	*e*PN	**Pg**	**08 46 58.4**	**-0.1**
AKS	**Akhisar**	**1.16**	**194**	*e*Pn	**Pg**	**08 46 58.4**	**-0.1**
SLVT	**Silivri**	**1.23**	**1**	*e*PN	**Pn**	**08 46 58.6**	**-0.1**
SLVT	**Silivri**	**1.23**	**1**	*e*Pn	**Pn**	**08 46 58.6**	**-0.1**
CTKS	**Kestanelik-??a**	**1.26**	**12**	*e*PN	**Pn**	**08 46 59.1**	**-0.1**
CTKS	**Kestanelik-??a**	**1.26**	**12**	*e*Pn	**Pn**	**08 46 59.1**	**-0.1**
BGKT	**Bogazkoy**	**1.26**	**21**	*e*PN	**Pn**	**08 46 59.1**	**-0.1**
BGKT	**Bogazkoy**	**1.26**	**21**	*e*Pn	**Pn**	**08 46 59.1**	**-0.1**
ADVT	**Abdulvahap**	**1.27**	**70**	*e*PN	**Pn**	**08 46 59.5**	**+0.1**
ADVT	**Abdulvahap**	**1.27**	**70**	*e*Pn	**Pn**	**08 46 59.5**	**+0.1**
CAVI	**Cavuskoy**	**1.30**	**81**	*e*PN	**Pn**	**08 46 59.8**	**+0.1**
CAVI	**Cavuskoy**	**1.30**	**81**	*e*Pn	**Pn**	**08 46 59.8**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.36**	**287**	*e*PN	**Pn**	**08 47 00.9**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.36**	**287**	*e*Pn	**Pn**	**08 47 00.9**	**+0.4**
GDZ	**Gediz**	**1.36**	**132**	*i* P	**Pb**	**08 47 01.6**	**+0.2**
GDZ				*i* S	**Sg**	**08 47 20.3**	**+0.1**
GDZ	**Gediz**	**1.36**	**132**	*i* P	**Pb**	**08 47 01.6**	**+0.2**
HRT	**Hereke**	**1.41**	**54**	*e*PN	**Pn**	**08 47 01.1**	**-0.1**
HRT	**Hereke**	**1.41**	**54**	*e*Pn	**Pn**	**08 47 01.2**	**-0.1**
KLYT	**Kilyos**	**1.41**	**28**	*e*PN	**Pn**	**08 47 01.4**	**+0.1**
KLYT	**Kilyos**	**1.41**	**28**	*e*Pn	**Pn**	**08 47 01.4**	**+0.1**
ERIK	**Erikli-Kesan**	**1.43**	**298**	*e*PN	**Pn**	**08 47 01.9**	**+0.3**
ERIK	**Erikli-Kesan**	**1.43**	**298**	*e*Pn	**Pn**	**08 47 01.9**	**+0.3**
CTYL	**Yal??k??y-??at**	**1.47**	**3**	*e*PN	**Pn**	**08 47 02.1**	**0.0**
CTYL	**Yal??k??y-??at**	**1.47**	**3**	*e*Pn	**Pn**	**08 47 02.1**	**0.0**
KULA	**Kula-Manisa**	**1.53**	**166**	*e*PN	**Pn**	**08 47 03.4**	**+0.3**
KULA	**Kula-Manisa**	**1.53**	**166**	*e*Pn	**Pn**	**08 47 03.4**	**+0.3**
SILT	**Sile**	**1.60**	**44**	*e*PN	**Pn**	**08 47 04.2**	**+0.3**
SILT	**Sile**	**1.60**	**44**	*e*Pn	**Pn**	**08 47 04.2**	**+0.3**
GULT	**Gulveren**	**1.84**	**76**	*e*PN	**Pn**	**08 47 07.6**	**+0.3**
GULT	**Gulveren**	**1.84**	**76**	*e*Pn	**Pn**	**08 47 07.6**	**+0.3**

ISCJB ***23*** *08:54:45.8±0.6, 52.2S±0.1×15.2E±0.2, h10km, mb4.0/11, MS3.7/11, Error ellipse: s-maj=21.3km s-min=14.7km az=177.3*
IDC ***23*** *08:54:45.1±0.7, 52.09S×15.42E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, MS3.8/11, Ms1 3.7/11, ms1mx3.6/24, Error ellipse: s-maj=27.8km s-min=19.5km az=63.0*

ISC 23 08:54:46.7±0.8, 52.1S±0.1×15.4E±0.2, h10km, n23, σ0s89/15, mb4.1/11, MS3.8/11, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.10**	**13**	P	Pn	08 59 25.2	+2.8
	9.1nm,0.7s,baz=179,slow=12,SNR=12						
SUR				LR	LR	09 05 20.5	
	comp=Z,310nm,20.5s,baz=18,slow=32						
SNAA	**Sanae**	**21.25**	**196**	P	**P**	**08 59 32.8**	**+0.2**
	3.2nm,1.0s,baz=15,slow=7.0,SNR=12						
SNAA				LR	LR	09 05 43.7	
	comp=Z,88nm,21.0s,baz=32,slow=31						
BOSA	**Boshof**	**24.59**	**21**	P	P	09 00 26.9	+20
	2.3nm,0.4s,baz=201,slow=11,SNR=17						
BOSA				LR	LR	09 08 08.5	
	comp=Z,274nm,19.6s,baz=180,slow=33						
MAW	**Mawson**	**27.52**	**142**	LR	LR	09 09 10.8	
	comp=Z,122nm,18.9s,baz=290,slow=31						
QSPA	**South Pole Qui**	**38.13**	**180**	P	**P**	**09 02 05.4**	**-0.3**
	1.1nm,0.4s,baz=245,slow=1.5,SNR=4.3						
VNDA	**Vanda**	**48.97**	**171**	P	**P**	**09 03 32.1**	**-0.4**
	0.9nm,0.7s,baz=259,slow=8.6,SNR=5.3						
VNDA				LR	LR	09 23 10.5	
	comp=Z,208nm,19.3s,baz=189,slow=35						
KMBO	**Kilima Mbogo**	**54.00**	**27**	LR	LR	09 26 34.4	
	comp=Z,98nm,18.0s,baz=82,slow=35						
DBIC	**Dimbokro**	**61.05**	**337**	LR	LR	09 28 22.4	
	comp=Z,38nm,18.8s,baz=83,slow=33						
BDFB	**Brasilia**	**61.52**	**281**	P	**P**	**09 05 03.8**	**-0.2**
	2.2nm,0.6s,baz=358,slow=2.4,SNR=3.7						
CFAA	**Coronel Fontan**	**62.05**	**254**	P	**P**	**09 05 06.6**	**-0.6**
	0.2nm,0.5s,baz=160,slow=5.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**66.06**	**345**	P	**P**	**09 05 33.8**	**+0.2**
	0.5nm,0.7s,baz=199,slow=5.7,SNR=3.5						
TORD				LR	LR	09 26 42.6	
	comp=Z,39nm,21.6s,baz=165,slow=29						
BBTS	**Babate**	**72.02**	**327**	LR	LR	09 33 09.1	
	comp=Z,84nm,18.4s,baz=360,slow=32						
LPAZ	**La Paz**	**73.38**	**265**	P	**P**	**09 06 20.7**	**+1.1**
	1.2nm,0.7s,baz=149,slow=5.7,SNR=6.3						
STKA	**Stephens Creek**	**84.04**	**136**	P	**P**	**09 07 17.7**	**+0.4**
	2.8nm,1.0s,baz=141,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**87.46**	**126**	P	**P**	**09 07 34.9**	**+0.4**
	3.4nm,0.7s,baz=206,slow=4.7,SNR=61						
WRA	**Warramunga Arr**	**90.79**	**125**	P	**P**	**09 07 50.0**	**-0.2**
	0.8nm,0.7s,baz=216,slow=4.5,SNR=7.4						
BRTR	**Keskin Array B**	**92.82**	**14**	LR	LR	09 53 23.8	
	comp=Z,37nm,18.6s,baz=280,slow=38						
DAVOX	**Davos/Dischmat**	**98.62**	**356**	LR	LR	09 51 26.5	
	comp=Z,56nm,20.3s,baz=84,slow=34						
ZALV	**Zalesovo Beam**	**120.44**	**40**	PKP	**PKPdf**	**09 13 36.4**	**-0.7**
	0.3nm,0.3s,baz=242,slow=3.1,SNR=2.3						
TXAR	**Lajitas Array**	**130.19**	**267**	PKP	**PKPdf**	**09 13 58.6**	**+1.9**
	0.5nm,0.9s,baz=134,slow=5.2,SNR=3.3						
PDAR	**Pinedale Array**	**142.45**	**278**	PKhKP	PKPpre	09 14 14.0	
	0.7nm,0.9s,baz=143,slow=3.7,SNR=4.3						
YKA	**Yellowknife Ar**	**151.79**	**311**	PKPbc	**PKPbc**	**09 14 39.8**	**-0.3**
	1.7nm,0.8s,baz=88,slow=2.6,SNR=38						
YKA				PKPab	**PKPab**	**09 14 47.5**	**-1.7**
	1.6nm,0.8s,baz=89,slow=5.0,SNR=13						
ILAR	**Eielson Array**	**164.36**	**331**	PKPab	**PKPab**	**09 15 43.7**	**+0.2**
	0.4nm,0.8s,baz=25,slow=3.3,SNR=4.3						

IDC 23 09:40:15.6±4.4, 1.54S×99.20E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=223.6km s-min=23.2km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.29**	**256**	T	T	10 14 06.7	
	baz=78,slow=75						
H08S3	**Diego Garcia H**	**27.29**	**256**	T	T	10 14 06.4	
	baz=78,slow=75						
H08S1	**Diego Garcia H**	**27.31**	**256**	T	T	10 14 07.9	
	baz=78,slow=75						
H01W3	**Cape Leeuwin H**	**35.98**	**159**	T	T	10 25 14.5	
	baz=336						
H01W2	**Cape Leeuwin H**	**35.99**	**159**	T	T	10 25 04.6	
	baz=336						
H01W1	**Cape Leeuwin H**	**35.99**	**159**	T	T	10 25 15.2	
	baz=336						
WRA	**Warramunga Arr**	**38.92**	**120**	P	P	09 47 43.4	0.0
	0.2nm,0.6s,baz=298,slow=8.9,SNR=2.6						
ASAR	**Alice Springs**	**40.17**	**126**	P	P	09 47 54.0	+0.1
	0.3nm,0.9s,baz=301,slow=8.0,SNR=2.9						
MKAR	**Makanchi Array**	**50.37**	**345**	P	P	09 49 15.4	+0.9
	0.5nm,0.5s,baz=159,slow=8.2,SNR=9.2						
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	P	09 49 59.1	-0.8
	0.7nm,0.6s,baz=158,slow=7.6,SNR=4.0						
TXAR	**Lajitas Array**	**144.81**	**36**	PKP	PKPab	09 59 53.4	-1.0
	0.2nm,0.4s,baz=198,slow=0.7,SNR=8.3						

CSEM ***23*** *09:45:03.5, 35.72N×27.00E, h10km±1km, ML3.7/1, After THE*
THE 23 09:45:03.5, 35.72N×27.00E, h10km±1km, ML3.7/1, Error ellipse: s-maj=2.0km s-min=0.5km az=137.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.22**	**142**	P	Pg	09 45 07.9	-0.2
KARP				S	Sg	09 45 11.9	+0.7
KARP	**Karpathos**	**0.22**	**142**	P	Pg	09 45 07.9	-0.2
KARP				S	Sg	09 45 11.9	+0.7
ZKR	**Zakros**	**0.88**	**227**	P	Pg	09 45 19.8	-0.7
ZKR				S	Sb	09 45 33.0	+0.4
ZKR	**Zakros**	**0.88**	**227**	P	Pg	09 45 19.8	-0.7
ZKR				S	Sb	09 45 33.0	+0.4
ARG	**Arkhangelos**	**1.04**	**61**	P	Pg	09 45 22.3	-1.3
ARG				S	Sg	09 45 37.2	+0.1
ARG	**Arkhangelos**	**1.04**	**61**	P	Pg	09 45 22.3	-1.3
ARG				S	Sg	09 45 37.2	+0.1
NPS	**Neapolis**	**1.22**	**248**	P	Pn	09 45 25.3	-1.3
NPS				S	Sb	09 45 41.6	-0.9
NPS	**Neapolis**	**1.22**	**248**	P	Pn	09 45 25.3	-1.3
NPS				S	Sb	09 45 41.6	-0.9
LAST	**Lasithi**	**1.36**	**246**	P	Pn	09 45 27.5	-1.1
LAST				S	Sb	09 45 45.6	-1.1
LAST	**Lasithi**	**1.36**	**246**	P	Pn	09 45 27.5	-1.1
LAST				S	Sb	09 45 45.6	-1.1
IDI	**Anoyia**	**1.77**	**257**	P	Pn	09 45 32.6	-1.7
IDI				S	Sn	09 45 55.3	-1.6
IDI	**Anoyia**	**1.77**	**257**	P	Pn	09 45 32.6	-1.7
IDI				S	Sn	09 45 55.3	-1.6
APE	**Apeiranthos**	**1.79**	**319**	P	Pn	09 45 32.9	-1.7
APE				S	Sn	09 45 56.0	-1.4
APE	**Apeiranthos**	**1.79**	**319**	P	Pn	09 45 32.9	-1.7
APE				S	Sn	09 45 56.0	-1.4
SIVA	**Sivas**	**1.92**	**249**	P	Pn	09 45 34.6	-1.6
SIVA				S	Sn	09 45 58.7	-1.7
SIVA	**Sivas**	**1.92**	**249**	P	Pn	09 45 34.6	-1.6
SIVA				S	Sn	09 45 58.7	-1.7
KARN	**Karanos**	**2.53**	**264**	P	Pn	09 45 43.6	-1.1
KARN				S	Sn	09 46 13.5	-2.1
KARN	**Karanos**	**2.53**	**264**	P	Pn	09 45 43.6	-1.1
KARN				S	Sn	09 46 13.5	-2.1
KYTH	**Kithira**	**3.26**	**281**	P	Pn	09 45 53.5	-1.2
KYTH	**Kithira**	**3.26**	**281**	P	Pn	09 45 53.5	-1.2
VLI	**Veliai**	**3.43**	**288**	P	Pn	09 45 55.6	-1.4
VLI				S	Sn	09 46 36.4	-1.3
VLI	**Veliai**	**3.43**	**288**	P	Pn	09 45 55.6	-1.4
VLI				S	Sn	09 46 36.4	-1.3

ISCJB ***23*** *09:46:11.7±0.5, 43.31N±0.07×139.42E±0.09, h225km±5km, mb3.2/8, Error ellipse: s-maj=12.4km s-min=9.6km az=139.4*
IDC ***23*** *09:46:11.9±1.6, 43.35N×139.24E, h206km±17km, mb3.0/8, mb1 3.1/10, mb1mx3.1/26, mbtmp3.0/10, MS3.1/1, Ms1 3.1/1, ms1mx2.3/9, Error ellipse: s-maj=17.2km s-min=14.3km az=94.0*
JMA ***23*** *09:46:12.9±0.4, 43.40N×139.36E, h214km±3km, M3.0*

ISC 23 09:46:12.8±0.8, 43.32N±0.07×139.41E±0.08, h219km±7km, n23, σ0s74/28, mb3.2/8, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.78**	**87**	P	**Pn**	**09 46 42.9**	**-0.2**
JSH	**Shimam**	**0.82**	**145**	P	**Pn**	**09 46 43.2**	**-0.2**
JSH				*e*S	**S**	**09 47 07.1**	**-0.1**
JOSM	**Okushiri--Mats**	**1.23**	**178**	P	**Pn**	**09 46 46.5**	**+0.4**
JOSM				*e*S	**S**	**09 47 10.8**	**+0.9**
JHR	**Hokuryu**	**1.74**	**75**	P	**Pn**	**09 46 50.5**	**+0.4**
JKB	**Kayabe**	**1.87**	**139**	P	**Pn**	**09 46 51.8**	**+0.4**
JOT	**Ohata**	**2.29**	**147**	P	**Pn**	**09 46 55.7**	**+0.1**
JFR	**Furan**	**2.33**	**93**	P	**Pn**	**09 46 56.6**	**+0.6**
ASAJ	**Asahikawa**	**2.45**	**70**	P	**Pn**	**09 46 56.4**	**-0.8**
	0.7nm,0.3s,baz=157,slow=20,SNR=4.5						
JKK2	**Kamakawa 2**	**2.49**	**76**	P	**Pn**	**09 46 58.3**	**+0.6**
JNBK	**Urakawa-nobuka**	**2.67**	**112**	P	**Pn**	**09 46 59.8**	**+0.1**
JCH	**Churui**	**2.99**	**102**	P	**Pn**	**09 47 02.2**	**-1.0**
JCH				*e*S	**S**	**09 47 40.7**	**-1.7**
JAR	**Ashorobuto**	**3.18**	**89**	P	**Pn**	**09 47 05.7**	**+0.3**
JAR				*e*S	**S**	**09 47 46.8**	**+0.3**
JANG	**Nango**	**3.34**	**151**	P	**Pn**	**09 47 06.9**	**-0.4**
JANG				*e*S	**S**	**09 47 49.0**	**-0.9**
MJAR	**Matsushiro Arr**	**6.83**	**188**	P	**Pn**	**09 47 50.8**	**-0.1**
	0.8nm,0.3s,baz=9.3,slow=13,SNR=8.2						
JCJ	**Chichijima**	**16.34**	**171**	LR	LR	09 54 37.8	
	comp=Z,69nm,21.5s,baz=282,slow=31						
SONM	**Songino Array**	**23.44**	**293**	P	**P**	**09 51 01.6**	**-0.7**
	0.4nm,0.5s,baz=82,slow=8.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**36.74**	**306**	P	**P**	**09 52 57.9**	**-0.9**
	1.1nm,0.5s,baz=96,slow=9.4,SNR=5.7						
MKAR	**Makanchi Array**	**39.74**	**296**	P	**P**	**09 53 23.1**	**-0.8**
	0.3nm,0.6s,baz=81,slow=9.5,SNR=2.8						
ILAR	**Eielson Array**	**45.14**	**35**	P	**P**	**09 54 07.4**	**+0.3**
	0.6nm,0.6s,baz=284,slow=9.3,SNR=14						
YKA	**Yellowknife Ar**	**59.20**	**31**	P	**P**	**09 55 51.6**	**+1.3**
	0.1nm,0.4s,baz=307,slow=6.8,SNR=5.2						
FINES	**FINESS Array B**	**62.57**	**330**	P	**P**	**09 56 12.6**	**-0.5**
	3.8nm,0.8s,baz=31,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**63.12**	**185**	P	**P**	**09 56 17.2**	**+0.1**
	0.2nm,0.5s,baz=3.1,slow=7.2,SNR=9.6						
WRA				PcP	**PcP**	**09 56 53.1**	**+0.4**
	0.2nm,0.5s,baz=0.2,slow=4.8,SNR=5.6						
ASAR	**Alice Springs**	**66.84**	**185**	P	**P**	**09 56 42.1**	**+1.0**
	0.2nm,0.6s,baz=6.6,slow=5.6,SNR=4.4						

ISCJB ***23*** *10:00:55.2±1.4, 46.7N±0.2×152.2E±0.3, h125km, mb3.5/6, Error ellipse: s-maj=30.6km s-min=19.5km az=136.4*
IDC ***23*** *10:01:05.9±4.7, 46.63N×151.17E, h184km±42km, mb3.2/6, mb1 3.4/8, mb1mx3.1/25, mbtmp3.2/8, Error ellipse: s-maj=35.9km s-min=25.6km az=72.0*

ISC 23 10:00:57.5±1.7, 46.7N±0.2×152.1E±0.2, h125km, n18, σ0s60/8, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.17**	**252**	P	**Pn**	**10 02 39.1**	**-0.6**
	0.3nm,0.3s,baz=81,slow=16,SNR=4.4						
USRK	**Ussuriysk Arra**	**14.33**	**267**	P	**Pn**	**10 04 14.3**	**-0.1**
	0.1nm,0.3s,baz=79,slow=15,SNR=3.5						
MJAR	**Matsushiro Arr**	**14.51**	**230**	P	**P**	**10 04 20.8**	**+0.9**
	0.2nm,0.3s,baz=40,slow=8.7,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**29.52**	**151**	T	T	10 38 01.5	
	baz=343,slow=76,SNR=121						
H11N1	**WAKE ISLAND Hy**	**29.54**	**151**	T	T	10 38 14.5	
	baz=343,slow=76,SNR=104						
H11N3	**WAKE ISLAND Hy**	**29.54**	**151**	T	T	10 38 14.9	
	baz=343,slow=76,SNR=58						
H11S1	**WAKE ISLAND Hy**	**30.60**	**152**	T	T	10 39 33.0	
	baz=344,slow=66						
H11S3	**WAKE ISLAND Hy**	**30.61**	**152**	T	T	10 39 34.4	
	baz=344,slow=66						
H11S2	**WAKE ISLAND Hy**	**30.62**	**152**	T	T	10 39 34.1	
	baz=344,slow=66						
MKAR	**Makanchi Array**	**46.33**	**297**	P	**P**	**10 09 10.6**	**0.0**
	0.2nm,0.5s,baz=76,slow=6.1,SNR=3.5						
FINES	**FINESS Array B**	**63.77**	**334**	P	**P**	**10 11 15.0**	**-0.5**
	3.9nm,1.0s,baz=29,slow=3.2,SNR=7.8						
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**10 11 43.3**	**+0.5**
	0.6nm,0.7s,baz=37,slow=5.2,SNR=2.9						
AKASG	**Malin Array Be**	**71.18**	**326**	P	**P**	**10 12 02.4**	**+0.1**
	0.4nm,0.3s,baz=34,slow=5.9,SNR=3.4						
ASAR	**Alice Springs**	**71.96**	**198**	P	**P**	**10 12 06.7**	**-0.5**
	0.2nm,0.6s,baz=14,slow=5.7,SNR=4.7						
TXAR	**Lajitas Array**	**78.11**	**60**	P	P	10 12 49.5	+6.8
	0.4nm,0.8s,baz=309,slow=4.5,SNR=4.2						
H03N2	**Juan Fernandez**	**139.45**	**90**	T	T	12 55 32.8	
	baz=311,slow=75						
H03N1	**Juan Fernandez**	**139.47**	**90**	T	T	12 55 34.6	
	baz=311						
H03N3	**Juan Fernandez**	**139.47**	**90**	T	T	12 55 34.0	
	baz=311,slow=75						

CSEM ***23*** *10:05:41.6, 34.19N×37.89E, h2km, ML1.3, After NSSC*
NSSC 23 10:05:41.6±1.0, 34.19N×37.89E, h2km±5km, MD1.1, ML1.3, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROOS	**tl_alroos**	**0.50**	**268**	*e*P	Pg	10 05 51.3	0.0
ROOS				*e*S	Sg	10 05 57.6	-0.3
ROOS				AML	AML	10 06 03.4	
	comp=N,0.7nm,0.2s						
ROOS				AML	AML	10 06 04.1	
	comp=E,0.9nm,0.4s						
ROOS	**tl_alroos**	**0.50**	**268**	*e*P	Pg	10 05 51.7	+0.3
ROOS				*e*S	Sg	10 05 58.5	+0.6
ROOS				AML	AML	10 06 03.4	
	comp=N,0.7nm,0.2s						
ROOS				AML	AML	10 06 04.2	
	comp=E,0.9nm,0.4s						
ROOS	**tl_alroos**	**0.50**	**268**	*e*P	Pg	10 05 51.7	+0.4
	SNR=75						
ROOS				*e*S	Sg	10 05 58.5	+0.6
	comp=E,0.9nm,0.4s,SNR=59						
RABH	**Abou Rabah**	**0.62**	**294**	*e*P	Pg	10 05 53.7	+0.1
RABH				*e*S	Sg	10 06 02.2	+0.5
RABH				AML	AML	10 06 07.5	
	comp=N,47nm,0.7s						
RABH				AML	AML	10

LQP	Lukban	0.53	357	⇑	eP	Pb	10 19 05.2 -0.5
PGP	Puerto Galera	0.61	262		eP	Pg	10 19 07.3 +0.3
TGY	Tagaytay City	0.80	310		eP	Pb	10 19 10.5 +0.2
TGY	Tagaytay City	0.80	310		Pg	Pb	10 19 10.6 +0.3
	189nm,0.3s,baz=136,slow=2.8,SNR=36						
TGY					Lg	Lg	10 19 25.5
	399nm,0.3s,baz=96,slow=16,SNR=9.1						
GQP	Guinayangan	0.91	69	⇑	eP	Pb	10 19 11.6 -0.5
GQP					eS	Sn	10 19 26.5 +1.2
AUQP	San Andres	1.10	103		eP	Pg	10 19 16.9 +0.6
SJMP	San Jose	1.20	202		eP	Pn	10 19 16.7 0.0
SJMP					eS	Sn	10 19 32.2 -0.2
OTRP	Odiongan	1.29	160		eP	Pn	10 19 17.5 -0.4
LUBP	Lubang	1.30	277		eP	Pn	10 19 17.6 -0.4
BUSP	Coron	2.06	221		eP	Pn	10 19 29.2 +0.6
RCP	Roxas	2.31	150	⇓	eP	Pn	10 19 32.0 0.0
RCP					eS	Sb	10 20 04.9 +0.6
KSRS	Korea Array	24.44	12		LR	LR	10 34 28.8
	comp=Z,7.8nm,20.2s,baz=165,slow=39						
WRA	Warramunga Arr	35.60	159		P	P	10 25 50.1 -1.4
	1.4nm,0.8s,baz=339,slow=9.8,SNR=8.8						
ASAR	Alice Springs	38.94	162		P	P	10 26 19.9 0.0
	0.6nm,0.5s,baz=343,slow=7.1,SNR=16						
STKA	Stephens Creek	49.11	157		P	P	10 27 41.1 -0.2
	2.6nm,1.1s,baz=328,slow=9.5,SNR=3.6						

IDC 23 10:28:22.1±1.2, 55.66S×25.54W, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=108.1km s-min=29.1km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	47.01	182	P	P	10 36 54.1	-0.2
	0.4nm,0.6s,baz=205,slow=3.9,SNR=3.8						
DBIC	Dimbokro	64.43	23	P	P	10 38 59.8	-0.2
	1.5nm,0.6s,baz=188,slow=7.1,SNR=2.3						
TORD	Torodi Ar. Bea	72.27	28	P	P	10 39 49.4	+0.4
	0.5nm,0.6s,baz=199,slow=5.5,SNR=4.2						
ILAR	Eielson Array	150.55	312	PKPbc	PKPbc	10 48 13.9	-0.3
	0.5nm,0.7s,baz=108,slow=2.9,SNR=6.1						

MEX 23 11:17:30.2±0.5, 16.80N×99.61W, h41km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	Acapulco	0.24	286	*i* P	Pn	11 17 34.4	-3.6
ACX				*i* S	Sn	11 17 39.4	-4.0
ACP2	Acapulco	0.27	285	*e*P	Pn	11 17 36.5	-1.8
ACP2				*e*S	Sn	11 17 42.1	-1.7
TLIG	Tlapa	1.25	53	*i* P	Pn	11 17 49.8	-1.7
TLIG				*i* S	Sn	11 18 04.7	-2.5
PNIG	Pinotepa	1.48	106	*e*P	Pn	11 17 53.1	-1.3
PNIG				*i* S	Sn	11 18 10.0	-2.7
ARIG	Puente Sto Nin	1.63	335	*i* P	Pn	11 17 54.4	-2.1
ARIG				*e*S	Sn	11 18 14.4	-1.8
ZIIG	Zihuatanejo	1.94	295	*i* P	Pn	11 17 58.6	-2.1
ZIIG				*i* S	Sn	11 18 21.9	-2.0

IDC 23 11:17:58.1±5.0, 16.22S×175.28W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/18, mbtmp4.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/34, Error ellipse: s-maj=157.8km s-min=98.6km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	Rata Peaks	29.77	200	LR	LR	11 35 15.9	
	comp=Z,72nm,18.5s,baz=1.8,slow=35						
STKA	Stephens Creek	42.06	240	P	P	11 25 52.1	+0.3
	2.7nm,0.5s,baz=85,slow=8.3,SNR=12						
WRA	Warramunga Arr	47.90	258	P	P	11 26 38.3	-0.2
	1.3nm,0.3s,baz=95,slow=7.6,SNR=66						
ASAR	Alice Springs	48.14	253	P	P	11 26 39.9	-0.4
	5.8nm,0.5s,baz=86,slow=8.7,SNR=143						
ASAR				PcP	PcP	11 28 07.5	-0.5
	0.4nm,0.4s,baz=106,slow=3.2,SNR=5.0						

*NAO **23** 11:24:55.3±3.7, 78.31N×8.05E, ML2.5*
ISC 23 11:25:00.6±3.2, 78.0N±0.1×9.5E±0.2, h10km, n5, σ0.92/8, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPA0	Spitsbergen Ar	1.43	79	Pg	Pb	11 25 27.0	-0.3
	baz=284,slow=11						
SPA0				Lg	Lg	11 25 49.4	
	baz=279,slow=22						
SPA0	Spitsbergen Ar	1.43	79	Pg	Pb	11 25 27.0	-0.3
	baz=284,slow=11						
SPA0				Lg	Lg	11 25 49.4	
	baz=279,slow=22						
HSP	Hornsund	1.65	124	*e*P	Pn	11 25 30.0	+0.5
HSP				*e*S	Sg	11 25 54.2	+0.8
ARA0	ARCESS Array S	9.55	144	Pn	Pn	11 27 18.4	+0.6
ARA0				Sn	Sn	11 29 04.0	-1.1
	baz=358,slow=22						
ARA0	ARCESS Array S	9.55	144	Pn	Pn	11 27 18.4	+0.6
ARA0				Sn	Sn	11 29 04.0	-1.1
	baz=358,slow=22						

*CSEM **23** 11:25:10.3, 14.54N×44.41E, h10km, Mc3.6, After DHMR*
DHMR 23 11:25:10.3±1.6, 14.54N×44.41E, h10km±3km, MD3.6, 4C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHBB	Dhamar BB	0.04	327	⇓ *i*P	Pg	11 25 11.8	-0.8
DHBB				*i* S	Sg	11 25 12.9	-1.4
DHBB	Dhamar BB	0.04	327	⇓ *i*P	Pg	11 25 11.8	-0.9
DHBB				*i* S	Sg	11 25 12.9	-1.4
RADA	Ahram - Rada'a	0.44	103	*i* P	Pg	11 25 18.6	-0.7
RADA				*i* S	Sg	11 25 24.5	-0.9
RADA	Ahram - Rada'a	0.44	103	*i* P	Pg	11 25 18.6	-0.7
RADA				*i* S	Sg	11 25 24.5	-0.9
UDYN	Al 'Udayn	0.71	217	⇓ *i*P	Pg	11 25 23.9	-0.5
UDYN				*i* S	Sg	11 25 33.3	-0.6
LBOS		1.05	129	⇑ *i*P	Pg	11 25 30.3	-0.6
LBOS				*i* S	Sg	11 25 44.9	+0.1
BDHA	Al Bayda'	1.25	116	⇑ *i*P	Pn	11 25 33.5	-0.7
BDHA				*i* S	Sb	11 25 50.2	-0.6
BDHA	Al Bayda'	1.25	116	⇑ *i*P	Pn	11 25 33.5	-0.7
BDHA				*i* S	Sb	11 25 50.2	-0.6
TRBA	At Turbah	1.33	193	⇑ *i*P	Pb	11 25 35.5	-0.1
TRBA				*i* S	Sn	11 25 53.4	+0.2
HAJJ	Hajjah	1.40	326	*i* P	Pb	11 25 36.7	-0.1
HAJJ				*i* S	Sg	11 25 55.6	-0.2
HAJJ	Hajjah	1.40	326	*i* P	Pb	11 25 36.7	-0.1
HAJJ				*i* S	Sg	11 25 55.6	-0.2

*JMA **23** 11:27:32.8±0.1, 24.21N×121.93E, h63km±2km, M3.1*
*ISCJB **23** 11:27:33.9±0.3, 24.23N±0.02×122.02E±0.02, h51km±5km, Error ellipse: s-maj=3.3km s-min=2.1km az=137.0*
*TAP **23** 11:27:34.0, 24.27N×121.93E, h56km, ML3.7, B*
ISC 23 11:27:34.6±1.2, 24.23N±0.02×122.01E±0.02, h47km±8km, n70, σ0.85/134, 6C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	Heping Village	0.25	288	*e*P	Pn	11 27 43.1	0.0
	baz=277						
ENA	Nanau	0.31	309	⇓ *i*P	Pn	11 27 43.5	-0.1
	baz=320						
ENA				*i* S	Sn	11 27 50.5	+0.5
	baz=320						
TWD	Chiawan	0.40	248	⇓ *i*P	Pn	11 27 44.3	-0.3
	baz=231						
TWD				*i* S	Sn	11 27 52.3	+0.7
	baz=231						
TWC	Suao	0.40	339	⇑ *i*P	Pn	11 27 44.6	+0.1
	baz=353						
TWC				*i* S	Sn	11 27 52.0	+0.3
	baz=353						
HWA	Hwalien	0.44	235	⇓ *i*P	Pn	11 27 45.1	+0.1
	baz=225						
HWA				*e*S	Sn	11 27 53.3	+0.9
	baz=225						
ENTT	Nioudou	0.57	316	⇓ *i*P	Pn	11 27 46.2	-0.4
	baz=314						
ENTT				S	Sn	11 27 55.0	-0.3
	baz=314						
TWE	Neicheng	0.58	328	⇑ *i*P	Pn	11 27 46.6	-0.1
	baz=336						
TWE				*i* S	Sn	11 27 55.2	-0.1
	baz=336						
ESF	Shoufeng Towns	0.58	232	*e*P	Pn	11 27 46.1	-0.6
	baz=236						
ESF				*e*S	Sn	11 27 55.9	+0.6
	baz=236						
ILA	Ilan	0.58	336	*e*P	Pn	11 27 46.7	0.0
	baz=346						
ILA				*e*S	Sn	11 27 56.1	+0.7
	baz=346						
NNS	Nan Shan	0.61	290	⇓ *i*P	Pn	11 27 46.6	-0.6
	baz=289						
NNS				S	Sn	11 27 55.8	-0.6
	baz=289						
ESL	Shilin	0.67	232	⇓ *i*P	Pn	11 27 47.1	-0.7
	baz=234						
ESL				*e*S	Sn	11 27 56.4	-0.9
	baz=234						
TEGC	Jichi Village	0.67	219	*e*P	Pn	11 27 48.0	+0.1
	baz=204						
WHF	Hehuan Shan	0.68	263	⇓ *i*P	Pn	11 27 47.9	-0.5
	baz=259						
WHF				*i* S	Sn	11 27 57.6	-0.7
	baz=259						
NSK	Sanguang	0.74	307	⇓ *i*P	Pn	11 27 48.1	-0.7
	baz=301						
NSK				*e*S	Sn	11 27 57.9	-1.2
	baz=301						
TWT	Tachien	0.76	272	⇓ *i*P	Pn	11 27 49.3	+0.1
	baz=269						
TWT				*i* S	Sn	11 27 59.4	-0.3
	baz=269						
TWB1	Santiao Chiao	0.78	359	⇑ *i*P	Pn	11 27 48.7	-0.5
	baz=15						
TWB1				*e*S	Sn	11 27 58.5	-1.4
	baz=15						
TWA	Mucha	0.84	333	⇑ *i*P	Pn	11 27 50.0	-0.1
	baz=345						
TWA				*i* S	Sn	11 28 01.4	0.0
	baz=345						
NWF	Wu-fen Shan	0.86	346	⇑ *i*P	Pn	11 27 50.3	-0.2
	baz=351						
NWF				S	Sn	11 28 02.0	-0.1
	baz=351						
TAP1	Taipei	0.92	332	*e*P	Pn	11 27 50.3	-0.8
	baz=323						
TAP1				*e*S	Sn	11 28 02.3	-1.0
	baz=323						
TAP	Taipei	0.93	331	*e*P	Pn	11 27 50.7	-0.5
	baz=323						
TAP				*e*S	Sn	11 28 03.3	-0.1
	baz=323						
YOJ	Yonaguni jima	0.95	76	P	Pn	11 27 51.6	+0.1
YOJ				S	Sn	11 28 04.6	+0.7
YOJ	Yonaguni jima	0.95	76	⇓ *i*P	Pn	11 27 51.6	+0.1
	baz=79						
YOJ				*e*S	Sn	11 28 03.6	-0.4
	baz=79						
EHY	Hungye	0.95	221	*e*P	Pn	11 27 50.6	-1.1
	baz=225						
EHY				*e*S	Sn	11 28 02.5	-1.7
	baz=225						
NSTT	Nanjuang	1.00	294	*e*P	Pn	11 27 52.1	-0.2
	baz=294						
NSTT				S	Sn	11 28 05.1	-0.1
	baz=294						
TWS1	Kuangyinshan	1.02	328	*e*P	Pn	11 27 52.0	-0.5
	baz=331						
TWS1				*e*S	Sn	11 28 05.7	0.0
	baz=331						
NCU	National Centr	1.05	315	*e*P	Pn	11 27 52.9	0.0
	baz=317						
NCU				*e*S	Sn	11 28 06.3	-0.1
	baz=317						
SMLT	Sun Moon Lake	1.07	251	*e*P	Pn	11 27 53.3	0.0
	baz=242						
SMLT				*e*S	Sn	11 28 07.1	0.0
	baz=242						
TWF1	Yuli	1.09	217	*e*P	Pn	11 27 52.3	-1.2
	baz=221						
TWF1				*e*S	Sn	11 28 06.4	-1.0
	baz=221						
TYC	Yuchr	1.10	253	*e*P	Pn	11 27 53.5	0.0
	baz=244						
TYC				*e*S	Sn	11 28 08.1	+0.4
	baz=244						
TWY	Chenhua	1.10	341	*e*P	Pn	11 27 53.1	-0.6
	baz=344						
TWY				*e*S	Sn	11 28 07.9	+0.1
	baz=344						
TWQ1	Liyutan	1.13	276	*e*P	Pn	11 27 53.9	-0.1
	baz=275						
TWQ1				*e*S	Sn	11 28 08.5	+0.1
	baz=275						
NSY	Sanyi	1.15	280	*e*P	Pn	11 27 54.3	0.0
	baz=279						
NSY				*e*S	Sn	11 28 09.1	+0.1
	baz=279						
YUS	Yu-Shan	1.21	233	*e*P	Pn	11 27 55.6	0.0
	baz=222						
YUS				*e*S	Sn	11 28 10.4	-0.7
	baz=222						
TCU	Taichung	1.22	266	*e*P	Pn	11 27 55.1	-0.1
	baz=277						
TCU				*e*S	Sn	11 28 11.0	+0.5
	baz=277						
WNT	Mingjian	1.26	254	*e*P	Pn	11 27 56.6	+0.9
	baz=251						
WNT				*e*S	Sn	11 28 13.4	+1.8
	baz=251						
CHKT	Chengkung	1.27	208	*e*P	Pn	11 27 55.6	-0.3
	baz=193						
CHKT				*e*S	Sn	11 28 10.0	-1.8
	baz=193						
ALS	Alishan	1.31	237	*e*P	Pn	11 27 57.2	+0.4
	baz=225						
ALS				*e*S	Sn	11 28 13.3	0.0
	baz=225						
CHN5	Tsauling	1.37	243	*e*P	Pn	11 27 57.8	+0.4
	baz=231						
CHN5				*e*S	Sn	11 28 15.7	+1.4
	baz=231						
ELDTW	Lidau	1.38	221	*e*P	Pn	11 27 56.5	-1.0
	baz=211						
ELDTW				*e*S	Sn	11 28 13.9	-0.7
	baz=211						
PCYT	Pengchaiyu	1.39	2	⇑ P	Pn	11 27 56.8	-0.8
	baz=6.0						
PCYT				*e*S	Sn	11 28 13.4	-1.5
	baz=6.0						
WGK	Gukeng	1.43	248	*e*P	Pn	11 27 58.7	+0.7
	baz=245						
WGK				*e*S	Sn	11 28 17.0	+1.4
	baz=245						
STYT	Tauyuan	1.56	227	*e*P	Pn	11 28 00.1	+0.2
	baz=223						
STYT				*e*S	Sn	11 28 19.5	+0.4
	baz=223						
CHN4	Tsaushan	1.56	236	*e*P	Pn	11 28 00.8	+0.9
	baz=233						
CHN4				*e*S	Sn	11 28 20.0	+1.0
	baz=233						
IRIF	Iriomote-Funau	1.58	86	P	Pn	11 27 59.9	-0.2
IRIF				S	Sn	11 28 19.0	-0.4
WTP	Ta-pu	1.61	233	P	Pn	11 28 01.1	+0.6
	baz=229						
WTP				*e*S	Sn	11 28 21.3	+1.1
	baz=229						
WTCT	Ta-ch'eng	1.62	257	*e*P	Pn	11 28 01.1	+0.4
	baz=256						
WTCT				*e*S	Sn	11 28 20.5	+0.2
	baz=256						
CHY	Chiayi	1.62	244	*e*P	Pn	11 28 01.5	+0.8
	baz=230						
CHY				*e*S	Sn	11 28 21.9	+1.5
	baz=230						
TWG	Pinlang	1.64	212	*e*P	Pn	11 27 59.6	-1.4
	baz=199						
TWG				*e*S	Sn	11 28 19.0	-2.0
	baz=199						
HATJ	Hateruma jima	1.65	96	*e*S	Sn	11 28 22.7	+1.5
TTN	Taitung	1.67	208	*e*P	Pn	11 28 02.1	+0.8
	baz=203						
TTN				*e*S	Sn	11 28 21.8	+0.2
	baz=203						
TWK	Hsinying	1.69	236	*e*P	Pn	11 28 02.1	+0.4
	baz=232						
TWK				*e*S	Sn	11 28 22.9	+0.7
	baz=232						
CHN1	Nanshi	1.71	233	*e*P	Pn	11 28 02.4	+0.4
	baz=229						
CHN1				*e*S	Sn	11 28 23.9	+1.3
	baz=229						
SGST	Jiashian	1.73	229	*e*P	Pn	11 28 03.1	+0.8
	baz=216						
SGST				*e*S	Sn	11 28 24.3	+1.1
	baz=216						
WSF	Szhu	1.73	250	*e*P	Pn	11 28 02.1	-0.2
	baz=260						
WSF				*e*S	Sn	11 28 23.6	+0.4
	baz=260						
JKRS	Kuro-shima	1.83	89	P	Pn	11 28 04.1	+0.5
JKRS				S	Sn	11 28 27.0	+1.5
CHN8	Yiju	1.86	242	*e*P	Pn	11 28 02.1	-2.0
	baz=240						
ECL	Taimali	1.89	211	*e*P	Pn	11 28 02.9	-1.5
	baz=201						
SSD	Sandimen	1.94	221	*e*P	Pn	11 28 06.2	+1.1
	baz=216						
SSD				*e*S	Sn	11 28 29.7	+1.4
	baz=216						
JIJ	Ishigaki jima	1.96	86	P	Pn	11 28 04.9	-0.4
JIJ				S	Sn	11 28 27.9	-0.7
SCLT	Jiali	1.96	238	*e*P	Pn	11 28 05.6	+0.2
	baz=236						
SCLT				*e*S	Sn	11 28 30.4	+1.6
	baz=236						
TWM1	Shoushan	2.02	226	*e*P	Pn	11 28 07.0	+0.8
	baz=224						
EAST	Anshuo	2.12	210	*e*P	Pn	11 28 08.1	+0.5
	baz=200						
EAST				*e*S	Sn	11 28 31.8	-1.0
	baz=200						
LAY	Lan-yu	2.22	191	*e*P	Pn	11 28 08.1	-0.9
	baz=186						
LAY				*e*S	Sn	11 28 31.9	-3.4
	baz=186						
SCZT	Fangliau	2.25	215	*e*P	Pn	11 28 10.2	+0.9
	baz=208						
SCZT				*e*S	Sn	11 28 36.5	+0.7
	baz=208						
JTJ	Tarama	2.49	80	P	Pn	11 28 12.9	+0.3
JTJ				*e*S	Sn	11 28 42.0	+0.2
HEN	Hengchun	2.50	208	*e*P	Pn	11 28 13.6	+0.8
	baz=198						
HEN				*e*S	Sn	11 28 41.9	-0.2
	baz=198						
TWK1	Hengchun	2.53	206	*e*P	Pn	11 28 12.8	-0.4
	baz=193						
TWK1				*e*S	Sn	11 28 41.9	-0.9
	baz=193						
TSEB	Hengchuen, Pin	2.53	204	*e*P	Pn	11 28 13.1	-0.1
	baz=192						
TSEB				*e*S	Sn	11 28 43.0	+0.1
	baz=192						
JOGS	Gusukube	3.14	80	P	Pn	11 28 20.7	-0.9
JOGS				*e*S	Sn	11 28 59.2	+1.3
JKE	Kume jima 2	4.80	63	P	Pn	11 28 45.1	+0.7
JKE				*e*S	Sn	11 29 39.4	+0.6

*CSEM **23** 11:33:00.2, 35.04N×36.80E, h25km, ML1.8, After NSSC*
NSSC 23 11:33:00.2±1.4, 35.04N×36.80E, h25km±6km, ML1.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KFRA	Kufra	0.18	359	*e*P	Pb	11 33 05.5	-0.3
KFRA				*e*S	Sb	11 33 09.0	-0.5
KFRA				AML	AML	11 33 18.1	
	comp=E,1μm,0.6s						
KFRA				AML	AML	11 33 19.2	
	comp=N,1μm,0.7s						
KFRA	Kufra	0.18	359	*e*P	Pb	11 33 05.7	-0.1
KFRA				AML	AML	11 33 18.2	
	comp=E,1μm,0.6s						
KFRA				AML	AML	11 33 19.3	
	comp=N,1μm,0.7s						
KFRA	Kufra	0.18	359	*e*P	Pb	11 33 05.4	-0.3
	SNR=139						
KFRA				*e*S	Sb	11 33 09.0	-0.5
	comp=N,1μm,0.7s,SNR=138						
BIDA	Albida	0.40	267	*e*P	Pb	11 33 08.2	-0.7
BIDA				*e*S	Sb	11 33 14.3	-0.5
BIDA	Albida	0.40	267	*e*P	Pb	11 33 08.2	-0.6
BIDA	Albida	0.40	267	*e*P	Pb	11 33 08.2	-0.7
	SNR=113						
BIDA				*e*S	Sb	11 33 14.3	-0.4
	SNR=111						
WRDH	Warideh	0.57	326	*e*P	Pb	11 33 11.8	+0.1
WRDH				*e*S	Sb	11 33 19.0	-0.5
WRDH				AML	AML	11 33 27.2	
	comp=N,54nm,0.5s						
WRDH				AML	AML	11 33 30.1	
	comp=E,30nm,0.7s						
WRDH	Warideh	0.57	326	*e*P	Pb	11 33 11.9	+0.2
WRDH				*e*S	Sb	11 33 19.7	+0.2
WRDH				AML	AML	11 33 27.2	
	comp=N,54nm,0.5s						
WRDH				AML	AML	11 33 30.2	
	comp=E,30nm,0.7s						
WRDH	Warideh	0.57	326	*e*P	Pb	11 33 11.8	+0.1
	SNR=103						
WRDH				*e*S	Sb	11 33 19.0	-0.5
	comp=E,30nm,0.7s,SNR=102						
HAWK	Haweek	0.61	213	*e*P	Pb	11 33 12.1	-0.3
HAWK				*e*S	Sb	11 33 21.0	+0.3
HAWK				AML	AML	11 33 26.3	
	comp=E,31nm,0.6s						
HAWK				AML	AML	11 33 30.1	
	comp=N,14nm,0.7s						
HAWK	Haweek	0.61	213	*e*P	Pb	11 33 12.1	-0.3
	SNR=102						
HAWK				*e*S	Sb	11 33 21.0	+0.3
	comp=N,14nm,0.7s,SNR=101						
BTCH	Batrach	1.04	344	*e*P	Pb	11 33 20.8	+1.2
BTCH				*e*S	Sn	11 33 37.4	+4.3
BTCH				AML	AML	11 33 42.3	
	comp=N,34nm,0.4s						
BTCH				AML	AML	11 33 46.1	
	comp=E,24nm,0.4s						
MARH	Ras Al Marh	1.04	195	*e*P	Pn	11 33 19.8	+0.1
MARH				*e*S	Sn	11 33 33.6	-0.1
MARH				AML	AML	11 33 44.0	
	comp=N,20nm,0.7s						
MARH				AML	AML	11 33 44.4	
	comp=E,26nm,0.5s						
MARH	Ras Al Marh	1.04	195	*e*P	Pn	11 33 19.8	+0.2
	SNR=95						
MARH				*e*S	Sn	11 33 33.6	0.0
	comp=E,26nm,0.5s,SNR=95						
ARNB	Al Arnab	1.07	321	*e*P	Pb	11 33 20.3	+0.2
ARNB				*e*S	Sn	11 33 33.8	0.0
ARNB				AML	AML	11 33 37.4	
	comp=E,18nm,0.5s						
ARNB				AML	AML	11 33 41.2	
	comp=N,12nm,0.5s						
ARNB	Al Arnab	1.07	321	*e*P	Pb	11 33 20.4	+0.2
ARNB				*e*S	Sn	11 33 34.1	+0.3
ARNB				AML	AML	11 33 37.5	
	comp=E,18nm,0.5s						
ARNB				AML	AML	11 33 41.3	
	comp=N,12nm,0.5s						
ARNB	Al Arnab	1.07	321	*e*P	Pb	11 33 20.3	+0.2
	SNR=95						
ARNB				*e*S	Sn	11 33 33.8	0.0
	comp=N,12nm,0.5s,SNR=95						
BRBR	Barbar	1.77	204	*e*P	Pn	11 33 28.9	-0.6
BRBR				*e*S	Sn	11 33 50.3	-1.0
BRBR	Barbar	1.77	204	*e*P	Pn	11 33 28.9	-0.6
	SNR=57						
BRBR				*e*S	Sn	11 33 50.3	-1.0
	SNR=58						

*ISCJB **23** 11:47:41.7±0.7, 52.76N±0.05×162.16W±0.06, h33km, mb3.5/2, Error ellipse: s-maj=8.1km s-min=5.1km az=164.1*
*NEIC **23** 11:47:43.3, 52.75N×162.20W, h27km, ML3.4(AEIC), After*

AEIC.
*IDC **23** 11:47:48.8±19.0, 52°.94N×160°.39W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.5/29, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=371.1km s-min=39.7km az=80.0*
ISC 23 11:47:44.0±1.3, 52°.80N±0°.09×162°.22W±0°.05, h35km, n38, σ0s92/36, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRIA	**Deer Island**	**2.17**	**359**	P	**Pn**	**11 48 17.1**	**-0.5**
FALS	**False Pass**	**2.18**	**342**	P	**Pn**	**11 48 17.4**	**-0.3**
FALS				S	**Sn**	**11 48 44.1**	**+0.7**
WESE	**West Dahl East**	**2.19**	**321**	P	**Pn**	**11 48 17.8**	**-0.2**
ISNN	**Isanotski Nort**	**2.24**	**336**	P	**Pn**	**11 48 19.0**	**+0.5**
WESN	**West Dahl Nort**	**2.26**	**323**	P	**Pn**	**11 48 18.8**	**-0.1**
SSLW	**Shishaldin Wes**	**2.27**	**331**	P	**Pn**	**11 48 18.9**	**-0.2**
SSLW				S	**Sn**	**11 48 46.9**	**+1.0**
DT1	**Dutton Round H**	**2.31**	**359**	P	**Pn**	**11 48 19.1**	**-0.4**
DT1				S	**Sn**	**11 48 46.7**	**-0.1**
DTNA	**Dutton South F**	**2.35**	**360**	P	**Pn**	**11 48 19.7**	**-0.4**
AKSA	**Akutan Strait**	**2.47**	**304**	P	**Pn**	**11 48 21.1**	**-0.6**
AKSA				S	**Sn**	**11 48 50.5**	**-0.1**
AKUT	**Akutan**	**2.51**	**304**	P	**Pn**	**11 48 21.7**	**-0.4**
HAG	**Hague Volcano**	**2.53**	**4**	P	**Pn**	**11 48 23.1**	**+0.6**
ZRO	**Akutan Zero**	**2.59**	**301**	P	**Pn**	**11 48 23.1**	**-0.3**
HSB	**Akutan Spr's B**	**2.60**	**304**	P	**Pn**	**11 48 23.3**	**-0.3**
AKGG	**Akutan Green G**	**2.65**	**303**	P	**Pn**	**11 48 23.9**	**-0.3**
AKRB	**Akutan Reef Bi**	**2.66**	**302**	P	**Pn**	**11 48 24.1**	**-0.2**
SDPT	**Sand Point**	**2.75**	**21**	P	**Pn**	**11 48 25.4**	**-0.2**
SDPT				S	**Sn**	**11 48 56.4**	**-1.2**
UNV	**Unalaska Valle**	**2.77**	**294**	P	**Pn**	**11 48 24.9**	**-1.0**
MREP	**Makushin Rep't**	**2.90**	**292**	P	**Pn**	**11 48 27.6**	**0.0**
MSW	**Makushin Switc**	**2.95**	**294**	P	**Pn**	**11 48 27.9**	**-0.4**
MCIR	**Makushin Cirqu**	**3.02**	**294**	P	**Pn**	**11 48 29.4**	**0.0**
OKFG	**Magazine Ridge**	**3.48**	**282**	P	**Pn**	**11 48 34.7**	**-0.9**
OKSP	**Okmok Steeple**	**3.69**	**279**	P	**Pn**	**11 48 37.6**	**-0.9**
VNHG	**Veniaminof 1**	**3.87**	**26**	P	**Pn**	**11 48 41.8**	**+0.8**
NIKH	**Nikolski High**	**4.02**	**275**	P	**Pn**	**11 48 42.1**	**-0.9**
CHIR	**Chirikof Islan**	**4.91**	**49**	P	**Pn**	**11 48 54.0**	**-1.3**
PLK4	**Peulik 4**	**5.89**	**32**	P	**Pn**	**11 49 08.2**	**-0.6**
OHAK	**Old Harbor**	**6.78**	**46**	P	**Pn**	**11 49 19.4**	**-1.5**
KVTA	**Katmai Vly 10**	**6.83**	**32**	P	**Pn**	**11 49 21.3**	**-0.2**
ILAR	**Eielson Array**	**14.34**	**27**	Pn	**Pn**	**11 51 01.0**	**-3.2**
	0.1nm,0.3s,baz=214,slow=13,SNR=3.8						
INK	**Inuvik**	**20.67**	**30**	P	Pn	11 52 21.6	-1.2
	0.1nm,0.3s,baz=230,slow=10,SNR=11						
YKA	**Yellowknife Ar**	**26.65**	**50**	P	**P**	**11 53 20.5**	**+1.6**
	0.5nm,0.7s,baz=265,slow=9.2,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.75**	**228**	T	T	12 40 49.1	
	baz=28,slow=75,SNR=9.9						
H11N3	**WAKE ISLAND Hy**	**40.76**	**228**	T	T	12 40 46.5	
	baz=28,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**40.77**	**228**	T	T	12 40 39.2	
	baz=28,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**41.91**	**227**	T	T	12 42 06.6	
	baz=26,slow=77,SNR=11						
H11S2	**WAKE ISLAND Hy**	**41.92**	**227**	T	T	12 42 08.2	
	baz=26,slow=77,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**41.93**	**227**	T	T	12 42 09.9	
	baz=26,slow=77,SNR=10						
TXAR	**Lajitas Array**	**48.41**	**95**	P	**P**	**11 56 24.1**	**+1.5**
	0.7nm,0.6s,baz=305,slow=7.5,SNR=8.6						

*ISCJB **23** 11:55:50.2±1.0, 59°.36N×0°.04×27°.10E±0°.09, h0km, Error ellipse: s-maj=7.5km s-min=4.7km az=43.0*
*HEL **23** 11:55:50.6±0.7, 59°.30N×27°.16E, h0km, ML1.7, Explosion*
*CSEM **23** 11:55:51.7±0.7, 59°.38N×27°.00E, h2km, ML2.7, Error ellipse: s-maj=13.8km s-min=8.4km az=133.0, Mining explosion.*
*IDC **23** 11:55:52.4±1.2, 59°.42N×26°.67E, h0km, mb1 3.5/3, mb1mx3.1/26, mbtmp3.4/3, ML2.7/3, Error ellipse: s-maj=43.5km s-min=10.6km az=82.0*
ISC 23 11:55:50.3±1.2, 59°.33N±0°.05×27°.10E±0°.05, h0km, n22, σ1s26/38, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.23**	**10**	*e*P	**Pg**	**11 56 13.1**	**-0.7**
VJF				MSG	**Sg**	**11 56 30.2**	**+0.4**
	comp=Z,4.7nm,0.2s						
VJF				*e*SB	**Sg**	**11 56 30.2**	**+0.4**
VJF	**Virojoki**	**1.23**	**10**	Pg	**Pg**	**11 56 13.1**	**-0.7**
VJF				Sg	**Sg**	**11 56 30.2**	**+0.4**
PVF	**Pernaja**	**1.37**	**333**	*e*P	**Pg**	**11 56 15.9**	**-0.6**
PVF				*e*S	**Sg**	**11 56 34.0**	**-0.3**
PVF				MSG		11 56 34.3	
	comp=Z,1.9nm,0.1s						
PVF	**Pernaja**	**1.37**	**333**	Pg	**Pg**	**11 56 15.9**	**-0.6**
PVF				Sg	**Sg**	**11 56 33.9**	**-0.3**
SRPE	**Suurupi**	**1.40**	**277**	*e*P	**Pg**	**11 56 16.1**	**-1.0**
SRPE				*e*SN	**Sn**	**11 56 38.5**	**+2.3**
MEF	**Metsahovi**	**1.63**	**304**	*e*P	**Pn**	**11 56 20.6**	**+0.5**
MEF				*e*S	**Sg**	**11 56 43.0**	**+0.4**
MEF				MSG		11 56 43.0	
	comp=Z,4.6nm,0.2s						
MEF	**Metsahovi**	**1.63**	**304**	*e*P	**Pn**	**11 56 19.8**	**-0.4**
	SNR=50						
MEF	**Metsahovi**	**1.63**	**304**	Pg	**Pn**	**11 56 20.7**	**+0.5**
MEF				*e*S	**Sg**	**11 56 42.2**	**-0.5**
	comp=Z,26nm,0.4s,SNR=50						
MEF				Sg	**Sg**	**11 56 43.0**	**+0.4**
MTSE	**Matsula**	**1.81**	**251**	Pn	**Pn**	**11 56 23.0**	**+0.4**
MTSE				*e*S	**Sn**	**11 56 46.2**	**-0.1**
	SNR=50						
FIA0	**FINESS Array S**	**2.18**	**347**	*e*PB	**Pb**	**11 56 29.6**	**-1.0**
FIA0				*e*SG	**Sg**	**11 56 59.6**	**-0.6**
FIA0				MSG		11 56 59.6	
	comp=Z,3.3nm,0.3s						
FIA0	**FINESS Array S**	**2.18**	**347**	Pn	**Pn**	**11 56 27.9**	**+0.2**
FIA0				Sg	**Sb**	**11 56 57.6**	**-0.5**
FINES	**FINESS Array B**	**2.18**	**347**	Pn	**Pn**	**11 56 28.2**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=165,slow=16,SNR=55						
FINES				Sn	**Sb**	**11 56 57.0**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=170,slow=27,SNR=19						
FINES				Lg	Lg	11 57 07.1	
	comp=Z,3.8nm,0.3s,baz=168,slow=26,SNR=9.1						
KEF	**Keuruu**	**3.05**	**340**	*e*P	**Pn**	**11 56 41.3**	**+1.7**
KEF				*e*SG	**Sg**	**11 57 26.7**	**-1.4**
KEF	**Keuruu**	**3.05**	**340**	Pn	**Pn**	**11 56 42.2**	**+2.5**
KEF				Sg	**Sg**	**11 57 26.7**	**-1.4**
RAF	**Rauma**	**3.16**	**305**	*e*P	**Pn**	**11 56 43.1**	**+1.9**
RAF	**Rauma**	**3.16**	**305**	Pn	**Pn**	**11 56 43.1**	**+1.9**
SUF	**Sumiainen**	**3.43**	**353**	*e*P	**Pn**	**11 56 46.1**	**+1.2**
SUF	**Sumiainen**	**3.43**	**353**	Pn	**Pn**	**11 56 46.8**	**+1.9**
JOF	**Joensuu**	**4.14**	**28**	*e*P	**Pn**	**11 56 55.0**	**+0.5**
JOF				*e*SG	**Sb**	**11 57 57.9**	**+3.6**
JOF				MSG		11 57 57.9	
	comp=Z,2.8nm,0.4s						
JOF	**Joensuu**	**4.14**	**28**	Pn	**Pn**	**11 56 55.1**	**+0.5**
AKASG	**Malin Array Be**	**8.73**	**171**	Pn	**Pn**	**11 57 56.8**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=352,slow=13,SNR=6.7						
AKASG				Lg	Lg	12 00 27.1	
	comp=Z,0.5nm,0.3s,baz=348,slow=30,SNR=4.4						
ARCES	**ARCESS Array B**	**10.27**	**357**	Pn	**Pn**	**11 58 16.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=176,slow=14,SNR=4.0						
ARCES				Lg	Lg	12 01 14.7	
	comp=Z,0.3nm,0.3s,baz=160,slow=32,SNR=3.1						

*AUST **23** 11:57:50.8, 21°.22S×174°.98W, h200km*
*IDC **23** 11:58:53.6±2.4, 23°.08S×179°.92W, h511km±25km, mb3.4/6, mb1 3.6/7, mb1mx3.3/19, mbtmp3.4/7, Error ellipse: s-maj=29.5km s-min=20.1km az=163.0*
*ISCJB **23** 11:58:54.5±0.9, 23°.21S±0°.09×179°.9W±0°.1, h532km, mb4.0/6, Error ellipse: s-maj=15.4km s-min=12.0km az=166.0*
ISC 23 11:58:55.2±1.0, 23°.3S±0°.1×179°.8W±0°.1, h532km, n22, σ1s48/25, mb4.2/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.78**	**273**	P	**P**	**12 01 41.8**	**-0.2**
	0.3nm,0.3s,baz=90,slow=20,SNR=3.7						
URZ	**Urewera**	**15.12**	**189**	P	**P**	**12 02 05.6**	**-0.4**
	1.1nm,0.3s,baz=19,slow=4.0,SNR=11						
URZ				S	**S**	**12 04 40.9**	**-2.4**
	0.3nm,0.3s,baz=198,slow=20,SNR=5.1						
LHI	**Lord Howe Isla**	**20.45**	**242**	P	**P**	**12 03 00.9**	**+4.6**
	baz=25,SNR=3.5						
RPZ	**Rata Peaks**	**21.69**	**198**	P	**P**	**12 03 08.8**	**+1.5**
	2.7nm,0.4s,baz=30,slow=3.0,SNR=5.2						

EIDS	**Eidsvold**	**26.60**	**260**	P	**P**	**12 03 51.4**	**+0.2**
	baz=31,SNR=4.0						
RMQ	**Roma**	**28.67**	**257**	P	**P**	**12 04 10.2**	**+0.9**
	baz=34,SNR=5.2						
CMSA	**Cobar Meteorol**	**31.62**	**247**	P	**P**	**12 04 34.6**	**0.0**
	baz=36,SNR=12						
QLP	**Quilpie**	**32.72**	**257**	P	**P**	**12 04 43.7**	**-0.3**
	baz=38,SNR=8.8						
STKA	**Stephens Creek**	**35.12**	**247**	P	**P**	**12 05 04.2**	**-0.1**
	3.0nm,0.4s,baz=102,slow=9.1,SNR=18						
STKA	**Stephens Creek**	**35.12**	**247**	P	**P**	**12 05 04.2**	**0.0**
	baz=40,SNR=17						
COEN	**Coen**	**36.23**	**278**	P	**P**	**12 05 13.2**	**-0.4**
	baz=40,SNR=3.7						
HTT	**Hallett**	**37.49**	**245**	P	**P**	**12 05 23.3**	**-0.5**
	baz=42,SNR=3.6						
ASAR	**Alice Springs**	**42.33**	**260**	P	**P**	**12 06 01.9**	**-0.9**
	5.1nm,0.7s,baz=94,slow=7.0,SNR=121						
ASAR				ScP	**ScP**	**12 10 45.2**	**+1.1**
	0.6nm,0.8s,baz=107,slow=4.3,SNR=4.2						
WRA	**Warramunga Arr**	**42.65**	**265**	P	**P**	**12 06 03.8**	**-1.5**
	4.5nm,0.5s,baz=92,slow=8.5,SNR=263						
WRA				ScP	**ScP**	**12 10 47.0**	**+1.6**
	1.2nm,1.2s,baz=96,slow=3.7,SNR=5.2						
KDU	**Kakadu**	**46.44**	**275**	P	**P**	**12 06 32.9**	**-1.6**
	baz=51,SNR=5.2						
WRKA	**Warakurna**	**47.16**	**257**	P	**P**	**12 06 38.9**	**-1.0**
	baz=52,SNR=26						
MTN	**Manton Dam**	**47.62**	**274**	P	**P**	**12 06 41.8**	**-1.5**
	baz=52,SNR=4.3						
KNRA	**Kununurra**	**48.89**	**269**	P	**P**	**12 06 51.9**	**-0.9**
	baz=53,SNR=7.8						
FITZ	**Fitzroy Crossi**	**51.08**	**265**	P	**P**	**12 07 08.4**	**-0.5**
	baz=56,SNR=8.1						
TXAR	**Lajitas Array**	**89.96**	**58**	P	**P**	**12 10 59.3**	**+1.1**
	0.6nm,0.8s,baz=216,slow=6.2,SNR=6.5						
PDAR	**Pinedale Array**	**92.14**	**44**	P	**P**	**12 11 07.6**	**-0.6**
	0.4nm,0.6s,baz=249,slow=2.5,SNR=3.4						
AKASG	**Malin Array Be**	**144.60**	**328**	PKP	**PKPdf**	**12 17 29.4**	**-1.6**
	0.8nm,0.4s,baz=42,slow=3.9,SNR=10						

*IDC **23** 12:04:52.6±1.9, 16°.32S×177°.03W, h0km, mb4.3/4, mb1 4.4/5, mb1mx3.8/20, mbtmp4.3/5, ML1.7/1, Error ellipse: s-maj=138.9km s-min=31.7km az=157.0*
*ISCJB **23** 12:04:55.2±0.8, 15°.9S±0°.5×177°.1W±0°.2, h33km, mb4.3/4, Error ellipse: s-maj=80.2km s-min=13.9km az=159.0*
ISC 23 12:04:57.5±1.1, 16°.1S±0°.8×177°.0W±0°.3, h35km, n13, σ0s51/11, mb4.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.54**	**67**	Pn	**Pn**	**12 06 17.5**	**0.0**
	1.2nm,0.3s,baz=255,slow=12,SNR=4.2						
CMSA	**Cobar Meteorol**	**37.18**	**239**	P	**P**	**12 12 05.9**	**+0.5**
	baz=25,SNR=7.0						
COEN	**Coen**	**38.45**	**268**	P	P	12 12 20.8	+4.5
	baz=26,SNR=7.4						
STKA	**Stephens Creek**	**40.65**	**240**	P	**P**	**12 12 34.8**	**+0.4**
	3.4nm,0.7s,baz=94,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**40.65**	**240**	P	**P**	**12 12 34.9**	**+0.4**
	baz=28,SNR=9.3						
QIS	**Mount Isa**	**41.31**	**257**	P	P	12 12 34.6	-5.4
	baz=28,SNR=13						
HTT	**Hallett**	**43.19**	**238**	P	**P**	**12 12 55.1**	**-0.2**
	baz=31,SNR=3.4						
WRA	**Warramunga Arr**	**46.27**	**258**	P	**P**	**12 13 19.6**	**-0.4**
	0.8nm,0.6s,baz=97,slow=7.5,SNR=24						
ASAR	**Alice Springs**	**46.56**	**253**	P	**P**	**12 13 21.9**	**-0.3**
	5.6nm,0.3s,baz=88,slow=7.9,SNR=238						
WRKA	**Warakurna**	**51.66**	**251**	P	**P**	**12 14 00.2**	**-1.0**
	baz=39,SNR=14						
KNRA	**Kununurra**	**52.00**	**263**	P	**P**	**12 14 04.2**	**+0.4**
	baz=39,SNR=4.6						
FITZ	**Fitzroy Crossi**	**54.64**	**259**	P	**P**	**12 14 22.8**	**-0.4**
	2.2nm,0.8s,baz=130,slow=7.9,SNR=6.7						
FITZ	**Fitzroy Crossi**	**54.64**	**259**	P	**P**	**12 14 23.2**	**0.0**
	baz=42,SNR=3.3						

IDC 23 12:28:39.5±2.6, 22°.75N×12°.37W, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.2/25, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=88.1km s-min=38.9km az=65.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**16.43**	**123**	Pn	Pn	12 32 32.5	+0.9
	0.1nm,0.3s,baz=313,slow=12,SNR=8.4						
TORD				Sn	Sn	12 35 37.1	+2.4
	0.1nm,0.3s,baz=317,slow=16,SNR=3.8						
DBIC	**Dimbokro**	**17.55**	**154**	P	Pn	12 32 43.8	-1.9
	0.3nm,0.3s,baz=319,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**76.83**	**45**	P	P	12 40 32.6	-0.8
	0.2nm,0.8s,baz=305,slow=5.1,SNR=3.6						
WRA	**Warramunga Arr**	**148.91**	**91**	PKPbc	PKPbc	12 48 29.6	-0.5
	0.2nm,0.7s,baz=278,slow=2.8,SNR=3.1						
ASAR	**Alice Springs**	**149.03**	**98**	PKPbc	PKPbc	12 48 30.9	+0.5
	0.4nm,0.8s,baz=287,slow=1.7,SNR=5.6						

WEL 23 12:43:29.0±0.4, 37°.98S×176°.07E, h174km±3km, ML3.5/9, 2C-4D, Error ellipse: s-maj=3.1km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.87**	**109**	PN	Pn	12 43 54.9	-0.2
URZ				SN	Sn	12 44 15.2	0.0
URZ				AML	AML	12 44 16.4	
HIZ	**Hauiti**	**1.09**	**240**	PN	Pn	12 43 56.7	-0.1
TWVZ	**Taurewa**	**1.20**	**204**	PN	Pn	12 43 58.1	+0.3
MWZ	**Matawai**	**1.21**	**108**	PN	Pn	12 43 57.8	0.0
MWZ				SN	Sn	12 44 20.0	0.0
MWZ				AML	AML	12 44 20.9	
BKZ	**Black Stump Fm**	**1.23**	**164**	⇑PN	Pn	12 43 57.9	-0.2
BKZ				SN	Sn	12 44 20.2	-0.3
BKZ				AML	AML	12 44 22.3	
RAHZ	**Arahi**	**1.23**	**140**	PN	Pn	12 43 58.5	+0.5
NMHZ	**Naumai**	**1.26**	**153**	PN	Pn	12 43 59.3	+1.0
SNGZ	**Shannon Statio**	**1.28**	**129**	⇓PN	Pn	12 43 58.8	+0.3
WPVZ	**Whakapapa**	**1.29**	**198**	PN	Pn	12 43 58.8	+0.2
TUVZ	**Tukino**	**1.33**	**194**	PN	Pn	12 43 59.5	+0.3
FWVZ	**Far West T-bar**	**1.34**	**197**	PN	Pn	12 43 59.5	+0.3
PKVZ	**Pokaka**	**1.43**	**203**	*e*PN	Pn	12 43 59.8	0.0
WHHZ	**Waihua**	**1.43**	**140**	PN	Pn	12 44 00.1	+0.4
MOVZ	**Moawhango**	**1.45**	**190**	PN	Pn	12 43 59.5	-0.5
BHHZ	**Black Hill Sta**	**1.51**	**180**	PN	Pn	12 44 00.1	-0.5
RIGZ	**Rimuhau**	**1.52**	**119**	PN	Pn	12 44 00.8	+0.2
MCHZ	**McNeill Hill**	**1.54**	**162**	PN	Pn	12 44 01.4	+0.5
KNZ	**Kokohu**	**1.64**	**130**	PN	Pn	12 44 01.6	-0.1
PRGZ	**Paritu Road**	**1.71**	**124**	*e*PN	Pn	12 44 02.3	-0.3
PUZ	**Puketiti**	**1.73**	**94**	PN	Pn	12 44 02.1	-0.7
CNGZ	**Carnagh Statio**	**1.76**	**107**	PN	Pn	12 44 03.7	+0.6
MXZ	**Matakaoa Point**	**1.82**	**78**	PN	Pn	12 44 03.2	-0.5
MHGZ	**Mahia Peninsul**	**1.86**	**130**	PN	Pn	12 44 04.1	0.0
KAHZ	**Kahuranaki**	**1.92**	**161**	⇓PN	Pn	12 44 04.7	-0.1
PNHZ	**Pukenui**	**1.94**	**177**	⇓PN	Pn	12 44 04.2	-0.8
WAZ	**Wanganui**	**1.96**	**205**	*e*PN	Pn	12 44 04.9	-0.3
TSZ	**Takapari Road**	**2.08**	**182**	⇑PN	Pn	12 44 05.5	-1.1
WPHZ	**Waipukurau**	**2.10**	**172**	PN	Pn	12 44 06.0	-0.7
PXZ	**Pawanui**	**2.14**	**163**	⇓PN	Pn	12 44 06.4	-0.8
DVHZ	**Dannevirke**	**2.32**	**178**	PN	Pn	12 44 07.8	-1.5
PRHZ	**Porangahau**	**2.33**	**169**	PN	Pn	12 44 08.3	-1.0
ANWZ	**Angora Road**	**2.50**	**173**	PN	Pn	12 44 10.0	-1.3
PRWZ	**Pori Road**	**2.58**	**182**	PN	Pn	12 44 10.7	-1.5
MRZ	**Mangatainoka R**	**2.71**	**188**	PN	Pn	12 44 11.6	-2.2
MRZ				SN	Sn	12 44 44.9	-3.8
OGWZ	**Otaki Gorge**	**2.92**	**193**	*e*PN	Pn	12 44 14.0	-2.3
HOWZ	**Holdsworth Sta**	**2.95**	**188**	PN	Pn	12 44 13.9	-2.8
KIW	**Kapiti Island**	**3.02**	**197**	PN	Pn	12 44 14.7	-2.8
TMWZ	**Te Maipa**	**3.13**	**182**	PN	Pn	12 44 16.6	-2.3
MTW	**Mount Morrison**	**3.21**	**188**	PN	Pn	12 44 16.7	-3.1
CAW	**Cannon Point**	**3.22**	**194**	PN	Pn	12 44 17.2	-2.9
MSWZ	**Moikau Station**	**3.49**	**190**	PN	Pn	12 44 19.9	-3.6
NNZ	**Nelson**	**3.84**	**212**	PN	Pn	12 44 24.6	-3.2
THZ	**Tophouse**	**4.50**	**212**	PN	Pn	12 44 33.9	-2.4
THZ				*e*SN	Sn	12 45 24.7	-4.4
LTZ	**Lake Taylor**	**5.61**	**210**	PN	Pn	12 44 45.4	-5.4
MQZ	**McQueen's Vall**	**6.28**	**203**	PN	Pn	12 44 53.9	-5.7

*ISCJB **23** 13:01:24.7±0.4, 31°.73N±0°.04×140°.32E±0°.07, h113km±4km, mb3.7/14, Error ellipse: s-maj=10.4km s-min=4.9km az=158.7*
*IDC **23** 13:01:24.8±1.9, 31°.69N×139°.99E, h94km±18km, mb3.6/13, mb1 3.7/15, mb1mx3.6/25, mbtmp3.9/15, MS2.5/1, Ms1 2.5/1, ms1mx2.1/26, Error ellipse: s-maj=22.4km s-min=11.8km az=75.0*
*JMA **23** 13:01:27.5±0.3, 31°.85N×140°.31E, h107km±2km, M3.7*
ISC 23 13:01:25.9±0.9, 31°.74N±0°.05×140°.30E±0°.07, h106km±8km, n45, σ1s24/49, mb3.7/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.39**	**342**	P	**Pn**	**13 01 52.0**	**+0.8**
JHCJ				S	**Sn**	**13 02 10.0**	**-0.3**
JHJ2	**Mitsune**	**1.42**	**343**	P	**Pn**	**13 01 52.6**	**+1.0**
JHJ2				S	**Sn**	**13 02 10.8**	**-0.2**
JKO	**Kozu shima**	**2.62**	**338**	P	**Pn**	**13 02 08.3**	**+1.5**
BSO1	**Boso 1**	**2.96**	**11**	P	**Pn**	**13 02 10.7**	**0.0**
BSO1				*e*S	**Sn**	**13 02 46.5**	**+1.2**
TK02	**Tokai 2**	**3.07**	**316**	P	**Pn**	**13 02 13.8**	**+1.4**
TK02				*e*S	**Sn**	**13 02 50.9**	**+2.5**
TTO1	**TONANKAI O.B.S**	**3.50**	**303**	P	**Pn**	**13 02 19.1**	**+0.9**
JOD2	**Odawara 2**	**3.65**	**344**	P	**Pn**	**13 02 21.7**	**+1.2**
JIE	**Ise**	**4.01**	**312**	P	**Pn**	**13 02 25.8**	**+0.5**
JYN	**Shimob**	**4.02**	**339**	P	**Pn**	**13 02 26.8**	**+1.3**
JWZ	**Kozaga**	**4.26**	**296**	P	**Pn**	**13 02 28.9**	**+0.3**
JRY	**Ryogami san**	**4.42**	**345**	P	**Pn**	**13 02 31.5**	**+0.7**
JRY				S	**Sn**	**13 03 20.9**	**-0.3**
JWY	**Kouya**	**4.66**	**303**	P	**Pn**	**13 02 35.1**	**+1.0**
JWY				*e*S	**Sn**	**13 03 26.1**	**-1.1**
JAG	**Ashikaga**	**4.72**	**352**	P	**Pn**	**13 02 34.1**	**-0.8**
JAG				*e*S	**Sn**	**13 03 25.4**	**-3.1**
CBIJ	**Chichi jima**	**4.92**	**160**	P	**Pn**	**13 02 37.6**	**0.0**
CBIJ				*e*S	**Sn**	**13 03 32.7**	**-0.6**
JCJ	**Chichijima**	**4.92**	**160**	P	**Pn**	**13 02 37.8**	**+0.3**
	16nm,0.3s,baz=200,slow=23,SNR=14						
JCJ				S	**Sn**	**13 03 32.5**	**-0.8**
	35nm,0.3s,baz=321,slow=23,SNR=8.8						
JGM	**Miyama**	**4.95**	**324**	P	**Pn**	**13 02 39.5**	**+1.6**
MJAR	**Matsushiro Arr**	**5.09**	**341**	P	**Pn**	**13 02 39.8**	**0.0**
	2.4nm,0.3s,baz=154,slow=9.4,SNR=21						
MAT	**Matsushiro**	**5.09**	**341**	P	**Pn**	**13 02 40.6**	**+0.7**
MAT				*e*S	**Sn**	**13 03 35.5**	**-2.0**
MAT	**Matsushiro**	**5.09**	**341**	P	**Pn**	**13 02 40.5**	**+0.7**
KSRS	**Korea Array**	**11.68**	**303**	P	**Pn**	**13 04 11.4**	**+2.3**
	0.3nm,0.3s,baz=114,slow=14,SNR=17						
KSRS				LR	LR	13 08 32.7	
	comp=Z,21nm,18.8s,baz=155,slow=37						
ASAJ	**Asahikawa**	**12.48**	**8**	P	Pn	13 04 16.2	-3.4
	0.8nm,0.3s,baz=231,slow=13,SNR=9.6						
ASAJ				S	Sn	13 06 26.5	-10
	0.2nm,0.3s,baz=180,slow=20,SNR=2.1						
USRK	**Ussuriysk Arra**	**14.04**	**335**	P	Pn	13 04 34.7	-5.4
	0.2nm,0.3s,baz=136,slow=44,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**26.70**	**110**	T	T	13 35 12.6	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**26.71**	**110**	T	T	13 35 47.3	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**26.72**	**110**	T	T	13 36 00.7	
	baz=306						
H11S3	**WAKE ISLAND Hy**	**27.21**	**113**	T	T	13 35 49.0	
	baz=307,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.21**	**113**	T	T	13 35 46.6	
	baz=307,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	**27.22**	**113**	T	T	13 35 47.8	
	baz=307,slow=74,SNR=12						
SONM	**Songino Array**	**30.31**	**312**	P	**P**	**13 07 24.6**	**-2.6**
	0.5nm,0.4s,baz=96,slow=12,SNR=3.0						
ZALV	**Zalesovo Beam**	**44.95**	**316**	P	**P**	**13 09 29.2**	**-0.9**
	0.5nm,0.4s,baz=97,slow=10,SNR=3.8						
MKAR	**

BBOO	**Buckleboo**	**46.97**	**241**	P	**P**	**13 26 19.7**	**+0.2**
	baz=47,SNR=8.6						
WRA	**Warramunga Arr**	**48.30**	**258**	P	**P**	**13 26 29.0**	**-0.9**
	1.2nm,0.4s,baz=96,slow=7.1,SNR=54						
WRA				PcP	**PcP**	**13 27 53.8**	**-0.4**
	1.0nm,0.7s,baz=87,slow=4.1,SNR=6.2						
ASAR	**Alice Springs**	**48.47**	**253**	P	**P**	**13 26 31.1**	**0.0**
	27nm,0.6s,baz=88,slow=8.5,SNR=388						
ASAR				PcP	**PcP**	**13 27 53.9**	**-0.8**
	1.0nm,0.5s,baz=108,slow=3.8,SNR=5.1						
MTN	**Manton Dam**	**52.39**	**267**	P	**P**	**13 27 01.6**	**+1.0**
	baz=52,SNR=3.6						
WRKA	**Warakurna**	**53.52**	**251**	P	**P**	**13 27 08.7**	**-0.1**
	baz=53,SNR=30						
KNRA	**Kununurra**	**54.13**	**263**	P	**P**	**13 27 13.3**	**0.0**
	baz=54,SNR=3.7						
FITZ	**Fitzroy Crossi**	**56.69**	**259**	P	**P**	**13 27 32.1**	**+0.5**
	baz=57,SNR=5.2						
SOEI	**Soe**	**59.64**	**268**	P	P	13 27 42.9	-9.4
	baz=60,SNR=3.6						
MEEK	**Meekatharra**	**62.09**	**248**	P	**P**	**13 28 08.0**	**-0.6**
	baz=62,SNR=8.6						
KLBR	**Kellerberrin**	**62.43**	**243**	P	**P**	**13 28 10.4**	**-0.2**
	baz=62,SNR=10.0						
PETK	**Petropavlovsk-**	**73.74**	**343**	P	**P**	**13 29 20.7**	**+0.2**
	2.0nm,0.7s,baz=159,slow=7.1,SNR=3.0						
ILAR	**Eielson Array**	**84.21**	**12**	P	**P**	**13 30 16.4**	**-0.7**
	0.2nm,0.5s,baz=222,slow=4.8,SNR=5.7						
KMBO	**Kilima Mbogo**	**143.74**	**243**	PKP	PKPbc	13 37 19.5	-0.1
	1.4nm,0.4s,baz=93,slow=6.0,SNR=5.5						
BRTR	**Keskin Array B**	**146.54**	**318**	PKPbc	**PKPbc**	**13 37 26.6**	**-0.6**
	1.8nm,0.9s,baz=156,slow=3.7,SNR=7.0						
GERES	**GERESS Array B**	**147.47**	**350**	PKPbc	**PKPbc**	**13 37 28.3**	**-1.1**
	0.3nm,0.4s,baz=93,slow=2.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**174.84**	**137**	PKP	**PKPdf**	**13 37 53.6**	**-2.1**
	0.7nm,1.0s,baz=191,slow=2.3,SNR=3.0						

*ISCJB **23** 14:20:45.7±0.3,2°.69N±0°.04×128°.59E±0°.07,h200km, mb3.9/14,Error ellipse: s-maj=9.9km s-min=5.3km az=168.0*
*IDC **23** 14:20:47.1±2.4,2°.63N×128°.45E,h200km±23km, mb3.7/15, mb1 3.8/16,mb1mx3.7/25,mbtmp3.7/16,Error ellipse: s-maj=21.4km s-min=8.8km az=81.0*
*DJA **23** 14:20:48.0±1.5,1°S±5°×12°.8E±1°.0,h264km±15km,M4.4/6, mb4.3/4,mB5.6/1,MLv4.5/6,Mw(mB)5.1/1*
*AUST **23** 14:21:52.3±1.6,2°.31S×129°.96E,h486km,Error ellipse: s-maj=2.4km s-min=1.3km az=40.0*

ISC 23 14:20:47.3±0.5,2°.68N±0°.06×128°.49E±0°.09,h200km,n45, σ0§93/46,mb4.0/14,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.20**	**211**	P	**Pn**	**14 21 29.9**	**+1.9**
TNTI				S	**Sn**	**14 22 01.2**	**+1.5**
LBMI	**Labuha**	**3.44**	**197**	P	**Pn**	**14 21 43.9**	**+1.7**
LBMI				S	**Sn**	**14 22 23.2**	**-2.1**
SWI	**Sorong**	**4.48**	**142**	P	Pn	14 21 51.0	-4.1
SWI				S	Sn	14 22 16.7	-32
KMSI	**Cibinong**	**4.97**	**245**	P	Pn	14 21 53.3	-8.0
GTOI	**Gorontalo**	**5.84**	**250**	P	Pn	14 22 05.9	-6.6
	37nm,0.7s,0.3nm						
MSAI	**Masohi**	**6.00**	**176**	S	Pn	14 22 19.8	+5.2
NLAI	**Namlea**	**6.04**	**193**	S	**Pn**	**14 22 16.8**	**+1.7**
LUWI	**Luwuk**	**6.80**	**237**	P	**Sn**	**14 23 40.5**	**-2.1**
	baz=7.3,SNR=6.2						
MRSI	**Marisa**	**6.90**	**252**	P	Pn	14 22 16.9	-9.4
	16nm,0.9s,0.1nm						
JAY	**Jayapura**	**13.26**	**113**	P	**Pn**	**14 23 47.9**	**-0.3**
	0.4nm,0.3s,baz=94,slow=19,SNR=2.2						
MTN	**Manton Dam**	**15.64**	**170**	P	**P**	**14 24 16.5**	**-0.9**
	baz=11,SNR=21						
KDU	**Kakadu**	**15.77**	**166**	P	**P**	**14 24 18.6**	**-0.2**
	baz=11,SNR=10						
KNRA	**Kununurra**	**18.24**	**179**	P	**P**	**14 24 46.3**	**+0.5**
	baz=13,SNR=28						
FITZ	**Fitzroy Crossi**	**20.84**	**188**	P	**P**	**14 25 12.5**	**-1.3**
	1.4nm,0.5s,baz=17,slow=11,SNR=8.5						
FITZ	**Fitzroy Crossi**	**20.84**	**188**	P	**P**	**14 25 13.7**	**0.0**
	baz=16,SNR=5.7						
WRA	**Warramunga Arr**	**23.20**	**166**	P	**P**	**14 25 35.8**	**-0.8**
	7.1nm,0.6s,baz=344,slow=10.0,SNR=97						
QIS	**Mount Isa**	**25.54**	**155**	P	**P**	**14 25 58.2**	**+0.4**
	baz=20,SNR=4.6						
ASAR	**Alice Springs**	**26.71**	**169**	P	**P**	**14 26 08.0**	**-0.4**
	2.7nm,0.5s,baz=353,slow=7.6,SNR=143						
ASAR				pP	**pP**	**14 26 48.3**	**-0.4**
	1.3nm,0.7s,baz=339,slow=9.9,SNR=2.4						
ASAR				PcP	**PcP**	**14 29 26.3**	**-0.3**
	0.7nm,0.5s,baz=343,slow=2.1,SNR=9.4						
ASAR				ScP	**ScP**	**14 32 46.2**	**-1.6**
	0.3nm,0.7s,baz=360,slow=4.9,SNR=4.5						
WRKA	**Warakurna**	**27.55**	**180**	P	**P**	**14 26 15.6**	**-0.2**
	baz=23,SNR=3.3						
CMAR	**Chiang Mai Arr**	**32.91**	**301**	P	**P**	**14 27 02.9**	**-0.1**
	0.7nm,0.6s,baz=122,slow=7.8,SNR=7.0						
KSRS	**Korea Array**	**34.61**	**359**	P	**P**	**14 27 17.8**	**+0.4**
	1.9nm,0.5s,baz=176,slow=9.7,SNR=15						
MJAR	**Matsushiro Arr**	**34.87**	**14**	P	**P**	**14 27 18.7**	**-0.9**
	1.7nm,0.4s,baz=194,slow=8.6,SNR=12						
BBOO	**Buckleboo**	**36.02**	**169**	P	**P**	**14 27 29.3**	**-0.1**
	baz=31,SNR=26						
STKA	**Stephens Creek**	**36.55**	**161**	P	**P**	**14 27 33.5**	**-0.5**
	5.3nm,0.4s,baz=340,slow=8.3,SNR=53						
STKA	**Stephens Creek**	**36.55**	**161**	P	**P**	**14 27 33.8**	**-0.2**
	baz=32,SNR=39						
ARMA	**Armidale**	**39.64**	**148**	P	**P**	**14 28 00.3**	**+0.3**
	baz=35,SNR=4.3						
ARPS	**Mount Arapiles**	**41.17**	**164**	P	**P**	**14 28 12.8**	**+0.6**
	baz=36,SNR=6.3						
USRK	**Ussuriysk Arra**	**41.46**	**4**	P	**P**	**14 28 14.7**	**+0.2**
	2.4nm,0.8s,baz=104,slow=7.2,SNR=5.0						
ASAJ	**Asahikawa**	**43.12**	**15**	P	**P**	**14 28 28.5**	**+0.7**
	4.2nm,0.5s,baz=239,slow=5.9,SNR=8.9						
TAPN	**Taplejung**	**46.05**	**306**	*eP*	**P**	**14 28 51.6**	**-0.1**
ODAN	**Odare**	**46.10**	**305**	*eP*	**P**	**14 28 52.9**	**+0.8**
	7.0nm,0.7s						
RAMN	**Ramite**	**46.79**	**305**	*eP*	**P**	**14 28 58.4**	**+1.0**
	8.3nm,0.5s						
JIRN	**Jiri**	**47.41**	**306**	*eP*	**P**	**14 29 03.1**	**+0.8**
	7.0nm,0.4s						
GUN	**Gumba**	**47.76**	**306**	*eP*	**P**	**14 29 05.5**	**+0.5**
	7.7nm,0.4s						
PKI	**Pulchoki**	**48.01**	**305**	*eP*	**P**	**14 29 07.1**	**+0.2**
KOLN	**Koldanda**	**49.56**	**305**	*eP*	**P**	**14 29 19.4**	**+0.8**
	4.1nm,0.3s						
DANN	**Dangsing**	**49.65**	**306**	*eP*	**P**	**14 29 20.1**	**+0.8**
	10nm,0.5s						
PYUN	**Piuthan**	**50.19**	**305**	*eP*	**P**	**14 29 24.0**	**+0.8**
PETK	**Petropavlovsk-**	**55.76**	**21**	P	**P**	**14 30 03.8**	**+0.6**
	2.4nm,0.8s,baz=202,slow=8.2,SNR=6.5						
MKAR	**Makanchi Array**	**59.42**	**325**	P	**P**	**14 30 29.1**	**+0.2**
	1.3nm,0.5s,baz=118,slow=8.2,SNR=30						
MKAR				pP	**pP**	**14 31 15.1**	**+0.4**
	0.4nm,0.5s,baz=116,slow=7.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**62.32**	**333**	P	**P**	**14 30 47.5**	**-0.7**
	0.4nm,0.4s,baz=138,slow=7.1,SNR=4.0						
BVAR	**Borovoye Array**	**69.15**	**327**	P	**P**	**14 31 31.9**	**-0.1**
	0.7nm,0.5s,baz=109,slow=6.0,SNR=6.2						
VNDA	**Vanda**	**82.17**	**173**	P	**P**	**14 32 45.3**	**0.0**
	1.6nm,0.9s,baz=326,slow=5.0,SNR=7.6						
ARCES	**ARCESS Array B**	**92.03**	**340**	P	**P**	**14 33 32.0**	**-1.2**
	5.7nm,1.0s,baz=77,slow=5.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**124.91**	**288**	PKP	**PKPdf**	**14 39 23.9**	**-0.7**
	0.2nm,0.3s,baz=46,slow=1.0,SNR=2.9						

*CSEM **23** 14:24:42.4,37°.79N×14°.95E,h25km, After ROM*

ROM 23 14:24:42.4±0.1,37°.79N×14°.95E,h25km±2km,MI3.6/24, 4C-10D,Error ellipse: s-maj=1.7km s-min=1.3km az=109.0,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.10**	**167**	*i*Pg	Pb	14 24 47.2	-0.2
ESLN				Sg	Sb	14 24 50.8	+0.1
	7µm,0.5s						
ESLN	**Serra La Nave**	**0.10**	**167**	*i*Pg	Pb	14 24 47.2	-0.2
ESLN				Sg	Sb	14 24 50.8	+0.1
	7µm,0.5s						
ECNV	**Catenanuova**	**0.27**	**223**	Pg	Pb	14 24 49.8	+0.8
ECNV				Sg	Sb	14 24 54.2	+0.6
	10µm,0.7s						
ECNV	**Catenanuova**	**0.27**	**223**	Pg	Pb	14 24 49.8	+0.8
ECNV				Sg	Sb	14 24 54.2	+0.6
	10µm,0.7s						
MMME	**Mongiuffi-Meli**	**0.28**	**60**	*i*Pg	Pb	14 24 49.4	+0.1
MMME				Sg	Sb	14 24 55.2	+1.2
	4µm,0.4s						
MMME	**Mongiuffi-Meli**	**0.28**	**60**	*i*Pg	Pb	14 24 49.4	+0.1
MMME				Sg	Sb	14 24 55.2	+1.2
	4µm,0.4s						
GALF	**Gagliano Caste**	**0.31**	**255**	Pg	Pb	14 24 49.6	-0.1
GALF				Sg	Sn	14 24 56.0	-1.3
	10µm,0.5s						
GALF	**Gagliano Caste**	**0.31**	**255**	Pg	Pb	14 24 49.6	-0.1
GALF				Sg	Sn	14 24 56.0	-1.3
	10µm,0.5s						
HCRL	**Carlentini**	**0.51**	**172**	*i*Pg	Pb	14 24 52.6	-0.2
HCRL				Sg	Sb	14 25 00.8	+0.9
	7µm,0.6s						
HCRL	**Carlentini**	**0.51**	**172**	*i*Pg	Pb	14 24 52.6	-0.2
HCRL				Sg	Sb	14 25 00.8	+0.9
	7µm,0.6s						
AGST	**Augusta-Monte**	**0.58**	**157**	*i*Pg	Pb	14 24 53.7	-0.2
AGST				Sg	Sn	14 25 02.8	-0.9
	3µm,0.5s						
AGST	**Augusta-Monte**	**0.58**	**157**	*i*Pg	Pb	14 24 53.7	-0.2
AGST				Sg	Sn	14 25 02.8	-0.9
	3µm,0.5s						
VPL	**Vulcano Piano**	**0.59**	**3**	*i*Pg	Pb	14 24 53.9	-0.3
VPL				Sg	Sn	14 25 03.2	-0.8
	6µm,0.4s						
VPL	**Vulcano Piano**	**0.59**	**3**	*i*Pg	Pb	14 24 53.9	-0.3
VPL				Sg	Sn	14 25 03.2	-0.8
	6µm,0.4s						
MTTG	**Motta San Giov**	**0.63**	**70**	Pg	Pb	14 24 55.1	+0.3
	955nm,0.5s						
MTTG	**Motta San Giov**	**0.63**	**70**	Pg	Pb	14 24 55.1	+0.3
	955nm,0.5s						
HVZN	**Vizzini**	**0.64**	**197**	Pg	Pb	14 24 54.5	-0.6
HVZN				Sg	Sb	14 25 04.5	+0.8
	6µm,0.4s						
HVZN	**Vizzini**	**0.64**	**197**	Pg	Pb	14 24 54.5	-0.6
HVZN				Sg	Sb	14 25 04.5	+0.8
	6µm,0.4s						
SSY	**Sortino**	**0.65**	**171**	*i*Pg	Pb	14 24 54.7	-0.4
SSY				Sg	Sb	14 25 04.6	+0.8
	7µm,0.3s						
SSY	**Sortino**	**0.65**	**171**	*i*Pg	Pb	14 24 54.7	-0.4
SSY				Sg	Sb	14 25 04.6	+0.8
	7µm,0.3s						
MSRU	**Castanea**	**0.65**	**43**	Pg	Pb	14 24 55.1	0.0
	1µm,0.5s						
MSRU	**Castanea**	**0.65**	**43**	Pg	Pb	14 24 55.1	0.0
	1µm,0.5s						
LLI	**Lipari**	**0.65**	**0**	Pg	Pb	14 24 55.0	-0.2
	6µm,0.6s						
LLI	**Lipari**	**0.65**	**0**	Pg	Pb	14 24 55.0	-0.2
	6µm,0.6s						
CSLB	**Castelbuono**	**0.72**	**282**	Pg	Pb	14 24 55.5	-0.9
	300nm,0.4s						
CSLB	**Castelbuono**	**0.72**	**282**	Pg	Pb	14 24 55.5	-0.9
	300nm,0.4s						
RESU	**Resuttano**	**0.72**	**259**	*i*Pg	Pn	14 24 57.5	+0.4
	1µm,0.5s						
RESU	**Resuttano**	**0.72**	**259**	*i*Pg	Pn	14 24 57.5	+0.4
	1µm,0.5s						
RAFF	**Raffo Rosso**	**0.73**	**219**	Pg	Pb	14 24 56.4	-0.2
	1µm,0.4s						
RAFF	**Raffo Rosso**	**0.73**	**219**	Pg	Pb	14 24 56.4	-0.2
	1µm,0.4s						
GIB	**Gibilmanna**	**0.75**	**285**	Pg	Pb	14 24 56.4	-0.6
	4µm,0.8s						
GIB	**Gibilmanna**	**0.75**	**285**	Pg	Pb	14 24 56.4	-0.6
	4µm,0.8s						
HAVL	**Avola**	**0.84**	**170**	Pg	Pb	14 24 57.8	-0.6
HAVL				Sg	Sn	14 25 10.1	-0.2
	2µm,0.3s						
HAVL	**Avola**	**0.84**	**170**	Pg	Pb	14 24 57.8	-0.6
HAVL				Sg	Sn	14 25 10.1	-0.2
	2µm,0.3s						
MPAZ	**Palizzi**	**0.85**	**79**	Pg	Pn	14 24 59.1	+0.2
	2µm,1.1s						
MPAZ	**Palizzi**	**0.85**	**79**	Pg	Pn	14 24 59.1	+0.2
	2µm,1.1s						
IACL	**Alicudi**	**0.87**	**328**	Pg	Pb	14 24 58.0	-0.9
	2µm,0.6s						
IACL	**Alicudi**	**0.87**	**328**	Pg	Pb	14 24 58.0	-0.9
	2µm,0.6s						
CEL	**Celeste**	**0.88**	**58**	Pg	Pn	14 24 59.3	0.0
	406nm,0.6s						
CEL	**Celeste**	**0.88**	**58**	Pg	Pn	14 24 59.3	0.0
	406nm,0.6s						
SOI	**Samo**	**0.92**	**72**	Pg	Pn	14 25 00.1	+0.3
	537nm,0.6s						
SOI	**Samo**	**0.92**	**72**	Pg	Pn	14 25 00.1	+0.3
	537nm,0.6s						
ALJA	**Alia**	**0.95**	**268**	Pg	Pb	14 25 01.1	+0.9
	1µm,0.6s						
ALJA	**Alia**	**0.95**	**268**	Pg	Pb	14 25 01.1	+0.9
	1µm,0.6s						
STR4	**STROMBOLI 4**	**1.00**	**12**	Pg	Pn	14 25 00.8	-0.1
STR4	**STROMBOLI 4**	**1.00**	**12**	Pg	Pn	14 25 00.8	-0.1
FAVR	**Favara**	**1.14**	**243**	Pg	Pb	14 25 04.6	+1.1
	171nm,0.5s						
FAVR	**Favara**	**1.14**	**243**	Pg	Pb	14 25 04.6	+1.1
	171nm,0.5s						
CORL	**Corleone**	**1.30**	**275**	Pg	Pb	14 25 05.9	-0.4
	966nm,0.6s						
CORL	**Corleone**	**1.30**	**275**	Pg	Pb	14 25 05.9	-0.4
	966nm,0.6s						
PLAC	**Placanica**	**1.35**	**60**	Pg	Pb	14 25 07.2	+0.1
	335nm,0.6s						
PLAC	**Placanica**	**1.35**	**60**	Pg	Pb	14 25 07.2	+0.1
	335nm,0.6s						
CRJA	**Costa Raja**	**1.54**	**271**	Pg	Pb	14 25 10.3	0.0
	573nm,0.5s						
CRJA	**Costa Raja**	**1.54**	**271**	Pg	Pb	14 25 10.3	0.0
	573nm,0.5s						
USI	**Ustica**	**1.67**	**304**	Pg	Pn	14 25 09.1	-0.9
	613nm,0.8s						
USI	**Ustica**	**1.67**	**304**	Pg	Pn	14 25 09.1	-0.9
	613nm,0.8s						

DDA 23 14:30:13.0,36°.65N×36°.34E,h6km,MD2.8,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**1.20**	**54**	*i*P	Pb	14 30 36.5	0.0
GZT				*i*S	Sb	14 30 52.6	+0.1

KRSC 23 14:33:11.4±4.6,51°.51N×159°.84E,h5km±5km,ML3.5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.24**	**319**	P	Pb	14 33 35.2	0.0
RUS				S	Sn	14 33 52.3	-0.1
MTVR	**Mutnovka**	**1.41**	**314**	P	Pn	14 33 38.2	+0.2
MTVR				S	Sg	14 33 57.4	+0.2
ASAK	**Asacha**	**1.48**	**307**	P	Pb	14 33 39.7	+0.1
ASAK				S	Sg	14 34 00.2	+0.8
GRL	**Gorelyy**	**1.51**	**314**	P	Pg	14 33 40.8	+0.3
GRL				S	Sg	14 34 01.8	+1.6
PET	**Petropavlovsk**	**1.68**	**335**	P	Pn	14 33 41.5	+0.1
PET				S	Sn	14 34 03.7	+0.3
UGLR	**Uglovaya**	**1.81**	**340**	P	Pn	14 33 44.2	+0.8
SDLR	**Sedlovina**	**1.86**	**342**	P	Pn	14 33 44.1	-0.1
SMAR	**Somma**	**1.87**	**340**	P	Pb	14 33 46.0	-0.3
AVH	**Avacha**	**1.88**	**339**	P	Pb	14 33 45.5	-0.9
PAU	**Pauzhetka**	**1.89**	**270**	P	Pb	14 33 46.2	-0.2
KRER	**Koryakskii**	**1.92**	**340**	P	Pn	14 33 45.9	+0.9
KOK	**Kotyaka**	**1.93**	**338**	P	Pb	14 33 46.4	-0.8
KRX	**Arik**	**1.99**	**339**	P	Pn	14 33 46.5	+0.6
MIPR	**Malaya Ipel'ka**	**2.06**	**293**	P	Pn	14 33 46.8	+0.1
APC	**Apacha**	**2.17**	**312**	P	Pb	14 33 49.8	-1.4
APC				S	Sb	14 34 18.0	-0.4
GNL	**Ganaly**	**2.48**	**333**	P	Pn	14 33 53.5	+1.0
SKR	**Severo-Kuril's**	**2.49**	**252**	S	Sn	14 34 21.7	-1.5
TUMR	**Tumrok**	**3.79**	**3**	P	Pn	14 34 11.7	+1.2

DJA 23 14:51:58.9±1.2,1°S±12°×13°4E±°,h15km±10km,M3.5/4, MLv3.5/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWPI	**Manokwari, Pap**	**0.64**	**123**	P	Pg	14 52 10.8	-0.7
MWPI				S	Sb	14 52 21.2	+0.6
SWI	**Sorong**	**2.26**	**263**	P	Pn	14 52 35.9	+0.2
FAKI	**Fak Fak**	**2.64**	**208**	P	Pn	14 52 40.6	-0.4
BAKI	**Biak**	**2.68**	**103**	P	Pn	14 52 41.3	-0.2

*ISCJB **23** 15:00:37.3±0.5,33°.53N±0°.07×47°.26E±0°.06,h14km, mb3.6/12,MS2.8/1,Error ellipse: s-maj=10.0km s-min=6.0km az=155.8*
*CSEM **23** 15:00:37.4±0.4,33°.41N×46°.97E,h10km,ML3.5,Error ellipse: s-maj=13.1km s-min=9.7km az=159.0*
*ISN **23** 15:00:37.8±0.3,33°.02N×47°.16E,h0km,ML3.4*
*IDC **23** 15:00:37.6±1.3,33°.64N×47°.34E,h0km,mb3.6/12, mb1 3.8/12,mb1mx3.7/26,mbtmp3.6/12,MS2.9/3, Ms1 2.9/3,ms1mx2.3/39,Error ellipse: s-maj=30.1km s-min=20.2km az=179.0*
*THR **23** 15:00:41.1±0.8,33°.58N×47°.35E,h14km±6km,ML3.5*

ISC 23 15:00:38.8±0.6,33°.57N±0°.05×47°.30E±0°.05,h14km,n26, σ1§22/24,mb3.6/12,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**1.24**	**249**	*e*Pg	**Pn**	**15 01 00.8**	**-0.9**
	baz=95						
IBDR				*e*Sg	**Sb**	**15 01 17.0**	**-0.8**
SNGE	**Sanandaj**	**1.52**	**1**	*e*Pg	**Pg**	**15 01 09.0**	**+1.0**
SNGE				AML	AML	15 01 33.7	
	comp=N,1µm,0.4s						
SNGE	**Sanandaj**	**1.52**	**1**	*e*Pg	**Pg**	**15 01 09.0**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.93**	**139**	*e*Pg	**Pg**	**15 01 15.7**	**-0.2**
SHGR				AML	AML	15 01 50.7	
	comp=E,412nm,0.5s						
SHGR				AML	AML	15 01 53.1	
	comp=N,484nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.93**	**139**	*e*Pg	**Pg**	**15 01 15.7**	**-0.2**
ASAO	**Ashtian**	**2.46**	**66**	*e*Pn	**Pb**	**15 01 22.8**	**-0.2**
ASAO				*e*Sg	**Sg**	**15 01 57.2**	**-0.8**
ASAO				AML	AML	15 02 08.8	
	comp=E,183nm,0.4s						
ASAO				AML	AML	15 02 09.3	
	comp=N,218nm,0.5s						
ASAO	**Ashtian**	**2.46**	**66**	*e*Pn	**Pb**	**15 01 22.8**	**-0.2**
ASAO				*e*Sg	**Sg**	**15 01 57.2**	**-0.8**
ZNJK	**Zanjan**	**3.29**	**20**	*e*Pn	**Pb**	**15 01 34.2**	**-3.0**
ZNJK	**Zanjan**	**3.29**	**20**	*e*Pn	**Pb**	**15 01 34.2**	**-3.0**
GHVR	**GHOM**	**3.44**	**74**	*e*Pn	Pb	15 01 35.6	-3.9
GHVR				AML	AML	15 02 36.0	
	comp=N,81nm,0.6s						
GHVR				AML	AML	15 02 37.3	
	comp=E,95nm,0.7s						
GHVR	**GHOM**	**3.44**	**74**	*e*Pn	Pb	15 01 35.6	-3.9
EIL	**Elat**	**11.22**	**253**	LR	LR	15 08 37.6	
	comp=E,40nm,18.9s,baz=84,slow=43						
AKTO	**Aktyubinsk**	**18.60**	**22**	LR	LR	15 14 26.6	
	comp=E,34nm,18.3s,baz=13,slow=45						
AKASG	**Malin Array Be**	**21.64**	**328**	P	**P**	**15 05 27.6**	**-1.0**
	comp=E,0.4nm,0.5s,baz=139,slow=11,SNR=3.0						
AAK	**Ala-Archa**	**23.15**	**59**	LR	LR	15 15 08.5	
	comp=E,30nm,18.4s,baz=27,slow=38						
BVAR	**Borovoye Array**	**25.50**	**33**	P	**P**	**15 06 07.5**	**+0.9**
	comp=E,0.9nm,0.6s,baz=232,slow=7.1,SNR=9.1						
KURBB	**Kurchatov Arra**	**28.47**	**44**	P	**P**	**15 06 33.7**	**+0.4**
	comp=E,0.5nm,0.6s,baz=249,slow=9.3,SNR=6.5						
MKAR	**Makanchi Array**	**29.55**	**53**	P	**P**	**15 06 43.9**	**+0.9**
	comp=E,0.2nm,0.6s,baz=249,slow=7.7,SNR=2.6						
FINES	**FINESS Array B**	**31.06**	**340**	P	**P**	**15 06 56.5**	**+0.4**
	comp=E,4.7nm,1.0s,baz=150,slow=8.8,SNR=5.9						
ZALV	**Zalesovo Beam**	**33.34**	**41**	P	**P**	**15 07 17.3**	**+1.1**
	comp=E,0.4nm,0.3s,baz=261,slow=9.6,SNR=2.9						
ARCES	**ARCESS Array B**	**38.01**	**348**	P	**P**	**15 07 56.9**	**+0.8**
	comp=E,3.5nm,0.9s,baz=144,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**46.10**	**255**	P	**P**	**15 09 04.9**	**+2.0**
	comp=E,0.5nm,0.8s,baz=51,slow=6.7,SNR=3.3						
CMAR	**Chiang Mai Arr**	**48.32**	**95**	P	**P**	**15 09 20.0**	**-0.1**
	comp=E,0.8nm,0.6s,baz=291,slow=8.2,SNR=9.3						
KSRS	**Korea Array**	**63.79**	**61**	P	**P**	**15 11 10.5**	**-0.1**
	comp=E,0.8nm,0.7s,baz=290,slow=7.5,SNR=4.1						
ILAR	**Eielson Array**	**81.35**	**6**	P	**P**	**15 12 54.7**	**+0.1**
	comp=E,0.2nm,0.7s,baz=327,slow=5.3,SNR=3.7						
YKA	**Yellowknife Ar**	**83.16**	**352**	P	**P**	**15 13 04.3**	**+0.2**
	comp=E,0.1nm,0.5s,baz=12,slow=6.0,SNR=3.5						

*NIED **23** 15:20:00,22°.30N×120°.70E,h62km,Mw4.2 Best double couple: M0 1.92000×10^15 NP1:φs60.00000°,δ70.00000°, λ54.00000°. NP2:φs305.00000°,δ40.00000°,λ149.00000°.*
*JMA **23** 15:20:10.7±0.1,22°.27N×120°.66E,h44km±2km,M3.8*
*IDC **23** 15:20:12.0±1.3,22°.39N×121°.55E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/24,mbtmp3.6/6,MS3.3/3,Ms1 3.3/3, ms1mx2.8/28,Error ellipse: s-maj=56.5km s-min=19.1km az=60.0*
*ISCJB **23** 15:20:14.5±0.4,22°.31N±0°.02×121°.15E±0°.02,h11km±3km, mb3.4/6,MS3.2/2,Error ellipse: s-maj=3.6km s-min=3.2km az=15.4*
*TAP **23** 15:20:15.5,22°.38N×121°.02E,h11km,ML4.0,B*

ISC 23 15:20:15.3±0.9,22°.38N±0°.02×121°.05E±0°.02,h13km±6km, n79,σ1§21/120,mb3.6/6,12C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAW	**Tawu**	**0.15**	**263**	*i*P	**Pb**	**15 20 18.9**	**-1.0**
	baz=259						
TAW				*i*S	**Sg**	**15 20 21.1**	**-0.3**
	baz=259						
EAST	**Anshuo**	**0.19**	**272**	*i*P	**Pb**	**15 20

STYT				*i* S		**Sb**	**15 20 43.5**	**+0.8**
	baz=350								
CHN1	**Nanshi**	**0.94**	**329**	*e*P		**Pn**	**15 20 34.4**	**+0.1**
	baz=333								
CHN1				*e*S		**Sn**	**15 20 48.6**	**+1.0**
	baz=333								
CHN3	**Shinhua**	**0.94**	**318**	*e*P		**Pn**	**15 20 35.2**	**+0.9**
	baz=322								
CHN3				*e*S		**Sn**	**15 20 51.2**	**+3.6**
	baz=322								
WTP	**Ta-pu**	**0.96**	**335**	⇑P		**Pn**	**15 20 34.6**	**+0.1**
	baz=341								
WTP				*e*S		**Sn**	**15 20 48.8**	**+0.8**
	baz=341								
TWF1	**Yuli**	**1.00**	**13**	*e*P		**Pg**	**15 20 32.2**	**-2.3**
	baz=17								
TWF1				*e*S		**Sn**	**15 20 49.1**	**+0.1**
	baz=17								
TAI1	**Yung-k'ang**	**1.01**	**311**	*e*P		**Pn**	**15 20 35.1**	**-0.1**
	baz=314								
TWK	**Hsinying**	**1.03**	**330**	⇓P		**Pn**	**15 20 36.2**	**+0.7**
	baz=333								
TWK				*e*S		**Sn**	**15 20 51.1**	**+1.3**
	baz=333								
CHN4	**Tsaushan**	**1.06**	**337**	⇓P		**Pn**	**15 20 36.7**	**+0.8**
	baz=340								
CHN4				*e*S		**Sn**	**15 20 53.0**	**+2.4**
	baz=340								
YUS	**Yu-Shan**	**1.11**	**355**	*e*P		**Pb**	**15 20 36.1**	**-0.6**
	baz=10.0								
YUS				*e*S		**Sn**	**15 20 55.0**	**+2.4**
	baz=10.0								
SCLT	**Jiali**	**1.12**	**315**	*e*P		**Pn**	**15 20 37.2**	**+0.5**
	baz=319								
SCLT				*e*S		**Sn**	**15 20 54.0**	**+1.9**
	baz=319								
ALS	**Alishan**	**1.15**	**349**	⇓*e*P		**Pb**	**15 20 37.2**	**-0.1**
	baz=2.0								
EHY	**Hungye**	**1.15**	**12**	*e*P		**Pb**	**15 20 36.7**	**-0.4**
	baz=30								
CHN8	**Yiju**	**1.24**	**321**	*e*P		**Pg**	**15 20 38.9**	**-0.3**
	baz=327								
CHN8				*e*S		**Sn**	**15 20 55.2**	**+0.3**
	baz=327								
CHY	**Chiayi**	**1.26**	**333**	*e*P		**Pg**	**15 20 39.2**	**-0.3**
	baz=338								
CHY				*e*S		**Sn**	**15 20 58.5**	**+3.0**
	baz=338								
CHN5	**Tsauling**	**1.26**	**344**	P		**Pg**	**15 20 39.6**	**0.0**
	baz=1.0								
CHN5				*e*S		**Sg**	**15 20 59.3**	**+3.2**
	baz=1.0								
WGK	**Gukeng**	**1.38**	**341**	*e*P		**Pg**	**15 20 41.1**	**-0.7**
	baz=348								
WGK				*e*S		**Sg**	**15 21 00.9**	**+1.1**
	baz=348								
WSF	**Szhu**	**1.47**	**329**	*e*P		**Pb**	**15 20 42.0**	**-0.6**
	baz=335								
WSF				*e*S		**Sg**	**15 21 01.9**	**-0.8**
	baz=335								
ESL	**Shilin**	**1.48**	**14**	*e*P		**Pn**	**15 20 41.9**	**+0.3**
	baz=30								
SMLT	**Sun Moon Lake**	**1.51**	**355**	*e*P		**Pb**	**15 20 43.5**	**+0.2**
	baz=16								
SMLT				*e*S		**Sg**	**15 21 05.0**	**+1.1**
	baz=16								
TYC	**Yuchr**	**1.53**	**353**	*e*P		**Pg**	**15 20 44.3**	**-0.4**
	baz=15								
TYC				*e*S		**Sg**	**15 21 05.8**	**+1.2**
	baz=15								
WNT	**Mingjian**	**1.53**	**347**	*e*P		**Pb**	**15 20 43.6**	**0.0**
	baz=354								
WNT				*e*S		**Sg**	**15 21 05.5**	**+0.8**
	baz=354								
WDGT	**Dungji**	**1.56**	**305**	*e*P		**Pb**	**15 20 42.9**	**-1.1**
	baz=308								
WDGT				*e*S		**Sg**	**15 21 03.8**	**-1.7**
	baz=308								
WTCT	**Ta-ch'eng**	**1.64**	**335**	*e*P		**Pn**	**15 20 43.6**	**-0.3**
	baz=341								
WTCT				*e*S		**Sg**	**15 21 07.0**	**-1.2**
	baz=341								
TWD	**Chiawan**	**1.77**	**16**	*e*P		**Pn**	**15 20 45.6**	**0.0**
	baz=21								
TWD				*e*S		**Sb**	**15 21 09.3**	**-0.4**
	baz=21								
WHF	**Hehuan Shan**	**1.77**	**6**	*e*P		**Pb**	**15 20 47.2**	**-0.7**
	baz=23								
WHF				*e*S		**Sb**	**15 21 11.5**	**+1.3**
	baz=23								
TCU	**Taichung**	**1.80**	**349**	*e*P		**Pb**	**15 20 47.3**	**-0.8**
	baz=356								
TCU				*e*S		**Sb**	**15 21 09.8**	**-0.8**
	baz=356								
TWT	**Tachien**	**1.87**	**3**	*e*P		**Pn**	**15 20 47.5**	**+0.3**
	baz=15								
TWT				*e*S		**Sb**	**15 21 14.4**	**+1.4**
	baz=15								
TWQ1	**Liyutan**	**1.98**	**353**	*e*P		**Pb**	**15 20 49.8**	**-1.4**
	baz=14								
TWQ1				*e*S		**Sg**	**15 21 17.4**	**-1.6**
	baz=14								
NSY	**Sanyi**	**2.05**	**353**	*e*P		**Pn**	**15 20 50.2**	**+0.7**
	baz=13								
NSY				*e*S		**Sb**	**15 21 17.7**	**-0.1**
	baz=13								
NNS	**Nan Shan**	**2.08**	**8**	*e*P		**Pb**	**15 20 52.2**	**-0.7**
	baz=26								
NNS				*e*S		**Sb**	**15 21 18.4**	**-0.3**
	baz=26								
ENA	**Nanau**	**2.14**	**17**	*e*P		**Pn**	**15 20 51.4**	**+0.6**
	baz=22								
ENA				*e*S		**Sb**	**15 21 19.1**	**-1.3**
	baz=22								
NSTT	**Nanjuang**	**2.25**	**359**	*e*P		**Pn**	**15 20 53.6**	**+1.4**
	baz=6.0								
NSTT				*e*S		**Sb**	**15 21 23.1**	**-0.4**
	baz=6.0								
ENTT	**Nioudou**	**2.30**	**12**	*e*P		**Pn**	**15 20 54.1**	**+1.1**
	baz=29								
ENTT				*e*S		**Sb**	**15 21 23.6**	**-1.6**
	baz=29								
NSK	**Sanguang**	**2.31**	**7**	*e*P		**Pn**	**15 20 54.4**	**+1.3**
	baz=29								
NSK				*e*S		**Sb**	**15 21 23.9**	**-1.4**
	baz=29								
TWC	**Suao**	**2.34**	**18**	*e*P		**Pn**	**15 20 54.4**	**+0.9**
	baz=22								
TWC				*e*S		**Sn**	**15 21 22.3**	**+0.2**
	baz=22								
TWS1	**Kuangyinshan**	**2.73**	**7**	*e*P		**Pn**	**15 21 01.0**	**+2.1**
	baz=357								
YOJ	**Yonaguni jima**	**2.75**	**41**	P		**Pn**	**15 20 58.9**	**-0.2**
YOJ				*e*S		**Sn**	**15 21 33.0**	**+0.8**
YOJ	**Yonaguni jima**	**2.75**	**41**	*e*P		**Pn**	**15 20 58.3**	**-0.8**
	baz=42								
TWB1	**Santiao Chiao**	**2.76**	**18**	*e*P		**Pn**	**15 20 58.3**	**-0.9**
	baz=18								
NWF	**Wu-fen Shan**	**2.77**	**14**	*e*P		**Pn**	**15 21 00.9**	**+1.5**
	baz=25								
HATJ	**Hateruma jima**	**3.04**	**56**	*e*S		**Sn**	**15 21 38.2**	**-1.1**
IRIF	**Iriomote-Funau**	**3.14**	**51**	P		**Pn**	**15 21 04.2**	**-0.3**
IRIF				*e*S		**Sn**	**15 21 41.4**	**-0.5**
KNM	**Kinmen**	**3.15**	**311**	*e*P		**Pn**	**15 21 04.5**	**-0.2**
	baz=316								
JKRS	**Kuro-shima**	**3.29**	**55**	P		**Pn**	**15 21 06.2**	**-0.3**
JKRS				*e*S		**Sn**	**15 21 44.7**	**-0.9**
JJ	**Ishigaki jima**	**3.46**	**55**	P		**Pn**	**15 21 08.9**	**0.0**
JJ				*e*S		**Sn**	**15 21 48.1**	**-1.7**
JTJ	**Tarama**	**4.04**	**55**	P		**Pn**	**15 21 16.9**	**+0.1**
JTJ				*e*S		**Sn**	**15 22 02.4**	**-1.6**
JOGS	**Gusukube**	**4.65**	**58**	*e*S		**Sn**	**15 22 18.1**	**-0.9**
KSRS	**Korea Array**	**16.16**	**20**	LR		LR	15 30 39.7	
	comp=Z,54nm,18.2s,baz=159,slow=39								
CMAR	**Chiang Mai Arr**	**21.08**	**263**	P		**P**	**15 25 03.0**	**+3.4**
	0.3nm,0.5s,baz=72,slow=8.8,SNR=5.0								
SONM	**Songino Array**	**27.99**	**339**	LR		LR	15 39 00.9	
	comp=Z,65nm,18.6s,baz=150,slow=40								
MKAR	**Makanchi Array**	**39.57**	**318**	P		**P**	**15 27 47.3**	**+1.1**
	1.2nm,0.7s,baz=115,slow=10,SNR=10								
ZALV	**Zalesovo Beam**	**41.70**	**328**	P		**P**	**15 28 04.0**	**+0.3**
	0.5nm,0.5s,baz=134,slow=6.2,SNR=4.0								
H11N1	**WAKE ISLAND Hy**	**42.74**	**85**	T		T	16 13 43.6	
	baz=285,slow=75,SNR=27								
H11N2	**WAKE ISLAND Hy**	**42.74**	**85**	T		T	16 13 46.3	
	baz=285,slow=75,SNR=32								
H11N3	**WAKE ISLAND Hy**	**42.76**	**85**	T		T	16 13 47.0	
	baz=285,slow=75,SNR=36								
H11S3	**WAKE ISLAND Hy**	**42.82**	**87**	T		T	16 13 49.8	
	baz=286,slow=73,SNR=43								
H11S1	**WAKE ISLAND Hy**	**42.83**	**87**	T		T	16 13 50.5	
	baz=286,slow=73,SNR=22								
H11S2	**WAKE ISLAND Hy**	**42.83**	**87**	T		T	16 13 52.3	
	baz=286,slow=73,SNR=14								
KURBB	**Kurchatov Arra**	**43.42**	**321**	P		**P**	**15 28 18.6**	**+0.9**
	1.1nm,0.8s,baz=121,slow=7.1,SNR=11								
WRA	**Warramunga Arr**	**44.02**	**162**	P		**P**	**15 28 20.2**	**-2.6**
	0.7nm,0.7s,baz=344,slow=8.9,SNR=7.8								
ASAR	**Alice Springs**	**47.44**	**164**	P		**P**	**15 28 47.9**	**-1.9**
	0.2nm,0.3s,baz=345,slow=7.2,SNR=13								
NOA	**NORSAR Array B**	**79.76**	**332**	LR		LR	16 11 33.7	
	comp=Z,15nm,28.6s,baz=355,slow=38								

IDC ***23*** *15:22:55.0±2.1, 7.°05N×91.°80E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/27, mbtmp3.8/7, ML3.9/2, Error ellipse: s-maj=77.3km s-min=19.7km az=61.0*
ISCJB ***23*** *15:22:59.0±0.9, 7.°1N±0.°1×92.°2E±0.°1, h23km, mb4.2/12, Error ellipse: s-maj=26.5km s-min=6.7km az=140.1*
NEIC ***23*** *15:23:06.4±2.8, 7.°30N×92.°50E, h73km±23km, mb4.5/9, Error ellipse: s-maj=43.6km s-min=9.6km az=58.0*

ISC 23 15:22:59.9±1.2, 7.°1N±0.°1×92.°1E±0.°2, h23km, n40, σ1s80/35, mb4.3/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.07**	**122**	Pn		**Pn**		**15 24 57.3**	**+1.3**
PSI				Sn		**Sn**		**15 26 26.2**	**-0.4**
PSI	**Prapat**	**8.07**	**122**	Pn		**Pn**		**15 24 57.3**	**+1.3**
	1.0nm,0.3s,baz=304,slow=11,SNR=3.1								
PSI				Sn		**Sn**		**15 26 26.2**	**-0.4**
	2.7nm,0.3s,baz=253,slow=19,SNR=11								
CMAR	**Chiang Mai Arr**	**13.12**	**30**	Pn		**Pn**		**15 26 05.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**13.12**	**30**	Pn		**Pn**		**15 26 05.3**	**+0.4**
	0.3nm,0.3s,baz=232,slow=14,SNR=31								
ODAN	**Odare**	**20.13**	**348**	*e*P		Pn		15 27 38.7	+3.9
ODAN	**Odare**	**20.13**	**348**	*e*P		Pn		15 27 38.7	+3.9
RAMN	**Ramite**	**20.40**	**346**	*e*P		Pn		15 27 42.3	+4.4
	14nm,0.6s								
RAMN	**Ramite**	**20.40**	**346**	*e*P		Pn		15 27 42.3	+4.4
	14nm,0.6s								
TAPN	**Taplejung**	**20.55**	**349**	*e*P		**P**		**15 27 39.2**	**+1.9**
	28nm,0.9s								
TAPN	**Taplejung**	**20.55**	**349**	*e*P		**P**		**15 27 39.2**	**+1.9**
	28nm,0.9s								
JIRN	**Jiri**	**21.18**	**345**	*e*P		**P**		**15 27 46.9**	**+2.7**
	15nm,0.7s								
JIRN	**Jiri**	**21.18**	**345**	*e*P		**P**		**15 27 46.9**	**+2.7**
	15nm,0.7s								
PKI	**Pulchoki**	**21.30**	**344**	*e*P		**P**		**15 27 48.6**	**+3.1**
	7.0nm,0.4s								
PKI	**Pulchoki**	**21.30**	**344**	*e*P		**P**		**15 27 48.6**	**+3.1**
	7.0nm,0.4s								
PKIN	**Phulchoki**	**21.31**	**344**	*e*P		**P**		**15 27 48.3**	**+2.8**
	4.6nm,0.4s								
GUN	**Gumba**	**21.50**	**345**	*e*P		**P**		**15 27 49.2**	**+1.6**
	18nm,0.7s								
GUN	**Gumba**	**21.50**	**345**	*e*P		**P**		**15 27 49.2**	**+1.6**
	18nm,0.7s								
KKN	**Kakani**	**21.55**	**343**	*e*P		**P**		**15 27 51.4**	**+3.4**
KKN	**Kakani**	**21.55**	**343**	*e*P		**P**		**15 27 51.4**	**+3.4**
GKN	**Gorkha**	**21.93**	**342**	*e*P		**P**		**15 27 54.2**	**+2.1**
GKN	**Gorkha**	**21.93**	**342**	*e*P		**P**		**15 27 54.2**	**+2.1**
LSA	**Lhasa**	**22.48**	**358**	*e*P		**P**		**15 27 56.9**	**-1.4**
	5.3nm,0.7s								
DANN	**Dangsing**	**22.53**	**341**	*e*P		**P**		**15 27 58.5**	**-0.2**
	32nm,1.3s								
DANN	**Dangsing**	**22.53**	**341**	*e*P		**P**		**15 27 58.5**	**-0.2**
	32nm,1.3s								
PYUN	**Piuthan**	**22.57**	**339**	*e*P		**P**		**15 27 59.9**	**+0.9**
	32nm,1.1s								
PYUN	**Piuthan**	**22.57**	**339**	*e*P		**P**		**15 27 59.9**	**+0.9**
	32nm,1.1s								
H08S3	**Diego Garcia H**	**24.40**	**234**	T		T		15 53 46.4	
	baz=53,slow=76,SNR=7.3								
H08S2	**Diego Garcia H**	**24.41**	**233**	T		T		15 53 49.4	
	baz=53,slow=76,SNR=5.7								
H08S1	**Diego Carcia H**	**24.42**	**233**	T		T		15 53 50.6	
	baz=53,slow=76,SNR=6.0								
MKAR	**Makanchi Array**	**40.42**	**350**	P		**P**		**15 30 35.0**	**-1.5**
MKAR	**Makanchi Array**	**40.42**	**350**	P		**P**		**15 30 35.0**	**-1.5**
	0.7nm,0.5s,baz=169,slow=8.8,SNR=11								
ZALV	**Zalesovo Beam**	**47.06**	**354**	P		**P**		**15 31 28.6**	**-1.1**
ZALV	**Zalesovo Beam**	**47.06**	**354**	P		**P**		**15 31 28.6**	**-1.1**
	0.7nm,0.4s,baz=177,slow=7.6,SNR=6.7								
WRA	**Warramunga Arr**	**49.53**	**124**	P		**P**		**15 31 48.8**	**-0.5**
WRA	**Warramunga Arr**	**49.53**	**124**	P		**P**		**15 31 48.8**	**-0.5**
	0.5nm,0.7s,baz=301,slow=9.2,SNR=8.6								
ASAR	**Alice Springs**	**51.04**	**128**	P		**P**		**15 32 00.4**	**-0.4**
ASAR	**Alice Springs**	**51.04**	**128**	P		**P**		**15 32 00.4**	**-0.4**
	1.1nm,0.8s,baz=304,slow=7.3,SNR=18								
STKA	**Stephens Creek**	**61.10**	**132**	P		**P**		**15 33 12.6**	**0.0**
STKA	**Stephens Creek**	**61.10**	**132**	P		**P**		**15 33 12.6**	**0.0**
	2.8nm,1.1s,baz=322,slow=10,SNR=3.6								
TIXI	**Tiksi**	**68.39**	**12**	*e*P		**P**		**15 33 57.7**	**-1.6**
	1.2nm,0.4s								

NNC 23 15:27:40.4±6.3, 36.°66N×70.°89E, h133km±133km, mb2.7, mpv3.5, 1C, Error ellipse: s-maj=55.7km s-min=43.7km az=10.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.45**	**358**	P		Pn		15 29 13.4	+0.5
	1.2nm,0.3s,baz=181,slow=13,SNR=17								
KK31				S		Sn		15 30 25.9	+0.7
	2.5nm,0.5s,baz=177,slow=20,SNR=9.4								
AAK	**Ala-Archa**	**6.58**	**24**	P		Pn		15 29 14.4	-0.5
	1.9nm,0.5s								
AAK				S		Sn		15 30 29.0	+0.1
	5.5nm,1.1s								
AB31	**Akbulak array**	**14.90**	**331**	⇑P		Pn		15 31 04.2	0.0
	0.1nm,0.3s,baz=160,slow=12,SNR=9.7								

IDC 23 15:34:59.6±9.3, 17.°61S×178.°42W, h632km±95km, mb2.8/5, mb1 3.1/5, mb1mx2.8/18, mbtmp2.8/5, Error ellipse: s-maj=85.6km s-min=31.2km az=115.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.77**	**241**	P		P		15 41 32.2	-0.1
	1.5nm,0.9s,baz=101,slow=10,SNR=3.0								
WRA	**Warramunga Arr**	**44.68**	**259**	P		P		15 42 18.9	+0.1
	0.6nm,0.3s,baz=95,slow=7.1,SNR=28								
WRA				PcP		PcP		15 43 46.9	-0.2
	0.2nm,0.5s,baz=89,slow=3.5,SNR=4.8								
ASAR	**Alice Springs**	**44.87**	**254**	P		P		15 42 20.1	0.0
	1.2nm,0.4s,baz=90,slow=8.1,SNR=47								
ASAR				PcP		PcP		15 43 47.6	-0.1
	0.3nm,0.4s,baz=99,slow=4.3,SNR=6.4								
MJAR	**Matsushiro Arr**	**67.66**	**323**	P		P		15 44 55.5	-0.1
	0.4nm,0.4s,baz=152,slow=5.7,SNR=3.5								
ILAR	**Eielson Array**	**85.60**	**13**	P		P		15 46 32.4	+0.1
	0.2nm,0.4s,baz=224,slow=4.9,SNR=6.0								

WEL 23 15:40:14.4±0.4, 45.°46S×166.°65E, h5km, ML3.7/10, 4C-2D, Error ellipse: s-maj=3.2km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**93**	⇓PG		Pb		15 40 22.3	-0.8
DCZ				SG		Sg		15 40 27.1	+1.2
DCZ				AML		AML		15 40 27.1	
DCZ				AML		AML		15 40 27.2	
DCZ				AML		AML		15 40 27.3	
PYZ	**Puysegur Point**	**0.70**	**178**	⇑P*		Pg		15 40 28.4	+0.4
PYZ				S*		Sg		15 40 37.6	+0.5
WHZ	**Wether Hill Ro**	**1.01**	**116**	P*		Pg		15 40 33.4	-0.3
WHZ				S*		Sg		15 40 46.6	-0.2
WHZ				AML		AML		15 40 50.1	
MLZ	**Mavora Lakes**	**1.08**	**84**	⇓P*		Pg		15 40 33.6	-1.6
MLZ				AML		AML		15 40 56.8	
MLZ				AML		AML		15 40 56.8	
MSZ	**Milford Sound**	**1.20**	**49**	⇑P*		Pg		15 40 34.7	-2.7
MSZ				*e*S*		Sg		15 40 52.7	-0.3
MSZ				AML		AML		15 40 57.1	
MSZ				AML		AML		15 40 58.2	
MSZ				AML		AML		15 40 58.2	
APZ	**The Paps**	**1.66**	**146**	PN		Pn		15 40 44.2	+0.1
APZ				AML		AML		15 41 06.5	
WKZ	**Wanaka**	**1.79**	**70**	PN		Pn		15 40 45.8	-0.2
WKZ				AML		AML		15 41 13.5	
WKZ				AML		AML		15 41 13.5	
WKZ				AML		AML		15 41 20.0	
WKZ				AML		AML		15 41 20.0	
EAZ	**Earnscleugh**	**1.89**	**84**	⇑PN		Pn		15 40 47.1	-0.2
EAZ				AML		AML		15 41 14.5	
EAZ				AML		AML		15 41 18.7	
SYZ	**Scrubby Hill**	**2.04**	**123**	PN		Pn		15 40 50.1	+0.8
JCZ	**Jackson Bay**	**2.05**	**48**	PN		Pn		15 40 48.6	-1.0
JCZ				AML		AML		15 41 22.0	
JCZ				AML		AML		15 41 24.7	
LBZ	**Lake Benmore**	**2.73**	**68**	PN		Pn		15 40 59.4	+0.5
ODZ	**Otahua Downs**	**2.85**	**83**	⇑PN		Pn		15 40 59.2	-1.3
FOZ	**Fox Glacier**	**2.89**	**50**	*e*PN		Pn		15 41 00.7	-0.3
FOZ				AML		AML		15 41 53.1	
FOZ				AML		AML		15 41 54.4	
RPZ	**Rata Peaks**	**3.60**	**63**	*e*PN		Pn		15 41 10.2	-0.6
RPZ				AML		AML		15 42 14.8	
WVZ	**Waitaha Valley**	**3.78**	**52**	*e*PN		Pn		15 41 12.5	-0.8
MQZ	**McQueen's Vall**	**4.63**	**70**	*e*PN		Pn		15 41 24.1	-0.9

DJA 23 15:42:43.1±1.6, 9.°S±12.°×10.°7E±.°, h10km, M3.6/6, MLv3.6/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.54**	**48**	P		Pn		15 43 09.4	-1.4
SKJI	**Sukabumi**	**1.58**	**357**	P		Pn		15 43 09.7	-1.5
SKJI				S		Sg		15 43 33.7	-0.2
CMJI	**Cimerak**	**1.95**	**66**	P		Pn		15 43 16.6	+0.3
LEM	**Lembang**	**2.00**	**29**	P		Pn		15 43 17.6	+0.4
LEM				S		Sn		15 43 34.1	-8.3
CLJI	**Cilicap**	**2.50**	**70**	P		Pn		15 43 23.5	-0.3
KPJI	**Karang Pucung**	**2.58**	**61**	P		Pn		15 43 24.8	-0.2
KPJI				S		Sn		15 43 57.3	+0.9

TIF ***23*** *15:50:36.9, 43.°79N×45.°26E, h25km±3km*
ISCJB ***23*** *15:50:38.8±0.6, 43.°56N±0.°04×45.°52E±0.°04, h4km±5km, Error ellipse: s-maj=7.0km s-min=3.8km az=25.5*
CSEM ***23*** *15:50:40.2±0.2, 43.°46N×45.°46E, h15km, mb3.9, Error ellipse: s-maj=7.0km s-min=2.7km az=22.0*
MOS ***23*** *15:50:40.1±0.8, 43.°56N×45.°48E, h14km, mb3.9/1, Error ellipse: s-maj=13.6km s-min=7.5km az=38.9*

ISC 23 15:50:40.7±1.1, 43.°47N±0.°04×45.°46E±0.°02, h17km±9km, n39, σ1s12/60, 2C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.58**	**296**	*e*PG		**Pb**		**15 50 52.1**	**-0.3**
TRKR	**Terskaya**	**0.58**	**296**	*e*Pg		**Pb**		**15 50 52.1**	**-0.3**
DLMR	**Dylym**	**0.95**	**115**	*e*PG		**Pn**		**15 51 00.0**	**+0.7**
DLMR				*e*S		**Sn**		**15 51 15.0**	**+2.6**
DLMR	**Dylym**	**0.95**	**115**	*e*Pg		**Pn**		**15 51 00.0**	**+0.7**
DLMR				*e*Sg		**Sn**		**15 51 15.0**	**+2.6**
BTLR	**Botlikh**	**0.98**	**145**	*e*PG		**Pb**		**15 50 58.0**	**-1.3**
BTLR				*e*S		**Sb**		**15 51 11.0**	**-1.1**
BTLR				pmax		pmax			
	comp=Z,42nm,0.2s								
BTLR	**Botlikh**	**0.98**	**145**	*e*Pg		**Pb**		**15 50 58.0**	**-1.3**
	comp=Z,42nm,0.2s								
BTLR				*e*Sg		**Sb**		**15 51 11.0**	**-1.1**
LACR	**Lac**	**1.07**	**233**	*e*PG		**Pn**		**15 51 00.8**	**-0.2**
LACR	**Lac**	**1.07**	**233**	*e*Pg		**Pn**		**15 51 00.8**	**-0.2**
KORR	**Kora**	**1.08**	**250**	*e*PG		**Pg**		**15 51 01.9**	**+0.2**
KORR	**Kora**	**1.08**	**250**	*e*Pg		**Pg**		**15 51 01.9**	**+0.2**
DBC	**Dubki**	**1.10**	**114**	⇑*i*PG		**Pb**		**15 51 00.6**	**-0.7**
DBC				*i* S		**Sg**		**15 51 16.6**	**+0.2**
DBC	**Dubki**	**1.10**	**114**	*i* Pg		**Pb**		**15 51 00.6**	**-0.7**
DBC				*i* Sg		**Sg**		**15 51 16.6**	**+0.2**
LSNR	**Lesken**	**1.21**	**261**	*e*PG		**Pg**		**15 51 04.1**	**+0.2**
GUDG	**Gudauri**	**1.24**	**216**	P		**Pn**		**15 51 03.2**	**-0.2**
GUDG				S		**Sg**		**15 51 20.7**	**-0.1**
UNCR	**Uncukul**	**1.24**	**127**	*e*PG		**Pb**		**15 51 03.0**	**-0.7**
UNCR				*i* S		**Sg**		**15 51 20.5**	**-0.3**
UNCR				pmax		pmax			
	comp=Z,64nm,0.3s								
UNCR	**Uncukul**	**1.24**	**127**	*e*Pg		**Pb**		**15 51 03.0**	**-0.7**
	comp=Z,64nm,0.3s								
UNCR				*i* Sg		**Sg**		**15 51 20.5**	**-0.3**
XNZR	**Khunzakh**	**1.31**	**135**	*i* PG		**Pb**		**15 51 04.8**	**-0.1**
XNZR				*e*S		**Sg**		**15 51 23.5**	**+0.6**
XNZR				pmax		pmax			
	comp=Z,117nm,0.1s								
XNZR	**Khunzakh**	**1.31**	**135**	*i* Pg		**Pb**		**15 51 04.8**	**-0.1**
	comp=Z,117nm,0.1s								
XNZR				*e*Sg		**Sg**		**15 51 23.5**	**+0.6**
NCK	**Nalchik**	**1.35**	**272**	*e*PG		**Pg**		**15 51 05.9**	**-0.9**
NCK	**Nalchik**	**1.35**	**272**	*e*Pg		**Pg**		**15 51 05.9**	**-0.9**
BUJR	**Buynaksk**	**1.37**

DZM	**Mont Dzumac**	**1.82**	**245**	*eP*		**Pn**	**15 52 19.6**	**-1.1**
DZM				*eS*		**Sn**	**15 52 43.4**	**-0.8**
DZM				AMP			15 52 53.2	
	comp=Z,2μm,0.0s							
NORM	**Noumea**	**1.86**	**240**	*eP*		**Pn**	**15 52 21.1**	**0.0**
NORM				*eS*		**Sn**	**15 52 44.6**	**-0.4**
NOUC	**Port Laguerre**	**1.95**	**246**	*eP*		**Pb**	**15 52 24.6**	**+0.1**
NOUC				*eS*		**Sb**	**15 52 49.9**	**+0.6**
NOUC				AMP			15 53 03.9	
	comp=Z,164nm,8.0s							
RAO	**Raoul Island**	**14.82**	**125**	LR		LR	15 59 13.3	
	comp=Z,152nm,20.1s,baz=110,slow=30							
AFI	**Afiamalu**	**20.42**	**72**	LR		LR	16 01 35.6	
	comp=Z,726nm,19.3s,baz=304,slow=29							
WRA	**Warramunga Arr**	**31.70**	**266**	P		**P**	**15 58 14.3**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=93,slow=8.4,SNR=2.7							
ASAR	**Alice Springs**	**31.75**	**259**	P		**P**	**15 58 14.2**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=88,slow=9.9,SNR=6.3							
GERES	**GERESS Array B**	**145.81**	**330**	PKPbc		**PKPbc**	**16 11 28.8**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=45,slow=2.9,SNR=3.5							

IDC ***23*** *16:03:32.2±2.1, 4.°95N×93.°91E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.7/28, mbtmp3.9/7, ML4.0/2, Error ellipse: s-maj=81.7km s-min=18.4km az=56.0*

ISC 23 16:03:41.2±2.0, 5.°6N±0.°2×94.°6E±0.°3, h46km, n10, σ1§40/8, mb4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.11**	**123**	Pn		**Pn**		**16 04 55.8**	**+0.4**
	3.3nm,0.3s,baz=307,slow=17,SNR=9.1								
PSI				Sn		**Sn**		**16 05 54.2**	**+1.1**
	1.6nm,0.3s,baz=339,slow=19,SNR=2.3								
CMAR	**Chiang Mai Arr**	**13.44**	**18**	Pn		**P**		**16 06 56.6**	**-1.0**
	0.3nm,0.3s,baz=207,slow=14,SNR=12								
H08S3	**Diego Garcia H**	**25.72**	**239**	T		T		16 34 49.4	
	baz=59,slow=76,SNR=57								
H08S2	**Diego Garcia H**	**25.72**	**239**	T		T		16 34 47.4	
	baz=59,slow=76,SNR=81								
H08S1	**Diego Carcia H**	**25.74**	**239**	T		T		16 34 49.4	
	baz=59,slow=76,SNR=72								
MKAR	**Makanchi Array**	**42.38**	**347**	P		**P**		**16 11 32.5**	**+1.4**
	1.5nm,0.5s,baz=166,slow=7.5,SNR=27								
WRA	**Warramunga Arr**	**46.57**	**124**	P		**P**		**16 12 03.8**	**-1.1**
	1.0nm,0.7s,baz=302,slow=9.5,SNR=13								
KURBB	**Kurchatov Arra**	**46.84**	**346**	P		**P**		**16 12 07.4**	**+0.8**
	1.5nm,0.6s,baz=170,slow=6.8,SNR=17								
ASAR	**Alice Springs**	**48.11**	**129**	P		**P**		**16 12 15.4**	**-1.5**
	0.3nm,0.4s,baz=302,slow=7.6,SNR=13								
ZALV	**Zalesovo Beam**	**48.84**	**352**	P		**P**		**16 12 23.2**	**+1.2**
	0.9nm,0.4s,baz=179,slow=7.6,SNR=5.9								

DJA 23 16:04:12.3±0.4, 4.°N±5.°×9.°8E±.°, h87km±5km, M4.0/8, mb5.6/1, MLv3.2/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.05**	**99**	P		P	Pn	16 04 28.7	+4.1
KCSI				S		S	Sn	16 04 34.6	+0.9
TPTI		**0.60**	**244**	P		P	Pn	16 04 21.6	-6.0
PSI	**Prapat**	**1.40**	**121**	P		P	Pn	16 04 36.9	0.0
LHMI	**Lhok Sumawe**	**1.85**	**335**	P		P	Pn	16 04 42.6	+0.1
GSI	**Gunungsitoli**	**2.22**	**184**	P		P	Pn	16 04 47.1	-0.2
BSI	**Banda Aceh**	**3.11**	**309**	P		P	Pn	16 04 59.3	0.0
MNSI	**Mandailing Nat**	**3.29**	**146**	P		P	Pn	16 05 01.2	-0.5
KULM	**Kulim**	**3.41**	**59**	P		P	Pn	16 05 03.1	-0.2
IPM	**Ipoh**	**3.43**	**74**	P		P	Pn	16 05 03.1	-0.5
JMBI	**JAMBI**	**7.83**	**131**	P		P	Pn	16 06 04.0	+0.4

IDC 23 16:05:42.9±10.0, 15.°56S×177.°64W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.5/3, Error ellipse: s-maj=493.5km s-min=33.2km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.82**	**257**	P		P		16 14 07.0	-0.1
	0.1nm,0.4s,baz=82,slow=8.0,SNR=3.3								
ASAR	**Alice Springs**	**46.17**	**252**	P		P		16 14 09.6	-0.2
	0.8nm,0.5s,baz=86,slow=8.2,SNR=13								
ILAR	**Eielson Array**	**83.45**	**13**	P		P		16 18 11.9	0.0
	0.2nm,0.4s,baz=227,slow=5.3,SNR=14								

BJI ***23*** *16:28:27.4, 7.°84S×130.°43E, h27km, mB5.1/36, mb5.0/51, Ms4.7/31, Ms7 4.4/27*

IDC ***23*** *16:28:28.5±0.4, 7.°50S×130.°14E, h0km, mb4.8/21, mb1 4.9/24, mb1mx4.9/26, mbtmp4.8/24, ML5.2/4, MS3.6/19, Ms1 3.7/19, ms1mx3.4/37, Error ellipse: s-maj=19.7km s-min=11.3km az=85.0*

ISCJB ***23*** *16:28:31.7±0.2, 7.°52S±0.°03×130.°31E±0.°03, h33km, mb5.1/90, MS3.7/26, Error ellipse: s-maj=3.8km s-min=3.6km az=38.5*

MOS ***23*** *16:28:32.7±1.0, 7.°38S×130.°09E, h33km, mb5.3/30, Error ellipse: s-maj=11.4km s-min=6.5km az=121.9*

NEIC ***23*** *16:28:34.2±0.6, 7.°46S×130.°05E, h36km±5km, mb5.2/32, Error ellipse: s-maj=5.4km s-min=3.9km az=55.0*

AUST ***23*** *16:28:35.4±0.5, 7.°51S×130.°06E, h44km±5km, Error ellipse: s-maj=5.5km s-min=3.9km az=68.0*

GCMT ***23*** *16:28:38.8±0.3, 7.°38S×130.°14E, h64km±3km, MW5.0, Moment Tensor Solution. s29,c32; s54,c77; Moment tensor: Scale 10^16 Nm; Mrr 0.93±.19; Mθθ -2.88±.15; Mφφ 1.95±.18; Mrθ 0.09±.12; Mrφ 2.32±.13; Mθφ 1.51±.12; Best double couple: M0 3.80000×10^16 NP1: φ333.00000°, δ75.00000°, λ155.00000°. NP2: φ70.00000°, δ66.00000°, λ16.00000°. Principal axes: T 3.6500, Plg28.0000°, Azm290.0000°; N 0.2200, Plg61.0000°, Azm124.0000°; P -3.8700, Plg6.0000°, Azm23.0000°; Data Used: IU G II IC CN.*

DJA ***23*** *16:28:38.8±0.2, 8.°S±2.°×13.°0E±.°, h98km±4km, M5.1/62, mb5.3/62, mB5.6/40, MLv5.6/11, Mw(mB)5.1/40, Mwp6.9/1*

ISC 23 16:28:33.6±0.4, 7.°49S±0.°04×130.°18E±0.°04, h34km±1km, n395, σ1§51/437, mb5.1/89, MS3.8/26, 18C-20D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.21**	**114**	P		P	Pb	16 28 59.3	+3.3
SAUI				S		S	**Sb**	**16 29 16.0**	**+4.6**
BNDI	**Bandanaira**	**2.96**	**355**	P		P	**Pb**	**16 29 23.5**	**-2.3**
BNDI				S		S	**Sb**	**16 30 01.8**	**+0.2**
MSAI	**Masohi**	**4.30**	**343**	P		P	Pn	16 29 43.1	+6.3
MSAI				S		S	Sb	16 30 34.9	-5.2
FAKI	**Fak Fak**	**4.99**	**24**	P		P	**Pn**	**16 29 48.8**	**+2.6**
NLAI	**Namlea**	**5.22**	**324**	P		P	Pn	16 29 55.7	+6.3
	602nm,0.6s,6μm2.2nm								
MTN	**Manton Dam**	**5.40**	**170**	P			**Pn**	**16 29 53.8**	**+2.0**
	baz=5.4,SNR=79								
KDU	**Kakadu**	**5.63**	**157**	⇑P			**Pn**	**16 29 57.1**	**+2.1**
	baz=5.7,SNR=208								
SOEI	**Soe**	**6.27**	**249**	P		P	Pn	16 30 08.6	+4.7
	571nm,0.8s,27μm22nm								
SWI	**Sorong**	**6.67**	**9**	P		P	**Pn**	**16 30 12.0**	**+2.7**
	464nm,0.7s,10μm2.5nm								
SWI	**Sorong**	**6.67**	**9**	⇓P		P	**Pn**	**16 30 12.2**	**+2.9**
	baz=6.8								
LBMI	**Labuha**	**7.31**	**338**	P		P	Pn	16 30 25.5	+7.3
	372nm,0.9s,5μm1.9nm								
MWPI	**Manokwari, Pap**	**7.57**	**31**	P		P	Pn	16 30 24.9	+3.3
	1μm,0.8s,10μm4.0nm								
MMRI	**Maumere**	**7.95**	**261**	P		P	Pn	16 30 31.7	+4.8
	247nm,0.8s,3μm								
SRPI	**Serui, Papua**	**8.22**	**48**	P		P	**Pn**	**16 30 33.1**	**+2.5**
	509nm,0.9s,10μm								
KNRA	**Kununurra**	**8.25**	**190**	⇑P		P	**Pn**	**16 30 32.2**	**+1.2**
	baz=8.3,SNR=435								
BAKI	**Biak**	**8.60**	**44**	P		P	Pn	16 30 39.3	+3.4
	833nm,1.0s,8μm								
TNTI	**Ternate**	**8.68**	**341**	P		P	Pn	16 30 42.7	+5.9
	186nm,0.9s,2μm								
KKSI	**Kolaka, Sulawe**	**9.11**	**291**	P		P	Pn	16 30 50.7	+8.0
	49nm,0.7s								
LUWI	**Luwuk**	**9.78**	**311**	P		P	Pn	16 31 00.7	+8.7
	292nm,1.3s,3μm								
WSI	**Waingapu**	**10.01**	**257**	P		P	Pn	16 30 59.7	+4.5
	1μm,0.5s,20μm								
KMSI	**Cibinong**	**10.12**	**322**	P		P	Pn	16 31 05.6	+8.9
	368nm,1.2s,4μm								
BKSI	**Bulukumba**	**10.23**	**282**	P		P	Pn	16 31 03.5	+5.4
	75nm,0.8s,944nm								
BKSI				S			Sn	16 33 01.1	+9.4
	75nm,0.8s,944nm								
LBFI	**Labuhan Bajo,**	**10.24**	**264**	P		P	Pn	16 31 02.9	+4.6
	267nm,1.0s,3μm								
LBFI				S			**Sn**	**16 32 51.9**	**-0.2**
	267nm,1.0s,3μm								
BNSI	**Bone**	**10.48**	**286**	P		P	Pn	16 31 08.0	+6.4
	138nm,1.1s,1μm								
BNSI				S			Sn	16 33 07.4	+9.5
	138nm,1.1s,1μm								
KAPI	**Kappang**	**10.66**	**283**	P		P	**Pn**	**16 31 02.8**	**-1.2**
	187nm,0.8s								
APSI	**Ampana**	**10.73**	**307**	P		P	Pn	16 31 12.8	+7.8
	338nm,1.2s,4μm								
SPSI	**Sidrap Palu**	**10.94**	**288**	P		P	Pn	16 31 14.3	+6.4
	120nm,1.1s,1μm								
SPSI				S			Sn	16 33 20.5	+11
	120nm,1.1s,1μm								
GENI	**Genyem**	**11.07**	**64**	P		P	**Pn**	**16 31 11.5**	**+1.8**
	267nm,1.0s,3μm								
GENI				S			**Sn**	**16 33 12.2**	**-0.2**
	267nm,1.0s,3μm								
TTSI	**Tana Toraja**	**11.22**	**293**	P		P	Pn	16 31 21.9	+10
MRSI	**Marisa**	**11.41**	**314**	P		P	Pn	16 31 22.4	+8.0
	365nm,1.2s,4μm								
FITZ	**Fitzroy Crossi**	**11.44**	**202**	*eP*			**Pn**	**16 31 13.5**	**-1.2**
	34nm,1.7s								
FITZ							Sn	16 33 14.0	-7.3
FITZ	**Fitzroy Crossi**	**11.44**	**202**	P			**Pn**	**16 31 13.2**	**-1.5**
	62nm,0.3s,baz=33,slow=13,SNR=240								
FITZ							Sn	16 33 14.0	-7.3
	28nm,0.3s,baz=199,slow=18,SNR=10								
FITZ							LR	LR	16 36 53.8
	comp=Z,462nm,18.2s,baz=23,slow=44								
FITZ	**Fitzroy Crossi**	**11.44**	**202**	⇓P			**Pn**	**16 31 13.5**	**-1.2**
	baz=11,SNR=405								
JAY	**Jayapura**	**11.59**	**65**	Pn			**Pn**	**16 31 17.4**	**+0.6**
JAY				Sn			**Sn**	**16 33 20.9**	**-4.1**
JAY	**Jayapura**	**11.59**	**65**	Pn			**Pn**	**16 31 17.4**	**+0.6**
	3.0nm,0.3s,baz=231,slow=12,SNR=12								
JAY							Sn		**16 33 20.9**	**-4.1**
	1.1nm,0.3s,baz=300,slow=20,SNR=3.1								
JAY	**Jayapura**	**11.59**	**65**	⇓P			**Pn**	**16 31 19.3**	**+2.5**
	baz=12,SNR=10								
MJSI	**Majene**	**11.82**	**289**	P		P	Pn	16 31 29.0	+9.1
	126nm,1.0s,1μm								
MMSI	**Mamuju**	**12.20**	**292**	P		P		16 31 33.8	-3.4
WRAB	**Tennant Creek**	**13.01**	**162**	*ceP*			**Pn**	**16 31 33.4**	**-2.8**
WRAB				pmax			pmax		
	comp=Z,232nm,1.2s								
WRAB	**Tennant Creek**	**13.01**	**162**	*eP*			**Pn**	**16 31 33.8**	**-2.5**
	comp=Z,64nm,0.6s								
WRAB				*eS*			Sn	16 33 50.2	-10
WRAB	**Tennant Creek**	**13.01**	**162**	Pn			**Pn**	**16 31 34.0**	**-2.2**
	comp=Z,630nm,0.5s								
WRA	**Warramunga Arr**	**13.02**	**162**	Pn			**Pn**	**16 31 33.8**	**-2.5**
WRA				Sn			Sn	16 33 49.2	-11
WRA	**Warramunga Arr**	**13.02**	**162**	Pn			**Pn**	**16 31 33.8**	**-2.5**
	comp=Z,10nm,0.3s,baz=339,slow=13,SNR=206								
WRA							Sn	Sn	16 33 49.2	-11
	comp=Z,26nm,0.3s,baz=342,slow=23,SNR=9.0								
WRA							LR	LR	16 37 25.9
	comp=Z,16nm,28.6s,baz=330,slow=41								
MTNI	**Mataram**	**13.92**	**264**	P			**Pn**	**16 31 51.6**	**+2.9**
	comp=Z,57nm,0.5s,comp=Z,8μmcomp=Z,766μm								
COEN	**Coen**	**14.29**	**118**	*eP*			**Pn**	**16 31 52.1**	**-1.5**
	comp=Z,369nm,1.6s								
SGKI	**Sangatta, Kali**	**14.32**	**298**	P		P		**16 32 03.3**	**+2.5**
KHKI	**Kahang-Kahang**	**14.46**	**266**	P		P	**Pn**	**16 31 55.9**	**-0.2**
KBKI	**Kotabaru**	**14.56**	**286**	P		P		**16 32 04.0**	**+0.6**
	comp=Z,61nm,1.2s,comp=Z,573nm								
BKB	**Balikpapan**	**14.62**	**294**	P		P		**16 32 04.2**	**+0.1**
	comp=Z,351nm,1.0s,comp=Z,3μm								
SRBI	**Singaraja**	**14.85**	**267**	P		P	Pn	16 31 57.3	-3.9
DNP	**Denpasar**	**14.87**	**264**	P		P		**16 32 06.7**	**-0.2**
	comp=Z,250nm,0.9s,comp=Z,20μm								
IGBI	**Denpasar**	**14.95**	**264**	P		P		**16 32 06.8**	**-0.9**
	comp=Z,196nm,0.7s,comp=Z,3μm								
PALU	**Palau**	**15.35**	**16**	⇓P		P		**16 32 10.4**	**-1.8**
	baz=16,SNR=6.3								
ABJI	**Asem Bagus**	**15.81**	**268**	P		P		**16 32 17.2**	**-0.2**
	comp=Z,75nm,0.8s								
JAGI	**Jajag, Banyuwa**	**15.91**	**265**	⇑P			**Pn**	**16 32 13.6**	**-1.5**
	baz=16,SNR=38								
KMMI	**Kalianget**	**16.09**	**271**	P		P		**16 32 21.5**	**+1.0**
	comp=Z,111nm,1.1s								
BLJI	**Banyuglugur**	**16.45**	**268**	P		P		**16 32 24.1**	**-0.3**
	comp=Z,160nm,0.8s,comp=Z,1μm								
AS31	**Alice Springs**	**16.47**	**168**	*eP*			**Pn**	**16 32 19.5**	**-2.8**
ASAR	**Alice Springs**	**16.48**	**168**	Pn			**Pn**	**16 32 19.9**	**-2.5**
ASAR				Sn			Sn	16 35 12.9	-11
ASAR				ScP			**ScP**	**16 40 41.2**	**-4.2**
ASAR	**Alice Springs**	**16.48**	**168**	Pn			**Pn**	**16 32 19.9**	**-2.5**
	comp=Z,9.0nm,0.3s,baz=339,slow=9.3,SNR=339								
ASAR				Sn			Sn	16 35 12.9	-11
	comp=Z,9.6nm,0.3s,baz=354,slow=26,SNR=13								
ASAR				LR			LR	16 39 48.8
	comp=Z,387nm,18.2s,baz=340,slow=41								
ASAR				ScP			**ScP**	**16 40 41.2**	**-4.2**
	baz=9.5,slow=3.8,SNR=4.8								
MTKI	**Muara Teweh, K**	**16.57**	**292**	P		P		**16 32 28.7**	**+2.9**
	comp=Z,321nm,0.7s,comp=Z,4μm								
GMJI	**Gumukmas**	**16.60**	**266**	P		P		**16 32 26.5**	**+0.4**
	comp=Z,61nm,0.9s								
PMG	**Port Moresby**	**16.90**	**98**	P		P		**16 32 31.6**	**+2.2**
PMG	**Port Moresby**	**16.90**	**98**	*eP*		P		**16 32 31.0**	**+1.5**
	comp=Z,55nm,0.9s								
PMG							Sn	Sn	16 35 23.0	-12
PMG	**Port Moresby**	**16.90**	**98**	Pn		P		**16 32 29.8**	**+0.4**
	comp=Z,2.7nm,0.3s,baz=297,slow=7.8,SNR=20								
PMG							Sn	Sn	16 35 23.0	-12
	comp=Z,1.6nm,0.3s,baz=180,slow=23,SNR=7.0								
PMG							LR	LR	16 40 16.3
	comp=Z,16nm,28.6s,baz=266,slow=42								
PMG	**Port Moresby**	**16.90**	**98**	⇓P		P		**16 32 31.2**	**+1.8**
	baz=17,SNR=12								
PMG				⇓P		P		**16 32 31.2**	**+1.8**
	baz=17,SNR=12								
PMG				⇓P		P		**16 32 31.2**	**+1.8**
	baz=17,SNR=12								
TSM	**Tawau**	**16.97**	**313**	P		P		**16 32 32.6**	**+2.4**
BWJI	**Bawean**	**17.48**	**274**	P		P		**16 32 37.9**	**+2.0**
	comp=Z,72nm,1.2s								
GRJI	**Gresik**	**17.57**	**271**	P		P		**16 32 38.4**	**+1.5**
	comp=Z,124nm,1.0s,comp=Z,1μm								
KRKI	**Karangkates**	**17.58**	**267**	P		P		**16 32 36.8**	**-0.2**
	comp=Z,324nm,0.8s								
PWJI	**Pagerwojo**	**18.22**	**267**	P		P		**16 32 43.1**	**-0.9**
	comp=Z,108nm,0.7s,comp=Z,2μm								
SJI	**Sawahan**	**18.26**	**268**	P		P		**16 32 44.5**	**0.0**
	comp=Z,174nm,0.7s								
SDKM	**Sandakan**	**18.39**	**315**	P		P	**Pn**	**16 32 49.7**	**+3.5**
NGJI	**Ngawi**	**18.57**	**269**	P		P	**Pn**	**16 32 50.2**	**+1.9**
	comp=Z,90nm,0.7s								
PCJI	**Pacitan**	**18.84**	**267**	P		P	**Pn**	**16 32 52.6**	**+1.0**
	comp=Z,128nm,0.6s,comp=Z,2μm								
PBKI	**Pangkalan Bun**	**19.04**	**284**	P		P	**Pn**	**16 32 55.9**	**+1.9**
	comp=Z,1μm,1.0s,comp=Z,9μm								
WOJI	**Wonogiri, Jawa**	**19.09**	**268**	P		P	**Pn**	**16 32 55.7**	**+1.1**
	comp=Z,80nm,1.0s,comp=Z,4μm								
UWJI	**Ujung Watu**	**19.12**	**272**	P		P	**Pn**	**16 32 56.7**	**+1.7**
	comp=Z,100nm,1.0s,comp=Z,906nm								
UGM	**Wanagama**	**19.49**	**267**	P		P		**16 32 57.9**	**-0.1**
	baz=19,SNR=14								
KDM	**Kudat**	**19.55**	**317**	P		P	Pn	16 33 06.9	+6.8
CTA	**Charters Tower**	**19.98**	**130**	P		P	**Pn**	**16 33 06.2**	**+1.0**
CTA	**Charters Tower**	**19.98**	**130**	P		P	**Pn**	**16 33 06.2**	**+1.0**
	comp=Z,17nm,1.0s,baz=308,slow=15,SNR=17								
CTA	**Charters Tower**	**19.98**	**130**	⇓P		P	**Pn**	**16 33 06.9**	**+1.7**
	baz=20								
CTAO	**Charters Tower**	**19.98**	**130**	*eP*			**Pn**	**16 33 04.8**	**-0.4**
CTAO				pmax			pmax		
	comp=Z,21nm,0.7s								
CTAO	**Charters Tower**	**19.98**	**130**	*eP*			**Pn**	**16 33 04.8**	**-0.4**
	comp=Z,21nm,0.7s								
BTM	**Bintulu**	**20.10**	**301**	P		P	Pn	16 33 08.2	+1.6
STKI	**Sintang**	**20.11**	**291**	P		P	**Pn**	**16 33 05.3**	**+0.6**
	comp=Z,145nm,0.8s,comp=Z,8μm								
BJII	**Banjamegara**	**20.30**	**269**	P		P	Pn	16 33 10.0	+0.9
	comp=Z,43nm,1.0s								
SBUM	**Sibu**	**20.46**	**298**	P		P	Pn	16 33 11.4	+0.5
SBUM	**Sibu**	**20.46**	**298**	P		P	Pn	16 33 11.2	+0.3
	comp=Z,220nm,0.9s,comp=Z,2μm								
KPJI	**Karang Pucung**	**21.08**	**269**	P		P		**16 33 12.8**	**-2.4**
KSM	**Kuching**	**21.73**	**293**	P		P		**16 33 21.8**	**-0.5**
KSM	**Kuching**	**21.73**	**293**	P		P		**16 33 18.5**	**-3.8**
KSM	**Kuching**	**21.73**	**293**	P		P		**16 33 20.2**	**-2.1**
	comp=Z,34nm,0.8s								
KSM	**Kuching**	**21.73**	**293**	⇓P		P		**16 33 22.5**	**+0.2**
	baz=22,SNR=7.9								
PVCP	**Virac**	**21.79**	**344**	⇑*eP*		P		**16 33 24.5**	**+1.7**
MEEK	**Meekatharra**	**21.99**	**209**	P		P		**16 33 26.6**	**+1.6**
	baz=22,SNR=30								
CISI	**Cisompet, Garu**	**22.18**	**268**	P		P		**16 33 24.7**	**-2.4**
LEM	**Lembang**	**22.40**	**270**	P		P		**16 33 29.0**	**-0.6**
	comp=Z,112nm,0.9s								
LEM	**Lembang**	**22.40**	**270**	⇑P		P		**16 33 29.8**	**+0.2**
	baz=22,SNR=7.3								
TPI	**Tanjungpandan**	**22.92**	**281**	P		P		**16 33 35.3**	**+0.3**
	comp=Z,63nm,0.7s,comp=Z,712nm								
QLP	**Quilpie**	**23.22**	**147**	⇑P		P		**16 33 39.0**	**+1.1**
	baz=23,SNR=20								
FORT	**Forrest**	**23.25**	**185**	*eP*		P		**16 33 39.2**	**+1.1**
	comp=Z,174nm,0.8s								
FORT	**Forrest**	**23.25**	**185**	P		P		**16 33 39.2**	**+1.1**
	baz=23,SNR=23								
TGY	**Tagaytay City**	**23.33**	**337**	P		P		**16 33 40.9**	**+1.8**
TGY	**Tagaytay City**	**23.33**	**337**	P		P		**16 33 40.9**	**+1.8**
	comp=Z,334nm,0.6s,baz=225,slow=0.6,SNR=16								
SKJI	**Sukabumi**	**23.44**	**270**	P		P		**16 33 37.2**	**-3.0**
MORW	**Morawa**	**25.27**	**210**	⇓P		P		**16 33 57.4**	**+0.6**
	baz=25,SNR=13								
KLSI		**25.46**	**275**	P		P		**16 33 58.3**	**-0.5**
	comp=Z,41nm,0.9s								
PMBI	**Palembang**	**25.70**	**279**	P		P		**16 34 02.6**	**+1.6**
	comp=Z,150nm,0.4s								
BBOO	**Buckleboo**	**25.78**	**169**	*eP*		P		**16 34 02.1**	**+0.7**
	comp=Z,424nm,0.7s								
BBOO	**Buckleboo**	**25.78**	**169**	⇑P		P		**16 34 02.3**	**+0.8**
	baz=26,SNR=15								
MDSI	**Maura Dua**	**26.03**	**275**	P		P		**16 34 05.3**	**+1.3**
	comp=Z,13nm,0.9s								
BLDU	**Ballidu**	**26.24**	**207**	⇓P		P		**16 34 06.8**	**+1.1**
	baz=26,SNR=6.7								
STKA	**Stephens Creek**	**26.49**	**158**	*eP*		P		**16 34 09.0**	**+1.1**
STKA	**Stephens Creek**	**26.49**	**158**	P		P		**16 34 09.0**	**+1.1**
	comp=Z,3.7nm,0.4s,baz=339,slow=8.0,SNR=33								
STKA				LR			LR	16 45 33.4
	comp=Z,16nm,28.6s,baz=333,slow=39								
STKA	**Stephens Creek**	**26.49**	**158**	⇓P		P		**16 34 09.2**	**+1.2**
	baz=27,SNR=23								
KLBR	**Kellerberrin**	**26.64**	**204**	⇑P		P		**16 34 10.6**	**+1.3**
	baz=27,SNR=5.7								
HTT	**Hallett**	**27.05**	**164**	⇓P		P		**16 34 14.5**	**+1.4**
	baz=27,SNR=7.5								
MYKOM	**Kota Tinggi**	**27.84**	**288**	P		P		**16 34 22.9**	**+2.6**
CMSA	**Cobar Meteorol**	**27.96**	**151**	P		P		**16 34 22.7**	**+1.6**
	baz=28,SNR=17								
NWAO	**Narrogin (SRO)**	**28.02**	**204**	P		P		**16 34 22.8**	**+1.1**
NWAO	**Narrogin (SRO)**	**28.02**	**204**	P		P		**16 34 22.8**	**+1.1**
	comp=Z,12nm,0.9s,baz=42,slow=10,SNR=5.6								
NWAO				LR			LR	16 46 39.8
	comp=Z,202nm,20.2s,baz=28,slow=39								
KGM	**Kluang**	**28.42**	**288**	P		P		**16 34 27.3**	**+1.9**
RGRI	**Rengat**	**28.66**	**283**	P		P		**16 34 28.8**	**+1.2**
	comp=Z,289nm,0.5s,comp=Z,45μm								
HNR	**Honiara**	**29.50**	**96**	LR		LR		16 46 10.6
	comp=Z,16nm,28.6s,baz=288,slow=36								
FRIM	**Kepong**	**30.42**	**290**	P		P		**16 34 45.4**	**+2.2**
ARPS	**Mount Arapiles**	**31.02**	**162**	P		P		**16 34 50.0**	**+1.8**
	baz=31,SNR=20								
YNG	**Young**	**31.52**	**150**	⇓P		P		**16 34 54.7**	**+2.0**
	baz=32								
KULM	**Kulim**	**32.09**	**292**	P		P		**16 35 00.3**	**+2.4**
KULM	**Kulim**	**32.09**	**292**	*eP*		P		**16 34 57.8**	**-0.1**
	comp=Z,34nm,1.3s								
PSI	**Prapat**	**32.82**	**287**	P		P		**16 35 04.0**	**-0.5**
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MJAR ScP **ScP** **16 42 10.9 -3.6**
MJAR Matsushiro Arr 44.44 9 P **P** **16 36 41.1 -0.3**
comp=Z,2.8nm,0.6s,baz=188,slow=9.6,SNR=9.6
MJAR ScP **ScP** **16 42 10.9 -3.6**
comp=Z,2.7nm,0.9s,baz=202,slow=5.1,SNR=4.5
MJAR LR LR 16 54 47.1
comp=Z,16nm,28.6s,baz=120,slow=36
MAJO Matsushiro 44.44 9 *e*P **P** **16 36 41.1 -0.4**
MAJO pmax pmax
comp=Z,20nm,0.8s
MAJO Matsushiro 44.44 9 *e*P **P** **16 36 41.1 -0.4**
comp=Z,20nm,0.8s
MAT Matsushiro 44.44 9 P **P** **16 36 41.3 -0.2**
KSAR Wonju Array Be 44.75 357 P **P** **16 36 44.7 +0.8**
KSAR PcP **PcP** **16 38 25.6 -0.1**
KSAR ScP **ScP** **16 42 12.2 -3.4**
KSRS Korea Array 44.76 357 P **P** **16 36 44.7 +0.8**
comp=Z,3.5nm,0.6s,baz=173,slow=9.0,SNR=32
KSRS PcP **PcP** **16 38 25.6 -0.2**
comp=Z,2.5nm,0.7s,baz=197,slow=2.8,SNR=7.6
KSRS ScP **ScP** **16 42 12.2 -3.5**
comp=Z,1.6nm,0.8s,baz=180,slow=4.3,SNR=6.2
KSRS LR LR 16 55 24.4
comp=Z,16nm,28.6s,baz=178,slow=36
CD2 Chengdu 45.81 328 *e*P **P** **16 36 53.0 +0.5**
CD2 pP **pP** **16 37 02.5 -0.1**
CD2 sP **sP** **16 37 06.5 -0.1**
CD2 PP **PP** **16 38 42.4 +2.1**
CD2 S **S** **16 43 35.3 +1.0**
CD2 sS **sS** **16 43 49.8 -1.1**
CD2 SS **ScS** **16 46 51.3 +5.0**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,100nm,6.2s
CD2 LR LR
comp=Z,140nm,14.4s
CD2 LR LR
comp=Z,120nm,14.6s
XAN Xi'an 45.96 335 P **P** **16 36 52.8 -0.8**
XAN PcP **PcP** **16 38 30.6 +0.5**
XAN S **S** **16 43 33.8 -2.5**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,20nm,7.0s
XAN LR LR
comp=Z,65nm,13.3s
XAN LR LR
comp=Z,59nm,14.3s
BJI Beijing 49.03 346 P **P** **16 37 17.3 0.0**
BJI S **S** **16 44 23.6 +3.9**
BJI pmax pmax
comp=Z,54nm,0.7s
BJI LR LR
comp=Z,80nm,23.7s
BJI LR LR
comp=Z,170nm,20.2s
LZH Lanzhou 49.92 332 ⇓P **P** **16 37 25.0 +0.6**
LZH pP **pP** **16 37 34.5 0.0**
LZH sP **sP** **16 37 38.3 -0.2**
LZH PcP **PcP** **16 38 45.0 +0.6**
LZH PP **PP** **16 39 21.3 +1.7**
LZH *e*S **S** **16 44 32.1 -0.5**
LZH sS **sS** **16 44 49.5 +0.1**
LZH *e*SS **SS** **16 48 02.3 -3.7**
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.8s
LZH LR LR
comp=Z,240nm,13.2s
LZH LR LR
comp=Z,280nm,13.5s
LZH LR LR
comp=Z,400nm,17.5s
RPZ Rata Peaks 50.74 142 LR LR 16 59 41.1
comp=Z,95nm,18.4s,baz=298,slow=37
HHC Hu-ho-hao-te 51.06 342 *e*P **P** **16 37 33.3 +0.4**
HHC sP **sP** **16 37 44.6 -2.4**
HHC S **S** **16 44 48.3 +0.1**
HHC sS **sS** **16 45 04.8 -0.2**
HHC SS **SS** **16 48 18.8 -5.1**
HHC pmax pmax
comp=Z,28nm,1.1s
HHC pmax pmax
comp=Z,210nm,6.2s
HHC LR LR
comp=Z,250nm,16.6s
HHC LR LR
comp=Z,330nm,16.5s
HHC LR LR
comp=Z,330nm,16.7s
CN2 Changchun 51.23 356 *e*P **P** **16 37 35.5 +1.6**
CN2 *es*P **sP** **16 37 49.3 +1.2**
CN2 *e*S **S** **16 44 51.4 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Arra 51.48 2 P **P** **16 37 35.9 +0.2**
comp=Z,6.5nm,0.6s,baz=183,slow=6.7,SNR=22
USRK ScP **ScP** **16 42 40.5 -3.5**
comp=Z,1.7nm,0.7s,baz=178,slow=4.0,SNR=4.5
MDJ Mudanjiang 51.87 359 P **P** **16 37 39.1 +0.4**
MDJ pP **pP** **16 37 45.3 -3.5**
MDJ sP sP 16 37 48.0 -4.9
MDJ ScP **ScP** **16 42 47.8 +2.1**
MDJ PcS **PcS** **16 42 50.3 +1.2**
MDJ S **S** **16 44 59.8 +0.8**
MDJ sS sS 16 45 10.8 -4.9
MDJ pmax pmax
comp=Z,13nm,0.8s
MDJ pmax pmax
comp=Z,52nm,4.0s
MDJ LR LR
comp=Z,34nm,19.9s
MDJ LR LR
comp=Z,67nm,19.1s
MDJ LR LR
comp=Z,37nm,20.3s
MDJ Mudanjiang 51.87 359 *e*P **P** **16 37 39.1 +0.4**
comp=Z,5.6nm,0.5s
URZ Urewera 52.20 133 LR LR 17 00 57.2
comp=Z,93nm,18.6s,baz=318,slow=37
ASAJ Asahikawa 52.58 11 P **P** **16 37 44.7 +0.8**
ASAJ Asahikawa 52.58 11 P **P** **16 37 44.7 +0.8**
baz=218,slow=6.6
LSA Lhasa 52.68 316 P **P** **16 37 45.4 -0.1**
LSA pmax pmax
comp=Z,10.0nm,1.0s
LSA Lhasa 52.68 316 *e*P **P** **16 37 45.2 -0.3**
LSA pmax pmax
comp=Z,15nm,0.6s
LSA Lhasa 52.68 316 *e*P **P** **16 37 45.2 -0.3**
comp=Z,15nm,0.6s
ODAN Odare 53.71 311 *e*P **P** **16 37 52.2 -0.7**
comp=Z,43nm,0.5s
ODAN Odare 53.71 311 *e*P **P** **16 37 52.2 -0.7**
comp=Z,43nm,0.5s
TAPN Taplejung 53.75 312 *e*P **P** **16 37 52.6 -0.7**
comp=Z,34nm,0.4s
RAMN Ramite 54.35 311 *e*P **P** **16 37 57.2 -0.4**
comp=Z,50nm,0.4s
GTA Gaotai 54.49 331 ⇑P **P** **16 37 58.3 +0.1**
GTA pP **pP** **16 38 08.3 -0.2**
GTA sP **sP** **16 38 11.4 -1.1**
GTA PcP **PcP** **16 39 02.3 +0.9**
GTA ScP **ScP** **16 42 54.8 -2.6**
GTA S **S** **16 45 36.8 +1.7**
GTA sS **sS** **16 45 53.5 +1.5**
GTA ScS **ScS** **16 47 40.1 -5.1**
GTA SS **SS** **16 49 19.6 +1.4**
GTA pmax pmax
comp=Z,23nm,0.8s
GTA pmax pmax
comp=Z,130nm,4.5s
GTA LR LR
comp=Z,89nm,15.2s
GTA LR LR
comp=Z,100nm,15.7s
GTA LR LR
comp=Z,110nm,15.9s
JIRN Jiri 55.04 311 *e*P **P** **16 38 02.0 -0.8**
comp=Z,40nm,0.5s
JIRN Jiri 55.04 311 *e*P **P** **16 38 02.0 -0.8**
comp=Z,40nm,0.5s

YSS Yuzh-Sakhalins 55.35 10 *e*P **P** **16 38 05.0 +0.9**
GUN Gumba 55.41 311 *e*P **P** **16 38 04.6 -0.8**
comp=Z,49nm,0.6s
GUN Gumba 55.41 311 *e*P **P** **16 38 04.6 -0.8**
comp=Z,49nm,0.6s
PKI Pulchoki 55.58 311 *e*P **P** **16 38 05.7 -0.9**
comp=Z,17nm,0.5s
PKI Pulchoki 55.58 311 *e*P **P** **16 38 05.7 -0.9**
PKI pmax pmax
comp=Z,17nm,0.5s
PKI Pulchoki 55.58 311 *e*P **P** **16 38 05.7 -0.9**
comp=Z,17nm,0.5s
PKIN Phulchoki 55.59 311 *e*P **P** **16 38 05.5 -1.1**
comp=Z,11nm,0.5s
KKN Kakani 55.79 311 *e*P **P** **16 38 07.3 -0.7**
comp=Z,20nm,0.6s
KKN Kakani 55.79 311 *e*P **P** **16 38 07.3 -0.7**
KKN pmax pmax
comp=Z,20nm,0.6s
KKN Kakani 55.79 311 *e*P **P** **16 38 07.3 -0.7**
comp=Z,20nm,0.6s
DMN Daman 55.83 311 *e*P **P** **16 38 07.5 -0.8**
comp=Z,17nm,0.5s
DMN Daman 55.83 311 *e*P **P** **16 38 07.5 -0.8**
comp=Z,17nm,0.5s
GKN Gorkha 56.39 311 *e*P **P** **16 38 11.4 -0.8**
comp=Z,27nm,0.3s
KLR Kul'dur 56.50 1 *e*P P 16 38 09.2 -3.1
KOLN Koldanda 57.05 310 *e*P **P** **16 38 16.1 -0.8**
KOLN Koldanda 57.05 310 *e*P **P** **16 38 16.1 -0.8**
DANN Dangsing 57.23 311 *e*P **P** **16 38 17.5 -0.8**
comp=Z,50nm,0.9s
DANN Dangsing 57.23 311 *e*P **P** **16 38 17.5 -0.8**
comp=Z,50nm,0.9s
AFI Afiamalu 57.27 102 LR LR 17 00 09.5
comp=Z,42nm,21.7s,baz=288,slow=33
PYUN Piuthan 57.69 310 *e*P **P** **16 38 20.5 -0.9**
PYUN Piuthan 57.69 310 *e*P **P** **16 38 20.5 -0.9**
ULN Ulaanbaatar 58.78 342 *e*P **P** **16 38 29.3 +0.7**
comp=Z,26nm,0.7s
SONM Songino Array 58.96 342 P **P** **16 38 29.8 -0.1**
SONM Songino Array 58.96 342 P **P** **16 38 29.8 -0.1**
comp=Z,6.7nm,0.6s,baz=149,slow=6.7,SNR=8.6
ZAK Zakamensk 62.19 341 *e*P **P** **16 38 51.8 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
WMQ Urumqi 63.90 327 P **P** **16 39 04.0 +0.7**
WMQ sP **sP** **16 39 18.0 +0.4**
WMQ PcP **PcP** **16 39 40.0 +1.3**
WMQ PP **PP** **16 41 26.0 +1.8**
WMQ ScP 16 43 38.0
WMQ S **S** **16 47 35.0 -1.7**
WMQ sS **sS** **16 47 52.0 -1.9**
WMQ ScS **SKSac** **16 48 52.0 -2.5**
WMQ SS **SS** **16 51 45.0 -0.8**
WMQ pmax pmax
comp=Z,23nm,1.0s
WMQ pmax pmax
comp=Z,130nm,6.0s
WMQ LR LR
comp=Z,84nm,18.0s
WMQ LR LR
comp=Z,79nm,18.0s
WMQ LR LR
comp=Z,56nm,18.0s
MOY Mondy 64.04 340 *e*P **P** **16 39 05.0 +1.0**
PETK Petropavlovsk- 64.73 18 P **P** **16 39 09.7 +1.3**
PETK pmax pmax
comp=Z,12nm,0.6s
PETK Petropavlovsk- 64.73 18 P **P** **16 39 09.7 +1.3**
PETK Petropavlovsk- 64.73 18 P **P** **16 39 09.7 +1.3**
comp=Z,12nm,0.6s,baz=179,slow=5.4,SNR=15
KSH Kashi 68.50 318 P P 16 39 36.0 +3.1
KSH pP pP 16 39 46.3 +2.9
KSH sP sP 16 39 50.3 +2.9
KSH PP **PP** **16 42 09.0 +4.5**
KSH PcS 16 44 04.3
KSH S **S** **16 48 34.1 +1.2**
KSH SS **SS** **16 53 01.1 +3.6**
KSH pmax pmax
comp=Z,15nm,0.6s
KSH pmax pmax
comp=Z,150nm,5.7s
KSH LR LR
comp=Z,160nm,4.9s
KSH LR LR
comp=Z,200nm,5.3s
KSH LR LR
comp=Z,180nm,6.2s
MK31 Makanchi Array 68.73 327 *e*P **P** **16 39 34.5 +0.4**
MK31 pmax pmax
comp=Z,27nm,0.5s
MK31 Makanchi Array 68.73 327 *e*P **P** **16 39 34.3 +0.2**
MKAR Makanchi Array 68.73 327 *ce*P **P** **16 39 34.2 +0.1**
MKAR pmax pmax
comp=Z,48nm,0.6s
MKAR Makanchi Array 68.73 327 P **P** **16 39 34.5 +0.4**
MKAR ⇑*e* 17 07 45.8
MKAR Makanchi Array 68.73 327 P **P** **16 39 34.5 +0.4**
comp=Z,48nm,0.6s,baz=129,slow=7.6,SNR=1183
MKAR PKP2bc 17 07 45.8
comp=Z,0.2nm,0.7s,baz=312,slow=4.6,SNR=2.4
MKAR Makanchi Array 68.73 327 ⇑P **P** **16 39 34.8 +0.7**
baz=69
YAK Yakutsk 69.31 360 *c* *i*P **P** **16 39 37.7 +0.4**
YAK pmax pmax
comp=Z,57nm,0.8s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK Yakutsk 69.31 360 *e*P **P** **16 39 37.7 +0.4**
comp=E,84nm,0.8s
KZA Kyzart 70.27 320 *i*P **P** **16 39 45.2 +1.0**
KZA Kyzart 70.27 320 P **P** **16 39 45.2 +1.0**
SNR=24
TKM2 Tokmak 2 70.48 321 *i*P **P** **16 39 45.5 +0.3**
TKM2 Tokmak 2 70.48 321 P **P** **16 39 45.5 +0.3**
SNR=28
TKM2 Tokmak 2 70.48 321 *e*P **P** **16 39 45.3 +0.1**
comp=E,15nm,0.6s
KBK Karagaybulak 70.75 320 P **P** **16 39 47.4 +0.6**
SNR=18
UCH Uchtor 70.81 320 *i*P **P** **16 39 48.1 +0.6**
UCH Uchtor 70.81 320 P **P** **16 39 48.2 +0.6**
SNR=31
AAK Ala-Archa 71.03 320 P **P** **16 39 49.6 +1.1**
AAK comp=E,138nm,0.9s,SNR=19
AAK Ala-Archa 71.03 320 ⇓*i*P **P** **16 39 48.7 +0.2**
AAK pmax pmax
comp=Z,65nm,1.2s
AAK Ala-Archa 71.03 320 P **P** **16 39 49.3 +0.8**
SNR=22
AAK Ala-Archa 71.03 320 *e*P **P** **16 39 49.0 +0.5**
comp=Z,24nm,1.0s
CHMS Chumysh 71.05 320 *i*P **P** **16 39 48.6 +0.2**
CHMS Chumysh 71.05 320 P **P** **16 39 48.6 +0.2**
SNR=10.0
KBL Kabul 71.22 310 *e*P **P** **16 39 50.0 +0.2**
KBL pmax pmax
comp=Z,20nm,0.6s
KBL Kabul 71.22 310 *e*P **P** **16 39 50.0 +0.2**
comp=Z,20nm,0.6s
AML Almayashu 71.30 319 P **P** **16 39 51.0 +0.6**
SNR=39
USP Ospenovka 71.34 320 *i*P **P** **16 39 50.5 +0.3**
USP Ospenovka 71.34 320 P **P** **16 39 50.5 +0.3**
SNR=36
EKS2 Erkin-Say 71.50 320 *i*P **P** **16 39 52.6 +1.3**
EKS2 Erkin-Say 71.50 320 P **P** **16 39 52.6 +1.3**
SNR=7.0
VNDA Vanda 71.94 173 *e*P **P** **16 39 54.0 +0.9**
comp=Z,19nm,1.6s
VNDA Vanda 71.94 173 P **P** **16 39 53.6 +0.4**
comp=Z,1.7nm,0.5s,baz=314,slow=7.2,SNR=28
VNDA LR LR 17 10 14.4
comp=Z,16nm,28.6s,baz=330,slow=35
ZAA0 Zalesovo Array 72.10 334 *e*P **P** **16 39 53.3 -1.1**
ZALV Zalesovo Beam 72.10 334 *i*P **P** **16 39 53.7 -0.7**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZALV Zalesovo Beam 72.10 334 P **P** **16 39 54.0 -0.5**
ZALV Zalesovo Beam 72.10 334 P **P** **16 39 54.0 -0.5**
comp=Z,9.6nm,0.6s,baz=137,slow=6.7,SNR=68
KURBB Kurchatov Arra 73.02 329 P **P** **16 40 00.1 +0.1**
comp=Z,16nm,0.6s,baz=127,slow=5.0,SNR=213

KURK Kurchatov 73.03 329 P **P** **16 40 00.1 +0.1**
KURK pmax pmax
comp=Z,16nm,0.6s
KURK Kurchatov 73.03 329 *e*P **P** **16 39 58.5 -1.5**
comp=Z,14nm,0.8s
KURK Kurchatov 73.03 329 P **P** **16 39 58.9 -1.1**
comp=Z,228nm,0.7s,SNR=5.9
NVS Novosibirsk 73.39 334 *e*P **P** **16 40 00.2 -1.9**
NVS *e*S S 16 49 21.8 -6.9
NVS pmax pmax
comp=Z,22nm,1.0s
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,8.0nm,0.7s
NVS smax smax
comp=N,12nm,1.1s
NVS smax smax
comp=E,17nm,1.1s
KK31 Karatay Array 73.83 319 *i*P **P** **16 40 05.0 0.0**
KK31 pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 73.83 319 *e*P **P** **16 40 05.0 0.0**
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 73.83 319 *e*P **P** **16 40 05.0 0.0**
comp=Z,4.3nm,0.5s
MAW Mawson 74.56 202 P **P** **16 40 08.1 -0.6**
MAW Mawson 74.56 202 P **P** **16 40 08.1 -0.6**
comp=Z,11nm,0.8s,baz=74,slow=5.4,SNR=8.5
MAW LR LR 17 10 02.2
comp=Z,106nm,20.2s,baz=68,slow=34
IDAH Dahanechah 77.77 306 *e*P **P** **16 40 28.7 +0.6**
IKOO Kooshah 78.38 305 *e*P **P** **16 40 32.2 +0.8**
PPT Papeete 78.51 106 LR LR 17 11 13.6
comp=Z,16nm,28.6s,baz=260,slow=33
BVA0 Borovoye Array 78.57 328 *i*P **P** **16 40 30.9 -0.8**
BVA0 pmax pmax
comp=Z,24nm,1.0s
BVAR Borovoye Array 78.57 328 P **P** **16 40 31.6 -0.1**
BVAR pmax pmax
comp=Z,15nm,0.9s
BVAR Borovoye Array 78.57 328 P **P** **16 40 31.6 -0.1**
BVAR Borovoye Array 78.57 328 P **P** **16 40 31.6 -0.1**
comp=Z,15nm,0.8s,baz=125,slow=7.2,SNR=67
BRVK Borovoye 78.64 328 P **P** **16 40 32.7 +0.6**
comp=Z,129nm,0.8s,SNR=11
BRVK Borovoye 78.64 328 *ce*P **P** **16 40 32.0 -0.1**
BRVK pmax pmax
comp=Z,17nm,0.7s
BRVK Borovoye 78.64 328 *e*P **P** **16 40 30.7 -1.4**
comp=Z,17nm,0.8s
IMYA Miami 78.68 309 *e*P **P** **16 40 33.5 +0.6**
ITEG Tejag 78.72 306 *e*P **P** **16 40 34.0 +0.8**
TIXI Tiksi 78.98 360 *ce*P **P** **16 40 33.2 -0.3**
TIXI pmax pmax
comp=Z,32nm,0.6s
TIXI Tiksi 78.98 360 *e*P **P** **16 40 32.8 -0.7**
comp=Z,39nm,0.6s
IMOG Moghan 79.19 309 *e*P **P** **16 40 36.2 +0.3**
IPAY Payeh 79.56 309 *e*P **P** **16 40 38.7 +0.9**
IAKL Akhelmad 79.79 309 *e*P **P** **16 40 39.6 +0.5**
IKRD Kardeh 80.03 309 *e*P P **16 40 37.2 -3.1**
ISFR Sfrayin 80.50 309 *e*P **P** **16 40 43.7 +0.8**
QSPA South Pole Qui 82.49 180 *e*P **P** **16 40 52.6 -0.1**
comp=Z,9.5nm,0.9s
AB31 Akbulak array 83.00 322 *i*P **P** **16 40 55.0 -0.5**
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 83.00 322 *e*P **P** **16 40 54.9 -0.6**
comp=Z,9.7nm,0.5s
ABKAR Akbulak array 83.00 322 ⇓P **P** **16 40 55.7 +0.3**
baz=83
AKTO Aktyubinsk 84.57 322 P **P** **16 41 03.5 0.0**
AKTO pmax pmax
comp=Z,7.0nm,0.5s
AKTO Aktyubinsk 84.57 322 P **P** **16 41 03.5 0.0**
AKTO Aktyubinsk 84.57 322 P **P** **16 41 03.5 0.0**
comp=Z,6.5nm,0.5s,baz=102,slow=7.6,SNR=28
IKLH Kolahrood 84.65 304 *e*P **P** **16 41 05.3 +0.7**
SVE Sverdlovsk 85.28 329 ⇑*i*P **P** **16 41 06.8 -0.1**
SVE pmax pmax
comp=Z,40nm,1.4s
ARU Arti 86.22 328 *d* *i*P **P** **16 41 11.0 -0.5**
ARU 16 44 33.6
ARU S **SKSac** **16 51 33.6 -1.4**
ARU SS SS 16 57 30.9 +7.3
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 86.22 328 *e*P **P** **16 41 10.9 -0.5**
comp=Z,14nm,1.0s
IRAZ Razeghan 86.42 306 *e*P **P** **16 41 13.9 +0.6**
RAYN Ar Rayn 88.11 294 P **P** **16 41 22.5 +1.0**
comp=Z,139nm,0.9s,SNR=11
IHRS Heris 89.25 309 *e*P **P** **16 41 27.0 +0.2**
ZEI Tsey 92.31 313 *e*P **P** **16 41 39.0 -1.9**
ZEI pmax pmax
comp=Z,10.0nm,1.3s
KMBO Kilima Mbogo 92.76 269 *e*P **P** **16 41 44.2 +0.5**
comp=Z,20nm,1.6s
KMBO Kilima Mbogo 92.76 269 P **P** **16 41 43.9 +0.2**
comp=Z,3.1nm,0.8s,baz=69,slow=5.9,SNR=9.1
KBZ Khabaz 93.16 314 P **P** **16 41 44.5 0.0**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 93.16 314 P **P** **16 41 44.5 0.0**
KBZ Khabaz 93.16 314 P **P** **16 41 44.5 0.0**
comp=Z,2.8nm,0.8s,baz=90,slow=4.6,SNR=5.7
ILAR Eielson Array 93.71 25 P **P** **16 41 45.2 -1.4**
ILAR PKKP **PKKPdf** **16 58 51.5 -1.2**
ILAR Eielson Array 93.71 25 P **P** **16 41 45.2 -1.4**
comp=Z,0.9nm,0.8s,baz=278,slow=4.5,SNR=12
ILAR PKKP **PKKPdf** **16 58 51.5 -1.2**
comp=Z,0.4nm,0.6s,baz=60,slow=0.7,SNR=4.5
ILAR LR LR 17 26 05.1
comp=Z,48nm,19.8s,baz=245,slow=37
PRGR Permogore 93.95 332 P **P** **16 41 45.2 -2.5**
PRGR pmax pmax
comp=Z,16nm,1.2s
TMCR Tamitsa 97.63 334 *e*P **P** **16 42 01.8 -2.6**
TMCR *e* 16 45 59.3
TMCR pmax pmax
comp=Z,9.0nm,0.4s
BOSA Boshof 99.37 239 LR LR 17 20 54.5
comp=Z,22nm,19.6s,baz=70,slow=32
APA Apatity 99.47 337 *e*P **Pdif** **16 42 20.0 +7.4**
APA MLR MLR
comp=Z,800nm,17.0s
BRTR Keskin Array B 99.77 309 P **Pdif** **16 42 13.6 -1.1**
BRTR Keskin Array B 99.77 309 P **Pdif** **16 42 13.6 -1.1**
comp=Z,0.8nm,0.8s,baz=92,slow=3.5,SNR=5.2
ARCES ARCESS Array B 102.10 340 P **Pdif** **16 42 23.8 -0.6**
ARCES ARCESS Array B 102.10 340 P **Pdif** **16 42 23.8 -0.6**
comp=Z,2.3nm,0.7s,baz=71,slow=5.8,SNR=5.0
FINES FINESS Array B 103.28 331 PKiKP **PKiKP** **16 46 49.1 +0.3**
FINES FINESS Array B 103.28 331 PKiKP **PKiKP** **16 46 49.1 +0.3**
comp=Z,0.5nm,0.4s,baz=95,slow=4.5,SNR=4.8
YKA Yellowknife Ar 108.11 26 PKiKP **PKiKP** **16 46 56.8 -0.9**
YKA PKKPbc **PKKPbc** **16 58 09.4 -2.7**
YKA Yellowknife Ar 108.11 26 PKiKP **PKiKP** **16 46 56.8 -0.9**
comp=Z,0.4nm,0.6s,baz=298,slow=1.4,SNR=10
YKA PKKPbc **PKKPbc** **16 58 09.4 -2.7**
comp=Z,0.8nm,0.5s,baz=104,slow=3.2,SNR=16
GERES GERESS Array B 112.91 320 PKiKP **PKiKP** **16 47 07.4 0.0**
GERES GERESS Array B 112.91 320 PKiKP **PKiKP** **16 47 07.4 0.0**
comp=Z,1.4nm,0.5s,baz=64,slow=2.3,SNR=17
PDAR Pinedale Array 117.10 46 PKP **PKPdf** **16 47 15.5 -0.3**
PDAR PKKPbc **PKKPbc** **16 57 40.2 -1.5**
PDAR Pinedale Array 117.10 46 PKP **PKPdf** **16 47 15.5 -0.3**
comp=Z,0.7nm,0.7s,baz=156,slow=0.9,SNR=6.3
PDAR PKKPbc **PKKPbc** **16 57 40.2 -1.5**
comp=Z,1.6nm,1.3s,baz=116,slow=4.1,SNR=2.7
HINF Hinteralfeld 117.57 321 *e*PKiKP **PKPdf** **16 47 15.9 -0.4**
comp=Z,4.6nm,0.6s
HINF Hinteralfeld 117.57 321 *e*PKiKP **PKPdf** **16 47 15.9 -0.4**
HINF Hinteralfeld 117.57 321 *e*PKPdf **PKPdf** **16 47 15.9 -0.4**
LPG La Plagne 118.44 318 *e*PKiKP **PKPdf** **16 47 18.5 +0.2**
comp=Z,7.2nm,0.7s
LPG La Plagne 118.44 318 *e*PKiKP **PKPdf** **16 47 18.5 +0.2**
LPL La Plagne 118.45 318 *e*PKiKP **PKPdf** **16 47 18.4 +0.1**
comp=Z,6.3nm,0.6s
LPL La Plagne 118.45 318 *e*PKiKP **PKPdf** **16 47 18.4 +0.1**
LPL La Plagne 118.45 318 *e*PKPdf **PKPdf** **16 47 18.4 +0.1**
CABF La Chapelle 118.49 319 *e*PKiKP **PKPdf** **16 47 18.4 +0.3**

	comp=Z,9.0nm,0.5s								
CABF	**La Chapelle**	**118.49**	**319**	*e*PKIKP	**PKPdf**	**16**	**47**	**18.4**	**+0.3**
CABF	**La Chapelle**	**118.49**	**319**	*e*PKPdf	**PKPdf**	**16**	**47**	**18.4**	**+0.3**
MBDF	**Montbardon**	**118.69**	**317**	*e*PKIKP	**PKPdf**	**16**	**47**	**19.0**	**+0.3**
MBDF	**Montbardon**	**118.69**	**317**	*e*PKIKP	**PKPdf**	**16**	**47**	**19.0**	**+0.3**
MBDF	**Montbardon**	**118.69**	**317**	*e*PKPdf	**PKPdf**	**16**	**47**	**19.0**	**+0.3**
ORIF	**Oris-en-Rattie**	**119.22**	**318**	*e*PKIKP	**PKPdf**	**16**	**47**	**19.6**	**0.0**
	comp=Z,4.2nm,0.5s								
ORIF	**Oris-en-Rattie**	**119.22**	**318**	*e*PKIKP	**PKPdf**	**16**	**47**	**19.6**	**0.0**
ORIF	**Oris-en-Rattie**	**119.22**	**318**	*e*PKPdf	**PKPdf**	**16**	**47**	**19.6**	**0.0**
LOR	**Lormes**	**119.66**	**321**	*e*PKIKP	**PKPdf**	**16**	**47**	**19.7**	**-0.6**
LOR	**Lormes**	**119.66**	**321**	*e*PKPdf	**PKPdf**	**16**	**47**	**19.7**	**-0.6**
SMRF	**Simiane la Rot**	**119.75**	**317**	*e*PKIKP	**PKPdf**	**16**	**47**	**20.5**	**-0.1**
SMRF	**Simiane la Rot**	**119.75**	**317**	*e*PKPdf	**PKPdf**	**16**	**47**	**20.5**	**-0.1**
SMF	**Signal de Mont**	**119.92**	**320**	*e*PKIKP	**PKPdf**	**16**	**47**	**21.0**	**+0.2**
	comp=Z,4.2nm,0.7s								
SMF	**Signal de Mont**	**119.92**	**320**	*e*PKIKP	**PKPdf**	**16**	**47**	**21.0**	**+0.2**
SMF	**Signal de Mont**	**119.92**	**320**	*e*PKPdf	**PKPdf**	**16**	**47**	**21.0**	**+0.2**
SSF	**Saint Saulge**	**119.96**	**321**	*e*PKIKP	**PKPdf**	**16**	**47**	**20.4**	**-0.4**
SSF	**Saint Saulge**	**119.96**	**321**	*e*PKIKP	**PKPdf**	**16**	**47**	**20.4**	**-0.4**
SSF	**Saint Saulge**	**119.96**	**321**	*e*PKPdf	**PKPdf**	**16**	**47**	**20.4**	**-0.4**
AVF	**Avril sur Loir**	**120.17**	**320**	*e*PKIKP	**PKPdf**	**16**	**47**	**20.9**	**-0.3**
AVF	**Avril sur Loir**	**120.17**	**320**	*e*PKIKP	**PKPdf**	**16**	**47**	**20.9**	**-0.3**
AVF	**Avril sur Loir**	**120.17**	**320**	*e*PKPdf	**PKPdf**	**16**	**47**	**20.9**	**-0.3**
BGF	**Bois d'Agland**	**120.58**	**320**	*e*PKIKP	**PKPdf**	**16**	**47**	**22.4**	**+0.4**
	comp=Z,9.6nm,0.5s								
BGF	**Bois d'Agland**	**120.58**	**320**	*e*PKIKP	**PKPdf**	**16**	**47**	**22.4**	**+0.4**
BGF	**Bois d'Agland**	**120.58**	**320**	*e*PKPdf	**PKPdf**	**16**	**47**	**22.4**	**+0.4**
TCF	**Toulx Ste Croi**	**121.09**	**320**	*e*PKIKP	**PKPdf**	**16**	**47**	**23.3**	**+0.2**
	comp=Z,6.1nm,0.7s								
TCF	**Toulx Ste Croi**	**121.09**	**320**	*e*PKIKP	**PKPdf**	**16**	**47**	**23.3**	**+0.2**
TCF	**Toulx Ste Croi**	**121.09**	**320**	*e*PKPdf	**PKPdf**	**16**	**47**	**23.3**	**+0.2**
CAF	**Calviac**	**121.73**	**319**	*e*PKIKP	**PKPdf**	**16**	**47**	**24.3**	**-0.1**
CAF	**Calviac**	**121.73**	**319**	*e*PKIKP	**PKPdf**	**16**	**47**	**24.3**	**-0.1**
CAF	**Calviac**	**121.73**	**319**	*e*PKPdf	**PKPdf**	**16**	**47**	**24.3**	**-0.1**
MFF	**Saint Martin d**	**122.43**	**321**	*e*PKIKP	**PKPdf**	**16**	**47**	**25.8**	**+0.2**
	comp=Z,9.1nm,0.6s								
MFF	**Saint Martin d**	**122.43**	**321**	*e*PKIKP	**PKPdf**	**16**	**47**	**25.8**	**+0.2**
MFF	**Saint Martin d**	**122.43**	**321**	*e*PKPdf	**PKPdf**	**16**	**47**	**25.8**	**+0.2**
ULM	**Lac du Bonnet**	**122.75**	**33**	PKP	**PKPdf**	**16**	**47**	**25.7**	**-0.4**
ULM	**Lac du Bonnet**	**122.75**	**33**	PKP	**PKPdf**	**16**	**47**	**25.7**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=306,slow=3.0,SNR=5.8								
TXAR	**Lajitas Array**	**125.02**	**59**	PKP	**PKPdf**	**16**	**47**	**31.1**	**-0.1**
TXAR	**Lajitas Array**	**125.02**	**59**	PKP	**PKPdf**	**16**	**47**	**31.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=183,slow=1.8,SNR=8.6								
JCT	**Junction City**	**128.01**	**57**	*e*PKIKP	**PKPdf**	**16**	**47**	**37.9**	**+1.1**
JCT	**Junction City**	**128.01**	**57**	*e*PKPdf	**PKPdf**	**16**	**47**	**37.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**129.08**	**281**	PKP	**PKPdf**	**16**	**47**	**38.6**	**-0.5**
TORD				SKPbc	SKPab	16	50	54.1	-2.8
TORD	**Torodi Ar. Bea**	**129.08**	**281**	PKP	**PKPdf**	**16**	**47**	**38.6**	**-0.5**
	comp=Z,3.7nm,0.6s,baz=83,slow=1.8,SNR=30								
TORD				SKPbc	SKPab	16	50	54.1	-2.8
	comp=Z,2.6nm,0.8s,baz=70,slow=3.2,SNR=11								
SCHQ	**Schefferville**	**130.86**	**13**	PKP	**PKPdf**	**16**	**47**	**41.0**	**-0.4**
SCHQ				SKPbc	**SKPbc**	**16**	**50**	**59.3**	**-3.9**
SCHQ	**Schefferville**	**130.86**	**13**	PKP	**PKPdf**	**16**	**47**	**41.0**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=342,slow=3.2,SNR=3.9								
SCHQ				SKPbc	**SKPbc**	**16**	**50**	**59.3**	**-3.9**
	comp=Z,10nm,0.8s,baz=341,slow=5.7,SNR=9.4								
KIC	**Kosan Boka**	**135.25**	**271**	*e*P	**PKPdf**	**16**	**47**	**51.1**	**+0.2**
	comp=Z,5.9nm,0.7s								
DBIC	**Dimbokro**	**135.39**	**272**	PKP	**PKPdf**	**16**	**47**	**50.6**	**-0.5**
DBIC	**Dimbokro**	**135.39**	**272**	PKP	**PKPdf**	**16**	**47**	**50.6**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=133,slow=1.6,SNR=6.6								
LIC	**Lamto**	**135.53**	**271**	*e*PKIKP	**PKPdf**	**16**	**47**	**51.9**	**+0.5**
	comp=Z,4.8nm,0.4s								
LIC	**Lamto**	**135.53**	**271**	*e*P	**PKPdf**	**16**	**47**	**52.7**	**+1.3**
	comp=Z,9.1nm,0.4s								
LIC	**Lamto**	**135.53**	**271**	*e*PKPdf	**PKPdf**	**16**	**47**	**51.9**	**+0.5**
TIC	**Toumodi**	**135.55**	**272**	*e*P	**PKPdf**	**16**	**47**	**53.5**	**+2.0**
	comp=Z,5.6nm,0.2s								
LVC	**Limon Verde**	**144.72**	**148**	*e*PKP	**PKPdf**	**16**	**48**	**09.7**	**+1.6**
JTS	**JuntasAbangare**	**145.19**	**83**	*e*PKP	**PKPdf**	**16**	**48**	**10.2**	**+1.3**
CPUP	**Villa Florida**	**145.60**	**168**	PKPbc	**PKPdf**	**16**	**48**	**09.1**	**-0.1**
CPUP	**Villa Florida**	**145.60**	**168**	PKPbc	**PKPdf**	**16**	**48**	**09.1**	**-0.1**
	comp=Z,4.8nm,0.4s,baz=191,slow=4.3,SNR=13								
LPAZ	**La Paz**	**150.22**	**143**	*e*PKPbc	**PKPbc**	**16**	**48**	**24.3**	**+1.3**
LPAZ	**La Paz**	**150.22**	**143**	PKPbc	**PKPbc**	**16**	**48**	**22.9**	**-0.1**
	comp=Z,7.3nm,0.4s,baz=260,slow=1.0,SNR=4.0								

IDC ***23*** *16:46:22.1±6.1,2.˙46N×95.˙68E,h0km,mb3.6/3,mb1 3.5/5, mb1mx3.3/27,mbtmp3.4/5,ML3.0/2,Error ellipse: s-maj=128.2km s-min=37.9km az=23.0*

ISCJB ***23*** *16:46:25.1±0.9,2.˙63N±0.˙06×95.˙85E±0.˙06,h25km, mb3.7/3,Error ellipse: s-maj=9.6km s-min=7.5km az=30.7*

DJA ***23*** *16:46:29.9±1.3,3˚N±6˚×9˚6E±˚,h11km±5km,M3.6/5, mb4.5/2,mB5.2/1,MLv3.2/5,Mw(mB)4.6/1*

ISC 23 16:46:27.2±1.4,2.˙63N±0.˙09×95.˙9E±0.˙1,h25km,n17, σ0§97/18,mb3.7/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SNSI	**Sinabang, Aceh**	**0.47**	**117**	P	**Pb**	**16**	**46**	**37.0**	**+0.1**
SNSI				S	**Sb**	**16**	**46**	**43.2**	**-0.3**
TPTI		**1.42**	**64**	P	**Pn**	**16**	**46**	**51.7**	**+0.3**
TPTI				S	**Sn**	**16**	**47**	**08.8**	**-0.5**
KCSI	**Kotacane, Aceh**	**2.06**	**64**	P	**Pn**	**16**	**47**	**01.0**	**+0.7**
KCSI				S	**Sn**	**16**	**47**	**24.9**	**-0.3**
GSI	**Gunungsitoli**	**2.12**	**128**	P	**Pb**	**16**	**47**	**04.4**	**-0.6**
TSI	**Tuntungan**	**2.79**	**72**	P	**Pn**	**16**	**47**	**09.9**	**-0.4**
TSI				S	**Sn**	**16**	**47**	**43.2**	**0.0**
PSI	**Prapat**	**3.02**	**87**	P	**Pn**	**16**	**47**	**11.6**	**-1.9**
PSI	**Prapat**	**3.02**	**87**	Pn	**Pn**	**16**	**47**	**14.4**	**+0.9**
	0.8nm,0.3s,baz=264,slow=9.2,SNR=2.8								
LWLI	**Liwa**	**11.13**	**133**	P	**Pn**	**16**	**49**	**04.5**	**-0.5**
KASI	**Kota Agung**	**11.79**	**133**	P	**Pn**	**16**	**49**	**16.3**	**+2.3**
	56nm,0.8s,950nm								
TPI	**Tanjungpandan**	**12.90**	**114**	P	**Pn**	**16**	**49**	**30.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**16.01**	**10**	Pn	**Pn**	**16**	**50**	**11.4**	**+0.5**
	0.0nm,0.3s,baz=200,slow=12,SNR=5.6								
H08S2	**Diego Garcia H**	**25.49**	**246**	T	T	17	18	06.7	
	baz=67,slow=76,SNR=34								
H08S3	**Diego Garcia H**	**25.50**	**246**	T	T	17	18	06.8	
	baz=67,slow=76,SNR=30								
H08S1	**Diego Garcia H**	**25.51**	**246**	T	T	17	18	08.0	
	baz=67,slow=76,SNR=41								
MKAR	**Makanchi Array**	**45.56**	**347**	P	**P**	**16**	**54**	**44.6**	**-0.5**
	0.6nm,0.6s,baz=160,slow=8.6,SNR=9.4								
KURBB	**Kurchatov Arra**	**50.03**	**346**	P	**P**	**16**	**55**	**18.8**	**-0.8**
	0.3nm,0.7s,baz=173,slow=6.5,SNR=4.4								
ZALV	**Zalesovo Beam**	**51.96**	**352**	P	**P**	**16**	**55**	**33.8**	**-0.3**
	0.4nm,0.3s,baz=186,slow=7.2,SNR=4.0								

IDC ***23*** *16:50:04.9±1.4, 14.˚70S×174.˚56W,h0km,mb4.0/4, mb1 4.3/5,mb1mx3.9/19,mbtmp4.1/5,ML3.0/1,Error ellipse: s-maj=78.5km s-min=22.9km az=152.0*

ISCJB ***23*** *16:50:07.9±1.0, 14.˚9S±0.˚4×174.˚5W±0.˚2,h33km,mb4.0/4, Error ellipse: s-maj=70.3km s-min=14.9km az=156.2*

ISC 23 16:50:09.2±1.1,15.˚0S±0.˚5×174.˚3W±0.˚2,h35km,n9, σ1§64/7,mb4.0/4,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AFI	**Afiamalu**	**2.66**	**67**	Pn	**Pn**	**16**	**50**	**51.7**	**+2.0**
	127nm,0.3s,baz=262,slow=7.1,SNR=213								
AFI				Sn	**Sn**	**16**	**51**	**18.3**	**-2.5**
	326nm,0.3s,baz=262,slow=22,SNR=23								
H11S2	**WAKE ISLAND Hy**	**38.16**	**330**	T	T	17	38	08.3	
	baz=150,slow=76,SNR=8.4								
H11S3	**WAKE ISLAND Hy**	**38.18**	**330**	T	T	17	38	10.2	
	baz=150,slow=76,SNR=7.2								
H11S1	**WAKE ISLAND Hy**	**38.18**	**330**	T	T	17	38	09.3	
	baz=150,slow=76,SNR=6.0								
STKA	**Stephens Creek**	**43.50**	**239**	P	**P**	**16**	**58**	**08.8**	**-0.6**
	1.3nm,0.4s,baz=84,slow=10,SNR=5.6								
WRA	**Warramunga Arr**	**49.10**	**256**	P	**P**	**16**	**58**	**53.5**	**-0.1**
	0.4nm,0.3s,baz=91,slow=7.2,SNR=25								
ASAR	**Alice Springs**	**49.42**	**252**	P	**P**	**16**	**58**	**56.2**	**+0.1**
	5.2nm,0.7s,baz=87,slow=8.3,SNR=88								
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**	**17**	**02**	**26.2**	**0.0**
	0.4nm,0.7s,baz=221,slow=6.4,SNR=6.1								
BRTR	**Keskin Array B**	**145.29**	**321**	PKP	**PKPbc**	**17**	**09**	**43.2**	**-0.3**
	1.5nm,0.8s,baz=73,slow=1.4,SNR=7.7								

NIED ***23*** *16:51:00,23.˚90N×121.˚70E,h5km,Mw4.4 Best double couple: M◎3.86000×10¹⁵ NP1:φs45.00000°,δ84.00000°, λ91.00000°. NP2:φs217.00000°,δ6.00000°,λ82.00000°.*

JMA ***23*** *16:51:50.1±0.2,23.˚85N×121.˚68E,h17km±4km,M3.6*

BJI ***23*** *16:51:51.3,23.˚95N×121.˚53E,h3km,mb3.8/5,ML3.9/4*

ISCJB ***23*** *16:51:51.7±0.2,23.˚88N±0.˚01×121.˚66E±0.˚02,h25km±2km, mb3.8/11,MS3.3/1,Error ellipse: s-maj=2.9km s-min=1.8km az=35.8*

TAP ***23*** *16:51:51.5,23.˚90N×121.˚60E,h23km,ML4.3,B*

IDC ***23*** *16:51:57.2±5.6,23.˚82N×121.˚53E,h78km±52km, mb3.5/11, mb1 3.6/12,mb1mx3.5/26,mbtmp3.5/12,ML3.8/1, MS3.1/2, Ms1 3.1/2,ms1mx2.7/24,Error ellipse: s-maj=27.9km s-min=13.3km az=73.0*

ISC 23 16:51:51.4±0.7,23.˙88N±0.˙02×121.˙64E±0.˙02,h26km±4km, n101,σ1§09/155,mb3.8/11,16C-16D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
HWA	**Hwalien**	**0.10**	**341**	⇓*i*P	**Pb**	**16**	**51**	**56.1**	**-0.1**
	baz=9.0								
ESF	**Shoufeng Towns**	**0.12**	**266**	⇑*i*P	**Pb**	**16**	**51**	**56.2**	**-0.2**
ESF	baz=264			*i* S	**Sb**	**16**	**51**	**59.4**	**-0.4**
	baz=264								
TEGC	**Jichi Village**	**0.19**	**209**	*e*P	**Pb**	**16**	**51**	**57.7**	**+0.6**
TEGC	baz=182			*e*S	**Sb**	**16**	**52**	**02.9**	**+1.9**
	baz=182								
ESL	**Shilin**	**0.20**	**251**	⇑*i*P	**Pb**	**16**	**51**	**56.8**	**-0.4**
ESL	baz=246			*e*S	**Sb**	**16**	**52**	**00.1**	**-1.0**
	baz=246								
TWD	**Chiawan**	**0.20**	**348**	⇓*i*P	**Pb**	**16**	**51**	**57.0**	**-0.3**
TWD	baz=356			S	**Sb**	**16**	**52**	**01.1**	**-0.1**
	baz=356								
WHF	**Hehuan Shan**	**0.43**	**308**	⇑*i*P	**Pb**	**16**	**52**	**00.0**	**-0.9**
	baz=302								
EHP	**Heping Village**	**0.44**	**12**	P	**Pb**	**16**	**52**	**00.8**	**+0.1**
EHP	baz=20			*i* S	**Sn**	**16**	**52**	**08.3**	**-1.0**
	baz=20								
EHY	**Hungye**	**0.47**	**218**	⇓*i*P	**Pb**	**16**	**52**	**00.7**	**-0.5**
EHY	baz=220			S	**Sb**	**16**	**52**	**08.4**	**+0.5**
	baz=220								
ENA	**Nanau**	**0.55**	**9**	⇑*i*P	**Pb**	**16**	**52**	**02.6**	**0.0**
ENA	baz=7.0			S	**Sb**	**16**	**52**	**10.8**	**+0.6**
	baz=7.0								
TWT	**Tachien**	**0.57**	**311**	⇑*i*P	**Pb**	**16**	**52**	**02.7**	**-0.3**
TWT	baz=306			S	**Sb**	**16**	**52**	**10.0**	**-0.8**
	baz=306								
NNS	**Nan Shan**	**0.61**	**336**	⇑*i*P	**Pb**	**16**	**52**	**03.2**	**-0.4**
NNS	baz=340			*e*S	**Sb**	**16**	**52**	**11.3**	**-0.6**
	baz=340								
TWF1	**Yuli**	**0.61**	**211**	⇓*i*P	**Pb**	**16**	**52**	**02.8**	**-0.8**
TWF1	baz=217			*e*S	**Sn**	**16**	**52**	**14.0**	**+0.5**
	baz=217								
SMLT	**Sun Moon Lake**	**0.68**	**270**	⇑*i*P	**Pb**	**16**	**52**	**04.5**	**-0.3**
SMLT	baz=273			*i* S	**Sb**	**16**	**52**	**12.8**	**-1.0**
	baz=273								
TYC	**Yuchr**	**0.72**	**272**	⇑*i*P	**Pb**	**16**	**52**	**04.9**	**-0.5**
TYC	baz=275			S	**Sb**	**16**	**52**	**13.9**	**-0.9**
	baz=275								
YUS	**Yu-Shan**	**0.74**	**239**	⇓*i*P	**Pb**	**16**	**52**	**06.2**	**+0.1**
YUS	baz=235			S	**Sb**	**16**	**52**	**16.1**	**+0.1**
	baz=235								
TWC	**Suao**	**0.75**	**15**	⇑*i*P	**Pb**	**16**	**52**	**05.9**	**0.0**
TWC	baz=14			*e*S	**Sn**	**16**	**52**	**16.2**	**-0.7**
	baz=14								
ENTT	**Nioudou**	**0.76**	**355**	⇑*i*P	**Pb**	**16**	**52**	**05.7**	**-0.4**
ENTT	baz=359			*e*S	**Sn**	**16**	**52**	**16.4**	**-0.8**
	baz=359								
CHKT	**Chengkung**	**0.82**	**198**	⇓*i*P	**Pn**	**16**	**52**	**07.2**	**-0.1**
CHKT	baz=206			*e*S	**Sn**	**16**	**52**	**20.1**	**+1.6**
	baz=206								
NSK	**Sanguang**	**0.83**	**342**	⇑*i*P	**Pb**	**16**	**52**	**06.8**	**-0.6**
NSK	baz=345			*e*S	**Sb**	**16**	**52**	**17.8**	**-0.5**
	baz=345								
ALS	**Alishan**	**0.85**	**245**	⇓*i*P	**Pn**	**16**	**52**	**07.9**	**-0.1**
ALS	baz=241			*e*S	**Sb**	**16**	**52**	**18.9**	**0.0**
	baz=241								
WNT	**Mingjian**	**0.88**	**270**	⇓*i*P	**Pb**	**16**	**52**	**08.7**	**+0.6**
WNT	baz=268			*e*S	**Sn**	**16**	**52**	**20.6**	**+0.6**
	baz=268								
ILA	**Ilan**	**0.89**	**6**	*e*P	**Pn**	**16**	**52**	**08.3**	**0.0**
ILA	baz=2.0			*e*S	**Sn**	**16**	**52**	**21.1**	**+0.9**
	baz=2.0								
ELDTW	**Lidau**	**0.90**	**220**	⇓*e*P	**Pb**	**16**	**52**	**07.1**	**-1.3**
ELDTW	baz=209			*e*S	**Sb**	**16**	**52**	**20.7**	**+0.1**
	baz=209								
TWQ1	**Liyutan**	**0.92**	**301**	⇑*i*P	**Pb**	**16**	**52**	**09.2**	**+0.4**
TWQ1	baz=309			S	**Sb**	**16**	**52**	**21.1**	**-0.1**
	baz=309								
TCU	**Taichung**	**0.92**	**287**	⇑P	**Pb**	**16**	**52**	**09.7**	**+0.9**
TCU	baz=287			*e*S	**Sn**	**16**	**52**	**22.5**	**+1.4**
	baz=287								
CHN5	**Tsauling**	**0.93**	**253**	⇓*i*P	**Pb**	**16**	**52**	**09.5**	**+0.5**
CHN5	baz=240			*e*S	**Sn**	**16**	**52**	**22.4**	**+1.0**
	baz=240								
NSTT	**Nanjuang**	**0.95**	**322**	⇑*i*P	**Pb**	**16**	**52**	**09.3**	**0.0**
NSTT	baz=323			S	**Sn**	**16**	**52**	**21.9**	**+0.1**
	baz=323								
NSY	**Sanyi**	**0.97**	**304**	⇑P	**Pb**	**16**	**52**	**10.4**	**+0.8**
NSY	baz=303			*e*S	**Sn**	**16**	**52**	**22.7**	**+0.4**
	baz=303								
WGK	**Gukeng**	**1.01**	**259**	⇓P	**Pb**	**16**	**52**	**10.5**	**+0.3**
WGK	baz=257			*e*S	**Sn**	**16**	**52**	**24.5**	**+1.3**
	baz=257								
STYT	**Tauyuan**	**1.08**	**229**	⇓*i*P	**Pb**	**16**	**52**	**11.4**	**-0.1**
STYT	baz=217			*e*S	**Sb**	**16**	**52**	**26.7**	**+1.4**
	baz=217								
HSN	**Hsinchu**	**1.10**	**326**	*e*P	**Pb**	**16**	**52**	**12.6**	**+0.7**
HSN	baz=337			*e*S	**Sb**	**16**	**52**	**27.8**	**+1.9**
	baz=337								
WTP	**Ta-pu**	**1.13**	**236**	⇓*i*P	**Pb**	**16**	**52**	**12.6**	**+0.2**
WTP	baz=233			*e*S	**Sb**	**16**	**52**	**28.2**	**+1.4**
	baz=233								
TAP1	**Taipei**	**1.16**	**355**	*e*P	**Pb**	**16**	**52**	**12.3**	**-0.5**
TAP1	baz=356			*e*S	**Sb**	**16**	**52**	**27.5**	**0.0**
	baz=356								
TAP	**Taipei**	**1.16**	**354**	*e*P	**Pb**	**16**	**52**	**12.8**	**-0.1**
TAP	baz=356			*e*S	**Sb**	**16**	**52**	**27.8**	**+0.3**
	baz=356								
NCU	**National Centr**	**1.16**	**339**	*e*P	**Pb**	**16**	**52**	**13.0**	**+0.1**
NCU	baz=340			*e*S	**Sb**	**16**	**52**	**28.5**	**+1.0**
	baz=340								
TWB1	**Santiao Chiao**	**1.17**	**16**	*e*P	**Pb**	**16**	**52**	**13.2**	**+0.2**
TWB1	baz=12			*e*S	**Sb**	**16**	**52**	**29.1**	**+1.4**
	baz=12								
TWG	**Pinlang**	**1.18**	**207**	*e*P	**Pn**	**16**	**52**	**11.0**	**-1.3**
	baz=188								
CHY	**Chiayi**	**1.18**	**251**	*e*P	**Pb**	**16**	**52**	**13.2**	**0.0**
CHY	baz=249			*e*S	**Sb**	**16**	**52**	**29.0**	**+1.0**
	baz=249								
NWF	**Wu-fen Shan**	**1.19**	**6**	*e*P	**Pb**	**16**	**52**	**13.2**	**-0.3**
NWF	baz=353			*e*S	**Sb**	**16**	**52**	**30.0**	**+1.5**
	baz=353								
TTN	**Taitung**	**1.21**	**202**	*e*P	**Pn**	**16**	**52**	**12.6**	**0.0**
	baz=198								
TWK	**Hsinying**	**1.22**	**240**	⇓*e*P	**Pb**	**16**	**52**	**13.9**	**0.0**
TWK	baz=237			*e*S	**Sb**	**16**	**52**	**30.5**	**+1.2**
	baz=237								
CHN1	**Nanshi**	**1.23**	**236**	*e*P	**Pb**	**16**	**52**	**14.1**	**0.0**
CHN1	baz=233			*e*S	**Sb**	**16**	**52**	**31.7**	**+2.1**
	baz=233								
TWS1	**Kuangyinshan**	**1.23**	**351**	*e*P	**Pb**	**16**	**52**	**14.0**	**-0.1**
TWS1	baz=5.0			*e*S	**Sb**	**16**	**52**	**29.9**	**+0.3**
	baz=5.0								
WTCT	**Ta-ch'eng**	**1.25**	**270**	*e*P	**Pb**	**16**	**52**	**14.1**	**-0.1**
WTCT	baz=267			*e*S	**Sb**	**16**	**52**	**30.3**	**+0.4**
	baz=267								
SGST	**Jiashian**	**1.25**	**231**	⇓P	**Pb**	**16**	**52**	**14.8**	**+0.3**
SGST	baz=228			*e*S	**Sb**	**16**	**52**	**32.5**	**+2.3**
	baz=228								
WSF	**Szhu**	**1.32**	**260**	*e*P	**Pb**	**16**	**52**	**15.3**	**-0.2**
WSF	baz=257			*e*S	**Sb**	**16**	**52**	**32.9**	**+0.8**
	baz=257								
YOJ	**Yonaguni jima**	**1.38**	**65**	P	**Pn**	**16**	**52**	**15.7**	**+0.7**
YOJ				*e*S	**Sb**	**16**	**52**	**34.4**	**+0.7**
YOJ	**Yonaguni jima**	**1.38**	**65**	⇓*i*P	**Pn**	**16**	**52**	**15.8**	**+0.7**
YOJ	baz=68			*e*S	**Sb**	**16**	**52**	**33.3**	**-0.4**
	baz=68								
TWY	**Chenhua**	**1.39**	**358**	*e*P	**Pb**	**16**	**52**	**15.9**	**-0.8**
	baz=2.0								
CHN8	**Yiju**	**1.42**	**248**	*e*P	**Pb**	**16**	**52**	**16.3**	**-0.8**
CHN8	baz=246			*e*S	**Sb**	**16**	**52**	**35.8**	**+1.0**
	baz=246								
CHN3	**Shinhua**	**1.42**	**236**	*e*P	**Pb**	**16**	**52**	**17.6**	**+0.4**
CHN3	baz=233			*e*S	**Sb**	**16**	**52**	**36.8**	**+1.9**
	baz=233								
ECL	**Taimali**	**1.42**	**207**	*e*P	**Pn**	**16**	**52**	**14.1**	**-1.5**
	baz=190								
SSD	**Sandimen**	**1.46**	**220**	*e*P	**Pn**	**16**	**52**	**16.9**	**+0.8**
SSD	baz=216			*e*S	**Sb**	**16**	**52**	**36.7**	**+0.6**
	baz=216								
SCLT	**Jiali**	**1.50**	**242**	*e*P	**Pb**	**16**	**52**	**17.6**	**-1.0**
SCLT	baz=239			*e*S	**Sb**	**16**	**52**	**37.7**	**+0.4**
	baz=239								
TWM1	**Shoushan**	**1.54**	**227**	*e*P	**Pb**	**16**	**52**	**20.5**	**+1.2**
	baz=238								
TAI1	**Yung-k'ang**	**1.54**	**238**	*e*P	**Pb**	**16**	**52**	**18.6**	**-0.7**
TAI1	baz=234			*e*S	**Sb**	**16**	**52**	**39.2**	**+0.8**
	baz=234								
SGLT	**Jiouru**	**1.56**	**223**	*e*P	**Pb**	**16**	**52**	**19.2**	**-0.5**
	baz=219								
EAST	**Anshuo**	**1.66**	**206**	*e*P	**Pn**	**16**	**52**	**17.8**	**-1.1**
	baz=193								
TAW	**Tawu**	**1.66**	**205**	*e*P	**Pn**	**16**	**52**	**19.7**	**+0.8**
TAW	baz=192			*e*S	**Sb**	**16**	**52**	**41.5**	**-0.4**
	baz=192								
SCZT	**Fangliau**	**1.77**	**212**	*e*P	**Pn**	**16**	**52**	**21.5**	**+1.1**
	baz=208								
PCYT	**Penghaiyu**	**1.79**	**13**	*e*P	**Pn**	**16**	**52**	**21.7**	**+1.1**
	baz=358								
LAY	**Lan-yu**	**1.83**	**183**	*e*P	**Pn**	**16**	**52**	**20.2**	**-1.1**
LAY	baz=173			*e*S	**Sn**	**16**	**52**	**45.0**	**+1.4**
	baz=173								
WDGT	**Dungji**	**1.92**	**252**	*e*P	**Pn**	**16**	**52**	**23.1**	**+0.6**
	baz=236								
WDGT	baz=236			*e*S	**Sn**	**16**	**52**	**46.9**	**+1.1**
TWP	**Hsiaoliuchiu**	**1.93**	**218**	*e*P	**Pb**	**16**	**52**	**24.6**	**-1.3**
	baz=214								
IRIF	**Iriomote-Funau**	**1.96**	**76**	P	**Pn**	**16**	**52**	**23.8**	**+0.8**
IRIF				*e*S	**Sb**	**16**	**52**	**49.0**	**-1.5**
HATJ	**Hateruma jima**	**1.99**	**84**	P	**Pn**	**16**	**52**	**24.3**	**+0.9**
HATJ				*e*S

mb4.3/63,MS3.0/4,Error ellipse: s-maj=3.9km s-min=3.6km az=152.5
THR ***23*** *16:51:53.2±0.3,26°.87N±56°.06E,h0km±4km,ML4.1*
NEIC ***23*** *16:51:54.0,26°.88N±56°.08E,h6km,mb4.6/29, ML4.1(THR),MN4.1(TEH),After THR.*
TEH ***23*** *16:51:54.5,26°.90N±56°.03E,h15km,ML4.1*
CSEM ***23*** *16:51:55.2±0.1,26°.98N±55°.96E,h10km,mb4.4/43,Ms4.1, Error ellipse: s-maj=5.0km s-min=4.7km az=92.0*
MOS ***23*** *16:51:56.0±1.0,26°.93N±55°.95E,h33km,mb4.5/32,Error ellipse: s-maj=7.1km s-min=5.4km az=102.0*
OMAN ***23*** *16:51:59.5±99.0,26°.77N±56°.15E,h20km±63km,Error ellipse: s-maj=111.9km s-min=10.8km az=350.0*

ISC 23 16:51:55.1±0.3,26°.89N±0°.04×56°.02E±0°.04,h14km,n339,
σ1§16/343,mb4.3/63,MS3.1/4,6C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
BNDS	**Bandar-Abbas**	**0.53**	**15**	*e*Pg		**Pg**	**16 52 04.3**	**-1.3**
BNDS				AML		AML	16 52 16.1	
	comp=E,19μm,0.5s							
BNDS				AML		AML	16 52 19.4	
	comp=N,19μm,0.3s							
BNDS	**Bandar-Abbas**	**0.53**	**15**	*e*P		**Pg**	**16 52 04.0**	**-1.6**
BNDS	**Bandar-Abbas**	**0.53**	**15**	*e*P		**Pg**	**16 52 04.0**	**-1.6**
BNDS	**Bandar-Abbas**	**0.53**	**15**	*e*Pg		**Pg**	**16 52 04.3**	**-1.3**
IBND	**Bandar-abas**	**0.73**	**40**	*e*Sg		**Sb**	**16 52 20.0**	**+0.6**
IBND				*e*Pg		**Pg**	**16 52 09.1**	**-0.2**
IBND				*e*			16 52 36.4	
	comp=Z,25μm,0.3s							
BANOM	**Banah**	**0.99**	**165**	P		**Pn**	**16 52 15.7**	**+0.9**
	SNR=1958							
BANOM	**Banah**	**0.99**	**165**	P		**Pn**	**16 52 15.6**	**+0.9**
	SNR=1000							
NAZ	**Nazwa, Dubai**	**1.92**	**190**	Pn		**Pb**	**16 52 30.5**	**+0.6**
	SNR=45							
HATD	**Hatta, Dubai**	**2.06**	**177**	Pn		**Pb**	**16 52 31.8**	**-0.5**
	SNR=570							
HATD				Sn		**Sg**	**16 53 00.6**	**-0.7**
FAQ	**Al Faqa, Dubai**	**2.17**	**190**	Pn		**Pb**	**16 52 33.8**	**-0.4**
	SNR=27							
ASHO	**Ashiyiah**	**2.19**	**179**	P		**Pb**	**16 52 34.1**	**-0.6**
	SNR=173							
ASHO	**Ashiyiah**	**2.19**	**179**	P		**Pb**	**16 52 34.1**	**-0.6**
	SNR=173							
ASUD	**Al Ashush, Dub**	**2.34**	**196**	Pn		**Pb**	**16 52 36.8**	**-0.2**
GHIR	**Ghir-Karzin**	**3.03**	**298**	*e*Pn		**Pn**	**16 52 45.1**	**+2.3**
GHIR				AML		AML	16 53 55.5	
	comp=E,410nm,0.6s							
GHIR				AML		AML	16 54 02.7	
	comp=N,360nm,0.4s							
GHIR	**Ghir-Karzin**	**3.03**	**298**	*e*P		**Pn**	**16 52 45.0**	**+2.2**
GHIR	**Ghir-Karzin**	**3.03**	**298**	*e*P		**Pn**	**16 52 45.0**	**+2.2**
KRBR	**Kerman**	**3.15**	**12**	*e*PN5		**Pn**	**16 52 46.6**	**+1.9**
KRBR				AML		AML	16 53 38.2	
	comp=N,755nm,0.6s							
KRBR				AML		AML	16 53 42.0	
	comp=E,628nm,0.6s							
KRBR	**Kerman**	**3.15**	**12**	*e*P		**Pn**	**16 52 46.0**	**+1.3**
KRBR				*e*S		**Sn**	**16 53 24.0**	**+1.8**
KRBR	**Kerman**	**3.15**	**12**	*e*P		**Pn**	**16 52 46.0**	**+1.3**
KRBR				*e*S		**Sn**	**16 53 24.0**	**+1.8**
ARQ	**Araqi**	**3.57**	**173**	P		**Pn**	**16 52 52.1**	**+2.1**
	SNR=27							
ARQ	**Araqi**	**3.57**	**173**	P		**Pn**	**16 52 52.2**	**+2.1**
	SNR=27							
ISRV	**Sarvestan**	**3.57**	**315**	*e*Pn		**Pn**	**16 52 53.0**	**+2.6**
ISRV				*e*			16 54 32.3	
	comp=Z,9μm,0.7s							
ISRV	**Sarvestan**	**3.57**	**315**	*e*Pn		**Pn**	**16 52 53.0**	**+2.6**
IPAR	**Pars**	**3.94**	**319**	*e*Pn		**Pn**	**16 52 57.8**	**+2.3**
IPAR				*e*			16 54 35.2	
	comp=Z,4μm,0.5s							
IPAR	**Pars**	**3.94**	**319**	*e*Pn		**Pn**	**16 52 57.8**	**+2.3**
CHBR	**Chabahar**	**4.21**	**107**	*e*Pn		**Pn**	**16 53 00.1**	**+1.2**
CHBR				AML		AML	16 53 51.8	
	comp=N,134nm,0.4s							
CHBR				AML		AML	16 54 02.6	
	comp=E,87nm,0.8s							
CHBR	**Chabahar**	**4.21**	**107**	*e*Pn		**Pn**	**16 53 00.1**	**+1.2**
SMDO	**Samad**	**4.24**	**154**	P		Pn	16 53 03.0	+3.6
	SNR=13							
SMDO	**Samad**	**4.24**	**154**	P		Pn	16 53 03.0	+3.6
	SNR=13							
IMEH	**Mehriz**	**4.65**	**345**	*e*Pn		**Pn**	**16 53 07.3**	**+2.1**
IMEH				*e*			16 54 07.6	
	comp=Z,1μm,0.2s							
IMEH	**Mehriz**	**4.65**	**345**	*e*Pn		**Pn**	**16 53 07.3**	**+2.1**
IBAF	**Bafgh**	**4.70**	**355**	*e*			16 53 25.1	
	comp=Z,1μm,0.3s							
IBAF				*e*Pn		**Pn**	**16 53 07.0**	**+1.2**
WBK	**Wadi Bani Khal**	**5.04**	**147**	P		**Pn**	**16 53 11.7**	**+1.4**
	SNR=50							
WBK	**Wadi Bani Khal**	**5.04**	**147**	P		**Pn**	**16 53 11.7**	**+1.4**
	SNR=50							
ISAD	**Sadrabad**	**5.41**	**338**	*e*Pn		**Pn**	**16 53 17.8**	**+2.2**
ISAD				*e*			16 54 25.7	
	comp=Z,1μm,0.2s							
ISAD	**Sadrabad**	**5.41**	**338**	*e*Pn		**Pn**	**16 53 17.8**	**+2.2**
ICHK	**Chekchek**	**5.52**	**346**	*e*Pn		**Pn**	**16 53 19.2**	**+2.1**
ICHK				*e*			16 53 24.2	
	comp=Z,2μm,0.2s							
ICHK	**Chekchek**	**5.52**	**346**	Pn		**Pn**	**16 53 19.1**	**+2.0**
ICHK	**Chekchek**	**5.52**	**346**	Pn		**Pn**	**16 53 19.1**	**+2.0**
IKOO	**Kooshah**	**6.10**	**25**	*e*Pn		**Pn**	**16 53 27.0**	**+1.9**
IKOO				*e*			16 55 11.6	
	comp=Z,816nm,0.4s							
IKOO	**Kooshah**	**6.10**	**25**	Pn		**Pn**	**16 53 26.8**	**+1.7**
IKOO	**Kooshah**	**6.10**	**25**	*e*Pn		**Pn**	**16 53 27.0**	**+1.9**
ITEG	**Tejag**	**6.44**	**21**	*e*Pn		**Pn**	**16 53 31.7**	**+1.9**
ITEG				*e*			16 55 28.1	
	comp=E,828nm,0.2s							
ITEG	**Tejag**	**6.44**	**21**	*e*Pn		**Pn**	**16 53 31.7**	**+1.9**
IDAH	**Dahanechah**	**6.72**	**29**	*e*Pn		**Pn**	**16 53 36.0**	**+2.3**
IDAH				*e*			16 55 55.1	
	comp=Z,532nm,0.4s							
IDAH	**Dahanechah**	**6.72**	**29**	*e*Pn		**Pn**	**16 53 36.0**	**+2.3**
RBK	**Rabkut**	**9.49**	**191**	P		**Pn**	**16 54 14.2**	**+2.7**
	SNR=19							
RBK	**Rabkut**	**9.49**	**191**	P		**Pn**	**16 54 14.2**	**+2.7**
	SNR=19							
ABTO	**Aybut**	**9.82**	**195**	P		**Pn**	**16 54 16.7**	**+0.7**
	SNR=23							
ABTO	**Aybut**	**9.82**	**195**	P		**Pn**	**16 54 16.7**	**+0.7**
	SNR=23							
KBL	**Kabul**	**13.55**	**53**	P		**Pn**	**16 55 10.2**	**+3.1**
KBL				pmax		pmax		
	comp=Z,4.0nm,0.4s							
KBL	**Kabul**	**13.55**	**53**	P		**Pn**	**16 55 10.2**	**+3.1**
	comp=Z,4.5nm,0.4s							
KBL	**Kabul**	**13.55**	**53**	P		**Pn**	**16 55 10.2**	**+3.1**
	comp=Z,4.5nm,0.4s							
THW	**Thamme Wali**	**14.86**	**63**	P		**Pn**	**16 55 25.0**	**+0.1**
CEP	**Cherat**	**15.35**	**59**	P		**Pn**	**16 55 31.6**	**0.0**
GNI	**Garni**	**16.21**	**328**	P		**P**	**16 55 44.8**	**-0.9**
	comp=Z,36nm,1.0s							
GNI	**Garni**	**16.21**	**328**	*e*P		**Pn**	**16 55 42.6**	**0.0**
GNI	**Garni**	**16.21**	**328**	Pn		**P**	**16 55 44.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=156,slow=5.6,SNR=4.7							
GNI				LR		LR	17 02 60.0	
	comp=Z,31nm,19.5s,baz=116,slow=41							
CHCP	**Chirah Chowk**	**16.35**	**61**	P		**Pn**	**16 55 41.8**	**-2.5**
ASF	**Jabal al Asfar**	**17.45**	**292**	P		**Pn**	**16 55 58.3**	**+0.1**
ASF				S		S	**16 59 20.6**	**0.0**
ASF	**Jabal al Asfar**	**17.45**	**292**	P		**Pn**	**16 55 58.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=93,slow=4.3,SNR=3.1							
ASF				S		**S**	**16 59 20.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=3.3							
ZEI	**Tsey**	**18.69**	**331**	*e*P		**Pn**	**16 56 14.1**	**+0.6**
ZEI				pmax		pmax		
	comp=Z,29nm,0.7s							
EIL	**Elat**	**18.76**	**283**	P		**Pn**	**16 56 15.2**	**+1.0**
EIL	**Elat**	**18.76**	**283**	P		**Pn**	**16 56 15.2**	**+1.0**
EIL	**Elat**	**18.76**	**283**	P		**Pn**	**16 56 15.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=120,slow=8.1,SNR=2.1							
MMAI	**Mount Meron Ar**	**18.86**	**294**	P		**Pn**	**16 56 15.5**	**-0.1**
MMAI	**Mount Meron Ar**	**18.86**	**294**	P		**Pn**	**16 56 15.5**	**-0.1**
MMAI	**Mount Meron Ar**	**18.86**	**294**	P		**Pn**	**16 56 15.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=92,slow=14,SNR=3.4							
KBZ	**Khabaz**	**19.88**	**331**	P		**Pn**	**16 56 27.1**	**-0.5**
KBZ	**Khabaz**	**19.88**	**331**	P		**Pn**	**16 56 27.1**	**-0.5**
KBZ	**Khabaz**	**19.88**	**331**	P		**Pn**	**16 56 27.1**	**-0.5**
KBZ	**Khabaz**	**19.88**	**331**	P		**Pn**	**16 56 27.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=137,slow=10,SNR=6.9							
KK31	**Karatay Array**	**20.02**	**32**	*i* P		**P**	**16 56 26.8**	**-0.7**
KK31				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KK31	**Karatay Array**	**20.02**	**32**	*i* P		**P**	**16 56 26.8**	**-0.7**
	comp=Z,6.0nm,0.7s							
KKAR	**Karatay Array**	**20.02**	**32**	*e*P		**P**	**16 56 26.2**	**-1.3**
KKAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KKAR	**Karatay Array**	**20.02**	**32**	*e*P		**P**	**16 56 26.2**	**-1.3**
KKAR	**Karatay Array**	**20.02**	**32**	*e*P		**P**	**16 56 26.2**	**-1.3**
	comp=Z,3.7nm,0.6s							
KIV	**Kislovodsk**	**20.15**	**331**	*e*P		Pn	16 56 31.0	0.0
KIV				pmax		pmax		
	comp=Z,54nm,1.0s							
KIV				MLR		MLR		
	comp=Z,19nm,14.0s							
KIV	**Kislovodsk**	**20.15**	**331**	*e*P		Pn	16 56 30.3	-0.7
	comp=Z,48nm,0.9s							
KIV	**Kislovodsk**	**20.15**	**331**	*e*P		Pn	16 56 30.3	-0.7
	comp=Z,48nm,0.9s							
KSH	**Kashi**	**20.86**	**48**	P		P	16 56 30.1	-6.7
KSH				pmax		pmax		
	comp=Z,77nm,4.8s							
GOF	**Gofitskoye**	**20.90**	**334**	*e*P		**P**	**16 56 35.3**	**-1.8**
GOF	**Gofitskoye**	**20.90**	**334**	*e*P		**P**	**16 56 35.3**	**-1.8**
AML	**Almayashu**	**20.99**	**39**	P		**P**	**16 56 38.1**	**-0.4**
	SNR=9.1							
SOC	**Sochi**	**21.26**	**326**	*e*P		P	16 56 46.4	+5.5
SOC				*e*SS		Sn	17 00 45.1	+1.1
SOC				*e*SSS		SSS	17 01 15.6	
SOC				pmax		pmax		
	comp=Z,21nm,0.6s							
SOC				MLR		MLR		
	comp=Z,81nm,14.0s							
SOC	**Sochi**	**21.26**	**326**	*e*P		P	16 56 46.4	+5.5
	comp=Z,21nm,0.6s							
EKS2	**Erkin-Say**	**21.39**	**38**	*e*P		**P**	**16 56 42.9**	**+0.4**
EKS2				pmax		pmax		
	comp=Z,20nm,1.0s							
EKS2	**Erkin-Say**	**21.39**	**38**	P		**P**	**16 56 43.3**	**+0.8**
	SNR=10							
EKS2	**Erkin-Say**	**21.39**	**38**	*e*P		**P**	**16 56 42.9**	**+0.4**
	comp=Z,20nm,1.0s							
EKS2	**Erkin-Say**	**21.39**	**38**	*e*P		**P**	**16 56 42.9**	**+0.4**
	comp=Z,20nm,1.0s							
AAK	**Ala-Archa**	**21.77**	**39**	*i* P		**P**	**16 56 46.4**	**-0.2**
AAK	**Ala-Archa**	**21.77**	**39**	P		P	16 56 51.4	+4.8
	SNR=5.9							
AAK	**Ala-Archa**	**21.77**	**39**	*e*P		**P**	**16 56 46.2**	**-0.5**
	comp=Z,28nm,1.3s							
AAK	**Ala-Archa**	**21.77**	**39**	*i* P		**P**	**16 56 46.4**	**-0.2**
AAK	**Ala-Archa**	**21.77**	**39**	P		**P**	**16 56 46.8**	**+0.1**
	comp=Z,7.8nm,0.8s,baz=211,slow=9.4,SNR=13							
KZA	**Kyzart**	**21.86**	**41**	*i* P		**P**	**16 56 50.0**	**+2.2**
KZA	**Kyzart**	**21.86**	**41**	P		**P**	**16 56 50.0**	**+2.2**
	SNR=6.5							
KZA	**Kyzart**	**21.86**	**41**	*i* P		**P**	**16 56 50.0**	**+2.2**
KBK	**Karagaybulak**	**22.04**	**40**	P		**P**	**16 56 50.4**	**+0.8**
	SNR=7.2							
CHMS	**Chumysh**	**22.15**	**39**	*i* P		**P**	**16 56 53.0**	**+2.5**
CHMS	**Chumysh**	**22.15**	**39**	P		**P**	**16 56 53.0**	**+2.5**
	SNR=7.2							
CHMS	**Chumysh**	**22.15**	**39**	*i* P		**P**	**16 56 53.0**	**+2.5**
USP	**Ospenovka**	**22.19**	**38**	*i* P		**P**	**16 56 52.0**	**+1.0**
USP	**Ospenovka**	**22.19**	**38**	P		**P**	**16 56 52.0**	**+1.0**
	SNR=5.9							
USP	**Ospenovka**	**22.19**	**38**	*i* P		**P**	**16 56 52.0**	**+1.0**
AB31	**Akbulak array**	**22.54**	**7**	*e*P		**P**	**16 56 53.7**	**-0.9**
AB31				pmax		pmax		
	comp=Z,7.0nm,0.6s							
AB31	**Akbulak array**	**22.54**	**7**	*e*P		**P**	**16 56 53.7**	**-0.9**
	comp=Z,7.0nm,0.6s							
TKM2	**Tokmak 2**	**22.58**	**40**	*e*P		**P**	**16 56 53.6**	**-1.8**
TKM2				pmax		pmax		
	comp=Z,8.0nm,1.0s							
TKM2	**Tokmak 2**	**22.58**	**40**	P		**P**	**16 56 57.8**	**+2.5**
	SNR=8.1							
TKM2	**Tokmak 2**	**22.58**	**40**	*e*P		**P**	**16 56 53.6**	**-1.8**
	comp=Z,8.3nm,1.0s							
TKM2	**Tokmak 2**	**22.58**	**40**	*e*P		**P**	**16 56 53.6**	**-1.8**
	comp=Z,8.3nm,1.0s							
BR131	**Keskin Array S**	**22.59**	**310**	*e*P		**P**	**16 56 55.3**	**-0.1**
	comp=Z,6.6nm,0.7s							
BR131	**Keskin Array S**	**22.59**	**310**	*e*P		**P**	**16 56 55.3**	**-0.1**
	comp=Z,6.6nm,0.7s							
BRTR	**Keskin Array B**	**22.59**	**310**	P		**P**	**16 56 55.9**	**+0.5**
BRTR	**Keskin Array B**	**22.59**	**310**	P		**P**	**16 56 55.9**	**+0.5**
BRTR	**Keskin Array B**	**22.59**	**310**	P		**P**	**16 56 55.9**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=132,slow=12,SNR=18							
AKTK	**Aktyubinsk**	**23.56**	**3**	P		**P**	**16 57 04.7**	**-0.4**
	comp=Z,20nm,1.9s							
AKTO	**Aktyubinsk**	**23.56**	**3**	P		**P**	**16 57 04.7**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,20nm,1.9s							
AKTO	**Aktyubinsk**	**23.56**	**3**	P		**P**	**16 57 04.5**	**-0.5**
AKTO	**Aktyubinsk**	**23.56**	**3**	P		**P**	**16 57 04.6**	**-0.5**
AKTO	**Aktyubinsk**	**23.56**	**3**	P		**P**	**16 57 04.5**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=175,slow=9.7,SNR=14							
AKTO				LR		LR	17 07 13.1	
	comp=Z,66nm,19.6s,baz=31,slow=39							
KOLN	**Koldanda**	**24.50**	**82**	*e*P		**P**	**16 57 15.9**	**+1.5**
	comp=Z,17nm,0.9s							
KOLN	**Koldanda**	**24.50**	**82**	*e*P		**P**	**16 57 15.9**	**+1.5**
	comp=Z,17nm,0.9s							
KOLN	**Koldanda**	**24.50**	**82**	*e*P		**P**	**16 57 15.9**	**+1.5**
	comp=Z,17nm,0.9s							
DANN	**Dangsing**	**24.61**	**80**	*e*P		**P**	**16 57 17.3**	**+1.9**
	comp=Z,46nm,0.8s							
DANN	**Dangsing**	**24.61**	**80**	*e*P		**P**	**16 57 17.3**	**+1.9**
	comp=Z,46nm,0.8s							
DANN	**Dangsing**	**24.61**	**80**	*e*P		**P**	**16 57 17.3**	**+1.9**
	comp=Z,46nm,0.8s							
GKN	**Gorkha**	**25.40**	**81**	*e*P		**P**	**16 57 24.4**	**+1.9**
	comp=Z,17nm,1.0s							
GKN	**Gorkha**	**25.40**	**81**	*e*P		**P**	**16 57 24.4**	**+1.9**
	comp=Z,17nm,1.0s							
GKN	**Gorkha**	**25.40**	**81**	*e*P		**P**	**16 57 24.4**	**+1.9**
	comp=Z,17nm,1.0s							
PKIN	**Phulchoki**	**26.11**	**82**	*e*P		**P**	**16 57 30.0**	**+1.0**
	comp=Z,9.6nm,0.8s							
PKI	**Pulchoki**	**26.12**	**82**	*e*P		**P**	**16 57 30.3**	**+1.1**
	comp=Z,14nm,0.8s							
PKI	**Pulchoki**	**26.12**	**82**	*e*P		**P**	**16 57 30.3**	**+1.1**
PKI				pmax		pmax		
	comp=Z,14nm,0.8s							
PKI	**Pulchoki**	**26.12**	**82**	*e*P		**P**	**16 57 30.3**	**+1.1**
	comp=Z,14nm,0.8s							
PKI	**Pulchoki**	**26.12**	**82**	*e*P		**P**	**16 57 30.3**	**+1.1**
	comp=Z,14nm,0.8s							
GUN	**Gumba**	**26.50**	**81**	*e*P		**P**	**16 57 33.8**	**+1.1**
	comp=Z,18nm,0.8s							
GUN	**Gumba**	**26.50**	**81**	*e*P		**P**	**16 57 33.8**	**+1.1**
	comp=Z,18nm,0.8s							
GUN	**Gumba**	**26.50**	**81**	*e*P		**P**	**16 57 33.8**	**+1.1**
	comp=Z,18nm,0.8s							
JIRN	**Jiri**	**26.80**	**81**	*e*P		**P**	**16 57 36.3**	**+0.9**
	comp=Z,11nm,0.7s							
JIRN	**Jiri**	**26.80**	**81**	*e*P		**P**	**16 57 36.3**	**+0.9**
	comp=Z,11nm,0.7s							
JIRN	**Jiri**	**26.80**	**81**	*e*P		**P**	**16 57 36.3**	**+0.9**
	comp=Z,11nm,0.7s							
RAMN	**Ramite**	**27.24**	**83**	*e*P		**P**	**16 57 39.6**	**+0.4**
	comp=Z,8.9nm,0.7s							
RAMN	**Ramite**	**27.24**	**83**	*e*P		**P**	**16 57 39.6**	**+0.4**
	comp=Z,8.9nm,0.7s							
RAMN	**Ramite**	**27.24**	**83**	*e*P		**P**	**16 57 39.6**	**+0.4**
	comp=Z,8.9nm,0.7s							
IDI	**Anoyia**	**27.85**	**295**	P		**P**	**16 57 44.9**	**+0.5**
IDI	**Anoyia**	**27.85**	**295**	P		**P**	**16 57 44.9**	**+0.5**
IDI	**Anoyia**	**27.85**	**295**	P		**P**	**16 57 44.9**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=90,slow=12,SNR=7.2							
ODAN	**Odare**	**27.95**	**83**	*e*P		**P**	**16 57 45.5**	**-0.1**
ODAN	**Odare**	**27.95**	**83**	*e*P		**P**	**16 57 45.5**	**-0.1**
ODAN	**Odare**	**27.95**	**83**	*e*P		**P**	**16 57 45.5**	**-0.1**
TAPN	**Taplejung**	**28.18**	**82**	*e*P		**P**	**16 57 47.7**	**0.0**
	comp=Z,4.6nm,0.8s							
TAPN	**Taplejung**	**28.18**	**82**	*e*P		**P**	**16 57 47.7**	**0.0**
	comp=Z,4.6nm,0.8s							
TAPN	**Taplejung**	**28.18**	**82**	*e*P		**P**	**16 57 47.7**	**0.0**
	comp=Z,4.6nm,0.8s							
BRVK	**Borovoye**	**28.23**	**18**	*ce*P		**P**	**16 57 47.2**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
BRVK	**Borovoye**	**28.23**	**18**	*e*P		**P**	**16 57 47.0**	**-0.5**
BRVK	**Borovoye**	**28.23**	**18**	*e*P		**P**	**16 57 47.2**	**-0.2**
	comp=Z,4.0nm,1.0s							
BVA0	**Borovoye Array**	**28.23**	**18**	*i* P		**P**	**16 57 47.0**	**-0.5**
BVA0				pmax		pmax		
	comp=Z,2.0nm,0.5s							
BVA0	**Borovoye Array**	**28.23**	**18**	*i* P		**P**	**16 57 47.0**	**-0.5**
	comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**28.23**	**18**	P		**P**	**16 57 47.3**	**-0.2**
BVAR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
BVAR				MLR		MLR		
	comp=Z,59nm,20.7s							
BVAR	**Borovoye Array**	**28.23**	**18**	P		**P**	**16 57 47.3**	**-0.2**
BVAR	**Borovoye Array**	**28.23**	**18**	P		**P**	**16 57 47.3**	**-0.2**
BVAR	**Borovoye Array**	**28.23**	**18**	P		**P**	**16 57 47.3**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=198,slow=9.0,SNR=21							
BVAR				LR		LR	17 10 06.7	
	comp=Z,59nm,20.7s,baz=308,slow=39							
MK31	**Makanchi Array**	**28.71**	**39**	*i* P		**P**	**16 57 51.8**	**-0.1**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.4s							
MK31	**Makanchi Array**	**28.71**	**39**	*e*P		**P**	**16 57 51.8**	**-0.1**
MK31	**Makanchi Array**	**28.71**	**39**	*e*P		**P**	**16 57 51.8**	**-0.1**
MKAR	**Makanchi Array**	**28.71**	**39**	*ce*P		**P**	**16 57 52.0**	**+0.1**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**28.71**	**39**	P		**P**	**16 57 51.7**	**-0.2**
MKAR				PcP		**PcP**	**17 01 01.8**	**-0.3**
MKAR	**Makanchi Array**	**28.71**	**39**	P		**P**	**16 57 51.7**	**-0.2**
MKAR	**Makanchi Array**	**28.71**	**39**	P		**P**	**16 57 51.7**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=221,slow=7.9,SNR=23							
MKAR				PcP		**PcP**	**17 01 01.8**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=236,slow=2.5,SNR=3.9							
KURBB	**Kurchatov Arra**	**29.27**	**30**	P		**P**	**16 57 56.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=230,slow=8.6,SNR=7.2							
KURK	**Kurchatov**	**29.38**	**30**	P		**P**	**16 57 56.8**	**-0.9**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**29.38**	**30**	P		**P**	**16 57 56.8**	**-0.9**
KURK	**Kurchatov**	**29.38**	**30**	P		**P**	**16 57 56.8**	**-0.9**
LSA	**Lhasa**	**30.99**	**77**	*e*P		**P**	**16 58 13.3**	**+0.5**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
LSA	**Lhasa**	**30.99**	**77**	*e*P		**P**	**16 58 13.3**	**+0.5**
	comp=Z,3.4nm,0.8s							
LSA	**Lhasa**	**30.99**	**77**	*e*P		**P**	**16 58 13.3**	**+0.5**
	comp=Z,3.4nm,0.8s							
ZAA0	**Zalesovo Array**	**34.37**	**30**	*e*P		**P**	**16 58 40.8**	**-0.6**
ZAA0	**Zalesovo Array**	**34.37**	**30**	*e*P		**P**	**16 58 40.8**	**-0.6**
ZALV	**Zalesovo Beam**	**34.37**	**30**	*i* P		**P**	**16 58 41.2**	**-0.3**
ZALV				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**34.37**	**30**	P		**P**	**16 58 40.9**	**-0.6**
ZALV				PcP		**PcP**	**17 01 16.5**	**-0.6**
ZALV	**Zalesovo Beam**	**34.37**	**30**	*i* P		**P**	**16 58 41.2**	**-0.3**
	comp=Z,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**34.37**	**30**	P		**P**	**16 58 40.9**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=246,slow=9.3,SNR=21							
ZALV				PcP		**PcP**	**17 01 16.5**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=252,slow=4.3,SNR=2.7							
MORC	**Moravsky Berou**	**37.27**	**318**	*e*P		**P**	**16 59 05.9**	**-0.6**
MORC				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MORC	**Moravsky Berou**	**37.27**	**318**	*e*P		**P**	**16 59 05.9**	**-0.6**
	comp=Z,1.9nm,0.6s							
MORC	**Moravsky Berou**	**37.27**	**318**	*e*P		**P**	**16 59 05.9**	**-0.6**
	comp=Z,1.9nm,0.6s							
GTA	**Gaotai**	**38.39**	**60**	*e*P		**P**	**16 59 17.5**	**+1.3**
GTA				pP		**pP**	**16 59 21.1**	**+0.6**
GTA				sP		**sP**	**16 59 23.9**	**+1.6**
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s	

ULN	**Ulaanbaatar**	**44.70**	**48**	*eP*	**P**	**17 00 08.4**	**+0.5**
ULN	**Ulaanbaatar**	**44.70**	**48**	*eP*	**P**	**17 00 08.4**	**+0.5**
SMF	**Signal de Mont**	**45.30**	**310**	*eP*	**P**	**17 00 11.4**	**-1.1**
	comp=Z,8.9nm,0.8s						
SMF	**Signal de Mont**	**45.30**	**310**	*eP*	**P**	**17 00 11.4**	**-1.1**
SMF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SMF	**Signal de Mont**	**45.30**	**310**	*eP*	**P**	**17 00 11.4**	**-1.1**
	comp=Z,8.9nm,0.8s						
SMF	**Signal de Mont**	**45.30**	**310**	*eP*	**P**	**17 00 11.4**	**-1.1**
	comp=Z,4.4nm,0.8s						
LOR	**Lormes**	**45.37**	**311**	*eP*	**P**	**17 00 12.2**	**-0.8**
LOR	**Lormes**	**45.37**	**311**	*eP*	**P**	**17 00 12.2**	**-0.8**
LOR	**Lormes**	**45.37**	**311**	*eP*	**P**	**17 00 12.2**	**-0.8**
NB2	**NORSAR Subarra**	**45.46**	**331**	P	**P**	**17 00 12.1**	**-1.5**
	comp=Z,1.6nm,1.0s,baz=118,slow=8.6						
NB2	**NORSAR Subarra**	**45.46**	**331**	P	**P**	**17 00 12.1**	**-1.5**
	comp=Z,1.6nm,1.0s,SNR=3.5						
NOA	**NORSAR Array B**	**45.46**	**331**	P	**P**	**17 00 12.6**	**-1.0**
NOA	**NORSAR Array B**	**45.46**	**331**	P	**P**	**17 00 12.6**	**-1.0**
NOA	**NORSAR Array B**	**45.46**	**331**	P	**P**	**17 00 12.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=123,slow=8.1,SNR=2.7						
SSF	**Saint Saulge**	**45.58**	**311**	*eP*	**P**	**17 00 13.9**	**-0.8**
SSF	**Saint Saulge**	**45.58**	**311**	*eP*	**P**	**17 00 13.9**	**-0.8**
SSF	**Saint Saulge**	**45.58**	**311**	*eP*	**P**	**17 00 13.9**	**-0.8**
SSF	**Saint Saulge**	**45.58**	**311**	*eP*	**P**	**17 00 13.9**	**-0.8**
BAIF	**Baives**	**45.59**	**315**	*eP*	**P**	**17 00 13.8**	**-0.9**
	comp=Z,25nm,1.2s						
BAIF	**Baives**	**45.59**	**315**	*eP*	**P**	**17 00 13.8**	**-0.9**
BAIF				pmax	pmax		
	comp=Z,25nm,1.2s						
BAIF	**Baives**	**45.59**	**315**	*eP*	**P**	**17 00 13.8**	**-0.9**
	comp=Z,25nm,1.2s						
BAIF	**Baives**	**45.59**	**315**	*eP*	**P**	**17 00 13.8**	**-0.9**
	comp=Z,13nm,1.2s						
TAM	**Tamanrasset**	**45.77**	**276**	*eP*	**P**	**17 00 17.8**	**+1.1**
TAM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TAM	**Tamanrasset**	**45.77**	**276**	*eP*	**P**	**17 00 17.8**	**+1.1**
	comp=Z,1.5nm,0.5s						
TAM	**Tamanrasset**	**45.77**	**276**	*eP*	**P**	**17 00 17.8**	**+1.1**
	comp=Z,1.5nm,0.5s						
KEV	**Kevo**	**46.09**	**346**	*eP*	**P**	**17 00 18.9**	**+0.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**46.09**	**346**	*ep*	**P**	**17 00 18.9**	**+0.6**
	comp=Z,0.9nm,0.3s						
KEV	**Kevo**	**46.09**	**346**	*eP*	**P**	**17 00 18.9**	**+0.6**
	comp=Z,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**46.23**	**346**	P	**P**	**17 00 18.9**	**-0.6**
ARCES	**ARCESS Array B**	**46.23**	**346**	P	**P**	**17 00 18.9**	**-0.6**
ARCES	**ARCESS Array B**	**46.23**	**346**	P	**P**	**17 00 18.9**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=142,slow=9.3,SNR=11						
CAF	**Calviac**	**46.37**	**307**	*eP*	**P**	**17 00 20.4**	**-0.6**
CAF	**Calviac**	**46.37**	**307**	*eP*	**P**	**17 00 20.4**	**-0.6**
CAF	**Calviac**	**46.37**	**307**	*eP*	**P**	**17 00 20.4**	**-0.6**
CAF	**Calviac**	**46.37**	**307**	*eP*	**P**	**17 00 20.4**	**-0.6**
TCF	**Toulx Ste Croi**	**46.38**	**309**	*eP*	**P**	**17 00 20.4**	**-0.7**
	comp=Z,8.2nm,0.8s						
TCF	**Toulx Ste Croi**	**46.38**	**309**	*eP*	**P**	**17 00 20.4**	**-0.7**
TCF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TCF	**Toulx Ste Croi**	**46.38**	**309**	*eP*	**P**	**17 00 20.4**	**-0.7**
	comp=Z,8.2nm,0.8s						
TCF	**Toulx Ste Croi**	**46.38**	**309**	*eP*	**P**	**17 00 20.4**	**-0.7**
	comp=Z,4.1nm,0.8s						
RJF	**Les Rejaudoux**	**46.79**	**308**	*eP*	**P**	**17 00 23.0**	**-1.2**
RJF	**Les Rejaudoux**	**46.79**	**308**	*eP*	**P**	**17 00 23.0**	**-1.2**
RJF	**Les Rejaudoux**	**46.79**	**308**	*eP*	**P**	**17 00 23.0**	**-1.2**
RJF	**Les Rejaudoux**	**46.79**	**308**	*eP*	**P**	**17 00 23.0**	**-1.2**
LFF	**La Frestale**	**47.31**	**307**	*eP*	**P**	**17 00 26.7**	**-1.6**
LFF	**La Frestale**	**47.31**	**307**	*eP*	**P**	**17 00 26.7**	**-1.6**
LFF	**La Frestale**	**47.31**	**307**	*eP*	**P**	**17 00 26.7**	**-1.6**
LFF	**La Frestale**	**47.31**	**307**	*eP*	**P**	**17 00 26.7**	**-1.6**
LDF	**La Druitiere**	**48.18**	**312**	*eP*	**P**	**17 00 33.5**	**-1.5**
LDF	**La Druitiere**	**48.18**	**312**	*eP*	**P**	**17 00 33.5**	**-1.5**
LDF	**La Druitiere**	**48.18**	**312**	*eP*	**P**	**17 00 33.5**	**-1.5**
LDF	**La Druitiere**	**48.18**	**312**	*eP*	**P**	**17 00 33.5**	**-1.5**
ETSF	**Etsaut**	**48.19**	**305**	*eP*	**P**	**17 00 34.8**	**-0.5**
	comp=Z,12nm,0.9s						
ETSF	**Etsaut**	**48.19**	**305**	*eP*	**P**	**17 00 34.8**	**-0.5**
ETSF				pmax	pmax		
	comp=Z,12nm,0.9s						
ETSF	**Etsaut**	**48.19**	**305**	*eP*	**P**	**17 00 34.8**	**-0.5**
	comp=Z,12nm,0.9s						
ETSF	**Etsaut**	**48.19**	**305**	*eP*	**P**	**17 00 34.8**	**-0.5**
	comp=Z,5.9nm,0.9s						
FLN	**La Foliniere**	**48.44**	**312**	*eP*	**P**	**17 00 36.4**	**-0.5**
FLN	**La Foliniere**	**48.44**	**312**	*eP*	**P**	**17 00 36.4**	**-0.5**
FLN	**La Foliniere**	**48.44**	**312**	*eP*	**P**	**17 00 36.4**	**-0.5**
FLN	**La Foliniere**	**48.44**	**312**	*eP*	**P**	**17 00 36.4**	**-0.5**
SJPF	**Ste Jean**	**48.68**	**305**	*eP*	**P**	**17 00 38.0**	**-1.0**
	comp=Z,11nm,0.7s						
SJPF	**Ste Jean**	**48.68**	**305**	*eP*	**P**	**17 00 38.0**	**-1.0**
SJPF				pmax	pmax		
	comp=Z,11nm,0.7s						
SJPF	**Ste Jean**	**48.68**	**305**	*eP*	**P**	**17 00 38.0**	**-1.0**
	comp=Z,11nm,0.7s						
SJPF	**Ste Jean**	**48.68**	**305**	*eP*	**P**	**17 00 38.0**	**-1.0**
	comp=Z,5.6nm,0.7s						
ESDC	**Sonseca Array**	**50.88**	**301**	P	**P**	**17 00 55.6**	**-0.2**
ESDC	**Sonseca Array**	**50.88**	**301**	P	**P**	**17 00 55.6**	**-0.2**
ESDC	**Sonseca Array**	**50.88**	**301**	P	**P**	**17 00 55.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=75,slow=7.0,SNR=5.5						
TOA0	**Torodi Ar. Sit**	**52.48**	**266**	*eP*	**P**	**17 01 07.4**	**-0.6**
TOA0	**Torodi Ar. Sit**	**52.48**	**266**	*eP*	**P**	**17 01 07.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**52.48**	**266**	P	**P**	**17 01 07.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**52.48**	**266**	P	**P**	**17 01 07.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**52.48**	**266**	P	**P**	**17 01 07.6**	**-0.4**
	comp=Z,8.9nm,0.6s,baz=61,slow=7.3,SNR=101						
TIXI	**Tiksi**	**59.33**	**21**	*i* P	**P**	**17 01 56.4**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.9s						
TIXI	**Tiksi**	**59.33**	**21**	*i* P	**P**	**17 01 56.4**	**+0.2**
	comp=Z,7.0nm,1.9s						
LBTB	**Lobatse**	**59.36**	**212**	*eP*	**P**	**17 01 58.0**	**+0.9**
	comp=Z,1.8nm,0.5s						
LBTB	**Lobatse**	**59.36**	**212**	*eP*	**P**	**17 01 58.0**	**+0.9**
	comp=Z,1.8nm,0.5s						
KSAR	**Wonju Array Be**	**60.43**	**60**	P	**P**	**17 02 03.0**	**-1.3**
KSAR	**Wonju Array Be**	**60.43**	**60**	P	**P**	**17 02 03.0**	**-1.3**
KSRS	**Korea Array**	**60.45**	**60**	P	**P**	**17 02 03.0**	**-1.5**
	comp=Z,2.0nm,0.9s						
KSRS	**Korea Array**	**60.45**	**60**	P	**P**	**17 02 03.0**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=275,slow=7.4,SNR=6.2						
KLR	**Kul'dur**	**61.05**	**47**	*eP*	P	17 02 04.6	-3.8
DBIC	**Dimbokro**	**61.07**	**262**	P	**P**	**17 02 08.5**	**-0.5**
	comp=Z,2.0nm,0.8s						
DBIC	**Dimbokro**	**61.07**	**262**	P	**P**	**17 02 08.5**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=24,slow=9.4,SNR=3.0						
USRK	**Ussuriysk Arra**	**62.08**	**52**	P	**P**	**17 02 14.8**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=267,slow=5.8,SNR=7.0						
BOSA	**Boshof**	**62.58**	**210**	P	**P**	**17 02 19.3**	**+0.3**
BOSA	**Boshof**	**62.58**	**210**	P	**P**	**17 02 19.3**	**+0.3**
BOSA	**Boshof**	**62.58**	**210**	P	**P**	**17 02 19.3**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=30,slow=6.4,SNR=8.0						
FITZ	**Fitzroy Crossi**	**80.97**	**115**	P	**P**	**17 04 09.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**80.97**	**115**	P	**P**	**17 04 09.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**80.97**	**115**	P	**P**	**17 04 09.6**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=336,slow=4.6,SNR=8.7						
ILAR	**Eielson Array**	**86.91**	**10**	P	**P**	**17 04 37.7**	**-1.6**
ILAR	**Eielson Array**	**86.91**	**10**	P	**P**	**17 04 37.7**	**-1.6**
ILAR	**Eielson Array**	**86.91**	**10**	P	**P**	**17 04 37.7**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=320,slow=4.5,SNR=10.0						
WRA	**Warramunga Arr**	**89.00**	**113**	P	**P**	**17 04 49.4**	**-0.6**
WRA	**Warramunga Arr**	**89.00**	**113**	*i* P	**P**	**17 04 50.2**	**+0.2**
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**89.00**	**113**	P	**P**	**17 04 49.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=309,slow=4.1,SNR=24						
ASAR	**Alice Springs**	**90.44**	**116**	P	**P**	**17 04 56.5**	**-0.3**
ASAR	**Alice Springs**	**90.44**	**116**	P	**P**	**17 04 56.4**	**-0.3**
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**90.44**	**116**	P	**P**	**17 04 56.4**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=310,slow=5.0,SNR=19						
YKA	**Yellowknife Ar**	**90.61**	**356**	P	**P**	**17 04 56.7**	**-0.1**
YKA	**Yellowknife Ar**	**90.61**	**356**	P	**P**	**17 04 56.7**	**-0.1**
YKA	**Yellowknife Ar**	**90.61**	**356**	P	**P**	**17 04 56.7**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=8.3,slow=4.6,SNR=6.3						

*ISCJB **23** 16:59:01.2±0.6, 19.90S±0.06×177.42W±0.09, h400km, mb3.8/6, Error ellipse: s-maj=12.1km s-min=7.2km az=30.1*
*IDC **23** 16:59:02.7±2.4, 19.82S×177.55W, h394km±32km, mb3.6/6, mb1 3.7/9, mb1mx3.4/23, mbtmp3.6/9, Error ellipse: s-maj=28.3km s-min=18.2km az=126.0*
*AUST **23** 16:59:05.7±20.0, 19.66S×177.42W, h440km±2km, Error ellipse: s-maj=5.4km s-min=3.3km az=278.0*

ISC 23 16:59:01.6±0.8, 20.02S±0.10×177.2W±0.1, h400km, n22, σ1s36/23, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NIUE	**Niue**	**6.94**	**83**	P		P	P	17 00 51.6	+6.5
	baz=7.1,SNR=3.1								
AFI	**Afiamalu**	**8.00**	**41**	P		**P**	**P**	**17 00 58.5**	**+1.4**
	5.1nm,0.3s,baz=205,slow=14,SNR=6.8								
AFI				S		S	**S**	**17 02 27.8**	**-3.2**
	baz=180,slow=20,SNR=2.1								
RAO	**Raoul Island**	**9.21**	**184**	S		S	**S**	**17 02 54.9**	**-1.3**
	63nm,0.3s,baz=90,slow=20,SNR=3.2								
DZM	**Mont Dzumac**	**15.39**	**260**	P		P	**P**	**17 02 17.6**	**-0.8**
	1.2nm,0.3s,baz=75,slow=18,SNR=17								
URZ	**Urewera**	**18.83**	**194**	P		P	**P**	**17 02 56.8**	**+2.1**
	1.2nm,0.3s,baz=63,slow=4.5,SNR=5.6								
URZ				S		S	**S**	**17 06 03.8**	**-2.5**
	0.5nm,0.3s,baz=336,slow=20,SNR=5.4								
RPZ	**Rata Peaks**	**25.59**	**200**	P		P	**P**	**17 03 58.7**	**+2.5**
	4.3nm,0.4s,baz=45,slow=5.7,SNR=3.6								
EIDS	**Eidsvold**	**29.69**	**254**	P		P	**P**	**17 04 32.7**	**+0.1**
	baz=30,SNR=3.3								
ARMA	**Armidale**	**29.94**	**244**	P		P	**P**	**17 04 36.0**	**+1.0**
	baz=30,SNR=11								
RMQ	**Roma**	**31.85**	**252**	P		P	**P**	**17 04 52.3**	**+0.8**
	baz=32,SNR=5.4								
CMSA	**Cobar Meteorol**	**35.16**	**243**	P		P	**P**	**17 05 19.7**	**+0.1**
	baz=35,SNR=27								
QLP	**Quilpie**	**35.91**	**252**	P		P	**P**	**17 05 25.8**	**-0.2**
	baz=36,SNR=5.2								
STKA	**Stephens Creek**	**38.66**	**244**	P		P	**P**	**17 05 48.8**	**0.0**
	4.4nm,0.5s,baz=90,slow=9.5,SNR=21								
STKA	**Stephens Creek**	**38.66**	**244**	P		P	**P**	**17 05 49.1**	**+0.4**
	baz=39,SNR=18								
HTT	**Hallett**	**41.10**	**242**	P		P	**P**	**17 06 08.8**	**+0.2**
	baz=41,SNR=4.5								
BBOO	**Buckleboo**	**43.42**	**243**	P		P	**P**	**17 06 26.7**	**-0.3**
	baz=43,SNR=16								
ASAR	**Alice Springs**	**45.35**	**256**	P		P	**P**	**17 06 41.7**	**-0.5**
	6.9nm,0.6s,baz=95,slow=8.3,SNR=144								
ASAR				S		S		17 12 46.5	-6.1
	0.3nm,0.6s,baz=89,slow=14,SNR=5.9								
WRA	**Warramunga Arr**	**45.40**	**261**	P		P	**P**	**17 06 41.3**	**-1.3**
	1.1nm,0.3s,baz=95,slow=6.9,SNR=93								
KDU	**Kakadu**	**48.68**	**271**	P		P	**P**	**17 07 07.0**	**-0.6**
	baz=48,SNR=4.3								
WRKA	**Warakurna**	**50.31**	**254**	P		P	**P**	**17 07 19.4**	**-0.3**
	baz=50,SNR=24								
KNRA	**Kununurra**	**51.43**	**266**	P		P	**P**	**17 07 27.7**	**-0.3**
	baz=51,SNR=5.1								
FITZ	**Fitzroy Crossi**	**53.82**	**262**	P		P	**P**	**17 07 45.1**	**-0.2**
	0.6nm,0.3s,baz=96,slow=9.2,SNR=4.6								
ILAR	**Eielson Array**	**87.69**	**13**	P		P	**P**	**17 11 06.7**	**+1.2**
	0.3nm,0.5s,baz=221,slow=5.3,SNR=12								

*IDC **23** 17:09:25.2±17.0, 21.33S×68.03W, h161km±105km, mb3.7/3, mb1 3.8/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=216.4km s-min=33.0km az=24.0*

ISC 23 17:09:17.4±1.8, 22.0S±0.2×68.2W±0.2, h117km, n6, σ0s95/6, mb4.0/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LPAZ	**La Paz**	**5.65**	**1**	P			**Pn**	**17 10 40.3**	**+0.6**
	1.0nm,0.3s,baz=189,slow=8.3,SNR=19								
SIV	**San Ignacio**	**8.98**	**50**	P			**Pn**	**17 11 24.0**	**-0.3**
	2.2nm,0.3s,baz=242,slow=12,SNR=30								
TKL	**Tuckaleechee C**	**59.18**	**345**	P			**P**	**17 19 04.9**	**-1.2**
	3.5nm,0.8s,baz=159,slow=8.6,SNR=3.5								
TORD	**Torodi Ar. Bea**	**76.89**	**70**	P			**P**	**17 20 58.2**	**+0.9**
	0.5nm,0.3s,baz=259,slow=5.8,SNR=6.2								
YKA	**Yellowknife Ar**	**91.84**	**340**	P			**P**	**17 22 11.8**	**0.0**
	0.5nm,0.6s,baz=133,slow=4.7,SNR=15								
MKAR	**Makanchi Array**	**145.61**	**37**	PKPbc			**PKPdf**	**17 28 42.0**	**+0.1**
	0.2nm,0.6s,baz=318,slow=3.3,SNR=3.0								

IDC 23 17:11:53.0±2.4, 5.74N×126.38E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=203.4km s-min=25.8km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**26.70**	**163**	P		P	P	17 17 34.1	-0.1
	0.1nm,0.3s,baz=343,slow=10,SNR=6.5								
ASAR	**Alice Springs**	**30.14**	**166**	P			**P**	**17 18 04.9**	**+0.1**
	0.2nm,0.7s,baz=346,slow=7.0,SNR=4.3								
MKAR	**Makanchi Array**	**55.72**	**325**	P		P		17 21 31.4	-0.1
	0.5nm,1.0s,baz=111,slow=7.6,SNR=3.7								

WEL 23 17:20:26.3±0.3, 44.36S×167.13E, h12km, ML2.6/7, Error ellipse: s-maj=2.6km s-min=1.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MSZ	**Milford Sound**	**0.65**	**119**	P*		P*	Pg	17 20 38.5	-0.5
MSZ				S*		S*	Sg	17 20 47.4	-0.2
MSZ				S*		S*	Sb	17 20 47.7	-1.0
MSZ				AML		AML		17 20 48.5	
JCZ	**Jackson Bay**	**1.20**	**77**	P*		P*	Pn	17 20 48.4	-0.7
MLZ	**Mavora Lakes**	**1.24**	**144**	P*		P*	Pn	17 20 48.9	-0.7
MLZ				S*		S*	Sb	17 21 05.5	-0.2
WKZ	**Wanaka**	**1.43**	**110**	PN		PN	Pn	17 20 52.4	+0.3
WHZ	**Wether Hill Ro**	**1.65**	**160**	PN		PN	Pn	17 20 54.0	-1.0
WHZ				*e*SN		SN	Sn	17 21 15.5	-0.7
EAZ	**Earnscleugh**	**1.78**	**120**	PN		PN	Pb	17 20 58.4	-0.4
FOZ	**Fox Glacier**	**2.01**	**68**	PN		PN	Pg	17 21 04.1	-0.7

*ISCJB **23** 17:21:01.2±1.1, 46.8N±0.2×150.8E±0.3, h166km, mb3.3/5, Error ellipse: s-maj=37.6km s-min=14.3km az=136.8*
*IDC **23** 17:21:03.8±2.6, 46.82N×150.73E, h177km±24km, mb3.1/5, mb1 3.3/7, mb1mx3.0/24, mbtmp3.1/7, Error ellipse: s-maj=35.8km s-min=18.7km az=127.0*

ISC 23 17:21:02.8±1.2, 46.8N±0.2×150.8E±0.2, h166km, n7, σ0s72/7, mb3.3/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ASAJ	**Asahikawa**	**6.36**	**248**	P			**Pn**	**17 22 35.0**	**+0.6**
	0.9nm,0.3s,baz=77,slow=14,SNR=5.8								
PETK	**Petropavlovsk-**	**7.73**	**33**	P		P	**Pn**	**17 22 53.4**	**+0.9**
	0.5nm,0.3s,baz=192,slow=14,SNR=3.8								
ILAR	**Eielson Array**	**37.51**	**39**	P		P	**P**	**17 27 59.9**	**-0.3**
	0.3nm,0.8s,baz=268,slow=8.7,SNR=4.2								
YKA	**Yellowknife Ar**	**51.84**	**36**	P		P	**P**	**17 29 53.2**	**-0.1**
	0.1nm,0.5s,baz=303,slow=7.0,SNR=4.2								
FINES	**FINESS Array B**	**63.32**	**334**	P		P	**P**	**17 31 12.8**	**-0.8**
	4.0nm,0.9s,baz=35,slow=7.5,SNR=3.5								
NOA	**NORSAR Array B**	**67.67**	**340**	P		P	**P**	**17 31 41.0**	**-0.5**
	0.6nm,0.7s,baz=34,slow=8.6,SNR=3.2								
ASAR	**Alice Springs**	**71.77**	**196**	P		P	**P**	**17 32 06.8**	**-0.1**
	0.4nm,0.7s,baz=17,slow=5.8,SNR=5.3								

MAN 23 17:24:30, 11.19N×124.63E, h14km, mb4.3, ML3.1, MS2.9, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
OCLP	**Ormoc**	**0.14**	**189**	*eP*		Pb		17 24 34.9	+0.4
OCLP				*eS*		Sb		17 24 40.6	+3.2
PLP	**Palo**	**0.34**	**94**	*i* P		Pb		17 24 38.0	+0.1
PLP				*i* S		Sb		17 24 44.4	+1.2
MSLP	**Maasin**	**1.07**	**168**	*eP*		Pg		17 24 51.3	+0.6
LLP	**Lapu-Lapu**	**1.09**	**217**	*eP*		Pb		17 24 49.4	-1.3
LLP				*e*S		Sn		17 25 06.1	+0.4
GUIM	**Jordan**	**2.08**	**255**	*eP*		Pn		17 25 04.8	+0.3

IDC 23 17:29:39.5±1.8, 14.16S×167.48E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, MS3.1/1, Ms1 3.1/1, ms1mx2.2/33, Error ellipse: s-maj=74.5km s-min=25.5km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**20.44**	**281**	LR		LR		17 41 01.0	
	comp=Z,50nm,19.3s,baz=188,slow=33								
STKA	**Stephens Creek**	**29.52**	**229**	P		P		17 35 46.5	+0.8
	0.9nm,0.4s,baz=60,slow=11,SNR=6.9								
WRA	**Warramunga Arr**	**32.16**	**255**	P		P		17 36 08.7	-0.6
	0.4nm,0.8s,baz=86,slow=9.0,SNR=6.6								
ASAR	**Alice Springs**	**33.07**	**248**	P		P		17 36 16.5	-0.7
	0.3nm,0.6s,baz=78,slow=9.5,SNR=11								
CMAR	**Chiang Mai Arr**	**74.91**	**294**	P		P		17 41 22.6	-0.2
	0.1nm,0.5s,baz=96,slow=5.5,SNR=4.7								
ILAR	**Eielson Array**	**85.93**	**18**	P		P		17 42 20.3	-0.8
	0.6nm,0.8s,baz=228,slow=4.6,SNR=6.8								
MKAR	**Makanchi Array**	**96.94**	**316**	P		P		17 43 13.8	+0.8
	0.1nm,0.4s,baz=90,slow=6.3,SNR=4.3								
ZALV	**Zalesovo Beam**	**97.06**	**324**	P		Pdif		17 43 13.8	+0.5
	0.4nm,0.6s,baz=113,slow=3.3,SNR=2.6								
ARCES	**ARCESS Array B**	**119.76**	**346**	PKP		PKPdf		17 48 30.6	-0.5
	4.9nm,0.9s,baz=52,slow=2.2,SNR=12								
FINES	**FINESS Array B**	**125.27**	**338**	PKP		PKPdf		17 48 41.5	-0.4
	3.2nm,0.9s,baz=52,slow=2.3,SNR=5.0								
KEST	**Kesra**	**150.90**	**321**	PKPbc		PKPbc		17 49 34.6	-0.1
	0.8nm,0.6s,baz=68,slow=5.3,SNR=4.7								

MAN 23 17:33:38, 9.41N×125.62E, h24km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BUTP	**Butuan**	**0.44**	**180**	*eP*		Pb		17 33 46.1	-1.1
CGP	**Cagayan de Oro**	**1.32**	**224**	*i* P		Pn		17 34 01.1	+0.1
CGP				*i* S		Sn		17 34 18.1	+0.3
BUKP	**Musuan**	**1.62**	**200**	*eP*		Pb		17 34 06.5	-0.8
BUKP				*e*S		Sn		17 34 22.6	-2.7
PAGZ	**Pagadian**	**2.70**	**235**	*eP*		Pn		17 34 22.4	+2.4

MAN 23 17:40:35, 9.31N×125.48E, h2km, mb4.3, ML3.1, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BUTP	**Butuan**	**0.36**	**158**	*eP*		Pb		17 40 43.2	-1.0
BUTP				*e*S		Sb		17 40 50.3	-0.1
CGP	**Cagayan de Oro**	**1.15**	**223**	*i* P		Pb		17 40 57.8	+0.2
CGP				*i* S		Sn		17 41 15.0	+0.6
BUKP	**Musuan**	**1.48**	**196**	*eP*		Pn		17 41 02.9	+0.2
MATI	**Mati**	**2.47**	**162**	*eP*		Pn		17 41 17.6	+1.3
PAGZ	**Pagadian**	**2.53**	**235**	*eP*		Pn		17 41 19.1	+2.0

IDC 23 17:43:50.4±4.3, 16.32S×178.41W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=186.8km s-min=36.1km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STKA	**Stephens Creek**	**39.41**	**239**	P		P		17 51 22.6	+0.4
	1.6nm,0.7s,baz=72,slow=13,SNR=2.6								
WRA	**Warramunga Arr**	**44.94**	**258**	P		P		17 52 07.2	-0.3
	0.3nm,0.7s,baz=94,slow=7.8,SNR=6.0								
ASAR	**Alice Springs**	**45.24**	**253**	P		P		17 52 09.4	-0.5
	1.1nm,0.4s,baz=89,slow=7.8,SNR=53								
ILAR	**Eielson Array**	**84.35**	**13**	P		P		17 56 24.0	0.0
	0.2nm,0.5s,baz=219,slow=5.4,SNR=3.4					

MEEK	**Meekatharra**	**55.13**	**254**	P	**P**	**18 04 54.7**	**-1.3**	
	baz=55,SNR=8.8							
SOEI	**Soe**	**55.23**	**275**	P	**P**	**18 04 57.4**	**+0.4**	
	baz=55,SNR=4.3							
BLDU	**Ballidu**	**55.95**	**249**	P	**P**	**18 05 00.8**	**-0.9**	
	baz=56,SNR=20							
MORW	**Morawa**	**56.83**	**250**	P	**P**	**18 05 07.1**	**-0.7**	
	baz=57,SNR=12							
JAGI	**Jajag, Banyuwa**	**64.91**	**272**	P	**P**	**18 05 59.8**	**-1.4**	
	baz=65,SNR=6.6							
MAW	**Mawson**	**76.94**	**200**	P	**P**	**18 07 13.4**	**+2.2**	
	9.1nm,0.3s,baz=160,slow=5.8,SNR=7.1							
KSRS	**Korea Array**	**79.19**	**320**	P	**P**	**18 07 23.9**	**+0.3**	
	1.1nm,0.6s,baz=132,slow=5.8,SNR=6.4							
USRK	**Ussuriysk Arra**	**81.75**	**327**	P	**P**	**18 07 37.9**	**+1.0**	
	0.8nm,0.4s,baz=151,slow=4.3,SNR=5.4							
SYO	**Syowa Base**	**82.14**	**193**ǁ	*eP*	**P**	**18 07 38.3**	**-0.2**	
YBH	**Yreka Blue Hor**	**84.65**	**39**	P	**P**	**18 07 53.4**	**+1.8**	
	1.6nm,0.5s,baz=198,slow=6.4,SNR=4.4							
CMAR	**Chiang Mai Arr**	**90.15**	**290**	P	**P**	**18 08 19.6**	**+1.6**	
	1.2nm,0.8s,baz=144,slow=3.3,SNR=13							
TXAR	**Lajitas Array**	**90.69**	**58**	P	**P**	**18 08 22.5**	**+2.2**	
	1.5nm,0.7s,baz=216,slow=6.2,SNR=11							
ILAR	**Eielson Array**	**92.91**	**13**	P	**P**	**18 08 29.0**	**-0.6**	
	0.4nm,0.6s,baz=225,slow=5.4,SNR=7.9							
PDAR	**Pinedale Array**	**93.18**	**44**	P	**P**	**18 08 32.5**	**+0.8**	
	0.8nm,0.9s,baz=212,slow=3.2,SNR=4.8							
MKAR	**Makanchi Array**	**113.03**	**312**	PKiKP	**PKiKP**	**18 13 50.7**	**-0.2**	
	0.1nm,0.5s,baz=96,slow=1.4,SNR=4.2							
FINES	**FINESS Array B**	**139.47**	**341**	PKhKP	PKPpre	18 14 33.7		
	4.4nm,1.0s,baz=47,slow=2.8,SNR=7.2							
FINES				PKP	**PKiKP**	**18 14 43.3**	**+0.3**	
	1.8nm,0.8s,baz=82,slow=2.0,SNR=4.8							
FINES				SKPbc	**SKiKP**	**18 17 32.4**	**+1.5**	
	4.0nm,0.9s,baz=57,slow=5.1,SNR=5.7							
NOA	**NORSAR Array B**	**143.09**	**351**	PKhKP	PKPpre	18 14 44.8		
	1.0nm,0.7s,baz=323,slow=4.6,SNR=3.7							
BRTR	**Keskin Array B**	**148.40**	**306**	PKPbc	**PKPbc**	**18 15 01.4**	**+0.2**	
	0.6nm,0.4s,baz=127,slow=3.8,SNR=4.7							
BRTR				PKPab	**PKPab**	**18 15 06.8**	**+0.4**	
	1.9nm,0.6s,baz=113,slow=3.4,SNR=12							

*ISCJB **23** 18:08:23.5±0.8, 19°.2N±0°.1×145°.8E±0°.2, h214km, mb3.4/11, Error ellipse: s-maj=27.7km s-min=14.7km az=3.7*

*IDC **23** 18:08:24.6±3.9, 19°.22N×145°.72E, h207km±38km, mb3.2/11, mb1 3.5/11, mb1mx3.3/24, mbtmp3.2/11, Error ellipse: s-maj=19.8km s-min=12.8km az=93.0*

ISC 23 18:08:25.2±0.9**, 19°.2N**±0°.1×**145°.8E**±0°.2**, h214**km**, n12, σ0§90/13, mb3.5/11, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSRS	**Korea Array**	**23.95**	**323**	P		**P**	**18 13 19.6**	**-0.4**
	0.7nm,0.5s,baz=152,slow=8.7,SNR=4.8							
KSRS				S		**S**	**18 17 21.8**	**+1.1**
	4.7nm,0.8s,baz=122,slow=38,SNR=7.4							
WRA	**Warramunga Arr**	**40.47**	**197**	P		**P**	**18 15 43.1**	**-0.2**
	2.6nm,0.8s,baz=18,slow=8.5,SNR=51							
FITZ	**Fitzroy Crossi**	**42.00**	**209**	P		**P**	**18 15 55.8**	**+0.1**
	0.7nm,0.3s,baz=37,slow=11,SNR=23							
ASAR	**Alice Springs**	**44.14**	**196**	P		**P**	**18 16 12.7**	**-0.1**
	0.2nm,0.4s,baz=9.7,slow=7.4,SNR=23							
CMAR	**Chiang Mai Arr**	**44.21**	**277**	P		**P**	**18 16 14.3**	**+0.8**
	0.2nm,0.6s,baz=68,slow=7.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**57.66**	**322**	P		**P**	**18 17 52.4**	**-0.7**
	0.5nm,0.6s,baz=101,slow=7.7,SNR=3.7							
MKAR	**Makanchi Array**	**58.16**	**314**	P		**P**	**18 17 56.5**	**-0.2**
	0.1nm,0.3s,baz=90,slow=7.5,SNR=4.0							
ILAR	**Eielson Array**	**63.18**	**26**	P		**P**	**18 18 29.8**	**-0.4**
	0.7nm,0.5s,baz=254,slow=5.7,SNR=12							
YKA	**Yellowknife Ar**	**77.53**	**28**	P		**P**	**18 19 58.7**	**+1.6**
	0.4nm,0.5s,baz=291,slow=5.3,SNR=7.8							
ARCES	**ARCESS Array B**	**82.04**	**342**	P		**P**	**18 20 20.1**	**-1.0**
	4.8nm,0.8s,baz=64,slow=7.1,SNR=4.7							
FINES	**FINESS Array B**	**86.46**	**335**	P		**P**	**18 20 42.1**	**-1.3**
	0.9nm,0.4s,baz=68,slow=4.9,SNR=15							
SIV	**San Ignacio**	**154.24**	**87**	PKPbc		**PKPbc**	**18 28 01.0**	**+0.3**
	0.5nm,0.6s,baz=358,slow=2.2,SNR=3.1							

*MOS **23** 18:13:12.7±1.4, 0°.57N×121°.69E, h80km, mb5.2/23, Error ellipse: s-maj=13.4km s-min=6.5km az=121.8*

*BJI **23** 18:13:13.9, 0°.18N×121°.86E, h115km, mB4.9/29, mb5.0/44*

*ISCJB **23** 18:13:17.0±0.3, 0°.47N±0°.02×121°.64E±0°.02, h118km±2km, mb4.8/90, Error ellipse: s-maj=4.0km s-min=3.0km az=141.0*

*NEIC **23** 18:13:18.8±0.7, 0°.46N×121°.65E, h123km±7km, mb5.0/41, Error ellipse: s-maj=5.9km s-min=3.7km az=50.0*

*BKK **23** 18:13:18.3±0.3, 1°N±4°×12°2E±1°, h100km±4km, M5.1/25, mB5.2/5, mb4.9/25, MLv5.4/4, Mw(mB)4.5/5*

*IDC **23** 18:13:18.2±0.7, 0°.44N×121°.61E, h118km±5km, mb4.3/22, mb1 4.4/24, mb1mx4.3/31, mbtmp4.3/24, MS3.5/6, Ms1 3.5/6, ms1mx3.1/35, Error ellipse: s-maj=15.6km s-min=7.5km az=67.0*

*DJA **23** 18:13:19.0±0.2, 1°N±3°×12°2E±1°, h96km±3km, M4.6/44, mb4.8/44, mB5.0/13, MLv5.1/19, Mw(mB)4.4/13*

*AUST **23** 18:13:19.4±1.4, 0°.39N×121°.58E, h132km±13km, Error ellipse: s-maj=9.5km s-min=4.6km az=44.0*

ISC 23 18:13:18.3±0.3**, 0°.49N**±0°.03×**121°.62E**±0°.04**, h117**km±2km**, h117**km**:pP-P, n287, σ1§48/372, mb4.8/90, 25C-11D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRSI	**Marisa**	**0.33**	**92**	P		**Pn**	**18 13 33.0**	**-2.0**
MRSI				S		**Sn**	**18 13 43.9**	**-3.6**
TOLI	**Toli-Toli**	**1.03**	**307**	P		**Pn**	**18 13 37.9**	**-2.5**
APSI	**Ampana**	**1.39**	**179**	P		**Pn**	**18 13 43.8**	**-0.5**
GTOI	**Gorontalo**	**1.40**	**84**	P		**Pn**	**18 13 43.1**	**-1.3**
LUWI	**Luwuk**	**1.91**	**143**	P		**Pn**	**18 13 50.9**	**+0.4**
LUWI				S		**Sn**	**18 14 17.9**	**+2.8**
KMSI	**Cibinong**	**2.37**	**88**	P		**Pn**	**18 13 57.6**	**+1.4**
TTSI	**Tana Toraja**	**3.94**	**207**	P		**Pn**	**18 14 16.7**	**-0.3**
MMSI	**Mamuju**	**4.16**	**221**	P		**Pn**	**18 14 18.7**	**-1.2**
KKSI	**Kolaka, Sulawe**	**4.63**	**180**	P		**Pn**	**18 14 26.2**	**-0.1**
SPSI	**Sidrap Palu**	**4.79**	**203**	P		**Pn**	**18 14 29.0**	**+0.6**
MJSI	**Majene**	**4.80**	**213**	P		**Pn**	**18 14 28.9**	**+0.4**
BKB	**Balikpapan**	**5.03**	**250**	P		**Pn**	**18 14 30.4**	**-1.2**
BKB				S		**Sn**	**18 15 25.9**	**-2.8**
BNSI	**Bone**	**5.08**	**197**	P		**Pn**	**18 14 33.7**	**+1.3**
	200nm,0.6s,3µm0.7nm							
TSM	**Tawau**	**5.32**	**315**	P		**Pn**	**18 14 34.1**	**-1.4**
TNTI	**Ternate**	**5.76**	**87**	P		**Pn**	**18 14 42.0**	**+0.5**
	180nm,0.7s,2µm0.7nm							
TNTI	**Ternate**	**5.76**	**87**	*e*Pn		**Pn**	**18 14 40.9**	**-0.5**
KAPI	**Kappang**	**5.77**	**199**	*e*P		**Pn**	**18 14 40.8**	**-0.9**
	195nm,0.6s							
BKSI	**Bulukumba**	**5.96**	**194**	P		**Pn**	**18 14 44.4**	**+0.2**
	65nm,0.7s,818nm0.3nm							
LBMI	**Labuha**	**5.99**	**101**	P		**Pn**	**18 14 44.2**	**-0.4**
	487nm,0.9s,4µm3.7nm							
LBMI				S		**Sn**	**18 15 51.0**	**-1.0**
	487nm,0.9s,4µm3.7nm							
ZMPH	**Zamboanga City**	**6.44**	**4**	↑*i*P		**Pn**	**18 14 50.5**	**-0.2**
ZMPH				*i* S		**Sn**	**18 15 58.9**	**-3.9**
GSPH	**General Santos**	**6.48**	**311**	↑*i*P		**Pn**	**18 14 50.9**	**-0.5**
NLAI	**Namlea**	**6.62**	**124**	P		**Pn**	**18 14 53.6**	**+0.5**
	209nm,0.9s,3µm1.6nm							
KBKI	**Kotabaru**	**6.62**	**235**	P		Pn	18 15 19.2	+26
KBKI				S		**Sn**	**18 16 03.2**	**-4.0**
SDKM	**Sandakan**	**6.76**	**319**	P		**Pn**	**18 14 54.9**	**-0.1**
MTKI	**Muara Teweh, K**	**6.87**	**258**	P		**Pn**	**18 14 58.5**	**+2.0**
	66nm,0.5s,4µm1.4nm							
IPIL	**Ipil**	**7.31**	**7**	*e*P		**Pn**	**18 15 02.9**	**+0.4**
PAGZ	**Pagadian**	**7.52**	**13**	*e*P		**Pn**	**18 15 04.3**	**-1.0**
BBKI	**Banjar Baru**	**7.83**	**240**	P		**Pn**	**18 15 09.6**	**+0.1**
	47nm,0.9s,776nm0.4nm							
KDM	**Kudat**	**7.97**	**323**	P		Pn	18 15 15.5	+4.1
MSAI	**Masohi**	**8.24**	**118**	P		**Pn**	**18 15 16.5**	**+1.4**
	26nm,0.7s,341nm							
MSAI				S		**Sn**	**18 16 48.3**	**+1.7**
	26nm,0.7s,341nm							
BTM	**Bintulu**	**8.94**	**288**	P		**Pn**	**18 15 24.2**	**-0.4**
MMRI	**Maumere**	**9.09**	**176**	*e*Pn		**Pn**	**18 15 28.3**	**+1.8**
SBUM	**Sibu**	**9.59**	**282**	P		**Pn**	**18 15 33.7**	**+0.4**
SBUM	**Sibu**	**9.59**	**282**	*e*Pn		**Pn**	**18 15 33.3**	**0.0**
BNDI	**Bandanaira**	**9.66**	**121**	P		**Pn**	**18 15 35.4**	**+1.1**
	303nm,0.8s							
SWI	**Sorong**	**9.74**	**98**	P		**Pn**	**18 15 35.0**	**-0.3**
	94nm,0.9s							
GUIM	**Jordan**	**10.12**	**5**	*e*P		**Pn**	**18 15 42.4**	**+1.9**
SOEI	**Soe**	**10.51**	**166**	P		Pn	18 15 53.5	+7.6
	36nm,1.1s							
MTNI	**Mataram**	**10.56**	**211**	P		**Pn**	**18 15 45.6**	**-0.9**
	52nm,1.0s							
FAKI	**Fak Fak**	**11.16**	**108**	P		**Pn**	**18 15 51.9**	**-2.6**
	44nm,1.1s							
JAGI	**Jajag, Banyuwa**	**11.60**	**220**	*e*Pn		**P**	**18 16 08.6**	**-0.4**
SAUI	**Saumlaki**	**12.81**	**131**	P		**Pn**	**18 16 17.7**	**+1.5**
	173nm,1.1s							
BJII	**Banjamegara**	**14.19**	**237**	P		**P**	**18 16 39.9**	**+1.9**
	53nm,1.7s							
TGJI	**Tegal**	**14.45**	**239**	P		**P**	**18 16 42.2**	**+1.4**
	37nm,1.0s							
SRPI	**Serui, Papua**	**14.81**	**99**	P		**P**	**18 16 46.8**	**+2.0**
	147nm,1.0s,3µm							
KPJI	**Karang Pucung**	**14.85**	**238**	P		**P**	**18 16 45.7**	**+0.5**
	65nm,1.0s							
LEM	**Lembang**	**15.74**	**242**	P		**P**	**18 16 56.9**	**+1.5**
	36nm,1.1s							
CISI	**Cisompet, Garu**	**15.91**	**240**	P		**Pn**	**18 16 56.4**	**+0.6**
	48nm,1.0s							
CISI	**Cisompet, Garu**	**15.91**	**240**	*e*Pn		**P**	**18 16 56.7**	**-0.4**
	66nm,1.2s							
CISI	**Cisompet, Garu**	**15.91**	**240**	↑P		**P**	**18 16 56.8**	**-0.3**
	baz=16,SNR=5.0							
CBJI	**Citeko**	**16.26**	**245**	P		**P**	**18 17 03.6**	**+2.7**
	76nm,1.1s							
MTN	**Manton Dam**	**16.27**	**145**	P		**Pn**	**18 16 60.0**	**-0.1**
	baz=16,SNR=61							
KDU	**Kakadu**	**16.95**	**141**	↑P		**Pn**	**18 17 07.9**	**-0.5**
	baz=17,SNR=52							
BLSI	**Bandar Lampung**	**17.35**	**250**	P		**P**	**18 17 09.6**	**-3.4**
	118nm,0.4s							
KNRA	**Kununurra**	**17.55**	**157**	P		**Pn**	**18 17 15.4**	**-0.2**
	baz=18,SNR=78							
KLSI		**17.64**	**253**	P		**Pn**	**18 17 16.5**	**-0.3**
	32nm,1.4s							
MDSI	**Maura Dua**	**18.11**	**254**	P		**Pn**	**18 17 22.2**	**-0.3**
	28nm,1.1s							
KGM	**Kluang**	**18.35**	**275**	P		**Pn**	**18 17 27.4**	**+2.0**
LWLI	**Liwa**	**18.37**	**252**	P		Pn	18 17 37.3	+12
GENI	**Genyem**	**18.80**	**99**	P		**Pn**	**18 17 32.5**	**+1.9**
	61nm,1.2s							
FITZ	**Fitzroy Crossi**	**18.89**	**168**	*e*P		**P**	**18 17 29.9**	**+0.1**
	34nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.89**	**168**	P		**P**	**18 17 29.8**	**+0.1**
	2.8nm,0.3s,baz=6.3,slow=7.6,SNR=80							
FITZ	**Fitzroy Crossi**	**18.89**	**168**	P		**P**	**18 17 29.9**	**+0.1**
	baz=19,SNR=29							
MNAI	**Manna**	**19.26**	**255**	*e*P		**P**	**18 17 34.1**	**+0.2**
	125nm,1.1s							
JAY	**Jayapura**	**19.32**	**99**	P		**P**	**18 17 34.8**	**+0.2**
JAY	**Jayapura**	**19.32**	**99**	P		**P**	**18 17 34.8**	**+0.2**
	0.8nm,0.3s,baz=240,slow=14,SNR=5.1							
MASI	**Maura Aman, Be**	**19.70**	**259**	P		**Pn**	**18 17 45.5**	**+4.2**
	97nm,0.9s							
FRIM	**Kepong**	**20.16**	**278**	P		**P**	**18 17 45.0**	**+1.3**
IPM	**Ipoh**	**20.95**	**281**	P		**P**	**18 17 53.2**	**+1.1**
	32nm,1.3s							
IPM	**Ipoh**	**20.95**	**281**	*e*P		**P**	**18 17 52.0**	**0.0**
	51nm,1.0s							
PDSI	**Padang**	**21.20**	**266**	P		**P**	**18 17 55.2**	**+0.4**
	35nm,0.9s,420nm							
PPI	**Padang Panjang**	**21.24**	**267**	P		**P**	**18 17 56.6**	**+1.4**
	43nm,0.8s							
KULM	**Kulim**	**21.47**	**283**	*e*P		**P**	**18 17 57.1**	**-0.5**
	59nm,1.1s							
UBPT	**Khong Chiam**	**21.69**	**313**	P		**P**	**18 18 00.0**	**+0.1**
	61nm,1.0s							
QIZ	**Qiongzhong**	**21.75**	**329**	P		**P**	**18 17 58.4**	**-2.1**
QIZ				pP		**pP**	**18 18 21.8**	**-0.7**
QIZ				sP		**sP**	**18 18 36.3**	**-0.8**
QIZ				S		S	18 21 46.8	-7.3
QIZ				pmax		pmax		
	comp=Z,260nm,4.3s							
MNSI	**Mandailing Nat**	**22.04**	**271**	P		**P**	**18 18 04.1**	**+0.4**
	33nm,1.0s							
CHBT	**CHBT**	**22.67**	**303**	P		**P**	**18 18 10.8**	**+0.8**
	38nm,0.8s,729nm							
TPUB	**Ta-pu**	**22.70**	**358**	*e*P		**P**	**18 18 10.9**	**+0.7**
	23nm,0.8s							
YULB	**Yu-li**	**22.77**	**359**	*e*P		**P**	**18 18 09.4**	**-1.5**
	58nm,1.5s							
PSI	**Prapat**	**22.80**	**276**	P		**P**	**18 18 11.5**	**0.0**
	29nm,1.5s							
PSI	**Prapat**	**22.80**	**276**	P		**P**	**18 18 11.2**	**-0.3**
PSI	**Prapat**	**22.80**	**276**	P		**P**	**18 18 11.2**	**-0.3**
	12nm,0.8s,baz=113,slow=4.2,SNR=10							
SSLB	**Suanglung**	**23.17**	**358**	*e*P		**P**	**18 18 14.7**	**0.0**
	14nm,0.8s							
TSI	**Tuntungan**	**23.23**	**278**	P		**P**	**18 18 16.5**	**+1.1**
	124nm,1.2s							
WRAB	**Tennant Creek**	**23.83**	**149**	*i* P		**P**	**18 18 19.9**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,254nm,1.1s							
WRAB	**Tennant Creek**	**23.83**	**149**	*e*P		**P**	**18 18 19.6**	**-1.2**
	comp=Z,128nm,1.2s							
WRA	**Warramunga Arr**	**23.83**	**149**	P		**P**	**18 18 19.4**	**-1.3**
WRA				S		**S**	**18 22 26.3**	**-1.9**
WRA				ScP		**ScP**	**18 25 27.2**	**-1.7**
WRA	**Warramunga Arr**	**23.83**	**149**	P		**P**	**18 18 19.4**	**-1.3**
	comp=Z,83nm,0.6s,baz=326,slow=10,SNR=619							
WRA				S		**S**	**18 22 26.3**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=326,slow=16,SNR=3.2							
WRA				ScP		**ScP**	**18 25 27.2**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=330,slow=3.2,SNR=3.3							
YOJ	**Yonaguni jima**	**23.87**	**3**	*e*P		**P**	**18 18 21.7**	**+0.7**
YOJ				pmax		pmax		
	comp=Z,43nm,1.1s							
YOJ	**Yonaguni jima**	**23.87**	**3**	*e*P		**P**	**18 18 21.7**	**+0.7**
	comp=Z,43nm,1.1s							
KCSI	**Kotacane, Aceh**	**24.02**	**278**	P		**P**	**18 18 21.9**	**-0.7**
	comp=Z,48nm,1.2s,comp=Z,459nm							
YHNB	**Yeheng**	**24.04**	**359**	*e*P		**P**	**18 18 23.8**	**+1.1**
	comp=Z,46nm,1.5s							
GSI	**Gunungsitoli**	**24.05**	**272**	P		**P**	**18 18 22.2**	**-0.7**
	comp=Z,75nm,1.0s							
GSI	**Gunungsitoli**	**24.05**	**272**	*e*P		**P**	**18 18 21.7**	**-1.2**
	comp=Z,70nm,1.0s							
GSI	**Gunungsitoli**	**24.05**	**272**	↑P		**P**	**18 18 21.9**	**-0.9**
	baz=24							
CHAI	**Chaiyaphum**	**24.69**	**309**	P		**P**	**18 18 29.3**	**+0.7**
	comp=Z,32nm,0.8s,comp=Z,294nm							
COEN	**Coen**	**25.73**	**125**	*e*P		**P**	**18 18 37.8**	**-0.2**
	comp=Z,171nm,1.3s							
COEN	**Coen**	**25.73**	**125**	↑P		**P**	**18 18 38.0**	**0.0**
	baz=26,SNR=8.7							
PBKT	**Sadao Pong**	**25.87**	**309**	P		**P**	**18 18 41.1**	**+1.8**
	comp=Z,34nm,0.9s,comp=Z,936nm							
PHIT	**Phitsanulok**	**26.66**	**310**	P		**P**	**18 18 50.0**	**+3.6**
	comp=Z,9.6nm,1.2s							
BSI	**Banda Aceh**	**26.74**	**281**	P		P	18 18 56.3	+9.1
	comp=Z,7.1nm,0.8s,comp=Z,75nm							
AS13	**Alice Springs**	**26.80**	**154**	↑P		**P**	**18 18 47.2**	**-0.5**
	baz=27							
AS14	**Alice Springs**	**26.80**	**154**	↑P		**P**	**18 18 47.3**	**-0.4**
	baz=27							
AS31	**Alice Springs**	**26.82**	**154**	*e*P		**P**	**18 18 46.6**	**-1.2**
ASAR	**Alice Springs**	**26.82**	**154**	P		**P**	**18 18 47.0**	**-0.7**
ASAR				PcP		**PcP**	**18 22 07.1**	**-0.7**
ASAR				S		**S**	**18 23 15.2**	**-0.4**
ASAR				ScP		**ScP**	**18 25 35.7**	**-1.7**
ASAR	**Alice Springs**	**26.82**	**154**	P		**P**	**18 18 47.0**	**-0.7**
	comp=Z,5.0nm,0.6s,baz=339,slow=11,SNR=102							
ASAR				PcP		**PcP**	**18 22 07.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=350,slow=2.0,SNR=4.2							
ASAR				S		**S**	**18 23 15.2**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=337,slow=18,SNR=4.4							
ASAR				ScP		**ScP**	**18 25 35.7**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=326,slow=2.7,SNR=5.4							
ASAR				LR		LR	18 30 48.8	
	comp=Z,68nm,21.0s,baz=0.3,slow=39							
AS06	**Alice Springs**	**26.83**	**154**	↑P		**P**	**18 18 47.5**	**-0.5**
	baz=27							
KHLT	**Khaolaem Dam**	**26.84**	**303**	P		**P**	**18 18 49.7**	**+1.7**
	comp=Z,8.8nm,1.1s							
AS10	**Alice Springs**	**26.85**	**154**	↑P		**P**	**18 18 47.4**	**-0.7**
	baz=27							
AS09	**Alice Springs**	**26.86**	**154**	↓P		**P**	**18 18 47.4**	**-0.8**
	baz=27							
SLVN	**Son La**	**26.98**	**321**	*e*P		**P**	**18 18 51.4**	**+2.1**
MEEK	**Meekatharra**	**27.12**	**186**	P		**P**	**18 18 49.7**	**-0.8**
	baz=27,SNR=27							
PMG	**Port Moresby**	**27.27**	**112**	*e*P		**P**	**18 18 51.7**	**-0.2**
	comp=Z,11nm,0.9s							
PMG	**Port Moresby**	**27.27**	**112**	P		**P**	**18 18 52.4**	**+0.5**
	comp=Z,3.7nm,0.5s,baz=309,slow=6.3,SNR=5.1							
QIS	**Mount Isa**	**27.34**	**141**	P		**P**	**18 18 52.0**	**-0.5**
	baz=27,SNR=20							
COCO	**West Island**	**27.64**	**242**	*i* P		**P**	**18 18 57.3**	**+2.1**
CM31	**Chiang Mai Arr**	**28.54**	**310**	*e*P		**P**	**18 19 04.4**	**+1.2**
	comp=Z,1.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**28.54**	**310**	P		**P**	**18 19 04.5**	**+1.3**
CMAR				ScP		**ScP**	**18 25 43.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**28.54**	**310**	P		**P**	**18 19 04.5**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=136,slow=7.3,SNR=40							
CMAR				ScP		**ScP**	**18 25 43.1**	**+0.4**
	comp=Z,2.6nm,1.1s,baz=169,slow=2.3,SNR=16							
CMMT	**Chiang Mai**	**28.75**	**311**	P		**P**	**18 19 06.1**	**+1.1**
	comp=Z,21nm,1.3s							
CHTO	**Chiang Mai**	**28.75**	**311**	*e*P		**P**	**18 19 06.1**	**+1.0**
CHTO				pmax		pmax		
	comp=Z,4.0nm,0.9s							
CHTO	**Chiang Mai**	**28.75**	**311**	*e*P		**P**	**18 19 06.1**	**+1.0**
	comp=Z,4.0nm,0.9s							
CHTO	**Chiang Mai**	**28.75**	**311**	P		**P**	**18 19 06.2**	**+1.1**
	comp=Z,97nm,1.3s							
MHMT	**Maesarieng**	**29.16**	**308**	P		**P**	**18 19 10.3**	**+1.6**
	comp=Z,13nm,0.9s							
CMAI	**Chiengmai2**	**29.35**	**313**	P		**P**	**18 19 11.4**	**+0.8**
	comp=Z,36nm,1.2s							
GYA	**Guiyang**	**29.56**	**332**	P		**P**	**18 19 14.0**	**+1.7**
GYA				pP		**pP**	**18 19 39.8**	**+1.9**
GYA				sP		**sP**	**18 19 53.3**	**+1.9**
GYA				PP		**PnPn**	**18 20 15.0**	**+2.3**
GYA				PcP		**PcP**	**18 22 15.6**	**+0.9**
GYA				S		**S**	**18 24 01.9**	**+3.0**
GYA				sS		**sS**	**18 24 45.6**	**+2.0**
GYA				ScP		**ScP**	**18 25 44.4**	**-1.6**
GYA				PcS		**PcS**	**18 25 57.5**	**-0.6**
GYA				ScS		**ScS**	**18 29 38.0**	**-3.2**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,110nm,4.8s							
MORW	**Morawa**	**29.87**	**190**	↑P		**P**	**18 19 14.3**	**-0.6**
	baz=30,SNR=9.4							
KMI	**Kunming**	**30.54**	**325**	P		**P**	**18 19 23.3**	**+2.2**
KMI				pmax		pmax		
	comp=Z,32nm,0.8s							
BLDU	**Ballidu**	**31.28**	**188**	↑P		**P**	**18 19 26.5**	**-0.8**
	baz=31,SNR=8.5							
NJ2	**Nanjing**	**31.50**	**356**	*e*P		**P**	**18 19 29.8**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CTA	**Charters Tower**	**31.64**	**132**	P		**P**	**18 19 31.2**	**+0.7**
CTA	**Charters Tower**	**31.64**	**132**	P		**P**	**18 19 31.2**	**+0.7**
	comp=Z,12nm,1.0s,baz=319,slow=13,SNR=12							
CTA	**Charters Tower**	**31.64**	**132**	↓P		**P**	**18 19 31.0**	**+0.5**
	baz=32							
CTAO	**Charters Tower**	**31.64**	**132**	*e*P		**P**	**18 19 30.0**	**-0.5**
CTAO				pmax		pmax		
	comp=Z,23nm,1.1s							
CTAO	**Charters Tower**	**31.64**	**132**	*e*P		**P**	**18 19 30.0**	**-0.5**
	comp=Z,23nm,1.1s							
FORT	**Forrest**	**31.69**	**169**	↓P		**P**	**18 19 30.1**	**-0.7**
	baz=32,SNR=7.7							
ENH	**Enshi**	**31.79**	**340**	*e*P		**P**	**18 19 33.1**	**+1.4**
	comp=Z,23nm,1.0s							
KLBR	**Kellerberrin**	**32.12**	**186**	↑P		**P**	**18 19 33.8**	**-0.7**
	baz=32,SNR=8.0							
NWAO	**Narrogin (SRO)**	**33.49**	**187**	P		**P**	**18 19 46.1**	**-0.5**
NWAO	**Narrogin (SRO)**	**33.49**	**187**	P		**P**	**18 19 46.1**	**-0.5**
	comp=Z,11nm,0.6s,baz=13,slow=12,SNR=15							
QLP	**Quilpie**	**34.63**	**143**	↓P		**P**	**18 19 56.8**	**+0.3**
	baz=35,SNR=24							
CD2	**Chengdu**	**34.68**	**332**	P		**P**	**18 19 57.5**	**+0.6**
CD2				pP		**pP**	**18 20 23.9**	**+1.1**
CD2				sP		**sP**	**18 20 38.3**	**+2.0**
CD2				PP		**PP**	**18 21 19.1**	**+1.3**
CD2				S		**S**	**18 25 19.0**	**+0.8**
C

comp=Z,46nm,1.1s
ODAN Odare 42.06 311 *e*P P **18 20 59.9 +0.9**
comp=Z,46nm,1.1s
TAPN Taplejung 42.09 312 *e*P P **18 21 00.2 +0.9**
TAPN Taplejung 42.09 312 *e*P P **18 21 00.2 +0.9**
RAMN Ramite 42.70 311 *e*P P **18 21 05.4 +1.2**
comp=Z,101nm,1.1s
RAMN Ramite 42.70 311 *e*P P **18 21 05.4 +1.2**
comp=Z,101nm,1.1s
YNG Young 42.75 147 ⇓P P **18 21 05.3 +1.0**
baz=43,SNR=9.0
CN2 Changchun 43.26 4 *e*P P 18 21 11.3 +3.2
JIRN Jiri 43.39 312 *e*P P **18 21 10.6 +0.7**
comp=Z,27nm,0.6s
JIRN Jiri 43.39 312 *e*P P **18 21 10.6 +0.7**
comp=Z,27nm,0.6s
MGCD Mangrove Creek 43.53 143 ⇑P P **18 21 12.4 +2.0**
baz=44,SNR=6.2
GTA Gaotai 43.56 335 ⇓P P **18 21 12.3 +1.5**
GTA pP **pP 18 21 37.5 -0.1**
GTA sP **sP 18 21 50.0 -0.8**
GTA ScP **ScP 18 26 38.0 +0.6**
GTA S **S 18 27 33.8 +2.5**
GTA sS **sS 18 28 18.3 +0.6**
GTA SS **SS 18 30 44.6 -6.2**
GTA pmax pmax
comp=Z,21nm,0.8s
GTA pmax pmax
comp=Z,91nm,4.2s
GTA LR LR
comp=Z,97nm,17.1s
GTA LR LR
comp=Z,110nm,15.2s
GTA LR LR
comp=Z,78nm,15.2s
GUN Gumba 43.76 312 *e*P P **18 21 13.6 +0.8**
comp=Z,24nm,0.5s
GUN Gumba 43.76 312 *e*P P **18 21 13.6 +0.8**
comp=Z,24nm,0.5s
TOO Toolangi 43.83 152 ⇑P P **18 21 13.8 +1.0**
baz=44,SNR=6.2
CAN Canberra 43.84 147 *e*P P **18 21 13.8 +0.8**
CAN pmax pmax
comp=Z,38nm,0.8s
CAN Canberra 43.84 147 *e*P P **18 21 13.8 +0.8**
comp=Z,38nm,0.8s
CAN Canberra 43.84 147 ⇓P P **18 21 14.0 +1.0**
baz=44
PKI Pulchoki 43.93 311 *e*P P **18 21 14.6 +0.4**
comp=Z,49nm,1.1s
PKI Pulchoki 43.93 311 *e*P P **18 21 14.6 +0.4**
PKI pmax pmax
comp=Z,49nm,1.1s
PKI Pulchoki 43.93 311 *e*P P **18 21 14.6 +0.4**
comp=Z,49nm,1.1s
PKIN Phulchoki 43.95 311 *e*P P **18 21 14.6 +0.4**
comp=Z,16nm,0.8s
CNB Canberra Magne 44.04 147 ⇑P P **18 21 15.5 +0.9**
baz=44,SNR=16
KKN Kakani 44.14 311 *e*P P **18 21 16.2 +0.5**
comp=Z,46nm,1.0s
KKN Kakani 44.14 311 *e*P P **18 21 16.2 +0.5**
KKN pmax pmax
comp=Z,46nm,1.0s
KKN Kakani 44.14 311 *e*P P **18 21 16.2 +0.5**
comp=Z,46nm,1.0s
DMN Daman 44.18 311 *e*P P **18 21 16.7 +0.6**
comp=Z,76nm,1.0s
DMN Daman 44.18 311 *e*P P **18 21 16.7 +0.6**
comp=Z,76nm,1.0s
USRK Ussuriysk Arra 44.49 11 P P **18 21 17.8 -0.1**
comp=Z,5.4nm,0.6s,baz=191,slow=5.8,SNR=16
MDJ Mudanjiang 44.51 8 P P **18 21 18.1 0.0**
MDJ pP **pP 18 21 43.5 -1.5**
MDJ sP **sP 18 21 56.3 -1.9**
MDJ ScP **ScP 18 26 41.3 +0.4**
MDJ PcS **PcS 18 26 53.0 +0.2**
MDJ S **S 18 27 44.9 +0.3**
MDJ ScS **ScS 18 31 04.6 +0.6**
MDJ pmax pmax
comp=Z,11nm,1.1s
MDJ pmax pmax
comp=Z,74nm,4.0s
MDJ Mudanjiang 44.51 8 *e*P P **18 21 17.7 -0.3**
GKN Gorkha 44.74 311 *e*P P **18 21 21.0 +0.6**
comp=Z,94nm,1.1s
GKN Gorkha 44.74 311 *e*P P **18 21 21.0 +0.6**
comp=Z,94nm,1.0s
KOLN Koldanda 45.41 310 *e*P P **18 21 26.6 +0.8**
comp=Z,79nm,0.8s
KOLN Koldanda 45.41 310 *e*P P **18 21 26.6 +0.8**
comp=Z,79nm,0.8s
HYB Hyderabad 45.57 294 *i*P P **18 21 27.0 0.0**
DANN Dangsing 45.58 311 *e*P P **18 21 27.8 +0.6**
comp=Z,107nm,0.8s
DANN Dangsing 45.58 311 *e*P P **18 21 27.8 +0.6**
comp=Z,107nm,0.8s
PYUN Piuthan 46.04 310 *e*P P **18 21 31.6 +0.8**
comp=Z,181nm,0.9s
PYUN Piuthan 46.04 310 *e*P P **18 21 31.6 +0.8**
comp=Z,181nm,0.9s
YUK Yuzh-Kuril'sk 48.44 23*c i*P P 18 21 43.8 -4.9
YUK *i* 18 23 12.1
YUK *i* 18 23 35.9
YUK *i*S **S 18 28 40.0 -0.6**
YUK *i* 18 31 32.6
YUK *i*SS **SS 18 32 09.0 -3.1**
ULN Ulaanbaatar 48.86 347 *e*P P **18 21 52.8 +0.7**
comp=Z,19nm,0.9s
SONM Songino Array 48.98 346 P P **18 21 53.9 +0.9**
SONM Songino Array 48.98 346 P P **18 21 53.9 +0.9**
comp=Z,13nm,0.8s,baz=162,slow=7.9,SNR=13
ZAK Zakamensk 52.11 345 *e*P P **18 22 15.2 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
WMQ Urumqi 52.67 329 P P **18 22 22.0 +1.3**
WMQ pP **pP 18 22 49.0 +0.6**
WMQ sP **sP 18 23 02.0 +0.6**
WMQ PcP **PcP 18 23 30.0 +0.9**
WMQ PP **PP 18 24 24.0 +2.9**
WMQ ScP **ScP 18 27 16.0 +0.3**
WMQ S **S 18 29 39.0 -0.4**
WMQ sS **sS 18 30 25.0 -2.1**
WMQ ScS **ScS 18 31 57.0 -2.0**
WMQ SS **SS 18 33 17.0 -2.5**
WMQ pmax pmax
comp=Z,18nm,1.0s
WMQ pmax pmax
comp=Z,78nm,5.0s
WMQ LR LR
comp=Z,59nm,16.0s
WMQ LR LR
comp=Z,39nm,16.0s
WMQ LR LR
comp=Z,38nm,16.0s
MOY Mondy 53.88 344 *e*P P **18 22 30.5 +1.1**
KSH Kashi 56.90 319 P P **18 22 53.3 +2.0**
KSH sP **sP 18 23 34.3 +2.0**
KSH PP **PP 18 25 04.0 +4.9**
KSH PcS **PcS 18 27 48.1 +1.5**
KSH S **S 18 30 34.8 -1.5**
KSH SS **SS 18 34 30.1 +3.6**
KSH pmax pmax
comp=Z,16nm,0.8s
KSH LR LR
comp=Z,160nm,5.4s
KSH LR LR
comp=Z,190nm,6.8s
KSH LR LR
comp=Z,150nm,5.4s
MK31 Makanchi Array 57.48 329 *e*P P **18 22 55.8 +0.6**
MK31 Makanchi Array 57.48 329 *e*P P **18 22 55.8 +0.6**
MKAR Makanchi Array 57.48 329 *i*P P **18 22 56.0 +0.9**
MKAR pmax pmax
comp=Z,14nm,0.6s
MKAR Makanchi Array 57.48 329 *e*P P **18 22 56.0 +0.9**
MKAR Makanchi Array 57.48 329 P P **18 22 56.0 +0.9**
comp=Z,14nm,0.6s,baz=126,slow=9.2,SNR=252
MKAR LR LR 18 47 39.6
comp=Z,24nm,19.2s,baz=175,slow=36
MKAR Makanchi Array 57.48 329 ⇑P P **18 22 56.1 +0.9**
baz=58
KZA Kyzart 58.71 321 *i*P P **18 23 05.8 +1.5**
KZA Kyzart 58.71 321 P P **18 23 05.8 +1.5**
SNR=12
TKM2 Tokmak 2 58.95 322 *i*P P **18 23 06.8 +1.1**
TKM2 Tokmak 2 58.95 322 P P **18 23 06.8 +1.1**
SNR=18
TKM2 Tokmak 2 58.95 322 *e*P P **18 23 06.8 +1.1**
comp=Z,12nm,0.8s
KBK Karagaybulak 59.21 321 P P **18 23 08.9 +1.4**
SNR=18
UCH Uchtor 59.26 321 *i*P P **18 23 09.8 +1.7**
UCH Uchtor 59.26 321 P P **18 23 09.9 +1.7**
SNR=12
AAK Ala-Archa 59.48 321 *i*P P **18 23 09.4 +0.1**
AAK pmax pmax
comp=Z,54nm,1.3s
AAK Ala-Archa 59.48 321 P P **18 23 11.1 +1.8**
SNR=13
AAK Ala-Archa 59.48 321 *e*P P **18 23 09.5 +0.1**
comp=Z,13nm,0.8s
KBL Kabul 59.57 311 *e*P P **18 23 10.4 +0.3**
KBL Kabul 59.57 311 *e*P P **18 23 10.4 +0.3**
AML Almayashu 59.73 320 P P **18 23 12.5 +1.2**
SNR=19
USP Ospenovka 59.81 322 *i*P P **18 23 12.3 +0.9**
USP Ospenovka 59.81 322 P P **18 23 12.3 +0.9**
SNR=10
EKS2 Erkin-Say 59.95 321 *i*P P **18 23 13.7 +1.2**
EKS2 Erkin-Say 59.95 321 P P **18 23 13.7 +1.2**
SNR=16
EKS2 Erkin-Say 59.95 321 *e*P P **18 23 13.0 +0.6**
PETK Petropavlovsk- 60.40 24 P P **18 23 15.6 +0.4**
PETK Petropavlovsk- 60.40 24 P P **18 23 15.6 +0.4**
PETK Petropavlovsk- 60.40 24 P P **18 23 15.6 +0.4**
comp=Z,3.6nm,0.8s,baz=205,slow=8.7,SNR=9.8
ZAA0 Zalesovo Array 61.30 336 *e*P P **18 23 20.3 -0.9**
ZALV Zalesovo Beam 61.30 336 *i*P P **18 23 20.7 -0.6**
ZALV pmax pmax
comp=Z,9.0nm,0.7s
ZALV Zalesovo Beam 61.30 336 P P **18 23 20.7 -0.6**
ZALV pP **pP 18 23 49.1 -0.6**
ZALV sP **sP 18 24 02.8 +0.2**
ZALV Zalesovo Beam 61.30 336 P P **18 23 20.7 -0.6**
comp=Z,8.9nm,0.7s,baz=124,slow=6.3,SNR=52
ZALV pP **pP 18 23 49.1 -0.6**
comp=Z,3.0nm,0.7s,baz=116,slow=6.8,SNR=3.4
ZALV sP **sP 18 24 02.8 +0.2**
comp=Z,1.4nm,0.5s,baz=125,slow=7.1,SNR=1.8
YAK Yakutsk 61.69 4 *e*P P **18 23 22.8 -0.9**
YAK Yakutsk 61.69 4 *e*P P **18 23 22.8 -0.9**
KURK Kurchatov 61.87 331 *e*P P **18 23 24.8 -0.3**
KURK pmax pmax
comp=Z,6.0nm,0.6s
KURK Kurchatov 61.87 331 *e*P P **18 23 24.8 -0.3**
comp=Z,5.7nm,0.6s
RPZ Rata Peaks 62.25 142 *e*P P **18 23 29.0 +1.2**
RPZ Rata Peaks 62.25 142 P P **18 23 28.5 +0.7**
comp=Z,30nm,0.9s,baz=296,slow=2.4,SNR=14
RPZ LR LR 18 52 37.8
comp=Z,105nm,19.8s,baz=330,slow=38
KKAR Karatay Array 62.25 320 *e*P P **18 23 28.4 +0.5**
KKAR Karatay Array 62.25 320 *e*P P **18 23 28.4 +0.5**
NVS Novosibirsk 62.59 336 *e*P P **18 23 27.7 -2.1**
NVS *e* 18 23 55.3
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
NVS pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 67.43 329*c i*P P **18 24 00.7 -0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 67.43 329 *e*P P **18 24 00.7 -0.5**
comp=Z,12nm,1.1s
TIXI Tiksi 71.20 2⇑ *i*P P **18 24 22.6 -1.5**
TIXI pmax pmax
comp=Z,19nm,1.7s
TIXI Tiksi 71.20 2 *e*P P **18 24 22.9 -1.2**
ABKAR Akbulak array 71.50 323 *e*P P **18 24 26.3 -0.1**
ABKAR Akbulak array 71.50 323 ⇑P P **18 24 26.2 -0.1**
baz=72
SVE Sverdlovsk 74.11 330 *e*P P **18 24 41.0 -0.6**
SVE pmax pmax
comp=Z,27nm,1.3s
ARU Arti 75.00 329*d i*P P **18 24 45.9 -0.9**
ARU 18 27 32.0
ARU S S 18 34 22.1 +7.1
ARU SS **SS 18 39 09.4 +3.3**
ARU pmax pmax
comp=Z,30nm,2.5s
ARU Arti 75.00 329 *e*P P **18 24 45.9 -0.9**
comp=Z,49nm,1.9s
ZEI Tsey 80.66 313 *e*P P **18 25 17.3 -1.4**
ZEI pmax pmax
comp=Z,5.0nm,1.3s
VNDA Vanda 80.92 172 *e*P P **18 25 18.3 -0.8**
VNDA Vanda 80.92 172 P P **18 25 18.6 -0.5**
comp=Z,1.8nm,0.6s,baz=310,slow=5.6,SNR=15
PRGR Permogore 82.93 332 P P **18 25 27.8 -2.1**
PRGR pmax pmax
comp=Z,8.0nm,0.4s
OBN Obninsk 86.76 325⇑ *e*P P **18 25 47.9 -1.3**
OBN *e* 18 26 10.3
OBN pmax pmax
comp=Z,17nm,1.4s
BR131 Keskin Array S 88.13 310 *e*P P **18 25 54.8 -1.5**
comp=Z,1.7nm,0.7s
BRTR Keskin Array B 88.13 310 P P **18 25 55.0 -1.4**
BRTR pP **pP 18 26 26.1 -0.5**
BRTR Keskin Array B 88.13 310 P P **18 25 55.0 -1.4**
comp=Z,2.7nm,0.8s,baz=125,slow=6.3,SNR=13
BRTR pP **pP 18 26 26.2 -0.5**
comp=Z,1.4nm,0.9s,baz=101,slow=6.4,SNR=3.0
CSS Prodhromos 88.31 305 *e*P P **18 25 56.9 -0.3**
ILAR Eielson Array 90.20 25 P P **18 26 03.5 -1.8**
ILAR Eielson Array 90.20 25 P P **18 26 03.5 -1.8**
comp=Z,0.7nm,0.7s,baz=251,slow=4.9,SNR=10
QSPA South Pole Qui 90.42 180 *e*P P **18 26 05.5 -0.9**
QSPA PP **PP 18 29 38.0 -4.1**
QSPA South Pole Qui 90.42 180 P P **18 26 05.9 -0.6**
comp=Z,2.2nm,0.5s,baz=295,slow=1.2,SNR=19
QSPA PP **PP 18 29 38.0 -4.1**
comp=Z,0.5nm,0.4s,baz=219,slow=2.6,SNR=3.1
FINES FINESS Array B 92.23 331 P P **18 26 12.9 -1.9**
FINES FINESS Array B 92.23 331 P P **18 26 12.9 -1.9**
comp=Z,4.4nm,1.0s,baz=61,slow=8.6,SNR=5.0
INK Inuvik 95.02 21 P P **18 26 27.1 -0.3**
INK Inuvik 95.02 21 P P **18 26 27.1 -0.3**
comp=Z,0.7nm,0.5s,baz=269,slow=8.0,SNR=3.5
TORD Torodi Ar. Bea 118.94 285 PKP **PKPdf 18 31 53.5 -0.7**
TORD Torodi Ar. Bea 118.94 285 PKP **PKPdf 18 31 53.5 -0.7**
comp=Z,0.3nm,0.6s,baz=86,slow=2.1,SNR=3.4
SCHQ Schefferville 124.43 6 PKP **PKPdf 18 32 03.6 0.0**
SCHQ Schefferville 124.43 6 PKP **PKPdf 18 32 03.6 0.0**
comp=Z,2.5nm,0.9s,baz=225,slow=4.3,SNR=4.5
CFAA Coronel Fontan 147.68 164 PKPbc **PKPbc 18 32 49.5 -0.4**
CFAA Coronel Fontan 147.68 164 PKPbc **PKPbc 18 32 49.5 -0.4**
comp=Z,0.2nm,0.4s,baz=185,slow=4.6,SNR=7.4

MAN 23 18:14:52,7.49N×122.96E,h18km,mb3.9,ML2.6,MS2.3,
Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.55**	**50**	*e*S	Sn	18 15 15.2	+1.4

*ISCJB **23** 18:31:49.7±0.5, 11.45S±0.06×165.48E±0.07, h24km, mb4.4/22, MS3.5/10, Error ellipse: s-maj=10.1km s-min=7.8km az=144.0*
*NEIC **23** 18:31:52.5±3.8, 11.44S×165.53E, h31km±25km, mb4.6/6, Error ellipse: s-maj=14.1km s-min=8.1km az=62.0*
*IDC **23** 18:31:54.6±0.9, 11.52S×165.45E, h46km±7km, mb4.1/18, mb1 4.2/21, mb1mx4.2/25, mbtmp4.2/21, ML4.8/2, MS3.5/12, Ms1 3.5/12, ms1mx3.4/27, Error ellipse: s-maj=16.7km s-min=11.4km az=72.0*
ISC 23 18:31:51.2±0.5, 11.50S±0.06×165.56E±0.08, h24km, n69,
σ1.549/77, mb4.4/22, MS3.6/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.89**	**290**	P	**Pn**	**18 33 17.6**	**+0.6**
HNR				S	**Sn**	**18 34 22.3**	**-1.5**
HNR	**Honiara**	**5.89**	**290**	P	**Pn**	**18 33 17.6**	**+0.6**
	43nm,0.3s,baz=134,slow=5.9,SNR=14						
HNR				S	**Sn**	**18 34 22.3**	**-1.5**
	23nm,0.3s,baz=157,slow=23,SNR=3.4						
DZM	**Mont Dzumac 10.55 176** *e*P				**Pn**	**18 34 21.8**	**+0.7**
	13nm,0.5s						
DZM				S	**Sn**	**18 36 15.7**	**-3.0**
DZM	**Mont Dzumac 10.55 176** P				**Pn**	**18 34 22.4**	**+1.2**
	4.9nm,0.3s,baz=180,slow=12,SNR=80						
DZM				S	**Sn**	**18 36 15.7**	**-3.0**
	0.8nm,0.3s,baz=149,slow=21,SNR=3.1						
DZM				LR	LR	18 38 04.4	
	comp=Z,292nm,18.4s,baz=18,slow=35						
DZM	**Mont Dzumac 10.55 176** *e*P				**Pn**	**18 34 21.8**	**+0.7**
DZM				*e*S	**Sn**	**18 36 14.0**	**-4.7**
PMG	**Port Moresby 18.21 275** P				**Pn**	**18 36 02.2**	**-0.5**
PMG	**Port Moresby 18.21 275** P				**Pn**	**18 36 02.2**	**-0.5**
	0.2nm,0.3s,baz=204,slow=2.7,SNR=5.1						
PMG				LR	LR	18 42 25.9	
	comp=Z,255nm,19.6s,baz=78,slow=35						
CTA	**Charters Tower 20.43 243** P				Pn	18 36 28.7	-0.5
CTA	**Charters Tower 20.43 243** P				Pn	18 36 28.7	-0.5
	8.7nm,0.8s,baz=72,slow=12,SNR=12						
CTAO	**Charters Tower 20.43 243** *e*P				Pn	18 36 28.3	-0.9
	23nm,1.1s						
RMQ	**Roma 21.75 224** P				**P**	**18 36 42.9**	**+1.7**
	baz=18,SNR=7.4						
COEN	**Coen 21.97 261** *e*P				**P**	**18 36 43.8**	**+0.1**
	75nm,0.8s						
COEN	**Coen 21.97 261** P				P	18 36 49.4	+5.8
	baz=19,SNR=4.1						
AFI	**Afiamalu 22.24 99** LR				LR	18 43 44.4	
	comp=Z,188nm,18.8s,baz=86,slow=32						
ARMA	**Armidale 22.84 212** *e*P				**P**	**18 36 53.5**	**+0.6**
	13nm,1.1s						
ARMA	**Armidale 22.84 212** P				**P**	**18 36 54.1**	**+1.2**
	baz=19,SNR=5.4						
URZ	**Urewera 28.59 161** P				**P**	**18 37 46.7**	**+1.2**
URZ	**Urewera 28.59 161** P				**P**	**18 37 46.7**	**+1.2**
	5.7nm,0.8s,baz=214,slow=0.4,SNR=3.7						
URZ				LR	LR	18 47 58.4	
	comp=Z,85nm,18.9s,baz=152,slow=34						
STKA	**Stephens Creek 29.99 224** *e*P				**P**	**18 37 58.5**	**+0.5**
STKA	**Stephens Creek 29.99 224** P				**P**	**18 37 58.7**	**+0.6**
	3.6nm,0.7s,baz=58,slow=8.2,SNR=10						
STKA				LR	LR	18 49 56.0	
	comp=Z,153nm,20.0s,baz=28,slow=36						
WRAB	**Tennant Creek 31.15 250** *e*P				**P**	**18 38 07.8**	**-0.6**
	14nm,1.1s						
WRA	**Warramunga Arr 31.16 250** P				**P**	**18 38 08.2**	**-0.4**
WRA				pP	**pP**	**18 38 20.0**	**+4.2**
WRA				PcP	**PcP**	**18 41 03.5**	**0.0**
WRA	**Warramunga Arr 31.16 250** P				**P**	**18 38 08.2**	**-0.4**
	4.9nm,0.8s,baz=82,slow=8.9,SNR=34						
WRA				pP	**pP**	**18 38 20.0**	**+4.2**
	3.8nm,0.7s,baz=83,slow=9.2,SNR=6.9						
WRA				PcP	**PcP**	**18 41 03.5**	**0.0**
	1.0nm,0.7s,baz=79,slow=3.2,SNR=6.6						
ASAR	**Alice Springs 32.43 244** P				**P**	**18 38 19.0**	**-0.8**
ASAR				PcP	**PcP**	**18 41 06.7**	**-0.2**
ASAR	**Alice Springs 32.43 244** P				**P**	**18 38 19.0**	**-0.8**
	1.9nm,0.9s,baz=72,slow=9.4,SNR=22						
ASAR				PcP	**PcP**	**18 41 06.7**	**-0.2**
	1.5nm,0.9s,baz=70,slow=1.9,SNR=9.0						
ASAR				LR	LR	18 50 47.8	
	comp=Z,110nm,18.6s,baz=3.1,slow=35						
RPZ	**Rata Peaks 32.45 173** P				**P**	**18 38 22.0**	**+2.3**
RPZ	**Rata Peaks 32.45 173** P				**P**	**18 38 22.0**	**+2.3**
	9.6nm,0.8s,baz=133,slow=7.1,SNR=7.4						
KNRA	**Kununurra 35.98 259** P				**P**	**18 38 48.5**	**-2.0**
	baz=33,SNR=4.9						
FITZ	**Fitzroy Crossi 39.09 255** P				**P**	**18 39 16.2**	**-0.6**
	baz=36,SNR=3.1						
PPT	**Papeete 43.77 103** LR				LR	18 55 55.1	
	comp=Z,74nm,19.6s,baz=186,slow=33						
MEEK	**Meekatharra 46.59 244** P				**P**	**18 40 18.0**	**+0.4**
	baz=43,SNR=3.5						
MJAR	**Matsushiro Arr 54.28 333** P				**P**	**18 41 14.3**	**-1.3**
MJAR	**Matsushiro Arr 54.28 333** P				**P**	**18 41 14.3**	**-1.3**
	2.9nm,1.0s,baz=165,slow=4.6,SNR=4.8						
MJAR				LR	LR	19 03 09.2	
	comp=Z,30nm,19.1s,baz=185,slow=35						
JNU	**Nakatsue 55.34 325** LR				LR	19 03 02.3	
	comp=Z,22nm,18.8s,baz=56,slow=34						
KSRS	**Korea Array 60.14 326** P				**P**	**18 41 57.3**	**+0.3**
	1.8nm,0.8s,baz=139,slow=7.6,SNR=7.1						
KSAR	**Wonju Array Be 60.16 326** P				**P**	**18 41 57.3**	**+0.2**
USRK	**Ussuriysk Arra 63.27 334** P				**P**	**18 42 18.6**	**+0.7**
	1.9nm,0.7s,baz=110,slow=6.8,SNR=5.6						
VNDA	**Vanda 66.04 181** P				**P**	**18 42 36.2**	**+0.6**
VNDA	**Vanda 66.04 181** P				**P**	**18 42 36.2**	**+0.6**
	1.0nm,0.8s,baz=8.5,slow=5.6,SNR=8.8						
ENH	**Enshi 68.04 309** *e*P				**P**	**18 42 46.7**	**-2.4**
	4.1nm,1.0s						
ENH				*e*		18 43 01.6	
CMAR	**Chiang Mai Arr 72.12 294** P				**P**	**18 43 15.6**	**+1.2**
CMAR				pP	**PcP**	**18 43 29.1**	**-3.6**
CMAR	**Chiang Mai Arr 72.12 294** P				**P**	**18 43 15.6**	**+1.2**
	2.2nm,0.8s,baz=125,slow=4.8,SNR=30						
CMAR				pP	**PcP**	**18 43 29.1**	**-3.6**
	2.0nm,0.8s,baz=124,slow=4.5,SNR=9.9						
CMAR				LR	LR	19 15 11.2	
	comp=Z,12nm,18.0s,baz=165,slow=36						
HIA	**Hailar 72.67 331** *e*P				**P**	**18 43 17.3**	**+0.3**
QSPA	**South Pole Qui 78.51 180** P				**P**	**18 43 50.2**	**-0.2**
QSPA	**South Pole Qui 78.51 180** P				**P**	**18 43 50.2**	**-0.2**
	8.3nm,1.0s,baz=356,slow=2.0,SNR=14						
ULN	**Ulaanbaatar 78.56 324** *e*P				**P**	**18 43 51.5**	**+0.5**
	6.9nm,1.0s						
SONM	**Songino Array 78.92 324** P				**P**	**18 43 54.2**	**+1.3**
SONM	**Songino Array 78.92 324** P				**P**	**18 43 54.2**	**+1.3**
	2.1nm,0.5s,baz=101,slow=6.0,SNR=2.8						
ILAR	**Eielson Array 84.00 19** P				**P**	**18 44 18.6**	**-0.7**
ILAR	**Eielson Array 84.00 19** P				**P**	**18 44 18.6**	**-0.7**
	0.7nm,0.8s,baz=226,slow=5.2,SNR=6.2						
MAW	**Mawson 84.24 202** P				**P**	**18 44 19.7**	**-0.8**
MAW	**Mawson 84.24 202** P				**P**	**18 44 19.7**	**-0.8**
	7.8nm,1.0s,baz=93,slow=2.7,SNR=3.8						
MK31	**Makanchi Array 93.72 317** *e*P				**P**	**18 45 05.9**	**-0.3**
MKAR	**Makanchi Array 93.72 317** P				**P**	**18 45 06.0**	**-0.2**
MKAR				pP	pP	18 45 19.4	+5.4
MKAR	**Makanchi Array 93.72 317** P				**P**	**18 45 06.0**	**-0.2**
	2.0nm,0.6s,baz=94,slow=6.5,SNR=29						
MKAR				pP	pP	18 45 19.4	+5.4
	1.1nm,0.8s,baz=89,slow=6.3,SNR=5.1						
MKAR				LR	LR	19 26 58.3	
	comp=Z,29nm,19.4s,baz=182,slow=35						
ZALV	**Zalesovo Beam 93.81 324** P				**P**	**18 45 05.8**	**-0.5**
ZALV	**Zalesovo Beam 93.81 324** P				**P**	**18 45 05.8**	**-0.5**
	2.2nm,0.9s,baz=116,slow=5.4,SNR=12						
ZALV				LR	LR	19 28 27.4	
	comp=Z,29nm,19.7s,baz=276,slow=36						
YKA	**Yellowknife Ar 95.46 27** P				**P**	**18 45 12.8**	**-0.8**
YKA	**Yellowknife Ar 95.46 27** P				**P**	**18 45 12.8**	**-0.8**
	0.2nm,0.7s,baz=265,slow=5.1,SNR=3.8						
ARCES	**ARCESS Array B 116.72 345** PKP				**PKPdf**	**18 50 32.7**	**-0.3**
ARCES	**ARCESS Array B 116.72 345** PKP				**PKPdf**	**18 50 32.7**	**-0.3**
	3.4nm,0.9s,baz=40,slow=2.1,SNR=5.9						
NOA	**NORSAR Array B 127.08 345** PKP				**PKPdf**	**18 50 53.7**	**+0.5**
NOA	**NORSAR Array B 127.08 345** PKP				**PKPdf**	**18 50 53.7**	**+0.5**
	0.8nm,0.9s,baz=131,slow=21,SNR=3.1						
GERES	**GERESS Array B 136.02 333** PKP				**PKPdf**	**18 51 12.0**	**+1.5**
GERES	**GERESS Array B 136.02 333** PKP				**PKPdf**	**18 51 12.0**	**+1.5**
	0.4nm,0.6s,baz=38,slow=5.0,SNR=5.2						
KEST	**Kesra 147.66 322** PKPbc				**PKPbc**	**18 51 34.7**	**+0.3**
KEST	**Kesra 147.66 322** PKPbc				**PKPbc**	**18 51 34.7**	**+0.3**
	4.5nm,0.9s,baz=322,slow=2.7,SNR=11						
ESDC	**Sonseca Array 150.44 343** PKPbc				**PKPbc**	**18 51 41.5**	**+0.3**
ESDC				PKPab	**PKPab**	**18 51 48.6**	**+1.0**
ESDC	**Sonseca Array 150.44 343** PKPbc				**PKPbc**	**18 51 41.5**	**+0.3**
	2.1nm,0.9s,baz=357,slow=2.9,SNR=7.6						
ESDC				PKPab	**PKPab**	**18 51 48.6**	**+1.0**
	1.7nm,0.7s,baz=16,slow=3.8,SNR=6.7						

MAN 23 18:32:17,11.32N×124.37E,h13km,mb4.3,ML3.1,MS2.9,
1D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.36**	**138**	*e*P	Pb	18 32 25.2	0.0
PLP	**Palo**	**0.62**	**104**	⇓*i*P	Pb	18 32 29.5	-0.2
PLP				*e*S	Sg	18 32 37.6	+0.3
MSLP	**Maasin**	**1.27**	**158**	*e*P	Pn	18 32 40.1	-0.4
MSLP				*e*S	Sg	18 32 59.0	+1.0

IDC 23 18:36:10.8±2.2, 20.23S×177.53W, h549km±25km,

mb3.6/10, **mb1 3.7**/12, **mb1mx3.5**/23, **mbtmp3.6**/12, **Error ellipse: s-maj=20.1km s-min=16.8km az=140.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.06**	**260**	P	P	18 39 19.8	-1.2
	0.7nm,0.3s,baz=86,slow=19,SNR=7.3						
URZ	**Urewera**	**18.56**	**193**	P	P	18 39 52.8	-0.8
	2.8nm,0.3s,baz=294,slow=2.1,SNR=15						
RPZ	**Rata Peaks**	**25.29**	**200**	P	P	18 40 54.2	+0.3
	1.8nm,0.5s,baz=33,slow=20,SNR=3.5						
CTA	**Charters Tower**	**33.96**	**264**	P	P	18 42 09.1	0.0
	15nm,0.5s,baz=96,slow=11,SNR=50						
PMG	**Port Moresby**	**35.71**	**282**	P	P	18 42 22.2	-1.6
	6.3nm,0.7s,baz=111,slow=4.6,SNR=4.1						
STKA	**Stephens Creek**	**38.30**	**244**	P	P	18 42 45.2	+0.4
	1.8nm,0.4s,baz=72,slow=10,SNR=15						
JAY	**Jayapura**	**44.38**	**288**	P	P	18 43 33.7	+0.5
	18nm,0.5s,baz=125,slow=4.8,SNR=15						
ASAR	**Alice Springs**	**45.01**	**256**	P	P	18 43 37.9	0.0
	13nm,0.5s,baz=93,slow=7.5,SNR=254						
ASAR				S	S	18 49 36.9	-0.1
	1.8nm,0.8s,baz=95,slow=16,SNR=12						
WRA	**Warramunga Arr**	**45.08**	**262**	P	P	18 43 37.7	-0.7
	11nm,0.4s,baz=97,slow=7.5,SNR=350						
WRA				S	S	18 49 34.5	-3.4
	0.6nm,1.1s,baz=99,slow=27,SNR=2.4						
MJAR	**Matsushiro Arr**	**70.25**	**323**	P	P	18 46 28.7	-0.3
	2.4nm,0.5s,baz=158,slow=6.0,SNR=10						
ILAR	**Eielson Array**	**87.95**	**13**	P	P	18 48 01.9	0.0
	0.7nm,1.1s,baz=214,slow=5.2,SNR=4.9						
CMAR	**Chiang Mai Arr**	**90.44**	**289**	P	P	18 48 15.1	+0.6
	0.6nm,0.7s,baz=115,slow=2.6,SNR=6.6						
MKAR	**Makanchi Array**	**111.33**	**313**	PKiKP	PKiKP	18 53 42.4	-0.1
	0.1nm,0.5s,baz=90,slow=1.4,SNR=2.5						
AKASG	**Malin Array Be**	**142.99**	**332**	PKP	PKPdf	18 54 40.0	-2.0
	1.0nm,0.6s,baz=41,slow=3.6,SNR=7.4						
BRTR	**Keskin Array B**	**146.98**	**313**	PKP	PKPdf	18 54 47.2	-2.2
	0.4nm,1.0s,baz=34,slow=22,SNR=2.5						
BRTR				PKPbc	PKPbc	18 54 52.6	+0.2
	0.5nm,0.5s,baz=238,slow=2.3,SNR=3.7						
GERES	**GERESS Array B**	**150.06**	**345**	PKPbc	PKPbc	18 54 59.7	+0.1
	0.3nm,0.6s,baz=29,slow=3.0,SNR=4.6						

ISCJB ***23*** *18:40:11.3±0.5, 60.38S±0.09×26.9W±0.2, h19km, mb4.5/19, MS4.0/14, Error ellipse: s-maj=12.7km s-min=10.5km az=14.9*
NEIC ***23*** *18:40:15.8±2.6, 60.42S×26.91W, h39km±23km, mb5.1/3, Error ellipse: s-maj=10.9km s-min=8.4km az=221.0*
IDC ***23*** *18:40:15.5±0.6, 60.43S×26.86W, h36km±4km, mb4.1/13, mb1 4.2/13, mb1mx4.1/18, mbtmp4.3/13, MS3.9/15, Ms1 3.9/15, ms1mx3.8/19, Error ellipse: s-maj=16.3km s-min=13.5km az=38.0*

ISC 23 18:40:13.4±0.4, 60.48S±0.10×27.02W±0.08, h19km, n71, σ1s49/75, mb4.5/19, MS3.9/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**14.75**	**149**	*e*P	Pn	18 43 33.7	-7.0
	14nm,0.4s						
SNAA				Sn	Sn	18 46 07.0	-16
SNAA	**Sanae**	**14.75**	**149**	Pn	Pn	18 43 34.7	-5.9
	2.4nm,0.3s,baz=318,slow=13,SNR=166						
SNAA				Sn	Sn	18 46 07.0	-16
	0.1nm,0.3s,baz=311,slow=20,SNR=2.9						
SNAA				LR	LR	18 47 56.4	
	comp=Z,147nm,20.8s,baz=8.3,slow=31						
PMSA	**Palmer Station**	**17.38**	**240**	*e*P	P	18 44 21.0	+5.4
EFI	**East Falkland**	**19.27**	**283**	*e*P	**P**	**18 44 36.5**	**0.0**
USHA	**Ushuaia**	**22.56**	**266**	P	**P**	**18 45 13.0**	**+1.0**
USHA	**Ushuaia**	**22.56**	**266**	P	**P**	**18 45 13.0**	**+1.0**
	9.7nm,0.8s,baz=83,slow=8.0,SNR=4.2						
USHA				LR	LR	18 51 58.4	
	comp=Z,355nm,21.2s,baz=248,slow=31						
QSPA	**South Pole Qui**	**29.76**	**180**	P	**P**	**18 46 19.2**	**+0.9**
QSPA	**South Pole Qui**	**29.76**	**180**	P	**P**	**18 46 19.2**	**+0.9**
	6.5nm,0.5s,baz=200,slow=2.5,SNR=13						
QSPA				LR	LR	18 57 54.5	
	comp=Z,318nm,18.5s,baz=211,slow=36						
PLCA	**Paso Flores**	**33.12**	**287**	P	**P**	**18 46 48.0**	**0.0**
PLCA	**Paso Flores**	**33.12**	**287**	P	**P**	**18 46 48.0**	**0.0**
	3.5nm,0.8s,baz=127,slow=7.5,SNR=4.7						
PLCA				LR	LR	18 59 48.0	
	comp=Z,129nm,18.8s,baz=280,slow=35						
MAW	**Mawson**	**36.60**	**140**	P	**P**	**18 47 16.5**	**-1.1**
MAW	**Mawson**	**36.60**	**140**	P	**P**	**18 47 16.5**	**-1.1**
	6.2nm,0.8s,baz=291,slow=1.1,SNR=3.7						
MAW				LR	LR	18 59 54.4	
	comp=Z,136nm,19.9s,baz=127,slow=32						
CFAA	**Coronel Fontan**	**39.56**	**298**	P	**P**	**18 47 42.9**	**-0.2**
CFAA	**Coronel Fontan**	**39.56**	**298**	P	**P**	**18 47 42.9**	**-0.2**
	2.7nm,0.7s,baz=160,slow=6.8,SNR=47						
CPUP	**Villa Florida**	**39.92**	**315**	P	**P**	**18 47 45.9**	**0.0**
CPUP	**Villa Florida**	**39.92**	**315**	P	**P**	**18 47 45.9**	**0.0**
	2.1nm,0.3s,baz=133,slow=7.2,SNR=16						
CPUP				LR	LR	19 02 02.3	
	comp=Z,161nm,19.8s,baz=141,slow=33						
VNDA	**Vanda**	**42.14**	**183**	P	**P**	**18 48 05.4**	**+1.6**
VNDA	**Vanda**	**42.14**	**183**	P	**P**	**18 48 05.4**	**+1.6**
	1.7nm,0.8s,baz=209,slow=7.2,SNR=8.8						
BOSA	**Boshof**	**47.13**	**72**	P	**P**	**18 48 42.7**	**-1.5**
BOSA				pP	**pP**	**18 48 54.4**	**+4.2**
BOSA	**Boshof**	**47.13**	**72**	P	**P**	**18 48 42.7**	**-1.5**
	2.1nm,0.7s,baz=244,slow=9.9,SNR=5.4						
BOSA				pP	**pP**	**18 48 54.4**	**+4.2**
	5.2nm,0.8s,baz=238,slow=10,SNR=4.6						
BOSA				LR	LR	19 03 29.1	
	comp=Z,129nm,18.5s,baz=187,slow=30						
BDFB	**Brasilia**	**47.29**	**332**	P	**P**	**18 48 46.4**	**+0.8**
BDFB	**Brasilia**	**47.29**	**332**	P	**P**	**18 48 46.4**	**+0.8**
	2.3nm,0.6s,baz=175,slow=5.9,SNR=3.0						
BDFB				LR	LR	19 07 01.1	
	comp=Z,95nm,18.3s,baz=203,slow=34						
TSUM	**Tsumeb**	**51.88**	**58**	P	**P**	**18 49 20.6**	**0.0**
TSUM	**Tsumeb**	**51.88**	**58**	P	**P**	**18 49 20.6**	**0.0**
	0.9nm,0.4s,baz=192,slow=9.3,SNR=2.2						
H10S2	**ASCENSION HYDR**	**52.24**	**16**	T	T	19 45 59.8	
	baz=187,slow=75,SNR=12						
H10S3	**ASCENSION HYDR**	**52.24**	**16**	T	T	19 46 00.1	
	baz=187,slow=75,SNR=17						
H10S1	**ASCENSION HYDR**	**52.26**	**16**	T	T	19 46 01.2	
	baz=187,slow=75,SNR=21						
LPAZ	**La Paz**	**53.09**	**308**	*e*P	**P**	**18 49 30.3**	**+0.2**
	5.4nm,0.4s						
LPAZ	**La Paz**	**53.09**	**308**	P	**P**	**18 49 30.5**	**+0.4**
	6.2nm,0.4s,baz=116,slow=5.5,SNR=20						
LPAZ				LR	LR	19 10 10.2	
	comp=Z,105nm,21.2s,baz=59,slow=34						
H10N1	**ASCENSION HYDR**	**53.36**	**16**	T	T	19 47 51.6	
	baz=196						
H10N3	**ASCENSION HYDR**	**53.36**	**16**	T	T	19 47 32.9	
	baz=196						
H10N2	**ASCENSION HYDR**	**53.37**	**16**	T	T	19 47 44.2	
	baz=196						
SAML	**Samuel**	**58.04**	**317**	*e*P	**P**	**18 50 03.1**	**-1.9**
	15nm,1.1s						
LSZ	**Lusaka**	**59.98**	**66**	*e*P	**P**	**18 50 17.9**	**-0.7**
	11nm,0.9s						
LSZ				*e*		18 50 29.0	
LIC	**Lamto**	**68.71**	**24**	*e*P	**P**	**18 51 14.7**	**-0.8**
	35nm,1.5s						
KIC	**Kosan Boka**	**68.90**	**24**	*e*P	**P**	**18 51 15.7**	**-1.0**
	22nm,1.0s						
TIC	**Toumodi**	**69.12**	**23**	*e*P	P	18 51 11.5	-6.6
	10.0nm,0.2s						
DBIC	**Dimbokro**	**69.18**	**24**	P	**P**	**18 51 17.6**	**-0.8**
DBIC				pP	**pP**	**18 51 27.9**	**+3.3**
DBIC	**Dimbokro**	**69.18**	**24**	P	**P**	**18 51 17.6**	**-0.8**
	3.2nm,0.5s,baz=170,slow=8.9,SNR=8.2						
DBIC				pP	**pP**	**18 51 27.9**	**+3.3**
	2.4nm,0.6s,baz=171,slow=12,SNR=2.6						
KMBO	**Kilima Mbogo**	**76.59**	**68**	LR	LR	19 24 40.2	
	comp=Z,116nm,18.0s,baz=94,slow=35						
TOA0	**Torodi Ar. Sit**	**76.89**	**29**	*e*P	**P**	**18 52 03.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.89**	**29**	P	**P**	**18 52 03.9**	**-0.1**
TORD				pP	**PcP**	**18 52 14.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.89**	**29**	P	**P**	**18 52 03.9**	**-0.1**
	23nm,0.5s,baz=199,slow=6.2,SNR=120						
TORD				pP	**PcP**	**18 52 14.7**	**-0.4**
	8.4nm,0.6s,baz=196,slow=5.2,SNR=8.9						
TORD				LR	LR	19 21 02.5	
	comp=Z,57nm,18.5s,baz=295,slow=32						
NWAO	**Narrogin (SRO)**	**82.42**	**150**	LR	LR	19 22 12.7	
	comp=Z,62nm,21.9s,baz=201,slow=30						
STKA	**Stephens Creek**	**87.51**	**170**	LR	LR	19 30 21.8	
	comp=Z,104nm,18.6s,baz=204,slow=34						
ASAR	**Alice Springs**	**94.73**	**162**	P	**P**	**18 53 32.2**	**-1.1**
ASAR				PKKPbc	**PKKPbc**	**19 10 28.1**	**+0.8**
ASAR	**Alice Springs**	**94.73**	**162**	P	**P**	**18 53 32.2**	**-1.1**
	0.3nm,0.6s,baz=181,slow=3.6,SNR=3.6						
ASAR				PKKPbc	**PKKPbc**	**19 10 28.1**	**+0.8**
	0.3nm,0.7s,baz=30,slow=2.4,SNR=4.3						
ASAR				LR	LR	19 33 43.7	
	comp=Z,138nm,18.6s,baz=172,slow=34						
DZM	**Mont Dzumac**	**97.02**	**193**	LR	LR	19 34 19.7	
	comp=Z,43nm,18.8s,baz=322,slow=33						
SCHQ	**Schefferville**	**119.24**	**335**	PKP	**PKPdf**	**18 58 58.9**	**-0.8**
SCHQ	**Schefferville**	**119.24**	**335**	PKP	**PKPdf**	**18 58 58.9**	**-0.8**
	2.3nm,0.7s,baz=162,slow=3.2,SNR=4.8						
AKASG	**Malin Array Be**	**119.70**	**37**	PKP	**PKPdf**	**18 58 59.7**	**-1.0**
AKASG	**Malin Array Be**	**119.70**	**37**	PKP	**PKPdf**	**18 58 59.7**	**-1.0**
	0.1nm,0.3s,baz=237,slow=1.1,SNR=2.8						
PDAR	**Pinedale Array**	**122.71**	**300**	PKP	**PKPdf**	**18 59 06.3**	**-0.8**
PDAR	**Pinedale Array**	**122.71**	**300**	PKP	**PKPdf**	**18 59 06.3**	**-0.8**
	0.5nm,0.6s,baz=123,slow=5.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**123.33**	**113**	PKP	**PKPdf**	**18 59 08.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**123.33**	**113**	PKP	**PKPdf**	**18 59 08.2**	**-0.6**
	0.3nm,0.4s,baz=234,slow=3.0,SNR=3.5						
FINES	**FINESS Array B**	**128.24**	**29**	PKP	**PKPdf**	**18 59 16.6**	**-0.1**
FINES	**FINESS Array B**	**128.24**	**29**	PKP	**PKPdf**	**18 59 16.6**	**-0.1**
	3.1nm,0.7s,baz=120,slow=3.1,SNR=11						
ABKAR	**Akbulak array**	**129.72**	**58**	*e*P	**PKPdf**	**18 59 19.5**	**-0.5**
ARCES	**ARCESS Array B**	**135.01**	**23**	PKP	**PKPdf**	**18 59 29.0**	**-0.3**
ARCES				pPKP	**pPKPdf**	**18 59 40.8**	**+4.9**
ARCES				SKP		19 02 59.2	
ARCES	**ARCESS Array B**	**135.01**	**23**	PKP	**PKPdf**	**18 59 29.0**	**-0.3**
	4.2nm,0.8s,baz=228,slow=2.7,SNR=7.5						
ARCES				pPKP	**pPKPdf**	**18 59 40.8**	**+4.9**
	2.3nm,0.8s,baz=240,slow=1.8,SNR=1.4						
ARCES				SKP		19 02 59.2	
	4.7nm,0.9s,baz=188,slow=2.5,SNR=12						
MKAR	**Makanchi Array**	**138.05**	**76**	PKPpre	PKPpre	18 59 27.4	
MKAR				PKP	**PKPdf**	**18 59 34.7**	**-1.1**
MKAR				SKP		19 03 05.2	
MKAR				SKPab	**SKiKP**	**19 03 14.0**	**+1.5**
MKAR	**Makanchi Array**	**138.05**	**76**	PKhKP	PKPpre	18 59 27.4	
	0.1nm,0.5s,baz=239,slow=1.6,SNR=2.7						
MKAR				PKP	**PKPdf**	**18 59 34.7**	**-1.1**
	0.1nm,0.3s,baz=196,slow=1.4,SNR=5.0						
MKAR				SKP		19 03 05.2	
	0.1nm,0.6s,baz=142,slow=3.3,SNR=3.3						
MKAR				SKPab	**SKiKP**	**19 03 14.0**	**+1.5**
	0.3nm,0.6s,baz=241,slow=1.5,SNR=4.4						
YKA	**Yellowknife Ar**	**139.44**	**314**	PKPpre	PKPpre	18 59 30.1	
YKA				PKP	**PKPdf**	**18 59 37.0**	**-0.6**
YKA				pPKP	pPKPdf	18 59 47.5	+3.3
YKA				SKPbc	**SKPbc**	**19 03 11.8**	**+0.1**
YKA				SKPab	**SKPab**	**19 03 20.6**	**-1.8**
YKA	**Yellowknife Ar**	**139.44**	**314**	PKhKP	PKPpre	18 59 30.0	
	0.1nm,0.3s,baz=263,slow=24,SNR=5.9						
YKA				PKP	**PKPdf**	**18 59 37.1**	**-0.6**
	1.2nm,0.7s,baz=130,slow=2.4,SNR=25						
YKA				pPKP	pPKPdf	18 59 47.5	+3.3
	0.8nm,0.7s,baz=128,slow=2.5,SNR=5.2						
YKA				SKPbc	**SKPbc**	**19 03 11.8**	**+0.1**
	0.9nm,0.7s,baz=129,slow=2.7,SNR=13						
YKA				SKPab	**SKPab**	**19 03 20.5**	**-1.8**
	0.4nm,0.5s,baz=114,slow=4.4,SNR=6.0						
ZALV	**Zalesovo Beam**	**144.06**	**69**	PKP	PKPbc	18 59 44.1	-0.2
ZALV				pPKP	pPKPdf	18 59 54.9	+2.2
ZALV	**Zalesovo Beam**	**144.06**	**69**	PKP	PKPbc	18 59 44.1	-0.2
	1.1nm,0.4s,baz=215,slow=3.7,SNR=5.0						
ZALV				pPKP	pPKPdf	18 59 54.9	+2.2
	1.6nm,0.4s,baz=225,slow=4.0,SNR=5.3						
KSAR	**Wonju Array Be**	**152.00**	**134**	PKPbc	**PKPbc**	**19 00 06.0**	**-0.3**
KSAR				PKPab	**PKPab**	**19 00 14.4**	**-1.3**
KSRS	**Korea Array**	**152.02**	**134**	PKPbc	**PKPbc**	**19 00 06.0**	**-0.3**
	0.3nm,0.4s,baz=223,slow=26,SNR=3.8						
KSRS				PKPab	**PKPab**	**19 00 14.4**	**-1.4**
	0.3nm,0.3s,baz=98,slow=35,SNR=2.9						
ILAR	**Eielson Array**	**152.95**	**305**	PKPbc	**PKPbc**	**19 00 07.7**	**+0.1**
ILAR				PKPab	**PKPab**	**19 00 18.2**	**-0.8**
ILAR	**Eielson Array**	**152.95**	**305**	PKPbc	**PKPbc**	**19 00 07.7**	**+0.1**
	2.3nm,0.7s,baz=151,slow=2.1,SNR=28						
ILAR				PKPab	**PKPab**	**19 00 18.2**	**-0.8**
	3.1nm,0.9s,baz=152,slow=1.9,SNR=9.0						

SKHL 23 19:01:15.1±1.2, 45.07N×150.41E, h40km±5km, mb4.8/4, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.81**	**276**	*e*P	Pn	19 01 42.0	-1.7
KUR				AMB	AMB	19 01 50.8	
	110nm,0.6s						
KUR				*e*S	Sn	19 02 03.2	-2.2
KUR				A	A	19 02 05.0	
	650nm,0.5s						
KUR				A	A	19 02 05.0	
	270nm,0.5s						
KUR				A	A	19 02 05.4	
	4μm,2.0s						
KUR				A	A	19 02 05.4	
	4μm,2.0s						
SHO	**Shikotan**	**2.83**	**246**	*e*P	Pn	19 01 58.7	+1.0
SHO				AMB	AMB	19 02 08.6	
	960nm,0.6s						
SHO				*e*S	Sn	19 02 30.8	+0.2
SHO				A	A	19 02 47.8	
	290nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.41**	**254**	⇑*i*P	Pn	19 02 07.8	+2.1
YUK				AMB	AMB	19 02 08.5	
	10.0nm,0.1s						
YUK				AMB	AMB	19 02 08.5	
	40nm,0.1s						
YUK				*i* S	Sn	19 02 46.9	+2.0
YUK				A	A	19 02 55.0	
	270nm,0.6s						
YUK				A	A	19 02 55.0	
	210nm,0.6s						
YUK				A	A	19 02 55.1	
	300nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.66**	**292**	*e*P	Pn	19 02 40.1	+3.6
YSS				*e*S	Sn	19 03 39.7	-0.5
SKR	**Severo-Kuril's**	**6.80**	**32**	*e*P	Pn	19 02 54.0	+1.8
SKR				AMB	AMB	19 02 58.0	
	100nm,0.8s						
KLR	**Kul'dur**	**13.36**	**295**	AMS	AMS	19 04 24.5	
	700nm,12.0s						
KROS	**Kirovskiy**	**17.73**	**310**	*e*P	P	19 05 20.2	+1.0

IDC ***23*** *19:02:03.5±2.6, 48.18N×155.16E, h0km, mb3.2/4, mb1 3.5/6, mb1mx3.3/25, mbtmp3.3/6, ML2.5/2, Error ellipse: s-maj=78.6km s-min=23.0km az=145.0*

ISC 23 19:02:11.3±2.6, 48.8N±0.5×154.5E±0.4, h43km, n6, σ0s35/5, mb3.3/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.79**	**24**	Pn	**Pn**	**19 03 20.7**	**-0.1**
	0.3nm,0.3s,baz=209,slow=14,SNR=7.8						
USRK	**Ussuriysk Arra**	**16.13**	**262**	Pn	**P**	**19 05 57.7**	**+0.2**
	0.1nm,0.3s,baz=57,slow=12,SNR=2.8						
KSRS	**Korea Array**	**22.33**	**249**	P	**P**	**19 07 04.8**	**-0.4**
	0.6nm,0.5s,baz=65,slow=6.7,SNR=3.0						
MKAR	**Makanchi Array**	**46.84**	**296**	P	P	19 10 40.9	+4.1
	0.2nm,0.6s,baz=68,slow=9.0,SNR=4.8						
YKA	**Yellowknife Ar**	**48.75**	**38**	P	**P**	**19 10 51.4**	**+0.1**
	0.1nm,0.4s,baz=294,slow=7.0,SNR=2.6						
CMAR	**Chiang Mai Arr**	**53.75**	**256**	P	**P**	**19 11 29.4**	**+0.1**
	0.6nm,1.0s,baz=26,slow=7.0,SNR=4.4						

ISCJB ***23*** *19:20:57.1±0.8, 1.61S±0.08×99.34E±0.07, h30km, mb3.8/6, Error ellipse: s-maj=11.7km s-min=10.5km az=9.7*
IDC ***23*** *19:20:59.2±1.3, 1.42S×99.65E, h22km±5km, mb3.6/6, mb1 3.6/7, mb1mx3.4/24, mbtmp3.5/7, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/24, Error ellipse: s-maj=66.3km s-min=17.3km az=59.0*
DJA ***23*** *19:21:01.9±1.8, 1°S±16°×99°E±°, h10km, M3.8/5, MLv3.8/5*

ISC 23 19:20:59.4±0.9, 1.44S±0.10×99.49E±0.08, h30km, n21, σ1s24/19, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.11**	**62**	P	**Pb**	**19 21 19.6**	**-0.4**
PDSI				S	**Sb**	**19 21 36.7**	**+2.6**
PPI	**Padang Panjang**	**1.33**	**43**	P	**Pn**	**19 21 22.2**	**+0.2**
MNSI	**Mandailing Nat**	**2.22**	**2**	P	**Pn**	**19 21 34.0**	**-0.2**
BKNI	**Bangkinang**	**2.34**	**42**	P	**Pb**	**19 21 39.4**	**-1.6**
GSI	**Gunungsitoli**	**3.33**	**325**	P	**Pn**	**19 21 51.1**	**+1.6**
PSI	**Prapat**	**4.25**	**352**	LR	LR	19 23 35.2	
	comp=Z,105nm,19.6s,baz=272,slow=38						
CMAR	**Chiang Mai Arr**	**19.78**	**358**	P	**Pn**	**19 25 29.7**	**+0.7**
	0.1nm,0.3s,baz=193,slow=10,SNR=4.5						
H08S2	**Diego Garcia H**	**27.59**	**256**	T	T	19 54 39.5	
	baz=78,slow=76,SNR=62						
H08S3	**Diego Garcia H**	**27.60**	**256**	T	T	19 54 40.0	
	baz=78,slow=76,SNR=85						
H08S1	**Diego Carcia H**	**27.61**	**256**	T	T	19 54 40.0	
	baz=78,slow=76,SNR=64						
H01W3	**Cape Leeuwin H**	**35.97**	**159**	T	T	20 05 50.7	
	baz=335,slow=76,SNR=9.8						
H01W2	**Cape Leeuwin H**	**35.98**	**159**	T	T	20 05 52.0	
	baz=335,slow=76,SNR=8.5						
H01W1	**Cape Leeuwin H**	**35.98**	**159**	T	T	20 05 51.1	
	baz=335,slow=76,SNR=8.8						
WRA	**Warramunga Arr**	**38.72**	**121**	P	**P**	**19 28 20.7**	**-0.5**
	1.1nm,0.5s,baz=303,slow=9.1,SNR=9.7						
WRA				PcP	**PcP**	**19 30 33.4**	**+0.6**
	0.2nm,0.9s,baz=310,slow=2.5,SNR=3.4						
ASAR	**Alice Springs**	**39.99**	**126**	P	**P**	**19 28 31.3**	**-0.5**
	0.3nm,0.6s,baz=298,slow=8.0,SNR=4.5						
STKA	**Stephens Creek**	**49.90**	**132**	P	**P**	**19 29 50.8**	**+0.3**
	2.6nm,0.8s,baz=212,slow=8.1,SNR=3.7						
MKAR	**Makanchi Array**	**50.35**	**345**	P	**P**	**19 29 54.1**	**+0.5**
	0.5nm,0.5s,baz=156,slow=9.0,SNR=15						
MKAR				pP	**pP**	**19 30 01.6**	**-1.1**
	1.4nm,0.4s,baz=156,slow=8.4,SNR=15						
KURBB	**Kurchatov Arra**	**54.87**	**344**	P	**P**	**19 30 28.4**	**+1.4**
	0.4nm,0.4s,baz=168,slow=7.0,SNR=6.8						
KURBB				sP	**sP**	**19 30 37.6**	**-2.2**
	0.6nm,0.7s,baz=162,slow=7.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	**P**	**19 30 38.7**	**-0.1**
	0.8nm,0.5s,baz=160,slow=6.7,SNR=5.8						
ZALV				pP	**pP**	**19 30 46.4**	**-1.6**
	1.7nm,0.5s,baz=169,slow=7.0,SNR=9.5						
TXAR	**Lajitas Array**	**144.56**	**36**	PKP	**PKPdf**	**19 40 34.0**	**+0.1**
	0.4nm,0.5s,baz=297,slow=4.0,SNR=3.6						
CFAA	**Coronel Fontan**	**145.13**	**199**	PKPbc	**PKPdf**	**19 40 35.0**	**+0.3**
	0.2nm,0.5s,baz=162,slow=7.2,SNR=3.8						

IDC ***23*** *19:32:35.3±1.2, 25.31S×66.14W, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=58.9km s-min=36.0km az=103.0*

ISC 23 19:32:39.7±1.1, 25.4S±0.1×66.5W±0.4, h35km, n6, σ1s78/6, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.23**	**350**	Pn	**Pn**	**19 34 50.5**	**-0.5**
	0.5nm,0.3s,baz=190,slow=6.3,SNR=8.1						
LPAZ				Sn	Sn	19 36 18.4	-16
	0.2nm,0.3s,baz=286,slow=15,SNR=4.2						
PLCA	**Paso Flores**	**15.61**	**191**	Pn	**P**	**19 36 19.6**	**-1.4**
	0.1nm,0.3s,baz=27,slow=9.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.70**	**68**	P	**P**	**19 44 27.4**	**-0.4**
	0.4nm,0.6s,baz=259,slow=5.3,SNR=4.6						
ASAR	**Alice Springs**	**127.32**	**204**	PKP	**PKPdf**	**19 51 43.7**	**+2.3**
	0.2nm,0.6s,baz=144,slow=36,SNR=3.5						
WRA	**Warramunga Arr**	**130.53**	**206**	PKP	**PKPdf**	**19 51 49.0**	**+1.4**
	0.1nm,0.3s,baz=154,slow=1.7,SNR=6.1						
MKAR	**Makanchi Array**	**147.34**	**41**	PKPbc	**PKPdf**	**19 52 17.2**	**0.0**
	0.7nm,0.6s,baz=315,slow=3.5,SNR=7.9						

BYKL ***23*** *19:32:57.8±0.2, 55.34N×110.27E*
MOS ***23*** *19:32:57.1±1.4, 55.35N×110.24E, h11km, mb4.2/1, Error ellipse: s-maj=15.5km s-min=11.5km az=68.5*

ISC 23 19:32:57.5±0.6, 55.28N±0.02×110.15E±0.02, h10km, n44, σ2s15/76, 11C-6D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.61**	**325**	*e*PG	**Pg**	**19 33 09.5**	**+0.3**
NIZ				*e*		19 33 18.0	
NIZ				pmax	pmax		
	comp=Z,61nm,0.1s						
NIZ				smax	smax		
	comp=E,704nm,0.2s						
NIZ	**Nizh Angarsk**	**0.61**	**325**	⇑*i*Pg	**Pg**	**19 33 09

UKT					Smax			
	comp=N,263nm,0.3s							
SVKR	**Severomuysk**	**2.10**	**65**	*e*PN		**Pb**	**19 33 34.1**	**-1.6**
SVKR				*e*			19 34 00.6	
SVKR				pmax	pmax			
	comp=Z,94nm,0.5s							
SVKR				smax	smax			
	comp=N,1μm,0.5s							
SVKR	**Severomuysk**	**2.10**	**65**	*e*Pg		**Pb**	**19 33 34.4**	**-1.3**
SVKR				*i* Sg		**Sb**	**19 34 01.6**	**-0.3**
SVKR				*e*			19 34 05.1	
SVKR				Pmax				
	comp=N,95nm,0.5s							
SVKR				Smax				
	comp=N,1μm,0.5s							
BOD	**Bodaibo**	**3.32**	**38**	*e*Pn		**Pn**	**19 33 49.4**	**0.0**
BOD				*e*Pg		**Pb**	**19 33 54.3**	**-2.1**
BOD				*e*Sn		**Sn**	**19 34 28.2**	**-0.7**
BOD				*e*Sg		**Sb**	**19 34 36.7**	**-0.1**
BOD				Pmax				
	comp=N,28nm,0.4s							
BOD				Smax				
	comp=N,101nm,1.5s							
NLYR	**Nelyaty**	**3.35**	**66**	*e*Pn		**Pn**	**19 33 50.6**	**+0.7**
NLYR				*e*Pg		**Pb**	**19 33 56.4**	**-0.6**
NLYR				*e*			19 34 21.7	
NLYR				*e*			19 34 29.4	
NLYR				*i* Sg		**Sb**	**19 34 39.3**	**+1.5**
NLYR				Pmax				
	comp=N,18nm,0.5s							
NLYR				Smax				
	comp=N,158nm,1.0s							
TRG	**Tyrgan**	**3.38**	**223**	⇑*i*Pn		**Pb**	**19 33 54.3**	**-3.1**
TRG				*e*Pg		**Pg**	**19 34 00.3**	**-1.8**
TRG				*e*Sn		**Sn**	**19 34 31.8**	**+1.5**
TRG				*i* Sg		**Sg**	**19 34 44.6**	**-1.2**
TRG				Pmax				
	comp=N,8.0nm,0.3s							
TRG				Smax				
	comp=N,119nm,0.4s							
UUDB	**Ulan-Yde**	**3.73**	**204**	*e*		**Pb**	**19 34 02.4**	**-0.9**
UUDB				*e*Pg		**Pg**	**19 34 06.1**	**-2.7**
UUDB				*e*			19 34 10.2	
UUDB				*e*Sg		**Sg**	**19 34 56.4**	**-0.6**
UUDB				Pmax				
	comp=N,7.0nm,0.6s							
UUDB				Smax				
	comp=N,142nm,1.6s							
CIT	**Chita**	**3.84**	**147**	*e*Sg		**Sg**	**19 34 57.0**	**-3.6**
CIT				*e*			19 35 02.5	
CIT				Smax				
	comp=N,116nm,0.4s							
HRMR	**Khuramsha**	**4.12**	**209**	*e*		Pb	19 34 06.2	-3.9
HRMR				*e*Pg		Pg	19 34 12.8	-3.6
HRMR				*e*			19 34 16.2	
HRMR				*e*			19 34 54.2	
HRMR				*e*Sg		**Sg**	**19 35 08.0**	**-1.8**
HRMR				max				
	comp=N,29nm,0.4s							
HRMR				Smax				
	comp=N,276nm,0.6s							
VTMR	**Vitim**	**4.37**	**16**	*e*Pn		**Pn**	**19 34 02.6**	**-1.2**
VTMR				*e*Pg		**Pb**	**19 34 15.0**	**+0.7**
VTMR				*e*Sg		**Sb**	**19 35 11.0**	**+4.0**
IRK	**Irkutsk**	**4.63**	**231**	*e*Sg		**Sg**	**19 35 23.8**	**-2.1**
IRK				Smax				
	comp=N,375nm,0.9s							
LSTR	**Listvyanka**	**4.66**	**225**	*e*		Sg	19 35 13.9	-13
LSTR				*e*Sg		Sb	19 35 23.4	+8.1
LSTR				Smax				
	comp=N,66nm,1.0s							
CRS	**Chara**	**4.83**	**67**	*e*PN		Pb	19 34 25.5	+3.4
CRS				*e*			19 35 23.2	
CRS				pmax	pmax			
	comp=Z,53nm,1.1s							
CRS				smax	smax			
	comp=E,90nm,0.9s							
CRS	**Chara**	**4.83**	**67**	*e*Pg		**Pb**	**19 34 22.7**	**+0.6**
CRS				*e*			19 34 52.7	
CRS				*e*Sg		**Sb**	**19 35 23.8**	**+3.6**
CRS				Smax				
	comp=E,94nm,0.9s							
TLY	**Talaya**	**5.30**	**230**	*e*PN		**Pg**	**19 34 36.5**	**-2.4**
TLY				*e*S		**Sn**	**19 35 20.9**	**+3.2**
TLY				*e*			19 35 43.0	
TLY				pmax	pmax			
	comp=Z,4.0nm,0.2s							
TLY				smax	smax			
	comp=E,71nm,0.8s							
TLY	**Talaya**	**5.30**	**230**	*e*Pn		Pn	19 34 20.6	+4.0
TLY				*e*			19 34 36.5	
TLY				*e*			19 35 21.1	
TLY				*e*Sg		**Sg**	**19 35 43.8**	**-3.6**
TLY				max				
	comp=E,5.0nm,0.6s							
TLY				Smax				
	comp=E,71nm,1.3s							
ARS	**Arshan**	**5.70**	**237**	*e*Pn		**Pn**	**19 34 23.0**	**+0.8**
ARS				*e*			19 34 25.4	
ARS				*e*Pg		Pb	19 34 40.7	+3.8
ARS				*e*Sn		**Sn**	**19 35 30.0**	**+2.4**
ARS				*e*Sg		**Sg**	**19 35 55.4**	**-4.9**
ARS				Pmax				
	comp=E,9.0nm,0.4s							
ARS				Smax				
	comp=E,194nm,0.9s							
TUP	**Tupik**	**5.73**	**95**	*e*PN		**Pn**	**19 34 22.8**	**+0.3**
TUP				*e*			19 34 38.4	
TUP				*e*S		**Sn**	**19 35 26.5**	**-1.8**
TUP				*e*			19 35 53.6	
TUP				pmax	pmax			
	comp=Z,10.0nm,0.5s							
TUP				smax	smax			
	comp=N,49nm,0.8s							
TUP	**Tupik**	**5.73**	**95**	⇓*i*Pn		**Pn**	**19 34 22.9**	**+0.4**
TUP				⇑*i*			19 34 31.2	
TUP				*e*Pg		**Pb**	**19 34 38.5**	**+1.1**
TUP				*e*Sn		**Sn**	**19 35 28.6**	**+0.3**
TUP				*e*Sg		Sb	19 35 51.9	+5.9
TUP				Pmax				
	comp=N,8.0nm,0.5s							
TUP				Smax				
	comp=N,48nm,0.8s							
KHNR	**Khani**	**5.74**	**69**	*e*Pn		**Pn**	**19 34 24.6**	**+1.9**
KHNR				*e*Pg		**Pb**	**19 34 39.4**	**+1.8**
KHNR				*e*			19 35 27.6	
KHNR				*e*Sg		Sb	19 35 52.5	+6.1
KPC	**Khapcheranga**	**5.75**	**165**	*e*PN		Pb	19 34 42.6	+4.8
KPC				*e*			19 35 57.3	
KPC				pmax	pmax			
	comp=Z,18nm,0.3s							
KPC				smax	smax			
	comp=E,56nm,0.8s							
KPC	**Khapcheranga**	**5.75**	**165**	*i* Sg		**Sg**	**19 35 57.4**	**-4.4**
KPC				Smax				
	comp=E,51nm,1.1s							
ZAK	**Zakamensk**	**6.43**	**223**	*e*Pn		Pn	19 34 36.4	+4.2
ZAK				*e*Pg		Pb	19 34 54.9	+5.5
ZAK				*e*			19 34 58.5	
ZAK				*e*			19 35 56.5	
ZAK				*e*Sg		**Sg**	**19 36 20.3**	**-3.4**
ZAK				max				
	comp=E,1.0nm,0.3s							
ZAK				Smax				
	comp=E,28nm,1.0s							
MOY	**Mondy**	**6.55**	**240**	*e*PN		Pn	19 34 38.4	+4.5
MOY				*e*			19 34 59.7	
MOY				*e*S		**Sn**	**19 35 52.0**	**+3.3**
MOY				*e*			19 36 26.0	
MOY				pmax	pmax			
	comp=Z,6.0nm,0.4s							
MOY				smax	smax			
	comp=E,60nm,1.7s							
MOY	**Mondy**	**6.55**	**240**	⇓*i*Pn		Pn	19 34 37.6	+3.7
MOY				*e*Pg		Pb	19 34 57.2	+5.7
MOY				*e*Sn		**Sn**	**19 35 51.8**	**+3.1**
MOY				*e*			19 36 19.1	
MOY				*e*Sg		**Sg**	**19 36 23.8**	**-3.9**
MOY				Pmax				
	comp=E,8.0nm,0.4s							
MOY				Smax				
	comp=E,60nm,1.6s							
ORL	**Orlik**	**6.70**	**250**	*e*PN		**Pn**	**19 34 39.0**	**+3.1**
ORL				*e*			19 35 00.9	
ORL				*e*			19 36 29.1	
ORL				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ORL				smax	smax			
	comp=N,106nm,1.8s							
ORL	**Orlik**	**6.70**	**250**	⇑*i*Pn		**Pn**	**19 34 39.1**	**+3.1**
ORL				*e*Pg		Pg	19 35 00.5	-5.1
ORL				*e*			19 35 57.6	
ORL				*e*Sg		**Sg**	**19 36 29.1**	**-3.2**
ORL				Pmax				
	comp=N,3.0nm,0.4s							
ORL				Smax				
	comp=N,106nm,1.6s							
ULN	**Ulaanbaatar**	**7.67**	**196**	*e*		Pg	19 35 20.5	-3.7
ULN				*e*Sg		**Sg**	**19 37 00.1**	**-3.3**
ZALV	**Zalesovo Beam**	**14.71**	**275**	P		**Pn**	**19 36 28.1**	**+2.7**
ZALV	**Zalesovo Beam**	**14.71**	**275**	P		**Pn**	**19 36 28.1**	**+2.7**
	comp=N,0.1nm,0.3s,baz=67,slow=11,SNR=7.5							
MKAR	**Makanchi Array**	**19.36**	**256**	P		**Pn**	**19 37 25.2**	**+1.1**
MKAR	**Makanchi Array**	**19.36**	**256**	P		**Pn**	**19 37 25.2**	**+1.1**
	comp=N,0.1nm,0.4s,baz=52,slow=7.9,SNR=4.5							
CMAR	**Chiang Mai Arr**	**37.74**	**198**	P		P	19 40 04.8	-8.4
	comp=N,0.2nm,0.5s,baz=9.9,slow=8.0,SNR=4.3							

CSEM ***23*** *19:41:00.3,36.02N×21.53E,h23km, MD3.7, After ATH*
ATH 23 19:41:00.3,36.02N×21.54E,h23km±1km,MD3.7/25,
Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.89**	**10**	*e*Pn	Pb	19 41 17.2	+0.1
PYL				*e*Sn	Sn	19 41 29.8	+0.2
PYL	**PYLOS**	**0.89**	**10**	*e*Pn	Pb	19 41 17.2	+0.1
PYL				*e*Sn	Sn	19 41 29.8	+0.2
ITM	**Ithomi**	**1.20**	**15**	*e*PN	Pb	19 41 22.6	+0.2
ITM				*e*SN	Sb	19 41 39.0	+1.5
ITM	**Ithomi**	**1.20**	**15**	*e*Pn	Pb	19 41 22.6	+0.2
ITM				*e*Sn	Sb	19 41 39.0	+1.5
KYTH	**Kithira**	**1.24**	**77**	*e*PN	Pb	19 41 24.7	+1.6
KYTH	**Kithira**	**1.24**	**77**	*e*Pn	Pb	19 41 24.7	+1.6
VLI	**Veliai**	**1.32**	**58**	*e*PN	Pb	19 41 25.7	+1.2
VLI	**Veliai**	**1.32**	**58**	*e*Pn	Pb	19 41 25.7	+1.2
ANKY	**Antikythira Is**	**1.44**	**96**	*e*PN	Pb	19 41 26.5	+0.1
ANKY	**Antikythira Is**	**1.44**	**96**	*e*Pn	Pb	19 41 26.5	+0.1
VLX	**Vlachokerasia**	**1.51**	**26**	*e*Pn	Pb	19 41 28.5	+0.7
VLX				*e*SN	Sb	19 41 48.2	+1.6
VLX	**Vlachokerasia**	**1.51**	**26**	*e*Pn	Pb	19 41 28.5	+0.7
VLX				*e*Sn	Sb	19 41 48.2	+1.6
AMT	**Artemida-Makis**	**1.52**	**5**	*e*PN	Pb	19 41 27.8	0.0
AMT	**Artemida-Makis**	**1.52**	**5**	*e*Pn	Pb	19 41 27.8	0.0
DID	**Didima**	**2.01**	**42**	*e*PB	Pb	19 41 35.0	-1.3
DID	**Didima**	**2.01**	**42**	*e*Pb	Pb	19 41 35.0	-1.3
GUR	**Goura**	**2.02**	**18**	*e*PN	Pb	19 41 35.2	-1.3
GUR	**Goura**	**2.02**	**18**	*e*Pn	Pb	19 41 35.2	-1.3
KARN	**Karanos**	**2.03**	**107**	*e*PN	Pb	19 41 35.3	-1.3
KARN	**Karanos**	**2.03**	**107**	*e*Pn	Pb	19 41 35.3	-1.3
RLS	**Riolos of Patr**	**2.04**	**358**	*e*PN	Pb	19 41 35.4	-1.2
RLS	**Riolos of Patr**	**2.04**	**358**	*e*Pn	Pb	19 41 35.4	-1.2
KLV	**Kalavryta, Ach**	**2.08**	**13**	*e*PN	Pb	19 41 35.9	-1.5
KLV	**Kalavryta, Ach**	**2.08**	**13**	*e*Pb	Pb	19 41 35.9	-1.5
LAKA	**Lakka**	**2.24**	**9**	*e*PB	Pb	19 41 38.7	-1.5
LAKA	**Lakka**	**2.24**	**9**	*e*Pb	Pb	19 41 38.7	-1.5
VAM	**Vamos**	**2.25**	**105**	*e*PB	Pb	19 41 38.8	-1.4
VAM	**Vamos**	**2.25**	**105**	*e*Pb	Pb	19 41 38.8	-1.4
LTK	**Loutraki**	**2.30**	**29**	*e*PN	Pb	19 41 39.3	-1.9
LTK	**Loutraki**	**2.30**	**29**	*e*Pn	Pb	19 41 39.3	-1.9
KALE	**Kalithea**	**2.42**	**11**	*e*PB	Pb	19 41 41.2	-2.0
KALE	**Kalithea**	**2.42**	**11**	*e*Pb	Pb	19 41 41.2	-2.0
EFP	**Efpalio**	**2.42**	**7**	*e*PB	Pb	19 41 41.5	-1.7
EFP	**Efpalio**	**2.42**	**7**	*e*Pb	Pb	19 41 41.5	-1.7
DSF	**Desfina**	**2.51**	**18**	*e*PN	Pn	19 41 41.6	+1.8
DSF	**Desfina**	**2.51**	**18**	*e*Pn	Pn	19 41 41.6	+1.8
IDI	**Anoyia**	**2.82**	**104**	*e*PN	Pn	19 41 46.0	+1.9
IDI	**Anoyia**	**2.82**	**104**	*e*Pn	Pn	19 41 46.0	+1.9
LKR	**Lokris**	**2.87**	**23**	*e*PB	Pb	19 41 48.1	-2.8
LKR	**Lokris**	**2.87**	**23**	*e*Pb	Pb	19 41 48.1	-2.8
EVR	**Evrytania**	**2.90**	**4**	*e*PN	Pn	19 41 48.0	+2.8
EVR	**Evrytania**	**2.90**	**4**	*e*Pn	Pn	19 41 48.0	+2.8
MAKR	**Makrakomi, Fth**	**3.02**	**9**	*e*PN	Pb	19 41 50.2	-3.3
MAKR	**Makrakomi, Fth**	**3.02**	**9**	*e*Pn	Pb	19 41 50.2	-3.3
AGG	**Agios Georgios**	**3.06**	**12**	*e*PN	Pn	19 41 50.1	+2.8
AGG	**Agios Georgios**	**3.06**	**12**	*e*Pn	Pn	19 41 50.1	+2.8
LAST	**Lasithi**	**3.32**	**104**	*e*PN	Pn	19 41 53.2	+2.2
LAST	**Lasithi**	**3.32**	**104**	*e*Pn	Pn	19 41 53.2	+2.2
THL	**Klokotos Trika**	**3.56**	**6**	*e*PN	Pn	19 41 56.1	+2.0
THL	**Klokotos Trika**	**3.56**	**6**	*e*Pn	Pn	19 41 56.1	+2.0

MAN 23 19:44:34,18.64N×120.82E,h4km, mb4.7, ML3.6, MS3.5,
1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.37**	**212**	⇑*i*P	Pb	19 44 42.9	-0.3
PIP				*e*S	Sb	19 44 54.2	+5.0
SIPP	**Brgy, Tapao**	**0.79**	**206**	⇓*i*P	Pb	19 44 50.0	-0.4
SIPP				*e*S	Sn	19 45 11.3	+7.0
APYP	**Conner**	**0.87**	**153**	*e*P	Pb	19 44 51.5	-0.2
ABRA	**Dolores**	**0.99**	**186**	*e*P	Pn	19 44 54.3	-0.4
CAUP	**Cauayan**	**1.94**	**150**	*e*P	Pb	19 45 09.8	-0.1

IDC 23 19:51:43.9±3.7,24.98S×67.51W,h0km,mb3.8/4,
mb1 3.9/4,mb1mx3.7/15,mbtmp3.8/4,Error ellipse:
s-maj=161.8km s-min=45.3km az=6.0,Chile-Argentina
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**20.49**	**67**	P	P	19 56 24.1	+0.3
	2.0nm,0.5s,baz=253,slow=14,SNR=4.3						
DBIC	**Dimbokro**	**68.56**	**71**	P	P	20 02 49.1	+0.2
	2.3nm,1.0s,baz=270,slow=7.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**77.36**	**69**	P	P	20 03 40.2	-0.8
	0.3nm,0.5s,baz=259,slow=5.9,SNR=5.3						
YKA	**Yellowknife Ar**	**94.89**	**340**	P	P	20 05 07.0	-0.4
	0.1nm,0.6s,baz=140,slow=4.4,SNR=4.3						
MKAR	**Makanchi Array**	**147.57**	**40**	PKPbc	PKPbc	20 11 30.1	-0.1
	1.1nm,0.7s,baz=315,slow=3.1,SNR=13						

MEX 23 20:04:41.6±0.6,16.58N×94.00W,h129km±13km,MD4.1,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.15**	**139**	*e*P	Pn	20 05 04.4	-1.5
PCIG				*i* S	Sn	20 05 22.8	-1.6
TUIG	**Tuzandepetl**	**1.50**	**344**	*i* P	Pn	20 05 08.8	-0.8
TUIG				*i* S	Sn	20 05 28.4	-2.6
HUIG	**Huatulco**	**2.18**	**248**	*i* P	Pn	20 05 16.1	-1.6
HUIG				*i* S	Sn	20 05 43.7	-1.8
THIG		**2.36**	**135**	*i* P	Pn	20 05 20.1	+0.1
THIG				*i* S	Sn	20 05 47.0	-2.5
VHO	**Vista Hermosa**	**2.66**	**281**	*i* P	Pn	20 05 23.4	-0.7
VHO				*i* S	Sn	20 05 55.8	-1.0
PNIG	**Pinotepa**	**3.96**	**268**	*i* P	Pn	20 05 40.0	-0.8
PNIG				*i* S	Sn	20 06 26.0	-0.9

NEIC 23 20:16:10.6,54.05N×163.50W,h22km,ML2.9(AEIC),
After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.77**	**304**	P	Pb	20 16 24.1	-1.3
SSLW	**Shishaldin Wes**	**0.81**	**334**	P	Pb	20 16 24.8	-1.3
FALS	**False Pass**	**0.82**	**4**	P	Pb	20 16 24.6	-1.4
FALS				S	Sb	20 16 35.6	-1.0
SSLN	**Shishaldin Nor**	**0.82**	**340**	P	Pb	20 16 25.3	-0.9
WESN	**West Dahl Nort**	**0.82**	**310**	P	Pb	20 16 25.2	-1.0
DRIA	**Deer Island**	**1.17**	**38**	P	Pn	20 16 29.4	-2.3
DRIA				S	Sb	20 16 44.3	-2.6
DT1	**Dutton Round H**	**1.28**	**33**	P	Pn	20 16 31.3	-1.8
AKSA	**Akutan Strait**	**1.29**	**275**	P	Pn	20 16 31.4	-2.0
AKSA				S	Sn	20 16 47.4	-2.6
DTNA	**Dutton South F**	**1.32**	**33**	P	Pn	20 16 32.3	-1.5
AKUT	**Akutan**	**1.34**	**275**	P	Pn	20 16 32.0	-1.9
AKUT				S	Sn	20 16 48.7	-2.4
ZRO	**Akutan Zero**	**1.46**	**273**	P	Pn	20 16 33.8	-1.9
DOL	**Dolgoi Island**	**1.46**	**40**	P	Pn	20 16 34.1	-1.6
AKGG	**Akutan Green G**	**1.47**	**277**	P	Pn	20 16 34.3	-1.5
AKGG				S	Sn	20 16 52.5	-1.9
PS4A	**Pavlof South-4**	**1.62**	**36**	P	Pn	20 16 37.0	-0.9
UNV	**Unalaska Valle**	**1.78**	**265**	P	Pn	20 16 38.3	-1.8
UNV				S	Sn	20 17 00.7	-1.4
MREP	**Makushin Rep't**	**1.93**	**264**	P	Pn	20 16 41.0	-1.2
MSW	**Makushin Switc**	**1.94**	**267**	P	Pn	20 16 40.9	-1.4
MCIR	**Makushin Cirqu**	**2.00**	**269**	P	Pn	20 16 41.9	-1.3
SDPT	**Sand Point**	**2.19**	**52**	P	Pn	20 16 44.6	-1.1
SDPT				S	Sn	20 17 11.8	-0.3
OKSP	**Okmok Steeple**	**2.96**	**256**	P	Pn	20 16 55.6	-0.7
VNHG	**Venia minof 1**	**3.31**	**47**	P	Pn	20 17 00.3	-0.9
NIKH	**Nikolski High**	**3.37**	**254**	P	Pn	20 17 00.8	-1.0
214A	**Organ Pipe Nat**	**42.02**	**101**	*e*P	P	20 23 59.8	-0.4

IDC ***23*** *20:28:52.2±3.5, 1.43S×99.51E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.5/23, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=155.8km s-min=22.5km az=57.0*
ISC 23 20:29:01.2±3.2,1.05S±0.5×100.1E±0.8,h57km,n9,σ0s36/4,
mb3.6/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.40**	**357**	P	**Pn**	**20 33 24.3**	**-0.1**
	0.1nm,0.3s,baz=184,slow=11,SNR=5.1						
H08S2	**Diego Garcia H**	**28.27**	**256**	T	T	21 02 46.6	
	baz=78,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**28.27**	**256**	T	T	21 02 49.1	
	baz=78,slow=75,SNR=22						
H08S1	**Diego Carcia H**	**28.28**	**256**	T	T	21 02 48.2	
	baz=78,slow=75,SNR=27						
WRA	**Warramunga Arr**	**38.42**	**122**	P	**P**	**20 36 17.7**	**+0.1**
	0.3nm,0.6s,baz=299,slow=9.2,SNR=5.3						
ASAR	**Alice Springs**	**39.76**	**127**	P	P	20 36 29.4	+0.5
	0.5nm,0.8s,baz=300,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**50.13**	**344**	P	P	20 37 51.1	+0.3
	0.5nm,0.4s,baz=149,slow=8.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**56.24**	**349**	P	**P**	**20 38 35.7**	**+0.2**
	0.5nm,0.5s,baz=179,slow=9.9,SNR=5.2						
TXAR	**Lajitas Array**	**143.89**	**37**	PKP	**PKPdf**	**20 48 30.8**	**-0.3**
	0.2nm,0.5s,baz=298,slow=1.9,SNR=1.4						

IDC ***23*** *20:33:36.9±1.4,22.89S×171.27E,h0km,mb4.1/4,*
mb1 4.3/5,mb1mx4.0/18,mbtmp4.1/5,ML3.9/1,Error
ellipse: s-maj=69.6km s-min=28.0km az=164.0
NOU ***23*** *20:33:39.9±0.9,23.22S×171.28E,h30km,MD3.6,ML3.6*
ISC 23 20:33:43.8±1.0,22.75S±0.4×171.07E±0.0,h42km,n28,
σ0s80/31,mb4.2/4,2C-1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.91**	**277**	*e*S	**Sn**	**20 35 25.3**	**-0.8**
NORM	**Noumea**	**4.27**	**276**	*e*S	**Sn**	**20 35 33.9**	**-1.0**
DZM	**Mont Dzumac**	**4.33**	**278**	Pn	**Pn**	**20 34 46.9**	**-0.3**
	6.2nm,0.3s,baz=88,slow=19,SNR=128						
DZM				Sn	**Sn**	**20 35 36.1**	**-0.3**
	14nm,0.3s,baz=162,slow=18,SNR=14						
DZM	**Mont Dzumac**	**4.33**	**278**	*e*P	**Pn**	**20 34 46.6**	**-0.6**
DZM				*e*S	**Sn**	**20 35 36.7**	**+0.2**
DZM				AMP		20 35 43.7	
	comp=Z,930nm,1.7s						
NOUC	**Port Laguerre**	**4.45**	**277**	*e*S	**Sn**	**20 35 41.0**	**+1.6**
NOUC				AMP		20 35 52.0	
	comp=Z,43nm,1.6s						
ASAR	**Alice Springs**	**34.12**	**261**	P	**P**	**20 40 24.9**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=92,slow=8.6,SNR=20						
WRA	**Warramunga Arr**	**34.27**	**268**	P	**P**	**20 40 25.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=96,slow=8.6,SNR=10						
FITZ	**Fitzroy Crossi**	**42.70**	**268**	P	**P**	**20 41 37.4**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=133,slow=8.1,SNR=9.1						
CMAR	**Chiang Mai Arr**	**81.48**	**294**	P	**P**	**20 45 59.2**	**+2.1**
	comp=Z,2.0nm,0.6s,baz=132,slow=4.2,SNR=22						
NOA	**NORSAR Array B**	**139.22**	**345**	PKP	**PKPdf**	**20 53 05.0**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=43,slow=3.6,SNR=3.3						
OKC	**Ostrava-Krasne**	**145.58**	**329**	*e*P	**PKPab**	**20 53 17.5**	**-0.3**
KRLC	**Kraliky**	**146.06**	**330**	*e*P	**PKPab**	**20 53 19.6**	**-0.1**
DPC	**Dobruska-Polom**	**146.07**	**331**	*e*P	**PKPbc**	**20 53 18.7**	**-0.4**
DPC				*e*x	x	20 53 29.8	
UPC	**Upice**	**146.10**	**331**	*e*P	**PKPbc**	**20 53 18.7**	**-0.5**
VRAC	**Vranov**	**146.68**	**329**	PKPbc	**PKPbc**	**20 53 20.9**	**0.0**
	comp=Z,2.3nm,0.8s,baz=117,slow=2.9,SNR=6.3						
BRG	**Berggiesshubel**	**146.72**	**333**	*e*(P)	**PKPbc**	**20 53 20.5**	**-0.4**
	comp=Z,4.5nm,0.8s						
CLL	**Collm**	**146.77**	**335**	*e*PKP	**PKPbc**	**20 53 20.0**	**-1.1**
	comp=Z,5.0nm,1.0s						
PRU	**Pruhonice**	**147.13**	**332**	*e*P	**PKPbc**	**20 53 21.6**	**-0.5**
EKA	**Eskdalemuir Ar**	**147.14**	**354**	PKPbc	**PKPdf**	**20 53 20.3**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=354,slow=2.8,SNR=10						
TREC	**Trest**	**147.21**	**330**	*e*P	**PKPbc**	**20 53 22.3**	**-0.1**
NKC	**Novy Kostel**	**147.83**	**334**	*e*P	**PKPbc**	**20 53 24.2**	**+0.1**
KHC	**Kasperske Hory**	**148.19**	**332**	*e*P	**PKPbc**	**20 53 24.2**	**-0.9**
GERES	**GERESS Array B**	**148.34**	**331**	PKPbc	**PKPbc**	**20 53 25.2**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=35,slow=2.5,SNR=26						
ABTA	**Abfaltersbach**	**150.43**	**329**	⇓*i*PKPdf	**PKPbc**	**20 53 29.6**	**-1.2**
	comp=Z,6.7nm,0.6s						
MOTA	**Moosalm**	**150.62**	**332**	⇑*i*PKPdf	**PKPbc**	**20 53 30.4**	**-1.0**
	comp=Z,6.6nm,0.7s,SNR=4.6						
FETA	**Feichten**	**151.03**	**332**	⇑*i*PKPdf	**PKPbc**	**20 53 31.5**	**-0.8**
	comp=Z,9.0nm,0.9s						
DAVOX	**Davos/Dischmat**	**151

ASAK			S	Sn	20 49 51.4	-0.2
GRL	**Gorelyy**	**1.53 312**	P	Pg	20 49 33.1	0.0
GRL			S	Sg	20 49 52.8	-0.2
SPN	**Mys Shipunski**	**1.55 2**	S	Sb	20 49 53.1	+0.4
NLC	**Nalytchevo**	**1.66 348**	*eP*	Pb	20 49 34.3	-0.4
NLC			S	Sn	20 49 54.7	-0.4
PET	**Petropavlovsk**	**1.68 332**	P	Pb	20 49 34.9	0.0
UGLR	**Uglovaya**	**1.80 338**	P	Pb	20 49 36.7	-0.5
SDLR	**Sedlovina**	**1.85 340**	*eP*	Pn	20 49 36.8	+0.7
SMAR	**Somma**	**1.85 338**	P	Pb	20 49 37.7	-0.5
AVH	**Avacha**	**1.87 337**	P	Pb	20 49 38.0	-0.3
KRER	**Koryakskii**	**1.90 338**	*eP*	Pb	20 49 38.6	-0.5
KOK	**Koryaka**	**1.92 336**	P	Pb	20 49 38.6	-0.6
PAU	**Pauzhetka**	**1.96 269**	P	Pn	20 49 38.4	+1.0
KRX	**Arik**	**1.98 337**	*eP*	Pb	20 49 39.4	-0.9
MIPR	**Malaya Ipel'ka**	**2.10 291**	P	Pn	20 49 40.5	+1.1
APC	**Apacha**	**2.20 310**	*eP*	Pb	20 49 42.6	-1.2
APC			S	Sn	20 50 09.0	+0.8
GNL	**Ganaly**	**2.47 331**	*eP*	Pn	20 49 46.3	+1.6
KZV	**Kizimen**	**3.58 3**	*eP*	Pn	20 50 01.1	+1.2
TUMR	**Tumrok**	**3.74 2**	*eP*	Pn	20 50 04.4	+2.3
KBTR	**Krutoberegovo**	**4.97 19**	P	Pn	20 50 20.1	+1.3

IDC ***23*** *20:49:09.4±0.9,27˚.20S×70˚.95W, h0km, mb4.1/6, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, ML3.8/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/27, Error ellipse: s-maj=32.0km s-min=23.3km az=59.0*

ISCJB ***23*** *20:49:11.8±0.7,27˚.25S±0˚.04×71˚.17W±0˚.07, h32km, mb4.0/6, MS3.9/4, Error ellipse: s-maj=9.1km s-min=5.8km az=3.4*

GUC ***23*** *20:49:11.9±0.3,27˚.31S×71˚.14W, h40km±49km, MD4.1, ML4.3*

ISC 23 20:49:12.9±0.8,**27˚29S**±0˚.05×**71˚.13W**±0˚.09,**h32km, n26,** σ1°**44/23, mb4.3/6, MS3.9/4, 1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.35**	**52**	*i* P	**Pb**	**20 49 20.7**	**-0.6**
CDCH				*i* S	**Sb**	**20 49 27.5**	**+0.5**
CDCH				AML	AML	20 49 28.2	
	comp=N,13μm,0.8s						
CPCH	**Copiapo**	**0.70**	**96**	⇓*i* P	**Pn**	**20 49 25.6**	**-1.0**
CPCH				*i* S	**Sb**	**20 49 35.8**	**-0.3**
CPCH				AML	AML	20 49 37.5	
	comp=N,33μm,0.1s						
VACH	**Vallenar**	**1.33 166**		*eP*	**Pn**	**20 49 34.9**	**-0.3**
VACH				*i* S	**Sb**	**20 49 52.2**	**-1.7**
VACH				AML	AML	20 49 58.6	
	comp=N,12μm,0.9s						
LCO	**Las Campanas**	**1.76 168**		*eP*	**Pn**	**20 49 41.4**	**-0.1**
LCO				*i* S	**Sb**	**20 50 03.7**	**-2.9**
LCO				AML	AML	20 50 11.5	
	comp=E,6μm,0.5s						
TLL	**Tololo Astrono**	**2.88 174**		AML	AML	20 50 49.9	
	comp=E,2μm,0.4s						
CFAA	**Coronel Fontan**	**4.99 150**		Pn	**Pn**	**20 50 27.4**	**+1.7**
	comp=E,0.7nm,0.3s,baz=331,slow=10,SNR=22						
CFAA				Sn	**Sn**	**20 51 25.1**	**+2.8**
	comp=E,2.1nm,0.3s,baz=78,slow=14,SNR=3.1						
H03N1	**Juan Fernandez**	**9.10 226**		T	T	21 00 48.9	
	baz=51,slow=74,SNR=890						
H03N2	**Juan Fernandez**	**9.11 226**		T	T	21 00 49.8	
	baz=51,slow=74,SNR=897						
H03N3	**Juan Fernandez**	**9.11 226**		T	T	21 00 52.4	
	baz=51,slow=74,SNR=277						
LPAZ	**La Paz**	**11.29**	**15**	Pn	**Pn**	**20 51 51.1**	**-1.6**
	comp=E,0.4nm,0.3s,baz=185,slow=8.4,SNR=6.2						
CPUP	**Villa Florida**	**12.37**	**89**	LR	LR	20 57 26.1	
	comp=E,302nm,18.5s,baz=60,slow=41						
PLCA	**Paso Flores**	**13.42**	**178**	LR	LR	20 57 24.3	
	comp=E,267nm,18.9s,baz=30,slow=37						
SIV	**San Ignacio**	**14.61**	**42**	Pn	Pn	20 52 34.1	-3.4
	comp=E,0.7nm,0.3s,baz=238,slow=14,SNR=2.7						
SIV				LR	LR	20 59 14.8	
	comp=E,156nm,21.2s,slow=42						
BDFB	**Brasilia**	**24.39**	**66**	P	**P**	**20 54 28.0**	**-0.7**
	comp=E,4.6nm,0.7s,baz=230,slow=8.1,SNR=10						
BDFB				LR	LR	21 05 18.0	
	comp=E,343nm,18.9s,baz=105,slow=40						
TXAR	**Lajitas Array**	**64.35**	**329**	P	**P**	**20 59 46.8**	**+1.1**
	comp=E,0.3nm,0.9s,baz=148,slow=8.6,SNR=1.9						
DBIC	**Dimbokro**	**72.36**	**73**	P	**P**	**21 00 36.7**	**+0.5**
	comp=E,3.1nm,0.8s,baz=208,slow=9.5,SNR=3.8						
DBIC				LR	LR	21 30 19.0	
	comp=E,62nm,18.8s,baz=130,slow=34						
PDAR	**Pinedale Array**	**78.17**	**332**	P	P	21 01 11.8	+2.5
	comp=E,0.5nm,0.8s,baz=140,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**81.21**	**70**	P	**P**	**21 01 26.8**	**+0.7**
	comp=E,4.4nm,0.8s,baz=255,slow=5.1,SNR=24						
TORD				LR	LR	21 36 01.3	
	comp=E,59nm,18.6s,baz=325,slow=35						
BOSA	**Boshof**	**82.52**	**118**	P	**P**	**21 01 32.8**	**-0.3**
	comp=E,3.7nm,1.0s,baz=259,slow=5.2,SNR=3.1						
KEST	**Kesra**	**98.36**	**54**	LR	LR	21 52 45.7	
	comp=E,24nm,18.3s,baz=232,slow=39						
WRA	**Warramunga Arr**	**126.96**	**210**	PKP	**PKPdf**	**21 08 14.7**	**+0.3**
	comp=E,0.3nm,0.7s,baz=156,slow=1.6,SNR=2.2						
BVAR	**Borovoye Array**	**141.35**	**37**	PKP	**PKPdf**	**21 08 43.2**	**+2.5**
	comp=E,0.8nm,0.9s,baz=322,slow=4.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**147.22**	**36**	PKPbc	**PKPbc**	**21 08 52.2**	**-0.5**
	comp=E,3.2nm,0.7s,baz=306,slow=3.1,SNR=42						
ZALV	**Zalesovo Beam**	**148.02**	**27**	PKP	**PKPbc**	**21 08 52.9**	**-1.8**
	comp=E,11nm,0.7s,baz=277,slow=1.2,SNR=37						
ZALV				PKPbc	**PKiKP**	**21 08 55.7**	**-0.8**
	comp=E,12nm,0.7s,baz=303,slow=3.5,SNR=44						
AAK	**Ala-Archa**	**148.19**	**52**	PKPbc	**PKPab**	**21 08 57.7**	**-1.1**
	comp=E,4.2nm,0.7s,baz=212,slow=3.5,SNR=19						
MKAR	**Makanchi Array**	**151.43**	**40**	PKPbc	**PKPbc**	**21 09 04.3**	**+0.9**
	comp=E,5.0nm,0.8s,baz=323,slow=2.2,SNR=57						

ISCJB ***23*** *20:50:59.0±0.7,30˚.39N±0˚.08×97˚.2E±0˚.1, h10km, mb3.5/5, Error ellipse: s-maj=13.6km s-min=11.1km az=11.2*

IDC ***23*** *20:50:59.6±1.0,30˚.73N×97˚.91E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/28, mbtmp3.4/7, Error ellipse: s-maj=74.3km s-min=17.5km az=57.0*

BJI ***23*** *20:51:01.6,30˚.31N×97˚.05E, h1km, ML3.6/5, Ms3.3/2, Ms7 3.3/2*

ISC 23 20:51:01.0±1.0,**30˚3N**±0˚.1×**97˚2E**±0˚.1,**h10km, n10,** σ1°**45/10, mb3.6/5, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.29**	**265**	Pn	**Pn**	**20 52 20.0**	**-0.6**
SHL	**Shillong**	**6.66**	**226**	*eP*	**Pn**	**20 52 39.0**	**-0.1**
SHL				*eS*	Sg	20 54 26.0	-8.9
LZH	**Lanzhou**	**8.02**	**42**	*eP*	**Pn**	**20 52 57.9**	**+0.1**
LZH				*ePP*	**PnPn**	**20 53 06.0**	**+0.6**
LZH				LR	LR		
	comp=N,140nm,8.6s						
LZH				LR	LR		
	comp=E,160nm,9.0s						
LZH				LR	LR		
	comp=Z,190nm,11.2s						
CMAR	**Chiang Mai Arr**	**11.89**	**172**	Pn	Pn	20 53 54.7	+4.0
	baz=351,slow=11,SNR=1.7						
MKAR	**Makanchi Array**	**20.13**	**329**	P	**P**	**20 55 35.0**	**-0.3**
	0.3nm,0.6s,baz=128,slow=13,SNR=4.4						
AAK	**Ala-Archa**	**21.96**	**310**	P	**P**	**20 55 57.8**	**+2.7**
	1.5nm,0.6s,baz=102,slow=9.1,SNR=6.2						
KURBB	**Kurchatov Arra**	**24.66**	**331**	P	**P**	**20 56 20.4**	**-1.4**
	1.3nm,0.8s,baz=139,slow=11,SNR=15						
ZALV	**Zalesovo Beam**	**25.29**	**343**	P	**P**	**20 56 25.7**	**-1.7**
	0.3nm,0.4s,baz=155,slow=7.6,SNR=2.1						
WRA	**Warramunga Arr**	**61.41**	**140**	P	**P**	**21 01 16.7**	**-0.9**
	0.5nm,0.7s,baz=328,slow=7.7,SNR=7.7						
ASAR	**Alice Springs**	**64.18**	**143**	P	**P**	**21 01 37.0**	**+1.0**
	0.4nm,0.6s,baz=327,slow=6.7,SNR=8.0						

DHMR 23 20:55:21.1±1.5,**11˚67N**×**43˚33E, h7km**±18**km, ML3.5, 1C-1D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.73**	**26**	⇓*i* P	Pn	20 55 52.7	+0.7
TRBA				*i* S	Sg	20 56 17.8	+0.5
TRBA				AML	AML	20 56 22.6	
	comp=Z,415nm,0.3s						
UDYN	**Al 'Udayn**	**2.37**	**15**	⇓*i* P	Pn	20 56 02.1	+1.4
UDYN				*i* S	Sb	20 56 34.0	0.0
UDYN				AML	AML	20 56 41.8	
	comp=E,492nm,0.6s						
LBOS		**2.88**	**40**	*i* P	Pn	20 56 10.2	+2.4
LBOS				*i* S	Sb	20 56 49.1	+0.1
DHBB	**Dhamar BB**	**3.06**	**20**	*i* P	Pb	20 56 13.5	-2.9
DHBB				*i* S	Sb	20 56 54.0	-0.4
BDHA	**Al Bayda'**	**3.16**	**43**	*i* P	Pn	20 56 14.4	+2.6
BDHA				*i* S	Sb	20 56 55.2	-1.9

NIED ***23*** *21:01:00, 35˚.20N×140˚.40E, h20km, Mw3.8 Best double couple: M0 5.30000×10^14 NP1:φs63.00000°, δ63.00000°, λ93.00000°. NP2:φs237.00000°, δ27.00000°, λ84.00000°.*

IDC ***23*** *21:01:27.0±0.8, 35˚.13N×140˚.27E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.9/27, mbtmp4.0/13, ML3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/51, Error ellipse: s-maj=28.3km s-min=15.9km az=72.0*

ISCJB ***23*** *21:01:30.5±0.5, 35˚.11N±0˚.07×140˚.26E±0˚.09, h40km±4km, mb4.0/14, Error ellipse: s-maj=15.6km s-min=6.2km az=141.2*

NEIC ***23*** *21:01:30.8±2.6, 35˚.12N×140˚.21E, h25km±18km, mb4.2/3, Error ellipse: s-maj=15.3km s-min=6.4km az=67.0*

NEIC Recorded [3 JMA] in Chiba.

JMA ***23*** *21:01:31.7±0.1, 35˚.24N×140˚.29E, h16km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φs61.00000°, δ71.00000°, λ82.00000°. NP2:φs266.00000°, δ21.00000°, λ113.00000°. Principal axes: T Plg63.0000°, Azm318.0000°; N Plg8.0000°, Azm64.0000°; P Plg26.0000°, Azm158.0000°;*

JMA Felt III J1.

ISC 23 21:01:30.1±0.6,**35˚04N**±0˚.06×**140˚10E**±0˚.07,**h21**km±1km, **n46,** σ1°**23/47, mb4.0/14, 3C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TATJ	**Tateyama 2**	**0.17**	**267**	⇑P	**Sb**	**21 01 40.3**	**+0.5**
BSO4	**Boso 4**	**0.20**	**105**	⇑P	**Pb**	**21 01 37.6**	**+1.9**
KTR	**Katsuura**	**0.21**	**59**	⇑P	**Pb**	**21 01 35.0**	**-0.9**
KTR				S	**Sb**	**21 01 38.0**	**-1.9**
JCN	**Nagara**	**0.39**	**12**	⇓P	**Pb**	**21 01 37.1**	**-1.1**
BSO3	**Boso 3**	**0.41**	**125**	⇓P	**Pn**	**21 01 41.3**	**+0.7**
BSO2	**Boso 2**	**0.61**	**118**	S	**Sn**	**21 01 54.8**	**+2.4**
BSO1	**Boso 1**	**0.82**	**118**	⇓P	**Pn**	**21 01 55.5**	**-0.5**
BSO1				S	**Sn**	**21 01 57.9**	**+0.7**
MJAR	**Matsushiro Arr**	**2.15**	**315**	Pn	**Pn**	**21 02 05.6**	**+0.8**
MJAR				Sn	**Sb**	**21 02 35.4**	**+0.9**
	16nm,0.3s,baz=138,slow=13,SNR=32						
MJAR				Sn	**Sb**	**21 02 35.4**	**+0.9**
	12nm,0.3s,baz=136,slow=25,SNR=2.2						
MAJO	**Matsushiro**	**2.15**	**315**	*e*Pn	**Pn**	**21 02 05.5**	**+0.7**
MAJO				*e*Sn	**Sn**	**21 02 31.7**	**+0.9**
MAT	**Matsushiro**	**2.15**	**315**	P	**Pn**	**21 02 05.8**	**+1.0**
MAT				S	**Sb**	**21 02 35.2**	**+0.6**
CBIJ	**Chichi jima**	**8.12**	**167**	Pn	**Pn**	**21 03 27.3**	**+0.5**
CBIJ				Sn	**Sn**	**21 04 54.3**	**-3.7**
JCJ	**Chichijima**	**8.12**	**167**	Pn	**Pn**	**21 03 27.3**	**+0.5**
	3.5nm,0.3s,baz=301,slow=18,SNR=1.5						
JCJ				Sn	**Sn**	**21 04 54.3**	**-3.7**
	3.2nm,0.3s,baz=285,slow=18,SNR=1.5						
KSRS	**Korea Array**	**10.13**	**287**	LR	LR	21 07 45.7	
	comp=Z,53nm,19.5s,baz=100,slow=37						
ULN	**Ulaanbaatar**	**27.66**	**308**	P	**P**	**21 07 16.2**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**28.14**	**116**	T	T	21 36 30.3	
	baz=312,slow=76,SNR=143						
H11N1	**WAKE ISLAND Hy**	**28.15**	**116**	T	T	21 36 36.3	
	baz=312,slow=76,SNR=95						
H11N3	**WAKE ISLAND Hy**	**28.16**	**116**	T	T	21 36 36.5	
	baz=312,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy**	**28.77**	**118**	T	T	21 37 25.1	
	baz=315,slow=75,SNR=88						
H11S1	**WAKE ISLAND Hy**	**28.77**	**118**	T	T	21 37 25.2	
	baz=315,slow=75,SNR=103						
H11S2	**WAKE ISLAND Hy**	**28.78**	**118**	T	T	21 37 26.3	
	baz=315,slow=75,SNR=51						
ZALV	**Zalesovo Beam**	**42.50**	**314**	P	**P**	**21 09 24.2**	**+0.4**
ZALV	**Zalesovo Beam**	**42.50**	**314**	P	**P**	**21 09 24.2**	**+0.4**
	2.0nm,0.6s,baz=112,slow=8.5,SNR=4.9						
MKAR	**Makanchi Array**	**44.30**	**304**	P	**P**	**21 09 39.0**	**+0.6**
MKAR	**Makanchi Array**	**44.30**	**304**	P	**P**	**21 09 39.0**	**+0.6**
	1.0nm,0.6s,baz=86,slow=11,SNR=9.6						
KURBB	**Kurchatov Arra**	**46.41**	**309**	P	**P**	**21 09 55.2**	**+0.2**
	4.9nm,0.6s,baz=83,slow=7.6,SNR=44						
TKM2	**Tokmak 2**	**49.66**	**300**	*eP*	**P**	**21 10 21.1**	**+0.5**
	1.3nm,0.4s						
AAK	**Ala-Archa**	**50.52**	**299**	*eP*	**P**	**21 10 26.3**	**-0.8**
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**51.14**	**313**	P	**P**	**21 10 31.5**	**+0.1**
BVAR	**Borovoye Array**	**51.14**	**313**	P	**P**	**21 10 31.5**	**+0.1**
	0.5nm,0.5s,baz=81,slow=7.7,SNR=8.0						
ILAR	**Eielson Array**	**51.74**	**31**	P	**P**	**21 10 35.1**	**-0.6**
ILAR	**Eielson Array**	**51.74**	**31**	P	**P**	**21 10 35.1**	**-0.6**
	0.6nm,0.8s,baz=260,slow=6.2,SNR=7.2						
FITZ	**Fitzroy Crossi**	**54.61**	**197**	*eP*	**P**	**21 10 58.3**	**+1.1**
WRAB	**Tennant Creek**	**54.94**	**187**	*eP*	**P**	**21 11 00.8**	**+1.1**
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**54.95**	**187**	P	**P**	**21 10 59.5**	**-0.3**
WRA	**Warramunga Arr**	**54.95**	**187**	P	**P**	**21 10 59.5**	**-0.3**
	0.6nm,0.6s,baz=3.2,slow=7.4,SNR=8.5						
ASAR	**Alice Springs**	**58.68**	**187**	P	**P**	**21 11 27.6**	**+1.5**
ASAR	**Alice Springs**	**58.68**	**187**	P	**P**	**21 11 27.7**	**+1.5**
	0.3nm,0.6s,baz=10,slow=8.0,SNR=3.3						
YKA	**Yellowknife Ar**	**66.06**	**29**	P	**P**	**21 12 14.4**	**-0.7**
YKA	**Yellowknife Ar**	**66.06**	**29**	P	**P**	**21 12 14.4**	**-0.7**
	0.2nm,0.7s,baz=300,slow=6.4,SNR=4.1						
STKA	**Stephens Creek**	**66.58**	**179**	P	**P**	**21 12 19.9**	**+1.2**
STKA	**Stephens Creek**	**66.58**	**179**	P	**P**	**21 12 19.9**	**+1.2**
	3.9nm,1.0s,baz=198,slow=21,SNR=3.0						
FINES	**FINESS Array B**	**70.08**	**332**	P	**P**	**21 12 39.9**	**-0.5**
FINES	**FINESS Array B**	**70.08**	**332**	P	**P**	**21 12 39.9**	**-0.5**
	3.8nm,0.9s,baz=62,slow=9.0,SNR=5.2						
NOA	**NORSAR Array B**	**75.61**	**337**	P	**P**	**21 13 12.4**	**-0.8**
NOA	**NORSAR Array B**	**75.61**	**337**	P	**P**	**21 13 12.4**	**-0.8**
	1.7nm,0.9s,baz=254,slow=3.3,SNR=3.6						

IDC 23 21:08:08.3±3.2,**3˚22S×151˚17E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/17, mbtmp3.4/2, Error ellipse: s-maj=140.0km s-min=43.0km az=118.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.37**	**223**	P	P	21 13 19.6	+0.8
	0.6nm,0.3s,baz=51,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**26.30**	**218**	P	P	21 13 46.4	+0.5
	0.1nm,0.3s,baz=53,slow=8.1,SNR=1.8						
TORD	**Torodi Ar. Bea**	**148.25**	**290**	PKPbc	PKPbc	21 27 56.0	-1.6
	0.2nm,0.4s,baz=79,slow=2.2,SNR=8.3						

IDC 23 21:09:48.2±1.9,**4˚34N×126˚65E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=171.9km s-min=22.0km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.29**	**163**	P	P	21 15 16.7	+0.2
	0.4nm,0.3s,baz=343,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**28.72**	**166**	P	P	21 15 47.3	-0.2
	0.2nm,0.6s,baz=349,slow=7.5,SNR=3.7						
MKAR	**Makanchi Array**	**57.01**	**325**	P	P	21 19 35.9	0.0
	0.2nm,0.5s,baz=126,slow=7.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**61.19**	**327**	P	P	21 20 04.6	-0.1
	0.2nm,0.4s,baz=124,slow=5.9,SNR=6.7						

DJA 23 21:11:30.7±1.3,**1˚S±8˚×13˚3E±˚, h14km**±13**km, M3.6/3, MLv3.6/3, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWPI	**Manokwari, Pap**	**1.08**	**105**	P	Pb	21 11 49.6	-1.6
MWPI				S	Sb	21 12 04.9	-0.3
SWI	**Sorong**	**1.75**	**263**	P	Pn	21 11 50.0	-0.7
SWI				S	Sn	21 12 22.9	0.0
FAKI	**Fak Fak**	**2.38**	**198**	P	Pn	21 12 09.6	+0.2
FAKI				S	Sn	21 12 39.2	+0.7

BJI ***23*** *21:37:06.0, 7˚.13S×130˚.18E, h82km, mB5.2/35, mb5.5/57, Ms4.7/33, Ms7 4.4/26*

AUST ***23*** *21:37:06.6±0.9, 7˚.00S×129˚.89E, h43km±8km, Error ellipse: s-maj=7.8km s-min=3.3km az=32.0*

MOS ***23*** *21:37:08.7±0.9, 6˚.84S×129˚.89E, h76km, mb5.7/46, Error ellipse: s-maj=10.3km s-min=5.5km az=118.0*

NEIC ***23*** *21:37:09.7±0.1, 7˚.01S×129˚.91E, mb5.6/76, MW5.2, Error ellipse: s-maj=4.2km s-min=2.8km az=56.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^16Nm; Mrr5.69; Mθθ-6.57; Mφφ0.88; Mrθ-0.05; Mθφ4.36; Mφr5.13; Best double couple: M0 9.10000×10^16 NP1:φs84.00000°, δ46.00000°, λ39.00000°. NP2:φs326.00000°, δ63.00000°, λ129.00000°. Principal axes: T 9.3100, Plg53.0000°, Azm285.0000°; N -0.3600, Plg34.0000°, Azm125.0000°; P -8.9500, Plg9.0000°, Azm28.0000°;*

BGS ***23*** *21:37:09.2±2.0, 7˚.01S×129˚.91E, h81km, mb5.6(NEIC)*

ISCJB ***23*** *21:37:12.3±0.3, 7˚.02S±0˚.02×129˚.98E±0˚.02, h120km±3km, mb5.6/170, Error ellipse: s-maj=3.3km s-min=3.0km az=22.4*

DJA ***23*** *21:37:14.3±0.2, 7˚S±2˚×13˚0E±˚, h127km±2km, M5.3/96, mb5.7/96, mB5.7/77, MLv6.0/13, Mw(mB)5.3/77*

GCMT ***23*** *21:37:14.1±0.2, 6˚.93S×129˚.92E, h120km±1km, MW5.2, Moment Tensor Solution. s78,c106; s3,c3; Moment tensor: Scale 10^16Nm; Mrr4.68±.14; Mθθ-6.64±.16; Mφφ1.96±.19; Mrθ-0.36±.12; Mrφ4.32±.15; Mθφ3.57±.12; Best double couple: M0 8.10000×10^16 NP1:φs325.00000°, δ64.00000°, λ135.00000°. NP2:φs79.00000°, δ51.00000°, λ35.00000°. Principal axes: T 7.5100, Plg50.0000°, Azm285.0000°; N 1.1500, Plg39.0000°, Azm121.0000°; P -8.6700, Plg8.0000°, Azm25.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=101, comp=158, per= 50.*

IDC ***23*** *21:37:15.8±1.0, 6˚.86S×129˚.82E, h127km±8km, mb5.1/27, mb1 5.1/28, mb1mx5.1/29, mbtmp5.1/28, MS4.0/18, Ms1 4.0/18, ms1mx3.8/39 Error ellipse: s-maj=12.8km s-min=7.8km az=68.0*

ISC 23 21:37:10.5±0.2,**6˚95S**±0˚.03×**129˚95E**±0˚.03,**h92**km±1km, **h92**km**:pP-P, n1098,** σ1°**44/1264, mb5.6/166, 248C-190D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.69**	**128**	P	Pn	21 37 43.0	+4.2
SAUI				S	**Sn**	**21 38 05.1**	**+4.9**
BNDI	**Bandanaira**	**2.41**	**359**	P	Pn	21 37 54.6	+6.4
BNDI				S	Sn	21 38 28.0	+11
MSAI	**Masohi**	**3.72**	**344**	P	Pn	21 38 12.8	+7.0
MSAI				S	Sn	21 38 59.2	+11
FAKI	**Fak Fak**	**4.61**	**30**	P	**Pn**	**21 38 20.5**	**+2.6**
FAKI				S	**Sn**	**21 39 10.4**	**0.0**
NLAI	**Namlea**	**4.65**	**322**	P	Pn	21 38 25.8	+7.4
SWI	**Sorong**	**6.19**	**12**	P	**Pn**	**21 38 41.6**	**+2.3**
	1μm,0.6s,20μm5.9nm						
SOEI	**Soe**	**6.27**	**243**	P	Pn	21 38 44.0	+3.4
	5μm,0.8s,60μm43nm						
SOEI				S	**Sn**	**21 39 52.7**	**+1.7**
	5μm,0.8s,60μm43nm						
LBMI	**Labuha**	**6.73**	**339**	P	Pn	21 38 53.5	+6.8
	5μm,0.9s,45μm15nm						
MWPI	**Manokwari, Pap**	**7.24**	**34**	P	**Pn**	**21 38 56.8**	**+3.1**
	4μm,0.7s,42μm22nm						
MMRI	**Maumere**	**7.82**	**257**	P	**Pn**	**21 39 04.6**	**+3.0**
	764nm,0.8s,8μm4.7nm						
MMRI				S	**Sn**	**21 40 34.0**	**+5.4**
	764nm,0.8s,8μm4.7nm						
SRPI	**Serui, Papua**	**8.05**	**51**	P	**Pn**	**21 39 05.6**	**+0.8**
	2μm,0.8s,14μm						
TNTI	**Ternate**	**8.09**	**341**	P	Pn	21 39 10.9	+5.6
	2μm,0.8s,16μm						
TNTI				S	Sn	21 40 42.8	+7.6
	2μm,0.8s,16μm						
TNTI	**Ternate**	**8.09**	**341**	*e*Pn	Pn	21 39 10.7	+5.4
BAKI	**Biak**	**8.39**	**47**	P	**Pn**	**21 39 11.9**	**+2.5**
	5μm,0.8s,40μm						
BAKI				S	**Sn**	**21 40 43.5**	**+0.9**
	5μm,0.8s,40μm						
KKSI	**Kolaka, Sulawe**	**8.71**	**288**	P	Pn	21 39 19.6	+5.9
	139nm,1.0s,2μm0.5nm						
LUWI	**Luwuk**	**9.25**	**309**	P	Pn	21 39 29.0	+7.8
KMSI	**Cibinong**	**9.55**	**321**	P	Pn	21 39 31.2	+5.9
	1μm,1.2s,9μm						
KMSI				S	Sn	21 41 19.7	+8.8
	1μm,1.2s,9μm						
BKSI	**Bulukumba**	**9.90**	**279**	P	Pn	21 39 34.5	+4.5
	352nm,1.0s,3μm						
WSI	**Waingapu**	**9.92**	**254**	P	**Pn**	**21 39 30.6**	**+0.3**
	3μm,0.6s,28μm						
LBFI	**Labuhan Bajo,**	**10.08**	**261**	P	**Pn**	**21 39 35.2**	**+2.7**
	548nm,0.7s,5μm						
LBFI				S	**Sn**	**21 41 29.7**	**+5.9**
	548nm,0.7s,5μm						
BNSI	**Bone**	**10.11**	**284**	P	Pn	21 39 38.0	+5.1
	507nm,0.7s,4μm						
APSI	**Ampana**	**10.22**	**306**	P	Pn	21 39 42.5	+8.2
GTOI	**Gorontalo**	**10.23**	**317**	P	Pn	21 39 43.8	+9.3
	481nm,0.6s,5μm						
KAPI	**Kappang**	**10.32**	**280**	Pn	Pn	21 39 40.3	+4.6
	872nm,1.0s,SNR=27						
MMPI

baz=16,SNR=66
KMMI Kalianget 15.86 269 P **P** 21 40 51.4 +0.9
comp=Z,314nm,0.8s,comp=Z,3μm
PAGZ Pagadian 16.09 336 *e*P **P** 21 40 55.2 +2.1
MTKI Muara Teweh, K 16.15 291 P **P** 21 40 57.1 +3.3
comp=Z,839nm,0.8s,comp=Z,7μm
CGP Cagayan de Oro 16.17 341⇓*e*P **P** 21 40 56.0 +2.1
BLJI Banyuglugur 16.24 266 P **P** 21 40 54.5 -0.2
comp=Z,228nm,0.7s,comp=Z,3μm
GMJI Gumukmas 16.41 264 P **P** 21 40 58.2 +1.6
comp=Z,152nm,1.1s,comp=Z,2μm
TSM Tawau 16.43 312 P **P** 21 41 00.3 +3.5
QIS Mount Isa 16.45 146 P **Pn** 21 40 54.3 -1.6
baz=16,SNR=39
AS13 Alice Springs 17.04 168 ⇑P **Pn** 21 41 01.9 -1.2
baz=17
AS31 Alice Springs 17.05 168 *e*Pn **Pn** 21 41 01.3 -2.0
AS31 *e*Sn Sn 21 43 58.0 -15
ASAR Alice Springs 17.05 168 P **Pn** 21 41 01.4 -2.0
ASAR S Sn 21 43 59.8 -13
ASAR ScP **ScP** 21 49 07.8 -2.8
ASAR *e* 22 16 04.0
ASAR P4KP 22 24 57.4
ASAR Alice Springs 17.05 168 P **Pn** 21 41 01.4 -2.0
comp=Z,51nm,0.3s,baz=333,slow=7.4,SNR=684
ASAR S Sn 21 43 59.8 -13
comp=Z,42nm,0.3s,baz=353,slow=26,SNR=7.5
ASAR LR LR 21 48 13.8
comp=Z,1μm,18.7s,baz=335,slow=38
ASAR ScP **ScP** 21 49 07.8 -2.8
baz=1.6,slow=1.7,SNR=4.3
ASAR P3KPbc 22 16 04.0
comp=Z,0.1nm,0.3s,baz=166,slow=3.9,SNR=14
ASAR P4KP 22 24 57.4
comp=Z,0.1nm,0.3s,baz=346,slow=4.1,SNR=6.5
PMG Port Moresby 17.21 99 P **P** 21 41 08.6 +3.1
PMG Port Moresby 17.21 99 *e*Pn **P** 21 41 06.4 +1.0
comp=Z,225nm,0.9s
PMG *e*Sn Sn 21 44 01.0 -16
PMG Port Moresby 17.21 99 P **P** 21 41 08.2 +2.7
comp=Z,11nm,0.3s,baz=282,slow=7.4,SNR=34
PMG S Sn 21 44 08.5 -8.2
comp=Z,6.2nm,0.3s,baz=15,slow=23,SNR=8.7
BWJI Bawean 17.22 273 P **P** 21 41 09.3 +3.8
comp=Z,144nm,1.0s,comp=Z,1μm
GRJI Gresik 17.34 269 P **P** 21 41 09.4 +2.5
comp=Z,143nm,1.1s,comp=Z,1μm
KRKI Karangkates 17.39 265 P **Pn** 21 41 08.4 +1.0
comp=Z,402nm,0.8s,comp=Z,10μm
MSLP Maasin 17.71 343 *e*P **Pn** 21 41 15.2 +3.9
SDKM Sandakan 17.84 314 P **Pn** 21 41 17.5 +4.5
PWJI Pagerwojo 18.02 265 P **P** 21 41 14.6 +0.2
comp=Z,206nm,0.7s,comp=Z,2μm
SJI Sawahan 18.05 266 P **P** 21 41 15.1 +0.3
comp=Z,241nm,0.6s,comp=Z,4μm
NGJI Ngawi 18.35 268 P **Pn** 21 41 21.9 +2.9
comp=Z,193nm,0.8s
PCJI Pacitan 18.65 265 P **P** 21 41 21.8 +0.6
comp=Z,277nm,0.4s,comp=Z,4μm
OCLP Ormoc 18.65 343 *e*P **Pn** 21 41 25.3 +2.7
PBKI Pangkalan Bun 18.69 282 P **Pn** 21 41 24.6 +1.5
comp=Z,3μm,0.8s,comp=Z,24μm
UWJI Ujung Watu 18.88 270 P **Pn** 21 41 27.5 +2.1
comp=Z,341nm,0.7s,comp=Z,3μm
GUIM Jordan 18.93 337 *e*P **Pn** 21 41 27.2 +1.2
KDM Kudat 19.00 316 P **Pn** 21 41 26.9 +0.2
UGM Wanagama 19.29 266 P **Pn** 21 41 29.3 -0.9
comp=Z,179nm,0.9s
SMRI Semarang 19.36 269 P **Pn** 21 41 32.5 +1.4
comp=Z,319nm,0.7s,comp=Z,3μm
SMRI Semarang 19.36 269 *e*Pn **Pn** 21 41 32.2 +1.1
comp=Z,215nm,0.7s
BTM Bintulu 19.62 300 P **Pn** 21 41 36.6 +2.5
STKI Sintang 19.70 290 P **Pn** 21 41 34.7 -0.3
comp=Z,473nm,1.0s
RCP Roxas 19.73 339⇓*e*P **Pn** 21 41 34.9 -0.5
SBUM Sibu 20.01 297 P Pn 21 41 40.0 +1.4
SBUM Sibu 20.01 297 *e*Pn Pn 21 41 39.0 +0.4
comp=Z,479nm,0.7s
BJII Banjamegara 20.09 268 P **P** 21 41 38.1 +1.1
comp=Z,176nm,1.1s,comp=Z,2μm
BJII S **S** 21 45 20.1 +2.2
comp=Z,176nm,1.1s,comp=Z,2μm
CTA Charters Tower 20.51 131 P Pn 21 41 44.1 -0.4
CTA S Sn 21 45 33.4 -2.6
CTA Charters Tower 20.51 131 P Pn 21 41 44.1 -0.4
comp=Z,41nm,0.9s,baz=314,slow=12,SNR=26
CTA S Sn 21 45 33.4 -2.6
comp=Z,22nm,0.7s,baz=241,slow=24,SNR=6.2
CTAO Charters Tower 20.51 131 *e*P **P** 21 41 41.8 +0.3
CTAO *e*S **S** 21 45 25.9 -0.2
CTAO pmax pmax
comp=Z,58nm,0.8s
CTAO Charters Tower 20.51 131 *e*P **P** 21 41 41.8 +0.3
comp=Z,58nm,0.8s
CTAO *e*S **S** 21 45 25.9 -0.2
TGJI Tegal 20.68 269 P **P** 21 41 43.5 +0.2
comp=Z,228nm,1.0s
KPJI Karang Pucung 20.86 268 P **P** 21 41 46.2 +1.0
comp=Z,395nm,0.7s,comp=Z,3μm
KSM Kuching 21.31 292 P **P** 21 41 51.9 +1.9
KSM Kuching 21.31 292 P **P** 21 41 51.1 +1.0
comp=Z,386nm,0.8s,comp=Z,3μm
KSM Kuching 21.31 292 *e*P **P** 21 41 49.8 -0.3
comp=Z,263nm,0.7s
KSM *e*S S 21 45 29.8 -12
CMJI Cimerak 21.34 266 P **P** 21 41 50.5 +0.1
comp=Z,254nm,0.8s,comp=Z,2μm
JCJI Jatiwangi 21.53 270 P **P** 21 41 54.4 +1.9
comp=Z,338nm,0.9s,comp=Z,3μm
CISI Cisompet, Garu 21.96 267 P **P** 21 41 56.6 -0.5
comp=Z,1μm,0.8s,comp=Z,9μm
CISI Cisompet, Garu 21.96 267 *e*P **P** 21 41 55.4 -1.8
comp=Z,696nm,0.7s
CISI Cisompet, Garu 21.96 267 ⇑P **P** 21 41 55.9 -1.2
baz=22,SNR=114
LEM Lembang 22.17 269 P **P** 21 41 58.6 -0.8
comp=Z,418nm,0.8s,comp=Z,2μm
MEEK Meekatharra 22.36 208 ⇑P **P** 21 42 01.7 +0.5
baz=22,SNR=192
TPI Tanjungpandan 22.60 280 P **P** 21 42 03.8 +0.1
comp=Z,324nm,1.0s,comp=Z,3μm
TGY Tagaytay City 22.75 337 P **P** 21 42 06.9 +1.6
TGY S **S** 21 46 04.7 -2.6
TGY Tagaytay City 22.75 337 P **P** 21 42 06.9 +1.6
comp=Z,409nm,0.5s,baz=169,slow=6.5,SNR=28
TGY S **S** 21 46 04.7 -2.6
comp=Z,113nm,0.3s,baz=132,slow=23,SNR=4.3
CBJI Citeko 22.95 270 P **P** 21 42 04.5 -2.8
comp=Z,980nm,0.9s,comp=Z,16μm
DBJI Dramaga 23.04 270 P **P** 21 42 05.9 -2.3
comp=Z,182nm,0.9s,comp=Z,2μm
SKJI Sukabumi 23.22 268 P **P** 21 42 08.1 -1.8
comp=Z,430nm,0.8s,comp=Z,3μm
FORT Forrest 23.77 184 *e*P **P** 21 42 14.4 -0.3
comp=Z,692nm,0.7s
FORT *e*S **S** 21 46 25.1 +1.5
FORT Forrest 23.77 184 P **P** 21 42 15.5 +0.8
baz=24,SNR=104
QLP Quilpie 23.80 147 ⇓P **P** 21 42 16.0 +1.1
baz=24,SNR=25
XMI Christmas Isla 24.23 260 ⇑P **P** 21 42 17.9 -1.1
baz=24,SNR=5.6
XMIS Christmas Isla 24.27 260 *e*P **P** 21 42 17.9 -1.5
comp=Z,302nm,0.8s
XMIS *e*PcP **PcP** 21 45 57.6 +0.2
BLSI Bandar Lampung 24.61 272 P **P** 21 42 24.1 +1.6
comp=Z,66nm,0.5s
KLSI 25.18 274 P **P** 21 42 27.1 -0.6
comp=Z,238nm,0.8s,comp=Z,2μm
KASI Kota Agung 25.34 272 P **P** 21 42 27.3 -1.8
comp=Z,886nm,1.1s,comp=Z,883nm
PMBI Palembang 25.39 278 P **P** 21 42 32.2 +2.6
comp=Z,494nm,0.8s,comp=Z,6μm
PMBI Palembang 25.39 278 *e*P **P** 21 42 32.7 +3.1
comp=Z,398nm,0.9s
MDSI Maura Dua 25.75 274 P **P** 21 42 32.2 -0.7
comp=Z,74nm,1.0s,comp=Z,646nm
LWLI Liwa 25.82 273 P **P** 21 42 33.0 -0.6
comp=Z,158nm,0.8s,comp=Z,3μm
BBOO Buckleboo 26.35 168 *e*P **P** 21 42 38.6 +0.5
comp=Z,7μm,1.5s
BBOO *e*S **S** 21 47 05.5 +1.0
BBOO Buckleboo 26.35 168 P **P** 21 42 38.5 +0.4
baz=26,SNR=66
RMQ Roma 26.42 140 ⇓P **P** 21 42 40.1 +1.3
baz=26,SNR=9.6
LHSI Lahat 26.48 275 P **P** 21 42 39.4 -0.1
comp=Z,226nm,0.8s,comp=Z,2μm
TPRI Tanjung Pinang 26.54 286 P **P** 21 42 41.8 +1.8
comp=Z,119nm,1.1s,comp=Z,2μm
BLDU Ballidu 26.62 206 P **P** 21 42 41.0 +0.6
baz=27,SNR=33
JMBI JAMBI 26.75 280 P P 21 42 47.6 +5.8
MNAI Manna 26.98 274 *e*P **P** 21 42 45.3 +1.4
comp=Z,103nm,0.6s
KLBR Kellerberrin 27.04 203⇓P **P** 21 42 45.1 +0.9
baz=27,SNR=69
STKA Stephens Creek 27.08 158 *e*P **P** 21 42 45.5 +0.9
comp=Z,26nm,0.8s
STKA *e*S **S** 21 47 15.4 -0.6
STKA Stephens Creek 27.08 158 P **P** 21 42 45.5 +0.9
comp=Z,40nm,0.5s,baz=331,slow=8.6,SNR=95
STKA LR LR 21 54 44.9
comp=Z,581nm,21.7s,baz=337,slow=39
STKA Stephens Creek 27.08 158 P **P** 21 42 45.5 +0.9
baz=27,SNR=78
EIDS Eidsvold 27.26 135 *e*P **P** 21 42 46.9 +0.5
comp=Z,28nm,0.8s
EIDS *e*S **S** 21 47 12.8 -6.3
EIDS Eidsvold 27.26 135 ⇑P **P** 21 42 46.8 +0.5
baz=27,SNR=4.6
MYKOM Kota Tinggi 27.45 288 P **P** 21 42 50.0 +1.9
MYKOM Kota Tinggi 27.45 288 P **P** 21 42 49.7 +1.5
comp=Z,115nm,1.1s
MYKOM Kota Tinggi 27.45 288 *e*P **P** 21 42 48.8 +0.7
comp=Z,99nm,0.9s
HTT Hallett 27.63 164 ⇑P **P** 21 42 50.5 +0.9
baz=28,SNR=14
MASI Maura Aman, Be 27.85 276 P **P** 21 42 51.4 -0.4
comp=Z,172nm,1.0s
KGM Kluang 28.03 288 P **P** 21 42 54.9 +1.6
NWAO Narrogin (SRO) 28.42 203 P **P** 21 42 57.4 +0.8
NWAO Narrogin (SRO) 28.42 203 P **P** 21 42 57.4 +0.8
comp=Z,55nm,0.7s,baz=34,slow=9.0,SNR=26
NWAO LR LR 21 54 23.7
comp=Z,396nm,21.4s,baz=28,slow=36
DLV T Lat 28.42 311 *e*P **P** 21 42 57.1 +0.1
DLV *e*PcP **PcP** 21 46 07.5 +0.2
CMSA Cobar Meteorol 28.55 151 ⇑P **P** 21 42 58.9 +1.2
baz=29,SNR=51
KTGM Kuala Trenggan 29.41 294 P **P** 21 43 06.9 +1.4
BKNI Bangkinang 29.73 283 P **P** 21 43 09.7 +1.3
comp=Z,223nm,1.2s,comp=Z,2μm
BKNI Bangkinang 29.73 283⇓P **P** 21 43 09.4 +1.0
baz=30,SNR=5.5
HNR Honiara 29.79 97 LR LR 21 54 34.3
comp=Z,260nm,21.0s,baz=273,slow=35
PDSI Padang 30.01 280 P **P** 21 43 09.5 -1.4
comp=Z,65nm,0.9s,comp=Z,1μm
FRIM Kepong 30.03 289 P **P** 21 43 11.8 +0.7
PPI Padang Panjang 30.17 281 P **P** 21 43 13.2 +0.9
comp=Z,257nm,1.0s,comp=Z,2μm
PPI Padang Panjang 30.17 281 ⇑P **P** 21 43 13.4 +1.1
baz=30,SNR=23
ARMA Armdale 30.97 142 *e*P **P** 21 43 19.5 +0.2
comp=Z,16nm,0.6s
ARMA Armidale 30.97 142⇓P **P** 21 43 21.2 +1.9
baz=31,SNR=19
IPM Ipoh 31.02 291 P **P** 21 43 20.6 +0.8
IPM Ipoh 31.02 291 P **P** 21 43 21.5 +1.7
comp=Z,63nm,0.8s,comp=Z,897nm
IPM Ipoh 31.02 291 *e*P **P** 21 43 19.4 -0.4
comp=Z,53nm,0.9s
MNSI Mandailing Nat 31.26 283 P **P** 21 43 22.2 +0.3
comp=Z,231nm,0.9s,comp=Z,2μm
TPUB Ta-pu 31.41 343 *e*P **P** 21 43 22.1 -1.0
comp=Z,24nm,0.6s
ARPS Mount Arapiles 31.61 162⇓P **P** 21 43 26.3 +1.7
baz=32,SNR=98
KULM Kulim 31.67 292 P **P** 21 43 26.6 +1.2
KULM Kulim 31.67 292 P **P** 21 43 25.9 +0.4
comp=Z,102nm,1.0s,comp=Z,1μm
KULM Kulim 31.67 292 *e*P **P** 21 43 25.5 0.0
comp=Z,126nm,1.2s
SSLB Sumglung 31.79 344 *e*P **P** 21 43 25.2 -1.2
comp=Z,17nm,0.8s
YNG Young 32.11 150 ⇑P **P** 21 43 30.8 +1.7
baz=32,SNR=19
PSI Prapat 32.44 286 P **P** 21 43 31.7 -0.7
comp=Z,259nm,0.9s,comp=Z,2μm
PSI Prapat 32.44 286 P **P** 21 43 31.3 -1.2
PSI Prapat 32.44 286 P **P** 21 43 31.3 -1.2
comp=Z,169nm,0.8s,baz=102,slow=5.0,SNR=43
PSI Prapat 32.44 286 P **P** 21 43 31.8 -0.6
baz=32,SNR=17
YHNB Yeheng 32.52 345 *e*P **P** 21 43 32.8 0.0
comp=Z,19nm,0.4s
QIZ Qiongzhong 32.54 323 P **P** 21 43 34.0 +1.0
QIZ pP **pP** 21 43 51.8 -2.2
QIZ S **S** 21 48 46.6 +4.7
QIZ sS **sS** 21 49 16.4 -1.8
QIZ pmax pmax
comp=Z,34nm,1.1s
QIZ pmax pmax
comp=Z,130nm,4.8s
QIZ LR LR
comp=Z,270nm,12.2s
QIZ LR LR
comp=Z,220nm,13.0s
MGCD Mangrove Creek 32.68 146⇓P **P** 21 43 36.5 +2.3
baz=33,SNR=7.2
UBPT Khong Chiam 32.80 312 P P 21 43 47.0 +12
TSI Tuntungan 33.00 287 P **P** 21 43 37.6 +0.5
comp=Z,97nm,0.7s
CAN Canberra 33.22 151 *e*P **P** 21 43 39.3 +0.4
CAN *e**PP **pP** 21 43 58.3 -1.6
CAN *e* 21 46 19.9
CAN pmax pmax
comp=Z,52nm,0.8s
CAN Canberra 33.22 151 *e*P **P** 21 43 39.3 +0.4
comp=Z,52nm,0.8s
CAN *e*pP **pP** 21 43 58.3 -1.6
CAN *e*PcP **PcP** 21 46 19.9 +0.4
CAN Canberra 33.22 151⇓P **P** 21 43 41.1 +2.2
baz=33
CNB Canberra Magne 33.40 150 ⇑P **P** 21 43 42.3 +1.9
baz=34,SNR=9.9
QZH Quanzhou 33.57 341⇑*i*P P 21 43 38.4 -3.5
QZH pmax pmax
comp=Z,100nm,0.6s
TOO Toolangi 33.60 157 P **P** 21 43 44.6 +2.5
baz=34,SNR=13
JOW Kunigami 33.62 357 *e*P **P** 21 43 43.2 +0.9
comp=Z,28nm,0.7s
JOW *e*PcP **PcP** 21 46 20.2 -0.5
KCSI Kotacane, Aceh 33.76 287 P **P** 21 43 42.1 -1.7
comp=Z,66nm,0.8s,comp=Z,586nm
TPTI 34.24 286 P **P** 21 43 46.2 -1.7
comp=Z,40nm,0.8s,comp=Z,26μm
SNSI Sinabang, Aceh 34.82 284 P **P** 21 43 54.8 +1.9
comp=Z,193nm,1.2s,comp=Z,4μm
SURT Suratani 34.84 297 P P 21 43 56.5 +3.5
comp=Z,15nm,1.1s
PATY Pattaya 35.00 304 P **P** 21 43 56.1 +1.7
comp=Z,21nm,0.9s,comp=Z,852nm
LHMI Lhok Sumawe 35.09 289 P **P** 21 43 54.9 -0.3
comp=Z,408nm,0.9s,comp=Z,3μm
LHMI Lhok Sumawe 35.09 289 ⇑P **P** 21 43 55.0 -0.2
baz=35,SNR=11
CHAI Chaiyaphum 35.80 310 P **P** 21 44 01.6 +0.3
comp=Z,66nm,0.7s,comp=Z,441nm
CBIJ Chichi jima 35.86 19 *e*P **P** 21 44 01.3 -0.3
CBIJ *e*pP **pP** 21 44 21.7 -1.1
CBIJ *e*PcP **PcP** 21 46 25.2 -2.0
JCJ Chichijima 35.86 19 P **P** 21 44 02.1 +0.5
comp=Z,27nm,0.5s,baz=140,slow=1.6,SNR=13
PBKT Sadao Pong 36.98 309 P **P** 21 44 11.7 +0.4
comp=Z,55nm,0.8s,comp=Z,2μm
SRDT SRDT 37.19 305 P **P** 21 44 14.2 +1.1
comp=Z,251nm,1.1s
PHIT Phitsanulok 37.78 310 P **P** 21 44 19.3 +1.3
comp=Z,166nm,0.8s,comp=Z,1μm
KHLT Khaolaem Dam 37.86 305 P **P** 21 44 19.7 +0.9
comp=Z,38nm,0.9s,comp=Z,544nm
SLVN Son La 37.99 318 *e*P **P** 21 44 20.6 +0.8
SLVN *e*PP **PP** 21 45 47.5 -1.0
SLVN *e*S **S** 21 50 08.1 +2.5
DZM Mont Dzumac 38.26 117 *e*P **P** 21 44 22.5 +0.3
comp=Z,11nm,0.8s
DZM *e*PcP **PcP** 21 46 35.4 +0.5
DZM Mont Dzumac 38.26 117 P **P** 21 44 23.7 +1.4
comp=Z,8.7nm,0.6s,baz=286,slow=8.9,SNR=17
LAMP Lampang 39.18 311 P **P** 21 44 30.9 +1.1
comp=Z,37nm,0.9s,comp=Z,305nm
CMAR Chiang Mai Arr 39.66 310 P **P** 21 44 34.9 +1.1
CMAR PcP **PcP** 21 46 41.0 +1.9
CMAR ScP **ScP** 21 50 18.2 -1.6
CMAR Chiang Mai Arr 39.66 310 P **P** 21 44 34.9 +1.1
comp=Z,63nm,0.9s,baz=142,slow=7.4,SNR=238
CMAR PcP **PcP** 21 46 41.0 +1.9
comp=Z,14nm,0.8s,baz=168,slow=2.9,SNR=7.4
CMAR ScP **ScP** 21 50 18.2 -1.6
comp=Z,2.3nm,0.5s,baz=159,slow=3.0,SNR=6.3
CMAR LR LR 22 00 01.3
comp=Z,128nm,21.5s,baz=110,slow=35
JNU Nakatsue 39.86 1 *e*P **P** 21 44 35.9 +0.7
comp=Z,17nm,0.9s
CMMT Chiang Mai 39.87 310 P **P** 21 44 36.1 +0.6
comp=Z,165nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 39.87 310 *e*P **P** 21 44 36.5 +0.9
CHTO pmax pmax
comp=Z,30nm,0.8s
CHTO Chiang Mai 39.87 310 *e*P **P** 21 44 36.5 +0.9
comp=Z,30nm,0.8s
CHTO Chiang Mai 39.87 310 P **P** 21 44 36.2 +0.7
comp=Z,735nm,1.1s,comp=Z,6μm
GYA Guiyang 40.16 327⇑*i*P **P** 21 44 38.3 +0.3
GYA pP **pP** 21 45 01.0 +1.5
GYA sP **sP** 21 45 10.4 +0.4
GYA PP **PnPn** 21 46 16.3 -0.3
GYA PcP **PcP** 21 46 41.8 +1.1
GYA ScP **ScP** 21 50 23.0 +1.2
GYA PcS **PcS** 21 50 31.9 +0.4
GYA S **S** 21 50 41.3 +3.1
GYA sS **sS** 21 51 16.0 +0.8
GYA SS **SS** 21 53 38.3 -1.4
GYA pmax pmax
comp=Z,50nm,0.7s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,820nm,17.5s
GYA LR LR
comp=Z,650nm,18.1s
GYA LR LR
comp=Z,790nm,17.9s
WHN Wuhan 40.17 339 ⇑P **P** 21 44 39.6 +1.8
WHN pP **pP** 21 45 03.3 +4.0
WHN sP **sP** 21 45 11.4 +1.6
WHN S S 21 50 30.3 -7.5
WHN pmax pmax
comp=Z,120nm,0.7s
WHN LR LR
comp=Z,270nm,13.7s
NJ2 Nanjing 40.20 345 *e*P **P** 21 44 39.6 +1.6
NJ2 pP **pP** 21 45 00.0 +0.4
NJ2 sP **sP** 21 45 08.5 -1.6
NJ2 S **S** 21 50 42.5 +4.2
NJ2 sS **sS** 21 51 16.0 +0.7
NJ2 pmax pmax
comp=Z,40nm,0.6s
NJ2 pmax pmax
comp=Z,280nm,4.7s
NJ2 LR LR
comp=Z,360nm,16.4s
NJ2 LR LR
comp=Z,750nm,13.3s
MHMT Maesarieng 40.27 309 P **P** 21 44 39.5 +0.7
comp=Z,32nm,1.2s,comp=Z,310nm
CMAI Chiengmai2 40.48 312 P **P** 21 44 41.6 +0.9
comp=Z,131nm,1.0s
KMI Kunming 41.44 321 P **P** 21 44 50.6 +1.9
KMI pmax pmax
comp=Z,50nm,1.1s
KMI LR LR
comp=Z,140nm,16.8s
KMI LR LR
comp=Z,170nm,16.3s
ENH Enshi 41.89 333 *e*P **P** 21 44 52.1 +0.1
comp=Z,46nm,0.6s
ENH *e*pP **pP** 21 45 13.5 -0.2
MJAR Matsushiro Arr 43.95 10 P **P** 21 45 08.7 +0.2
MJAR PcP **PcP** 21 46 53.8 +0.9
MJAR ScP **ScP** 21 50 33.7 -2.8
MJAR Matsushiro Arr 43.95 10 P **P** 21 45 08.7 +0.2
comp=Z,41nm,1.1s,baz=187,slow=9.0,SNR=47
MJAR PcP **PcP** 21 46 53.8 +0.9
comp=Z,8.3nm,0.6s,baz=174,slow=5.4,SNR=7.0
MJAR ScP **ScP** 21 50 33.7 -2.8
comp=Z,4.0nm,0.7s,baz=176,slow=5.2,SNR=11
MJAR LR LR 22 02 33.7
comp=Z,142nm,20.1s,baz=190,slow=35
MAJO Matsushiro 43.95 10⇑*i*P **P** 21 45 08.6 +0.1
MAJO pmax pmax
comp=Z,361nm,1.2s
MAJO Matsushiro 43.95 10 *e*P **P** 21 45 08.8 +0.4
comp=Z,39nm,0.8s
MAT Matsushiro 43.95 10 P **P** 21 45 08.3 -0.2
MAT S S 21 51 27.2 -6.3
KSAR Wonju Array Be 44.20 358 P **P** 21 45 12.0 +1.6
KSAR PcP **PP** 21 46 54.9 -0.5
KSAR ScP **ScP** 21 50 35.0 -2.5
KSRS Korea Array 44.21 358 P **P** 21 45 12.0 +1.5
comp=Z,12nm,0.7s,baz=175,slow=9.1,SNR=38
KSRS PcP **PP** 21 46 54.9 -0.6
comp=Z,12nm,0.6s,baz=180,slow=3.4,SNR=16
KSRS ScP **ScP** 21 50 35.0 -2.6
comp=Z,5.6nm,0.8s,baz=177,slow=4.2,SNR=13
CD2 Chengdu 45.23 328⇑*i*P **P** 21 45 19.1 +0.3
CD2 pP **pP** 21 45 38.8 -2.0
CD2 sP **sP** 21 45 47.9 -3.3
CD2 PcP **PcP** 21 46 58.8 +1.3
CD2 PP **PP** 21 47 07.8 +1.3
CD2 S **S** 21 51 54.3 +2.0
CD2 sS **sS** 21 52 27.3 -2.6
CD2 ScS **ScS** 21 55 06.1 -0.8
CD2 SS **SS** 21 55 10.6 -6.6
CD2 pmax pmax
comp=Z,110nm,1.2s
CD2 pmax pmax
comp=Z,260nm,5.9s
CD2 LR LR
comp=Z,270nm,15.4s
CD2 LR LR
comp=Z,230nm,16.6s
CD2 LR LR
comp=Z,170nm,19.0s
XAN Xi'an 45.37 335 P **P** 21 45 19.9 0.0
XAN pP **pP** 21 45 39.8 -2.0
XAN PcP **PcP** 21 46 59.0 +1.1
XAN ScP **ScP** 21 50 40.5 -2.0
XAN pmax pmax
comp=Z,25nm,0.7s
DL2 Dalian 46.27 351 *e*P P 21 45 22.3 -4.5
DL2 *e*S **S** 21 52 02.9 -3.9
BJT Baijiatuau 48.44 346 *e*P **P** 21 45 44.0 +0.4
comp=Z,73nm,0.5s
BJT *e*pP **pP** 21 46 05.3 -0.4
BJT *e*PcP **PcP** 21 47 09.4 +0.8
BJI Beijing 48.45 346 P **P** 21 45 44.5 +0.8
BJI S **S** 21 52 40.4 +2.7
BJI pmax pmax
comp=Z,140nm,0.6s
BJI LR LR
comp=Z,130nm,9.3s
BJI LR LR
comp=Z,120nm,14.2s
OUZ Omahuta 48.92 131 *e*P **P** 21 45 47.6 +0.2
comp=Z,77nm,1.3s
LZH Lanzhou 49.34 332 ⇑P **P** 21 45 52.0 +1.2
LZH pP **pP** 21 46 12.8 -0.2
LZH sP **sP** 21 46 23.3 0.0
LZH PcP **PcP** 21 47 12.9 +0.8
LZH PP **PP** 21 47 47.0 +1.3
LZH ScP **ScP** 21 50 58.3 -1.0
LZH S **S** 21 52 47.0 -3.6
LZH sS **sS** 21 53 28.1 -0.6
LZH SS **SS** 21 56 20.3 -3.3
LZH pmax pmax
comp=Z,75nm,1.4s
LZH pmax pmax
comp=Z,190nm,6.1s
LZH LR LR
comp=Z,560nm,13.5s
LZH LR LR
comp=Z,490nm,13.7s
LZH LR LR
comp=Z,700nm,17.5s

HHC Hu-ho-hao-te 50.48 342 *e*P **P** **21 46 00.3 +1.0**
HHC pP **pP** **21 46 23.3 +1.7**
HHC PcP **PcP** **21 47 16.8 +0.6**
HHC S **S** **21 53 04.4 -1.9**
HHC SS **SS** **21 56 41.3 -0.3**
HHC pmax pmax
comp=Z,69nm,1.0s
HHC pmax pmax
comp=Z,330nm,5.6s
CN2 Changchun 50.68 356 *e*P **P** **21 46 00.8 +0.3**
CN2 *es*P **sP** **21 46 28.4 -4.8**
CN2 *e*S **S** **21 53 10.8 +2.1**
CN2 pmax pmax
comp=Z,30nm,0.6s
WHZ Wether Hill Ro 50.77 146 *e*P **P** **21 46 01.3 0.0**
USRK Ussuriysk Arra 50.94 2 P **P** **21 46 03.8 +1.3**
comp=Z,24nm,0.6s,baz=180,slow=7.1,SNR=131
USRK ScP **ScP** **21 51 03.6 -2.2**
comp=Z,7.5nm,0.9s,baz=208,slow=4.7,SNR=8.5
USRK LR LR 22 07 05.2
comp=Z,82nm,20.9s,baz=165,slow=35
PALK Pallekele 51.11 285 P **P** **21 46 03.6 -0.8**
comp=Z,366nm,0.8s,SNR=10
PALK Pallekele 51.11 285 *e*P **P** **21 46 03.9 -0.6**
comp=Z,193nm,0.8s
RPZ Rata Peaks 51.31 142 *e*P **P** **21 46 05.2 -0.1**
comp=Z,91nm,0.7s
RPZ Rata Peaks 51.31 142 LR LR 22 07 41.2
comp=Z,188nm,18.6s,baz=72,slow=36
MDJ Mudanjiang 51.33 360 P **P** **21 46 06.8 +1.4**
MDJ pP **pP** **21 46 26.8 -1.0**
MDJ sP **sP** **21 46 36.1 -2.0**
MDJ PcS **PcS** **21 51 18.3 +1.5**
MDJ S **S** **21 53 21.3 +3.7**
MDJ sS **sS** **21 53 55.6 -0.3**
MDJ ScS **ScS** **21 55 48.8 +1.9**
MDJ pmax pmax
comp=Z,46nm,0.8s
MDJ pmax pmax
comp=Z,58nm,6.5s
MDJ Mudanjiang 51.33 360 *e*P **P** **21 46 06.2 +0.8**
comp=Z,55nm,1.1s
MDJ *ep*P **pP** **21 46 24.6 -3.2**
MDJ *e*PcP **PcP** **21 47 19.3 +0.2**
ODZ Otahua Downs 51.80 144 *e*P **P** **21 46 08.4 -0.6**
comp=Z,283nm,2.7s
ASAJ Asahikawa 52.10 12 *e*P **P** **21 46 12.8 +1.7**
comp=Z,40nm,1.5s
LSA Lhasa 52.12 316 P **P** **21 46 13.3 +1.1**
LSA pmax pmax
comp=Z,30nm,1.5s
LSA Lhasa 52.12 316 *e*P **P** **21 46 12.8 +0.6**
LSA *e*S **S** **21 53 27.0 -3.1**
LSA pmax pmax
comp=Z,38nm,0.6s
LSA Lhasa 52.12 316 *e*P **P** **21 46 12.8 +0.6**
comp=Z,38nm,0.6s
LSA *e*S **S** **21 53 27.0 -3.1**
KHZ Kahutara 52.18 140 *e*P **P** **21 46 11.7 -0.2**
comp=Z,60nm,0.9s
KHZ *e*PcP **PcP** **21 47 23.1 +0.7**
BKZ Black Stump Fm 52.67 135 *e*P **P** **21 46 16.5 +0.9**
comp=Z,56nm,0.7s
URZ Urewera 52.74 134 *e*P **P** **21 46 16.9 +0.8**
comp=Z,107nm,1.8s
URZ Urewera 52.74 134 LR LR 22 07 56.8
comp=Z,120nm,18.6s,baz=310,slow=35
YUK Yuzh-Kuril'sk 52.75 14*c i*P **P** **21 46 16.9 +1.0**
YUK *i* 21 47 28.8
YUK *i* 21 48 21.8
YUK *i* PPP PPP 21 49 31.6
YUK *i* S **S** **21 53 35.0 -2.0**
YUK *i* 21 56 02.3
YUK MLR MLR
comp=N,264nm,23.0s
YUK MLR MLR
comp=Z,175nm,23.0s
BFZ Birch Farm 53.15 137 *e*P **P** **21 46 20.1 +1.0**
comp=Z,91nm,1.4s
ODAN Odare 53.18 311 *e*P **P** **21 46 20.2 +0.4**
comp=Z,145nm,0.5s
ODAN Odare 53.18 311 *e*P **P** **21 46 20.2 +0.4**
comp=Z,145nm,0.5s
TAPN Taplejung 53.21 312 *e*P **P** **21 46 20.5 +0.4**
comp=Z,104nm,0.3s
TAPN Taplejung 53.21 312 *e*P **P** **21 46 20.5 +0.4**
comp=Z,104nm,0.3s
RAMN Ramite 53.83 311 *e*P **P** **21 46 25.2 +0.7**
comp=Z,358nm,0.5s
RAMN Ramite 53.83 311 *e*P **P** **21 46 25.2 +0.7**
comp=Z,358nm,0.5s
GTA Gaotai 53.90 331 ⇑P **P** **21 46 26.0 +1.3**
GTA pP **pP** **21 46 44.8 -2.4**
GTA sP sP 21 46 51.9 -5.6
GTA PcP **PcP** **21 47 30.3 +1.2**
GTA ScP **ScP** **21 51 17.6 -1.4**
GTA S **S** **21 53 55.3 +2.1**
GTA sS **sS** **21 54 28.8 -3.0**
GTA SS **SS** **21 57 38.8 +3.0**
GTA pmax pmax
comp=Z,90nm,1.0s
GTA pmax pmax
comp=Z,170nm,5.3s
GTA LR LR
comp=Z,310nm,20.9s
GTA LR LR
comp=Z,360nm,19.5s
GTA LR LR
comp=Z,150nm,17.6s
JIRN Jiri 54.51 311 *e*P **P** **21 46 30.1 +0.5**
comp=Z,127nm,0.4s
JIRN Jiri 54.51 311 *e*P **P** **21 46 30.1 +0.5**
comp=Z,127nm,0.4s
YSS Yuzh-Sakhalins 54.86 11 *e*P **P** **21 46 31.9 +0.6**
YSS Yuzh-Sakhalins 54.86 11 *e*P **P** **21 46 32.1 +0.9**
comp=Z,28nm,0.8s
GUN Gumba 54.88 311 *e*P **P** **21 46 32.8 +0.5**
comp=Z,218nm,0.4s
GUN Gumba 54.88 311 *e*P **P** **21 46 32.8 +0.5**
comp=Z,218nm,0.4s
PKI Pulchoki 55.05 311 *e*P **P** **21 46 33.6 +0.1**
comp=Z,120nm,0.5s
PKI Pulchoki 55.05 311 *e*P **P** **21 46 33.6 +0.1**
PKI pmax pmax
comp=Z,120nm,0.5s
PKI Pulchoki 55.05 311 *e*P **P** **21 46 33.6 +0.1**
comp=Z,120nm,0.5s
PKIN Phulchoki 55.06 311 *e*P **P** **21 46 33.4 -0.1**
comp=Z,110nm,0.5s
KKN Kakani 55.27 311 *e*P **P** **21 46 35.2 +0.3**
comp=Z,93nm,0.4s
KKN Kakani 55.27 311 *e*P **P** **21 46 35.2 +0.3**
KKN pmax pmax
comp=Z,93nm,0.4s
KKN Kakani 55.27 311 *e*P **P** **21 46 35.2 +0.3**
comp=Z,93nm,0.4s
DMN Daman 55.30 310 *e*P **P** **21 46 35.6 +0.4**
comp=Z,98nm,0.6s
DMN Daman 55.30 310 *e*P **P** **21 46 35.6 +0.4**
comp=Z,98nm,0.6s
HABR Khabarovsk 55.37 4 *e*P **P** **21 46 35.1 +0.2**
HABR *e**PP **pP** **21 46 58.7 +1.2**
HABR *e* 21 47 33.0
HABR 21 48 39.4
HABR *e*S **S** **21 54 12.6 +0.4**
HABR *e* 21 56 13.7
HABR *e*SS **SS** **21 57 59.5 +1.2**
HABR pmax pmax
comp=Z,79nm,1.2s
HABR pmax pmax
comp=E,54nm,1.5s
HABR pmax pmax
comp=N,23nm,1.2s
HABR MLR MLR
comp=Z,120nm,17.0s
GKN Gorkha 55.86 311 *e*P **P** **21 46 39.4 +0.3**
comp=Z,155nm,0.3s
GKN Gorkha 55.86 311 *e*P **P** **21 46 39.4 +0.3**
comp=Z,155nm,0.3s
KLR Kul'dur 55.97 1 *e*P **P** **21 46 36.8 -2.4**
KLR pmax pmax
comp=Z,96nm,1.6s
HYB Hyderabad 56.24 296 *i* P **P** **21 46 40.0 -1.8**
KOLN Koldanda 56.53 310 *e*P **P** **21 46 44.5 +0.6**
comp=Z,108nm,0.5s
KOLN Koldanda 56.53 310 *e*P **P** **21 46 44.5 +0.6**
comp=Z,108nm,0.5s
HIA Hailar 56.69 352 *e*P **P** **21 46 44.5 +0.1**
comp=Z,9.9nm,0.6s
DANN Dangsing 56.70 310 *e*P **P** **21 46 45.5 +0.3**
comp=Z,118nm,0.4s
DANN Dangsing 56.70 310 *e*P **P** **21 46 45.5 +0.3**
comp=Z,118nm,0.4s
PYUN Piuthan 57.16 310 *e*P **P** **21 46 48.9 +0.5**
comp=Z,337nm,0.8s
PYUN Piuthan 57.16 310 *e*P **P** **21 46 48.9 +0.5**
comp=Z,337nm,0.8s
ULN Ulaanbaatar 58.20 342 *e*P **P** **21 46 55.9 +0.7**
SONM Songino Array 58.38 342 P **P** **21 46 58.0 +1.6**
SONM ScP **ScP** **21 51 36.8 -1.7**
SONM Songino Array 58.38 342 P **P** **21 46 58.0 +1.6**
comp=Z,16nm,0.4s,baz=165,slow=7.0,SNR=26
SONM ScP **ScP** **21 51 36.8 -1.7**
comp=Z,3.2nm,0.9s,baz=278,slow=27,SNR=3.6
DRV Dumont d'Urvil 60.02 175 S S 21 54 59.0 -14
DRV L L 22 02 00.0
DRV R 22 06 00.0
KAD Karad 60.13 294 *i* P **P** **21 47 08.1 -0.9**
POO Poona 60.83 296 ⇓*i* *x* **P** **21 47 12.0 -1.7**
ZAK Zakamensk 61.60 341 ⇓*i* P **P** **21 47 18.8 +0.4**
ZAK *e* 21 47 58.1
ZAK *e* 21 56 16.9
ZAK pmax pmax
comp=Z,18nm,1.2s
NDI New Delhi 61.91 308 *ex* **P** **21 47 18.0 -2.8**
TLY Talaya 62.61 342 P **P** **21 47 26.3 +1.3**
comp=Z,164nm,1.0s,SNR=6.4
TLY Talaya 62.61 342 *e*P **P** **21 47 25.6 +0.6**
TLY pmax pmax
comp=Z,21nm,0.9s
TLY Talaya 62.61 342 *e*P **P** **21 47 25.6 +0.6**
comp=Z,21nm,0.9s
WMQ Urumqi 63.32 327 P **P** **21 47 31.0 +1.1**
WMQ pP **pP** **21 47 51.0 -2.1**
WMQ sP **sP** **21 48 00.0 -3.2**
WMQ PcP **PcP** **21 48 07.0 +0.7**
WMQ PP **PP** **21 49 53.0 +2.6**
WMQ ScP 21 52 01.0
WMQ S **S** **21 55 55.0 -0.2**
WMQ ScS **SKSac** **21 57 13.0 -1.7**
WMQ SS **SS** **22 00 06.0 +2.4**
WMQ pmax pmax
comp=Z,150nm,1.0s
WMQ pmax pmax
comp=Z,380nm,6.0s
WMQ LR LR
comp=Z,190nm,18.0s
WMQ LR LR
comp=Z,110nm,18.0s
WMQ LR LR
comp=Z,110nm,18.0s
MOY Mondy 63.45 340 *e*P **P** **21 47 32.4 +1.7**
MOY pmax pmax
comp=Z,74nm,2.2s
PETK Petropavlovsk- 64.29 18 P **P** **21 47 37.8 +1.8**
PETK 21 48 10.7
PETK pmax pmax
comp=Z,29nm,0.7s
PETK MLR MLR
comp=Z,61nm,21.9s
PETK Petropavlovsk- 64.29 18 P **P** **21 47 37.8 +1.8**
PETK PcP **PcP** **21 48 10.7 +0.8**
PETK Petropavlovsk- 64.29 18 P **P** **21 47 37.8 +1.8**
comp=Z,29nm,0.7s,baz=190,slow=5.7,SNR=22
PETK PcP **PcP** **21 48 10.7 +0.8**
comp=Z,9.2nm,0.5s,baz=353,slow=11,SNR=5.9
PETK LR LR 22 09 54.6
comp=Z,60nm,21.9s,baz=234,slow=30
KSH Kashi 67.94 318 P **P** **21 48 01.5 +1.6**
KSH sP **sP** **21 48 33.1 -0.2**
KSH PP PP 21 50 38.1 +7.1
KSH S **S** **21 56 49.6 -2.2**
KSH SS SS 22 01 23.1 +7.4
KSH pmax pmax
comp=Z,30nm,0.9s
KSH LR LR
comp=Z,190nm,5.7s
KSH LR LR
comp=Z,130nm,4.9s
KSH LR LR
comp=Z,160nm,6.0s
MK31 Makanchi Array 68.15 327 ⇑*i* P **P** **21 48 02.1 +1.2**
MK31 Makanchi Array 68.15 327 ⇑*i* P **P** **21 48 02.1 +1.2**
MKAR Makanchi Array 68.15 327 P **P** **21 48 02.2 +1.3**
MKAR pmax pmax
comp=Z,227nm,0.6s
MKAR Makanchi Array 68.15 327 *e*P **P** **21 48 02.2 +1.3**
MKAR P'P' 22 16 17.6
MKAR Makanchi Array 68.15 327 P **P** **21 48 02.1 +1.3**
comp=Z,227nm,0.6s,baz=124,slow=7.9,SNR=2638
MKAR PKPPKP **P'P'df** **22 16 17.6 -0.9**
comp=Z,1.1nm,0.9s,baz=300,slow=2.7,SNR=5.6
YAK Yakutsk 68.78 360*c i*P **P** **21 48 05.4 +1.1**
YAK *e* 21 48 24.2
YAK *e**PP PcP 21 48 37.2 +8.8
YAK *e* 21 50 37.0
YAK *e*PPP PPP 21 52 16.9
YAK *e*S **S** **21 56 58.4 -2.0**
YAK *e* 21 57 43.2
YAK *e**SS **SKSac** **21 57 51.4 -3.6**
YAK *e*SSS SSS 22 04 29.2
YAK pmax pmax
comp=Z,191nm,0.8s
YAK pmax pmax
comp=N,43nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.7s
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK smax smax
comp=N,146nm,1.6s
YAK smax smax
comp=E,105nm,1.7s
YAK Yakutsk 68.78 360 *e*P **P** **21 48 04.8 +0.4**
comp=E,256nm,0.8s
YAK *ep*P **pP** **21 48 25.4 -2.4**
KZA Kyzart 69.70 320 *i* P **P** **21 48 12.9 +1.8**
KZA Kyzart 69.70 320 P **P** **21 48 12.9 +1.8**
SNR=74
TKM2 Tokmak 2 69.91 321 *i* P **P** **21 48 13.4 +1.3**
TKM2 Tokmak 2 69.91 321 P **P** **21 48 13.4 +1.3**
SNR=138
TKM2 Tokmak 2 69.91 321 *e*P **P** **21 48 13.4 +1.3**
comp=E,89nm,0.8s
FX1 Attu Island--F 69.95 26 *e*P **P** **21 48 12.4 +0.6**
KBK Karagaybulak 70.19 320 P **P** **21 48 15.3 +1.6**
SNR=58
UCH Uchtor 70.25 319 *i* P **P** **21 48 16.2 +1.7**
UCH Uchtor 70.25 319 P **P** **21 48 16.2 +1.7**
SNR=112
AAK Ala-Archa 70.47 320 P **P** **21 48 16.6 +1.2**
comp=E,665nm,0.9s,SNR=79
AAK Ala-Archa 70.47 320*c i*P **P** **21 48 17.0 +1.6**
AAK pmax pmax
comp=Z,299nm,1.0s
AAK Ala-Archa 70.47 320 P **P** **21 48 17.0 +1.6**
SNR=106
AAK Ala-Archa 70.47 320 *e*P **P** **21 48 16.6 +1.2**
comp=Z,118nm,1.0s
AAK Ala-Archa 70.47 320 P **P** **21 48 17.1 +1.7**
comp=Z,67nm,0.8s,baz=112,slow=5.2,SNR=240
CHMS Chumysh 70.49 320 *i* P **P** **21 48 16.4 +1.0**
CHMS Chumysh 70.49 320 P **P** **21 48 16.4 +1.0**
SNR=53
FRU Bishkek 70.49 320 *e*P **P** **21 48 14.6 -0.8**
FRU pmax pmax
comp=Z,83nm,1.8s
KBL Kabul 70.69 310 *e*P **P** **21 48 18.1 +1.1**
KBL Kabul 70.69 310 *e*P **P** **21 48 18.1 +1.1**
AML Almayashu 70.74 319 P **P** **21 48 19.3 +2.0**
SNR=8.6
USP Ospenovka 70.78 320 *i* P **P** **21 48 18.4 +1.2**
USP Ospenovka 70.78 320 P **P** **21 48 18.4 +1.2**
SNR=162
EKS2 Erkin-Say 70.94 320 *i* P **P** **21 48 20.0 +1.7**
EKS2 Erkin-Say 70.94 320 P **P** **21 48 20.0 +1.7**
SNR=128
EKS2 Erkin-Say 70.94 320 *e*P **P** **21 48 20.0 +1.7**
comp=Z,130nm,0.9s
MRIV Mauritius Mete 71.19 251 *e*P **P** **21 48 21.1 +1.0**
ZAA0 Zalesovo Array 71.51 334 *e*P **P** **21 48 21.4 +0.2**
ZAA0 *ep*P **pP** **21 48 42.6 -2.3**
ZALV Zalesovo Beam 71.51 334 P **P** **21 48 21.5 +0.2**
ZALV S **S** **21 57 27.3 -5.5**
ZALV pmax pmax
comp=Z,61nm,0.8s
ZALV smax smax
comp=N,5.0nm,0.8s
ZALV Zalesovo Beam 71.51 334 P **P** **21 48 21.5 +0.2**
ZALV S **S** **21 57 27.2 -5.5**
ZALV P'P' 22 16 09.9
ZALV Zalesovo Beam 71.51 334 P **P** **21 48 21.5 +0.2**
comp=N,61nm,0.8s,baz=114,slow=4.6,SNR=261
ZALV S **S** **21 57 27.2 -5.5**
comp=N,4.8nm,0.8s,baz=153,slow=10.0,SNR=13
ZALV PKPPKP **P'P'df** **22 16 09.9 -2.3**
comp=N,1.4nm,0.8s,baz=327,slow=2.5,SNR=6.8
ZALV LR LR 22 19 40.9
comp=N,91nm,18.1s,baz=85,slow=36
KURBB Kurchatov Arra 72.44 329 P **P** **21 48 27.8 +1.0**
comp=N,87nm,0.8s,baz=128,slow=4.8,SNR=779
KURBB S S 21 57 35.2 -8.2
comp=N,1.5nm,0.9s,baz=130,slow=13,SNR=8.7
KURK Kurchatov 72.45 329 *e*P **P** **21 48 27.9 +1.0**
KURK S S 21 57 35.2 -8.3
KURK pmax pmax
comp=Z,70nm,0.9s
KURK Kurchatov 72.45 329 *e*P **P** **21 48 27.9 +1.0**
comp=Z,70nm,0.9s
KURK S S 21 57 35.2 -8.3
KURK Kurchatov 72.45 329 P **P** **21 48 28.1 +1.2**
comp=Z,985nm,0.9s,SNR=40
VNDA Vanda 72.50 173 *e*P **P** **21 48 27.6 +0.7**
VNDA Vanda 72.50 173 P **P** **21 48 27.6 +0.7**
comp=Z,8.2nm,0.5s,baz=326,slow=6.5,SNR=13
VNDA LR LR 22 18 32.7
comp=Z,148nm,20.0s,baz=337,slow=34
NVS Novosibirsk 72.80 334⇑*i* P **P** **21 48 28.0 -0.9**
NVS *e**PP pP 21 49 00.0 +7.4
NVS *e*S S 21 57 41.4 -6.0
NVS pmax pmax
comp=N,33nm,1.0s
NVS pmax pmax
comp=E,36nm,1.0s
NVS pmax pmax
comp=Z,82nm,1.0s
NVS smax smax
comp=N,16nm,1.6s
NVS smax smax
comp=E,36nm,1.3s
RER Riviere de l'E 72.82 250 *e*P **P** **21 48 30.1 +0.2**
comp=E,113nm,0.8s
KK31 Karatay Array 73.27 319 *i* P **P** **21 48 32.6 +0.6**
KK31 pmax pmax
comp=Z,125nm,1.1s
KKAR Karatay Array 73.27 319 *e*P **P** **21 48 32.9 +0.9**
KKAR Karatay Array 73.27 319 *e*P **P** **21 48 32.9 +0.9**
SBA Scott Base 73.39 172 *e*P **P** **21 48 34.3 +2.2**
SBA pmax pmax
comp=Z,191nm,2.2s
SBA Scott Base 73.39 172 *e*P **P** **21 48 34.2 +2.2**
comp=Z,191nm,2.2s
ADK Adak 74.17 31 *e*P **P** **21 48 38.4 +1.4**
ADK pmax pmax
comp=Z,25nm,0.8s
ADK Adak 74.17 31 *e*P **P** **21 48 38.4 +1.4**
comp=Z,25nm,0.8s
MAW Mawson 74.98 201 *e*P **P** **21 48 41.9 +0.4**
comp=Z,9.3nm,0.7s
MAW Mawson 74.98 201 P **P** **21 48 42.8 +1.4**
comp=Z,34nm,0.6s,baz=80,slow=5.7,SNR=42
MAW LR LR 22 17 16.7
comp=Z,117nm,21.0s,baz=225,slow=32
MAW Mawson 74.98 201 ⇑P **P** **21 48 42.8 +1.4**
baz=75,SNR=32
WBK Wadi Bani Khal 75.34 295 P **P** **21 48 44.3 -0.2**
SNR=20
JMDO Jabal Madar 76.06 295 P **P** **21 48 49.0 +0.4**
SNR=55
SMDO Samad 76.27 296 ⇑P **P** **21 48 50.8 +0.9**
SNR=42
IDAH Dahanechah 77.27 306 *e*P **P** **21 48 57.2 +1.7**
ARQ Araqi 77.70 296 ⇑P **P** **21 48 58.5 +0.7**
SNR=13
IKOO Kooshah 77.88 305 *e*P **P** **21 49 00.0 +1.1**
BVA0 Borovoye Array 77.99 328 *i* P **P** **21 48 59.2 +0.5**
BVA0 pmax pmax
comp=Z,151nm,1.1s
BVAR Borovoye Array 77.99 328 P **P** **21 48 59.4 +0.6**
BVAR pmax pmax
comp=Z,63nm,0.9s
BVAR Borovoye Array 77.99 328 P **P** **21 48 59.4 +0.6**
BVAR PKKPbc **PKKPbc** **22 07 59.7 -1.6**
BVAR P'P' 22 15 58.8
BVAR Borovoye Array 77.99 328 P **P** **21 48 59.4 +0.6**
comp=Z,63nm,0.9s,baz=130,slow=6.0,SNR=263
BVAR PKKPbc **PKKPbc** **22 07 59.7 -1.6**
comp=Z,0.4nm,0.4s,baz=1.8,slow=1.9,SNR=6.2
BVAR PKPPKP **P'P'df** **22 15 58.8 -2.3**
comp=Z,0.5nm,0.8s,baz=290,slow=6.1,SNR=3.9
BRVK Borovoye 78.06 328 P **P** **21 48 59.3 +0.2**
comp=Z,605nm,0.9s,SNR=61
BRVK Borovoye 78.06 328*d i*P **P** **21 48 59.3 +0.2**
BRVK pmax pmax
comp=Z,141nm,1.2s
BRVK Borovoye 78.06 328 *e*P **P** **21 48 59.9 +0.8**
comp=Z,91nm,0.9s
IMYA Miami 78.16 309 *e*P **P** **21 49 00.8 +0.6**
ITEG Tejag 78.22 306 *e*P **P** **21 49 02.0 +1.3**
UOSS Wadi Hilu 78.35 297 P **P** **21 49 01.2 -0.1**
comp=Z,375nm,0.8s,SNR=27
ASHO Ashiyiah 78.42 297 ⇓P **P** **21 49 01.9 +0.2**
TIXI Tiksi 78.44 360 ⇑*i* P **P** **21 49 00.7 -0.1**
TIXI pmax pmax
comp=Z,68nm,0.6s
TIXI Tiksi 78.44 360 *e*P **P** **21 49 00.7 -0.1**
BANOM Banah 78.50 298 P **P** **21 49 02.8 +0.7**
SNR=86
ISRO Mashad 78.63 309 *e*P **P** **21 49 03.4 +0.6**
IBND Bandar-abas 78.65 300 *e*P **P** **21 49 04.6 +1.7**
IBND *e*P PcP 21 49 05.1 -6.4
IPAY Payeh 79.04 309 *e*P **P** **21 49 06.9 +1.7**
IAKL Akhelmad 79.27 309 *e*P **P** **21 49 07.3 +0.8**
IKRD Kardeh 79.50 309 *e*P **P** **21 49 04.9 -2.8**
ISFR Sfrayin 79.98 309 *e*P **P** **21 49 11.4 +1.1**
ABKT Ailbek 80.14 310 P **P** **21 49 12.1 +1.2**
comp=Z,436nm,1.1s,SNR=31
IBAF Bafgh 80.48 304 *e*P **P** **21 49 13.9 +1.0**
UNV Unalaska Valle 80.49 33 *e*P **P** **21 49 13.8 +1.5**
ABPO Ambohimpanom 80.91 252 *e*P **P** **21 49 15.7 +0.1**
ABPO pmax pmax
comp=Z,12nm,0.7s
ABPO Ambohimpanom 80.91 252 *e*P **P** **21 49 15.7 +0.1**
comp=Z,12nm,0.7s
OPO Ambohidratompo 80.98 252 LR LR 22 21 31.7
comp=Z,63nm,18.8s,baz=300,slow=33
IMEH Mehriz 81.22 303 *e*P **P** **21 49 16.6 -0.4**
ICHK Chekchek 81.59 304 *e*P **P** **21 49 19.3 +0.4**
ISAD Sadrabad 82.11 303 *e*P **P** **21 49 21.8 +0.1**
IPAR Pars 82.18 301 *e*P **P** **21 49 22.6 +0.4**
AB31 Akbulak array 82.44 322 P **P** **21 49 22.7 0.0**
AB31 pmax pmax
comp=Z,33nm,0.8s
ABKAR Akbulak array 82.44 322 *e*P **P** **21 49 23.0 +0.4**
IANJ Anjilo 82.75 307 *e*P **P** **21 49 25.3 +0.3**
GAMB Gambell 82.89 22 *e*P **P** **21 49 26.6 +2.0**
comp=Z,156nm,2.1s
MUKL Al Mukalla 82.99 285 *e*P **P** **21 49 27.6 +1.3**
QSPA South Pole Qui 83.03 180 *e*P **P** **21 49 24.5 -1.1**
IGLO Ghaloghah 83.06 308 *e*P **P** **21 49 26.6 +0.1**
IKIA Kiasar 83.11 308 *e*P **P** **21 49 27.6 +0.8**
ISHM Shahmirzad 83.32 307 *e*P **P** **21 49 28.8 +0.8**
IZEF Zefreh 83.45 304 *e*P **P** **21 49 28.2 -0.4**
ILAS Lasjerd 83.49 307 *e*P **P** **21 49 28.9 +0.1**
SYO Syowa Base 83.69 201 ⇓*i* P **P** **21 49 28.2 -0.6**
IFIR Firoozkooh 83.71 307 *e*P **P** **21 49 30.4 +0.5**
IALA Alasht 83.77 307 *e*P **P** **21 49 31.1 +0.9**
AKTO Aktyubinsk 84.00 322 P **P** **21 49 31.4 +0.7**
AKTO pmax pmax
comp=Z,35nm,0.9s
AKTO Aktyubinsk 84.00 322 P **P** **21 49 31.4 +0.7**
AKTO PKKPbc **PKKPbc** **22 07 46.6 -0.8**
AKTO Aktyubinsk 84.00 322 P **P** **21 49 31.4 +0.7**
comp=Z,35nm,0.9s,baz=106,slow=6.8,SNR=72
AKTO PKKPbc **PKKPbc** **22 07 46.6 -0.8**
comp=Z,1.5nm,0.6s,baz=275,slow=0.8,SNR=5.7

IKLH **Kolahrood** 84.15 307 *e*P P 21 49 32.8 +0.6
IPRN **Peran** 84.18 307 *e*P P 21 49 32.5 +0.4
IDMV **Damavand** 84.27 307 *e*P P 21 49 33.3 +0.5
SDPT **Sand Point** 84.31 33 *e*P P 21 49 33.2 +1.2
comp=Z,214nm,0.7s
IVRN **Varamin** 84.39 306 *e*P P 21 49 33.8 +0.7
SVE **Sverdlovsk** 84.70 329 *d* iP P 21 49 34.8 +0.7
SVE pmax pmax
comp=Z,127nm,1.2s
TNA **Tin City** 85.19 22 *e*P P 21 49 37.8 +1.4
comp=Z,77nm,1.9s
ARU **Arti** 85.64 328 P P 21 49 38.3 -0.4
comp=Z,380nm,0.9s,SNR=19
ARU **Arti** 85.64 328 *c* iP P 21 49 38.1 -0.6
ARU *PP pP 21 50 04.7 +1.7
ARU 21 52 55.3
ARU S SKSac 21 59 53.2 -2.5
ARU SS SS 22 05 39.9 -1.6
ARU pmax pmax
comp=Z,80nm,1.0s
ARU **Arti** 85.64 328 *e*P P 21 49 38.1 -0.6
IRAZ **Razeghan** 85.91 306 *e*P P 21 49 41.7 +0.8
LBOS 86.53 284⇑ *e*P P 21 49 45.7 +1.2
LBOS AMb AMB 21 49 46.4
comp=Z,172nm,1.3s
TRBA **At Turbah** 87.54 284⇑ *e*P P 21 49 50.4 +1.2
TRBA AMb AMB 21 49 51.7
comp=Z,18nm,0.5s
RAYN **Ar Rayn** 87.68 294 P P 21 49 50.3 +0.8
comp=Z,1μm,0.6s,SNR=75
ISRB **Sarab** 88.16 308 *e*P P 21 49 52.5 +0.8
SVW2 **Sparrevohn** 88.62 28 *e*P P 21 49 54.7 +1.6
OHAK **Old Harbor** 88.69 32 *e*P P 21 49 54.6 +1.2
IHRS **Heris** 88.73 309 *e*P P 21 49 54.8 +0.4
IBST **Bostanabad** 88.74 308 *e*P P 21 49 53.9 -0.6
ITBZ **Tabriz** 89.41 308 *e*P P 21 49 58.2 +0.7
DGRG **David-gareji** 90.50 312 P P 21 50 04.5 +2.1
IM04 **Indian Mountai** 90.75 23 *e*P P 21 50 03.1 +0.1
IM04 *epP pP 21 50 23.1 -4.4
GNI **Garni** 90.78 310 *e*P P 21 50 04.5 +0.7
comp=Z,21nm,0.8s
GNI **Garni** 90.78 310 P P 21 50 05.4 +1.5
comp=Z,5.9nm,0.6s,baz=171,slow=6.7,SNR=8.1
TBLG **Delisi** 91.01 312 P P 21 50 06.0 +1.3
GUDG **Gudauri** 91.31 312 P P 21 50 07.7 +1.4
ZEI **Tsey** 91.77 313 *e*P P 21 50 08.0 -0.5
ZEI pmax pmax
comp=Z,46nm,1.4s
ONI **Oni** 92.08 312 P P 21 50 11.3 +1.6
NCK **Nalchik** 92.09 313 ⇑ iP P 21 50 11.0 +1.3
MCK **McKinley** 92.26 26 *e*P P 21 50 09.1 -0.9
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK **McKinley** 92.26 26 *e*P P 21 50 09.1 -0.9
comp=Z,8.4nm,0.8s
NVL **N'lazarevskaya** 92.39 197 *e*P P 21 50 11.6 +1.1
NVL pmax pmax
comp=Z,28nm,1.0s
COLD **Coldfoot** 92.44 23 *e*P P 21 50 11.9 +1.1
comp=Z,19nm,0.9s
KMBO **Kilima Mbogo** 92.54 269 *e*P P 21 50 13.6 +0.8
KMBO **Kilima Mbogo** 92.54 269 P P 21 50 13.7 +1.0
comp=Z,13nm,1.0s,baz=60,slow=5.9,SNR=30
KMBO LR LR 22 31 03.5
comp=Z,31nm,18.7s,baz=108,slow=35
KBZ **Khabaz** 92.62 314 P P 21 50 12.7 +0.6
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ **Khabaz** 92.62 314 P P 21 50 12.7 +0.6
KBZ **Khabaz** 92.62 314 P P 21 50 12.7 +0.6
comp=Z,8.3nm,0.8s,baz=96,slow=5.0,SNR=22
GOF **Gofitskoye** 92.68 315 *e*P P 21 50 10.5 -1.8
KIV **Kislovodsk** 92.80 314 *e*P P 21 50 12.8 -0.2
KIV *e* 22 00 36.7
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV **Kislovodsk** 92.80 314 *e*P P 21 50 12.6 -0.5
comp=Z,8.0nm,0.7s
COLA **College** 92.93 25 *i* P P 21 50 13.3 +0.3
COLA pmax pmax
comp=Z,139nm,2.2s
COLA **College** 92.93 25 *e*P P 21 50 12.6 -0.4
DIV **Divide** 93.27 29 *e*P P 21 50 15.6 +0.8
ILAR **Eielson Array** 93.32 25 P P 21 50 13.8 -1.0
ILAR PKKP PKKPdf 22 07 20.4 -2.5
ILAR **Eielson Array** 93.32 25 P P 21 50 13.8 -1.0
comp=Z,9.9nm,0.8s,baz=266,slow=4.3,SNR=98
ILAR PKKP PKKPdf 22 07 20.4 -2.5
comp=Z,3.1nm,0.6s,baz=56,slow=0.9,SNR=33
ILAR LR LR 22 32 46.2
comp=Z,100nm,19.5s,baz=171,slow=36
PRGR **Permogore** 93.36 332 *e*P P 21 50 12.4 -2.6
PRGR pmax pmax
comp=Z,20nm,0.7s
VRHR **Novokhopersk** 94.30 321 *e*P P 21 50 20.1 +0.5
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.6s
SNAA **Sanae** 95.70 193 *e*P P 21 50 25.9 +0.1
comp=E,22nm,0.7s
SNAA *epP pP 21 50 49.0 -1.3
VORD **Divnogorie** 95.75 321 *e*P P 21 50 23.5 -2.8
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.6s
EGAK **Eagle** 95.76 26 *e*P P 21 50 26.4 +0.4
comp=E,18nm,0.9s
VSR **Storozhevoye** 95.85 321 *e*P P 21 50 23.4 -3.3
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.7s
TMCR **Tamitsa** 97.04 334 *e*P P 21 50 28.1 -3.7
TMCR *e* 21 54 25.2
TMCR pmax pmax
comp=Z,43nm,1.3s
MMAI **Mount Meron Ar** 97.54 302 PKKPbc PKKPbc 22 07 13.6 +1.3
MMAI **Mount Meron Ar** 97.54 302 PKKPbc PKKPbc 22 07 13.6 +1.3
comp=Z,0.8nm,0.4s,baz=348,slow=2.7,SNR=4.2
OBN **Obninsk** 97.58 325 κ *i*P P 21 50 33.3 -1.1
OBN *PP pP 21 51 02.0 +3.0
OBN 21 54 35.0
OBN pmax pmax
comp=Z,28nm,1.4s
INK **Inuvik** 98.83 22 *e*P P 21 50 39.2 -0.6
comp=Z,16nm,1.3s
INK PKKPbc PKKPbc 22 07 07.4 -2.5
INK **Inuvik** 98.83 22 P P 21 50 39.3 -0.4
comp=Z,8.1nm,1.1s,baz=308,slow=4.1,SNR=7.9
INK PKKPbc PKKPbc 22 07 07.4 -2.5
comp=Z,6.1nm,0.5s,baz=73,slow=3.0,SNR=20
INK LR LR 22 33 01.3
comp=Z,136nm,19.6s,baz=143,slow=34
APA **Apatity** 98.88 337 ⇓ *i*P Pdif 21 50 49.0 +9.0
APA *i* 22 01 08.0
APA *i* SS SS 22 08 56.0 +5.2
APA MLR MLR
comp=Z,1μm,17.0s
BRTR **Keskin Array B** 99.24 309 P Pdif 21 50 41.8 -0.7
BRTR PKKPbc PKKPbc 22 07 08.2 +0.2
BRTR **Keskin Array B** 99.24 309 P Pdif 21 50 41.8 -0.7
comp=Z,4.2nm,0.8s,baz=130,slow=5.3,SNR=24
BRTR PKKPbc PKKPbc 22 07 08.2 +0.2
comp=Z,1.2nm,0.9s,baz=208,slow=1.8,SNR=5.3
CSS **Prodhromos** 99.35 304 *e*P Pdif 21 50 41.8 -1.1
comp=Z,2.6nm,0.8s
LSZ **Lusaka** 99.43 253 *e*P Pdif 21 50 43.7 -0.1
comp=Z,8.8nm,0.9s
BOSA **Boshof** 99.44 240 *e*P Pdif 21 50 43.8 +0.2
BOSA **Boshof** 99.44 240 P Pdif 21 50 43.5 -0.2
comp=Z,11nm,1.1s,baz=114,slow=9.7,SNR=8.3
SPITS **Spitsbergen Ar** 101.51 349 P Pdif 21 50 51.7 +0.2
SPITS **Spitsbergen Ar** 101.51 349 P Pdif 21 50 51.7 +0.2
comp=Z,9.0nm,0.7s,baz=84,slow=15,SNR=2.3
ARCES **ARCESS Array B** 101.51 340 P Pdif 21 50 51.2 -0.5
ARCES PKiKP PKiKP 21 55 15.6 +0.5
ARCES PKKPbc PKKPbc 22 06 59.2 -3.2
comp=Z,3.3nm,0.5s,baz=86,slow=6.2,SNR=9.9
ARCES PKiKP PKiKP 21 55 15.6 +0.5
comp=Z,7.4nm,1.0s,baz=90,slow=2.4,SNR=16
ARCES PKKPbc PKKPbc 22 06 59.2 -3.2
comp=Z,4.4nm,1.0s,baz=302,slow=2.7,SNR=8.2
FINES **FINESS Array B** 102.69 331 P Pdif 21 50 57.1 +0.1
FINES PKiKP PKiKP 21 55 17.9 +0.4
FINES PKKPbc PKKPbc 22 06 54.3 -4.3
FINES **FINESS Array B** 102.69 331 P Pdif 21 50 57.1 +0.1
comp=Z,2.7nm,0.7s,baz=66,slow=3.5,SNR=10
FINES PKiKP PKiKP 21 55 17.9 +0.4
comp=Z,3.0nm,0.6s,baz=77,slow=3.0,SNR=11
FINES PKKPbc PKKPbc 22 06 54.3 -4.3
comp=Z,1.5nm,0.7s,baz=194,slow=3.9,SNR=6.4
MLR **Muntele Rosu** 104.74 315 Pdif Pdif 21 51 09.2 +2.4
MLR PKKPbc PKKPbc 22 06 51.5 -0.6
MLR **Muntele Rosu** 104.74 315 Pdiff Pdif 21 51 09.2 +2.4
comp=Z,0.5nm,0.8s,baz=306,slow=15,SNR=3.6
MLR PKKPbc PKKPbc 22 06 51.5 -0.6
comp=Z,0.5nm,0.8s,baz=329,slow=23,SNR=4.2
BUR08 **Bucovina Ar. S** 105.04 317 *e*Pdif Pdif 21 51 08.3 +0.3
RES **Resolute Bay** 107.63 11 Pdif Pdif 21 51 19.4 +0.6
RES PKiKP PKiKP 21 55 26.4 +0.2
RES PKKPbc PKKPbc 22 06 40.5 -3.4
RES **Resolute Bay** 107.63 11 Pdiff Pdif 21 51 19.4 +0.6
comp=Z,2.6nm,0.6s,baz=316,slow=4.5,SNR=17
RES PKiKP PKiKP 21 55 26.4 +0.2
comp=Z,1.1nm,0.7s,baz=311,slow=1.9,SNR=8.0
RES PKPBcc PKKPbc 22 06 40.5 -3.4
comp=Z,1.6nm,0.5s,baz=145,slow=7.4,SNR=9.9
YKA **Yellowknife Ar** 107.73 26 Pdif Pdif 21 51 20.1 +0.6
YKA PKiKP PKiKP 21 55 27.0 +0.3
YKA PKKPbc PKKPbc 22 06 40.6 -2.7
YKA **Yellowknife Ar** 107.73 26 Pdiff Pdif 21 51 20.1 +0.6
comp=Z,0.6nm,0.8s,baz=292,slow=4.8,SNR=10.0
YKA PKiKP PKiKP 21 55 27.0 +0.3
comp=Z,1.5nm,0.6s,baz=294,slow=1.8,SNR=39
YKA PKKPbc PKKPbc 22 06 40.6 -2.7
comp=Z,6.5nm,0.7s,baz=104,slow=3.0,SNR=40
I05D **Terrebonne, OR** 108.19 46 ⇓P PKiKP 21 55 29.4 +1.2
baz=108
J05D **Fort Rock, OR** 108.42 47 ⇓P PKiKP 21 55 30.4 +1.6
baz=108
OKC **Ostrava-Krasne** 109.29 320 *e*PKP PKiKP 21 55 31.3 +1.3
MORC **Moravsky Berou** 109.68 320 *e*PKiKP PKiKP 21 55 31.2 +0.4
NB2 **NORSAR Subarra** 109.71 333 P Pdif 21 51 27.2 -1.2
comp=Z,3.2nm,0.9s,baz=67,slow=4.6
NOA **NORSAR Array B** 109.71 333 Pdif Pdif 21 51 27.1 -1.3
NOA PKiKP PKiKP 21 55 30.3 -0.2
NOA PKKPbc PKKPbc 22 06 35.8 -1.2
NOA **NORSAR Array B** 109.71 333 Pdiff Pdif 21 51 27.1 -1.3
comp=Z,1.7nm,0.8s,baz=66,slow=4.6,SNR=5.5
NOA PKiKP PKiKP 21 55 30.3 -0.2
comp=Z,3.7nm,0.8s,baz=262,slow=3.1,SNR=9.2
NOA PKKPbc PKKPbc 22 06 35.8 -1.2
comp=Z,2.4nm,0.8s,baz=236,slow=3.9,SNR=7.5
KRLC **Kraliky** 110.09 321 *e*PKP PKiKP 21 55 32.5 +0.9
DPC **Dobruska-Polom** 110.31 321 *e*PKIKP PKiKP 21 55 32.7 +0.7
DPC **Dobruska-Polom** 110.31 321 *e*PKP PKiKP 21 55 32.7 +0.7
NEW **Newport** 110.36 41 ⇑P PKiKP 21 55 32.6 +0.5
baz=110
UPC **Upice** 110.47 321 *e*PKIKP PKiKP 21 55 31.9 -0.3
UPC **Upice** 110.47 321 *e*PKP PKiKP 21 55 31.9 -0.3
TREC **Trest** 111.10 320 *e*PKIKP PKiKP 21 55 34.3 +0.8
TREC **Trest** 111.10 320 *e*PKP PKiKP 21 55 34.3 +0.8
PVCC **Panska Ves** 111.35 322 *e*PKIKP PKiKP 21 55 34.8 +0.9
PVCC **Panska Ves** 111.35 322 *e*PKP PKiKP 21 55 34.8 +0.9
PRU **Pruhonice** 111.51 321 *e*PKIKP PKiKP 21 55 34.5 +0.3
PRU **Pruhonice** 111.51 321 *e*PKP PKiKP 21 55 34.5 +0.3
PRU *ex* x 21 55 42.1
BRG **Berggiesshubel** 111.64 322 *e*P PKiKP 21 55 35.2 +0.8
comp=Z,3.6nm,0.9s
BRG **Berggiesshubel** 111.64 322 *e*PKIKP PKiKP 21 55 35.2 +0.8
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG **Berggiesshubel** 111.64 322 *e*PKPdf PKiKP 21 55 35.0 +0.6
EDW2 **Edwards Air Fo** 112.02 55 ⇑P PKiKP 21 55 37.7 +1.9
baz=112
CLL **Collm** 112.08 323 *i* PKIKP PKiKP 21 55 35.6 +0.3
CLL **Collm** 112.08 323 *e*PKPdf PKiKP 21 55 35.5 +0.3
CLL **Collm** 112.08 323 *i* PKiKP PKiKP 21 55 35.6 +0.3
CLL *e* 21 56 11.0
CLL *ePP PP 21 56 20.0 -0.4
MPMC **Manual Prospec** 112.28 54 ⇓P PKiKP 21 55 37.9 +1.5
baz=112
GEC2 **GERESS Array S** 112.35 320 *e*PKPdf PKiKP 21 55 36.3 +0.3
GERES **GERESS Array B** 112.35 320 Pdif Pdif 21 51 47.5 +7.0
GERES PKiKP PKiKP 21 55 36.4 +0.4
GERES **GERESS Array B** 112.35 320 Pdiff Pdif 21 51 47.5 +7.0
comp=Z,0.2nm,0.4s,baz=306,slow=26,SNR=5.0
GERES PKiKP PKiKP 21 55 36.4 +0.4
comp=Z,6.4nm,0.6s,baz=70,slow=1.7,SNR=54
KHC **Kasperske Hory** 112.35 320 *e*PKIKP PKiKP 21 55 36.1 +0.2
KHC **Kasperske Hory** 112.35 320 *e*PKP PKiKP 21 55 36.1 +0.2
TANN **Tannenbergstha** 112.67 322 *e*PKPdf PKiKP 21 55 36.9 +0.4
NKC **Novy Kostel** 112.74 322 *e*PKIKP PKiKP 21 55 37.2 +0.6
NKC **Novy Kostel** 112.74 322 *e*PKP PKiKP 21 55 37.2 +0.6
BSEG **Bad Segeberg** 112.78 326 *e*PKPdf PKiKP 21 55 37.5 +1.1
WET **Wettzell** 112.79 321 *e*PKPdf PKiKP 21 55 38.0 +1.3
MSO **Missoula** 112.79 42 ⇓P PKiKP 21 55 37.8 +0.9
baz=113
NEUB **Neuenburg** 112.85 323 *e*PKPdf PKiKP 21 55 37.2 +0.5
GSC **Goldstone** 112.93 55 ⇑P PKiKP 21 55 39.0 +1.5
baz=113
MANZ **Manzenberg** 113.02 322 *e*PKPdf PKiKP 21 55 37.7 +0.6
HLID **Hailey** 113.25 46 ⇓P PKiKP 21 55 39.7 +1.8
baz=113
NRDL **Niedersach Rie** 113.40 325 *e*PKPdf PKiKP 21 55 38.4 +0.8
R11A **Troy Canyon, C** 113.42 51 ⇑P PKiKP 21 55 40.2 +1.7
baz=114
PFO **Pinyon Flat Ob** 113.44 56 ⇓P PKiKP 21 55 40.0 +1.4
baz=114
CLZ **Clausthal** 113.47 324 *e*PKPdf PKiKP 21 55 38.8 +0.9
ABTA **Abfaltersbach** 113.69 318 ⇑ *e*PKiKP PKiKP 21 55 38.3 -0.3
comp=Z,12nm,0.8s
GMRC **Granite Mounta** 113.94 55 ⇑P PKiKP 21 55 41.1 +1.6
baz=114
SUMG **Summit** 114.05 356 *i* P PKKPbc 22 06 20.9 -2.5
comp=Z,5.2nm,0.7s
SUMG *i* 22 06 27.6
FUR **Furstenfeldbru** 114.09 320 *e*PKPdf PKPdf 21 55 39.6 +0.4
WATA **Walderalm** 114.14 319 ⇑ *i*PKiKP PKPdf 21 55 39.5 0.0
comp=Z,8.1nm,0.5s
MOTA **Moosalm** 114.44 319 ⇑ *e*PKiKP PKPdf 21 55 40.0 -0.1
comp=Z,19nm,0.8s,SNR=18
IRM **Iron Mountain** 114.44 56 ⇓P PKPdf 21 55 41.4 +1.1
baz=114
RETA **Reutte** 114.62 319 ⇑ *i*PKPdf PKPdf 21 55 40.3 0.0
comp=Z,4.3nm,0.6s,SNR=6.9
FETA **Feichten** 114.78 319 ⇑ *e*PKiKP PKPdf 21 55 41.1 +0.3
comp=Z,18nm,1.5s
EGMT **Eagleton** 115.17 40 ⇓P PKPdf 21 55 42.5 +1.1
baz=115
TNS **Taunus Mts** 115.17 323 *e*PKPdf PKPdf 21 55 41.8 +0.5
DUG **Dugway** 115.17 49 ⇑P PKPdf 21 55 42.8 +1.1
baz=115
STU **Stuttgart** 115.21 321 *e*PKPdf PKPdf 21 55 41.8 +0.5
DAVA **Damuels** 115.25 319 ⇑ *i*PKiKP PKPdf 21 55 42.1 +0.4
comp=Z,16nm,0.5s,SNR=16
DAVOX **Davos/Dischmat** 115.41 319 PKP PKPdf 21 55 42.4 +0.3
DAVOX PKKPbc PKKPbc 22 06 18.0 +0.3
DAVOX **Davos/Dischmat** 115.41 319 PKP PKPdf 21 55 42.4 +0.3
comp=Z,13nm,0.7s,baz=212,slow=2.4,SNR=27
DAVOX PKKPbc PKKPbc 22 06 18.0 +0.3
comp=Z,4.6nm,1.0s,baz=244,slow=3.2,SNR=7.8
B19A **Brinkman Farms** 115.54 39 ⇓P PKPdf 21 55 43.1 +1.0
baz=116
C19A **Slack Wire Ran** 115.71 40 ⇑P PKPdf 21 55 43.4 +1.0
baz=116
H17A **Grant Village** 115.72 44 ⇓P PKPdf 21 55 42.9 +0.1
baz=116
TUE **Stuetta** 115.86 319 *e*PKPdf PKPdf 21 55 42.7 -0.2
BFO **Black Forest** 115.90 321 *e*PKPdf PKPdf 21 55 42.4 -0.3
D19A **Cripps Ranch,** 116.01 41 ⇑P PKPdf 21 55 43.6 +0.6
baz=116
A20A **Cobblestone Ra** 116.03 38 ⇓P PKPdf 21 55 43.9 +0.9
baz=116
B20A **Solberg Farm,** 116.12 39 ⇑P PKPdf 21 55 44.1 +0.9
baz=116,SNR=8.2
E19A **Rath Farm, Rou** 116.30 41 ⇓P PKPdf 21 55 44.5 +0.9
baz=116
U15A **North Rim** 116.36 53 ⇑P PKPdf 21 55 45.8 +1.5
baz=116
C20A **Veseth Ranch,** 116.38 40 ⇓P PKPdf 21 55 44.6 +0.9
baz=116
F19A **Roth Farm, Mol** 116.39 42 ⇓P PKPdf 21 55 44.6 +0.7
baz=116
D20A **Manuel Ranch,** 116.51 40 ⇓P PKPdf 21 55 44.9 +1.0
baz=117
CDF **Champ du Feu** 116.53 321 ⇑ *i*PKIKP PKPdf 21 55 43.7 -0.3
comp=Z,6.5nm,0.7s
CDF **Champ du Feu** 116.53 321 ⇑ *i*PKIKP PKPdf 21 55 43.7 -0.3
CDF **Champ du Feu** 116.53 321 ⇑ *i*PKPdf PKPdf 21 55 43.7 -0.3
A21A **Bergtoll Ranch** 116.60 38 ⇑P PKPdf 21 55 44.8 +0.8
baz=117
B21A **Ellsworth Farm** 116.75 39 ⇓P PKPdf 21 55 45.3 +0.9
baz=117
BW06 **Boulder Array** 116.89 45 *e*PKPdf PKPdf 21 55 45.4 +0.3
PDAR **Pinedale Array** 116.89 45 PKP PKPdf 21 55 45.9 +0.8
PDAR PKKPbc PKKPbc 22 06 09.6 -2.9
PDAR **Pinedale Array** 116.89 45 PKP PKPdf 21 55 45.9 +0.8
comp=Z,3.3nm,0.8s,baz=221,slow=1.2,SNR=16
PDAR PKKPbc PKKPbc 22 06 09.6 -2.9
comp=Z,1.9nm,0.9s,baz=127,slow=6.6,SNR=4.7
I19A **Meeteetse** 116.91 44 ⇑P PKPdf 21 55 46.0 +0.9
baz=117
F20A **Billings** 116.93 42 ⇓P PKPdf 21 55 46.1 +1.2
baz=117
HINF **Hinteralfeld** 117.01 321 ⇑ *i*PKIKP PKPdf 21 55 44.8 -0.1
comp=Z,26nm,0.7s
HINF **Hinteralfeld** 117.01 321 ⇑ *i*PKIKP PKPdf 21 55 44.8 -0.1
HINF **Hinteralfeld** 117.01 321 ⇑ *i*PKPdf PKPdf 21 55 44.8 -0.1
G20A **Bridger** 117.08 42 ⇓P PKPdf 21 55 46.4 +1.2
baz=117
J19A **Crowheart** 117.10 45 ⇓P PKPdf 21 55 46.6 +1.2
baz=117
A22A **Carney Farms,** 117.22 38 ⇑P PKPdf 21 55 46.0 +0.8
baz=117
D21A **La Casta Ranch** 117.25 40 ⇑P PKPdf 21 55 46.2 +0.8
baz=117
HAU **Haudompre** 117.26 321 ⇑ *i*PKIKP PKPdf 21 55 45.5 +0.2
comp=Z,18nm,0.8s
HAU **Haudompre** 117.26 321 ⇑ *i*PKIKP PKPdf 21 55 45.5 +0.2
HAU **Haudompre** 117.26 321 ⇑ *i*PKPdf PKPdf 21 55 45.5 +0.2
WUAZ **Wupatki** 117.27 54 *e*PKPdf PKPdf 21 55 46.8 +0.8
WUAZ **Wupatki** 117.27 54 ⇓P PKPdf 21 55 46.9 +1.0
baz=117
PGF **Pioggiola** 117.27 315 *e*PKIKP PKPdf 21 55 45.9 +0.3
PGF **Pioggiola** 117.27 315 *e*PKIKP PKPdf 21 55 45.9 +0.3
PGF **Pioggiola** 117.27 315 *e*PKPdf PKPdf 21 55 45.9 +0.3
GIVF **Givet** 117.37 324 *e*PKIKP PKPdf 21 55 46.2 +0.8
GIVF **Givet** 117.37 324 *e*PKIKP PKPdf 21 55 46.2 +0.8
GIVF **Givet** 117.37 324 *e*PKPdf PKPdf 21 55 46.2 +0.8
X16A **Lo Mia Camp, P** 117.43 55 ⇓P PKPdf 21 55 47.9 +1.6
baz=118
PAGF **Fort de Pagny** 117.44 322 *e*PKIKP PKPdf 21 55 45.9 +0.3
comp=Z,4.8nm,0.9s
PAGF **Fort de Pagny** 117.44 322 *e*PKPdf PKPdf 21 55 45.9 +0.3
H20A **Greybull** 117.45 43 ⇓P PKPdf 21 55 47.1 +1.2
baz=118
I20A **Worland** 117.53 44 ⇑P PKPdf 21 55 47.0 +0.9
baz=118
C22A **Vida** 117.71 39 ⇑P PKPdf 21 55 47.3 +1.1
baz=118
D22A **Cohagen** 117.74 40 ⇓P PKPdf 21 55 47.9 +1.6
baz=118,SNR=9.7
G21A **Lodge Grass** 117.75 42 ⇓P PKPdf 21 55 47.5 +1.1
baz=118
J20A **Shoshoni** 117.75 44 ⇑P PKPdf 21 55 47.8 +1.2
baz=118
BAIF **Baives** 117.75 324 *e*PKIKP PKPdf 21 55 46.9 +0.7
comp=Z,37nm,1.2s
BAIF **Baives** 117.75 324 *e*PKIKP PKPdf 21 55 46.9 +0.7
BAIF **Baives** 117.75 324 *e*PKPdf PKPdf 21 55 46.9 +0.7
A23A **Redstone** 117.86 38 ⇓P PKPdf 21 55 48.1 +1.6
baz=118
MEZF **Maizieres J'vi** 117.87 322 *e*PKIKP PKPdf 21 55 46.8 +0.4
comp=Z,28nm,1.0s
MEZF **Maizieres J'vi** 117.87 322 *e*PKPdf PKPdf 21 55 46.8 +0.4
LPG **La Plagne** 117.89 318 ⇑ *i*PKIKP PKPdf 21 55 47.4 +0.4
comp=Z,20nm,0.7s
LPG **La Plagne** 117.89 318 ⇑ *i*PKIKP PKPdf 21 55 47.4 +0.4
LPG **La Plagne** 117.89 318 ⇑ *i*PKPdf PKPdf 21 55 47.4 +0.4
LPL **La Plagne** 117.89 318 ⇑ *i*PKIKP PKPdf 21 55 47.3 +0.4
comp=Z,26nm,0.6s
LPL **La Plagne** 117.89 318 ⇑ *i*PKIKP PKPdf 21 55 47.3 +0.4
LPL **La Plagne** 117.89 318 ⇑ *i*PKPdf PKPdf 21 55 47.3 +0.4
CABF **La Chapelle** 117.93 320 ⇑ *i*PKIKP PKPdf 21 55 47.3 +0.5
comp=Z,42nm,0.6s
CABF **La Chapelle** 117.93 320 ⇑ *i*PKIKP PKPdf 21 55 47.3 +0.5
CABF **La Chapelle** 117.93 320 ⇑ *i*PKPdf PKPdf 21 55 47.3 +0.5
SBF **Sospel** 117.97 316 *e*PKIKP PKPdf 21 55 48.8 +1.9
comp=Z,55nm,0.9s
SBF **Sospel** 117.97 316 *e*PKIKP PKPdf 21 55 48.8 +1.9
SBF **Sospel** 117.97 316 *e*PKPdf PKPdf 21 55 48.8 +1.9
B23A **Brockton** 117.99 38 ⇓P PKPdf 21 55 47.9 +1.1
baz=118
H21A **Big Horn, Sher** 118.06 43 ⇑P PKPdf 21 55 48.1 +1.0
baz=118
C23A **Lambert** 118.12 39 ⇓P PKPdf 21 55 48.4 +1.3
baz=118
MBDF **Montbardon** 118.13 317 ⇑ *i*PKIKP PKPdf 21 55 47.9 +0.6
comp=Z,26nm,0.8s
MBDF **Montbardon** 118.13 317 ⇑ *i*PKIKP PKPdf 21 55 47.9 +0.6
MBDF **Montbardon** 118.13 317 ⇑ *i*PKPdf PKPdf 21 55 47.9 +0.6
E22A **Miles City** 118.15 40 ⇓P PKPdf 21 55 48.3 +1.2
baz=118
I21A **Big Trails, Te** 118.15 44 ⇑P PKPdf 21 55 48.2 +0.8
baz=118
F22A **Rosebud** 118.18 41 ⇑P PKPdf 21 55 48.1 +0.9
baz=118
J21A **Lysite** 118.19 44 ⇑P PKPdf 21 55 48.5 +1.0
baz=118
FCC **Fort Churchill** 118.33 24 *e*PKIKP PKPdf 21 55 46.5 -0.5
FCC *e* 21 56 09.5
FCC **Fort Churchill** 118.33 24 *e*PKPdf PKPdf 21 55 46.5 -0.5
FCC *epPKPdf pPKPdf 21 56 09.5 -2.9
D23A **Lindsay** 118.35 40 ⇑P PKPdf 21 55 49.1 +1.5
baz=118
G22A **Birney** 118.36 42 ⇑P PKPdf 21 55 48.2 +0.6
baz=118
N20A **Spence Gulch,** 118.37 47 ⇑P PKPdf 21 55 49.3 +1.3
baz=118
A24A **Westby** 118.40 37 ⇓P PKPdf 21 55 48.3 +0.8
baz=118
DGMT **Dagmar** 118.47 38 ⇑P PKPdf 21 55 48.5 +0.9
baz=118
ESY **Stoneypath** 118.51 332 *e*P PKPdf 21 55 47.2 -0.2
H22A **Clearmont** 118.53 43 ⇓P PKPdf 21 55 48.9 +0.9
baz=119
E23A **Ismay** 118.54 40 ⇑P PKPdf 21 55 49.2 +1.3
baz=119
K21A **Alcova** 118.55 45 ⇑P PKPdf 21 55 49.5 +1.2
baz=119
O20A **White River Ci** 118.58 48 ⇑P PKPdf 21 55 49.9 +1.6
baz=119
FRF **La Foret Royal** 118.60 316 *e*PKIKP PKPdf 21 55 48.4 +0.4
FRF **La Foret Royal** 118.60 316 *e*PKIKP PKPdf 21 55 48.4 +0.4
FRF **La Foret Royal** 118.60 316 *e*PKPdf PKPdf 21 55 48.4 +0.4
X18A **Snowflake** 118.61 54 ⇓P PKPdf 21 55 49.1 +0.6
baz=119
W18A **Petrified Fore** 118.66 54 ⇑P PKPdf 21 55 49.5 +0.8
baz=119
ORIF **Oris-en-Rattie** 118.66 318 ⇑ *i*PKIKP PKPdf 21 55 48.5 +0.3
comp=Z,18nm,0.6s
ORIF **Oris-en-Rattie** 118.66 318 ⇑ *i*PKIKP PKPdf 21 55 48.5 +0.3
ORIF **Oris-en-Rattie** 118.66 318 ⇑ *i*PKPdf PKPdf 21 55 48.5 +0.3
I22A **9 Mile Ranch,** 118.68 43 ⇑P PKPdf 21 55 49.3 +1.0
baz=119
C24A **Savage** 118.70 39 ⇑P PKPdf 21 55 49.4 +1.2
baz=119
KEST **Kesra** 118.75 307 PKP PKPdf 21 55 49.5 +0.8
KEST *ePKPdf PKiKP 21 55 49.6 +0.9
KEST PP PP 21 57 05.8 -2.1
KEST **Kesra** 118.75 307 PKP PKPdf 21 55 49.5 +0.8
comp=Z,5.5nm,0.8s,baz=281,slow=3.0,SNR=13
KEST PP PP 21 57 05.8 -2.1
comp=Z,5.1nm,0.9s,baz=349,slow=4.1,SNR=6.3
F23A **Volborg** 118.76 41 ⇓P PKPdf 21 55 49.1 +0.7
baz=119
LMR **La Mourre** 118.77 316 *e*PKIKP PKPdf 21 55 49.3 +1.0
LMR **La Mourre** 118.77 316 *e*PKIKP PKPdf 21 55 49.3 +1.0
LMR **La Mourre** 118.77 316 *e*PKPdf PKPdf 21 55 49.3 +1.0
EBL **Broad Law** 118.79 332 *e*P PKPdf 21 55 48.6 +0.6
J22A **Midwest** 118.84 44 ⇓P PKPdf 21 55 49.1 +0.4
baz=119
PV01 **Paradox Valley** 118.86 50 *e*PKPdf PKPdf 21 55 49.6 +0.6
D24A **Glendive** 118.93 39 ⇑P PKPdf 21 55 49.9 +1.3
baz=119
A25A **Svangstu Ranch** 118.93 37 ⇑P PKPdf 21 55 49.7 +1.1

baz=119
G23A **Biddle** 118.96 42 ⇑P PKPdf 21 55 49.5 +0.7
baz=119
KPL **Plockton** 119.05 334 eP PKPdf 21 55 48.0 -0.4
K22A **Casper** 119.06 45 ⇓P PKPdf 21 55 49.6 +0.4
baz=119
HPK **Haverah Park** 119.09 330 eP PKPdf 21 55 48.9 +0.2
LOR **Lormes** 119.09 321 ⇑iPKIKP PKPdf 21 55 49.2 +0.3
comp=Z,19nm,0.8s
LOR **Lormes** 119.09 321 ⇑iPKPdf PKPdf 21 55 49.2 +0.3
EKA **Eskdalemuir Ar** 119.09 331 PKP PKPdf 21 55 48.9 +0.3
EKA PP PP 21 57 02.1 -7.2
EKA PKKPbc PKKPbc 22 06 02.9 -1.8
EKA **Eskdalemuir Ar** 119.09 331 PKP PKPdf 21 55 48.9 +0.3
comp=Z,3.5nm,0.5s,baz=32,slow=3.1,SNR=32
EKA PP PP 21 57 02.1 -7.2
comp=Z,3.5nm,1.0s,baz=61,slow=6.8,SNR=3.7
EKA PKKPbc PKKPbc 22 06 02.9 -1.8
comp=Z,1.9nm,0.6s,baz=241,slow=3.2,SNR=10
ESK **Eskdalemuir** 119.13 331 eP PKPdf 21 55 48.4 -0.3
MVCO **Mesa Verde** 119.15 51 ⇑P PKPdf 21 55 51.1 +1.5
baz=119
E24A **Baker** 119.16 40 ⇓P PKPdf 21 55 50.1 +1.0
baz=119
SMRF **Simiane la Rot** 119.20 317 ⇑iPKIKP PKPdf 21 55 50.0 +0.8
comp=Z,44nm,1.0s
SMRF **Simiane la Rot** 119.20 317 ⇑iPKPdf PKPdf 21 55 50.0 +0.8
F24A **Ekalaka** 119.34 41 ⇑P PKPdf 21 55 49.8 +0.3
baz=119
SMF **Signal de Mont** 119.35 320 ePKIKP PKPdf 21 55 49.5 +0.1
SMF **Signal de Mont** 119.35 320 ePKIKP PKPdf 21 55 49.5 +0.1
SMF **Signal de Mont** 119.35 320 ePKPdf PKPdf 21 55 49.5 +0.1
C25A **Freed Ranch, W** 119.36 38 ⇑P PKPdf 21 55 50.6 +1.2
baz=119
SSF **Saint Saulge** 119.40 321 ⇑iPKIKP PKPdf 21 55 50.0 +0.6
comp=Z,34nm,0.8s
SSF **Saint Saulge** 119.40 321 ⇑iPKIKP PKPdf 21 55 50.0 +0.6
SSF **Saint Saulge** 119.40 321 ⇑iPKPdf PKPdf 21 55 50.0 +0.6
M22A **Cedar Creek Ra** 119.40 46 ⇑P PKPdf 21 55 50.8 +0.9
baz=119
KESW **Keswick, Cumbr** 119.48 331 eP PKPdf 21 55 49.8 +0.4
VIVF **Saint-Julien-l** 119.49 318 ⇑iPKIKP PKPdf 21 55 50.1 +0.4
comp=Z,19nm,0.8s
VIVF **Saint-Julien-l** 119.49 318 ⇑iPKIKP PKPdf 21 55 50.1 +0.4
VIVF **Saint-Julien-l** 119.49 318 ⇑iPKPdf PKPdf 21 55 50.1 +0.4
D25A **Fairfield** 119.54 39 ⇓P PKPdf 21 55 51.0 +1.2
baz=120
A26A **Wade Farm, Ken** 119.59 37 ⇑P PKPdf 21 55 51.0 +1.2
baz=120
AVF **Avril sur Loir** 119.60 321 ⇑iPKIKP PKPdf 21 55 50.0 +0.2
comp=Z,21nm,0.9s
AVF **Avril sur Loir** 119.60 321 ⇑iPKIKP PKPdf 21 55 50.0 +0.2
AVF **Avril sur Loir** 119.60 321 ⇑iPKPdf PKPdf 21 55 50.0 +0.2
H24A **Dirks Ranch, A** 119.68 42 ⇓P PKPdf 21 55 50.6 +0.4
baz=120,SNR=12
N22A **Wattenberg Ran** 119.69 47 ⇓P PKPdf 21 55 51.8 +1.2
baz=120
E25A **Miller Ranch,** 119.75 40 ⇓P PKPdf 21 55 51.4 +1.1
baz=120
319A **Douglas** 119.78 58 ⇑P PKPdf 21 55 52.5 +1.7
baz=120,SNR=7.1
L23A **Garrett** 119.81 45 ⇓P PKPdf 21 55 50.5 -0.2
baz=120
O22A **Kremmling** 119.81 47 ⇓P PKPdf 21 55 51.8 +0.9
baz=120
P22A **Eagle** 119.83 48 ⇑P PKPdf 21 55 52.4 +1.6
baz=120
HYF **Humbligny** 119.85 321 ePKIKP PKPdf 21 55 51.2 +0.9
HYF **Humbligny** 119.85 321 ePKPdf PKPdf 21 55 51.2 +0.9
F25A **Bowman** 119.94 40 ⇑P PKPdf 21 55 51.5 +0.9
baz=120
I24A **Kuemmerle Ranc** 119.95 43 ⇑P PKPdf 21 55 51.1 +0.4
baz=120
M23A **Laramie** 120.00 46 ⇑P PKPdf 21 55 51.5 +0.4
baz=120
BGF **Bois d'Agland** 120.02 321 ⇑iPKIKP PKPdf 21 55 51.3 +0.7
comp=Z,50nm,0.7s
BGF **Bois d'Agland** 120.02 321 ⇑iPKIKP PKPdf 21 55 51.3 +0.7
BGF **Bois d'Agland** 120.02 321 ⇑iPKPdf PKPdf 21 55 51.3 +0.7
C26A **Wahner Farm, P** 120.02 38 ⇑P PKPdf 21 55 51.9 +1.2
baz=120
N23A **Red Feather La** 120.03 46 ⇓P PKPdf 21 55 52.2 +1.0
baz=120
SFJD **Kangerlussuaq** 120.04 0 PKP PKPdf 21 55 49.8 -0.2
SFJD **Kangerlussuaq** 120.04 0 PKP PKPdf 21 55 49.8 -0.2
comp=Z,8.1nm,0.6s,baz=98,slow=0.7,SNR=10
GAL1 **Galloway** 120.09 332 eP PKPdf 21 55 50.6 +0.1
D26A **Manning** 120.14 39 ⇑P PKPdf 21 55 51.9 +0.9
baz=120
RSSD **Black Hills** 120.25 42 ePKIKP PKPdf 21 55 51.6 +0.1
RSSD **Black Hills** 120.25 42 ePKPdf PKPdf 21 55 51.6 +0.1
G25A **Newell** 120.26 41 ⇑P PKPdf 21 55 52.2 +1.0
baz=120
O23A **Lake Granby, G** 120.26 47 ⇓P PKPdf 21 55 53.0 +1.3
baz=120
B27A **Peters Farms,** 120.27 37 ⇓P PKPdf 21 55 52.5 +1.4
baz=120
S22A **4UR Ranch, Cre** 120.30 50 ⇓P PKPdf 21 55 53.4 +1.6
baz=120
LASF **Ste Croix** 120.32 318 ePKIKP PKPdf 21 55 51.9 +0.6
LASF **Ste Croix** 120.32 318 ePKPdf PKPdf 21 55 51.9 +0.6
E26A **Carlson Angus** 120.36 39 ⇓P PKPdf 21 55 52.5 +1.1
baz=120
320A **Kipp Ranch, An** 120.42 58 ⇑P PKPdf 21 55 53.7 +1.6
baz=120,SNR=6.5
C27A **Sayler Ranch,** 120.43 38 ⇑P PKPdf 21 55 52.4 +0.9
baz=120
FOEL **Foel Wylfa** 120.46 329 eP PKPdf 21 55 51.2 -0.1
F26A **Lodgepole** 120.48 40 ⇓P PKPdf 21 55 52.5 +0.9
baz=120
I25A **Rochford** 120.49 42 ⇓P PKPdf 21 55 52.2 +0.3
baz=120,SNR=15
TCF **Toulx Ste Croi** 120.53 320 ⇑iPKIKP PKPdf 21 55 52.3 +0.6
comp=Z,22nm,0.7s
TCF **Toulx Ste Croi** 120.53 320 ⇑iPKIKP PKPdf 21 55 52.3 +0.6
TCF **Toulx Ste Croi** 120.53 320 ⇑iPKPdf PKPdf 21 55 52.3 +0.6
ISCO **Idaho Springs** 120.61 48 ⇑P PKPdf 21 55 53.2 +0.7
baz=121
A28A **Rude Farm, Bot** 120.63 36 ⇓P PKPdf 21 55 52.9 +1.1
baz=121
U22A **Llaves** 120.64 52 ⇓P PKPdf 21 55 54.0 +1.5
baz=121
D27A **Center** 120.67 38 ⇓P PKPdf 21 55 53.0 +1.0
baz=121
J25A **Sunshine Ranch** 120.68 43 ⇑P PKPdf 21 55 52.6 +0.5
baz=121,SNR=6.5
V22A **San Miguel Ran** 120.72 52 ⇓P PKPdf 21 55 54.6 +2.0
baz=121
G26A **Maurine** 120.75 41 ⇓P PKPdf 21 55 52.4 +0.2
baz=121
B28A **Dugan Ranch, T** 120.78 37 ⇑P PKPdf 21 55 52.8 +0.7
baz=121,SNR=5.7
121A **Cookes Peak, D** 120.80 56 ⇓P PKPdf 21 55 54.2 +1.4
baz=121,SNR=6.3
MCH1 **Michaelchurch** 120.84 328 eP PKPdf 21 55 51.3 -0.7
F27A **Lemmon** 120.89 40 ⇓P PKPdf 21 55 53.4 +1.0
baz=121
H26A **Fairpoint** 120.90 41 ⇓P PKPdf 21 55 51.4 -1.1
baz=121
R23A **Moffat** 120.93 49 ⇑P PKPdf 21 55 54.4 +1.4
baz=121
LDF **La Druitiere** 120.94 324 ePKIKP PKPdf 21 55 52.7 +0.4
LDF **La Druitiere** 120.94 324 ePKIKP PKPdf 21 55 52.7 +0.4
LDF **La Druitiere** 120.94 324 ePKPdf PKPdf 21 55 52.7 +0.4
E27A **Carson** 120.94 39 ⇑P PKPdf 21 55 53.5 +1.0
baz=121
FLN **La Foliniere** 121.07 324 ePKIKP PKPdf 21 55 52.9 +0.3
FLN **La Foliniere** 121.07 324 ePKIKP PKPdf 21 55 52.9 +0.3
FLN **La Foliniere** 121.07 324 ePKPdf PKPdf 21 55 52.9 +0.3
I26A **New Underwood** 121.07 42 ⇑P PKPdf 21 55 53.6 +0.8
baz=121
T23A **Casias Ranch,** 121.10 51 ⇓P PKPdf 21 55 54.6 +1.2
baz=121
C28A **Hausauer Farms** 121.10 37 ⇓P PKPdf 21 55 53.8 +1.1
baz=121
G27A **Dupree** 121.14 40 ⇓P PKPdf 21 55 53.5 +0.6
baz=121
U23A **El Rito** 121.17 52 ⇑P PKPdf 21 55 54.7 +1.3
baz=121
CAF **Calviac** 121.17 319 ⇑iPKIKP PKPdf 21 55 53.9 +0.9
comp=Z,41nm,1.1s
CAF **Calviac** 121.17 319 ⇑iPKIKP PKPdf 21 55 53.9 +0.9
CAF **Calviac** 121.17 319 ⇑iPKPdf PKPdf 21 55 53.9 +0.9
J26A **Sides Ranch, S** 121.20 43 ⇓P PKPdf 21 55 53.8 +0.6
baz=121,SNR=7.0
Q24A **Divide** 121.21 48 ⇓P PKPdf 21 55 54.8 +1.2
baz=121
P24A **Kohler Place,** 121.21 48 ⇑P PKPdf 21 55 54.1 +0.6
baz=121
A29A **Manning Farm,** 121.22 36 ⇑P PKPdf 21 55 53.5 +0.6
baz=121,SNR=8.7
D28A **Regan** 121.22 38 ⇓P PKPdf 21 55 53.9 +0.9
baz=121,SNR=5.1
SDCO **Great Sand Dun** 121.31 50 ePKPdf PKPdf 21 55 54.0 +0.2
Z22A **Elephant Butte** 121.31 55 ⇓P PKPdf 21 55 55.2 +1.4
baz=121
ANMO **Albuquerque** 121.32 53 ePKPdf PKPdf 21 55 55.1 +1.3
V23A **Ortiz Mt. (NFS** 121.33 52 ⇓P PKPdf 21 55 55.1 +1.3
baz=121
LPW **Lampeter** 121.33 329 eP PKPdf 21 55 52.5 -0.4
LPM **Los Pinos Moun** 121.33 54 ePKPdf PKPdf 21 55 54.3 +0.5
H27A **Howes** 121.35 41 ⇑P PKPdf 21 55 53.9 +0.6
baz=121,SNR=6.9
B29A **Wagenman Farm,** 121.37 36 ⇑P PKPdf 21 55 54.2 +1.0
baz=121,SNR=6.1
RJF **Les Rejaudoux** 121.37 320 ePKIKP PKPdf 21 55 54.0 +0.7
comp=Z,7.6nm,0.7s
RJF **Les Rejaudoux** 121.37 320 ePKIKP PKPdf 21 55 54.0 +0.7
RJF **Les Rejaudoux** 121.37 320 ePKPdf PKPdf 21 55 54.0 +0.7
E28A **Huff** 121.42 39 ⇓P PKPdf 21 55 53.8 +0.4
baz=121
R24A **Sanders Place,** 121.46 49 ⇑P PKPdf 21 55 54.8 +0.8
baz=122
GRR **Gorron** 121.47 324 ePKIKP PKPdf 21 55 54.3 +0.9
GRR **Gorron** 121.47 324 ePKIKP PKPdf 21 55 54.3 +0.9
GRR **Gorron** 121.47 324 ePKPdf PKPdf 21 55 54.3 +0.9
W23A **Werner Place,** 121.51 53 ⇑P PKPdf 21 55 55.5 +1.4
baz=122,SNR=6.6
MDND **Maddock** 121.51 37 ⇑P PKPdf 21 55 54.0 +0.4
baz=122
S24A **Houchin Ranch,** 121.56 50 ⇓P PKPdf 21 55 55.6 +1.3
baz=122
T24B **San Luis** 121.59 51 ⇓P PKPdf 21 55 56.4 +2.0
baz=122
I27A **Quinn** 121.59 42 ⇓P PKPdf 21 55 54.8 +0.9
baz=122
O25A **Wiggins** 121.59 47 ⇓P PKPdf 21 55 55.4 +1.3
baz=122
X23A **Hourglass Bar** 121.62 54 ⇓P PKPdf 21 55 56.0 +1.6
baz=122
F28A **McLaughlin** 121.67 39 ⇓P PKPdf 21 55 54.4 +0.5
baz=122
MTLF **Montolieu** 121.70 317 ⇑iPKIKP PKPdf 21 55 54.4 +0.4
comp=Z,39nm,1.0s
MTLF **Montolieu** 121.70 317 ⇑iPKIKP PKPdf 21 55 54.4 +0.4
MTLF **Montolieu** 121.70 317 ⇑iPKPdf PKPdf 21 55 54.4 +0.4
A30A **Hoffart Farm,** 121.75 35 ⇑P PKPdf 21 55 54.5 +0.6
baz=122,SNR=8.0
P25A **Willow Gulch B** 121.76 47 ⇓P PKPdf 21 55 55.7 +1.3
baz=122
FRB **Frobisher Bay** 121.76 10 PKP PKPdf 21 55 53.6 +0.2
FRB PKKPbc PKKPab 22 05 52.0 -1.1
FRB **Frobisher Bay** 121.76 10 PKP PKPdf 21 55 53.6 +0.2
comp=Z,15nm,0.7s,baz=353,slow=3.3,SNR=30
FRB PKKPbc PKKPab 22 05 52.0 -1.1
comp=Z,3.4nm,0.8s,baz=171,slow=4.9,SNR=7.1
HEX **Exmoor** 121.76 328 eP PKPdf 21 55 53.7 -0.2
MFF **Saint Martin d** 121.86 322 ePKIKP PKPdf 21 55 54.6 +0.4
comp=Z,46nm,0.7s
MFF **Saint Martin d** 121.86 322 ePKIKP PKPdf 21 55 54.6 +0.4
MFF **Saint Martin d** 121.86 322 ePKPdf PKPdf 21 55 54.6 +0.4
D29A **Pettibone, Tap** 121.88 38 ⇑P PKPdf 21 55 54.5 +0.3
baz=122
Q25A **Bedland, Calha** 121.89 48 ⇑P PKPdf 21 55 55.6 +0.8
baz=122
Y23A **Lovelace Mesa,** 121.89 54 ⇑P PKPdf 21 55 56.4 +1.5
baz=122,SNR=8.2
Z23A **Rita Site, Whi** 121.91 55 ⇑P PKPdf 21 55 56.4 +1.6
baz=122,SNR=6.1
G28A **Parade** 121.92 40 ⇓P PKPdf 21 55 55.1 +0.7
baz=122,SNR=5.8
J27A **Elkhorn Farm,** 121.94 43 ⇓P PKPdf 21 55 55.7 +1.1
baz=122
B30A **Myrvik Farm, E** 121.98 36 ⇓P PKPdf 21 55 54.8 +0.5
baz=122,SNR=7.3
H28A **Mission Ridge** 122.02 41 ⇑P PKPdf 21 55 55.1 +0.5
baz=122,SNR=7.8
LFF **La Frestale** 122.03 320 ePKIKP PKPdf 21 55 55.4 +0.9
comp=Z,78nm,1.2s
LFF **La Frestale** 122.03 320 ePKIKP PKPdf 21 55 55.4 +0.9
LFF **La Frestale** 122.03 320 ePKPdf PKPdf 21 55 55.4 +0.9
V24A **Rampart Ranch,** 122.05 52 ⇑P PKPdf 21 55 57.0 +1.8
baz=122,SNR=12
W24A **Lazy 6 Ranch,** 122.08 53 ⇑P PKPdf 21 55 56.7 +1.5
baz=122,SNR=13
R25A **Fountain Ranch** 122.10 49 ⇑P PKPdf 21 55 55.9 +0.8
baz=122,SNR=5.9
S25A **Robets Cordova** 122.14 50 ⇓P PKPdf 21 55 56.3 +1.1
baz=122,SNR=7.8
I28A **Midland** 122.20 42 ⇓P PKPdf 21 55 55.7 +0.7
baz=122
C30A **Mose, Pekin** 122.25 37 ⇓P PKPdf 21 55 55.7 +0.8
baz=122,SNR=5.3
F29A **Eureka** 122.29 39 ⇓P PKPdf 21 55 55.9 +0.9
baz=122
T25A **Trinidad** 122.31 50 ⇑P PKPdf 21 55 57.3 +1.6
baz=122,SNR=5.8
P26A **Davis Ranch, A** 122.34 47 ⇑P PKPdf 21 55 57.0 +1.4
baz=122,SNR=7.8
D30A **Buchanan** 122.36 37 ⇑P PKPdf 21 55 55.7 +0.5
baz=122,SNR=7.2
Y24A **Capitan** 122.39 54 ⇑P PKPdf 21 55 57.5 +1.6
baz=122
J28A **Allard Ranch,** 122.39 42 ⇓P PKPdf 21 55 56.3 +0.9
baz=122
Q26A **Hugo** 122.42 48 ⇑P PKPdf 21 55 56.7 +1.0
baz=122
ULM **Lac du Bonnet** 122.43 33 ePKPdf PKPdf 21 55 54.8 -0.4
ULM PKP PKPdf 21 55 55.0 -0.2
ULM PKKPbc PKKPab 22 05 50.0 -0.6
ULM **Lac du Bonnet** 122.43 33 PKP PKPdf 21 55 55.0 -0.2
comp=Z,11nm,0.8s,baz=295,slow=3.1,SNR=14
ULM PKKPbc PKKPab 22 05 50.0 -0.6
comp=Z,7.7nm,0.8s,baz=118,slow=3.3,SNR=16
N27A **Anderson Farm,** 122.49 46 ⇑P PKPdf 21 55 56.5 +0.7
baz=122,SNR=6.3
SGMF **Saint Gilles** 122.53 324 ePKIKP PKPdf 21 55 55.8 +0.4
SGMF **Saint Gilles** 122.53 324 ePKIKP PKPdf 21 55 55.8 +0.4
SGMF **Saint Gilles** 122.53 324 ePKPdf PKPdf 21 55 55.8 +0.4
V25A **Rancho No Teng** 122.53 52 ⇓P PKPdf 21 55 58.0 +1.9
baz=123,SNR=9.6
U25A **Circle Dot Ran** 122.53 51 ⇑P PKPdf 21 55 57.5 +1.4
baz=123
E30A **Jud** 122.55 38 ⇑P PKPdf 21 55 56.1 +0.5
baz=123,SNR=5.2
H29A **Onida** 122.57 41 ⇑P PKPdf 21 55 55.9 +0.2
baz=123
K28A **Ten Mile Ranch** 122.59 43 ⇓P PKPdf 21 55 56.4 +0.6
baz=123
Z24A **Sheeppen Canyo** 122.60 55 ⇑P PKPdf 21 55 58.2 +1.9
baz=123,SNR=22
124A **Stringfield Ra** 122.68 56 ⇑P PKPdf 21 55 58.0 +1.5
baz=123,SNR=13
R26A **Arlington** 122.68 49 ⇑P PKPdf 21 55 57.7 +1.5
baz=123,SNR=6.0
O27A **Beecher Island** 122.75 46 ⇑P PKPdf 21 55 56.9 +0.6
baz=123
I29A **Vivian Onida** 122.76 41 ⇓P PKPdf 21 55 56.6 +0.6
baz=123,SNR=8.5
224A **Cornudas Mount** 122.77 56 ⇓P PKPdf 21 55 58.1 +1.5
baz=123
F30A **Leola** 122.79 39 ⇓P PKPdf 21 55 56.3 +0.2
baz=123
W25A **X Bar L Ranch,** 122.83 52 ⇑P PKPdf 21 55 58.0 +1.4
baz=123,SNR=8.5
X25A **Clemmons Ranch** 122.86 53 ⇓P PKPdf 21 55 57.8 +1.2
baz=123
S26A **Kim** 122.88 49 ⇑P PKPdf 21 55 58.0 +1.4
baz=123,SNR=9.9
ROSF **Rostrenen** 122.90 325 ePKIKP PKPdf 21 55 56.4 +0.3
ROSF **Rostrenen** 122.90 325 ePKIKP PKPdf 21 55 56.4 +0.3
ROSF **Rostrenen** 122.90 325 ePKPdf PKPdf 21 55 56.4 +0.3
P27A **Ficken Ranch,** 122.90 47 ⇓P PKPdf 21 55 58.0 +1.4
baz=123
T26A **Comanche Natio** 122.92 50 ⇑P PKPdf 21 55 58.1 +1.3
baz=123,SNR=10
324A **Moseley Ranch,** 122.95 57 ⇓P PKPdf 21 55 57.8 +0.8
baz=123
MNTX **Cornudas Mount** 122.97 57 ePKPdf PKPdf 21 55 57.3 +0.5
Y25A **Mesa, Roswell** 122.99 54 ⇓P PKPdf 21 55 58.3 +1.4
baz=123,SNR=14
J29A **Okreek** 123.01 42 ⇓P PKPdf 21 55 57.1 +0.5
baz=123,SNR=7.7
G30A **Faulkton** 123.03 40 ⇑P PKPdf 21 55 57.0 +0.5
baz=123,SNR=14
U26A **Atchley Ranch,** 123.05 51 ⇓P PKPdf 21 55 57.8 +0.8
baz=123
QUIF **Quistinic** 123.05 324 ePKIKP PKPdf 21 55 56.7 +0.3
comp=Z,42nm,0.9s
QUIF **Quistinic** 123.05 324 ePKIKP PKPdf 21 55 56.7 +0.3
QUIF **Quistinic** 123.05 324 ePKPdf PKPdf 21 55 56.7 +0.3
KSCO **Kaye Shedlock'** 123.05 48 ⇑P PKPdf 21 55 57.7 +0.8
baz=123
EPF **Esparros** 123.08 318 ePKIKP PKPdf 21 55 57.2 +0.5
comp=Z,16nm,0.7s
EPF **Esparros** 123.08 318 ePKIKP PKPdf 21 55 57.2 +0.5
EPF **Esparros** 123.08 318 ePKPdf PKPdf 21 55 57.2 +0.5
Z25A **Roswell** 123.14 55 ⇓P PKPdf 21 55 58.8 +1.5
baz=123,SNR=6.5
R27A **Eads** 123.17 48 ⇓P PKPdf 21 55 58.5 +1.4
baz=123,SNR=5.7
V26A **Tequesquite Ra** 123.19 52 ⇑P PKPdf 21 55 58.1 +0.8
baz=123,SNR=5.6
N28A **Pribbeno Ranch** 123.24 45 ⇑P PKPdf 21 55 58.2 +1.0
baz=123
K29A **Lazy Trails An** 123.28 43 ⇑P PKPdf 21 55 57.7 +0.6
baz=123
O28A **Krutsinger Ran** 123.28 46 ⇑P PKPdf 21 55 58.1 +0.9
baz=123
225A **Deer Hill, Car** 123.34 56 ⇓P PKPdf 21 55 58.9 +1.2
baz=123
125A **Gardner Draw,** 123.34 55 ⇑P PKPdf 21 55 59.0 +1.4
baz=123
325A **Bean Ranch, Si** 123.39 57 ⇓P PKPdf 21 55 58.4 +0.5
baz=123
W26A **Owens Ranch, T** 123.41 52 ⇑P PKPdf 21 55 58.9 +1.2
baz=124
L29A **Maesberg Ranch** 123.45 43 ⇑P PKPdf 21 55 57.5 +0.1
baz=124
AGMN **Agassiz Nation** 123.47 35 ePKPdf PKPdf 21 55 56.1 -1.1
AGMN **Agassiz Nation** 123.47 35 ⇓P PKPdf 21 55 57.2 -0.1
baz=124
P28A **Saint Francis** 123.49 47 ⇓P PKPdf 21 55 58.6 +1.0
baz=124
425A **Indio Mountain** 123.51 58 ⇑P PKPdf 21 55 59.0 +1.0
baz=124
X26A **CR and CF Fran** 123.53 53 ⇓P PKPdf 21 55 59.0 +1.0
baz=124,SNR=5.4
J30A **Dallas** 123.59 42 ⇓P PKPdf 21 55 58.2 +0.5
baz=124,SNR=5.3
Q28A **Sharon Springs** 123.62 47 ⇓P PKPdf 21 55 59.3 +1.3
baz=124,SNR=7.4
T27A **Campo** 123.62 50 ⇑P PKPdf 21 55 59.3 +1.2
baz=124
Y26A **Elida** 123.69 54 ⇓P PKPdf 21 55 59.0 +0.8
baz=124
Z26A **Caprock** 123.73 55 ⇓P PKPdf 21 55 58.9 +0.5
baz=124
ETSF **Etsaut** 123.73 318 ePKIKP PKPdf 21 55 59.4 +1.4
comp=Z,28nm,0.9s
ETSF **Etsaut** 123.73 318 ePKIKP PKPdf 21 55 59.4 +1.4
ETSF **Etsaut** 123.73 318 ePKPdf PKPdf 21 55 59.4 +1.4
U27A **Thompson Grove** 123.74 51 ⇓P PKPdf 21 55 59.3 +1.0
baz=124
TRIS **Tristan da Cun** 123.77 216 ePKPdf PKPdf 21 55 58.7 +0.5
K30A **Basset** 123.78 42 ⇓P PKPdf 21 55 58.8 +0.7
baz=124
126A **Clayton Basin,** 123.86 55 ⇓P PKPdf 21 55 59.6 +1.0
baz=124
R28A **Tribune** 123.88 48 ⇓P PKPdf 21 55 59.8 +1.3
baz=124,SNR=10.0
226B **Tecolote Peak,** 123.89 56 ⇓P PKPdf 21 55 59.8 +1.2
baz=124
V27A **Dan Oppiter Fa** 123.94 51 ⇓P PKPdf 21 55 59.5 +0.8
baz=124
W27A **Bowe Ranch, En** 123.97 52 ⇓P PKPdf 21 55 59.8 +1.1
baz=124
O29A **4D Ranch, Culb** 123.97 46 ⇑P PKPdf 21 55 59.6 +1.0
baz=124
L30A **Spencer Herefo** 124.01 43 ⇓P PKPdf 21 55 58.7 +0.2
baz=124
T28A **Walsh** 124.06 50 ⇓P PKPdf 21 55 59.6 +0.8
baz=124
S28A **Manter** 124.07 49 ⇓P PKPdf 21 56 00.1 +1.3
baz=124
P29A **Atwood** 124.07 46 ⇑P PKPdf 21 55 59.7 +1.0
baz=124
SJPF **Ste Jean** 124.09 318 ePKIKP PKPdf 21 55 59.8 +1.2
comp=Z,28nm,1.0s
SJPF **Ste Jean** 124.09 318 ePKIKP PKPdf 21 55 59.8 +1.2
SJPF **Ste Jean** 124.09 318 ePKPdf PKPdf 21 55 59.8 +1.2
N30A **Hueftle Ranch,** 124.21 45 ⇓P PKPdf 21 55 59.9 +0.9
baz=124
U28A **Mallet** 124.22 50 ⇑P PKPdf 21 56 00.0 +0.9
baz=124
Y27A **Causey** 124.22 54 ⇓P PKPdf 21 55 60.0 +0.7
baz=124
326A **Caldwell Ranch** 124.23 57 ⇑P PKPdf 21 55 60.0 +0.6
baz=124
Q29A **Oakley** 124.30 47 ⇑P PKPdf 21 56 00.3 +1.1
baz=124,SNR=5.8
Z27A **Tatum** 124.34 54 ⇑P PKPdf 21 56 00.4 +0.9
baz=124
R29A **Marienthal** 124.35 48 ⇑P PKPdf 21 56 00.6 +1.3
baz=124
TAM **Tamanrasset** 124.35 293 ePKIKP PKPdf 21 56 00.7 +0.8
TAM **Tamanrasset** 124.35 293 ePKPdf PKPdf 21 56 00.7 +0.8
127A **Arkansas Junct** 124.39 55 ⇑P PKPdf 21 56 00.4 +0.8
baz=124
V28A **Channing** 124.41 51 ⇓P PKPdf 21 56 00.5 +1.0
baz=124
526A **Mary Lane Ranc** 124.43 58 ⇓P PKPdf 21 56 00.7 +0.9
baz=124
O30A **MW Ranch, Wils** 124.48 45 ⇓P PKPdf 21 56 00.4 +0.9
baz=124
626A **Big Bend Ranch** 124.50 59 ⇑P PKPdf 21 56 00.7 +0.8
baz=125
MSTX **Muleshoe** 124.51 53 ePKPdf PKPdf 21 55 59.8 0.0
MSTX **Muleshoe** 124.51 53 ⇓P PKPdf 21 56 00.7 +0.9
baz=125
W28A **Vega** 124.58 52 ⇓P PKPdf 21 56 01.1 +1.2
baz=125
P30A **Selden** 124.59 46 ⇓P PKPdf 21 56 00.8 +1.1
baz=125
227A **Bennet, Jal** 124.62 56 ⇓P PKPdf 21 56 01.2 +1.2
baz=125
S29A **Ulysses** 124.64 49 ⇑P PKPdf 21 56 01.1 +1.2
baz=125
T29A **Hugoton** 124.67 49 ⇑P PKPdf 21 56 01.3 +1.3
baz=125
M31A **Lambtecht Ranc** 124.77 44 ⇑P PKPdf 21 56 00.9 +0.9
baz=125
X28A **Dimmitt** 124.81 53 ⇑P PKPdf 21 56 01.4 +1.1
baz=125
527A **Woodward Ranch** 124.81 58 ⇑P PKPdf 21 56 01.5 +0.9
baz=125
Q30A **Quinter** 124.82 47 ⇑P PKPdf 21 56 01.3 +1.1
baz=125
427A **Hayter Ranch,** 124.82 57 ⇓P PKPdf 21 56 01.3 +0.9
baz=125
TXAR **Lajitas Array** 124.95 59 PKP PKPdf 21 56 02.0 +1.3
TXAR PKKPbc PKKPbc 22 05 42.0 +0.4
TXAR **Lajitas Array** 124.95 59 PKP PKPdf 21 56 02.0 +1.3
comp=Z,5.6nm,0.9s,baz=225,slow=0.9,SNR=14
TXAR PKKPbc PKKPbc 22 05 42.0 +0.4
comp=Z,0.8nm,0.5s,baz=103,slow=6.3,SNR=4.4
Y28A **McKinney Farm,** 124.95 53 ⇓P PKPdf 21 56 01.4 +0.8
baz=125
R30A **Dighton** 125.03 48 ⇑P PKPdf 21 56 01.8 +1.2
baz=125,SNR=5.7
W29A **Amarillo** 125.06 52 ⇓P PKPdf 21 56 02.1 +1.3
baz=125
AMTX **Amarillo** 125.10 52 ⇓P PKPdf 21 56 02.1 +1.2
baz=125
128A **Castleberry Fa** 125.12 55 ⇑P PKPdf 21 56 01.8 +0.8
baz=125
S30A **Montezuma** 125.12 48 ⇑P PKPdf 21 56 02.2 +1.4
baz=125
627A **Terlingua Ranc** 125.16 59 ⇑P PKPdf 21 56 02.0 +0.8
baz=125
228A **UT Block 9, Go** 125.17 55 ⇓P PKPdf 21 56 02.1 +1.0
baz=125
328A **Wristen Ranch,** 125.18 56 ⇓P PKPdf 21 56 02.1 +1.0
baz=125
P31A **Stockton** 125.22 46 ⇓P PKPdf 21 56 02.0 +1.1
baz=125,SNR=6.1
X29A **Tulia** 125.22 52 ⇑P PKPdf 21 56 02.1 +0.9
baz=125
T30A **Plains** 125.28 49 ⇓P PKPdf 21 56 02.1 +0.9
baz=125
ECSD **EROS Data Cent** 125.28 40 ePKPdf PKPdf 21 56 00.8 -0.1

ECSD	EROS Data Cent	125.28	40	⇓P		PKPdf	21 56 01.9	+1.0
	baz=125							
BGNE	Belgrade	125.31	43	⇓P		PKPdf	21 56 02.1	+1.1
	baz=125							
U30A	WK&E Inc. Balk	125.36	50	⇑P		PKPdf	21 56 02.1	+0.8
	baz=125							
Y29A	Porterfield Fa	125.42	53	⇓P		PKPdf	21 56 03.0	+1.4
	baz=126							
428A	Kincaid Ranch,	125.45	57	⇓P		PKPdf	21 56 03.5	+1.9
	baz=126							
528A	Cox Ranch, San	125.50	58	⇓P		PKPdf	21 56 03.5	+1.7
	baz=126							
Z29A	Hungry Hill Ra	125.57	54	⇑P		PKPdf	21 56 02.5	+0.7
	baz=126							
628A	Black Gap, Mar	125.57	59	⇑P		PKPdf	21 56 03.2	+1.3
	baz=126							
R31A	Burdett	125.58	47	⇑P		PKPdf	21 56 03.0	+1.3
	baz=126,SNR=6.0							
129A	Stewart Farms,	125.62	55	⇑P		PKPdf	21 56 03.0	+1.0
	baz=126							
O32A	Brockman Farm,	125.70	45	⇓P		PKPdf	21 56 02.7	+0.9
	baz=126							
P32A	Huiting Farm,	125.73	45	⇑P		PKPdf	21 56 02.6	+0.8
	baz=126							
329A	Wagon Wheel Ra	125.84	56	⇓P		PKPdf	21 56 03.0	+0.6
	baz=126							
229A	Bryant Ranch,	125.85	55	⇓P		PKPdf	21 56 03.3	+0.9
	baz=126							
S31A	Mullinville	125.86	48	⇓P		PKPdf	21 56 03.4	+1.2
	baz=126							
X30A	Coker Ranch, T	125.87	52	⇑P		PKPdf	21 56 03.3	+1.0
	baz=126							
T31A	Randall Ranch,	125.90	49	⇑P		PKPdf	21 56 03.2	+0.9
	baz=126							
529A	Stev Forest Ra	125.98	58	⇓P		PKPdf	21 56 03.8	+1.1
	baz=126							
Q32A	Meitler Ranch,	126.01	46	⇑P		PKPdf	21 56 03.4	+1.0
	baz=126							
Z30A	Sanderson Ranc	126.02	54	⇓P		PKPdf	21 56 03.4	+0.7
	baz=126							
U31A	Nine Bar Ranch	126.03	50	⇑P		PKPdf	21 56 03.7	+1.1
	baz=126							
Y30A	Stafford Cattl	126.03	53	⇑P		PKPdf	21 56 03.7	+1.1
	baz=126							
R32A	Long Quarter,	126.12	47	⇓P		PKPdf	21 56 03.8	+1.1
	baz=126							
429A	Davenport Ranc	126.13	57	⇑P		PKPdf	21 56 03.8	+0.9
	baz=126							
V31A	Spring Creek L	126.24	50	⇓P		PKPdf	21 56 04.5	+1.5
	baz=126							
130A	Snyder	126.36	54	⇓P		PKPdf	21 56 04.6	+1.3
	baz=126							
W31A	Holland Ranch,	126.36	51	⇑P		PKPdf	21 56 04.5	+1.2
	baz=126,SNR=6.3							
T32A	Huddler Ranch,	126.43	48	⇓P		PKPdf	21 56 04.7	+1.4
	baz=126							
P33A	Williams Farm,	126.44	45	⇓P		PKPdf	21 56 04.2	+1.0
	baz=126							
Y31A	Rekieta Farm,	126.51	53	⇑P		PKPdf	21 56 04.5	+1.0
	baz=126							
X31A	McDonald Ranch	126.51	52	⇑P		PKPdf	21 56 04.8	+1.3
	baz=127,SNR=5.1							
330A	Mertzon	126.52	56	⇑P		PKPdf	21 56 04.6	+0.9
	baz=127							
Q33A	Connelly Farm,	126.52	46	⇑P		PKPdf	21 56 04.5	+1.1
	baz=127							
430A	Baggett Ranch,	126.64	57	⇓P		PKPdf	21 56 05.0	+1.1
	baz=127							
U32A	Winter Ranch,	126.66	49	⇓P		PKPdf	21 56 05.2	+1.4
	baz=127							
R33A	Olander Ranch,	126.69	47	⇓P		PKPdf	21 56 05.0	+1.2
	baz=127							
530A	J-C Ranch, Com	126.72	57	⇓P		PKPdf	21 56 05.4	+1.4
	baz=127,SNR=8.1							
131A	Roby	126.80	54	⇑P		PKPdf	21 56 05.2	+1.1
	baz=127							
Z31A	Sharp Cattle R	126.80	53	⇓P		PKPdf	21 56 05.2	+1.1
	baz=127							
V32A	Arapaho	126.87	50	⇑P		PKPdf	21 56 05.6	+1.4
	baz=127							
SPMN	St. Paul	126.89	37	⇓P		PKPdf	21 56 04.9	+1.0
	baz=127							
T33A	Patterson Ranc	126.97	48	⇑P		PKPdf	21 56 05.4	+1.1
	baz=127							
231A	Bronte	127.07	55	⇓P		PKPdf	21 56 05.6	+0.9
	baz=127,SNR=6.6							
X32A	Elmer	127.12	52	⇓P		PKPdf	21 56 05.6	+0.9
	baz=127							
Y32A	R-V Farms, Ver	127.14	52	⇑P		PKPdf	21 56 05.5	+0.7
	baz=127							
331A	San Angelo	127.16	56	⇓P		PKPdf	21 56 05.9	+1.0
	baz=127,SNR=5.8							
431A	Sonora	127.19	57	⇑P		PKPdf	21 56 06.0	+1.0
	baz=127,SNR=7.3							
Z32A	Haskell	127.33	53	⇑P		PKPdf	21 56 06.7	+1.6
	baz=127,SNR=5.3							
KSU1	Kansas State U	127.35	45	*e*PKPdf		PKPdf	21 56 05.8	+0.8
KSU1	Kansas State U	127.35	45	⇓P		PKPdf	21 56 06.1	+1.1
	baz=127							
531A	Rocksprings	127.38	57	⇑P		PKPdf	21 56 06.8	+1.5
	baz=127,SNR=9.7							
V33A	Lossen Ranch,	127.41	50	⇑P		PKPdf	21 56 06.2	+1.0
	baz=127							
ABTX	Abilene, Hawle	127.41	54	⇓P		PKPdf	21 56 06.1	+0.8
	baz=128							
ESDC	Sonseca Array	127.43	316	PKP		PKPdf	21 56 04.6	-0.6
ESDC				PP		PP	21 58 01.8	-4.2
ESDC	Sonseca Array	127.43	316	PKP		PKPdf	21 56 04.6	-0.6
	comp=Z,3.2nm,0.8s,baz=18,slow=2.5,SNR=12							
ESDC				PP		PP	21 58 01.8	-4.2
	comp=Z,0.7nm,0.8s,baz=68,slow=7.8,SNR=4.1							
W33A	Caddo, Fort Co	127.50	51	⇓P		PKPdf	21 56 06.9	+1.5
	baz=128							
631A	Perdido Creek	127.55	58	⇓P		PKPdf	21 56 07.0	+1.4
	baz=128,SNR=9.0							
232A	Coleman	127.63	55	⇑P		PKPdf	21 56 07.0	+1.3
	baz=128,SNR=7.0							
X33A	Lawton	127.69	51	⇓P		PKPdf	21 56 07.4	+1.6
	baz=128							
332A	Millersview	127.70	56	⇑P		PKPdf	21 56 07.2	+1.3
	baz=128,SNR=7.3							
U34A	Anderson Ranch	127.74	49	⇓P		PKPdf	21 56 07.3	+1.5
	baz=128							
Y33A	Hilltop Ranch,	127.78	52	⇑P		PKPdf	21 56 07.5	+1.6
	baz=128							
432A	Menard	127.81	56	⇑P		PKPdf	21 56 07.1	+1.0
	baz=128							
Z33A	Whitaker Ranch	127.90	53	⇑P		PKPdf	21 56 07.3	+1.1
	baz=128							
JCT	Junction City	127.91	57	*e*PKIKP		PKPdf	21 56 06.6	+0.3
JCT	Junction City	127.91	57	*e*PKPdf		PKPdf	21 56 06.6	+0.3
JCT	Junction City	127.91	57	⇓P		PKPdf	21 56 07.7	+1.4
	baz=128,SNR=18							
532A	Rocksprings	127.92	57	⇑P		PKPdf	21 56 07.7	+1.3
	baz=128,SNR=7.5							
V34A	Guthrie	127.98	49	⇑P		PKPdf	21 56 07.7	+1.4
	baz=128							
133A	Hamilton Ranch	128.00	54	⇑P		PKPdf	21 56 07.7	+1.3
	baz=128							
W34A	Bridge Creek,	128.01	50	⇑P		PKPdf	21 56 07.6	+1.3
	baz=128							
632A	Uvalde	128.19	58	⇑P		PKPdf	21 56 08.6	+1.7
	baz=128,SNR=11							
X34A	Smith Ranch, M	128.19	51	⇓P		PKPdf	21 56 08.3	+1.6
	baz=128							
732A	Laxson Ranch,	128.23	59	⇑P		PKPdf	21 56 08.7	+1.8
	baz=128,SNR=5.2							
333A	Richland Sprin	128.34	55	⇓P		PKPdf	21 56 08.0	+0.9
	baz=128							
433A	Art	128.42	56	⇓P		PKPdf	21 56 08.4	+1.1
	baz=128,SNR=10							
Y34A	Reagan Ranch,	128.47	52	⇑P		PKPdf	21 56 08.4	+1.1
	baz=128							
533A	Kerrville	128.66	57	⇑P		PKPdf	21 56 08.9	+1.1
	baz=129							
134A	White-Moore Ra	128.68	54	⇓P		PKPdf	21 56 09.3	+1.6
	baz=129							
TOA0	Torodi Ar. Sit	128.75	281	*e*PKPdf		PKPdf	21 56 08.4	+0.2
TORD	Torodi Ar. Bea	128.75	281	PKP		PKPdf	21 56 08.4	+0.2
TORD				SKPbc	SKiKP		21 59 17.9	-19
TORD	Torodi Ar. Bea	128.75	281	PKP		PKPdf	21 56 08.4	+0.2
	comp=Z,22nm,0.6s,baz=31,slow=1.8,SNR=84							
TORD				SKPbc	SKiKP		21 59 17.9	-19
	comp=Z,6.8nm,0.8s,baz=78,slow=3.6,SNR=10.0							
PLCA	Paso Flores	128.94	160	PKP		PKPdf	21 56 09.5	+1.4
PLCA				SKPbc	SKiKP		21 59 17.9	-19
PLCA	Paso Flores	128.94	160	PKP		PKPdf	21 56 09.5	+1.4
	comp=Z,15nm,0.7s,baz=205,slow=2.7,SNR=27							
PLCA				SKPbc	SKiKP		21 59 17.9	-19
	comp=Z,5.1nm,0.9s,baz=182,slow=8.2,SNR=4.7							
334A	Lometa	128.95	55	⇑P		PKPdf	21 56 09.5	+1.3
	baz=129							
434A	Burnet	129.08	56	⇓P		PKPdf	21 56 09.6	+1.1
	baz=129,SNR=9.6							
534A	Blanco	129.14	57	⇑P		PKPdf	21 56 09.9	+1.2
	baz=129							
PVRL	Vila Real	129.21	319	*e*PKPdf		PKPdf	21 56 10.7	+2.2
POLO	Lamas de Olo	129.21	319	*e*PKPdf		PKPdf	21 56 10.5	+2.0
PGAV	Gavieira, Arco	129.21	320	*e*PKPdf		PKPdf	21 56 10.2	+1.7
TUL1	Tulsa	129.25	49	⇓P		PKPdf	21 56 09.8	+1.1
	baz=129							
335A	Moody	129.62	55	⇑P		PKPdf	21 56 10.2	+0.7
	baz=130							
PCBR	Castelo Branco	129.76	317	*e*PKPdf		PKPdf	21 56 11.5	+2.0
PBAR	Barrancos	130.25	315	*e*PKPdf		PKPdf	21 56 12.6	+2.1
SCHQ	Schefferville	130.39	13	PKP		PKPdf	21 56 11.2	+1.0
SCHQ				SKPbc	SKiKP		21 59 23.0	-2.4
SCHQ				PKKP		PKKPdf	22 06 10.3	-2.7
SCHQ	Schefferville	130.39	13	PKP		PKPdf	21 56 11.2	+1.0
	comp=Z,7.9nm,0.9s,baz=59,slow=2.3,SNR=11							
SCHQ				SKPbc	SKiKP		21 59 23.0	-2.4
	comp=Z,25nm,0.6s,baz=351,slow=3.8,SNR=46							
SCHQ				PKKP		PKKPdf	22 06 10.3	-2.7
	comp=Z,5.4nm,0.7s,baz=229,slow=1.9,SNR=10							
MIAR	Mount Ida	131.46	49	*e*PKIKP		PKPdf	21 56 13.9	+1.0
MIAR	Mount Ida	131.46	49	*e*PKPdf		PKPdf	21 56 13.9	+1.0
TRQA	Tornquist	133.87	167	*e*PKPpre		PKPpre	21 56 03.5	
TRQA				*e*PKPdf		PKPdf	21 56 17.8	+0.4
SADO	Sadowa	134.61	29	PKP		PKPdf	21 56 19.5	+1.0
SADO	Sadowa	134.61	29	PKP		PKPdf	21 56 19.5	+1.0
	comp=Z,10nm,0.7s,baz=80,slow=14,SNR=3.6							
KIC	Kosan Boka	135.00	272	*e*P		PKPpre	21 56 07.0	
	comp=Z,68nm,0.9s							
KIC	Kosan Boka	135.00	272	*e*PKP1		SKPbc	21 59 40.2	-2.5
	comp=Z,26nm,0.9s							
KIC	Kosan Boka	135.00	272	*e*PKP1		SKPbc	21 59 40.1	-2.6
	comp=Z,26nm,0.9s							
DBIC	Dimbokro	135.13	272	*e*PKPpre		PKPpre	21 56 06.7	
DBIC				PKP		PKPdf	21 56 20.8	+0.4
DBIC				*e*PKPdf		PKiKP	21 56 20.9	-0.9
DBIC				SKPbc		SKPbc	21 59 39.8	-3.2
DBIC	Dimbokro	135.13	272	PKP		PKPdf	21 56 20.8	+0.4
	comp=Z,23nm,0.6s,baz=72,slow=1.9,SNR=26							
DBIC				SKPbc		SKPbc	21 59 39.8	-3.2
	comp=Z,11nm,0.7s,baz=81,slow=3.5,SNR=11							
LIC	Lamto	135.28	272	*e*PKIKP		PKPdf	21 56 20.8	+0.2
	comp=Z,30nm,0.6s							
LIC	Lamto	135.28	272	*e*P		PKPpre	21 56 10.1	
	comp=Z,51nm,0.6s							
LIC	Lamto	135.28	272	*e*PKP1		SKPbc	21 59 41.0	-2.5
	comp=Z,36nm,1.1s							
LIC	Lamto	135.28	272	*e*PKP1		SKPbc	21 59 41.2	-2.3
	comp=Z,36nm,1.1s							
LIC	Lamto	135.28	272	*e*PKPdf		PKPdf	21 56 20.8	+0.2
TIC	Toumodi	135.29	272	*e*P		PKPpre	21 56 08.1	
	comp=Z,45nm,0.6s							
TIC	Toumodi	135.29	272	*e*PKP1		SKPbc	21 59 41.0	-2.6
	comp=Z,29nm,0.7s							
TIC	Toumodi	135.29	272	*e*PKP1		SKPbc	21 59 41.0	-2.6
	comp=Z,29nm,0.7s							
CFAA	Coronel Fontan	137.91	157	PKPpre		PKPpre	21 56 15.4	
CFAA				SKPbc		SKPbc	21 59 48.1	-2.9
CFAA	Coronel Fontan	137.91	157	PKhKP		PKPpre	21 56 15.4	
	comp=Z,0.9nm,0.6s,baz=219,slow=2.8,SNR=15							
CFAA				SKPbc		SKPbc	21 59 48.1	-2.9
	comp=Z,0.4nm,0.6s,baz=255,slow=5.0,SNR=4.8							
TKL	Tuckaleechee C	137.92	42	*e*PKPdf		PKPdf	21 56 25.1	+0.1
TKL				PKP		PKPdf	21 56 25.3	+0.3
TKL				SKPbc		SKPbc	21 59 48.3	-2.6
TKL	Tuckaleechee C	137.92	42	PKP		PKPdf	21 56 25.3	+0.3
	comp=Z,13nm,0.7s,baz=172,slow=3.2,SNR=9.1							
TKL				SKPbc		SKPbc	21 59 48.3	-2.6
	comp=Z,12nm,0.7s,baz=133,slow=7.5,SNR=6.6							
BINY	Binghamton	138.06	29	*e*PKPdf		PKPdf	21 56 24.5	-0.6
APG	El Apazote	139.59	75	PKPpre		PKPpre	21 56 19.8	
APG				SKPbc		SKPbc	21 59 51.5	-4.8
APG	El Apazote	139.59	75	PKhKP		PKPpre	21 56 19.8	
	comp=Z,11nm,0.6s,baz=271,slow=21,SNR=9.0							
APG				SKPbc		SKPbc	21 59 51.5	-4.8
	comp=Z,8.8nm,1.0s,baz=302,slow=4.0,SNR=7.9							
KMSC	Kings Mountain	139.84	41	*e*PKPdf		PKPdf	21 56 29.1	+0.7
TEIG	Tepich	140.69	67	PKP		PKPdf	21 56 31.5	+1.1
TEIG	Tepich	140.69	67	PKP		PKPdf	21 56 31.5	+1.1
	comp=Z,11nm,0.8s,baz=352,slow=22,SNR=4.4							
LVC	Limon Verde	145.30	148	*e*PKPbc		PKPab	21 56 39.7	+0.8
JTS	JuntasAbangare	145.35	82	*e*PKPdf		PKPab	21 56 39.4	+0.4
JTS				PKPbc		PKPab	21 56 40.7	+1.6
JTS	JuntasAbangare	145.35	82	PKPbc		PKPab	21 56 40.7	+1.6
	comp=Z,149nm,0.8s,baz=283,slow=2.5,SNR=114							
CPUP	Villa Florida	146.17	168	PKPbc		PKPab	21 56 42.0	+0.3
CPUP				SKPbc		SKPbc	22 00 10.0	-1.9
CPUP	Villa Florida	146.17	168	PKPbc		PKPab	21 56 42.0	+0.3
	comp=Z,81nm,0.5s,baz=178,slow=1.8,SNR=264							
CPUP				SKPbc		SKPbc	22 00 10.0	-1.9
	comp=Z,16nm,0.6s,baz=148,slow=2.7,SNR=8.9							
NNA	Nana	147.39	125	*e*PKPdf		PKPdf	21 56 43.5	+1.2
NNA				*e*PKPbc		PKPab	21 56 46.2	-0.7
ATAH	Atahualpa	148.46	116	PKP		PKPbc	21 56 47.0	-1.1
ATAH				PKPbc		PKPab	21 56 51.1	-0.6
ATAH	Atahualpa	148.46	116	PKP		PKPbc	21 56 47.0	-1.1
	comp=Z,67nm,0.7s,baz=140,slow=3.6,SNR=12							
ATAH				PKPbc		PKPab	21 56 51.1	-0.6
	comp=Z,54nm,0.6s,baz=325,slow=3.3,SNR=22							
BCIP	Isla Barro Col	150.43	84	*e*PKPdf		PKPdf	21 56 47.6	+0.5
BCIP				*e*PKPbc		PKiKP	21 56 53.1	-0.2
LPAZ	La Paz	150.79	142	*e*PKPdf		PKPdf	21 56 50.0	+1.5
LPAZ				*e*PKPbc		PKiKP	21 56 55.2	+0.5
LPAZ				PKPbc		PKiKP	21 56 55.6	+0.9
LPAZ	La Paz	150.79	142	PKP		PKPdf	21 56 50.0	+1.5
	comp=Z,14nm,0.9s,baz=22,slow=0.2,SNR=27							
LPAZ				PKPbc		PKiKP	21 56 55.6	+0.9
	comp=Z,74nm,0.4s,baz=52,slow=2.4,SNR=96							
OTAV	Otavalo	150.90	102	*e*PKPdf		PKPdf	21 56 49.8	+1.3
OTAV				*e*PKPbc		PKiKP	21 56 55.2	+0.4
SACV	Santiago Islan	152.87	289	*e*PKPdf		PKPdf	21 56 51.5	+0.8
SACV				*e*PKPbc		PKiKP	21 56 59.0	+0.8
SACV				*e*PKPab		PKPab	21 57 09.2	-0.2
SIV	San Ignacio	154.73	154	PKP		PKPdf	21 56 54.5	+1.0
SIV				PKPbc		PKiKP	21 57 02.8	+0.7
SIV				PKPab		PKPab	21 57 18.2	+1.1
SIV	San Ignacio	154.73	154	PKP		PKPdf	21 56 54.5	+1.0
	comp=Z,10nm,0.7s,baz=205,slow=1.1,SNR=37							
SIV				PKPbc		PKiKP	21 57 02.8	+0.7
	comp=Z,10nm,0.7s,baz=214,slow=4.1,SNR=13							
SIV				PKPab		PKPab	21 57 18.2	+1.1
	comp=Z,19nm,0.6s,baz=212,slow=5.0,SNR=22							
ROSC	El Rosal	155.76	94	PKP		PKPdf	21 56 56.6	+1.2
ROSC				PKPbc		PKPbc	21 57 06.1	
ROSC	El Rosal	155.76	94	PKP		PKPdf	21 56 56.6	+1.2
	comp=Z,3.9nm,0.4s,baz=99,slow=23,SNR=4.3							
ROSC				PKPbc		PKPbc	21 57 06.1	
	comp=Z,11nm,0.4s,baz=67,slow=17,SNR=4.2							
SDDR	Presa de Saban	156.13	58	*e*PKPab		PKPab	21 57 24.4	+1.1
BDFB	Brasilia	157.47	185	PKP		PKPdf	21 56 58.3	+1.1
BDFB	Brasilia	157.47	185	PKP		PKPdf	21 56 58.3	+1.1
	comp=Z,13nm,0.8s,baz=160,slow=1.9,SNR=21							
SAML	Samuel	159.49	140	*e*PKPdf		PKPdf	21 57 00.2	+0.6
SAML				*e*PKPab		PKPab	21 57 38.4	+0.7
SDV	Santo Domingo	159.53	83	*e*PKPdf		PKPdf	21 57 00.2	+0.4
RCBR	Riachuelo	161.01	228	PKPab		PKPab	21 57 46.1	+1.6
RCBR	Riachuelo	161.01	228	PKPab		PKPab	21 57 46.1	+1.6
	comp=Z,72nm,0.8s,baz=122,slow=5.3,SNR=36							

NIED **23** *22:22:00,35°.20N×140°.40E,h23km,Mw3.9 Best double couple: M0 7.89000×10^14 NP1:φ68.00000°,δ65.00000°,λ93.00000°. NP2:φ241.00000°,δ26.00000°,λ84.00000°.*
IDC **23** *22:22:27.1±0.8,35°.17N×140°.24E,h0km,mb4.0/11, mb1 4.2/13,mb1mx4.0/27,mbtmp4.1/13,ML4.1/2,MS3.1/3, Ms1 3.1/3,ms1mx2.7/39, Error ellipse: s-maj=26.1km s-min=16.4km az=72.0*
ISCJB **23** *22:22:29.8±0.4,35°.20N±0°.04×140°.32E±0°.07,h35km±3km, mb4.1/18,MS3.2/1, Error ellipse: s-maj=10.3km s-min=4.9km az=157.7*
JMA **23** *22:22:31.3±0.1,35°.24N×140°.30E,h16km±2km,M4.3 Broadband fault plane solution: P waves. NP1: φ±71.00000°,δ64.00000°,λ79.00000°. NP2:φ±275.00000°, δ28.00000°,λ111.00000°. Principal axes: T Plg69.0000°, Azm319.0000°; N Plg10.0000°, Azm76.0000°; P Plg18.0000°, Azm169.0000°;*

JMA Felt III J1.
NEIC **23** *22:22:31.2±2.2,35°.14N×140°.17E,h29km±15km,mb4.4/7 Error ellipse: s-maj=14.2km s-min=5.4km az=66.0*
NEIC Recorded [3 JMA] in Chiba and [1 JMA] in Kanagawa and Tokyo.

ISC 23 22:22:30.7±0.7,35°.19N±0°.04×140°.23E±0°.05,h26km±5km, n59,σ0.97/61,mb4.1/18,3C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTR	Katsuura	0.08	118	⇑P		Pb		22 22 34.5	-0.8
KTR				S		Sb		22 22 37.5	-0.9
BSO4	Boso 4	0.21	155	⇑P		Pb		22 22 37.1	+0.6
BSO4				*e*S		Sb		22 22 43.3	+2.8
JCN	Nagara	0.23	355	⇓P		Pb		22 22 36.7	-0.2
JCN				S		Sb		22 22 40.2	-0.9
TATJ	Tateyama 2	0.32	241	P		Pn		22 22 39.9	+0.2
TATJ				*e*S		Sn		22 22 44.9	-0.6
BSO3	Boso 3	0.45	149	⇓P		Pn		22 22 40.8	-0.5
BSO3				*e*S		Sn		22 22 47.9	-0.4
BSO2	Boso 2	0.61	135	*e*S		Sn		22 22 54.1	+1.7
JHU	Hanno	1.02	311	⇑P		Pn		22 22 49.1	-0.3
JYT	Yasato	1.04	358	P		Pn		22 22 48.5	-1.2
JHJ2	Mitsune	2.10	189	*e*Pn		Pn		22 23 03.5	-0.7
JHJ2				*e*Sn		Sn		22 23 29.1	-0.3
MJAR	Matsushiro Arr	2.13	310	Pn		Pn		22 23 05.2	+0.6
MJAR				Sn		Sb		22 23 34.9	+0.3
MJAR	Matsushiro Arr	2.13	310	Pn		Pn		22 23 05.2	+0.6
	21nm,0.3s,baz=156,slow=14,SNR=94								
MJAR				Sn		Sb		22 23 34.9	+0.3
	17nm,0.3s,baz=141,slow=14,SNR=5.3								
MAJO	Matsushiro	2.13	310	*e*Pn		Pn		22 23 05.3	+0.7
MAJO				*e*Sn		Sn		22 23 30.0	-0.3
MAT	Matsushiro	2.13	310	P		Pn		22 23 05.3	+0.6
MAT				S		Sb		22 23 33.7	-0.9
CBIJ	Chichi jima	8.24	168	Pn		Pn		22 24 27.4	-1.1
CBIJ				Sn		Sn		22 25 57.8	-3.0
JCJ	Chichijima	8.24	168	Pn		Pn		22 24 27.4	-1.1
	6.3nm,0.3s,baz=270,slow=20,SNR=4.7								
JCJ				Sn		Sn		22 25 57.8	-3.0
	5.0nm,0.3s,baz=210,slow=18,SNR=1.6								
KSRS	Korea Array	10.18	286	LR		LR		22 28 46.3	
	comp=Z,88nm,18.4s,baz=346,slow=37								
USRK	Ussuriysk Arra	11.01	327	Pn		Pn		22 25 08.6	+2.1
	0.1nm,0.3s,baz=144,slow=17,SNR=2.9								
USRK				LR		LR		22 29 05.5	
	comp=Z,81nm,20.8s,baz=269,slow=36								
H11N2	WAKE ISLAND Hy 28.11	116		T		T		22 57 31.5	
	baz=312,slow=76,SNR=243								
H11N1	WAKE ISLAND Hy 28.12	116		T		T		22 57 31.9	
	baz=312,slow=76,SNR=202								
H11N3	WAKE ISLAND Hy 28.13	116		T		T		22 57 38.0	
	baz=312,slow=76,SNR=172								
H11S3	WAKE ISLAND Hy 28.74	118		T		T		22 58 27.3	
	baz=315,slow=75,SNR=112								
H11S1	WAKE ISLAND Hy 28.75	118		T		T		22 58 24.8	
	baz=315,slow=75,SNR=173								
H11S2	WAKE ISLAND Hy 28.76	118		T		T		22 58 28.0	
	baz=315,slow=75,SNR=145								
TLY	Talaya	30.86	314	P		P		22 28 44.3	-0.4
ZALV	Zalesovo Beam	42.48	314	P		P		22 30 23.8	+0.4
ZALV	Zalesovo Beam	42.48	314	P		P		22 30 23.8	+0.4
	2.9nm,0.6s,baz=94,slow=6.8,SNR=16								
MK31	Makanchi Array	44.31	304	*e*P		P		22 30 37.4	-1.0
MKAR	Makanchi Array	44.31	304	P		P		22 30 38.8	+0.4
MKAR	Makanchi Array	44.31	304	P		P		22 30 38.8	+0.4
	1.8nm,0.6s,baz=87,slow=9.8,SNR=27								
MKAR				LR		LR		22 50 03.6	
	comp=Z,29nm,20.3s,baz=173,slow=37								
KURK	K

WRA	**Warramunga Arr**	**31.38**	**252**	P		**P**	**22 47 05.3**	**-0.6**
	0.9nm,0.9s,baz=82,slow=8.6,SNR=4.9							
ASAR	**Alice Springs**	**32.51**	**246**	P		**P**	**22 47 14.6**	**-1.3**
ASAR	**Alice Springs**	**32.51**	**246**	P		**P**	**22 47 14.6**	**-1.3**
	1.2nm,0.6s,baz=69,slow=9.3,SNR=17							
ASAR				LR		LR	22 59 58.5	
	comp=Z,125nm,20.7s,baz=148,slow=36							
PPT	**Papeete**	**42.94**	**102**	LR		LR	23 04 09.9	
	comp=Z,109nm,18.8s,baz=196,slow=33							
MJAR	**Matsushiro Arr**	**55.53**	**333**	P		**P**	**22 50 19.8**	**0.0**
MJAR	**Matsushiro Arr**	**55.53**	**333**	P		**P**	**22 50 19.8**	**0.0**
	4.5nm,1.0s,baz=169,slow=7.2,SNR=8.4							
USRK	**Ussuriysk Arra**	**64.51**	**333**	P		**P**	**22 51 22.4**	**+1.1**
	5.7nm,0.9s,baz=139,slow=8.0,SNR=9.9							
PETK	**Petropavlovsk-**	**65.84**	**354**	LR		LR	23 17 10.1	
	comp=Z,20nm,20.9s,baz=253,slow=33							
QSPA	**South Pole Qui**	**77.42**	**180**	*e*P		**P**	**22 52 39.8**	**+0.3**
	5.2nm,0.8s							
ULN	**Ulaanbaatar**	**79.79**	**324**	*e*P		**P**	**22 52 52.7**	**-0.1**
	4.1nm,0.8s							
ILAR	**Eielson Array**	**84.84**	**18**	P		**P**	**22 53 17.9**	**-0.7**
ILAR	**Eielson Array**	**84.84**	**18**	P		**P**	**22 53 17.9**	**-0.7**
	0.6nm,0.8s,baz=230,slow=6.0,SNR=5.4							
ILAR				LR		LR	23 27 20.6	
	comp=Z,148nm,18.3s,baz=215,slow=33							
MK31	**Makanchi Array**	**94.93**	**317**	*e*P		**P**	**22 54 06.3**	**-0.5**
MKAR	**Makanchi Array**	**94.93**	**317**	P		**P**	**22 54 07.3**	**+0.6**
MKAR	**Makanchi Array**	**94.93**	**317**	P		**P**	**22 54 07.3**	**+0.6**
	1.9nm,0.9s,baz=103,slow=5.5,SNR=10.0							
ZALV	**Zalesovo Beam**	**95.05**	**324**	P		**P**	**22 54 06.8**	**-0.3**
ZALV	**Zalesovo Beam**	**95.05**	**324**	P		**P**	**22 54 06.8**	**-0.3**
	2.2nm,0.9s,baz=107,slow=5.0,SNR=9.0							
ARCES	**ARCESS Array B**	**117.93**	**345**	PKP		**PKPdf**	**22 59 29.8**	**-0.5**
ARCES	**ARCESS Array B**	**117.93**	**345**	PKP		**PKPdf**	**22 59 29.8**	**-0.5**
	4.6nm,0.9s,baz=68,slow=2.0,SNR=10							
FINES	**FINESS Array B**	**123.35**	**338**	PKP		**PKPdf**	**22 59 41.4**	**+0.4**
FINES	**FINESS Array B**	**123.35**	**338**	PKP		**PKPdf**	**22 59 41.4**	**+0.4**
	3.0nm,1.0s,baz=28,slow=3.3,SNR=3.4							
KEST	**Kesra**	**148.89**	**322**	PKPbc		**PKPbc**	**23 00 33.3**	**+0.7**
KEST	**Kesra**	**148.89**	**322**	PKPbc		**PKPbc**	**23 00 33.3**	**+0.7**
	2.3nm,0.8s,baz=277,slow=3.6,SNR=5.7							
ESDC	**Sonseca Array**	**151.65**	**344**	PKPbc		**PKPbc**	**23 00 39.3**	**+0.2**
ESDC	**Sonseca Array**	**151.65**	**344**	PKPbc		**PKPbc**	**23 00 39.3**	**+0.2**
	0.5nm,0.6s,baz=17,slow=3.9,SNR=4.6							

IDC ***23*** *22:44:41.0±1.3, 60.81S×24.34W, h0km, mb4.3/4, mb1 4.2/4, mb1mx3.9/15, mbtmp4.2/4, MS3.6/7, Ms1 3.6/7, ms1mx3.4/17, Error ellipse: s-maj=58.1km s-min=40.8km az=114.0*

ISCJB ***23*** *22:44:41.0±1.8, 60.7S±0.3×24.4W±0.9, h10km, mb4.2/4, MS3.6/7, Error ellipse: s-maj=63.3km s-min=35.1km az=10.1*

ISC 23 22:44:42.7±1.2**, 60.8S**±0.3**×24.2W**±0.3**, h10**km**, n15, σ0.55/7, mb4.3/4, MS3.5/7, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**29.41**	**180**	LR		LR		23 01 18.6	
	comp=Z,87nm,19.1s,baz=210,slow=34								
PLCA	**Paso Flores**	**34.54**	**284**	LR		LR		23 04 29.0	
	comp=Z,89nm,18.2s,baz=78,slow=34								
MAW	**Mawson**	**35.44**	**139**	LR		LR		23 04 30.0	
	comp=Z,82nm,18.8s,baz=128,slow=34								
VNDA	**Vanda**	**41.85**	**182**	LR		LR		23 07 22.2	
	comp=Z,62nm,19.5s,baz=244,slow=32								
BOSA	**Boshof**	**45.96**	**68**	P		**P**		**22 53 06.0**	**+0.2**
	3.3nm,0.9s,baz=207,slow=11,SNR=4.3								
BOSA				LR		LR		23 07 42.4	
	comp=Z,25nm,18.3s,baz=73,slow=30								
H10S2	**ASCENSION HYDR**	**52.26**	**12**	T		T		23 50 28.5	
	baz=154,slow=75,SNR=3.5								
H10S3	**ASCENSION HYDR**	**52.26**	**12**	T		T		23 50 28.4	
	SNR=3.6								
H10S1	**ASCENSION HYDR**	**52.27**	**12**	T		T		23 50 30.1	
	baz=187,slow=75,SNR=3.3								
DBIC	**Dimbokro**	**58.99**	**21**	P		**P**		**22 55 47.7**	**-0.3**
	1.2nm,0.5s,baz=209,slow=10,SNR=3.5								
TORD	**Torodi Ar. Bea**	**76.58**	**26**	P		**P**		**22 56 33.1**	**+0.1**
	5.3nm,0.8s,baz=202,slow=6.5,SNR=40								
STKA	**Stephens Creek**	**86.90**	**168**	LR		LR		23 34 47.7	
	comp=Z,68nm,19.4s,baz=219,slow=35								
ASAR	**Alice Springs**	**93.95**	**160**	P		**P**		**22 58 00.5**	**-0.1**
	0.5nm,0.7s,baz=175,slow=4.5,SNR=4.7								
ASAR				LR		LR		23 39 56.8	
	comp=Z,89nm,21.0s,baz=172,slow=35								
FINES	**FINESS Array B**	**127.89**	**28**	PKP		**PKPdf**		**23 03 46.4**	**-0.6**
	2.0nm,0.7s,baz=129,slow=2.7,SNR=8.2								
YKA	**Yellowknife Ar**	**140.68**	**313**	PKP		**PKPdf**		**23 04 11.6**	**+0.8**
	0.4nm,0.7s,baz=129,slow=2.7,SNR=9.1								
ILAR	**Eielson Array**	**154.28**	**304**	PKPbc		**PKPbc**		**23 04 41.2**	**-0.1**
	1.0nm,1.0s,baz=94,slow=3.6,SNR=6.0								

AUST ***23*** *22:53:16.0, 20.92S×172.32W, h0km*

IDC ***23*** *22:53:22.4±26.0, 21.63S×173.23W, h0km, mb4.7/4, mb1 4.9/4, mb1mx4.1/21, mbtmp4.7/4, Error ellipse: s-maj=480.1km s-min=142.2km az=76.0*

ISCJB ***23*** *22:53:24.2±0.8, 21.6S±0.1×173.0W±0.1, h33km, mb4.6/7, Error ellipse: s-maj=20.5km s-min=14.0km az=39.7*

NEIC ***23*** *22:53:26.8±0.9, 21.58S×173.14W, h35km, mb4.7/4, Error ellipse: s-maj=20.7km s-min=13.4km az=115.0*

ISC 23 22:53:26.8±1.1**, 21.6S**±0.1**×173.0W**±0.2**, h35**km**, n29, σ1850/29, mb4.7/7, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.74**	**9**	*e*Pn		**Pn**		**22 55 16.8**	**-0.3**
EIDS	**Eidsvold**	**33.05**	**256**	P		**P**		**22 59 57.1**	**-2.1**
	baz=34,SNR=5.7								
CAN	**Canberra**	**35.84**	**239**	*e*P		**P**		**23 00 22.3**	**-1.0**
	4.3nm,0.8s								
CTA	**Charters Tower**	**37.99**	**265**	P		**P**		**23 00 41.8**	**0.0**
CTA	**Charters Tower**	**37.99**	**265**	P		**P**		**23 00 41.8**	**0.0**
	14nm,0.4s,baz=94,slow=11,SNR=25								
CTAO	**Charters Tower**	**37.99**	**265**	*e*P		**P**		**23 00 41.2**	**-0.6**
	13nm,0.4s								
STKA	**Stephens Creek**	**41.53**	**246**	*e*P		**P**		**23 01 09.0**	**-2.0**
	0.5nm,0.5s								
STKA	**Stephens Creek**	**41.53**	**246**	P		**P**		**23 01 09.3**	**-1.7**
	3.5nm,0.6s,baz=94,slow=9.2,SNR=10								
STKA	**Stephens Creek**	**41.53**	**246**	P		**P**		**23 01 09.5**	**-1.5**
	baz=42,SNR=4.8								
COEN	**Coen**	**42.27**	**273**	*e*P		**P**		**23 01 18.0**	**+0.8**
	6.2nm,0.4s								
COEN	**Coen**	**42.27**	**273**	P		**P**		**23 01 20.1**	**+2.9**
	baz=43,SNR=7.9								
HTT	**Hallett**	**43.86**	**244**	P		**P**		**23 01 28.6**	**-1.4**
	baz=45,SNR=4.1								
BBOO	**Buckleboo**	**46.24**	**245**	P		**P**		**23 01 47.0**	**-1.8**
	baz=47,SNR=11								
AS31	**Alice Springs**	**48.78**	**257**	*e*P		**P**		**23 02 07.2**	**-1.6**
ASAR	**Alice Springs**	**48.78**	**257**	P		**P**		**23 02 07.8**	**-0.9**
ASAR	**Alice Springs**	**48.78**	**257**	P		**P**		**23 02 07.8**	**-0.9**
	4.0nm,0.5s,baz=94,slow=7.4,SNR=57								
WRAB	**Tennant Creek**	**49.02**	**262**	*e*P		**P**		**23 02 10.2**	**-0.5**
	4.5nm,0.7s								
WRA	**Warramunga Arr**	**49.03**	**262**	P		**P**		**23 02 10.1**	**-0.6**
WRA	**Warramunga Arr**	**49.03**	**262**	P		**P**		**23 02 10.1**	**-0.6**
	7.1nm,0.5s,baz=96,slow=8.5,SNR=112								
FORT	**Forrest**	**53.12**	**247**	P		**P**		**23 02 40.4**	**-0.9**
	baz=54,SNR=8.5								
WRKA	**Warakurna**	**53.62**	**254**	P		**P**		**23 02 44.7**	**-0.4**
	baz=54,SNR=32								
KNRA	**Kununurra**	**55.20**	**266**	P		**P**		**23 02 58.4**	**+1.9**
	baz=56,SNR=14								
SBA	**Scott Base**	**57.14**	**185**	*e*P		**P**		**23 03 09.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**57.46**	**262**	P		**P**		**23 03 14.6**	**+1.8**
	baz=58,SNR=9.4								
MEEK	**Meekatharra**	**61.93**	**251**	P		**P**		**23 03 44.5**	**+1.1**
	baz=63,SNR=6.2								
BLDU	**Ballidu**	**62.83**	**246**	P		**P**		**23 03 50.7**	**+1.3**
	baz=64,SNR=12								
MORW	**Morawa**	**63.69**	**247**	P		**P**		**23 03 57.0**	**+1.9**
	baz=64,SNR=8.7								
SNAA	**Sanae**	**86.73**	**177**	*e*P		**P**		**23 06 07.6**	**+0.7**
ROSC	**El Rosal**	**99.86**	**89**	P		**Pdif**		**23 07 05.9**	**-3.0**
	baz=99,SNR=4.0								

IDC ***23*** *23:45:04.2±2.5, 7.36S×128.17E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=286.4km s-min=31.7km az=65.0*

ISCJB ***23*** *23:45:15.7±1.0, 7.56S±0.08×129.3E±0.1, h79km, mb3.4/1, Error ellipse: s-maj=16.5km s-min=10.9km az=5.4*

AUST ***23*** *23:45:16.3, 7.48S×129.04E, h100km*

ISC 23 23:45:15.4±1.0**, 7.53S**±0.07**×129.3E**±0.1**, h79**km**, n13, σ2.75/12, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.42**	**246**	P		**Pn**		**23 46 36.3**	**+2.5**
	baz=5.2,SNR=12								
FAKI	**Fak Fak**	**5.45**	**33**	P		**Pn**		**23 46 35.8**	**+1.6**
	baz=5.6,SNR=7.9								
MTN	**Manton Dam**	**5.59**	**161**	P		Pn		23 46 41.7	+5.6
	baz=5.7,SNR=26								
KDU	**Kakadu**	**6.02**	**149**	P		Pn		23 46 47.0	+5.1
	baz=6.2,SNR=45								
KNRA	**Kununurra**	**8.12**	**183**	P		**Pn**		**23 47 13.4**	**+2.8**
	baz=8.2,SNR=18								
LUWI	**Luwuk**	**9.13**	**315**	P		**Pn**		**23 47 21.4**	**-3.1**
	baz=9.0,SNR=3.2								
FITZ	**Fitzroy Crossi**	**11.09**	**198**	P		**Pn**		**23 47 50.9**	**-0.2**
	baz=11,SNR=14								
WRA	**Warramunga Arr**	**13.29**	**159**	Pn		**Pn**		**23 48 20.9**	**0.0**
	0.4nm,0.3s,baz=332,slow=14,SNR=14								
WRA				Sn		**Sn**		**23 50 43.0**	**-3.9**
	1.5nm,0.3s,baz=333,slow=23,SNR=13								
COEN	**Coen**	**15.08**	**116**	P		**P**		**23 48 50.3**	**+2.7**
	baz=15,SNR=5.0								
ASAR	**Alice Springs**	**16.66**	**165**	P		**P**		**23 49 06.2**	**+1.1**
	0.2nm,0.3s,baz=338,slow=9.9,SNR=10								
ASAR				S		**Sn**		**23 52 05.2**	**-3.4**
	0.3nm,0.3s,baz=322,slow=16,SNR=6.2								
WRKA	**Warakurna**	**17.44**	**183**	P		**P**		**23 49 15.5**	**+1.7**
	baz=18,SNR=5.5								
MANU	**Manus Island**	**18.83**	**74**	P		**P**		**23 49 27.2**	**-1.9**
	baz=19,SNR=3.4								
MKAR	**Makanchi Array**	**68.27**	**327**	P		P		23 56 02.4	-5.5
	0.3nm,0.5s,baz=125,slow=7.1,SNR=6.4								

IDC ***23*** *23:55:56.3±1.4, 1.69S×99.08E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/24, mbtmp3.9/8, ML3.2/1, Error ellipse: s-maj=58.7km s-min=18.7km az=54.0*

NEIC ***23*** *23:55:57.6±0.4, 1.71S×99.06E, h10km, mb4.0/3, Error ellipse: s-maj=13.3km s-min=6.3km az=57.0*

DJA ***23*** *23:56:02.0±4.3, 1.5S±10×9.9E±13, h12km±34km, M4.1/6, mb4.2/1, MLv4.0/6*

ISC 23 23:56:01.5±0.7**, 1.36S**±0.07**×99.42E**±0.07**, h30**km**, n34, σ1831/30, mb4.1/9, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.13**	**67**	P		**Pn**		**23 56 21.4**	**+0.1**
PDSI				S		**Sb**		**23 56 38.8**	**+1.9**
PPI	**Padang Panjang**	**1.32**	**47**	P		**Pn**		**23 56 24.6**	**+0.6**
MNSI	**Mandailing Nat**	**2.15**	**4**	P		**Pb**		**23 56 37.8**	**-2.0**
GSI	**Gunungsitoli**	**3.23**	**325**	P		**Pn**		**23 56 52.9**	**+2.7**
PSI	**Prapat**	**4.16**	**353**	Pn		**Pn**		**23 57 05.0**	**+1.8**
PSI	**Prapat**	**4.16**	**353**	Pn		**Pn**		**23 57 05.0**	**+1.8**
	1.4nm,0.3s,baz=174,slow=9.2,SNR=1.9								
MNAI	**Manna**	**4.62**	**130**	P		**Pn**		**23 57 11.1**	**+1.8**
KCSI	**Kotacane, Aceh**	**5.12**	**341**	P		Pb		23 57 23.8	-6.7
MDSI	**Maura Dua**	**5.67**	**123**	P		**Pn**		**23 57 25.3**	**+1.5**
IPM	**Ipoh**	**6.02**	**15**	*e*Pn		Pn		23 57 33.9	+5.3
CMAR	**Chiang Mai Arr**	**19.70**	**359**	P		**Pn**		**00 00 30.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.70**	**359**	P		**Pn**		**00 00 30.8**	**+0.7**
	0.8nm,0.3s,baz=186,slow=10.0,SNR=7.0								
PALK	**Pallekele**	**20.55**	**295**	P		**P**		**00 00 34.6**	**-3.3**
H08S2	**Diego Garcia H**	**27.55**	**256**	T		T		00 29 42.1	
	baz=77,slow=75,SNR=114								
H08S3	**Diego Garcia H**	**27.55**	**256**	T		T		00 29 44.7	
	baz=77,slow=75,SNR=123								
H08S1	**Diego Garcia H**	**27.57**	**256**	T		T		00 29 40.9	
	baz=77,slow=75,SNR=130								
FITZ	**Fitzroy Crossi**	**30.65**	**124**	*e*P		**P**		**00 02 13.1**	**-0.4**
WRA	**Warramunga Arr**	**38.81**	**121**	P		**P**		**00 03 23.8**	**-0.3**
WRA	**Warramunga Arr**	**38.81**	**121**	P		**P**		**00 03 23.8**	**-0.3**
	1.2nm,0.6s,baz=302,slow=9.1,SNR=26								
WRAB	**Tennant Creek**	**38.82**	**121**	*e*P		**P**		**00 03 24.1**	**0.0**
	2.1nm,0.6s								
ASAR	**Alice Springs**	**40.09**	**126**	P		**P**		**00 03 35.2**	**+0.5**
ASAR	**Alice Springs**	**40.09**	**126**	P		**P**		**00 03 35.2**	**+0.5**
	0.4nm,0.5s,baz=301,slow=8.0,SNR=6.4								
STKA	**Stephens Creek**	**50.00**	**132**	*e*P		**P**		**00 04 53.0**	**-0.4**
	0.3nm,0.7s								
MK31	**Makanchi Array**	**50.26**	**345**	*e*P		**P**		**00 04 56.4**	**+1.3**
MKAR	**Makanchi Array**	**50.26**	**345**	P		**P**		**00 04 56.0**	**+0.9**
MKAR	**Makanchi Array**	**50.26**	**345**	P		**P**		**00 04 56.0**	**+0.9**
	1.7nm,0.6s,baz=147,slow=8.1,SNR=28								
ZAA0	**Zalesovo Array**	**56.44**	**350**	*e*P		**P**		**00 05 40.7**	**+0.5**
ZALV	**Zalesovo Beam**	**56.44**	**350**	P		**P**		**00 05 41.0**	**+0.7**
ZALV	**Zalesovo Beam**	**56.44**	**350**	P		**P**		**00 05 41.0**	**+0.7**
	1.5nm,0.5s,baz=170,slow=5.8,SNR=13								
ABKAR	**Akbulak array**	**60.81**	**331**	*e*P		**P**		**00 06 10.1**	**-0.7**
	2.0nm,1.0s								
BRTR	**Keskin Array B**	**72.47**	**312**	P		**P**		**00 07 25.1**	**-0.6**
BRTR	**Keskin Array B**	**72.47**	**312**	P		**P**		**00 07 25.1**	**-0.6**
	0.4nm,0.5s,baz=134,slow=11,SNR=4.5								
FINES	**FINESS Array B**	**83.28**	**332**	P		**P**		**00 08 25.6**	**+0.5**
FINES	**FINESS Array B**	**83.28**	**332**	P		**P**		**00 08 25.6**	**+0.5**
	3.4nm,1.0s,baz=103,slow=6.1,SNR=6.6								

IDC 23 23:58:53.9±3.6**, 15.36S×173.50W, h0**km**, mb3.8**/4**, mb1 4.0/4, mb1mx3.8**/19**, mbtmp3.8**/4**, MS3.7**/3**, Ms1 3.7**/3**, ms1mx3.2**/43**, Error ellipse: s-maj=186.6km s-min=33.1km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.20**	**49**	Pn		Pn		23 59 24.3	-7.5
	23nm,0.3s,baz=66,slow=4.1,SNR=19								
AFI				Sn		Sn		23 59 42.5	-17
	56nm,0.3s,baz=91,slow=19,SNR=6.7								
PPT	**Papeete**	**23.05**	**99**	LR		LR		00 11 17.8	
	comp=Z,47nm,18.2s,baz=279,slow=32								
RPZ	**Rata Peaks**	**31.19**	**202**	LR		LR		00 16 50.0	
	comp=Z,107nm,18.5s,baz=186,slow=34								
STKA	**Stephens Creek**	**43.98**	**240**	P		P		00 07 03.4	+0.2
	1.8nm,0.7s,baz=86,slow=14,SNR=2.7								
WRA	**Warramunga Arr**	**49.76**	**257**	P		P		00 07 48.0	-0.6
	0.3nm,0.4s,baz=95,slow=7.7,SNR=7.1								
ASAR	**Alice Springs**	**50.03**	**252**	P		P		00 07 50.4	-0.2
	1.4nm,0.5s,baz=86,slow=8.1,SNR=25								
TGY	**Tagaytay City**	**71.12**	**291**	LR		LR		00 37 48.8	
	comp=Z,194nm,18.8s,baz=62,slow=33								
YKA	**Yellowknife Ar**	**90.10**	**23**	P		P		00 11 54.8	-0.5
	0.2nm,0.8s,baz=250,slow=3.5,SNR=4.7								
BRTR	**Keskin Array B**	**146.06**	**321**	PKPbc		PKPbc		00 18 36.2	-0.1
	0.6nm,0.7s,baz=57,slow=2.3,SNR=4.1								

IDC 24 00:18:02.3±57.0**, 17.69S×175.23W, h0**km**, mb4.1/3, mb1 4.3/3, mb1mx3.9/18, mbtmp4.1/3, Error ellipse: s-maj=1068.0km s-min=168.1km az=80.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.40**	**242**	P		P		00 25 51.2	+0.7
	3.4nm,0.8s,baz=69,slow=8.6,SNR=5.3								
WRA	**Warramunga Arr**	**47.65**	**259**	P		P		00 26 40.3	-0.4
	1.1nm,0.4s,baz=97,slow=8.0,SNR=23								
ASAR	**Alice Springs**	**47.76**	**254**	P		P		00 26 41.1	-0.5
	1.6nm,0.6s,baz=90,slow=8.0,SNR=25								

IDC ***24*** *00:23:27.5±0.6, 42.21N×134.86E, h349km±5km, mb5.0/40, mb1 5.0/44, mb1mx5.0/45, mbtmp5.0/44, Error ellipse: s-maj=5.7km s-min=4.6km az=91.0*

ISCJB ***24*** *00:23:28.4±0.3, 42.15N±0.03×134.90E±0.05, h378km±4km, mb5.5/43, Error ellipse: s-maj=5.7km s-min=4.4km az=12.5*

JMA ***24*** *00:23:31.2±0.4, 41.95N×135.47E, h405km*

ISC 24 00:23:28.3±0.6**, 42.13N**±0.03**×134.90E**±0.04**, h358**km**±5km, n191, σ1877/302, mb5.6/43, 10C-1D, Primorye**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**3.40**	**89**	P		**Pn**		**00 24 34.5**	**+2.6**
JSH	**Shimam**	**3.84**	**81**	P		**Pn**		**00 24 38.8**	**+2.7**
JKB	**Kayabe**	**4.58**	**91**	P		**Pn**		**00 24 45.4**	**+1.8**
JOT	**Ohata**	**4.66**	**97**	P		**Pn**		**00 24 46.2**	**+1.7**
JHR	**Hokuryu**	**5.26**	**70**	P		**Pn**		**00 24 53.4**	**+2.4**
JMK	**Ichinoseki**	**5.77**	**121**	P		**Pn**		**00 24 56.7**	**0.0**
ASAJ	**Asahikawa**	**5.97**	**68**	P		**Pn**		**00 25 01.1**	**+2.2**
	112nm,0.3s,baz=257,slow=10,SNR=91								
ASAJ				S		**S**		**00 26 15.0**	**+2.5**
	98nm,0.3s,baz=101,slow=31,SNR=4.8								
JKA	**Kamikawa-asahi**	**5.97**	**68**	P		**Pn**		**00 25 01.1**	**+2.2**
JWK2	**Keihoku**	**5.98**	**56**	P		**Pn**		**00 25 02.2**	**+3.2**
SAI	**Saigo**	**6.05**	**192**	P		Pn		00 25 04.4	+4.4
MAJO	**Matsushiro**	**6.14**	**154**	*d*P		**Pn**		**00 25 02.4**	**+1.3**
MAJO	**Matsushiro**	**6.14**	**154**	*e*Pn		**Pn**		**00 25 02.9**	**+1.8**
MAT	**Matsushiro**	**6.14**	**154**	P		**Pn**		**00 25 02.3**	**+1.2**
MAT				S		S		00 26 24.6	+8.2
MJAR	**Matsushiro Arr**	**6.14**	**154**	P		**Pn**		**00 25 02.7**	**+1.6**
MJAR	**Matsushiro Arr**	**6.14**	**154**	P		**Pn**		**00 25 02.7**	**+1.6**
	16nm,0.3s,baz=336,slow=11,SNR=125								
ERM	**Erimo**	**6.14**	**88**	*c* P		**Pn**		**00 25 01.6**	**+0.7**
ERM	**Erimo**	**6.14**	**88**	*i* P		**Pn**		**00 25 01.6**	**+0.7**
ERM	**Erimo**	**6.14**	**88**	*e*Pn		**Pn**		**00 25 01.8**	**+0.8**
ERM				*e*S		**S**		**00 26 15.8**	**-0.4**
JTKR	**Abashiri--Toko**	**6.85**	**71**	P		**Pn**		**00 25 09.6**	**+0.6**
JRY	**Ryogami san**	**6.85**	**152**	P		**P**		**00 25 11.0**	**+0.4**
JHS	**Saijyo**	**7.26**	**192**	P		**P**		**00 25 17.6**	**+2.3**
YSS	**Yuzh-Sakhalins**	**7.39**	**47**	*e*P		**P**		**00 25 17.0**	**+0.5**
YSS				*i* S		**S**		**00 26 44.0**	**+1.5**
YSS				pmax	pmax				
	comp=N,10μm,3.0s								
YSS				pmax	pmax				
	comp=E,10μm,3.0s								
YSS				pmax	pmax				
	comp=Z,15μm,3.0s								
YSS				pmax	pmax				
	comp=Z,6μm,0.8s								
YSS				pmax	pmax				
	comp=N,3μm,1.0s								
YSS				smax	smax				
	comp=E,72μm,9.0s								
YSS				smax	smax				
	comp=N,85μm,12.0s								
YSS				MLR	MLR				
	comp=Z,17μm,10.0s								
YSS				MLR	MLR				
	comp=N,13μm,14.0s								
YSS	**Yuzh-Sakhalins**	**7.39**	**47**	*e*P		**P**		**00 25 17.0**	**+0.5**
YSS				*i* P		**P**		**00 25 17.0**	**+0.5**
YSS				AMB	AMB	AMB		00 25 23.6	
	comp=N,20μm,3.0s								
YSS				AMB	AMB	AMB		00 25 24.0	
	comp=N,10μm,3.0s								
YSS				AMB	AMB	AMB		00 25 24.0	
	comp=N,10μm,3.0s								
YSS				AMB	AMB	AMB		00 25 24.0	
	comp=N,15μm,3.0s								
YSS				*i* S		**S**		**00 26 44.0**	**+1.5**
YSS				A	A	A		00 26 50.0	
	comp=N,72μm,9.0s								
YSS				A	A	A		00 26 50.0	
	comp=N,85μm,12.0s								
YSS				AMS	AMS	AMS		00 28 30.0	
	comp=N,13μm,14.0s								
YSS				AMS	AMS	AMS		00 28 30.0	
	comp=N,17μm,10.0s								
YSS				AMS	AMS	AMS		00 28 32.0	
	comp=N,21μm,10.0s								
YSS	**Yuzh-Sakhalins**	**7.39**	**47**	*e*Pn		**P**		**00 25 17.7**	**+1.2**
KLR	**Kul'dur**	**7.43**	**344**	*c* P		**Pn**		**00 25 15.0**	**-0.7**
KLR				*e*S		**S**		**00 26 42.0**	**-1.2**
KLR				pmax	pmax				
	comp=N,5μm,3.5s								
KLR				pmax	pmax				
	comp=E,3μm,3.5s								
KLR				pmax	pmax				
	comp=Z,7μm,3.5s								
JOD2	**Odawara 2**	**7.60**	**153**	P		**Pn**		**00 25 18.0**	**+0.1**
NEM2	**Nemuro 2**	**8.07**	**78**	P		**Pn**		**00 25 22.4**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**8.24**	**73**	*c* P		**P**		**00 25 27.9**	**+0.2**
YUK

CBIJ **Chichi jima** 16.14 156 *e*P **P** **00 26 53.0 -2.0**
CBIJ *e*S **S** **00 29 44.1 -2.3**
CBIJ ScP **ScP** **00 34 28.8 +0.9**
JCJ **Chichijima** 16.14 156 P **P** **00 26 53.5 -1.5**
comp=E,68nm,0.3s,baz=78,slow=23,SNR=26
JCJ S **S** **00 29 42.7 -3.7**
comp=E,64nm,0.3s,baz=270,slow=20,SNR=5.8
JOW Kunigami 16.20 202 *e*P **P** **00 26 54.9 -0.7**
comp=E,81nm,1.2s
SKR Severo-Kuril's 16.90 52 *e*P P 00 26 56.9 -5.9
SKR *e*S S 00 29 52.0 -8.7
SKR pmax pmax
comp=N,8μm,14.0s
SKR pmax pmax
comp=E,5μm,14.0s
SKR pmax pmax
comp=Z,14μm,14.0s
SKR pmax pmax
comp=N,460nm,0.5s
SKR pmax pmax
comp=E,390nm,0.5s
SKR pmax pmax
comp=Z,1μm,0.5s
SKR smax smax
comp=N,1μm,1.0s
SKR smax smax
comp=E,450nm,1.0s
SKR smax smax
comp=N,20μm,8.0s
SKR smax smax
comp=E,8μm,8.0s
SKR MLR MLR
comp=N,6μm,14.0s
SKR MLR MLR
comp=E,5μm,14.0s
SKR MLR MLR
comp=Z,14μm,14.0s
SKR Severo-Kuril's 16.90 52 *e*P **P** **00 27 00.0 -2.8**
SKR AMB AMB 00 27 04.0
comp=Z,8μm,14.0s
SKR AMB AMB 00 27 04.0
comp=Z,5μm,14.0s
SKR AMB AMB 00 27 04.0
comp=Z,14μm,14.0s
SKR AMB AMB 00 27 04.0
comp=Z,9μm,14.0s
SKR AMB AMB 00 27 04.0
comp=Z,10μm,14.0s
SKR AMB AMB 00 27 04.0
comp=Z,13μm,14.0s
SKR AMB AMB 00 27 04.5
comp=Z,460nm,0.5s
SKR AMB AMB 00 27 04.5
comp=Z,390nm,0.5s
SKR AMB AMB 00 27 04.5
comp=Z,1μm,0.5s
SKR *e*rx rx 00 28 33.1
SKR *e*S S 00 29 52.0 -8.7
SKR A A 00 30 14.0
comp=Z,1μm,1.0s
SKR A A 00 30 14.0
comp=Z,450nm,1.0s
SKR A A 00 30 16.0
comp=Z,20μm,8.0s
SKR A A 00 30 16.0
comp=Z,8μm,8.0s
SKR A A 00 30 16.0
comp=Z,20μm,8.0s
SKR A A 00 30 16.0
comp=Z,10μm,8.0s
SKR AMS AMS 00 32 55.0
comp=Z,9μm,16.0s
SKR AMS AMS 00 32 55.0
comp=Z,12μm,16.0s
SKR AMS AMS 00 32 55.0
comp=Z,8μm,16.0s
SKR AMS AMS 00 32 55.0
comp=Z,12μm,16.0s
PETK Petropavlovsk- 18.80 46 P **P** **00 27 21.8 -1.3**
PETK pmax pmax
comp=Z,11nm,0.3s
PETK Petropavlovsk- 18.80 46 P **P** **00 27 21.8 -1.3**
comp=Z,10nm,0.3s,baz=213,slow=10,SNR=39
SONM Songino Array 20.89 296 P **P** **00 27 43.5 -0.3**
comp=Z,61nm,0.5s,baz=102,slow=8.8,SNR=39
SONM Songino Array 20.89 296 P **P** **00 27 43.5 -0.3**
SEY Seymchan 23.23 20 P **P** **00 28 04.3 -0.4**
SEY S **S** **00 31 52.2 +2.8**
SEY pmax pmax
comp=Z,96nm,0.7s
SEY smax smax
comp=N,68nm,1.0s
SEY Seymchan 23.23 20 P **P** **00 28 04.3 -0.4**
SEY Seymchan 23.23 20 P **P** **00 28 04.3 -0.4**
comp=N,96nm,0.7s,baz=212,slow=6.6,SNR=70
SEY S **S** **00 31 52.1 +2.8**
comp=N,68nm,1.0s,baz=357,slow=22,SNR=7.6
SEY Seymchan 23.23 20 P **P** **00 28 04.3 -0.4**
SEY S **S** **00 31 52.1 +2.8**
FX1 Attu Island--F 27.68 54 P **P** **00 28 45.0 +0.6**
comp=N,98nm,0.3s,baz=320,slow=9.0,SNR=58
FX1 PcP **PcP** **00 31 51.1 +0.2**
comp=N,48nm,0.5s,baz=233,slow=5.1,SNR=2.4
FX1 Attu Island--F 27.68 54 *e*P **P** **00 28 45.0 +0.6**
FX1 PcP **PcP** **00 31 51.1 +0.2**
TGY Tagaytay City 30.44 208 P **P** **00 29 10.1 +1.0**
comp=N,325nm,0.6s,baz=246,slow=3.0,SNR=13
TGY Tagaytay City 30.44 208 P **P** **00 29 10.1 +1.0**
ADK Adak 33.85 56 *e*P **P** **00 29 36.6 -1.5**
ADK *e* 00 32 08.5
ADK pmax pmax
comp=Z,2μm,1.1s
ADK Adak 33.85 56 *e*P **P** **00 29 36.6 -1.5**
comp=Z,2μm,1.1s
ADK *e*PcP **PcP** **00 32 08.5 +1.1**
ZALV Zalesovo Beam 34.79 307 *i* P **P** **00 29 45.0 -1.0**
ZALV pmax pmax
comp=Z,322nm,0.7s
ZALV Zalesovo Beam 34.79 307 P **P** **00 29 45.1 -1.0**
comp=Z,333nm,0.7s,baz=97,slow=8.9,SNR=524
ZALV PcP **PcP** **00 32 10.1 0.0**
comp=Z,96nm,0.6s,baz=102,slow=3.9,SNR=2.3
ZALV S **S** **00 34 50.6 +1.2**
comp=Z,37nm,0.8s,baz=97,slow=12,SNR=4.2
ZALV P3KPbc 01 00 36.1
comp=Z,4.2nm,0.8s,baz=250,slow=4.2,SNR=15
ZALV P3KP 01 01 42.5
comp=Z,5.3nm,1.1s,baz=304,slow=3.3,SNR=4.6
ZALV Zalesovo Beam 34.79 307 P **P** **00 29 45.1 -1.0**
ZALV PcP **PcP** **00 32 10.1 0.0**
ZALV S **S** **00 34 50.6 +1.2**
ZALV *e* 01 00 36.1
ZALV PKKKP 01 01 42.5
MKAR Makanchi Array 37.25 296 P **P** **00 30 06.2 -0.7**
comp=Z,175nm,0.8s,baz=84,slow=10,SNR=549
MKAR P3KPbc 01 00 23.8
comp=Z,2.9nm,0.8s,baz=250,slow=4.2,SNR=13
MKAR P3KP 01 02 01.4
comp=Z,1.4nm,0.9s,baz=355,slow=1.3,SNR=3.8
MKAR Makanchi Array 37.25 296 *e*P **P** **00 30 06.2 -0.7**
MKAR *e* 01 00 23.8
MKAR PKKKP 01 02 01.4
CMAR Chiang Mai Arr 38.57 243 P **P** **00 30 17.7 -0.4**
CMAR Chiang Mai Arr 38.57 243 P **P** **00 30 17.7 -0.4**
comp=Z,73nm,0.8s,baz=36,slow=7.1,SNR=161
CMAR PcP **PcP** **00 32 23.9 +1.6**
comp=Z,40nm,0.6s,baz=16,slow=1.8,SNR=5.3
CMAR P3KPbc 01 00 22.4
comp=Z,1.1nm,0.5s,baz=233,slow=4.9,SNR=5.5
CMAR P3KP 01 01 44.6
comp=Z,0.5nm,0.3s,baz=297,slow=2.2,SNR=4.2
CMAR Chiang Mai Arr 38.57 243 P **P** **00 30 17.7 -0.4**
CMAR PcP **PcP** **00 32 23.9 +1.6**
CMAR *e* 01 00 22.4
CMAR PKKKP 01 01 44.6
KURBB Kurchatov Arra 38.95 302 P **P** **00 30 19.9 -1.0**
comp=Z,473nm,0.5s,baz=81,slow=8.7,SNR=1124
KURBB S **S** **00 35 54.3 +2.2**
comp=Z,25nm,0.9s,baz=77,slow=16,SNR=4.9
KURBB P3KPbc 01 00 20.2
comp=Z,1.2nm,0.7s,baz=258,slow=4.6,SNR=11
BVAR Borovoye Array 43.45 308 P **P** **00 30 56.3 -0.7**
comp=Z,60nm,0.5s,baz=78,slow=8.0,SNR=293
BVAR PcP **PcP** **00 32 39.4 +1.6**
comp=Z,111nm,0.6s,baz=83,slow=2.7,SNR=4.1
BVAR S **S** **00 36 58.4 +0.7**
comp=Z,67nm,1.1s,baz=90,slow=10,SNR=4.5
BVAR P3KP 01 01 57.2
comp=Z,2.0nm,0.9s,baz=189,slow=3.8,SNR=3.1
BVAR P4KPbc 01 08 48.4
comp=Z,2.9nm,0.7s,baz=86,slow=5.0,SNR=9.9
BVAR Borovoye Array 43.45 308 P **P** **00 30 56.3 -0.7**
BVAR PcP **PcP** **00 32 39.4 +1.6**
BVAR S **S** **00 36 58.4 +0.7**
BVAR PKKKP 01 01 57.2
BVAR *e* 01 08 48.4
AAK Ala-Archa 43.77 292 *i* P **P** **00 30 59.3 -0.6**
AAK pmax pmax
comp=Z,386nm,0.7s
AAK Ala-Archa 43.77 292 P **P** **00 30 59.3 -0.6**
SNR=217
AAK Ala-Archa 43.77 292 *i* P **P** **00 30 59.3 -0.6**
AAK Ala-Archa 43.77 292 P **P** **00 30 59.4 -0.6**
comp=Z,94nm,0.3s,baz=99,slow=5.0,SNR=322
AAK Ala-Archa 43.77 292 *e*P **P** **00 30 59.2 -0.6**
comp=Z,1μm,0.8s
ILAR Eielson Array 48.01 34 P **P** **00 31 31.2 -0.9**
ILAR Eielson Array 48.01 34 P **P** **00 31 31.1 -0.9**
ILAR PcP **PcP** **00 32 55.0 +1.3**
ILAR S **S** **00 38 04.5 +2.5**
ILAR PKKKP 01 01 23.3
ILAR *e* 01 09 09.7
ILAR Eielson Array 48.01 34 P **P** **00 31 31.1 -0.9**
comp=Z,57nm,0.7s,baz=281,slow=5.1,SNR=253
ILAR PcP **PcP** **00 32 55.0 +1.3**
comp=Z,64nm,0.8s,baz=290,slow=4.6,SNR=5.7
ILAR S **S** **00 38 04.5 +2.5**
comp=Z,19nm,1.2s,baz=268,slow=8.8,SNR=5.5
ILAR P3KP 01 01 23.3
comp=Z,0.8nm,0.8s,baz=222,slow=2.8,SNR=4.8
ILAR P4KPbc 01 09 09.7
comp=Z,0.8nm,0.7s,baz=280,slow=4.0,SNR=12
PSI Prapat 50.68 229 P **P** **00 31 53.2 +0.4**
comp=Z,499nm,1.3s,comp=Z,5μm,1.0s,comp=Z,90nm,1.0s
PSI Prapat 50.68 229 P **P** **00 31 52.9 +0.1**
comp=Z,66nm,0.7s,baz=2.1,slow=6.5,SNR=28
PSI S **S** **00 38 38.1 -1.9**
comp=Z,4.0nm,0.4s,baz=223,slow=15,SNR=2.8
PSI Prapat 50.68 229 P **P** **00 31 53.3 +0.4**
comp=Z,499nm,1.3s,comp=Z,5μm,1.0s,comp=Z,90nm,1.0s
PSI Prapat 50.68 229 P **P** **00 31 52.9 +0.1**
PSI S **S** **00 38 38.1 -1.9**
AKTO Aktyubinsk 51.55 307 P **P** **00 31 57.4 -1.3**
AKTO pmax pmax
comp=Z,1μm,0.8s
AKTO Aktyubinsk 51.55 307 P **P** **00 31 58.1 -0.6**
comp=Z,196nm,0.8s,baz=80,slow=8.2,SNR=179
AKTO S **S** **00 38 52.1 +1.1**
comp=Z,30nm,0.9s,baz=283,slow=19,SNR=7.9
AKTO PKPPKP **P'P'df** **01 02 29.5 -4.0**
comp=Z,6.3nm,1.1s,baz=271,slow=4.5,SNR=6.8
AKTO Aktyubinsk 51.55 307 P **P** **00 31 58.1 -0.6**
AKTO S **S** **00 38 52.1 +1.1**
AKTO P'P' 01 02 29.5
INK Inuvik 52.20 28 P **P** **00 32 02.6 -0.5**
comp=Z,90nm,0.7s,baz=309,slow=7.3,SNR=218
INK S **S** **00 39 00.7 +1.5**
comp=Z,4.7nm,1.0s,baz=294,slow=20,SNR=4.9
INK PKPPKP P'P'df 01 02 23.2 -11
comp=Z,2.8nm,0.9s,baz=98,slow=5.5,SNR=5.3
INK Inuvik 52.20 28 *e*P **P** **00 32 02.9 -0.2**
comp=Z,2μm,1.7s
INK P'P' 01 02 23.2
PMG Port Moresby 52.51 165 P **P** **00 32 06.9 +0.9**
comp=Z,29nm,0.6s,baz=333,slow=2.3,SNR=3.5
PMG S **S** **00 39 07.6 +3.2**
comp=Z,3.2nm,0.4s,baz=270,slow=20,SNR=3.5
PMG Port Moresby 52.51 165 S **S** **00 39 07.6 +3.2**
ABKT Ailbek 57.07 293 P **P** **00 32 37.7 -0.6**
comp=Z,11μm,1.1s
ARCES ARCESS Array B 57.40 337 P **P** **00 32 39.5 -0.5**
comp=Z,43nm,0.5s,baz=59,slow=7.6,SNR=172
ARCES PP **PP** **00 34 51.1 -0.4**
comp=Z,61nm,1.0s,baz=55,slow=8.3,SNR=3.0
ARCES S **S** **00 40 11.2 +3.5**
comp=Z,20nm,0.8s,baz=85,slow=14,SNR=2.9
ARCES ARCESS Array B 57.40 337 P **P** **00 32 39.5 -0.5**
ARCES PP **PP** **00 34 51.1 -0.4**
ARCES S **S** **00 40 11.2 +3.5**
DLBC Dease Lake 57.73 38 P **P** **00 32 43.2 +0.7**
comp=Z,73nm,1.0s,baz=289,slow=8.0,SNR=42
DLBC Dease Lake 57.73 38 *e*P **P** **00 32 43.3 +0.7**
comp=Z,2μm,1.5s
XMIS Christmas Isla 58.84 214 *e*P **P** **00 32 49.7 -0.8**
comp=Z,138nm,0.8s
RES Resolute Bay 58.88 14 P **P** **00 32 50.4 +0.3**
RES Resolute Bay 58.88 14 P **P** **00 32 50.4 +0.3**
comp=Z,379nm,0.9s,baz=310,slow=7.5,SNR=212
RES S **S** **00 40 25.5 -1.1**
comp=Z,7.0nm,0.9s,baz=310,slow=15,SNR=7.9
RES PKPPKP P'P'df 01 02 06.2 -19
comp=Z,2.2nm,1.1s,baz=157,slow=7.7,SNR=3.7
RES Resolute Bay 58.88 14 P **P** **00 32 50.4 +0.3**
RES S **S** **00 40 25.5 -1.1**
RES P'P' 01 02 06.2
WRAB Tennant Creek 61.76 181 *c i*P **P** **00 33 09.5 -0.6**
WRAB pmax pmax
comp=Z,908nm,1.3s
WRAB Tennant Creek 61.76 181 *e*P **P** **00 33 09.4 -0.6**
WRA Warramunga Arr 61.76 181 P **P** **00 33 09.7 -0.4**
comp=Z,18nm,0.8s,baz=358,slow=7.2,SNR=56
WRA Warramunga Arr 61.76 181 S **S** **00 40 59.9 -4.3**
comp=Z,11nm,1.0s,baz=356,slow=12,SNR=5.3
WRA PKPPKP **P'P'df** **01 02 07.5 -3.1**
comp=Z,5.7nm,1.0s,baz=147,slow=2.6,SNR=11
WRA Warramunga Arr 61.76 181 P **P** **00 33 09.7 -0.4**
WRA S **S** **00 40 59.9 -4.3**
WRA P'P' 01 02 07.5
YKA Yellowknife Ar 61.90 30 P **P** **00 33 09.2 -1.2**
YKA Yellowknife Ar 61.90 30 P **P** **00 33 09.2 -1.2**
comp=Z,24nm,0.7s,baz=307,slow=6.2,SNR=312
YKA PKKP PKKPdf 00 53 45.1 -7.2
comp=Z,0.4nm,0.7s,baz=179,slow=2.8,SNR=4.6
YKA PKPPKP P'P'df 01 02 04.4 -15
comp=Z,1.6nm,0.8s,baz=163,slow=2.4,SNR=11
YKA P4KPbc 01 10 08.3
comp=Z,3.5nm,0.8s,baz=310,slow=4.2,SNR=12
YKA Yellowknife Ar 61.90 30 P **P** **00 33 09.2 -1.2**
YKA PKKP PKKPdf 00 53 45.1 -7.2
YKA P'P' 01 02 04.4
YKA *e* 01 10 08.3
FINES FINESS Array B 61.91 329 P **P** **00 33 09.3 -1.2**
comp=Z,153nm,0.5s,baz=56,slow=6.5,SNR=187
FINES S **S** **00 41 03.5 -1.6**
comp=Z,77nm,1.1s,baz=74,slow=16,SNR=7.3
FINES PKPPKP P'P'df 01 02 11.2 -8.3
comp=Z,5.7nm,1.0s,baz=114,slow=4.8,SNR=4.2
FINES FINESS Array B 61.91 329 P **P** **00 33 09.3 -1.2**
FINES S **S** **00 41 03.5 -1.6**
FINES P'P' 01 02 11.2
CTA Charters Tower 62.79 168 P **P** **00 33 17.1 +0.3**
CTA S **S** **00 41 19.9 +3.1**
CTA Charters Tower 62.79 168 P **P** **00 33 17.1 +0.3**
comp=Z,28nm,0.7s,baz=357,slow=6.5,SNR=21
CTA S **S** **00 41 19.9 +3.1**
comp=Z,1.6nm,0.5s,baz=282,slow=20,SNR=3.0
CTA PKP2bc 01 02 23.3
comp=Z,23nm,1.0s,baz=193,slow=3.8,SNR=3.7
CTAO Charters Tower 62.79 168 *e*P **P** **00 33 15.9 -0.9**
CTAO pmax pmax
comp=Z,383nm,1.0s
CTAO Charters Tower 62.79 168 *e*P **P** **00 33 15.9 -0.9**
comp=Z,383nm,1.0s
ZEI Tsey 63.72 305 *e*P **P** **00 33 20.8 -2.1**
ZEI pmax pmax
comp=Z,1μm,1.4s
NSS Namsos 64.67 336 *e*P **P** **00 33 26.1 -2.3**
MICGM Minsk 65.42 322 *i*P P 00 33 29.0 -4.4
ASAR Alice Springs 65.47 181 P **P** **00 33 33.8 -0.3**
comp=Z,16nm,0.9s,baz=355,slow=6.3,SNR=41
ASAR S **S** **00 41 50.1 +0.6**
comp=Z,6.0nm,1.0s,baz=16,slow=18,SNR=4.5
ASAR PKPPKP **P'P'df** **01 02 07.2 +2.6**
comp=Z,7.1nm,0.9s,baz=151,slow=2.5,SNR=11
ASAR Alice Springs 65.47 181 P **P** **00 33 33.8 -0.3**
ASAR S **S** **00 41 50.1 +0.6**
ASAR P'P' 01 02 07.2
NACGM Naroch 65.67 323 *e*P **P** **00 33 32.0 -2.9**
NB2 NORSAR Subarra 67.47 334 P **P** **00 33 45.1 -1.1**
comp=Z,166nm,0.7s,baz=40,slow=6.5
NB2 NORSAR Subarra 67.47 334 P **P** **00 33 45.1 -1.1**
baz=40,slow=6.5
NOA NORSAR Array B 67.47 334 P **P** **00 33 45.0 -1.1**
comp=Z,86nm,0.8s,baz=42,slow=6.1,SNR=146
NOA PP **PP** **00 36 20.1 +0.4**
NOA comp=Z,119nm,0.8s,baz=44,slow=8.8,SNR=8.8 PKPPKP P'P'df 01 02 03.2 -7.5
comp=Z,2.8nm,0.9s,baz=232,slow=1.3,SNR=5.6
NOA NORSAR Array B 67.47 334 P **P** **00 33 45.0 -1.1**
NOA PP **PP** **00 36 20.1 +0.4**
NOA P'P' 01 02 03.2
DZM Mont Dzumac 70.22 149 P **P** **00 34 05.3 +1.8**
comp=Z,17nm,0.6s,baz=6.9,slow=10,SNR=16
YBH Yreka Blue Hor 71.11 51 P **P** **00 34 08.9 +0.2**
comp=Z,45nm,0.7s,baz=31,slow=2.6,SNR=71
YBH PKPPKP **P'P'df** **01 01 57.7 -5.0**
comp=Z,2.5nm,0.8s,baz=111,slow=2.2,SNR=5.1
YBH Yreka Blue Hor 71.11 51 *e*P **P** **00 34 08.9 +0.2**
comp=Z,525nm,1.0s
YBH P'P' 01 01 57.7
BRTR Keskin Array B 71.73 307 P **P** **00 34 11.7 -0.8**
comp=Z,78nm,0.8s,baz=64,slow=3.2,SNR=177
BRTR PP PP 00 36 43.5 -13
comp=Z,55nm,1.1s,baz=65,slow=10,SNR=2.7
BRTR PKPPKP **P'P'df** **01 01 57.8 -3.7**
comp=Z,13nm,1.2s,baz=184,slow=3.7,SNR=16
BRTR Keskin Array B 71.73 307 P **P** **00 34 11.7 -0.8**
BRTR P'P' 01 01 57.8
MLR Muntele Rosu 72.23 316 S **S** **00 43 09.8 +1.6**
comp=Z,12nm,1.2s,baz=285,slow=22,SNR=12
MLR PKPPKP P'P'df 01 01 55.0 -6.2
comp=Z,6.8nm,1.3s,baz=260,slow=6.1,SNR=11
STKA Stephens Creek 73.90 174 *e*P **P** **00 34 24.9 +0.1**
comp=Z,118nm,1.2s
STKA Stephens Creek 73.90 174 P **P** **00 34 24.9 +0.1**
comp=Z,18nm,0.8s,baz=350,slow=7.3,SNR=20
VRAC Vranov 74.07 323 S **S** **00 43 31.5 +3.3**
comp=Z,7.9nm,1.0s,baz=316,slow=24,SNR=9.0
ASF Jabal al Asfar 74.55 299 PKPPKP **P'P'df** **01 01 51.3 -4.5**
comp=Z,1.2nm,0.7s,baz=310,slow=7.9,SNR=4.0
GEC2 GERESS Array S 75.69 324 *e*P **P** **00 34 33.9 -1.1**
comp=Z,201nm,1.0s
GERES GERESS Array B 75.69 324 P **P** **00 34 34.1 -0.9**
comp=Z,29nm,0.4s,baz=41,slow=5.9,SNR=199
GERES PP **PP** **00 37 29.8 +0.1**
comp=Z,25nm,0.8s,baz=46,slow=8.0,SNR=3.8
GERES PKKPbc **PKKPbc** **00 53 45.0 -3.3**
comp=Z,1.2nm,0.8s,baz=205,slow=2.8,SNR=4.4
GERES GERESS Array B 75.69 324 P **P** **00 34 34.1 -0.9**
GERES PP **PP** **00 37 29.8 +0.1**
GERES PKKPbc **PKKPbc** **00 53 45.0 -3.3**
NWAO Narrogin (SRO) 76.44 195 P **P** **00 34 40.6 +1.5**
NWAO S **S** **00 43 55.4 +1.2**
NWAO Narrogin (SRO) 76.44 195 P **P** **00 34 40.6 +1.5**
comp=Z,50nm,1.0s,baz=15,slow=6.7
NWAO S **S** **00 43 55.4 +1.2**
comp=Z,10nm,1.0s,baz=77,slow=15,SNR=2.6
EKA Eskdalemuir Ar 76.56 337 PKKPbc PKKPbc 00 53 49.8 +3.3
comp=Z,0.8nm,0.6s,baz=194,slow=2.3,SNR=3.6
EIL Elat 77.45 299 S **S** **00 44 03.9 -1.7**
comp=Z,17nm,1.1s,baz=258,slow=18,SNR=3.6
PDAR Pinedale Array 77.52 43 P **P** **00 34 44.2 -1.3**
PDAR PKKPbc **PKKPbc** **00 53 48.2 +3.8**
PDAR Pinedale Array 77.52 43 P **P** **00 34 44.2 -1.3**
comp=Z,97nm,0.6s,baz=353,slow=0.9,SNR=270
PDAR PKKPbc **PKKPbc** **00 53 48.2 +3.8**
comp=Z,1.2nm,0.6s,baz=146,slow=5.0,SNR=5.3
ULM Lac du Bonnet 77.85 31 *e*P **P** **00 34 45.3 -1.6**
comp=Z,966nm,0.9s
ULM S **S** **00 44 06.1 -3.0**
ULM PKKPbc **PKKPbc** **00 53 45.7 +2.1**
ULM P'P' 01 01 45.9
ULM Lac du Bonnet 77.85 31 P **P** **00 34 45.2 -1.6**
comp=Z,108nm,0.6s,baz=322,slow=6.6,SNR=170
ULM S **S** **00 44 06.1 -3.0**
comp=Z,3.6nm,0.8s,baz=252,slow=20,SNR=2.1
ULM PKKPbc **PKKPbc** **00 53 45.7 +2.1**
comp=Z,2.6nm,0.6s,baz=348,slow=9.3,SNR=4.1
ULM PKPPKP P'P'df 01 01 45.9 -6.1
comp=Z,2.1nm,0.8s,baz=196,slow=2.5,SNR=3.1
DAVOX Davos/Dischmat 78.92 325 S **S** **00 44 17.5 -3.5**
comp=Z,14nm,1.2s,baz=252,slow=20,SNR=3.9
DAVOX PKKPbc **PKKPbc** **00 53 46.2 +4.7**
comp=Z,11nm,0.8s,baz=239,slow=5.9,SNR=12
PFO Pinyon Flat Ob 80.22 53 P **P** **00 34 59.2 -0.8**
PFO Pinyon Flat Ob 80.22 53 P **P** **00 34 59.2 -0.8**
baz=51,slow=6.5
SCHQ Schefferville 81.64 13 P **P** **00 35 06.7 -0.2**
comp=Z,282nm,0.9s,baz=2.8,slow=5.7,SNR=39
SCHQ S **S** **00 44 49.5 +1.2**
comp=Z,4.8nm,0.9s,baz=261,slow=18,SNR=5.5
SCHQ PKKPbc **PKKPbc** **00 53 39.3 +3.7**
comp=Z,10nm,0.8s,baz=186,slow=1.1,SNR=8.5
SCHQ PKPPKP P'P'df 01 01 38.2 -7.5
comp=Z,4.5nm,1.0s,baz=248,slow=3.9,SNR=3.3
SCHQ Schefferville 81.64 13 *e*P **P** **00 35 07.1 +0.2**
comp=Z,565nm,1.1s
SCHQ S **S** **00 44 49.5 +1.2**
SCHQ PKKPbc **PKKPbc** **00 53 39.3 +3.7**
KEST Kesra 87.90 319 P **P** **00 35 38.5 +0.2**
comp=Z,13nm,0.5s,baz=68,slow=0.6,SNR=31
URZ Urewera 88.77 148 P **P** **00 35 41.7 -0.1**
URZ Urewera 88.77 148 P **P** **00 35 41.7 -0.1**
comp=Z,19nm,0.9s,baz=28,slow=3.9,SNR=11
ESDC Sonseca Array 90.42 329 P **P** **00 35 48.0 -1.9**
comp=Z,2.5nm,0.5s,baz=22,slow=4.5,SNR=31
ESDC PP **PP** **00 39 32.9 +3.8**
comp=Z,30nm,0.8s,baz=29,slow=7.9,SNR=6.5
ESDC PKKPbc PKKPbc 00 53 20.0 +5.3
comp=Z,4.5nm,0.7s,baz=234,slow=2.0,SNR=14
ESDC Sonseca Array 90.42 329 P **P** **00 35 48.0 -1.9**
ESDC PP **PP** **00 39 32.9 +3.8**
ESDC PKKPbc PKKPbc 00 53 20.0 +5.3
TXAR Lajitas Array 90.74 48 P **P** **00 35 51.1 -0.5**
comp=Z,23nm,0.7s,baz=272,slow=1.6,SNR=74
TXAR PP **PP** **00 39 35.2 +3.2**
comp=Z,11nm,0.8s,baz=306,slow=4.8,SNR=4.1
TXAR PKKPbc PKKPbc 00 53 19.6 +5.9
comp=Z,2.7nm,0.7s,baz=160,slow=5.2,SNR=9.6
TXAR SKKPbc SKKPbc 00 56 19.0 +4.9
comp=Z,2.9nm,0.8s,baz=152,slow=5.9,SNR=8.3
TXAR PKPPKP P'P'df 01 01 15.7 -11
comp=Z,0.4nm,0.5s,baz=72,slow=2.9,SNR=3.9
TXAR Lajitas Array 90.74 48 P **P** **00 35 51.1 -0.5**
TXAR PP **PP** **00 39 35.2 +3.2**
TXAR PKKPbc PKKPbc 00 53 19.6 +5.9
TXAR SKKPbc SKKPbc 00 56 19.0 +4.9
RPZ Rata Peaks 91.42 155 P **P** **00 35 55.5 +1.4**
comp=Z,16nm,0.7s,baz=311,slow=3.0,SNR=11
KMBO Kilima Mbogo 96.43 274 P **P** **00 36 17.7 -0.3**
comp=Z,14nm,1.1s,baz=37,slow=7.8,SNR=22
TEIG Tepich 106.24 42 PKKP PKKPbc 00 52 36.5 +5.5
comp=Z,13nm,0.8s,baz=151,slow=4.2,SNR=5.0
TORD Torodi Ar. Bea 110.18 311 Pdiff **Pdif** **00 37 21.8 +2.8**
comp=Z,1.8nm,1.2s,baz=56,slow=2.7,SNR=3.7
TORD PKiKP **PKiKP** **00 41 18.0 -0.4**
comp=Z,7.3nm,0.6s,baz=14,slow=2.7,SNR=9.9
TORD PP PP 00 41 51.8 -6.2
comp=Z,109nm,0.9s,baz=41,slow=6.8,SNR=16
TORD SKP 00 44 13.9
comp=Z,17nm,1.0s,baz=44,slow=3.5,SNR=3.4
TORD PKKPbc **PKKPbc** **00 52 17.2 -1.5**
comp=Z,5.2nm,0.9s,baz=243,slow=2.6,SNR=7.3
TORD Torodi Ar. Bea 110.18 311 Pdif **Pdif** **00 37 21.8 +2.8**
TORD PKiKP **PKiKP** **00 41 18.0 -0.4**
TORD PP PP 00 41 51.8 -6.2
TORD SKP 00 44 13.9
TORD PKKPbc **PKKPbc** **00 52 17.2 -1.5**
LSZ Lusaka 112.42 269 PKKPab PKKPab 00 52 19.8 -2.1
comp=Z,8.7nm,0.6s,baz=220,slow=3.5,SNR=26
LSZ PKKP **PKKPdf** **00 52 29.2 -1.6**
comp=Z,29nm,0.9s,baz=222,slow=1.8,SNR=22
LSZ Lusaka 112.42 269 PKKPab PKKPab 00 52 19.8 -2.1
LSZ PKKP **PKKPdf** **00 52 29.2 -1.6**
BBTS Babate 117.66 329 PKKPab PKKPab 00 51 57.8 -4.2
comp=Z,33nm,0.9s,baz=344,slow=1.3,SNR=2.7
DBIC Dimbokro 119.13 313 PKP **PKPdf** **00 41 33.5 -2.0**
comp=Z,4.9nm,0.4s,baz=29,slow=2.3,SNR=21
DBIC PP **PP** **00 42 59.0 -1.5**
comp=Z,90nm,0.9s,baz=17,slow=8.5,SNR=11
DBIC SKP 00 44 36.2
comp=Z,28nm,0.7s,baz=0.9,slow=3.0,SNR=5.2
DBIC PKKPbc **PKKPbc** **00 51 47.5 -0.9**
comp=Z,13nm,0.9s,baz=204,slow=4.6,SNR=5.2
DBIC Dimbokro 119.13 313 PKP **PKPdf** **00 41 33.5 -2.0**
DBIC PP **PP** **00 42 59.0 -1.5**
DBIC SKP 00 44 36.2
DBIC PKKPbc **PKKPbc** **00 51 47.5 -0.9**

VNDA	**Vanda**	**120.54**	**173**	PKP	**PKPdf**	**00**	**41**	**35.4**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=321,slow=4.6,SNR=17								
VNDA				PP	**PP**	**00**	**43**	**09.3**	**-0.7**
	comp=Z,9.4nm,1.0s,baz=332,slow=5.5,SNR=5.8								
VNDA				SKP		00	44	37.6	
	comp=Z,10nm,1.0s,baz=294,slow=3.2,SNR=3.8								
VNDA				PKKPbc	**PKKPbc**	**00**	**51**	**49.5**	**+5.0**
	comp=Z,8.5nm,0.9s,baz=197,slow=2.5,SNR=11								
VNDA	**Vanda**	**120.54**	**173**	PKP	**PKPdf**	**00**	**41**	**35.4**	**-0.9**
VNDA				*e*PKPdf	**PKiKP**	**00**	**41**	**35.5**	**-0.9**
VNDA				PP	**PP**	**00**	**43**	**09.3**	**-0.7**
VNDA				SKP		00	44	37.6	
VNDA				PKKPbc	**PKKPbc**	**00**	**51**	**49.5**	**+5.0**
MAW	**Mawson**	**121.97**	**205**	PKP	**PKPdf**	**00**	**41**	**39.2**	**0.0**
	comp=Z,6.8nm,0.7s,baz=352,slow=1.7,SNR=49								
MAW				PP	**PP**	**00**	**43**	**18.2**	**-1.6**
	comp=Z,12nm,0.9s,baz=63,slow=4.5,SNR=3.1								
MAW				SKP		00	44	40.7	
	comp=Z,25nm,1.0s,baz=257,slow=2.4,SNR=5.5								
MAW				PKKPbc	**PKKPbc**	**00**	**51**	**43.5**	**+4.5**
	comp=Z,47nm,0.8s,baz=253,slow=6.7,SNR=24								
MAW	**Mawson**	**121.97**	**205**	PKP	**PKPdf**	**00**	**41**	**39.2**	**0.0**
MAW				PP	**PP**	**00**	**43**	**18.2**	**-1.6**
MAW				SKP		00	44	40.7	
MAW				PKKPbc	**PKKPbc**	**00**	**51**	**43.5**	**+4.5**
BOSA	**Boshof**	**122.57**	**259**	PKP	**PKPdf**	**00**	**41**	**42.4**	**+0.6**
	comp=Z,41nm,0.8s,baz=55,slow=1.7,SNR=28								
BOSA				PKKPbc	**PKKPab**	**00**	**51**	**41.5**	**+4.7**
	comp=Z,26nm,0.6s,baz=243,slow=5.2,SNR=38								
BOSA	**Boshof**	**122.57**	**259**	PKP	**PKPdf**	**00**	**41**	**42.4**	**+0.6**
BOSA				PKKPbc	**PKKPab**	**00**	**51**	**41.5**	**+4.7**
TSUM	**Tsumeb**	**122.76**	**273**	PKKPab	PKKPab	00	51	42.3	+5.4
	comp=Z,17nm,1.1s,baz=221,slow=5.2,SNR=6.3								
TSUM	**Tsumeb**	**122.76**	**273**	PKKPab	PKKPab	00	51	42.3	+5.4
ROSC	**El Rosal**	**126.20**	**37**	PKP	**PKPdf**	**00**	**41**	**50.9**	**+1.3**
	comp=Z,112nm,0.7s,baz=123,slow=24,SNR=8.0								
ROSC	**El Rosal**	**126.20**	**37**	PKP	**PKPdf**	**00**	**41**	**50.9**	**+1.3**
SUR	**Sutherland**	**127.81**	**258**	PKP	**PKPdf**	**00**	**41**	**53.0**	**+1.1**
	comp=Z,20nm,0.8s,baz=172,slow=7.1,SNR=3.9								
SUR				SKPbc	SKiKP	00	44	39.3	-14
	comp=Z,51nm,1.0s,baz=66,slow=2.4,SNR=6.3								
SUR	**Sutherland**	**127.81**	**258**	PKP	**PKPdf**	**00**	**41**	**53.0**	**+1.1**
SUR				SKPbc	SKiKP	00	44	39.3	-14
QSPA	**South Pole Qui**	**131.87**	**180**	PKP	**PKPdf**	**00**	**41**	**58.3**	**0.0**
	comp=Z,21nm,0.6s,baz=284,slow=2.3,SNR=8.0								
QSPA				SKPbc	**SKPbc**	**00**	**44**	**50.2**	**+0.3**
	comp=Z,354nm,1.1s,baz=1.2,slow=1.0,SNR=14								
QSPA	**South Pole Qui**	**131.87**	**180**	PKP	**PKPdf**	**00**	**41**	**58.3**	**0.0**
QSPA				SKPbc	**SKPbc**	**00**	**44**	**50.2**	**+0.3**
ATAH	**Atahualpa**	**134.38**	**50**	PKhKP	PKPpre	00	41	57.5	
	comp=Z,15nm,0.8s,baz=160,slow=3.5,SNR=6.0								
ATAH				PKP	**PKPdf**	**00**	**42**	**03.6**	**-1.4**
	comp=Z,26nm,0.8s,baz=231,slow=6.5,SNR=6.2								
ATAH				SKP		00	45	04.3	
	comp=Z,136nm,1.0s,baz=23,slow=2.3,SNR=14								
ATAH	**Atahualpa**	**134.38**	**50**	PKPpre	PKPpre	00	41	57.5	
ATAH				PKP	**PKPdf**	**00**	**42**	**03.6**	**-1.4**
ATAH				SKP		00	45	04.3	
RCBR	**Riachuelo**	**142.93**	**345**	PKP	**PKPdf**	**00**	**42**	**18.3**	**-1.9**
	comp=Z,66nm,0.9s,baz=348,slow=4.0								
RCBR				SKPbc	**SKiKP**	**00**	**45**	**25.5**	**+0.6**
	comp=Z,134nm,1.0s,baz=42,slow=2.1,SNR=14								
RCBR	**Riachuelo**	**142.93**	**345**	*e*PKPdf	**PKPdf**	**00**	**42**	**17.9**	**-2.4**
RCBR				PKP	**PKPdf**	**00**	**42**	**18.3**	**-1.9**
RCBR				SKPbc	**SKiKP**	**00**	**45**	**25.5**	**+0.6**
SNAA	**Sanae**	**143.92**	**201**	PKP	**PKPdf**	**00**	**42**	**19.9**	**-0.4**
	comp=Z,22nm,0.8s,baz=134,slow=2.8,SNR=106								
SNAA				SKPbc	**SKPbc**	**00**	**45**	**24.4**	**+0.1**
	comp=Z,83nm,1.1s,baz=94,slow=3.4,SNR=11								
SNAA	**Sanae**	**143.92**	**201**	PKP	**PKPdf**	**00**	**42**	**19.9**	**-0.4**
SNAA				SKPbc	**SKPbc**	**00**	**45**	**24.4**	**+0.1**
LPAZ	**La Paz**	**147.53**	**44**	PKP	**PKPdf**	**00**	**42**	**29.5**	**+0.9**
	comp=Z,67nm,0.9s,baz=3.0,slow=2.1,SNR=50								
LPAZ				PKPbc	**PKiKP**	**00**	**42**	**33.4**	**-0.2**
	comp=Z,309nm,0.9s,baz=346,slow=3.7,SNR=66								
LPAZ	**La Paz**	**147.53**	**44**	*e*PKPdf	**PKPdf**	**00**	**42**	**29.3**	**+0.6**
LPAZ				PKP	**PKPdf**	**00**	**42**	**29.5**	**+0.9**
LPAZ				PKPbc	**PKiKP**	**00**	**42**	**33.4**	**-0.2**
SIV	**San Ignacio**	**150.55**	**33**	PKP	**PKPdf**	**00**	**42**	**32.6**	**-0.2**
	comp=Z,12nm,1.0s,baz=172,slow=0.8,SNR=12								
SIV				PKPbc	**PKPbc**	**00**	**42**	**37.7**	**-0.8**
	comp=Z,49nm,0.9s,baz=234,slow=0.7,SNR=31								
SIV	**San Ignacio**	**150.55**	**33**	PKP	**PKPdf**	**00**	**42**	**32.6**	**-0.2**
SIV				PKPbc	**PKPbc**	**00**	**42**	**37.7**	**-0.8**
BDFB	**Brasilia**	**153.48**	**6**	PKP	**PKPdf**	**00**	**42**	**37.2**	**0.0**
	comp=Z,37nm,1.0s,baz=169,slow=0.6,SNR=20								
BDFB				PKPab	**PKPab**	**00**	**42**	**58.6**	**-0.4**
	comp=Z,45nm,1.0s,baz=309,slow=6.5,SNR=5.1								
BDFB				PP	**PP**	**00**	**46**	**33.2**	**-0.2**
	comp=Z,25nm,1.1s,baz=339,slow=9.2,SNR=2.2								
BDFB	**Brasilia**	**153.48**	**6**	PKP	**PKPdf**	**00**	**42**	**37.2**	**0.0**
BDFB				PKPab	**PKPab**	**00**	**42**	**58.6**	**-0.4**
BDFB				PP	**PP**	**00**	**46**	**33.2**	**-0.2**
CFAA	**Coronel Fontan**	**158.78**	**68**	PKP	**PKPdf**	**00**	**42**	**43.2**	**-0.4**
	comp=Z,4.0nm,1.0s,baz=218,slow=23,SNR=5.2								
CFAA				PKPab	**PKPab**	**00**	**43**	**22.2**	**+0.6**
	comp=Z,21nm,0.9s,baz=228,slow=2.3,SNR=12								
CFAA	**Coronel Fontan**	**158.78**	**68**	PKP	**PKPdf**	**00**	**42**	**43.2**	**-0.4**
CFAA				PKPab	**PKPab**	**00**	**43**	**22.2**	**+0.6**
CPUP	**Villa Florida**	**161.31**	**36**	PKP	**PKPdf**	**00**	**42**	**45.1**	**-1.4**
	comp=Z,9.8nm,1.0s,baz=336,slow=2.1,SNR=3.2								
CPUP	**Villa Florida**	**161.31**	**36**	PKP	**PKPdf**	**00**	**42**	**45.1**	**-1.4**

JMA 24 00:23:31.0,39.°20N×140.°78E,h5km±1km,M1.0,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.23**	**330**	P	Pg	00 23 35.8	+0.3
JRG				*e*S	Sg	00 23 39.5	+1.0
JMK	**Ichinoseki**	**0.42**	**126**	S	Sg	00 23 44.8	+0.1
JYK	**Kaneyama**	**0.43**	**229**	P	Pg	00 23 39.6	+0.2
JYK				*e*S	Sg	00 23 45.3	+0.3
JOM	**Ohasama**	**0.48**	**55**	S	Sg	00 23 46.6	0.0
JIO	**Ouri**	**0.87**	**149**	*e*S	Sg	00 23 58.4	-0.5

NIED ***24*** *00:23:00,42.°20N×135.°00E,h440km,Mw6.4 Best double couple: M₀4.54000×10¹⁸ NP1:φs185.00000°, δ89.00000°,λ72.00000°. NP2:φs93.00000°,δ18.00000°, λ178.00000°.*

MOS ***24*** *00:23:28.9±0.8,42.°16N×134.°89E,h385km,mb6.1/110, Error ellipse: s-maj=6.3km s-min=4.7km az=107.0*

SKHL ***24*** *00:23:29.0±0.4,42.°04N×135.°17E,h382km±5km,mb6.6/4, mbh6.6/3,Ms5.7/3,msh6.6/4*

ISCJB ***24*** *00:23:31.0±0.2,42.°25N±0.°01×134.°77E±0.°01, h392km±1km,mb6.0/536,Error ellipse: s-maj=2.1km s-min=1.6km az=154.6*

BGS ***24*** *00:23:30.2±1.7,41.°81N×135.°64E,h411km,mb5.6*

NEIC ***24*** *00:23:31.7±0.1,42.°25N×134.°72E,h392km,mb6.2/284, ME5.9,MW6.3,MW6.3,MW6.3,Error ellipse: s-maj=2.9km s-min=2.1km az=152.0,Moment Tensor Solution. s147 Moment tensor: Scale 10¹⁸Nm; Mrr0.44; Mθθ0.29; Mφφ-0.73; Mrθ-0.28; Mθφ-0.99; Mφr-3.25; Best double couple: M₀3.50000×10¹⁸ NP1:φs183.00000°,δ85.00000°, λ75.00000°. NP2:φs75.00000°,δ16.00000°,λ160.00000°. Principal axes: T 3.2200, Plg48.0000°, Azm77.0000°; N 0.4500, Plg15.0000°, Azm184.0000°; P -3.6700, Plg37.0000°, Azm287.0000°; Broadband fault plane solution: P waves. NP1:φs82.00000°,δ21.00000°, λ166.00000°. NP2:φs185.00000°,δ85.00000°,λ70.00000°. Principal axes: T Plg46.0000°, Azm74.0000°; N Plg0.0000°, Azm0.0000°; P Plg37.0000°, Azm293.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by a larger event about 4 seconds later. Depth based on larger event. Energy computed from BB mechanism.*

NEIC Recorded [2 JMA] in eastern, southern and western Hokkaido, Japan. Also recorded [2 JMA] in Aomori, Kanagawa and Saitama; [1 JMA] in Chiba, Fukushima, Gumma, Ibaraki, Iwate, Miyagi, Tokyo and Yamanashi, Honshu.

BJI ***24*** *00:23:31.4,42.°13N×134.°72E,h412km,mB6.5/39, mb6.1/59*

NEIC ***24*** *00:23:33.0±0.0,42.°23N×134.°70E,h390km,Moment Tensor Solution. s124 Moment tensor: Scale 10¹⁸Nm; Mrr0.44; Mθθ0.29; Mφφ-0.73; Mrθ0.03; Mθφ-1.41; Mφr-3.06; Best double couple: M₀3.40000×10¹⁸ NP1:φs178.00000°, δ85.00000°,λ65.00000°. NP2:φs78.00000°,δ25.00000°, λ169.00000°. Principal axes: T 3.2700, Plg44.0000°, Azm64.0000°; N 0.2900, Plg24.0000°, Azm180.0000°; P -3.5600, Plg35.0000°, Azm289.0000°;*

JMA ***24*** *00:23:35.5±0.4,42.°12N×135.°05E,h387km,M6.1*

JMA Felt II J1.

IDC ***24*** *00:23:36.8±0.4,42.°21N×134.°86E,h390km±3km,mb5.7/39, mb1 5.7/43,mb1mx5.7/44,mbtmp5.6/43,Error ellipse: s-maj=7.6km s-min=6.1km az=75.0*

GCMT ***24*** *00:23:36.4±0.1,42.°12N×134.°93E,h390km,MW6.3, Moment Tensor Solution. s133,c328; s99,c182; Moment tensor: Scale 10¹⁸Nm; Mrr0.55±.02; Mθθ0.05±.03; Mφφ-0.60±.03; Mrθ-0.20±.02; Mθφ-1.55±.02; Mφr-3.49±.02; Best double couple: M₀3.90000×10¹⁸ NP1:φs183.00000°, δ85.00000°,λ67.00000°. NP2:φs81.00000°,δ23.00000°, λ167.00000°. Principal axes: T 3.7200, Plg45.0000°, Azm70.0000°; N 0.2700, Plg23.0000°, Azm185.0000°; P -4.0000, Plg36.0000°, Azm293.0000°; Data Used: II IU CU CN G IC. Mantle waves from 111 sta.*

SZGRF ***24*** *00:23:46.3,44.°94N×134.°88E,h410km,mb6.4,MS5.2, Primorye, Russia*

NEIC ***24*** *00:23:51.2±0.0,42.°43N×134.°95E,h389km,Moment Tensor Solution. s142 Moment tensor: Scale 10¹⁸Nm; Mrr0.50; Mθθ0.38; Mφφ-0.88; Mrθ-0.03; Mθφ-1.44; Mφr-3.37; Best double couple: M₀3.70000×10¹⁸ NP1:φs179.00000°, δ85.00000°,λ67.00000°. NP2:φs77.00000°,δ24.00000°, λ167.00000°. Principal axes: T 3.5200, Plg45.0000°, Azm65.0000°; N 0.4200, Plg22.0000°, Azm181.0000°; P -3.9300, Plg35.0000°, Azm288.0000°;*

ISC 24 00:23:33.9±0.1,42.°24N±0.°01×134.°77E±0.°01,h396km±1km, h395km:pP-P,n2275,σ2s17/2545,mb6.0/534,304C-451D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLA	**Vladivostok**	**2.30**	**293**	*c* P	**Pn**	**00 24 29.3**	**-2.1**
VLA				*e*S	**S**	**00 25 12.6**	**-5.3**
VLA				pmax	pmax		
	comp=Z,2μm,0.6s						
VLA	**Vladivostok**	**2.30**	**293**	⇑*i* P	**Pn**	**00 24 29.3**	**-2.1**
GRTR	**Gornotajezhnoj**	**2.42**	**308**	⇑*e* P	**Pn**	**00 24 30.2**	**-2.0**
GRTR				AMB	AMB	00 24 34.1	
	comp=Z,12μm,0.4s						
GRTR				*e*S	**S**	**00 25 17.9**	**-1.5**
GRTR				*e*S	S	00 25 22.5	+3.1
GRTR				A	A	00 25 28.3	
	comp=Z,18μm,1.4s						
USRK	**Ussuriysk Arra**	**2.83**	**315**	P	**Pn**	**00 24 33.5**	**-1.7**
	comp=Z,480nm,0.3s,baz=134,slow=6.9,SNR=1676						
USRK				P3KPbc		01 02 06.2	
	baz=20,slow=6.1,SNR=6.0						
USRK	**Ussuriysk Arra**	**2.83**	**315**	P	Pn	00 24 38.6	+3.3
	comp=Z,1μm,0.3s,baz=121,slow=7.0,SNR=378						
TEY	**Ternei**	**3.10**	**25**	⇓*i* P	**Pn**	**00 24 34.4**	**-3.0**
TEY				AMB	AMB	00 24 40.0	
	comp=Z,13μm,4.0s						
TEY				*i* S	**S**	**00 25 26.0**	**-3.0**
TEY				A	A	00 25 30.0	
	comp=Z,50μm,4.0s						
				A	A	00 25 30.0	
	comp=Z,30μm,4.0s						
JOSM	**Okushiri--Mats**	**3.50**	**91**	P	**Pn**	**00 24 39.6**	**-1.4**
JSH	**Shimam**	**3.92**	**82**	P	**Pn**	**00 24 44.3**	**-0.6**
MDJ	**Mudanjiang**	**4.46**	**304**	P	**Pn**	**00 24 49.5**	**-0.6**
MDJ				S	S	00 25 46.0	-6.0
MDJ				PcS	**PcS**	**00 34 49.3**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,690nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,23μm,5.0s						
MDJ	**Mudanjiang**	**4.46**	**304**	*e*Pn	**Pn**	**00 24 48.8**	**-1.3**
MDJ				*e*Sn	S	00 25 42.2	-10
JKB	**Kayabe**	**4.67**	**92**	P	**Pn**	**00 24 51.4**	**-0.9**
JOT	**Ohata**	**4.77**	**98**	P	**Pn**	**00 24 52.6**	**-0.7**
JHR	**Hokuryu**	**5.32**	**71**	P	**Pn**	**00 24 58.9**	**-0.1**
JMK	**Ichinoseki**	**5.90**	**122**	S	S	00 26 12.7	-7.1
JWK2	**Keihoku**	**6.01**	**57**	P	**Pn**	**00 25 08.0**	**+1.7**
JWK2				S	**S**	**00 26 18.5**	**-3.1**
ASAJ	**Asahikawa**	**6.02**	**69**	*e*Pn	Pn	00 25 00.5	-6.0
ASAJ				*e*S	S	00 26 16.3	-5.8
ASAJ				ScP	**ScP**	**00 34 15.8**	**+4.4**
ASAJ				PKiKP	**PKiKP**	**00 39 22.5**	**+2.6**
ASAJ	**Asahikawa**	**6.02**	**69**	P	**Pn**	**00 25 05.8**	**-0.8**
	comp=Z,1μm,0.3s,baz=252,slow=10,SNR=224						
ASAJ				ScP	**ScP**	**00 34 15.8**	**+4.4**
	comp=Z,1.5nm,0.3s,baz=231,slow=5.7,SNR=4.6						
ASAJ				PKiKP	**PKiKP**	**00 39 22.5**	**+2.6**
	comp=Z,0.7nm,0.3s,baz=276,slow=9.2,SNR=3.7						
HABR	**Khabarovsk**	**6.24**	**2**	*d* P	**Pn**	**00 25 07.5**	**-1.3**
HABR				*e*S	**S**	**00 26 21.8**	**-4.4**
HABR				pmax	pmax		
	comp=N,194nm,0.9s						
HABR				pmax	pmax		
	comp=Z,321nm,0.9s						
HABR				pmax	pmax		
	comp=E,100nm,1.3s						
HABR				MLR	MLR		
	comp=Z,10μm,19.0s						
KHBR	**Khabarovsk**	**6.24**	**2**	*e*P	**Pn**	**00 25 07.1**	**-1.7**
KHBR				*e*S	**S**	**00 26 21.8**	**-4.4**
MJAR	**Matsushiro Arr**	**6.28**	**154**	P	**Pn**	**00 25 09.0**	**-0.6**
MJAR				S	**S**	**00 26 21.9**	**-5.5**
MJAR				ScP	**ScP**	**00 34 15.7**	**+3.9**
MJAR				*e*		01 02 27.9	
MJAR				PKKKP		01 02 44.4	
MJAR	**Matsushiro Arr**	**6.28**	**154**	P	**Pn**	**00 25 09.0**	**-0.6**
	comp=Z,201nm,0.3s,baz=332,slow=10,SNR=152						
MJAR				ScP	**ScP**	**00 34 15.7**	**+3.9**
	comp=Z,0.4nm,0.3s,baz=241,slow=0.7,SNR=12						
MJAR				P3KPbc		01 02 27.9	
	comp=Z,0.3nm,0.3s,baz=114,slow=0.8,SNR=4.5						
MJAR	**Matsushiro Arr**	**6.28**	**154**	S	**S**	**00 26 21.9**	**-5.5**
	comp=Z,24nm,0.3s,baz=339,slow=13,SNR=2.2						
MJAR				P3KP		01 02 44.4	
	comp=Z,0.2nm,0.3s,baz=179,slow=5.1,SNR=5.9						
JTKR	**Abashiri--Toko**	**6.91**	**72**	P	**Pn**	**00 25 15.1**	**-1.2**
JTKR				*e*S	S	00 26 34.3	-5.7
JRY	**Ryogami san**	**6.99**	**151**	S	**S**	**00 26 38.6**	**-3.4**
CN2	**Changchun**	**7.01**	**286**	⇓*i* P	**Pn**	**00 25 16.8**	**-0.7**
CN2				S	**S**	**00 26 37.8**	**-4.3**
CN2				ScS	**ScS**	**00 37 41.1**	**-4.4**
CN2				pmax	pmax		
	comp=Z,700nm,0.8s						
CN2				pmax	pmax		
	comp=Z,11μm,4.0s						
KSRS	**Korea Array**	**7.11**	**230**	P	**Pn**	**00 25 16.5**	**-2.2**
KSRS	**Korea Array**	**7.11**	**230**	P	**Pn**	**00 25 16.5**	**-2.2**
	comp=Z,72nm,0.3s,baz=42,slow=12,SNR=534						
KSRS				P3KPbc		01 02 11.4	
	comp=Z,0.4nm,0.3s,baz=329,slow=1.5,SNR=4.8						
KSRS				P3KP		01 02 41.1	
	comp=Z,0.6nm,0.3s,baz=215,slow=4.1,SNR=5.9						
KSRS	**Korea Array**	**7.11**	**230**	P	**P**	**00 25 22.0**	**+2.6**
	comp=Z,166nm,0.3s,baz=44,slow=12,SNR=65						
KSRS				ScP	**ScP**	**00 34 16.2**	**+3.8**
	comp=Z,1.0nm,0.3s,baz=116,slow=0.8,SNR=15						
KSRS				PKiKP	**PKiKP**	**00 39 22.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=316,slow=0.8,SNR=4.8						
KSAR	**Wonju Array Be**	**7.14**	**230**	P	**P**	**00 25 22.0**	**+2.2**
KSAR				ScP	**ScP**	**00 34 16.2**	**+3.7**
KSAR				PKiKP	**PKiKP**	**00 39 22.6**	**+2.3**
KSAR				*e*		01 02 11.4	
KSAR				PKKKP		01 02 41.1	
JHS	**Saijyo**	**7.34**	**191**	P	**P**	**00 25 22.6**	**+0.5**
JHS				S	**S**	**00 26 46.2**	**-3.1**
INCN	**Inchon**	**7.86**	**235**	*e*Pn	**Pn**	**00 25 24.9**	**-2.3**
UGL	**Uglegorsk**	**8.53**	**34**	⇓*e* P	Pn	00 25 30.5	-4.2
UGL				*e*S	**S**	**00 27 11.5**	**-2.4**
UGL				pmax	pmax		
	comp=Z,900nm,1.1s						
UGL				pmax	pmax		
	comp=Z,7μm,1.0s						
UGL				smax	smax		
	comp=E,10μm,1.6s						
UGL				smax	smax		
	comp=N,41μm,6.0s						
UGL				smax	smax		
	comp=E,84μm,6.0s						
UGL	**Uglegorsk**	**8.53**	**34**	*e*P	Pn	00 25 31.0	-3.7
UGL				⇓*i* P	P	00 25 31.2	-3.9
UGL				AMB	AMB	00 25 37.8	
	comp=E,4μm,0.8s						
UGL				AMB	AMB	00 25 39.0	
	comp=E,9μm,8.0s						
UGL				*e*S	**S**	**00 27 09.6**	**-4.3**
UGL				A	A	00 27 16.0	
	comp=E,8μm,1.6s						
UGL				A	A	00 27 16.0	
	comp=E,41μm,12.0s						
UGL				A	A	00 27 16.0	
	comp=E,84μm,12.0s						
GRNR	**Gornyy**	**8.61**	**7**	⇑*i* P	**Pn**	**00 25 32.8**	**-2.8**
GRNR				AMB	AMB	00 25 39.2	
	comp=E,2μm,1.0s						
GRNR				*e*S	**S**	**00 27 12.9**	**-2.7**
GRNR				A	A	00 27 18.0	
	comp=E,2μm,1.0s						
GRNR				A	A	00 27 18.0	
	comp=E,4μm,1.0s						
JWZ	**Kozaga**	**8.72**	**175**	P	**P**	**00 25 37.3**	**-0.3**
JWZ				*e*S	**S**	**00 27 14.4**	**-4.0**
JTU	**Tsushima**	**8.78**	**210**	P	**P**	**00 25 39.4**	**+1.3**
JTO	**Tosashimizu**	**9.49**	**190**	P	**Pn**	**00 25 47.9**	**+1.8**
JTO				S	**S**	**00 27 31.3**	**-3.3**
JNU	**Nakatsue**	**9.61**	**200**	*e*Pn	P	00 25 43.7	-3.7
JNU				ScP	**ScP**	**00 34 19.3**	**+4.1**
JNU	**Nakatsue**	**9.61**	**200**	P	**Pn**	**00 25 49.7**	**+2.2**
	comp=E,109nm,0.3s,baz=18,slow=8.6,SNR=56						
JNU				ScP	**ScP**	**00 34 19.3**	**+4.1**
	comp=E,4.2nm,0.3s,baz=55,slow=4.9,SNR=6.9						
TYV	**Tymovskoe**	**10.19**	**29**	⇓*i* P	**P**	**00 25 51.0**	**-2.5**
TYV				*e*rx	rx	00 27 48.2	
DL2	**Dalian**	**10.54**	**256**	P	**P**	**00 25 57.9**	**+0.4**
DL2				S	**S**	**00 27 54.8**	**-1.1**
DL2				pmax	pmax		
	comp=E,20μm,3.9s						
EKMR	**Ekimchan**	**10.91**	**354**	*e*P	**P**	**00 25 58.4**	**-3.1**
EKMR				AMB	AMB	00 26 06.7	
	comp=E,360nm,0.5s						
JSJ	**Shimokoshiki**	**11.29**	**203**	P	**Pn**	**00 26 09.7**	**+2.7**
NKL	**Nikolayevsk**	**11.62**	**18**	⇑*i* P	P	00 26 06.0	-3.2
NKL				AMB	AMB	00 26 12.0	
	comp=E,8μm,8.0s						
NKL				AMB	AMB	00 26 12.0	
	comp=E,3μm,8.0s						
NKL				AMB	AMB	00 26 12.0	
	comp=E,10μm,8.0s						
NKL				AMB	AMB	00 26 12.8	
	comp=E,560nm,1.0s						
NKL				AMB	AMB	00 26 12.8	
	comp=E,230nm,1.0s						
NKL				AMB	AMB	00 26 12.8	
	comp=E,1μm,1.0s						
NKL				*i* S	**S**	**00 28 14.0**	**-3.5**
NKL				A	A	00 28 24.0	
	comp=E,20μm,13.0s						
NKL				A	A	00 28 24.0	
	comp=E,24μm,13.0s						
ZEA	**Zeya**	**12.55**	**339**	*i* P	**P**	**00 26 18.4**	**-1.2**
ZEA				AMB	AMB	00 26 21.5	
	comp=E,2μm,1.1s						
ZEA				AMB	AMB	00 26 24.0	
	comp=E,10μm,10.0s						
ZEA				*e*rx	rx	00 27 53.0	
ZEA				*i* S	**S**	**00 28 34.5**	**-2.0**
ZEA				A	A	00 28 45.0	
	comp=E,27μm,11.0s						
ZEA				A	A	00 28 45.0	
	comp=E,40μm,11.0s						
OKH	**Okha**	**12.56**	**23**	*e*P	**P**	**00 26 18.4**	**-1.2**
OKH				*i* S	**S**	**00 28 40.0**	**+3.3**
OKH				pmax	pmax		
	comp=Z,10μm,4.0s						
OKH				smax	smax		
	comp=E,38μm,11.0s						
OKH				smax	smax		
	comp=N,36μm,10.0s						
OKH	**Okha**	**12.56**	**23**	*e*P	**P**	**00 26 18.4**	**-1.2**
OKH				AMB	AMB	00 26 24.0	
	comp=N,2μm,0.6s						
OKH				AMB	AMB	00 26 26.0	
	comp=N,10μm,6.0s						
OKH				AMB	AMB	00 26 26.0	
	comp=N,4μm,6.0s						
OKH				AMB	AMB	00 26 26.0	
	comp=N,18μm,6.0s						
OKH				*e*S	**S**	**00 28 34.0**	**-2.7**
OKH				A	A	00 28 47.8	
	comp=N,36μm,10.0s						
OKH				A	A	00 28 47.8	
	comp=N,38μm,10.0s						
OKH				AMS	AMS	00 32 30.4	
	comp=N,16μm,11.0s						
OKH				AMS	AMS	00 32 30.4	
	comp=N,18μm,11.0s						
HIA	**Hailar**	**12.62**	**309**	⇓*i* P	**P**	**00 26 17.9**	**-2.5**
HIA	**Hailar**	**12.62**	**309**	⇓*i* P	**P**	**00 26 17.9**	**-2.5**
	comp=N,2μm,0.7s						
HIA				*e*S	**S**	**00 28 33.7**	**-4.5**
HIA				*e*PcP	**PcP**	**00 31 21.1**	**-3.2**
BMKR	**Bomnak**	**13.08**	**345**	*e*P	**P**	**00 26 23.2**	**-2.2**
BMKR				AMB	AMB	00 26 30.2	
	comp=N,540nm,0.7s						
KROS	**Kirovskiy**	**13.25**	**340**	*i* P	**P**	**00 26 25.5**	**-1.7**
KROS				AMB	AMB	00 26 35.7	
	comp=N,780nm,0.6s						
BJI	**Beijing**	**14.19**	**267**	P	**P**	**00 26 35.8**	**-1.8**
BJI				S	**S**	**00 29 07.3**	**-2.4**
BJI				pmax	pmax		
	comp=N,5μm,1.5s						
BJI				pmax	pmax		
	comp=N,26μm,4.8s						
BJT	**Baijiatuan**

PEA0B **Petropavlovsk-** 18.80 47 *e*P P 00 27 23.0 -3.8
PETK Petropavlovsk- 18.80 47 P P 00 27 27.8 +1.0
PETK S S 00 30 37.2 -1.2
PETK PcP PcP 00 31 33.9 +0.4
PETK ScP ScP 00 34 34.2 +3.4
PETK PKiKP PKiKP 00 39 26.0 +2.7
PETK Petropavlovsk- 18.80 47 P P 00 27 27.8 +1.0
comp=Z,26nm,0.3s,baz=223,slow=7.3,SNR=76
PETK PcP PcP 00 31 37.7 +4.2
comp=Z,4.0nm,0.3s,baz=213,slow=5.0,SNR=5.3
PETK ScP ScP 00 34 34.2 +3.4
comp=Z,1.8nm,0.3s,baz=197,slow=4.1,SNR=6.6
PETK PKiKP PKiKP 00 39 26.0 +2.7
comp=Z,0.5nm,0.3s,baz=137,slow=3.6,SNR=6.2
PETK Petropavlovsk- 18.80 47 S S 00 30 37.2 -1.2
baz=344,slow=24,SNR=1.5
PETK PcP PcP 00 31 33.9 +0.4
comp=Z,3.9nm,0.3s,baz=214,slow=4.8,SNR=4.1
PET Petropavlovsk 19.28 48*c*e P P 00 27 27.7 -3.9
PET *i* S S 00 30 45.3 -1.1
PET pmax pmax
comp=Z,8μm,3.9s
PET pmax pmax
comp=Z,552nm,1.0s
PET pmax pmax
comp=Z,9μm,16.3s
PET smax smax
comp=E,21μm,16.9s
PET MLR MLR
comp=Z,11μm,14.0s
PET Petropavlovsk 19.28 48⇑ *e*P P 00 27 27.7 -3.9
PET Petropavlovsk 19.28 48 *e*P P 00 27 30.3 -1.4
comp=Z,2μm,1.8s
PET *e*ScP ScP 00 34 29.9 -1.9
YAK Yakutsk 20.06 353 *e*P P 00 27 35.8 -3.0
YAK *e*S S 00 30 58.0 -0.8
YAK *e* 00 38 14.1
YAK pmax pmax
comp=Z,330nm,0.9s
YAK pmax pmax
comp=N,358nm,1.5s
YAK smax smax
comp=E,20μm,2.2s
YAK smax smax
comp=N,16μm,3.2s
YAK Yakutsk 20.06 353 *e*P P 00 27 35.8 -3.0
YAK Yakutsk 20.06 353 *e*P P 00 27 36.3 -2.5
comp=N,1μm,1.1s
WHN Wuhan 20.11 241 ⇓P P 00 27 36.4 -3.2
WHN sP sP 00 29 21.8 -5.7
WHN S S 00 30 55.9 -4.4
WHN pmax pmax
comp=N,19μm,4.0s
YOJ Yonaguni jima 20.23 212 *e*P P 00 27 36.1 -4.8
YOJ pmax pmax
comp=Z,154nm,1.1s
YOJ Yonaguni jima 20.23 212 *e*P P 00 27 36.1 -4.8
comp=Z,154nm,1.1s
YOJ *e*ScP ScP 00 34 33.5 -1.0
ULN Ulaanbaatar 20.32 296⇓ *i*P P 00 27 39.4 -2.2
ULN Ulaanbaatar 20.32 296 *e*P P 00 27 40.3 -1.3
comp=Z,2μm,1.0s
TATO Taipei 20.42 217 *e*P P 00 27 40.3 -2.2
comp=Z,615nm,1.4s
TATO *e*pP pP 00 28 28.6 -10
TATO *e*PcP PcP 00 31 32.5 -4.3
TATO *e*ScP ScP 00 34 38.0 +3.0
YHNB Yeheng 20.74 217 *e*P P 00 27 42.2 -3.3
comp=Z,2μm,1.6s
YHNB *e*pP pP 00 28 40.2 -2.3
YHNB *e*sP sP 00 29 26.9 -7.7
YHNB *e*S S 00 31 14.5 +3.7
YHNB *e*ScP ScP 00 34 37.7 +1.8
SONM Songino Array 20.75 295 PcP PcP 00 31 41.3 +3.9
SONM ScP ScP 00 34 40.2 +4.6
SONM *e* 01 01 37.0
SONM Songino Array 20.75 295 P P 00 27 49.7 +4.1
comp=Z,666nm,0.8s,baz=107,slow=9.2,SNR=122
SONM PcP PcP 00 31 41.3 +3.9
comp=Z,42nm,0.9s,baz=142,slow=4.9,SNR=3.0
SONM ScP ScP 00 34 40.2 +4.6
comp=Z,49nm,0.6s,baz=106,slow=1.9,SNR=7.0
SONM P3KPbc 01 01 37.0
comp=Z,2.5nm,0.6s,baz=253,slow=1.5,SNR=4.5
NACB Ninganchiao 21.07 215 *e*P P 00 27 42.8 -5.7
comp=Z,208nm,0.8s
NACB *e*pP pP 00 28 37.9 -7.7
NACB *e*sP sP 00 29 22.0 -16
NACB *e*S S 00 31 15.6 -0.5
NACB *e*ScP ScP 00 34 37.5 +0.8
SSLB Suanglung 21.69 216 *e*P P 00 27 50.7 -3.5
comp=Z,491nm,1.1s
SSLB *e*pP pP 00 28 44.3 -8.4
SSLB *e*S S 00 31 21.2 -4.9
SSLB *e*ScP ScP 00 34 40.9 +2.6
QZH Quanzhou 21.83 223⇑ *i*P P 00 27 49.6 -5.7
QZH S S 00 31 23.8 -4.3
QZH pmax pmax
comp=Z,5μm,1.8s
XAN Xi'an 21.86 257 P P 00 27 52.6 -3.0
XAN S S 00 31 30.6 +2.0
XAN pmax pmax
comp=Z,160nm,0.9s
XAN pmax pmax
comp=Z,3μm,5.1s
YULB Yu-li 21.89 215 *e*P P 00 27 52.1 -3.8
comp=Z,140nm,1.0s
YULB *e*pP pP 00 28 45.9 -8.9
YULB *e*sP sP 00 29 31.1 -16
YULB *e*S S 00 31 25.4 -3.9
YULB *e*ScP ScP 00 34 40.7 +2.0
TPUB Ta-pu 22.26 216 *e*P P 00 27 56.0 -3.3
comp=Z,344nm,0.8s
TPUB *e*pP pP 00 28 50.1 -8.9
TPUB *e*sP sP 00 29 38.1 -13
TPUB *e*S S 00 31 34.8 -0.3
TPUB *e*ScP ScP 00 34 39.1 -0.6
TWG Pinlang 22.49 215 *e*P P 00 27 57.9 -3.5
comp=Z,583nm,0.6s
TWG *e*pP pP 00 28 58.1 -3.4
TWG *e*sP sP 00 29 39.0 -15
TWG *e*S S 00 31 38.4 -0.3
TWG *e*ScP ScP 00 34 40.2 -0.1
IRK Irkutsk 22.84 306 *e*P P 00 28 07.8 +3.6
IRK *e*S S 00 31 48.1 +4.4
IRK pmax pmax
comp=Z,2μm,2.0s
ZAK Zakamensk 23.09 301⇓ *e*P P 00 28 04.9 -1.7
ZAK *e* 00 31 50.1
ZAK pmax pmax
comp=Z,1μm,1.4s
ZAK Zakamensk 23.09 301⇓ *e*P P 00 28 04.9 -1.7
TLY Talaya 23.09 305 P P 00 28 05.0 -1.6
comp=Z,8μm,0.8s,SNR=25
TLY Talaya 23.09 305⇓ *i*P P 00 28 04.9 -1.6
TLY *e*S S 00 31 53.0 +5.2
TLY pmax pmax
comp=Z,1μm,0.9s
TLY Talaya 23.09 305⇓ *i*P P 00 28 04.9 -1.6
TLY Talaya 23.09 305 *e*P P 00 28 04.6 -2.0
comp=Z,1μm,0.9s
SEY Seymchan 23.17 21 ScP ScP 00 34 46.1 +4.8
SEY Seymchan 23.17 21 ScP ScP 00 34 46.1 +4.8
comp=Z,57nm,0.7s,baz=203,slow=7.7,SNR=5.8
ENH Enshi 23.54 248 *e*Pn P 00 28 07.5 -3.4
comp=Z,809nm,0.8s
ENH *e*S S 00 31 50.4 -4.8
LZH Lanzhou 24.67 266 ⇓P P 00 28 19.3 -1.8
LZH S S 00 32 13.0 -0.2
LZH pmax pmax
comp=Z,2μm,1.5s
LZH pmax pmax
comp=Z,5μm,6.8s
MOY Mondy 24.71 304 *e*P P 00 28 19.1 -2.1
MOY pmax pmax
comp=Z,2μm,2.3s
MOY Mondy 24.71 304 *e*P P 00 28 19.1 -2.1
GZH Guangzhou 26.14 230 P P 00 28 26.9 -7.2
GZH PP PnPn 00 29 39.8 -1.3
GZH S S 00 32 29.6 -6.7
GZH SS SS 00 34 34.3 -13
HKC Hong Kong Obse 26.30 227⇓ *i*P P 00 28 38.0 +2.5
GTA Gaotai 26.49 276 ⇓P P 00 28 35.3 -1.9
GTA S S 00 32 43.3 +1.5

GTA ScS ScS 00 38 41.4 -1.2
GTA pmax pmax
comp=Z,81nm,0.8s
GTA pmax pmax
comp=Z,10μm,6.2s
CD2 Chengdu 27.21 256 P P 00 28 40.6 -2.9
CD2 PcP PcP 00 31 51.0 -0.7
CD2 S S 00 32 51.8 -1.2
CD2 pmax pmax
comp=Z,3μm,1.1s
CD2 pmax pmax
comp=Z,6μm,8.6s
SZP Santa 27.48 211 *e*P P 00 28 44.5 -1.4
comp=Z,997nm,1.1s
SZP *e*PP pP 00 29 52.8 -3.8
SZP *e*S S 00 32 59.9 +2.6
SZP *e*ScP ScP 00 34 57.6 +3.1
FX1 Attu Island--F 27.69 54 ScP ScP 00 34 59.3 +4.6
FX1 Attu Island--F 27.69 54 PcP PcP 00 31 56.0 +3.6
comp=Z,141nm,0.6s,baz=297,slow=4.5,SNR=6.3
FX1 ScP ScP 00 34 59.3 +4.6
comp=Z,37nm,0.7s,baz=342,slow=3.2,SNR=5.4
GYA Guiyang 27.87 245⇓ *i*P P 00 28 46.0 -3.5
GYA S S 00 32 57.3 -6.3
GYA pmax pmax
comp=Z,620nm,1.0s
GYA pmax pmax
comp=Z,3μm,8.4s
SMY Shemya 28.24 55 *e*P P 00 28 51.6 -0.6
SMY pmax pmax
comp=Z,2μm,1.3s
SMY Shemya 28.24 55 *e*P P 00 28 51.6 -0.6
comp=Z,2μm,1.3s
TIXI Tiksi 29.63 356*d* *i*P P 00 29 01.4 -2.8
TIXI pmax pmax
comp=Z,342nm,1.1s
TIXI Tiksi 29.63 356 *e*P P 00 29 01.3 -2.9
comp=Z,264nm,0.9s
GUMO Guam 29.86 160 *e*P P 00 29 07.6 +0.8
comp=Z,27nm,1.1s
TGY Tagaytay City 30.48 207 ScP ScP 00 35 09.4 +5.1
TGY Tagaytay City 30.48 207 ScP ScP 00 35 09.4 +5.1
comp=Z,105nm,0.3s,baz=251,slow=17,SNR=7.4
QIZ Qiongzhong 31.34 230 P P 00 29 17.5 -2.2
QIZ S S 00 33 58.8 +1.4
QIZ pmax pmax
comp=Z,310nm,1.6s
QIZ pmax pmax
comp=Z,3μm,3.3s
QIZ Qiongzhong 31.34 230 *e*P P 00 29 17.5 -2.2
comp=Z,368nm,1.2s
QIZ *e*pP pP 00 30 20.8 -12
QIZ *e*S S 00 33 56.8 -0.6
QIZ *e*ScP ScP 00 35 11.2 +4.2
KMI Kunming 31.41 247 P P 00 29 17.5 -3.0
KMI pP pP 00 30 33.0 -0.1
KMI PP PnPn 00 30 47.8 +3.3
KMI sP sP 00 31 15.8 -3.1
KMI S S 00 33 53.5 -5.4
KMI sS sS 00 36 06.3 -6.0
KMI SS SS 00 36 29.9 -4.4
KMI pmax pmax
comp=Z,210nm,1.0s
KMI pmax pmax
comp=Z,6μm,4.1s
PLP Palo 32.12 198⇑ *i*P P 00 29 23.8 -2.7
RCP Roxas 32.32 202⇑ *e*P P 00 29 27.5 -0.6
MSLP Maasin 33.14 198 *e*P P 00 29 33.7 -1.5
LLP Lapu-Lapu 33.18 200⇓ *e*P P 00 29 34.2 -1.4
LLP *e*S S 00 34 27.5 +1.8
SLVN Son La 33.23 241⇓ *e*P P 00 29 33.2 -2.8
comp=Z,1μm,1.2s
SLVN *e*ScP ScP 00 35 16.0 +2.4
GUIM Jordan 33.25 202 *e*P P 00 29 35.5 -0.6
SCPH Surigao 33.34 197⇑ *e*P P 00 29 35.4 -1.5
WMQ Urumqi 34.09 289 P P 00 29 41.0 -2.1
WMQ S S 00 34 40.0 +0.7
WMQ SS SS 00 37 21.0 -6.3
WMQ pmax pmax
comp=Z,1μm,1.1s
WMQ pmax pmax
comp=Z,2μm,3.0s
BUTP Butuan 34.10 196 *e*P P 00 29 42.6 -0.8
GSTR Great Sitkin T 34.25 56 *e*P P 00 29 41.0 -3.3
ZAA0 Zalesovo Array 34.65 307⇓ *e*P P 00 29 45.0 -2.6
ZAA0 *e*pP pP 00 31 00.6 -0.6
ZAA0 *e*S S 00 34 48.1 +0.7
ZAA0 *e*ScP ScP 00 35 19.8 +1.7
ZALV Zalesovo Beam 34.65 307 ScP ScP 00 35 21.4 +3.3
ZALV Zalesovo Beam 34.65 307 P P 00 29 51.5 +3.9
comp=Z,2μm,0.7s,baz=84,slow=8.0,SNR=202
ZALV PcP PcP 00 32 14.6 +3.3
comp=Z,167nm,0.6s,baz=90,slow=2.4,SNR=7.8
ZALV ScP ScP 00 35 21.4 +3.3
comp=Z,171nm,0.6s,baz=95,slow=3.0,SNR=14
BUKP Musuan 35.28 197 *e*P P 00 29 50.2 -3.2
WAKE Wake Island 35.37 120 *e*P P 00 29 52.5 -1.5
NVS Novosibirsk 35.56 309⇑ *i*P P 00 29 51.6 -3.6
NVS *e* 00 31 25.3
NVS *e*S S 00 35 00.2 -0.9
NVS *e* 00 39 24.8
NVS pmax pmax
comp=N,394nm,1.3s
NVS pmax pmax
comp=E,2μm,1.3s
NVS pmax pmax
comp=Z,2μm,1.3s
NVS pmax pmax
comp=Z,674nm,1.8s
NVS pmax pmax
comp=N,133nm,1.4s
NVS pmax pmax
comp=E,812nm,2.1s
NVS smax smax
comp=N,419nm,1.8s
NVS smax smax
comp=E,2μm,2.5s
NVS Novosibirsk 35.56 309⇑ *i*P P 00 29 51.6 -3.6
UBPT Khong Chiam 36.83 232 P P 00 30 04.9 -1.5
comp=E,518nm,1.8s,comp=E,15μm
LSA Lhasa 37.07 265 P P 00 30 08.1 -0.7
LSA S S 00 35 17.4 -8.0
LSA Lhasa 37.07 265⇓ *e*P P 00 30 06.7 -2.1
LSA *e* 00 31 41.0
LSA *e*S S 00 35 24.5 -0.9
LSA pmax pmax
comp=Z,5μm,1.1s
LSA Lhasa 37.07 265⇓ *e*P P 00 30 06.7 -2.1
LSA Lhasa 37.07 265⇓ *e*P P 00 30 06.7 -2.1
comp=Z,5μm,1.1s
LSA *e*PP PP 00 31 41.0 -2.6
LSA *e*S S 00 35 24.5 -0.9
MK31 Makanchi Array 37.12 295 *e*P P 00 30 06.4 -2.1
MK31 pmax pmax
comp=Z,2μm,0.7s
MK31 Makanchi Array 37.12 295⇓ *e*P P 00 30 06.1 -2.3
MK31 *e*PP PP 00 31 39.4 -3.9
MK31 *e*S S 00 35 25.7 +0.9
MKAR Makanchi Array 37.12 295 P P 00 30 11.7 +3.2
MKAR 00 35 30.5
MKAR Makanchi Array 37.12 295 ScP ScP 00 35 30.5 +3.1
MKAR Makanchi Array 37.12 295 P P 00 30 11.7 +3.2
comp=Z,1μm,0.8s,baz=85,slow=9.1,SNR=156
MKAR ScP ScP 00 35 30.5 +3.1
comp=Z,56nm,0.8s,baz=86,slow=3.2,SNR=5.3
GAMB Gambell 37.24 36 *e*P P 00 30 08.2 -0.9
comp=Z,151nm,1.2s
GAMB *e*ScP ScP 00 35 32.6 +5.1
CMAI Chiengmai2 37.42 245 P P 00 30 09.3 -2.2
comp=Z,1μm,1.0s,comp=Z,33μm
SPIA Saint Paul Isl 37.46 47 *e*P P 00 30 10.5 -0.5
comp=Z,4μm,1.7s
SPIA *e*PcP PcP 00 32 25.0 +5.3
SPIA *e*ScP S 00 35 35.0 +5.4
DLV T Lat 37.88 225 *e*P P 00 30 13.0 -2.3
comp=Z,288nm,1.3s
DLV *e*ScP ScP 00 35 31.6 +0.6
LAMP Lampang 38.03 242 P P 00 30 14.2 -2.1
comp=Z,672nm,0.7s,comp=Z,5μm
CMMT Chiang Mai 38.28 244 P P 00 30 15.5 -2.8
comp=Z,1μm,1.0s,comp=Z,19μm
CHTO Chiang Mai 38.28 244 *e*P P 00 30 16.0 -2.3
CHTO pmax pmax
comp=Z,418nm,1.2s

CHTO Chiang Mai 38.28 244 *e*P P 00 30 16.0 -2.3
comp=Z,418nm,1.2s
CHTO Chiang Mai 38.28 244 P P 00 30 15.6 -2.7
comp=Z,6μm,0.9s,comp=Z,81μm
CHAI Chaiyaphum 38.46 237 P P 00 30 17.6 -2.2
comp=Z,282nm,1.2s,comp=Z,3μm
CM31 Chiang Mai Arr 38.53 243 *e*P P 00 30 18.2 -2.3
comp=Z,200nm,0.3s
CM31 *e*PP pP 00 31 40.8 +5.3
CMAR Chiang Mai Arr 38.53 243 ScP ScP 00 35 36.9 +3.7
CMAR Chiang Mai Arr 38.53 243 P P 00 30 24.7 +4.3
comp=Z,125nm,0.3s,baz=37,slow=6.7,SNR=92
CMAR PcP PcP 00 32 28.4 +4.7
comp=Z,40nm,0.6s,baz=20,slow=1.9,SNR=6.4
CMAR ScP ScP 00 35 36.9 +3.7
comp=Z,189nm,0.9s,baz=9.0,slow=3.2,SNR=19
PBKT Sadao Pong 38.59 239 P P 00 30 18.2 -2.7
comp=Z,607nm,1.5s,comp=Z,8μm
KDM Kudat 38.60 209 P P 00 30 18.2 -2.7
KURK Kurchatov 38.75 302 P P 00 30 19.9 -1.8
KURK S S 00 35 54.3 +5.5
KURK pmax pmax
comp=Z,473nm,0.5s
KURK smax smax
comp=N,25nm,0.9s
KURK Kurchatov 38.75 302⇓ *e*P P 00 30 19.2 -2.5
comp=N,11μm,1.1s
KURK pP pP 00 31 41.1 +4.2
KURK *e*ScP ScP 00 35 37.0 +3.5
KURK *e*S S 00 35 53.4 +4.5
KURK *e* 01 00 20.2
KURBB Kurchatov Arra 38.82 302 P P 00 30 25.5 +3.2
comp=N,4μm,0.8s,baz=81,slow=8.6,SNR=196
KURBB pP pP 00 31 41.1 +3.6
comp=N,249nm,0.9s,baz=86,slow=9.7,SNR=1.8
KURBB ScP ScP 00 35 37.4 +3.6
comp=N,70nm,0.7s,baz=84,slow=4.0,SNR=11
TNA Tin City 39.11 34 *e*P P 00 30 22.0 -2.5
comp=N,557nm,1.0s
SGSI Sangihe 39.26 195 P P 00 30 23.7 -2.7
comp=N,1μm,0.5s,comp=N,34μm
MHMT Maesarieng 39.41 244 P P 00 30 25.9 -1.6
comp=N,624nm,1.0s,comp=N,7μm
SDKM Sandakan 39.65 208 P P 00 30 29.3 -0.3
UNV Unalaska Valle 39.83 52 *e*P P 00 30 27.4 -3.1
comp=N,282nm,1.2s
UNV *e*PcP PcP 00 32 30.8 +3.5
UNV *e*ScP ScP 00 35 42.3 +4.7
AKUT Akutan 40.22 52 *e*P P 00 30 30.9 -2.7
comp=N,589nm,0.7s
AKUT *e*PcP PcP 00 32 31.9 +3.4
AKUT *e*ScP ScP 00 35 42.2 +3.1
TSM Tawau 40.68 206 P P 00 30 35.6 -2.2
TAPN Taplejung 40.89 264 *e*P P 00 30 38.0 -1.8
TAPN Taplejung 40.89 264 *e*P P 00 30 38.0 -1.8
MIDW Midway 41.00 94 *e*P P 00 30 37.4 -2.9
comp=N,2μm,1.3s
ODAN Odare 41.40 264 *e*P P 00 30 42.4 -1.4
ODAN Odare 41.40 264 *e*P P 00 30 42.4 -1.4
SRDT SRDT 41.43 239 P P 00 30 42.6 -1.3
comp=N,1μm,1.6s,comp=N,20μm
PATY Pattaya 41.43 235 P P 00 30 43.2 -0.7
comp=N,247nm,1.0s,comp=N,2μm
KHLT Khaolaem Dam 41.43 240 P P 00 30 42.7 -1.2
comp=N,342nm,1.4s,comp=N,6μm
FALS False Pass 41.48 50 *e*P P 00 30 41.5 -2.2
comp=N,560nm,0.8s
FALS *e*PcP PcP 00 32 36.2 +3.5
FALS *e*ScP ScP 00 35 47.9 +3.8
TNTI Ternate 41.81 191 P P 00 30 46.1 -0.9
comp=N,512nm,1.3s,comp=N,6μm
TNTI Ternate 41.81 191 *e*P P 00 30 47.0 0.0
comp=N,1μm,1.5s
JIRN Jiri 41.84 266 *e*P P 00 30 45.5 -2.0
JIRN Jiri 41.84 266 *e*P P 00 30 45.5 -2.0
RAMN Ramite 41.93 265 *e*P P 00 30 45.7 -2.4
RAMN Ramite 41.93 265 *e*P P 00 30 45.7 -2.4
GUN Gumba 41.93 266 *e*P P 00 30 46.1 -2.1
comp=N,1μm,0.6s
GUN Gumba 41.93 266 *e*P P 00 30 46.1 -2.1
comp=N,1μm,0.6s
KKN Kakani 42.44 267 *e*P P 00 30 50.0 -2.2
comp=N,2μm,0.8s
KKN Kakani 42.44 267 *e*P P 00 30 50.0 -2.2
KKN pmax pmax
comp=Z,2μm,0.8s
KKN Kakani 42.44 267 *e*P P 00 30 50.0 -2.2
comp=Z,2μm,0.8s
PKI Pulchoki 42.47 266 *e*P P 00 30 50.2 -2.3
PKI Pulchoki 42.47 266 *e*P P 00 30 50.2 -2.3
PKI Pulchoki 42.47 266 *e*P P 00 30 50.2 -2.3
PKIN Phulchoki 42.47 266 *e*P P 00 30 50.2 -2.3
ULHL Ulahol 42.57 291 *i*P P 00 30 52.5 -0.5
ULHL Ulahol 42.57 291 P P 00 30 52.5 -0.5
SNR=44
KMSI Cibinong 42.60 196 P P 00 30 50.0 -3.2
comp=Z,1μm,0.9s
DMN Daman 42.67 266 *e*P P 00 30 51.7 -2.3
DMN Daman 42.67 266 *e*P P 00 30 51.7 -2.3
GTOI Gorontalo 42.75 197 P P 00 30 50.7 -3.7
comp=Z,283nm,0.8s,comp=Z,2μm
TKM2 Tokmak 2 42.78 292 *i*P P 00 30 52.9 -1.7
TKM2 Tokmak 2 42.78 292 P P 00 30 53.0 -1.7
SNR=610
TKM2 Tokmak 2 42.78 292 *e*P P 00 30 53.0 -1.7
comp=Z,5μm,0.8s
GKN Gorkha 42.80 267 *e*P P 00 30 52.5 -2.4
comp=Z,600nm,0.3s
TOLI Toli-Toli 42.82 201 P P 00 30 59.3 +4.3
MWPI Manokwari, Pap 42.98 181 P P 00 30 57.9 +1.7
comp=Z,498nm,1.7s,comp=Z,10μm
SWI Sorong 43.02 185 P P 00 30 55.7 -0.8
comp=Z,386nm,0.9s,comp=Z,4μm
SDPT Sand Point 43.06 49 *e*P P 00 30 54.3 -2.0
comp=Z,615nm,0.5s
SDPT *e*ScP ScP 00 35 54.3 +3.8
MRSI Marisa 43.15 199 P P 00 30 54.6 -2.9
comp=Z,172nm,0.8s,comp=Z,4μm
LBMI Labuha 43.18 191 P P 00 30 57.5 -0.3
comp=Z,230nm,1.4s,comp=Z,3μm
DANN Dangsing 43.27 268 *e*P P 00 30 57.0 -1.8
DANN Dangsing 43.27 268 *e*P P 00 30 57.0 -1.8
BVA0 Borovoye Array 43.31 307 *i*P P 00 30 56.3 -2.1
BVA0 pmax pmax
comp=Z,3μm,1.3s
BVAR Borovoye Array 43.31 307 P P 00 31 01.8 +3.4
BVAR 00 32 42.6
BVAR pmax pmax
comp=Z,632nm,0.8s
BVAR pmax pmax
comp=Z,130nm,0.7s
BVAR Borovoye Array 43.31 307 ScP ScP 00 35 55.6 +4.0
BVAR Borovoye Array 43.31 307 P P 00 31 01.8 +3.4
comp=Z,632nm,0.8s,baz=79,slow=8.2,SNR=170
BVAR PcP PcP 00 32 42.6 +3.7
comp=Z,130nm,0.7s,baz=75,slow=2.5,SNR=4.2
BVAR ScP ScP 00 35 55.6 +4.0
comp=Z,92nm,0.7s,baz=75,slow=4.4,SNR=7.5
KZA Kyzart 43.32 291 *i*P P 00 30 57.8 -1.3
KZA Kyzart 43.32 291 P P 00 30 57.9 -1.3
SNR=149
KBK Karagaybulak 43.32 292 P P 00 30 57.2 -1.7
SNR=113
CHMS Chumysh 43.34 292 *i*P P 00 30 56.8 -2.0
CHMS Chumysh 43.34 292 P P 00 30 56.9 -2.0
SNR=49
BRVK Borovoye 43.36 308*d* *i*P P 00 30 56.7 -2.1
BRVK pmax pmax
comp=Z,159nm,1.1s
BRVK Borovoye 43.36 308 *e*P P 00 30 56.1 -2.7
comp=Z,1μm,1.0s
USP Ospenovka 43.42 293 *i*P P 00 30 57.3 -2.1
USP Ospenovka 43.42 293 P P 00 30 57.4 -2.1
SNR=132
BTM Bintulu 43.44 212 P P 00 30 59.2 -0.7
FRU Bishkek 43.49 292⇓ *i*P P 00 30 56.2 -3.8
FRU *e*S ScS 00 40 18.0 +3.1
FRU pmax pmax
comp=Z,2μm,1.4s
FRU smax smax
comp=E,765nm,2.0s
AAK Ala-Archa 43.64 292 ScP ScP 00 35 57.1 +3.7
AAK Ala-Archa 43.64 292 P P 00 31 04.9 +3.5
comp=E,613nm,0.3s,baz=100,slow=6.4,SNR=179

AAK ScP **ScP** 00 35 57.1 +3.7
comp=E,106nm,0.9s,baz=115,slow=3.9,SNR=4.7
KOLN Koldanda 43.70 268 *eP* **P** 00 31 00.1 -2.0
KOLN Koldanda 43.70 268 *eP* **P** 00 31 00.1 -2.0
UCH Uchtor 43.77 291 *i* P **P** 00 31 01.1 -1.7
UCH Uchtor 43.77 291 P **P** 00 31 01.1 -1.7
SNR=85
KSH Kashi 43.78 287 P **P** 00 31 04.0 +1.6
KSH PcS **PcS** 00 36 35.3 +0.7
KSH S S 00 37 10.3 +7.5
KSH SS **SS** 00 40 24.8 -4.1
KSH pmax pmax
comp=E,5μm,2.6s
PYUN Piuthan 43.97 269 *eP* **P** 00 31 02.1 -2.1
PYUN Piuthan 43.97 269 *eP* **P** 00 31 02.1 -2.1
KWAJ Kwajalein Atol 44.07 130 *eP* P 00 31 01.9 -2.9
KWAJ pmax pmax
comp=Z,791nm,1.2s
KWAJ Kwajalein Atol 44.07 130 *eP* P 00 31 01.9 -2.9
comp=Z,791nm,1.2s
EKS2 Erkin-Say 44.13 292 *i* P **P** 00 31 03.0 -2.1
EKS2 Erkin-Say 44.13 292 P **P** 00 31 03.0 -2.1
SNR=212
EKS2 Erkin-Say 44.13 292 *eP* **P** 00 31 03.0 -2.1
comp=Z,1μm,0.8s
AML Almayashu 44.38 291 P **P** 00 31 05.4 -2.0
SNR=180
LUWI Luwuk 44.42 197 P **P** 00 31 04.9 -2.7
comp=Z,255nm,0.9s,comp=Z,10μm
SBUM Sibu 44.47 213 P **P** 00 31 07.7 -0.2
SBUM Sibu 44.47 213 P **P** 00 31 06.8 -1.2
comp=Z,376nm,1.6s,comp=Z,6μm
SBUM Sibu 44.47 213 *eP* **P** 00 31 06.7 -1.2
comp=Z,2μm,2.3s
SBUM *e*ScP **ScP** 00 36 00.5 +3.6
APSI Ampana 44.56 199 P **P** 00 31 09.8 +1.2
comp=Z,228nm,0.9s,comp=Z,3μm
SVW2 Sparrevohn 44.70 40 *eP* **P** 00 31 07.3 -1.8
comp=Z,452nm,0.8s
GENI Genyem 44.89 172 P P 00 31 15.6 +4.4
comp=Z,410nm,1.9s,comp=Z,8μm
IM04 Indian Mountai 44.95 33 *eP* **P** 00 31 08.5 -2.6
IM04 *e*PcP **PcP** 00 32 42.3 -2.1
IM04 *e*ScP **ScP** 00 36 02.5 +4.3
FAKI Fak Fak 45.00 184 P **P** 00 31 11.7 -0.4
comp=Z,520nm,1.0s,comp=Z,7μm
PTH Pithoragarh 45.26 272 *eP* P 00 31 09.9 -4.3
PTH *ex* **ScP** 00 35 56.9 -3.4
MSAI Masohi 45.68 188 P P 00 31 21.4 +4.1
comp=Z,121nm,1.6s,comp=Z,2μm
SURT Suratani 45.79 234 P **P** 00 31 17.9 -0.3
comp=Z,354nm,1.2s,comp=Z,5μm
NLAI Namlea 45.80 191 P **P** 00 31 18.6 +0.4
comp=Z,282nm,1.4s,comp=Z,4μm
CAST Castle Rocks 45.97 37 *eP* **P** 00 31 17.6 -1.4
comp=Z,549nm,0.9s
PPLA Purkeypile 46.01 38 *eP* **P** 00 31 18.2 -1.2
comp=Z,4μm,1.6s
KSM Kuching 46.15 215 P **P** 00 31 20.1 -0.8
KSM Kuching 46.15 215 P **P** 00 31 20.6 -0.3
comp=Z,225nm,1.5s,comp=Z,3μm
KSM Kuching 46.15 215 *eP* **P** 00 31 19.2 -1.7
comp=Z,1μm,2.2s
KSM *e*ScP **ScP** 00 36 06.1 +2.2
RSO Redoubt South 46.17 41 *eP* **P** 00 31 18.8 -2.0
KK31 Karatay Array 46.20 294 *i* P **P** 00 31 18.3 -2.7
KK31 pmax pmax
comp=Z,2μm,0.8s
KKAR Karatay Array 46.20 294 *eP* **P** 00 31 18.5 -2.5
KKAR Karatay Array 46.20 294 *eP* **P** 00 31 18.5 -2.5
BKB Balikpapan 46.22 205 P **P** 00 31 22.1 +0.7
comp=Z,544nm,1.1s,comp=Z,7μmcomp=Z,13μm
COLD Coldfoot 46.24 31 *eP* **P** 00 31 19.2 -1.8
comp=Z,564nm,1.0s
KTGM Kuala Trenggan 46.27 226 P **P** 00 31 22.5 +0.6
SPU Mount Spurr 46.37 40 *eP* **P** 00 31 21.1 -1.0
SPU *e*ScP **ScP** 00 36 09.3 +5.1
ALBI Allahabad 46.40 266 *ex* P 00 31 12.5 -10
KTH Kantishna Hill 46.47 36 *eP* **P** 00 31 21.1 -1.8
comp=Z,10μm,1.1s
MTKI Muara Teweh, K 46.58 208 P **P** 00 31 22.6 -1.6
comp=Z,390nm,0.7s,comp=Z,5μm
OHAK Old Harbor 46.59 45 *eP* P 00 31 20.4 -3.4
comp=Z,922nm,0.7s
OHAK *e*ScP **ScP** 00 36 08.6 +3.5
SDNR Sundarnagar 46.67 276 *eP* **P** 00 31 22.0 -2.8
SDNR *ex* x 00 37 36.0
SMLA Simla 46.71 276 *i* P **P** 00 31 24.2 -0.9
SMLA AMB AMB 00 31 33.9
comp=Z,14μm,0.6s
SMLA *i* S **S** 00 37 42.2 -2.0
BNDI Bandanaira 46.75 187 P **P** 00 31 26.8 +1.3
comp=Z,631nm,1.6s,comp=Z,6μm
TRF Thorofare Moun 46.76 37 *eP* **P** 00 31 25.0 -0.3
comp=Z,3μm,2.1s
KDAK Kodiak Island 46.83 45 *eP* **P** 00 31 23.0 -2.5
comp=Z,810nm,0.7s
KDAK *e*ScP **ScP** 00 36 11.4 +5.4
PKDT Phuket 46.91 234 P **P** 00 31 26.7 0.0
comp=Z,1μm,1.3s,comp=Z,18μm
STKI Sintang 46.94 213 P **P** 00 31 26.1 -0.8
comp=Z,384nm,1.6s,comp=Z,9μm
MMSI Mamuju 46.97 202 P **P** 00 31 25.0 -2.3
comp=Z,425nm,0.7s,comp=Z,5μm
TTSI Tana Toraja 47.07 201 P P 00 31 31.9 +4.0
BHK Bhakra 47.12 277 *eP* **P** 00 31 25.4 -2.8
BHK *ex* x 00 32 18.2
MCK McKinley 47.31 36 *eP* **P** 00 31 27.1 -2.1
MCK pmax pmax
comp=Z,501nm,0.8s
MCK McKinley 47.31 36 *eP* **P** 00 31 27.1 -2.1
MCK McKinley 47.31 36 *eP* **P** 00 31 27.1 -2.1
comp=Z,500nm,0.8s
RC01 Rabbit Creek A 47.49 40 *eP* **P** 00 31 28.0 -2.6
comp=Z,868nm,0.8s
RC01 *e*ScP **ScP** 00 36 13.2 +4.4
COLA College 47.55 34 *ci* P **P** 00 31 29.1 -1.9
COLA pmax pmax
comp=Z,1μm,0.7s
COLA College 47.55 34 ⇑*i* P **P** 00 31 29.1 -1.9
COLA College 47.55 34 *eP* **P** 00 31 29.2 -1.7
comp=Z,378nm,0.7s
KULM Kulim 47.66 229 P **P** 00 31 33.3 +0.8
KULM Kulim 47.66 229 P **P** 00 31 32.0 -0.5
comp=Z,650nm,1.7s,comp=Z,12μm
KULM Kulim 47.66 229 *eP* **P** 00 31 30.9 -1.6
comp=Z,974nm,1.3s
PMR Palmer 47.66 39 *eP* **P** 00 31 29.0 -2.8
PMR pmax pmax
comp=Z,742nm,0.7s
PMR Palmer 47.66 39 *eP* **P** 00 31 29.0 -2.8
comp=Z,742nm,0.7s
KKSI Kolaka, Sulawe 47.71 198 P **P** 00 31 32.3 -0.5
comp=Z,451nm,0.6s,comp=Z,5μm
MJSI Majene 47.78 202 P P 00 31 39.4 +6.1
SVE Sverdlovsk 47.85 315 *ci* P **P** 00 31 32.2 -1.2
SVE *e* 00 32 53.6
SVE *e* 00 33 35.0
SVE *e*S **S** 00 38 04.4 +4.9
SVE *e* 00 40 19.5
SVE pmax pmax
comp=Z,4μm,1.0s
SVE pmax pmax
comp=Z,955nm,8.4s
SVE smax smax
comp=N,3μm,9.4s
SVE Sverdlovsk 47.85 315 ⇑*i* P **P** 00 31 32.2 -1.2
SEW Seward 47.85 41 *eP* **P** 00 31 30.6 -2.7
comp=N,1μm,0.6s
SEW *e*ScP **ScP** 00 36 16.4 +6.0
NDI New Delhi 47.95 273 *eP* P 00 31 30.5 -4.0
comp=N,75nm,0.5s
NDI *eP* P 00 31 32.8 -1.8
NDI AMB AMB 00 31 39.8
comp=Z,9μm,0.0s
NDI *e*S **S** 00 37 58.0 -3.6
SPSI Sidrap Palu 47.96 200 P **P** 00 31 32.9 -1.8
comp=Z,81nm,0.8s,comp=Z,2μm
ILAR Eielson Array 47.98 34 P **P** 00 31 36.8 +2.6
comp=Z,358nm,0.6s,baz=275,slow=6.3,SNR=141
ILAR PcP **PcP** 00 32 58.0 +2.8
comp=Z,64nm,0.8s,baz=275,slow=5.3,SNR=5.1
ILAR P3KP 01 01 34.7
comp=Z,1.2nm,0.8s,baz=237,slow=3.4,SNR=5.7
IPM Ipoh 48.12 228 P **P** 00 31 35.4 -0.6
IPM Ipoh 48.12 228 *eP* **P** 00 31 34.5 -1.5
comp=Z,427nm,1.4s,comp=Z,8μm
IPM Ipoh 48.12 228 *eP* **P** 00 31 33.5 -2.5
comp=Z,373nm,1.1s
IPM *e*ScP **ScP** 00 36 14.0 +1.8
BNSI Bone 48.30 200 P **P** 00 31 36.5 -0.7
comp=Z,196nm,1.1s,comp=Z,2μm
KBKI Kotabaru 48.37 205 P **P** 00 31 39.5 +1.7
comp=Z,146nm,1.4s,comp=Z,2μm
FRIM Kepong 48.83 226 P **P** 00 31 39.8 -1.4
MYKOM Kota Tinggi 48.89 223 P **P** 00 31 42.3 +0.6
MYKOM Kota Tinggi 48.89 223 P **P** 00 31 42.3 +0.6
comp=Z,235nm,2.1s,comp=Z,5μm
MYKOM Kota Tinggi 48.89 223 *eP* **P** 00 31 39.3 -2.4
comp=Z,644nm,1.6s
BBKI Banjar Baru 48.95 207 P **P** 00 31 39.8 -2.4
comp=Z,785nm,1.3s,comp=Z,9μm
KGM Kluang 48.97 224 P **P** 00 31 42.0 -0.4
PAX Paxson 49.00 37 *eP* **P** 00 31 40.7 -1.4
PAX pmax pmax
comp=Z,253nm,1.1s
PAX Paxson 49.00 37 *eP* **P** 00 31 40.6 -1.4
comp=Z,253nm,1.1s
SOKR Solikamsk 49.06 319 *di* P **P** 00 31 40.0 -2.4
SOKR *PP **pP** 00 33 04.5 +2.8
SOKR 00 33 43.2
SOKR S **S** 00 38 21.6 +5.6
SOKR *SS **ScS** 00 40 47.3 -3.5
SOKR pmax pmax
comp=Z,430nm,0.9s
ARU Arti 49.06 314 *di* P **P** 00 31 40.8 -1.7
ARU *PP **PcP** 00 32 58.2 -1.0
ARU 00 33 03.3
ARU 00 33 37.6
ARU *e*S **S** 00 38 18.6 +2.3
ARU *e* 00 40 50.4
ARU SS **SS** 00 41 51.5 -1.1
ARU pmax pmax
comp=Z,489nm,0.7s
ARU Arti 49.06 314 ⇓*i* P **P** 00 31 40.8 -1.7
ARU Arti 49.06 314 *eP* **P** 00 31 40.4 -2.1
comp=Z,4μm,0.9s
BKSI Bulukumba 49.18 199 P **P** 00 31 41.2 -2.6
comp=Z,182nm,0.8s,comp=Z,2μm
TPRI Tanjung Pinang 49.30 222 P **P** 00 31 47.8 +3.0
DIV Divide 49.34 39 *eP* **P** 00 31 42.8 -1.9
comp=Z,924nm,0.8s
DOT Dot Lake 49.44 35 *eP* **P** 00 31 42.5 -2.7
comp=Z,514nm,0.8s
MID Middleton Isla 49.55 41 *eP* **P** 00 31 43.4 -2.6
MID pmax pmax
comp=Z,2μm,1.0s
MID Middleton Isla 49.55 41 *eP* **P** 00 31 43.4 -2.6
comp=Z,2μm,1.0s
MENT Mentasta 49.78 36 *eP* **P** 00 31 47.0 -0.8
LHMI Lhok Sumawe 49.85 233 P P 00 31 54.0 +5.1
LASI Langsa, Aceh 49.87 231 P P 00 31 55.3 +6.3
BMRM Bremner River 49.94 39 *eP* **P** 00 31 47.6 -1.4
comp=Z,1μm,1.1s
RAGM Ragged Mountai 50.07 40 *eP* **P** 00 31 50.1 +0.1
comp=Z,4μm,1.5s
SAUI Saumlaki 50.08 184 P **P** 00 31 53.4 +2.9
comp=Z,839nm,1.5s,comp=Z,13μm
TSI Tuntungan 50.30 230 P P 00 31 57.5 +5.2
EGAK Eagle 50.36 34 *eP* **P** 00 31 49.5 -2.5
PSI Prapat 50.67 229 ScP **ScP** 00 36 25.8 +2.5
PSI Prapat 50.67 229 P P 00 31 59.5 +4.3
comp=Z,218nm,0.9s,baz=347,slow=5.5,SNR=48
PSI ScP **ScP** 00 36 25.8 +2.5
comp=Z,200nm,0.8s,baz=340,slow=4.2,SNR=17
AB31 Akbulak array 50.71 305 *i* P **P** 00 31 52.8 -2.0
AB31 pmax pmax
comp=Z,576nm,0.3s
ABKAR Akbulak array 50.71 305 *eP* **P** 00 31 52.6 -2.2
KCSI Kotacane, Aceh 50.74 231 P **P** 00 31 53.4 -2.1
comp=Z,205nm,1.4s,comp=Z,3μm
NGP Nagpur 50.90 264 *eP* P 00 31 53.0 -3.7
NGP *ex* x 00 38 37.4
KBL Kabul 50.95 284 ⇓*eP* P 00 31 53.6 -3.5
KBL *e* 00 33 04.8
KBL *e*S **S** 00 38 44.5 +1.3
KBL pmax pmax
comp=Z,147nm,0.8s
KBL Kabul 50.95 284 ⇓*eP* P 00 31 53.6 -3.5
comp=Z,147nm,0.8s
KBL *e*PcP **PcP** 00 33 04.8 -2.2
KBL *e*PcP **ScP** 00 36 27.1 +2.6
KBL *e*S **S** 00 38 44.5 +1.3
TPI Tanjungpandan 51.08 216 P **P** 00 31 56.9 -1.1
comp=Z,200nm,1.1s,comp=Z,3μm
TPTI 51.30 231 P **P** 00 31 58.1 -1.5
comp=Z,526nm,1.5s,comp=Z,27μm
DAWY Dawson 51.30 34 *eP* **P** 00 31 57.0 -2.1
AKTO Aktyubinsk 51.41 307 ScP **ScP** 00 36 29.2 +3.4
AKTO Aktyubinsk 51.41 307 P P 00 32 03.8 +3.8
comp=Z,879nm,0.7s,baz=67,slow=14,SNR=83
AKTO ScP **ScP** 00 36 29.2 +3.4
comp=Z,64nm,0.7s,baz=79,slow=3.8,SNR=5.2
RGRI Rengat 51.49 223 P P 00 32 05.0 +4.0
BKNI Bangkinang 51.56 225 P **P** 00 32 00.9 -0.8
comp=Z,873nm,1.9s,comp=Z,11μmcomp=Z,13μm
MMRI Maumere 51.91 196 P **P** 00 32 02.6 -1.4
comp=Z,282nm,0.9s,comp=Z,12μm
MMRI Maumere 51.91 196 *eP* **P** 00 32 01.4 -2.6
comp=Z,1μm,1.8s
BWJI Bawean 51.93 208 P **P** 00 32 06.9 +2.7
comp=Z,88nm,1.1s
JMBI JAMBI 51.94 221 P P 00 32 08.5 +4.2
MNSI Mandailing Nat 51.97 227 P **P** 00 32 02.3 -2.2
comp=Z,328nm,0.5s,comp=Z,5μm
INK Inuvik 52.16 28 *ep* P pP 00 33 13.0 -13
INK *eS* **S** 00 38 58.4 +0.5
INK Inuvik 52.16 28 P **P** 00 32 07.7 +2.6
comp=Z,460nm,0.7s,baz=308,slow=7.3,SNR=96
INK PcP **PcP** 00 33 15.1 +4.6
comp=Z,266nm,1.0s,baz=298,slow=0.7,SNR=6.9
LBFI Labuhan Bajo, 52.28 199 P P 00 32 02.8 -3.9
SDSI Sungai Dareh 52.45 224 P **P** 00 32 07.6 -0.4
comp=Z,170nm,0.8s
SNSI Sinabang, Aceh 52.48 232 P **P** 00 32 10.2 +2.0
comp=Z,775nm,1.7s,comp=Z,15μm
PMBI Palembang 52.53 219 P P 00 32 14.4 +5.9
PPI Padang Panjang 52.58 225 P **P** 00 32 06.5 -2.4
comp=Z,209nm,1.9s,comp=Z,4μmcomp=Z,19μm
KMMI Kalianget 52.60 206 P **P** 00 32 10.0 +1.0
comp=Z,164nm,1.4s,comp=Z,3μm
SOEI Soe 52.63 193 P **P** 00 32 10.9 +1.6
comp=Z,163nm,0.9s,comp=Z,3μm
PMG Port Moresby 52.63 165 P **P** 00 32 11.0 +1.8
PMG Port Moresby 52.63 165 *eP* **P** 00 32 10.2 +1.0
comp=Z,38nm,0.9s
PMG PcP **PcP** 00 33 16.5 +3.4
PMG *e*ScP **ScP** 00 36 30.9 -0.6
PMG Port Moresby 52.63 165 P **P** 00 32 11.4 +2.2
comp=Z,47nm,0.4s,baz=5.6,slow=6.8,SNR=36
PMG PcP **PcP** 00 33 16.5 +3.4
comp=Z,108nm,0.8s,baz=20,slow=12,SNR=4.9
PMG ScP **ScP** 00 36 33.4 +1.9
comp=Z,35nm,0.8s,baz=17,slow=8.9,SNR=5.1
GSI Gunungsitoli 52.66 229 P **P** 00 32 08.5 -1.0
comp=Z,2μm,1.7s,comp=Z,34μm
GSI Gunungsitoli 52.66 229 *eP* P 00 32 05.4 -4.1
comp=Z,8μm,1.9s
PDSI Padang 52.94 225 P **P** 00 32 08.5 -3.0
comp=Z,193nm,1.0s,comp=Z,4μm
GRJI Gresik 52.98 208 P **P** 00 32 11.1 -0.6
comp=Z,262nm,0.7s,comp=Z,2μm
TARA Tarawa 53.16 130 *eP* P 00 32 10.1 -3.0
comp=Z,2μm,1.2s
SRBI Singaraja 53.18 204 P **P** 00 32 12.4 -0.8
comp=Z,302nm,1.0s,comp=Z,3μm
ABJI Asem Bagus 53.22 206 P **P** 00 32 15.0 +1.6
comp=Z,114nm,1.0s,comp=Z,3μm
HYT Haines Junctio 53.25 38 *eP* **P** 00 32 12.2 -1.2
KHKI Kahang-Kahang 53.32 204 P **P** 00 32 11.9 -2.3
comp=Z,350nm,1.3s,comp=Z,4μm
BLJI Banyuglugur 53.38 206 P **P** 00 32 15.5 +0.9
comp=Z,183nm,0.6s
MTNI Mataram 53.41 203 P **P** 00 32 12.1 -2.8
comp=Z,192nm,1.5s,comp=Z,3μm
PRGR Permogore 53.58 324 ⇓*i* P **P** 00 32 13.9 -1.5
PRGR *eS* **S** 00 39 18.5 +1.3
PRGR pmax pmax
comp=Z,2μm,1.0s
HYB Hyderabad 53.60 260 *i* P P 00 32 13.0 -3.3
comp=Z,121nm,0.5s
HYB *e*PP **PP** 00 34 20.0 -1.9
HYB *e*S **S** 00 39 16.0 -2.7
HYB LR LR 00 46 08.0
comp=Z,11nm,20.0s
NGJI Ngawi 53.76 209 P **P** 00 32 18.3 +0.9
comp=Z,241nm,0.9s,comp=Z,5μm
SMRI Semarang 53.85 210 P **P** 00 32 19.9 +1.9
comp=Z,262nm,1.4s,comp=Z,7μm
SMRI Semarang 53.85 210 *eP* **P** 00 32 17.4 -0.6
comp=Z,203nm,0.9s
JAGI Jajag, Banyuwa 53.88 206 *eP* **P** 00 32 16.1 -2.1
comp=Z,83nm,1.1s
IGBI Denpasar 53.89 204 P P 00 32 22.9 +4.6
LHSI Lahat 53.91 220 P **P** 00 32 16.9 -1.5
comp=Z,1μm,1.5s,comp=Z,16μm
GMJI Gumukmas 53.92 206 P **P** 00 32 16.9 -1.6
comp=Z,210nm,1.1s,comp=Z,2μm
MASI Maura Aman, Be 53.94 222 P **P** 00 32 18.3 -0.4
comp=Z,728nm,1.7s,comp=Z,8μm
SJI Sawahan 53.99 209 P **P** 00 32 16.6 -2.5
comp=Z,235nm,0.8s,comp=Z,5μm
KLSI 54.10 218 P **P** 00 32 18.0 -1.8
comp=Z,819nm,1.5s,comp=Z,15μm
KRKI Karangkates 54.15 208 P **P** 00 32 21.1 +1.0
comp=Z,495nm,1.0s
MDSI Maura Dua 54.18 219 P **P** 00 32 17.7 -2.6
comp=Z,445nm,1.6s,comp=Z,8μm
TGJI Tegal 54.19 212 P **P** 00 32 19.3 -1.1
comp=Z,306nm,1.0s,comp=Z,3μm
SPA0 Spitsbergen Ar 54.37 347 *eP* **P** 00 32 19.0 -2.0
BJII Banjamegara 54.38 211 P **P** 00 32 21.3 -0.6
comp=Z,136nm,1.9s,comp=Z,2μm
BLSI Bandar Lampung 54.47 217 P **P** 00 32 24.2 +1.8
comp=Z,357nm,1.0s,comp=Z,6μmcomp=Z,7μm
KBS Kingsbay 54.60 349 *eP* **P** 00 32 20.9 -1.6
KBS *e*PP **pP** 00 33 44.4 +0.5
KBS pmax pmax
comp=Z,254nm,1.1s
KBS Kingsbay 54.60 349 *eP* **P** 00 32 20.9 -1.6
comp=Z,65nm,1.1s
KBS *e*pP **pP** 00 33 44.4 +0.5
UGM Wanagama 54.61 210 P **P** 00 32 24.6 +1.2
comp=Z,482nm,1.4s,comp=Z,5μm
MNAI Manna 54.65 220 P P 00 32 31.4 +7.7
MNAI Manna 54.65 220 *eP* **P** 00 32 26.2 +2.5
comp=Z,786nm,1.5s
KPJI Karang Pucung 54.69 212 P **P** 00 32 21.2 -2.7
comp=Z,237nm,0.8s,comp=Z,3μm
LWLI Liwa 54.70 219 P **P** 00 32 22.6 -1.6
comp=Z,371nm,0.7s,comp=Z,6μm
LEM Lembang 54.76 214 P **P** 00 32 24.0 -0.6
comp=Z,260nm,1.1s,comp=Z,4μm
DBJI Dramaga 54.87 215 P **P** 00 32 26.3 +1.0
comp=Z,216nm,0.7s,comp=Z,4μm
KASI Kota Agung 54.95 218 P **P** 00 32 23.9 -1.9
comp=Z,300nm,1.1s,comp=Z,3μm
ALE Alert 55.20 3 P **P** 00 32 26.0 -0.7
comp=Z,3μm,1.0s,SNR=24
LVZ Lovozero 55.21 333 P **P** 00 32 25.2 -1.8
comp=Z,774nm,1.1s,SNR=12
LVZ Lovozero 55.21 333 *ci* P **P** 00 32 25.0 -2.0
LVZ pmax pmax
comp=Z,90nm,1.1s
LVZ Lovozero 55.21 333 *eP* **P** 00 32 25.9 -1.2
comp=Z,166nm,1.1s
CISI Cisompet, Garu 55.34 213 P **P** 00 32 31.7 +3.1
CISI Cisompet, Garu 55.34 213 *eP* **P** 00 32 29.1 +0.5
comp=Z,93nm,0.9s
TMCR Tamitsa 55.68 328 *eP* **P** 00 32 28.9 -1.4
TMCR *e* 00 34 38.4
TMCR *e*S **S** 00 39 50.2 +5.5
TMCR pmax pmax
comp=Z,295nm,1.1s
SIT Sitka 55.83 41 *eP* **P** 00 32 30.6 -0.9
SIT pmax pmax
comp=Z,1μm,1.0s
SIT Sitka 55.83 41 *eP* **P** 00 32 30.6 -0.9
comp=Z,1μm,1.0s
SIT *e*ScP **ScP** 00 36 50.5 +5.5
HNR Honiara 56.35 150 P **P** 00 32 37.2 +1.6
HNR Honiara 56.35 150 P **P** 00 32 37.2 +1.6
comp=Z,301nm,0.7s,baz=178,slow=2.0,SNR=19
POO Poona 56.36 265 ⇓*iP* **P** 00 32 33.0 -2.8
comp=Z,955nm,1.2s
COEN Coen 56.45 170 *eP* P 00 32 33.1 -3.2
comp=Z,510nm,0.8s
KEV Kevo 56.70 337 *eP* **P** 00 32 35.9 -1.4
KEV pmax pmax
comp=Z,96nm,0.6s
KEV Kevo 56.70 337 *ep* **P** 00 32 35.9 -1.4
comp=Z,96nm,0.6s
KAD Karad 56.88 264 *iP* **P** 00 32 38.5 -0.9
KAD *i* x x 00 32 43.6
ARCES ARCESS Array B 57.26 337 ScP **ScP** 00 36 55.8 +4.6
ARCES ARCESS Array B 57.26 337 P P 00 32 44.7 +3.4
comp=Z,68nm,0.4s,baz=59,slow=8.7,SNR=69
ARCES ScP **ScP** 00 36 55.8 +4.6
comp=Z,66nm,1.0s,baz=76,slow=6.4,SNR=5.7
ARE0 ARCESS Array S 57.27 337 *eP* **P** 00 32 38.6 -2.7
ARE0 *ep* **pP** 00 34 05.2 +1.5
ARE0 *e*S **S** 00 40 04.8 -0.5
ARE0 *e*SS **SS** 00 43 58.8 -2.2
ARE0 ARCESS Array S 57.27 337 *eP* **P** 00 32 39.4 -1.9
ARE0 *e*PP **PP** 00 34 51.0 -2.2
ARE0 *e*ScP **ScP** 00 36 54.5 +3.3
WRAK Wrangell Islan 57.58 41 *eP* P 00 32 46.9 +3.3
comp=Z,968nm,1.4s
CRAG Craig 57.66 42 *eP* **P** 00 32 43.0 -1.2
comp=Z,1μm,1.1s
CRAG *e*PcP **PcP** 00 33 29.0 -3.1
DLBC Dease Lake 57.71 38 *e*ScP **ScP** 00 36 56.5 +3.0
DLBC Dease Lake 57.71 38 P P 00 32 48.2 +3.6
comp=Z,390nm,0.9s,baz=306,slow=6.7,SNR=76
KTK1 Kautokeino 58.23 337 *eP* **P** 00 32 47.2 -0.7
RES Resolute Bay 58.81 14 PcP **PcP** 00 33 40.8 +4.4
RES ScP **ScP** 00 37 02.8 +4.9
RES Resolute Bay 58.81 14 P **P** 00 32 54.1 +2.4
comp=Z,363nm,0.6s,baz=307,slow=8.8,SNR=121
RES PcP **PcP** 00 33 40.8 +4.4
comp=Z,184nm,0.9s,baz=310,slow=5.9,SNR=7.6
RES ScP **ScP** 00 37 02.8 +4.9
comp=Z,67nm,1.0s,baz=323,slow=6.2,SNR=7.6
PALK Pallekele 58.90 250 *eP* **P** 00 32 51.4 -1.9
comp=Z,4μm,1.2s
JOF Joensuu 58.91 329 *eP* **P** 00 32 50.9 -1.7
JOF pmax pmax
comp=Z,200nm,0.4s
JOF Joensuu 58.91 329 *ep* **P** 00 32 50.9 -1.7
comp=Z,200nm,0.4s
TRO Tromso 59.07 338 *eP* **P** 00 32 53.3 -0.3
TRO *e*S **S** 00 40 25.9 -2.4
KIP Kipapa 59.26 88 *ci* P **P** 00 32 52.6 -3.0
KIP pmax pmax
comp=Z,702nm,0.9s
KIP Kipapa 59.26 88 *eP* **P** 00 32 54.5 -1.1
comp=Z,824nm,0.8s
HON Honolulu 59.33 88 *eP* **P** 00 32 55.2 -0.9
HON *e* 00 33 37.7
HON Honolulu 59.33 88 *eP* **P** 00 32 55.2 -0.9
HON *e*PcP **PcP** 00 33 37.7 -1.6
MOS Moscow 59.99 320 *eP* **P** 00 32 58.9 -1.1
MOS *i* *PP **pP** 00 34 24.5 +1.2
MOS *i* 00 35 16.8
MOS *e*PPP PPP 00 36 52.9
MOS *i* S **S** 00 40 40.4 0.0
MOS *i* 00 42 09.9
MOS *e*SS **SS** 00 44 46.0 +1.9
MOS *i* SSS SSS 00 47 40.0
MOS pmax pmax
comp=Z,8μm,2.0s
MOS pmax pmax
comp=N,3μm,1.8s
MOS pmax pmax
comp=Z,3μm,1.5s
MOS smax smax
comp=N,26μm,3.5s
MOS smax smax
comp=E,24μm,3.5s
MOS MLR MLR
comp=Z,2μm,15.0s
MOS Moscow 59.99 320 *eP* **P** 00 32 58.9 -1.1
VRHR Novokhopersk 60.39 314 *eP* **P** 00 32 59.9 -2.9
VRHR *e*SP **pP** 00 34 26.8 +0.6
VRHR *e*S **S** 00 40 48.1 +2.5
VRHR pmax pmax

comp=E,280nm,0.8s
VRHR pmax pmax
comp=Z,650nm,0.8s
VRHR pmax pmax
comp=N,360nm,1.1s
VRHR smax smax
comp=E,7μm,1.4s
VRHR smax smax
comp=Z,1μm,1.9s
VRHR smax smax
comp=N,5μm,1.6s
FITZ Fitzroy Crossi 60.62 190 *e*P **P 00 33 02.3 -2.3**
comp=N,323nm,1.3s
FITZ P'P' 01 02 06.6
FITZ Fitzroy Crossi 60.62 190 PKPPKP P'P'df 01 02 06.6 -7.8
comp=N,5.9nm,0.9s,baz=183,slow=7.8,SNR=6.7
TRD Trivandrum 60.68 254⇓ *e*P **P 00 33 04.6 -0.6**
OBN Obninsk 60.84 319 P **P 00 33 03.9 -1.7**
comp=N,6μm,0.7s,SNR=33
OBN Obninsk 60.84 319*c i*P **P 00 33 03.5 -2.1**
OBN *e* 00 33 41.7
OBN *e* 00 34 29.2
OBN *e* 00 35 23.3
OBN *e*S **S 00 40 51.8 +0.8**
OBN pmax pmax
comp=Z,833nm,1.1s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 60.84 319 *e*P **P 00 33 03.5 -2.1**
comp=Z,2μm,1.3s
HKL Haleakala 60.99 88 *e*P **P 00 33 09.6 +1.9**
HKL Haleakala 60.99 88 *e*P **P 00 33 09.6 +1.9**
PUL Pulkovo 61.06 326 *e*P **P 00 33 05.4 -1.7**
PUL pmax pmax
comp=Z,296nm,1.0s
PUL Pulkovo 61.06 326 *e*P **P 00 33 05.4 -1.7**
STEI Steigen 61.20 338 *e*P P 00 33 03.6 -4.2
MAK Makhachkala 61.26 303 *e*P **P 00 33 08.4 -0.3**
MAK *e* 00 33 49.5
MAK *e**PP **pP 00 34 28.6 -3.8**
MAK *e**SP **sP 00 35 10.8 -4.5**
MAK *e* 00 35 28.5
MAK *e*PPP PPP 00 37 01.3
MAK *e*S **S 00 40 57.4 +0.6**
MAK *e* 00 42 18.8
MAK *e*SS **SS 00 45 00.4 -4.1**
MAK pmax pmax
comp=Z,1μm,0.9s
MAK MLR MLR
comp=Z,3μm,11.0s
VOR Voronezh 61.34 315 *e*P **P 00 33 06.0 -3.1**
VOR *e*S **S 00 40 58.0 +0.6**
VOR pmax pmax
comp=Z,4μm,1.4s
LOF Lofoten 61.53 339 *e*P **P 00 33 07.8 -2.3**
VSR Storozhevoye 61.64 315 *e*P **P 00 33 08.5 -2.5**
VSR *e**SP **pP 00 34 36.6 +1.8**
VSR *e*S **S 00 41 05.3 +4.2**
VSR pmax pmax
comp=N,440nm,0.9s
VSR pmax pmax
comp=Z,610nm,0.9s
VSR pmax pmax
comp=E,480nm,1.0s
VSR smax smax
comp=N,5μm,1.6s
VSR smax smax
comp=Z,590nm,1.3s
VSR smax smax
comp=E,3μm,1.2s
VORD Divnogorie 61.71 314 *e*P **P 00 33 10.0 -1.5**
VORD *e**SP **pP 00 34 37.0 +1.7**
VORD *e*S **S 00 41 06.1 +4.1**
VORD pmax pmax
comp=N,150nm,1.0s
VORD pmax pmax
comp=E,300nm,1.0s
VORD pmax pmax
comp=Z,390nm,1.0s
VORD smax smax
comp=N,6μm,1.7s
VORD smax smax
comp=Z,630nm,1.7s
VORD smax smax
comp=E,2μm,1.8s
FIA1 FINESS Array S 61.77 329 *e*P **P 00 33 09.9 -1.9**
FIA1 *e*PcP **PcP 00 33 47.5 -1.1**
FIA1 *e*PP **PP 00 35 29.2 -3.7**
FINES FINESS Array B 61.77 329 pP **pP 00 34 37.6 +2.0**
FINES ScP **ScP 00 37 13.7 +2.4**
FINES FINESS Array B 61.77 329 P P 00 33 15.3 +3.5
comp=E,453nm,0.7s,baz=65,slow=7.8,SNR=51
FINES pP pP 00 34 37.6 +2.0
comp=E,156nm,0.8s,baz=59,slow=9.2,SNR=3.8
FINES ScP **ScP 00 37 13.7 +2.4**
comp=E,48nm,0.8s,baz=86,slow=6.1,SNR=3.7
KKH Kailua Kona 61.81 88 *e*P P 00 33 16.7 +4.1
KKH Kailua Kona 61.81 88 *e*P P 00 33 16.7 +4.1
YKA Yellowknife Ar 61.85 30 PcP **PcP 00 33 53.1 +4.2**
YKA Yellowknife Ar 61.85 30 P **P 00 33 14.8 +2.5**
comp=E,140nm,0.7s,baz=306,slow=6.4,SNR=116
YKA PcP **PcP 00 33 53.1 +4.2**
comp=E,81nm,0.8s,baz=312,slow=3.7,SNR=11
YKA P4KPbc 01 10 13.2
comp=E,5.1nm,0.8s,baz=311,slow=4.3,SNR=67
WRA Warramunga Arr 61.87 180 PcP **PcP 00 33 53.6 +4.2**
WRA pP **pP 00 34 37.6 +0.7**
WRA *e* 01 10 12.7
WRA Warramunga Arr 61.87 180 P **P 00 33 15.0 +2.1**
comp=E,178nm,0.9s,baz=359,slow=7.0,SNR=160
WRA PcP **PcP 00 33 53.6 +4.2**
comp=E,66nm,0.8s,baz=354,slow=4.4,SNR=9.2
WRA pP **pP 00 34 37.6 +0.7**
comp=E,50nm,0.9s,baz=1.4,slow=7.2,SNR=3.5
WRA S **S 00 41 07.0 +2.3**
comp=E,15nm,0.9s,baz=0.9,slow=12,SNR=8.9
WRA P4KPbc 01 10 12.7
comp=E,1.3nm,0.9s,baz=356,slow=5.1,SNR=6.7
POHA Pohakuloa 62.11 88 *e*P **P 00 33 13.8 -1.1**
comp=E,2μm,0.9s
PUH Pauahi 62.58 88 *e*P **P 00 33 15.9 -1.9**
comp=E,2μm,1.0s
PUH *e*PcP **PcP 00 33 50.3 -2.5**
MOR8 Moi Rana 62.64 337 *e*P P 00 33 13.9 -3.5
MOR8 AMB AMB 00 33 21.1
comp=Z,545nm,0.7s
MOR8 *e*pP pP 00 34 41.7 +0.2
STCH Steam Cracks 62.64 88 *e*P **P 00 33 17.8 -0.4**
KONS Konsvik 62.79 337 *e*P **P 00 33 18.3 0.0**
GOF Gofitskoye 62.83 307⇓ *i*P **P 00 33 17.6 -1.4**
GOF *i*S **S 00 41 17.1 +0.9**
GOF smax smax
comp=E,3μm,1.5s
FLOS Flostrand 62.84 337 *e*P **P 00 33 18.1 -0.5**
CTA Charters Tower 62.91 168 P **P 00 33 22.1 +2.4**
comp=E,216nm,0.8s,baz=348,slow=9.2,SNR=104
STOK Stokkvaagen 62.94 337 *e*P **P 00 33 19.9 +0.7**
KULLO Kullorsuaq 63.19 4 *i*P **P 00 33 19.9 -0.9**
KULLO *i*S **S 00 41 18.9 -0.8**
KULLO Kullorsuaq 63.19 4 *i*P **P 00 33 19.9 -0.9**
comp=E,266nm,1.0s
KULLO *i*S **S 00 41 18.9 -0.8**
NCK Nalchik 63.37 306⇓ *i*P **P 00 33 20.3 -2.2**
GUDG Gudauri 63.41 304 P **P 00 33 21.5 -1.5**
DGRG David-gareji 63.41 303 P **P 00 33 21.3 -1.6**
DUS Dusheti 63.48 304 P **P 00 33 23.5 +0.2**
SEAG Tbilisi Sea 63.59 303 P **P 00 33 22.1 -2.0**
TBLG Delisi 63.65 303 P **P 00 33 22.7 -1.7**
KBZ Khabaz 63.66 306 P **P 00 33 22.7 -1.7**
KBZ S **S 00 41 28.5 +2.3**
KBZ pmax pmax
comp=Z,172nm,0.8s
KBZ smax smax
comp=N,15nm,1.0s
KBZ Khabaz 63.66 306 P **P 00 33 22.6 -1.7**
KBZ S **S 00 41 28.5 +2.3**
KBZ P'P' 01 02 06.7
KBZ Khabaz 63.66 306 P **P 00 33 22.6 -1.7**
comp=N,172nm,0.8s,baz=29,slow=6.5,SNR=141
KBZ S **S 00 41 28.5 +2.3**
comp=N,15nm,1.0s,baz=218,slow=19,SNR=2.8
KBZ PKPPKP P'P'df 01 02 06.7 -9.5
comp=N,4.7nm,1.1s,baz=202,slow=6.5,SNR=4.4
KIV Kislovodsk 63.66 306 P **P 00 33 23.7 -0.8**
comp=N,53μm,1.0s
KIV Kislovodsk 63.66 306*d i*P **P 00 33 22.9 -1.6**
KIV *e**PP **pP 00 34 45.2 -3.7**
KIV *e*S **S 00 41 27.5 +1.0**
KIV pmax pmax
comp=Z,1μm,3.3s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 63.66 306 *e*P **P 00 33 22.9 -1.6**
comp=Z,8μm,0.9s
ONI Oni 63.96 305 P **P 00 33 25.4 -1.0**
KZR Kazreti 64.05 303 P **P 00 33 25.6 -1.4**
COCO West Island 64.40 222 *e*P **P 00 33 30.0 +0.6**
COCO pmax pmax
comp=Z,257nm,1.0s
COCO West Island 64.40 222 *e*P **P 00 33 30.0 +0.6**
comp=Z,257nm,1.0s
GNI Garni 64.54 302 *e*P **P 00 33 29.0 -1.4**
comp=Z,1μm,0.9s
AKH Akhalkalaki 64.61 304 P **P 00 33 30.1 -0.6**
BANOM Banah 64.86 283 P **P 00 33 30.9 -1.5**
SNR=447
WBK Wadi Bani Khal 64.89 278 P **P 00 33 31.6 -1.1**
SNR=217
DIGO Kars 65.25 303 *i*P **P 00 33 33.5 -1.4**
SMDO Samad 65.30 279 P **P 00 33 34.0 -1.3**
SNR=658
MNK Minsk 65.30 322⇑ *i*P P 00 33 29.0 -5.7
MNK *e**PP pP 00 34 56.0 -3.6
MNK *e*SP 00 35 36.0
MNK *e* 00 36 00.0
MNK *e*S **S 00 41 42.0 -3.9**
MNK *e*PS 00 42 08.0
MNK *e**SS **SKSac 00 42 45.0 -4.9**
MNK pmax pmax
comp=E,610nm,1.5s
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=N,550nm,1.2s
MNK smax smax
comp=N,16μm,2.0s
MNK smax smax
comp=E,40μm,4.0s
KARS Kars 65.31 303 *e*P **P 00 33 35.8 +0.6**
SUMG Summit 65.39 358 *e*P **P 00 33 35.0 -0.4**
SUMG *i*S **S 00 41 50.3 +3.1**
SUMG Summit 65.39 358 *i*P **P 00 33 35.0 -0.4**
comp=E,413nm,0.9s
SUMG *i*S **S 00 41 50.3 +3.1**
SUMG Summit 65.39 358 *e*P **P 00 33 33.7 -1.8**
comp=E,622nm,1.0s
UOSS Wadi Hilu 65.51 282 P **P 00 33 35.8 -0.7**
comp=E,18μm,0.8s
HOQ Hoqain 65.52 280 P **P 00 33 35.0 -1.6**
SNR=184
DYDN Diyadin 65.55 302 *i*P **P 00 33 34.7 -2.1**
AS31 Alice Springs 65.58 181 *e*P **P 00 33 35.4 -1.4**
AS31 PcP **PcP 00 34 02.4 -2.3**
ASAR Alice Springs 65.58 181 PcP **PcP 00 34 08.7 +3.9**
ASAR pP **pP 00 35 02.3 +0.4**
ASAR *e* 01 10 29.1
ASAR Alice Springs 65.58 181 P **P 00 33 39.8 +3.0**
comp=E,224nm,0.9s,baz=2.9,slow=5.7,SNR=152
ASAR PcP **PcP 00 34 08.7 +3.9**
comp=E,41nm,0.7s,baz=6.5,slow=4.8,SNR=5.4
ASAR pP **pP 00 35 02.3 +0.4**
comp=E,24nm,0.9s,baz=350,slow=5.8,SNR=2.2
ASAR P4KPbc 01 10 29.1
comp=E,0.9nm,0.7s,baz=4.0,slow=4.8,SNR=9.9
SOC Sochi 65.64 307*d i*P **P 00 33 35.5 -1.5**
SOC *e* 00 34 03.7
SOC *i**PP **pP 00 35 01.4 -0.6**
SOC *e* 00 36 04.9
SOC *i*S **S 00 41 52.4 +2.2**
SOC *e* 00 42 51.1
SOC pmax pmax
comp=Z,3μm,1.2s
SOC Sochi 65.64 307⇓ *i*P **P 00 33 35.5 -1.5**
CLDR Caldiran 65.64 301 *e*P **P 00 33 37.4 0.0**
JMDO Jabal Madar 65.67 279 P **P 00 33 36.1 -1.5**
SNR=512
ARTV Artvin 65.70 304 *i*P **P 00 33 35.7 -2.1**
BCA Borcka 65.74 305 *e*P **P 00 33 37.5 -0.2**
DBOC Borcka 65.77 304 *i*P **P 00 33 35.9 -2.0**
DAGI Agillar 65.77 304 *i*P **P 00 33 35.9 -2.1**
ASHO Ashiyiah 65.77 282 P **P 00 33 36.6 -1.6**
SNR=946
KNTN Kanton 65.86 118 *e*P **P 00 33 39.4 +0.6**
comp=Z,671nm,0.9s
DBAD Bademkaya 65.94 304 *i*P **P 00 33 37.5 -1.6**
AGRB Hanur-Agry 65.97 302 *e*P **P 00 33 38.6 -0.9**
DDEM Demirkent 65.98 304 *i*P **P 00 33 36.9 -2.5**
TBLU Trondheim 65.99 336 *e*P P 00 33 35.7 -3.2
TBLU *e*pP pP 00 35 02.1 -1.9
TBLU *e*S **S 00 41 48.7 -5.1**
EATA Eleskirt 66.12 303 *i*P **P 00 33 39.1 -1.5**
TUTA Tutak 66.19 302 *i*P **P 00 33 39.3 -1.6**
ARQ Araqi 66.25 281 P **P 00 33 40.0 -1.2**
SNR=599
ANN Anapa 66.25 310*d i*P **P 00 33 39.5 -1.3**
ANN *i* 00 34 05.4
ANN *i**PP **pP 00 35 03.8 -2.2**
ANN *i* 00 36 15.9
ANN *i*PPP PPP 00 37 54.7
ANN *i*S **S 00 42 00.5 +3.1**
ANN pmax pmax
comp=E,261nm,1.3s
ANN pmax pmax
comp=N,165nm,1.3s
ANN pmax pmax
comp=Z,1μm,1.3s
TVAN Van 66.32 301 *i*P **P 00 33 38.9 -2.8**
SCO Scoresbysund 66.33 352 *i*P **P 00 33 39.7 -1.1**
SCO *i*S **S 00 42 02.5 +4.9**
SCO Scoresbysund 66.33 352 *i*P **P 00 33 39.7 -1.1**
comp=Z,59nm,1.0s
SCO *i*S **S 00 42 02.5 +4.9**
PGC Sidney 66.37 45 *e*P **P 00 33 39.4 -2.1**
comp=Z,529nm,0.8s
PGC *e*PcP **PcP 00 34 04.8 -3.0**
HOMI Horasan 66.38 303 *i*P **P 00 33 41.2 -0.9**
STW Striped Peak 66.56 46 P **P 00 33 42.2 -0.5**
GEVA Gevas 66.67 301 *i*P **P 00 33 42.6 -1.2**
HAKT HAKKARI 66.70 300 *i*P P 00 33 40.9 -3.2
EKAR Karacoban 66.74 302 *i*P P 00 33 38.6 -5.8
ERZM Erzurum 66.80 303 *i*P **P 00 33 43.9 -0.8**
EZM Erzurum 66.80 303 *e*P **P 00 33 43.7 -1.0**
A05A Maple Falls 66.87 44 *e*P **P 00 33 42.6 -2.0**
comp=Z,513nm,1.0s
NLWA Neilton Lookou 66.92 46 *e*P **P 00 33 43.2 -1.9**
comp=Z,864nm,0.9s
CUKT Cukurca 66.95 300 *e*P **P 00 33 43.5 -2.0**
KIEV Kiev 67.04 318*d i*P **P 00 33 42.8 -2.8**
KIEV Kiev 67.04 318 *e*P **P 00 33 43.1 -2.5**
comp=Z,668nm,0.8s
TATV Tatvan 67.06 302 *i*P **P 00 33 44.1 -2.1**
KTUT Trabzon 67.14 305 *e*P **P 00 33 46.0 -0.5**
VRTB Varto-Mus 67.18 303 *e*P **P 00 33 47.5 +0.6**
HDW Hoodsport 67.20 46 P **P 00 33 46.5 -0.3**
BAYT Ayd¨–ntepe-Bay 67.26 304 *e*P **P 00 33 46.4 -1.1**
DOMB Dombas 67.27 335 *e*P **P 00 33 46.4 -0.6**
MOL Molde 67.32 336 *e*P **P 00 33 47.4 +0.2**
NOA NORSAR Array B 67.34 334 pP **pP 00 35 15.0 +2.1**
NOA ⇑ *e* 01 02 13.1
NOA NORSAR Array B 67.34 334 P **P 00 33 50.5 +3.1**
comp=Z,189nm,0.8s,baz=42,slow=6.1,SNR=72
NOA pP **pP 00 35 15.0 +2.1**
comp=Z,43nm,0.7s,baz=39,slow=6.3,SNR=3.1
NOA PKP2bc 01 02 13.1
comp=Z,3.0nm,0.9s,baz=84,slow=3.1,SNR=4.8
NC602 NORSAR Array S 67.46 334 *e*P **P 00 33 46.5 -1.6**
B06A Marblemount 67.48 44 *e*P **P 00 33 46.1 -2.3**
comp=Z,1μm,1.1s
BNGL BINGOL 67.50 303 *i*P **P 00 33 46.7 -2.3**
RPW Rockport 67.51 44 P **P 00 33 47.6 -1.1**
SIRT Sirnak 67.55 301 *e*P **P 00 33 47.5 -1.6**
SIRN S¨–rnak 67.56 301 *i*P **P 00 33 47.2 -2.0**
NAO01 NORSAR Array S 67.59 334 *e*P **P 00 33 47.4 -1.5**
comp=Z,3.3nm,0.8s
NAO01 *e*PP **PP 00 36 21.3 -2.1**
E03A Lebam 67.61 47 *e*P **P 00 33 47.6 -1.6**
comp=Z,1μm,0.8s
GUMT Gumushane 67.63 305 *e*P **P 00 33 48.4 -1.2**
SUW Suwalki 67.71 324 *e*P **P 00 33 47.6 -2.1**
SUW *e**PP **pP 00 35 17.2 +1.8**
SUW *i*S **S 00 42 18.6 +4.2**
SUW Suwalki 67.71 324 *e*P **P 00 33 47.5 -2.1**
SUW *e* 00 33 49.0
SUW *e* 00 33 53.6
SUW *e*pP **pP 00 35 17.2 +1.8**
SUW *i*S **S 00 42 18.5 +4.2**
SUW Suwalki 67.71 324 *e*P **P 00 33 47.6 -2.1**
comp=Z,1μm,1.7s
BTMT Batman 67.74 302 *e*P **P 00 33 49.6 -0.7**
BNGB Bing¨ll 67.77 303 *e*P **P 00 33 49.3 -1.2**
ESPY Espiye-Giresun 67.81 306 *e*P **P 00 33 49.8 -0.9**
UZUM Uzumlu 67.94 304 *i*P **P 00 33 49.5 -2.1**
KELT Kelkit 67.95 305 *i*P **P 00 33 50.0 -1.7**
F03A Seaside 67.99 47 *e*P **P 00 33 50.0 -1.6**
comp=Z,3μm,1.4s
ERZN Erzincan 68.00 304 *e*P **P 00 33 52.2 +0.2**
SIM Simferopol' 68.03 311*de*P **P 00 33 50.0 -1.9**
SIM *e**PP **pP 00 35 19.7 +2.0**
SIM 00 36 31.7
SIM *e*S **S 00 42 18.4 -0.2**
SIM SS **SS 00 46 44.8 -4.3**
SIM pmax pmax
comp=Z,264nm,0.8s
SIM MLR MLR
comp=Z,450nm,14.0s
D05A Enumclaw 68.05 46 *e*P **P 00 33 50.6 -1.4**
comp=Z,1μm,0.9s
BEST Besiri 68.06 302 *i*P **P 00 33 53.8 +1.5**
F04D Rainier, OR 68.19 47⇓ P **P 00 33 50.9 -2.0**
baz=68
OSL Oslo 68.33 333 *e*P **P 00 33 52.6 -0.8**
EDM Edmonton 68.36 37 *e*P **P 00 33 51.5 -2.3**
EDM Edmonton 68.36 37 *e*P **P 00 33 51.5 -2.3**
LON Longmire 68.42 46 *e*P **P 00 33 52.0 -2.4**
LON pmax pmax
comp=Z,321nm,1.0s
LON Longmire 68.42 46 *e*P **P 00 33 52.0 -2.4**
comp=Z,321nm,1.0s
SUSE Susehri 68.56 305 *i*P P 00 33 50.4 -5.1
WPW White Pass 68.59 46 P **P 00 33 54.8 -0.7**
G03D McMinnville, O 68.60 48⇓ P **P 00 33 53.0 -2.3**
baz=68
G03D ⇓S **S 00 42 26.3 +1.1**
baz=68
F04A Amboy 68.61 47 *e*P **P 00 33 53.5 -1.9**
comp=Z,1μm,0.8s
PTK Pertek 68.63 303 *e*P **P 00 33 54.9 -1.1**
B08A Colville Reser 68.69 44 *e*P **P 00 33 53.5 -2.4**
comp=Z,852nm,1.3s
LTY Liberty 68.70 45 *e*P **P 00 33 53.6 -2.5**
comp=Z,532nm,1.1s
DYBB Diyarbakir 68.73 302 *e*P **P 00 33 55.1 -1.3**
DIYA Diyarbakir 68.76 302 *i*P **P 00 33 54.9 -1.6**
ILULI Ilulissat 68.78 2 *i*P **P 00 33 54.9 -1.1**
ILULI Ilulissat 68.78 2 *i*P **P 00 33 54.9 -1.1**
comp=Z,333nm,0.9s
ILIC Ilic-Erzincan 68.79 304 *e*P **P 00 33 58.5 +1.6**
WTV Waterville 68.80 44 P **P 00 33 55.3 -1.3**
HYA Hoyanger 68.82 336 *e*P **P 00 33 55.0 -1.4**
MAZI Mazidag 68.84 302 *e*P **P 00 33 55.5 -1.7**
KONO Kongsberg 68.92 334 *e*P **P 00 33 54.9 -2.2**
KONO *e*pP **pP 00 35 24.9 +1.9**
KONO *e*S **S 00 42 26.3 -2.1**
KONO Kongsberg 68.92 334 *e*P **P 00 33 55.2 -1.8**
KONO pmax pmax
comp=Z,29nm,0.8s
KONO Kongsberg 68.92 334 *e*P **P 00 33 55.2 -1.8**
comp=Z,29nm,0.8s
EIDS Eidsvold 68.94 164 *e*P **P 00 33 55.4 -2.1**
comp=Z,399nm,1.3s
KEMA Kemaliye 68.95 304 *i*P **P 00 33 56.7 -1.1**
RSDY Resadiye-TOKAT 68.97 306 *e*P **P 00 33 57.4 -0.4**
KBSD Kabsdagh 69.05 301 *e*P **P 00 34 00.1 +1.7**
SORM Soroca 69.11 317⇑ *i*P **P 00 33 57.3 -1.1**
ELZG Elazig 69.12 303 *i*P **P 00 33 57.7 -1.2**
ERBA Erbaa 69.14 306 *i*P **P 00 33 57.2 -1.6**
VLL Laurance Lake 69.31 47 P **P 00 33 59.5 -0.4**
KVT Kavak 69.31 307 *e*P **P 00 33 58.9 -1.0**
DIKM Dikmen 69.43 308 *e*P **P 00 33 60.0 -0.5**
SVSK Karacayir 69.46 306 *e*P **P 00 33 59.8 -0.8**
VFP Flag Point 69.52 47 P **P 00 34 00.5 -0.6**
H04A Detroit Lake 69.53 48 *e*P **P 00 33 58.8 -2.3**
comp=Z,618nm,0.9s
MALT Malatya 69.58 303 *e*P **P 00 34 00.5 -1.1**
MALT Malatya 69.58 303⇑ *i*P **P 00 34 00.7 -0.9**
E07A Sunnyside 69.58 45 *e*P **P 00 33 59.0 -2.3**
comp=Z,647nm,0.9s
C09A Chrisman Ranch 69.60 43 *e*P P 00 33 58.3 -3.1
comp=Z,978nm,0.8s
KIS Kishinev 69.60 315 *e*P **P 00 34 00.0 -1.4**
comp=Z,2μm,1.0s
KIS *i*pP **pP 00 35 29.0 +1.4**
KIS Kishinev 69.60 315 *e*PPP PPP 00 38 26.0
KIS *i*S **S 00 42 40.0 +3.3**
comp=Z,2μm,2.5s
KIS *i*ScS **ScS 00 43 26.0 +1.9**
KIS *i*sS sS 00 45 16.0 +5.9
KIS LRM MLR 01 07 04.0
comp=Z,5μm,16.0s
KIS Kishinev 69.60 315⇓ *i*P **P 00 34 00.5 -0.9**
G05D Wamic, OR 69.64 47⇑ P **P 00 33 59.8 -2.0**
baz=69
RUND Rundenannen 69.67 336 *e*P **P 00 33 59.3 -2.3**
RUND AMB AMB 00 34 05.3
comp=Z,432nm,0.7s
ODD1 Odda 69.67 335 *e*P **P 00 33 59.9 -1.8**
SFNV Sufian 69.68 301 *e*P **P 00 34 04.6 +2.4**
BER Bergen 69.70 336 *e*P **P 00 34 00.4 -1.3**
BER *e*S **S 00 42 34.2 -3.1**
D08A Wollman Farm, 69.75 44 *e*P **P 00 34 00.0 -2.3**
comp=Z,667nm,1.1s
BOYT Boyabat 69.78 308 *i*P **P 00 34 03.4 +0.8**
URFA Urfa 69.87 303 *e*P **P 00 34 02.3 -1.0**
NEW Newport 69.88 43 *e*P **P 00 34 00.9 -2.2**
comp=Z,443nm,0.8s
NEW Newport 69.88 43⇓ P **P 00 34 00.7 -2.4**
baz=70,SNR=164
AKCD Akcadag 69.90 304 *i*P **P 00 34 01.5 -2.0**
KBO Bosley Butte 69.94 51 *e*P P 00 34 00.7 -2.9
comp=Z,2μm,1.3s
BZK Bozkurt 69.96 309 *e*P **P 00 34 02.5 -1.2**
I04A Tendick Farm, 69.97 49⇑ P **P 00 34 01.6 -2.1**
baz=70
DARE Darende-Malaty 70.00 304 *e*P **P 00 34 03.3 -0.8**
IAS Iasi 70.12 316⇑ *i*P **P 00 34 03.8 -0.7**
LVV L'vov 70.13 320 *e*P **P 00 34 03.4 -1.1**
LVV *e**PP **pP 00 35 33.4 +2.5**
LVV *e* 00 36 50.6
LVV *e*S **S 00 42 41.6 -1.1**
LVV *e* 00 43 28.4
LVV MLR MLR
comp=N,2μm,15.0s
LVV MLR MLR
comp=E,2μm,15.0s
LVV MLR MLR
comp=Z,2μm,15.0s
ATAB Bozova 70.18 303 *i*P **P 00 34 03.9 -1.2**
I05D Terrebonne, OR 70.21 48⇑ P **P 00 34 02.9 -2.3**
baz=70
LEOM Leova 70.24 315⇑ *i*P **P 00 34 03.4 -1.8**
BEL Belsk 70.25 323 *e*P **P 00 34 03.9 -1.3**
BEL *e**PP **pP 00 35 34.5 +2.9**
BEL *e*S S 00 42 50.6 +6.6
BEL Belsk 70.25 323 *e*P **P 00 34 03.8 -1.4**
BEL *e* 00 34 05.6
BEL *e*pP **pP 00 35 34.4 +2.9**
BEL *e*S S 00 42 50.5 +6.6
KAST KASTAMONU 70.30 308 *i*P **P 00 34 05.2 -0.6**
L02D Cave Junction, 70.33 51⇑ P **P 00 34 03.8 -2.1**
baz=70
NOUC Port Laguerre 70.34 149 *e*P **P 00 34 05.0 -1.0**
CTKT Corum 70.34 307 *i*P **P 00 34 04.6 -1.6**
DZM Mont Dzumac 70.36 149 *e*P P 00 34 09.7 +3.4
comp=Z,2μm,1.4s
DZM Mont Dzumac 70.36 149 *e*P **P 00 34 04.8 -1.6**
comp=Z,1μm,1.4s
DZM *e*pP pP 00 35 39.5 +6.6
DZM Mont Dzumac 70.36 149 P P 00 34 10.3 +4.0
comp=Z,362nm,1.0s,baz=7.1,slow=8.7,SNR=79
DZM Mont Dzumac 70.36 149 *e*P **P 00 34 04.4 -2.0**
BSD Bornholm Skovb 70.38 328 *i*P **P 00 34 03.5 -2.4**
BSD *i**PP **pP 00 35 33.8 +1.5**

BSD *i* S **S** **00 42 46.0 +0.6**
BSD **Bornholm Skovb** **70.38 328** *i* P **P** **00 34 03.5 -2.4**
comp=Z,446nm,0.9s
BSD *i* pP **pP** **00 35 33.8 +1.5**
BSD *i* S **S** **00 42 46.0 +0.6**
J04D **Umpqua Nationa** **70.49 49** ⇓P **P** **00 34 04.6 -2.5**
baz=70
E09A **Wood Farm, Sta** **70.50 44** *e*P **P** **00 34 04.6 -2.3**
comp=Z,864nm,1.0s
TOS **Tosya** **70.53 308** *e*P **P** **00 34 08.5 +1.2**
KRMB **Red Mountain** **70.56 51** *e*P **P** **00 34 06.8 -0.6**
comp=Z,3μm,1.4s
PINB **Pinarbasi** **70.60 305** *i* P **P** **00 34 06.1 -1.7**
YOZ **Yozgat** **70.65 306** *e*P **P** **00 34 06.5 -1.5**
KMY **Karmoy** **70.66 335** *e*P **P** **00 34 07.6 +0.1**
PRAR **RASCA** **70.69 317** ⇑*i*P **P** **00 34 07.6 -0.4**
ILGA **Ilgaz** **70.70 308** *i* P **P** **00 34 08.0 -0.5**
GZT **Gaziantep** **70.71 303** *i* P **P** **00 34 07.5 -0.9**
CORM **Corum** **70.72 307** *e*P **P** **00 34 08.6 +0.2**
SNART **Snartemo** **70.72 334** *e*P **P** **00 34 07.2 -0.7**
KSRV **Kasrt alli** **70.73 301** *e*P **P** **00 34 08.4 -0.1**
GKP **Gorka Klasztor** **70.78 326** *e*P **P** **00 34 06.6 -1.8**
GKP *e**PP **pP** **00 35 37.1 +2.3**
GKP *e*S **S** **00 42 55.8 +5.8**
GKP **Gorka Klasztor** **70.78 326** *e*P **P** **00 34 06.5 -1.8**
GKP *e* 00 34 08.2
GKP *e*pP **pP** **00 35 37.1 +2.3**
GKP *e*S **S** **00 42 55.7 +5.8**
TLCR **70.78 314** ⇑*i*P **P** **00 34 06.6 -1.9**
PINOR **Pine Mountain** **70.81 48** *e*P **P** **00 34 07.0 -1.6**
comp=Z,131nm,1.1s
BNN **Bunyan** **70.83 305** *e*P **P** **00 34 07.9 -1.2**
G08A **Pilot Rock** **70.88 46** *e*P **P** **00 34 07.1 -2.2**
comp=Z,3μm,2.5s
KWP **Kalwaria Pacla** **70.89 320** *e*P **P** **00 34 07.8 -1.3**
KWP *e**PP **pP** **00 35 38.6 +2.9**
KWP *i* S **S** **00 42 57.3 +5.9**
KWP **Kalwaria Pacla** **70.89 320** *e*P **P** **00 34 07.8 -1.3**
KWP *e* 00 34 09.5
KWP *e* 00 34 14.2
KWP *e*pP **pP** **00 35 38.6 +2.9**
KWP *i* S **S** **00 42 57.3 +5.9**
KWP **Kalwaria Pacla** **70.89 320** ⇑*i*P **P** **00 34 08.0 -1.1**
KWP **Kalwaria Pacla** **70.89 320** *e*P **P** **00 34 07.6 -1.5**
comp=Z,871nm,0.8s
KWP *e*pP pP 00 35 23.5 -12
KWP *e*S **S** **00 42 55.1 +3.6**
COP **Copenhagen** **70.91 330** ⇓*i*P **P** **00 34 09.1 0.0**
COP *i* 00 35 37.9
COP *i* S **S** **00 42 54.2 +2.8**
COP **Copenhagen** **70.91 330** ⇓*i*P **P** **00 34 09.1 0.0**
comp=Z,347nm,0.8s
COP *i* 00 35 37.9
COP *i* S **S** **00 42 54.2 +2.8**
WALA **Waterton Lakes** **70.92 40** *e*P **P** **00 34 07.2 -2.3**
comp=Z,875nm,1.1s
J05D **Fort Rock, OR** **70.95 49** ⇓P **P** **00 34 07.3 -2.5**
baz=71
GHRR **70.95 315** ⇑*i*P **P** **00 34 09.2 -0.3**
SFJD **Kangerlussuaq** **71.02 2** *i* P **P** **00 34 08.5 -1.0**
comp=Z,190nm,1.0s
SFJD **Kangerlussuaq** **71.02 2** *e*P **P** **00 34 07.8 -1.7**
comp=Z,324nm,0.9s
SFJD *e*pP **pP** **00 35 35.7 -0.4**
SFJD S **S** **00 42 54.8 +2.5**
SFJD P'P' 01 01 55.1
SFJD **Kangerlussuaq** **71.02 2** S **S** **00 42 54.8 +2.5**
comp=Z,13nm,1.1s,baz=100,slow=23,SNR=6.1
SFJD PKPPKP P'P'df 01 01 55.1 -10
comp=Z,10nm,0.9s,baz=0.0,slow=3.0,SNR=6.2
BUR08 **Bucovina Ar. S** **71.02 318** *e*P **P** **00 34 08.3 -1.7**
BUR08 *e*pP **pP** **00 35 38.4 +1.8**
BUR08 *e*PP **PP** **00 36 55.2 +2.1**
KMRS **Kahramanmaras** **71.03 304** *e*P **P** **00 34 08.9 -1.3**
BURAR **Bucovina Array** **71.03 318** ⇓*i*P **P** **00 34 08.4 -1.7**
CANT **Cankiri** **71.04 308** *e*P **P** **00 34 10.2 0.0**
TESR **Tescani** **71.05 316** ⇑*i*P **P** **00 34 08.1 -2.0**
K04D **Chiloquin, OR** **71.08 49** ⇑P **P** **00 34 07.8 -2.7**
baz=71
YBH **Yreka Blue Hor** **71.11 51** pP pP 00 35 41.0 +3.7
YBH **Yreka Blue Hor** **71.11 51** P P 00 34 14.0 +3.3
comp=Z,408nm,1.0s,baz=354,slow=0.6,SNR=127
YBH pP pP 00 35 41.0 +3.7
comp=Z,71nm,1.1s,baz=180,slow=1.0,SNR=2.5
CFR **Carcaliu** **71.15 314** ⇑*i*P **P** **00 34 08.7 -2.0**
SAFT **Safranbolu** **71.18 309** *e*P **P** **00 34 11.8 +0.8**
JHLN **Al Jahlan** **71.21 301** *e*P P 00 34 16.2 +5.0
CDAG **Cicekdag** **71.22 307** *i* P **P** **00 34 10.2 -1.2**
ELDT **Eldivan** **71.23 308** *i* P **P** **00 34 11.3 -0.2**
M02C **Callahan** **71.25 51** ⇓P **P** **00 34 08.9 -2.7**
baz=71
LLD **Lille Linde** **71.26 329** *i* P **P** **00 34 09.7 -1.4**
LLD *i* 00 35 37.9
LLD **Lille Linde** **71.26 329** *i* P **P** **00 34 09.7 -1.4**
LLD *i* 00 35 37.9
PETR **Petresti** **71.27 315** ⇓*i*P **P** **00 34 12.3 +0.9**
BSMT **Bassoo Peak** **71.32 42** *e*P **P** **00 34 10.2 -1.7**
F10A **Beach Ranch, E** **71.34 44** *e*P **P** **00 34 09.8 -2.2**
comp=Z,445nm,1.1s
KUZU **Kuzuini** **71.38 303** *i* P **P** **00 34 10.8 -1.5**
I07A **Izee** **71.38 47** *e*P **P** **00 34 10.3 -1.9**
comp=Z,481nm,1.1s
BLMT **Blacktail Moun** **71.42 41** *e*P **P** **00 34 10.9 -1.6**
RGN **Rugen** **71.42 328** *e*P P 00 34 07.4 -4.7
comp=Z,748nm,1.0s
RGN **Rugen** **71.42 328** *e*P **P** **00 34 09.2 -3.0**
comp=Z,628nm,0.9s
RGN *e*pP **pP** **00 35 36.3 -2.5**
VRI **Vrincioaia** **71.44 316** ⇓*i*P **P** **00 34 11.9 -0.5**
AVNT **Avonos** **71.47 306** *i* P **P** **00 34 11.0 -2.0**
TIRR **Tirgusor** **71.48 314** *e*P **P** **00 34 11.3 -1.3**
TIRR pmax pmax
comp=Z,226nm,0.8s
TIRR **Tirgusor** **71.48 314** ⇑*i*P **P** **00 34 10.6 -2.0**
TIRR **Tirgusor** **71.48 314** *e*P **P** **00 34 11.3 -1.3**
comp=Z,226nm,0.8s
PLOR **Plostina** **71.49 316** ⇑*i*P **P** **00 34 11.2 -1.6**
K05A **Summer Lake** **71.50 49** *e*P **P** **00 34 11.1 -2.0**
comp=Z,1μm,1.1s
KMRM **Mail Ridge** **71.50 52** *e*P **P** **00 34 11.8 -1.2**
MUD **Monsted U'grnd** **71.52 332** ⇓*i*P **P** **00 34 11.8 -0.8**
MUD **Monsted U'grnd** **71.52 332** ⇓*i*P **P** **00 34 11.8 -0.8**
comp=Z,208nm,1.0s
FCC **Fort Churchill** **71.52 24** *e*P **P** **00 34 09.8 -2.8**
FCC **Fort Churchill** **71.52 24** *e*P **P** **00 34 09.8 -2.8**
FCC **Fort Churchill** **71.52 24** *e*P **P** **00 34 09.8 -2.8**
comp=Z,1μm,1.0s
RBK **Rabkut** **71.56 277** P **P** **00 34 11.8 -1.8**
SNR=143
KOLS **Kolonicke sedl** **71.57 320** *e*P **P** **00 34 11.3 -1.9**
KOLS pmax pmax
comp=Z,57nm,1.1s
KOLS **Kolonicke sedl** **71.57 320** *e*P **P** **00 34 11.3 -1.9**
KOLS *e* 00 35 42.9
M04C **Macdoel** **71.58 50** ⇓P **P** **00 34 10.9 -2.6**
baz=71
HARR **Harsova** **71.58 314** ⇑*i*P **P** **00 34 13.1 -0.2**
BRTR **Keskin Array B** **71.59 307** pP **pP** **00 35 43.1 +2.7**
BRTR PP **PP** **00 37 02.3 +4.0**
BRTR **Keskin Array B** **71.59 307** P P 00 34 17.6 +4.0
comp=Z,196nm,0.5s,baz=87,slow=3.0,SNR=144
BRTR pP pP 00 35 43.1 +2.7
comp=Z,70nm,0.9s,baz=110,slow=1.8,SNR=3.8
BRTR PP **PP** **00 37 02.3 +4.0**
comp=Z,105nm,1.0s,baz=76,slow=5.2,SNR=5.3
N02D **Trinity Center** **71.61 51** ⇑P **P** **00 34 11.1 -2.5**
baz=71
GRER **71.63 315** ⇑*i*P **P** **00 34 13.5 -0.1**
YBMT **Yellow Bay** **71.69 41** *e*P **P** **00 34 12.3 -1.8**
KOZT **Kozan** **71.70 304** *e*P **P** **00 34 12.8 -1.4**
BORG **Borgarnes** **71.72 349** *e*P P 00 34 19.4 +5.7
comp=Z,217nm,1.2s
STHS **Stebnicka Huta** **71.72 321** *e*P **P** **00 34 13.5 -0.6**
STHS **Stebnicka Huta** **71.72 321** *e*P **P** **00 34 13.4 -0.6**
STHS *e* 00 35 44.1
UZH **Uzhgorod** **71.77 320** *i* P **P** **00 34 14.0 -0.3**
UZH *e**PP **pP** **00 35 41.0 -0.1**
UZH *e*S **S** **00 43 04.0 +2.5**
UZH MLR MLR
comp=Z,1μm,14.0s
LRW **Lerwick** **71.78 339** *e*P **P** **00 34 11.9 -2.2**
KAMT **Kaman** **71.78 307** *e*P **P** **00 34 13.2 -1.5**
MANR **Mangalia** **71.81 313** ⇑*i*P **P** **00 34 14.7 +0.1**

BCAM **Yenicaga** **71.81 309** *i* P **P** **00 34 13.3 -1.6**
OJC **Ojcow** **71.83 322** ⇓*i*P **P** **00 34 12.9 -1.7**
OJC *i* 00 37 04.7
OJC *i* S **SKiKP** **00 43 06.0 -3.3**
OJC *e* 00 43 42.5
OJC **Ojcow** **71.83 322** *i* P **P** **00 34 12.9 -1.7**
OJC *i* pP **pP** **00 35 44.0 +2.5**
OJC *i* PP **PP** **00 37 04.7 +4.9**
OJC *i* S **SKiKP** **00 43 06.0 -3.3**
OJC *e*SKSac **ScS** **00 43 42.5 +0.8**
OJC L L 00 54 08.0
comp=Z,9μm,25.4s
KDZE **Karaeniz Ereo** **71.85 310** *e*P **P** **00 34 13.2 -1.8**
KIPM **Iron Peak** **71.90 53** *e*P **P** **00 34 14.6 -0.9**
comp=Z,493nm,1.0s
KIPM *e*pP pP 00 35 31.0 -11
KCPM **Cahto Peak** **71.92 53** *e*P **P** **00 34 14.5 -1.0**
comp=Z,317nm,1.0s
KCPM *e*pP pP 00 35 48.4 +6.0
SWMT **Swartz Lake** **71.94 42** *e*P **P** **00 34 13.5 -2.0**
PGOR **Pogoanele** **71.94 315** ⇑*i*P **P** **00 34 14.7 -0.7**
AMRR **Amara** **71.95 314** ⇑*i*P **P** **00 34 14.8 -0.6**
WDC **Whiskeytown Da** **71.96 51** *e*P **P** **00 34 13.4 -2.2**
WDC pmax pmax
comp=Z,573nm,1.0s
WDC **Whiskeytown Da** **71.96 51** *e*P **P** **00 34 13.4 -2.2**
comp=Z,574nm,1.0s
CRVS **Cervenica-Dubn** **71.98 320** *e*P **P** **00 34 13.6 -2.0**
CRVS **Cervenica-Dubn** **71.98 320** *e*P **P** **00 34 13.6 -2.0**
CRVS *e* 00 35 45.1
FFC **Flin Flon** **71.98 31** *e*P **P** **00 34 12.7 -2.7**
FFC pmax pmax
comp=Z,446nm,0.9s
FFC **Flin Flon** **71.98 31** *e*P **P** **00 34 12.7 -2.7**
FFC **Flin Flon** **71.98 31** *e*P **P** **00 34 12.7 -2.7**
comp=Z,404nm,0.9s
ANTO **Ankara** **72.00 308** *e*P **P** **00 34 15.3 -0.6**
ANTO **Ankara** **72.00 308** *e*P **P** **00 34 14.2 -1.7**
ANTO pmax pmax
comp=Z,3μm,1.5s
ANTO **Ankara** **72.00 308** ⇓*i*P **P** **00 34 14.2 -1.7**
ANTO **Ankara** **72.00 308** *e*P **P** **00 34 14.2 -1.7**
comp=Z,3μm,1.5s
TRPA **Tarpa** **72.00 319** ⇓*i*P **P** **00 34 14.3 -1.3**
TRPA **Tarpa** **72.00 319** *e* **P** **00 34 14.5 -1.1**
TRPA *e* 00 34 19.8
TRPA ⇓*e* 00 35 45.0
ISR **Istrita** **72.03 315** ⇓*i*P **P** **00 34 15.3 -0.7**
MSAB **Monastry St. A** **72.04 314** ⇑*i*P **P** **00 34 14.6 -1.3**
NIG **Nigde** **72.05 305** *e*P **P** **00 34 15.7 -0.8**
CEYT **Ceyhan** **72.05 304** *e*P **P** **00 34 16.4 +0.3**
DOPR **Dopca** **72.06 316** ⇑*i*P **P** **00 34 15.2 -0.9**
MLR **Muntele Rosu** **72.09 316** ⇑*i*P **P** **00 34 15.3 -1.1**
AFSR **Af'ar-Bala (A** **72.11 307** *e*P **P** **00 34 14.6 -2.0**
PSN **Preselentsi** **72.11 313** P **P** **00 34 16.7 +0.3**
PSN **Preselentsi** **72.11 313** ⇓*i*P **P** **00 34 16.6 +0.2**
NIE **Niedzica** **72.16 321** ⇓*i*P **P** **00 34 15.4 -1.2**
NIE *i* 00 37 09.1
NIE *i* S **SKiKP** **00 43 11.8 +1.9**
NIE *e* 00 43 46.1
NIE **Niedzica** **72.16 321** *i* P **P** **00 34 15.4 -1.2**
NIE *i* pP **pP** **00 35 46.7 +3.2**
NIE *i* PP PP 00 37 09.1 +6.5
NIE *i* S **SKiKP** **00 43 11.8 +1.9**
NIE *e*SKSac **ScS** **00 43 46.1 +1.6**
NIE L L 00 54 10.0
comp=Z,7μm,23.3s
TAHT **Tahtakopru-Hat** **72.18 303** *e*P **P** **00 34 16.8 -0.2**
XMAS **Kiritimati** **72.28 104** *e*P **P** **00 34 17.6 -0.2**
comp=Z,772nm,0.8s
XMAS *e*pP **pP** **00 35 47.7 +2.9**
KARA **Karaisali** **72.32 304** *e*P **P** **00 34 18.1 +0.4**
ABTO **Aybut** **72.32 278** P **P** **00 34 16.3 -1.8**
SNR=139
SECR **72.34 315** ⇑*i*P **P** **00 34 18.2 +0.5**
MOD **Modoc** **72.37 49** *e*P **P** **00 34 16.0 -2.2**
comp=Z,172nm,1.1s
J08A **Circle Bar Ran** **72.42 47** *e*P **P** **00 34 16.6 -1.7**
comp=Z,797nm,1.1s
MSO **Missoula** **72.43 42** *e*P **P** **00 34 15.8 -2.7**
comp=Z,721nm,1.2s
MSO **Missoula** **72.43 42** ⇓P **P** **00 34 15.7 -2.7**
baz=72,SNR=419
PLAR **PLOIESTI** **72.44 315** ⇓*i*P **P** **00 34 18.9 +0.6**
MDB **Medias** **72.46 317** ⇑*i*P P 00 34 24.3 +5.9
CJR **Cluj-Napoca** **72.46 318** ⇑*i*P **P** **00 34 17.5 -0.9**
GULE **Gulek** **72.47 305** *i* P **P** **00 34 17.7 -1.1**
SULR **72.48 315** ⇓*i*P **P** **00 34 18.6 +0.1**
MDUB **Mudurnu** **72.54 309** *e*P **P** **00 34 19.2 +0.1**
BTAS **Taskesti** **72.59 309** *i* P **P** **00 34 17.1 -2.3**
VOIR **72.59 316** ⇑*i*P **P** **00 34 18.2 -1.1**
ARNB **Al Arnab** **72.64 303** *e*P **P** **00 34 19.8 0.0**
SULT **Sultanhani-AKS** **72.65 306** *e*P **P** **00 34 19.5 -0.2**
RAC **Raciborz** **72.65 323** *e*P **P** **00 34 18.2 -1.2**
RAC *e**PP **pP** **00 35 47.6 +1.1**
RAC *e*S **S** **00 43 12.1 +0.8**
HOPS **Hopland** **72.67 53** *e*P **P** **00 34 18.2 -1.5**
comp=Z,173nm,1.3s
HOPS *e*pP **pP** **00 35 50.7 +3.8**
HOPS *e*PP **PP** **00 37 06.6 -0.7**
MTUR **Matau** **72.73 316** ⇑*i*P **P** **00 34 19.9 -0.2**
RABH **Abou Rabah** **72.77 301** *e*P **P** **00 34 20.1 -0.4**
RUE **Ruedersdorf** **72.78 327** *e*P **P** **00 34 18.2 -1.9**
comp=Z,614nm,1.1s
RUE **Ruedersdorf** **72.78 327** *e*P **P** **00 34 18.6 -1.5**
comp=Z,514nm,1.0s
CIOR **Ciorogarla** **72.83 315** ⇓*i*P **P** **00 34 20.5 -0.1**
DRGR **72.84 318** ⇑*i*P **P** **00 34 19.2 -1.5**
OKC **Ostrava-Krasne** **72.85 323** ⇓*i*P **P** **00 34 19.0 -1.6**
OKC *e*S **S** **00 43 18.3 +4.8**
OKC **Ostrava-Krasne** **72.85 323** ⇓*i*P **P** **00 34 19.0 -1.6**
OKC *e*x x 00 34 25.3
OKC *e*pP **pP** **00 35 50.6 +2.9**
OKC *e*S **S** **00 43 18.3 +4.8**
OKC *e*XS sS 00 45 55.6 +7.2
ARR **Arges** **72.86 316** ⇓*i*P **P** **00 34 19.9 -0.9**
ROOS **tl_alroos** **72.89 301** *e*P **P** **00 34 20.8 -0.4**
MERS **Mersin** **72.89 304** *e*P **P** **00 34 19.4 -1.8**
SPNC **Sapanca-Adapaz** **72.91 310** *e*P **P** **00 34 20.9 -0.2**
FORT **Forrest** **72.92 186** *e*P **P** **00 34 18.9 -2.1**
comp=Z,718nm,0.9s
KSP **Ksiaz** **72.94 324** ⇓*e*P **P** **00 34 19.4 -1.7**
KSP *e* 00 37 03.5
KSP *e*S **S** **00 43 14.0 -0.5**
KSP **Ksiaz** **72.94 324** *e*P **P** **00 34 19.6 -1.5**
KSP *e* 00 34 21.4
KSP *e* 00 34 26.1
KSP *e*pP **pP** **00 35 50.9 +2.7**
KSP *e*S **S** **00 43 17.1 +2.6**
WVOR **Wild Horse Val** **72.95 48** *e*P **P** **00 34 19.4 -2.1**
WVOR pmax pmax
comp=Z,741nm,1.1s
WVOR **Wild Horse Val** **72.95 48** *e*P **P** **00 34 19.4 -2.1**
comp=Z,741nm,1.1s
GULT **Gulveren** **72.96 309** *e*P **P** **00 34 21.4 -0.2**
SILT **Sile** **72.98 310** *e*P **P** **00 34 19.8 -1.7**
SVRH **Sivrihisar-ESK** **73.02 308** *e*P **P** **00 34 21.2 -0.7**
BSEG **Bad Segeberg** **73.04 329** *e*P **P** **00 34 19.7 -1.9**
comp=Z,486nm,0.9s
GOLR **73.05 316** ⇓*i*P P 00 34 25.5 +3.7
MORC **Moravsky Berou** **73.16 323** *e*P **P** **00 34 20.6 -1.9**
MORC *e*S **S** **00 43 16.8 -0.4**
MORC pmax pmax
comp=Z,395nm,0.9s
MORC **Moravsky Berou** **73.16 323** ⇑*i*P **P** **00 34 21.3 -1.2**
MORC **Moravsky Berou** **73.16 323** *e*P **P** **00 34 20.6 -1.9**
comp=Z,395nm,0.9s
MORC *e*pP pP 00 35 37.6 -12
MORC *e*S **S** **00 43 16.8 -0.4**
KIZT **Kizilcal** **73.18 307** *e*P **P** **00 34 21.2 -1.7**
HRT **Hereke** **73.19 310** *e*P **P** **00 34 21.2 -1.5**
HAWK **Haweek** **73.23 301** *e*P **P** **00 34 21.7 -1.5**
LOT **Lotru** **73.24 317** ⇓*i*P **P** **00 34 23.2 +0.1**
HUMR **Humele** **73.25 315** ⇑*i*P **P** **00 34 20.9 -2.1**
KLYT **Kilyos** **73.25 311** *e*P **P** **00 34 22.0 -1.1**
KRLC **Kraliky** **73.28 324** ⇓*i*P **P** **00 34 21.6 -1.6**
KRLC *e*S **S** **00 43 23.2 +4.7**
KRLC **Kraliky** **73.28 324** ⇓*i*P **P** **00 34 21.6 -1.6**
KRLC *e*x x 00 34 27.0
KRLC *e*pP **pP** **00 35 53.8 +3.4**
KRLC *e*S **S** **00 43 23.2 +4.7**
DPC **Dobruska-Polom** **73.28 324** ⇓*i*P **P** **00 34 21.9 -1.3**

DPC *e* 00 37 18.0
DPC *e*S **S** **00 43 20.3 +1.8**
DPC *e* 00 48 05.6
DPC **Dobruska-Polom** **73.28 324** ⇓*i*P **P** **00 34 21.9 -1.3**
DPC *e*x x 00 34 27.8
DPC *e*pP **pP** **00 35 54.3 +3.9**
DPC *e*PP PP 00 37 18.0 +5.9
DPC *e*S **S** **00 43 20.3 +1.8**
DPC *e*XS sS 00 45 58.3 +4.7
DPC *e*SS **SS** **00 48 05.6 -3.2**
DPC **Dobruska-Polom** **73.28 324** *e*P **P** **00 34 22.0 -1.3**
UPC **Upice** **73.31 324** ⇓*i*P **P** **00 34 21.8 -1.4**
UPC *e* 00 37 18.5
UPC *e*S **S** **00 43 24.3 +5.7**
UPC **Upice** **73.31 324** ⇓*i*P **P** **00 34 21.8 -1.4**
UPC *e*x x 00 34 27.4
UPC *e*pP **pP** **00 35 54.0 +3.5**
UPC *e*PP PP 00 37 18.5 +6.3
UPC *e*S **S** **00 43 24.3 +5.7**
LADK **Ladik-KONYA** **73.34 307** *e*P **P** **00 34 23.6 -0.2**
MCCM **Marconi Confer** **73.34 54** *e*P **P** **00 34 21.9 -1.7**
comp=Z,506nm,1.0s
MCCM *e*pP **pP** **00 35 51.5 +0.7**
BORA **Eskisehir** **73.36 309** *i* P **P** **00 34 20.8 -3.0**
KIZK **Mersin** **73.38 304** *i* P **P** **00 34 20.9 -2.9**
DEV **Deva** **73.38 317** ⇓*i*P **P** **00 34 22.9 -0.8**
OHCM **Honcut** **73.38 52** *e*P **P** **00 34 21.1 -2.7**
FKH **Fakeheh** **73.40 301** *e*P **P** **00 34 22.6 -1.6**
ADVT **Abdulvahap** **73.40 310** *e*P **P** **00 34 22.4 -1.6**
PSZ **Piszkesteto** **73.42 320** ⇓*i*P **P** **00 34 22.6 -1.4**
PSZ **Piszkesteto** **73.42 320** *e* **P** **00 34 22.9 -1.1**
PSZ *e* 00 34 28.6
PSZ ⇓*e* 00 35 54.0
A19A **Klindworth Far** **73.44 38** ⇑P **P** **00 34 21.6 -2.5**
baz=73,SNR=153
BGKT **Bogazkoy** **73.45 311** *e*P **P** **00 34 22.4 -1.9**
CAVI **Cavuskoy** **73.50 309** *e*P **P** **00 34 23.8 -0.7**
CTYL **Yal??k??y-??at** **73.53 311** *e*P **P** **00 34 23.5 -1.2**
CTKS **Kestanelik-??a** **73.57 311** *e*P **P** **00 34 23.8 -1.0**
EGMT **Eagleton** **73.62 39** ⇓P **P** **00 34 22.4 -2.8**
baz=73,SNR=176
ZALF **Zalf** **73.66 300** *e*P **P** **00 34 23.9 -1.7**
HWQ **Hawqa** **73.67 301** *e*P **P** **00 34 24.6 -1.2**
BEKR **Beckworth** **73.68 51** *e*P **P** **00 34 24.0 -1.8**
comp=Z,8.0nm,0.3s
BEKR *e*pP **pP** **00 35 57.3 +4.1**
B19A **Brinkman Farms** **73.69 38** ⇓P **P** **00 34 22.9 -2.6**
baz=73,SNR=100
GEMT **Gemlik** **73.72 310** *e*P **P** **00 34 24.9 -0.8**
SIRR **Siria** **73.73 318** ⇑*i*P **P** **00 34 26.1 +0.3**
SLVT **Silivri** **73.74 311** *e*P **P** **00 34 25.6 -0.3**
GZR **Gura Zlata** **73.78 317** ⇑*i*P **P** **00 34 24.6 -1.6**
JMB **Yambol** **73.80 313** P **P** **00 34 25.2 -1.0**
JMB **Yambol** **73.80 313** P **P** **00 34 25.2 -1.0**
JMB **Yambol** **73.80 313** P **P** **00 34 26.7 +0.5**
JMB **Yambol** **73.80 313** ⇓*i*P **P** **00 34 25.2 -1.0**
JMB **Yambol** **73.80 313** P **P** **00 34 25.2 -1.0**
MFID **Camas Ranch** **73.81 46** *e*P **P** **00 34 24.2 -2.2**
comp=Z,1μm,1.0s
ARMT **Armutlu** **73.81 310** *e*P **P** **00 34 26.0 -0.3**
IKL **Isikli** **73.81 304** *e*P **P** **00 34 25.5 -0.9**
BOLV **Bolvadin** **73.83 308** *i* P **P** **00 34 24.4 -2.3**
A20A **Cobblestone Ra** **73.85 38** ⇓P **P** **00 34 24.0 -2.5**
baz=74,SNR=197
PHSR **Pinarhisar** **73.85 312** *e*P **P** **00 34 26.4 -0.1**
PVCC **Panska Ves** **73.91 325** ⇓*i*P **P** **00 34 25.5 -1.2**
PVCC *e* 00 37 23.2
PVCC *e*S S 00 43 31.5 +6.2
PVCC **Panska Ves** **73.91 325** ⇓*i*P **P** **00 34 25.5 -1.2**
PVCC *ex* x 00 34 30.5
PVCC *e*pP **pP** **00 35 57.7 +3.6**
PVCC *e*PP PP 00 37 23.2 +5.9
PVCC *e*S S 00 43 31.5 +6.2
BRG **Berggiesshubel** **73.92 326** *i* P **P** **00 34 25.1 -1.6**
comp=Z,18nm,0.9s
BRG *i* 00 34 27.1
comp=Z,106nm,1.1s
BRG *e* 00 34 30.9
comp=Z,256nm,0.9s
BRG pP **pP** **00 35 57.5 +3.4**
comp=Z,2μm,2.0s
BRG sP **sP** **00 36 36.0 -0.1**
BRG PP **PP** **00 37 19.2 +1.9**
comp=Z,242nm,1.2s
BRG *i* 00 39 12.0
BRG S **S** **00 43 28.0 +2.7**
BRG sS sS 00 46 06.0 +5.2
BRG PKPPKP P'P'df 01 01 30.3 -29
comp=Z,18nm,1.7s
BRG
comp=Z,3μm,13.9s
BRG MLR MLR
comp=N,2μm,19.0s
BRG
comp=E,2μm,19.0s
BRG **Berggiesshubel** **73.92 326** *i* P **P** **00 34 25.1 -1.6**
BRG *SP **sP** **00 36 36.0 -0.1**
BRG 00 37 19.2
BRG *i* 00 39 12.0
BRG S **S** **00 43 28.0 +2.7**
BRG pmax pmax
comp=Z,256nm,0.9s
BRG pmax pmax
comp=Z,242nm,1.2s
BRG MLR MLR
comp=Z,3μm,13.9s
BRG MLR MLR
comp=N,2μm,19.0s
BRG MLR MLR
comp=E,2μm,19.0s
BRG **Berggiesshubel** **73.92 326** *e*P **P** **00 34 24.6 -2.1**
comp=Z,256nm,0.9s
VRAC **Vranov** **73.93 323** ⇓*i*P **P** **00 34 25.5 -1.3**
MDNY **Mudanya-Bursa** **73.93 310** *e*P **P** **00 34 25.7 -1.3**
ARMA **Armidale** **73.95 165** *e*P **P** **00 34 25.2 -2.0**
comp=Z,965nm,1.1s
TOTH **TOTAH** **73.96 301** *e*P **P** **00 34 26.6 -0.7**
TOTH *e*P **P** **00 34 28.4 +1.0**
PVL **Pavlikeni** **73.96 314** P **P** **00 34 27.5 +0.4**
EREN **Erenkoy** **73.98 303** *e*P **P** **00 34 26.3 -1.0**
CLL **Collm** **73.98 326** *e*P **P** **00 34 25.0 -2.1**
CLL *e*S **S** **00 43 29.0 +3.0**
CLL pmax pmax
comp=Z,493nm,1.2s
CLL **Collm** **73.98 326** *e*P **P** **00 34 24.7 -2.4**
comp=Z,488nm,1.2s
CLL **Collm** **73.98 326** *e*P **P** **00 34 25.0 -2.1**
comp=Z,219nm,1.1s
CLL *i* P(2) 00 34 30.8
comp=Z,493nm,1.2s
CLL *e* 00 35 27.0
CLL *i* pP **pP** **00 35 56.9 +2.4**
comp=Z,956nm,1.3s
CLL *e*sP **sP** **00 36 36.0 -0.5**
CLL *e*PP **PP** **00 37 16.0 -1.8**
CLL *e*PPP PPP 00 39 05.0
CLL *e*(PPPP) 00 40 24.0
CLL *e*S **S** **00 43 29.0 +3.0**
comp=N,2μm,17.6s
CLL *e*S **S** **00 43 29.0 +3.0**
comp=E,5μm,26.0s
CLL *e*ScS **ScS** **00 44 04.0 +5.1**
CLL *e*sS **sS** **00 46 05.0 +3.5**
CLL *e*(SS) 00 48 07.0
CLL *e*SSS SSS 00 51 42.0
CLL *e*SSSS 00 53 54.0
CLL *e*PKPPKPdf P'P'df 01 01 53.0 -6.6
CLL *e* 01 02 01.0
CLL **Collm** **73.98 326** *e*P **P** **00 34 25.0 -2.1**
SAC **San Andreas** **73.98 54** *e*P **P** **00 34 25.7 -1.6**
SAC *e**PP **pP** **00 35 55.0 +0.2**
SAC pmax pmax
comp=Z,667nm,1.2s
SAC **San Andreas** **73.98 54** *e*P **P** **00 34 25.7 -1.6**
comp=Z,667nm,1.2s
SAC *e*pP **pP** **00 35 55.0 +0.2**
STKA **Stephens Creek** **74.02 174** P P 00 34 31.1 +3.7
comp=Z,113nm,0.4s,baz=347,slow=7.5,SNR=128
CRLT **Corlu** **74.07 311** *e*P **P** **00 34 26.0 -1.7**
SRE **Strehaia** **74.08 316** ⇓*i*P **P** **00 34 27.3 -0.5**
BHL **Bhannes** **74.10 301** *e*P **P** **00 34 26.5 -1.7**
B20A **Solberg Farm,** **74.12 38** ⇓P **P** **00 34 25.4 -2.6**
baz=74,SNR=187

DLMT Dillon 74.13 43 *e*P P 00 34 26.0 -2.2
comp=Z,1µm,0.9s
FBE Freiberg 74.13 326 *e*P P 00 34 26.1 -1.8
comp=Z,561nm,1.0s
EDRB Edirne 74.13 312 *e*P P 00 34 25.3 -2.8
SMOL Smolenice 74.13 322 *e* 00 35 58.9
BUD Budapest 74.14 321 *e* P 00 34 26.8 -1.2
BUD *e* 00 34 32.5
BUD ⇓*e* 00 35 58.0
ORLT Orhaneli 74.14 310 *e*P P 00 34 27.5 -0.8
PKSN Nyarlorinc 74.16 320 *e* P 00 34 28.9 +0.8
PKSN ⇑*e* 00 35 59.3
C19A Slack Wire Ran 74.16 39 ⇓P P 00 34 25.8 -2.5
baz=74,SNR=191
SHUT Suhut-Afyon 74.18 308 *e*P P 00 34 28.8 +0.2
BZS Buzias 74.21 318⇑*i*P P 00 34 26.7 -1.8
A21A Bergtoll Ranch 74.22 37 ⇓P P 00 34 26.2 -2.3
baz=74,SNR=146
BRBR Barbar 74.23 301 *e*P P 00 34 27.6 -1.5
NRDL Niedersach Rie 74.23 328 *e*P P 00 34 26.4 -2.0
comp=Z,221nm,1.0s
RCY Rachaya 74.25 301 *e*P P 00 34 27.5 -1.6
TKR Tekirdag 74.27 311 *e*P P 00 34 28.6 -0.3
KCTX Karacabey (Bur 74.30 310 *e*P P 00 34 29.1 -0.1
PRA Prague 74.31 325 ⇓P P 00 34 28.0 -1.0
PRA pP **pP** 00 36 00.0 +3.5
PRA PP PP 00 37 27.0 +6.4
PRA S **S** 00 43 33.0 +3.3
PRU Pruhonice 74.32 325⇓*i*P P 00 34 27.5 -1.6
PRU *e* 00 34 32.8
PRU *e* 00 37 26.0
PRU *e*S **S** 00 43 31.9 +2.0
PRU Pruhonice 74.32 325⇓*i*P P 00 34 27.5 -1.6
PRU *ex* x 00 34 32.8
PRU *ep*P **pP** 00 35 59.9 +3.3
PRU *e*PP PP 00 37 26.0 +5.2
PRU *e*S **S** 00 43 31.9 +2.0
PRU *e*XS **sS** 00 46 05.7 +0.2
PRU *ex* x 00 48 05.8
PRU *e*PKPPKP P'P'df 01 01 55.5 -5.5
RMGR Halanga-Turnu 74.34 317⇑P P 00 34 29.9 +0.7
AFI Afiamalu 74.37 126 *e*P P 00 34 33.5 +3.7
comp=Z,32nm,0.9s
AFI Afiamalu 74.37 126 P P 00 34 33.1 +3.3
comp=Z,117nm,0.8s,baz=225,slow=2.7,SNR=12
MCMT McKenzie Canyo 74.37 43 *e*P P 00 34 28.2 -1.6
comp=Z,78nm,0.9s
BOZ Bozeman (W) 74.41 42 *e*P P 00 34 27.8 -2.0
BOZ pmax pmax
comp=Z,1µm,1.0s
BOZ Bozeman (W) 74.41 42 *e*P P 00 34 27.8 -2.0
comp=Z,1µm,1.0s
TREC Trest 74.43 324⇓*i*P P 00 34 28.4 -1.3
TREC *e* 00 34 33.6
TREC *e*S S 00 43 37.8 +6.7
TREC Trest 74.43 324⇓*i*P P 00 34 28.4 -1.3
TREC *ex* x 00 34 33.6
TREC *ep*P **pP** 00 36 00.8 +3.5
TREC *e*S S 00 43 37.8 +6.7
GDZ Gediz 74.44 309 *i*P P 00 34 28.2 -2.0
HLID Hailey 74.45 45 ⇓P P 00 34 27.9 -2.2
baz=74,SNR=96
BNT Bandirma 74.49 311 *e*P P 00 34 29.7 -0.5
PKSG 74.50 321 *e* P 00 34 29.4 -0.7
PKSG *e* 00 34 34.5
PKSG ⇑*e* 00 36 01.0
PKS6 Bocsa 74.52 320 *e* P 00 34 30.0 -0.2
PKS6 *e* 00 34 33.8
PKS6 ⇓*e* 00 36 00.0
MCD Coleburn Disti 74.52 338 *e*P P 00 34 28.8 -1.2
MCD *e* 00 35 58.7
EDC Edincik 74.53 311 *e*P P 00 34 24.2 -6.2
LFK Lefkose 74.53 304 *e*P P 00 34 28.7 -1.9
NEUB Neuenburg 74.56 327 *e*P P 00 34 28.1 -2.3
comp=Z,508nm,1.0s
CSKK Cs˙‡kako 74.58 321 *e* P 00 34 30.5 -0.1
CSKK *e* 00 36 01.7
B21A Ellsworth Farm 74.59 38 ⇑P P 00 34 28.3 -2.3
baz=74,SNR=228
BANR Banloc 74.61 318⇑*i*P P 00 34 33.4 +2.6
SUTC Sutluce-Ispart 74.63 307 *e*P P 00 34 29.3 -1.9
CLZ Clausthal 74.64 328 *e*P P 00 34 29.0 -1.9
comp=Z,459nm,1.1s
D19A Cripps Ranch, 74.65 39 ⇑P P 00 34 28.6 -2.5
baz=74,SNR=122
DIM Dimitrovgrad 74.65 313 P P 00 34 31.1 0.0
GAZI Gazipasa 74.65 305 *i*P P 00 34 27.7 -3.5
C20A Veseth Ranch, 74.66 39 ⇓P P 00 34 28.8 -2.3
baz=74,SNR=178
A22A Carney Farms, 74.67 37 ⇑P P 00 34 28.4 -2.7
baz=74,SNR=280
MME1 Meikle Cairn 74.67 338 *e*P P 00 34 29.8 -1.2
MME1 *e* 00 35 59.8
RKY Sarkoy-Tekirda 74.68 311 *e*P P 00 34 30.1 -1.2
ISP Isparta 74.68 307 *e*P P 00 34 30.1 -1.3
ISP Isparta 74.68 307 P P 00 34 29.9 -1.6
ISP Isparta 74.68 307 *e*P P 00 34 29.2 -2.2
ISP pmax pmax
comp=Z,2µm,1.9s
ISP Isparta 74.68 307⇑*i*P P 00 34 31.3 -0.2
ISP Isparta 74.68 307 *e*P P 00 34 29.2 -2.2
comp=Z,2µm,1.9s
DURS Dursunbey 74.68 310 *i*P P 00 34 27.3 -4.1
BBOO Buckleboo 74.69 179 *e*P P 00 34 30.2 -1.0
comp=Z,390nm,1.0s
MPEP Malo Peshtene 74.71 315 P P 00 34 31.1 -0.3
PKST T˜'s 74.77 321 *e* P 00 34 30.2 -1.5
PKST *e* 00 34 31.8
PKST ⇑*e* 00 36 02.6
KRBG Karabiga-Canak 74.81 311 *e*P P 00 34 30.4 -1.5
GONE Gonen-Balikesi 74.83 311 *e*P P 00 34 31.9 -0.2
CSS Prodhromos 74.87 303 *e*P P 00 34 30.0 -2.5
CSS Prodhromos 74.87 303 P P 00 34 30.2 -2.3
CSS Prodhromos 74.87 303 *e*P P 00 34 30.2 -2.3
comp=Z,800nm,1.8s
AKDN Akdeniz- K˜–br 74.87 304 *e*P P 00 34 36.2 +3.8
DRUM Mains of Drumt 74.88 337 *e*P P 00 34 30.7 -1.3
DRUM AMB AMB 00 34 37.0
comp=Z,173nm,0.8s
BCK Bucak 74.88 307 *e*P P 00 34 30.4 -2.1
TANN Tannenbergstha 74.88 326 *e*P P 00 34 30.2 -2.1
comp=Z,151nm,1.0s
DEMI Demirci 74.92 309 *i*P P 00 34 29.7 -3.1
KHAL Karahalli 74.92 308 *i*P P 00 34 30.3 -2.6
WERD Werda 74.92 326 *e*P P 00 34 30.4 -2.1
comp=Z,216nm,1.1s
PLN Plauen 74.96 326 *e*P P 00 34 30.7 -2.0
comp=Z,260nm,1.2s
PLN *ep*P **pP** 00 36 00.2 -0.1
GUNZ Gunzen 74.98 326 *e*P P 00 34 30.9 -1.9
comp=Z,293nm,1.2s
KDZ Kurdzhali 74.99 313⇑*i*P P 00 34 32.0 -1.0
BALB Balikesir 74.99 310 *e*P P 00 34 32.9 -0.1
WERN Wernitzgruen 75.02 326 *e*P P 00 34 31.1 -1.9
comp=Z,367nm,1.1s
NKC Novy Kostel 75.03 326⇓*i*P P 00 34 31.3 -1.8
NKC *e* 00 34 37.6
NKC *e* 00 37 28.9
NKC *e*S **S** 00 43 39.6 +2.0
NKC Novy Kostel 75.03 326⇓*i*P P 00 34 31.3 -1.8
NKC *ex* x 00 34 37.6
NKC *ep*P **pP** 00 36 03.6 +2.8
NKC *e*PP **PP** 00 37 28.9 +2.2
NKC *e*S **S** 00 43 39.6 +2.0
NKC *e*XS **sS** 00 46 14.2 +0.7
LEF Lefka 75.04 304 *e*P P 00 34 31.2 -2.2
D20A Manuel Ranch, 75.05 39 ⇓P P 00 34 31.1 -2.2
baz=75,SNR=146
PLD Plovdiv 75.06 314 P P 00 34 32.0 -1.4
PLD Plovdiv 75.06 314 P P 00 34 32.0 -1.4
PLD Plovdiv 75.06 314 P P 00 34 32.0 -1.4
BMN Battle Mountai 75.08 49 *e*P P 00 34 31.9 -1.8
BMN pmax pmax
comp=Z,902nm,1.0s
BMN Battle Mountai 75.08 49 *e*P P 00 34 31.9 -1.8
comp=Z,902nm,1.0s
LPK Lapseki 75.13 311 *e*P P 00 34 32.7 -1.1
WAKR Walker 75.13 51 *e*P P 00 34 25.3 -8.8
PKS9 Tamasi 75.14 320 *e* P 00 34 31.3 -2.4
PKS9 *e* 00 34 37.0
PKS9 ⇑*e* 00 36 04.0
SOP Sopron 75.14 322 *e* P 00 34 32.8 -0.9
SOP *e* 00 34 37.7
SOP ⇓*e* 00 36 04.0
B22A Reddig Ranch S 75.14 37 ⇓P P 00 34 31.9 -2.0
baz=75,SNR=49
A23A Redstone 75.15 36 ⇓P P 00 34 31.7 -2.1
baz=75,SNR=57
KAC Achnashellach 75.15 339 *e*P P 00 34 31.7 -1.9
KAC *e* 00 36 02.6
DGAR Diego Garcia 75.15 245 *e*P P 00 34 32.5 -1.7
DGAR Diego Garcia 75.15 245 *e*P P 00 34 32.5 -1.7
comp=Z,994nm,1.1s
DGAR *ep*P pP 00 35 49.9 -12
ALN Alexandroupoli 75.16 312 *e*P P 00 34 31.6 -2.3
ALN Alexandroupoli 75.16 312 P P 00 34 31.7 -2.3
ALN Alexandroupoli 75.16 312 P P 00 34 31.7 -2.3
ALN Alexandroupoli 75.16 312 *e*P P 00 34 33.5 -0.5
ALN Alexandroupoli 75.16 312 P P 00 34 31.7 -2.3
E19A Rath Farm, Rou 75.21 40 ⇓P P 00 34 31.8 -2.5
baz=75,SNR=146
ENEZ Enez 75.22 312 *e*P P 00 34 32.3 -2.0
ANTB Antalya 75.22 306 *e*P P 00 34 30.2 -4.2
PKSM Moragy 75.24 320⇓*i*P P 00 34 32.3 -2.0
PKSM Moragy 75.24 320 *e* P 00 34 32.4 -1.9
PKSM *e* 00 34 38.3
PKSM *e* 00 36 04.1
GELI Tayfur-Gelibol 75.27 311 *e*P P 00 34 33.0 -1.5
RDO Rodhopi 75.27 312 P P 00 34 33.0 -1.6
RDO Rodhopi 75.27 312 *e*P P 00 34 33.2 -1.4
RDO Rodhopi 75.27 312 P P 00 34 33.0 -1.6
CONA Conrad Observa 75.27 323⇓*i*P P 00 34 33.6 -1.0
comp=Z,307nm,0.7s,SNR=68
CONA Conrad Observa 75.27 323⇓*i*pP pP 00 36 05.7 +3.3
comp=Z,1µm,1.3s,SNR=33
IBBN Ibbenburen 75.28 330 *e*P P 00 34 32.1 -2.3
comp=Z,462nm,1.1s
WIT Witteveen 75.28 330 *e*P P 00 34 33.7 -0.7
comp=Z,1µm,0.7s
WIT *ep*P **pP** 00 36 05.1 +2.9
KULA Kula-Manisa 75.31 309 *e*P P 00 34 34.6 -0.4
MANZ Manzenberg 75.36 326 *e*P P 00 34 32.9 -2.1
comp=Z,303nm,1.2s
KHC Kasperske Hory 75.38 325⇓*i*P P 00 34 33.6 -1.5
KHC *e* 00 34 38.7
KHC *e* 00 37 36.8
KHC *e*S **S** 00 43 43.3 +1.7
KHC Kasperske Hory 75.38 325⇓*i*P P 00 34 33.6 -1.5
KHC *ex* x 00 34 38.7
KHC *ep*P **pP** 00 36 06.5 +3.6
KHC *e*PP PP 00 37 36.8 +7.1
KHC *e*S **S** 00 43 43.3 +1.7
KHC *e*XS **sS** 00 46 19.5 +1.8
KHC *e*PKPPKP **P'P'df** 01 01 53.3 -3.8
KPL Plockton 75.38 339 *e*P P 00 34 33.0 -1.9
KPL AMB AMB 00 34 39.3
comp=Z,341nm,1.3s
KPL *e* 00 36 04.7
YMR Madison River 75.44 42 *e*P P 00 34 34.2 -1.5
comp=Z,876nm,1.0s
B23A Brockton 75.47 36 ⇓P P 00 34 33.1 -2.6
baz=75,SNR=262
ROTZ Rotzenmuhle 75.48 326 *e*P P 00 34 34.1 -1.5
comp=Z,268nm,1.0s
E20A Meyer Farm, Mu 75.48 39 ⇑P P 00 34 33.3 -2.5
baz=75,SNR=217
VTS Vitosha 75.52 315 *e*P P 00 34 34.1 -2.0
VTS Vitosha 75.52 315 P P 00 34 34.7 -1.5
VTS Vitosha 75.52 315 P P 00 34 34.7 -1.5
VTS Vitosha 75.52 315 P P 00 34 35.1 -1.1
VTS Vitosha 75.52 315⇓*i*P P 00 34 34.6 -1.6
VTS Vitosha 75.52 315 P P 00 34 34.7 -1.5
GEC2 GERESS Array S 75.55 324 *ep*P pP 00 36 04.2 +0.2
GERES GERESS Array B 75.55 324 pP pP 00 36 07.0 +3.0
GERES GERESS Array B 75.55 324 P P 00 34 39.4 +3.2
comp=Z,82nm,0.5s,baz=39,slow=6.3,SNR=68
GERES pP pP 00 36 07.0 +3.0
comp=Z,115nm,1.0s,baz=46,slow=4.2,SNR=9.5
GERES PKKPbc **PKKPbc** 00 53 53.4 +3.2
comp=Z,2.4nm,0.9s,baz=219,slow=1.7,SNR=5.4
AKHS Akhisar 75.55 310 *i*P P 00 34 32.8 -3.4
AKS Akhisar 75.55 310 *e*P P 00 34 33.8 -2.4
A24A Westby 75.55 36 ⇑P P 00 34 34.2 -1.9
baz=75,SNR=98
F19A Roth Farm, Mol 75.57 40 ⇓P P 00 34 34.2 -2.2
baz=75,SNR=83
UBBA Unterbreizbach 75.58 327 *e*P P 00 34 33.7 -2.3
comp=Z,118nm,1.0s
D21A La Casta Ranch 75.60 38 ⇑P P 00 34 34.7 -1.7
baz=75,SNR=180
C22A Vida 75.61 37 ⇓P P 00 34 34.2 -2.2
baz=75,SNR=42
DNZL Cakiroluk 75.64 308 *i*P P 00 34 33.4 -3.6
GOLH Golhisar 75.64 307 *i*P P 00 34 34.2 -2.7
WET Wettzell 75.67 325 *e*P P 00 34 35.7 -1.1
comp=Z,340nm,1.0s
GLHS Gihisar (BURDU 75.73 307 *e*P P 00 34 35.6 -1.8
SMTH Samothraki Isl 75.74 312 P P 00 34 36.9 -0.4
SMTH Samothraki Isl 75.74 312 *e*P P 00 34 36.2 -1.1
SMTH Samothraki Isl 75.74 312 P P 00 34 36.9 -0.4
ELL Elmali 75.76 307 *e*P P 00 34 35.2 -2.4
ESY Stoneypath 75.77 337 *e*P P 00 34 35.2 -1.9
ESY *e* 00 36 06.5
DGMT Dagmar 75.81 36 *e*P P 00 34 35.2 -2.3
comp=Z,1µm,0.9s
DGMT Dagmar 75.81 36 ⇑P P 00 34 35.5 -2.1
baz=76,SNR=154
H17A Grant Village 75.83 42 *e*P P 00 34 37.2 -0.8
comp=Z,2µm,1.0s
H17A *ep*P **pP** 00 36 06.3 +0.4
H17A Grant Village 75.83 42 ⇑P P 00 34 36.5 -1.5
baz=76,SNR=156
C23A Lambert 75.88 37 ⇓P P 00 34 35.7 -2.2
baz=76,SNR=210
WTSB Winterswijk 75.91 330 *e*P P 00 34 36.2 -1.7
comp=Z,330nm,0.8s
WTSB *ep*P **pP** 00 36 07.9 +2.1
D22A Cohagen 75.91 38 ⇑P P 00 34 36.2 -2.0
baz=76,SNR=191
NV11 Mina Array Sit 75.92 51 *e*P P 00 34 35.7 -2.7
NV11 *ep*P pP 00 35 59.4 -7.0
A25A Svangstu Ranch 75.92 35 ⇑P P 00 34 35.9 -2.3
baz=76,SNR=257
ARSA Arzberg 75.93 322⇓*i*P P 00 34 38.2 0.0
comp=Z,186nm,0.7s,SNR=92
ARSA Arzberg 75.93 322⇓*i*pP pP 00 36 09.1 +2.9
comp=Z,972nm,1.4s
KAVA Kavala 75.93 313 P P 00 34 36.7 -1.6
KAVA Kavala 75.93 313 P pP 00 36 06.6 +0.3
KAVA Kavala 75.93 313 *e*P P 00 34 36.5 -1.8
KAVA Kavala 75.93 313 P P 00 34 36.7 -1.6
MMB Musomiste 75.94 314 P P 00 34 36.7 -1.7
MMB Musomiste 75.94 314⇑*i*P P 00 34 37.0 -1.4
GRF Grafenberg Arr 75.95 326 *e*P P 00 34 36.7 -1.6
comp=Z,773nm,1.0s
GRF *e*L L 01 10 30.3
comp=Z,1µm,21.4s
E21A Keefer Ranch, 75.95 39 ⇑P P 00 34 36.2 -2.2
baz=76,SNR=104
ELK Elko 75.96 47 *e*P P 00 34 37.0 -1.7
comp=Z,733nm,1.3s
FLWY Flagg Ranch 75.99 43 *e*P P 00 34 37.6 -1.2
comp=Z,1µm,1.3s
F20A Billings 75.99 40 ⇑P P 00 34 36.7 -2.0
baz=76,SNR=181
EBL Broad Law 76.02 337 *e*P P 00 34 35.8 -2.7
EBL *e* 00 36 08.1
EAB Aberfoyle 76.03 338 *e*P P 00 34 36.7 -1.9
NVR Nevrokopi 76.04 314 P P 00 34 37.1 -1.9
NVR Nevrokopi 76.04 314 P pP 00 36 08.2 +1.3
NVR Nevrokopi 76.04 314 *e*P P 00 34 37.2 -1.8
NVR Nevrokopi 76.04 314 P P 00 34 37.1 -1.9
MOA Molln 76.05 323⇓*i*P P 00 34 38.7 -0.2
comp=Z,177nm,1.2s,SNR=34
MOA Molln 76.05 323⇓*i*pP pP 00 36 09.7 +2.9
comp=Z,473nm,1.5s,SNR=13
MLAC Mammoth Lakes 76.07 52 ⇓P P 00 34 37.4 -2.0
baz=76,SNR=122
DIVS Divibare 76.10 318 P P 00 34 36.6 -2.7
DIVS Divibare 76.10 318 P pP 00 36 08.4 +1.1
AYDB Zeytinkoy-Aydi 76.14 309 *e*P P 00 34 38.2 -1.5
BUG Bochum--Univer 76.15 329 *e*P P 00 34 36.9 -2.4
comp=Z,430nm,1.0s
I17A Pilgrim Ck. 76.17 43 ⇓P P 00 34 37.7 -2.2
baz=76,SNR=138
PRK Paraskevi 76.17 311 P P 00 34 38.7 -0.9
PRK Paraskevi 76.17 311 *e*P P 00 34 38.9 -0.7
PRK Paraskevi 76.17 311 P P 00 34 38.7 -0.9
MOOW Moose Ponds 76.20 43 *e*P P 00 34 38.4 -1.6
comp=Z,1µm,1.2s
LAO LASA Array 76.24 38 *e*P P 00 34 38.5 -1.4
comp=Z,2µm,1.4s
LAO *ep*P pP 00 35 57.0 -11
LAO *e*PP **PP** 00 37 37.7 +0.8
AKAS Kas 76.29 307 *i*P P 00 34 35.3 -5.3
BLCB Balcova 76.33 310 *e*P P 00 34 40.0 -0.6
LIA Limnos Island 76.33 312 P P 00 34 33.4 -7.1
LIA Limnos Island 76.33 312 *e*P P 00 34 36.3 -4.2
LIA Limnos Island 76.33 312 P P 00 34 33.4 -7.1
AYDN Tasoluk 76.34 309 *i*P P 00 34 37.4 -3.3
D23A Lindsay 76.34 37 ⇑P P 00 34 38.1 -2.5
baz=76,SNR=216
SRS Serrai 76.35 314 P P 00 34 38.6 -2.0
SRS Serrai 76.35 314 P pP 00 36 08.8 +0.1
SRS Serrai 76.35 314 P P 00 34 38.6 -2.0
SRS Serrai 76.35 314 *e*P P 00 34 38.8 -1.8
SRS Serrai 76.35 314 P P 00 34 38.6 -2.0
LOHW Long Hollow 76.37 43 *e*P P 00 34 39.2 -1.8
comp=Z,537nm,1.0s
G20A Bridger 76.38 40 ⇓P P 00 34 38.4 -2.5
baz=76,SNR=192
PGBU Glenifferbraes 76.40 338 *e*P P 00 34 38.7 -1.9
PGBU AMB AMB 00 34 45.8
comp=Z,465nm,1.0s
PGBU *e* 00 36 10.9
B25A Knox Farm, Ray 76.41 36 ⇓P P 00 34 38.7 -2.2
baz=76,SNR=186
H19A Powell 76.41 41 ⇑P P 00 34 38.8 -2.3
baz=76,SNR=213
A26A Wade Farm, Ken 76.41 35 ⇓P P 00 34 38.5 -2.4
baz=76,SNR=168
MTUM Tungsten Hills 76.41 52 *e*P P 00 34 39.2 -2.1
C24A Savage 76.42 37 ⇑P P 00 34 39.2 -1.8
baz=76,SNR=97
REDW Red Top Meadow 76.43 43 *e*P P 00 34 39.8 -1.5
comp=Z,922nm,1.1s
SIGR SIGRI 76.43 311 *e*P P 00 34 40.3 -0.8
DALY Dalyan (Mu¨la 76.46 308 *e*P P 00 34 39.8 -1.5
ESK Eskdalemuir 76.46 337 *e*P P 00 34 39.5 -1.4
ESK Eskdalemuir 76.46 337 *i*P P 00 34 41.2 +0.3
ESK Eskdalemuir 76.46 337 *e*P P 00 34 40.7 -0.3
comp=Z,33nm,0.8s
F21A Absaloka Mine, 76.46 39 ⇑P P 00 34 39.2 -2.1
baz=76,SNR=231
E22A Miles City 76.55 38 ⇑P P 00 34 40.0 -1.7
baz=76,SNR=133
PERS Pernice 76.58 322 *i*P P 00 34 40.2 -1.7
PERS *i*PcP PcP 00 34 45.5 -6.0
PERS *i*pP **pP** 00 36 12.8 +2.8
PERS *i*S **S** 00 43 59.4 +4.8
SOKA Soboth 76.58 322⇓*i*P P 00 34 40.2 -1.8
comp=Z,570nm,0.8s,SNR=69
SOKA Soboth 76.58 322⇓*i*pP pP 00 36 13.4 +3.4
comp=Z,2µm,1.3s
PTRM Twissleman Ran 76.59 54 *e*P P 00 34 41.0 -1.1
TNS Taunus Mts 76.66 328 *e*P P 00 34 40.1 -2.2
comp=Z,225nm,1.0s
GCAM G?zelcaml? 76.68 309 *i*P P 00 34 40.5 -2.1
SOH Sokhos 76.68 313 *e*P P 00 34 41.9 -0.7
OUR Ouranopolis 76.69 313 *e*P P 00 34 41.8 -0.7
OUR Ouranopolis 76.69 313 P P 00 34 40.6 -1.9
OUR Ouranopolis 76.69 313 P pP 00 36 10.2 -0.4
OUR Ouranopolis 76.69 313 P P 00 34 40.6 -1.9
OUR Ouranopolis 76.69 313 *e*P P 00 34 40.6 -1.9
OUR Ouranopolis 76.69 313 P P 00 34 40.6 -1.9
KNT Kendrikon 76.69 314 P P 00 34 40.4 -2.1
KNT Kendrikon 76.69 314 P pP 00 36 11.8 +1.1
KNT Kendrikon 76.69 314 P P 00 34 40.4 -2.1
KNT Kendrikon 76.69 314 *e*P P 00 34 40.5 -2.1
KNT Kendrikon 76.69 314 P P 00 34 40.4 -2.1
TPH Tonopah 76.69 50 *e*P P 00 34 40.5 -2.4
TPH pmax pmax
comp=Z,1µm,1.1s
TPH Tonopah 76.69 50 *e*P P 00 34 40.5 -2.4
comp=Z,1µm,1.1s
A27A Ledoux Ranch, 76.70 34 ⇓P P 00 34 40.4 -2.0
baz=76,SNR=111
RCTC Rector, Farmer 76.72 53 ⇑P P 00 34 41.5 -1.3
baz=76,SNR=44
B26A Jensen Ranch, 76.73 35 ⇑P P 00 34 40.9 -1.8
baz=76,SNR=44
VAY Valandovo 76.75 314 P P 00 34 40.8 -2.0
VAY Valandovo 76.75 314 P pP 00 36 11.1 +0.1
VAY Valandovo 76.75 314 P P 00 34 40.8 -2.0
VAY Valandovo 76.75 314 P P 00 34 40.8 -2.0
VAY Valandovo 76.75 314 *e*P P 00 34 40.3 -2.5
D24A Glendive 76.78 37 ⇓P P 00 34 41.1 -1.8
baz=76,SNR=238
C25A Freed Ranch, W 76.80 36 ⇓P P 00 34 41.5 -1.6
baz=76,SNR=59
E23A Ismay 76.80 38 ⇑P P 00 34 41.3 -1.8
baz=76,SNR=109
TIN Tinemaha 76.81 52 ⇑P P 00 34 41.7 -1.7
baz=77
SISC Sisak 76.86 321 P P 00 34 43.9 +0.6
G21A Lodge Grass 76.86 40 ⇓P P 00 34 42.3 -1.3
baz=77,SNR=124
I19A Meeteetse 76.87 42 ⇓P P 00 34 41.7 -2.0
baz=77,SNR=176
SKO Skopje 76.89 315 P P 00 34 43.2 -0.4
SKO Skopje 76.89 315 P P 00 34 43.2 -0.4
SKO Skopje 76.89 315 P P 00 34 43.2 -0.4
SKO Skopje 76.89 315 *e*P P 00 34 42.0 -1.6
CHOS Chios island 76.89 310 *e*P P 00 34 41.3 -2.5
CHOS Chios island 76.89 310 P P 00 34 43.1 -0.6
CHOS Chios island 76.89 310 P pP 00 36 08.0 -3.9
CHOS Chios island 76.89 310 *e*P P 00 34 42.9 -0.8
CHOS Chios island 76.89 310 P P 00 34 43.1 -0.6
F22A Rosebud 76.90 39 ⇓P P 00 34 41.6 -2.1
baz=77,SNR=219
SMG Samos 76.91 309 P P 00 34 43.1 -0.7
SMG Samos 76.91 309 *e*P P 00 34 43.1 -0.7
SMG Samos 76.91 309 P P 00 34 43.1 -0.7
OBKA Obir 76.93 322⇓*i*P P 00 34 42.9 -1.0
comp=Z,94nm,0.6s,SNR=35
OBKA Obir 76.93 322⇓*i*pP pP 00 36 14.7 +2.7
comp=Z,918nm,1.5s,SNR=25
SMMC Simmler 76.95 54 ⇑P P 00 34 43.1 -1.0
baz=77,SNR=13
PLG Polygyros 76.95 313 P P 00 34 41.8 -2.2
PLG Polygyros 76.95 313 P pP 00 36 13.1 +0.9
PLG Polygyros 76.95 313 P P 00 34 41.8 -2.2
PLG Polygyros 76.95 313 *e*P P 00 34 41.9 -2.1
PLG Polygyros 76.95 313 P P 00 34 41.8 -2.2
NRS Narsarsuaq 76.96 0 *e*P P 00 34 42.4 -1.2
PLE Pljevlja 76.96 317⇑*i*P P 00 34 43.1 -1.0
HORT Hortiatis 76.98 313 P P 00 34 41.6 -2.6
HORT Hortiatis 76.98 313 P pP 00 36 12.5 0.0
HORT Hortiatis 76.98 313 *e*P P 00 34 41.6 -2.6
HORT Hortiatis 76.98 313 P P 00 34 41.6 -2.6
BDRM Kayabasi 77.00 308 *i*P P 00 34 41.7 -2.6
H20A Greybull 77.03 41 ⇑P P 00 34 42.6 -1.9
baz=77,SNR=94
THE Thessaloniki 77.03 314 P P 00 34 43.5 -0.9
THE Thessaloniki 77.03 314 P pP 00 36 11.7 -0.9
THE Thessaloniki 77.03 314 P P 00 34 43.5 -0.9
THE Thessaloniki 77.03 314 *e*P P 00 34 43.3 -1.1
THE Thessaloniki 77.03 314 P P 00 34 43.5 -0.9
BGU Big Grassy Mou 77.03 46 *e*P P 00 34 42.8 -1.8
comp=Z,1µm,1.7s
IVA Berane 77.04 317⇑*i*P P 00 34 43.3 -1.2
KBA Koelnbreinsper 77.04 323⇓*i*P P 00 34 44.0 -0.6
comp=Z,250nm,0.8s,SNR=69
KBA Koelnbreinsper 77.04 323⇓*i*pP pP 00 36 15.6 +2.8
comp=Z,2µm,1.3s
KESW Keswick, Cumbr 77.06 336 *e*P P 00 34 42.6 -1.7
KESW AMB AMB 00 34 49.6
comp=Z,398nm,1.1s
KESW *e* 00 36 15.0
SPUT South Promonto 77.07 45 *e*P P 00 34 43.2 -1.6
comp=Z,605nm,1.3s
BODT Bodrum 77.08 308 *e*P P 00 34 44.6 -0.2
FUR Furstenfeldbru 77.11 325 *e*P P 00 34 42.9 -1.8
comp=Z,567nm,0.9s
B27A Peters Farms, 77.12 35 ⇓P P 00 34 43.1 -1.6
baz=77,SNR=36
VES Vestal, Richgr 77.14 53 ⇑P P 00 34 43.3 -1.8
baz=77,SNR=87
PAIG Paliouri 77.14 313 P P 00 34 43.0 -2.0

PAIG Paliouri 77.14 313 P pP 00 36 13.0 -0.2
PAIG Paliouri 77.14 313 P P 00 34 43.0 -2.0
PAIG Paliouri 77.14 313 eP P 00 34 43.8 -1.2
PAIG Paliouri 77.14 313 P P 00 34 43.0 -2.0
A28A Rude Farm, Bot 77.14 34 ⇑P P 00 34 43.2 -1.7
baz=77,SNR=262
HPK Haverah Park 77.14 335 eP P 00 34 43.2 -1.6
HPK AMB AMB 00 34 50.0
comp=Z,452nm,1.1s
HPK e 00 36 15.3
LMK Market Rasen 77.16 334 eP P 00 34 42.7 -2.1
LMK AMB AMB 00 34 49.8
comp=Z,478nm,1.0s
ARG Arkhangelos 77.18 307 P P 00 34 44.7 -0.6
ARG Arkhangelos 77.18 307 P P 00 34 44.7 -0.6
ARG Arkhangelos 77.18 307 eP P 00 34 44.8 -0.6
ARG Arkhangelos 77.18 307 P P 00 34 44.7 -0.6
D25A Fairfield 77.20 36 ⇓P P 00 34 43.7 -1.6
baz=77,SNR=157
HGN Heimansgroeve 77.20 330 eP P 00 34 43.2 -1.9
comp=Z,196nm,0.8s
HGN epP pP 00 36 15.1 +1.7
PVY Plav 77.20 317 ⇑iP P 00 34 45.1 -0.4
E24A Baker 77.21 37 ⇓P P 00 34 43.8 -1.6
baz=77,SNR=175
C26A Wahner Farm, P 77.21 35 ⇑P P 00 34 44.0 -1.3
baz=77,SNR=40
MYKA Terra Mystica 77.25 323 ⇓iP P 00 34 44.5 -1.1
comp=Z,246nm,0.9s,SNR=66
MYKA Terra Mystica 77.25 323 ⇓ipP pP 00 36 16.2 +2.3
comp=Z,1µm,1.3s,SNR=27
BEBN Eben Emael 77.27 330 P P 00 34 43.5 -1.9
comp=Z,107nm,1.1s
BEBN AP pP 00 36 15.4 +1.6
GAL1 Galloway 77.28 337 eP P 00 34 43.3 -2.2
GAL1 AMB AMB 00 34 50.3
comp=Z,256nm,1.0s
GAL1 e 00 36 15.9
LJU Ljubljana 77.29 322 iP P 00 34 43.8 -2.0
LJU iPcP PcP 00 34 49.4 -5.2
LJU ipP pP 00 36 16.4 +2.3
LJU esP sP 00 36 42.2 -14
LJU ePP PP 00 37 52.5 +7.0
LJU iS S 00 44 04.4 +2.3
LJU eSKSac ScS 00 44 27.0 +1.1
LJU esS sS 00 46 38.4 -0.7
UPM Unac-Piva 77.29 318 ⇑iP P 00 34 45.0 -1.1
MEM Membach 77.30 329 P P 00 34 43.8 -1.9
comp=Z,266nm,1.0s
MEM AP pP 00 36 16.7 +2.8
MEM Membach 77.30 329 eP P 00 34 43.8 -1.9
MEM pmax pmax
comp=Z,424nm,0.8s
MEM Membach 77.30 329 eP P 00 34 43.8 -1.9
comp=Z,424nm,0.8s
G22A Birney 77.30 39 ⇓P P 00 34 44.1 -1.9
baz=77,SNR=248
MUKL Al Mukalla 77.30 278 ⇓eP P 00 34 45.2 -1.0
BCI Bajram Curri 77.31 316 iP P 00 34 46.1 +0.1
CWC Cottonwood Cre 77.32 52 ⇓P P 00 34 44.5 -1.8
baz=77,SNR=79
PKM Peak Mountain 77.34 54 ⇑P P 00 34 43.7 -2.7
baz=77,SNR=89
F23A Volborg 77.34 39 ⇑P P 00 34 44.1 -2.0
baz=77,SNR=202
GRAC Grapevine Rang 77.35 51 ⇑P P 00 34 44.5 -1.8
baz=77,SNR=127
I20A Worland 77.36 41 ⇓P P 00 34 44.7 -1.6
baz=77,SNR=166
BOJS Bojanci 77.36 321 iP P 00 34 44.3 -1.8
BOJS iPcP PcP 00 34 49.9 -5.0
BOJS ipP pP 00 36 16.9 +2.4
BOJS iS S 00 44 06.1 +3.3
BOJS iSKSac SKSac 00 44 16.2 -4.2
BOJS esS sS 00 46 41.6 +1.7
H21A Big Horn, Sher 77.38 40 ⇓P P 00 34 44.8 -1.7
baz=77,SNR=273
J19A Crowheart 77.40 42 ⇑P P 00 34 43.9 -2.7
baz=77,SNR=121
R11A Troy Canyon, C 77.44 49 ⇑P P 00 34 44.6 -2.3
B28A Dugan Ranch, T 77.46 34 ⇓P P 00 34 44.4 -2.3
baz=77,SNR=286
STU Stuttgart 77.50 327 eP P 00 34 44.8 -2.1
STU pmax pmax
comp=Z,240nm,1.0s
STU Stuttgart 77.50 327 eP P 00 34 44.7 -2.1
comp=Z,378nm,1.3s
STU Stuttgart 77.50 327 eP P 00 34 44.8 -2.1
comp=Z,240nm,1.0s
BW06 Boulder Array 77.51 43 eP P 00 34 44.3 -3.0
comp=Z,927nm,0.9s
PDAR Pinedale Array 77.51 43 P P 00 34 51.0 +3.6
comp=Z,744nm,0.8s,baz=326,slow=1.3,SNR=152
NKY Niksic 77.53 317 ⇑iP P 00 34 46.2 -1.1
A29A Manning Farm, 77.55 33 ⇓P P 00 34 45.4 -1.8
baz=77,SNR=205
C27A Sayler Ranch, 77.55 35 ⇓P P 00 34 45.0 -2.2
baz=77,SNR=16
AOS Alonnisos 77.56 312 eP P 00 34 45.0 -2.3
AOS Alonnisos 77.56 312 P P 00 34 45.6 -1.7
AOS Alonnisos 77.56 312 P pP 00 36 14.8 -0.9
AOS Alonnisos 77.56 312 eP P 00 34 46.6 -0.7
AOS Alonnisos 77.56 312 P P 00 34 45.6 -1.7
NKME Niksic 77.59 317 ⇑iP P 00 34 44.3 -3.2
VOY Vojsko 77.59 322 eP P 00 34 46.4 -1.1
VOY epP pP 00 36 17.7 +1.8
PHP Peshkopia 77.61 316 iP P 00 34 47.5 -0.1
PHP Peshkopia 77.61 316 P P 00 34 45.6 -2.0
PHP Peshkopia 77.61 316 P P 00 34 45.6 -2.0
PHP Peshkopia 77.61 316 P P 00 34 45.6 -2.0
JAVS Javornik 77.61 322 iP P 00 34 44.8 -2.8
JAVS iPcP PcP 00 34 51.4 -4.7
JAVS ipP pP 00 36 17.9 +1.9
JAVS iS S 00 44 07.9 +2.1
ISA Isabella 77.62 53 ⇑P P 00 34 46.2 -1.6
baz=77,SNR=208
WATA Walderalm 77.62 324 ⇓iP P 00 34 47.4 -0.3
comp=Z,95nm,0.6s,SNR=85
WATA Walderalm 77.62 324 ⇓ipP pP 00 36 19.9 +3.8
comp=Z,854nm,1.2s
BIA Bitola 77.63 315 P P 00 34 49.7 +2.0
BIA Bitola 77.63 315 P P 00 34 49.7 +2.0
BIA Bitola 77.63 315 eP P 00 34 45.3 -2.5
PUK Puka 77.64 316 iP P 00 34 50.4 +2.6
E25A Miller Ranch, 77.66 37 ⇑P P 00 34 46.0 -1.8
baz=77,SNR=243
LIT Litokhoron 77.66 313 P P 00 34 45.5 -2.4
LIT Litokhoron 77.66 313 P pP 00 36 16.8 +0.5
LIT Litokhoron 77.66 313 P P 00 34 45.5 -2.4
LIT Litokhoron 77.66 313 eP P 00 34 45.4 -2.4
LIT Litokhoron 77.66 313 P P 00 34 45.5 -2.4
ABTA Abfaltersbach 77.66 323 ⇓iP P 00 34 46.4 -1.5
comp=Z,93nm,0.7s,SNR=36
ABTA Abfaltersbach 77.66 323 ⇓ipP pP 00 36 18.2 +1.9
comp=Z,622nm,1.3s,SNR=22
DUG Dugway 77.66 46 ⇑P P 00 34 46.4 -1.6
baz=77,SNR=154
D26A Manning 77.68 36 ⇑P P 00 34 46.1 -1.8
baz=77,SNR=126
PDG Podgorica 77.68 317 P P 00 34 46.3 -1.6
PDG Podgorica 77.68 317 P pP 00 36 17.0 +0.7
TTG Podgorica 77.68 317 ⇑iP P 00 34 47.5 -0.4
TTG Podgorica 77.68 317 P P 00 34 46.3 -1.6
TTG Podgorica 77.68 317 P P 00 34 46.3 -1.6
F24A Ekalaka 77.69 38 ⇓P P 00 34 46.0 -2.0
baz=77,SNR=167
BRY Bratogost 77.70 318 ⇑iP P 00 34 46.7 -1.5
SBC Santa Barbara 77.71 55 ⇓P P 00 34 46.7 -1.5
baz=78,SNR=19
BCLA Clavier 77.71 330 P P 00 34 45.9 -2.0
comp=Z,122nm,1.0s
BCLA AP pP 00 36 18.0 +1.6
BCLA PP PP 00 37 48.9 0.0
KBI1 Birley Grange 77.72 335 eP P 00 34 46.0 -1.9
KBI1 e 00 36 18.0
G23A Biddle 77.74 39 ⇑P P 00 34 46.5 -1.9
baz=78,SNR=222
H22A Clearmont 77.74 40 ⇓P P 00 34 46.5 -1.9
baz=78,SNR=136
FNA Florina 77.77 315 P P 00 34 47.8 -0.7
FNA Florina 77.77 315 P P 00 34 47.8 -0.7
FNA Florina 77.77 315 eP P 00 34 47.7 -0.7
FNA Florina 77.77 315 P P 00 34 47.8 -0.7

ARVC Arvin 77.77 54 ⇑P P 00 34 47.4 -1.2
baz=78,SNR=23
SKIA Skiathos 77.79 312 eP P 00 34 46.0 -2.6
XOR Xorichti 77.80 312 P P 00 34 45.9 -2.8
XOR Xorichti 77.80 312 eP P 00 34 46.1 -2.6
XOR Xorichti 77.80 312 P P 00 34 45.9 -2.8
ULM Lac du Bonnet 77.81 31 P P 00 34 50.7 +2.2
comp=Z,577nm,0.7s,baz=324,slow=7.4,SNR=113
MOTA Moosalm 77.82 325 ⇓iP P 00 34 46.8 -2.0
comp=Z,419nm,1.0s,SNR=52
MOTA Moosalm 77.82 325 ⇓ipP pP 00 36 19.8 +2.6
comp=Z,1µm,1.2s
J20A Shoshoni 77.82 42 ⇑P P 00 34 47.5 -1.4
baz=78,SNR=144
NEO Neokhori 77.82 312 P P 00 34 47.2 -1.6
NEO Neokhori 77.82 312 eP P 00 34 46.2 -2.6
NEO Neokhori 77.82 312 P P 00 34 47.2 -1.6
UDBI Udbina 77.85 320 P P 00 34 49.6 +0.7
RETA Reutte 77.85 325 ⇓iP P 00 34 47.3 -1.6
comp=Z,502nm,1.0s,SNR=52
RETA Reutte 77.85 325 ⇓ipP pP 00 36 20.3 +3.0
comp=Z,1µm,1.2s,SNR=26
B29A Wagenman Farm, 77.87 33 ⇑P P 00 34 47.0 -1.9
baz=78,SNR=243
I21A Big Trails, Te 77.87 41 ⇓P P 00 34 47.1 -2.1
baz=78,SNR=123
TRI Trieste 77.89 322 eP P 00 34 47.9 -1.1
TRI pmax pmax
comp=Z,249nm,1.1s
TRI Trieste 77.89 322 eP P 00 34 47.9 -1.1
comp=Z,250nm,1.1s
KZN Kozani 77.90 314 P P 00 34 47.5 -1.8
KZN Kozani 77.90 314 P P 00 34 47.5 -1.8
KZN Kozani 77.90 314 eP P 00 34 48.6 -0.7
KZN Kozani 77.90 314 P P 00 34 47.5 -1.8
LANF Langenberg 77.90 327 eP P 00 34 49.3 +0.3
FYTO Fytoko, Volos 77.91 313 P P 00 34 46.6 -2.6
FYTO Fytoko, Volos 77.91 313 P pP 00 36 18.2 +0.5
FYTO Fytoko, Volos 77.91 313 P P 00 34 46.6 -2.6
A30A Hoffart Farm, 77.92 33 ⇓P P 00 34 47.5 -1.6
baz=78,SNR=165
MPMC Manual Prospec 77.93 52 ⇑P P 00 34 48.1 -1.5
baz=78,SNR=528
BUM Brajici-Budva 77.96 317 ⇑iP P 00 34 48.6 -0.9
WLF Walferdange 78.00 329 P P 00 34 48.0 -1.5
comp=Z,101nm,1.0s
WLF AP pP 00 36 20.5 +2.5
WLF Walferdange 78.00 329 eP P 00 34 48.0 -1.5
WLF pmax pmax
comp=Z,154nm,0.8s
WLF Walferdange 78.00 329 eP P 00 34 47.5 -2.0
comp=Z,158nm,0.7s
WLF Walferdange 78.00 329 eP P 00 34 48.0 -1.5
comp=Z,154nm,0.8s
FURC Furnace Creek, 78.01 51 ⇓P P 00 34 48.7 -1.1
baz=78,SNR=284
D27A Center 78.01 36 ⇑P P 00 34 48.4 -1.3
baz=78,SNR=16
SNF Seneffe 78.02 330 P P 00 34 47.6 -2.0
SNF AP pP 00 36 19.5 +1.5
C28A Hausauer Farms 78.03 35 ⇓P P 00 34 48.2 -1.5
baz=78,SNR=19
ULC Ulcinj 78.03 317 ⇑iP P 00 34 49.7 -0.2
TPNV Topopah Spring 78.03 51 eP P 00 34 47.7 -2.5
TPNV pmax pmax
comp=Z,1µm,1.1s
TPNV Topopah Spring 78.03 51 eP P 00 34 47.7 -2.5
comp=Z,1µm,1.1s
TPNV Topopah Spring 78.03 51 ⇑P P 00 34 48.3 -1.9
baz=78,SNR=112
MRKA Markates 78.05 312 P P 00 34 47.3 -2.7
MRKA Markates 78.05 312 eP P 00 34 47.5 -2.5
HCY Herceg Novi 78.05 317 ⇑iP P 00 34 49.0 -1.0
BSC Santa Cruz Isl 78.06 55 ⇓P P 00 34 48.8 -1.4
baz=78,SNR=14
MRMA Marmari 78.06 311 P P 00 34 49.2 -0.9
MRMA Marmari 78.06 311 P pP 00 36 18.4 -0.2
STNC Stoke 78.07 335 eP P 00 34 47.8 -2.0
STNC AMB AMB 00 34 55.0
comp=Z,297nm,0.9s
F25A Bowman 78.07 37 ⇑P P 00 34 48.5 -1.6
baz=78,SNR=110
G24A Alzada 78.09 38 ⇓P P 00 34 48.5 -1.7
baz=78,SNR=16
E26A Carlson Angus 78.10 36 ⇑P P 00 34 48.3 -1.9
baz=78,SNR=153
APE Apiranthos 78.10 309 eP P 00 34 42.5 -7.9
APE Apeiranthos 78.10 309 P P 00 34 47.1 -3.3
APE Apeiranthos 78.10 309 eP P 00 34 48.0 -2.4
APE pmax pmax
comp=Z,87nm,0.9s
APE Apeiranthos 78.10 309 eP P 00 34 48.3 -2.1
APE Apeiranthos 78.10 309 ⇓iP P 00 34 48.7 -1.7
APE Apeiranthos 78.10 309 P P 00 34 47.1 -3.3
ERET Eretria 78.11 311 P P 00 34 47.4 -3.0
ERET Eretria 78.11 311 P pP 00 36 16.9 -2.1
SMIA Simia 78.13 312 P P 00 34 49.5 -1.0
SMIA Simia 78.13 312 eP P 00 34 47.6 -2.9
J21A Lysite 78.14 41 ⇓P P 00 34 48.9 -1.7
baz=78,SNR=74
STON Ston 78.14 318 P P 00 34 47.5 -2.9
GIVF Givet 78.15 330 ⇓iP P 00 34 47.9 -2.4
comp=Z,494nm,1.0s
GIVF epP pP 00 36 20.4 +1.6
GIVF Givet 78.15 330 ⇓iP P 00 34 47.9 -2.4
GIVF e*PP pP 00 36 20.4 +1.6
GIVF pmax pmax
comp=Z,494nm,1.0s
GIVF Givet 78.15 330 ⇓iP P 00 34 47.9 -2.4
comp=Z,494nm,1.0s
GIVF epP pP 00 36 20.4 +1.6
GMM Mts of Mourne 78.18 338 eP P 00 34 48.2 -2.2
OSI Osito Adit 78.19 54 eP P 00 34 49.6 -1.3
comp=Z,138nm,1.1s
OSI epP pP 00 36 20.6 +1.2
OSI Osito Adit 78.19 54 ⇓P P 00 34 49.3 -1.6
baz=78,SNR=18
KBN Korca 78.19 315 iP P 00 34 49.3 -1.6
KBN Korca 78.19 315 P P 00 34 48.7 -2.2
KBN Korca 78.19 315 P P 00 34 48.7 -2.2
KBN Korca 78.19 315 P P 00 34 48.7 -2.2
I22A 9 Mile Ranch, 78.20 40 ⇑P P 00 34 49.6 -1.3
baz=78,SNR=206
BFO Black Forest 78.20 327 iP P 00 34 49.0 -1.7
BFO Black Forest 78.20 327 eP P 00 34 48.5 -2.2
comp=Z,639nm,1.2s
BFO Black Forest 78.20 327 eP P 00 34 48.2 -2.5
comp=Z,637nm,1.2s
KARP Karpathos 78.20 307 P P 00 34 48.4 -2.6
KARP Karpathos 78.20 307 eP P 00 34 48.6 -2.4
KARP Karpathos 78.20 307 P P 00 34 48.4 -2.6
NEST Nestorio 78.21 314 P P 00 34 49.0 -2.0
LRMC Laurel Mountai 78.21 53 ⇓P P 00 34 49.4 -1.7
baz=78,SNR=227
H23A Clabaugh Cattl 78.21 39 ⇓P P 00 34 49.1 -1.9
baz=78,SNR=51
FETA Feichten 78.23 325 ⇓iP P 00 34 50.1 -1.0
comp=Z,287nm,1.1s,SNR=48
FETA Feichten 78.23 325 ⇓ipP pP 00 36 22.2 +2.6
comp=Z,667nm,1.3s,SNR=17
NLU North Lily Min 78.23 46 eP P 00 34 49.0 -2.3
comp=Z,560nm,0.9s
DOU Dourbes 78.24 330 P P 00 34 48.7 -2.1
comp=Z,117nm,1.2s
DOU AP pP 00 36 21.0 +1.6
DOU PP PP 00 37 55.4 +2.1
NVLJ Novalja 78.25 321 P P 00 34 49.3 -1.6
MDND Maddock 78.25 34 eP P 00 34 48.3 -2.6
MDND Maddock 78.25 34 ⇑P P 00 34 49.4 -1.5
baz=78,SNR=113
CAN Canberra 78.28 168 eP P 00 34 50.2 -0.9
CAN e*PP pP 00 36 12.9 -6.8
CAN pmax pmax
comp=Z,564nm,1.2s
CAN Canberra 78.28 168 eP P 00 34 50.1 -0.9
comp=Z,564nm,1.2s
CAN epP pP 00 36 12.9 -6.8
B30A Myrvik Farm, E 78.29 33 ⇑P P 00 34 49.8 -1.4
baz=78,SNR=317
THL Klokotos Trika 78.30 313 P P 00 34 49.6 -1.7
THL Klokotos Trika 78.30 313 eP P 00 34 49.4 -1.9
PTL Penteli 78.36 311 P P 00 34 48.3 -3.4
PTL Penteli 78.36 311 eP P 00 34 49.6 -2.1
PTL Penteli 78.36 311 P P 00 34 48.3 -3.4

D28A Regan 78.36 35 ⇓P P 00 34 49.2 -2.4
baz=78,SNR=134
DAVA Damuels 78.38 325 ⇓iP P 00 34 50.0 -1.8
comp=Z,642nm,1.1s,SNR=61
DAVA Damuels 78.38 325 ⇓ipP pP 00 36 23.1 +2.7
comp=Z,2µm,1.2s
LKR Lokris 78.41 312 P P 00 34 49.0 -3.0
LKR Lokris 78.41 312 P pP 00 36 20.0 -0.5
LKR Lokris 78.41 312 eP P 00 34 48.8 -3.2
LKR Lokris 78.41 312 P P 00 34 49.0 -3.0
BAIF Baives 78.42 330 ⇓iP P 00 34 49.1 -2.7
comp=Z,251nm,0.9s
BAIF epP pP 00 36 21.9 +1.6
BAIF Baives 78.42 330 ⇓iP P 00 34 49.1 -2.7
BAIF pmax pmax
comp=Z,251nm,0.9s
BAIF Baives 78.42 330 ⇓iP P 00 34 49.1 -2.7
comp=Z,251nm,0.9s
BAIF epP pP 00 36 21.9 +1.6
MPU Maple Canyon 78.42 46 eP P 00 34 50.4 -1.9
comp=Z,859nm,0.9s
EDW2 Edwards Air Fo 78.44 53 ⇑P P 00 34 50.3 -2.0
baz=78,SNR=210
WME Myndd Eilian 78.44 336 eP P 00 34 49.9 -1.9
WME e 00 36 21.8
WPM1 Penmaenmawr 78.44 336 eP P 00 34 49.8 -2.1
WPM1 e 00 36 22.0
ATHU Athens Univers 78.46 311 P P 00 34 49.7 -2.6
ATHU Athens Univers 78.46 311 P P 00 34 49.7 -2.6
H24A Dirks Ranch, A 78.47 39 ⇓P P 00 34 50.1 -2.2
baz=78,SNR=125
F26A Lodgepole 78.48 37 ⇓P P 00 34 50.1 -2.2
baz=78,SNR=129
ATH Athens Observa 78.49 311 eP P 00 34 50.9 -1.5
AGG Agios Georgios 78.51 313 P P 00 34 49.6 -3.0
AGG Agios Georgios 78.51 313 P P 00 34 49.6 -3.0
AGG Agios Georgios 78.51 313 eP P 00 34 50.1 -2.5
AGG Agios Georgios 78.51 313 P P 00 34 49.6 -3.0
AXAR Agios Charalam 78.52 312 P P 00 34 49.5 -3.1
AXAR Agios Charalam 78.52 312 P P 00 34 49.5 -3.1
E27A Carson 78.52 36 ⇑P P 00 34 50.8 -1.7
baz=78,SNR=182
FOEL Foel Wylfa 78.55 336 eP P 00 34 50.7 -1.8
FOEL AMB AMB 00 34 57.6
comp=Z,423nm,0.9s
FOEL e 00 36 23.6
J22A Midwest 78.56 41 ⇓P P 00 34 51.5 -1.4
baz=78,SNR=228
WLF1 Llynfaes 78.56 336 eP P 00 34 50.3 -2.2
WLF1 AMB AMB 00 34 57.4
comp=Z,217nm,1.2s
WLF1 e 00 36 23.3
CDF Champ du Feu 78.56 327 ⇓iP P 00 34 50.5 -2.2
comp=Z,591nm,1.0s
CDF epP pP 00 36 23.3 +1.9
CDF Champ du Feu 78.56 327 ⇓iP P 00 34 50.5 -2.2
CDF pmax pmax
comp=Z,591nm,1.0s
CDF Champ du Feu 78.56 327 ⇓iP P 00 34 50.5 -2.2
comp=Z,591nm,1.0s
CDF epP pP 00 36 23.3 +1.9
YLL Llanberis 78.63 336 eP P 00 34 50.6 -2.2
SANT Santorini 78.63 309 eP P 00 34 50.2 -3.0
SANT Santorini 78.63 309 P P 00 34 49.3 -3.9
SANT Santorini 78.63 309 eP P 00 34 50.2 -3.0
comp=Z,534nm,1.4s
SANT eS S 00 44 12.4 -4.3
MAKR Makrakomi, Fth 78.63 313 P P 00 34 50.3 -2.9
MAKR Makrakomi, Fth 78.63 313 eP P 00 34 50.1 -3.1
MAKR Makrakomi, Fth 78.63 313 P P 00 34 50.3 -2.9
I23A Meade Ranch, G 78.64 40 ⇑P P 00 34 49.9 -3.4
baz=78,SNR=7.3
G25A Newell 78.65 38 ⇓P P 00 34 51.0 -2.2
baz=78,SNR=9.3
YRC Rhoscolyn 78.65 336 eP P 00 34 50.8 -2.2
DECC Green Verdugo 78.67 54 ⇑P P 00 34 51.6 -2.0
baz=78,SNR=22
FELD Feldberg im Sc 78.70 327 eP P 00 34 53.4 -0.1
SHOC Shoshone 78.74 52 ⇑P P 00 34 51.9 -1.9
baz=78,SNR=86
MENF Mencas 78.75 331 eP P 00 34 52.9 -0.6
F27A Lemmon 78.75 37 ⇑P P 00 34 51.7 -2.0
baz=78,SNR=70
K21A Alcova 78.76 42 ⇓P P 00 34 52.0 -2.1
baz=78,SNR=132
ECH Echery 78.77 327 eP P 00 34 53.8 0.0
HLM1 Long Mynd 78.77 335 eP P 00 34 51.5 -2.2
E28A Huff 78.79 35 ⇑P P 00 34 51.6 -2.3
baz=78,SNR=63
C30A Mose, Pekin 78.83 33 ⇓P P 00 34 52.1 -2.0
baz=78,SNR=119
DSF Desfina 78.84 312 P P 00 34 50.7 -3.7
DSF Desfina 78.84 312 eP P 00 34 50.9 -3.5
DSF Desfina 78.84 312 P P 00 34 50.7 -3.7
YRE Yr Eifl 78.84 336 eP P 00 34 51.5 -2.5
YRE e 00 36 22.6
GSC Goldstone 78.85 52 ⇑P P 00 34 52.5 -2.0
baz=79,SNR=138
MWC Mount Wilson 78.86 54 eP P 00 34 52.6 -2.1
MWC pmax pmax
comp=Z,747nm,1.1s
MWC Mount Wilson 78.86 54 eP P 00 34 52.5 -2.1
comp=Z,747nm,1.1s
JAN Janina 78.86 314 P P 00 34 52.4 -2.0
JAN Janina 78.86 314 P P 00 34 52.4 -2.0
JAN Janina 78.86 314 eP P 00 34 52.6 -1.8
JAN Janina 78.86 314 P P 00 34 52.4 -2.0
D29A Pettibone, Tap 78.87 34 ⇓P P 00 34 52.3 -2.0
baz=79,SNR=79
EVR Evrytania 78.87 313 P P 00 34 51.5 -3.1
EVR Evrytania 78.87 313 eP P 00 34 53.7 -0.9
EVR Evrytania 78.87 313 P P 00 34 51.5 -3.1
LTK Loutraki 78.87 312 P P 00 34 50.2 -4.3
LTK Loutraki 78.87 312 eP P 00 34 49.9 -4.6
LTK Loutraki 78.87 312 P P 00 34 50.2 -4.3
G26A Maurine 78.94 37 ⇑P P 00 34 53.0 -1.8
baz=79,SNR=160
VLO Vlora 78.98 315 iP P 00 34 56.5 +1.5
VLO Vlora 78.98 315 P P 00 34 56.5 +1.5
VLO Vlora 78.98 315 P P 00 34 56.5 +1.5
VLO Vlora 78.98 315 P P 00 34 56.5 +1.5
H25A Fruitdale 79.00 38 ⇑P P 00 34 53.3 -1.8
baz=79,SNR=102
J23A Dilts Ranch, B 79.01 40 ⇑P P 00 34 53.5 -1.8
baz=79,SNR=21
ARUT Antelope Range 79.03 49 eP P 00 34 54.5 -1.0
ARUT Antelope Range 79.03 49 eP P 00 34 54.5 -1.0
comp=Z,664nm,1.2s
RRX Edison Barstow 79.03 53 ⇓P P 00 34 53.9 -1.5
baz=79,SNR=24
ZKR Zakros 79.06 308 P P 00 34 53.9 -1.6
ZKR Zakros 79.06 308 P P 00 34 53.9 -1.6
ZKR S S 00 44 24.9 +3.8
PAGF Fort de Pagny 79.06 328 ⇓iP P 00 34 53.3 -2.0
comp=Z,308nm,0.7s,baz=47
PAGF epP pP 00 36 26.0 +2.0
PAGF Fort de Pagny 79.06 328 ⇓iP P 00 34 53.3 -2.0
comp=Z,308nm,0.7s
PAGF epP pP 00 36 26.0 +2.0
FMP Fort Macarthur 79.06 54 ⇑P P 00 34 54.1 -1.5
baz=79,SNR=12
KALE Kalithea 79.07 312 P P 00 34 53.0 -2.6
KALE Kalithea 79.07 312 P pP 00 36 23.5 -0.8
KALE Kalithea 79.07 312 eP P 00 34 53.6 -2.0
KALE Kalithea 79.07 312 P P 00 34 53.0 -2.6
MOF Molkenrain 79.07 327 eP P 00 34 55.3 -0.2
BFSC Mount Baldy Ra 79.08 54 ⇑P P 00 34 54.2 -1.7
baz=79,SNR=145
DID Didima 79.09 311 P P 00 34 50.7 -5.0
DID Didima 79.09 311 eP P 00 34 50.9 -4.8
DID Didima 79.09 311 P P 00 34 50.7 -5.0
I24A Kuemmerle Ranc 79.11 39 ⇑P P 00 34 54.2 -1.6
baz=79,SNR=162
K22A Casper 79.11 41 ⇓P P 00 34 54.2 -1.7
baz=79,SNR=89
HMNX Herstmonceux 79.12 333 eP P 00 34 55.2 -0.4
HMNX AMB AMB 00 35 00.7
comp=Z,637nm,1.0s
SRN Sarande 79.15 315 iP P 00 34 55.0 -0.8
SRN Sarande 79.15 315 P P 00 34 53.6 -2.3
SRN Sarande 79.15 315 P pP 00 36 24.5 -0.1
SRN Sarande 79.15 315 P P 00 34 53.6 -2.3
TMUT Trail Mountain 79.17 46 eP P 00 34 54.9 -1.5
comp=Z,698nm,0.9s

EFP	**Efpalio**	**79.17**	**313**	P	**P**	**00 34 53.7**	**-2.3**
EFP	**Efpalio**	**79.17**	**313**	*eP*	**P**	**00 34 54.9**	**-1.1**
G27A	**Dupree**	**79.18**	**37**	⇓P	**P**	**00 34 54.9**	**-1.2**
	baz=79,SNR=122						
DSB	**Dublin**	**79.18**	**337**	*eP*	**P**	**00 34 55.6**	**-0.2**
	comp=Z,90nm,0.9s						
RSSD	**Black Hills**	**79.19**	**39**	*eP*	**P**	**00 34 53.6**	**-2.7**
RSSD				pmax	pmax		
	comp=Z,304nm,1.0s						
RSSD	**Black Hills**	**79.19**	**39**	*eP*	**P**	**00 34 53.6**	**-2.7**
	comp=Z,304nm,1.0s						
D30A	**Buchanan**	**79.19**	**34**	⇑P	**P**	**00 34 54.3**	**-1.7**
	baz=79,SNR=235						
MVU	**Marysvale**	**79.20**	**47**	*eP*	**P**	**00 34 55.1**	**-1.4**
	comp=Z,767nm,1.0s						
CIS	**Catalina Islan**	**79.21**	**55**	⇑P	**P**	**00 34 54.7**	**-1.7**
	baz=79,SNR=23						
HINF	**Hinteralfeld**	**79.21**	**327**	⇓*iP*	**P**	**00 34 53.6**	**-2.6**
	comp=Z,178nm,0.6s						
HINF				*ep*P	**pP**	**00 36 26.4**	**+1.5**
HINF	**Hinteralfeld**	**79.21**	**327**	⇓*iP*	**P**	**00 34 53.6**	**-2.6**
HINF				*e**PP	**pP**	**00 36 26.4**	**+1.5**
HINF				pmax	pmax		
	comp=Z,178nm,0.6s						
HINF	**Hinteralfeld**	**79.21**	**327**	⇓*iP*	**P**	**00 34 53.6**	**-2.6**
	comp=Z,178nm,0.6s						
HINF				*ep*P	**pP**	**00 36 26.4**	**+1.5**
IGT	**Igoumenitsa**	**79.22**	**314**	P	**P**	**00 34 53.6**	**-2.7**
IGT	**Igoumenitsa**	**79.22**	**314**	P	**P**	**00 34 53.6**	**-2.7**
IGT	**Igoumenitsa**	**79.22**	**314**	*eP*	**P**	**00 34 53.7**	**-2.6**
IGT	**Igoumenitsa**	**79.22**	**314**	P	**P**	**00 34 53.6**	**-2.7**
THEF	**They Montfort**	**79.23**	**328**	*eP*	**P**	**00 34 56.4**	**+0.2**
E29A	**Napoleon**	**79.24**	**35**	⇑P	**P**	**00 34 54.6**	**-1.8**
	baz=79,SNR=99						
CCUT	**Cedar City**	**79.24**	**49**	*eP*	**P**	**00 34 55.0**	**-1.8**
	comp=Z,338nm,1.1s						
MCH1	**Michaelchurch**	**79.26**	**335**	*eP*	**P**	**00 34 53.8**	**-2.5**
MCH1				AMB	AMB	00 35 00.6	
	comp=Z,297nm,0.9s						
MCH1				*e*		00 36 25.2	
PSA1	**Psathopyrgos**	**79.26**	**312**	*eP*	**P**	**00 34 56.2**	**-0.3**
HAU	**Haudompre**	**79.26**	**328**	⇓*iP*	**P**	**00 34 53.9**	**-2.5**
	comp=Z,557nm,0.6s						
HAU				*e*R			
	comp=Z,2µm,22.0s						
HAU	**Haudompre**	**79.26**	**328**	⇓*iP*	**P**	**00 34 53.9**	**-2.5**
HAU				pmax	pmax		
	comp=Z,557nm,0.6s						
HAU	**Haudompre**	**79.26**	**328**	⇓*iP*	**P**	**00 34 53.9**	**-2.5**
	comp=Z,557nm,0.6s						
LAKA	**Lakka**	**79.27**	**312**	P	**P**	**00 34 54.1**	**-2.5**
LAKA	**Lakka**	**79.27**	**312**	*eP*	P	00 34 53.5	-3.1
LAKA	**Lakka**	**79.27**	**312**	P	**P**	**00 34 54.1**	**-2.5**
WOL	**Wolverton**	**79.27**	**334**	AMB	AMB	00 35 01.4	
	comp=Z,380nm,1.6s						
WOL				*e*		00 36 27.0	
TUQ	**Turquoise Moun**	**79.28**	**52**	⇓P	**P**	**00 34 54.8**	**-2.1**
	baz=79,SNR=155						
GUR	**Goura**	**79.28**	**312**	P	P	00 34 53.5	-3.3
GUR	**Goura**	**79.28**	**312**	*eP*	P	00 34 53.6	-3.3
GUR	**Goura**	**79.28**	**312**	P	P	00 34 53.5	-3.3
SWN1	**Swindon**	**79.29**	**334**	*eP*	**P**	**00 34 55.3**	**-1.1**
SWN1				AMB	AMB	00 35 01.5	
	comp=Z,496nm,1.2s						
F28A	**McLaughlin**	**79.31**	**36**	⇑P	**P**	**00 34 54.6**	**-2.1**
	baz=79,SNR=83						
KLV	**Kalavryta, Ach**	**79.31**	**312**	P	P	00 34 53.4	-3.5
KLV	**Kalavryta, Ach**	**79.31**	**312**	*eP*	**P**	**00 34 54.0**	**-2.9**
KLV	**Kalavryta, Ach**	**79.31**	**312**	P	P	00 34 53.4	-3.5
NPS	**Neapolis**	**79.31**	**308**	P	P	00 34 53.8	-3.1
NPS	**Neapolis**	**79.31**	**308**	P	P	00 34 53.8	-3.1
NPS				S	**S**	**00 44 21.6**	**-2.2**
NPS	**Neapolis**	**79.31**	**308**	*eP*	**P**	**00 34 54.0**	**-2.9**
NPS	**Neapolis**	**79.31**	**308**	P	P	00 34 53.8	-3.1
NPS				S	**S**	**00 44 21.6**	**-2.2**
MONM	**Monmouth**	**79.33**	**335**	*eP*	**P**	**00 34 54.5**	**-2.1**
MONM				AMB	AMB	00 35 01.5	
	comp=Z,415nm,0.9s						
MONM				*e*		00 36 27.8	
MEZF	**Maizieres J'vi**	**79.37**	**329**	⇓*iP*	**P**	**00 34 54.7**	**-2.2**
	comp=Z,1µm,1.1s,baz=27						
MEZF	**Maizieres J'vi**	**79.37**	**329**	⇓*iP*	**P**	**00 34 54.7**	**-2.2**
	comp=Z,1µm,1.1s						
KEK	**Kerkira**	**79.38**	**315**	P	**P**	**00 34 55.6**	**-1.5**
KEK	**Kerkira**	**79.38**	**315**	*eP*	**P**	**00 34 56.7**	**-0.4**
KEK	**Kerkira**	**79.38**	**315**	P	**P**	**00 34 55.6**	**-1.5**
H26A	**Fairpoint**	**79.39**	**38**	⇑P	**P**	**00 34 55.4**	**-1.8**
	baz=79,SNR=46						
AGMN	**Agassiz Nation**	**79.40**	**32**	⇓P	**P**	**00 34 55.5**	**-1.6**
	baz=79,SNR=291						
I25A	**Rochford**	**79.40**	**39**	⇓P	**P**	**00 34 55.7**	**-1.7**
	baz=79,SNR=140						
OLDB	**Oldbury-Upon-S**	**79.40**	**335**	*eP*	**P**	**00 34 56.1**	**-0.9**
OLDB				AMB	AMB	00 35 07.4	
	comp=Z,157nm,1.1s						
SCI	**San Clemente I**	**79.42**	**55**	⇓P	**P**	**00 34 56.1**	**-1.4**
	baz=79,SNR=8.6						
PDO	**Prodromos**	**79.44**	**313**	P	**P**	**00 34 54.8**	**-2.7**
PDO	**Prodromos**	**79.44**	**313**	*eP*	**P**	**00 34 54.9**	**-2.6**
HEC	**Hector,Ludlow**	**79.46**	**52**	⇓P	**P**	**00 34 56.0**	**-1.8**
	baz=79,SNR=215						
LAST	**Lasithi**	**79.46**	**308**	P	**P**	**00 34 55.4**	**-2.4**
LAST	**Lasithi**	**79.46**	**308**	P	**P**	**00 34 55.4**	**-2.4**
LAST				S	**S**	**00 44 23.4**	**-2.1**
K23A	**Bowen Ranch, D**	**79.47**	**41**	⇑P	**P**	**00 34 55.9**	**-1.9**
	baz=79,SNR=25						
RWWY	**Rawlins**	**79.48**	**42**	*eP*	P	00 34 49.6	-8.4
	comp=Z,892nm,1.0s						
LPW	**Lampeter**	**79.49**	**336**	*eP*	**P**	**00 34 55.2**	**-2.3**
LPW				*e*		00 36 28.8	
J24A	**Dixon Ranch, L**	**79.49**	**40**	⇓P	**P**	**00 34 56.0**	**-1.9**
	baz=79,SNR=82						
BBRC	**Big Bear Solar**	**79.51**	**53**	⇓P	**P**	**00 34 55.9**	**-2.3**
	baz=79,SNR=12						
LKD2	**Lefkada island**	**79.59**	**314**	P	**P**	**00 34 55.8**	**-2.5**
LKD2	**Lefkada island**	**79.59**	**314**	P	**P**	**00 34 55.8**	**-2.5**
N20A	**Spence Gulch,**	**79.59**	**43**	⇑P	**P**	**00 34 56.4**	**-2.1**
	baz=79,SNR=170						
LOMF	**Lomont**	**79.60**	**327**	*eP*	**P**	**00 34 58.6**	**+0.3**
E30A	**Jud**	**79.60**	**34**	⇑P	**P**	**00 34 56.6**	**-1.6**
	baz=79,SNR=227						
L22A	**Ellis Ranch, M**	**79.61**	**42**	⇑P	**P**	**00 34 56.5**	**-2.1**
	baz=79,SNR=138						
SFTF	**Sexfontaines**	**79.61**	**328**	⇓*iP*	**P**	**00 34 55.9**	**-2.4**
	comp=Z,621nm,0.6s,baz=36						
SFTF				*ep*P	**pP**	**00 36 28.8**	**+1.7**
SFTF	**Sexfontaines**	**79.61**	**328**	⇓*iP*	**P**	**00 34 55.9**	**-2.4**
	comp=Z,621nm,0.6s						
SFTF				*ep*P	**pP**	**00 36 28.8**	**+1.7**
DRO	**Drossia**	**79.62**	**312**	P	**P**	**00 34 56.1**	**-2.4**
DRO	**Drossia**	**79.62**	**312**	*eP*	**P**	**00 34 57.5**	**-1.0**
VLX	**Vlachokerasia**	**79.67**	**312**	P	**P**	**00 34 57.5**	**-1.3**
VLX	**Vlachokerasia**	**79.67**	**312**	*eP*	P	00 34 55.6	-3.2
VLX	**Vlachokerasia**	**79.67**	**312**	P	**P**	**00 34 57.5**	**-1.3**
SRU	**San Rafael**	**79.67**	**46**	*eP*	**P**	**00 34 56.9**	**-2.1**
SRU				pmax	pmax		
	comp=Z,714nm,0.9s						
SRU	**San Rafael**	**79.67**	**46**	*eP*	**P**	**00 34 56.9**	**-2.1**
	comp=Z,714nm,0.9s						
RLS	**Riolos of Patr**	**79.68**	**313**	P	**P**	**00 34 58.0**	**-0.7**
RLS	**Riolos of Patr**	**79.68**	**313**	*eP*	**P**	**00 34 56.8**	**-1.9**
RLS	**Riolos of Patr**	**79.68**	**313**	P	**P**	**00 34 58.0**	**-0.7**
H27A	**Howes**	**79.69**	**37**	⇓P	**P**	**00 34 56.6**	**-2.2**
	baz=79,SNR=262						
IDI	**Anoyia**	**79.71**	**309**	*eP*	**P**	**00 34 56.5**	**-2.6**
IDI	**Anoyia**	**79.71**	**309**	P	P	00 34 55.6	-3.5
IDI	**Anoyia**	**79.71**	**309**	*eP*	P	00 34 55.5	-3.5
	comp=Z,542nm,1.0s						
IDI				S	**S**	**00 44 24.6**	**-3.5**
F29A	**Eureka**	**79.74**	**35**	⇑P	**P**	**00 34 57.1**	**-1.9**
	baz=80,SNR=105						
I26A	**New Underwood**	**79.80**	**38**	⇑P	**P**	**00 34 57.0**	**-2.4**
	baz=80,SNR=69						
MURC	**Murrieta**	**79.80**	**54**	⇑P	**P**	**00 34 58.0**	**-1.5**
	baz=80,SNR=116						
VLI	**Veliai**	**79.82**	**311**	P	P	00 34 55.7	-3.8
VLI	**Veliai**	**79.82**	**311**	*eP*	**P**	**00 34 57.2**	**-2.3**
VLI	**Veliai**	**79.82**	**311**	P	P	00 34 55.7	-3.8
J25A	**Sunshine Ranch**	**79.85**	**39**	⇓P	**P**	**00 34 58.1**	**-1.6**
	baz=80,SNR=119						
G28A	**Parade**	**79.86**	**36**	⇓P	**P**	**00 34 58.0**	**-1.7**
	baz=80,SNR=92						
K24A	**Anderson Ranch**	**79.88**	**40**	⇑P	**P**	**00 34 58.2**	**-1.8**
	baz=80,SNR=57						
GMRC	**Granite Mounta**	**79.89**	**52**	⇓P	**P**	**00 34 58.8**	**-1.3**
	baz=80,SNR=326						
L23A	**Garrett**	**79.91**	**41**	⇑P	**P**	**00 34 58.7**	**-1.5**
	baz=80,SNR=152						
AMT	**Artemida-Makis**	**79.92**	**312**	P	**P**	**00 34 58.5**	**-1.6**
AMT	**Artemida-Makis**	**79.92**	**312**	*eP*	**P**	**00 34 59.4**	**-0.7**
SIVA	**Sivas**	**79.95**	**308**	P	**P**	**00 34 57.7**	**-2.6**
SIVA	**Sivas**	**79.95**	**308**	P	**P**	**00 34 57.7**	**-2.6**
SIVA				S	**S**	**00 44 24.9**	**-5.5**
M22A	**Cedar Creek Ra**	**80.00**	**42**	⇑P	**P**	**00 34 59.0**	**-1.8**
	baz=80,SNR=149						
KFL	**Anninata**	**80.01**	**313**	P	**P**	**00 34 58.2**	**-2.3**
VAM	**Vamos**	**80.03**	**309**	P	**P**	**00 34 58.6**	**-2.1**
VAM	**Vamos**	**80.03**	**309**	P	**P**	**00 34 58.6**	**-2.1**
VAM	**Vamos**	**80.03**	**309**	*eP*	**P**	**00 34 58.5**	**-2.1**
VAM	**Vamos**	**80.03**	**309**	P	**P**	**00 34 58.6**	**-2.1**
ITM	**Ithomi**	**80.05**	**312**	P	P	00 34 57.5	-3.3
ITM	**Ithomi**	**80.05**	**312**	*eP*	P	00 34 57.7	-3.1
ITM	**Ithomi**	**80.05**	**312**	P	P	00 34 57.5	-3.3
VLS	**Valsamata**	**80.07**	**313**	P	**P**	**00 34 59.2**	**-1.7**
VLS	**Valsamata**	**80.07**	**313**	P	**P**	**00 34 59.2**	**-1.7**
VLS	**Valsamata**	**80.07**	**313**	*eP*	**P**	**00 34 59.0**	**-1.9**
VLS	**Valsamata**	**80.07**	**313**	P	**P**	**00 34 59.2**	**-1.7**
KYTH	**Kithira**	**80.08**	**310**	P	**P**	**00 34 59.0**	**-1.9**
KYTH	**Kithira**	**80.08**	**310**	P	**P**	**00 34 59.0**	**-1.9**
F30A	**Leola**	**80.08**	**35**	⇑P	**P**	**00 34 59.1**	**-1.8**
	baz=80,SNR=121						
O20A	**White River Ci**	**80.12**	**44**	*eP*	**P**	**00 34 59.0**	**-2.4**
O20A	**White River Ci**	**80.12**	**44**	⇑P	**P**	**00 34 59.7**	**-1.6**
	baz=80,SNR=274						
H28A	**Mission Ridge**	**80.13**	**37**	⇑P	**P**	**00 34 59.6**	**-1.5**
	baz=80,SNR=276						
I27A	**Quinn**	**80.14**	**38**	⇓P	**P**	**00 34 59.3**	**-1.9**
	baz=80,SNR=334						
BDHA	**Al Bayda'**	**80.17**	**280**	⇑*eP*	**P**	**00 35 01.0**	**-1.0**
KARN	**Karanos**	**80.20**	**309**	P	**P**	**00 34 59.0**	**-2.6**
KARN	**Karanos**	**80.20**	**309**	P	**P**	**00 34 59.0**	**-2.6**
SENIN	**Lac Senin/Sane**	**80.20**	**326**	*eP*	**P**	**00 34 59.5**	**-2.2**
	comp=Z,486nm,1.2s						
G29A	**Hoven**	**80.21**	**36**	⇓P	**P**	**00 34 60.0**	**-1.5**
	baz=80,SNR=21						
ANKY	**Antikythira Is**	**80.22**	**310**	P	**P**	**00 34 59.6**	**-2.1**
ANKY	**Antikythira Is**	**80.22**	**310**	*eP*	**P**	**00 34 59.9**	**-1.8**
ANKY	**Antikythira Is**	**80.22**	**310**	P	**P**	**00 34 59.6**	**-2.1**
PFO	**Pinyon Flat Ob**	**80.24**	**53**	⇓P	**P**	**00 35 00.6**	**-1.4**
	baz=80,SNR=256						
PFO	**Pinyon Flat Ob**	**80.24**	**53**	P	**P**	**00 35 03.9**	**+1.9**
	baz=335,slow=5.7						
J26A	**Sides Ranch, S**	**80.25**	**39**	⇓P	**P**	**00 35 00.0**	**-1.8**
	baz=80,SNR=251						
HEX	**Exmoor**	**80.31**	**335**	*eP*	**P**	**00 34 59.7**	**-2.2**
L24A	**Wheatland**	**80.34**	**41**	⇓P	**P**	**00 35 00.1**	**-2.3**
	baz=80,SNR=64						
109C	**Camp Elliot, M**	**80.35**	**54**	⇑P	**P**	**00 35 01.8**	**-0.6**
	baz=80,SNR=24						
PYL	**PYLOS**	**80.36**	**312**	P	P	00 34 59.0	-3.4
PYL	**PYLOS**	**80.36**	**312**	*eP*	P	00 34 56.7	-5.7
PYL	**PYLOS**	**80.36**	**312**	P	P	00 34 59.0	-3.4
M23A	**Laramie**	**80.39**	**42**	⇑P	**P**	**00 35 00.2**	**-2.6**
	baz=80						
K25A	**Mack Ranch, Ha**	**80.42**	**40**	⇓P	**P**	**00 35 01.1**	**-1.6**
	baz=80,SNR=20						
LBOS		**80.47**	**280**	⇓*eP*	**P**	**00 35 02.6**	**-1.0**
LBOS				AMb	AMB	00 35 05.7	
	comp=Z,3µm,1.8s						
HAJJ	**Hajjah**	**80.48**	**282**	⇑*eP*	**P**	**00 35 02.6**	**-1.0**
OG01	**Vacheresse**	**80.48**	**326**	*eP*	**P**	**00 35 02.8**	**-0.2**
CABF	**La Chapelle**	**80.49**	**327**	⇓*iP*	**P**	**00 35 00.8**	**-2.2**
	comp=Z,252nm,0.6s						
CABF				*ep*P	**pP**	**00 36 33.8**	**+1.7**
CABF	**La Chapelle**	**80.49**	**327**	⇓*iP*	**P**	**00 35 00.8**	**-2.2**
CABF				*e**PP	**pP**	**00 36 33.8**	**+1.7**
CABF				pmax	pmax		
	comp=Z,252nm,0.6s						
CABF	**La Chapelle**	**80.49**	**327**	⇓*iP*	**P**	**00 35 00.8**	**-2.2**
	comp=Z,252nm,0.6s						
CABF				*ep*P	**pP**	**00 36 33.8**	**+1.7**
NEE2	**Needles Airpor**	**80.50**	**51**	⇓P	**P**	**00 35 02.1**	**-1.1**
	baz=80,SNR=17						
H29A	**Onida**	**80.53**	**36**	⇑P	**P**	**00 35 02.3**	**-0.9**
	baz=80,SNR=225						
N22A	**Wattenberg Ran**	**80.53**	**42**	⇓P	**P**	**00 35 02.3**	**-1.3**
	baz=80,SNR=154						
I28A	**Midland**	**80.59**	**37**	⇑P	**P**	**00 35 02.3**	**-1.3**
	baz=80,SNR=172						
G30A	**Faulkton**	**80.59**	**35**	⇑P	**P**	**00 35 02.3**	**-1.2**
	baz=80,SNR=196						
VLC	**Villacollemand**	**80.61**	**323**	*eP*	**P**	**00 35 02.4**	**-1.2**
	comp=Z,352nm,1.1s						
IRM	**Iron Mountain**	**80.62**	**52**	⇑P	**P**	**00 35 03.1**	**-0.8**
	baz=80,SNR=215						
DHBB	**Dhamar BB**	**80.64**	**281**	⇑*eP*	**P**	**00 35 03.4**	**-1.2**
U15A	**North Rim**	**80.64**	**49**	⇑P	**P**	**00 35 02.6**	**-1.6**
	baz=80,SNR=210						
K26A	**Motz Farm, Whi**	**80.67**	**39**	⇓P	**P**	**00 35 02.7**	**-1.3**
	baz=80,SNR=183						
W13A	**Hualapai Mount**	**80.69**	**51**	⇓P	**P**	**00 35 02.2**	**-2.3**
	baz=80						
N23A	**Red Feather La**	**80.71**	**42**	⇑P	**P**	**00 35 02.6**	**-1.9**
	baz=80,SNR=269						
L25A	**Empebretsen Ra**	**80.72**	**40**	⇑P	**P**	**00 35 02.7**	**-1.6**
	baz=80,SNR=21						
MONP	**Monument Peak**	**80.76**	**54**	⇑P	**P**	**00 35 03.1**	**-1.8**
	baz=81,SNR=112						
J27A	**Elkhorn Farm,**	**80.79**	**38**	⇓P	**P**	**00 35 03.0**	**-1.7**
	baz=80,SNR=183						
M24A	**Cheyenne**	**80.83**	**41**	⇓P	**P**	**00 35 03.6**	**-1.4**
	baz=81,SNR=244						
LOR	**Lormes**	**80.84**	**329**	⇓*iP*	**P**	**00 35 02.1**	**-2.6**
	comp=Z,586nm,0.6s,baz=35						
LOR				*ep*P	**pP**	**00 36 35.2**	**+1.3**
LOR				*e*R			
	comp=Z,2µm,21.0s						
LOR	**Lormes**	**80.84**	**329**	⇓*iP*	**P**	**00 35 02.1**	**-2.6**
	comp=Z,586nm,0.6s						
LOR				*ep*P	**pP**	**00 36 35.2**	**+1.3**
DYA	**Yadsworthy**	**80.90**	**335**	*eP*	**P**	**00 35 03.2**	**-1.7**
O22A	**Kremmling**	**80.96**	**43**	⇑P	**P**	**00 35 03.9**	**-2.0**
	baz=81,SNR=125						
I29A	**Vivian Onida**	**80.96**	**37**	⇓P	**P**	**00 35 03.2**	**-2.2**
	baz=81,SNR=272						
J28A	**Allard Ranch,**	**81.01**	**38**	⇓P	**P**	**00 35 04.1**	**-1.7**
	baz=81,SNR=206						
RSL	**Roselend**	**81.02**	**326**	*eP*	**P**	**00 35 05.8**	**-0.1**
SWSC	**Sam W. Stewart**	**81.10**	**53**	⇑P	**P**	**00 35 04.6**	**-1.7**
	baz=81,SNR=77						
LPL	**La Plagne**	**81.11**	**326**	⇓*iP*	**P**	**00 35 04.4**	**-2.1**
	comp=Z,620nm,0.5s						
LPL	**La Plagne**	**81.11**	**326**	⇓*iP*	**P**	**00 35 04.4**	**-2.1**
	comp=Z,620nm,0.5s						
K27A	**Flueckinger Fa**	**81.11**	**39**	⇓P	**P**	**00 35 04.7**	**-1.7**
	baz=81,SNR=69						
PDMCI	**Parker Dam,Lak**	**81.11**	**51**	⇑P	**P**	**00 35 04.5**	**-1.9**
	baz=81,SNR=247						
DVTC	**Desert V Tower**	**81.12**	**54**	⇓P	**P**	**00 35 05.5**	**-1.1**
	baz=81,SNR=101						
LPG	**La Plagne**	**81.12**	**326**	⇓*iP*	**P**	**00 35 04.6**	**-2.0**
	comp=Z,772nm,0.5s						
LPG				*ep*P	**pP**	**00 36 37.6**	**+1.8**
LPG	**La Plagne**	**81.12**	**326**	⇓*iP*	**P**	**00 35 04.6**	**-2.0**
	comp=Z,772nm,0.5s						
LPG				*ep*P	**pP**	**00 36 37.6**	**+1.8**
SSF	**Saint Saulge**	**81.15**	**329**	⇓*iP*	**P**	**00 35 03.8**	**-2.5**
	comp=Z,482nm,0.8s						
SSF				*ep*P	**pP**	**00 36 37.0**	**+1.4**
SSF	**Saint Saulge**	**81.15**	**329**	⇓*iP*	**P**	**00 35 03.8**	**-2.5**
	comp=Z,482nm,0.8s						
SSF				*ep*P	**pP**	**00 36 37.0**	**+1.4**
FLN	**La Foliniere**	**81.19**	**332**	*eP*	**P**	**00 35 03.8**	**-2.7**
	comp=Z,169nm,0.6s,baz=32						
FLN				*ep*P	**pP**	**00 36 36.6**	**+0.8**
FLN				*e*R			
	comp=Z,2µm,20.5s						
FLN	**La Foliniere**	**81.19**	**332**	*eP*	**P**	**00 35 03.8**	**-2.7**
	comp=Z,169nm,0.6s						
FLN				*ep*P	**pP**	**00 36 36.6**	**+0.8**
LDF	**La Druitiere**	**81.21**	**332**	*eP*	**P**	**00 35 03.7**	**-2.9**
	comp=Z,160nm,0.6s						
LDF	**La Druitiere**	**81.21**	**332**	*eP*	**P**	**00 35 03.7**	**-2.9**
	comp=Z,160nm,0.6s						
CUC	**Castrocucco**	**81.23**	**317**	*eP*	**P**	**00 35 04.1**	**-2.8**
	comp=Z,273nm,1.3s						
CUC				*ep*P	**pP**	**00 36 36.5**	**+0.3**
CUC				*e*PP	**PP**	**00 38 15.8**	**-2.4**
CUC				*eS*	**S**	**00 44 40.6**	**-2.8**
M25A	**Palm-Egli Farm**	**81.23**	**41**	⇓P	**P**	**00 35 05.5**	**-1.5**
	baz=81,SNR=84						
L26A	**Underwood Farm**	**81.23**	**40**	⇑P	**P**	**00 35 05.3**	**-1.7**
	baz=81,SNR=20						
O23A	**Lake Granby, G**	**81.24**	**43**	⇓P	**P**	**00 35 05.8**	**-1.6**
	baz=81,SNR=149						
P22A	**Eagle**	**81.28**	**43**	⇓P	**P**	**00 35 05.5**	**-2.0**
	baz=81,SNR=121						
Y12C	**Blythe**	**81.28**	**52**	⇓P	**P**	**00 35 05.4**	**-1.8**
	baz=81,SNR=138						
N24A	**Carr**	**81.29**	**41**	⇑P	**P**	**00 35 05.6**	**-1.8**
	baz=81,SNR=15						
HYF	**Humbligny**	**81.31**	**329**	⇓*iP*	**P**	**00 35 05.2**	**-2.0**
HYF	**Humbligny**	**81.31**	**329**	⇓*iP*	**P**	**00 35 05.2**	**-2.0**
TIP	**Timpagrande**	**81.36**	**316**	P	**P**	**00 35 05.8**	**-1.9**
TIP	**Timpagrande**	**81.36**	**316**	*eP*	**P**	**00 35 05.8**	**-1.9**
	comp=Z,322nm,1.5s						
JDG	**Jersey Dam (Ga**	**81.36**	**333**	*eP*	**P**	**00 35 06.7**	**-0.6**
SMF	**Signal de Mont**	**81.36**	**328**	⇓*iP*	**P**	**00 35 05.1**	**-2.4**
	comp=Z,465nm,0.7s						
SMF	**Signal de Mont**	**81.36**	**328**	⇓*iP*	**P**	**00 35 05.1**	**-2.4**
SMF				pmax	pmax		
	comp=Z,465nm,0.7s						
SMF	**Signal de Mont**	**81.36**	**328**	⇓*iP*	**P**	**00 35 05.1**	**-2.4**
	comp=Z,465nm,0.7s						
VAL	**Valentia**	**81.41**	**339**	⇓*iP*	**P**	**00 35 08.0**	**+0.5**
VAL				*ep*P	**pP**	**00 36 38.8**	**+1.9**
VAL	**Valentia**	**81.41**	**339**	⇓*iS*	**S**	**00 44 48.5**	**+3.8**
PV01	**Paradox Valley**	**81.42**	**45**	*eP*	**P**	**00 35 05.8**	**-2.4**
	comp=Z,10µm,0.7s						
AVF	**Avril sur Loir**	**81.43**	**329**	⇓*iP*	**P**	**00 35 05.4**	**-2.4**
	comp=Z,959nm,0.8s						
AVF				*ep*P	**pP**	**00 36 38.7**	**+1.6**
AVF	**Avril sur Loir**	**81.43**	**329**	⇓*iP*	**P**	**00 35 05.4**	**-2.4**
AVF				*e**PP	**pP**	**00 36 38.7**	**+1.6**
AVF				pmax	pmax		
	comp=Z,959nm,0.8s						
AVF	**Avril sur Loir**	**81.43**	**329**	⇓*iP*	**P**	**00 35 05.4**	**-2.4**
	comp=Z,959nm,0.8s						
AVF				*ep*P	**pP**	**00 36 38.7**	**+1.6**
J29A	**Okreek**	**81.44**	**37**	⇓P	**P**	**00 35 06.5**	**-1.5**
	baz=81,SNR=282						
SMCO	**Snowmass**	**81.48**	**44**	*eP*	**P**	**00 35 06.4**	**-2.4**
	comp=Z,742nm,0.8s						
K28A	**Ten Mile Ranch**	**81.51**	**38**	⇓P	**P**	**00 35 06.8**	**-1.6**
	baz=81,SNR=76						
BNI	**Bardonecchia**	**81.51**	**326**	*eP*	**P**	**00 35 05.8**	**-2.6**
BNI				pmax	pmax		
	comp=Z,118nm,0.7s						
BNI	**Bardonecchia**	**81.51**	**326**	*eP*	**P**	**00 35 05.8**	**-2.6**
	comp=Z,118nm,0.7s						
L27A	**T5 Ranch, Ells**	**81.56**	**39**	⇓P	**P**	**00 35 07.5**	**-1.2**
	baz=81,SNR=20						
SCHQ	**Schefferville**	**81.56**	**12**	P'P'		01 01 45.6	
SCHQ	**Schefferville**	**81.56**	**12**	P	**P**	**00 35 11.0**	**+2.7**
	comp=Z,289nm,0.9s,baz=359,slow=7.7,SNR=65						
SCHQ				PKPPKP	**P'P'df**	**01 01 45.6**	**-0.9**
	comp=Z,5.4nm,0.9s,baz=218,slow=5.7,SNR=3.6						
GLA	**Glamis**	**81.60**	**53**	⇓P	**P**	**00 35 07.6**	**-1.4**
	baz=81,SNR=190						
GDM	**Grand'Maison**	**81.62**	**326**	*eP*	**P**	**00 35 09.2**	**+0.2**
GRR	**Gorron**	**81.64**	**332**	⇓*iP*	**P**	**00 35 06.1**	**-2.7**
	comp=Z,250nm,0.5s						
GRR	**Gorron**	**81.64**	**332**	⇓*iP*	**P**	**00 35 06.1**	**-2.7**
GRR				pmax	pmax		
	comp=Z,250nm,0.5s						
GRR

TCF **Toulx Ste Croi** 82.29 329 ⇓ *i* P P 00 35 10.0 -2.3
comp=Z,299nm,0.8s
TCF *ep*P **pP** 00 36 43.6 +1.8
OG25 Le Caire 82.31 326 *e*P P 00 35 12.6 +0.1
K30A Basset 82.33 37 ⇑P P 00 35 11.2 -1.4
baz=82,SNR=242
SGMF Saint Gilles 82.34 333 ⇓ *i* P P 00 35 10.1 -2.3
comp=Z,446nm,0.9s
SGMF Saint Gilles 82.34 333 ⇓ *i* P P 00 35 10.1 -2.3
SGMF pmax pmax
comp=Z,446nm,0.9s
SGMF Saint Gilles 82.34 333 ⇓ *i* P P 00 35 10.1 -2.3
comp=Z,446nm,0.9s
113A Mohawk Valley, 82.42 52 ⇑P P 00 35 12.1 -1.1
baz=82,SNR=148
L29A Maesberg Ranch 82.42 38 ⇓P P 00 35 11.6 -1.5
baz=82,SNR=84
PYM Petit Puy Mans 82.42 328 *e*P P 00 35 13.3 +0.3
N27A Anderson Farm, 82.44 40 ⇓P P 00 35 11.2 -2.1
baz=82,SNR=212
CALN Calern 82.47 325 *e*P P 00 35 12.7 -0.7
Z14A Wintersburg 82.48 51 ⇑P P 00 35 11.6 -1.9
baz=82
CEL Celeste 82.49 316 *e*P P 00 35 11.3 -2.2
comp=Z,749nm,0.8s
VIVF Saint-Julien-l 82.50 327 ⇓ *i* P P 00 35 11.1 -2.3
comp=Z,537nm,0.7s
VIVF *ep*P **pP** 00 36 44.6 +1.6
VIVF Saint-Julien-l 82.50 327 ⇓ *i* P P 00 35 11.1 -2.3
VIVF *e**PP **pP** 00 36 44.6 +1.6
VIVF pmax pmax
comp=Z,537nm,0.7s
VIVF Saint-Julien-l 82.50 327 ⇓ *i* P P 00 35 11.1 -2.3
comp=Z,537nm,0.7s
VIVF *ep*P **pP** 00 36 44.6 +1.6
O26A Horse Wrangler 82.50 41 ⇑P P 00 35 12.0 -1.6
baz=82,SNR=120
PGF Pioggiola 82.50 323 ⇓ *i* P P 00 35 10.9 -2.6
comp=Z,577nm,1.3s
PGF Pioggiola 82.50 323 ⇓ *i* P P 00 35 10.9 -2.6
PGF pmax pmax
comp=Z,577nm,1.3s
PGF Pioggiola 82.50 323 ⇓ *i* P P 00 35 10.9 -2.6
comp=Z,577nm,1.3s
ROSF Rostrenen 82.51 333 ⇓ *i* P P 00 35 11.1 -2.2
comp=Z,645nm,0.8s
ROSF Rostrenen 82.51 333 ⇓ *i* P P 00 35 11.1 -2.2
ROSF pmax pmax
comp=Z,645nm,0.8s
ROSF Rostrenen 82.51 333 ⇓ *i* P P 00 35 11.1 -2.2
comp=Z,645nm,0.8s
M28A Bar X Bar Ranc 82.53 39 ⇑P P 00 35 11.9 -1.8
baz=82,SNR=49
Q24A Divide 82.57 43 ⇓P P 00 35 12.8 -1.5
baz=82,SNR=151
X16A Lo Mia Camp, P 82.58 50 ⇓P P 00 35 12.6 -1.6
baz=82,SNR=114
S22A 4UR Ranch, Cre 82.63 45 ⇑P P 00 35 12.9 -1.7
baz=82,SNR=290
VERF Verneugheol 82.63 329 *e*P P 00 35 13.1 -1.0
P25A Willow Gulch B 82.64 42 ⇑P P 00 35 12.9 -1.5
baz=82,SNR=182
FRF La Foret Royal 82.73 325 ⇓ *i* P P 00 35 11.7 -2.8
comp=Z,315nm,1.0s
FRF La Foret Royal 82.73 325 ⇓ *i* P P 00 35 11.7 -2.8
FRF pmax pmax
comp=Z,315nm,1.0s
FRF La Foret Royal 82.73 325 ⇓ *i* P P 00 35 11.7 -2.8
comp=Z,315nm,1.0s
LBL Lubilhac 82.76 328 *e*P P 00 35 14.7 -0.1
ECSD EROS Data Cent 82.80 35 ⇓P P 00 35 13.0 -1.8
baz=82,SNR=362
R23A Moffat 82.81 44 ⇑P P 00 35 13.9 -1.5
baz=83
M29A Burnside Ranch 82.81 39 ⇓P P 00 35 13.3 -1.8
baz=82,SNR=68
QUIF Quistinic 82.84 333 *e*P P 00 35 12.6 -2.4
comp=Z,268nm,0.7s
QUIF Quistinic 82.84 333 *e*P P 00 35 12.6 -2.4
QUIF pmax pmax
comp=Z,268nm,0.7s
QUIF Quistinic 82.84 333 *e*P P 00 35 12.6 -2.4
comp=Z,268nm,0.7s
SMRF Simiane la Rot 82.84 326 *e*P P 00 35 12.9 -2.3
SMRF *ep*P **pP** 00 36 46.5 +1.7
SMRF Simiane la Rot 82.84 326 *e*P P 00 35 12.9 -2.3
SMRF *ep*P **pP** 00 36 46.5 +1.7
L30A Spencer Herefo 82.86 38 ⇓P P 00 35 13.9 -1.4
baz=83,SNR=120
FRNF Fournols 82.90 328 *e*P P 00 35 16.0 +0.6
MFF Saint Martin d 82.90 331 ⇓ *i* P P 00 35 13.0 -2.3
comp=Z,696nm,1.0s
MFF *ep*P **pP** 00 36 47.0 +2.0
MFF Saint Martin d 82.90 331 ⇓ *i* P P 00 35 13.0 -2.3
MFF pmax pmax
comp=Z,696nm,1.0s
MFF Saint Martin d 82.90 331 ⇓ *i* P P 00 35 13.0 -2.3
comp=Z,696nm,1.0s
MFF *ep*P **pP** 00 36 47.0 +2.0
O27A Beecher Island 82.95 40 ⇓P P 00 35 14.7 -1.2
baz=83,SNR=126
LMR La Mourre 82.97 325 ⇓ *i* P P 00 35 13.1 -2.6
comp=Z,398nm,0.7s
LMR La Mourre 82.97 325 ⇓ *i* P P 00 35 13.1 -2.6
LMR pmax pmax
comp=Z,398nm,0.7s
LMR La Mourre 82.97 325 ⇓ *i* P P 00 35 13.1 -2.6
comp=Z,398nm,0.7s
N28A Pribbeno Ranch 83.01 40 ⇑P P 00 35 14.7 -1.4
baz=83,SNR=120
P26A Davis Ranch, A 83.01 41 ⇑P P 00 35 14.4 -1.9
baz=83,SNR=156
W18A Petrified Fore 83.02 48 *e*P P 00 35 15.9 -0.5
W18A Petrified Fore 83.02 48 ⇓P P 00 35 14.9 -1.5
baz=83,SNR=82
LCHF La Chataignera 83.06 331 *e*P P 00 35 17.2 +1.1
Q25A Bedland, Calha 83.06 42 ⇓P P 00 35 14.9 -1.7
baz=83,SNR=128
L31A Butterfield Fa 83.08 37 ⇓P P 00 35 15.5 -0.9
baz=83,SNR=178
S23A Nye Farm, Mont 83.09 44 ⇓P P 00 35 15.7 -1.1
baz=83,SNR=92
M30A Dale-Ortello V 83.12 38 ⇓P P 00 35 15.4 -1.3
baz=83,SNR=12
SPMN St. Paul 83.12 32 *e*P P 00 35 14.7 -1.8
SPMN St. Paul 83.12 32 ⇓P P 00 35 15.4 -1.1
baz=83,SNR=83
OSPF L'Ospedale 83.12 322 *e*P P 00 35 16.5 -0.2
R24A Sanders Place, 83.15 43 ⇓P P 00 35 15.6 -1.4
baz=83,SNR=222
SDCO Great Sand Dun 83.32 44 *e*P P 00 35 15.8 -2.2
comp=Z,391nm,1.1s
SDCO *ep*P **pP** 00 36 47.6 -0.2
SDCO *e*PP **PP** 00 38 36.4 +0.9
X18A Snowflake 83.33 49 ⇑P P 00 35 16.0 -2.0
baz=83,SNR=311
N29A Votaw Ranch, W 83.34 39 ⇓P P 00 35 16.6 -1.2
baz=83,SNR=132
O28A Krutsinger Ran 83.34 40 ⇑P P 00 35 16.5 -1.3
baz=83,SNR=72
RJF Les Rejaudoux 83.38 329 ⇓ *i* P P 00 35 15.7 -2.1
comp=Z,643nm,1.1s
RJF *e*R
comp=Z,2µm,22.5s
RJF Les Rejaudoux 83.38 329 ⇓ *i* P P 00 35 15.7 -2.1
RJF pmax pmax
comp=Z,643nm,1.1s
RJF Les Rejaudoux 83.38 329 ⇓ *i* P P 00 35 15.7 -2.1
comp=Z,643nm,1.1s
P27A Ficken Ranch, 83.39 41 ⇑P P 00 35 16.1 -2.1
baz=83,SNR=109
Q26A Hugo 83.42 42 ⇓P P 00 35 16.6 -1.7
baz=83,SNR=136
RAO Raoul Island 83.43 140 P P 00 35 22.0 +3.9
RAO Raoul Island 83.43 140 P P 00 35 22.0 +3.9
comp=Z,300nm,0.6s,baz=326,slow=11,SNR=5.4
LASF Ste Croix 83.47 327 *e*P P 00 35 16.2 -2.1
comp=Z,238nm,0.8s
LASF Ste Croix 83.47 327 *e*P P 00 35 16.2 -2.1
comp=Z,238nm,0.8s
CAF Calviac 83.48 328 ⇓ *i* P P 00 35 16.7 -1.6
comp=Z,821nm,0.9s
CAF *ep*P **pP** 00 36 50.4 +2.2
CAF Calviac 83.48 328 ⇓ *i* P P 00 35 16.7 -1.6
CAF *e**PP **pP** 00 36 50.4 +2.2
CAF pmax pmax
comp=Z,821nm,0.9s
CAF Calviac 83.48 328 ⇓ *i* P P 00 35 16.7 -1.6
comp=Z,821nm,0.9s
CAF *ep*P **pP** 00 36 50.4 +2.2
S24A Houchin Ranch, 83.55 44 ⇓P P 00 35 17.4 -1.8
baz=83,SNR=269
214A Organ Pipe Nat 83.57 52 *e*P P 00 35 16.9 -2.2
comp=Z,974nm,1.2s
214A *ep*P **pP** 00 36 44.6 -4.2
214A Organ Pipe Nat 83.57 52 ⇑P P 00 35 17.7 -1.4
baz=83,SNR=235
T23A Casias Ranch, 83.58 45 ⇓P P 00 35 17.7 -1.6
baz=83,SNR=190
N30A Hueftle Ranch, 83.60 39 ⇓P P 00 35 17.3 -1.8
baz=83,SNR=67
R25A Fountain Ranch 83.63 43 ⇑P P 00 35 17.8 -1.6
baz=83,SNR=213
U22A Llaves 83.64 46 ⇓P P 00 35 17.8 -1.8
baz=83,SNR=251
M31A Lambtecht Ranc 83.68 38 ⇓P P 00 35 18.8 -0.6
baz=83,SNR=103
P28A Saint Francis 83.78 40 ⇑P P 00 35 18.2 -1.8
baz=84,SNR=248
KSCO Kaye Shedlock' 83.79 41 *e*P P 00 35 18.2 -1.9
KSCO Kaye Shedlock' 83.79 41 ⇓P P 00 35 18.7 -1.5
baz=84,SNR=101
O29A 4D Ranch, Culb 83.80 40 ⇓P P 00 35 18.8 -1.3
baz=84,SNR=186
T24B San Luis 83.90 44 ⇑P P 00 35 19.3 -1.7
baz=84,SNR=194
S25A Robets Cordova 83.93 43 P P 00 35 19.3 -1.7
baz=84,SNR=185
R26A Arlington 83.94 42 ⇑P P 00 35 19.6 -1.3
baz=84,SNR=186
V22A San Miguel Ran 83.96 46 ⇓P P 00 35 19.6 -1.6
baz=84,SNR=180
LFF La Frestale 83.98 329 ⇓ *i* P P 00 35 19.1 -1.7
comp=Z,847nm,0.6s
LFF La Frestale 83.98 329 ⇓ *i* P P 00 35 19.1 -1.7
LFF pmax pmax
comp=Z,847nm,0.6s
LFF La Frestale 83.98 329 ⇓ *i* P P 00 35 19.1 -1.7
comp=Z,847nm,0.6s
BGNE Belgrade 84.00 37 *e*P P 00 35 18.5 -2.5
BGNE Belgrade 84.00 37 ⇓P P 00 35 18.3 -2.7
baz=84,SNR=136
U23A El Rito 84.03 45 ⇓P P 00 35 20.0 -1.6
baz=84,SNR=255
N31A Bailey Ranch, 84.11 38 ⇓P P 00 35 19.2 -2.4
baz=84,SNR=127
O30A MW Ranch, Wils 84.11 39 ⇓P P 00 35 19.0 -2.6
baz=84,SNR=177
Q28A Sharon Springs 84.14 41 ⇑P P 00 35 19.6 -2.3
baz=84,SNR=147
P29A Atwood 84.15 40 ⇑P P 00 35 19.7 -2.1
baz=84
R27A Eads 84.27 42 ⇓P P 00 35 20.0 -2.5
baz=84,SNR=218
T25A Trinidad 84.34 44 ⇑P P 00 35 20.4 -2.7
baz=84,SNR=156
S26A Kim 84.45 43 ⇑P P 00 35 20.9 -2.6
baz=84
U24A Moreno Valley 84.45 45 ⇑P P 00 35 22.2 -1.5
baz=84,SNR=134
N32A Stulken Farm, 84.45 38 ⇑P P 00 35 20.8 -2.5
baz=84,SNR=58
O31A Woolen Ranch, 84.47 39 ⇑P P 00 35 21.5 -1.8
baz=84,SNR=120
V23A Ortiz Mt. (NFS 84.48 46 ⇑P P 00 35 22.1 -1.7
baz=84,SNR=259
TUC Tucson 84.49 51 *e*P P 00 35 21.5 -2.2
TUC pmax pmax
comp=Z,367nm,1.1s
TUC Tucson 84.49 51 *e*P P 00 35 21.5 -2.2
comp=Z,367nm,1.1s
P30A Selden 84.52 40 ⇓P P 00 35 21.6 -2.1
baz=84,SNR=161
Q29A Oakley 84.69 40 ⇓P P 00 35 22.8 -1.8
baz=84,SNR=142
S27A Las Animas 84.69 42 ⇑P P 00 35 22.1 -2.6
baz=84
R28A Tribune 84.71 41 ⇓P P 00 35 22.8 -1.9
baz=84,SNR=179
T26A Comanche Natio 84.73 43 ⇓P P 00 35 22.7 -2.3
baz=84,SNR=229
MTLF Montolieu 84.74 327 *e*P P 00 35 22.6 -2.0
comp=Z,170nm,0.9s
MTLF *ep*P **pP** 00 36 56.7 +1.9
MTLF Montolieu 84.74 327 *e*P P 00 35 22.6 -2.0
MTLF *e**PP **pP** 00 36 56.7 +1.9
MTLF pmax pmax
comp=Z,170nm,0.9s
MTLF Montolieu 84.74 327 *e*P P 00 35 22.6 -2.0
comp=Z,170nm,0.9s
MTLF *ep*P **pP** 00 36 56.7 +1.9
VSL Villasalto 84.75 321 *e*P P 00 35 23.8 -0.9
comp=Z,185nm,1.1s
O32A Brockman Farm, 84.86 38 ⇓P P 00 35 23.4 -2.0
baz=85,SNR=22
OUZ Omahuta 84.89 149 *e*P P 00 35 27.8 +2.7
comp=Z,98nm,1.5s
U25A Circle Dot Ran 84.91 44 ⇑P P 00 35 23.7 -2.1
baz=85,SNR=262
ANMO Albuquerque 84.94 46 *e*P P 00 35 24.4 -1.6
comp=Z,591nm,1.1s
W23A Werner Place, 84.94 46 ⇑P P 00 35 24.5 -1.5
baz=85,SNR=224
P31A Stockton 84.95 39 ⇓P P 00 35 23.9 -1.8
baz=85,SNR=251
V24A Rampart Ranch, 84.97 45 ⇑P P 00 35 24.3 -1.9
baz=85,SNR=156
R29A Marienthal 84.98 41 ⇑P P 00 35 24.0 -2.0
baz=85,SNR=130
LAZ Ladron 84.98 47 *e*P P 00 35 24.2 -2.0
comp=Z,403nm,1.3s
LAZ *ep*P pP 00 36 51.1 -5.3
Q30A Quinter 84.98 40 ⇑P P 00 35 23.8 -2.1
baz=85,SNR=111
WDD Wield Dalam 85.02 315 *e*P P 00 35 28.8 +2.7
comp=Z,260nm,0.9s
MSEY Mahe Island 85.22 259 *e*P P 00 35 27.2 -0.2
comp=Z,289nm,1.2s
P32A Huitiig Farm, 85.23 38 ⇑P P 00 35 24.4 -2.7
baz=85,SNR=186
V25A Rancho No Teng 85.23 45 ⇑P P 00 35 25.2 -2.3
baz=85,SNR=307
U26A Atchley Ranch, 85.25 44 ⇑P P 00 35 25.8 -1.8
baz=85,SNR=250
S28A Manter 85.26 42 ⇑P P 00 35 25.4 -2.0
baz=85,SNR=302
T27A Campo 85.26 43 ⇓P P 00 35 25.8 -1.7
baz=85,SNR=120
W24A Lazy 6 Ranch, 85.30 45 ⇑P P 00 35 26.0 -1.8
baz=85,SNR=245
CARF Carcanieres 85.31 327 *e*P P 00 35 26.7 -0.9
Y22D IRIS PASSCAL I 85.34 47 ⇑P P 00 35 26.1 -1.8
baz=85
Q31A Ellis 85.35 39 ⇓P P 00 35 25.7 -2.1
baz=85,SNR=80
X23A Hourglass Bar 85.36 46 ⇓P P 00 35 26.3 -1.8
baz=85,SNR=115
BNM Barren Site 85.44 47 *e*P P 00 35 26.3 -2.3
comp=Z,714nm,1.3s
R30A Dighton 85.50 40 ⇑P P 00 35 26.9 -1.6
baz=85,SNR=179
MLS Moulis 85.51 328 *e*P P 00 35 28.5 +0.1
T28A Walsh 85.52 42 ⇓P P 00 35 27.4 -1.3
baz=85,SNR=27
S29A Ulysses 85.62 41 ⇓P P 00 35 27.3 -1.9
baz=85,SNR=155
V26A Tequesquite Ra 85.69 44 ⇓P P 00 35 27.1 -2.5
baz=85,SNR=274
U27A Thompson Grove 85.70 43 ⇑P P 00 35 27.1 -2.5
baz=85,SNR=300
MELF Melles 85.72 328 *e*P P 00 35 30.7 +1.2
SCIA State Center 85.72 34 *e*P P 00 35 28.6 -0.9
comp=Z,2µm,1.3s
SCIA *ep*P **pP** 00 36 56.5 -3.3
EPF Esparros 85.75 328 ⇓ *i* P P 00 35 27.0 -2.6
EPF Esparros 85.75 328 ⇓ *i* P P 00 35 27.0 -2.6
EPF Esparros 85.75 328 ⇓ *i* P P 00 35 27.0 -2.6
Q32A Meitler Ranch, 85.75 39 ⇑P P 00 35 27.2 -2.4
baz=86,SNR=225
X24A Lazy VL Ranch, 85.77 46 ⇑P P 00 35 28.0 -2.1
baz=86,SNR=274
W25A X Bar L Ranch, 85.79 45 ⇓P P 00 35 28.2 -1.9
baz=86,SNR=197
P33A Williams Farm, 85.79 38 ⇑P P 00 35 27.6 -2.3
baz=86,SNR=143
LABF Labassere 85.84 329 *e*P P 00 35 29.9 -0.1
R31A Burdett 85.86 40 ⇓P P 00 35 27.9 -2.3
baz=86,SNR=199
T29A Hugoton 85.89 42 ⇑P P 00 35 27.5 -3.0
baz=86
S30A Montezuma 85.92 41 ⇑P P 00 35 28.6 -2.0
baz=86,SNR=216
Y23A Lovelace Mesa, 85.92 47 ⇑P P 00 35 28.6 -2.2
baz=86,SNR=118
Z22A Elephant Butte 85.94 48 ⇑P P 00 35 29.2 -1.7
baz=86,SNR=126
RESF Ens 85.94 328 *e*P P 00 35 31.2 +0.6
VIEF Viey 85.99 328 *e*P P 00 35 31.4 +0.6
REYF Montagne du Re 86.00 329 *e*P P 00 35 30.3 -0.6
121A Cookes Peak, D 86.02 49 *e*P P 00 35 30.0 -1.3
comp=Z,737nm,1.3s
121A Cookes Peak, D 86.02 49 ⇑P P 00 35 29.7 -1.6
baz=86,SNR=213
319A Douglas 86.04 50 ⇓P P 00 35 29.7 -1.6
baz=86,SNR=110
U28A Mallet 86.04 43 ⇑P P 00 35 29.2 -2.0
baz=86,SNR=192
ORDF Ordiarp 86.08 329 *e*P P 00 35 30.7 -0.4
Q33A Connelly Farm, 86.08 38 ⇑P P 00 35 29.2 -2.0
baz=86,SNR=330
ATE Arette 86.10 329 *e*P P 00 35 32.1 +0.8
R32A Long Quarter, 86.14 39 ⇓P P 00 35 29.6 -1.9
baz=86,SNR=92
OSSF Osses 86.17 329 *e*P P 00 35 31.0 -0.6
ETSF Etsaut 86.21 329 ⇓ *i* P P 00 35 30.0 -1.9
comp=Z,182nm,0.8s
ETSF *ep*P **pP** 00 37 04.7 +2.4
ETSF Etsaut 86.21 329 ⇓ *i* P P 00 35 30.0 -1.9
comp=Z,182nm,0.8s
ETSF *ep*P **pP** 00 37 04.7 +2.4
X25A Clemmons Ranch 86.21 45 ⇑P P 00 35 30.7 -1.4
baz=86,SNR=303
V27A Dan Oppiter Fa 86.21 43 ⇓P P 00 35 30.3 -1.8
baz=86,SNR=249
W26A Owens Ranch, T 86.25 45 ⇓P P 00 35 31.0 -1.3
baz=86,SNR=74
LARF Larrau 86.25 329 *e*P P 00 35 32.5 +0.5
Y24A Capitan 86.26 46 ⇑P P 00 35 30.2 -2.2
baz=86
SJPF Ste Jean 86.28 329 ⇓ *i* P P 00 35 30.4 -1.7
comp=Z,48nm,0.7s
SJPF Ste Jean 86.28 329 ⇓ *i* P P 00 35 30.4 -1.7
SJPF pmax pmax
comp=Z,48nm,0.7s
SJPF Ste Jean 86.28 329 ⇓ *i* P P 00 35 30.4 -1.7
comp=Z,48nm,0.7s
Z23A Rita Site, Whi 86.33 47 ⇑P P 00 35 31.3 -1.4
baz=86,SNR=182
T30A Plains 86.35 41 ⇓P P 00 35 30.6 -2.1
baz=86,SNR=53
DESE Dese 86.39 282 *i* P P 00 35 33.7 +0.3
DESE *e*S S 00 45 28.8 -6.8
S31A Mullinville 86.41 40 ⇑P P 00 35 31.1 -1.8
baz=86,SNR=126
221A Mesquite Ranch 86.42 49 ⇓P P 00 35 31.7 -1.5
baz=86
U29A Oasis Ranch, S 86.46 42 ⇑P P 00 35 31.1 -2.1
baz=86
320A Kipp Ranch, An 86.50 50 ⇓P P 00 35 32.1 -1.5
baz=86
V28A Channing 86.53 43 ⇓P P 00 35 31.6 -2.0
baz=86,SNR=76
KSU1 Kansas State U 86.56 38 *e*P P 00 35 30.1 -3.4
comp=Z,681nm,0.7s
KSU1 Kansas State U 86.56 38 ⇓P P 00 35 31.4 -2.1
baz=86,SNR=108
R33A Olander Ranch, 86.57 39 ⇓P P 00 35 31.6 -2.0
baz=86
S32A Newby Ranch, P 86.61 40 ⇓P P 00 35 32.1 -1.7
baz=86,SNR=120
W27A Bowe Ranch, En 86.63 44 ⇓P P 00 35 32.2 -1.9
baz=86,SNR=194
X26A CR and CF Fran 86.64 45 ⇓P P 00 35 32.4 -1.8
baz=86,SNR=232
Y25A Mesa, Roswell 86.66 46 ⇑P P 00 35 32.4 -1.9
baz=86,SNR=267
U30A WK&E Inc. Balk 86.70 42 ⇓P P 00 35 32.4 -2.0
baz=86,SNR=124
222A Williams Famil 86.73 49 ⇓P P 00 35 33.0 -1.6
baz=86,SNR=136
T31A Randall Ranch, 86.73 41 ⇓P P 00 35 32.3 -2.2
baz=86,SNR=184
Z24A Sheeppen Canyo 86.75 47 ⇓P P 00 35 32.6 -2.2
baz=86,SNR=216
V29A Stinnett 86.79 43 ⇓P P 00 35 33.2 -1.6
baz=86,SNR=51
123A Bell Site, Whi 86.79 48 ⇑P P 00 35 33.2 -1.7
baz=87
W28A Vega 86.92 43 ⇑P P 00 35 33.1 -2.4
baz=87
X27A F and S Farms, 86.94 44 ⇓P P 00 35 34.3 -1.3
baz=87,SNR=68
T32A Huddler Ranch, 87.03 40 ⇑P P 00 35 34.3 -1.5
baz=87,SNR=178
Y26A Elida 87.12 45 ⇓P P 00 35 34.9 -1.5
baz=87,SNR=92
S33A Kaszmaul Farm, 87.13 39 ⇑P P 00 35 34.3 -2.0
baz=87
Z25A Roswell 87.14 46 ⇓P P 00 35 35.0 -1.5
baz=87,SNR=326
223A Chaparral, Ant 87.17 48 ⇓P P 00 35 34.9 -1.8
baz=87
124A Stringfield Ra 87.18 47 ⇑P P 00 35 35.1 -1.7
baz=87,SNR=243
U31A Nine Bar Ranch 87.22 41 ⇑P P 00 35 35.4 -1.4
baz=87
V30A Spur Ranch, Mi 87.29 42 ⇑P P 00 35 35.8 -1.3
baz=87
RAR Rarotonga 87.31 122 *e*P P 00 35 41.7 +4.5
comp=Z,325nm,1.1s
RAR Rarotonga 87.31 122 P P 00 35 41.3 +4.1
comp=Z,156nm,0.9s,baz=181,slow=0.0,SNR=19
W29A Amraillo 87.31 43 ⇓P P 00 35 35.8 -1.5
baz=87
T33A Patterson Ranc 87.43 40 ⇓P P 00 35 35.9 -1.8
baz=87,SNR=144
AMTX Amarillo 87.48 43 *e*P P 00 35 35.9 -2.2
comp=Z,462nm,0.8s
AMTX Amarillo 87.48 43 ⇓P P 00 35 36.1 -2.0
baz=87
Y27A Causey 87.50 45 ⇓P P 00 35 36.6 -1.6
baz=87,SNR=120
X28A Dimmitt 87.50 44 ⇑P P 00 35 35.1 -3.1
baz=87
Z26A Caprock 87.54 46 ⇓P P 00 35 36.5 -1.9
baz=87
224A Cornudas Mount 87.62 48 ⇑P P 00 35 37.2 -1.6
baz=87,SNR=190
U32A Winter Ranch, 87.63 41 ⇓P P 00 35 37.0 -1.7
baz=87,SNR=86
MSTX Muleshoe 87.63 45 *e*P P 00 35 36.5 -2.4
MSTX Muleshoe 87.63 45 ⇓P P 00 35 36.7 -2.1
baz=87,SNR=76
125A Gardner Draw, 87.64 47 ⇑P P 00 35 37.4 -1.5
baz=87,SNR=249
V31A Spring Creek L 87.70 42 ⇓P P 00 35 37.6 -1.4
baz=87,SNR=65
KEST Kesra 87.76 318 *e*P P 00 35 37.9 -1.4
KEST pP **pP** 00 37 13.1 +2.8
KEST PP **PP** 00 39 06.8 -3.9
KEST S **SKSac** 00 45 28.5 -0.5
KEST PKKPbc **PKKPbc** 00 53 27.7 +5.1
KEST Kesra 87.76 318 pP pP 00 37 13.1 +2.8
comp=Z,83nm,1.1s,baz=319,slow=0.6,SNR=12
KEST Kesra 87.76 318 PP PP 00 39 06.8 -3.9
comp=Z,17nm,1.0s,baz=7.7,slow=4.7,SNR=3.3
KEST S **SKSac** 00 45 28.5 -0.5
comp=Z,4.8nm,1.1s,baz=294,slow=19,SNR=2.5
KEST PKKPbc **PKKPbc** 00 53 27.7 +5.1
comp=Z,4.1nm,0.9s,baz=21,slow=0.9,SNR=5.7
W30A Crocket Farms 87.81 42 ⇑P P 00 35 37.6 -1.9
baz=88,SNR=6.4
X29A Tulia 87.82 44 ⇓P P 00 35 37.9 -1.7
baz=88,SNR=135
Z27A Tatum 87.91 45 ⇓P P 00 35 38.4 -1.7
baz=88,SNR=256
Y28A McKinney Farm, 87.95 44 ⇑P P 00 35 38.6 -1.7
baz=88,SNR=94
CMAH Djebel Manchou 87.97 320 P P 00 35 39.0 -1.3
MNTX Cornudas Mount 87.98 48 *e*P P 00 35 38.5 -1.9

comp=Z,692nm,1.8s
MNTX ePP PP 00 37 06.5 -4.9
MNTX ePP PP 00 39 10.6 -2.1
126A Clayton Basin, 88.00 46 ⇓P P 00 35 38.7 -1.8
baz=88,SNR=89
CAEH 'Ain El Ouahch 88.12 321 P P 00 35 42.0 +1.1
W31A Holland Ranch, 88.12 42 ⇓P P 00 35 39.3 -1.7
baz=88,SNR=128
324A Moseley Ranch, 88.12 48 ⇑P P 00 35 39.1 -2.1
baz=88,SNR=92
V32A Arapaho 88.14 41 ⇓P P 00 35 39.2 -1.9
baz=88
X30A Coker Ranch, T 88.24 43 ⇓P P 00 35 38.7 -2.9
baz=88,SNR=33
U34A Anderson Ranch 88.29 40 ⇑P P 00 35 39.2 -2.5
baz=88,SNR=129
Y29A Porterfield Fa 88.29 44 ⇓P P 00 35 38.8 -3.1
baz=88,SNR=70
127A Arkansas Junct 88.33 46 ⇓P P 00 35 39.3 -2.8
baz=88
226B Tecolote Peak, 88.36 47 ⇑P P 00 35 39.7 -2.6
baz=88,SNR=278
Z28A Tucker Farm, M 88.36 45 ⇓P P 00 35 40.2 -2.1
baz=88,SNR=107
V33A Lossen Ranch, 88.42 41 ⇑P P 00 35 40.6 -1.8
baz=88,SNR=56
325A Bean Ranch, Si 88.46 48 ⇑P P 00 35 40.4 -2.4
baz=88,SNR=179
CKFL Kef-Lekhel 88.49 321 P P 00 35 41.0 -1.8
X31A McDonald Ranch 88.54 42 ⇓P P 00 35 40.7 -2.3
baz=88,SNR=199
FURI Furi 88.57 281 eP P 00 35 43.7 0.0
FURI S S 00 45 43.3 -13
Y30A Stafford Cattl 88.67 43 ⇑P P 00 35 41.3 -2.3
baz=88,SNR=93
CASM Ain Smara 88.71 321 P P 00 35 43.0 -0.7
Z29A Hungry Hill Ra 88.74 44 ⇓P P 00 35 41.9 -2.1
baz=88,SNR=143
V34A Guthrie 88.78 40 ⇑P P 00 35 42.0 -2.0
baz=88,SNR=110
128A Castleberry Fa 88.83 45 ⇑P P 00 35 42.1 -2.3
baz=89,SNR=74
W33A Caddo, Fort Co 88.87 41 ⇓P P 00 35 43.0 -1.5
baz=89
227A Bennet, Jal 88.88 46 ⇓P P 00 35 42.7 -1.9
baz=89
425A Indio Mountain 88.90 48 ⇑P P 00 35 42.9 -2.0
baz=89
URZ Urewera 88.90 148 P P 00 35 45.9 +1.7
comp=Z,156nm,0.9s,baz=335,slow=3.1,SNR=44
CTEI Djebel Teioual 88.91 321 P P 00 35 47.0 +2.2
Y31A Rekieta Farm, 88.93 43 ⇑P P 00 35 42.6 -2.1
baz=89
Z30A Sanderson Ranc 89.02 44 ⇓P P 00 35 43.2 -2.0
baz=89,SNR=242
326A Caldwell Ranch 89.04 47 ⇑P P 00 35 43.4 -2.1
baz=89,SNR=138
WMOK Wichita Mounta 89.05 41 eP P 00 35 44.2 -1.1
WMOK pmax pmax
comp=Z,559nm,1.2s
WMOK Wichita Mounta 89.05 41 eP P 00 35 44.2 -1.1
comp=Z,559nm,1.2s
X32A Elmer 89.05 42 ⇑P P 00 35 43.3 -2.0
baz=89,SNR=139
W34A Bridge Creek, 89.14 41 ⇑P P 00 35 43.8 -1.9
baz=89,SNR=42
129A Stewart Farms, 89.15 45 ⇓P P 00 35 44.2 -1.7
baz=89
228A UT Block 9, Go 89.17 46 ⇑P P 00 35 44.3 -1.7
baz=89,SNR=65
327A Balmorhea Ranc 89.27 47 ⇓P P 00 35 45.0 -1.4
baz=89
SET Setif 89.27 321 P P 00 35 46.0 -0.4
Y32A R-V Farms, Ver 89.31 42 ⇓P P 00 35 44.5 -2.0
baz=89,SNR=111
X33A Lawton 89.35 41 ⇓P P 00 35 44.9 -1.8
baz=89
PBRG Braganca 89.42 332 eP P 00 35 46.2 -0.7
comp=Z,117nm,1.1s
SFIN Scholer Farm 89.44 31 ⇑P P 00 35 45.5 -1.5
baz=89,SNR=87
BKZ Black Stump Fm 89.45 149 eP P 00 35 44.5 -2.3
comp=Z,1μm,1.8s
Z31A Sharp Cattle R 89.50 43 ⇑P P 00 35 45.7 -1.8
baz=89,SNR=105
426A McDonald Obser 89.52 47 ⇑P P 00 35 45.8 -2.0
baz=89
TUL1 Tulsa 89.53 39 eP P 00 35 46.6 -1.0
TUL1 Tulsa 89.53 39 ⇑P P 00 35 45.4 -2.1
baz=89,SNR=93
PTN Potsdam (NY) 89.56 21 eP P 00 35 46.0 -1.5
PTN pmax pmax
comp=Z,449nm,1.1s
PTN Potsdam (NY) 89.56 21 eP P 00 35 46.0 -1.5
comp=Z,449nm,1.1s
328A Wristen Ranch, 89.62 46 ⇑P P 00 35 46.2 -1.9
baz=89,SNR=211
X34A Smith Ranch, M 89.62 41 ⇓P P 00 35 46.3 -1.6
baz=89,SNR=118
130A Snyder 89.65 44 ⇑P P 00 35 46.0 -2.2
baz=89,SNR=59
229A Bryant Ranch, 89.70 45 ⇑P P 00 35 46.9 -1.6
baz=90,SNR=126
SLM Saint Louis 89.70 34 eP P 00 35 47.1 -1.1
SLM pmax pmax
comp=Z,778nm,0.9s
SLM Saint Louis 89.70 34 eP P 00 35 47.1 -1.1
comp=Z,778nm,0.9s
Y33A Hilltop Ranch, 89.71 42 ⇑P P 00 35 46.9 -1.5
baz=89,SNR=125
427A Hayter Ranch, 89.72 47 ⇓P P 00 35 47.0 -1.6
baz=90,SNR=216
PGAV Gavieira, Arco 89.79 333 eP P 00 35 48.7 0.0
comp=Z,144nm,1.0s
Z32A Haskell 89.84 43 ⇓P P 00 35 46.9 -2.1
baz=90,SNR=240
131A Roby 89.88 44 ⇑P P 00 35 47.5 -1.8
baz=90
PCAB Cabril 89.94 333 eP P 00 35 53.5 +4.2
comp=Z,98nm,1.3s
526A Mary Lane Ranc 89.95 48 ⇑P P 00 35 48.1 -1.6
baz=90,SNR=237
329A Wagon Wheel Ra 89.98 46 ⇑P P 00 35 48.0 -1.8
baz=90,SNR=214
230A Sterling City 90.13 45 ⇑P P 00 35 48.3 -2.2
baz=90,SNR=159
527A Woodward Ranch 90.15 48 ⇓P P 00 35 49.1 -1.5
baz=90,SNR=61
POLO Lamas de Olo 90.16 333 eP P 00 35 49.6 -0.9
comp=Z,80nm,1.2s
Y34A Reagan Ranch, 90.18 41 ⇓P P 00 35 48.7 -1.9
baz=90,SNR=72
428A Kincaid Ranch, 90.20 47 ⇑P P 00 35 49.3 -1.6
baz=90,SNR=75
Z33A Whitaker Ranch 90.22 42 ⇓P P 00 35 48.6 -2.1
baz=90,SNR=122
PVRL Vila Real 90.22 333 eP P 00 35 52.6 +1.9
comp=Z,115nm,1.1s
ESDC Sonseca Array 90.28 329 pP pP 00 37 24.4 +2.2
ESDC Sonseca Array 90.28 329 pP pP 00 37 24.4 +2.2
comp=Z,15nm,0.7s,baz=24,slow=4.5,SNR=7.8
ESLA Sonseca Array 90.28 329 eP P 00 35 49.2 -1.8
comp=Z,5.3nm,0.8s
ESLA epP pP 00 37 22.8 +0.6
ABTX Abilene, Hawle 90.30 43 eP P 00 35 48.8 -2.4
ABTX Abilene, Hawle 90.30 43 ⇓P P 00 35 48.9 -2.3
baz=90,SNR=125
626A Big Bend Ranch 90.31 48 ⇑P P 00 35 49.3 -2.1
baz=90,SNR=277
ERPA Erie 90.37 25 eP P 00 35 50.1 -1.1
comp=Z,476nm,0.8s
ERPA epP pP 00 37 09.5 -13
MMNY Mt. Morris Dam 90.44 23 eP P 00 35 50.6 -1.0
comp=Z,918nm,1.0s
330A Mertzon 90.47 45 ⇑P P 00 35 50.4 -1.7
baz=90,SNR=126
231A Bronte 90.50 44 ⇑P P 00 35 50.4 -1.8
baz=90,SNR=176
PAB San Pablo 90.54 330 eP P 00 35 51.6 -0.6
PAB pmax pmax
comp=Z,17nm,1.6s
PAB San Pablo 90.54 330 eP P 00 35 51.6 -0.6
comp=Z,17nm,1.6s
MDV Middlebury 90.56 20 eP P 00 35 51.6 -0.5
Z34A Collier Ranch, 90.57 42 ⇑P P 00 35 50.5 -1.9
baz=90,SNR=101
528A Cox Ranch, San 90.58 47 ⇑P P 00 35 50.8 -1.9
baz=90,SNR=128
LBNH Lisbon 90.64 19 eP P 00 35 52.4 -0.1
LBNH pmax pmax
comp=Z,452nm,1.4s
LBNH Lisbon 90.64 19 eP P 00 35 52.4 -0.1
comp=Z,452nm,1.4s
PTO Porto 90.64 333 eP P 00 35 55.7 +3.2
comp=Z,138nm,1.5s
SNZO South Karori 90.66 151 eP P 00 35 55.6 +3.4
comp=Z,80nm,1.0s
BFZ Birch Farm 90.67 150 eP P 00 35 54.6 +2.2
comp=Z,1μm,2.1s
133A Hamilton Ranch 90.69 43 ⇓P P 00 35 50.7 -2.3
baz=90,SNR=100
429A Davenport Ranc 90.70 46 ⇑P P 00 35 51.1 -2.1
baz=90,SNR=134
ALLY Allegheny Colle 90.74 25 eP P 00 35 52.0 -1.1
comp=Z,1μm,1.0s
TXAR Lajitas Array 90.74 48 PKiKP PKiKP 00 40 47.8 +3.2
TXAR P'P' 01 01 28.3
TXAR Lajitas Array 90.74 48 P P 00 35 57.3 +3.9
comp=Z,280nm,0.8s,baz=288,slow=3.5,SNR=145
TXAR PKiKP PKiKP 00 40 47.8 +3.2
comp=Z,2.9nm,0.8s,baz=154,slow=1.3,SNR=3.9
TXAR PKPPKP P'P'df 01 01 28.3 0.0
comp=Z,1.2nm,0.9s,baz=110,slow=9.5,SNR=4.6
PVIS Viseu 90.78 333 eP P 00 35 57.3 +4.0
comp=Z,75nm,1.5s
LPIG La Paz 90.80 56 P P 00 35 57.2 +3.6
LPIG La Paz 90.80 56 P P 00 35 57.2 +3.6
comp=Z,367nm,1.1s,baz=286,slow=2.3,SNR=24
627A Terlingua Ranc 90.80 48 ⇓P P 00 35 51.7 -2.0
baz=91,SNR=111
PMOR Pomariorio Ree 90.86 109 eP P 00 35 57.2 +3.4
comp=Z,693nm,1.2s
PMOR epP pP 00 37 26.7 +1.5
comp=Z,504nm,1.4s
WVL Waterville 90.86 17 eP P 00 35 52.8 -0.6
232A Coleman 90.89 44 ⇓P P 00 35 52.1 -1.8
baz=91,SNR=308
SIUC Southern Illin 90.90 33 eP P 00 35 51.8 -2.0
comp=Z,1μm,0.8s
529A Stev Forest Ra 90.92 47 ⇓P P 00 35 51.8 -2.3
baz=91,SNR=204
430A Baggett Ranch, 90.93 46 ⇓P P 00 35 52.1 -2.1
baz=91,SNR=285
Z35A Perciveyen, San 90.93 41 ⇑P P 00 35 51.9 -2.1
baz=91,SNR=141
MTE Manteigas 90.94 332 eP P 00 35 58.7 +4.7
comp=Z,90nm,1.6s
MTE Manteigas 90.94 332 eP P 00 35 52.0 -2.0
comp=Z,66nm,0.9s
331A San Angelo 90.94 45 ⇑P P 00 35 52.0 -2.2
baz=91,SNR=202
628A Black Gap, Mar 91.05 47 ⇑P P 00 35 53.2 -1.5
baz=91,SNR=95
HNH Hanover 91.06 19 eP P 00 35 55.1 +0.7
134A White-Moore Ra 91.13 42 ⇑P P 00 35 52.9 -2.1
baz=91
VAH Vaihoa 91.20 109 eP P 00 35 58.6 +3.2
comp=Z,385nm,1.3s
VAH epP pP 00 37 28.1 +1.3
comp=Z,296nm,1.5s
KHZ Kahutara 91.22 152 eP P 00 35 57.4 +2.6
comp=Z,186nm,1.6s
332A Millersview 91.24 44 ⇑P P 00 35 53.5 -2.0
baz=91,SNR=270
USIN University of 91.31 32 eP P 00 35 56.5 +0.8
comp=Z,502nm,1.3s
431A Sonora 91.34 45 ⇑P P 00 35 53.8 -2.3
baz=91,SNR=124
530A J-C Ranch, Com 91.37 46 ⇓P P 00 35 54.3 -1.9
baz=91,SNR=223
PCBR Castelo Branco 91.42 332 eP P 00 35 55.8 -0.3
comp=Z,124nm,1.5s
PPT Papeete 91.45 112 P P 00 36 01.4 +4.9
PPT Papeete 91.45 112 P P 00 36 01.4 +4.9
comp=Z,253nm,0.9s,baz=311,slow=4.7,SNR=17
PPT2 Papeete2 91.47 112 eP P 00 36 00.2 +3.5
comp=Z,263nm,1.1s
PPT2 epP pP 00 37 29.8 +1.7
comp=Z,133nm,1.1s
135A Vickery Place, 91.48 42 ⇑P P 00 35 54.2 -2.4
baz=91
BINY Binghamton 91.49 22 eP P 00 35 55.7 -0.8
comp=Z,182nm,0.9s
PAE Paea 91.52 112 eP P 00 36 00.0 +3.2
comp=Z,61nm,1.2s
PAE epP pP 00 37 29.7 +1.5
comp=Z,18nm,1.0s
RPZ Rata Peaks 91.56 155 eP P 00 35 56.9 +0.5
comp=Z,64nm,0.8s
RPZ Rata Peaks 91.56 155 P P 00 36 00.1 +3.7
comp=Z,63nm,0.7s,baz=180,slow=2.0,SNR=34
PCAS Casmilo, Conde 91.58 333 eP P 00 36 00.4 +3.5
comp=Z,96nm,1.2s
TIAR Tiarei 91.61 112 eP P 00 36 00.7 +3.5
comp=Z,137nm,1.1s
TIAR epP pP 00 37 30.2 +1.5
comp=Z,40nm,1.0s
432A Menard 91.61 44 ⇓P P 00 35 55.3 -2.1
baz=91,SNR=292
WCI Wyandotte Cave 91.62 31 eP P 00 35 56.2 -0.9
WCI pmax pmax
comp=Z,550nm,1.4s
WCI Wyandotte Cave 91.62 31 eP P 00 35 56.2 -0.9
comp=Z,550nm,1.4s
TRY Troy 91.62 21 eP P 00 35 56.8 -0.2
333A Richland Sprin 91.68 44 ⇓P P 00 35 55.2 -2.4
baz=91,SNR=236
MIAR Mount Ida 91.68 38 eP P 00 35 56.5 -1.0
MIAR Mount Ida 91.68 38 eP P 00 35 56.5 -1.0
PMRV Marv??o 91.75 332 eP P 00 36 01.3 +3.6
comp=Z,97nm,1.2s
531A Rocksprings 91.78 45 ⇑P P 00 35 55.9 -2.2
baz=92,SNR=171
PVMO Portageville 91.81 34 eP P 00 35 56.7 -1.3
comp=Z,306nm,1.0s
TVO Taravao 91.82 112 eP P 00 36 01.9 +3.6
comp=Z,135nm,1.2s
TVO epP pP 00 37 31.6 +1.9
comp=Z,54nm,1.1s
WHTX Lake Whitney 91.91 42 eP P 00 35 56.6 -2.0
WHTX Lake Whitney 91.91 42 ⇑P P 00 35 56.2 -2.4
baz=92,SNR=132
JCT Junction City 91.92 45 eP P 00 35 56.3 -2.4
JCT pmax pmax
comp=Z,586nm,0.9s
JCT Junction City 91.92 45 eP P 00 35 56.3 -2.4
comp=Z,586nm,0.9s
JCT Junction City 91.92 45 ⇓P P 00 35 56.3 -2.4
baz=92,SNR=207
PTOM Tomar 91.94 332 eP P 00 36 02.5 +3.9
comp=Z,92nm,1.3s
DCZ Deep Cove 91.99 158 eP P 00 36 02.0 +3.8
comp=Z,96nm,1.1s
UALR University of 92.05 37 eP P 00 36 00.8 +1.7
comp=Z,654nm,2.2s
334A Lometa 92.05 43 ⇓P P 00 35 57.0 -2.3
baz=92,SNR=109
GNAR Gosnell 92.06 35 eP P 00 36 03.6 +4.4
comp=Z,8μm,1.3s
433A Art 92.08 44 ⇓P P 00 35 57.1 -2.3
baz=92,SNR=110
GLAT Glass 92.11 34 eP P 00 35 57.7 -1.7
HBAR Harrisburg 92.13 36 eP P 00 35 59.1 -0.4
KSPA Keystone Colle 92.14 22 eP P 00 35 58.7 -0.8
532A Rocksprings 92.15 45 ⇑P P 00 35 57.9 -1.9
baz=92,SNR=95
UTMT University of 92.22 34 eP P 00 35 57.8 -2.1
comp=Z,998nm,1.1s
PESTR Estremoz 92.32 332 eP P 00 36 04.0 +3.6
comp=Z,62nm,1.3s
631A Perdido Creek 92.36 46 ⇑P P 00 35 58.8 -1.9
baz=92,SNR=230
HALT Halls 92.39 34 eP P 00 35 59.8 -0.9
434A Burnet 92.45 43 ⇓P P 00 35 58.8 -2.3
baz=92,SNR=64
335A Moody 92.50 43 ⇑P P 00 35 59.3 -2.0
baz=92
WES Weston 92.54 19 eP P 00 36 01.2 0.0
WES Weston 92.54 19 eP P 00 36 01.2 0.0
ODZ Otahua Downs 92.62 155 eP P 00 36 05.6 +4.3
comp=Z,188nm,1.3s
533A Kerrville 92.65 44 ⇓P P 00 36 00.0 -2.1
baz=92
MEH Mehetia 92.70 112 eP P 00 36 05.5 +3.2
comp=Z,97nm,1.2s
MEH epP pP 00 37 35.4 +1.6
comp=Z,79nm,1.2s
632A Uvalde 92.70 45 ⇑P P 00 36 00.0 -2.3
baz=92,SNR=146
PBAR Barrancos 92.74 331 eP P 00 36 05.3 +3.0
comp=Z,66nm,1.5s
EVO Evora 92.77 332 eP P 00 36 05.4 +3.0
comp=Z,204nm,1.4s
EVO epP pP 00 37 35.8 +2.0
EVO eR
comp=Z,2μm,19.8s
EVO Evora 92.77 332 eP P 00 36 04.4 +2.0
comp=Z,104nm,1.5s
EVOP Sao Brissos 92.81 332 eP P 00 36 05.4 +2.8
EVOP e*PP pP 00 37 35.8 +1.8
EVOP pmax pmax
comp=Z,204nm,1.4s
EVOP Sao Brissos 92.81 332 eP P 00 36 05.4 +2.8
comp=Z,204nm,1.4s
EVOP epP pP 00 37 35.8 +1.8
WVT Waverly 92.83 33 eP P 00 36 01.6 -1.1
WVT pmax pmax
comp=Z,311nm,1.0s
WVT Waverly 92.83 33 eP P 00 36 01.6 -1.1
comp=Z,311nm,1.0s
ODNJ Ogdensburg 92.91 22 eP P 00 36 02.4 -0.6
comp=Z,136nm,0.9s
534A Blanco 92.97 44 ⇑P P 00 36 01.3 -2.3
baz=93,SNR=73
LIS Lisbon 93.00 333 eP P 00 36 00.8 -2.7
LIS AMb AMB 00 36 04.3
comp=Z,321nm,2.9s
LIS eS SKSac 00 45 54.8 -3.8
YLE Yale 93.14 21 eP P 00 36 07.8 +3.8
PBEJ Beja 93.17 331 eP P 00 36 08.1 +3.8
comp=Z,109nm,1.3s
PAL Palisades 93.17 21 eP P 00 36 08.0 +3.8
PAL pmax pmax
comp=Z,157nm,0.9s
PAL Palisades 93.17 21 eP P 00 36 08.0 +3.8
comp=Z,157nm,0.9s
732A Laxson Ranch, 93.22 46 ⇑P P 00 36 02.1 -2.6
baz=93,SNR=111
BRNJ Basking Ridge 93.29 22 eP P 00 36 03.7 -1.0
comp=Z,235nm,0.8s
PNCL Nicolau / Gran 93.33 332 eP P 00 36 08.6 +3.6
comp=Z,107nm,1.6s
CPNY Central Park 93.36 21 eP P 00 36 08.8 +3.8
comp=Z,123nm,1.0s
MVL Millersville 93.41 23 eP P 00 36 05.3 0.0
comp=Z,158nm,1.1s
MESJ Messejana 93.46 331 eP P 00 36 02.9 -2.7
MESJ AMb AMB 00 36 10.1
comp=Z,172nm,1.3s
MESJ eS SKSac 00 45 57.1 -4.0
OXF Oxford 93.56 35 eP P 00 36 04.3 -1.8
OXF e*PP pP 00 37 35.0 -2.5
OXF e 00 39 57.0
OXF pmax pmax
comp=Z,793nm,1.2s
OXF Oxford 93.56 35 eP P 00 36 04.3 -1.8
comp=Z,793nm,1.2s
OXF epP pP 00 37 35.0 -2.5
OXF ePP PP 00 39 57.0 +1.0
PVAQ Vaqueiros 93.67 331 eP P 00 36 10.5 +4.0
comp=Z,129nm,1.2s
SDMD Soldier's Deli 93.81 24 eP P 00 36 09.1 +1.9
comp=Z,332nm,1.1s
PTEO Sao Teotonio 93.90 332 eP P 00 36 10.4 +2.8
comp=Z,194nm,1.6s
TZTN Tazewell 94.14 30 eP P 00 36 08.0 -0.7
comp=Z,233nm,0.9s
SWET Sewanee 94.39 32 eP P 00 36 08.3 -1.6
comp=Z,278nm,1.0s
BLA Blacksburg 94.66 27 eP P 00 36 09.0 -2.1
BLA pmax pmax
comp=Z,123nm,1.1s
BLA Blacksburg 94.66 27 eP P 00 36 09.0 -2.1
comp=Z,123nm,1.1s
CBN Corbin 94.75 25 eP P 00 36 15.2 +3.7
comp=Z,408nm,1.5s
VWCC Virginia Weste 94.78 27 eP P 00 36 14.8 +3.2
TKL Tuckaleechee C 94.83 31 eP P 00 36 10.1 -1.9
TKL ePP PP 00 40 04.8 -1.0
VBMS Vicksburg 95.02 37 eP P 00 36 14.8 +2.0
comp=Z,590nm,1.1s
KVTX Kingsville 95.27 45 eP P 00 36 19.3 +5.3
comp=Z,199nm,0.8s
TBI Tubuai 95.52 116 eP P 00 36 17.7 +2.7
comp=Z,170nm,1.3s
TBI epP pP 00 37 47.8 +1.2
comp=Z,97nm,1.1s
KMSC Kings Mountain 96.20 29 ⇑P P 00 36 16.0 -2.1
baz=96
KMBO Kilima Mbogo 96.33 274 eP P 00 36 17.2 -2.1
comp=Z,56nm,1.0s
KMBO pP pP 00 37 54.7 +3.8
KMBO PP PP 00 40 22.7 +3.8
KMBO S SKSac 00 46 22.3 +4.8
KMBO PKKP PKKPdf 00 53 07.5 +5.9
KMBO Kilima Mbogo 96.33 274 P P 00 36 23.8 +4.5
comp=Z,45nm,1.0s,baz=39,slow=6.8,SNR=33
KMBO pP pP 00 37 54.7 +3.8
comp=Z,18nm,1.0s,baz=17,slow=7.0,SNR=5.1
KMBO PP PP 00 40 22.7 +3.8
comp=Z,70nm,1.1s,baz=40,slow=9.4,SNR=11
KMBO Kilima Mbogo 96.33 274 S SKSac 00 46 22.3 +4.8
comp=Z,2.8nm,0.9s,baz=229,slow=21,SNR=12
KMBO PKKP PKKPdf 00 53 07.5 +5.9
comp=Z,7.2nm,0.8s,baz=208,slow=2.5,SNR=18
JSC Jenkinsville 96.99 29 eP P 00 36 21.0 -0.6
JSC Jenkinsville 96.99 29 eP P 00 36 21.0 -0.6
CNNC Cliffs of the 97.30 26 eP Pdif 00 36 26.9 +3.9
comp=Z,380nm,1.9s
BRAL Brewton 97.57 35 eP Pdif 00 36 28.6 +4.3
comp=Z,2μm,2.2s
CSU Charleston Sou 98.59 29 ePdif P 00 36 32.8 +4.0
TIGA Tifton 98.63 32 ePdif P 00 36 33.5 +4.5
TIGA Tifton 98.63 32 ⇓Pdiff Pdif 00 36 26.9 -2.1
baz=98
TAM Tamanrasset 100.11 313 eP Pdif 00 36 35.7 -0.3
TAM pmax pmax
comp=Z,7.0nm,1.2s
TAM Tamanrasset 100.11 313 ePdif Pdif 00 36 35.7 -0.3
comp=Z,7.4nm,1.2s
TAM ePP PP 00 40 33.8 -13
DRV Dumont d'Urvil 108.64 178 PP PP 00 41 42.0 -7.3
DRV SKKS 00 48 36.0
DRV SS SKKPbc 00 55 59.0 +25
TORD Torodi Ar. Bea 110.04 311 PKKPbc PKKPbc 00 52 25.8 +5.0
TORD Torodi Ar. Bea 110.04 311 Pdiff Pdif 00 37 29.2 +9.2
comp=Z,1.0nm,0.6s,baz=20,slow=3.8,SNR=9.3
TORD PKiKP PKiKP 00 41 22.8 +3.3
comp=Z,7.3nm,0.6s,baz=13,slow=2.1,SNR=22
TORD SKP 00 44 18.2
comp=Z,4.8nm,0.7s,baz=358,slow=1.6,SNR=4.4
TORD PKKPbc PKKPbc 00 52 25.8 +5.1
comp=Z,22nm,0.8s,baz=234,slow=2.7,SNR=20
TGUH Tegucigalpa,Un 111.93 44 ePKiKP PKiKP 00 41 22.0 -1.1
TGUH ePP PP 00 42 10.7 -1.8
LSZ Lusaka 112.33 269 ePdif Pdif 00 37 29.0 -1.2
LSZ ePP PP 00 42 12.5 -4.0
JTS JuntasAbangare 116.31 45 ePKPdf PKPdf 00 41 31.0 -0.6
CRPR Cabo Rojo, PR 116.74 23 ePKPdf PKPdf 00 41 31.4 -0.9
DBIC Dimbokro 118.99 313 ePKPdf PKPdf 00 41 34.1 -2.6
DBIC Dimbokro 118.99 313 PKP PKPdf 00 41 38.9 +2.2
comp=Z,38nm,0.6s,baz=3.6,slow=2.2,SNR=33
TIC Toumodi 119.10 313 ePKiKP PKPdf 00 41 35.6 -1.4
comp=Z,122nm,0.8s
KIC Kosan Boka 119.19 312 ePKiKP PKPdf 00 41 35.8 -1.3
comp=Z,148nm,0.9s
LIC Lamto 119.46 313 ePKiKP PKPdf 00 41 39.3 +1.7
comp=Z,137nm,0.9s
LIC eR
comp=Z,1μm,20.8s
LIC Lamto 119.46 313 ePKiKP PKPdf 00 41 36.2 -1.4
comp=Z,193nm,0.9s
LIC Lamto 119.46 313 ePKPdf PKPdf 00 41 39.3 +1.7
SACV Santiago Islan 119.69 336 ePKPdf PKPdf 00 41 35.9 -2.2
BCIP Isla Barro Col 119.83 40 ePKPdf PKPdf 00 41 36.7 -1.7
FNG Fond-Bernard 120.04 18 eP PKPdf 00 41 41.5 +2.7
PHG Guadaloupe-2 120.09 18 eP PKPdf 00 41 37.7 -1.2
LBTB Lobatse 120.19 263 ePKPdf PKPdf 00 41 36.9 -1.9
TBG Guadaloupe-3 120.25 18 eP PKPdf 00 41 39.4 +0.4
MGG Marie-Galante 120.26 18 eP PKPdf 00 41 41.5 +2.5

BBL	**Barber's Block**	**120.61**	**18**	*e*P	**PKPdf**	**00 41 42.1 +2.3**				
VNDA	**Vanda**	**120.65**	**173**	PKP	**PKPdf**	**00 41 40.7 +2.7**				
VNDA				*ep*PKPdf	pPKPdf	00 43 02.7 -12				
VNDA	**Vanda**	**120.65**	**173**	PKP	**PKPdf**	**00 41 40.7 +2.7**				
	comp=Z,34nm,0.8s,baz=308,slow=4.4,SNR=73									
SBA	**Scott Base**	**121.41**	**172**	*e*PKIKP	**PKPdf**	**00 41 37.8 -1.6**				
SBA				*e*		00 43 19.6				
SBA	**Scott Base**	**121.41**	**172**	*e*PKPdf	**PKPdf**	**00 41 37.8 -1.6**				
SBA				*e*PP	**PP**	**00 43 19.6 +1.6**				
FDF	**Fort de France**	**121.44**	**18**	*e*PKIKP	**PKPdf**	**00 41 39.8 -1.6**				
FDF	**Fort de France**	**121.44**	**18**	*e*P	**PKPdf**	**00 41 44.0 +2.6**				
FDF	**Fort de France**	**121.44**	**18**	*e*PKPdf	**PKPdf**	**00 41 39.8 -1.6**				
MAW	**Mawson**	**122.02**	**205**	*e*PKPdf	**PKPdf**	**00 41 40.1 -0.6**				
MAW				PP	**PP**	**00 43 24.3 +2.0**				
MAW	**Mawson**	**122.02**	**205**	PKP	**PKPdf**	**00 41 44.7 +4.0**				
	comp=Z,77nm,0.8s,baz=83,slow=4.4,SNR=49									
MAW				PP	**PP**	**00 43 24.3 +2.0**				
	comp=Z,24nm,0.8s,baz=287,slow=2.5,SNR=5.1									
BOSA	**Boshof**	**122.49**	**259**	*e*PKPdf	**PKPdf**	**00 41 43.7 +0.6**				
BOSA				*ep*PKPdf	pPKPdf	00 43 05.6 -14				
BOSA				PP	**PP**	**00 43 29.8 +3.3**				
BOSA	**Boshof**	**122.49**	**259**	PKP	**PKPdf**	**00 41 46.6 +3.5**				
	comp=Z,41nm,0.8s,baz=59,slow=2.8,SNR=28									
BOSA				PP	**PP**	**00 43 29.8 +3.3**				
	comp=Z,48nm,1.1s,baz=70,slow=7.3,SNR=4.0									
TSUM	**Tsumeb**	**122.66**	**273**	*e*PKPdf	**PKPdf**	**00 41 42.6 -1.1**				
SDV	**Santo Domingo**	**124.06**	**31**	*e*PKPdf	**PKPdf**	**00 41 44.9 -1.8**				
TPR	**Prospect**	**124.95**	**19**	*e*	**PKPdf**	**00 41 51.3 +3.1**				
TRN	**Trinidad (W)**	**125.32**	**20**	*e*	**PKPdf**	**00 41 51.9 +3.0**				
TBH	**Brigand Hill**	**125.56**	**19**	*e*	**PKPdf**	**00 41 54.2 +4.9**				
TPP	**Pointe-a-Pierr**	**125.63**	**20**	*e*	**PKPdf**	**00 41 53.8 +4.4**				
ROSC	**El Rosal**	**126.17**	**37**	*e*PKPdf	**PKPdf**	**00 41 49.8 -1.2**				
ROSC	**El Rosal**	**126.17**	**37**	PKP	**PKPdf**	**00 41 54.4 +3.4**				
	comp=Z,112nm,0.7s,baz=270,slow=1.0,SNR=65									
SUR	**Sutherland**	**127.74**	**258**	PKP	**PKPdf**	**00 41 58.1 +5.0**				
SUR				PP	**PP**	**00 44 03.9 +2.7**				
SUR	**Sutherland**	**127.74**	**258**	PKP	**PKPdf**	**00 41 58.1 +5.0**				
	comp=Z,16nm,0.7s,baz=122,slow=3.3,SNR=12									
SUR				PP	**PP**	**00 44 03.9 +2.7**				
	comp=Z,50nm,1.2s,baz=98,slow=6.4,SNR=4.7									
OTAV	**Otavalo**	**128.20**	**44**	*e*PKPdf	**PKPdf**	**00 41 52.9 -2.0**				
QSPA	**South Pole Qui**	**131.97**	**180**	PP	PP	00 44 29.1 +1.7				
QSPA	**South Pole Qui**	**131.97**	**180**	PKP	**PKPdf**	**00 42 03.1 +3.2**				
	comp=Z,119nm,0.8s,baz=296,slow=0.9,SNR=41									
QSPA				PP	**PP**	**00 44 29.1 +1.7**				
	comp=Z,24nm,1.1s,baz=192,slow=1.5,SNR=4.4									
ATAH	**Atahualpa**	**134.39**	**49**	PKP	**PKPdf**	**00 42 10.3 +3.7**				
ATAH				PP	**PP**	**00 44 45.8 +2.6**				
ATAH	**Atahualpa**	**134.39**	**49**	PKP	**PKPdf**	**00 42 10.3 +3.7**				
	comp=Z,93nm,0.7s,baz=108,slow=1.9,SNR=26									
ATAH				PP	**PP**	**00 44 45.8 +2.6**				
	comp=Z,28nm,1.1s,baz=0.0,slow=7.1,SNR=2.5									
PTGA	**Pitinga**	**136.60**	**22**	*e*PKPdf	PKPpre	00 42 01.4				
NNA	**Nana**	**139.20**	**52**	*e*PKPpre	PKPpre	00 42 05.6				
NNA				*e*PKPdf	**PKPdf**	**00 42 13.1 -1.8**				
NVL	**N'lazarevskaya**	**139.97**	**206**	*e*PKHKP	PKPpre	00 42 05.7				
NVL				pmax	pmax					
	comp=Z,81nm,0.8s									
RCBR	**Riachuelo**	**142.81**	**345**	*e*SKP	**SKPbc**	**00 45 22.7 +1.4**				
RCBR	**Riachuelo**	**142.81**	**345**	PKP	**PKPdf**	**00 42 22.6 +1.1**				
	comp=Z,106nm,1.1s,baz=16,slow=4.0									
SAML	**Samuel**	**143.27**	**31**	*e*PKPdf	PKPab	00 42 18.1 -1.4				
SNAA	**Sanae**	**143.98**	**201**	*e*PKPdf	PKPbc	00 42 16.4 -4.3				
SNAA				pPKP	pPKPdf	00 44 00.7 +2.1				
SNAA	**Sanae**	**143.98**	**201**	PKP	**PKPdf**	**00 42 24.7 +3.0**				
	comp=Z,243nm,0.9s,baz=96,slow=6.3,SNR=117									
SNAA				pPKP	**pPKPdf**	**00 44 00.7 +2.1**				
	comp=Z,33nm,1.0s,baz=322,slow=1.9,SNR=2.5									
LPAZ	**La Paz**	**147.53**	**44**	*e*PKPab	**PKPab**	**00 42 36.5 0.0**				
LPAZ	**La Paz**	**147.53**	**44**	PKPbc	**PKPab**	**00 42 36.4 -0.2**				
	comp=Z,237nm,0.7s,baz=355,slow=5.6,SNR=88									
SIV	**San Ignacio**	**150.51**	**32**	PKPbc	**PKPbc**	**00 42 43.5 +3.6**				
SIV				PKPab	**PKPab**	**00 42 51.8 +3.7**				
SIV				PP	**PP**	**00 46 20.8 +1.9**				
SIV	**San Ignacio**	**150.51**	**32**	PKPbc	**PKPbc**	**00 42 43.5 +3.6**				
	comp=Z,547nm,0.8s,baz=338,slow=1.8,SNR=147									
SIV				PKPab	**PKPab**	**00 42 51.8 +3.7**				
	comp=Z,374nm,0.9s,baz=334,slow=4.2,SNR=17									
SIV				PP	**PP**	**00 46 20.8 +1.9**				
	comp=Z,44nm,0.9s,baz=323,slow=4.3,SNR=4.0									
LVC	**Limon Verde**	**152.18**	**53**	*e*PKPdf	**PKPdf**	**00 42 36.3 -0.5**				
LVC				*e*PKPbc	**PKPbc**	**00 42 41.8 -2.0**				
BDFB	**Brasilia**	**153.39**	**6**	PKPbc	**PKPbc**	**00 42 49.4 +3.0**				
BDFB	**Brasilia**	**153.39**	**6**	PKP	**PKPdf**	**00 42 41.7 +3.2**				
	comp=Z,152nm,0.8s,baz=19,slow=2.9,SNR=116									
BDFB				PKPbc	**PKPbc**	**00 42 49.4 +3.0**				
	comp=Z,149nm,1.0s,baz=311,slow=1.4,SNR=21									
BDFB				PKPab	**PKPab**	**00 43 03.3 +3.1**				
	comp=Z,120nm,0.8s,baz=347,slow=5.3,SNR=13									
LCO	**Las Campanas**	**155.55**	**66**	*e*P	**PKPdf**	**00 42 44.3 +3.0**				
LCO	**Las Campanas**	**155.55**	**66**	*e*PKPdf	**PKPdf**	**00 42 40.7 -0.7**				
LCO				*e*PKPab	**PKPab**	**00 43 09.4 -0.2**				
TLL	**Tololo Astrono**	**156.20**	**68**	*e*PKIKP	**PKPdf**	**00 42 44.9 +2.8**				
TLL	**Tololo Astrono**	**156.20**	**68**	*e*P	**PKPdf**	**00 42 44.9 +2.8**				
TLL	**Tololo Astrono**	**156.20**	**68**	*e*P	**PKPdf**	**00 42 44.9 +2.8**				
CLCH	**Cerro Calan**	**158.21**	**74**	*e*P	**PKPdf**	**00 42 46.2 +1.9**				
CFAA	**Coronel Fontan**	**158.82**	**67**	PP	PP	00 47 07.9 +2.0				
CFAA	**Coronel Fontan**	**158.82**	**67**	PKP	**PKPdf**	**00 42 46.7 +1.7**				
	comp=Z,4.3nm,0.9s,baz=292,slow=2.6,SNR=44									
CFAA				PKPab	**PKPab**	**00 43 26.4 +2.9**				
	comp=Z,21nm,0.9s,baz=308,slow=4.7,SNR=18									
CFAA				PP	**PP**	**00 47 07.9 +2.0**				
	comp=Z,5.4nm,1.1s,baz=307,slow=5.3,SNR=13									
USHA	**Ushuaia**	**160.24**	**138**	PKPab	**PKPab**	**00 43 31.7 +2.8**				
USHA	**Ushuaia**	**160.24**	**138**	PKPab	**PKPab**	**00 43 31.7 +2.8**				
	comp=Z,82nm,0.9s,baz=232,slow=5.7,SNR=13									
PLCA	**Paso Flores**	**160.99**	**94**	*e*PKPdf	**PKPdf**	**00 42 46.0 -1.3**				
PLCA				PKP	**PKPdf**	**00 42 46.2 -1.0**				
PLCA				*e*PKPab	**PKPab**	**00 43 33.9 +1.1**				
PLCA				*e*PP	**PP**	**00 47 15.1 -2.6**				
PLCA	**Paso Flores**	**160.99**	**94**	PKP	**PKPdf**	**00 42 46.2 -1.0**				
	comp=Z,58nm,1.2s,baz=258,slow=2.6,SNR=18									
PLCA	**Paso Flores**	**160.99**	**94**	PKP	**PKPdf**	**00 42 49.9 +2.7**				
	comp=Z,38nm,1.0s,baz=276,slow=3.0,SNR=17									
PLCA				PKPab	**PKPab**	**00 43 36.7 +3.9**				
	comp=Z,138nm,1.0s,baz=284,slow=4.4,SNR=18									
PLCA				PP	**PP**	**00 47 19.6 +1.9**				
	comp=Z,52nm,1.3s,baz=276,slow=6.5,SNR=6.8									
CPUP	**Villa Florida**	**161.28**	**36**	PKP	**PKPdf**	**00 42 50.5 +2.7**				
CPUP				PKPab	**PKPab**	**00 43 36.6 +2.5**				
CPUP				PP	**PP**	**00 47 18.9 +0.7**				
CPUP	**Villa Florida**	**161.28**	**36**	PKP	**PKPdf**	**00 42 50.5 +2.7**				
	comp=Z,23nm,0.8s,baz=331,slow=1.6,SNR=20									
CPUP				PKPab	**PKPab**	**00 43 36.6 +2.5**				
	comp=Z,104nm,0.9s,baz=322,slow=5.9,SNR=20									
CPUP				PP	**PP**	**00 47 18.9 +0.7**				
	comp=Z,16nm,0.8s,baz=316,slow=5.6,SNR=5.7									
TRQA	**Tornquist**	**166.52**	**78**	*e*PKPdf	**PKPdf**	**00 42 51.4 -0.9**				
TRQA				*e*PKPab	**PKPab**	**00 43 55.5 -1.7**				
LPA	**La Plata**	**167.66**	**58**	*de*PKP	**PKPab**	**00 44 07.0 +4.8**				
LPA				SKIKP		00 45 39.0				
LPA				PP	**PP**	**00 47 52.0 +0.2**				
LPA				PPP	PPP	00 51 52.0				

*ISCJB **24** 01:09:58.7±0.4,35°.57N±0°.03×71°.24E±0°.05,h90km, mb3.8/6, Error ellipse: s-maj=5.8km s-min=4.4km az=160.8*
*NEIC **24** 01:09:59.9±0.6,35°.46N×71°.09E,h122km±19km, mb4.6/7, Error ellipse: s-maj=13.6km s-min=7.2km az=69.0*
*IDC **24** 01:10:00.1±5.7,35°.51N×71°.04E,h90km±42km, mb3.6/7, mb1 3.5/11,mb1mx3.3/31,mbtmp3.4/11, Error ellipse: s-maj=50.5km s-min=27.7km az=147.0*
*NNC **24** 01:10:09.4±6.4,36°.26N×70°.86E,h202km±102km, mb2.4, mpv3.3, Error ellipse: s-maj=56.7km s-min=40.9km az=27.0*

ISC 24 01:09:59.8±0.7,**35°.53N**±0°.06×**71°.17E**±0°.07,**h90**km,**n49,** σ1§**54**/52,**mb3.9**/6,**6C-2D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**1.81**	**160**	P	Pn	01 10 33.4	+3.7
CEP				S	Sn	01 10 58.0	+5.7
KBL	**Kabul**	**2.01**	**241**	*e*Pn	**Pn**	**01 10 33.0**	**+0.7**
KBL				*e*S	**Sn**	**01 10 57.8**	**+0.7**
CHCP	**Chirah Chowk**	**2.54**	**137**	P	Pn	01 10 43.3	+4.0
THW	**Thamme Wali**	**2.77**	**170**	P	Pn	01 10 45.7	+3.4
EKS2	**Erkin-Say**	**7.40**	**15**	*e*Pn	**Pn**	**01 11 47.0**	**+1.8**
EKS2				*e*S	**Sn**	**01 13 07.8**	**+0.2**
AAK	**Ala-Archa**	**7.55**	**19**	P	**Pn**	**01 11 49.7**	**+2.4**
	0.6nm,0.3s,baz=217,slow=3.7,SNR=5.5						
AAK				S	**Sn**	**01 13 11.7**	**+0.4**
	0.4nm,0.3s,baz=52,slow=19,SNR=2.8						
AAK	**Ala-Archa**	**7.55**	**19**	⇑P	**Pn**	**01 11 47.1**	**-0.2**
	0.5nm,0.3s						
AAK				⇑S	**Sn**	**01 13 08.9**	**-2.3**
	1.6nm,0.6s						
KK31	**Karatay Array**	**7.58**	**356**	⇓P	**Pn**	**01 11 47.7**	**+0.1**
	0.7nm,0.3s,baz=184,slow=13,SNR=30						
KK31				⇑S	**Sn**	**01 13 06.9**	**-5.0**
	1.8nm,0.3s,baz=178,slow=21,SNR=4.0						
KKAR	**Karatay Array**	**7.58**	**356**	*e*Pn	**Pn**	**01 11 48.0**	**+0.4**
	14nm,1.0s						
TKM2	**Tokmak 2**	**8.14**	**24**	*e*Pn	**Pn**	**01 11 57.1**	**+1.7**
TKM2	**Tokmak 2**	**8.14**	**24**	⇓P	**Pn**	**01 11 58.5**	**+3.1**
	1.6nm,0.8s						
TKM2				⇑S	**Sn**	**01 13 23.6**	**-2.1**
	1.1nm,0.6s						
PYUN	**Piuthan**	**12.48**	**123**	*e*P	**Pn**	**01 12 53.1**	**-1.2**
	16nm,0.3s						
PYUN	**Piuthan**	**12.48**	**123**	*e*P	**Pn**	**01 12 53.1**	**-1.2**
	16nm,0.3s						
DANN	**Dangsing**	**12.86**	**120**	*e*P	**Pn**	**01 12 58.2**	**-1.2**
	15nm,0.3s						
DANN	**Dangsing**	**12.86**	**120**	*e*P	**Pn**	**01 12 58.2**	**-1.2**
	15nm,0.3s						
KOLN	**Koldanda**	**13.10**	**123**	*e*P	**Pn**	**01 13 01.1**	**-1.5**
KOLN	**Koldanda**	**13.10**	**123**	*e*P	**Pn**	**01 13 01.1**	**-1.5**
GKN	**Gorkha**	**13.68**	**120**	*e*P	**Pn**	**01 13 08.6**	**-1.6**
GKN	**Gorkha**	**13.68**	**120**	*e*P	**Pn**	**01 13 08.6**	**-1.6**
MKAR	**Makanchi Array**	**14.01**	**33**	P	**Pn**	**01 13 15.4**	**+1.2**
	0.0nm,0.3s,baz=213,slow=10,SNR=2.6						
DMN	**Daman**	**14.25**	**120**	*e*P	**Pn**	**01 13 16.6**	**-1.1**
DMN	**Daman**	**14.25**	**120**	*e*P	**Pn**	**01 13 16.6**	**-1.1**
KKN	**Kakani**	**14.27**	**119**	*e*P	**Pn**	**01 13 16.1**	**-1.7**
	15nm,0.5s						
KKN	**Kakani**	**14.27**	**119**	*e*P	**Pn**	**01 13 16.1**	**-1.7**
	15nm,0.5s						
PKIN	**Phulchoki**	**14.48**	**119**	*e*P	**Pn**	**01 13 19.3**	**-1.3**
	14nm,0.5s						
PKI	**Pulchoki**	**14.49**	**119**	*e*P	**Pn**	**01 13 20.3**	**-0.5**
PKI	**Pulchoki**	**14.49**	**119**	*e*P	**Pn**	**01 13 20.3**	**-0.5**
GUN	**Gumba**	**14.63**	**117**	*e*P	**Pn**	**01 13 21.8**	**-0.8**
	11nm,0.3s						
GUN	**Gumba**	**14.63**	**117**	*e*P	**Pn**	**01 13 21.8**	**-0.8**
	11nm,0.3s						
JIRN	**Jiri**	**15.00**	**117**	*e*P	**Pn**	**01 13 26.8**	**-0.6**
JIRN	**Jiri**	**15.00**	**117**	*e*P	**Pn**	**01 13 26.8**	**-0.6**
RAMN	**Ramite**	**15.71**	**119**	*e*P	**Pn**	**01 13 35.4**	**-0.8**
RAMN	**Ramite**	**15.71**	**119**	*e*P	**Pn**	**01 13 35.4**	**-0.8**
KURBB	**Kurchatov Arra**	**16.00**	**17**	P	**P**	**01 13 44.8**	**+3.6**
	0.1nm,0.3s,baz=206,slow=10,SNR=3.4						
AB31	**Akbulak array**	**16.00**	**332**	⇑P	**Pn**	**01 13 37.4**	**-2.1**
	0.3nm,0.3s,baz=157,slow=11,SNR=34						
AB31				⇑S	Sn	01 16 20.4	-16
	0.5nm,0.5s,baz=146,slow=24,SNR=5.4						
ABKAR	**Akbulak array**	**16.00**	**332**	*e*Pn	**Pn**	**01 13 37.8**	**-1.6**
	5.7nm,0.6s						
ABKAR				*e*S	Sn	01 16 22.7	-14
TAPN	**Taplejung**	**16.28**	**115**	*e*P	**Pn**	**01 13 43.7**	**+0.3**
	14nm,0.3s						
TAPN	**Taplejung**	**16.28**	**115**	*e*P	**Pn**	**01 13 43.7**	**+0.3**
	14nm,0.3s						
ODAN	**Odare**	**16.33**	**117**	*e*P	**P**	**01 13 44.2**	**-1.1**
ODAN	**Odare**	**16.33**	**117**	*e*P	**P**	**01 13 44.2**	**-1.1**
BVAR	**Borovoye Array**	**17.50**	**358**	P	**Pn**	**01 13 59.4**	**+1.5**
	0.1nm,0.3s,baz=161,slow=14,SNR=2.4						
AKTO	**Aktyubinsk**	**17.69**	**331**	P	**Pn**	**01 14 00.2**	**0.0**
	0.1nm,0.3s,baz=145,slow=11,SNR=4.2						
ZALV	**Zalesovo Beam**	**20.74**	**23**	P	**P**	**01 14 33.4**	**+0.4**
	0.5nm,0.3s,baz=212,slow=9.7,SNR=6.4						
FINES	**FINESS Array B**	**38.37**	**327**	P	**P**	**01 17 12.0**	**+0.2**
	2.6nm,0.9s,baz=117,slow=14,SNR=3.2						
ARCES	**ARCESS Array B**	**42.09**	**338**	P	**P**	**01 17 42.3**	**-0.2**
	8.0nm,1.0s,baz=102,slow=7.5,SNR=5.0						
NOA	**NORSAR Array B**	**45.24**	**324**	P	**P**	**01 18 07.5**	**-0.4**
	0.6nm,0.5s,baz=96,slow=8.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P	**P**	**01 20 35.1**	**-0.9**
	1.3nm,0.6s,baz=49,slow=5.4,SNR=11						
INK	**Inuvik**	**74.84**	**9**	P	**P**	**01 21 31.1**	**+1.1**
	0.5nm,0.4s,baz=215,slow=5.1,SNR=6.1						
YKA	**Yellowknife Ar**	**82.20**	**3**	P	**P**	**01 22 10.9**	**+0.4**
	0.2nm,0.3s,baz=351,slow=5.4,SNR=9.2						

*DDA **24** 01:13:26.1,36°.14N×28°.15E,h18km, ML3.4*
*ISK **24** 01:13:26.7,36°.05N×28°.32E,h23km, MD3.6*
*NSSC **24** 01:13:26.2±2.1,36°.43N×28°.40E,h38km±999km, MD1.8, ML2.9*
*ISCJB **24** 01:13:27.7±0.2,36°.05N±0°.02×28°.37E±0°.02,h69km±5km, Error ellipse: s-maj=3.5km s-min=2.6km az=176.2*
*CSEM **24** 01:13:29.2±0.1,36°.05N×28°.37E,h48km±5km, MD3.7, Error ellipse: s-maj=2.9km s-min=2.3km az=4.0*
*THE **24** 01:13:30.9,36°.12N×28°.28E,h55km±1km, ML3.5/2, Error ellipse: s-maj=1.9km s-min=0.8km az=104.0*
*ATH **24** 01:13:31.0,36°.16N×28°.09E,h51km±1km, MD3.7/9*
*NIC **24** 01:13:32.8±0.2,36°.32N×28°.75E,h25km, mb4.3, ML4.0*
*HLW **24** 01:13:39.9,35°.25N×28°.71E,h27km±17km, Md0.0, Ml3.3*

ISC 24 01:13:29.0±0.9,**36°.10N**±0°.03×**28°.35E**±0°.02,**h61**km±6km, **n171,**σ1§**18**/224,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.22**	**303**	P	**Pn**	**01 13 39.1**	**+0.5**
ARG				S	**Sn**	**01 13 45.9**	**+0.3**
ARG	**Arkhangelos**	**0.22**	**303**	*e*P	**Pn**	**01 13 39.2**	**+0.6**
ARG				*e*S	**Sn**	**01 13 45.5**	**-0.1**
ARG	**Arkhangelos**	**0.22**	**303**	*e*P	**Pn**	**01 13 39.2**	**+0.6**
ARG				*e*S	**Sn**	**01 13 45.5**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.76**	**19**	*e*PG	**Pn**	**01 13 43.5**	**-0.4**
DALY				*e*SG	**Sn**	**01 13 54.8**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.76**	**19**	*e*Pg	**Pn**	**01 13 43.5**	**-0.4**
DALY				*e*Sg	**Sn**	**01 13 54.8**	**-0.1**
TURN	**Turunc**	**0.80**	**14**	*i* P	**Pn**	**01 13 44.1**	**-0.4**
TURN				*i* S	**Sn**	**01 13 54.4**	**-1.4**
TURN	**Turunc**	**0.80**	**14**	*i* P	**Pn**	**01 13 44.1**	**-0.4**
TURN				*i* S	**Sn**	**01 13 54.4**	**-1.4**
AKAS	**Kas**	**1.02**	**82**	*i* P	**Pn**	**01 13 48.5**	**+1.1**
AKAS				*i* S	**Sn**	**01 14 01.5**	**+0.4**
AKAS	**Kas**	**1.02**	**82**	*i* P	**Pn**	**01 13 48.5**	**+1.1**
AKAS				*i* S	**Sn**	**01 14 01.5**	**+0.4**
KARP	**Karpathos**	**1.11**	**241**	P	**Pn**	**01 13 49.5**	**+0.9**
KARP				S	**Sn**	**01 14 03.6**	**+0.5**
KARP	**Karpathos**	**1.11**	**241**	*e*P	**Pn**	**01 13 49.5**	**+0.9**
KARP				*e*S	**Sn**	**01 14 03.1**	**0.0**
KARP	**Karpathos**	**1.11**	**241**	*e*P	**Pn**	**01 13 49.5**	**+0.9**
KARP				*e*S	**Sn**	**01 14 03.1**	**0.0**
BDRM	**Kayabasi**	**1.21**	**323**	*i* P	**Pn**	**01 13 50.1**	**+0.3**
BDRM				*i* S	**Sn**	**01 14 04.4**	**-1.0**
BDRM	**Kayabasi**	**1.21**	**323**	*i* P	**Pn**	**01 13 50.1**	**+0.3**
BDRM				*i* S	**Sn**	**01 14 04.4**	**-1.0**
BODT	**Bodrum**	**1.28**	**319**	*e*PN	**Pn**	**01 13 50.0**	**-0.7**
BODT				*e*SN	**Sn**	**01 14 07.0**	**0.0**
BODT	**Bodrum**	**1.28**	**319**	*e*Pn	**Pn**	**01 13 50.0**	**-0.7**
BODT				*e*Sn	**Sn**	**01 14 07.0**	**0.0**
GLHS	**Glhisar (BURDU**	**1.40**	**41**	*e*PN	**Pn**	**01 13 52.5**	**0.0**
GLHS				*e*SN	**Sn**	**01 14 10.8**	**+0.8**
GLHS	**Glhisar (BURDU**	**1.40**	**41**	*e*Pn	**Pn**	**01 13 52.5**	**0.0**
GLHS				*e*Sn	**Sn**	**01 14 10.8**	**+0.8**
ELL	**Elmali**	**1.41**	**62**	*e*PN	**Pn**	**01 13 52.8**	**+0.2**
ELL				*e*SN	**Sn**	**01 14 11.2**	**+0.9**
ELL	**Elmali**	**1.41**	**62**	*e*Pn	**Pn**	**01 13 52.8**	**+0.2**
ELL				*e*Sn	**Sn**	**01 14 11.2**	**+0.9**
GOLH	**Golhisar**	**1.49**	**40**	*i* P	**Pn**	**01 13 56.0**	**+2.3**
GOLH				*i* S	**Sn**	**01 14 13.8**	**+1.5**
GOLH	**Golhisar**	**1.49**	**40**	*i* P	**Pn**	**01 13 56.0**	**+2.3**
GOLH				*i* S	**Sn**	**01 14 13.8**	**+1.5**
AYDN	**Tasoluk**	**1.60**	**346**	*i* P	**Pn**	**01 13 54.7**	**-0.4**
AYDN				*i* S	**Sn**	**01 14 14.7**	**-0.2**
AYDN	**Tasoluk**	**1.60**	**346**	*i* P	**Pn**	**01 13 54.7**	**-0.4**
AYDN				*i* S	**Sn**	**01 14 14.7**	**-0.2**
DNZL	**Cakiroluk**	**1.68**	**19**	*i* P	**Pn**	**01 13 57.2**	**+0.9**
DNZL				*i* S	**Sn**	**01 14 17.0**	**0.0**
DNZL	**Cakiroluk**	**1.68**	**19**	*i* P	**Pn**	**01 13 57.2**	**+0.9**
DNZL				*i* S	**Sn**	**01 14 17.0**	**0.0**
GCAM	**G?zelcaml?**	**1.83**	**331**	*i* P	**Pn**	**01 13 58.0**	**-0.2**
GCAM				*i* S	**Sn**	**01 14 19.6**	**-0.7**
GCAM	**G?zelcaml?**	**1.83**	**331**	*i* P	**Pn**	**01 13 58.0**	**-0.2**
GCAM				*i* S	**Sn**	**01 14 19.6**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.88**	**349**	*e*PN	**Pn**	**01 13 58.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.88**	**349**	*e*Pn	**Pn**	**01 13 58.9**	**-0.1**
ZKR	**Zakros**	**2.00**	**241**	P	**Pn**	**01 14 00.9**	**+0.5**
ZKR				S	**Sn**	**01 14 24.7**	**+0.3**
ZKR	**Zakros**	**2.00**	**241**	P	**Pn**	**01 14 00.9**	**+0.5**
ZKR				S	**Sn**	**01 14 24.7**	**+0.3**
SMG	**Samos**	**2.02**	**323**	P	**Pn**	**01 14 01.2**	**+0.6**
SMG				S	**Sn**	**01 14 24.5**	**-0.3**
SMG	**Samos**	**2.02**	**323**	*e*P	**Pn**	**01 14 01.4**	**+0.8**
SMG				*e*S	**Sn**	**01 14 23.8**	**-1.0**
SMG	**Samos**	**2.02**	**323**	*e*P	**Pn**	**01 14 01.4**	**+0.8**
SMG				*e*S	**Sn**	**01 14 23.8**	**-1.0**
ANTB	**Antalya**	**2.02**	**66**	*e*PN	**Pn**	**01 14 00.7**	**0.0**
ANTB	**Antalya**	**2.02**	**66**	*e*Pn	**Pn**	**01 14 00.7**	**0.0**
BCK	**Bucak**	**2.25**	**52**	*e*PN	**Pn**	**01 14 04.2**	**+0.3**
BCK	**Bucak**	**2.25**	**52**	*e*Pn	**Pn**	**01 14 04.2**	**+0.3**
SANT	**Santorini**	**2.36**	**277**	*e*PN	**Pn**	**01 14 04.8**	**-0.5**
SANT	**Santorini**	**2.36**	**277**	P	**Pn**	**01 14 05.5**	**+0.2**
SANT				S	**Sn**	**01 14 32.6**	**-0.5**
SANT	**Santorini**	**2.36**	**277**	*e*P	**Pn**	**01 14 05.7**	**+0.4**
SANT				*e*S	**Sn**	**01 14 30.8**	**-2.3**
SANT	**Santorini**	**2.36**	**277**	*e*Pn	**Pn**	**01 14 04.8**	**-0.5**
SANT	**Santorini**	**2.36**	**277**	*e*P	**Pn**	**01 14 05.7**	**+0.4**
SANT				*e*S	**Sn**	**01 14 30.8**	**-2.3**
NPS	**Neapolis**	**2.38**	**250**	P	**Pn**	**01 14 06.2**	**+0.6**
NPS	**Neapolis**	**2.38**	**250**	*e*P	**Pn**	**01 14 06.2**	**+0.6**
NPS	**Neapolis**	**2.38**	**250**	*e*P	**Pn**	**01 14 06.2**	**+0.6**
KHL	**Karahalli**	**2.41**	**22**	*e*PN	**Pn**	**01 14 06.6**	**+0.5**
KHL	**Karahalli**	**2.41**	**22**	*e*Pn	**Pn**	**01 14 06.6**	**+0.5**
KULA	**Kula-Manisa**	**2.42**	**6**	*e*PN	**Pn**	**01 14 06.5**	**+0.2**
KULA	**Kula-Manisa**	**2.42**

VLS	**Valsamata**	**6.54 291**	*eP*	**Pn**	**01 15 04.2**	**+1.7**
HAWK	**Haweek**	**6.77 101**	*eP*	**Pn**	**01 15 05.7**	**0.0**
HAWK			*eS*	**Sn**	**01 16 16.0**	**-5.5**
HAWK			AML	AML	01 16 20.4	
	comp=N,23nm,0.5s					
HAWK			AML	AML	01 16 20.4	
	comp=E,27nm,0.7s					
HAWK	**Haweek**	**6.77 101**	*eP*	**Pn**	**01 15 05.7**	**0.0**
	SNR=57					
BRBR	**Barbar**	**6.80 111**	*eP*	**Pn**	**01 15 06.8**	**+0.5**
BRBR			*eS*	**Sn**	**01 16 17.5**	**-5.0**
BRBR			AML	AML	01 16 21.9	
	comp=E,23nm,0.2s					
BRBR			AML	AML	01 16 22.4	
	comp=N,21nm,0.8s					
BRBR	**Barbar**	**6.80 111**	*eP*	**Pn**	**01 15 06.8**	**+0.5**
	SNR=57					
MARH	**Ras Al Marh**	**6.98 105**	*eP*	**Pn**	**01 15 07.3**	**-1.5**
MARH	**Ras Al Marh**	**6.98 105**	*eP*	**Pn**	**01 15 07.3**	**-1.5**
	SNR=57					
HSAF	**As Saff**	**7.00 156**	P	**Pn**	**01 15 07.1**	**-1.8**
	baz=156					
HSAF	**As Saff**	**7.00 156**	P	**Pn**	**01 15 07.1**	**-1.8**
GLL	**Jalalah**	**7.09 156**	P	**Pn**	**01 15 07.6**	**-2.5**
	baz=155					
SUZ		**7.29 148**	P	**Pn**	**01 15 10.7**	**-2.0**
	baz=146					
HNKL	**Nakhl**	**7.75 141**	P	**Pn**	**01 15 18.1**	**-1.1**
	baz=138					
HNKL	**Nakhl**	**7.75 141**	P	**Pn**	**01 15 18.1**	**-1.1**
HKAT	**Jabal Katrina**	**8.93 146**	P	**Pn**	**01 15 33.7**	**-1.8**
	baz=144					
HKAT	**Jabal Katrina**	**8.93 146**	P	**Pn**	**01 15 33.7**	**-1.8**
TR2		**8.93 148**	P	**Pn**	**01 15 33.8**	**-1.5**
	baz=146					
TR2		**8.93 148**	P	**Pn**	**01 15 33.8**	**-1.5**
TR1		**9.36 148**	P	**Pn**	**01 15 39.3**	**-1.8**
	baz=146					
TR1		**9.36 148**	P	**Pn**	**01 15 39.3**	**-1.8**

*IDC **24** 01:14:05.1±1.6,7°.58S×108°.62E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=99.6km s-min=19.5km az=50.0*
*ISCJB **24** 01:14:10.4±0.7,8°.47S±0°.06×108°.17E±0°.05, h55km, mb3.6/7, Error ellipse: s-maj=8.8km s-min=5.6km az=27.9*
*DJA **24** 01:14:10.0±0.4,8°S±3′×10′8E±°, h10km, M4.2/18, mb4.0/2, MLv4.2/18*

ISC 24 01:14:11.7±1.0,8°.34S±0°.09×108°.19E±0°.05,h55km,n28, σ1ᵍ76/27,mb3.7/7,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.61**	**25**	P	**Pn**	**01 14 23.6**	**-1.0**
CMJI				S	**Sn**	**01 14 32.5**	**-1.5**
CISI	**Cisompet, Garu**	**0.87**	**335**	P	**Pn**	**01 14 26.4**	**-1.5**
CISI				S	**Sn**	**01 14 41.0**	**+1.3**
CLJI	**Cilicap**	**1.03**	**53**	S	**Sn**	**01 14 45.1**	**+1.7**
KPJI	**Karang Pucung**	**1.25**	**36**	P	**Pn**	**01 14 33.5**	**+0.7**
KPJI				S	**Sn**	**01 14 51.8**	**+3.2**
LEM	**Lembang**	**1.61**	**339**	P	**Pn**	**01 14 38.6**	**+0.7**
LEM				S	**Sn**	**01 15 01.1**	**+3.4**
TGJI	**Tegal**	**1.73**	**32**	P	**Pn**	**01 14 39.6**	**+0.1**
BJII	**Banjamegara**	**1.81**	**56**	P	**Pn**	**01 14 40.9**	**+0.3**
DBJI	**Dramaga**	**2.28**	**321**	P	**Pn**	**01 14 48.3**	**+1.4**
UGM	**Wanagama**	**2.35**	**80**	P	Pn	01 14 58.7	+11
SMRI	**Semarang**	**2.58**	**60**	P	**Pn**	**01 14 53.1**	**+2.1**
TNG	**Tangerang**	**2.65**	**325**	P	**Pn**	**01 14 54.7**	**+2.8**
NGJI	**Ngawi**	**3.38**	**74**	P	**Pn**	**01 15 01.7**	**-0.3**
PWJI	**Pagerwojo**	**3.59**	**85**	P	**Pn**	**01 15 05.2**	**+0.3**
SJI	**Sawahan**	**3.60**	**81**	P	**Pn**	**01 15 07.0**	**+2.0**
KRKI	**Karangkates**	**4.22**	**88**	P	**Pn**	**01 15 14.7**	**+1.1**
KASI	**Kota Agung**	**4.61**	**307**	P	**Pn**	**01 15 20.7**	**+1.8**
KLSI		**5.00**	**316**	P	**Pn**	**01 15 26.3**	**+2.1**
	25nm,1.6s,0.1nm						
GMJI	**Gumukmas**	**5.20**	**90**	P	**Pn**	**01 15 27.3**	**+0.3**
WRA	**Warramunga Arr**	**27.81**	**117**	P	**P**	**01 19 56.6**	**+0.7**
	0.2nm,0.3s,baz=298,slow=11,SNR=2.7						
CMAR	**Chiang Mai Arr**	**28.15**	**341**	P	P	01 19 52.8	-6.1
	1.6nm,0.5s,baz=170,slow=8.7,SNR=5.1						
H08S2	**Diego Garcia H**	**35.35**	**269**	T	T	01 58 20.5	
	baz=93,slow=75,SNR=79						
H08S3	**Diego Garcia H**	**35.36**	**269**	T	T	01 58 21.3	
	baz=93,slow=75,SNR=78						
H08S1	**Diego Garcia H**	**35.37**	**269**	T	T	01 58 21.9	
	baz=93,slow=75,SNR=62						
STKA	**Stephens Creek**	**38.87**	**132**	P	**P**	**01 21 33.2**	**+1.3**
	2.1nm,0.6s,baz=307,slow=8.5,SNR=6.7						
MKAR	**Makanchi Array**	**59.55**	**340**	P	**P**	**01 24 07.2**	**-2.3**
	0.6nm,0.5s,baz=155,slow=8.5,SNR=11						
KURBB	**Kurchatov Arra**	**64.11**	**339**	P	**P**	**01 24 38.8**	**-1.2**
	0.2nm,0.5s,baz=151,slow=6.1,SNR=5.5						
BVAR	**Borovoye Array**	**69.06**	**337**	P	**P**	**01 25 09.6**	**-2.0**
	0.2nm,0.5s,baz=128,slow=10,SNR=4.0						
BRTR	**Keskin Array B**	**83.59**	**312**	P	**P**	**01 26 33.2**	**-1.2**
	0.6nm,0.8s,baz=132,slow=7.1,SNR=4.2						

KRSC 24 01:31:48.6±4.1,53°.50N×163°.75E,h32km±32km,ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.59**	**312**	P	Pb	01 32 16.3	-1.1
MKZ				S	Sn	01 32 35.0	+1.0
BKI	**Bering**	**2.15**	**36**	P	Pn	01 32 24.4	+2.3
BKI				S	Sn	01 32 47.6	0.0
SPN	**Mys Shipunski**	**2.27**	**261**	S	Sn	01 32 50.5	-0.3
KZV	**Kizimen**	**2.59**	**310**	P	Pn	01 32 30.6	+2.1
KZV				S	Sn	01 32 59.8	+0.8
NLC	**Nalytchevo**	**2.66**	**265**	P	Pn	01 32 31.6	+2.4
NLC				S	Sn	01 33 00.2	-0.1
TUMR	**Tumrok**	**2.76**	**312**	P	Pn	01 32 32.8	+2.0
KBTR	**Krutoberegovo**	**2.77**	**349**	P	Pn	01 32 31.8	+1.1
KBTR				S	Sn	01 33 02.0	-0.9
KBG	**Krutoberegovo**	**2.83**	**348**	P	Pn	01 32 34.1	+2.7
KBG				S	Sn	01 33 04.9	+0.5
SDLR	**Sedlovina**	**2.92**	**268**	P	Pn	01 32 35.7	+2.7
SDLR				S	Sn	01 33 08.1	+1.0
UGLR	**Uglovaya**	**2.97**	**266**	P	Pn	01 32 36.5	+2.9
UGLR				S	Sn	01 33 09.5	+1.4
SMAR	**Somma**	**2.97**	**267**	P	Pn	01 32 36.5	+2.7
SMAR				S	Sn	01 33 09.2	+0.7
KRER	**Koryakskii**	**3.00**	**268**	S	Pn	01 32 36.9	+2.7
KRER				S	Sn	01 33 10.2	+1.0
AVH	**Avacha**	**3.01**	**268**	P	Pn	01 32 37.4	+3.3
AVH				S	Sn	01 33 10.4	+1.2
KMNR	**Kamenistaya**	**3.05**	**319**	P	Pn	01 32 38.0	+3.3
KMNR				S	Sn	01 33 13.7	+3.6
KRX	**Arik**	**3.06**	**269**	P	Pn	01 32 37.4	+2.6
KRX				S	Sn	01 33 10.6	+0.2
KOK	**Koryaka**	**3.07**	**268**	P	Pn	01 32 37.7	+2.7
KOK				S	Sn	01 33 11.9	+1.3
PET	**Petropavlovsk**	**3.10**	**263**	S	Sn	01 33 13.1	+2.0
KLY	**Klyuchi**	**3.34**	**329**	S	Sn	01 33 19.0	+2.0
RUS	**Russkaya**	**3.34**	**253**	P	Pn	01 32 40.8	+2.3
RUS				S	Sn	01 33 16.6	-0.5
SMKR	**Semkarok**	**3.36**	**338**	P	Pn	01 32 40.5	+1.6
BDR	**Baidarnaya**	**3.41**	**336**	P	Pn	01 32 42.9	+3.4
BDR				S	Sn	01 33 20.8	+1.9
GNL	**Ganaly**	**3.47**	**276**	P	Pn	01 32 43.9	+3.5
GNL				S	Sn	01 33 22.4	+1.9
SRKR	**Sorokina**	**3.49**	**336**	P	Pn	01 32 44.1	+3.4
MTVR	**Mutnovka**	**3.52**	**255**	P	Pn	01 32 43.9	+2.8
MTVR				S	Sn	01 33 22.3	+0.6
SRDR	**Sredinnyy**	**3.66**	**322**	P	Pn	01 32 45.9	+2.9
ASAK	**Asacha**	**3.71**	**255**	P	Pn	01 32 46.7	+2.9
ASAK				S	Sn	01 33 27.9	+1.4
ESO	**Esso**	**3.81**	**312**	P	Pn	01 32 48.0	+3.0
ESO				S	Sn	01 33 29.8	+1.2
APC	**Apacha**	**4.00**	**264**	P	Pn	01 32 50.5	+2.8
APC				S	Sn	01 33 34.2	+0.8
MIPR	**Malaya Ipel'ka**	**4.41**	**257**	P	Pn	01 32 58.6	+5.4
TILK	**Tilichiki**	**7.09**	**10**	P	Pn	01 33 34.3	+4.4
TILK				S	Sn	01 34 50.7	+1.5

*TRN **24** 01:55:25.3, 18°.68N×65°.40W, h65km, MD3.4(RSPR)*
*ISCJB **24** 01:55:26.5±1.2, 18°.7N±0°.2×65°.38W±0°.07, h64km±25km, Error ellipse: s-maj=28.5km s-min=7.7km az=164.4*
*NEIC **24** 01:55:27.1, 18°.65N×65°.38W, h74km, MD3.4(RSPR),*
After RSPR.
*RSPR **24** 01:55:27.1, 18°.65N×65°.38W, h74km±3km, MD3.4/5*

ISC 24 01:55:27.7±1.6,18°.8N±0°.1×65°.41W±0°.05,h44km±46km, n26,σ1ᵍ09/44,5C-13D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**0.65**	**221**	⇓*eP*	**Pn**	**01 55 39.8**	**-0.9**
CBYP	**Canovanas**	**0.65**	**221**	⇓*eP*	**Pn**	**01 55 39.8**	**-0.9**
CBYP				*eS*	**Sn**	**01 55 51.3**	**+1.4**
CBYP	**Canovanas**	**0.65**	**221**	*ePn*	**Pn**	**01 55 39.6**	**-1.0**
CBYP				*eS*	**Sn**	**01 55 51.1**	**+1.2**
MTP	**Monte Pirata**	**0.68**	**192**	⇓*eP*	**Pn**	**01 55 40.7**	**-0.3**
MTP	**Monte Pirata**	**0.68**	**192**	⇓*eP*	**Pn**	**01 55 40.7**	**-0.3**
MTP	**Monte Pirata**	**0.68**	**192**	*ePn*	**Pn**	**01 55 40.8**	**-0.2**
MTP				*eS*	**Sn**	**01 55 52.0**	**+1.5**
HUMP	**Col San Antoni**	**0.75**	**214**	⇓*eP*	**Pn**	**01 55 41.2**	**-0.8**
HUMP	**Col San Antoni**	**0.75**	**214**	⇓*eP*	**Pn**	**01 55 41.2**	**-0.8**
HUMP				*eS*	**Sn**	**01 55 52.6**	**+0.4**
HUMP	**Col San Antoni**	**0.75**	**214**	⇓*eP*	**Pn**	**01 55 41.2**	**-0.8**
HUMP				*eS*	**Sn**	**01 55 52.6**	**+0.4**
CPD	**Cerro la Pandu**	**0.87**	**214**	⇓*eP*	**Pn**	**01 55 43.1**	**-0.5**
CPD	**Cerro la Pandu**	**0.87**	**214**	⇓*eP*	**Pn**	**01 55 43.1**	**-0.5**
CPD				*eS*	**Sn**	**01 55 54.6**	**-0.6**
CPD	**Cerro la Pandu**	**0.87**	**214**	⇓*eP*	**Pn**	**01 55 43.1**	**-0.5**
CPD				*eS*	**Sn**	**01 55 54.6**	**-0.6**
SJG	**San Juan**	**0.96**	**227**	⇑*eP*	**Pn**	**01 55 43.9**	**-0.8**
SJG				*eS*	**Sn**	**01 55 56.8**	**-0.5**
SJG	**San Juan**	**0.96**	**227**	⇑*eP*	**Pn**	**01 55 43.9**	**-0.8**
SJG				*eS*	**Sn**	**01 55 56.8**	**-0.5**
SJG	**San Juan**	**0.96**	**227**	⇑*eP*	**Pn**	**01 55 43.9**	**-0.8**
SJG				*eS*	**Sn**	**01 55 56.8**	**-0.5**
ABV	**Anegada**	**1.02**	**92**	*eS*	**Sn**	**01 55 59.3**	**+0.6**
ABV	**Anegada**	**1.02**	**92**	*eS*	**Sn**	**01 55 59.3**	**+0.6**
CELP	**Cerrillos**	**1.31**	**238**	⇑*eP*	**Pn**	**01 55 49.0**	**-0.6**
CELP				*eS*	**Sn**	**01 56 05.3**	**-0.5**
CELP	**Cerrillos**	**1.31**	**238**	⇑*eP*	**Pn**	**01 55 49.0**	**-0.6**
CELP				*eS*	**Sn**	**01 56 05.3**	**-0.5**
CELP	**Cerrillos**	**1.31**	**238**	*ePn*	**Pn**	**01 55 48.8**	**-0.7**
CELP				*eS*	**Sn**	**01 56 08.8**	**+3.0**
AOPR	**Arecibo Observ**	**1.34**	**252**	⇓*eP*	**Pn**	**01 55 48.9**	**-1.1**
AOPR	**Arecibo Observ**	**1.34**	**252**	⇓*eP*	**Pn**	**01 55 48.9**	**-1.1**
AOPR				*eS*	**Sn**	**01 56 07.2**	**+0.5**
AOPR	**Arecibo Observ**	**1.34**	**252**	⇓*eP*	**Pn**	**01 55 48.9**	**-1.1**
AOPR				*eS*	**Sn**	**01 56 07.2**	**+0.5**
AGPR	**Aguadilla, PR**	**1.64**	**260**	*ePn*	**Pn**	**01 55 53.0**	**-1.1**
AGPR				*eS*	**Sn**	**01 56 15.0**	**+1.0**
LSP	**Las Mesas**	**1.70**	**250**	*ePn*	**Pn**	**01 55 54.8**	**0.0**
LSP				*eS*	**Sn**	**01 56 18.4**	**+3.0**
CRPR	**Cabo Rojo, PR**	**1.79**	**245**	*ePn*	**Pn**	**01 55 55.8**	**-0.2**
CRPR				*eS*	**Sn**	**01 56 19.9**	**+2.3**

CASC 24 02:10:50.0±2.9,13°.44N×91°.40W,h21km±23km,MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.91**	**345**	*eP*	Pb	02 11 06.0	-1.0
JAT				*eS*	Sn	02 11 19.5	-0.5
NBG	**Las Nubes**	**1.53**	**42**	*eP*	Pn	02 11 13.8	-2.7
NBG				*eS*	Sb	02 11 37.7	+0.5
SBLS	**San Blas**	**1.77**	**77**	*eP*	Pn	02 11 20.3	+0.6
SBLS				*eS*	Sb	02 11 43.3	-0.7
RBDL	**Robledal**	**1.79**	**68**	*eP*	Pn	02 11 20.5	+0.6
MRL	**Marmol**	**2.31**	**45**	*eP*	Pn	02 11 28.2	+1.1

*IDC **24** 02:15:45.8±0.8, 42°.91N×72°.41E, h0km, mb3.8/8, mb1 4.1/12, mb1mx3.8/29, mbtmp3.9/12, ML4.4/4, Error ellipse: s-maj=10.8km s-min=7.5km az=19.0*
*ISCJB **24** 02:15:45.9±0.3, 43°.15N±0°.03×72°.40E±0°.03, h10km, mb3.7/12, Error ellipse: s-maj=4.1km s-min=2.9km az=31.8*
*NNC **24** 02:15:46.3±0.7, 42°.93N×72°.37E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=11.9km s-min=3.9km az=6.0*
*KNET **24** 02:15:48.0±0.6, 42°.82N×72°.51E, h21km±6km, ml4.1, Error ellipse: s-maj=4.3km s-min=3.1km az=59.0*
*MOS **24** 02:15:47.7±1.1, 43°.11N×72°.33E, h26km, mb4.0/9, Error ellipse: s-maj=8.4km s-min=6.5km az=129.6*
*BJI **24** 02:15:47.9, 42°.96N×72°.50E, h7km, mb4.0/3, ML3.7/4*

ISC 24 02:15:46.0±0.6,42°.95N±0°.05×72°.43E±0°.02,h10km,n64, σ1ᵍ41/77,mb3.8/12,18C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKS2	**Erkin-Say**	**1.03**	**105**	*i* PG	**Pn**	**02 16 06.1**	**-0.6**
EKS2	**Erkin-Say**	**1.03**	**105**	P	**Pn**	**02 16 06.1**	**-0.6**
	340nm,0.2s,SNR=339						
EKS2				⇑S	**Sn**	**02 16 20.5**	**-0.8**
	941nm,0.2s						
AML	**Almayashu**	**1.24**	**131**	*i* PG	**Pg**	**02 16 09.0**	**-0.9**
AML	**Almayashu**	**1.24**	**131**	⇑P	**Pg**	**02 16 08.9**	**-0.9**
	246nm,0.2s,SNR=390						
AML				⇓S	**Sb**	**02 16 24.9**	**-1.0**
	1μm,0.2s						
KK31	**Karatay Array**	**1.41**	**277**	PG	**Pg**	**02 16 12.4**	**-0.7**
KK31				S	**Sg**	**02 16 30.6**	**-0.8**
KK31				pmax	pmax		
	comp=Z,189nm,0.2s						
KK31				smax	smax		
	comp=N,692nm,0.2s						
KK31	**Karatay Array**	**1.41**	**277**	⇑P	**Pg**	**02 16 12.5**	**-0.6**
	comp=N,36nm,0.2s,baz=100,slow=15,SNR=4863						
KK31				S	**Sg**	**02 16 30.6**	**-0.8**
	comp=N,112nm,0.2s,baz=103,slow=28,SNR=22						
USP	**Ospenovka**	**1.55**	**77**	*i* PN	**Pg**	**02 16 15.5**	**-0.2**
USP	**Ospenovka**	**1.55**	**77**	P	**Pg**	**02 16 15.6**	**-0.2**
	comp=N,1μm,0.2s,SNR=1960						
USP				⇓S	**Sg**	**02 16 36.7**	**+0.8**
	comp=N,4μm,0.4s						
AAK	**Ala-Archa**	**1.55**	**101**	*i* PN	**Pg**	**02 16 15.5**	**-0.3**
AAK	**Ala-Archa**	**1.55**	**101**	P	**Pg**	**02 16 15.5**	**-0.3**
	comp=N,457nm,0.2s,SNR=1135						
AAK				⇑S	**Sg**	**02 16 36.3**	**+0.3**
	comp=N,1μm,0.2s						
AAK	**Ala-Archa**	**1.55**	**101**	Pg	**Pg**	**02 16 15.9**	**+0.1**
	comp=N,219nm,0.3s,baz=262,slow=4.2,SNR=1653						
AAK				Lg	Lg	02 16 36.6	
	comp=N,284nm,0.3s,baz=6.4,slow=19,SNR=39						
AAK	**Ala-Archa**	**1.55**	**101**	⇑P	**Pg**	**02 16 15.6**	**-0.2**
	comp=N,135nm,0.2s						
AAK				⇑S	**Sg**	**02 16 36.3**	**+0.3**
	comp=N,544nm,0.3s						
UCH	**Uchtor**	**1.70**	**114**	*i* PN	**Pg**	**02 16 17.6**	**-1.0**
UCH	**Uchtor**	**1.70**	**114**	P	**Pg**	**02 16 17.7**	**-1.0**
	comp=N,150nm,0.2s,SNR=516						
UCH				⇑S	**Sb**	**02 16 39.5**	**+0.3**
	comp=N,616nm,0.2s						
CHMS	**Chumysh**	**1.71**	**87**	*i* PN	**Pg**	**02 16 17.9**	**-0.8**
CHMS	**Chumysh**	**1.71**	**87**	P	**Pg**	**02 16 17.9**	**-0.8**
	comp=N,646nm,0.2s,SNR=290						
KBK	**Karagaybulak**	**1.88**	**98**	*i* PN	**Pg**	**02 16 20.8**	**-1.2**
KBK	**Karagaybulak**	**1.88**	**98**	P	**Pg**	**02 16 21.1**	**-0.9**
	comp=N,618nm,0.2s,SNR=956						
KZA	**Kyzart**	**2.26**	**112**	*i* PN	**Pg**	**02 16 28.0**	**-1.3**
TKM2	**Tokmak 2**	**2.33**	**90**	*i* PN	**Pb**	**02 16 27.4**	**-0.8**
TKM2	**Tokmak 2**	**2.33**	**90**	P	**Pb**	**02 16 27.5**	**-0.8**
	comp=N,489nm,0.3s,SNR=766						
TKM2	**Tokmak 2**	**2.33**	**90**	⇑Pn	**Pb**	**02 16 27.5**	**-0.7**
	comp=N,239nm,0.3s						
TKM2				⇓Sn	**Sg**	**02 16 60.0**	**-0.9**
	comp=N,735nm,0.5s						
ULHL	**Ulahol**	**2.90**	**103**	*i* PN	**Pb**	**02 16 36.3**	**-1.7**
AAA	**Alma-Ata**	**3.33**	**83**	*i* PN	**Pg**	**02 16 48.7**	**-1.0**
AAA				*i* S	**Sg**	**02 17 29.8**	**-3.0**
AAA				pmax	pmax		
	comp=Z,336nm,0.2s						
AAA				smax	smax		
	comp=N,558nm,0.2s						
KNDC	**Almaty**	**3.34**	**84**	⇑Pn	Pb	02 16 41.9	-3.4
	comp=N,15nm,0.3s						
KNDC				⇑Lg	Lg	02 17 31.4	
KSH	**Kashi**	**4.35**	**141**	Pn	Pb	02 16 57.9	-4.6
KSH				Sn	**Sb**	**02 17 56.3**	**+1.3**
KSH				smax	smax		
	comp=N,69nm,0.5s						
KSH				smax	smax		
	comp=N,62nm,0.6s						
MK31	**Makanchi Array**	**7.99**	**58**	P	**Pn**	**02 17 44.3**	**+2.1**
MK31						02 19 13.6	
MK31				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MK31				smax	smax		
	comp=N,26nm,0.4s						
MK31	**Makanchi Array**	**7.99**	**58**	⇑Pn	**Pn**	**02 17 44.6**	**+2.4**
	comp=N,3.1nm,0.3s						
MK31				⇑Sn	**Sn**	**02 19 13.6**	**+1.0**
	comp=N,4.9nm,0.4s						
MK31				⇑Lg	Lg	02 19 59.7	
	comp=N,59nm,0.8s						
MKAR	**Makanchi Array**	**7.99**	**58**	P	**Pn**	**02 17 44.7**	**+2.5**
MKAR						02 19 12.9	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MKAR				smax	smax		
	comp=N,3.0nm,0.3s						
MKAR	**Makanchi Array**	**7.99**	**58**	Pn	**Pn**	**02 17 44.7**	**+2.5**
	comp=N,5.3nm,0.3s,baz=238,slow=15,SNR=296						
MKAR				Sn	**Sn**	**02 19 12.9**	**+0.3**
	comp=N,2.5nm,0.3s,baz=234,slow=25,SNR=3.6						
MKAR				Lg	Lg	02 20 02.0	
	comp=N,4.4nm,0.3s,baz=247,slow=25,SNR=5.9						
KURBB	**Kurchatov Arra**	**8.74**	**26**	Pn	**Pn**	**02 17 53.0**	**+0.6**
	comp=N,2.3nm,0.3s,baz=219,slow=12,SNR=40						
KURBB				Sn	**Sn**	**02 19 30.7**	**-0.3**
	comp=N,5.6nm,0.3s,baz=214,slow=20,SNR=8.8						
KURBB				Lg	Lg	02 20 26.8	
	comp=N,4.6nm,0.3s,baz=215,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**8.74**	**26**	Pn	**Pn**	**02 17 53.4**	**+1.0**
KURBB				Sn	**Sn**	**02 19 31.8**	**+0.8**
KURBB				Lg	Lg	02 20 27.6	
KURK	**Kurchatov**	**8.85**	**26**	P	**Pn**	**02 17 53.1**	**-0.8**
KURK						02 19 30.7	
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK				smax	smax		
	comp=N,6.0nm,0.3s						
KURK	**Kurchatov**	**8.85**	**26**	Pn	**Pn**	**02 17 55.7**	**+1.8**
KURK				Sn	**Sn**	**02 19 31.8**	**-1.9**
KURK				Lg	Lg	02 20 29.6	
CHCP	**Chirak Chowk**	**9.30**	**176**	P	Pn	02 18 03.8	+3.7
THW	**Thamme Wali**	**10.15**	**183**	P	Pn	02 18 15.0	+3.2
BVAO	**Borovoye Array**	**10.18**	**353**	P	**Pn**	**02 18 12.2**	**+0.1**
BVAO				*e*		02 20 02.9	
BVAO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVAO				smax	smax		
	comp=N,9.0nm,0.5s						
BVAO	**Borovoye Array**	**10.18**	**353**	⇓Pn	**Pn**	**02 18 12.3**	**+0.3**
	comp=N,2.0nm,0.3s,baz=165,slow=11,SNR=77						
BVAO				⇑Sn	**Sn**	**02 20 05.8**	**-0.4**
	comp=N,7.7nm,0.6s,baz=161,slow=26,SNR=2.8						
BVAO				⇑Lg	Lg	02 21 09.4	
	comp=N,39nm,0.7s						
BVAR	**Borovoye Array**	**10.18**	**353**	P	**Pn**	**02 18 12.4**	**+0.4**
BVAR						02 20 03.4	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR				smax	smax		
	comp=N,3.0nm,0.3s						
BVAR	**Borovoye Array**	**10.18**	**353**	Pn	**Pn**	**02 18 12.4**	**+0.4**
	comp=N,2.8nm,0.3s,baz=153,slow=11,SNR=33						
BVAR				Sn	**Sn**	**02 20 03.4**	**-2.8**
	comp=N,3.3nm,0.3s,baz=161,slow=23,SNR=6.4						
BVAR				Lg	Lg	02 21 13.5	
	comp=N,1.8nm,0.3s,baz=181,slow=25,SNR=5.4						
BRVK	**Borovoye**	**10.22**	**353**	P	**Pn**	**02 18 13.3**	**+0.7**
BRVK						02 20 06.0	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BRVK				smax	smax		
	comp=N,12nm,0.5s						
BRVK	**Borovoye**	**10.22**	**353**	⇓Pn	**Pn**	**02 18 13.3**	**+0.7**
	comp=N,4.3nm,0.4s						
BRVK				⇓Sn	**Sn**	**02 20 06.0**	**-1.1**
	comp=N,12nm,0.5s						
BRVK				⇑Lg	Lg	02 21 10.1	
	comp=N,57nm,0.9s						
AB31	**Akbulak array**	**10.71**	**310**	*eP*	**Pn**	**02 18 18.9**	**-0.5**
AB31				*e*		02 20 12.6	
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AB31				smax	smax		
	comp=N,3.0nm,0.3s						
AB31	**Akbulak array**	**10.71**	**310**	⇑Pn	**Pn**	**02 18 18.7**	**-0.7**
	comp=N,0.7nm,0.4s,baz=122,slow=15,SNR=74						
AB31				⇑Sn	**Sn**	**02 20 21.8**	**+2.5**
	comp=N,1.6nm,0.3s,baz=115,slow=25,SNR=4.9						
AKTO	**Aktyubinsk**	**12.39**	**312**	P	**Pn**	**02 18 43.0**	**+0.6**
AKTO						02 20 57.3	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.39**	**312**	Pn	**Pn**	**02 18 43.0**	**+0.6**
	comp=N,0.9nm,0.3s,baz=122,slow=12,SNR=14						
AKTO				Sn	**Sn**	**02 20 57.2**	**-3.2**
	comp=N,0.5nm,0.3s,baz=35,slow=16,SNR=3.7						

mb4.0/13, Error ellipse: s-maj=11.8km s-min=5.1km az=146.0
JMA ***24*** *02:49:07.8±0.1, 42°.96N×146°.73E, h59km±2km, M4.2*
JMA Felt I J1.
SKHL ***24*** *02:49:08.0±0.5, 42°.95N×146°.75E, h60km±3km, mb5.0/2*
IDC ***24*** *02:49:12.4±1.1, 44°.77N×146°.26E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.8/27, mbtmp3.8/14, ML3.6/1, Error ellipse: s-maj=26.3km s-min=18.3km az=150.0*
MOS ***24*** *02:49:15.1±1.2, 44°.70N×146°.27E, h37km, mb4.3/12, Error ellipse: s-maj=18.7km s-min=13.8km az=96.2*

ISC 24 02:49:08.1±1.8, 42°.97N±0°.09×146°.78E±0°.07, h47km±14km, n55, σ0s52/59, mb4.1/13, 1D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.86**	**298**	P	**Pn**	**02 49 23.8**	**0.0**
NEM2				*e*S	**Sn**	**02 49 35.4**	**+0.2**
SHO	**Shikotan**	**0.90**	**2**	*e*P	**Pn**	**02 49 24.3**	**-0.1**
SHO				AMB	AMB	02 49 24.6	
	310nm,0.5s						
SHO				*e*S	**Sn**	**02 49 36.2**	**-0.1**
SHO				A	A	02 49 37.0	
	540nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.26**	**328**	*d* iPN	**Pn**	**02 49 28.8**	**-0.4**
YUK				pmax	pmax		
	comp=E,390nm,0.1s						
YUK				pmax	pmax		
	comp=Z,1μm,0.1s						
YUK				pmax	pmax		
	comp=N,619nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.26**	**328**	*e*P	**Pn**	**02 49 28.8**	**-0.4**
YUK				AMB	AMB	02 49 30.3	
	comp=N,390nm,0.2s						
YUK				AMB	AMB	02 49 30.3	
	comp=N,620nm,0.2s						
YUK				AMB	AMB	02 49 30.3	
	comp=N,1μm,0.2s						
YUK				*e*S	**Sn**	**02 49 44.7**	**-0.2**
YUK				A	A	02 49 47.8	
	comp=N,4μm,0.4s						
YUK				A	A	02 49 47.8	
	comp=N,6μm,0.4s						
JAK	**Akkeshi**	**1.53**	**272**	P	**Pn**	**02 49 32.8**	**-0.1**
JAK				*e*S	**Sn**	**02 49 51.2**	**-0.4**
JRA	**Rausu**	**1.55**	**309**	P	**Pn**	**02 49 33.3**	**+0.1**
JRA				*e*S	**Sn**	**02 49 52.3**	**+0.2**
JNK	**Nakash**	**1.63**	**293**	P	**Pn**	**02 49 34.0**	**-0.3**
JNK				*e*S	**Sn**	**02 49 53.2**	**-0.8**
JOB	**Onbets**	**2.17**	**269**	P	**Pn**	**02 49 41.5**	**-0.1**
JOB				*e*S	**Sn**	**02 50 07.1**	**-0.1**
JAR	**Ashorobuto**	**2.23**	**279**	P	**Pn**	**02 49 42.6**	**+0.1**
JAR				*e*S	**Sn**	**02 50 08.8**	**0.0**
JTKR	**Abashiri--Toko**	**2.32**	**297**	P	**Pn**	**02 49 44.5**	**+0.8**
JTKR				*e*S	**Sn**	**02 50 12.2**	**+1.2**
KUR	**Kuril'sk**	**2.39**	**19**	PN	**Pn**	**02 49 45.0**	**+0.3**
KUR	**Kuril'sk**	**2.39**	**19**	*e*P	**Pn**	**02 49 45.0**	**+0.3**
KUR				*e*S	**Sn**	**02 50 13.0**	**+0.2**
KUR				A	A	02 50 14.3	
	comp=N,290nm,0.4s						
KUR				A	A	02 50 14.3	
	comp=N,180nm,0.4s						
JCH	**Churui**	**2.54**	**263**	P	**Pn**	**02 49 46.7**	**-0.1**
JCH				*e*S	**Sn**	**02 50 15.9**	**-0.6**
JMP	**Maruseppu**	**2.70**	**294**	P	**Pn**	**02 49 49.9**	**+0.9**
HRK	**Horoka**	**2.72**	**282**	*e*P	**Pn**	**02 49 50.1**	**+0.9**
HRK				*e*S	**Sn**	**02 50 20.9**	**0.0**
JEM	**Erimo**	**2.85**	**252**	P	**Pn**	**02 49 52.4**	**+1.5**
JNBK	**Urakawa-nobuka**	**3.05**	**258**	P	**Pn**	**02 49 53.7**	**-0.1**
JNBK				*e*S	**Sn**	**02 50 28.4**	**-0.7**
JKK2	**Kamakawa 2**	**3.08**	**288**	P	**Pn**	**02 49 55.3**	**+1.2**
JFR	**Furan**	**3.08**	**275**	P	**Pn**	**02 49 54.4**	**+0.3**
JFR				*e*S	**Sn**	**02 50 29.1**	**-0.6**
JKA	**Kamikawa-asahi**	**3.25**	**292**	*e*P	Pn	02 49 58.4	+1.9
ASAJ	**Asahikawa**	**3.25**	**292**	Pn	Pn	02 49 58.4	+1.9
	comp=N,6.9nm,0.3s,baz=114,slow=10,SNR=23						
ASAJ				Sn	Sn	02 50 39.6	+5.7
	comp=N,4.4nm,0.3s,baz=339,slow=29,SNR=7.1						
SONM	**Songino Array**	**28.53**	**294**	P	**P**	**02 54 59.5**	**+0.4**
	comp=N,2.0nm,0.6s,baz=72,slow=9.3,SNR=3.1						
H11N2	**WAKE ISLAND Hy 28.70**	**138**		T	T	03 25 53.1	
	baz=331,slow=76,SNR=96						
H11N1	**WAKE ISLAND Hy 28.71**	**138**		T	T	03 25 58.0	
	baz=331,slow=76,SNR=100						
H11N3	**WAKE ISLAND Hy 28.71**	**138**		T	T	03 25 58.4	
	baz=331,slow=76,SNR=100						
H11S1	**WAKE ISLAND Hy 29.64**	**139**		T	T	03 27 08.7	
	baz=333,slow=77,SNR=162						
H11S3	**WAKE ISLAND Hy 29.65**	**139**		T	T	03 27 06.1	
	baz=333,slow=77,SNR=210						
H11S2	**WAKE ISLAND Hy 29.66**	**139**		T	T	03 27 03.5	
	baz=333,slow=77,SNR=112						
ZALV	**Zalesovo Beam**	**41.26**	**308**	P	**P**	**02 56 48.3**	**0.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**41.26**	**308**	P	**P**	**02 56 48.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=88,slow=8.4,SNR=3.8						
ILAR	**Eielson Array**	**42.28**	**36**	*e*P	**P**	**02 56 56.1**	**-0.3**
ILAR	**Eielson Array**	**42.28**	**36**	P	**P**	**02 56 56.1**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=278,slow=8.1,SNR=4.4						
MK31	**Makanchi Array**	**44.71**	**298**	*e*P	**P**	**02 57 16.0**	**-0.3**
MKAR	**Makanchi Array**	**44.71**	**298**	P	**P**	**02 57 16.2**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**44.71**	**298**	*e*P	**P**	**02 57 16.2**	**-0.1**
MKAR	**Makanchi Array**	**44.71**	**298**	P	**P**	**02 57 16.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=81,slow=9.5,SNR=10						
INK	**Inuvik**	**47.21**	**30**	*e*P	**P**	**02 57 36.6**	**+1.0**
INK	**Inuvik**	**47.21**	**30**	P	**P**	**02 57 36.5**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=282,slow=4.9,SNR=8.8						
BVAR	**Borovoye Array**	**49.79**	**310**	P	**P**	**02 57 56.1**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**49.79**	**310**	P	**P**	**02 57 56.1**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=81,slow=8.2,SNR=6.5						
RES	**Resolute Bay**	**55.79**	**16**	*e*P	**P**	**02 58 39.5**	**-0.1**
RES	**Resolute Bay**	**55.79**	**16**	P	**P**	**02 58 39.5**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=322,slow=7.8,SNR=23						
YKA	**Yellowknife Ar**	**56.60**	**33**	*e*P	**P**	**02 58 45.8**	**+0.2**
YKA	**Yellowknife Ar**	**56.60**	**33**	P	**P**	**02 58 45.8**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=298,slow=6.7,SNR=4.9						
AB31	**Akbulak array**	**57.34**	**309**	*i* P	**P**	**02 58 51.0**	**0.0**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**57.84**	**311**	P	**P**	**02 58 54.9**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**57.84**	**311**	P	**P**	**02 58 54.9**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=72,slow=14,SNR=4.0						
ARCES	**ARCESS Array B**	**59.88**	**340**	*e*P	**P**	**02 59 07.7**	**-0.7**
ARCES	**ARCESS Array B**	**59.88**	**340**	P	**P**	**02 59 07.7**	**-0.7**
	comp=Z,3.7nm,0.9s,baz=41,slow=6.6,SNR=6.1						
WRA	**Warramunga Arr**	**63.64**	**193**	*e*P	sP	02 59 56.3	+3.3
WRA	**Warramunga Arr**	**63.64**	**193**	P	sP	02 59 56.3	+3.3
	comp=Z,0.1nm,0.4s,baz=9,0,slow=6.8,SNR=2.3						
FINES	**FINESS Array B**	**65.45**	**333**	P	**P**	**02 59 45.0**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=51,slow=9.0,SNR=18						
NB2	**NORSAR Subarra**	**70.23**	**339**	P	**P**	**03 00 15.2**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**70.23**	**339**	*e*P	**P**	**03 00 15.3**	**-0.5**
NOA	**NORSAR Array B**	**70.23**	**339**	P	**P**	**03 00 15.2**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=34,slow=6.2,SNR=11						

IDC 24 03:12:28.2±1.1, 19°.04N×121°.27E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=71.4km s-min=21.4km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.80**	**161**	P	P	03 20 11.1	-0.6
	0.3nm,0.5s,baz=342,slow=9.1,SNR=6.3						
MKAR	**Makanchi Array**	**42.20**	**320**	P	P	03 20 22.8	-0.1
	0.6nm,1.0s,baz=120,slow=8.5,SNR=3.5						
ASAR	**Alice Springs**	**44.20**	**163**	P	P	03 20 39.5	+0.3
	0.2nm,0.3s,baz=345,slow=6.7,SNR=7.6						
ZALV	**Zalesovo Beam**	**44.66**	**330**	P	P	03 20 42.3	-0.3
	0.4nm,0.5s,baz=132,slow=6.4,SNR=2.8						
YKA	**Yellowknife Ar**	**87.66**	**23**	P	P	03 25 18.5	0.0
	0.8nm,0.7s,baz=312,slow=4.6,SNR=22						

WEL 24 03:26:51.2±0.5, 37°.98S×176°.22E, h165km±4km, ML3.8/11,

9C-2D, Error ellipse: s-maj=3.4km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.76**	**112**	PN	Pn	03 27 15.1	-0.5
URZ				SN	Sn	03 27 34.1	-0.2
URZ				AML	AML	03 27 35.5	
MWZ	**Matawai**	**1.09**	**109**	PN	Pn	03 27 17.6	-0.5
MWZ				AML	AML	03 27 39.5	
MWZ				AML	AML	03 27 41.2	
RAHZ	**Arahi**	**1.16**	**144**	⇓PN	Pn	03 27 19.3	+0.6
SNGZ	**Shannon Statio**	**1.19**	**133**	⇑PN	Pn	03 27 19.3	+0.3
HIZ	**Hauiti**	**1.20**	**243**	⇑PN	Pn	03 27 19.2	+0.3
BKZ	**Black Stump Fm**	**1.21**	**170**	⇑PN	Pn	03 27 18.9	-0.3
BKZ				SN	Sn	03 27 40.3	-0.5
BKZ				AML	AML	03 27 41.1	
NMHZ	**Naumai**	**1.21**	**158**	PN	Pn	03 27 19.9	+0.7
TWVZ	**Taurewa**	**1.25**	**209**	⇑PN	Pn	03 27 19.7	+0.1
OTVZ	**Oturere**	**1.26**	**200**	⇑PN	Pn	03 27 20.0	+0.3
NGZ	**Ngauruhoe**	**1.29**	**202**	PN	Pn	03 27 20.2	+0.2
WPVZ	**Whakapapa**	**1.33**	**203**	PN	Pn	03 27 20.4	+0.1
WHHZ	**Waihua**	**1.36**	**144**	PN	Pn	03 27 20.7	+0.2
TUVZ	**Tukino**	**1.36**	**199**	⇑PN	Pn	03 27 20.6	0.0
FWVZ	**Far West T-bar**	**1.38**	**202**	PN	Pn	03 27 20.8	-0.1
RIGZ	**Rimuhau**	**1.42**	**121**	PN	Pn	03 27 21.2	+0.1
TRVZ	**Turoa**	**1.42**	**201**	PN	Pn	03 27 21.3	-0.1
WNVZ	**Wahianoa**	**1.43**	**200**	⇑PN	Pn	03 27 21.2	-0.2
MOVZ	**Moawhango**	**1.47**	**194**	PN	Pn	03 27 21.0	-0.7
PKVZ	**Pokaka**	**1.48**	**207**	PN	Pn	03 27 21.5	-0.2
MCHZ	**McNeill Hill**	**1.51**	**166**	PN	Pn	03 27 22.3	+0.3
BHHZ	**Black Hill Sta**	**1.51**	**184**	PN	Pn	03 27 21.5	-0.6
MTVZ	**Mangateitei**	**1.52**	**202**	PN	Pn	03 27 21.9	-0.2
KNZ	**Kokohu**	**1.55**	**133**	PN	Pn	03 27 22.1	-0.1
PRGZ	**Paritu Road**	**1.61**	**126**	PN	Pn	03 27 22.8	-0.2
CNGZ	**Carnagh Statio**	**1.65**	**108**	PN	Pn	03 27 23.5	+0.2
MXZ	**Matakaoa Point**	**1.71**	**77**	PN	Pn	03 27 23.1	-0.9
MHGZ	**Mahia Peninsul**	**1.77**	**132**	PN	Pn	03 27 24.6	-0.1
CKHZ	**Cape Kidnapper**	**1.81**	**158**	PN	Pn	03 27 25.0	0.0
KAHZ	**Kahuranaki**	**1.89**	**164**	PN	Pn	03 27 25.7	-0.3
PNHZ	**Pukenui**	**1.93**	**180**	PN	Pn	03 27 25.5	-1.0
WAZ	**Wanganui**	**2.02**	**208**	PN	Pn	03 27 26.7	-0.7
TSZ	**Takapari Road**	**2.09**	**185**	PN	Pn	03 27 27.0	-1.1
WPHZ	**Waipukurau**	**2.09**	**175**	PN	Pn	03 27 27.3	-0.9
PXZ	**Pawanui**	**2.11**	**166**	⇑PN	Pn	03 27 27.7	-0.7
PRHZ	**Porangahau**	**2.31**	**172**	PN	Pn	03 27 29.6	-1.1
DVHZ	**Dannevirke**	**2.32**	**181**	PN	Pn	03 27 29.3	-1.6
POWZ	**Post Office Ro**	**2.44**	**188**	PN	Pn	03 27 30.4	-1.8
PRWZ	**Pori Road**	**2.58**	**184**	PN	Pn	03 27 32.4	-1.5
BFZ	**Birch Farm**	**2.70**	**180**	PN	Pn	03 27 33.4	-2.0
MRZ	**Mangatainoka R**	**2.73**	**190**	PN	Pn	03 27 33.4	-2.2
MRZ				AML	AML	03 28 09.3	
MRZ				AML	AML	03 28 09.3	
TIWZ	**Tintock**	**2.81**	**185**	⇑PN	Pn	03 27 34.5	-2.2
TIWZ				AML	AML	03 28 12.7	
TIWZ				AML	AML	03 28 13.1	
OGWZ	**Otaki Gorge**	**2.95**	**196**	PN	Pn	03 27 36.1	-2.3
HOWZ	**Holdsworth Sta**	**2.97**	**190**	PN	Pn	03 27 36.0	-2.7
KIW	**Kapiti Island**	**3.05**	**199**	PN	Pn	03 27 37.1	-2.7
TMWZ	**Te Maipa**	**3.13**	**185**	PN	Pn	03 27 38.1	-2.7
MTW	**Mount Morrison**	**3.22**	**190**	⇓PN	Pn	03 27 38.8	-3.0
MTW				AML	AML	03 28 19.6	
CAW	**Cannon Point**	**3.25**	**195**	PN	Pn	03 27 39.4	-2.8
CAW				AML	AML	03 28 19.4	
CAW				AML	AML	03 28 19.6	
DUWZ	**D'Urville Isla**	**3.33**	**212**	PN	Pn	03 27 40.1	-3.2
TRWZ	**Traveller**	**3.44**	**187**	PN	Pn	03 27 41.5	-3.1
TRWZ				AML	AML	03 28 24.3	
PAWZ	**Paruwai Farm**	**3.45**	**190**	PN	Pn	03 27 41.3	-3.4
MSWZ	**Moikau Station**	**3.51**	**192**	PN	Pn	03 27 42.1	-3.4
MSWZ				AML	AML	03 28 23.3	
MSWZ				AML	AML	03 28 24.6	
TCW	**Tory Channel**	**3.56**	**204**	PN	Pn	03 27 42.8	-3.3
TCW				AML	AML	03 28 26.2	
TCW				AML	AML	03 28 26.6	
PLWZ	**Palliser**	**3.66**	**191**	PN	Pn	03 27 43.7	-3.8
TUWZ	**Tuamarina**	**3.87**	**206**	PN	Pn	03 27 46.4	-3.6
QRZ	**Quartz Range**	**4.03**	**224**	PN	Pn	03 27 48.0	-4.1
THZ	**Tophouse**	**4.56**	**213**	PN	Pn	03 27 56.3	-2.8
KHZ	**Kahutara**	**4.88**	**204**	⇑PN	Pn	03 27 59.2	-4.0
KHZ				AML	AML	03 28 55.4	
DSZ	**Denniston Nort**	**5.07**	**221**	PN	Pn	03 28 02.9	-2.8
LTZ	**Lake Taylor**	**5.67**	**211**	PN	Pn	03 28 08.9	-4.7
MQZ	**McQueen's Vall**	**6.33**	**204**	PN	Pn	03 28 15.9	-6.3

ISCJB ***24*** *03:38:52.4±0.8, 32°.0N±0°.1×40°.6W±0°.1, h14km, mb3.8/13, MS3.6/5, Error ellipse: s-maj=21.7km s-min=15.4km az=165.6*
IDC ***24*** *03:38:52.0±0.9, 31°.93N×40°.58W, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.8/29, mbtmp3.8/13, MS3.7/5, Ms1 3.6/5, ms1mx3.1/38, Error ellipse: s-maj=27.7km s-min=18.6km az=169.0*

ISC 24 03:38:54.2±0.9, 31°.9N±0°.2×40°.6W±0°.1, h14km, n22, σ0s86/13, mb3.9/13, MS3.6/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBTS	**Babate**	**27.87**	**122**	LR	LR	03 53 19.9	
	comp=Z,112nm,19.6s,baz=188,slow=31						
SCHQ	**Schefferville**	**29.50**	**329**	LR	LR	03 55 57.3	
	comp=Z,150nm,18.9s,baz=48,slow=35						
TORD	**Torodi Ar. Bea**	**42.95**	**106**	P	**P**	**03 46 52.0**	**-1.0**
	0.5nm,0.6s,baz=309,slow=7.0,SNR=5.3						
TORD				LR	LR	04 01 26.5	
	comp=Z,50nm,21.5s,baz=330,slow=32						
GERES	**GERESS Array B**	**43.70**	**51**	P	**P**	**03 46 58.3**	**-0.5**
	0.4nm,0.7s,baz=264,slow=9.8,SNR=3.4						
NOA	**NORSAR Array B**	**44.31**	**33**	P	**P**	**03 47 02.9**	**-0.5**
	0.9nm,0.9s,baz=256,slow=8.2,SNR=2.6						
ULM	**Lac du Bonnet**	**44.43**	**311**	LR	LR	04 03 01.6	
	comp=Z,114nm,19.2s,baz=297,slow=33						
H10N2	**ASCENSION HYDR**	**46.72**	**143**	T	T	04 37 25.6	
	baz=329,slow=75,SNR=38						
H10N3	**ASCENSION HYDR**	**46.72**	**143**	T	T	04 37 14.2	
	baz=329,slow=75,SNR=53						
H10N1	**ASCENSION HYDR**	**46.74**	**143**	T	T	04 37 25.5	
	baz=329,slow=75,SNR=66						
H10S1	**ASCENSION HYDR**	**47.59**	**144**	T	T	04 38 19.3	
	baz=330,slow=75,SNR=66						
H10S3	**ASCENSION HYDR**	**47.59**	**144**	T	T	04 38 21.9	
	baz=330,slow=75,SNR=53						
H10S2	**ASCENSION HYDR**	**47.60**	**144**	T	T	04 38 22.9	
	baz=330,slow=75,SNR=51						
FINES	**FINESS Array B**	**51.44**	**34**	P	**P**	**03 47 58.3**	**-0.3**
	14nm,1.2s,baz=218,slow=8.7,SNR=3.4						
ARCES	**ARCESS Array B**	**52.14**	**24**	P	**P**	**03 48 02.6**	**-1.1**
	3.4nm,0.8s,baz=266,slow=8.0,SNR=4.4						
TXAR	**Lajitas Array**	**53.67**	**285**	P	**P**	**03 48 15.7**	**0.0**
	0.3nm,0.7s,baz=66,slow=9.0,SNR=2.9						
PDAR	**Pinedale Array**	**54.51**	**302**	P	**P**	**03 48 21.8**	**0.0**
	1.8nm,0.8s,baz=88,slow=7.9,SNR=7.0						
PDAR				LR	LR	04 09 30.3	
	comp=Z,76nm,20.2s,baz=333,slow=34						
LPAZ	**La Paz**	**54.73**	**213**	P	**P**	**03 48 24.2**	**+0.2**
	1.1nm,0.7s,baz=356,slow=5.9,SNR=4.1						
YKA	**Yellowknife Ar**	**54.93**	**327**	P	**P**	**03 48 23.5**	**-0.7**
	0.4nm,0.8s,baz=87,slow=7.5,SNR=7.9						
BRTR	**Keskin Array B**	**59.12**	**60**	P	**P**	**03 48 56.2**	**+1.8**
	0.9nm,0.8s,baz=282,slow=7.4,SNR=4.3						
ILAR	**Eielson Array**	**68.10**	**334**	P	**P**	**03 49 53.7**	**+0.5**
	0.6nm,0.9s,baz=37,slow=4.6,SNR=5.7						
AKTO	**Aktyubinsk**	**71.14**	**42**	P	**P**	**03 50 13.1**	**+0.9**
	1.2nm,0.7s,baz=270,slow=3.0,SNR=5.0						
KURBB	**Kurchatov Arra**	**81.83**	**34**	P	**P**	**03 51 12.6**	**-0.1**
	0.3nm,0.3s,baz=318,slow=5.6,SNR=3.6						

ISCJB ***24*** *03:42:07.2±1.0, 37°.37N±0°.03×20°.31E±0°.06, h15km±6km, Error ellipse: s-maj=9.2km s-min=4.3km az=151.4*
ATH ***24*** *03:42:08.1, 37°.37N×20°.42E, h19km±1km, MD3.6/32*
CSEM ***24*** *03:42:09.4±0.5, 37°.45N×20°.43E, h10km, MD3.6, Error ellipse: s-maj=10.5km s-min=4.6km az=64.0*
THE ***24*** *03:42:10.5, 37°.54N×20°.46E, h0km, 3km, ML3.0/2, Error ellipse: s-maj=3.4km s-min=0.7km az=240.0*

ISC 24 03:42:08.6±1.5, 37°.42N±0°.03×20°.47E±0°.05, h5km±10km, n108, σ0s90/133, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.47**	**111**	P	**Pn**	**03 42 20.6**	**-1.4**
SFD				S	**Sb**	**03 42 28.9**	**+2.3**
SFD	**Strofades**	**0.47**	**111**	*e*PB	**Pg**	**03 42 17.5**	**-0.1**
SFD	**Strofades**	**0.47**	**111**	P	**Pn**	**03 42 20.6**	**-1.4**
SFD				S	**Sb**	**03 42 28.9**	**+2.3**
KFL	**Anninata**	**0.73**	**20**	P	**Pg**	**03 42 22.1**	**-0.6**
KFL				S	**Sg**	**03 42 31.5**	**-0.7**
KFL	**Anninata**	**0.73**	**20**	P	**Pg**	**03 42 22.1**	**-0.6**
KFL				S	**Sg**	**03 42 31.5**	**-0.7**
VLS	**Valsamata**	**0.76**	**7**	P	**Pg**	**03 42 22.2**	**-1.0**
VLS				S	**Sg**	**03 42 32.3**	**-0.8**
VLS	**Valsamata**	**0.76**	**7**	*e*PB	**Pg**	**03 42 23.5**	**+0.3**
VLS				*e*SN	**Sn**	**03 42 36.0**	**-2.0**
VLS	**Valsamata**	**0.76**	**7**	P	**Pg**	**03 42 22.2**	**-1.0**
VLS	**Valsamata**	**0.76**	**7**	*e*Pb	**Pg**	**03 42 23.5**	**+0.3**
VLS				S	**Sg**	**03 42 32.3**	**-0.8**
VLS				*e*Sn	**Sn**	**03 42 36.0**	**-2.0**
AMT	**Artemida-Makis**	**0.99**	**83**	P	**Pn**	**03 42 28.8**	**-0.5**
AMT				S	**Sn**	**03 42 44.4**	**+0.7**
AMT	**Artemida-Makis**	**0.99**	**83**	*e*PN	**Pn**	**03 42 28.6**	**-0.7**
AMT	**Artemida-Makis**	**0.99**	**83**	P	**Pn**	**03 42 28.8**	**-0.5**
AMT				S	**Sn**	**03 42 44.4**	**+0.7**
RLS	**Riolos of Patr**	**1.02**	**51**	P	**Pg**	**03 42 27.8**	**-0.3**
RLS				S	**Sb**	**03 42 42.2**	**-0.2**
RLS	**Riolos of Patr**	**1.02**	**51**	*e*PN	**Pg**	**03 42 28.1**	**0.0**
RLS	**Riolos of Patr**	**1.02**	**51**	P	**Pg**	**03 42 27.8**	**-0.3**
RLS	**Riolos of Patr**	**1.02**	**51**	*e*Pn	**Pg**	**03 42 28.1**	**0.0**
RLS				S	**Sb**	**03 42 42.2**	**-0.2**
DRO	**Drossia**	**1.12**	**61**	P	**Pg**	**03 42 30.3**	**+0.2**
DRO				S	**Sn**	**03 42 46.7**	**-0.2**
DRO	**Drossia**	**1.12**	**61**	*e*PN	Pn	03 42 30.8	-0.2
DRO	**Drossia**	**1.12**	**61**	P	**Pg**	**03 42 30.3**	**+0.2**
DRO	**Drossia**	**1.12**	**61**	*e*Pn	**Pg**	**03 42 30.8**	**-0.2**
DRO				S	**Sn**	**03 42 46.7**	**-0.2**
PYL	**PYLOS**	**1.15**	**117**	*e*PN	**Pb**	**03 42 30.1**	**-0.8**
PYL				*e*SN	**Sg**	**03 42 45.8**	**+0.4**
PYL	**PYLOS**	**1.15**	**117**	*e*Pn	**Pb**	**03 42 30.1**	**-0.8**
PYL				*e*Sn	**Sg**	**03 42 45.8**	**+0.4**
ITM	**Ithomi**	**1.19**	**101**	*e*PN	**Pb**	**03 42 31.4**	**-0.2**
ITM				*e*SN	**Sn**	**03 42 48.2**	**-0.3**
ITM	**Ithomi**	**1.19**	**101**	*e*Pn	**Pb**	**03 42 31.4**	**-0.2**
ITM				*e*Sn	**Sn**	**03 42 48.2**	**-0.3**
PDO	**Prodromos**	**1.31**	**25**	P	**Pb**	**03 42 33.3**	**-0.3**
PDO				S	**Sn**	**03 42 50.3**	**-1.1**
PDO	**Prodromos**	**1.31**	**25**	*e*PN	**Pg**	**03 42 33.7**	**+0.1**
PDO				*e*SN	**Sg**	**03 42 52.6**	**+2.0**
PDO	**Prodromos**	**1.31**	**25**	P	**Pb**	**03 42 33.3**	**-0.3**
PDO	**Prodromos**	**1.31**	**25**	*e*Pn	**Pg**	**03 42 33.7**	**+0.1**
PDO				S	**Sn**	**03 42 50.3**	**-1.1**
PDO				*e*Sn	**Sg**	**03 42 52.6**	**+2.0**
LKD2	**Lefkada island**	**1.38**	**6**	P	**Pb**	**03 42 34.8**	**0.0**
LKD2				S	**Sg**	**03 42 52.7**	**-0.1**
LKD2	**Lefkada island**	**1.38**	**6**	P	**Pb**	**03 42 34.8**	**0.0**
PSA1	**Psathopyrgos**	**1.44**	**51**	*e*PN	**Pg**	**03 42 36.2**	**0.0**
LAKA	**Lakka**	**1.45**	**55**	P	**Pg**	**03 42 36.5**	**+0.1**
LAKA	**Lakka**	**1.45**	**55**	*e*PN	**Pg**	**03 42 36.7**	**+0.3**
LAKA	**Lakka**	**1.45**	**55**	P	**Pg**	**03 42 36.5**	**+0.1**
PVO	**Paravola**	**1.46**	**35**	P	**Pb**	**03 42 36.1**	**-0.1**
PVO	**Paravola**	**1.46**	**35**	P	**Pb**	**03 42 36.1**	**-0.1**
KLV	**Kalavryta, Ach**	**1.47**	**64**	P	**Pb**	**03 42 36.2**	**-0.3**
KLV	**Kalavryta, Ach**	**1.47**	**64**	*e*PN	**Pb**	**03 42 36.3**	**-0.3**
KLV	**Kalavryta, Ach**	**1.47**	**64**	*e*Pn	**Pb**	**03 42 36.3**	**-0.3**
EFP	**Efpalio**	**1.52**	**48**	P	**Pg**	**03 42 37.4**	**-0.3**
EFP	**Efpalio**	**1.52**	**48**	*e*PN	**Pg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.69**	**311**	S	**Sn**	**04 34 08.2**	**-1.5**
BSO1	**Boso 1**	**3.44**	**342**	P	**Pn**	**04 33 47.5**	**-0.5**
BSO1				S	**Sn**	**04 34 26.9**	**-0.6**
BSO4	**Boso 4**	**3.94**	**337**	S	**Sn**	**04 34 38.6**	**-2.0**
CBIJ	**Chichi jima**	**4.26**	**181**	P	**Pn**	**04 34 00.6**	**+0.8**
CBIJ				S	**Sn**	**04 34 46.8**	**-1.8**
JCJ	**Chichijima**	**4.26**	**181**	Pn	**Pn**	**04 34 00.8**	**+1.0**
	5.6nm,0.3s,baz=258,slow=20,SNR=11						
JCJ				Sn	**Sn**	**04 34 46.5**	**-2.1**
	6.1nm,0.3s,baz=274,slow=19,SNR=2.5						
JRY	**Ryogami san**	**5.40**	**330**	P	**Pn**	**04 34 16.1**	**+0.6**
JRY				S	**Sn**	**04 35 15.5**	**-1.2**
JHO	**Hitachi**	**5.41**	**346**	P	**Pn**	**04 34 15.3**	**-0.2**
JHO				S	**Sn**	**04 35 13.0**	**-3.8**
JAG	**Ashikaga**	**5.54**	**336**	S	**Sn**	**04 35 17.6**	**-2.6**
MJAR	**Matsushiro Arr**	**6.15**	**328**	Pn	**Pn**	**04 34 26.4**	**+0.7**
	0.9nm,0.3s,baz=154,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**47.88**	**307**	P	**P**	**04 41 32.1**	**-0.1**
	0.1nm,0.3s,baz=82,slow=9.4,SNR=4.6						
WRA	**Warramunga Arr**	**51.58**	**189**	P	**P**	**04 42 01.0**	**+0.4**
	0.3nm,0.3s,baz=6.8,slow=7.7,SNR=14						
ILAR	**Eielson Array**	**53.98**	**30**	P	P	04 42 22.4	+4.6
	0.7nm,1.1s,baz=247,slow=7.1,SNR=4.4						
ASAR	**Alice Springs**	**55.30**	**189**	P	**P**	**04 42 28.4**	**+0.5**
	0.3nm,0.5s,baz=359,slow=6.3,SNR=5.7						
FINES	**FINES Array B**	**74.15**	**333**	P	**P**	**04 44 32.8**	**+2.6**
	2.2nm,0.8s,baz=60,slow=8.2,SNR=3.1						

BJI ***24*** *05:05:29.6,5˙.55S×146˙.01E,h116km,mB5.3/41,mb5.1/56*
MOS ***24*** *05:05:31.3±1.0,5˙.40S×145˙.58E,h107km,mb5.4/26,Error ellipse: s-maj=10.6km s-min=6.1km az=107.2*
ISCJB ***24*** *05:05:33.2±0.6,5˙.46S±0˙.02×145˙.60E±0˙.03,h125km±5km, mb5.2/143,Error ellipse: s-maj=4.5km s-min=3.8km az=141.3*
IDC ***24*** *05:05:33.8±0.6,5˙.49S×145˙.69E,h120km±5km,mb4.7/20, mb1 4.8/24,mb1mx4.8/25,mbtmp4.7/24,MS4.3/20, Ms1 4.3/20,ms1mx4.1/36,Error ellipse: s-maj=15.5km s-min=7.6km az=77.0*
NEIC ***24*** *05:05:34.3±0.8,5˙.46S×145˙.63E,h125km±8km,mb5.4/54, Error ellipse: s-maj=5.6km s-min=4.4km az=60.0*
NEIC Felt [IV] at Goroka. Also felt at Finschhafen and Kainantu.
AUST ***24*** *05:05:34.8±0.3,5˙.58S×145˙.52E,h115km±4km,Error ellipse: s-maj=4.2km s-min=3.6km az=62.0*
DJA ***24*** *05:05:36.2±0.5,6˙S±4˙×14˙6E±˚,h126km±6km,M5.3/30, mb5.3/30,mB5.7/24,MLv5.9/2,Mw(mB)5.2/24,Mwp5.6/1*
GCMT ***24*** *05:05:37.1±0.1,5˙.48S×145˙.56E,h124km,MW5.4, Moment Tensor Solution. s93,c144; s99,c204; Moment tensor: Scale 10¹⁷Nm; Mrr1.43±.02; Mθθ-1.67±.03; Mφφ0.25±.03; Mrθ0.21±.02; Mθφ-0.03±.03; Mφr0.34±.02; Best double couple: M₀1.60000×10¹⁷ NP1:φs75.00000°, δ51.00000°,λ71.00000°. NP2:φs284.00000°,δ43.00000°, λ112.00000°. Principal axes: T 1.5300, Plg75.0000°, Azm283.0000°; N 0.1600, Plg15.0000°, Azm87.0000°; P -1.6900, Plg4.0000°, Azm178.0000°; Data Used: II IU CU IC G CN. Surface waves from 114 sta.*

ISC 24 05:05:33.8±0.3,5˙48S×0˙03×145˙64E±0˙04,h121km±1km, h121km:pP-P,n429,σ1s39/543,mb5.2/142,14C-19D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.83**	**27**	P	**Pn**	**05 06 33.3**	**+2.2**
	baz=4.0,SNR=37						
MANU				P	**Pn**	**05 06 33.7**	**+2.6**
	baz=4.0,SNR=13						
PMG	**Port Moresby**	**4.18**	**159**	P	**Pn**	**05 06 35.3**	**-0.5**
PMG	**Port Moresby**	**4.18**	**159**	*e*Pn	**Pn**	**05 06 35.2**	**-0.6**
PMG				S	**Sn**	**05 07 21.8**	**-2.2**
PMG				*e*Sn	Sn	05 07 22.0	-1.9
PMG	**Port Moresby**	**4.18**	**159**	P	**Pn**	**05 06 35.3**	**-0.5**
	381nm,0.3s,baz=344,slow=7.7,SNR=846						
PMG				S	**Sn**	**05 07 21.8**	**-2.2**
	355nm,0.3s,baz=159,slow=21,SNR=13						
PMG	**Port Moresby**	**4.18**	**159**	P	**Pn**	**05 06 35.3**	**-0.5**
	baz=4.2,SNR=677						
PMG				P	**Pn**	**05 06 35.3**	**-0.5**
	baz=4.2,SNR=677						
PMG				P	**Pn**	**05 06 35.3**	**-0.5**
	baz=4.2,SNR=677						
GENI	**Genyem**	**6.16**	**298**	P	**Pn**	**05 07 02.5**	**0.0**
	512nm,1.0s,12µm20µm4.8nm						
RABL	**Rabaul**	**6.63**	**79**	P	Pn	05 07 13.0	+4.2
	baz=6.8,SNR=7.6						
COEN	**Coen**	**8.77**	**196**	*e*Pn	**Pn**	**05 07 38.2**	**+0.5**
COEN				*e*Sn	**Sn**	**05 09 14.9**	**+0.1**
COEN	**Coen**	**8.77**	**196**	P	**Pn**	**05 07 38.5**	**+0.8**
	baz=8.7,SNR=537						
SRPI	**Serui, Papua**	**10.04**	**291**	P	**Pn**	**05 07 56.2**	**+1.3**
	624nm,0.7s						
BAKI	**Biak**	**10.42**	**294**	P	Pn	05 08 04.6	+4.5
	189nm,0.8s,3µm						
MWPI	**Manokwari, Pap**	**12.43**	**291**	P	**Pn**	**05 08 29.5**	**+2.8**
	225nm,0.7s						
FAKI	**Fak Fak**	**13.59**	**280**	P	**Pn**	**05 08 42.1**	**+0.3**
	66nm,1.5s,2µm						
FAKI	**Fak Fak**	**13.59**	**280**	P	**Pn**	**05 08 42.0**	**+0.3**
	baz=14,SNR=16						
CTA	**Charters Tower**	**14.53**	**178**	P	**Pn**	**05 08 53.2**	**-0.6**
CTA	**Charters Tower**	**14.53**	**178**	P	**Pn**	**05 08 53.2**	**-0.6**
	0.6nm,0.3s,baz=356,slow=13,SNR=33						
CTA				LR	LR	05 14 17.0	
	comp=Z,724nm,18.8s,baz=358,slow=36						
CTAO	**Charters Tower**	**14.53**	**178**	*e*P	**Pn**	**05 08 53.6**	**-0.2**
CTAO	**Charters Tower**	**14.53**	**178**	*e*Pn	**Pn**	**05 08 53.6**	**-0.2**
HNR	**Honiara**	**14.72**	**106**	P	**Pn**	**05 08 57.0**	**+0.8**
HNR	**Honiara**	**14.72**	**106**	P	**Pn**	**05 08 56.9**	**+0.8**
	6.6nm,0.3s,baz=146,slow=7.3,SNR=3.1						
KDU	**Kakadu**	**14.83**	**240**	P	Pn	**05 08 57.6**	**0.0**
	baz=15,SNR=212						
SWI	**Sorong**	**15.07**	**287**	P	**Pn**	**05 09 00.2**	**-0.3**
	357nm,1.1s,5µm						
BNDI	**Bandanaira**	**15.70**	**273**	P	**P**	**05 09 12.2**	**+2.2**
	361nm,1.8s,6µm						
MTN	**Manton Dam**	**16.07**	**242**	P	**Pn**	**05 09 12.7**	**-0.3**
	baz=16,SNR=114						
QIS	**Mount Isa**	**16.09**	**201**	⇓P	**Pn**	**05 09 12.9**	**-0.4**
	baz=16						
MSAI	**Masohi**	**16.79**	**277**	P	**P**	**05 09 22.6**	**+0.6**
	24nm,1.2s,460nm						
WRAB	**Tennant Creek**	**18.08**	**216**	*d*P	**P**	**05 09 35.9**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,356nm,1.7s						
WRAB	**Tennant Creek**	**18.08**	**216**	*e*P	**P**	**05 09 35.4**	**-0.8**
	comp=Z,135nm,1.0s						
WRAB				*e*S	**S**	**05 12 50.9**	**-6.6**
WRAB	**Tennant Creek**	**18.08**	**216**	P	**Pn**	**05 09 37.0**	**-0.4**
	comp=Z,580nm,0.6s,SNR=48						
WRA	**Warramunga Arr**	**18.09**	**216**	P	**P**	**05 09 35.3**	**-1.0**
WRA				PcP	**PcP**	**05 14 06.2**	**+1.0**
WRA				ScP	**ScP**	**05 17 30.2**	**+0.6**
WRA	**Warramunga Arr**	**18.09**	**216**	P	**P**	**05 09 35.3**	**-1.0**
	comp=Z,8.0nm,0.3s,baz=39,slow=11,SNR=118						
WRA				PcP	**PcP**	**05 14 06.2**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=18,slow=1.8,SNR=8.6						
WRA				ScP	**ScP**	**05 17 30.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=20,slow=2.0,SNR=4.8						
NLAI	**Namlea**	**18.62**	**276**	P	**Pn**	**05 09 44.3**	**+0.5**
	comp=Z,224nm,1.7s,comp=Z,3µm						
GUMO	**Guam**	**18.96**	**358**	*e*P	**P**	**05 09 46.5**	**+0.8**
	comp=Z,82nm,1.3s						
GAMI	**Galela, Maluku**	**19.25**	**292**	P	**Pn**	**05 09 51.5**	**+0.2**
	comp=Z,194nm,1.3s						
TNTI	**Ternate**	**19.27**	**288**	P	Pn	05 09 59.3	+7.8
KNRA	**Kununurra**	**19.42**	**237**	P	**P**	**05 09 50.0**	**-0.7**
	baz=19,SNR=20						
KNRA				⇑P	**Pn**	**05 09 50.5**	**-2.6**
	baz=19						
EIDS	**Eidsvold**	**20.45**	**166**	*e*P	**P**	**05 10 03.4**	**+1.5**
	comp=Z,352nm,1.3s						
EIDS				*e*S	**S**	**05 13 45.2**	**+0.8**
EIDS	**Eidsvold**	**20.45**	**166**	⇓P	**P**	**05 10 03.4**	**+1.5**
	baz=20,SNR=58						
QLP	**Quilpie**	**21.03**	**184**	P	**P**	**05 10 08.8**	**+0.9**
	baz=21,SNR=98						
RMQ	**Roma**	**21.10**	**172**	⇓P	**P**	**05 10 10.5**	**+1.7**
	baz=21,SNR=96						
AS31	**Alice Springs**	**21.32**	**211**	*e*P	**P**	**05 10 10.9**	**-0.4**
ASAR	**Alice Springs**	**21.32**	**211**	P	**P**	**05 10 11.2**	**-0.1**
ASAR				PcP	**PcP**	**05 14 12.3**	**+1.3**
ASAR				ScP	**ScP**	**05 17 38.1**	**+1.1**
ASAR	**Alice Springs**	**21.32**	**211**	P	**P**	**05 10 11.2**	**-0.1**
	comp=Z,26nm,0.6s,baz=49,slow=8.2,SNR=259						
ASAR				PcP	**PcP**	**05 14 12.3**	**+1.3**
	comp=Z,5.4nm,0.9s,baz=143,slow=2.5,SNR=4.2						
ASAR				ScP	**ScP**	**05 17 38.1**	**+1.1**
	comp=Z,4.8nm,0.8s,baz=44,slow=2.7,SNR=7.7						
ASAR				LR	LR	05 18 58.0	
	comp=Z,2µm,20.2s,baz=20,slow=38						
SOEI	**Soe**	**21.60**	**257**	P	**P**	**05 10 14.9**	**+0.5**
	comp=Z,241nm,0.9s,comp=Z,5µm						
SOEI	**Soe**	**21.60**	**257**	⇓P	**P**	**05 10 14.9**	**+0.5**
	baz=22,SNR=8.2						
KMSI	**Cibinong**	**22.45**	**285**	P	**P**	**05 10 25.3**	**+2.3**
	comp=Z,512nm,1.2s,comp=Z,11µm						
FITZ	**Fitzroy Crossi**	**23.21**	**236**	P	**P**	**05 10 29.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**23.21**	**236**	P	**P**	**05 10 29.3**	**-1.1**
	comp=Z,30nm,0.4s,baz=65,slow=10,SNR=230						
FITZ				LR	LR	05 21 47.9	
	comp=Z,651nm,18.6s,baz=58,slow=42						
LUWI	**Luwuk**	**23.25**	**280**	P	**P**	**05 10 31.5**	**+0.8**
	comp=Z,572nm,1.8s,comp=Z,11µm						
LUWI	**Luwuk**	**23.25**	**280**	⇓P	**P**	**05 10 31.2**	**+0.5**
	baz=23,SNR=12						
MMRI	**Maumere**	**23.43**	**261**	P	**P**	**05 10 31.5**	**-0.9**
	comp=Z,220nm,0.5s,comp=Z,4µm						
APSI	**Ampana**	**24.37**	**280**	P	**P**	**05 10 42.5**	**+1.6**
	comp=Z,343nm,1.4s,comp=Z,4µm						
MRSI	**Marisa**	**24.39**	**283**	P	**P**	**05 10 40.8**	**-0.3**
	comp=Z,93nm,0.8s,comp=Z,1µm						
BKSI	**Bulukumba**	**25.40**	**269**	P	**P**	**05 10 49.9**	**-0.4**
	comp=Z,43nm,1.4s,comp=Z,939nm						
ARMA	**Armidale**	**25.44**	**168**	*e*P	**P**	**05 10 51.0**	**+0.4**
	comp=Z,100nm,0.9s						
ARMA	**Armidale**	**25.44**	**168**	⇑P	**P**	**05 10 52.5**	**+1.9**
	baz=26,SNR=38						
BNSI	**Bone**	**25.46**	**271**	P	**P**	**05 10 52.0**	**+1.2**
	comp=Z,74nm,1.3s,comp=Z,2µm						
WRKA	**Warakurna**	**25.59**	**219**	⇑P	**P**	**05 10 52.3**	**+0.4**
	baz=26,SNR=69						
LBFI	**Labuhan Bajo,**	**25.73**	**262**	P	**P**	**05 10 52.3**	**-0.9**
	comp=Z,64nm,1.0s						
KAPI	**Kappang**	**25.78**	**270**	P	**P**	**05 10 54.2**	**+0.5**
	comp=Z,195nm,0.8s,SNR=6.0						
CMSA	**Cobar Meteorol**	**25.92**	**180**	⇑P	**P**	**05 10 56.4**	**+1.7**
	baz=26,SNR=43						
DZM	**Mont Dzumac**	**26.02**	**131**	*e*P	**P**	**05 10 57.2**	**+1.3**
	comp=Z,100nm,1.2s						
DZM				*e*LR	LR	05 17 43.4	
	comp=Z,2µm,33.6s						
DZM	**Mont Dzumac**	**26.02**	**131**	P	**P**	**05 10 56.9**	**+1.0**
DZM	**Mont Dzumac**	**26.02**	**131**	P	**P**	**05 10 56.9**	**+1.0**
	comp=Z,31nm,0.9s,baz=334,slow=9.7,SNR=8.2						
STKA	**Stephens Creek**	**26.53**	**188**	P	**P**	**05 11 01.0**	**+0.7**
STKA				ScP	**ScP**	**05 17 54.4**	**+3.4**
STKA	**Stephens Creek**	**26.53**	**188**	P	**P**	**05 11 01.0**	**+0.7**
	comp=Z,69nm,0.4s,baz=360,slow=7.7,SNR=130						
STKA				ScP	**ScP**	**05 17 54.4**	**+3.4**
	comp=Z,5.3nm,1.0s,baz=65,slow=3.0,SNR=3.7						
STKA				LR	LR	05 23 13.7	
	comp=Z,897nm,18.4s,baz=31,slow=40						
STKA	**Stephens Creek**	**26.53**	**188**	P	**P**	**05 11 01.4**	**+1.2**
	baz=27,SNR=170						
HTT	**Hallett**	**28.50**	**192**	P	**P**	**05 11 18.8**	**+0.9**
	baz=28,SNR=24						
BBOO	**Buckeboo**	**28.62**	**197**	P	**P**	**05 11 19.6**	**+0.7**
	baz=29,SNR=19						
YNG	**Young**	**28.79**	**175**	P	**P**	**05 11 22.6**	**+2.2**
	baz=29,SNR=24						
TSM	**Tawau**	**29.38**	**289**	P	**P**	**05 11 26.0**	**+0.1**
CAN	**Canberra**	**29.86**	**174**	*e*P	**P**	**05 11 31.6**	**+1.7**
CAN				pmax	pmax		
	comp=Z,96nm,1.3s						
CAN	**Canberra**	**29.86**	**174**	*e*P	**P**	**05 11 31.6**	**+1.7**
	comp=Z,96nm,1.3s						
CNB	**Canberra Magne**	**29.89**	**174**	P	**P**	**05 11 32.7**	**+2.6**
	baz=30,SNR=7.6						
FORT	**Forrest**	**30.11**	**211**	*e*P	**P**	**05 11 32.4**	**+0.4**
	comp=Z,68nm,0.7s						
FORT	**Forrest**	**30.11**	**211**	⇑P	**P**	**05 11 33.2**	**+1.1**
	baz=30,SNR=23						
SDKM	**Sandakan**	**30.47**	**291**	P	**P**	**05 11 34.9**	**-0.7**
ARPS	**Mount Arapiles**	**31.34**	**186**	⇓P	**P**	**05 11 45.6**	**+2.8**
	baz=31,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**31.60**	**41**	T	T	05 45 09.7	
	baz=221,slow=74,SNR=96						
H11S2	**WAKE ISLAND Hy**	**31.61**	**41**	T	T	05 45 06.5	
	baz=221,slow=74,SNR=44						
H11S1	**WAKE ISLAND Hy**	**31.62**	**41**	T	T	05 45 11.3	
	baz=221,slow=74,SNR=54						
TOO	**Toolangi**	**31.94**	**180**	P	**P**	**05 11 50.8**	**+2.7**
	baz=32,SNR=5.8						
CBIJ	**Chichi jima**	**32.56**	**354**	*e*P	**P**	**05 11 52.4**	**-1.2**
	comp=Z,30nm,0.5s						
JCJ	**Chichijima**	**32.56**	**354**	LR	LR	05 23 01.1	
	comp=Z,310nm,19.5s,baz=276,slow=32						
H11N1	**WAKE ISLAND Hy**	**32.62**	**39**	T	T	05 46 37.9	
	baz=223,slow=76,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**32.64**	**39**	T	T	05 46 26.1	
	baz=223,slow=76,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**32.64**	**39**	T	T	05 46 28.6	
	baz=223,slow=76,SNR=19						
MEEK	**Meekatharra**	**33.27**	**228**	P	**P**	**05 12 00.9**	**+0.9**
	baz=33,SNR=33						
BTM	**Bintulu**	**33.64**	**284**	P	**P**	**05 12 05.1**	**+1.8**
SJI	**Sawahan**	**33.71**	**264**	P	P	05 12 17.3	+13
KMBL	**Kambalda**	**34.05**	**218**	⇓P	**P**	**05 12 07.4**	**+0.8**
	baz=34,SNR=21						
SBUM	**Sibu**	**34.30**	**282**	P	**P**	**05 12 10.9**	**+2.0**
SBUM	**Sibu**	**34.30**	**282**	*e*P	**P**	**05 12 09.7**	**+0.8**
	comp=Z,326nm,2.0s						
UGM	**Wanagama**	**34.95**	**264**	⇓P	**P**	**05 12 14.1**	**-0.5**
	baz=35,SNR=4.0						
BJII	**Banjamegara**	**35.74**	**265**	P	**P**	**05 12 23.1**	**+1.7**
	comp=Z,43nm,1.8s,comp=Z,2µmcomp=Z,0.2nm						
KSM	**Kuching**	**35.95**	**280**	P	**P**	**05 12 21.7**	**-1.4**
KSM	**Kuching**	**35.95**	**280**	*e*P	**P**	**05 12 23.9**	**+0.7**
	comp=Z,64nm,1.0s						
KSM				*e*PcP	**PcP**	**05 14 48.3**	**+0.7**
KSM	**Kuching**	**35.95**	**280**	⇓P	**P**	**05 12 22.9**	**-0.3**
	baz=36,SNR=12						
KPJI	**Karang Pucung**	**36.52**	**265**	P	**P**	**05 12 28.1**	**+0.2**
	comp=Z,44nm,0.8s,comp=Z,0.2nm						
KLBR	**Kellerberrin**	**36.84**	**222**	⇓P	**P**	**05 12 30.8**	**+0.4**
	baz=37,SNR=40						
BLDU	**Ballidu**	**36.94**	**224**	P	**P**	**05 12 31.9**	**+0.5**
	baz=37,SNR=48						
YULB	**Yu-li**	**37.26**	**321**	*e*P	**P**	**05 12 33.5**	**-0.7**
	comp=Z,14nm,0.9s						
CISI	**Cisompet, Garu**	**37.63**	**265**	P	**P**	**05 12 35.9**	**-1.5**
CISI	**Cisompet, Garu**	**37.63**	**265**	*e*P	**P**	**05 12 35.7**	**-1.7**
	comp=Z,110nm,1.0s						
NACB	**Ninganchiao**	**37.66**	**322**	*e*P	**P**	**05 12 37.0**	**-0.4**
	comp=Z,91nm,1.4s						
NACB				*e*PcP	**PcP**	**05 14 49.3**	**-3.2**
TPI	**Tanjungpandan**	**37.98**	**273**	P	**P**	**05 12 40.4**	**+0.1**
YHNB	**Yeheng**	**38.16**	**323**	*e*P	**P**	**05 12 42.7**	**+1.0**
	comp=Z,18nm,0.5s						
TATO	**Taipei**	**38.32**	**323**	*e*P	**P**	**05 12 44.4**	**+1.4**
	comp=Z,59nm,1.4s						
OUZ	**Omahuta**	**39.25**	**143**	*e*P	**P**	**05 12 52.2**	**+1.6**
	comp=Z,50nm,0.9s						
OUZ				*e*PcP	**PcP**	**05 14 59.0**	**+1.7**
RKGY	**Rocky Gully**	**39.27**	**219**	⇓P	**P**	**05 12 52.0**	**+1.2**
	baz=39,SNR=11						
XMI	**Christmas Isla**	**39.84**	**260**	⇑P	**P**	**05 12 56.1**	**+0.2**
	baz=40,SNR=6.2						
XMIS	**Christmas Isla**	**39.88**	**260**	*e*P	**P**	**05 12 56.4**	**+0.2**
	comp=Z,744nm,0.8s						
XMIS	**Christmas Isla**	**39.88**	**260**	⇓P	**P**	**05 12 56.7**	**+0.5**
	baz=40,SNR=10						
QZH	**Quanzhou**	**40.09**	**320**	⇑*i*P	P	05 12 54.0	-3.6
QZH				sP	sP	05 13 37.5	-1.1
QZH				S	**S**	**05 18 50.5**	**-4.5**
QZH				sS	sS	05 19 40.8	-1.4
KLSI		**40.75**	**269**	P	P	05 12 59.1	-4.2
	comp=Z,68nm,2.2s,comp=Z,2µmcomp=Z,0.3nm						
JNU	**Nakatsue**	**40.87**	**341**	*e*P	**P**	**05 13 03.5**	**-0.5**
	comp=Z,4.2nm,0.6s						
KASI	**Kota Agung**	**40.95**	**268**	P	**P**	**05 13 03.6**	**-1.3**
	comp=Z,136nm,0.9s,comp=Z,925nm						
MDSI	**Maura Dua**	**41.31**	**269**	P	**P**	**05 13 05.9**	**-2.0**
	comp=Z,104nm,1.6s,comp=Z,2µm						
LWLI	**Liwa**	**41.40**	**269**	P	**P**	**05 13 07.7**	**-1.1**
	comp=Z,109nm,0.9s						
LHSI	**Lahat**	**42.00**	**270**	P	**P**	**05 13 13.7**	**+0.2**
MYKOM	**Kota Tinggi**	**42.36**	**279**	P	**P**	**05 13 15.0**	**-1.5**
MYKOM	**Kota Tinggi**	**42.36**	**279**	*e*P	**P**	**05 13 15.0**	**-1.5**
MJAR	**Matsushiro Arr**	**42.38**	**351**	P	**P**	**05 13 15.6**	**-0.7**
MJAR	**Matsushiro Arr**	**42.38**	**351**	P	**P**	**05 13 15.6**	**-0.7**
	comp=Z,22nm,1.0s,baz=174,slow=7.6,SNR=36						
MAJO	**Matsushiro**	**42.38**	**351**	*d*P	**P**	**05 13 16.4**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,426nm,1.2s						
MAJO	**Matsushiro**	**42.38**	**351**	*e*P	**P**	**05 13 15.8**	**-0.5**
	comp=Z,85nm,1.3s						
MAT	**Matsushiro**	**42.38**	**351**	P	**P**	**05 13 15.4**	**-0.8**
MAT				S	**S**	**05 19 26.1**	**-2.5**
AFI	**Afiamalu**	**42.74**	**105**	LR	LR	05 26 59.1	
	comp=Z,326nm,20.5s,baz=203,slow=30						
QIZ	**Qiongzhong**	**42.85**	**306**	P	**P**	**05 13 21.1**	**+0.8**
QIZ				sP	**sP**	**05 13 59.6**	**-1.9**
QIZ				PP	**PP**	**05 15 03.5**	**+1.3**
QIZ				S	**S**	**05 19 34.9**	**-1.1**
QIZ				sS	**sS**	**05 20 22.4**	**-1.3**
QIZ				SS	SS	05 22 43.9	-8.2
QIZ				pmax	pmax		
	comp=Z,23nm,1.7s						
QIZ				LR	LR		
	comp=Z,390nm,13.3s						
QIZ				LR	LR		
	comp=Z,390nm,36.2s						
KGM	**Kluang**	**42.92**	**279**	P	**P**	**05 13 22.4**	**+1.4**
MASI	**Maura Aman, Be**	**43.33**	**271**	P	**P**	**05 13 24.2**	**-0.1**
URZ	**Urewera**	**43.37**	**143**	P	**P**	**05 13 24.7**	**+0.4**
URZ	**Urewera**	**43.37**	**143**	P	**P**	**05 13 24.7**	**+0.4**
	comp=Z,16nm,0.9s,baz=338,slow=6.7,SNR=7.6						
URZ				LR	LR	05 30 07.2	
	comp=Z,591nm,18.2s,baz=106,slow=34						
BKZ	**Black Stump Fm**	**43.61**	**145**	*e*P	**P**	**05 13 28.4**	**+2.2**
	comp=Z,46nm,1.0s						
KTGM	**Kuala Trenggan**	**43.78**	**283**	P	**P**	**05 13 28.6**	**+0.7**
DCZ	**Deep Cove**	**44.03**	**158**	*e*P	**P**	**05 13 31.9**	**+2.5**
	comp=Z,755nm,2.9s						
RPZ	**Rata Peaks**	**44.17**	**153**	*e*P	**P**	**05 13 32.7**	**+2.1**
	comp=Z,214nm,2.0s						
RPZ	**Rata Peaks**	**44.17**	**153**	LR	LR	05 30 07.8	
	comp=Z,687nm,20.0s,baz=325,slow=33						
SDSI	**Sungai Dareh**	**44.36**	**274**	P	P	05 13 37.5	+5.0
BFZ	**Birch Farm**	**44.51**	**146**	*e*P	**P**	**05 13 35.2**	**+1.9**
	comp=Z,57nm,1.0s						
FRIM	**Kepong**	**44.81**	**280**	P	**P**	**05 13 36.8**	**+0.7**
UBPT	**Khong Chiam**	**44.82**	**298**	P	**P**	**05 13 36.6**	**+0.5**
	comp=Z,37nm,1.7s,comp=Z,904nm						
BKNI	**Bangkinang**	**44.90**	**276**	P	**P**	**05 13 37.2**	**+0.3**
NJ2	**Nanjing**	**45.21**	**327**	*e*P	**P**	**05 13 40.1**	**+1.2**
NJ2				pP	**pP**	**05 14 05.6**	**-1.1**
NJ2				sP	**sP**	**05 14 18.3**	**-2.0**
NJ2				PP	**PP**	**05 15 28.3**	**+1.2**
NJ2				S	**S**	**05 20 13.0**	**+3.1**
NJ2				sS	**sS**	**05 20 58.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,60nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,80nm,7.2s						
NJ2				LR	LR		
	comp=Z,900nm,21.8s						
NJ2				LR	LR		
	comp=Z,860nm,19.0s						
NJ2				LR	LR		
	comp=Z,500nm,27.6s						
PDSI	**Padang**	**45.32**	**274**	P	**P**	**05 13 39.0**	**-1.2**
PPI	**Padang Panjang**	**45.44**	**275**	P	**P**	**05 13 40.1**	**-1.0**
IPM	**Ipoh**	**45.64**	**282**	P	**P**	**05 13 43.5**	**+0.8**
IPM	**Ipoh**	**45.64**	**282**	*e*P	**P**	**05 13 43.4**	**+0.8**
KSRS	**Korea Array**	**45.80**	**340**	P	**P**	**05 13 43.2**	**-0.2**
	comp=Z,18nm,1.0s,baz=158,slow=9.2,SNR=49						
KSRS				LR	LR	05 30 38.4	
	comp=Z,398nm,20.1s,baz=154,slow=33						
KSAR	**Wonju Array Be**	**45.80**	**340**	P	**P**	**05 13 43.2**	**-0.3**
KULM	**Kulim**	**46.18**	**283**	P	**P**	**05 13 48.0**	**+1.1**
KULM	**Kulim**	**46.18**	**283**	*e*P	**P**	**05 13 47.0**	**+0.1**
	comp=Z,250nm,1.9s						
MNSI	**Mandailing Nat**	**46.41**	**276**	P	P	05 13 45.0	-3.7
CHBT	**CHBT**	**46.69**	**293**	P	**P**	**05 13 51.2**	**+0.4**
	comp=Z,81nm,1.4s,comp=Z,2µm						
WHN	**Wuhan**	**46.69**	**322**	⇑P	**P**	**05 13 52.0**	**

MDJ ScP **ScP** **05 19 28.3 +1.4**
MDJ PcS **PcS** **05 19 39.4 +0.2**
MDJ S **S** **05 21 43.6 -0.1**
MDJ ScS **ScS** **05 24 09.5 +1.4**
MDJ SS **SS** **05 25 20.0 -2.3**
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,64nm,3.6s
MDJ LR LR
comp=Z,120nm,26.3s
MDJ LR LR
comp=Z,250nm,26.3s
MDJ LR LR
comp=Z,350nm,31.9s
CMMT Chiang Mai 51.95 299 P **P** **05 14 31.6 +0.8**
comp=Z,42nm,1.4s,comp=Z,646nm
CHTO Chiang Mai 51.95 299 *eP* **P** **05 14 31.8 +1.0**
CHTO Chiang Mai 51.95 299 *eP* **P** **05 14 31.8 +1.0**
CHTO Chiang Mai 51.95 299 P **P** **05 14 31.7 +1.0**
comp=Z,190nm,1.4s,comp=Z,3μm
YSS Yuzh-Sakhalins 52.27 358⇑ *eP* **P** **05 14 33.0 +0.4**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 52.27 358 *eP* **P** **05 14 32.8 +0.2**
comp=Z,31nm,0.8s
CMAI Chiengmai2 52.30 300 P **P** **05 14 34.7 +1.1**
comp=Z,20nm,1.6s,comp=Z,2μm
CN2 Changchun 52.33 342 *eP* P 05 14 38.3 +5.1
CN2 *eS* **S** **05 21 54.5 +5.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
XAN Xi'an 52.43 321 P **P** **05 14 33.4 -0.7**
XAN pP **pP** **05 15 02.6 0.0**
XAN S **S** **05 21 48.3 -2.9**
XAN sS **sS** **05 22 40.4 +0.1**
XAN ScS **ScS** **05 24 10.3 -2.0**
XAN SS **SS** **05 25 25.0 -5.9**
XAN pmax pmax
comp=Z,16nm,1.5s
XAN pmax pmax
comp=Z,48nm,6.3s
XAN LR LR
comp=Z,220nm,23.5s
XAN LR LR
comp=Z,88nm,28.6s
MHMT Maesarieng 52.59 298 P **P** **05 14 36.7 +1.1**
comp=Z,21nm,1.5s,comp=Z,496nm
BJI Beijing 52.80 332 P **P** **05 14 36.9 +0.2**
BJI S **S** **05 21 53.6 -2.3**
BJI pmax pmax
comp=Z,20nm,2.1s
BJI pmax pmax
comp=Z,190nm,6.1s
BJI LR LR
comp=Z,260nm,18.0s
BJI LR LR
comp=Z,330nm,19.2s
BJI LR LR
comp=Z,310nm,28.4s
CD2 Chengdu 53.95 315 P **P** **05 14 46.3 +1.0**
CD2 pP **pP** **05 15 11.4 -2.6**
CD2 sP **sP** **05 15 24.8 -2.6**
CD2 PcP **PcP** **05 15 50.0 +0.8**
CD2 PP **PP** **05 16 50.5 +2.5**
CD2 S **S** **05 22 11.9 0.0**
CD2 ScS **ScS** **05 24 21.6 -1.5**
CD2 SS **SS** **05 25 54.1 -0.9**
CD2 pmax pmax
comp=Z,50nm,1.2s
CD2 pmax pmax
comp=Z,280nm,8.2s
CD2 LR LR
comp=Z,240nm,17.8s
CD2 LR LR
comp=Z,240nm,15.5s
HABR Khabarovsk 54.52 351 *eP* **P** **05 14 47.8 -1.3**
HABR *e**PP pP 05 15 12.1 -5.7
HABR *e* 05 15 50.0
HABR *eS* **S** **05 22 19.6 +0.8**
HABR *e**SS sS 05 23 01.0 -7.3
HABR *e* 05 24 27.3
HABR pmax pmax
comp=Z,25nm,1.3s
HABR MLR MLR
comp=Z,145nm,22.0s
HHC Hu-ho-hao-te 55.69 329 *eP* **P** **05 14 58.0 +0.2**
HHC PcP **PcP** **05 15 54.1 -1.7**
HHC PP **PP** **05 17 01.6 -1.9**
HHC S **S** **05 22 34.8 -0.1**
HHC sS **sS** **05 23 24.4 -0.1**
HHC pmax pmax
comp=Z,42nm,1.1s
HHC pmax pmax
comp=Z,370nm,7.0s
KLR Kul'dur 55.82 349 *eP* P 05 14 54.9 -3.5
KLR pmax pmax
comp=Z,110nm,1.8s
LZH Lanzhou 56.94 320⇓ P **P** **05 15 08.4 +1.6**
LZH pP **pP** **05 15 39.1 +3.4**
LZH sP **sP** **05 15 49.5 +0.5**
LZH PP **PP** **05 17 17.3 +2.5**
LZH S **S** **05 22 51.0 -0.8**
LZH SS **SS** **05 26 39.1 -3.1**
LZH pmax pmax
comp=Z,68nm,1.2s
LZH pmax pmax
comp=Z,240nm,4.5s
LZH LR LR
comp=Z,590nm,14.8s
LZH LR LR
comp=Z,490nm,13.0s
LZH LR LR
comp=Z,650nm,15.8s
HIA Hailar 59.01 341 *eP* **P** **05 15 20.6 -0.2**
comp=Z,26nm,1.3s
HIA *e*PcP **PcP** **05 16 07.2 -1.3**
PEA0B Petropavlovsk- 59.26 8 *eP* **P** **05 15 23.6 +1.2**
PEA0B *e*PP **PP** **05 17 34.4 -0.4**
PETK Petropavlovsk- 59.26 8 P **P** **05 15 23.1 +0.7**
PETK *PP **pP** **05 15 53.1 +1.6**
PETK Petropavlovsk- 59.26 8 P **P** **05 15 23.1 +0.7**
PETK pP **pP** **05 15 53.1 +1.6**
PETK Petropavlovsk- 59.26 8 P **P** **05 15 23.1 +0.7**
comp=Z,28nm,0.8s,baz=168,slow=6.2,SNR=22
PETK pP **pP** **05 15 53.1 +1.6**
comp=Z,19nm,1.0s,baz=180,slow=6.7,SNR=3.0
PETK LR LR 05 37 12.7
comp=Z,116nm,20.0s,baz=212,slow=32
SHL Shillong 60.60 303 *i* P **P** **05 15 34.0 +1.6**
DRV Dumont d'Urvil 61.20 183 S S 05 23 39.0 -6.4
DRV L L 05 31 00.0
DRV R 05 35 00.0
KIP Kipapa 61.35 62 *i* P **P** **05 15 38.6 +1.4**
KIP Kipapa 61.35 62 *eP* **P** **05 15 39.3 +2.0**
comp=Z,73nm,1.1s
GTA Gaotai 61.48 321 P **P** **05 15 38.9 +0.9**
GTA pP **pP** **05 16 07.6 +0.3**
GTA sP **sP** **05 16 21.0 +0.5**
GTA S **S** **05 23 51.1 +1.0**
GTA sS **sS** **05 24 41.5 +0.9**
GTA SS **SS** **05 27 57.4 +4.0**
GTA pmax pmax
comp=Z,26nm,1.7s
GTA pmax pmax
comp=Z,270nm,8.3s
GTA LR LR
comp=Z,190nm,19.5s
GTA LR LR
comp=Z,170nm,20.9s
GTA LR LR
comp=Z,160nm,18.1s
LSA Lhasa 62.85 307 P **P** **05 15 48.8 +1.1**
LSA pmax pmax
comp=Z,30nm,1.5s
LSA Lhasa 62.85 307 *eP* **P** **05 15 49.0 +1.2**
LSA pmax pmax
comp=Z,73nm,1.4s
LSA Lhasa 62.85 307 *eP* **P** **05 15 49.0 +1.2**
comp=Z,73nm,1.4s
ULN Ulaanbaatar 63.01 332 *eP* **P** **05 15 48.7 +0.6**
comp=Z,68nm,1.6s
SONM Songino Array 63.30 332 P **P** **05 15 50.4 +0.4**
SONM pP **pP** **05 16 21.2 +1.8**
SONM Songino Array 63.30 332 P **P** **05 15 50.4 +0.4**
comp=Z,2.3nm,0.5s,baz=120,slow=2.1,SNR=10
SONM pP **pP** **05 16 21.2 +1.8**
comp=Z,2.4nm,0.7s,baz=146,slow=7.3,SNR=2.2
SONM LR LR 05 43 34.0
comp=Z,225nm,18.8s,baz=153,slow=36
PAE Paea 64.34 107 *eP* **P** **05 15 59.1 +1.9**
comp=Z,8.4nm,0.9s
PPT Papeete 64.34 107 LR LR 05 39 17.0
comp=Z,180nm,19.1s,baz=63,slow=32
PPT2 Papeete2 64.34 107 *eP* **P** **05 15 59.6 +2.3**
comp=Z,77nm,1.3s
PPT2 *eS* **S** **05 24 22.0 -4.5**
comp=Z,174nm,29.8s
PPT2 Papeete2 64.34 107 *e*LR LR 05 35 27.7
comp=Z,260nm,24.0s
CLNS Chul'man 64.38 348 *eP* **P** **05 15 55.1 -1.6**
CLNS *e**PP **pP** **05 16 23.0 -3.3**
CLNS *e* 05 16 29.3
CLNS *e* 05 18 17.6
CLNS *e*PPP PPP 05 19 49.1
CLNS *eS* **S** **05 24 24.8 -0.7**
CLNS pmax pmax
comp=Z,24nm,1.1s
CLNS pmax pmax
comp=N,17nm,1.3s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=Z,5.0nm,1.2s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS smax smax
comp=E,383nm,11.4s
CLNS smax smax
comp=N,219nm,12.1s
TIAR Tiarei 64.56 107 *eP* **P** **05 16 00.5 +1.8**
comp=N,28nm,0.9s
TVO Taravao 64.66 107 *eP* **P** **05 16 01.7 +2.4**
comp=N,20nm,1.1s
TAPN Taplejung 64.73 304 *eP* **P** **05 16 00.7 +0.7**
TAPN Taplejung 64.73 304 *eP* **P** **05 16 00.7 +0.7**
TBI Tubuai 64.82 113 *eP* **P** **05 16 02.4 +2.2**
comp=N,93nm,0.9s
TBI *eS* **S** **05 24 28.5 -3.5**
comp=N,108nm,32.0s
TBI Tubuai 64.82 113 *e*LR LR 05 35 32.8
comp=N,539nm,37.0s
ODAN Odare 64.83 303 *eP* **P** **05 16 01.1 +0.6**
ODAN Odare 64.83 303 *eP* **P** **05 16 01.1 +0.6**
RAMN Ramite 65.52 303 *eP* **P** **05 16 05.8 +0.8**
comp=N,103nm,1.2s
RAMN Ramite 65.52 303 *eP* **P** **05 16 05.8 +0.8**
comp=N,103nm,1.2s
MEH Mehetia 65.79 107 *eP* **P** **05 16 08.4 +1.8**
comp=N,35nm,1.1s
PMOR Pomariorio Ree 65.89 104 *eP* **P** **05 16 09.4 +2.2**
comp=N,235nm,1.2s
JIRN Jiri 66.11 303 *eP* **P** **05 16 09.6 +0.7**
JIRN Jiri 66.11 303 *eP* **P** **05 16 09.6 +0.7**
VAH Vaihoa 66.15 104 *eP* **P** **05 16 10.7 +1.8**
comp=N,114nm,1.3s
GUN Gumba 66.45 303 *eP* **P** **05 16 11.8 +0.8**
GUN Gumba 66.45 303 *eP* **P** **05 16 11.8 +0.8**
ZAK Zakamensk 66.54 332⇑ *i* P **P** **05 16 11.3 +0.4**
ZAK *e* 05 16 43.2
ZAK pmax pmax
comp=Z,20nm,1.3s
PKI Pulchoki 66.73 303 *eP* **P** **05 16 13.0 +0.2**
comp=Z,201nm,1.4s
PKI Pulchoki 66.73 303 *eP* **P** **05 16 13.2 +0.4**
PKI pmax pmax
comp=Z,177nm,1.5s
PKI Pulchoki 66.73 303 *eP* **P** **05 16 13.2 +0.4**
comp=Z,177nm,1.5s
PKIN Phulchoki 66.74 303 *eP* **P** **05 16 13.2 +0.4**
comp=Z,177nm,1.5s
KKN Kakani 66.91 303 *eP* **P** **05 16 14.4 +0.6**
KKN Kakani 66.91 303 *eP* **P** **05 16 14.4 +0.6**
KKN Kakani 66.91 303 *eP* **P** **05 16 14.4 +0.6**
DMN Daman 66.99 303 *eP* **P** **05 16 15.1 +0.7**
DMN Daman 66.99 303 *eP* **P** **05 16 15.1 +0.7**
GKN Gorkha 67.52 303 *eP* **P** **05 16 18.1 +0.5**
comp=Z,301nm,1.4s
GKN Gorkha 67.52 303 *eP* **P** **05 16 18.1 +0.5**
comp=Z,301nm,1.4s
KOLN Koldanda 68.31 303 *eP* **P** **05 16 23.0 +0.4**
KOLN Koldanda 68.31 303 *eP* **P** **05 16 23.0 +0.4**
DANN Dangsing 68.36 303 *eP* **P** **05 16 23.1 +0.1**
DANN Dangsing 68.36 303 *eP* **P** **05 16 23.1 +0.1**
MOY Mondy 68.48 332 *eP* **P** **05 16 23.4 +0.4**
MOY pmax pmax
comp=Z,64nm,2.3s
PYUN Piuthan 68.92 303 *eP* **P** **05 16 26.6 +0.2**
comp=Z,156nm,1.1s
PYUN Piuthan 68.92 303 *eP* **P** **05 16 26.6 +0.2**
comp=Z,156nm,1.1s
HYB Hyderabad 70.01 291 *i* P **P** **05 16 32.0 -1.0**
UNV Unalaska Valle 71.38 28 *eP* **P** **05 16 41.4 +0.9**
comp=Z,40nm,1.1s
WMQ Urumqi 71.52 320 P **P** **05 16 42.0 +0.3**
WMQ pP **pP** **05 17 10.0 -1.8**
WMQ sP **sP** **05 17 22.0 -2.8**
WMQ PP **PP** **05 19 24.0 +1.9**
WMQ S **S** **05 25 50.0 -1.0**
WMQ ScS **SKSac** **05 26 32.0 -2.0**
WMQ SS **SS** **05 30 28.0 -0.7**
WMQ pmax pmax
comp=Z,43nm,1.0s
WMQ pmax pmax
comp=Z,360nm,6.0s
WMQ LR LR
comp=Z,140nm,18.0s
WMQ LR LR
comp=Z,170nm,18.0s
WMQ LR LR
comp=Z,160nm,18.0s
VNDA Vanda 72.51 176 *eP* **P** **05 16 48.0 +1.0**
comp=Z,31nm,1.1s
VNDA Vanda 72.51 176 P **P** **05 16 48.0 +1.0**
comp=Z,20nm,1.0s,baz=335,slow=6.0,SNR=50
VNDA LR LR 05 44 30.5
comp=Z,267nm,20.5s,baz=355,slow=32
NDI New Delhi 73.95 302 *ex* **P** **05 16 54.0 -2.4**
POO Poona 74.62 291⇑ *ix* **P** **05 17 01.0 +0.6**
MK31 Makanchi Array 76.24 321 *i* P **P** **05 17 09.1 0.0**
MK31 pmax pmax
comp=Z,49nm,1.1s
MK31 Makanchi Array 76.24 321 *eP* **P** **05 17 09.5 +0.4**
MK31 *e*PcP **PcP** **05 17 20.6 0.0**
MKAR Makanchi Array 76.24 321 *i* P **P** **05 17 09.5 +0.3**
MKAR pmax pmax
comp=Z,14nm,0.9s
MKAR Makanchi Array 76.24 321 P **P** **05 17 09.4 +0.3**
MKAR Makanchi Array 76.24 321 P **P** **05 17 09.4 +0.3**
comp=Z,14nm,0.9s,baz=108,slow=6.8,SNR=74
TIXI Tiksi 77.77 355⇓ *i* P **P** **05 17 15.8 -1.3**
TIXI pmax pmax
comp=Z,14nm,1.4s
TIXI Tiksi 77.77 355 *eP* **P** **05 17 15.6 -1.5**
comp=Z,4.4nm,0.5s
ZAA0 Zalesovo Array 77.86 328 *eP* **P** **05 17 17.0 -0.9**
ZAA0 *e*PcP **PcP** **05 17 28.1 +0.8**
ZALV Zalesovo Beam 77.86 328 *i* P **P** **05 17 17.1 -0.9**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 77.86 328 P **P** **05 17 17.1 -0.9**
ZALV PKKPbc **PKKPbc** **05 36 19.9 -1.5**
ZALV Zalesovo Beam 77.86 328 P **P** **05 17 17.1 -0.9**
comp=Z,4.0nm,0.5s,baz=106,slow=5.4,SNR=31
ZALV PKKPbc **PKKPbc** **05 36 19.9 -1.5**
comp=Z,1.2nm,0.6s,baz=298,slow=3.2,SNR=7.7
ZALV LR LR 05 48 04.0
comp=Z,174nm,21.1s,baz=252,slow=33
KSH Kashi 78.03 312 P **P** **05 17 21.1 +1.7**
KSH sP **sP** **05 18 02.1 -0.8**
KSH PP **PP** **05 20 22.1 +4.8**
KSH S **S** **05 27 04.3 +0.7**
KSH SKS **SKSac** **05 27 21.3 -1.4**
KSH SS **SS** **05 32 13.1 +5.4**
KSH pmax pmax
comp=Z,75nm,1.6s
KSH pmax pmax
comp=Z,200nm,4.3s
KSH LR LR
comp=Z,160nm,5.3s
KSH LR LR
comp=Z,150nm,6.0s
KSH LR LR
comp=Z,230nm,5.9s
RKT Rikitea 78.12 112 *eP* **P** **05 17 21.5 +1.4**
comp=Z,29nm,0.9s
RKT Rikitea 78.12 112 *e*LR LR 05 41 50.8
comp=Z,486nm,36.2s
TNA Tin City 78.51 18 *eP* **P** **05 17 22.0 +0.7**
comp=Z,27nm,1.3s
ULHL Ulahol 78.66 315 *i* P **P** **05 17 23.7 +0.7**
ULHL Ulahol 78.66 315 P **P** **05 17 23.7 +0.7**
SNR=6.2
NVS Novosibirsk 79.08 329 *eP* **P** **05 17 22.8 -1.9**
NVS *eS* **S** **05 27 11.7 -2.2**
NVS pmax pmax
comp=N,29nm,1.8s
NVS pmax pmax
comp=E,40nm,1.8s
NVS pmax pmax
comp=Z,64nm,1.8s
NVS smax smax
comp=N,141nm,2.8s
KZA Kyzart 79.31 314 *i* P **P** **05 17 28.2 +1.4**
KZA Kyzart 79.31 314 P **P** **05 17 28.2 +1.4**
SNR=38
TKM2 Tokmak 2 79.33 315 *i* P **P** **05 17 26.3 -0.3**
TKM2 pmax pmax
comp=Z,9.0nm,1.2s
TKM2 Tokmak 2 79.33 315 P **P** **05 17 27.0 +0.5**
SNR=20
TKM2 Tokmak 2 79.33 315 *eP* **P** **05 17 26.8 +0.2**
comp=Z,47nm,1.4s
KBK Karagaybulak 79.70 315 P **P** **05 17 28.6 0.0**
SNR=8.0
UCH Uchtor 79.88 314 *i* P **P** **05 17 30.9 +1.0**
UCH Uchtor 79.88 314 P **P** **05 17 31.0 +1.0**
SNR=37
CHMS Chumysh 79.94 315 *i* P **P** **05 17 30.0 +0.4**
CHMS Chumysh 79.94 315 P **P** **05 17 30.0 +0.4**
SNR=12
FRU Bishkek 79.99 315 *eP* **P** **05 17 28.5 -1.4**
FRU *e* 05 17 53.0
FRU *e* 05 18 11.0
FRU pmax pmax
comp=Z,100nm,1.8s
KURK Kurchatov 79.99 324 P **P** **05 17 28.9 -0.8**
KURK pmax pmax
comp=Z,32nm,1.5s
KURK Kurchatov 79.99 324 PKKPbc PKKPbc 05 36 14.4 -2.0
KURK Kurchatov 79.99 324 P **P** **05 17 29.2 -0.5**
comp=Z,218nm,1.1s,SNR=10
KURBB Kurchatov Arra 80.01 323 PKKPbc PKKPbc 05 36 14.4 -2.0
comp=Z,0.3nm,0.3s,baz=300,slow=2.6,SNR=9.4
AAK Ala-Archa 80.01 315 P **P** **05 17 30.9 +0.7**
comp=Z,117nm,1.2s,SNR=15
AAK Ala-Archa 80.01 315*c* *i* P **P** **05 17 30.9 +0.7**
AAK pmax pmax
comp=Z,120nm,1.6s
AAK Ala-Archa 80.01 315 P **P** **05 17 31.0 +0.7**
SNR=17
AAK Ala-Archa 80.01 315 *eP* **P** **05 17 30.7 +0.5**
comp=Z,64nm,1.5s
AAK Ala-Archa 80.01 315 LR LR 05 52 30.2
comp=Z,100nm,18.4s,baz=89,slow=35
USP Uspenovka 80.19 315 *i* P **P** **05 17 31.5 +0.5**
USP Uspenovka 80.19 315 P **P** **05 17 31.6 +0.5**
SNR=26
AML Almayashu 80.44 314 P **P** **05 17 33.8 +1.0**
SNR=50
EKS2 Erkin-Say 80.53 315 *i* P **P** **05 17 33.5 +0.6**
EKS2 Erkin-Say 80.53 315 P **P** **05 17 33.6 +0.6**
SNR=32
EKS2 Erkin-Say 80.53 315 *eP* **P** **05 17 33.6 +0.7**
comp=Z,69nm,1.4s
KBL Kabul 82.13 306 *eP* **P** **05 17 41.2 -0.5**
KBL pmax pmax
comp=Z,57nm,1.5s
KBL Kabul 82.13 306 *eP* **P** **05 17 41.1 -0.5**
comp=Z,56nm,1.5s
MAW Mawson 82.20 203 P **P** **05 17 41.6 +0.5**
MAW Mawson 82.20 203 P **P** **05 17 41.6 +0.5**
comp=Z,22nm,0.9s,baz=78,slow=6.4,SNR=16
MAW LR LR 05 55 41.5
comp=Z,208nm,18.2s,baz=104,slow=37
MAW Mawson 82.20 203⇓ P **P** **05 17 42.1 +1.0**
baz=82,SNR=15
PPLA Purkeypile 82.62 24 *eP* **P** **05 17 42.4 -1.1**
comp=Z,154nm,1.7s
RC01 Rabbit Creek A 82.86 26 *eP* **P** **05 17 44.4 -0.2**
comp=Z,117nm,1.5s
KK31 Karatay Array 82.96 315 *i* P **P** **05 17 45.5 -0.1**
KK31 pmax pmax
comp=Z,106nm,1.5s
KKAR Karatay Array 82.96 315 *eP* **P** **05 17 45.6 +0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 82.96 315 *eP* **P** **05 17 45.6 +0.1**
comp=Z,2.6nm,0.5s
PMR Palmer 83.33 26 *eP* **P** **05 17 46.7 -0.3**
PMR pmax pmax
comp=Z,74nm,1.5s
PMR Palmer 83.33 26 *eP* **P** **05 17 46.7 -0.3**
comp=Z,74nm,1.5s
KTH Kantishna Hill 83.43 24 *eP* **P** **05 17 46.8 -0.8**
comp=Z,84nm,1.3s
IM04 Indian Mountai 83.47 21 *eP* **P** **05 17 47.8 +0.1**
TRF Thorofare Moun 83.64 24 *eP* **P** **05 17 47.7 -1.1**
comp=Z,16nm,1.1s
MCK McKinley 84.31 24 *eP* **P** **05 17 51.2 -0.7**
MCK pmax pmax
comp=Z,132nm,1.3s
MCK McKinley 84.31 24 *eP* **P** **05 17 51.2 -0.7**
comp=Z,132nm,1.3s
BMRM Bremner River 85.11 27 *eP* **P** **05 17 56.4 +0.2**
comp=Z,191nm,1.8s
COLA College 85.20 23 *eP* **P** **05 17 55.7 -0.7**
COLA pmax pmax
comp=Z,43nm,1.0s
COLA College 85.20 23 *eP* **P** **05 17 55.7 -0.7**
comp=Z,43nm,1.0s
COLD Coldfoot 85.33 21 *eP* **P** **05 17 57.8 +0.8**
comp=Z,161nm,2.1s
PAX Paxson 85.45 25 *eP* **P** **05 17 57.9 +0.1**
PAX pmax pmax
comp=Z,55nm,1.5s
PAX Paxson 85.45 25 *eP* **P** **05 17 57.9 +0.1**
comp=Z,55nm,1.5s
ILAR Eielson Array 85.54 23 P **P** **05 17 56.8 -1.3**
ILAR pP **pP** **05 18 28.9 -0.3**
ILAR Eielson Array 85.54 23 P **P** **05 17 56.8 -1.3**
comp=Z,24nm,0.8s,baz=255,slow=5.1,SNR=155
ILAR pP **pP** **05 18 28.9 -0.3**
comp=Z,6.2nm,0.8s,baz=266,slow=5.0,SNR=2.2
ILAR LR LR 05 51 12.5
comp=Z,148nm,19.5s,baz=149,slow=32
BVA0 Borovoye Array 85.56 324 *i* P **P** **05 17 56.8 -1.6**
BVA0 pmax pmax
comp=Z,16nm,1.0s
BVAR Borovoye Array 85.56 324 P **P** **05 17 57.9 -0.5**
BVAR *PP **pP** **05 18 29.9 +0.5**
BVAR Borovoye Array 85.56 324 P **P** **05 17 57.9 -0.5**
BVAR pP **pP** **05 18 29.9 +0.5**
BVAR Borovoye Array 85.56 324 P **P** **05 17 57.9 -0.5**
comp=Z,8.5nm,0.7s,baz=104,slow=6.3,SNR=31
BVAR pP **pP** **05 18 29.9 +0.5**
comp=Z,4.7nm,0.6s,baz=108,slow=7.9,SNR=3.4
BRVK Borovoye 85.63 324*c* *i* P **P** **05 17 58.1 -0.7**
BRVK pmax pmax
comp=Z,24nm,1.7s
BRVK Borovoye 85.63 324 *eP* **P** **05 17 58.0 -0.7**
comp=Z,16nm,1.0s
MENT Mentasta 86.19 26 *eP* **P** **05 18 01.0 -0.3**
DOT Dot Lake 86.28 25 *eP* **P** **05 18 01.8 -0.1**
comp=Z,106nm,1.3s
EGAK Eagle 87.85 24 *eP* **P** **05 18 09.2 0.0**
comp=Z,74nm,0.6s
DAWY Dawson 88.38 25 *eP* **P** **05 18 12.4 +0.5**
HYT Haines Junctio 88.39 29 *eP* **P** **05 18 12.6 +0.5**
SYO Syowa Base 90.61 200⇓ *i* P **P** **05 18 21.2 -1.0**
AB31 Akbulak array 91.30 319 P **P** **05 18 24.3 -1.5**
AB31 pmax pmax

comp=Z,25nm,1.0s
ABKAR Akbulak array 91.30 319 *e*P **P** 05 18 24.5 -1.2
comp=Z,31nm,1.2s
INK Inuvik 91.67 22 *e*P **P** 05 18 26.3 -0.8
comp=Z,33nm,1.2s
AKTO Aktyubinsk 92.67 320 P **P** 05 18 30.8 -1.3
AKTO Aktyubinsk 92.67 320 P **P** 05 18 30.8 -1.3
AKTO Aktyubinsk 92.67 320 P **P** 05 18 30.8 -1.3
comp=Z,1.4nm,0.5s,baz=81,slow=5.7,SNR=9.9
ARU Arti 92.91 326 P **P** 05 18 31.3 -1.7
ARU 05 22 14.2
ARU S **SKSac** 05 28 55.2 -0.4
M02C Callahan 94.72 49 P **P** 05 18 41.6 -0.3
baz=95
YBH Yreka Blue Hor 94.84 49 P **P** 05 18 40.6 -1.8
YBH Yreka Blue Hor 94.84 49 P **P** 05 18 40.6 -1.8
comp=Z,2.5nm,0.9s,baz=191,slow=10,SNR=3.3
M04C Macdoel 95.50 49 P **P** 05 18 44.6 -0.8
baz=96
I05D Terrebonne, OR 95.96 46 P **P** 05 18 47.2 -0.2
baz=96
J05D Fort Rock, OR 96.00 47 P **P** 05 18 47.3 -0.4
baz=96
G05D Wamic, OR 96.00 45 P **P** 05 18 47.6 +0.1
baz=96
OPO Ambohidratompo 96.24 251 LR LR 05 59 17.8
comp=Z,137nm,18.1s,baz=181,slow=34
EDW2 Edwards Air Fo 98.33 56 P Pdif 05 18 58.8 +0.5
baz=98
LRMC Laurel Mountai 98.58 55 P Pdif 05 19 00.1 +0.5
baz=99
MPMC Manual Prospec 98.75 54 P Pdif 05 19 00.4 0.0
baz=99
NEW Newport 98.88 42 P **P** 05 19 00.4 -0.1
baz=99
YKA Yellowknife Ar 99.34 28 P **Pdif** 05 19 01.2 -0.9
YKA pP **pP** 05 19 34.5 +1.0
YKA PKKPbc **PKKPbc** 05 35 25.2 -2.9
YKA PKKP **PKKPdf** 05 35 32.9 +1.3
YKA Yellowknife Ar 99.34 28 P **Pdif** 05 19 01.2 -0.9
comp=Z,4.2nm,1.0s,baz=276,slow=4.7,SNR=42
YKA pP **pP** 05 19 34.5 +1.0
comp=Z,1.5nm,0.9s,baz=277,slow=4.4,SNR=3.6
YKA PKKPbc **PKKPbc** 05 35 25.2 -2.9
comp=Z,0.6nm,0.6s,baz=92,slow=2.8,SNR=16
YKA PKKP **PKKPdf** 05 35 32.9 +1.3
comp=Z,0.4nm,0.5s,baz=92,slow=2.8,SNR=11
OBN Obninsk 105.34 326 *i* P **Pdif** 05 19 28.6 -0.3
OBN *e* 05 23 51.2
OBN *e*PS **PS** 05 33 11.2 +1.7
OBN pmax pmax
comp=Z,4.0nm,1.1s
ARCES ARCESS Array B 105.34 342 PKiKP **PKiKP** 05 23 40.9 -1.0
ARCES PKKPbc **PKKPbc** 05 35 07.1 -3.7
ARCES ARCESS Array B 105.34 342 PKiKP **PKiKP** 05 23 40.9 -1.0
comp=Z,3.0nm,0.8s,baz=104,slow=1.9,SNR=5.5
ARCES PKKPbc **PKKPbc** 05 35 07.1 -3.7
comp=Z,4.1nm,1.0s,baz=240,slow=3.6,SNR=9.4
ANMO Albuquerque 107.79 55 PKKP **PKKPdf** 05 35 15.9 +0.2
comp=Z,1.7nm,0.9s,baz=98,slow=9.6,SNR=6.9
FINES FINESS Array B 108.61 334 PKiKP **PKiKP** 05 23 47.5 -0.6
FINES FINESS Array B 108.61 334 PKiKP **PKiKP** 05 23 47.5 -0.6
comp=Z,4.9nm,1.1s,baz=82,slow=2.9,SNR=3.1
BRTR Keskin Array B 110.36 310 PKiKP **PKiKP** 05 23 51.6 -0.6
BRTR PP **PP** 05 24 32.9 +3.9
BRTR PKKPbc **PKKPbc** 05 34 53.4 -0.8
BRTR Keskin Array B 110.36 310 PKiKP **PKiKP** 05 23 51.6 -0.6
comp=Z,0.8nm,1.0s,baz=103,slow=4.6,SNR=3.3
BRTR PP **PP** 05 24 32.9 +3.9
comp=Z,0.8nm,0.9s,baz=59,slow=5.6,SNR=3.9
BRTR PKKPbc **PKKPbc** 05 34 53.4 -0.8
comp=Z,0.6nm,0.8s,baz=153,slow=1.6,SNR=3.8
TXAR Lajitas Array 110.70 61 PKiKP **PKiKP** 05 23 52.7 -0.5
TXAR PKKPbc **PKKPbc** 05 34 52.4 -0.3
TXAR PKKPab **PKKPab** 05 35 03.0 +0.3
TXAR Lajitas Array 110.70 61 PKiKP **PKiKP** 05 23 52.7 -0.5
comp=Z,0.2nm,0.4s,baz=221,slow=4.6,SNR=5.9
TXAR PKKPbc **PKKPbc** 05 34 52.4 -0.3
comp=Z,0.2nm,0.6s,baz=101,slow=5.2,SNR=3.9
TXAR PKKPab **PKKPab** 05 35 03.0 +0.3
comp=Z,1.2nm,0.8s,baz=109,slow=6.8,SNR=7.9
LSZ Lusaka 114.71 251 *e*PKPdf PKPdf 05 24 02.2 +1.0
BRG Berggiesshubel 119.53 327 *e*(P) **PKPdf** 05 24 09.5 +0.2
comp=Z,7.0nm,1.3s
BRG Berggiesshubel 119.53 327 *e*PKIKP **PKPdf** 05 24 09.5 +0.2
BRG pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 119.81 328 *i* PKIKP **PKPdf** 05 24 09.5 -0.3
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 119.81 328 *i* PKPbc **PKPdf** 05 24 09.5 -0.3
comp=Z,7.0nm,1.1s
CLL *e*PPS PPS 05 37 06.0
CLL *e*SS SS 05 42 00.0 +10
CLL *e*SSS SSS 05 46 18.0
GERES GERESS Array B 120.71 325 PKP **PKPdf** 05 24 11.2 -0.6
GERES PKKPbc **PKKPab** 05 34 17.3 -0.9
GERES PKKP **PKKPdf** 05 34 48.2 -3.2
GERES GERESS Array B 120.71 325 PKP **PKPdf** 05 24 11.2 -0.6
comp=Z,1.3nm,0.8s,baz=81,slow=1.8,SNR=15
GERES PKKPbc **PKKPab** 05 34 17.3 -0.9
comp=Z,0.2nm,0.6s,baz=198,slow=3.8,SNR=5.4
GERES PKKP **PKKPdf** 05 34 48.2 -3.2
comp=Z,0.4nm,0.8s,baz=195,slow=2.1,SNR=4.2
TSUM Tsumeb 123.29 243 *e*PKPdf **PKPdf** 05 24 18.2 +0.6
PLCA Paso Flores 123.29 148 *e*PKPdf **PKPdf** 05 24 17.4 +0.4
PLCA PKP **PKPdf** 05 24 18.1 +1.1
PLCA *e*SKPdf **SKiKP** 05 27 42.2 0.0
PLCA Paso Flores 123.29 148 PKP **PKPdf** 05 24 18.1 +1.1
comp=Z,17nm,0.8s,baz=211,slow=2.5,SNR=26
SCHQ Schefferville 124.28 22 PKP **PKPdf** 05 24 17.6 -0.7
SCHQ Schefferville 124.28 22 PKP **PKPdf** 05 24 17.6 -0.7
comp=Z,1.2nm,0.5s,baz=97,slow=2.2,SNR=4.1
GIVF Givet 124.71 330 *e*PKIKP **PKPdf** 05 24 19.0 -0.3
comp=Z,29nm,1.1s
GIVF Givet 124.71 330 *e*PKIKP **PKPdf** 05 24 19.0 -0.3
GIVF Givet 124.71 330 *e*PKPdf **PKPdf** 05 24 19.0 -0.3
DOU Dourbes 124.83 330 PKP **PKPdf** 05 24 19.0 -0.5
HINF Hinteralfeld 125.08 327 *e*PKIKP **PKPdf** 05 24 19.5 -0.6
comp=Z,19nm,1.1s
HINF Hinteralfeld 125.08 327 *e*PKIKP **PKPdf** 05 24 19.5 -0.6
HINF Hinteralfeld 125.08 327 *e*PKPdf **PKPdf** 05 24 19.5 -0.6
HAU Haudompre 125.24 328 *e*PKIKP **PKPdf** 05 24 19.9 -0.5
comp=Z,22nm,1.1s
HAU Haudompre 125.24 328 *e*PKIKP **PKPdf** 05 24 19.9 -0.5
HAU Haudompre 125.24 328 *e*PKPdf **PKPdf** 05 24 19.9 -0.5
SFTF Sexfontaines 125.81 328 *e*PKIKP **PKPdf** 05 24 21.2 -0.3
SFTF Sexfontaines 125.81 328 *e*PKPdf **PKPdf** 05 24 21.2 -0.3
CABF La Chapelle 126.22 326 *e*PKIKP **PKPdf** 05 24 22.5 +0.1
CABF La Chapelle 126.22 326 *e*PKIKP **PKPdf** 05 24 22.5 +0.1
CABF La Chapelle 126.22 326 *e*PKPdf **PKPdf** 05 24 22.5 +0.1
SSF Saint Saulge 127.34 328 *e*PKIKP **PKPdf** 05 24 24.1 -0.3
comp=Z,26nm,1.3s
SSF Saint Saulge 127.34 328 *e*PKIKP **PKPdf** 05 24 24.1 -0.3
SSF Saint Saulge 127.34 328 *e*PKPdf **PKPdf** 05 24 24.1 -0.3
LDF La Druitiere 128.12 332 *e*PKIKP **PKPdf** 05 24 26.3 +0.4
comp=Z,108nm,1.7s
LDF La Druitiere 128.12 332 *e*PKIKP **PKPdf** 05 24 26.3 +0.4
LDF La Druitiere 128.12 332 *e*PKPdf **PKPdf** 05 24 26.3 +0.4
KEST Kesra 129.84 313 PKP **PKPdf** 05 24 29.8 +0.2
KEST Kesra 129.84 313 PKP **PKPdf** 05 24 29.8 +0.2
comp=Z,2.3nm,0.9s,baz=89,slow=6.8,SNR=5.6
ROSC El Rosal 140.20 89 PKP **PKPdf** 05 24 47.5 -2.4
ROSC El Rosal 140.20 89 PKP **PKPdf** 05 24 47.5 -2.4
comp=Z,1.9nm,0.3s,baz=298,slow=12,SNR=3.0
LPAZ La Paz 140.20 123 PKhKP PKPpre 05 24 42.4
comp=Z,1.4nm,0.4s,baz=318,slow=2.6,SNR=7.5
CPUP Villa Florida 141.32 146 PKP **PKPdf** 05 24 52.2 +1.1
CPUP Villa Florida 141.32 146 PKhKP PKPpre 05 24 45.2
comp=Z,1.7nm,0.5s,baz=187,slow=2.5,SNR=5.3
CPUP PKP **PKPdf** 05 24 52.2 +1.1
comp=Z,19nm,0.8s,baz=222,slow=1.3,SNR=17
TOA0 Torodi Ar. Sit 143.65 285 *e*PKPdf PKPab 05 24 52.7 +0.3
TORD Torodi Ar. Bea 143.65 285 PKP PKPbc 05 24 53.3 0.0
TORD Torodi Ar. Bea 143.65 285 PKP PKPbc 05 24 53.3 0.0
comp=Z,14nm,0.6s,baz=75,slow=3.3,SNR=191
SDV Santo Domingo 143.87 82 *e*PKPdf PKPbc 05 24 54.1 -0.2
CRPR Cabo Rojo, PR 145.68 66 *e*PKPbc **PKPdf** 05 24 58.7 -0.3
OBIP Obispado Ponce 146.13 66 *e*PKPbc **PKPdf** 05 24 59.8 +0.1
CELP Cerrillos 146.14 66 *e*PKPbc **PKPbc** 05 25 00.4 -0.5
MTP Monte Pirata 147.06 65 *e*PKPbc **PKPbc** 05 25 03.1 -0.5
CDVI St. Croix 147.88 65 *e*PKPbc **PKPbc** 05 25 04.9 -0.9
CDVI *e*PKPab **PKPab** 05 25 08.1 -0.5
SAML Samuel 147.89 116 *e*PKPdf **PKPdf** 05 25 02.7 -0.1
SAML *e*PKPbc **PKPbc** 05 25 06.1 +0.2
SAML *e*PKPab **PKPab** 05 25 09.0 +0.2
KIC Kosan Boka 150.53 273 *e*PKIKP **PKPbc** 05 25 13.4 +0.9
comp=Z,555nm,1.2s
DBIC Dimbokro 150.64 274 PKP **PKPdf** 05 25 07.1 -0.1
DBIC *e*PKPdf **PKPdf** 05 25 07.5 +0.3
DBIC PKPbc **PKiKP** 05 25 13.6 +0.1
DBIC *e*PKPbc **PKPbc** 05 25 13.8 +1.0
DBIC *e*PKPab **PKPab** 05 25 20.8 +0.8
DBIC *e*PP **PP** 05 28 47.8 -2.6
DBIC Dimbokro 150.64 274 PKP **PKPdf** 05 25 07.1 -0.1
comp=Z,4.8nm,1.0s,baz=41,slow=1.6,SNR=5.4
DBIC PKPbc **PKiKP** 05 25 13.6 +0.1
baz=79,slow=2.4
TIC Toumodi 150.80 274 *e*PKIKP **PKPbc** 05 25 13.7 +0.5
comp=Z,405nm,0.9s
LIC Lamto 150.81 273 ⇑*i*PKP1 **PKPbc** 05 25 13.9 +0.7
comp=Z,579nm,1.1s
LIC Lamto 150.81 273 *e*PKIKP **PKPbc** 05 25 13.7 +0.5
comp=Z,723nm,1.1s
PTGA Pitinga 153.70 103 *e*PKPbc **PKPbc** 05 25 19.8 +0.1
PTGA *e*PKPab **PKPab** 05 25 32.1 -0.8
BDFB Brasilia 155.04 147 PKP **PKPdf** 05 25 13.7 0.0
BDFB PKPbc PKPbc 05 25 23.3
BDFB Brasilia 155.04 147 PKP **PKPdf** 05 25 13.7 0.0
comp=Z,14nm,1.1s,baz=253,slow=2.0,SNR=14
BDFB PKPbc PKPbc 05 25 23.3
comp=Z,30nm,0.8s,baz=212,slow=1.4,SNR=32

IDC 24 05:15:20.0±6.4, 17.42S×172.11W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/21, mbtmp4.1/4, Error ellipse: s-maj=269.6km s-min=32.1km az=141.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**39.44**	**259**	P	P	05 22 52.3	0.0
	1.5nm,0.4s,baz=85,slow=9.1,SNR=4.4						
WRA	**Warramunga Arr**	**50.62**	**258**	P	P	05 24 21.1	-0.2
	1.2nm,0.3s,baz=97,slow=7.4,SNR=39						
ASAR	**Alice Springs**	**50.69**	**253**	P	P	05 24 21.7	-0.1
	1.6nm,0.5s,baz=87,slow=8.2,SNR=20						
ILAR	**Eielson Array**	**84.18**	**11**	P	P	05 27 52.8	0.0
	0.2nm,0.3s,baz=187,slow=6.9,SNR=13						

MEX 24 05:29:20.4±0.4, 16.40N×98.43W, h12km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**91**	*i* P	Pg	05 29 25.8	-0.6
PNIG				*i* S	Sg	05 29 30.1	-0.2
TLIG	**Tlapa**	**1.16**	**353**	*e*P	Pb	05 29 39.2	-3.5
TLIG				*i* S	Sb	05 29 53.5	-4.4
VHO	**Vista Hermosa**	**1.75**	**67**	*e*P	Pn	05 29 47.3	-3.7
VHO				*i* S	Sn	05 30 08.7	-4.7
PLIG	**Platanillo**	**2.23**	**333**	*i* P	Pn	05 29 54.0	-3.4
PLIG				*i* S	Sn	05 30 19.8	-5.2
HUIG	**Huatulco**	**2.31**	**105**	*i* P	Pn	05 29 55.9	-2.5
HUIG				*i* S	Sn	05 30 22.1	-4.8
ARIG	**Puente Sto Nin**	**2.62**	**316**	*i* P	Pn	05 29 59.3	-3.3
ARIG				*i* S	Sn	05 30 30.2	-4.3

NIED ***24*** *05:33:00, 23.80N×121.70E, h5km, Mw4.2 Best double couple: M₀2.62000×10¹⁵ NP1:φs42.00000°, δ86.00000°, λ92.00000°. NP2:φs202.00000°, δ5.00000°, λ70.00000°.*
IDC ***24*** *05:33:38.6±0.8, 23.70N×121.82E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/24, mbtmp3.8/9, Error ellipse: s-maj=36.9km s-min=17.1km az=63.0*
JMA ***24*** *05:33:42.3±0.1, 23.76N×121.66E, h25km±2km, M3.7*
ISCJB ***24*** *05:33:43.1±0.2, 23.76N±0.01×121.65E±0.02, h28km±1km, mb3.8/9, Error ellipse: s-maj=2.9km s-min=1.9km az=35.9*
TAP ***24*** *05:33:43.4, 23.78N×121.60E, h29km, ML4.2, B*
ISC 24 05:33:43.4±0.7, 23.76N±0.02×121.63E±0.02, h31km±3km, n89, σ0.973/137, mb3.7/9, 15C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.09**	**237**	*e*P	**Pn**	**05 33 49.5**	**+0.7**
	baz=215						
TEGC				*e*S	**Sb**	**05 33 53.6**	**+1.1**
	baz=215						
ESF	**Shoufeng Towns**	**0.15**	**316**	*e*P	**Pb**	**05 33 48.7**	**-0.7**
	baz=304						
ESF				*e*S	**Sb**	**05 33 52.7**	**-0.6**
	baz=304						
ESL	**Shilin**	**0.18**	**287**	⇑*i*P	**Pb**	**05 33 49.0**	**-0.6**
	baz=281						
ESL				S	**Sb**	**05 33 52.6**	**-1.2**
	baz=281						
HWA	**Hwalien**	**0.22**	**355**	⇓*i*P	**Pb**	**05 33 49.6**	**-0.4**
	baz=11						
HWA				*e*S	**Sb**	**05 33 54.3**	**-0.1**
	baz=11						
TWD	**Chiawan**	**0.32**	**355**	⇓*i*P	**Pb**	**05 33 50.7**	**-0.6**
	baz=352						
TWD				*i* S	**Sb**	**05 33 56.4**	**-0.1**
	baz=352						
EHY	**Hungye**	**0.38**	**228**	⇑*i*P	**Pb**	**05 33 51.4**	**-0.6**
	baz=229						
EHY				S	**Sb**	**05 33 57.0**	**-0.9**
	baz=229						
TWF1	**Yuli**	**0.51**	**217**	⇑*i*P	**Pb**	**05 33 53.5**	**-0.6**
	baz=223						
TWF1				*e*S	**Sb**	**05 34 00.4**	**-0.9**
	baz=223						
WHF	**Hehuan Shan**	**0.51**	**319**	⇑*i*P	**Pb**	**05 33 53.2**	**-1.1**
	baz=319						
WHF				*e*S	**Sb**	**05 34 00.2**	**-1.6**
	baz=319						
EHP	**Heping Village**	**0.56**	**11**	*e*P	**Pn**	**05 33 56.0**	**+0.7**
	baz=25						
TWT	**Tachien**	**0.64**	**320**	⇑*i*P	**Pb**	**05 33 55.8**	**-0.5**
	baz=314						
TWT				*i* S	**Sb**	**05 34 03.9**	**-1.3**
	baz=314						
ENA	**Nanau**	**0.67**	**9**	⇑*i*P	**Pb**	**05 33 56.1**	**-0.7**
	baz=358						
ENA				*e*S	**Sb**	**05 34 05.5**	**-0.4**
	baz=358						
YUS	**Yu-Shan**	**0.67**	**247**	⇑*i*P	**Pb**	**05 33 57.0**	**-0.1**
	baz=244						
YUS				*i* S	**Sb**	**05 34 05.5**	**-0.9**
	baz=244						
SMLT	**Sun Moon Lake**	**0.68**	**281**	⇑*i*P	**Pb**	**05 33 56.2**	**-0.6**
	baz=284						
SMLT				S	**Sb**	**05 34 05.2**	**-0.9**
	baz=284						
CHKT	**Chengkung**	**0.70**	**200**	*e*P	**Pb**	**05 33 57.0**	**-0.2**
	baz=211						
CHKT				*e*S	**Sn**	**05 34 07.1**	**+0.1**
	baz=211						
NNS	**Nan Shan**	**0.72**	**341**	*e*P	**Pb**	**05 33 56.7**	**-0.9**
	baz=342						
NNS				*e*S	**Sb**	**05 34 06.1**	**-1.1**
	baz=342						
TYC	**Yuchr**	**0.72**	**282**	⇑*i*P	**Pb**	**05 33 56.7**	**-0.8**
	baz=285						
TYC				S	**Sb**	**05 34 06.3**	**-0.8**
	baz=285						
ALS	**Alishan**	**0.79**	**252**	⇑*i*P	**Pn**	**05 33 58.8**	**0.0**
	baz=250						
ALS				*e*S	**Sb**	**05 34 08.7**	**-0.8**
	baz=250						
ELDTW	**Lidau**	**0.80**	**225**	⇑*i*P	**Pn**	**05 33 57.8**	**-0.9**
	baz=214						
TWC	**Suao**	**0.87**	**14**	P	**Pn**	**05 33 59.2**	**-0.4**
	baz=24						
TWC				*e*S	**Sb**	**05 34 11.5**	**+0.1**
	baz=24						
WNT	**Mingjian**	**0.87**	**278**	⇑*i*P	**Pb**	**05 34 00.3**	**+0.2**
	baz=277						
WNT				*e*S	**Sb**	**05 34 11.6**	**+0.2**
	baz=277						
ENTT	**Nioudou**	**0.88**	**356**	*e*P	**Pn**	**05 33 59.1**	**-0.6**
	baz=356						
ENTT				*e*S	**Sn**	**05 34 10.5**	**-0.9**
	baz=356						
CHN5	**Tsauling**	**0.88**	**260**	⇑*i*P	**Pb**	**05 34 00.5**	**+0.2**
	baz=258						
CHN5				S	**Sn**	**05 34 11.6**	**-0.1**
	baz=258						
NSK	**Sanguang**	**0.94**	**345**	⇑*i*P	**Pn**	**05 34 00.3**	**-0.4**
	baz=355						
NSK				S	**Sn**	**05 34 12.0**	**-1.1**
	baz=355						
TCU	**Taichung**	**0.95**	**294**	*e*P	**Pb**	**05 34 01.3**	**-0.1**
	baz=293						
TCU				*e*S	**Sb**	**05 34 14.6**	**+1.0**
	baz=293						
TWE	**Neicheng**	**0.96**	**2**	*e*P	**Pn**	**05 34 00.6**	**-0.2**
	baz=354						
TWE				*e*S	**Sb**	**05 34 14.1**	**+0.2**
	baz=354						
TWQ1	**Liyutan**	**0.97**	**307**	⇑*i*P	**Pb**	**05 34 02.0**	**+0.1**
	baz=306						
TWQ1				*e*S	**Sb**	**05 34 14.8**	**+0.5**
	baz=306						
WGK	**Gukeng**	**0.98**	**266**	*e*P	**Pn**	**05 34 01.4**	**+0.4**
	baz=265						
WGK				*e*S	**Sb**	**05 34 14.6**	**+0.2**
	baz=265						
STYT	**Tauyuan**	**0.99**	**233**	*e*P	**Pn**	**05 34 01.0**	**-0.3**
	baz=226						
STYT				*e*S	**Sn**	**05 34 14.7**	**+0.4**
	baz=226						
ILA	**Ilan**	**1.01**	**6**	*e*P	**Pb**	**05 34 01.9**	**-0.5**
	baz=357						
NSY	**Sanyi**	**1.02**	**310**	*e*P	**Pn**	**05 34 02.1**	**+0.3**
	baz=309						
NSY				*e*S	**Sn**	**05 34 15.5**	**+0.4**
	baz=309						
CHN4	**Tsaushan**	**1.03**	**247**	*e*P	**Pb**	**05 34 02.6**	**-0.1**
	baz=246						
CHN4				*e*S	**Sb**	**05 34 16.3**	**+0.3**
	baz=246						
NSTT	**Nanjuang**	**1.04**	**327**	*e*P	**Pn**	**05 34 01.7**	**-0.2**
	baz=320						
NSTT				S	**Sn**	**05 34 15.2**	**-0.2**
	baz=320						
TWG	**Pinlang**	**1.06**	**209**	*e*P	**Pn**	**05 34 01.0**	**-1.3**
	baz=193						
CHY	**Chiayi**	**1.13**	**257**	*e*P	**Pn**	**05 34 03.7**	**+0.5**
	baz=256						
CHY				*e*S	**Sb**	**05 34 18.5**	**-0.3**
	baz=256						
TWK	**Hsinying**	**1.15**	**245**	*e*P	**Pn**	**05 34 04.1**	**+0.5**
	baz=244						
TWK				*e*S	**Sb**	**05 34 19.2**	**-0.2**
	baz=244						
CHN1	**Nanshi**	**1.16**	**241**	*e*P	**Pb**	**05 34 04.6**	**-0.3**
	baz=240						
CHN1				*e*S	**Sb**	**05 34 19.9**	**+0.3**
	baz=240						
SGST	**Jiashian**	**1.17**	**235**	*e*P	**Pb**	**05 34 05.2**	**+0.1**
	baz=225						
SGST				*e*S	**Sb**	**05 34 20.8**	**+0.8**
	baz=225						
HSN	**Hsinchu**	**1.20**	**330**	*e*P	**Pn**	**05 34 03.2**	**-0.8**
	baz=317						
HSN				*e*S	**Sb**	**05 34 21.4**	**+0.7**
	baz=317						
TWA	**Mucha**	**1.22**	**358**	*e*P	**Pn**	**05 34 04.7**	**+0.3**
	baz=357						
TWA				*e*S	**Sn**	**05 34 20.0**	**+0.2**
	baz=357						
WTCT	**Ta-ch'eng**	**1.24**	**275**	*e*P	**Pn**	**05 34 05.0**	**+0.4**
	baz=274						
WTCT				*e*S	**Sb**	**05 34 21.5**	**-0.3**
	baz=274						
NCU	**National Centr**	**1.27**	**342**	*e*P	**Pn**	**05 34 05.6**	**+0.5**
	baz=339						
NCU				*e*S	**Sb**	**05 34 22.4**	**-0.4**
	baz=339						
TAP1	**Taipei**	**1.28**	**356**	*e*P	**Pb**	**05 34 07.1**	**+0.2**
	baz=356						
TAP	**Taipei**	**1.28**	**355**	*e*P	**Pn**	**05 34 05.3**	**+0.1**
	baz=353						
TAP				*e*S	**Sb**	**05 34 22.2**	**-0.8**
	baz=353						
TWB1	**Santiao Chiao**	**1.29**	**15**	*e*P	**Pb**	**05 34 06.3**	**-0.7**
	baz=1.0						
WSF	**Szhu**	**1.29**	**265**	*e*P	**Pb**	**05 34 06.6**	**-0.6**
	baz=264						
WSF				*e*S	**Sb**	**05 34 23.6**	**+0.3**
	baz=264						
ECL	**Taimali**	**1.31**	**208**	*e*P	**Pn**	**05 34 04.4**	**-1.2**
	baz=195						
NWF	**Wu-fen Shan**	**1.31**	**6**	*e*P	**Pn**	**05 34 06.3**	**+0.5**
	baz=351						
NWF				*e*S	**Sb**	**05 34 23.4**	**-0.7**
	baz=351						
CHN3	**Shinhua**	**1.34**	**240**	*e*P	**Pb**	**05 34 07.5**	**-0.5**
	baz=239						
TWS1	**Kuangyinshan**	**1.35**	**352**	*e*P	**Pn**	**05 34 06.9**	**+0.7**
	baz=352						
SSD	**Sandimen**	**1.36**	**222**	*e*P	**Pn**	**05 34 07.1**	**+0.8**
	baz=222						
SSD				*e*S	**Sn**	**05 34 24.3**	**+1.0**
	baz=222						
SCLT	**Jiali**	**1.44**	**246**	*e*P	**Pn**	**05 34 07.0**	**-0.3**
	baz=246						
SCLT				*e*S	**Sb**	**05 34 26.8**	**-0.7**
	baz=246						
TWM1	**Shoushan**	**1.45**	**230**	*e*P	**Pb**	**05 34 10.0**	**+0.2**
	baz=242						
YOJ	**Yonaguni jima**	**1.45**	**61**	P	**Pn**	**05 34 07.9**	**+0.4**
YOJ				*e*S	**Sn**	**05 34 25.7**	**+0.3**
YOJ	**Yonaguni jima**	**1.45**	**61**	⇓*e*P	**Pb**	**05 34 08.5**	**-1.2**
	baz=61						
YOJ				*i* S	**Sn**	**05 34 26.2**	**+0.7**
	baz=61						
SGLT	**Jiouru**	**1.47**	**226**	*e*P	**Pb**	**05 34 09.2**	**-0.9**
	baz=212						
TWY	**Chenhua**	**1.51**	**359**	*e*P	**Pn**	**05 34 08.1**	**-0.2**
	baz=359						
EAST	**Anshuo**	**1.55**	**208**	*e*P	**Pn**	**05 34 08.1**	**-0.8**
	baz=196						
TAW	**Tawu**	**1.55**	**206**	*e*P	**Pn**	**05 34 09.4**	**+0.5**
	baz=194						
SCZT	**Fangliau**	**1.66**	**214**	*e*P	**Pn**	**05 34 11.9**	**+1.4**
	baz=216						
SCZT				*e*S	**Sb**	**05 34 32.5**	**-1.5**
	baz=216						
LAY	**Lan-yu**	**1.71**	**182**	*e*P	**Pn**	**05 34 10.0**	**-1.2**
	baz=177						
LAY				*e*S	**Sn**	**05 34 31.1**	**-1.0**
	baz=177						
TWP	**Hsiaoliuchiu**	**1.83**	**220**	*e*P	**Pn**	**05 34 13.4**	**+0.7**
	baz=220						
WDGT	**Dungji**	**1.87**	**255**	*e*P	**Pn**	**05 34 13.7**	**+0.3**
	baz=255						
WDGT				*e*S	**Sn**	**05 34 35.6**	**-0.3**
	baz=255						
PCYT	**Pengchaiyu**	**1.91**	**12**	*e*P	**Pn**	**05 34 14.8**	**+1.0**
	baz=358						
HEN	**Hengchun**	**1.93**	**205**	*e*P	**Pb**	**05 34 17.3**	**-0.7**
	baz=196						
TWK1	**Hengchun**	**1.96**	**203**	*e*P	**Pn**	**05 34 15.3**	**+0.8**
	baz=192						
TWK1				*e*S	**Sn**	**05 34 38.7**	**+0.6**
	baz=192						
TSEB	**Hengchuen, Pin**	**1.97**	**200**	*e*P	**Pn**	**05 34 15.8**	**+1.1**
	baz=202						
TSEB				*e*S	**Sn**	**05 34 40.1**	**+1.8**
	baz=202						
IRIF	**Iriomote-Funau**	**2.01**	**73**	P	**Pn**	**05 34 15.9**	**+0.7**
IRIF				S	**Sn**	**05 34 40.4**	**+1.1**
HATJ	**Hateruma jima**	**2.02**	**81**	P	**Pn**	**05 34 15.9**	**+0.6**
HATJ				S	**Sn**	**05 34 40.1**	**+0.6**
JKRS	**Kuro-shima**	**2.23**	**77**	P	**Pn**	**05 34 19.2**	**+0.9**
JKRS				S	**Sn**	**05 34 46.2**	**+1.4**
JIJ	**Ishigaki jima**	**2.38**	**75**	P	**Pn**	**05 34 20.7**	**+0.4**
JIJ				S	**Sn**	**05 34 48.3**	**-0.2**
JTJ	**Tarama**	**2.94**	**72**	P	**Pn**	**05 34 29.0**	**+0.9**
JTJ				*e*S	**Sn**	**05 35 02.9**	**+0.5**
KNM	**Kinmen**	**2.99**	**283**	*e*P	**Pn**	**05 34 29.6**	**+0.8**
	baz=282						
QZH	**Quanzhou**	**3.01**	**294**	⇓*i*Pn	Pn

comp=Z,0.4nm,0.7s,baz=96,slow=4.3,SNR=4.1
ZALV Zalesovo Beam 40.82 327 P **P** **05 41 23.3 +1.3**
comp=Z,0.8nm,0.8s,baz=101,slow=7.8,SNR=3.4
H11N1 WAKE ISLAND Hy 42.11 86 T T 06 26 42.0
baz=286,slow=75,SNR=8.8
H11N2 WAKE ISLAND Hy 42.11 86 T T 06 26 43.7
baz=286,slow=75,SNR=9.0
H11N3 WAKE ISLAND Hy 42.12 86 T T 06 26 40.1
baz=286,slow=75,SNR=7.2
H11S3 WAKE ISLAND Hy 42.23 88 T T 06 26 47.1
baz=287,slow=73,SNR=16
H11S1 WAKE ISLAND Hy 42.23 88 T T 06 26 45.8
baz=287,slow=73,SNR=14
H11S2 WAKE ISLAND Hy 42.24 88 T T 06 26 51.9
baz=287,slow=73,SNR=15
KURBB Kurchatov Arra 42.69 320 P **P** **05 41 38.3 +1.0**
comp=Z,2.4nm,0.2s,baz=111,slow=9.5,SNR=4.4
WRA Warramunga Arr 45.17 163 P **P** **05 41 56.3 -1.2**
comp=Z,0.5nm,0.5s,baz=345,slow=8.7,SNR=7.6
ASAR Alice Springs 48.63 165 P **P** **05 42 23.9 -0.7**
comp=Z,0.7nm,0.8s,baz=338,slow=7.0,SNR=7.5
STKA Stephens Creek 58.53 160 P **P** **05 43 35.7 -1.2**
comp=Z,1.5nm,0.6s,baz=304,slow=7.3,SNR=5.2
YKA Yellowknife Ar 83.20 23 P **P** **05 46 06.4 0.0**
comp=Z,0.5nm,0.6s,baz=311,slow=4.9,SNR=14
GERES GERESS Array B 83.42 321 P **P** **05 46 08.6 +0.6**
comp=Z,0.7nm,0.8s,baz=41,slow=5.2,SNR=4.9

WEL 24 05:34:28.4±0.2, 41°33S×176°09E, h33km, ML3.8/35, 12C-5D, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMWZ	**Te Maipa**	**0.27**	**326**	⇑P*	Pb	05 34 34.7	-1.0
TMWZ				S*	Sn	05 34 40.2	-0.2
TRWZ	**Traveller**	**0.31**	**257**	⇑P*	Pb	05 34 36.1	-0.1
TRWZ				S*	Sn	05 34 42.6	+0.9
TRWZ				AML	AML	05 34 44.0	
CPWZ	**Castlepoint**	**0.43**	**12**	⇑P*	Pb	05 34 38.0	+0.1
CPWZ				S*	Sn	05 34 45.8	+0.8
MTW	**Mount Morrison**	**0.47**	**291**	⇑P*	Pb	05 34 38.2	-0.3
MTW				S*	Sn	05 34 46.0	-0.1
MTW				AML	AML	05 34 46.4	
PAWZ	**Paruwai Farm**	**0.50**	**264**	⇑P*	Pb	05 34 38.9	-0.1
PAWZ				S*	Sn	05 34 49.5	+2.7
PAWZ				AML	AML	05 34 50.2	
TIWZ	**Tintock**	**0.57**	**344**	⇑P*	Pb	05 34 39.7	-0.5
TIWZ				AML	AML	05 34 51.2	
TIWZ				AML	AML	05 34 52.8	
HOWZ	**Holdsworth Sta**	**0.61**	**315**	⇑P*	Pn	05 34 40.3	-0.5
HOWZ				S*	Sn	05 34 49.5	0.0
MSWZ	**Moikau Station**	**0.64**	**262**	P*	Pn	05 34 40.6	-0.5
MSWZ				AML	AML	05 34 54.1	
MSWZ				AML	AML	05 34 54.2	
BFZ	**Birch Farm**	**0.66**	**11**	⇓P*	Pn	05 34 41.0	-0.4
PLWZ	**Palliser**	**0.67**	**249**	P*	Pn	05 34 41.0	-0.6
PLWZ				S*	Sn	05 34 56.1	+5.1
MRZ	**Mangatainoka R**	**0.77**	**330**	P*	Pn	05 34 42.5	-0.4
MRZ				AML	AML	05 34 53.5	
MRZ				AML	AML	05 34 56.0	
PRWZ	**Pori Road**	**0.78**	**353**	⇑P*	Pn	05 34 43.0	0.0
CAW	**Cannon Point**	**0.80**	**286**	P*	Pn	05 34 43.0	-0.3
CAW				AML	AML	05 34 58.5	
CAW				AML	AML	05 34 58.6	
OGWZ	**Otaki Gorge**	**0.86**	**306**	P*	Pn	05 34 44.0	-0.1
BHW	**Baring Head**	**0.92**	**265**	P*	Pn	05 34 44.4	-0.5
BHW				AML	AML	05 35 09.4	
BHW				AML	AML	05 35 09.5	
POWZ	**Post Office Ro**	**0.97**	**345**	P*	Pn	05 34 45.6	-0.1
WEL	**Wellington**	**0.99**	**272**	P*	Pn	05 34 46.0	0.0
KIW	**Kapiti Island**	**1.01**	**297**	⇑P*	Pn	05 34 46.4	+0.2
KIW				AML	AML	05 35 03.4	
KIW				AML	AML	05 35 06.2	
DVHZ	**Dannevirke**	**1.03**	**3**	P*	Pn	05 34 46.2	-0.4
SNZO	**South Karori**	**1.04**	**271**	P*	Pn	05 34 46.5	-0.1
SNZO				AML	AML	05 35 05.7	
SNZO				AML	AML	05 35 07.5	
PRHZ	**Porangahau**	**1.14**	**22**	P*	Pn	05 34 47.4	-0.6
TSZ	**Takapari Road**	**1.27**	**356**	P*	Pn	05 34 49.8	-0.1
TSZ				AML	AML	05 35 06.0	
TSZ				AML	AML	05 35 14.8	
WPHZ	**Waipukurau**	**1.29**	**12**	⇑PN	Pn	05 34 50.0	-0.1
TCW	**Tory Channel**	**1.37**	**274**	⇑PN	Pn	05 34 51.2	0.0
TCW				AML	AML	05 35 15.8	
TCW				AML	AML	05 35 17.3	
PNHZ	**Pukenui**	**1.42**	**3**	⇓PN	Pn	05 34 52.1	+0.2
PXZ	**Pawanui**	**1.43**	**25**	PN	Pn	05 34 51.1	-0.8
PXZ				AML	AML	05 35 37.1	
PXZ				AML	AML	05 35 38.9	
TUWZ	**Tuamarina**	**1.62**	**266**	PN	Pn	05 34 54.2	-0.4
TUWZ				AML	AML	05 35 25.3	
TUWZ				AML	AML	05 35 29.1	
KAHZ	**Kahuranaki**	**1.65**	**22**	⇑PN	Pn	05 34 54.2	-0.8
BSWZ	**Blackbirch Sta**	**1.71**	**256**	PN	Pn	05 34 55.6	-0.2
BSWZ				AML	AML	05 35 15.6	
BSWZ				AML	AML	05 35 35.1	
DUWZ	**D'Urville Isla**	**1.72**	**287**	PN	Pn	05 34 56.9	+0.9
DUWZ				AML	AML	05 35 29.8	
DUWZ				AML	AML	05 35 33.1	
WAZ	**Wanganui**	**1.78**	**332**	PN	Pb	05 34 59.6	-0.8
WAZ				AML	AML	05 35 21.5	
WAZ				AML	AML	05 35 34.8	
BHHZ	**Black Hill Sta**	**1.84**	**359**	PN	Pn	05 34 58.1	+0.4
MOVZ	**Moawhango**	**1.94**	**352**	PN	Pn	05 34 60.0	+0.9
MOVZ				AML	AML	05 35 23.5	
MOVZ				AML	AML	05 35 23.5	
MCHZ	**McNeill Hill**	**1.94**	**14**	PN	Pn	05 34 59.1	0.0
WNVZ	**Wahianoa**	**2.04**	**349**	PN	Pn	05 35 02.1	+1.5
WNVZ				AML	AML	05 35 27.2	
WNVZ				AML	AML	05 35 32.5	
NNZ	**Nelson**	**2.04**	**272**	PN	Pn	05 35 00.9	+0.5
NNZ				AML	AML	05 35 38.8	
NNZ				AML	AML	05 35 44.3	
TRVZ	**Turoa**	**2.07**	**348**	PN	Pn	05 35 02.4	+1.3
TRVZ				AML	AML	05 35 27.2	
TRVZ				AML	AML	05 35 27.3	
WHVZ	**Whangaehu Hut**	**2.08**	**349**	⇓PN	Pn	05 35 02.8	+1.5
TUVZ	**Tukino**	**2.09**	**351**	PN	Pn	05 35 02.8	+1.5
TUVZ				AML	AML	05 35 28.2	
TUVZ				AML	AML	05 35 28.4	
DRZ	**Dome Shelter**	**2.09**	**349**	PN	Pn	05 35 03.2	+1.7
DRZ				AML	AML	05 35 28.3	
DRZ				AML	AML	05 35 28.8	
FWVZ	**Far West T-bar**	**2.11**	**349**	PN	Pn	05 35 02.7	+1.0
FWVZ				AML	AML	05 35 29.7	
FWVZ				AML	AML	05 35 29.8	
PKVZ	**Pokaka**	**2.12**	**344**	PN	Pn	05 35 03.1	+1.6
PKVZ				AML	AML	05 35 31.0	
PKVZ				AML	AML	05 35 46.6	
WPVZ	**Whakapapa**	**2.16**	**349**	PN	Pn	05 35 03.8	+1.6
WPVZ				AML	AML	05 35 33.1	
WPVZ				AML	AML	05 35 33.1	
BKZ	**Black Stump Fm**	**2.18**	**8**	PN	Pn	05 35 02.1	-0.4
BKZ				AML	AML	05 35 55.5	
BKZ				AML	AML	05 35 58.3	
NGZ	**Ngauruhoe**	**2.18**	**350**	PN	Pn	05 35 04.0	+1.5
NGZ				AML	AML	05 35 32.7	
NGZ				AML	AML	05 35 39.7	
OTVZ	**Oturere**	**2.19**	**351**	PN	Pn	05 35 03.9	+1.2
OTVZ				AML	AML	05 35 29.6	
OTVZ				AML	AML	05 35 37.6	
WTVZ	**West Tongariro**	**2.24**	**350**	⇓PN	Pn	05 35 04.7	+1.4
WTVZ				AML	AML	05 35 33.9	
WTVZ				AML	AML	05 35 34.1	
KRVZ	**Karewarewa**	**2.26**	**351**	PN	Pn	05 35 05.0	+1.5
KRVZ				AML	AML	05 35 34.3	
KRVZ				AML	AML	05 35 53.3	
NMHZ	**Naumai**	**2.30**	**14**	PN	Pn	05 35 04.4	+0.3
TWVZ	**Taurewa**	**2.31**	**347**	PN	Pn	05 35 05.6	+1.3
TWVZ				AML	AML	05 35 50.7	
THZ	**Tophouse**	**2.43**	**259**	PN	Pn	05 35 05.2	-0.6
THZ				AML	AML	05 35 59.7	
THZ				AML	AML	05 36 04.0	
DFE	**Dawson Falls**	**2.51**	**322**	PN	Pb	05 35 10.2	-2.7
NEZ	**North Egmont**	**2.56**	**323**	PN	Pb	05 35 11.0	-2.7
KHEZ	**Kahui Hut**	**2.58**	**321**	PN	Pn	05 35 10.8	+2.8
QRZ	**Quartz Range**	**2.74**	**279**	PN	Pn	05 35 10.9	+1.0
HIZ	**Hauiti**	**2.97**	**341**	PN	Pn	05 35 14.7	+1.5
HIZ				AML	AML	05 35 50.1	
HIZ				AML	AML	05 36 17.8	
LTZ	**Lake Taylor**	**3.19**	**242**	AML	AML	05 35 55.0	
DSZ	**Denniston Nort**	**3.24**	**261**	PN	Pn	05 35 16.6	-0.4
MQZ	**McQueen's Vall**	**3.48**	**226**	PN	Pn	05 35 18.3	-1.8
OXZ	**Oxford**	**3.60**	**235**	PN	Pn	05 35 20.2	-1.7
RPZ	**Rata Peaks**	**4.42**	**236**	⇓PN	Pn	05 35 31.8	-1.3
ODZ	**Otahua Downs**	**5.44**	**225**	PN	Pn	05 35 46.0	-1.1

*ISCJB **24** 05:38:20.7±1.2, 18°38S±0.3°×177°3W±0.3, h650km, mb3.9/6, Error ellipse: s-maj=53.7km s-min=13.8km az=144.9*
*IDC **24** 05:38:21.5±2.2, 18°69S×177°30W, h639km±34km, mb3.3/6, mb1 3.5/8, mb1mx3.1/22, mbtmp3.3/8, Error ellipse: s-maj=97.8km s-min=22.1km az=144.0*
ISC 24 05:38:21.5±1.7, 18°38S±0.5×177°2W±0.3, h650km, n18, σ0°41/18, mb4.1/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.11**	**48**	P	**P**	**05 40 14.7**	**-0.3**
	7.8nm,0.3s,baz=41,slow=22,SNR=8.2						
DZM	**Mont Dzumac**	**15.69**	**255**	P	**P**	**05 41 34.1**	**-0.2**
	0.4nm,0.3s,baz=134,slow=17,SNR=3.8						
CTA	**Charters Tower**	**34.47**	**262**	P	**P**	**05 44 18.0**	**-0.4**
	2.4nm,0.5s,baz=99,slow=14,SNR=5.8						
CMSA	**Cobar Meteorol**	**35.74**	**242**	P	**P**	**05 44 28.6**	**-0.1**
	baz=40,SNR=7.9						
QLP	**Quilpie**	**36.33**	**251**	P	**P**	**05 44 33.1**	**-0.5**
	baz=41,SNR=10						
TOO	**Toolangi**	**37.53**	**232**	P	**P**	**05 44 43.3**	**+0.1**
	baz=42,SNR=6.4						
STKA	**Stephens Creek**	**39.24**	**242**	P	**P**	**05 44 57.2**	**+0.2**
	3.1nm,0.5s,baz=69,slow=8.0,SNR=13						
STKA	**Stephens Creek**	**39.24**	**242**	P	**P**	**05 44 57.3**	**+0.3**
	baz=44,SNR=9.4						
HTT	**Hallett**	**41.71**	**241**	P	**P**	**05 45 16.8**	**+0.3**
	baz=46,SNR=4.5						
BBOO	**Buckleboo**	**44.01**	**242**	P	**P**	**05 45 34.2**	**0.0**
	baz=48,SNR=11						
WRA	**Warramunga Arr**	**45.63**	**260**	P	**P**	**05 45 46.4**	**-0.4**
	3.4nm,0.4s,baz=97,slow=8.1,SNR=43						
ASAR	**Alice Springs**	**45.68**	**255**	P	**P**	**05 45 47.2**	**+0.1**
	5.1nm,0.5s,baz=88,slow=8.1,SNR=87						
WRKA	**Warakurna**	**50.69**	**253**	P	**P**	**05 46 23.9**	**-0.2**
	baz=55,SNR=16						
WRKA	**Warakurna**	**50.69**	**253**	P	**P**	**05 46 23.9**	**-0.2**
	baz=24,SNR=16						
KNRA	**Kununurra**	**51.57**	**265**	P	**P**	**05 46 31.0**	**+0.6**
	baz=56,SNR=4.2						
KNRA	**Kununurra**	**51.57**	**265**	P	**P**	**05 46 31.0**	**+0.6**
	baz=32,SNR=4.2						
FITZ	**Fitzroy Crossi**	**54.04**	**261**	P	**P**	**05 46 48.6**	**+0.8**
	1.8nm,0.4s,baz=180,slow=10,SNR=4.8						
ILAR	**Eielson Array**	**86.50**	**13**	P	**P**	**05 49 57.2**	**+0.3**
	1.9nm,1.3s,baz=222,slow=7.5,SNR=4.1						

*ISCJB **24** 05:40:15.9±0.4, 1°49S±0.04°×99°24E±0.04°, h10km, mb4.2/23, MS2.8/1, Error ellipse: s-maj=7.3km s-min=5.3km az=136.6*
*IDC **24** 05:40:16.1±0.6, 1°48S×99°47E, h0km, mb4.1/20, mb1 4.2/22, mb1mx4.1/31, mbtmp4.1/22, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/39, Error ellipse: s-maj=27.0km s-min=11.7km az=54.0*
*NEIC **24** 05:40:17.5±0.4, 1°51S×99°46E, h10km, mb4.6/3, Error ellipse: s-maj=14.0km s-min=7.0km az=67.0*
*DJA **24** 05:40:19.8±0.5, 1°S±4°×9°9E±°, h10km, M4.5/8, mb4.7/3, mB5.2/2, MLv4.4/8, Mw(mB)4.5/2*
*AUST **24** 05:40:19.1±4.9, 1°63S×99°61E, h0km, Error ellipse: s-maj=2.6km s-min=1.0km az=240.0*
ISC 24 05:40:17.8±0.5, 1°46S±0°05×99°43E±0°06, h10km, n82, σ0°99/72, mb4.2/23, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.17**	**62**	P	**Pg**	**05 40 40.4**	**+0.1**
PDSI				S	**Sn**	**05 40 58.4**	**+2.1**
PPI	**Padang Panjang**	**1.39**	**44**	P	**Pg**	**05 40 44.0**	**-0.5**
PPI	**Padang Panjang**	**1.39**	**44**	P	**Pg**	**05 40 43.8**	**-0.7**
	baz=1.4,SNR=107						
SDSI	**Sungai Dareh**	**2.07**	**75**	P	**Pg**	**05 40 55.9**	**-1.6**
MNSI	**Mandailing Nat**	**2.25**	**4**	P	**Pn**	**05 40 55.6**	**+0.5**
BKNI	**Bangkinang**	**2.40**	**42**	P	**Pb**	**05 41 00.9**	**-0.2**
BKNI	**Bangkinang**	**2.40**	**42**	P	**Pb**	**05 40 58.7**	**-2.4**
	baz=2.4,SNR=7.2						
MASI	**Maura Aman, Be**	**3.27**	**121**	P	Pb	05 41 11.5	-4.4
GSI	**Gunungsitoli**	**3.31**	**326**	P	**Pn**	**05 41 11.2**	**+1.5**
PSI	**Prapat**	**4.26**	**353**	P	**Pb**	**05 41 31.9**	**-1.1**
PSI	**Prapat**	**4.26**	**353**	Pn	**Pn**	**05 41 22.6**	**-0.4**
PSI	**Prapat**	**4.26**	**353**	Pn	**Pn**	**05 41 22.6**	**-0.4**
	1.4nm,0.3s,baz=178,slow=13,SNR=5.0						
PSI	**Prapat**	**4.26**	**353**	P	Pb	05 41 28.3	-4.7
	baz=4.4,SNR=5.8						
MNAI	**Manna**	**4.55**	**129**	P	**Pn**	**05 41 28.1**	**+1.4**
	baz=4.3,SNR=11						
LHSI	**Lahat**	**4.72**	**120**	P	Pn	05 41 33.2	+4.2
MDSI	**Maura Dua**	**5.62**	**122**	P	Pn	05 41 43.9	+2.5
	27nm,0.7s,575nm						
LWLI	**Liwa**	**5.82**	**127**	P	Pn	05 41 46.4	+2.1
	117nm,0.7s,6μm						
IPM	**Ipoh**	**6.12**	**15**	*e*Pn	**Pn**	**05 41 50.9**	**+2.6**
	43nm,0.8s						
IPM				*e*Sg	**Sg**	**05 43 35.5**	**+1.2**
KLSI		**6.19**	**121**	P	Pn	05 41 52.6	+3.3
KULM	**Kulim**	**6.82**	**10**	*e*Pn	**Pn**	**05 41 57.8**	**-0.1**
	19nm,0.7s						
KULM				*e*Sg	**Sg**	**05 43 57.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**05 44 48.5**	**0.0**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**05 44 48.5**	**0.0**
	0.8nm,0.3s,baz=189,slow=8.9,SNR=13						
WSI	**Waingapu**	**22.30**	**112**	P	P	05 45 24.8	+9.2
	baz=22,SNR=3.3						
H08S2	**Diego Garcia H**	**27.53**	**256**	T	T	06 14 09.2	
	baz=78,slow=75,SNR=248						
H08S3	**Diego Garcia H**	**27.53**	**256**	T	T	06 14 05.0	
	baz=78,slow=75,SNR=253						
H08S1	**Diego Garcia H**	**27.55**	**256**	T	T	06 14 10.7	
	baz=78,slow=75,SNR=264						
FITZ	**Fitzroy Crossi**	**30.59**	**124**	P	**P**	**05 46 31.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.59**	**124**	P	**P**	**05 46 31.8**	**-0.3**
	4.4nm,0.9s,baz=323,slow=6.5,SNR=4.5						
H01W3	**Cape Leeuwin H**	**35.97**	**159**	T	T	06 25 10.0	
	baz=335,slow=75,SNR=21						
H01W2	**Cape Leeuwin H**	**35.98**	**159**	T	T	06 25 11.0	
	baz=335,slow=75,SNR=22						
H01W1	**Cape Leeuwin H**	**35.98**	**159**	T	T	06 25 06.5	
	baz=335,slow=75,SNR=20						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**05 47 41.8**	**-0.9**
WRA				PcP	**PcP**	**05 49 54.3**	**-0.2**
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**05 47 41.8**	**-0.9**
	4.8nm,0.8s,baz=297,slow=9.4,SNR=21						
WRA				PcP	**PcP**	**05 49 54.3**	**-0.2**
	0.8nm,0.6s,baz=319,slow=2.6,SNR=5.3						
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**05 47 52.8**	**-0.6**
ASAR				PcP	**PcP**	**05 49 58.8**	**+0.3**
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**05 47 52.8**	**-0.6**
	2.2nm,0.9s,baz=295,slow=6.9,SNR=11						
ASAR				PcP	**PcP**	**05 49 58.8**	**+0.3**
	0.6nm,0.6s,baz=305,slow=2.1,SNR=4.7						
JNU	**Nakatsue**	**45.42**	**38**	P	**P**	**05 48 36.5**	**-0.5**
JNU	**Nakatsue**	**45.42**	**38**	P	**P**	**05 48 36.5**	**-0.5**
	2.9nm,0.3s,baz=100,slow=6.1,SNR=3.4						
KSAR	**Wonju Array Be**	**46.83**	**31**	P	**P**	**05 48 47.1**	**-0.8**
KSRS	**Korea Array**	**46.86**	**31**	P	**P**	**05 48 47.1**	**-1.0**
	0.6nm,0.3s,baz=212,slow=5.7,SNR=2.9						
HTT	**Hallett**	**48.78**	**135**	P	**P**	**05 49 04.4**	**+1.2**
	baz=49,SNR=4.0						
TKM2	**Tokmak 2**	**49.12**	**337**	*e*P	**P**	**05 49 06.9**	**+1.1**
	5.2nm,0.6s						
AAK	**Ala-Archa**	**49.32**	**336**	P	**P**	**05 49 07.7**	**+0.3**
AAK	**Ala-Archa**	**49.32**	**336**	P	**P**	**05 49 07.7**	**+0.3**
	0.5nm,0.3s,baz=101,slow=10,SNR=2.4						
CTA	**Charters Tower**	**49.34**	**115**	P	**P**	**05 49 06.3**	**-1.4**
CTA	**Charters Tower**	**49.34**	**115**	P	**P**	**05 49 06.3**	**-1.4**
	0.7nm,0.4s,baz=315,slow=10.0,SNR=5.1						
QLP	**Quilpie**	**49.73**	**124**	P	**P**	**05 49 10.7**	**+0.1**
	baz=50,SNR=3.3						
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**05 49 11.9**	**-0.1**
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**05 49 11.9**	**-0.1**
	5.5nm,0.7s,baz=0.0,slow=4.0,SNR=8.2						
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**05 49 12.6**	**+0.6**
	baz=50,SNR=4.0						
JCJ	**Chichijima**	**49.99**	**52**	LR	LR	06 11 08.1	
	comp=Z,8.0nm,18.6s,baz=252,slow=37						
MK31	**Makanchi Array**	**50.36**	**345**	*e*P	**P**	**05 49 15.3**	**+0.3**
MKAR	**Makanchi Array**	**50.36**	**345**	P	**P**	**05 49 15.4**	**+0.3**
MKAR	**Makanchi Array**	**50.36**	**345**	P	**P**	**05 49 15.4**	**+0.3**
	2.3nm,0.5s,baz=159,slow=8.4,SNR=31						
USRK	**Ussuriysk Arra**	**53.96**	**29**	P	**P**	**05 49 41.8**	**0.0**
	1.4nm,0.6s,baz=236,slow=4.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**54.88**	**344**	P	**P**	**05 49 47.9**	**-0.5**
	0.8nm,0.2s,baz=164,slow=6.7,SNR=7.3						
KURK	**Kurchatov**	**54.94**	**344**	P	**P**	**05 49 47.9**	**-0.9**
ZAA0	**Zalesovo Array**	**56.54**	**350**	*e*P	**P**	**05 50 00.0**	**-0.2**
ZALV	**Zalesovo Beam**	**56.54**	**350**	P	**P**	**05 49 59.9**	**-0.3**
ZALV	**Zalesovo Beam**	**56.54**	**350**	P	**P**	**05 49 59.9**	**-0.3**
	3.1nm,0.6s,baz=176,slow=6.9,SNR=14						
BVAR	**Borovoye Array**	**59.49**	**340**	P	**P**	**05 50 20.4**	**-0.6**
BVAR	**Borovoye Array**	**59.49**	**340**	P	**P**	**05 50 20.4**	**-0.6**
	0.8nm,0.6s,baz=174,slow=5.7,SNR=4.6						
ABKAR	**Akbulak array**	**60.90**	**332**	*e*P	**P**	**05 50 29.7**	**-1.0**
	3.0nm,0.8s						
AKTO	**Aktyubinsk**	**62.62**	**332**	P	**P**	**05 50 44.3**	**+2.0**
AKTO	**Aktyubinsk**	**62.62**	**332**	P	**P**	**05 50 44.3**	**+2.0**
	0.9nm,0.6s,baz=238,slow=13,SNR=2.1						
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**05 51 14.6**	**+0.3**
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**05 51 14.6**	**+0.3**
	1.1nm,0.8s,baz=93,slow=9.9,SNR=2.8						
BRTR	**Keskin Array B**	**72.54**	**312**	P	**P**	**05 51 43.8**	**-1.6**
BRTR	**Keskin Array B**	**72.54**	**312**	P	**P**	**05 51 43.8**	**-1.6**
	0.4nm,0.6s,baz=124,slow=5.3,SNR=3.5						
VNDA	**Vanda**	**82.80**	**169**	P	**P**	**05 52 42.3**	**+0.6**
VNDA	**Vanda**	**82.80**	**169**	P	**P**	**05 52 42.3**	**+0.6**
	1.0nm,0.8s,baz=354,slow=2.6,SNR=4.7						
FINES	**FINESS Array B**	**83.37**	**332**	P	**P**	**05 52 44.9**	**-0.1**
FINES	**FINESS Array B**	**83.37**	**332**	P	**P**	**05 52 44.9**	**-0.1**
	2.8nm,0.9s,baz=70,slow=6.3,SNR=8.1						
ARCES	**ARCESS Array B**	**85.78**	**340**	P	**P**	**05 52 59.0**	**+2.0**
ARCES	**ARCESS Array B**	**85.78**	**340**	P	**P**	**05 52 59.0**	**+2.0**
	2.7nm,0.9s,baz=76,slow=3.8,SNR=2.2						
GERES	**GERESS Array B**	**88.27**	**319**	P	**P**	**05 53 09.8**	**+0.1**
GERES	**GERESS Array B**	**88.27**	**319**	P	**P**	**05 53 09.8**	**+0.1**
	0.2nm,0.6s,baz=85,slow=2.9,SNR=4.5						
QSPA	**South Pole Qui**	**88.50**	**180**	*e*P	**P**	**05 53 10.8**	**+0.4**
	3.1nm,1.0s						
CPUP	**Villa Florida**	**144.40**	**217**	PKP	PKPbc	05 59 53.3	-0.2
CPUP	**Villa Florida**	**144.40**	**217**	PKP	PKPbc	05 59 53.3	-0.2
	1.6nm,0.6s,baz=153,slow=4.5,SNR=3.4						
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	**PKPdf**	**05 59 54.8**	**-0.8**
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	**PKPdf**	**05 59 54.8**	**-0.8**
	2.1nm,0.6s,baz=280,slow=1.3,SNR=32						
MIAR	**Mount Ida**	**144.92**	**19**	*e*PKPdf	PKPbc	05 59 54.6	-0.4

*IDC **24** 05:40:55.1±2.6, 0.°87S×133.°92E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.6/21, mbtmp3.7/4, ML3.8/2, MS2.6/1, Ms1 2.6/1, ms1mx2.4/28, Error ellipse: s-maj=94.6km s-min=26.9km az=80.0*
*DJA **24** 05:40:57.2±0.8, 1°S±12°×13°4E±°, h10km, M4.0/5, MLv4.0/5*
*AUST **24** 05:41:08.4, 1°48S×134°00E, h60km*
ISC 24 05:40:57.4±1.6, 0°84S±0°08×134°13E±0°06, h19km±6km, n18, σ1°32/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWPI	**Manokwari, Pap**	**0.12**	**226**	P	**Pg**	**05 41 01.5**	**-0.1**
BAKI	**Biak**	**2.01**	**100**	P	**Pn**	**05 41 30.3**	**0.0**
SRPI	**Serui, Papua**	**2.34**	**116**	P	**Pn**	**05 41 36.2**	**+1.3**
FAKI	**Fak Fak**	**2.79**	**222**	P	**Pn**	**05 41 41.9**	**+0.8**
FAKI	**Fak Fak**	**2.79**	**222**	P	**Pn**	**05 41 41.8**	**+0.7**
	baz=2.3,SNR=38						
SWI	**Sorong**	**2.87**	**270**	P	**Pn**	**05 41 43.3**	**+1.2**
JAY	**Jayapura**	**6.78**	**104**	LR	LR	05 44 48.3	
	comp=Z,49nm,22.0s,baz=152,slow=33						
PALU	**Palau**	**8.14**	**2**	P	**Pb**	**05 43 17.3**	**-0.6**
	baz=8.8,SNR=5.1						
LUWI	**Luwuk**	**11.36**	**269**	P	Pn	05 43 46.4	+7.7
	baz=11,SNR=11						
KDU	**Kakadu**	**11.88**	**188**	P	**Pn**	**05 43 44.9**	**-1.0**
	baz=11,SNR=7.8						
MTN	**Manton Dam**	**12.29**	**194**	P	**Pn**	**05 43 50.5**	**-1.0**
	baz=12,SNR=19						
SOEI	**Soe**	**13.21**	**228**	P	P	05 44 22.0	+7.9
	baz=13,SNR=5.1						
KNRA	**Kununurra**	**15.66**	**199**	P	**Pn**	**

KATZ	Kakaramea	1.91	58	PN	Pn	06 51 53.0	-0.2
PAWZ	Paruwai Farm	1.94	135	PN	Pn	06 51 53.2	0.0
PAWZ				AML	AML	06 52 24.6	
BHHZ	Black Hill Sta	1.96	75	PN	Pn	06 51 52.8	-0.7
DVHZ	Dannevirke	1.98	99	⇓PN	Pn	06 51 53.6	0.0
PNHZ	Pukenui	1.99	88	⇓PN	Pn	06 51 53.7	0.0
PLWZ	Palliser	2.00	142	PN	Pn	06 51 53.4	-0.3
TMWZ	Te Maipa	2.05	123	PN	Pn	06 51 54.6	+0.3
TRWZ	Traveller	2.10	132	PN	Pn	06 51 54.9	+0.1
BFZ	Birch Farm	2.12	109	PN	Pn	06 51 55.0	0.0
WPHZ	Waipukurau	2.17	92	PN	Pn	06 51 55.7	+0.2
DSZ	Denniston Nort	2.21	218	⇑PN	Pn	06 51 55.3	-0.6
ANWZ	Angora Road	2.23	103	PN	Pn	06 51 56.3	+0.3
PRHZ	Porangahau	2.33	97	⇓PN	Pn	06 51 57.4	+0.3
BKZ	Black Stump Fm	2.38	70	⇓PN	Pn	06 51 57.0	-0.6
MCHZ	McNeill Hill	2.44	78	⇓PN	Pn	06 51 58.8	+0.5
PXZ	Pawanui	2.49	92	⇓PN	Pn	06 51 59.0	+0.3
KAHZ	Kahuranaki	2.52	86	⇑PN	Pn	06 51 59.4	+0.4
NMHZ	Naumai	2.63	71	⇑PN	Pn	06 52 00.7	+0.4
LTZ	Lake Taylor	2.95	200	PN	Pn	06 52 02.9	-0.8
WHHZ	Waihua	2.95	73	PN	Pn	06 52 03.6	-0.1
SNGZ	Shannon Statio	3.14	68	PN	Pn	06 52 05.1	-0.7
URZ	Urewera	3.23	58	PN	Pn	06 52 04.9	-1.9
KNZ	Kokohu	3.29	74	PN	Pn	06 52 07.0	-0.5
MHGZ	Mahia Peninsul	3.42	77	PN	Pn	06 52 09.1	0.0
RIGZ	Rimuhau	3.47	69	⇑PN	Pn	06 52 09.1	-0.6
MWZ	Matawai	3.47	62	PN	Pn	06 52 08.3	-1.4
PRGZ	Paritu Road	3.48	73	PN	Pn	06 52 09.3	-0.4
OXZ	Oxford	3.52	199	⇑PN	Pn	06 52 08.7	-1.4
WVZ	Waitaha Valley	3.75	214	⇓PN	Pn	06 52 11.6	-1.2
MQZ	McQueen's Vall	3.76	191	PN	Pn	06 52 10.8	-2.1
RPZ	Rata Peaks	4.17	206	PN	Pn	06 52 16.6	-1.2
MXZ	Matakaoa Point	4.41	58	⇑PN	Pn	06 52 19.0	-1.8
FOZ	Fox Glacier	4.61	218	PN	Pn	06 52 20.6	-2.5

MEX 24 07:04:46.8±0.7, 17°14N×99°95W, h40km±11km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	Acapulco	0.27	168	*i* P	Pn	07 04 53.4	-1.4
ACP2				*i* S	Sn	07 04 58.0	-2.7
ACX	Acapulco	0.28	163	*i* P	Pn	07 04 49.8	-5.1
ACX				*i* S	Sn	07 04 55.0	-5.9
ARIG	Puente Sto Nin	1.19	341	*e*P	Pn	07 05 04.9	-2.2
ARIG				*i* S	Sn	07 05 20.5	-1.6
PLIG	Platanillo	1.31	19	*e*P	Pn	07 05 06.8	-2.0
PLIG				*i* S	Sn	07 05 23.4	-1.8
TLIG	Tlapa	1.38	72	*e*P	Pn	07 05 08.0	-1.8
TLIG				*i* S	Sn	07 05 25.0	-1.9
ZIIG	Zihuatanejo	1.52	288	*i* P	Pn	07 05 10.6	-0.9
ZIIG				*i* S	Sn	07 05 28.4	-1.8
PNIG	Pinotepa	1.90	113	*i* P	Pn	07 05 15.0	-1.7
PNIG				*i* S	Sn	07 05 37.3	-2.1
YAIG	Yautepec	1.90	26	*e*P	Pn	07 05 15.8	-1.2
YAIG				*i* S	Sn	07 05 36.9	-2.9

DJA 24 07:13:41.3±1.3, 1°S±8°×99°9E±°, h10km, M3.6/5, MLv3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.15	60	P	Pb	07 14 01.5	-1.9
PDSI				S	Sb	07 14 18.0	-0.5
PPI	Padang Panjang	1.39	42	P	Pn	07 14 04.9	-1.9
SDSI	Sungai Dareh	2.04	74	P	Pn	07 14 15.6	-0.2
MNSI	Mandailing Nat	2.27	3	P	Pn	07 14 19.2	+0.3
MNSI				S	Sn	07 14 47.8	+0.8
BKNI	Bangkinang	2.40	41	P	Pn	07 14 20.5	-0.2

MEX 24 07:16:14.0±0.3, 15°96N×96°66W, h12km±4km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.56	110	*i* P	Pg	07 16 23.8	-1.3
HUIG				*i* S	Sg	07 16 31.3	-1.3
VHO	Vista Hermosa	1.10	356	*i* P	Pb	07 16 31.7	-3.7
VHO				*i* S	Sb	07 16 45.5	-4.4
TLIG	Tlapa	2.42	311	*i* P	Pn	07 16 50.5	-3.1
TLIG				*i* S	Sn	07 17 19.1	-4.2
PCIG		3.32	94	*i* P	Pn	07 17 02.9	-2.9
PCIG				*i* S	Sn	07 17 41.9	-3.3

*SKHL **24** 07:27:20.7±0.9, 48°87N×156°35E, h10km±4km, mb4.5/3, Ms4.2/1*
*KRSC **24** 07:27:23.5±8.2, 48°73N×157°16E, h20km±20km, ML4.4*
*IDC **24** 07:27:23.1±1.2, 49°13N×156°01E, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.9/27, mbtmp3.9/13, ML3.6/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/37, Error ellipse: s-maj=40.8km s-min=13.2km az=159.0*
*ISCJB **24** 07:27:26.4±0.8, 48°99N±0°06×156°0E±0°.1, h41km±7km, mb3.9/15, MS3.5/6, Error ellipse: s-maj=15.4km s-min=4.4km az=40.4*
*MOS **24** 07:27:26.2±1.2, 49°09N×156°02E, h37km, mb4.1/8, Error ellipse: s-maj=18.1km s-min=7.0km az=75.8*
*NEIC **24** 07:27:27.2±0.9, 48°85N×156°23E, h35km, mb4.2/1, Error ellipse: s-maj=25.6km s-min=10.1km az=143.0*

ISC 24 07:27:26.9±2.5, 48°95N±0°08×156°18E±0°.08, h32km±17km, n107, σ1♀45/110, mb3.9/15, MS3.7/6, 3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.74	359	*e*PN	Pn	07 27 50.0	-4.8
SKR				*i* S	Sn	07 28 13.4	-2.4
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,70nm,0.5s						
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
SKR				smax	smax		
	comp=N,920nm,0.5s						
SKR				smax	smax		
	comp=E,390nm,0.5s						
SKR	Severo-Kuril's	1.74	359	P	Pn	07 27 55.9	+1.1
SKR				S	Sb	07 28 19.4	-0.2
SKR	Severo-Kuril's	1.74	359	*e*P	Pn	07 27 50.0	-4.8
SKR				AMB	AMB	07 27 55.0	
	comp=E,90nm,0.5s						
SKR				AMB	AMB	07 27 55.0	
	comp=E,70nm,0.5s						
SKR				AMB	AMB	07 27 55.0	
	comp=E,170nm,0.5s						
SKR				*i* S	Sn	07 28 12.7	-3.1
SKR				A	A	07 28 18.4	
	comp=E,920nm,0.5s						
SKR				A	A	07 28 18.4	
	comp=E,390nm,0.5s						
PAU	Pauzhetka	2.55	9	PN	Pn	07 28 07.2	+1.2
PAU				S	Sn	07 28 38.5	+2.5
PAU	Pauzhetka	2.55	9	P	Pn	07 28 07.2	+1.2
PAU				S	Sn	07 28 38.5	+2.5
MIPR	Malaya Ipel'ka	3.35	6	P	Pn	07 28 18.0	+1.0
ASAK	Asacha	3.61	17	P	Pn	07 28 22.4	+1.8
ASAK				S	Sn	07 29 04.2	+2.1
MTVR	Mutnovka	3.76	19	P	Pn	07 28 23.1	+0.3
MTVR				S	Sn	07 29 07.0	+1.1
RUS	Russkaya	3.79	22	PN	Pn	07 28 22.5	-0.5
RUS				S	Sn	07 29 05.8	-0.6
RUS	Russkaya	3.79	22	P	Pn	07 28 22.5	-0.5
RUS				S	Sn	07 29 05.8	-0.6
RUS	Russkaya	3.79	22	*e*P	Pn	07 28 22.5	-0.5
RUS				*e*S	Sn	07 29 05.8	-0.6
GRL	Gorelyy	3.80	18	P	Pn	07 28 24.3	+1.0
APC	Apacha	4.03	8	P	Pn	07 28 28.3	+2.0
PEA0B	Petropavlovsk-	4.28	12	Pn	Pn	07 28 32.9	+3.2
PEA0B				*e*Sn	Sn	07 29 17.1	-1.3
PETK	Petropavlovsk-	4.28	12	PN	Pn	07 28 31.8	+2.1
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	Petropavlovsk-	4.28	12	Pn	Pn	07 28 31.8	+2.1
PETK	Petropavlovsk-	4.28	12	Pn	Pn	07 28 31.8	+2.1
	comp=Z,1.6nm,0.3s,baz=198,slow=11,SNR=12						
PET	Petropavlovsk	4.37	20	*e*PN	Pn	07 28 31.4	+0.5
PET				*e*S	Sn	07 29 22.4	+1.7
PET				smax	smax		
PET				smax	smax		
	comp=N,146nm,0.9s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
PET	Petropavlovsk	4.37	20	P	Pn	07 28 31.5	+0.5
PET				S	Sn	07 29 21.5	+0.8
PET	Petropavlovsk	4.37	20	*e*P	Pn	07 28 31.4	+0.5
PET				*e*S	Sn	07 29 22.4	+1.7
PET				A	A	07 29 40.6	
	comp=Z,150nm,0.8s						
UGLR	Uglovaya	4.58	20	P	Pn	07 28 34.9	+0.9
AVH	Avacha	4.61	19	P	Pn	07 28 36.2	+1.8
KOK	Koryaka	4.62	19	P	Pn	07 28 36.3	+1.8
KOK				S	Sn	07 29 30.1	+3.2
SMAR	Somma	4.62	20	P	Pn	07 28 35.7	+1.0
KRER	Koryakskii	4.65	19	P	Pn	07 28 36.6	+1.6
KRER				S	Sn	07 29 29.5	+1.5
SDLR	Sedlovina	4.66	20	P	Pn	07 28 35.7	+0.6
SDLR				S	Sn	07 29 28.8	+0.8
NLC	Nalytchevo	4.67	24	PN	Pn	07 28 33.8	-1.3
NLC	Nalytchevo	4.67	24	P	Pn	07 28 33.8	-1.3
NLC				S	Sn	07 29 26.2	-2.0
NLC	Nalytchevo	4.67	24	*e*P	Pn	07 28 33.8	-1.3
KRX	Arik	4.68	18	P	Pn	07 28 37.1	+1.7
KRX				S	Sn	07 29 32.0	+3.4
SPN	Mys Shipunski	4.81	29	S	Sn	07 29 30.1	-1.5
GNL	Ganaly	4.88	12	P	Pn	07 28 39.9	+1.8
MKZ	Mys Kozlova	6.59	29	PN	Pn	07 29 00.1	-1.3
MKZ	Mys Kozlova	6.59	29	P	Pn	07 29 00.1	-1.3
MKZ				S	Sn	07 30 10.9	-4.3
MKZ	Mys Kozlova	6.59	29	*e*P	Pn	07 29 00.1	-1.3
KZV	Kizimen	6.67	21	P	Pn	07 29 03.7	+0.9
KUR	Kuril'sk	6.78	240	*e*P	Pn	07 29 03.2	-0.9
KUR				AMB	AMB	07 29 04.8	
	comp=Z,90nm,0.7s						
KUR				*e*S	Sn	07 30 19.4	-0.8
KUR				A	A	07 30 34.8	
	comp=Z,110nm,0.8s						
TUMR	Tumrok	6.80	20	P	Pn	07 29 05.5	+1.1
KBTR	Krutoberegovo	8.31	27	PN	Pn	07 29 24.0	-1.1
KBTR	Krutoberegovo	8.31	27	P	Pn	07 29 24.0	-1.1
YUK	Yuzh-Kuril'sk	8.65	239	AMS	AMS	07 32 51.5	
	comp=Z,1μm,17.0s						
TYV	Tymovskoe	8.94	287	*e*P	Pn	07 29 33.0	-0.7
TYV				AMS	AMS	07 33 32.0	
	comp=Z,1μm,17.0s						
YSS	Yuzh-Sakhalins	9.23	263	*e*P	Pn	07 29 50.3	+13
JKA	Kamikawa-asahi	10.53	248	*e*P	Pn	07 29 57.3	+1.8
ASAJ	Asahikawa	10.53	248	*e*Pn	Pn	07 29 56.0	+0.5
	comp=Z,8.6nm,0.7s						
ASAJ	Asahikawa	10.53	248	Pn	Pn	07 29 57.3	+1.8
	comp=Z,1.3nm,0.3s,baz=85,slow=10,SNR=4.8						
NKL	Nikolayevsk	10.62	299	*e*rx	rx	07 33 50.0	
NKL				AMS	AMS	07 34 50.0	
	comp=Z,500nm,16.0s						
FX1	Attu Island--F	11.41	63	*e*Pn	Pn	07 30 05.6	-1.9
FX1				*e*Sn	Sn	07 32 05.2	-8.6
FX1	Attu Island--F	11.41	63	Pn	Pn	07 30 04.9	-2.6
	comp=Z,2.5nm,0.3s,baz=127,slow=20,SNR=14						
FX1				Sn	Sn	07 32 02.0	-12
	comp=Z,3.0nm,0.3s,baz=67,slow=18,SNR=7.7						
EKMR	Ekimchan	15.17	295	*e*P	Pn	07 30 57.0	-1.7
EKMR				AMB	AMB	07 31 08.1	
	comp=Z,4.0nm,0.5s						
USRK	Ussuriysk Arra	17.27	263	P	Pn	07 31 25.7	+0.3
	comp=Z,0.2nm,0.3s,baz=57,slow=10,SNR=5.8						
USRK				LR	LR	07 38 13.7	
	comp=Z,65nm,19.6s,baz=148,slow=38						
MJAR	Matsushiro Arr	18.05	233	*e*P	P	07 31 36.5	+1.1
MJAR	Matsushiro Arr	18.05	233	P	P	07 31 36.5	+1.1
MJAR	Matsushiro Arr	18.05	233	P	P	07 31 36.5	+1.1
	comp=Z,0.5nm,0.3s,baz=27,slow=14,SNR=4.1						
MJAR				LR	LR	07 38 41.1	
	comp=Z,54nm,20.8s,baz=70,slow=38						
KSRS	Korea Array	23.45	251	*e*P	P	07 32 32.5	-0.8
KSRS	Korea Array	23.45	251	P	P	07 32 32.5	-0.8
	comp=Z,1.6nm,0.6s,baz=55,slow=9.9,SNR=11						
KSAR	Wonju Array Be	23.48	251	*e*P	P	07 32 32.5	-1.1
KSAR	Wonju Array Be	23.48	251	P	P	07 32 32.5	-1.1
JNU	Nakatsue	24.62	239	LR	LR	07 43 01.0	
	comp=Z,22nm,20.1s,baz=229,slow=38						
TIXI	Tiksi	26.01	341	*i* P	P	07 32 56.2	-0.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	Tiksi	26.01	341	*e*P	P	07 32 56.2	-0.2
H11S1	WAKE ISLAND Hy	31.54	161	T	T	08 08 08.5	
	baz=349,slow=77,SNR=17						
H11S3	WAKE ISLAND Hy	31.55	161	T	T	08 07 45.8	
	baz=349,slow=77,SNR=29						
H11S2	WAKE ISLAND Hy	31.55	161	T	T	08 08 06.4	
	baz=349,slow=77,SNR=16						
ILAR	Eielson Array	33.54	41	*e*P	P	07 34 02.9	-0.3
ILAR	Eielson Array	33.54	41	P	P	07 34 03.0	-0.3
ILAR	Eielson Array	33.54	41	P	P	07 34 03.0	-0.3
	comp=Z,0.4nm,0.8s,baz=246,slow=7.1,SNR=6.0						
INK	Inuvik	38.68	34	*e*P	P	07 34 48.3	+1.2
INK	Inuvik	38.68	34	P	P	07 34 48.2	+1.2
INK	Inuvik	38.68	34	P	P	07 34 48.2	+1.2
	comp=Z,0.6nm,0.6s,baz=302,slow=5.0,SNR=5.0						
ZALV	Zalesovo Beam	43.03	305	LR	LR	07 53 57.4	
	comp=Z,37nm,18.1s,baz=249,slow=37						
MKAR	Makanchi Array	47.78	297	*e*P	P	07 35 59.8	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	47.78	297	*e*P	P	07 35 59.8	-1.0
MKAR	Makanchi Array	47.78	297	P	P	07 35 59.9	-1.0
MKAR	Makanchi Array	47.78	297	P	P	07 35 59.9	-1.0
	comp=Z,1.2nm,0.7s,baz=66,slow=8.4,SNR=12						
MKAR				LR	LR	07 57 27.7	
	comp=Z,75nm,18.3s,baz=0.5,slow=38						
KURK	Kurchatov	47.88	303	⇓*i* P	P	07 35 59.1	-2.4
KURK	Kurchatov	47.88	303	⇓*i* P	P	07 35 59.1	-2.4
YKA	Yellowknife Ar	47.92	39	*e*P	P	07 36 01.8	+0.1
YKA	Yellowknife Ar	47.92	39	P	P	07 36 01.8	+0.1
YKA	Yellowknife Ar	47.92	39	P	P	07 36 01.7	+0.1
	comp=Z,0.7nm,0.8s,baz=297,slow=7.5,SNR=7.1						
ARU	Arti	54.79	318	P	P	07 36 52.3	-0.8
ARU	Arti	54.79	318	*e*P	P	07 36 52.3	-0.8
CMAR	Chiang Mai Arr	54.88	257	*e*P	P	07 36 54.6	+0.2
CMAR	Chiang Mai Arr	54.88	257	P	P	07 36 54.5	+0.2
CMAR	Chiang Mai Arr	54.88	257	P	P	07 36 54.5	+0.2
	comp=Z,0.9nm,0.4s,baz=37,slow=8.3,SNR=4.7						
SUMG	Summit	58.34	5	*i* P	P	07 37 31.7	+13
	comp=Z,8.1nm,0.8s						
ABKAR	Akbulak array	58.59	310	*e*P	P	07 37 19.6	-0.7
	comp=Z,1.2nm,0.6s						
PDAR	Pinedale Array	61.79	56	P	P	07 37 45.2	+2.6
PDAR	Pinedale Array	61.79	56	P	P	07 37 45.2	+2.6
	comp=Z,0.4nm,0.8s,baz=17,slow=3.8,SNR=2.8						
FINES	FINESS Array B	62.91	336	P	P	07 37 48.2	-1.2
FINES	FINESS Array B	62.91	336	P	P	07 37 48.2	-1.2
	comp=Z,2.7nm,0.9s,baz=36,slow=7.1,SNR=6.9						
NOA	NORSAR Array B	66.79	342	LR	LR	08 12 10.8	
	comp=Z,37nm,19.1s,baz=290,slow=40						
KIV	Kislovodsk	70.72	315	*e*P	P	07 38 31.5	-8.1
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBZ	Khabaz	70.79	315	LR	LR	08 14 16.9	
	comp=Z,41nm,19.2s,baz=12,slow=40						
ASAR	Alice Springs	74.98	201	*e*P	P	07 39 09.6	+4.8
ASAR	Alice Springs	74.98	201	P	P	07 39 09.6	+4.8
ASAR	Alice Springs	74.98	201	P	P	07 39 09.6	+4.8
	comp=Z,0.2nm,0.6s,baz=10,slow=5.7,SNR=3.1						
CLL	Collm	75.28	337	*e*P	P	07 39 06.0	-0.3
CLL	Collm	75.28	337	*e*P	P	07 39 06.0	-0.3
CLL	Collm	75.28	337	*e*P	P	07 39 06.0	-0.3
KHC	Kasperske Hory	77.12	336	⇓*e*P	P	07 39 17.3	+0.5
KHC	Kasperske Hory	77.12	336	*e*P	P	07 39 17.3	+0.5
GERES	GERESS Array B	77.35	336	*e*P	P	07 39 18.9	+0.7
GERES	GERESS Array B	77.35	336	P	P	07 39 18.9	+0.7
GERES	GERESS Array B	77.35	336	P	P	07 39 18.9	+0.7
	comp=Z,0.5nm,0.6s,baz=32,slow=5.3,SNR=7.0						
GERES				LR	LR	08 18 46.5	
	comp=Z,52nm,18.9s,baz=334,slow=40						
BRTR	Keskin Array B	78.16	318	P	P	07 39 23.4	+0.5
BRTR	Keskin Array B	78.16	318	P	P	07 39 23.4	+0.5
	comp=Z,1.5nm,1.0s,baz=64,slow=2.9,SNR=5.4						

DJA 24 07:41:47.0±2.7, 1°S±32°×10°2E±4°.4, h116km±58km, M3.7/3, MLv3.7/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.12	269	P	Pn	07 42 10.2	+0.3
PDSI				S	Sn	07 42 28.4	+1.1
PPI	Padang Panjang	1.26	290	P	Pn	07 42 11.8	+0.4
MNSI	Mandailing Nat	2.62	310	P	Pn	07 42 28.3	+0.2

*IDC **24** 08:36:40.7±3.1, 36°37S×100°16W, h0km, mb3.8/8, mb1 4.1/8, mb1mx4.0/19, mbtmp3.8/8, MS3.7/11, Ms1 3.7/11, ms1mx3.6/18, Error ellipse: s-maj=89.2km s-min=25.0km az=29.0*
*ISCJB **24** 08:36:41.1±2.2, 36°3S±0°.4×100°1W±0°.3, h10km, mb3.7/8, MS3.6/12, Error ellipse: s-maj=63.3km s-min=18.8km az=30.9*

ISC 24 08:36:41.8±3.1, 36°5S±0°.5×100°2W±0°.4, h10km, n23, σ1♀42/8, mb3.8/7, MS3.8/12, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	17.68	86	T	T	08 58 48.7	
	baz=254,slow=67,SNR=31						
H03N3	Juan Fernandez	17.68	87	T	T	08 58 48.7	
	baz=254,slow=67,SNR=32						
H03N1	Juan Fernandez	17.70	86	T	T	08 58 51.6	
	baz=254,slow=67,SNR=30						
PLCA	Paso Flores	23.50	110	P	P	08 41 50.6	-1.3
	3.8nm,0.9s,baz=266,slow=8.3,SNR=3.1						
PLCA				LR	LR	08 48 29.3	
	comp=Z,129nm,19.6s,baz=286,slow=30						
CFAA	Coronel Fontan	26.84	89	P	P	08 42 24.7	+2.1
	0.3nm,0.7s,baz=261,slow=8.5,SNR=3.6						
CFAA				LR	LR	08 49 17.0	
	comp=Z,7.7nm,21.9s,baz=266,slow=28						
USHA	Ushuaia	28.46	140	LR	LR	08 51 13.0	
	comp=Z,329nm,18.8s,baz=230,slow=31						
LPAZ	La Paz	34.80	63	P	P	08 43 32.9	-0.6
	2.7nm,1.0s,baz=215,slow=9.6,SNR=5.6						
LPAZ				LR	LR	08 54 34.6	
	comp=Z,63nm,21.7s,baz=227,slow=31						
CPUP	Villa Florida	37.69	87	LR	LR	08 56 46.0	
	comp=Z,68nm,18.5s,baz=49,slow=32						
SIV	San Ignacio	40.21	70	P	P	08 44 18.5	-0.2
	1.5nm,0.7s,baz=247,slow=13,SNR=6.6						
ROSC	El Rosal	47.68	36	LR	LR	09 01 36.0	
	comp=Z,118nm,18.6s,baz=191,slow=31						
BDFB	Brasilia	50.59	80	LR	LR	09 04 59.7	
	comp=Z,103nm,19.2s,baz=54,slow=34						
VNDA	Vanda	56.43	195	LR	LR	09 07 11.1	
	comp=Z,40nm,18.6s,baz=9.7,slow=32						
TXAR	Lajitas Array	65.51	357	P	P	08 47 25.0	-0.3
	0.6nm,0.8s,baz=161,slow=8.0,SNR=5.5						
RCBR	Riachuelo	65.94	79	LR	LR	09 16 25.6	
	comp=Z,55nm,20.2s,baz=82,slow=36						
NVAR	Mina Array Bea	76.36	345	P	P	08 48 31.7	+0.5
	0.9nm,1.0s,baz=191,slow=7.9,SNR=3.8						
PDAR	Pinedale Array	79.30	353	P	P	08 48 46.9	-0.6
	0.8nm,0.8s,baz=150,slow=5.8,SNR=6.6						
STKA	Stephens Creek	90.77	229	LR	LR	09 21 21.6	
	comp=Z,71nm,21.9s,baz=186,slow=30						
BOSA	Boshof	97.43	134	LR	LR	09 29 32.5	
	comp=Z,35nm,21.2s,baz=344,slow=32						
YKA	Yellowknife Ar	99.28	353	P	Pdif	08 50 24.8	+1.7
	0.2nm,0.8s,baz=171,slow=4.9,SNR=3.2						
TSUM	Tsumeb	99.31	122	LR	LR	09 26 05.9	
	comp=Z,35nm,21.5s,baz=67,slow=30						
H01W1	Cape Leeuwin H	102.15	208	T	T	10 45 45.6	
	baz=153,slow=75						
H01W2	Cape Leeuwin H	102.15	208	T	T	10 45 45.1	
	baz=153,slow=75,SNR=3.6						
H01W3	Cape Leeuwin H	102.17	208	T	T	10 45 47.0	
	baz=153						

*IDC **24** 09:11:54.4±2.5, 43°87N×17°26E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/26, mbtmp3.8/5, ML3.3/2, Error ellipse: s-maj=45.4km s-min=21.9km az=41.0*
*ROM **24** 09:11:54.9±0.1, 43°68N×17°26E, h10km, Ml3.6/30, Error ellipse: s-maj=3.5km s-min=1.3km az=97.0*
*CSEM **24** 09:11:55.4±0.1, 43°75N×17°09E, h10km, ML3.8/5, Ms3.6, Error ellipse: s-maj=3.8km s-min=3.6km az=98.0*
*LDG **24** 09:11:55.0±0.1, 43°81N×17°10E, h2km, Ml3.6/29, Error ellipse: s-maj=2.5km s-min=1.6km az=31.0*
*BEO **24** 09:11:56.3±0.5, 43°81N×17°17E, h5km, ML3.4/1*
*VIE **24** 09:11:57.5±0.6, 43°92N×17°29E, h10km, mb3.3/15, ML3.4/13, Ms3.6/3, Error ellipse: s-maj=5.3km s-min=4.6km az=140.0 80 km NE of Split*
*PRU **24** 09:11:57.7, 43°95N×17°08E, h0km*

ISC 24 09:11:55.3±1.1, 43°79N±0°02×17°14E±0°02, h15km±8km, n292, σ1♀69/348, mb3.9/3, 30C-18D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.95	2	*e*Pg	Pn	09 12 15.2	+1.0
BLY	Banja Luka	0.95	2	Pn	Pn	09 12 15.0	+0.8
BLY				Sn	Sn	09 12 29.7	+2.1
BLY	Banja Luka	0.95	2	Pn	Pn	09 12 15.0	+0.8
BLY				Sn	Sn	09 12 29.7	+2.1
STON	Ston	1.01	156	*i* Pg	Pb	09 12 13.6	-0.8
STON				Sg	Sn	09 12 29.2	+0.4
STON	Ston	1.01	156	*e*Pg	Pb	09 12 13.8	-0.6
STON				*e*Sg	Sg	09 12 27.6	-0.3
STON	Ston	1.01	156	*i* Pg	Pb	09 12 13.6	-0.8
STON				Sg	Sn	09 12 29.2	+0.4
UDBI	Udbina	1.23	307	*i* Pn	Pg	09 12 19.4	+0.3
UDBI				Sg	Sg	09 12 38.4	+3.1
UDBI	Udbina	1.23	307	*i*

PKSM epg Pg 09 12 46.9 +1.0
BEHE Becsehely 2.69 355⇓ epn Pn 09 12 40.2 +2.2
BEHE esn Sn 09 13 12.0 +1.7
BAI Bari 2.69 184 ePn Pn 09 12 37.8 -0.3
BAI eSn Sn 09 13 09.7 -0.7
CDT Castel del Mon 2.79 194 ePn Pn 09 12 38.5 -0.9
LPEL Lama dei Pelig 2.79 232 Pn Pn 09 12 40.5 +1.0
comp=Z,110nm,0.3s
LPEL Lama dei Pelig 2.79 232 Pn Pn 09 12 40.5 +1.0
comp=Z,110nm,0.3s
GATE Gambatesa 2.81 217 Pn Pn 09 12 40.7 +0.9
comp=Z,93nm,0.7s
GATE Gambatesa 2.81 217 Pn Pn 09 12 40.7 +0.9
comp=Z,93nm,0.7s
MRVN Minervino Murg 2.82 195 Pn Pn 09 12 38.9 -1.0
MRVN Minervino Murg 2.82 195 Pn Pn 09 12 38.9 -1.0
SKDS Skadanscina 2.84 309 *i* Pn Pn 09 12 42.1 +2.0
SKDS *i* Sn Sb 09 13 17.5 -2.7
SKDS
comp=Z,69nm,0.2s
SKDS Skadanscina 2.84 309 *i* Pn Pn 09 12 42.1 +2.0
SKDS *i* Sn Sb 09 13 17.5 -2.7
comp=Z,69nm,0.2s
TERO Teramo 2.84 247 Pn Pn 09 12 41.1 +0.9
comp=Z,135nm,0.6s
TERO Teramo 2.84 247 Pn Pn 09 12 41.1 +0.9
comp=Z,135nm,0.6s
VNDS Vrh nad Dolski 2.89 324 *i* Pn Pn 09 12 42.5 +1.7
VNDS
comp=Z,79nm,0.5s
CING Cingoli 2.90 263 Pn Pn 09 12 42.2 +1.2
comp=Z,98nm,0.6s
CING Cingoli 2.90 263 Pn Pn 09 12 42.2 +1.2
comp=Z,98nm,0.6s
PKS9 Tamasi 2.91 16⇑ *e* Pn 09 12 42.5 +1.5
PKS9 *e* 09 12 50.5
PKS9 *e* 09 13 35.0
AMUR Altamura 2.91 188 Pn Pn 09 12 40.4 -0.7
AMUR Altamura 2.91 188 Pn Pn 09 12 40.4 -0.7
LJU Ljubljana 2.92 321 *i* Pn Pb 09 12 44.5 -2.5
LJU Ljubljana 2.92 321 *i* Pn Pb 09 12 44.5 -2.5
SELS Selova 2.95 100 *e*Pn Pn 09 12 43.2 +1.6
SELS Selova 2.95 100 *e*Pn Pn 09 12 43.2 +1.6
INTR Introdacqua 2.97 234 Pn Pn 09 12 42.5 +0.5
INTR Introdacqua 2.97 234 Pn Pn 09 12 42.5 +0.5
SVIS Svilajnac 2.98 79 ePn Pn 09 12 43.4 +1.5
SVIS eSn Sn 09 13 17.7 +0.4
PE1 Pezze di Greco 3.00 176 ePn Pn 09 12 41.8 -0.4
PE1 eSn Sn 09 13 16.7 -1.1
NOCI Noci 3.00 181 Pn Pn 09 12 41.8 -0.6
comp=Z,200nm,0.2s
NOCI Noci 3.00 181 Pn Pn 09 12 41.8 -0.6
comp=Z,200nm,0.2s
CAMP Campotosto 3.01 247 Pn Pn 09 12 44.1 +1.6
CAMP Campotosto 3.01 247 Pn Pn 09 12 44.1 +1.6
SMA1 SAN MARTINO 3.02 249 Pn Pn 09 12 44.1 +1.5
comp=Z,129nm,0.4s
FAGN Fagnano 3.02 241 Pn Pn 09 12 43.7 +1.0
comp=Z,320nm,0.4s
FAGN Fagnano 3.02 241 Pn Pn 09 12 43.7 +1.0
comp=Z,320nm,0.4s
JAVS Javornik 3.03 315 *i* Pn Pb 09 12 46.5 -2.6
JAVS Javornik 3.03 315 *i* Pn Pb 09 12 46.5 -2.6
FDMO Fiordimonte 3.05 257 Pn Pn 09 12 43.9 +0.9
comp=Z,110nm,0.7s
FDMO Fiordimonte 3.05 257 Pn Pn 09 12 43.9 +0.9
comp=Z,110nm,0.7s
ARVD Arcevia 3.06 266 Pn Pn 09 12 44.5 +1.3
comp=Z,93nm,0.7s
ARVD Arcevia 3.06 266 Pn Pn 09 12 44.5 +1.3
comp=Z,93nm,0.7s
PKS2 Kecel 3.07 28⇑ *e* Pn 09 12 43.6 +0.4
PKS2 *e* 09 13 20.4
TRI Trieste 3.08 310 Pn Pn 09 12 45.8 +2.5
comp=Z,140nm,0.7s
TRI Trieste 3.08 310 Pn Pn 09 12 45.8 +2.5
comp=Z,140nm,0.7s
NRCA Norcia 3.09 253 Pn Pn 09 12 44.7 +1.0
comp=Z,17nm,0.4s
NRCA Norcia 3.09 253 Pn Pn 09 12 44.7 +1.0
comp=Z,17nm,0.4s
ACER Acerenza 3.13 197 Pn Pn 09 12 44.9 +0.7
ACER Acerenza 3.13 197 Pn Pn 09 12 44.9 +0.7
RM29 Verrico (Monte 3.13 248 Pn Pn 09 12 45.8 +1.5
SGG Gregorio Mates 3.15 221 Pn Pn 09 12 45.5 +1.0
comp=Z,118nm,0.6s
SGG Gregorio Mates 3.15 221 Pn Pn 09 12 45.5 +1.0
comp=Z,118nm,0.6s
MATE Matera 3.16 186 Pn Pn 09 12 43.9 -0.6
comp=Z,152nm,0.6s
MATE Matera 3.16 186 Pn Pn 09 12 43.9 -0.6
comp=Z,152nm,0.6s
FSSB Fossombrone 3.17 270 Pn Pn 09 12 46.0 +1.4
comp=Z,184nm,0.5s
FSSB Fossombrone 3.17 270 Pn Pn 09 12 46.0 +1.4
comp=Z,184nm,0.5s
CERA Filignano 3.18 227 Pn Pn 09 12 47.3 +2.4
comp=Z,152nm,0.7s
CERA Filignano 3.18 227 Pn Pn 09 12 47.3 +2.4
comp=Z,152nm,0.7s
PERS Pernice 3.18 334 *i* Pn Pn 09 12 46.4 +1.6
PERS *i* Sn Sn 09 13 23.0 +0.4
PERS Pernice 3.18 334 *i* Pn Pn 09 12 46.4 +1.6
PERS *i* Sn Sn 09 13 23.0 +0.4
CESI CESI - Serrava 3.19 257 Pn Pn 09 12 46.0 +1.0
CESI CESI - Serrava 3.19 257 Pn Pn 09 12 46.0 +1.0
VOY Vojsko 3.21 315 *e*Pn Pn 09 12 48.3 +2.9
VOY eSn Sn 09 13 27.2 +3.8
VOY Vojsko 3.21 315 *e*Pn Pn 09 12 48.3 +2.9
VOY eSn Sn 09 13 27.2 +3.8
SDI San Donato 3.22 231 Pn Pn 09 12 46.3 +0.9
comp=Z,20nm,0.3s
SDI San Donato 3.22 231 Pn Pn 09 12 46.3 +0.9
comp=Z,20nm,0.3s
VVLD Villa Vallelon 3.23 235 Pn Pn 09 12 46.0 +0.5
comp=Z,76nm,0.5s
VVLD Villa Vallelon 3.23 235 Pn Pn 09 12 46.0 +0.5
comp=Z,76nm,0.5s
LNSS Leonessa 3.23 250 Pn Pn 09 12 46.8 +1.3
comp=Z,153nm,0.4s
LNSS Leonessa 3.23 250 Pn Pn 09 12 46.8 +1.3
comp=Z,153nm,0.4s
SOKA Soboth 3.25 333⇑ *i*Pn Pn 09 12 47.3 +1.5
comp=Z,18nm,0.4s,SNR=42
SOKA ⇑*e*Sn Sn 09 13 24.4 +0.2
comp=Z,18nm,0.3s
SOKA Soboth 3.25 333 Pn Pn 09 12 47.3 +1.5
comp=Z,18nm,0.4s,SNR=42
SOKA Sn Sn 09 13 24.4 +0.2
comp=Z,18nm,0.3s
TAR1 Taranto 3.27 178 *e*Pn Pn 09 12 45.7 -0.3
PTQR Pietraquaria 3.27 238 Pn Pn 09 12 48.1 +2.0
comp=Z,7.0nm,0.4s
PTQR Pietraquaria 3.27 238 Pn Pn 09 12 48.1 +2.0
comp=Z,7.0nm,0.4s
MRLC Muro Lucano 3.27 203 Pn Pn 09 12 45.6 -0.5
MRLC Muro Lucano 3.27 203 Pn Pn 09 12 45.6 -0.5
OBKA Obir 3.28 327⇑ *i*Pn Pn 09 12 48.9 +2.7
comp=Z,4.7nm,0.2s,SNR=7.2
OBKA ⇓*i*Sn Sb 09 13 30.2 -2.7
OBKA Obir 3.28 327 Pn Pn 09 12 48.9 +2.7
comp=Z,4.7nm,0.2s,SNR=7.2
OBKA Sn Sb 09 13 30.2 -2.7
PKS6 Bocsa 3.29 31 *e* Sn 09 13 25.6 +0.6
FIAM Fiamignano 3.32 244 Pn Pn 09 12 48.5 +1.7
comp=Z,124nm,0.4s
FIAM Fiamignano 3.32 244 Pn Pn 09 12 48.5 +1.7
comp=Z,124nm,0.4s
MCRV Calabrutti - M 3.35 207 Pn Pn 09 12 46.3 -0.9
comp=Z,101nm,0.5s
MCRV Calabrutti - M 3.35 207 Pn Pn 09 12 46.3 -0.9
comp=Z,101nm,0.5s
PIEI Pieia 3.35 267 Pn Pn 09 12 48.7 +1.5
comp=Z,106nm,0.9s
PIEI Pieia 3.35 267 Pn Pn 09 12 48.7 +1.5
comp=Z,106nm,0.9s
PKST T"s 3.52 10⇑ epn Pn 09 12 51.1 +1.6
PKST esn Sn 09 13 29.1 -1.8
MNS Montasola 3.56 248 Pn Pn 09 12 51.4 +1.4
comp=Z,75nm,0.4s
MNS Montasola 3.56 248 Pn Pn 09 12 51.4 +1.4
comp=Z,75nm,0.4s
CDRU Civita di Ruta 3.57 203 Pn Pn 09 12 49.5 -0.8
comp=Z,85nm,1.0s
CDRU Civita di Ruta 3.57 203 Pn Pn 09 12 49.5 -0.8
comp=Z,85nm,1.0s
MCEL Monticello 3.61 197 Pn Pn 09 12 50.3 -0.5
comp=Z,67nm,0.7s
MCEL Monticello 3.61 197 Pn Pn 09 12 50.3 -0.5
comp=Z,67nm,0.7s
ARSA Arzberg 3.64 342 *i* Pn Pn 09 12 52.7 +1.6
comp=Z,67nm,0.5s,SNR=91
ARSA Arzberg 3.64 342 Pn Pn 09 12 52.7 +1.6
comp=Z,46nm,0.9s
ARSA Arzberg 3.64 342 Pn Pn 09 12 52.7 +1.6
comp=Z,46nm,0.9s
SKO Skopje 3.65 119 *e*Pn Pn 09 12 53.8 +2.6
SKO *e*Sg Sg 09 13 50.4 -2.0
SKO Skopje 3.65 119 *e*Pn Pn 09 12 54.2 +3.0
PKSN Nyarlorinc 3.65 31 *e*pn Pn 09 12 52.1 +0.9
PKSN esn Sn 09 13 34.3 +0.3
CSKK Csˆtkako 3.65 12⇓ epn Pn 09 12 53.0 +1.7
BZS Buzias 3.67 59⇑ *i*P Pn 09 12 52.5 +0.9
BZS Buzias 3.67 59⇑ *i*P Pn 09 12 52.5 +0.9
BZS S Sn 09 13 34.8 +0.2
VINO Villanova 3.68 313 Pn Pn 09 12 53.9 +2.2
comp=Z,162nm,0.7s
VINO Villanova 3.68 313 Pn Pn 09 12 53.9 +2.2
comp=Z,162nm,0.7s
PKSG 3.70 13⇑ epn Pn 09 12 53.4 +1.4
PKSG esn Sn 09 13 33.2 -2.1
PTCC Patocco-Chiusa 3.74 316 Pn Pn 09 12 55.2 +2.6
comp=Z,71nm,0.9s
PTCC Patocco-Chiusa 3.74 316 Pn Pn 09 12 55.2 +2.6
comp=Z,71nm,0.9s
ACOM Acomizza, Ital 3.76 318 Pn Pn 09 12 55.8 +2.8
comp=Z,126nm,0.9s
ACOM Acomizza, Ital 3.76 318 Pn Pn 09 12 55.8 +2.8
comp=Z,126nm,0.9s
SOP Sopron 3.91 354⇑ epn Pn 09 12 56.6 +1.8
SOP *e* 09 13 42.0
BUD Budapest 3.92 19 *e* Pn 09 12 55.9 +1.0
SALB San Lorenzo Be 3.96 189 Pn Pn 09 12 55.4 -0.2
comp=Z,49nm,0.2s
SALB San Lorenzo Be 3.96 189 Pn Pn 09 12 55.4 -0.2
comp=Z,49nm,0.2s
ZAPS Zavoj 4.03 96 *e*Pn Pn 09 12 59.0 +2.5
ZAPS eSn Sn 09 13 45.0 +1.6
CONA Conrad Observa 4.23 348⇑ *i*Pn Pn 09 13 00.9 +1.6
comp=Z,13nm,0.2s,SNR=70
CONA ⇑*e*Sn Sn 09 13 49.1 +0.6
comp=Z,22nm,0.4s
CONA Conrad Observa 4.23 348 Pn Pn 09 13 00.9 +1.6
comp=Z,13nm,0.2s,SNR=70
CONA Sn Sn 09 13 49.1 +0.6
comp=Z,22nm,0.4s
KBA Koelnbreinsper 4.23 322⇑ *i*Pn Pn 09 13 02.6 +3.1
comp=Z,6.1nm,0.4s,SNR=7.7
KBA Koelnbreinsper 4.23 322 Pn Pn 09 13 02.6 +3.1
comp=Z,6.1nm,0.4s,SNR=7.7
GZR Gura Zlata 4.33 66⇓ *i*P Pn 09 13 01.5 +0.8
GZR Gura Zlata 4.33 66⇓ *i*P Pn 09 13 01.5 +0.8
GZR S Sn 09 13 51.0 +0.1
FNA Florina 4.35 132 *e*P Pn 09 13 03.5 +2.6
ABTA Abfaltersbach 4.41 314⇓ *i*Pn Pn 09 13 04.1 +2.4
comp=Z,3.6nm,0.1s,SNR=20
ABTA ⇓*e*Sn Sn 09 13 56.1 +3.4
comp=Z,7.9nm,0.3s
ABTA Abfaltersbach 4.41 314 Pn Pn 09 13 04.1 +2.4
comp=Z,3.6nm,0.1s,SNR=20
ABTA Sn Sn 09 13 56.1 +3.4
comp=Z,7.9nm,0.3s
SRE Strehaia 4.44 77⇓ *i*P Pn 09 13 04.2 +2.1
SRE Strehaia 4.44 77⇓ *i*P Pn 09 13 04.2 +2.1
MOA Molln 4.53 335⇑ *i*Pn Pn 09 13 06.0 +2.7
comp=Z,23nm,0.3s,SNR=53
MOA ⇓*i*Sn Sn 09 13 59.1 +3.4
MOA Molln 4.53 335 Pn Pn 09 13 06.0 +2.7
comp=Z,23nm,0.3s,SNR=53
MOA Sn Sn 09 13 59.1 +3.4
PSZ Piszkesteto 4.55 24⇑ *i*P Pn 09 13 04.5 +0.8
PSZ Piszkesteto 4.55 24⇑ *i*P Pn 09 13 04.5 +0.8
PSZ S Sn 09 13 56.0 -0.3
PSZ Piszkesteto 4.55 24⇑ epn Pn 09 13 04.5 +0.8
PSZ esn Sn 09 13 55.2 -1.1
VTS Vitosha 4.59 103 *e*Pn Pn 09 13 06.5 +2.1
VTS eSn Sn 09 13 59.3 +1.7
VTS Vitosha 4.59 103⇓ *i*P Pn 09 13 06.9 +2.5
VTS Vitosha 4.59 103 *e*Pn Pn 09 13 06.5 +2.1
VTS Vitosha 4.59 103⇓ *i*P Pn 09 13 06.9 +2.5
VTS S Sn 09 13 59.0 +1.4
SMOL Smolenice 4.72 2 *e*PN Pn 09 13 07.5 +1.5
SMOL eSN Sn 09 13 59.1 -1.4
SMOL Smolenice 4.72 2 *e*Pn Pn 09 13 07.5 +1.5
SMOL eSn Sn 09 13 59.1 -1.4
GRG Griva 4.82 124 *e*P Pn 09 13 09.5 +2.2
IGT Igoumenitsa 4.88 150 *e*P Pn 09 13 08.5 +0.3
KZN Kozani 4.90 134 *e*P Pn 09 13 10.5 +2.0
DRGR 4.94 51⇓ *i*P Pn 09 13 10.1 +1.1
DRGR 4.94 51⇓ *i*P Pn 09 13 10.1 +1.1
DRGR S Sn 09 14 05.2 -0.8
KNT Kendrikon 5.00 120 *e*P Pn 09 13 12.0 +2.1
WATA Walderalm 5.27 314⇑ *i*Pn Pn 09 13 17.0 +3.3
comp=Z,17nm,0.2s,SNR=13
WATA Walderalm 5.27 314 Pn Pn 09 13 17.0 +3.3
comp=Z,17nm,0.2s,SNR=13
MMB Musomiste 5.33 112⇑ *i*P Pn 09 13 18.9 +4.5
LIT Litokhoron 5.43 131 *e*P Pn 09 13 17.0 +1.2
HORT Hortiatis 5.46 124 *e*P Pn 09 13 18.5 +2.3
SRS Serrai 5.47 117 *e*P Pn 09 13 19.0 +2.7
MOTA Moosalm 5.53 312⇓ *i*Pn Pn 09 13 20.5 +3.3
comp=Z,7.8nm,0.2s,SNR=28
VRAC Vranov 5.53 356⇑ *i*P Pn 09 13 18.7 +1.6
VRAC Vranov 5.53 356⇑ *i*P Pn 09 13 18.7 +1.6
VRAC S Sn 09 14 19.1 -1.2
NVR Nevrokopi 5.53 114 *e*P Pn 09 13 20.0 +2.9
FETA Feichten 5.55 308⇑ *i*Pn Pn 09 13 20.8 +3.3
comp=Z,3.1nm,0.3s
FETA ⇑*i*Sn Sn 09 14 26.4 +5.3
comp=Z,6.5nm,0.4s
ARR Arges 5.58 71⇑ *i*P Pn 09 13 21.0 +3.2
THL Klokotos Trika 5.58 138 *e*P Pn 09 13 19.5 +1.7
GERES GERESS Array B 5.58 336 Pn Pn 09 13 19.9 +2.0
comp=Z,1.5nm,0.3s,baz=153,slow=13,SNR=20
GERES Sn Sn 09 14 22.1 +0.3
comp=Z,1.8nm,0.3s,baz=149,slow=24,SNR=3.4
TREC Trest 5.62 349 *e*PN Pn 09 13 20.8 +2.5
TREC Trest 5.62 349 Pn Pn 09 13 20.8 +2.5
TRPA Tarpa 5.74 39⇓ *i*P Pn 09 13 22.0 +2.1
TRPA Tarpa 5.74 39 S Sn 09 14 22.4 -3.1
TRPA Tarpa 5.74 39⇓ *i*P Pn 09 13 22.0 +2.1
RETA Reutte 5.80 312⇑ *i*Pn Pn 09 13 23.8 +2.9
comp=Z,5.1nm,0.3s,SNR=9.7
RETA ⇓*e*Sn Sn 09 14 32.9 +5.8
comp=Z,7.3nm,0.3s
PLG Polygyros 5.80 124 *e*P Pn 09 13 23.5 +2.6
KHC Kasperske Hory 5.88 336 *e*PN Pn 09 13 24.1 +2.2
KHC *e*SN Sn 09 14 28.6 -0.4
KHC Kasperske Hory 5.88 336 Pn Pn 09 13 24.1 +2.2
KHC Sn Sn 09 14 28.6 -0.4
VOIR 5.88 71⇑ *i*P Pn 09 13 25.1 +3.2
CRVS Cervenica-Dubn 5.92 29 *e*PN Pn 09 13 24.3 +1.9
CRVS *e*SN Sn 09 14 27.0 -2.9
CRVS Cervenica-Dubn 5.92 29 *e*Pn Pn 09 13 24.3 +1.9
MORC Moravsky Berou 5.99 2⇑ *i*P Pn 09 13 25.5 +2.0
MORC Moravsky Berou 5.99 2 *e*Pn Pn 09 13 25.4 +2.0
MORC *e*SN Sn 09 14 30.8 -1.0
MORC S Sn 09 14 32.4 +0.6
EVR Evrytania 6.00 143 *e*P Pn 09 13 24.0 +0.3
PDO Prodromos 6.02 148 *e*P Pn 09 13 24.0 +0.2
MAKR Makrakomi, Fth 6.07 140 *e*P Pn 09 13 26.0 +1.4
PGF Pioggiola 6.08 261 *e*Pn Pn 09 13 23.5 -1.3
PGF *e*Sn Sn 09 14 28.0 -6.2
comp=Z,6.1nm,0.4s
PGF Pioggiola 6.08 261 *e*Pn Pn 09 13 23.5 -1.3
KAVA Kavala 6.13 115 *e*P Pn 09 13 28.0 +2.7
OUR Ouranopolis 6.15 122 *e*P Pn 09 13 28.0 +2.4
AGG Agios Georgios 6.16 139 *e*P Pn 09 13 27.0 +1.2
VLS Valsamata 6.19 154 *e*P Pn 09 13 25.5 -0.6
PAIG Paliouri 6.22 126 *e*P Pn 09 13 28.0 +1.4
PCP Piancastagn 6.23 280 P Pn 09 13 26.5 -0.2
KOLS Kolonicke sedl 6.25 33 *e*SN Sn 09 14 32.8 -5.2
STHS Stebnicka Huta 6.29 25 *e*PN Pn 09 13 30.4 +2.8
STHS *e*SN Sn 09 14 39.4 +0.2
XOR Xorichti 6.33 132 *e*P Pn 09 13 28.5 +0.3
NEO Neokhori 6.39 132 *e*P Pn 09 13 30.0 +1.0
PRU Pruhonice 6.45 345 *e*PN Pn 09 13 32.6 +3.0
PRU *e*SN Sn 09 14 41.6 -1.3
PRU Pruhonice 6.45 345 Sn Sn 09 14 41.6 -1.3
DPC Dobruska-Polom 6.58 355 *e*PN Pn 09 13 33.8 +2.2
DPC *e*SN Sn 09 14 45.6 -0.7
DPC Dobruska-Polom 6.58 355 Pn Pn 09 13 33.8 +2.2
DPC Sn Sn 09 14 45.6 -0.7
KALE Kalithea 6.58 143 *e*P Pn 09 13 32.5 +0.9
SKIA Skiathos 6.63 132 *e*P Pn 09 13 32.5 +0.4
DSF Desfina 6.74 141 *e*P Pn 09 13 35.5 +1.7
SBF Sospel 7.02 274 *e*Pn Pn 09 13 36.6 -1.0
SBF *e*Sn Sn 09 14 49.9 -7.3
comp=Z,12nm,0.3s
SBF Sospel 7.02 274 *e*Pn Pn 09 13 36.6 -1.0
MRKA Markates 7.03 134 *e*P Pn 09 13 39.0 +1.3
GUR Goura 7.05 144 *e*P Pn 09 13 37.5 -0.6
BRG Berggiesshubel 7.41 344 *e*(P) Pn 09 13 49.0 +6.2
comp=Z,2.0nm,0.5s
BRG *e* 09 15 24.7
BRG *e* 09 15 36.4
comp=Z,9.2nm,1.2s
MBDF Montbardon 7.50 281 *e*Pn Pn 09 13 43.2 -1.1
MBDF *e*Sn Sn 09 15 01.9 -7.3
comp=Z,15nm,0.5s
MBDF Montbardon 7.50 281 *e*Pn Pn 09 13 43.2 -1.1
LPG La Plagne 7.61 287 *e*Pn Pn 09 13 44.7 -1.1
LPG *e*Sn Sn 09 15 04.5 -7.4
comp=Z,16nm,0.4s
LPG La Plagne 7.61 287 *e*Pn Pn 09 13 44.7 -1.1
FRF La Foret Royal 7.61 272 *e*Pn Pn 09 13 44.5 -1.2
SNR=1.0
FRF *e*Sn Sn 09 15 04.4 -7.3
comp=Z,1.4nm,0.3s
FRF La Foret Royal 7.61 272 *e*Pn Pn 09 13 44.5 -1.2
SNR=1.0
LPL La Plagne 7.62 287 *e*Pn Pn 09 13 44.7 -1.3
SNR=1.0
LPL *e*Sn Sn 09 15 04.7 -7.5
comp=Z,22nm,0.5s
LPL La Plagne 7.62 287 *e*Pn Pn 09 13 44.7 -1.3
SNR=1.0
LMR La Mourre 7.74 270 *e*Sn Sn 09 15 07.4 -7.3
comp=Z,1.9nm,0.3s
DID Didima 7.80 142 *e*P Pn 09 13 49.0 +0.7
CLL Colim 8.02 341 *e*Pn Pn 09 13 54.0 +2.8
CLL *e*Pg Pg 09 14 31.0 +2.3
CLL *e*Sn Sn 09 15 13.0 -8.6
CLL *e*Sb Sb 09 15 50.0 +0.8
CLL *e*Sg Sg 09 16 12.0 -0.4
ORIF Oris-en-Rattie 8.15 282 *e*Pn Pn 09 13 51.7 -1.4
SNR=1.0
ORIF *e*Sn Sn 09 15 17.0 -8.0
comp=Z,18nm,0.6s
ORIF Oris-en-Rattie 8.15 282 *e*Pn Pn 09 13 51.7 -1.4
SNR=1.0
HINF Hinteralfeld 8.24 303 *e*Pn Pn 09 13 52.8 -1.4
SNR=1.0
HINF *e*Sn Sn 09 15 19.2 -7.8
comp=Z,5.7nm,0.4s
HINF Hinteralfeld 8.24 303 *e*Pn Pn 09 13 52.8 -1.4
SNR=1.0
CDF Champ du Feu 8.26 307 *e*Pn Pn 09 13 53.4 -1.3
CDF *e*Sn Sn 09 15 19.8 -8.0
comp=Z,0.7nm,0.2s
CDF Champ du Feu 8.26 307 *e*Pn Pn 09 13 53.4 -1.3
CABF La Chapelle 8.30 294 *e*Sn Sn 09 15 20.8 -7.8
comp=Z,55nm,1.2s
HAU Haudompre 8.62 303 *e*Pn Pn 09 13 57.9 -1.6
SNR=1.0
HAU *e*Sn Sn 09 15 28.3 -8.2
comp=Z,6.1nm,0.4s
HAU Haudompre 8.62 303 *e*Pn Pn 09 13 57.9 -1.6
SNR=1.0
VIVF Saint-Julien-l 9.00 281 *e*Pn Pn 09 14 03.3 -1.5
SNR=1.0
VIVF *e*Sn Sn 09 15 37.6 -8.3
comp=Z,4.4nm,0.4s
VIVF Saint-Julien-l 9.00 281 *e*Pn Pn 09 14 03.3 -1.5
SNR=1.0
PAGF Fort de Pagny 9.24 305 *e*Pn Pn 09 14 06.5 -1.4
PAGF *e*Sn Sn 09 15 43.0 -8.6
comp=Z,2.3nm,0.7s
PAGF Fort de Pagny 9.24 305 *e*Pn Pn 09 14 06.5 -1.4
SFTF Sexfontaines 9.51 302 *e*Pn Pn 09 14 09.9 -1.7
SFTF *e*Sn Sn 09 15 49.5 -8.6
comp=Z,2.3nm,0.3s
SFTF Sexfontaines 9.51 302 *e*Pn Pn 09 14 09.9 -1.7
LASF Ste Croix 9.59 276 *e*Pn Pn 09 14 11.5 -1.3
LASF *e*Sn Sn 09 15 51.6 -8.7
comp=Z,0.9nm,0.3s
LASF Ste Croix 9.59 276 *e*Pn Pn 09 14 11.5 -1.3
MEZF Maizieres J'vi 9.62 304 *e*Pn Pn 09 14 11.4 -1.7
MEZF *e*Sn Sn 09 15 52.1 -8.8
comp=Z,2.2nm,0.3s
MEZF Maizieres J'vi 9.62 304 *e*Pn Pn 09 14 11.4 -1.7
SMF Signal de Mont 9.81 292 *e*Pn Pn 09 14 14.5 -1.3
SMF *e*Sn Sn 09 15 56.7 -8.9
comp=Z,12nm,0.6s
SMF Signal de Mont 9.81 292 *e*Pn Pn 09 14 14.5 -1.3
LOR Lormes 9.95 295 *e*Pn Pn 09 14 15.9 -1.8
LOR *e*Sn Sn 09 16 00.2 -8.8
comp=Z,3.9nm,0.3s
LOR Lormes 9.95 295 *e*Pn Pn 09 14 15.9 -1.8
SSF Saint Saulge 10.13 294 *e*Pn Pn 09 14 18.4 -1.7
SSF *e*Sn Sn 09 16 04.3 -9.1
comp=Z,3.5nm,0.5s
SSF Saint Saulge 10.13 294 *e*Pn Pn 09 14 18.4 -1.7
AVF Avril sur Loir 10.17 292 *e*Sn Sn 09 16 05.4 -9.0
comp=Z,1.6nm,0.4s
BGF Bois d'Agland 10.47 290 *e*Pn Pn 09 14 23.1 -1.7
BGF *e*Sn Sn 09 16 12.3 -9.4
comp=Z,12nm,0.7s
BGF Bois d'Agland 10.47 290 *e*Pn Pn 09 14 23.1 -1.7
GIVF Givet 10.52 311 *e*Pn Pn 09 14 23.6 -1.8
GIVF *e*Sn Sn 09 16 13.5 -9.4
comp=Z,2.0nm,0.2s
GIVF Givet 10.52 311 *e*Pn Pn 09 14 23.6 -1.8
BAIF Baives 10.83 310 *e*Pn Pn 09 14 28.2 -1.5
BAIF Baives 10.83 310 *e*Pn Pn 09 14 28.2 -1.5
MTLF Montolieu 10.84 273 *e*Pn Pn 09 14 28.5 -1.4
SNR=1.0
MTLF *e*Sn Sn 09 16 21.6 -9.4
comp=Z,1.9nm,0.2s
MTLF Montolieu 10.84 273 *e*Pn Pn 09 14 28.5 -1.4
SNR=1.0
CAF Calviac 10.86 281 *e*Pn Pn 09 14 28.7 -1.5
CAF *e*Sn Sn 09 16 21.9 -9.5
comp=Z,1.4nm,0.3s
CAF Calviac 10.86 281 *e*Pn Pn 09 14 28.7 -1.5
TCF Toulx Ste Croi 10.86 288 *e*Pn Pn 09 14 28.5 -1.7
TCF *e*Sn Sn 09 16 21.9 -9.5
comp=Z,2.2nm,0.5s
TCF Toulx Ste Croi 10.86 288 *e*Pn Pn 09 14 28.5 -1.7
EPF Esparros 12.25 272 *e*Pn Pn 09 14 47.7 -1.5
EPF *e*Sn Sn 09 16 55.2 -10
comp=Z,2.1nm,0.3s
EPF Esparros 12.25 272 *e*Pn Pn 09 14 47.7 -1.5
ETSF Etsaut 12.92 272 *e*Pn Pn 09 14 56.7 -1.7
SNR=1.0
ETSF *e*Sn Sn 09 17 11.3 -11
comp=Z,0.5nm,0.2s
ETSF Etsaut 12.92 272 *e*Pn Pn 09 14 56.7 -1.7
SNR=1.0
FINES FINESS Array B 18.46 14 P Pn 09 16 11.9 +1.6
comp=Z,0.1nm,0.3s,baz=196,slow=8.5,SNR=4.4
ARCES ARCESS Array B 26.16 7 P P 09 17 29.2 +0.6
comp=Z,3.1nm,0.9s,baz=201,slow=12,SNR=3.0
ZALV Zalesovo Beam 44.04 52 P P 09 20 02.9 +0.7
comp=Z,1.1nm,0.6s,baz=285,slow=9.0,SNR=4.7
YKA Yellowknife Ar 67.24 338 P P 09 22 48.5 0.0
comp=Z,0.2nm,0.4s,baz=37,slow=6.5,SNR=8.6

IDC ***24*** *09:13:57.4± 1.0, 29°.20N × 129°.69E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.6/26, mbtmp3.6/8, ML3.0/2, MS3.5/16, Ms1 3.5/16, ms1mx3.2/45, Error ellipse: s-maj=48.6km s-min=20.8km az=84.0*

ISCJB ***24*** *09:13:58.8± 0.8, 29°.21N ± 0°.07 × 129°.8E ± 0°.2, h21km, mb3.6/6, MS3.4/12, Error ellipse: s-maj=30.4km s-min=9.5km az=8.6*

ISC 24 09:14:00.8±1.0, 29°.2N±0°.1×129°.7E±0°.2, h21km, n20, σ0 99/9, mb3.6/6, MS3.3/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**4.03**	**14**	Pn	**Pn**	**09 15 02.4**	**+1.1**

1.5nm,0.3s,baz=188,slow=12,SNR=20
JNU Sn **Sn** **09 15 47.1 -0.8**
0.6nm,0.3s,baz=216,slow=12,SNR=2.3
JNU LR LR 09 16 58.5
comp=Z,293nm,18.9s,baz=162,slow=45
KSRS Korea Array 8.37 350 Pn **Pn** **09 16 01.8 +0.9**
0.1nm,0.3s,baz=167,slow=11,SNR=2.5
KSRS LR LR 09 19 35.6
comp=Z,224nm,19.3s,baz=160,slow=40
USRK Ussuriysk Arra 15.08 6 LR LR 09 23 40.5
comp=Z,66nm,19.9s,baz=184,slow=39
ASAJ Asahikawa 18.08 31 LR LR 09 25 10.1
comp=Z,120nm,19.2s,baz=212,slow=37
SONM Songino Array 25.90 322 LR LR 09 31 07.8
comp=Z,15nm,28.6s,baz=32,slow=40
CMAR Chiang Mai Arr 30.04 256 LR LR 09 34 18.8
comp=Z,68nm,18.3s,baz=73,slow=41
PETK Petropavlovsk- 31.48 33 LR LR 09 32 46.3
comp=Z,55nm,21.3s,baz=177,slow=36
JAY Jayapura 33.24 160 LR LR 09 31 03.2
comp=Z,64nm,21.1s,baz=318,slow=31
MKAR Makanchi Array 40.63 309 LR LR 09 40 35.9
comp=Z,53nm,18.7s,baz=52,slow=39
PMG Port Moresby 41.90 154 LR LR 09 36 02.5
comp=Z,15nm,28.6s,baz=329,slow=32
AAK Ala-Archa 45.94 302 LR LR 09 43 00.6
comp=Z,28nm,20.0s,baz=63,slow=38
WRA Warramunga Arr 49.06 174 P **P** **09 22 46.0 -0.5**
0.5nm,0.7s,baz=354,slow=8.3,SNR=5.4
ASAR Alice Springs 52.72 175 P **P** **09 23 14.9 +0.9**
0.3nm,0.5s,baz=12,slow=13,SNR=4.5
AKTO Aktyubinsk 56.73 313 LR LR 09 50 21.2
comp=Z,84nm,18.8s,baz=90,slow=38
ARCES ARCESS Array B 67.74 338 LR LR 09 59 16.4
comp=Z,15nm,28.6s,baz=8.0,slow=40
FINES FINESS Array B 70.94 330 P **P** **09 25 15.7 -0.6**
1.9nm,0.9s,baz=33,slow=4.5,SNR=3.5
FINES LR LR 10 01 19.5
comp=Z,66nm,19.5s,baz=357,slow=40
AKASG Malin Array Be 74.15 319 P **P** **09 25 34.6 -0.9**
0.2nm,0.3s,baz=55,slow=6.4,SNR=3.1
AKASG LR LR 10 01 45.9
comp=Z,47nm,19.1s,baz=335,slow=39
YKA Yellowknife Ar 75.28 26 P **P** **09 25 41.4 -0.5**
0.3nm,0.9s,baz=303,slow=5.3,SNR=7.2
BRTR Keskin Array B 76.27 308 P **P** **09 25 48.9 +0.7**
0.9nm,0.9s,baz=96,slow=3.7,SNR=4.9
PPT Papeete 90.61 110 LR LR 10 02 29.6
comp=Z,55nm,19.2s,baz=274,slow=32

*IDC **24** 09:22:37.4±0.6,20°.97N×143°.79E,h0km,mb4.1/20, mb1 4.3/22,mb1mx4.2/30,mbtmp4.1/22,ML3.6/2,MS3.4/10, Ms1 3.4/10,ms1mx3.0/45,Error ellipse: s-maj=21.3km s-min=13.6km az=80.0*
*ISCJB **24** 09:22:41.6±0.3,20°.97N±0°.04×143°.51E±0°.06,h33km, mb4.4/43,MS2.9/7,Error ellipse: s-maj=8.6km s-min=5.6km az=153.1*
*NEIC **24** 09:22:41.0±3.5,20°.99N×143°.66E,h20km±21km,mb4.7/25, Error ellipse: s-maj=8.5km s-min=6.0km az=96.0*

ISC 24 09:22:43.0±0.5,20°.97N±0°.07×143°.7E±0°.1,h35km,n181, σ0°.76/170,mb4.5/43,MS2.9/7,51C-39D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**6.26**	**347**	Pn	**Pn**	**09 24 11.7**	**-1.2**
CBIJ				Sn	**Sn**	**09 25 24.6**	**+1.4**
JCJ	**Chichijima**	**6.26**	**347**	Pn	**Pn**	**09 24 11.7**	**-1.2**
	1.8nm,0.3s,baz=139,slow=19,SNR=4.1						
JCJ				Sn	**Sn**	**09 25 24.6**	**+1.4**
	2.1nm,0.3s,baz=307,slow=22,SNR=1.5						
JCJ				LR	LR	09 26 19.9	
	comp=Z,202nm,18.8s,baz=132,slow=36						
MJAR	**Matsushiro Arr**	**16.25**	**344**	Pn	**Pn**	**09 26 27.3**	**-1.3**
MJAR	**Matsushiro Arr**	**16.25**	**344**	Pn	**Pn**	**09 26 27.3**	**-1.3**
	0.2nm,0.3s,baz=166,slow=10,SNR=3.5						
MJAR				LR	LR	09 32 07.6	
	comp=Z,15nm,28.6s,baz=150,slow=35						
MAJO	**Matsushiro**	**16.25**	**344**	*e*Pn	**Pn**	**09 26 27.3**	**-1.3**
JNU	**Nakatsue**	**16.63**	**319**	*e*Pn	**Pn**	**09 26 32.6**	**-0.9**
	8.5nm,1.1s						
JNU	**Nakatsue**	**16.63**	**319**	Pn	**P**	**09 26 38.1**	**+2.5**
	0.1nm,0.3s,baz=111,slow=14,SNR=3.2						
JNU				LR	LR	09 31 50.9	
	comp=Z,16nm,28.6s,baz=108,slow=33						
SSLB	**Suanglung**	**21.23**	**282**	*e*P	P	09 27 33.3	+7.2
	20nm,0.9s						
KSRS	**Korea Array**	**21.39**	**324**	P	**P**	**09 27 27.4**	**-0.2**
	1.5nm,0.9s,baz=128,slow=7.9,SNR=3.5						
KSRS				LR	LR	09 34 36.4	
	comp=Z,15nm,28.6s,baz=134,slow=34						
KSAR	**Wonju Array Be**	**21.40**	**324**	P	**P**	**09 27 27.4**	**-0.3**
H11S3	**WAKE ISLAND Hy 21.77**	**92**		T	T	09 49 51.3	
	baz=282,slow=73,SNR=116						
H11N1	**WAKE ISLAND Hy 21.77**	**89**		T	T	09 49 49.0	
	baz=280,slow=75,SNR=259						
H11N2	**WAKE ISLAND Hy 21.77**	**89**		T	T	09 49 49.9	
	baz=280,slow=75,SNR=190						
H11S1	**WAKE ISLAND Hy 21.78**	**92**		T	T	09 49 52.1	
	baz=282,slow=73,SNR=149						
H11S2	**WAKE ISLAND Hy 21.78**	**92**		T	T	09 49 52.7	
	baz=282,slow=73,SNR=119						
H11N3	**WAKE ISLAND Hy 21.79**	**89**		T	T	09 49 50.3	
	baz=280,slow=75,SNR=148						
ASAJ	**Asahikawa 23.11 358**			LR	LR	09 36 37.4	
	comp=Z,15nm,28.6s,baz=204,slow=36						
USRK	**Ussuriysk Arra 25.13 340**			P	**P**	**09 28 05.9**	**+1.2**
	4.0nm,1.0s,baz=108,slow=12,SNR=6.3						
SONM	**Songino Array 40.21 321**			P	**P**	**09 30 16.7**	**+0.4**
SONM	**Songino Array 40.21 321**			P	**P**	**09 30 16.7**	**+0.4**
	1.1nm,0.8s,baz=132,slow=4.2,SNR=4.4						
SONM				LR	LR	09 46 20.1	
	comp=Z,97nm,21.3s,baz=90,slow=35						
CTA	**Charters Tower 40.88 176**			P	**P**	**09 30 22.4**	**+0.5**
CTA	**Charters Tower 40.88 176**			P	**P**	**09 30 22.4**	**+0.5**
	2.0nm,0.4s,baz=331,slow=5.2,SNR=3.7						
CTAO	**Charters Tower 40.88 176**			*e*P	**P**	**09 30 23.6**	**+1.7**
	12nm,1.0s						
WRAB	**Tennant Creek 41.67 193**			*e*P	P	09 30 33.9	+5.6
	3.8nm,0.7s						
WRA	**Warramunga Arr 41.68 193**			P	**P**	**09 30 27.7**	**-0.8**
WRA	**Warramunga Arr 41.68 193**			P	**P**	**09 30 27.7**	**-0.8**
	1.6nm,0.8s,baz=15,slow=8.9,SNR=7.8						
CMAR	**Chiang Mai Arr 42.12 275**			P	**P**	**09 30 32.7**	**+0.5**
CMAR	**Chiang Mai Arr 42.12 275**			P	**P**	**09 30 32.7**	**+0.5**
	0.5nm,0.3s,baz=63,slow=8.2,SNR=4.1						
CMAR				LR	LR	09 45 40.0	
	comp=Z,16nm,28.6s,baz=113,slow=33						
AS31	**Alice Springs 45.38 193**			*e*P	**P**	**09 30 58.3**	**+0.1**
ASAR	**Alice Springs 45.38 193**			P	**P**	**09 30 57.5**	**-0.7**
ASAR	**Alice Springs 45.38 193**			P	**P**	**09 30 57.5**	**-0.7**
	1.6nm,0.7s,baz=11,slow=8.5,SNR=8.6						
STKA	**Stephens Creek 52.58 182**			P	**P**	**09 31 53.0**	**-0.3**
STKA	**Stephens Creek 52.58 182**			P	**P**	**09 31 53.0**	**-0.3**
	4.3nm,1.0s,baz=15,slow=10,SNR=3.5						
ZAA0	**Zalesovo Array 55.09 322**			P	**P**	**09 32 12.2**	**+0.8**
ZALV	**Zalesovo Beam 55.09 322**			P	**P**	**09 32 11.1**	**-0.3**
ZALV	**Zalesovo Beam 55.09 322**			P	**P**	**09 32 11.1**	**-0.3**
	4.9nm,0.9s,baz=76,slow=6.3,SNR=7.1						
ZALV				LR	LR	09 54 42.5	
	comp=Z,15nm,28.6s,baz=70,slow=35						
MKAR	**Makanchi Array 55.55 313**			P	**P**	**09 32 15.4**	**+0.5**
MKAR	**Makanchi Array 55.55 313**			P	**P**	**09 32 15.4**	**+0.5**
	0.3nm,0.5s,baz=90,slow=4.5,SNR=3.4						
MKAR				LR	LR	09 58 12.3	
	comp=Z,15nm,28.6s,baz=357,slow=38						
KURK	**Kurchatov 58.34 317**			P	**P**	**09 32 34.9**	**+0.3**
KURBB	**Kurchatov Arra 58.39 317**			P	**P**	**09 32 34.9**	**0.0**
	1.2nm,0.8s,baz=94,slow=7.5,SNR=7.8						
ILAR	**Eielson Array 62.47 27**			P	**P**	**09 33 01.4**	**-1.1**
ILAR	**Eielson Array 62.47 27**			P	**P**	**09 33 01.4**	**-1.1**
	2.1nm,0.8s,baz=264,slow=5.9,SNR=20						
BVAR	**Borovoye Array 63.54 320**			P	**P**	**09 33 10.2**	**+0.3**
BVAR	**Borovoye Array 63.54 320**			P	**P**	**09 33 10.2**	**+0.3**
	2.7nm,0.7s,baz=85,slow=8.8,SNR=11						
MENT	**Mentasta 63.62 29**			*e*P	**P**	**09 33 09.2**	**-1.0**
BKZ	**Black Stump Fm 67.23 153**			*e*P	P	09 33 42.0	+8.1
	25nm,0.5s						
ABKAR	**Akbulak array 70.41 316**			*e*P	**P**	**09 33 53.9**	**+0.3**
YKA	**Yellowknife Ar 76.87 28**			P	**P**	**09 34 30.9**	**-0.3**
YKA	**Yellowknife Ar 76.87 28**			P	**P**	**09 34 30.9**	**-0.3**
	1.5nm,0.7s,baz=291,slow=5.7,SNR=27						
F04A	**Amboy 77.84 45**			*e*P	**P**	**09 34 38.2**	**+1.2**
	75nm,2.1s						
H04A	**Detroit Lake 78.37 47**			*e*P	**P**	**09 34 40.7**	**+0.7**
	11nm,1.1s						
I04A	**Tendick Farm, 78.49 48**			P	**P**	**09 34 40.9**	**+0.2**
	baz=78						
J04D	**Umpqua Nationa 78.87 48**			⇑P	**P**	**09 34 43.8**	**+0.8**
	baz=79						
M02C	**Callahan 78.92 50**			⇑P	**P**	**09 34 44.0**	**+0.8**
	baz=79						
N02D	**Trinity Center 79.16 50**			⇑P	**P**	**09 34 45.4**	**+0.8**
	baz=79						
WDC	**Whiskeytown Da 79.40 51**			*e*P	**P**	**09 34 45.8**	**0.0**
	109nm,2.8s						
J05D	**Fort Rock, OR 79.46 48**			⇑P	**P**	**09 34 47.1**	**+0.8**
	baz=79						
M04C	**Macdoel 79.52 49**			⇓P	**P**	**09 34 47.4**	**+0.9**
	baz=79						
K05A	**Summer Lake 79.88 48**			*e*P	**P**	**09 34 49.8**	**+1.2**
	17nm,1.2s						
G08A	**Pilot Rock 80.34 45**			*e*P	**P**	**09 34 51.4**	**+0.5**
	5.5nm,1.3s						
NEW	**Newport 80.49 42**			*e*P	**P**	**09 34 52.1**	**+0.6**
	8.3nm,1.1s						
NEW	**Newport 80.49 42**			⇓P	**P**	**09 34 52.3**	**+0.7**
	baz=80						
J08A	**Circle Bar Ran 81.34 47**			*e*P	**P**	**09 34 57.0**	**+0.7**
	6.7nm,1.0s						
CMB	**Cambia Colle 81.82 53**			*e*P	**P**	**09 34 59.4**	**+0.6**
	6.3nm,0.9s						
BSMT	**Bassoo Peak 82.10 42**			*e*P	**P**	**09 35 00.5**	**+0.2**
	6.1nm,1.4s						
MSO	**Missoula 83.03 43**			⇑P	**P**	**09 35 05.4**	**+0.4**
	baz=83						
SMMC	**Simmler 83.05 55**			⇓P	**P**	**09 35 06.3**	**+1.0**
	baz=83						
MFID	**Camas Ranch 83.11 46**			*e*P	**P**	**09 35 06.3**	**+0.7**
	8.1nm,1.1s						
NVAR	**Mina Array Bea 83.21 52**			P	**P**	**09 35 06.7**	**+0.4**
NVAR	**Mina Array Bea 83.21 52**			P	**P**	**09 35 06.7**	**+0.4**
	3.1nm,0.7s,baz=278,slow=6.1,SNR=25						
KBZ	**Khabaz 83.23 314**			P	**P**	**09 35 06.4**	**+0.5**
KBZ	**Khabaz 83.23 314**			P	**P**	**09 35 06.4**	**+0.5**
	4.0nm,0.9s,baz=124,slow=5.9,SNR=5.8						
KBZ				LR	LR	10 15 45.9	
	comp=Z,23nm,20.2s,baz=14,slow=38						
PKM	**Peak Mountain 83.34 55**			⇑P	**P**	**09 35 07.9**	**+0.9**
	baz=83						
HLID	**Hailey 84.00 46**			⇓P	**P**	**09 35 10.1**	**-0.1**
	baz=84						
FINES	**FINESS Array B 84.05 335**			P	**P**	**09 35 08.5**	**-1.3**
FINES	**FINESS Array B 84.05 335**			P	**P**	**09 35 08.5**	**-1.3**
	3.7nm,0.7s,baz=80,slow=6.1,SNR=9.1						
ISA	**Isabella 84.09 54**			⇑P	**P**	**09 35 10.4**	**-0.2**
	baz=84						
LRM	**Limekiln Ridge 84.38 43**			*e*P	**P**	**09 35 12.3**	**+0.1**
GRAC	**Grapevine Rang 84.43 53**			⇓P	**P**	**09 35 12.3**	**0.0**
	baz=84						
DLMT	**Dillon 84.47 43**			*e*P	**P**	**09 35 13.1**	**+0.5**
	46nm,2.8s						
MPMC	**Manual Prospec 84.69 54**			⇑P	**P**	**09 35 14.0**	**+0.2**
	baz=85						
EDW2	**Edwards Air Fo 84.75 55**			⇑P	**P**	**09 35 14.4**	**+0.4**
	baz=85						
LRMC	**Laurel Mountai 84.75 54**			⇑P	**P**	**09 35 14.6**	**+0.5**
	baz=85						
EGMT	**Eagleton 85.12 40**			⇑P	**P**	**09 35 15.9**	**+0.3**
	baz=85						
R11A	**Troy Canyon, C 85.22 51**			*e*P	**P**	**09 35 17.4**	**+0.9**
	5.6nm,1.3s						
R11A	**Troy Canyon, C 85.22 51**			⇓P	**P**	**09 35 16.7**	**+0.3**
	baz=85,SNR=5.8						
TPNV	**Topopah Spring 85.28 52**			⇑P	**P**	**09 35 17.3**	**+0.5**
	baz=85						
A19A	**Klindworth Far 85.32 39**			⇓P	**P**	**09 35 17.1**	**+0.5**
	baz=85						
B19A	**Brinkman Farms 85.42 40**			⇓P	**P**	**09 35 17.2**	**+0.2**
	baz=85,SNR=5.7						
C19A	**Slack Wire Ran 85.67 40**			⇑P	**P**	**09 35 18.5**	**+0.1**
	baz=86						
YMR	**Madison River 85.82 44**			*e*P	**P**	**09 35 20.8**	**+1.4**
	9.3nm,0.9s						
A20A	**Cobblestone Ra 85.83 39**			⇑P	**P**	**09 35 19.5**	**+0.5**
	baz=86						
HVU	**Hansel Valley 85.83 47**			*e*P	**P**	**09 35 20.2**	**+0.8**
	5.2nm,1.0s						
B20A	**Solberg Farm, 85.97 39**			⇑P	**P**	**09 35 20.2**	**+0.4**
	baz=86						
D19A	**Cripps Ranch, 86.03 41**			⇑P	**P**	**09 35 20.4**	**+0.3**
	baz=86,SNR=6.4						
FFC	**Flin Flon 86.19 32**			*e*P	**P**	**09 35 21.0**	**+0.4**
	7.2nm,1.1s						
H17A	**Grant Village 86.19 44**			⇓P	**P**	**09 35 22.7**	**+1.5**
	baz=86						
FLWY	**Flagg Ranch 86.24 44**			*e*P	**P**	**09 35 22.8**	**+1.4**
	4.0nm,0.7s						
C20A	**Veseth Ranch, 86.31 40**			⇑P	**P**	**09 35 21.8**	**+0.3**
	baz=86,SNR=6.8						
MOOW	**Moose Ponds 86.35 44**			*e*P	**P**	**09 35 22.8**	**+0.7**
	9.7nm,1.8s						
A21A	**Bergtoll Ranch 86.36 39**			⇓P	**P**	**09 35 22.0**	**+0.3**
	baz=86						
PFO	**Pinyon Flat Ob 86.40 55**			⇓P	**P**	**09 35 22.5**	**+0.2**
	baz=86						
E19A	**Rath Farm, Rou 86.41 41**			⇓P	**P**	**09 35 22.9**	**+0.9**
	baz=86						
DUG	**Dugway 86.45 48**			*e*P	**P**	**09 35 23.0**	**+0.5**
	4.9nm,0.9s						
DUG	**Dugway 86.45 48**			⇓P	**P**	**09 35 22.8**	**+0.3**
	baz=86,SNR=5.6						
D20A	**Manuel Ranch, 86.52 41**			⇑P	**P**	**09 35 22.7**	**+0.2**
	baz=86,SNR=6.0						
GMRC	**Granite Mounta 86.56 54**			⇑P	**P**	**09 35 23.3**	**+0.2**
	baz=86						
F19A	**Roth Farm, Mol 86.58 42**			⇓P	**P**	**09 35 23.5**	**+0.6**
	baz=86						
E20A	**Meyer Farm, Mu 86.79 41**			⇑P	**P**	**09 35 24.3**	**+0.4**
	baz=87						
A22A	**Carney Farms, 86.94 38**			⇓P	**P**	**09 35 24.8**	**+0.2**
	baz=87						
H19A	**Powell 87.08 43**			⇑P	**P**	**09 35 26.3**	**+0.8**
	baz=87						
IRM	**Iron Mountain 87.19 55**			⇑P	**P**	**09 35 26.5**	**+0.4**
	baz=87						
D21A	**La Casta Ranch 87.22 40**			⇑P	**P**	**09 35 26.5**	**+0.5**
	baz=87						
G20A	**Bridger 87.32 42**			⇑P	**P**	**09 35 26.7**	**+0.1**
	baz=87						
NEE2	**Needles Airpor 87.35 54**			⇑P	**P**	**09 35 26.6**	**-0.2**
	baz=87						
I19A	**Meeteetse 87.36 44**			⇑P	**P**	**09 35 26.4**	**-0.5**
	baz=87						
PDAR	**Pinedale Array 87.56 45**			P	P	**09 35 27.9**	**0.0**
PDAR	**Pinedale Array 87.56 45**			P	P	**09 35 27.9**	**0.0**
	0.7nm,0.8s,baz=270,slow=4.2,SNR=4.7						
D22A	**Cohagen 87.67 40**			⇓P	**P**	**09 35 28.9**	**+0.8**
	baz=88						
J19A	**Crowheart 87.67 44**			⇓P	**P**	**09 35 29.3**	**+0.9**
	baz=88,SNR=5.0						
B23A	**Brockton 87.73 38**			⇑P	**P**	**09 35 29.2**	**+0.8**
	baz=88						
W13A	**Hualapai Mount 87.77 53**			⇓P	**P**	**09 35 29.5**	**+0.4**
	baz=88						
Y12C	**Blythe 87.83 55**			⇑P	**P**	**09 35 29.4**	**+0.4**
	baz=88						
PDMCI	**Parker Dam,Lak 87.90 54**			⇑P	**P**	**09 35 30.1**	**+0.8**
	baz=88						
C23A	**Lambert 87.95 39**			⇑P	**P**	**09 35 30.2**	**+0.8**
	baz=88						
E22A	**Miles City 88.15 40**			⇓P	**P**	**09 35 30.6**	**+0.2**
	baz=88						
D23A	**Lindsay 88.24 40**			⇓P	**P**	**09 35 31.7**	**+0.8**
	baz=88						
H21A	**Big Horn, Sher 88.34 42**			⇑P	**P**	**09 35 32.1**	**+0.6**
	baz=88						
AKASG	**Malin Array Be 88.38 325**			P	P	**09 35 29.7**	**-1.6**
AKASG	**Malin Array Be 88.38 325**			P	P	**09 35 29.7**	**-1.6**
	0.1nm,0.3s,baz=52,slow=1.6,SNR=4.8						
U15A	**North Rim 88.40 52**			⇑P	**P**	**09 35 32.9**	**+0.8**
	baz=88						
I21A	**Big Trails, Te 88.56 43**			⇑P	**P**	**09 35 33.0**	**+0.5**
	baz=88						
A25A	**Svangstu Ranch 88.57 37**			⇑P	**P**	**09 35 33.3**	**+1.0**
	baz=88						
J21A	**Lysite 88.68 44**			⇑P	**P**	**09 35 34.1**	**+0.9**
	baz=88						
H22A	**Clearmont 88.79 42**			⇓P	**P**	**09 35 34.7**	**+1.2**
	baz=89						
D24A	**Glendive 88.79 39**			⇓P	**P**	**09 35 34.2**	**+0.7**
	baz=89						
Y14A	**Wickenburg 88.91 54**			⇓P	**P**	**09 35 34.8**	**+0.6**
	baz=89						
I22A	**9 Mile Ranch, 89.04 43**			⇓P	**P**	**09 35 34.9**	**+0.1**
	baz=89						
K21A	**Alcova 89.14 44**			⇓P	**P**	**09 35 35.2**	**-0.1**
	baz=89						
N20A	**Spence Gulch, 89.30 46**			⇓P	**P**	**09 35 36.8**	**+0.6**
	baz=89						
WUAZ	**Wupatki 89.46 52**			*e*P	**P**	**09 35 37.9**	**+1.0**
	4.1nm,1.1s						
WUAZ	**Wupatki 89.46 52**			⇑P	**P**	**09 35 37.7**	**+0.8**
	baz=89						
O20A	**White River Ci 89.63 47**			⇓P	**P**	**09 35 37.9**	**+0.1**
	baz=90						
C26A	**Wahner Farm, P 89.73 38**			⇓P	**P**	**09 35 39.0**	**+1.2**
	baz=90						
NOA	**NORSAR Array B 89.80 339**			P	**P**	**09 35 36.5**	**-1.4**
NOA	**NORSAR Array B 89.80 339**			P	**P**	**09 35 36.5**	**-1.4**
	2.2nm,0.9s,baz=49,slow=4.8,SNR=3.5						
M22A	**Cedar Creek Ra 90.15 45**			⇓P	**P**	**09 35 40.9**	**+0.7**
	baz=90						
L23A	**Garrett 90.39 44**			⇓P	**P**	**09 35 40.9**	**-0.4**
	baz=90						
M23A	**Laramie 90.69 45**			⇑P	**P**	**09 35 43.3**	**+0.6**
	baz=90						
I25A	**Rochford 90.71 42**			⇓P	**P**	**09 35 42.9**	**+0.3**
	baz=90						
A29A	**Manning Farm, 90.75 36**			⇑P	**P**	**09 35 43.2**	**+0.7**
	baz=90						
O22A	**Kremmling 90.77 46**			⇓P	**P**	**09 35 43.2**	**0.0**
	baz=91						
N23A	**Red Feather La 90.82 45**			⇑P	**P**	**09 35 43.9**	**+0.5**
	baz=91						
P22A	**Eagle 90.89 47**			⇓P	**P**	**09 35 44.5**	**+0.8**
	baz=91						
SMCO	**Snowmass 90.94 47**			*e*P	**P**	**09 35 44.7**	**+0.5**
	63nm,2.8s						
G27A	**Dupree 91.11 40**			⇓P	**P**	**09 35 44.5**	**+0.2**
	baz=91						
O23A	**Lake Granby, G 91.17 46**			⇑P	**P**	**09 35 45.8**	**+0.8**
	baz=91						
A30A	**Hoffart Farm, 91.25 36**			⇑P	**P**	**09 35 45.2**	**+0.4**
	baz=91						
J26A	**Sides Ranch, S 91.48 42**			⇑P	**P**	**09 35 46.6**	**+0.5**
	baz=91						
B30A	**Myrvik Farm, E 91.51 36**			⇑P	**P**	**09 35 46.3**	**+0.2**
	baz=91						
D29A	**Pettibone, Tap 91.57 38**			⇓P	**P**	**09 35 46.6**	**+0.2**
	baz=91						
ISCO	**Idaho Springs 91.57 46**			⇓P	**P**	**09 35 47.2**	**+0.3**
	baz=91						
P23A	**Jefferson 91.63 47**			⇓P	**P**	**09 35 48.2**	**+1.0**
	baz=92						
S22A	**4UR Ranch, Cre 91.72 48**			⇑P	**P**	**09 35 48.1**	**+0.5**
	baz=92						
O24A	**Longmont 91.78 46**			⇑P	**P**	**09 35 48.6**	**+0.9**
	baz=92						
C30A	**Mose, Pekin 91.85 37**			⇑P	**P**	**09 35 48.1**	**+0.5**
	baz=92						
D30A	**Buchanan 92.02 37**			⇑P	**P**	**09 35 48.9**	**+0.5**
	baz=92						
R23A	**Moffat 92.20 48**			⇑P	**P**	**09 35 50.7**	**+0.9**
	baz=92						
V22A	**San Miguel Ran 92.52 50**			⇑P	**P**	**09 35 51.8**	**+0.5**
	baz=92						
R24A	**Sanders Place, 92.68 47**			⇓P	**P**	**09 35 52.2**	**+0.2**
	baz=92						
G30A	**Faulkton 92.90 39**			⇓P	**P**	**09 35 53.3**	**+0.8**
	baz=93						
R25A	**Fountain Ranch 93.29 47**			⇑P	**P**	**09 35 55.5**	**+0.8**
	baz=93						
R28A	**Tribune 94.86 46**			⇑P	**P**	**09 36 03.2**	**+1.4**
	baz=95						
TORD	**Torodi Ar. Bea 129.58 309**			PKP	**PKPdf**	**09 41 49.1**	**-0.1**
TORD	**Torodi Ar. Bea 129.58 309**			PKP	**PKPdf**	**09 41 49.1**	**-0.1**
	1.5nm,1.1s,baz=25,slow=3.8,SNR=3.1						
H03N2	**Juan Fernandez 140.35 117**			T	T	12 18 09.6	
	baz=265						
H03N3	**Juan Fernandez 140.36 117**			T	T	12 18 10.9	
	baz=265						
H03N1	**Juan Fernandez 140.37 117**			T	T	12 18 10.4	
	baz=265,SNR=2.7						
LPAZ	**La Paz 149.50 87**			PKPbc	**PKPbc**	**09 42 30.4**	**+0.1**
LPAZ	**La Paz 149.50 87**			PKPbc	**PKPbc**	**09 42 30.3**	**+0.1**
	1.9nm,0.6s,baz=275,slow=3.2,SNR=8.1						
SAML	**Samuel 151.46 69**			*e*PKPbc	**PKPbc**	**09 42 33.2**	**-1.0**

IDC 24 09:28:43.8±0.6,21°.07N×143°.82E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/26,mbtmp3.6/4,Error ellipse: s-maj=53.6km s-min=11.4km az=108.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N1	**WAKE ISLAND Hy 21.66**	**89**		T	T	09 55 50.5	
	baz=280,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy 21.66**	**93**		T	T	09 55 48.9	
	baz=282,slow=73,SNR=35						
H11N2	**WAKE ISLAND Hy 21.67**	**89**		T	T	09 55 50.8	
	baz=280,slow=76,SNR=51						
H11S1	**WAKE ISLAND Hy 21.67**	**93**		T	T	09 55 49.0	
	baz=282,slow=73,SNR=39						
H11N3	**WAKE ISLAND Hy 21.68**	**89**		T	T	09 55 51.8	
	baz=280,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy 21.68**	**93**		T	T	09 55 49.6	
	baz=282,slow=73,SNR=41						
WRA	**Warramunga Arr 41.80 193**			P	P	09 36 35.1	-0.2
	0.2nm,0.7s,baz=15,slow=9.5,SNR=3.0						
ILAR	**Eielson Array 62.33 27**			P	P	09 39 06.7	-1.0
	0.4nm,0.9s,baz=253,slow=4.6,SNR=2.9						
**YK

ISCJB ***24*** *09:35:02.7±0.6,7°.31S±0°.08×121°.3E±0°.1,h550km, mb4.5/1,Error ellipse: s-maj=17.8km s-min=8.1km az=156.3*

DJA ***24*** *09:35:02.8±0.7,7°S±6°×12°.1E±°,h559km±10km,M3.7/7, mb4.0/5,mB4.8/2,MLv3.5/7,Mw(mB)4.1/2*

AUST ***24*** *09:35:14.3±0.7,7.64S×122.88E,h580km,Error ellipse: s-maj=1.9km s-min=1.2km az=263.0*

IDC ***24*** *09:35:24.1±4.0,9.19S×122.24E,h592km±66km,mb3.3/2, mb1 3.3/5,mb1mx2.9/21,mbtmp3.1/5,Error ellipse: s-maj=146.3km s-min=26.8km az=52.0*

ISC 24 09:35:03.5±1.1,7.3S±0.1×121.3E±0.1,h550km,n24, σ1§22/24,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.65**	**144**	P	**P**	**09 36 10.9**	**-0.8**
BKSI	**Bulukumba**	**2.26**	**330**	P	**P**	**09 36 13.7**	**-0.8**
BNSI	**Bone**	**3.10**	**338**	P	**P**	**09 36 17.7**	**-1.5**
SPSI	**Sidrap Palu**	**3.63**	**336**	P	**P**	**09 36 22.3**	**-0.4**
SOEI	**Soe**	**3.85**	**130**	P	**P**	**09 36 25.5**	**+1.1**
SOEI	**Soe**	**3.85**	**130**	P	**P**	**09 36 25.8**	**+1.5**
	baz=2.5,SNR=18						
TTSI	**Tana Toraja**	**4.46**	**341**	P	**P**	**09 36 28.8**	**-0.1**
MMSI	**Mamuju**	**5.14**	**333**	P	**P**	**09 36 35.2**	**+0.6**
	313nm,0.7s,4µm1.3nm						
NLAI	**Namlea**	**7.07**	**56**	P	**P**	**09 36 51.9**	**-0.3**
	48nm,0.7s,1µm						
GTOI	**Gorontalo**	**8.07**	**13**	P	**P**	**09 37 02.7**	**+0.8**
	17nm,1.5s						
KNRA	**Kununurra**	**11.11**	**139**	P	**P**	**09 37 31.5**	**-1.3**
	baz=9.9,SNR=5.7						
MTN	**Manton Dam**	**11.17**	**120**	P	**P**	**09 37 32.0**	**-1.5**
	baz=9.6,SNR=16						
FITZ	**Fitzroy Crossi**	**11.56**	**159**	P	**P**	**09 37 36.5**	**-0.9**
	0.7nm,0.3s,baz=344,slow=15,SNR=12						
FITZ	**Fitzroy Crossi**	**11.56**	**159**	P	**P**	**09 37 36.6**	**-0.8**
	baz=11,SNR=4.7						
FAKI	**Fak Fak**	**11.77**	**69**	P	**P**	**09 37 38.1**	**-1.6**
FAKI	**Fak Fak**	**11.77**	**69**	P	**P**	**09 37 37.3**	**-2.4**
	baz=10,SNR=8.2						
WRA	**Warramunga Arr**	**17.86**	**136**	P	**P**	**09 38 39.8**	**-0.3**
	0.9nm,0.3s,baz=313,slow=10,SNR=44						
WRKA	**Warakurna**	**18.88**	**160**	P	**P**	**09 38 49.6**	**+0.2**
	baz=18,SNR=4.9						
PALU	**Palau**	**19.62**	**42**	P	**P**	**09 38 59.1**	**+2.9**
	baz=19,SNR=7.7						
ASAR	**Alice Springs**	**20.30**	**145**	P	**P**	**09 39 02.1**	**-0.3**
	0.2nm,0.3s,baz=322,slow=8.7,SNR=8.1						
QIS	**Mount Isa**	**22.12**	**128**	P	**P**	**09 39 18.5**	**-0.2**
	baz=21,SNR=3.6						
HTT	**Hallett**	**30.72**	**150**	P	**P**	**09 40 35.0**	**+0.8**
	baz=30,SNR=3.9						
STKA	**Stephens Creek**	**30.94**	**145**	P	**P**	**09 40 36.4**	**+0.4**
	4.8nm,0.3s,baz=317,slow=7.8,SNR=33						
STKA	**Stephens Creek**	**30.94**	**145**	P	**P**	**09 40 36.5**	**+0.4**
	baz=30,SNR=25						

IDC 24 09:42:13.0±2.6,2.10S×132.91E,h0km,mb3.7/2, mb1 3.8/4,mb1mx3.6/21,mbtmp3.7/4,ML3.7/2,MS3.1/1, Ms1 3.1/1,ms1mx2.5/32,Error ellipse: s-maj=115.4km s-min=17.1km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.43**	**204**	P	P	09 46 19.7	+0.5
	0.2nm,0.3s,baz=23,slow=12,SNR=9.3						
FITZ				S	Sn	09 49 28.4	-4.2
	0.2nm,0.3s,baz=191,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**17.79**	**176**	P	Pn	09 46 22.3	0.0
	0.2nm,0.3s,baz=354,slow=13,SNR=6.8						
WRA				S	Sn	09 49 40.7	-0.7
	0.0nm,0.3s,baz=353,slow=24,SNR=1.7						
ASAR	**Alice Springs**	**21.47**	**178**	P	P	09 47 05.2	+1.9
	1.7nm,0.7s,baz=5.6,slow=12,SNR=20						
JCJ	**Chichijima**	**30.37**	**17**	LR	LR	09 58 41.1	
	comp=Z,42nm,21.9s,baz=13,slow=32						
MKAR	**Makanchi Array**	**65.84**	**324**	P	P	09 52 59.9	-0.5
	0.6nm,0.6s,baz=113,slow=8.4,SNR=10						

IDC ***24*** *09:47:37.8±5.1,6.62S×129.80E,h200km±48km,mb3.9/1, mb1 3.3/4,mb1mx3.1/20,mbtmp3.2/4,MS2.9/1,Ms1 2.9/1, ms1mx2.2/34,Error ellipse: s-maj=62.7km s-min=20.5km az=72.0*

AUST ***24*** *09:47:41.7,6.97S×131.05E,h200km*

ISC 24 09:47:37.1±1.6,6.7S±0.1×130.0E±0.2,h200km,n10, σ1§78/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**6.27**	**170**	P	**Pn**	**09 49 06.7**	**-1.1**
	baz=5.9,SNR=5.1						
KDU	**Kakadu**	**6.49**	**158**	P	Pn	09 49 06.8	-3.9
	baz=5.9,SNR=46						
KNRA	**Kununurra**	**9.05**	**187**	P	**Pn**	**09 49 44.5**	**+0.5**
	baz=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**12.14**	**200**	P	**Pn**	**09 50 24.7**	**+0.9**
	1.0nm,0.3s,baz=38,slow=13,SNR=28						
FITZ				S	**Sn**	**09 52 38.0**	**-1.3**
	2.0nm,0.3s,baz=183,slow=11,SNR=8.5						
FITZ	**Fitzroy Crossi**	**12.14**	**200**	P	**P**	**09 50 26.4**	**-1.9**
	baz=12,SNR=4.8						
WRA	**Warramunga Arr**	**13.88**	**163**	P	**Pn**	**09 50 45.4**	**-0.3**
	0.3nm,0.3s,baz=344,slow=13,SNR=5.2						
WRA				S	S	09 53 12.4	-8.0
	1.1nm,0.3s,baz=270,slow=7.9,SNR=10						
COEN	**Coen**	**14.88**	**120**	P	Pn	09 50 53.5	-4.5
	baz=14,SNR=14						
ASAR	**Alice Springs**	**17.34**	**168**	P	**Pn**	**09 51 29.2**	**+1.7**
	0.2nm,0.3s,baz=347,slow=11,SNR=15						
ASAR				S	**S**	**09 54 38.1**	**+2.1**
	0.3nm,0.3s,baz=349,slow=26,SNR=5.9						
ASAR				LR	LR	09 58 32.8	
	comp=Z,41nm,21.2s,baz=180,slow=38						
WRKA	**Warakurna**	**18.36**	**185**	P	**Pn**	**09 51 42.1**	**+2.8**
	baz=18,SNR=6.5						
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	**09 58 14.2**	**0.0**
	1.4nm,0.4s,baz=112,slow=8.1,SNR=28						

ISCJB ***24*** *09:48:44.5±0.3,23°.99N±0°.01×121°.69E±0°.02,h2km±2km, Error ellipse: s-maj=2.9km s-min=1.7km az=28.6*

JMA ***24*** *09:48:44.8±0.1,23°.98N×121°.62E,h5km,M3.1*

TAP ***24*** *09:48:44.8,23°.99N×121°.63E,h9km,ML3.8,B*

ISC 24 09:48:45.1±0.9,23°.99N±0°.02×121°.66E±0°.02,h9km±6km, n62,σ0§57/109,10C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.05**	**260**	⇑*i* P	**Pg**	**09 48 47.0**	**0.0**
	baz=228						
TWD	**Chiawan**	**0.11**	**328**	⇑*i* P	**Pg**	**09 48 47.5**	**-0.2**
	baz=345						
TWD				S	**Sg**	**09 48 49.4**	**-0.2**
	baz=345						
ESF	**Shoufeng Towns**	**0.18**	**231**	P	**Pg**	**09 48 48.8**	**-0.1**
	baz=232						
ESF				S	**Sg**	**09 48 51.5**	**+0.1**
	baz=232						
ESL	**Shilin**	**0.27**	**231**	⇓*i* P	**Pg**	**09 48 50.2**	**-0.3**
	baz=232						
ESL				S	**Sg**	**09 48 53.8**	**-0.4**
	baz=232						
TEGC	**Jichi Village**	**0.30**	**202**	*e*P	**Pb**	**09 48 52.7**	**+0.1**
	baz=187						
TEGC				*e*S	**Sb**	**09 48 57.8**	**+0.2**
	baz=187						
EHP	**Heping Village**	**0.33**	**13**	*e*P	**Pg**	**09 48 51.3**	**-0.4**
	baz=13						
WHF	**Hehuan Shan**	**0.39**	**294**	⇑*i* P	**Pg**	**09 48 52.5**	**-0.5**
	baz=296						
WHF				S	**Sg**	**09 48 57.5**	**-0.7**
	baz=296						
ENA	**Nanau**	**0.45**	**10**	⇑*i* P	**Pg**	**09 48 53.9**	**0.0**
	baz=10.0						
ENA				S	**Sg**	**09 49 00.0**	**+0.3**
	baz=10.0						
TWT	**Tachien**	**0.52**	**301**	⇑*i* P	**Pg**	**09 48 55.4**	**+0.2**
	baz=310						
TWT				*i* S	**Sg**	**09 49 02.7**	**+0.6**
	baz=310						
NNS	**Nan Shan**	**0.52**	**330**	⇑*i* P	**Pg**	**09 48 55.2**	**-0.1**
	baz=333						
NNS				S	**Sg**	**09 49 02.1**	**-0.1**
	baz=333						
EHY	**Hungye**	**0.57**	**213**	⇓*i* P	**Pg**	**09 48 55.8**	**-0.3**
	baz=220						
EHY				*e*S	**Sg**	**09 49 04.1**	**+0.5**
	baz=220						
TWC	**Suao**	**0.64**	**15**	*i* P	**Pg**	**09 48 57.6**	**0.0**
	baz=8.0						
TWC				S	**Sg**	**09 49 05.9**	**-0.2**
	baz=8.0						
ENTT	**Nioudou**	**0.66**	**353**	⇑*i* P	**Pg**	**09 48 58.0**	**+0.2**
	baz=354						
ENTT				*e*S	**Sg**	**09 49 06.8**	**+0.3**
	baz=354						
SMLT	**Sun Moon Lake**	**0.70**	**262**	⇓*i* P	**Pg**	**09 48 58.7**	**0.0**
	baz=262						
SMLT				S	**Sg**	**09 49 07.7**	**-0.2**
	baz=262						
TWF1	**Yuli**	**0.71**	**208**	*e*P	**Pg**	**09 48 58.2**	**-0.6**
	baz=220						
TWF1				*e*S	**Sb**	**09 49 09.5**	**-0.1**
	baz=220						
TWE	**Neicheng**	**0.73**	**1**	⇑*i* P	**Pg**	**09 48 59.4**	**+0.1**
	baz=2.0						
TWE				S	**Sg**	**09 49 09.5**	**+0.7**
	baz=2.0						
TYC	**Yuchr**	**0.74**	**264**	*e*P	**Pg**	**09 48 58.1**	**-1.2**
	baz=265						
TYC				*e*S	**Sg**	**09 49 08.7**	**-0.3**
	baz=265						
NSK	**Sanguang**	**0.74**	**338**	⇑*i* P	**Pg**	**09 48 59.5**	**0.0**
	baz=340						
NSK				*i* S	**Sg**	**09 49 09.2**	**+0.1**
	baz=340						
ILA	**Ilan**	**0.78**	**6**	*e*P	**Pg**	**09 48 59.0**	**-1.2**
	baz=6.0						
ILA				*e*S	**Sb**	**09 49 11.2**	**-0.3**
	baz=6.0						
YUS	**Yu-Shan**	**0.82**	**233**	*e*P	**Pg**	**09 49 00.9**	**0.0**
	baz=233						
YUS				S	**Sg**	**09 49 12.1**	**+0.5**
	baz=233						
NSTT	**Nanjuang**	**0.88**	**317**	⇑*i* P	**Pb**	**09 49 02.5**	**-0.1**
	baz=319						
NSTT				S	**Sg**	**09 49 13.2**	**-0.4**
	baz=319						
TWQ1	**Liyutan**	**0.89**	**294**	*e*P	**Pb**	**09 49 02.8**	**+0.1**
	baz=308						
TWQ1				*e*S	**Sb**	**09 49 15.1**	**+0.5**
	baz=308						
WNT	**Mingjian**	**0.90**	**263**	*e*P	**Pb**	**09 49 03.1**	**+0.2**
	baz=270						
WNT				*e*S	**Sb**	**09 49 15.6**	**+0.6**
	baz=270						
TCU	**Taichung**	**0.91**	**280**	*e*P	**Pn**	**09 49 04.0**	**-0.1**
	baz=276						
TCU				*e*S	**Sn**	**09 49 16.3**	**-1.1**
	baz=276						
ALS	**Alishan**	**0.92**	**239**	⇓P	**Pg**	**09 49 02.9**	**+0.1**
	baz=240						
ALS				*e*S	**Sg**	**09 49 15.2**	**+0.5**
	baz=240						
CHKT	**Chengkung**	**0.92**	**197**	*e*P	**Pg**	**09 49 03.0**	**+0.1**
	baz=187						
CHKT				*e*S	**Sn**	**09 49 17.1**	**-0.5**
	baz=187						
NSY	**Sanyi**	**0.93**	**298**	*e*P	**Pb**	**09 49 03.2**	**-0.2**
	baz=311						
NSY				*e*S	**Sb**	**09 49 16.5**	**+0.8**
	baz=311						
CHN5	**Tsauling**	**0.98**	**247**	*e*P	**Pb**	**09 49 04.3**	**0.0**
	baz=238						
CHN5				*e*S	**Sb**	**09 49 18.1**	**+0.8**
	baz=238						
ELDTW	**Lidau**	**0.99**	**217**	*e*P	**Pg**	**09 49 02.4**	**-1.8**
	baz=217						
ELDTW				*e*S	**Sg**	**09 49 17.1**	**+0.1**
	baz=217						
TWA	**Mucha**	**0.99**	**356**	P	Pg	**09 49 04.1**	**-0.1**
	baz=348						
TWA				S	**Sg**	**09 49 16.6**	**-0.6**
	baz=348						
HSN	**Hsinchu**	**1.03**	**322**	*e*P	**Pg**	**09 49 03.9**	**-1.0**
	baz=327						
HSN				*e*S	**Sn**	**09 49 19.9**	**-0.4**
	baz=327						
WGK	**Gukeng**	**1.05**	**254**	*e*P	**Pb**	**09 49 05.5**	**+0.1**
	baz=256						
WGK				*e*S	**Sb**	**09 49 19.7**	**+0.5**
	baz=256						
TAP1	**Taipei**	**1.06**	**353**	*e*P	**Pg**	**09 49 05.2**	**-0.2**
	baz=345						
TAP1				*e*S	**Sg**	**09 49 18.8**	**-0.4**
	baz=345						
TAP	**Taipei**	**1.06**	**352**	*e*P	**Pg**	**09 49 05.0**	**-0.5**
	baz=345						
TAP				*e*S	**Sg**	**09 49 19.4**	**+0.2**
	baz=345						
TWB1	**Santiao Chiao**	**1.06**	**16**	*e*P	**Pg**	**09 49 05.1**	**-0.4**
	baz=8.0						
TWB1				*e*S	**Sg**	**09 49 18.5**	**-0.8**
	baz=8.0						
NCU	**National Centr**	**1.07**	**336**	*e*P	**Pg**	**09 49 05.1**	**-0.6**
	baz=337						
NWF	**Wu-fen Shan**	**1.09**	**6**	*e*P	**Pb**	**09 49 06.2**	**+0.1**
	baz=356						
NWF				*e*S	**Sg**	**09 49 20.4**	**+0.2**
	baz=356						
TWS1	**Kuangyinshan**	**1.13**	**349**	*e*P	**Pg**	**09 49 06.9**	**+0.1**
	baz=350						
TWS1				*e*S	**Sn**	**09 49 23.2**	**+0.4**
	baz=350						
CHN4	**Tsaushan**	**1.17**	**237**	⇓*i* P	**Pn**	**09 49 07.8**	**+0.2**
	baz=231						
CHN4				*e*S	**Sn**	**09 49 24.2**	**+0.6**
	baz=231						
STYT	**Tauyuan**	**1.17**	**226**	*e*P	**Pb**	**09 49 06.9**	**-0.6**
	baz=227						
STYT				*e*S	**Sn**	**09 49 23.7**	**0.0**
	baz=227						
CHY	**Chiayi**	**1.23**	**247**	*e*P	**Pb**	**09 49 08.6**	**0.0**
	baz=263						
CHY				*e*S	**Sn**	**09 49 25.6**	**+0.3**
	baz=263						
WTCT	**Ta-ch'eng**	**1.27**	**265**	*e*P	**Pn**	**09 49 07.6**	**-1.4**
	baz=267						
WTCT				*e*S	**Sn**	**09 49 26.5**	**+0.4**
	baz=267						
TWG	**Pinlang**	**1.28**	**205**	*e*P	**Pn**	**09 49 08.4**	**-0.8**
	baz=202						
TWY	**Chenhua**	**1.29**	**358**	*e*P	**Pn**	**09 49 09.4**	**-0.1**
	baz=346						
TWK	**Hsinying**	**1.29**	**237**	*e*P	**Pn**	**09 49 09.4**	**0.0**
	baz=228						
TWK				*e*S	**Sn**	**09 49 27.3**	**+0.5**
	baz=228						
CHN1	**Nanshi**	**1.31**	**233**	*e*P	**Pn**	**09 49 09.5**	**-0.1**
	baz=235						
CHN1				*e*S	**Sg**	**09 49 28.4**	**+1.1**
	baz=235						
YOJ	**Yonaguni jima**	**1.32**	**69**	P	**Pn**	**09 49 09.4**	**-0.3**
YOJ	**Yonaguni jima**	**1.32**	**69**	*e*P	**Pn**	**09 49 08.8**	**-0.9**
	baz=70						
SGST	**Jiashian**	**1.34**	**228**	*e*P	**Pn**	**09 49 09.9**	**-0.1**
	baz=230						
SGST				*e*S	**Sg**	**09 49 29.1**	**+1.0**
	baz=230						
WSF	**Szhu**	**1.36**	**256**	*e*P	**Pn**	**09 49 09.8**	**-0.5**
	baz=258						
WSF				*e*S	**Sg**	**09 49 29.3**	**+0.4**
	baz=258						
ECL	**Taimali**	**1.53**	**205**	*e*P	**Pn**	**09 49 11.3**	**-1.3**
	baz=186						
SSD	**Sandimen**	**1.55**	**218**	*e*P	**Pn**	**09 49 13.3**	**+0.3**
	baz=220						
SSD				*e*S	**Sg**	**09 49 34.4**	**-0.7**
	baz=220						
TWM1	**Shoushan**	**1.62**	**225**	*e*P	**Pb**	**09 49 14.6**	**-0.7**
	baz=224						
EAST	**Anshuo**	**1.76**	**205**	*e*P	**Pn**	**09 49 15.7**	**-0.1**
	baz=187						
SCZT	**Fangliau**	**1.87**	**211**	*e*P	**Pn**	**09 49 17.7**	**+0.4**
	baz=196						
IRIF	**Iriomote-Funau**	**1.92**	**79**	P	**Pn**	**09 49 18.0**	**0.0**
HATJ	**Hateruma jima**	**1.96**	**88**	P	**Pn**	**09 49 19.0**	**+0.4**
HATJ				*e*S	**Sn**	**09 49 43.4**	**+0.1**
JKRS	**Kuro-shima**	**2.16**	**83**	P	**Pn**	**09 49 22.0**	**+0.7**
JKRS				*e*S	**Sn**	**09 49 49.5**	**+1.3**
TWK1	**Hengchun**	**2.18**	**201**	*e*P	**Pn**	**09 49 22.1**	**+0.6**
	baz=197						
JIJ	**Ishigaki jima**	**2.30**	**80**	P	**Pn**	**09 49 22.5**	**-0.7**
JIJ				*e*S	**Sn**	**09 49 50.7**	**-0.9**
JTJ	**Tarama**	**2.85**	**76**	P	**Pn**	**09 49 32.1**	**+1.3**
KNM	**Kinmen**	**2.98**	**279**	*e*P	**Pn**	**09 49 33.5**	**+1.0**
	baz=277						

AUST ***24*** *10:16:44.3±0.8,5.78S×148.09E,h95km,Error ellipse: s-maj=1.8km s-min=1.0km az=339.0*

IDC ***24*** *10:16:45.7±2.5,5.74S×148.05E,h114km±21km,mb3.8/5, mb1 4.0/7,mb1mx3.6/18,mbtmp4.2/7,MS3.1/1,Ms1 3.1/1, ms1mx2.5/24,Error ellipse: s-maj=44.4km s-min=19.1km az=121.0*

ISC 24 10:16:48.8±0.9,6.1S±0.1×148.3E±0.1,h167km,n20, σ2§11/19,mb4.0/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.46**	**200**	P	**Pn**	**10 17 40.3**	**-2.2**
	19nm,0.3s,baz=334,slow=4.4,SNR=35						
PMG				S	**Sn**	**10 18 22.2**	**-2.3**
	56nm,0.3s,baz=345,slow=16,SNR=6.9						
PMG	**Port Moresby**	**3.46**	**200**	P	Pn	**10 17 40.4**	**-2.2**
	baz=3.7,SNR=33						
PMG				P	Pn	**10 17 40.4**	**-2.2**
	baz=3.7,SNR=33						
PMG				P	Pn	**10 17 40.4**	**-2.2**
	baz=3.7,SNR=33						
RABL	**Rabaul**	**4.27**	**63**	P	Pn	**10 17 50.7**	**-2.3**
	baz=4.4,SNR=7.6						
COEN	**Coen**	**9.29**	**213**	P	**Pn**	**10 18 57.9**	**-1.3**
	baz=9.5,SNR=14						
KDU	**Kakadu**	**16.95**	**246**	P	**P**	**10 20 34.2**	**-1.2**
	baz=17,SNR=8.3						
MTN	**Manton Dam**	**18.23**	**247**	P	**Pn**	**10 20 49.5**	**-1.9**
	baz=18,SNR=8.8						
EIDS	**Eidsvold**	**19.30**	**172**	P	**Pn**	**10 21 07.3**	**+3.3**
	baz=20,SNR=3.5						
WRA	**Warramunga Arr**	**19.33**	**223**	P	**Pn**	**10 21 03.6**	**-0.7**
	0.7nm,0.3s,baz=47,slow=11,SNR=66						
WRA				S	**S**	**10 24 32.0**	**+0.7**
	0.1nm,0.3s,baz=44,slow=20,SNR=4.2						
RMQ	**Roma**	**20.24**	**179**	P	Pn	10 21 19.7	+4.6
	baz=21,SNR=5.6						
QLP	**Quilpie**	**20.71**	**190**	P	Pn	10 21 21.0	+0.2
	baz=21,SNR=4.6						
KNRA	**Kununurra**	**21.41**	**242**	P	**P**	**10 21 23.4**	**-0.3**
	baz=21,SNR=12						
ASAR	**Alice Springs**	**22.29**	**217**	P	**P**	**10 21 35.3**	**+2.7**
	9.1nm,0.6s,baz=54,slow=8.9,SNR=199						
ASAR				S	S	10 25 33.8	+8.2
	2.6nm,0.8s,baz=32,slow=24,SNR=19						
FITZ	**Fitzroy Crossi**	**25.14**	**240**	P	**P**	**10 22 00.2**	**+1.6**
	8.3nm,0.6s,baz=70,slow=7.5,SNR=25						
FITZ	**Fitzroy Crossi**	**25.14**	**240**	P	**P**	**10 22 00.5**	**+1.9**
	baz=25,SNR=20						
STKA	**Stephens Creek**	**26.38**	**193**	P	P	10 22 15.7	+6.1
	1.5nm,0.4s,baz=20,slow=13,SNR=3.1						
WRKA	**Warakurna**	**26.87**	**223**	P	**P**	**10 22 17.0**	**+2.8**
	baz=27,SNR=11						
ASAJ	**Asahikawa**	**50.29**	**355**	LR	LR	10 48 19.4	
	comp=Z,15nm,28.6s,baz=140,slow=38						
VNDA	**Vanda**	**71.70**	**177**	P	P	10 27 57.8	+5.8
	0.6nm,0.8s,baz=3.8,slow=6.1,SNR=2.9						
ILAR	**Eielson Array**	**85.08**	**23**	P	**P**	**10 29 05.6**	**+0.2**
	0.3nm,0.8s,baz=256,slow=5.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**146.42**	**284**	PKPbc	**PKPab**	**10 36 13.7**	**+1.3**
	0.2nm,0.5s,baz=60,slow=3.5,SNR=3.2						

ISCJB ***24*** *10:21:56.2±0.7,37°.04N±0°.05×71°.7E±0°.1,h106km, mb3.0/2,Error ellipse: s-maj=13.0km s-min=5.8km az=153.5*

NNC ***24*** *10:22:02.7±5.1,37°.79N×71°.50E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=41.1km s-min=28.2km az=167.0*

IDC ***24*** *10:22:08.4±6.7,37°.83N×71°.83E,h177km±45km,mb2.8/2, mb1 2.9/8,mb1mx2.8/33,mbtmp3.5/8,Error ellipse: s-maj=62.6km s-min=33.4km az=177.0*

ISC 24 10:21:55.2±1.1,37°.03N±0°.05×71°.6E±0°.1,h106km,n27, σ2§43/29,6C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.36**	**17**	P	**Pn**	**10 23 15.8**	**+2.6**
	SNR=27						
UCH	**Uchtor**	**5.67**	**23**	P	**Pn**	**10 23 19.9**	**+2.4**
	SNR=18						
KZA	**Kyzart**	**5.79**	**28**	P	**Pn**	**10 23 21.0**	**+1.9**
	SNR=8.1						
EKS2	**Erkin-Say**	**5.88**	**16**	P	Pn	10 23 23.3	+3.3
	SNR=18						
AAK	**Ala-Archa**	**6.04**	**21**	P	Pn	10 23 25.0	+2.9
	SNR=14						
AAK	**Ala-Archa**	**6.04**	**21**	P	**Pn**	**10 23 24.8**	**+2.6**
	2.4nm,0.3s,baz=168,slow=8.3,SNR=24						
AAK				S	**Sn**	**10 24 26.7**	**-3.2**
	1.2nm,0.3s,baz=123,slow=23,SNR=11						
AAK	**Ala-Archa**	**6.04**	**21**	⇑Pn	**Pn**	**10 23 24.1**	**+2.0**
	5.0nm,0.6s						
AAK				⇑Sn	**Sn**	**10 24 26.8**	**-3.2**
	4.6nm,0.6s						
KK31	**Karatay Array**	**6.12**	**353**	⇑Pn	Pn	10 23 26.4	+3.2
	1.6nm,0.2s,baz=177,slow=13,SNR=81						
KK31				⇑Sn	**Sn**	**10 24 28.8**	**-3.0**
	10nm,0.3s,baz=174,slow=22,SNR=24						
ULHL	**Ulahol**	**6.34**	**33**	P	**Pn**	**10 23 27.8**	**+1.4**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.65**	**27**	P	**Pn**	**10 23 32.5**	**+2.0**
	SNR=6.1						
TKM2	**Tokmak 2**	**6.65**	**27**	⇓Pn	**Pn**	**10 23 32.5**	**+2.0**
	2.2nm,0.6s						
TKM2				⇓Sn	**Sn**	**10 24 42.6**	**-2.3**
	2.6nm,0.5s						
MKAR	**Makanchi Array**	**12.60**	**36**	P	**Pn**	**10 24 51.0**	**+0.4**
	0.1nm,0.3s,baz=223,slow=15,SNR=2.9						
DANN	**Dangsing**	**13.43**	**127**	*e*P	**Pn**	**10 25 02.9**	**+1.1**
	12nm,0.3s						
KOLN	**Koldanda**	**13.73**	**129**	*e*P	**Pn**	**10 25 06.1**	**+0.5**
GKN	**Gorkha**	**14.23**	**125**	*e*P	**Pn**	**10 25 14.0**	**+2.0**
	11nm,0.3s						
KURBB	**Kurchatov Arra**	**14.48**	**18**	P	**Pn**	**10 25 14.9**	**0.0**
	0.3nm,0.3s,baz=201,slow=11,SNR=6.3						
AB31	**Akbulak array**	**14.85**	**329**	⇑P	**P**	**10 25 22.1**	**-0.6**
	0.7nm,0.4s,baz=135,slow=14,SNR=34						
PKI	**Pulchoki**	**15.02**	**125**	*e*P	**Pn**	**10 25 23.0**	**+0.7**
GUN	**Gumba**	**15.11**	**123**	*e*P	**Pn**	**10 25 23.8**	**+0.4**
	9.4nm,0.4s						
JIRN	**Jiri**	**15.48**	**123**	*e*P	**Pn**	**10 25 28.6**	**+0.5**
	17nm,0.4s						
BVAR	**Borovoye Array**	**16.02**	**357**	P	**Pn**	**10 25 34.1**	**-0.1**
	0.2nm,0.3s,baz=139,slow

BMAS	**Trigal station**	**1.20 323**	⇑P		Pn	10 35 41.8	-0.5
ULBA	**Ulba**	**1.20 327**	⇑P		Pn	10 35 42.2	-0.2
BULB	**Ulba Tungurahu**	**1.21 327**	⇑S		Sb	10 35 58.0	-0.6
BULB	**Ulba Tungurahu**	**1.21 327**	⇑P		Pn	10 35 42.3	-0.2
RETU	**Refugio**	**1.22 325**	S		Sb	10 35 59.1	0.0
RETU	**Refugio**	**1.22 325**	P		Pn	10 35 42.5	-0.4
BRUN	**Tungurahua Vol**	**1.22 327**	⇑P		Pn	10 35 42.7	0.0
BRUN	**Tungurahua Vol**	**1.22 327**	⇑S		Sb	10 35 59.0	+0.1
JUI6	**Juive**	**1.25 325**	S		Sb	10 35 59.3	-0.4
JUI6	**Juive**	**1.25 325**	P		Pn	10 35 42.7	-0.4
IGUA	**Igualata**	**1.31 317**	P		Pn	10 35 44.3	+0.1
PISA	**Pisayambo**	**1.53 336**	⇑P		Pb	10 35 48.3	+0.1
BMOR	**Cotopaxi Volca**	**1.86 338**	S		Sg	10 36 19.3	-1.0
BMOR	**Cotopaxi Volca**	**1.86 338**	P		Pb	10 35 53.9	-0.1
TAMB	**Tambo**	**1.86 341**	P		Pb	10 35 53.6	-0.3
MOV1	**Cotopaxi Vol s**	**1.87 338**	S		Sg	10 36 19.9	-0.9
MOV1	**Cotopaxi Vol s**	**1.87 338**	P		Pb	10 35 53.7	-0.4
COV1	**Cotopaxi Volc**	**1.88 342**	S		Sg	10 36 21.6	+0.3
COV1	**Cotopaxi Volc**	**1.88 342**	P		Pb	10 35 54.8	+0.3
BTAM	**Cotopaxi Volca**	**1.89 340**	⇓P		Pb	10 35 54.1	-0.3
BTAM	**Cotopaxi Volca**	**1.89 340**	⇓S		Sg	10 36 20.3	-0.9
BREF	**Cotopaxi Volca**	**1.91 339**	⇑S		Sg	10 36 22.0	-0.1
BREF	**Cotopaxi Volca**	**1.91 339**	⇑P		Pb	10 35 55.0	+0.1
BVC2	**Cotopaxi Volca**	**1.91 340**	P		Pb	10 35 54.6	-0.2
VC1	**Cotopaxi 1**	**1.92 340**	P		Pb	10 35 54.8	-0.1
BNAS	**Cotopaxi Volca**	**1.92 338**	⇓S		Sg	10 36 22.2	0.0
BNAS	**Cotopaxi Volca**	**1.92 338**	⇓P		Pb	10 35 55.1	+0.1
CAMI	**Rancho Maria**	**1.92 337**	P		Pb	10 35 55.2	+0.3
CAMI	**Rancho Maria**	**1.92 337**	S		Sg	10 36 21.6	-0.7
NAS2	**Nasa**	**1.94 338**	S		Sg	10 36 22.6	-0.3
NAS2	**Nasa**	**1.94 338**	P		Pb	10 35 55.5	+0.3
PAST	**Pastocalle**	**1.97 333**	P		Pb	10 35 56.0	+0.4
PAST	**Pastocalle**	**1.97 333**	S		Sg	10 36 26.7	+3.1
ANTI	**Antisana**	**2.04 348**	P		Pb	10 35 55.9	-1.1
JUA2	**San Juan 2**	**2.39 339**	P		Pb	10 36 02.9	0.0
GGP	**Refugio Guagua**	**2.42 340**	P		Pb	10 36 03.8	+0.2
TERV	**Terraza Guagua**	**2.42 339**	P		Pb	10 36 04.1	+0.5
PINO	**Pino**	**2.44 339**	P		Pb	10 36 04.9	+1.0
ARNL	**Arenillas**	**2.55 245**	S		Sn	10 36 30.7	-0.8
ARNL	**Arenillas**	**2.55 245**	P		Pn	10 35 59.4	-1.1
OTAV	**Otavalo**	**2.77 345**	P		Pb	10 36 10.3	+1.0
ISPT	**Isla de la Pla**	**3.53 290**	P		Pn	10 36 14.1	+0.1

WEL 24 10:47:21.6±0.4, 38.10S×176.26E, h150km±3km, ML3.6/5, 18C-6D, Error ellipse: s-maj=2.7km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	**Mount Tarawera**	**0.24**	**126**	PN	Pn	10 47 42.4	+0.3
RRRZ	**Republican Roa**	**0.32**	**141**	PN	Pn	10 47 42.3	+0.1
URZ	**Urewera**	**0.69**	**104**	⇓PN	Pn	10 47 43.6	-0.4
URZ				SN	Sn	10 48 00.4	-0.8
URZ				AML	AML	10 48 00.9	
RITZ	**Rihia Road**	**0.94**	**200**	PN	Pn	10 47 46.0	+0.1
KATZ	**Kakaramea**	**0.98**	**207**	PN	Pn	10 47 46.4	0.0
MWZ	**Matawai**	**1.03**	**104**	PN	Pn	10 47 46.3	-0.4
MWZ				SN	Sn	10 48 05.1	-0.7
MWZ				AML	AML	10 48 05.9	
MWZ				AML	AML	10 48 06.1	
MWZ				AML	AML	10 48 06.2	
RAHZ	**Arahi**	**1.04**	**142**	⇓PN	Pn	10 47 47.1	+0.3
RAHZ				SN	Sn	10 48 06.6	+0.5
BKZ	**Black Stump Fm**	**1.08**	**170**	PN	Pn	10 47 46.9	-0.4
BKZ				AML	AML	10 48 06.5	
BKZ				AML	AML	10 48 06.5	
NMHZ	**Naumai**	**1.09**	**157**	PN	Pn	10 47 47.8	+0.6
SNGZ	**Shannon Statio**	**1.09**	**129**	PN	Pn	10 47 47.5	+0.2
KRVZ	**Karewarewa**	**1.11**	**206**	PN	Pn	10 47 47.5	-0.1
WTVZ	**West Tongariro**	**1.15**	**207**	PN	Pn	10 47 47.8	-0.1
OTVZ	**Oturere**	**1.16**	**203**	PN	Pn	10 47 48.3	+0.2
TWVZ	**Taurewa**	**1.17**	**213**	⇑PN	Pn	10 47 48.0	0.0
HIZ	**Hauiti**	**1.18**	**249**	⇑PN	Pn	10 47 48.5	+0.4
NGZ	**Ngauruhoe**	**1.20**	**205**	PN	Pn	10 47 48.4	0.0
WHHZ	**Waihua**	**1.24**	**142**	PN	Pn	10 47 48.8	+0.2
WPVZ	**Whakapapa**	**1.24**	**207**	⇑PN	Pn	10 47 48.8	0.0
TUVZ	**Tukino**	**1.26**	**202**	⇑PN	Pn	10 47 49.0	0.0
FWVZ	**Far West T-bar**	**1.28**	**205**	PN	Pn	10 47 48.9	-0.4
WHVZ	**Whangaehu Hut**	**1.30**	**204**	⇑PN	Pn	10 47 49.3	-0.1
TRVZ	**Turoa**	**1.32**	**205**	PN	Pn	10 47 49.6	-0.1
RIGZ	**Rimuhau**	**1.33**	**118**	PN	Pn	10 47 49.4	-0.1
WNVZ	**Wahianoa**	**1.33**	**203**	⇑PN	Pn	10 47 49.5	-0.2
MOVZ	**Moawhango**	**1.37**	**197**	⇑PN	Pn	10 47 49.3	-0.6
MCHZ	**McNeill Hill**	**1.39**	**166**	PN	Pn	10 47 50.4	+0.3
PKVZ	**Pokaka**	**1.39**	**211**	PN	Pn	10 47 50.0	-0.2
BHHZ	**Black Hill Sta**	**1.40**	**186**	⇑PN	Pn	10 47 49.7	-0.5
MTVZ	**Mangateitei**	**1.43**	**205**	PN	Pn	10 47 50.3	-0.2
KNZ	**Kokohu**	**1.44**	**130**	PN	Pn	10 47 50.4	-0.1
PRGZ	**Paritu Road**	**1.52**	**123**	PN	Pn	10 47 51.3	-0.1
VRZ	**Vera Road**	**1.56**	**228**	PN	Pn	10 47 52.1	+0.3
CNGZ	**Carnagh Statio**	**1.58**	**105**	PN	Pn	10 47 52.1	+0.1
MHGZ	**Mahia Peninsul**	**1.67**	**130**	PN	Pn	10 47 53.0	0.0
CKHZ	**Cape Kidnapper**	**1.69**	**158**	PN	Pn	10 47 53.1	-0.1
MXZ	**Matakaoa Point**	**1.71**	**72**	PN	Pn	10 47 53.0	-0.4
KAHZ	**Kahuranaki**	**1.76**	**164**	⇑PN	Pn	10 47 53.8	-0.3
KAHZ				SN	Sn	10 48 18.2	-0.9
PNHZ	**Pukenui**	**1.82**	**181**	PN	Pn	10 47 53.7	-1.0
WAZ	**Wanganui**	**1.93**	**211**	⇑PN	Pn	10 47 55.5	-0.5
WPHZ	**Waipukurau**	**1.97**	**176**	PN	Pn	10 47 55.4	-1.0
TSZ	**Takapari Road**	**1.98**	**187**	PN	Pn	10 47 55.3	-1.2
PXZ	**Pawanui**	**1.99**	**167**	⇑PN	Pn	10 47 55.8	-0.8
PRHZ	**Porangahau**	**2.19**	**172**	⇑PN	Pn	10 47 57.8	-1.1
DVHZ	**Dannevirke**	**2.20**	**182**	⇑PN	Pn	10 47 57.6	-1.5
POWZ	**Post Office Ro**	**2.33**	**189**	PN	Pn	10 47 59.0	-1.6
ANWZ	**Angora Road**	**2.37**	**176**	⇑PN	Pn	10 47 59.9	-1.2
PRWZ	**Pori Road**	**2.47**	**185**	PN	Pn	10 48 00.8	-1.5
BFZ	**Birch Farm**	**2.58**	**180**	PN	Pn	10 48 01.8	-1.9
MRZ	**Mangatainoka R**	**2.62**	**191**	PN	Pn	10 48 02.0	-2.1
MRZ				AML	AML	10 48 35.5	
TIWZ	**Tintock**	**2.69**	**186**	PN	Pn	10 48 03.1	-2.0
CPWZ	**Castlepoint**	**2.81**	**181**	⇓PN	Pn	10 48 05.1	-1.4
OGWZ	**Otaki Gorge**	**2.85**	**197**	⇑PN	Pn	10 48 04.7	-2.3
HOWZ	**Holdsworth Sta**	**2.86**	**191**	⇑PN	Pn	10 48 04.6	-2.6
KIW	**Kapiti Island**	**2.95**	**200**	PN	Pn	10 48 05.8	-2.6
TMWZ	**Te Maipa**	**3.02**	**185**	PN	Pn	10 48 06.6	-2.7
MTW	**Mount Morrison**	**3.11**	**191**	⇑PN	Pn	10 48 07.4	-3.0
CAW	**Cannon Point**	**3.15**	**197**	⇓PN	Pn	10 48 08.1	-2.7
DUWZ	**D'Urville Isla**	**3.25**	**213**	PN	Pn	10 48 09.5	-2.8
TRWZ	**Traveller**	**3.33**	**187**	PN	Pn	10 48 10.2	-3.0
PAWZ	**Paruwai Farm**	**3.34**	**191**	⇓PN	Pn	10 48 10.3	-3.1
WEL	**Wellington**	**3.39**	**199**	PN	Pn	10 48 10.8	-3.1
MSWZ	**Moikau Station**	**3.41**	**193**	⇓PN	Pn	10 48 10.9	-3.2
SNZO	**South Karori**	**3.43**	**200**	PN	Pn	10 48 11.1	-3.3
TCW	**Tory Channel**	**3.47**	**206**	PN	Pn	10 48 11.9	-3.0
TCW				AML	AML	10 48 54.7	
BHW	**Baring Head**	**3.48**	**198**	PN	Pn	10 48 11.6	-3.4
PLWZ	**Palliser**	**3.56**	**192**	PN	Pn	10 48 12.5	-3.6
TUWZ	**Tuamarina**	**3.78**	**207**	PN	Pn	10 48 15.6	-3.3
NNZ	**Nelson**	**3.83**	**215**	PN	Pn	10 48 16.0	-3.6
QRZ	**Quartz Range**	**3.97**	**225**	PN	Pn	10 48 17.6	-3.8
BSWZ	**Blackbirch Sta**	**4.05**	**206**	PN	Pn	10 48 19.0	-3.6
THZ	**Tophouse**	**4.48**	**214**	PN	Pn	10 48 24.2	-4.0
DSZ	**Denniston Nort**	**5.00**	**222**	PN	Pn	10 48 30.3	-4.8
LTZ	**Lake Taylor**	**5.58**	**212**	PN	Pn	10 48 38.4	-4.4
OXZ	**Oxford**	**6.13**	**210**	PN	Pn	10 48 44.5	-5.4
MQZ	**McQueen's Vall**	**6.24**	**205**	⇑PN	Pn	10 48 45.5	-5.8
ODZ	**Otahua Downs**	**8.12**	**209**	PN	Pn	10 49 11.0	-5.4

*IDC **24** 10:59:15.6±5.3, 17.84S×178.38W, h612km±57km, mb3.0/9, mb1 3.3/9, mb1mx3.1/21, mbtmp4.0/9, Error ellipse: s-maj=81.1km s-min=21.2km az=148.0*

ISC 24 10:59:12.8±1.4, 17.8S±0.6×178.3W±0.3, h579km, n12, σ0.99/14, mb3.4/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.56**	**260**	P	**P**	**11 05 08.1**	**+2.0**
	3.3nm,0.3s,baz=98,slow=10,SNR=20						
WRA	**Warramunga Arr**	**44.75**	**259**	P	**P**	**11 06 34.8**	**-1.0**
	1.5nm,0.3s,baz=94,slow=8.4,SNR=20						
WRA				PcP	**PcP**	**11 08 04.9**	**-0.6**
	0.2nm,0.3s,baz=95,slow=3.4,SNR=4.8						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**11 06 35.9**	**-1.3**
	1.5nm,0.5s,baz=89,slow=9.5,SNR=41						
ASAR				PcP	**PcP**	**11 08 04.7**	**-1.4**
	0.5nm,0.4s,baz=100,slow=3.9,SNR=8.6						
FITZ	**Fitzroy Crossi**	**53.14**	**260**	P	**P**	**11 07 37.9**	**+0.1**
	1.7nm,0.8s,baz=126,slow=17,SNR=3.6						
NVAR	**Mina Array Bea**	**79.27**	**44**	P	**P**	**11 10 19.2**	**0.0**
	0.4nm,0.6s,baz=217,slow=7.7,SNR=4.6						
ILAR	**Eielson Array**	**85.74**	**13**	P	**P**	**11 10 50.3**	**-0.5**
	0.3nm,0.4s,baz=215,slow=5.2,SNR=19						
TXAR	**Lajitas Array**	**85.85**	**58**	P	**P**	**11 10 53.4**	**+1.1**
	0.5nm,0.7s,baz=229,slow=7.6,SNR=7.1						
PDAR	**Pinedale Array**	**87.19**	**43**	P	**P**	**11 10 58.3**	**-0.3**
	0.4nm,0.7s,baz=220,slow=3.5,SNR=3.9						
YKA	**Yellowknife Ar**	**94.17**	**25**	P	**P**	**11 11 29.8**	**-0.1**
	0.1nm,0.5s,baz=238,slow=4.7,SNR=4.1						
BRTR	**Keskin Array B**	**144.75**	**315**	PKP	**PKPdf**	**11 17 44.7**	**0.0**
	0.8nm,0.8s,baz=352,slow=3.7,SNR=4.3						
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc	**PKPbc**	**11 17 52.5**	**-0.1**
	0.6nm,0.6s,baz=42,slow=2.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**175.40**	**180**	PKP	**PKPdf**	**11 18 17.9**	**+0.1**
	0.2nm,0.5s,baz=335,slow=2.1,SNR=2.5						

IDC 24 11:34:52.4±4.8, 65.07S×179.35W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/12, mbtmp3.8/4, ML3.4/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/21, Error ellipse: s-maj=156.6km s-min=27.2km az=68.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.75**	**197**	Pn	Pn	11 38 07.5	-0.7
	0.2nm,0.3s,baz=41,slow=18,SNR=39						
VNDA				LR	LR	11 42 00.1	
	comp=Z,201nm,21.6s,baz=341,slow=31						
RPZ	**Rata Peaks**	**22.07**	**341**	LR	LR	11 46 18.4	
	comp=Z,164nm,19.0s,baz=357,slow=31						
QSPA	**South Pole Qui**	**25.02**	**180**	P	P	11 40 18.0	+0.2
	5.9nm,1.0s,baz=37,slow=5.6,SNR=10						
QSPA				LR	LR	11 48 58.1	
	comp=Z,156nm,19.3s,baz=235,slow=34						
URZ	**Urewera**	**26.93**	**354**	LR	LR	11 49 03.0	
	comp=Z,114nm,21.2s,baz=158,slow=32						
MAW	**Mawson**	**40.45**	**212**	LR	LR	11 59 01.6	
	comp=Z,103nm,19.3s,baz=328,slow=36						
DZM	**Mont Dzumac**	**43.99**	**341**	eLR	LR	11 55 56.4	
	120nm,23.6s						
TBI	**Tubuai**	**46.00**	**40**	eLR	LR	11 56 04.0	
	78nm,27.2s						
H01W1	**Cape Leeuwin H**	**49.10**	**274**	T	T	12 36 34.2	
	baz=148,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**49.10**	**274**	T	T	12 36 32.6	
	baz=148,slow=76,SNR=17						
H01W3	**Cape Leeuwin H**	**49.12**	**274**	T	T	12 36 33.6	
	baz=148,slow=76,SNR=19						
RKT	**Rikitea**	**50.77**	**56**	eT	T	12 38 27.5	
	2.2nm,0.3s						
ASAR	**Alice Springs**	**51.11**	**301**	P	P	11 43 56.3	-0.3
	0.4nm,0.8s,baz=158,slow=7.0,SNR=4.5						
AFI	**Afiamalu**	**51.37**	**9**	LR	LR	11 59 39.5	
	comp=Z,322nm,21.8s,baz=297,slow=29						
TVO	**Taravao**	**51.37**	**38**	eT	T	12 39 11.3	
	4.1nm,0.3s						
PAE	**Paea**	**51.40**	**37**	eT	T	12 39 13.6	
	1.4nm,0.4s						
PPT2	**Papeete2**	**51.47**	**37**	eLR	LR	11 58 32.3	
	90nm,23.8s						
PPT2	**Papeete2**	**51.47**	**37**	eT	T	12 39 18.2	
	2.5nm,0.3s						
VAH	**Vaihoa**	**54.23**	**39**	eT	T	12 42 45.9	
	16nm,0.3s						
WRA	**Warramunga Arr**	**54.37**	**303**	P	P	11 44 20.8	0.0
	1.1nm,1.0s,baz=157,slow=6.3,SNR=7.3						
PMOR	**Pomariorio Ree**	**54.39**	**38**	eT	T	12 42 56.9	
	4.2nm,0.4s						
BOSA	**Boshof**	**84.68**	**202**	LR	LR	12 23 48.9	
	comp=Z,34nm,18.2s,baz=173,slow=35						
H08S2	**Diego Garcia H**	**90.64**	**250**	T	T	13 28 44.3	
	baz=154,slow=75,SNR=14						
H08S1	**Diego Garcia H**	**90.65**	**250**	T	T	13 28 45.3	
	baz=154,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**90.66**	**250**	T	T	13 28 46.3	
	baz=154,slow=75,SNR=21						

*NIED **24** 11:37:00, 36.70N×142.20E, h26km, Mw3.8 Best double couple: M0 5.84000×10^14 NP1:φ=28.00000°, δ=73.00000°, λ=96.00000°. NP2:φ=190.00000°, δ=18.00000°, λ=72.00000°.*
*JMA **24** 11:37:46.8±0.3, 36.66N×142.17E, h23km, M3.9*
*IDC **24** 11:38:06.3±2.4, 37.04N×140.67E, h93km±21km, mb3.4/6, mb1 3.5/10, mb1mx3.3/27, mbtmp3.4/10, MS2.9/3, Ms1 2.9/3, ms1mx2.6/24, Error ellipse: s-maj=26.4km s-min=18.4km az=92.0*

ISC 24 11:37:47.6±2.1, 36.71N±0.04×141.98E±0.07, h6km±11km, n32, σ0.93/33, mb3.7/6, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.02**	**293**	P	**Pg**	**11 38 07.8**	**+0.6**
JFK	**Kawauchi**	**1.10**	**307**	P	**Pg**	**11 38 08.8**	**+0.2**
JFK				S	**Sn**	**11 38 25.1**	**+0.1**
JHO	**Hitachi**	**1.14**	**265**	P	**Pg**	**11 38 09.3**	**-0.1**
JHO				S	**Sn**	**11 38 26.7**	**+0.7**
JMM	**Marumori**	**1.49**	**321**	⇓P	**Pn**	**11 38 14.7**	**-0.2**
JFT	**Otama**	**1.54**	**302**	⇓P	**Pn**	**11 38 16.3**	**+0.7**
JFT				S	**Sg**	**11 38 37.1**	**+0.1**
JIO	**Ouri**	**1.81**	**344**	P	**Pn**	**11 38 19.3**	**+0.1**
JIO				S	**Sn**	**11 38 42.3**	**-0.2**
JAG	**Ashikaga**	**2.05**	**263**	P	**Pn**	**11 38 22.9**	**+0.3**
JAG				S	**Sn**	**11 38 48.6**	**0.0**
BSO1	**Boso 1**	**2.21**	**202**	P	**Pn**	**11 38 24.0**	**-0.3**
BSO1				S	**Sn**	**11 38 52.1**	**+0.4**
JMK	**Ichinoseki**	**2.31**	**345**	P	**Pn**	**11 38 26.7**	**+0.5**
JNS	**Sasagawa**	**2.39**	**298**	P	**Pb**	**11 38 29.6**	**-1.4**
JNS				S	**Sb**	**11 38 59.6**	**-1.2**
JYK	**Kaneyama**	**2.55**	**330**	P	**Pn**	**11 38 30.3**	**+0.9**
JRY	**Ryogami san**	**2.58**	**255**	P	**Pn**	**11 38 29.9**	**0.0**
JRY				S	**Sn**	**11 39 00.7**	**-0.9**
JOD2	**Odawara 2**	**2.75**	**239**	P	**Pn**	**11 38 32.9**	**+0.6**
JOM	**Ohasama**	**2.81**	**349**	P	**Pn**	**11 38 33.8**	**+0.8**
JOM				S	**Sn**	**11 39 07.1**	**-0.1**
JYN	**Shimob**	**3.03**	**247**	P	**Pn**	**11 38 37.7**	**+1.5**
MJAR	**Matsushiro Arr**	**3.04**	**268**	P	**Pn**	**11 38 37.8**	**+1.7**
	11nm,0.3s,baz=100,slow=9.3,SNR=137						
MJAR				S	**Sn**	**11 39 12.3**	**-0.6**
	4.8nm,0.3s,baz=79,slow=16,SNR=4.9						
MAT	**Matsushiro**	**3.04**	**268**	P	**Pn**	**11 38 37.6**	**+1.4**
MAT				eS	**Sn**	**11 39 12.9**	**0.0**
MAT	**Matsushiro**	**3.04**	**268**	P	**Pn**	**11 38 38.2**	**+2.0**
ASAJ	**Asahikawa**	**7.41**	**3**	P	Pb	11 39 48.7	-7.8
	1.0nm,0.3s,baz=176,slow=19,SNR=4.1						
USRK	**Ussuriysk Arra**	**10.66**	**318**	P	Pn	11 40 24.9	+4.1
	0.2nm,0.3s,baz=131,slow=12,SNR=5.1						
USRK				LR	LR	11 44 22.8	
	comp=Z,62nm,19.6s,baz=34,slow=39						
KSRS	**Korea Array**	**11.25**	**278**	P	**Pn**	**11 40 31.2**	**+2.3**
	0.1nm,0.3s,baz=89,slow=14,SNR=4.3						
KSRS				LR	LR	11 44 43.4	
	comp=Z,64nm,19.9s,baz=346,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.59**	**121**	T	T	12 13 02.2	
	baz=316,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.60**	**121**	T	T	12 13 07.4	
	baz=316,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.61**	**121**	T	T	12 13 09.6	
	baz=316,slow=76,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**28.30**	**123**	T	T	12 13 54.2	
	baz=319,slow=75,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**28.31**	**123**	T	T	12 14 10.5	
	baz=134,slow=75,SNR=8.5						
SONM	**Songino Array**	**28.34**	**304**	P	**P**	**11 43 42.0**	**-0.3**
	2.0nm,0.8s,baz=110,slow=8.5,SNR=8.6						
ZALV	**Zalesovo Beam**	**42.46**	**313**	P	**P**	**11 45 43.2**	**0.0**
	0.7nm,0.3s,baz=98,slow=7.6,SNR=5.0						
ZALV				LR	LR	12 03 57.1	
	comp=Z,26nm,21.5s,baz=61,slow=37						
MKAR	**Makanchi Array**	**44.67**	**302**	P	**P**	**11 46 01.2**	**+0.1**
	0.6nm,0.7s,baz=92,slow=9.6,SNR=7.5						
ILAR	**Eielson Array**	**49.52**	**32**	P	P	11 46 49.2	+11
	0.3nm,0.7s,baz=267,slow=6.1,SNR=4.8						
WRA	**Warramunga Arr**	**56.81**	**189**	P	P	11 47 42.6	+10
	1.1nm,0.9s,baz=7.5,slow=7.3,SNR=6.2						
ASAR	**Alice Springs**	**60.54**	**189**	P	P	11 48 07.8	+9.2
	0.4nm,0.7s,baz=2.4,slow=5.8,SNR=5.6						

*NSSC **24** 11:47:56.9±1.3, 33.57N×35.85E, h14km±5km, ML1.6*
*GRAL **24** 11:47:56.1±0.3, 33.43N×35.72E, h12km±2km, MD2.7*
*CSEM **24** 11:47:56.7±0.2, 33.54N×35.84E, h10km, ML1.6, Error ellipse: s-maj=6.5km s-min=3.6km az=61.0*

ISC 24 11:47:56.7±1.1, 33.55N±0.04×35.84E±0.05, h13km±7km, n14, σ0.53/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.05**	**186**	eP	**Pg**	**11 47 59.1**	**-0.2**
RCY				eS	**Sg**	**11 48 01.3**	**+0.2**
RCY	**Rachaya**	**0.05**	**186**	eP	**Pg**	**11 47 59.1**	**-0.2**
RCY				eS	**Sg**	**11 48 01.3**	**+0.2**
BRBR	**Barbar**	**0.16**	**146**	eP	**Pg**	**11 48 00.6**	**-0.1**
BRBR				eS	**Sg**	**11 48 04.4**	**+0.9**
BRBR				AML	AML	11 48 06.1	
	comp=E,238nm,0.5s						
BRBR				AML	AML	11 48 07.0	
	comp=N,374nm,0.7s						
BRBR	**Barbar**	**0.16**	**146**	eP	**Pg**	**11 48 00.6**	**-0.1**
	SNR=125						
BRBR				eS	**Sg**	**11 48 04.4**	**+0.9**
	comp=N,374nm,0.7s,SNR=126						
BHL	**Bhannes**	**0.39**	**336**	eP	**Pg**	**11 48 04.8**	**+0.2**
BHL				eS	**Sb**	**11 48 11.2**	**-0.4**
BHL	**Bhannes**	**0.39**	**336**	eP	**Pg**	**11 48 04.8**	**+0.2**
BHL				eS	**Sb**	**11 48 11.2**	**-0.4**
TOTH	**TOTAH**	**0.52**	**110**	eP	**Pb**	**11 48 07.7**	**-0.1**
TOTH				eS	**Sg**	**11 48 14.9**	**+0.9**
TOTH				AML	AML	11 48 20.8	
	comp=N,35nm,0.7s						
TOTH				AML	AML	11 48 22.7	
	comp=E,44nm,0.5s						
TOTH	**TOTAH**	**0.52**	**110**	eP	**Pb**	**11 48 07.7**	**-0.1**
	SNR=97						
TOTH				eS	**Sg**	**11 48 14.9**	**+0.9**
	comp=E,44nm,0.5s,SNR=101						
MARH	**Ras Al Marh**	**0.72**	**48**	eP	**Pg**	**11 48 10.6**	**-0.1**
MARH				eS	**Sg**	**11 48 20.1**	**-0.1**
MARH				AML	AML	11 48 26.8	
	comp=E,31nm,0.4s						
MARH				AML	AML	11 48 33.3	
	comp=N,28nm,0.4s						
MARH	**Ras Al Marh**	**0.72**	**48**	eP	**Pg**	**11 48 10.6**	**-0.1**
	SNR=95						
MARH				eS	**Sg**	**11 48 20.1**	**-0.1**
	comp=N,28nm,0.4s,SNR=62						
HWQ	**Hawqa**	**0.74**	**7**	eP	**Pg**	**11 48 11.4**	**+0.4**
HWQ	**Hawqa**	**0.74**	**7**	eP	**Pg**	**11 48 11.4**	**+0.4**
SALA	**Sala**	**1.12**	**138**	eP	**Pg**	**11 48 18.7**	**+0.4**
SALA				eS	**Sb**	**11 48 31.7**	**-0.9**
SALA				AML	AML	11 48 35.6	
	comp=E,2.3nm,0.6s						
SALA				AML	AML	11 48 38.1	
	comp=N,22nm,0.4s						
SALA	**Sala**	**1.12**	**138**	eP	**Pg**	**11 48 18.7**	**+0.4**
	SNR=66						
SALA				eS	**Sb**	**11 48 31.7**	**-0.9**
	comp=N,22nm,0.4s,SNR=62						

*IDC **24** 11:57:53.2±0.7, 15.38S×173.00W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/21, mbtmp4.0/9, MS3.6/7, Ms1 3.6/7, ms1mx3.3/32, Error ellipse: s-maj=32.6km s-min=15.5km az=132.0*
*NEIC **24** 11:57:55.5±0.4, 15.37S×172.97W, h10km, mb4.6/12, Error ellipse: s-maj=21.5km s-min=8.9km az=130.0*
*BJI **24** 11:57:57.3, 15.99S×172.99W, h27km, mB5.3/3, mb4.9/13*
*ISCJB **24** 11:57:58.6±0.4, 15.48S±0.08×172.6W±0.1, h35km, mb4.6/30, MS3.6/7, Error ellipse: s-maj=17.4km s-min=7.5km az=37.1*

**ISC 24 11:57:59.6±0

SDCO	Great Sand Dun	82.15	47	*e*P		P	12 10 18.3	+1.0
COLA	College	82.29	10	*e*P		P	12 10 16.7	-0.3
ILAR	Eielson Array	82.36	11	P		P	12 10 16.8	-0.7
ILAR	Eielson Array	82.36	11	P		P	12 10 16.8	-0.7
	1.2nm,0.8s,baz=229,slow=6.3,SNR=19							
HRY	Holter Researc	82.40	37	*e*P		P	12 10 19.0	+0.8
RWWY	Rawlins	82.77	43	*e*P		P	12 10 15.2	-5.3
BJI	Beijing	86.14	313	P		P	12 10 37.5	+0.3
BJI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
INK	Inuvik	88.15	14	P		P	12 10 45.0	-1.2
INK	Inuvik	88.15	14	P		P	12 10 45.0	-1.2
	1.8nm,0.8s,baz=230,slow=4.2,SNR=7.9							
GYA	Guiyang	88.83	298	*e*P		P	12 10 50.0	-0.6
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
HHC	Hu-ho-hao-te	89.70	313	*e*P		P	12 10 55.3	+0.9
HHC				S		S	12 21 43.1	-0.6
HHC				pmax	pmax			
	comp=Z,45nm,1.2s							
HHC				pmax	pmax			
	comp=Z,260nm,8.8s							
YKA	Yellowknife Ar	89.84	23	P		P	12 10 53.8	-0.6
YKA	Yellowknife Ar	89.84	23	P		P	12 10 53.7	-0.6
	1.1nm,0.8s,baz=237,slow=4.7,SNR=23							
KMI	Kunming	91.82	295	P		P	12 11 05.1	+0.3
KMI				pP		pP	12 11 14.4	-1.5
KMI				pmax	pmax			
	comp=Z,6.0nm,1.1s							
CD2	Chengdu	92.57	301	*e*P		P	12 11 08.0	+0.1
CD2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ULM	Lac du Bonnet	93.47	39	LR		LR	12 45 48.1	
	comp=Z,110nm,19.6s,baz=310,slow=31							
LZH	Lanzhou	93.95	306	*e*P		P	12 11 15.3	+1.0
LZH				pP		pP	12 11 25.9	+0.5
LZH				sP		sP	12 11 30.3	+0.9
LZH				pmax	pmax			
	comp=Z,12nm,1.0s							
BR131	Keskin Array S	146.75	322	*e*PKPbc		PKPbc	12 17 37.5	-0.8
BRTR	Keskin Array B	146.75	322	PKPbc		PKPbc	12 17 37.8	-0.6
BRTR	Keskin Array B	146.75	322	PKPbc		PKPbc	12 17 37.8	-0.6
	2.0nm,0.8s,baz=108,slow=2.6,SNR=9.3							
TORD	Torodi Ar. Bea	173.94	112	PKPab		PKPab	12 19 36.2	-1.1
TORD	Torodi Ar. Bea	173.94	112	PKPab		PKPab	12 19 36.2	-1.1
	0.7nm,0.8s,baz=255,slow=5.9,SNR=2.9							

*ISCJB **24** 12:16:17.7±0.5,37°.34N±0°.04×71°.99E±0°.07,h130km, mb3.7/7, Error ellipse: s-maj=8.6km s-min=4.5km az=157.0*
*MOS **24** 12:16:20.0±0.6,37°.55N×71°.77E,h129km,mb4.3/4, Error ellipse: s-maj=18.4km s-min=6.3km az=80.4*
*IDC **24** 12:16:20.3±4.5,37°.58N×71°.70E,h114km±34km,mb3.5/6, mb1 3.6/11,mb1mx3.4/30,mbtmp3.9/11, Error ellipse: s-maj=38.8km s-min=24.4km az=153.0*
*NNC **24** 12:16:29.2±9.9,38°.26N×72°.22E,h215km±99km,mb2.9, mpv3.8, Error ellipse: s-maj=97.1km s-min=56.5km az=6.0*

ISC 24 12:16:18.8±0.7,37°.36N±0°.06×72°.06E±0°.08,h130km,n61, σ1ᵍ40/63,mb3.8/7,7C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	3.75	54	Pn	Pn	12 17 14.5	-0.8
KSH				Sn	Sn	12 17 52.8	-6.4
KSH				smax	smax		
	comp=N,440nm,0.5s						
KSH				smax	smax		
	comp=E,350nm,0.4s						
AML	Almayashu	4.93	14	*i* PN	Pn	12 17 31.7	+0.5
AML	Almayashu	4.93	14	P	Pn	12 17 31.7	+0.5
	SNR=216						
UCH	Uchtor	5.21	20	*i* PN	Pn	12 17 36.1	+1.0
UCH	Uchtor	5.21	20	P	Pn	12 17 36.1	+1.0
	SNR=12						
KZA	Kyzart	5.31	27	*i* PN	Pn	12 17 37.2	+0.8
KZA	Kyzart	5.31	27	P	Pn	12 17 37.2	+0.8
	SNR=13						
EKS2	Erkin-Say	5.46	13	*i* PN	Pn	12 17 39.2	+1.2
EKS2	Erkin-Say	5.46	13	P	Pn	12 17 39.2	+1.2
	SNR=6.0						
AAK	Ala-Archa	5.59	19	PN	Pn	12 17 41.2	+1.4
AAK				S	Sn	12 18 42.3	-0.8
AAK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AAK				smax	smax		
	comp=N,5.0nm,0.3s						
AAK	Ala-Archa	5.59	19	P	Pn	12 17 41.3	+1.4
	SNR=24						
AAK	Ala-Archa	5.59	19	P	Pn	12 17 41.2	+1.4
	comp=N,5.4nm,0.3s,baz=167,slow=6.1,SNR=82						
AAK				S	Sn	12 18 42.3	-0.8
	comp=N,5.2nm,0.3s,baz=322,slow=23,SNR=16						
AAK	Ala-Archa	5.59	19	⇑P	Pn	12 17 40.9	+1.1
	comp=N,7.8nm,0.4s						
AAK				⇑S	Sn	12 18 42.1	-1.0
	comp=N,12nm,0.5s						
ULHL	Ulahol	5.84	32	*i* PN	Pn	12 17 44.9	+1.6
ULHL	Ulahol	5.84	32	P	Pn	12 17 45.0	+1.6
	SNR=9.7						
KK31	Karatay Array	5.86	349	⇑P	Pn	12 17 42.2	-1.1
	comp=N,7.8nm,0.3s,baz=169,slow=12,SNR=36						
KK31				⇓S	Sn	12 18 43.8	-5.5
	comp=N,17nm,0.3s,baz=165,slow=21,SNR=14						
CHMS	Chumysh	6.00	19	*i* PN	Pn	12 17 46.4	+1.2
CHMS	Chumysh	6.00	19	P	Pn	12 17 46.4	+1.2
	SNR=8.8						
TKM2	Tokmak 2	6.18	25	*i* PN	Pn	12 17 49.3	+1.5
TKM2	Tokmak 2	6.18	25	P	Pn	12 17 49.4	+1.5
	SNR=9.9						
TKM2	Tokmak 2	6.18	25	⇓P	Pn	12 17 49.0	+1.2
	comp=N,4.0nm,0.6s						
TKM2				⇑S	Sn	12 18 44.4	-13
	comp=N,2.5nm,0.5s						
USP	Ospenovka	6.19	17	*i* PN	Pn	12 17 48.3	+0.5
USP	Ospenovka	6.19	17	P	Pn	12 17 48.3	+0.5
	SNR=11						
SDNR	Sundarnagar	7.12	144	*e*P	Pn	12 18 03.0	+2.6
SDNR				*e*S	Sn	12 19 16.0	-3.8
MKAR	Makanchi Array	12.10	36	P	Pn	12 19 07.6	+0.8
MKAR	Makanchi Array	12.10	36	P	Pn	12 19 07.6	+0.8
	comp=N,0.0nm,0.3s,baz=220,slow=14,SNR=3.2						
PYUN	Piuthan	13.03	132	*e*P	Pn	12 19 18.4	-0.8
	comp=N,14nm,0.3s						
DANN	Dangsing	13.31	129	*e*P	Pn	12 19 21.9	-1.1
	comp=N,18nm,0.4s						
KOLN	Koldanda	13.63	131	*e*P	Pn	12 19 26.6	-0.4
	comp=N,7.9nm,0.3s						
KURBB	Kurchatov Arra	14.04	17	P	Pn	12 19 33.3	+1.4
	comp=N,0.2nm,0.3s,baz=205,slow=11,SNR=5.1						
GKN	Gorkha	14.10	128	*e*P	Pn	12 19 32.5	-0.5
	comp=N,19nm,0.3s						
KURK	Kurchatov	14.15	17	P	Pn	12 19 33.3	+0.1
AB31	Akbulak array	14.78	327	⇑P	Pn	12 19 37.7	-3.5
	comp=N,1.0nm,0.5s,baz=138,slow=12,SNR=7.7						
PKIN	Phulchoki	14.88	127	*e*P	Pn	12 19 42.5	-0.4
GUN	Gumba	14.96	125	*e*P	Pn	12 19 42.8	-1.2
	comp=N,11nm,0.4s						
JIRN	Jiri	15.34	125	*e*P	Pn	12 19 48.7	0.0
	comp=N,21nm,0.3s						
BVA0	Borovoye Array	15.71	356	⇓P	Pn	12 19 51.0	-1.7
	comp=N,0.7nm,0.3s,baz=0.0,slow=0.1,SNR=15						
BVAR	Borovoye Array	15.71	356	P	Pn	12 19 51.6	-1.1
BVAR				S	Sn	12 22 37.9	-9.0
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	Borovoye Array	15.71	356	P	Pn	12 19 51.6	-1.1
	comp=Z,0.5nm,0.3s,baz=161,slow=9.6,SNR=12						
BVAR				S	Sn	12 22 37.9	-9.0
	comp=Z,0.1nm,0.3s,baz=166,slow=24,SNR=5.3						
BRVK	Borovoye	15.75	356	*i* P	Pn	12 19 52.7	-0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	Borovoye	15.75	356	⇓P	Pn	12 19 51.6	-1.6
	comp=Z,2.9nm,0.7s						
RAMN	Ramite	16.09	126	*e*P	Pn	12 19 57.5	-0.3
	comp=Z,11nm,0.4s						
AKTO	Aktyubinsk	16.49	327	P	Pn	12 20 00.6	-1.7
AKTO				S	Sn	12 22 54.3	-11
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO	Aktyubinsk	16.49	327	P	Pn	12 20 00.6	-1.7
	comp=Z,2.8nm,0.3s,baz=135,slow=12,SNR=44						
AKTO				S	Sn	12 22 54.3	-12
	comp=Z,0.3nm,0.3s,baz=349,slow=20,SNR=8.3						
AKTO	Aktyubinsk	16.49	327	⇑P	Pn	12 20 01.6	-0.8
	comp=Z,10nm,0.6s						
AKTO				⇑S	Sn	12 22 53.4	-12
	comp=Z,8.5nm,1.2s						
TAPN	Taplejung	16.55	123	*e*P	P	12 20 04.2	+0.4
ODAN	Odare	16.66	125	*e*P	P	12 20 05.2	+0.2
	comp=Z,12nm,0.7s						
ZALV	Zalesovo Beam	18.78	24	P	Pn	12 20 29.5	-0.2
ZALV	Zalesovo Beam	18.78	24	P	Pn	12 20 29.5	-0.2
	comp=Z,0.4nm,0.3s,baz=223,slow=10,SNR=7.0						
ARU	Arti	21.11	339	*i* P	P	12 20 53.3	+0.4
OBN	Obninsk	29.85	318	*e*P	P	12 22 09.0	-4.5
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRTR	Keskin Array B	29.99	287	P	P	12 22 16.4	+1.3
	comp=Z,0.4nm,0.6s,baz=105,slow=11,SNR=3.5						
JOF	Joensuu	35.56	329	*e*P	P	12 23 04.4	+1.3
JOF	Joensuu	35.56	329	ep	P	12 23 04.4	+1.3
FINES	FINESS Array B	37.25	325	P	P	12 23 18.5	+1.0
	comp=Z,1.5nm,0.4s,baz=120,slow=9.1,SNR=16						
ARCES	ARCESS Array B	40.68	337	P	P	12 23 47.0	+1.1
	comp=Z,11nm,1.0s,baz=97,slow=7.5,SNR=6.7						
NB2	NORSAR Subarra	44.21	322	P	P	12 24 15.1	+0.5
	comp=Z,1.3nm,0.6s,baz=93,slow=7.9						
NOA	NORSAR Array B	44.21	322	P	P	12 24 14.8	+0.1
	comp=Z,1.5nm,0.7s,baz=92,slow=8.0,SNR=4.5						
TORD	Torodi Ar. Bea	66.58	269	P	P	12 26 55.3	0.0
	comp=Z,0.2nm,0.6s,baz=46,slow=4.2,SNR=2.3						
YKA	Yewknife Ar	80.34	3	P	P	12 28 17.1	+2.1
	comp=Z,0.3nm,0.5s,baz=350,slow=5.5,SNR=9.4						
TBI	Tubuai	141.85	81	*e*T	T	12 32 30.0	
	comp=Z,11nm,0.3s						

*IDC **24** 12:20:52.2±0.8,6°.83S×106°.27E,h0km,mb4.2/15, mb1 4.2/15,mb1mx4.1/26,mbtmp4.1/15,MS3.1/2, Ms1 3.1/2,ms1mx2.7/31, Error ellipse: s-maj=43.6km s-min=14.8km az=49.0*
*NEIC **24** 12:20:53.5±0.4,6°.88S×106°.24E,h10km,mb4.6/2, Error ellipse: s-maj=26.6km s-min=7.7km az=48.0*
*AUST **24** 12:20:57.5±1.4,7°.45S×106°.00E,h26km, Error ellipse: s-maj=1.1km s-min=0.9km az=320.0*
*DJA **24** 12:20:58.8±0.5,7°.S±3°×10°.6E±°,h29km±5km,M4.5/15, mb4.4/1,MLv4.5/15*
*ISCJB **24** 12:21:00.3±0.6,7°.08S±0°.07×106°.25E±0°.06,h85km±5km, mb4.0/17, Error ellipse: s-maj=14.5km s-min=5.0km az=36.5*

ISC 24 12:21:00.4±1.0,7°.17S±0°.08×106°.23E±0°.06,h69km±8km, n77,σ1ᵍ39/69,mb4.2/17,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.36	63	P	Pn	12 21 10.9	-1.0
SKJI				S	Sn	12 21 19.6	-0.7
DBJI	Dramaga	0.80	40	P	Pn	12 21 17.4	+0.9
DBJI				S	Sn	12 21 30.9	+2.6
CBJI	Citeko	0.97	39	P	Pn	12 21 17.9	-0.6
CBJI				S	Sn	12 21 30.3	-1.5
TNG	Tangerang	1.08	22	P	Pn	12 21 21.2	+1.4
LEM	Lembang	1.42	76	P	Pn	12 21 27.1	+2.7
LEM	Lembang	1.42	76	P	Pn	12 21 26.4	+1.9
	baz=1.7,SNR=46						
CISI	Cisompet, Garu	1.61	104	P	Pn	12 21 26.9	0.0
CISI				S	Sn	12 21 46.7	-0.3
CISI	Cisompet, Garu	1.61	104	P	Pn	12 21 26.6	-0.3
	baz=1.8,SNR=65						
JCJI	Jatiwangi	2.13	72	P	Pn	12 21 35.1	+1.2
CMJI	Cimerak	2.28	106	S	Sn	12 22 03.6	+0.7
KASI	Kota Agung	2.38	313	P	Pn	12 21 37.5	+0.3
KPJI	Karang Pucung	2.68	94	P	Pn	12 21 45.1	+3.8
TGJI	Tegal	2.88	84	P	Pn	12 21 41.2	-2.8
KLSI		2.88	329	P	Pn	12 21 45.4	+1.3
KLSI				S	Sn	12 22 20.1	+2.4
LWLI	Liwa	3.04	315	P	Pn	12 21 49.6	+3.2
XMI	Christmas Isla	3.30	189	P	Pn	12 21 44.2	-5.6
	baz=3.0,SNR=36						
XMIS	Christmas Isla	3.34	190	P	Pn	12 21 44.3	-5.9
	baz=3.1,SNR=239						
MDSI	Maura Dua	3.36	322	P	Pn	12 21 51.2	+0.6
LHSI	Lahat	4.28	321	P	Pn	12 22 06.6	+3.5
MNAI	Manna	4.29	310	P	Pn	12 22 03.3	-0.1
	baz=4.3,SNR=9.3						
UGM	Wanagama	4.32	100	P	Pn	12 22 05.0	+1.4
	baz=4.5,SNR=14						
PCJI	Pacitan	5.00	102	P	Pn	12 22 13.1	+0.1
JAGI	Jajag, Banyuwa	7.95	100	P	Pn	12 22 56.8	+3.4
	baz=8.1,SNR=7.4						
GIRL	Giralia	17.20	154	P	P	12 24 57.1	+0.2
	baz=17,SNR=4.4						
SOEI	Soe	18.02	99	P	Pn	12 25 07.6	+1.1
	baz=18,SNR=3.5						
KNRA	Kununurra	23.62	113	P	P	12 26 06.6	+1.0
	baz=24,SNR=5.6						
MTN	Manton Dam	25.15	105	P	P	12 26 21.0	+1.5
	baz=25,SNR=8.7						
FAKI	Fak Fak	26.25	82	P	P	12 26 30.1	+0.6
	baz=26,SNR=4.1						
KDU	Kakadu	26.41	104	P	P	12 26 37.1	+6.3
	baz=27,SNR=4.0						
CMAR	Chiang Mai Arr	26.46	344	P	P	12 26 29.1	-2.2
CMAR	Chiang Mai Arr	26.46	344	P	P	12 26 29.1	-2.2
	0.5nm,0.6s,baz=176,slow=9.0,SNR=5.6						
CMAR				LR	LR	12 37 12.0	
	comp=Z,18nm,20.4s,baz=170,slow=38						
H01W3	Cape Leeuwin H	28.52	166	T	T	12 57 27.0	
	baz=344,slow=76,SNR=7.2						
H01W1	Cape Leeuwin H	28.54	166	T	T	12 57 23.3	
	baz=344,slow=76,SNR=8.0						
H01W2	Cape Leeuwin H	28.54	166	T	T	12 57 23.4	
	baz=344,slow=76,SNR=6.4						
WRA	Warramunga Arr	30.06	118	P	P	12 27 05.1	+1.6
WRA	Warramunga Arr	30.06	118	P	P	12 27 05.1	+1.6
	1.0nm,0.7s,baz=305,slow=9.4,SNR=18						
WRAB	Tennant Creek	30.07	118	*e*P	P	12 27 04.5	+1.0
	1.1nm,0.4s						
ASAR	Alice Springs	31.21	125	P	P	12 27 14.8	+1.3
ASAR	Alice Springs	31.21	125	P	P	12 27 14.8	+1.3
	0.4nm,0.5s,baz=301,slow=7.8,SNR=16						
AS31	Alice Springs	31.21	125	*e*P	P	12 27 14.3	+0.7
H08S2	Diego Garcia H	33.46	267	T	T	13 02 57.3	
	baz=91,slow=75,SNR=327						
H08S3	Diego Garcia H	33.47	267	T	T	13 02 50.4	
	baz=91,slow=75,SNR=118						
H08S1	Diego Carcia H	33.48	267	T	T	13 02 52.9	
	baz=91,slow=75,SNR=107						
COEN	Coen	36.90	104	P	P	12 28 07.5	+4.7
	baz=37,SNR=5.1						
STKA	Stephens Creek	41.09	131	P	P	12 28 39.5	+1.8
STKA	Stephens Creek	41.09	131	P	P	12 28 39.5	+1.8
	1.1nm,0.4s,baz=221,slow=9.8,SNR=7.8						
STKA				LR	LR	12 44 26.6	
	comp=Z,47nm,19.4s,baz=201,slow=34						
MANU	Manus Island	41.30	85	P	P	12 28 33.8	-5.9
	baz=42,SNR=3.3						
EIDS	Eidsvold	46.43	118	P	P	12 29 18.5	-2.1
	baz=46,SNR=5.6						
SONM	Songino Array	54.77	0	P	P	12 30 22.4	-0.8
SONM				PcP	PcP	12 31 24.9	0.0
SONM	Songino Array	54.77	0	P	P	12 30 22.4	-0.8
	0.5nm,0.4s,baz=180,slow=9.3,SNR=7.0						
SONM				PcP	PcP	12 31 24.9	0.0
	2.2nm,0.5s,baz=180,slow=3.5,SNR=18						
MK31	Makanchi Array	57.79	341	*e*P	P	12 30 42.8	-1.9
MKAR	Makanchi Array	57.79	341	P	P	12 30 42.8	-1.8
MKAR	Makanchi Array	57.79	341	P	P	12 30 42.8	-1.8
	0.9nm,0.4s,baz=152,slow=8.4,SNR=27						
KURBB	Kurchatov Arra	62.36	340	P	P	12 31 13.8	-1.9
	0.6nm,0.2s,baz=151,slow=6.7,SNR=3.5						
KURK	Kurchatov	62.41	341	P	P	12 31 13.8	-2.2
ZALV	Zalesovo Beam	63.51	346	P	P	12 31 21.3	-2.0
ZALV	Zalesovo Beam	63.51	346	P	P	12 31 21.3	-2.0
	0.8nm,0.3s,baz=150,slow=8.0,SNR=8.3						
BVAR	Borovoye Array	67.23	337	P	P	12 31 46.3	-1.1
BVAR	Borovoye Array	67.23	337	P	P	12 31 46.3	-1.1
	3.3nm,0.6s,baz=142,slow=9.0,SNR=24						
ABKAR	Akbulak array	69.17	330	*e*P	P	12 31 58.6	-1.0
	8.8nm,0.6s						
AKTO	Aktyubinsk	70.89	330	P	P	12 32 09.6	-0.5
AKTO	Aktyubinsk	70.89	330	P	P	12 32 09.6	-0.5
	1.7nm,0.6s,baz=104,slow=8.0,SNR=8.0						
KBZ	Khabaz	76.27	318	P	P	12 32 41.8	0.0
KBZ	Khabaz	76.27	318	P	P	12 32 41.8	0.0
	3.9nm,0.9s,baz=222,slow=3.2,SNR=7.0						
MMAI	Mount Meron Ar	78.08	306	P	P	12 32 54.2	+1.9
MMAI	Mount Meron Ar	78.08	306	P	P	12 32 54.2	+1.9
	0.8nm,0.3s,baz=88,slow=8.8,SNR=3.3						
BRTR	Keskin Array B	81.38	312	P	P	12 33 09.8	-0.3
BRTR	Keskin Array B	81.38	312	P	P	12 33 09.8	-0.3
	2.0nm,0.6s,baz=129,slow=6.2,SNR=2.1						
FINES	FINESS Array B	91.56	332	P	P	12 33 58.3	-1.1
FINES	FINESS Array B	91.56	332	P	P	12 33 58.3	-1.1
	3.1nm,0.8s,baz=123,slow=7.0,SNR=3.9						
ARCES	ARCESS Array B	93.43	340	P	P	12 34 06.8	-1.2
ARCES	ARCESS Array B	93.43	340	P	P	12 34 06.8	-1.2
	2.4nm,0.8s,baz=76,slow=5.1,SNR=6.7						
TXAR	Lajitas Array	144.25	48	PKP	PKPdf	12 40 29.2	-0.2
TXAR	Lajitas Array	144.25	48	PKP	PKPdf	12 40 29.2	-0.2
	0.8nm,0.5s,baz=253,slow=0.7,SNR=11						
BDFB	Brasilia	145.87	228	PKPbc	PKPab	12 40 34.4	+0.6
BDFB	Brasilia	145.87	228	PKPbc	PKPab	12 40 34.4	+0.6
	1.9nm,0.4s,baz=108,slow=4.3,SNR=3.3						
JCT	Junction City	146.34	43	*e*PKPdf	PKPbc	12 40 34.5	+0.3

SKHL 24 12:33:22.7±0.3,54°.42N×129°.13E,h10km,mb3.8/5,3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMKR	Bomnak	0.34	330	⇓*i* Pg	Pg	12 33 29.0	-0.4
BMKR				AMB	AMB	12 33 29.6	
	117nm,0.3s						
BMKR				*e*Sg	Sg	12 33 33.6	-0.4
BMKR				A	A	12 33 34.6	
	384nm,0.2s						
BMKR				A	A	12 33 34.6	
	272nm,0.2s						
KROS	Kirovskiy	1.26	271	⇓*i* Pg	Pn	12 33 44.8	-1.6
KROS				AMB	AMB	12 33 45.5	
	16nm,0.3s						
KROS				AMB	AMB	12 33 45.5	
	32nm,0.3s						
KROS				AMB	AMB	12 33 45.5	
	33nm,0.3s						
KROS				*e*Sg	Sb	12 34 01.5	-1.4
KROS				A	A	12 34 04.0	
	92nm,0.4s						
KROS				A	A	12 34 04.0	
	192nm,0.4s						
ZEA	Zeya	1.30	239	⇓*i* Pg	Pn	12 33 45.8	-1.1
ZEA				AMB	AMB	12 33 46.6	
	37nm,0.2s						
ZEA				*e*Sg	Sb	12 34 02.4	-1.6
ZEA				A	A	12 34 03.4	
	160nm,0.3s						
EKMR	Ekimchan	2.64	119	*e*Pn	Pn	12 34 06.5	+1.1
EKMR				*e*Pg	Pb	12 34 10.0	-0.1
EKMR				AMB	AMB	12 34 17.3	
	5.0nm,0.3s						
EKMR				*e*Sg	Sb	12 34 45.0	+2.4
EKMR				A	A	12 34 54.6	
	22nm,0.5s						
EKMR				A	A	12 34 54.6	
	20nm,0.5s						
EKMR				A	A	12 34 54.6	
	13nm,0.5s						
CLNS	Chul'man	3.41	317	*e*Sg	Sg	12 35 11.6	-0.7
CLNS				A	A	12 35 14.9	
	47nm,0.8s						
TUP	Tupik	5.36	274	*e*Pn	Pn	12 34 46.4	+3.7
TUP				*e*Pg	Pg	12 35 02.2	-3.1
TUP				AMB	AMB	12 35 03.7	
	4.0nm,0.5s						
TUP				*e*Sn	Sn	12 35 43.7	-0.8
TUP				*e*Sg	Sg	12 36 11.3	-3.5
TUP				A	A	12 36 17.6	
	12nm,0.6s						
GRNR	Gornyy	5.75	126	*e*Sg	Sg	12 36 22.8	-4.6

*IDC **24** 12:48:01.5±6.6,25°.18N×121°.67E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/24,mbtmp3.4/3, Error ellipse: s-maj=454.0km s-min=26.4km az=59.0*
*JMA **24** 12:48:07.6±0.2,25°.02N×123°.48E,h21km,M2.7*

ISC 24 12:48:07.1±2.4,25°.0N±0°.1×123°.51E±0°.05,h9km±13km,n8, σ0ᵍ29/13,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.70	163	P	Pb	12 48 21.2	-0.3
IRIF				S	Sb	12 48 31.0	-0.2
YOJ	Yonaguni jima	0.70	220	P	Pg	12 48 20.8	0.0
YOJ				S	Sg	12 48 29.9	-0.1
JIJ	Ishigaki jima	0.86	138	P	Pg	12 48 23.7	0.0
JIJ				S	Sg	12 48 34.7	-0.3
JKRS	Kuro-shima	0.89	149	P	Pg	12 48 24.5	+0.2
JKRS				*e*S	Sg	12 48 36.1	+0.2
HATJ	Hateruma jima	0.98	164	P	Pb	12 48 26.0	-0.3
HATJ				S	Sg	12 48 39.3	+0.5
JTJ	Tarama	1.15	108	P	Pb	12 48 28.9	-0.2
WRA	Warramunga Arr	45.90	166	P	P	12 56 30.5	+0.2
	0.6nm,0.7s,baz=346,slow=8.5,SNR=4.5						
ASAR	Alice Springs	49.42	167	P	P	12 56 57.8	+0.2
	0.1nm,0.4s,baz=351,slow=6.9,SNR=7.0						

IDC 24 13:09:39.0±3.2,31°.44S×177°.55W,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.6/18,mbtmp3.5/3,ML2.9/1,Error ellipse: s-maj=74.4km s-min=37.0km az=114.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.09	211	Pn	Pn	13 11 38.3	+0.4
	0.2nm,0.3s,baz=120,slow=20,SNR=4.7						
URZ				Sn	Sn	13 13 09.1	-0.9
	0.7nm,0.3s,baz=189,slow=19,SNR=4.3						
ASAR	Alice Springs	43.45	268	P	P	13 17 44.0	0.0
	0.3nm,0.5s,baz=104,slow=7.1,SNR=10						
WRA	Warramunga Arr	44.53	273	P	P	13 17

IHLA	**Hella**	**1.14 314**	P		Pg		13 27 52.9	-2.2
IHLA			S		Sg		13 28 08.6	-1.3
IBRE	**Brettingsstaoi**	**1.15 327**	P		Pg		13 27 52.8	-2.5
IBRE			S		Sg		13 28 08.6	-1.6
ILEI	**Leirhofn**	**1.24 358**	P		Pg		13 27 54.9	-2.2
ILEI			S		Sg		13 28 12.0	-1.2
IFAG	**Fagurholsmyri**	**1.31 185**	P		Pg		13 27 55.5	-2.8
IHVE	**Hveravellir**	**1.39 259**	P		Pn		13 27 57.0	-2.7
IHVE			S		Sg		13 28 15.3	-2.7
IVAT	**Vatnsfell**	**1.47 229**	P		Pn		13 27 58.7	-2.1
IGRI	**Grimsey**	**1.53 335**	S		Sn		13 28 19.3	-2.7
ISNB	**Snabyli**	**1.74 215**	P		Pn		13 28 02.8	-1.6
ISNB			S		Sn		13 28 26.9	-0.3
IHRN	**Hraun**	**1.82 303**	P		Pn		13 28 03.2	-2.3
IHRN			S		Sn		13 28 26.8	-2.2
IGYG	**Gygjarholskot**	**1.87 243**	P		Pn		13 28 04.6	-1.7
IGYG			S		Sn		13 28 30.2	-0.2
IGOD	**Go??abunga**	**1.98 221**	P		Pn		13 28 07.0	-1.0
ISAU	**Saurbar**	**2.11 238**	P		Pn		13 28 08.3	-1.2
ISAU			S		Sn		13 28 36.5	+0.3
IESK	**Eystri-Skogar**	**2.13 220**	P		Pn		13 28 08.8	-0.9
IASB	**`sbjarnarst**	**2.15 261**	P		Pn		13 28 08.9	-1.1
IMID	**Miomork**	**2.15 227**	P		Pn		13 28 09.9	-0.2
IMID			S		Sb		13 28 39.2	-0.7
IASM	**Asmuli**	**2.27 236**	P		Pn		13 28 11.3	-0.4
IASM			S		Sn		13 28 41.2	+1.0
ISOL	**Solvholt**	**2.33 240**	P		Pn		13 28 11.9	-0.7
IKUD	**Kuludalsa**	**2.51 253**	P		Pn		13 28 14.4	-0.5
INYL	**Nylenda**	**3.00 249**	P		Pn		13 28 22.3	+0.7

*JMA **24** 13:36:50.2±0.2, 25°.03N×123°.48E, h20km, M3.2*
*IDC **24** 13:36:50.4±0.9, 24°.56N×122°.51E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/24, mbtmp3.6/8, ML3.1/1, Error ellipse: s-maj=51.3km s-min=17.5km az=71.0*
ISC 24 13:36:48.8±2.9, 24°.99N±0°.08×123°.49E±0°.06, h1km±20km, n14, σ0s51/18, mb3.4/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.69**	**220**	P	**Pb**	**13 37 03.5**	**-0.1**
YOJ				S	**Sb**	**13 37 12.7**	**-0.8**
IRIF	**Iriomote-Funau**	**0.69**	**162**	P	**Pb**	**13 37 03.9**	**+0.3**
IRIF				S	**Sb**	**13 37 13.6**	**-0.1**
JIJ	**Ishigaki jima**	**0.86**	**136**	P	**Pb**	**13 37 06.4**	**-0.2**
JIJ				S	**Sb**	**13 37 17.5**	**-1.2**
JKRS	**Kuro-shima**	**0.89**	**148**	P	**Pb**	**13 37 07.2**	**+0.2**
JKRS				eS	**Sb**	**13 37 19.3**	**-0.1**
HATJ	**Hateruma jima**	**0.97**	**163**	P	**Pb**	**13 37 08.7**	**+0.2**
HATJ				S	**Sb**	**13 37 22.5**	**+0.6**
JTJ	**Tarama**	**1.16**	**107**	P	**Pn**	**13 37 11.7**	**-0.4**
JTJ				eS	**Sg**	**13 37 26.1**	**+0.2**
KSRS	**Korea Array**	**12.99**	**16**	Pn	Pn	13 40 06.8	+12
	0.1nm,0.3s,baz=188,slow=12,SNR=5.0						
SONM	**Songino Array**	**26.51**	**334**	P	**P**	**13 42 28.4**	**+0.4**
	0.2nm,0.4s,baz=140,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**39.25**	**314**	P	**P**	**13 44 19.1**	**+0.2**
	0.7nm,0.8s,baz=94,slow=11,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.74**	**326**	P	**P**	**13 44 31.1**	**-0.1**
	0.4nm,0.6s,baz=119,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**45.90**	**166**	P	**P**	**13 45 13.1**	**-0.1**
	0.8nm,0.9s,baz=348,slow=8.6,SNR=7.5						
ASAR	**Alice Springs**	**49.41**	**167**	P	**P**	**13 45 41.2**	**+0.7**
	0.3nm,0.5s,baz=350,slow=6.6,SNR=10						
STKA	**Stephens Creek**	**59.14**	**162**	P	**P**	**13 46 50.9**	**-0.2**
	1.6nm,0.8s,baz=355,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**81.40**	**23**	P	P	13 49 13.0	+5.8
	0.2nm,0.6s,baz=310,slow=5.0,SNR=4.0						

*ISCJB **24** 13:42:49.8±0.8, 38°.00N±0°.04×34°.93E±0°.08, h7km, Error ellipse: s-maj=9.0km s-min=5.3km az=165.5*
*CSEM **24** 13:42:49.9±0.2, 38°.00N×34°.89E, h10km, MD3.0, Error ellipse: s-maj=7.4km s-min=4.4km az=69.0*
*DDA **24** 13:42:50.1, 38°.00N×34°.84E, h7km, MD3.0*
ISC 24 13:42:50.0±1.2, 38°.00N±0°.03×34°.90E±0°.05, h7km, n8, σ0s65/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIG	**Nigde**	**0.25**	**296**	*e*P	**Pg**	**13 42 54.7**	**-0.4**
NIG				*e*S	**Sg**	**13 42 59.5**	**+0.9**
NIG	**Nigde**	**0.25**	**296**	*e*Pg	**Pg**	**13 42 54.7**	**-0.4**
NIG				*e*Sg	**Sg**	**13 42 59.5**	**+0.9**
GULE	**Gulek**	**0.72**	**188**	*i* P	**Pg**	**13 43 04.2**	**+0.3**
GULE				*i* S	**Sg**	**13 43 14.4**	**-0.7**
GULE	**Gulek**	**0.72**	**188**	*i* P	**Pg**	**13 43 04.2**	**+0.3**
GULE				*i* S	**Sb**	**13 43 14.4**	**-0.7**
AVNT	**Avonos**	**0.78**	**357**	*i* P	**Pg**	**13 43 05.4**	**+0.3**
AVNT				*i* S	**Sb**	**13 43 16.2**	**-0.7**
AVNT	**Avonos**	**0.78**	**357**	*i* P	**Pg**	**13 43 05.4**	**+0.3**
AVNT				*i* S	**Sb**	**13 43 16.2**	**-0.7**
KOZT	**Kozan**	**0.90**	**125**	*e*PG	**Pg**	**13 43 07.2**	**-0.1**
KOZT	**Kozan**	**0.90**	**125**	*e*Pg	**Pg**	**13 43 07.2**	**-0.1**

*IDC **24** 13:46:44.0±1.8, 22°.05S×175°.42W, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, ML3.3/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/36, Error ellipse: s-maj=37.1km s-min=32.7km az=116.0*
*ISCJB **24** 13:46:46.4±1.0, 22°.05S±0°.1×175°.3W±0°.2, h33km, mb3.9/5, MS3.5/2, Error ellipse: s-maj=27.8km s-min=14.1km az=27.6*
ISC 24 13:46:48.5±1.2, 22°.1S±0°.2×175°.4W±0°.2, h33km, n18, σ0s93/7, mb3.9/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.79**	**23**	Pn	**Pn**	**13 48 53.3**	**-0.1**
	4.6nm,0.3s,baz=10,slow=24,SNR=8.3						
DZM	**Mont Dzumac**	**16.86**	**267**	*e*LR	LR	13 54 56.8	
	160nm,23.6s						
URZ	**Urewera**	**17.40**	**200**	P	**Pn**	**13 50 47.7**	**-0.9**
	0.5nm,0.3s,baz=81,slow=14,SNR=5.9						
TBI	**Tubuai**	**23.93**	**98**	*e*LR	LR	13 57 34.3	
	134nm,32.8s						
TBI	**Tubuai**	**23.93**	**98**	*e*T	T	14 16 28.6	
	12nm,0.3s						
RPZ	**Rata Peaks**	**24.36**	**204**	LR	LR	14 00 53.8	
	comp=Z,134nm,19.1s,baz=222,slow=35						
PAE	**Paea**	**24.64**	**84**	*e*T	T	14 17 05.7	
	34nm,0.3s						
PPT2	**Papeete2**	**24.66**	**84**	*e*LR	LR	13 58 09.1	
	176nm,26.0s						
PPT2	**Papeete2**	**24.66**	**84**	*e*T	T	14 17 08.0	
	20nm,0.3s						
TVO	**Taravao**	**24.91**	**85**	*e*T	T	14 17 26.8	
	3.8nm,0.3s						
MEH	**Mehetia**	**25.98**	**86**	*e*T	T	14 18 48.1	
	20nm,0.2s						
VAH	**Vaihoa**	**27.12**	**80**	*e*T	T	14 20 07.3	
	5.1nm,0.3s						
CTA	**Charters Tower**	**35.80**	**266**	P	**P**	**13 53 44.8**	**-0.2**
	1.9nm,0.8s,baz=98,slow=14,SNR=3.8						
RKT	**Rikitea**	**37.23**	**100**	*e*T	T	14 33 05.2	
	2.9nm,0.3s						
STKA	**Stephens Creek**	**39.37**	**246**	P	**P**	**13 54 16.2**	**+1.2**
	0.6nm,0.4s,baz=97,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**46.57**	**258**	P	**P**	**13 55 13.6**	**0.0**
	1.0nm,0.7s,baz=91,slow=8.3,SNR=10						
ASAR				LR	LR	14 12 26.4	
	comp=Z,73nm,19.1s,baz=176,slow=33						
WRA	**Warramunga Arr**	**46.83**	**263**	P	**P**	**13 55 14.6**	**-1.0**
	0.8nm,0.6s,baz=99,slow=8.3,SNR=7.2						
QSPA	**South Pole Qui**	**68.02**	**180**	P	**P**	**13 57 44.8**	**+0.4**
	1.5nm,0.9s,baz=54,slow=1.3,SNR=4.6						

*ISCJB **24** 13:54:15.2±0.4, 18°.37S±0°.09×177°.90W±0°.07, h557km, mb4.1/16, Error ellipse: s-maj=13.6km s-min=6.9km az=148.4*
*IDC **24** 13:54:16.3±1.2, 18°.39S×177°.88W, h556km±15km, mb3.6/17, mb1 3.8/19, mb1mx3.7/26, mbtmp3.7/19, Error ellipse: s-maj=13.4km s-min=10.0km az=146.0*
*AUST **24** 13:54:16.5±0.0, 18°.37S×177°.63W, h576km±1km, Error ellipse: s-maj=3.4km s-min=2.1km az=291.0*
ISC 24 13:54:16.1±0.5, 18°.4S±0°.1×177°.87W±0°.09, h557km, n48, σ0s96/54, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.34**	**54**	P	**P**	**13 56 08.2**	**+0.4**
	15nm,0.3s,baz=213,slow=3.0,SNR=13						
AFI				S	**S**	**13 57 36.7**	**-2.5**
	1.8nm,0.3s,baz=180,slow=20,SNR=2.0						
DZM	**Mont Dzumac**	**15.18**	**253**	P	**P**	**13 57 27.4**	**0.0**
	1.6nm,0.3s,baz=71,slow=21,SNR=12						
URZ	**Urewera**	**20.30**	**191**	P	**P**	**13 58 12.7**	**-1.6**
	2.5nm,0.4s,baz=183,slow=11,SNR=9.2						
EIDS	**Eidsvold**	**29.60**	**251**	P	**P**	**13 59 37.3**	**+0.5**
	baz=30,SNR=6.6						
ARMA	**Armidale**	**30.16**	**241**	P	**P**	**13 59 42.5**	**+0.8**
	baz=30,SNR=10.0						
MGCD	**Mangrove Creek**	**31.46**	**236**	P	**P**	**13 59 54.0**	**+1.4**
	baz=32,SNR=11						
RMQ	**Roma**	**31.82**	**249**	P	**P**	**13 59 56.8**	**+1.0**
	baz=32,SNR=9.5						
CNB	**Canberra Magne**	**33.56**	**233**	P	**P**	**14 00 11.3**	**+0.8**
	baz=34,SNR=22						
CTA	**Charters Tower**	**33.88**	**261**	P	**P**	**14 00 13.5**	**+0.2**
	12nm,0.4s,baz=92,slow=11,SNR=43						
PMG	**Port Moresby**	**35.05**	**280**	P	**P**	**14 00 24.1**	**+1.0**
	24nm,0.8s,baz=106,slow=6.3,SNR=12						
PMG	**Port Moresby**	**35.05**	**280**	P	**P**	**14 00 24.3**	**+1.2**
	baz=35,SNR=3.6						
PMG				P	**P**	**14 00 24.3**	**+1.2**
	baz=35,SNR=3.6						
PMG				P	**P**	**14 00 24.3**	**+1.2**
	baz=35,SNR=3.6						
CMSA	**Cobar Meteorol**	**35.38**	**241**	P	**P**	**14 00 26.1**	**+0.5**
	baz=36,SNR=47						
QLP	**Quilpie**	**35.86**	**250**	P	**P**	**14 00 29.8**	**+0.1**
	baz=36,SNR=26						
TOO	**Toolangi**	**37.28**	**232**	P	**P**	**14 00 42.1**	**+0.8**
	baz=38,SNR=8.5						
COEN	**Coen**	**37.62**	**271**	P	**P**	**14 00 44.9**	**+0.6**
	baz=38,SNR=38						
STKA	**Stephens Creek**	**38.86**	**242**	P	**P**	**14 00 54.9**	**+0.7**
	17nm,0.7s,baz=87,slow=9.1,SNR=74						
STKA	**Stephens Creek**	**38.86**	**242**	P	**P**	**14 00 55.0**	**+0.7**
	baz=39,SNR=60						
ARPS	**Mount Arapiles**	**39.80**	**234**	P	**P**	**14 01 02.0**	**+0.4**
	baz=40,SNR=4.5						
QIS	**Mount Isa**	**40.08**	**260**	P	**P**	**14 01 03.7**	**-0.4**
	baz=40,SNR=3.8						
HTT	**Hallett**	**41.36**	**240**	P	**P**	**14 01 14.5**	**+0.4**
	baz=42,SNR=7.6						
JAY	**Jayapura**	**43.53**	**286**	P	**P**	**14 01 32.2**	**+0.8**
	14nm,0.6s,baz=209,slow=2.6,SNR=7.5						
BBOO	**Buckleboo**	**43.64**	**242**	P	**P**	**14 01 32.0**	**0.0**
	baz=44,SNR=12						
WRA	**Warramunga Arr**	**45.06**	**260**	P	**P**	**14 01 42.2**	**-0.9**
	12nm,0.6s,baz=96,slow=7.5,SNR=175						
WRA				PcP	**PcP**	**14 03 11.3**	**-0.7**
	0.9nm,0.5s,baz=102,slow=3.2,SNR=3.8						
ASAR	**Alice Springs**	**45.16**	**255**	P	**P**	**14 01 43.7**	**-0.2**
	21nm,0.4s,baz=94,slow=7.5,SNR=682						
ASAR				PcP	**PcP**	**14 03 11.9**	**-0.4**
	1.5nm,0.5s,baz=102,slow=3.5,SNR=5.1						
ASAR				S	**S**	**14 07 40.5**	**-3.0**
	0.3nm,0.8s,baz=93,slow=17,SNR=4.1						
KDU	**Kakadu**	**48.07**	**269**	P	**P**	**14 02 05.5**	**-0.4**
	baz=48,SNR=14						
MTN	**Manton Dam**	**49.30**	**269**	P	**P**	**14 02 14.3**	**-0.7**
	baz=50,SNR=9.6						
WRKA	**Warakurna**	**50.20**	**252**	P	**P**	**14 02 21.2**	**-0.3**
	baz=50,SNR=132						
FORT	**Forrest**	**50.28**	**245**	P	**P**	**14 02 21.1**	**-0.8**
	baz=50,SNR=14						
KNRA	**Kununurra**	**50.96**	**264**	P	**P**	**14 02 26.5**	**-0.5**
	baz=51,SNR=13						
FAKI	**Fak Fak**	**51.17**	**281**	P	**P**	**14 02 28.6**	**-0.1**
	baz=51,SNR=3.2						
FITZ	**Fitzroy Crossi**	**53.46**	**261**	P	**P**	**14 02 44.8**	**-0.2**
	baz=54,SNR=15						
SOEI	**Soe**	**56.59**	**270**	P	**P**	**14 03 08.1**	**+1.1**
	baz=57,SNR=5.7						
MEEK	**Meekatharra**	**58.76**	**250**	P	**P**	**14 03 20.4**	**-1.1**
	baz=59,SNR=15						
KLBR	**Kellerberrin**	**59.09**	**244**	P	**P**	**14 03 22.9**	**-0.7**
	baz=59,SNR=10						
VNDA	**Vanda**	**60.03**	**185**	P	**P**	**14 03 30.2**	**+1.2**
	0.7nm,0.6s,baz=348,slow=7.6,SNR=6.9						
BLDU	**Ballidu**	**60.05**	**245**	P	**P**	**14 03 29.1**	**-0.8**
	baz=60,SNR=10.0						
MORW	**Morawa**	**60.77**	**247**	P	**P**	**14 03 33.8**	**-1.0**
	baz=61,SNR=3.8						
UGM	**Wanagama**	**70.15**	**268**	P	**P**	**14 04 33.2**	**-0.4**
	baz=70,SNR=9.5						
QSPA	**South Pole Qui**	**71.69**	**180**	P	**P**	**14 04 42.3**	**+0.5**
	3.6nm,0.5s,baz=310,slow=0.4,SNR=13						
PETK	**Petropavlovsk-**	**74.26**	**345**	P	**P**	**14 04 56.4**	**0.0**
	2.6nm,0.8s,baz=123,slow=8.7,SNR=13						
MAW	**Mawson**	**83.60**	**200**	P	**P**	**14 05 46.0**	**+0.2**
	2.8nm,0.9s,baz=136,slow=2.9,SNR=5.0						
TXAR	**Lajitas Array**	**85.81**	**57**	P	**P**	**14 05 59.4**	**+2.0**
	2.0nm,0.7s,baz=224,slow=6.6,SNR=22						
ILAR	**Eielson Array**	**86.22**	**13**	P	**P**	**14 05 57.7**	**-0.7**
	1.2nm,0.4s,baz=218,slow=4.9,SNR=40						
PDAR	**Pinedale Array**	**87.33**	**43**	P	**P**	**14 06 04.8**	**+0.3**
	1.3nm,0.8s,baz=218,slow=3.1,SNR=12						
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P	**P**	**14 06 15.8**	**+0.9**
	0.6nm,0.5s,baz=129,slow=2.9,SNR=6.7						
SNAA	**Sanae**	**90.12**	**178**	P	**P**	**14 06 16.3**	**-0.5**
	0.3nm,0.5s,baz=33,slow=19,SNR=16						
YKA	**Yellowknife Ar**	**94.53**	**25**	P	**P**	**14 06 36.4**	**-0.5**
	0.4nm,0.6s,baz=241,slow=4.3,SNR=9.7						
GERES	**GERESS Array B**	**148.19**	**345**	PKPbc	**PKPbc**	**14 12 59.4**	**-0.4**
	0.2nm,0.4s,baz=48,slow=2.0,SNR=3.6						

*LDG **24** 14:01:52.0±0.6, 15°.58S×73°.80W, h10km, Mb5.3/22, Ms4.7/12, Error ellipse: s-maj=35.1km s-min=9.2km az=55.0*
*MOS **24** 14:01:55.0±0.9, 15°.61S×74°.05W, h33km, mb5.8/57, MS4.8/20, Error ellipse: s-maj=9.7km s-min=5.4km az=103.7*
*ISCJB **24** 14:01:57.2±0.1, 15°.74S±0°.03×74°.09W±0°.03, h59km, mb5.6/190, MS5.0/155, Error ellipse: s-maj=5.0km s-min=2.4km az=138.7*
*IDC **24** 14:01:58.9±0.4, 15°.72S×74°.06W, h55km±3km, mb5.0/25, mb1 5.1/28, mb1mx5.1/30, mbtmp5.0/28, MS4.7/24, Ms1 4.7/24, ms1mx4.6/31, Error ellipse: s-maj=15.0km s-min=9.4km az=63.0*
*NEIC **24** 14:01:58.9±0.1, 15°.77S×73°.98W, mb5.7/146, MW5.5, MW5.6, Error ellipse: s-maj=4.9km s-min=2.3km az=57.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^{17}Nm; M_{rr}0.14; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-0.02; $M_{r\theta}$-2.22; $M_{\theta\phi}$0.28; $M_{r\phi}$-0.90; Best double couple: $M_0$2.40000×10^{17} NP1: ϕ_s249.00000°, δ90.00000°, λ84.00000°. NP2: ϕ_s155.00000°, δ6.00000°, λ176.00000°. Principal axes: T 2.5200, Plg45.0000°, Azm153.0000°; N -0.2300, Plg5.0000°, Azm248.0000°; P -2.2900, Plg44.0000°, Azm344.0000°;*
NEIC Felt [V] at Chala, [IV] at Atico, [III] at Camana and [II] at Ica.
*BJI **24** 14:01:59.3, 15°.70S×74°.00W, h51km, mB5.5/26, Ms5.4/27, Ms7 5.2/29*
*GCMT **24** 14:02:02.0±0.1, 15°.89S×74°.02W, h71km±1km, MW5.5, Moment Tensor Solution. s105,c179; s20,c20; Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.04; $M_{\theta\theta}$-0.56±.04; $M_{\phi\phi}$0.49±.04; $M_{r\theta}$-2.25±.03; $M_{\theta\phi}$0.77±.04; $M_{r\phi}$-0.37±.03; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s259.00000°, δ88.00000°, λ68.00000°. NP2:ϕ_s165.00000°, δ22.00000°, λ176.00000°. Principal axes: T 2.3600, Plg43.0000°, Azm148.0000°; N 0.2000, Plg22.0000°, Azm259.0000°; P -2.5600, Plg40.0000°, Azm9.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=116, comp=219, per= 50.*
*SZGRF **24** 14:02:17.8, 12°.60S×71°.78W, h33km, mb5.1, Central Peru*
*NEIC **24** 14:02:21.8±0.0, 15°.45S×73°.68W, h38km, Moment Tensor Solution. s114 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.06; $M_{\theta\theta}$-1.09; $M_{\phi\phi}$1.15; $M_{r\theta}$-3.15; $M_{\theta\phi}$0.77; $M_{r\phi}$-0.67; Best double couple: $M_0$3.40000×10^{17} NP1:ϕ_s253.00000°, δ89.00000°, λ68.00000°. NP2:ϕ_s160.00000°, δ22.00000°, λ177.00000°. Principal axes: T 3.1300, Plg42.0000°, Azm142.0000°; N 0.6400, Plg21.0000°, Azm253.0000°; P -3.7700, Plg40.0000°, Azm2.0000°;*
ISC 24 14:01:58.6±0.3, 15°.81S±0°.04×74°.01W±0°.05, h57km±2km, h57km:pP-P, n1128, σ1s03/1182, mb5.6/178, MS5.0/154, 268C-219D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.51**	**105**	⇑*i*P	**Pn**	**14 02 39.5**	**+2.2**
ARE				*i* S	**Sn**	**14 03 10.6**	**+3.7**
ARE	**Arequipa**	**2.51**	**105**	⇑*i*P	**Pn**	**14 02 39.5**	**+2.2**
ARE				*i* S	**Sn**	**14 03 10.6**	**+3.7**
NNA	**Nana**	**4.69**	**324**	*e*Pn	**Pn**	**14 03 05.9**	**-1.1**
NNA				*e*Sn	**Sn**	**14 03 59.6**	**-0.5**
PSGC	**Pisagua**	**5.28**	**136**	⇑*i*P	**Pn**	**14 03 15.3**	**+0.2**
PSGC				*i* S	**Sn**	**14 04 10.5**	**-4.2**
PSGC	**Pisagua**	**5.28**	**136**	⇑*i*P	**Pn**	**14 03 15.3**	**+0.2**
PSGC				*i* S	**Sn**	**14 04 10.5**	**-4.2**
MNMC	**Minimini**	**5.35**	**129**	⇑*i*P	**Pn**	**14 03 17.1**	**+0.8**
MNMC				⇑*i*S	**Sn**	**14 04 15.3**	**-1.5**
MNMC	**Minimini**	**5.35**	**129**	⇑*i*P	**Pn**	**14 03 17.1**	**+0.8**
MNMC				*i* S	**Sn**	**14 04 15.3**	**-1.5**
LPAZ	**La Paz**	**5.68**	**96**	P	Pn	14 03 25.4	+4.4
LPAZ				S	**Sn**	**14 04 28.3**	**+3.2**
LPAZ	**La Paz**	**5.68**	**96**	P	Pn	14 03 25.4	+4.4
	86nm,0.3s,baz=281,slow=11,SNR=416						
LPAZ				S	**Sn**	**14 04 28.3**	**+3.2**
	baz=12,slow=19,SNR=1.2						
LPAZ				LR	LR	14 05 11.0	
	comp=Z,2μm,21.2s,baz=122,slow=34						
PB11	**Plate Boundary**	**5.71**	**134**	⇑*e*P	**Pn**	**14 03 21.6**	**+0.6**
PB11				*i* S	**Sn**	**14 04 22.3**	**-3.1**
PB11	**Plate Boundary**	**5.71**	**134**	⇑*e*P	**Pn**	**14 03 21.6**	**+0.6**
PB11				*i* S	**Pn**	**14 03 22.3**	**+1.3**
HMBC	**Humberstone**	**5.93**	**139**	⇑*i*P	**Pn**	**14 03 24.4**	**+0.4**
HMBC	**Humberstone**	**5.93**	**139**	⇑*i*P	**Pn**	**14 03 24.4**	**+0.4**
PATCX	**Punta Patache**	**6.18**	**144**	⇑*i*P	**Pn**	**14 03 27.4**	**-0.1**
PB01	**Plate Boundary**	**6.75**	**141**	⇑*i*P	**Pn**	**14 03 35.2**	**+0.1**
PB01				*e*S	**Sn**	**14 04 46.4**	**-4.2**
PB01	**Plate Boundary**	**6.75**	**141**	⇑*i*P	**Pn**	**14 03 35.2**	**+0.1**
PB01				*e*S	Pn	14 03 46.4	+11
PB07	**Plate Boundary**	**7.06**	**147**	⇑*i*P	**Pn**	**14 03 39.1**	**-0.5**
PB07	**Plate Boundary**	**7.06**	**147**	⇑*i*P	**Pn**	**14 03 39.1**	**-0.5**
PB09	**Plate Boundary**	**7.47**	**144**	⇑*e*P	**Pn**	**14 03 46.1**	**+1.0**
PB09	**Plate Boundary**	**7.47**	**144**	P	**Pn**	**14 03 46.1**	**+1.0**
PB04	**Plate Boundary**	**7.71**	**147**	⇑*e*P	Pn	14 03 43.8	-4.5
PB04	**Plate Boundary**	**7.71**	**147**	⇑*e*P	Pn	14 03 43.8	-4.5
PB06	**Plate Boundary**	**8.04**	**149**	*e*P	**Pn**	**14 03 52.2**	**-0.7**
PB06	**Plate Boundary**	**8.04**	**149**	*e*P	**Pn**	**14 03 52.2**	**-0.7**
LVC	**Limon Verde**	**8.30**	**145**	*e*Pn	**Pn**	**14 03 57.8**	**+1.2**
LVC				*e*Sn	**Sn**	**14 05 25.1**	**-4.1**
PB10	**Plate Boundary**	**8.32**	**158**	⇑*e*P	**Pn**	**14 03 55.1**	**-1.6**
ANCH	**Antofagasta**	**8.53**	**157**	⇑*i*P	**Pn**	**14 03 58.6**	**-0.9**
ANCH	**Antofagasta**	**8.53**	**157**	⇑*i*P	**Pn**	**14 03 58.6**	**-0.9**
ATAH	**Atahualpa**	**9.63**	**333**	P	**Pn**	**14 04 17.8**	**+2.8**
ATAH				S	**Sn**	**14 06 05.5**	**+3.5**
ATAH	**Atahualpa**	**9.63**	**333**	P	**Pn**	**14 04 17.8**	**+2.8**
	16nm,0.3s,baz=135,slow=8.6,SNR=70						
ATAH				S	**Sn**	**14 06 05.5**	**+3.5**
	5.7nm,0.3s,baz=38,slow=17,SNR=1.9						
SIV	**San Ignacio**	**12.45**	**93**	P	**Pn**	**14 04 52.9**	**-0.3**
SIV	**San Ignacio**	**12.45**	**93**	P	**Pn**	**14 04 52.9**	**-0.3**
	5.2nm,0.3s,baz=280,slow=12,SNR=96						
SAML	**Samuel**	**12.59**	**58**	*e*Pn	**Pn**	**14 04 54.7**	**-0.3**
SAML				*e*Sn	**Sn**	**14 07 09.8**	**-3.8**
LCO	**Las Campanas**	**13.49**	**167**	⇑*i*P	**Pn**	**14 05 08.8**	**+1.4**
LCO	**Las Campanas**	**13.49**	**167**	⇑*i*P	**Pn**	**14 05 08.8**	**+1.4**
TLL	**Tololo Astrono**	**14.59**	**169**	⇑*i*P	**Pn**	**14 05 23.4**	**+1.3**
TLL	**Tololo Astrono**	**14.59**	**169**	⇑*i*P	**Pn**	**14 05 23.4**	**+1.3**
TLL	**Tololo Astrono**	**14.59**	**169**	⇑*i*P	**Pn**	**14 05 23.4**	**+1.3**
OTAV	**Otavalo**	**16.54**	**344**	*e*Pn	**Pn**	**14 05 48.2**	**+0.8**
	267nm,1.3s						
OTAV				*e*Sn	**Sn**	**14 08 48.2**	**-2.3**
CFAA	**Coronel Fontan**	**16.58**	**162**	P	**P**	**14 05 48.6**	**-0.4**
CFAA	**Coronel Fontan**	**16.58**	**162**	P	**P**	**14 05 48.6**	**-0.4**
	0.5nm,0.3s,baz=336,slow=12,SNR=80						
CFAA				LR	LR	14 11 39.7	
	comp=Z,374nm,20.0s,baz=336,slow=35						
ROCH	**El Roble**	**17.30**	**171**	⇑*e*P	**Pn**	**14 05 56.1**	**-0.3**
CLCH	**Cerro Calan**	**17.79**	**170**	⇑*i*P	**P**	**14 06 03.0**	**+0.6**
H03N1	**Juan Fernandez**	**18.10**	**193**	T	T	14 24 44.3	
	baz=14,slow=75,SNR=3100						
H03N2	**Juan Fernandez**	**18.11**	**193**	T	T	14 24 39.3	
	baz=14,slow=75						
H03N3	**Juan Fernandez**	**18.12**	**193**	T	T	14 24 40.4	
	baz=14,slow=75						
LMEL	**Las Melosas**

LSP ePP pP 14 08 54.9 -0.6
CELP Cerrillos 34.46 13 eP P **14 08 40.7 -0.4**
CELP ePP pP **14 08 54.8 -0.7**
CDVI St. Croix 34.58 16 eP P **14 08 40.3 -1.7**
comp=Z,173nm,0.8s
CDVI ePP pP **14 08 55.9 -0.5**
APG El Apazote 34.67 331 LR LR 14 21 03.2
comp=Z,1µm,21.5s,baz=150,slow=33
SDDR Presa de Saban 34.68 5 eP P **14 08 42.3 -0.8**
SDDR LR LR
comp=Z,4µm,21.0s
HUMP Col San Antoni 34.69 14 eP P 14 08 46.3 +3.2
AOPR Arecibo Observ 34.69 12 eP P **14 08 42.2 -0.9**
comp=Z,810nm,2.3s
ANWB Willy Bob 35.39 20 eP P 14 08 43.4 -5.7
ANWB ePP pP 14 09 02.4 -1.1
ANWB LR LR
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 35.53 358 eP P **14 08 50.4 +0.1**
comp=Z,676nm,2.4s
GTBY LR LR
comp=Z,1µm,19.0s
GRTK Grand Turk 37.20 4 PFAKE 14 09 20.0 +16
GRTK LR LR
comp=Z,3µm,22.0s
EFI East Falkland 37.98 164 ⇓*i*P P **14 09 12.4 +1.6**
EFI East Falkland 37.98 164 PFAKE 14 09 20.0 +9.2
EFI LR LR
comp=Z,3µm,21.0s
TEIG Tepich 38.46 338 eP P **14 09 14.3 -0.9**
comp=Z,419nm,1.3s
TEIG ePP pP **14 09 29.1 -0.6**
TEIG LR LR
comp=Z,2µm,21.0s
RCBR Riachuelo 38.66 79 eP P **14 09 16.2 -0.9**
comp=Z,30nm,1.4s
RCBR ePP pP **14 09 31.3 -0.3**
USHA Ushuaia 39.18 175 P P **14 09 22.1 +1.3**
USHA Ushuaia 39.18 175 P P **14 09 22.1 +1.3**
comp=Z,179nm,1.0s,baz=338,slow=6.1,SNR=37
TIGA Tifton 47.87 349 ⇓P P **14 10 30.6 -0.3**
baz=48
BRAL Brewton 48.22 345 eP P **14 10 32.7 -0.9**
comp=Z,413nm,1.1s
BRAL ePP pP **14 10 47.7 -0.8**
BRAL LR LR
comp=Z,1µm,20.0s
BBSR BB Station 48.73 11 PFAKE 14 10 50.0 +12
BBSR LR LR
comp=Z,829nm,21.0s
RGRS Roger Stewart 48.80 353 eP P **14 10 38.3 +0.2**
CSU Charleston Sou 48.87 353 eP P **14 10 39.2 +0.6**
NHSC New Hope 49.00 353 eP P **14 10 39.0 -0.6**
comp=Z,702nm,1.2s
NHSC ePP pP **14 10 54.4 -0.2**
NHSC LR LR
comp=Z,2µm,22.0s
PMSA Palmer Station 49.38 174 eP P **14 10 40.0 -2.1**
comp=Z,272nm,1.2s
PMSA LR LR
comp=Z,1µm,21.0s
GOGA Godfrey 49.77 350 eP P **14 10 44.5 -1.0**
GOGA e*PP pP **14 11 00.0 -0.6**
GOGA pmax pmax
comp=Z,116nm,1.1s
GOGA MLR MLR
comp=Z,1µm,21.0s
GOGA Godfrey 49.77 350 eP P **14 10 44.5 -1.0**
comp=Z,116nm,1.1s
GOGA ePP pP **14 10 60.0 -0.6**
GOGA LR LR
comp=Z,1µm,21.0s
HKT Hockley 50.13 335 eP P **14 10 46.5 -1.7**
HKT Hockley 50.13 335 eP P **14 10 46.5 -1.7**
LRAL Lakeview Retre 50.13 346 eP P **14 10 47.4 -0.8**
comp=Z,126nm,1.0s
LRAL ePP pP **14 11 02.6 -0.6**
JSC Jenkinsville 50.29 352 eP P **14 10 49.2 -0.2**
JSC Jenkinsville 50.29 352 eP P **14 10 49.2 -0.2**
732A Laxson Ranch, 50.90 330 ⇑P P **14 10 54.0 -0.1**
baz=51,SNR=34
CNNC Cliffs of the 50.90 356 PFAKE 14 11 10.0 +16
CNNC LR LR
comp=Z,702nm,19.0s
KMSC Kings Mountain 51.15 352 eP P **14 10 55.2 -0.6**
KMSC ePP pP **14 11 10.6 -0.4**
KMSC Kings Mountain 51.15 352 ⇑P P **14 10 55.6 -0.3**
baz=51,SNR=29
534A Blanco 51.31 333 ⇓P P **14 10 56.7 -0.6**
baz=52,SNR=14
632A Uvalde 51.47 331 ⇓P P **14 10 58.4 0.0**
baz=52
533A Kerrville 51.60 332 ⇑P P **14 10 59.1 -0.3**
baz=52,SNR=34
631A Perdido Creek 51.76 330 ⇓P P **14 10 60.0 -0.6**
baz=52,SNR=31
434A Burnet 51.90 333 ⇓P P **14 11 00.8 -0.8**
baz=52,SNR=34
CPCT Cooper Cave 51.95 349 eP P **14 11 00.6 -1.2**
CPCT ePP pP **14 11 16.3 -0.6**
335A Moody 51.95 334 ⇑P P **14 11 01.8 -0.1**
baz=52,SNR=25
SWET Sewanee 51.99 348 eP P **14 11 01.1 -1.2**
comp=Z,120nm,1.0s
SWET ePP pP **14 11 16.4 -0.9**
532A Rocksprings 52.05 331 ⇑P P **14 11 02.6 -0.1**
baz=52,SNR=26
OXF Oxford 52.15 344 eP P **14 11 01.2 -2.1**
OXF e*PP pP **14 11 18.2 -0.2**
OXF pmax pmax
comp=Z,165nm,1.1s
OXF Oxford 52.15 344 eP P **14 11 01.2 -2.1**
comp=Z,165nm,1.1s
OXF ePP pP **14 11 18.2 -0.2**
433A Art 52.21 333 ⇑P P **14 11 03.4 -0.6**
baz=52,SNR=94
JCT Junction City 52.30 332 eP P **14 11 03.3 -1.3**
JCT pmax pmax
comp=Z,112nm,1.1s
JCT Junction City 52.30 332 eP P **14 11 03.3 -1.3**
comp=Z,112nm,1.1s
JCT Junction City 52.30 332 ⇓P P **14 11 04.1 -0.5**
baz=52,SNR=27
334A Lometa 52.33 334 ⇓P P **14 11 04.4 -0.4**
baz=52,SNR=47
531A Rocksprings 52.38 331 ⇑P P **14 11 05.3 +0.1**
baz=53,SNR=51
WHTX Lake Whitney 52.58 335 eP P **14 11 04.9 -1.7**
WHTX ePP pP **14 11 21.6 -0.1**
WHTX Lake Whitney 52.58 335 ⇓P P **14 11 06.5 -0.1**
baz=53,SNR=28
432A Menard 52.63 332 ⇑P P **14 11 06.8 -0.2**
baz=53,SNR=83
333A Richland Sprin 52.65 333 ⇓P P **14 11 06.6 -0.5**
baz=53,SNR=58
530A J-C Ranch, Com 52.74 330 ⇑P P **14 11 07.6 -0.3**
baz=53,SNR=44
431A Sonora 52.84 331 ⇑P P **14 11 08.2 -0.4**
baz=53,SNR=66
TZTN Tazewell 52.85 350 eP P **14 11 07.8 -0.7**
comp=Z,145nm,1.3s
628A Black Gap, Mar 52.96 328 ⇑P P **14 11 10.0 +0.4**
baz=53,SNR=64
332A Millersview 53.03 332 ⇑P P **14 11 09.7 -0.3**
baz=53,SNR=64
135A Vickery Place, 53.05 335 ⇑P P **14 11 10.0 -0.1**
baz=53,SNR=7.3
VWCC Virginia Weste 53.07 354 eP P **14 11 10.3 +0.2**
BLA Blacksburg 53.08 354 eP P **14 11 08.5 -1.8**
BLA e*PP pP **14 11 25.1 -0.3**
BLA pmax pmax
comp=Z,357nm,1.9s
BLA MLR MLR
comp=Z,1µm,22.0s
BLA Blacksburg 53.08 354 eP P **14 11 08.5 -1.8**
comp=Z,357nm,1.9s
BLA ePP pP **14 11 25.1 -0.3**
BLA LR LR
comp=Z,1µm,22.0s
529A Stev Forest Ra 53.15 329 ⇓P P **14 11 11.0 +0.1**
baz=53,SNR=76
627A Terlingua Ranc 53.19 328 ⇑P P **14 11 11.1 -0.2**
baz=53,SNR=40
430A Baggett Ranch, 53.22 331 ⇑P P **14 11 11.2 -0.3**
baz=53,SNR=33
TXAR Lajitas Array 53.24 327 P P **14 11 11.5 -0.1**
comp=Z,52nm,1.0s,baz=146,slow=8.5,SNR=178
TXAR LR LR 14 32 52.8
comp=Z,613nm,19.6s,baz=165,slow=35
UALR University of 53.24 341 eP P **14 11 10.9 -0.5**
comp=Z,167nm,1.1s
UALR ePP pP **14 11 26.7 +0.1**
331A San Angelo 53.28 332 ⇑P P **14 11 11.5 -0.3**
baz=54,SNR=54
WVT Waverly 53.29 346 eP P **14 11 08.9 -2.8**
WVT e*PP pP **14 11 25.6 -1.3**
WVT Waverly 53.29 346 eP P **14 11 08.9 -2.8**
WVT ePP pP **14 11 25.6 -1.3**
134A White-Moore Ra 53.34 335 ⇓P P **14 11 12.3 0.0**
baz=54,SNR=58
JSRW J. Sargeant Re 53.34 356 eP P **14 11 12.1 0.0**
429A Davenport Ranc 53.40 330 ⇓P P **14 11 12.8 +0.1**
baz=54,SNR=55
232A Coleman 53.42 333 ⇓P P **14 11 12.8 -0.1**
baz=54,SNR=95
MIAR Mount Ida 53.42 340 eP P **14 11 11.5 -1.3**
MIAR e*PP pP **14 11 28.1 +0.1**
MIAR pmax pmax
comp=Z,133nm,1.1s
MIAR MLR MLR
comp=Z,501nm,20.0s
MIAR Mount Ida 53.42 340 eP P **14 11 11.5 -1.3**
comp=Z,133nm,1.1s
MIAR ePP pP **14 11 28.1 +0.1**
MIAR LR LR
comp=Z,501nm,20.0s
528A Cox Ranch, San 53.46 329 ⇑P P **14 11 12.9 -0.4**
baz=54,SNR=19
626A Big Bend Ranch 53.66 327 ⇑P P **14 11 15.2 +0.5**
baz=54,SNR=186
Z35A Perchaven, San 53.67 336 ⇑P P **14 11 14.6 0.0**
baz=54,SNR=31
GNAR Gosnell 53.68 344 eP P **14 11 14.0 -0.5**
comp=Z,2µm,1.2s
330A Mertzon 53.71 331 ⇓P P **14 11 14.3 -0.7**
baz=54,SNR=29
133A Hamilton Ranch 53.72 334 ⇑P P **14 11 14.9 -0.1**
baz=54,SNR=75
UTMT University of 53.74 345 eP P **14 11 14.0 -1.1**
comp=Z,192nm,1.3s
231A Bronte 53.76 332 ⇑P P **14 11 14.7 -0.7**
baz=54,SNR=18
CBN Corbin 53.82 357 eP P **14 11 15.9 +0.3**
comp=Z,221nm,1.0s
CBN LR LR
comp=Z,765nm,20.0s
527A Woodward Ranch 53.86 328 ⇓P P **14 11 16.2 -0.1**
baz=54,SNR=52
428A Kincaid Ranch, 53.87 329 ⇑P P **14 11 16.3 0.0**
baz=54,SNR=20
Z34A Collier Ranch, 53.97 335 ⇑P P **14 11 16.6 -0.2**
baz=54,SNR=26
526A Mary Lane Ranc 54.04 328 ⇓P P **14 11 17.5 -0.1**
baz=54,SNR=58
ABTX Abilene, Hawle 54.05 333 eP P **14 11 16.7 -0.7**
ABTX ePP pP **14 11 32.6 0.0**
ABTX Abilene, Hawle 54.05 333 ⇑P P **14 11 17.0 -0.4**
baz=54,SNR=38
230A Sterling City 54.08 331 ⇑P P **14 11 17.0 -0.7**
baz=54,SNR=7.3
329A Wagon Wheel Ra 54.16 330 ⇓P P **14 11 18.0 -0.3**
baz=54,SNR=38
Z33A Whitaker Ranch 54.24 334 ⇓P P **14 11 18.7 -0.1**
baz=54,SNR=86
427A Hayter Ranch, 54.33 329 ⇓P P **14 11 19.2 -0.4**
baz=54,SNR=8.4
131A Roby 54.42 333 ⇑P P **14 11 19.8 -0.3**
baz=55,SNR=19
Y34A Reagan Ranch, 54.42 336 ⇓P P **14 11 19.7 -0.4**
baz=55,SNR=82
328A Wristen Ranch, 54.47 330 ⇑P P **14 11 20.1 -0.4**
baz=55,SNR=65
229A Bryant Ranch, 54.47 331 ⇑P P **14 11 19.8 -0.8**
baz=55,SNR=31
426A McDonald Obser 54.50 328 ⇑P P **14 11 20.7 -0.3**
baz=55,SNR=51
PBMO Poplar Bluff 54.55 344 eP P **14 11 19.8 -1.1**
comp=Z,133nm,1.1s
Z32A Haskell 54.56 334 ⇑P P **14 11 20.5 -0.6**
baz=55,SNR=21
130A Snyder 54.61 332 ⇓P P **14 11 21.0 -0.6**
baz=55,SNR=22
327A Balmorhea Ranc 54.79 329 ⇓P P **14 11 22.7 -0.2**
baz=55
Y33A Hilltop Ranch, 54.81 335 ⇓P P **14 11 22.5 -0.4**
baz=55,SNR=46
Z31A Sharp Cattle R 54.86 333 ⇑P P **14 11 23.0 -0.3**
baz=55,SNR=116
228A UT Block 9, Go 54.97 330 ⇓P P **14 11 23.4 -0.8**
baz=55,SNR=44
WCI Wyandotte Cave 54.98 348 eP P **14 11 22.9 -1.1**
WCI pmax pmax
comp=Z,209nm,1.1s
WCI Wyandotte Cave 54.98 348 eP P **14 11 22.9 -1.1**
comp=Z,209nm,1.1s
326A Caldwell Ranch 54.99 329 ⇑P P **14 11 23.9 -0.5**
baz=55,SNR=41
SDMD Soldier's Deli 55.00 357 eP P **14 11 24.9 +0.8**
comp=Z,220nm,1.0s
USIN University of 55.01 347 eP P **14 11 23.6 -0.7**
comp=Z,306nm,1.0s
X34A Smith Ranch, M 55.02 336 ⇓P P **14 11 24.3 0.0**
baz=55,SNR=15
129A Stewart Farms, 55.05 331 ⇓P P **14 11 24.4 -0.4**
baz=55,SNR=38
425A Indio Mountain 55.08 327 ⇓P P **14 11 24.8 -0.3**
baz=55,SNR=66
SIUC Southern Illin 55.13 345 eP P **14 11 24.2 -0.9**
comp=Z,217nm,1.0s
Y32A R-V Farms, Ver 55.15 334 ⇑P P **14 11 25.0 -0.3**
baz=55,SNR=39
227A Bennet, Jal 55.22 330 ⇑P P **14 11 25.8 -0.2**
baz=55,SNR=19
X33A Lawton 55.23 335 ⇑P P **14 11 24.9 -1.0**
baz=55
Z30A Sanderson Ranc 55.27 332 ⇓P P **14 11 25.8 -0.4**
baz=56,SNR=64
128A Castleberry Fa 55.33 331 ⇑P P **14 11 26.2 -0.6**
baz=56,SNR=40
TUL1 Tulsa 55.42 339 eP P **14 11 26.8 -0.4**
TUL1 Tulsa 55.42 339 ⇓P P **14 11 26.8 -0.4**
baz=56,SNR=98
X32A Elmer 55.44 335 ⇓P P **14 11 26.8 -0.7**
baz=56,SNR=10
Y31A Rekieta Farm, 55.46 333 ⇑P P **14 11 27.1 -0.5**
baz=56,SNR=61
Z29A Hungry Hill Ra 55.50 332 ⇓P P **14 11 27.0 -1.0**
baz=56,SNR=34
WMOK Wichita Mounta 55.51 335 PFAKE 14 11 40.0 +12
WMOK LR LR
comp=Z,654nm,19.0s
325A Bean Ranch, Si 55.54 328 ⇑P P **14 11 28.1 -0.4**
baz=56,SNR=95
W34A Bridge Creek, 55.55 336 ⇓P P **14 11 27.5 -0.8**
baz=56,SNR=7.3
MVL Millersville 55.56 358 eP P **14 11 29.2 +1.1**
comp=Z,216nm,1.0s
Y30A Stafford Cattl 55.66 333 ⇓P P **14 11 28.4 -0.7**
baz=56,SNR=26
226B Tecolote Peak, 55.70 329 ⇓P P **14 11 29.5 0.0**
baz=56,SNR=80
W33A Caddo, Fort Co 55.75 336 ⇓P P **14 11 29.4 -0.3**
baz=56,SNR=33
127A Arkansas Junct 55.79 330 ⇑P P **14 11 29.4 -0.7**
baz=56,SNR=49
Z28A Tucker Farm, M 55.84 331 ⇓P P **14 11 29.4 -1.0**
baz=56,SNR=23
324A Moseley Ranch, 55.86 327 ⇑P P **14 11 29.5 -1.2**
baz=56,SNR=53
GDL2 Guadalupe Moun 55.90 329 eP P **14 11 31.1 +0.2**
X31A McDonald Ranch 55.91 334 ⇓P P **14 11 30.3 -0.6**
baz=56,SNR=49
V34A Guthrie 55.98 337 ⇑P P **14 11 30.3 -1.0**
baz=56,SNR=30
Y29A Porterfield Fa 55.99 332 ⇑P P **14 11 30.9 -0.6**
baz=56,SNR=29
MNTX Cornudas Mount 56.01 328 eP P **14 11 30.5 -1.1**
comp=Z,77nm,1.2s
MNTX ePP pP **14 11 46.4 -0.4**
MNTX LR LR
comp=Z,493nm,19.0s
225A Deer Hill, Car 56.06 328 ⇑P P **14 11 31.9 -0.2**
baz=56
126A Clayton Basin, 56.09 329 ⇓P P **14 11 32.0 -0.2**
baz=56,SNR=70
X30A Coker Ranch, T 56.13 333 ⇓P P **14 11 31.6 -0.9**
baz=56,SNR=20
Z27A Tatum 56.25 331 ⇑P P **14 11 32.7 -0.7**
baz=56,SNR=74
SLM Saint Louis 56.26 345 eP P **14 11 32.6 -0.5**
SLM Saint Louis 56.26 345 eP P **14 11 32.6 -0.5**
V33A Lossen Ranch, 56.26 336 ⇑P P **14 11 32.8 -0.5**
baz=56,SNR=7.8
Y28A McKinney Farm, 56.29 332 ⇓P P **14 11 32.8 -0.9**
baz=56,SNR=26
W31A Holland Ranch, 56.38 335 ⇑P P **14 11 33.2 -1.0**
baz=57,SNR=7.0
ACSO Alum Creek Sta 56.38 352 eP P **14 11 33.1 -0.9**
comp=Z,196nm,1.1s
ACSO LR LR
comp=Z,990nm,19.0s
224A Cornudas Mount 56.38 328 ⇑P P **14 11 33.7 -0.7**
baz=57,SNR=120
125A Gardner Draw, 56.41 329 ⇑P P **14 11 33.7 -0.9**
baz=57,SNR=45
V32A Arapaho 56.47 336 ⇓P P **14 11 34.3 -0.5**
baz=57,SNR=11
X29A Tulia 56.50 333 ⇓P P **14 11 34.3 -0.8**
baz=57,SNR=22
U34A Anderson Ranch 56.52 337 ⇑P P **14 11 34.3 -0.8**
baz=57,SNR=20
PAL Palisades 56.53 0 eP P **14 11 35.6 +0.6**
PAL pmax pmax
comp=Z,244nm,1.1s
PAL Palisades 56.53 0 eP P **14 11 35.6 +0.6**
comp=Z,244nm,1.1s
Z26A Caprock 56.58 330 ⇑P P **14 11 35.3 -0.4**
baz=57,SNR=34
MSTX Muleshoe 56.58 331 ⇑P P **14 11 34.6 -1.1**
baz=57
ODNJ Ogdensburg 56.61 359 eP P **14 11 35.0 -0.6**
comp=Z,150nm,1.7s
W30A Crocket Farms 56.64 334 ⇓P P **14 11 35.8 -0.3**
baz=57
Y27A Causey 56.69 331 ⇑P P **14 11 35.6 -0.9**
baz=57,SNR=84
X28A Dimmitt 56.78 332 ⇓P P **14 11 36.3 -0.9**
baz=57,SNR=9.8
223A Chaparral, Ant 56.80 327 ⇑P P **14 11 36.8 -0.5**
baz=57,SNR=6.4
V31A Spring Creek L 56.84 335 ⇑P P **14 11 37.2 -0.2**
baz=57,SNR=6.8
YLE Yale 56.85 1 eP P **14 11 37.9 +0.6**
124A Stringfield Ra 56.85 328 ⇓P P **14 11 37.5 -0.3**
baz=57,SNR=80
AMTX Amarillo 56.86 333 eP P **14 11 36.8 -0.9**
comp=Z,396nm,1.9s
AMTX Amarillo 56.86 333 ⇓P P **14 11 37.0 -0.7**
baz=57
Z25A Roswell 56.95 329 ⇑P P **14 11 37.6 -0.7**
baz=57,SNR=82
U32A Winter Ranch, 57.03 336 ⇓P P **14 11 38.1 -0.6**
baz=57,SNR=13
Y26A Elida 57.04 330 ⇑P P **14 11 38.2 -0.8**
baz=57,SNR=6.3
W29A Amraillo 57.04 333 ⇑P P **14 11 38.1 -0.8**
baz=57,SNR=15
KSPA Keystone Colle 57.10 358 eP P **14 11 39.6 +0.5**
V30A Spur Ranch, Mi 57.18 334 ⇑P P **14 11 39.9 0.0**
baz=57
123A Bell Site, Whi 57.21 328 ⇓P P **14 11 39.7 -0.5**
baz=57,SNR=6.1
SFIN Scholer Farm 57.21 348 eP P **14 11 38.0 -1.9**
SFIN Scholer Farm 57.21 348 ⇑P P **14 11 38.1 -1.8**
baz=58,SNR=9.0
222A Williams Famil 57.23 327 ⇑P P **14 11 40.6 +0.2**
baz=57,SNR=17
X27A F and S Farms, 57.30 332 ⇓P P **14 11 40.0 -0.8**
baz=58,SNR=8.9
Z24A Sheeppen Canyo 57.31 329 ⇓P P **14 11 40.5 -0.5**
baz=58,SNR=142
T33A Patterson Ranc 57.36 337 ⇑P P **14 11 40.6 -0.5**
baz=58,SNR=13
U31A Nine Bar Ranch 57.36 335 ⇓P P **14 11 40.7 -0.4**
baz=58
W28A Vega 57.40 333 ⇑P P **14 11 40.9 -0.6**
baz=58,SNR=17
320A Kipp Ranch, An 57.41 325 ⇑P P **14 11 41.8 +0.1**
baz=58,SNR=58
Y25A Mesa, Roswell 57.45 330 ⇑P P **14 11 41.0 -1.0**
baz=58,SNR=56
221A Mesquite Ranch 57.52 326 ⇓P P **14 11 42.8 +0.4**
baz=58,SNR=9.2
X26A CR and CF Fran 57.55 331 ⇓P P **14 11 42.0 -0.6**
baz=58,SNR=32
RKT Rikitea 57.59 252 eS S 14 19 44.4 +7.2
RKT comp=Z,397nm,30.0s eLQ LQ 14 26 17.5
RKT comp=Z,1µm,31.8s eLR LR 14 28 45.4
comp=Z,385nm,34.0s
RKT Rikitea 57.59 252 eT T 15 13 44.7
comp=Z,22nm,0.2s
W27A Bowe Ranch, En 57.62 332 ⇑P P **14 11 42.3 -0.8**
baz=58,SNR=24
V29A Stinnett 57.63 334 ⇓P P **14 11 42.1 -0.9**
baz=58
Z23A Rita Site, Whi 57.69 328 ⇑P P **14 11 43.7 +0.1**
baz=58,SNR=35
T32A Huddler Ranch, 57.70 337 ⇓P P **14 11 43.0 -0.5**
baz=58,SNR=10
S33A Kaszmaul Farm, 57.72 338 ⇑P P **14 11 43.0 -0.6**
baz=58,SNR=11
BINY Binghamton 57.75 358 eP P **14 11 44.3 +0.6**
comp=Z,289nm,1.0s
BINY LR LR
comp=Z,1µm,22.0s
Y24A Capitan 57.82 329 ⇓P P **14 11 43.8 -0.8**
baz=58,SNR=33
U30A WK&E Inc. Balk 57.82 335 ⇑P P **14 11 44.0 -0.4**
baz=58,SNR=8.2
V28A Channing 57.83 333 ⇑P P **14 11 43.7 -0.8**
baz=58,SNR=24
319A Douglas 57.86 324 ⇑P P **14 11 45.2 +0.4**
baz=58,SNR=82
ERPA Erie 57.90 355 eP P **14 11 44.8 0.0**
comp=Z,208nm,1.0s
ERPA LR LR
comp=Z,873nm,22.0s
T31A Randall Ranch, 57.92 336 ⇑P P **14 11 44.6 -0.4**
baz=58,SNR=8.4
X25A Clemmons Ranch 57.93 330 ⇓P P **14 11 44.6 -0.7**
baz=58,SNR=41
WES Weston 57.96 2 eP P **14 11 46.3 +1.2**
WES Weston 57.96 2 eP P **14 11 46.3 +1.2**
W26A Owens Ranch, T 57.97 331 ⇓P P **14 11 45.1 -0.4**
baz=58,SNR=13
U29A Oasis Ranch, S 58.01 334 ⇑P P **14 11 45.4 -0.4**
baz=58
Z22A Elephant Butte 58.06 328 ⇑P P **14 11 46.3 +0.1**
baz=58,SNR=65
HRV Adam Dziewonsk 58.07 2 eP P **14 11 45.9 0.0**
HRV e*PP pP **14 12 00.8 -0.4**
HRV pmax pmax
comp=Z,118nm,1.3s
HRV Adam Dziewonsk 58.07 2 eP P **14 11 45.9 0.0**
comp=Z,118nm,1.3s
HRV ePP pP **14 12 00.8 -0.4**
V27A Dan Oppiter Fa 58.10 332 ⇓P P **14 11 45.9 -0.5**
baz=58
Y23A Lovelace Mesa, 58.13 329 ⇓P P **14 11 46.4 -0.3**
baz=58,SNR=28
TRIS Tristan da Cun 58.16 124 eP P **14 11 48.8 +2.0**
comp=Z,94nm,1.0s
TRIS LR LR
comp=Z,702nm,19.0s
S32A Newby Ranch, P 58.16 337 ⇓P P **14 11 46.7 0.0**
baz=58,SNR=7.7
T30A Plains 58.22 335 ⇓P P **14 11 46.7 -0.5**
baz=58
TRY Troy 58.25 0 eP P **14 11 48.3 +1.1**
S31A Mullinville 58.30 336 ⇑P P **14 11 47.3 -0.4**
baz=58,SNR=6.8
X24A Lazy VL Ranch, 58.33 330 ⇑P P **14 11 47.4 -0.8**
baz=58
R33A Olander Ranch, 58.34 338 ⇓P P **14 11 47.1 -0.8**
baz=59
U28A Mallet 58.36 333 ⇓P P **14 11 47.5 -0.7**
baz=59,SNR=32
MMNY Mt. Morris Dam 58.36 357 eP P **14 11 47.9 -0.1**
comp=Z,425nm,1.0s

W25A X Bar L Ranch, 58.40 331 ⇑P P 14 11 47.7 -0.8
baz=59,SNR=76
SACV Santiago Islan 58.44 61 PFAKE 14 12 00.0 +11
SACV LR LR
comp=Z,463nm,19.0s
AAM Ann Arbor 58.50 352 eP P 14 11 47.5 -1.4
AAM pmax pmax
comp=Z,106nm,1.1s
AAM MLR MLR
comp=Z,836nm,19.0s
AAM Ann Arbor 58.50 352 eP P 14 11 47.5 -1.4
comp=Z,106nm,1.1s
AAM LR LR
comp=Z,836nm,19.0s
V26A Tequesquite Ra 58.56 332 ⇓P P 14 11 49.1 -0.5
baz=59,SNR=30
KSU1 Kansas State U 58.57 339 eP P 14 11 48.2 -1.3
comp=Z,128nm,1.4s
KSU1 LR LR
comp=Z,790nm,20.0s
KSU1 Kansas State U 58.57 339 ⇑P P 14 11 48.5 -1.0
baz=59,SNR=8.3
BNM Barren Site 58.59 328 eP P 14 11 50.0 -0.1
comp=Z,142nm,1.6s
T29A Hugoton 58.62 335 ⇓P P 14 11 49.4 -0.6
baz=59,SNR=22
U27A Thompson Grove 58.65 333 ⇑P P 14 11 49.5 -0.7
baz=59,SNR=12
Y22D IRIS PASSCAL I 58.68 328 ⇓P P 14 11 50.8 +0.2
baz=59
S30A Montezuma 58.70 336 ⇑P P 14 11 50.1 -0.4
baz=59,SNR=6.0
R32A Long Quarter, 58.71 337 ⇓P P 14 11 50.0 -0.5
baz=59,SNR=16
X23A Hourglass Bar 58.72 329 ⇑P P 14 11 50.6 -0.2
baz=59,SNR=24
LPM Los Pinos Moun 58.72 329 eP P 14 11 50.1 -0.7
ASCN Ascension 58.74 90 PFAKE 14 12 00.0 +8.8
ASCN LR LR
comp=Z,853nm,19.0s
LENM Lemitar 58.78 328 eP P 14 11 50.2 -1.1
W24A Lazy 6 Ranch, 58.84 330 ⇑P P 14 11 51.0 -0.7
baz=59,SNR=28
R31A Burdett 58.90 337 ⇑P P 14 11 51.2 -0.6
baz=59,SNR=16
Q33A Connelly Farm, 58.90 338 ⇑P P 14 11 51.3 -0.5
baz=59,SNR=6.5
ACCN Adirondack Com 58.91 0 eP P 14 11 52.5 +0.7
comp=Z,111nm,1.3s
T28A Walsh 58.94 334 ⇑P P 14 11 51.2 -1.0
baz=59,SNR=12
S29A Ulysses 58.95 335 ⇓P P 14 11 51.9 -0.3
baz=59,SNR=8.8
V25A Rancho No Teng 58.98 331 ⇑P P 14 11 52.3 -0.4
baz=59,SNR=85
U26A Atchley Ranch, 59.04 332 ⇓P P 14 11 52.3 -0.7
baz=59,SNR=13
LAZ Ladron 59.05 328 eP P 14 11 53.3 +0.2
comp=Z,88nm,1.2s
LAZ epP pP 14 12 07.5 -1.1
ANMO Albuquerque 59.14 329 eP P 14 11 53.0 -0.8
comp=Z,109nm,1.2s
ANMO LR LR
comp=Z,598nm,22.0s
ANMO Albuquerque 59.14 329 P P 14 11 53.8 0.0
comp=Z,51nm,1.0s,baz=159,slow=8.9,SNR=22
T27A Campo 59.15 333 ⇓P P 14 11 52.7 -1.0
baz=59,SNR=24
Q32A Meitler Ranch, 59.16 338 ⇓P P 14 11 53.0 -0.6
baz=59,SNR=10
W23A Werner Place, 59.16 329 ⇓P P 14 11 53.6 -0.3
baz=59,SNR=14
R30A Dighton 59.19 336 ⇑P P 14 11 53.4 -0.4
baz=59
V24A Rampart Ranch, 59.19 331 ⇓P P 14 11 53.2 -0.9
baz=59,SNR=34
S28A Manter 59.24 334 ⇓P P 14 11 53.5 -0.8
baz=60,SNR=18
P33A Williams Farm, 59.24 339 ⇑P P 14 11 53.5 -0.7
baz=60
U25A Circle Dot Ran 59.34 332 ⇓P P 14 11 54.8 -0.3
baz=60,SNR=50
TUC Tucson 59.41 324 eP P 14 11 54.7 -0.9
TUC pmax pmax
comp=Z,59nm,1.1s
TUC MLR MLR
comp=Z,813nm,21.0s
TUC Tucson 59.41 324 eP P 14 11 54.6 -0.9
comp=Z,60nm,1.1s
TUC LR LR
comp=Z,813nm,21.0s
Q31A Ellis 59.48 337 ⇓P P 14 11 55.4 -0.4
baz=60,SNR=9.3
NCB Newcomb 59.49 360 PFAKE 14 12 10.0 +14
NCB LR LR
comp=Z,2μm,22.0s
MDV Middlebury 59.52 1 eP P 14 11 55.6 -0.4
T26A Comanche Natio 59.62 333 ⇓P P 14 11 56.7 -0.3
baz=60,SNR=39
V23A Ortiz Mt. (NFS 59.65 330 ⇑P P 14 11 57.5 +0.2
baz=60,SNR=39
R29A Marienthal 59.65 335 ⇑P P 14 11 56.3 -0.7
baz=60,SNR=6.3
P32A Huiting Farm, 59.73 338 ⇓P P 14 11 56.5 -1.1
baz=60
S27A Las Animas 59.74 334 ⇑P P 14 11 57.3 -0.5
baz=60
U24A Moreno Valley 59.75 331 ⇓P P 14 11 58.2 +0.1
baz=60
Q30A Quinter 59.77 337 ⇑P P 14 11 57.4 -0.4
baz=60,SNR=7.2
LBNH Lisbon 59.79 2 PFAKE 14 12 10.0 +12
LBNH LR LR
comp=Z,1μm,20.0s
R28A Tribune 59.85 335 ⇑P P 14 11 57.7 -0.7
baz=60,SNR=8.0
P31A Stockton 59.92 337 ⇑P P 14 11 58.3 -0.6
baz=60,SNR=16
S26A Kim 59.94 333 ⇓P P 14 11 59.2 0.0
baz=60,SNR=134
T25A Trinidad 59.95 332 ⇑P P 14 11 59.4 0.0
baz=60,SNR=58
Q29A Oakley 59.98 336 ⇓P P 14 11 58.5 -0.8
baz=60,SNR=11
PTN Potsdam (NY) 60.10 359 eP P 14 12 00.6 +0.8
PTN pmax pmax
comp=Z,174nm,1.0s
PTN Potsdam (NY) 60.10 359 eP P 14 12 00.6 +0.8
comp=Z,174nm,1.0s
SCIA State Center 60.11 344 eP P 14 11 59.3 -0.7
comp=Z,51nm,1.0s
SCIA LR LR
comp=Z,935nm,22.0s
U23A El Rito 60.12 330 ⇑P P 14 12 00.5 0.0
baz=60,SNR=74
V22A San Miguel Ran 60.13 329 ⇓P P 14 12 00.8 +0.2
baz=60,SNR=94
LONY Lake Ozonia 60.14 360 PFAKE 14 12 10.0 +10
LONY LR LR
comp=Z,1μm,22.0s
O32A Brockman Farm, 60.18 339 ⇑P P 14 11 59.6 -1.0
baz=60,SNR=5.7
R27A Eads 60.21 334 ⇑P P 14 12 00.0 -0.9
baz=60,SNR=22
P30A Selden 60.27 337 ⇑P P 14 12 00.7 -0.5
baz=60,SNR=5.3
JFWS Jewell Farm 60.31 346 eP P 14 11 59.8 -1.6
JFWS pmax pmax
comp=Z,82nm,1.6s
JFWS MLR MLR
comp=Z,1μm,22.0s
JFWS Jewell Farm 60.31 346 eP P 14 11 59.8 -1.6
comp=Z,82nm,1.6s
JFWS LR LR
comp=Z,1μm,22.0s
214A Organ Pipe Nat 60.32 322 eP P 14 12 01.4 -0.3
comp=Z,106nm,1.2s
214A epP pP 14 12 18.5 +1.3
214A Organ Pipe Nat 60.32 322 ⇓P P 14 12 02.2 +0.4
baz=60,SNR=21
T24B San Luis 60.33 331 ⇑P P 14 12 02.1 0.0
baz=60,SNR=22
FRNY Flat Rock 60.36 0 eP P 14 12 02.0 +0.4
S25A Robets Cordova 60.40 332 ⇑P P 14 12 02.2 -0.2
baz=61,SNR=64
O31A Woolen Ranch, 60.46 338 ⇑P P 14 12 01.4 -1.1
baz=61
Q28A Sharon Springs 60.47 335 ⇓P P 14 12 01.7 -1.0
baz=61,SNR=12
U22A Llaves 60.48 330 ⇑P P 14 12 03.6 +0.7
baz=61,SNR=83
R26A Arlington 60.50 334 ⇓P P 14 12 02.6 -0.3
baz=61,SNR=58
P29A Atwood 60.58 336 ⇑P P 14 12 03.0 -0.4
baz=61,SNR=8.1
X18A Snowflake 60.61 326 ⇓P P 14 12 04.1 +0.3
baz=61,SNR=46
T23A Casias Ranch, 60.62 331 ⇑P P 14 12 03.9 -0.1
baz=61,SNR=31
N32A Stulken Farm, 60.64 339 ⇓P P 14 12 02.9 -0.8
baz=61
S24A Houchin Ranch, 60.73 332 ⇓P P 14 12 04.8 0.0
baz=61,SNR=72
R25A Fountain Ranch 60.73 333 ⇑P P 14 12 04.1 -0.5
baz=61,SNR=13
KSCO Kaye Shedlock' 60.75 335 eP P 14 12 04.9 +0.2
KSCO epP pP 14 12 21.0 +0.9
KSCO Kaye Shedlock' 60.75 335 ⇑P P 14 12 04.2 -0.4
baz=61,SNR=20
O30A MW Ranch, Wils 60.75 337 ⇓P P 14 12 03.9 -0.6
baz=61,SNR=5.3
P28A Saint Francis 60.88 336 ⇓P P 14 12 04.9 -0.6
baz=61,SNR=11
N31A Bailey Ranch, 60.92 339 ⇑P P 14 12 05.2 -0.4
baz=61
PKME Peaks-Kenny Pk 60.94 4 eP P 14 12 05.4 -0.2
comp=Z,98nm,1.3s
SDCO Great Sand Dun 60.95 332 eP P 14 12 06.1 -0.1
comp=Z,222nm,1.1s
SDCO LR LR
comp=Z,614nm,21.0s
W18A Petrified Fore 60.95 327 eP P 14 12 06.5 +0.3
W18A Petrified Fore 60.95 327 ⇓P P 14 12 06.4 +0.3
baz=61,SNR=49
O29A 4D Ranch, Culb 60.98 337 ⇓P P 14 12 05.8 -0.3
baz=61,SNR=6.2
Q26A Hugo 61.05 334 ⇑P P 14 12 06.5 -0.2
baz=61,SNR=19
S23A Nye Farm, Mont 61.14 331 ⇑P P 14 12 07.7 +0.2
baz=61,SNR=13
BGNE Belgrade 61.16 339 eP P 14 12 07.0 -0.2
BGNE epP pP 14 12 22.0 -0.7
BGNE Belgrade 61.16 339 ⇓P P 14 12 06.6 -0.6
baz=61,SNR=7.5
R24A Sanders Place, 61.16 332 ⇓P P 14 12 07.6 +0.1
baz=61,SNR=39
P27A Ficken Ranch, 61.19 335 ⇑P P 14 12 07.4 -0.3
baz=61,SNR=6.1
N30A Hueftle Ranch, 61.31 338 ⇑P P 14 12 07.7 -0.6
baz=62
X16A Lo Mia Camp, P 61.34 325 ⇓P P 14 12 09.3 +0.5
baz=62,SNR=46
Q25A Bedland, Calha 61.35 333 ⇓P P 14 12 08.4 -0.4
baz=62,SNR=11
O28A Krutsinger Ran 61.36 336 ⇓P P 14 12 08.4 -0.3
baz=62,SNR=12
M31A Lambtecht Ranc 61.39 339 ⇓P P 14 12 08.6 -0.2
baz=62,SNR=8.3
Z14A Wintersburg 61.41 323 ⇑P P 14 12 09.6 +0.5
baz=62,SNR=8.6
R23A Moffat 61.46 332 ⇓P P 14 12 09.5 -0.2
baz=62,SNR=61
113A Mohawk Valley, 61.47 322 ⇑P P 14 12 09.8 +0.4
baz=62,SNR=7.3
P26A Davis Ranch, A 61.51 334 ⇑P P 14 12 09.6 -0.2
baz=62,SNR=23
N29A Votaw Ranch, W 61.52 337 ⇑P P 14 12 09.6 -0.1
baz=62
S22A 4UR Ranch, Cre 61.56 331 ⇑P P 14 12 10.4 0.0
baz=62,SNR=36
O27A Beecher Island 61.69 335 ⇑P P 14 12 11.2 +0.3
baz=62,SNR=18
N28A Pribbeno Ranch 61.75 336 ⇓P P 14 12 11.0 -0.3
baz=62,SNR=11
Q24A Divide 61.79 333 ⇓P P 14 12 11.7 -0.2
baz=62,SNR=36
P25A Willow Gulch B 61.82 334 ⇓P P 14 12 11.7 -0.2
baz=62,SNR=45
Y14A Wickenburg 61.87 324 ⇑P P 14 12 12.7 +0.5
baz=62,SNR=50
M30A Dale-Ortello V 61.87 338 ⇑P P 14 12 11.6 -0.5
baz=62
MVCO Mesa Verde 61.94 329 PFAKE 14 12 20.0 +7.1
MVCO LR LR
comp=Z,723nm,20.0s
MVCO Mesa Verde 61.94 329 ⇑P P 14 12 12.7 -0.2
baz=62,SNR=25
Q23A Hartsel 62.04 332 ⇑P P 14 12 13.4 -0.2
baz=62
O26A Horse Wrangler 62.07 335 ⇑P P 14 12 13.3 -0.3
baz=62,SNR=11
L31A Butterfield Fa 62.08 339 ⇑P P 14 12 12.8 -0.7
baz=62,SNR=13
M29A Burnside Ranch 62.09 338 ⇑P P 14 12 13.3 -0.2
baz=62,SNR=6.1
WUAZ Wupatki 62.12 326 eP P 14 12 14.4 +0.4
comp=Z,158nm,1.2s
WUAZ LR LR
comp=Z,1μm,21.0s
WUAZ Wupatki 62.12 326 ⇑P P 14 12 14.4 +0.4
baz=62,SNR=80
P24A Kohler Place, 62.14 333 ⇑P P 14 12 14.1 0.0
baz=62,SNR=6.4
L30A Spencer Herefo 62.18 339 ⇓P P 14 12 14.0 -0.2
baz=62,SNR=8.7
N27A Anderson Farm, 62.24 336 ⇑P P 14 12 14.4 -0.2
baz=62,SNR=6.4
GLA Glamis 62.30 322 ⇓P P 14 12 15.5 +0.4
baz=62
O25A Wiggins 62.30 334 ⇓P P 14 12 15.4 +0.3
baz=62,SNR=6.4
M28A Bar X Bar Ranc 62.30 337 ⇑P P 14 12 15.0 0.0
baz=62
P23A Jefferson 62.43 333 ⇓P P 14 12 16.6 +0.4
baz=63,SNR=45
N26A Koester Ranch, 62.53 335 ⇓P P 14 12 16.6 0.0
baz=63
L29A Maesberg Ranch 62.55 338 ⇑P P 14 12 16.3 -0.3
baz=63
Y12C Blythe 62.61 322 ⇑P P 14 12 17.6 +0.5
baz=63,SNR=12
ISCO Idaho Springs 62.68 333 eP P 14 12 17.7 -0.1
ISCO pmax pmax
comp=Z,65nm,1.3s
ISCO MLR MLR
comp=Z,919nm,21.0s
ISCO Idaho Springs 62.68 333 eP P 14 12 17.7 -0.1
comp=Z,65nm,1.3s
ISCO LR LR
comp=Z,919nm,21.0s
ISCO Idaho Springs 62.68 333 ⇑P P 14 12 17.5 -0.3
baz=63,SNR=35
PV01 Paradox Valley 62.70 330 eP P 14 12 16.9 -1.0
comp=Z,10μm,1.3s
O24A Longmont 62.71 334 ⇓P P 14 12 17.5 -0.3
baz=63,SNR=6.6
ECSD EROS Data Cent 62.77 342 eP P 14 12 17.0 -0.9
comp=Z,157nm,1.4s
ECSD LR LR
comp=Z,803nm,20.0s
ECSD EROS Data Cent 62.77 342 ⇑P P 14 12 16.6 -1.3
baz=63,SNR=45
PDMCI Parker Dam,Lak 62.78 323 ⇑P P 14 12 18.5 +0.3
baz=63,SNR=7.5
SMCO Snowmass 62.78 332 eP P 14 12 18.8 +0.1
K30A Basset 62.78 339 ⇓P P 14 12 17.5 -0.7
baz=63,SNR=6.4
DVTC Desert V Tower 62.80 321 ⇓P P 14 12 19.2 +0.7
baz=63,SNR=15
M27A Reverse DX Ran 62.80 336 ⇑P P 14 12 18.0 -0.3
baz=63,SNR=10
SWSC Sam W. Stewart 62.80 321 ⇓P P 14 12 18.9 +0.5
baz=63,SNR=8.8
N25A Grover 62.87 335 ⇑P P 14 12 18.7 -0.2
baz=63
L28A Connealy Angus 62.88 337 ⇑P P 14 12 18.5 -0.4
baz=63
P22A Eagle 63.02 332 ⇑P P 14 12 19.8 -0.2
baz=63,SNR=32
M26A McRoberts Ranc 63.04 336 ⇑P P 14 12 19.5 -0.5
baz=63
PV04 Paradox Valley 63.07 330 eP P 14 12 20.8 +0.5
SPMN St. Paul 63.10 345 eP P 14 12 19.3 -0.8
SPMN St. Paul 63.10 345 ⇑P P 14 12 19.3 -0.8
baz=63,SNR=29
K29A Lazy Trails An 63.11 339 ⇑P P 14 12 19.7 -0.6
baz=63,SNR=8.8
MONP Monument Peak 63.15 321 ⇑P P 14 12 21.3 +0.3
baz=63,SNR=19
O23A Lake Granby, G 63.15 333 ⇑P P 14 12 20.9 0.0
baz=63,SNR=24
W13A Hualapai Mount 63.21 324 ⇑P P 14 12 21.9 +0.5
baz=63,SNR=23
N24A Carr 63.22 334 ⇑P P 14 12 21.5 +0.3
baz=63,SNR=16
L27A T5 Ranch, Ells 63.25 337 ⇓P P 14 12 21.0 -0.3
baz=64
IRM Iron Mountain 63.27 322 ⇓P P 14 12 22.1 +0.6
baz=64,SNR=47
U15A North Rim 63.30 326 ⇑P P 14 12 22.8 +0.8
baz=64,SNR=48
J30A Dallas 63.32 339 ⇓P P 14 12 20.6 -1.0
baz=64,SNR=7.7
M25A Palm-Egli Farm 63.38 335 ⇓P P 14 12 22.1 -0.2
baz=64
O22A Kremmling 63.39 333 ⇓P P 14 12 22.1 -0.4
baz=64,SNR=29
NEE2 Needles Airpor 63.39 323 ⇑P P 14 12 22.4 +0.2
baz=64
K28A Ten Mile Ranch 63.44 338 ⇓P P 14 12 22.5 0.0
baz=64
L26A Underwood Farm 63.50 336 ⇑P P 14 12 22.6 -0.4
baz=64
109C Camp Elliot, M 63.57 320 ⇑P P 14 12 23.9 +0.4
baz=64,SNR=6.0
PFO Pinyon Flat Ob 63.66 321 P P 14 12 25.0 +0.7
PFO LR LR
comp=Z,612nm,20.0s
PFO Pinyon Flat Ob 63.66 321 ⇑P P 14 12 24.8 +0.6
baz=64,SNR=44
PFO Pinyon Flat Ob 63.66 321 P P 14 12 25.0 +0.7
comp=Z,56nm,1.0s,baz=126,slow=5.3,SNR=42
J29A Okreek 63.68 339 ⇓P P 14 12 23.7 -0.3
baz=64,SNR=14
N23A Red Feather La 63.72 333 ⇑P P 14 12 24.5 -0.2
baz=64,SNR=20
M24A Cheyenne 63.73 335 ⇓P P 14 12 24.7 +0.2
baz=64,SNR=14
K27A Flueckinger Fa 63.75 337 ⇓P P 14 12 24.5 -0.2
baz=64,SNR=16
N22A Wattenberg Ran 63.87 333 ⇑P P 14 12 25.6 0.0
baz=64,SNR=14
LDFC Landfair 63.89 323 eP P 14 12 26.8 +1.1
comp=Z,69nm,1.3s
L25A Engebretsen Ra 63.95 336 ⇓P P 14 12 26.1 +0.1
baz=64
GMRC Granite Mounta 64.00 323 ⇓P P 14 12 27.3 +0.9
baz=64,SNR=10
J28A Allard Ranch, 64.01 338 ⇓P P 14 12 26.3 +0.1
baz=64,SNR=15
M23A Larare 64.10 334 ⇓P P 14 12 27.2 +0.1
baz=64,SNR=17
K26A Motz Farm, Whi 64.11 336 ⇑P P 14 12 26.8 -0.2
baz=64,SNR=9.2
MURC Murrieta 64.11 321 ⇓P P 14 12 27.7 +0.6
baz=64,SNR=14
O20A White River Ci 64.13 331 eP P 14 12 27.5 +0.2
O20A White River Ci 64.13 331 ⇑P P 14 12 27.2 -0.1
baz=64,SNR=55
J27A Elkhorn Farm, 64.14 338 ⇓P P 14 12 27.3 +0.1
baz=64,SNR=18
I29A Vivian Onida 64.21 339 ⇓P P 14 12 26.6 -0.9
baz=64
L24A Wheatland 64.25 335 ⇓P P 14 12 27.9 0.0
baz=64
K25A Mack Ranch, Ha 64.30 336 ⇓P P 14 12 28.5 +0.3
baz=64
BBRC Big Bear Solar 64.39 321 ⇑P P 14 12 30.1 +0.9
baz=65,SNR=6.3
SRU San Rafael 64.42 329 eP P 14 12 29.3 +0.1
SRU pmax pmax
comp=Z,132nm,1.3s
SRU San Rafael 64.42 329 eP P 14 12 29.3 +0.1
comp=Z,132nm,1.3s
M22A Cedar Creek Ra 64.42 333 ⇑P P 14 12 29.3 0.0
baz=65,SNR=7.6
HEC Hector,Ludlow 64.43 322 ⇑P P 14 12 29.8 +0.5
baz=65,SNR=9.1
I28A Midland 64.49 339 ⇓P P 14 12 28.8 -0.5
baz=65,SNR=7.0
SCI San Clemente I 64.53 319 ⇓P P 14 12 29.9 +0.2
baz=65
J26A Sides Ranch, S 64.59 337 ⇑P P 14 12 29.9 -0.1
baz=65,SNR=22
TUQ Turquoise Moun 64.62 323 ⇓P P 14 12 30.8 +0.4
baz=65,SNR=18
L23A Garrett 64.63 334 ⇓P P 14 12 30.1 -0.4
baz=65,SNR=20
N20A Spence Gulch, 64.70 332 ⇓P P 14 12 30.8 -0.2
baz=65
CCUT Cedar City 64.70 326 eP P 14 12 30.9 -0.2
comp=Z,100nm,1.2s
CCUT epP pP 14 12 45.4 -1.3
H29A Onida 64.71 340 ⇓P P 14 12 30.0 -0.7
baz=65
CIS Catalina Islan 64.72 320 ⇓P P 14 12 31.5 +0.4
baz=65,SNR=6.1
K24A Anderson Ranch 64.77 335 ⇓P P 14 12 31.2 -0.1
baz=65,SNR=6.1
MVU Marysvale 64.81 328 eP P 14 12 32.3 +0.5
comp=Z,107nm,1.1s
G30A Faulkton 64.81 341 ⇓P P 14 12 30.5 -0.8
baz=65,SNR=7.8
BFSC Mount Baldy Ra 64.82 321 ⇑P P 14 12 32.4 +0.5
baz=65,SNR=13
FMP Fort Macarthur 64.86 320 ⇑P P 14 12 32.5 +0.6
baz=65
RRX Edison Barstow 64.86 322 ⇑P P 14 12 33.3 +1.3
baz=65
I27A Quinn 64.86 338 ⇑P P 14 12 31.9 0.0
baz=65,SNR=15
L22A Ellis Ranch, M 64.86 334 ⇑P P 14 12 32.5 +0.5
baz=65,SNR=16
TMUT Trail Mountain 64.90 329 eP P 14 12 33.2 +0.7
comp=Z,265nm,2.3s
RWWY Rawlins 64.92 333 eP P 14 12 27.1 -5.3
comp=Z,188nm,1.4s
ARUT Antelope Range 64.92 326 eP P 14 12 32.5 +0.1
ARUT Antelope Range 64.92 326 eP P 14 12 32.5 +0.1
comp=Z,3μm,1.2s
J25A Sunshine Ranch 64.94 336 ⇑P P 14 12 32.0 -0.3
baz=65,SNR=6.2
SHPR Sheep Range 64.94 324 eP P 14 12 33.1 +0.6
H28A Mission Ridge 65.03 339 ⇓P P 14 12 32.0 -0.9
baz=65
GSC Goldstone 65.04 322 eP P 14 12 32.8 -0.4
GSC Goldstone 65.04 322 eP P 14 12 32.8 -0.4
GSC Goldstone 65.04 322 ⇑P P 14 12 33.8 +0.6
baz=65,SNR=21
MWC Mount Wilson 65.06 321 eP P 14 12 34.1 +0.7
MWC Mount Wilson 65.06 321 eP P 14 12 34.1 +0.7
PASC Pasadena Art C 65.10 320 eP P 14 12 34.8 +1.3
comp=Z,136nm,1.5s
G29A Hoven 65.12 340 ⇓P P 14 12 32.4 -1.0
baz=65
K23A Bowen Ranch, D 65.12 335 ⇑P P 14 12 33.5 -0.2
baz=65,SNR=9.9
I26A New Underwood 65.13 337 ⇓P P 14 12 33.6 0.0
baz=65,SNR=7.2
SHOC Shoshone 65.15 323 ⇑P P 14 12 34.4 +0.6
baz=65,SNR=11
J24A Dixon Ranch, L 65.22 336 ⇑P P 14 12 34.6 +0.4
baz=65,SNR=8.4
DECC Green Verdugo 65.24 320 ⇓P P 14 12 34.9 +0.4
baz=65,SNR=5.3
G28A Parade 65.34 339 ⇑P P 14 12 34.5 -0.4
baz=66
H27A Howes 65.36 338 ⇓P P 14 12 34.1 -0.9
baz=66,SNR=6.1
EYMN Ely 65.37 347 eP P 14 12 34.5 -0.4
comp=Z,155nm,1.2s
EYMN epP pP 14 12 56.6 +6.1
EYMN LR LR
comp=Z,1μm,20.0s
F30A Leola 65.40 341 ⇓P P 14 12 34.1 -1.1
baz=66
K22A Casper 65.41 334 ⇓P P 14 12 35.3 -0.2
baz=66,SNR=13
I25A Rochford 65.44 337 ⇑P P 14 12 36.1 +0.4
baz=66
EDW2 Edwards Air Fo 65.46 321 ⇓P P 14 12 36.2 +0.3
baz=66,SNR=20
J23A Dilts Ranch, B 65.64 335 ⇑P P 14 12 36.7 -0.3
baz=66

RSSD **Black Hills** 65.64 337 *e*P P 14 12 37.1 0.0
RSSD pmax pmax
comp=Z,49nm,2.0s
RSSD **Black Hills** 65.64 337 *e*P P 14 12 37.1 0.0
comp=Z,49nm,2.0s
I24A **Kuemmerle Ranc** 65.65 336 ⇓P P 14 12 37.2 +0.2
baz=66,SNR=9.5
F29A **Eureka** 65.65 340 ⇑P P 14 12 35.9 -1.0
baz=66
MPU **Maple Canyon** 65.66 329 *e*P P 14 12 37.7 +0.5
LRMC **Laurel Mountai** 65.68 322 ⇑P P 14 12 37.8 +0.4
baz=66,SNR=27
K21A **Alcova** 65.71 334 ⇑P P 14 12 37.2 -0.3
baz=66,SNR=36
OSI **Osito Adit** 65.72 320 ⇑P P 14 12 38.2 +0.6
baz=66
DAU **Daniels Canyon** 65.78 330 *e*P P 14 12 38.8 +0.6
DAU **Daniels Canyon** 65.78 330 *e*P P 14 12 38.8 +0.6
NLU **North Lily Min** 65.83 329 *e*P P 14 12 39.3 +0.9
TPNV **Topopah Spring** 65.86 324 *e*P P 14 12 39.6 +1.0
TPNV pmax pmax
comp=Z,73nm,1.1s
TPNV **Topopah Spring** 65.86 324 *e*P P 14 12 39.5 +1.0
comp=Z,73nm,1.1s
TPNV **Topopah Spring** 65.86 324 ⇑P P 14 12 39.3 +0.7
baz=66,SNR=37
BSC **Santa Cruz Isl** 65.88 319 ⇓P P 14 12 38.8 +0.3
baz=66
FURC **Furnace Creek,** 65.88 323 ⇑P P 14 12 39.1 +0.7
baz=66,SNR=24
H25A **Fruitdale** 65.91 337 ⇓P P 14 12 38.4 -0.1
baz=66,SNR=10.0
G27A **Dupree** 65.96 339 ⇑P P 14 12 38.3 -0.5
baz=66,SNR=10
E30A **Jud** 65.96 341 ⇑P P 14 12 38.1 -0.7
baz=66,SNR=8.6
MPMC **Manual Prospec** 65.96 322 ⇓P P 14 12 39.4 +0.1
baz=66,SNR=25
F28A **McLaughlin** 65.99 340 ⇓P P 14 12 39.0 0.0
baz=66,SNR=10
JLU **Jordanelle** 66.02 330 *e*P P 14 12 40.0 +0.4
comp=Z,138nm,1.3s
J22A **Midwest** 66.02 335 ⇓P P 14 12 39.0 -0.4
baz=66,SNR=21
I23A **Meade Ranch, G** 66.06 336 ⇓P P 14 12 39.4 -0.2
baz=66
G26A **Maurine** 66.12 338 ⇓P P 14 12 39.2 -0.7
baz=66,SNR=16
ARVC **Arvin** 66.13 321 ⇓P P 14 12 41.0 +0.8
baz=66,SNR=8.4
E29A **Napoleon** 66.25 341 ⇓P P 14 12 40.1 -0.6
baz=66,SNR=5.5
ISA **Isabella** 66.28 321 *e*P P 14 12 41.9 +0.8
ISA **Isabella** 66.28 321 *e*P P 14 12 41.9 +0.8
ISA **Isabella** 66.28 321 ⇑P P 14 12 41.9 +0.8
baz=66,SNR=34
G25A **Newell** 66.33 338 ⇑P P 14 12 41.0 -0.2
baz=67
J21A **Lysite** 66.37 334 ⇓P P 14 12 41.7 0.0
baz=67,SNR=16
H24A **Dirks Ranch, A** 66.37 337 ⇑P P 14 12 40.8 -0.8
baz=67,SNR=18
DUG **Dugway** 66.39 328 *e*P P 14 12 42.2 +0.4
DUG pmax pmax
comp=Z,159nm,1.2s
DUG MLR MLR
comp=Z,606nm,21.0s
DUG **Dugway** 66.39 328 *e*P P 14 12 42.2 +0.4
comp=Z,159nm,1.2s
DUG LR LR
comp=Z,606nm,21.0s
DUG **Dugway** 66.39 328 ⇓P P 14 12 42.6 +0.8
baz=67,SNR=89
F27A **Lemmon** 66.42 339 ⇑P P 14 12 41.4 -0.4
baz=67
I22A **9 Mile Ranch,** 66.42 335 ⇓P P 14 12 41.3 -0.6
baz=67,SNR=31
D30A **Buchanan** 66.46 342 ⇓P P 14 12 41.7 -0.3
baz=67,SNR=50
R11A **Troy Canyon, C** 66.49 325 *e*P P 14 12 43.3 +0.8
R11A **Troy Canyon, C** 66.49 325 ⇓P P 14 12 43.3 +0.8
baz=67,SNR=77
GRAC **Grapevine Rang** 66.54 323 ⇓P P 14 12 43.5 +0.7
baz=67,SNR=6.9
H23A **Clabaugh Cattl** 66.54 336 ⇑P P 14 12 42.1 -0.6
baz=67
CWC **Cottonwood Cre** 66.57 322 ⇓P P 14 12 43.9 +0.8
baz=67,SNR=19
PKM **Peak Mountain** 66.59 320 ⇓P P 14 12 44.0 +0.8
baz=67,SNR=20
E28A **Huff** 66.59 340 ⇑P P 14 12 42.6 -0.2
baz=67,SNR=16
F26A **Lodgepole** 66.63 339 ⇓P P 14 12 42.9 -0.2
baz=67,SNR=11
J20A **Shoshoni** 66.65 334 ⇑P P 14 12 43.5 +0.1
baz=67
D29A **Pettibone, Tap** 66.67 341 ⇑P P 14 12 42.6 -0.7
baz=67
I21A **Big Trails, Te** 66.69 334 ⇑P P 14 12 43.3 -0.4
baz=67,SNR=50
AGMN **Agassiz Nation** 66.73 344 *e*P P 14 12 43.0 -0.7
comp=Z,90nm,1.0s
AGMN LR LR
comp=Z,620nm,19.0s
AGMN **Agassiz Nation** 66.73 344 ⇑P P 14 12 42.8 -0.8
baz=67,SNR=36
E27A **Carson** 66.75 340 ⇓P P 14 12 44.0 +0.1
baz=67,SNR=5.7
VES **Vestal, Richgr** 66.77 321 ⇑P P 14 12 44.8 +0.6
baz=67,SNR=21
G24A **Alzada** 66.81 337 ⇓P P 14 12 43.9 -0.5
baz=67,SNR=8.0
BW06 **Boulder Array** 66.82 332 *e*P P 14 12 44.1 -0.6
comp=Z,51nm,1.4s
BW06 LR LR
comp=Z,641nm,22.0s
PDAR **Pinedale Array** 66.82 332 P P 14 12 44.0 -0.7
PDAR pP pP 14 12 59.5 -0.8
PDAR ⇑*e* 14 41 16.9
PDAR **Pinedale Array** 66.82 332 P P 14 12 44.0 -0.7
comp=Z,9.9nm,1.1s,baz=145,slow=5.4,SNR=46
PDAR pP pP 14 12 59.5 -0.8
comp=Z,14nm,1.1s,baz=134,slow=6.4,SNR=12
PDAR PKP2bc 14 41 16.9
comp=Z,1.7nm,1.0s,baz=270,slow=1.5,SNR=8.3
PDAR LR LR 14 42 12.4
comp=Z,401nm,21.4s,baz=150,slow=36
C30A **Mose, Pekin** 66.91 342 ⇓P P 14 12 44.6 -0.3
baz=67,SNR=23
H22A **Clearmont** 66.95 335 ⇓P P 14 12 44.8 -0.5
baz=67,SNR=7.4
SMMC **Simmler** 66.97 320 ⇓P P 14 12 46.5 +1.0
baz=67,SNR=14
F25A **Bowman** 66.97 338 ⇓P P 14 12 45.0 -0.3
baz=67,SNR=7.3
J19A **Crowheart** 67.00 333 ⇓P P 14 12 45.3 -0.4
baz=67,SNR=41
BGU **Big Grassy Mou** 67.05 329 *e*P P 14 12 46.1 +0.1
comp=Z,34nm,1.3s
SPUT **South Promonto** 67.05 329 *e*P P 14 12 46.4 +0.4
comp=Z,102nm,1.3s
SPUT *epP* **pP** 14 13 01.4 -0.3
G23A **Biddle** 67.08 336 ⇑P P 14 12 45.6 -0.4
baz=67,SNR=28
TIN **Tinemaha** 67.08 323 ⇓P P 14 12 47.0 +0.8
baz=67,SNR=9.4
E26A **Carlson Angus** 67.09 339 ⇓P P 14 12 45.8 -0.3
baz=67,SNR=12
D28A **Regan** 67.10 341 ⇓P P 14 12 45.7 -0.3
baz=67,SNR=5.5
I20A **Worland** 67.15 334 ⇑P P 14 12 46.4 -0.1
baz=67,SNR=11
RCTC **Rector, Farmer** 67.17 322 ⇑P P 14 12 46.8 +0.1
baz=67
TPH **Tonopah** 67.21 324 *e*P P 14 12 47.8 +0.6
TPH pmax pmax
comp=Z,92nm,1.3s
TPH **Tonopah** 67.21 324 *e*P P 14 12 47.8 +0.6
comp=Z,92nm,1.3s
H21A **Big Horn, Sher** 67.25 335 ⇓P P 14 12 46.1 -1.1
baz=68,SNR=12
F24A **Ekalaka** 67.26 337 ⇑P P 14 12 46.9 -0.3
baz=68,SNR=14
D27A **Center** 67.33 340 ⇓P P 14 12 47.4 -0.1
baz=68
MDND **Maddock** 67.38 342 *e*P P 14 12 48.1 +0.3
MDND *epP* **pP** 14 12 59.3 -4.2
MDND **Maddock** 67.38 342 ⇓P P 14 12 47.7 -0.1
baz=68,SNR=13
G22A **Birney** 67.44 336 ⇑P P 14 12 47.8 -0.6
baz=68,SNR=12
E25A **Miller Ranch,** 67.44 338 ⇑P P 14 12 48.4 +0.1
baz=68
MTUM **Tungsten Hills** 67.48 323 *e*P P 14 12 49.6 +0.7
C28A **Hausauer Farms** 67.50 341 ⇑P P 14 12 48.8 +0.2
baz=68
F23A **Volborg** 67.52 337 ⇓P P 14 12 48.3 -0.5
baz=68,SNR=18
AHID **Auburn Hatcher** 67.53 331 *e*P P 14 12 48.1 -1.0
comp=Z,42nm,1.0s
AHID *epP* **pP** 14 13 04.5 -0.3
AHID LR LR
comp=Z,799nm,20.0s
H20A **Greybull** 67.53 334 ⇓P P 14 12 48.1 -0.9
baz=68,SNR=24
B30A **Myrvik Farm, E** 67.55 343 ⇓P P 14 12 48.3 -0.5
baz=68,SNR=34
HVU **Hansel Valley** 67.56 330 *e*P P 14 12 49.1 -0.2
HVU pmax pmax
comp=Z,79nm,0.9s
HVU **Hansel Valley** 67.56 330 *e*P P 14 12 49.1 -0.2
comp=Z,80nm,0.9s
D26A **Manning** 67.57 339 ⇓P P 14 12 48.9 -0.1
baz=68,SNR=5.8
I19A **Meeteetse** 67.59 333 ⇑P P 14 12 49.2 -0.3
baz=68,SNR=20
G21A **Lodge Grass** 67.81 335 ⇓P P 14 12 50.1 -0.6
baz=68,SNR=31
E24A **Baker** 67.82 338 ⇓P P 14 12 50.6 -0.1
baz=68,SNR=13
MLAC **Mammoth Lakes** 67.82 323 ⇑P P 14 12 51.9 +0.7
baz=68,SNR=12
B29A **Wagenman Farm,** 67.86 342 ⇓P P 14 12 50.6 -0.2
baz=68,SNR=29
C27A **Sayer Ranch,** 67.86 340 ⇑P P 14 12 51.1 +0.3
baz=68
REDW **Red Top Meadow** 67.88 332 *e*P P 14 12 51.2 -0.1
F22A **Rosebud** 67.89 336 ⇑P P 14 12 50.6 -0.5
baz=68,SNR=8.3
LOHW **Long Hollow** 67.96 332 *e*P P 14 12 51.5 -0.3
D25A **Fairfield** 67.98 339 ⇓P P 14 12 52.0 +0.3
baz=68,SNR=13
A30A **Hoffart Farm,** 67.98 343 ⇓P P 14 12 51.2 -0.4
baz=68,SNR=25
NV11 **Mina Array Sit** 67.98 324 *e*P P 14 12 50.8 -1.2
NV11 *epP* **pP** 14 13 08.2 +0.6
ELK **Elko** 68.04 327 *e*P P 14 12 52.8 +0.4
H19A **Powell** 68.09 334 ⇓P P 14 12 52.4 -0.2
baz=68,SNR=7.6
MOOW **Moose Ponds** 68.13 332 *e*P P 14 12 52.6 -0.3
comp=Z,28nm,1.2s
E23A **Ismay** 68.13 337 ⇑P P 14 12 52.0 -0.6
baz=68
B28A **Dugan Ranch, T** 68.15 341 ⇓P P 14 12 52.4 -0.2
baz=68,SNR=10
C26A **Wahner Farm, P** 68.15 340 ⇓P P 14 12 52.4 -0.2
baz=68,SNR=7.0
I17A **Pilgrim Ck.** 68.19 332 ⇑P P 14 12 53.3 +0.1
baz=68,SNR=28
G20A **Bridger** 68.22 335 ⇓P P 14 12 52.4 -0.9
baz=68,SNR=14
A29A **Manning Farm,** 68.23 342 ⇑P P 14 12 52.7 -0.4
baz=68,SNR=37
F21A **Absaloka Mine,** 68.27 336 ⇓P P 14 12 53.2 -0.3
baz=68,SNR=9.0
D24A **Glendive** 68.30 338 ⇓P P 14 12 54.2 +0.6
baz=68,SNR=11
E22A **Miles City** 68.33 337 ⇑P P 14 12 53.6 -0.2
baz=68,SNR=8.3
FLWY **Flagg Ranch** 68.37 332 *e*P P 14 12 54.8 +0.4
B27A **Peters Farms,** 68.39 341 ⇑P P 14 12 54.0 -0.1
baz=69
C25A **Freed Ranch, W** 68.44 339 ⇓P P 14 12 54.7 +0.2
baz=69,SNR=10.0
A28A **Rude Farm, Bot** 68.53 342 ⇓P P 14 12 54.9 -0.1
baz=69
ULM **Lac du Bonnet** 68.54 345 *e*P P 14 12 53.6 -1.4
comp=Z,93nm,1.1s
ULM *epP* **pP** 14 13 10.7 0.0
ULM **Lac du Bonnet** 68.54 345 P P 14 12 53.9 -1.1
comp=Z,62nm,1.0s,baz=154,slow=6.0,SNR=65
ULM LR LR 14 46 01.7
comp=Z,638nm,20.5s,baz=326,slow=39
H17A **Grant Village** 68.56 333 *e*P P 14 12 57.5 +1.8
H17A **Grant Village** 68.56 333 ⇑P P 14 12 56.1 +0.5
baz=69,SNR=11
RLMT **Red Lodge** 68.58 334 *e*P P 14 12 54.6 -1.0
comp=Z,62nm,1.1s
RLMT *epP* **pP** 14 13 10.6 -0.8
RLMT LR LR
comp=Z,972nm,21.0s
LAO **LASA Array** 68.64 337 *e*P P 14 12 55.2 -0.6
comp=Z,48nm,1.1s
LAO *epP* **pP** 14 13 10.8 -0.7
LAO LR LR
comp=Z,750nm,19.0s
F20A **Billings** 68.66 335 ⇓P P 14 12 55.8 -0.2
baz=69,SNR=9.6
D23A **Lindsay** 68.67 338 ⇑P P 14 12 56.0 0.0
baz=69,SNR=24
B26A **Jensen Ranch,** 68.67 340 ⇑P P 14 12 55.8 -0.1
baz=69,SNR=5.0
C24A **Savage** 68.69 338 ⇓P P 14 12 56.5 +0.5
baz=69,SNR=9.3
WAKR **Walker** 68.77 323 *e*P P 14 12 57.9 +1.0
SAO **San Andreas Ge** 68.81 321 *e*P P 14 12 58.1 +1.1
SAO **San Andreas Ge** 68.81 321 *e*P P 14 12 58.1 +1.1
E21A **Keefer Ranch,** 68.84 336 ⇑P P 14 12 56.9 -0.1
baz=69,SNR=13
BMN **Battle Mountai** 68.86 326 *e*P P 14 12 56.8 -0.7
BMN *e**PP **pP** 14 13 12.9 -0.2
BMN pmax pmax
comp=Z,66nm,1.8s
BMN **Battle Mountai** 68.86 326 *e*P P 14 12 56.8 -0.7
comp=Z,66nm,1.8s
BMN *epP* **pP** 14 13 12.9 -0.2
B25A **Knox Farm, Ray** 68.89 340 ⇑P P 14 12 58.0 +0.7
baz=69,SNR=11
YMR **Madison River** 68.95 333 *e*P P 14 12 59.3 +1.3
comp=Z,68nm,1.1s
CMB **Columbia Colle** 69.00 322 *e*P P 14 12 59.0 +0.8
CMB pmax pmax
comp=Z,45nm,1.3s
CMB **Columbia Colle** 69.00 322 *e*P P 14 12 59.0 +0.8
comp=Z,45nm,1.3s
D22A **Cohagen** 69.01 337 ⇑P P 14 12 58.6 +0.5
baz=69,SNR=43
F19A **Roth Farm, Mol** 69.03 335 ⇓P P 14 12 58.2 -0.1
baz=69,SNR=38
A26A **Wade Farm, Ken** 69.07 341 ⇑P P 14 12 58.4 0.0
baz=69,SNR=5.7
C23A **Lambert** 69.19 338 ⇓P P 14 12 59.4 +0.2
baz=69,SNR=12
SNAA **Sanae** 69.20 161 *e*P P 14 12 59.3 +0.3
comp=Z,192nm,1.0s
E20A **Meyer Farm, Mu** 69.23 336 ⇑P P 14 12 59.6 +0.1
baz=69,SNR=30
D21A **La Casta Ranch** 69.25 337 ⇑P P 14 13 00.1 +0.5
baz=70,SNR=34
C22A **Vida** 69.40 338 ⇓P P 14 13 00.5 +0.1
baz=70,SNR=19
DGMT **Dagmar** 69.41 339 *e*P P 14 13 01.0 +0.5
comp=Z,107nm,1.2s
DGMT LR LR
comp=Z,785nm,22.0s
DGMT **Dagmar** 69.41 339 ⇓P P 14 13 00.7 +0.2
baz=70,SNR=14
A25A **Svangstu Ranch** 69.45 340 ⇓P P 14 13 01.0 +0.3
baz=70,SNR=15
E19A **Rath Farm, Rou** 69.46 335 ⇓P P 14 13 01.1 +0.2
baz=70,SNR=38
PAHR **Pah Rah Range** 69.55 324 *e*P P 14 13 02.8 +1.0
B23A **Brockton** 69.68 339 ⇑P P 14 13 02.5 +0.3
baz=70,SNR=19
HLID **Hailey** 69.70 330 *e*P P 14 13 02.9 +0.3
comp=Z,33nm,1.0s
HLID LR LR
comp=Z,861nm,21.0s
HLID **Hailey** 69.70 330 ⇓P P 14 13 03.0 +0.4
baz=70,SNR=35
D20A **Manuel Ranch,** 69.71 336 ⇑P P 14 13 02.4 0.0
baz=70,SNR=31
A24A **Westby** 69.73 339 ⇓P P 14 13 03.2 +0.7
baz=70,SNR=14
B22A **Reddig Ranch S** 69.90 338 ⇑P P 14 13 03.6 0.0
baz=70,SNR=11
MCMT **McKenzie Canyo** 69.92 332 *e*P P 14 13 02.9 -1.1
comp=Z,16nm,0.9s
MCMT *epP* **pP** 14 13 19.3 -0.4
BOZ **Bozeman (W)** 70.01 333 *e*P P 14 13 04.1 -0.3
BOZ pmax pmax
comp=Z,57nm,1.2s
BOZ MLR MLR
comp=Z,790nm,20.0s
BOZ **Bozeman (W)** 70.01 333 *e*P P 14 13 04.1 -0.3
comp=Z,57nm,1.2s
BOZ LR LR
comp=Z,790nm,20.0s
D19A **Cripps Ranch,** 70.06 335 ⇑P P 14 13 04.4 -0.2
baz=70,SNR=13
A23A **Redstone** 70.06 339 ⇓P P 14 13 05.0 +0.5
baz=70
C20A **Veseth Ranch,** 70.17 336 ⇓P P 14 13 04.3 -0.9
baz=70,SNR=11
BEKR **Beckworth** 70.21 324 *e*P P 14 13 05.5 -0.3
comp=Z,33nm,1.3s
DLMT **Dillon** 70.22 332 *e*P P 14 13 06.3 +0.7
comp=Z,44nm,1.1s
MFID **Camas Ranch** 70.28 329 *e*P P 14 13 06.7 +0.6
comp=Z,111nm,1.0s
B21A **Ellsworth Farm** 70.38 337 ⇑P P 14 13 06.5 +0.1
baz=71,SNR=6.5
A22A **Carney Farms,** 70.46 338 ⇓P P 14 13 07.2 +0.3
baz=71,SNR=25
MEH **Mehetia** 70.46 256 *e*T T 15 29 54.4
comp=Z,21nm,0.3s
LRM **Limekiln Ridge** 70.51 333 *e*P P 14 13 07.6 0.0
LRM *epP* **pP** 14 13 23.5 +0.2
OHCM **Honcut** 70.51 323 *e*P P 14 13 08.0 +0.6
C19A **Slack Wire Ran** 70.59 336 ⇑P P 14 13 07.8 0.0
baz=71,SNR=18
SCHQ **Schefferville** 70.63 4 *e*P P 14 13 06.9 -0.9
comp=Z,50nm,1.0s
SCHQ **Schefferville** 70.63 4 P P 14 13 07.8 0.0
comp=Z,44nm,0.9s,baz=196,slow=4.5,SNR=28
SCHQ LR LR 14 44 00.2
comp=Z,426nm,20.5s,baz=219,slow=36
B20A **Solberg Farm,** 70.77 337 ⇓P P 14 13 08.6 -0.2
baz=71,SNR=25
TBI **Tubuai** 70.79 250 *e*S S 14 22 25.0 +4.6
comp=Z,143nm,26.5s
TBI **Tubuai** 70.79 250 *e*LR LR 14 34 51.7
comp=Z,246nm,29.0s
TBI **Tubuai** 70.79 250 *e*T T 15 30 18.4
comp=Z,15nm,0.2s
A21A **Bergtoll Ranch** 70.82 338 ⇑P P 14 13 08.8 -0.3
baz=71,SNR=15
HRY **Holter Researc** 70.93 333 *e*P P 14 13 10.7 +0.8
WVOR **Wild Horse Val** 71.03 327 *e*P P 14 13 10.7 0.0
WVOR pmax pmax
comp=Z,47nm,1.4s
WVOR MLR MLR
comp=Z,1µm,19.0s
WVOR **Wild Horse Val** 71.03 327 *e*P P 14 13 10.7 0.0
comp=Z,47nm,1.4s
WVOR LR LR
comp=Z,1µm,19.0s
A20A **Cobblestone Ra** 71.10 337 ⇑P P 14 13 10.7 -0.1
baz=71,SNR=18
EGMT **Eagleton** 71.11 336 *e*P P 14 13 10.9 0.0
comp=Z,36nm,1.1s
EGMT *epP* **pP** 14 13 25.0 -1.8
EGMT LR LR
comp=Z,835nm,22.0s
EGMT **Eagleton** 71.11 336 ⇓P P 14 13 10.8 -0.2
baz=71,SNR=5.1
B19A **Brinkman Farms** 71.14 336 ⇑P P 14 13 11.0 -0.1
baz=71,SNR=28
HOPS **Hopland** 71.22 322 *e*P P 14 13 12.3 +0.5
comp=Z,165nm,1.8s
A19A **Klindworth Far** 71.45 337 ⇓P P 14 13 12.7 -0.3
baz=72,SNR=21
TVO **Taravao** 71.58 256 *e*T T 15 31 18.8
comp=Z,3.7nm,0.3s
J08A **Circle Bar Ran** 71.59 327 *e*P P 14 13 14.3 +0.3
comp=Z,298nm,2.8s
LIC **Lamto** 71.70 78 *e*P P 14 13 14.7 -0.5
comp=Z,46nm,1.0s,baz=254
LIC *e*R
comp=Z,792nm,22.8s
LIC **Lamto** 71.70 78 *e*P P 14 13 15.2 0.0
comp=Z,86nm,1.3s
LIC **Lamto** 71.70 78 *e*P P 14 13 14.7 -0.5
comp=Z,46nm,1.0s
CHMT **Chamberlain Mo** 71.70 333 *e*P P 14 13 15.4 +0.7
CHMT *epP* **pP** 14 13 32.0 +1.5
TIAR **Tiarei** 71.72 256 *e*T T 15 31 28.0
comp=Z,7.8nm,0.2s
TIC **Toumodi** 71.84 77 *e*P P 14 13 16.1 +0.1
comp=Z,49nm,1.0s
PAE **Paea** 71.91 256 *e*T T 15 31 45.5
comp=Z,1.5nm,0.3s
PPT2 **Papeete2** 71.92 256 *e*S S 14 22 40.7 +6.8
comp=Z,217nm,24.8s
PPT2 **Papeete2** 71.92 256 *e*LR LR 14 35 18.6
comp=Z,234nm,26.2s
WDC **Whiskeytown Da** 71.94 323 *e*P P 14 13 14.9 -1.1
WDC **Whiskeytown Da** 71.94 323 *e*P P 14 13 14.9 -1.1
MSO **Missoula** 71.94 332 *e*P P 14 13 16.6 +0.6
MSO **Missoula** 71.94 332 ⇑P P 14 13 16.5 +0.4
baz=72,SNR=13
DBIC **Dimbokro** 72.00 77 *e*P P 14 13 16.6 -0.3
comp=Z,13nm,0.7s
DBIC pP **pP** 14 13 32.8 0.0
DBIC **Dimbokro** 72.00 77 P P 14 13 17.1 +0.2
comp=Z,19nm,0.7s,baz=229,slow=6.8,SNR=22
DBIC pP **pP** 14 13 32.8 0.0
comp=Z,14nm,0.8s,baz=229,slow=7.7,SNR=6.2
DBIC LR LR 14 44 06.0
comp=Z,551nm,19.9s,baz=228,slow=35
KIC **Kosan Boka** 72.01 78 *e*P P 14 13 17.4 +0.3
comp=Z,60nm,0.8s
SLMT **Seeley Lake** 72.06 333 *e*P P 14 13 17.2 +0.4
N02D **Trinity Center** 72.29 323 ⇑P P 14 13 17.3 -0.9
baz=72
M04C **Macdoel** 72.33 324 ⇓P P 14 13 18.9 +0.4
baz=72
K05A **Summer Lake** 72.44 326 *e*P P 14 13 20.5 +1.3
SWMT **Swartz Lake** 72.48 333 *e*P P 14 13 20.3 +1.0
SWMT *epP* **PcP** 14 13 36.9 +0.1
I07A **Izee** 72.63 327 *e*P P 14 13 20.9 +0.7
comp=Z,130nm,1.6s
M02C **Callahan** 72.64 324 ⇑P P 14 13 20.3 -0.1
baz=73
YBH **Yreka Blue Hor** 72.78 324 *e*P P 14 13 20.9 -0.3
comp=Z,26nm,1.1s
YBH pP **pP** 14 13 36.1 -0.9
YBH **Yreka Blue Hor** 72.78 324 P P 14 13 20.9 -0.3
comp=Z,18nm,1.0s,baz=135,slow=3.9,SNR=23
YBH pP **pP** 14 13 36.1 -0.9
comp=Z,14nm,0.8s,baz=108,slow=8.7,SNR=8.4
JTMT **Jette** 72.79 333 *e*P P 14 13 21.8 +0.7
JTMT *epP* **PcP** 14 13 38.6 +0.6
KHMM **Horse Mountain** 72.82 323 *e*P P 14 13 21.3 -0.2
F10A **Beach Ranch, E** 72.83 330 *e*P P 14 13 21.8 +0.5
comp=Z,173nm,1.8s
J05D **Fort Rock, OR** 73.00 326 ⇑P P 14 13 23.3 +0.8
baz=73
BLMT **Blacktail Moun** 73.03 333 *e*P P 14 13 23.6 +1.0
BLMT *epP* **PcP** 14 13 39.7 +0.5
BSMT **Bassoo Peak** 73.09 333 *e*P P 14 13 23.6 +0.6
BSMT *epP* **PcP** 14 13 40.8 +1.3
PINOR **Pine Mountain** 73.16 327 *e*P P 14 13 22.8 -0.4
PINOR *epP* **PcP** 14 13 39.6 +0.1
KRMB **Red Mountain** 73.33 323 *e*P P 14 13 25.8 +1.3
KRMB *epP* **PcP** 14 13 42.0 +1.4
J04D **Umpqua Nationa** 73.44 325 ⇑P P 14 13 25.4 +0.2
baz=74
VIPM **Ingram Point** 73.50 327 P P 14 13 26.2 +0.8
VIPM **Ingram Point** 73.50 327 P P 14 13 26.2 +0.8
E09A **Wood Farm, Sta** 73.66 330 *e*P P 14 13 26.6 +0.5
comp=Z,41nm,1.2s
I05D **Terrebonne, OR** 73.76 327 ⇑P P 14 13 27.8 +0.9
baz=74
HUOR **Husband** 73.89 326 P P 14 13 28.9 +1.2
G06A **Carlson Farm,** 74.01 328 *e*P P 14 13 29.3 +1.0
comp=Z,38nm,1.2s
FFC **Flin Flon** 74.18 344 *e*P P 14 13 28.2 -0.7
FFC pmax pmax
comp=Z,24nm,1.4s

FFC MLR MLR
comp=Z,1µm,20.0s
FFC Flin Flon 74.18 344 *e*P **P 14 13 28.2 -0.7**
comp=Z,24nm,1.4s
FFC LR LR
comp=Z,1µm,20.0s
HAWA Hanford 74.25 329 *e*P **P 14 13 30.2 +0.7**
HAWA LR LR
comp=Z,519nm,19.0s
QSPA South Pole Qui 74.34 180 *e*P **P 14 13 30.8 +0.8**
comp=Z,141nm,1.2s
QSPA PP **PP 14 16 18.4 +2.1**
QSPA LR LR
comp=Z,612nm,22.0s
QSPA South Pole Qui 74.34 180 P **P 14 13 31.1 +1.0**
comp=Z,71nm,1.0s,baz=152,slow=2.3,SNR=120
QSPA PP **PP 14 16 18.4 +2.1**
comp=Z,10nm,1.1s,baz=172,slow=7.7,SNR=4.4
G05D Wamic, OR 74.36 327 ⇑P **P 14 13 31.3 +1.0**
baz=75
D08A Wollman Farm, 74.42 330 *e*P **P 14 13 31.1 +0.6**
comp=Z,171nm,2.3s
BENWA Benson Ranch 74.43 329 P **P 14 13 31.9 +1.3**
KEBM Edson Butte 74.44 324 *e*P **P 14 13 32.4 +1.6**
H04A Detroit Lake 74.44 327 *e*P **P 14 13 30.9 +0.2**
comp=Z,51nm,1.2s
NEW Newport 74.45 332 *e*P **P 14 13 30.6 -0.1**
NEW LR LR
comp=Z,572nm,20.0s
NEW Newport 74.45 332 ⇓P **P 14 13 30.7 0.0**
baz=75,SNR=9.2
E07A Sunnyside 74.53 329 *e*P **P 14 13 32.2 +1.0**
comp=Z,77nm,1.3s
OD2 Odessa Site #2 74.56 330 P **P 14 13 31.9 +0.5**
TRW Toppenish Ridg 74.69 329 P **P 14 13 33.6 +1.5**
COR Corvallis 74.98 326 *e*P **P 14 13 34.8 +1.0**
COR Corvallis 74.98 326 *e*P **P 14 13 34.8 +1.0**
G03D McMinnville, O 75.37 326 ⇑P **P 14 13 36.5 +0.5**
baz=76
WTV Waterville 75.37 330 P **P 14 13 36.4 +0.3**
F04A Amboy 75.40 327 *e*P **P 14 13 36.6 +0.5**
comp=Z,81nm,1.0s
LTY Liberty 75.42 329 *e*P **P 14 13 36.9 +0.5**
comp=Z,79nm,1.4s
ETW Entiat 75.49 330 P **P 14 13 37.5 +0.7**
B08A Colville Reser 75.54 331 *e*P **P 14 13 37.0 0.0**
comp=Z,27nm,1.1s
LON Longmire 75.64 328 *e*P **P 14 13 38.1 +0.5**
LON pmax pmax
comp=Z,19nm,1.1s
LON Longmire 75.64 328 *e*P **P 14 13 38.1 +0.5**
comp=Z,19nm,1.1s
F04D Rainier, OR 75.81 327 ⇓P **P 14 13 39.4 +0.9**
baz=76
F03A Seaside 76.00 327 *e*P **P 14 13 41.8 +2.2**
comp=Z,72nm,1.1s
D05A Enumclaw 76.03 329 *e*P **P 14 13 40.2 +0.4**
comp=Z,80nm,1.0s
FCC Fort Churchill 76.11 349 *e*P **P 14 13 39.3 -0.6**
FCC *e**PP **pP 14 13 55.5 -0.3**
FCC Fort Churchill 76.11 349 *e*P **P 14 13 39.3 -0.6**
comp=Z,2.0nm,1.3s
FCC *ep*P **pP 14 13 55.5 -0.3**
EDM Edmonton 76.63 337 *e*P **P 14 13 42.0 -1.0**
EDM *e**PP **pP 14 13 58.1 -0.9**
EDM Edmonton 76.63 337 *e*P **P 14 13 42.0 -1.0**
EDM *ep*P **pP 14 13 58.1 -0.9**
RPW Rockport 76.65 330 P **P 14 13 43.2 -0.1**
B06A Marblemount 76.68 330 *e*P **P 14 13 43.9 +0.5**
comp=Z,37nm,0.9s
NLWA Neilton Lookou 77.12 328 PFAKE 14 14 00.0 +14
NLWA LR LR
comp=Z,1µm,21.0s
TOA0 Torodi Ar. Sit 80.20 73 *e*P **P 14 14 02.8 -0.7**
TOA0 *ep*P **pP 14 14 20.1 +0.6**
TORD Torodi Ar. Bea 80.20 73 P **P 14 14 03.9 +0.3**
TORD pP **pP 14 14 19.4 -0.1**
TORD Torodi Ar. Bea 80.20 73 P **P 14 14 03.9 +0.3**
comp=Z,31nm,0.7s,baz=256,slow=5.1,SNR=168
TORD pP **pP 14 14 19.4 -0.1**
comp=Z,28nm,0.9s,baz=271,slow=4.7,SNR=8.7
TORD LR LR 14 50 42.9
comp=Z,372nm,19.5s,baz=240,slow=36
SBA Scott Base 80.50 191 PFAKE 14 14 20.0 +16
SBA LR LR
comp=Z,866nm,20.0s
RAR Rarotonga 80.57 251 LR LR 14 42 53.5
comp=Z,167nm,19.1s,baz=225,slow=30
PNCL Nicolau / Gran 81.45 47 *e*P **P 14 14 12.0 +2.3**
comp=Z,138nm,2.0s
VNDA Vanda 81.56 190 *e*P **P 14 14 09.3 -0.4**
comp=Z,38nm,1.3s
VNDA Vanda 81.56 190 P **P 14 14 11.4 +1.7**
comp=Z,24nm,1.1s,baz=140,slow=4.5,SNR=38
VNDA LR LR 14 44 11.9
comp=Z,924nm,20.0s,baz=130,slow=31
PCVE Castro Verde 81.58 47 *e*P **P 14 14 12.9 +2.5**
comp=Z,124nm,2.0s
PESTR Estremoz 82.45 46 *e*P **P 14 14 17.6 +2.6**
comp=Z,69nm,1.5s
PMRV Marv??o 82.85 46 *e*P **P 14 14 18.4 +1.3**
comp=Z,68nm,2.0s
PCBR Castelo Branco 82.97 45 *e*P **P 14 14 19.6 +1.9**
comp=Z,89nm,2.4s
PVIS Viseu 83.09 44 *e*P **P 14 14 20.0 +1.6**
comp=Z,95nm,1.3s
MTE Manteigas 83.19 45 PFAKE 14 14 30.0 +11
MTE LR LR
comp=Z,2µm,19.0s
POLO Lamas de Olo 83.47 44 *e*P **P 14 14 21.9 +1.6**
comp=Z,61nm,1.6s
SYO Syowa Base 83.47 161 ⇓*i*P **P 14 14 19.2 -0.6**
PVRL Vila Real 83.47 44 *e*P **P 14 14 21.5 +1.2**
comp=Z,107nm,1.5s
YKA Yellowknife Ar 84.29 342 P **P 14 14 23.3 -0.6**
YKA pP **pP 14 14 39.6 -0.4**
YKA PKKPbc **PKKPbc 14 32 36.6 -2.9**
YKA P'P' 14 40 38.0
YKA Yellowknife Ar 84.29 342 P **P 14 14 23.3 -0.6**
comp=Z,23nm,0.9s,baz=137,slow=5.2,SNR=26
YKA pP **pP 14 14 39.6 -0.4**
comp=Z,9.1nm,0.8s,baz=139,slow=5.8,SNR=8.1
YKA PKKPbc **PKKPbc 14 32 36.6 -2.9**
comp=Z,0.6nm,0.9s,baz=305,slow=3.2,SNR=5.6
YKA PKPPKP **P'P'df 14 40 38.0 -1.6**
comp=Z,0.3nm,0.9s,baz=321,slow=3.3,SNR=4.3
YKW3 Yellowknife Ar 84.34 342 *e*P **P 14 14 22.6 -1.5**
comp=Z,1.2nm,1.0s
YKW3 *ep*P **pP 14 14 39.8 -0.5**
PBRG Braganca 84.36 44 *e*P **P 14 14 26.4 +1.6**
comp=Z,76nm,2.3s
PAB San Pablo 85.01 47 *e*P **P 14 14 28.0 -0.2**
PAB pmax pmax
comp=Z,52nm,1.0s
PAB San Pablo 85.01 47 *e*P **P 14 14 28.0 -0.2**
comp=Z,52nm,1.0s
ESDC Sonseca Array 85.34 47 P **P 14 14 31.5 +1.7**
ESDC Sonseca Array 85.34 47 P **P 14 14 31.5 +1.7**
comp=Z,20nm,1.0s,baz=255,slow=5.3,SNR=27
ESDC LR LR 14 51 10.9
comp=Z,461nm,18.9s,baz=260,slow=35
SUR Sutherland 85.65 122 PFAKE 14 14 40.0 +8.2
SUR LR LR
comp=Z,663nm,19.0s
ILULI Ilulissat 86.36 8 *i*P **P 14 14 33.9 -0.1**
ILULI Ilulissat 86.36 8 *i*P **P 14 14 33.9 -0.1**
comp=Z,28nm,1.0s
ILULI *i* 14 14 57.5
TSUM Tsumeb 86.38 109 *e*P **P 14 14 35.5 0.0**
comp=Z,23nm,0.9s
TSUM LR LR
comp=Z,487nm,22.0s
TAM Tamanrasset 86.73 65 *e*P **P 14 14 36.3 -0.9**
TAM pmax pmax
comp=Z,15nm,1.0s
TAM MLR MLR
comp=Z,832nm,20.0s
TAM Tamanrasset 86.73 65 *e*P **P 14 14 36.3 -0.9**
comp=Z,14nm,1.0s
TAM LR LR
comp=Z,832nm,20.0s
DLBC Dease Lake 86.98 334 *e*P **P 14 14 37.1 -0.3**
DLBC pP **pP 14 14 54.1 +0.4**
DLBC PP **PP 14 18 02.0 +0.6**
DLBC Dease Lake 86.98 334 P **P 14 14 37.9 +0.4**
comp=Z,26nm,1.0s,baz=158,slow=4.4,SNR=27

DLBC pP **pP 14 14 54.1 +0.4**
comp=Z,21nm,0.9s,baz=122,slow=4.8,SNR=8.7
DLBC PP **PP 14 18 02.0 +0.6**
comp=Z,12nm,1.2s,baz=132,slow=10.0,SNR=4.0
SJPF Ste Jean 88.62 44 *e*P **P 14 14 46.0 +0.5**
comp=Z,30nm,1.0s
SJPF Ste Jean 88.62 44 *e*P **P 14 14 46.0 +0.5**
SJPF pmax pmax
comp=Z,30nm,1.0s
SJPF Ste Jean 88.62 44 *e*P **P 14 14 46.0 +0.5**
comp=Z,30nm,1.0s
ETSF Etsaut 88.98 45 *e*P **P 14 14 47.7 +0.3**
comp=Z,29nm,1.0s
ETSF Etsaut 88.98 45 *e*P **P 14 14 47.7 +0.3**
ETSF pmax pmax
comp=Z,29nm,1.0s
ETSF Etsaut 88.98 45 *e*P **P 14 14 47.7 +0.3**
comp=Z,29nm,1.0s
QUIF Quistinic 89.31 39 *e*P **P 14 14 48.2 -0.4**
QUIF Quistinic 89.31 39 *e*P **P 14 14 48.2 -0.4**
QUIF Quistinic 89.31 39 *e*P **P 14 14 48.2 -0.4**
ROSF Rostrenen 89.42 39 *e*P **P 14 14 48.9 -0.2**
comp=Z,40nm,1.0s
ROSF Rostrenen 89.42 39 *e*P **P 14 14 48.9 -0.2**
ROSF pmax pmax
comp=Z,40nm,1.0s
ROSF Rostrenen 89.42 39 *e*P **P 14 14 48.9 -0.2**
comp=Z,40nm,1.0s
EPF Esparros 89.64 45 *e*P **P 14 14 50.7 +0.3**
EPF Esparros 89.64 45 *e*P **P 14 14 50.7 +0.3**
EPF Esparros 89.64 45 *e*P **P 14 14 50.7 +0.3**
BOSA Boshof 90.42 120 *e*P **P 14 14 54.6 0.0**
comp=Z,40nm,1.1s
BOSA Boshof 90.42 120 P **P 14 14 55.5 +0.9**
comp=Z,25nm,1.0s,baz=272,slow=4.2,SNR=20
BOSA LR LR 14 52 44.7
comp=Z,397nm,20.6s,baz=252,slow=34
LFF La Frestale 90.62 43 *e*P **P 14 14 54.7 -0.1**
comp=Z,60nm,0.9s
LFF La Frestale 90.62 43 *e*P **P 14 14 54.7 -0.1**
LFF pmax pmax
comp=Z,60nm,0.9s
LFF La Frestale 90.62 43 *e*P **P 14 14 54.7 -0.1**
comp=Z,60nm,0.9s
MFF Saint Martin d 90.67 41 *e*P **P 14 14 54.6 -0.4**
comp=Z,30nm,1.0s
MFF Saint Martin d 90.67 41 *e*P **P 14 14 54.6 -0.4**
MFF pmax pmax
comp=Z,30nm,1.0s
MFF Saint Martin d 90.67 41 *e*P **P 14 14 54.6 -0.4**
comp=Z,30nm,1.0s
GRR Gorron 90.91 40 *e*P **P 14 14 55.5 -0.6**
GRR Gorron 90.91 40 *e*P **P 14 14 55.5 -0.6**
GRR Gorron 90.91 40 *e*P **P 14 14 55.5 -0.6**
MTLF Montolieu 91.03 45 *e*P **P 14 14 56.6 -0.2**
comp=Z,82nm,1.4s
MTLF Montolieu 91.03 45 *e*P **P 14 14 56.6 -0.2**
MTLF pmax pmax
comp=Z,82nm,1.4s
MTLF Montolieu 91.03 45 *e*P **P 14 14 56.6 -0.2**
comp=Z,82nm,1.4s
MAW Mawson 91.10 165 P **P 14 14 57.7 +1.0**
MAW Mawson 91.10 165 P **P 14 14 57.7 +1.0**
comp=Z,26nm,0.9s,baz=232,slow=6.7,SNR=17
MAW LR LR 14 53 40.4
comp=Z,1µm,20.8s,baz=225,slow=34
RES Resolute Bay 91.26 355 P **P 14 14 57.0 -0.2**
RES Resolute Bay 91.26 355 P **P 14 14 57.0 -0.2**
comp=Z,4.6nm,1.1s,baz=168,slow=7.4,SNR=12
RJF Les Rejaudoux 91.27 43 *e*P **P 14 14 57.5 -0.4**
comp=Z,54nm,1.2s
RJF *e*R
comp=Z,762nm,22.0s
RJF Les Rejaudoux 91.27 43 *e*P **P 14 14 57.5 -0.4**
RJF pmax pmax
comp=Z,54nm,1.2s
RJF Les Rejaudoux 91.27 43 *e*P **P 14 14 57.5 -0.4**
comp=Z,54nm,1.2s
SUMG Summit 91.28 10 *i*P **P 14 14 58.7 +0.9**
SUMG *i* 14 15 15.7
SUMG Summit 91.28 10 *i*P **P 14 14 58.7 +0.9**
comp=Z,62nm,1.1s
SUMG *i* 14 15 15.7
SUMG Summit 91.28 10 *e*P **P 14 14 57.1 -0.7**
comp=Z,114nm,1.1s
FLN La Foliniere 91.29 39 *e*P **P 14 14 57.5 -0.3**
comp=Z,72nm,1.3s
FLN *e*R
comp=Z,576nm,20.2s
FLN La Foliniere 91.29 39 *e*P **P 14 14 57.5 -0.3**
FLN pmax pmax
comp=Z,72nm,1.3s
FLN La Foliniere 91.29 39 *e*P **P 14 14 57.5 -0.3**
comp=Z,72nm,1.3s
LDF La Druitiere 91.44 40 *e*P **P 14 14 58.2 -0.4**
LDF La Druitiere 91.44 40 *e*P **P 14 14 58.2 -0.4**
LDF La Druitiere 91.44 40 *e*P **P 14 14 58.2 -0.4**
CAF Calviac 91.49 44 *e*P **P 14 14 58.7 -0.3**
comp=Z,34nm,1.1s
CAF Calviac 91.49 44 *e*P **P 14 14 58.7 -0.3**
CAF pmax pmax
comp=Z,34nm,1.1s
CAF Calviac 91.49 44 *e*P **P 14 14 58.7 -0.3**
comp=Z,34nm,1.1s
LBTB Lobatse 91.83 116 *e*P **P 14 15 01.0 -0.2**
comp=Z,28nm,1.2s
LBTB *ep*P **pP 14 15 17.7 +0.3**
TCF Toulx Ste Croi 92.07 42 *e*P **P 14 15 01.0 -0.6**
comp=Z,15nm,0.9s
TCF Toulx Ste Croi 92.07 42 *e*P **P 14 15 01.0 -0.6**
TCF pmax pmax
comp=Z,15nm,0.9s
TCF Toulx Ste Croi 92.07 42 *e*P **P 14 15 01.0 -0.6**
comp=Z,15nm,0.9s
BGF Bois d'Agland 92.58 42 *e*P **P 14 15 03.5 -0.4**
comp=Z,30nm,0.9s
BGF Bois d'Agland 92.58 42 *e*P **P 14 15 03.5 -0.4**
BGF pmax pmax
comp=Z,30nm,0.9s
BGF Bois d'Agland 92.58 42 *e*P **P 14 15 03.5 -0.4**
comp=Z,30nm,0.9s
HYF Humbligny 92.69 42 *e*P **P 14 15 04.1 -0.3**
HYF Humbligny 92.69 42 *e*P **P 14 15 04.1 -0.3**
AVF Avril sur Loir 92.99 42 *e*P **P 14 15 05.0 -0.8**
comp=Z,26nm,1.2s
AVF Avril sur Loir 92.99 42 *e*P **P 14 15 05.0 -0.8**
AVF pmax pmax
comp=Z,27nm,1.2s
AVF Avril sur Loir 92.99 42 *e*P **P 14 15 05.0 -0.8**
comp=Z,26nm,1.2s
SSF Saint Saulge 93.18 42 *e*P **P 14 15 05.8 -0.8**
comp=Z,67nm,1.6s
SSF Saint Saulge 93.18 42 *e*P **P 14 15 05.8 -0.8**
SSF pmax pmax
comp=Z,67nm,1.6s
SSF Saint Saulge 93.18 42 *e*P **P 14 15 05.8 -0.8**
comp=Z,67nm,1.6s
VIVF Saint-Julien-l 93.21 44 *e*P **P 14 15 07.1 +0.2**
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 93.21 44 *e*P **P 14 15 07.1 +0.2**
VIVF pmax pmax
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 93.21 44 *e*P **P 14 15 07.1 +0.2**
comp=Z,18nm,1.0s
SMF Signal de Mont 93.25 42 *e*P **P 14 15 06.5 -0.5**
comp=Z,20nm,1.0s
SMF Signal de Mont 93.25 42 *e*P **P 14 15 06.5 -0.5**
SMF pmax pmax
comp=Z,20nm,1.0s
SMF Signal de Mont 93.25 42 *e*P **P 14 15 06.5 -0.5**
comp=Z,20nm,1.0s
SSB Saint Sauveur 93.26 44 PFAKE 14 15 20.0 +13
SSB LR LR
comp=Z,867nm,22.0s
LOR Lormes 93.47 42 *e*P **P 14 15 10.6 +2.6**
LOR *e*R
comp=Z,578nm,20.5s
LOR Lormes 93.47 42 *e*P **P 14 15 10.6 +2.6**
KEST Kesra 93.84 54 LR LR 14 54 21.2
comp=Z,189nm,21.9s,baz=90,slow=34
INK Inuvik 94.00 341 *e*P **P 14 15 08.7 -1.2**
comp=Z,30nm,1.2s
INK pP **pP 14 15 25.2 -1.0**
INK *ep*P **pwP 14 15 26.0 -0.2**
INK PP **PP 14 18 54.0 -2.8**
INK Inuvik 94.00 341 P **P 14 15 09.8 -0.2**

INK pP **pP 14 15 25.2 -1.0**
comp=Z,16nm,1.0s,baz=111,slow=5.3,SNR=31
INK pP **pP 14 15 25.2 -1.0**
comp=Z,10nm,0.9s,baz=96,slow=5.6,SNR=7.8
INK PP **PP 14 18 54.0 -2.8**
comp=Z,5.6nm,1.0s,baz=140,slow=14,SNR=3.0
INK LR LR 15 01 37.1
comp=Z,656nm,19.8s,baz=137,slow=38
ORIF Oris-en-Rattie 94.05 45 *e*P **P 14 15 11.2 +0.4**
comp=Z,27nm,1.0s
ORIF *e*R
comp=Z,1µm,22.8s
ORIF Oris-en-Rattie 94.05 45 *e*P **P 14 15 11.2 +0.4**
ORIF pmax pmax
comp=Z,27nm,1.0s
ORIF Oris-en-Rattie 94.05 45 *e*P **P 14 15 11.2 +0.4**
comp=Z,27nm,1.0s
URZ Urewera 94.48 228 LR LR 14 47 30.9
comp=Z,374nm,21.9s,baz=124,slow=29
SFTF Sexfontaines 94.53 41 *e*P **P 14 15 12.3 -0.6**
SFTF Sexfontaines 94.53 41 *e*P **P 14 15 12.3 -0.6**
BAIF Baives 94.61 39 *e*P **P 14 15 12.8 -0.3**
BAIF Baives 94.61 39 *e*P **P 14 15 12.8 -0.3**
BAIF Baives 94.61 39 *e*P **P 14 15 12.8 -0.3**
BNI Bardonecchia 94.63 45 PFAKE 14 15 20.0 +6.5
BNI LR LR
comp=Z,1µm,22.0s
MEZF Maizieres J'vi 94.63 41 *e*P **P 14 15 12.9 -0.4**
MEZF Maizieres J'vi 94.63 41 *e*P **P 14 15 12.9 -0.4**
CABF La Chapelle 94.71 43 *e*P **P 14 15 13.6 -0.2**
CABF La Chapelle 94.71 43 *e*P **P 14 15 13.6 -0.2**
CABF La Chapelle 94.71 43 *e*P **P 14 15 13.6 -0.2**
LPL La Plagne 94.80 44 *e*P **P 14 15 14.9 +0.5**
LPL La Plagne 94.80 44 *e*P **P 14 15 14.9 +0.5**
LPL La Plagne 94.80 44 *e*P **P 14 15 14.9 +0.5**
LPG La Plagne 94.81 44 *e*P **P 14 15 15.0 +0.4**
comp=Z,12nm,0.9s
LPG La Plagne 94.81 44 *e*P **P 14 15 15.0 +0.4**
LPG pmax pmax
comp=Z,13nm,0.9s
LPG La Plagne 94.81 44 *e*P **P 14 15 15.0 +0.4**
comp=Z,12nm,0.9s
EGAK Eagle 94.85 337 PFAKE 14 15 30.0 +16
EGAK LR LR
comp=Z,951nm,20.0s
DOU Dourbes 94.86 39 P **P 14 15 15.1 +0.8**
comp=Z,20nm,2.7s
SNZO South Karori 94.88 225 PFAKE 14 15 30.0 +15
SNZO LR LR
comp=Z,388nm,19.0s
VSL Villasalto 94.92 50 PFAKE 14 15 30.0 +15
VSL LR LR
comp=Z,525nm,21.0s
GIVF Givet 95.00 39 *e*P **P 14 15 14.8 -0.1**
comp=Z,80nm,1.1s
GIVF Givet 95.00 39 *e*P **P 14 15 14.8 -0.1**
GIVF pmax pmax
comp=Z,80nm,1.1s
GIVF Givet 95.00 39 *e*P **P 14 15 14.8 -0.1**
comp=Z,80nm,1.1s
PAGF Fort de Pagny 95.08 41 *e*P **P 14 15 15.3 0.0**
PAGF Fort de Pagny 95.08 41 *e*P **P 14 15 15.3 0.0**
HAU Haudompre 95.30 42 *e*P **P 14 15 15.9 -0.5**
HAU *e*R
comp=Z,723nm,21.2s
HAU Haudompre 95.30 42 *e*P **P 14 15 15.9 -0.5**
HAU Haudompre 95.30 42 *e*P **P 14 15 15.9 -0.5**
HINF Hinteralfeld 95.57 42 *e*P **P 14 15 16.9 -0.8**
comp=Z,25nm,1.3s
HINF Hinteralfeld 95.57 42 *e*P **P 14 15 16.9 -0.8**
HINF pmax pmax
comp=Z,25nm,1.3s
HINF Hinteralfeld 95.57 42 *e*P **P 14 15 16.9 -0.8**
comp=Z,25nm,1.3s
WLF Walferdange 95.68 40 P **P 14 15 19.2 +1.1**
comp=Z,19nm,1.3s
WLF Walferdange 95.68 40 *e*P **P 14 15 19.4 +1.3**
comp=Z,11nm,0.8s
WLF Walferdange 95.68 40 PFAKE 14 15 30.0 +12
WLF LR LR
comp=Z,801nm,20.0s
BEBN Eben Emael 95.74 39 P **P 14 15 19.2 +1.0**
MEM Membach 95.88 39 P **P 14 15 19.2 +0.2**
CDF Champ du Feu 96.02 41 *e*P **P 14 15 19.3 -0.4**
comp=Z,28nm,1.2s
CDF Champ du Feu 96.02 41 *e*P **P 14 15 19.3 -0.4**
CDF pmax pmax
comp=Z,28nm,1.2s
CDF Champ du Feu 96.02 41 *e*P **P 14 15 19.3 -0.4**
comp=Z,28nm,1.2s
RPZ Rata Peaks 96.19 221 P **P 14 15 22.0 +1.3**
RPZ Rata Peaks 96.19 221 P **P 14 15 22.0 +1.3**
comp=Z,14nm,0.9s,baz=312,slow=19,SNR=4.4
RPZ LR LR 14 48 13.7
comp=Z,537nm,21.9s,baz=136,slow=29
BFO Black Forest 96.67 42 PFAKE 14 15 30.0 +7.4
BFO LR LR
comp=Z,597nm,19.0s
TUE Stuetta 96.82 44 PFAKE 14 15 30.0 +6.4
TUE LR LR
comp=Z,764nm,21.0s
BUG Bochum--Univer 96.89 39 *e*P **P 14 15 24.6 +1.2**
comp=Z,14nm,0.9s
VLC Villacollemand 96.92 46 PFAKE 14 15 30.0 +6.2
VLC LR LR
comp=Z,713nm,20.0s
ILAR Eielson Array 97.08 336 P **P 14 15 22.9 -1.1**
ILAR pP **pP 14 15 39.7 -0.7**
ILAR PP PP 14 19 12.3 -8.4
ILAR Eielson Array 97.08 336 P **P 14 15 22.9 -1.1**
comp=Z,2.7nm,1.1s,baz=147,slow=4.3,SNR=11
ILAR pP **pP 14 15 39.7 -0.7**
comp=Z,1.1nm,0.8s,baz=163,slow=4.2,SNR=4.7
ILAR PP PP 14 19 12.3 -8.4
comp=Z,5.1nm,1.0s,baz=104,slow=4.8,SNR=7.7
ILAR LR LR 15 01 53.2
comp=Z,438nm,18.4s,baz=118,slow=37
LSZ Lusaka 97.21 108 PFAKE 14 15 40.0 +14
LSZ LR LR
comp=Z,574nm,20.0s
TNS Taunus Mts 97.26 40 *e*P Pdif 14 15 26.3 +0.9
comp=Z,10.0nm,0.9s
KDAK Kodiak Island 97.27 328 PFAKE 14 15 40.0 +15
KDAK LR LR
comp=Z,997nm,21.0s
CLTB Caltabellotta 97.33 53 PFAKE 14 15 40.0 +14
CLTB LR LR
comp=Z,473nm,20.0s
STU Stuttgart 97.34 41 *e*P Pdif 14 15 26.5 +0.8
comp=Z,8.0nm,0.8s
IBBN Ibbenburen 97.42 38 *e*P Pdif 14 15 27.0 +1.1
comp=Z,10.0nm,0.8s
COLA College 97.50 336 *ci*P **P 14 15 25.1 -0.8**
COLA pmax pmax
comp=Z,131nm,2.8s
COLA College 97.50 336 *e*P **P 14 15 24.9 -0.9**
comp=Z,8.1nm,1.0s
COLA *ep*P **pP 14 15 42.3 +0.1**
COLA LR LR
comp=Z,493nm,19.0s
WDD Wield Dalam 97.93 55 PFAKE 14 15 40.0 +11
WDD LR LR
comp=Z,549nm,20.0s
UBBA Unterbreizbach 98.38 40 *e*P Pdif 14 15 31.3 +1.2
comp=Z,9.0nm,1.3s
FUR Furstenfeldbru 98.53 42 *e*P Pdif 14 15 32.4 +1.4
comp=Z,11nm,0.6s
CLZ Clausthal 98.86 39 *e*P Pdif 14 15 34.0 +1.6
comp=Z,8.0nm,0.9s
BSEG Bad Segeberg 99.33 37 *e*P **Pdif 14 15 35.8 +1.4**
comp=Z,5.0nm,0.8s
RJOB Jochberg 99.42 43 *e*P **Pdif 14 15 36.1 +1.1**
comp=Z,5.0nm,1.0s
MANZ Manzenberg 99.49 41 *e*P **Pdif 14 15 36.8 +1.6**
comp=Z,7.0nm,0.9s
ROTZ Rotzenmuhle 99.50 41 *e*P **Pdif 14 15 36.7 +1.4**
comp=Z,7.0nm,0.9s
CEL Celeste 99.54 53 PFAKE 14 15 50.0 +14
CEL LR LR
comp=Z,421nm,19.0s
NKC Novy Kostel 99.75 41 *e*P **Pdif 14 15 37.9 +1.5**
NKC Novy Kostel 99.75 41 *e*PDIFF **Pdif 14 15 37.9 +1.5**
WET Wettzell 99.79 42 *e*P **Pdif 14 15 38.4 +1.8**
comp=Z,4.0nm,1.0s
TANN Tannenbergstha 99.80 40 *e*P **Pdif 14 15 38.4 +1.7**
comp=Z,4.0nm,1.0s
CUC Castrocucco 99.86 51 PFAKE 14 15 50.0 +13

CUC LR LR
comp=Z,463nm,21.0s
GEC2 GERESS Array S 100.25 42 *e*P **Pdif 14 15 39.9 +1.1**
comp=Z,2.0nm,0.9s
GERES GERESS Array B 100.25 42 P **Pdif 14 15 38.8 0.0**
GERES GERESS Array B 100.25 42 P **Pdif 14 15 38.8 0.0**
comp=Z,1.8nm,0.8s,baz=250,slow=2.7,SNR=13
KONO Kongsberg 100.31 31 PFAKE 14 15 50.0 +11
KONO LR LR
comp=Z,832nm,20.0s
CLL Collm 100.33 40 *e*P **Pdif 14 15 39.0 +0.1**
CLL *e*S **Sdif 14 27 07.0 -3.2**
CLL pmax pmax
comp=Z,10.0nm,1.5s
CLL MLR MLR
comp=Z,400nm,20.8s
CLL Collm 100.33 40 *e*P **Pdif 14 15 40.0 +1.1**
comp=Z,4.0nm,0.9s
CLL Collm 100.33 40 *e*Pdif **Pdif 14 15 39.0 +0.1**
comp=Z,10.0nm,1.5s
CLL *e*(pPdif) 14 15 52.0
CLL *e*Sdif Sdif 14 27 07.0 -3.2
CLL *e*PS **PS 14 28 45.0 -1.9**
CLL *e*PPS PPS 14 29 42.0
CLL *e*SS SS 14 33 54.0 -13
CLL *e*(SSP) 14 34 36.0
CLL *e*SSS SSS 14 38 06.0
CLL Lm MLR 14 57 00.0
comp=N,100nm,21.5s
CLL Lm MLR 14 57 00.0
comp=E,300nm,21.9s
CLL Lm MLR 14 57 00.0
comp=Z,400nm,20.8s
BRG Berggiesshubel 100.82 40 *e*P **Pdif 14 15 43.0 +1.9**
comp=Z,12nm,1.2s
BRG Berggiesshubel 100.82 40 *e*P **Pdif 14 15 43.0 +1.9**
BRG pmax pmax
comp=Z,12nm,1.3s
BRG Berggiesshubel 100.82 40 *e*P **Pdif 14 15 42.7 +1.6**
comp=Z,4.0nm,0.9s
PRU Pruhonice 101.02 41 *e*P **Pdif 14 15 43.2 +1.2**
PRU Pruhonice 101.02 41 *e*PDIFF **Pdif 14 15 43.2 +1.2**
TREC Trest 101.49 42 *e*P **Pdif 14 15 45.1 +0.9**
TREC Trest 101.49 42 *e*PDIFF **Pdif 14 15 45.1 +0.9**
DPC Dobruska-Polom 102.21 41 *e*P **Pdif 14 15 49.0 +1.6**
DPC Dobruska-Polom 102.21 41 *e*PDIFF **Pdif 14 15 49.0 +1.6**
DPC *ex* x 14 16 18.7
PSZ Piszkesteto 104.15 44 PFAKE 14 16 10.0 +14
PSZ LR LR
comp=Z,523nm,20.0s
KWP Kalwaria Pacla 106.20 42 PFAKE 14 20 30.0
KWP LR LR
comp=Z,893nm,21.0s
SANT Santorini 106.72 56 PFAKE 14 20 30.0
SANT LR LR
comp=Z,214nm,20.0s
FINES FINESS Array B 108.58 30 PKKPbc PKKPbc 14 31 30.4 -2.1
FINES FINESS Array B 108.58 30 PKKPbc PKKPbc 14 31 30.4 -2.1
comp=Z,2.8nm,0.8s,baz=95,slow=1.7,SNR=4.9
DZM Mont Dzumac 109.82 239 *e*LR LR 14 52 51.3
comp=Z,1µm,29.8s
KMBO Kilima Mbogo 110.11 97 PFAKE 14 20 40.0
KMBO LR LR
comp=Z,280nm,19.0s
KIEV Kiev 110.43 41 PFAKE 14 20 40.0
KIEV LR LR
comp=Z,626nm,22.0s
ISP Isparta 110.90 55 PFAKE 14 20 40.0
ISP LR LR
comp=Z,261nm,22.0s
APA Apatity 111.14 23 *i* PKIKP 14 20 13.0
APA MLR MLR
comp=Z,900nm,12.0s
TARA Tarawa 112.54 265 PFAKE 14 20 40.0
TARA LR LR
comp=Z,2µm,22.0s
ABPO Ambohimpanom 112.62 119 PFAKE 14 20 40.0
ABPO LR LR
comp=Z,519nm,21.0s
ANTO Ankara 112.78 53 PFAKE 14 20 40.0
ANTO LR LR
comp=Z,178nm,19.0s
CSS Prodhromos 112.97 58 PFAKE 14 20 40.0
CSS LR LR
comp=Z,53nm,22.0s
BRTR Keskin Array B 113.42 53 PKiKP **PKiKP 14 20 31.7 +1.1**
BRTR Keskin Array B 113.42 53 PKiKP **PKiKP 14 20 31.7 +1.1**
comp=Z,0.4nm,0.6s,baz=72,slow=1.6,SNR=4.1
OBN Obninsk 114.59 36 *e*PKIKP PKPdf 14 20 27.8 -4.3
OBN *e* 14 21 27.4
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN Obninsk 114.59 36 PFAKE 14 20 40.0 +7.9
OBN LR LR
comp=Z,764nm,20.0s
KIV Kislovodsk 119.98 48 *i* PKIKP **PKPdf 14 20 38.5 -4.5**
KIV *e* 14 27 29.5
KIV *e*PS **PS 14 31 52.3 -6.4**
KIV *e*SS SS 14 38 27.4 -2.9
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,148nm,21.0s
KIV Kislovodsk 119.98 48 PFAKE 14 20 50.0 +7.0
KIV LR LR
comp=Z,210nm,19.0s
KBZ Khabaz 120.16 48 PKIKP **PKPdf 14 20 44.1 +0.9**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 120.16 48 PKP **PKPdf 14 20 44.1 +0.9**
KBZ Khabaz 120.16 48 PKP **PKPdf 14 20 44.1 +0.9**
comp=Z,2.7nm,0.9s,baz=322,slow=3.0,SNR=4.8
STKA Stephens Creek 121.57 216 PKP **PKPdf 14 20 46.4 0.0**
STKA Stephens Creek 121.57 216 PKP **PKPdf 14 20 46.4 0.0**
comp=Z,3.7nm,0.8s,baz=91,slow=5.6,SNR=7.4
GNI Garni 121.93 52 PFAKE 14 21 00.0 +13
GNI LR LR
comp=Z,167nm,20.0s
H11N3 WAKE ISLAND Hyd 122.11 284 T T 16 34 35.9
baz=100,slow=75,SNR=85
H11N2 WAKE ISLAND Hyd 122.12 284 T T 16 34 46.2
baz=100,slow=75,SNR=70
H11N1 WAKE ISLAND Hyd 122.13 284 T T 16 34 37.8
baz=100,slow=75,SNR=48
H11S2 WAKE ISLAND Hyd 122.15 282 T T 16 34 34.9
baz=101,slow=73,SNR=62
H11S1 WAKE ISLAND Hyd 122.16 282 T T 16 34 44.2
baz=101,slow=73,SNR=134
H11S3 WAKE ISLAND Hyd 122.17 282 T T 16 34 46.6
baz=101,slow=73,SNR=48
TIXI Tiksi 122.53 352 *i* PKIKP **PKPdf 14 20 46.2 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 122.53 352 PFAKE 14 21 00.0 +13
TIXI LR LR
comp=Z,741nm,20.0s
SEY Seymchan 122.99 337 PKIKP **PKPdf 14 20 48.0 -0.1**
SEY pmax pmax
comp=Z,4.0nm,1.0s
SEY Seymchan 122.99 337 PKP **PKPdf 14 20 48.0 -0.1**
SEY Seymchan 122.99 337 PKP **PKPdf 14 20 48.0 -0.1**
comp=Z,4.3nm,1.0s,baz=36,slow=23,SNR=5.5
PET Petropavlovsk 124.64 324 PFAKE 14 21 00.0 +8.5
PET LR LR
comp=Z,487nm,21.0s
PETK Petropavlovsk- 125.14 325 PKIKP **PKPdf 14 20 53.1 +0.6**
PETK 14 22 41.0
PETK pmax pmax
comp=Z,3.0nm,0.9s
PETK pmax pmax
comp=Z,4.0nm,1.0s
PETK Petropavlovsk- 125.14 325 PKP **PKPdf 14 20 53.1 +0.6**
PETK PP **PP 14 22 41.0 -1.4**
PETK Petropavlovsk- 125.14 325 PKP **PKPdf 14 20 53.1 +0.6**
comp=Z,2.8nm,0.9s,baz=136,slow=3.5,SNR=6.7
PETK PP **PP 14 22 41.0 -1.4**
comp=Z,3.7nm,1.0s,baz=348,slow=5.3,SNR=5.7
ARU Arti 125.94 30 *i* PKIKP **PKPdf 14 20 54.6 +0.6**
ARU 14 22 50.7
ARU 14 27 53.7
ARU SS SS 14 39 41.7 -2.8
ARU Arti 125.94 30 PFAKE 14 21 10.0 +16
ARU LR LR
comp=Z,654nm,20.0s
MSEY Mahe Island 126.04 108 PFAKE 14 21 10.0 +14
MSEY LR LR
comp=Z,696nm,22.0s
CTAO Charters Tower 126.72 229 PFAKE 14 21 10.0 +13
CTAO LR LR
comp=Z,217nm,19.0s
AKTO Aktyubinsk 128.34 37 PKIKP **PKPdf 14 20 59.5 +0.8**
AKTO pmax pmax
comp=Z,7.0nm,1.1s
AB31 Akbulak array 129.97 38 *i* PKIKP **PKPdf 14 21 03.3 +1.4**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 129.97 38 *e*PKPdf **PKPdf 14 21 02.4 +0.5**
YAK Yakutsk 130.88 345 PFAKE 14 21 10.0 +6.8
YAK LR LR
comp=Z,388nm,22.0s
PMG Port Moresby 132.15 241 PFAKE 14 21 20.0 +13
PMG LR LR
comp=Z,261nm,22.0s
ASAR Alice Springs 132.21 215 PKPpre PKPpre 14 20 52.1
ASAR PKP **PKPdf 14 21 06.8 -0.3**
ASAR pPKP pPKPdf 14 21 23.6 -0.3
ASAR PP **PP 14 23 26.6 -1.9**
ASAR SKPbc **SKPbc 14 24 28.1 -0.7**
ASAR Alice Springs 132.21 215 PKhKP PKPpre 14 20 52.1
comp=Z,1.1nm,0.8s,baz=139,slow=2.1,SNR=5.5
ASAR PKP **PKPdf 14 21 06.8 -0.3**
comp=Z,6.1nm,0.8s,baz=141,slow=2.1,SNR=29
ASAR pPKP pPKPdf 14 21 23.6 -0.3
comp=Z,6.7nm,0.9s,baz=125,slow=1.8,SNR=8.1
ASAR PP **PP 14 23 26.6 -1.9**
comp=Z,1.1nm,0.9s,baz=140,slow=5.4,SNR=4.8
ASAR SKPbc **SKPbc 14 24 28.1 -0.7**
comp=Z,11nm,1.1s,baz=146,slow=3.6,SNR=15
AS31 Alice Springs 132.21 215 *e*PKPdf **PKPdf 14 21 06.9 -0.2**
BRVK Borovoye 133.45 29 *i* PKIKP **PKPdf 14 21 09.2 +0.9**
BRVK Borovoye 133.45 29 PFAKE 14 21 20.0 +12
BRVK LR LR
comp=Z,624nm,22.0s
BVA0 Borovoye Array 133.52 29 *i* PKIKP **PKPdf 14 21 09.2 +0.7**
BVA0 pmax pmax
comp=Z,11nm,1.5s
WRA Warramunga Arr 134.84 219 PKPpre PKPpre 14 20 57.7
WRA PKP **PKPdf 14 21 12.1 +0.1**
WRA pPKP pPKPdf 14 21 28.6 -0.3
WRA SKPbc **SKPbc 14 24 37.5 -0.2**
WRA Warramunga Arr 134.84 219 PKhKP PKPpre 14 20 57.7
comp=Z,0.4nm,0.6s,baz=140,slow=3.5,SNR=6.0
WRA PKP **PKPdf 14 21 12.1 +0.1**
comp=Z,9.7nm,0.7s,baz=148,slow=1.5,SNR=48
WRA pPKP pPKPdf 14 21 28.6 -0.3
comp=Z,4.6nm,0.7s,baz=132,slow=1.9,SNR=5.1
WRA SKPbc **SKPbc 14 24 37.5 -0.2**
comp=Z,11nm,1.3s,baz=136,slow=3.2,SNR=12
WRAB Tennant Creek 134.84 219 *c i* PKIKP **PKPdf 14 21 12.0 0.0**
WRAB pmax pmax
comp=Z,26nm,0.6s
WRAB Tennant Creek 134.84 219 *e*PKPdf **PKPdf 14 21 12.1 0.0**
WRAB LR LR
comp=Z,312nm,20.0s
YSS Yuzh-Sakhalins 136.51 323 PFAKE 14 21 30.0 +16
YSS LR LR
comp=Z,202nm,22.0s
NVS Novosibirsk 137.26 19 *e*PKIKP **PKPdf 14 21 15.2 -0.1**
NVS *e* 14 21 30.9
NVS pmax pmax
comp=Z,47nm,2.1s
ZAA0 Zalesovo Array 138.51 19 *e*PKPdf **PKPdf 14 21 18.3 +0.6**
ZALV Zalesovo Beam 138.51 19 PKIKP **PKPdf 14 21 17.2 -0.5**
ZALV pmax pmax
comp=Z,25nm,1.0s
ZALV Zalesovo Beam 138.51 19 PKP **PKPdf 14 21 17.2 -0.5**
ZALV pPKP **pPKPdf 14 21 35.2 +0.7**
ZALV SKPbc **SKPbc 14 24 47.9 +0.3**
ZALV SKKPbc SKKPbc 14 33 16.2 -16
ZALV Zalesovo Beam 138.51 19 PKP **PKPdf 14 21 17.2 -0.5**
comp=Z,25nm,1.0s,baz=288,slow=1.4,SNR=5.0
ZALV pPKP **pPKPdf 14 21 35.2 +0.7**
comp=Z,7.6nm,0.8s,baz=310,slow=2.2,SNR=4.5
ZALV SKPbc **SKPbc 14 24 47.9 +0.3**
comp=Z,4.1nm,1.1s,baz=274,slow=5.7,SNR=4.5
ZALV SKKPbc SKKPbc 14 33 16.2 -16
comp=Z,0.2nm,0.3s,baz=134,slow=4.3,SNR=3.6
ERM Erimo 138.78 317 PFAKE 14 21 30.0 +11
ERM LR LR
comp=Z,455nm,20.0s
KURK Kurchatov 138.81 26 *e*PKIKP **PKPdf 14 21 18.3 -0.1**
KURK MLR MLR
comp=Z,258nm,22.0s
KURK Kurchatov 138.81 26 *e*PKPdf **PKPdf 14 21 18.3 -0.1**
KURK LR LR
comp=Z,258nm,22.0s
KK31 Karatay Array 139.34 41 *i* PKIKP **PKPdf 14 21 20.9 +1.3**
EKS2 Erkin-Say 141.60 39 PFAKE 14 21 40.0 +16
EKS2 LR LR
comp=Z,337nm,22.0s
AAK Ala-Archa 142.05 39 *e*PKHKP PKPpre 14 21 19.3
AAK MLR MLR
comp=Z,281nm,21.0s
AAK Ala-Archa 142.05 39 *e*PKPpre PKPpre 14 21 19.2
AAK LR LR
comp=Z,281nm,21.0s
TKM2 Tokmak 2 142.53 38 *e*PKPpre PKPpre 14 21 22.0
TKM2 *e*PKPdf **PKPdf 14 21 25.6 -0.1**
TKM2 LR LR
comp=Z,326nm,21.0s
MK31 Makanchi Array 143.36 28 *i* PKIKP PKPbc 14 21 23.9 -0.1
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 143.36 28 *e*PKPpre PKPpre 14 21 23.7
MK31 *e*PKPdf **PKPdf 14 21 26.3 -0.4**
MKAR Makanchi Array 143.36 28 PKIKP PKPbc 14 21 23.6 -0.4
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 143.36 28 PKPpre PKPpre 14 21 23.6
MKAR Makanchi Array 143.36 28 PKhKP PKPpre 14 21 23.6
comp=Z,5.1nm,0.9s,baz=317,slow=2.6,SNR=34
HVS Khovu-Aksy 143.41 13 *i* PKIKP **PKPdf 14 21 29.6 +2.8**
MOY Mondy 144.01 5 *e*PKIKP **PKPdf 14 21 26.9 -0.9**
MOY pmax pmax
comp=Z,50nm,2.4s
USRK Ussuriysk Arra 144.14 327 PKP **PKPab 14 21 25.7 -0.1**
comp=Z,13nm,0.9s,baz=56,slow=2.3,SNR=18
TLY Talaya 144.17 2 *e*PKIKP **PKPdf 14 21 27.2 -0.8**
TLY MLR MLR
comp=Z,333nm,22.0s
TLY Talaya 144.17 2 *e*PKPdf **PKPdf 14 21 27.2 -0.8**
TLY LR LR
comp=Z,333nm,22.0s
CBIJ Chichi jima 144.61 295 PKP **PKPab 14 21 27.1 -1.0**
JCJ Chichijima 144.61 295 PKP **PKPab 14 21 27.1 -1.0**
comp=Z,33nm,0.9s,baz=291,slow=4.7,SNR=6.4
MJAR Matsushiro Arr 144.72 312 PKP **PKPab 14 21 26.9 -1.4**
MJAR Matsushiro Arr 144.72 312 PKP **PKPab 14 21 26.9 -1.4**
comp=Z,17nm,1.0s,baz=101,slow=1.4,SNR=38
MAJO Matsushiro 144.72 312 *d i* PKIKP **PKPab 14 21 27.2 -1.1**
MAJO Matsushiro 144.72 312 *e*PKPdf **PKPab 14 21 27.6 -0.7**
MAJO LR LR
comp=Z,567nm,21.0s
MAT Matsushiro 144.72 312 PKP **PKPab 14 21 26.8 -1.5**
KSH Kashi 144.73 42 PKP **PKPdf 14 21 30.1 +0.6**
KSH pPKP **pPKPdf 14 21 44.1 -2.3**
KSH sPKP 14 21 48.1
KSH PKS **PKSdf 14 25 07.0 +1.9**
KSH AMB AMB
comp=Z,170nm,6.2s
KSH LR LR
comp=Z,140nm,5.8s
KSH LR LR
comp=Z,120nm,6.4s
KSH LR LR
comp=Z,220nm,6.4s
HIA Hailar 144.80 344 *e*PKPdf **PKPab 14 21 27.6 -0.6**
HIA LR LR
comp=Z,462nm,21.0s
MDJ Mudanjiang 145.04 330 PKP **PKPbc 14 21 28.9 -0.2**
MDJ pPKP **pPKPdf 14 21 47.3 +0.7**
MDJ sPKP 14 21 53.9
MDJ PP **PP 14 24 47.1 -0.7**
MDJ LR LR
comp=Z,300nm,33.9s
MDJ LR LR
comp=Z,280nm,24.7s
MDJ LR LR
comp=Z,430nm,32.4s
MDJ Mudanjiang 145.04 330 *e*PKPdf **PKPbc 14 21 28.2 -1.0**
MDJ LR LR
comp=Z,302nm,21.0s
ZAK Zakamensk 145.45 3 *e*PKIKP **PKPdf 14 21 30.0 -0.3**
ZAK pmax pmax
comp=Z,46nm,1.3s
CN2 Changchun 147.56 333 *e*PKPbc **PKPdf 14 21 29.8 -4.2**
CN2 *ep*PKP **pPKPdf 14 21 51.9 +1.0**
CN2 AMB AMB
comp=Z,100nm,8.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,600nm,22.0s
ULN Ulaanbaatar 148.03 359 *e*PKPdf **PKPdf 14 21 34.4 -0.4**
ULN *e*PKPbc **PKPbc 14 21 37.8 -0.1**
ULN *e*PKPab **PKPab 14 21 40.9 +0.2**
ULN LR LR
comp=Z,346nm,21.0s
WMQ Urumqi 148.04 25 PKPbc **PKPdf 14 21 34.3 -0.6**
WMQ PP **PP 14 25 09.0 +3.6**
WMQ SKS **SKSdf 14 28 34.0 -4.7**
WMQ SKKS **SKKSac 14 31 50.0 -2.8**
WMQ SS **SS 14 44 07.0 +0.1**
WMQ AMB AMB
comp=Z,71nm,10.0s
WMQ LR LR
comp=Z,320nm,26.0s
WMQ LR LR
comp=Z,410nm,26.0s
WMQ LR LR
comp=Z,500nm,26.0s
SONM Songino Array 148.07 359 PKP **PKPdf 14 21 35.5 +0.6**
SONM PKPbc **PKPbc 14 21 38.6 +0.5**
SONM PP **PP 14 25 04.6 -0.7**
SONM Songino Array 148.07 359 PKP **PKPdf 14 21 35.5 +0.6**
comp=Z,21nm,0.9s,baz=334,slow=1.9,SNR=75
SONM PKPbc **PKPbc 14 21 38.6 +0.5**
comp=Z,21nm,0.9s,baz=335,slow=1.8,SNR=99
SONM PP **PP 14 25 04.6 -0.7**
comp=Z,4.8nm,1.0s,baz=334,slow=4.5,SNR=6.1
POO Poona 149.20 80 *e*P **PKPbc 14 21 39.0 +1.6**
SNY Shenyang 149.97 333 PKPbc **PKPbc 14 21 43.1 +0.3**
SNY PP **PP 14 25 18.8 +2.3**
SNY AMB AMB
comp=Z,280nm,10.1s
SNY LR LR
comp=Z,430nm,30.3s
SNY LR LR
comp=Z,160nm,24.4s
SNY LR LR
comp=Z,440nm,29.1s
NDI New Delhi 150.54 59 *e*P **PKPbc 14 21 43.0 -1.7**
COCO West Island 150.74 161 *i* PKIKP **PKPbc 14 21 47.9 +2.5**
KSRS Korea Array 151.00 322 PKP **PKPdf 14 21 40.1 +0.5**
comp=Z,11nm,1.3s,baz=88,slow=1.0,SNR=11
KSRS PKPbc **PKPbc 14 21 45.6 +0.2**
comp=Z,17nm,1.0s,baz=347,slow=2.2,SNR=48
KSAR Wonju Array Be 151.03 322 PKP **PKPdf 14 21 40.1 +0.5**
KSAR PKPbc **PKPbc 14 21 45.6 +0.1**
JNU Nakatsue 151.65 312 *e*PKPbc **PKPbc 14 21 46.6 -0.6**
JNU Nakatsue 151.65 312 PKPbc **PKPbc 14 21 46.7 -0.4**
comp=Z,22nm,0.9s,baz=38,slow=4.3,SNR=13
INCN Inchon 151.73 324 PFAKE 14 21 50.0 +2.8
INCN LR LR
comp=Z,321nm,21.0s
HYB Hyderabad 153.67 83 *i* P **PKPdf 14 21 45.0 +0.8**
BJI Beijing 154.28 342 PKPbc **PKPdf 14 21 43.9 -0.5**
BJI PP **PP 14 25 43.4 +2.6**
BJI SS SS 14 45 16.8 +1.6
BJI LR LR
comp=Z,370nm,29.1s
BJI LR LR
comp=Z,290nm,29.9s
BJI LR LR
comp=Z,390nm,45.6s
BJT Baijiatuau 154.30 342 PFAKE 14 22 00.0 -6.8
BJT LR LR
comp=Z,259nm,20.0s
HHC Hu-ho-hao-te 154.59 350 *e*PKPbc **PKPdf 14 21 47.3 +2.3**
HHC pPKP **pPKPdf 14 21 58.3 -3.6**
HHC PP **PP 14 25 45.8 +3.2**
HHC SKS **SKSdf 14 28 44.3 -2.8**
HHC SKKS **SKKSac 14 32 30.8 +2.1**
HHC SS **SS 14 45 23.4 +4.8**
HHC AMB AMB
comp=Z,280nm,8.6s
HHC LR LR
comp=Z,1µm,22.2s
HHC LR LR
comp=Z,660nm,22.4s
HHC LR LR
comp=Z,950nm,22.1s
KAPI Kappang 155.22 214 PFAKE 14 22 00.0 -11
KAPI LR LR
comp=Z,260nm,20.0s
GTA Gaotai 155.88 12 *e*PKP **PKPdf 14 21 48.3 +1.5**
GTA pPKP **pPKPdf 14 22 07.0 +3.3**
GTA SKS **SKSdf 14 28 46.9 -1.7**
GTA SKKS **SKKSac 14 32 32.1 -3.6**
GTA SS **SS 14 45 30.8 -1.9**
GTA AMB AMB
comp=Z,94nm,6.7s
GTA LR LR
comp=Z,170nm,19.9s
GTA LR LR
comp=Z,240nm,19.5s
GTA LR LR
comp=Z,350nm,22.3s
DAV Davao City (W) 158.94 248 PFAKE 14 22 00.0 +8.8
DAV LR LR
comp=Z,368nm,19.0s
LZH Lanzhou 159.72 5 *e*PKP **PKPdf 14 21 50.0 -1.7**
LZH sPKP 14 22 10.0
LZH PKPab **PKPab 14 22 30.6 +0.2**
LZH *e*SS SS 14 46 16.0 +2.4
LZH AMB AMB
comp=Z,270nm,7.3s
LZH LR LR
comp=Z,320nm,16.8s
LZH LR LR
comp=Z,380nm,19.0s
LZH LR LR
comp=Z,530nm,20.2s
NJ2 Nanjing 160.04 326 *e*PKP **PKPdf 14 21 50.1 -1.8**
NJ2 LR LR
comp=Z,350nm,18.5s
LSA Lhasa 160.58 42 PFAKE 14 22 00.0 +6.8
LSA LR LR
comp=Z,246nm,22.0s
XAN Xi'an 161.66 352 PKP **PKPdf 14 21 54.8 +1.1**
XAN pPKP **pPKPdf 14 22 13.8 +3.1**
XAN PP **PP 14 26 20.1 -1.0**
XAN LR LR
comp=Z,330nm,32.7s
XAN LR LR
comp=Z,88nm,29.6s
XAN LR LR
comp=Z,130nm,29.6s
TATO Taipei 162.86 305 PFAKE 14 22 10.0 +15
TATO LR LR
comp=Z,388nm,22.0s
YHNB Yeheng 163.10 304 PFAKE 14 22 10.0 +15
YHNB LR LR
comp=Z,223nm,20.0s
CD2 Chengdu 164.84 7 *e*PKP **PKPdf 14 21 55.4 -1.4**
CD2 pPKP **pPKPdf 14 22 13.5 -0.3**
CD2 sPKP 14 22 20.3
CD2 PKPab **PKPab 14 22 53.3 +0.6**
CD2 PP **PP 14 26 38.3 +0.4**
CD2 SKKS 14 33 19.3
CD2 SS **SS 14 47 06.0 -0.5**
CD2 AMB AMB
comp=Z,210nm,10.6s
CD2 LR LR
comp=Z,220nm,22.6s
CD2 LR LR
comp=Z,320nm,21.4s
CD2 LR LR
comp=Z,360nm,30.8s
QZH Quanzhou 165.10 310 *i* PKP **PKPdf 14 21 57.1 0.0**
QZH SS SS 14 47 08.1 -3.6
QZH AMB AMB
comp=Z,550nm,9.4s

QZH					LR	LR			
	comp=Z,830nm,23.2s								
KSM	**Kuching**	**165.13**	**197**		PFAKE			14 22 10.0	+12
KSM					LR	LR			
	comp=Z,262nm,22.0s								
KULM	**Kulim**	**168.30**	**153**		PFAKE			14 22 10.0	+10
KULM					LR	LR			
	comp=Z,334nm,22.0s								
GYA	**Guiyang**	**169.39**	**357**		PKP	**PKPdf**		**14 21 59.4**	**-1.0**
GYA					pPKP	**pPKPdf**		**14 22 18.0**	**+0.6**
GYA					PKPab	**PKPab**		**14 23 14.3**	**+1.3**
GYA					PKS	**PKSdf**		**14 25 30.8**	**-2.3**
GYA					PP	**PP**		**14 27 04.6**	**+3.3**
GYA					SKKS			14 33 44.8	
GYA					SS	**SS**		**14 47 52.5**	**0.0**
GYA					AMB	AMB			
	comp=Z,170nm,8.2s								
GYA					LR	LR			
	comp=Z,290nm,24.8s								
GYA					LR	LR			
	comp=Z,230nm,25.0s								
GYA					LR	LR			
	comp=Z,310nm,24.2s								
KMI	**Kunming**	**170.25**	**18**		PKP	**PKPdf**		**14 21 58.5**	**-2.6**
KMI					pPKP	**pPKPdf**		**14 22 19.5**	**+1.4**
CHTO	**Chiang Mai**	**172.64**	**65**		PFAKE			14 22 10.0	+7.9
CHTO					LR	LR			
	comp=Z,254nm,21.0s								
CMAR	**Chiang Mai Arr**	**172.77**	**68**		PKP	**PKPdf**		**14 22 01.9**	**-0.2**
CMAR					pPKP	**pPKPdf**		**14 22 19.6**	**+0.4**
CMAR					PKPab	**PKPab**		**14 23 28.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**172.77**	**68**		PKP	**PKPdf**		**14 22 01.9**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=295,slow=1.5,SNR=8.5								
CMAR					pPKP	**pPKPdf**		**14 22 19.6**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=315,slow=1.3,SNR=3.0								
CMAR					PKPab	**PKPab**		**14 23 28.9**	**+0.4**
	comp=Z,1.8nm,1.0s,baz=294,slow=5.5,SNR=6.4								
QIZ	**Qiongzhong**	**175.12**	**312**		PKP	**PKPdf**		**14 22 01.8**	**-1.2**
QIZ					PP	**PP**		**14 27 32.3**	**+1.5**
QIZ					SS	SS		14 48 48.3	-2.5
QIZ					LR	LR			
	comp=Z,220nm,24.4s								
QIZ					LR	LR			
	comp=Z,100nm,26.9s								
QIZ					LR	LR			
	comp=Z,460nm,25.6s								
QIZ	**Qiongzhong**	**175.12**	**312**		PFAKE			14 22 10.0	+7.0
QIZ					LR	LR			
	comp=Z,398nm,22.0s								

*ISCJB **24** 14:09:00.6±0.5,56.74N±0.06×156.97W±0.09,h97km±4km, mb3.4/6,Error ellipse: s-maj=12.6km s-min=3.9km az=144.8*
*NEIC **24** 14:09:03.3,56.71N×156.95W,h73km,MG3.2(AEIC), After AEIC.*
*IDC **24** 14:09:06.7±6.9,57.57N×157.86W,h84km±61km,mb3.1/6, mb1 3.3/8,mb1mx3.2/27,mbtmp3.1/8,ML3.8/2,Error ellipse: s-maj=47.0km s-min=29.1km az=12.0*

ISC 24 14:09:01.4±0.9,56.72N±0.07×156.97W±0.05,h87km±8km, n52,σ0.90/57,mb3.6/6,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANPK	**Aniakchak Peak**	**0.65**	**281**	P	**Pn**	**14 09 17.9**	**+0.6**
ANPK				S	**Sn**	**14 09 29.1**	**0.0**
ANPB	**Aniakchak Plen**	**0.73**	**277**	P	**Pn**	**14 09 17.8**	**-0.2**
ANPB				S	**Sn**	**14 09 29.1**	**-1.3**
PLK4	**Peulik 4**	**0.97**	**20**	P	**Pn**	**14 09 21.5**	**+0.8**
PLK3	**Peulik 3**	**1.04**	**21**	P	**Pn**	**14 09 22.4**	**+0.9**
PLK3				S	**Sn**	**14 09 37.3**	**+0.8**
VNHG	**Veniaminof 1**	**1.32**	**249**	P	**Pn**	**14 09 26.1**	**+1.3**
VNHG				S	**Sn**	**14 09 42.9**	**+0.5**
PLWL	**Peulik Whale M**	**1.37**	**14**	P	**Pn**	**14 09 25.6**	**+0.2**
PLWL				S	**Sn**	**14 09 43.1**	**-0.3**
KABR	**Katmai Barrier**	**1.78**	**37**	P	**Pn**	**14 09 31.0**	**+0.3**
KCE	**Katmai Mt Cerb**	**1.81**	**32**	P	**Pn**	**14 09 32.7**	**+1.7**
KELA	**Mount Kelaz**	**1.85**	**20**	P	**Pn**	**14 09 31.9**	**+0.3**
KVTA	**Katmai Vly 10**	**1.89**	**28**	P	**Pn**	**14 09 33.0**	**+0.8**
OHAK	**Old Harbor**	**2.08**	**74**	P	**Pn**	**14 09 34.7**	**+0.3**
KAHC	**Katmai Hardscr**	**2.20**	**28**	P	**Pn**	**14 09 36.9**	**+0.7**
SDPT	**Sand Point**	**2.40**	**237**	P	**Pn**	**14 09 39.4**	**+0.6**
SDPT				S	**Sn**	**14 10 07.8**	**+0.4**
KDAK	**Kodiak Island**	**2.61**	**64**	P	**Pn**	**14 09 42.9**	**+1.4**
KDAK				S	**Sn**	**14 10 12.0**	**-0.4**
PS4A	**Pavlof South-4**	**3.07**	**245**	P	**Pn**	**14 09 48.6**	**+0.9**
DOL	**Dolgoi Island**	**3.17**	**242**	P	**Pn**	**14 09 49.6**	**+0.5**
DRIA	**Deer Island**	**3.46**	**242**	P	**Pn**	**14 09 53.3**	**+0.2**
HOM	**Homer**	**4.08**	**42**	P	**Pn**	**14 10 03.1**	**+1.7**
BRLK	**Bradley Lake**	**4.43**	**44**	P	**Pn**	**14 10 06.3**	**+0.1**
SLKM	**Skilak Lake**	**5.18**	**40**	P	**Pn**	**14 10 16.9**	**+0.5**
STLK	**Strandline Lak**	**5.47**	**27**	P	**Pn**	**14 10 22.1**	**+1.7**
SUA	**Susitna One**	**5.74**	**31**	P	**Pn**	**14 10 24.9**	**+0.9**
SUA				S	**Sn**	**14 11 25.7**	**-2.7**
RC01	**Rabbit Creek A**	**5.76**	**38**	P	**Pn**	**14 10 24.5**	**+0.2**
SKT	**Skwentna**	**5.96**	**26**	P	**Pn**	**14 10 28.7**	**+1.7**
PWL	**Port Wells**	**6.11**	**44**	P	**Pn**	**14 10 28.9**	**-0.1**
UNV	**Unalaska Valle**	**6.16**	**240**	*e*Pn	**Pn**	**14 10 30.3**	**+0.6**
TT01	**Tatalina**	**6.22**	**4**	P	**Pn**	**14 10 31.2**	**+0.6**
PMR	**Palmer**	**6.33**	**36**	P	**Pn**	**14 10 31.9**	**-0.1**
PPLA	**Purkeypile**	**6.65**	**19**	*e*Pn	**Pn**	**14 10 37.4**	**+1.0**
EYAK	**Cordova Ski Ar**	**7.00**	**52**	P	**Pn**	**14 10 40.9**	**-0.2**
VLZ	**Valdez**	**7.06**	**47**	P	**Pn**	**14 10 42.1**	**+0.2**
SCM	**Sheep Creek Mo**	**7.11**	**40**	P	**Pn**	**14 10 42.4**	**-0.3**
SGAM	**Sherman Glacie**	**7.21**	**53**	P	**Pn**	**14 10 44.0**	**0.0**
RAGM	**Ragged Mountai**	**7.40**	**55**	P	**Pn**	**14 10 46.8**	**+0.1**
BMRM	**Bremner River**	**7.69**	**51**	*e*Pn	**Pn**	**14 10 50.3**	**-0.3**
MCK	**McKinley**	**8.08**	**26**	*e*Pn	**Pn**	**14 10 55.1**	**-0.8**
ILAR	**Eielson Array**	**9.45**	**27**	P	**Pn**	**14 11 12.9**	**-1.5**
ILAR	**Eielson Array**	**9.45**	**27**	P	**Pn**	**14 11 12.9**	**-1.5**
	0.3nm,0.3s,baz=222,slow=13,SNR=21						
ILAR				S	Sn	14 12 50.5	-8.3
	0.3nm,0.3s,baz=214,slow=27,SNR=5.5						
DLBC	**Dease Lake**	**14.52**	**72**	P	**P**	**14 12 25.8**	**-0.7**
DLBC	**Dease Lake**	**14.52**	**72**	P	**P**	**14 12 25.8**	**-0.7**
	0.1nm,0.3s,baz=293,slow=13,SNR=4.0						
INK	**Inuvik**	**15.73**	**33**	P	**Pn**	**14 12 37.6**	**+0.1**
INK	**Inuvik**	**15.73**	**33**	P	**Pn**	**14 12 37.6**	**+0.1**
	0.3nm,0.3s,baz=234,slow=14,SNR=17						
YKA	**Yellowknife Ar**	**21.86**	**57**	P	P	14 13 52.3	+5.8
YKA	**Yellowknife Ar**	**21.86**	**57**	P	P	14 13 52.3	+5.8
	0.2nm,0.5s,baz=268,slow=8.3,SNR=3.7						
KSRS	**Korea Array**	**51.83**	**282**	P	**P**	**14 18 01.3**	**+1.1**
	0.6nm,0.6s,baz=55,slow=11,SNR=3.3						
KSAR	**Wonju Array Be**	**51.86**	**282**	P	**P**	**14 18 01.3**	**+0.8**
SONM	**Songino Array**	**55.00**	**305**	P	**P**	**14 18 23.0**	**-0.4**
SONM	**Songino Array**	**55.00**	**305**	P	**P**	**14 18 23.0**	**-0.4**
	0.6nm,0.6s,baz=46,slow=7.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**58.74**	**322**	P	**P**	**14 18 48.9**	**-0.7**
	0.2nm,0.3s,baz=32,slow=5.8,SNR=2.2						
MKAR	**Makanchi Array**	**65.63**	**320**	P	**P**	**14 19 35.3**	**-0.5**
	0.1nm,0.5s,baz=63,slow=5.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**82.23**	**292**	P	**P**	**14 21 13.3**	**+0.3**
	0.6nm,0.7s,baz=10,slow=5.8,SNR=6.9						
QSPA	**South Pole Qui**	**146.51**	**180**	PKPbc	PKPab	14 28 38.2	+6.0
	1.3nm,1.0s,baz=135,slow=2.9,SNR=5.4						

*MOS **24** 14:15:38.3±1.1,45.98N×151.19E,h65km,mb4.1/3,Error ellipse: s-maj=19.2km s-min=11.2km az=49.1*
*ISCJB **24** 14:15:41.0±0.6,46.04N±0.07×150.88E±0.08,h88km, mb3.5/9,Error ellipse: s-maj=11.6km s-min=5.0km az=142.5*
*SKHL **24** 14:15:40.5±1.3,46.04N×151.03E,h90km±5km,mb6.5/1, msh4.7/1*
*IDC **24** 14:15:44.1±2.9,46.01N×150.74E,h106km±28km,mb3.3/9, mb1 3.5/12,mb1mx3.3/29,mbtmp3.3/12,Error ellipse: s-maj=33.1km s-min=13.8km az=127.0*

ISC 24 14:15:42.6±0.7,46.09N±0.10×150.85E±0.08,h88km,n48, σ1.93/33/40,mb3.6/9,4C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.26**	**249**	*i* PN	**Pn**	**14 16 17.3**	**-0.8**
KUR				*e*S	**Sn**	**14 16 43.5**	**-1.8**
KUR				pmax	pmax		
	comp=Z,160nm,0.6s						
KUR				smax	smax		
	comp=N,289nm,0.5s						
KUR				smax	smax		
	comp=E,180nm,0.3s						
KUR	**Kuril'sk**	**2.26**	**249**	*i* P	**Pn**	**14 16 17.2**	**-0.8**
KUR				AMB	AMB	14 16 17.7	
	comp=E,160nm,0.6s						
KUR				*i* S	**Sn**	**14 16 43.7**	**-1.6**
KUR				A	A	14 16 50.9	
	comp=E,290nm,0.4s						
KUR				A	A	14 16 50.9	
	comp=E,180nm,0.4s						
SHO	**Shikotan**	**3.61**	**234**	*e*P	**Pn**	**14 16 36.0**	**-0.3**
SHO				*e*S	**Sn**	**14 17 17.8**	**-0.1**
SHO				A	A	14 17 33.3	
	comp=E,210nm,0.6s						
SHO				A	A	14 17 33.3	
	comp=E,250nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.09**	**242**	*d i* PN	**Pn**	**14 16 42.2**	**-0.4**
YUK				*i* S	**Sn**	**14 17 29.5**	**+0.1**
YUK				pmax	pmax		
	comp=Z,45nm,0.2s						
YUK				pmax	pmax		
	comp=N,6.0nm,0.1s						
YUK				pmax	pmax		
	comp=E,7.0nm,0.1s						
YUK				smax	smax		
	comp=N,195nm,0.4s						
YUK				smax	smax		
	comp=E,75nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.09**	**242**	‖ *i* P	**Pn**	**14 16 42.3**	**-0.4**
YUK				AMB	AMB	14 16 43.8	
	comp=E,10.0nm,0.2s						
YUK				AMB	AMB	14 16 43.8	
	comp=E,50nm,0.2s						
YUK				AMB	AMB	14 16 48.4	
	comp=E,700nm,0.2s						
YUK				*e*S	**Sn**	**14 17 29.5**	**+0.1**
YUK				A	A	14 17 36.5	
	comp=E,200nm,0.4s						
YUK				A	A	14 17 36.5	
	comp=E,80nm,0.4s						
YUK				A	A	14 17 48.5	
	comp=E,300nm,1.5s						
YSS	**Yuzh-Sakhalins**	**5.65**	**282**	*e*PN	**Pn**	**14 17 04.7**	**+0.8**
YSS	**Yuzh-Sakhalins**	**5.65**	**282**	‖ *e*P	**Pn**	**14 17 04.7**	**+0.8**
YSS				AMB	AMB	14 17 05.1	
	comp=E,20nm,0.6s						
SKR	**Severo-Kuril's**	**5.78**	**35**	*e*PN	Pn	14 17 01.2	-4.5
SKR				*e*		14 18 07.5	
SKR	**Severo-Kuril's**	**5.78**	**35**	*e*P	Pn	14 17 01.8	-3.9
SKR				*e*S	**Sn**	**14 18 05.8**	**-4.7**
SKR				A	A	14 18 25.2	
	comp=E,70nm,0.3s						
JKA	**Kamikawa-asahi**	**6.16**	**254**	*e*P	**Pn**	**14 17 12.2**	**+1.3**
ASAJ	**Asahikawa**	**6.17**	**254**	P	**Pn**	**14 17 12.2**	**+1.2**
	comp=E,0.8nm,0.3s,baz=62,slow=12,SNR=11						
ERM	**Erimo**	**6.88**	**236**	*i* PN	**Pn**	**14 17 21.5**	**+0.8**
ERM	**Erimo**	**6.88**	**236**	*i* P	**Pn**	**14 17 21.5**	**+0.8**
TYV	**Tymovskoe**	**7.24**	**314**	*e*P	Pn	14 17 29.1	+3.6
PETK	**Petropavlovsk-**	**8.31**	**30**	PN	**Pn**	**14 17 42.0**	**+1.9**
PETK	**Petropavlovsk-**	**8.31**	**30**	P	**Pn**	**14 17 42.0**	**+1.9**
	comp=E,0.4nm,0.3s,baz=208,slow=16,SNR=10						
EKMR	**Ekimchan**	**13.53**	**308**	*e*P	**Pn**	**14 18 50.5**	**-0.1**
EKMR				AMB	AMB	14 18 54.5	
	comp=E,3.0nm,0.5s						
BMKR	**Bomnak**	**16.41**	**310**	*e*P	**Pn**	**14 19 26.0**	**-1.3**
BMKR				AMB	AMB	14 19 27.0	
	comp=E,10.0nm,0.6s						
KROS	**Kirovskiy**	**17.33**	**307**	‖ *e*P	**Pn**	**14 19 36.4**	**-2.2**
KROS				AMB	AMB	14 19 38.8	
	comp=E,4.0nm,0.5s						
KSRS	**Korea Array**	**19.10**	**251**	*e*P	**Pn**	**14 20 01.5**	**+1.5**
KSRS	**Korea Array**	**19.10**	**251**	P	**P**	**14 19 58.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=54,slow=12,SNR=5.9						
YAK	**Yakutsk**	**20.07**	**330**	‖ *e*P	Pn	14 20 10.2	-0.9
YAK	**Yakutsk**	**20.07**	**330**	‖ *e*P	Pn	14 20 10.2	-0.9
H11N2	**WAKE ISLAND Hy**	**29.42**	**148**	T	T	14 53 10.2	
	baz=340,slow=77,SNR=326						
H11N1	**WAKE ISLAND Hy**	**29.44**	**148**	T	T	14 53 08.3	
	baz=340,slow=77,SNR=235						
H11N3	**WAKE ISLAND Hy**	**29.44**	**148**	T	T	14 53 08.7	
	baz=340,slow=77,SNR=192						
H11S1	**WAKE ISLAND Hy**	**30.48**	**149**	T	T	14 54 27.3	
	baz=0.4,slow=38,SNR=290						
H11S3	**WAKE ISLAND Hy**	**30.48**	**149**	T	T	14 54 26.5	
	baz=0.4,slow=38,SNR=162						
H11S2	**WAKE ISLAND Hy**	**30.49**	**149**	T	T	14 54 26.5	
	baz=0.4,slow=38,SNR=156						
ILAR	**Eielson Array**	**38.04**	**38**	*e*P	**P**	**14 22 51.8**	**-0.1**
ILAR	**Eielson Array**	**38.04**	**38**	P	**P**	**14 22 51.8**	**-0.1**
	comp=E,0.3nm,0.6s,baz=270,slow=9.4,SNR=4.7						
INK	**Inuvik**	**43.04**	**32**	*e*P	**P**	**14 23 34.1**	**+1.1**
INK	**Inuvik**	**43.04**	**32**	P	**P**	**14 23 34.1**	**+1.1**
	comp=E,0.8nm,0.8s,baz=276,slow=3.9,SNR=6.4						
RES	**Resolute Bay**	**51.95**	**18**	*e*P	**P**	**14 24 42.6**	**+0.7**
RES	**Resolute Bay**	**51.95**	**18**	P	**P**	**14 24 42.5**	**+0.7**
	comp=E,0.4nm,0.5s,baz=319,slow=7.6,SNR=8.0						
YKA	**Yellowknife Ar**	**52.38**	**36**	*e*P	**P**	**14 24 45.4**	**+0.2**
YKA	**Yellowknife Ar**	**52.38**	**36**	P	**P**	**14 24 45.4**	**+0.2**
	comp=E,0.3nm,0.5s,baz=294,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**63.95**	**334**	P	**P**	**14 26 05.1**	**-0.8**
	comp=E,2.1nm,0.9s,baz=20,slow=4.4,SNR=5.2						
NVAR	**Mina Array Bea**	**64.12**	**61**	P	**P**	**14 26 08.3**	**+0.6**
	comp=E,0.4nm,0.6s,baz=301,slow=7.2						
WRA	**Warramunga Arr**	**67.40**	**197**	*e*P	**P**	**14 26 26.4**	**-2.1**
WRA	**Warramunga Arr**	**67.40**	**197**	P	**P**	**14 26 26.4**	**-2.1**
	comp=E,0.4nm,0.6s,baz=14,slow=6.2,SNR=2.9						
ASAR	**Alice Springs**	**71.11**	**196**	*e*P	**P**	**14 26 50.8**	**-0.5**
ASAR	**Alice Springs**	**71.11**	**196**	P	**P**	**14 26 50.8**	**-0.5**
	comp=E,0.4nm,0.7s,baz=11,slow=5.5,SNR=4.4						
TXAR	**Lajitas Array**	**79.18**	**59**	*e*P	**P**	**14 27 38.4**	**+0.4**
TXAR	**Lajitas Array**	**79.18**	**59**	P	**P**	**14 27 38.4**	**+0.4**
	comp=E,0.5nm,0.7s,baz=270,slow=3.8,SNR=4.9						
H03N2	**Juan Fernandez**	**140.32**	**89**	T	T	17 11 46.3	
	baz=305,slow=75,SNR=6.4						
H03N3	**Juan Fernandez**	**140.33**	**89**	T	T	17 11 46.1	
	baz=305,slow=75,SNR=24						
H03N1	**Juan Fernandez**	**140.34**	**89**	T	T	17 11 46.3	
	baz=305,slow=75,SNR=20						

MEX 24 14:16:50.2±1.1,16.34N×95.54W,h23km±26km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.79**	**224**	*i* P	Pb	14 17 01.9	-3.4
HUIG				*i* S	Sb	14 17 12.9	-2.7
PANG	**Puerto Angel**	**1.12**	**234**	*i* P	Pn	14 17 07.9	-2.5
PANG				*i* S	Sb	14 17 21.9	-3.2
VHO	**Vista Hermosa**	**1.36**	**303**	*i* P	Pn	14 17 10.5	-3.5
VHO				*i* S	Sn	14 17 28.5	-3.1
PCIG		**2.32**	**105**	*i* P	Pn	14 17 25.2	-1.7
PCIG				*i* S	Sn	14 17 51.8	-2.9
PNIG	**Pinotepa**	**2.49**	**272**	*e*P	Pn	14 17 26.7	-2.6
PNIG				*i* S	Sn	14 17 56.3	-2.6
TLIG	**Tlapa**	**3.14**	**293**	*i* P	Pn	14 17 36.2	-2.3
TLIG				*i* S	Sn	14 18 11.9	-3.6

*ISCJB **24** 14:18:48.7±0.9,31.18S±0.05×68.34W±0.08,h112km±8km, mb3.6/1,Error ellipse: s-maj=11.4km s-min=8.2km az=173.3*
*IDC **24** 14:18:48.9±2.2,31.75S×68.31W,h114km±13km,mb3.5/1, mb1 3.5/1,mb1mx3.2/14,mbtmp3.5/1,Error ellipse: s-maj=136.0km s-min=61.0km az=139.0*
*GUC **24** 14:18:49.0±0.6,31.18S×68.56W,h150km,ML3.8*

ISC 24 14:18:49.3±1.0,31.19S±0.06×68.35W±0.08,h108km±8km, n12,σ1.93/19,1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.42**	**167**	P	**Pn**	**14 19 05.4**	**-0.2**
	27nm,0.3s,baz=335,slow=6.1,SNR=1810						
CFAA				S	**Sn**	**14 19 17.9**	**+0.1**
	59nm,0.3s,baz=137,slow=19,SNR=311						
CMCH	**Combarbala**	**2.28**	**270**	‖ *i* P	**Pn**	**14 19 25.7**	**-0.2**
CMCH				*i* S	**Sn**	**14 19 53.5**	**-0.4**
TLL	**Tololo Astrono**	**2.35**	**295**	*e*P	**Pn**	**14 19 27.3**	**+0.3**
TLL				AML	AML	14 20 01.6	
	comp=N,321nm,0.6s						
PEL	**Peldehue**	**2.78**	**225**	*i* P	**Pn**	**14 19 32.6**	**+0.2**
PEL				*e*S	**Sn**	**14 20 06.0**	**+0.4**
PEL				AML	AML	14 20 08.8	
	comp=E,366nm,0.5s						
CLCH	**Cerro Calan**	**2.88**	**220**	*e*P	**Pn**	**14 19 34.4**	**+0.7**
CLCH				*i* S	**Sn**	**14 20 08.5**	**+0.6**
CLCH				AML	AML	14 20 11.3	
	comp=E,231nm,0.6s						
LCO	**Las Campanas**	**2.98**	**316**	*e*P	**Pn**	**14 19 35.7**	**+0.4**
LCO				*i* S	**Sn**	**14 20 11.3**	**+0.6**
LCO				AML	AML	14 20 18.3	
	comp=E,152nm,0.4s						
LMEL	**Las Melosas**	**3.08**	**210**	*i* P	**Pn**	**14 19 37.2**	**+0.7**
LMEL				*i* S	**Sn**	**14 20 14.3**	**+1.5**
LMEL				AML	AML	14 20 24.7	
	comp=N,129nm,0.1s						
RCDM	**Rinconada Maip**	**3.10**	**222**	*e*P	Pn	14 19 32.8	-3.8
RCDM				*i* S	**Sn**	**14 20 09.7**	**-3.3**
RCDM				AML	AML	14 20 11.7	
	comp=E,332nm,0.2s						
CACH	**El Canelo**	**3.48**	**212**	*i* P	**Pn**	**14 19 42.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**80.30**	**68**	P	**P**	**14 30 48.7**	**0.0**
	comp=E,0.6nm,0.6s,baz=234,slow=4.6,SNR=6.5						
ZALV	**Zalesovo Beam**	**150.19**	**32**	PKPbc	**PKPbc**	**14 38 27.5**	**+0.4**
	comp=E,0.7nm,0.4s,baz=304,slow=2.7,SNR=5.8						
MKAR	**Makanchi Array**	**152.57**	**47**	PKPbc	**PKPbc**	**14 38 31.3**	**-1.6**
	comp=E,0.3nm,0.6s,baz=323,slow=2.6,SNR=3.5						
MKAR				PKPab	**PKPab**	**14 38 44.0**	**+0.2**
	comp=E,0.2nm,0.7s,baz=278,slow=2.0,SNR=5.2						

*ISCJB **24** 14:31:03.9±1.0,13.7N±0.1×144.9E±0.2,h109km, mb3.7/12,Error ellipse: s-maj=28.7km s-min=19.1km az=179.5*
*IDC **24** 14:31:08.4±8.8,13.74N×144.87E,h135km±80km, mb3.5/12,mb1 3.6/12,mb1mx3.5/25,mbtmp3.5/12,Error ellipse: s-maj=28.5km s-min=21.4km az=99.0*

ISC 24 14:31:05.5±1.1,13.7N±0.2×144.9E±0.2,h109km,n16, σ0.94/13,mb3.6/12,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N1	**WAKE ISLAND Hy**	**21.85**	**71**	T	T	14 59 26.5	
	baz=259,slow=75,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**21.86**	**71**	T	T	14 59 07.2	
	baz=259,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**21.87**	**71**	T	T	14 59 17.3	
	baz=259,slow=75,SNR=10						
JNU	**Nakatsue**	**23.17**	**329**	P	**P**	**14 36 03.4**	**+0.8**
	2.1nm,0.6s,baz=157,slow=7.7,SNR=3.3						
MJAR	**Matsushiro Arr**	**23.50**	**346**	P	**P**	**14 36 05.5**	**-0.1**
	0.7nm,0.4s,baz=160,slow=8.5,SNR=4.9						
KSRS	**Korea Array**	**28.07**	**330**	P	**P**	**14 36 47.3**	**+0.6**
	1.0nm,0.7s,baz=149,slow=10.0,SNR=6.5						
ASAR	**Alice Springs**	**38.70**	**196**	P	**P**	**14 38 18.9**	**0.0**
	0.4nm,0.6s,baz=42,slow=11,SNR=4.2						
CMAR	**Chiang Mai Arr**	**44.35**	**282**	P	**P**	**14 39 05.4**	**+0.2**
	1.4nm,0.6s,baz=84,slow=6.3,SNR=8.8						
SONM	**Songino Array**	**46.65**	**325**	P	**P**	**14 39 23.2**	**0.0**
	0.5nm,0.6s,baz=141,slow=7.7,SNR=6.3						
MKAR	**Makanchi Array**	**61.43**	**316**	P	**P**	**14 41 10.8**	**+0.4**
	0.8nm,0.3s,baz=92,slow=8.7,SNR=32						
ZALV	**Zalesovo Beam**	**61.55**	**324**	P	**P**	**14 41 09.0**	**-1.9**
	0.4nm,0.3s,baz=92,slow=9.8,SNR=3.0						
ILAR	**Eielson Array**	**68.42**	**25**	P	**P**	**14 41 55.0**	**-0.3**
	0.3nm,0.5s,baz=251,slow=5.8,SNR=21						
BVAR	**Borovoye Array**	**69.85**	**322**	P	**P**	**14 42 04.0**	**-0.4**
	0.7nm,0.5s,baz=101,slow=7.1,SNR=4.8						
YKA	**Yellowknife Ar**	**82.71**	**27**	P	**P**	**14 43 18.2**	**+1.3**
	0.4nm,0.5s,baz=284,slow=5.0,SNR=10.0						
FINES	**FINESS Array B**	**91.06**	**335**	P	**P**	**14 43 56.1**	**-1.4**
	1.2nm,0.7s,baz=64,slow=4.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**134.83**	**305**	PKP	**PKPdf**	**14 50 12.4**	**-0.2**
	0.3nm,0.4s,baz=58,slow=2.5,SNR=4.1						

*IDC **24** 14:31:38.3±0.7,7.82S×156.48E,h0km,mb4.2/17, mb1 4.3/19,mb1mx4.2/24,mbtmp4.2/19,ML2.8/1,MS3.5/4, Ms1 3.5/4,ms1mx3.1/34,Error ellipse: s-maj=18.1km s-min=16.0km az=84.0*
*ISCJB **24** 14:31:39.7±0.5,7.76S±0.08×156.43E±0.10,h18km, mb4.2/17,MS3.7/3,Error ellipse: s-maj=14.2km s-min=11.0km az=11.4*

ISC 24 14:31:41.1±0.7,7.9S±0.1×156.4E±0.1,h18km,n27, σ0.88/22,mb4.2/17,MS3.4/3,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.84**	**114**	Pn	**Pn**	**14 32 40.1**	**+0.8**
	37nm,0.3s,baz=232,slow=6.2,SNR=14						
HNR				LR	LR	14 33 20.8	
	comp=Z,147nm,21.1s,baz=111,slow=27						
HNR				Lg	Lg	14 33 38.5	
	91nm,0.3s,baz=127,slow=23,SNR=5.9						
CTA	**Charters Tower**	**15.64**	**218**	Pn	**P**	**14 35 22.9**	**-1.9**
	0.0nm,0.3s,baz=63,slow=9.0,SNR=1.9						
WRA	**Warramunga Arr**	**24.52**	**238**	P	**P**	**14 37 00.3**	**+0.5**
	4.8nm,0.7s,

MEX 24 15:10:37.6±0.6, 18°35N×102°24W, h33km±10km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.04**	**135**	*e*P	Pn	15 10 54.5	-1.4
ZIIG				*i* S	Sn	15 11 06.0	-3.3
MMIG	**Aquila**	**1.05**	**267**	*i* P	Pn	15 10 53.5	-2.5
MMIG				*i* S	Sn	15 11 07.5	-2.1
MOIG	**Morelia**	**1.65**	**37**	*i* P	Pn	15 11 03.0	-1.7
MOIG				*i* S	Sn	15 11 22.5	-2.5
EZ5V		**1.71**	**311**	*i* P	Pn	15 11 03.6	-1.9
EZ5V				*i* S	Sn	15 11 24.6	-1.9
ARIG	**Puente Sto Nin**	**1.80**	**92**	*i* P	Pn	15 11 04.1	-2.2
ARIG				*i* S	Sn	15 11 25.2	-2.8
R15V		**1.85**	**297**	*i* P	Pn	15 11 05.6	-1.5
R15V				*i* S	Sn	15 11 27.1	-2.2
PLIG	**Platanillo**	**2.60**	**89**	*i* P	Pn	15 11 15.1	-2.3
PLIG				*i* S	Sn	15 11 46.1	-1.9

IDC 24 15:20:39.5±29.0, 22°79S×173°39W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=528.8km s-min=152.7km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.58**	**266**	P	P	15 27 56.1	+0.2
	0.7nm,0.3s,baz=102,slow=10,SNR=6.2						
STKA	**Stephens Creek**	**40.76**	**247**	P		15 28 22.7	+0.2
	3.6nm,1.1s,baz=104,slow=8.7,SNR=2.3						
ASAR	**Alice Springs**	**48.21**	**258**	P	P	15 29 21.2	-1.0
	0.4nm,0.4s,baz=89,slow=7.6,SNR=22						
WRA	**Warramunga Arr**	**48.56**	**263**	P	P	15 29 25.2	+0.3
	1.5nm,0.3s,baz=104,slow=7.9,SNR=5.6						

WEL 24 15:26:00.9±0.2, 37°79S×176°95E, h138km±1km, ML4.0/17, 14C-11D, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.30**	**228**	PN	Pn	15 26 20.0	0.0
OPRZ	**Ohinepanea**	**0.32**	**260**	PN	Pn	15 26 19.8	-0.2
EDRZ	**Edgecumbe**	**0.36**	**208**	PN	Pn	15 26 20.3	0.0
URZ	**Urewera**	**0.49**	**165**	⇑PN	Pn	15 26 20.3	-0.5
URZ				SN	Sn	15 26 34.8	-1.1
URZ				AML	AML	15 26 35.5	
TGRZ	**Tauranga**	**0.55**	**276**	PN	Pn	15 26 21.2	+0.1
TGRZ				SN	Sn	15 26 36.7	+0.2
TARZ	**Mount Tarawera**	**0.57**	**218**	PN	Pn	15 26 21.6	+0.3
KARZ	**Kaharoa**	**0.61**	**247**	PN	Pn	15 26 21.5	0.0
KARZ				SN	Sn	15 26 37.3	+0.1
RRRZ	**Republican Roa**	**0.65**	**212**	⇑PN	Pn	15 26 21.8	0.0
RRRZ				SN	Sn	15 26 37.8	+0.1
HLRZ	**Highlands Stat**	**0.67**	**225**	PN	Pn	15 26 22.1	+0.3
MWZ	**Matawai**	**0.71**	**141**	PN	Pn	15 26 21.8	-0.4
MWZ				SN	Sn	15 26 37.5	-0.9
MWZ				AML	AML	15 26 39.3	
MWZ				AML	AML	15 26 40.1	
MWZ				AML	AML	15 26 41.9	
HRRZ	**Handcock Road**	**0.80**	**221**	⇓PN	Pn	15 26 23.1	+0.3
PRRZ	**Plateau Road**	**0.84**	**212**	PN	Pn	15 26 23.1	-0.1
PRRZ				SN	Sn	15 26 40.1	0.0
ALRZ	**Allen Road**	**0.91**	**212**	PN	Pn	15 26 23.8	0.0
SNGZ	**Shannon Statio**	**1.04**	**163**	⇑PN	Pn	15 26 24.9	+0.1
SNGZ				SN	Sn	15 26 42.8	-0.4
MXZ	**Matakaoa Point**	**1.10**	**79**	⇑PN	Pn	15 26 25.5	+0.2
MXZ				AML	AML	15 26 46.2	
MXZ				AML	AML	15 26 46.4	
RIGZ	**Rimuhau**	**1.11**	**145**	⇑PN	Pn	15 26 26.0	+0.4
RAHZ	**Arahi**	**1.13**	**175**	⇑PN	Pn	15 26 25.9	+0.2
RAHZ				SN	Sn	15 26 44.6	-0.2
TOZ	**Tahuroa Road**	**1.15**	**272**	PN	Pn	15 26 26.2	+0.3
WHTZ	**Whakaora**	**1.18**	**221**	PN	Pn	15 26 26.8	+0.5
CNGZ	**Carnagh Statio**	**1.21**	**126**	PN	Pn	15 26 27.0	+0.5
TLZ	**Tolley Road**	**1.24**	**244**	PN	Pn	15 26 27.0	+0.1
WHHZ	**Waihua**	**1.30**	**170**	PN	Pn	15 26 27.6	+0.1
NMHZ	**Naumai**	**1.31**	**185**	PN	Pn	15 26 27.8	+0.2
WATZ	**Wairara**	**1.33**	**226**	⇓PN	Pn	15 26 27.9	+0.1
PRGZ	**Paritu Road**	**1.35**	**148**	⇑PN	Pn	15 26 27.9	-0.1
KNZ	**Kokohu**	**1.35**	**156**	⇑PN	Pn	15 26 27.9	-0.1
BKZ	**Black Stump Fm**	**1.42**	**195**	⇑PN	Pn	15 26 28.1	-0.7
BKZ				AML	AML	15 26 50.7	
BKZ				AML	AML	15 26 50.8	
RATZ	**Rangitukua**	**1.43**	**220**	⇓PN	Pn	15 26 28.8	-0.1
KUZ	**Kuaotunu**	**1.43**	**316**	PN	Pn	15 26 28.8	0.0
RITZ	**Rihia Road**	**1.47**	**216**	PN	Pn	15 26 29.3	+0.1
KATZ	**Kakaramea**	**1.54**	**219**	PN	Pn	15 26 29.8	-0.3
MHGZ	**Mahia Peninsul**	**1.56**	**152**	⇑PN	Pn	15 26 30.3	+0.2
MKAZ	**Moumakai**	**1.57**	**295**	⇑PN	Pn	15 26 30.8	+0.5
KRVZ	**Karewarewa**	**1.66**	**218**	PN	Pn	15 26 31.2	-0.3
MCHZ	**McNeill Hill**	**1.67**	**187**	PN	Pn	15 26 31.2	-0.2
WTVZ	**West Tongariro**	**1.71**	**219**	PN	Pn	15 26 31.5	-0.4
OTVZ	**Oturere**	**1.71**	**216**	⇓PN	Pn	15 26 31.8	-0.2
NGZ	**Ngauruhoe**	**1.75**	**217**	PN	Pn	15 26 32.3	-0.2
TWVZ	**Taurewa**	**1.75**	**222**	PN	Pn	15 26 32.1	-0.3
KBAZ	**Karaka Road Bo**	**1.78**	**292**	PN	Pn	15 26 33.3	+0.6
COVZ	**Chateau Observ**	**1.79**	**218**	PN	Pn	15 26 32.9	-0.1
TUVZ	**Tukino**	**1.80**	**214**	⇓PN	Pn	15 26 32.5	-0.5
WPVZ	**Whakapapa**	**1.80**	**218**	PN	Pn	15 26 32.9	-0.1
HIZ	**Hauiti**	**1.81**	**246**	PN	Pn	15 26 33.1	+0.1
FWVZ	**Far West T-bar**	**1.83**	**216**	PN	Pn	15 26 33.0	-0.6
BHHZ	**Black Hill Sta**	**1.84**	**202**	PN	Pn	15 26 32.5	-0.9
WHVZ	**Whangaehu Hut**	**1.84**	**215**	PN	Pn	15 26 33.0	-0.6
DRZ	**Dome Shelter**	**1.84**	**216**	PN	Pn	15 26 33.3	-0.5
TRVZ	**Turoa**	**1.87**	**216**	PN	Pn	15 26 33.4	-0.6
WNVZ	**Wahianoa**	**1.87**	**214**	⇓PN	Pn	15 26 33.3	-0.7
CKHZ	**Cape Kidnapper**	**1.87**	**177**	PN	Pn	15 26 33.4	-0.3
MOVZ	**Moawhango**	**1.87**	**210**	⇓PN	Pn	15 26 32.7	-1.1
PKVZ	**Pokaka**	**1.96**	**220**	⇓PN	Pn	15 26 34.3	-0.5
MTVZ	**Mangateitei**	**1.97**	**216**	PN	Pn	15 26 34.7	-0.4
KAHZ	**Kahuranaki**	**2.01**	**182**	PN	Pn	15 26 34.9	-0.5
VRZ	**Vera Road**	**2.18**	**232**	PN	Pn	15 26 37.5	0.0
PNHZ	**Pukenui**	**2.20**	**195**	PN	Pn	15 26 36.5	-1.2
PXZ	**Pawanui**	**2.24**	**182**	⇑PN	Pn	15 26 37.0	-1.2
PXZ				AML	AML	15 27 06.9	
PXZ				AML	AML	15 27 07.2	
WPHZ	**Waipukurau**	**2.31**	**190**	PN	Pn	15 26 37.7	-1.3
TSZ	**Takapari Road**	**2.40**	**199**	PN	Pn	15 26 38.4	-1.7
TSZ				AML	AML	15 27 09.0	
TSZ				AML	AML	15 27 09.2	
PRHZ	**Porangahau**	**2.49**	**186**	⇓PN	Pn	15 26 39.9	-1.4
WAZ	**Wanganui**	**2.50**	**217**	PN	Pn	15 26 40.3	-1.1
DVHZ	**Dannevirke**	**2.58**	**193**	PN	Pn	15 26 40.5	-2.0
ANWZ	**Angora Road**	**2.69**	**188**	⇓PN	Pn	15 26 42.3	-1.5
POWZ	**Post Office Ro**	**2.76**	**199**	PN	Pn	15 26 42.7	-1.9
PRWZ	**Pori Road**	**2.87**	**195**	PN	Pn	15 26 44.2	-1.8
BFZ	**Birch Farm**	**2.94**	**191**	⇓PN	Pn	15 26 44.8	-2.2
MRZ	**Mangatainoka R**	**3.06**	**200**	⇑PN	Pn	15 26 46.1	-2.4
MRZ				AML	AML	15 27 22.3	
MRZ				AML	AML	15 27 23.0	
TIWZ	**Tintock**	**3.10**	**195**	PN	Pn	15 26 46.7	-2.3
TIWZ				AML	AML	15 27 25.3	
TIWZ				AML	AML	15 27 26.4	
CPWZ	**Castlepoint**	**3.17**	**190**	PN	Pn	15 26 48.3	-1.6
HOWZ	**Holdsworth Sta**	**3.30**	**199**	PN	Pn	15 26 48.8	-2.8
OGWZ	**Otaki Gorge**	**3.33**	**204**	⇑PN	Pn	15 26 49.4	-2.6
TMWZ	**Te Maipa**	**3.42**	**194**	PN	Pn	15 26 50.3	-2.8
KIW	**Kapiti Island**	**3.46**	**207**	PN	Pn	15 26 50.6	-3.0
KIW				AML	AML	15 27 30.9	
KIW				AML	AML	15 27 31.4	
MTW	**Mount Morrison**	**3.55**	**198**	PN	Pn	15 26 51.6	-3.3
MTW				AML	AML	15 27 33.3	
MTW				AML	AML	15 27 33.7	
CAW	**Cannon Point**	**3.62**	**203**	PN	Pn	15 26 52.5	-3.3
CAW				AML	AML	15 27 34.8	
CAW				AML	AML	15 27 36.3	
TRWZ	**Traveller**	**3.74**	**195**	PN	Pn	15 26 54.2	-3.1
TRWZ				AML	AML	15 27 37.8	
TRWZ				AML	AML	15 27 38.4	
PAWZ	**Paruwai Farm**	**3.78**	**198**	PN	Pn	15 26 54.4	-3.5
PAWZ				AML	AML	15 27 38.7	
PAWZ				AML	AML	15 27 39.9	
DUWZ	**D'Urville Isla**	**3.82**	**217**	PN	Pn	15 26 55.2	-3.2
MSWZ	**Moikau Station**	**3.85**	**199**	PN	Pn	15 26 55.2	-3.7
WEL	**Wellington**	**3.88**	**205**	PN	Pn	15 26 55.6	-3.6
SNZO	**South Karori**	**3.92**	**206**	PN	Pn	15 26 55.9	-3.8
SNZO				AML	AML	15 27 42.3	
SNZO				AML	AML	15 27 42.6	
BHW	**Baring Head**	**3.96**	**203**	PN	Pn	15 26 56.5	-3.7
BHW				AML	AML	15 27 42.9	
BHW				AML	AML	15 27 42.9	
PLWZ	**Palliser**	**4.00**	**199**	PN	Pn	15 26 56.9	-3.9
TCW	**Tory Channel**	**4.00**	**210**	PN	Pn	15 26 57.1	-3.6
TCW				AML	AML	15 27 44.2	
TCW				AML	AML	15 27 44.9	
TUWZ	**Tuamarina**	**4.32**	**212**	PN	Pn	15 27 01.1	-3.9
TUWZ				AML	AML	15 27 50.1	
TUWZ				AML	AML	15 27 52.0	
NNZ	**Nelson**	**4.40**	**218**	PN	Pn	15 27 02.3	-3.8
QRZ	**Quartz Range**	**4.58**	**227**	PN	Pn	15 27 04.7	-3.7
BSWZ	**Blackbirch Sta**	**4.58**	**210**	PN	Pn	15 27 04.8	-3.7
THZ	**Tophouse**	**5.05**	**217**	PN	Pn	15 27 10.8	-4.0
DSZ	**Denniston Nort**	**5.60**	**224**	PN	Pn	15 27 17.3	-4.8
LTZ	**Lake Taylor**	**6.14**	**214**	PN	Pn	15 27 23.9	-5.4
CRLZ	**Canterbury Las**	**6.65**	**208**	PN	Pn	15 27 30.6	-5.5
OXZ	**Oxford**	**6.68**	**213**	PN	Pn	15 27 30.5	-6.0
MQZ	**McQueen's Vall**	**6.75**	**208**	PN	Pn	15 27 31.2	-6.2
WVZ	**Waitaha Valley**	**7.10**	**220**	PN	Pn	15 27 39.5	-2.6
CTZ	**Chatham Island**	**7.69**	**143**	PN	Pn	15 27 53.4	+3.5
LBZ	**Lake Benmore**	**8.34**	**216**	PN	Pn	15 27 54.3	-4.5
ODZ	**Otahua Downs**	**8.66**	**211**	PN	Pn	15 27 57.4	-5.7
JCZ	**Jackson Bay**	**8.82**	**222**	PN	Pn	15 28 00.3	-5.1

JMA ***24*** *15:45:31.7±0.5, 21°42N×121°93E, h0km, M3.6*
ISCJB ***24*** *15:45:34.7±0.6, 21°48N±0°04×121°76E±0°05, h128km±4km, mb3.1/6, Error ellipse: s-maj=7.0km s-min=6.6km az=15.1*
TAP ***24*** *15:45:34.4, 21°43N×121°77E, h126km, ML4.3, C*
IDC ***24*** *15:45:34.6±6.4, 21°24N×121°76E, h136km±63km, mb3.0/6, mb1 3.2/8, mb1mx3.0/25, mbtmp3.0/8, Error ellipse: s-maj=38.8km s-min=15.9km az=70.0*

ISC 24 15:45:34.3±1.0, 21°41N±0°07×121°80E±0°06, h125km±7km, n65, σ0°82/106, mb3.1/6, 14C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.67**	**340**	P	**Pn**	**15 45 53.9**	**0.0**
	baz=342						
LAY				*e*S	**Sn**	**15 46 08.1**	**-0.7**
	baz=342						
TSEB	**Hengchuen, Pin**	**0.97**	**300**	*e*P	**Pn**	**15 45 57.4**	**+1.0**
	baz=294						
TSEB				*e*S	**Sn**	**15 46 13.8**	**+0.5**
	baz=294						
TWK1	**Hengchun**	**1.07**	**300**	*e*P	**Pn**	**15 45 58.1**	**+0.7**
	baz=297						
TWK1				*e*S	**Sn**	**15 46 14.6**	**-0.3**
	baz=297						
HEN	**Hengchun**	**1.15**	**301**	*e*P	**Pn**	**15 45 58.9**	**+0.7**
	baz=301						
HEN				*e*S	**Sn**	**15 46 16.4**	**-0.1**
	baz=301						
TAW	**Tawu**	**1.26**	**318**	⇑P	**Pn**	**15 45 59.3**	**-0.1**
	baz=323						
TAW				S	**Sn**	**15 46 17.7**	**-0.8**
	baz=323						
EAST	**Anshuo**	**1.31**	**318**	⇑*i*P	**Pn**	**15 46 00.1**	**+0.1**
	baz=318						
EAST				*e*S	**Sn**	**15 46 18.7**	**-0.8**
	baz=318						
ECL	**Taimali**	**1.42**	**326**	⇑*i*P	**Pn**	**15 46 00.8**	**-0.3**
	baz=323						
ECL				*e*S	**Sn**	**15 46 19.8**	**-1.8**
	baz=323						
SCZT	**Fangliau**	**1.46**	**311**	⇑*i*P	**Pn**	**15 46 01.9**	**+0.4**
	baz=318						
SCZT				*e*S	**Sn**	**15 46 21.4**	**-0.9**
	baz=318						
TTN	**Taitung**	**1.47**	**336**	P	**Pn**	**15 46 02.1**	**+0.4**
	baz=329						
TTN				*e*S	**Sn**	**15 46 23.8**	**+1.3**
	baz=329						
TWG	**Pinlang**	**1.56**	**334**	P	**Pn**	**15 46 02.3**	**-0.4**
	baz=335						
TWG				*e*S	**Sn**	**15 46 23.2**	**-1.2**
	baz=335						
TWP	**Hsiaoliuchiu**	**1.63**	**305**	*e*P	**Pn**	**15 46 04.3**	**+0.8**
	baz=305						
TWP				*e*S	**Sn**	**15 46 27.2**	**+1.3**
	baz=305						
SSD	**Sandimen**	**1.72**	**321**	⇑*i*P	**Pn**	**15 46 05.0**	**+0.4**
	baz=322						
SSD				*e*S	**Sn**	**15 46 27.4**	**-0.3**
	baz=322						
CHKT	**Chengkung**	**1.73**	**347**	⇑*i*P	**Pn**	**15 46 05.0**	**+0.3**
	baz=352						
CHKT				S	**Sn**	**15 46 27.7**	**-0.2**
	baz=352						
SGLT	**Jiouru**	**1.79**	**317**	*e*P	**Pn**	**15 46 06.9**	**+1.5**
	baz=323						
SGLT				*e*S	**Sn**	**15 46 30.4**	**+1.2**
	baz=323						
TWM1	**Shoushan**	**1.90**	**318**	*e*P	**Pn**	**15 46 08.0**	**+1.2**
	baz=325						
TWM1				*e*S	**Sn**	**15 46 33.4**	**+1.7**
	baz=325						
ELDTW	**Lidau**	**1.91**	**338**	*e*P	**Pn**	**15 46 07.1**	**+0.1**
	baz=343						
TWF1	**Yuli**	**1.99**	**346**	P	**Pn**	**15 46 07.7**	**-0.2**
	baz=340						
TWF1				*e*S	**Sn**	**15 46 33.4**	**-0.2**
	baz=340						
STYT	**Tauyuan**	**2.00**	**331**	⇑*i*P	**Pn**	**15 46 08.7**	**+0.7**
	baz=325						
STYT				*e*S	**Sn**	**15 46 33.6**	**-0.2**
	baz=325						
SGST	**Jiashian**	**2.01**	**326**	⇑*i*P	**Pn**	**15 46 08.9**	**+0.8**
	baz=327						
SGST				*e*S	**Sn**	**15 46 33.7**	**-0.4**
	baz=327						
CHN1	**Nanshi**	**2.12**	**326**	⇑*i*P	**Pn**	**15 46 10.0**	**+0.5**
	baz=327						
CHN1				S	**Sn**	**15 46 35.9**	**-0.7**
	baz=327						
CHN3	**Shinhua**	**2.13**	**322**	*e*P	**Pn**	**15 46 10.6**	**+1.0**
	baz=330						
CHN3				*e*S	**Sn**	**15 46 37.3**	**+0.7**
	baz=330						
EHY	**Hungye**	**2.13**	**348**	P	**Pn**	**15 46 09.8**	**+0.1**
	baz=342						
EHY				*e*S	**Sn**	**15 46 36.5**	**-0.3**
	baz=342						
TAI1	**Yung-k'ang**	**2.18**	**318**	P	**Pn**	**15 46 10.8**	**+0.7**
	baz=327						
TAI1				*e*S	**Sn**	**15 46 37.5**	**-0.3**
	baz=327						
TWK	**Hsinying**	**2.21**	**327**	⇑*i*P	**Pn**	**15 46 11.0**	**+0.3**
	baz=327						
TWK				*e*S	**Sn**	**15 46 37.7**	**-0.9**
	baz=327						
YUS	**Yu-Shan**	**2.21**	**339**	*e*P	**Pn**	**15 46 11.8**	**+0.7**
	baz=343						
YUS				*e*S	**Sn**	**15 46 39.9**	**+0.5**
	baz=343						
CHN4	**Tsaushan**	**2.23**	**330**	⇑P	**Pn**	**15 46 11.3**	**+0.5**
	baz=331						
ALS	**Alishan**	**2.29**	**336**	⇑*i*P	**Pn**	**15 46 12.6**	**+0.7**
	baz=329						
ALS				*e*S	**Sn**	**15 46 40.0**	**-0.6**
	baz=329						
SCLT	**Jiali**	**2.30**	**320**	P	**Pn**	**15 46 12.3**	**+0.6**
	baz=327						
SCLT				*e*S	**Sn**	**15 46 40.4**	**-0.1**
	baz=327						
CHN5	**Tsauling**	**2.41**	**335**	P	**Pn**	**15 46 13.3**	**+0.1**
	baz=328						
CHN5				*e*S	**Sn**	**15 46 42.7**	**-0.5**
	baz=328						
ESL	**Shilin**	**2.42**	**352**	*e*P	**Pn**	**15 46 13.2**	**-0.1**
	baz=346						
ESL				*e*S	**Sn**	**15 46 42.1**	**-1.0**
	baz=346						
CHN8	**Yiju**	**2.43**	**323**	*e*P	**Pn**	**15 46 13.5**	**+0.2**
	baz=330						
CHN8				*e*S	**Sn**	**15 46 42.6**	**-0.6**
	baz=330						
CHY	**Chiayi**	**2.44**	**329**	*e*P	**Pn**	**15 46 13.5**	**0.0**
	baz=329						
CHY				*e*S	**Sn**	**15 46 42.5**	**-1.1**
	baz=329						
WGK	**Gukeng**	**2.54**	**333**	⇑P	**Pn**	**15 46 14.9**	**+0.1**
	baz=334						
WGK				*e*S	**Sn**	**15 46 45.4**	**-0.5**
	baz=334						
SMLT	**Sun Moon Lake**	**2.60**	**341**	P	**Pn**	**15 46 16.1**	**+0.4**
	baz=333						
SMLT				*e*S	**Sn**	**15 46 46.8**	**-0.7**
	baz=333						
TYC	**Yuchr**	**2.63**	**341**	*e*P	**Pn**	**15 46 16.3**	**+0.4**
	baz=333						
TYC				*e*S	**Sn**	**15 46 48.2**	**+0.2**
	baz=333						
WSF	**Szhu**	**2.66**	**327**	⇑*i*P	**Pn**	**15 46 16.1**	**-0.2**
	baz=327						
WSF				*e*S	**Sn**	**15 46 47.5**	**-1.1**
	baz=327						
TWD	**Chiawan**	**2.67**	**356**	P	**Pn**	**15 46 17.0**	**+0.6**
	baz=2.0						
WNT	**Mingjian**	**2.67**	**337**	*e*P	**Pn**	**15 46 16.8**	**+0.4**
	baz=338						
WNT				*e*S	**Sn**	**15 46 48.5**	**-0.3**
	baz=338						
WDGT	**Dungji**	**2.71**	**313**	*e*P	**Pn**	**15 46 16.2**	**-0.7**
	baz=313						
WDGT				*e*S	**Sn**	**15 46 46.9**	**-2.8**
	baz=313						
WHF	**Hehuan Shan**	**2.77**	**350**	P	**Pn**	**15 46 19.0**	**+0.9**
	baz=358						
WHF				*e*S	**Sn**	**15 46 51.5**	**-0.4**
	baz=358						
WTCT	**Ta-ch'eng**	**2.82**	**330**	*e*P	**Pn**	**15 46 17.5**	**-0.8**
	baz=331						
TWT	**Tachien**	**2.89**	**349**	*e*P	**Pn**	**15 46 20.3**	**+0.8**
	baz=342						
TCU	**Taichung**	**2.92**	**339**	*e*P	**Pn**	**15 46 20.2**	**+0.6**
	baz=333						
TCU				*e*S	**Sn**	**15 46 54.1**	**-0.5**
	baz=333						
ENA	**Nanau**	**3.00**	**359**	*e*P	**Pn**	**15 46 21.7**	**+1.0**
	baz=360						
NNS	**Nan Shan**	**3.04**	**353**	*e*P	**Pn**	**15 46 22.0**	**+0.7**
	baz=353						
NNS				*e*S	**Sn**	**15 46 58.3**	**+0.5**
	baz=353						
TWQ1	**Liyutan**	**3.08**	**342**	*e*P	**Pn**	**15 46 22.1**	**+0.4**
	baz=337						
TWQ1				*e*S	**Sn**	**15 46 57.8**	**-0.5**
	baz=337						
TWC	**Suao**	**3.19**	**1**	*e*P	**Pn**	**15 46 24.3**	**+1.2**
	baz=9.0						
HATJ	**Hateruma jima**	**3.22**	**35**	P	**Pn**	**15 46 24.5**	**+0.9**
ENTT	**Nioudou**	**3.22**	**356**	*e*P	**Pn**	**15 46 24.4**	**+0.7**
	baz=357						
YOJ	**Yonaguni jima**	**3.24**	**20**	P	**Pn**	**15 46 24.8**	**+1.0**
NSK	**Sanguang**	**3.28**	**353**	*e*P	**Pn**	**15 46 25.6**	**+1.2**
	baz=1.0						
NSK				*e*S	**Sn**	**15 47 03.1**	**-0.1**
	baz=1.0						
NSTT	**Nanjuang**	**3.29**	**347**	*e*P	**Pn**	**15 46 24.8**	**+0.3**
	baz=338						
IRIF	**Iriomote-Funau**	**3.41**	**31**	P	**Pn**	**15 46 27.0**	**+0.9**
JKRS	**Kuro-shima**	**3.47**	**35**	P	**Pn**	**15 46 28.0**	**+1.1**
TWB1	**Santiao Chiao**	**3.59**	**3**	*e*P	**Pn**	**15 46 26.6**	**-1.8**
	baz=12						
JIJ	**Ishigaki jima**	**3.65**	**36**	P	**Pn**	**15 46 29.7**	**+0.5**
KNM	**Kinmen**	**4.31**	**315**	*e*P	**Pn**	**15 46 38.9**	**+0.9**
	baz=313						
KNM				*e*S	**Sn**	**15 47 28.1**	**+0.5**
	baz=313						
JNU	**Nakatsue**	**14.18**	**33**	P	**P**	**15 48 52.5**	**-0.5**
	0.3nm,0.3s,baz=145,slow=4.8,SNR=5.1						
KSRS	**Korea Array**	**16.85**	**17**	P	**P**	**15 49 22.6**	**+0.1**
	0.1nm,0.3s,baz=195,slow=11,SNR=2.9						
SONM	**Songino Array**	**29.14**	**338**	P	**P**	**15 51 24.8**	**+1.3**
	0.3nm,0.8s,baz=153,slow=8.3,SNR=2.8						
MKAR	**Makanchi Array**	**40.74**	**318**	P	**P**	**15 53 04.1**	**+1.2**
	0.3nm,0.5s,baz=110,slow=8.3,SNR=4.9						
WRA	**Warramunga Arr**	**42.89**	**163**	P	P	15 53 17.9	-2.6
	0.3nm,0.8s,baz=344,slow=9.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**44.61**	**322**	P	**P**	**15 53 32.5**	**-1.4**
	0.1nm,0.2s,baz=116,slow=8.0,SNR=7.9						
ASAR	**Alice Springs**	**46.33**	**165**	P	**P**	**15 53 46.5**	**-1.2**
	0.2nm,0.6s,baz=343,slow=7.1,SNR=7.0						
YKA	**Yellowknife Ar**	**85.29**	**23**	P	**P**	**15 57 56.8**	**0.0**
	0.6nm,0.7s,baz=312,slow=4.8,SNR=15						

NIED ***24*** *16:05:00, 43°80N×147°30E, h59km, Mw3.8 Best double couple: M0 6.31000×10^14 NP1:φs164.00000°, δ86.00000°, λ-46.00000°. NP2:φs259.00000°, δ45.00000°, λ-174.00000°.*
MOS ***24*** *16:05:53.0±2.0, 43°91N×147°67E, h38km, mb4.1/4, Error ellipse: s-maj=13.3km s-min=8.9km az=62.1*
ISCJB ***24*** *16:05:55.2±0.7, 43°96N±0°06×147°46E±0°07, h55km±6km, mb3.5/12, Error ellipse: s-maj=11.5km s-min=5.6km az=138.6*
IDC ***24*** *16:05:55.5±3.6, 44°04N×147°34E, h37km±31km, mb3.4/12, mb1 3.6/16, mb1mx3.5/29, mbtmp3.4/16, ML3.3/4, Error ellipse: s-maj=23.8km s-min=15.2km az=131.0*
JMA ***24*** *16:05:56.1±0.3, 43°77N×147°31E, h20km±5km, M4.0*
SKHL ***24*** *16:05:57.0±0.8, 43°97N×147°28E, h60km±4km, mb4.5/4*

ISC 24 16:05:55.4±0.9, 43°92N±0°07×147°49E±0°07, h40km±8km, n63, σ1s15/65, mb3.6/12, 7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.48**	**264**	*e*P	**Pn**	**16 06 06.3**	**+0.5**
SHO				AMB	AMB	16 06 06.8	
	151nm,0.6s						
SHO				*e*S	**Sn**	**16 06 13.4**	**+

JOB	Onbets	2.85	250	P	Pn	16 06 39.2	+0.9
JMP	Maruseppu	2.98	273	P	Pn	16 06 41.9	+1.7
HRK	Horoka	3.20	263	*e*P	Pn	16 06 45.5	+2.4
JKK2	Kamakawa 2	3.43	271	P	Pn	16 06 49.0	+2.7
JKA	Kamikawa-asahi	3.53	275	*e*P	Pn	16 06 47.4	-0.3
ASAJ	Asahikawa	3.54	275	P	Pn	16 06 50.2	+2.5
ASAJ	Asahikawa	3.54	275	Pn	Pn	16 06 47.4	-0.4
	comp=E,2.4nm,0.3s,baz=98,slow=22,SNR=20						
JFR	Furan	3.64	260	P	Pn	16 06 51.7	+2.5
JFR				*e*S	Sn	16 07 32.8	+1.9
ERM	Erimo	3.71	241⇓	*e*PN	Pn	16 06 53.7	+3.6
ERM	Erimo	3.71	241⇓	*e*P	Pn	16 06 53.7	+3.6
JNBK	Urakawa-nobuka	3.84	246	P	Pn	16 06 52.7	+0.8
YSS	Yuzh-Sakhalins	4.50	314⇓	*i*PN	Pn	16 07 02.2	+1.2
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	Yuzh-Sakhalins	4.50	314⇓	*i*P	Pn	16 07 02.2	+1.2
YSS				AMB	AMB	16 07 02.8	
	comp=Z,20nm,0.6s						
YSS				*e*S	Sn	16 07 50.0	-2.1
YSS				A	A	16 07 55.4	
	comp=Z,20nm,0.7s						
SKR	Severo-Kuril's	8.95	38	*e*PN	Pn	16 07 57.0	-4.9
SKR	Severo-Kuril's	8.95	38	*e*P	Pn	16 08 04.0	+2.1
MJAO	Matsu Arr-Jizo	10.21	227	*e*PN	Pn	16 08 20.0	+0.7
MJAR	Matsushiro Arr	10.23	227	*e*P	Pn	16 08 18.7	-0.9
MJAR	Matsushiro Arr	10.23	227	Pn	Pn	16 08 18.7	-0.9
	comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=5.7						
PETK	Petropavlovsk-	11.40	33	PN	Pn	16 08 34.6	-1.0
PETK	Petropavlovsk-	11.40	33	Pn	Pn	16 08 34.5	-1.0
	comp=Z,0.4nm,0.3s,baz=200,slow=14,SNR=12						
EKMR	Ekimchan	13.27	319	*e*P	Pn	16 09 01.6	+0.5
EKMR				AMB	AMB	16 09 02.5	
	comp=Z,10.0nm,0.7s						
KSRS	Korea Array	16.17	253	*e*P	P	16 09 42.9	+0.6
KSRS	Korea Array	16.17	253	Pn	Pn	16 09 39.3	-0.3
	comp=Z,0.1nm,0.3s,baz=69,slow=12,SNR=4.8						
SONM	Songino Array	28.63	292	P	P	16 11 46.5	-1.6
	comp=Z,0.2nm,0.5s,baz=73,slow=9.6,SNR=5.3						
H11N2	WAKE ISLAND Hy	29.07	140	T	T	16 42 37.3	
	baz=333,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	29.08	140	T	T	16 42 35.8	
	baz=333,slow=76,SNR=24						
H11N3	WAKE ISLAND Hy	29.09	140	T	T	16 42 36.7	
	baz=333,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	30.05	141	T	T	16 43 55.4	
	baz=335,slow=77,SNR=56						
H11S3	WAKE ISLAND Hy	30.05	141	T	T	16 43 45.0	
	baz=335,slow=77,SNR=32						
H11S2	WAKE ISLAND Hy	30.06	141	T	T	16 43 55.3	
	baz=335,slow=77,SNR=21						
ILAR	Eielson Array	41.20	36	*e*P	P	16 13 35.9	+0.1
ILAR	Eielson Array	41.20	36	P	P	16 13 35.9	+0.1
	comp=Z,0.2nm,0.7s,baz=276,slow=9.7,SNR=5.4						
MKAR	Makanchi Array	44.72	298	*e*P	P	16 14 03.3	-1.2
MKAR	Makanchi Array	44.72	298	*e*P	P	16 14 03.3	-1.2
MKAR	Makanchi Array	44.72	298	P	P	16 14 03.8	-0.7
	comp=Z,0.2nm,0.4s,baz=78,slow=9.5,SNR=8.2						
INK	Inuvik	46.13	30	*e*P	P	16 14 15.4	+0.1
INK	Inuvik	46.13	30	P	P	16 14 15.3	+0.1
	comp=Z,0.4nm,0.4s,baz=306,slow=4.6,SNR=3.2						
CMAR	Chiang Mai Arr	47.81	254	*e*P	P	16 14 29.3	+0.3
CMAR	Chiang Mai Arr	47.81	254	P	P	16 14 30.1	+1.0
	comp=Z,0.5nm,0.6s,baz=36,slow=6.7,SNR=5.1						
RES	Resolute Bay	54.73	17	*e*P	P	16 15 19.8	-0.3
RES	Resolute Bay	54.73	17	P	P	16 15 19.8	-0.3
	comp=Z,0.7nm,0.8s,baz=260,slow=7.9,SNR=4.0						
YKA	Yellowknife Ar	55.52	34	*e*P	P	16 15 26.8	+0.8
YKA	Yellowknife Ar	55.52	34	P	P	16 15 26.8	+0.8
	comp=Z,0.1nm,0.5s,baz=299,slow=6.5,SNR=2.6						
WRA	Warramunga Arr	64.69	194	*e*P	P	16 16 29.9	+0.7
WRA	Warramunga Arr	64.69	194	P	P	16 16 29.9	+0.7
	comp=Z,0.7nm,0.8s,baz=17,slow=6.8,SNR=3.9						
FINES	FINESS Array B	64.83	333	P	P	16 16 28.4	-1.3
	comp=Z,2.2nm,0.9s,baz=31,slow=4.4,SNR=3.4						
ASAR	Alice Springs	68.40	193	*e*P	P	16 16 53.9	+1.0
ASAR	Alice Springs	68.40	193	P	P	16 16 53.9	+1.0
	comp=Z,0.2nm,0.7s,baz=2.8,slow=5.4,SNR=4.3						
KBZ	Khabaz	69.87	312	P	P	16 17 01.7	-0.1
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	Khabaz	69.87	312	P	P	16 17 01.7	-0.1
	comp=Z,2.1nm,0.8s,baz=162,slow=3.2,SNR=5.3						
GERES	GERESS Array B	79.13	331	*e*P	P	16 17 57.5	+1.8
GERES	GERESS Array B	79.13	331	P	P	16 17 55.1	-0.6
	comp=Z,0.3nm,0.6s,baz=53,slow=5.2,SNR=4.2						

CASC 24 16:29:45.9±1.7, 13°.71N×91°.01W, h32km±6km, MD3.5, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.78	30	*e*P	Pn	16 30 01.2	+0.1
PCG				*e*S	Sb	16 30 14.9	+2.8
JAT	Jato	0.86	315	*e*P	Pn	16 30 01.9	+0.2
JAT				*e*S	Sb	16 30 15.0	+1.4
NBG	Las Nubes	1.08	36	*e*P	Pn	16 30 03.9	-1.3
NBG				*e*S	Sb	16 30 21.0	+0.3
RTR	El Retiro	1.34	82	*e*P	Pn	16 30 08.6	0.0
RBDL	Robledal	1.35	73⇑	*e*P	Pn	16 30 09.3	+0.6
SBLS	San Blas	1.35	84	*e*P	Pn	16 30 08.7	-0.2
SBLS				*e*S	Sn	16 30 26.8	+0.8
SNJE	San Jose	1.37	83	*e*P	Pn	16 30 09.1	0.0
MRL	Marmol	1.86	43	*e*P	Pn	16 30 15.4	-0.3
MRL				*e*S	Sn	16 30 39.0	+0.7
LFRS	El Faro	1.90	92⇑	*e*P	Pn	16 30 16.7	+0.5

*JMA **24** 16:39:13.9±0.2, 25°.45N×140°.83E, h0km, M4.6*
*IDC **24** 16:39:15.3±1.4, 25°.12N×141°.51E, h123km±15km, mb3.4/5, mb1 3.5/8, mb1mx3.2/24, mbtmp3.8/8, Error ellipse: s-maj=32.6km s-min=14.9km az=96.0*
ISC 24 16:39:13.6±0.9, 25°.04N±0°.08×141°.3E±0°.1, h100km, n19, σ1s13/21, mb4.1/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.78	27	P	Pn	16 39 44.9	+1.5
JHHJ				S	Sn	16 40 07.4	+1.4
CBIJ	Chichi jima	2.21	21	P	Pn	16 39 49.9	+1.0
CBIJ				S	Sn	16 40 16.4	+0.6
JCJ	Chichijima	2.21	21	P	Pn	16 39 50.1	+1.2
	15nm,0.3s,baz=168,slow=4.1,SNR=82						
JCJ				S	Sn	16 40 16.3	+0.5
	50nm,0.3s,baz=259,slow=22,SNR=16						
JHJ2	Mitsune	8.15	351	P	Pn	16 41 10.0	+0.9
JHJ2				*e*S	Sn	16 42 38.8	-0.7
BSO1	Boso 1	9.59	358	P	Pn	16 41 27.4	-0.8
BSO3	Boso 3	9.76	356	P	Pn	16 41 29.7	-1.0
JOD2	Odawara 2	10.37	350	P	Pn	16 41 39.0	-0.3
JHU	Hanno	10.92	351	P	Pn	16 41 45.6	-1.2
JRY	Ryogami san	11.14	350	P	Pn	16 41 49.6	-0.1
JAG	Ashikaga	11.46	353	P	Pn	16 41 50.5	-3.6
JAG				*e*S	Sn	16 43 52.4	-7.7
JHO	Hitachi	11.55	357	P	Pn	16 41 52.1	-3.2
JHO				*e*S	Sn	16 43 51.1	-11
MJAR	Matsushiro Arr	11.77	348	P	Pn	16 41 58.6	+0.4
	0.4nm,0.3s,baz=158,slow=11,SNR=4.3						
ASAJ	Asahikawa	19.07	3	P	P	16 43 28.2	+0.2
	0.5nm,0.3s,baz=166,slow=12,SNR=6.3						
CMAR	Chiang Mai Arr	39.75	269	P	P	16 46 39.0	+2.2
	0.2nm,0.4s,baz=72,slow=7.1,SNR=4.3						
WRA	Warramunga Arr	45.22	189	P	P	16 47 21.3	+0.4
	6.5nm,0.4s,baz=9.0,slow=8.7,SNR=56						
ASAR	Alice Springs	48.94	189	P	P	16 47 50.0	+0.2
	0.3nm,0.6s,baz=9.9,slow=4.8,SNR=12						
STKA	Stephens Creek	56.59	180	P	P	16 48 45.2	-0.8
	2.0nm,0.9s,baz=9.3,slow=9.0,SNR=5.6						
ILAR	Eielson Array	59.91	28	P	P	16 49 07.7	-1.0
	1.2nm,0.9s,baz=246,slow=5.9,SNR=10						
FINES	FINESS Array B	79.43	334	P	P	16 51 06.6	-2.0
	3.2nm,1.0s,baz=76,slow=5.0,SNR=16						

IDC 24 17:03:30.1±2.5, 1°.27S×129°.15E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/15, Error ellipse: s-maj=181.3km s-min=27.0km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.24	165	P	P	17 07 55.7	-0.5
	0.1nm,0.3s,baz=348,slow=12,SNR=6.2						
ASAR	Alice Springs	22.74	169	P	P	17 08 34.6	+0.6
	0.4nm,0.5s,baz=346,slow=12,SNR=23						
RPZ	Rata Peaks	56.31	144	LR	LR	17 34 00.1	
	comp=Z,35nm,21.1s,baz=349,slow=32						
MKAR	Makanchi Array	63.02	326	P	P	17 13 58.8	-0.2
	0.5nm,0.8s,baz=122,slow=5.9,SNR=4.3						

*IDC **24** 17:17:13.3±1.1, 33°.62N×48°.29E, h0km, mb3.7/11, mb1 3.7/18, mb1mx3.6/34, mbtmp3.6/18, ML3.0/4, MS2.8/6, Ms1 2.9/6, ms1mx2.6/38, Error ellipse: s-maj=25.7km s-min=15.2km az=170.0*
*TEH **24** 17:17:15.8, 33°.71N×48°.28E, h5km, ML3.9*
*CSEM **24** 17:17:15.4±0.2, 33°.79N×48°.28E, h5km, ML3.9, Error ellipse: s-maj=5.3km s-min=4.3km az=17.0*
*ISCJB **24** 17:17:15.0±0.4, 33°.76N±0°.03×48°.26E±0°.03, h15km±4km, mb3.7/10, MS2.8/3, Error ellipse: s-maj=5.7km s-min=3.9km az=32.8*
*THR **24** 17:17:15.4±1.4, 33°.89N×48°.48E, h15km±12km, ML3.9*
*ISN **24** 17:17:28.3±0.9, 33°.29N×46°.90E, h0km±434km, ML3.5*
ISC 24 17:17:15.1±1.1, 33°.81N±0°.03×48°.37E±0°.03, h7km±8km, n87, σ1s45/92, mb3.8/9, MS2.8/3, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	Doab	0.17	261	*e*Pg	Pg	17 17 18.8	+0.2
IDOB	Doab	0.17	261	*e*Pg	Pg	17 17 18.8	+0.2
IKMR	Kamar-syah	0.29	179	*e*Pg	Pg	17 17 20.6	-0.3
IKMR				*e*Sg	Sg	17 17 25.2	+0.4
IKMR	Kamar-syah	0.29	179	*e*Pg	Pg	17 17 20.6	-0.3
IKMR				*e*Sg	Sg	17 17 25.2	+0.4
IKFM	Kafar-mosalman	0.53	237	*e*Pg	Pg	17 17 24.8	-0.5
IKOM	Komasi	0.80	297	*e*Pg	Pg	17 17 29.3	-1.3
IKOM				*e*Sg	Sg	17 17 41.0	-0.1
IKOM				*e*		17 17 46.0	
	comp=Z,45μm,0.2s						
IKOM	Komasi	0.80	297	*e*Pg	Pg	17 17 29.3	-1.3
IKOM				*e*Sg	Sg	17 17 41.0	-0.1
KHMZ	Khomeyn	1.32	93	*e*Pg	Pn	17 17 37.7	-2.5
KHMZ				*e*Sg	Sb	17 17 55.5	-2.1
KHMZ				AML	AML	17 17 59.6	
	comp=N,1μm,0.5s						
KHMZ	Khomeyn	1.32	93	*e*Pg	Pn	17 17 37.7	-2.5
KHMZ				*e*Sg	Sb	17 17 55.5	-2.1
IVIS	Veis	1.45	300	*e*Pn	Pb	17 17 42.8	+0.2
IVIS				*e*Sg	Sn	17 18 01.0	-0.3
IVIS				*e*		17 18 08.1	
	comp=Z,9μm,0.2s						
IVIS	Veis	1.45	300	*e*Pn	Pb	17 17 42.8	+0.2
IVIS				*e*Sg	Sn	17 18 01.0	-0.3
SNGE	Sanandaj	1.53	327	*e*Pg	Pn	17 17 43.4	+0.3
SNGE	Sanandaj	1.53	327	*e*Pg	Pn	17 17 43.4	+0.3
ASAD	Ashtian	1.55	61	*e*Pg	Pn	17 17 42.5	-0.9
ASAO				AML	AML	17 18 05.7	
	comp=E,1μm,0.7s						
ASAO				AML	AML	17 18 12.7	
	comp=N,1μm,1.6s						
ASAO	Ashtian	1.55	61	*e*Pg	Pn	17 17 42.5	-0.9
IGHG	Ghaleghazi	1.58	289	*e*Pn	Pn	17 17 44.1	+0.2
IGHG				*e*		17 18 16.8	
	comp=Z,18μm,0.3s						
IGHG	Ghaleghazi	1.58	289	*e*Pn	Pn	17 17 44.1	+0.2
ILIN	Lien	1.61	314	*e*Pn	Pn	17 17 44.8	+0.6
ILIN				*e*		17 18 14.2	
	comp=Z,7μm,0.2s						
ILIN	Lien	1.61	314	*e*Pn	Pn	17 17 44.8	+0.6
SHGR	Shooshtar-Gavs	1.74	168	*e*Pg	Pg	17 17 48.2	-0.2
SHGR				AML	AML	17 18 17.1	
	comp=E,2μm,0.3s						
SHGR				AML	AML	17 18 21.4	
	comp=N,2μm,0.9s						
SHGR	Shooshtar-Gavs	1.74	168	*e*Pg	Pg	17 17 48.2	-0.2
IRAZ	Razeghan	2.04	38	*e*Pn	Pn	17 17 51.3	+1.2
IRAZ				*e*		17 18 33.3	
	comp=Z,15μm,0.4s						
IRAZ	Razeghan	2.04	38	*e*Pn	Pn	17 17 51.3	+1.2
IBDR	Badra	2.16	252	*e*PN4	Pn	17 17 50.3	-1.2
IBDR				*e*SN4	Sn	17 18 20.5	+1.9
IMHD	Mahdasht	2.66	45	*e*		17 18 04.9	
	comp=Z,6μm,0.2s						
IMHD				*e*Pn	Pb	17 18 01.2	-1.9
IKLH	Kolahrood	2.72	100	*e*Pn	Pn	17 18 01.6	+2.1
IKLH				*e*		17 18 47.6	
	comp=Z,7μm,0.2s						
IKLH	Kolahrood	2.72	100	*e*Pn	Pn	17 18 01.6	+2.1
IR3	Iran Long-Peri	2.74	52	*e*		17 18 08.1	
	comp=Z,0.0nm,0.4s						
IR3				*e*Pn	Pn	17 18 02.0	+2.3
IVRN	Varamin	3.01	66	*e*		17 18 21.6	
	comp=Z,3μm,0.2s						
IVRN				*e*Pn	Pn	17 18 05.5	+2.1
NSR	Nassriya	3.37	215	*e*PN4	Pn	17 18 08.0	-0.2
NSR				*e*SN4	x	17 18 35.8	
NSR	Nassriya	3.37	215	*e*Pn	Pn	17 18 08.0	-0.2
	SNR=39						
BHD	Baghdad	3.38	262	*e*PN4	Pn	17 18 05.3	-3.0
BHD				*e*SN4	x	17 18 30.9	
BHD	Baghdad	3.38	262	*e*Pn	Pn	17 18 05.3	-3.0
	SNR=39						
IZEF	Zefreh	3.43	104	*e*Pn	Pn	17 18 10.7	+1.4
IZEF				*e*		17 19 10.8	
	comp=Z,2μm,0.5s						
IZEF	Zefreh	3.43	104	*e*Pn	Pn	17 18 10.7	+1.4
IDMV	Damavand	3.49	59	*e*Pn	Pn	17 18 12.1	+2.0
IDMV				*e*		17 18 13.9	
	comp=Z,3μm,0.2s						
IDMV	Damavand	3.49	59	*e*Pn	Pn	17 18 12.1	+2.0
NASN	Na'in	3.85	104	*e*Pn	Pn	17 18 15.7	+0.6
NASN	Na'in	3.85	104	*e*Pn	Pn	17 18 15.7	+0.6
IFIR	Firoozkooh	4.04	62	*e*Pn	Pn	17 18 19.4	+1.7
IFIR				*e*		17 18 21.6	
	comp=Z,1μm,0.2s						
IFIR	Firoozkooh	4.04	62	*e*Pn	Pn	17 18 19.4	+1.7
ILAS	Lasjerd	4.09	66	*e*Pn	Pn	17 18 20.3	+1.9
ILAS				*e*		17 19 35.3	
	comp=Z,1μm,0.3s						
ILAS	Lasjerd	4.09	66	*e*Pn	Pn	17 18 20.3	+1.9
RST	Umm Al-Ruwaisa	4.46	196	*e*P	Pn	17 18 24.3	+1.2
RST				AML	AML	17 19 16.1	
	comp=Z,153nm,0.6s						
RST	Umm Al-Ruwaisa	4.46	196	*e*P	Pn	17 18 24.3	+1.2
ISHM	Shahmirzad	4.51	62	*e*Pn	Pn	17 18 26.0	+1.9
ISHM				*e*		17 18 43.0	
	comp=Z,2μm,0.3s						
ISHM	Shahmirzad	4.51	62	*e*Pn	Pn	17 18 26.0	+1.9
NAY	Al-Naaiem	4.65	192	*e*P	Pn	17 18 27.2	+1.4
NAY				AML	AML	17 19 23.4	
	comp=Z,21nm,0.5s						
NAY	Al-Naaiem	4.65	192	*e*P	Pn	17 18 27.2	+1.4
ISAD	Sadrabad	4.85	112	*e*Pn	Pn	17 18 29.5	+0.6
ISAD				*e*		17 20 10.4	
	comp=Z,756nm,0.4s						
ISAD	Sadrabad	4.85	112	*e*Pn	Pn	17 18 29.5	+0.6
IANJ	Anjilo	4.86	69	*e*Pn	Pn	17 18 30.2	+1.3
IANJ				*e*		17 20 19.8	
	comp=Z,691nm,0.4s						
IANJ	Anjilo	4.86	69	*e*Pn	Pn	17 18 30.2	+1.3
RDF	Al-Radifah	4.92	188	*e*P	Pn	17 18 31.4	+1.9
RDF				AML	AML	17 19 29.9	
	comp=Z,35nm,0.4s						
RDF	Al-Radifah	4.92	188	*e*P	Pn	17 18 31.4	+1.9
IKIA	Kiasar	4.97	60	*e*Pn	Pn	17 18 33.2	+2.8
IKIA	Kiasar	4.97	60	*e*Pn	Pn	17 18 33.2	+2.8
ICHK	Chekchek	5.30	105	*e*Pn	Pn	17 18 35.5	+0.5
ICHK				*e*		17 20 09.2	
	comp=Z,562nm,0.4s						
ICHK	Chekchek	5.30	105	*e*Pn	Pn	17 18 35.5	+0.5
IPAR	Pars	5.61	134	*e*Pn	Pn	17 18 39.5	+0.2
IPAR	Pars	5.61	134	*e*Pn	Pn	17 18 39.5	+0.2
IMEH	Mehriz	5.79	113	*e*Pn	Pn	17 18 42.2	+0.5
IMEH				*e*		17 20 31.9	
	comp=Z,310nm,0.4s						
IMEH	Mehriz	5.79	113	*e*Pn	Pn	17 18 42.2	+0.5
IBAF	Bafgh	6.46	108	*e*Pn	Pn	17 18 51.3	+0.5
IBAF	Bafgh	6.46	108	*e*Pn	Pn	17 18 51.3	+0.5
RTB	Rutbah	6.79	266	*e*PN4	Pn	17 18 52.7	-2.5
RTB	Rutbah	6.79	266	*e*Pn	Pn	17 18 52.7	-2.5
	SNR=39						
GNI	Garni	6.96	336	Pn	Pn	17 19 01.5	+3.8
	comp=Z,0.3nm,0.3s,baz=122,slow=15,SNR=2.0						
GNI				LR	LR	17 21 16.4	
	comp=Z,14nm,28.6s,baz=103,slow=34						
ASF	Jabal al Asfar	9.78	264	Pn	Pn	17 19 34.8	-1.5
	comp=Z,0.0nm,0.3s,baz=101,slow=4.5,SNR=1.6						
MMAI	Mount Meron Ar	10.87	269	Pn	Pn	17 19 50.5	-0.7
	baz=100,slow=17,SNR=3.1						
MMAI				LR	LR	17 24 56.4	
	comp=Z,15nm,28.6s,baz=50,slow=43						
EIL	Elat	12.15	254	Pn	Pn	17 20 04.8	-3.9
	comp=Z,0.2nm,0.3s,baz=148,slow=13,SNR=2.0						
EIL				LR	LR	17 25 55.1	
	comp=Z,44nm,19.6s,baz=74,slow=43						
BRTR	Keskin Array B	13.20	301	Pn	Pn	17 20 21.2	-1.9
	comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=2.8						
AKTO	Aktyubinsk	18.06	20	P	P	17 21 27.9	+1.1
	comp=Z,0.2nm,0.3s,baz=217,slow=12,SNR=3.8						
IDI	Anoyia	19.39	281	P	P	17 21 41.8	0.0
	comp=Z,0.6nm,0.3s,baz=103,slow=14,SNR=6.1						
MLR	Muntele Rosu	20.76	311	P	P	17 21 57.8	+1.1
	comp=Z,0.6nm,1.1s,baz=139,slow=9.1,SNR=2.6						
BVAR	Borovoye Array	24.81	33	P	P	17 22 39.2	+1.5
	comp=Z,1.8nm,0.9s,baz=232,slow=7.3,SNR=7.5						
KURBB	Kurchatov Arra	27.68	44	P	P	17 23 04.9	+1.3
	comp=Z,0.3nm,0.3s,baz=247,slow=8.8,SNR=3.2						
MKAR	Makanchi Array	28.70	53	P	P	17 23 15.4	+2.6
	comp=Z,0.2nm,0.8s,baz=239,slow=10.0,SNR=2.3						
FINES	FINESS Array B	31.14	339	P	P	17 23 33.8	-0.3
	comp=Z,4.4nm,1.1s,baz=130,slow=24,SNR=3.9						
ZALV	Zalesovo Beam	32.58	41	P	P	17 23 47.2	+0.3
	comp=Z,0.7nm,0.6s,baz=257,slow=10.0,SNR=3.6						
NOA	NORSAR Array B	36.22	330	LR	LR	17 41 01.7	
	comp=Z,17nm,19.6s,baz=315,slow=39						
ARCES	ARCESS Array B	37.97	347	P	P	17 24 33.0	-0.2
	comp=Z,6.7nm,1.1s,baz=146,slow=12,SNR=2.7						
SONM	Songino Array	45.06	54	LR	LR	17 47 04.0	
	comp=Z,15nm,28.6s,baz=3.0,slow=40						
TORD	Torodi Ar. Bea	47.03	256	P	P	17 25 45.5	-1.9
	comp=Z,0.7nm,0.6s,baz=46,slow=7.8,SNR=6.1						
CMAR	Chiang Mai Arr	47.45	96	P	P	17 25 48.8	-2.0
	comp=Z,0.2nm,0.6s,baz=292,slow=8.4,SNR=4.2						
CMAR				LR	LR	17 49 32.6	
	comp=Z,13nm,18.9s,baz=100,slow=41						
KSRS	Korea Array	62.90	62	P	P	17 27 42.8	+0.8
	comp=Z,0.6nm,0.6s,baz=281,slow=8.0,SNR=1.7						
ASAR	Alice Springs	99.30	112	P	Pdif	17 30 57.7	-0.5
	comp=Z,0.1nm,0.6s,baz=317,slow=3.9,SNR=2.6						

GUC 24 17:25:14.6±0.4, 31°.85S×68°.55W, h150km, MD3.7, ML3.6, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	2.20	287⇑	*i*P	Pn	17 25 52.7	+0.5
CMCH				*i*S	Sn	17 26 21.4	+0.3
CMCH				AML	AML	17 26 24.9	
	comp=E,985nm,0.8s						
PEL	Peldehue	2.22	234⇓	*e*P	Pn	17 25 52.7	+0.3
PEL				*i*S	Sn	17 26 21.9	+0.4
PEL				AML	AML	17 26 25.1	
	comp=N,287nm,0.3s						
CLCH	Cerro Calan	2.28	227	*e*P	Pn	17 25 53.6	+0.5
CLCH				*i*S	Sn	17 26 23.5	+0.6
CLCH				AML	AML	17 26 31.8	
	comp=N,228nm,0.6s						
ROCH	El Roble	2.37	241	*i*P	Pn	17 25 54.4	+0.1
ROCH				*i*S	Sn	17 26 25.2	+0.3
ROCH				AML	AML	17 26 28.2	
	comp=E,342nm,0.3s						
RCDM	Rinconada Maip	2.51	229⇑	*i*P	Pn	17 25 56.6	+0.7
RCDM				*i*S	Sn	17 26 28.5	+0.8
RCDM				AML	AML	17 26 31.8	
	comp=E,267nm,0.1s						
TLL	Tololo Astrono	2.56	310	*e*P	Pn	17 25 57.6	+0.8
TLL				*i*S	Sn	17 26 30.1	+0.8
TLL				AML	AML	17 26 37.8	
	comp=N,72nm,0.5s						
CHCH	Chadas Angostu	2.73	220	*i*P	Pn	17 25 59.3	+0.7
CHCH				*i*S	Sn	17 26 33.2	+0.5
CACH	El Canelo	2.85	217	*e*P	Pn	17 26 00.9	+0.8
CACH				⇑*i*P	Pn	17 26 01.0	+0.8
CACH				*i*S	Sn	17 26 36.1	+0.7

IDC 24 17:28:09.8±1.7, 2°.76N×128°.47E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, Error ellipse: s-maj=89.0km s-min=20.3km az=64.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.28	166	P	P	17 33 19.6	+0.3
	1.1nm,0.8s,baz=345,slow=11,SNR=9.1						
ASAR	Alice Springs	26.79	169	P	P	17 33 51.2	-0.6
	0.2

IRK				*i* Sg	**Sg**	**17 31 52.9**	**+0.6**
IRK				Pmax			
	comp=N,108nm,0.7s						
IRK				Smax			
	comp=N,629nm,0.5s						
ZAK	**Zakamensk**	**1.82**	**143**⇑	*i* Pg	**Pb**	**17 31 29.9**	**-0.5**
ZAK				*i* Pb	**Pg**	**17 31 30.6**	**-1.3**
ZAK				*e*Sg	**Sb**	**17 31 54.4**	**+1.1**
ZAK				max			
	comp=N,72nm,0.1s						
ZAK				Smax			
	comp=N,191nm,0.4s						
LSTR	**Listvyanka**	**2.03**	**88**⇓	*i* Pg	**Pg**	**17 31 35.4**	**-0.5**
LSTR				*e*Sg	**Sg**	**17 32 02.4**	**+0.2**
LSTR				Pmax			
	comp=N,12nm,0.4s						
LSTR				Smax			
	comp=N,93nm,0.6s						
TRG	**Tyrgan**	**3.08**	**71**⇓	*i* Pn	**Pb**	**17 31 49.5**	**-2.4**
TRG				*e*Pg	**Pg**	**17 31 54.2**	**-1.8**
TRG				*e*Sn	**Sb**	**17 32 28.1**	**-1.4**
TRG				*e*Sg	**Sg**	**17 32 36.5**	**+0.6**
TRG				Pmax			
	comp=N,16nm,0.3s						
TRG				Smax			
	comp=N,137nm,0.8s						
KAB	**Kabansk**	**3.16**	**84**	*e*Sg	**Sg**	**17 32 36.7**	**-1.7**
KAB				Smax			
	comp=N,304nm,0.8s						
HRMR	**Khuramsha**	**3.36**	**92**	*e*Pn	**Pn**	**17 31 52.3**	**+2.7**
HRMR				*e*Pg	**Pb**	**17 31 58.6**	**+1.9**
HRMR				*e*		17 32 03.2	
HRMR				*e*Sg	**Sg**	**17 32 43.9**	**-1.0**
HRMR				max			
	comp=N,21nm,0.4s						
HRMR				Smax			
	comp=N,231nm,0.5s						
ZRHB	**Zarechye**	**3.51**	**76**	*e*Pg	**Pg**	**17 32 02.6**	**-1.7**
ZRHB				*e*		17 32 19.7	
ZRHB				*e*Sg	**Sg**	**17 32 51.1**	**+1.3**
ZRHB				*e*		17 33 02.5	
ZRHB				Pmax			
	comp=N,14nm,0.2s						
ZRHB				Smax			
	comp=N,348nm,1.3s						
MXMB	**Maximikha**	**4.61**	**69**	*e*	Pb	17 32 13.5	-4.4
MXMB				*e*		17 32 49.6	
MXMB				*e*		17 33 11.5	
MXMB				*e*Sg	**Sg**	**17 33 24.2**	**-0.7**
MXMB				max			
	comp=N,4.0nm,0.4s						
MXMB				Smax			
	comp=N,51nm,1.6s						
ULN	**Ulaanbaatar**	**5.33**	**136**	*e*	Pn	17 32 21.5	+4.7
ULN				*e*Pg	**Pb**	**17 32 33.1**	**+2.8**
ULN				*e*Sg	**Sg**	**17 33 43.5**	**-4.6**
ULN				*e*		17 33 46.4	
SYVR	**Suvo**	**5.44**	**67**	*e*	Pb	17 32 25.7	-6.4
SYVR				*e*Pg	Pg	17 32 37.7	-3.4
SYVR				*e*Sg	**Sg**	**17 33 48.7**	**-2.8**
SYVR				Pmax			
	comp=N,4.0nm,1.2s						
SYVR				Smax			
	comp=N,19nm,1.7s						
NIZ	**Nizh Angarsk**	**6.15**	**47**	*e*PN	Pn	17 32 31.9	+4.0
NIZ				*e*		17 32 51.0	
NIZ				*e*S	**Sn**	**17 33 40.6**	**+2.3**
NIZ				*e*		17 34 11.5	
NIZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NIZ				smax	smax		
	comp=N,41nm,0.6s						
NIZ	**Nizh Angarsk**	**6.15**	**47**	*e*	Pb	17 32 40.2	-4.0
NIZ				*e*Pg	Pg	17 32 49.4	-5.4
NIZ				*e*		17 33 38.9	
NIZ				*i* Sg	**Sg**	**17 34 11.5**	**-2.9**
NIZ				Pmax			
	comp=N,9.0nm,1.4s						
NIZ				Smax			
	comp=N,53nm,1.3s						
YLYR	**Ulyunkhan**	**6.50**	**58**	*e*Pn	Pn	17 32 37.6	+4.9
YLYR				*e*		17 32 47.2	
YLYR				*e*Sg	**Sg**	**17 34 21.3**	**-4.2**
YLYR				max			
	comp=N,1.0nm,0.3s						
YLYR				Smax			
	comp=N,18nm,0.9s						
KMO	**Kumora**	**6.99**	**51**	*e*Pn	Pn	17 32 44.4	+5.0
KMO				*e*		17 32 56.1	
KMO				*e*Pg	Pg	17 33 07.1	-3.7
KMO				*e*Sn	**Sn**	**17 34 03.0**	**+4.1**
KMO				*i* Sg	**Sg**	**17 34 39.7**	**-1.6**
KMO				Pmax			
	comp=N,3.0nm,0.3s						
KMO				Smax			
	comp=N,40nm,1.4s						
KPC	**Khapcheranga**	**7.19**	**103**	*e*Pn	**Pn**	**17 32 42.9**	**+0.8**
KPC				*e*		17 32 55.6	
KPC				*e*Pg	Pb	17 33 08.3	+6.5
KPC				*e*Sg	**Sg**	**17 34 42.8**	**-4.7**
KPC				Pmax			
	comp=N,2.0nm,1.3s						
KPC				Smax			
	comp=N,24nm,2.6s						
UKT	**Uakit**	**8.04**	**58**	*e*		17 34 49.4	
UKT				*e*Sg	**Sg**	**17 35 10.1**	**-4.8**
UKT				Smax			
	comp=N,7.0nm,1.1s						
SVKR	**Severomuysk**	**8.27**	**54**	*e*Sg	**Sg**	**17 35 17.6**	**-4.4**
SVKR				Smax			
	comp=N,54nm,1.9s						
BOD	**Bodaibo**	**9.34**	**45**	*e*	Pn	17 34 10.7	+59
BOD				*e*Sg	Sn	17 35 51.5	+55
BOD				Smax			
	comp=N,7.0nm,1.0s						
NLYR	**Nelyaty**	**9.51**	**55**	*e*		17 35 12.0	
NLYR				*e*Sg	Sn	17 35 54.3	+54
NLYR				Smax			
	comp=N,27nm,3.0s						
CRS	**Chara**	**10.97**	**56**	*e*Sg		17 36 40.0	
CRS				Smax			
	comp=N,6.0nm,1.3s						
TUP	**Tupik**	**11.35**	**70**	*e*		17 36 43.2	
TUP				*e*Sg		17 36 51.6	
TUP				Smax			
	comp=N,5.0nm,1.1s						

*ISCJB **24** 17:56:58.9±0.8, 35°.91N±0°.06×82°.04E±0°.10, h10km, mb3.3/7, MS3.0/1, Error ellipse: s-maj=11.7km s-min=8.7km az=161.5*

*IDC **24** 17:56:58.6±1.1, 35°.74N×81°.74E, h0km, mb3.3/7, mb1 3.5/12, mb1mx3.3/31, mbtmp3.3/12, ML3.2/5, MS2.9/3, Ms1 2.9/3, ms1mx2.6/24, Error ellipse: s-maj=27.8km s-min=15.8km az=62.0*

*BJI **24** 17:57:01.2, 35°.83N×81°.60E, h7km, ML3.9/6*

*NNC **24** 17:57:02.6±3.6, 36°.01N×81°.83E, h0km, mb3.8, mpv4.0, Error ellipse: s-maj=42.2km s-min=31.8km az=118.0*

ISC 24 17:57:00.6±1.1, 35°.8N±0°.1×81°.92E±0°.09, h10km, n18, σ1§46/19, mb3.4/7, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**6.00**	**310**	Pn	**Pn**	**17 58 29.5**	**-0.1**
KSH				Sn	**Sn**	**17 59 41.6**	**+3.2**
KSH				smax	smax		
	comp=N,250nm,1.4s						
KSH				smax	smax		
	comp=E,85nm,0.8s						
TKM2	**Tokmak 2**	**8.63**	**327**	⇑Pg	Pg	17 59 34.2	-12
	4.4nm,0.7s						
TKM2				⇑Lg	Lg	18 01 31.3	
	8.7nm,0.7s						
AAK	**Ala-Archa**	**8.93**	**322**	Pn	**Pn**	**17 59 09.3**	**-0.5**
	0.1nm,0.3s,baz=111,slow=14,SNR=2.0						
AAK				Pg	Pg	17 59 37.4	-14
	0.5nm,0.3s,baz=133,slow=15,SNR=7.7						
AAK				Lg	Lg	18 01 41.3	
	0.8nm,0.3s,baz=94,slow=20,SNR=4.8						
AAK				LR	LR	18 03 10.0	
	comp=Z,14nm,28.6s,baz=111,slow=42						
AAK	**Ala-Archa**	**8.93**	**322**	⇑Pg	Pg	17 59 44.1	-7.4
	6.0nm,0.7s						
AAK				⇓Lg	Lg	18 01 41.2	
	30nm,1.1s						
MK31	**Makanchi Array**	**10.98**	**1**	⇓Pn	**Pn**	**17 59 39.1**	**+1.3**
	0.5nm,0.3s,baz=185,slow=12,SNR=95						
MK31				⇓Sn	**Sn**	**18 01 40.0**	**-0.6**
	1.4nm,0.6s,baz=182,slow=31						
MKAR	**Makanchi Array**	**10.98**	**1**	Pn	**Pn**	**17 59 38.6**	**+0.9**
	0.4nm,0.3s,baz=180,slow=13,SNR=24						
MKAR				Sn	**Sn**	**18 01 40.0**	**-0.7**
	0.2nm,0.3s,baz=190,slow=23,SNR=3.3						
MKAR				Lg	Lg	18 02 48.9	
	baz=191,slow=28,SNR=2.3						
MKAR				LR	LR	18 04 54.4	
	comp=Z,44nm,18.7s,baz=200,slow=43						
KURBB	**Kurchatov Arra**	**15.01**	**352**	Pn	**Pn**	**18 00 30.4**	**-2.3**
	0.0nm,0.3s,baz=173,slow=10,SNR=3.5						
KURBB				Lg	Lg	18 05 00.1	
	0.0nm,0.3s,baz=178,slow=27,SNR=2.5						
ZALV	**Zalesovo Beam**	**18.25**	**5**	P	**Pn**	**18 01 12.4**	**-1.5**
	0.1nm,0.3s,baz=195,slow=13,SNR=2.9						
BVAR	**Borovoye Array**	**19.04**	**338**	P	**P**	**18 01 22.5**	**-0.3**
	0.0nm,0.3s,baz=146,slow=11,SNR=4.7						
AB31	**Akbulak array**	**20.95**	**317**	⇓P	**P**	**18 01 43.3**	**-0.2**
	0.7nm,0.6s,baz=147,slow=12,SNR=9.9						
SONM	**Songino Array**	**21.74**	**49**	P	**P**	**18 01 54.6**	**+2.4**
	0.4nm,0.9s,baz=240,slow=11,SNR=3.2						
AKTO	**Aktyubinsk**	**22.63**	**318**	P	**P**	**18 02 01.5**	**0.0**
	0.5nm,0.5s,baz=107,slow=14,SNR=3.1						
AKTO				LR	LR	18 11 40.8	
	comp=Z,49nm,18.6s,baz=19,slow=39						
AKTO	**Aktyubinsk**	**22.63**	**318**	⇑P	**P**	**18 02 03.7**	**+2.2**
	1.5nm,0.8s						
BRTR	**Keskin Array B**	**38.01**	**291**	P	**P**	**18 04 17.9**	**-1.1**
	0.6nm,0.8s,baz=83,slow=10,SNR=4.5						
ILAR	**Eielson Array**	**72.73**	**20**	P	**P**	**18 08 28.4**	**-0.1**
	0.3nm,0.7s,baz=321,slow=6.0,SNR=4.0						
WRA	**Warramunga Arr**	**74.40**	**129**	P	**P**	**18 08 38.7**	**-0.2**
	0.6nm,0.9s,baz=328,slow=5.4,SNR=4.4						
ASAR	**Alice Springs**	**76.91**	**132**	P	**P**	**18 08 53.5**	**+0.2**
	0.3nm,0.8s,baz=322,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**81.14**	**8**	P	**P**	**18 09 15.6**	**-0.2**
	0.2nm,0.7s,baz=339,slow=5.7,SNR=3.8						

*IDC **24** 18:13:39.5±0.9, 23°.70S×176°.22W, h0km, mb3.9/7, mb1 4.3/9, mb1mx4.1/20, mbtmp4.1/9, ML3.7/2, MS3.4/11, Ms1 3.4/11, ms1mx3.2/24, Error ellipse: s-maj=44.7km s-min=20.0km az=153.0*

*ISCJB **24** 18:13:42.8±0.6, 23°.5S±0°.1×176°.2W±0°.1, h33km, mb4.1/10, MS3.1/9, Error ellipse: s-maj=21.8km s-min=10.6km az=155.5*

*NEIC **24** 18:13:44.9±0.5, 23°.56S×176°.21W, h35km, mb4.5/3, Error ellipse: s-maj=19.6km s-min=10.5km az=156.0*

ISC 24 18:13:44.8±0.6, 23°.4S±0°.1×176°.2W±0°.1, h33km, n57, σ1§78/39, mb4.0/10, MS3.2/9, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.30**	**25**	Pn	**Pn**	**18 16 12.8**	**+2.4**
AFI				Sn	**Sn**	**18 18 01.0**	**-3.8**
AFI	**Afiamalu**	**10.30**	**25**	Pn	**Pn**	**18 16 12.8**	**+2.4**
	3.9nm,0.3s,baz=38,slow=12,SNR=3.8						
AFI				Sn	**Sn**	**18 18 01.0**	**-3.8**
	7.0nm,0.3s,baz=47,slow=19,SNR=4.9						
AFI				LR	LR	18 19 57.2	
	comp=Z,127nm,21.0s,baz=128,slow=36						
RAR	**Rarotonga**	**15.34**	**85**	Pn	**Pn**	**18 17 17.8**	**-1.2**
RAR				Sn	Sn	18 19 52.0	-16
RAR	**Rarotonga**	**15.34**	**85**	Pn	**Pn**	**18 17 17.8**	**-1.2**
	3.0nm,0.3s,baz=331,slow=0.0,SNR=10						
RAR				Sn	Sn	18 19 52.0	-16
	4.5nm,0.3s,baz=320,slow=0.0,SNR=3.5						
RAR				LR	LR	18 21 59.6	
	comp=Z,16nm,28.6s,baz=45,slow=32						
DZM	**Mont Dzumac**	**16.08**	**271**	*e*LR	LR	18 21 28.1	
	175nm,26.2s						
TBI	**Tubuai**	**24.52**	**95**	*e*LR	LR	18 25 04.7	
	208nm,27.8s						
TBI	**Tubuai**	**24.52**	**95**	*e*T	T	18 43 38.8	
	12nm,0.3s						
PAE	**Paea**	**25.54**	**82**	*e*T	T	18 45 05.8	
	8.4nm,0.3s						
PPT2	**Papeete2**	**25.56**	**82**	*e*LR	LR	18 25 26.1	
	194nm,28.0s						
PPT2	**Papeete2**	**25.56**	**82**	*e*T	T	18 45 08.2	
	9.0nm,0.3s						
PPT	**Papeete**	**25.57**	**82**	LR	LR	18 29 48.1	
	comp=Z,16nm,28.6s,baz=340,slow=38						
TVO	**Taravao**	**25.80**	**83**	*e*T	T	18 45 25.6	
	1.6nm,0.3s						
HNR	**Honiara**	**26.71**	**297**	LR	LR	18 28 41.7	
	comp=Z,16nm,28.6s,baz=168,slow=34						
MEH	**Mehetia**	**26.86**	**84**	*e*T	T	18 46 43.4	
	32nm,0.3s						
VAH	**Vaihoa**	**28.10**	**78**	*e*T	T	18 48 21.3	
	6.9nm,0.3s						
CTAO	**Charters Tower**	**34.98**	**268**	*e*P	**P**	**18 20 34.4**	**+0.1**
	3.3nm,0.4s						
RKT	**Rikitea**	**37.77**	**98**	*e*LR	LR	18 30 56.5	
	147nm,28.2s						
RKT	**Rikitea**	**37.77**	**98**	*e*T	T	19 00 09.5	
	3.4nm,0.3s						
STKA	**Stephens Creek**	**38.16**	**248**	*e*P	**P**	**18 21 01.1**	**-0.1**
STKA	**Stephens Creek**	**38.16**	**248**	P	**P**	**18 20 60.0**	**-1.2**
	1.4nm,0.5s,baz=96,slow=20,SNR=5.9						
AS31	**Alice Springs**	**45.57**	**259**	*e*P	**P**	**18 22 00.8**	**-1.1**
ASAR	**Alice Springs**	**45.57**	**259**	P	**P**	**18 22 00.1**	**-1.8**
ASAR				PcP	**PcP**	**18 23 38.5**	**-1.7**
ASAR	**Alice Springs**	**45.57**	**259**	P	**P**	**18 22 00.1**	**-1.8**
	0.6nm,0.5s,baz=96,slow=7.6,SNR=20						
ASAR				PcP	**PcP**	**18 23 38.5**	**-1.7**
	0.6nm,0.9s,baz=104,slow=3.9,SNR=3.0						
WRAB	**Tennant Creek**	**45.93**	**264**	*e*P	**P**	**18 22 03.0**	**-1.7**
	3.9nm,1.0s						
WRA	**Warramunga Arr**	**45.94**	**264**	P	**P**	**18 22 03.5**	**-1.3**
WRA	**Warramunga Arr**	**45.94**	**264**	P	**P**	**18 22 03.5**	**-1.3**
	1.4nm,0.5s,baz=90,slow=6.0,SNR=18						
VNDA	**Vanda**	**55.22**	**186**	LR	LR	18 46 56.6	
	comp=Z,16nm,28.6s,baz=18,slow=36						
JCJ	**Chichijima**	**64.31**	**319**	LR	LR	18 46 34.2	
	comp=Z,40nm,20.8s,baz=136,slow=31						
QSPA	**South Pole Qui**	**66.70**	**180**	*e*P	**P**	**18 24 32.4**	**0.0**
	8.1nm,1.1s						
MJAR	**Matsushiro Arr**	**73.51**	**323**	LR	LR	18 56 19.9	
	comp=Z,23nm,19.1s,baz=130,slow=35						
MAW	**Mawson**	**79.43**	**200**	LR	LR	18 59 41.8	
	comp=Z,16nm,28.6s,baz=110,slow=35						
PETK	**Petropavlovsk-**	**79.48**	**344**	LR	LR	18 56 13.1	
	comp=Z,16nm,28.6s,baz=101,slow=32						
KSRS	**Korea Array**	**80.15**	**318**	LR	LR	18 56 05.0	
	comp=Z,29nm,19.8s,baz=116,slow=32						
H03N2	**Juan Fernandez**	**83.14**	**123**	T	T	19 57 58.1	
	baz=247,slow=74,SNR=114						
H03N3	**Juan Fernandez**	**83.14**	**123**	T	T	19 57 57.0	
	baz=247,slow=74,SNR=94						
H03N1	**Juan Fernandez**	**83.16**	**123**	T	T	19 57 42.4	
	baz=247,slow=74,SNR=113						
TXAR	**Lajitas Array**	**87.21**	**56**	P	**P**	**18 26 28.6**	**+0.4**
TXAR	**Lajitas Array**	**87.21**	**56**	P	**P**	**18 26 28.6**	**+0.4**
	0.8nm,0.8s,baz=216,slow=7.8,SNR=6.8						
PDAR	**Pinedale Array**	**89.92**	**43**	P	**P**	**18 26 40.5**	**-0.3**
PDAR	**Pinedale Array**	**89.92**	**43**	P	**P**	**18 26 40.5**	**-0.3**
	0.4nm,0.8s,baz=250,slow=7.7,SNR=3.8						
ILAR	**Eielson Array**	**90.75**	**12**	P	**P**	**18 26 46.3**	**+2.4**
ILAR	**Eielson Array**	**90.75**	**12**	P	**P**	**18 26 46.3**	**+2.4**
	0.4nm,0.9s,baz=225,slow=6.2,SNR=3.2						
CMAR	**Chiang Mai Arr**	**92.65**	**289**	P	**P**	**18 26 54.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**92.65**	**289**	P	**P**	**18 26 54.0**	**+0.3**
	0.1nm,0.3s,baz=90,slow=2.7,SNR=3.2						
SONM	**Songino Array**	**99.02**	**318**	LR	LR	19 06 06.8	
	comp=Z,16nm,28.6s,baz=33,slow=32						
MKAR	**Makanchi Array**	**114.38**	**312**	PKP	PKPdf	18 32 20.9	-0.2
MKAR	**Makanchi Array**	**114.38**	**312**	PKP	PKPdf	18 32 20.9	-0.2
	0.7nm,1.1s,baz=98,slow=2.1,SNR=2.8						
FINES	**FINESS Array B**	**138.99**	**344**	PKP	**PKPdf**	**18 33 07.1**	**-0.2**
FINES	**FINESS Array B**	**138.99**	**344**	PKP	**PKPdf**	**18 33 07.1**	**-0.2**
	4.6nm,1.1s,baz=253,slow=1.5,SNR=2.9						
BRTR	**Keskin Array B**	**149.99**	**310**	PKPbc	**PKPbc**	**18 33 31.2**	**-1.0**
BRTR	**Keskin Array B**	**149.99**	**310**	PKPbc	**PKPbc**	**18 33 31.2**	**-1.0**
	0.4nm,0.9s,baz=90,slow=1.4,SNR=2.8						
CLL	**Collm**	**151.22**	**348**	*i* PKPbc	**PKPbc**	**18 33 36.2**	**+1.7**
	comp=Z,4.0nm,0.9s						
CLL				⇓*i*pPKPab	**pPKPab**	**18 33 51.5**	**-1.6**
	comp=Z,9.0nm,0.9s						
BRG	**Berggiesshubel**	**151.45**	**347**	*e*P	**PKPbc**	**18 33 37.2**	**+2.2**
	comp=Z,7.8nm,1.2s						
BRG				*e*		18 33 52.4	
	comp=Z,6.0nm,0.9s						
GERES	**GERESS Array B**	**153.41**	**345**	PKPbc	**PKPbc**	**18 33 42.0**	**+2.3**
GERES				PKPab	**PKPab**	**18 33 54.4**	**+2.6**
GERES	**GERESS Array B**	**153.41**	**345**	PKPbc	**PKPbc**	**18 33 42.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=311,slow=4.5,SNR=2.9						
GERES				PKPab	**PKPab**	**18 33 54.4**	**+2.6**
	comp=Z,1.0nm,0.9s,baz=18,slow=4.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**169.63**	**168**	PKPab	**PKPab**	**18 35 02.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**169.63**	**168**	PKPab	**PKPab**	**18 35 02.5**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=196,slow=2.7,SNR=4.1						

IDC 24 18:52:39.7±4.3, 26°.32S×70°.40E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=126.3km s-min=31.9km az=52.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**18.68**	**6**	T	T	19 15 52.7	
	baz=186,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**18.68**	**6**	T	T	19 15 51.6	
	baz=186,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**18.70**	**6**	T	T	19 15 52.7	
	baz=186,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**38.35**	**114**	T	T	19 40 25.5	
	baz=272,slow=75,SNR=7.9						
H01W3	**Cape Leeuwin H**	**38.35**	**114**	T	T	19 40 25.7	
	baz=272,slow=75,SNR=8.4						
H01W1	**Cape Leeuwin H**	**38.37**	**114**	T	T	19 40 28.0	
	baz=272,slow=75,SNR=8.9						
CMAR	**Chiang Mai Arr**	**52.44**	**35**	P	P	19 01 54.3	0.0
	0.9nm,1.0s,baz=224,slow=7.8,SNR=9.1						
ASAR	**Alice Springs**	**57.10**	**102**	P	P	19 02 28.2	0.0
	0.4nm,0.7s,baz=251,slow=6.5,SNR=8.6						
WRA	**Warramunga Arr**	**58.63**	**98**	P	P	19 02 39.0	-0.1
	0.4nm,0.6s,baz=250,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**73.56**	**8**	P	P	19 04 14.6	+0.2
	1.6nm,0.3s,baz=193,slow=7.0,SNR=3.5						
SONM	**Songino Array**	**80.60**	**24**	P	P	19 04 53.6	-0.5
	0.9nm,1.0s,baz=198,slow=4.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**80.91**	**9**	P	P	19 04 55.4	+0.1
	0.6nm,0.6s,baz=198,slow=4.2,SNR=4.9						

NEIC 24 18:55:03.9, 33°.95N×117°.99W, h11km, ML2.1 (PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PASC	**Pasadena Art C**	**0.27**	**324**	*e*Pg	Pg	18 55 08.1	-1.4
PASC				*e*Sg	Sg	18 55 12.8	-0.4
MWC	**Mount Wilson**	**0.28**	**348**	*e*Pg	Pg	18 55 08.7	-1.1
MWC				*e*Sg	Sg	18 55 13.3	-0.5
PFO	**Pinyon Flat Ob**	**1.32**	**105**	*e*Pn	Pn	18 55 28.1	-0.4
PFO				*e*Sn	Sb	18 55 44.3	-1.7
GSC	**Goldstone**	**1.66**	**36**	*e*Pn	Pn	18 55 32.3	-0.7
ISA	**Isabella**	**1.75**	**347**	Pn	Pb	18 55 36.5	+0.4
ISA				*e*Sn	Sn	18 55 55.8	-0.9

*IDC **24** 18:58:35.7±7.8, 33°.29N×132°.22E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=247.3km s-min=36.0km az=126.0*

*ISCJB **24** 18:58:40.3±0.6, 33°.39N±0°.04×132°.36E±0°.06, h41km, mb3.5/2, Error ellipse: s-maj=7.0km s-min=5.8km az=34.5*

*JMA **24** 18:58:40.7, 33°.40N×132°.38E, h42km, M3.1*

JMA Felt I J1.

ISC 24 18:58:40.8±1.1, 33°.39N±0°.05×132°.37E±0°.05, h41km, n10, σ0§43/16, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.19**	**29**	P	**Pn**	**18 58 47.8**	**-0.4**
UWA2	**Uwa jima 2**	**0.28**	**129**	P	**Pn**	**18 58 48.7**	**-0.3**
UWA2				S	**Sn**	**18 58 54.5**	**-0.1**
JKU	**Kubokawa**	**0.59**	**97**	P	**Pn**	**18 58 52.5**	**-0.3**
JKU				S	**Sn**	**18 59 01.3**	**0.0**
JUS	**Usuki**	**0.61**	**238**	P	**Pn**	**18 58 53.0**	**-0.1**
JUS				S	**Sn**	**18 59 01.9**	**+0.1**
JTO	**Tosashimizu**	**0.64**	**145**	P	**Pn**	**18 58 53.3**	**-0.2**
JTO				S	**Sn**	**18 59 02.6**	**+0.1**
JET	**Tanbara**	**0.69**	**55**	P	**Pn**	**18 58 53.8**	**-0.4**
JET				S	**Sn**	**18 59 03.6**	**-0.2**
JHM	**Kurahashi**	**0.76**	**10**	P	**Pn**	**18 58 54.9**	**-0.2**
JHM				S	**Sn**	**18 59 05.3**	**-0.2**
MJAR	**Matsushiro Arr**	**5.74**	**55**	Pn	**Pn**	**19 00 04.5**	**+1.1**
	1.0nm,0.3s,baz=241,slow=14,SNR=12						
WRA	**Warramunga Arr**	**53.06**	**178**	P	**P**	**19 07 53.5**	**-0.6**
	0.3nm,0.5s,baz=354,slow=7.8,SNR=8.3						
ASAR	**Alice Springs**	**56.76**	**178**	P	**P**	**19 08 21.2**	**+0.5**
	0.3nm,0.6s,baz=10.0,slow=12,SNR=10.0						

MEX 24 19:17:28.5±0.4, 15°.90N×96°.25W, h43km±5km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.19**	**133**	*i* P	Pn	19 17 34.6	-1.4
HUIG				*i* S	Sn	19 17 39.6	-1.8
PANG	**Puerto Angel**	**0.31**	**222**	*e*P	Pn	19 17 35.7	-1.5
PANG				*i* S	Sn	19 17 41.6	-1.6
VHO	**Vista Hermosa**	**1.25**	**339**	*e*P	Pn	19 17 47.9	-2.0
VHO				*i* S	Sn	19 18 03.2	-2.5
PNIG	**Pinotepa**	**1.87**	**286**	*e*P	Pn	19 17 56.4	-1.6
PNIG				*i* S	Sn	19 18 18.3	-2.2
TLIG	**Tlapa**	**2.77**	**307**	*i* P	Pn	19 18 09.7	-0.8
TLIG				*i* S	Sn	19 18 40.5	-2.4
PCIG		**2.93**	**93**	*i* P	Pn	19 18 11.9	-0.6
PCIG				*i* S	Sn	19 18 45.3	-1.2
YAIG	**Yautepec**	**3.99**	**318**	*i* P	Pn	19 18 27.0	-0.4
YAIG				*i* S	Sn	19 19 12.1	-0.9

*IDC **24** 19:20:21.3±1.6, 25°.03N×99°.15E, h0km, mb3.1/3, mb1 3.1/4, mb1mx3.0/27, mbtmp3.1/4, ML3.3/1, Error ellipse: s-maj=51.7km s-min=18.

AUST **24** *20:00:18.5±0.3,1˚.50N×128˚.32E,h92km,Error ellipse: s-maj=0.9km s-min=0.6km az=233.0*
IDC **24** *20:00:19.9±0.6,1˚.50N×128˚.15E,h104km±5km,mb4.2/28, mb1 4.3/30,mb1mx4.3/31,mbtmp4.6/30,MS3.1/4, Ms1 3.1/4,ms1mx2.8/29,Error ellipse: s-maj=15.1km s-min=8.0km az=77.0*
NEIC **24** *20:00:19.9±0.8,1˚.51N×128˚.24E,h102km±7km,mb4.8/39, Error ellipse: s-maj=7.2km s-min=4.2km az=68.0*
DJA **24** *20:00:23.2±0.7,1˚.N±.8˚×12˚.8E±˚,h110km±5km,M4.9/25, mb5.0/25,mB5.1/5,MLv5.1/5,Mw(mB)4.5/5*
ISC 24 20:00:20.0±0.3,1˚.46N±0˚.03×128˚.22E±0˚.05,h102km±2km, h102km:pP-P,n230,σ1950/308,mb4.7/78,4C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
TNTI	**Ternate**	**1.10**	**231**	P		**Pn**	**20 00 41.1**	**-0.5**
TNTI				S		**Sn**	**20 00 57.2**	**-0.7**
TNTI	**Ternate**	**1.10**	**231**	*e*Pn		**Pn**	**20 00 40.5**	**-1.1**
GTOI	**Gorontalo**	**5.28**	**261**	P		**Pn**	**20 01 38.6**	**+2.1**
	160nm,0.7s,2µm0.5nm							
MATI	**Mati**	**5.79**	**340**	*e*P		**Pn**	**20 01 44.1**	**+0.6**
FAKI	**Fak Fak**	**5.93**	**137**	P		**Pn**	**20 01 46.6**	**+1.3**
	98nm,1.0s,1µm0.4nm							
FAKI	**Fak Fak**	**5.93**	**137**	P		**Pn**	**20 01 46.4**	**+1.1**
	baz=5.9,SNR=33							
LUWI	**Luwuk**	**5.99**	**246**	P		**Pn**	**20 01 46.4**	**+0.2**
	123nm,0.6s,2µm1.2nm							
LUWI	**Luwuk**	**5.99**	**246**	P		**Pn**	**20 01 46.2**	**0.0**
	baz=6.1,SNR=14							
DAV	**Davao City (W)**	**6.16**	**335**	*e*Pn		**Pn**	**20 01 47.6**	**-0.9**
BNDI	**Bandanaira**	**6.18**	**164**	P		**Pn**	**20 01 51.2**	**+2.5**
	559nm,0.9s,5µm1.7nm							
MWPI	**Manokwari, Pap**	**6.28**	**112**	P		Pn	20 01 54.4	+4.2
	228nm,0.7s,1.9nm							
KCP	**Kidapawan**	**6.33**	**331⇑**	*e*P		**Pn**	**20 01 51.3**	**+0.4**
BUKP	**Musuan**	**7.11**	**334**	*e*P		**Pn**	**20 02 01.9**	**+0.4**
CGP	**Cagayan de Oro**	**7.79**	**333⇓**	*e*P		**Pn**	**20 02 10.8**	**+0.2**
BUTP	**Butuan**	**7.90**	**341**	*e*P		**Pn**	**20 02 13.3**	**+1.2**
PAGZ	**Pagadian**	**7.97**	**323**	*e*P		**Pn**	**20 02 12.2**	**-0.9**
MSLP	**Maasin**	**9.24**	**339**	*e*P		**Pn**	**20 02 29.5**	**-0.9**
SAUI	**Saumlaki**	**9.87**	**162**	P		**Pn**	**20 02 40.5**	**+1.5**
	218nm,1.0s							
TSM	**Tawau**	**10.71**	**285**	P		**Pn**	**20 02 52.3**	**+1.8**
SDKM	**Sandakan**	**11.76**	**291**	P		**Pn**	**20 03 06.9**	**+2.3**
SOEI	**Soe**	**11.82**	**199**	P		P	20 03 10.7	-3.5
SOEI	**Soe**	**11.82**	**199**	P		P	20 03 22.0	+7.7
	baz=12,SNR=4.7							
LBFI	**Labuhan Bajo,**	**12.90**	**220**	P		**P**	**20 03 28.6**	**+2.2**
TGY	**Tagaytay City**	**14.48**	**331**	P		**Pn**	**20 03 40.8**	**+0.6**
TGY	**Tagaytay City**	**14.48**	**331**	P		**Pn**	**20 03 40.8**	**+0.6**
	2.1nm,0.3s,baz=127,slow=20,SNR=7.7							
MTN	**Manton Dam**	**14.50**	**169**	P		**P**	**20 03 42.4**	**-1.8**
	baz=15,SNR=8.9							
KDU	**Kakadu**	**14.68**	**163**	P		Pn	20 03 42.4	-0.2
	baz=15,SNR=7.9							
KHKI	**Kahang-Kahang**	**15.92**	**232**	P		**P**	**20 03 59.9**	**0.0**
	76nm,1.0s							
SBUM	**Sibu**	**16.02**	**274**	*e*P		**P**	**20 04 02.6**	**+1.5**
	80nm,2.0s							
KNRA	**Kununurra**	**17.04**	**178**	P		**P**	**20 04 12.5**	**+0.3**
	baz=17,SNR=17							
JAGI	**Jajag, Banyuwa**	**17.15**	**235**	*e*Pn		**P**	**20 04 15.1**	**+1.6**
	98nm,1.2s							
JAGI	**Jajag, Banyuwa**	**17.15**	**235**	P		**P**	**20 04 16.1**	**+2.6**
	baz=17,SNR=4.1							
SZP	**Santa**	**17.72**	**335**	*e*Pn		**Pn**	**20 04 21.5**	**+1.2**
KSM	**Kuching**	**17.91**	**270**	P		**Pn**	**20 04 24.2**	**+1.5**
KSM	**Kuching**	**17.91**	**270**	P		**Pn**	**20 04 24.0**	**+1.3**
	53nm,1.0s							
KSM	**Kuching**	**17.91**	**270**	*e*Pn		**Pn**	**20 04 23.6**	**+0.9**
	32nm,0.7s							
KSM	**Kuching**	**17.91**	**270**	P		**Pn**	**20 04 23.7**	**+1.0**
	baz=18,SNR=11							
FITZ	**Fitzroy Crossi**	**19.61**	**187**	P		**P**	**20 04 39.9**	**-0.4**
FITZ				*e*Pn		**Pn**	**20 04 40.7**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.61**	**187**	P		**P**	**20 04 39.9**	**-0.4**
	1.0nm,0.3s,baz=20,slow=6.6,SNR=24							
FITZ	**Fitzroy Crossi**	**19.61**	**187**	P		**P**	**20 04 41.0**	**+0.6**
	baz=20,SNR=27							
SMRI	**Semarang**	**19.66**	**244**	P		**Pn**	**20 04 43.4**	**0.0**
	182nm,1.1s							
SMRI	**Semarang**	**19.66**	**244**	*e*Pn		**Pn**	**20 04 42.6**	**-0.8**
	138nm,0.8s							
BJII	**Banjarnegara**	**20.43**	**244**	P		Pn	20 04 51.7	-0.8
	160nm,1.6s,2µm							
COEN	**Coen**	**21.31**	**136**	*e*P		**P**	**20 05 01.1**	**+2.3**
	50nm,0.7s							
COEN	**Coen**	**21.31**	**136**	P		**P**	**20 05 00.8**	**+2.0**
	baz=21,SNR=7.4							
PMG	**Port Moresby**	**21.73**	**120**	P		**P**	**20 05 03.1**	**-0.2**
PMG	**Port Moresby**	**21.73**	**120**	P		**P**	**20 05 03.1**	**-0.2**
	3.5nm,0.8s,baz=275,slow=12,SNR=2.3							
WRAB	**Tennant Creek**	**22.09**	**165**	*e*P		**P**	**20 05 07.2**	**+0.2**
WRA	**Warramunga Arr**	**22.10**	**165**	P		**P**	**20 05 07.2**	**0.0**
WRA	**Warramunga Arr**	**22.10**	**165**	P		**P**	**20 05 07.2**	**0.0**
	25nm,0.6s,baz=343,slow=10.0,SNR=85							
LEM	**Lembang**	**22.15**	**248**	P		**P**	**20 05 08.3**	**+0.4**
	46nm,1.0s							
LEM	**Lembang**	**22.15**	**248**	P		**P**	**20 05 08.9**	**+1.0**
	baz=22,SNR=3.9							
CISI	**Cisompet, Garu**	**22.24**	**246**	P		**P**	**20 05 08.1**	**-0.6**
	74nm,0.8s							
CISI	**Cisompet, Garu**	**22.24**	**246**	*e*P		**P**	**20 05 08.1**	**-0.6**
	50nm,0.8s							
CISI	**Cisompet, Garu**	**22.24**	**246**	P		**P**	**20 05 08.0**	**-0.8**
	baz=22,SNR=12							
TWG	**Pinlang**	**22.34**	**342**	*e*P		**P**	**20 05 06.9**	**-2.7**
	198nm,0.7s							
YULB	**Yu-li**	**22.81**	**343**	*e*P		**P**	**20 05 11.0**	**-3.4**
	20nm,0.8s							
TPUB	**Ta-pu**	**22.93**	**342**	*e*P		**P**	**20 05 13.8**	**-1.7**
	18nm,0.3s							
SSLB	**Suanglung**	**23.29**	**343**	*e*P		**P**	**20 05 17.4**	**-1.6**
YHNB	**Yeheng**	**24.00**	**345**	*e*P		**P**	**20 05 25.0**	**-0.5**
	29nm,0.6s							
KLSI		**24.25**	**255**	P		**P**	**20 05 28.7**	**+0.9**
	80nm,1.0s							
MYKOM	**Kota Tinggi**	**24.37**	**271**	P		**P**	**20 05 30.8**	**+2.0**
MYKOM	**Kota Tinggi**	**24.37**	**271**	P		**P**	**20 05 29.9**	**+1.1**
	39nm,1.6s							
MYKOM	**Kota Tinggi**	**24.37**	**271**	*e*P		**P**	**20 05 29.2**	**+0.4**
	29nm,0.8s							
BTDF	**Bukit Timah Da**	**24.44**	**270**	P		**P**	**20 05 31.0**	**+1.4**
	baz=24,SNR=4.8							
BTDF				P		**P**	**20 05 31.0**	**+1.4**
	baz=24,SNR=4.8							
QIS	**Mount Isa**	**24.56**	**154**	P		**P**	**20 05 31.8**	**+1.3**
	baz=25,SNR=73							
JMBI	**JAMBI**	**24.77**	**263**	P		**P**	**20 05 36.2**	**+3.7**
KGM	**Kluang**	**24.90**	**272**	P		**P**	**20 05 35.2**	**+1.5**
QIZ	**Qiongzhong**	**25.09**	**315**	P		**P**	**20 05 36.5**	**+1.2**
QIZ				pP		**pP**	**20 05 56.4**	**-1.3**
QIZ				S		**S**	**20 09 56.1**	**+3.5**
QIZ				sS		**sS**	**20 10 30.6**	**-1.1**
QIZ				pmax		pmax		
	comp=Z,12nm,0.8s							
QIZ	**Qiongzhong**	**25.09**	**315**	*e*P		**P**	**20 05 35.8**	**+0.5**
JOW	**Kunigami**	**25.23**	**0**	*e*P		**P**	**20 05 36.8**	**+0.3**
	14nm,1.0s							
AS31	**Alice Springs**	**25.58**	**168**	*e*P		**P**	**20 05 40.1**	**+0.3**
ASAR	**Alice Springs**	**25.58**	**168**	P		**P**	**20 05 40.1**	**+0.4**
ASAR				PcP		**PcP**	**20 09 08.3**	**-0.2**
ASAR	**Alice Springs**	**25.58**	**168**	P		**P**	**20 05 40.1**	**+0.4**
	5.5nm,0.5s,baz=348,slow=7.4,SNR=186							
ASAR				PcP		**PcP**	**20 09 08.3**	**-0.2**
	1.6nm,0.8s,baz=346,slow=2.8,SNR=4.8							
MNAI	**Manna**	**25.90**	**257**	P		**P**	**20 05 43.1**	**+0.3**
	baz=26,SNR=4.2							
UBPT	**Khong Chiam**	**26.32**	**303**	P		**P**	**20 05 50.2**	**+3.7**
	16nm,1.3s							
WRKA	**Warakurna**	**26.34**	**180**	P		**P**	**20 05 46.7**	**+0.1**
	baz=26,SNR=33							
FRIM	**Kepong**	**26.63**	**274**	P		**P**	**20 05 50.8**	**+1.4**
IPM	**Ipoh**	**27.32**	**277**	P		**P**	**20 05 57.0**	**+1.4**
GIRL	**Giralia**	**27.57**	**209**	P		**P**	**20 05 58.0**	**+0.4**
	baz=28,SNR=5.9							
CTA	**Charters Tower**	**27.77**	**141**	P		**P**	**20 06 01.4**	**+2.0**
CTA	**Charters Tower**	**27.77**	**141**	P		**P**	**20 06 01.4**	**+2.0**
	2.5nm,0.7s,baz=348,slow=9.5,SNR=4.2							
PPI	**Padang Panjang**	**27.89**	**266**	P		**P**	**20 06 01.2**	**+0.6**
	18nm,0.6s							
PPI	**Padang Panjang**	**27.89**	**266**	P		**P**	**20 06 02.5**	**+1.9**
	baz=28,SNR=4.3							
CBIJ	**Chichi jima**	**28.80**	**27**	P		**P**	**20 06 07.6**	**-0.9**
JCJ	**Chichijima**	**28.80**	**27**	P		**P**	**20 06 07.6**	**-0.9**
	10nm,0.3s,baz=304,slow=21,SNR=7.2							
PSI	**Prapat**	**29.31**	**273**	P		**P**	**20 06 13.8**	**+0.4**
	26nm,0.9s							
PSI	**Prapat**	**29.31**	**273**	P		**P**	**20 06 10.8**	**-2.6**
PSI	**Prapat**	**29.31**	**273**	P		**P**	**20 06 10.8**	**-2.6**
	11nm,0.7s,baz=98,slow=7.4,SNR=7.6							
PSI	**Prapat**	**29.31**	**273**	P		**P**	**20 06 13.7**	**+0.4**
	baz=29,SNR=8.2							
MEEK	**Meekatharra**	**29.43**	**198**	P		**P**	**20 06 13.4**	**-0.8**
	baz=30,SNR=12							
CHAI	**Chaiyaphum**	**29.58**	**300**	P		**P**	**20 06 16.4**	**+0.9**
	2.3nm,0.7s							
JNU	**Nakatsue**	**31.59**	**4**	*e*P		**P**	**20 06 32.3**	**-0.8**
	7.8nm,0.8s							
JNU	**Nakatsue**	**31.59**	**4**	P		**P**	**20 06 31.9**	**-1.3**
	13nm,0.4s,baz=222,slow=2.7,SNR=25							
NJ2	**Nanjing**	**31.68**	**345**	*e*P		P	20 06 27.3	-6.6
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
WHN	**Wuhan**	**31.78**	**337**	P		**P**	**20 06 37.0**	**+2.3**
QLP	**Quilpie**	**31.88**	**152**	P		**P**	**20 06 36.3**	**+0.7**
	baz=32,SNR=7.7							
FORT	**Forrest**	**32.06**	**180**	*e*P		**P**	**20 06 37.0**	**-0.3**
	comp=Z,70nm,0.8s							
FORT	**Forrest**	**32.06**	**180**	P		**P**	**20 06 37.4**	**+0.2**
	baz=32,SNR=18							
GYA	**Guiyang**	**32.36**	**322**	*e*P		**P**	**20 06 41.3**	**+1.2**
GYA				pP		**pP**	**20 07 04.8**	**+1.8**
GYA				sP		**sP**	**20 07 17.0**	**+2.3**
GYA				PP		**PP**	**20 07 54.4**	**-0.8**
GYA				PcP		**PcP**	**20 09 27.6**	**+1.9**
GYA				S		**S**	**20 11 49.3**	**+2.3**
GYA				sS		**sS**	**20 12 29.3**	**+2.6**
GYA				ScP		**ScP**	**20 13 01.5**	**+1.1**
GYA				PcS		**PcS**	**20 13 11.0**	**0.0**
GYA				ScS		**ScS**	**20 16 58.6**	**-1.4**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,110nm,4.9s							
GYA				LR		LR		
	comp=Z,490nm,17.6s							
GYA				LR		LR		
	comp=Z,370nm,18.0s							
GYA				LR		LR		
	comp=Z,410nm,17.3s							
MORW	**Morawa**	**32.52**	**200**	P		**P**	**20 06 40.5**	**-0.8**
	baz=33,SNR=10							
KMBL	**Kambalda**	**33.20**	**190**	P		**P**	**20 06 46.9**	**-0.3**
	baz=33,SNR=12							
CMAR	**Chiang Mai Arr**	**33.32**	**302**	P		**P**	**20 06 48.9**	**+0.5**
CMAR				PcP		**PcP**	**20 09 28.9**	**+0.6**
CMAR				ScP		**ScP**	**20 13 03.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**33.32**	**302**	P		**P**	**20 06 48.9**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=122,slow=7.4,SNR=9.3							
CMAR				PcP		**PcP**	**20 09 28.9**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=174,slow=1.6,SNR=6.1							
CMAR				ScP		**ScP**	**20 13 03.9**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=164,slow=3.0,SNR=6.9							
CMAR				LR		LR	20 22 33.0	
	comp=Z,15nm,28.6s,baz=150,slow=40							
CHTO	**Chiang Mai**	**33.48**	**303**	*e*P		**P**	**20 06 50.2**	**+0.4**
	comp=Z,1.5nm,0.7s							
ENH	**Enshi**	**33.73**	**330**	*e*P		**P**	**20 06 52.5**	**+0.6**
	comp=Z,6.7nm,0.6s							
BLDU	**Ballidu**	**33.73**	**198**	P		**P**	**20 06 50.6**	**-1.2**
	baz=34,SNR=7.8							
KMI	**Kunming**	**34.03**	**316**	P		P	20 07 00.4	+5.6
KMI				pmax		pmax		
	comp=Z,6.0nm,1.4s							
KLBR	**Kellerberrin**	**34.34**	**196**	P		**P**	**20 06 56.4**	**-0.7**
	baz=35,SNR=4.7							
EIDS	**Eidsvold**	**34.66**	**142**	*e*P		**P**	**20 07 00.1**	**+0.2**
	comp=Z,7.3nm,0.8s							
EIDS	**Eidsvold**	**34.66**	**142**	P		**P**	**20 07 00.8**	**+0.9**
	baz=35,SNR=4.8							
BBOO	**Buckleboo**	**34.88**	**168**	P		**P**	**20 07 02.2**	**+0.5**
	baz=35,SNR=8.2							
STKA	**Stephens Creek**	**35.50**	**160**	*e*P		**P**	**20 07 07.8**	**+0.8**
	comp=Z,5.1nm,0.9s							
STKA	**Stephens Creek**	**35.50**	**160**	P		**P**	**20 07 07.7**	**+0.7**
	comp=Z,16nm,0.6s,baz=337,slow=8.9,SNR=69							
STKA	**Stephens Creek**	**35.50**	**160**	P		**P**	**20 07 08.0**	**+1.0**
	baz=36,SNR=59							
NWAO	**Narrogin (SRO)**	**35.74**	**196**	P		**P**	**20 07 08.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**35.74**	**196**	P		**P**	**20 07 08.6**	**-0.5**
	comp=Z,9.5nm,0.5s,baz=14,slow=8.6,SNR=18							
KSAR	**Wonju Array Be**	**35.81**	**360**	P		**P**	**20 07 09.5**	**0.0**
KSAR				pP		**pP**	**20 07 31.8**	**-0.9**
KSAR				ScP		**ScP**	**20 13 11.3**	**-0.9**
KSRS	**Korea Array**	**35.82**	**360**	P		**P**	**20 07 09.5**	**-0.1**
	comp=Z,12nm,0.5s,baz=175,slow=9.7,SNR=94							
KSRS				pP		**pP**	**20 07 31.8**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=178,slow=9.3,SNR=4.8							
KSRS				ScP		**ScP**	**20 13 11.3**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=183,slow=4.8,SNR=4.8							
KSRS				LR		LR	20 19 54.2	
	comp=Z,15nm,28.6s,baz=135,slow=33							
MAJO	**Matsushiro**	**36.11**	**14**	*e*P		**P**	**20 07 10.0**	**-2.2**
	comp=Z,14nm,0.8s							
MAT	**Matsushiro**	**36.11**	**14**	P		**P**	**20 07 09.5**	**-2.7**
MJAR	**Matsushiro Arr**	**36.11**	**14**	P		**P**	**20 07 10.1**	**-2.1**
MJAR				pP		**pP**	**20 07 35.8**	**+0.4**
MJAR	**Matsushiro Arr**	**36.11**	**14**	P		**P**	**20 07 10.1**	**-2.1**
	comp=Z,7.6nm,0.7s,baz=185,slow=9.9,SNR=26							
MJAR				pP		**pP**	**20 07 35.8**	**+0.4**
	comp=Z,6.1nm,0.8s,baz=184,slow=9.5,SNR=7.4							
MJAR				LR		LR	20 20 15.5	
	comp=Z,15nm,28.6s,baz=160,slow=33							
HTT	**Hallett**	**36.14**	**165**	P		**P**	**20 07 13.9**	**+1.4**
	baz=36,SNR=4.9							
CMSA	**Cobar Meteorol**	**36.77**	**155**	P		**P**	**20 07 19.1**	**+1.2**
	baz=37,SNR=15							
XAN	**Xi'an**	**37.10**	**333**	P		**P**	**20 07 20.6**	**-0.1**
XAN				pP		**pP**	**20 07 42.8**	**-1.1**
XAN				pmax		pmax		
	comp=Z,9.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,25nm,6.4s							
CD2	**Chengdu**	**37.34**	**324**	*e*P		**P**	**20 07 23.9**	**+1.1**
CD2				sP		**sP**	**20 07 58.3**	**+0.6**
CD2				PP		**PnPn**	**20 08 55.1**	**+3.2**
CD2				S		**S**	**20 13 05.5**	**+2.2**
CD2				sS		**sS**	**20 13 44.3**	**+0.8**
CD2				SS		**SnSn**	**20 15 44.1**	**-6.5**
CD2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CD2				pmax		pmax		
	comp=Z,50nm,5.2s							
CD2				LR		LR		
	comp=Z,110nm,11.8s							
CD2				LR		LR		
	comp=Z,140nm,11.6s							
RKGY	**Rocky Gully**	**37.40**	**195**	P		**P**	**20 07 23.9**	**+0.8**
	baz=38,SNR=27							
ARMA	**Armidale**	**38.76**	**147**	*e*P		**P**	**20 07 35.9**	**+1.1**
	comp=Z,12nm,0.8s							
ARMA	**Armidale**	**38.76**	**147**	P		**P**	**20 07 36.7**	**+1.9**
	baz=39,SNR=11							
BJT	**Baijiatuau**	**39.91**	**346**	*e*P		**P**	**20 07 44.3**	**+0.2**
	comp=Z,110nm,0.5s							
ARPS	**Mount Arapiles**	**40.09**	**163**	P		**P**	**20 07 47.3**	**+1.7**
	baz=40,SNR=14							
SNY	**Shenyang**	**40.40**	**355**	⇑P		**P**	**20 07 48.1**	**0.0**
SNY				pmax		pmax		
	comp=Z,15nm,0.6s							
SNY				pmax		pmax		
	comp=Z,140nm,4.2s							
SNY				LR		LR		
	comp=Z,200nm,6.5s							
SNY				LR		LR		
	comp=Z,170nm,5.7s							
SNY				LR		LR		
	comp=Z,140nm,5.4s							
LZH	**Lanzhou**	**41.20**	**329**	⇑P		**P**	**20 07 56.6**	**+1.6**
LZH				pP		**pP**	**20 08 19.8**	**+1.2**
LZH				sP		**sP**	**20 08 29.3**	**-0.9**
LZH				PP		**PP**	**20 09 34.6**	**+2.5**
LZH				S		**S**	**20 14 02.0**	**+0.8**
LZH				sS		**sS**	**20 14 38.6**	**-3.3**
LZH				SS		**SS**	**20 17 05.5**	**-2.8**
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
LZH				pmax		pmax		
	comp=Z,83nm,4.5s							
LZH				LR		LR		
	comp=Z,300nm,13.6s							
LZH				LR		LR		
	comp=Z,390nm,14.1s							
LZH				LR		LR		
	comp=Z,460nm,15.0s							
H11N1	**WAKE ISLAND Hy**	**41.94**	**62**	T		T	20 52 24.8	
	baz=250,slow=75,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**41.95**	**62**	T		T	20 52 44.7	
	baz=250,slow=75,SNR=6.1							
H11N3	**WAKE ISLAND Hy**	**41.96**	**62**	T		T	20 52 46.2	
	baz=250,slow=75,SNR=7.2							
HHC	**Hu-ho-hao-te**	**42.01**	**341**	*e*P		**P**	**20 08 02.3**	**+0.9**
HHC				pP		**pP**	**20 08 25.0**	**-0.1**
HHC				sP		**sP**	**20 08 36.6**	**-0.1**
HHC				PcP		**PcP**	**20 09 54.3**	**-0.5**
HHC				PcS		**PcS**	**20 13 46.0**	**-0.6**
HHC				S		**S**	**20 14 14.3**	**+1.4**
HHC				sS		**sS**	**20 14 56.3**	**+2.6**
HHC				pmax		pmax		
	comp=Z,37nm,0.9s							
HHC				pmax		pmax		
	comp=Z,86nm,5.5s							
HHC				LR		LR		
	comp=Z,880nm,14.6s							
HHC				LR		LR		
	comp=Z,650nm,13.5s							
HHC				LR		LR		
	comp=Z,780nm,14.2s							
CN2	**Changchun**	**42.23**	**357**	*e*P		**P**	**20 08 06.1**	**+3.1**
CN2				*es*P		**sP**	**20 08 41.0**	**+2.7**
CN2				*e*S		**S**	**20 14 20.6**	**+4.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CN2				pmax		pmax		
	comp=Z,100nm,3.0s							
USRK	**Ussuriysk Arra**	**42.69**	**4**	P		**P**	**20 08 05.8**	**-0.9**
	comp=Z,7.8nm,0.7s,baz=186,slow=7.9,SNR=18							
USRK				LR		LR	20 25 15.0	
	comp=Z,27nm,18.5s,baz=164,slow=35							
MDJ	**Mudanjiang**	**42.99**	**1**	P		**P**	**20 08 09.3**	**+0.1**
MDJ				pP		**pP**	**20 08 30.5**	**-2.4**
MDJ				sP		**sP**	**20 08 41.0**	**-3.4**
MDJ				PP		**PP**	**20 09 51.6**	**+0.6**
MDJ				PcP		**PcP**	**20 09 56.1**	**-1.7**
MDJ				ScP		**ScP**	**20 13 39.3**	**-0.5**
MDJ				PcS		**PcS**	**20 13 48.9**	**-1.2**
MDJ				S		**S**	**20 14 31.6**	**+4.7**
MDJ				ScS		**ScS**	**20 18 01.4**	**+2.0**
MDJ				pmax		pmax		
	comp=Z,11nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,48nm,7.9s							
MDJ	**Mudanjiang**	**42.99**	**1**	*e*P		**P**	**20 08 09.3**	**+0.1**
	comp=Z,7.2nm,0.9s							
DZM	**Mont Dzumac**	**44.02**	**124**	P		**P**	**20 08 19.0**	**+1.1**
DZM	**Mont Dzumac**	**44.02**	**124**	P		**P**	**20 08 19.0**	**+1.1**
	comp=Z,11nm,0.9s,baz=277,slow=8.1,SNR=3.6							
LSA	**Lhasa**	**45.05**	**312**	*e*P		**P**	**20 08 27.8**	**+1.3**
	comp=Z,7.8nm,0.6s							
GTA	**Gaotai**	**45.80**	**329**	P		**P**	**20 08 32.3**	**+0.5**
GTA				pP		**pP**	**20 08 55.4**	**-0.4**
GTA				sP		**sP**	**20 09 06.8**	**-0.5**
GTA				PcP		**PcP**	**20 10 08.9**	**+1.2**
GTA				S		**S**	**20 15 09.0**	**+0.9**
GTA				sS		**sS**	**20 15 49.4**	**+0.1**
GTA				SS		**SS**	**20 18 27.8**	**-6.3**
GTA				pmax		pmax		
	comp=Z,7.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,98nm,6.9s							
GTA				LR		LR		
	comp=Z,100nm,14.7s							
GTA				LR		LR		
	comp=Z,66nm,15.2s							
GTA				LR		LR		
	comp=Z,79nm,16.2s							
TAPN	**Taplejung**	**46.56**	**307**	*e*P		**P**	**20 08 38.5**	**+0.3**
TAPN	**Taplejung**	**46.56**	**307**	*e*P		**P**	**20 08 38.5**	**+0.3**
ODAN	**Odare**	**46.60**	**306**	*e*P		**P**	**20 08 39.2**	**+0.8**
	comp=Z,18nm,0.8s							
ODAN	**Odare**	**46.60**	**306**	*e*P		**P**	**20 08 39.2**	**+0.8**
	comp=Z,18nm,0.8s							
RAMN	**Ramite**	**47.28**	**306**	*e*P		**P**	**20 08 44.7**	**+1.0**
	comp=Z,31nm,0.9s							
RAMN	**Ramite**	**47.28**	**306**	*e*P		**P**	**20 08 44.7**	**+1.0**
	comp=Z,31nm,0.9s							
JIRN	**Jiri**	**47.91**	**307**	*e*P		**P**	**20 08 49.3**	**+0.6**
	comp=Z,18nm,0.5s							
JIRN	**Jiri**	**47.91**	**307**	*e*P		**P**	**20 08 49.3**	**+0.6**
	comp=Z,18nm,0.5s							
GUN	**Gumba**	**48.27**	**307**	*e*P		**P**	**20 08 52.1**	**+0.7**
	comp=Z,27nm,0.6s							
GUN	**Gumba**	**48.27**	**307**	*e*P		**P**	**20 08 52.1**	**+0.7**
	comp=Z,27nm,0.6s							
PKI	**Pulchoki**

KSH				S	**S**	**20 18 27.4**	**-2.6**
KSH				sS	**sS**	**20 19 13.1**	**0.0**
KSH				SS	**SS**	**20 22 36.0**	**+5.6**
KSH				pmax	pmax		
	comp=Z,81nm,6.0s						
KSH				LR	LR		
	comp=Z,100nm,6.2s						
KSH				LR	LR		
	comp=Z,140nm,5.2s						
KSH				LR	LR		
	comp=Z,190nm,5.8s						
TKM2	**Tokmak 2**	**62.42**	**319**	*eP*	**P**	**20 10 32.8**	**+0.1**
	comp=Z,3.7nm,0.7s						
AAK	**Ala-Archa**	**63.03**	**318**	P	**P**	**20 10 34.9**	**-1.7**
AAK	**Ala-Archa**	**63.03**	**318**	P	**P**	**20 10 34.9**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=149,slow=5.9,SNR=3.5						
ZAA0	**Zalesovo Array**	**63.27**	**333**	*eP*	**P**	**20 10 36.5**	**-1.3**
ZALV	**Zalesovo Beam**	**63.27**	**333**	P	**P**	**20 10 36.6**	**-1.1**
ZALV				pP	**pP**	**20 11 03.2**	**+0.2**
ZALV	**Zalesovo Beam**	**63.27**	**333**	P	**P**	**20 10 36.6**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=128,slow=7.2,SNR=7.9						
ZALV				pP	**pP**	**20 11 03.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=119,slow=7.6,SNR=3.6						
KBL	**Kabul**	**64.08**	**308**	*eP*	**P**	**20 10 43.0**	**-0.8**
	comp=Z,4.6nm,0.7s						
KBL	**Kabul**	**64.08**	**308**	P	**P**	**20 10 43.4**	**-0.3**
	baz=64,SNR=4.0						
KURK	**Kurchatov**	**64.44**	**328**	*eP*	**P**	**20 10 44.1**	**-1.3**
	comp=Z,7.7nm,0.7s						
KKAR	**Karatay Array**	**65.90**	**317**	*eP*	**P**	**20 10 54.3**	**-0.8**
	comp=Z,4.4nm,0.9s						
BRVK	**Borovoye**	**70.09**	**327**	*eP*	**P**	**20 11 20.6**	**-0.5**
	comp=Z,4.8nm,0.9s						
ABKAR	**Akbulak array**	**74.84**	**321**	*eP*	**P**	**20 11 48.2**	**-1.2**
	comp=Z,1.8nm,0.6s						
VNDA	**Vanda**	**81.00**	**173**	*eP*	**P**	**20 12 22.6**	**-0.4**
	comp=Z,2.9nm,0.8s						
VNDA	**Vanda**	**81.00**	**173**	P	**P**	**20 12 21.9**	**-1.1**
	comp=Z,4.3nm,0.8s,baz=315,slow=7.2,SNR=12						
MAW	**Mawson**	**82.16**	**201**	P	**P**	**20 12 28.5**	**-0.7**
MAW	**Mawson**	**82.16**	**201**	P	**P**	**20 12 28.5**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=82,slow=7.1,SNR=3.6						
KBZ	**Khabaz**	**85.61**	**314**	P	**P**	**20 12 46.7**	**-0.6**
KBZ	**Khabaz**	**85.61**	**314**	P	**P**	**20 12 46.7**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=9.7,slow=4.1,SNR=6.1						
ILAR	**Eielson Array**	**86.50**	**25**	P	**P**	**20 12 50.2**	**-1.1**
ILAR				pP	**pP**	**20 13 19.2**	**+1.3**
ILAR	**Eielson Array**	**86.50**	**25**	P	**P**	**20 12 50.2**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=242,slow=5.1,SNR=16						
ILAR				pP	**pP**	**20 13 19.2**	**+1.3**
	comp=Z,4.1nm,1.4s,baz=242,slow=4.9,SNR=3.2						
SYO	**Syowa Base**	**90.86**	**201**⇑	*eP*	**P**	**20 13 10.0**	**-1.7**
KMBO	**Kilima Mbogo**	**91.00**	**269**	P	**P**	**20 13 13.6**	**-0.3**
KMBO	**Kilima Mbogo**	**91.00**	**269**	P	**P**	**20 13 13.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=51,slow=11,SNR=3.7						
QSPA	**South Pole Qui**	**91.38**	**180**	*eP*	**P**	**20 13 14.0**	**-0.4**
BRTR	**Keskin Array B**	**92.61**	**310**	P	**P**	**20 13 19.2**	**-1.4**
BRTR	**Keskin Array B**	**92.61**	**310**	P	**P**	**20 13 19.2**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=123,slow=4.6,SNR=4.9						
ARCES	**ARCESS Array B**	**93.08**	**340**	P	**P**	**20 13 20.7**	**-1.3**
ARCES	**ARCESS Array B**	**93.08**	**340**	P	**P**	**20 13 20.7**	**-1.3**
	comp=Z,9.5nm,1.1s,baz=98,slow=6.5,SNR=3.9						
FINES	**FINESS Array B**	**94.52**	**332**	P	**P**	**20 13 27.7**	**-1.0**
FINES	**FINESS Array B**	**94.52**	**332**	P	**P**	**20 13 27.7**	**-1.0**
	comp=Z,8.0nm,1.1s,baz=79,slow=7.4,SNR=3.7						
YKA	**Yellowknife Ar**	**100.92**	**25**	P	**Pdif**	**20 13 57.2**	**-0.4**
YKA	**Yellowknife Ar**	**100.92**	**25**	P	**Pdif**	**20 13 57.2**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=294,slow=4.5,SNR=3.3						
NOA	**NORSAR Array B**	**101.47**	**334**	P	**Pdif**	**20 13 58.2**	**-1.9**
NOA	**NORSAR Array B**	**101.47**	**334**	P	**Pdif**	**20 13 58.2**	**-1.9**
	comp=Z,1.9nm,1.0s,baz=66,slow=4.7,SNR=2.8						
TXAR	**Lajitas Array**	**121.76**	**54**	PKP	**PKPdf**	**20 19 01.7**	**-1.2**
TXAR	**Lajitas Array**	**121.76**	**54**	PKP	**PKPdf**	**20 19 01.7**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=151,slow=2.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**125.02**	**287**	PKP	**PKPdf**	**20 19 08.6**	**-0.8**
TORD				pPKP	**pPKPdf**	**20 19 35.2**	**-2.2**
TORD	**Torodi Ar. Bea**	**125.02**	**287**	PKP	**PKPdf**	**20 19 08.6**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=59,slow=2.4,SNR=10						
TORD				pPKP	**pPKPdf**	**20 19 35.2**	**-2.2**
	comp=Z,0.6nm,0.8s,baz=43,slow=2.9,SNR=2.5						
DBIC	**Dimbokro**	**132.48**	**280**	PKP	**PKPdf**	**20 19 23.9**	**+0.3**
DBIC	**Dimbokro**	**132.48**	**280**	PKP	**PKPdf**	**20 19 23.9**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=135,slow=5.7,SNR=3.3						
JTS	**JuntasAbangare**	**144.98**	**70**	*e*PKPdf	**PKPdf**	**20 19 46.8**	**+0.4**
LPAZ	**La Paz**	**158.17**	**133**	PKPab	**PKPab**	**20 20 42.4**	**+1.4**
LPAZ	**La Paz**	**158.17**	**133**	PKPab	**PKPab**	**20 20 42.4**	**+1.4**
	comp=Z,2.6nm,0.4s,baz=342,slow=3.2,SNR=5.3						
BDFB	**Brasilia**	**165.43**	**195**	PKP	**PKPdf**	**20 20 12.2**	**-1.6**
BDFB				PKPab	**PKPab**	**20 21 11.7**	**-0.2**
BDFB	**Brasilia**	**165.43**	**195**	PKP	**PKPdf**	**20 20 12.2**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=225,slow=4.3,SNR=2.9						
BDFB				PKPab	**PKPab**	**20 21 11.7**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=192,slow=5.2,SNR=4.1						

IDC ***24*** *20:16:55.8±2.4, 6.°70S×129.°91E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/14, Error ellipse: s-maj=105.2km s-min=28.9km az=77.0*

ISC 24 20:16:56.8±1.1, 6.°62S±0.°10×130.°1E±0.°2, h10km, n11, σ1♀18/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.24**	**30**	P	**Pg**	**20 18 18.0**	**0.0**
	baz=4.8,SNR=13						
MTN	**Manton Dam**	**6.26**	**171**	P	Pn	20 18 34.9	+5.6
	baz=6.0,SNR=36						
KDU	**Kakadu**	**6.45**	**159**	P	Pn	20 18 38.1	+6.3
	baz=6.3,SNR=18						
KNRA	**Kununurra**	**9.10**	**188**	P	**Pn**	**20 19 10.5**	**+2.2**
	baz=8.8,SNR=19						
JAY	**Jayapura**	**11.29**	**69**	LR	LR	20 24 36.8	
	comp=Z,68nm,19.7s,baz=51,slow=40						
FITZ	**Fitzroy Crossi**	**12.22**	**201**	Pn	**Pn**	**20 19 50.2**	**-0.9**
	0.8nm,0.3s,baz=15,slow=11,SNR=29						
FITZ				Sn	Sn	20 21 52.2	-15
	0.2nm,0.3s,baz=248,slow=19,SNR=2.1						
FITZ	**Fitzroy Crossi**	**12.22**	**201**	P	**Pn**	**20 19 50.7**	**-0.4**
	baz=12,SNR=21						
WRA	**Warramunga Arr**	**13.86**	**163**	Pn	**Pn**	**20 20 13.1**	**-0.3**
	0.5nm,0.3s,baz=334,slow=13,SNR=23						
WRA				Sn	Sn	20 22 34.6	-13
	0.5nm,0.3s,baz=336,slow=23,SNR=7.9						
ASAR	**Alice Springs**	**17.33**	**168**	Pn	**Pn**	**20 20 58.3**	**-0.6**
	0.2nm,0.3s,baz=341,slow=8.2,SNR=6.2						
ASAR				Sn	Sn	20 23 58.3	-14
	0.1nm,0.3s,baz=358,slow=30,SNR=3.3						
WRKA	**Warakurna**	**18.40**	**185**	P	**P**	**20 21 11.4**	**-0.7**
	baz=18,SNR=4.2						
MKAR	**Makanchi Array**	**67.98**	**327**	P	**P**	**20 27 56.4**	**+0.3**
	0.1nm,0.3s,baz=119,slow=7.7,SNR=5.6						

IDC ***24*** *20:44:49.6±0.6, 55.°49S×26.°68W, h0km, mb4.4/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.2/10, MS3.6/3, Ms1 3.5/3, ms1mx3.1/27, Error ellipse: s-maj=25.3km s-min=17.1km az=76.0*

ISCJB ***24*** *20:44:51.6±0.5, 55.°50S±0.°08×26.°8W±0.°2, h25km, mb4.3/11, MS3.5/3, Error ellipse: s-maj=15.0km s-min=11.4km az=156.2*

NEIC ***24*** *20:44:51.0±0.3, 55.°47S×26.°71W, h10km, mb4.5/5, Error ellipse: s-maj=11.4km s-min=9.1km az=65.0*

ISC 24 20:44:53.3±0.5, 55.°49S±0.°10×26.°7W±0.°1, h25km, n48, σ0♀79/41, mb4.5/10, MS3.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.16**	**157**	P	**Pn**	**20 49 14.7**	**-0.8**
SNAA	**Sanae**	**19.16**	**157**	P	**Pn**	**20 49 14.7**	**-0.8**
	0.1nm,0.3s,baz=310,slow=9.8,SNR=19						
PMSA	**Palmer Station**	**20.47**	**228**	*eP*	**P**	**20 49 28.6**	**-0.1**
	11nm,0.6s						
USHA	**Ushuaia**	**23.59**	**254**	LR	LR	20 57 31.2	
	comp=Z,135nm,19.1s,baz=27,slow=32						
TRQA	**Tornquist**	**29.35**	**292**	P	**P**	**20 50 53.9**	**-0.1**
QSPA	**South Pole Qui**	**34.77**	**180**	*eP*	**P**	**20 51 41.4**	**0.0**
	4.7nm,0.6s						
QSPA	**South Pole Qui**	**34.77**	**180**	P	**P**	**20 51 41.8**	**+0.4**
	4.7nm,0.6s,baz=206,slow=3.3,SNR=54						
CPUP	**Villa Florida**	**36.64**	**310**	P	**P**	**20 51 57.6**	**+0.1**
CPUP	**Villa Florida**	**36.64**	**310**	P	**P**	**20 51 57.6**	**+0.1**
	0.5nm,0.4s,baz=122,slow=9.5,SNR=2.7						
MAW	**Mawson**	**40.45**	**144**	LR	LR	21 08 16.0	
	comp=Z,68nm,21.6s,baz=11,slow=35						
LVC	**Limon Verde**	**45.25**	**299**	*eP*	**P**	**20 53 09.3**	**+0.5**
	8.8nm,0.8s						
BOSA	**Boshof**	**45.57**	**76**	P	**P**	**20 53 11.3**	**+0.2**
BOSA	**Boshof**	**45.57**	**76**	P	**P**	**20 53 11.3**	**+0.2**
	1.4nm,0.7s,baz=226,slow=9.5,SNR=4.4						
BOSA				LR	LR	21 09 39.6	
	comp=Z,69nm,18.9s,baz=67,slow=33						
VNDA	**Vanda**	**47.15**	**183**	*eP*	**P**	**20 53 23.9**	**+1.1**
	3.1nm,0.6s						
VNDA	**Vanda**	**47.15**	**183**	P	**P**	**20 53 22.5**	**-0.3**
	4.1nm,0.7s,baz=186,slow=6.2,SNR=25						
H10S2	**ASCENSION HYDR**	**47.38**	**16**	T	T	21 45 04.9	
	baz=186						
H10S3	**ASCENSION HYDR**	**47.38**	**16**	T	T	21 45 11.4	
	baz=186						
H10S1	**ASCENSION HYDR**	**47.40**	**16**	T	T	21 45 06.5	
	baz=186						
LPAZ	**La Paz**	**50.27**	**304**	P	**P**	**20 53 48.6**	**+0.4**
LPAZ	**La Paz**	**50.27**	**304**	P	**P**	**20 53 48.6**	**+0.4**
	4.0nm,0.8s,baz=154,slow=5.7,SNR=15						
SAML	**Samuel**	**54.60**	**314**	*eP*	**P**	**20 54 18.8**	**-0.7**
	1.9nm,0.8s						
DBIC	**Dimbokro**	**64.54**	**24**	P	**P**	**20 55 28.4**	**+0.4**
DBIC	**Dimbokro**	**64.54**	**24**	P	**P**	**20 55 28.4**	**+0.4**
	1.8nm,0.6s,baz=196,slow=7.5,SNR=3.9						
TOA0	**Torodi Ar. Sit**	**72.43**	**29**	*eP*	**P**	**20 56 18.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.43**	**29**	P	**P**	**20 56 18.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**72.43**	**29**	P	**P**	**20 56 18.1**	**+0.8**
	4.6nm,0.6s,baz=199,slow=6.1,SNR=42						
STKA	**Stephens Creek**	**92.42**	**170**	P	**P**	**20 58 03.5**	**+1.8**
STKA	**Stephens Creek**	**92.42**	**170**	P	**P**	**20 58 03.5**	**+1.8**
	2.0nm,0.8s,baz=259,slow=5.2,SNR=3.1						
ASAR	**Alice Springs**	**99.45**	**162**	P	**Pdif**	**20 58 33.0**	**-0.8**
ASAR	**Alice Springs**	**99.45**	**162**	P	**Pdif**	**20 58 33.0**	**-0.8**
	0.5nm,0.7s,baz=189,slow=4.9,SNR=10						
BVAR	**Borovoye Array**	**134.25**	**57**	PKP	**PKPdf**	**21 04 06.7**	**-0.8**
BVAR	**Borovoye Array**	**134.25**	**57**	PKP	**PKPdf**	**21 04 06.7**	**-0.8**
	0.5nm,0.7s,baz=231,slow=1.3,SNR=2.1						
YKA	**Yellowknife Ar**	**135.93**	**318**	PKP	**PKPdf**	**21 04 09.2**	**-1.1**
YKA	**Yellowknife Ar**	**135.93**	**318**	PKP	**PKPdf**	**21 04 09.2**	**-1.1**
	0.6nm,0.7s,baz=128,slow=2.3,SNR=9.9						
MKAR	**Makanchi Array**	**136.45**	**71**	PKP	**PKPdf**	**21 04 11.0**	**-0.9**
MKAR	**Makanchi Array**	**136.45**	**71**	PKP	**PKPdf**	**21 04 11.0**	**-0.9**
	0.2nm,0.7s,baz=225,slow=2.0,SNR=2.4						
KURBB	**Kurchatov Arra**	**136.82**	**64**	PKhKP	PKPpre	21 04 08.2	
	0.2nm,0.6s,baz=217,slow=1.1,SNR=2.6						
KURBB				PKP	**PKPdf**	**21 04 11.3**	**-1.0**
	0.3nm,0.7s,baz=248,slow=2.9,SNR=3.5						
KURK	**Kurchatov**	**136.92**	**64**	PKPpre	PKPpre	21 04 08.2	
KURK				PKP	**PKPdf**	**21 04 11.3**	**-1.2**
ZALV	**Zalesovo Beam**	**141.88**	**63**	PKPpre	PKPpre	21 04 13.5	
ZALV	**Zalesovo Beam**	**141.88**	**63**	PKhKP	PKPpre	21 04 13.5	
	0.2nm,0.3s,baz=306,slow=5.2,SNR=2.3						
INK	**Inuvik**	**145.53**	**321**	PKPbc	**PKPab**	**21 04 28.1**	**+0.1**
INK	**Inuvik**	**145.53**	**321**	PKPbc	**PKPab**	**21 04 28.1**	**+0.1**
	3.3nm,0.5s,baz=175,slow=1.4,SNR=9.9						
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKPbc**	**21 04 39.9**	**+0.1**
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKPbc**	**21 04 39.9**	**+0.1**
	3.6nm,0.8s,baz=115,slow=1.5,SNR=31						
SONM	**Songino Array**	**150.42**	**85**	PKPbc	**PKPbc**	**21 04 41.3**	**-0.4**
SONM	**Songino Array**	**150.42**	**85**	PKPbc	**PKPbc**	**21 04 41.3**	**-0.4**
	1.1nm,0.5s,baz=219,slow=3.1,SNR=12						
JNU	**Nakatsue**	**152.72**	**136**	PKPbc	**PKPbc**	**21 04 46.5**	**-0.8**
JNU	**Nakatsue**	**152.72**	**136**	PKPbc	**PKPbc**	**21 04 46.5**	**-0.8**
	3.4nm,0.8s,baz=201,slow=8.6,SNR=2.4						

BYKL ***24*** *20:47:51.6±0.2, 55.°33N×110.°27E*
MOS ***24*** *20:47:51.3±0.8, 55.°36N×110.°26E, h12km, mb4.3/1, Error ellipse: s-maj=19.2km s-min=11.7km az=70.2*

ISC 24 20:47:50.0±0.7, 55.°27N±0.°02×110.°38E±0.°02, h10km, n34, σ2♀39/58, 15C-9D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.59**	**131**⇑	*i*PG	**Pn**	**20 48 04.2**	**-0.4**
YLYR				*e*		20 48 13.4	
YLYR				pmax	pmax		
	comp=Z,118nm,0.2s						
YLYR				smax	smax		
	comp=N,429nm,0.6s						
YLYR	**Ulyunkhan**	**0.59**	**131**⇓	*i*Pg	**Pn**	**20 48 04.1**	**-0.5**
	comp=N,119nm,0.6s						
YLYR				⇑*i*Pg	**Pn**	**20 48 04.1**	**-0.5**
	comp=N,113nm,0.6s						
YLYR				⇑*i*Pg	**Pn**	**20 48 04.1**	**-0.5**
	comp=N,177nm,0.6s						
YLYR				*e*		20 48 09.5	
YLYR				*e*Sg	**Sn**	**20 48 13.3**	**-1.0**
YLYR				*e*Sb	Sb	20 48 19.1	+8.1
YLYR				Pmax			
	comp=N,107nm,0.7s						
YLYR				Smax			
	comp=N,427nm,0.5s						
NIZ	**Nizh Angarsk**	**0.70**	**317**	*e*PG	**Pg**	**20 48 03.3**	**-0.2**
NIZ				*e*		20 48 11.7	
NIZ				pmax	pmax		
	comp=Z,71nm,0.1s						
NIZ				smax	smax		
	comp=E,552nm,0.2s						
NIZ	**Nizh Angarsk**	**0.70**	**317**⇑	*i*Pg	**Pg**	**20 48 03.4**	**-0.1**
NIZ				⇑*i*		20 48 03.9	
NIZ				*e*Sg	**Sg**	**20 48 11.6**	**-1.1**
NIZ				max			
	comp=E,72nm,0.1s						
NIZ				Smax			
	comp=E,560nm,0.2s						
KMO	**Kumora**	**0.78**	**36**	*e*PG	**Pb**	**20 48 05.3**	**-0.3**
KMO				*e*		20 48 14.9	
KMO				pmax	pmax		
	comp=Z,300nm,0.3s						
KMO				smax	smax		
	comp=N,414nm,0.7s						
KMO	**Kumora**	**0.78**	**36**⇓	*i*Pg	**Pb**	**20 48 05.4**	**-0.2**
	comp=N,13nm,0.4s						
KMO				⇓*i*Pg	**Pb**	**20 48 05.4**	**-0.2**
	comp=N,25nm,0.4s						
KMO				⇓*i*Pg	**Pb**	**20 48 05.4**	**-0.2**
	comp=N,258nm,0.4s						
KMO				*e*		20 48 10.7	
KMO				*i* Sg	**Sb**	**20 48 15.7**	**-0.5**
KMO				Pmax			
	comp=N,301nm,0.3s						
KMO				Smax			
	comp=N,439nm,1.2s						
YOA	**Uoyan**	**1.15**	**41**⇑	*i*PG	**Pn**	**20 48 12.8**	**+0.6**
YOA				*i*		20 48 28.6	
YOA				pmax	pmax		
	comp=Z,247nm,0.1s						
YOA				smax	smax		
	comp=N,839nm,0.4s						
YOA	**Uoyan**	**1.15**	**41**⇑	*i*Pg	**Pn**	**20 48 12.6**	**+0.4**
YOA				*e*Pb	**Pg**	**20 48 14.0**	**+1.9**
YOA				*i* Sg	**Sn**	**20 48 28.6**	**+0.5**
YOA				max			
	comp=N,238nm,0.2s						
YOA				Smax			
	comp=N,839nm,0.5s						
SYVR	**Suvo**	**1.63**	**188**	*e*PN	**Pg**	**20 48 22.3**	**+1.1**
SYVR				*e*		20 48 45.8	
SYVR				pmax	pmax		
	comp=Z,67nm,0.4s						
SYVR				smax	smax		
	comp=N,324nm,0.8s						
SYVR	**Suvo**	**1.63**	**188**⇓	*i*Pg	**Pg**	**20 48 22.4**	**+1.2**
SYVR				⇑*i*		20 48 24.8	
SYVR				⇑*i*		20 48 27.9	
SYVR				*i* Sg	**Sg**	**20 48 45.7**	**+3.4**
SYVR				max			
	comp=N,62nm,0.4s						
SYVR				Smax			
	comp=N,322nm,1.1s						
UKT	**Uakit**	**1.86**	**82**	*e*PN	**Pg**	**20 48 25.6**	**-0.1**
UKT				*e*		20 48 51.4	
UKT				pmax	pmax		
	comp=Z,46nm,0.3s						
UKT				smax	smax		
	comp=N,244nm,0.3s						
UKT	**Uakit**	**1.86**	**82**⇑	*i*Pg	**Pg**	**20 48 25.7**	**0.0**
UKT				*e*Sg	**Sg**	**20 48 51.6**	**+1.7**
UKT				Pmax			
	comp=N,60nm,0.9s						
UKT				Smax			
	comp=N,248nm,0.3s						

SVKR	**Severomuysk**	**1.99**	**63**	*e*PN	**Pg**	**20 48 27.5**	**-0.6**
SVKR				*e*		20 48 28.6	
SVKR				*e*S	**Sg**	**20 48 53.5**	**-0.4**
SVKR				*e*		20 48 54.8	
SVKR				pmax	pmax		
	comp=Z,95nm,0.9s						
SVKR				smax	smax		
	comp=N,573nm,0.4s						
SVKR	**Severomuysk**	**1.99**	**63**⇑	*i*Pg	**Pg**	**20 48 27.6**	**-0.6**
SVKR				⇑*i*		20 48 30.7	
SVKR				*i* Sg	**Sg**	**20 48 55.4**	**+1.5**
SVKR				max			
	comp=N,96nm,0.3s						
SVKR				Smax			
	comp=N,772nm,0.5s						
NLYR	**Nelyaty**	**3.24**	**66**⇑	*i*Pn	Pb	20 48 44.2	-3.4
NLYR				*e*Pg	**Pg**	**20 48 50.4**	**-1.6**
NLYR				*e*Sn	**Sn**	**20 49 23.1**	**+3.6**
NLYR				*e*Sg	**Sg**	**20 49 33.0**	**-0.9**
NLYR				Pmax			
	comp=N,12nm,0.3s						
NLYR				Smax			
	comp=N,114nm,1.2s						
BOD	**Bodaibo**	**3.25**	**37**⇓	*i*Pn	**Pn**	**20 48 43.2**	**+2.2**
BOD				⇓*i*Pg	**Pb**	**20 48 48.5**	**+0.8**
BOD				*e*		20 49 22.8	
BOD				*e*Sg	**Sg**	**20 49 30.8**	**-3.5**
BOD				Pmax			
	comp=N,21nm,0.3s						
BOD				Smax			
	comp=N,53nm,0.6s						
TRG	**Tyrgan**	**3.46**	**225**	*e*Pn	Pb	20 48 48.0	-3.4
TRG				*e*Pg	Pg	20 48 52.7	-3.6
TRG				*e*		20 49 28.5	
TRG				*e*		20 49 32.8	
TRG				*e*Sg	**Sg**	**20 49 38.2**	**-2.9**
TRG				Pmax			
	comp=N,9.0nm,0.3s						
TRG				Smax			
	comp=N,74nm,0.5s						
CIT	**Chita**	**3.76**	**149**	*e*	**Sn**	**20 49 29.1**	**-3.3**
CIT				*e*Sg	**Sg**	**20 49 50.4**	**-0.2**
CIT				*e*		20 49 55.9	
CIT				max			
	comp=N,63nm,0.6s						
KAB	**Kabansk**	**3.91**	**216**	*e*	Sn	20 49 27.7	-8.4
KAB				*e*Sg	**Sg**	**20 49 54.2**	**-1.3**
KAB				Smax			
	comp=N,183nm,1.0s						
VTMR	**Vitim**	**4.35**	**15**	*e*Pn	**Pn**	**20 48 57.3**	**+1.3**
VTMR				*e*Pg	**Pb**	**20 49 08.8**	**+2.4**
VTMR				*e*		20 49 15.1	
VTMR				*e*Sn	**Sn**	**20 49 45.3**	**-1.4**
VTMR				*e*Sg	**Sg**	**20 50 06.2**	**-3.2**
CRS	**Chara**	**4.71**	**66**	*e*PN	**Pg**	**20 49 18.5**	**-1.7**
CRS				*e*		20 50 18.6	
CRS				pmax	pmax		
	comp=Z,22nm,1.2s						
CRS				smax	smax		
	comp=N,74nm,1.2s						
CRS	**Chara**	**4.71**	**66**	*e*Pg	Pg	20 49 16.8	-3.4
CRS				*e*		20 49 18.8	
CRS				*e*		20 49 46.2	
CRS				*e*Sg	**Sg**	**20 50 18.2**	**-2.9**
CRS				max			
	comp=N,3.0nm,0.5s						
CRS				Smax			
	comp=N,74nm,1.1s						
IRK	**Irkutsk**	**4.72**	**233**	*e*	**Sn**	**20 49 56.2**	**+0.1**
IRK				*e*Sg	**Sg**	**20 50 17.9**	**-3.7**
IRK				Smax			
	comp=N,255nm,0.1s						
LSTR	**Listvyanka**	**4.75**	**226**	Pg	**Pb**	**20 49 16.1**	**+2.8**
LSTR				*e*Sg	**Sg**	**20 50 17.5**	**-4.8**
LSTR				Pmax			
	comp=N,7.0nm,0.8s						
LSTR				Smax			
	comp=N,40nm,1.4s						
TLY	**Talaya**	**5.39**	**231**	*e*PN	**Pn**	**20 49 13.4**	**+2.9**
TLY				*e*		20 49 27.9	
TLY	**Talaya**	**5.39**	**231**	Pg	Pb	20 49 27.7	+3.4
TLY				*e*		20 49 53.0	
TLY				*e*Sn	**Sn**	**20 50 15.6**	**+3.0**
TLY				*e*Sg	**Sg**	**20 50 37.3**	**-5.7**
TLY				Pmax			
	comp=N,4.0nm,0.7s						
TLY				Smax			
	comp=N,64nm,0.8s						
TUP	**Tupik**	**5.59**	**95**⇓	*i*	Pn	20 49 16.9	+3.7
TUP				⇑*i*Pg	Pg	20 49 32.8	-4.3
TUP				*e*Sg	**Sg**	**20 50 46.9**	**-2.6**
TUP				Pmax			
	comp=N,7.0nm,0.6s						
TUP				Smax			
	comp=N,54nm,1.2s						
KHNR	**Khani**	**5.62**	**69**	*e*	**Sn**	**20 50 20.2**	**+2.0**
KHNR				*e*Sg	**Sg**	**20 50 45.6**	**-4.7**
KPC	**Khapcheranga**	**5.70**	**167**	*e*Pn	Pn	20 49 18.5	+3.7
KPC				*e*Pg	Pg	20 49 35.9	-3.3
KPC				*e*		20 49 39.9	
KPC				*e*Sn	**Sn**	**20 50 20.6**	**+0.3**
KPC				*i* Sg	**Sg**	**20 50 51.0**	**-2.0**
KPC				max			
	comp=N,1.0nm,0.5s						
K

FAKI				S	**Sn**	**20 57 35.1**	**-0.2**
FAKI	**Fak Fak**	**4.22**	**6**	P	**Pn**	**20 56 48.3**	**+1.2**
	baz=4.1,SNR=23						
MSAI	**Masohi**	**4.77**	**322**	P	Pn	20 56 58.2	+3.6
MSAI				S	**Sn**	**20 57 45.8**	**-2.8**
KDU	**Kakadu**	**5.54**	**174**	P	**Pn**	**20 57 05.5**	**+0.3**
	baz=5.7,SNR=113						
MTN	**Manton Dam**	**5.70**	**187**	P	**Pn**	**20 57 08.3**	**+0.9**
	baz=5.9,SNR=106						
NLAI	**Namlea**	**6.12**	**309**	P	Pn	20 57 18.3	+5.1
	81nm,0.5s,2µm0.3nm						
SWI	**Sorong**	**6.27**	**355**	P	**Pn**	**20 57 16.7**	**+1.4**
	42nm,0.7s,2µm1.4nm						
MWPI	**Manokwari, Pap**	**6.56**	**20**	P	**Pn**	**20 57 22.2**	**+3.0**
	106nm,1.0s,1.1nm						
SRPI	**Serui, Papua**	**6.83**	**40**	P	Pn	20 57 28.9	+5.9
	103nm,0.6s,0.5nm						
SOEI	**Soe**	**7.93**	**250**	P	**Pn**	**20 57 41.1**	**+2.9**
	71nm,0.8s,1µm0.7nm						
SOEI	**Soe**	**7.93**	**250**	P	Pn	20 57 41.5	+3.3
	baz=8.2,SNR=28						
KNRA	**Kununurra**	**8.99**	**199**	P	**Pn**	**20 57 52.5**	**-0.1**
	baz=9.2,SNR=62						
GENI	**Genyem**	**9.45**	**62**	P	**Pn**	**20 58 00.5**	**+1.6**
	48nm,2.0s						
MMRI	**Maumere**	**9.63**	**261**	P	**Pn**	**20 58 02.3**	**+0.9**
	38nm,0.6s						
KKSI	**Kolaka, Sulawe**	**10.56**	**286**	P	**Pn**	**20 58 13.8**	**-0.4**
	11nm,0.8s,1µm						
LUWI	**Luwuk**	**10.89**	**303**	P	**Pn**	**20 58 15.7**	**-3.0**
	55nm,0.8s,1µm						
LUWI	**Luwuk**	**10.89**	**303**	P	**Pn**	**20 58 15.9**	**-2.8**
	baz=11,SNR=7.2						
WSI	**Waingapu**	**11.69**	**257**	P	**Pn**	**20 58 30.9**	**+1.2**
	164nm,0.6s,4µm						
APSI	**Ampana**	**11.91**	**301**	P	Pn	20 58 26.8	-5.8
	56nm,1.0s,1µm						
LBFI	**Labuhan Bajo,**	**11.92**	**263**	P	**Pn**	**20 58 31.9**	**-0.8**
	26nm,0.7s						
BNSI	**Bone**	**11.99**	**283**	P	**Pn**	**20 58 31.5**	**-2.3**
	16nm,1.0s						
SPSI	**Sidrap Palu**	**12.43**	**284**	P	**Pn**	**20 58 37.4**	**-2.3**
	9.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.45**	**208**	Pn	**Pn**	**20 58 38.3**	**-1.7**
	2.3nm,0.3s,baz=40,slow=14,SNR=54						
FITZ				Sn	Sn	21 00 47.5	-10
	5.3nm,0.3s,baz=275,slow=19,SNR=10						
FITZ	**Fitzroy Crossi**	**12.45**	**208**	P	**Pn**	**20 58 38.3**	**-1.7**
	baz=13,SNR=50						
TTSI	**Tana Toraja**	**12.65**	**288**	P	**Pn**	**20 58 40.0**	**-2.8**
	30nm,0.7s						
WRA	**Warramunga Arr**	**12.94**	**169**	Pn	Pn	20 58 42.6	-4.2
	1.8nm,0.3s,baz=351,slow=12,SNR=54						
WRA				Sn	Sn	21 00 59.1	-11
	1.8nm,0.3s,baz=346,slow=23,SNR=6.2						
COEN	**Coen**	**13.03**	**122**	P	**Pn**	**20 58 45.5**	**-2.4**
	baz=13,SNR=5.3						
QIS	**Mount Isa**	**15.30**	**151**	P	**Pn**	**20 59 15.5**	**-3.2**
	baz=15,SNR=6.2						
ASAR	**Alice Springs**	**16.54**	**173**	Pn	**Pn**	**20 59 31.0**	**-3.6**
	2.0nm,0.3s,baz=352,slow=9.2,SNR=188						
ASAR				Sn	Sn	21 02 25.3	-12
	0.4nm,0.3s,baz=348,slow=24,SNR=6.1						
WRKA	**Warakurna**	**18.11**	**190**	P	**Pn**	**20 59 50.7**	**-3.4**
	baz=18,SNR=7.6						
CTA	**Charters Tower**	**18.99**	**134**	P	**P**	**21 00 03.8**	**-0.2**
	0.1nm,0.3s,baz=312,slow=14,SNR=3.6						
QLP	**Quilpie**	**22.64**	**150**	P	**P**	**21 00 45.2**	**+1.9**
	baz=23,SNR=7.1						
MEEK	**Meekatharra**	**23.11**	**211**	P	**P**	**21 00 49.2**	**+1.0**
	baz=23,SNR=5.4						
CISI	**Cisompet, Garu**	**23.83**	**267**	P	**P**	**21 00 55.0**	**-0.5**
	baz=24,SNR=3.3						
STKA	**Stephens Creek**	**26.23**	**161**	P	**P**	**21 01 18.3**	**+1.3**
	3.8nm,0.6s,baz=335,slow=11,SNR=8.8						
STKA	**Stephens Creek**	**26.23**	**161**	P	**P**	**21 01 20.9**	**+3.9**
	baz=26,SNR=5.3						
MORW	**Morawa**	**26.41**	**212**	P	**P**	**21 01 22.7**	**+4.0**
	baz=27,SNR=3.7						
CMAR	**Chiang Mai Arr**	**41.24**	**309**	P	**P**	**21 03 29.2**	**+2.0**
	0.8nm,0.5s,baz=136,slow=7.7,SNR=8.2						

*ISCJB **24** 20:56:44.7±0.4, 1°.93N±0°.04×128°.24E±0°.06, h134km, mb4.2/18, Error ellipse: s-maj=8.5km s-min=5.2km az=6.2*
*DJA **24** 20:56:46.1±1.2, 2°.N±6°×12°.8E±1°.1, h106km±4km, M4.4/7, mb4.6/5, mB5.0/4, MLv4.4/7, Mw(mB)4.3/4*
*IDC **24** 20:56:50.0±6.7, 1°.95N×128°.30E, h170km±64km, mb4.0/18, mb1 4.0/18, mb1mx3.9/27, mbtmp4.4/18, Error ellipse: s-maj=35.3km s-min=12.1km az=78.0*
*MAN **24** 20:57:50, 6°.38N×125°.70E, h1km, mb4.8, ML3.7, MS3.7*
ISC 24 20:56:46.0±0.6, 1°.91N±0°.05×128°.21E±0°.09, h134km, n52, σ1§28/56, mb4.2/17, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAMI	**Galela, Maluku**	**0.43**	**261**	P		**Pn**	**20 57 02.9**	**-2.2**
GAMI				S		**Sn**	**20 57 16.2**	**-3.4**
GAMI	**Galela, Maluku**	**0.43**	**261**	P		**Pn**	**20 57 02.6**	**-2.5**
TNTI	**Ternate**	**1.41**	**217**	P		**Pn**	**20 57 12.0**	**-1.4**
TNTI				S		**Sn**	**20 57 33.0**	**-1.3**
TNTI	**Ternate**	**1.41**	**217**	P		**Pn**	**20 57 11.9**	**-1.4**
LBMI	**Labuha**	**2.63**	**196**	P		**Pn**	**20 57 29.0**	**+1.0**
LBMI				S		**Sn**	**20 58 01.4**	**+1.0**
LBMI	**Labuha**	**2.63**	**196**	P		**Pn**	**20 57 25.9**	**-2.1**
	120nm,0.8s,2µm0.8nm							
SGSI	**Sangihe**	**3.21**	**303**	P		**Pn**	**20 57 32.7**	**-2.8**
SGSI				S		**Sn**	**20 58 13.0**	**-0.7**
KMSI	**Cibinong**	**4.43**	**253**	P		**Pn**	**20 57 51.4**	**-0.2**
KMSI				S		Sn	20 58 01.5	-41
KMSI	**Cibinong**	**4.43**	**253**	P		**Pn**	**20 57 50.9**	**-0.7**
MSAI	**Masohi**	**5.27**	**172**	P		Pn	20 57 57.4	-5.4
GSPH	**General Santos**	**5.27**	**322**	⇓*i*P		**Pn**	**20 58 01.6**	**-1.4**
GTOI	**Gorontalo**	**5.35**	**256**	P		**Pn**	**20 58 04.8**	**+0.9**
	235nm,0.6s,2µm0.9nm							
MATI	**Mati**	**5.37**	**339**	*e*P		**Pn**	**20 58 06.0**	**+1.8**
MATI				*e*S		Sn	20 58 21.1	-44
MRSI	**Marisa**	**6.43**	**257**	P		**Pn**	**20 58 18.0**	**-0.3**
	57nm,1.2s,830nm0.3nm							
MRSI	**Marisa**	**6.43**	**257**	P		**Pn**	**20 58 17.4**	**-0.9**
BUKP	**Musuan**	**6.71**	**332**	*e*P		**Pn**	**20 58 22.7**	**+0.5**
APSI	**Ampana**	**7.13**	**247**	P		**Pn**	**20 58 27.8**	**0.0**
	56nm,1.0s,1µm0.3nm							
PAGZ	**Pagadian**	**7.61**	**321**	*e*P		**Pn**	**20 58 33.9**	**-0.3**
SPSI	**Sidrap Palu**	**10.26**	**235**	P		**Pn**	**20 59 11.8**	**+2.0**
SJI	**Sawahan**	**19.00**	**240**	P		**Pn**	**21 00 59.5**	**-0.2**
	31nm,0.9s,2µm							
PWJI	**Pagerwojo**	**19.11**	**239**	P		**Pn**	**21 01 00.2**	**-0.7**
ASAR	**Alice Springs**	**26.02**	**168**	P		**P**	**21 02 08.6**	**+1.9**
	0.9nm,0.4s,baz=348,slow=12,SNR=2.8							
KSRS	**Korea Array**	**35.37**	**360**	P		**P**	**21 03 29.2**	**+0.5**
	2.1nm,0.5s,baz=177,slow=9.8,SNR=13							
MJAR	**Matsushiro Arr**	**35.68**	**14**	P		**P**	**21 03 30.1**	**-1.3**
	1.5nm,0.6s,baz=182,slow=10.0,SNR=6.6							
STKA	**Stephens Creek**	**35.92**	**160**	P		**P**	**21 03 33.5**	**0.0**
	6.0nm,0.4s,baz=347,slow=8.9,SNR=10							
USRK	**Ussuriysk Arra**	**42.24**	**4**	P		**P**	**21 04 26.2**	**+0.3**
	2.6nm,0.7s,baz=192,slow=6.2,SNR=7.6							
TAPN	**Taplejung**	**46.28**	**307**	*e*P		**P**	**21 05 00.2**	**+1.4**
ODAN	**Odare**	**46.33**	**306**	*e*P		**P**	**21 05 00.5**	**+1.5**
	14nm,0.6s							
RAMN	**Ramite**	**47.00**	**306**	*e*P		**P**	**21 05 05.9**	**+1.6**
	26nm,0.8s							
JIRN	**Jiri**	**47.63**	**307**	*e*P		**P**	**21 05 10.5**	**+1.2**
	15nm,0.6s							
GUN	**Gumba**	**47.99**	**307**	*e*P		**P**	**21 05 13.4**	**+1.4**
	26nm,0.9s							
PKI	**Pulchoki**	**48.23**	**306**	*e*P		**P**	**21 05 14.6**	**+0.8**
PKIN	**Phulchoki**	**48.24**	**306**	*e*P		**P**	**21 05 14.5**	**+0.6**
KKN	**Kakani**	**48.42**	**306**	*e*P		**P**	**21 05 15.5**	**+0.3**
DMN	**Daman**	**48.49**	**306**	*e*P		**P**	**21 05 17.0**	**+1.2**
GKN	**Gorkha**	**49.03**	**306**	*e*P		**P**	**21 05 20.9**	**+1.1**
	13nm,0.6s							
SONM	**Songino Array**	**49.49**	**341**	P		**P**	**21 05 23.9**	**+1.0**
	4.9nm,0.7s,baz=153,slow=7.7,SNR=28							
SONM				PcP		**PcP**	**21 06 43.6**	**+0.7**
	0.8nm,0.7s,baz=167,slow=4.7,SNR=3.5							
KOLN	**Koldanda**	**49.77**	**305**	*e*P		**P**	**21 05 26.9**	**+1.4**
	22nm,0.8s							
DANN	**Dangsing**	**49.87**	**306**	*e*P		**P**	**21 05 27.3**	**+1.0**
	20nm,0.7s							
PYUN	**Piuthan**	**50.40**	**306**	*e*P		**P**	**21 05 31.1**	**+0.9**
	31nm,0.9s							
MKAR	**Makanchi Array**	**59.88**	**325**	P		**P**	**21 06 38.5**	**+0.8**
	7.8nm,0.7s,baz=118,slow=8.5,SNR=75							

AAK	**Ala-Archa**	**62.69**	**318**	P		**P**	**21 06 56.1**	**-0.8**
	0.8nm,0.5s,baz=80,slow=6.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**62.87**	**333**	P		**P**	**21 06 56.6**	**-1.0**
	1.2nm,0.5s,baz=126,slow=7.5,SNR=6.5							
SEY	**Seymchan**	**63.48**	**12**	P		**P**	**21 07 02.0**	**+0.6**
	1.6nm,0.5s,baz=193,slow=5.0,SNR=2.0							
KURBB	**Kurchatov Arra**	**64.06**	**327**	P		**P**	**21 07 05.9**	**+0.4**
	6.9nm,0.6s,baz=125,slow=5.9,SNR=119							
BVAR	**Borovoye Array**	**69.64**	**327**	P		**P**	**21 07 41.0**	**+0.2**
	2.3nm,0.6s,baz=131,slow=9.3,SNR=11							
AKTO	**Aktyubinsk**	**76.00**	**322**	P		**P**	**21 08 18.6**	**+0.2**
	1.3nm,0.7s,baz=115,slow=4.8,SNR=6.7							
VNDA	**Vanda**	**81.45**	**173**	P		**P**	**21 08 47.5**	**-0.2**
	0.9nm,0.7s,baz=319,slow=2.7,SNR=4.1							
SPITS	**Spitsbergen Ar**	**92.54**	**349**	P		**P**	**21 09 40.8**	**-0.9**
	13nm,1.0s,baz=39,slow=9.3,SNR=3.7							
ARCES	**ARCESS Array B**	**92.66**	**340**	P		**P**	**21 09 41.5**	**-0.9**
	2.3nm,0.6s,baz=69,slow=7.9,SNR=8.4							
FINES	**FINESS Array B**	**94.12**	**332**	P		**P**	**21 09 48.1**	**-1.1**
	1.5nm,0.9s,baz=83,slow=4.3,SNR=5.4							
RES	**Resolute Bay**	**99.32**	**11**	P		**Pdif**	**21 10 12.3**	**-0.1**
	0.6nm,0.6s,baz=313,slow=3.6,SNR=7.1							

*NIED **24** 21:01:00, 47°.30N×153°.60E, h32km, Mw4.5 Best double couple: M0=6.74000×10^15 NP1:φs=319.00000°, δ76.00000°, λ28.00000°. NP2:φs=222.00000°, δ63.00000°, λ164.00000°.*
*SKHL **24** 21:01:27.8±6.6, 47°.14N×153°.88E, h45km±5km, mb5.5/1, Ms4.3/5, msh5.2/3*
*BJI **24** 21:01:28.1, 47°.54N×153°.74E, h58km, mB5.0/33, mb4.6/35, Ms4.5/30, Ms7 4.3/22*
*JMA **24** 21:01:29.6±0.8, 47°.29N×153°.62E, h30km, M4.9*
*MOS **24** 21:01:29.2±0.9, 47°.26N×153°.11E, h41km, mb4.9/63, Error ellipse: s-maj=7.8km s-min=5.1km az=86.5*
*ISCJB **24** 21:01:31.4±0.4, 47°.30N±0°.03×153°.16E±0°.02, h56km±3km, mb4.8/191, MS3.6/37, Error ellipse: s-maj=4.9km s-min=2.3km az=164.2*
*IDC **24** 21:01:33.1±0.4, 47°.34N×153°.07E, h60km±4km, mb4.2/37, mb1 4.3/42, mb1mx4.3/45, mbtmp4.5/42, MS3.7/31, Ms1 3.7/31, ms1mx3.6/42, Error ellipse: s-maj=11.7km s-min=8.1km az=129.0*
*NEIC **24** 21:01:33.5±0.4, 47°.33N×153°.08E, h64km±4km, mb4.9/112, Error ellipse: s-maj=4.6km s-min=2.6km az=157.0*
*SZGRF **24** 21:01:39.3, 48°.82N×152°.19E, h33km, mb4.7, Kuril Islands, Russia*
ISC 24 21:01:33.4±0.3, 47°.29N±0°.04×153°.18E±0°.03, h63km±2km, h62km:pP-P, n889, σ1§17/938, mb4.8/194, 156C-162D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**3.91**	**29**	*e*PN		Pn	21 02 23.9	-6.9
SKR					pmax	pmax		
	comp=Z,240nm,0.6s							
SKR					pmax	pmax		
	comp=N,150nm,0.5s							
SKR					pmax	pmax		
	comp=E,80nm,0.5s							
SKR	**Severo-Kuril's**	**3.91**	**29**	*e*P		Pn	21 02 23.9	-6.9
SKR					AMB	AMB	21 02 28.0	
	comp=E,150nm,0.6s							
SKR					AMB	AMB	21 02 28.0	
	comp=E,80nm,0.6s							
SKR					AMB	AMB	21 02 28.0	
	comp=E,240nm,0.6s							
SKR				*e*S		Sn	21 03 06.0	-9.3
SKR					A	A	21 03 12.0	
	comp=E,2µm,6.0s							
SKR					A	A	21 03 12.0	
	comp=E,690nm,0.4s							
SKR					A	A	21 03 12.0	
	comp=E,1µm,0.4s							
KUR	**Kuril'sk**	**4.22**	**243**	⇑*i*PN		**Pn**	**21 02 38.3**	**+3.2**
KUR				*i* S		Sn	21 03 30.0	+6.9
KUR					pmax	pmax		
	comp=Z,785nm,0.8s							
KUR					pmax	pmax		
	comp=E,189nm,1.0s							
KUR					smax	smax		
	comp=N,6µm,2.0s							
KUR					smax	smax		
	comp=E,4µm,1.2s							
KUR					smax	smax		
	comp=N,760nm,0.6s							
KUR					smax	smax		
	comp=E,285nm,0.4s							
KUR	**Kuril'sk**	**4.22**	**243**	*i* P		**Pn**	**21 02 38.3**	**+3.2**
KUR					AMB	AMB	21 02 40.1	
	comp=E,200nm,0.9s							
KUR					AMB	AMB	21 02 40.1	
	comp=E,790nm,0.9s							
KUR				*i* S		**Sn**	**21 03 28.0**	**+4.9**
KUR					A	A	21 03 35.8	
	comp=E,6µm,2.0s							
KUR					A	A	21 03 35.8	
	comp=E,4µm,2.0s							
KUR					A	A	21 03 44.3	
	comp=E,760nm,0.5s							
KUR					A	A	21 03 44.3	
	comp=E,290nm,0.5s							
SHO	**Shikotan**	**5.62**	**235**	*e*P		**Pn**	**21 02 54.5**	**+0.3**
SHO				*e*S		**Sn**	**21 03 54.4**	**-3.0**
SHO					A	A	21 04 23.1	
	comp=E,700nm,2.9s							
YUK	**Yuzh-Kuril'sk**	**6.08**	**240**	*d i*PN		**Pn**	**21 03 03.1**	**+2.6**
YUK				*i* S		**Sn**	**21 04 11.9**	**+3.3**
YUK					pmax	pmax		
	comp=N,126nm,0.2s							
YUK					pmax	pmax		
	comp=E,76nm,0.2s							
YUK					pmax	pmax		
	comp=Z,298nm,0.2s							
YUK					smax	smax		
	comp=N,595nm,0.7s							
YUK					smax	smax		
	comp=E,118nm,0.7s							
YUK					MLR	MLR		
	comp=N,3µm,15.0s							
YUK					MLR	MLR		
	comp=Z,1µm,15.0s							
YUK	**Yuzh-Kuril'sk**	**6.08**	**240**	⇓*i*P		**Pn**	**21 03 03.1**	**+2.6**
YUK					AMB	AMB	21 03 06.2	
	comp=Z,130nm,0.2s							
YUK					AMB	AMB	21 03 06.2	
	comp=Z,80nm,0.2s							
YUK					AMB	AMB	21 03 06.2	
	comp=Z,300nm,0.2s							
YUK					AMB	AMB	21 03 06.3	
	comp=Z,4µm,0.2s							
YUK				*i* S		**Sn**	**21 04 11.9**	**+3.3**
YUK					A	A	21 04 39.0	
	comp=Z,800nm,0.7s							
YUK					A	A	21 04 39.2	
	comp=Z,600nm,0.7s							
YUK					A	A	21 04 39.2	
	comp=Z,120nm,0.7s							
YUK					AMS	AMS	21 05 10.5	
	comp=Z,2µm,15.0s							
YUK					AMS	AMS	21 05 10.5	
	comp=Z,1µm,15.0s							
RUS	**Russkaya**	**6.19**	**32**	*e*P		Pn	21 03 08.9	+6.8
PEA0	**Petropavlovsk-**	**6.50**	**25**	*e*Pn		**Pn**	**21 03 04.9**	**-1.4**
PETK	**Petropavlovsk-**	**6.50**	**25**	PN		**Pn**	**21 03 06.9**	**+0.5**
PETK					pmax	pmax		
	comp=Z,3.0nm,0.3s							
PETK	**Petropavlovsk-**	**6.50**	**25**	P		**Pn**	**21 03 06.8**	**+0.5**
PETK	**Petropavlovsk-**	**6.50**	**25**	P		**Pn**	**21 03 06.8**	**+0.5**
PETK	comp=Z,3.1nm,0.3s,baz=178,slow=14,SNR=42				LR	LR	21 05 46.9	
	comp=Z,200nm,21.1s,baz=200,slow=39							
NEM2	**Nemuro 2**	**6.55**	**236**	P		**Pn**	**21 03 06.6**	**-0.4**
NEM2				*e*S		**Sn**	**21 04 17.6**	**-2.6**
JRA	**Rausu**	**6.57**	**242**	P		**Pn**	**21 03 09.5**	**+2.2**
PET	**Petropavlovsk**	**6.73**	**29**	*e*PN		**Pn**	**21 03 10.8**	**+1.5**
PET					pmax	pmax		
	comp=Z,54nm,0.5s							
PET					MLR	MLR		
	comp=Z,300nm,20.0s							
PET	**Petropavlovsk**	**6.73**	**29**	*e*P		**Pn**	**21 03 10.8**	**+1.5**
PET					AMB	AMB	21 03 14.8	
	comp=Z,50nm,0.5s							
PET				*e*S		**Sn**	**21 04 20.7**	**-3.8**
PET					A	A	21 04 43.4	

	comp=Z,440nm,0.7s							
PET					A	A	21 04 52.7	
	comp=Z,370nm,0.6s							
PET					AMS	AMS	21 05 57.5	
	comp=Z,300nm,20.0s							
PET	**Petropavlovsk**	**6.73**	**29**	*e*Pn		**Pn**	**21 03 10.9**	**+1.5**
JNK	**Nakash**	**7.01**	**241**	P		**Pn**	**21 03 15.1**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.12**	**271**	⇑*i*PN		Pn	21 03 19.0	+4.2
YSS				*e*S		**Sn**	**21 04 34.8**	**+0.6**
YSS					pmax	pmax		
	comp=N,150nm,0.8s							
YSS					pmax	pmax		
	comp=E,220nm,0.8s							
YSS					pmax	pmax		
	comp=Z,220nm,0.8s							
YSS					MLR	MLR		
	comp=Z,800nm,14.0s							
YSS					MLR	MLR		
	comp=N,400nm,15.0s							
YSS					MLR	MLR		
	comp=E,500nm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.12**	**271**	⇓*i*P		Pn	21 03 19.0	+4.2
YSS					AMB	AMB	21 03 20.0	
	comp=E,150nm,0.8s							
YSS					AMB	AMB	21 03 20.0	
	comp=E,220nm,0.8s							
YSS				*e*S		**Sn**	**21 04 37.3**	**+3.1**
YSS					A	A	21 04 55.9	
	comp=E,70nm,0.7s							
YSS					AMS	AMS	21 06 09.0	
	comp=E,400nm,15.0s							
YSS					AMS	AMS	21 06 09.0	
	comp=E,500nm,15.0s							
YSS					AMS	AMS	21 06 09.0	
	comp=E,800nm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.12**	**271**	*e*Pn		**Pn**	**21 03 17.8**	**+3.0**
JTKR	**Abashiri--Toko**	**7.30**	**246**	P		**Pn**	**21 03 20.0**	**+2.8**
JAK	**Akkeshi**	**7.38**	**237**	P		**Pn**	**21 03 17.6**	**-0.7**
JAK				*e*S		**Sn**	**21 04 38.3**	**-2.2**
JMP	**Maruseppu**	**7.62**	**248**	P		Pn	21 03 25.0	+3.3
UGL	**Uglegorsk**	**7.64**	**288**	*e*PN		Pn	21 03 26.0	+4.1
UGL					pmax	pmax		
	comp=Z,140nm,0.7s							
UGL					MLR	MLR		
	comp=N,700nm,14.0s							
UGL					MLR	MLR		
	comp=Z,600nm,14.0s							
UGL					MLR	MLR		
	comp=E,1µm,15.0s							
UGL	**Uglegorsk**	**7.64**	**288**	*e*P		Pn	21 03 26.0	+4.1
UGL					AMB	AMB	21 03 27.5	
	comp=E,140nm,0.7s							
UGL				*e*S		**Sn**	**21 04 51.8**	**+4.8**
UGL					AMS	AMS	21 06 46.0	
	comp=E,700nm,15.0s							
UGL					AMS	AMS	21 06 46.0	
	comp=E,1µm,15.0s							
UGL					AMS	AMS	21 06 46.0	
	comp=E,600nm,15.0s							
JAR	**Ashorobuto**	**7.74**	**242**	P		**Pn**	**21 03 24.4**	**+1.1**
TYV	**Tymovskoe**	**7.78**	**301**	⇓*i*P		Pn	21 03 27.0	+3.2
TYV					AMB	AMB	21 03 30.5	
	comp=E,20nm,1.1s							
TYV					AMB	AMB	21 03 30.5	
	comp=E,160nm,1.1s							
TYV					AMB	AMB	21 03 30.5	
	comp=E,120nm,1.1s							
TYV					AMB	AMB	21 03 32.0	
	comp=E,500nm,4.0s							
TYV				*e*S		**Sn**	**21 04 53.9**	**+3.6**
TYV					A	A	21 05 18.0	
	comp=E,30nm,0.7s							
TYV					AMS	AMS	21 06 29.0	
	comp=E,1µm,20.0s							
TYV					AMS	AMS	21 06 29.0	
	comp=E,1µm,16.0s							
JOB	**Onbets**	**7.93**	**240**	P		**Pn**	**21 03 26.1**	**+0.2**
HRK	**Horoka**	**8.04**	**245**	*e*P		**Pn**	**21 03 30.0**	**+2.5**
JKA	**Kamikawa-asahi**	**8.06**	**251**	*e*P		**Pn**	**21 03 26.6**	**-1.0**
ASAJ	**Asahikawa**	**8.06**	**251**	P		Pn	21 03 31.9	+4.3
ASAJ	**Asahikawa**	**8.06**	**251**	*e*Pn		Pn	21 03 31.5	+3.9
ASAJ	**Asahikawa**	**8.06**	**251**	P		**Pn**	**21 03 26.6**	**-1.0**
	comp=E,0.5nm,0.3s,baz=90,slow=7.1,SNR=2.3							
ASAJ					LR	LR	21 06 25.4	
	comp=E,16nm,28.6s,baz=26,slow=36							
JWK2	**Keihoku**	**8.06**	**260**	P		Pn	21 03 33.4	+5.8
JKK2	**Kamakawa 2**	**8.08**	**249**	P		Pn	21 03 31.2	+3.3
JCH	**Churui**	**8.38**	**240**	P		**Pn**	**21 03 32.5**	**+0.4**
JFR	**Furan**	**8.54**	**245**	P		Pn	21 03 37.9	+3.7
JAB	**Ashibetsu**	**8.59**	**248**	P		Pn	21 03 38.8	+3.9
MYR	**Moyori**	**8.63**	**238**	*e*P		**Pn**	**21 03 35.0**	**-0.4**
ERM	**Erimo**	**8.88**	**237**	*e*PN		**Pn**	**21 03 39.7**	**+0.9**
ERM	**Erimo**	**8.88**	**237**	*e*P		**Pn**	**21 03 39.4**	**+0.6**
ERM	**Erimo**	**8.88**	**237**	*e*Pn		**Pn**	**21 03 39.6**	**+0.9**
JEM	**Erimo**	**8.88**	**237**	P		**Pn**	**21 03 37.7**	**-1.1**
JBT	**Biratori 2**	**8.89**	**243**	P		**Pn**	**21 03 39.8**	**+0.8**
JNBK	**Urakawa-nobuka**	**8.95**	**240**	P		**Pn**	**21 03 39.5**	**-0.3**
JNBK				*e*S		**Sn**	**21 05 14.1**	**-4.8**
OKH	**Okha**	**9.05**	**318**	*e*P		**Pn**	**21 03 44.1**	**+3.0**
OKH					AMB	AMB	21 03 45.0	
	comp=E,100nm,1.0s							
OKH				*e*S		Sn	21 05 28.0	+6.6
OKH					A	A	21 05 49.0	
	comp=E,80nm,0.6s							
OKH					AMS	AMS	21 07 54.0	
	comp=E,1µm,16.0s							
NKL	**Nikolayevsk**	**9.92**	**311**	*e*P		Pn	21 04 11.0	+18
NKL					AMS	AMS	21 08 24.0	
	comp=E,800nm,16.0s							
NKL					AMS	AMS	21 08 24.0	
	comp=E,1µm,16.0s							
NKL

MAJO Matsushiro 15.45 231 *e*Pn **Pn** **21 05 05.8 -1.5**
comp=Z,31nm,1.0s
MAT Matsushiro 15.45 231 P **Pn** **21 05 05.1 -2.3**
MAT S **Sn** **21 08 01.0 +3.5**
MJAR Matsushiro Arr 15.45 231 P **Pn** **21 05 05.6 -1.8**
MJAR Matsushiro Arr 15.45 231 P **Pn** **21 05 05.6 -1.8**
comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=19
MJAR LR LR 21 11 46.3
comp=Z,104nm,19.5s,baz=40,slow=40
SEY Seymchan 15.69 359 P **Pn** **21 05 09.5 -0.7**
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 15.69 359 *e*P **Pn** **21 05 09.5 -0.7**
SEY Seymchan 15.69 359 P **Pn** **21 05 09.4 -0.7**
SEY Seymchan 15.69 359 P **Pn** **21 05 09.4 -0.7**
comp=Z,1.0nm,0.3s,baz=173,slow=14,SNR=20
MDJ Mudanjiang 16.61 269 P **Pn** **21 05 21.3 -0.6**
MDJ pP **pP** **21 05 34.8 -1.8**
MDJ sP **sP** **21 05 41.5 -3.0**
MDJ S **Sn** **21 08 23.1 -2.3**
MDJ sS **sS** **21 08 50.9 -4.0**
MDJ PcP **PcP** **21 10 12.1 +3.5**
MDJ ScP **ScP** **21 13 40.8 +3.2**
MDJ PcS **PcS** **21 13 46.4 +2.1**
MDJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ pmax pmax
comp=Z,72nm,4.9s
MDJ Mudanjiang 16.61 269 *e*Pn **Pn** **21 05 21.5 -0.4**
comp=Z,26nm,0.8s
BMKR Bomnak 16.96 305 *e*P **P** **21 05 27.0 -0.3**
ZEA Zeya 17.65 301 *e*P **P** **21 05 36.7 +1.9**
ZEA AMB AMB 21 05 38.0
comp=Z,20nm,1.0s
ZEA AMS AMS 21 12 57.0
comp=Z,800nm,16.0s
KROS Kirovskiy 17.95 303⇑ *e*P **P** **21 05 37.1 -1.1**
KROS AMB AMB 21 05 41.5
comp=Z,10.0nm,0.6s
CN2 Changchun 19.69 270 *e*P **P** **21 05 57.5 +0.2**
CN2 *es*P **sP** **21 06 17.5 -1.0**
CN2 *e*S **S** **21 09 28.8 -7.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,500nm,16.0s
CLNS Chul'man 19.71 309 *e*P **Pn** **21 06 04.1 +4.7**
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=Z,22nm,0.9s
CLNS pmax pmax
comp=N,12nm,1.1s
YAK Yakutsk 19.89 326 *e*P **P** **21 06 00.1 +0.8**
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK Yakutsk 19.89 326 *e*P **P** **21 06 00.1 +0.8**
YAK Yakutsk 19.89 326 *e*Pn **Pn** **21 06 02.0 +0.6**
comp=E,72nm,1.0s
ADK Adak 19.99 66 *e*P **P** **21 05 57.8 -2.6**
ADK pmax pmax
comp=Z,162nm,1.9s
ADK Adak 19.99 66 *e*P **P** **21 05 57.8 -2.6**
comp=Z,162nm,1.9s
KSRS Korea Array 21.01 251 P **P** **21 06 12.1 +0.5**
comp=Z,15nm,0.9s,baz=54,slow=9.9,SNR=21
KSRS PcP **PcP** **21 10 16.7 +0.4**
comp=Z,0.9nm,0.6s,baz=9.2,slow=1.2,SNR=4.9
KSRS LR LR 21 13 13.1
comp=Z,121nm,21.2s,baz=49,slow=33
KS01 Wonju Array Si 21.02 251 *e*P **P** **21 06 12.5 +0.8**
KSAR Wonju Array Be 21.04 251 *e*P **P** **21 06 12.1 +0.2**
KSAR Wonju Array Be 21.04 251 P **P** **21 06 12.1 +0.2**
KSAR PcP **PcP** **21 10 16.7 +0.3**
INCN Inchon 21.83 253 *e*P **P** **21 06 22.2 +1.9**
comp=Z,45nm,1.0s
CBIJ Chichi jima 21.94 207 P **P** **21 06 22.3 +0.8**
JCJ Chichijima 21.94 207 P **P** **21 06 22.3 +0.8**
comp=Z,25nm,0.8s,baz=279,slow=19,SNR=2.3
JCJ LR LR 21 13 33.9
comp=Z,16nm,28.6s,baz=353,slow=33
JNU Nakatsue 22.04 238 *e*P **P** **21 06 22.6 -0.1**
comp=Z,25nm,1.0s
JNU Nakatsue 22.04 238 P **P** **21 06 22.9 +0.1**
comp=Z,24nm,1.1s,baz=48,slow=4.3,SNR=7.7
JNU LR LR 21 15 22.3
comp=Z,90nm,20.8s,baz=48,slow=38
HIA Hailar 22.24 288 *e*P **P** **21 06 23.2 -1.6**
HIA Hailar 22.24 288 *e*P **P** **21 06 23.2 -1.6**
comp=Z,16nm,1.1s
TIXI Tiksi 26.96 343 P **P** **21 07 09.4 +0.9**
TIXI MLR MLR
comp=Z,347nm,28.0s
TIXI Tiksi 26.96 343 *e*P **P** **21 07 09.4 +0.9**
BJI Beijing 27.53 268 P **P** **21 07 14.3 +0.4**
BJI S **S** **21 11 52.1 +1.6**
BJI pmax pmax
comp=Z,14nm,0.9s
BJI LR LR
comp=Z,220nm,13.2s
BJI LR LR
comp=Z,250nm,15.8s
TNA Tin City 27.56 34 *e*P **P** **21 07 14.2 +0.3**
comp=Z,12nm,0.8s
H11N2 WAKE ISLAND Hy 29.68 153 T T 21 39 29.6
baz=344,slow=77,SNR=2028
H11N1 WAKE ISLAND Hy 29.69 153 T T 21 39 22.4
baz=344,slow=77,SNR=3925
H11N3 WAKE ISLAND Hy 29.70 153 T T 21 39 30.2
baz=344,slow=77,SNR=2507
NJ2 Nanjing 30.20 252 *e*P **P** **21 07 37.4 -0.3**
NJ2 S **S** **21 12 33.0 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=Z,440nm,15.8s
HHC Hu-ho-hao-te 30.31 273 *e*P **P** **21 07 38.8 +0.1**
HHC sP **sP** **21 08 00.8 -0.6**
HHC PcP **PcP** **21 10 37.0 -0.6**
HHC S **S** **21 12 31.9 -2.4**
HHC PcS **PcS** **21 14 19.4 -1.9**
HHC ScS **ScS** **21 18 09.0 -1.3**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,160nm,5.9s
HHC LR LR
comp=Z,700nm,11.9s
HHC LR LR
comp=Z,700nm,12.0s
HHC LR LR
comp=Z,900nm,13.0s
ULN Ulaanbaatar 30.77 288 *e*P P 21 07 49.4 +6.7
comp=Z,5.1nm,1.1s
H11S1 WAKE ISLAND Hy 30.77 154 T T 21 39 42.3
baz=346,slow=76,SNR=68
H11S3 WAKE ISLAND Hy 30.78 154 T T 21 39 43.0
baz=346,slow=76,SNR=78
H11S2 WAKE ISLAND Hy 30.79 154 T T 21 39 43.6
baz=346,slow=76,SNR=25
SONA1 Songino Array 31.19 289 *e*P **P** **21 07 47.9 +1.4**
SONM Songino Array 31.20 289 P **P** **21 07 46.7 +0.1**
SONM PcP **PcP** **21 10 39.7 -0.1**
SONM pPcP 21 10 56.9
SONM Songino Array 31.20 289 P **P** **21 07 46.7 +0.1**
comp=Z,1.0nm,0.9s,baz=66,slow=8.5,SNR=4.7
SONM PcP **PcP** **21 10 39.7 -0.1**
comp=Z,1.1nm,0.8s,baz=60,slow=2.1,SNR=5.3
SONM pPcP 21 10 56.9
comp=Z,1.7nm,0.8s,baz=106,slow=2.1,SNR=6.4
SONM LR LR 21 21 25.1
comp=Z,219nm,18.6s,baz=100,slow=38
PPLA Purkeypile 33.73 42 *e*P **P** **21 08 09.8 +1.3**
comp=Z,37nm,1.6s
KTH Kantishna Hill 34.32 41 *e*P **P** **21 08 14.7 +1.2**
comp=Z,97nm,1.1s

TRF Thorofare Moun 34.60 41 *e*P **P** **21 08 16.9 +0.9**
comp=Z,13nm,1.0s
COLD Coldfoot 34.86 35 *e*P **P** **21 08 18.9 +0.8**
comp=Z,9.5nm,0.6s
MCK McKinley 35.21 41 *e*P **P** **21 08 22.3 +1.2**
MCK pmax pmax
comp=Z,17nm,1.2s
MCK McKinley 35.21 41 *e*P **P** **21 08 22.3 +1.2**
MCK McKinley 35.21 41 *e*P **P** **21 08 22.3 +1.2**
comp=Z,17nm,1.2s
SML Sawmill 35.55 44 *e*P P 21 08 18.1 -6.0
SML pmax pmax
comp=Z,21nm,1.5s
SML Sawmill 35.55 44 *e*P P 21 08 18.1 -6.0
comp=Z,21nm,1.5s
XAN Xi'an 35.61 264 P **P** **21 08 25.8 +0.9**
XAN pP **pP** **21 08 40.9 +0.5**
XAN pmax pmax
comp=Z,3.0nm,1.1s
COLA College 35.69 39*c* *i*P **P** **21 08 26.1 +1.0**
COLA pmax pmax
comp=Z,41nm,0.9s
COLA College 35.69 39⇑ *i*P **P** **21 08 26.1 +1.0**
COLA College 35.69 39 *e*P **P** **21 08 25.4 +0.3**
comp=Z,3.3nm,0.8s
IL1 Eielson Array 36.10 39 *e*P **P** **21 08 28.8 +0.1**
ILAR Eielson Array 36.10 39 *e*P **P** **21 08 28.7 0.0**
ILAR Eielson Array 36.10 39 P **P** **21 08 28.6 0.0**
ILAR pP **pP** **21 08 43.9 -0.3**
ILAR Eielson Array 36.10 39 P **P** **21 08 28.6 0.0**
comp=Z,2.5nm,0.9s,baz=260,slow=9.8,SNR=23
ILAR pP **pP** **21 08 43.9 -0.3**
comp=Z,3.2nm,0.5s,baz=259,slow=5.4,SNR=12
ILAR LR LR 21 26 17.1
comp=Z,108nm,18.1s,baz=280,slow=41
DOT Dot Lake 37.38 41 *e*P **P** **21 08 37.5 -2.1**
comp=Z,91nm,2.6s
BMRM Bremner River 37.41 45 *e*P **P** **21 08 39.4 -0.5**
comp=Z,82nm,1.7s
ENH Enshi 37.51 259 *e*P **P** **21 08 40.6 -0.5**
comp=Z,8.1nm,1.2s
EGAK Eagle 38.55 39 *e*P **P** **21 08 48.5 -0.8**
comp=Z,9.9nm,0.6s
GTA Gaotai 38.94 278 *e*P **P** **21 08 53.8 +0.7**
GTA pP **pP** **21 09 09.4 +0.6**
GTA sP **sP** **21 09 16.5 +0.5**
GTA PcP **PcP** **21 11 03.9 +1.3**
GTA S **S** **21 14 47.3 +0.2**
GTA sS **sS** **21 15 12.6 -1.0**
GTA SS **SS** **21 17 32.8 -7.7**
GTA pmax pmax
comp=Z,52nm,4.8s
GTA LR LR
comp=Z,120nm,15.4s
GTA LR LR
comp=Z,130nm,16.2s
GTA LR LR
comp=Z,160nm,15.7s
DAWY Dawson 39.39 40 *e*P **P** **21 08 55.9 -0.6**
HYT Haines Junctio 40.85 44 *e*P **P** **21 09 09.9 +1.2**
CD2 Chengdu 40.97 265 P **P** **21 09 11.0 +1.0**
CD2 pP **pP** **21 09 26.0 +0.3**
CD2 sP **sP** **21 09 32.8 -0.2**
CD2 PP **PnPn** **21 10 49.3 -0.8**
CD2 S **S** **21 15 17.5 0.0**
CD2 sS **sS** **21 15 43.1 -1.1**
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,150nm,5.8s
CD2 LR LR
comp=Z,180nm,14.2s
CD2 LR LR
comp=Z,180nm,16.6s
CD2 LR LR
comp=Z,210nm,13.2s
INK Inuvik 41.17 33 *e*P **P** **21 09 11.2 +0.2**
INK Inuvik 41.17 33 *e*P **P** **21 09 12.4 +1.4**
comp=Z,11nm,0.8s
INK pP **pP** **21 09 25.8 -1.0**
INK Inuvik 41.17 33 P **P** **21 09 11.2 +0.2**
comp=Z,9.8nm,0.8s,baz=284,slow=7.0,SNR=37
INK pP **pP** **21 09 25.8 -1.0**
comp=Z,7.0nm,0.5s,baz=279,slow=4.5,SNR=10.0
GYA Guiyang 41.88 257 P **P** **21 09 18.9 +1.4**
GYA pP **pP** **21 09 34.3 +1.0**
GYA sP **sP** **21 09 42.4 +1.9**
GYA PP **PnPn** **21 10 58.9 -1.9**
GYA PcP **PcP** **21 11 15.0 +2.8**
GYA ScP **ScP** **21 14 58.6 +1.7**
GYA S **S** **21 15 31.0 -0.1**
GYA sS **sS** **21 15 57.4 -0.5**
GYA ScS **ScS** **21 19 13.8 -0.6**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,540nm,17.4s
GYA LR LR
comp=Z,490nm,18.3s
GYA LR LR
comp=Z,520nm,17.8s
ZAA0 Zalesovo Array 42.34 305 *e*P **P** **21 09 19.5 -1.3**
ZAA0 *e*PcP **PcP** **21 11 12.6 -0.5**
ZALV Zalesovo Beam 42.34 305 *i* P **P** **21 09 19.8 -1.0**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 42.34 305 P **P** **21 09 18.8 -2.0**
ZALV PcP **PcP** **21 11 13.2 0.0**
ZALV pPcP 21 11 30.3
ZALV Zalesovo Beam 42.34 305 P **P** **21 09 18.8 -2.0**
comp=Z,1.0nm,0.6s,baz=74,slow=6.3,SNR=5.5
ZALV PcP **PcP** **21 11 13.2 0.0**
comp=Z,2.5nm,0.7s,baz=66,slow=3.6,SNR=7.9
ZALV pPcP 21 11 30.3
comp=Z,1.2nm,0.4s,baz=71,slow=4.4,SNR=4.5
ZALV LR LR 21 28 17.5
comp=Z,16nm,28.6s,baz=71,slow=38
TGY Tagaytay City 42.61 230 P **P** **21 09 21.9 -1.5**
TGY Tagaytay City 42.61 230 P **P** **21 09 21.9 -1.5**
comp=Z,66nm,0.3s,baz=85,slow=12,SNR=2.0
WMQ Urumqi 44.78 291 P **P** **21 09 42.0 +1.4**
WMQ pP **pP** **21 09 58.0 +1.5**
WMQ sP **sP** **21 10 05.0 +1.2**
WMQ PP **PP** **21 11 28.0 +2.1**
WMQ ScP **ScP** **21 15 10.0 +1.6**
WMQ S **S** **21 16 13.0 0.0**
WMQ sS **sS** **21 16 40.0 0.0**
WMQ SS **ScS** **21 19 25.0 -7.0**
WMQ LR LR
comp=Z,110nm,17.0s
WMQ LR LR
comp=Z,100nm,16.0s
WMQ LR LR
comp=Z,180nm,17.0s
QIZ Qiongzhong 45.11 246 P **P** **21 09 44.8 +1.4**
QIZ S **S** **21 16 19.8 +1.7**
QIZ pmax pmax
comp=Z,110nm,6.0s
DLBC Dease Lake 45.19 46 P **P** **21 09 42.5 -1.2**
DLBC Dease Lake 45.19 46 P **P** **21 09 42.5 -1.2**
comp=Z,5.3nm,0.9s,baz=330,slow=17,SNR=2.8
KMI Kunming 45.39 259 P **P** **21 09 47.3 +1.4**
KMI pP **pP** **21 10 02.4 +0.6**
KMI sP **sP** **21 10 10.0 +1.0**
KMI PP **PP** **21 11 34.4 +1.5**
KMI S **S** **21 16 23.3 +0.7**
KMI SS **ScS** **21 19 39.3 +2.6**
KMI pmax pmax
comp=Z,79nm,4.3s
KMI LR LR
comp=Z,130nm,19.9s
KMI LR LR
comp=Z,88nm,21.6s
MK31 Makanchi Array 46.74 297 *i* P **P** **21 09 55.0 -1.0**
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 46.74 297 *e*P P 21 10 00.1 +4.1
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.74 297 *e*P P 21 10 00.1 +4.1
MKAR Makanchi Array 46.74 297 *e*P **P** **21 09 54.7 -1.3**
MKAR PcP **PcP** **21 11 28.2 -0.2**
MKAR Makanchi Array 46.74 297 P **P** **21 09 54.4 -1.6**
comp=Z,1.8nm,0.8s,baz=66,slow=7.1,SNR=6.7
MKAR PcP **PcP** **21 11 28.2 -0.2**
comp=Z,0.6nm,0.4s,baz=70,slow=5.3,SNR=4.9
MKAR LR LR 21 30 36.6
comp=Z,16nm,28.6s,baz=26,slow=37
MK01 Makanchi Array 46.74 297 *e*P **P** **21 09 54.7 -1.3**
MK01 *e*PcP **PcP** **21 11 28.6 +0.1**
KURK Kurchatov 47.11 303 P **P** **21 09 58.5 -0.2**
KURK 21 11 30.2
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 47.11 303 *e*P **P** **21 09 58.5 -0.2**
KURK Kurchatov 47.11 303 *e*P **P** **21 09 57.4 -1.3**
comp=Z,3.3nm,0.9s
KURK PcP **PcP** **21 11 30.1 +0.6**
KURK Kurchatov 47.11 303 P **P** **21 09 58.2 -0.5**
comp=Z,49nm,0.9s,SNR=5.9
KURBB Kurchatov Arra 47.20 303 P **P** **21 09 58.5 -1.0**
comp=Z,5.5nm,0.9s,baz=65,slow=8.1,SNR=19
KURBB PcP **PcP** **21 11 30.1 +0.2**
comp=Z,1.7nm,0.8s,baz=72,slow=6.7,SNR=4.4
LSA Lhasa 50.29 273 *e*P **P** **21 10 26.2 +2.1**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 50.29 273 *e*P **P** **21 10 26.1 +2.1**
comp=Z,4.8nm,0.7s
RES Resolute Bay 50.31 19 *e*P **P** **21 10 23.8 +0.9**
comp=Z,23nm,1.7s
RES Resolute Bay 50.31 19 P **P** **21 10 22.1 -0.8**
comp=Z,2.3nm,0.5s,baz=299,slow=6.7,SNR=12
RES LR LR 21 32 45.7
comp=Z,16nm,28.6s,baz=9.5,slow=37
YKA Yellowknife Ar 50.46 37 *e*P **P** **21 10 25.1 +0.8**
YKA Yellowknife Ar 50.46 37 P **P** **21 10 25.1 +0.8**
YKA PcP **PcP** **21 11 42.1 +0.6**
YKA pPcP 21 11 59.0
YKA Yellowknife Ar 50.46 37 P **P** **21 10 25.0 +0.8**
comp=Z,13nm,0.8s,baz=298,slow=7.2,SNR=139
YKA PcP **PcP** **21 11 42.1 +0.6**
comp=Z,2.1nm,0.8s,baz=304,slow=3.9,SNR=5.9
YKA pPcP 21 11 59.0
comp=Z,1.9nm,0.8s,baz=302,slow=3.6,SNR=4.9
YKB5 Yellowknife Ar 50.46 37 *e*P **P** **21 10 24.3 0.0**
YKB5 *e*PcP **PcP** **21 11 42.0 +0.5**
BVA0 Borovoye Array 50.55 309 P **P** **21 10 22.9 -2.2**
BVA0 pmax pmax
comp=Z,5.0nm,1.3s
BVAR Borovoye Array 50.55 309 P **P** **21 10 23.9 -1.2**
BVAR 21 11 42.4
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 50.55 309 P **P** **21 10 23.9 -1.2**
BVAR PcP **PcP** **21 11 42.4 +0.4**
BVAR Borovoye Array 50.55 309 P **P** **21 10 23.9 -1.2**
comp=Z,1.3nm,0.5s,baz=70,slow=6.5,SNR=8.2
BVAR PcP **PcP** **21 11 42.4 +0.4**
comp=Z,1.1nm,0.3s,baz=82,slow=3.1,SNR=5.7
BRVK Borovoye 50.59 309⇓ *i*P **P** **21 10 24.5 -0.9**
BRVK pmax pmax
comp=Z,6.0nm,1.1s
BRVK Borovoye 50.59 309 *e*P **P** **21 10 23.9 -1.5**
comp=Z,4.4nm,1.0s
CMAI Chiengmai2 51.43 257 P **P** **21 10 34.3 +2.0**
comp=Z,47nm,0.8s
LAMP Lampang 52.04 255 P **P** **21 10 39.1 +2.4**
comp=Z,7.4nm,0.9s,comp=Z,56nm
SPITS Spitsbergen Ar 52.09 350 P **P** **21 10 35.1 -1.2**
SPITS Spitsbergen Ar 52.09 350 P **P** **21 10 35.1 -1.2**
comp=Z,11nm,1.0s,baz=72,slow=4.7,SNR=8.4
CHTO Chiang Mai 52.29 256 *e*P **P** **21 10 39.7 +1.2**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 52.29 256 *e*P **P** **21 10 39.7 +1.2**
comp=Z,4.3nm,0.8s
CHTO Chiang Mai 52.29 256 P **P** **21 10 40.1 +1.6**
comp=Z,100nm,0.9s
CHAI Chaiyaphum 52.41 251 P **P** **21 10 41.0 +1.6**
comp=Z,7.3nm,0.8s
SHL Shillong 52.43 268 *e*P **P** **21 10 42.8 +3.1**
CMAR Chiang Mai Arr 52.55 256 *e*P **P** **21 10 42.2 +1.8**
CMAR Chiang Mai Arr 52.55 256 P **P** **21 10 40.5 0.0**
CMAR Chiang Mai Arr 52.55 256 P **P** **21 10 40.5 0.0**
comp=Z,8.4nm,0.9s,baz=33,slow=7.5,SNR=59
CMAR LR LR 21 35 06.1
comp=Z,15nm,28.6s,baz=86,slow=38
CM01 Chiang Mai Arr 52.56 256 *e*P **P** **21 10 41.2 +0.7**
CM01 *e*PcP **PcP** **21 11 51.1 +1.0**
PBKT Sadao Pong 52.58 253 P **P** **21 10 42.4 +1.8**
comp=Z,11nm,1.1s,comp=Z,2μm
MHMT Maesarieng 53.41 257 P **P** **21 10 49.1 +2.3**
comp=Z,9.8nm,1.2s,comp=Z,356nm
AAK Ala-Archa 53.64 296‖ *e*P **P** **21 10 48.6 +0.2**
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 53.64 296 *e*P **P** **21 10 48.6 +0.2**
AAK Ala-Archa 53.64 296 P **P** **21 10 47.9 -0.5**
AAK Ala-Archa 53.64 296 P **P** **21 10 47.9 -0.5**
comp=Z,2.1nm,0.9s,baz=56,slow=9.0,SNR=5.4
TAPN Taplejung 54.12 273 *e*P **P** **21 10 53.3 +1.1**
KSH Kashi 54.49 292 P **P** **21 10 56.1 +1.5**
KSH sP **sP** **21 11 21.1 +3.0**
KSH PP **PP** **21 13 00.0 +3.0**
KSH S **S** **21 18 27.4 -1.5**
KSH sS **sS** **21 18 59.3 +2.8**
KSH pmax pmax
comp=Z,120nm,4.8s
KSH LR LR
comp=Z,120nm,5.7s
KSH LR LR
comp=Z,120nm,5.5s
KSH LR LR
comp=Z,180nm,5.5s
ARU Arti 54.65 317*d* *i*P **P** **21 10 54.1 -1.2**
ARU 21 12 52.8
ARU S **S** **21 18 27.6 -2.6**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 54.65 317 *e*P **P** **21 10 54.1 -1.2**
ARU Arti 54.65 317 *e*P **P** **21 10 53.9 -1.3**
comp=Z,94nm,2.8s
ODAN Odare 54.65 273 *e*P **P** **21 10 56.9 +0.9**
JIRN Jiri 54.95 274 *e*P **P** **21 10 59.0 +0.6**
comp=Z,13nm,0.5s
GUN Gumba 55.00 275 *e*P **P** **21 10 59.2 +0.5**
RAMN Ramite 55.13 273 *e*P **P** **21 11 00.5 +1.0**
KHLT Khaolaem Dam 55.43 253 P P 21 11 04.8 +3.4
comp=Z,5.0nm,1.0s
KKN Kakani 55.49 275 *e*P **P** **21 11 03.1 +1.1**
PKI Pulchoki 55.54 275 *e*P **P** **21 11 03.2 +0.7**
PKIN Phulchoki 55.54 275 *e*P **P** **21 11 03.2 +0.7**
comp=Z,7.5nm,0.7s
B08A Colville Reser 55.55 54 *e*P **P** **21 11 02.6 +0.7**
comp=Z,12nm,1.1s
DMN Daman 55.72 275 *e*P **P** **21 11 04.8 +1.1**
comp=Z,30nm,1.1s
KK31 Karatay Array 55.78 299 *i* P **P** **21 11 02.7 -1.0**
GKN Gorkha 55.78 276 *e*P **P** **21 11 04.7 +0.6**
comp=Z,42nm,1.2s
EDM Edmonton 55.91 46 *e*P **P** **21 11 04.9 +0.4**
EDM Edmonton 55.91 46 *e*P **P** **21 11 04.9 +0.4**
EDM Edmonton 55.91 46 *e*P **P** **21 11 04.9 +0.4**
H04A Detroit Lake 56.03 59 *e*P **P** **21 11 04.8 -0.7**
comp=Z,14nm,1.1s
DANN Dangsing 56.16 277 *e*P **P** **21 11 08.1 +1.2**
comp=Z,20nm,0.7s
E07A Sunnyside 56.28 56 *e*P **P** **21 11 07.2 -0.1**
comp=Z,14nm,1.1s
C09A Chrisman Ranch 56.45 54 *e*P **P** **21 11 08.6 +0.2**
comp=Z,15nm,1.3s
HAWA Hanford 56.56 56 *e*P **P** **21 11 08.6 -0.6**
comp=Z,9.3nm,1.0s
KOLN Koldanda 56.64 276 *e*P **P** **21 11 11.2 +1.0**
comp=Z,26nm,1.0s
PMG Port Moresby 56.70 187 LR LR 21 31 36.0
comp=Z,50nm,19.7s,baz=281,slow=32
NEW Newport 56.81 53 *e*P **P** **21 11 11.8 +0.8**
comp=Z,14nm,1.5s
NEW Newport 56.81 53⇑ P **P** **21 11 11.8 +0.8**
baz=57
PYUN Piuthan 56.84 277 *e*P **P** **21 11 12.4 +0.8**
comp=Z,47nm,1.1s
E09A Wood Farm, Sta 57.27 55 *e*P **P** **21 11 14.4 +0.2**
comp=Z,12nm,0.9s
PINOR Pine Mountain 57.30 59 *e*P **P** **21 11 16.0 +1.6**
ARCES ARCESS Array B 57.36 341 *e*P **P** **21 11 13.2 -1.2**
ARCES ARCESS Array B 57.36 341 P **P** **21 11 13.2 -1.2**

ARCES ARCESS Array B 57.36 341 P P 21 11 13.2 -1.2
comp=Z,6.3nm,0.9s,baz=42,slow=5.5,SNR=6.3
ARCES LR LR 21 39 30.4
comp=Z,94nm,19.3s,baz=359,slow=40
J05D Fort Rock, OR 57.40 60 ⇑P P 21 11 16.5 +1.1
baz=57
YBH Yreka Blue Hor 57.45 62 eP P 21 11 14.8 -0.8
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 57.45 62 LR LR 21 31 17.5
comp=Z,16nm,28.6s,baz=292,slow=31
G08A Pilot Rock 57.53 57 eP P 21 11 16.2 0.0
comp=Z,7.1nm,1.1s
K05A Summer Lake 57.94 60 eP P 21 11 21.2 +2.0
comp=Z,18nm,1.0s
I07A Izee 57.94 58 eP P 21 11 19.5 +0.5
comp=Z,10nm,1.0s
M04C Macdoel 57.94 62 ⇓P P 21 11 20.4 +1.3
baz=58
WALA Waterton Lakes 58.06 51 eP P 21 11 19.6 -0.3
F10A Beach Ranch, E 58.10 55 eP P 21 11 20.9 +0.7
comp=Z,146nm,2.9s
AB31 Akbulak array 58.12 310 P P 21 11 19.3 -0.8
ABKAR Akbulak array 58.12 310 eP P 21 11 18.8 -1.3
BSMT Bassoo Peak 58.32 52 eP P 21 11 22.3 +0.5
BLMT Blacktail Moun 58.45 52 eP P 21 11 23.4 +0.7
JTMT Jette 58.65 52 eP P 21 11 23.6 -0.5
YBMT Yellow Bay 58.73 52 eP P 21 11 23.4 -1.1
MOD Modoc 58.78 61 eP P 21 11 25.3 +0.3
comp=Z,2.5nm,0.8s
SWMT Swartz Lake 58.95 52 eP P 21 11 25.8 -0.2
J08A Circle Bar Ran 58.97 58 eP P 21 11 26.9 +0.7
comp=Z,17nm,1.2s
SLMT Seeley Lake 59.38 52 eP P 21 11 29.6 +0.5
MSO Missoula 59.40 53 eP P 21 11 29.6 +0.4
comp=Z,28nm,1.4s
MSO Missoula 59.40 53 ⇑P P 21 11 30.1 +0.9
baz=59
WVOR Wild Horse Val 59.44 59 eP P 21 11 30.9 +1.4
WVOR pmax pmax
comp=Z,16nm,0.9s
WVOR Wild Horse Val 59.44 59 eP P 21 11 30.9 +1.4
comp=Z,16nm,0.9s
CHMT Chamberlain Mo 59.72 52 eP P 21 11 31.4 -0.1
BEKR Beckworth 60.00 63 eP P 21 11 33.8 +0.3
comp=Z,3.6nm,0.9s
SUMG Summit 60.16 4 i P P 21 11 34.7 +0.4
SUMG Summit 60.16 4 i P P 21 11 34.7 +0.4
comp=Z,12nm,0.8s
SUMG Summit 60.16 4 eP P 21 11 33.5 -0.9
comp=Z,17nm,0.9s
FFC Flin Flon 60.30 40 eP P 21 11 35.4 +0.4
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 60.30 40 eP P 21 11 35.4 +0.4
FFC Flin Flon 60.30 40 eP P 21 11 35.4 +0.4
comp=Z,6.3nm,0.9s
MFID Camas Ranch 60.46 57 eP P 21 11 36.8 +0.3
comp=Z,8.9nm,0.9s
FCC Fort Churchill 60.78 33 eP P 21 11 38.6 +0.4
FCC Fort Churchill 60.78 33 eP P 21 11 38.6 +0.4
FCC Fort Churchill 60.78 33 eP P 21 11 38.6 +0.4
A19A Klindworth Far 60.82 48 ⇑P P 21 11 39.7 +0.9
baz=61,SNR=6.6
LRM Limekiln Ridge 60.83 53 eP P 21 11 40.2 +1.1
JOF Joensuu 60.87 334 eP P 21 11 38.5 -0.3
JOF Joensuu 60.87 334 ep P 21 11 38.5 -0.3
comp=Z,0.3nm,0.3s
EGMT Eagleton 60.87 50 eP P 21 11 39.4 +0.2
comp=Z,14nm,0.9s
EGMT Eagleton 60.87 50 ⇓P P 21 11 40.2 +1.0
baz=61
B19A Brinkman Farms 61.02 49 ⇓P P 21 11 41.2 +1.0
baz=61,SNR=7.4
HLID Hailey 61.17 56 eP P 21 11 42.2 +0.9
comp=Z,8.1nm,1.0s
HLID Hailey 61.17 56 ⇓P P 21 11 42.1 +0.7
baz=61
MCMT McKenzie Canyo 61.24 54 eP P 21 11 42.2 +0.2
A20A Cobblestone Ra 61.27 48 ⇑P P 21 11 43.1 +1.3
baz=61,SNR=7.5
BOZ Bozeman (W) 61.39 53 eP P 21 11 43.8 +1.0
BOZ pmax pmax
comp=Z,16nm,0.8s
BOZ Bozeman (W) 61.39 53 eP P 21 11 43.8 +1.0
BOZ Bozeman (W) 61.39 53 eP P 21 11 43.8 +1.0
comp=Z,16nm,0.8s
WAKR Walker 61.41 63 eP P 21 11 44.2 +1.1
C19A Slack Wire Ran 61.42 50 ⇓P P 21 11 44.0 +1.0
baz=61,SNR=12
B20A Solberg Farm, 61.50 48 ⇑P P 21 11 44.2 +0.8
baz=61,SNR=12
BMN Battle Mountai 61.52 60 eP P 21 11 44.7 +1.0
BMN pmax pmax
comp=Z,13nm,0.8s
BMN Battle Mountai 61.52 60 eP P 21 11 44.7 +1.0
comp=Z,13nm,0.8s
COEN Coen 61.62 191 eP P 21 11 45.1 +0.7
comp=Z,64nm,0.8s
A21A Bergtoll Ranch 61.70 47 ⇑P P 21 11 45.7 +1.0
baz=62,SNR=15
D19A Cripps Ranch, 61.88 50 ⇑P P 21 11 47.3 +1.3
baz=62
KBL Kabul 61.91 291 eP P 21 11 45.4 -1.2
KBL pmax pmax
comp=Z,5.0nm,1.0s
KBL Kabul 61.91 291 eP P 21 11 45.4 -1.2
comp=Z,4.5nm,1.0s
C20A Veseth Ranch, 61.98 49 ⇑P P 21 11 47.8 +1.2
baz=62,SNR=20
B21A Ellsworth Farm 62.02 48 ⇑P P 21 11 48.3 +1.4
baz=62
QLMT Earthquake Lak 62.02 53 eP P 21 11 47.4 +0.3
NV01 Mina Array Sit 62.14 63 eP P 21 11 48.6 +0.6
A22A Carney Farms, 62.20 47 ⇓P P 21 11 49.2 +1.1
baz=62,SNR=22
D20A Manuel Ranch, 62.31 50 ⇑P P 21 11 50.4 +1.6
baz=62,SNR=15
YMR Madison River 62.38 53 eP P 21 11 49.8 +0.2
comp=Z,12nm,0.9s
E19A Rath Farm, Rou 62.38 51 ⇓P P 21 11 50.6 +1.2
baz=62,SNR=5.6
ELK Elko 62.48 59 eP P 21 11 51.0 +0.7
comp=Z,5.2nm,0.8s
B22A Reddig Ranch S 62.62 48 ⇑P P 21 11 51.9 +1.0
baz=62
F19A Roth Farm, Mol 62.70 51 ⇓P P 21 11 52.9 +1.4
baz=62,SNR=9.5
E20A Meyer Farm, Mu 62.70 50 ⇑P P 21 11 52.4 +0.9
baz=62
H17A Grant Village 62.76 53 eP P 21 11 55.4 +3.2
H17A Grant Village 62.76 53 ⇑P P 21 11 54.6 +2.4
baz=63
D21A La Casta Ranch 62.92 49 ⇓P P 21 11 54.1 +1.2
baz=63,SNR=11
RLMT Red Lodge 63.00 52 eP P 21 11 53.9 +0.3
comp=Z,11nm,0.9s
B23A Brockton 63.01 47 ⇑P P 21 11 54.2 +0.8
baz=63,SNR=14
TPH Tonopah 63.02 62 eP P 21 11 54.3 +0.4
TPH pmax pmax
comp=Z,10.0nm,0.8s
TPH Tonopah 63.02 62 eP P 21 11 54.3 +0.4
comp=Z,10nm,0.8s
C22A Vida 63.04 48 ⇓P P 21 11 54.6 +0.9
baz=63
I17A Pilgrim Ck. 63.07 54 ⇓P P 21 11 55.9 +1.7
baz=63
MOOW Moose Ponds 63.09 54 eP P 21 11 55.5 +1.1
comp=Z,5.2nm,0.8s
F20A Billings 63.15 51 ⇓P P 21 11 55.4 +0.9
baz=63
A24A Westby 63.19 46 ⇑P P 21 11 55.2 +0.5
baz=63
HVU Hansel Valley 63.23 57 eP P 21 11 56.6 +1.4
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 63.23 57 eP P 21 11 56.6 +1.4
comp=Z,9.8nm,0.9s
LOHW Long Hollow 63.26 54 eP P 21 11 56.4 +1.0
comp=Z,14nm,1.2s
D22A Cohagen 63.28 49 ⇑P P 21 11 56.5 +1.2
baz=63,SNR=5.1
REDW Red Top Meadow 63.28 54 eP P 21 11 56.4 +0.8
comp=Z,18nm,0.9s
C23A Lambert 63.35 48 ⇑P P 21 11 57.0 +1.3
baz=63,SNR=5.1
DGMT Dagmar 63.40 47 eP P 21 11 56.1 +0.1
comp=Z,29nm,0.7s
DGMT Dagmar 63.40 47 ⇑P P 21 11 56.9 +0.9
baz=63,SNR=5.6
H19A Powell 63.45 52 ⇓P P 21 11 57.9 +1.4
baz=63
G20A Bridger 63.50 51 ⇑P P 21 11 57.9 +1.0
baz=63,SNR=6.2
LAO LASA Array 63.57 49 eP P 21 11 57.2 +0.1
comp=Z,29nm,1.0s
FINES FINESS Array B 63.57 335 P P 21 11 55.8 -1.0
FINES FINESS Array B 63.57 335 P P 21 11 55.8 -1.0
comp=Z,3.6nm,0.5s,baz=34,slow=7.9,SNR=46
FINES LR LR 21 43 35.9
comp=Z,16nm,28.6s,baz=26,slow=40
A25A Svangstu Ranch 63.62 46 ⇓P P 21 11 58.3 +0.9
baz=63
F21A Absaloka Mine, 63.67 50 ⇑P P 21 11 59.1 +1.2
baz=64
SPUT South Promonto 63.73 57 eP P 21 11 59.9 +1.4
comp=Z,9.9nm,0.9s
R11A Troy Canyon, C 63.83 61 eP P 21 11 59.2 +0.1
R11A Troy Canyon, C 63.83 61 ⇑P P 21 11 59.5 +0.3
baz=64,SNR=5.4
I19A Meeteetse 63.86 53 ⇓P P 21 12 00.3 +1.0
baz=64
G21A Lodge Grass 64.03 51 ⇓P P 21 12 01.1 +0.8
baz=64
B25A Knox Farm, Ray 64.04 46 ⇓P P 21 12 01.4 +1.1
baz=64
H20A Greybull 64.10 52 ⇓P P 21 12 01.4 +0.6
baz=64
F22A Rosebud 64.16 50 ⇓P P 21 12 01.8 +0.7
baz=64,SNR=8.0
E23A Ismay 64.17 49 ⇑P P 21 12 02.1 +0.9
baz=64,SNR=6.6
MPMC Manual Prospec 64.17 64 ⇓P P 21 12 02.6 +1.1
baz=64
D24A Glendive 64.25 48 ⇓P P 21 12 02.9 +1.3
baz=64,SNR=9.6
DUG Dugway 64.25 58 eP P 21 12 02.3 +0.4
DUG pmax pmax
comp=Z,16nm,0.9s
DUG Dugway 64.25 58 eP P 21 12 02.3 +0.4
comp=Z,16nm,0.9s
DUG Dugway 64.25 58 ⇑P P 21 12 02.7 +0.8
baz=64,SNR=7.3
FURC Furnace Creek, 64.28 63 ⇑P P 21 12 03.4 +1.5
baz=64
J19A Crowheart 64.34 53 ⇑P P 21 12 03.9 +1.4
baz=64
TPNV Topopah Spring 64.34 63 eP P 21 12 03.0 +0.5
TPNV Topopah Spring 64.34 63 eP P 21 12 03.0 +0.5
TPNV Topopah Spring 64.34 63 ⇓P P 21 12 03.8 +1.2
baz=64
PSI Prapat 64.36 244 P P 21 12 01.5 -1.3
PSI Prapat 64.36 244 P P 21 12 01.5 -1.3
comp=Z,7.1nm,0.8s,baz=328,slow=1.8,SNR=4.3
C25A Freed Ranch, W 64.38 47 ⇑P P 21 12 03.4 +0.9
baz=64
I20A Worland 64.39 52 ⇓P P 21 12 03.6 +0.9
baz=64
BW06 Boulder Array 64.39 54 eP P 21 12 02.8 -0.1
comp=Z,15nm,0.9s
PDAR Pinedale Array 64.39 54 P P 21 12 03.6 +0.7
PDAR pP pP 21 12 19.8 +0.2
PDAR Pinedale Array 64.39 54 P P 21 12 03.6 +0.7
comp=Z,5.3nm,0.9s,baz=293,slow=1.8,SNR=30
PDAR pP pP 21 12 19.8 +0.2
comp=Z,13nm,0.8s,baz=291,slow=1.8,SNR=29
PDAR LR LR 21 40 44.0
comp=Z,22nm,19.7s,baz=327,slow=36
B26A Jensen Ranch, 64.43 46 ⇓P P 21 12 03.4 +0.6
baz=64
G22A Birney 64.51 50 ⇓P P 21 12 04.0 +0.5
baz=64,SNR=6.4
H21A Big Horn, Sher 64.51 51 ⇑P P 21 12 04.6 +1.0
baz=64,SNR=10
SFJD Kangerlussuaq 64.61 10 i P P 21 12 02.7 -0.9
comp=Z,9.6nm,0.9s
E24A Baker 64.63 48 ⇑P P 21 12 04.8 +0.7
baz=64
EDW2 Edwards Air Fo 64.63 65 ⇑P P 21 12 05.3 +0.9
baz=64,SNR=5.7
F23A Volborg 64.64 49 ⇑P P 21 12 05.0 +0.8
baz=64,SNR=8.8
D25A Fairfield 64.73 47 ⇑P P 21 12 05.7 +0.9
baz=64
JLU Jordanelle 64.76 57 eP P 21 12 06.2 +0.8
comp=Z,8.3nm,1.0s
J20A Shoshoni 64.81 53 ⇓P P 21 12 06.3 +0.8
baz=65
NLU North Lily Min 64.83 58 eP P 21 12 06.8 +1.0
comp=Z,13nm,0.9s
C26A Wahner Farm, P 64.87 46 ⇓P P 21 12 06.4 +0.8
baz=65
OBN Obninsk 64.89 325 eP P 21 12 05.6 0.0
OBN e*PP pP 21 12 22.9 +0.6
OBN e 21 12 36.4
OBN eS S 21 20 40.9 -0.9
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 64.89 325 eP P 21 12 05.6 0.0
I21A Big Trails, Te 64.93 52 ⇓P P 21 12 07.3 +1.0
baz=65,SNR=13
G23A Biddle 65.00 50 ⇓P P 21 12 07.3 +0.7
baz=65,SNR=7.2
DAU Daniels Canyon 65.00 57 eP P 21 12 08.5 +1.5
DAU Daniels Canyon 65.00 57 eP P 21 12 08.5 +1.5
A28A Rude Farm, Bot 65.00 44 ⇑P P 21 12 07.0 +0.5
baz=65
MPU Maple Canyon 65.05 58 eP P 21 12 08.3 +1.2
comp=Z,15nm,0.8s
F24A Ekalaka 65.05 49 ⇓P P 21 12 07.8 +0.9
baz=65,SNR=7.3
GSC Goldstone 65.08 64 ⇓P P 21 12 08.0 +0.6
baz=65
E25A Miller Ranch, 65.13 48 ⇓P P 21 12 08.1 +0.7
baz=65
D26A Manning 65.25 47 ⇓P P 21 12 08.8 +0.7
baz=65
B28A Dugan Ranch, T 65.28 45 ⇓P P 21 12 09.3 +1.0
baz=65
SHPR Sheep Range 65.29 62 eP P 21 12 09.9 +1.2
I22A 9 Mile Ranch, 65.30 52 ⇓P P 21 12 09.8 +1.2
baz=65,SNR=7.3
G24A Alzada 65.41 49 ⇓P P 21 12 10.0 +0.7
baz=65
A29A Manning Farm, 65.48 44 ⇓P P 21 12 10.5 +0.9
baz=65
F25A Bowman 65.50 48 ⇑P P 21 12 10.6 +0.8
baz=65
TUQ Turquoise Moun 65.53 64 ⇑P P 21 12 11.2 +0.9
baz=65
E26A Carlson Angus 65.62 47 ⇓P P 21 12 11.1 +0.5
baz=65
J22A Midwest 65.63 52 ⇑P P 21 12 11.5 +0.7
baz=65,SNR=7.8
D27A Center 65.65 46 ⇓P P 21 12 11.4 +0.7
baz=65
CCUT Cedar City 65.67 61 eP P 21 12 13.1 +1.8
comp=Z,11nm,0.9s
H24A Dirks Ranch, A 65.74 50 ⇓P P 21 12 12.0 +0.5
baz=66,SNR=11
K21A Alcova 65.74 53 ⇓P P 21 12 12.5 +0.9
baz=66
B29A Wagenman Farm, 65.75 44 ⇑P P 21 12 12.3 +1.0
baz=66
A30A Hoffart Farm, 65.91 43 ⇓P P 21 12 13.3 +1.0
baz=66
F26A Lodgepole 65.95 48 ⇑P P 21 12 13.6 +0.9
baz=66,SNR=7.5
MURC Murrieta 65.97 66 ⇑P P 21 12 14.0 +1.0
baz=66
G25A Newell 66.02 49 ⇓P P 21 12 14.0 +0.8
baz=66
D28A Regan 66.06 46 ⇑P P 21 12 14.1 +0.8
baz=66
MDND Maddock 66.06 45 ⇓P P 21 12 14.1 +0.8
baz=66
ULM Lac du Bonnet 66.08 41 P P 21 12 12.6 -0.8
ULM Lac du Bonnet 66.08 41 P P 21 12 12.6 -0.8
comp=Z,4.9nm,0.7s,baz=298,slow=7.6,SNR=8.1
ULM LR LR 21 44 04.8
comp=Z,47nm,18.1s,baz=254,slow=39
E27A Carson 66.10 47 ⇑P P 21 12 14.5 +0.9
baz=66
K22A Casper 66.12 53 eP P 21 12 14.8 +0.8
K22A Casper 66.12 53 ⇑P P 21 12 14.7 +0.7
baz=66
GMRC Granite Mounta 66.13 64 ⇑P P 21 12 15.6 +1.4
baz=66,SNR=5.4
J23A Dilts Ranch, B 66.13 51 ⇑P P 21 12 14.6 +0.5
baz=66
B30A Myrvik Farm, E 66.24 44 ⇓P P 21 12 15.2 +0.7
baz=66
SRU San Rafael 66.29 58 eP P 21 12 15.3 +0.2
SRU San Rafael 66.29 58 eP P 21 12 15.3 +0.2
comp=Z,26nm,0.8s
I24A Kuemmerle Ranc 66.31 51 ⇑P P 21 12 15.7 +0.5
baz=66,SNR=5.4
H25A Fruitdale 66.32 49 ⇓P P 21 12 15.4 +0.3
baz=66
KNB Kanab 66.35 61 eP P 21 12 16.7 +1.1
KNB pmax pmax
comp=Z,19nm,0.9s
KNB Kanab 66.35 61 eP P 21 12 16.7 +1.1
comp=Z,19nm,0.9s
G26A Maurine 66.37 48 ⇑P P 21 12 16.0 +0.6
baz=66,SNR=16
N20A Spence Gulch, 66.40 55 ⇓P P 21 12 16.7 +0.8
baz=66,SNR=5.6
PFO Pinyon Flat Ob 66.42 66 LR LR 21 38 12.5
comp=Z,15nm,28.6s,baz=318,slow=33
E28A Huff 66.43 46 ⇓P P 21 12 16.3 +0.6
baz=66
RSSD Black Hills 66.44 50 eP P 21 12 15.9 -0.2
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 66.44 50 eP P 21 12 15.9 -0.2
comp=Z,5.6nm,0.8s
K23A Bowen Ranch, D 66.54 52 ⇓P P 21 12 17.4 +0.8
baz=66
L22A Ellis Ranch, M 66.60 53 ⇓P P 21 12 17.7 +0.6
baz=66
G27A Dupree 66.65 48 ⇑P P 21 12 17.3 +0.2
baz=66,SNR=5.2
J24A Dixon Ranch, L 66.66 51 ⇑P P 21 12 18.1 +0.8
baz=66
I25A Rochford 66.67 50 ⇑P P 21 12 18.1 +0.6
baz=66,SNR=8.3
H26A Fairpoint 66.75 49 ⇓P P 21 12 18.8 +0.9
baz=66
IRM Iron Mountain 66.86 64 ⇓P P 21 12 19.5 +0.9
baz=67,SNR=6.5
F28A McLaughlin 66.89 47 ⇓P P 21 12 19.2 +0.6
baz=67
O20A White River Ci 66.89 56 eP P 21 12 19.3 +0.3
comp=Z,114nm,2.8s
O20A White River Ci 66.89 56 ⇓P P 21 12 19.1 +0.1
baz=67
M22A Cedar Creek Ra 66.94 54 ⇓P P 21 12 20.0 +0.7
baz=67
D30A Buchanan 66.99 45 ⇑P P 21 12 19.9 +0.7
baz=67
W13A Hualapai Mount 67.00 63 ⇓P P 21 12 20.6 +0.8
baz=67
HYB Hyderabad 67.03 271 i P P 21 12 20.0 0.0
U15A North Rim 67.06 61 ⇓P P 21 12 21.0 +0.8
baz=67,SNR=6.9
J25A Sunshine Ranch 67.07 50 ⇑P P 21 12 20.1 +0.2
baz=67
H27A Howes 67.09 49 ⇑P P 21 12 20.6 +0.6
baz=67
I26A New Underwood 67.11 49 ⇑P P 21 12 21.0 +0.8
baz=67
E30A Jud 67.35 45 ⇓P P 21 12 22.2 +0.7
baz=67
CTA Charters Tower 67.35 187 P P 21 12 20.6 -1.1
CTA Charters Tower 67.35 187 P P 21 12 20.6 -1.1
comp=Z,1.9nm,0.8s,baz=11,slow=5.2,SNR=3.6
G28A Parade 67.37 48 ⇓P P 21 12 22.2 +0.4
baz=67
N22A Wattenberg Ran 67.43 54 ⇓P P 21 12 22.7 +0.2
baz=67
AGMN Agassiz Nation 67.50 42 eP P 21 12 22.8 +0.3
comp=Z,9.3nm,0.9s
AGMN Agassiz Nation 67.50 42 ⇓P P 21 12 22.4 0.0
baz=67
PV09 Paradox Valley 67.50 57 eP P 21 12 24.2 +1.2
J26A Sides Ranch, S 67.50 50 ⇓P P 21 12 23.4 +0.7
baz=67
I27A Quinn 67.50 49 ⇓P P 21 12 23.1 +0.5
baz=67,SNR=5.5
H28A Mission Ridge 67.60 48 ⇑P P 21 12 23.9 +0.7
baz=67
PV10 Paradox Valley 67.64 57 eP P 21 12 24.6 +0.8
N23A Red Feather La 67.64 54 ⇓P P 21 12 25.0 +1.2
baz=67
PV04 Paradox Valley 67.70 57 eP P 21 12 24.6 +0.5
NB2 NORSAR Subarra 67.73 341 P P 21 12 23.9 +0.2
comp=Z,9.8nm,0.9s,baz=26,slow=6.5
NOA NORSAR Array B 67.73 341 eP P 21 12 23.7 0.0
NOA NORSAR Array B 67.73 341 P P 21 12 23.7 0.0
NOA NORSAR Array B 67.73 341 P P 21 12 23.7 0.0
comp=Z,8.5nm,1.0s,baz=27,slow=6.2,SNR=23
NOA LR LR 21 46 26.4
comp=Z,16nm,28.6s,baz=10.0,slow=40
PV05 Paradox Valley 67.81 58 eP P 21 12 24.9 +0.1
O22A Kremmling 67.82 55 ⇓P P 21 12 25.7 +0.7
baz=68
L25A Engebretsen Ra 67.84 52 ⇑P P 21 12 25.6 +0.7
baz=68
M24A Cheyenne 67.86 53 ⇑P P 21 12 25.7 +0.7
baz=68
K26A Motz Farm, Whi 67.87 51 ⇓P P 21 12 25.4 +0.3
baz=68
I28A Midland 68.00 49 ⇓P P 21 12 26.6 +0.9
baz=68
H29A Onida 68.04 48 ⇑P P 21 12 26.3 +0.3
baz=68
PV01 Paradox Valley 68.07 57 eP P 21 12 26.4 -0.1
P22A Eagle 68.09 55 ⇓P P 21 12 27.5 +0.9
baz=68,SNR=5.2
J27A Elkhorn Farm, 68.10 50 ⇑P P 21 12 27.2 +0.8
baz=68
O23A Lake Granby, G 68.13 54 ⇑P P 21 12 27.9 +0.9
baz=68
G30A Faulkton 68.22 47 ⇑P P 21 12 27.1 +0.1
baz=68
WUAZ Wupatki 68.22 61 eP P 21 12 26.8 -0.7
comp=Z,16nm,1.2s
WUAZ Wupatki 68.22 61 ⇑P P 21 12 28.4 +1.0
baz=68,SNR=5.6
SMCO Snowmass 68.26 56 eP P 21 12 27.7 -0.1
comp=Z,13nm,0.7s
N24A Carr 68.27 53 ⇑P P 21 12 27.6 -0.1
baz=68
Y14A Wickenburg 68.32 63 ⇓P P 21 12 29.3 +1.4
baz=68
J28A Allard Ranch, 68.38 49 ⇓P P 21 12 29.0 +0.8
baz=68
I29A Vivian Onida 68.43 48 ⇓P P 21 12 29.1 +0.7
baz=68
ISCO Idaho Springs 68.58 54 eP P 21 12 30.4 +0.6
ISCO pmax pmax
comp=Z,11nm,0.8s
ISCO Idaho Springs 68.58 54 eP P 21 12 30.4 +0.6
comp=Z,11nm,0.8s
ISCO Idaho Springs 68.58 54 ⇑P P 21 12 31.1 +1.3
baz=68
O24A Longmont 68.66 54 ⇓P P 21 12 31.5 +1.5
baz=68
MVCO Mesa Verde 68.75 58 eP P 21 12 30.8 +0.1
comp=Z,14nm,0.8s
MVCO Mesa Verde 68.75 58 ⇓P P 21 12 31.4 +0.6
baz=69,SNR=5.1
MAK Makhachkala 68.75 311 eP P 21 12 34.8 +4.5
MAK MLR MLR
comp=Z,555nm,20.0s
L27A T5 Ranch, Ells 68.76 51 ⇓P P 21 12 31.6 +1.0
baz=68
J29A Okreek 68.86 49 ⇓P P 21 12 32.0 +1.0
baz=69
X16A Lo Mia Camp, P 68.94 62 ⇓P P 21 12 33.0 +1.1
baz=69,SNR=6.2
WRAB Tennant Creek 69.03 199 i P P 21 12 32.0 -0.2
WRAB pmax pmax
comp=Z,35nm,2.7s
WRA Warramunga Arr 69.04 199 eP P 21 12 32.0 -0.3
WRA Warramunga Arr 69.04 199 P P 21 12 32.5 +0.3
WRA pP pP 21 12 48.5 -0.7
WRA Warramunga Arr 69.04 199 P P 21 12 32.5 +0.3
comp=Z,2.8nm,0.7s,baz=18,slow=6.8,SNR=20

WRA pP **pP** 21 12 48.5 -0.7
comp=Z,3.0nm,0.8s,baz=16,slow=6.5,SNR=7.8
K29A Lazy Trails An 69.32 49 ⇑P P 21 12 34.7 +0.7
baz=69
S22A 4UR Ranch, Cre 69.33 57 ⇑P P 21 12 35.6 +1.1
baz=69,SNR=5.9
J30A Dallas 69.34 48 ⇑P P 21 12 34.8 +0.7
baz=69
ITEG Tejag 69.41 296 *e*P P 21 12 35.9 +1.1
GOF Gofitskoye 69.47 315 *e*P P 21 12 34.8 0.0
GOF pmax pmax
comp=Z,17nm,1.0s
N27A Anderson Farm, 69.55 52 ⇓P P 21 12 36.5 +1.0
baz=69,SNR=5.3
P25A Willow Gulch B 69.58 54 ⇓P P 21 12 36.5 +0.7
baz=69
R23A Moffat 69.59 56 ⇓P P 21 12 37.3 +1.3
baz=69,SNR=5.1
FITZ Fitzroy Crossi 69.64 208 P P 21 12 36.8 +0.8
FITZ Fitzroy Crossi 69.64 208 P P 21 12 36.8 +0.8
comp=Z,4.5nm,0.8s,baz=18,slow=3.6,SNR=6.1
OGNE Ogallala 69.72 51 ⇓P P 21 12 37.5 +1.0
baz=70
M28A Bar X Bar Ranc 69.75 51 ⇓P P 21 12 37.2 +0.5
baz=70
X18A Snowflake 69.75 61 ⇑P P 21 12 38.2 +1.3
baz=70
214A Organ Pipe Nat 69.79 65 ⇑P P 21 12 38.4 +1.4
baz=70
S23A Nye Farm, Mont 69.83 56 ⇓P P 21 12 38.4 +0.9
baz=70
Q25A Bedland, Calha 69.96 54 ⇑P P 21 12 39.6 +1.4
baz=70
R24A Sanders Place, 69.96 55 ⇓P P 21 12 38.9 +0.7
baz=70,SNR=6.3
P26A Davis Ranch, A 70.00 53 ⇓P P 21 12 39.2 +0.8
baz=70
O27A Beecher Island 70.02 52 ⇓P P 21 12 39.4 +1.0
baz=70
DZM Mont Dzumac 70.06 167 P P 21 12 38.5 -0.1
DZM Mont Dzumac 70.06 167 P P 21 12 38.5 -0.1
comp=Z,9.6nm,0.9s,baz=32,slow=15,SNR=2.3
DZM LR LR 21 39 14.0
comp=Z,16nm,28.6s,baz=18,slow=32
SDCO Great Sand Dun 70.08 56 *e*P P 21 12 39.2 +0.2
comp=Z,4.3nm,0.7s
U22A Llaves 70.28 58 ⇑P P 21 12 41.3 +1.1
baz=70
Q26A Hugo 70.35 54 ⇓P P 21 12 41.5 +1.0
baz=70
O28A Krutsinger Ran 70.44 52 ⇑P P 21 12 41.7 +0.8
baz=70
KIV Kislovodsk 70.46 314 *e*P P 21 12 42.3 +1.3
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,96nm,18.0s
KIV Kislovodsk 70.46 314 *e*P P 21 12 42.3 +1.3
ECSD EROS Data Cent 70.48 46 *e*P P 21 12 40.4 -0.6
comp=Z,23nm,0.8s
ECSD EROS Data Cent 70.48 46 ⇑P P 21 12 41.6 +0.6
baz=70
R25A Fountain Ranch 70.48 55 ⇓P P 21 12 41.6 +0.3
baz=70,SNR=5.4
L31A Butterfield Fa 70.50 49 ⇓P P 21 12 42.0 +0.7
baz=70
IANJ Anjilo 70.51 301 *e*P P 21 12 42.5 +0.9
KBZ Khabaz 70.52 314 P P 21 12 40.1 -1.1
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ MLR MLR
comp=Z,88nm,18.8s
KBZ Khabaz 70.52 314 P P 21 12 40.1 -1.1
KBZ Khabaz 70.52 314 P P 21 12 40.1 -1.1
comp=Z,5.4nm,0.9s,baz=256,slow=1.8,SNR=8.0
KBZ LR LR 21 47 26.2
comp=Z,88nm,18.8s,baz=22,slow=39
V22A San Miguel Ran 70.57 58 ⇑P P 21 12 43.1 +1.2
baz=70
T24B San Luis 70.63 56 ⇓P P 21 12 43.3 +0.9
baz=70
U23A El Rito 70.69 57 ⇑P P 21 12 44.0 +1.3
baz=70
ZEI Tsey 70.71 313 *e*P P 21 12 41.5 -1.2
ZEI pmax pmax
comp=Z,3.0nm,1.0s
TUC Tucson 70.79 63 *e*P P 21 12 44.2 +1.0
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC Tucson 70.79 63 *e*P P 21 12 44.2 +1.0
comp=Z,6.6nm,0.9s
R26A Arlington 70.84 54 ⇓P P 21 12 44.0 +0.6
baz=71,SNR=5.5
O29A 4D Ranch, Culb 70.96 51 ⇑P P 21 12 44.1 +0.1
baz=71
M31A Lambtecht Ranc 71.03 49 ⇓P P 21 12 45.0 +0.5
baz=71
V23A Ortiz Mt. (NFS 71.11 58 ⇑P P 21 12 47.1 +1.9
baz=71,SNR=5.1
T25A Trinidad 71.13 56 ⇓P P 21 12 45.9 +0.6
baz=71
KIEV Kiev 71.14 326 *e*P P 21 12 44.5 -0.3
KIEV pmax pmax
comp=Z,138nm,3.0s
KIEV Kiev 71.14 326 *e*P P 21 12 44.5 -0.3
comp=Z,138nm,3.0s
SPMN St. Paul 71.19 43 *e*P P 21 12 44.7 -0.5
SPMN St. Paul 71.19 43 ⇑P P 21 12 45.4 +0.2
baz=71
R27A Eads 71.20 54 ⇓P P 21 12 46.1 +0.4
baz=71
S26A Kim 71.31 55 ⇑P P 21 12 46.5 +0.2
baz=71
ANMO Albuquerque 71.51 58 *e*P P 21 12 47.8 +0.1
comp=Z,7.1nm,0.8s
W23A Werner Place, 71.54 58 ⇑P P 21 12 49.1 +1.3
baz=71
T26A Comanche Natio 71.56 55 ⇓P P 21 12 48.1 +0.3
baz=71
V24A Rampart Ranch, 71.64 57 ⇓P P 21 12 49.7 +1.3
baz=71
U25A Circle Dot Ran 71.65 56 ⇑P P 21 12 49.1 +0.7
baz=71
P30A Selden 71.68 51 ⇓P P 21 12 49.1 +0.7
baz=71
Q29A Oakley 71.76 52 ⇓P P 21 12 49.4 +0.5
baz=72
W24A Lazy 6 Ranch, 71.93 58 ⇑P P 21 12 50.5 +0.3
baz=72,SNR=5.1
V25A Rancho No Teng 71.94 57 ⇑P P 21 12 50.2 +0.1
baz=72
U26A Atchley Ranch, 72.03 56 ⇓P P 21 12 51.5 +0.8
baz=72
Q30A Quinter 72.10 52 ⇑P P 21 12 51.4 +0.5
baz=72
IVRN Varamin 72.11 302 *e*P P 21 12 52.5 +1.4
P31A Stockton 72.15 51 ⇓P P 21 12 51.7 +0.5
baz=72
IMHD Mahdasht 72.22 303 *e*P P 21 12 53.2 +1.4
ANN Anapa 72.31 318 *e*P P 21 12 47.4 -4.6
ANN *e**PP pP 21 13 06.4 -2.6
ANN *e*S S 21 22 00.8 -9.3
319A Douglas 72.35 63 ⇑P P 21 12 54.0 +1.4
baz=72
Z22A Elephant Butte 72.41 60 ⇑P P 21 12 53.6 +0.6
baz=72,SNR=5.9
T28A Walsh 72.42 54 ⇓P P 21 12 53.3 +0.3
baz=72
121A Cookes Peak, D 72.44 61 ⇑P P 21 12 54.3 +1.1
baz=72
V26A Tequesquite Ra 72.44 56 ⇑P P 21 12 53.5 +0.4
baz=72
Y23A Lovelace Mesa, 72.46 59 ⇑P P 21 12 53.9 +0.5
baz=72
W25A X Bar L Ranch, 72.47 57 ⇑P P 21 12 54.2 +0.9
baz=72,SNR=5.2
P32A Huiting Farm, 72.49 50 ⇓P P 21 12 53.0 -0.2
baz=72
U27A Thompson Grove 72.53 55 ⇑P P 21 12 54.6 +1.0
baz=72
R30A Dighton 72.58 52 ⇑P P 21 12 54.6 +0.9
baz=72
S29A Ulysses 72.60 53 ⇑P P 21 12 55.3 +1.4
baz=72
ASAR Alice Springs 72.74 198 *e*P P 21 12 56.2 +1.6
ASAR Alice Springs 72.74 198 P P 21 12 56.2 +1.6
ASAR Alice Springs 72.74 198 P P 21 12 56.2 +1.6
comp=Z,6.5nm,0.8s,baz=10,slow=5.0,SNR=68
SCHQ Schefferville 72.79 23 *e*P P 21 12 55.3 +0.6
comp=Z,14nm,0.7s
SCHQ *e*pP PcP 21 13 07.6 -4.0
SCHQ Schefferville 72.79 23 P P 21 12 54.9 +0.2
comp=Z,9.4nm,0.8s,baz=331,slow=7.2,SNR=9.6
SCHQ LR LR 21 49 05.9
comp=Z,37nm,18.6s,baz=19,slow=39
Y24A Capitan 72.83 59 ⇓P P 21 12 56.4 +0.9
baz=73,SNR=5.3
Z23A Rita Site, Whi 72.84 60 ⇑P P 21 12 56.2 +0.8
baz=73
IMEH Mehriz 72.97 298 *e*P P 21 12 56.4 0.0
Q32A Meitler Ranch, 72.97 51 ⇓P P 21 12 56.2 +0.1
baz=73
R31A Burdett 72.97 52 ⇑P P 21 12 55.7 -0.4
baz=73
ISAD Sadrabad 73.15 299 *e*P P 21 12 58.0 +0.4
IZEF Zefreh 73.25 300 *e*P P 21 12 58.9 +0.8
Y25A Mesa, Roswell 73.26 58 ⇓P P 21 12 58.8 +0.8
baz=73
Z24A Sheeppen Canyo 73.30 59 ⇓P P 21 12 59.3 +1.0
baz=73
X26A CR and CF Fran 73.32 57 ⇓P P 21 12 59.0 +0.7
baz=73
Q33A Connelly Farm, 73.35 50 ⇓P P 21 12 58.3 0.0
baz=73
IKLH Kalahrood 73.39 301 *e*P P 21 12 59.8 +0.9
SCIA State Center 73.50 46 *e*P P 21 12 58.8 -0.3
comp=Z,48nm,0.7s
124A Stringfield Ra 73.69 59 ⇑P P 21 13 00.8 +0.1
baz=74
Z25A Roswell 73.71 59 ⇑P P 21 13 01.4 +0.7
baz=74
KSU1 Kansas State U 73.91 49 *e*P P 21 13 00.6 -0.9
comp=Z,16nm,0.9s
KSU1 Kansas State U 73.91 49 ⇓P P 21 13 00.8 -0.8
baz=74
224A Cornudas Mount 74.10 60 ⇓P P 21 13 03.8 +0.9
baz=74
W29A Amraillo 74.13 55 ⇓P P 21 13 04.0 +1.0
baz=74
Z26A Caprock 74.14 58 ⇓P P 21 13 04.1 +1.0
baz=74
Y27A Causey 74.17 57 ⇓P P 21 13 04.5 +1.2
baz=74
125A Gardner Draw, 74.19 59 ⇑P P 21 13 04.1 +0.6
baz=74
MSTX Muleshoe 74.33 57 *e*P P 21 13 03.9 -0.4
MSTX *e*pP pP 21 13 21.6 +0.3
MSTX Muleshoe 74.33 57 ⇓P P 21 13 05.0 +0.8
baz=74
KWP Kalwaria Pacla 74.38 329 ⇑*i*P P 21 13 05.2 +1.1
MNTX Cornudas Mount 74.46 60 *e*P P 21 13 05.0 +0.1
comp=Z,3.6nm,0.8s
225A Deer Hill, Car 74.49 59 ⇓P P 21 13 06.3 +1.1
baz=74
Z27A Tatum 74.55 58 ⇑P P 21 13 06.2 +0.7
baz=74
324A Moseley Ranch, 74.58 60 ⇓P P 21 13 06.3 +0.5
baz=74
X29A Tulia 74.59 56 ⇑P P 21 13 06.5 +0.8
baz=74
GDL2 Guadalupe Moun 74.69 59 *e*P P 21 13 07.1 +0.7
OJC Ojcow 74.87 331 *e*P P 21 13 05.9 -1.0
OJC pmax pmax
comp=Z,49nm,2.0s
OJC Ojcow 74.87 331 *e*P P 21 13 05.9 -1.0
comp=Z,49nm,2.0s
226B Tecolote Peak, 74.90 59 ⇑P P 21 13 08.4 +0.9
baz=75
325A Bean Ranch, Si 74.93 60 ⇓P P 21 13 08.8 +1.0
baz=75
IPAR Pars 75.01 298 *e*P P 21 13 09.3 +0.8
STHS Stebnicka Huta 75.07 330 *e*P P 21 13 08.9 +0.8
STHS pmax pmax
comp=Z,4.0nm,1.3s
STHS Stebnicka Huta 75.07 330 *e*P P 21 13 08.9 +0.8
KOLS Kolonicke sedl 75.13 329 *e*P P 21 13 07.7 -0.7
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 75.13 329 *e*P P 21 13 07.7 -0.7
BUR04 Bucovina Ar. S 75.16 327 *e*P P 21 13 08.1 -0.7
BURAR Bucovina Array 75.16 327 ⇓*i*P P 21 13 08.9 +0.1
IVIS Veis 75.21 305 *e*P P 21 13 09.2 -0.1
425A Indio Mountain 75.35 61 ⇓P P 21 13 11.0 +0.8
baz=75
CRVS Cervenica-Dubn 75.44 329 *e*P P 21 13 05.9 -4.3
CRVS pmax pmax
comp=Z,43nm,2.5s
CRVS Cervenica-Dubn 75.44 329 *e* P 21 13 05.9 -4.3
KSP Ksiaz 75.44 333 *e*P P 21 13 10.3 +0.1
Z29A Hungry Hill Ra 75.45 57 ⇑P P 21 13 11.2 +0.5
baz=75
128A Castleberry Fa 75.47 58 ⇑P P 21 13 11.3 +0.5
baz=75
IGHG Ghaleghazi 75.51 305 *e*P P 21 13 12.3 +1.1
TESR Tescani 75.53 325 ⇑*i*P P 21 13 11.3 +0.5
326A Caldwell Ranch 75.56 60 ⇑P P 21 13 11.8 +0.5
baz=75
NRDL Niedersach Rie 75.70 338 *e*P P 21 13 11.8 +0.2
comp=Z,4.0nm,1.0s
NRDL Niedersach Rie 75.70 338 *e*P P 21 13 11.7 +0.2
comp=Z,4.0nm,1.0s
TRPA Tarpa 75.71 328 ⇓*i*P P 21 13 12.1 +0.4
OKC Ostrava-Krasne 75.74 332 *e*P P 21 13 11.8 -0.1
OKC Ostrava-Krasne 75.74 332 ⇓*e*P P 21 13 11.8 -0.1
Y31A Rekieta Farm, 75.75 55 ⇑P P 21 13 12.7 +0.4
baz=76
Z30A Sanderson Ranc 75.76 56 ⇑P P 21 13 13.2 +0.8
baz=76
228A UT Block 9, Go 75.78 58 ⇓P P 21 13 13.6 +1.0
baz=76
UPC Upice 75.82 333 *e*P P 21 13 12.7 +0.3
UPC Upice 75.82 333 ⇓*e*P P 21 13 12.7 +0.3
129A Stewart Farms, 75.82 57 ⇑P P 21 13 13.8 +1.0
baz=76
DPC Dobruska-Polom 75.86 333 ⇓*i*P P 21 13 13.2 +0.5
DPC Dobruska-Polom 75.86 333 ⇓*i*P P 21 13 13.2 +0.5
DPC Dobruska-Polom 75.86 333 *e*P P 21 13 12.1 -0.6
comp=Z,711nm,3.0s
V34A Guthrie 75.87 52 ⇓P P 21 13 13.4 +0.5
baz=76
MORC Moravsky Berou 75.98 332 *e*P P 21 13 12.7 -0.7
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 75.98 332 ⇑*i*P P 21 13 13.9 +0.5
MORC Moravsky Berou 75.98 332 *e*P P 21 13 12.7 -0.7
comp=Z,8.5nm,1.0s
CLL Collm 75.99 336 *i* P P 21 13 12.6 -0.7
CLL pmax pmax
comp=Z,14nm,1.1s
CLL Collm 75.99 336 *e*P P 21 13 13.3 0.0
comp=Z,11nm,1.0s
CLL Collm 75.99 336 *e*P P 21 13 13.1 -0.2
comp=Z,11nm,1.0s
CLL Collm 75.99 336 *i* P P 21 13 12.6 -0.7
comp=Z,14nm,1.1s
CLL *i* PcP PcP 21 13 23.8 -1.6
CLL Collm 75.99 336 *i* P P 21 13 12.6 -0.7
426A McDonald Obser 76.00 60 ⇑P P 21 13 14.6 +0.6
baz=76
CFR Carcaliu 76.03 323 ⇓*i*P P 21 13 14.1 +0.5
PLOR Plostina 76.07 325 ⇓*i*P P 21 13 13.9 0.0
BRG Berggiesshubel 76.11 335 *e*P P 21 13 13.6 -0.4
comp=Z,12nm,1.3s
BRG Berggiesshubel 76.11 335 *e*P P 21 13 13.6 -0.4
BRG pmax pmax
comp=Z,12nm,1.3s
BRG Berggiesshubel 76.11 335 *e*P P 21 13 13.8 -0.2
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 76.11 335 *e*P P 21 13 13.9 -0.1
comp=Z,6.0nm,1.1s
328A Wristen Ranch, 76.19 59 ⇓P P 21 13 15.7 +0.9
baz=76
CLZ Clausthal 76.23 337 *e*P P 21 13 15.4 +0.7
comp=Z,13nm,1.1s
CLZ Clausthal 76.23 337 *e*P P 21 13 15.3 +0.6
comp=Z,13nm,1.1s
427A Hayter Ranch, 76.24 59 ⇑P P 21 13 15.9 +0.7
baz=76
Z31A Sharp Cattle R 76.30 56 ⇑P P 21 13 16.1 +0.7
baz=76
229A Bryant Ranch, 76.34 58 ⇑P P 21 13 16.7 +0.9
baz=76
526A Mary Lane Ranc 76.41 60 ⇓P P 21 13 17.3 +1.1
baz=76
NEUB Neuenburg 76.42 336 *e*P P 21 13 16.0 +0.3
NEUB Neuenburg 76.42 336 *e*P P 21 13 15.8 +0.1
comp=Z,8.0nm,0.9s
IBBN Ibbenburen 76.47 339 *e*P P 21 13 16.4 +0.4
comp=Z,15nm,1.1s
IBBN Ibbenburen 76.47 339 *e*P P 21 13 16.1 +0.1
comp=Z,15nm,1.1s
DOPR Dopca 76.47 325 ⇓*i*P P 21 13 17.4 +1.2
CJR Cluj-Napoca 76.52 327 ⇓*i*P P 21 13 17.6 +1.1
UOSS Wadi Hilu 76.58 292 P P 21 13 17.3 +0.2
comp=Z,79nm,0.9s,SNR=6.0
329A Wagon Wheel Ra 76.60 58 ⇑P P 21 13 17.9 +0.7
baz=76
527A Woodward Ranch 76.63 60 ⇑P P 21 13 17.9 +0.4
baz=76
Y33A Hilltop Ranch, 76.63 54 ⇑P P 21 13 17.7 +0.4
baz=76
131A Roby 76.63 56 ⇓P P 21 13 18.1 +0.8
baz=76
MLR Muntele Rosu 76.65 325 ⇓*i*P P 21 13 17.9 +0.6
Z32A Haskell 76.68 55 ⇓P P 21 13 18.1 +0.5
baz=76
VRAC Vranov 76.69 332 ⇑*i*P P 21 13 17.8 +0.4
PRU Pruhonice 76.72 334 *e*P P 21 13 15.6 -1.9
PRU Pruhonice 76.72 334 ⇓*e*P P 21 13 15.6 -1.9
PRU Pruhonice 76.72 334 *i* P P 21 13 15.6 -1.9
TUL1 Tulsa 76.73 51 *e*P P 21 13 17.4 -0.4
comp=Z,19nm,0.6s
TUL1 *e*pP pP 21 13 34.9 -0.1
TUL1 Tulsa 76.73 51 ⇑P P 21 13 18.4 +0.6
baz=76
428A Kincaid Ranch, 76.75 59 ⇓P P 21 13 19.1 +1.1
baz=77
626A Big Bend Ranch 76.75 61 ⇓P P 21 13 19.1 +1.0
baz=77
DRGR 76.78 328 ⇑*i*P P 21 13 17.9 -0.1
230A Sterling City 76.80 57 ⇑P P 21 13 19.4 +1.1
baz=77
PSZ Piszkesteto 76.82 330 *e*P P 21 13 17.6 -0.6
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 76.82 330 ⇓*i*P P 21 13 18.7 +0.5
PSZ Piszkesteto 76.82 330 *e*P P 21 13 17.6 -0.6
comp=Z,8.2nm,1.0s
MALT Malatya 76.82 313 ⇓*i*P P 21 13 20.0 +1.6
LPIG La Paz 76.88 69 LR LR 21 38 49.5
comp=Z,16nm,28.6s,baz=203,slow=29
TANN Tannenbergstha 76.95 335 *e*P P 21 13 18.6 -0.2
comp=Z,3.0nm,1.1s
VOIR 77.04 325 ⇓*i*P P 21 13 20.6 +1.1
TREC Trest 77.05 333 *e*P P 21 13 19.7 +0.3
TREC Trest 77.05 333 ⇓*e*P P 21 13 19.7 +0.3
MSAB Monastry St. A 77.05 323 ⇓*i*P P 21 13 20.5 +1.1
ABTX Abilene, Hawle 77.09 56 ⇑P P 21 13 20.6 +0.7
baz=77
528A Cox Ranch, San 77.10 60 ⇓P P 21 13 20.9 +0.8
baz=77
NKC Novy Kostel 77.11 335 *e*P P 21 13 19.9 +0.2
NKC Novy Kostel 77.11 335 ⇓*e*P P 21 13 19.9 +0.2
330A Mertzon 77.12 58 ⇑P P 21 13 20.7 +0.6
baz=77
Y34A Reagan Ranch, 77.14 54 ⇑P P 21 13 20.7 +0.5
baz=77
TX31 Lajitas Ar. Si 77.19 61 *e*P P 21 13 20.6 0.0
TXAR Lajitas Array 77.19 61 *e*P P 21 13 21.4 +0.8
TXAR Lajitas Array 77.19 61 P P 21 13 21.4 +0.8
TXAR pP pP 21 13 37.8 0.0
TXAR Lajitas Array 77.19 61 P P 21 13 21.4 +0.8
comp=Z,2.9nm,0.6s,baz=296,slow=3.5,SNR=19
TXAR pP pP 21 13 37.8 0.0
comp=Z,18nm,0.6s,baz=300,slow=4.5,SNR=35
231A Bronte 77.22 57 ⇓P P 21 13 21.1 +0.5
baz=77
ARR Arges 77.26 326 ⇑*i*P P 21 13 19.6 -1.1
627A Terlingua Ranc 77.26 60 ⇑P P 21 13 22.0 +1.0
baz=77
429A Davenport Ranc 77.28 59 ⇑P P 21 13 21.5 +0.5
baz=77
BUG Bochum--Univer 77.38 339 *e*P P 21 13 21.5 +0.4
comp=Z,8.0nm,0.9s
BUG Bochum--Univer 77.38 339 *e*P P 21 13 21.3 +0.2
comp=Z,8.0nm,0.9s
MANZ Manzenberg 77.43 335 *e*P P 21 13 21.8 +0.3
comp=Z,5.0nm,1.0s
MANZ Manzenberg 77.43 335 *e*P P 21 13 21.9 +0.4
comp=Z,5.0nm,1.0s
529A Stev Forest Ra 77.46 59 ⇑P P 21 13 22.5 +0.5
baz=77
Z34A Collier Ranch, 77.50 54 ⇓P P 21 13 22.5 +0.4
baz=77
133A Hamilton Ranch 77.51 55 ⇑P P 21 13 22.8 +0.6
baz=77
430A Baggett Ranch, 77.54 58 ⇓P P 21 13 23.1 +0.6
baz=77
SFIN Scholer Farm 77.59 43 ⇓P P 21 13 22.8 +0.2
baz=77
ROTZ Rotzenmuhle 77.60 335 *e*P P 21 13 23.2 +0.8
comp=Z,5.0nm,0.9s
ROTZ Rotzenmuhle 77.60 335 *e*P P 21 13 23.1 +0.7
comp=Z,5.0nm,0.9s
331A San Angelo 77.62 57 ⇑P P 21 13 23.5 +0.6
baz=77
232A Coleman 77.64 56 ⇑P P 21 13 23.5 +0.6
baz=77
KHC Kasperske Hory 77.77 334 *e*P P 21 13 23.7 +0.3
KHC *e* 21 13 41.8
KHC Kasperske Hory 77.77 334 ⇓*e*P P 21 13 23.7 +0.3
KHC *e*pP pP 21 13 41.8 +1.2
KHC Kasperske Hory 77.77 334 *e*P P 21 13 23.7 +0.3
KHC Kasperske Hory 77.77 334 *e*P P 21 13 22.6 -0.9
comp=Z,13nm,1.1s
GZR Gura Zlata 77.94 327 ⇑*i*P P 21 13 24.2 -0.3
GRF Grafenberg Arr 77.94 336 *e*P P 21 13 25.3 +1.0
comp=Z,13nm,0.9s
GRF Grafenberg Arr 77.94 336 *e*P P 21 13 25.1 +0.8
comp=Z,13nm,0.9s
530A J-C Ranch, Com 77.95 59 ⇓P P 21 13 25.5 +0.8
baz=78
332A Millersview 77.96 57 ⇑P P 21 13 25.2 +0.5
baz=78
431A Sonora 77.98 58 ⇑P P 21 13 25.3 +0.3
baz=78
GEC2 GERESS Array S 77.99 334 *e*P P 21 13 25.0 +0.3
comp=Z,2.0nm,1.0s
GEC2 GERESS Array S 77.99 334 *e*P P 21 13 24.7 0.0
comp=Z,2.0nm,1.0s
GERES GERESS Array B 77.99 334 *e*P P 21 13 24.8 0.0
GERES GERESS Array B 77.99 334 P P 21 13 24.8 +0.1
GERES GERESS Array B 77.99 334 P P 21 13 24.8 +0.1
comp=Z,1.3nm,0.6s,baz=37,slow=5.8,SNR=12
GERES LR LR 21 51 56.9
comp=Z,70nm,18.0s,baz=337,slow=39
BRTR Keskin Array B 78.03 317 P P 21 13 25.6 +0.4
BRTR Keskin Array B 78.03 317 P P 21 13 25.6 +0.4
comp=Z,2.8nm,0.9s,baz=76,slow=2.6,SNR=11
BRTR LR LR 21 53 50.4
comp=Z,25nm,18.5s,baz=8.0,slow=40
CONA Conrad Observa 78.14 332 ⇓*i*P P 21 13 26.2 +0.7
comp=Z,9.4nm,0.9s
BZS Buzias 78.18 328 ⇑*i*P P 21 13 26.0 +0.3
TNS Taunus Mts 78.21 338 *e*P P 21 13 26.3 +0.5
comp=Z,8.0nm,1.0s
TNS Taunus Mts 78.21 338 *e*P P 21 13 26.1 +0.3
comp=Z,8.0nm,1.0s
432A Menard 78.31 57 ⇑P P 21 13 27.1 +0.3
baz=78
BR231 Keskin MP Arra 78.34 317 *e*P P 21 13 25.0 -1.8
UMR Umm Al-Rimmam 78.39 301 *e*P P 21 13 27.7 +0.6
UMR AMb AMB 21 13 28.5
comp=Z,37nm,0.9s
531A Rocksprings 78.40 58 ⇓P P 21 13 27.9 +0.6
baz=78
333A Richland Sprin 78.43 56 ⇑P P 21 13 27.8 +0.5
baz=78
MEM Membach 78.46 339 P P 21 13 27.5 +0.4
MEM Membach 78.46 339 *e*P P 21 13 25.8 -1.3
MEM pmax pmax
comp=Z,22nm,1.0s
MEM Membach 78.46 339 *e*P P 21 13 25.8 -1.3
comp=Z,22nm,1.0s
JCT Junction City 78.60 57 *e*P P 21 13 27.8 -0.5
JCT pmax pmax
comp=Z,19nm,0.6s
JCT Junction City 78.60 57 *e*P P 21 13 27.8 -0.5
comp=Z,19nm,0.6s

JCT	Junction City	78.60	57	⇑P		P		21 13 28.4	+0.1	
	baz=78									
PKSM	Moragy	78.72	330	⇑*i*P		P		21 13 27.8	-0.9	
433A	Art	78.80	57	⇓P		P		21 13 28.9	-0.5	
	baz=79									
532A	Rocksprings	78.80	58	⇑P		P		21 13 29.9	+0.5	
	baz=79									
BCLA	Clavier	78.80	340	P		P		21 13 29.4	+0.4	
	comp=Z,10nm,1.5s									
PBMO	Poplar Bluff	78.83	47	*e*P		P		21 13 29.3	-0.1	
	comp=Z,45nm,1.6s									
PBMO				*e*pP		pP		21 13 46.3	-0.3	
RST	Umm Al-Ruwaisa	78.84	301	*e*P		P		21 13 30.1	+0.5	
RST				AMb		AMB		21 13 31.2		
	comp=Z,356nm,0.9s									
334A	Lometa	78.85	56	⇑P		P		21 13 30.4	+0.7	
	baz=79									
NAY	Al-Naaiem	78.89	301	*e*P		P		21 13 30.5	+0.6	
NAY				AMb		AMB		21 13 31.2		
	comp=Z,19nm,1.0s									
631A	Perdido Creek	78.94	59	⇑P		P		21 13 31.3	+1.1	
	baz=79									
RDF	Al-Radifah	78.95	301	*e*P		P		21 13 31.2	+1.0	
RDF				AMb		AMB		21 13 32.1		
	comp=Z,54nm,1.1s									
GIVF	Givet	79.21	340	*e*P		P		21 13 31.1	-0.2	
	comp=Z,59nm,1.4s									
GIVF	Givet	79.21	340	*e*P		P		21 13 31.1	-0.2	
GIVF				pmax		pmax				
	comp=Z,59nm,1.4s									
GIVF	Givet	79.21	340	*e*P		P		21 13 31.1	-0.2	
	comp=Z,59nm,1.4s									
RJOB	Jochberg	79.25	334	*e*P		P		21 13 32.4	+0.8	
	comp=Z,4.0nm,0.9s									
RJOB	Jochberg	79.25	334	*e*P		P		21 13 32.2	+0.6	
	comp=Z,4.0nm,0.9s									
632A	Uvalde	79.33	58	⇑P		P		21 13 32.9	+0.5	
	baz=79									
STU	Stuttgart	79.34	337	*e*P		P		21 13 32.6	+0.6	
	comp=Z,17nm,1.2s									
STU	Stuttgart	79.34	337	*e*P		P		21 13 32.3	+0.3	
	comp=Z,17nm,1.2s									
533A	Kerrville	79.34	57	⇓P		P		21 13 33.1	+0.7	
	baz=79									
BAIF	Baives	79.39	340	*e*P		P		21 13 32.6	+0.4	
BAIF	Baives	79.39	340	*e*P		P		21 13 32.6	+0.4	
BAIF	Baives	79.39	340	*e*P		P		21 13 32.6	+0.4	
STKA	Stephens Creek	79.49	190	LR		LR		21 51 47.9		
	comp=Z,69nm,18.5s,baz=208,slow=38									
SOKA	Soboth	79.51	332	⇑*i*P		P		21 13 33.1	+0.1	
	comp=Z,13nm,1.2s									
PERS	Pernice	79.52	332	*i* P		P		21 13 33.6	+0.5	
KBA	Koelnbreinsper	79.68	333	⇑*i*P		P		21 13 34.4	+0.3	
	comp=Z,27nm,1.1s									
KBA	Koelnbreinsper	79.68	333	*e*P		P		21 13 35.0	+0.9	
	comp=Z,15nm,0.9s									
WCI	Wyandotte Cave	79.68	44	*e*P		P		21 13 32.4	-1.7	
WCI				*e**PP		pP		21 13 50.9	-0.4	
WCI	Wyandotte Cave	79.68	44	*e*P		P		21 13 32.4	-1.7	
WCI				*e*pP		pP		21 13 50.9	-0.4	
534A	Blanco	79.69	57	⇑P		P		21 13 34.3	0.0	
	baz=80									
732A	Laxson Ranch,	79.80	59	⇑P		P		21 13 35.2	+0.4	
	baz=80									
BFO	Black Forest	79.97	337	*i* P		P		21 13 36.2	+0.7	
BFO	Black Forest	79.97	337	*e*P		P		21 13 35.7	+0.2	
	comp=Z,10.0nm,1.0s									
BFO	Black Forest	79.97	337	*e*P		P		21 13 35.7	+0.2	
	comp=Z,10.0nm,1.0s									
BFO	Black Forest	79.97	337	*e*P		P		21 13 34.8	-0.7	
	comp=Z,12nm,1.1s									
WATA	Walderalm	79.97	335	⇑*i*P		P		21 13 35.9	+0.2	
	comp=Z,21nm,1.2s									
MOTA	Moosalm	80.10	335	⇑*i*P		P		21 13 36.5	+0.1	
	comp=Z,18nm,1.1s,SNR=7.7									
VTS	Vitosha	80.16	325	⇑*i*P		P		21 13 36.5	-0.2	
CDF	Champ du Feu	80.17	338	*e*P		P		21 13 36.6	0.0	
	comp=Z,36nm,1.2s									
CDF	Champ du Feu	80.17	338	*e*P		P		21 13 36.6	0.0	
CDF				pmax		pmax				
	comp=Z,36nm,1.2s									
CDF	Champ du Feu	80.17	338	*e*P		P		21 13 36.6	0.0	
	comp=Z,36nm,1.2s									
H06E1	SOCORRO T-PHAS	80.32	73	T		T		22 41 42.4		
	SNR=5.3									
VISS	Visnje	80.35	332	*i* P		P		21 13 36.8	-0.7	
PAGF	Fort de Pagny	80.43	339	*e*P		P		21 13 38.3	+0.4	
	comp=Z,4.9nm,0.7s									
PAGF	Fort de Pagny	80.43	339	*e*P		P		21 13 38.3	+0.4	
	comp=Z,4.9nm,0.6s									
BOJS	Bojanci	80.48	331	*i* P		P		21 13 37.8	-0.4	
DAVA	Damuels	80.50	336	*e*P		P		21 13 39.0	+0.5	
	comp=Z,6.0nm,0.9s									
JAVS	Javornik	80.51	332	*i* P		P		21 13 27.8	-11	
RAO	Raoul Island	80.52	155	P		P		21 13 38.6	+0.2	
RAO	Raoul Island	80.52	155	P		P		21 13 38.6	+0.2	
	comp=Z,106nm,0.3s,baz=253,slow=19,SNR=2.9									
MEZF	Maizieres J'vi	80.65	339	*e*P		P		21 13 39.3	+0.3	
	comp=Z,69nm,1.3s									
MEZF	Maizieres J'vi	80.65	339	*e*P		P		21 13 39.3	+0.3	
	comp=Z,69nm,1.3s									
HAU	Haudompre	80.79	338	*e*P		P		21 13 39.9	0.0	
	comp=Z,10nm,0.8s									
HAU				*e*R						
	comp=Z,144nm,23.0s									
HAU	Haudompre	80.79	338	*e*P		P		21 13 39.9	0.0	
HAU				pmax		pmax				
	comp=Z,10.0nm,0.8s									
HAU	Haudompre	80.79	338	*e*P		P		21 13 39.9	0.0	
	comp=Z,10nm,0.8s									
HINF	Hinteralfeld	80.83	338	*e*P		P		21 13 40.0	-0.1	
HINF	Hinteralfeld	80.83	338	*e*P		P		21 13 40.0	-0.1	
HINF	Hinteralfeld	80.83	338	*e*P		P		21 13 40.0	-0.1	
SFTF	Sexfontaines	80.93	339	*e*P		P		21 13 40.7	+0.1	
	comp=Z,43nm,1.0s									
SFTF	Sexfontaines	80.93	339	*e*P		P		21 13 40.7	+0.1	
	comp=Z,43nm,1.0s									
PMOR	Pomariorio Ree	81.31	123	*e*T		T		22 42 37.3		
	comp=Z,16nm,0.2s									
TUE	Stuetta	81.40	336	*e*P		P		21 13 43.0	-0.4	
	comp=Z,9.9nm,0.9s									
FLN	La Foliniere	81.63	343	*e*P		P		21 13 44.2	-0.1	
FLN				*e*R						
	comp=Z,117nm,21.8s									
FLN	La Foliniere	81.63	343	*e*P		P		21 13 44.2	-0.1	
FLN	La Foliniere	81.63	343	*e*P		P		21 13 44.2	-0.1	
LDF	La Druitiere	81.72	342	*e*P		P		21 13 44.4	-0.3	
LDF	La Druitiere	81.72	342	*e*P		P		21 13 44.4	-0.3	
LDF	La Druitiere	81.72	342	*e*P		P		21 13 44.4	-0.3	
CSS	Prodhromos	81.98	314	*e*P		P		21 13 45.7	-0.7	
	comp=Z,3.1nm,0.8s									
LOR	Lormes	82.09	339	*e*P		P		21 13 46.7	0.0	
LOR				*e*R						
	comp=Z,158nm,18.5s									
LOR	Lormes	82.09	339	*e*P		P		21 13 46.7	0.0	
CABF	La Chapelle	82.15	338	*e*P		P		21 13 47.3	+0.2	
CABF	La Chapelle	82.15	338	*e*P		P		21 13 47.3	+0.2	
CABF	La Chapelle	82.15	338	*e*P		P		21 13 47.3	+0.2	
SWET	Sewanee	82.28	45	*e*P		P		21 13 47.2	-0.7	
	comp=Z,17nm,0.7s									
SSF	Saint Saulge	82.36	340	*e*P		P		21 13 48.2	0.0	
SSF	Saint Saulge	82.36	340	*e*P		P		21 13 48.2	0.0	
SSF	Saint Saulge	82.36	340	*e*P		P		21 13 48.2	0.0	
ASF	Jabal al Asfar	82.39	310	P		P		21 13 49.4	+0.7	
ASF	Jabal al Asfar	82.39	310	P		P		21 13 49.4	+0.7	
	comp=Z,1.7nm,0.7s,baz=299,slow=2.5,SNR=5.4									
PPT	Papeete	82.44	126	LR		LR		21 43 13.1		
	comp=Z,16nm,28.6s,baz=315,slow=30									
PPT2	Papeete2	82.45	126	*e*LR		LR		21 39 39.3		
	comp=Z,192nm,26.5s									
MMAI	Mount Meron Ar	82.49	311	P		P		21 13 49.7	+0.6	
MMAI	Mount Meron Ar	82.49	311	P		P		21 13 49.7	+0.6	
	comp=Z,8.9nm,0.6s,baz=40,slow=6.7,SNR=26									
TIAR	Tiarei	82.56	126	*e*T		T		22 44 09.5		
	comp=Z,2.4nm,0.3s									
AVF	Avril sur Loir	82.66	340	*e*P		P		21 13 49.9	+0.2	
	comp=Z,50nm,1.4s									
AVF	Avril sur Loir	82.66	340	*e*P		P		21 13 49.9	+0.2	
AVF				pmax		pmax				
	comp=Z,50nm,1.4s									
AVF	Avril sur Loir	82.66	340	*e*P		P		21 13 49.9	+0.2	
	comp=Z,50nm,1.4s									
SMF	Signal de Mont	82.67	339	*e*P		P		21 13 50.0	+0.2	
	comp=Z,67nm,1.3s									
SMF	Signal de Mont	82.67	339	*e*P		P		21 13 50.0	+0.2	
SMF	Signal de Mont	82.67	339	*e*P		P		21 13 50.0	+0.2	
	comp=Z,67nm,1.3s									
LPL	La Plagne	82.99	337	*e*P		P		21 13 51.7	0.0	
	comp=Z,13nm,1.0s									
LPL	La Plagne	82.99	337	*e*P		P		21 13 51.7	0.0	
LPL				pmax		pmax				
	comp=Z,13nm,1.0s									
LPL	La Plagne	82.99	337	*e*P		P		21 13 51.7	0.0	
	comp=Z,13nm,1.0s									
LPG	La Plagne	83.00	337	*e*P		P		21 13 51.8	-0.1	
	comp=Z,13nm,0.9s									
LPG	La Plagne	83.00	337	*e*P		P		21 13 51.8	-0.1	
LPG				pmax		pmax				
	comp=Z,13nm,0.9s									
LPG	La Plagne	83.00	337	*e*P		P		21 13 51.8	-0.1	
	comp=Z,13nm,0.9s									
TCF	Toulx Ste Croi	83.40	340	*e*P		P		21 13 53.9	+0.4	
	comp=Z,85nm,1.5s									
TCF	Toulx Ste Croi	83.40	340	*e*P		P		21 13 53.9	+0.4	
TCF	Toulx Ste Croi	83.40	340	*e*P		P		21 13 53.9	+0.4	
	comp=Z,85nm,1.5s									
RAYN	Ar Rayn	84.21	298	*e*P		P		21 13 57.7	-0.4	
	comp=Z,10nm,0.8s									
RAYN	Ar Rayn	84.21	298	P		P		21 13 58.2	+0.1	
	comp=Z,72nm,0.8s,SNR=6.9									
KMSC	Kings Mountain	84.50	42	⇓P		P		21 13 59.0	-0.4	
	baz=84									
EIL	Elat	85.38	310	P		P		21 14 04.3	+0.5	
EIL	Elat	85.38	310	P		P		21 14 04.3	+0.5	
	comp=Z,12nm,0.8s,baz=5.1,slow=5.3,SNR=13									
NWAO	Narrogin (SRO)	86.15	210	P		P		21 14 06.8	-0.5	
NWAO	Narrogin (SRO)	86.15	210	P		P		21 14 06.8	-0.5	
	comp=Z,5.0nm,0.7s,baz=11,slow=5.2,SNR=3.9									
TIGA	Tifton	86.48	46	⇑P		P		21 14 09.6	+0.4	
	baz=86									
TBI	Tubuai	87.20	129	*e*LR		LR		21 41 39.8		
	comp=Z,133nm,30.2s									
TBI	Tubuai	87.20	129	*e*T		T		22 49 56.4		
	comp=Z,17nm,0.2s									
URZ	Urewera	87.81	161	LR		LR		21 46 49.4		
	comp=Z,16nm,28.6s,baz=313,slow=31									
BKZ	Black Stump Fm	88.56	162	*e*pP		pP		21 14 35.8	-0.5	
ESDC	Sonseca Array	91.05	343	P		P		21 14 29.8	-1.0	
ESDC	Sonseca Array	91.05	343	P		P		21 14 29.8	-1.0	
	comp=Z,1.5nm,0.9s,baz=18,slow=5.3,SNR=3.9									
TORD	Torodi Ar. Bea	114.65	329	PKP		PKPdf		21 20 04.8	-1.9	
TORD	Torodi Ar. Bea	114.65	329	PKP		PKPdf		21 20 04.8	-1.9	
	comp=Z,0.1nm,0.4s,baz=35,slow=2.3,SNR=3.8									
BOSA	Boshof	135.80	276	PKPpre		PKPpre		21 20 41.7		
BOSA	Boshof	135.80	276	PKhKP		PKPpre		21 20 41.7		
	comp=Z,1.7nm,0.7s,baz=90,slow=2.0,SNR=2.5									
SIV	San Ignacio	137.88	54	PKP		PKPdf		21 20 50.7	-0.1	
SIV	San Ignacio	137.88	54	PKP		PKPdf		21 20 50.7	-0.1	
	comp=Z,1.1nm,0.6s,baz=293,slow=4.1,SNR=3.3									
H03N2	Juan Fernandez	138.71	90	T		T		23 55 43.3		
	baz=306,slow=75,SNR=13									
H03N1	Juan Fernandez	138.72	90	T		T		23 55 44.4		
	baz=306,slow=75,SNR=10									
H03N3	Juan Fernandez	138.72	90	T		T		23 55 44.7		
	baz=306,slow=75,SNR=393									
BDFB	Brasilia	143.88	36	PKPpre		PKPpre		21 20 58.1		
BDFB	Brasilia	143.88	36	PKhKP		PKPpre		21 20 58.1		
	comp=Z,6.1nm,0.9s,baz=22,slow=2.1,SNR=9.1									
CFAA	Coronel Fontan	144.84	79	PKP		PKPab		21 21 01.3	-0.8	
CFAA	Coronel Fontan	144.84	79	PKP		PKPab		21 21 01.3	-0.8	
	comp=Z,0.6nm,0.6s,baz=280,slow=2.8,SNR=12									
CPUP	Villa Florida	148.16	60	PKPbc		PKPbc		21 21 11.7	-0.2	
CPUP				pPKPbc		pPKPbc		21 21 28.5	-1.6	
CPUP	Villa Florida	148.16	60	PKPbc		PKPbc		21 21 11.7	-0.2	
	comp=Z,3.5nm,0.6s,baz=213,slow=1.8,SNR=6.9									
CPUP				pPKPbc		pPKPbc		21 21 28.5	-1.6	
	comp=Z,4.2nm,0.6s,baz=312,slow=3.1,SNR=5.3									
PLCA	Paso Flores	148.21	94	PKPbc		PKPdf		21 21 10.0	+1.6	
PLCA				pPKPbc		pPKPbc		21 21 28.4	-1.5	
PLCA	Paso Flores	148.21	94	PKPbc		PKPdf		21 21 10.0	+1.6	
	comp=Z,1.9nm,0.8s,baz=270,slow=3.0,SNR=2.8									
PLCA				pPKPbc		pPKPbc		21 21 28.4	-1.5	
	comp=Z,2.6nm,0.7s,baz=347,slow=7.8,SNR=3.3									

*ISCJB **24** 21:09:27.6±0.6,24°.33S±0°.04×67°.28W±0°.06,h160km±8km, mb3.5/6, Error ellipse: s-maj=9.2km s-min=7.0km az=176.8*

*IDC **24** 21:09:28.1±1.7,24°.33S×67°.27W,h149km±16km,mb3.5/7, mb1 3.7/11,mb1mx3.6/20,mbtmp4.0/11, Error ellipse: s-maj=18.2km s-min=13.6km az=105.0*

*GUC **24** 21:09:32.5±0.4,23°.97S×67°.93W,h222km±9km,ML4.6*

ISC 24 21:09:28.4±0.8,24°.32S±0°.06×67°.25W±0°.07,h154km±9km, n23,σ1§32/30,mb3.7/6,1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
PB06	Plate Boundary	2.67	307	*e*P		Pn	21	10	13.8	+1.8
PB06				*i* S		Sn	21	10	45.5	0.0
PB06				AML		AML	21	10	47.8	
	comp=E,1μm,0.3s									
PB04	Plate Boundary	2.90	314	*e*P		Pn	21	10	21.2	+6.6
PB04				*i* S		Sn	21	10	57.8	+7.4
PB04				AML		AML	21	11	01.8	
	comp=E,813nm,0.4s									
ANCH	Antofagasta	2.96	282	*e*P		Pn	21	10	16.9	+1.5
ANCH				*e*S		Sn	21	10	50.8	-0.9
ANCH				AML		AML	21	10	55.7	
	comp=E,771nm,0.1s									
PB09	Plate Boundary	3.11	324	*e*P		Pn	21	10	19.7	+2.2
PB09				*i* S		Sn	21	10	55.3	-0.2
PB09				AML		AML	21	11	00.9	
	comp=E,3μm,0.5s									
PB10	Plate Boundary	3.12	284	*e*P		Pn	21	10	18.8	+1.3
PB10				*i* S		Sn	21	10	54.0	-1.5
PB10				AML		AML	21	10	60.0	
	comp=E,2μm,0.3s									
PB07	Plate Boundary	3.54	316	⇓*i*P		Pn	21	10	24.0	+1.0
PB07				*i* S		Sn	21	11	03.2	-2.2
PB07				AML		AML	21	11	05.2	
	comp=N,756nm,0.8s									
PB01	Plate Boundary	3.86	327	*e*P		Pn	21	10	27.6	+0.5
PB01				*e*S		Sn	21	11	11.0	-1.6
CFAA	Coronel Fontan	7.31	187	P		Pn	21	11	13.4	+0.9
	comp=N,0.1nm,0.3s,baz=0.1,slow=12,SNR=12									
CFAA				S		Sn	21	12	32.4	-2.0
	comp=N,0.2nm,0.3s,baz=132,slow=23,SNR=11									
LPAZ	La Paz	8.04	354	P		Pn	21	11	23.8	+0.9
	comp=N,5.0nm,0.3s,baz=156,slow=5.3,SNR=49									
CPUP	Villa Florida	9.20	105	P		Pn	21	11	38.8	+1.1
	comp=N,0.4nm,0.3s,baz=263,slow=12,SNR=5.1									
SIV	San Ignacio	10.12	36	P		Pn	21	11	49.2	-0.8
	comp=N,2.5nm,0.3s,baz=241,slow=13,SNR=20									
SIV				S		Sn	21	13	39.9	-2.2
	comp=N,0.2nm,0.3s,baz=288,slow=19,SNR=5.1									
PLCA	Paso Flores	16.60	189	P		P	21	13	10.7	-1.3
	comp=N,0.1nm,0.3s,baz=14,slow=17,SNR=3.2									
BDFB	Brasilia	20.02	68	P		P	21	13	50.0	+0.6
	comp=N,18nm,0.8s,baz=240,slow=10,SNR=29									
TXAR	Lajitas Array	63.80	325	P		P	21	19	44.7	+0.4
	comp=N,0.2nm,0.6s,baz=182,slow=6.3,SNR=2.9									
DBIC	Dimbokro	68.12	72	P		P	21	20	13.3	+1.2
	comp=N,1.9nm,0.8s,baz=194,slow=4.2,SNR=3.0									
ANMO	Albuquerque	69.68	326	P		P	21	20	22.9	+1.3
	comp=N,1.3nm,0.7s,baz=134,slow=5.7,SNR=5.2									
TORD	Torodi Ar. Bea	76.90	69	P		P	21	21	04.3	+0.3
	comp=N,1.1nm,0.8s,baz=269,slow=6.0,SNR=7.0									
PDAR	Pinedale Array	77.31	329	P		P	21	21	05.5	-0.5
	comp=N,0.4nm,0.8s,baz=132,slow=6.5,SNR=2.8									
YKA	Yellowknife Ar	94.34	340	P		P	21	22	30.0	+0.1
	comp=N,0.3nm,0.6s,baz=131,slow=4.5,SNR=7.6									
ASAR	Alice Springs	128.07	205	PKP		PKPdf	21	28	17.2	+0.4
	comp=N,0.8nm,0.8s,baz=123,slow=1.7,SNR=13									
WRA	Warramunga Arr	131.24	207	PKP		PKPdf	21	28	23.5	+0.7
	comp=N,0.5nm,0.4s,baz=164,slow=1.6,SNR=10									
ZALV	Zalesovo Beam	143.78	29	PKP		PKPdf	21	28	43.7	-1.1
	comp=N,0.9nm,0.6s,baz=316,slow=4.1,SNR=5.1									
MKAR	Makanchi Array	146.92	40	PKPbc		PKPbc	21	28	51.4	-1.2
	comp=N,1.2nm,0.6s,baz=301,slow=2.9,SNR=15									

MEX 24 21:15:10.0±0.6,16°.92N×100°.09W,h10km±10km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
ACX	Acapulco	0.23	103	*i* P		Pg	21	15	15.8	+1.0
ACX				*i* S		Sg	21	15	19.5	+1.5
ARIG	Puente Sto Nin	1.37	350	*e*P		Pn	21	15	31.5	-3.8
ARIG				*i* S		Sb	21	15	48.4	-5.1
ZIIG	Zihuatanejo	1.48	298	*i* P		Pn	21	15	33.6	-3.1
ZIIG				*i* S		Sn	21	15	50.8	-5.3
PLIG	Platanillo	1.57	21	*i* P		Pn	21	15	33.9	-4.2
PLIG				*i* S		Sn	21	15	53.7	-4.8
TLIG	Tlapa	1.59	66	*i* P		Pn	21	15	34.7	-3.8
TLIG				*i* S		Sn	21	15	54.6	-4.7

IDC 24 21:28:43.2±2.6,19°.63S×175°.57W,h0km,mb4.0/5, mb1 4.1/6,mb1mx3.8/21,mbtmp4.0/6,ML4.2/1,Error ellipse: s-maj=56.8km s-min=38.9km az=76.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
URZ	Urewera	19.62	197	P		P	21	33	12.2	-1.0
	0.6nm,0.3s,baz=18,slow=9.6,SNR=5.7									
RPZ	Rata Peaks	26.50	202	P		P	21	34	23.5	+1.1
	7.6nm,0.7s,baz=45,slow=16,SNR=3.9									
CTA	Charters Tower	35.85	263	P		P	21	35	46.0	+0.9
	2.3nm,0.7s,baz=90,slow=8.7,SNR=7.3									
STKA	Stephens Creek	40.22	244	P		P	21	36	21.5	-0.3
	1.6nm,0.7s,baz=79,slow=2.2,SNR=2.9									
ASAR	Alice Springs	46.94	256	P		P	21	37	15.2	-0.9
	0.6nm,0.7s,baz=95,slow=8.1,SNR=9.1									
ASAR				PcP		PcP	21	38	47.4	-1.5
	0.3nm,0.6s,baz=102,slow=3.4,SNR=7.2									
WRA	Warramunga Arr	46.98	261	P		P	21	37	16.4	-0.1
	0.2nm,0.3s,baz=96,slow=7.6,SNR=6.4									
BRTR	Keskin Array B	147.90	315	PKPbc		PKPbc	21	48	31.0	+0.1
	0.2nm,0.4s,baz=109,slow=4.0,SNR=2.8									

*IDC **24** 21:33:25.1±4.4,30°.76N×130°.70E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.5/23,mbtmp3.6/5,MS2.7/1,Ms1 2.7/1, ms1mx2.4/26,Error ellipse: s-maj=222.9km s-min=21.5km az=62.0*

*ISCJB **24** 21:33:27.8±1.1,31°.09N±0°.05×131°.6E±0°.1,h53km±9km, mb3.6/5, Error ellipse: s-maj=20.7km s-min=7.2km az=16.2*

*JMA **24** 21:33:27.1±0.1,31°.07N×131°.70E,h45km±1km,M3.2*

ISC 24 21:33:28.5±1.7,31°.10N±0°.06×131°.6E±0°.1,h42km±16km, n14,σ0§65/18,mb3.7/5,5C,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
JNAR	Kushima--Naru	0.51	326	⇑P		Pn	21	33	39.2	-0.3
JNAR				S		Sn	21	33	48.0	+0.7
JTSR	Tashiro 2	0.59	277	⇑P		Pn	21	33	40.1	-0.5
JTN	Tanegashima 3	0.70	231	⇑P		Pn	21	33	41.5	-0.5
JTN				S		Sn	21	33	52.1	+0.4
JTZ	Takazaki	0.91	331	⇑P		Pn	21	33	44.5	-0.4
JTZ				S		Sn	21	33	57.6	+0.7
JSU	Suzuyama	1.07	293	P		Pn	21	33	47.3	+0.3
JTSN	Tsuno	1.15	356	P		Pn	21	33	47.6	-0.5
JTSN				S		Sn	21	34	02.8	+0.2
JZO	Okuchi	1.35	321	⇑P		Pn	21	33	51.1	+0.2
JKC	Kuchinoerabu	1.37	243	P		Pn	21	33	50.9	-0.3
JKC				S		Sn	21	34	08.2	+0.1
KSRS	Korea Array	7.03	335	LR		LR	21	38	14.0	
	comp=Z,14nm,28.6s,baz=345,slow=41									
SONM	Songino Array	25.48	318	P		P	21	38	52.7	-0.2
	0.7nm,0.8s,baz=127,slow=6.9,SNR=5.2									
MKAR	Makanchi Array	40.74	307	P		P	21	41	04.3	-1.1
	0.6nm,1.

comp=Z,43nm,0.7s
BOSA Boshof 45.68 76 *e*P **P 22 13 11.3 -1.5**
comp=Z,31nm,1.3s
BOSA Boshof 45.68 76 P **P 22 13 11.5 -1.3**
BOSA LR LR 22 30 08.7
comp=Z,1µm,18.2s,baz=207,slow=33
SBA Scott Base 46.69 184 *e*P **P 22 13 20.4 +0.5**
SBA pmax pmax
comp=Z,54nm,1.4s
SBA Scott Base 46.69 184 *e*P **P 22 13 20.4 +0.5**
comp=Z,54nm,1.4s
VNDA Vanda 47.17 183 *e*P **P 22 13 24.6 +0.8**
comp=Z,32nm,1.0s
VNDA Vanda 47.17 183 P **P 22 13 23.7 -0.1**
comp=Z,21nm,0.7s,baz=184,slow=5.6,SNR=80
VNDA LR LR 22 31 39.7
comp=Z,430nm,20.2s,baz=166,slow=34
H10S2 ASCENSION HYDR 47.39 17 T T 23 05 42.8
baz=187
H10S3 ASCENSION HYDR 47.39 17 T T 23 05 36.8
baz=187,slow=75
H10S1 ASCENSION HYDR 47.40 17 T T 23 05 09.9
baz=187,slow=75
H10N1 ASCENSION HYDR 48.51 17 T T 23 07 18.9
baz=200
H10N3 ASCENSION HYDR 48.51 17 T T 23 06 55.8
baz=200
H10N2 ASCENSION HYDR 48.52 17 T T 23 07 20.7
baz=200
LBTB Lobatse 48.70 73 *e*P **P 22 13 34.4 -1.9**
comp=Z,19nm,1.1s
TSUM Tsumeb 49.26 61 *e*P **P 22 13 39.2 -1.5**
comp=Z,25nm,1.6s
RCBR Riachuelo 50.01 348 *e*P **P 22 13 47.8 +1.5**
comp=Z,36nm,1.5s
LPAZ La Paz 50.16 305 *e*P **P 22 13 48.8 +0.8**
comp=Z,26nm,0.7s
LPAZ La Paz 50.16 305 P **P 22 13 49.4 +1.3**
comp=Z,11nm,0.7s,baz=156,slow=6.1,SNR=35
LPAZ LR LR 22 35 28.3
comp=Z,16nm,28.6s,baz=168,slow=37
ARE Arequipa 51.62 301 *e*P P 22 14 02.0 +3.3
ARE Arequipa 51.62 301 *e*P P 22 14 02.0 +3.3
SAML Samuel 54.49 314 *e*P **P 22 14 19.2 -0.3**
comp=Z,37nm,1.1s
DRV Dumont d'Urvil 57.80 174 S S 22 22 28.0 -12
DRV L L 22 28 00.0
DRV R 22 32 00.0
LSZ Lusaka 58.02 69 *e*P **P 22 14 43.7 -1.2**
comp=Z,4.9nm,1.0s
NNA Nana 58.09 298 *e*P **P 22 14 45.1 -0.2**
comp=Z,39nm,1.3s
MSKU Masuku 62.85 47 *e*P **P 22 15 16.6 -1.2**
comp=Z,172nm,2.8s
LIC Lamto 64.09 24 *e*P **P 22 15 25.5 -0.3**
comp=Z,58nm,1.2s
KIC Kosan Boka 64.29 25 *e*P **P 22 15 26.9 -0.3**
comp=Z,63nm,1.3s
TIC Toumodi 64.50 24 *e*P **P 22 15 28.3 -0.2**
comp=Z,39nm,1.1s
DBIC Dimbokro 64.56 24 *e*P **P 22 15 28.9 0.0**
comp=Z,26nm,1.4s
DBIC Dimbokro 64.56 24 P **P 22 15 28.8 -0.1**
comp=Z,7.0nm,0.8s,baz=177,slow=5.7,SNR=8.1
DBIC LR LR 22 36 59.4
comp=Z,478nm,21.3s,baz=180,slow=30
OTAV Otavalo 69.45 303 *e*P **P 22 16 01.9 +1.3**
comp=Z,38nm,1.5s
ROSC El Rosal 71.63 309 *e*P **P 22 16 12.3 -1.5**
ROSC El Rosal 71.63 309 P **P 22 16 14.4 +0.6**
comp=Z,3.2nm,0.6s,baz=110,slow=21,SNR=5.4
ROSC LR LR 22 49 12.9
comp=Z,162nm,19.8s,baz=178,slow=37
TOA0 Torodi Ar. Sit 72.46 29 *e*P **P 22 16 18.1 -0.2**
TORD Torodi Ar. Bea 72.46 29 P **P 22 16 18.1 -0.1**
TORD Torodi Ar. Bea 72.46 29 P **P 22 16 18.1 -0.1**
comp=Z,15nm,0.8s,baz=200,slow=5.4,SNR=95
TORD LR LR 22 44 10.8
comp=Z,185nm,18.5s,baz=170,slow=33
SDV Santo Domingo 73.69 315 *e*P **P 22 16 25.5 -0.3**
comp=Z,10nm,1.4s
KMBO Kilima Mbogo 74.69 69 *e*P **P 22 16 30.9 -0.8**
comp=Z,16nm,1.8s
RKT Rikitea 80.88 242 *e*LQ LQ 22 38 56.4
comp=Z,374nm,32.2s
RKT *e*LR LR 22 42 35.9
comp=Z,461nm,26.8s
JTS JuntasAbangare 81.31 302 *e*P **P 22 17 09.8 +1.6**
comp=Z,30nm,1.3s
BFZ Birch Farm 82.22 198 *e*P **P 22 17 11.4 -1.3**
comp=Z,76nm,1.9s
TGUH Tegucigalpa,Un 85.69 302 *e*P **P 22 17 31.4 +0.9**
comp=Z,62nm,1.7s
TBI Tubuai 87.57 231 *e*LR LR 22 45 51.0
comp=Z,691nm,30.5s
FORT Forrest 91.48 159 *e*P **P 22 17 58.0 -0.1**
comp=Z,189nm,2.3s
TEIG Tepich 91.49 304 *e*P **P 22 17 59.3 +1.3**
comp=Z,140nm,1.8s
STKA Stephens Creek 92.46 170 *e*P **P 22 18 03.2 +0.5**
comp=Z,27nm,2.6s
STKA Stephens Creek 92.46 170 P **P 22 18 03.4 +0.7**
comp=Z,3.1nm,0.9s,baz=156,slow=8.8,SNR=4.2
STKA LR LR 22 59 17.1
comp=Z,16nm,28.6s,baz=190,slow=35
PPT2 Papeete2 92.65 234 *e*PS PS 22 30 30.9 +10
comp=Z,212nm,30.8s
PPT2 *e*SS SS 22 35 24.5 +6.2
comp=Z,107nm,25.5s
PPT2 Papeete2 92.65 234 *e*LR LR 22 47 53.1
comp=Z,367nm,24.2s
PPT Papeete 92.67 234 LR LR 22 51 19.3
comp=Z,17nm,28.6s,baz=180,slow=30
KEST Kesra 95.98 29 LR LR 22 57 31.3
comp=Z,94nm,20.8s,baz=154,slow=33
ESDC Sonseca Array 96.77 18 LR LR 22 57 22.4
comp=Z,214nm,21.0s,baz=310,slow=33
ASAR Alice Springs 99.51 162 P **Pdif 22 18 35.1 +0.3**
ASAR PP **PP 22 22 37.9 +0.4**
ASAR Alice Springs 99.51 162 P **Pdif 22 18 35.1 +0.3**
comp=Z,1.9nm,0.7s,baz=185,slow=3.6,SNR=19
ASAR PP **PP 22 22 37.9 +0.4**
comp=Z,0.9nm,0.9s,baz=186,slow=6.3,SNR=4.9
ASAR LR LR 23 01 45.7
comp=Z,217nm,19.7s,baz=176,slow=34
AS01 Alice Springs 99.52 162 *e*P **Pdif 22 18 34.6 -0.3**
DZM Mont Dzumac 101.95 193 *e*LR LR 22 52 19.1
comp=Z,418nm,23.0s
WRA Warramunga Arr 103.23 162 Pdif **Pdif 22 18 51.2 -0.2**
WRA PP **PP 22 23 06.5 +0.9**
WRA Warramunga Arr 103.23 162 Pdiff **Pdif 22 18 51.2 -0.2**
comp=Z,0.5nm,0.8s,baz=194,slow=3.7,SNR=3.0
WRA PP **PP 22 23 06.4 +0.9**
comp=Z,0.6nm,0.8s,baz=191,slow=5.7,SNR=3.0
CLL Collm 111.45 26 *e*PS PS 22 33 45.0 +7.3
CLL *e*PPS PPS 22 35 06.0
CLL *e*SS SS 22 40 00.0 +21
CLL *e*SSS SSS 22 44 00.0
CLL LmV 23 04 00.0
comp=Z,200nm,21.3s
ESK Eskdalemuir 112.10 14 *i* PKIKP PKiKP 22 23 32.1 +6.2
KIV Kislovodsk 115.16 48 *i* PKIKP **PKPdf 22 23 32.3 +0.1**
KIV *e* 22 30 17.9
KIV *e*PS **PS 22 34 16.1 +3.9**
KIV pmax pmax
comp=Z,3.0nm,1.0s
PDAR Pinedale Array 120.15 302 PKP **PKPdf 22 23 41.5 -0.6**
PDAR Pinedale Array 120.15 302 PKP **PKPdf 22 23 41.4 -0.6**
comp=Z,0.3nm,0.6s,baz=186,slow=4.5,SNR=3.3
OBN Obninsk 121.78 37 *i* PKIKP **PKPdf 22 23 45.2 +0.8**
OBN *e*PS **PS 22 35 05.6 -5.8**
OBN *e*SS SS 22 41 50.2 -3.7
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,15.0s
FINES FINESS Array B 123.79 28 PKP **PKPdf 22 23 47.9 -0.2**
FINES FINESS Array B 123.79 28 PKP **PKPdf 22 23 47.9 -0.2**
comp=Z,2.1nm,0.6s,baz=291,slow=3.9,SNR=8.7
PYUN Piuthan 123.82 89 *e*P **PKPdf 22 23 48.4 -1.2**
comp=Z,22nm,0.9s
KOLN Koldanda 123.91 89 *e*P **PKPdf 22 23 48.9 -0.9**
comp=Z,15nm,0.8s
WVOR Wild Horse Val 124.41 296 *e*PKIKP **PKPdf 22 23 49.8 -0.3**
WVOR Wild Horse Val 124.41 296 *e*PKPdf **PKPdf 22 23 49.8 -0.3**
DANN Dangsing 124.45 89 *e*P **PKPdf 22 23 49.1 -1.8**
comp=Z,23nm,0.9s
GKN Gorkha 124.68 90 *e*P **PKPdf 22 23 50.4 -0.8**
comp=Z,22nm,1.2s
PKIN Phulchoki 124.79 91 *e*P **PKPdf 22 23 51.0 -0.5**
comp=Z,5.6nm,0.6s
PKI Pulchoki 124.79 91 *e*P **PKPdf 22 23 50.6 -1.0**
MOD Modoc 124.88 295 *e*PKPdf **PKPdf 22 23 50.0 -1.1**
KKN Kakani 124.89 91 *e*P **PKPdf 22 23 50.8 -0.8**
comp=Z,4.8nm,0.5s
RAMN Ramite 125.00 93 *e*P **PKPdf 22 23 51.9 0.0**
comp=Z,9.2nm,0.5s
CM01 Chiang Mai Arr 125.11 110 *e*PKPdf **PKPdf 22 23 52.1 +0.1**
CMAR Chiang Mai Arr 125.13 110 PKP **PKPdf 22 23 51.2 -0.8**
CMAR Chiang Mai Arr 125.13 110 PKP **PKPdf 22 23 51.2 -0.8**
comp=Z,2.8nm,0.8s,baz=253,slow=3.6,SNR=12
MSO Missoula 125.25 303 *e*PKPdf **PKPdf 22 23 51.3 -0.3**
JIRN Jiri 125.31 92 *e*P **PKPdf 22 23 52.1 -0.5**
comp=Z,13nm,0.5s
GUN Gumba 125.32 91 *e*P **PKPdf 22 23 51.5 -1.1**
ODAN Odare 125.38 93 *e*P **PKPdf 22 23 52.5 -0.1**
K05A Summer Lake 125.78 295 *e*PKPdf **PKPdf 22 23 53.8 +0.9**
FCC Fort Churchill 125.89 324 *e*PKIKP **PKPdf 22 23 52.4 +0.2**
FCC Fort Churchill 125.89 324 *e*PKPdf **PKPdf 22 23 52.4 +0.2**
TAPN Taplejung 125.93 93 *e*P **PKPdf 22 23 53.0 -0.8**
G08A Pilot Rock 126.61 298 *e*PKPdf **PKPdf 22 23 54.0 -0.2**
AKTO Aktyubinsk 126.86 53 PKIKP **PKPdf 22 23 54.0 -0.4**
AKTO Aktyubinsk 126.86 53 PKP **PKPdf 22 23 54.0 -0.4**
AKTO Aktyubinsk 126.86 53 PKP **PKPdf 22 23 54.0 -0.4**
comp=Z,2.6nm,0.8s,baz=166,slow=2.7,SNR=8.8
ABKAR Akbulak array 126.91 55 *e*PKPdf **PKPdf 22 23 53.6 -0.9**
KKAR Karatay Array 127.85 67 *e*PKIKP **PKPdf 22 23 55.4 -1.2**
KKAR Karatay Array 127.85 67 *e*PKPdf **PKPdf 22 23 55.4 -1.2**
KSH Kashi 128.26 74 PKP **PKPdf 22 23 59.0 +1.4**
KSH sPKP 22 24 13.3
KSH PP **PP 22 26 03.1 +0.5**
KSH PKS **PKSdf 22 27 32.1 -2.1**
KSH SKS **SKSdf 22 31 01.9 -5.5**
KSH SKKS **SKKSac 22 32 52.1 -5.3**
KSH AMB AMB
comp=Z,100nm,5.3s
KSH LR LR
comp=Z,150nm,4.8s
KSH LR LR
comp=Z,140nm,5.3s
KSH LR LR
comp=Z,230nm,5.5s
EKS2 Erkin-Say 129.27 69 *e*PKIKP **PKPdf 22 23 59.7 +0.3**
EKS2 Erkin-Say 129.27 69 *e*PKPdf **PKPdf 22 23 59.6 +0.3**
AAK Ala-Archa 129.64 70 *e*PKIKP **PKPdf 22 24 00.0 -0.2**
AAK Ala-Archa 129.64 70 *e*PKPdf **PKPdf 22 24 00.0 -0.2**
LSA Lhasa 129.68 94 *e*PKIKP **PKPdf 22 24 01.3 +0.2**
LSA Lhasa 129.68 94 *e*PKPdf **PKPdf 22 24 01.3 +0.2**
PRGR Permogore 129.84 36 *e*PKIKP **PKPdf 22 24 00.0 +0.4**
PRGR pmax pmax
comp=Z,34nm,1.1s
ARA0 ARCESS Array S 130.34 21 *e*PKPdf **PKPdf 22 24 00.9 +0.4**
ARCES ARCESS Array B 130.34 21 PKP **PKPdf 22 24 01.0 +0.5**
ARCES ARCESS Array B 130.34 21 PKP **PKPdf 22 24 01.0 +0.5**
comp=Z,8.9nm,0.8s,baz=277,slow=2.0,SNR=7.9
ARU Arti 131.19 47 *i* PKIKP PKPdf 22 24 14.5 +12
QIZ Qiongzhong 131.23 121 PKP **PKPdf 22 24 04.8 +1.1**
QIZ PP **PP 22 26 23.1 +1.7**
QIZ SS SS 22 43 54.5 +2.6
QIZ LR LR
comp=Z,180nm,16.6s
QIZ LR LR
comp=Z,230nm,16.6s
KMI Kunming 132.58 109 PKP **PKPdf 22 24 09.3 +2.9**
KMI sPKP 22 24 23.0
KMI PP **PP 22 26 33.4 +2.8**
KMI SS SS 22 44 09.1 -0.1
KMI AMB AMB
comp=Z,130nm,5.1s
KMI LR LR
comp=Z,190nm,16.4s
KMI LR LR
comp=Z,110nm,18.5s
KMI LR LR
comp=Z,200nm,17.5s
BRVK Borovoye 134.30 57 *e*PKIKP **PKPdf 22 24 09.2 +0.8**
BRVK Borovoye 134.30 57 *e*PKPdf **PKPdf 22 24 09.2 +0.8**
GYA Guiyang 135.75 111 *e*Pdif **Pdif 22 21 15.4 -0.4**
GYA PKP **PKPdf 22 24 13.0 +0.8**
GYA sPKP 22 24 28.5
GYA PP **PP 22 26 53.3 +2.7**
GYA PKS **PKSdf 22 27 47.0 -1.6**
GYA SKKS 22 33 41.8
GYA SS **SS 22 44 46.3 -0.8**
GYA AMB AMB
comp=Z,140nm,7.8s
GYA LR LR
comp=Z,180nm,23.8s
GYA LR LR
comp=Z,140nm,24.0s
GYA LR LR
comp=Z,160nm,22.5s
YKA Yellowknife Ar 135.82 318 PKPpre PKPpre 22 24 03.6
YKA PKP **PKPdf 22 24 09.9 -1.0**
YKA PP **PP 22 26 51.5 +0.9**
YKA Yellowknife Ar 135.82 318 PKhKP PKPpre 22 24 03.6
comp=Z,0.2nm,0.6s,baz=123,slow=3.7,SNR=4.1
YKA PKP **PKPdf 22 24 09.9 -1.0**
comp=Z,1.2nm,0.7s,baz=122,slow=2.3,SNR=19
YKA PP **PP 22 26 51.5 +0.9**
comp=Z,0.5nm,0.8s,baz=119,slow=6.9,SNR=4.5
YKB5 Yellowknife Ar 135.82 318 *e*PKPpre PKPpre 22 24 01.9
YKB5 *e*PKPdf **PKPdf 22 24 11.2 +0.3**
MK01 Makanchi Array 136.54 71 *e*PKPdf **PKPdf 22 24 11.4 -1.4**
MKAR Makanchi Array 136.56 71 PKIKP PKPpre 22 24 06.9
MKAR 22 24 13.1
MKAR Makanchi Array 136.56 71 PKPpre PKPpre 22 24 06.9
MKAR PKP **PKPdf 22 24 13.1 +0.2**
MKAR Makanchi Array 136.56 71 PKhKP PKPpre 22 24 06.9
comp=Z,0.5nm,0.8s,baz=233,slow=3.1,SNR=3.5
MKAR PKP **PKPdf 22 24 13.1 +0.2**
comp=Z,1.6nm,0.9s,baz=252,slow=3.1,SNR=9.0
WMQ Urumqi 137.64 78 PKP **PKPdf 22 24 16.0 +1.0**
WMQ PP **PP 22 27 06.0 +3.5**
WMQ PKS **PKSdf 22 27 51.0 -0.1**
WMQ SKS **SKSdf 22 31 21.0 -2.7**
WMQ SKKS **SKKSac 22 33 53.0 -1.3**
WMQ SS **SS 22 45 10.0 +0.2**
WMQ AMB AMB
comp=Z,24nm,10.0s
WMQ LR LR
comp=Z,160nm,24.0s
WMQ LR LR
comp=Z,130nm,24.0s
WMQ LR LR
comp=Z,150nm,24.0s
CD2 Chengdu 137.67 105 *e*PKP **PKPdf 22 24 15.3 -0.2**
CD2 sPKP 22 24 30.8
CD2 PP **PP 22 27 06.3 +3.7**
CD2 PKS **PKSdf 22 27 50.3 -1.4**
CD2 SKS **SKSdf 22 31 20.3 -4.1**
CD2 SKKS **SKKSac 22 33 52.1 -2.9**
CD2 SS **SS 22 45 09.5 -0.5**
CD2 AMB AMB
comp=Z,170nm,8.2s
CD2 LR LR
comp=Z,150nm,21.4s
CD2 LR LR
comp=Z,210nm,21.4s
ENH Enshi 140.28 111 *e*PKPdf **PKPdf 22 24 19.1 -1.1**
LZH Lanzhou 141.56 99 *e*PKP **PKPdf 22 24 25.0 +2.4**
LZH sPKP 22 24 34.8
LZH LR LR
comp=Z,140nm,17.1s
LZH LR LR
comp=Z,160nm,18.0s
LZH LR LR
comp=Z,190nm,19.6s
GTA Gaotai 141.60 92 PKP **PKPdf 22 24 24.6 +2.1**
GTA sPKP 22 24 38.9
GTA PP 22 27 32.5 +5.5
GTA SKS **SKSdf 22 31 29.1 -1.5**
GTA SS **SS 22 45 58.1 +1.7**
GTA AMB AMB
comp=Z,90nm,5.5s
GTA LR LR
comp=Z,130nm,19.2s
GTA LR LR
comp=Z,180nm,17.6s
GTA LR LR
comp=Z,190nm,18.5s
NVS Novosibirsk 141.63 61 *e*PKIKP **PKPdf 22 24 18.5 -3.3**
NVS *e* 22 27 36.5
NVS pmax pmax
comp=Z,25nm,2.1s
ZAA0 Zalesovo Array 141.97 63 *e*PKPpre PKPpre 22 24 16.1
ZALV Zalesovo Beam 141.97 63 PKPpre PKPpre 22 24 18.1
ZALV PKP **PKPdf 22 24 22.9 +0.4**
ZALV Zalesovo Beam 141.97 63 PKhKP PKPpre 22 24 18.1
comp=Z,1.6nm,0.7s,baz=282,slow=2.9,SNR=7.0
ZALV PKP **PKPdf 22 24 22.9 +0.4**
comp=Z,1.2nm,0.6s,baz=235,slow=3.6,SNR=7.0
XAN Xi'an 142.88 107 PKP **PKPdf 22 24 21.8 -3.0**
XAN pPKP **pPKPdf 22 24 31.8 -1.4**
XAN LR LR
comp=Z,82nm,17.4s
XAN LR LR
comp=Z,46nm,14.3s
HYT Haines Junctio 144.54 308 *e*PKPdf **PKPdf 22 24 26.7 -0.2**
INK Inuvik 145.43 321 *e*PKPdf **PKPab 22 24 28.7 +0.4**
NJ2 Nanjing 146.52 120 *e*PKPbc **PKPab 22 24 36.0 +2.4**
NJ2 PKPab **PKiKP 22 24 39.4 +4.0**
NJ2 pPKP **pPKPdf 22 24 46.0 +6.5**
NJ2 sPKP 22 24 51.8
NJ2 SKS **SKSdf 22 31 38.0 0.0**
NJ2 AMB AMB
comp=Z,120nm,10.4s
NJ2 LR LR
comp=Z,170nm,36.6s
EGAK Eagle 147.44 313 *e*PKPbc **PKPbc 22 24 34.2 0.0**
BMRM Bremner River 147.84 306 *e*PKPbc **PKPbc 22 24 35.3 -0.1**
MENT Mentasta 148.03 310 *e*PKPdf **PKPdf 22 24 31.9 -0.8**
MENT *e*PKPbc **PKPbc 22 24 35.9 +0.1**
DOT Dot Lake 148.37 311 *e*PKPbc **PKPbc 22 24 37.2 +0.5**
DIV Divide 148.43 306 *e*PKPbc **PKPbc 22 24 37.7 +0.7**
PAX Paxson 148.81 309 *e*PKIKP **PKPdf 22 24 34.3 +0.3**
PAX *e* 22 24 38.5
PAX Paxson 148.81 309 *e*PKPdf **PKPdf 22 24 34.3 +0.3**
PAX *e*PKPbc **PKPbc 22 24 38.5 +0.6**
HHC Hu-ho-hao-te 149.22 101 *e*PKPbc **PKPdf 22 24 35.0 -0.4**
HHC pPKP **PKPab 22 24 46.3 +2.0**
HHC sPKP 22 24 49.9
HHC PKS **PKSdf 22 28 06.0 -4.4**
HHC PP **PP 22 28 15.0 +2.9**
HHC SKS **SKSdf 22 31 38.3 -3.3**
HHC SKKS **SKKSac 22 34 59.5 -1.5**
HHC SS **SS 22 47 22.0 -1.2**
HHC AMB AMB
comp=Z,160nm,8.6s
HHC LR LR
comp=Z,220nm,21.8s
HHC LR LR
comp=Z,460nm,22.9s
HHC LR LR
comp=Z,330nm,21.7s
MOY Mondy 149.44 75 *e*PKP2 **PKPbc 22 24 41.1 +1.2**
SML Sawmill 149.80 306 *e*PKIKP **PKPdf 22 24 33.2 -2.4**
SML Sawmill 149.80 306 *e*PKPdf **PKPdf 22 24 33.2 -2.4**
IL1 Eielson Array 149.82 312 *e*PKPbc **PKPbc 22 24 41.1 +0.8**
ILAR Eielson Array 149.82 312 PKPbc **PKPbc 22 24 40.5 +0.2**
ILAR Eielson Array 149.82 312 PKPbc **PKPbc 22 24 40.5 +0.2**
comp=Z,13nm,0.6s,baz=118,slow=1.6,SNR=47
SEW Seward 149.85 303 *e*PKPbc **PKPbc 22 24 41.1 +0.7**
ZAK Zakamensk 150.09 79 *e*PKIKP **PKPdf 22 24 38.1 +1.6**
ZAK pmax pmax
comp=Z,16nm,1.2s
PMR Palmer 150.11 306 *e*PKIKP **PKPdf 22 24 36.3 +0.3**
PMR Palmer 150.11 306 *e*PKPdf **PKPdf 22 24 36.3 +0.3**
COLA College 150.25 312 *e*PKIKP **PKPdf 22 24 34.7 -1.4**
COLA College 150.25 312 *e*PKPdf **PKPdf 22 24 34.7 -1.4**
MCK McKinley 150.50 310 *e*PKIKP **PKPdf 22 24 37.9 +1.3**
MCK *e* 22 24 42.4
MCK McKinley 150.50 310 *e*PKPdf **PKPdf 22 24 37.9 +1.3**
MCK *e*PKPbc **PKPbc 22 24 42.4 +0.5**
SONM Songino Array 150.54 85 PKP **PKPdf 22 24 36.9 -0.4**
SONM PKPbc **PKPbc 22 24 42.3 -0.4**
SONM Songino Array 150.54 85 PKP **PKPdf 22 24 36.9 -0.4**
comp=Z,0.8nm,0.9s,baz=231,slow=0.7,SNR=7.1
SONM PKPbc **PKPbc 22 24 42.3 -0.4**
comp=Z,8.0nm,0.8s,baz=216,slow=1.9,SNR=10
SONA1 Songino Array 150.55 85 *e*PKPdf **PKPdf 22 24 36.6 -0.7**
SONA1 *e*PKPbc **PKPbc 22 24 42.6 -0.1**
KDAK Kodiak Island 150.68 297 *e*PKPbc **PKPbc 22 24 43.4 +0.9**
OHAK Old Harbor 150.85 296 *e*PKPbc **PKPbc 22 24 43.8 +0.9**
OHAK *e*PKPab **PKPab 22 24 51.0 +0.7**
ULN Ulaanbaatar 150.93 86 *e*PKPdf **PKPdf 22 24 37.9 -0.1**
TRF Thorofare Moun 151.04 309 *e*PKPdf **PKPdf 22 24 39.1 +1.5**
TRF *e*PKPbc **PKiKP 22 24 44.8 +0.7**
BJI Beijing 151.21 107 PKPbc **PKPdf 22 24 39.8 +1.4**
BJI SS SS 22 47 46.4 +1.5
BJI LR LR
comp=Z,210nm,24.3s
BJI LR LR
comp=Z,220nm,27.2s
BJI LR LR
comp=Z,91nm,31.6s
KTH Kantishna Hill 151.34 309 PKPdf **PKPdf 22 24 39.8 +1.9**
KTH *e*PKPbc **PKPbc 22 24 44.4 +0.3**
COLD Coldfoot 151.49 317 *e*PKPbc **PKPbc 22 24 45.5 +1.4**
RSO Redoubt South 151.53 303 *e*PKPbc **PKPbc 22 24 46.0 +1.3**
PPLA Purkeypile 151.79 308 *e*PKPdf **PKPdf 22 24 40.0 +1.2**
PPLA *e*PKPbc **PKiKP 22 24 45.7 +0.1**
KSAR Wonju Array Be 155.21 126 PKP **PKPdf 22 24 45.5 +1.2**
KSRS Korea Array 155.24 126 PKP **PKPdf 22 24 45.5 +1.2**
comp=Z,1.9nm,0.9s,baz=212,slow=6.7,SNR=4.3
CN2 Changchun 158.80 112 *e*PKP **PKPdf 22 24 50.0 +1.4**
CN2 *ep*PKP **pPKPdf 22 25 01.0 +4.0**
CN2 *e*PP **PP 22 29 10.0 +4.2**
CN2 *e*SS SS 22 49 07.8 +0.7
CN2 AMB AMB
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,100nm,21.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,400nm,22.0s

IDC ***24*** *22:50:45.4±0.9, 55°48S×26°81W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.1/4, MS3.5/1, Ms1 3.3/1, ms1mx2.9/18, Error ellipse: s-maj=38.6km s-min=28.8km az=94.0*

ISCJB ***24*** *22:50:47.3±1.1, 55°5S±0°2×26°7W±0°5, h25km, mb4.1/4, MS3.5/1, Error ellipse: s-maj=40.2km s-min=25.8km az=6.3*

ISC 24 22:50:49.2±0.9, 55°5S±0°2×26°9W±0°3, h25km, n9, σ0s38/8, mb4.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**45.66**	**76**	LR		LR		23 14 34.0	
	comp=Z,51nm,20.4s,baz=217,slow=31								
VNDA	**Vanda**	**47.14**	**183**	P		**P**		**22 59 18.6**	**-0.1**
	1.5nm,0.8s,baz=158,slow=5.4,SNR=6.0								
LPAZ	**La Paz**	**50.20**	**304**	P		**P**		**22 59 43.7**	**+0.1**
	1.7nm,0.7s,baz=137,slow=4.6,SNR=7.5								
DBIC	**Dimbokro**	**64.58**	**24**	P		**P**		**23 01 24.4**	**+0.2**
	1.1nm,0.5s,baz=180,slow=10,SNR=3.6								
TORD	**Torodi Ar. Bea**	**72.48**	**29**	P		**P**		**23 02 13.3**	**-0.2**
	3.2nm,0.9s,baz=198,slow=6.4,SNR=15								
INK	**Inuvik**	**145.48**	**321**	PKPbc		**PKPdf**		**23 10 23.0**	**-0.3**
	2.8nm,0.9s,baz=97,slow=4.3,SNR=6.8								
ILAR	**Eielson Array**	**149.87**	**312**	PKPbc		**PKPbc**		**23 10 35.5**	**-0.1**
	1.8nm,0.9s,baz=116,slow=1.1,SNR=15								
SONM	**Songino Array**	**150.51**	**85**	PKPbc		**PKPbc**		**23 10 37.6**	**-0.3**
	2.0nm,1.0s,baz=232,slow=2.4,SNR=9.2								
JNU	**Nakatsue**	**152.78**	**136**	PKPbc		**PKPbc**		**23 10 44.0**	**+0.7**
	2.3nm,0.5s,baz=239,slow=5.9,SNR=2.5								

IDC 24 22:57:50.9±3.7, 11°95S×167°03E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/19, mbtmp4.0/4, ML4.8/1, Error ellipse: s-maj=76.9km s-min=54.2km az=120.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.40**	**289**	Pn		Pn		22 59 39.3	-1.0
	15nm,0.3s,baz=158,slow=5.4,SNR=7.4								
WRA	**Warramunga Arr**	**32.38**	**252**	P		P		23 04 22.6	0.0
	0.4nm,0.7s,baz=85,slow=9.9,SNR=3.7								
ASAR	**Alice Springs**	**33.53**	**245**	P		P		23 04 33.0	+0.3

0.5nm,0.6s,baz=74,slow=8.8,SNR=10
MKAR Makanchi Array 95.04 317 P P 23 11 15.6 -0.2
0.7nm,0.8s,baz=98,slow=6.2,SNR=6.4

IDC 24 22:57:51.7±2.0, 55.45S×26.76W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.7/16, mbtmp3.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/24, Error ellipse: s-maj=79.6km s-min=45.7km az=177.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**50.23**	**304**	P	P	23 06 49.5	-0.6
	0.6nm,0.6s,baz=173,slow=8.1,SNR=2.2						
LSZ	**Lusaka**	**57.93**	**69**	LR	LR	23 29 38.3	
	comp=Z,15nm,28.6s,baz=334,slow=33						
TORD	**Torodi Ar. Bea**	**72.41**	**29**	P	P	23 09 19.5	0.0
	1.6nm,0.6s,baz=197,slow=5.7,SNR=18						
INK	**Inuvik**	**145.49**	**321**	PKPbc	PKPdf	23 17 29.7	-0.2
	1.1nm,0.7s,baz=108,slow=2.2,SNR=5.9						
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc	PKPbc	23 17 42.0	-0.2
	1.1nm,0.9s,baz=128,slow=3.5,SNR=7.8						
SONM	**Songino Array**	**150.44**	**85**	PKPbc	PKPbc	23 17 43.6	-0.7
	0.5nm,0.6s,baz=228,slow=3.3,SNR=4.7						

*NNC **24** 23:09:47.8±3.6, 36.56N×69.49E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=32.1km s-min=23.4km az=156.0*
ISC 24 23:09:47.6±3.5, 36.3N±0.2×69.4E±0.2, h48km, n12, σ0s96/15, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.75**	**28**	P	Pn	**23 11 25.0**	**+0.5**
	SNR=14						
KK31	**Karatay Array**	**6.89**	**7**	⇑Pn	Pn	**23 11 27.3**	**+1.3**
	0.6nm,0.3s,baz=185,slow=14,SNR=61						
KK31				⇑Sn	Sn	**23 12 43.1**	**+0.1**
	2.1nm,0.3s,baz=186,slow=22,SNR=11						
UCH	**Uchtor**	**7.17**	**32**	P	Pn	**23 11 30.9**	**+0.7**
	SNR=12						
EKS2	**Erkin-Say**	**7.24**	**27**	P	Pn	**23 11 31.7**	**+0.7**
	SNR=6.0						
AAK	**Ala-Archa**	**7.49**	**30**	P	Pn	**23 11 34.8**	**+0.3**
	SNR=10						
AAK	**Ala-Archa**	**7.49**	**30**	⇓Pn	Pn	**23 11 35.3**	**+0.8**
	2.2nm,0.3s						
AAK				⇓Sn	Sn	**23 12 58.8**	**+0.7**
	3.3nm,0.6s						
CHMS	**Chumysh**	**7.90**	**30**	P	Pn	**23 11 40.3**	**+0.4**
	SNR=6.8						
USP	**Ospenovka**	**8.03**	**28**	P	Pn	**23 11 41.9**	**+0.3**
	SNR=6.7						
TKM2	**Tokmak 2**	**8.20**	**34**	⇑Pn	Pn	**23 11 43.9**	**-0.2**
	2.7nm,0.7s						
TKM2				⇓Sn	Sn	**23 13 13.7**	**-1.9**
	1.1nm,0.5s						
MK31	**Makanchi Array**	**14.27**	**39**	⇑P	Pn	**23 13 07.9**	**+1.1**
	0.6nm,0.5s,baz=217,slow=12,SNR=8.5						
AB31	**Akbulak array**	**14.70**	**335**	⇑P	Pn	**23 13 12.4**	**0.0**
	0.3nm,0.5s,baz=154,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**16.36**	**333**	⇑P	Pn	**23 13 32.5**	**-1.4**
	0.5nm,0.5s						

IDC 24 23:12:22.4±1.9, 16.87S×174.50W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/20, mbtmp4.2/5, ML2.5/1, Error ellipse: s-maj=52.8km s-min=29.9km az=131.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.95**	**42**	Pn	Pn	23 13 24.3	0.0
	18nm,0.3s,baz=261,slow=0.9,SNR=12						
AFI				Sn	Sn	23 14 02.5	-9.0
	52nm,0.3s,baz=60,slow=21,SNR=14						
URZ	**Urewera**	**22.55**	**197**	P	P	23 17 23.9	-0.2
	4.3nm,0.3s,baz=37,slow=5.1,SNR=13						
STKA	**Stephens Creek**	**42.39**	**241**	P	P	23 20 18.9	+0.1
	2.6nm,0.7s,baz=60,slow=7.2,SNR=4.5						
WRA	**Warramunga Arr**	**48.49**	**258**	P	P	23 21 07.0	-0.3
	0.3nm,0.4s,baz=94,slow=7.0,SNR=5.2						
ASAR	**Alice Springs**	**48.66**	**253**	P	P	23 21 08.5	-0.1
	4.7nm,0.6s,baz=88,slow=8.7,SNR=118						

MEX 24 23:26:42.9±0.5, 16.61N×96.48W, h48km±10km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.52**	**332**	*i* P	Pg	23 26 52.3	-1.0
VHO				*e*S	Sg	23 27 00.7	+0.3
HUIG	**Huatulco**	**0.91**	**157**	*i* P	Pg	23 26 58.1	-2.3
HUIG				*i* S	Sg	23 27 09.8	-2.4
PNIG	**Pinotepa**	**1.60**	**262**	*i* P	Pn	23 27 07.8	-3.8
PNIG				*i* S	Sn	23 27 27.6	-4.8

MEX 24 23:32:18.7±0.5, 16.42N×95.84W, h16km±11km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.70**	**201**	*i* P	Pg	23 32 29.9	-2.5
HUIG				*i* S	Sg	23 32 38.7	-3.0
VHO	**Vista Hermosa**	**1.07**	**307**	*i* P	Pb	23 32 35.7	-3.4
VHO				*i* S	Sb	23 32 48.1	-4.9
PNIG	**Pinotepa**	**2.19**	**269**	*e*P	Pn	23 32 51.7	-2.8
PNIG				*i* S	Sn	23 33 17.4	-3.9

IDC 24 23:40:54.2±1.1, 55.88S×26.45W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/17, mbtmp4.0/3, Error ellipse: s-maj=84.4km s-min=25.7km az=98.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.37**	**180**	P	P	23 47 44.3	+1.7
	0.5nm,0.3s,baz=164,slow=6.2,SNR=3.1						
VNDA	**Vanda**	**46.77**	**182**	P	P	23 49 23.3	-1.3
	0.7nm,0.3s,baz=180,slow=7.1,SNR=12						
TORD	**Torodi Ar. Bea**	**72.70**	**29**	P	P	23 52 23.8	0.0
	0.8nm,0.5s,baz=200,slow=6.4,SNR=18						
INK	**Inuvik**	**145.93**	**321**	PKPbc	PKPbc	00 00 34.0	0.0
	3.3nm,1.3s,baz=147,slow=1.6,SNR=3.9						
ILAR	**Eielson Array**	**150.31**	**312**	PKPbc	PKPbc	00 00 44.9	-0.9
	0.4nm,0.9s,baz=120,slow=3.2,SNR=4.2						

*IDC **24** 23:57:31.9±0.5, 55.50S×26.96W, h0km, mb4.3/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.2/13, ML3.5/1, MS3.7/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=19.6km s-min=15.5km az=62.0*
*ISCJB **24** 23:57:33.6±0.5, 55.50S±0.09×26.9W±0.2, h25km, mb4.2/12, MS3.6/1, Error ellipse: s-maj=15.0km s-min=11.2km az=140.8*
*NEIC **24** 23:57:33.1±0.3, 55.52S×26.95W, h10km, mb4.4/4, Error ellipse: s-maj=10.5km s-min=8.1km az=48.0*
ISC 24 23:57:35.5±0.5, 55.5S±0.1×26.9W±0.1, h25km, n45, σ0s72/46, mb4.4/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.18**	**157**	*e*P	P	**00 01 55.6**	**-1.2**
	4.0nm,0.6s						
SNAA	**Sanae**	**19.18**	**157**	P	P	**00 01 56.4**	**-0.5**
	0.1nm,0.3s,baz=328,slow=13,SNR=27						
USHA	**Ushuaia**	**23.46**	**254**	P	P	**00 02 42.8**	**+0.2**
USHA	**Ushuaia**	**23.46**	**254**	P	P	**00 02 42.8**	**+0.2**
	11nm,1.1s,baz=117,slow=18,SNR=2.8						
TRQA	**Tornquist**	**29.25**	**292**	*e*P	P	**00 03 34.8**	**-0.4**
QSPA	**South Pole Qui**	**34.73**	**180**	*e*P	P	**00 04 23.4**	**+0.2**
	2.9nm,0.7s						
QSPA	**South Pole Qui**	**34.73**	**180**	P	P	**00 04 23.5**	**+0.2**
	2.7nm,0.5s,baz=207,slow=14,SNR=22						
CFAA	**Coronel Fontan**	**37.48**	**292**	P	P	**00 04 46.3**	**-0.6**
CFAA	**Coronel Fontan**	**37.48**	**292**	P	P	**00 04 46.3**	**-0.6**
	0.7nm,0.7s,baz=151,slow=8.0,SNR=14						
MAW	**Mawson**	**40.50**	**144**	P	P	**00 05 12.1**	**+0.4**
MAW	**Mawson**	**40.50**	**144**	P	P	**00 05 12.1**	**+0.4**
	2.9nm,0.6s,baz=231,slow=6.5,SNR=2.5						
LVC	**Limon Verde**	**45.15**	**299**	*e*P	P	**00 05 50.3**	**+0.1**
BOSA	**Boshof**	**45.70**	**76**	P	P	**00 05 53.6**	**-0.7**
	1.8nm,0.8s,baz=223,slow=4.4,SNR=3.7						
BOSA				LR	LR	00 22 59.3	
	comp=Z,73nm,18.6s,baz=66,slow=33						
VNDA	**Vanda**	**47.11**	**183**	*e*P	P	**00 06 05.7**	**+1.0**
	2.6nm,0.6s						
VNDA	**Vanda**	**47.11**	**183**	P	P	**00 06 05.7**	**+1.0**
	1.9nm,0.6s,baz=206,slow=6.1,SNR=12						
LPAZ	**La Paz**	**50.19**	**305**	*e*P	P	**00 06 29.8**	**+0.1**
	3.7nm,0.7s						
LPAZ	**La Paz**	**50.19**	**305**	P	P	**00 06 29.6**	**0.0**
	2.9nm,0.7s,baz=146,slow=4.9,SNR=18						
DBIC	**Dimbokro**	**64.62**	**24**	P	P	**00 08 10.9**	**+0.2**
DBIC	**Dimbokro**	**64.62**	**24**	P	P	**00 08 10.9**	**+0.2**
	2.1nm,0.8s,baz=169,slow=5.2,SNR=3.4						
ROSC	**El Rosal**	**71.67**	**309**	P	P	**00 08 54.7**	**-0.7**
ROSC	**El Rosal**	**71.67**	**309**	P	P	**00 08 54.7**	**-0.7**
	1.4nm,0.3s,baz=100,slow=19,SNR=2.1						
TOA0	**Torodi Ar. Sit**	**72.52**	**29**	*e*P	P	**00 09 00.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**72.52**	**29**	P	P	**00 09 00.7**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.52**	**29**	P	P	**00 09 00.7**	**+0.7**
	3.2nm,0.7s,baz=200,slow=6.7,SNR=37						
STKA	**Stephens Creek**	**92.40**	**170**	P	P	**00 10 42.5**	**-1.3**
STKA	**Stephens Creek**	**92.40**	**170**	P	P	**00 10 42.5**	**-1.3**
	2.8nm,1.1s,baz=265,slow=1.8,SNR=2.0						
ASAR	**Alice Springs**	**99.46**	**162**	P	Pdif	**00 11 15.9**	**-0.1**
ASAR	**Alice Springs**	**99.46**	**162**	P	Pdif	**00 11 15.9**	**-0.1**
	0.3nm,0.7s,baz=185,slow=3.9,SNR=6.4						
FINES	**FINESS Array B**	**123.84**	**28**	PKP	PKPdf	**00 16 30.1**	**+0.5**
FINES	**FINESS Array B**	**123.84**	**28**	PKP	PKPdf	**00 16 30.1**	**+0.5**
	2.9nm,0.9s,baz=197,slow=10.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**125.12**	**110**	PKP	PKPdf	**00 16 34.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**125.12**	**110**	PKP	PKPdf	**00 16 34.6**	**+1.1**
	0.8nm,0.3s,baz=213,slow=3.1,SNR=4.3						
YKA	**Yellowknife Ar**	**135.87**	**318**	PKP	PKPdf	**00 16 51.2**	**-1.2**
YKA	**Yellowknife Ar**	**135.87**	**318**	PKP	PKPdf	**00 16 51.2**	**-1.2**
	0.3nm,0.7s,baz=128,slow=2.2,SNR=5.2						
MKAR	**Makanchi Array**	**136.58**	**71**	PKP	PKPdf	**00 16 54.2**	**-0.2**
MKAR	**Makanchi Array**	**136.58**	**71**	PKP	PKPdf	**00 16 54.2**	**-0.2**
	0.3nm,0.7s,baz=236,slow=3.1,SNR=3.1						
RES	**Resolute Bay**	**137.41**	**339**	PKP	PKPdf	**00 16 54.5**	**-0.4**
RES	**Resolute Bay**	**137.41**	**339**	PKP	PKPdf	**00 16 54.5**	**-0.4**
	1.1nm,0.9s,baz=63,slow=6.8,SNR=3.4						
INK	**Inuvik**	**145.48**	**321**	*e*PKPdf	PKPdf	**00 17 08.7**	**-0.8**
INK				PKPbc	PKPab	**00 17 10.8**	**+0.9**
INK	**Inuvik**	**145.48**	**321**	PKPbc	PKPab	**00 17 10.8**	**+0.9**
	1.6nm,0.6s,baz=128,slow=3.5,SNR=15						
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	PKPbc	**00 17 22.7**	**+0.9**
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	PKPbc	**00 17 22.7**	**+0.9**
	2.3nm,0.8s,baz=129,slow=2.1,SNR=14						
SONM	**Songino Array**	**150.55**	**85**	PKPbc	PKPbc	**00 17 24.5**	**+0.4**
SONM	**Songino Array**	**150.55**	**85**	PKPbc	PKPbc	**00 17 24.5**	**+0.4**
	1.4nm,0.7s,baz=220,slow=3.5,SNR=12						

*IDC **25** 00:01:56.2±0.8, 55.48S×26.88W, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.8/18, mbtmp3.8/6, ML2.8/1, Error ellipse: s-maj=34.6km s-min=21.3km az=74.0*
*ISCJB **25** 00:01:57.9±1.0, 55.5S±0.1×26.8W±0.4, h25km, mb3.9/5, Error ellipse: s-maj=34.8km s-min=16.4km az=153.9*
ISC 25 00:01:60.0±0.9, 55.5S±0.2×27.0W±0.2, h25km, n10, σ0s88/10, mb4.1/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.18**	**157**	P	P	**00 06 20.4**	**-1.1**
	0.0nm,0.3s,baz=317,slow=11,SNR=3.5						
QSPA	**South Pole Qui**	**34.74**	**180**	P	P	**00 08 47.9**	**+0.2**
	0.6nm,0.4s,baz=222,slow=2.4,SNR=4.4						
CFAA	**Coronel Fontan**	**37.48**	**292**	P	P	**00 09 10.2**	**-1.2**
	0.3nm,0.7s,baz=184,slow=13,SNR=3.0						
VNDA	**Vanda**	**47.12**	**183**	P	P	**00 10 30.0**	**+0.8**
	1.8nm,0.9s,baz=170,slow=9.4,SNR=5.6						
LPAZ	**La Paz**	**50.18**	**305**	P	P	**00 10 54.8**	**+0.7**
	1.6nm,0.6s,baz=174,slow=5.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**72.52**	**29**	P	P	**00 13 24.4**	**0.0**
	1.9nm,0.8s,baz=196,slow=6.9,SNR=12						
YKA	**Yellowknife Ar**	**135.86**	**318**	PKP	PKPdf	**00 21 18.1**	**+1.2**
	0.3nm,0.7s,baz=124,slow=2.5,SNR=7.2						
INK	**Inuvik**	**145.47**	**321**	PKPbc	PKPab	**00 21 34.5**	**+0.1**
	1.4nm,0.7s,baz=100,slow=5.5,SNR=4.2						
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	PKPbc	**00 21 45.9**	**-0.4**
	1.3nm,0.7s,baz=139,slow=1.9,SNR=13						
SONM	**Songino Array**	**150.55**	**85**	PKPbc	PKPbc	**00 21 48.2**	**-0.4**
	0.9nm,1.0s,baz=190,slow=2.1,SNR=4.9						

IDC 25 00:29:32.2±1.2, 55.75S×25.17W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.7/15, mbtmp3.8/2, Error ellipse: s-maj=90.1km s-min=33.9km az=100.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.92**	**182**	P	P	00 38 03.4	-0.3
	0.9nm,0.7s,baz=160,slow=7.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**72.25**	**28**	P	P	00 40 58.8	-0.3
	0.8nm,0.8s,baz=195,slow=6.5,SNR=4.9						
YKA	**Yellowknife Ar**	**136.71**	**317**	PKP	PKPdf	00 48 55.9	+1.1
	0.2nm,0.6s,baz=140,slow=2.6,SNR=5.1						
INK	**Inuvik**	**146.29**	**321**	PKPbc	PKPdf	00 49 11.8	0.0
	1.5nm,0.9s,baz=119,slow=3.4,SNR=5.6						
SONM	**Songino Array**	**149.57**	**84**	PKPbc	PKPbc	00 49 22.4	-0.2
	0.3nm,0.8s,baz=214,slow=1.9,SNR=2.8						

MEX 25 00:51:44.7±0.4, 16.50N×98.48W, h20km±937km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**107**	*i* P	Pb	00 51 50.9	-1.4
PNIG				*i* S	Sb	00 51 56.3	-1.2
TLIG	**Tlapa**	**1.06**	**355**	*i* P	Pb	00 52 01.4	-3.2
TLIG				*i* S	Sb	00 52 13.9	-4.3
ACX	**Acapulco**	**1.37**	**286**	*i* P	Pn	00 52 06.3	-2.5
ACX				*i* S	Sn	00 52 23.9	-2.5
VHO	**Vista Hermosa**	**1.77**	**71**	*i* P	Pn	00 52 12.1	-2.4
VHO				*i* S	Sn	00 52 32.2	-4.4
PLIG	**Platanillo**	**2.12**	**333**	*i* P	Pn	00 52 17.2	-2.0
PLIG				*i* S	Sn	00 52 40.6	-4.5
HUIG	**Huatulco**	**2.39**	**107**	*i* P	Pn	00 52 19.8	-3.0
HUIG				*i* S	Sn	00 52 47.2	-4.3
YAIG	**Yautepec**	**2.42**	**347**	*e*P	Pn	00 52 21.3	-2.0
YAIG				*e*S	Sn	00 52 49.5	-3.0
ARIG	**Puente Sto Nin**	**2.52**	**315**	*i* P	Pn	00 52 21.8	-2.7
ARIG				*i* S	Sn	00 52 51.8	-2.9

*MOS **25** 00:51:46.8±1.2, 51.86N×96.45E, h16km, mb4.0/3, Error ellipse: s-maj=20.0km s-min=10.5km az=8.2*
*IDC **25** 00:51:46.9±1.2, 51.86N×96.45E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.5/30, mbtmp3.6/10, ML3.6/4, MS2.8/2, Ms1 2.8/2, ms1mx2.5/53, Error ellipse: s-maj=26.1km s-min=15.4km az=14.0*
*ASRS **25** 00:51:50.4±1.4, 51.91N×96.03E, h15km, Ms3.2/7*
*NNC **25** 00:51:52.7±7.7, 51.97N×95.48E, h0km, mb3.7, Error ellipse: s-maj=94.4km s-min=52.5km az=97.0*
ISC 25 00:51:48.9±0.6, 51.91N±0.09×96.42E±0.04, h10km, n47, σ1s41/57, mb3.6/7, 4C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HVS	**Khovu-Aksy**	**1.87**	**247**	*d* iPN	Pn	**00 52 18.7**	**-2.3**
ORL	**Orlik**	**2.18**	**72**	*e*PN	Pb	**00 52 29.0**	**+0.5**
ORL				*e*		00 52 58.6	
ORL				pmax	pmax		
	comp=Z,164nm,0.5s						
ORL				smax	smax		
	comp=N,419nm,0.6s						
MOY	**Mondy**	**2.85**	**93**	*e*PN	Pb	**00 52 41.0**	**+1.1**
MOY				*e*		00 53 21.1	
MOY				pmax	pmax		
	comp=Z,109nm,0.4s						
MOY				smax	smax		
	comp=N,578nm,0.5s						
CERR	**Cheremushki**	**3.21**	**289**	*e*PN	Pn	**00 52 41.2**	**+1.8**
CERR				*i*		00 52 45.3	
CERR				*i*		00 53 24.1	
CERR	**Cheremushki**	**3.21**	**289**	*e*Pn	Pn	**00 52 41.2**	**+1.8**
CERR				*i* Pg	Pb	**00 52 45.3**	**-0.7**
CERR				*e*Sg	Sb	**00 53 24.1**	**-1.1**
TLY	**Talaya**	**4.49**	**90**	*e*PN	Pb	**00 53 10.0**	**+2.2**
TLY				pmax	pmax		
	comp=Z,27nm,0.9s						
ZAK	**Zakamensk**	**4.58**	**107**	*e*PN	Pb	**00 53 11.3**	**+1.9**
ZAK				pmax	pmax		
	comp=Z,47nm,0.7s						
IRK	**Irkutsk**	**4.85**	**83**	*e*PN	Pb	**00 53 16.4**	**+2.4**
IRK				pmax	pmax		
	comp=Z,186nm,0.1s						
TASR	**Tashtagol**	**5.31**	**283**	*e*PN	Pn	**00 53 08.5**	**+0.3**
TASR				*e*		00 53 20.6	
TASR	**Tashtagol**	**5.31**	**283**	*e*Pn	Pn	**00 53 08.5**	**+0.3**
TASR				*e*Pg	Pb	**00 53 20.6**	**-1.1**
TASR				*e*Sg	Sb	**00 54 27.7**	**+2.3**
ARTR	**Artybash**	**5.67**	**272**	*e*PN	Pn	**00 53 12.7**	**-0.4**
ARTR				*e*		00 53 27.6	
ARTR				*e*		00 54 16.1	
ARTR				*e*		00 54 39.8	
ARTR	**Artybash**	**5.67**	**272**	*e*Pn	Pn	**00 53 12.7**	**-0.4**
ARTR				*e*Pg	Pb	**00 53 27.6**	**-0.2**
ARTR				*e*Sn	Sn	**00 54 16.1**	**-2.1**
ARTR				*e*Sg	Sb	**00 54 39.8**	**+4.0**
AKAR	**Aktash**	**5.77**	**257**	*e*PN	Pn	**00 53 14.7**	**+0.1**
AKAR				*e*		00 53 30.6	
AKAR				*e*		00 54 40.3	
AKAR	**Aktash**	**5.77**	**257**	*e*Pn	Pn	**00 53 14.7**	**+0.1**
AKAR				*e*Pg	Pb	**00 53 30.6**	**+1.0**
AKAR				*e*Sg	Sb	**00 54 40.3**	**+1.5**
TRG	**Tyrgan**	**6.14**	**78**	*e*PN	Pb	**00 53 37.7**	**+1.7**
TRG				*e*S	Sn	**00 54 28.4**	**-1.6**
TRG				pmax	pmax		
	comp=Z,14nm,0.4s						
TRG				smax	smax		
	comp=N,115nm,0.7s						
ELT	**Yel'tsovka**	**6.35**	**286**	*e*PN	Pn	**00 53 22.8**	**+0.3**
ELT	**Yel'tsovka**	**6.35**	**286**	*e*Pn	Pn	**00 53 22.8**	**+0.3**
ELT				*e*Pg	Pb	**00 53 39.0**	**-0.5**
ZALV	**Zalesovo Beam**	**7.31**	**291**	P	Pn	**00 53 35.9**	**+0.3**
ZALV						00 54 59.6	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				smax	smax		
	comp=N,2.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,53nm,18.1s						
ZALV	**Zalesovo Beam**	**7.31**	**291**	Pn	Pn	**00 53 35.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=98,slow=14,SNR=12						
ZALV				Sn	Sn	**00 54 59.5**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=111,slow=24,SNR=5.4						
ZALV				Lg	Lg	00 55 30.4	
	comp=Z,3.2nm,0.3s,baz=108,slow=24,SNR=9.9						
ZALV				LR	LR	00 56 24.8	
	comp=Z,53nm,18.1s,baz=60,slow=38						
UKR	**Ust'-Kan**	**7.35**	**267**	*e*P	Pn	**00 53 37.2**	**+0.9**
UKR	**Ust'-Kan**	**7.35**	**267**	*e*Pn	Pn	**00 53 37.2**	**+0.9**
UKR				*e*Pg	Pb	**00 53 59.2**	**+2.7**
UKR				*e*Sg	Sb	00 55 33.6	+9.4
SONM	**Songino Array**	**7.62**	**118**	Pg	Pb	00 54 05.1	+3.9
	comp=Z,0.9nm,0.3s,baz=303,slow=18,SNR=15						
SONM				Lg	Lg	00 55 51.0	
	comp=Z,4.7nm,0.3s,baz=300,slow=30,SNR=14						
SONM				LR	LR	00 56 47.0	
	comp=Z,102nm,19.1s,baz=350,slow=40						
NVS	**Novosibirsk**	**8.41**	**296**	*e*P	Pn	00 54 01.8	+11
NVS	**Novosibirsk**	**8.41**	**296**	*e*Sg	Sb	00 56 03.4	+8.8
YLYR	**Ulyunkhan**	**9.29**	**66**	*e*P	Pn	**00 54 03.0**	**+0.1**
YLYR				pmax	pmax		
	comp=Z,14nm,1.0s						
MK31	**Makanchi Array**	**10.54**	**247**	⇑Pn	Pn	**00 54 19.8**	**-0.2**
	comp=Z,0.3nm,0.2s,baz=47,slow=15,SNR=13						
MK31				⇓Lg	Lg	00 57 09.1	
	comp=Z,6.6nm,0.8s,baz=49,slow=31						
MKAR	**Makanchi Array**	**10.54**	**247**	*e*P	Pn	**00 54 20.7**	**+0.7**
MKAR	**Makanchi Array**	**10.54**	**247**	Pn	Pn	**00 54 18.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=59,slow=12,SNR=11						
MKAR				Lg	Lg	00 57 21.1	
	comp=Z,0.6nm,0.3s,baz=69,slow=31,SNR=6.7						
KURK	**Kurchatov**	**11.21**	**271**	P	Pn	**00 54 29.5**	**+0.4**
KURK	**Kurchatov**	**11.21**	**271**	⇑Pn	Pn	**00 54 29.5**	**+0.4**
	comp=Z,1.5nm,0.9s						
KURK				⇓Lg	Lg	00 57 33.3	
	comp=Z,8.4nm,1.0s						
KURBB	**Kurchatov Arra**	**11.29**	**270**	Pn	Pn	**00 54 29.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=79,slow=15,SNR=11						
KURBB	**Kurchatov Arra**	**11.29**	**270**	⇑Pn	Pn	**00 54 30.1**	**0.0**
	comp=Z,2.3nm,0.6s,baz=75,slow=16						
KURBB				⇓Lg	Lg	00 57 34.5	
	comp=Z,14nm,0.8s,baz=81,slow=34						
BVA0	**Borovoye Array**	**15.88**	**284**	P	Pn	**00 55 32.9**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=90,slow=14,SNR=12						
BVAR	**Borovoye Array**	**15.88**	**284**	P	Pn	**00 55 30.5**	**-1.8**
BVAR	**Borovoye Array**	**15.88**	**284**	Pn	Pn	**00 55 30.5**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=87,slow=14,SNR=15						
BRVK	**Borovoye**	**15.94**	**284**	P	Pn	**00 55 29.6**	**-3.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,2.9s						
BRVK	**Borovoye**	**15.94**	**284**	⇑P	Pn	**00 55 34.1**	**+1.1**
	comp=Z,6.3nm,1.2s						
KK31	**Karatay Array**	**19.51**	**253**	⇓P	P	**00 56 15.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=59,slow=13,SNR=5.6						
AB31	**Akbulak array**	**23.16**	**278**	P	P	**00 56 54.3**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=76,slow=13,SNR=7.6						
AKTO	**Aktyubinsk**	**23.94**	**282**	P	P	**00

ANKY	**Antikythira Is**	**1.14**	**100**	P	**Pn**	**01 09 36.8**	**+0.1**
ANKY	**Antikythira Is**	**1.14**	**100**	*e*Pn	**Pn**	**01 09 38.2**	**+1.5**
ANKY				S	**Sn**	**01 09 52.1**	**+0.8**
VLX	**Vlachokerasia**	**1.34**	**16**	P	**Pn**	**01 09 39.3**	**-0.2**
VLX				S	**Sn**	**01 09 56.4**	**+0.1**
VLX	**Vlachokerasia**	**1.34**	**16**	*e*PN	**Pn**	**01 09 40.2**	**+0.7**
VLX				*e*SN	**Sn**	**01 09 58.5**	**+2.2**
VLX	**Vlachokerasia**	**1.34**	**16**	P	**Pn**	**01 09 39.3**	**-0.2**
VLX	**Vlachokerasia**	**1.34**	**16**	*e*Pn	**Pn**	**01 09 40.2**	**+0.7**
VLX				S	**Sn**	**01 09 56.4**	**+0.1**
VLX				*e*Sn	**Sn**	**01 09 58.5**	**+2.2**
AMT	**Artemida-Makis**	**1.46**	**354**	P	**Pn**	**01 09 41.3**	**+0.3**
AMT				S	**Sn**	**01 09 59.8**	**+0.7**
AMT	**Artemida-Makis**	**1.46**	**354**	*e*PN	**Pn**	**01 09 41.8**	**+0.8**
AMT				*e*SN	**Sn**	**01 10 01.0**	**+1.9**
AMT	**Artemida-Makis**	**1.46**	**354**	P	**Pn**	**01 09 41.3**	**+0.3**
AMT	**Artemida-Makis**	**1.46**	**354**	*e*Pn	**Pn**	**01 09 41.8**	**+0.8**
AMT				S	**Sn**	**01 09 59.8**	**+0.7**
AMT				*e*Sn	**Sn**	**01 10 01.0**	**+1.9**
KARN	**Karanos**	**1.76**	**112**	P	**Pn**	**01 09 46.2**	**+1.1**
KARN				S	**Sn**	**01 10 07.3**	**+0.9**
KARN	**Karanos**	**1.76**	**112**	*e*PB	**Pn**	**01 09 46.4**	**+1.3**
KARN	**Karanos**	**1.76**	**112**	*e*Pb	**Pn**	**01 09 46.4**	**+1.3**
KARN				S	**Sn**	**01 10 07.3**	**+0.9**
DID	**Didima**	**1.78**	**36**	P	**Pn**	**01 09 45.1**	**-0.2**
DID				S	**Sn**	**01 10 07.0**	**+0.2**
DID	**Didima**	**1.78**	**36**	*e*PN	**Pn**	**01 09 45.1**	**-0.2**
DID	**Didima**	**1.78**	**36**	P	**Pn**	**01 09 45.1**	**-0.2**
DID				S	**Sn**	**01 10 07.0**	**+0.2**
DRO	**Drossia**	**1.88**	**355**	P	**Pn**	**01 09 47.4**	**+0.7**
DRO	**Drossia**	**1.88**	**355**	*e*PN	**Pn**	**01 09 47.7**	**+1.0**
DRO	**Drossia**	**1.88**	**355**	P	**Pn**	**01 09 47.4**	**+0.7**
DRO	**Drossia**	**1.88**	**355**	*e*Pn	**Pn**	**01 09 47.7**	**+1.0**
GUR	**Goura**	**1.89**	**10**	*e*PB	**Pn**	**01 09 48.2**	**+1.3**
GUR	**Goura**	**1.89**	**10**	*e*Pb	**Pn**	**01 09 48.2**	**+1.3**
KLV	**Kalavryta, Ach**	**1.97**	**5**	*e*PB	**Pn**	**01 09 49.3**	**+1.3**
KLV	**Kalavryta, Ach**	**1.97**	**5**	*e*Pn	**Pn**	**01 09 49.3**	**+1.3**
VAM	**Vamos**	**1.97**	**109**	P	**Pn**	**01 09 48.5**	**+0.5**
VAM	**Vamos**	**1.97**	**109**	*e*PN	**Pn**	**01 09 49.2**	**+1.2**
VAM	**Vamos**	**1.97**	**109**	P	**Pn**	**01 09 48.5**	**+0.5**
VAM	**Vamos**	**1.97**	**109**	*e*Pn	**Pn**	**01 09 49.2**	**+1.2**
RLS	**Riolos of Patr**	**2.01**	**350**	P	**Pn**	**01 09 49.0**	**+0.5**
RLS	**Riolos of Patr**	**2.01**	**350**	*e*PN	**Pn**	**01 09 49.8**	**+1.3**
RLS	**Riolos of Patr**	**2.01**	**350**	P	**Pn**	**01 09 49.0**	**+0.5**
RLS	**Riolos of Patr**	**2.01**	**350**	*e*Pn	**Pn**	**01 09 49.8**	**+1.3**
LTK	**Loutraki**	**2.12**	**23**	P	**Pn**	**01 09 49.8**	**-0.2**
LTK	**Loutraki**	**2.12**	**23**	*e*PN	**Pn**	**01 09 51.4**	**+1.4**
LTK	**Loutraki**	**2.12**	**23**	P	**Pn**	**01 09 49.8**	**-0.2**
LTK	**Loutraki**	**2.12**	**23**	*e*Pn	**Pn**	**01 09 51.4**	**+1.4**
LAKA	**Lakka**	**2.16**	**1**	P	**Pn**	**01 09 51.3**	**+0.7**
LAKA	**Lakka**	**2.16**	**1**	*e*PN	**Pn**	**01 09 52.3**	**+1.7**
LAKA	**Lakka**	**2.16**	**1**	P	**Pn**	**01 09 51.3**	**+0.7**
LAKA	**Lakka**	**2.16**	**1**	*e*Pn	**Pn**	**01 09 52.3**	**+1.7**
PSA1	**Psathopyrgos**	**2.24**	**359**	*e*PN	**Pn**	**01 09 53.6**	**+1.9**
KALE	**Kalithea**	**2.32**	**4**	P	**Pn**	**01 09 53.6**	**+0.8**
KALE	**Kalithea**	**2.32**	**4**	*e*PN	**Pn**	**01 09 53.7**	**+0.9**
KALE	**Kalithea**	**2.32**	**4**	P	**Pn**	**01 09 53.6**	**+0.8**
EFP	**Efpalio**	**2.34**	**360**	P	**Pn**	**01 09 53.9**	**+0.8**
EFP				S	**Sn**	**01 10 21.6**	**+0.9**
EFP	**Efpalio**	**2.34**	**360**	*e*PN	**Pn**	**01 09 54.6**	**+1.5**
EFP	**Efpalio**	**2.34**	**360**	P	**Pn**	**01 09 53.9**	**+0.8**
EFP	**Efpalio**	**2.34**	**360**	*e*Pn	**Pn**	**01 09 54.6**	**+1.5**
EFP				S	**Sn**	**01 10 21.6**	**+0.9**
VLS	**Valsamata**	**2.35**	**334**	*e*PN	**Pn**	**01 09 53.4**	**+0.3**
VLS	**Valsamata**	**2.35**	**334**	*e*Pn	**Pn**	**01 09 53.4**	**+0.3**
ATH	**Athens Observa**	**2.38**	**37**	*e*PN	**Pn**	**01 09 54.8**	**+1.3**
ATH	**Athens Observa**	**2.38**	**37**	*e*Pn	**Pn**	**01 09 54.8**	**+1.3**
DSF	**Desfina**	**2.38**	**12**	*e*PN	**Pn**	**01 09 53.3**	**-0.3**
DSF	**Desfina**	**2.38**	**12**	*e*Pn	**Pn**	**01 09 53.3**	**-0.3**
PTL	**Penteli**	**2.51**	**38**	*e*PN	**Pn**	**01 09 56.6**	**+1.2**
PTL	**Penteli**	**2.51**	**38**	*e*Pn	**Pn**	**01 09 56.6**	**+1.2**
IDI	**Anoyia**	**2.55**	**107**	*e*PN	**Pn**	**01 09 56.5**	**+0.6**
IDI	**Anoyia**	**2.55**	**107**	*e*Pn	**Pn**	**01 09 56.5**	**+0.6**
IDI	**Anoyia**	**2.55**	**107**	Pn	**Pn**	**01 09 56.2**	**+0.3**
	1.9nm,0.3s,baz=43,slow=19,SNR=29						
IDI				Sn	**Sn**	**01 10 27.4**	**+1.7**
	9.4nm,0.3s,baz=300,slow=18,SNR=12						
PDO	**Prodromos**	**2.58**	**347**	*e*PN	**Pn**	**01 09 58.4**	**+2.1**
PDO	**Prodromos**	**2.58**	**347**	*e*Pn	**Pn**	**01 09 58.4**	**+2.1**
SIVA	**Sivas**	**2.59**	**113**	*e*PN	**Pn**	**01 09 57.3**	**+0.9**
SIVA	**Sivas**	**2.59**	**113**	*e*Pn	**Pn**	**01 09 57.3**	**+0.9**
LKR	**Lokris**	**2.71**	**18**	*e*PN	**Pn**	**01 09 58.8**	**+0.7**
LKR	**Lokris**	**2.71**	**18**	*e*Pn	**Pn**	**01 09 58.8**	**+0.7**
EVR	**Evrytania**	**2.84**	**358**	*e*PN	**Pn**	**01 10 01.3**	**+1.4**
EVR	**Evrytania**	**2.84**	**358**	*e*Pn	**Pn**	**01 10 01.3**	**+1.4**
SANT	**Santorini**	**2.88**	**83**	*e*PN	**Pn**	**01 10 01.0**	**+0.6**
SANT	**Santorini**	**2.88**	**83**	*e*Pn	**Pn**	**01 10 01.0**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.94**	**3**	*e*PN	**Pn**	**01 10 02.8**	**+1.6**
MAKR	**Makrakomi, Fth**	**2.94**	**3**	*e*Pn	**Pn**	**01 10 02.8**	**+1.6**
MRKA	**Markates**	**2.94**	**26**	*e*PN	**Pn**	**01 10 01.4**	**+0.1**
MRKA	**Markates**	**2.94**	**26**	*e*Pn	**Pn**	**01 10 01.4**	**+0.1**
LAST	**Lasithi**	**3.04**	**106**	*e*PN	**Pn**	**01 10 03.2**	**+0.5**
LAST	**Lasithi**	**3.04**	**106**	*e*Pn	**Pn**	**01 10 03.2**	**+0.5**
SKIA	**Skiathos**	**3.32**	**21**	*e*PN	**Pn**	**01 10 07.9**	**+1.5**
SKIA	**Skiathos**	**3.32**	**21**	*e*Pn	**Pn**	**01 10 07.9**	**+1.5**
THL	**Klokotos Trika**	**3.48**	**1**	*e*PN	**Pn**	**01 10 09.5**	**+0.9**
THL	**Klokotos Trika**	**3.48**	**1**	*e*Pn	**Pn**	**01 10 09.5**	**+0.9**
STON	**Ston**	**7.53**	**336**	*e*Pn	Pn	01 11 00.9	-3.1
STON					Sn	01 12 19.8	-8.2
BRTR	**Keskin Array B**	**9.95**	**65**	Pn	Pn	01 11 41.3	+3.9
	0.1nm,0.3s,baz=249,slow=12,SNR=3.2						
NVLJ	**Novalja**	**10.03**	**330**	*e*Pn	**Pn**	**01 11 37.3**	**-1.1**
NVLJ					Sn	01 13 20.8	-8.7
MMAI	**Mount Meron Ar**	**11.53**	**101**	Pn	Pn	01 11 56.0	-3.1
	0.5nm,0.3s,baz=278,slow=12,SNR=5.7						
EIL	**Elat**	**12.68**	**117**	Pn	Pn	01 12 10.7	-3.9
	0.1nm,0.3s,baz=0.0,slow=18,SNR=3.5						
KBZ	**Khabaz**	**17.79**	**58**	P	**P**	**01 13 19.9**	**-1.1**
	0.1nm,0.3s,baz=255,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**25.52**	**1**	P	**P**	**01 14 40.0**	**-0.5**
	2.9nm,0.8s,baz=166,slow=12,SNR=5.1						
EKA	**Eskdalemuir Ar**	**25.79**	**326**	P	**P**	**01 14 43.8**	**+0.9**
	0.4nm,0.5s,baz=122,slow=7.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**29.19**	**224**	P	P	01 15 16.4	+2.7
	0.5nm,0.8s,baz=28,slow=8.8,SNR=3.4						
ARCES	**ARCESS Array B**	**33.57**	**2**	P	**P**	**01 15 51.8**	**0.0**
	5.9nm,1.1s,baz=193,slow=10.0,SNR=6.0						
MKAR	**Makanchi Array**	**45.48**	**57**	P	**P**	**01 17 30.5**	**-0.6**
	0.4nm,0.4s,baz=269,slow=7.6,SNR=14						
ZALV	**Zalesovo Beam**	**46.29**	**47**	P	**P**	**01 17 35.9**	**-1.4**
	0.4nm,0.3s,baz=284,slow=9.0,SNR=3.5						

IDC 25 01:19:20.7±1.9, 2.76S×128.38E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=166.4km s-min=26.9km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.04**	**162**	P	P	01 23 34.4	+0.8
	0.5nm,0.3s,baz=343,slow=13,SNR=22						
ASAR	**Alice Springs**	**21.46**	**166**	P	P	01 24 11.6	+0.6
	2.1nm,0.6s,baz=340,slow=9.5,SNR=36						
ASAR				PcP	PcP	01 28 12.3	-2.2
	0.2nm,0.4s,baz=2.8,slow=1.8,SNR=4.4						
MKAR	**Makanchi Array**	**63.82**	**327**	P	P	01 29 55.5	+0.5
	0.4nm,0.7s,baz=140,slow=5.1,SNR=5.1						

IDC 25 01:20:33.4±6.2, 49.68S×122.82E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, MS3.6/4, Ms1 3.6/4, ms1mx3.3/24, Error ellipse: s-maj=348.7km s-min=28.2km az=93.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.09**	**333**	T	T	01 40 33.2	
	baz=161,slow=74,SNR=7.9						
H01W2	**Cape Leeuwin H**	**16.09**	**333**	T	T	01 40 27.1	
	baz=161,slow=74,SNR=10						
H01W3	**Cape Leeuwin H**	**16.11**	**333**	T	T	01 40 35.3	
	baz=161,slow=74,SNR=10						
NWAO	**Narrogin (SRO)**	**17.25**	**344**	LR	LR	01 29 12.1	
	comp=Z,179nm,21.1s,baz=38,slow=30						
ASAR	**Alice Springs**	**27.38**	**23**	P	P	01 26 21.6	+1.2
	0.8nm,1.0s,baz=190,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**31.07**	**21**	P	P	01 26 52.1	-1.0
	0.4nm,0.7s,baz=193,slow=12,SNR=1.1						
WRA				LR	LR	01 38 15.3	
	comp=Z,153nm,20.4s,baz=155,slow=34						
FITZ	**Fitzroy Crossi**	**31.59**	**5**	LR	LR	01 37 41.3	
	comp=Z,68nm,21.5s,baz=143,slow=32						
VNDA	**Vanda**	**31.59**	**165**	P	P	01 26 57.2	+0.1
	1.6nm,0.7s,baz=300,slow=9.0,SNR=6.5						
VNDA				LR	LR	01 38 44.1	
	comp=Z,116nm,20.0s,baz=349,slow=34						
YKA	**Yellowknife Ar**	**146.70**	**45**	PKPbc	PKPdf	01 40 14.8	+0.7
	1.1nm,0.6s,baz=274,slow=3.0,SNR=27						

IDC 25 01:21:03.9±1.3, 55.37S×26.41W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.8/2, Error ellipse: s-maj=93.5km s-min=32.4km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.28**	**182**	P	P	01 29 38.2	0.0
	1.0nm,0.8s,baz=166,slow=4.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**72.24**	**29**	P	P	01 32 30.9	+0.1
	0.6nm,0.6s,baz=198,slow=6.0,SNR=11						
ILAR	**Eielson Array**	**149.99**	**312**	PKPbc	PKPbc	01 40 54.2	-0.5
	0.8nm,1.0s,baz=117,slow=1.0,SNR=6.0						
SONM	**Songino Array**	**150.23**	**85**	PKPbc	PKPbc	01 40 55.5	-0.5
	0.3nm,0.7s,baz=216,slow=1.2,SNR=2.5						

*DDA **25** 01:36:11.0, 35.45N×31.39E, h4km, MD3.2*
*NSSC **25** 01:36:11.9±4.4, 34.97N×31.58E, h0km±289km, ML2.3*
*ISK **25** 01:36:15.0, 35.65N×31.62E, h11km, MD3.6*
*CSEM **25** 01:36:16.0±0.2, 35.66N×31.59E, h10km, ML3.3, Error ellipse: s-maj=4.9km s-min=2.7km az=40.0*
*ISCJB **25** 01:36:16.7±0.7, 35.65N±0.04×31.60E±0.04, h23km±7km, Error ellipse: s-maj=7.0km s-min=3.9km az=34.7*
*NIC **25** 01:36:24.5±0.2, 35.31N×32.14E, h51km, ML3.3*
ISC 25 01:36:15.6±1.3, 35.62N±0.04×31.59E±0.03, h16km±10km, n74, σ1.908/95, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**0.84**	**134**	P	**Pn**	**01 36 33.6**	**+0.7**
	baz=330						
AKMC	**Akamas**	**0.84**	**134**	P	**Pn**	**01 36 33.6**	**+0.7**
GAZI	**Gazipasa**	**0.85**	**43**	*i* P	**Pb**	**01 36 31.0**	**-1.1**
GAZI				*i* S	**Sb**	**01 36 42.9**	**-0.4**
GAZI	**Gazipasa**	**0.85**	**43**	*i* P	**Pb**	**01 36 31.0**	**-1.1**
GAZI				*i* S	**Sb**	**01 36 42.9**	**-0.4**
ALFC	**Alevga**	**0.94**	**119**	P	**Pn**	**01 36 35.0**	**+0.8**
	baz=291						
ALFC				S	**Sb**	**01 36 43.2**	**-2.7**
ALFC	**Alevga**	**0.94**	**119**	P	**Pn**	**01 36 35.0**	**+0.8**
ALFC				S	**Sb**	**01 36 43.2**	**-2.7**
PPCY	**Paphos**	**0.96**	**140**	P	**Pn**	**01 36 35.6**	**+1.2**
	baz=337						
PPCY	**Paphos**	**0.96**	**140**	P	**Pn**	**01 36 35.6**	**+1.2**
AKDN	**Akdeniz- K¯–br**	**1.17**	**105**	*e*PN	**Pg**	**01 36 38.0**	**-0.1**
AKDN				*e*SN	**Sg**	**01 36 53.9**	**+0.5**
AKDN	**Akdeniz- K¯–br**	**1.17**	**105**	*e*Pn	**Pg**	**01 36 38.0**	**-0.1**
AKDN				*e*Sn	**Sg**	**01 36 53.9**	**+0.5**
LEF	**Lefka**	**1.17**	**115**	*e*PN	**Pn**	**01 36 37.3**	**0.0**
LEF				*e*SN	**Sb**	**01 36 52.4**	**0.0**
LEF	**Lefka**	**1.17**	**115**	*e*Pn	**Pn**	**01 36 37.3**	**0.0**
LEF				*e*Sn	**Sb**	**01 36 52.4**	**0.0**
SZAC	**Souni-Zanaja**	**1.36**	**129**	P	**Pg**	**01 36 42.6**	**+0.8**
MAMC	**Mammari**	**1.40**	**108**	P	**Pn**	**01 36 40.8**	**+0.3**
	baz=279						
MAMC	**Mammari**	**1.40**	**108**	P	**Pn**	**01 36 40.8**	**+0.3**
ERMK	**Ermenek**	**1.48**	**46**	*i* P	**Pb**	**01 36 42.8**	**-0.1**
ERMK				*i* S	**Sb**	**01 37 01.8**	**+0.2**
ERMK	**Ermenek**	**1.48**	**46**	*i* P	**Pb**	**01 36 42.8**	**-0.1**
ERMK				*i* S	**Sb**	**01 37 01.8**	**+0.2**
ANTB	**Antalya**	**1.49**	**330**	*e*PN	**Pn**	**01 36 42.1**	**+0.5**
ANTB				*e*SN	**Sb**	**01 37 02.0**	**+0.5**
ANTB	**Antalya**	**1.49**	**330**	*e*Pn	**Pn**	**01 36 42.2**	**+0.5**
ANTB				*e*Sn	**Sb**	**01 37 02.0**	**+0.5**
CSS	**Prodhromos**	**1.57**	**114**	*e*PN	**Pn**	**01 36 43.0**	**+0.2**
CSS	**Prodhromos**	**1.57**	**114**	P	**Pn**	**01 36 43.0**	**+0.2**
	baz=289						
CSS	**Prodhromos**	**1.57**	**114**	P	**Pn**	**01 36 43.0**	**+0.2**
LFK	**Lefkose**	**1.62**	**101**	*e*PN	**Pn**	**01 36 43.8**	**+0.2**
LFK	**Lefkose**	**1.62**	**101**	*e*Pn	**Pn**	**01 36 43.8**	**+0.2**
ELL	**Elmali**	**1.77**	**310**	*e*PN	**Pn**	**01 36 46.2**	**+0.5**
ELL	**Elmali**	**1.77**	**310**	*e*Pn	**Pn**	**01 36 46.2**	**+0.5**
IKL	**Isikli**	**1.81**	**69**	*e*PN	**Pn**	**01 36 46.5**	**+0.5**
IKL	**Isikli**	**1.81**	**69**	*e*Pn	**Pn**	**01 36 46.6**	**+0.5**
SUTC	**Sutluce-Ispart**	**1.92**	**346**	*e*PN	**Pn**	**01 36 47.9**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.92**	**346**	*e*Pn	**Pn**	**01 36 47.9**	**+0.1**
BCK	**Bucak**	**2.01**	**337**	*e*PN	**Pn**	**01 36 49.3**	**+0.3**
BCK	**Bucak**	**2.01**	**337**	*e*Pn	**Pn**	**01 36 49.3**	**+0.3**
EREN	**Erenkoy**	**2.10**	**92**	*e*PN	**Pn**	**01 36 50.9**	**+0.7**
EREN	**Erenkoy**	**2.10**	**92**	*e*Pn	**Pn**	**01 36 50.9**	**+0.7**
KIZK	**Mersin**	**2.24**	**67**	*i* P	**Pn**	**01 36 53.4**	**+1.3**
KIZK				*i* S	**Sb**	**01 37 22.4**	**-0.8**
KIZK	**Mersin**	**2.24**	**67**	*i* P	**Pn**	**01 36 53.4**	**+1.3**
KIZK				*i* S	**Sb**	**01 37 22.4**	**-0.8**
GLHS	**Glhisar (BURDU**	**2.28**	**313**	*e*PN	**Pn**	**01 36 53.8**	**+1.1**
GLHS	**Glhisar (BURDU**	**2.28**	**313**	*e*Pn	**Pn**	**01 36 53.8**	**+1.1**
KONT	**Konya--Tatoy**	**2.41**	**15**	*e*PN	**Pn**	**01 36 54.8**	**+0.5**
KONT	**Konya--Tatoy**	**2.41**	**15**	*e*Pn	**Pn**	**01 36 54.8**	**+0.5**
LADK	**Ladik-KONYA**	**2.65**	**13**	*e*PN	**Pn**	**01 36 58.2**	**+0.4**
LADK	**Ladik-KONYA**	**2.65**	**13**	*e*Pn	**Pn**	**01 36 58.2**	**+0.4**
DALY	**Dalyan (Mu¯la**	**2.66**	**298**	*e*PN	**Pn**	**01 36 59.5**	**+1.7**
DALY	**Dalyan (Mu¯la**	**2.66**	**298**	*e*Pn	**Pn**	**01 36 59.5**	**+1.7**
MERS	**Mersin**	**2.68**	**61**	*e*PN	**Pn**	**01 36 59.2**	**+1.0**
MERS	**Mersin**	**2.68**	**61**	*e*Pn	**Pn**	**01 36 59.2**	**+1.0**
SULT	**Sultanhani-AKS**	**3.00**	**30**	*e*PN	**Pn**	**01 37 03.3**	**+0.7**
SULT	**Sultanhani-AKS**	**3.00**	**30**	*e*Pn	**Pn**	**01 37 03.3**	**+0.7**
SHUT	**Suhut-Afyon**	**3.05**	**344**	*e*PN	**Pn**	**01 37 03.8**	**+0.5**
SHUT	**Suhut-Afyon**	**3.05**	**344**	*e*Pn	**Pn**	**01 37 03.8**	**+0.5**
GULE	**Gulek**	**3.06**	**56**	*i* P	**Pb**	**01 37 07.1**	**-2.7**
GULE				*i* S	**Sb**	**01 37 45.9**	**-1.1**
GULE	**Gulek**	**3.06**	**56**	*i* P	**Pb**	**01 37 07.1**	**-2.7**
KHAL	**Karahalli**	**3.22**	**329**	*i* P	**Pn**	**01 37 06.2**	**+0.6**
KHAL				*i* S	**Sn**	**01 37 42.4**	**-1.4**
KHAL	**Karahalli**	**3.22**	**329**	*i* P	**Pn**	**01 37 06.2**	**+0.6**
KHAL				*i* S	**Sn**	**01 37 42.4**	**-1.4**
KARA	**Karaisali**	**3.24**	**59**	*e*PN	**Pn**	**01 37 06.7**	**+0.9**
KARA	**Karaisali**	**3.24**	**59**	*e*Pn	**Pn**	**01 37 06.7**	**+0.9**
ARNB	**Al Arnab**	**3.57**	**85**	*e*P	**Pn**	**01 37 12.0**	**+1.5**
ARNB				*e*S	**Sn**	**01 37 53.3**	**+0.9**
ARNB				AML	AML	01 37 58.5	
	comp=E,22nm,0.5s						
ARNB				AML	AML	01 38 02.5	
	comp=N,13nm,0.8s						
ARNB	**Al Arnab**	**3.57**	**85**	*e*P	**Pn**	**01 37 12.0**	**+1.5**
	SNR=45						
ARNB				*e*S	**Sn**	**01 37 53.3**	**+0.9**
	comp=N,13nm,0.8s,SNR=40						
TAHT	**Tahtakopru-Hat**	**3.80**	**77**	*e*PN	**Pn**	**01 37 15.3**	**+1.7**
TAHT	**Tahtakopru-Hat**	**3.80**	**77**	*e*Pn	**Pn**	**01 37 15.3**	**+1.7**
KOZT	**Kozan**	**3.88**	**60**	*e*PN	**Pn**	**01 37 15.8**	**+1.2**
KOZT	**Kozan**	**3.88**	**60**	*e*Pn	**Pn**	**01 37 15.9**	**+1.2**
BTCH	**Batrach**	**3.98**	**83**	*e*P	**Pn**	**01 37 17.7**	**+1.7**
BTCH				*e*S	**Sn**	**01 38 03.7**	**+1.3**
BTCH				AML	AML	01 38 11.9	
	comp=N,37nm,0.4s						
BTCH				AML	AML	01 38 12.6	
	comp=E,14nm,0.4s						
BTCH	**Batrach**	**3.98**	**83**	*e*P	**Pn**	**01 37 17.7**	**+1.7**
	SNR=45						
BTCH				*e*S	**Sn**	**01 38 03.7**	**+1.3**
	comp=E,14nm,0.4s,SNR=40						
AFSR	**Af¯ar-Bala (A**	**4.00**	**17**	*e*PN	**Pn**	**01 37 17.4**	**+1.1**
AFSR	**Af¯ar-Bala (A**	**4.00**	**17**	*e*Pn	**Pn**	**01 37 17.4**	**+1.1**
HAWK	**Haweek**	**4.10**	**104**	*e*P	Pn	01 37 12.0	-5.7
HAWK				*e*S	Sn	01 37 58.2	-7.2
KAMT	**Kaman**	**4.11**	**24**	*e*PN	**Pn**	**01 37 19.0**	**+1.2**
KAMT	**Kaman**	**4.11**	**24**	*e*Pn	**Pn**	**01 37 19.0**	**+1.2**
KUZU	**Kuzuini**	**4.58**	**74**	*i* P	**Pn**	**01 37 26.1**	**+1.8**
KUZU				*i* S	**Sn**	**01 38 17.9**	**+0.6**
KUZU	**Kuzuini**	**4.58**	**74**	*i* P	**Pn**	**01 37 26.1**	**+1.8**
KUZU				*i* S	**Sn**	**01 38 17.9**	**+0.6**
TOTH	**TOTAH**	**4.58**	**118**	*e*P	Pn	01 37 19.9	-4.4
TOTH				*e*S	Sn	01 38 10.7	-6.6
TOTH				AML	AML	01 38 13.1	
	comp=N,10nm,0.2s						
TOTH				AML	AML	01 38 21.0	
	comp=E,11nm,0.6s						
KMRS	**Kahramanmaras**	**4.67**	**65**	*e*PN	**Pn**	**01 37 27.0**	**+1.5**
KMRS	**Kahramanmaras**	**4.67**	**65**	*e*Pn	**Pn**	**01 37 27.0**	**+1.5**

IDC 25 01:42:54.7±3.8, 28.51S×177.89W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.8/15, mbtmp3.8/2, Error ellipse: s-maj=78.7km s-min=19.5km az=69.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.74**	**182**	Pn	Pn	01 43 12.6	+0.3
	161nm,0.3s,baz=245,slow=22,SNR=13						
RAO				Sn	Sn	01 43 24.7	+0.3
	583nm,0.3s,baz=233,slow=22,SNR=11						
ASAR	**Alice Springs**	**43.34**	**265**	P	P	01 50 58.6	-0.2
	0.2nm,0.5s,baz=104,slow=7.1,SNR=9.6						
WRA	**Warramunga Arr**	**44.15**	**270**	P	P	01 51 05.4	0.0
	1.0nm,0.3s,baz=110,slow=7.9,SNR=7.3						
FINES	**FINESS Array B**	**143.40**	**341**	PKP	PKPdf	02 02 29.2	-1.3
	1.4nm,0.4s,baz=51,slow=4.3,SNR=14						

*IDC **25** 01:44:56.3±1.2, 28.49S×177.82W, h0km, mb4.4/3, mb1 4.5/3, mb1mx4.1/15, mbtmp4.4/3, MS3.5/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=33.7km s-min=17.3km az=84.0*
*ISCJB **25** 01:45:00.7±0.7, 28.46S±0.08×177.9W±0.1, h33km, mb4.7/11, MS3.4/5, Error ellipse: s-maj=16.2km s-min=10.4km az=154.4*
*NEIC **25** 01:45:04.6±1.4, 28.88S×177.88W, h58km±11km, mb4.8/8, Error ellipse: s-maj=22.7km s-min=12.7km az=196.0*
ISC 25 01:45:02.3±0.6, 28.7S±0.1×177.9W±0.1, h35km, n52, σ1.939/43, mb4.7/11, MS3.4/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.59**	**184**	Pn	**Pn**	**01 45 15.0**	**+0.8**
RAO				Sn	Sn	01 45 27.4	+4.9
RAO	**Raoul Island**	**0.59**	**184**	Pn	**Pn**	**01 45 15.0**	**+0.8**
	686nm,0.3s,baz=241,slow=23,SNR=14						
RAO				Sn	Sn	01 45 27.4	+4.9
	3µm,0.3s,baz=20,slow=23,SNR=10						
OUZ	**Omahuta**	**9.76**	**226**	*e*Pn	Pn	01 47 14.7	-5.4
	6.6nm,0.5s						
DZM	**Mont Dzumac**	**15.61**	**291**	*e*LR	LR	01 52 44.4	
	226nm,24.6s						
TBI	**Tubuai**	**26.05**	**85**	*e*LR	LR	01 56 59.8	
	155nm,26.8s						
PPT2	**Papeete2**	**28.19**	**73**	*e*LR	LR	01 58 00.6	
	113nm,26.8s						
PPT	**Papeete**	**28.20**	**73**	LR	LR	01 58 50.7	
	comp=Z,19nm,18.7s,baz=305,slow=30						
CTAO	**Charters Tower**	**33.

CMAR	Chiang Mai Arr	19.74	359	P		Pn	01 50 26.9	-0.4
CMAR	Chiang Mai Arr	19.74	359	P		Pn	01 50 26.9	-0.4
	0.4nm,0.3s,baz=186,slow=9.4,SNR=16							
PALK	Pallekele	20.56	295	*e*P		P	01 50 33.4	-1.4
	36nm,1.1s							
KAPI	Kappang	20.62	100	*e*P		P	01 50 34.5	-0.8
	46nm,1.0s							
H08S2	Diego Garcia H	27.53	256	T		T	02 19 39.1	
	baz=78,slow=75,SNR=369							
H08S3	Diego Garcia H	27.54	256	T		T	02 19 39.8	
	baz=78,slow=75,SNR=348							
H08S1	Diego Carcia H	27.55	256	T		T	02 19 39.3	
	baz=78,slow=75,SNR=373							
LSA	Lhasa	31.92	346	*e*P		P	01 52 22.1	+0.3
	6.8nm,0.8s							
H01W3	Cape Leeuwin H	36.03	159	T		T	02 30 44.2	
	baz=335,slow=76,SNR=28							
H01W2	Cape Leeuwin H	36.05	159	T		T	02 30 45.1	
	baz=335,slow=76,SNR=30							
H01W1	Cape Leeuwin H	36.05	159	T		T	02 30 44.7	
	baz=335,slow=76,SNR=27							
WRA	Warramunga Arr	38.80	121	P		P	01 53 20.1	-0.6
WRA				PcP		PcP	01 55 31.9	0.0
WRA	Warramunga Arr	38.80	121	P		P	01 53 20.1	-0.6
	1.5nm,0.5s,baz=302,slow=9.3,SNR=10							
WRA				PcP		PcP	01 55 31.9	0.0
	0.6nm,0.5s,baz=319,slow=2.5,SNR=5.3							
WRAB	Tennant Creek	38.81	121	*e*P		P	01 53 19.7	-1.1
FORT	Forrest	39.88	140	*e*P		P	01 53 28.6	-0.9
	23nm,1.0s							
ASAR	Alice Springs	40.08	126	P		P	01 53 30.8	-0.5
ASAR				PcP		PcP	01 55 35.8	-0.1
ASAR	Alice Springs	40.08	126	P		P	01 53 30.8	-0.5
	1.0nm,0.6s,baz=100,slow=7.7,SNR=10							
ASAR				PcP		PcP	01 55 35.8	-0.1
	0.7nm,0.7s,baz=330,slow=3.1,SNR=4.9							
AS31	Alice Springs	40.08	126	*e*P		P	01 53 30.6	-0.7
COEN	Coen	45.03	108	*e*P		P	01 54 10.5	-1.2
KSAR	Wonju Array Be	46.78	31	P		P	01 54 26.1	+1.1
KSRS	Korea Array	46.81	31	P		P	01 54 26.2	+0.8
	0.5nm,0.4s,baz=219,slow=7.5,SNR=2.1							
PMG	Port Moresby	48.15	101	*e*P		P	01 54 36.7	+0.6
	5.5nm,0.8s							
TKM2	Tokmak 2	49.05	337	*e*P		P	01 54 43.5	+0.6
	4.4nm,0.5s							
CTAO	Charters Tower	49.38	115	*e*P		P	01 54 44.1	-1.5
	5.4nm,1.1s							
SONM	Songino Array	49.41	6	P		P	01 54 46.1	+0.6
SONM				PcP		PcP	01 56 07.9	+0.4
SONM	Songino Array	49.41	6	P		P	01 54 46.1	+0.6
	1.0nm,0.5s,baz=188,slow=9.9,SNR=12							
SONM				PcP		PcP	01 56 07.9	+0.4
	1.3nm,0.5s,baz=199,slow=4.0,SNR=9.0							
ULN	Ulaanbaatar	49.51	7	*e*P		P	01 54 47.3	+1.1
	1.0nm,0.6s							
EKS2	Erkin-Say	49.57	335	*e*P		P	01 54 47.6	+0.9
	5.3nm,0.7s							
STKA	Stephens Creek	49.98	132	P		P	01 54 50.1	+0.1
STKA	Stephens Creek	49.98	132	P		P	01 54 50.1	+0.1
	2.9nm,0.7s,baz=300,slow=11,SNR=3.0							
MK31	Makanchi Array	50.30	345	*e*P		P	01 54 52.2	+0.2
MKAR	Makanchi Array	50.30	345	P		P	01 54 52.7	+0.6
MKAR	Makanchi Array	50.30	345	P		P	01 54 52.7	+0.6
	8.2nm,0.6s,baz=148,slow=8.2,SNR=77							
KKAR	Karatay Array	51.35	333	*e*P		P	01 54 59.9	-0.2
USRK	Ussuriysk Arra	53.91	29	P		P	01 55 19.1	+0.2
	1.6nm,0.7s,baz=226,slow=6.4,SNR=4.1							
KURK	Kurchatov	54.87	344	*e*P		P	01 55 25.8	0.0
	1.7nm,0.8s							
ZAA0	Zalesovo Array	56.47	350	*e*P		P	01 55 37.3	0.0
ZALV	Zalesovo Beam	56.47	350	P		P	01 55 37.6	+0.4
ZALV	Zalesovo Beam	56.47	350	P		P	01 55 37.6	+0.4
	4.7nm,0.3s,baz=180,slow=5.6,SNR=40							
BVAR	Borovoye Array	59.42	340	P		P	01 55 57.6	-0.3
BVAR	Borovoye Array	59.42	340	P		P	01 55 57.6	-0.3
	1.8nm,0.6s,baz=145,slow=9.2,SNR=13							
BRVK	Borovoye	59.48	340	*e*P		P	01 55 57.5	-0.9
	1.9nm,0.6s							
ABKAR	Akbulak array	60.84	332	*e*P		P	01 56 06.7	-1.0
	2.5nm,0.7s							
KBZ	Khabaz	67.47	319	P		P	01 56 51.2	-0.1
KBZ	Khabaz	67.47	319	P		P	01 56 51.2	-0.1
	1.8nm,0.7s,baz=128,slow=8.8,SNR=4.6							
KIV	Kislovodsk	67.71	319	*e*P		P	01 56 52.6	-0.4
	4.5nm,0.9s							
DZM	Mont Dzumac	68.23	113	*e*P		P	01 56 57.0	+0.2
	8.7nm,0.8s							
LSZ	Lusaka	71.53	254	*e*P		P	01 57 17.0	-0.2
	12nm,1.7s							
BR131	Keskin Array S	72.49	312	*e*P		P	01 57 21.4	-1.1
	0.6nm,0.6s							
BRTR	Keskin Array B	72.49	312	P		P	01 57 21.4	-1.1
BRTR	Keskin Array B	72.49	312	P		P	01 57 21.4	-1.1
	0.6nm,0.6s,baz=138,slow=6.8,SNR=6.2							
LBTB	Lobatse	74.75	245	*e*P		P	01 57 36.0	-0.1
	9.7nm,1.3s							
BUR08	Bucovina Ar. S	80.44	319	*e*P		P	01 58 08.0	+0.6
TSUM	Tsumeb	81.83	251	*e*P		P	01 58 15.7	+0.3
	4.0nm,1.0s							
FINES	FINESS Array B	83.31	332	P		P	01 58 22.4	+0.4
FINES	FINESS Array B	83.31	332	P		P	01 58 22.4	+0.4
	1.8nm,0.5s,baz=110,slow=5.9,SNR=22							
ARCES	ARCESS Array B	85.71	340	P		P	01 58 35.7	+1.6
ARCES	ARCESS Array B	85.71	340	P		P	01 58 35.7	+1.6
	3.0nm,1.1s,baz=82,slow=6.8,SNR=0.8							
GERES	GERESS Array B	88.21	319	P		P	01 58 47.3	+0.5
GERES	GERESS Array B	88.21	319	P		P	01 58 47.3	+0.5
	0.5nm,0.6s,baz=90,slow=4.9,SNR=2.5							
QSPA	South Pole Qui	88.56	180	P		P	01 58 48.5	+0.4
QSPA	South Pole Qui	88.56	180	P		P	01 58 48.5	+0.4
	1.0nm,0.5s,baz=309,slow=0.6,SNR=6.0							
WLF	Walferdange	93.17	319	*e*P		P	01 59 09.1	-0.6
	38nm,1.6s							
YKW3	Yellowknife Ar	113.91	16	*e*PKP		PKiKP	02 04 35.0	+1.1
NEW	Newport	123.69	29	*e*PKPdf		PKPdf	02 04 52.7	-0.6
WVOR	Wild Horse Val	126.81	35	*e*PKPdf		PKPdf	02 04 56.0	-3.6
BOZ	Bozeman (W)	128.18	27	*e*PKPdf		PKPdf	02 05 02.9	+0.7
BW06	Boulder Array	131.33	28	*e*PKPdf		PKPdf	02 05 09.1	+0.8
PDAR	Pinedale Array	131.34	28	PKP		PKPdf	02 05 08.4	+0.1
PDAR	Pinedale Array	131.34	28	PKP		PKPdf	02 05 08.4	+0.1
	0.2nm,0.6s,baz=106,slow=3.3,SNR=2.2							
WCI	Wyandotte Cave	142.97	7	*e*PKPdf		PKPdf	02 05 30.4	+0.8
CPUP	Villa Florida	144.45	218	*e*PKPdf		PKPbc	02 05 31.1	+0.2
CPUP	Villa Florida	144.45	218	PKP		PKPbc	02 05 31.3	+0.4
	2.9nm,0.7s,baz=111,slow=4.2,SNR=4.7							
TXAR	Lajitas Array	144.57	36	PKP		PKPdf	02 05 32.2	-0.6
TXAR	Lajitas Array	144.57	36	PKP		PKPdf	02 05 32.2	-0.6
	2.8nm,0.6s,baz=236,slow=0.5,SNR=60							
WVT	Waverly	144.79	10	*e*PKPdf		PKPbc	02 05 32.0	+0.3
JCT	Junction City	145.81	30	*e*PKPbc		PKPab	02 05 35.5	-0.1
HKT	Hockley	148.12	26	*e*PKPbc		PKPbc	02 05 40.5	-1.3

ISCJB ***25*** *02:08:32.9±0.4,30.1°S±0.05×177.72°W±0.08,h35km, mb4.5/19,MS3.8/4,Error ellipse: s-maj=9.9km s-min=6.6km az=9.6*

IDC ***25*** *02:08:37.4±0.6,29.67°S×177.75°W,h61km±5km,mb4.0/7, mb1 4.3/7,mb1mx4.0/16,mbtmp4.0/7,MS3.7/5,Ms1 3.6/5, ms1mx3.3/19,Error ellipse: s-maj=17.8km s-min=11.5km az=81.0*

NEIC ***25*** *02:08:37.2±0.3,29.93S×177.71W,mb4.5/15,Error ellipse: s-maj=10.3km s-min=9.1km az=164.0*

ISC 25 02:08:34.5±0.4,30.03S±0.06×177.67W±0.10,h35km,n93, σ1°93/82,mb4.5/19,MS3.9/4,1C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RAO	Raoul Island	0.81	344	P	Pn	02 08 49.1		-0.3
RAO				S	Sn	02 08 59.6		-0.7
RAO	Raoul Island	0.81	344	P	Pn	02 08 49.1		-0.3
	4μm,0.3s,baz=136,slow=3.5,SNR=250							
RAO				S	Sn	02 08 59.6		-0.7
	20μm,0.3s,baz=45,slow=15,SNR=41							
OUZ	Omahuta	9.00	233	*e*Pn	Pn	02 10 50.8		+8.9
	72nm,0.5s							
URZ	Urewera	9.28	206	P	Pn	02 10 42.7		-3.0
URZ				S	Sn	02 12 27.4		-1.3
URZ	Urewera	9.28	206	P	Pn	02 10 42.7		-3.0
	1.7nm,0.3s,baz=278,slow=3.4,SNR=19							
URZ				S	Sn	02 12 27.5		-1.3
	18nm,0.3s,baz=247,slow=21,SNR=12							
DZM	Mont Dzumac	16.32	295	*e*LR	LR	02 16 03.2		
	289nm,24.8s							
DZM	Mont Dzumac	16.32	295	*e*Pn	Pn	02 12 20.7		-0.5
DZM	Mont Dzumac	16.32	295	LR	LR	02 17 23.0		
	comp=Z,140nm,21.4s,baz=350,slow=33							
RPZ	Rata Peaks	16.35	210	*e*Pn	Pn	02 12 20.9		-0.4
	18nm,0.6s							
RPZ	Rata Peaks	16.35	210	P	Pn	02 12 20.8		-0.5
	3.0nm,0.3s,baz=328,slow=2.8,SNR=19							
TBI	Tubuai	26.02	82	*e*LR	LR	02 20 32.5		
	160nm,26.8s							
TBI	Tubuai	26.02	82	*e*T	T	02 41 01.1		
	42nm,0.3s							
PAE	Paea	28.40	71	*e*T	T	02 43 56.1		
	9.8nm,0.3s							
PPT2	Papeete2	28.44	71	*e*LR	LR	02 21 33.5		
	162nm,25.8s							
PPT2	Papeete2	28.44	71	*e*T	T	02 44 01.9		
	8.4nm,0.4s							
VAH	Vaihoa	31.27	69	*e*T	T	02 47 40.0		
	52nm,0.3s							
CTAO	Charters Tower	34.03	278	*e*P	P	02 15 16.2		+0.8
	8.0nm,0.6s							
STKA	Stephens Creek	34.84	256	*e*P	P	02 15 24.4		+2.0
	0.7nm,0.4s							
STKA	Stephens Creek	34.84	256	P	P	02 15 24.2		+1.8
	3.0nm,0.4s,baz=99,slow=11,SNR=18							
STKA				LR	LR	02 29 30.8		
	comp=Z,200nm,18.1s,baz=206,slow=36							
RKT	Rikitea	38.63	90	*e*T	T	02 56 40.2		
	2.7nm,0.3s							
COEN	Coen	39.45	285	*e*P	P	02 16 01.9		+0.3
AS31	Alice Springs	43.42	266	*e*P	P	02 16 33.6		-0.5
ASAR	Alice Springs	43.42	266	P	P	02 16 33.5		-0.6
ASAR				pP	pP	02 16 50.3		+5.8
ASAR	Alice Springs	43.42	266	P	P	02 16 33.5		-0.6
	2.3nm,0.6s,baz=106,slow=7.4,SNR=45							
ASAR				pP	pP	02 16 50.3		+5.8
	3.7nm,0.7s,baz=104,slow=6.9,SNR=8.9							
WRAB	Tennant Creek	44.37	272	*e*P	P	02 16 40.8		-1.0
	7.2nm,0.6s							
WRAB				*e*pP	pP	02 16 57.7		+5.6
WRA	Warramunga Arr	44.38	272	P	P	02 16 41.1		-0.7
WRA				pP	pP	02 16 57.4		+5.3
WRA	Warramunga Arr	44.38	272	P	P	02 16 41.1		-0.7
	8.6nm,0.6s,baz=110,slow=7.6,SNR=88							
WRA				pP	pP	02 16 57.4		+5.3
	6.8nm,0.7s,baz=112,slow=7.7,SNR=9.8							
FORT	Forrest	46.42	255	*e*P	P	02 16 57.2		-0.7
	30nm,1.1s							
VNDA	Vanda	48.49	186	*e*P	P	02 17 12.9		-0.4
	4.5nm,1.1s							
VNDA	Vanda	48.49	186	P	P	02 17 15.8		+2.5
	1.3nm,0.7s,baz=61,slow=4.7,SNR=8.3							
VNDA				LR	LR	02 33 58.7		
	comp=Z,24nm,21.9s,baz=217,slow=31							
QSPA	South Pole Qui	60.08	180	P	P	02 18 40.5		+2.6
QSPA	South Pole Qui	60.08	180	P	P	02 18 40.5		+2.6
	4.6nm,0.6s,baz=32,slow=2.1,SNR=15							
MAW	Mawson	72.75	200	LR	LR	02 50 32.2		
	comp=Z,62nm,18.1s,baz=354,slow=34							
SYO	Syowa Base	77.54	193	*e*P	P	02 20 25.4		-0.8
SNAA	Sanae	78.51	178	*e*P	P	02 20 31.6		-0.2
	2.8nm,0.9s							
H06S1	SOCORRO T	80.45	62	T	T	03 51 19.8		
	SNR=3.0							
H03N3	Juan Fernandez	80.61	123	T	T	03 50 19.6		
	baz=242,slow=75,SNR=62							
H03N2	Juan Fernandez	80.62	123	T	T	03 50 23.9		
	baz=242,slow=75,SNR=34							
H03N1	Juan Fernandez	80.63	123	T	T	03 50 21.7		
	baz=242,slow=75,SNR=58							
KULM	Kulim	85.45	279	*e*P	P	02 21 09.3		+0.2
	18nm,1.1s							
TUC	Tucson	88.66	51	*e*P	P	02 21 24.7		+0.4
	1.9nm,0.8s							
TUC				*e*pP	pP	02 21 43.2		+7.8
LCO	Las Campanas	88.93	123	*e*P	P	02 21 25.1		-1.0
	34nm,1.5s							
TXAR	Lajitas Array	91.95	57	P	P	02 21 39.9		+0.1
TXAR				pP	pP	02 21 57.4		+6.5
TXAR	Lajitas Array	91.95	57	P	P	02 21 39.9		+0.1
	0.8nm,0.9s,baz=207,slow=8.1,SNR=7.6							
TXAR				pP	pP	02 21 57.4		+6.5
	1.3nm,1.0s,baz=192,slow=4.6,SNR=6.6							
MNTX	Cornudas Mount	92.03	54	*e*P	P	02 21 39.1		-0.8
	2.1nm,1.0s							
MNTX				*e*pP	pP	02 21 57.8		+6.7
DUG	Dugway	92.17	44	*e*P	P	02 21 40.6		+0.1
	1.2nm,0.8s							
ANMO	Albuquerque	93.12	51	*e*P	P	02 21 43.7		-1.4
	2.0nm,0.9s							
ANMO				*e*pP	pP	02 22 02.9		+6.6
HLID	Hailey	93.34	41	*e*P	P	02 21 45.7		-0.2
	1.5nm,0.8s							
HLID				*e*pP	pP	02 22 03.5		+6.4
PDAR	Pinedale Array	95.67	43	P	P	02 21 55.9		-0.8
PDAR	Pinedale Array	95.67	43	P	P	02 21 55.9		-0.8
	0.3nm,0.7s,baz=235,slow=5.2,SNR=4.0							
PDAR				LR	LR	02 59 33.3		
	comp=Z,63nm,19.0s,baz=80,slow=32							
LPAZ	La Paz	98.03	114	*e*P	P	02 22 07.4		-1.1
	0.9nm,0.8s							
BOSA	Boshof	117.71	203	*e*PKPdf	PKPdf	02 27 16.6		-1.0
MKAR	Makanchi Array	117.76	310	PKP	PKPdf	02 27 14.9		-1.9
MKAR				pPKP	pPKPdf	02 27 32.5		+4.2
MKAR	Makanchi Array	117.76	310	PKP	PKPdf	02 27 14.9		-1.9
	0.6nm,0.6s,baz=183,slow=0.8,SNR=7.4							
MKAR				pPKP	pPKPdf	02 27 32.5		+4.2
	0.6nm,0.6s,baz=222,slow=0.8,SNR=5.9							
ZALV	Zalesovo Beam	117.95	318	pPKP	pPKPdf	02 27 32.0		+3.6
	0.4nm,0.4s,baz=237,slow=0.6,SNR=2.7							
KURK	Kurchatov	121.00	314	*e*PKPdf	PKPdf	02 27 21.1		-1.8
TKM2	Tokmak 2	121.42	304	*e*PKPdf	PKPdf	02 27 22.6		-1.7
AAK	Ala-Archa	122.15	304	*e*PKPdf	PKPdf	02 27 23.8		-1.8
EKS2	Erkin-Say	122.67	304	*e*PKPdf	PKPdf	02 27 25.4		-1.1
KBL	Kabul	124.34	293	*e*PKPdf	PKPdf	02 27 29.3		-0.8
KKAR	Karatay Array	125.11	304	*e*PKPdf	PKPdf	02 27 29.6		-1.5
KKAR				*e*pPKPdf	pPKPdf	02 27 47.7		+5.2
BRVK	Borovoye	126.41	316	*e*PKPdf	PKPdf	02 27 32.0		-1.2
LSZ	Lusaka	128.52	213	*e*PKPdf	PKPdf	02 27 38.5		-0.1
TSUM	Tsumeb	128.89	199	*e*PKPdf	PKPdf	02 27 38.6		-0.7
ARU	Arti	132.99	321	*e*PKPdf	PKPdf	02 27 45.0		-0.6
H10S3	ASCENSION HYDR	137.93	154	T	T	05 02 29.6		
	baz=204,slow=74,SNR=101							
H10S2	ASCENSION HYDR	137.93	154	T	T	05 02 29.7		
	baz=204,slow=74,SNR=82							
H10S1	ASCENSION HYDR	137.95	154	T	T	05 02 30.8		
	baz=204,slow=74,SNR=94							
ASCN	Ascension	138.98	154	*e*PKPdf	PKPdf	02 27 53.2		-4.9
H10N3	ASCENSION HYDR	139.01	154	T	T	05 03 56.8		
	baz=202,slow=75,SNR=71							
H10N1	ASCENSION HYDR	139.02	154	T	T	05 03 57.1		
	baz=202,slow=75,SNR=59							
H10N2	ASCENSION HYDR	139.03	154	T	T	05 03 58.1		
	baz=202,slow=75,SNR=77							
JOF	Joensuu	142.18	339	*e*pkp	PKPdf	02 27 56.8		-5.5
GNI	Garni	144.16	298	*e*PKPdf	PKPab	02 28 04.3		-0.2
KAF	Kangasniemi	144.30	341	*e*pkp	PKPab	02 28 02.7		-1.4
FINES	FINESS Array B	144.90	340	PKP	PKPab	02 28 04.9		-1.4
FINES				pPKP	pPKPdf	02 28 22.3		+3.7
FINES	FINESS Array B	144.90	340	PKP	PKPab	02 28 04.9		-1.4
	25nm,0.5s,baz=55,slow=3.7,SNR=250							
FINES				pPKP	pPKPdf	02 28 22.3		+3.7
	8.1nm,0.4s,baz=58,slow=4.0,SNR=6.0							
NB2	NORSAR Subarra	148.43	352	PKP	PKPdf	02 28 15.3		+2.1
	comp=Z,3.4nm,0.6s,baz=12,slow=2.9							
NOA	NORSAR Array B	148.43	352	PKPbc	PKPbc	02 28 15.6		-1.2
NOA				pPKPbc	pPKPbc	02 28 33.0		+4.8
NOA	NORSAR Array B	148.43	352	PKPbc	PKPbc	02 28 15.6		-1.2
	comp=Z,4.4nm,0.6s,baz=14,slow=4.4,SNR=16							
NOA				pPKPbc	pPKPbc	02 28 33.0		+4.8
	comp=Z,12nm,0.7s,baz=16,slow=4.3,SNR=17							
NAO01	NORSAR Array S	148.66	352	*e*PKPbc	PKPdf	02 28 15.4		+1.9
NAO01				*e*PKPab	PKiKP	02 28 19.5		+0.7
KIEV	Kiev	151.19	323	*e*PKPbc	PKPbc	02 28 21.9		-1.8
BR131	Keskin Array S	152.68	299	*e*PKPbc	PKPbc	02 28 26.0		-1.7
BRTR	Keskin Array B	152.68	299	PKPbc	PKPbc	02 28 26.4		-1.3
BRTR	Keskin Array B	152.68	299	PKPbc	PKPbc	02 28 26.4		-1.3
	comp=Z,1.4nm,0.4s,baz=145,slow=5.6,SNR=14							
CSS	Prodhromos	153.46	289	*e*PKPbc	PKPbc	02 28 28.1		-1.3
EKA	Eskdalemuir Ar	154.41	7	PKPab	PKPab	02 28 44.0		-1.1
EKA				pPKPab	pPKPab	02 29 01.0		+4.8
EKA	Eskdalemuir Ar	154.41	7	PKPab	PKPab	02 28 44.0		-1.1
	comp=Z,0.8nm,0.6s,baz=335,slow=2.4,SNR=5.3							
EKA				pPKPab	pPKPab	02 29 01.0		+4.8
	comp=Z,3.2nm,0.6s,baz=337,slow=3.0,SNR=7.9							
BUR08	Bucovina Ar. S	155.12	321	*e*PKPdf	PKPdf	02 28 22.9		-0.9
BUR08				*e*PKPbc		02 28 30.1		
WLF	Walferdange	160.18	353	*e*PKPdf	PKPdf	02 28 28.3		-1.5
WLF				*e*PKPab	PKPab	02 29 08.0		-2.0
TOA0	Torodi Ar. Sit	163.19	178	*e*PKPab	PKPab	02 29 21.9		-2.1
TORD	Torodi Ar. Bea	163.19	178	PKPab	PKPab	02 29 23.6		-0.4
TORD				pPKPab	pPKPab	02 29 42.8		+7.7
TORD	Torodi Ar. Bea	163.19	178	PKPab	PKPab	02 29 23.6		-0.4
	comp=Z,1.2nm,0.7s,baz=182,slow=4.0,SNR=10							
TORD				pPKPab	pPKPab	02 29 42.8		+7.7
	comp=Z,1.1nm,0.5s,baz=180,slow=3.3,SNR=4.0							

ATH ***25*** *02:14:54.5,38.49N×25.29E,h29km,ML3.6*
ISK ***25*** *02:14:54.2,38.40N×25.23E,h5km,MD3.7*
CSEM ***25*** *02:14:54.9±0.1,38.44N×25.18E,h5km,ML3.6,Error ellipse: s-maj=2.2km s-min=1.8km az=165.0*
DDA ***25*** *02:14:55.6,38.46N×25.31E,h7km,MD3.2*
THE ***25*** *02:14:55.2,38.51N×25.27E,h10km,ML3.5/10,Error ellipse: s-maj=0.8km s-min=0.3km az=84.0*

ISC 25 02:14:55.1±1.0,38.50N±0.02×25.26E±0.01,h11km±8km, n288,σ1°16/418,11C-17D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CHOS	Chios island	0.64	100	*e*PG	Pg	02 15 07.1		-0.3
CHOS				*e*SG	Sg	02 15 15.9		0.0
CHOS	Chios island	0.64	100	P	Pg	02 15 07.5		+0.1
CHOS				S	Sg	02 15 16.2		+0.3
CHOS	Chios island	0.64	100	*e*PN	Pg	02 15 07.6		+0.1
CHOS				*e*SN	Sg	02 15 16.2		+0.3
CHOS	Chios island	0.64	100	*e*Pg	Pg	02 15 07.1		-0.3
CHOS	Chios island	0.64	100	*e*Pn	Pg	02 15 07.6		+0.1
CHOS				*e*Sg	Sg	02 15 15.9		0.0
CHOS				S	Sg	02 15 16.2		+0.3
MRMA	Marmari	0.82	238	P	Pg	02 15 11.1		+0.3
MRMA				S	Sb	02 15 22.8		+0.6
MRMA	Marmari	0.82	238	P	Pg	02 15 11.1		+0.3
MRMA				S	Sb	02 15 22.8		+0.6
SIGR	SIGRI	0.85	33	P	Pg	02 15 11.0		-0.6
SIGR				S	Sb	02 15 23.2		-0.1
SIGR	SIGRI	0.85	33	*e*PN	Pg	02 15 11.0		-0.6
SIGR				*e*SN	Sb	02 15 22.7		-0.6
SIGR	SIGRI	0.85	33	P	Pg	02 15 11.0		-0.6
SIGR				S	Sb	02 15 23.2		-0.1
URLA	Izmir	1.06	97	*i* P	Pn	02 15 16.3		+0.5
URLA				*i* S	Sn	02 15 30.0		-0.6
URLA	Izmir	1.06	97	*i* P	Pn	02 15 16.3		+0.5
URLA				*i* S	Sn	02 15 30.0		-0.6
PRK	Paraskevi	1.09	46	P	Pg	02 15 14.9		-1.2
PRK				S	Sb	02 15 30.5		+0.4
PRK	Paraskevi	1.09	46	*e*PN	Pg	02 15 14.9		-1.2
PRK				*e*SN	Sb	02 15 30.5		+0.4
PRK	Paraskevi	1.09	46	P	Pg	02 15 14.9		-1.2
PRK				S	Sb	02 15 30.5		+0.4
ERET	Eretria	1.14	268	P	Pb	02 15 16.5		-0.3
ERET				S	Sg	02 15 32.6		+0.8
ERET	Eretria	1.14	268	P	Pb	02 15 16.5		-0.3
ERET				S	Sg	02 15 32.6		+0.8
PTL	Penteli	1.18	248	P	Pb	02 15 17.0		-0.5
PTL				S	Sn	02 15 34.1		+0.5
PTL	Penteli	1.18	248	*e*PN	Pb	02 15 16.8		-0.7
PTL				*e*SN	Sb	02 15 32.5		-0.3
PTL	Penteli	1.18	248	*e*Pn	Pb	02 15 16.8		-0.7
PTL				*e*Sn	Sb	02 15 32.5		-0.3
PTL				S	Sn	02 15 34.1		+0.5
AOS	Alonnisos	1.27	302	*e*PN	Pg	02 15 19.4		0.0
AOS	Alonnisos	1.27	302	P	Pn	02 15 18.1		-0.5

PAIG	**Paliouri**	**1.88**	**320**	*e*PN	**Pn**	**02 15 26.7**	**-0.4**
PAIG				*e*SN	**Sn**	**02 15 51.3**	**+0.5**
PAIG	**Paliouri**	**1.88**	**320**	*e*PN	**Pn**	**02 15 26.7**	**-0.4**
PAIG				*e*Sn	**Sn**	**02 15 51.3**	**+0.5**
SMTH	**Samothraki Isl**	**1.98**	**6**	*e*PN	**Pn**	**02 15 27.9**	**-0.6**
SMTH				*e*SN	**Sn**	**02 15 53.0**	**-0.3**
SMTH	**Samothraki Isl**	**1.98**	**6**	*e*Pn	**Pn**	**02 15 27.9**	**-0.6**
AKHS	**Akhisar**	**2.04**	**78**	*i* P	**Pg**	**02 15 34.3**	**+0.2**
AKHS				*i* S	**Sg**	**02 16 00.9**	**+0.3**
AKHS	**Akhisar**	**2.04**	**78**	*i* P	**Pg**	**02 15 34.3**	**+0.2**
AKHS				*i* S	**Sg**	**02 16 00.9**	**+0.3**
AKS	**Akhisar**	**2.04**	**78**	*e*PN	**Pb**	**02 15 31.0**	**-1.1**
AKS	**Akhisar**	**2.04**	**78**	*e*Pn	**Pb**	**02 15 31.0**	**-1.1**
AXAR	**Agios Charalam**	**2.05**	**278**	P	**Pn**	**02 15 28.5**	**-0.9**
AXAR				S	**Sn**	**02 15 55.2**	**+0.2**
AXAR	**Agios Charalam**	**2.05**	**278**	P	**Pn**	**02 15 28.5**	**-0.9**
AXAR				S	**Sn**	**02 15 55.2**	**+0.2**
OUR	**Ouranopolis**	**2.08**	**332**	*e*PN	**Pn**	**02 15 29.5**	**-0.4**
OUR				*e*SN	**Sn**	**02 15 55.9**	**+0.1**
OUR	**Ouranopolis**	**2.08**	**332**	*e*Pn	**Pn**	**02 15 29.5**	**-0.4**
OUR				*e*Sn	**Sn**	**02 15 55.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.12**	**26**	*e*PN	**Pn**	**02 15 31.7**	**+1.3**
GELI	**Tayfur-Gelibol**	**2.12**	**26**	*e*Pn	**Pn**	**02 15 31.7**	**+1.3**
SANT	**Santorini**	**2.13**	**176**	*e*PN	**Pn**	**02 15 30.0**	**-0.5**
SANT	**Santorini**	**2.13**	**176**	P	**Pn**	**02 15 29.7**	**-0.8**
SANT	**Santorini**	**2.13**	**176**	*e*PN	**Pn**	**02 15 29.5**	**-1.0**
SANT				*e*SN	**Sn**	**02 15 56.2**	**-0.7**
SANT	**Santorini**	**2.13**	**176**	P	**Pn**	**02 15 29.7**	**-0.8**
SANT	**Santorini**	**2.13**	**176**	*e*Pn	**Pn**	**02 15 30.0**	**-0.5**
SANT				*e*Sn	**Sn**	**02 15 56.2**	**-0.7**
DSF	**Desfina**	**2.14**	**269**	P	**Pn**	**02 15 30.2**	**-0.6**
DSF	**Desfina**	**2.14**	**269**	*e*PN	**Pn**	**02 15 30.8**	**+0.1**
DSF				*e*SN	**Sn**	**02 15 56.9**	**-0.4**
DSF	**Desfina**	**2.14**	**269**	P	**Pn**	**02 15 30.2**	**-0.6**
DSF	**Desfina**	**2.14**	**269**	*e*Pn	**Pn**	**02 15 30.8**	**+0.1**
DSF				*e*Sn	**Sn**	**02 15 56.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**104**	*e*PN	**Pn**	**02 15 31.8**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**104**	*e*Pn	**Pn**	**02 15 31.8**	**+0.9**
BODT	**Bodrum**	**2.17**	**131**	*e*PN	**Pn**	**02 15 30.8**	**-0.2**
BODT	**Bodrum**	**2.17**	**131**	*e*Pn	**Pn**	**02 15 30.8**	**-0.2**
LPK	**Lapseki**	**2.21**	**31**	*e*PN	**Pb**	**02 15 33.7**	**-1.2**
LPK	**Lapseki**	**2.21**	**31**	*e*Pn	**Pb**	**02 15 33.7**	**-1.2**
BALY	**Balya**	**2.22**	**55**	*i* P	**Pb**	**02 15 35.5**	**+0.3**
BALY				*i* S	**Sg**	**02 16 04.6**	**-1.8**
BALY	**Balya**	**2.22**	**55**	*i* P	**Pb**	**02 15 35.5**	**+0.3**
BALY				*i* S	**Sg**	**02 16 04.6**	**-1.8**
BDRM	**Kayabasi**	**2.25**	**129**	*i* P	**Pn**	**02 15 32.5**	**+0.4**
BDRM				*i* S	**Sg**	**02 16 07.4**	**+0.1**
BDRM	**Kayabasi**	**2.25**	**129**	*i* P	**Pn**	**02 15 32.5**	**+0.4**
BALB	**Balikesir**	**2.34**	**60**	*e*PN	**Pn**	**02 15 34.4**	**+1.0**
BALB	**Balikesir**	**2.34**	**60**	*e*Pn	**Pn**	**02 15 34.4**	**+1.0**
PLG	**Polygyros**	**2.34**	**324**	*e*PN	**Pn**	**02 15 32.6**	**-0.9**
PLG				*e*SN	**Sn**	**02 16 00.7**	**-1.5**
PLG	**Polygyros**	**2.34**	**324**	*e*Pn	**Pn**	**02 15 32.6**	**-0.9**
ENEZ	**Enez**	**2.34**	**17**	*e*PN	**Pb**	**02 15 35.7**	**-1.5**
ENEZ	**Enez**	**2.34**	**17**	*e*Pn	**Pb**	**02 15 35.7**	**-1.5**
AGG	**Agios Georgios**	**2.35**	**284**	*e*PN	**Pn**	**02 15 33.8**	**+0.3**
AGG				*e*SN	**Sn**	**02 16 01.9**	**-0.4**
AGG	**Agios Georgios**	**2.35**	**284**	*e*Pn	**Pn**	**02 15 33.8**	**+0.3**
AGG				*e*Sn	**Sn**	**02 16 01.9**	**-0.4**
GUR	**Goura**	**2.36**	**257**	*e*PN	**Pn**	**02 15 34.0**	**+0.2**
GUR				*e*SN	**Sn**	**02 16 02.3**	**-0.5**
GUR	**Goura**	**2.36**	**257**	*e*Pn	**Pn**	**02 15 34.0**	**+0.2**
GUR				*e*Sn	**Sn**	**02 16 02.3**	**-0.5**
GONE	**Gonen-Balikesi**	**2.44**	**50**	*e*PN	**Pb**	**02 15 36.9**	**-2.0**
GONE	**Gonen-Balikesi**	**2.44**	**50**	*e*Pn	**Pb**	**02 15 36.9**	**-2.0**
KALE	**Kalithea**	**2.45**	**269**	*e*PN	**Pn**	**02 15 34.9**	**-0.1**
KALE				*e*SN	**Sn**	**02 16 04.8**	**-0.1**
KALE	**Kalithea**	**2.45**	**269**	*e*Pn	**Pn**	**02 15 34.9**	**-0.1**
KALE				*e*Sn	**Sn**	**02 16 04.8**	**-0.1**
ALN	**Alexandroupoli**	**2.47**	**14**	*e*PN	**Pn**	**02 15 36.7**	**+1.5**
ALN	**Alexandroupoli**	**2.47**	**14**	*e*PN	**Pn**	**02 15 35.1**	**-0.1**
ALN				*e*SN	**Sn**	**02 16 04.8**	**-0.6**
ALN	**Alexandroupoli**	**2.47**	**14**	*e*Pn	**Pn**	**02 15 36.7**	**+1.5**
KLV	**Kalavryta, Ach**	**2.48**	**260**	*e*PN	**Pn**	**02 15 35.2**	**-0.3**
KLV				*e*SN	**Sn**	**02 16 05.0**	**-0.8**
KLV	**Kalavryta, Ach**	**2.48**	**260**	*e*Pn	**Pn**	**02 15 35.2**	**-0.3**
KLV				*e*Sn	**Sn**	**02 16 05.0**	**-0.8**
MAKR	**Makrakomi, Fth**	**2.50**	**283**	*e*PN	**Pn**	**02 15 36.1**	**+0.5**
MAKR				*e*SN	**Sn**	**02 16 06.0**	**0.0**
MAKR	**Makrakomi, Fth**	**2.50**	**283**	*e*Pn	**Pn**	**02 15 36.1**	**+0.5**
MAKR				*e*Sn	**Sn**	**02 16 06.0**	**0.0**
VLX	**Vlachokerasia**	**2.54**	**245**	*e*PN	**Pn**	**02 15 35.9**	**-0.3**
VLX				*e*SN	**Sn**	**02 16 07.3**	**+0.2**
VLX	**Vlachokerasia**	**2.54**	**245**	*e*Pn	**Pn**	**02 15 35.9**	**-0.3**
VLX				*e*Sn	**Sn**	**02 16 07.3**	**+0.2**
VLI	**Veliai**	**2.56**	**227**	*e*PN	**Pn**	**02 15 37.0**	**+0.6**
VLI				*e*SN	**Sn**	**02 16 06.6**	**-0.9**
VLI	**Veliai**	**2.56**	**227**	*e*Pn	**Pn**	**02 15 37.0**	**+0.6**
VLI				*e*Sn	**Sn**	**02 16 06.6**	**-0.9**
KAVA	**Kavala**	**2.56**	**347**	*e*PN	**Pn**	**02 15 35.8**	**-0.6**
KAVA				*e*SN	**Sn**	**02 16 07.8**	**+0.2**
KAVA	**Kavala**	**2.56**	**347**	*e*Pn	**Pn**	**02 15 35.8**	**-0.6**
KAVA				*e*Sn	**Sn**	**02 16 07.8**	**+0.2**
LAKA	**Lakka**	**2.59**	**265**	*e*PN	**Pn**	**02 15 37.4**	**+0.6**
LAKA	**Lakka**	**2.59**	**265**	*e*Pn	**Pn**	**02 15 37.4**	**+0.6**
EFP	**Efpalio**	**2.63**	**270**	*e*PN	**Pn**	**02 15 37.6**	**+0.2**
EFP				*e*SN	**Sn**	**02 16 08.8**	**-0.4**
EFP	**Efpalio**	**2.63**	**270**	*e*Pn	**Pn**	**02 15 37.6**	**+0.2**
EFP				*e*Sn	**Sn**	**02 16 08.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.65**	**34**	*e*PN	**Pb**	**02 15 40.5**	**-1.9**
RKY	**Sarkoy-Tekirda**	**2.65**	**34**	*e*Pn	**Pb**	**02 15 40.5**	**-1.9**
PSA1	**Psathopyrgos**	**2.65**	**267**	*e*PN	**Pn**	**02 15 38.5**	**+0.3**
PSA1				*e*SN	**Sn**	**02 16 09.6**	**-0.2**
KULA	**Kula-Manisa**	**2.67**	**89**	*e*PN	**Pn**	**02 15 39.5**	**+1.4**
KULA	**Kula-Manisa**	**2.67**	**89**	*e*Pn	**Pn**	**02 15 39.5**	**+1.4**
LIT	**Litokhoron**	**2.68**	**308**	*e*PN	**Pn**	**02 15 38.4**	**+0.3**
LIT				*e*SN	**Sn**	**02 16 09.2**	**-1.3**
LIT	**Litokhoron**	**2.68**	**308**	*e*Pn	**Pn**	**02 15 38.4**	**+0.3**
LIT				*e*Sn	**Sn**	**02 16 09.2**	**-1.3**
HORT	**Hortiatis**	**2.68**	**322**	*e*PN	**Pn**	**02 15 38.4**	**+0.2**
HORT				*e*SN	**Sn**	**02 16 09.4**	**-1.2**
HORT	**Hortiatis**	**2.68**	**322**	*e*Pn	**Pn**	**02 15 38.4**	**+0.2**
EVR	**Evrytania**	**2.73**	**280**	*e*PN	**Pn**	**02 15 39.2**	**+0.4**
EVR				*e*SN	**Sn**	**02 16 10.6**	**-1.2**
EVR	**Evrytania**	**2.73**	**280**	*e*Pn	**Pn**	**02 15 39.2**	**+0.4**
EVR				*e*Sn	**Sn**	**02 16 10.6**	**-1.2**
DURS	**Dursunbey**	**2.74**	**65**	*i* P	**Pg**	**02 15 45.9**	**-1.7**
DURS				*i* S	**Sg**	**02 16 22.2**	**-0.8**
EDC	**Edincik**	**2.74**	**47**	*e*PN	**Pn**	**02 15 41.1**	**+2.2**
EDC	**Edincik**	**2.74**	**47**	*e*Pn	**Pn**	**02 15 41.1**	**+2.2**
THL	**Klokotos Trika**	**2.74**	**294**	*e*PN	**Pn**	**02 15 39.4**	**+0.5**
THL				*e*SN	**Sn**	**02 16 11.2**	**-0.7**
THL	**Klokotos Trika**	**2.74**	**294**	*e*Pn	**Pn**	**02 15 39.4**	**+0.5**
THL				*e*Sn	**Sn**	**02 16 11.2**	**-0.7**
SOH	**Sokhos**	**2.75**	**328**	*e*PN	**Pn**	**02 15 39.1**	**+0.1**
SOH				*e*SN	**Sn**	**02 16 11.4**	**-0.8**
SOH	**Sokhos**	**2.75**	**328**	*e*Pn	**Pn**	**02 15 39.1**	**+0.1**
DEMI	**Demirci**	**2.76**	**78**	*i* P	**Pg**	**02 15 47.6**	**-0.3**
DEMI				*i* S	**Sg**	**02 16 20.9**	**-2.8**
THE	**Thessaloniki**	**2.77**	**321**	*e*PN	**Pn**	**02 15 39.8**	**+0.5**
THE				*e*SN	**Sn**	**02 16 12.9**	**+0.2**
THE	**Thessaloniki**	**2.77**	**321**	*e*Pn	**Pn**	**02 15 39.8**	**+0.5**
THE				*e*Sn	**Sn**	**02 16 12.9**	**+0.2**
MRMT	**Marmara Adasi**	**2.77**	**40**	*e*PN	**Pb**	**02 15 42.1**	**-2.6**
MRMT	**Marmara Adasi**	**2.77**	**40**	*e*Pn	**Pb**	**02 15 42.1**	**-2.6**
BNT	**Bandirma**	**2.78**	**47**	*e*PN	**Pn**	**02 15 41.4**	**+2.0**
BNT	**Bandirma**	**2.78**	**47**	*e*Pn	**Pn**	**02 15 41.4**	**+2.0**
KYTH	**Kithira**	**2.83**	**219**	*e*PN	**Pn**	**02 15 40.3**	**+0.1**
KYTH	**Kithira**	**2.83**	**219**	*e*Pn	**Pn**	**02 15 40.3**	**+0.1**
DRO	**Drossia**	**2.84**	**260**	*e*PN	**Pn**	**02 15 41.2**	**+0.8**
DRO				*e*SN	**Sn**	**02 16 13.9**	**-0.7**
DRO	**Drossia**	**2.84**	**260**	*e*Pn	**Pn**	**02 15 41.2**	**+0.8**
DRO				*e*Sn	**Sn**	**02 16 13.9**	**-0.7**
SRS	**Serrai**	**2.91**	**334**	*e*PN	**Pn**	**02 15 41.0**	**-0.3**
SRS				*e*SN	**Sn**	**02 16 15.6**	**-0.7**
SRS	**Serrai**	**2.91**	**334**	*e*Pn	**Pn**	**02 15 41.0**	**-0.3**
ITM	**Ithomi**	**2.94**	**245**	*e*PN	**Pn**	**02 15 43.0**	**+1.3**
ITM				*e*SN	**Sn**	**02 16 16.3**	**-0.8**
ITM	**Ithomi**	**2.94**	**245**	*e*Pn	**Pn**	**02 15 43.0**	**+1.3**
ITM				*e*Sn	**Sn**	**02 16 16.3**	**-0.8**
AMT	**Artemida-Makis**	**2.96**	**252**	*e*PN	**Pn**	**02 15 42.5**	**+0.5**
AMT				*e*SN	**Sn**	**02 16 17.5**	**0.0**
AMT	**Artemida-Makis**	**2.96**	**252**	*e*Pn	**Pn**	**02 15 42.5**	**+0.5**
AMT				*e*Sn	**Sn**	**02 16 17.5**	**0.0**
KCTX	**Karacabey (Bur**	**2.98**	**53**	*e*PN	**Pn**	**02 15 44.4**	**+2.1**
KCTX	**Karacabey (Bur**	**2.98**	**53**	*e*Pn	**Pn**	**02 15 44.4**	**+2.1**
RLS	**Riolos of Patr**	**3.01**	**263**	*e*PN	**Pn**	**02 15 44.0**	**+1.4**
RLS				*e*SN	**Sn**	**02 16 18.3**	**-0.4**
RLS	**Riolos of Patr**	**3.01**	**263**	*e*Pn	**Pn**	**02 15 44.0**	**+1.4**
RLS				*e*Sn	**Sn**	**02 16 18.3**	**-0.4**
NVR	**Nevrokopi**	**3.04**	**340**	*e*PN	**Pn**	**02 15 42.9**	**-0.2**
NVR				*e*SN	**Sn**	**02 16 18.4**	**-1.2**
NVR	**Nevrokopi**	**3.04**	**340**	*e*Pn	**Pn**	**02 15 42.9**	**-0.2**
TKR	**Tekirdag**	**3.05**	**35**	*e*PN	**Pn**	**02 15 46.0**	**+2.9**
TKR	**Tekirdag**	**3.05**	**35**	*e*Pn	**Pn**	**02 15 46.0**	**+2.9**
ANKY	**Antikythira Is**	**3.05**	**211**	*e*PN	**Pn**	**02 15 43.7**	**+0.5**
ANKY	**Antikythira Is**	**3.05**	**211**	*e*Pn	**Pn**	**02 15 43.7**	**+0.5**
TURN	**Turunc**	**3.11**	**120**	*i* P	**Pn**	**02 15 42.6**	**-1.4**
TURN	**Turunc**	**3.11**	**120**	*i* P	**Pn**	**02 15 42.6**	**-1.4**
KDZ	**Kurdzhali**	**3.15**	**2**⇑	*i* P	**Pn**	**02 15 46.8**	**+2.2**
KDZ	**Kurdzhali**	**3.15**	**2**⇑	*i* P	**Pn**	**02 15 46.8**	**+2.2**
DALY	**Dalyan (Mu˘la**	**3.17**	**121**	*e*PN	**Pn**	**02 15 46.0**	**+1.1**
DALY	**Dalyan (Mu˘la**	**3.17**	**121**	*e*Pn	**Pn**	**02 15 46.0**	**+1.1**
PDO	**Prodromos**	**3.19**	**273**	*e*PN	**Pn**	**02 15 45.8**	**+0.7**
PDO				*e*SN	**Sn**	**02 16 23.4**	**+0.2**
PDO	**Prodromos**	**3.19**	**273**	*e*Pn	**Pn**	**02 15 45.8**	**+0.7**
PDO				*e*Sn	**Sn**	**02 16 23.4**	**+0.2**
VAM	**Vamos**	**3.20**	**196**	*e*PN	**Pn**	**02 15 45.0**	**-0.2**
VAM				*e*SN	**Sn**	**02 16 23.0**	**-0.3**
VAM	**Vamos**	**3.20**	**196**	*e*Pn	**Pn**	**02 15 45.0**	**-0.2**
VAM				*e*Sn	**Sn**	**02 16 23.0**	**-0.3**
PYL	**PYLOS**	**3.21**	**241**	*e*PN	**Pn**	**02 15 45.8**	**+0.4**
PYL				*e*SN	**Sn**	**02 16 22.9**	**-0.7**
PYL	**PYLOS**	**3.21**	**241**	*e*Pn	**Pn**	**02 15 45.8**	**+0.4**
PYL				*e*Sn	**Sn**	**02 16 22.9**	**-0.7**
IDI	**Anoyia**	**3.22**	**185**	*e*PN	**Pn**	**02 15 45.1**	**-0.4**
IDI	**Anoyia**	**3.22**	**185**	*e*Pn	**Pn**	**02 15 45.2**	**-0.3**
IDI				*e*SN	**Sn**	**02 16 23.3**	**-0.5**
IDI	**Anoyia**	**3.22**	**185**	*e*Pn	**Pn**	**02 15 45.2**	**-0.3**
IDI				*e*Sn	**Sn**	**02 16 23.3**	**-0.5**
KNT	**Kendrikon**	**3.22**	**326**	*e*PN	**Pn**	**02 15 45.9**	**+0.4**
KNT				*e*SN	**Sn**	**02 16 23.6**	**-0.3**
KNT	**Kendrikon**	**3.22**	**326**	*e*Pn	**Pn**	**02 15 45.9**	**+0.4**
KNT				*e*Sn	**Sn**	**02 16 23.6**	**-0.3**
ARG	**Arkhangelos**	**3.23**	**134**	*e*PN	**Pn**	**02 15 45.3**	**-0.3**
ARG				*e*SN	**Sn**	**02 16 22.7**	**-1.3**
ARG	**Arkhangelos**	**3.23**	**134**	*e*Pn	**Pn**	**02 15 45.3**	**-0.3**
ARG				*e*Sn	**Sn**	**02 16 22.7**	**-1.3**
NPS	**Neapolis**	**3.24**	**175**	*e*PN	**Pn**	**02 15 45.3**	**-0.5**
NPS				*e*SN	**Sn**	**02 16 22.9**	**-1.4**
NPS	**Neapolis**	**3.24**	**175**	*e*Pn	**Pn**	**02 15 45.3**	**-0.5**
NPS				*e*Sn	**Sn**	**02 16 22.9**	**-1.4**
CRLT	**Corlu**	**3.25**	**35**	*e*PN	**Pn**	**02 15 49.0**	**+3.1**
CRLT	**Corlu**	**3.25**	**35**	*e*Pn	**Pn**	**02 15 49.0**	**+3.1**
KARN	**Karanos**	**3.27**	**200**	*e*PN	**Pn**	**02 15 46.1**	**-0.1**
KARN				*e*SN	**Sn**	**02 16 24.2**	**-0.9**
KARN	**Karanos**	**3.27**	**200**	*e*Pn	**Pn**	**02 15 46.1**	**-0.1**
KARN				*e*Sn	**Sn**	**02 16 24.2**	**-0.9**
GRG	**Griva**	**3.30**	**319**	*e*PN	**Pn**	**02 15 47.1**	**+0.5**
GRG				*e*SN	**Sn**	**02 16 24.7**	**-1.1**
GRG	**Griva**	**3.30**	**319**	*e*Pn	**Pn**	**02 15 47.1**	**+0.5**
MMB	**Musomiste**	**3.30**	**340**⇓	*i* P	**Pn**	**02 15 45.8**	**-0.9**
MMB	**Musomiste**	**3.30**	**340**⇓	*i* P	**Pn**	**02 15 45.8**	**-0.9**
KARP	**Karpathos**	**3.31**	**152**	*e*PN	**Pn**	**02 15 46.3**	**-0.5**
KARP				*e*SN	**Sn**	**02 16 24.4**	**-1.8**
KARP	**Karpathos**	**3.31**	**152**	*e*Pn	**Pn**	**02 15 46.3**	**-0.5**
KARP				*e*Sn	**Sn**	**02 16 24.4**	**-1.8**
KHAL	**Karahalli**	**3.33**	**91**	*i* P	**Pn**	**02 15 49.6**	**+2.5**
KHAL				*i* S	**Sg**	**02 16 40.3**	**-1.7**
KHAL	**Karahalli**	**3.33**	**91**	*i* P	**Pn**	**02 15 49.6**	**+2.5**
GDZ	**Gediz**	**3.35**	**79**	*i* P	**Pg**	**02 15 59.5**	**+0.1**
GDZ				*i* S	**Sb**	**02 16 39.0**	**+3.6**
KHL	**Karahalli**	**3.36**	**92**	*e*PN	**Pn**	**02 15 49.4**	**+1.9**
KHL	**Karahalli**	**3.36**	**92**	*e*Pn	**Pn**	**02 15 49.4**	**+1.9**
MDNY	**Mudanya-Bursa**	**3.38**	**55**	*e*PN	**Pn**	**02 15 50.5**	**+2.9**
MDNY	**Mudanya-Bursa**	**3.38**	**55**	*e*Pn	**Pn**	**02 15 50.5**	**+2.9**
ZKR	**Zakros**	**3.46**	**167**	*e*PN	**Pn**	**02 15 48.5**	**-0.3**
ZKR				*e*SN	**Sn**	**02 16 28.5**	**-1.3**
ZKR	**Zakros**	**3.46**	**167**	*e*Pn	**Pn**	**02 15 48.5**	**-0.3**
ZKR				*e*Sn	**Sn**	**02 16 28.5**	**-1.3**
ARMT	**Armutlu**	**3.47**	**52**	*e*PN	**Pn**	**02 15 51.6**	**+2.6**
ARMT	**Armutlu**	**3.47**	**52**	*e*Pn	**Pn**	**02 15 51.6**	**+2.6**
SIVA	**Sivas**	**3.49**	**186**	*e*PN	**Pn**	**02 15 49.3**	**+0.1**
SIVA				*e*SN	**Sn**	**02 16 30.3**	**-0.2**
SIVA	**Sivas**	**3.49**	**186**	*e*Pn	**Pn**	**02 15 49.3**	**+0.1**
SIVA				*e*Sn	**Sn**	**02 16 30.3**	**-0.2**
EDRB	**Edirne**	**3.54**	**18**	*e*PN	**Pn**	**02 15 52.7**	**+2.9**
EDRB	**Edirne**	**3.54**	**18**	*e*Pn	**Pn**	**02 15 52.7**	**+2.9**
SLVT	**Silivri**	**3.55**	**39**	*e*PN	**Pn**	**02 15 52.9**	**+2.8**
SLVT	**Silivri**	**3.55**	**39**	*e*Pn	**Pn**	**02 15 52.9**	**+2.8**
PHSR	**Pinarhisar**	**3.58**	**28**	*e*PN	**Pn**	**02 15 53.5**	**+3.0**
PHSR	**Pinarhisar**	**3.58**	**28**	*e*Pn	**Pn**	**02 15 53.5**	**+3.0**
JAN	**Janina**	**3.62**	**290**	*e*PN	**Pn**	**02 15 51.5**	**+0.5**
JAN	**Janina**	**3.62**	**290**	*e*Pn	**Pn**	**02 15 51.5**	**+0.5**
PLD	**Plovdiv**	**3.63**	**353**⇓	*i* Pn	**Pn**	**02 15 51.7**	**+0.6**
CTKS	**Kestanelik-??a**	**3.71**	**41**	*e*PN	Pn	02 15 55.4	+3.2
CTKS	**Kestanelik-??a**	**3.71**	**41**	*e*Pn	Pn	02 15 55.4	+3.2
FNA	**Florina**	**3.77**	**309**	*e*PN	**Pn**	**02 15 54.2**	**+1.1**
FNA				*e*SN	**Sn**	**02 16 36.9**	**-0.5**
FNA	**Florina**	**3.77**	**309**	*e*Pn	**Pn**	**02 15 54.2**	**+1.1**
FNA				*e*Sn	**Sn**	**02 16 36.9**	**-0.5**
CTYL	**Yal??k??y-??at**	**3.78**	**37**	*e*PN	**Pn**	**02 15 56.3**	**+3.1**
CTYL	**Yal??k??y-??at**	**3.78**	**37**	*e*Pn	**Pn**	**02 15 56.3**	**+3.1**
BGKT	**Bogazkoy**	**3.81**	**44**	*e*PN	**Pn**	**02 15 56.6**	**+3.0**
BGKT	**Bogazkoy**	**3.81**	**44**	*e*Pn	**Pn**	**02 15 56.6**	**+3.0**
CAVI	**Cavuskoy**	**3.94**	**63**	*e*PN	**Pn**	**02 15 58.4**	**+2.9**
CAVI	**Cavuskoy**	**3.94**	**63**	*e*Pn	**Pn**	**02 15 58.4**	**+2.9**
ADVT	**Abdulvahap**	**3.97**	**59**	*e*PN	Pn	02 15 59.1	+3.2
ADVT	**Abdulvahap**	**3.97**	**59**	*e*Pn	Pn	02 15 59.1	+3.2
KLYT	**Kilyos**	**4.01**	**45**	*e*PN	Pn	02 15 59.5	+3.2
KLYT	**Kilyos**	**4.01**	**45**	*e*Pn	Pn	02 15 59.5	+3.2
ELL	**Elmali**	**4.09**	**114**	*e*PN	**Pn**	**02 15 59.5**	**+2.0**
ELL	**Elmali**	**4.09**	**114**	*e*Pn	**Pn**	**02 15 59.5**	**+2.0**
JMB	**Yambol**	**4.09**	**14**⇓	*i* P	Pn	02 16 01.3	+3.8
JMB	**Yambol**	**4.09**	**14**⇓	*i* P	Pn	02 16 01.3	+3.8
SHUT	**Suhut-Afyon**	**4.15**	**88**	*e*PN	**Pn**	**02 16 00.6**	**+2.1**
SHUT	**Suhut-Afyon**	**4.15**	**88**	*e*Pn	**Pn**	**02 16 00.6**	**+2.1**
SILT	**Sile**	**4.29**	**50**	*e*PN	**Pn**	**02 16 03.3**	**+3.0**
SILT	**Sile**	**4.29**	**50**	*e*Pn	**Pn**	**02 16 03.3**	**+3.0**
VTS	**Vitosha**	**4.38**	**340**⇓	*i* P	**Pn**	**02 16 02.7**	**+1.1**
VTS	**Vitosha**	**4.38**	**340**⇓	*i* P	**Pn**	**02 16 02.7**	**+1.1**
VTS	**Vitosha**	**4.38**	**340**	*e*Pn	**Pn**	**02 16 03.0**	**+1.4**
GULT	**Gulveren**	**4.51**	**63**	*e*PN	**Pn**	**02 16 06.1**	**+2.9**
GULT	**Gulveren**	**4.51**	**63**	*e*Pn	**Pn**	**02 16 06.1**	**+2.9**
MDUB	**Mudurnu**	**5.00**	**65**	*e*PN	Pn	02 16 13.4	+3.3
MDUB	**Mudurnu**	**5.00**	**65**	*e*Pn	Pn	02 16 13.4	+3.3
ARR	**Arges**	**6.88**	**356**⇑	*i* P	**Pn**	**02 16 38.1**	**+2.2**
ARR	**Arges**	**6.88**	**356**⇑	*i* P	**Pn**	**02 16 38.1**	**+2.2**
VOIR		**6.94**	**359**⇑	*i* P	**Pn**	**02 16 39.0**	**+2.4**
VOIR		**6.94**	**359**⇑	*i* P	**Pn**	**02 16 39.0**	**+2.4**
MLR	**Muntele Rosu**	**7.01**	**4**⇓	*i* P	**Pn**	**02 16 40.5**	**+2.9**
MLR	**Muntele Rosu**	**7.01**	**4**⇓	*i* P	**Pn**	**02 16 40.5**	**+2.9**
LOT	**Lotru**	**7.03**	**351**⇓	*i* P	**Pn**	**02 16 40.2**	**+2.2**
LOT	**Lotru**	**7.03**	**351**⇓	*i* P	**Pn**	**02 16 40.2**	**+2.2**
GZR	**Gura Zlata**	**7.13**	**346**⇑	*i* P	**Pn**	**02 16 39.2**	**-0.1**
GZR	**Gura Zlata**	**7.13**	**346**⇑	*i* P	**Pn**	**02 16 39.2**	**-0.1**
PLOR	**Plostina**	**7.42**	**8**⇑	*i* P	Pn	02 16 47.0	+3.8
PLOR	**Plostina**	**7.42**	**8**⇑	*i* P	Pn	02 16 47.0	+3.8
VRI	**Vrincioaia**	**7.45**	**8**⇓	*i* P	Pn	02 16 47.2	+3.7
VRI	**Vrincioaia**	**7.45**	**8**⇓	*i* P	Pn	02 16 47.2	+3.7
DOPR	**Dopca**	**7.47**	**1**⇓	*i* P	**Pn**	**02 16 46.5**	**+2.7**
DOPR	**Dopca**	**7.47**	**1**⇓	*i* P	**Pn**	**02 16 46.5**	**+2.7**
DRGR		**8.50**	**348**⇓	*i* P	**Pn**	**02 16 59.7**	**+1.7**
DRGR		**8.50**	**348**⇓	*i* P	**Pn**	**02 16 59.7**	**+1.7**

IDC 25 02:27:11.2±3.6, 5°.04S×152°.54E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=129.8km s-min=36.9km az=113.0, Eritrean Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.10**	**229**	P	P	02 32 20.1	+1.2
	0.7nm,0.9s,baz=52,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**25.80**	**222**	P	P	02 32 43.9	-0.4
	0.5nm,0.9s,baz=57,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**80.33**	**319**	P	P	02 39 25.7	+1.3
	0.2nm,0.6s,baz=90,slow=5.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**150.14**	**288**	PKPbc	PKPbc	02 47 03.4	-1.8
	0.4nm,0.9s,baz=85,slow=3.1,SNR=3.2						

IDC 25 02:47:05.3±3.5, 30°.03S×177°.31W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/16, mbtmp3.7/2, Error ellipse: s-maj=68.3km s-min=39.7km az=91.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.94**	**326**	Pn	Pn	02 47 25.8	+0.1
	178nm,0.3s,baz=87,sl

baz=64,SNR=4.8
KAPI Kappang 62.77 274 *e*P **P** 03 51 50.3 -0.2
52nm,1.1s
MCK McKinley 85.56 12 *e*P **P** 03 53 56.7 -1.1
17nm,1.5s
TXAR Lajitas Array 85.85 57 P **P** 03 54 01.5 +1.4
TXAR Lajitas Array 85.85 57 P **P** 03 54 01.5 +1.4
0.2nm,0.6s,baz=232,slow=6.8,SNR=2.6
ILAR Eielson Array 86.91 13 P **P** 03 54 04.5 +0.4
ILAR Eielson Array 86.91 13 P **P** 03 54 04.5 +0.4
0.7nm,1.1s,baz=233,slow=5.2,SNR=6.5
TKM2 Tokmak 2 115.15 309 *e*PKPdf **PKPdf** 03 59 55.1 -2.0
AAK Ala-Archa 115.95 309 *e*PKPdf **PKPdf** 03 59 56.5 -2.1
EKS2 Erkin-Say 116.48 309 *e*PKPdf **PKPdf** 03 59 57.6 -2.0
NOA NORSAR Array B 137.75 354 PKP **PKPdf** 04 00 40.4 +1.1
NOA NORSAR Array B 137.75 354 PKP **PKPdf** 04 00 40.4 +1.1
0.7nm,0.8s,baz=30,slow=3.6,SNR=3.4
BUR08 Bucovina Ar. S 146.18 332 *e*PKPbc **PKPdf** 04 00 52.8 -1.9
BRTR Keskin Array B 146.38 314 PKPbc **PKPbc** 04 00 57.5 -0.2
BRTR Keskin Array B 146.38 314 PKPbc **PKPbc** 04 00 57.5 -0.2
0.5nm,0.6s,baz=135,slow=2.9,SNR=3.6

*IDC **25** 03:44:30.7±0.9,29.92S×177.35W,h0km,mb4.4/7, mb1 4.6/8,mb1mx4.3/20,mbtmp4.4/8,ML4.3/1,MS3.6/2, Ms1 3.5/2,ms1mx3.0/34,Error ellipse: s-maj=28.6km s-min=14.7km az=64.0*
*ISCJB **25** 03:44:34.3±1.0,30.04S±0.07×177.4W±0.2,h35km, mb4.4/13,MS3.6/1,Error ellipse: s-maj=21.2km s-min=8.3km az=164.3*
*NEIC **25** 03:44:34.3±4.0,30.02S×177.33W,h28km±26km,mb4.6/10, Error ellipse: s-maj=15.3km s-min=9.7km az=78.0*
ISC 25 03:44:35.4±0.5,29.94S±0.08×177.3W±0.1,h35km,n83, σ1§26/73,mb4.4/13,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**322**	Pn		**Pn**	**03 44 51.2**	**+0.1**
RAO				Sn		**Sn**	**03 45 02.0**	**-0.4**
RAO	**Raoul Island**	**0.86**	**322**	Pn		**Pn**	**03 44 51.2**	**+0.1**
RAO	1μm,0.3s,baz=220,slow=1.1,SNR=72			Sn		**Sn**	**03 45 02.0**	**-0.4**
OUZ	5μm,0.3s,baz=98,slow=22,SNR=20 **Omahuta**	**9.30**	**233**	*e*Pn		Pn	03 46 50.8	+3.8
URZ	12nm,0.6s **Urewera**	**9.50**	**208**	Pn		Pn	03 46 43.2	-6.4
URZ				Sn		Sn	03 48 27.0	-8.2
URZ	**Urewera**	**9.50**	**208**	Pn		Pn	03 46 43.3	-6.4
URZ	0.6nm,0.3s,baz=307,slow=12,SNR=1.4			Sn		Sn	03 48 27.0	-8.2
DZM	5.5nm,0.3s,baz=137,slow=22,SNR=12 **Mont Dzumac**	**16.56**	**294**	*e*LR		LR	03 51 57.1	
DZM	238nm,24.4s **Mont Dzumac**	**16.56**	**294**	*e*Pn		**P**	**03 48 27.0**	**-0.3**
DZM	**Mont Dzumac**	**16.56**	**294**	LR		LR	03 53 23.3	
RPZ	comp=Z,166nm,19.6s,baz=286,slow=32 **Rata Peaks**	**16.58**	**211**	*e*Pn		**Pn**	**03 48 21.7**	**-3.5**
RPZ	**Rata Peaks**	**16.58**	**211**	Pn		**Pn**	**03 48 22.7**	**-2.5**
TBI	1.1nm,0.3s,baz=28,slow=17,SNR=2.1 **Tubuai**	**25.71**	**82**	*e*LR		LR	03 56 32.3	
TBI	137nm,27.5s **Tubuai**	**25.71**	**82**	*e*T		T	04 16 57.1	
ARMA	14nm,0.4s **Armidale**	**26.81**	**261**	*e*P		**P**	**03 50 11.9**	**-0.7**
ARMA	6.7nm,0.8s **Armidale**	**26.81**	**261**	P		**P**	**03 50 16.3**	**+3.8**
MGCD	baz=25,SNR=4.6 **Mangrove Creek**	**27.05**	**255**	P		**P**	**03 50 17.9**	**+3.4**
PAE	baz=25,SNR=4.5 **Paea**	**28.08**	**70**	*e*T		T	04 19 50.4	
PPT2	3.9nm,0.3s **Papeete2**	**28.12**	**70**	*e*LR		LR	03 57 36.7	
EIDS	143nm,26.0s **Eidsvold**	**28.31**	**272**	P		**P**	**03 50 27.1**	**+1.2**
CTA	baz=26,SNR=3.1 **Charters Tower**	**34.32**	**278**	P		**P**	**03 51 19.8**	**+1.0**
CTA	**Charters Tower**	**34.32**	**278**	P		**P**	**03 51 19.8**	**+1.0**
CTAO	4.0nm,0.3s,baz=104,slow=10,SNR=12 **Charters Tower**	**34.32**	**278**	*e*P		**P**	**03 51 19.8**	**+1.0**
STKA	9.9nm,0.7s **Stephens Creek**	**35.16**	**256**	*e*P		**P**	**03 51 26.9**	**+0.9**
STKA	0.9nm,0.5s **Stephens Creek**	**35.16**	**256**	P		**P**	**03 51 26.9**	**+0.9**
STKA	5.2nm,0.5s,baz=99,slow=11,SNR=8.3			LR		LR	04 03 14.5	
STKA	comp=Z,107nm,19.9s,baz=25,slow=32 **Stephens Creek**	**35.16**	**256**	P		**P**	**03 51 27.4**	**+1.4**
HTT	baz=33,SNR=12 **Hallett**	**37.20**	**253**	P		**P**	**03 51 44.2**	**+0.7**
PMG	baz=35,SNR=7.6 **Port Moresby**	**38.95**	**294**	*e*P		**P**	**03 51 57.4**	**-0.9**
COEN	6.9nm,1.0s **Coen**	**39.72**	**285**	*e*P		**P**	**03 52 05.4**	**+0.7**
COEN	**Coen**	**39.72**	**285**	P		**P**	**03 52 06.1**	**+1.4**
AS31	baz=38,SNR=4.0 **Alice Springs**	**43.73**	**266**	*e*P		**P**	**03 52 37.0**	**-0.5**
ASAR	**Alice Springs**	**43.73**	**266**	P		**P**	**03 52 37.0**	**-0.5**
ASAR				PcP		**PcP**	**03 54 25.6**	**+1.5**
ASAR	**Alice Springs**	**43.73**	**266**	P		**P**	**03 52 37.0**	**-0.5**
ASAR	2.6nm,0.6s,baz=108,slow=7.9,SNR=15			PcP		**PcP**	**03 54 25.6**	**+1.5**
WRAB	0.8nm,0.6s,baz=114,slow=4.1,SNR=4.1 **Tennant Creek**	**44.67**	**271**	*e*P		**P**	**03 52 43.3**	**-1.8**
WRA	7.7nm,0.7s **Warramunga Arr**	**44.68**	**271**	P		**P**	**03 52 43.8**	**-1.3**
WRA	**Warramunga Arr**	**44.68**	**271**	P		**P**	**03 52 43.8**	**-1.3**
FORT	6.9nm,0.4s,baz=110,slow=8.1,SNR=53 **Forrest**	**46.74**	**255**	*e*P		**P**	**03 53 00.7**	**-0.6**
WRKA	12nm,0.8s **Warakurna**	**48.13**	**262**	P		**P**	**03 53 10.7**	**-1.6**
VNDA	baz=46,SNR=4.8 **Vanda**	**48.61**	**186**	*e*P		**P**	**03 53 15.3**	**+0.1**
VNDA	8.2nm,1.4s **Vanda**	**48.61**	**186**	P		**P**	**03 53 16.4**	**+1.2**
QSPA	0.8nm,0.6s,baz=30,slow=4.3,SNR=7.5 **South Pole Qui**	**60.17**	**180**	*e*P		**P**	**03 54 40.6**	**+1.1**
QSPA	6.6nm,0.9s **South Pole Qui**	**60.17**	**180**	P		**P**	**03 54 41.2**	**+1.8**
MJAR	2.7nm,0.7s,baz=74,slow=1.3,SNR=12 **Matsushiro Arr**	**78.20**	**325**	P		**P**	**03 56 32.2**	**+0.9**
MJAR	**Matsushiro Arr**	**78.20**	**325**	P		**P**	**03 56 32.2**	**+0.9**
MAJO	1.7nm,0.8s,baz=131,slow=7.9,SNR=3.4 **Matsushiro**	**78.21**	**325**	*e*P		**P**	**03 56 31.1**	**-0.2**
SNAA	6.3nm,0.9s **Sanae**	**78.60**	**178**	*e*P		**P**	**03 56 33.1**	**0.0**
H03N3	2.6nm,0.9s **Juan Fernandez**	**80.41**	**123**	T		T	05 26 22.2	
H03N2	SNR=12 **Juan Fernandez**	**80.41**	**123**	T		T	05 26 19.0	
H03N1	SNR=7.9 **Juan Fernandez**	**80.43**	**123**	T		T	05 26 21.7	
BKNI	SNR=15 **Bangkinang**	**82.92**	**274**	P		P	03 57 04.9	+7.7
SAML	baz=81,SNR=4.1 **Samuel**	**105.89**	**110**	*e*PKP		**PKiKP**	**04 02 56.2**	**-0.1**
WVT	**Waverly**	**106.57**	**58**	*e*PKP		**PKiKP**	**04 02 58.2**	**+1.4**
WVT				*e*PP		**PP**	**04 03 10.8**	**-1.1**
ULM	**Lac du Bonnet**	**107.32**	**42**	*e*PKP		**PKiKP**	**04 02 57.0**	**-0.7**
WCI	**Wyandotte Cave**	**108.55**	**56**	*e*PKP		**PKiKP**	**04 02 59.0**	**-1.5**
BOSA	**Boshof**	**117.92**	**202**	*e*PKPdf		**PKPdf**	**04 03 20.2**	**+1.3**
MKAR	**Makanchi Array**	**117.93**	**310**	PKP		**PKPdf**	**04 03 16.9**	**-1.1**
MKAR	**Makanchi Array**	**117.93**	**310**	PKP		**PKPdf**	**04 03 16.9**	**-1.1**
KKAR	0.1nm,0.5s,baz=18,slow=1.8,SNR=2.0 **Karatay Array**	**125.31**	**304**	*e*PKPdf		**PKPdf**	**04 03 32.6**	**+0.2**
LSZ	**Lusaka**	**128.76**	**212**	*e*PKPdf		**PKPdf**	**04 03 40.3**	**+0.3**
ARU	**Arti**	**133.11**	**321**	*e*PKPdf		**PKPdf**	**04 03 46.8**	**+0.1**
ASCN	**Ascension**	**138.94**	**154**	*e*PKPdf		**PKPdf**	**04 03 59.4**	**+0.5**
JOF	**Joensuu**	**142.20**	**339**	*ep*		**PKPdf**	**04 03 59.3**	**-4.0**
KAF	**Kangasniemi**	**144.31**	**341**	*ep*		PKPbc	04 04 05.3	-0.1
FINES	**FINESS Array B**	**144.91**	**341**	PKP		PKPbc	04 04 07.6	+0.3
FINES	**FINESS Array B**	**144.91**	**341**	PKP		PKPbc	04 04 07.6	+0.3
KBZ	11nm,0.6s,baz=54,slow=3.7,SNR=70 **Khabaz**	**145.34**	**305**	PKPbc		**PKPbc**	**04 04 09.2**	**-0.1**
KBZ	**Khabaz**	**145.34**	**305**	PKPbc		**PKPbc**	**04 04 09.2**	**-0.1**
KIV	1.6nm,0.7s,baz=342,slow=0.8,SNR=5.4 **Kislovodsk**	**145.45**	**305**	*e*PKPbc		**PKPab**	**04 04 10.4**	**+0.4**
NB2	**NORSAR Subarra**	**148.38**	**352**	PKP		**PKPbc**	**04 04 17.9**	**+0.4**
NOA	comp=Z,1.1nm,0.6s,baz=12,slow=2.9 **NORSAR Array B**	**148.38**	**352**	PKPbc		**PKPbc**	**04 04 17.8**	**+0.3**
NOA	**NORSAR Array B**	**148.38**	**352**	PKPbc		**PKPbc**	**04 04 17.8**	**+0.3**
NAO01	comp=Z,2.5nm,0.8s,baz=16,slow=4.5,SNR=5.7 **NORSAR Array S**	**148.61**	**352**	*e*PKPbc		**PKPbc**	**04 04 18.4**	**+0.3**
BR131	**Keskin Array S**	**152.90**	**299**	*e*PKPbc		**PKPbc**	**04 04 28.4**	**-0.7**
BRTR	**Keskin Array B**	**152.90**	**299**	PKPbc		**PKPbc**	**04 04 29.1**	**+0.1**
BRTR	**Keskin Array B**	**152.90**	**299**	PKPbc		**PKPbc**	**04 04 29.1**	**+0.1**
CSS	comp=Z,1.5nm,0.8s,baz=129,slow=4.5,SNR=10 **Prodhromos**	**153.72**	**289**	*e*PKPbc		**PKPbc**	**04 04 30.8**	**-0.1**
BUR08	**Bucovina Ar. S**	**155.23**	**322**	*e*PKPab		**PKPab**	**04 04 49.7**	**-0.2**
CLL	**Collm**	**157.31**	**343**	*e*P		**PKPab**	**04 04 59.0**	**+0.6**
BRG	**Berggiesshubel**	**157.45**	**341**	*i* P		**PKPab**	**04 05 00.4**	**+1.3**
PSZ	comp=Z,4.8nm,0.8s **Piszkesteto**	**157.69**	**328**	*e*PKPdf		**PKPdf**	**04 04 27.2**	**-0.8**
GERES	**GERESS Array B**	**159.33**	**339**	PKPab		**PKPab**	**04 05 08.1**	**+0.6**
GERES	**GERESS Array B**	**159.33**	**339**	PKPab		**PKPab**	**04 05 08.1**	**+0.6**
TOA0	comp=Z,0.5nm,0.6s,baz=113,slow=2.0,SNR=4.1 **Torodi Ar. Sit**	**163.27**	**177**	*e*PKPdf		**PKPdf**	**04 04 35.2**	**+0.3**
TOA0				*e*PKPab		**PKPab**	**04 05 24.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**163.27**	**177**	PKPab		**PKPab**	**04 05 25.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**163.27**	**177**	PKPab		**PKPab**	**04 05 25.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=179,slow=2.4,SNR=5.3							

*NIED **25** 03:56:00,23.90N×122.20E,h11km,Mw4.7 Best double couple: M0 1.21000×10^16 NP1:φ59.00000°,δ83.00000°, λ73.00000°. NP2:φ308.00000°,δ18.00000°,λ159.00000°.*
*BJI **25** 03:56:11.2,24.01N×122.20E,h18km,mB4.6/11,mb4.3/22, ML4.3/6,Ms4.3/16,Ms7 4.2/14*
*IDC **25** 03:56:12.0±0.6,24.10N×122.32E,h0km,mb4.3/19, mb1 4.5/19,mb1mx4.4/25,mbtmp4.4/19,MS4.1/11, Ms1 4.1/11,ms1mx3.8/34,Error ellipse: s-maj=22.9km s-min=12.4km az=65.0*
*ISCJB **25** 03:56:12.5±0.2,23.92N±0.01×122.37E±0.02,h10km, mb4.4/49,MS4.2/10,Error ellipse: s-maj=2.2km s-min=1.8km az=140.0*
*NEIC **25** 03:56:14.8±0.7,24.01N×122.27E,h18km±4km,mb4.6/30, ML4.7(TAP),Error ellipse: s-maj=5.2km s-min=4.5km az=92.0*
NEIC Recorded [1 TAP] in Hua-lien, I-lan and T'ai-tung.
*TAP **25** 03:56:15.6,23.98N×122.25E,h21km,ML4.6,C*
*JMA **25** 03:56:15.4±0.1,23.93N×122.24E,h22km±3km,M4.7*
ISC 25 03:56:14.7±0.6,23.95N±0.02×122.25E±0.02,h18km±3km, n188,σ1§01/239,mb4.5/49,MS4.3/11,11C-19D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.59**	**307**	*e*P		**Pn**	**03 56 27.9**	**-0.3**
EHP	baz=305			*e*S		**Sn**	**03 56 37.3**	**-0.1**
HWA	baz=305 **Hwalien**	**0.59**	**272**	*e*P		**Pg**	**03 56 27.2**	**+0.6**
HWA	baz=254			S		**Sn**	**03 56 36.7**	**-0.8**
TWD	baz=254 **Chiawan**	**0.61**	**282**	⇓*i*P		**Pg**	**03 56 27.5**	**+0.6**
TWD	baz=279			S		**Sg**	**03 56 36.2**	**+1.1**
NACB	baz=279 **Ninganchiao**	**0.64**	**290**	*e*Pg		**Pg**	**03 56 27.6**	**+0.2**
NACB				*e*Sg		**Sb**	**03 56 34.9**	**-1.2**
ENA	**Nanau**	**0.67**	**315**	⇑*e*P		**Pg**	**03 56 28.1**	**+0.3**
ESF	baz=323 **Shoufeng Towns**	**0.69**	**263**	*e*P		**Pn**	**03 56 30.2**	**+0.7**
TEGC	baz=249 **Jichi Village**	**0.70**	**250**	*e*P		**Pn**	**03 56 29.4**	**-0.3**
TEGC	baz=248			*e*S		**Sn**	**03 56 39.5**	**-0.5**
TWC	baz=248 **Suao**	**0.75**	**331**	⇑*i*P		**Pg**	**03 56 29.2**	**-0.2**
TWC	baz=337			*e*S		**Sg**	**03 56 39.1**	**-0.3**
ESL	baz=337 **Shilin**	**0.76**	**260**	⇓*e*P		**Pb**	**03 56 29.4**	**-0.1**
ESL	baz=246			*e*S		**Sb**	**03 56 38.2**	**-1.3**
YOJ	baz=246 **Yonaguni jima**	**0.86**	**54**	P		**Pn**	**03 56 31.8**	**-0.1**
YOJ				*e*S		**Sg**	**03 56 42.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.86**	**54**	⇓*i*P		**Pn**	**03 56 31.8**	**-0.1**
YOJ	baz=54			*e*S		**Sg**	**03 56 42.9**	**+0.1**
YOJ	baz=54 **Yonaguni jima**	**0.86**	**54**	*e*Pg		**Pg**	**03 56 31.6**	**+0.1**
YOJ				*e*Sg		**Sb**	**03 56 41.4**	**-0.9**
WHF	**Hehuan Shan**	**0.92**	**282**	⇓*i*P		**Pb**	**03 56 32.6**	**+0.1**
WHF	baz=280			*e*S		**Sb**	**03 56 44.7**	**+0.1**
ENTT	baz=280 **Nioudou**	**0.93**	**318**	*e*P		**Pn**	**03 56 33.0**	**+0.1**
ILA	baz=317 **Ilan**	**0.93**	**330**	P		**Pn**	**03 56 33.1**	**+0.2**
ILA	baz=329			*e*S		**Sn**	**03 56 46.3**	**+0.4**
NNS	baz=329 **Nan Shan**	**0.94**	**301**	⇓*i*P		**Pg**	**03 56 33.1**	**+0.1**
NNS	baz=287			*e*S		**Sn**	**03 56 46.2**	**0.0**
EHY	baz=287 **Hungye**	**0.96**	**243**	⇑*i*P		**Pb**	**03 56 32.9**	**0.0**
EHY	baz=241			*e*S		**Sb**	**03 56 45.3**	**0.0**
TWT	baz=241 **Tachien**	**1.03**	**287**	⇓*e*P		**Pn**	**03 56 34.8**	**+0.3**
TWT	baz=285			*e*S		**Sn**	**03 56 48.2**	**-0.3**
YULB	baz=285 **Yu-li**	**1.04**	**238**	*e*Pg		**Pb**	**03 56 33.8**	**-0.4**
YULB				*e*Sg		**Sb**	**03 56 44.9**	**-2.6**
TWF1	**Yuli**	**1.06**	**236**	⇑*i*P		**Pb**	**03 56 34.6**	**0.0**
TWF1	baz=222			*e*S		**Sb**	**03 56 48.4**	**+0.3**
YHNB	baz=222 **Yeheng**	**1.07**	**312**	*e*Pg		**Pb**	**03 56 34.8**	**0.0**
YHNB				*e*Sg		**Sb**	**03 56 47.7**	**-0.8**
TWB1	**Santiao Chiao**	**1.08**	**347**	⇓*e*P		**Pn**	**03 56 35.1**	**+0.2**
NSK	baz=347 **Sanguang**	**1.09**	**312**	⇓*i*P		**Pg**	**03 56 35.5**	**-0.3**
NSK	baz=310			*e*S		**Sn**	**03 56 49.3**	**-0.5**
CHKT	baz=310 **Chengkung**	**1.18**	**224**	⇑*e*P		**Pn**	**03 56 35.5**	**-0.8**
CHKT	baz=211			*e*S		**Sb**	**03 56 49.3**	**-2.2**
NWF	baz=211 **Wu-fen Shan**	**1.19**	**339**	⇓P		**Pg**	**03 56 37.4**	**-0.5**
NWF	baz=337			S		**Sg**	**03 56 53.0**	**-0.5**
SSLB	baz=337 **Suanglung**	**1.20**	**262**	*e*Pn		**Pn**	**03 56 36.5**	**-0.2**
SSLB				*e*Sg		**Sb**	**03 56 51.4**	**-0.8**
TATO	**Taipei**	**1.23**	**326**	*e*Pn		**Pb**	**03 56 37.7**	**+0.2**
SMLT	**Sun Moon Lake**	**1.24**	**267**	⇓*i*P		**Pb**	**03 56 37.8**	**+0.1**
SMLT	baz=254			*e*S		**Sb**	**03 56 52.8**	**-0.6**
TAP1	baz=254 **Taipei**	**1.27**	**329**	*e*P		**Pb**	**03 56 37.7**	**-0.4**
TAP1	baz=326			*e*S		**Sg**	**03 56 56.2**	**+0.4**
TAP	baz=326 **Taipei**	**1.28**	**328**	*e*P		**Pn**	**03 56 37.5**	**-0.2**
TYC	baz=327 **Yuchr**	**1.28**	**268**	⇓*i*P		**Pb**	**03 56 38.1**	**-0.1**
TYC	baz=267			*e*S		**Sn**	**03 56 52.8**	**-1.6**
YUS	**Yu-Shan**	**1.28**	**249**	⇓*e*P		**Pn**	**03 56 38.5**	**+0.3**
NSTT	baz=236 **Nanjuang**	**1.33**	**301**	⇓P		**Pg**	**03 56 39.9**	**-0.5**
NSTT	baz=286			*e*S		**Sb**	**03 56 55.9**	**+0.1**
ELDTW	baz=286 **Lidau**	**1.37**	**236**	⇑P		**Pn**	**03 56 38.7**	**-0.3**
TWS1	baz=235 **Kuangyinshan**	**1.37**	**326**	*e*P		**Pb**	**03 56 40.3**	**+0.4**
TWS1	baz=337			*e*S		**Sg**	**03 56 58.5**	**-0.6**
ALS	baz=337 **Alishan**	**1.40**	**252**	⇓*i*P		**Pb**	**03 56 40.5**	**0.0**
IRIF	baz=251 **Iriomote-Funau**	**1.40**	**74**	P		**Pb**	**03 56 40.5**	**+0.1**
IRIF				*e*S		**Sb**	**03 56 58.5**	**+0.6**
NCU	**National Centr**	**1.40**	**316**	*e*P		**Pn**	**03 56 39.2**	**-0.3**
TWQ1	baz=315 **Liyutan**	**1.41**	**287**	⇓*i*P		**Pg**	**03 56 41.5**	**-0.4**
TWQ1	baz=285			*e*S		**Sb**	**03 56 59.2**	**+1.1**
HATJ	baz=285 **Hateruma jima**	**1.42**	**86**	P		**Pn**	**03 56 40.2**	**+0.5**
NSY	**Sanyi**	**1.44**	**289**	*e*P		**Pg**	**03 56 41.8**	**-0.6**
	baz=288							
WNT	**Mingjian**	**1.44**	**267**	*e*P		**Pb**	**03 56 41.6**	**+0.6**
WNT	baz=266			*e*S		**Sb**	**03 56 59.9**	**+0.9**
HSN	baz=266 **Hsinchu**	**1.44**	**306**	*e*P		**Pb**	**03 56 41.4**	**+0.3**
TWY	baz=307 **Chenhua**	**1.45**	**336**	*e*P		**Pb**	**03 56 41.5**	**+0.3**
TCU	baz=352 **Taichung**	**1.46**	**278**	⇓*i*P		**Pg**	**03 56 42.1**	**-0.6**
TCU	baz=277			*e*S		**Sg**	**03 57 00.8**	**-0.9**
CHN5	baz=277 **Tsauling**	**1.49**	**257**	⇓P		**Pb**	**03 56 42.0**	**+0.1**
TWG	baz=256 **Pinlang**	**1.56**	**224**	*e*P		**Pn**	**03 56 41.0**	**-0.6**
TWG	baz=237			*e*S		**Sn**	**03 56 59.7**	**-1.8**
TWG	baz=237 **Pinlang**	**1.56**	**224**	*e*Pn		**Pn**	**03 56 40.6**	**-1.0**
TWG				*e*Sn		**Sn**	**03 57 00.1**	**-1.4**
TTN	**Taitung**	**1.57**	**221**	*e*P		**Pn**	**03 56 42.4**	**+0.7**
STYT	baz=207 **Tauyuan**	**1.58**	**241**	⇑*i*P		**Pn**	**03 56 42.9**	**+1.0**
STYT	baz=228			*e*S		**Sn**	**03 57 02.5**	**+0.5**
TPUB	baz=228 **Ta-pu**	**1.62**	**247**	*e*Pn		**Pb**	**03 56 43.6**	**-0.6**
TPUB				*e*Sg		**Sb**	**03 57 05.2**	**+0.8**
JKRS	**Kuro-shima**	**1.63**	**80**	P		**Pb**	**03 56 43.6**	**-0.6**
JKRS				*e*S		**Sb**	**03 57 03.9**	**-0.6**
PCYT	**Pengchaiyu**	**1.68**	**354**	⇓P		**Pn**	**03 56 43.4**	**+0.2**
PCYT	baz=338			*e*S		**Sb**	**03 57 05.4**	**-0.5**
CHY	baz=338 **Chiayi**	**1.74**	**255**	*e*P		**Pb**	**03 56 45.3**	**-0.8**
CHY	baz=255			*e*S		**Sb**	**03 57 07.9**	**+0.3**
CHN1	baz=255 **Nanshi**	**1.76**	**245**	⇑*i*P		**Pb**	**03 56 46.3**	**-0.1**
CHN1	baz=244			*e*S		**Sb**	**03 57 09.0**	**+0.8**
TWK	baz=244 **Hsinying**	**1.76**	**247**	*e*P		**Pb**	**03 56 46.1**	**-0.4**
TWK	baz=247			*e*S		**Sb**	**03 57 08.4**	**+0.1**
SGST	baz=247 **Jiashian**	**1.76**	**241**	*e*P		**Pb**	**03 56 46.0**	**-0.6**
SGST	baz=228			*e*S		**Sb**	**03 57 08.1**	**-0.2**
JIJ	baz=228 **Ishigaki jima**	**1.77**	**76**	P		**Pn**	**03 56 45.4**	**+0.9**
JIJ				*e*S		**Sb**	**03 57 07.8**	**-0.8**
ECL	**Taimali**	**1.80**	**222**	*e*P		**Pn**	**03 56 44.1**	**-0.8**
ECL	baz=222			*e*S		**Sn**	**03 57 04.9**	**-2.5**
WTCT	baz=222 **Ta-ch'eng**	**1.81**	**268**	*e*P		**Pb**	**03 56 46.7**	**-0.6**
WTCT	baz=267			*e*S		**Sb**	**03 57 10.4**	**+0.8**
WSF	baz=267 **Szhu**	**1.89**	**261**	*e*P		**Pb**	**03 56 48.1**	**-0.6**
WSF	baz=260			*e*S		**Sb**	**03 57 12.6**	**+0.7**
SSD	baz=260 **Sandimen**	**1.91**	**231**	*e*P		**Pn**	**03 56 47.9**	**+1.4**
SSD	baz=223			*e*S		**Sn**	**03 57 11.6**	**+1.5**
CHN3	baz=223 **Shinhua**	**1.94**	**244**	*e*P		**Pb**	**03 56 50.6**	**+1.0**
LAY	baz=243 **Lan-yu**	**2.01**	**199**	*e*P		**Pn**	**03 56 45.7**	**-2.1**
TAW	baz=198 **Tawu**	**2.02**	**218**	*e*P		**Pn**	**03 56 47.8**	**-0.1**
TWM1	baz=218 **Shoushan**	**2.02**	**237**	*e*P		**Pb**	**03 56 51.2**	**+0.2**
TWM1	baz=236			*e*S		**Sb**	**03 57 17.5**	**+1.6**
EAST	baz=236 **Anshuo**	**2.03**	**220**	⇑*e*P		**Pn**	**03 56 47.7**	**-0.4**
SGLT	baz=219 **Jiouru**	**2.03**	**233**	*e*P		**Pb**	**03 56 52.2**	**+1.1**
SCZT	baz=233 **Fangliau**	**2.18**	**224**	*e*P		**Pb**	**03 56 52.4**	**-1.2**
SCZT	baz=217			*e*S		**Sn**	**03 57 18.4**	**+1.8**
JTJ	baz=217 **Tarama**	**2.34**	**72**	P		**Pn**	**03 56 53.8**	**+1.6**
TWP	**Hsiaoliuchiu**	**2.36**	**228**	*e*P		**Pb**	**03 56 56.6**	**-0.2**
HEN	baz=228 **Hengchun**	**2.39**	**216**	*e*P		**Pn**	**03 56 54.8**	**+1.8**
HEN	baz=217			*e*S		**Sn**	**03 57 22.0**	**+0.2**
TSEB	baz=217 **Hengchuen, Pin**	**2.39**	**212**	*e*P		**Pn**	**03 56 54.0**	**+1.0**
TSEB	baz=214			*e*S		**Sn**	**03 57 23.5**	**+1.6**
TWK1	baz=214 **Hengchun**	**2.41**	**214**	⇓*e*P		**Pn**	**03 56 53.8**	**+0.6**
TWK1	baz=215			*e*S		**Sn**	**03 57 21.0**	**-1.2**
WDGT	baz=215 **Dungji**	**2.48**	**254**	*e*P		**Pn**	**03 56 56.1**	**+1.9**
JMJ	baz=254 **Miyako jima 2**	**2.90**	**72**	*e*S		**Sn**	**03 57 37.1**	**+2.6**
QZH	**Quanzhou**	**3.48**	**287**	⇑*i*Pn		Pn	03 57 04.1	-3.9
QZH				Sn		Sn	03 57 42.0	-6.7
QZH	comp=N,670nm,0.8s			smax		smax		
QZH	comp=E,920nm,0.9s			smax		smax		
QZH	comp=N,5μm,8.4s			LR		LR		
QZH	comp=E,1μm,10.8s			LR		LR		
QZH	comp=Z,6μm,11.2s			LR		LR		
KNM	**Kinmen**	**3.52**	**278**	*e*P		**Pn**	**03 57 09.8**	**+1.3**
JKE	baz=277 **Kume jima 2**	**4.74**	**59**	P		**Pn**	**03 57 26.1**	**+0.8**
JOW	**Kunigami**	**6.15**	**61**	P		**Pn**	**03 57 44.2**	**-0.6**
JOW	**Kunigami**	**6.15**	**61**	*e*P		**Pn**	**03 57 44.5**	**-0.2**
SZP	baz=63 **Santa**	**6.59**	**195**	*e*Pn		**Pn**	**03 57 51.7**	**+1.0**
SZP	172nm,0.8s			*e*Sn		**Sn**	**03 59 07.2**	**+1.8**
JTK	**Tokunoshima**	**7.14**	**56**	P		**Pn**	**03 57 57.3**	**-1.0**
JAMN	**Amaminishikomi**	**7.55**	**54**	P		**Pn**	**03 58 02.9**	**-1.0**
JAM	**Amami Oshima**	**7.96**	**55**	P		**Pn**	**03 58 08.2**	**-1.3**
NJ2	**Nanjing**	**8.61**	**340**	*e*P		**Pn**	**03 58 17.0**	**-1.4**
NJ2				S		**Sn**	**03 59 55.0**	**-0.1**
NJ2	comp=Z,20nm,0.5s			pmax		pmax		
NJ2	comp=N,120nm,1.2s			smax		smax		
NJ2	comp=E,110nm,1.2s			smax		smax		
NJ2	comp=N,2μm,13.4s			LR		LR		
NJ2	comp=E,1μm,14.4s			LR		LR		
NJ2	comp=Z,2μm,12.6s			LR		LR		
JNU	**Nakatsue**	**11.87**	**38**	LR		LR	04 03 58.5	
QIZ	comp=Z,458nm,19.4s,baz=223,slow=40 **Qiongzhong**	**12.55**	**249**	P		**Pn**	**03 59 10.8**	**-1.6**
QIZ				S		**Sn**	**04 01 35.1**	**+3.3**
QIZ	comp=

XAN				LR	LR				
	comp=Z,260nm,12.1s								
SNY	**Shenyang**	**17.86**	**3**	⇑P	P		04 00 28.5	+5.7	
SNY				S	**S**		**04 03 50.9**	**+3.6**	
SNY				pmax	pmax				
	comp=Z,200nm,7.6s								
SNY				LR	LR				
	comp=N,760nm,10.7s								
SNY				LR	LR				
	comp=E,470nm,12.9s								
SNY				LR	LR				
	comp=Z,920nm,12.4s								
MJAR	**Matsushiro Arr**	**18.61**	**44**	LR	LR		04 08 09.1		
	comp=Z,157nm,20.6s,baz=235,slow=39								
HHC	**Hu-ho-hao-te**	**19.09**	**335**	*e*P	**Pn**		**04 00 38.9**	**+1.6**	
HHC				S	Sn		04 04 01.6	-9.1	
HHC				sS	**S**		**04 04 13.6**	**+1.2**	
HHC				pmax	pmax				
	comp=Z,46nm,0.6s								
HHC				pmax	pmax				
	comp=Z,280nm,4.7s								
HHC				LR	LR				
	comp=Z,2μm,11.5s								
HHC				LR	LR				
	comp=Z,1μm,12.3s								
HHC				LR	LR				
	comp=Z,2μm,12.7s								
LZH	**Lanzhou**	**19.97**	**311**	*e*P	**Pn**		**04 00 48.8**	**+0.8**	
LZH				pP	**pP**		**04 00 53.1**	**+1.8**	
LZH				sP	**sP**		**04 00 55.3**	**+1.7**	
LZH				pmax	pmax				
	comp=Z,21nm,1.1s								
LZH				pmax	pmax				
	comp=Z,86nm,4.5s								
CN2	**Changchun**	**19.97**	**7**	*e*P	**Pn**		**04 00 48.1**	**+0.4**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
USRK	**Ussuriysk Arra**	**21.71**	**19**	P	**P**		**04 01 02.9**	**-2.0**	
	comp=Z,2.9nm,0.8s,baz=199,slow=10,SNR=5.8								
CHTO	**Chiang Mai**	**22.29**	**261**	*e*P	**P**		**04 01 14.4**	**+3.1**	
	comp=Z,4.2nm,0.9s								
CMAR	**Chiang Mai Arr**	**22.40**	**260**	P	**P**		**04 01 14.4**	**+2.0**	
CMAR	**Chiang Mai Arr**	**22.40**	**260**	P	**P**		**04 01 14.4**	**+2.0**	
	comp=Z,2.4nm,0.3s,baz=67,slow=9.1,SNR=14								
CMAR				LR	LR		04 10 49.4		
	comp=Z,228nm,19.0s,baz=262,slow=39								
GTA	**Gaotai**	**24.44**	**314**	*e*P	**P**		**04 01 32.8**	**+0.1**	
GTA				pP	**pP**		**04 01 36.4**	**-1.7**	
GTA				sP	**sP**		**04 01 39.0**	**-1.3**	
GTA				pmax	pmax				
	comp=Z,8.0nm,2.0s								
GTA				pmax	pmax				
	comp=Z,90nm,3.6s								
GTA				LR	LR				
	comp=Z,320nm,11.4s								
GTA				LR	LR				
	comp=Z,560nm,17.6s								
GTA				LR	LR				
	comp=Z,580nm,15.7s								
KSM	**Kuching**	**25.16**	**209**	*e*P	**P**		**04 01 40.3**	**+1.1**	
	comp=Z,24nm,1.3s								
HIA	**Hailar**	**25.34**	**356**	*e*P	**P**		**04 01 40.2**	**-0.4**	
	comp=Z,4.5nm,0.3s								
ASAJ	**Asahikawa**	**26.11**	**35**	LR	LR		04 13 54.1		
	comp=Z,215nm,18.7s,baz=194,slow=41								
ULN	**Ulaanbaatar**	**26.75**	**337**	*e*P	**P**		**04 01 52.8**	**-0.7**	
	comp=Z,20nm,1.0s								
SONM	**Songino Array**	**26.97**	**336**	P	**P**		**04 01 54.9**	**-0.5**	
SONM	**Songino Array**	**26.97**	**336**	P	**P**		**04 01 54.9**	**-0.5**	
	comp=Z,20nm,1.0s,baz=146,slow=8.2,SNR=103								
SONM				LR	LR		04 13 46.7		
	comp=Z,622nm,19.0s,baz=16,slow=39								
IPM	**Ipoh**	**28.17**	**230**	*e*P	**P**		**04 02 06.8**	**+0.4**	
	comp=Z,44nm,1.4s								
MK31	**Makanchi Array**	**39.18**	**316**	*e*P	**P**		**04 03 41.7**	**0.0**	
MKAR	**Makanchi Array**	**39.18**	**316**	P	**P**		**04 03 41.5**	**-0.2**	
MKAR	**Makanchi Array**	**39.18**	**316**	P	**P**		**04 03 41.5**	**-0.2**	
	comp=Z,3.3nm,0.7s,baz=108,slow=9.6,SNR=20								
ZAA0	**Zalesovo Array**	**40.97**	**327**	*e*P	**P**		**04 03 54.9**	**-1.4**	
ZALV	**Zalesovo Beam**	**40.97**	**327**	P	**P**		**04 03 55.0**	**-1.4**	
ZALV	**Zalesovo Beam**	**40.97**	**327**	P	**P**		**04 03 55.0**	**-1.4**	
	comp=Z,7.7nm,0.9s,baz=111,slow=8.1,SNR=32								
ZALV				LR	LR		04 22 15.1		
	comp=Z,375nm,18.4s,baz=254,slow=38								
PMG	**Port Moresby**	**41.13**	**141**	*e*P	**P**		**04 03 58.9**	**+1.0**	
	comp=Z,15nm,1.0s								
PMG	**Port Moresby**	**41.13**	**141**	P	**P**		**04 03 59.0**	**+1.0**	
	comp=Z,9.8nm,0.8s,baz=262,slow=20,SNR=5.2								
H11N1	**WAKE ISLAND Hy**	**41.52**	**87**	T	T		04 46 14.1		
	baz=280,slow=75,SNR=6.5								
H11N2	**WAKE ISLAND Hy**	**41.52**	**87**	T	T		04 46 14.3		
	baz=280,slow=75,SNR=7.3								
H11N3	**WAKE ISLAND Hy**	**41.54**	**87**	T	T		04 46 21.8		
	baz=280,slow=75,SNR=4.8								
H11S3	**WAKE ISLAND Hy**	**41.65**	**89**	T	T		04 46 22.1		
	baz=282,slow=72,SNR=5.9								
H11S1	**WAKE ISLAND Hy**	**41.66**	**89**	T	T		04 46 22.1		
	baz=282,slow=72,SNR=7.3								
H11S2	**WAKE ISLAND Hy**	**41.66**	**89**	T	T		04 46 15.3		
	baz=282,slow=72,SNR=5.9								
TKM2	**Tokmak 2**	**42.68**	**308**	*e*P	**P**		**04 04 11.8**	**+1.1**	
	comp=Z,12nm,1.0s								
COEN	**Coen**	**42.87**	**149**	*e*P	**P**		**04 04 13.2**	**+1.0**	
	comp=Z,176nm,0.9s								
KURK	**Kurchatov**	**42.90**	**320**	*e*P	**P**		**04 04 11.5**	**-0.6**	
	comp=Z,19nm,1.8s								
AAK	**Ala-Archa**	**43.42**	**307**	*e*P	**P**		**04 04 16.9**	**+0.2**	
	comp=Z,3.2nm,0.8s								
EKS2	**Erkin-Say**	**43.95**	**307**	*e*P	**P**		**04 04 21.4**	**+0.5**	
	comp=Z,3.4nm,0.8s								
WRAB	**Tennant Creek**	**45.19**	**164**	*e*P	**P**		**04 04 30.9**	**+0.2**	
	comp=Z,16nm,1.4s								
WRA	**Warramunga Arr**	**45.19**	**164**	P	**P**		**04 04 31.0**	**+0.2**	
WRA	**Warramunga Arr**	**45.19**	**164**	P	**P**		**04 04 31.0**	**+0.2**	
	comp=Z,6.2nm,0.9s,baz=346,slow=8.5,SNR=32								
KKAR	**Karatay Array**	**46.39**	**307**	*e*P	**P**		**04 04 41.0**	**+0.8**	
	comp=Z,2.9nm,0.9s								
KBL	**Kabul**	**47.15**	**296**	*e*P	**P**		**04 04 47.3**	**+0.9**	
	comp=Z,6.8nm,0.8s								
TIXI	**Tiksi**	**47.87**	**3**	*e*P	**P**		**04 04 49.8**	**-1.5**	
	comp=Z,9.6nm,1.1s								
BRVK	**Borovoye**	**48.54**	**321**	*e*P	**P**		**04 04 55.9**	**-0.8**	
	comp=Z,4.6nm,0.8s								
AS31	**Alice Springs**	**48.67**	**166**	*e*P	**P**		**04 04 58.8**	**+0.8**	
ASAR	**Alice Springs**	**48.67**	**166**	P	**P**		**04 04 58.6**	**+0.6**	
ASAR	**Alice Springs**	**48.67**	**166**	P	**P**		**04 04 58.6**	**+0.6**	
	comp=Z,3.5nm,0.9s,baz=344,slow=6.5,SNR=29								
CTA	**Charters Tower**	**49.63**	**150**	P	**P**		**04 05 06.7**	**+1.3**	
CTA	**Charters Tower**	**49.63**	**150**	P	**P**		**04 05 06.7**	**+1.3**	
	comp=Z,5.4nm,1.0s,baz=345,slow=11,SNR=6.1								
CTAO	**Charters Tower**	**49.63**	**150**	*e*P	**P**		**04 05 06.6**	**+1.3**	
	comp=Z,7.3nm,1.0s								
ABKAR	**Akbulak array**	**54.30**	**314**	*e*P	**P**		**04 05 39.6**	**-0.3**	
	comp=Z,10.0nm,0.8s								
ARU	**Arti**	**55.88**	**323**	*e*P	**P**		**04 05 50.1**	**-1.1**	
	comp=Z,5.2nm,0.9s								
STKA	**Stephens Creek**	**58.52**	**161**	P	**P**		**04 06 11.0**	**+0.9**	
STKA	**Stephens Creek**	**58.52**	**161**	P	**P**		**04 06 11.0**	**+0.9**	
	comp=Z,5.9nm,0.8s,baz=338,slow=6.9,SNR=9.7								
GNI	**Garni**	**65.74**	**305**	*e*P	**P**		**04 06 59.3**	**+0.5**	
	comp=Z,10nm,1.1s								
KBZ	**Khabaz**	**66.39**	**309**	P	**P**		**04 07 02.6**	**0.0**	
KBZ	**Khabaz**	**66.39**	**309**	P	**P**		**04 07 02.6**	**0.0**	
	comp=Z,1.9nm,0.8s,baz=135,slow=5.3,SNR=4.3								
KIV	**Kislovodsk**	**66.49**	**309**	*e*P	**P**		**04 07 04.0**	**+0.5**	
	comp=Z,38nm,1.5s								
ILAR	**Eielson Array**	**68.97**	**27**	P	**P**		**04 07 18.8**	**+0.1**	
ILAR	**Eielson Array**	**68.97**	**27**	P	**P**		**04 07 18.8**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=292,slow=8.2,SNR=11								
ARCES	**ARCESS Array B**	**70.12**	**338**	P	**P**		**04 07 25.4**	**-0.2**	
ARCES	**ARCESS Array B**	**70.12**	**338**	P	**P**		**04 07 25.4**	**-0.2**	
	comp=Z,2.8nm,0.9s,baz=81,slow=8.3,SNR=1.0								
ARCES				LR	LR		04 41 54.0		
	comp=Z,98nm,19.8s,baz=354,slow=39								
FINES	**FINESS Array B**	**72.14**	**330**	P	**P**		**04 07 37.2**	**-0.7**	
FINES	**FINESS Array B**	**72.14**	**330**	P	**P**		**04 07 37.2**	**-0.7**	
	comp=Z,3.3nm,0.9s,baz=71,slow=8.3,SNR=5.3								
FINES				LR	LR		04 42 48.0		
	comp=Z,301nm,18.4s,baz=70,slow=39								
INK	**Inuvik**	**73.07**	**22**	*e*P	**P**		**04 07 42.4**	**-0.9**	
	comp=Z,5.0nm,1.0s								
KIEV	**Kiev**	**73.70**	**319**	*e*P	**P**		**04 07 46.2**	**-1.3**	
	comp=Z,5.4nm,0.9s								
BR131	**Keskin Array S**	**74.09**	**307**	*e*P	**P**		**04 07 50.1**	**0.0**	
	comp=Z,7.2nm,1.2s								
BRTR	**Keskin Array B**	**74.09**	**307**	P	**P**		**04 07 50.2**	**0.0**	
BRTR	**Keskin Array B**	**74.09**	**307**	P	**P**		**04 07 50.2**	**0.0**	
	comp=Z,4.4nm,1.0s,baz=102,slow=5.7,SNR=25								
CSS	**Prodhromos**	**75.85**	**302**	*e*P	**P**		**04 07 59.7**	**-0.5**	
	comp=Z,1.3nm,0.8s								
BUR08	**Bucovina Ar. S**	**77.21**	**317**	*e*P	**P**		**04 08 07.0**	**-0.8**	
KWP	**Kalwaria Pacla**	**77.99**	**319**	*e*P	**P**		**04 08 11.8**	**-0.3**	
	comp=Z,23nm,1.3s								
RES	**Resolute Bay**	**78.73**	**9**	*e*P	**P**		**04 08 14.3**	**-1.3**	
	comp=Z,2.0nm,0.8s								
NB2	**NORSAR Subarra**	**78.88**	**332**	P	**P**		**04 08 15.5**	**-1.3**	
	comp=Z,4.3nm,1.0s,baz=61,slow=5.6								
NOA	**NORSAR Array B**	**78.88**	**332**	P	**P**		**04 08 15.5**	**-1.3**	
NOA	**NORSAR Array B**	**78.88**	**332**	P	**P**		**04 08 15.5**	**-1.3**	
	comp=Z,2.4nm,0.9s,baz=60,slow=5.4,SNR=4.3								
NOA				LR	LR		04 46 58.9		
	comp=Z,224nm,18.3s,baz=65,slow=39								
PSZ	**Piszkesteto**	**80.39**	**318**	*e*P	**P**		**04 08 25.5**	**+0.3**	
	comp=Z,9.4nm,1.2s								
RPZ	**Rata Peaks**	**80.86**	**146**	LR	LR		04 42 23.2		
	comp=Z,144nm,18.4s,baz=192,slow=34								
MORC	**Moravsky Berou**	**80.98**	**321**	*e*P	**P**		**04 08 27.7**	**-0.6**	
	comp=Z,2.4nm,0.9s								
DPC	**Dobruska-Polom**	**81.42**	**321**	*e*P	**P**		**04 08 30.7**	**0.0**	
YKW3	**Yellowknife Ar**	**82.75**	**23**	*e*P	**P**		**04 08 36.4**	**-0.9**	
	comp=Z,0.3nm,1.5s								
YKA	**Yellowknife Ar**	**82.80**	**23**	P	**P**		**04 08 36.9**	**-0.7**	
YKA	**Yellowknife Ar**	**82.80**	**23**	P	**P**		**04 08 36.8**	**-0.7**	
	comp=Z,3.2nm,0.9s,baz=313,slow=4.9,SNR=47								
CLL	**Collm**	**82.82**	**323**	*e*P	**P**		**04 08 37.0**	**-0.9**	
CLL				Lm	MLR		04 49 00.0		
	comp=Z,200nm,18.2s								
KHC	**Kasperske Hory**	**83.57**	**321**	*e*P	**P**		**04 08 41.5**	**-0.4**	
GERES	**GERESS Array B**	**83.64**	**321**	P	**P**		**04 08 41.7**	**-0.6**	
GERES	**GERESS Array B**	**83.64**	**321**	P	**P**		**04 08 41.7**	**-0.6**	
	comp=Z,3.4nm,0.9s,baz=54,slow=7.3,SNR=12								
GERES				LR	LR		04 50 17.3		
	comp=Z,120nm,18.8s,baz=321,slow=39								
KMBO	**Kilima Mbogo**	**85.88**	**267**	*e*P	**P**		**04 08 55.5**	**+1.1**	
	comp=Z,12nm,1.8s								
KMBO	**Kilima Mbogo**	**85.88**	**267**	P	**P**		**04 08 55.0**	**+0.5**	
	comp=Z,1.4nm,0.6s,baz=220,slow=23,SNR=5.7								
EDM	**Edmonton**	**89.32**	**30**	*e*P	**P**		**04 09 09.8**	**-0.3**	
FCC	**Fort Churchill**	**92.26**	**18**	*e*P	**P**		**04 09 22.3**	**-1.2**	
	comp=Z,0.2nm,1.1s								
FFC	**Flin Flon**	**92.95**	**24**	*e*P	**P**		**04 09 26.0**	**-0.8**	
	comp=Z,6.2nm,1.0s								
SDV	**Santo Domingo**	**145.02**	**23**	*e*PKPdf	**PKPab**		**04 15 50.8**	**-0.5**	
ROSC	**El Rosal**	**147.12**	**32**	*e*PKPbc	**PKPbc**		**04 15 57.1**	**-1.0**	
OTAV	**Otavalo**	**148.66**	**43**	*e*PKPbc	**PKPdf**		**04 15 59.9**	**+1.3**	
SAML	**Samuel**	**164.20**	**20**	*e*PKPdf	**PKPdf**		**04 16 18.2**	**+0.2**	
SAML				*e*PKPab	**PKPab**		**04 17 08.7**	**-2.7**	
LPAZ	**La Paz**	**167.62**	**54**	*e*PKPdf	**PKPdf**		**04 16 22.1**	**+0.7**	
LPAZ				*e*PKPab	**PKPab**		**04 17 26.6**	**-0.9**	
CPUP	**Villa Florida**	**177.60**	**189**	*e*PKPab	PKPab		04 18 09.8	-0.6	

*ISCJB **25** 04:00:12.6±0.3,20.89N±0.05×143.8E±0.1,h30km, mb4.2/29,MS3.9/3,Error ellipse: s-maj=14.9km s-min=7.4km az=171.8*
*NEIC **25** 04:00:21.7±1.3,20.92N×143.79E,h98km±12km,mb4.5/14, Error ellipse: s-maj=9.5km s-min=4.5km az=83.0*
*IDC **25** 04:00:22.4±5.6,20.92N×143.73E,h101km±51km, mb3.8/15,mb1 4.0/16,mb1mx3.9/26,mbtmp3.8/16,MS3.9/3, Ms1 3.9/3,ms1mx3.2/35,Error ellipse: s-maj=25.7km s-min=12.1km az=87.0*

ISC 25 04:00:14.1±0.4,20.92N±0.08×143.9E±0.1,h30km,n77, σ1s09/71,mb4.3/29,MS3.9/3,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
MJAR	**Matsushiro Arr**	**16.34**	**344**	P		**P**	**04 04 04.9**		**+0.9**
MJAR	**Matsushiro Arr**	**16.34**	**344**	P		**P**	**04 04 04.9**		**+0.9**
	0.3nm,0.3s,baz=170,slow=9.9,SNR=4.8								
MAJO	**Matsushiro**	**16.34**	**344**	*e*Pn		**P**	**04 04 04.3**		**+0.3**
KSRS	**Korea Array**	**21.53**	**323**	P		**P**	**04 05 04.0**		**+3.2**
	5.5nm,0.9s,baz=147,slow=8.2,SNR=10								
KSAR	**Wonju Array Be**	**21.54**	**323**	P		**P**	**04 05 04.0**		**+3.1**
H11S3	**WAKE ISLAND Hy**	**21.60**	**92**	T		T	04 27 21.7		
	baz=282,slow=72,SNR=47								
H11N1	**WAKE ISLAND Hy**	**21.61**	**89**	T		T	04 27 27.4		
	baz=280,slow=75,SNR=104								
H11S1	**WAKE ISLAND Hy**	**21.61**	**92**	T		T	04 27 22.4		
	baz=282,slow=72,SNR=53								
H11N2	**WAKE ISLAND Hy**	**21.61**	**89**	T		T	04 27 24.0		
	baz=280,slow=75,SNR=94								
H11S2	**WAKE ISLAND Hy**	**21.62**	**92**	T		T	04 27 23.0		
	baz=282,slow=72,SNR=54								
H11N3	**WAKE ISLAND Hy**	**21.63**	**89**	T		T	04 27 25.2		
	baz=280,slow=75,SNR=96								
USRK	**Ussuriysk Arra**	**25.24**	**340**	P		**P**	**04 05 41.0**		**+3.7**
	4.0nm,0.9s,baz=144,slow=11,SNR=5.8								
PMG	**Port Moresby**	**30.30**	**174**	*e*P		**P**	**04 06 23.4**		**+0.5**
	7.0nm,0.9s								
COEN	**Coen**	**34.66**	**181**	*e*P		**P**	**04 07 02.0**		**+0.9**
ULN	**Ulaanbaatar**	**39.98**	**321**	*e*P		**P**	**04 07 45.8**		**-0.4**
	2.3nm,0.8s								
SONM	**Songino Array**	**40.35**	**321**	P		**P**	**04 07 49.1**		**-0.1**
SONM	**Songino Array**	**40.35**	**321**	P		**P**	**04 07 49.1**		**-0.1**
	1.2nm,0.8s,baz=128,slow=6.4,SNR=7.6								
SONM				LR		LR	04 24 11.3		
	comp=Z,127nm,18.4s,baz=13,slow=36								
CTA	**Charters Tower**	**40.82**	**177**	P		**P**	**04 07 54.9**		**+1.8**
CTA	**Charters Tower**	**40.82**	**177**	P		**P**	**04 07 54.9**		**+1.8**
	3.8nm,0.9s,baz=358,slow=11,SNR=6.1								
CTAO	**Charters Tower**	**40.82**	**177**	*e*P		**P**	**04 07 54.5**		**+1.4**
	7.6nm,1.0s								
WRAB	**Tennant Creek**	**41.66**	**194**	*e*P		**P**	**04 08 00.2**		**+0.2**
	3.7nm,0.9s								
WRA	**Warramunga Arr**	**41.67**	**194**	P		**P**	**04 08 00.2**		**+0.1**
WRA	**Warramunga Arr**	**41.67**	**194**	P		**P**	**04 08 00.2**		**+0.1**
	2.2nm,0.8s,baz=16,slow=8.8,SNR=12								
SEY	**Seymchan**	**42.39**	**6**	P		**P**	**04 08 06.8**		**+1.3**
SEY	**Seymchan**	**42.39**	**6**	P		**P**	**04 08 06.8**		**+1.3**
	0.7nm,0.2s,baz=353,slow=23,SNR=3.5								
AS31	**Alice Springs**	**45.37**	**193**	*e*P		**P**	**04 08 30.0**		**+0.1**
ASAR	**Alice Springs**	**45.37**	**193**	P		**P**	**04 08 30.0**		**+0.1**
ASAR	**Alice Springs**	**45.37**	**193**	P		**P**	**04 08 30.0**		**+0.1**
	1.0nm,0.6s,baz=11,slow=8.1,SNR=22								
DZM	**Mont Dzumac**	**48.07**	**151**	*e*P		**P**	**04 08 52.1**		**+1.0**
	16nm,1.0s								
ARMA	**Armidale**	**51.58**	**171**	*e*P		P	04 09 14.4		-3.3
	10.0nm,1.1s								
STKA	**Stephens Creek**	**52.54**	**182**	P		**P**	**04 09 25.1**		**+0.4**
STKA	**Stephens Creek**	**52.54**	**182**	P		**P**	**04 09 25.1**		**+0.4**
	1.3nm,0.5s,baz=317,slow=14,SNR=4.0								
FORT	**Fort**	**53.60**	**197**	*e*P		**P**	**04 09 32.9**		**+0.3**
	13nm,0.8s								
ZAA0	**Zalesovo Array**	**55.23**	**322**	*e*P		**P**	**04 09 43.2**		**-0.9**
ZALV	**Zalesovo Beam**	**55.23**	**322**	P		**P**	**04 09 43.6**		**-0.6**
ZALV	**Zalesovo Beam**	**55.23**	**322**	P		**P**	**04 09 43.6**		**-0.6**
	2.7nm,0.7s,baz=101,slow=7.7,SNR=13								
AFI	**Afiamalu**	**55.63**	**125**	LR		LR	04 31 21.5		
	comp=Z,152nm,18.1s,baz=161,slow=33								
MKAR	**Makanchi Array**	**55.70**	**313**	P		**P**	**04 09 47.5**		**-0.3**
MKAR	**Makanchi Array**	**55.70**	**313**	P		**P**	**04 09 47.5**		**-0.3**
	0.4nm,0.2s,baz=112,slow=40,SNR=1.6								
KURK	**Kurchatov**	**58.49**	**317**	*e*P		**P**	**04 10 07.4**		**+0.1**
	2.3nm,1.0s								
TKM2	**Tokmak 2**	**60.34**	**308**	*e*P		**P**	**04 10 21.4**		**+0.8**
	7.0nm,1.3s								
MCK	**McKinley**	**61.37**	**28**	*e*P		**P**	**04 10 26.9**		**-0.1**
	6.0nm,1.0s								
ILAR	**Eielson Array**	**62.44**	**27**	P		**P**	**04 10 33.7**		**-0.4**
ILAR	**Eielson Array**	**62.44**	**27**	P		**P**	**04 10 33.7**		**-0.4**
	1.8nm,0.8s,baz=262,slow=5.6,SNR=18								
BRVK	**Borovoye**	**63.75**	**320**	*e*P		**P**	**04 10 42.8**		**-0.3**
	7.2nm,1.4s								
KBL	**Kabul**	**66.29**	**300**	*e*P		**P**	**04 10 59.7**		**-0.5**
	5.9nm,0.8s								
INK	**Inuvik**	**68.02**	**23**	*e*P		**P**	**04 11 10.6**		**+0.4**
	2.2nm,0.8s								
ABKAR	**Akbulak array**	**70.56**	**316**	*e*P		**P**	**04 11 25.6**		**-0.7**
PPT	**Papeete**	**75.61**	**115**	LR		LR	04 45 36.2		
	comp=Z,56nm,18.0s,baz=340,slow=36								
YKW3	**Yellowknife Ar**	**76.81**	**28**	*e*P		**P**	**04 12 02.9**		**+0.1**
YKA	**Yellowknife Ar**	**76.84**	**28**	P		**P**	**04 12 03.2**		**+0.4**
YKA	**Yellowknife Ar**	**76.84**	**28**	P		**P**	**04 12 03.2**		**+0.4**
	1.4nm,0.7s,baz=292,slow=5.6,SNR=20								
ARCES	**ARCESS Array B**	**79.87**	**342**	P		**P**	**04 12 19.5**		**0.0**
ARCES	**ARCESS Array B**	**79.87**	**342**	P		**P**	**04 12 19.5**		**0.0**
	4.7nm,0.9s,baz=83,slow=9.9,SNR=4.0								
NVAR	**Mina Array Bea**	**83.12**	**52**	P		**P**	**04 12 38.9**		**+1.2**
NVAR	**Mina Array Bea**	**83.12**	**52**	P		**P**	**04 12 38.9**		**+1.2**
	3.1nm,0.8s,baz=277,slow=6.1,SNR=25								
FINES	**FINESS Array B**	**84.16**	**335**	P		**P**	**04 12 41.0**		**-1.2**
FINES	**FINESS Array B**	**84.16**	**335**	P		**P**	**04 12 41.0**		**-1.2**
	2.7nm,0.6s,baz=72,slow=6.2,SNR=14								
FFC	**Flin Flon**	**86.14**	**32**	*e*P		**P**	**04 12 52.8**		**+0.5**
	3.9nm,0.9s								
PDAR	**Pinedale Array**	**87.48**	**45**	P		**P**	**04 12 58.9**		**-0.5**
PDAR	**Pinedale Array**	**87.48**	**45**	P		**P**	**04 12 58.9**		**-0.5**
	0.9nm,1.0s,baz=5.7,slow=4.5,SNR=4.8								
BUR08	**Bucovina Ar. S**	**92.41**	**324**	*e*P		**P**	**04 13 21.2**		**-1.0**
LSZ	**Lusaka**	**118.96**	**264**	*e*PKPdf		**PKPdf**	**04 19 00.7**		**0.0**
LBTB	**Lobatse**	**123.45**	**253**	*e*PKPdf		**PKPdf**	**04 19 08.1**		**-1.1**
TOA0	**Torodi Ar. Sit**	**129.74**	**309**	*e*PKPdf		**PKPdf**	**04 19 21.8**		**+0.5**
TORD	**Torodi Ar. Bea**	**129.74**	**309**	PKP		**PKPdf**	**04 19 20.6**		**-0.7**
TORD	**Torodi Ar. Bea**	**129.74**	**309**	PKP		**PKPdf**	**04 19 20.6**		**-0.7**
	0.4nm,0.7s,baz=351,slow=2.3,SNR=2.3								
PMSA	**Palmer Station**	**132.43**	**164**	*e*PKPdf		**PKPdf**	**04 19 24.5**		**-0.4**
OTAV	**Otavalo**	**133.60**	**68**	*e*PKPdf		**PKPdf**	**04 19 28.6**		**-0.7**
DBIC	**Dimbokro**	**138.84**	**308**	*e*PKPdf		**PKPdf**	**04 19 37.3**		**-1.1**
NNA	**Nana**	**140.04**	**84**	*e*PKPpre		PKPpre	04 19 36.6		
NNA				*e*PKPdf		**PKPdf**	**04 19 40.8**		**+0.2**
LPAZ	**La Paz**	**149.34**	**87**	*e*PKPdf		**PKPdf**	**04 19 55.9**		**-1.4**
LPAZ				*e*PKPbc		**PKPbc**	**04 20 02.1**		**+0.4**
LPAZ				PKPbc		**PKPbc**	**04 20 02.2**		**+0.6**
LPAZ	**La Paz**	**149.34**	**87**	PKPbc		**PKPbc**	**04 20 02.2**		**+0.6**
	1.7nm,0.6s,baz=342,slow=3.9,SNR=6.9								
LVC	**Limon Verde**	**149.53**	**99**	*e*PKPbc		**PKPbc**	**04 20 00.7**		**-0.8**
SAML	**Samuel**	**151.32**	**70**	*e*PKPbc		**PKPbc**	**04 20 04.3**		**-1.4**
SAML				*e*PKPab		**PKPab**	**04 20 13.0**		**-0.8**
ASCN	**Ascension**	**155.34**	**298**	*e*PKPdf		**PKPdf**	**04 20 03.7**		**-1.8**
CPUP	**Villa Florida**	**159.84**	**110**	*e*PKPdf		**PKPdf**	**04 20 08.4**		**-2.3**

WEL 25 04:07:46.5±0.3,38.72S×175.57E,h166km±2km,ML3.7/15, 6C-3D,Error ellipse: s-maj=2.3km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
TWVZ	**Taurewa**	**0.37**	**196**	PN		Pn	04 08 08.9		-0.4
WTVZ	**West Tongariro**	**0.40**	**178**	PN		Pn	04 08 09.3		-0.1
NGZ	**Ngauruhoe**	**0.46**	**177**	PN		Pn	04 08 09.5		-0.2
TUVZ	**Tukino**	**0.56**	**173**	⇑PN		Pn	04 08 10.2		+0.1
TUVZ				SN		Sn	04 08 28.1		-0.3
TRVZ	**Turoa**	**0.58

COEN				*e*Sn		Sn	04 16 20.6	-12
COEN	**Coen**	**12.70**	**144**	P		**Pn**	**04 14 10.9**	**-0.6**
	baz=12,SNR=62							
SOEI	**Soe**	**12.76**	**241**	P		**Pn**	**04 14 14.0**	**+1.5**
	113nm,0.9s							
SOEI	**Soe**	**12.76**	**241**	P		**Pn**	**04 14 13.6**	**+1.1**
	baz=13,SNR=7.2							
PMG	**Port Moresby**	**12.85**	**117**	P		**Pn**	**04 14 15.3**	**+1.7**
	28nm,0.9s							
PMG	**Port Moresby**	**12.85**	**117**	*e*Pn		**Pn**	**04 14 15.1**	**+1.4**
	20nm,0.8s							
PMG				Sn		**Sn**	**04 16 30.7**	**-5.4**
PMG	**Port Moresby**	**12.85**	**117**	Pn		**Pn**	**04 14 15.8**	**+2.1**
	1.9nm,0.3s,baz=334,slow=12,SNR=6.3							
PMG				Sn		**Sn**	**04 16 30.7**	**-5.4**
	0.6nm,0.3s,baz=156,slow=22,SNR=1.4							
PMG	**Port Moresby**	**12.85**	**117**	P		**Pn**	**04 14 15.7**	**+2.1**
	baz=13,SNR=5.1							
PMG				P		**Pn**	**04 14 15.7**	**+2.1**
	baz=13,SNR=5.1							
PMG				P		**Pn**	**04 14 15.7**	**+2.1**
	baz=13,SNR=5.1							
KNRA	**Kununurra**	**13.70**	**209**	P		**Pn**	**04 14 24.4**	**-0.8**
	baz=14,SNR=44							
APSI	**Ampana**	**14.18**	**281**	P		**Pn**	**04 14 31.7**	**-0.1**
	58nm,0.7s							
WRAB	**Tennant Creek**	**16.23**	**184**	*e*Pn		**Pn**	**04 14 55.6**	**-3.3**
	36nm,0.8s							
WRAB				*e*Sn		Sn	04 17 44.4	-14
WRA	**Warramunga Arr**	**16.24**	**184**	Pn		**Pn**	**04 14 55.5**	**-3.5**
WRA				Sn		Sn	04 17 47.0	-12
WRA	**Warramunga Arr**	**16.24**	**184**	Pn		**Pn**	**04 14 55.5**	**-3.5**
	1.0nm,0.3s,baz=3.4,slow=13,SNR=35							
WRA				Sn		Sn	04 17 47.0	-12
	4.6nm,0.3s,baz=8.0,slow=22,SNR=13							
WRA				LR		LR	04 21 45.4	
	comp=Z,160nm,19.8s,baz=130,slow=39							
QIS	**Mount Isa**	**17.26**	**167**	P		**P**	**04 15 14.1**	**+0.8**
	baz=17,SNR=12							
FITZ	**Fitzroy Crossi**	**17.35**	**213**	*e*Pn		**Pn**	**04 15 11.8**	**-1.3**
	10nm,0.6s							
FITZ				*e*Sn		Sn	04 18 12.3	-13
FITZ	**Fitzroy Crossi**	**17.35**	**213**	P		**Pn**	**04 15 10.6**	**-2.4**
	0.7nm,0.3s,baz=43,slow=12,SNR=28							
FITZ				S		Sn	04 18 12.3	-13
	3.4nm,0.3s,baz=205,slow=9.9,SNR=13							
FITZ				LR		LR	04 20 54.0	
	comp=Z,60nm,20.8s,baz=266,slow=34							
FITZ	**Fitzroy Crossi**	**17.35**	**213**	P		**Pn**	**04 15 11.7**	**-1.3**
	baz=17,SNR=35							
CTA	**Charters Tower**	**19.38**	**148**	P		**Pn**	**04 15 38.7**	**+0.9**
CTA	**Charters Tower**	**19.38**	**148**	P		**Pn**	**04 15 38.7**	**+0.9**
	0.5nm,0.3s,baz=326,slow=13,SNR=18							
CTAO	**Charters Tower**	**19.38**	**148**	*e*P		**Pn**	**04 15 38.4**	**+0.6**
	14nm,0.9s							
AS31	**Alice Springs**	**19.96**	**184**	*e*P		**Pn**	**04 15 44.7**	**-0.1**
AS31				*e*S		S	04 19 15.9	-11
ASAR	**Alice Springs**	**19.96**	**184**	S		S	04 19 15.3	-12
	1.3nm,0.3s,baz=5.1,slow=27,SNR=9.4							
ASAR				LR		LR	04 24 09.6	
	comp=Z,203nm,18.4s,baz=2.9,slow=39							
WRKA	**Warakurna**	**22.39**	**198**	P		**P**	**04 16 09.4**	**+0.2**
	baz=22,SNR=9.4							
QLP	**Quilpie**	**24.27**	**161**	P		**P**	**04 16 29.9**	**+2.0**
	baz=24,SNR=28							
FORT	**Forrest**	**27.90**	**194**	*e*P		**P**	**04 17 01.1**	**+0.5**
	31nm,0.8s							
FORT	**Forrest**	**27.90**	**194**	P		**P**	**04 17 01.9**	**+1.2**
	baz=28,SNR=11							
MEEK	**Meekatharra**	**28.04**	**214**	P		**P**	**04 17 02.8**	**+0.8**
	baz=28,SNR=3.5							
STKA	**Stephens Creek**	**28.64**	**169**	*e*P		**P**	**04 17 06.7**	**-0.5**
	7.4nm,1.2s							
STKA	**Stephens Creek**	**28.64**	**169**	P		**P**	**04 17 07.5**	**+0.2**
	11nm,0.7s,baz=340,slow=8.1,SNR=33							
STKA				LR		LR	04 29 42.0	
	comp=Z,207nm,21.1s,baz=27,slow=39							
STKA	**Stephens Creek**	**28.64**	**169**	P		**P**	**04 17 07.2**	**0.0**
	baz=28,SNR=22							
HTT	**Hallett**	**29.79**	**174**	P		**P**	**04 17 18.3**	**+0.8**
	baz=30,SNR=3.7							
KLBR	**Kellerberrin**	**32.46**	**209**	P		**P**	**04 17 42.0**	**+1.0**
	baz=32,SNR=9.2							
ARPS	**Mount Arapiles**	**33.46**	**171**	P		**P**	**04 17 50.9**	**+1.3**
	baz=33,SNR=15							
RKGY	**Rocky Gully**	**35.32**	**207**	P		**P**	**04 18 07.6**	**+1.8**
	baz=35,SNR=7.0							
XAN	**Xi'an**	**45.13**	**328**	P		**P**	**04 19 27.5**	**+0.3**
XAN				pmax	pmax			
	comp=Z,1.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**49.43**	**336**	*e*P		P	04 20 04.5	+3.8
HHC				pmax	pmax			
	comp=Z,19nm,1.0s							
HHC				pmax	pmax			
	comp=Z,200nm,6.0s							
ULN	**Ulaanbaatar**	**57.06**	**337**	*e*P		**P**	**04 20 56.8**	**0.0**
	2.1nm,0.8s							
SONM	**Songino Array**	**57.29**	**337**	P		**P**	**04 20 58.1**	**-0.3**
SONM	**Songino Array**	**57.29**	**337**	P		**P**	**04 20 58.1**	**-0.3**
	0.3nm,0.5s,baz=144,slow=6.4,SNR=2.9							
PETK	**Petropavlovsk-**	**59.54**	**15**	P		**P**	**04 21 14.4**	**+0.7**
PETK	**Petropavlovsk-**	**59.54**	**15**	P		**P**	**04 21 14.4**	**+0.7**
	6.9nm,1.1s,baz=192,slow=12,SNR=3.6							
MK31	**Makanchi Array**	**68.65**	**324**	*e*P		**P**	**04 22 12.5**	**-1.3**
MKAR	**Makanchi Array**	**68.65**	**324**	P		**P**	**04 22 13.6**	**-0.3**
MKAR	**Makanchi Array**	**68.65**	**324**	P		**P**	**04 22 13.6**	**-0.3**
	1.4nm,0.6s,baz=109,slow=7.9,SNR=15							
TKM2	**Tokmak 2**	**71.10**	**318**	*e*P		**P**	**04 22 28.4**	**-0.8**
	2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**71.20**	**331**	P		**P**	**04 22 27.9**	**-1.4**
ZALV	**Zalesovo Beam**	**71.20**	**331**	P		**P**	**04 22 27.9**	**-1.4**
	1.3nm,0.6s,baz=123,slow=5.5,SNR=4.6							
ZALV				LR		LR	04 53 30.3	
	comp=Z,30nm,19.6s,baz=100,slow=36							
EKS2	**Erkin-Say**	**72.23**	**317**	*e*P		**P**	**04 22 35.0**	**-0.9**
	2.3nm,0.5s							
KURK	**Kurchatov**	**72.71**	**326**	*e*P		**P**	**04 22 37.3**	**-1.1**
	2.9nm,1.1s							
VNDA	**Vanda**	**75.14**	**174**	*e*P		**P**	**04 22 51.7**	**-0.5**
	7.3nm,1.6s							
VAH	**Vaihoa**	**76.32**	**105**	*e*T		T	04 23 23.1	
	15nm,0.2s							
BRVK	**Borovoye**	**78.38**	**326**	*e*P		**P**	**04 23 09.7**	**-1.2**
	5.2nm,1.1s							
ABKAR	**Akbulak array**	**83.42**	**320**	*e*P		**P**	**04 23 36.2**	**-1.7**
ILAR	**Eielson Array**	**87.99**	**25**	P		**P**	**04 23 58.0**	**-2.2**
ILAR	**Eielson Array**	**87.99**	**25**	P		**P**	**04 23 58.0**	**-2.2**
	0.5nm,0.4s,baz=266,slow=4.5,SNR=13							
KMBO	**Kilima Mbogo**	**98.23**	**268**	*e*P		**P**	**04 24 47.3**	**-1.6**
ARCES	**ARCESS Array B**	**100.35**	**340**	P		**Pdif**	**04 24 54.9**	**-1.9**
ARCES	**ARCESS Array B**	**100.35**	**340**	P		**Pdif**	**04 24 54.9**	**-1.9**
	1.4nm,0.6s,baz=76,slow=5.9,SNR=9.0							
TORD	**Torodi Ar. Bea**	**133.48**	**285**	PKP		**PKPdf**	**04 30 26.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**133.48**	**285**	PKP		**PKPdf**	**04 30 26.6**	**-1.3**
	0.3nm,0.7s,baz=69,slow=1.5,SNR=1.9							
DBIC	**Dimbokro**	**140.49**	**276**	*e*PKPdf		**PKPdf**	**04 30 39.6**	**-1.2**
NNA	**Nana**	**144.22**	**116**	*e*PKPdf		PKPbc	04 30 45.7	0.0
BCIP	**Isla Barro Col**	**144.40**	**79**	*e*PKPdf		**PKPdf**	**04 30 47.5**	**-0.3**
LVC	**Limon Verde**	**144.59**	**139**	*e*PKPdf		PKPbc	04 30 47.5	+0.5
OTAV	**Otavalo**	**145.83**	**95**	*e*PKPbc		**PKPdf**	**04 30 50.3**	**-0.6**
CPUP	**Villa Florida**	**147.69**	**158**	*e*PKPbc		**PKPbc**	**04 30 55.7**	**-0.1**
CPUP	**Villa Florida**	**147.69**	**158**	PKPbc		**PKPbc**	**04 30 55.8**	**0.0**
	6.5nm,0.6s,baz=229,slow=2.2,SNR=13							
ASCN	**Ascension**	**147.88**	**249**	*e*PKPbc		**PKPdf**	**04 30 54.8**	**+1.0**
LPAZ	**La Paz**	**149.31**	**131**	*e*PKPdf		**PKPdf**	**04 30 55.2**	**-1.5**
LPAZ				PKPbc		**PKPbc**	**04 31 02.0**	**+0.9**
LPAZ	**La Paz**	**149.31**	**131**	PKPbc		**PKPbc**	**04 31 02.0**	**+0.9**
	3.0nm,0.7s,baz=194,slow=2.2,SNR=12							
ROSC	**El Rosal**	**150.16**	**87**	*e*PKPbc		**PKPbc**	**04 31 02.3**	**-0.7**
SAML	**Samuel**	**157.50**	**124**	*e*PKPdf		**PKPdf**	**04 31 07.8**	**-0.1**

IDC ***25*** *04:14:18.1±2.3, 17°.36S×179°.07W, h520km±28km, mb3.2/8, mb1 3.6/9, mb1mx3.3/19, mbtmp3.3/9, Error ellipse: s-maj=47.4km s-min=15.2km az=152.0*

ISC 25 04:14:18.7±1.0, 17°.5S±0°.3×178°.8W±0°.2, h539km, n11, σ1ᵗ79/12, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.66**	**63**	P		**P**	**04 16 13.3**	**+0.5**
	3.6nm,0.3s,baz=204,slow=22,SNR=4.7							
AFI				S		**S**	**04 17 42.2**	**-4.1**
	4.1nm,0.3s,baz=39,slow=21,SNR=4.6							
STKA	**Stephens Creek**	**38.49**	**241**	P		**P**	**04 20 54.4**	**-0.5**
	2.8nm,0.6s,baz=89,slow=7.5,SNR=4.4							
WRA	**Warramunga Arr**	**44.33**	**259**	P		**P**	**04 21 40.0**	**-1.2**
	2.0nm,0.7s,baz=95,slow=7.7,SNR=2.0							
ASAR	**Alice Springs**	**44.53**	**254**	P		**P**	**04 21 41.8**	**-1.1**
	13nm,0.5s,baz=89,slow=7.9,SNR=18							
MJAR	**Matsushiro Arr**	**67.33**	**323**	P		**P**	**04 24 19.8**	**-0.4**
	2.6nm,0.6s,baz=157,slow=6.3,SNR=6.4							
NVAR	**Mina Array Bea**	**79.39**	**44**	P		**P**	**04 25 31.4**	**+2.2**
	0.7nm,0.6s,baz=237,slow=7.4							
ILAR	**Eielson Array**	**85.56**	**13**	P		**P**	**04 25 59.5**	**0.0**
	0.3nm,0.7s,baz=221,slow=5.3,SNR=2.2							
TXAR	**Lajitas Array**	**86.10**	**58**	P		**P**	**04 26 05.0**	**+2.0**
	0.6nm,0.8s,baz=216,slow=5.9,SNR=6.4							
PDAR	**Pinedale Array**	**87.31**	**44**	P		**P**	**04 26 08.7**	**+0.1**
	0.6nm,0.7s,baz=226,slow=3.9,SNR=3.8							
BRTR	**Keskin Array B**	**144.20**	**315**	PKP		**PKPdf**	**04 32 54.0**	**+0.3**
	1.0nm,0.6s,baz=111,slow=2.9,SNR=10							
GERES	**GERESS Array B**	**147.10**	**345**	PKPbc		**PKPbc**	**04 33 01.8**	**+0.5**
	0.8nm,0.5s,baz=2.7,slow=2.8,SNR=4.1							

KRSC ***25*** *04:29:58.9±4.3, 55°.12N×161°.84E, h89km±89km, ML4.0*
ISCJB ***25*** *04:29:60.0±0.3, 55°.11N±0°.02×161°.81E±0°.05, h93km±4km, mb3.6/7, Error ellipse: s-maj=5.0km s-min=2.6km az=24.9*
MOS ***25*** *04:29:59.1±1.2, 55°.26N×161°.74E, h86km, mb4.3/1, Error ellipse: s-maj=42.4km s-min=19.5km az=60.7*
IDC ***25*** *04:30:03.2±2.8, 55°.37N×161°.41E, h107km±33km, mb3.2/7, mb1 3.5/8, mb1mx3.2/27, mbtmp3.2/8, MS2.9/1, Ms1 2.9/1, ms1mx2.5/13, Error ellipse: s-maj=39.1km s-min=21.6km az=154.0*

ISC 25 04:30:00.9±0.8, 55°.12N±0°.03×161°.81E±0°.03, h87km±7km, n56, σ1ᵗ16/94, mb3.5/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.56**	**185**	P		**Pn**	**04 30 16.0**	**+0.2**
MKZ				*i* S		**Sn**	**04 30 27.5**	**+0.6**
KZV	**Kizimen**	**0.87**	**270**	P		**Pn**	**04 30 18.6**	**-0.5**
KZV				*i* S		**Sn**	**04 30 31.6**	**-1.1**
TUMR	**Tumrok**	**0.97**	**281**	P		**Pn**	**04 30 20.2**	**+0.1**
TUMR				*i* S		**Sn**	**04 30 34.6**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.04**	**323**	*e*P		**Pn**	**04 30 20.1**	**-0.8**
BZGR				*i* S		**Sn**	**04 30 34.2**	**-1.8**
ZLN	**Zelenaya**	**1.07**	**328**	*e*P		**Pn**	**04 30 21.5**	**+0.2**
ZLN				*i* S		**Sn**	**04 30 37.3**	**+0.8**
KMNR	**Kamenistaya**	**1.10**	**306**	P		**Pn**	**04 30 21.5**	**-0.2**
KMNR				*i* S		**Sn**	**04 30 38.0**	**+0.8**
BZMR	**Bezymyannaya**	**1.11**	**318**	*e*P		**Pn**	**04 30 22.3**	**+0.5**
BZMR				*i* S		**Sn**	**04 30 38.2**	**+0.7**
BZWR	**Bezymyannyi-We**	**1.13**	**319**	*e*P		**Pn**	**04 30 21.8**	**-0.3**
BZWR				*i* S		**Sn**	**04 30 37.8**	**-0.2**
LGNR	**Loginova**	**1.16**	**327**	*e*P		**Pn**	**04 30 22.6**	**+0.1**
LGNR				*i* S		**Sn**	**04 30 39.0**	**+0.3**
CIRR	**Tsirk**	**1.17**	**329**	*e*P		**Pn**	**04 30 23.6**	**+1.1**
CIRR				*i* S		**Sn**	**04 30 39.8**	**+1.1**
KIRR	**Kirishev**	**1.18**	**316**	*e*P		**Pn**	**04 30 23.0**	**+0.3**
KIRR				*i* S		**Sn**	**04 30 39.3**	**+0.3**
KBTR	**Krutoberegovo**	**1.23**	**27**	P		**Pn**	**04 30 23.4**	**+0.3**
KBTR				*i* S		**Sn**	**04 30 40.9**	**+1.0**
KPT	**Kopyto**	**1.24**	**314**	*e*P		**Pn**	**04 30 23.3**	**0.0**
KPT				*i* S		**Sn**	**04 30 40.0**	**-0.2**
KBG	**Krutoberegovo**	**1.25**	**24**	*e*P		**Pn**	**04 30 23.2**	**-0.1**
KBG				*i* S		**Sn**	**04 30 40.5**	**+0.4**
KRSR	**Krestovskiy**	**1.31**	**328**	*e*P		**Pn**	**04 30 23.6**	**-0.6**
KRSR				*i* S		**Sn**	**04 30 41.3**	**-0.4**
KLY	**Klyuchi**	**1.37**	**332**	*e*P		**Pn**	**04 30 23.8**	**-0.9**
KLY				*i* S		**Sn**	**04 30 41.9**	**-0.9**
KOZ	**Kozyrevsk**	**1.45**	**311**	*e*P		**Pn**	**04 30 25.8**	**0.0**
KOZ				*i* S		**Sn**	**04 30 45.1**	**+0.4**
SMKR	**Semkarok**	**1.48**	**353**	*e*P		**Pn**	**04 30 26.6**	**+0.3**
SMKR				*i* S		**Sn**	**04 30 46.7**	**+1.2**
BDR	**Baidarnaya**	**1.49**	**347**	*e*P		**Pn**	**04 30 26.8**	**+0.3**
BDR				*i* S		**Sn**	**04 30 46.8**	**+1.0**
SRKR	**Sorokina**	**1.58**	**347**	*e*P		**Pn**	**04 30 27.7**	**+0.1**
SRKR				*i* S		**Sn**	**04 30 48.2**	**+0.4**
SRDR	**Sredinnyy**	**1.69**	**316**	*e*P		**Pn**	**04 30 28.1**	**-0.8**
SRDR				*i* S		**Sn**	**04 30 49.0**	**-1.2**
ESO	**Esso**	**1.94**	**296**	*e*P		**Pn**	**04 30 31.1**	**-1.1**
ESO				*i* S		**Sn**	**04 30 54.8**	**-1.3**
SPN	**Mys Shipunski**	**2.28**	**208**	*e*P		**Pn**	**04 30 35.9**	**-0.8**
SPN				*i* S		**Sn**	**04 31 01.3**	**-2.7**
BKI	**Bering**	**2.39**	**86**	*e*P		**Pn**	**04 30 38.4**	**+0.3**
BKI				*i* S		**Sn**	**04 31 05.1**	**-1.5**
NLC	**Nalytchevo**	**2.43**	**218**	*e*P		**Pn**	**04 30 38.6**	**0.0**
NLC				*i* S		**Sn**	**04 31 06.6**	**-0.9**
SDLR	**Sedlovina**	**2.52**	**224**	P		**Pn**	**04 30 40.4**	**+0.4**
SDLR				*i* S		**Sn**	**04 31 09.5**	**-0.4**
KRER	**Koryakskii**	**2.56**	**226**	P		**Pn**	**04 30 41.2**	**+0.7**
KRER				*i* S		**Sn**	**04 31 10.1**	**-0.8**
KRX	**Arik**	**2.56**	**228**	P		**Pn**	**04 30 41.5**	**+1.0**
KRX				*i* S		**Sn**	**04 31 11.6**	**+0.7**
SMAR	**Somma**	**2.56**	**225**	*e*P		**Pn**	**04 30 41.1**	**+0.4**
SMAR				*i* S		**Sn**	**04 31 10.9**	**-0.2**
AVH	**Avacha**	**2.59**	**225**	*e*P		**Pn**	**04 30 41.7**	**+0.8**
AVH				*i* S		**Sn**	**04 31 12.5**	**+1.0**
UGLR	**Uglovaya**	**2.60**	**224**	*e*P		**Pn**	**04 30 41.5**	**+0.5**
UGLR				*i* S		**Sn**	**04 31 11.9**	**+0.2**
KOK	**Koryaka**	**2.61**	**227**	P		**Pn**	**04 30 42.0**	**+0.8**
KOK				*i* S		**Sn**	**04 31 12.3**	**+0.2**
GNL	**Ganaly**	**2.67**	**239**	*e*P		**Pn**	**04 30 42.8**	**+0.8**
PET	**Petropavlovsk**	**2.80**	**223**	*e*PN		**Pn**	**04 30 44.4**	**+0.8**
PET				*e*S		**Sn**	**04 31 15.9**	**-0.6**
PET				smax	smax			
	comp=N,207nm,0.6s							
PET				smax	smax			
	comp=E,212nm,0.5s							
PET	**Petropavlovsk**	**2.80**	**223**	*e*P		**Pn**	**04 30 44.4**	**+0.8**
PET				*i* S		**Sn**	**04 31 15.8**	**-0.7**
PETK	**Petropavlovsk-**	**3.15**	**232**	PN		**Pn**	**04 30 49.1**	**+0.8**
PETK				S		**Sn**	**04 31 29.1**	**+4.2**
PETK				pmax	pmax			
	comp=Z,3.0nm,0.3s							
PETK				smax	smax			
	comp=N,3.0nm,0.3s							
PETK	**Petropavlovsk-**	**3.15**	**232**	P		**Pn**	**04 30 49.1**	**+0.8**
	comp=N,3.3nm,0.3s,baz=61,slow=16,SNR=25							
PETK				S		**Sn**	**04 31 29.1**	**+4.2**
	comp=N,3.1nm,0.3s,baz=337,slow=15,SNR=5.3							
RUS	**Russkaya**	**3.33**	**217**	*e*P		**Pn**	**04 30 50.2**	**-0.5**
RUS				*i* S		**Sn**	**04 31 27.2**	**-1.9**
MTVR	**Mutnovka**	**3.40**	**221**	*e*P		**Pn**	**04 30 52.7**	**+0.8**
MTVR				*i* S		**Sn**	**04 31 30.4**	**-0.9**
APC	**Apacha**	**3.51**	**233**	*e*P		**Pn**	**04 30 54.5**	**+1.3**
APC				*i* S		**Sn**	**04 31 34.3**	**+0.6**
ASAK	**Asacha**	**3.59**	**222**	*e*P		**Pn**	**04 30 55.5**	**+1.1**
ASAK				*i* S		**Sn**	**04 31 35.8**	**+0.1**
MIPR	**Malaya Ipel'ka**	**4.14**	**229**	P		**Pn**	**04 31 03.5**	**+1.8**
PAU	**Pauzhetka**	**4.73**	**221**	*e*P		**Pn**	**04 31 10.7**	**+1.0**
TILK	**Tilichiki**	**5.82**	**22**	*e*P		**Pn**	**04 31 26.0**	**+1.5**
TILK				*i* S		**Sn**	**04 32 29.3**	**-0.5**
FX1	**Attu Island--F**	**7.06**	**104**	P		**Pn**	**04 31 41.4**	**0.0**
	comp=N,1.1nm,0.3s,baz=76,slow=16,SNR=11							
FX1				S		**Sn**	**04 32 55.8**	**-4.3**
	comp=N,7.5nm,0.3s,baz=33,slow=22,SNR=24							
USRK	**Ussuriysk Arra**	**22.01**	**253**	LR		LR	04 44 49.0	
	comp=N,34nm,19.1s,baz=162,slow=40							
MJAR	**Matsushiro Arr**	**24.61**	**231**	P		**P**	**04 35 12.3**	**-0.4**
	comp=N,0.9nm,0.3s,baz=26,slow=9.0,SNR=4.5							
ILAR	**Eielson Array**	**26.69**	**48**	P		**P**	**04 35 31.5**	**+0.1**
	comp=N,1.2nm,1.2s,baz=249,slow=6.0,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**35.54**	**172**	T		T	05 14 15.2	
	baz=357,slow=77,SNR=36							
H11N3	**WAKE ISLAND Hy**	**35.55**	**172**	T		T	05 14 13.8	
	baz=357,slow=77,SNR=34							
H11N1	**WAKE ISLAND Hy**	**35.55**	**172**	T		T	05 14 15.0	
	baz=357,slow=77,SNR=42							
YKA	**Yellowknife Ar**	**41.00**	**45**	P		**P**	**04 37 35.0**	**+0.2**
	comp=N,0.2nm,0.4s,baz=299,slow=8.1,SNR=4.0							
PDAR	**Pinedale Array**	**55.68**	**63**	P		**P**	**04 39 29.1**	**+1.0**
	comp=N,0.3nm,0.6s,baz=321,slow=5.1,SNR=1.6							
FINES	**FINESS Array B**	**58.66**	**337**	P		**P**	**04 39 46.3**	**-2.1**
	comp=N,1.5nm,0.6s,baz=33,slow=7.3,SNR=12							
TXAR	**Lajitas Array**	**68.94**	**69**	P		**P**	**04 40 57.5**	**+1.0**
	comp=N,0.3nm,0.6s,baz=289,slow=5.5,SNR=3.8							
ESDC	**Sonseca Array**	**84.80**	**349**	P		**P**	**04 42 24.2**	**-1.2**
	comp=N,0.7nm,0.7s,baz=3.5,slow=3.8,SNR=3.9							

MAN 25 04:32:01, 9°.27N×126°.21E, h6km, mb4.4, ML3.3, MS3.2, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.66**	**243**	*e*P		Pb	04 32 14.5	-0.4
SCPH	**Surigao**	**0.87**	**305**	*e*P		Pg	04 32 18.2	+0.4
SCPH				*e*S		Sb	04 32 31.5	+1.0
BIPH	**Bislig**	**1.09**	**172**	*e*P		Pg	04 32 17.8	-4.2
BIPH				*e*S		Sg	04 32 31.1	-5.1
MSLP	**Maasin**	**1.58**	**303**	*e*P		Pb	04 32 30.4	-0.3
MSLP				*e*S		Sg	04 32 52.8	+0.8
CGP	**Cagayan de Oro**	**1.71**	**242**	*e*P		Pn	04 32 31.5	+0.2
CGP				*e*S		Sn	04 32 50.6	-2.9
BUKP	**Musuan**	**1.79**	**219**	*e*P		Pn	04 32 32.6	+0.1
BUKP				*e*S		Sn	04 32 54.6	-1.0
PLP	**Palo**	**2.24**	**327**	*e*P		Pn	04 32 38.3	-0.4
PLP				*i* S		Sb	04 33 08.4	-1.5
MATI	**Mati**	**2.31**	**179**	*e*P		Pn	04 32 41.0	+1.3
LLP	**Lapu-Lapu**	**2.44**	**295**	*i*P		Pn	04 32 42.2	+0.8
LLP				*i* S		Sn	04 33 13.0	+1.3

DJA 25 04:35:59.4±1.0, 1°.S±9°.×99°.9E±°, h10km, M3.6/5, MLv3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PDSI	**Padang**	**1.16**	**67**	P		Pb	04 36 19.0	-2.5
PDSI				S		Sb	04 36 36.2	-0.4
PPI	**Padang Panjang**	**1.35**	**48**	P		Pn	04 36 22.4	-1.9
PPI				S		Sb	04 36 40.6	-1.5
SDSI	**Sungai Dareh**	**2.07**	**78**	P		Pn	04 36 33.7	-0.6
MNSI	**Mandailing Nat**	**2.16**	**5**	P		Pn	04 36 35.6	+0.1
BKNI	**Bangkinang**	**2.35**	**44**	P		Pb	04 36 40.8	-1.1
GSI	**Gunungsitoli**	**3.22**	**326**	P		Pn	04 36 49.1	-1.0

IDC 25 04:38:17.7±4.7, 16°.09S×173°.32W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/20, mbtmp3.9/3, Error ellipse: s-maj=314.6km s-min=29.6km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.77**	**257**	P		P	04 47 12.9	+0.4
	0.8nm,0.9s,baz=90,slow=6.4,SNR=6.6							
ASAR	**Alice Springs**	**49.98**	**252**	P		P	04 47 13.6	-0.5
	2.2nm,0.7s,baz=87,slow=7.9,SNR=38							
NVAR	**Mina Array Bea**	**74.79**	**42**	P		P	04 50 00.3	+0.1
	0.7nm,0.8s,baz=236,slow=7.4,SNR=6.1							
BRTR	**Keskin Array B**	**146.74**	**320**	PKPbc		PKPdf	04 58 01.1	+0.6
	0.6nm,0.8s,baz=74,slow=2.1,SNR=4.7							

ISCJB ***25*** *05:15:18.9±0.5, 33°.00N±0°.05×139°.49E±0°.07, h188km±6km, mb3.4/4, Error ellipse: s-maj=9.5km s-min=7.5km az=160.4*
JMA ***25*** *05:15:19.8±0.3, 33°.12N×139°.45E, h195km±3km, M3.1*
IDC ***25*** *05:15:20.2±1.5, 32°.97N×139°.28E, h175km±21km, mb3.0/4, mb1 3.1/6, mb1mx2.9/25, mbtmp3.0/6, Error ellipse: s-maj=70.2km s-min=13.5km az=71.0*

**ISC 25 05:15:19.8±0.9, 32°.98N±0°.06×139°.46E±0°.06, h183km±9km

141nm,0.3s,baz=52,slow=17,SNR=20
APG LR LR 05 41 49.7
comp=Z,984nm,21.1s,baz=284,slow=44
TLIG Tlapa 4.49 290 *e*P **Pn 05 40 16.6 -0.6**
TLIG *i* S **Sn 05 41 05.8 -2.5**
ACX Acapulco 5.54 279 *i* P **Pn 05 40 32.8 +1.4**
ACX *i* S **Sn 05 41 31.1 -2.7**
ACX Acapulco 5.54 279 *i* P **Pn 05 40 32.8 +1.4**
ACX *i* S **Sn 05 41 31.1 -2.7**
TGUH Tegucigalpa,Un 6.93 106 *e*Pn **Pn 05 40 51.2 +0.8**
TEIG Tepich 6.94 53 *e*Pn **Pn 05 40 50.0 -0.4**
TEIG *e*Sn **Sn 05 42 02.4 -5.5**
TEIG Tepich 6.94 53 P **Pn 05 40 50.0 -0.4**
54nm,0.3s,baz=289,slow=0.8,SNR=134
TEIG S **Sn 05 42 06.6 -1.3**
67nm,0.3s,baz=101,slow=22,SNR=12
TEIG LR LR 05 43 54.6
comp=Z,387nm,18.7s,baz=2.4,slow=41
SFJM Santa Fe 9.53 299 *e*P Pn 05 41 33.2 +7.2
JTS JuntasAbangare 10.63 122 *e*Pn **Pn 05 41 40.3 -0.6**
JTS JuntasAbangare 10.63 122 P **Pn 05 41 40.5 -0.4**
15nm,0.3s,baz=304,slow=7.9,SNR=58
732A Laxson Ranch, 13.70 338 ⇓P **Pn 05 42 23.4 +1.3**
baz=14,SNR=28
632A Uvalde 14.35 340 ⇓P **Pn 05 42 32.0 +1.4**
baz=14,SNR=22
534A Blanco 14.45 345 ⇑P **Pn 05 42 32.9 +0.9**
baz=15,SNR=92
631A Perdido Creek 14.54 337 ⇓P **Pn 05 42 33.3 +0.3**
baz=15,SNR=27
533A Kerrville 14.64 343 ⇑P **Pn 05 42 35.5 +1.1**
baz=15,SNR=34
532A Rocksprings 14.96 340 ⇓P **P 05 42 41.0 -1.1**
baz=15,SNR=30
434A Burnet 15.15 346 ⇓P **Pn 05 42 42.3 +1.4**
baz=15,SNR=5.5
531A Rocksprings 15.21 338 ⇑P **Pn 05 42 43.0 +1.3**
baz=15,SNR=42
JCT Junction City 15.25 341 *e*P **P 05 42 44.5 -0.9**
41nm,0.8s
JCT *e*S **Sn 05 45 30.3 -0.1**
JCT Junction City 15.25 341 ⇓P **P 05 42 43.9 -1.4**
baz=15,SNR=8.6
433A Art 15.30 344 ⇓P **Pn 05 42 43.5 +0.6**
baz=16,SNR=35
335A Moody 15.44 349 ⇓P **P 05 42 46.2 -1.1**
baz=16,SNR=11
530A J-C Ranch, Com 15.49 336 ⇓P **Pn 05 42 46.4 +1.1**
baz=16,SNR=9.4
628A Black Gap, Mar 15.59 330 ⇓P **P 05 42 48.1 -1.0**
baz=16,SNR=30
432A Menard 15.62 342 ⇑P **Pn 05 42 48.0 +1.1**
baz=16,SNR=20
334A Lometa 15.64 347 ⇑P **P 05 42 49.0 -0.7**
baz=16,SNR=19
431A Sonora 15.70 339 ⇓P **P 05 42 49.8 -0.6**
baz=16,SNR=18
627A Terlingua Ranc 15.80 329 ⇑P **P 05 42 50.9 -0.6**
baz=16,SNR=26
333A Richland Sprin 15.81 345 ⇑P **P 05 42 51.9 +0.4**
baz=16,SNR=14
529A Stev Forest Ra 15.83 333 ⇑P **Pn 05 42 50.4 +0.8**
baz=16,SNR=14
TXAR Lajitas Array 15.85 328 P **P 05 42 51.4 -0.6**
TXAR Lajitas Array 15.85 328 P **P 05 42 51.4 -0.6**
0.1nm,0.3s,baz=153,slow=9.4,SNR=37
TXAR LR LR 05 49 29.6
comp=Z,70nm,19.5s,baz=0.0,slow=39
430A Baggett Ranch, 16.02 337 ⇓P **P 05 42 53.5 -0.5**
baz=16,SNR=26
332A Millersview 16.08 342 ⇑P **P 05 42 54.2 -0.3**
baz=16,SNR=11
528A Cox Ranch, San 16.11 332 ⇓P **P 05 42 54.2 -0.8**
baz=16,SNR=7.9
429A Davenport Ranc 16.13 335 ⇓P **P 05 42 54.4 -0.7**
baz=16,SNR=32
WHTX Lake Whitney 16.13 350 *e*P **P 05 42 57.0 +2.0**
35nm,0.6s
WHTX *e*S **Sn 05 45 49.0 -2.6**
WHTX Lake Whitney 16.13 350 ⇑P **P 05 42 54.8 -0.3**
baz=16
331A San Angelo 16.22 340 ⇑P **P 05 42 55.5 -0.6**
baz=16,SNR=12
626A Big Bend Ranch 16.26 327 ⇑P **P 05 42 56.4 -0.2**
baz=16,SNR=32
527A Woodward Ranch 16.48 330 ⇓P **P 05 42 59.2 +0.1**
baz=17,SNR=31
232A Coleman 16.52 343 ⇑P **P 05 43 00.2 +0.7**
baz=17,SNR=10
428A Kincaid Ranch, 16.55 333 ⇑P **P 05 43 00.0 +0.2**
baz=17,SNR=20
330A Mertzon 16.56 338 ⇑P **P 05 42 59.9 +0.1**
baz=17,SNR=23
526A Mary Lane Ranc 16.65 328 ⇑P **P 05 43 01.2 +0.2**
baz=17,SNR=23
135A Vickery Place, 16.68 350 ⇓P **P 05 43 01.9 +0.8**
baz=17
231A Bronte 16.76 342 ⇑P **P 05 43 02.6 +0.5**
baz=17,SNR=7.0
134A White-Moore Ra 16.81 348 ⇑P **P 05 43 03.5 +0.9**
baz=17
329A Wagon Wheel Ra 16.93 336 ⇓P **P 05 43 03.7 -0.3**
baz=17,SNR=14
427A Hayter Ranch, 16.97 332 ⇑P **P 05 43 05.3 +0.8**
baz=17,SNR=30
230A Sterling City 16.98 339 ⇓P **P 05 43 04.8 +0.3**
baz=17
133A Hamilton Ranch 17.02 346 ⇓P **P 05 43 05.2 +0.2**
baz=17,SNR=8.9
426A McDonald Obser 17.12 330 ⇓P **P 05 43 06.9 +0.7**
baz=17,SNR=51
LPIG La Paz 17.15 300 P **P 05 43 09.1 +2.7**
LPIG La Paz 17.15 300 P **P 05 43 09.1 +2.7**
1.3nm,0.3s,baz=22,slow=8.5,SNR=5.3
328A Wristen Ranch, 17.17 334 ⇓P **P 05 43 08.3 +1.6**
baz=17,SNR=61
ABTX Abilene, Hawle 17.22 344 *e*P **P 05 43 08.6 +1.5**
101nm,1.3s
ABTX Abilene, Hawle 17.22 344 ⇑P **P 05 43 08.3 +1.2**
baz=17
229A Bryant Ranch, 17.30 338 ⇓P **P 05 43 09.0 +1.0**
baz=18,SNR=11
Z35A Perchaven, San 17.41 351 ⇓P **P 05 43 10.3 +1.1**
baz=18
327A Balmorhea Ranc 17.45 332 ⇑P **P 05 43 11.8 +2.1**
baz=18
131A Roby 17.47 342 ⇓P **P 05 43 11.3 +1.4**
baz=18
Z34A Collier Ranch, 17.56 349 ⇓P **P 05 43 12.0 +1.1**
baz=18
130A Snyder 17.58 341 ⇑P **Pn 05 43 12.3 +1.1**
baz=18
326A Caldwell Ranch 17.63 331 ⇓P **Pn 05 43 13.8 +1.9**
baz=18,SNR=34
Z33A Whitaker Ranch 17.64 347 ⇓P **Pn 05 43 13.0 +1.1**
baz=18,SNR=6.9
425A Indio Mountain 17.69 328 ⇓P **Pn 05 43 14.2 +1.6**
baz=18
228A UT Block 9, Go 17.73 336 ⇑P **Pn 05 43 13.8 +0.8**
baz=18,SNR=14
Z32A Haskell 17.83 345 ⇑P **Pn 05 43 15.1 +1.0**
baz=18,SNR=13
129A Stewart Farms, 17.91 338 ⇑P **Pn 05 43 16.2 +0.9**
baz=18,SNR=22
227A Bennet, Jal 17.92 334 ⇓P **Pn 05 43 17.0 +1.7**
baz=18,SNR=20
Z31A Sharp Cattle R 18.01 344 ⇑P **Pn 05 43 17.2 +0.8**
baz=18
Y34A Reagan Ranch, 18.11 350 ⇓P **Pn 05 43 17.5 0.0**
baz=18
128A Castleberry Fa 18.13 337 ⇓P **Pn 05 43 18.9 +1.0**
baz=18,SNR=16
325A Bean Ranch, Si 18.15 329 ⇑P **Pn 05 43 19.4 +1.1**
baz=18
Z30A Sanderson Ranc 18.27 341 ⇓P **Pn 05 43 19.6 +0.1**
baz=18,SNR=12
Y33A Hilltop Ranch, 18.31 348 ⇓P **Pn 05 43 20.9 +1.0**
baz=18,SNR=5.2
226B Tecolote Peak, 18.36 332 ⇑P **Pn 05 43 22.1 +1.5**
baz=18,SNR=34
MIAR Mount Ida 18.40 1 *e*P **P 05 43 20.6 +0.5**
21nm,0.9s
MIAR *e*S S 05 46 31.2 -14
Z29A Hungry Hill Ra 18.43 340 ⇑P **Pn 05 43 21.8 +0.3**
baz=19,SNR=20
324A Moseley Ranch, 18.47 328 ⇑P **Pn 05 43 22.6 +0.6**
baz=19,SNR=8.5
Y32A R-V Farms, Ver 18.48 346 ⇓P **Pn 05 43 22.4 +0.3**
baz=19,SNR=6.2
127A Arkansas Junct 18.52 335 ⇑P **Pn 05 43 23.0 +0.3**
baz=19,SNR=14
GDL2 Guadalupe Moun 18.55 332 *e*P **Pn 05 43 24.2 +1.3**
MNTX Cornudas Mount 18.62 329 *e*P **Pn 05 43 23.7 -0.1**
3.8nm,0.8s
Y31A Rekieta Farm, 18.65 344 ⇑P **Pn 05 43 24.2 +0.1**
baz=19,SNR=11
225A Deer Hill, Car 18.69 331 ⇑P **Pn 05 43 25.9 +1.2**
baz=19,SNR=26
Z28A Tucker Farm, M 18.69 338 ⇓P **Pn 05 43 25.2 +0.6**
baz=19,SNR=28
UALR University of 18.70 5 *e*P **P 05 43 22.6 -0.7**
29nm,0.8s
UALR *e* 05 43 40.9
Y30A Stafford Cattl 18.75 342 ⇓P **Pn 05 43 26.0 +0.8**
baz=19
X34A Smith Ranch, M 18.75 350 ⇓P **Pn 05 43 26.8 +1.6**
baz=19,SNR=12
126A Clayton Basin, 18.78 333 ⇓P **Pn 05 43 25.6 -0.1**
baz=19,SNR=23
X33A Lawton 18.80 349 ⇓P **Pn 05 43 26.9 +1.0**
baz=19,SNR=9.2
X32A Elmer 18.85 347 ⇓P **Pn 05 43 26.4 0.0**
baz=19,SNR=11
Y29A Porterfield Fa 18.97 340 ⇑P **Pn 05 43 27.5 -0.4**
baz=19,SNR=14
224A Cornudas Mount 19.00 329 ⇑P **Pn 05 43 28.0 -0.4**
baz=19,SNR=18
Z27A Tatum 19.03 336 ⇓P **Pn 05 43 28.4 -0.2**
baz=19,SNR=64
WMOK Wichita Mounta 19.05 348 *e*P **Pn 05 43 28.4 -0.4**
15nm,0.7s
WMOK *e*S S 05 46 50.7 -8.4
125A Gardner Draw, 19.07 332 ⇑P **Pn 05 43 28.9 -0.2**
baz=19,SNR=44
Y28A McKinney Farm, 19.20 339 ⇓P **Pn 05 43 30.2 -0.6**
baz=19,SNR=27
X31A McDonald Ranch 19.21 345 ⇑P **Pn 05 43 30.2 -0.5**
baz=19,SNR=15
X30A Coker Ranch, T 19.27 343 ⇑P **Pn 05 43 31.0 -0.5**
baz=20,SNR=11
Z26A Caprock 19.30 334 ⇓P **Pn 05 43 31.3 -0.5**
baz=20,SNR=18
W34A Bridge Creek, 19.36 351 ⇑P **Pn 05 43 32.1 -0.3**
baz=20
W33A Caddo, Fort Co 19.39 349 ⇓P **Pn 05 43 33.1 +0.2**
baz=20
MSTX Muleshoe 19.45 338 *e*P **Pn 05 43 34.1 +0.6**
51nm,0.7s
MSTX Muleshoe 19.45 338 ⇓P **Pn 05 43 32.8 -0.8**
baz=20,SNR=32
124A Stringfield Ra 19.48 330 ⇑P **Pn 05 43 34.0 -0.1**
baz=20,SNR=16
Y27A Causey 19.51 337 ⇑P **P 05 43 33.4 +1.1**
baz=20,SNR=56
X29A Tulia 19.52 341 ⇑P **P 05 43 33.4 +1.0**
baz=20,SNR=14
Z25A Roswell 19.62 333 ⇑P **Pn 05 43 34.9 -0.8**
baz=20,SNR=19
W31A Holland Ranch, 19.73 346 ⇓P **P 05 43 35.4 +0.7**
baz=20,SNR=15
X28A Dimmitt 19.74 340 ⇓P **P 05 43 35.5 +0.6**
baz=20,SNR=5.5
Y26A Elida 19.80 336 ⇑P **Pn 05 43 37.1 -0.7**
baz=20,SNR=21
TUL1 Tulsa 19.81 356 *e*P **Pn 05 43 38.6 +0.9**
13nm,0.4s
TUL1 Tulsa 19.81 356 ⇑P **P 05 43 36.1 +0.6**
baz=20
123A Bell Site, Whi 19.82 328 ⇑P **Pn 05 43 37.5 -0.4**
baz=20,SNR=14
V34A Guthrie 19.91 352 ⇑P **P 05 43 37.2 +0.7**
baz=20
AMTX Amarillo 19.92 342 *e*P **P 05 43 37.5 +0.8**
63nm,0.9s
AMTX Amarillo 19.92 342 ⇓P **P 05 43 37.9 +1.2**
baz=20
Z24A Sheeppen Canyo 19.95 331 ⇑P **Pn 05 43 39.4 -0.2**
baz=20,SNR=11
V33A Lossen Ranch, 20.01 350 ⇓P **P 05 43 38.6 +1.0**
baz=20,SNR=9.2
V32A Arapaho 20.05 348 ⇑P Pn 05 43 39.5 -1.1
baz=20
320A Kipp Ranch, An 20.08 322 ⇑P Pn 05 43 41.5 +0.4
baz=20,SNR=16
W29A Amraillo 20.13 342 ⇓P **P 05 43 40.1 +1.1**
baz=20,SNR=12
221A Mesquite Ranch 20.14 324 ⇑P Pn 05 43 41.7 -0.1
baz=20,SNR=6.4
Y25A Mesa, Roswell 20.16 334 ⇑P Pn 05 43 42.2 +0.2
baz=20,SNR=35
X27A F and S Farms, 20.17 338 ⇑P **P 05 43 40.6 +1.1**
baz=20,SNR=26
V31A Spring Creek L 20.27 347 ⇑P Pn 05 43 42.6 -0.6
baz=20,SNR=8.0
Z23A Rita Site, Whi 20.31 330 ⇓P Pn 05 43 43.5 -0.2
baz=20,SNR=28
X26A CR and CF Fran 20.35 337 ⇓P **P 05 43 42.8 +1.3**
baz=20,SNR=29
W28A Vega 20.43 341 ⇑P **P 05 43 43.3 +1.1**
baz=21
V30A Spur Ranch, Mi 20.46 345 ⇑P **P 05 43 44.0 +1.4**
baz=21,SNR=9.6
Y24A Capitan 20.49 332 ⇓P Pn 05 43 45.2 -0.7
baz=21,SNR=22
U34A Anderson Ranch 20.51 352 ⇓P **P 05 43 44.4 +1.4**
baz=21,SNR=6.7
W27A Bowe Ranch, En 20.53 339 ⇓P **P 05 43 44.4 +1.0**
baz=21,SNR=38
121A Cookes Peak, D 20.54 325 *e*P Pn 05 43 45.8 -0.7
64nm,1.0s
121A Cookes Peak, D 20.54 325 ⇑P Pn 05 43 46.2 -0.3
baz=21,SNR=54
319A Douglas 20.56 320 ⇓P Pn 05 43 46.1 -0.6
baz=21,SNR=11
X25A Clemmons Ranch 20.67 335 ⇑P Pn 05 43 46.7 -1.2
baz=21,SNR=15
Z22A Elephant Butte 20.67 328 ⇓P Pn 05 43 46.9 -1.1
baz=21,SNR=24
U32A Winter Ranch, 20.68 349 ⇑P **P 05 43 45.9 +1.0**
baz=21
Y23A Lovelace Mesa, 20.77 331 ⇓P Pn 05 43 48.2 -1.1
baz=21,SNR=27
V29A Stinnett 20.79 343 ⇓P Pn 05 43 48.2 -1.2
baz=21,SNR=5.7
W26A Owens Ranch, T 20.81 337 ⇑P **P 05 43 47.9 +1.5**
baz=21,SNR=9.3
U31A Nine Bar Ranch 20.84 347 ⇑P **P 05 43 48.0 +1.3**
baz=21
V28A Channing 20.89 341 ⇑P **P 05 43 48.6 +1.4**
baz=21,SNR=12
X24A Lazy VL Ranch, 21.02 333 ⇑P **P 05 43 50.8 +2.0**
baz=21,SNR=28
V27A Dan Oppiter Fa 21.09 340 ⇓P **P 05 43 50.4 +1.1**
baz=21,SNR=12
U30A WK&E Inc. Balk 21.18 345 ⇑P **P 05 43 52.5 +2.2**
baz=21,SNR=5.8
W25A X Bar L Ranch, 21.19 336 ⇓P **P 05 43 52.9 +2.4**
baz=21,SNR=34
BNM Barren Site 21.22 330 *e*P **P 05 43 53.3 +2.3**
16nm,1.0s
T33A Patterson Ranc 21.24 351 ⇑P **P 05 43 53.0 +2.2**
baz=21,SNR=7.1
U29A Oasis Ranch, S 21.27 344 ⇓P **P 05 43 53.2 +2.0**
baz=21
Y22D IRIS PASSCAL I 21.30 330 ⇑P **P 05 43 54.6 +3.0**
baz=22
LPM Los Pinos Moun 21.36 331 *e*P **P 05 43 52.8 +0.5**
X23A Hourglass Bar 21.37 332 ⇓P **P 05 43 54.9 +2.3**
baz=22,SNR=43
LENM Lemitar 21.40 330 *e*P **P 05 43 55.3 +2.5**
T32A Huddler Ranch, 21.45 350 ⇑P **P 05 43 54.4 +1.3**
baz=22,SNR=5.1
V26A Tequesquite Ra 21.45 338 ⇓P **P 05 43 54.6 +1.4**
baz=22,SNR=34
U28A Mallet 21.47 342 ⇑P **P 05 43 55.5 +2.1**
baz=22
T31A Randall Ranch, 21.51 348 ⇓P **P 05 43 55.2 +1.4**
baz=22,SNR=6.6
W24A Lazy 6 Ranch, 21.56 334 ⇓P **P 05 43 56.2 +1.7**
baz=22,SNR=12
TKL Tuckaleechee C 21.59 23 LR LR 05 52 04.3
comp=Z,104nm,21.6s,baz=275,slow=36
T30A Plains 21.65 346 ⇑P **P 05 43 57.7 +2.4**
baz=22
LAZ Ladron 21.67 330 *e*P **P 05 43 57.9 +2.2**
10nm,1.1s
U27A Thompson Grove 21.69 341 ⇓P **P 05 43 57.0 +1.2**
baz=22,SNR=27
V25A Rancho No Teng 21.79 337 ⇑P **P 05 43 59.0 +2.1**
baz=22,SNR=22
ANMO Albuquerque 21.80 332 *e*P **P 05 43 58.4 +1.4**
6.9nm,0.8s
ANMO Albuquerque 21.80 332 P **P 05 43 58.8 +1.7**
5.8nm,1.0s,baz=148,slow=12,SNR=22
ANMO LR LR 05 54 17.7
comp=Z,92nm,19.1s,baz=283,slow=41
W23A Werner Place, 21.84 333 ⇑P **P 05 43 59.5 +2.0**
baz=22,SNR=18
T29A Hugoton 21.94 345 ⇑P **P 05 44 00.2 +1.8**
baz=22
V24A Rampart Ranch, 21.95 335 ⇑P **P 05 44 00.5 +1.8**
baz=22,SNR=23
S32A Newby Ranch, P 21.96 350 ⇑P **P 05 44 00.2 +1.7**
baz=22
U26A Atchley Ranch, 21.97 339 ⇓P **P 05 44 00.1 +1.2**
baz=22,SNR=14
S31A Mullinville 21.98 349 ⇓P **P 05 44 00.7 +1.9**
baz=22
OTAV Otavalo 22.07 134 *e*P **P 05 44 00.8 +0.4**
7.4nm,0.8s
T28A Walsh 22.12 343 ⇑P **P 05 44 01.7 +1.3**
baz=22
TUC Tucson 22.13 320 *e*P **P 05 44 02.0 +1.5**
23nm,1.0s
S30A Montezuma 22.20 347 ⇑P **P 05 44 02.0 +0.8**
baz=22
U25A Circle Dot Ran 22.21 338 ⇓P **P 05 44 02.9 +1.5**
baz=22,SNR=8.2
T27A Campo 22.25 342 ⇑P **P 05 44 02.3 +0.6**
baz=22,SNR=7.0
S29A Ulysses 22.33 345 ⇑P **P 05 44 03.6 +1.0**
baz=22
V23A Ortiz Mt. (NFS 22.35 333 ⇑P **P 05 44 04.9 +1.9**
baz=22,SNR=18
ROSC El Rosal 22.41 118 *e*P **P 05 44 05.5 +1.4**
ROSC El Rosal 22.41 118 P **P 05 44 04.4 +0.4**
4.2nm,0.7s,baz=96,slow=23,SNR=7.3
ROSC LR LR 05 52 56.0
comp=Z,94nm,20.2s,baz=347,slow=37
S28A Manter 22.50 344 ⇑P **P 05 44 05.7 +1.2**
baz=23
U24A Moreno Valley 22.55 336 ⇑P **P 05 44 06.8 +1.6**
baz=23
R32A Long Quarter, 22.63 351 ⇑P **P 05 44 05.3 -0.3**
baz=23,SNR=11
T26A Comanche Natio 22.63 340 ⇓P **P 05 44 07.0 +1.1**
baz=23,SNR=7.2
R31A Burdett 22.64 349 ⇑P **P 05 44 07.1 +1.3**
baz=23,SNR=16
R30A Eighton 22.78 347 ⇑P **P 05 44 08.6 +1.3**
baz=23,SNR=12
V22A San Miguel Ran 22.81 332 ⇓P **P 05 44 09.6 +1.7**
baz=23,SNR=21
U23A El Rito 22.85 334 ⇑P **P 05 44 09.9 +1.7**
baz=23,SNR=11
T25A Trinidad 22.87 338 ⇑P **P 05 44 10.2 +1.8**
baz=23,SNR=21
S27A Las Animas 22.88 342 ⇑P **P 05 44 09.8 +1.4**
baz=23
S26A Kim 23.00 341 ⇓P **P 05 44 11.1 +1.5**
baz=23
KSU1 Kansas State U 23.05 355 ⇑P **P 05 44 10.9 +1.0**
baz=23
Q33A Connelly Farm, 23.07 353 ⇓P **P 05 44 10.7 +0.6**
baz=23
R29A Marienthal 23.10 346 ⇓P **P 05 44 12.1 +1.6**
baz=23
Q32A Meitler Ranch, 23.16 351 ⇓P **P 05 44 11.3 +0.4**
baz=23,SNR=5.8
T24B San Luis 23.16 337 ⇓P **P 05 44 13.5 +2.2**
baz=23,SNR=10.0
U22A Llaves 23.17 333 ⇓P **P 05 44 13.0 +1.6**
baz=23,SNR=10
R28A Tribune 23.19 345 ⇓P **P 05 44 12.1 +0.7**
baz=23,SNR=6.3
214A Organ Pipe Nat 23.20 316 *e*P **P 05 44 12.6 +1.1**
20nm,1.0s
214A Organ Pipe Nat 23.20 316 ⇓P **P 05 44 13.2 +1.8**
baz=23,SNR=9.5
X18A Snowflake 23.23 325 ⇓P **P 05 44 13.8 +1.9**
baz=23,SNR=16
Q31A Ellis 23.31 350 ⇓P **P 05 44 13.1 +0.7**
baz=24
S25A Robets Cordova 23.35 339 ⇓P **P 05 44 15.0 +2.0**
baz=24,SNR=15
T23A Casias Ranch, 23.39 335 ⇓P **P 05 44 15.6 +2.1**
baz=24,SNR=17
R27A Eads 23.41 343 ⇓P **P 05 44 14.7 +1.4**
baz=24,SNR=10
Q30A Quinter 23.43 348 ⇑P **P 05 44 14.5 +0.9**
baz=24
Q29A Oakley 23.51 347 ⇓P **P 05 44 15.7 +1.4**
baz=24,SNR=12
W18A Petrified Fore 23.55 327 *e*P **P 05 44 18.0 +3.2**
20nm,1.1s
W18A Petrified Fore 23.55 327 ⇑P **P 05 44 17.2 +2.4**
baz=24,SNR=6.1
R26A Arlington 23.61 341 ⇓P **P 05 44 17.4 +2.2**
baz=24,SNR=14
R25A Fountain Ranch 23.74 340 ⇑P **P 05 44 18.7 +2.3**
baz=24,SNR=8.7
P32A Huiting Farm, 23.79 351 ⇓P **P 05 44 17.4 +0.8**
baz=24
P31A Stockton 23.81 350 ⇑P **P 05 44 17.8 +0.9**
baz=24
SDCO Great Sand Dun 23.81 337 *e*P **P 05 44 19.7 +2.5**
17nm,1.1s
SDCO *e* 05 44 41.9
Q28A Sharon Springs 23.88 345 ⇓P **P 05 44 19.0 +1.4**
baz=24
S23A Nye Farm, Mont 23.96 336 ⇑P **P 05 44 20.9 +2.3**
baz=24
P30A Selden 23.99 348 ⇓P **P 05 44 19.9 +1.4**
baz=24
X16A Lo Mia Camp, P 23.99 323 ⇑P **P 05 44 20.4 +1.7**
baz=24,SNR=19
KSCO Kaye Shedlock' 24.04 344 *e*P **P 05 44 21.0 +1.9**
17nm,0.9s
KSCO Kaye Shedlock' 24.04 344 ⇓P **P 05 44 21.1 +2.0**
baz=24
R24A Sanders Place, 24.10 338 ⇑P **P 05 44 22.3 +2.6**
baz=24
P29A Atwood 24.18 347 ⇓P **P 05 44 21.3 +1.0**
baz=24,SNR=7.0
Z14A Wintersburg 24.18 319 ⇑P **P 05 44 23.4 +3.1**
baz=24,SNR=9.3
Q26A Hugo 24.21 342 ⇑P **P 05 44 23.1 +2.5**
baz=24,SNR=8.7
R23A Moffat 24.32 337 ⇑P **P 05 44 24.0 +2.2**
baz=24,SNR=11
S22A 4UR Ranch, Cre 24.32 335 ⇑P **P 05 44 23.8 +2.0**
baz=24
113A Mohawk Valley, 24.34 317 ⇑P **P 05 44 24.1 +2.4**
baz=24,SNR=26
P28A Saint Francis 24.34 346 ⇑P **P 05 44 24.1 +2.3**
baz=24,SNR=8.2
O31A Woolen Ranch, 24.41 350 ⇑P **P 05 44 23.6 +1.2**
baz=25,SNR=5.3
Q25A Bedland, Calha 24.42 341 ⇑P **P 05 44 24.6 +1.9**
baz=25
P27A Ficken Ranch, 24.53 344 ⇓P **P 05 44 25.5 +1.9**
baz=25
O30A MW Ranch, Wils 24.57 349 ⇑P **P 05 44 25.2 +1.5**
baz=25,SNR=6.2
MVCO Mesa Verde 24.60 332 *e*P **P 05 44 25.8 +1.5**
29nm,1.4s
MVCO Mesa Verde 24.60 332 ⇑P **P 05 44 25.9 +1.6**
baz=25,SNR=11
Y14A Wickenburg 24.60 320 ⇑P **P 05 44 25.9 +1.8**
baz=25,SNR=12
O29A 4D Ranch, Culb 24.66 348 ⇑P **P 05 44 26.5 +1.9**
baz=25
WUAZ Wupatki 24.74 325 *e*P **P 05 44 27.7 +2.1**
17nm,1.0s
WUAZ Wupatki 24.74 325 ⇑P **P 05 44 27.5 +1.9**
baz=25,SNR=14
P26A Davis Ranch, A 24.75 343 ⇓P **P 05 44 27.7 +2.2**
baz=25
Q24A Divide 24.77 339 ⇓P **P 05 44 27.7 +1.8**
baz=25
O28A Krutsinger Ran 24.87 346 ⇓P **P 05 44 29.0 +2.4**
baz=25,SNR=7.4
P25A Willow Gulch B 24.95 341 ⇑P **P 05 44 30.2 +2.8**
baz=25,SNR=7.7

O27A **Beecher Island** 25.10 345 ⇓P P 05 44 31.4 +2.7
baz=25
N30A **Hueftle Ranch,** 25.17 349 ⇓P P 05 44 31.4 +2.1
baz=25
GLA **Glamis** 25.21 316 ⇑P P 05 44 32.5 +2.8
baz=25
N29A **Votaw Ranch, W** 25.29 348 ⇑P P 05 44 32.4 +2.0
baz=26
N28A **Pribbeno Ranch** 25.36 347 ⇑P P 05 44 33.0 +2.0
baz=26
O26A **Horse Wrangler** 25.37 343 ⇓P P 05 44 33.8 +2.7
baz=26
P23A **Jefferson** 25.37 338 ⇑P P 05 44 34.0 +2.5
baz=26
PV01 **Paradox Valley** 25.39 333 eP P 05 44 33.3 +1.8
2um,1.1s
Y12C **Blythe** 25.44 318 ⇓P P 05 44 33.7 +2.0
baz=26
M31A **Lambtecht Ranc** 25.53 352 ⇓P P 05 44 33.5 +1.0
baz=26
PDMCI **Parker Dam,Lak** 25.55 319 ⇑P P 05 44 34.5 +1.9
baz=26
ISCO **Idaho Springs** 25.67 339 eP P 05 44 35.9 +1.8
7.5nm,0.9s
ISCO **Idaho Springs** 25.67 339 ⇓P P 05 44 35.6 +1.5
baz=26,SNR=5.2
OGNE **Ogallala** 25.71 346 eP P 05 44 34.5 +0.3
44nm,1.2s
OGNE e 05 44 55.4
OGNE **Ogallala** 25.71 346 ⇑P P 05 44 35.1 +0.9
baz=26
PV04 **Paradox Valley** 25.75 333 eP P 05 44 36.8 +2.1
SCIA **State Center** 25.76 2 eP P 05 44 33.5 -0.9
22nm,0.8s
PV10 **Paradox Valley** 25.80 332 eP P 05 44 36.3 +1.1
219nm,1.1s
DVTC **Desert V Tower** 25.86 314 ⇑P P 05 44 37.5 +1.9
baz=26
P22A **Eagle** 25.90 337 ⇑P P 05 44 37.7 +1.6
baz=26
U15A **North Rim** 25.91 325 ⇓P P 05 44 38.4 +2.1
baz=26,SNR=7.6
W13A **Hualapai Mount** 25.91 321 ⇑P P 05 44 38.0 +1.8
baz=26,SNR=11
IRM **Iron Mountain** 26.11 317 ⇓P P 05 44 39.6 +1.9
baz=26,SNR=9.3
O23A **Lake Granby, G** 26.14 339 ⇓P P 05 44 40.2 +1.8
baz=26
NEE2 **Needles Airpor** 26.15 319 ⇑P P 05 44 40.2 +2.0
baz=26
MONP **Monument Peak** 26.21 314 ⇓P P 05 44 41.0 +2.1
baz=26
O22A **Kremmling** 26.32 338 ⇑P P 05 44 41.7 +1.7
baz=26
L31A **Butterfield Fa** 26.33 352 ⇑P P 05 44 41.1 +1.4
baz=26
PFO **Pinyon Flat Ob** 26.64 315 ⇑P P 05 44 45.8 +3.1
baz=27
GMRC **Granite Mounta** 26.82 318 ⇑P P 05 44 45.9 +1.5
baz=27,SNR=5.8
N22A **Wattenberg Ran** 26.86 339 ⇑P P 05 44 46.3 +1.6
baz=27
K30A **Basset** 26.92 351 ⇑P P 05 44 47.0 +1.9
baz=27
O20A **White River Ci** 26.94 336 eP P 05 44 47.1 +1.7
36nm,1.8s
O20A **White River Ci** 26.94 336 ⇓P P 05 44 46.5 +1.1
baz=27
SRU **San Rafael** 27.07 331 eP P 05 44 47.7 +1.2
2.8nm,1.2s
MURC **Murrieta** 27.15 314 ⇓P P 05 44 48.9 +1.8
baz=27
HEC **Hector,Ludlow** 27.28 317 ⇓P P 05 44 49.9 +1.5
baz=28,SNR=10
CCUT **Cedar City** 27.32 325 eP P 05 44 51.2 +2.3
13nm,1.1s
BBRC **Big Bear Solar** 27.34 316 ⇑P P 05 44 51.2 +2.2
baz=28
TUQ **Turquoise Moun** 27.40 319 ⇑P P 05 44 51.2 +1.7
baz=28,SNR=14
M22A **Cedar Creek Ra** 27.44 339 ⇑P P 05 44 51.6 +1.6
baz=28
ARUT **Antelope Range** 27.53 325 eP P 05 44 52.9 +2.2
397nm,1.0s
N20A **Spence Gulch,** 27.55 336 ⇓P P 05 44 52.2 +1.3
baz=28,SNR=6.0
SHPR **Sheep Range** 27.62 321 eP P 05 44 53.2 +1.7
ECSD **EROS Data Cent** 27.65 356 eP P 05 44 52.3 +0.8
6.2nm,1.0s
ECSD **EROS Data Cent** 27.65 356 ⇑P P 05 44 51.5 0.0
baz=28
L23A **Garrett** 27.79 341 ⇑P P 05 44 55.0 +2.0
baz=28
BFSC **Mount Baldy Ra** 27.82 315 ⇑P P 05 44 55.4 +2.1
baz=28
ATAH **Atahualpa** 27.83 145 LR LR 05 53 19.1
comp=Z,84nm,21.3s,baz=1.3,slow=30
GSC **Goldstone** 27.88 318 ⇑P P 05 44 55.5 +1.8
baz=28
J26A **Sides Ranch, S** 28.20 346 ⇑P P 05 44 57.9 +1.4
baz=28
MPU **Maple Canyon** 28.31 331 eP P 05 44 59.2 +1.6
11nm,1.4s
EDW2 **Edwards Air Fo** 28.41 316 ⇓P P 05 44 59.9 +1.5
baz=29
I28A **Midland** 28.47 349 ⇓P P 05 44 59.4 +0.6
baz=29
K22A **Casper** 28.54 341 ⇑P P 05 45 00.6 +1.1
baz=29
LRMC **Laurel Mountai** 28.56 317 ⇑P P 05 45 01.6 +1.7
baz=29
TPNV **Topopah Spring** 28.57 321 eP P 05 45 02.5 +2.5
9.4nm,1.0s
TPNV **Topopah Spring** 28.57 321 ⇓P P 05 45 01.9 +1.9
baz=29,SNR=8.8
FURC **Furnace Creek,** 28.64 319 ⇑P P 05 45 02.2 +1.9
baz=29
MPMC **Manual Prospec** 28.78 318 ⇑P P 05 45 03.3 +1.4
baz=29,SNR=8.4
DUG **Dugway** 29.01 330 eP P 05 45 05.6 +1.8
2.7nm,1.2s
DUG **Dugway** 29.01 330 ⇓P P 05 45 05.2 +1.4
baz=29
BSC **Santa Cruz Isl** 29.06 313 ⇓P P 05 45 06.1 +1.9
baz=29
SPMN **St. Paul** 29.08 2 ⇑P P 05 45 03.4 -0.8
baz=29
ARVC **Arvin** 29.12 315 ⇓P P 05 45 06.4 +1.8
baz=29
R11A **Troy Canyon, C** 29.12 324 eP P 05 45 07.0 +2.1
12nm,1.5s
R11A **Troy Canyon, C** 29.12 324 ⇓P P 05 45 06.7 +1.8
baz=29,SNR=9.4
ISA **Isabella** 29.19 317 ⇑P P 05 45 06.3 +0.9
baz=29
H27A **Howes** 29.25 348 ⇓P P 05 45 06.6 +0.9
baz=29
G30A **Faulkton** 29.27 353 ⇓P P 05 45 05.8 -0.1
baz=29
J21A **Lysite** 29.46 340 ⇑P P 05 45 09.3 +1.5
baz=30
H25A **Fruitdale** 29.56 346 ⇓P P 05 45 10.3 +1.8
baz=30
I22A **9 Mile Ranch,** 29.65 342 ⇑P P 05 45 11.3 +1.9
baz=30
PKM **Peak Mountain** 29.67 314 ⇑P P 05 45 10.9 +1.1
baz=30
BGU **Big Grassy Mou** 29.68 330 eP P 05 45 11.2 +1.4
1.8nm,1.2s
VES **Vestal, Richgr** 29.70 316 ⇓P P 05 45 11.3 +1.5
baz=30,SNR=5.1
PDAR **Pinedale Array** 29.70 337 P P 05 45 10.8 +0.9
PDAR **Pinedale Array** 29.70 337 P P 05 45 10.8 +0.9
3.0nm,0.9s,baz=140,slow=9.1,SNR=22
BW06 **Boulder Array** 29.70 337 eP P 05 45 10.5 +0.5
3.0nm,0.9s
I21A **Big Trails, Te** 29.83 341 ⇑P P 05 45 12.0 +1.1
baz=30
TIN **Tinemaha** 29.86 319 ⇑P P 05 45 13.7 +2.3
baz=30
TPH **Tonopah** 29.89 322 eP P 05 45 13.5 +1.8
14nm,1.3s
H24A **Dirks Ranch, A** 29.91 345 ⇓P P 05 45 13.0 +1.4
baz=30
J19A **Crowheart** 29.94 338 ⇓P P 05 45 13.4 +1.3
baz=30
RCTC **Rector, Farmer** 30.07 317 ⇓P P 05 45 15.4 +2.4
baz=30

I20A **Worland** 30.22 340 ⇓P P 05 45 16.0 +1.6
baz=30
HVU **Hansel Valley** 30.23 332 eP P 05 45 16.6 +2.0
12nm,0.9s
H22A **Clearmont** 30.25 343 ⇓P P 05 45 15.7 +1.1
baz=30
MTUM **Tungsten Hills** 30.26 319 eP P 05 45 17.2 +2.3
H21A **Big Horn, Sher** 30.48 342 ⇓P P 05 45 17.8 +1.1
baz=31
G23A **Biddle** 30.55 344 ⇓P P 05 45 17.9 +0.7
baz=31
I19A **Meeteetse** 30.59 339 ⇑P P 05 45 19.5 +1.7
baz=31,SNR=5.7
ELK **Elko** 30.64 328 eP P 05 45 20.1 +1.7
13nm,1.2s
H20A **Greybull** 30.66 340 ⇑P P 05 45 19.5 +1.2
baz=31,SNR=5.7
NV11 **Mina Array Sit** 30.68 321 eP P 05 45 20.7 +2.0
REDW **Red Top Meadow** 30.71 336 eP P 05 45 20.6 +1.7
22nm,0.9s
E29A **Napoleon** 30.75 353 ⇓P P 05 45 19.4 +0.5
baz=31
F25A **Bowman** 30.77 347 ⇑P P 05 45 19.9 +0.7
baz=31
NVAR **Mina Array Bea** 30.77 321 P P 05 45 21.6 +2.2
NVAR PcP PcP 05 48 15.5 +0.3
NVAR **Mina Array Bea** 30.77 321 P P 05 45 21.6 +2.2
18nm,0.9s,baz=137,slow=8.7,SNR=93
NVAR PcP PcP 05 48 15.5 +0.3
1.4nm,0.8s,baz=105,slow=2.1,SNR=4.2
G22A **Birney** 30.80 343 ⇓P P 05 45 20.1 +0.6
baz=31
LOHW **Long Hollow** 30.82 336 eP P 05 45 21.5 +1.7
12nm,0.9s
E28A **Huff** 30.90 351 ⇑P P 05 45 20.7 +0.4
baz=31
F24A **Ekalaka** 30.91 346 ⇓P P 05 45 20.5 0.0
baz=31
MOOW **Moose Ponds** 30.99 336 eP P 05 45 22.9 +1.5
10nm,1.0s
F23A **Volborg** 31.03 345 ⇑P P 05 45 21.9 +0.4
baz=31
I17A **Pilgrim Ck.** 31.07 337 ⇑P P 05 45 23.7 +1.7
baz=31,SNR=11
E26A **Carlson Angus** 31.09 349 ⇓P P 05 45 22.5 +0.5
baz=31
H19A **Powell** 31.15 339 ⇓P P 05 45 23.9 +1.3
baz=31,SNR=13
D30A **Buchanan** 31.18 354 ⇓P P 05 45 22.6 -0.1
baz=31
FLWY **Flagg Ranch** 31.26 337 eP P 05 45 25.4 +1.7
6.9nm,0.8s
E25A **Miller Ranch,** 31.31 348 ⇑P P 05 45 24.9 +1.0
baz=32
G20A **Bridger** 31.38 341 ⇑P P 05 45 25.1 +0.4
baz=32
H18A **Shoshone NF, C** 31.39 338 ⇓P P 05 45 25.8 +1.0
baz=32,SNR=19
H17A **Grant Village** 31.48 337 eP P 05 45 28.2 +2.5
8.7nm,1.3s
H17A **Grant Village** 31.48 337 ⇑P P 05 45 27.9 +2.2
baz=32
BMN **Battle Mountai** 31.48 325 eP P 05 45 28.0 +2.4
14nm,0.9s
D28A **Regan** 31.49 352 ⇓P P 05 45 26.2 +0.8
baz=32
WAKR **Walker** 31.51 320 eP P 05 45 28.3 +2.3
14nm,1.4s
D27A **Center** 31.55 350 ⇑P P 05 45 27.0 +1.0
baz=32
E24A **Baker** 31.56 347 ⇓P P 05 45 27.2 +1.1
baz=32
D26A **Manning** 31.63 349 ⇓P P 05 45 27.8 +1.1
baz=32
E23A **Ismay** 31.73 345 ⇓P P 05 45 28.5 +0.9
baz=32
C30A **Mose, Pekin** 31.74 354 ⇓P P 05 45 28.3 +0.7
baz=32
CMB **Columbia Colle** 31.82 319 eP P 05 45 30.1 +1.5
11nm,1.4s
E22A **Miles City** 31.84 344 ⇑P P 05 45 29.6 +1.1
baz=32
YMR **Madison River** 31.85 337 eP P 05 45 31.3 +2.4
13nm,0.9s
F20A **Billings** 31.88 341 ⇓P P 05 45 30.2 +1.2
baz=32
D25A **Fairfield** 31.91 348 ⇓P P 05 45 30.4 +1.2
baz=32
MDND **Maddock** 32.01 353 eP P 05 45 29.8 -0.2
23nm,0.8s
MDND **Maddock** 32.01 353 ⇑P P 05 45 30.7 +0.7
baz=32
D24A **Glendive** 32.09 347 ⇑P P 05 45 31.8 +1.1
baz=32
C27A **Sayler Ranch,** 32.13 351 ⇑P P 05 45 32.4 +1.3
baz=32
AGMN **Agassiz Nation** 32.17 358 eP P 05 45 30.6 -0.7
8.1nm,0.7s
AGMN **Agassiz Nation** 32.17 358 ⇑P P 05 45 31.1 -0.3
baz=32
F19A **Roth Farm, Mol** 32.18 340 ⇓P P 05 45 32.5 +0.9
baz=32
PAHR **Pah Rah Range** 32.23 322 eP P 05 45 34.2 +2.0
24nm,1.5s
C26A **Wahner Farm, P** 32.34 350 ⇓P P 05 45 34.1 +1.2
baz=32
D23A **Lindsay** 32.34 346 ⇑P P 05 45 34.2 +1.2
baz=32
HLID **Hailey** 32.38 332 eP P 05 45 35.2 +1.8
7.1nm,0.8s
HLID **Hailey** 32.38 332 ⇑P P 05 45 34.6 +1.1
baz=33,SNR=12
C25A **Freed Ranch, W** 32.44 348 ⇓P P 05 45 34.6 +0.8
baz=33
B30A **Myrvik Farm, E** 32.47 355 ⇑P P 05 45 33.9 -0.1
baz=33,SNR=5.3
C24A **Savage** 32.50 347 ⇑P P 05 45 35.4 +1.1
baz=33
E20A **Meyer Farm, Mu** 32.51 342 ⇓P P 05 45 34.8 +0.3
baz=33,SNR=5.2
D22A **Cohagen** 32.56 345 ⇑P P 05 45 35.5 +0.7
baz=33,SNR=7.6
B29A **Wagenman Farm,** 32.59 354 ⇑P P 05 45 35.2 +0.2
baz=33
E19A **Rath Farm, Rou** 32.67 341 ⇑P P 05 45 36.7 +0.8
baz=33,SNR=6.2
B28A **Dugan Ranch, T** 32.69 352 ⇓P P 05 45 36.2 +0.2
baz=33
D21A **La Casta Ranch** 32.70 344 ⇑P P 05 45 37.5 +1.4
baz=33
MCMT **McKenzie Canyo** 32.72 335 eP P 05 45 38.8 +2.2
10nm,0.9s
MFID **Camas Ranch** 32.92 330 eP P 05 45 40.1 +1.9
3.1nm,0.9s
C23A **Lambert** 32.93 346 ⇓P P 05 45 38.7 +0.6
baz=33,SNR=5.7
BOZ **Bozeman (W)** 32.93 337 eP P 05 45 39.5 +1.2
5.5nm,1.0s
A30A **Hoffart Farm,** 32.96 355 ⇓P P 05 45 38.0 -0.2
baz=33,SNR=5.7
B25A **Knox Farm, Ray** 32.96 349 ⇑P P 05 45 39.0 +0.7
baz=33
A29A **Manning Farm,** 33.03 354 ⇑P P 05 45 39.3 +0.4
baz=33
D20A **Manuel Ranch,** 33.04 342 ⇑P P 05 45 40.2 +1.2
baz=33
C22A **Vida** 33.04 345 ⇑P P 05 45 39.9 +0.9
baz=33,SNR=6.7
DLMT **Dillon** 33.06 336 eP P 05 45 41.7 +2.3
23nm,1.0s
A28A **Rude Farm, Bot** 33.13 353 ⇑P P 05 45 40.6 +0.8
baz=33
OHCM **Honcut** 33.28 320 eP P 05 45 43.6 +2.5
D19A **Cripps Ranch,** 33.33 342 ⇓P P 05 45 42.9 +1.3
baz=34
DGMT **Dagmar** 33.35 348 eP P 05 45 43.0 +1.2
9.1nm,0.9s
DGMT **Dagmar** 33.35 348 ⇓P P 05 45 42.9 +1.2
baz=34
A26A **Wade Farm, Ken** 33.37 351 ⇓P P 05 45 42.7 +0.9
baz=34
LRM **Limekiln Ridge** 33.39 336 eP P 05 45 44.0 +1.6
B23A **Brockton** 33.51 347 ⇓P P 05 45 44.2 +1.1
baz=34
C20A **Veseth Ranch,** 33.57 343 ⇓P P 05 45 44.8 +1.2
baz=34
B22A **Reddig Ranch S** 33.59 346 ⇑P P 05 45 45.1 +1.3
baz=34

A25A **Svangstu Ranch** 33.59 349 ⇑P P 05 45 44.8 +1.0
baz=34
WVOR **Wild Horse Val** 33.63 326 eP P 05 45 45.8 +1.4
23nm,1.1s
A24A **Westby** 33.74 348 ⇓P P 05 45 46.3 +1.2
baz=34
C19A **Slack Wire Ran** 33.89 342 ⇑P P 05 45 47.6 +1.1
baz=34
A23A **Redstone** 33.95 347 ⇓P P 05 45 48.3 +1.3
baz=34
ULM **Lac du Bonnet** 34.12 358 P P 05 45 46.9 -1.4
ULM **Lac du Bonnet** 34.12 358 P P 05 45 46.9 -1.4
3.5nm,0.7s,baz=185,slow=7.9,SNR=6.7
ULM LR LR 06 02 01.1
comp=Z,112nm,19.1s,baz=206,slow=40
MOD **Modoc** 34.19 324 eP P 05 45 50.2 +1.0
3.2nm,1.0s
J08A **Circle Bar Ran** 34.19 328 eP P 05 45 50.8 +1.6
26nm,0.9s
A22A **Carney Farms,** 34.22 346 ⇑P P 05 45 50.7 +1.4
baz=34
B20A **Solberg Farm,** 34.23 344 ⇑P P 05 45 50.4 +1.0
baz=34
EGMT **Eagleton** 34.36 341 eP P 05 45 51.7 +1.1
21nm,1.4s
EGMT **Eagleton** 34.36 341 ⇓P P 05 45 51.4 +0.9
baz=34
A21A **Bergtoll Ranch** 34.45 345 ⇓P P 05 45 52.1 +0.8
baz=35,SNR=5.5
B19A **Brinkman Farms** 34.51 343 ⇑P P 05 45 52.3 +0.5
baz=35,SNR=10
CHMT **Chamberlain Mo** 34.61 337 eP P 05 45 53.9 +1.0
A20A **Cobblestone Ra** 34.61 344 ⇓P P 05 45 53.2 +0.6
baz=35
MSO **Missoula** 34.80 336 eP P 05 45 55.7 +1.3
13nm,1.0s
MSO **Missoula** 34.80 336 ⇓P P 05 45 55.1 +0.7
baz=35,SNR=16
A19A **Klindworth Far** 34.88 343 ⇓P P 05 45 55.9 +1.0
baz=35,SNR=6.1
SLMT **Seeley Lake** 34.97 337 eP P 05 45 56.8 +0.8
M04C **Macdoel** 34.99 323 ⇓P P 05 45 56.8 +0.7
baz=35
N02D **Trinity Center** 35.01 321 ⇑P P 05 45 55.7 -0.6
baz=35
I07A **Izee** 35.23 328 eP P 05 45 59.2 +1.0
5.9nm,1.0s
M02C **Callahan** 35.35 321 ⇑P P 05 45 59.4 +0.3
baz=36
SWMT **Swartz Lake** 35.39 337 eP P 05 46 00.4 +1.0
YBH **Yreka Blue Hor** 35.47 322 eP P 05 45 59.9 -0.3
3.2nm,0.8s
K04D **Chiloquin, OR** 35.47 324 ⇑P P 05 46 01.9 +1.7
baz=36
F10A **Beach Ranch, E** 35.52 332 eP P 05 46 01.1 +0.6
17nm,0.8s
J05D **Fort Rock, OR** 35.61 325 ⇓P P 05 46 03.2 +1.7
baz=36
YBMT **Yellow Bay** 35.68 337 eP P 05 46 03.3 +1.3
JTMT **Jette** 35.69 337 eP P 05 46 03.2 +1.2
PINOR **Pine Mountain** 35.77 326 eP P 05 46 03.7 +1.2
29nm,1.8s
G08A **Pilot Rock** 35.82 330 eP P 05 46 03.8 +0.6
22nm,2.1s
BLMT **Blacktail Moun** 35.94 337 eP P 05 46 05.7 +1.4
J04D **Umpqua Nationa** 36.07 324 ⇑P P 05 46 07.4 +1.9
baz=36
E09A **Wood Farm, Sta** 36.34 332 eP P 05 46 07.8 +0.4
7.5nm,1.1s
I05D **Terrebonne, OR** 36.37 326 ⇓P P 05 46 09.4 +1.6
baz=36
I04A **Tendick Farm,** 36.59 325 ⇓P P 05 46 11.0 +1.3
baz=37
WALA **Waterton Lakes** 36.65 338 eP P 05 46 11.3 +1.2
0.5nm,1.7s
G05D **Wamic, OR** 36.97 328 ⇓P P 05 46 15.1 +2.2
baz=37
H04A **Detroit Lake** 37.05 326 eP P 05 46 14.8 +1.2
24nm,1.1s
D08A **Wollman Farm,** 37.10 332 eP P 05 46 14.6 +0.7
8.5nm,1.1s
KEBM **Edson Butte** 37.12 322 eP P 05 46 16.9 +2.7
73nm,1.1s
NEW **Newport** 37.24 334 eP P 05 46 15.6 +0.5
4.0nm,0.9s
NEW **Newport** 37.24 334 ⇑P P 05 46 15.6 +0.5
baz=37,SNR=5.3
C09A **Chrisman Ranch** 37.37 333 eP P 05 46 17.4 +1.1
7.7nm,0.9s
PTGA **Pitinga** 37.64 113 P P 05 46 17.6 -1.3
PTGA **Pitinga** 37.64 113 P P 05 46 17.6 -1.3
3.8nm,0.8s,baz=306,slow=12,SNR=6.6
G03D **McMinnville, O** 37.98 326 ⇓P P 05 46 23.0 +1.7
baz=38
LTY **Liberty** 38.06 330 eP P 05 46 23.4 +1.3
15nm,1.3s
LON **Longmire** 38.26 329 eP P 05 46 24.8 +1.0
4.2nm,0.9s
FFC **Flin Flon** 39.05 353 eP P 05 46 30.5 +0.4
3.2nm,0.9s
SAML **Samuel** 39.46 127 eP P 05 46 31.4 -2.7
1.7nm,0.7s
EDM **Edmonton** 40.03 342 eP P 05 46 39.1 +0.7
LPAZ **La Paz** 41.14 140 eP P 05 46 48.1 -0.5
2.9nm,1.0s
LPAZ **La Paz** 41.14 140 P P 05 46 47.7 -0.9
1.7nm,0.8s,baz=312,slow=6.7,SNR=6.8
LPAZ LR LR 06 03 06.1
comp=Z,61nm,18.1s,baz=322,slow=35
FCC **Fort Churchill** 42.62 0 eP P 05 46 58.7 -0.7
0.5nm,1.5s
SCHQ **Schefferville** 44.06 22 LR LR 06 07 04.8
comp=Z,112nm,19.6s,baz=101,slow=38
SIV **San Ignacio** 45.61 133 P P 05 47 22.7 -1.2
SIV **San Ignacio** 45.61 133 P P 05 47 22.7 -1.2
2.0nm,0.6s,baz=304,slow=8.2,SNR=7.8
YKA **Yellowknife Ar** 48.56 347 P P 05 47 46.5 +0.3
YKA **Yellowknife Ar** 48.56 347 P P 05 47 46.5 +0.3
5.8nm,0.8s,baz=152,slow=7.5,SNR=74
DLBC **Dease Lake** 49.93 336 eP P 05 47 59.0 +2.1
BDFB **Brasilia** 55.37 122 eP P 05 48 37.7 0.0
BDFB **Brasilia** 55.37 122 P P 05 48 36.9 -0.7
3.8nm,0.6s,baz=282,slow=7.1,SNR=11
BDFB LR LR 06 12 53.6
comp=Z,68nm,19.6s,baz=347,slow=37
INK **Inuvik** 57.88 344 eP P 05 48 54.7 +0.3
26nm,1.4s
ILAR **Eielson Array** 60.13 337 P P 05 49 10.5 +0.3
ILAR **Eielson Array** 60.13 337 P P 05 49 10.5 +0.3
3.2nm,1.0s,baz=144,slow=3.8,SNR=20
TRF **Thorofare Moun** 60.89 335 eP P 05 49 16.7 +1.1
12nm,0.9s
ESDC **Sonseca Array** 80.06 52 P P 05 51 12.1 -0.5
ESDC **Sonseca Array** 80.06 52 P P 05 51 12.1 -0.5
1.0nm,0.8s,baz=278,slow=5.3,SNR=20
TCF **Toulx Ste Croi** 82.85 44 eP P 05 51 26.8 -0.3
11nm,1.0s
TCF **Toulx Ste Croi** 82.85 44 eP P 05 51 26.8 -0.3
11nm,1.0s
NB2 **NORSAR Subarra** 83.31 28 P P 05 51 29.9 +0.8
comp=Z,1.2nm,0.7s,baz=291,slow=5.1
NOA **NORSAR Array B** 83.31 28 P P 05 51 30.0 +0.8
NOA **NORSAR Array B** 83.31 28 P P 05 51 30.0 +0.8
comp=Z,2.8nm,0.9s,baz=291,slow=5.0,SNR=4.9
NOA LR LR 06 26 51.0
comp=Z,29nm,18.3s,baz=285,slow=34
SSF **Saint Saulge** 83.49 43 eP P 05 51 30.0 -0.4
SSF **Saint Saulge** 83.49 43 eP P 05 51 30.0 -0.4
LOR **Lormes** 83.66 43 eP P 05 51 31.1 -0.2
LOR **Lormes** 83.66 43 eP P 05 51 31.1 -0.2
ARCES **ARCESS Array B** 84.82 18 P P 05 51 36.6 0.0
ARCES **ARCESS Array B** 84.82 18 P P 05 51 36.6 0.0
comp=Z,3.2nm,0.7s,baz=300,slow=5.5,SNR=8.7
HAU **Haudompre** 85.05 42 eP P 05 51 38.6 +0.3
HAU **Haudompre** 85.05 42 eP P 05 51 38.6 +0.3
HINF **Hinteralfeld** 85.43 42 eP P 05 51 40.1 -0.1
comp=Z,17nm,1.2s
HINF **Hinteralfeld** 85.43 42 eP P 05 51 40.1 -0.1
comp=Z,17nm,1.2s
CDF **Champ du Feu** 85.50 41 eP P 05 51 40.7 +0.1
comp=Z,12nm,1.0s
CDF **Champ du Feu** 85.50 41 eP P 05 51 40.7 +0.1
comp=Z,12nm,1.0s
DBIC **Dimbokro** 87.50 84 LR LR 06 30 26.7
comp=Z,40nm,18.6s,baz=325,slow=35
GERES **GERESS Array B** 89.31 39 P P 05 51 59.0 +0.1
GERES **GERESS Array B** 89.31 39 P P 05 51 59.0 +0.1

comp=Z,1.6nm,0.8s,baz=321,slow=1.9,SNR=4.7
CN2 Changchun 110.28 331 *e*PKP **PKiKP 05 57 36.6 +2.3**
HHC Hu-ho-hao-te 118.55 338 *e*PKP **PKPdf 05 57 48.0 -2.3**
HHC PP **PP 05 59 10.4 +3.2**
HHC PKS PKSdf 06 01 20.6 -6.5
HHC SKS **SKSdf 06 04 49.8 -5.7**
HHC SS **SS 06 15 14.9 -3.0**
HHC AMB AMB
comp=Z,85nm,8.6s
HHC LR LR
comp=Z,270nm,20.5s
HHC LR LR
comp=Z,210nm,20.3s
HHC LR LR
comp=Z,62nm,20.7s
WMQ Urumqi 120.38 358 *e*PKP **PKPdf 05 57 55.0 +1.3**
LZH Lanzhou 125.41 342 *e*PKP **PKPdf 05 58 04.3 +0.6**
LZH sPKP 05 58 44.6
LZH LR LR
comp=Z,140nm,16.8s
LZH LR LR
comp=Z,160nm,17.2s
LZH LR LR
comp=Z,170nm,19.0s
STKA Stephens Creek 127.24 242 PKP **PKPdf 05 58 06.0 -1.0**
STKA Stephens Creek 127.24 242 PKP **PKPdf 05 58 06.0 -1.0**
comp=Z,2.4nm,0.7s,baz=34,slow=1.8,SNR=7.1
CD2 Chengdu 130.22 340 *e*PKP **PKPdf 05 58 11.6 -1.3**
WRA Warramunga Arr 133.86 258 PKP **PKPdf 05 58 19.0 -0.9**
WRA Warramunga Arr 133.86 258 PKP **PKPdf 05 58 19.0 -0.9**
comp=Z,1.5nm,0.6s,baz=85,slow=2.2,SNR=28
ASAR Alice Springs 134.36 252 PKP **PKPdf 05 58 19.6 -1.2**
ASAR Alice Springs 134.36 252 PKP **PKPdf 05 58 19.6 -1.2**
comp=Z,1.1nm,0.7s,baz=93,slow=2.0,SNR=19
HYB Hyderabad 145.95 13 *i* PKP **PKPdf 05 58 41.0 -0.9**
KSM Kuching 150.22 304 *e*PKPbc **PKPbc 05 58 53.7 -0.4**

*ISCJB **25** 05:51:35.4±0.3,36°.36N±0°.02×71°.19E±0°.05,h100km, mb3.8/13, Error ellipse: s-maj=5.3km s-min=2.8km az=166.8*
*MOS **25** 05:51:36.3±0.9,36°.34N×71°.08E,h118km,mb4.1/10, Error ellipse: s-maj=11.9km s-min=5.1km az=82.2*
*NEIC **25** 05:51:37.2±0.6,36°.28N×71°.24E,h103km±14km, mb4.7/13, Error ellipse: s-maj=11.4km s-min=5.3km az=71.0*
*IDC **25** 05:51:39.0±3.0,36°.31N×71°.15E,h131km±26km, mb3.4/10, mb1 3.7/14,mb1mx3.4/30,mbtmp3.6/14,MS3.7/1, Ms1 3.7/1,ms1mx2.5/29, Error ellipse: s-maj=18.2km s-min=17.1km az=86.0*
*BJI **25** 05:51:39.6,36°.91N×70°.87E,h132km,mB4.7/2,mb4.3/8*
*NNC **25** 05:51:44.3±4.4,36°.91N×70°.88E,h158km±44km,mb3.8, mpv4.8, Error ellipse: s-maj=35.6km s-min=22.4km az=19.0*

ISC 25 05:51:37.1±0.5,36°.36N±0°.04×71°.20E±0°.06,h100km,n123, σ1s61/130,mb3.8/13,11C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBL	**Kabul**	**2.53**	**225**	*e*PN		**Pn**	**05 52 16.9**	**+0.1**
KBL				*e*			05 52 46.3	
KBL	**Kabul**	**2.53**	**225**	*e*Pn		**Pn**	**05 52 16.9**	**+0.1**
KBL				*e*Sn		**Sn**	**05 52 46.3**	**-0.9**
CEP	**Cherat**	**2.59**	**167**	P		**Pn**	**05 52 20.2**	**+2.6**
CEP				S		**Sn**	**05 52 52.0**	**+3.3**
CHCP	**Chirah Chowk**	**3.18**	**147**	P		**Pn**	**05 52 28.5**	**+3.2**
THW	**Thamme Wali**	**3.58**	**173**	P		**Pn**	**05 52 32.4**	**+1.7**
SARP	**Sargodha**	**4.59**	**164**	P		**Pn**	**05 52 45.1**	**+0.8**
KSH	**Kashi**	**4.92**	**49**	P		**Pn**	**05 52 47.8**	**-0.9**
KSH				S		Sn	05 53 38.9	-5.5
KSH				smax		smax		
	comp=N,920nm,0.5s							
KSH				smax		smax		
	comp=E,640nm,0.5s							
DHRM	**DHARAMSHALA**	**5.88**	**133**	*e*P		**Pn**	**05 53 03.7**	**+1.7**
DHRM				*e*S		**Sn**	**05 54 07.4**	**-0.7**
DHRM				AML		AML	05 54 11.7	
	comp=E,674nm,0.5s							
DHRM				AML		AML	05 54 12.5	
	comp=N,815nm,0.5s							
AML	**Almayashu**	**6.08**	**18**	*i* PN		**Pn**	**05 53 06.2**	**+1.4**
AML	**Almayashu**	**6.08**	**18**	P		**Pn**	**05 53 06.2**	**+1.4**
	SNR=284							
UCH	**Uchtor**	**6.40**	**23**	*i* PN		**Pn**	**05 53 10.6**	**+1.5**
UCH	**Uchtor**	**6.40**	**23**	P		**Pn**	**05 53 10.7**	**+1.5**
	SNR=52							
KZA	**Kyzart**	**6.52**	**28**	*i* PN		**Pn**	**05 53 12.1**	**+1.4**
KZA	**Kyzart**	**6.52**	**28**	P		**Pn**	**05 53 12.2**	**+1.4**
	SNR=18							
EKS2	**Erkin-Say**	**6.60**	**17**	*i* PN		**Pn**	**05 53 13.2**	**+1.6**
EKS2	**Erkin-Say**	**6.60**	**17**	P		**Pn**	**05 53 13.2**	**+1.6**
	SNR=28							
EKS2	**Erkin-Say**	**6.60**	**17**	*e*Pn		**Pn**	**05 53 13.1**	**+1.6**
EKS2				*e*Sn		**Sn**	**05 54 24.6**	**-0.8**
KK31	**Karatay Array**	**6.76**	**356**	*e*PN		**Pn**	**05 53 13.6**	**0.0**
KK31				pmax		pmax		
	comp=Z,135nm,0.3s							
KK31	**Karatay Array**	**6.76**	**356**	⇓P		**Pn**	**05 53 13.7**	**0.0**
	comp=Z,47nm,0.3s,baz=174,slow=12,SNR=1452							
KK31				⇓S		**Sn**	**05 54 26.2**	**-2.8**
	comp=Z,8.0nm,0.3s,baz=181,slow=21,SNR=5.5							
KKAR	**Karatay Array**	**6.76**	**356**	*e*PN		**Pn**	**05 53 13.8**	**+0.2**
KKAR	**Karatay Array**	**6.76**	**356**	*e*Pn		**Pn**	**05 53 13.8**	**+0.2**
KKAR				*e*Sn		**Sn**	**05 54 28.8**	**-0.3**
AAK	**Ala-Archa**	**6.76**	**21**	*d i*PN		**Pn**	**05 53 15.4**	**+1.6**
AAK	**Ala-Archa**	**6.76**	**21**	P		**Pn**	**05 53 15.9**	**+2.0**
	SNR=30							
AAK	**Ala-Archa**	**6.76**	**21**	*e*Pn		**Pn**	**05 53 15.8**	**+2.0**
AAK				*e*Sn		**Sn**	**05 54 29.8**	**+0.3**
AAK	**Ala-Archa**	**6.76**	**21**	P		**Pn**	**05 53 15.8**	**+2.0**
	comp=Z,21nm,0.3s,baz=180,slow=5.6,SNR=38							
AAK				S		**Sn**	**05 54 28.0**	**-1.4**
	comp=Z,3.7nm,0.3s,baz=9.0,slow=23,SNR=9.7							
AAK	**Ala-Archa**	**6.76**	**21**	⇓P		**Pn**	**05 53 15.5**	**+1.6**
	comp=Z,23nm,0.4s							
AAK				⇑S		**Sn**	**05 54 27.5**	**-1.9**
	comp=Z,58nm,0.6s							
SDNR	**Sundarnagar**	**6.82**	**134**	*e*P		**Pn**	**05 53 16.0**	**+1.5**
SDNR				*e*S		**Sn**	**05 54 27.0**	**-3.6**
KBK	**Karagaybulak**	**6.92**	**24**	P		Pn	05 53 20.2	+4.2
	SNR=17							
ULHL	**Ulahol**	**7.06**	**32**	*i* PN		**Pn**	**05 53 19.5**	**+1.6**
ULHL	**Ulahol**	**7.06**	**32**	P		**Pn**	**05 53 19.5**	**+1.6**
	SNR=17							
CHMS	**Chumysh**	**7.17**	**21**	*i* PN		**Pn**	**05 53 20.5**	**+1.3**
CHMS	**Chumysh**	**7.17**	**21**	P		**Pn**	**05 53 20.6**	**+1.3**
	SNR=30							
SMLA	**Simla**	**7.20**	**135**	*i* P		**Pn**	**05 53 20.7**	**+1.0**
SMLA				*e*S		**Sn**	**05 54 38.1**	**-1.8**
SMLA				AML		AML	05 54 42.4	
	comp=E,2μm,0.3s							
SMLA				AML		AML	05 54 45.7	
	comp=N,2μm,0.3s							
USP	**Ospenovka**	**7.35**	**19**	*i* PN		**Pn**	**05 53 22.7**	**+1.0**
USP	**Ospenovka**	**7.35**	**19**	P		**Pn**	**05 53 22.8**	**+1.0**
	SNR=35							
TKM2	**Tokmak 2**	**7.38**	**26**	*i* PN		**Pn**	**05 53 23.7**	**+1.5**
TKM2	**Tokmak 2**	**7.38**	**26**	P		**Pn**	**05 53 23.7**	**+1.5**
	SNR=42							
TKM2	**Tokmak 2**	**7.38**	**26**	*e*Pn		**Pn**	**05 53 23.7**	**+1.5**
TKM2	**Tokmak 2**	**7.38**	**26**	⇓P		**Pn**	**05 53 23.5**	**+1.3**
	comp=N,24nm,0.4s							
TKM2				⇑S		**Sn**	**05 54 43.6**	**-0.8**
	comp=N,18nm,0.6s							
DDI	**Dehra Dun**	**8.31**	**134**	*e*S		**Sn**	**05 55 04.6**	**-2.5**
DDI				AML		AML	05 55 47.0	
	comp=E,118nm,0.3s							
DDI				AML		AML	05 55 49.3	
	comp=N,180nm,0.3s							
NDI	**New Delhi**	**9.18**	**145**	*e*P		**Pn**	**05 53 45.0**	**-1.7**
NDI				*e*			05 55 20.0	
PYUN	**Piuthan**	**12.93**	**126**	*e*P		**Pn**	**05 54 35.1**	**-2.1**
	comp=N,33nm,0.4s							
PYUN	**Piuthan**	**12.93**	**126**	*e*P		**Pn**	**05 54 35.1**	**-2.1**
	comp=N,33nm,0.4s							
BHJ	**Bhuj**	**13.13**	**186**	*e*P		Pn	05 54 33.6	-6.1
DANN	**Dangsing**	**13.28**	**123**	*e*P		**Pn**	**05 54 40.1**	**-1.8**
	comp=N,22nm,0.4s							
DANN	**Dangsing**	**13.28**	**123**	*e*P		**Pn**	**05 54 40.1**	**-1.8**
	comp=N,22nm,0.4s							
MK31	**Makanchi Array**	**13.31**	**35**	*i* P		**Pn**	**05 54 42.5**	**+0.6**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MK31	**Makanchi Array**	**13.31**	**35**	⇑P		**Pn**	**05 54 42.5**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=227,slow=15,SNR=17							
MKAR	**Makanchi Array**	**13.31**	**35**	*i* P		**Pn**	**05 54 41.9**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**13.31**	**35**	*e*Pn		**Pn**	**05 54 42.8**	**+0.9**
MKAR	**Makanchi Array**	**13.31**	**35**	P		**Pn**	**05 54 41.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=216,slow=13,SNR=13							
KOLN	**Koldanda**	**13.55**	**126**	*e*P		**Pn**	**05 54 44.0**	**-1.4**
	comp=Z,14nm,0.3s							
KOLN	**Koldanda**	**13.55**	**126**	*e*P		**Pn**	**05 54 44.0**	**-1.4**
	comp=Z,14nm,0.3s							
GKN	**Gorkha**	**14.09**	**122**	*e*P		**Pn**	**05 54 51.5**	**-0.8**
	comp=Z,22nm,0.3s							
GKN				*e*S		Sn	05 57 17.9	-10
GKN	**Gorkha**	**14.09**	**122**	*e*P		**Pn**	**05 54 51.5**	**-0.8**
	comp=Z,22nm,0.3s							
GKN				*e*S		Sn	05 57 17.9	-10
BHPL	**Bhopal**	**14.14**	**156**	*e*P		**Pn**	**05 54 51.1**	**-1.8**
BHPL				*ex*		x	05 57 17.0	
WMQ	**Urumqi**	**14.64**	**54**	P		Pn	05 54 50.0	-9.3
WMQ				pmax		pmax		
	comp=Z,13nm,1.0s							
DMN	**Daman**	**14.66**	**123**	*e*P		**Pn**	**05 54 59.3**	**-0.5**
DMN	**Daman**	**14.66**	**123**	*e*P		**Pn**	**05 54 59.3**	**-0.5**
KKN	**Kakani**	**14.66**	**122**	*e*P		**Pn**	**05 54 59.0**	**-0.8**
KKN	**Kakani**	**14.66**	**122**	*e*P		**Pn**	**05 54 59.0**	**-0.8**
KKN	**Kakani**	**14.66**	**122**	*e*P		**Pn**	**05 54 59.0**	**-0.8**
PKIN	**Phulchoki**	**14.88**	**122**	*e*P		**Pn**	**05 55 01.9**	**-0.6**
	comp=Z,17nm,0.4s							
PKI	**Pulchoki**	**14.89**	**122**	*e*P		**Pn**	**05 55 01.3**	**-1.5**
PKI	**Pulchoki**	**14.89**	**122**	*e*P		**Pn**	**05 55 01.9**	**-0.9**
PKI				pmax		pmax		
	comp=Z,17nm,0.4s							
PKI	**Pulchoki**	**14.89**	**122**	*e*P		**Pn**	**05 55 01.9**	**-0.9**
	comp=Z,17nm,0.4s							
GUN	**Gumba**	**15.01**	**120**	*e*P		**Pn**	**05 55 02.6**	**-1.6**
	comp=Z,21nm,0.5s							
GUN	**Gumba**	**15.01**	**120**	*e*P		**Pn**	**05 55 02.6**	**-1.6**
	comp=Z,21nm,0.5s							
KURBB	**Kurchatov Arra**	**15.21**	**18**	P		**Pn**	**05 55 03.5**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=208,slow=10,SNR=9.2							
KURBB	**Kurchatov Arra**	**15.21**	**18**	⇑P		**Pn**	**05 55 06.1**	**-0.1**
	comp=Z,5.6nm,0.6s							
AB31	**Akbulak array**	**15.29**	**331**	*e*P		**Pn**	**05 55 04.8**	**-2.4**
AB31				pmax		pmax		
	comp=Z,9.0nm,0.3s							
AB31	**Akbulak array**	**15.29**	**331**	⇑P		**Pn**	**05 55 05.0**	**-2.2**
	comp=Z,4.7nm,0.3s,baz=146,slow=12,SNR=330							
AB31				⇓S		Sn	05 57 43.3	-13
	comp=Z,5.3nm,0.6s,baz=147,slow=24,SNR=16							
ABKAR	**Akbulak array**	**15.29**	**331**	*e*Pn		**Pn**	**05 55 04.0**	**-3.3**
ABKAR				*e*Sn		Sn	05 57 41.3	-15
KURK	**Kurchatov**	**15.31**	**18**	*e*P		**Pn**	**05 55 08.4**	**+0.9**
KURK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KURK	**Kurchatov**	**15.31**	**18**	*e*Pn		**Pn**	**05 55 08.4**	**+0.9**
	comp=Z,2.6nm,0.8s							
KURK	**Kurchatov**	**15.31**	**18**	⇑P		**Pn**	**05 55 06.9**	**-0.7**
	comp=Z,2.5nm,0.8s							
JIRN	**Jiri**	**15.38**	**120**	*e*P		**Pn**	**05 55 07.7**	**-1.2**
	comp=Z,43nm,0.3s							
JIRN				*e*S		Sn	05 57 48.6	-11
	comp=E,85nm,0.6s							
JIRN	**Jiri**	**15.38**	**120**	*e*P		**Pn**	**05 55 07.7**	**-1.2**
	comp=Z,43nm,0.3s							
JIRN				*e*S		Sn	05 57 48.6	-11
RAMN	**Ramite**	**16.10**	**121**	*e*P		**Pn**	**05 55 17.6**	**-0.3**
	comp=Z,11nm,0.3s							
RAMN	**Ramite**	**16.10**	**121**	*e*P		**Pn**	**05 55 17.6**	**-0.3**
	comp=Z,11nm,0.3s							
VOSK	**Vostochnaya**	**16.36**	**360**	P		**Pn**	**05 55 17.6**	**-3.0**
VOSK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
VOSK	**Vostochnaya**	**16.36**	**360**	⇑P		**Pn**	**05 55 17.6**	**-3.0**
	comp=Z,3.9nm,0.6s							
NGP	**Nagpur**	**16.63**	**154**	*e*P		**Pn**	**05 55 23.4**	**-0.8**
TAPN	**Taplejung**	**16.64**	**118**	*e*P		**Pn**	**05 55 24.5**	**0.0**
	comp=Z,23nm,0.4s							
TAPN				*e*S		Sn	05 58 17.9	-12
TAPN	**Taplejung**	**16.64**	**118**	*e*P		**Pn**	**05 55 24.5**	**0.0**
	comp=Z,23nm,0.4s							
TAPN				*e*S		Sn	05 58 17.9	-12
BVA0	**Borovoye Array**	**16.67**	**358**	*i* P		**Pn**	**05 55 23.0**	**-1.5**
BVA0				pmax		pmax		
	comp=Z,5.0nm,0.6s							
BVA0	**Borovoye Array**	**16.67**	**358**	⇓P		**Pn**	**05 55 23.0**	**-1.5**
	comp=Z,4.8nm,0.6s,baz=175,slow=16,SNR=35							
BVAR	**Borovoye Array**	**16.67**	**358**	P		**Pn**	**05 55 23.6**	**-0.9**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
BVAR	**Borovoye Array**	**16.67**	**358**	P		**Pn**	**05 55 23.6**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=167,slow=13,SNR=34							
ODAN	**Odare**	**16.71**	**120**	*e*P		**Pn**	**05 55 25.1**	**-0.2**
	comp=Z,22nm,0.6s							
ODAN	**Odare**	**16.71**	**120**	*e*P		**Pn**	**05 55 25.1**	**-0.2**
	comp=Z,22nm,0.6s							
BRVK	**Borovoye**	**16.71**	**358**	*ce*P		**Pn**	**05 55 24.7**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
BRVK	**Borovoye**	**16.71**	**358**	*e*Pn		**Pn**	**05 55 23.9**	**-1.0**
	comp=Z,7.8nm,0.5s							
BRVK	**Borovoye**	**16.71**	**358**	⇑P		**Pn**	**05 55 24.6**	**-0.2**
	comp=Z,7.4nm,0.5s							
AKTO	**Aktyubinsk**	**16.98**	**330**	P		**Pn**	**05 55 27.6**	**-0.7**
AKTO				S		Sn	05 58 23.8	-13
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.98**	**330**	P		**Pn**	**05 55 27.6**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=142,slow=13,SNR=35							
AKTO				S		Sn	05 58 23.8	-13
	comp=Z,0.4nm,0.3s,baz=88,slow=23,SNR=5.2							
AKTO	**Aktyubinsk**	**16.98**	**330**	⇑P		**Pn**	**05 55 27.5**	**-0.7**
	comp=Z,25nm,1.0s							
AKTO				⇑S		Sn	05 58 24.1	-13
	comp=Z,13nm,1.0s							
LSA	**Lhasa**	**17.98**	**106**	*e*P		**Pn**	**05 55 43.1**	**+2.1**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
LSA	**Lhasa**	**17.98**	**106**	*e*P		**Pn**	**05 55 43.1**	**+2.1**
	comp=Z,5.5nm,0.8s							
HYB	**Hyderabad**	**19.96**	**159**	*e*P		**P**	**05 56 01.2**	**-0.2**
ZALV	**Zalesovo Beam**	**19.98**	**24**	*i* P		**P**	**05 56 01.9**	**+0.7**
ZALV				pmax		pmax		
	comp=Z,5.0nm,0.3s							
ZALV	**Zalesovo Beam**	**19.98**	**24**	P		**P**	**05 56 01.9**	**+0.7**
	comp=Z,5.1nm,0.3s,baz=222,slow=11,SNR=42							
ZALV				S		**S**	**05 59 38.5**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=213,slow=18,SNR=2.2							
NVS	**Novosibirsk**	**20.26**	**20**	*e*P		**P**	**05 56 03.1**	**-1.1**
NVS				*e*S		**S**	**05 59 41.8**	**-3.9**
NVS				pmax		pmax		
	comp=Z,15nm,1.0s							
NVS				pmax		pmax		
	comp=N,10.0nm,1.0s							
NVS				smax		smax		
	comp=E,6.0nm,1.3s							
SHL	**Shillong**	**20.70**	**116**	*ex*		Pn	05 56 08.1	-4.7
ARU	**Arti**	**21.82**	**341**	*d i*P		**P**	**05 56 23.1**	**+2.1**
ARU							05 57 01.5	
ARU				S		**S**	**06 00 17.8**	**+1.7**
ARU				SS		**SnSn**	**06 00 56.8**	**+6.4**
ARU				pmax		pmax		
	comp=Z,14nm,1.2s							
ARU	**Arti**	**21.82**	**341**	*e*P		**P**	**05 56 23.0**	**+2.1**
	comp=Z,11nm,1.0s							
GTA	**Gaotai**	**22.75**	**74**	*e*P		**P**	**05 56 33.3**	**+2.3**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SONM	**Songino Array**	**28.28**	**55**	P		**P**	**05 57 22.4**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=268,slow=9.6,SNR=12							
KMI	**Kunming**	**29.21**	**104**	P		P	05 57 39.3	+10
KMI				pmax		pmax		
	comp=Z,18nm,0.8s							
JOF	**Joensuu**	**36.07**	**330**	*e*P		**P**	**05 58 28.8**	**+0.1**
JOF				pmax		pmax		
	comp=Z,2.0nm,0.5s							
JOF	**Joensuu**	**36.07**	**330**	*ep*		**P**	**05 58 28.8**	**+0.1**
	comp=Z,2.3nm,0.5s							
FINES	**FINESS Array B**	**37.69**	**326**	P		**P**	**05 58 42.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=115,slow=10,SNR=9.9							
KAF	**Kangasniemi**	**37.83**	**327**	*e*P		**P**	**05 58 44.1**	**+0.5**
KAF	**Kangasniemi**	**37.83**	**327**	*ep*		**P**	**05 58 44.1**	**+0.5**
ARCES	**ARCESS Array B**	**41.34**	**338**	P		**P**	**05 59 12.6**	**0.0**
	comp=Z,4.7nm,0.9s,baz=115,slow=8.7,SNR=6.3							
NB2	**NORSAR Subarra**	**44.59**	**323**	P		**P**	**05 59 38.0**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.59**	**323**	P		**P**	**05 59 37.6**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=97,slow=7.8,SNR=2.4							
ASAJ	**Asahikawa**	**53.49**	**58**	LR		LR	06 26 29.5	
	comp=Z,73nm,20.7s,baz=173,slow=39							
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P		P	06 02 09.2	-3.3
	comp=Z,0.3nm,0.4s,baz=56,slow=6.6,SNR=2.3							
ILAR	**Eielson Array**	**74.87**	**16**	P		P	06 03 04.2	-2.2
	comp=Z,0.6nm,0.9s,baz=329,slow=5.1,SNR=6.2							
YKA	**Yellowknife Ar**	**81.38**	**3**	P		**P**	**06 03 41.3**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=350,slow=5.4,SNR=10							
WRA	**Warramunga Arr**	**81.78**	**122**	P		P	06 03 42.7	-2.3
	comp=Z,0.2nm,0.4s,baz=325,slow=4.9,SNR=9.7							
ASAR	**Alice Springs**	**84.04**	**125**	P		**P**	**06 03 55.0**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=315,slow=4.6,SNR=9.3							

*IDC **25** 05:56:58.6±0.9,19°.19N×121°.36E,h0km,mb3.8/10, mb1 3.9/10,mb1mx3.8/26,mbtmp3.8/10, Error ellipse: s-maj=40.6km s-min=17.4km az=63.0*
*NEIC **25** 05:57:03.5±0.8,19°.13N×121°.39E,h37km±9km,mb4.4/4, Error ellipse: s-maj=14.5km s-min=7.1km az=82.0*

ISC 25 05:57:01.3±1.8,19°.17N±0°.05×121°.21E±0°.08,h15km±13km, n39,σ0s86/38,mb3.8/14,1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PIP	**Pasuquin**	**1.00**	**214**	⇓*i*P		**Pb**	**05 57 20.3**	**-0.1**
PIP				*e*S		**Sb**	**05 57 34.0**	**+0.5**
SIPP	**Brgy, Tapao**	**1.43**	**210**	⇓*i*P		Pn	05 57 18.3	-8.4
SIPP				*e*S		Sn	05 57 31.9	-13
CVP	**Callao Caves**	**1.57**	**158**	*e*P		**Pg**	**05 57 31.4**	**-0.1**
CVP				*e*S		**Sg**	**05 57 51.5**	**-0.4**
SZP	**Santa**	**1.76**	**204**	*e*Pn		**Pn**	**05 57 32.2**	**+0.9**
SZP				*e*Sg		**Sg**	**05 57 56.9**	**-1.1**
PALP	**Palanan**	**2.39**	**151**	⇑*e*P		**Pb**	**05 57 44.7**	**+0.6**
TPUB	**Ta-pu**	**4.15**	**353**	*e*Pn		**Pn**	**05 58 04.0**	**-0.2**
TPUB				*e*Sn		**Sn**	**05 58 51.1**	**-1.5**
YULB	**Yu-li**	**4.21**	**1**	*e*Pn		**Pn**	**05 58 06.7**	**+1.7**
YULB				*e*Sn		**Sn**	**05 58 53.4**	**-0.5**
SSLB	**Suanglung**	**4.60**	**357**	*e*Pn		**Pn**	**05 58 11.8**	**+1.3**
SSLB				*e*Sn		**Sn**	**05 59 01.6**	**-2.1**
YHNB	**Yeheng**	**5.48**	**2**	*e*Pn		**Pn**	**05 58 22.8**	**+0.2**
YHNB				*e*Sn		**Sn**	**05 59 26.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.09**	**272**	P		**P**	**06 01 46.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.09**	**272**	P		**P**	**06 01 46.5**	**+1.2**
	1.2nm,0.4s,baz=64,slow=10,SNR=5.6							
SONM	**Songino Array**	**31.03**	**340**	P		**P**	**06 03 18.7**	**0.0**
SONM	**Songino Array**	**31.03**	**340**	P		**P**	**06 03 18.7**	**0.0**
	0.5nm,0.8s,baz=161,slow=8.3,SNR=4.1							
COEN	**Coen**		**39.39**	**145**	*e*P	P	06 04 26.4	-4.3
	27nm,1.1s							
WRA	**Warramunga Arr**	**40.95**	**161**	P		**P**	**06 04 42.7**	**-0.9**
WRA	**Warramunga Arr**	**40.95**	**161**	P		**P**	**06 04 42.7**	**-0.9**
	0.3nm,0.5s,baz=342,slow=9.1,SNR=6.5							
MKAR	**Makanchi Array**	**42.06**	**320**	P		**P**	**06 04 53.3**	**+0.8**
MKAR	**Makanchi Array**	**42.06**	**320**	P		**P**	**06 04 53.3**	**+0.8**
	1.2nm,0.7s,baz=111,slow=10,SNR=9.6							
H11S3	**WAKE ISLAND Hy**	**42.96**	**83**	T		T	06 49 27.4	
	baz=282,slow=72,SNR=26							
H11S1	**WAKE ISLAND Hy**	**42.97**	**83**	T		T	06 49 25.4	
	baz=282,slow=72,SNR=26							
H11S2	**WAKE ISLAND Hy**	**42.98**	**83**	T		T	06 49 24.2	
	baz=282,slow=72,SNR=19							
H11N1	**WAKE ISLAND Hy**	**42.98**	**81**	T		T	06 49 25.1	
	baz=281,SNR=8.2							
H11N2	**WAKE ISLAND Hy**	**42.99**	**81**	T		T	06 49 25.1	
	baz=281							
H11N3	**WAKE ISLAND Hy**	**43.00**	**81**	T		T	06 49 30.1	
	baz=281							
AS31	**Alice Springs**	**44.34**	**163**	*e*P		**P**	**06 05 10.1**	**-1.0**
ASAR	**Alice Springs**	**44.34**	**163**	P		**P**	**06 05 10.6**	**-0.6**
ASAR	**Alice Springs**	**44.34**	**163**	P		**P**	**06 05 10.6**	**-0.6**
	0.2nm,0.3s,baz=345,slow=7.2,SNR=10							
ZALV	**Zalesovo Beam**	**44.52**	**330**	P		**P**	**06 05 12.3**	**+0.1**
ZALV	**Zalesovo Beam**	**44.52**	**330**	P		**P**	**06 05 12.3**	**+0.1**
	1.2nm,0.6s,baz=112,slow=7.9,SNR=7.1							
KURK	**Kurchatov**	**46.02**	**323**	*e*P		**P**	**06 05 24.3**	**+0.1**
	0.9nm,0.8s							
KURBB	**Kurchatov Arra**	**46.03**	**323**	P		**P**	**06 05 24.8**	**+0.4**
	1.7

	5.8nm,0.7s							
WRA	**Warramunga Arr**	**39.93**	**198**	P	**P**	**06 15 23.2**	**-0.9**
WRA	**Warramunga Arr**	**39.93**	**198**	P	**P**	**06 15 23.2**	**-0.9**
	4.7nm,0.8s,baz=22,slow=8.9,SNR=36							
WRA				LR	LR	06 31 48.2		
	comp=Z,64nm,18.2s,baz=135,slow=36							
FITZ	**Fitzroy Crossi**	**41.66**	**211**	*e*P	**P**	**06 15 38.4**	**0.0**
	6.2nm,1.0s							
FITZ	**Fitzroy Crossi**	**41.66**	**211**	P	**P**	**06 15 38.4**	**0.0**
	1.9nm,0.3s,baz=34,slow=9.9,SNR=14							
AS31	**Alice Springs**	**43.58**	**197**	*e*P	**P**	**06 15 54.5**	**+0.6**
ASAR	**Alice Springs**	**43.58**	**197**	P	**P**	**06 15 53.4**	**-0.6**
ASAR	**Alice Springs**	**43.58**	**197**	P	**P**	**06 15 53.4**	**-0.6**
	1.1nm,0.5s,baz=23,slow=7.0,SNR=42							
SONM	**Songino Array**	**43.84**	**321**	P	**P**	**06 15 56.5**	**+0.6**
SONM	**Songino Array**	**43.84**	**321**	P	**P**	**06 15 56.5**	**+0.6**
	0.8nm,0.3s,baz=141,slow=7.8,SNR=7.2							
CMAR	**Chiang Mai Arr**	**45.00**	**278**	P	P	06 16 08.7	+3.3
CMAR	**Chiang Mai Arr**	**45.00**	**278**	P	P	06 16 08.7	+3.3
	1.8nm,0.3s,baz=70,slow=6.7,SNR=7.2							
STKA	**Stephens Creek**	**50.21**	**185**	*e*P	**P**	**06 16 45.0**	**-0.4**
	1.0nm,0.9s							
STKA	**Stephens Creek**	**50.21**	**185**	P	**P**	**06 16 45.4**	**-0.1**
	3.2nm,0.6s,baz=339,slow=5.4,SNR=9.4							
STKA				LR	LR	06 36 29.5		
	comp=Z,98nm,20.7s,baz=23,slow=34							
ZALV	**Zalesovo Beam**	**58.70**	**322**	P	**P**	**06 17 47.4**	**+0.5**
ZALV	**Zalesovo Beam**	**58.70**	**322**	P	**P**	**06 17 47.4**	**+0.5**
	1.6nm,0.7s,baz=109,slow=6.5,SNR=8.8							
MKAR	**Makanchi Array**	**59.20**	**314**	P	**P**	**06 17 51.1**	**+0.6**
MKAR	**Makanchi Array**	**59.20**	**314**	P	**P**	**06 17 51.1**	**+0.6**
	0.4nm,0.4s,baz=92,slow=9.9,SNR=3.3							
KURK	**Kurchatov**	**61.99**	**318**	*e*P	**P**	**06 18 09.4**	**+0.1**
	2.7nm,1.2s							
KURBB	**Kurchatov Arra**	**62.04**	**318**	P	**P**	**06 18 09.9**	**+0.2**
	1.2nm,0.6s,baz=95,slow=7.5,SNR=18							
ILAR	**Eielson Array**	**63.58**	**26**	P	**P**	**06 18 18.3**	**-1.4**
ILAR	**Eielson Array**	**63.58**	**26**	P	**P**	**06 18 18.3**	**-1.4**
	0.5nm,0.8s,baz=256,slow=4.4,SNR=7.0							
ILAR				LR	LR	06 44 04.7		
	comp=Z,73nm,18.4s,baz=319,slow=34							
BVAR	**Borovoye Array**	**67.18**	**320**	P	**P**	**06 18 43.6**	**+0.4**
BVAR	**Borovoye Array**	**67.18**	**320**	P	**P**	**06 18 43.6**	**+0.4**
	2.6nm,0.5s,baz=93,slow=7.6,SNR=18							
BRVK	**Borovoye**	**67.24**	**321**	*e*P	**P**	**06 18 43.5**	**0.0**
	2.8nm,0.7s							
KKAR	**Karatay Array**	**67.53**	**310**	*e*P	**P**	**06 18 46.4**	**+0.7**
	1.1nm,0.6s							
INK	**Inuvik**	**69.35**	**23**	*e*P	**P**	**06 18 57.0**	**+0.6**
	4.5nm,1.2s							
INK	**Inuvik**	**69.35**	**23**	P	**P**	**06 18 56.3**	**-0.2**
	0.8nm,0.7s,baz=272,slow=5.6,SNR=5.6							
ABKAR	**Akbulak array**	**74.06**	**317**	*e*P	**P**	**06 19 24.8**	**-0.3**
	2.6nm,0.7s							
AKTO	**Aktyubinsk**	**75.08**	**319**	P	**P**	**06 19 32.5**	**+1.5**
AKTO	**Aktyubinsk**	**75.08**	**319**	P	**P**	**06 19 32.5**	**+1.5**
	1.0nm,0.6s,baz=90,slow=9.1,SNR=4.5							
YKA	**Yellowknife Ar**	**77.90**	**28**	P	**P**	**06 19 47.1**	**+0.5**
YKA	**Yellowknife Ar**	**77.90**	**28**	P	**P**	**06 19 47.1**	**+0.5**
	0.6nm,0.6s,baz=287,slow=5.4,SNR=10							
NEW	**Newport**	**80.63**	**42**	*e*P	**P**	**06 20 03.2**	**+1.2**
	7.7nm,1.5s							
CMB	**Columbia Colle**	**81.28**	**53**	*e*P	**P**	**06 20 05.2**	**-0.5**
	1.1nm,0.6s							
KEV	**Kevo**	**82.44**	**342**	*e*p	**P**	**06 20 10.1**	**-0.9**
NVAR	**Mina Array Bea**	**82.73**	**52**	P	**P**	**06 20 14.6**	**+1.1**
NVAR	**Mina Array Bea**	**82.73**	**52**	P	**P**	**06 20 14.6**	**+1.1**
	0.7nm,0.7s,baz=274,slow=5.3,SNR=6.8							
ARCES	**ARCESS Array B**	**83.00**	**342**	P	**P**	**06 20 14.6**	**+0.7**
ARCES	**ARCESS Array B**	**83.00**	**342**	P	**P**	**06 20 14.6**	**+0.7**
	4.0nm,0.6s,baz=72,slow=5.8,SNR=24							
JOF	**Joensuu**	**84.60**	**335**	*e*p	**P**	**06 20 22.0**	**-0.2**
	4.2nm,0.4s							
KAF	**Kangasniemi**	**86.99**	**336**	*e*p	**P**	**06 20 33.3**	**-0.7**
	0.5nm,0.3s							
FINES	**FINESS Array B**	**87.46**	**335**	P	**P**	**06 20 35.4**	**-0.9**
FINES	**FINESS Array B**	**87.46**	**335**	P	**P**	**06 20 35.4**	**-0.9**
	2.0nm,0.5s,baz=69,slow=4.6,SNR=29							
TORD	**Torodi Ar. Bea**	**133.22**	**310**	PKP	**PKPdf**	**06 27 04.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**133.22**	**310**	PKP	**PKPdf**	**06 27 04.6**	**-0.9**
	0.3nm,0.6s,baz=30,slow=1.3,SNR=4.6							
LPAZ	**La Paz**	**146.92**	**92**	*e*PKPbc	**PKPab**	**06 27 33.3**	**-1.1**

IDC 25 06:10:22.5±4.7, 29.89S×177.37W, h41km±40km, mb3.4/2, mb1 3.7/2, mb1mx3.4/17, mbtmp3.6/2, Error ellipse: s-maj=66.9km s-min=43.3km az=40.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**323**	P	Pn	06 10 37.5	+0.2
	211nm,0.3s,baz=58,slow=21,SNR=26						
RAO				S	Sn	06 10 49.0	+1.0
	432nm,0.3s,baz=90,slow=19,SNR=13						
ASAR	**Alice Springs**	**43.69**	**266**	P	P	06 18 23.1	-0.7
	0.2nm,0.5s,baz=103,slow=7.5,SNR=3.8						
WRA	**Warramunga Arr**	**44.63**	**271**	P	P	06 18 31.4	+0.1
	0.7nm,0.3s,baz=109,slow=8.1,SNR=21						
FINES	**FINESS Array B**	**144.85**	**341**	PKP	PKPbc	06 29 53.8	+0.3
	3.4nm,0.9s,baz=48,slow=3.8,SNR=8.1						

IDC ***25*** *06:21:14.5±0.7, 7.09S×130.06E, h0km, mb4.2/7, mb1 4.4/11, mb1mx4.2/24, mbtmp4.3/11, ML4.7/3, Error ellipse: s-maj=33.5km s-min=15.6km az=64.0*

NEIC ***25*** *06:21:22.5±1.6, 7.30S×130.07E, h61km±16km, mb4.1/7, Error ellipse: s-maj=16.0km s-min=10.3km az=219.0*

ISCJB ***25*** *06:21:24.2±0.3, 7.36S±0.03×130.21E±0.04, h100km, mb4.1/12, Error ellipse: s-maj=6.0km s-min=4.8km az=160.3*

AUST ***25*** *06:21:25.0, 7.47S×130.55E, h100km*

DJA ***25*** *06:21:26.3±0.3, 7.5±3°×13.0E±°, h115km±7km, M4.9/9, mb4.8/8, mBS.3/5, MLv5.0/9, Mw(mB)4.7/5*

ISC 25 06:21:26.5±0.5, 7.35S±0.05×130.06E±0.05, h100km, n67, σ1§57/58, mb4.0/12, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.38**	**117**	P	**Pn**	**06 21 52.5**	**+1.1**
SAUI				S	**Sn**	**06 22 13.9**	**+3.7**
BNDI	**Bandanaira**	**2.81**	**357**	P	**Pn**	**06 22 09.8**	**0.0**
MSAI	**Masohi**	**4.13**	**344**	P	Pn	06 22 31.1	+3.6
FAKI	**Fak Fak**	**4.91**	**26**	P	**Pn**	**06 22 35.5**	**-2.6**
FAKI	**Fak Fak**	**4.91**	**26**	P	**Pn**	**06 22 35.5**	**-2.6**
	baz=4.9,SNR=147						
MTN	**Manton Dam**	**5.56**	**169**	P	**Pn**	**06 22 46.7**	**-0.2**
	baz=5.4,SNR=61						
KDU	**Kakadu**	**5.81**	**156**	P	**Pn**	**06 22 49.9**	**-0.5**
	baz=5.5,SNR=192						
SOEI	**Soe**	**6.21**	**247**	P	**Pn**	**06 22 56.7**	**+0.9**
	117nm,0.8s,6μm3.3nm						
SOEI				S	**Sn**	**06 24 06.4**	**+1.0**
	117nm,0.8s,6μm3.3nm						
SOEI	**Soe**	**6.21**	**247**	P	**Pn**	**06 22 57.1**	**+1.3**
	baz=6.6,SNR=17						
SWI	**Sorong**	**6.55**	**11**	P	**Pn**	**06 22 57.8**	**-2.6**
	53nm,0.7s,2μm0.6nm						
SWI				S	Sn	06 24 06.5	-7.2
	53nm,0.7s,2μm0.6nm						
LBMI	**Labuha**	**7.14**	**339**	P	**Pn**	**06 23 08.8**	**+0.5**
	122nm,1.0s,1μm0.4nm						
MWPI	**Manokwari, Pap**	**7.51**	**32**	P	**Pn**	**06 23 12.1**	**-1.3**
	132nm,0.7s,0.9nm						
MWPI				S	Sn	06 24 29.6	-7.4
	132nm,0.7s,0.9nm						
MMRI	**Maumere**	**7.85**	**260**	P	**Pn**	**06 23 17.2**	**-0.9**
	56nm,1.0s,2μm0.3nm						
KNRA	**Kununurra**	**8.38**	**189**	P	**Pn**	**06 23 23.0**	**-2.2**
	baz=8.4,SNR=168						
BKSI	**Bulukumba**	**10.08**	**281**	P	Pn	06 23 52.7	+4.3
MRSI	**Marisa**	**11.22**	**313**	P	Pn	06 24 06.9	+3.0
FITZ	**Fitzroy Crossi**	**11.52**	**202**	*e*Pn	Pn	06 24 04.0	-3.9
FITZ				*e*Sn	Sn	06 26 07.6	-7.1
FITZ	**Fitzroy Crossi**	**11.52**	**202**	Pn	Pn	06 24 04.0	-3.9
	4.3nm,0.3s,baz=25,slow=12,SNR=93						
FITZ				Sn	Sn	06 26 03.4	-11
	4.4nm,0.3s,baz=240,slow=20,SNR=5.2						
FITZ	**Fitzroy Crossi**	**11.52**	**202**	P	Pn	06 24 03.7	-4.2
	baz=12,SNR=83						
WRAB	**Tennant Creek**	**13.19**	**162**	*e*Pn	Pn	06 24 26.6	-3.3
WRAB				*e*Sn	Sn	06 26 47.5	-7.6
WRA	**Warramunga Arr**	**13.19**	**162**	Pn	Pn	06 24 26.5	-3.6
WRA				Sn	Sn	06 26 41.6	-14
WRA	**Warramunga Arr**	**13.19**	**162**	Pn	Pn	06 24 26.5	-3.6
	3.9nm,0.3s,baz=339,slow=13,SNR=89						
WRA				Sn	Sn	06 26 41.6	-14
	6.7nm,0.3s,baz=338,slow=22,SNR=8.3						
COEN	**Coen**	**14.46**	**118**	*e*Pn	**Pn**	**06 24 44.0**	**-2.6**
COEN				*e*Sn	Sn	06 27 14.0	-12
COEN	**Coen**	**14.46**	**118**	P	**Pn**	**06 24 45.8**	**-0.8**
	baz=14,SNR=33						
BBKI	**Banjar Baru**	**15.63**	**283**	P	**P**	**06 25 07.0**	**+3.6**
QIS	**Mount Isa**	**16.06**	**146**	P	**Pn**	**06 25 04.3**	**-2.4**
	baz=16,SNR=7.2						
MTKI	**Muara Teweh, K**	**16.40**	**292**	P	P	06 25 17.3	+5.4
AS31	**Alice Springs**	**16.64**	**168**	*e*P	**Pn**	**06 25 11.4**	**-2.4**
ASAR	**Alice Springs**	**16.64**	**168**	Pn	**Pn**	**06 25 12.7**	**-1.2**
ASAR				Sn	Sn	06 28 05.0	-14
ASAR	**Alice Springs**	**16.64**	**168**	Pn	**Pn**	**06 25 12.7**	**-1.2**
	2.7nm,0.3s,baz=345,slow=8.4,SNR=104						
ASAR				Sn	Sn	06 28 05.0	-14
	1.3nm,0.3s,baz=351,slow=28,SNR=10.0						
PMG	**Port Moresby**	**17.04**	**98**	*e*P	**Pn**	**06 25 18.4**	**-0.4**
	11nm,0.9s						
PMG				S	Sn	06 28 16.4	-12
PMG	**Port Moresby**	**17.04**	**98**	P	**Pn**	**06 25 15.5**	**-3.3**
	0.3nm,0.3s,baz=250,slow=12,SNR=1.7						
PMG				S	Sn	06 28 16.4	-12
	0.4nm,0.3s,baz=198,slow=19,SNR=4.3						
WRKA	**Warakurna**	**17.67**	**185**	P	**P**	**06 25 24.3**	**-1.6**
	baz=18,SNR=47						
CTA	**Charters Tower**	**20.17**	**131**	P	**P**	**06 25 53.7**	**+0.5**
CTA	**Charters Tower**	**20.17**	**131**	P	**P**	**06 25 53.7**	**+0.5**
	2.3nm,0.8s,baz=336,slow=10.0,SNR=4.3						
SBUM	**Sibu**	**20.29**	**298**	*e*P	Pn	06 25 55.7	-1.7
	24nm,0.8s						
KSM	**Kuching**	**21.57**	**293**	*e*P	**P**	**06 26 09.8**	**+1.6**
	9.1nm,0.7s						
KSM	**Kuching**	**21.57**	**293**	P	**P**	**06 26 10.4**	**+2.2**
	baz=22,SNR=4.7						
MEEK	**Meekatharra**	**22.06**	**208**	P	**P**	**06 26 15.3**	**+2.0**
	baz=22,SNR=4.9						
MORW	**Morawa**	**25.33**	**210**	P	**P**	**06 26 46.0**	**+1.9**
	baz=26,SNR=3.7						
STKA	**Stephens Creek**	**26.67**	**158**	P	**P**	**06 26 57.6**	**+1.4**
STKA	**Stephens Creek**	**26.67**	**158**	P	**P**	**06 26 57.6**	**+1.4**
	1.8nm,0.9s,baz=342,slow=9.6,SNR=2.7						
KLBR	**Kellerberrin**	**26.72**	**204**	P	**P**	**06 26 58.2**	**+1.6**
	baz=27,SNR=5.3						
NWAO	**Narrogin (SRO)**	**28.10**	**203**	P	**P**	**06 27 10.4**	**+1.4**
NWAO	**Narrogin (SRO)**	**28.10**	**203**	P	**P**	**06 27 10.4**	**+1.4**
	1.7nm,0.4s,baz=51,slow=6.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**40.00**	**310**	P	**P**	**06 28 51.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**40.00**	**310**	P	**P**	**06 28 51.0**	**-0.8**
	1.7nm,0.3s,baz=139,slow=7.4,SNR=11						
GTA	**Gaotai**	**54.30**	**331**	*e*P	**P**	**06 30 42.3**	**-0.5**
GTA				pP	pP	06 30 48.4	-19
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**68.55**	**327**	*e*P	**P**	**06 32 18.2**	**-0.3**
MKAR	**Makanchi Array**	**68.55**	**327**	*e*P	**P**	**06 32 18.1**	**-0.4**
MKAR	**Makanchi Array**	**68.55**	**327**	P	**P**	**06 32 18.4**	**0.0**
	comp=Z,8.1nm,0.6s,baz=122,slow=7.8,SNR=69						
AAK	**Ala-Archa**	**70.84**	**320**	*e*P	**P**	**06 32 33.1**	**+0.3**
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**71.92**	**334**	P	**P**	**06 32 37.9**	**-1.0**
ZALV	**Zalesovo Beam**	**71.92**	**334**	P	**P**	**06 32 37.9**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=136,slow=5.5,SNR=6.1						
KURK	**Kurchatov**	**72.84**	**329**	*e*P	**P**	**06 32 43.6**	**-0.7**
	comp=Z,1.3nm,0.5s						
KKAR	**Karatay Array**	**73.64**	**319**	*e*P	**P**	**06 32 48.5**	**-0.8**
	comp=Z,1.2nm,0.5s						
BVAR	**Borovoye Array**	**78.39**	**328**	P	**P**	**06 33 15.1**	**-0.9**
BVAR	**Borovoye Array**	**78.39**	**328**	P	**P**	**06 33 15.1**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=134,slow=4.2,SNR=5.6						
ABKAR	**Akbulak array**	**82.81**	**322**	*e*P	**P**	**06 33 39.0**	**-0.7**
	comp=Z,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**128.93**	**281**	PKP	**PKPdf**	**06 40 23.6**	**0.0**
TORD	**Torodi Ar. Bea**	**128.93**	**281**	PKP	**PKPdf**	**06 40 23.6**	**0.0**
	comp=Z,1.9nm,0.6s,baz=72,slow=1.8,SNR=14						
DBIC	**Dimbokro**	**135.26**	**272**	PKP	**PKPdf**	**06 40 36.5**	**+0.9**
DBIC	**Dimbokro**	**135.26**	**272**	PKP	**PKPdf**	**06 40 36.5**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=100,slow=2.8,SNR=3.6						
CPUP	**Villa Florida**	**145.76**	**168**	PKPbc	**PKPab**	**06 40 56.3**	**+1.1**
CPUP	**Villa Florida**	**145.76**	**168**	PKPbc	**PKPab**	**06 40 56.3**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=149,slow=4.7,SNR=4.0						
LPAZ	**La Paz**	**150.41**	**143**	PKPbc	**PKPbc**	**06 41 09.5**	**+1.3**
LPAZ	**La Paz**	**150.41**	**143**	PKPbc	**PKPbc**	**06 41 09.5**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=44,slow=2.4,SNR=5.7						

MEX 25 06:35:21.4±0.4, 17.21N×101.00W, h7km±6km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.59**	**312**	*i* P	Pg	06 35 32.1	-0.8
ZIIG				*i* S	Sg	06 35 40.8	+0.2
ACP2	**Acapulco**	**1.12**	**107**	*i* P	Pg	06 35 39.2	-3.7
ACP2				*i* S	Sg	06 35 53.4	-4.0
ACX	**Acapulco**	**1.15**	**107**	*i* P	Pn	06 35 43.9	-0.1
ACX				*i* S	Sg	06 35 57.2	-1.2
ARIG	**Puente Sto Nin**	**1.24**	**30**	*i* P	Pb	06 35 41.4	-3.8
ARIG				*i* S	Sg	06 35 57.1	-4.3
PLIG	**Platanillo**	**1.85**	**50**	*e*P	Pn	06 35 50.4	-3.4
PLIG				*i* S	Sn	06 36 12.6	-5.1
TLIG	**Tlapa**	**2.35**	**81**	*e*P	Pn	06 35 58.2	-2.6
TLIG				*i* S	Sn	06 36 26.3	-3.8
YAIG	**Yautepec**	**2.47**	**48**	*e*P	Pn	06 35 59.3	-3.1
YAIG				*i* S	Sn	06 36 29.3	-3.8
PNIG	**Pinotepa**	**2.87**	**106**	*e*P	Pn	06 36 04.8	-2.9
PNIG				*i* S	Sn	06 36 39.7	-2.9

ISN ***25*** *06:37:47.5±1.5, 31.56N×49.54E, h0km±212km, ML3.8*

IDC ***25*** *06:37:55.5±1.2, 32.16N×49.04E, h0km, mb3.9/14, mb1 4.0/17, mb1mx3.8/31, mbtmp3.8/17, ML3.5/3, Error ellipse: s-maj=28.7km s-min=16.7km az=173.0*

THR ***25*** *06:37:59.0±0.8, 32.26N×49.05E, h15km±6km, ML3.9*

TEH ***25*** *06:37:59.4, 32.17N×48.99E, h6km, ML3.8*

CSEM ***25*** *06:37:59.1±0.1, 32.25N×49.07E, h2km, ML3.9, Error ellipse: s-maj=3.6km s-min=2.9km az=112.0*

ISC 25 06:37:59.3±1.1, 32.23N±0.03×49.04E±0.04, h18km±6km, n94, σ1§64/96, mb3.9/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.24**	**238**	*e*Pg	**Pg**	**06 38 04.8**	**0.0**
SHGR				AML	AML	06 38 13.8	
	comp=N,13μm,0.4s						
SHGR				AML	AML	06 38 14.0	
	comp=E,43μm,0.7s						
SHGR	**Shooshtar-Gavs**	**0.24**	**238**	*e*Pg	**Pg**	**06 38 04.8**	**0.0**
IKMR	**Kamar-syah**	**1.40**	**337**	*e*Pn	**Pn**	**06 38 24.4**	**+0.5**
IKMR				*e*Sg	**Sg**	**06 38 44.8**	**+0.4**
IKMR	**Kamar-syah**	**1.40**	**337**	*e*Pn	**Pn**	**06 38 24.4**	**+0.5**
IKMR				*e*Sg	**Sg**	**06 38 44.8**	**+0.4**
IKFM	**Kafar-mosalman**	**1.63**	**322**	*e*Pn	**Pn**	**06 38 28.9**	**+1.8**
IKFM				*e*Sg	**Sg**	**06 38 52.4**	**+0.5**
KHMZ	**Khomeyn**	**1.69**	**27**	*e*Pg	**Pn**	**06 38 29.3**	**+1.2**
KHMZ				*e*Sg	**Sn**	**06 38 52.0**	**+2.6**
KHMZ				AML	AML	06 38 56.0	
	comp=E,1μm,0.5s						
KHMZ				AML	AML	06 38 59.3	
	comp=N,642nm,0.6s						
KHMZ	**Khomeyn**	**1.69**	**27**	*e*Pg	**Pn**	**06 38 29.3**	**+1.2**
KHMZ				*e*Sg	**Sn**	**06 38 52.0**	**+2.6**
IDOB	**Doab**	**1.71**	**335**	*e*Pn	**Pn**	**06 38 30.1**	**+1.7**
IDOB	**Doab**	**1.71**	**335**	*e*Pn	**Pn**	**06 38 30.1**	**+1.7**
IKOM	**Komasi**	**2.32**	**327**	*e*Pn	**Pn**	**06 38 38.6**	**+1.8**
IKOM				*e*		06 39 24.5	
	comp=Z,4μm,0.4s						
IKOM	**Komasi**	**2.32**	**327**	*e*Pn	**Pn**	**06 38 38.6**	**+1.8**
IKLH	**Kolahrood**	**2.40**	**62**	*e*Pn	**Pn**	**06 38 40.6**	**+2.7**
IKLH				*e*		06 39 20.1	
	comp=Z,8μm,0.2s						
IKLH	**Kolahrood**	**2.40**	**62**	*e*Pn	**Pn**	**06 38 40.6**	**+2.7**
ASAO	**Ashtian**	**2.45**	**19**	*e*Pn	**Pn**	**06 38 40.7**	**+2.1**
ASAO	**Ashtian**	**2.45**	**19**	*e*Pn	**Pn**	**06 38 40.7**	**+2.1**
IGAR	**Gharneh**	**2.55**	**85**	*e*Pn	**Pn**	**06 38 41.8**	**+1.9**
NSR	**Nassriya**	**2.76**	**245**	*i* Pn	Pn	06 38 34.5	-8.1
NSR				*e*Sn	Sn	06 39 08.5	-6.9
IBDR	**Badra**	**2.76**	**289**	*e*PN4		06 38 43.7	
IBDR				*e*Sn	**Sb**	**06 39 21.0**	**-0.7**
IZEF	**Zefreh**	**2.85**	**76**	*e*Pn	**Pn**	**06 38 46.1**	**+1.9**
IZEF				*e*		06 39 37.3	
	comp=Z,3μm,0.3s						
IZEF	**Zefreh**	**2.85**	**76**	*e*Pn	**Pn**	**06 38 46.1**	**+1.9**
UMR	**Umm Al-Rimmam**	**2.91**	**203**	*e*P	**Pn**	**06 38 46.8**	**+2.2**
UMR	**Umm Al-Rimmam**	**2.91**	**203**	*e*P	**Pn**	**06 38 46.8**	**+2.2**
IVIS	**Veis**	**2.93**	**322**	*e*Pn	**Pn**	**06 38 46.8**	**+1.7**
IVIS				*e*		06 39 24.9	
	comp=N,2μm,0.2s						
IVIS	**Veis**	**2.93**	**322**	*e*Pn	**Pn**	**06 38 46.8**	**+1.7**
IGHG	**Ghaleghazi**	**2.94**	**316**	*e*Pn	**Pn**	**06 38 46.4**	**+1.0**
IGHG				*e*		06 39 56.8	
	comp=Z,2μm,0.4s						
IGHG	**Ghaleghazi**	**2.94**	**316**	*e*Pn	**Pn**	**06 38 46.4**	**+1.0**
SNGE	**Sanandaj**	**3.18**	**334**	*e*Pn	**Pn**	**06 38 50.5**	**+1.8**
SNGE	**Sanandaj**	**3.18**	**334**	*e*Pn	**Pn**	**06 38 50.5**	**+1.8**
ILIN	**Lien**	**3.19**	**328**	*e*Pn	**Pn**	**06 38 50.5**	**+1.7**
ILIN				*e*		06 38 51.3	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**3.19**	**328**	*e*Pn	**Pn**	**06 38 50.5**	**+1.7**
NASN	**Na'in**	**3.23**	**79**	*e*Pn	**Pn**	**06 38 51.5**	**+2.0**
NASN	**Na'in**	**3.23**	**79**	*e*Pn	**Pn**	**06 38 51.5**	**+2.0**
IR5	**Iran Long-Peri**	**3.24**	**23**	*e*Pn	**Pn**	**06 38 51.3**	**+2.0**
IR5	**Iran Long-Peri**	**3.24**	**23**	*e*Pn	**Pn**	**06 38 51.3**	**+2.0**
RST	**Umm Al-Ruwaisa**	**3.24**	**213**	*e*P	**Pn**	**06 38 51.1**	**+1.8**
RST	**Umm Al-Ruwaisa**	**3.24**	**213**	*e*P	**Pn**	**06 38 51.1**	**+1.8**
IRAZ	**Razeghan**	**3.25**	**13**	*e*Pn	**Pn**	**06 38 51.9**	**+2.3**
IRAZ				*e*Sg	**Sg**	**06 39 43.0**	**-0.7**
IRAZ				*e*		06 39 57.7	
	comp=Z,3μm,0.3s						
IRAZ	**Razeghan**	**3.25**	**13**	*e*Pn	**Pn**	**06 38 51.9**	**+2.3**
IRAZ				*e*Sg	**Sg**	**06 39 43.0**	**-0.7**
KBD	**Kabd**	**3.26**	**201**	*e*P	**Pn**	**06 38 52.0**	**+2.5**
KBD				AML	AML	06 39 35.6	
	comp=Z,103nm,0.5s						
KBD	**Kabd**	**3.26**	**201**	*e*P	**Pn**	**06 38 52.0**	**+2.5**
NAY	**Al-Naaiem**	**3.35**	**208**	*e*P	**Pn**	**06 38 52.9**	**+2.1**
NAY				AML	AML	06 39 34.7	
	comp=Z,51nm,0.4s						
NAY	**Al-Naaiem**	**3.35**	**208**	*e*P	**Pn**	**06 38 52.9**	**+2.1**
RDF	**Al-Radifah**	**3.54**	**202**	*e*P	**Pn**	**06 38 55.9**	**+2.5**
RDF				AML	AML	06 39 39.8	
	comp=Z,293nm,0.5s						
RDF	**Al-Radifah**	**3.54**	**202**	*e*P	**Pn**	**06 38 55.9**	**+2.5**
IVRN	**Varamin**	**3.55**	**38**	*e*Pn	**Pn**	**06 38 55.7**	**+2.1**
IVRN				*e*		06 40 02.9	
	comp=Z,2μm,0.4s						
IVRN	**Varamin**	**3.55**	**38**	*e*Pn	**Pn**	**06 38 55.7**	**+2.1**
QRN	**Al-Qurain**	**3.61**	**196**	*e*P	**Pn**	**06 38 56.6**	**+2.3**
IMHD	**Mahdasht**	**3.70**	**21**	*e*Pn	**Pn**	**06 38 57.3**	**+1.6**
IMHD				*e*		06 40 05.6	
	comp=Z,1μm,0.5s						
IMHD	**Mahdasht**	**3.70**	**21**	*e*Pn	**Pn**	**06 38 57.3**	**+1.6**
ISAD	**Sadrabad**	**3.96**	**93**	*e*Pn	**Pn**	**06 39 01.1**	**+1.7**
ISAD				*e*		06 40 15.9	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**3.96**	**93**	*e*Pn	**Pn**	**06 39 01.1**	**+1.7**
CHTH	**Charan**	**4.05**	**25**	*e*Pn	**Pn**	**06 39 01.9**	**+1.3**
CHTH	**Charan**	**4.05**	**25**	*e*Pn	**Pn**	**06 39 02.0**	**+1.3**
IDMV	**Damavand**	**4.16**	**36**	*e

PMAFR	**Mafra**	**3.36**	**59**	P		Pn	07 11 39.3	-1.6
	1.6nm,0.2s,SNR=4.0							
PMAFR				S		**Sn**	**07 12 22.2**	**+1.4**
	4.0nm,0.1s,SNR=6.8							
PMAFR	**Mafra**	**3.36**	**59**	*e*Pn		Pn	07 11 39.6	-1.3
PMAFR				*e*Sn		**Sn**	**07 12 19.0**	**-1.8**
PMAFR				A		A	07 12 27.8	
	12nm,0.5s							
PMAFR	**Mafra**	**3.36**	**59**	P		Pn	07 11 39.3	-1.6
	1.6nm,0.2s,SNR=4.0							
PMAFR	**Mafra**	**3.36**	**59**	*e*Pn		Pn	07 11 39.6	-1.3
PMAFR				*e*Sn		**Sn**	**07 12 19.0**	**-1.8**
	12nm,0.5s							
PMAFR				S		**Sn**	**07 12 22.2**	**+1.4**
	4.0nm,0.1s,SNR=6.8							
PTEO	**Sao Teotonio**	**3.40**	**84**	*e*Sn		**Sn**	**07 12 21.2**	**-0.6**
PTEO				A		A	07 12 29.4	
	7.7nm,0.5s							
PTEO	**Sao Teotonio**	**3.40**	**84**	*e*Sn		**Sn**	**07 12 21.2**	**-0.6**
	7.7nm,0.5s							
MORF	**Marmelete**	**3.45**	**88**	*e*Sn		**Sn**	**07 12 22.8**	**-0.5**
MORF				A		A	07 12 28.9	
	4.6nm,0.4s							
MORF	**Marmelete**	**3.45**	**88**	*e*Sn		**Sn**	**07 12 22.8**	**-0.5**
	4.6nm,0.4s							
PACT	**Alcochete**	**3.59**	**65**	*e*Sn		**Sn**	**07 12 27.7**	**+1.1**
PACT	**Alcochete**	**3.59**	**65**	*e*Sn		**Sn**	**07 12 27.7**	**+1.1**
PNCL	**Nicolau / Gran**	**3.63**	**76**	*e*Pn		**Pn**	**07 11 46.4**	**+1.8**
PNCL				*e*Sn		**Sn**	**07 12 27.3**	**-0.1**
PNCL				A		A	07 12 28.0	
	4.7nm,0.8s							
PNCL	**Nicolau / Gran**	**3.63**	**76**	*e*Pn		**Pn**	**07 11 46.4**	**+1.8**
PNCL				*e*Sn		**Sn**	**07 12 27.3**	**-0.1**
	4.7nm,0.8s							
PCVE	**Castro Verde**	**3.95**	**84**	*e*Pn		**Pn**	**07 11 50.4**	**+1.4**
PCVE				*e*Sn		**Sn**	**07 12 34.5**	**-0.9**
PCVE				A		A	07 12 40.3	
	2.1nm,0.1s							
PCVE	**Castro Verde**	**3.95**	**84**	*e*Pn		**Pn**	**07 11 50.4**	**+1.4**
PCVE				*e*Sn		**Sn**	**07 12 34.5**	**-0.9**
	2.1nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.03**	**89**	*e*Pn		**Pn**	**07 11 51.4**	**+1.2**
PBDV				*e*Sn		**Sn**	**07 12 36.6**	**-0.8**
PBDV				A		A	07 12 45.8	
	5.7nm,0.9s							
PBDV	**Barranco-do-Ve**	**4.03**	**89**	*e*Pn		**Pn**	**07 11 51.4**	**+1.2**
PBDV				*e*Sn		**Sn**	**07 12 36.6**	**-0.8**
	5.7nm,0.9s							
PBEJ	**Beja**	**4.13**	**78**	*e*Sn		**Sn**	**07 12 38.7**	**-1.1**
PBEJ				A		A	07 12 42.3	
	2.0nm,0.3s							
PBEJ	**Beja**	**4.13**	**78**	*e*Sn		**Sn**	**07 12 38.7**	**-1.1**
	2.0nm,0.3s							
PVAQ	**Vaqueiros**	**4.20**	**87**	*e*Pn		**Pn**	**07 11 52.7**	**+0.3**
PVAQ				*e*Sn		**Sn**	**07 12 40.7**	**-0.8**
PVAQ				A		A	07 12 45.0	
	3.8nm,0.3s							
PVAQ	**Vaqueiros**	**4.20**	**87**	*e*Pn		**Pn**	**07 11 52.7**	**+0.3**
PVAQ				*e*Sn		**Sn**	**07 12 40.7**	**-0.8**
	3.8nm,0.3s							
PTOM	**Tomar**	**4.27**	**56**	*e*Sn		**Sn**	**07 12 44.3**	**+0.9**
PTOM				A		A	07 12 47.6	
	4.7nm,0.2s							
PTOM	**Tomar**	**4.27**	**56**	*e*Sn		**Sn**	**07 12 44.3**	**+0.9**
	4.7nm,0.2s							
EGRO	**El Granado**	**4.38**	**85**	P		**Pn**	**07 11 55.3**	**+0.3**
	0.3nm,0.1s,SNR=4.0							
EGRO				S		**Sn**	**07 12 46.4**	**+0.3**
	2.6nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**4.38**	**85**	P		**Pn**	**07 11 55.3**	**+0.3**
	0.3nm,0.1s,SNR=4.0							
EGRO				S		**Sn**	**07 12 46.4**	**+0.3**
	2.6nm,0.1s,SNR=7.9							
PCAS	**Casmilo, Conde**	**4.46**	**50**	*e*Pn		**Pn**	**07 11 56.5**	**+0.4**
PCAS				*e*Sn		**Sn**	**07 12 49.1**	**+1.0**
PCAS				A		A	07 12 49.4	
	1.9nm,0.5s							
PCAS	**Casmilo, Conde**	**4.46**	**50**	*e*Pn		**Pn**	**07 11 56.5**	**+0.4**
PCAS				*e*Sn		**Sn**	**07 12 49.1**	**+1.0**
	1.9nm,0.5s							
PESTR	**Estremoz**	**4.54**	**68**	*e*Sn		**Sn**	**07 12 50.0**	**+0.1**
PESTR				A		A	07 12 58.6	
	2.0nm,0.7s							
PESTR	**Estremoz**	**4.54**	**68**	*e*Sn		**Sn**	**07 12 50.0**	**+0.1**
	2.0nm,0.7s							
PBAR	**Barrancos**	**4.79**	**78**	*e*Sn		**Sn**	**07 12 55.5**	**-0.7**
PBAR				A		A	07 13 06.6	
	2.2nm,0.9s							
PBAR	**Barrancos**	**4.79**	**78**	*e*Sn		**Sn**	**07 12 55.5**	**-0.7**
	2.2nm,0.9s							
PMRV	**Marv??o**	**4.88**	**62**	*e*Pn		**Pn**	**07 12 04.4**	**+2.5**
PMRV				*e*Sn		**Sn**	**07 12 57.4**	**-1.1**
PMRV				A		A	07 13 01.1	
	2.6nm,0.5s							
PMRV	**Marv??o**	**4.88**	**62**	*e*Pn		**Pn**	**07 12 04.4**	**+2.5**
PMRV				*e*Sn		**Sn**	**07 12 57.4**	**-1.1**
	2.6nm,0.5s							
EBAD	**Badajoz**	**4.93**	**71**	P		**Pn**	**07 12 03.2**	**+0.6**
	0.1nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**07 12 58.3**	**-1.4**
	0.2nm,0.2s,SNR=6.5							
EBAD	**Badajoz**	**4.93**	**71**	P		**Pn**	**07 12 03.2**	**+0.6**
	0.1nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**07 12 58.3**	**-1.4**
	0.2nm,0.2s,SNR=6.5							
PCBR	**Castelo Branco**	**5.01**	**58**	*e*Pn		**Pn**	**07 12 04.5**	**+0.9**
PCBR				*e*Sn		**Sn**	**07 13 01.0**	**-0.5**
PCBR				A		A	07 13 04.5	
	1.2nm,0.3s							
PCBR	**Castelo Branco**	**5.01**	**58**	*e*Pn		**Pn**	**07 12 04.5**	**+0.9**
PCBR				*e*Sn		**Sn**	**07 13 01.0**	**-0.5**
	1.2nm,0.3s							
EMIN	**Mina Concepcio**	**5.04**	**83**	P		**Pn**	**07 12 03.9**	**-0.1**
	0.1nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**07 13 00.8**	**-1.4**
	1.3nm,0.2s,SNR=6.9							
EMIN	**Mina Concepcio**	**5.04**	**83**	P		**Pn**	**07 12 03.9**	**-0.1**
	0.1nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**07 13 00.8**	**-1.4**
	1.3nm,0.2s,SNR=6.9							
ESPR	**Espera**	**5.71**	**92**	S		**Sn**	**07 13 16.6**	**-2.3**
	5.1nm,0.3s,SNR=7.9							
ESPR	**Espera**	**5.71**	**92**	S		**Sn**	**07 13 16.6**	**-2.3**
	5.1nm,0.3s,SNR=7.9							
EZAM	**Zamans**	**5.87**	**33**	S		**Sn**	**07 13 20.5**	**-2.2**
	0.2nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**5.87**	**33**	S		**Sn**	**07 13 20.5**	**-2.2**
	0.2nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.92**	**36**	*e*Sn		Sn	07 13 20.5	-3.5
PGAV				A		A	07 13 27.4	
	3.0nm,0.5s							
PGAV	**Gavieira, Arco**	**5.92**	**36**	*e*Sn		Sn	07 13 20.5	-3.5
	3.0nm,0.5s							
ELOB	**Lobios**	**5.94**	**38**	S		**Sn**	**07 13 22.3**	**-2.4**
	1.0nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**5.94**	**38**	S		**Sn**	**07 13 22.3**	**-2.4**
	1.0nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**6.03**	**48**	*e*Sn		**Sn**	**07 13 24.6**	**-2.1**
MVO				A		A	07 13 34.2	
	2.4nm,1.1s							
MVO	**Moncorvo**	**6.03**	**48**	*e*Sn		**Sn**	**07 13 24.6**	**-2.1**
	2.4nm,1.1s							
MVO				S		**Sn**	**07 13 25.7**	**-1.0**
	0.8nm,0.1s,SNR=6.2							
ECAB	**El Cabril**	**6.05**	**80**	S		**Sn**	**07 13 25.3**	**-1.9**
	0.3nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**6.05**	**80**	S		**Sn**	**07 13 25.3**	**-1.9**
	0.3nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**6.07**	**61**	S		**Sn**	**07 13 26.5**	**-1.2**
	0.7nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**6.07**	**61**	S		**Sn**	**07 13 26.5**	**-1.2**
	0.7nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.43**	**27**	P		Pn	07 12 22.2	-0.9
	0.7nm,0.2s,SNR=7.9							
EMAZ				S		Sn	07 13 29.9	-6.7
	1.0nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.43**	**27**	P		Pn	07 12 22.2	-0.9
	0.7nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.72**	**80**	S		**Sn**	**07 13 42.6**	**-1.1**
	1.5nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.72**	**80**	S		**Sn**	**07 13 42.6**	**-1.1**
	1.5nm,0.2s,SNR=7.9							

*IDC **25** 07:17:52.5±2.0, 32°.22N×48°.86E, h0km, mb3.9/9, mb1 3.9/12, mb1mx3.7/29, mbtmp3.8/12, ML3.1/3, MS2.8/3,*

Ms1 2.8/3, ms1mx2.5/39, Error ellipse: s-maj=45.7km s-min=20.3km az=163.0
*THR **25** 07:17:55.8±1.5, 32°.26N×49°.04E, h14km±10km, ML3.7*
*CSEM **25** 07:17:56.6±0.2, 32°.25N×48°.99E, h10km, ML3.7, Error ellipse: s-maj=6.3km s-min=4.6km az=131.0*
*TEH **25** 07:17:57.6, 32°.20N×48°.97E, h16km, ML3.8*
*ISN **25** 07:17:58.1±1.7, 32°.19N×48°.62E, h0km±208km, ML3.6*
ISC 25 07:17:57.0±0.9, **32°.25N**±0°.03×**48°.94E**±0°.03, **h27**km±7km, **n70**, **σ1s74/79**, **mb3.7**/10, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.18**	**221**	*e*Pg	**Pb**	**07 18 01.3**	**-1.4**
SHGR				AML	AML	07 18 11.1	
	comp=E,24μm,0.8s						
SHGR				AML	AML	07 18 14.7	
	comp=N,10μm,0.4s						
SHGR	**Shooshtar-Gavs**	**0.18**	**221**	*e*Pg	**Pb**	**07 18 01.3**	**-1.4**
IKMR	**Kamar-syah**	**1.35**	**340**	*e*Pn	**Pn**	**07 18 20.6**	**+0.5**
IKMR				*e*Sg	**Sb**	**07 18 41.2**	**+2.6**
IKMR	**Kamar-syah**	**1.35**	**340**	*e*Pn	**Pn**	**07 18 20.6**	**+0.5**
IKMR				*e*Sg	**Sb**	**07 18 41.2**	**+2.6**
IKFM	**Kafar-mosalman**	**1.57**	**324**	*e*Pn	**Pb**	**07 18 25.4**	**-0.1**
IKFM				*e*Sg	**Sb**	**07 18 49.4**	**+4.5**
KHMZ	**Khomeyn**	**1.72**	**30**	*e*Pg	**Pn**	**07 18 26.0**	**+0.6**
KHMZ				*e*Sg	**Sb**	**07 18 48.9**	**-0.5**
KHMZ				AML	AML	07 18 52.8	
	comp=E,737nm,0.6s						
IKLH	**Kolahrood**	**2.47**	**64**	*e*Pn	**Pn**	**07 18 37.5**	**+1.8**
IKLH				*e*		07 19 18.6	
	comp=Z,6μm,0.2s						
IKLH	**Kolahrood**	**2.47**	**64**	*e*Pn	**Pn**	**07 18 37.5**	**+1.8**
ASAO	**Ashtian**	**2.47**	**21**	*e*Pn	**Pn**	**07 18 37.7**	**+2.0**
ASAO				*e*Sg	**Sb**	**07 19 11.8**	**+0.8**
ASAO				AML	AML	07 19 18.8	
	comp=E,272nm,0.6s						
ASAO				AML	AML	07 19 21.2	
	comp=N,237nm,0.6s						
ASAO	**Ashtian**	**2.47**	**21**	*e*Pn	**Pn**	**07 18 37.7**	**+2.0**
IBDR	**Badra**	**2.68**	**290**	*i* Pn	**Pn**	**07 18 40.0**	**+1.6**
IBDR				*e*SN4	**Sn**	**07 19 09.7**	**-0.3**
NSR	**Nassriya**	**2.69**	**243**	*e*PN4	**Pn**	**07 18 38.0**	**-0.5**
NSR				*e*Sn	**Sn**	**07 19 06.0**	**-4.2**
NSR	**Nassriya**	**2.69**	**243**	*e*Pn	**Pn**	**07 18 38.0**	**-0.5**
	SNR=39						
IZEF	**Zefreh**	**2.93**	**76**	*e*Pn	**Pn**	**07 18 43.3**	**+1.2**
IZEF				*e*Sn	**Sn**	**07 19 17.0**	**+0.4**
IZEF				*e*		07 19 34.1	
	comp=Z,3μm,0.3s						
IZEF	**Zefreh**	**2.93**	**76**	*e*Pn	**Pn**	**07 18 43.3**	**+1.2**
IZEF				*e*Sn	**Sn**	**07 19 17.0**	**+0.4**
GHVR	**GHOM**	**2.97**	**41**	*e*Pn	**Pn**	**07 18 44.4**	**+1.8**
GHVR				AML	AML	07 19 35.9	
	comp=E,211nm,0.6s						
GHVR				AML	AML	07 19 38.8	
	comp=N,220nm,0.8s						
GHVR	**GHOM**	**2.97**	**41**	*e*Pn	**Pn**	**07 18 44.3**	**+1.8**
SNGE	**Sanandaj**	**3.13**	**335**	*e*Pn	**Pn**	**07 18 47.4**	**+2.5**
SNGE	**Sanandaj**	**3.13**	**335**	*e*Pn	**Pn**	**07 18 47.4**	**+2.5**
RST	**Umm Al-Ruwaisa**	**3.21**	**212**	*e*P	**Pn**	**07 18 48.5**	**+2.8**
RST	**Umm Al-Ruwaisa**	**3.21**	**212**	*e*P	**Pn**	**07 18 48.5**	**+2.8**
KBD	**Kabd**	**3.24**	**200**	*e*P	**Pn**	**07 18 48.7**	**+2.6**
KBD				*e*S	**Sn**	**07 19 27.4**	**+3.5**
KBD				AML	AML	07 19 30.9	
	comp=Z,67nm,0.3s						
KBD	**Kabd**	**3.24**	**200**	*e*P	**Pn**	**07 18 48.7**	**+2.6**
KBD				*e*S	**Sn**	**07 19 27.4**	**+3.5**
IRAZ	**Razeghan**	**3.26**	**14**	*e*Pn	**Pn**	**07 18 49.0**	**+2.5**
IRAZ				*e*		07 19 54.5	
	comp=Z,3μm,0.3s						
IR5	**Iran Long-Peri**	**3.26**	**24**	*e*Pn	**Pn**	**07 18 48.0**	**+1.5**
IR5	**Iran Long-Peri**	**3.26**	**24**	*e*Pn	**Pn**	**07 18 48.0**	**+1.5**
NASN	**Na'in**	**3.31**	**79**	*e*Pn	**Pn**	**07 18 48.1**	**+0.7**
NASN	**Na'in**	**3.31**	**79**	*e*Pn	**Pn**	**07 18 48.1**	**+0.7**
NAY	**Al-Naaiem**	**3.33**	**207**	*e*P	**Pn**	**07 18 49.4**	**+2.1**
NAY				AML	AML	07 19 39.9	
	comp=Z,90nm,0.6s						
NAY	**Al-Naaiem**	**3.33**	**207**	*e*P	**Pn**	**07 18 49.4**	**+2.1**
RDF	**Al-Radifah**	**3.52**	**200**	*e*P	**Pn**	**07 18 52.3**	**+2.3**
RDF				AML	AML	07 19 36.6	
	comp=Z,245nm,0.5s						
RDF	**Al-Radifah**	**3.52**	**200**	*e*P	**Pn**	**07 18 52.3**	**+2.3**
IVRN	**Varamin**	**3.59**	**40**	*e*Pn	**Pn**	**07 18 53.7**	**+2.6**
IVRN				*e*		07 20 08.4	
	comp=Z,1μm,0.5s						
IVRN	**Varamin**	**3.59**	**40**	*e*Pn	**Pn**	**07 18 53.7**	**+2.6**
IMHD	**Mahdasht**	**3.72**	**22**	*e*Pn	**Pn**	**07 18 54.4**	**+1.6**
IMHD				*e*		07 20 02.5	
	comp=Z,904nm,0.4s						
BHD	**Baghdad**	**3.98**	**286**	*e*PN4	**Pn**	**07 18 57.1**	**+0.9**
BHD				*e*SN4	**Sn**	**07 19 38.2**	**-3.8**
BHD	**Baghdad**	**3.98**	**286**	*e*Pn	**Pn**	**07 18 57.1**	**+0.9**
	SNR=39						
ISAD	**Sadrabad**	**4.04**	**93**	*e*Pn	**Pn**	**07 18 58.0**	**+0.6**
ISAD				*e*		07 20 12.7	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**4.04**	**93**	*e*Pn	**Pn**	**07 18 58.0**	**+0.6**
IDMV	**Damavand**	**4.20**	**37**	*e*Pn	**Pn**	**07 19 00.3**	**+0.7**
IDMV				*e*		07 20 17.5	
	comp=Z,1μm,0.5s						
DAMV	**Damavand**	**4.21**	**36**	*e*Pn	**Pn**	**07 19 00.6**	**+0.9**
DAMV	**Damavand**	**4.21**	**36**	*e*Pn	**Pn**	**07 19 00.6**	**+0.9**
IPAR	**Pars**	**4.26**	**123**	*e*Pn	**Pn**	**07 19 00.8**	**+0.3**
IPAR				*e*		07 20 02.4	
	comp=Z,849nm,0.4s						
IPAR	**Pars**	**4.26**	**123**	*e*Pn	**Pn**	**07 19 00.8**	**+0.3**
ILAS	**Lasjerd**	**4.58**	**46**	*e*Pn	**Pn**	**07 19 05.7**	**+1.0**
ILAS				*e*		07 20 41.2	
	comp=Z,1μm,0.5s						
ILAS	**Lasjerd**	**4.58**	**46**	*e*Pn	**Pn**	**07 19 05.7**	**+1.0**
ISRV	**Sarvestan**	**4.58**	**127**	*e*Pn	**Pn**	**07 19 05.0**	**+0.1**
ISRV				*e*		07 20 01.6	
	comp=Z,1μm,0.1s						
ISRV	**Sarvestan**	**4.58**	**127**	*e*Pn	**Pn**	**07 19 05.0**	**+0.1**
ICHK	**Chekchek**	**4.63**	**89**	*e*Pn	**Pn**	**07 19 06.2**	**+0.7**
ICHK				*e*		07 20 21.4	
	comp=Z,1μm,0.3s						
ICHK	**Chekchek**	**4.63**	**89**	*e*Pn	**Pn**	**07 19 06.2**	**+0.7**
IFIR	**Firoozkooh**	**4.64**	**42**	*e*	Pb	07 19 14.3	-3.5
	comp=Z,493nm,0.1s						
IFIR				*e*Pn	**Pn**	**07 19 06.8**	**+1.2**
ISHM	**Shahmirzad**	**5.07**	**44**	*e*Pn	**Pn**	**07 19 12.3**	**+0.8**
ISHM				*e*		07 20 51.8	
	comp=Z,1μm,0.3s						
IANJ	**Anjilo**	**5.24**	**51**	*e*Pn	**Pn**	**07 19 14.9**	**+1.1**
IANJ				*e*		07 20 58.2	
	comp=Z,439nm,0.4s						
IBAF	**Bafgh**	**5.67**	**95**	*e*Pn	**Pn**	**07 19 20.0**	**+0.3**
IBAF				*e*		07 20 26.2	
	comp=Z,239nm,0.3s						
IBAF	**Bafgh**	**5.67**	**95**	*e*Pn	**Pn**	**07 19 20.0**	**+0.3**
GNI	**Garni**	**8.59**	**338**	LR	LR	07 23 44.2	
	comp=Z,14nm,28.6s,baz=262,slow=41						
ASF	**Jabal al Asfar**	**10.21**	**273**	Pn	Pn	07 20 18.7	-3.1
	comp=Z,0.2nm,0.3s,baz=42,slow=9.3,SNR=4.0						
ASF				Sn	Sn	07 22 09.5	-5.9
	comp=Z,0.2nm,0.3s,baz=56,slow=18,SNR=2.4						
ASF				Lg	Lg	07 23 31.2	
	comp=Z,0.1nm,0.3s,baz=227,slow=19,SNR=2.1						
EIL	**Elat**	**12.28**	**262**	LR	LR	07 26 28.7	
	comp=Z,30nm,19.4s,baz=82,slow=42						
BRTR	**Keskin Array B**	**14.45**	**305**	Pn	**Pn**	**07 21 19.6**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=125,slow=12,SNR=3.2						
AKTO	**Aktyubinsk**	**19.38**	**18**	P	**P**	**07 22 19.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=4.2						
BVAR	**Borovoye Array**	**25.90**	**30**	P	**P**	**07 23 26.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=234,slow=9.0,SNR=5.9						
KURBB	**Kurchatov Arra**	**28.51**	**41**	P	**P**	**07 23 50.6**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=243,slow=9.0,SNR=16						
MKAR	**Makanchi Array**	**29.29**	**51**	P	**P**	**07 23 57.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=244,slow=7.1,SNR=8.7						
MKAR				LR	LR	07 38 18.8	
	comp=Z,15nm,28.6s,baz=1.5,slow=42						
FINES	**FINESS Array B**	**32.77**	**340**	P	**P**	**07 24 27.1**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=144,slow=8.0,SNR=19						
KAF	**Kangasniemi**	**33.24**	**341**	*ep*	**P**	**07 24 31.5**	**-0.1**
	comp=Z,0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**33.47**	**39**	P	**P**	**07 24 33.5**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=261,slow=9.9,SNR=15						
NOA	**NORSAR Array B**	**37.81**	**331**	P	**P**	**07 25 10.1**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=132,slow=6.0,SNR=3.9						
ARCES	**ARCESS Array B**	**39.60**	**347**	P	**P**	**07 25 25.4**	**-0.3**
	comp=Z,6.7nm,1.1s,baz=152,slow=9.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**47.13**	**257**	P	**P**	**07 26 26.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=58,slow=7.8,SNR=3.4						
YKA	**Yellowknife Ar**	**84.67**	**352**	P	**P**	**07 30 26.4**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=12,slow=6.4,SNR=6.2						

*IDC **25** 07:28:35.8±1.4, 2°.02N×96°.58E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.7/28, mbtmp3.9/9, ML3.9/2, Error ellipse: s-maj=37.6km s-min=18.2km az=48.0*
*DJA **25** 07:28:38.7±1.0, 2°.1N±5°×9°.6E±°, h82km±10km, M3.5/7, MLv3.5/7*
*NEIC **25** 07:28:41.5±0.6, 2°.10N×96°.74E, h35km, mb4.3/2, Error ellipse: s-maj=12.5km s-min=8.4km az=220.0*
ISC 25 07:28:41.2±0.8, **2°.19N**±0°.06×**96°.75E**±0°.05, **h28**km, **n40**, **σ1s26/40**, **mb4.2**/10, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.48**	**297**	P	**Pn**	**07 28 52.7**	**+0.5**
SNSI				S	**Sn**	**07 29 02.2**	**+2.5**
TPTI		**1.15**	**22**	P	**Pn**	**07 29 01.4**	**0.0**
TPTI				S	**Sb**	**07 29 19.0**	**+2.0**
GSI	**Gunungsitoli**	**1.20**	**137**	P	**Pb**	**07 29 02.7**	**-0.6**
KCSI	**Kotacane, Aceh**	**1.67**	**37**	P	**Pn**	**07 29 09.7**	**+1.0**
KCSI				S	**Sb**	**07 29 31.7**	**-0.3**
TSI	**Tuntungan**	**2.23**	**54**	P	**Pb**	**07 29 20.5**	**-0.4**
TSI				S	**Sb**	**07 29 53.2**	**+5.1**
PSI	**Prapat**	**2.25**	**74**	P	**Pn**	**07 29 16.5**	**-0.2**
PSI	**Prapat**	**2.25**	**74**	Pn	**Pn**	**07 29 16.6**	**-0.2**
PSI				Sn	**Sb**	**07 29 49.1**	**+0.3**
PSI	**Prapat**	**2.25**	**74**	Pn	**Pn**	**07 29 16.6**	**-0.2**
	4.0nm,0.3s,baz=296,slow=5.7,SNR=8.2						
PSI				Sn	**Sb**	**07 29 49.1**	**+0.3**
	4.6nm,0.3s,baz=306,slow=19,SNR=4.0						
PSI	**Prapat**	**2.25**	**74**	P	**Pn**	**07 29 17.4**	**+0.7**
LASI	**Langsa, Aceh**	**2.56**	**28**	P	**Pn**	**07 29 17.9**	**-3.0**
MNSI	**Mandailing Nat**	**3.14**	**116**	P	**Pn**	**07 29 30.4**	**+1.5**
IPM	**Ipoh**	**4.83**	**62**	*e*Pn	**Pn**	**07 29 52.2**	**0.0**
KULM	**Kulim**	**4.96**	**51**	P	**Pn**	**07 29 54.2**	**+0.3**
KULM	**Kulim**	**4.96**	**51**	*e*Pn	**Pn**	**07 29 54.2**	**+0.3**
	28nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.31**	**7**	Pn	**P**	**07 32 30.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**16.31**	**7**	Pn	**P**	**07 32 30.4**	**-0.8**
	0.7nm,0.3s,baz=196,slow=11,SNR=15						
H08S2	**Diego Garcia H**	**26.10**	**248**	T	T	08 01 05.9	
	baz=68,slow=75,SNR=210						
H08S3	**Diego Garcia H**	**26.10**	**248**	T	T	08 01 02.9	
	baz=68,slow=75,SNR=169						
H08S1	**Diego Carcia H**	**26.12**	**248**	T	T	08 01 04.1	
	baz=68,slow=75,SNR=185						
H01W3	**Cape Leeuwin H**	**40.32**	**158**	T	T	08 19 09.5	
	baz=334,slow=76,SNR=6.2						
H01W2	**Cape Leeuwin H**	**40.33**	**158**	T	T	08 19 06.2	
	baz=334,slow=76,SNR=8.3						
H01W1	**Cape Leeuwin H**	**40.34**	**158**	T	T	08 19 07.5	
	baz=334,slow=76,SNR=5.7						
WRA	**Warramunga Arr**	**42.94**	**123**	P	**P**	**07 36 37.0**	**-1.0**
WRA	**Warramunga Arr**	**42.94**	**123**	P	**P**	**07 36 37.0**	**-1.0**
	0.7nm,0.9s,baz=302,slow=9.1,SNR=7.4						
WRAB	**Tennant Creek**	**42.94**	**123**	*e*P	**P**	**07 36 37.3**	**-0.8**
	7.7nm,1.5s						
ASAR	**Alice Springs**	**44.34**	**128**	P	**P**	**07 36 48.6**	**-0.7**
ASAR	**Alice Springs**	**44.34**	**128**	P	**P**	**07 36 48.6**	**-0.7**
	0.6nm,0.7s,baz=300,slow=7.9,SNR=13						
MK31	**Makanchi Array**	**46.19**	**346**	*e*P	**P**	**07 37 03.5**	**0.0**
MKAR	**Makanchi Array**	**46.19**	**346**	P	**P**	**07 37 03.5**	**0.0**
MKAR	**Makanchi Array**	**46.19**	**346**	P	**P**	**07 37 03.5**	**0.0**

BHHZ				SN	Sn	08 09 06.7	-0.6	
MCHZ	**McNeill Hill**	**1.05**	**150**	PN	Pn	08 08 50.6	+0.7	
RIGZ	**Rimuhau**	**1.38**	**98**	PN	Pn	08 08 52.7	-0.4	
PNHZ	**Pukenui**	**1.39**	**174**	PN	Pn	08 08 53.0	-0.1	
KAHZ	**Kahuranaki**	**1.43**	**152**	PN	Pn	08 08 53.8	+0.2	
TSZ	**Takapari Road**	**1.53**	**182**	*e*PN	Pn	08 08 54.0	-0.6	
PXZ	**Pawanui**	**1.64**	**157**	PN	Pn	08 08 55.6	-0.2	
DVHZ	**Dannevirke**	**1.77**	**176**	PN	Pn	08 08 56.6	-0.7	
POWZ	**Post Office Ro**	**1.87**	**186**	PN	Pn	08 08 57.6	-0.8	
ANWZ	**Angora Road**	**1.96**	**170**	PN	Pn	08 08 59.0	-0.4	
PRWZ	**Pori Road**	**2.02**	**181**	PN	Pn	08 08 59.6	-0.6	
BFZ	**Birch Farm**	**2.15**	**175**	PN	Pn	08 09 00.7	-1.1	
MRZ	**Mangatainoka R**	**2.15**	**189**	PN	Pn	08 09 00.6	-1.2	
MRZ				AML	AML	08 09 30.1		
OGWZ	**Otaki Gorge**	**2.38**	**196**	PN	Pn	08 09 03.1	-1.3	
HOWZ	**Holdsworth Sta**	**2.40**	**189**	PN	Pn	08 09 03.1	-1.7	
KIW	**Kapiti Island**	**2.48**	**200**	PN	Pn	08 09 04.1	-1.7	
TMWZ	**Te Maipa**	**2.58**	**182**	PN	Pn	08 09 05.3	-1.7	
MTW	**Mount Morrison**	**2.65**	**188**	PN	Pn	08 09 05.9	-2.0	
CAW	**Cannon Point**	**2.67**	**196**	PN	Pn	08 09 06.4	-1.8	
MSWZ	**Moikau Station**	**2.94**	**191**	PN	Pn	08 09 09.2	-2.4	
SNZO	**South Karori**	**2.95**	**200**	PN	Pn	08 09 09.4	-2.2	
TCW	**Tory Channel**	**2.99**	**206**	PN	Pn	08 09 10.0	-2.2	
PLWZ	**Palliser**	**3.09**	**191**	PN	Pn	08 09 11.0	-2.5	
TUWZ	**Tuamarina**	**3.30**	**208**	PN	Pn	08 09 13.6	-2.6	
NNZ	**Nelson**	**3.36**	**216**	PN	Pn	08 09 14.6	-2.4	

*IDC **25** 08:09:53.8±0.9, 37°.69N×76°.63E, h0km, mb3.6/8, mb1 3.8/14, mb1mx3.7/32, mbtmp3.7/14, ML3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/36, Error ellipse: s-maj=21.4km s-min=15.0km az=74.0*
*ISCJB **25** 08:09:54.5±0.4, 37°.69N±0°.05×76°.6E±0°.1, h10km, mb3.6/9, Error ellipse: s-maj=13.1km s-min=3.8km az=153.6*
*NNC **25** 08:09:54.7±8.3, 37°.71N×76°.18E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=68.8km s-min=41.8km az=171.0*
*BJI **25** 08:09:55.5, 37°.81N×76°.76E, h6km, ML4.0/7*

ISC 25 08:09:55.9±0.7, 37°.71N±0°.07×76.7E±0°.1, h10km, n45, σ1§65/48, mb3.7/9, 7C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KSH	**Kashi**	**1.89**	**343**	Pg	Pn	08 10 25.0		-3.4
KSH				Sg	Sn	08 10 43.5		-8.8
KSH	comp=N,2μm,0.4s			smax	smax			
KSH	comp=E,2μm,0.4s			smax	smax			
KZA	**Kyzart** SNR=11	**4.50**	**346**	P	**Pn**	**08 11 06.4**		**+1.9**
ULHL	**Ulahol** SNR=6.9	**4.55**	**356**	P	**Pb**	**08 11 17.1**		**+1.2**
UCH	**Uchtor** SNR=36	**4.81**	**340**	P	**Pn**	**08 11 10.6**		**+1.7**
AML	**Almayashu** SNR=17	**4.98**	**334**	P	**Pn**	**08 11 12.9**		**+1.8**
KBK	**Karagaybulak** SNR=21	**5.12**	**346**	P	**Pn**	**08 11 14.9**		**+2.1**
AAK	**Ala-Archa** SNR=23	**5.20**	**342**	P	**Pn**	**08 11 16.2**		**+2.3**
AAK	**Ala-Archa** 9.2nm,0.3s,baz=149,slow=9.7,SNR=70	**5.20**	**342**	Pn	**Pn**	**08 11 16.0**		**+2.2**
AAK	8.8nm,0.3s,baz=125,slow=12,SNR=32			Pg	**Pb**	**08 11 29.2**		**+2.3**
AAK	2.1nm,0.3s,baz=39,slow=18,SNR=2.4			Lg	Lg	08 12 34.9		
AAK	**Ala-Archa** 13nm,0.4s	**5.20**	**342**	⇓Pn	**Pn**	**08 11 15.7**		**+1.9**
AAK	64nm,0.6s			⇓Pg	**Pb**	**08 11 29.4**		**+2.4**
AAK	40nm,0.8s			⇓Sn	**Sn**	**08 12 13.3**		**-0.6**
AAK	77nm,1.2s			⇑Lg	Lg	08 12 36.0		
TKM2	**Tokmak 2** SNR=12	**5.27**	**351**	P	**Pn**	**08 11 16.9**		**+2.0**
TKM2	**Tokmak 2** 6.6nm,0.5s	**5.27**	**351**	⇑Pn	**Pn**	**08 11 16.6**		**+1.6**
TKM2	86nm,0.9s			⇑Pg	**Pb**	**08 11 27.7**		**-0.6**
TKM2	47nm,0.8s			⇑Lg	Lg	08 12 38.7		
EKS2	**Erkin-Say** SNR=8.0	**5.42**	**337**	P	Pn	08 11 20.4		+3.5
CEP	**Cherat**	**5.48**	**226**	P	Pn	08 11 24.6		+6.9
CHMS	**Chumysh** SNR=18	**5.49**	**345**	P	**Pn**	**08 11 19.8**		**+2.1**
USP	**Ospenovka** SNR=5.2	**5.80**	**344**	P	**Pn**	**08 11 24.3**		**+2.4**
KK31	**Karatay Array** 2.5nm,0.4s,baz=124,slow=12,SNR=48	**7.15**	**321**	Pn	**Pn**	**08 11 41.0**		**+0.5**
KK31	5.7nm,0.5s,baz=122,slow=26,SNR=5.1			⇑Sn	**Sn**	**08 12 59.6**		**-2.3**
MK31	**Makanchi Array** 0.6nm,0.6s,baz=204,slow=14,SNR=17	**9.98**	**23**	⇑Pn	**Pn**	**08 12 20.3**		**+0.9**
MK31	4.0nm,0.8s,baz=203,slow=24,SNR=4.0			⇓Sn	Sn	08 14 25.2		+14
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=208,slow=14,SNR=12	**9.98**	**23**	Pn	**Pn**	**08 12 20.1**		**+0.7**
MKAR	0.2nm,0.3s,baz=205,slow=23,SNR=3.1			Sn	Sn	08 14 24.7		+13
MKAR	0.2nm,0.3s,baz=198,slow=27,SNR=2.7			Lg	Lg	08 15 11.2		
WMQ	**Urumqi**	**10.35**	**50**	P	**Pn**	**08 12 22.5**		**-1.9**
PYUN	**Pipeline** 19nm,0.4s	**10.95**	**149**	*e*P	**Pn**	**08 12 34.8**		**+2.0**
PYUN				*e*S	**Sn**	**08 14 33.3**		**-2.1**
DANN	**Dangsing** 10nm,0.4s	**11.06**	**145**	*e*P	**Pn**	**08 12 37.0**		**+2.6**
KOLN	**Koldanda** 4.3nm,0.3s	**11.49**	**148**	*e*P	**Pn**	**08 12 43.0**		**+2.8**
GKN	**Gorkha** 9.6nm,0.4s	**11.76**	**143**	*e*P	**Pn**	**08 12 45.6**		**+1.7**
KKN	**Kakani**	**12.25**	**141**	*e*P	**Pn**	**08 12 52.4**		**+1.8**
DMN	**Daman** 11nm,0.6s	**12.31**	**142**	*e*P	**Pn**	**08 12 53.1**		**+1.6**
GUN	**Gumba** 8.6nm,0.5s	**12.45**	**139**	*e*P	**Pn**	**08 12 54.9**		**+1.4**
PKIN	**Phulchoki** 4.5nm,0.3s	**12.48**	**141**	*e*P	**Pn**	**08 12 55.1**		**+1.2**
PKI	**Pulchoki**	**12.49**	**141**	*e*P	**Pn**	**08 12 55.5**		**+1.4**
JIRN	**Jiri** 14nm,0.4s	**12.82**	**139**	*e*P	**Pn**	**08 12 59.8**		**+1.3**
KURBB	**Kurchatov Arra** baz=191,slow=12,SNR=4.4	**12.98**	**5**	Pn	**Pn**	**08 12 58.6**		**-1.6**
KURBB	0.2nm,0.3s,baz=191,slow=29,SNR=5.7			Lg	Lg	08 16 43.2		
KURK	**Kurchatov** 0.4nm,0.7s	**13.08**	**5**	⇑Pn	**Pn**	**08 13 03.4**		**+1.7**
RAMN	**Ramite** 13nm,0.5s	**13.61**	**139**	*e*P	**Pn**	**08 13 09.6**		**+0.4**
VOSK	**Vostochnaya** 4.5nm,1.0s	**15.54**	**347**	⇓Pn	**Pn**	**08 13 34.4**		**-0.5**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=158,slow=12,SNR=6.3	**15.93**	**346**	Pn	**Pn**	**08 13 37.8**		**-2.2**
BVAR	0.0nm,0.3s,baz=143,slow=27,SNR=3.5			Lg	Lg	08 18 18.8		
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=210,slow=12,SNR=5.5	**17.19**	**16**	P	**Pn**	**08 13 56.6**		**+0.7**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=121,slow=12,SNR=7.0	**18.42**	**320**	P	**P**	**08 14 10.6**		**-0.6**
AKTO	comp=Z,26nm,18.3s,baz=218,slow=38			LR	LR	08 21 38.6		
SONM	**Songino Array** 2.5nm,0.7s,baz=258,slow=11,SNR=5.3	**23.91**	**55**	P	**P**	**08 15 10.4**		**+0.4**
JOF	**Joensuu** 0.6nm,0.4s	**37.20**	**327**	*ep*	**P**	**08 17 07.0**		**+0.1**
FINES	**FINESS Array B** 0.7nm,0.4s,baz=117,slow=9.0,SNR=17	**39.10**	**324**	P	**P**	**08 17 22.6**		**-0.3**
NOA	**NORSAR Array B** 0.5nm,0.6s,baz=92,slow=7.5,SNR=2.4	**46.18**	**322**	P	**P**	**08 18 19.5**		**-1.0**
TORD	**Torodi Ar. Bea** 0.6nm,0.3s,baz=50,slow=5.8,SNR=10	**70.25**	**272**	P	**P**	**08 21 08.7**		**-0.9**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=327,slow=5.7,SNR=3.1	**72.30**	**18**	P	**P**	**08 21 21.3**		**+0.1**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=324,slow=5.4,SNR=3.1	**78.89**	**126**	P	**P**	**08 21 59.5**		**-0.1**
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=345,slow=5.7,SNR=12	**79.73**	**5**	P	**P**	**08 22 02.8**		**-0.8**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=322,slow=5.1,SNR=6.4	**81.34**	**129**	P	**P**	**08 22 11.9**		**-0.9**

*ISK **25** 08:45:29.7, 35°.58N×31°.54E, h43km, MD3.5*

*DDA **25** 08:45:29.6, 35°.91N×31°.51E, h19km, MD3.3*
*CSEM **25** 08:45:30.1±0.2, 35°.64N×31°.56E, h20km, ML3.4, Error ellipse: s-maj=6.2km s-min=5.6km az=85.0*
*NIC **25** 08:45:36.0±0.2, 35°.54N×32°.06E, h20km, ML3.4*

ISC 25 08:45:27.7±1.4, 35°.64N±0°.03×31°.57E±0°.04, h2km±11km, n55, σ1§10/68, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GAZI	**Gazipasa**	**0.84**	**45**	*i* P	**Pg**	**08 45 44.7**		**+0.8**
GAZI				*i* S	**Sg**	**08 45 53.6**		**-1.2**
GAZI	**Gazipasa**	**0.84**	**45**	*i* P	**Pg**	**08 45 44.7**		**+0.8**
GAZI				*i* S	**Sg**	**08 45 53.6**		**-1.2**
AKMC	**Akamas** baz=336	**0.87**	**135**	P	**Pb**	**08 45 46.9**		**+1.3**
AKMC	**Akamas**	**0.87**	**135**	P	**Pb**	**08 45 46.9**		**+1.3**
ALFC	**Alevga** baz=310	**0.97**	**120**	P	**Pb**	**08 45 48.0**		**+0.8**
ALFC				S	**Sg**	**08 45 56.4**		**-2.4**
ALFC	**Alevga**	**0.97**	**120**	P	**Pb**	**08 45 48.0**		**+0.8**
PPCY	**Paphos** baz=340	**0.99**	**140**	P	**Pn**	**08 45 49.6**		**+1.1**
PPCY	**Paphos**	**0.99**	**140**	P	**Pn**	**08 45 49.6**		**+1.1**
AKDN	**Akdeniz- K¯–br**	**1.19**	**106**	*e*PN	**Pg**	**08 45 50.9**		**+0.4**
AKDN				*e*SN	**Sg**	**08 46 06.2**		**+0.3**
AKDN	**Akdeniz- K¯–br**	**1.19**	**106**	*e*Pn	**Pg**	**08 45 50.9**		**+0.4**
AKDN				*e*Sn	**Sg**	**08 46 06.2**		**+0.3**
LEF	**Lefka**	**1.20**	**116**	*e*PN	**Pg**	**08 45 50.3**		**-0.3**
LEF				*e*SN	**Sg**	**08 46 05.0**		**-1.2**
LEF	**Lefka**	**1.20**	**116**	*e*Pn	**Pg**	**08 45 50.3**		**-0.3**
LEF				*e*Sn	**Sg**	**08 46 05.0**		**-1.2**
MAMC	**Mammari** baz=291	**1.43**	**109**	P	**Pn**	**08 45 54.0**		**-0.6**
MAMC	**Mammari**	**1.43**	**109**	P	**Pn**	**08 45 54.0**		**-0.6**
ERMK	**Ermenek**	**1.47**	**47**	*i* P	**Pn**	**08 45 55.9**		**+0.5**
ERMK				*i* S	**Sb**	**08 46 14.3**		**-0.8**
ERMK	**Ermenek**	**1.47**	**47**	*i* P	**Pn**	**08 45 55.9**		**+0.8**
ERMK				*i* S	**Sb**	**08 46 14.3**		**-0.8**
CSS	**Prodhromos**	**1.59**	**115**	*e*PN	**Pn**	**08 45 56.3**		**-0.6**
CSS	**Prodhromos** baz=299	**1.59**	**115**	P	**Pn**	**08 45 56.1**		**-0.8**
CSS	**Prodhromos**	**1.59**	**115**	P	**Pn**	**08 45 56.1**		**-0.8**
CSS	**Prodhromos**	**1.59**	**115**	*e*Pn	**Pn**	**08 45 56.3**		**-0.6**
LFK	**Lefkose**	**1.64**	**102**	*e*PN	**Pn**	**08 45 57.2**		**-0.4**
LFK	**Lefkose**	**1.64**	**102**	*e*Pn	**Pn**	**08 45 57.2**		**-0.4**
AKAS	**Kas**	**1.70**	**291**	*e*P	**Pn**	**08 45 58.1**		**-0.4**
AKAS	**Kas**	**1.70**	**291**	*e*P	**Pn**	**08 45 58.1**		**-0.4**
IKL	**Isikli**	**1.81**	**70**	*e*PN	**Pn**	**08 46 00.1**		**+0.2**
IKL	**Isikli**	**1.81**	**70**	*e*Pn	**Pn**	**08 46 00.1**		**+0.2**
SUTC	**Sutluce-Ispart**	**1.89**	**346**	*e*PN	**Pn**	**08 46 01.0**		**0.0**
SUTC	**Sutluce-Ispart**	**1.89**	**346**	*e*Pn	**Pn**	**08 46 01.0**		**0.0**
EREN	**Erenkoy**	**2.12**	**92**	*e*PN	**Pn**	**08 46 04.2**		**+0.1**
EREN	**Erenkoy**	**2.12**	**92**	*e*Pn	**Pn**	**08 46 04.2**		**+0.1**
KIZK	**Mersin**	**2.25**	**67**	*i* P	**Pn**	**08 46 07.3**		**+1.5**
KIZK				*i* S	**Sn**	**08 46 34.9**		**+0.8**
KIZK	**Mersin**	**2.25**	**67**	*i* P	**Pn**	**08 46 07.3**		**+1.5**
KIZK				*i* S	**Sn**	**08 46 34.9**		**+0.8**
GOLH	**Golhisar**	**2.27**	**315**	*i* P	**Pn**	**08 46 07.9**		**+1.6**
GOLH				*i* S	**Sn**	**08 46 35.4**		**+0.5**
GOLH	**Golhisar**	**2.27**	**315**	*i* P	**Pn**	**08 46 07.9**		**+1.6**
KONT	**Konya--Tatoy**	**2.38**	**15**	*e*PN	**Pn**	**08 46 08.6**		**+0.8**
KONT	**Konya--Tatoy**	**2.38**	**15**	*e*Pn	**Pn**	**08 46 08.6**		**+0.8**
LADK	**Ladik-KONYA**	**2.63**	**14**	*e*PN	**Pn**	**08 46 12.2**		**+0.9**
LADK	**Ladik-KONYA**	**2.63**	**14**	*e*Pn	**Pn**	**08 46 12.2**		**+0.9**
MERS	**Mersin**	**2.68**	**62**	*e*PN	**Pn**	**08 46 12.7**		**+0.8**
MERS	**Mersin**	**2.68**	**62**	*e*Pn	**Pn**	**08 46 12.7**		**+0.8**
GULE	**Gulek**	**3.06**	**57**	*i* P	Pn	08 46 20.2		+3.0
GULE				*i* S	**Sb**	**08 46 58.8**		**-1.9**
GULE	**Gulek**	**3.06**	**57**	*i* P	Pn	08 46 20.2		+3.0
YURE	**YUREGIR**	**3.49**	**69**	*i* P	**Pn**	**08 46 25.4**		**+2.4**
YURE				*i* S	**Sn**	**08 47 03.0**		**-1.9**
YURE	**YUREGIR**	**3.49**	**69**	*i* P	**Pn**	**08 46 25.4**		**+2.4**
YURE				*i* S	**Sn**	**08 47 03.0**		**-1.9**
AYDN	**Tasoluk**	**3.59**	**305**	*i* P	**Pn**	**08 46 22.7**		**-1.7**
AYDN	**Tasoluk**	**3.59**	**305**	*i* P	**Pn**	**08 46 22.7**		**-1.7**
TAHT	**Tahtakopru-Hat**	**3.81**	**78**	*e*PN	**Pn**	**08 46 28.1**		**+0.7**
TAHT	**Tahtakopru-Hat**	**3.81**	**78**	*e*Pn	**Pn**	**08 46 28.1**		**+0.7**
RSH		**5.01**	**158**	P	**Pn**	**08 46 45.5**		**+1.7**
AMAG	**Maghara**	**5.17**	**164**	P	**Pn**	**08 46 46.8**		**+0.6**
HMYD	**Mayadein**	**5.87**	**187**	P	**Pn**	**08 46 56.2**		**+0.5**
HMAT	**Matruh**	**5.88**	**221**	P	**Pn**	**08 46 54.8**		**-1.1**
SUZ		**5.88**	**169**	P	**Pn**	**08 46 56.9**		**+1.0**
HSAF	**As Saff**	**6.01**	**180**	P	**Pn**	**08 46 58.4**		**+0.8**
GLL	**Jalalah**	**6.05**	**179**	P	**Pn**	**08 46 59.3**		**+1.1**

IDC 25 08:59:27.0±3.2, 24°.89N×123°.04E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.4/4, Error ellipse: s-maj=235.1km s-min=22.7km az=62.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MKAR	**Makanchi Array** 0.9nm,0.9s,baz=104,slow=8.8,SNR=6.5	**39.03**	**315**	P	P	09 06 55.5		+0.1
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=107,slow=9.8,SNR=4.2	**40.59**	**326**	P	P	09 07 07.8		-0.4
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=346,slow=9.0,SNR=5.7	**45.90**	**165**	P	P	09 07 51.0		-0.5
ASAR	**Alice Springs** 0.1nm,0.4s,baz=350,slow=7.2,SNR=6.9	**49.41**	**167**	P	P	09 08 19.0		+0.3

*ATH **25** 09:15:40.7, 35°.24N×28°.64E, h15km±2km, MD3.6/10*
*ISCJB **25** 09:15:43.2±0.3, 35°.27N±0°.04×28°.69E±0°.03, h63km±21km, Error ellipse: s-maj=7.2km s-min=3.7km az=167.3*
*DDA **25** 09:15:43.0, 35°.37N×28°.64E, h42km, MD3.4*
*CSEM **25** 09:15:44.6±0.1, 35°.31N×28°.65E, h40km, MD3.6, Error ellipse: s-maj=3.7km s-min=3.2km az=11.0*
*HLW **25** 09:15:44.5, 35°.27N×28°.71E, h32km±29km, Md0.0, Ml3.1*
*NIC **25** 09:15:48.2±0.2, 35°.56N×29°.04E, h55km, ML3.0*

ISC 25 09:15:44.2±1.1, 35°.32N±0°.04×28°.65E±0°.03, h52km±34km, n72, σ1§15/94, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ARG	**Arkhangelos**	**0.99**	**335**	*e*PN	**Pn**	**09 16 00.8**		**-1.1**
ARG				*e*SN	**Sn**	**09 16 15.6**		**+0.7**
ARG	**Arkhangelos**	**0.99**	**335**	*e*Pn	**Pn**	**09 16 00.8**		**-1.1**
ARG				*e*Sn	**Sn**	**09 16 15.6**		**+0.7**
AKAS	**Kas**	**1.20**	**40**	*i* P	**Pn**	**09 16 05.2**		**+0.4**
AKAS				*i* S	**Sn**	**09 16 21.4**		**+1.3**
AKAS	**Kas**	**1.20**	**40**	*i* P	**Pn**	**09 16 05.2**		**+0.4**
AKAS				*i* S	**Sn**	**09 16 21.4**		**+1.3**
KARP	**Karpathos**	**1.24**	**281**	*e*PN	**Pn**	**09 16 04.8**		**-0.4**
KARP				*e*SN	**Sn**	**09 16 21.6**		**+0.7**
KARP	**Karpathos**	**1.24**	**281**	*e*Pn	**Pn**	**09 16 04.8**		**-0.4**
KARP				*e*Sn	**Sn**	**09 16 21.6**		**+0.7**
TURN	**Turunc**	**1.55**	**359**	*e*P	**Pn**	**09 16 08.6**		**-0.9**
TURN	**Turunc**	**1.55**	**359**	*e*P	**Pn**	**09 16 08.6**		**-0.9**
BDRM	**Kayabasi**	**2.00**	**331**	*e*P	**Pn**	**09 16 16.3**		**+0.7**
BDRM	**Kayabasi**	**2.00**	**331**	*e*P	**Pn**	**09 16 16.3**		**+0.7**
ZKR	**Zakros**	**2.00**	**265**	*e*PN	**Pn**	**09 16 15.7**		**+0.1**
ZKR	**Zakros**	**2.00**	**265**	*e*Pn	**Pn**	**09 16 15.7**		**+0.1**
GOLH	**Golhisar**	**2.05**	**21**	*i* P	**Pn**	**09 16 17.7**		**+1.3**
GOLH				*i* S	**Sn**	**09 16 42.3**		**+1.4**
GOLH	**Golhisar**	**2.05**	**21**	*i* P	**Pn**	**09 16 17.7**		**+1.3**
GOLH				*i* S	**Sn**	**09 16 42.3**		**+1.4**
DNZL	**Cakiroluk**	**2.39**	**8**	*i* P	**Pn**	**09 16 21.1**		**0.0**
DNZL	**Cakiroluk**	**2.39**	**8**	*i* P	**Pn**	**09 16 21.1**		**0.0**
AYDN	**Tasoluk**	**2.42**	**345**	*i* P	**Pn**	**09 16 20.1**		**-1.3**
AYDN				*i* S	**Sn**	**09 16 46.3**		**-3.6**
AYDN	**Tasoluk**	**2.42**	**345**	*i* P	**Pn**	**09 16 20.1**		**-1.3**
AYDN				*i* S	**Sn**	**09 16 46.3**		**-3.6**
NPS	**Neapolis**	**2.48**	**270**	*e*PB	**Pn**	**09 16 22.9**		**+0.7**
NPS	**Neapolis**	**2.48**	**270**	*e*Pb	**Pn**	**09 16 22.9**		**+0.7**
LAST	**Lasithi**	**2.60**	**268**	*e*PN	**Pn**	**09 16 24.3**		**+0.4**
LAST	**Lasithi**	**2.60**	**268**	*e*Pn	**Pn**	**09 16 24.3**		**+0.4**
SANT	**Santorini**	**2.80**	**293**	*e*PB	**Pn**	**09 16 28.3**		**+1.8**
SANT	**Santorini**	**2.80**	**293**	*e*Pb	**Pn**	**09 16 28.3**		**+1.8**
SMG	**Samos**	**2.80**	**329**	*e*PN	**Pn**	**09 16 28.5**		**+2.0**
SMG	**Samos**	**2.80**	**329**	*e*Pn	**Pn**	**09 16 28.5**		**+2.0**
AKMC	**Akamas** baz=282	**3.03**	**94**	P	**Pn**	**09 16 30.4**		**+0.7**
AKMC				S	**Sn**	**09 17 02.8**		**-1.9**
AKMC	**Akamas**	**3.03**	**94**	P	**Pn**	**09 16 30.4**		**+0.7**
AKMC				S	**Sn**	**09 17 02.8**		**-1.9**
PPCY	**Paphos** baz=284	**3.06**	**97**	P	**Pn**	**09 16 30.9**		**+0.8**
PPCY	**Paphos**	**3.06**	**97**	P	**Pn**	**09 16 30.9**		**+0.8**
IDI	**Anoyia**	**3.08**	**271**	*e*PN	**Pn**	**09 16 31.1**		**+0.8**
IDI	**Anoyia**	**3.08**	**271**	*e*Pn	**Pn**	**09 16 31.1**		**+0.8**
GAZI	**Gazipasa**	**3.12**	**72**	*i* P	**Pn**	**09 16 31.4**		**+0.5**
GAZI				*i* S	**Sn**	**09 17 05.1**		**-1.8**
GAZI	**Gazipasa**	**3.12**	**72**	*i* P	**Pn**	**09 16 31.4**		**+0.5**
GAZI				*i* S	**Sn**	**09 17 05.1**		**-1.8**
SIVA	**Sivas**	**3.16**	**266**	*e*PN	**Pn**	**09 16 32.1**		**+0.7**
SIVA	**Sivas**	**3.16**	**266**	*e*Pn	**Pn**	**09 16 32.1**		**+0.7**
ALFC	**Alevga** baz=278	**3.24**	**92**	P	**Pn**	**09 16 33.2**		**+0.7**
ALFC				S	**Sn**	**09 17 08.3**		**-1.5**
ALFC	**Alevga**	**3.24**	**92**	P	**Pn**	**09 16 33.2**		**+0.7**
ALFC				S	**Sn**	**09 17 08.3**		**-1.5**
SZAC	**Souni-Zanaja** baz=285	**3.52**	**98**	P	**Pn**	**09 16 37.0**		**+0.6**
SZAC				S	**Sn**	**09 17 16.3**		**-0.5**
SZAC	**Souni-Zanaja**	**3.52**	**98**	P	**Pn**	**09 16 37.0**		**+0.6**
SZAC				S	**Sn**	**09 17 16.3**		**-0.5**
VAM	**Vamos**	**3.64**	**273**	*e*PN	**Pn**	**09 16 39.0**		**+1.0**
VAM	**Vamos**	**3.64**	**273**	*e*Pn	**Pn**	**09 16 39.0**		**+1.0**
MAMC	**Mammari** baz=277	**3.74**	**91**	P	**Pn**	**09 16 40.1**		**+0.7**
MAMC	**Mammari**	**3.74**	**91**	P	**Pn**	**09 16 40.1**		**+0.7**
CSS	**Prodhromos** baz=280	**3.85**	**94**	P	**Pn**	**09 16 41.7**		**+0.7**
CSS	**Prodhromos**	**3.85**	**94**	P	**Pn**	**09 16 41.7**		**+0.7**
KARN	**Karanos**	**3.87**	**273**	*e*PN	**Pn**	**09 16 42.2**		**+1.0**
KARN	**Karanos**	**3.87**	**273**	*e*Pn	**Pn**	**09 16 42.2**		**+1.0**
HMAT	**Matruh** baz=199	**4.41**	**198**	P	**Pn**	**09 16 49.4**		**+0.8**
HMAT	comp=E,20μm,0.4s,logA/T=4.7,baz=199			AMP		09 17 00.0		
HMAT	**Matruh**	**4.41**	**198**	P	**Pn**	**09 16 49.4**		**+0.8**
KIZK	**Mersin**	**4.61**	**74**	*i* P	**Pn**	**09 16 53.8**		**+2.5**
KIZK				*i* S	**Sn**	**09 17 43.6**		**+0.1**
KIZK	**Mersin**	**4.61**	**74**	*i* P	**Pn**	**09 16 53.8**		**+2.5**
KIZK				*i* S	**Sn**	**09 17 43.6**		**+0.1**
SLUM	baz=219	**4.78**	**218**	P	**Pn**	**09 16 54.0**		**+0.4**
SLUM		**4.78**	**218**	P	**Pn**	**09 16 54.0**		**+0.4**
GULE	**Gulek**	**5.32**	**67**	*i* P	Pn	09 17 05.5		+4.2
GULE				*i* S	**Sn**	**09 18 01.1**		**-0.2**
GULE	**Gulek**	**5.32**	**67**	*i* P	Pn	09 17 05.5		+4.2
GULE				*i* S	**Sn**	**09 18 01.1**		**-0.2**
AMAG	**Maghara** baz=139	**6.03**	**139**	P	**Pn**	**09 17 11.1**		**+0.2**
AMAG	**Maghara**	**6.03**	**139**	P	**Pn**	**09 17 11.1**		**+0.2**
RSH	baz=134	**6.08**	**134**	P	**Pn**	**09 17 11.6**		**+0.1**
RSH		**6.08**	**134**	P	**Pn**	**09 17 11.6**		**+0.1**
HSAF	**As Saff** baz=156	**6.19**	**156**	P	**Pn**	**09 17 12.8**		**-0.2**
HSAF	**As Saff**	**6.19**	**156**	P	**Pn**	**09 17 12.8**		**-0.2**
GLL	**Jalalah** baz=155	**6.28**	**155**	P	**Pn**	**09 17 13.9**		**-0.3**
GLL	**Jalalah**	**6.28**	**155**	P	**Pn**	**09 17 13.9**		**-0.3**
SUZ	baz=146	**6.50**	**146**	P	**Pn**	**09 17 17.7**		**+0.4**
SUZ		**6.50**	**146**	P	**Pn**	**09 17 17.7**		**+0.4**
SWA2	baz=206	**6.63**	**205**	P	**Pn**	**09 17 19.5**		**+0.5**
SWA2				S	**Sn**	**09 18 31.2**		**-2.1**
SWA2	baz=206	**6.63**	**205**	P	**Pn**	**09 17 19.5**		**+0.5**
SWA2				S	**Sn**	**09 18 31.2**		**-2.1**
HNKL	**Nakhl** baz=138	**7.00**	**139**	P	**Pn**	**09 17 24.6**		**+0.4**
HNKL	**Nakhl**	**7.00**	**139**	P	**Pn**	**09 17 24.6**		**+0.4**
HKAT	**Jabal Katrina** baz=144	**8.15**	**145**	P	**Pn**	**09 17 40.4**		**+0.3**
HKAT	**Jabal Katrina**	**8.15**	**145**	P	**Pn**	**09 17 40.4**		**+0.3**

*IDC **25** 09:31:38.6±3.5, 6°.67N×72°.92W, h166km±27km, mb3.3/5, mb1 3.6/6, mb1mx3.2/22

baz=354,slow=75,SNR=33
H03N3 Juan Fernandez 37.06 174 T T 10 53 20.1
baz=354,slow=75,SNR=27
CPUP Villa Florida 38.77 142 LR LR 10 31 15.1
comp=Z,16nm,28.6s,baz=346,slow=38
BDFB Brasilia 39.56 120 LR LR 10 30 18.3
comp=Z,73nm,21.0s,baz=316,slow=35
PDAR Pinedale Array 45.59 333 P **P** **10 15 26.3 +2.3**
0.6nm,0.8s,baz=148,slow=7.5,SNR=3.9
PDAR LR LR 10 35 42.7
comp=Z,79nm,18.7s,baz=132,slow=38
NVAR Mina Array Bea 47.28 322 P **P** **10 15 39.6 +2.3**
1.0nm,0.8s,baz=133,slow=9.1,SNR=7.1
NVAR LR LR 10 34 28.0
comp=Z,94nm,18.6s,baz=224,slow=35
ULM Lac du Bonnet 47.73 349 P **P** **10 15 39.2 -1.2**
1.4nm,0.6s,baz=152,slow=9.8,SNR=3.1
YKA Yellowknife Ar 63.25 344 P **P** **10 17 32.0 +0.2**
0.6nm,0.9s,baz=142,slow=6.6,SNR=9.0
PPT Papeete 68.91 250 LR LR 10 40 15.3
comp=Z,16nm,28.6s,baz=343,slow=29
ILAR Eielson Array 75.83 337 P **P** **10 18 50.0 +0.6**
0.3nm,0.9s,baz=101,slow=4.8,SNR=3.6
DBIC Dimbokro 77.83 84 LR LR 10 50 23.4
comp=Z,16nm,28.6s,baz=289,slow=34
TORD Torodi Ar. Bea 84.03 77 P **P** **10 19 34.9 +0.1**
0.3nm,0.7s,baz=279,slow=4.5,SNR=2.7
GERES GERESS Array B 91.72 41 LR LR 11 00 09.4
comp=Z,41nm,18.3s,baz=291,slow=35
KURBB Kurchatov Arra 123.70 14 PKP **PKPdf** **10 26 02.5 +1.3**
0.2nm,0.5s,baz=334,slow=2.9,SNR=3.6
ASAR Alice Springs 139.17 237 PKP **PKPdf** **10 26 30.0 -1.3**
0.3nm,0.9s,baz=117,slow=1.4,SNR=3.3
WRA Warramunga Arr 140.14 243 PKhKP PKPpre 10 26 30.8
0.5nm,0.9s,baz=105,slow=2.8,SNR=4.8
H01W1 Cape Leeuwin H 145.03 205 T T 13 09 44.2
baz=147,slow=76,SNR=3.0
H01W2 Cape Leeuwin H 145.04 205 T T 13 09 42.7
baz=147,slow=76,SNR=3.1
H01W3 Cape Leeuwin H 145.05 205 T T 13 09 50.5
baz=147,slow=76,SNR=4.8

*AUST **25** 10:09:19.3±8.2, 16°.92S×171°.75W, h0km, Error ellipse: s-maj=2.4km s-min=1.2km az=230.0*
*IDC **25** 10:09:22.3±0.8, 16°.76S×172°.41W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.1/21, mbtmp4.2/8, ML2.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/29, Error ellipse: s-maj=36.1km s-min=17.7km az=135.0*
*NEIC **25** 10:09:23.8±0.5, 16°.73S×172°.44W, h10km, mb4.6/3, Error ellipse: s-maj=22.2km s-min=10.8km az=128.0*
ISC 25 10:09:25.9±0.7, 16°.7S±0°.1×172°.4W±0°.2, h24km, n48, σ0§94/43, mb4.4/10, MS3.4/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.81**	**13**	*e*Pn	**Pn**	**10 10 08.1**	**-1.3**
AFI				*e*Sn	**Sn**	**10 10 43.6**	**+1.0**
AFI	**Afiamalu**	**2.81**	**13**	Pn	**Pn**	**10 10 08.2**	**-1.2**
	12nm,0.3s,baz=26,slow=12,SNR=14						
AFI				Sn	**Sn**	**10 10 41.5**	**-1.1**
	22nm,0.3s,baz=21,slow=22,SNR=10						
NIUE	**Niue**	**3.38**	**136**	P	Pn	10 10 06.0	-11
	baz=2.8,SNR=24						
RAR	**Rarotonga**	**12.79**	**113**	LR	LR	10 15 38.1	
	comp=Z,444nm,19.9s,baz=135,slow=30						
DZM	**Mont Dzumac**	**20.64**	**252**	*e*LR	LR	10 19 28.0	
	222nm,27.1s						
DZM	**Mont Dzumac**	**20.64**	**252**	LR	LR	10 20 44.0	
	comp=Z,126nm,18.7s,baz=217,slow=33						
PPT2	**Papeete2**	**21.85**	**96**	*e*LR	LR	10 19 10.0	
	240nm,26.0s,baz=272						
TBI	**Tubuai**	**22.56**	**111**	*e*LR	LR	10 19 19.7	
	265nm,28.5s						
URZ	**Urewera**	**23.40**	**201**	P	**P**	**10 14 33.0**	**+0.1**
URZ				*e*P	pP	10 14 33.7	-6.1
URZ	**Urewera**	**23.40**	**201**	P	**P**	**10 14 33.0**	**+0.1**
	11nm,0.8s,baz=72,slow=3.6,SNR=7.5						
HNR	**Honiara**	**27.84**	**282**	LR	LR	10 23 32.1	
	comp=Z,94nm,18.0s,baz=97,slow=30						
QLP	**Quilpie**	**41.31**	**249**	P	**P**	**10 17 09.3**	**-0.6**
	baz=42,SNR=3.3						
STKA	**Stephens Creek**	**44.24**	**241**	*e*P	**P**	**10 17 33.2**	**-0.3**
STKA	**Stephens Creek**	**44.24**	**241**	P	**P**	**10 17 32.7**	**-0.8**
	5.2nm,0.9s,baz=65,slow=7.8,SNR=9.4						
STKA				LR	LR	10 32 29.9	
	comp=Z,107nm,18.1s,baz=25,slow=31						
STKA	**Stephens Creek**	**44.24**	**241**	P	**P**	**10 17 33.3**	**-0.3**
	baz=45,SNR=7.6						
HTT	**Hallett**	**46.70**	**240**	P	**P**	**10 17 52.6**	**-0.5**
	baz=47,SNR=4.6						
BBOO	**Buckleboo**	**49.01**	**241**	P	**P**	**10 18 10.5**	**-0.4**
	baz=49,SNR=4.9						
WRAB	**Tennant Creek**	**50.47**	**258**	*e*P	**P**	**10 18 21.8**	**-0.5**
	5.3nm,0.9s						
WRA	**Warramunga Arr**	**50.48**	**258**	P	**P**	**10 18 21.5**	**-0.8**
WRA				PcP	**PcP**	**10 19 41.1**	**+0.8**
WRA	**Warramunga Arr**	**50.48**	**258**	P	**P**	**10 18 21.5**	**-0.8**
	3.6nm,0.9s,baz=96,slow=7.1,SNR=49						
WRA				PcP	**PcP**	**10 19 41.1**	**+0.8**
	0.7nm,0.9s,baz=90,slow=4.5,SNR=2.8						
AS31	**Alice Springs**	**50.62**	**253**	*e*P	**P**	**10 18 23.2**	**-0.2**
ASAR	**Alice Springs**	**50.62**	**253**	P	**P**	**10 18 23.1**	**-0.4**
ASAR				PcP	**PcP**	**10 19 41.5**	**+0.6**
ASAR	**Alice Springs**	**50.62**	**253**	P	**P**	**10 18 23.1**	**-0.4**
	13nm,0.9s,baz=88,slow=8.4,SNR=151						
ASAR				PcP	**PcP**	**10 19 41.5**	**+0.6**
	1.1nm,0.8s,baz=100,slow=4.8,SNR=4.2						
WRKA	**Warakurna**	**55.66**	**251**	P	**P**	**10 19 00.8**	**+0.3**
	baz=56,SNR=10						
FITZ	**Fitzroy Crossi**	**58.88**	**259**	*e*P	**P**	**10 19 21.9**	**-1.3**
	6.3nm,1.3s						
KLBR	**Kellerberrin**	**64.49**	**243**	P	**P**	**10 20 01.8**	**+0.8**
	baz=65,SNR=10						
BLDU	**Ballidu**	**65.46**	**244**	P	**P**	**10 20 08.0**	**+0.7**
	baz=66,SNR=5.8						
FX1	**Attu Island--F**	**70.37**	**351**	*e*P	**P**	**10 20 38.7**	**+1.2**
FX1	**Attu Island--F**	**70.37**	**351**	LR	LR	10 43 36.7	
	comp=Z,61nm,20.9s,baz=120,slow=29						
MJAR	**Matsushiro Arr**	**70.51**	**320**	LR	LR	10 46 47.5	
	comp=Z,23nm,19.6s,baz=215,slow=32						
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**10 21 37.2**	**+0.6**
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**10 21 37.2**	**+0.6**
	0.5nm,0.8s,baz=216,slow=7.7,SNR=7.5						
MCK	**McKinley**	**82.19**	**10**	*e*P	**P**	**10 21 46.4**	**+1.9**
	4.8nm,0.8s						
PDAR	**Pinedale Array**	**82.58**	**41**	P	**P**	**10 21 47.9**	**+0.6**
PDAR	**Pinedale Array**	**82.58**	**41**	P	**P**	**10 21 47.8**	**+0.6**
	0.5nm,0.8s,baz=218,slow=4.2,SNR=4.1						
ILAR	**Eielson Array**	**83.50**	**11**	P	**P**	**10 21 52.4**	**+1.1**
ILAR	**Eielson Array**	**83.50**	**11**	P	**P**	**10 21 52.4**	**+1.1**
	0.9nm,0.8s,baz=214,slow=5.4,SNR=13						
KURK	**Kurchatov**	**114.71**	**319**	*e*PKPdf	PKPdf	10 28 05.2	+1.1
KURBB	**Kurchatov Arra**	**114.77**	**318**	PKP	PKPdf	10 28 04.0	-0.3
	0.5nm,0.9s,baz=94,slow=2.6,SNR=5.2						
BVAR	**Borovoye Array**	**119.45**	**322**	PKP	**PKPdf**	**10 28 13.2**	**-0.1**
BVAR	**Borovoye Array**	**119.45**	**322**	PKP	**PKPdf**	**10 28 13.1**	**-0.1**
	0.6nm,0.6s,baz=95,slow=1.7,SNR=3.6						
GERES	**GERESS Array B**	**147.52**	**352**	PKPbc	**PKPab**	**10 29 09.7**	**-0.5**
GERES	**GERESS Array B**	**147.52**	**352**	PKPbc	**PKPab**	**10 29 09.7**	**-0.5**
	0.8nm,0.7s,baz=0.0,slow=3.2,SNR=4.4						
BR131	**Keskin Array S**	**147.72**	**321**	*e*PKPbc	**PKPab**	**10 29 10.9**	**-0.4**
BRTR	**Keskin Array B**	**147.73**	**321**	PKPbc	**PKPab**	**10 29 10.2**	**-1.1**
BRTR	**Keskin Array B**	**147.73**	**321**	PKPbc	**PKPab**	**10 29 10.2**	**-1.1**
	2.0nm,0.8s,baz=115,slow=1.8,SNR=9.1						
TORD	**Torodi Ar. Bea**	**173.32**	**121**	PKPab	**PKPab**	**10 31 00.2**	**-2.1**
TORD	**Torodi Ar. Bea**	**173.32**	**121**	PKPab	**PKPab**	**10 31 00.2**	**-2.1**
	0.6nm,0.7s,baz=244,slow=3.6,SNR=4.7						

*IDC **25** 10:24:45.9±1.8, 35°.26N×29°.09E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.2/24, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=179.4km s-min=27.0km az=141.0*
*DDA **25** 10:24:46.3, 36°.92N×27°.44E, h17km, MD3.4, ML3.5*
*ISK **25** 10:24:46.6, 36°.87N×27°.48E, h17km, MD3.7*
*ISCJB **25** 10:24:47.7±0.4, 36°.95N±0°.02×27°.54E±0°.02, h14km±3km, mb3.5/2, Error ellipse: s-maj=3.5km s-min=3.0km az=40.6*
*ATH **25** 10:24:47.1, 37°.03N×27°.71E, h29km±2km, MD3.3/8*
*CSEM **25** 10:24:47.8±0.1, 36°.95N×27°.51E, h10km, ML3.5, Error ellipse: s-maj=3.3km s-min=2.9km az=28.0*
*THE **25** 10:24:49.3, 36°.96N×27°.60E, h22km±3km, ML3.2/4, Error ellipse: s-maj=3.9km s-min=0.7km az=79.0*
ISC 25 10:24:47.8±0.8, 36°.93N±0°.02×27°.49E±0°.02, h14km±5km, n110, σ0§93/144, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.14**	**345**	*i* P	**Pg**	**10 24 51.2**	**-0.3**
BDRM				*i* S	**Sg**	**10 24 54.1**	**+0.1**
BDRM	**Kayabasi**	**0.14**	**345**	*i* P	**Pg**	**10 24 51.2**	**-0.3**
BDRM				*i* S	**Sg**	**10 24 54.1**	**+0.1**
BODT	**Bodrum**	**0.19**	**312**	*e*PG	**Pg**	**10 24 52.0**	**-0.3**
BODT				*e*SG	**Sb**	**10 24 56.5**	**-0.2**
BODT	**Bodrum**	**0.19**	**312**	*e*Pg	**Pg**	**10 24 52.0**	**-0.3**
BODT				*e*Sg	**Sb**	**10 24 56.5**	**-0.2**
AYDN	**Tasoluk**	**0.79**	**23**	*i* P	**Pg**	**10 25 00.9**	**-2.3**
AYDN				*i* S	**Sg**	**10 25 11.9**	**-1.7**
AYDN	**Tasoluk**	**0.79**	**23**	*i* P	**Pg**	**10 25 00.9**	**-2.3**
AYDN				*i* S	**Sg**	**10 25 11.9**	**-1.7**
GCAM	**G?zelcaml?**	**0.79**	**345**	*i* P	**Pg**	**10 25 02.7**	**-0.5**
GCAM				*i* S	**Sn**	**10 25 16.7**	**+0.6**
GCAM	**G?zelcaml?**	**0.79**	**345**	*i* P	**Pg**	**10 25 02.7**	**-0.5**
ARG	**Arkhangelos**	**0.88**	**144**	P	**Pb**	**10 25 04.3**	**-0.6**
ARG				S	**Sg**	**10 25 16.4**	**-0.1**
ARG	**Arkhangelos**	**0.88**	**144**	*e*PN	**Pb**	**10 25 04.3**	**-0.6**
ARG				*e*SN	**Sb**	**10 25 17.4**	**+0.9**
ARG	**Arkhangelos**	**0.88**	**144**	P	**Pb**	**10 25 04.3**	**-0.6**
ARG				S	**Sg**	**10 25 16.4**	**-0.1**
ARG				*e*Sn	**Sb**	**10 25 17.4**	**+0.9**
TURN	**Turunc**	**0.90**	**94**	*i* P	Pb	10 24 59.1	-6.1
TURN				*i* S	Sg	10 25 08.6	-8.4
SMG	**Samos**	**0.93**	**326**	P	**Pb**	**10 25 05.6**	**-0.2**
SMG				S	**Sg**	**10 25 19.0**	**+0.9**
SMG	**Samos**	**0.93**	**326**	*e*PN	**Pb**	**10 25 05.8**	**0.0**
SMG				*e*SN	**Sn**	**10 25 19.5**	**-0.2**
SMG	**Samos**	**0.93**	**326**	P	**Pb**	**10 25 05.6**	**-0.2**
SMG				S	**Sg**	**10 25 19.0**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.94**	**97**	*e*PG	**Pb**	**10 25 05.5**	**-0.5**
DALY				*e*SG	**Sg**	**10 25 19.0**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.94**	**97**	*e*Pg	**Pb**	**10 25 05.5**	**-0.5**
DALY				*e*Sg	**Sg**	**10 25 19.0**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**18**	*e*PN	**Pb**	**10 25 07.6**	**-0.4**
AYDB				*e*SN	**Sn**	**10 25 23.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**18**	*e*Pn	**Pb**	**10 25 07.6**	**-0.4**
AYDB				*e*Sn	**Sn**	**10 25 23.8**	**+0.8**
KARP	**Karpathos**	**1.41**	**191**	P	**Pn**	**10 25 13.3**	**+0.2**
KARP				S	**Sn**	**10 25 31.3**	**-0.2**
KARP	**Karpathos**	**1.41**	**191**	*e*PB	**Pb**	**10 25 14.0**	**+0.1**
KARP				*e*SN	**Sg**	**10 25 34.8**	**+1.5**
KARP	**Karpathos**	**1.41**	**191**	P	**Pn**	**10 25 13.3**	**+0.2**
KARP	**Karpathos**	**1.41**	**191**	*e*Pb	**Pb**	**10 25 14.0**	**+0.1**
KARP				S	**Sn**	**10 25 31.3**	**-0.2**
KARP				*e*Sn	**Sg**	**10 25 34.8**	**+1.5**
DNZL	**Cakiroluk**	**1.45**	**58**	*i* P	**Pn**	**10 25 14.1**	**+0.2**
DNZL				*i* S	**Sg**	**10 25 35.6**	**+0.9**
DNZL	**Cakiroluk**	**1.45**	**58**	*i* P	**Pn**	**10 25 14.1**	**+0.2**
IZM	**Izmir**	**1.47**	**353**	*e*PN	**Pn**	**10 25 13.9**	**-0.1**
IZM	**Izmir**	**1.47**	**353**	*e*Pn	**Pn**	**10 25 13.9**	**-0.1**
BLCB	**Balcova**	**1.49**	**346**	*e*PN	**Pn**	**10 25 14.5**	**+0.3**
BLCB	**Balcova**	**1.49**	**346**	*e*Pn	**Pn**	**10 25 14.5**	**+0.3**
APE	**Apeiranthos**	**1.57**	**275**	*e*PN	**Pn**	**10 25 14.7**	**-0.7**
APE	**Apeiranthos**	**1.57**	**275**	P	**Pn**	**10 25 15.7**	**+0.3**
APE				S	**Sn**	**10 25 36.2**	**+0.7**
APE	**Apeiranthos**	**1.57**	**275**	*e*PB	**Pb**	**10 25 17.0**	**+0.3**
APE				*e*SN	**Sg**	**10 25 39.7**	**+1.2**
APE	**Apeiranthos**	**1.57**	**275**	*e*Pn	**Pn**	**10 25 14.7**	**-0.7**
APE	**Apeiranthos**	**1.57**	**275**	P	**Pn**	**10 25 15.7**	**+0.3**
APE	**Apeiranthos**	**1.57**	**275**	*e*Pb	**Pb**	**10 25 17.0**	**+0.3**
APE				S	**Sn**	**10 25 36.2**	**+0.7**
APE				*e*Sn	**Sg**	**10 25 39.7**	**+1.2**
GOLH	**Golhisar**	**1.69**	**79**	*i* P	**Pb**	**10 25 18.8**	**+0.1**
GOLH				*i* S	**Sg**	**10 25 42.6**	**+0.4**
GOLH	**Golhisar**	**1.69**	**79**	*i* P	**Pb**	**10 25 18.8**	**+0.1**
SANT	**Santorini**	**1.73**	**252**	*e*PN	**Pn**	**10 25 16.6**	**-0.9**
SANT	**Santorini**	**1.73**	**252**	P	**Pn**	**10 25 18.2**	**+0.8**
SANT				S	**Sb**	**10 25 40.6**	**-0.3**
SANT	**Santorini**	**1.73**	**252**	*e*Pn	**Pn**	**10 25 16.6**	**-0.9**
SANT	**Santorini**	**1.73**	**252**	P	**Pn**	**10 25 18.2**	**+0.8**
SANT				S	**Sb**	**10 25 40.6**	**-0.3**
KULA	**Kula-Manisa**	**1.83**	**30**	*e*PN	**Pn**	**10 25 19.0**	**+0.1**
KULA	**Kula-Manisa**	**1.83**	**30**	*e*Pn	**Pn**	**10 25 19.0**	**+0.1**
CHOS	**Chios island**	**1.84**	**322**	*e*PN	**Pn**	**10 25 19.4**	**+0.3**
CHOS	**Chios island**	**1.84**	**322**	P	**Pn**	**10 25 19.4**	**+0.3**
CHOS				S	**Sn**	**10 25 42.2**	**0.0**
CHOS	**Chios island**	**1.84**	**322**	*e*PB	**Pn**	**10 25 19.5**	**+0.3**
CHOS	**Chios island**	**1.84**	**322**	P	**Pn**	**10 25 19.4**	**+0.3**
CHOS				S	**Sn**	**10 25 42.2**	**0.0**
AKAS	**Kas**	**1.84**	**112**	*i* P	**Pb**	**10 25 20.8**	**-0.6**
AKAS				*i* S	**Sg**	**10 25 51.8**	**+4.6**
AKAS	**Kas**	**1.84**	**112**	*i* P	**Pb**	**10 25 20.8**	**-0.6**
ELL	**Elmali**	**1.95**	**95**	*e*PN	**Pn**	**10 25 19.8**	**-0.9**
ELL	**Elmali**	**1.95**	**95**	*e*Pn	**Pn**	**10 25 19.8**	**-0.9**
AKHS	**Akhisar**	**1.96**	**7**	*i* P	**Pn**	**10 25 20.4**	**-0.3**
AKHS				*i* S	**Sb**	**10 25 48.6**	**+1.1**
AKHS	**Akhisar**	**1.96**	**7**	*i* P	**Pn**	**10 25 20.4**	**-0.3**
AKS	**Akhisar**	**1.96**	**7**	*e*PN	**Pn**	**10 25 20.5**	**-0.1**
AKS	**Akhisar**	**1.96**	**7**	*e*Pn	**Pn**	**10 25 20.5**	**-0.1**
ZKR	**Zakros**	**2.09**	**210**	*e*PN	**Pb**	**10 25 25.2**	**-0.3**
ZKR	**Zakros**	**2.09**	**210**	*e*Pn	**Pb**	**10 25 25.2**	**-0.3**
KHL	**Karahalli**	**2.13**	**49**	*e*PN	**Pn**	**10 25 23.0**	**-0.1**
KHL	**Karahalli**	**2.13**	**49**	*e*Pn	**Pn**	**10 25 23.0**	**-0.1**
NPS	**Neapolis**	**2.25**	**223**	*e*PN	**Pb**	**10 25 27.3**	**-1.1**
NPS	**Neapolis**	**2.25**	**223**	*e*Pn	**Pb**	**10 25 27.3**	**-1.1**
PRK	**Paraskevi**	**2.50**	**338**	*e*PN	**Pn**	**10 25 27.7**	**-0.3**
PRK	**Paraskevi**	**2.50**	**338**	*e*Pn	**Pn**	**10 25 27.7**	**-0.3**
BCK	**Bucak**	**2.53**	**77**	*e*PN	**Pn**	**10 25 28.2**	**-0.4**
BCK	**Bucak**	**2.53**	**77**	*e*Pn	**Pn**	**10 25 28.2**	**-0.4**
ANTB	**Antalya**	**2.54**	**90**	*e*PN	**Pn**	**10 25 28.2**	**-0.4**
ANTB	**Antalya**	**2.54**	**90**	*e*Pn	**Pn**	**10 25 28.2**	**-0.4**
ISP	**Isparta**	**2.58**	**69**	*e*PN	**Pn**	**10 25 29.8**	**+0.6**
ISP	**Isparta**	**2.58**	**69**	*e*Pn	**Pn**	**10 25 29.8**	**+0.6**
IDI	**Anoyia**	**2.67**	**233**	*e*PN	**Pn**	**10 25 29.3**	**-1.2**
IDI	**Anoyia**	**2.67**	**233**	*e*Pn	**Pn**	**10 25 29.3**	**-1.2**
BALB	**Balikesir**	**2.72**	**6**	*e*PN	**Pn**	**10 25 31.9**	**+0.8**
BALB	**Balikesir**	**2.72**	**6**	*e*Pn	**Pn**	**10 25 31.9**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.86**	**78**	*e*PN	**Pn**	**10 25 32.6**	**-0.5**
SUTC	**Sutluce-Ispart**	**2.86**	**78**	*e*Pn	**Pn**	**10 25 32.6**	**-0.5**
SHUT	**Suhut-Afyon**	**2.92**	**55**	*e*PN	**Pn**	**10 25 34.5**	**+0.5**
SHUT	**Suhut-Afyon**	**2.92**	**55**	*e*Pn	**Pn**	**10 25 34.5**	**+0.5**
TVSB	**Tavsanli**	**2.95**	**31**	*e*PN	**Pn**	**10 25 35.2**	**+0.8**
TVSB	**Tavsanli**	**2.95**	**31**	*e*Pn	**Pn**	**10 25 35.2**	**+0.8**
VAM	**Vamos**	**3.06**	**241**	*e*PN	**Pb**	**10 25 39.6**	**-2.5**
VAM	**Vamos**	**3.06**	**241**	*e*Pn	**Pb**	**10 25 39.6**	**-2.5**
PTL	**Penteli**	**3.09**	**292**	*e*PN	**Pn**	**10 25 37.8**	**+1.6**
PTL	**Penteli**	**3.09**	**292**	*e*Pn	**Pn**	**10 25 37.8**	**+1.6**
GONE	**Gonen-Balikesi**	**3.11**	**3**	*e*PN	**Pn**	**10 25 37.8**	**+1.3**
GONE	**Gonen-Balikesi**	**3.11**	**3**	*e*Pn	**Pn**	**10 25 37.8**	**+1.3**
KCTX	**Karacabey (Bur**	**3.40**	**11**	*e*PN	**Pn**	**10 25 41.3**	**+0.9**
KCTX	**Karacabey (Bur**	**3.40**	**11**	*e*Pn	**Pn**	**10 25 41.3**	**+0.9**
KRBG	**Karabiga-Canak**	**3.46**	**358**	*e*PN	**Pn**	**10 25 42.5**	**+1.3**
KRBG	**Karabiga-Canak**	**3.46**	**358**	*e*Pn	**Pn**	**10 25 42.5**	**+1.3**
LIA	**Limnos Island**	**3.47**	**329**	*e*PN	**Pn**	**10 25 42.4**	**+1.0**
LIA	**Limnos Island**	**3.47**	**329**	*e*Pn	**Pn**	**10 25 42.4**	**+1.0**
KONT	**Konya--Tatoy**	**4.01**	**74**	*e*PN	**Pn**	**10 25 49.5**	**+0.7**
KONT	**Konya--Tatoy**	**4.01**	**74**	*e*Pn	**Pn**	**10 25 49.5**	**+0.7**
LADK	**Ladik-KONYA**	**4.08**	**70**	*e*PN	**Pn**	**10 25 50.2**	**+0.4**
LADK	**Ladik-KONYA**	**4.08**	**70**	*e*Pn	**Pn**	**10 25 50.2**	**+0.4**
GULT	**Gulveren**	**4.22**	**33**	*e*PN	**Pn**	**10 25 53.2**	**+1.4**
GULT	**Gulveren**	**4.22**	**33**	*e*Pn	**Pn**	**10 25 53.2**	**+1.4**
LEF	**Lefka**	**4.74**	**111**	*e*PN	**Pn**	**10 25 58.3**	**-0.6**
LEF	**Lefka**	**4.74**	**111**	*e*Pn	**Pn**	**10 25 58.3**	**-0.6**
IKL	**Isikli**	**5.04**	**96**	*e*PN	**Pn**	**10 26 03.4**	**+0.5**
IKL	**Isikli**	**5.04**	**96**	*e*Pn	**Pn**	**10 26 03.4**	**+0.5**
CSS	**Prodhromos**	**5.13**	**111**	*e*PN	**Pn**	**10 26 04.7**	**+0.4**
CSS	**Prodhromos**	**5.13**	**111**	*e*Pn	**Pn**	**10 26 04.7**	**+0.4**
LFK	**Lefkose**	**5.17**	**107**	*e*PN	**Pn**	**10 26 05.3**	**+0.5**
LFK	**Lefkose**	**5.17**	**107**	*e*Pn	**Pn**	**10 26 05.3**	**+0.5**
NVR	**Nevrokopi**	**5.23**	**329**	*e*PN	**Pn**	**10 26 07.2**	**+1.5**
NVR	**Nevrokopi**	**5.23**	**329**	*e*Pn	**Pn**	**10 26 07.2**	**+1.5**
BRTR	**Keskin Array B**	**5.58**	**58**	Pn	**Pn**	**10 26 12.5**	**+1.9**
	0.7nm,0.3s,baz=237,slow=16,SNR=16						
BRTR				Sn	**Sn**	**10 27 15.2**	**+0.6**
	0.4nm,0.3s,baz=232,slow=26,SNR=4.9						
TORD	**Torodi Ar. Bea**	**33.07**	**231**	P	**P**	**10 31 23.7**	**+0.6**
	0.9nm,0.8s,baz=39,slow=9.7,SNR=4.8						
MKAR	**Makanchi Array**	**41.23**	**58**	P	**P**	**10 32 30.7**	**-1.6**
	0.4nm,0.7s,baz=273,slow=6.7,SNR=4.6						

*IDC **25** 10:57:22.7±1.9, 8°.62S×128°.10E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=80.1km s-min=24.9km az=69.0*
*AUST **25** 10:57:39.7, 9.99S×127°.55E, h0km*
ISC 25 10:57:28.4±1.3, 8°.96S±0°.09×127°.8E±0°.1, h35km, n10, σ2§16/10, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.09**	**140**	P	Pn	10 58 49.6	+7.4
	baz=4.5,SNR=37						
KDU	**Kakadu**	**5.93**	**129**	P	Pn	10 59 00.1	+6.2
	baz=5.5,SNR=19						
KNRA	**Kununurra**	**6.75**	**172**	P	Pn	10 59 08.9	+3.9
	baz=5.8,SNR=16						
FITZ	**Fitzroy Crossi**	**9.32**	**193**	Pn	**Pn**	**10 59 42.2**	**+1.9**
	0.3nm,0.3s,baz=7.6,slow=10,SNR=12						
FITZ				Sn	**Sn**	**11 01 20.6**	**-3.3**
	0.5nm,0.3s,baz=214,slow=18,SNR=3.8						
FITZ	**Fitzroy Crossi**	**9.32**	**193**	P	**Pn**	**10 59 43.1**	**+2.8**
	baz=8.3,SNR=5.6						
WRA	**Warramunga Arr**	**12.64**	**150**	Pn	**Pn**	**11 00 27.0**	**+1.2**
	0.9nm,0.3s,baz=332,slow=15,SNR=38						
WRA				Sn	**Sn**	**11 02 44.4**	**-1.0**
	1.0nm,0.3s,baz=327,slow=26,SNR=9.8						
ASAR	**Alice Springs**	**15.76**	**159**	Pn	**Pn**	**11 01 09.4**	**+1.5**
	0.2nm,0.3s,baz=324,slow=9.5,SNR=25						
ASAR				Sn	**Sn**	**11 04 00.0**	**-1.6**
	0.2nm,0.3s,baz=320,slow=18,SNR=6.2						
WRKA	**Warakurna**	**16.00**	**178**	P	**Pn**	**11 01 12.2**	**+1.3**
	baz=15,SNR=5.9						
CMAR	**Chiang Mai Arr**	**39.38**	**314**	P	**P**	**11 04 54.3**	**-0.6**
	0.8nm,0.4s,baz=137,slow=5.6,SNR=4.7						
MKAR	**Makanchi Array**	**68.67**	**328**	P	**P**	**11 08 27.6**	**-0.7**
	0.3nm,0.6s,baz=129,slow=6.5,SNR=3.0						

*NIED **25** 10:58:00, 26°.20N×129°.30E, h5km, Mw3.7 Best double couple: M0 3.70000×10^14 NP1:φ§42.00000°, δ§69.00000°, λ=-94.00000°. NP2:φ§232.00000°, δ21.00000°, λ=-80.00000°.*
*ISCJB **25** 10:58:03.7±0.8, 26°.21N±0°.05×129°.29E±0°.04, h30km, mb3.6/3, Error ellipse: s-maj=7.5km s-min=4.9km az=156.7*
*JMA **25** 10:58:04.0±0.2, 26°.19N×129°.32E, h42km, M3.5*
*IDC **25** 10:58:11.3±1.7, 26°.68N×130°.84E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=98.9km s-min=23.6km az=81.0*
ISC 25 10:58:03.7±1.4, 26°.16N±0°.06×129°.31E±0°.04, h30km, n15, σ1§26/22, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**1.14**	**306**	P	**Pn**	**10 58 24.0**	**+0.3**
JOW				S	**Sn**	**10 58 37.0**	**-1.4**
JJT2	**Tamagusuku 2**	**1.40**	**270**	P	**Pn**	**10 58 28.1**	**+0.9**
JJT2				S	**Sn**	**10 58 44.8**	**+0.1**
JIH	**

mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=97.8km s-min=76.6km az=7.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**235**	P	P	12 03 47.4	-0.6
	1.8nm,0.6s,baz=61,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**25.92**	**228**	P	P	12 04 09.9	+0.2
	0.3nm,0.6s,baz=60,slow=9.5,SNR=8.8						
STKA	**Stephens Creek**	**27.50**	**205**	P	P	12 04 24.1	+0.3
	1.8nm,0.8s,baz=40,slow=13,SNR=3.2						

*ISCJB **25** 12:18:59.8±0.9, 13°.95N±0°.09×91°.58W±0°.05, h61km, mb3.4/4, Error ellipse: s-maj=12.7km s-min=6.4km az=14.0*
*MEX **25** 12:19:01.0±0.3, 13°.72N×91°.75W, h19km±33km, MD4.2*
*IDC **25** 12:19:02.5±3.5, 14°.00N×91°.45W, h64km±32km, mb3.1/4, mb1 3.5/6, mb1mx3.3/22, mbtmp3.4/6, ML4.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/12, Error ellipse: s-maj=34.8km s-min=26.5km az=75.0*

ISC 25 12:19:01.6±1.2, 14°.0N±0°.1×91°.55W±0°.05, h61km, n13, σ1§48/20, mb3.5/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
THIG		**1.14**	**323**	*i* P	**Pn**	**12 19 20.6**	**-0.9**
THIG				*i* S	**Sn**	**12 19 36.0**	**-0.3**
APG	**El Apazote**	**1.46**	**46**	P	**Pn**	**12 19 23.7**	**-2.2**
	162nm,0.3s,baz=159,slow=3.9,SNR=694						
APG				S	**Sn**	**12 19 43.6**	**-0.6**
	268nm,0.3s,baz=78,slow=14,SNR=19						
PCIG		**2.34**	**317**	*e*P	**Pn**	**12 19 37.2**	**-0.5**
PCIG				*i* S	**Sn**	**12 20 05.4**	**-0.1**
HUIG	**Huatulco**	**4.75**	**292**	*i* P	**Pn**	**12 20 08.8**	**-1.9**
HUIG				*i* S	**Sn**	**12 21 01.5**	**-2.9**
VHO	**Vista Hermosa**	**5.86**	**302**	*e*P	**Pn**	**12 20 25.9**	**-0.1**
VHO				*i* S	**Sn**	**12 21 31.4**	**-0.6**
TEIG	**Tepich**	**6.95**	**26**	P	**Pn**	**12 20 41.3**	**+0.5**
	8.1nm,0.3s,baz=259,slow=16,SNR=51						
TEIG				S	**Sn**	**12 21 55.6**	**-2.8**
	baz=317,slow=19,SNR=4.1						
TEIG				LR	LR	12 23 52.4	
	comp=Z,80nm,20.1s,baz=211,slow=42						
JTS	**JuntasAbangare**	**7.43**	**119**	P	**Pn**	**12 20 48.6**	**+1.1**
	1.4nm,0.3s,baz=308,slow=19,SNR=10						
TXAR	**Lajitas Array**	**18.95**	**326**	P	**Pn**	**12 23 20.6**	**+1.4**
	0.1nm,0.3s,baz=152,slow=10,SNR=12						
ANMO	**Albuquerque**	**24.82**	**330**	P	**P**	**12 24 19.4**	**+1.0**
	0.4nm,0.5s,baz=114,slow=10.0,SNR=5.1						
NVAR	**Mina Array Bea**	**33.95**	**321**	P	**P**	**12 25 41.7**	**+2.3**
	0.7nm,0.8s,baz=120,slow=8.8,SNR=5.2						
YKA	**Yellowknife Ar**	**51.13**	**346**	P	**P**	**12 27 57.3**	**-0.7**
	0.2nm,0.5s,baz=132,slow=8.4,SNR=6.8						
YKA				PcP	**PcP**	**12 29 12.2**	**-0.6**
	0.2nm,0.6s,baz=147,slow=3.7,SNR=6.3						
ILAR	**Eielson Array**	**63.02**	**337**	P	**P**	**12 29 22.1**	**+0.1**
	0.3nm,0.6s,baz=100,slow=5.9,SNR=5.0						
CMAR	**Chiang Mai Arr**	**146.14**	**342**	PKPbc	**PKPab**	**12 38 36.3**	**-0.2**
	1.3nm,0.5s,baz=338,slow=4.6,SNR=8.9						

*ISCJB **25** 12:45:24.9±0.2, 37°.83N±0°.02×76°.88E±0°.04, h10km, mb4.3/32, MS3.7/11, Error ellipse: s-maj=4.7km s-min=2.6km az=156.8*
*IDC **25** 12:45:24.2±0.7, 37°.71N×76°.63E, h0km, mb4.2/14, mb1 4.3/19, mb1mx4.1/32, mbtmp4.2/19, ML4.0/5, MS3.4/6, Ms1 3.4/6, ms1mx3.1/41, Error ellipse: s-maj=17.6km s-min=12.1km az=57.0*
*NNC **25** 12:45:25.3±8.3, 37°.75N×76°.16E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=65.6km s-min=44.8km az=173.0*
*BJI **25** 12:45:26.1, 37°.85N×76°.74E, h4km, mB4.6/6, mb4.5/10, ML4.5/7, Ms4.0/7, Ms7 3.8/7*
*NEIC **25** 12:45:26.5±0.3, 37°.81N×76°.79E, h10km, mb4.4/9, Error ellipse: s-maj=9.3km s-min=4.4km az=60.0*
*MOS **25** 12:45:28.2±1.3, 37°.81N×76°.86E, h36km, mb4.5/26, Error ellipse: s-maj=9.9km s-min=4.1km az=106.9*

ISC 25 12:45:26.1±0.4, 37.71N±0°.04×76.73E±0°.04, h10km, n187, σ1§66/199, mb4.3/32, MS3.6/11, 21C-27D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.90**	**342**	Pg	Pn	12 45 55.3	-3.4
KSH				Sg	Sn	12 46 13.0	-10
KSH				smax	smax		
	comp=N,3μm,0.6s						
KSH				smax	smax		
	comp=E,3μm,0.3s						
KZA	**Kyzart**	**4.50**	**346**	*i* P	**Pn**	**12 46 36.5**	**+1.7**
KZA	**Kyzart**	**4.50**	**346**	P	**Pn**	**12 46 36.6**	**+1.7**
	SNR=28						
ULHL	**Ulahol**	**4.54**	**355**	*i* P	**Pn**	**12 46 37.4**	**+2.3**
ULHL	**Ulahol**	**4.54**	**355**	P	**Pn**	**12 46 37.4**	**+2.3**
	SNR=18						
UCH	**Uchtor**	**4.82**	**340**	*i* P	**Pn**	**12 46 40.7**	**+1.5**
UCH	**Uchtor**	**4.82**	**340**	P	**Pn**	**12 46 40.7**	**+1.5**
	SNR=68						
CHCP	**Chirah Chowk**	**4.93**	**216**	P	Pb	12 46 47.5	-5.1
AML	**Almayashu**	**4.99**	**333**	*i* P	**Pn**	**12 46 43.0**	**+1.5**
AML	**Almayashu**	**4.99**	**333**	P	**Pn**	**12 46 43.0**	**+1.5**
	SNR=34						
KBK	**Karagaybulak**	**5.12**	**345**	P	**Pn**	**12 46 45.1**	**+2.1**
	SNR=44						
AAK	**Ala-Archa**	**5.20**	**341**	*d* iP	**Pn**	**12 46 46.1**	**+1.9**
AAK	**Ala-Archa**	**5.20**	**341**	P	**Pn**	**12 46 46.4**	**+2.2**
	SNR=46						
AAK	**Ala-Archa**	**5.20**	**341**	Pn	**Pn**	**12 46 46.3**	**+2.1**
AAK				Pg	**Pb**	**12 46 59.7**	**+2.4**
AAK				Lg	Lg	12 48 04.7	
AAK	**Ala-Archa**	**5.20**	**341**	Pn	**Pn**	**12 46 46.3**	**+2.1**
	12nm,0.3s,baz=146,slow=8.5,SNR=124						
AAK				Pg	**Pb**	**12 46 59.7**	**+2.4**
	14nm,0.3s,baz=128,slow=9.7,SNR=29						
AAK				Lg	Lg	12 48 04.7	
	11nm,0.3s,baz=257,slow=23,SNR=6.5						
AAK	**Ala-Archa**	**5.20**	**341**	⇑Pn	**Pn**	**12 46 46.0**	**+1.9**
	28nm,0.5s						
AAK				⇓Pg	**Pb**	**12 46 59.1**	**+1.8**
	176nm,0.8s						
AAK				⇓Sn	**Sn**	**12 47 44.1**	**-0.2**
	216nm,0.8s						
AAK				⇑Lg	Lg	12 48 06.5	
	336nm,1.1s						
TKM2	**Tokmak 2**	**5.27**	**351**	*i* P	**Pn**	**12 46 47.3**	**+2.2**
TKM2	**Tokmak 2**	**5.27**	**351**	P	**Pn**	**12 46 47.4**	**+2.2**
	SNR=17						
TKM2	**Tokmak 2**	**5.27**	**351**	*e*Pn	**Pn**	**12 46 45.6**	**+0.5**
	264nm,0.8s						
TKM2				*e*Sn	**Sn**	**12 47 46.7**	**+0.6**
TKM2	**Tokmak 2**	**5.27**	**351**	⇓Pn	**Pn**	**12 46 46.3**	**+1.2**
	22nm,0.8s						
TKM2				⇑Pg	**Pb**	**12 46 59.0**	**+0.5**
	260nm,0.8s						
TKM2				⇑Lg	Lg	12 48 08.3	
	266nm,0.9s						
FRU	**Bishkek**	**5.36**	**343**	*i* P	**Pn**	**12 46 47.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,142nm,1.6s						
EKS2	**Erkin-Say**	**5.43**	**336**	*e*P	**Pn**	**12 46 49.1**	**+1.8**
EKS2				*e*		12 47 46.8	
EKS2				pmax	pmax		
	comp=Z,93nm,0.7s						
EKS2	**Erkin-Say**	**5.43**	**336**	P	Pn	12 46 50.5	+3.2
	SNR=9.9						
EKS2	**Erkin-Say**	**5.43**	**336**	*e*Pn	**Pn**	**12 46 49.1**	**+1.8**
	comp=Z,93nm,0.7s						
EKS2				*e*Sn	**Sn**	**12 47 46.8**	**-3.2**
DHRM	**DHARAMSHALA**	**5.46**	**184**	*e*P	Pn	12 46 54.9	+7.1
DHRM				*e*S	**Sn**	**12 47 56.3**	**+5.4**
DHRM				AML	AML	12 48 06.4	
	comp=N,368nm,0.9s						
DHRM				AML	AML	12 48 11.2	
	comp=E,364nm,0.6s						
CHMS	**Chumysh**	**5.49**	**345**	*i* P	**Pn**	**12 46 49.9**	**+1.9**
CHMS	**Chumysh**	**5.49**	**345**	P	**Pn**	**12 46 50.0**	**+1.9**
	SNR=25						
KNDC	**Almaty**	**5.50**	**2**	⇓Pn	**Pn**	**12 46 46.7**	**-1.5**
	comp=E,50nm,0.8s						
KNDC				⇓Pg	**Pb**	**12 47 02.4**	**+0.1**
	comp=E,183nm,0.7s						
KNDC				⇓Lg	Lg	12 48 20.0	
	comp=E,583nm,1.3s						
CEP	**Cherat**	**5.52**	**227**	P	Pn	12 46 54.5	+6.0
CEP				S	Sb	12 48 02.0	-6.9
AAA	**Alma-Ata**	**5.55**	**2**	*i* P	**Pb**	**12 47 03.3**	**+0.1**
AAA				pmax	pmax		
	comp=Z,246nm,0.6s						
USP	**Ospenovka**	**5.80**	**344**	*i* P	**Pn**	**12 46 53.5**	**+1.2**
USP	**Ospenovka**	**5.80**	**344**	P	**Pn**	**12 46 53.6**	**+1.2**
	SNR=9.1						
SDNR	**Sundarnagar**	**6.20**	**178**	*e*P	Pn	12 47 02.0	+4.2
SDNR				*ex*	x	12 48 48.0	
THW	**Thamme Wali**	**6.38**	**221**	P	Pn	12 47 05.3	+5.0
SMLA	**Simla**	**6.58**	**177**	*e*P	Pn	12 47 08.5	+5.6
SMLA				*ex*	x	12 48 22.5	
SARP	**Sargodha**	**6.67**	**211**	P	Pn	12 47 09.0	+4.8
KBL	**Kabul**	**6.98**	**245**	*e*P	Pn	12 47 13.3	+4.6
KBL				*e*		12 48 26.1	
KBL				pmax	pmax		
	comp=Z,68nm,0.5s						
KBL	**Kabul**	**6.98**	**245**	*e*Pn	Pn	12 47 13.2	+4.6
	comp=Z,68nm,0.5s						
KBL				*e*Sn	**Sn**	**12 48 26.1**	**-2.1**
KBL				*e*Sg	**Sg**	**12 49 09.2**	**-1.1**
KK31	**Karatay Array**	**7.17**	**321**	*e*P	**Pn**	**12 47 11.2**	**+0.1**
KK31						12 48 29.4	
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KK31				smax	smax		
	comp=N,7.0nm,0.3s						
KK31	**Karatay Array**	**7.17**	**321**	⇓Pn	**Pn**	**12 47 11.3**	**+0.1**
	comp=N,1.5nm,0.2s,baz=127,slow=12,SNR=87						
KK31				⇓Sn	**Sn**	**12 48 28.4**	**-4.3**
	comp=N,20nm,0.7s,baz=146,slow=23						
KK31				⇓Lg	Lg	12 48 59.8	
	comp=N,116nm,1.4s,baz=130,slow=27						
KKAR	**Karatay Array**	**7.17**	**321**	*e*P	**Pn**	**12 47 11.4**	**+0.3**
KKAR				*e*		12 48 30.7	
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KKAR	**Karatay Array**	**7.17**	**321**	*e*Pn	**Pn**	**12 47 11.4**	**+0.3**
	comp=Z,7.4nm,0.3s						
KKAR				*e*Sn	**Sn**	**12 48 30.7**	**-2.0**
DDI	**Dehra Dun**	**7.45**	**171**	*ex*	Pn	12 47 21.8	+6.8
DDI				*e*S	**Sn**	**12 48 41.3**	**+1.6**
DDI				AML	AML	12 48 55.4	
	comp=N,367nm,0.1s						
DDI				AML	AML	12 48 56.9	
	comp=E,292nm,0.6s						
NDI	**New Delhi**	**9.02**	**177**	*e*P	Pn	12 47 40.0	+3.6
NDI				*e*S	**Sn**	**12 49 15.5**	**-2.5**
MK31	**Makanchi Array**	**9.96**	**23**	*e*P	**Pn**	**12 47 50.1**	**+0.8**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MK31	**Makanchi Array**	**9.96**	**23**	*e*Pn	**Pn**	**12 47 48.7**	**-0.6**
MK31				*e*Sn	**Sn**	**12 49 39.6**	**-1.6**
MK31	**Makanchi Array**	**9.96**	**23**	⇓Pn	**Pn**	**12 47 49.4**	**+0.1**
	comp=Z,7.6nm,0.6s,baz=192,slow=13,SNR=22						
MK31				⇑Sn	Sn	12 49 56.2	+15
	comp=Z,8.2nm,0.6s,baz=186,slow=26						
MK31				⇑Lg	Lg	12 50 43.7	
	comp=Z,31nm,1.2s,baz=186,slow=24						
MKAR	**Makanchi Array**	**9.96**	**23**	*i* P	**Pn**	**12 47 49.7**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**9.96**	**23**	Pn	**Pn**	**12 47 49.8**	**+0.4**
MKAR	**Makanchi Array**	**9.96**	**23**	Pn	**Pn**	**12 47 49.8**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=206,slow=13,SNR=39						
WMQ	**Urumqi**	**10.31**	**50**	P	**Pn**	**12 47 54.0**	**-0.1**
PYUN	**Piuthan**	**10.93**	**149**	*e*P	**Pn**	**12 48 04.3**	**+1.5**
	comp=Z,80nm,0.4s						
PYUN	**Piuthan**	**10.93**	**149**	*e*P	**Pn**	**12 48 04.3**	**+1.5**
	comp=Z,80nm,0.4s						
DANN	**Dangsing**	**11.04**	**146**	*e*P	**Pn**	**12 48 06.0**	**+1.6**
	comp=Z,27nm,0.3s						
DANN	**Dangsing**	**11.04**	**146**	*e*P	**Pn**	**12 48 06.0**	**+1.6**
	comp=Z,27nm,0.3s						
KOLN	**Koldanda**	**11.47**	**148**	*e*P	**Pn**	**12 48 11.5**	**+1.3**
	comp=Z,14nm,0.2s						
KOLN	**Koldanda**	**11.47**	**148**	*e*P	**Pn**	**12 48 11.5**	**+1.3**
	comp=Z,14nm,0.2s						
GKN	**Gorkha**	**11.74**	**143**	*e*P	**Pn**	**12 48 15.4**	**+1.6**
	comp=Z,34nm,0.3s						
GKN	**Gorkha**	**11.74**	**143**	*e*P	**Pn**	**12 48 15.4**	**+1.6**
	comp=Z,34nm,0.3s						
KKN	**Kakani**	**12.23**	**142**	*e*P	**Pn**	**12 48 21.9**	**+1.3**
	comp=Z,26nm,0.5s						
KKN	**Kakani**	**12.23**	**142**	*e*P	**Pn**	**12 48 21.9**	**+1.3**
KKN				pmax	pmax		
	comp=Z,27nm,0.5s						
KKN	**Kakani**	**12.23**	**142**	*e*P	**Pn**	**12 48 21.9**	**+1.3**
	comp=Z,26nm,0.5s						
DMN	**Daman**	**12.29**	**143**	*e*P	**Pn**	**12 48 23.4**	**+1.9**
	comp=Z,21nm,0.3s						
DMN	**Daman**	**12.29**	**143**	*e*P	**Pn**	**12 48 23.4**	**+1.9**
	comp=Z,21nm,0.3s						
GUN	**Gumba**	**12.43**	**139**	*e*P	**Pn**	**12 48 25.3**	**+1.8**
	comp=Z,23nm,0.3s						
GUN	**Gumba**	**12.43**	**139**	*e*P	**Pn**	**12 48 25.3**	**+1.8**
	comp=Z,23nm,0.3s						
PKIN	**Phulchoki**	**12.46**	**142**	*e*P	**Pn**	**12 48 25.3**	**+1.5**
	comp=Z,14nm,0.3s						
PKI	**Pulchoki**	**12.47**	**142**	*e*P	**Pn**	**12 48 25.2**	**+1.3**
	comp=Z,14nm,0.3s						
PKI	**Pulchoki**	**12.47**	**142**	*e*P	**Pn**	**12 48 25.3**	**+1.3**
PKI				pmax	pmax		
	comp=Z,14nm,0.3s						
PKI	**Pulchoki**	**12.47**	**142**	*e*P	**Pn**	**12 48 25.3**	**+1.3**
	comp=Z,14nm,0.3s						
JIRN	**Jiri**	**12.79**	**139**	*e*P	**Pn**	**12 48 29.5**	**+1.0**
	comp=Z,52nm,0.4s						
JIRN	**Jiri**	**12.79**	**139**	*e*P	**Pn**	**12 48 29.5**	**+1.0**
	comp=Z,52nm,0.4s						
KURBB	**Kurchatov Arra**	**12.97**	**5**	Pn	**Pn**	**12 48 28.7**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=192,slow=12,SNR=15						
KURBB				Lg	Lg	12 52 13.1	
	comp=Z,0.1nm,0.3s,baz=189,slow=28,SNR=4.9						
KURBB	**Kurchatov Arra**	**12.97**	**5**	⇑Pn	**Pn**	**12 48 27.9**	**-2.4**
	comp=Z,8.2nm,0.8s,baz=195,slow=12						
KURBB				⇑Lg	Lg	12 52 17.0	
	comp=Z,94nm,2.0s,baz=201,slow=28						
KURK	**Kurchatov**	**13.07**	**5**	*e*P	**Pn**	**12 48 30.0**	**-1.7**
KURK	**Kurchatov**	**13.07**	**5**	*e*Pn	**Pn**	**12 48 30.0**	**-1.7**
KURK				Lg	Lg	12 52 13.1	
KURK	**Kurchatov**	**13.07**	**5**	⇑Pn	**Pn**	**12 48 29.3**	**-2.5**
	comp=Z,4.2nm,1.1s						
KURK				⇓Lg	Lg	12 52 18.6	
	comp=Z,23nm,1.2s						
RAMN	**Ramite**	**13.58**	**139**	*e*P	**Pn**	**12 48 39.2**	**+0.1**
	comp=Z,20nm,0.3s						
RAMN	**Ramite**	**13.58**	**139**	*e*P	**Pn**	**12 48 39.2**	**+0.1**
	comp=Z,20nm,0.3s						
TAPN	**Taplejung**	**13.86**	**135**	*e*P	**Pn**	**12 48 43.5**	**+0.5**
	comp=Z,15nm,0.4s						
TAPN	**Taplejung**	**13.86**	**135**	*e*P	**Pn**	**12 48 43.5**	**+0.5**
	comp=Z,15nm,0.4s						
ODAN	**Odare**	**14.07**	**137**	*e*P	**Pn**	**12 48 46.1**	**+0.3**
	comp=Z,23nm,0.4s						
ODAN				*e*S	**Sn**	**12 51 17.2**	**-5.0**
ODAN	**Odare**	**14.07**	**137**	*e*P	**Pn**	**12 48 46.1**	**+0.3**
	comp=Z,23nm,0.4s						
ODAN				*e*S	**Sn**	**12 51 17.2**	**-5.0**
LSA	**Lhasa**	**14.41**	**119**	P	**Pn**	**12 48 50.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**14.41**	**119**	Pn	**Pn**	**12 48 50.6**	**0.0**
	comp=Z,8.8nm,0.8s						
BHPL	**Bhopal**	**14.44**	**177**	*e*P	**P**	**12 48 55.3**	**-2.2**
BHPL				*e*		12 51 20.6	
VOSK	**Vostochnaya**	**15.54**	**347**	⇓Pn	**Pn**	**12 49 02.6**	**-2.6**
	comp=Z,12nm,0.8s						
VOSK				⇑Lg	Lg	12 53 34.1	
	comp=Z,32nm,1.4s						
BOK	**Bokaro**	**15.94**	**148**	*e*P9	Pn	12 49 00.0	-10
BOK				*e*S	Sn	12 51 57.3	-10
BVA0	**Borovoye Array**	**15.94**	**346**	*i* P	**Pn**	**12 49 07.9**	**-2.4**
BVA0				pmax	pmax		
	comp=Z,15nm,0.7s						
BVA0	**Borovoye Array**	**15.94**	**346**	Pn	**Pn**	**12 49 08.0**	**-2.4**
	comp=Z,14nm,0.7s,baz=159,slow=12,SNR=32						
BVA0				⇓Lg	Lg	12 53 44.6	
	comp=Z,57nm,2.1s,baz=146,slow=29,SNR=4.2						
BVAR	**Borovoye Array**	**15.94**	**346**	P	**Pn**	**12 49 08.4**	**-2.0**
BVAR	**Borovoye Array**	**15.94**	**346**	Pn	**Pn**	**12 49 08.4**	**-2.0**
BVAR				Lg	Lg	12 53 45.1	
BVAR	**Borovoye Array**	**15.94**	**346**	Pn	**Pn**	**12 49 08.4**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=152,slow=12,SNR=27						
BVAR				Lg	Lg	12 53 45.1	
	comp=Z,0.2nm,0.3s,baz=149,slow=24,SNR=7.1						
BRVK	**Borovoye**	**15.99**	**346**	*c* iP	**Pn**	**12 49 09.0**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,21nm,0.7s						
BRVK	**Borovoye**	**15.99**	**346**	*e*Pn	**Pn**	**12 49 08.2**	**-2.8**
	comp=Z,25nm,0.8s						
BRVK	**Borovoye**	**15.99**	**346**	⇓Pn	**Pn**	**12 49 08.6**	**-2.4**
	comp=Z,30nm,0.7s						
BRVK				⇑Lg	Lg	12 53 47.5	
	comp=Z,99nm,1.5s						
AB31	**Akbulak array**	**16.73**	**319**	P	**Pn**	**12 49 19.3**	**-1.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AB31	**Akbulak array**	**16.73**	**319**	⇑Pn	**Pn**	**12 49 19.3**	**-1.2**
	comp=Z,3.2nm,0.8s						
ABKAR	**Akbulak array**	**16.73**	**319**	*e*Pn	**Pn**	**12 49 18.7**	**-1.8**
	comp=Z,4.2nm,0.7s						
ABKAR				*e*Sn	Sn	12 52 17.3	-9.1
ZAA0	**Zalesovo Array**	**17.17**	**16**	*e*Pn	**Pn**	**12 49 23.0**	**-3.0**
ZALV	**Zalesovo Beam**	**17.17**	**16**	*i* P	**Pn**	**12 49 24.8**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZALV	**Zalesovo Beam**	**17.17**	**16**	P	**Pn**	**12 49 22.7**	**-3.2**
ZALV	**Zalesovo Beam**	**17.17**	**16**	P	**Pn**	**12 49 22.7**	**-3.2**
	comp=Z,0.5nm,0.3s,baz=202,slow=11,SNR=12						
SHL	**Shillong**	**17.66**	**129**	*e*P	**Pn**	**12 49 31.4**	**-1.1**
NVS	**Novosibirsk**	**17.70**	**12**	⇑*i*P	**Pn**	**12 49 30.1**	**-2.4**
NVS				*e*		12 52 39.9	
GTA	**Gaotai**	**18.12**	**77**	*e*P	**P**	**12 49 38.5**	**+0.1**
GTA				pP	**pP**	**12 49 42.5**	**+1.3**
GTA				sP	**sP**	**12 49 45.3**	**+2.8**
GTA				S	**Sn**	**12 53 02.5**	**+2.1**
GTA				sS	**sS**	**12 53 08.5**	**-2.1**
GTA				SS	SnSn	12 53 26.3	+12
GTA				pmax	pmax		
	comp=Z,40nm,4.7s						
GTA				LR	LR		
	comp=Z,190nm,12.4s						
GTA				LR	LR		
	comp=Z,200nm,10.4s						
GTA				LR	LR		
	comp=Z,220nm,11.9s						
AKTO	**Aktyubinsk**	**18.44**	**320**	P	**P**	**12 49 40.5**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,78nm,18.2s						
AKTO	**Aktyubinsk**	**18.44**	**320**	P	**P**	**12 49 40.5**	**-1.2**
AKTO	**Aktyubinsk**	**18.44**	**320**	P	**P**	**12 49 40.5**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=116,slow=15,SNR=12						
AKTO				LR	LR	12 57 05.4	
	comp=Z,78nm,18.2s,baz=183,slow=38						
AKTO	**Aktyubinsk**	**18.44**	**320**	⇑Pn	**P**	**12 49 41.2**	**-0.5**
	comp=Z,9.5nm,1.1s						
HYB	**Hyderabad**	**20.28**	**175**	*i* P	Pn	12 50 06.0	+2.0
LZH	**Lanzhou**	**21.72**	**86**	*e*P	**P**	**12 50 16.3**	**-1.3**
LZH				pP	**pP**	**12 50 20.0**	**-0.5**
LZH				sP	**sP**	**12 50 23.3**	**+1.5**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
SVE	**Sverdlovsk**	**21.92**	**336**	*e*P	**P**	**12 50 20.4**	**+1.1**
SVE				pmax	pmax		
	comp=Z,24nm,1.0s						
MOY	**Mondy**	**22.05**	**43**	*e*P	P	12 50 26.8	+5.9
ARU	**Arti**	**22.32**	**333**	*d* iP	**P**	**12 50 25.1**	**+1.5**
ARU						12 50 49.1	
ARU				S	**S**	**12 54 26.9**	**-1.9**
ARU				SS	**SnSn**	**12 54 56.1**	**-0.2**
ARU				pmax	pmax		
	comp=Z,15nm,1.7s						
ARU	**Arti**	**22.32**	**333**	*e*P	**P**	**12 50 24.9**	**+1.3**
	comp=Z,13nm,0.9s						
ZAK	**Zakamensk**	**22.76**	**48**	*e*P	**P**	**12 50 32.5**	**+3.9**
ZAK				pmax	pmax		
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	**23.87**	**55**	P	**P**	**12 50 41.2**	**+1.4**
SONM	**Songino Array**	**23.87**	**55**	P	**P**	**12 50 41.2**	**+1.4**
	comp=Z,13nm,0.8s,baz=257,slow=11,SNR=21						
SONM				LR	LR	13 01 15.5	
	comp=Z,133nm,18.9s,baz=332,slow=40						
ULN	**Ulaanbaatar**	**24.31**	**56**	*e*P	**P**	**12 50 47.7**	**+3.8**
	comp=Z,6.5nm,0.8s						
GNI	**Garni**	**24.94**	**286**	P	**P**	**12 50 51.1**	**+1.5**
GNI	**Garni**	**24.94**	**286**	P	**P**	**12 50 51.1**	**+1.5**
	comp=Z,2.6nm,0.3s,baz=186,slow=16,SNR=3.7						
GNI				LR	LR	13 02 08.0	
	comp=Z,38nm,20.1s,baz=268,slow=40						
ZEI	**Tsey**	**25.47**	**292**	*e*P	**P**	**12 50 58.7**	**+4.2**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KIV	**Kislovodsk**	**26.38**	**294**	⇑*e*P	**P**	**12 51 05.0**	**+2.4**
KIV				*e*		12 51 42.6	
KIV				*e*S	**S**	**12 55 36.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s						
HHC	**Hu-ho-hao-te**	**27.04**	**72**	*e*P	**P**	**12 51 07.5**	**-1.1**
HHC				PP	**PnPn**	**12 51 53.0**	**+2.0**
HHC				PcP	**PcP**	**12 54 30.8**	**+1.1**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,4.4s						
HHC				LR	LR		

comp=Z,0.5nm,0.2s
GZR Gura Zlata 40.44 299 ⇑*i*P **P 12 53 03.1 -1.6**
BZS Buzias 41.22 299 ⇓P **P 12 53 11.8 +0.8**
BZS Buzias 41.22 299 ⇓*i*P **P 12 53 11.8 +0.8**
ARCES ARCESS Array B 41.85 336 P **P 12 53 16.0 +0.1**
ARCES ARCESS Array B 41.85 336 P **P 12 53 16.0 +0.1**
comp=Z,2.1nm,0.7s,baz=105,slow=10,SNR=5.9
ARCES LR LR 13 12 51.8
comp=Z,58nm,18.1s,baz=192,slow=39
TIXI Tiksi 42.95 22 *e*P **P 12 53 24.6 -0.1**
TIXI pmax pmax
comp=Z,13nm,2.5s
TIXI MLR MLR
comp=Z,187nm,17.0s
TIXI Tiksi 42.95 22 *e*P **P 12 53 24.9 +0.2**
comp=Z,5.4nm,1.0s
PKSM Moragy 43.16 300 ⇑P **P 12 53 26.7 -0.1**
PKSM Moragy 43.16 300 ⇑*i*P **P 12 53 26.7 -0.1**
GERES GERESS Array B 45.98 305 LR LR 13 17 26.7
comp=Z,72nm,18.4s,baz=281,slow=42
NB2 NORSAR Subarra 46.20 322 P **P 12 53 49.9 -1.1**
comp=Z,2.3nm,0.7s,baz=91,slow=7.9
NOA NORSAR Array B 46.20 322 P **P 12 53 50.6 -0.4**
NOA NORSAR Array B 46.20 322 P **P 12 53 50.6 -0.4**
comp=Z,2.4nm,0.8s,baz=91,slow=7.7,SNR=4.7
MJAR Matsushiro Arr 48.23 72 P **P 12 54 08.8 +1.7**
MJAR Matsushiro Arr 48.23 72 P **P 12 54 08.8 +1.7**
comp=Z,1.8nm,0.7s,baz=285,slow=8.9,SNR=5.8
KMBO Kilima Mbogo 53.12 233 LR LR 13 21 08.2
comp=Z,53nm,18.8s,baz=91,slow=40
SUMG Summit 61.37 342 *e*P **P 12 55 42.8 +0.6**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 61.37 342 *e*P **P 12 55 42.8 +0.6**
comp=Z,8.5nm,1.1s
TOA0 Torodi Ar. Sit 70.30 272 *e*P **P 12 56 39.3 -0.8**
TORD Torodi Ar. Bea 70.30 272 P **P 12 56 39.2 -0.9**
TORD Torodi Ar. Bea 70.30 272 P **P 12 56 39.2 -0.9**
comp=Z,1.5nm,0.3s,baz=48,slow=5.9,SNR=38
INK Inuvik 71.89 11 *e*P **P 12 56 49.1 +0.3**
comp=Z,7.2nm,1.0s
COLA College 71.96 18 *e*P **P 12 56 49.3 -0.1**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 71.96 18 *e*P **P 12 56 49.3 -0.1**
comp=Z,5.5nm,0.8s
ILAR Eielson Array 72.28 18 P **P 12 56 51.0 -0.4**
ILAR Eielson Array 72.28 18 P **P 12 56 51.0 -0.4**
comp=Z,3.0nm,0.8s,baz=314,slow=4.9,SNR=18
WRA Warramunga Arr 78.86 126 P **P 12 57 29.5 -0.1**
WRA Warramunga Arr 78.86 126 P **P 12 57 29.5 -0.1**
comp=Z,2.1nm,0.9s,baz=326,slow=5.5,SNR=4.8
WRAB Tennant Creek 78.86 126 *e*P **P 12 57 30.2 +0.6**
WRAB pmax pmax
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 78.86 126 *e*P **P 12 57 30.2 +0.6**
comp=Z,1.7nm,0.6s
DBIC Dimbokro 79.31 270 P **P 12 57 31.1 -1.2**
DBIC Dimbokro 79.31 270 P **P 12 57 31.1 -1.2**
comp=Z,1.9nm,0.6s,baz=160,slow=4.8,SNR=3.0
YKA Yellowknife Ar 79.72 5 P **P 12 57 33.0 -0.7**
YKA Yellowknife Ar 79.72 P **P 12 57 33.0 -0.7**
comp=Z,1.7nm,0.6s,baz=345,slow=5.6,SNR=42
ASAR Alice Springs 81.31 129 P **P 12 57 42.1 -0.7**
ASAR Alice Springs 81.31 129 P **P 12 57 42.1 -0.7**
comp=Z,1.6nm,0.8s,baz=316,slow=5.1,SNR=6.1
CTA Charters Tower 86.97 118 P **P 12 58 11.4 -0.3**
CTA Charters Tower 86.97 118 P **P 12 58 11.4 -0.3**
comp=Z,1.9nm,0.7s,baz=278,slow=7.1,SNR=4.1

ISCJB ***25*** *12:47:08.9±0.3,2.95S±0.04×129.80E±0.05,h25km, mb4.0/13, MS3.5/1, Error ellipse: s-maj=7.1km s-min=5.0km az=158.7*
NEIC ***25*** *12:47:12.0±0.4,2.88S×129.94E,h35km,mb4.3/5, Error ellipse: s-maj=13.3km s-min=6.6km az=60.0*
AUST ***25*** *12:47:12.4,2.99S×130.01E,h35km*
DJA ***25*** *12:47:13.5±0.5,3°S±6′×13°0E±°,h55km±19km, M4.7/10, mb4.9/4,mB5.2/3,MLv4.5/10,Mw(mB)4.5/3*
IDC ***25*** *12:47:15.8±4.8,2.97S×129.80E,h68km±44km,mb3.8/13, mb1 3.9/13,mb1mx3.8/24,mbtmp3.9/13,MS3.3/2, Ms1 3.3/2,ms1mx2.8/39, Error ellipse: s-maj=33.0km s-min=9.9km az=69.0*
ISC 25 12:47:10.7±0.5,2.89S±0.05×129.93E±0.06,h25km,n62, σ1§54/70,mb4.2/14,Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSAI	**Masohi**	**1.09**	**246**	P		**Pb**	**12 47 32.5**	**+1.5**
BNDI	**Bandanaira**	**1.62**	**181**	P		**Pb**	**12 47 42.5**	**+2.5**
FAKI	**Fak Fak**	**2.32**	**91**	P		**Pn**	**12 47 49.5**	**+2.1**
FAKI	**Fak Fak**	**2.32**	**91**	P		**Pn**	**12 47 49.3**	**+2.0**
	baz=2.2,SNR=22							
SWI	**Sorong**	**2.42**	**34**	P		**Pn**	**12 47 49.5**	**+0.8**
NLAI	**Namlea**	**2.84**	**263**	P		**Pn**	**12 47 55.3**	**+0.8**
LBMI	**Labuha**	**3.30**	**313**	P		**Pn**	**12 48 00.0**	**-0.8**
MWPI	**Manokwari, Pap**	**4.55**	**65**	P		**Pn**	**12 48 21.1**	**+3.1**
LUWI	**Luwuk**	**7.38**	**284**	P		**Pn**	**12 48 54.9**	**-2.1**
	74nm,1.1s,2μm0.4nm							
LUWI	**Luwuk**	**7.38**	**284**	P		**Pn**	**12 48 55.2**	**-1.8**
	baz=7.5,SNR=9.1							
APSI	**Ampana**	**8.50**	**283**	P		**Pn**	**12 49 11.6**	**-0.8**
	190nm,0.9s,2μm							
MRSI	**Marisa**	**8.65**	**293**	P		**Pn**	**12 49 14.3**	**-0.2**
MTN	**Manton Dam**	**9.96**	**173**	P		**Pn**	**12 49 32.7**	**+0.3**
	baz=9.9,SNR=19							
KDU	**Kakadu**	**10.05**	**166**	P		**Pn**	**12 49 34.7**	**+1.1**
	baz=10.0,SNR=8.0							
KAPI	**Kappang**	**10.37**	**258**	*e*Pn		**Pn**	**12 49 40.0**	**+2.0**
	402nm,1.4s							
KNRA	**Kununurra**	**12.76**	**185**	P		**Pn**	**12 50 09.6**	**-1.1**
	baz=13,SNR=21							
FITZ	**Fitzroy Crossi**	**15.69**	**195**	*e*Pn		**Pn**	**12 50 50.8**	**+0.5**
FITZ				*e*Sn		**Sn**	**12 53 39.0**	**-4.5**
FITZ	**Fitzroy Crossi**	**15.69**	**195**	P		**Pn**	**12 50 48.4**	**-1.9**
	0.1nm,0.3s,baz=193,slow=7.7,SNR=3.7							
FITZ				S		**Sn**	**12 53 41.7**	**-1.8**
	0.1nm,0.3s,baz=342,slow=20,SNR=1.7							
FITZ				LR		LR	12 58 00.2	
	comp=Z,40nm,18.7s,baz=28,slow=41							
FITZ	**Fitzroy Crossi**	**15.69**	**195**	P		**Pn**	**12 50 49.8**	**-0.5**
	baz=16,SNR=11							
JAGI	**Jajag, Banyuwa**	**16.64**	**250**	P		**P**	**12 51 05.8**	**+1.1**
	baz=17,SNR=3.2							
COEN	**Coen**	**17.09**	**131**	*e*Pn		**Pn**	**12 51 08.6**	**+0.5**
	82nm,0.8s							
COEN				*e*Sn		**Sn**	**12 54 11.8**	**-5.9**
COEN	**Coen**	**17.09**	**131**	P		**Pn**	**12 51 05.8**	**-2.3**
	baz=17,SNR=10							
WRAB	**Tennant Creek**	**17.48**	**166**	*e*Pn		**Pn**	**12 51 11.2**	**-1.8**
	17nm,0.9s							
WRAB				*e*Sn		**Sn**	**12 54 28.4**	**+1.4**
WRA	**Warramunga Arr**	**17.49**	**166**	P		**Pn**	**12 51 10.8**	**-2.2**
WRA				S		Sn	12 54 18.9	-8.2
WRA	**Warramunga Arr**	**17.49**	**166**	P		**Pn**	**12 51 10.8**	**-2.2**
	2.1nm,0.3s,baz=348,slow=9.8,SNR=32							
WRA				S		Sn	12 54 18.9	-8.2
	0.3nm,0.3s,baz=332,slow=20,SNR=4.2							
QIS	**Mount Isa**	**19.93**	**152**	P		**Pn**	**12 51 42.3**	**-0.4**
	baz=20,SNR=23							
AS31	**Alice Springs**	**21.01**	**170**	*e*P		**P**	**12 51 53.2**	**+0.5**
ASAR	**Alice Springs**	**21.01**	**170**	P		**P**	**12 51 52.8**	**+0.2**
ASAR				S		**S**	**12 55 42.9**	**-2.7**
ASAR				PcP		**PcP**	**12 55 60.0**	**+0.5**
ASAR	**Alice Springs**	**21.01**	**170**	P		**P**	**12 51 52.8**	**+0.2**
	26nm,0.7s,baz=353,slow=11,SNR=437							
ASAR				S		**S**	**12 55 42.9**	**-2.7**
	5.0nm,0.8s,baz=351,slow=21,SNR=9.9							
ASAR				PcP		**PcP**	**12 55 60.0**	**+0.5**
	1.4nm,0.5s,baz=1.9,slow=2.6,SNR=4.6							
WRKA	**Warakurna**	**22.07**	**184**	P		**P**	**12 52 03.6**	**-0.5**
	baz=22,SNR=83							
CTA	**Charters Tower**	**23.37**	**138**	P		**P**	**12 52 19.3**	**+1.7**
CTA	**Charters Tower**	**23.37**	**138**	P		**P**	**12 52 19.3**	**+1.7**
	5.2nm,0.9s,baz=301,slow=9.6,SNR=6.4							
CTAO	**Charters Tower**	**23.37**	**138**	*e*P		**P**	**12 52 19.3**	**+1.7**
	13nm,1.1s							
MEEK	**Meekatharra**	**25.98**	**204**	P		**P**	**12 52 42.5**	**+0.8**
	baz=26,SNR=4.1							
KMBL	**Kambalda**	**29.32**	**194**	P		**P**	**12 53 10.7**	**-0.8**
	baz=29,SNR=7.2							
STKA	**Stephens Creek**	**30.86**	**160**	*e*P		**P**	**12 53 25.7**	**+0.6**
	0.4nm,0.4s							
STKA	**Stephens Creek**	**30.86**	**160**	P		**P**	**12 53 26.0**	**+0.9**
	1.9nm,0.3s,baz=345,slow=6.8,SNR=25							
STKA				LR		LR	13 08 00.3	
	comp=Z,108nm,18.2s,baz=207,slow=40							
STKA	**Stephens Creek**	**30.86**	**160**	P		**P**	**12 53 25.9**	**+0.8**
	baz=31,SNR=16							
PSI	**Prapat**	**31.50**	**280**	P		**P**	**12 53 31.1**	**-0.1**
PSI	**Prapat**	**31.50**	**280**	P		**P**	**12 53 31.1**	**-0.1**
	3.9nm,0.8s,baz=166,slow=4.2,SNR=2.6							
CMAR	**Chiang Mai Arr**	**37.16**	**306**	P		**P**	**12 54 20.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**37.16**	**306**	P		**P**	**12 54 20.1**	**+0.1**
	1.0nm,0.7s,baz=132,slow=7.1,SNR=9.6							
USRK	**Ussuriysk Arra**	**46.92**	**2**	P		**P**	**12 55 39.2**	**0.0**
	1.5nm,0.6s,baz=169,slow=5.9,SNR=4.3							
SONM	**Songino Array**	**54.55**	**341**	P		**P**	**12 56 37.0**	**+0.1**
SONM	**Songino Array**	**54.55**	**341**	P		**P**	**12 56 37.0**	**+0.1**
	0.4nm,0.6s,baz=146,slow=7.0,SNR=3.8							
MKAR	**Makanchi Array**	**64.79**	**326**	P		**P**	**12 57 47.1**	**-0.2**
MKAR	**Makanchi Array**	**64.79**	**326**	P		**P**	**12 57 47.1**	**-0.2**
	1.3nm,0.7s,baz=120,slow=7.6,SNR=10							
ZAA0	**Zalesovo Array**	**67.90**	**333**	*e*P		**P**	**12 58 06.1**	**-0.9**
ZALV	**Zalesovo Beam**	**67.90**	**333**	P		**P**	**12 58 06.6**	**-0.5**
ZALV	**Zalesovo Beam**	**67.90**	**333**	P		**P**	**12 58 06.6**	**-0.5**
	0.7nm,0.3s,baz=101,slow=5.3,SNR=6.0							
KURBB	**Kurchatov Arra**	**69.00**	**328**	P		**P**	**12 58 14.0**	**-0.1**
	3.7nm,0.6s,baz=129,slow=5.9,SNR=16							
KURK	**Kurchatov**	**69.01**	**328**	P		**P**	**12 58 14.0**	**-0.1**
BVAR	**Borovoye Array**	**74.58**	**327**	P		**P**	**12 58 47.3**	**-0.2**
BVAR	**Borovoye Array**	**74.58**	**327**	P		**P**	**12 58 47.3**	**-0.2**
	0.8nm,0.5s,baz=131,slow=10.0,SNR=3.9							
VNDA	**Vanda**	**76.51**	**173**	P		**P**	**12 58 57.8**	**-0.4**
VNDA	**Vanda**	**76.51**	**173**	P		**P**	**12 58 57.8**	**-0.4**
	1.0nm,0.6s,baz=286,slow=8.9,SNR=6.0							
ABKAR	**Akbulak array**	**79.27**	**321**	*e*P		**P**	**12 59 13.7**	**-0.3**
	1.7nm,0.5s							
AKTO	**Aktyubinsk**	**80.80**	**322**	P		**P**	**12 59 21.7**	**-0.6**
AKTO	**Aktyubinsk**	**80.80**	**322**	P		**P**	**12 59 21.7**	**-0.6**
	1.0nm,0.5s,baz=86,slow=8.4,SNR=3.8							
DOT	**Dot Lake**	**90.79**	**26**	*e*P		**P**	**13 00 10.9**	**-0.7**
CPUP	**Villa Florida**	**150.11**	**167**	PKPbc		**PKPbc**	**13 07 00.9**	**+0.8**
CPUP	**Villa Florida**	**150.11**	**167**	PKPbc		**PKPbc**	**13 07 00.9**	**+0.8**
	1.9nm,0.6s,baz=144,slow=8.5,SNR=3.7							

NIED ***25*** *13:00:00,24.40N×121.80E,h5km,Mw4.4 Best double couple: M0 3.82000×10^15 NP1:φs85.00000°,δ89.00000°, λ-76.00000°. NP2:φs178.00000°,δ14.00000°, λ-177.00000°.*
JMA ***25*** *13:00:14.8±0.2,24.39N×121.83E,h0km,M4.0*
ISCJB ***25*** *13:00:15.2±0.3,24.40N±0.01×121.89E±0.02,h4km±2km, mb3.5/10,MS3.2/1, Error ellipse: s-maj=2.7km s-min=2.0km az=39.6*
NEIC ***25*** *13:00:15.7,24.41N×121.82E,h14km,ML4.4(TAP),After TAP.*
NEIC Felt [II] at Taipei. Recorded [5 TAP] in I-lan; [4 TAP] in Hua-lien; [2 TAP] in T'ai-pei and T'ao-yuan; [1 TAP] in Nan-t'ou.
BJI ***25*** *13:00:15.9,24.48N×121.81E,h6km,mB4.0/1,mb4.1/8, ML3.9/6,Ms3.7/1,Ms7 3.7/1*
TAP ***25*** *13:00:15.7,24.41N×121.82E,h14km,ML4.4,B*
IDC ***25*** *13:00:21.2±5.9,24.31N×122.08E,h62km±56km,mb3.3/9, mb1 3.4/10,mb1mx3.4/25,mbtmp3.3/10,ML3.5/1,MS3.2/1, Ms1 3.2/1,ms1mx2.7/21,Error ellipse: s-maj=28.7km s-min=17.1km az=75.0*
ISC 25 13:00:15.7±0.8,24.40N±0.02×121.83E±0.02,h13km±5km, n90,σ1§02/134,mb3.6/10,14C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ENA	**Nanau**	**0.09**	**289**	⇓*i*P		**Pg**	**13 00 18.6**	**-0.1**
	baz=287							
ENA				*e*S		**Sg**	**13 00 20.4**	**-0.3**
	baz=287							
EHP	**Heping Village**	**0.12**	**223**	⇓*i*P		**Pb**	**13 00 19.3**	**-0.6**
	baz=215							
EHP				*i* S		**Sb**	**13 00 21.9**	**-0.8**
	baz=215							
TWC	**Suao**	**0.21**	**4**	⇑*i*P		**Pg**	**13 00 20.6**	**+0.2**
	baz=16							
NACB	**Ninganchiao**	**0.31**	**224**	*e*P		**Pg**	**13 00 21.7**	**-0.4**
NACB				*e*Sg		**Sg**	**13 00 26.4**	**0.0**
ENTT	**Nioudou**	**0.34**	**315**	⇓*i*P		**Pg**	**13 00 22.9**	**+0.3**
	baz=315							
ILA	**Ilan**	**0.37**	**348**	⇓P		**Pg**	**13 00 23.8**	**+0.6**
	baz=350							
ILA				S		**Sg**	**13 00 28.9**	**+0.6**
	baz=350							
TWD	**Chiawan**	**0.38**	**214**	⇑*i*P		**Pg**	**13 00 23.4**	**0.0**
	baz=212							
TWD				S		**Sg**	**13 00 28.6**	**0.0**
	baz=212							
NNS	**Nan Shan**	**0.42**	**276**	⇓*i*P		**Pg**	**13 00 24.3**	**+0.1**
	baz=275							
NNS				*e*S		**Sg**	**13 00 29.6**	**-0.2**
	baz=275							
HWA	**Hwalien**	**0.47**	**206**	⇑*i*P		**Pg**	**13 00 25.3**	**+0.3**
	baz=213							
HWA				*e*S		**Sg**	**13 00 32.1**	**+0.8**
	baz=213							
YHNB	**Yeheng**	**0.49**	**303**	*e*P		**Pg**	**13 00 25.6**	**+0.1**
YHNB				*e*Sg		**Sg**	**13 00 32.6**	**+0.4**
NSK	**Sanguang**	**0.51**	**303**	⇓*i*P		**Pg**	**13 00 26.1**	**+0.3**
	baz=303							
NSK				S		**Sg**	**13 00 32.3**	**-0.3**
	baz=303							
WHF	**Hehuan Shan**	**0.58**	**244**	⇑*i*P		**Pg**	**13 00 27.1**	**-0.1**
	baz=243							
WHF				S		**Sg**	**13 00 34.8**	**0.0**
	baz=243							
ESF	**Shoufeng Towns**	**0.60**	**209**	*e*P		**Pg**	**13 00 27.4**	**-0.2**
	baz=218							
TWT	**Tachien**	**0.61**	**256**	⇑*i*P		**Pb**	**13 00 28.3**	**-0.1**
	baz=249							
TWT				S		**Sb**	**13 00 36.4**	**-0.6**
	baz=249							
TWB1	**Santiao Chiao**	**0.62**	**13**	⇑P		**Pg**	**13 00 28.0**	**+0.1**
	baz=15							
TWB1				S		**Sg**	**13 00 36.0**	**-0.1**
	baz=15							
TATO	**Taipei**	**0.65**	**331**	*e*P		**Pb**	**13 00 28.8**	**-0.2**
NWF	**Wu-fen Shan**	**0.67**	**356**	⇑*i*P		**Pg**	**13 00 29.5**	**+0.7**
	baz=348							
NWF				*i* S		**Sb**	**13 00 37.8**	**-0.7**
	baz=348							
ESL	**Shilin**	**0.69**	**212**	⇑*i*P		**Pb**	**13 00 28.7**	**-0.8**
	baz=218							
ESL				*e*S		**Sb**	**13 00 38.6**	**-0.4**
	baz=218							
TAP1	**Taipei**	**0.69**	**336**	P		**Pg**	**13 00 30.0**	**+0.7**
	baz=336							
TAP1				*i* S		**Sb**	**13 00 38.5**	**-0.6**
	baz=336							
TAP	**Taipei**	**0.70**	**335**	*e*P		**Pg**	**13 00 29.7**	**+0.3**
	baz=336							
TAP				*i* S		**Sb**	**13 00 38.8**	**-0.6**
	baz=336							
TEGC	**Jichi Village**	**0.74**	**201**	*e*P		**Pn**	**13 00 32.1**	**+0.3**
	baz=188							
NSTT	**Nanjuang**	**0.79**	**287**	⇓*i*P		**Pg**	**13 00 31.6**	**+0.5**
	baz=278							
NSTT				S		**Sb**	**13 00 41.0**	**-0.9**
	baz=278							
TWS1	**Kuangyinshan**	**0.79**	**332**	⇓*i*P		**Pn**	**13 00 32.2**	**-0.3**
	baz=333							
TWS1				S		**Sn**	**13 00 42.9**	**-1.4**
	baz=333							
NCU	**National Centr**	**0.82**	**314**	*i* P		**Pn**	**13 00 32.7**	**-0.2**
	baz=311							
NCU				*e*S		**Sn**	**13 00 45.2**	**+0.4**
	baz=311							
HSN	**Hsinchu**	**0.88**	**297**	P		**Pn**	**13 00 33.4**	**-0.4**
	baz=295							
HSN				S		**Sn**	**13 00 45.8**	**-0.6**
	baz=295							
TWY	**Chenhua**	**0.90**	**346**	*e*P		**Pg**	**13 00 33.4**	**+0.3**
	baz=348							
TWY				*e*S		**Sn**	**13 00 46.4**	**-0.4**
	baz=348							
TWQ1	**Liyutan**	**0.97**	**267**	⇓*e*P		**Pg**	**13 00 35.3**	**+0.9**
	baz=267							
TWQ1				*e*S		**Sg**	**13 00 46.9**	**-0.1**
	baz=267							
NSY	**Sanyi**	**0.98**	**271**	P		**Pg**	**13 00 35.8**	**+1.2**
	baz=271							
NSY				*e*S		**Sg**	**13 00 47.9**	**+0.5**
	baz=271							
SMLT	**Sun Moon Lake**	**0.99**	**239**	⇑*i*P		**Pb**	**13 00 34.9**	**0.0**
	baz=239							
SMLT				*e*S		**Sn**	**13 00 48.9**	**-0.5**
	baz=239							
EHY	**Hungye**	**1.00**	**208**	⇑*i*P		**Pb**	**13 00 34.5**	**-0.5**
	baz=218							
SSLB	**Suanglung**	**1.01**	**233**	*e*P		**Pb**	**13 00 34.5**	**-0.6**
TYC	**Yuchr**	**1.02**	**241**	⇑*i*P		**Pb**	**13 00 35.2**	**0.0**
	baz=241							
TYC				*e*S		**Sb**	**13 00 48.1**	**-0.3**
	baz=241							
YOJ	**Yonaguni jima**	**1.08**	**86**	P		**Pb**	**13 00 36.0**	**-0.2**
YOJ				S		**Sb**	**13 00 49.9**	**-0.3**
YOJ	**Yonaguni jima**	**1.08**	**86**	*e*P		**Pn**	**13 00 36.5**	**0.0**
	baz=75							
YOJ				*e*S		**Sb**	**13 00 50.1**	**0.0**
	baz=75							
YOJ	**Yonaguni jima**	**1.08**	**86**	*e*Pn		**Pb**	**13 00 35.5**	**-0.6**
TCU	**Taichung**	**1.08**	**257**	P		**Pg**	**13 00 37.6**	**+1.0**
	baz=257							
TCU				*e*S		**Sn**	**13 00 50.9**	**-0.5**
	baz=257							
YULB	**Yu-li**	**1.12**	**206**	*e*P		**Pn**	**13 00 36.2**	**-0.8**
TWF1	**Yuli**	**1.15**	**205**	*e*P		**Pn**	**13 00 36.6**	**-0.9**
	baz=215							
WNT	**Mingjian**	**1.17**	**244**	⇑*i*P		**Pg**	**13 00 39.0**	**+0.8**
	baz=240							
WNT				S		**Sg**	**13 00 55.3**	**+1.8**
	baz=240							
YUS	**Yu-Shan**	**1.21**	**222**	⇑P		**Pn**	**13 00 38.5**	**-0.2**
	baz=208							
ALS	**Alishan**	**1.29**	**227**	⇑P		**Pb**	**13 00 40.2**	**+0.2**
	baz=211							
CHN5	**Tsauling**	**1.32**	**233**	*i* P		**Pb**	**13 00 41.0**	**+0.5**
	baz=234							
CHN5				S		**Sg**	**13 00 59.3**	**+0.9**
	baz=234							
WGK	**Gukeng**	**1.36**	**239**	*e*P		**Pg**	**13 00 41.7**	**-0.2**
	baz=252							
WGK				*e*S		**Sg**	**13 01 00.6**	**+1.0**
	baz=252							
CHKT	**Chengkung**	**1.36**	**198**	*e*P		**Pn**	**13 00 39.0**	**-1.4**
	baz=185							
ELDTW	**Lidau**	**1.42**	**212**	*e*P		**Pn**	**13 00 41.4**	**+0.1**
	baz=211							
WTCT	**Ta-ch'eng**	**1.51**	**250**	*e*P		**Pb**	**13 00 43.6**	**0.0**
	baz=265							
WTCT				*e*S		**Sg**	**13 01 03.9**	**-0.6**
	baz=265							
CHN4	**Tsaushan**	**1.54**	**228**	⇓P		**Pb**	**13 00 44.8**	**+0.7**
	baz=216							
CHN4				*e*S		**Sg**	**13 01 06.9**	**+1.5**
	baz=216							
TPUB	**Ta-pu**	**1.55**	**225**	*e*P		**Pb**	**13 00 44.2**	**-0.1**
CHY	**Chiayi**	**1.57**	**235**	*e*P		**Pb**	**13 00 44.6**	**+0.1**
	baz=249							
CHY				*e*S		**Sg**	**13 01 05.4**	**-0.9**
	baz=249							
STYT	**Tauyuan**	**1.58**	**219**	*e*P		**Pn**	**13 00 44.0**	**+0.6**
	baz=218							
WSF	**Szhu**	**1.66**	**243**	*e*P		**Pb**	**13 00 45.9**	**-0.1**
	baz=244							
WSF				*e*S		**Sg**	**13 01 09.7**	**+0.7**
	baz=244							
TWK	**Hsinying**	**1.67**	**228**	*e*P		**Pb**	**13 00 46.1**	**-0.2**
	baz=215							
TWK				*e*S		**Sg**	**13 01 09.7**	**+0.2**
	baz=215							
CHN1	**Nanshi**	**1.70**	**225**	*e*P		**Pb**	**13 00 47.7**	**+0.9**
	baz=213							
CHN1				*e*S		**Sg**	**13 01 12.7**	**+2.3**
	baz=213							
TWG	**Pinlang**	**1.72**	**204**	*e*P		**Pb**	**13 00 47.1**	**0.0**
	baz=189							
TWG	**Pinlang**	**1.72**	**204**	*e*P		**Pn**	**13 00 43.3**	**-2.0**
IRIF	**Iriomote-Funau**	**1.73**	**92**	P		**Pn**	**13 00 45.3**	**-0.2**
IRIF				*e*S		**Sn**	**13 01 07.5**	**+0.1**
SGST	**Jiashian**	**1.74**	**221**	*e*P		**Pb**	**13 00 48.5**	**+0.9**
	baz=212							
SGST				*e*S		**Sg**	**13 01 12.7**	**+0.9**
	baz=212							
CHN8	**Yiju**	**1.82**	**235**	*e*P		**Pb**	**13 00 48.9**	**0.0**
	baz=219							
HATJ	**Hateruma jima**	**1.83**	**100**	*e*S		**Sn**	**13 01 10.6**	**+0.7**
CHN3	**Shinhua**	**1.88**	**226**	*e*P		**Pb**	**13 00 50.6**	**+0.6**
	baz=229							
CHN3				*e*S		**Sg**	**13 01 17.3**	**+1.0**
	baz=229							
SCLT	**Jiali**	**1.93**	**231**	*e*P		**Pb**	**13 00 51.4**	**+0.6**
	baz=217							
SCLT				*e*S		**Sg**	**13 01 18.5**	**+0.6**
	baz=217							
ECL	**Taimali**	**1.97**	**204**	*e*P		**Pb**	**13 00 50.2**	**-1.2**
	baz=192							
SSD	**Sandimen**	**1.98**	**214**	*e*P		**Pb**	**13 00 51.2**	**-0.4**
	baz=216							
SSD				*e*S		**Sb**	**13 01 17.1**	**+0.9**
	baz=216							
JKRS	**Kuro-shima**	**1.99**	**94**	P		**Pn**	**13 00 49.5**	**+0.4**
JKRS				*e*S		**Sn**	**13 01 13.2**	**-0.7**
TWM1	**Shoushan**	**2.03**	**220**	*e*P		**Pb**	**13 00 53.2**	**+0.7**
	baz=219							
SGLT	**Jiouru**	**2.07**	**217**	*e*P		**Pb**	**13 00 54.1**	**+0.9**
	baz=217							
JIJ	**Ishigaki jima**	**2.11**	**91**	P		**Pn**	**13 00 50.4**	**-0.3**
JIJ				*e*S		**Sn**	**13 01 15.7**	**-1.0**
EAST	**Anshuo**	**2.20**	**204**	*e*P		**Pn**	**13 00 52.3**	**+0.3**
	baz=194							
TAW	**Tawu**	**2.21**	**203**	*e*P		**Pn**	**13 00 53.7**	**+1.7**
	baz=192							
WDGT	**Dungji**	**2.29**	**241**	*e*P		**Pb**	**13 00 55.6**	**-1.3**
	baz=252							
WDGT				*e*S		**Sb**	**13 01 24.2**	**-0.8**
	baz=252							
SCZT	**Fangliau**	**2.31**	**209**	*e*P		**Pb**	**13 00 55.4**	**-1.8

ILAR	Eielson Array	68.75	27	P		P	13 11 18.2	-0.7
	0.2nm,0.6s,baz=296,slow=7.0,SNR=4.5							
FINES	FINESS Array B	71.56	330	P		P	13 11 37.5	+1.3
	4.0nm,1.0s,baz=28,slow=8.6,SNR=3.5							
YKA	Yellowknife Ar	82.54	23	P		P	13 12 36.7	-1.3
	0.2nm,0.6s,baz=313,slow=5.2,SNR=7.2							

TAP 25 13:00:36.5,24.40N×121.79E,h11km,ML3.8,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ENA	Nanau	0.05	302	P	Pg		13 00 38.9	+0.2
	baz=306							
ENA				*i* S	Sg		13 00 40.3	0.0
	baz=306							
EHP	Heping Village	0.10	204	P	Pg		13 00 39.4	+0.1
	baz=199							
EHP				S	Sg		13 00 41.8	+0.5
	baz=199							
NNS	Nan Shan	0.38	276	*e*P	Pg		13 00 44.5	+0.2
	baz=275							

IDC ***25*** *13:05:51.8±0.6,21˚.00N×143˚.86E,h0km,mb4.0/18, mb1 4.2/19,mb1mx4.1/29,mbtmp4.0/19,ML3.6/1,MS3.5/8, Ms1 3.5/8,ms1mx3.2/45,Error ellipse: s-maj=19.7km s-min=13.9km az=82.0*

ISCJB ***25*** *13:05:54.6±0.5,21˚.00N±0˚.08×143˚.8E±0˚.1,h30km, mb4.0/18,MS3.5/5,Error ellipse: s-maj=18.4km s-min=10.9km az=170.8*

ISC 25 13:05:56.4±0.6,21˚.01N±0˚.10×143˚.9E±0˚.2,h30km,n31, σ0s81/22,mb4.1/18,MS3.6/5,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JCJ	Chichijima	6.25	346	LR	LR		13 09 43.6	
	comp=Z,260nm,19.4s,baz=121,slow=37							
MJAR	Matsushiro Arr	16.24	344	Pn		Pn	13 09 40.3	-2.1
	0.2nm,0.3s,baz=184,slow=15,SNR=4.3							
MJAR				LR	LR		13 15 20.9	
	comp=Z,97nm,19.0s,baz=240,slow=35							
JNU	Nakatsue	16.68	319	LR	LR		13 15 06.2	
	comp=Z,124nm,20.5s,baz=62,slow=33							
KSRS	Korea Array	21.43	323	P		P	13 10 42.5	+0.5
	3.1nm,1.1s,baz=154,slow=9.1,SNR=7.0							
KSRS				LR	LR		13 18 01.7	
	comp=Z,139nm,18.8s,baz=73,slow=34							
H11S3	WAKE ISLAND Hy 21.64	93		T		T	13 33 05.1	
	baz=282,slow=72,SNR=64							
H11N1	WAKE ISLAND Hy 21.64	89		T		T	13 33 00.6	
	baz=280,slow=75,SNR=121							
H11N2	WAKE ISLAND Hy 21.64	89		T		T	13 33 00.2	
	baz=280,slow=75,SNR=142							
H11S1	WAKE ISLAND Hy 21.65	93		T		T	13 33 05.6	
	baz=282,slow=72,SNR=58							
H11S2	WAKE ISLAND Hy 21.66	93		T		T	13 33 06.4	
	baz=282,slow=72,SNR=85							
H11N3	WAKE ISLAND Hy 21.66	89		T		T	13 33 07.5	
	baz=280,slow=75,SNR=78							
HNR	Honiara	34.14	151	LR	LR		13 25 11.5	
	comp=Z,113nm,18.1s,baz=62,slow=34							
SONM	Songino Array	40.26	321	P		P	13 13 31.2	+0.4
	0.9nm,0.8s,baz=126,slow=7.3,SNR=7.1							
CTA	Charters Tower	40.91	177	P		P	13 13 36.6	+0.4
	5.2nm,1.0s,baz=347,slow=10,SNR=5.0							
WRA	Warramunga Arr	41.75	193	P		P	13 13 42.4	-0.7
	2.2nm,0.8s,baz=15,slow=9.0,SNR=13							
CMAR	Chiang Mai Arr	42.24	275	P		P	13 13 48.1	+0.9
	0.3nm,0.5s,baz=64,slow=6.8,SNR=5.9							
CMAR				LR	LR		13 32 33.8	
	comp=Z,20nm,18.0s,baz=136,slow=38							
ASAR	Alice Springs	45.45	193	P		P	13 14 12.2	-0.7
	0.7nm,0.7s,baz=11,slow=7.2,SNR=27							
STKA	Stephens Creek	52.63	182	P		P	13 15 06.9	-0.8
	3.6nm,1.0s,baz=334,slow=6.7,SNR=4.1							
ZALV	Zalesovo Beam	55.13	322	P		P	13 15 25.6	-0.2
	3.0nm,0.9s,baz=101,slow=6.3,SNR=12							
ZALV				LR	LR		13 39 41.4	
	comp=Z,55nm,19.1s,baz=63,slow=37							
MKAR	Makanchi Array	55.62	313	P		P	13 15 29.5	0.0
	0.3nm,0.7s,baz=116,slow=6.6,SNR=3.2							
MKAR				PcP		PcP	13 16 29.6	+0.7
	0.5nm,0.9s,baz=85,slow=4.3,SNR=4.0							
KURBB	Kurchatov Arra	58.45	317	P		P	13 15 48.4	-1.0
	1.0nm,0.8s,baz=95,slow=7.8,SNR=8.4							
ILAR	Eielson Array	62.37	27	P		P	13 16 15.6	-0.4
	1.7nm,0.8s,baz=259,slow=5.7,SNR=18							
BVAR	Borovoye Array	63.60	320	P		P	13 16 24.9	+0.6
	2.1nm,0.8s,baz=94,slow=8.9,SNR=14							
INK	Inuvik	67.95	23	P		P	13 16 51.6	-0.4
	2.2nm,0.9s,baz=264,slow=9.1,SNR=7.5							
PPT	Papeete	75.68	115	LR	LR		13 43 14.4	
	comp=Z,85nm,19.8s,baz=181,slow=30							
YKA	Yellowknife Ar	76.77	28	P		P	13 17 45.2	+0.5
	1.0nm,0.6s,baz=291,slow=5.6,SNR=24							
NVAR	Mina Array Bea	83.08	52	P		P	13 18 20.9	+1.1
	3.1nm,0.8s,baz=277,slow=6.2,SNR=22							
KBZ	Khabaz	83.29	314	P		P	13 18 21.0	+0.6
	3.0nm,1.0s,baz=228,slow=6.7,SNR=5.2							
FINES	FINESS Array B	84.07	335	P		P	13 18 23.2	-0.8
	2.3nm,0.7s,baz=90,slow=7.6,SNR=7.7							
PDAR	Pinedale Array	87.44	45	P		P	13 18 42.0	+0.6
	0.7nm,1.0s,baz=134,slow=4.3,SNR=4.5							
LPAZ	La Paz	149.37	87	PKPbc		PKPbc	13 25 44.2	+0.2
	1.6nm,0.7s,baz=195,slow=1.4,SNR=5.7							
CFAA	Coronel Fontan	149.46	117	PKPbc		PKPbc	13 25 42.9	-0.3
	0.4nm,1.0s,baz=284,slow=3.4,SNR=4.2							

HEL ***25*** *13:06:22.2±0.5,60˚.95N×29˚.12E,h0km,ML1.8,Explosion*
CSEM ***25*** *13:06:22.2,60˚.95N×29˚.12E,h0km,ML1.8,Mining explosion. After HEL*

IDC ***25*** *13:06:24.1±2.1,60˚.97N×28˚.88E,h0km,mb1 3.4/2, mb1mx3.0/26,mbtmp3.3/2,ML2.7/2,Error ellipse: s-maj=17.5km s-min=11.6km az=161.0*

ISC 25 13:06:20.7±1.5,60.84N±0.07×29.23E±0.07,h0km,n21, σ1s47/37,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
VJF	Virojoki	0.88	250	PG	Pb		13 06 38.2	-0.5
VJF				SG	Sb		13 06 50.1	-1.0
VJF	Virojoki	0.88	250	Pg	Pb		13 06 38.2	-0.5
VJF				Sg	Sb		13 06 50.0	-1.0
FIA0	FINESS Array S	1.64	293	PG	Pn		13 06 49.2	-1.6
FIA0				SG	Sn		13 07 09.5	-3.1
FIA0				MSG			13 07 09.5	
	comp=Z,6.0nm,0.3s							
FIA0				RG	Rg		13 07 18.0	
FIA0	FINESS Array S	1.64	293	Pg	Pn		13 06 49.2	-1.6
FIA0				Sg	Sn		13 07 09.5	-3.1
FINES	FINESS Array B	1.64	293	Pg	Pn		13 06 49.2	-1.6
	comp=Z,0.8nm,0.3s,baz=110,slow=17,SNR=56							
FINES				Lg	Lg		13 07 09.2	
	comp=Z,3.4nm,0.3s,baz=109,slow=30,SNR=40							
PVF	Pernaja	1.68	261	PG	Pn		13 06 50.9	-0.4
PVF				SG	Sn		13 07 13.1	-0.5
PVF				MSG			13 07 13.1	
	comp=Z,3.8nm,0.2s							
PVF	Pernaja	1.68	261	Pg	Pn		13 06 50.9	-0.4
PVF				Sg	Sn		13 07 13.0	-0.5
JOF	Joensuu	2.31	24	PN	Pb		13 07 01.8	-1.3
	baz=203							
JOF				SG	Sn		13 07 29.8	+0.9
JOF				MSG			13 07 29.8	
	comp=Z,5.6nm,0.4s							
JOF	Joensuu	2.31	24	Pn	Pb		13 07 01.8	-1.3
JOF				Sg	Sn		13 07 29.8	+0.9
SUF	Sumiainen	2.38	324	PN	Pn		13 07 02.0	+1.0
SUF				SG	Sn		13 07 31.1	+0.2
SUF				MSG			13 07 31.1	
	comp=Z,4.5nm,0.2s							
SUF	Sumiainen	2.38	324	Pn	Pn		13 07 01.9	+1.0
SUF				Sg	Sn		13 07 31.0	+0.2
MEF	Metsahovi	2.47	257	PN	Pn		13 07 03.7	+1.5
MEF				SG	Sn		13 07 34.8	+1.8
MEF				MSG			13 07 34.8	
	comp=Z,5.2nm,0.2s							
MEF	Metsahovi	2.47	257	Pn	Pn		13 07 03.6	+1.5
MEF				Sg	Sn		13 07 34.7	+1.8
KEF	Keuruu	2.48	304	PN	Pn		13 07 03.1	+0.8
KEF				SG	Sn		13 07 33.5	+0.3
KEF				MSG			13 07 33.5	
	comp=Z,3.2nm,0.2s							

KEF	Keuruu	2.48	304	Pn		Pn	13 07 03.0	+0.8
KEF				Sg		Sn	13 07 33.4	+0.3
RAF	Rauma	3.65	276	SG		Sb	13 08 13.7	+3.0
RAF				MSG			13 08 13.7	
	comp=Z,2.8nm,0.4s							
RAF	Rauma	3.65	276	Sg		Sb	13 08 13.7	+3.0
VAF	Ylistaro	3.80	308	PN		Pn	13 07 21.7	+1.3
VAF				SG		Sb	13 08 15.9	+0.8
VAF				MSG			13 08 15.9	
	comp=Z,1.5nm,0.4s							
VAF	Ylistaro	3.80	308	Pn		Pn	13 07 21.7	+1.3
VAF				Sg		Sb	13 08 15.9	+0.8
NOA	NORSAR Array B	8.77	279	Pn		Pn	13 08 27.7	-0.9
	comp=Z,0.1nm,0.3s,baz=95,slow=10,SNR=2.9							
ARCES	ARCESS Array B	8.87	351	Pn		Pn	13 08 29.1	-0.8
	comp=Z,0.1nm,0.3s,baz=169,slow=13,SNR=5.7							
ARCES				Sn		Sn	13 10 03.1	-7.2
	comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=2.7							

ISCJB ***25*** *13:15:55.7±0.5,51˚.41N±0˚.06×176˚.79W±0˚.04,h48km, mb3.9/16,MS3.3/4,Error ellipse: s-maj=8.4km s-min=3.8km az=169.6*

IDC ***25*** *13:15:57.7±2.8,51˚.67N×176˚.82W,h49km±25km,mb3.5/15, mb1 3.8/16,mb1mx3.7/31,mbtmp3.6/16,ML3.8/1,MS3.3/6, Ms1 3.3/6,ms1mx3.1/35,Error ellipse: s-maj=25.0km s-min=11.6km az=170.0*

NEIC ***25*** *13:15:58.7±0.4,51˚.75N×176˚.84W,h57km±2km,mb4.2/5, ML4.2(AEIC),Error ellipse: s-maj=11.6km s-min=3.2km az=169.0*

ISC 25 13:15:57.6±0.6,51˚.6N±0˚.1×176˚.80W±0˚.04,h48km,n79, σ1s00/81,mb3.9/16,MS3.3/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ADK	Adak	0.28	15	P	Pn		13 16 06.4	+0.1
ADK				S	Sn		13 16 13.6	+1.1
KIRH	Kanaga Island	0.34	328	P	Pn		13 16 07.9	+1.1
KIKV	Kanaga Island	0.35	319	P	Pn		13 16 07.9	+0.9
ETKA	Kagalaska Isla	0.35	45	P	Pn		13 16 07.0	+0.1
KINC	Kanaga Island	0.38	328	P	Pn		13 16 08.3	+1.0
ADAG	Mount Adagdak	0.39	19	P	Pn		13 16 08.5	+1.1
GSCK	Great Sitkin C	0.56	45	P	Pn		13 16 09.8	+0.3
GSTD	Great Sitkin T	0.60	43	P	Pn		13 16 10.4	+0.4
GSTD				S	Sn		13 16 20.6	+1.7
GSMY	Great Sitkin M	0.63	47	P	Pn		13 16 10.6	+0.2
GSTR	Great Sitkin T	0.67	44	*e*Pn	Pn		13 16 11.3	+0.5
TAFL	Tanaga Flats	0.70	282	P	Pn		13 16 12.0	+0.8
TAFP	Tanaga Falls P	0.79	292	P	Pn		13 16 13.5	+1.1
TASE	Tanaga Southea	0.80	287	P	Pn		13 16 13.8	+1.3
TANO	Tanaga North	0.87	291	P	Pn		13 16 15.1	+1.6
GAEA	Gareloi East	1.22	279	P	Pn		13 16 19.5	+1.3
GANE	Gareloi Northe	1.24	280	P	Pn		13 16 19.8	+1.2
KOKL	Mount Kliuchef	1.76	65	P	Pn		13 16 26.9	+1.3
KOKV	Korovin Volcan	1.79	64	P	Pn		13 16 27.3	+1.2
KOKV				S	Sn		13 16 50.1	+2.4
KOSE	Korovin Southe	1.85	66	P	Pn		13 16 28.5	+1.6
NIKH	Nikolski High	5.07	71	P	Pn		13 17 11.9	+1.0
OKTU	Okmok Mt. Tuli	5.64	68	P	Pn		13 17 19.8	+1.0
SMY	Shemya	5.71	285	P	Pn		13 17 20.6	+0.9
FX1	Attu Island--F	6.29	286	P	Pn		13 17 26.5	-1.1
FX1				S	Sn		13 18 39.9	+1.8
FX1	Attu Island--F	6.29	286	P	Pn		13 17 26.5	-1.1
	6.9nm,0.3s,baz=173,slow=11,SNR=23							
FX1				S	Sn		13 18 39.9	+1.8
	8.0nm,0.3s,baz=75,slow=20,SNR=5.7							
FX1				LR	LR		13 19 44.5	
	comp=Z,230nm,19.3s,baz=67,slow=36							
MREP	Makushin Rep't	6.50	66	P	Pn		13 17 32.6	+2.1
UNV	Unalaska Valle	6.64	66	P	Pn		13 17 35.7	+3.3
UNV				S	Sn		13 18 50.5	+3.7
SPIA	Saint Paul Isl	6.76	32	P	Pn		13 17 37.8	+3.7
KDAK	Kodiak Island	15.25	57	*e*Pn	Pn		13 19 28.4	-1.0
PETK	Petropavlovsk-	15.62	286	LR	LR		13 25 06.6	
	comp=Z,129nm,18.4s,baz=262,slow=35							
TRF	Thorofare Moun	18.35	40	*e*P	P		13 20 07.4	-0.5
	20nm,1.1s							
COLA	College	19.96	37	*e*P	P		13 20 23.6	-1.7
	9.5nm,1.1s							
ILAR	Eielson Array	20.28	38	P	P		13 20 28.1	-0.7
ILAR				PcP	PcP		13 24 39.6	-0.8
ILAR	Eielson Array	20.28	38	P	P		13 20 28.1	-0.7
	1.0nm,0.8s,baz=235,slow=8.8,SNR=16							
ILAR				PcP	PcP		13 24 39.6	-0.8
	0.2nm,0.3s,baz=274,slow=3.0,SNR=4.4							
COLD	Coldfoot	20.42	30	*e*P	P		13 20 29.1	-1.1
	6.5nm,0.8s							
EGAK	Eagle	22.55	41	*e*P	P		13 20 51.6	-1.6
	8.3nm,1.1s							
INK	Inuvik	26.55	35	P	P		13 21 29.6	-0.8
INK				PcP	PcP		13 24 53.1	-0.4
INK	Inuvik	26.55	35	P	P		13 21 29.6	-0.8
	0.4nm,0.3s,baz=236,slow=6.5,SNR=9.2							
INK				PcP	PcP		13 24 53.1	-0.4
	1.6nm,0.9s,baz=190,slow=2.9,SNR=5.5							
INK				LR	LR		13 33 02.1	
	comp=Z,76nm,21.4s,baz=141,slow=39							
YKA	Yellowknife Ar	34.16	47	P	P		13 22 36.9	-0.8
YKA				PcP	PcP		13 25 13.7	+0.2
YKA	Yellowknife Ar	34.16	47	P	P		13 22 36.8	-0.8
	1.0nm,0.9s,baz=284,slow=8.4,SNR=9.9							
YKA				PcP	PcP		13 25 13.6	+0.2
	1.4nm,0.8s,baz=287,slow=2.7,SNR=24							
H11N2	WAKE ISLAND Hy 34.30		208	T		T	13 59 04.7	
	baz=20,slow=75,SNR=1289							
H11N3	WAKE ISLAND Hy 34.31		208	T		T	13 59 05.3	
	baz=20,slow=75,SNR=82							
H11N1	WAKE ISLAND Hy 34.32		208	T		T	13 59 06.0	
	baz=20,slow=75,SNR=1276							
MJAR	Matsushiro Arr	35.05	262	P		P	13 22 45.0	-0.6
MJAR	Matsushiro Arr	35.05	262	P		P	13 22 45.0	-0.6
	1.0nm,0.6s,baz=47,slow=7.9,SNR=4.5							
MJAR				LR	LR		13 37 31.2	
	comp=Z,24nm,19.4s,baz=210,slow=37							
H11S1	WAKE ISLAND Hy 35.51		208	T		T	14 00 35.8	
	baz=18,slow=78,SNR=945							
H11S2	WAKE ISLAND Hy 35.53		208	T		T	14 00 40.3	
	baz=18,slow=78,SNR=504							
H11S3	WAKE ISLAND Hy 35.53		208	T		T	14 00 44.1	
	baz=18,slow=78,SNR=410							
EGMT	Eagleton	42.04	67	*e*P	P		13 23 44.4	+0.3
	4.8nm,0.9s							
NVAR	Mina Array Bea	42.28	84	P	P		13 23 47.0	+0.5
NVAR				PcP	PcP		13 25 39.6	+0.2
NVAR	Mina Array Bea	42.28	84	P	P		13 23 47.0	+0.5
	0.5nm,0.8s,baz=304,slow=6.4,SNR=3.4							
NVAR				PcP	PcP		13 25 39.6	+0.2
	0.8nm,0.8s,baz=282,slow=2.9,SNR=4.5							
PDAR	Pinedale Array	45.05	74	P	P		13 24 09.1	+0.4
PDAR	Pinedale Array	45.05	74	P	P		13 24 09.1	+0.4
	2.8nm,0.9s,baz=311,slow=3.3,SNR=13							
SONM	Songino Array	47.65	297	P	P		13 24 28.5	-0.3
SONM				PcP	PcP		13 25 57.6	-0.1
SONM	Songino Array	47.65	297	P	P		13 24 28.5	-0.3
	0.9nm,0.9s,baz=47,slow=7.8,SNR=5.0							
SONM				PcP	PcP		13 25 57.6	-0.1
	2.1nm,0.9s,baz=88,slow=1.4,SNR=11							
SONM				LR	LR		13 43 56.6	
	comp=Z,40nm,18.2s,baz=114,slow=35							
TXAR	Lajitas Array	57.38	83	P	P		13 25 40.9	-0.1
TXAR	Lajitas Array	57.38	83	P	P		13 25 40.9	-0.1
	0.6nm,0.7s,baz=307,slow=5.6,SNR=9.7							
KURK	Kurchatov	59.75	315	P	P		13 25 57.1	+0.1
KURBB	Kurchatov Arra	59.86	315	P	P		13 25 57.1	-0.7
	0.6nm,0.2s,baz=44,slow=6.6,SNR=4.7							
MKAR	Makanchi Array	60.86	309	P	P		13 26 04.7	0.0
MKAR	Makanchi Array	60.86	309	P	P		13 26 04.7	0.0
	0.2nm,0.5s,baz=45,slow=6.3,SNR=4.4							
BVAR	Borovoye Array	61.51	321	P	P		13 26 09.2	+0.2
BVAR	Borovoye Array	61.51	321	P	P		13 26 09.2	+0.2
	0.8nm,0.4s,baz=46,slow=4.2,SNR=6.1							
CMAR	Chiang Mai Arr	72.22	277	P	P		13 27 17.6	0.0
CMAR	Chiang Mai Arr	72.22	277	P	P		13 27 17.6	0.0
	1.2nm,0.7s,baz=24,slow=6.3,SNR=11							
DZM	Mont Dzumac	74.83	196	*e*LR	LR		13 28 21.7	
	127nm,22.8s							
GNI	Garni	81.69	329	LR	LR		14 05 02.3	
	comp=Z,35nm,19.7s,baz=99,slow=36							
WRA	Warramunga Arr	83.06	226	P	P		13 28 16.9	-0.8
WRA	Warramunga Arr	83.06	226	P	P		13 28 16.9	-0.8
	0.8nm,0.7s,baz=38,slow=6.3,SNR=7.6							
BRTR	Keskin Array B	85.23	337	P	P		13 28 28.7	-0.2
BRTR	Keskin Array B	85.23	337	P	P		13 28 28.7	-0.2

	1.0nm,0.8s,baz=82,slow=2.6,SNR=5.4							
ASAR	Alice Springs	86.52	224	P		P	13 28 35.4	+0.2
ASAR	Alice Springs	86.52	224	P		P	13 28 35.4	+0.2
	1.3nm,0.8s,baz=32,slow=4.4,SNR=16							
H03N2	Juan Fernandez	120.01	107	T		T	15 46 04.1	
	baz=315,slow=75,SNR=89							
H03N1	Juan Fernandez	120.03	107	T		T	15 46 05.1	
	baz=315,slow=75,SNR=85							
H03N3	Juan Fernandez	120.03	107	T		T	15 46 06.0	
	baz=315,slow=75,SNR=89							
MAW	Mawson	147.44	218	PKPbc		PKPbc	13 35 35.0	+0.5
MAW	Mawson	147.44	218	PKPbc		PKPbc	13 35 35.0	+0.5
	5.5nm,1.0s,baz=327,slow=4.4,SNR=3.9							
BOSA	Boshof	151.71	316	PKPbc		PKPbc	13 35 46.0	-0.6
BOSA	Boshof	151.71	316	PKPbc		PKPbc	13 35 46.0	-0.6
	4.8nm,0.7s,baz=45,slow=2.1,SNR=9.7							

ISCJB ***25*** *13:18:30.5±1.0,21˚.10S±0˚.09×66˚.5W±0˚.2,h243km, mb3.2/2,Error ellipse: s-maj=22.6km s-min=11.5km az=169.3*

IDC ***25*** *13:18:31.2±1.9,21˚.03S×66˚.54W,h242km±18km,mb3.1/2, mb1 3.0/5,mb1mx3.0/19,mbtmp2.9/5,Error ellipse: s-maj=32.0km s-min=21.6km az=80.0*

ISC 25 13:18:31.2±1.0,21˚.04S±0˚.10×66˚.6W±0˚.1,h243km,n6, σ0s52/7,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LPAZ	La Paz	4.96	342	P	Pn		13 19 46.9	-0.1
	1.3nm,0.3s,baz=149,slow=7.8,SNR=25							
LPAZ				S	S		13 20 47.2	+0.1
	baz=308,slow=17,SNR=5.0							
SIV	San Ignacio	7.23	47	P	Pn		13 20 14.9	+0.1
	1.7nm,0.3s,baz=241,slow=12,SNR=24							
CFAA	Coronel Fontan	10.63	188	P	Pn		13 20 57.8	+0.1
	0.0nm,0.3s,baz=17,slow=13,SNR=5.2							
TORD	Torodi Ar. Bea	75.14	69	P	P		13 29 47.2	0.0
	0.5nm,0.5s,baz=253,slow=5.8,SNR=6.9							
YKA	Yellowknife Ar	91.50	340	P	P		13 31 10.0	+0.5
	0.1nm,0.5s,baz=130,slow=4.4,SNR=4.9							
MKAR	Makanchi Array	143.96	37	PKP	PKPdf		13 37 36.7	-0.9
	0.3nm,0.4s,baz=324,slow=3.2,SNR=5.4							

IGQ 25 13:25:59.1,17.74S×78.22W,h172km±150km,Mb4.1,Ms3.9, 6C-17D,Error ellipse: s-maj=3.1km s-min=2.2km az=4.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BPAT	Tungurahua Vol	0.32	317	⇓S	Sn		13 26 38.9	-2.3
BPAT	Tungurahua Vol	0.32	317	⇓P	Pn		13 26 23.1	+0.2
PAT1	Patacocha	0.32	316	P	Pn		13 26 22.8	-0.2
ARRY	Arrayan	0.33	314	P	Pn		13 26 22.2	-0.6
ULBA	Ulba	0.34	327	⇓P	Pn		13 26 22.9	0.0
BMAS	Trigal station	0.35	312	⇓P	Pn		13 26 22.5	-0.4
BULB	Ulba Tungurahu	0.36	327	⇓P	Pn		13 26 22.9	0.0
RETU	Refugio	0.37	321	P	Pn		13 26 23.3	+0.1
BRUN	Tungurahua Vol	0.37	328	⇓P	Pn		13 26 22.8	-0.1
RUN5	Runtun	0.38	327	P	Pn		13 26 23.1	+0.1
JUI6	Juive	0.40	321	P	Pn		13 26 22.9	-0.1
RIOE	Riobamba	0.41	268	⇓P	Pn		13 26 23.4	+0.3
IGUA	Igualata	0.49	300	P	Pn		13 26 23.6	-0.1
MACE	Macas	0.51	178	⇑S	Sn		13 26 41.3	-0.7
MACE	Macas	0.51	178	⇑P	Pn		13 26 23.9	+0.6
PISA	Pisayambo	0.70	346	⇑P	Pn		13 26 24.7	+0.1
BMOR	Cotopaxi Volca	1.03	346	⇓P	Pn		13 26 27.2	+0.2
MOV1	Cotopaxi Vol s	1.04	348	P	Pn		13 26 27.1	-0.1
TAMB	Tambo	1.05	352	⇓P	Pn		13 26 27.6	+0.4
BTAM	Cotopaxi Volca	1.07	350	⇓P	Pn		13 26 27.8	+0.4
COV1	Cotopaxi Volc	1.08	353	P	Pn		13 26 28.4	+0.9
BREF	Cotopaxi Volca	1.08	348	⇓P	Pn		13 26 28.0	+0.4
BVC2	Cotopaxi Volca	1.09	350	⇓P	Pn		13 26 27.9	+0.4
BNAS	Cotopaxi Volca	1.09	346	⇓P	Pn		13 26 27.9	+0.5
CAMI	Rancho Maria	1.09	345	P	Pn		13 26 28.1	+0.7
VC1	Cotopaxi 1	1.10	350	⇓P	Pn		13 26 28.1	+0.5
NAS2	Nasa	1.11	347	⇑P	Pn		13 26 28.9	+1.3
PAST	Pastocalle	1.12	338	P	Pn		13 26 28.1	+0.5
PITA	Cotopaxi Volc	1.19	350	P	Pn		13 26 28.7	+0.5
ANTI	Antisana	1.28	3	⇑P	Pn		13 26 29.4	+0.2
JUA2	San Juan 2	1.56	346	P	Pn		13 26 32.0	+0.3
GGP

WHF	**Hehuan Shan** baz=241	**0.58**	**243**	*i* P	**Pg**	**13 42 59.5**	**+0.1**
WHF				S	**Sg**	**13 43 07.2**	**0.0**
baz=241							
TWT	**Tachien** baz=247	**0.62**	**256**	*e*P	**Pb**	**13 43 00.6**	**+0.1**
TWT				*e*S	**Sb**	**13 43 09.0**	**0.0**
baz=247							
NSTT	**Nanjuang** baz=286	**0.79**	**287**	*e*P	**Pb**	**13 43 03.6**	**+0.3**
NSTT				*e*S	**Sb**	**13 43 13.8**	**0.0**
baz=286							
TYC	**Yuchr** baz=239	**1.02**	**241**	*e*P	**Pb**	**13 43 07.2**	**-0.1**
YOJ	**Yonaguni jima**	**1.08**	**87**	S	**Sn**	**13 43 27.3**	**+4.2**
TWF1	**Yuli** baz=213	**1.16**	**205**	*e*P	**Pg**	**13 43 10.3**	**0.0**
CHN5	**Tsauling** baz=231	**1.33**	**233**	*e*P	**Pg**	**13 43 14.3**	**+0.9**
IRIF	**Iriomote-Funau**	**1.73**	**92**	P	**Pn**	**13 43 18.4**	**+0.9**
IRIF				*e*S	Sn	13 43 28.1	-11
HATJ	**Hateruma jima**	**1.84**	**101**	P	**Pg**	**13 43 23.6**	**+0.4**
HATJ				*e*S	**Sn**	**13 43 37.3**	**-4.6**
JKRS	**Kuro-shima**	**2.00**	**94**	P	**Pn**	**13 43 21.6**	**+0.5**
JKRS				*e*S	Sn	13 43 33.9	-12
JIJ	**Ishigaki jima**	**2.11**	**91**	P	**Pn**	**13 43 21.1**	**-1.6**
JIJ				*e*S	Sn	13 43 32.1	-17

IDC ***25*** *13:45:53.4±6.6, 37.42N×71.92E, h103km±49km, mb3.2/3, mb1 3.3/4, mb1mx3.0/26, mbtmp3.1/4, Error ellipse: s-maj=84.4km s-min=37.7km az=131.0*

ISC 25 13:45:56.0±2.3, 37.7N±0.2×71.6E±0.2, h100km, n6, σ1§42/8, mb3.4/3, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa** 0.4nm,0.3s,baz=190,slow=18,SNR=5.1	**5.44**	**23**	P	**Pn**	**13 47 15.6**	**+0.9**
AAK				S	**Sn**	**13 48 16.2**	**+0.2**
0.5nm,0.3s,baz=326,slow=21,SNR=8.2							
AAK	**Ala-Archa** 1.1nm,0.5s	**5.44**	**23**	⇓Pn	**Pn**	**13 47 16.5**	**+1.7**
AAK				⇓Sn	**Sn**	**13 48 14.4**	**-1.7**
5.7nm,0.9s							
KK31	**Karatay Array** 0.8nm,0.3s,baz=181,slow=14,SNR=15	**5.51**	**352**	⇑Pn	**Pn**	**13 47 16.5**	**+0.9**
KK31				⇑Sn	**Sn**	**13 48 16.9**	**-0.6**
2.0nm,0.5s,baz=181,slow=23,SNR=8.5							
FINES	**FINESS Array B** 3.0nm,0.8s,baz=122,slow=9.3,SNR=4.4	**36.81**	**325**	P	**P**	**13 52 54.4**	**+0.5**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=55,slow=5.5,SNR=3.0	**66.24**	**268**	P	P	13 56 31.6	-2.1
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=351,slow=5.6,SNR=4.4	**80.07**	**3**	P	**P**	**13 57 52.8**	**-1.4**

MAN 25 14:00:21, 7.02N×126.13E, h53km, mb4.5, ML3.3, MS3.2, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.15**	**120**	*e*P	Pn	14 00 31.2	+1.8
MATI				*e*S	Sn	14 00 38.4	+3.0
BIPH	**Bislig**	**1.18**	**11**	⇓*e*P	Pn	14 00 43.7	+2.4
BIPH				*e*S	Sn	14 00 59.2	+3.0
BUKP	**Musuan**	**1.36**	**309**	*e*P	Pn	14 00 45.3	+1.6
GSPH	**General Santos**	**1.49**	**232**	⇓*i*P	Pn	14 00 44.1	-1.5
GSPH				*i*S	Sn	14 01 01.0	-3.2
PAGZ	**Pagadian**	**2.84**	**287**	*e*P	Pn	14 01 05.3	+1.3

IDC ***25*** *14:15:43.7±1.6, 3.67S×142.30E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=64.6km s-min=24.0km az=110.0*

AUST ***25*** *14:15:45.0±6.5, 3.45S×142.36E, h24km, Error ellipse: s-maj=1.4km s-min=1.1km az=339.0*

ISCJB ***25*** *14:15:46.7±1.1, 3.69S±0.08×142.1E±0.1, h26km, mb3.5/4, MS2.9/1, Error ellipse: s-maj=20.6km s-min=11.9km az=177.9*

ISC 25 14:15:48.4±1.3, 3.6S±0.1×142.1E±0.2, h26km, n14, σ1§45/12, mb3.5/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura** baz=1.9,SNR=20	**1.77**	**308**	P	**Pn**	**14 16 17.4**	**0.0**
MANU	**Manus Island** baz=5.2,SNR=3.7	**5.50**	**74**	P	Pn	14 16 59.5	-9.1
COEN	**Coen** baz=10,SNR=8.5	**10.33**	**174**	P	Pn	14 18 16.4	+1.5
KDU	**Kakadu** baz=13,SNR=13	**13.10**	**226**	P	**Pn**	**14 18 51.9**	**-1.1**
MTN	**Manton Dam** baz=14,SNR=5.8	**14.19**	**229**	P	**Pn**	**14 19 06.7**	**-1.1**
QIS	**Mount Isa** baz=17,SNR=3.1	**17.01**	**188**	P	**P**	**14 19 47.9**	**+1.6**
KNRA	**Kununurra** baz=18,SNR=7.5	**17.77**	**227**	P	**P**	**14 19 55.0**	**+0.4**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=22,slow=13,SNR=25	**17.90**	**204**	P	**Pn**	**14 19 53.8**	**-1.9**
ASAR	**Alice Springs** 1.1nm,0.5s,baz=30,slow=10,SNR=32	**21.44**	**201**	P	**P**	**14 20 33.7**	**-1.1**
FITZ	**Fitzroy Crossi** 1.0nm,0.5s,baz=39,slow=13,SNR=5.1	**21.61**	**227**	P	**P**	**14 20 37.6**	**+1.1**
FITZ				LR	LR	14 29 38.6	
comp=Z,51nm,20.4s,baz=253,slow=38							
FITZ	**Fitzroy Crossi** baz=22,SNR=3.2	**21.61**	**227**	P	**P**	**14 20 39.3**	**+2.8**
WRKA	**Warakurna** baz=26,SNR=4.1	**25.09**	**211**	P	**P**	**14 21 11.2**	**0.0**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=111,slow=7.4,SNR=3.7	**72.58**	**322**	P	**P**	**14 27 13.7**	**+0.2**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=261,slow=4.5,SNR=7.6	**85.27**	**24**	P	**P**	**14 28 22.1**	**-0.6**

ISCJB ***25*** *14:29:40.7±1.6, 25.02N±0.09×123.51E±0.06, h20km±12km, mb3.4/3, Error ellipse: s-maj=14.7km s-min=9.4km az=3.2*

JMA ***25*** *14:29:40.9±0.2, 25.02N×123.50E, h20km, M2.9*

IDC ***25*** *14:29:41.5±5.7, 24.58N×122.72E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=377.3km s-min=26.5km az=60.0*

ISC 25 14:29:39.9±2.5, 25.0N±0.1×123.53E±0.05, h3km±17km, n9, σ0§36/14, mb3.3/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.73**	**165**	P	**Pg**	**14 29 54.3**	**+0.4**
IRIF				S	**Sg**	**14 30 03.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.74**	**219**	P	**Pg**	**14 29 54.2**	**0.0**
YOJ				S	**Sg**	**14 30 03.5**	**-0.3**
JIJ	**Ishigaki jima**	**0.88**	**140**	P	**Pg**	**14 29 56.7**	**0.0**
JIJ				S	**Sg**	**14 30 07.6**	**-0.5**
JKRS	**Kuro-shima**	**0.91**	**151**	P	**Pg**	**14 29 57.7**	**+0.3**
JKRS				S	**Sg**	**14 30 09.0**	**-0.2**
HATJ	**Hateruma jima**	**1.01**	**166**	P	**Pg**	**14 29 59.2**	**-0.1**
HATJ				S	**Sg**	**14 30 12.4**	**-0.1**
JTJ	**Tarama**	**1.14**	**110**	P	**Pg**	**14 30 01.8**	**+0.1**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=109,slow=9.8,SNR=3.2	**39.24**	**314**	P	**P**	**14 37 09.9**	**+0.2**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=347,slow=8.6,SNR=7.3	**45.94**	**166**	P	**P**	**14 38 03.8**	**-0.5**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=350,slow=6.9,SNR=7.5	**49.45**	**167**	P	**P**	**14 38 31.6**	**+0.1**

IDC ***25*** *14:48:19.7±3.5, 26.37S×177.20W, h105km±27km, mb4.0/8, mb1 4.1/10, mb1mx3.9/20, mbtmp4.0/10, Error ellipse: s-maj=30.4km s-min=20.2km az=48.0*

AUST ***25*** *14:48:30.9, 26.31S×176.03W, h300km*

ISC 25 14:48:26.1±1.4, 26.7S±0.1×177.4W±0.2, h161km, n34, σ0§95/15, mb4.0/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island** 73nm,0.3s,baz=66,slow=20,SNR=3.0	**2.56**	**190**	P	Pn	14 49 04.3	-4.1
RAO				S	**Sn**	**14 49 39.9**	**-1.5**
322nm,0.3s,baz=90,slow=23,SNR=12							

NIUE	**Niue** baz=9.2,SNR=3.2	**10.27**	**44**	P	Pn	14 50 39.2	-10
URZ	**Urewera** 1.3nm,0.3s,baz=349,slow=2.1,SNR=9.2	**12.40**	**200**	P	**Pn**	**14 51 17.9**	**+0.9**
URZ				S	Sn	14 53 23.2	-11
1.4nm,0.3s,baz=139,slow=20,SNR=10							
AFI	**Afiamalu** 3.1nm,0.3s,baz=240,slow=20,SNR=5.1	**13.79**	**24**	S	Sn	14 53 41.7	-27
EIDS	**Eidsvold** baz=30,SNR=6.0	**28.31**	**266**	P	P	14 54 08.2	+3.5
CTA	**Charters Tower** 2.9nm,0.6s,baz=84,slow=11,SNR=9.3	**33.91**	**273**	P	P	14 54 55.7	+1.8
QLP	**Quilpie** baz=35,SNR=3.8	**34.19**	**261**	P	P	14 54 58.1	+1.9
STKA	**Stephens Creek** 3.5nm,1.1s,baz=139,slow=9.5,SNR=4.4	**35.97**	**252**	P	P	14 55 13.0	+1.6
HTT	**Hallett** baz=39,SNR=4.0	**38.16**	**249**	P	**P**	**14 55 30.9**	**+1.0**
COEN	**Coen** baz=40,SNR=12	**38.92**	**281**	P	P	14 55 39.2	+2.8
ASAR	**Alice Springs** 2.6nm,0.7s,baz=94,slow=7.0,SNR=95	**43.95**	**263**	P	**P**	**14 56 17.9**	**+0.5**
ASAR				PcP	**PP**	**14 58 01.1**	**-1.9**
0.7nm,0.9s,baz=101,slow=4.7,SNR=3.4							
WRA	**Warramunga Arr** 1.4nm,0.4s,baz=106,slow=6.1,SNR=47	**44.61**	**268**	P	**P**	**14 56 22.8**	**+0.2**
FORT	**Forrest** baz=49,SNR=10	**47.59**	**252**	P	**P**	**14 56 45.5**	**-0.3**
WRKA	**Warakurna** baz=50,SNR=22	**48.57**	**259**	P	**P**	**14 56 53.4**	**0.0**
KDU	**Kakadu** baz=50,SNR=6.2	**48.91**	**276**	P	P	14 56 57.8	+1.8
MTN	**Manton Dam** baz=51,SNR=3.9	**50.03**	**276**	P	P	14 57 05.4	+0.9
KNRA	**Kununurra** baz=52,SNR=5.1	**51.05**	**271**	P	P	14 57 13.1	+0.9
VNDA	**Vanda** 2.2nm,0.6s,baz=356,slow=7.5,SNR=7.7	**51.80**	**186**	P	P	14 57 20.4	+3.6
FITZ	**Fitzroy Crossi** 3.6nm,0.6s,baz=122,slow=7.4,SNR=10	**52.98**	**267**	P	P	14 57 27.2	+0.8
FITZ	**Fitzroy Crossi** baz=54,SNR=6.6	**52.98**	**267**	P	P	14 57 27.3	+0.8
MEEK	**Meekatharra** baz=58,SNR=3.7	**56.59**	**254**	P	**P**	**14 57 52.1**	**-0.2**
MORW	**Morawa** baz=59,SNR=4.7	**58.15**	**251**	P	**P**	**14 58 03.1**	**0.0**
MAW	**Mawson** 3.4nm,0.6s,baz=71,slow=12,SNR=9.3	**75.93**	**200**	P	P	14 59 55.6	+1.1
H03N3	**Juan Fernandez** baz=251,slow=75,SNR=5.4	**82.24**	**123**	T	T	16 31 26.0	
H03N2	**Juan Fernandez** baz=251	**82.24**	**123**	T	T	16 31 29.0	
H03N1	**Juan Fernandez** baz=251,slow=75,SNR=4.0	**82.25**	**123**	T	T	16 31 24.9	
PETK	**Petropavlovsk-** 2.5nm,0.9s,baz=134,slow=12,SNR=3.8	**82.39**	**345**	P	P	15 00 28.2	-1.4
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=64,slow=2.8,SNR=4.4	**115.77**	**311**	PKP	**PKPdf**	**15 06 48.1**	**-1.1**
ARCES	**ARCESS Array B** 2.1nm,0.8s,baz=90,slow=2.6,SNR=7.4	**135.10**	**349**	PKP	**PKPdf**	**15 07 25.0**	**-0.4**
FINES	**FINESS Array B** 7.9nm,1.2s,baz=66,slow=2.3,SNR=8.7	**141.85**	**342**	PKhKP	PKPpre	15 07 32.2	
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.6s,baz=19,slow=3.7	**145.19**	**353**	PKP	**PKPdf**	**15 07 43.3**	**-0.6**
NOA	**NORSAR Array B** comp=Z,2.7nm,0.8s,baz=13,slow=2.5,SNR=6.5	**145.19**	**353**	PKP	**PKPdf**	**15 07 43.8**	**-0.1**
BRTR	**Keskin Array B** comp=Z,1.6nm,0.9s,baz=134,slow=3.6,SNR=5.4	**151.12**	**305**	PKPbc	PKPab	15 08 00.7	-8.0
BRTR				PKPab	PKiKP	15 08 08.7	+7.8
comp=Z,1.3nm,0.6s,baz=95,slow=3.6,SNR=6.9							
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,1.0s,baz=177,slow=2.7,SNR=2.5	**166.47**	**176**	PKPab	**PKPab**	**15 09 16.5**	**+1.2**

MEX 25 14:49:10.3±0.6, 17.97N×96.07W, h159km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.09**	**216**	*i* P	Pn	14 49 35.9	-1.1
VHO				*i* S	Sn	14 49 55.1	-2.3
HUIG	**Huatulco**	**2.19**	**181**	*i* P	Pn	14 49 46.8	-1.4
HUIG				*i* S	Sn	14 50 15.4	-2.1
TLIG	**Tlapa**	**2.42**	**261**	*i* P	Pn	14 49 50.2	-0.8
TLIG				*i* S	Sn	14 50 19.9	-2.6
PNIG	**Pinotepa**	**2.52**	**232**	*e*P	Pn	14 49 50.5	-1.6
PNIG				*i* S	Sn	14 50 23.1	-1.4
YAIG	**Yautepec**	**2.98**	**288**	*i* P	Pn	14 49 56.5	-1.5
YAIG				*i* S	Sn	14 50 33.0	-2.0
PCIG		**3.54**	**129**	*i* P	Pn	14 50 02.8	-2.1
PCIG				*i* S	Sn	14 50 46.0	-1.3

IDC ***25*** *15:03:57.1±1.1, 25.76N×125.08E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/24, mbtmp3.5/5, Error ellipse: s-maj=39.8km s-min=20.3km az=73.0*

JMA ***25*** *15:04:01.5±0.2, 25.03N×123.50E, h16km, M3.0*

ISC 25 15:03:59.7±3.0, 25.1N±0.1×123.52E±0.06, h1km±20km, n11, σ0§67/16, mb3.3/5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.78**	**216**	P	**Pg**	**15 04 15.1**	**+0.4**
YOJ				S	**Sg**	**15 04 24.4**	**-0.5**
IRIF	**Iriomote-Funau**	**0.78**	**166**	P	**Pg**	**15 04 15.2**	**+0.4**
IRIF				S	**Sg**	**15 04 24.8**	**-0.1**
JIJ	**Ishigaki jima**	**0.93**	**142**	P	**Pg**	**15 04 17.6**	**+0.1**
JIJ				S	**Sg**	**15 04 29.2**	**-0.3**
JKRS	**Kuro-shima**	**0.97**	**152**	P	**Pg**	**15 04 18.7**	**+0.4**
JKRS				S	**Sg**	**15 04 30.9**	**+0.1**
HATJ	**Hateruma jima**	**1.07**	**166**	P	**Pg**	**15 04 20.1**	**-0.1**
HATJ				S	**Sg**	**15 04 33.3**	**-0.8**
JTJ	**Tarama**	**1.17**	**113**	S	**Sb**	**15 04 38.6**	**+0.2**
SONM	**Songino Array** 0.4nm,0.9s,baz=155,slow=10,SNR=2.9	**26.43**	**334**	P	**P**	**15 09 37.8**	**-0.4**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=101,slow=11,SNR=5.1	**39.19**	**314**	P	**P**	**15 11 30.8**	**+1.4**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=104,slow=12,SNR=3.8	**40.67**	**325**	P	**P**	**15 11 40.3**	**-1.2**
WRA	**Warramunga Arr** 1.2nm,0.8s,baz=346,slow=8.6,SNR=5.0	**45.99**	**166**	P	**P**	**15 12 24.5**	**-0.3**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=350,slow=7.2,SNR=6.3	**49.51**	**167**	P	**P**	**15 12 52.6**	**+0.5**

TAP 25 15:04:36.4, 24.41N×121.81E, h13km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau** baz=287	**0.06**	**287**	*e*P	Pg	15 04 39.4	+0.4
ENA				*i* S	Sg	15 04 40.9	0.0
baz=287							
TWC	**Suao** baz=7.0	**0.20**	**11**	*e*P	Pg	15 04 41.2	+0.3
TWC				*e*S	Sg	15 04 44.3	+0.3
baz=7.0							
ENTT	**Nioudou** baz=317	**0.32**	**316**	*i* P	Pg	15 04 43.5	+0.5
ENTT				S	Sg	15 04 48.0	+0.6
baz=317							
NNS	**Nan Shan** baz=274	**0.40**	**274**	*e*P	Pg	15 04 44.8	+0.2
NNS				S	Sg	15 04 50.0	-0.1
baz=274							
NSK	**Sanguang** baz=303	**0.49**	**303**	*e*P	Pg	15 04 45.9	-0.2
NSK				*e*S	Sg	15 04 52.1	-0.7
baz=303							
WHF	**Hehuan Shan** baz=242	**0.56**	**242**	*e*P	Pg	15 04 45.5	-2.5
WHF				*e*S	Sg	15 04 55.3	-0.5
baz=242							

ISCJB ***25*** *15:06:49.0±2.4, 14.05S±0.3×112.1W±0.4, h10km, mb3.8/8, MS4.0/17, Error ellipse: s-maj=66.1km s-min=17.7km az=138.5*

IDC ***25*** *15:06:50.5±1.4, 13.83S×111.85W, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.9/18, mbtmp3.7/8, MS4.0/17, Ms1 4.0/17, ms1mx3.9/27, Error ellipse: s-maj=43.8km s-min=21.9km az=42.0*

ISC 25 15:06:51.6±1.6, 13.9S±0.3×111.9W±0.2, h10km, n32, σ1§27/10, mb3.8/8, MS4.1/17, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea** 224nm,32.8s	**23.69**	**244**	*e*LQ	LQ	15 16 58.8	
RKT				*e*LR	LR	15 18 11.2	
614nm,28.5s,baz=68							
RKT	**Rikitea** 1.5nm,0.3s	**23.69**	**244**	*e*T	T	15 35 37.1	
ATAH	**Atahualpa** 4.2nm,0.5s,baz=285,slow=12,SNR=4.6	**33.61**	**82**	P	**P**	**15 13 34.5**	**+1.6**
ATAH				LR	LR	15 24 03.5	
comp=Z,241nm,18.5s,baz=262,slow=31							
H03N2	**Juan Fernandez** baz=297,slow=75,SNR=124	**35.73**	**129**	T	T	15 51 24.5	
H03N3	**Juan Fernandez** baz=297,slow=75,SNR=113	**35.74**	**129**	T	T	15 51 29.4	
H03N1	**Juan Fernandez** baz=297,slow=75,SNR=157	**35.74**	**129**	T	T	15 51 14.5	
JTS	**JuntasAbangare** comp=Z,292nm,20.6s,baz=196,slow=30	**35.95**	**49**	LR	LR	15 24 27.3	
PPT2	**Papeete2** 296nm,27.2s	**36.39**	**259**	*e*LR	LR	15 23 55.5	
TBI	**Tubuai** 409nm,27.0s	**36.71**	**250**	*e*LR	LR	15 24 11.1	
TEIG	**Tepich** comp=Z,251nm,20.8s,baz=308,slow=31	**41.10**	**35**	LR	LR	15 28 17.9	
ROSC	**El Rosal** comp=Z,76nm,21.3s,baz=21,slow=30	**41.69**	**66**	LR	LR	15 27 48.9	
LPAZ	**La Paz** 1.3nm,0.6s,baz=309,slow=4.4,SNR=4.3	**42.30**	**99**	P	**P**	**15 14 45.4**	**-1.2**
LPAZ				LR	LR	15 27 33.1	
comp=Z,169nm,19.6s,baz=42,slow=29							
CFAA	**Coronel Fontan** 0.1nm,0.4s,baz=237,slow=9.6,SNR=3.4	**43.66**	**121**	P	**P**	**15 14 55.9**	**-0.9**
CFAA				LR	LR	15 28 32.3	
comp=Z,46nm,18.2s,baz=280,slow=30							
TXAR	**Lajitas Array** 0.7nm,1.1s,baz=141,slow=14,SNR=3.7	**43.69**	**10**	P	**P**	**15 14 55.1**	**-1.8**
TXAR				LR	LR	15 29 47.3	
comp=Z,127nm,21.3s,baz=40,slow=32							
ANMO	**Albuquerque** comp=Z,208nm,18.1s,baz=199,slow=32	**48.82**	**6**	LR	LR	15 32 27.3	
SIV	**San Ignacio** comp=Z,129nm,18.1s,slow=32	**49.08**	**99**	LR	LR	15 33 14.3	
NVAR	**Mina Array Bea** 1.3nm,1.0s,baz=187,slow=10,SNR=4.3	**52.37**	**354**	P	**P**	**15 16 04.2**	**0.0**
NVAR				LR	LR	15 32 57.6	
comp=Z,231nm,20.6s,baz=186,slow=30							
CPUP	**Villa Florida** comp=Z,198nm,21.2s,baz=262,slow=31	**52.41**	**113**	LR	LR	15 33 47.0	
PTGA	**Pitinga** 3.4nm,0.9s,baz=295,slow=15,SNR=5.7	**53.02**	**80**	P	**P**	**15 16 10.0**	**+0.7**
PTGA				LR	LR	15 36 01.6	
comp=Z,134nm,18.3s,baz=164,slow=33							
PDAR	**Pinedale Array** 0.6nm,0.8s,baz=177,slow=5.8,SNR=4.5	**56.40**	**2**	P	**P**	**15 16 33.8**	**+0.3**
PDAR				LR	LR	15 36 26.5	
comp=Z,160nm,18.1s,baz=336,slow=32							
YKA	**Yellowknife Ar** 1.5nm,1.2s,baz=176,slow=5.8,SNR=8.1	**76.14**	**359**	P	**P**	**15 18 40.4**	**+1.0**
SCHQ	**Schefferville** comp=Z,168nm,18.3s,baz=43,slow=34	**78.32**	**25**	LR	LR	15 51 28.5	
ILAR	**Eielson Array** comp=Z,73nm,18.4s,baz=140,slow=32	**82.77**	**346**	LR	LR	15 50 31.5	
H11S2	**WAKE ISLAND Hy** baz=109,slow=73,SNR=36	**86.38**	**290**	T	T	16 55 27.4	
H11S1	**WAKE ISLAND Hy** baz=109,slow=73,SNR=18	**86.39**	**290**	T	T	16 55 20.4	
H11S3	**WAKE ISLAND Hy** baz=109,slow=73,SNR=20	**86.39**	**290**	T	T	16 55 28.7	
H11N3	**WAKE ISLAND Hy** baz=170,slow=75,SNR=4.8	**86.53**	**291**	T	T	16 55 37.6	
H11N2	**WAKE ISLAND Hy** baz=109,slow=75,SNR=5.8	**86.54**	**291**	T	T	16 55 40.0	
STKA	**Stephens Creek** comp=Z,127nm,19.8s,baz=26,slow=30	**96.27**	**235**	LR	LR	15 55 42.6	
MAW	**Mawson** comp=Z,101nm,18.3s,baz=263,slow=33	**98.66**	**178**	LR	LR	16 00 24.3	
MKAR	**Makanchi Array** 3.6nm,1.1s,baz=45,slow=3.6,SNR=7.0	**145.08**	**343**	PKPbc	**PKPbc**	**15 26 28.1**	**-0.7**
CMAR	**Chiang Mai Arr** 2.1nm,0.9s,baz=55,slow=1.4,SNR=9.6	**150.03**	**283**	PKPbc	**PKPbc**	**15 26 44.5**	**+1.1**

JMA 25 15:08:18.8±0.3, 45.41N×143.88E, h313km, M2.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**1.40**	**267**	P	Pn	15 09 02.5	-0.1
JTKR	**Abashiri--Toko**	**1.44**	**179**	P	Pn	15 09 03.7	+0.8
JMP	**Maruseppu**	**1.45**	**195**	P	Pn	15 09 03.4	+0.3
ASAJ	**Asahikawa**	**1.58**	**216**	P	Pn	15 09 04.6	+0.8
ASAJ	**Asahikawa** 12nm,0.4s,baz=233,slow=7.0,SNR=38	**1.58**	**216**	P	Pn	15 09 04.8	+1.0
JAR	**Ashorobuto**	**2.11**	**182**	P	Pn	15 09 08.6	+0.9
JHR	**Hokuryu**	**2.27**	**223**	P	Pn	15 09 09.6	+0.7
NEM2	**Nemuro 2**	**2.44**	**146**	*e*S	S	15 09 49.0	-2.6
JAK	**Akkeshi**	**2.48**	**166**	P	Pn	15 09 10.1	-0.6
JAK				*e*S	S	15 09 50.9	-1.3
JCH	**Churui**	**2.82**	**188**	P	Pn	15 09 13.4	-0.4
JCH				*e*S	S	15 09 55.7	-2.1
JNBK	**Urakawa-nobuka**	**3.23**	**195**	P	Pn	15 09 17.5	-0.3
JKB	**Kayabe**	**4.08**	**211**	P	Pn	15 09 26.2	-0.4
JKB				*e*S	S	15 10 19.7	-1.3
JOT	**Ohata**	**4.52**	**208**	P	Pn	15 09 31.0	-0.5
JOT				*e*S	S	15 10 27.6	-2.3

IDC ***25*** *15:21:57.6±1.7, 0.23N×123.02E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, Error ellipse: s-maj=195.9km s-min=25.2km az=62.0*

DJA ***25*** *15:22:09.7±0.7, 0.7S±4.4×12.2E±, h38km±12km, M4.1/6, MLv4.1/6*

ISC 25 15:21:59.3±1.0, 0.1N±0.1×122.87E±0.08, h10km, n11, σ0§30/8, mb3.9/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.52**	**15**	P	Sn	15 22 28.4	+6.7
MRSI	**Marisa**	**0.99**	**290**	P	Pn	15 22 25.5	+6.2
LUWI	**Luwuk**	**1.17**	**185**	P	Pg	15 22 25.6	+3.8
KMSI	**Cibinong**	**1.19**	**68**	P	**Sn**	**15 22 38.2**	**-0.1**
APSI	**Ampana**	**1.60**	**230**	P	**Pn**	**15 22 27.8**	**+0.1**
TOLI	**Toli-Toli**	**2.30**	**295**	P	**Pg**	**15 22 43.6**	**+0.2**
TTSI	**Tana Toraja**	**4.39**	**224**	P	**Pn**	**15 23 05.5**	**-0.6**
KKSI	**Kolaka, Sulawe**	**4.45**	**196**	P	**Pn**	**15 23 07.1**	**+0.3**
WRA	**Warramunga Arr** 2.3nm,0.6s,baz=330,slow=10,SNR=47	**22.89**	**151**	P	**P**	**15 27 03.4**	**0.0**
ASAR	**Alice Springs** 1.3nm,0.5s,baz=327,slow=9.0,SNR=45	**25.97**	**156**	P	**P**	**15 27 32.2**	**-0.1**
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=130,slow=8.6,SNR=5.1	**58.44**	**328**	P	**P**	**15 31 55.3**	**0.0**

NIED ***25*** *15:25:00, 24.90N×123.50E, h5km, Mw4.1 Best double couple: M0 1.61000×10^15 NP1:φ=268.00000°, δ=45.00000°, λ=-88.00000°. NP2:φ=85.00000°, δ=45.00000°, λ=-93.00000°.*

ISCJB ***25*** *15:25:46.

JNU	**Nakatsue**	**10.44**	**36**	LR	LR	15 32 55.5			
	comp=Z,30nm,20.7s,baz=58,slow=40								
KSRS	**Korea Array**	**13.09**	**16**	P	P	15 28 58.8	-2.6		
	0.1nm,0.3s,baz=198,slow=14,SNR=3.1								
KSRS				LR	LR	15 34 33.9			
	comp=Z,64nm,18.8s,baz=338,slow=40								
MJAR	**Matsushiro Arr**	**17.15**	**44**	LR	LR	15 37 32.4			
	comp=Z,26nm,19.1s,baz=205,slow=40								
USRK	**Ussuriysk Arra**	**20.48**	**18**	P	Pn	15 30 27.9	+2.7		
	2.8nm,1.0s,baz=200,slow=7.7,SNR=2.6								
USRK				LR	LR	15 38 39.5			
	comp=Z,94nm,20.7s,baz=181,slow=37								
CMAR	**Chiang Mai Arr**	**23.68**	**259**	P	**P**	**15 30 57.5**	**+0.8**		
	0.6nm,0.9s,baz=47,slow=7.1,SNR=6.1								
SONM	**Songino Array**	**26.61**	**334**	P	**P**	**15 31 24.0**	**+0.6**		
	0.7nm,0.9s,baz=143,slow=11,SNR=4.3								
SONM				LR	LR	15 42 34.5			
	comp=Z,59nm,20.0s,baz=219,slow=38								
PETK	**Petropavlovsk-**	**38.12**	**33**	P	**P**	**15 33 04.6**	**+0.8**		
	2.4nm,1.0s,baz=308,slow=7.1,SNR=2.7								
MKAR	**Makanchi Array**	**39.33**	**314**	P	**P**	**15 33 13.2**	**-0.8**		
	1.8nm,1.0s,baz=102,slow=11,SNR=7.8								
MKAR				LR	LR	15 48 60.0			
	comp=Z,34nm,20.6s,baz=171,slow=35								
ZALV	**Zalesovo Beam**	**40.83**	**326**	P	**P**	**15 33 26.0**	**-0.3**		
	0.6nm,0.5s,baz=120,slow=7.7,SNR=6.5								
ZALV				LR	LR	15 51 41.4			
	comp=Z,63nm,18.2s,baz=43,slow=38								
WRA	**Warramunga Arr**	**45.79**	**166**	P	**P**	**15 34 08.1**	**+1.5**		
	3.0nm,0.8s,baz=348,slow=8.6,SNR=24								
ASAR	**Alice Springs**	**49.30**	**167**	P	**P**	**15 34 36.1**	**+2.1**		
	0.5nm,0.7s,baz=352,slow=13,SNR=15								
ASAR				PcP	**PcP**	**15 35 57.8**	**+1.3**		
	0.6nm,0.8s,baz=347,slow=1.2,SNR=4.0								
STKA	**Stephens Creek**	**59.03**	**162**	P	**P**	**15 35 45.9**	**+1.3**		
	1.7nm,0.7s,baz=337,slow=7.6,SNR=4.7								
BRTR	**Keskin Array B**	**74.45**	**307**	P	**P**	**15 37 22.1**	**-1.2**		
	0.2nm,0.4s,baz=96,slow=2.5,SNR=3.6								
YKA	**Yellowknife Ar**	**81.50**	**23**	P	**P**	**15 38 00.5**	**-1.3**		
	0.4nm,0.9s,baz=305,slow=4.8,SNR=5.2								

*LDG **25** 15:26:23.6±0.4, 15°.22N×61°.38W, h140km, Mb4.4/13, Error ellipse: s-maj=22.8km s-min=12.6km az=89.0*
*ISCJB **25** 15:26:24.6±0.2, 15°.20N±0°.02×61°.38W±0°.04, h151km±1km, mb4.1/30, Error ellipse: s-maj=6.1km s-min=3.2km az=156.5*
*NEIC **25** 15:26:24.7±0.4, 15°.05N×61°.44W, h140km±6km, mb4.9/16, Error ellipse: s-maj=9.6km s-min=6.4km az=59.0*
*TRN **25** 15:26:24.4, 15°.22N×61°.25W, h148km, MD3.8, M3.8(FDF)*
*IDC **25** 15:26:26.0±4.9, 15°.18N×61°.49W, h151km±46km, mb3.7/17, mb1 3.8/19, mb1mx3.8/26, mbtmp3.7/19, Error ellipse: s-maj=15.5km s-min=12.2km az=25.0*

ISC 25 15:26:25.5±0.6, 15°.19N±0°.03×61°.37W±0°.05, h148km±4km, n112, σ1§12/137, mb4.3/30, 7C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DSHT	**Scott's Head**	**0.02**	**2**	⇓*i*P	**Pn**	**15 26 46.2**	**+0.9**
DSHT				*e*S	**Sn**	**15 27 00.8**	**+0.3**
DBCT	**Belle View Cho**	**0.08**	**20**	*e*P	**Pn**	**15 26 46.5**	**+1.0**
DBCT				*e*S	**Sn**	**15 27 01.5**	**+0.9**
MDN	**Morne-Daniel**	**0.13**	**352**	⇓*i*P	**Pn**	**15 26 46.4**	**+1.0**
MDN				*e*S	**Sn**	**15 27 01.2**	**+0.5**
BBL	**Barber's Block**	**0.34**	**344**	⇓*i*P	**Pn**	**15 26 46.0**	**0.0**
FDF	**Fort de France**	**0.51**	**155**	⇓*i*P	**Pn**	**15 26 46.5**	**-0.2**
FDF				*i* S	**Sn**	**15 27 02.2**	**-0.7**
FDF	**Fort de France**	**0.51**	**155**	*e*Pn	**Pn**	**15 26 46.3**	**-0.4**
FDF				*e*Sn	**Sn**	**15 27 00.9**	**-2.0**
BVM	**Bellevue**	**0.55**	**146**	*e*P	**Pn**	**15 26 46.7**	**-0.2**
ZAM	**Aeronautique**	**0.70**	**151**	*e*P	**Pn**	**15 26 47.2**	**-0.5**
TBG	**Guadaloupe-3**	**0.71**	**338**	⇓*i*P	**Pn**	**15 26 47.8**	**0.0**
TRMF	**Trois Ilets**	**0.72**	**154**	⇓*e*P	**Pn**	**15 26 47.6**	**-0.4**
MGG	**Marie-Galante**	**0.72**	**4**	*e*P	**Pn**	**15 26 47.7**	**-0.3**
LPMF	**Morne Lapointe**	**0.73**	**147**	⇓*e*P	**Pn**	**15 26 47.2**	**-0.8**
BIM	**Bigot**	**0.73**	**156**	*e*P	**Pn**	**15 26 48.0**	**-0.1**
MVM	**Montagne Vaucl**	**0.79**	**144**	*e*P	**Pn**	**15 26 47.9**	**-0.5**
HMG	**Houelmont**	**0.85**	**338**	*e*P	**Pn**	**15 26 48.2**	**-0.3**
HMG				*e*S	**Sn**	**15 27 07.0**	**+0.3**
PHG	**Guadaloupe-2**	**0.86**	**342**	⇑*i*P	**Pn**	**15 26 49.2**	**+0.2**
DOG	**Dongo Capester**	**0.87**	**344**	⇑*i*P	**Pn**	**15 26 49.1**	**0.0**
SCG	**Saint Claude**	**0.88**	**340**	⇑*i*P	**Pn**	**15 26 49.5**	**+0.3**
SCG				*e*S	**Sn**	**15 27 06.8**	**-0.5**
H05S1	**Guadeloupe/Mar**	**0.92**	**146**	P	**Pn**	**15 26 49.1**	**-0.3**
H05S1				S	**Sn**	**15 27 07.0**	**-0.7**
	SNR=8623						
LZG	**Guadaloupe-1**	**1.02**	**338**	*e*P	**Pn**	**15 26 50.6**	**+0.4**
DEG	**La Desirade**	**1.16**	**15**	*e*P	**Pn**	**15 26 50.6**	**-0.9**
H05N1	**Guadeloupe/Mar**	**1.16**	**15**	P	**Pn**	**15 26 50.9**	**-0.6**
H05N1				S	**Sn**	**15 27 09.3**	**-2.2**
SEG	**Port Louis**	**1.21**	**354**	⇑*i*P	**Pn**	**15 26 51.9**	**-0.1**
SLW	**Petit Monier**	**1.24**	**160**	*e*P	**Pn**	**15 26 53.1**	**+0.8**
SLW				*e*S	**Sn**	**15 27 12.2**	**-0.6**
SLPE	**Piton Saint Es**	**1.39**	**165**	*e*P	**Pn**	**15 26 54.5**	**+0.7**
SLPE				*e*S	**Sn**	**15 27 14.9**	**-0.6**
SLB	**Belfond**	**1.40**	**167**	⇑*i*P	**Pn**	**15 26 54.0**	**0.0**
SLB				*e*S	**Sn**	**15 27 16.1**	**+0.5**
SLPA	**Patience**	**1.40**	**162**	*e*P	**Pn**	**15 26 54.9**	**+0.9**
SLPA				*e*S	**Sn**	**15 27 15.2**	**-0.4**
MCLT	**Moule a Chique**	**1.53**	**164**	*e*P	**Pn**	**15 26 54.9**	**-0.4**
MCLT				*e*S	**Sn**	**15 27 17.1**	**-1.0**
SSV	**Crater Summit**	**1.86**	**175**	⇑*i*P	**Pn**	**15 26 59.1**	**+0.1**
SSV				*e*S	**Sn**	**15 27 24.0**	**-0.8**
SVV	**Soufriere Volc**	**1.87**	**175**	⇑*e*P	**Pn**	**15 26 59.4**	**+0.3**
SVV				*e*S	**Sn**	**15 27 24.6**	**-0.1**
BHS	**Barnard House**	**1.90**	**173**	*e*P	**Pn**	**15 26 59.4**	**0.0**
BHS				*e*S	**Sn**	**15 27 25.8**	**+0.5**
BPA	**Boggy Peak**	**1.90**	**346**	⇓*i*P	**Pn**	**15 26 59.8**	**+0.4**
BPA				*e*S	**Sn**	**15 27 24.3**	**-1.2**
SVB	**Belmont**	**1.91**	**176**	*e*P	**Pn**	**15 26 59.6**	**0.0**
SVB				*e*S	**Sn**	**15 27 26.1**	**+0.5**
ANWB	**Willy Bob**	**2.49**	**351**	*e*Pn	**Pn**	**15 27 05.1**	**-1.4**
ANWB				*e*Sn	**Sn**	**15 27 34.2**	**-3.8**
SKI	**Saint Kitts**	**2.50**	**329**	*e*P	**Pn**	**15 27 06.7**	**+0.2**
SKI				*e*S	**Sn**	**15 27 38.5**	**+0.3**
GRSS	**Sisters**	**2.89**	**185**	*e*P	**Pn**	**15 27 11.8**	**+0.5**
GRHS	**Sauteurs**	**2.96**	**185**	*e*P	**Pn**	**15 27 12.6**	**+0.3**
GRW	**Mount Saint Ca**	**3.03**	**185**	*e*P	**Pn**	**15 27 14.2**	**+0.9**
GRGR	**Grenville**	**3.05**	**185**	*e*Pn	Pn	15 27 09.6	-3.9
GRGR				*e*Sn	**Sn**	**15 27 45.4**	**-5.3**
TOSP	**Speyside**	**3.96**	**168**	*e*P	**Pn**	**15 27 25.4**	**+0.2**
MTP	**Monte Pirata**	**4.94**	**306**	*e*Pn	**Pn**	**15 27 38.3**	**+0.3**
MTP				*e*Sn	**Sn**	**15 28 32.5**	**-2.2**
CBYP	**Canovanas**	**5.27**	**306**	*e*Pn	**Pn**	**15 27 42.6**	**0.0**
	111nm,0.7s						
CBYP				*e*Sn	**Sn**	**15 28 43.2**	**+0.5**
CELP	**Cerrillos**	**5.75**	**301**	*e*Pn	**Pn**	**15 27 47.0**	**-1.9**
CELP				*e*Sn	**Sn**	**15 28 55.0**	**+0.8**
CRPR	**Cabo Rojo, PR**	**6.17**	**298**	*e*Pn	**Pn**	**15 27 53.6**	**-0.8**
	35nm,0.5s						
CRPR				*e*Sn	**Sn**	**15 29 05.7**	**+1.6**
LSP	**Las Mesas**	**6.22**	**299**	*e*Pn	**Pn**	**15 27 55.0**	**-0.2**
SDDR	**Presa de Saban**	**10.20**	**293**	*e*Pn	**Pn**	**15 28 48.7**	**+0.4**
	16nm,0.6s						
PTGA	**Pitinga**	**15.88**	**175**	*e*Pn	**Pn**	**15 29 57.7**	**-3.3**
	13nm,0.8s						
PTGA	**Pitinga**	**15.88**	**175**	P	**Pn**	**15 30 00.9**	**-0.1**
	1.6nm,0.3s,baz=358,slow=14,SNR=17						
ROSC	**El Rosal**	**16.37**	**232**	P	**Pn**	**15 30 07.4**	**+0.1**
	0.6nm,0.3s,baz=88,slow=18,SNR=5.7						
SAML	**Samuel**	**24.05**	**184**	*e*P	**P**	**15 31 26.6**	**-0.6**
	10nm,1.0s						
SIV	**San Ignacio**	**30.99**	**179**	P	**P**	**15 32 29.6**	**+0.5**
	2.6nm,0.6s,baz=16,slow=11,SNR=8.7						
TXAR	**Lajitas Array**	**41.36**	**297**	P	**P**	**15 33 56.7**	**-0.6**
	0.3nm,0.5s,baz=121,slow=9.2,SNR=8.4						
CPUP	**Villa Florida**	**41.46**	**175**	P	**P**	**15 33 57.2**	**-0.6**
	1.2nm,0.5s,baz=310,slow=6.9,SNR=4.1						
ULM	**Lac du Bonnet**	**44.73**	**329**	P	**P**	**15 34 22.6**	**-1.2**
	2.0nm,0.5s,baz=138,slow=7.3,SNR=6.3						
PDAR	**Pinedale Array**	**49.44**	**314**	P	**P**	**15 35 00.8**	**0.0**
	1.2nm,0.6s,baz=121,slow=10,SNR=12						
NVAR	**Mina Array Bea**	**54.90**	**306**	P	**P**	**15 35 41.6**	**+0.4**
	0.9nm,0.7s,baz=99,slow=6.3,SNR=6.6						
NVAR				PcP	**PcP**	**15 36 41.9**	**+0.4**
	0.5nm,0.8s,baz=46,slow=4.3,SNR=3.6						
ESDC	**Sonseca Array**	**55.46**	**52**	P	**P**	**15 35 46.9**	**+1.8**
	1.4nm,0.6s,baz=262,slow=7.6,SNR=13						
LIC	**Lamto**	**55.95**	**93**	*e*P	**P**	**15 35 49.3**	**+0.6**
	4.3nm,0.5s,baz=287						
LIC	**Lamto**	**55.95**	**93**	*e*P	**P**	**15 35 49.3**	**+0.6**
	4.3nm,0.5s						
DBIC	**Dimbokro**	**56.00**	**92**	P	**P**	**15 35 49.6**	**+0.5**
	2.0nm,0.5s,baz=246,slow=9.7,SNR=5.6						
QUIF	**Quistinic**	**57.67**	**43**	*e*P	**P**	**15 36 01.6**	**+1.3**
QUIF	**Quistinic**	**57.67**	**43**	*e*P	**P**	**15 36 01.6**	**+1.3**
ROSF	**Rostrenen**	**57.70**	**42**	*e*P	**P**	**15 36 01.7**	**+1.2**
ROSF	**Rostrenen**	**57.70**	**42**	*e*P	**P**	**15 36 01.7**	**+1.2**
SJPF	**Ste Jean**	**58.05**	**48**	*e*P	**P**	**15 36 04.9**	**+1.8**
SJPF	**Ste Jean**	**58.05**	**48**	*e*P	**P**	**15 36 04.9**	**+1.8**
SUMG	**Summit**	**58.92**	**8**	*i* P	**P**	**15 36 10.3**	**+1.2**
	6.5nm,0.9s						
EPF	**Esparros**	**59.17**	**49**	*e*P	**P**	**15 36 12.8**	**+1.9**
	4.5nm,0.5s						
EPF	**Esparros**	**59.17**	**49**	*e*P	**P**	**15 36 12.8**	**+1.9**
	4.5nm,0.5s						
GRR	**Gorron**	**59.28**	**42**	*e*P	**P**	**15 36 12.6**	**+1.1**
	6.7nm,0.5s						
GRR	**Gorron**	**59.28**	**42**	*e*P	**P**	**15 36 12.6**	**+1.1**
	6.7nm,0.5s						
MFF	**Saint Martin d**	**59.40**	**45**	*e*P	**P**	**15 36 14.2**	**+1.8**
MFF	**Saint Martin d**	**59.40**	**45**	*e*P	**P**	**15 36 14.2**	**+1.8**
FLN	**La Foliniere**	**59.60**	**42**	*e*P	**P**	**15 36 14.9**	**+1.2**
	9.2nm,0.6s						
FLN	**La Foliniere**	**59.60**	**42**	*e*P	**P**	**15 36 14.9**	**+1.2**
	9.2nm,0.6s						
LDF	**La Druitiere**	**59.80**	**42**	*e*P	**P**	**15 36 16.0**	**+0.9**
LDF	**La Druitiere**	**59.80**	**42**	*e*P	**P**	**15 36 16.0**	**+0.9**
YKA	**Yellowknife Ar**	**60.07**	**335**	P	**P**	**15 36 16.0**	**-0.6**
	2.2nm,0.6s,baz=106,slow=7.5,SNR=63						
CAF	**Calviac**	**60.66**	**47**	*e*P	**P**	**15 36 22.1**	**+1.0**
CAF	**Calviac**	**60.66**	**47**	*e*P	**P**	**15 36 22.1**	**+1.0**
TCF	**Toulx Ste Croi**	**60.95**	**45**	*e*P	**P**	**15 36 24.0**	**+1.0**
TCF	**Toulx Ste Croi**	**60.95**	**45**	*e*P	**P**	**15 36 24.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**61.00**	**83**	P	**P**	**15 36 24.3**	**+0.5**
	3.8nm,0.8s,baz=284,slow=6.2,SNR=20						
AVF	**Avril sur Loir**	**61.81**	**45**	*e*P	**P**	**15 36 29.5**	**+0.8**
	10nm,0.8s						
AVF	**Avril sur Loir**	**61.81**	**45**	*e*P	**P**	**15 36 29.5**	**+0.8**
	10nm,0.8s						
SSF	**Saint Saulge**	**61.95**	**45**	*e*P	**P**	**15 36 30.3**	**+0.7**
	4.8nm,0.5s						
SSF	**Saint Saulge**	**61.95**	**45**	*e*P	**P**	**15 36 30.3**	**+0.7**
	4.8nm,0.5s						
SMF	**Signal de Mont**	**62.12**	**45**	*e*P	**P**	**15 36 32.3**	**+1.5**
SMF	**Signal de Mont**	**62.12**	**45**	*e*P	**P**	**15 36 32.3**	**+1.5**
LOR	**Lormes**	**62.22**	**44**	*e*P	**P**	**15 36 32.1**	**+0.7**
	12nm,0.6s						
LOR	**Lormes**	**62.22**	**44**	*e*P	**P**	**15 36 32.1**	**+0.7**
	12nm,0.6s						
SFTF	**Sexfontaines**	**63.13**	**43**	*e*P	**P**	**15 36 38.1**	**+0.7**
	15nm,0.7s						
SFTF	**Sexfontaines**	**63.13**	**43**	*e*P	**P**	**15 36 38.1**	**+0.7**
	15nm,0.7s						
MEZF	**Maizieres J'vi**	**63.17**	**43**	*e*P	**P**	**15 36 38.6**	**+0.9**
	16nm,0.6s						
MEZF	**Maizieres J'vi**	**63.17**	**43**	*e*P	**P**	**15 36 38.6**	**+0.9**
	16nm,0.6s						
PAGF	**Fort de Pagny**	**63.62**	**43**	*e*P	**P**	**15 36 41.5**	**+0.8**
	1.6nm,0.5s						
PAGF	**Fort de Pagny**	**63.62**	**43**	*e*P	**P**	**15 36 41.5**	**+0.8**
	1.6nm,0.5s						
CDF	**Champ du Feu**	**64.64**	**43**	*e*P	**P**	**15 36 47.8**	**+0.4**
	3.9nm,0.6s						
CDF	**Champ du Feu**	**64.64**	**43**	*e*P	**P**	**15 36 47.8**	**+0.4**
	3.9nm,0.6s						
KEST	**Kesra**	**65.75**	**57**	P	**P**	**15 36 56.6**	**+1.8**
	2.7nm,0.8s,baz=159,slow=4.0,SNR=7.6						
NB2	**NORSAR Subarra**	**68.40**	**30**	P	**P**	**15 37 11.9**	**+0.9**
	comp=Z,3.4nm,1.0s,baz=262,slow=6.5						
NOA	**NORSAR Array B**	**68.40**	**30**	P	**P**	**15 37 12.1**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=262,slow=6.6,SNR=3.7						
GERES	**GERESS Array B**	**68.91**	**43**	P	**P**	**15 37 14.7**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=268,slow=4.9,SNR=3.8						
H09N1	**TRISTAN DA CUN**	**69.53**	**140**	T	T	16 53 22.8	
	SNR=6.5						
H09W1	**TRISTAN DA CUN**	**69.53**	**140**	T	T	16 53 19.5	
	SNR=36						
ILAR	**Eielson Array**	**74.47**	**334**	P	**P**	**15 37 46.9**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=76,slow=5.0,SNR=15						
ARCES	**ARCESS Array B**	**74.80**	**21**	P	**P**	**15 37 49.2**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=289,slow=5.6,SNR=9.4						
FINES	**FINESS Array B**	**75.58**	**30**	P	**P**	**15 37 54.5**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=205,slow=4.0,SNR=7.4						
BRTR	**Keskin Array B**	**84.22**	**51**	P	**P**	**15 38 41.4**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=257,slow=4.0,SNR=7.3						
CMAR	**Chiang Mai Arr**	**141.35**	**31**	PKP	**PKPdf**	**15 45 37.2**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=317,slow=2.3,SNR=4.2						
STKA	**Stephens Creek**	**153.27**	**228**	PKPbc	**PKPbc**	**15 46 05.1**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=6.5,slow=3.3,SNR=3.1						
WRA	**Warramunga Arr**	**164.29**	**250**	PKP	**PKPdf**	**15 46 11.3**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=78,slow=0.3,SNR=5.3						
WRA				PKPab	**PKPab**	**15 47 07.2**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=97,slow=4.2,SNR=9.8						

*ISCJB **25** 15:42:39.1±0.4, 59°.92N±0°.03×152°.98W±0°.07, h119km±4km, mb3.8/1, Error ellipse: s-maj=6.0km s-min=3.8km az=27.7*
*NEIC **25** 15:42:41.2, 59°.92N×153°.05W, h106km, MG2.7(AEIC), After AEIC.*
*IDC **25** 15:42:43.2±8.4, 60°.27N×152°.87W, h115km±74km, mb3.3/1, mb1 3.2/3, mb1mx2.9/26, mbtmp3.0/3, MS3.6/3, Ms1 3.6/3, ms1mx3.1/23, Error ellipse: s-maj=67.8km s-min=39.2km az=15.0*

ISC 25 15:42:40.3±0.9, 59°.93N±0°.03×153°.01W±0°.04, h112km±6km, n67, σ1§11/81, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.04**	**313**	P	**Pn**	**15 42 55.2**	**-0.7**
ILW	**Iliamna West**	**0.15**	**334**	P	**Pn**	**15 42 55.3**	**-0.8**
ILW				S	**Sn**	**15 43 07.5**	**-0.5**
RSO	**Redoubt South**	**0.55**	**13**	P	**Pn**	**15 42 57.7**	**-0.3**
AUL	**Augustine Lava**	**0.59**	**202**	P	**Pn**	**15 42 57.2**	**-0.9**
AUL				S	**Sn**	**15 43 10.6**	**-0.8**
RDN	**Redoubt North**	**0.60**	**12**	P	**Pn**	**15 42 58.0**	**-0.3**
NCT	**North Crescent**	**0.64**	**3**	P	**Pn**	**15 42 58.1**	**-0.4**
DFR	**Drift River**	**0.69**	**13**	P	**Pn**	**15 42 58.6**	**-0.3**
HOM	**Homer**	**0.74**	**111**	P	**Pn**	**15 42 59.0**	**-0.1**
HOM				S	**Sn**	**15 43 14.1**	**+0.7**
MCNL	**McNeil River**	**1.01**	**223**	P	**Pn**	**15 43 01.0**	**-0.7**
BRLK	**Bradley Lake**	**1.08**	**98**	P	**Pn**	**15 43 02.1**	**-0.5**
BRLK				S	**Sn**	**15 43 19.3**	**-0.1**
NKA	**Nikishka**	**1.20**	**46**	P	**Pn**	**15 43 05.4**	**+1.6**
CKL	**Chakachamna La**	**1.31**	**14**	P	**Pn**	**15 43 05.2**	**0.0**
SPBG	**Spurr Blockage**	**1.37**	**13**	P	**Pn**	**15 43 06.0**	**+0.2**
SPBG				S	**Sn**	**15 43 25.3**	**+0.1**
BGL	**Barrier Glacie**	**1.37**	**12**	P	**Pn**	**15 43 06.0**	**+0.2**
CGLM	**Capps Glacier**	**1.47**	**19**	P	**Pn**	**15 43 07.1**	**+0.1**
SLKM	**Skilak Lake**	**1.51**	**6**	P	**Pn**	**15 43 07.0**	**-0.3**
KAHC	**Katmai Hardscr**	**1.64**	**220**	P	**Pn**	**15 43 08.5**	**-0.6**
STLK	**Strandline Lak**	**1.68**	**20**	P	**Pn**	**15 43 09.7**	**+0.3**
KARR	**Katmai Rainbow**	**1.68**	**212**	P	**Pn**	**15 43 09.2**	**-0.2**
SVW2	**Sparrevohn**	**1.73**	**314**	P	**Pn**	**15 43 09.4**	**-0.7**
SEW	**Seward**	**1.79**	**83**	*e*Pn	**Pn**	**15 43 10.1**	**-0.6**
SEW				*e*Sn	**Sn**	**15 43 32.5**	**-1.4**
FIB	**Fire Island**	**1.87**	**47**	P	**Pn**	**15 43 12.7**	**+1.0**
FIB				S	**Sn**	**15 43 38.1**	**+2.4**
SUA	**Susitna One**	**1.90**	**35**	P	**Pn**	**15 43 12.5**	**+0.3**
SUA				S	**Sn**	**15 43 36.6**	**0.0**
KVTA	**Katmai Vly 10**	**1.95**	**218**	P	**Pn**	**15 43 12.4**	**-0.3**
KAKN	**Katmai Knife C**	**1.95**	**214**	P	**Pn**	**15 43 12.4**	**-0.4**
RC01	**Rabbit Creek A**	**1.99**	**53**	*e*Pn	**Pn**	**15 43 13.4**	**+0.1**
RC01				*e*Sn	**Sn**	**15 43 37.2**	**-1.2**
RC01				S	**Sn**	**15 43 37.6**	**-0.8**
KCE	**Katmai Mt Cerb**	**2.03**	**215**	P	**Pn**	**15 43 13.9**	**+0.1**
KABR	**Katmai Barrier**	**2.07**	**210**	P	**Pn**	**15 43 14.3**	**0.0**
KDAK	**Kodiak Island**	**2.16**	**174**	P	**Pn**	**15 43 15.3**	**-0.1**
KDAK				S	**Sn**	**15 43 41.6**	**-0.6**
SKT	**Skwentna**	**2.18**	**19**	P	**Pn**	**15 43 15.6**	**-0.1**
PTE	**Portage**	**2.19**	**63**	P	**Pn**	**15 43 15.7**	**0.0**
PWL	**Port Wells**	**2.50**	**66**	P	**Pn**	**15 43 19.8**	**0.0**
PMR	**Palmer**	**2.53**	**47**	P	**Pn**	**15 43 19.1**	**-1.0**
OHAK	**Old Harbor**	**2.72**	**183**	P	**Pn**	**15 43 21.0**	**-1.6**
PLK3	**Peulik 3**	**2.81**	**218**	P	**Pn**	**15 43 24.2**	**+0.3**
CUT	**Chulitna**	**2.82**	**27**	P	**Pn**	**15 43 24.5**	**+0.6**
PPLA	**Purkeypile**	**3.00**	**7**	*e*Pn	**Pn**	**15 43 27.5**	**+1.0**
PPLA				*e*Sn	**Sn**	**15 44 02.0**	**-0.1**
HIN	**Hinchinbrook I**	**3.29**	**79**	P	**Pn**	**15 43 30.4**	**+0.2**
TT01	**Tatalina**	**3.32**	**335**	P	**Pn**	**15 43 30.0**	**-0.5**
FID	**Port Fidalgo**	**3.35**	**73**	P	**Pn**	**15 43 29.4**	**-1.5**
SCM	**Sheep Creek Mo**	**3.37**	**53**	P	**Pn**	**15 43 30.4**	**-0.8**
VLZ	**Valdez**	**3.51**	**67**	P	**Pn**	**15 43 33.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.67**	**77**	P	**Pn**	**15 43 34.1**	**-1.1**
TRF	**Thorofare Moun**	**3.77**	**19**	P	**Pn**	**15 43 36.6**	**0.0**
KTH	**Kantishna Hill**	**3.77**	**14**	*e*Pn	**Pn**	**15 43 36.2**	**-0.4**
KTH				*e*Sn	**Sn**	**15 44 19.9**	**-0.3**
KTH				*e*Sn	**Sn**	**15 44 19.9**	**-0.3**
DIV	**Divide**	**3.77**	**68**	P	**Pn**	**15 43 37.1**	**+0.4**
CHUM	**Lake Minchumin**	**3.98**	**4**	P	**Pn**	**15 43 39.5**	**+0.2**
RND	**Reindeer**	**4.01**	**28**	P	**Pn**	**15 43 39.7**	**-0.1**
DHY	**Denali Highway**	**4.15**	**38**	P	**Pn**	**15 43 41.2**	**-0.6**
GOAT	**Goat Mountain**	**4.18**	**77**	P	**Pn**	**15 43 42.0**	**0.0**
MCK	**McKinley**	**4.28**	**25**	P	**Pn**	**15 43 43.5**	**+0.2**
PAX	**Paxson**	**4.73**	**47**	P	**Pn**	**15 43 49.0**	**-0.5**
WRH	**Wood River Hil**	**5.11**	**25**	P	**Pn**	**15 43 53.9**	**-0.5**
MLY	**Manley**	**5.23**	**11**	P	**Pn**	**15 43 56.0**	**-0.2**
CCB	**Clear Creek Bu**	**5.32**	**25**	P	**Pn**	**15 43 56.5**	**-0.9**
BALM	**Baldy**	**5.39**	**74**	P	**Pn**	**15 43 58.8**	**+0.3**
COLA	**College**	**5.51**	**24**	P	**Pn**	**15 43 59.4**	**-0.5**
IL1	**Eielson Array**	**5.63**	**28**	P	**Pn**	**15 44 00.8**	**-0.8**
ILAR	**Eielson Array**	**5.63**	**28**	P	**Pn**	**15 44 00.6**	**-1.0**
ILAR				S	**Sn**	**15 44 59.7**	**-5.2**
ILAR	**Eielson Array**	**5.63**	**28**	P	**Pn**	**15 44 00.6**	**-1.0**
	1.1nm,0.3s,baz=214,slow=14,SNR=68						
ILAR				S	**Sn**	**15 44 59.7**	**-5.2**
	0.7nm,0.3s,baz=217,slow=15,SNR=8.3						
ILB	**Eielson Array**	**5.63**	**28**	P	**Pn**	**15 44 00.7**	**-0.9**
YKA	**Yellowknife Ar**	**18.48**	**65**	P	**P**	**15 46 48.0**	**+0.8**
YKA	**Yellowknife Ar**	**18.48**	**65**	P	**P**	**15 46 48.0**	**+0.8**
	0.1nm,0.3s,baz=277,slow=9.9,SNR=16						
FX1	**Attu Island--F**	**19.82**	**264**	LR	LR	15 55 10.5	
	comp=Z,102nm,19.1s,baz=172,slow=38						
ARCES	**ARCESS Array B**	**50.83**	**1**	LR	LR	16 13 30.3	
	comp=Z,52nm,18.2s,baz=165,slow=37						
SONM	**Songino Array**	**54.83**	**306**	P	**P**	**15 51 59.8**	**+1.2**
SONM	**Songino Array**	**54.83**	**306**	P	**P**	**15 51 59.8**	**+1.2**
	0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.05**	**5**	P	P	16 18 57.8	+0.3
	0.1nm,0.3s,baz=191,slow=9.2,SNR=2.9						
H08S2	**Diego Garcia H**	**26.02**	**252**	T	T	16 47 37.5	
	baz=72,slow=75,SNR=64						
H08S3	**Diego Garcia H**	**26.02**	**252**	T	T	16 47 37.7	
	baz=72,slow=75,SNR=96						
H08S1	**Diego Garcia H**	**26.04**	**252**	T	T	16 47 10.5	
	baz=72,slow=75,SNR=85						
H01W3	**Cape Leeuwin H**	**38.42**	**158**	T	T	17 02 56.0	
	baz=320,slow=75,SNR=2.9						
H01W2	**Cape Leeuwin H**	**38.43**	**158**	T	T	17 02 54.9	
	baz=320,slow=75,SNR=3.6						
H01W1	**Cape Leeuwin H**	**38.44**	**158**	T	T	17 03 00.6	
	baz=320						
WRA	**Warramunga Arr**	**41.48**	**121**	P	P	16 22 33.1	-0.5
	0.3nm,0.7s,baz=301,slow=9.0,SNR=4.2						
ASAR	**Alice Springs**	**42.78**	**126**	P	P	16 22 44.5	+0.3
	0.5nm,1.1s,baz=296,slow=7.7,SNR=5.3						
MKAR	**Makanchi Array**	**48.09**	**346**	P	P	16 23 25.3	-0.6
	0.3nm,0.5s,baz=154,slow=8.2,SNR=5.4						
KURBB	**Kurchatov Arra**	**52.57**	**345**	P	P	16 23 59.8	0.0
	0.2nm,0.5s,baz=161,slow=7.1,SNR=4.4						

*IDC **25** 16:22:20.7±0.6,55°.57S×26°.80W,h0km,mb4.3/7, mb1 4.2/8,mb1mx4.1/18,mbtmp4.2/8,ML3.1/1,MS3.6/4, Ms1 3.6/4,ms1mx3.4/21,Error ellipse: s-maj=23.8km s-min=18.8km az=76.0*

*ISCJB **25** 16:22:22.0±0.6,55°.57S±0°.10×26°.8W±0°.2,h25km,mb4.4/9, MS3.8/3,Error ellipse: s-maj=18.0km s-min=12.8km az=153.9*

*NEIC **25** 16:22:21.9±0.3,55°.57S×26°.91W,h10km,mb4.6/5,Error ellipse: s-maj=11.5km s-min=8.6km az=60.0*

ISC 25 16:22:24.3±0.6,55°.6S±0°.1×26°.9W±0°.1,h25km,n37, σ0^{6}2/35,mb4.5/9,MS3.9/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.10**	**157**	P	**P**	**16 26 44.7**	**-0.2**
	0.2nm,0.8s						
SNAA				PcP	**PcP**	**16 31 09.1**	**+1.0**
SNAA	**Sanae**	**19.10**	**157**	P	**P**	**16 26 44.7**	**-0.2**
	0.1nm,0.3s,baz=327,slow=10,SNR=13						
SNAA				PcP	**PcP**	**16 31 09.1**	**+1.0**
	0.1nm,0.3s,baz=268,slow=3.5,SNR=5.8						
SNAA				LR	LR	16 32 29.2	
	comp=Z,42nm,21.2s,baz=231,slow=32						
USHA	**Ushuaia**	**23.48**	**254**	LR	LR	16 34 48.5	
	comp=Z,199nm,19.7s,baz=10,slow=32						
QSPA	**South Pole Qui**	**34.67**	**180**	*eP*	**P**	**16 29 11.3**	**-0.2**
	11nm,1.3s						
QSPA	**South Pole Qui**	**34.67**	**180**	P	**P**	**16 29 11.7**	**+0.1**
	2.9nm,0.6s,baz=204,slow=3.6,SNR=29						
CFAA	**Coronel Fontan**	**37.55**	**292**	P	**P**	**16 29 35.6**	**-0.6**
CFAA	**Coronel Fontan**	**37.55**	**292**	P	**P**	**16 29 35.6**	**-0.6**
	0.6nm,0.8s,baz=151,slow=7.5,SNR=13						
LVC	**Limon Verde**	**45.22**	**299**	*eP*	**P**	**16 30 38.4**	**-1.2**
	13nm,1.2s						
BOSA	**Boshof**	**45.68**	**76**	P	**P**	**16 30 42.0**	**-0.9**
BOSA	**Boshof**	**45.68**	**76**	P	**P**	**16 30 42.0**	**-0.9**
	4.1nm,0.9s,baz=186,slow=1.8,SNR=4.3						
BOSA				LR	LR	16 47 45.2	
	comp=Z,130nm,18.0s,baz=156,slow=33						
VNDA	**Vanda**	**47.06**	**183**	*eP*	**P**	**16 30 52.6**	**-0.5**
	5.0nm,1.0s						
VNDA	**Vanda**	**47.06**	**183**	P	**P**	**16 30 52.8**	**-0.2**
	4.2nm,0.8s,baz=200,slow=5.4,SNR=13						
H10S2	**ASCENSION HYDR**	**47.49**	**16**	T	T	17 22 13.4	
	baz=181,slow=75,SNR=10.0						
H10S3	**ASCENSION HYDR**	**47.50**	**16**	T	T	17 22 17.3	
	baz=181,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**47.51**	**16**	T	T	17 22 10.7	
	baz=181,slow=75,SNR=11						
LPAZ	**La Paz**	**50.26**	**305**	*eP*	**P**	**16 31 19.2**	**+0.2**
	12nm,1.3s						
LPAZ	**La Paz**	**50.26**	**305**	P	**P**	**16 31 19.9**	**+0.9**
	4.3nm,0.9s,baz=145,slow=6.9,SNR=11						
SAML	**Samuel**	**54.60**	**314**	*eP*	**P**	**16 31 49.9**	**-0.6**
	6.4nm,1.6s						
DBIC	**Dimbokro**	**64.66**	**24**	P	**P**	**16 32 59.5**	**-0.3**
DBIC	**Dimbokro**	**64.66**	**24**	P	**P**	**16 32 59.5**	**-0.3**
	2.6nm,0.8s,baz=178,slow=9.2,SNR=3.7						
DBIC				LR	LR	16 54 15.5	
	comp=Z,79nm,18.1s,baz=360,slow=30						
TOA0	**Torodi Ar. Sit**	**72.55**	**29**	*eP*	**P**	**16 33 48.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**72.55**	**29**	P	**P**	**16 33 49.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**72.55**	**29**	P	**P**	**16 33 49.4**	**+0.4**
	6.4nm,0.8s,baz=200,slow=6.6,SNR=37						
CMAR	**Chiang Mai Arr**	**125.06**	**110**	PKP	**PKPdf**	**16 41 21.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**125.06**	**110**	PKP	**PKPdf**	**16 41 21.8**	**-0.4**
	1.0nm,0.8s,baz=234,slow=3.1,SNR=8.2						
BVAR	**Borovoye Array**	**134.37**	**57**	PKP	**PKPdf**	**16 41 39.4**	**+0.6**
BVAR	**Borovoye Array**	**134.37**	**57**	PKP	**PKPdf**	**16 41 39.4**	**+0.6**
	1.8nm,0.8s,baz=211,slow=1.7,SNR=7.0						
YKA	**Yellowknife Ar**	**135.94**	**318**	PKP	**PKPdf**	**16 41 41.6**	**+0.3**
YKA	**Yellowknife Ar**	**135.94**	**318**	PKP	**PKPdf**	**16 41 41.6**	**+0.3**
	0.4nm,0.7s,baz=122,slow=2.0,SNR=7.9						
MKAR	**Makanchi Array**	**136.56**	**71**	PKP	**PKPdf**	**16 41 43.9**	**+0.8**
MKAR	**Makanchi Array**	**136.56**	**71**	PKP	**PKPdf**	**16 41 43.9**	**+0.8**
	0.5nm,0.8s,baz=236,slow=3.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**136.93**	**64**	PKP	**PKPdf**	**16 41 44.3**	**+0.7**
	0.9nm,1.2s,baz=228,slow=3.0,SNR=5.1						
KURK	**Kurchatov**	**137.03**	**64**	PKP	**PKPdf**	**16 41 44.3**	**+0.5**
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKPbc**	**16 42 11.3**	**+0.6**
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKPbc**	**16 42 11.3**	**+0.6**
	5.0nm,0.9s,baz=124,slow=1.5,SNR=26						
SONM	**Songino Array**	**150.51**	**85**	PKPbc	**PKPbc**	**16 42 13.1**	**+0.2**
SONM	**Songino Array**	**150.51**	**85**	PKPbc	**PKPbc**	**16 42 13.1**	**+0.2**
	3.5nm,0.9s,baz=220,slow=2.8,SNR=16						

*DJA **25** 16:25:59.7±2.2,6°.5S×158°.1E±2°.4,h10km,M5.5/10, mb5.2/10,mB5.6/4,MLv5.7/1,Mw(mB)5.2/4*

*IDC **25** 16:26:26.4±2.8,6°.17S×147°.29E,h20km±17km,mb4.1/20, mb1 4.2/23,mb1mx4.2/26,mbtmp4.1/23,ML4.0/3,MS3.8/9, Ms1 3.8/9,ms1mx3.5/24,Error ellipse: s-maj=19.7km s-min=9.7km az=98.0*

*ISCJB **25** 16:26:30.8±0.4,6°.27S±0°.04×147°.43E±0°.06,h77km, mb4.2/22,Error ellipse: s-maj=9.2km s-min=5.8km az=0.8*

*AUST **25** 16:26:31.4±0.5,6°.43S×147°.50E,h49km,Error ellipse: s-maj=1.1km s-min=1.0km az=38.0*

ISC 25 16:26:32.6±0.5,6°.30S±0°.06×147°.40E±0°.09,h77km,n63, σ1^{9}49/57,mb4.3/21,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.09**	**184**	P	**Pn**	**16 27 16.9**	**-2.3**
	2um,0.7s,14um6.4nm						
PMG	**Port Moresby**	**3.09**	**184**	Pn	**Pn**	**16 27 16.3**	**-3.0**
	21nm,0.3s,baz=9.7,slow=5.9,SNR=114						
PMG				Sn	**Sn**	**16 27 56.1**	**+0.9**
	35nm,0.3s,baz=199,slow=22,SNR=6.7						
PMG	**Port Moresby**	**3.09**	**184**	P	**Pn**	**16 27 16.3**	**-3.0**
	baz=3.0,SNR=109						
PMG				P	**Pn**	**16 27 16.3**	**-3.0**
	baz=3.0,SNR=109						
PMG				P	**Pn**	**16 27 16.3**	**-3.0**
	baz=3.0,SNR=109						
RABL	**Rabaul**	**5.18**	**66**	P	**Pn**	**16 27 46.0**	**-1.8**
	baz=5.2,SNR=31						
GENI	**Genyem**	**8.10**	**297**	P	Pn	16 28 40.7	+13
	89nm,0.7s						
COEN	**Coen**	**8.67**	**208**	P	**Pn**	**16 28 33.2**	**-2.1**
	baz=8.6,SNR=35						
SRPI	**Serui, Papua**	**11.97**	**291**	P	Pn	16 29 25.6	+5.2
	62nm,0.6s						
HNR	**Honiara**	**12.81**	**105**	LR	LR	16 33 07.0	
	comp=Z,161nm,18.1s,baz=320,slow=31						
CTA	**Charters Tower**	**13.75**	**185**	Pn	**Pn**	**16 29 42.4**	**-1.9**
	0.5nm,0.3s,baz=8.6,slow=15,SNR=20						
CTA				LR	LR	16 34 52.4	
	comp=Z,550nm,20.7s,baz=249,slow=36						
FAKI	**Fak Fak**	**15.47**	**282**	P	**P**	**16 30 09.0**	**-0.4**
	baz=16,SNR=5.0						
KDU	**Kakadu**	**16.03**	**246**	P	**Pn**	**16 30 12.4**	**-1.1**
	baz=16,SNR=18						
QIS	**Mount Isa**	**16.06**	**207**	P	**Pn**	**16 30 13.6**	**-0.3**
	baz=16,SNR=7.8						
SWI	**Sorong**	**16.99**	**288**	P	P	16 30 31.6	+5.4
	56nm,0.9s						
WRA	**Warramunga Arr**	**18.57**	**222**	P	**P**	**16 30 42.6**	**-1.0**
	1.2nm,0.3s,baz=51,slow=10,SNR=49						
WRA				PcP	**PcP**	**16 35 12.1**	**+1.9**
	0.1nm,0.3s,baz=27,slow=1.7,SNR=5.7						
WRA				LR	LR	16 38 17.6	
	comp=Z,140nm,18.9s,baz=40,slow=38						
WRA				ScP	ScP	16 38 46.6	+7.4
	0.1nm,0.3s,baz=27,slow=2.3,SNR=6.8						
EIDS	**Eidsvold**	**19.29**	**170**	P	**Pn**	**16 30 53.5**	**+0.4**
	baz=19,SNR=14						
RMQ	**Roma**	**20.11**	**176**	P	Pn	16 31 02.5	-0.4
	baz=20,SNR=5.1						
QLP	**Quilpie**	**20.39**	**188**	P	**P**	**16 31 04.1**	**+0.7**
	baz=20,SNR=64						
KNRA	**Kununurra**	**20.52**	**241**	P	**P**	**16 31 04.2**	**-0.5**
	baz=21,SNR=17						
LBMI	**Labuha**	**20.64**	**285**	P	Pn	16 31 11.1	+2.0
	48nm,1.0s						
ASAR	**Alice Springs**	**21.60**	**216**	P	**P**	**16 31 16.1**	**-0.3**
	5.3nm,0.6s,baz=51,slow=8.9,SNR=44						
ASAR				S	**S**	**16 35 15.1**	**+3.3**
	1.6nm,0.9s,baz=44,slow=22,SNR=5.8						
ASAR				ScP	ScP	16 38 53.8	+7.5
	2.6nm,1.0s,baz=56,slow=2.5,SNR=8.6						
ASAR				LR	LR	16 40 10.6	
	comp=Z,345nm,19.2s,baz=35,slow=38						
SOEI	**Soe**	**23.16**	**260**	P	P	16 31 42.0	+9.0
	baz=23,SNR=4.6						
FITZ	**Fitzroy Crossi**	**24.25**	**239**	P	**P**	**16 31 42.8**	**+0.1**
	8.1nm,0.4s,baz=61,slow=8.6,SNR=31						
FITZ				LR	LR	16 42 50.8	
	comp=Z,228nm,19.2s,baz=64,slow=41						
FITZ	**Fitzroy Crossi**	**24.25**	**239**	P	**P**	**16 31 42.8**	**+0.1**
	baz=24,SNR=38						
ARMA	**Armidale**	**24.32**	**171**	P	**P**	**16 31 40.3**	**-3.0**
	baz=24,SNR=12						
KMSI	**Cibinong**	**24.36**	**285**	P	P	16 31 50.3	+6.6
LUWI	**Luwuk**	**25.12**	**281**	P	**P**	**16 31 52.0**	**+1.4**
	125nm,1.1s,1μm						
LUWI	**Luwuk**	**25.12**	**281**	P	**P**	**16 31 51.6**	**+0.9**
	baz=25,SNR=7.0						
CMSA	**Cobar Meteorol**	**25.16**	**183**	P	**P**	**16 31 52.3**	**+1.5**
	baz=25,SNR=8.8						
GTOI	**Gorontalo**	**25.30**	**285**	P	**P**	**16 31 53.9**	**+1.6**
	81nm,0.7s,801nm						
STKA	**Stephens Creek**	**26.02**	**191**	P	**P**	**16 31 59.5**	**+0.9**
	4.9nm,0.6s,baz=6.3,slow=7.8,SNR=14						
STKA				LR	LR	16 42 52.9	
	comp=Z,340nm,19.6s,baz=25,slow=38						
STKA	**Stephens Creek**	**26.02**	**191**	P	**P**	**16 32 01.2**	**+2.6**
	baz=26,SNR=10						
WRKA	**Warakurna**	**26.11**	**222**	P	**P**	**16 31 58.9**	**-0.7**
	baz=26,SNR=47						
APSI	**Ampana**	**26.25**	**281**	P	**P**	**16 32 01.9**	**+1.1**
HTT	**Hallett**	**28.12**	**195**	P	P	16 32 22.0	+4.5
	baz=28,SNR=6.9						
JCJ	**Chichijima**	**33.58**	**352**	LR	LR	16 43 42.2	
	comp=Z,474nm,20.1s,baz=6.0,slow=31						
MEEK	**Meekatharra**	**34.07**	**230**	P	**P**	**16 33 09.9**	**0.0**
	baz=34,SNR=19						
MORW	**Morawa**	**37.27**	**229**	P	P	16 33 40.3	+3.1
	baz=37,SNR=4.4						
KLBR	**Kellerberrin**	**37.43**	**224**	P	**P**	**16 33 38.9**	**+0.3**
	baz=38,SNR=9.4						
NWAO	**Narrogin (SRO)**	**38.58**	**223**	P	**P**	**16 33 48.3**	**+0.1**
	3.4nm,0.7s,baz=53,slow=7.8,SNR=3.1						
CISI	**Cisompet, Garu**	**39.31**	**266**	P	**P**	**16 33 55.0**	**+0.4**
	baz=39,SNR=4.1						
RPZ	**Rata Peaks**	**42.67**	**155**	P	**P**	**16 34 23.3**	**+1.5**
	5.6nm,0.6s,baz=152,slow=7.8,SNR=6.5						
MJAR	**Matsushiro Arr**	**43.48**	**349**	P	**P**	**16 34 27.5**	**-0.9**
	4.0nm,1.0s,baz=178,slow=6.4,SNR=7.0						
MJAR				LR	LR	16 50 50.7	
	comp=Z,65nm,21.0s,baz=160,slow=34						
KSRS	**Korea Array**	**47.17**	**339**	P	**P**	**16 34 56.4**	**-1.2**
	1.5nm,0.8s,baz=159,slow=8.7,SNR=5.8						
KSRS				LR	LR	16 51 44.5	
	comp=Z,71nm,18.8s,baz=158,slow=32						
PSI	**Prapat**	**49.24**	**279**	P	**P**	**16 35 13.1**	**-1.0**
	4.9nm,0.3s,baz=269,slow=8.3,SNR=4.0						
USRK	**Ussuriysk Arra**	**52.16**	**346**	P	**P**	**16 35 35.0**	**-0.2**
	2.1nm,0.6s,baz=166,slow=6.3,SNR=5.5						
CMAR	**Chiang Mai Arr**	**53.74**	**298**	P	**P**	**16 35 47.9**	**+0.4**
	0.4nm,0.6s,baz=129,slow=6.4,SNR=6.9						
PETK	**Petropavlovsk-**	**59.83**	**7**	P	**P**	**16 36 30.6**	**+0.8**
	1.1nm,0.5s,baz=175,slow=8.2,SNR=7.5						
SONM	**Songino Array**	**64.86**	**331**	P	**P**	**16 37 03.4**	**-0.4**
	0.9nm,0.6s,baz=136,slow=4.1,SNR=11						
VNDA	**Vanda**	**71.59**	**177**	P	**P**	**16 37 46.2**	**+1.1**
	1.8nm,0.5s,baz=316,slow=5.5,SNR=21						
MKAR	**Makanchi Array**	**77.98**	**320**	P	**P**	**16 38 22.2**	**-0.5**
	1.0nm,0.6s,baz=99,slow=6.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**79.48**	**328**	P	**P**	**16 38 29.3**	**-1.4**
	2.1nm,0.6s,baz=112,slow=5.6,SNR=11						
KURBB	**Kurchatov Arra**	**81.71**	**323**	P	**P**	**16 38 41.1**	**-1.6**
	0.7nm,0.7s,baz=116,slow=4.1,SNR=7.4						
QSPA	**South Pole Qui**	**83.67**	**180**	P	**P**	**16 38 53.5**	**+0.8**
	7.7nm,0.6s,baz=315,slow=0.7,SNR=119						
ILAR	**Eielson Array**	**85.60**	**23**	P	**P**	**16 39 02.1**	**-0.2**
	0.6nm,0.6s,baz=254,slow=4.7,SNR=14						
BVAR	**Borovoye Array**	**87.25**	**324**	P	**P**	**16 39 09.3**	**-1.3**
	1.9nm,0.6s,baz=108,slow=4.8,SNR=7.8						
YKA	**Yellowknife Ar**	**99.25**	**28**	P	**Pdif**	**16 40 07.8**	**+2.2**
	0.2nm,1.0s,baz=266,slow=3.7,SNR=3.0						
GERES	**GERESS Array B**	**122.38**	**326**	PKP	**PKPdf**	**16 45 18.9**	**-0.3**
	0.4nm,0.5s,baz=15,slow=4.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**145.55**	**284**	PKPbc	**PKPab**	**16 46 03.7**	**0.0**
	14nm,0.6s,baz=66,slow=3.8,SNR=110						
KIC	**Kosan Boka**	**152.31**	**272**	*e*PKIKP	**PKPbc**	**16 46 21.8**	**+0.9**
	15nm,0.7s						
DBIC	**Dimbokro**	**152.44**	**272**	PKPbc	**PKPbc**	**16 46 22.1**	**+1.0**
	4.1nm,0.5s,baz=61,slow=2.6,SNR=13						
LIC	**Lamto**	**152.60**	**271**	*e*PKIKP	**PKPbc**	**16 46 22.3**	**+0.8**
	12nm,0.4s						
TIC	**Toumodi**	**152.60**	**272**	*e*PKIKP	**PKPbc**	**16 46 21.8**	**+0.3**
	6.6nm,0.4s						
BDFB	**Brasilia**	**153.38**	**145**	PKPbc	**PKPbc**	**16 46 24.4**	**+1.1**
	6.7nm,0.5s,baz=339,slow=2.0,SNR=17						

*ISCJB **25** 16:26:48.8±0.6,37°.62N±0°.05×72°.4E±0°.1,h176km, mb3.3/2,Error ellipse: s-maj=12.4km s-min=4.7km az=157.1*

*IDC **25** 16:26:48.1±7.4,37°.47N×72°.49E,h154km±55km,mb3.1/2, mb1 3.0/6,mb1mx2.8/29,mbtmp3.0/6,MS3.5/1,Ms1 3.5/1, ms1mx2.5/16,Error ellipse: s-maj=86.8km s-min=31.5km az=148.0*

*NNC **25** 16:26:50.0±14.0,37°.76N×71°.56E,h60km±384km,mb3.9, mpv3.9,Error ellipse: s-maj=111.4km s-min=93.3km az=7.0*

ISC 25 16:26:48.4±1.1,37°.62N±0°.09×72°.4E±0°.1,h176km,n31, σ1^{9}64/30,6C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.62**	**12**	P	**Pn**	**16 27 58.7**	**+1.1**
	SNR=23						
UCH	**Uchtor**	**4.89**	**19**	P	**Pn**	**16 28 02.3**	**+1.1**
	SNR=17						
KZA	**Kyzart**	**4.97**	**26**	⇑P	**Pn**	**16 28 02.9**	**+0.7**
	SNR=6.8						
EKS2	**Erkin-Say**	**5.15**	**12**	P	**Pn**	**16 28 05.6**	**+1.4**
	SNR=41						
AAK	**Ala-Archa**	**5.26**	**17**	P	**Pn**	**16 28 07.4**	**+1.6**
	SNR=20						
AAK	**Ala-Archa**	**5.26**	**17**	⇑P	**Pn**	**16 28 07.1**	**+1.4**
	11nm,0.5s						
AAK				⇑S	**Sn**	**16 29 04.8**	**-1.8**
	11nm,0.5s						
KK31	**Karatay Array**	**5.66**	**346**	⇑P	**Pn**	**16 28 11.8**	**+1.0**
	12nm,0.3s,baz=180,slow=19,SNR=232						
KK31				S	**Sn**	**16 29 11.4**	**-4.2**
	7.1nm,0.2s,baz=180,slow=25,SNR=20						
CHMS	**Chumysh**	**5.67**	**18**	P	**Pn**	**16 28 12.5**	**+1.5**
	SNR=7.4						
TKM2	**Tokmak 2**	**5.84**	**24**	⇓P	**Pn**	**16 28 14.4**	**+1.1**
	2.0nm,0.6s						
MKAR	**Makanchi Array**	**11.74**	**36**	P	**Pn**	**16 29 31.7**	**+1.2**
	0.0nm,0.3s,baz=218,slow=11,SNR=3.5						
PYUN	**Puthan**	**13.02**	**134**	*eP*	**Pn**	**16 29 47.1**	**0.0**
	16nm,0.4s						
DANN	**Dangsing**	**13.29**	**131**	*eP*	**Pn**	**16 29 50.0**	**-0.6**
KOLN	**Koldanda**	**13.62**	**133**	*eP*	**P**	**16 29 55.2**	**-2.5**
	7.5nm,0.5s						
KURBB	**Kurchatov Arra**	**13.72**	**17**	P	**P**	**16 29 59.0**	**+0.5**
	0.2nm,0.3s,baz=206,slow=10,SNR=8.4						
GKN	**Gorkha**	**14.07**	**129**	*eP*	**P**	**16 30 00.9**	**-1.8**
	14nm,0.4s						
KKN	**Kakani**	**14.62**	**128**	*eP*	**P**	**16 30 07.6**	**-1.2**
	5.2nm,0.4s						
DMN	**Daman**	**14.64**	**129**	*eP*	**P**	**16 30 08.3**	**-0.8**
AB31	**Akbulak array**	**14.70**	**326**	⇑P	**P**	**16 30 08.7**	**-0.6**
	1.0nm,0.4s,baz=134,slow=13,SNR=54						
AB31				⇑S	Sn	16 32 44.4	-7.0
	0.5nm,0.5s,baz=162,slow=22,SNR=2.9						
PKIN	**Phulchoki**	**14.84**	**129**	*eP*	**P**	**16 30 10.4**	**-1.0**
	8.1nm,0.5s						
PKI	**Pulchoki**	**14.85**	**129**	*eP*	**P**	**16 30 10.4**	**-1.2**
	4.5nm,0.3s						
GUN	**Gumba**	**14.91**	**127**	*eP*	**P**	**16 30 11.7**	**-0.5**
	8.3nm,0.4s						
JIRN	**Jiri**	**15.28**	**127**	*eP*	**P**	**16 30 17.0**	**+0.6**
	21nm,0.4s						
RAMN	**Ramite**	**16.04**	**127**	*eP*	**Pn**	**16 30 24.8**	**+0.2**
	6.0nm,0.4s						
AKTO	**Aktyubinsk**	**16.41**	**326**	P	**Pn**	**16 30 30.8**	**+2.1**
	0.5nm,0.3s,baz=121,slow=17,SNR=7.9						
AKTO	**Aktyubinsk**	**16.41**	**326**	⇓P	**Pn**	**16 30 31.2**	**+2.5**
	3.9nm,1.2s						
TAPN	**Taplejung**	**16.48**	**124**	*eP*	**Pn**	**16 30 31.9**	**+1.9**
ODAN	**Odare**	**16.60**	**126**	*eP*	**Pn**	**16 30 33.7**	**+2.3**
	13nm,0.5s						
ZALV	**Zalesovo Beam**	**18.45**	**24**	P	**Pn**	**16 30 52.0**	**-0.6**
	baz=204,slow=11,SNR=3.0						
USRK	**Ussuriysk Arra**	**44.67**	**62**	LR	LR	16 56 21.5	
	comp=Z,54nm,18.6s,baz=1.6,slow=40						
TORD	**Torodi Ar. Bea**	**66.84**	**269**	P	P	16 37 24.2	+2.7
	0.4nm,0.5s,baz=48,slow=6.1,SNR=8.0						
YKA	**Yellowknife Ar**	**80.07**	**3**	P	P	16 38 41.2	+3.2
	0.2nm,0.4s,baz=350,slow=5.4,SNR=12						

IDC 25 16:34:16.0±3.0,0°.46N×97°.44E,h0km,mb3.3/4,mb1 3.5/5, mb1mx3.4/24,mbtmp3.3/5,ML3.2/1,Error ellipse: s-maj=130.9km s-min=21.7km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.95**	**5**	P	Pn	16 38 26.2	-0.9
	0.0nm,0.3s,baz=198,slow=11,SNR=6.9						
H08S2	**Diego Garcia H**	**26.15**	**252**	T	T	17 06 40.7	
	baz=72,slow=75,SNR=99						
H08S3	**Diego Garcia H**	**26.15**	**252**	T	T	17 06 41.8	
	baz=72,slow=75,SNR=111						
H08S1	**Diego Garcia H**	**26.16**	**252**	T	T	17 06 42.1	
	baz=72,slow=75,SNR=145						
H01W3	**Cape Leeuwin H**	**38.48**	**158**	T	T	17 22 25.0	
	baz=334,slow=76,SNR=4.3						
H01W2	**Cape Leeuwin H**	**38.49**	**158**	T	T	17 22 23.0	
	baz=334,slow=76,SNR=5.6						
H01W1	**Cape Leeuwin H**	**38.49**	**158**	T	T	17 22 23.7	
	baz=334,slow=76,SNR=3.3						
WRA	**Warramunga Arr**	**41.45**	**121**	P	P	16 42 04.9	+0.1
	0.3nm,0.8s,baz=304,slow=9.5,SNR=4.8						
ASAR	**Alice Springs**	**42.76**	**127**	P	P	16 42 15.6	0.0
	0.4nm,1.0s,baz=298,slow=7.6,SNR=3.9						
MKAR	**Makanchi Array**	**48.01**	**346**	P	P	16 42 56.7	-0.2
	0.2nm,0.6s,baz=142,slow=7.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**54.32**	**351**	P	P	16 43 44.7	+0.7
	0.3nm,0.3s,baz=152,slow=6.4,SNR=2.3						
TXAR	**Lajitas Array**	**144.16**	**32**	PKP	PKPab	16 53 51.9	-0.5
	0.2nm,0.8s,baz=315,slow=0.5,SNR=3.4						

*IDC **25** 16:51:27.6±0.9,15°.51S×172°.89W,h0km,mb3.8/8, mb1 4.1/8,mb1mx3.9/21,mbtmp3.8/8,Error ellipse: s-maj=48.9km s-min=19.1km az=139.0*

*ISCJB **25** 16:51:30.0±0.8,15°.3S±0°.2×172°.9W±0°.2,h29km,mb3.7/8, Error ellipse: s-maj=40.4km s-min=9.4km az=43.0*

ISC 25 16:51:31.9±0.9,15°.3S±0°.2×172°.9W±0°.3,h29km,n10, σ1^{9}58/10,mb3.8/8,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.78**	**38**	Pn	Pn	16 51 55.8	-4.9
	29nm,0.3s,baz=181,slow=4.0,SNR=14						
AFI				Sn	**Sn**	**16 52 19.4**	**-3.0**
	86nm,0.3s,baz=98,slow=19,SNR=11						
AFI				LR	LR	16 52 29.5	
	comp=Z,787nm,21.0s,baz=213,slow=32						
URZ	**Urewera**	**24.49**	**199**	P	**P**	**16 56 47.0**	**-1.6**
	3.2nm,0.5s,baz=329,slow=19,SNR

s-min=20.1km az=58.0
*ISCJB **25** 17:37:54.5±2.6, 1.4S±0.4×99.6E±0.6, h30km, mb3.5/5, Error ellipse: s-maj=98.7km s-min=16.3km az=150.3*

ISC 25 17:37:55.7±2.8,**1.5S**±0.4×**99.4E**±0.7,**h30km,n13,**σ0**37**/7,**mb3.5**/5,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** baz=190,slow=10.0,SNR=2.8	**19.86**	**359**	P	**P**	**17 42 24.2**	**-0.2**
H08S2	**Diego Garcia H** baz=78,slow=75,SNR=38	**27.50**	**256**	T	T	18 11 36.0	
H08S3	**Diego Garcia H** baz=78,slow=75,SNR=38	**27.50**	**256**	T	T	18 11 37.4	
H08S1	**Diego Carcia H** baz=78,slow=75,SNR=40	**27.52**	**256**	T	T	18 11 35.0	
H01W3	**Cape Leeuwin H** baz=334,slow=76,SNR=5.6	**35.92**	**159**	T	T	18 22 40.8	
H01W2	**Cape Leeuwin H** baz=334,slow=76,SNR=6.8	**35.93**	**159**	T	T	18 22 42.8	
H01W1	**Cape Leeuwin H** baz=334,slow=76,SNR=5.3	**35.93**	**159**	T	T	18 22 44.8	
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=303,slow=9.2,SNR=9.9	**38.74**	**121**	P	**P**	**17 45 17.5**	**-0.1**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=296,slow=7.3,SNR=7.6	**40.01**	**126**	P	**P**	**17 45 28.4**	**+0.3**
SONM	**Songino Array** 0.4nm,0.9s,baz=188,slow=9.7,SNR=2.4	**49.53**	**6**	P	**P**	**17 46 44.0**	**+0.2**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=157,slow=8.6,SNR=7.0	**50.41**	**345**	P	**P**	**17 46 50.6**	**+0.2**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=172,slow=8.6,SNR=2.7	**56.59**	**350**	P	**P**	**17 47 35.6**	**+0.1**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=299,slow=1.7,SNR=5.7	**144.68**	**36**	PKP	**PKPdf**	**17 57 29.8**	**-0.6**

TAP 25 17:53:07.2,24.44N×121.78E,h12km,ML2.1,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau** baz=248	**0.04**	**254**	*i* P	Pg	17 53 10.0	+0.6
TWC	**Suao** baz=22	**0.18**	**19**	P	Pb	17 53 12.0	-0.5
TWC	baz=22			*e*S	Sg	17 53 14.9	+0.9
ENTT	**Nioudou** baz=315	**0.28**	**315**	P	Pb	17 53 14.3	-0.1
NNS	**Nan Shan** baz=269	**0.38**	**270**	*e*P	Pb	17 53 15.6	-0.4
NNS	baz=269			*e*S	Sg	17 53 20.6	+0.5
TWD	**Chiawan** baz=204	**0.40**	**206**	*e*P	Pg	17 53 15.4	+0.3
NSK	**Sanguang** baz=301	**0.45**	**301**	*e*P	Pb	17 53 17.4	+0.1
NSK	baz=301			*e*S	Sb	17 53 23.9	-0.3
WHF	**Hehuan Shan** baz=237	**0.56**	**238**	*e*P	Pg	17 53 18.6	-0.1
WHF	baz=237			*e*S	Sg	17 53 27.1	+0.6

*NNC **25** 18:09:55.5±0.8, 42.92N×72.36E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=14.0km s-min=4.5km az=6.0*

ISC 25 18:09:55.4±0.9,**42.92N**±0.07×**72.40E**±0.04,**h10km,n22,**σ1**41**/30,**17C-13D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say** SNR=66	**1.04**	**104**	P	**Pg**	**18 10 14.7**	**-0.8**
AML	**Almayashu** SNR=74	**1.24**	**129**	P	**Pn**	**18 10 17.9**	**-1.2**
KK31	**Karatay Array** 5.2nm,0.2s,baz=102,slow=17,SNR=902	**1.40**	**278**	⇓P	**Pg**	**18 10 21.7**	**-0.5**
KK31	36nm,0.3s,baz=106,slow=30,SNR=20			⇑S	**Sg**	**18 10 39.6**	**-0.8**
AAK	**Ala-Archa** SNR=317	**1.57**	**100**	P	**Pb**	**18 10 24.8**	**+0.2**
AAK	**Ala-Archa** 71nm,0.5s	**1.57**	**100**	⇑P	**Pb**	**18 10 24.7**	**+0.2**
AAK	58nm,0.3s			⇑S	**Sb**	**18 10 45.5**	**+1.1**
USP	**Ospenovka** SNR=236	**1.57**	**77**	P	**Pb**	**18 10 24.9**	**+0.3**
UCH	**Uchtor** SNR=117	**1.71**	**113**	P	**Pb**	**18 10 27.0**	**-0.1**
CHMS	**Chumysh** SNR=217	**1.73**	**87**	P	**Pb**	**18 10 27.1**	**-0.1**
KBK	**Karagaybulak** SNR=296	**1.89**	**97**	P	**Pb**	**18 10 30.3**	**+0.2**
KZA	**Kyzart** SNR=88	**2.27**	**111**	P	**Pb**	**18 10 37.5**	**+0.8**
TKM2	**Tokmak 2** SNR=140	**2.34**	**89**	P	**Pb**	**18 10 36.8**	**-1.0**
TKM2	**Tokmak 2** 51nm,0.3s	**2.34**	**89**	⇓Pn	**Pb**	**18 10 36.7**	**-1.2**
TKM2	111nm,0.4s			⇑Sn	**Sb**	**18 11 07.4**	**+0.4**
ULHL	**Ulahol** SNR=60	**2.91**	**102**	P	**Pb**	**18 10 45.5**	**-2.0**
KNDC	**Almaty** 41nm,0.6s	**3.35**	**83**	⇓Pn	**Pb**	**18 10 53.4**	**-1.6**
KNDC	31nm,0.5s			⇑Lg	Lg	18 11 40.5	
MK31	**Makanchi Array** 1.4nm,0.3s,baz=243,slow=17,SNR=72	**8.02**	**58**	⇓Pn	**Pn**	**18 11 53.9**	**+2.0**
MK31	1.4nm,0.5s,baz=241,slow=26,SNR=6.2			⇑Sn	Sn	18 13 36.3	+14
MK31	3.1nm,0.5s			⇑Lg	Lg	18 14 09.4	
KURBB	**Kurchatov Arra** 1.3nm,0.4s	**8.77**	**26**	⇓Pn	**Pn**	**18 12 02.4**	**+0.2**
KURBB	7.1nm,0.6s			⇓Sn	**Sn**	**18 13 41.0**	**0.0**
KURBB	56nm,0.7s			⇓Lg	Lg	18 14 34.0	
KURK	**Kurchatov** 0.3nm,0.4s	**8.88**	**26**	⇑Pn	**Pn**	**18 12 00.6**	**-3.0**
KURK	0.7nm,0.3s			⇑Sn	**Sn**	**18 13 44.0**	**+0.3**
KURK	13nm,0.9s			⇓Lg	Lg	18 14 34.6	
VOSK	**Vostochnaya** 0.5nm,0.3s	**9.85**	**355**	⇓Pn	**Pn**	**18 12 19.7**	**+2.7**
VOSK	2.3nm,0.8s			⇑Sn	**Sn**	**18 14 06.0**	**-1.6**
VOSK	13nm,0.8s			⇑Lg	Lg	18 15 09.7	
BVA0	**Borovoye Array** 1.1nm,0.7s,baz=151,slow=12,SNR=7.5	**10.20**	**353**	⇑Pn	**Pn**	**18 12 24.3**	**+2.6**
BVA0	1.0nm,0.4s,baz=163,slow=25,SNR=2.8			⇑Sn	**Sn**	**18 14 16.1**	**0.0**
BVA0	11nm,1.4s			⇓Lg	Lg	18 15 19.3	
BRVK	**Borovoye** 2.0nm,0.8s	**10.24**	**353**	⇓Pn	Pn	18 12 25.1	+2.9
BRVK	2.5nm,0.6s			⇑Sn	**Sn**	**18 14 17.4**	**+0.4**
BRVK	13nm,0.9s			⇑Lg	Lg	18 15 20.9	
AB31	**Akbulak array** 0.3nm,0.5s,baz=116,slow=14,SNR=9.6	**10.72**	**311**	⇑Pn	**Pn**	**18 12 30.5**	**+1.7**
AB31	1.0nm,0.7s			⇓Sn	**Sn**	**18 14 27.5**	**-1.3**
AKTO	**Aktyubinsk** 3.2nm,1.1s	**12.40**	**312**	⇓Pn	Pn	18 12 56.7	+4.9
AKTO	1.5nm,0.7s			⇑Sn	**Sn**	**18 15 07.7**	**-2.2**

*CSEM **25** 18:16:31.5±0.3, 32.06N×6.80W, h5km, mb3.8, Error ellipse: s-maj=8.2km s-min=6.1km az=136.0*
*ISCJB **25** 18:16:32.6±0.8, 32.13N±0.04×6.79W±0.05, h25km±6km, Error ellipse: s-maj=7.9km s-min=6.4km az=26.7*
*CNRM **25** 18:16:32.9, 31.89N×6.65W, h2km, MD2.8*
*MDD **25** 18:16:32.5±0.8, 31.95N×6.73W, h6km±6km, mb3.8/5, Error ellipse: s-maj=11.4km s-min=5.3km az=139.0, PRXIMO SIN SOLUCIN*

ISC 25 18:16:31.9±1.1,**32.01N**±0.05×**6.74W**±0.04,**h15km**±9km,**n20,**σ0**93**/40,**Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZC	**Tazercounte**	**0.26**	**57**	P	**Pg**	**18 16 37.0**	**-0.7**
TZC				S	**Sb**	**18 16 43.0**	**+0.3**
TZC	**Tazercounte**	**0.26**	**57**	P	**Pg**	**18 16 37.0**	**-0.7**
TZC				S	**Sb**	**18 16 43.0**	**+0.3**
KIB	**El Ksiba**	**0.82**	**46**	P	**Pg**	**18 16 48.0**	**0.0**
KIB				S	**Sb**	**18 17 00.1**	**+1.2**
KIB	**El Ksiba**	**0.82**	**46**	P	**Pg**	**18 16 48.0**	**0.0**
KIB				S	**Sb**	**18 17 00.1**	**+1.2**
OUK	**Oukaimeden**	**1.25**	**231**	P	**Pn**	**18 16 55.0**	**-0.1**
OUK				S	**Sg**	**18 17 13.0**	**+0.7**
OUK	**Oukaimeden**	**1.25**	**231**	P	**Pn**	**18 16 55.0**	**-0.1**
OUK				S	**Sg**	**18 17 13.0**	**+0.7**
CZD	**Col de Zad**	**1.76**	**54**	P	**Pb**	**18 17 04.0**	**-0.1**
CZD				S	**Sn**	**18 17 25.0**	**+0.6**
CZD	**Col de Zad**	**1.76**	**54**	P	**Pb**	**18 17 04.0**	**-0.1**
CZD				S	**Sn**	**18 17 25.0**	**+0.6**
ZFT	**Errachidia**	**2.03**	**89**	P	**Pn**	**18 17 06.0**	**+0.2**
ZFT				S	**Sn**	**18 17 30.0**	**-1.0**
ZFT	**Errachidia**	**2.03**	**89**	P	**Pn**	**18 17 06.0**	**+0.2**
ZFT				S	**Sn**	**18 17 30.0**	**-1.0**
PFVI	**Vila Bisbo** 0.8nm,0.1s,SNR=7.9	**5.39**	**342**	P	**Pn**	**18 17 53.0**	**+1.2**
PFVI	2.0nm,0.1s,SNR=7.9			S	**Sn**	**18 18 53.3**	**-0.3**
PFVI	**Vila Bisbo** 0.8nm,0.1s,SNR=7.9	**5.39**	**342**	P	**Pn**	**18 17 53.0**	**+1.2**
PFVI	2.0nm,0.1s,SNR=7.9			S	**Sn**	**18 18 53.3**	**-0.3**
EGRO	**El Granado** 0.2nm,0.1s,SNR=7.9	**5.55**	**354**	P	**Pn**	**18 17 54.7**	**+0.8**
EGRO	0.5nm,0.1s,SNR=7.9			S	**Sn**	**18 18 57.0**	**-0.3**
EGRO	**El Granado** 0.2nm,0.1s,SNR=7.9	**5.55**	**354**	P	**Pn**	**18 17 54.7**	**+0.8**
EGRO	0.5nm,0.1s,SNR=7.9			S	**Sn**	**18 18 57.0**	**-0.3**
EMIN	**Mina Concepcio** 0.4nm,0.1s,SNR=7.9	**5.75**	**1**	P	**Pn**	**18 17 56.6**	**0.0**
EMIN	0.2nm,0.1s,SNR=7.9			S	**Sn**	**18 19 00.5**	**-1.7**
EMIN	**Mina Concepcio** 0.4nm,0.1s,SNR=7.9	**5.75**	**1**	P	**Pn**	**18 17 56.6**	**0.0**
EMIN	0.2nm,0.1s,SNR=7.9			S	**Sn**	**18 19 00.5**	**-1.7**
ECAB	**El Cabril** 0.2nm,0.1s,SNR=7.9	**6.15**	**10**	P	**Pn**	**18 18 02.2**	**0.0**
ECAB	0.1nm,0.1s,SNR=7.9			S	**Sn**	**18 19 11.2**	**-1.1**
ECAB	**El Cabril** 0.2nm,0.1s,SNR=7.9	**6.15**	**10**	P	**Pn**	**18 18 02.2**	**0.0**
ECAB	0.1nm,0.1s,SNR=7.9			S	**Sn**	**18 19 11.2**	**-1.1**
EBAD	**Badajoz** 0.4nm,0.1s,SNR=8.2	**6.74**	**358**	P	**Pn**	**18 18 10.6**	**+0.4**
EBAD	0.7nm,0.2s,SNR=7.9			S	**Sn**	**18 19 24.4**	**-2.3**
EBAD	**Badajoz** 0.4nm,0.1s,SNR=8.2	**6.74**	**358**	P	**Pn**	**18 18 10.6**	**+0.4**
EBAD	0.7nm,0.2s,SNR=7.9			S	**Sn**	**18 19 24.4**	**-2.3**

*ISCJB **25** 18:17:48.3±0.8, 18.9N±0.1×145.6E±0.2, h214km, mb3.2/10, Error ellipse: s-maj=31.1km s-min=16.2km az=2.9*
*IDC **25** 18:17:56.9±5.8, 18.89N×145.52E, h283km±58km, mb3.0/10, mb1 3.2/11, mb1mx3.0/27, mbtmp3.0/11, Error ellipse: s-maj=29.4km s-min=14.3km az=92.0*

ISC 25 18:17:50.0±1.0,**18.9N**±0.1×**145.6E**±0.3,**h214km,n11,**σ1**03**/11,**mb3.2**/10,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=169,slow=10,SNR=5.2	**18.69**	**341**	P	**Pn**	**18 21 54.9**	**-0.3**
WRA	**Warramunga Arr** 0.4nm,1.0s,baz=21,slow=8.9,SNR=3.4	**40.18**	**196**	P	**P**	**18 25 06.9**	**+1.3**
SONM	**Songino Array** 0.2nm,0.5s,baz=134,slow=9.1,SNR=2.6	**42.87**	**321**	P	**P**	**18 25 28.0**	**+0.7**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=4.9,slow=8.1,SNR=3.8	**43.85**	**196**	P	**P**	**18 25 34.0**	**-1.3**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=97,slow=7.2,SNR=5.1	**61.05**	**318**	P	**P**	**18 27 41.1**	**0.0**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=269,slow=4.8,SNR=4.7	**63.48**	**26**	P	**P**	**18 27 56.4**	**-0.6**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=84,slow=7.7,SNR=3.5	**66.20**	**320**	P	**P**	**18 28 14.5**	**-0.2**
INK	**Inuvik** 0.9nm,1.0s,baz=243,slow=14,SNR=2.9	**69.20**	**23**	P	**P**	**18 28 33.4**	**+0.4**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=288,slow=5.3,SNR=9.3	**77.83**	**28**	P	**P**	**18 29 24.0**	**+0.5**
ARCES	**ARCESS Array B** 5.9nm,1.0s,baz=57,slow=6.2,SNR=2.8	**82.22**	**342**	P	**P**	**18 29 47.6**	**+0.7**
FINES	**FINESS Array B** 3.7nm,1.0s,baz=72,slow=5.8,SNR=8.8	**86.61**	**335**	P	**P**	**18 30 07.1**	**-1.8**

IDC 25 18:27:05.1±1.7,**21.07N**×**143.70E,h0km,mb3.5/5,mb1 3.9**/5,**mb1mx3.5**/24,**mbtmp3.5**/5,**Error ellipse: s-maj=161.6km s-min=21.7km az=111.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=16,slow=9.0,SNR=3.2	**41.77**	**193**	P	P	18 34 56.5	+0.1
ASAR	**Alice Springs** 0.3nm,0.7s,baz=16,slow=7.9,SNR=6.3	**45.48**	**193**	P	P	18 35 25.7	-0.5
ILAR	**Eielson Array** 0.4nm,0.7s,baz=258,slow=5.3,SNR=3.6	**62.38**	**27**	P	P	18 37 28.5	-0.9
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=291,slow=5.7,SNR=12	**76.78**	**28**	P	P	18 38 58.7	+0.4
NVAR	**Mina Array Bea** 0.9nm,0.8s,baz=278,slow=5.8,SNR=7.1	**83.16**	**52**	P	P	18 39 34.2	+0.6

*ISCJB **25** 18:39:28.6±0.8, 56.4S±0.2×140.6W±0.2, h10km, mb4.3/9, MS3.9/5, Error ellipse: s-maj=28.5km s-min=17.2km az=8.7*
*IDC **25** 18:39:28.8±0.8, 56.23S×140.90W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/14, mbtmp4.1/5, MS3.9/5, Ms1 3.8/5, ms1mx3.6/18, Error ellipse: s-maj=42.8km s-min=25.9km az=177.0*
*NEIC **25** 18:39:30.1±0.5, 56.40S×140.58W, h10km, mb4.6/5, Error ellipse: s-maj=21.2km s-min=14.0km az=4.0*

ISC 25 18:39:30.0±0.7,**56.4S**±0.2×**140.6W**±0.1,**h10km,n48,**σ1**03**/28,**mb4.4**/9,**MS4.0**/5,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** comp=Z,96nm,18.3s,baz=156,slow=30	**28.86**	**202**	LR	LR	18 54 07.0	
RKT	**Rikitea** 276nm,29.8s	**33.46**	**9**	*e*LR	LR	18 55 04.0	
TBI	**Tubuai** 236nm,29.5s	**33.62**	**345**	*e*LR	LR	18 54 58.4	
TBI	**Tubuai** 5.1nm,0.3s	**33.62**	**345**	*e*T	T	19 21 33.7	
QSPA	**South Pole Qui** 7.8nm,1.3s	**33.79**	**180**	*e*P	**P**	**18 46 12.6**	**+0.8**
QSPA	**South Pole Qui** 1.8nm,0.9s,baz=56,slow=4.4,SNR=5.8	**33.79**	**180**	P	**P**	**18 46 13.0**	**+1.2**
PPT2	**Papeete2** 206nm,26.5s	**39.31**	**346**	*e*LR	LR	18 57 50.1	
PPT	**Papeete** comp=Z,360nm,19.6s,baz=197,slow=31	**39.33**	**346**	LR	LR	18 59 31.8	
VAH	**Vaihoa** 5.7nm,0.3s	**41.41**	**350**	*e*T	T	19 31 26.4	
H03N3	**Jua Fernandez** baz=221,slow=75,SNR=16	**47.39**	**88**	T	T	19 39 01.6	
H03N2	**Juan Fernandez** baz=221,slow=75,SNR=21	**47.40**	**88**	T	T	19 39 02.2	
H03N1	**Juan Fernandez** baz=221,slow=75,SNR=18	**47.41**	**88**	T	T	19 39 06.1	
AFI	**Afiamalu** comp=Z,190nm,20.3s,baz=87,slow=30	**48.66**	**318**	LR	LR	19 03 18.4	
SNAA	**Sanae** 2.5nm,0.6s	**48.85**	**164**	*e*P	**P**	**18 48 14.1**	**-1.0**
MAW	**Mawson** comp=Z,43nm,18.1s,baz=264,slow=34	**55.12**	**191**	LR	LR	19 10 31.9	
STKA	**Stephens Creek**	**57.57**	**260**	P	**P**	**18 49 20.4**	**+0.8**
STKA	**Stephens Creek** 1.6nm,0.9s,baz=42,slow=23,SNR=3.4	**57.57**	**260**	P	**P**	**18 49 20.4**	**+0.8**
LVC	**Limon Verde** 3.4nm,0.8s	**61.34**	**88**	*e*P	**P**	**18 49 45.7**	**-0.4**
LPAZ	**La Paz**	**66.86**	**85**	*e*P	**P**	**18 50 24.2**	**+1.4**
LPAZ	**La Paz** 1.1nm,0.6s,baz=192,slow=1.8,SNR=3.9	**66.86**	**85**	P	**P**	**18 50 24.9**	**+2.1**
ASAR	**Alice Springs**	**68.21**	**260**	P	**P**	**18 50 30.1**	**-0.5**
ASAR	**Alice Springs** 2.5nm,0.9s,baz=140,slow=6.5,SNR=38	**68.21**	**260**	P	**P**	**18 50 30.1**	**-0.5**
H01W1	**Cape Leeuwin H** baz=144,slow=76,SNR=6.8	**69.36**	**238**	T	T	20 06 49.5	
H01W2	**Cape Leeuwin H** baz=144,slow=76,SNR=6.4	**69.37**	**238**	T	T	20 06 49.9	
H01W3	**Cape Leeuwin H** baz=144,slow=76,SNR=5.6	**69.38**	**238**	T	T	20 06 51.1	
WRA	**Warramunga Arr** 2.1nm,0.9s,baz=147,slow=5.8,SNR=17	**70.96**	**263**	P	**P**	**18 50 47.0**	**-0.5**
WRA	**Warramunga Arr** 7.9nm,1.2s	**70.96**	**263**	P	**P**	**18 50 47.0**	**-0.5**
WRAB	**Tennant Creek** 12nm,1.2s	**70.96**	**263**	*e*P	**P**	**18 50 47.1**	**-0.5**
PMG	**Port Moresby** comp=Z,56nm,18.7s,baz=63,slow=34	**72.43**	**280**	P	**P**	**18 50 58.3**	**+1.9**
BOSA	**Boshof**	**94.50**	**168**	LR	LR	19 32 23.8	
H10S3	**ASCENSION HYDR** baz=198,slow=75,SNR=4.4	**101.17**	**125**	T	T	20 46 59.1	
H10S2	**ASCENSION HYDR** baz=198,slow=75,SNR=4.4	**101.18**	**125**	T	T	20 47 01.2	
H10S1	**ASCENSION HYDR** baz=198,slow=75,SNR=7.3	**101.19**	**125**	T	T	20 47 03.9	
H10N3	**ASCENSION HYDR** baz=198,slow=75,SNR=40	**102.23**	**125**	T	T	20 48 15.5	
H10N1	**ASCENSION HYDR** baz=198,slow=75,SNR=51	**102.23**	**125**	T	T	20 48 19.7	
H10N2	**ASCENSION HYDR** baz=198,slow=75,SNR=47	**102.25**	**125**	T	T	20 48 19.9	
ILAR	**Eielson Array**	**120.91**	**357**	PKP	**PKPdf**	**18 58 20.6**	**-0.4**
ILAR	**Eielson Array** 1.2nm,0.9s,baz=219,slow=1.8,SNR=11	**120.91**	**357**	PKP	**PKPdf**	**18 58 20.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**121.98**	**255**	PKP	**PKPdf**	**18 58 24.2**	**-0.2**
CMAR	**Chiang Mai Arr** 0.7nm,0.7s,baz=212,slow=2.6,SNR=9.5	**121.98**	**255**	PKP	**PKPdf**	**18 58 24.2**	**-0.2**
SUMG	**Summit**	**145.83**	**32**	*e*PKPdf	**PKPdf**	**18 59 07.4**	**-0.1**
ESDC	**Sonseca Array**	**147.17**	**102**	PKPbc	**PKPab**	**18 59 13.8**	**-0.5**
ESDC	**Sonseca Array** 1.4nm,0.7s,baz=228,slow=2.5,SNR=7.4	**147.17**	**102**	PKPbc	**PKPab**	**18 59 13.8**	**-0.5**
MK31	**Makanchi Array**	**152.14**	**268**	*e*PKPbc	**PKPbc**	**18 59 24.3**	**-0.4**
MKAR	**Makanchi Array**	**152.14**	**268**	PKPbc	**PKPbc**	**18 59 24.2**	**-0.5**
MKAR				PKPab	**PKPab**	**18 59 32.3**	**-2.2**
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=118,slow=10,SNR=11	**152.14**	**268**	PKPbc	**PKPbc**	**18 59 24.2**	**-0.5**
MKAR	0.6nm,0.7s,baz=100,slow=4.2,SNR=4.1			PKPab	**PKPab**	**18 59 32.3**	**-2.2**
AAK	**Ala-Archa**	**153.76**	**253**	PKPbc	**PKPbc**	**18 59 28.3**	**-0.2**
AAK	**Ala-Archa** 1.0nm,0.7s,baz=135,slow=9.2,SNR=4.2	**153.76**	**253**	PKPbc	**PKPbc**	**18 59 28.3**	**-0.2**

*IDC **25** 18:55:00.8±1.1, 44.45N×151.99E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/24, mbtmp3.5/7, ML3.2/1, Error ellipse: s-maj=30.6km s-min=24.8km az=162.0*
*ISCJB **25** 18:55:04.4±1.1, 44.4N±0.2×151.8E±0.2, h37km, mb3.4/6, Error ellipse: s-maj=30.8km s-min=18.4km az=168.8*

ISC 25 18:55:06.4±1.1,**44.5N**±0.2×**151.9E**±0.1,**h37km,n7,**σ1**17/7,mb3.3**/6,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=98,slow=14,SNR=6.3	**6.65**	**270**	Pn	**Pn**	**18 56 40.2**	**-1.2**
SONM	**Songino Array** 0.2nm,0.5s,baz=87,slow=8.2,SNR=3.1	**31.33**	**293**	P	**P**	**19 01 24.5**	**+1.3**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=72,slow=7.3,SNR=8.9	**47.24**	**299**	P	**P**	**19 03 36.5**	**+0.9**
YKA	**Yellowknife Ar** 0.1nm,0.8s,baz=291,slow=6.6,SNR=3.2	**53.31**	**35**	P	**P**	**19 04 20.2**	**-0.9**
FINES	**FINESS Array B** 2.2nm,0.7s,baz=64,slow=6.3,SNR=5.9	**65.74**	**335**	P	**P**	**19 05 46.3**	**-0.6**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=17,slow=6.7,SNR=4.4	**66.05**	**198**	P	**P**	**19 05 49.3**	**0.0**
TXAR	**Lajitas Array** 0.1nm,0.6s,baz=308,slow=6.2,SNR=3.7	**79.41**	**59**	P	**P**	**19 07 09.4**	**+0.5**

*IDC **25** 18:56:10.6±0.7, 21.03N×143.73E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.9/25, mbtmp3.8/14, MS2.8/2, Ms1 2.9/2, ms1mx2.5/33, Error ellipse: s-maj=23.6km s-min=16.5km az=88.0*
*ISCJB **25** 18:56:13.8±0.7, 21.01N±0.10×143.7E±0.2, h33km, mb3.7/14, MS2.7/2, Error ellipse: s-maj=21.7km s-min=13.6km az=172.0*

ISC 25 18:56:15.9±0.8,**21.0N**±0.1×**143.7E**±0.2,**h35km,n20,**σ0**55**/14,**mb3.8**/14,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 0.7nm,0.8s,baz=143,slow=8.4,SNR=3.4	**21.34**	**324**	P	**P**	**19 00 59.7**	**-0.2**
KSRS	comp=Z,25nm,21.2s,baz=145,slow=34			LR	LR	19 08 10.6	
H11S3	**WAKE ISLAND Hy 21.79** baz=283,slow=73,SNR=43	**93**		T	T	19 23 23.5	
H11N1	**WAKE ISLAND Hy 21.79** baz=280,slow=75,SNR=84	**89**		T	T	19 23 25.4	
H11N2	**WAKE ISLAND Hy 21.80** baz=280,slow=75,SNR=50	**89**		T	T	19 23 23.7	
H11S1	**WAKE ISLAND Hy 21.80** baz=283,slow=73,SNR=36	**93**		T	T	19 23 24.3	
H11S2	**WAKE ISLAND Hy 21.81** baz=283,slow=73,SNR=46	**93**		T	T	19 23 24.9	
H11N3	**WAKE ISLAND Hy 21.81** baz=280,slow=75,SNR=64	**89**		T	T	19 23 18.9	
SONM	**Songino Array** 0.6nm,0.9s,baz=139,slow=8.4,SNR=4.6	**40.16**	**321**	P	**P**	**19 03 49.0**	**+0.3**
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=16,slow=8.9,SNR=9.1	**41.72**	**193**	P	**P**	**19 04 01.0**	**-0.6**
CMAR	**Chiang Mai Arr** 0.2nm,0.8s,baz=82,slow=6.5,SNR=3.0	**42.09**	**275**	P	**P**	**19 04 05.3**	**+0.5**
CMAR	comp=Z,15nm,21.2s,baz=160,slow=35			LR	LR	19 20 40.9	
ASAR	**Alice Springs** 0.6nm,0.7s,baz=16,slow=9.9,SNR=20	**45.32**	**193**	P	**P**	**19 04 31.4**	**-0.1**
STKA	**Stephens Creek** 1.2nm,0.7s,baz=49,slow=17,SNR=3.8	**52.63**	**182**	P	**P**	**19 05 26.8**	**+0.3**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=93,slow=8.2,SNR=4.5	**55.03**	**322**	P	**P**	**19 05 44.6**	**+0.8**
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=89,slow=9.4,SNR=2.4	**55.50**	**313**	P	**P**	**19 05 46.8**	**-0.6**
KURBB	**Kurchatov Arra** 0.7nm,0.3s,baz=96,slow=7.5,SNR=7.9	**58.34**	**317**	P	**P**	**19 06 07.6**	**+0.2**
ILAR	**Eielson Array** 1.0nm,0.8s,baz=254,slow=5.3,SNR=11	**62.43**	**27**	P	**P**	**19 06 34.6**	**-0.6**
YKA	**Yellowknife Ar** 0.5nm,0.5s,baz=291,slow=5.7,SNR=32	**76.84**	**28**	P	**P**	**19 08 04.1**	**+0.2**
ARCES	**ARCESS Array B** 2.0nm,0.7s,baz=72,slow=5.8,SNR=3.6	**79.71**	**342**	P	**P**	**19 08 19.1**	**-0.7**
NVAR	**Mina Array Bea** 1.5nm,0.7s,baz=270,slow=5.3,SNR=14	**83.20**	**52**	P	**P**	**19 08 39.8**	**+0.7**
FINES	**FINESS Array B** 5.4nm,1.1s,baz=45,slow=5.7,SNR=5.8	**83.99**	**335**	P	**P**	**19 08 41.8**	**-0.6**

*IDC **25** 19:29:54.3±1.2, 43.67N×149.15E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, MS2.7/1, Ms1 2.7/1, ms1mx2.5/31, Error ellipse: s-maj=43.9km s-min=24.8km az=89.0*
*ISCJB **25** 19:29:57.5±0.9, 43.81N±0.07×149.13E±0.09, h35km, mb3.5/5, Error ellipse: s-maj=10.2km s-min=8.4km az=30.3*
*MOS **25** 19:29:58.5±1.8, 43.79N×149.04E, h47km, mb4.2/2, Error ellipse: s-maj=29.0km s-min=21.1km az=129.0*
*SKHL **25** 19:29:58.5±0.1, 43.76N×149.15E, h48km±5km, mb4.5/2*
*NIED **25** 19:30:00, 44.40N×148.60E, h32km, Mw3.7 Best double couple: M0 3

SHO				A	A	19 30 53.0	
	comp=E,480nm,0.7s						
SHO				A	A	19 30 53.0	
	comp=E,540nm,0.7s						
KUR	**Kuril'sk**	**1.68**	**329**	⇑ *i*PN	**Pn**	**19 30 25.0**	**-1.3**
KUR				S	**Sn**	**19 30 44.8**	**-1.8**
KUR				pmax	pmax		
	comp=Z,450nm,0.9s						
KUR				smax	smax		
	comp=N,840nm,0.8s						
KUR				smax	smax		
	comp=E,540nm,0.8s						
KUR	**Kuril'sk**	**1.68**	**329**	*i* P	**Pn**	**19 30 25.0**	**-1.3**
KUR				AMB	AMB	19 30 25.6	
	comp=E,450nm,0.9s						
KUR				*e*S	**Sn**	**19 30 44.8**	**-1.8**
KUR				A	A	19 30 48.0	
	comp=E,840nm,0.8s						
KUR				A	A	19 30 48.0	
	comp=E,540nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.35**	**277**	*c i*PN	**Pn**	**19 30 35.8**	**+0.3**
YUK				*e*S	**Sn**	**19 31 03.8**	**+0.7**
YUK				pmax	pmax		
	comp=N,7.0nm,0.2s						
YUK				pmax	pmax		
	comp=E,19nm,0.2s						
YUK				pmax	pmax		
	comp=Z,49nm,0.2s						
YUK				smax	smax		
	comp=N,103nm,0.3s						
YUK				smax	smax		
	comp=E,367nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.35**	**277**	⇑ *i*P	**Pn**	**19 30 35.8**	**+0.3**
YUK				AMB	AMB	19 30 41.8	
	comp=E,400nm,0.2s						
YUK				AMB	AMB	19 30 41.8	
	comp=E,10.0nm,0.2s						
YUK				AMB	AMB	19 30 41.8	
	comp=E,20nm,0.2s						
YUK				AMB	AMB	19 30 41.8	
	comp=E,50nm,0.2s						
YUK				*e*S	**Sn**	**19 31 03.8**	**+0.7**
YUK				A	A	19 31 11.9	
	comp=E,370nm,0.6s						
YUK				A	A	19 31 11.9	
	comp=E,100nm,0.3s						
YUK				A	A	19 31 12.0	
	comp=E,300nm,0.6s						
MYR	**Moyori**	**4.52**	**252**	*e*P	**Pn**	**19 31 05.7**	**+0.4**
MYR				*e*S	**Sn**	**19 31 53.5**	**-3.1**
YSS	**Yuzh-Sakhalins**	**5.46**	**307**	*e*P	**Pn**	**19 31 20.1**	**+1.8**
YSS				*e*S	**Sn**	**19 32 21.0**	**+1.1**
PETK	**Petropavlovsk-**	**10.92**	**28**	LR	LR	19 36 46.5	
	comp=E,46nm,21.2s,baz=168,slow=37						
MKAR	**Makanchi Array**	**45.80**	**298**	P	**P**	**19 38 17.2**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**45.80**	**298**	*e*P	**P**	**19 38 17.2**	**-0.5**
MKAR	**Makanchi Array**	**45.80**	**298**	P	**P**	**19 38 17.2**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=77,slow=8.1,SNR=12						
YKA	**Yellowknife Ar**	**54.97**	**34**	*e*P	**P**	**19 39 26.2**	**-0.4**
YKA	**Yellowknife Ar**	**54.97**	**34**	P	**P**	**19 39 26.2**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=299,slow=6.8,SNR=3.7						
WRA	**Warramunga Arr**	**64.86**	**195**	*e*P	**P**	**19 40 35.8**	**+0.8**
WRA	**Warramunga Arr**	**64.86**	**195**	P	**P**	**19 40 35.8**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=5.7,slow=6.2,SNR=2.2						
FINES	**FINESS Array B**	**65.46**	**334**	P	**P**	**19 40 41.1**	**+2.8**
	comp=Z,2.4nm,0.8s,baz=59,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**68.57**	**195**	P	**P**	**19 40 56.8**	**-1.8**
	comp=Z,0.1nm,0.6s,baz=10,slow=5.8,SNR=2.5						

*IDC **25** 19:32:14.0±3.3, 1°.59S×99°.27E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/23, mbtmp3.3/5, ML3.6/1, Error ellipse: s-maj=129.7km s-min=21.4km az=60.0*
*ISCJB **25** 19:32:17.6±0.9, 1°.52S±0°.07×99°.32E±0°.08, h30km, mb3.4/4, Error ellipse: s-maj=12.2km s-min=10.0km az=147.2*
*DJA **25** 19:32:20.1±0.6, 1°S±5°×9°9E±°, h10km, M3.9/8, mb3.8/1, MLv3.9/8*

ISC 25 19:32:19.4±1.1, 1°.36S±0°.08×99°.43E±0°.09, h30km, n20, σ0s83/14, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.13**	**67**	P	**Pn**	**19 32 39.2**	**0.0**
PDSI				S	**Sb**	**19 32 55.6**	**+1.0**
PPI	**Padang Panjang**	**1.32**	**47**	P	**Pn**	**19 32 42.0**	**+0.2**
SDSI	**Sungai Dareh**	**2.04**	**78**	P	**Pb**	**19 32 54.8**	**-1.1**
MNSI	**Mandailing Nat**	**2.15**	**4**	P	**Pb**	**19 32 57.4**	**-0.3**
BKNI	**Bangkinang**	**2.33**	**44**	P	**Pb**	**19 33 01.1**	**+0.4**
BKNI				S	Sb	19 33 36.6	+7.6
GSI	**Gunungsitoli**	**3.23**	**325**	P	Pb	19 33 12.1	-4.1
MNAI	**Manna**	**4.61**	**130**	P	**Pn**	**19 33 28.2**	**+1.1**
MDSI	**Maura Dua**	**5.67**	**123**	P	**Pn**	**19 33 42.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**19.70**	**359**	P	**Pn**	**19 36 47.7**	**-0.4**
	0.1nm,0.3s,baz=184,slow=9.3,SNR=4.6						
H08S2	**Diego Garcia H**	**27.55**	**256**	T	T	20 06 01.8	
	baz=78,slow=75,SNR=64						
H08S3	**Diego Garcia H**	**27.56**	**256**	T	T	20 06 11.6	
	baz=78,slow=75,SNR=64						
H08S1	**Diego Carcia H**	**27.57**	**256**	T	T	20 06 00.9	
	baz=78,slow=75,SNR=64						
H01W3	**Cape Leeuwin H**	**36.06**	**159**	T	T	20 17 17.6	
	baz=332						
H01W2	**Cape Leeuwin H**	**36.07**	**159**	T	T	20 17 13.9	
	baz=332						
H01W1	**Cape Leeuwin H**	**36.07**	**159**	T	T	20 17 16.0	
	baz=332						
WRA	**Warramunga Arr**	**38.81**	**121**	P	**P**	**19 39 40.8**	**-1.1**
	0.3nm,0.5s,baz=302,slow=9.5,SNR=10						
ASAR	**Alice Springs**	**40.09**	**126**	P	**P**	**19 39 51.6**	**-1.0**
	0.5nm,0.6s,baz=298,slow=7.6,SNR=13						
SONM	**Songino Array**	**49.37**	**6**	P	**P**	**19 41 07.1**	**+0.8**
	0.1nm,0.4s,baz=193,slow=9.2,SNR=2.7						
MKAR	**Makanchi Array**	**50.27**	**345**	P	**P**	**19 41 13.1**	**+0.1**
	0.3nm,0.4s,baz=142,slow=8.8,SNR=6.2						
TXAR	**Lajitas Array**	**144.54**	**36**	PKP	**PKPdf**	**19 51 53.7**	**-0.2**
	0.1nm,0.6s,baz=221,slow=0.8,SNR=3.9						

MAN 25 19:37:38, 9°.74N×122°.36E, h34km, mb4.5, ML3.3, MS3.2, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.91**	**15**	*e*P	Pb	19 37 55.1	-0.3
GUIM				*e*S	Sn	19 38 06.7	+0.4
SNPH	**Sibulan**	**0.95**	**114**	⇑ *i*P	Pn	19 37 55.2	+0.2
SNPH				*i* S	Sb	19 38 09.2	+0.5
MSLP	**Maasin**	**2.50**	**81**	*e*P	Pb	19 38 22.7	+0.5
OTRP	**Odiongan**	**2.62**	**353**	*e*P	Pn	19 38 21.2	+3.1
BUSP	**Coron**	**3.09**	**317**	*e*P	Pn	19 38 25.4	+1.0

*ISCJB **25** 19:53:04.6±0.4, 63°.53N±0°.02×151°.23W±0°.05, h10km±3km, mb3.4/1, Error ellipse: s-maj=3.8km s-min=3.4km az=153.9*
*NEIC **25** 19:53:05.0, 63°.47N×151°.23W, h12km, ML3.4(AEIC), After AEIC.*
*IDC **25** 19:53:05.1±2.7, 63°.46N×151°.19W, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.3/26, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=28.9km s-min=20.0km az=102.0*

ISC 25 19:53:04.9±0.8, 63°.53N±0°.03×151°.19W±0°.02, h11km±6km, n71, σ1s33/86, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.12**	**78**	P	**Pg**	**19 53 08.9**	**+0.9**
KTH				S	**Sg**	**19 53 11.4**	**+1.2**
TRF	**Thorofare Moun**	**0.41**	**100**	P	**Pg**	**19 53 13.2**	**+0.1**
TRF				S	**Sg**	**19 53 18.9**	**+0.3**
CAST	**Castle Rocks**	**0.42**	**255**	P	**Pg**	**19 53 12.5**	**-0.6**
CAST				S	**Sg**	**19 53 17.3**	**-1.4**
CHUM	**Lake Minchumin**	**0.62**	**306**	P	**Pg**	**19 53 17.7**	**0.0**
CHUM				S	**Sb**	**19 53 26.4**	**0.0**
PPLA	**Purkeypile**	**0.78**	**216**	P	**Pg**	**19 53 18.3**	**-1.7**
HUR	**Hurricane**	**0.89**	**127**	P	**Pg**	**19 53 21.1**	**-1.0**
BWN	**Browne**	**1.00**	**49**	P	**Pn**	**19 53 25.9**	**+1.0**
MCK	**McKinley**	**1.03**	**77**	P	**Pg**	**19 53 24.3**	**-0.4**
MCK				S	**Sn**	**19 53 39.7**	**0.0**
RND	**Reindeer**	**1.05**	**96**	P	**Pg**	**19 53 24.3**	**-0.9**
CUT	**Chulitna**	**1.20**	**159**	P	**Pg**	**19 53 26.3**	**-1.7**
MLY	**Manley**	**1.52**	**7**	P	**Pb**	**19 53 33.2**	**+0.1**
SKT	**Skwentna**	**1.56**	**186**	P	**Pn**	**19 53 32.2**	**-0.4**
WRH	**Wood River Hil**	**1.66**	**54**	P	**Pn**	**19 53 33.8**	**-0.2**
DHY	**Denali Highway**	**1.78**	**103**	P	**Pn**	**19 53 36.8**	**+1.1**
CCB	**Clear Creek Bu**	**1.86**	**51**	P	**Pn**	**19 53 36.6**	**-0.1**
MDM	**Murphy Dome**	**1.93**	**41**	P	**Pn**	**19 53 37.8**	**+0.1**
COLA	**College**	**1.99**	**46**	P	**Pn**	**19 53 38.5**	**0.0**
STLK	**Strandline Lak**	**2.06**	**189**	P	**Pn**	**19 53 39.3**	**-0.2**
HDA	**Harding Lake**	**2.06**	**63**	P	**Pn**	**19 53 40.3**	**+0.8**
SUA	**Susitna One**	**2.08**	**174**	P	**Pn**	**19 53 39.8**	**-0.1**
PMR	**Palmer**	**2.16**	**153**	P	**Pn**	**19 53 40.8**	**-0.1**
GLM	**Gilmore Dome**	**2.21**	**47**	P	**Pn**	**19 53 43.5**	**+1.9**
CGLM	**Capps Glacier**	**2.26**	**190**	P	**Pn**	**19 53 42.3**	**0.0**
IL1	**Eielson Array**	**2.26**	**55**	P	**Pn**	**19 53 42.1**	**-0.1**
ILAR	**Eielson Array**	**2.26**	**55**	Pn	**Pn**	**19 53 42.1**	**-0.1**
ILAR				Pg	**Pg**	**19 53 48.0**	**-0.2**
ILAR				Lg	Lg	19 54 16.8	
ILAR	**Eielson Array**	**2.26**	**55**	Pn	**Pn**	**19 53 42.1**	**-0.1**
	2.1nm,0.3s,baz=236,slow=14,SNR=115						
ILAR				Pg	**Pg**	**19 53 48.0**	**-0.2**
	24nm,0.3s,baz=237,slow=18,SNR=216						
ILAR				Lg	Lg	19 54 16.8	
	47nm,0.3s,baz=238,slow=29,SNR=15						
BGL	**Barrier Glacie**	**2.34**	**194**	P	**Pn**	**19 53 44.3**	**+0.9**
SPBG	**Spurr Blockage**	**2.34**	**194**	P	**Pn**	**19 53 44.3**	**+0.9**
CKL	**Chakachamna La**	**2.40**	**193**	P	**Pn**	**19 53 44.9**	**+0.7**
FIB	**Fire Island**	**2.42**	**168**	P	**Pn**	**19 53 45.5**	**+1.2**
RC01	**Rabbit Creek A**	**2.54**	**164**	*e*Pn	**Pn**	**19 53 46.4**	**+0.4**
RC01				*e*Sn	**Sn**	**19 54 17.3**	**+0.4**
PAX	**Paxson**	**2.65**	**100**	P	**Pn**	**19 53 49.4**	**+1.8**
IM04	**Indian Mountai**	**2.70**	**337**	*e*Pn	**Pn**	**19 53 49.2**	**+1.0**
IM04				*e*Pg	**Pg**	**19 53 57.2**	**+0.6**
IM3	**Indian Mountai**	**2.70**	**337**	P	**Pn**	**19 53 49.7**	**+1.5**
PTE	**Portage**	**2.86**	**158**	P	**Pn**	**19 53 51.5**	**+1.1**
HARP	**HAARP**	**2.98**	**109**	P	**Pn**	**19 53 53.9**	**+1.9**
PWL	**Port Wells**	**2.99**	**152**	P	**Pn**	**19 53 53.5**	**+1.2**
DFR	**Drift River**	**3.03**	**194**	P	**Pn**	**19 53 54.0**	**+1.1**
SLKM	**Skilak Lake**	**3.06**	**171**	P	**Pn**	**19 53 54.0**	**+0.7**
NCT	**North Crescent**	**3.09**	**196**	P	**Pn**	**19 53 54.4**	**+0.8**
RDN	**Redoubt North**	**3.12**	**195**	P	**Pn**	**19 53 55.1**	**+1.0**
RSO	**Redoubt South**	**3.16**	**194**	*e*Pn	**Pn**	**19 53 55.5**	**+0.7**
DOT	**Dot Lake**	**3.19**	**85**	*e*Pn	**Pn**	**19 53 57.5**	**+2.5**
DOT				*e*Sg	**Sb**	**19 54 43.2**	**+2.9**
SVW2	**Sparrevohn**	**3.19**	**222**	P	**Pn**	**19 53 56.9**	**+2.0**
SCRK	**Sand Creek**	**3.23**	**79**	P	**Pn**	**19 53 57.9**	**+2.3**
GLI	**Glacier Island**	**3.28**	**142**	P	**Pn**	**19 53 57.5**	**+1.3**
JPK	**Jack Peak**	**3.28**	**137**	P	**Pn**	**19 53 57.2**	**+0.9**
VLZ	**Valdez**	**3.30**	**135**	P	**Pn**	**19 53 57.4**	**+0.9**
MENT	**Mentasta**	**3.43**	**97**	*e*Pn	**Pn**	**19 54 00.6**	**+2.3**
DIV	**Divide**	**3.49**	**131**	*e*Pn	**Pn**	**19 53 60.0**	**+0.8**
DIV				*e*Sn	**Sn**	**19 54 42.1**	**+1.8**
SEW	**Seward**	**3.53**	**166**	*e*Pn	**Pn**	**19 54 02.0**	**+2.4**
COLD	**Coldfoot**	**3.74**	**6**	*e*Pn	**Pn**	**19 54 03.7**	**+1.2**
HIN	**Hinchinbrook I**	**3.84**	**143**	P	**Pn**	**19 54 04.8**	**+0.9**
BMRM	**Bremner River**	**4.01**	**127**	P	**Pn**	**19 54 07.6**	**+1.4**
GLB	**Gilahina Butte**	**4.01**	**118**	P	**Pn**	**19 54 08.6**	**+2.3**
BCA3	**Beaver Creek A**	**4.27**	**92**	P	**Pn**	**19 54 10.5**	**+0.7**
VRDI	**Verde Repeater**	**4.28**	**119**	P	**Pn**	**19 54 12.0**	**+1.9**
EGAK	**Eagle**	**4.57**	**70**	*e*Pn	**Pn**	**19 54 13.9**	**+0.1**
EGAK				*e*Pg	Pg	19 54 28.9	-3.4
EGAK				*e*Sg	**Sg**	**19 55 30.4**	**-1.0**
PTPK	**Patty Peak**	**4.69**	**116**	P	**Pn**	**19 54 17.9**	**+2.2**
BM3	**Burnt Mountain**	**4.77**	**32**	P	**Pn**	**19 54 17.1**	**+0.4**
BALM	**Baldy**	**4.83**	**117**	P	**Pn**	**19 54 19.1**	**+1.6**
KIAG	**Kiagna River**	**4.89**	**118**	P	**Pn**	**19 54 19.6**	**+1.2**
BARN	**Barnard Glacie**	**5.09**	**115**	P	**Pn**	**19 54 22.8**	**+1.6**
DAWY	**Dawson**	**5.26**	**79**	*e*Pn	**Pn**	**19 54 23.3**	**-0.1**
DAWY				*e*Pg	Pg	19 54 42.2	-3.3
DAWY				*e*Sg	**Sg**	**19 55 48.5**	**-5.0**
TNA	**Tin City**	**7.49**	**293**	P	**Pn**	**19 54 54.8**	**+0.9**
INK	**Inuvik**	**8.65**	**49**	Pn	**Pn**	**19 55 10.5**	**+0.8**
INK				Sn	**Sn**	**19 56 44.9**	**-2.2**
INK				Lg	Lg	19 57 37.4	
INK	**Inuvik**	**8.65**	**49**	Pn	**Pn**	**19 55 10.5**	**+0.8**
	0.4nm,0.3s,baz=241,slow=17,SNR=21						
INK				Sn	**Sn**	**19 56 44.9**	**-2.2**
	0.1nm,0.3s,baz=167,slow=18,SNR=2.5						
INK				Lg	Lg	19 57 37.4	
	0.1nm,0.3s,baz=143,slow=20,SNR=3.2						
YKA	**Yellowknife Ar**	**16.50**	**77**	Pn	**Pn**	**19 56 55.6**	**-0.3**
YKA	**Yellowknife Ar**	**16.50**	**77**	Pn	**Pn**	**19 56 55.6**	**-0.3**
	0.0nm,0.3s,baz=295,slow=11,SNR=3.1						
TXAR	**Lajitas Array**	**45.57**	**116**	P	**P**	**20 01 25.7**	**+1.0**
TXAR	**Lajitas Array**	**45.57**	**116**	P	**P**	**20 01 25.7**	**+1.0**
	0.2nm,0.5s,baz=326,slow=6.5,SNR=4.6						

IDC 25 19:54:54.4±2.1, 1°.33N×126°.49E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/18, Error ellipse: s-maj=177.0km s-min=26.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**160**	P	P	19 59 55.9	+0.1
	1.2nm,0.7s,baz=339,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.87**	**164**	P	P	20 00 27.9	-0.2
	0.4nm,0.4s,baz=344,slow=11,SNR=15						
KSRS	**Korea Array**	**35.97**	**2**	LR	LR	20 14 17.2	
	comp=Z,29nm,22.0s,baz=340,slow=32						
MKAR	**Makanchi Array**	**59.39**	**326**	P	P	20 04 58.7	0.0
	0.1nm,0.3s,baz=114,slow=7.2,SNR=4.4						

*IDC **25** 20:04:26.4±2.5, 6°.56N×126°.90E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=192.7km s-min=25.4km az=66.0*
*ISCJB **25** 20:04:34.2±1.0, 6°.35N±0°.07×126°.73E±0°.09, h74km, mb3.3/3, Error ellipse: s-maj=13.1km s-min=9.3km az=167.6*
*MAN **25** 20:04:35, 6°.42N×126°.84E, h17km, mb4.5, ML3.4, MS3.3*

ISC 25 20:04:35.3±1.3, 6°.32N±0°.08×126°.7E±0°.1, h74km, n7, σ2s36/10, mb3.1/3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.79**	**322**	*e*P	**Pn**	**20 04 49.2**	**-2.3**
MATI				*e*S	**Sn**	**20 05 03.2**	**-0.3**
GSPH	**General Santos**	**1.80**	**263**	‖ *i*P	**Pn**	**20 05 03.4**	**-1.1**
GSPH				*e*S	**Sn**	**20 05 24.6**	**-2.1**
BIPH	**Bislig**	**1.89**	**348**	‖ *e*P	Pn	20 05 12.3	+6.7
BIPH				*i* S	**Sn**	**20 05 26.1**	**-2.5**
BUKP	**Musuan**	**2.27**	**313**	*e*P	**Pn**	**20 05 12.5**	**+1.6**
BUKP				*e*S	**Sn**	**20 05 41.3**	**+3.4**
WRA	**Warramunga Arr**	**27.15**	**164**	P	**P**	**20 10 14.6**	**+2.7**
	0.3nm,0.4s,baz=345,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**30.61**	**167**	P	**P**	**20 10 43.0**	**+0.5**
	0.2nm,0.6s,baz=348,slow=6.6,SNR=3.6						
MKAR	**Makanchi Array**	**55.46**	**324**	P	**P**	**20 14 02.2**	**-0.2**
	0.3nm,0.4s,baz=109,slow=8.0,SNR=10.0						

*IDC **25** 20:42:17.9±1.3, 3°.77N×128°.16E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/23, mbtmp4.1/6, Error ellipse: s-maj=87.3km s-min=17.9km az=72.0*
*ISCJB **25** 20:42:37.5±0.6, 3°.77N±0°.05×128°.41E±0°.06, h200km, mb3.8/6, Error ellipse: s-maj=9.3km s-min=5.5km az=139.1*
*AUST **25** 20:42:41.8, 3°.50N×128°.00E, h200km*
*DJA **25** 20:42:43.4±0.8, 3°N±9°×12°8E±°, h180km±6km, M4.4/14, mb4.4/14, mB4.8/3, MLv4.5/7, Mw(mB)4.0/3*

ISC 25 20:42:41.4±1.7, 3°.6N±0°.2×128°.3E±0°.1, h200km, n38, σ1s41/35, mb4.0/6, 1C-1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.80**	**196**	P	**Pn**	**20 43 16.5**	**-1.5**
GAMI				S	**Sn**	**20 43 46.6**	**+0.1**
SGSI	**Sangihe**	**2.75**	**272**	S	**Sn**	**20 44 03.3**	**-1.3**
TNTI	**Ternate**	**2.94**	**198**	P	**Pn**	**20 43 29.9**	**-0.4**
GSPH	**General Santos**	**4.15**	**307**	‖ *i*P	Pn	20 43 41.1	-4.1
GSPH				*i* S	Sn	20 44 30.1	-5.2
LBMI	**Labuha**	**4.27**	**191**	P	**Pn**	**20 43 45.6**	**-0.9**
BIPH	**Bislig**	**4.96**	**337**	‖ *e*P	Pn	20 43 50.5	-4.7
BIPH				*e*S	Sn	20 44 43.1	-10
KMSI	**Cibinong**	**5.24**	**235**	P	**Pn**	**20 43 58.2**	**-0.7**
	143nm,0.7s,2µm1.2nm						
SWI	**Sorong**	**5.32**	**146**	P	**Pn**	**20 44 00.4**	**+0.4**
	96nm,1.1s,0.3nm						
NLAI	**Namlea**	**6.88**	**190**	P	**Pn**	**20 44 18.5**	**-1.6**
	36nm,0.6s,980nm0.2nm						
MRSI	**Marisa**	**7.05**	**244**	P	**Pn**	**20 44 22.1**	**-0.2**
	153nm,0.8s,1µm						
LUWI	**Luwuk**	**7.18**	**230**	P	**Pn**	**20 44 23.3**	**-0.6**
	23nm,0.7s						
LUWI	**Luwuk**	**7.18**	**230**	P	**Pn**	**20 44 23.5**	**-0.4**
	baz=6.9,SNR=5.4						
MWPI	**Manokwari, Pap**	**7.29**	**128**	P	**Pn**	**20 44 28.0**	**+2.5**
	53nm,0.9s						
FAKI	**Fak Fak**	**7.58**	**148**	P	**Pn**	**20 44 29.4**	**+0.3**
	42nm,0.9s						
FAKI	**Fak Fak**	**7.58**	**148**	P	**Pn**	**20 44 29.5**	**+0.3**
	baz=7.7,SNR=6.2						
TOLI	**Toli-Toli**	**7.88**	**252**	P	**Pn**	**20 44 33.6**	**+0.5**
	78nm,0.6s,0.3nm						
APSI	**Ampana**	**8.00**	**236**	P	**Pn**	**20 44 32.8**	**-1.8**
	34nm,0.9s						
SOEI	**Soe**	**13.84**	**197**	P	**P**	**20 45 54.4**	**+2.8**
	baz=14,SNR=3.8						
BBKI	**Banjar Baru**	**15.15**	**243**	P	**Pn**	**20 46 05.6**	**0.0**
	34nm,0.9s						
SBUM	**Sibu**	**16.08**	**266**	P	**Pn**	**20 46 17.7**	**+0.8**
	17nm,0.9s						
MTN	**Manton Dam**	**16.56**	**170**	P	**P**	**20 46 20.0**	**-1.6**
	baz=17,SNR=9.9						
KDU	**Kakadu**	**16.69**	**166**	P	**P**	**20 46 21.9**	**-1.1**
	baz=17,SNR=3.9						
STKI	**Sintang**	**17.16**	**259**	P	**Pn**	**20 46 30.3**	**+0.6**
	12nm,0.9s						
KSM	**Kuching**	**18.08**	**264**	P	**P**	**20 46 39.7**	**+1.4**
	14nm,1.5s						
KSM	**Kuching**	**18.08**	**264**	P	**P**	**20 46 38.3**	**0.0**
	baz=18,SNR=4.6						
KNRA	**Kununurra**	**19.14**	**179**	P	**P**	**20 46 48.4**	**-1.2**
	baz=19,SNR=7.5						
BJII	**Banjamegara**	**21.48**	**240**	P	**P**	**20 47 17.3**	**+2.7**
FITZ	**Fitzroy Crossi**	**21.71**	**187**	P	**P**	**20 47 14.0**	**-2.8**
	3.2nm,0.6s,baz=25,slow=8.9,SNR=8.7						
CISI	**Cisompet, Garu**	**23.23**	**242**	P	**P**	**20 47 32.4**	**+1.3**
	baz=23,SNR=3.5						
WRA	**Warramunga Arr**	**24.12**	**166**	P	**P**	**20 47 37.4**	**-1.7**
	2.0nm,0.3s,baz=343,slow=10,SNR=50						
QIS	**Mount Isa**	**26.44**	**156**	P	**P**	**20 47 58.7**	**-1.2**
	baz=27,SNR=3.6						
ASAR	**Alice Springs**	**27.63**	**169**	P	**P**	**20 48 09.1**	**-1.5**
	2.1nm,0.5s,baz=357,slow=8.6,SNR=68						
WRKA	**Warakurna**	**28.45**	**180**	P	**P**	**20 48 16.4**	**-1.4**
	baz=28,SNR=9.4						
STKA	**Stephens Creek**	**37.47**	**161**	P	**P**	**20 49 34.5**	**-1.3**
	1.6nm,0.5s,baz=345,slow=9.5,SNR=2.9						
STKA	**Stephens Creek**	**37.47**	**161**	P	**P**	**20 49 34.8**	**-1.0**
	baz=38,SNR=7.5						
ARMA	**Armidale**	**40.51**	**148**	P	**P**	**20 50 00.9**	**-0.2**
	baz=41,SNR=5.7						
SONM	**Songino Array**	**47.95**	**340**	P	P	20 50 56.6	-3.3
	0.5nm,0.6s,baz=156,slow=8.4,SNR=5.4						
MKAR	**Makanchi Array**	**58.57**	**325**	P	P	20 52 14.9	-2.2
	0.5nm,0.4s,baz=114,slow=8.2,SNR=19						

*AUST **25** 20:42:16.7, 24°.11S×174°.08W, h200km*
*ISCJB **25** 20:42:46.5±2.3, 23°.7S±0°.4×178°.1W±0°.4, h250km, mb3.8/8, Error ellipse: s-maj=68.8km s-min=26.7km az=145.3*
*IDC **25** 20:42:48.5±17.0, 23°.57S×178°.08W, h248km±144km, mb3.7/8, mb1 3.8/8, mb1mx3.5/19, mbtmp3.7/8, Error ellipse: s-maj=88.6km s-min=47.0km az=119.0*

ISC 25 20:42:48.1±2.3, 23°.6S±0°.5×178°.0W±0°.3, h250km, n14, σ0s86/13, mb3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.29**	**269**	P	**P**	**20 49 03.6**	**+1.0**
	3.0nm,0.3s,baz=95,slow=11,SNR=16						
PMG	**Port Moresby**	**36.13**	**287**	P	**P**	**20 49 26.9**	**0.0**
	10.0nm,0.9s,baz=147,slow=5.0,SNR=5.8						
STKA	**Stephens Creek**	**36.51**	**248**	P	**P**	**20 49 30.4**	**+0.5**
	5.7nm,0.6s,baz=77,slow=18,SNR=6.4						
PATS	**Pohnpei**	**38.08**	**320**	P	P	20 49 37.2	-5.9
	baz=41,SNR=3.7						
ASAR	**Alice Springs**	**43.87**	**260**	P	**P**	**20 50 29.6**	**-0.7**
	0.8nm,0.5s,baz=96,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**44.24**	**265**	P	**P**	**20 50 32.1**	**-1.1**
	1.4nm,0.6s,baz=96,slow=8.5,SNR=31						
KDU	**Kakadu**	**48.07**	**274**	P	**P**	**20 51 02.9**	**-0.1**
	baz=52,SNR=3.3						
WRKA	**Warakurna**	**48.67**	**257**	P	**P**	**20 51 06.1**	**-1.5**
	baz=52,SNR=12						
MTN	**Manton Dam**	**49.25**	**273**	P	**P**	**20 51 11.3**	**-0.6**
	baz=53,SNR=4.3						
KNRA	**Kununurra**	**50.51**	**269**	P	**P**	**20 51 20.5**	**-0.8**
	baz=54,SNR=5.6		

H11N1 WAKE ISLAND Hy 28.75 24 T T 21 40 27.4
baz=205,slow=76,SNR=4.7
H11N3 WAKE ISLAND Hy 28.76 24 T T 21 40 28.7
baz=205,slow=76,SNR=6.0
H11N2 WAKE ISLAND Hy 28.77 24 T T 21 40 28.7
baz=205,slow=76,SNR=3.9
FITZ Fitzroy Crossi 30.79 246 *e*P **P 21 10 55.9 -0.3**
10nm,1.2s
FITZ Fitzroy Crossi 30.79 246 LR LR 21 21 35.5
comp=Z,39nm,20.6s,baz=180,slow=33
PETK Petropavlovsk- 59.64 2 P **P 21 14 44.9 +1.1**
PETK Petropavlovsk- 59.64 2 P **P 21 14 44.9 +1.1**
2.7nm,0.9s,baz=170,slow=8.8,SNR=3.4
CMAR Chiang Mai Arr 60.69 295 P **P 21 14 53.5 +1.8**
CMAR pP pP 21 15 01.5 -5.4
CMAR Chiang Mai Arr 60.69 295 P **P 21 14 53.5 +1.8**
4.6nm,0.7s,baz=122,slow=5.2,SNR=49
CMAR pP pP 21 15 01.5 -5.4
1.8nm,0.7s,baz=123,slow=5.2,SNR=5.7
CHTO Chiang Mai 60.81 296 *e*P **P 21 14 53.2 +0.7**
2.4nm,0.6s
SONM Songino Array 69.12 327 P **P 21 15 46.3 +0.1**
SONM Songino Array 69.12 327 P **P 21 15 46.3 +0.1**
0.4nm,0.4s,baz=145,slow=6.1,SNR=6.0
TAPN Taplejung 73.28 301 *e*P **P 21 16 12.7 +0.8**
6.9nm,0.6s
TAPN Taplejung 73.28 301 *e*P **P 21 16 12.7 +0.8**
6.9nm,0.6s
ODAN Odare 73.42 300 *e*P **P 21 16 13.4 +0.8**
13nm,0.4s
RAMN Ramite 74.12 300 *e*P **P 21 16 17.4 +0.6**
5.3nm,0.4s
JIRN Jiri 74.67 301 *e*P **P 21 16 20.8 +0.7**
7.0nm,0.4s
GUN Gumba 75.00 301 *e*P **P 21 16 22.8 +0.8**
17nm,0.7s
GUN Gumba 75.00 301 *e*P **P 21 16 22.8 +0.8**
17nm,0.7s
PKI Pulchoki 75.31 301 *e*P **P 21 16 24.2 +0.4**
5.7nm,0.6s
PKI Pulchoki 75.31 301 *e*P **P 21 16 24.2 +0.4**
5.7nm,0.6s
PKIN Phulchoki 75.32 301 *e*P **P 21 16 24.1 +0.4**
5.7nm,0.5s
KKN Kakani 75.48 301 *e*P **P 21 16 25.3 +0.7**
6.1nm,0.4s
DMN Daman 75.58 301 *e*P **P 21 16 26.1 +0.9**
14nm,0.7s
DMN Daman 75.58 301 *e*P **P 21 16 26.1 +0.9**
14nm,0.7s
GKN Gorkha 76.08 301 *e*P **P 21 16 28.5 +0.5**
15nm,0.9s
GKN Gorkha 76.08 301 *e*P **P 21 16 28.5 +0.5**
15nm,0.9s
KOLN Koldanda 76.91 300 *e*P **P 21 16 32.8 +0.1**
KOLN Koldanda 76.91 300 *e*P **P 21 16 32.8 +0.1**
DANN Dangsing 76.92 301 *e*P **P 21 16 33.1 +0.2**
4.4nm,0.7s
DANN Dangsing 76.92 301 *e*P **P 21 16 33.1 +0.2**
4.4nm,0.7s
PYUN Piuthan 77.51 301 *e*P **P 21 16 35.9 -0.2**
PYUN Piuthan 77.51 301 *e*P **P 21 16 35.9 -0.2**
ILAR Eielson Array 83.11 21 P **P 21 17 03.9 -1.2**
ILAR Eielson Array 83.11 21 P **P 21 17 03.9 -1.2**
0.5nm,0.4s,baz=241,slow=5.8,SNR=14
MK31 Makanchi Array 83.22 319 *e*P **P 21 17 05.5 -0.6**
MKAR Makanchi Array 83.22 319 P **P 21 17 06.2 +0.1**
MKAR Makanchi Array 83.22 319 P **P 21 17 06.2 +0.1**
0.9nm,0.8s,baz=106,slow=6.8,SNR=9.4
YKA Yellowknife Ar 96.08 28 P **P 21 18 06.8 0.0**
YKA pP PcP 21 18 15.2 +8.1
YKA Yellowknife Ar 96.08 28 P **P 21 18 06.8 0.0**
0.9nm,0.8s,baz=266,slow=4.7,SNR=16
YKA pP PcP 21 18 15.1 +8.1
0.6nm,0.8s,baz=263,slow=4.7,SNR=7.6
BDFB Brasilia 148.15 134 PKPbc **PKPbc 21 24 25.7 -0.7**
BDFB Brasilia 148.15 134 PKPbc **PKPbc 21 24 25.7 -0.7**
4.0nm,0.7s,baz=224,slow=3.5,SNR=6.6
TORD Torodi Ar. Bea 152.98 286 PKPbc **PKPbc 21 24 36.9 -0.9**
TORD PKPab **PKPab 21 24 49.0 -0.3**
TORD Torodi Ar. Bea 152.98 286 PKPbc **PKPbc 21 24 36.9 -0.9**
1.3nm,0.7s,baz=30,slow=2.0,SNR=9.8
TORD PKPab **PKPab 21 24 49.0 -0.3**
0.7nm,0.5s,baz=28,slow=2.1,SNR=3.9

AUST ***25*** *22:04:21.4±0.3, 15.83S×173.05W, h0km, Error ellipse: s-maj=7.9km s-min=6.6km az=156.0*
IDC ***25*** *22:04:21.2±0.4, 15.90S×173.04W, h0km, mb5.1/24, mb1 5.3/27, mb1mx5.2/29, mbtmp5.1/27, ML5.8/2, MS4.6/25, Ms1 4.6/25, ms1mx4.6/29, Error ellipse: s-maj=15.3km s-min=11.9km az=119.0*
ISCJB ***25*** *22:04:23.5±0.1, 15.92S±0.03×173.11W±0.02, h26km, mb5.3/212, MS5.0/124, Error ellipse: s-maj=5.1km s-min=2.9km az=153.9*
DJA ***25*** *22:04:24.4±0.8, 16.3S±24.1×17.3W±1.6, h10km, M5.8/18, mb5.4/18, mB5.8/9, MLv6.4/1, Mw(mB)5.4/9*
MOS ***25*** *22:04:24.9±1.4, 15.88S×173.01W, h33km, mb5.5/53, MS5.1/21, Error ellipse: s-maj=8.9km s-min=6.1km az=57.3*
SZGRF ***25*** *22:04:26.4, 16.58S×172.55W, h33km, Samoa Islands region*
BJI ***25*** *22:04:26.0, 15.80S×173.10W, h35km, mB5.6/31, mb5.0/38, Ms5.2/28, Ms7 4.8/27*
NEIC ***25*** *22:04:27.0±0.1, 15.96S×173.06W, h47km, mb5.4/148, MS5.2/85, MW5.6, Error ellipse: s-maj=5.8km s-min=3.2km az=142.0, Moment Tensor Solution. s14 Moment tensor: Scale 10¹⁷Nm; Mrr0.77; Mθθ1.40; Mϕϕ-2.17; Mrθ-1.27; Mθϕ-0.23; Mϕr1.52; Best double couple: M₀2.80000×10¹⁷ NP1:ϕs326.00000°, δ41.00000°, λ164.00000°. NP2: ϕs224.00000°, δ80.00000°, λ51.00000°. Principal axes: T 2.6700, Plg41.0000°, Azm198.0000°; N 0.1600, Plg38.0000°, Azm334.0000°; P -2.8400, Plg24.0000°, Azm85.0000°;*
GCMT ***25*** *22:04:33.1±0.1, 15.85S×172.74W, h52km±1km, MW5.5, Moment Tensor Solution. s91,c147; s21,c22; Moment tensor: Scale 10¹⁷Nm; Mrr0.13±.03; Mθθ1.16±.03; Mϕϕ-1.29±.03; Mrθ-1.03±.04; Mθϕ-0.58±.03; Mϕr1.86±.05; Best double couple: M₀2.50000×10¹⁷ NP1:ϕs330.00000°, δ88.00000°, λ58.00000°. NP2:ϕs237.00000°, δ32.00000°, λ176.00000°. Principal axes: T 2.4700, Plg38.0000°, Azm212.0000°; N 0.1100, Plg32.0000°, Azm331.0000°; P -2.5700, Plg35.0000°, Azm88.0000°; Data used: II IU CU CN IC G. Surface waves: sta=113, comp=201, per= 50.*
ISC 25 22:04:25.0±0.2, 15.97S±0.04×173.02W±0.04, h26km, h26km:pP-P, n998, σ1§13/1021, mb5.4/212, MS5.0/125, 210C-221D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.38**	**31**	*e*Pn	Pn	22 04 59.9	-2.6
AFI				*e*Sn	Sn	22 05 25.0	-5.8
AFI	**Afiamalu**	**2.38**	**31**	Pn	**Pn**	**22 05 00.6**	**-1.9**
AFI	889nm,0.3s,baz=210,slow=0.7,SNR=1740			Sn	Sn	22 05 24.1	-6.7
NIUE	3μm,0.3s,baz=25,slow=21,SNR=18 **Niue** baz=4.4,SNR=256	**4.27**	**137**	⇓P	**Pn**	**22 05 29.6**	**+1.2**
KNTN	**Kanton**	**13.18**	**6**	*e*Pn	**Pn**	**22 07 28.4**	**-2.2**
RAR	**Rarotonga**	**13.60**	**115**	*e*Pn	**Pn**	**22 07 35.0**	**-1.3**
RAR				Sn	Sn	22 09 53.9	-13
RAR	**Rarotonga**	**13.60**	**115**	Pn	**Pn**	**22 07 35.3**	**-0.9**
RAR	23nm,0.3s,baz=280,slow=0.0,SNR=30			Sn	Sn	22 09 53.9	-13
RAR	3.3nm,0.3s,baz=297,slow=0.0,SNR=4.1			LR	LR	22 11 48.6	
RAO	comp=Z,1μm,20.1s,baz=45,slow=33 **Raoul Island**	**13.96**	**198**	*e*Pn	**Pn**	**22 07 40.0**	**-1.3**
RAO				*e*Sn	**Sn**	**22 10 11.5**	**-4.0**
RAO	**Raoul Island**	**13.96**	**198**	Pn	**Pn**	**22 07 40.9**	**-0.4**
RAO	73nm,0.3s,baz=68,slow=19,SNR=3.6			Sn	Sn	22 10 09.8	-5.7
DZM	72nm,0.3s,baz=270,slow=20,SNR=5.8 **Mont Dzumac** 1μm,1.2s	**20.33**	**249**	*e*P	**P**	**22 08 59.5**	**0.0**
DZM				*e*LR	LR	22 13 48.1	
DZM	16μm,28.1s **Mont Dzumac**	**20.33**	**249**	P	**P**	**22 08 59.2**	**-0.3**
DZM	**Mont Dzumac** 63nm,0.9s,baz=73,slow=18,SNR=17	**20.33**	**249**	P	**P**	**22 08 59.2**	**-0.3**
DZM				LR	LR	22 14 38.0	
NOUC	comp=Z,1μm,20.4s,baz=40,slow=30 **Port Laguerre**	**20.46**	**249**	*e*P	**P**	**22 09 00.7**	**-0.2**
TARA	**Tarawa** 185nm,1.0s	**22.12**	**320**	*e*P	**P**	**22 09 16.0**	**-2.7**
PAE	**Paea** 38nm,1.2s	**22.50**	**98**	*e*P	**P**	**22 09 23.0**	**+0.2**
PPT	**Papeete**	**22.50**	**97**	*e*P	**P**	**22 09 23.4**	**+0.5**
PPT	**Papeete** 102nm,0.9s,baz=46,slow=17,SNR=7.9	**22.50**	**97**	P	**P**	**22 09 23.4**	**+0.5**
PPT	comp=Z,1μm,19.4s,baz=276,slow=30			LR	LR	22 15 40.7	
PPT2	**Papeete2** 218nm,1.3s	**22.50**	**97**	*e*P	**P**	**22 09 23.5**	**+0.6**
PPT2	5μm,28.5s			*e*LQ	LQ	22 13 50.6	
PPT2	9μm,28.0s,baz=265			*e*LR	LR	22 14 33.7	
OUZ	**Omahuta**	**22.61**	**210**	*e*P	**P**	**22 09 23.5**	**-0.3**
OUZ				*e*pP	pP	22 09 24.4	-6.6
OUZ	comp=Z,3μm,21.0s			LR	LR		
TIAR	**Tiarei** comp=Z,51nm,1.0s	**22.72**	**97**	*e*P	**P**	**22 09 25.2**	**0.0**
TVO	**Taravao** comp=Z,59nm,1.1s	**22.82**	**98**	*e*P	**P**	**22 09 26.4**	**+0.2**
TBI	**Tubuai** comp=Z,278nm,1.1s	**23.35**	**112**	*e*P	**P**	**22 09 31.0**	**-0.5**
TBI	comp=Z,3μm,31.5s			*e*LQ	LQ	22 14 15.6	
TBI	comp=Z,8μm,28.5s,baz=286			*e*LR	LR	22 15 04.9	
XMAS	**Kiritimati** comp=Z,219nm,1.0s	**23.61**	**42**	*e*P	**P**	**22 09 33.2**	**-0.9**
URZ	**Urewera** comp=Z,280nm,0.8s	**23.84**	**199**	*e*P	**P**	**22 09 36.0**	**-0.2**
URZ				*e*S	**S**	**22 13 50.2**	**-0.4**
URZ	comp=Z,2μm,20.0s			LR	LR		
URZ	**Urewera** comp=Z,104nm,0.4s,baz=9.9,slow=4.3,SNR=64	**23.84**	**199**	P	**P**	**22 09 35.9**	**-0.2**
URZ	comp=Z,27nm,0.5s,baz=277,slow=17,SNR=7.4			S	**S**	**22 13 53.0**	**+2.4**
MEH	**Mehetia** comp=Z,67nm,1.2s	**23.95**	**98**	*e*P	**P**	**22 09 37.0**	**-0.4**
PMOR	**Pomariorio Ree** comp=Z,622nm,1.3s	**24.23**	**91**	*e*P	**P**	**22 09 40.5**	**+0.5**
VAH	**Vaihoa** comp=Z,175nm,1.1s	**24.47**	**92**	*e*P	**P**	**22 09 42.2**	**+0.1**
BKZ	**Black Stump Fm** comp=Z,188nm,1.3s	**24.87**	**200**	*e*P	**P**	**22 09 45.8**	**+0.2**
BKZ				*e*S	**S**	**22 14 07.2**	**+0.1**
BKZ	comp=Z,2μm,22.0s			LR	LR		
BFZ	**Birch Farm** comp=Z,197nm,1.0s	**26.32**	**199**	*e*P	**P**	**22 10 00.3**	**+1.6**
HNR	**Honiara** comp=Z,108nm,0.9s	**27.14**	**281**	*e*P	**P**	**22 10 06.5**	**+0.2**
HNR	**Honiara** comp=Z,2μm,18.7s,baz=125,slow=34	**27.14**	**281**	LR	LR	22 19 40.5	
SNZO	**South Karori** comp=Z,164nm,1.0s	**27.39**	**200**	*e*P	**P**	**22 10 07.8**	**-0.4**
SNZO	comp=Z,1μm,18.0s			LR	LR		
KHZ	**Kahutara**	**28.77**	**201**	PFAKE		22 10 30.0	+9.4
KHZ	comp=Z,2μm,21.0s			LR	LR		
RPZ	**Rata Peaks**	**30.79**	**203**	*e*P	P	22 10 27.4	-11
RPZ				*e*sP	sP	22 10 37.4	-12
RPZ	comp=Z,3μm,22.0s			LR	LR		
RPZ	**Rata Peaks** comp=Z,50nm,0.8s,baz=7.0,slow=2.1,SNR=9.2	**30.79**	**203**	P	**P**	**22 10 38.6**	**0.0**
ODZ	**Otahua Downs**	**32.09**	**202**	*e*P	**P**	**22 10 50.5**	**+0.6**
ODZ				*e*pP	pP	22 10 50.6	-7.0
ODZ	comp=Z,2μm,20.8s			LR	LR		
DCZ	**Deep Cove**	**33.80**	**205**	*e*P	P	22 10 59.5	-5.3
DCZ				*e*sP	sP	22 11 06.3	-9.5
WHZ	**Wether Hill Ro**	**33.82**	**204**	*e*P	**P**	**22 11 05.7**	**+0.6**
WHZ	comp=Z,2μm,21.0s			LR	LR		
EIDS	**Eidsvold** comp=Z,62nm,1.5s	**34.77**	**248**	*e*P	**P**	**22 11 11.9**	**-1.6**
EIDS	comp=Z,2μm,20.4s			LR	LR		
ARMA	**Armidale** comp=Z,153nm,1.4s	**35.36**	**240**	*e*P	**P**	**22 11 18.5**	**-0.2**
ARMA	comp=Z,1μm,20.9s			LR	LR		
RKT	**Rikitea** comp=Z,78nm,1.0s	**36.48**	**107**	*e*P	**P**	**22 11 28.4**	**+0.2**
RKT	comp=Z,372nm,28.9s			*e*S	**S**	**22 17 07.8**	**-1.1**
RKT	comp=Z,4μm,29.2s,baz=278			*e*LR	LR	22 21 07.0	
CTAO	**Charters Tower**	**38.87**	**258**	*e*P	**P**	**22 11 46.9**	**-1.7**
CTAO	comp=Z,26nm,1.4s			pmax	pmax		
CTAO	comp=Z,1μm,20.0s			MLR	MLR		
CTAO	**Charters Tower** comp=Z,26nm,1.4s	**38.87**	**258**	*e*P	**P**	**22 11 46.9**	**-1.7**
CTAO	comp=Z,1μm,20.0s			LR	LR		
PMG	**Port Moresby** comp=Z,44nm,1.6s,comp=Z,1μm	**39.34**	**275**	P	**P**	**22 11 53.4**	**+0.9**
PMG	**Port Moresby** comp=Z,197nm,1.8s	**39.34**	**275**	*e*P	**P**	**22 11 52.0**	**-0.5**
PMG	**Port Moresby** comp=Z,671nm,19.3s,baz=106,slow=33	**39.34**	**275**	LR	LR	22 26 06.3	
H11S2	**WAKE ISLAND Hy** baz=152,slow=77,SNR=38	**39.64**	**329**	T	T	22 53 35.3	
H11S3	**WAKE ISLAND Hy** baz=152,slow=77,SNR=7.6	**39.65**	**329**	T	T	22 53 38.1	
H11S1	**WAKE ISLAND Hy** baz=152,slow=77,SNR=8.7	**39.66**	**329**	T	T	22 53 58.9	
KIP	**Kipapa**	**39.97**	**22**	*e*P	**P**	**22 11 58.0**	**+0.4**
KIP	comp=Z,68nm,0.8s			pmax	pmax		
KIP	**Kipapa** comp=Z,267nm,1.1s	**39.97**	**22**	*e*P	**P**	**22 11 57.5**	**-0.1**
H11N3	**WAKE ISLAND Hy** baz=152,slow=77,SNR=13	**40.59**	**330**	T	T	22 54 54.0	
H11N1	**WAKE ISLAND Hy** baz=152,slow=77,SNR=103	**40.59**	**330**	T	T	22 54 50.6	
H11N2	**WAKE ISLAND Hy** baz=152,slow=77,SNR=120	**40.60**	**330**	T	T	22 54 51.5	
COEN	**Coen** comp=Z,323nm,0.8s	**42.31**	**267**	*e*P	**P**	**22 12 17.4**	**+0.4**
COEN	comp=Z,3μm,19.0s			LR	LR		
TAU	**Tasmania Unive** comp=Z,562nm,2.6s	**43.15**	**223**	*e*P	**P**	**22 12 22.7**	**-0.7**
TAU				pmax	pmax		
TAU	**Tasmania Unive** comp=Z,562nm,2.6s	**43.15**	**223**	*e*P	**P**	**22 12 22.7**	**-0.7**
STKA	**Stephens Creek** comp=Z,44nm,1.3s	**44.07**	**241**	*e*P	**P**	**22 12 30.5**	**-0.6**
STKA	**Stephens Creek** comp=Z,97nm,1.1s,baz=74,slow=7.3,SNR=92	**44.07**	**241**	P	**P**	**22 12 31.1**	**0.0**
STKA	comp=Z,686nm,18.4s,baz=75,slow=34			LR	LR	22 29 10.2	
BBOO	**Buckleboo** comp=Z,561nm,1.0s	**48.84**	**240**	*e*P	**P**	**22 13 07.1**	**-1.4**
BBOO	comp=Z,8μm,22.0s			LR	LR		
BBOO	**Buckleboo** baz=49,SNR=23	**48.84**	**240**	⇓P	**P**	**22 13 07.9**	**-0.7**
WRAB	**Tennant Creek**	**50.06**	**257**	*ce*P	**P**	**22 13 16.4**	**-1.6**
WRAB	comp=Z,282nm,1.7s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,106nm,1.4s	**50.06**	**257**	*e*P	**P**	**22 13 16.2**	**-1.8**
WRAB	comp=Z,1μm,19.0s			LR	LR		
WRAB	**Tennant Creek** comp=Z,262nm,1.0s,SNR=32	**50.06**	**257**	P	**P**	**22 13 16.8**	**-1.2**
WRA	**Warramunga Arr**	**50.07**	**257**	P	**P**	**22 13 16.9**	**-1.2**
WRA				S	**S**	**22 20 23.7**	**-4.4**
WRA	**Warramunga Arr** comp=Z,23nm,0.7s,baz=91,slow=7.3,SNR=112	**50.07**	**257**	P	**P**	**22 13 16.9**	**-1.2**
WRA	comp=Z,1.5nm,1.0s,baz=96,slow=13,SNR=6.0			S	**S**	**22 20 23.7**	**-4.4**
WRA	comp=Z,979nm,18.5s,baz=95,slow=36			LR	LR	22 34 13.4	
AS01	**Alice Springs**	**50.24**	**252**	*e*P	**P**	**22 13 17.6**	**-1.7**
ASAR	**Alice Springs**	**50.28**	**252**	P	**P**	**22 13 19.1**	**-0.6**
ASAR				S	S	22 20 25.5	-5.6
ASAR	**Alice Springs** comp=Z,122nm,0.9s,baz=87,slow=7.8,SNR=842	**50.28**	**252**	P	**P**	**22 13 19.1**	**-0.6**
ASAR	comp=Z,3.3nm,1.0s,baz=88,slow=15,SNR=9.0			S	S	22 20 25.5	-5.6
ASAR	comp=Z,2μm,19.8s,baz=92,slow=35			LR	LR	22 33 24.1	
MTN	**Manton Dam** baz=54,SNR=15	**54.05**	**266**	⇓P	**P**	**22 13 46.9**	**-0.9**
WRKA	**Warakurna** baz=55,SNR=115	**55.34**	**250**	⇓P	**P**	**22 13 56.7**	**-0.4**
FORT	**Forrest** comp=Z,81nm,0.9s	**55.48**	**243**	*e*P	**P**	**22 13 56.3**	**-1.7**
FORT	**Forrest** baz=56,SNR=23	**55.48**	**243**	⇑P	**P**	**22 13 57.5**	**-0.4**
KNRA	**Kununurra** baz=56,SNR=32	**55.84**	**262**	⇓P	**P**	**22 14 00.7**	**0.0**
FITZ	**Fitzroy Crossi**	**58.45**	**258**	*e*P	**P**	**22 14 17.9**	**-1.3**
FITZ	**Fitzroy Crossi** comp=Z,1μm,20.2s,baz=93,slow=34	**58.45**	**258**	LR	LR	22 37 52.1	
FITZ	**Fitzroy Crossi** baz=58,SNR=11	**58.45**	**258**	⇓P	**P**	**22 14 20.0**	**+0.9**
JCJ	**Chichijima** comp=Z,354nm,21.3s,baz=103,slow=30	**61.01**	**314**	LR	LR	22 34 36.0	
TNTI	**Ternate** comp=Z,383nm,1.9s	**61.13**	**280**	*e*P	**P**	**22 14 37.5**	**-0.1**
TNTI	comp=Z,500nm,22.0s			LR	LR		
SBA	**Scott Base**	**62.71**	**185**	*e*P	**P**	**22 14 49.8**	**+2.5**
SBA	comp=Z,63nm,0.9s			pmax	pmax		
SBA	**Scott Base** comp=Z,63nm,0.9s	**62.71**	**185**	*e*P	**P**	**22 14 49.8**	**+2.5**
VNDA	**Vanda** comp=Z,36nm,0.9s	**62.85**	**186**	*e*P	**P**	**22 14 50.1**	**+2.0**
VNDA	**Vanda** comp=Z,28nm,0.9s,baz=9.3,slow=6.5,SNR=96	**62.85**	**186**	P	**P**	**22 14 50.6**	**+2.5**
VNDA	comp=Z,286nm,21.0s,baz=22,slow=29			LR	LR	22 34 51.5	
MMRI	**Maumere** comp=Z,80nm,1.2s	**63.47**	**268**	*e*P	**P**	**22 14 51.9**	**-1.4**
FX1	**Attu Island--F**	**69.60**	**351**	*e*P	**P**	**22 15 30.2**	**-1.4**
FX1	**Attu Island--F** comp=Z,7.7nm,0.8s,baz=110,slow=12,SNR=3.8	**69.60**	**351**	P	**P**	**22 15 31.7**	**+0.1**
FX1	comp=Z,280nm,19.8s,baz=178,slow=32			LR	LR	22 41 23.4	
MJAR	**Matsushiro Arr**	**69.61**	**320**	P	**P**	**22 15 31.7**	**-0.5**
MJAR	**Matsushiro Arr** comp=Z,3.6nm,0.8s,baz=151,slow=5.5,SNR=9.8	**69.61**	**320**	P	**P**	**22 15 31.7**	**-0.5**
MJAR	comp=Z,274nm,22.0s,baz=155,slow=31			LR	LR	22 40 18.2	
MAT	**Matsushiro**	**69.61**	**320**	P	**P**	**22 15 31.8**	**-0.3**
MAT				S	**S**	**22 24 41.6**	**+2.7**
UNV	**Unalaska Valle** comp=Z,1μm,2.9s	**69.76**	**4**	*e*P	**P**	**22 15 31.9**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**70.53**	**330**	P	P	22 15 32.5	-5.1
YUK				*e*S	S	22 24 44.3	-5.1
BSC	**Santa Cruz Isl** baz=71	**71.07**	**45**	⇑P	**P**	**22 15 41.8**	**+0.6**
SCI	**San Clemente I** baz=71	**71.24**	**46**	⇑P	**P**	**22 15 42.8**	**+0.6**
SBC	**Santa Barbara** baz=72	**71.27**	**44**	⇑P	**P**	**22 15 43.5**	**+1.2**
JAGI	**Jajag, Banyuwa** comp=Z,96nm,1.3s	**71.28**	**266**	*e*P	P	22 15 40.7	-2.1
SAC	**San Andreas**	**71.40**	**40**	*e*P	**P**	**22 15 41.9**	**-1.2**
SAC	**San Andreas**	**71.40**	**40**	*e*P	**P**	**22 15 41.9**	**-1.2**
MCCM	**Marconi Confer**	**71.47**	**40**	PFAKE		22 15 50.0	+6.6
MCCM	comp=Z,2μm,18.0s			LR	LR		
PKM	**Peak Mountain** baz=72,SNR=12	**71.47**	**44**	⇑P	**P**	**22 15 44.8**	**+1.1**
SAO	**San Andreas Ge** comp=Z,48nm,1.0s	**71.51**	**42**	*e*P	**P**	**22 15 43.9**	**+0.2**
SAO				pmax	pmax		
SAO	**San Andreas Ge** comp=Z,48nm,1.0s	**71.51**	**42**	*e*P	**P**	**22 15 43.9**	**+0.2**
BLG	**Laguna Peak** baz=72	**71.52**	**45**	⇓P	**P**	**22 15 44.0**	**+0.1**
CIS	**Catalina Islan** baz=72	**71.58**	**46**	⇓P	**P**	**22 15 44.9**	**+0.7**
SMMC	**Simmler** baz=72	**71.59**	**44**	⇑P	**P**	**22 15 45.4**	**+1.2**
PTRM	**Twissleman Ran**	**71.65**	**43**	*e*P	**P**	**22 15 44.6**	**-0.1**
FMP	**Fort Macarthur** baz=72	**71.83**	**46**	⇓P	**P**	**22 15 46.4**	**+0.8**
HOPS	**Hopland** comp=Z,89nm,1.3s	**71.88**	**39**	*e*P	**P**	**22 15 46.5**	**+0.6**
KCPM	**Cahto Peak** comp=Z,32nm,1.2s	**72.02**	**38**	*e*P	**P**	**22 15 46.6**	**-0.3**
OSI	**Osito Adit** comp=Z,87nm,1.5s	**72.04**	**45**	*e*P	**P**	**22 15 47.1**	**+0.1**
OSI	**Osito Adit** baz=72,SNR=6.3	**72.04**	**45**	⇓P	**P**	**22 15 47.7**	**+0.7**
DECC	**Green Verdugo** baz=72	**72.10**	**45**	⇑P	**P**	**22 15 47.7**	**+0.4**
KIPM	**Iron Peak**	**72.16**	**38**	*e*P	**P**	**22 15 48.0**	**+0.2**
PASC	**Pasadena Art C**	**72.16**	**45**	*e*P	P	22 15 36.8	-11
PASC	comp=Z,2μm,21.9s			LR	LR		
109C	comp=Z,2μm,21.9s **Camp Elliot, M** baz=72	**72.20**	**47**	⇑P	**P**	**22 15 48.7**	**+0.8**
ASAJ	**Asahikawa** comp=Z,73nm,1.3s	**72.22**	**328**	*e*P	**P**	**22 15 48.2**	**+0.5**
ASAJ	**Asahikawa** comp=Z,14nm,0.7s,baz=149,slow=8.7,SNR=7.0	**72.22**	**328**	P	**P**	**22 15 47.2**	**-0.5**
ARVC	**Arvin** baz=72,SNR=12	**72.26**	**44**	⇑P	**P**	**22 15 48.9**	**+0.7**
MWC	**Mount Wilson**	**72.28**	**45**	*e*P	**P**	**22 15 48.5**	**-0.1**
MWC	comp=Z,75nm,1.4s			pmax	pmax		
MWC	**Mount Wilson** comp=Z,75nm,1.4s	**72.28**	**45**	*e*P	**P**	**22 15 48.5**	**-0.1**
JNU	**Nakatsue** comp=Z,225nm,2.0s	**72.45**	**313**	*e*P	**P**	**22 15 48.6**	**-0.9**
JNU	**Nakatsue** comp=Z,12nm,0.7s,baz=135,slow=2.1,SNR=5.8	**72.45**	**313**	P	**P**	**22 15 49.5**	**0.0**
VES	**Vestal, Richgr** baz=73,SNR=27	**72.50**	**44**	⇓P	**P**	**22 15 50.0**	**+0.3**
MURC	**Murrieta** baz=73,SNR=11	**72.52**	**46**	⇓P	**P**	**22 15 50.2**	**+0.3**
BFSC	**Mount Baldy Ra** baz=73,SNR=7.6	**72.56**	**46**	⇑P	**P**	**22 15 50.2**	**0.0**
RCTC	**Rector, Farmer** baz=73	**72.67**	**43**	⇓P	**P**	**22 15 51.2**	**+0.6**
MONP	**Monument Peak** baz=73,SNR=13	**72.68**	**47**	⇑P	**P**	**22 15 51.8**	**+0.7**
EDW2	**Edwards Air Fo** baz=73,SNR=47	**72.69**	**45**	⇑P	**P**	**22 15 51.5**	**+0.6**
KHMM	**Horse Mountain** comp=Z,52nm,1.0s	**72.69**	**37**	*e*P	**P**	**22 15 51.3**	**+0.4**
DVTC	**Desert V Tower** baz=73,SNR=13	**72.78**	**48**	⇑P	**P**	**22 15 52.3**	**+0.7**
ISA	**Isabella**	**72.81**	**44**	*e*P	**P**	**22 15 51.5**	**-0.1**
ISA	comp=Z,16nm,1.3s			pmax	pmax		
ISA	comp=Z,1μm,18.6s			MLR	MLR		
ISA	**Isabella** comp=Z,16nm,1.3s	**72.81**	**44**	*e*P	**P**	**22 15 51.5**	**-0.1**
ISA	comp=Z,1μm,18.6s			LR	LR		
ISA	**Isabella** baz=73,SNR=48	**72.81**	**44**	⇑P	**P**	**22 15 52.4**	**+0.8**
PET	**Petropavlovsk**	**72.93**	**343**	*e*P	**P**	**22 15 50.2**	**-1.6**
PET				*e*S	**S**	**22 25 15.4**	**-1.2**
PET				*e*PS	PnS	22 26 02.0	+12
PET				*e*SS	**SS**	**22 30 04.0**	**+6.2**
PET	comp=Z,100nm,17.0s			MLR	MLR		
CMB	**Columbia Colle**	**72.95**	**41**	*e*P	**P**	**22 15 52.0**	**-0.4**
CMB	comp=Z,39nm,0.9s			pmax	pmax		
CMB	comp=Z,2μm,21.0s			MLR	MLR		
CMB	**Columbia Colle** comp=Z,39nm,0.9s	**72.95**	**41**	*e*P	**P**	**22 15 52.0**	**-0.4**
CMB	comp=Z,2μm,21.0s			LR	LR		
KRMB	**Red Mountain** comp=Z,246nm,2.2s	**73.01**	**36**	*e*P	**P**	**22 15 53.4**	**+0.6**
PFO	**Pinyon Flat Ob** comp=Z,102nm,1.4s,SNR=10	**73.05**	**47**	P	**P**	**22 15 53.6**	**+0.5**
PFO	**Pinyon Flat Ob** comp=Z,47nm,1.4s	**73.05**	**47**	*e*P	**P**	**22 15 52.6**	**-0.5**
PFO				LR	LR		

PFO **Pinyon Flat Ob** 73.05 47 ⇓P P 22 15 53.4 +0.3
baz=73,SNR=13
BBRC **Big Bear Solar** 73.08 46 ⇑P P 22 15 54.0 +0.6
baz=73
SWSC **Sam W. Stewart** 73.15 48 ⇑P P 22 15 54.1 +0.5
baz=73,SNR=7.1
WDC **Whiskeytown Da** 73.20 38 *eP* P 22 15 53.6 -0.1
WDC pmax pmax
comp=Z,75nm,1.4s
WDC MLR MLR
WDC **Whiskeytown Da** 73.20 38 *eP* P 22 15 53.6 -0.1
comp=Z,2μm,21.6s
comp=Z,75nm,1.4s
WDC LR LR
comp=Z,2μm,21.6s
LRMC **Laurel Mountai** 73.23 45 ⇓P P 22 15 54.7 +0.5
baz=73,SNR=30
PEA0 **Petropavlovsk-** 73.28 342 *eP* P 22 15 52.5 -1.5
PETK **Petropavlovsk-** 73.28 342 P P 22 15 54.3 +0.4
PETK pmax pmax
comp=Z,9.0nm,0.8s
PETK MLR MLR
comp=Z,84nm,18.6s
PETK **Petropavlovsk-** 73.28 342 P P 22 15 54.3 +0.4
PETK **Petropavlovsk-** 73.28 342 P P 22 15 54.3 +0.4
comp=Z,9.4nm,0.8s,baz=145,slow=9.3,SNR=13
PETK LR LR 22 45 48.1
comp=Z,84nm,18.6s,baz=142,slow=34
N02D **Trinity Center** 73.36 37 ⇑P P 22 15 55.9 +1.2
baz=74
RRX **Edison Barstow** 73.36 45 ⇑P P 22 15 55.1 +0.2
baz=74
CWC **Cottonwood Cre** 73.51 44 ⇑P P 22 15 56.5 +0.6
baz=74,SNR=26
M02C **Callahan** 73.53 37 ⇓P P 22 15 57.1 +1.3
baz=74
KEBM **Edson Butte** 73.66 35 *eP* P 22 15 55.2 -1.2
comp=Z,101nm,1.1s
MPMC **Manual Prospec** 73.69 44 ⇑P P 22 15 57.6 +0.7
baz=74,SNR=65
MLAC **Mammoth Lakes** 73.70 42 ⇓P P 22 15 57.8 +0.8
baz=74
GSC **Goldstone** 73.73 45 *eP* P 22 15 56.8 -0.3
GSC pmax pmax
comp=Z,53nm,1.3s
GSC **Goldstone** 73.73 45 *eP* P 22 15 56.8 -0.3
comp=Z,53nm,1.3s
GSC **Goldstone** 73.73 45 ⇑P P 22 15 57.6 +0.5
baz=74,SNR=28
TIN **Tinemaha** 73.77 43 ⇑P P 22 15 57.8 +0.5
baz=74
HEC **Hector,Ludlow** 73.80 46 ⇓P P 22 15 57.8 +0.4
baz=74,SNR=38
WAKR **Walker** 73.83 41 *eP* P 22 15 57.9 +0.1
YBH **Yreka Blue Hor** 73.83 37 *eP* P 22 15 57.9 +0.3
comp=Z,56nm,0.9s
GLA **Glamis** 73.90 48 *eP* P 22 15 57.3 -0.8
GLA pmax pmax
comp=Z,12nm,1.3s
GLA **Glamis** 73.90 48 *eP* P 22 15 57.3 -0.8
comp=Z,12nm,1.3s
GLA **Glamis** 73.90 48 ⇓P P 22 15 58.7 +0.6
baz=74,SNR=11
BEKR **Beckworth** 74.07 40 *eP* P 22 15 58.6 -0.5
comp=Z,18nm,0.8s
QSPA **South Pole Qui** 74.08 180 PFAKE 22 16 10.0 +11
QSPA LR LR
comp=Z,400nm,20.0s
YSS **Yuzh-Sakhalins** 74.16 330 *eP* P 22 15 58.0 -1.1
YSS *e* 22 16 15.0
YSS *eS* SKiKP 22 25 26.0 +0.6
GMRC **Granite Mounta** 74.23 46 ⇓P P 22 16 00.4 +0.3
baz=74,SNR=24
HUMO **Hull Mountain** 74.25 36 *eP* P 22 16 00.3 +0.4
comp=Z,61nm,1.1s
HUMO LR LR
comp=Z,1μm,20.0s
IRM **Iron Mountain** 74.26 47 ⇓P P 22 16 00.8 +0.7
baz=74,SNR=27
GRAC **Grapevine Rang** 74.30 43 ⇓P P 22 16 01.3 +1.0
baz=74
FURC **Furnace Creek,** 74.34 44 ⇑P P 22 16 00.9 +0.4
baz=74,SNR=11
M04C **Macdoel** 74.37 37 ⇓P P 22 16 01.6 +0.9
baz=75
TUQ **Turquoise Moun** 74.41 45 ⇓P P 22 16 01.5 +0.5
baz=75,SNR=37
SHOC **Shoshone** 74.42 45 ⇑P P 22 16 01.4 +0.4
baz=75,SNR=5.9
Y12C **Blythe** 74.48 48 ⇑P P 22 16 02.0 +0.6
baz=75,SNR=11
NV01 **Mina Array Sit** 74.51 42 *eP* P 22 16 01.5 -0.2
113A **Mohawk Valley,** 74.52 49 ⇓P P 22 16 02.0 +0.5
baz=75,SNR=14
PAHR **Pah Rah Range** 74.58 40 *eP* P 22 16 02.4 +0.4
comp=Z,39nm,1.0s
LDFC **Landfair** 74.77 46 *eP* P 22 15 58.4 -4.8
comp=Z,192nm,1.6s
LDFC LR LR
comp=Z,1μm,20.0s
214A **Organ Pipe Nat** 74.80 50 ⇑P P 22 16 03.8 +0.5
baz=75,SNR=11
K04D **Chiloquin, OR** 74.95 37 ⇓P P 22 16 04.6 +0.5
baz=75
NEE2 **Needles Airpor** 74.95 47 ⇓P P 22 16 04.7 +0.6
baz=75
TPH **Tonopah** 75.00 43 *eP* P 22 16 04.5 -0.1
TPH pmax pmax
comp=Z,65nm,1.0s
TPH MLR MLR
comp=Z,2μm,21.0s
TPH **Tonopah** 75.00 43 *eP* P 22 16 04.5 -0.1
comp=Z,65nm,1.0s
TPH LR LR
comp=Z,2μm,21.0s
TPNV **Topopah Spring** 75.02 44 *eP* P 22 16 04.3 -0.3
TPNV **Topopah Spring** 75.02 44 *eP* P 22 16 04.3 -0.3
TPNV **Topopah Spring** 75.02 44 ⇓P P 22 16 05.2 +0.6
baz=75,SNR=30
PDMCI **Parker Dam,Lak** 75.04 47 ⇓P P 22 16 05.2 +0.6
baz=75,SNR=10
J04D **Umpqua Nationa** 75.14 36 ⇑P P 22 16 06.3 +1.1
baz=75
I04A **Tendick Farm,** 75.32 35 ⇓P P 22 16 06.6 +0.5
baz=76
COR **Corvallis** 75.34 34 *eP* P 22 16 05.7 -0.4
COR pmax pmax
comp=Z,8.0nm,1.0s
COR **Corvallis** 75.34 34 *eP* P 22 16 05.7 -0.4
comp=Z,8.2nm,1.0s
MOD **Modoc** 75.35 38 *eP* P 22 16 06.3 -0.1
comp=Z,14nm,0.9s
MOD LR LR
comp=Z,1μm,20.0s
Z14A **Wintersburg** 75.41 49 ⇑P P 22 16 07.4 +0.7
baz=76,SNR=9.1
SHPR **Sheep Range** 75.51 45 *eP* P 22 16 07.6 +0.1
K05A **Summer Lake** 75.51 37 *eP* P 22 16 07.7 +0.4
comp=Z,100nm,0.9s
W13A **Hualapai Mount** 75.64 47 ⇓P P 22 16 08.7 +0.4
baz=76,SNR=33
J05D **Fort Rock, OR** 75.66 36 ⇑P P 22 16 09.3 +1.1
baz=76
Y14A **Wickenburg** 75.66 48 ⇓P P 22 16 08.7 +0.5
baz=76,SNR=12
TPUB **Ta-pu** 75.69 300 *eP* P 22 16 06.7 -1.9
comp=Z,122nm,1.3s
G03D **McMinnville, O** 75.77 34 ⇑P P 22 16 09.5 +1.0
baz=76
H04A **Detroit Lake** 76.01 35 *eP* P 22 16 10.2 +0.2
comp=Z,53nm,0.9s
SBUM **Sibu** 76.05 277 P P 22 16 11.4 +0.5
comp=Z,15nm,1.2s
SBUM **Sibu** 76.05 277 *eP* P 22 16 10.6 -0.2
comp=Z,22nm,1.3s
PINOR **Pine Mountain** 76.19 36 *eP* P 22 16 11.3 +0.3
R11A **Troy Canyon, C** 76.23 43 *eP* P 22 16 10.8 -0.7
R11A **Troy Canyon, C** 76.23 43 ⇑P P 22 16 12.1 +0.5
baz=76
I05D **Terrebonne, OR** 76.26 35 ⇓P P 22 16 12.4 +1.0
baz=76
BMN **Battle Mountai** 76.35 41 *eP* P 22 16 11.5 -0.7
BMN pmax pmax
comp=Z,28nm,0.8s
BMN MLR MLR
comp=Z,1μm,22.0s
BMN **Battle Mountai** 76.35 41 *eP* P 22 16 11.5 -0.7
comp=Z,28nm,0.8s
BMN LR LR
comp=Z,1μm,22.0s
TUC **Tucson** 76.47 50 *eP* P 22 16 13.1 +0.2
TUC pmax pmax
comp=Z,84nm,1.6s
TUC **Tucson** 76.47 50 *eP* P 22 16 13.1 +0.2
comp=Z,84nm,1.6s
F04D **Rainier, OR** 76.47 33 ⇓P P 22 16 13.8 +1.2
baz=77
E03A **Lebam** 76.49 33 *eP* P 22 16 12.2 -0.3
comp=Z,80nm,0.9s
KPJI **Karang Pucung** 76.57 266 P P 22 16 14.3 +0.5
comp=Z,35nm,0.9s
WVOR **Wild Horse Val** 76.65 38 *eP* P 22 16 13.5 -0.3
WVOR pmax pmax
comp=Z,49nm,1.1s
WVOR MLR MLR
comp=Z,2μm,22.0s
WVOR **Wild Horse Val** 76.65 38 *eP* P 22 16 13.5 -0.3
comp=Z,49nm,1.1s
WVOR LR LR
comp=Z,2μm,22.0s
F04A **Amboy** 76.69 34 *eP* P 22 16 13.8 0.0
comp=Z,151nm,1.6s
KSRS **Korea Array** 76.82 315 P P 22 16 14.1 -0.5
comp=Z,2.6nm,0.8s,baz=127,slow=6.1,SNR=5.2
KSRS LR LR 22 43 19.1
comp=Z,126nm,20.1s,baz=116,slow=30
KSAR **Wonju Array Be** 76.84 315 P P 22 16 14.1 -0.7
G05D **Wamic, OR** 76.84 35 ⇑P P 22 16 15.5 +0.8
baz=77
KS01 **Wonju Array Si** 76.85 316 *eP* P 22 16 13.5 -1.3
NLWA **Neilton Lookou** 76.89 32 *eP* P 22 16 13.6 -1.3
comp=Z,173nm,1.9s
X16A **Lo Mia Camp, P** 77.02 48 ⇓P P 22 16 17.2 +1.0
baz=77
MIR **Mirnyy** 77.05 204 ⇑*rP* P 22 16 17.0 +1.5
MIR pmax pmax
comp=Z,132nm,1.2s
I07A **Izee** 77.14 36 *eP* P 22 16 16.1 -0.3
comp=Z,41nm,0.9s
319A **Douglas** 77.16 52 ⇑P P 22 16 17.7 +0.8
baz=77,SNR=27
G06A **Carlson Farm,** 77.22 35 *eP* P 22 16 16.6 -0.2
comp=Z,26nm,0.9s
CCUT **Cedar City** 77.28 45 *eP* P 22 16 17.4 -0.1
comp=Z,38nm,1.1s
CCUT LR LR
comp=Z,1μm,19.0s
J08A **Circle Bar Ran** 77.30 38 *eP* P 22 16 16.4 -1.1
comp=Z,51nm,1.0s
J08A LR LR
comp=Z,1μm,21.7s
ARUT **Antelope Range** 77.35 44 *eP* P 22 16 18.3 +0.4
ARUT **Antelope Range** 77.35 44 *eP* P 22 16 18.2 +0.4
KNB **Kanab** 77.37 45 *eP* P 22 16 17.8 -0.2
KNB pmax pmax
comp=Z,193nm,1.7s
KNB MLR MLR
comp=Z,1μm,21.4s
KNB **Kanab** 77.37 45 *eP* P 22 16 17.8 -0.2
comp=Z,193nm,1.7s
KNB LR LR
comp=Z,1μm,21.4s
U15A **North Rim** 77.43 46 ⇓P P 22 16 19.6 +1.1
baz=78,SNR=41
LON **Longmire** 77.54 33 *eP* P 22 16 17.1 -1.5
LON pmax pmax
comp=Z,13nm,0.8s
LON **Longmire** 77.54 33 *eP* P 22 16 17.1 -1.5
comp=Z,13nm,0.8s
CISI **Cisompet, Garu** 77.58 266 *eP* P 22 16 17.4 -2.2
comp=Z,85nm,1.3s
CISI LR LR
comp=Z,300nm,20.0s
KSM **Kuching** 77.60 275 P P 22 16 20.1 +0.5
KSM **Kuching** 77.60 275 P P 22 16 20.5 +0.9
comp=Z,48nm,1.4s,comp=Z,732nm
KSM **Kuching** 77.60 275 *eP* P 22 16 18.3 -1.3
comp=Z,60nm,1.2s
WUAZ **Wupatki** 77.62 47 *eP* P 22 16 18.8 -0.6
comp=Z,77nm,1.6s
WUAZ **Wupatki** 77.62 47 ⇓P P 22 16 20.1 +0.7
baz=78,SNR=17
320A **Kipp Ranch, An** 77.71 52 ⇓P P 22 16 21.0 +1.0
baz=78,SNR=14
D05A **Enumclaw** 77.73 33 *eP* P 22 16 19.7 +0.2
comp=Z,129nm,1.3s
ELK **Elko** 77.77 41 *eP* P 22 16 19.6 -0.6
comp=Z,40nm,1.3s
ELK LR LR
comp=Z,1μm,21.4s
RSO **Redoubt South** 77.90 10 *eP* P 22 16 18.3 -2.1
PGC **Sidney** 77.94 31 *eP* P 22 16 20.0 -0.6
LEM **Lembang** 77.96 266 P P 22 16 22.3 +0.5
comp=Z,86nm,1.5s,comp=Z,1μm
USRK **Ussuriysk Arra** 78.06 323 P P 22 16 22.4 +1.0
comp=Z,3.6nm,0.8s,baz=132,slow=2.8,SNR=8.0
USRK LR LR 22 44 43.2
comp=Z,296nm,20.3s,baz=290,slow=31
X18A **Snowflake** 78.15 49 ⇑P P 22 16 23.3 +0.9
baz=78,SNR=16
SEW **Seward** 78.17 12 *eP* P 22 16 20.1 -1.6
comp=Z,334nm,2.0s
G08A **Pilot Rock** 78.18 36 *eP* P 22 16 21.6 -0.7
comp=Z,52nm,1.0s
G08A LR LR
comp=Z,1μm,21.5s
HAWA **Hanford** 78.54 35 *eP* P 22 16 23.8 -0.3
comp=Z,38nm,0.9s
MVU **Marysvale** 78.55 44 *eP* P 22 16 25.4 +0.8
comp=Z,39nm,1.0s
MVU LR LR
comp=Z,1μm,20.0s
221A **Mesquite Ranch** 78.58 52 ⇓P P 22 16 26.0 +1.1
baz=79
W18A **Petrified Fore** 78.59 48 *eP* P 22 16 23.4 -1.5
W18A LR LR
comp=Z,800nm,20.8s
W18A **Petrified Fore** 78.59 48 ⇓P P 22 16 25.6 +0.8
baz=79,SNR=6.3
SSE **Sheshan** 78.59 307 P P 22 16 25.3 +0.6
SSE S S 22 26 23.5 +3.4
SSE pmax pmax
comp=Z,48nm,0.7s
SSE pmax pmax
comp=Z,71nm,4.0s
SSE LR LR
comp=Z,250nm,30.1s
SSE LR LR
comp=Z,140nm,30.2s
SSE LR LR
comp=Z,260nm,32.4s
CBJI **Citeko** 78.80 266 P P 22 16 25.8 -0.4
comp=Z,158nm,1.0s
121A **Cookes Peak, D** 78.82 51 ⇓P P 22 16 27.0 +0.8
baz=79,SNR=18
B06A **Marblemount** 78.84 32 *eP* P 22 16 24.2 -1.5
comp=Z,17nm,0.9s
A05A **Maple Falls** 78.85 31 *eP* P 22 16 23.9 -1.8
comp=Z,49nm,1.4s
DBJI **Dramaga** 78.86 266 P P 22 16 26.9 +0.3
comp=Z,58nm,1.1s
MFID **Camas Ranch** 78.90 39 *eP* P 22 16 26.1 -0.2
comp=Z,25nm,1.0s
MFID LR LR
comp=Z,1μm,19.0s
SKJI **Sukabumi** 78.93 266 P P 22 16 26.5 -0.5
comp=Z,105nm,1.0s
HABR **Khabarovsk** 79.01 328 *deP* P 22 16 25.9 -0.7
HABR *e* 22 16 33.2
HABR *e*SP **sP** 22 16 39.3 +1.3
HABR 22 19 23.5
HABR *e*PPP PPP 22 21 12.1
HABR *eS* **S** 22 26 22.1 -1.7
HABR *e* 22 26 34.5
HABR *e* 22 26 43.8
HABR *e*SS **SS** 22 31 27.3 -2.9
HABR *e*SSS SSS 22 34 52.6
HABR pmax pmax
comp=Z,168nm,1.8s
HABR MLR MLR
comp=Z,161nm,23.0s
DUG **Dugway** 79.03 43 *eP* P 22 16 25.1 -2.0
DUG pmax pmax
comp=Z,27nm,1.1s
DUG MLR MLR
comp=Z,1μm,19.0s
DUG **Dugway** 79.03 43 *eP* P 22 16 25.1 -2.0
comp=Z,27nm,1.1s
DUG LR LR
comp=Z,1μm,19.0s
DUG **Dugway** 79.03 43 ⇓P P 22 16 27.4 +0.3
baz=79
222A **Williams Famil** 79.14 52 ⇑P P 22 16 28.5 +0.6
baz=79
BGU **Big Grassy Mou** 79.28 42 *eP* P 22 16 27.1 -1.3
comp=Z,41nm,1.9s
BGU LR LR
comp=Z,800nm,20.4s
D08A **Wollman Farm,** 79.28 34 *eP* P 22 16 27.6 -0.5
comp=Z,34nm,1.0s
E09A **Wood Farm, Sta** 79.37 35 *eP* P 22 16 27.6 -1.1
comp=Z,25nm,0.8s
NLU **North Lily Min** 79.39 43 *eP* P 22 16 28.4 -0.8
comp=Z,135nm,2.5s
NLU LR LR
comp=Z,1μm,20.4s
RAGM **Ragged Mountai** 79.45 14 *eP* P 22 16 27.7 -1.1
comp=Z,336nm,0.8s
GAMB **Gambell** 79.50 1 *eP* P 22 16 28.4 -0.5
comp=Z,69nm,1.2s
GAMB LR LR
comp=Z,300nm,21.2s
F10A **Beach Ranch, E** 79.56 36 *eP* P 22 16 28.8 -1.1
comp=Z,48nm,0.8s
PMR **Palmer** 79.61 11 *eP* P 22 16 27.7 -1.8
PMR pmax pmax
comp=Z,53nm,1.3s
PMR **Palmer** 79.61 11 *eP* P 22 16 27.6 -1.8
comp=Z,53nm,1.3s
223A **Chaparral, Ant** 79.61 52 ⇑P P 22 16 31.4 +1.0
baz=80
TMUT **Trail Mountain** 79.63 44 *eP* P 22 16 31.1 +0.5
comp=Z,53nm,1.0s
MDJ **Mudanjiang** 79.70 322 P P 22 16 32.5 +2.1
MDJ pmax pmax
comp=Z,39nm,2.2s
MDJ pmax pmax
comp=Z,430nm,3.7s
MPU **Maple Canyon** 79.71 43 *eP* P 22 16 30.9 -0.1
comp=Z,25nm,1.2s
Z22A **Elephant Butte** 79.76 51 ⇓P P 22 16 32.1 +0.8
baz=80,SNR=27
HLID **Hailey** 79.84 39 *eP* P 22 16 31.7 +0.2
comp=Z,41nm,1.2s
HLID **Hailey** 79.84 39 ⇓P P 22 16 32.3 +0.8
baz=80
SPUT **South Promonto** 79.85 42 *eP* P 22 16 31.2 -0.3
comp=Z,77nm,1.5s
SPUT LR LR
comp=Z,2μm,21.4s
B08A **Colville Reser** 79.86 33 *eP* P 22 16 30.6 -0.7
comp=Z,25nm,0.8s
DIV **Divide** 79.87 13 *eP* P 22 16 29.9 -1.1
comp=Z,44nm,0.7s
HVU **Hansel Valley** 79.89 41 *eP* P 22 16 31.1 -0.7
HVU pmax pmax
comp=Z,25nm,0.8s
HVU MLR MLR
comp=Z,2μm,21.7s
HVU **Hansel Valley** 79.89 41 *eP* P 22 16 31.1 -0.7
comp=Z,25nm,0.8s
HVU LR LR
comp=Z,2μm,21.7s
BMRM **Bremner River** 79.98 14 *eP* P 22 16 30.9 -0.8
comp=Z,50nm,1.0s
SRU **San Rafael** 79.99 44 *eP* P 22 16 32.2 -0.2
SRU pmax pmax
comp=Z,34nm,1.1s
SRU MLR MLR
comp=Z,2μm,20.9s
SRU **San Rafael** 79.99 44 *eP* P 22 16 32.2 -0.2
comp=Z,34nm,1.1s
SRU LR LR
comp=Z,2μm,20.9s
123A **Bell Site, Whi** 80.01 52 ⇑P P 22 16 33.7 +1.1
baz=80
C09A **Chrisman Ranch** 80.08 34 *eP* P 22 16 31.9 -0.6
comp=Z,31nm,0.6s
324A **Moseley Ranch,** 80.09 53 ⇑P P 22 16 33.3 +0.2
baz=80,SNR=26
JLU **Jordanelle** 80.13 43 PFAKE 22 16 40.0 +6.7
JLU LR LR
comp=Z,1μm,20.6s
Y22D **IRIS PASSCAL I** 80.16 50 ⇑P P 22 16 34.4 +1.0
baz=80
DAU **Daniels Canyon** 80.16 43 *eP* P 22 16 32.1 -1.4
DAU **Daniels Canyon** 80.16 43 *eP* P 22 16 32.0 -1.4
425A **Indio Mountain** 80.19 54 ⇑P P 22 16 34.2 +0.5
baz=80,SNR=44
MNTX **Cornudas Mount** 80.28 53 *eP* P 22 16 33.8 -0.1
comp=Z,57nm,1.4s
MNTX LR LR
comp=Z,700nm,20.0s
Z23A **Rita Site, Whi** 80.31 51 ⇑P P 22 16 34.9 +0.7
baz=80,SNR=7.6
224A **Cornudas Mount** 80.33 53 ⇓P P 22 16 35.2 +0.8
baz=80,SNR=28
626A **Big Bend Ranch** 80.35 56 ⇓P P 22 16 35.1 +0.7
baz=80,SNR=18
325A **Bean Ranch, Si** 80.45 54 ⇑P P 22 16 35.5 +0.4
baz=81,SNR=40
PV05 **Paradox Valley** 80.46 46 *eP* P 22 16 35.2 +0.2
MVCO **Mesa Verde** 80.47 47 *eP* P 22 16 34.1 -1.0
comp=Z,38nm,1.4s
MVCO LR LR
comp=Z,1μm,20.0s
MVCO **Mesa Verde** 80.47 47 ⇑P P 22 16 35.4 +0.3
baz=81
526A **Mary Lane Ranc** 80.59 55 ⇑P P 22 16 36.6 +0.8
baz=81,SNR=23
TX31 **Lajitas Ar. Si** 80.63 56 *eP* P 22 16 35.1 -0.8
TXAR **Lajitas Array** 80.63 56 P P 22 16 36.6 +0.6
TXAR **Lajitas Array** 80.63 56 P P 22 16 36.6 +0.6
comp=Z,6.6nm,0.8s,baz=224,slow=7.2,SNR=65
TXAR LR LR 22 43 52.5
comp=Z,808nm,21.9s,baz=80,slow=29
PV09 **Paradox Valley** 80.64 46 *eP* P 22 16 36.0 0.0
PV10 **Paradox Valley** 80.65 46 *eP* P 22 16 35.7 -0.3
124A **Stringfield Ra** 80.65 52 ⇓P P 22 16 37.0 +0.8
baz=81,SNR=14
Y23A **Lovelace Mesa,** 80.74 51 ⇑P P 22 16 37.1 +0.5
baz=81,SNR=18
PV04 **Paradox Valley** 80.75 46 *eP* P 22 16 36.1 -0.4
NJ2 **Nanjing** 80.80 307 *eP* P 22 16 36.8 +0.2
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
PV01 **Paradox Valley** 80.85 46 *eP* P 22 16 36.6 -0.5
225A **Deer Hill, Car** 80.88 53 ⇑P P 22 16 38.0 +0.6
baz=81
ANMO **Albuquerque** 80.89 50 *eP* P 22 16 36.9 -0.5
comp=Z,33nm,1.2s
ANMO LR LR
comp=Z,700nm,21.8s
426A **McDonald Obser** 80.89 55 ⇑P P 22 16 38.2 +0.7
baz=81,SNR=46
627A **Terlingua Ranc** 80.90 56 ⇑P P 22 16 38.3 +0.9
baz=81,SNR=28
X23A **Hourglass Bar** 80.93 50 ⇑P P 22 16 38.0 +0.4
baz=81,SNR=10
NEW **Newport** 80.97 34 *eP* P 22 16 36.6 -0.7
comp=Z,10nm,0.8s
NEW **Newport** 80.97 34 ⇑P P 22 16 37.0 -0.3
baz=81
Z24A **Sheeppen Canyo** 80.99 52 ⇑P P 22 16 38.5 +0.5
baz=81,SNR=12
V22A **San Miguel Ran** 81.00 49 ⇓P P 22 16 38.6 +0.6
baz=81,SNR=8.9
527A **Woodward Ranch** 81.00 55 ⇓P P 22 16 38.4 +0.4
baz=81,SNR=20
KTH **Kantishna Hill** 81.11 10 *eP* P 22 16 35.9 -1.8
comp=Z,222nm,1.2s
TRF **Thorofare Moun** 81.12 10 *eP* P 22 16 36.7 -1.2
comp=Z,266nm,2.2s
TRF LR LR
comp=Z,2μm,21.4s
KLR **Kul'dur** 81.19 327 *eP* P 22 16 34.2 -4.2
Y24A **Capitan** 81.20 51 ⇑P P 22 16 39.7 +0.6
baz=81,SNR=28
326A **Caldwell Ranch** 81.20 54 ⇑P P 22 16 39.4 +0.5
baz=81,SNR=11
W23A **Werner Place,** 81.21 50 ⇓P P 22 16 39.6 +0.5

baz=81,SNR=5.9
125A Gardner Draw, 81.24 53 ⇑P P 22 16 39.8 +0.6
baz=81,SNR=13
U22A Llaves 81.25 48 ⇓P P 22 16 39.9 +0.7
baz=81
KASI Kota Agung 81.29 267 P P 22 16 39.1 -0.6
comp=Z,76nm,1.0s,comp=Z,1µm
628A Black Gap, Mar 81.31 56 ⇑P P 22 16 40.3 +0.7
baz=82,SNR=16
226B Tecolote Peak, 81.37 53 ⇓P P 22 16 40.5 +0.6
baz=82,SNR=33
TNA Tin City 81.38 2 eP P 22 16 39.2 +0.3
comp=Z,63nm,1.2s
V23A Ortiz Mt. (NFS 81.45 49 ⇓P P 22 16 41.7 +1.4
baz=82,SNR=20
427A Hayter Ranch, 81.46 55 ⇓P P 22 16 40.9 +0.6
baz=82,SNR=34
Z25A Roswell 81.46 52 ⇓P P 22 16 41.3 +1.0
baz=82,SNR=13
AHID Auburn Hatcher 81.47 41 eP P 22 16 40.1 -0.2
comp=Z,43nm,1.4s
AHID LR LR
comp=Z,1µm,20.0s
MCMT McKenzie Canyo 81.47 39 eP P 22 16 39.9 -0.4
PAX Paxson 81.58 12 eP P 22 16 38.8 -1.5
PAX pmax pmax
comp=Z,166nm,2.5s
PAX Paxson 81.58 12 eP P 22 16 38.8 -1.5
comp=Z,166nm,2.5s
327A Balmorhea Banc 81.60 54 ⇑P P 22 16 41.7 +0.6
baz=82
MCK McKinley 81.61 11 eP P 22 16 39.1 -1.2
MCK pmax pmax
comp=Z,44nm,0.8s
MCK McKinley 81.61 11 eP P 22 16 39.1 -1.2
comp=Z,44nm,0.8s
HYT Haines Junctio 81.65 17 eP P 22 16 40.7 0.0
528A Cox Ranch, San 81.66 55 ⇑P P 22 16 42.2 +0.8
baz=82,SNR=19
U23A El Rito 81.70 49 ⇓P P 22 16 42.5 +0.8
baz=82,SNR=19
126A Clayton Basin, 81.72 53 ⇑P P 22 16 42.2 +0.5
baz=82,SNR=17
Y25A Mesa, Roswell 81.75 51 ⇑P P 22 16 42.2 +0.3
baz=82,SNR=16
CN2 Changchun 81.76 320 eP P 22 16 42.0 +0.5
CN2 epP pP 22 16 52.3 +2.4
CN2 esP sP 22 16 56.0 +3.1
CN2 eS S 22 26 52.8 -0.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
W24A Lazy 6 Ranch, 81.78 50 ⇓P P 22 16 42.4 +0.3
baz=82,SNR=12
MDSI Maura Dua 81.87 268 P P 22 16 42.1 -0.7
comp=Z,22nm,1.1s
S22A 4UR Ranch, Cre 81.89 47 ⇑P P 22 16 43.6 +0.8
baz=82,SNR=38
DLMT Dillon 81.91 38 eP P 22 16 41.9 -0.6
comp=Z,62nm,1.5s
MSO Missoula 81.92 37 eP P 22 16 41.2 -1.2
MSO comp=Z,51nm,1.4s LR LR
comp=Z,1µm,21.0s
MSO Missoula 81.92 37 ⇓P P 22 16 42.2 -0.2
baz=82,SNR=16
MENT Mentasta 81.92 13 eP P 22 16 41.7 -0.3
REDW Red Top Meadow 81.93 41 eP P 22 16 42.0 -0.7
comp=Z,42nm,1.3s
428A Kincaid Ranch, 81.97 55 ⇓P P 22 16 44.0 +0.9
baz=82,SNR=10.0
BSMT Bassoo Peak 82.02 35 eP P 22 16 42.0 -1.0
Z26A Caprock 82.02 52 ⇓P P 22 16 43.6 +0.3
baz=82,SNR=47
227A Bennet, Jal 82.02 54 ⇓P P 22 16 43.5 +0.2
baz=82
O20A White River Ci 82.03 44 eP P 22 16 42.7 -0.6
O20A LR LR
comp=Z,2µm,21.0s
O20A White River Ci 82.03 44 ⇓P P 22 16 43.7 +0.4
baz=82,SNR=7.9
X25A Clemmons Ranch 82.03 51 ⇑P P 22 16 43.3 -0.1
baz=82,SNR=18
SNOW Snow King Moun 82.04 41 eP P 22 16 42.2 -1.1
comp=Z,54nm,1.4s
529A Stev Forest Ra 82.10 56 ⇓P P 22 16 43.9 +0.2
baz=82
DLBC Dease Lake 82.10 21 eP P 22 16 43.1 0.0
V24A Rampart Ranch, 82.11 49 ⇓P P 22 16 44.4 +0.6
baz=82,SNR=12
T23A Casias Ranch, 82.13 48 ⇓P P 22 16 44.5 +0.5
baz=82,SNR=9.0
328A Wristen Ranch, 82.14 54 ⇓P P 22 16 43.9 0.0
baz=82,SNR=19
MOOW Moose Ponds 82.19 40 eP P 22 16 42.5 -1.6
comp=Z,39nm,1.6s
LOHW Long Hollow 82.21 41 eP P 22 16 43.6 -0.6
comp=Z,76nm,1.8s
JTMT Jette 82.24 36 eP P 22 16 42.7 -1.4
LRM Limekiln Ridge 82.24 38 eP P 22 16 43.4 -0.9
127A Arkansas Junct 82.24 53 ⇓P P 22 16 44.4 -0.1
baz=82,SNR=19
SWMT Swartz Lake 82.27 36 eP P 22 16 42.8 -1.4
QLMT Earthquake Lak 82.33 39 eP P 22 16 44.4 -0.3
BLMT Blacktail Moun 82.34 35 eP P 22 16 42.9 -1.8
N20A Spence Gulch, 82.35 44 ⇓P P 22 16 45.1 +0.1
baz=82,SNR=15
CHMT Chamberlain Mo 82.36 37 eP P 22 16 44.1 -0.8
I17A Pilgrim Ck. 82.39 40 ⇑P P 22 16 45.8 +0.7
baz=83,SNR=12
FLWY Flagg Ranch 82.39 40 eP P 22 16 45.1 0.0
comp=Z,66nm,1.3s
U24A Moreno Valley 82.40 49 ⇓P P 22 16 46.3 +0.9
baz=83
SLMT Seeley Lake 82.40 36 eP P 22 16 43.4 -1.6
Y26A Elida 82.41 52 ⇑P P 22 16 45.4 +0.1
baz=83,SNR=19
SMCO Snowmass 82.45 46 eP P 22 16 45.4 -0.3
comp=Z,87nm,1.5s
BW06 Boulder Array 82.45 42 eP P 22 16 44.4 -1.1
comp=Z,21nm,0.9s
BW06 LR LR
comp=Z,2µm,18.0s
PDAR Pinedale Array 82.45 42 P P 22 16 45.1 -0.3
PDAR Pinedale Array 82.45 42 P P 22 16 45.1 -0.3
comp=Z,18nm,0.8s,baz=213,slow=3.1,SNR=151
PDAR LR LR 22 47 17.0
comp=Z,931nm,18.2s,baz=206,slow=31
YBMT Yellow Bay 82.45 36 eP P 22 16 43.3 -1.9
S23A Nye Farm, Mont 82.46 47 ⇓P P 22 16 46.3 +0.6
baz=83
DOT Dot Lake 82.48 13 eP P 22 16 44.4 -0.5
comp=Z,23nm,0.7s
W25A X Bar L Ranch, 82.48 50 ⇓P P 22 16 45.8 +0.1
baz=83,SNR=19
YMR Madison River 82.53 39 eP P 22 16 46.0 +0.2
comp=Z,207nm,1.9s
429A Davenport Ranc 82.56 55 ⇓P P 22 16 46.3 +0.2
baz=83,SNR=36
228A UT Block 9, Go 82.61 54 ⇓P P 22 16 46.3 -0.1
baz=83,SNR=6.0
T24B San Luis 82.61 48 ⇓P P 22 16 47.4 +0.9
baz=83,SNR=15
Z27A Tatum 82.62 52 ⇑P P 22 16 46.2 -0.2
baz=83,SNR=10
H17A Grant Village 82.63 40 eP P 22 16 46.3 -0.1
H17A Grant Village 82.63 40 ⇓P P 22 16 47.8 +1.4
baz=83,SNR=11
V25A Rancho No Teng 82.63 50 ⇓P P 22 16 46.9 +0.4
baz=83,SNR=30
BOZ Bozeman (W) 82.64 38 eP P 22 16 45.5 -0.8
BOZ pmax pmax
comp=Z,67nm,1.4s
BOZ Bozeman (W) 82.64 38 eP P 22 16 45.5 -0.8
comp=Z,67nm,1.4s
X26A CR and CF Fran 82.68 51 ⇓P P 22 16 46.8 +0.1
baz=83,SNR=12
P22A Eagle 82.79 45 ⇑P P 22 16 47.6 +0.3
baz=83,SNR=19
R23A Moffat 82.80 47 ⇓P P 22 16 48.2 +0.7
baz=83,SNR=29
530A J-C Ranch, Com 82.81 56 ⇓P P 22 16 47.5 +0.1
baz=83,SNR=9.9
329A Wagon Wheel Ra 82.83 55 ⇑P P 22 16 47.7 +0.2
baz=83,SNR=19
SDCO Great Sand Dun 82.83 48 eP P 22 16 47.1 -0.6
comp=Z,26nm,1.1s
SDCO LR LR
comp=Z,700nm,19.4s
COLA College 82.85 11 eP P 22 16 45.8 -0.9
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 82.85 11 eP P 22 16 45.8 -0.9
comp=Z,15nm,0.8s
Y27A Causey 82.89 52 ⇑P P 22 16 47.8 -0.1
baz=83,SNR=12
128A Castleberry Fa 82.89 53 ⇓P P 22 16 48.0 +0.2
baz=83,SNR=29
ILAR Eielson Array 82.93 11 P P 22 16 46.6 -0.5
ILAR Eielson Array 82.93 11 P P 22 16 46.6 -0.5
comp=Z,12nm,0.6s,baz=229,slow=6.2,SNR=251
ILAR LR LR 22 51 13.6
comp=Z,207nm,19.5s,baz=27,slow=34
IL1 Eielson Array 82.94 11 eP P 22 16 45.9 -1.3
W26A Owens Ranch, T 82.94 51 ⇓P P 22 16 48.5 +0.4
baz=83,SNR=8.7
S24A Houchin Ranch, 82.99 48 ⇓P P 22 16 49.3 +0.8
baz=83,SNR=24
J19A Crowheart 83.02 41 ⇑P P 22 16 48.4 +0.1
baz=83,SNR=36
U25A Circle Dot Ran 83.03 49 ⇑P P 22 16 48.8 +0.3
baz=83,SNR=30
HRY Holter Researc 83.08 37 eP P 22 16 48.3 -0.2
Q23A Hartsel 83.11 46 ⇑P P 22 16 49.5 +0.4
baz=83
631A Perdido Creek 83.14 57 ⇓P P 22 16 49.0 0.0
baz=83,SNR=24
430A Baggett Ranch, 83.14 55 ⇑P P 22 16 49.2 +0.1
baz=83
229A Bryant Ranch, 83.15 54 ⇓P P 22 16 49.2 +0.1
baz=83,SNR=7.0
SEY Seymchan 83.16 345 P P 22 16 48.6 +0.2
SEY pmax pmax
comp=Z,9.0nm,0.8s
SEY Seymchan 83.16 345 P P 22 16 48.6 +0.2
SEY Seymchan 83.16 345 P P 22 16 48.6 +0.2
comp=Z,8.5nm,0.8s,baz=159,slow=6.6,SNR=16
WALA Waterton Lakes 83.17 35 eP P 22 16 47.8 -1.2
O22A Kremmling 83.19 45 ⇑P P 22 16 49.9 +0.5
baz=83,SNR=30
MSTX Muleshoe 83.22 52 eP P 22 16 48.8 -0.7
MSTX LR LR
comp=Z,1µm,19.6s
MSTX Muleshoe 83.22 52 ⇓P P 22 16 49.6 +0.1
baz=83,SNR=19
V26A Tequesquite Ra 83.22 50 ⇑P P 22 16 49.4 -0.2
baz=83,SNR=13
Z28A Tucker Farm, M 83.24 53 ⇓P P 22 16 49.6 -0.1
baz=83,SNR=14
X27A F and S Farms, 83.26 51 ⇑P P 22 16 49.9 +0.2
baz=83,SNR=12
P23A Jefferson 83.32 46 ⇓P P 22 16 51.2 +1.0
baz=84,SNR=6.2
R24A Sanders Place, 83.32 47 ⇓P P 22 16 50.6 +0.5
baz=84,SNR=18
H18A Shoshone NF, C 83.33 40 ⇑P P 22 16 50.3 +0.3
baz=84,SNR=24
T25A Trinidad 83.34 49 ⇓P P 22 16 50.3 +0.1
baz=84,SNR=14
732A Laxson Ranch, 83.37 58 ⇓P P 22 16 50.2 0.0
baz=84
129A Stewart Farms, 83.37 54 ⇓P P 22 16 50.5 +0.2
baz=84,SNR=11
330A Mertzon 83.43 55 ⇓P P 22 16 50.0 -0.6
baz=84,SNR=6.1
I19A Meeteetse 83.43 41 ⇓P P 22 16 50.8 +0.3
baz=84,SNR=23
531A Rocksprings 83.45 56 ⇓P P 22 16 50.7 0.0
baz=84,SNR=24
QIZ Qiongzhong 83.45 292 P P 22 16 51.5 +0.6
QIZ sP sP 22 17 05.0 +2.7
QIZ PP PP 22 20 03.8 +0.4
QIZ S S 22 27 11.0 -0.2
QIZ sS ScS 22 27 24.5 -0.1
QIZ SS SS 22 32 38.0 +0.4
QIZ pmax pmax
comp=Z,18nm,1.6s
QIZ pmax pmax
comp=Z,210nm,8.8s
QIZ LR LR
comp=Z,100nm,22.9s
QIZ LR LR
comp=Z,400nm,22.7s
W27A Bowe Ranch, En 83.45 51 ⇑P P 22 16 50.7 -0.1
baz=84,SNR=29
U26A Atchley Ranch, 83.51 49 ⇑P P 22 16 51.1 0.0
baz=84,SNR=32
N22A Wattenberg Ran 83.55 45 ⇑P P 22 16 51.6 +0.4
baz=84,SNR=32
S25A Robets Cordova 83.55 48 ⇑P P 22 16 51.5 +0.3
baz=84,SNR=28
Y28A McKinney Farm, 83.59 52 ⇑P P 22 16 51.4 -0.1
baz=84,SNR=6.1
431A Sonora 83.60 56 ⇓P P 22 16 51.5 0.0
baz=84
Q24A Divide 83.62 47 ⇓P P 22 16 52.2 +0.5
baz=84,SNR=12
O23A Lake Granby, G 83.64 45 ⇑P P 22 16 52.2 +0.5
baz=84,SNR=14
230A Sterling City 83.67 54 ⇑P P 22 16 51.6 -0.2
baz=84,SNR=5.9
ISCO Idaho Springs 83.67 46 eP P 22 16 51.6 -0.4
ISCO pmax pmax
comp=Z,41nm,1.4s
ISCO Idaho Springs 83.67 46 eP P 22 16 51.6 -0.4
comp=Z,41nm,1.4s
ISCO Idaho Springs 83.67 46 ⇑P P 22 16 52.1 +0.2
baz=84,SNR=7.0
J20A Shoshoni 83.68 42 ⇓P P 22 16 52.0 +0.3
baz=84,SNR=35
M22A Cedar Creek Ra 83.73 44 ⇓P P 22 16 52.1 -0.1
baz=84,SNR=17
Z29A Hungry Hill Ra 83.75 53 ⇓P P 22 16 51.9 -0.3
baz=84,SNR=8.5
H19A Powell 83.75 40 ⇑P P 22 16 52.7 +0.6
baz=84,SNR=36
RLMT Red Lodge 83.80 40 eP P 22 16 51.9 -0.5
comp=Z,26nm,0.9s
632A Uvalde 83.81 57 ⇑P P 22 16 52.8 +0.3
baz=84,SNR=18
R25A Fountain Ranch 83.87 48 ⇓P P 22 16 52.5 -0.3
baz=84,SNR=17
K21A Alcova 83.87 43 ⇓P P 22 16 52.5 -0.3
baz=84,SNR=13
X28A Dimmitt 83.88 52 ⇑P P 22 16 52.8 -0.1
baz=84,SNR=13
DAWY Dawson 83.88 14 eP P 22 16 51.7 -0.5
GCMT Greycliff 83.89 39 eP P 22 16 52.5 -0.2
V27A Dan Oppiter Fa 83.91 50 ⇓P P 22 16 52.7 -0.3
baz=84,SNR=6.3
N23A Red Feather La 83.94 45 ⇑P P 22 16 53.7 +0.5
baz=84,SNR=18
I20A Worland 83.94 41 ⇑P P 22 16 53.0 0.0
baz=84,SNR=36
532A Rocksprings 83.95 56 ⇓P P 22 16 53.2 -0.1
baz=84,SNR=14
T26A Comanche Natio 83.95 49 ⇓P P 22 16 53.1 -0.2
baz=84,SNR=5.6
331A San Angelo 83.98 55 ⇓P P 22 16 53.1 -0.3
baz=84,SNR=5.7
Y29A Porterfield Fa 84.02 52 ⇓P P 22 16 53.8 +0.2
baz=84,SNR=17
P24A Kohler Place, 84.03 46 ⇓P P 22 16 53.8 +0.2
baz=84
130A Snyder 84.06 54 ⇓P P 22 16 53.6 -0.2
baz=84,SNR=7.9
J21A Lysite 84.08 42 ⇑P P 22 16 54.0 +0.1
baz=84,SNR=30
EGAK Eagle 84.09 13 eP P 22 16 52.4 -0.7
comp=Z,36nm,1.1s
L22A Ellis Ranch, M 84.13 43 ⇑P P 22 16 54.6 +0.5
baz=84,SNR=19
JCT Junction City 84.16 56 eP P 22 16 52.9 -1.4
JCT pmax pmax
comp=Z,18nm,0.9s
JCT MLR MLR
comp=Z,700nm,19.9s
JCT Junction City 84.16 56 eP P 22 16 52.9 -1.4
comp=Z,18nm,0.9s
JCT LR LR
comp=Z,700nm,19.9s
JCT Junction City 84.16 56 ⇑P P 22 16 54.1 -0.2
baz=84,SNR=7.5
W28A Vega 84.17 51 ⇓P P 22 16 54.1 -0.3
baz=84,SNR=6.3
O24A Longmont 84.18 46 ⇓P P 22 16 55.0 +0.6
baz=84,SNR=12
U27A Thompson Grove 84.19 50 ⇑P P 22 16 54.0 -0.4
baz=84,SNR=16
Z30A Sanderson Ranc 84.20 53 ⇑P P 22 16 54.3 -0.2
baz=84,SNR=29
S26A Kim 84.23 48 ⇑P P 22 16 54.1 -0.5
baz=84,SNR=12
X29A Tulia 84.23 52 ⇓P P 22 16 54.6 -0.1
baz=84,SNR=16
Q25A Bedland, Calha 84.23 47 ⇓P P 22 16 54.6 -0.1
baz=84
H20A Greybull 84.28 41 ⇓P P 22 16 54.3 -0.4
baz=84,SNR=16
231A Bronte 84.31 55 ⇑P P 22 16 54.4 -0.7
baz=84,SNR=25
432A Menard 84.32 56 ⇓P P 22 16 54.5 -0.6
baz=84,SNR=12
M23A Laramie 84.34 44 ⇑P P 22 16 55.5 +0.3
baz=84
K22A Casper 84.35 43 eP P 22 16 53.3 -1.9
K22A LR LR
comp=Z,1µm,21.1s
K22A Casper 84.35 43 ⇓P P 22 16 55.3 +0.1
baz=84
F19A Roth Farm, Mol 84.36 39 ⇓P P 22 16 55.1 +0.1
baz=84,SNR=37
V28A Channing 84.36 51 ⇓P P 22 16 55.4 +0.1
baz=84
I21A Big Trails, Te 84.40 42 ⇑P P 22 16 55.0 -0.4
baz=85,SNR=37
AMTX Amarillo 84.42 52 ⇓P P 22 16 55.5 -0.1
baz=85
PHWY Pilot Hill 84.45 44 eP P 22 16 54.1 -1.7
comp=Z,44nm,1.0s
PHWY LR LR
comp=Z,700nm,18.7s
G20A Bridger 84.50 40 ⇑P P 22 16 56.1 +0.2
baz=85,SNR=7.1
R26A Arlington 84.53 48 ⇑P P 22 16 56.0 -0.1
baz=85,SNR=5.5
T27A Campo 84.53 49 ⇓P P 22 16 55.9 -0.3
baz=85,SNR=6.8
131A Roby 84.54 54 ⇑P P 22 16 56.0 -0.2
baz=85,SNR=18
W29A Amarillo 84.54 51 ⇑P P 22 16 56.0 -0.2
baz=85,SNR=24
P25A Willow Gulch B 84.54 46 ⇑P P 22 16 56.5 +0.3
baz=85,SNR=8.7
332A Millersview 84.55 55 ⇑P P 22 16 56.1 -0.2
baz=85,SNR=18
Y30A Stafford Cattl 84.61 53 ⇑P P 22 16 56.4 -0.2
baz=85,SNR=12
U28A Mallet 84.62 50 ⇑P P 22 16 56.2 -0.4
baz=85,SNR=7.9
N24A Carr 84.62 45 ⇓P P 22 16 56.7 +0.1
baz=85,SNR=5.5
533A Kerrville 84.63 57 ⇓P P 22 16 56.6 -0.1
baz=85,SNR=13
COLD Coldfoot 84.65 9 eP P 22 16 56.2 +0.3
comp=Z,23nm,1.0s
L23A Garrett 84.65 44 ⇑P P 22 16 56.7 -0.1
baz=85,SNR=18
S27A Las Animas 84.67 49 ⇓P P 22 16 56.2 -0.7
baz=85
J22A Midwest 84.74 42 ⇓P P 22 16 56.9 -0.2
baz=85
Q26A Hugo 84.74 47 ⇑P P 22 16 57.2 -0.1
baz=85
E19A Rath Farm, Rou 84.76 39 ⇓P P 22 16 57.4 +0.3
baz=85,SNR=16
232A Coleman 84.82 55 ⇓P P 22 16 57.3 -0.3
baz=85,SNR=17
F20A Billings 84.82 39 ⇑P P 22 16 57.4 0.0
baz=85,SNR=11
433A Art 84.83 56 ⇑P P 22 16 57.6 -0.1
baz=85,SNR=11
O25A Wiggins 84.83 46 ⇑P P 22 16 57.4 -0.3
baz=85
X30A Coker Ranch, T 84.85 52 ⇑P P 22 16 57.7 0.0
baz=85,SNR=5.8
V29A Stinnett 84.93 51 ⇓P P 22 16 58.0 -0.2
baz=85
H21A Big Horn, Sher 84.94 41 ⇓P P 22 16 58.1 0.0
baz=85,SNR=12
M24A Cheyenne 84.95 44 ⇓P P 22 16 58.2 0.0
baz=85
I22A 9 Mile Ranch, 84.96 42 ⇓P P 22 16 58.0 -0.2
baz=85,SNR=14
EGMT Eagleton 84.97 37 eP P 22 16 57.6 -0.4
comp=Z,31nm,1.0s
EGMT LR LR
comp=Z,1µm,22.0s
EGMT Eagleton 84.97 37 ⇓P P 22 16 58.1 +0.1
baz=85
Z31A Sharp Cattle R 84.97 53 ⇓P P 22 16 58.2 -0.2
baz=85,SNR=27
R27A Eads 84.99 48 ⇑P P 22 16 58.2 -0.3
baz=85,SNR=5.2
K23A Bowen Ranch, D 84.99 43 ⇓P P 22 16 58.3 -0.1
baz=85,SNR=6.4
T28A Walsh 85.00 49 ⇑P P 22 16 58.0 -0.5
baz=85
D19A Cripps Ranch, 85.05 38 ⇑P P 22 16 58.8 +0.3
baz=85,SNR=9.6
534A Blanco 85.06 57 ⇑P P 22 16 58.6 -0.2
baz=85,SNR=17
ABTX Abilene, Hawle 85.10 54 eP P 22 16 58.2 -0.8
ABTX LR LR
comp=Z,1µm,21.1s
ABTX Abilene, Hawle 85.10 54 ⇓P P 22 16 59.0 -0.1
baz=85,SNR=31
G21A Lodge Grass 85.12 40 ⇑P P 22 16 59.1 +0.1
baz=85,SNR=10.0
L24A Wheatland 85.13 44 ⇓P P 22 16 59.5 +0.4
baz=85
333A Richland Sprin 85.13 56 ⇑P P 22 16 58.7 -0.4
baz=85
Y31A Rekieta Farm, 85.13 53 ⇓P P 22 16 59.1 0.0
baz=85,SNR=13
P26A Davis Ranch, A 85.14 47 ⇑P P 22 16 59.3 +0.1
baz=85
N25A Grover 85.16 45 ⇑P P 22 16 59.3 0.0
baz=85
E20A Meyer Farm, Mu 85.17 39 ⇓P P 22 16 59.5 +0.5
baz=85,SNR=16
C19A Slack Wire Ran 85.23 37 ⇓P P 22 16 59.8 +0.5
baz=85,SNR=23
J23A Ditts Ranch, B 85.33 42 ⇓P P 22 16 59.7 -0.3
baz=86
S28A Manter 85.35 49 ⇑P P 22 17 00.2 0.0
baz=86
U29A Oasis Ranch, S 85.35 50 ⇑P P 22 17 00.2 0.0
baz=86
H22A Clearmont 85.36 41 ⇑P P 22 16 59.9 -0.3
baz=86,SNR=5.5
W30A Crocket Farms 85.37 52 ⇓P P 22 17 00.4 +0.1
baz=86
KSCO Kaye Shedlock' 85.41 47 ⇑P P 22 17 00.5 -0.1
baz=86
O26A Horse Wrangler 85.45 46 ⇑P P 22 17 01.2 +0.5
baz=86
D20A Manuel Ranch, 85.45 38 ⇑P P 22 17 00.8 +0.3
baz=86,SNR=18
F21A Absaloka Mine, 85.46 40 ⇓P P 22 17 01.1 +0.5
baz=86,SNR=5.6
Z32A Haskell 85.48 54 ⇓P P 22 17 01.1 +0.2
baz=86,SNR=67
V30A Spur Ranch, Mi 85.51 51 ⇓P P 22 17 01.5 +0.4
baz=86,SNR=16
K24A Anderson Ranch 85.51 43 ⇓P P 22 17 01.2 +0.2
baz=86
434A Burnet 85.51 56 ⇑P P 22 17 00.9 -0.2
baz=86,SNR=22
X31A McDonald Ranch 85.61 52 ⇑P P 22 17 00.8 -0.6
baz=86,SNR=9.9
T29A Hugoton 85.61 50 ⇓P P 22 17 01.9 +0.3
baz=86
I23A Meade Ranch, G 85.64 42 ⇓P P 22 17 01.0 -0.6
baz=86

B19A	**Brinkman Farms**	85.65	37	⇑P		P		22 17 01.5	+0.1	
	baz=86,SNR=11									
133A	**Hamilton Ranch**	85.66	54	⇑P		P		22 17 01.6	-0.2	
	baz=86,SNR=13									
P27A	**Ficken Ranch,**	85.67	47	⇓P		P		22 17 01.6	-0.3	
	baz=86									
G22A	**Birney**	85.69	41	⇓P		P		22 17 02.1	+0.4	
	baz=86									
R28A	**Tribune**	85.72	48	⇓P		P		22 17 02.2	+0.1	
	baz=86									
334A	**Lometa**	85.73	56	⇓P		P		22 17 02.1	-0.1	
	baz=86,SNR=28									
N26A	**Koester Ranch,**	85.76	46	⇑P		P		22 17 01.9	-0.4	
	baz=86									
Y32A	**R-V Farms, Ver**	85.78	53	⇑P		P		22 17 02.3	0.0	
	baz=86,SNR=27									
EDM	**Edmonton**	85.78	31	*e*P		P		22 17 00.8	-1.1	
EDM	**Edmonton**	85.78	31	*e*P		P		22 17 00.8	-1.1	
L25A	**Engebretsen Ra**	85.83	44	⇓P		P		22 17 02.8	+0.3	
	baz=86									
E21A	**Keefer Ranch,**	85.83	39	⇓P		P		22 17 02.9	+0.6	
	baz=86,SNR=5.8									
C20A	**Veseth Ranch,**	85.83	38	⇑P		P		22 17 02.6	+0.2	
	baz=86,SNR=10									
U30A	**WK&E Inc. Balk**	85.84	50	⇑P		P		22 17 02.4	-0.3	
	baz=86									
W31A	**Holland Ranch,**	85.85	52	⇓P		P		22 17 02.7	0.0	
	baz=86,SNR=12									
J24A	**Dixon Ranch, L**	85.88	43	⇑P		P		22 17 02.6	-0.2	
	baz=86									
S29A	**Ulysses**	85.93	49	⇓P		P		22 17 02.4	-0.6	
	baz=86									
H23A	**Clabaugh Cattl**	85.95	42	⇓P		P		22 17 02.9	-0.2	
	baz=86									
F22A	**Rosebud**	85.97	40	⇑P		P		22 17 03.3	+0.2	
	baz=86									
A19A	**Klindworth Far**	86.00	37	⇑P		P		22 17 03.1	0.0	
	baz=86,SNR=8.8									
Z33A	**Whitaker Ranch**	86.03	54	⇑P		P		22 17 03.6	0.0	
	baz=86,SNR=18									
X32A	**Elmer**	86.06	53	⇑P		P		22 17 03.2	-0.5	
	baz=86,SNR=28									
M26A	**McRoberts Ranc**	86.09	45	⇑P		P		22 17 04.0	+0.1	
	baz=86									
K25A	**Mack Ranch, Ha**	86.09	44	⇓P		P		22 17 04.0	+0.1	
	baz=86									
BJT	**Baijiatuau**	86.12	313	*e*P		P		22 17 03.7	-0.1	
	comp=Z,59nm,1.4s									
BJI	**Beijing**	86.12	313	P		P		22 17 04.8	+1.0	
BJI				S		S		22 27 38.8	+1.9	
BJI					pmax	pmax				
	comp=Z,21nm,1.8s									
BJI					pmax	pmax				
	comp=Z,220nm,3.5s									
BJI					LR	LR				
	comp=Z,380nm,25.1s									
BJI					LR	LR				
	comp=Z,270nm,25.1s									
BJI					LR	LR				
	comp=Z,180nm,28.2s									
D21A	**La Casta Ranch**	86.13	39	⇑P		P		22 17 04.3	+0.4	
	baz=86,SNR=8.2									
V31A	**Spring Creek L**	86.15	51	⇑P		P		22 17 04.6	+0.5	
	baz=86,SNR=5.5									
B20A	**Solberg Farm,**	86.18	37	⇑P		P		22 17 04.0	0.0	
	baz=86									
R29A	**Marienthal**	86.23	48	⇓P		P		22 17 04.4	-0.1	
	baz=86									
UBPT	**Khong Chiam**	86.25	287	P		P		22 17 06.4	+1.4	
	comp=Z,25nm,1.2s									
G23A	**Biddle**	86.25	41	⇓P		P		22 17 04.6	+0.1	
	baz=86									
134A	**White-Moore Ra**	86.31	55	⇑P		P		22 17 05.2	+0.2	
	baz=86,SNR=8.6									
335A	**Moody**	86.36	56	⇑P		P		22 17 05.2	-0.1	
	baz=86,SNR=15									
PDSI	**Padang**	86.40	270	P		P		22 17 05.9	0.0	
	comp=Z,13nm,1.0s									
Y33A	**Hilltop Ranch,**	86.41	53	⇑P		P		22 17 05.7	+0.2	
	baz=87									
S30A	**Montezuma**	86.41	49	⇑P		P		22 17 05.6	+0.1	
	baz=87									
LAO	**LASA Array**	86.42	39	*e*P		P		22 17 04.1	-1.1	
LAO					LR	LR				
	comp=Z,700nm,21.4s									
A20A	**Cobblestone Ra**	86.45	37	⇓P		P		22 17 05.5	+0.1	
	baz=87,SNR=13									
E22A	**Miles City**	86.47	40	⇓P		P		22 17 05.9	+0.4	
	baz=87									
O28A	**Krutsinger Ran**	86.47	47	⇑P		P		22 17 05.2	-0.5	
	baz=87									
F23A	**Volborg**	86.48	40	⇓P		P		22 17 05.5	-0.1	
	baz=87									
Q29A	**Oakley**	86.54	48	⇑P		P		22 17 06.0	0.0	
	baz=87									
WMOK	**Wichita Mounta**	86.56	53	*e*P		P		22 17 04.5	-1.7	
WMOK					pmax	pmax				
	comp=Z,15nm,1.1s									
WMOK					MLR	MLR				
	comp=Z,800nm,22.0s									
WMOK	**Wichita Mounta**	86.56	53	*e*P		P		22 17 04.5	-1.7	
	comp=Z,15nm,1.1s									
WMOK					LR	LR				
	comp=Z,800nm,22.0s									
H24A	**Dirks Ranch, A**	86.58	42	⇑P		P		22 17 05.2	-0.9	
	baz=87,SNR=14									
PPI	**Padang Panjang**	86.59	270	P		P		22 17 07.0	+0.2	
	comp=Z,24nm,1.0s									
WHTX	**Lake Whitney**	86.59	56	*e*P		P		22 17 05.5	-0.8	
WHTX					LR	LR				
	comp=Z,1μm,21.1s									
WHTX	**Lake Whitney**	86.59	56	⇓P		P		22 17 06.2	-0.2	
	baz=87,SNR=11									
RSSD	**Black Hills**	86.64	42	*e*P		P		22 17 04.7	-1.9	
RSSD					pmax	pmax				
	comp=Z,6.0nm,1.1s									
RSSD	**Black Hills**	86.64	42	*e*P		P		22 17 04.7	-1.9	
	comp=Z,5.9nm,1.1s									
X33A	**Lawton**	86.70	53	⇓P		P		22 17 06.5	-0.4	
	baz=87									
Z34A	**Collier Ranch,**	86.72	54	⇑P		P		22 17 06.7	-0.3	
	baz=87,SNR=6.5									
V32A	**Arapaho**	86.73	52	⇑P		P		22 17 07.0	0.0	
	baz=87									
B21A	**Ellsworth Farm**	86.76	38	⇓P		P		22 17 07.7	+0.9	
	baz=87									
T31A	**Randall Ranch,**	86.78	50	⇓P		P		22 17 07.7	+0.5	
	baz=87									
I25A	**Rochford**	86.79	43	⇓P		P		22 17 07.1	-0.2	
	baz=87,SNR=5.3									
R30A	**Dighton**	86.80	49	⇑P		P		22 17 07.5	+0.1	
	baz=87									
135A	**Vickery Place,**	86.83	55	⇓P		P		22 17 07.6	+0.1	
	baz=87,SNR=13									
N28A	**Pribbeno Ranch**	86.86	46	⇓P		P		22 17 07.7	+0.1	
	baz=87									
J26A	**Sides Ranch, S**	86.92	43	⇑P		P		22 17 08.0	+0.2	
	baz=87									
W33A	**Caddo, Fort Co**	86.95	52	⇑P		P		22 17 08.6	+0.5	
	baz=87									
U32A	**Winter Ranch,**	87.01	51	⇑P		P		22 17 08.7	+0.3	
	baz=87									
Y34A	**Reagan Ranch,**	87.06	54	⇑P		P		22 17 08.5	-0.2	
	baz=87									
A21A	**Bergtoll Ranch**	87.08	37	⇓P		P		22 17 08.4	0.0	
	baz=87									
C22A	**Vida**	87.11	39	⇑P		P		22 17 09.0	+0.4	
	baz=87									
Q30A	**Quinter**	87.11	48	⇓P		P		22 17 09.2	+0.4	
	baz=87									
S31A	**Mullinville**	87.12	50	⇑P		P		22 17 09.1	+0.2	
	baz=87									
HKT	**Hockley**	87.18	58	*e*P		P		22 17 07.8	-1.4	
HKT					pmax	pmax				
	comp=Z,91nm,1.8s									
HKT	**Hockley**	87.18	58	*e*P		P		22 17 07.8	-1.4	
	comp=Z,91nm,1.8s									
Z35A	**Perchaven, San**	87.23	54	⇓P		P		22 17 09.4	-0.1	
	baz=87,SNR=11									
X34A	**Smith Ranch, M**	87.23	53	⇓P		P		22 17 10.0	+0.6	
	baz=87									
D23A	**Lindsay**	87.26	39	⇓P		P		22 17 10.1	+0.8	
	baz=87									
B22A	**Reddig Ranch S**	87.30	38	⇑P		P		22 17 09.6	+0.1	
	baz=88									
P30A	**Selden**	87.32	48	⇓P		P		22 17 09.9	+0.1	
	baz=88									
IPM	**Ipoh**	87.34	275	P		P		22 17 11.9	+1.4	
	comp=Z,32nm,1.3s,comp=Z,468nm									
IPM	**Ipoh**	87.34	275	*e*P		P		22 17 09.2	-1.2	
	comp=Z,28nm,1.0s									
IPM					LR	LR				
	comp=Z,200nm,20.0s									
V33A	**Lossen Ranch,**	87.34	52	⇓P		P		22 17 09.9	0.0	
	baz=88									
R31A	**Burdett**	87.35	49	⇑P		P		22 17 10.1	+0.1	
	baz=88									
T32A	**Huddler Ranch,**	87.37	50	⇓P		P		22 17 10.7	+0.6	
	baz=88									
MAW	**Mawson**	87.37	199	*e*P		P		22 17 09.2	-0.3	
	comp=Z,20nm,1.0s									
MAW	**Mawson**	87.37	199	P		P		22 17 10.1	+0.6	
	comp=Z,52nm,0.7s,baz=184,slow=3.8,SNR=33									
MAW					LR	LR		22 52 16.5		
	comp=Z,494nm,21.3s,baz=119,slow=33									
ENH	**Enshi**	87.53	302	*e*P		P		22 17 10.3	-0.7	
	comp=Z,22nm,1.1s									
S32A	**Newby Ranch, P**	87.56	50	⇓P		P		22 17 10.9	0.0	
	baz=88									
C23A	**Lambert**	87.56	39	⇑P		P		22 17 11.3	+0.5	
	baz=88									
J27A	**Elkhorn Farm,**	87.60	44	⇑P		P		22 17 11.5	+0.4	
	baz=88									
A22A	**Carney Farms,**	87.67	37	⇓P		P		22 17 11.4	+0.2	
	baz=88									
MNSI	**Mandailing Nat**	87.71	271	P		P		22 17 11.7	-0.5	
	comp=Z,14nm,1.4s									
D24A	**Glendive**	87.77	40	⇑P		P		22 17 12.8	+1.0	
	baz=88									
F25A	**Bowman**	87.79	41	⇑P		P		22 17 13.0	+1.1	
	baz=88									
K28A	**Ten Mile Ranch**	87.81	44	⇓P		P		22 17 13.0	+0.9	
	baz=88									
T33A	**Patterson Ranc**	87.83	51	⇓P		P		22 17 12.6	+0.3	
	baz=88									
HIA	**Hailar**	87.87	323	*e*P		P		22 17 10.8	-1.3	
	comp=Z,70nm,1.8s									
C24A	**Savage**	87.89	39	⇓P		P		22 17 12.9	+0.5	
	baz=88									
KULM	**Kulim**	87.92	276	*e*P		P		22 17 10.3	-2.9	
	comp=Z,22nm,1.2s									
B23A	**Brockton**	87.97	38	⇑P		P		22 17 13.4	+0.7	
	baz=88									
R32A	**Long Quarter,**	87.99	49	⇑P		P		22 17 13.5	+0.5	
	baz=88									
H27A	**Howes**	88.12	42	⇓P		P		22 17 13.5	-0.1	
	baz=88									
U34A	**Anderson Ranch**	88.13	51	⇑P		P		22 17 13.8	+0.1	
	baz=88									
J28A	**Allard Ranch,**	88.18	44	⇓P		P		22 17 14.3	+0.4	
	baz=88									
S33A	**Kaszmaul Farm,**	88.20	50	⇓P		P		22 17 14.5	+0.5	
	baz=88									
F26A	**Lodgepole**	88.25	41	⇑P		P		22 17 14.2	+0.1	
	baz=88									
Q32A	**Meitler Ranch,**	88.31	49	⇓P		P		22 17 13.9	-0.6	
	baz=88									
D25A	**Fairfield**	88.40	40	⇑P		P		22 17 15.0	+0.2	
	baz=89									
CHBT	**CHBT**	88.42	284	P		P		22 17 17.9	+2.4	
	comp=Z,22nm,1.0s,comp=Z,2μm									
DGMT	**Dagmar**	88.45	38	*e*P		P		22 17 13.6	-1.4	
	comp=Z,53nm,1.1s									
DGMT	**Dagmar**	88.45	38	⇓P		P		22 17 15.6	+0.7	
	baz=89									
R33A	**Olander Ranch,**	88.48	49	⇓P		P		22 17 16.0	+0.7	
	baz=89									
GYA	**Guiyang**	88.63	298	P		P		22 17 17.3	+0.8	
GYA				pP		pP		22 17 28.5	+3.6	
GYA				sP		sP		22 17 34.8	+6.9	
GYA				PP		PP		22 20 49.0	+3.6	
GYA				SKS		SKSac		22 27 41.5	-3.0	
GYA				S		S		22 28 01.0	-0.9	
GYA				SS		SS		22 33 55.5	+1.8	
GYA					pmax	pmax				
	comp=Z,40nm,1.0s									
GYA					pmax	pmax				
	comp=Z,160nm,5.2s									
GYA					LR	LR				
	comp=Z,820nm,20.8s									
GYA					LR	LR				
	comp=Z,690nm,21.0s									
GYA					LR	LR				
	comp=Z,860nm,19.5s									
F27A	**Lemmon**	88.68	41	⇑P		P		22 17 16.7	+0.6	
	baz=89									
C25A	**Freed Ranch, W**	88.68	39	⇓P		P		22 17 16.5	+0.4	
	baz=89									
INK	**Inuvik**	88.74	14	*e*P		P		22 17 13.9	-1.8	
	comp=Z,27nm,1.0s									
NATX	**Nacogdoches**	88.74	57	*e*P		P		22 17 13.2	-3.5	
	comp=Z,107nm,1.1s									
NATX					LR	LR				
	comp=Z,1μm,20.0s									
A24A	**Westby**	88.76	38	⇑P		P		22 17 17.0	+0.5	
	baz=89									
J29A	**Okreek**	88.78	44	⇓P		P		22 17 17.2	+0.5	
	baz=89									
Q33A	**Connelly Farm,**	88.84	49	⇓P		P		22 17 16.8	-0.3	
	baz=89									
PSI	**Prapat**	88.89	273	P		P		22 17 18.4	+0.4	
	comp=Z,30nm,1.4s,comp=Z,511nm									
PSI	**Prapat**	88.89	273	P		P		22 17 18.2	+0.2	
	comp=Z,30nm,1.4s,comp=Z,511nm									
D26A	**Manning**	88.90	40	⇓P		P		22 17 16.9	-0.3	
	baz=89									
K30A	**Basset**	88.98	45	⇓P		P		22 17 18.2	+0.6	
	baz=89									
B25A	**Knox Farm, Ray**	88.98	39	⇑P		P		22 17 18.4	+0.9	
	baz=89									
I29A	**Vivian Onida**	89.04	44	⇑P		P		22 17 17.9	+0.1	
	baz=89									
G28A	**Parade**	89.06	42	⇑P		P		22 17 17.5	-0.4	
	baz=89									
XAN	**Xi'an**	89.26	306	P		P		22 17 19.8	+0.7	
XAN				S		S		22 28 08.0	+0.7	
XAN					pmax	pmax				
	comp=Z,4.0nm,1.9s									
XAN					pmax	pmax				
	comp=Z,38nm,7.1s									
XAN					LR	LR				
	comp=Z,150nm,11.2s									
XAN					LR	LR				
	comp=Z,67nm,19.3s									
TUL1	**Tulsa**	89.26	52	PFAKE				22 17 30.0	+11	
TUL1					LR	LR				
	comp=Z,800nm,19.2s									
TUL1	**Tulsa**	89.26	52	⇑P		P		22 17 19.3	+0.3	
	baz=89									
A25A	**Svangstu Ranch**	89.30	38	⇑P		P		22 17 19.7	+0.8	
	baz=90									
J30A	**Dallas**	89.31	44	⇑P		P		22 17 19.6	+0.4	
	baz=90									
HHC	**Hu-ho-hao-te**	89.68	313	*e*P		P		22 17 22.0	+1.0	
HHC				pP		pP		22 17 32.8	+3.3	
HHC				PP		PP		22 20 57.0	+3.6	
HHC				SKS		SKSac		22 27 45.5	-4.6	
HHC				S		S		22 28 12.0	+0.9	
HHC				sS		sS		22 28 29.8	+4.7	
HHC					pmax	pmax				
	comp=Z,43nm,1.0s									
HHC					pmax	pmax				
	comp=Z,440nm,7.5s									
HHC					LR	LR				
	comp=Z,290nm,18.2s									
HHC					LR	LR				
	comp=Z,350nm,18.4s									
HHC					LR	LR				
	comp=Z,320nm,17.9s									
KSU1	**Kansas State U**	89.77	49	*e*P		P		22 17 20.1	-1.2	
	comp=Z,12nm,0.8s									
KSU1	**Kansas State U**	89.77	49	⇓P		P		22 17 21.5	+0.1	
	baz=90									
YAK	**Yakutsk**	89.78	337	*e*P		P		22 17 19.0	-1.8	
YAK					pmax	pmax				
	comp=Z,19nm,1.2s									
YAK					pmax	pmax				
	comp=E,5.0nm,1.2s									
TGUH	**Tegucigalpa,Un**	89.82	75	PFAKE				22 17 30.0	+7.9	
TGUH					LR	LR				
	comp=Z,700nm,22.0s									
A26A	**Wade Farm, Ken**	89.92	39	⇓P		P		22 17 21.9	0.0	
	baz=90									
KCSI	**Kotacane, Aceh**	90.19	274	P		P		22 17 24.7	+0.8	
	comp=Z,32nm,1.3s,comp=Z,468nm									
YKA	**Yellowknife Ar**	90.48	23	P		P		22 17 23.6	-0.4	
YKA				PP		PP		22 20 57.8	-1.3	
YKA				PKKP		PKKPdf		22 34 51.8	+0.5	
YKA	**Yellowknife Ar**	90.48	23	P		P		22 17 23.6	-0.4	
	comp=Z,5.1nm,0.8s,baz=237,slow=4.8,SNR=112									
YKA				PP		PP		22 20 57.7	-1.3	
	comp=Z,0.6nm,0.8s,baz=236,slow=8.0,SNR=5.1									
YKA				PKKP		PKKPdf		22 34 51.7	+0.5	
	comp=Z,0.1nm,0.7s,baz=38,slow=2.6,SNR=5.6									
MIAR	**Mount Ida**	90.52	54	PFAKE				22 17 40.0	+15	
MIAR					LR	LR				
	comp=Z,800nm,20.0s									
PBKT	**Sadao Pong**	90.76	287	P		P		22 17 28.0	+1.6	
	comp=Z,17nm,1.7s									
JTS	**JuntasAbangare**	90.95	80	*e*P		P		22 17 27.7	+0.3	
	comp=Z,5.8nm,1.2s									
JTS	**JuntasAbangare**	90.95	80	P		P		22 17 29.5	+2.0	
	comp=Z,155nm,1.0s,SNR=5.1									
A28A	**Rude Farm, Bot**	91.00	39	⇓P		P		22 17 26.6	-0.3	
	baz=91									
D30A	**Buchanan**	91.23	41	⇓P		P		22 17 27.5	-0.5	
	baz=91									
ECSD	**EROS Data Cent**	91.41	45	*e*P		P		22 17 26.7	-2.2	
	comp=Z,22nm,1.3s									
ECSD					LR	LR				
	comp=Z,1μm,22.0s									
ECSD	**EROS Data Cent**	91.41	45	⇑P		P		22 17 28.4	-0.5	
	baz=92									
UALR	**University of**	91.55	54	*e*P		P		22 17 27.9	-1.8	
	comp=Z,20nm,0.9s									
UALR					LR	LR				
	comp=Z,700nm,20.9s									
KMI	**Kunming**	91.60	296	P		P		22 17 31.8	+1.3	
KMI				PP		PP		22 21 13.3	+4.1	
KMI				SKS		SKSac		22 27 58.0	-4.0	
KMI				S		S		22 28 27.3	-2.3	
KMI					pmax	pmax				
	comp=Z,12nm,2.0s									
KMI					pmax	pmax				
	comp=Z,250nm,5.9s									
KMI					LR	LR				
	comp=Z,140nm,30.8s									
KMI					LR	LR				
	comp=Z,190nm,27.5s									
KMI					LR	LR				
	comp=Z,310nm,35.1s									
A29A	**Manning Farm,**	91.63	39	⇓P		P		22 17 29.8	0.0	
	baz=92									
NANT	**Nan**	91.63	289	P		P		22 17 31.5	+1.0	
	comp=Z,29nm,1.2s,comp=Z,504nm									
SRDT	**SRDT**	91.86	284	P		P		22 17 33.4	+1.8	
	comp=Z,58nm,1.4s,comp=Z,6μm									
SYO	**Syowa Base**	92.11	191	⇓*e*P		P		22 17 30.6	-1.1	
A30A	**Hoffart Farm,**	92.20	40	⇑P		P		22 17 32.2	-0.3	
	baz=92									
SNAA	**Sanae**	92.32	177	*e*P		P		22 17 32.5	-0.3	
	comp=Z,30nm,1.2s									
SNAA					LR	LR				
	comp=Z,400nm,22.0s									
FFC	**Flin Flon**	92.38	33	*e*P		P		22 17 31.3	-1.8	
FFC					pmax	pmax				
	comp=Z,11nm,1.3s									
FFC	**Flin Flon**	92.38	33	*e*P		P		22 17 31.3	-1.8	
	comp=Z,10nm,1.3s									
CD2	**Chengdu**	92.42	301	*e*P		P		22 17 34.3	+0.4	
CD2				pP		pP		22 17 45.5	+3.1	
CD2				sP		sP		22 17 49.5	+4.1	
CD2				PP		PP		22 21 18.0	+2.7	
CD2				SKS		SKSac		22 28 03.3	-2.7	
CD2				S		S		22 28 32.8	-3.6	
CD2				sS		sS		22 28 51.5	+1.1	
CD2				SS		SS		22 34 48.0	-0.2	
CD2					pmax	pmax				
	comp=Z,10.0nm,1.2s									
CD2					pmax	pmax				
	comp=Z,260nm,8.3s									
CD2					LR	LR				
	comp=Z,220nm,23.8s									
CD2					LR	LR				
	comp=Z,450nm,25.0s									
CD2					LR	LR				
	comp=Z,300nm,21.4s									
KHLT	**Khaolaem Dam**	92.48	285	P		P		22 17 36.4	+2.0	
	comp=Z,9.2nm,1.1s									
LAMP	**Lampang**	92.53	288	P		P		22 17 36.8	+2.2	
	comp=Z,5.7nm,0.9s									
HBAR	**Harrisburg**	93.10	54	*e*P		P		22 17 33.8	-3.1	
CM01	**Chiang Mai Arr**	93.11	288	*e*P		P		22 17 36.8	-0.6	
CMAR	**Chiang Mai Arr**	93.14	288	P		P		22 17 38.1	+0.7	
CMAR	**Chiang Mai Arr**	93.14	288	P		P		22 17 38.1	+0.7	
	comp=Z,5.1nm,0.8s,baz=98,slow=2.7,SNR=39									
CMAR					LR	LR		22 58 54.4		
	comp=Z,75nm,18.7s,baz=293,slow=35									
SCIA	**State Center**	93.15	47	*e*P		P		22 17 33.4	-3.5	
	comp=Z,161nm,1.9s									
CHTO	**Chiang Mai**	93.23	289	*e*P		P		22 17 37.0	-0.9	
CHTO					pmax	pmax				
	comp=Z,4.0nm,1.3s									
CHTO	**Chiang Mai**	93.23	289	*e*P		P		22 17 37.0	-0.9	
	comp=Z,4.4nm,1.3s									
CHTO	**Chiang Mai**	93.23	289	P		P		22 17 39.0	+1.1	
	comp=Z,48nm,1.4s									
NVL	**N'lazarevskaya**	93.42	182	*e*P		P		22 17 36.0	-1.7	
NVL					pmax	pmax				
	comp=Z,24nm,1.2s									
CMAI	**Chiengmai2**	93.44	290	P		P		22 17 41.5	+2.5	
	comp=Z,75nm,1.5s									
AGMN	**Agassiz Nation**	93.49	41	⇑P		P		22 17 37.7	-0.7	
	baz=94									
LZH	**Lanzhou**	93.85	306	*e*P		P		22 17 42.0	+1.4	
LZH				pP		pP		22 17 51.8	+2.7	
LZH				sP		sP		22 17 57.5	+5.4	
LZH				SKS		SKSac		22 28 09.5	-4.5	
LZH				S		S		22 28 45.8	-3.3	
LZH				sS		sS		22 29 02.3	-0.9	
LZH				SS		SS		22 35 10.5	+1.7	
LZH					pmax	pmax				
	comp=Z,27nm,1.0s									
LZH					pmax	pmax				
	comp=Z,

SFIN	Scholer Farm	97.14	50	⇑P		P	22 17 55.2	0.0	
	baz=97								
GTA	Gaotai	97.82	309	*e*P		P	22 17 58.8	+0.3	
GTA				pP		pP	22 18 08.5	+1.5	
GTA				sP		sP	22 18 12.8	+2.8	
GTA				SKS		SKSac	22 28 31.3	-3.4	
GTA				S		S	22 29 18.8	-4.4	
GTA				sS		sS	22 29 36.3	-1.0	
GTA				SS		SS	22 36 04.0	-0.8	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
GTA				pmax		pmax			
	comp=Z,77nm,5.7s								
GTA				LR		LR			
	comp=Z,130nm,18.0s								
GTA				LR		LR			
	comp=Z,160nm,18.1s								
GTA				LR		LR			
	comp=Z,290nm,21.9s								
FCC	Fort Churchill	97.89	31	*e*P		P	22 17 57.3	-0.8	
FCC	Fort Churchill	97.89	31	*e*P		P	22 17 57.3	-0.8	
LPAZ	La Paz	99.28	110	LR		LR	22 52 23.9		
	comp=Z,231nm,19.7s,baz=270,slow=29								
ROSC	El Rosal	99.66	88	LR		LR	22 53 23.8		
	comp=Z,274nm,20.9s,baz=248,slow=30								
MTDJ	Mount Denham	99.93	74	PFAKE			22 18 20.0	+12	
MTDJ				LR		LR			
	comp=Z,400nm,22.0s								
SDDR	Presa de Saban	105.88	74	PFAKE			22 23 00.0		
SDDR				LR		LR			
	comp=Z,700nm,20.0s								
WMQ	Urumqi	107.52	311	Pdif		Pdif	22 18 42.0	+0.5	
WMQ				PP		PP	22 23 13.0	+3.3	
WMQ				S		Sdif	22 30 40.0	-4.0	
WMQ				SS		SS	22 38 19.0	+0.6	
WMQ				AMB		AMB			
	comp=Z,25nm,9.0s								
WMQ				LR		LR			
	comp=Z,210nm,20.0s								
WMQ				LR		LR			
	comp=Z,110nm,20.0s								
WMQ				LR		LR			
	comp=Z,97nm,20.0s								
PALK	Pallekele	107.57	273	PFAKE			22 23 00.0		
PALK				LR		LR			
	comp=Z,2μm,20.0s								
ZALV	Zalesovo Beam	109.90	322	PKiKP		PKiKP	22 22 53.3	-0.4	
ZALV	Zalesovo Beam	109.90	322	PKiKP		PKiKP	22 22 53.3	-0.4	
	comp=Z,0.4nm,0.3s,baz=106,slow=3.1,SNR=2.9								
AOPR	Arecibo Observ	109.97	76	PFAKE			22 23 10.0		
AOPR				LR		LR			
	comp=Z,2μm,22.0s								
MK01	Makanchi Array	111.48	314	*e*PKiKP		PKiKP	22 22 55.3	-1.7	
MKAR	Makanchi Array	111.48	314	*i* PKIKP		PKiKP	22 22 56.5	-0.6	
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MKAR	Makanchi Array	111.48	314	Pdif		Pdif	22 18 59.6	+0.6	
MKAR				*e*PKiKP		PKiKP	22 22 55.2	-1.9	
MKAR				PKKPbc		PKKPbc	22 33 52.2	-0.8	
MKAR				PKKPab		PKKPab	22 34 01.1	+0.7	
MKAR	Makanchi Array	111.48	314	Pdiff		Pdif	22 18 59.6	+0.6	
	comp=Z,0.3nm,0.8s,baz=186,slow=3.4,SNR=3.8								
MKAR				PKiKP		PKiKP	22 22 56.5	-0.6	
	comp=Z,1.4nm,0.7s,baz=75,slow=1.4,SNR=17								
MKAR				PKKPbc		PKKPbc	22 33 52.2	-0.8	
	comp=Z,0.1nm,0.7s,baz=264,slow=2.4,SNR=5.8								
MKAR				PKKPab		PKKPab	22 34 01.1	+0.7	
	comp=Z,0.5nm,0.7s,baz=274,slow=3.9,SNR=6.0								
KURK	Kurchatov	113.81	319	PKKPbc	PKKPbc		22 33 45.0	-0.3	
KURBB	Kurchatov Arra	113.87	319	PKKPbc	PKKPbc		22 33 45.0	0.0	
	comp=Z,0.5nm,0.9s,baz=259,slow=4.1,SNR=6.1								
KSH	Kashi	116.10	306	PKP		PKPdf	22 23 07.0	+0.7	
KSH				sPKP			22 23 20.0		
KSH				PKS		PKSdf	22 26 41.0	-2.0	
KSH				SKS		SKSdf	22 30 15.0	-1.9	
KSH				SKKS		SKKSac	22 31 07.0	-4.0	
KSH				AMB		AMB			
	comp=Z,110nm,4.1s								
KSH				LR		LR			
	comp=Z,100nm,4.4s								
KSH				LR		LR			
	comp=Z,120nm,4.8s								
KSH				LR		LR			
	comp=Z,120nm,6.7s								
TKM2	Tokmak 2	116.31	310	*e*PKiKP		PKPdf	22 23 03.0	-3.7	
TKM2	Tokmak 2	116.31	310	*e*PKPdf		PKPdf	22 23 03.0	-3.7	
AAK	Ala-Archa	117.13	310	PKKPbc	PKKPbc		22 33 34.5	+0.8	
AAK	Ala-Archa	117.13	310	PKKPbc	PKKPbc		22 33 34.5	+0.8	
	comp=Z,1.3nm,0.7s,baz=116,slow=5.4,SNR=4.3								
BRVK	Borovoye	118.61	322	⇓*i* PKIKP		PKPdf	22 23 10.4	-0.1	
BRVK				pmax		pmax			
	comp=Z,10.0nm,2.5s								
BRVK	Borovoye	118.61	322	*e*PKPdf		PKPdf	22 23 09.2	-1.3	
KKAR	Karatay Array	120.01	311	*e*PKiKP		PKPdf	22 23 11.8	-1.7	
KKAR	Karatay Array	120.01	311	*e*PKPdf		PKPdf	22 23 11.8	-1.7	
KBL	Kabul	121.76	301	*e*PKiKP		PKPdf	22 23 17.0	-0.4	
KBL	Kabul	121.76	301	*e*PKPdf		PKPdf	22 23 16.9	-0.4	
ARU	Arti	124.02	328	*i* PKIKP		PKPdf	22 23 20.7	-0.1	
ARU							22 25 05.3		
ARU							22 30 19.7		
ARU				SS		SS	22 41 51.5	-1.6	
ARCES	ARCESS Array B	125.22	352	PKP		PKPdf	22 23 22.8	0.0	
ARCES	ARCESS Array B	125.22	352	PKP		PKPdf	22 23 22.8	0.0	
	comp=Z,2.7nm,0.7s,baz=338,slow=1.6,SNR=18								
APA	Apatity	125.67	348	*i* PKIKP		PKPdf	22 23 29.0	+5.4	
APA				MLR		MLR			
	comp=Z,500nm,20.0s								
ABKAR	Akbulak array	125.89	320	*e*PKPdf		PKPdf	22 23 21.6	-3.0	
AKTO	Aktyubinsk	126.66	322	PKIKP		PKPdf	22 23 25.9	-0.1	
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
AKTO	Aktyubinsk	126.66	322	PKP		PKPdf	22 23 25.9	-0.1	
AKTO	Aktyubinsk	126.66	322	PKP		PKPdf	22 23 25.9	-0.1	
	comp=Z,1.6nm,0.9s,baz=80,slow=5.6,SNR=5.8								
PRGR	Permogore	126.80	338	*e*PKiKP		PKPdf	22 23 24.1	-1.8	
PRGR				pmax		pmax			
	comp=Z,8.0nm,1.0s								
MSEY	Mahe Island	127.81	251	PFAKE			22 23 40.0	+11	
MSEY				LR		LR			
	comp=Z,700nm,21.0s								
JOF	Joensuu	130.11	346	*e*PKIKP		PKPdf	22 23 33.0	+0.8	
JOF				pmax		pmax			
	comp=Z,3.0nm,0.5s								
JOF	Joensuu	130.11	346	*ep*		PKPdf	22 23 33.0	+0.8	
	comp=Z,3.0nm,0.5s								
KAF	Kangasniemi	131.92	348	*e*PKiKP		PKPdf	22 23 36.0	+0.3	
KAF	Kangasniemi	131.92	348	*ep*		PKPdf	22 23 36.0	+0.3	
FINES	FINESS Array B	132.58	348	PKP		PKPdf	22 23 36.7	-0.2	
FINES	FINESS Array B	132.58	348	PKP		PKPdf	22 23 36.7	-0.2	
	comp=Z,1.6nm,0.6s,baz=228,slow=2.3,SNR=7.3								
OBN	Obninsk	134.78	336	*i* PKIKP		PKPdf	22 23 40.3	-0.9	
ZEI	Tsey	138.69	318	*e*PKiKP		PKPdf	22 23 48.3	-0.9	
ZEI				pmax		pmax			
	comp=Z,4.0nm,1.3s								
KIV	Kislovodsk	138.87	320	⇓*i* PKIKP		PKPdf	22 23 49.6	+0.3	
KIV				*e*			22 26 40.0		
KIV				*e*			22 30 48.0		
KIV				pmax		pmax			
	comp=Z,6.0nm,1.3s								
KIEV	Kiev	141.02	338	*i* PKIKP		PKPdf	22 23 54.5	+1.7	
LSZ	Lusaka	142.54	215	*e*PKPpre		PKPpre	22 23 52.1		
LSZ				LR		LR			
	comp=Z,400nm,21.0s								
RAYN	Ar Rayn	143.06	288	*e*PKPdf		PKPab	22 23 54.4	+1.7	
LVV	L'vov	143.51	341	*e*PKHKP		PKPbc	22 23 52.3	-2.3	
TSUM	Tsumeb	143.52	197	*e*PKPdf		PKPab	22 23 55.9	+1.1	
DAMY	Dhamar	143.91	273	*e*PKPdf		PKPab	22 23 57.7	+1.1	
KWP	Kalwaria Pacla	144.07	343	*e*PKiKP		PKPab	22 23 56.0	+0.1	
KWP	Kalwaria Pacla	144.07	343	*e*PKPdf		PKPab	22 23 56.0	+0.1	
SFNV	Sufian	144.23	311	*e*P		PKPab	22 23 57.5	+0.5	
OJC	Ojcow	144.30	346	*e*PKiKP		PKPab	22 23 57.4	+0.7	
OJC	Ojcow	144.30	346	*e*PKPdf		PKPab	22 23 57.4	+0.7	
OJC	Ojcow	144.30	346	*e*PKPdf		PKPab	22 23 56.8	+0.1	
KSP	Ksiaz	144.42	350	*e*PKiKP		PKPab	22 23 57.8	+0.7	
KSP				*e*			22 24 14.0		
CLL	Collm	144.42	353	*e*PKiKP		PKPab	22 23 57.0	-0.1	
CLL				*e*			22 24 08.0		
CLL				pmax		pmax			
	comp=Z,6.0nm,0.7s								
CLL	Collm	144.42	353	*e*PKPbc		PKPab	22 23 57.8	+0.7	
CLL	Collm	144.42	353	*e*PKPdf		PKPab	22 23 57.0	-0.1	
	comp=Z,6.0nm,0.7s								
CLL				*e*			22 24 08.0		
CLL				*ep*PKiKP		pPKiKP	22 24 15.0	+3.8	
MALT	Malatya	144.52	315	⇑PKiKP		PKPbc	22 23 59.5	+1.2	
MALT	Malatya	144.52	315	⇑*i* P		PKPbc	22 23 59.5	+1.2	
STHS	Stebnicka Huta	144.68	344	*e*PKiKP		PKPab	22 23 59.0	+0.9	
STHS	Stebnicka Huta	144.68	344	*e*PKP		PKPab	22 23 59.0	+0.9	
BRG	Berggiesshubel	144.74	352	*e*PKP		PKPdf	22 24 03.6	+4.2	
	comp=Z,7.3nm,1.1s								
BRG				*e*			22 24 20.1		
	comp=Z,13nm,1.2s								
BRG				*e*			22 25 08.3		
	comp=Z,169nm,3.0s								
BRG	Berggiesshubel	144.74	352	*e*PKiKP		PKPdf	22 24 03.6	+4.2	
BRG				*e*			22 24 20.1		
BRG				pmax		pmax			
	comp=Z,7.0nm,1.1s								
BRG	Berggiesshubel	144.74	352	*e*PKPbc		PKPbc	22 23 59.9	+1.5	
UPC	Upice	144.79	350	*e*PKiKP		PKPbc	22 23 59.8	+1.2	
UPC				*e*			22 24 15.1		
UPC				pmax		pmax			
	comp=Z,2.0nm,0.3s								
UPC	Upice	144.79	350	*e*PKP		PKPbc	22 23 59.8	+1.2	
UPC				*ep*PKP		pPKPdf	22 24 15.1	+6.8	
LEOM	Leova	144.80	334	⇑PKiKP		PKPdf	22 24 03.5	+3.8	
LEOM	Leova	144.80	334	⇑*i* P		PKPdf	22 24 03.5	+3.8	
KOLS	Kolonicke sedl	144.83	342	*e*PKiKP		PKPab	22 23 59.2	+0.5	
KOLS	Kolonicke sedl	144.83	342	*e*PKP		PKPab	22 23 59.2	+0.5	
DPC	Dobruska-Polom	144.89	350	*e*PKiKP		PKPab	22 23 59.8	+0.9	
DPC				*e*			22 24 16.1		
DPC	Dobruska-Polom	144.89	350	*e*PKP		PKPab	22 23 59.8	+0.9	
DPC				*ep*PKP		pPKPdf	22 24 16.1	+7.6	
DPC	Dobruska-Polom	144.89	350	*e*PKPdf		PKPab	22 23 58.8	-0.1	
NIE	Niedzica	144.92	345	*e*PKiKP		PKPbc	22 24 00.2	+1.2	
NIE	Niedzica	144.92	345	*e*PKPdf		PKPbc	22 24 00.2	+1.2	
PVCC	Panska Ves	144.99	352	*e*PKiKP		PKPdf	22 24 01.7	+1.8	
PVCC	Panska Ves	144.99	352	*e*PKP		PKPdf	22 24 01.7	+1.8	
OKC	Ostrava-Krasne	145.03	347	*e*PKiKP		PKPbc	22 23 59.8	+0.5	
OKC				*e*			22 24 16.3		
OKC	Ostrava-Krasne	145.03	347	*e*PKP		PKPbc	22 23 59.8	+0.5	
OKC				*ep*PKP		pPKPdf	22 24 16.3	+7.6	
BUR04	Bucovina Ar. S	145.03	338	*e*PKPab		PKPbc	22 23 58.4	-1.2	
BURAR	Bucovina Array	145.03	338	⇑PKiKP		PKPdf	22 24 02.5	+2.3	
BURAR	Bucovina Array	145.03	338	⇑*i* P		PKPdf	22 24 02.5	+2.3	
CRVS	Cervenica-Dubn	145.09	343	*e*PKiKP		PKPbc	22 24 00.0	+0.4	
CRVS	Cervenica-Dubn	145.09	343	*e*PKP		PKPbc	22 24 00.0	+0.4	
MORC	Moravsky Berou	145.21	348	⇑PKiKP		PKPbc	22 23 59.9	-0.1	
MORC	Moravsky Berou	145.21	348	⇑*i* P		PKPbc	22 23 59.9	-0.1	
MORC	Moravsky Berou	145.21	348	*e*PKPbc		PKPbc	22 23 58.8	-1.2	
TANN	Tannenbergstha	145.36	354	*e*PKPbc		PKPbc	22 24 01.3	+0.8	
TESR	Tescani	145.42	336	⇑*i* P		PKPbc	22 24 01.0	+0.3	
MEM	Membach	145.44	1	PKP		PKPbc	22 24 00.8	+0.2	
PRA	Prague	145.46	352	PKP		PKPab	22 24 02.0	+1.1	
PRA				pPKP		pPKPdf	22 24 18.0	+8.6	
SNF	Seneffe	145.48	3	PKP		PKPbc	22 24 01.0	+0.3	
PRU	Pruhonice	145.52	351	*e*PKiKP		PKPdf	22 24 01.6	+0.8	
PRU				*e*			22 24 17.9		
PRU	Pruhonice	145.52	351	*e*PKP		PKPdf	22 24 01.6	+0.8	
PRU				*ep*PKP		pPKPdf	22 24 17.9	+8.4	
NKC	Novy Kostel	145.54	354	*e*PKiKP		PKPdf	22 24 01.6	+0.7	
NKC				*e*			22 24 18.0		
NKC	Novy Kostel	145.54	354	*e*PKP		PKPdf	22 24 01.6	+0.7	
NKC				*ep*PKP		pPKPdf	22 24 18.0	+8.4	
TLCR		145.56	332	⇓PKiKP		PKPdf	22 24 01.8	+0.8	
TLCR		145.56	332	⇓*i* P		PKPdf	22 24 01.8	+0.8	
BMR	Baia Mare	145.57	340	⇓PKiKP		PKPdf	22 24 01.8	+0.8	
BMR	Baia Mare	145.57	340	⇓*i* P		PKPdf	22 24 01.8	+0.8	
KMBO	Kilima Mbogo	145.61	243	*e*PKPdf		PKPdf	22 24 02.6	+0.2	
KMBO				LR		LR			
	comp=Z,300nm,21.0s								
KMBO	Kilima Mbogo	145.61	243	PKPbc		PKPdf	22 24 02.8	+0.4	
	comp=Z,31nm,1.0s,baz=67,slow=3.8,SNR=79								
BCLA	Clavier	145.61	2	PKP		PKPdf	22 24 01.2	+0.2	
TNS	Taunus Mts	145.82	358	*e*PKPbc		PKPdf	22 24 02.6	+1.2	
MANZ	Manzenberg	145.82	354	*e*PKPbc		PKPbc	22 24 02.8	+0.9	
PETR	Petresti	145.82	334	⇓*i* P		PKPab	22 24 05.5	+3.1	
VRAC	Vranov	145.84	349	⇑*i* P		PKPdf	22 24 02.5	+1.1	
VRAC	Vranov	145.84	349	PKPbc		PKPdf	22 24 01.9	+0.5	
VRAC	Vranov	145.84	349	PKPbc		PKPdf	22 24 01.9	+0.5	
	comp=Z,10nm,1.1s,baz=15,slow=2.8,SNR=13								
SHEL	Horse Pasture	145.88	158	*i* PKP2		PKPab	22 24 06.2	+2.7	
SLMH	Al Salmeh	145.89	312	*e*P		PKPab	22 24 04.0	+1.0	
DOU	Dourbes	145.91	3	PKP		PKPdf	22 24 02.4	+0.9	
VRI	Vrincioaia	145.91	335	⇑PKP2		PKPdf	22 24 02.7	+1.0	
VRI	Vrincioaia	145.91	335	⇑*i* P		PKPdf	22 24 02.7	+1.0	
ROTZ	Rotzenmuhle	146.03	354	*e*PKPbc		PKPbc	22 24 03.6	+1.1	
TREC	Trest	146.05	350	*e*PKP2		PKPdf	22 24 03.3	+1.5	
TREC	Trest	146.05	350	*e*PKP		PKPdf	22 24 03.3	+1.5	
TREC				*ep*PKP		pPKPdf	22 24 19.7	+9.2	
GRF	Grafenberg Arr	146.19	355	*e*PKPbc		PKPab	22 24 04.5	+0.8	
TIRR	Tirgusor	146.31	332	⇓PKP2		PKPdf	22 24 03.9	+1.6	
TIRR	Tirgusor	146.31	332	⇓*i* P		PKPdf	22 24 03.9	+1.6	
TIRR	Tirgusor	146.31	332	*e*PKPdf		PKPdf	22 24 02.0	-0.3	
HARR	Harsova	146.34	333	⇑PKP2		PKPbc	22 24 05.0	+1.4	
HARR	Harsova	146.34	333	⇑*i* P		PKPbc	22 24 05.0	+1.4	
DOPR	Dopca	146.36	337	⇑*i* P		PKPbc	22 24 04.6	+0.9	
WLF	Walferdange	146.39	1	PKP		PKPbc	22 24 04.2	+0.6	
WLF	Walferdange	146.39	1	*e*PKiKP		PKPdf	22 23 59.9	-2.4	
WLF	Walferdange	146.39	1	*e*PKPbc		PKPbc	22 24 04.5	+0.9	
WLF	Walferdange	146.39	1	*e*PKPdf		PKPdf	22 23 59.9	-2.4	
PSZ	Piszkesteto	146.41	344	*e*PKP2		PKPdf	22 24 03.4	+0.9	
PSZ	Piszkesteto	146.41	344	*e*PKPdf		PKPdf	22 24 03.4	+0.9	
PSZ	Piszkesteto	146.41	344	*ll e*PKPdf		PKPdf	22 24 03.4	+0.9	
KHC	Kasperske Hory	146.49	352	*e*PKP2		PKPdf	22 24 04.0	+1.4	
KHC	Kasperske Hory	146.49	352	*e*PKP		PKPbc	22 24 04.7	+0.7	
KHC				*ep*PKP		pPKPdf	22 24 20.5	+9.2	
KHC	Kasperske Hory	146.49	352	*e*PKPdf		PKPdf	22 24 04.0	+1.4	
MLR	Muntele Rosu	146.54	336	PKPbc		PKPdf	22 24 04.1	+1.2	
MLR	Muntele Rosu	146.54	336	PKPbc		PKPdf	22 24 04.1	+1.2	
	baz=43,slow=3.7								
WET	Wettzell	146.57	353	*e*PKPbc		PKPbc	22 24 04.9	+0.7	
DRGR		146.60	340	⇑PKP2		PKPdf	22 24 04.3	+1.4	
DRGR		146.60	340	⇑*i* P		PKPdf	22 24 04.3	+1.4	
GEC2	GERESS Array S	146.76	352	*e*PKPbc		PKPbc	22 24 05.5	+0.7	
GEC2	GERESS Array S	146.76	352	*e*PKPdf		PKPdf	22 24 00.3	-2.8	
GERES	GERESS Array B	146.76	352	PKPbc		PKPdf	22 24 05.1	+2.0	
GERES	GERESS Array B	146.76	352	PKPbc		PKPdf	22 24 05.1	+2.0	
	comp=Z,2.2nm,0.6s,baz=32,slow=3.3,SNR=7.9								
BRTR	Keskin Array B	146.83	321	PKPbc		PKPbc	22 24 05.7	+0.3	
BRTR	Keskin Array B	146.83	321	PKPbc		PKPbc	22 24 05.7	+0.3	
	comp=Z,34nm,0.8s,baz=117,slow=2.3,SNR=173								
SECR		146.86	335	⇓*i* P		PKPbc	22 24 06.1	+1.0	
VOIR		146.93	336	⇓PKP2		PKPbc	22 24 06.3	+0.9	
VOIR		146.93	336	⇓*i* P		PKPbc	22 24 06.3	+0.9	
BTCH	Batrach	147.02	313	*e*P		PKPdf	22 24 04.3	+0.4	
STU	Stuttgart	147.24	357	*e*PKiKP		PKPdf	22 24 03.4	-0.4	
STU	Stuttgart	147.24	357	*e*PKPbc		PKPbc	22 24 06.9	+0.8	
STU	Stuttgart	147.24	357	*e*PKPdf		PKPdf	22 24 03.4	-0.4	
ANTO	Ankara	147.25	322	*e*PKP2		PKPdf	22 24 05.5	+1.3	
ANTO	Ankara	147.25	322	⇓*i* P		PKPbc	22 24 07.1	+0.6	
ANTO	Ankara	147.25	322	*e*PKPdf		PKPdf	22 24 05.5	+1.3	
BR231	Keskin MP Arra	147.28	322	*e*PKPdf		PKPdf	22 24 03.7	-0.6	
CONA	Conrad Observa	147.30	349	⇑*i* PKiKP		PKPbc	22 24 07.1	+0.7	
	comp=Z,54nm,1.2s,SNR=7.2								
WRDH	Waridieh	147.31	312	*e*P		PKPbc	22 24 08.0	+1.3	
DEV	Deva	147.33	339	⇓PKP2		PKPbc	22 24 07.4	+1.0	
DEV	Deva	147.33	339	⇓*i* P		PKPbc	22 24 07.4	+1.0	
LOT	Lotru	147.40	338	⇓*i* P		PKPbc	22 24 08.5	+1.7	
SOP	Sopron	147.40	348	*ll e*PKPdf		PKPbc	22 24 07.4	+0.9	
ARNB	Al Arnab	147.45	313	*e*P		PKPbc	22 24 08.6	+1.4	
BIDA	Albida	147.61	311	*e*P		PKPbc	22 24 08.2	+0.6	
MOA	Molln	147.65	351	⇑*i* PKPab		PKPbc	22 24 07.5	+0.3	
	comp=Z,54nm,1.4s								
BFO	Black Forest	147.71	358	*e*PKiKP		PKPdf	22 24 05.4	+0.8	
BFO	Black Forest	147.71	358	*e*PKPbc		PKPbc	22 24 08.1	+0.7	
BFO	Black Forest	147.71	358	*e*PKPdf		PKPdf	22 24 05.4	+0.8	
HAWK	Haweek	147.78	310	*e*P		PKPbc	22 24 08.7	+0.6	
ZALF	Zalf	147.78	307	*e*P		PKPbc	22 24 08.9	+0.8	
THEF	They Montfort	147.82	1	PKP		PKPbc	22 24 08.3	+0.6	
ECH	Echery	147.85	360	PKP		PKPbc	22 24 09.5	+1.7	
DESE	Dese	147.91	266	*i* P		PKPbc	22 24 11.6	+2.3	
MARH	Ras Al Marh	147.95	310	*e*P		PKPbc	22 24 10.0	+1.1	
RJOB	Jochberg	147.96	353	*e*PKPbc		PKPbc	22 24 08.8	+0.6	
MOF	Molkenrain	148.21	360	PKP		PKPbc	22 24 10.7	+1.9	
TOTH	TOTAH	148.28	308	*e*P		PKPbc	22 24 10.5	+1.0	
FURI	Furi	148.28	261	*e*P		PKPbc	22 24 12.8	+2.5	
FURI	Furi	148.28	261	*e*PKPbc		PKPbc	22 24 10.0	-0.3	
FURI				LR		LR			
	comp=Z,400nm,21.0s								
PKSM	Moragy	148.31	344	⇑*e*PKPdf		PKPbc	22 24 08.8	-0.2	
SALA	Sala	148.33	307	*e*P		PKPbc	22 24 10.6	+0.8	
ASF	Jabal al Asfar	148.42	306	PKPbc		PKPbc	22 24 10.7	+0.8	
ASF	Jabal al Asfar	148.42	306	PKPbc		PKPbc	22 24 10.7	+0.8	
	comp=Z,1nm,0.8s,baz=46,slow=2.0,SNR=29								
BRBR	Barbar	148.62	309	*e*P		PKPbc	22 24 11.3	+0.7	
JMB	Yambol	148.69	331	⇓PKP2		PKPbc	22 24 10.9	+0.8	
JMB	Yambol	148.69	331	⇓*i* P		PKPbc	22 24 10.9	+0.8	
LOMF	Lomont	148.71	0	PKP		PKPbc	22 24 10.8	+0.7	
FETA	Feichten	148.88	355	⇑*i* PKiKP		PKPbc	22 24 11.3	+0.6	
	comp=Z,41nm,1.2s								
TCHB	Talchebab	148.93	308	*e*P		PKPbc	22 24 11.8	+0.7	
ABTA	Abfaltersbach	148.97	353	⇓*i* PKiKP		PKPbc	22 24 11.0	+0.1	
	comp=Z,32nm,1.0s								
MMAI	Mount Meron Ar	149.21	309	PKPbc		PKPbc	22 24 12.5	+0.6	
MMAI	Mount Meron Ar	149.21	309	PKPbc		PKPbc	22 24 12.5	+0.6	
	comp=Z,34nm,0.8s,baz=57,slow=5.3,SNR=99								
TUE	Stuetta	149.53	357	*e*PKPdf		PKPdf	22 24 06.1	-1.8	
SENIN	Lac Senin/Sane	149.70	360	*e*PKPdf		PKPdf	22 24 09.0	+0.8	
CSS	Prodhromos	149.76	314	*e*PKPbc		PKPbc	22 24 12.9	-0.2	
CSS				LR		LR			
	comp=Z,200nm,20.4s								
AGO	Saint Agoulin	149.84	5	PKP		PKPbc	22 24 13.4	+0.5	
KDZ	Kurdzhali	149.87	332	⇓PKP2		PKPbc	22 24 13.7	+0.6	
KDZ	Kurdzhali	149.87	332	⇓*i* P		PKPbc	22 24 13.7	+0.6	
ISP	Isparta	149.92	321	*e*PKP2		PKPbc	22 24 12.4	-1.1	
ISP	Isparta	149.92	321	*e*PKPbc		PKPbc	22 24 12.4	-1.1	
PLDF	La Plantade	149.96	5	PKP		PKPbc	22 24 13.0	-0.3	
VTS	Vitosha	150.04	336	⇑PKP2		PKPbc	22 24 13.6	-0.1	
VTS	Vitosha	150.04	336	⇑*i* P		PKPbc	22 24 13.6	-0.1	
PYM	Petit Puy Mans	150.13	6	PKP		PKPbc	22 24 14.2	+0.5	
LBL	Lubilhac	150.66	5	PKP		PKPbc	22 24 16.2	+1.2	
MMB	Musomiste	150.66	334	⇑PKiKP		PKPbc	22 24 15.2	+0.1	
MMB	Musomiste

TXAR **Lajitas Array** 10.22 7 Pn Pn 22 58 08.6 +0.9
TXAR Lg Lg 23 00 52.1
TXAR **Lajitas Array** 10.22 7 Pn Pn 22 58 08.6 +0.9
0.1nm,0.3s,baz=183,slow=7.4,SNR=35
TXAR Lg Lg 23 00 52.1
0.1nm,0.3s,baz=184,slow=23,SNR=3.3
627A **Terlingua Ranc** 10.37 8 ⇓P Pn 22 58 11.0 +1.2
baz=10,SNR=22
626A **Big Bend Ranch** 10.39 4 ⇑P Pn 22 58 11.2 +1.1
baz=10,SNR=9.1
628A **Black Gap, Mar** 10.47 10 ⇓P Pn 22 58 13.2 +2.0
baz=10
732A **Laxson Ranch,** 10.60 25 ⇑P Pn 22 58 14.2 +1.4
baz=10,SNR=7.4
526A **Mary Lane Ranc** 10.90 4 ⇓P Pn 22 58 18.5 +1.4
baz=11,SNR=14
631A **Perdido Creek** 10.99 21 ⇓P Pn 22 58 19.8 +1.6
baz=11,SNR=5.5
527A **Woodward Ranch** 11.03 6 ⇓P Pn 22 58 20.4 +1.6
baz=11,SNR=12
528A **Cox Ranch, San** 11.15 10 ⇑P Pn 22 58 21.8 +1.3
baz=11,SNR=7.0
529A **Stev Forest Ra** 11.22 13 ⇓P Pn 22 58 23.0 +1.6
baz=11,SNR=6.8
632A **Uvalde** 11.36 24 ⇑P Pn 22 58 24.8 +1.5
baz=11,SNR=10.0
530A **J-C Ranch, Com** 11.45 16 ⇓P Pn 22 58 26.2 +1.6
baz=11,SNR=8.8
426A **McDonald Obser** 11.51 4 ⇓P Pn 22 58 26.8 +1.4
baz=12
425A **Indio Mountain** 11.59 0 ⇓P Pn 22 58 27.4 +0.9
baz=12,SNR=7.1
531A **Rocksprings** 11.70 19 ⇓P Pn 22 58 29.9 +2.0
baz=12,SNR=9.2
428A **Kincaid Ranch,** 11.72 10 ⇑P Pn 22 58 29.9 +1.6
baz=12,SNR=12
427A **Hayter Ranch,** 11.74 7 ⇓P Pn 22 58 29.9 +1.3
baz=12,SNR=6.8
429A **Davenport Ranc** 11.77 13 ⇓P Pn 22 58 30.8 +1.8
baz=12
532A **Rocksprings** 11.88 22 ⇓P Pn 22 58 31.8 +1.4
baz=12,SNR=12
430A **Baggett Ranch,** 12.09 16 ⇑P Pn 22 58 35.6 +2.4
baz=12,SNR=7.6
326A **Caldwell Ranch** 12.15 4 ⇑P Pn 22 58 35.7 +1.5
baz=12,SNR=6.0
533A **Kerrville** 12.16 25 ⇑P Pn 22 58 35.8 +1.6
baz=12,SNR=8.1
431A **Sonora** 12.16 18 ⇑P Pn 22 58 36.2 +1.9
baz=12,SNR=7.8
325A **Bean Ranch, Si** 12.17 0 ⇑P Pn 22 58 35.4 +0.9
baz=12
JCT **Junction City** 12.23 22 *e*Pn Pn 22 58 36.0 +0.8
JCT **Junction City** 12.23 22 ⇑P Pn 22 58 36.9 +1.6
baz=12,SNR=5.8
327A **Balmorhea Ranc** 12.25 6 ⇑P Pn 22 58 36.7 +1.2
baz=12
324A **Moseley Ranch,** 12.25 358 ⇑P Pn 22 58 36.6 +1.1
baz=12,SNR=6.4
328A **Wristen Ranch,** 12.35 9 ⇓P Pn 22 58 38.0 +1.3
baz=12,SNR=6.8
534A **Blanco** 12.36 27 ⇓P Pn 22 58 37.9 +1.1
baz=12,SNR=19
MNTX **Cornudas Mount** 12.50 359 *e*Pn Pn 22 58 39.6 +0.7
320A **Kipp Ranch, An** 12.55 346 ⇑P Pn 22 58 41.0 +1.4
baz=13
329A **Wagon Wheel Ra** 12.59 12 ⇑P Pn 22 58 41.6 +1.4
baz=12
432A **Menard** 12.60 21 ⇓P Pn 22 58 41.5 +1.3
baz=12,SNR=29
330A **Mertzon** 12.69 15 ⇑P Pn 22 58 42.9 +1.4
baz=13,SNR=5.7
433A **Art** 12.74 24 ⇑P Pn 22 58 43.3 +1.1
baz=13,SNR=7.2
319A **Douglas** 12.77 343 ⇑P Pn 22 58 44.0 +1.4
baz=13
331A **San Angelo** 12.80 18 ⇓P Pn 22 58 45.0 +2.1
baz=13,SNR=14
223A **Chaparral, Ant** 12.87 355 ⇑P Pn 22 58 45.2 +1.2
baz=13
224A **Cornudas Mount** 12.88 358 ⇑P Pn 22 58 45.5 +1.3
baz=13,SNR=9.1
226B **Tecolote Peak,** 12.90 3 ⇓P Pn 22 58 45.9 +1.5
baz=13,SNR=5.1
227A **Bennet, Jal** 12.91 7 ⇑P Pn 22 58 45.6 +1.2
baz=13
225A **Deer Hill, Car** 12.91 1 ⇑P Pn 22 58 45.8 +1.2
baz=13
222A **Williams Famil** 13.04 352 ⇑P Pn 22 58 47.0 +0.7
baz=13,SNR=10
221A **Mesquite Ranch** 13.05 350 ⇓P Pn 22 58 48.1 +1.7
baz=13
332A **Millersview** 13.08 20 ⇑P Pn 22 58 47.8 +1.0
baz=13
229A **Bryant Ranch,** 13.09 12 ⇓P Pn 22 58 48.0 +1.0
baz=13
228A **UT Block 9, Go** 13.10 9 ⇓P Pn 22 58 48.0 +1.0
baz=13
434A **Burnet** 13.12 26 ⇑P Pn 22 58 48.0 +0.6
baz=13,SNR=9.3
230A **Sterling City** 13.17 15 ⇓P Pn 22 58 48.4 +0.5
baz=13,SNR=8.7
333A **Richland Sprin** 13.29 23 ⇓P Pn 22 58 50.0 +0.3
baz=13,SNR=5.6
125A **Gardner Draw,** 13.46 1 ⇑P Pn 22 58 52.9 +0.9
baz=13,SNR=9.4
126A **Clayton Basin,** 13.47 4 ⇑P Pn 22 58 53.3 +1.1
baz=13
124A **Stringfield Ra** 13.50 358 ⇑P Pn 22 58 53.9 +1.2
baz=14,SNR=13
127A **Arkansas Junct** 13.56 6 ⇑P Pn 22 58 54.0 +0.7
baz=14
121A **Cookes Peak, D** 13.56 350 ⇓P Pn 22 58 54.4 +0.9
baz=14,SNR=8.2
232A **Coleman** 13.58 20 ⇓P Pn 22 58 54.3 +0.7
baz=14
334A **Lometa** 13.59 25 ⇓P Pn 22 58 54.1 +0.4
baz=14
128A **Castleberry Fa** 13.61 9 ⇑P Pn 22 58 54.2 +0.1
baz=14,SNR=8.0
HKT **Hockley** 13.61 36 *e*Pn Pn 22 58 51.6 -2.4
129A **Stewart Farms,** 13.72 11 ⇓P Pn 22 58 55.9 +0.3
baz=14,SNR=6.4
130A **Snyder** 13.88 14 ⇑P Pn 22 58 58.0 +0.4
baz=14,SNR=13
335A **Moody** 13.89 28 ⇓P Pn 22 58 57.4 -0.4
baz=14,SNR=5.3
Z25A **Roswell** 14.08 1 ⇑P Pn 22 59 00.9 +0.5
baz=14,SNR=8.8
TUC **Tucson** 14.10 340 *e*Pn Pn 22 59 00.5 -0.1
131A **Roby** 14.10 16 ⇑P Pn 22 59 00.1 -0.5
baz=14,SNR=7.0
Z26A **Caprock** 14.10 4 ⇑P Pn 22 59 01.1 +0.5
baz=14,SNR=8.0
Z23A **Rita Site, Whi** 14.10 356 ⇓P Pn 22 59 01.2 +0.5
baz=14
Z24A **Sheeppen Canyo** 14.13 359 ⇑P Pn 22 59 01.8 +0.6
baz=14
Z22A **Elephant Butte** 14.16 353 ⇑P Pn 22 59 02.8 +1.3
baz=14,SNR=8.4
Z27A **Tatum** 14.20 6 ⇓P Pn 22 59 01.8 -0.2
baz=14
ABTX **Abilene, Hawle** 14.26 19 *e*Pn Pn 22 59 02.4 -0.3
ABTX **Abilene, Hawle** 14.26 19 ⇑P Pn 22 59 03.1 +0.3
baz=14,SNR=9.3
Z28A **Tucker Farm, M** 14.28 9 ⇓P Pn 22 59 03.0 0.0
baz=14,SNR=9.1
Z29A **Hungry Hill Ra** 14.37 11 ⇓P Pn 22 59 03.9 -0.2
baz=14,SNR=8.1
133A **Hamilton Ranch** 14.48 21 ⇑P Pn 22 59 05.1 -0.5
baz=14,SNR=15
WHTX **Lake Whitney** 14.49 27 *e*Pn Pn 22 59 04.9 -0.7
WHTX **Lake Whitney** 14.49 27 ⇑P Pn 22 59 05.5 -0.2
baz=14,SNR=5.4
Z30A **Sanderson Ranc** 14.51 13 ⇓P Pn 22 59 05.4 -0.6
baz=14,SNR=17
APG **El Apazote** 14.51 104 Pn Pn 22 59 02.2 -4.1
APG Lg Lg 23 03 17.9
APG **El Apazote** 14.51 104 Pn Pn 22 59 02.2 -4.1
0.1nm,0.3s,baz=294,slow=20,SNR=3.1
APG Lg Lg 23 03 17.9
0.0nm,0.3s,baz=225,slow=20,SNR=4.6
APG LR LR 23 04 31.2
comp=Z,1μm,18.4s,baz=284,slow=37
214A **Organ Pipe Nat** 14.56 333 ⇓P Pn 22 59 07.2 +0.6
baz=15,SNR=9.2
Y25A **Mesa, Roswell** 14.72 1 ⇑P Pn 22 59 09.2 +0.3
baz=15,SNR=18
Y24A **Capitan** 14.72 359 ⇓P Pn 22 59 09.3 +0.3
baz=15,SNR=9.8
134A **White-Moore Ra** 14.75 24 ⇓P Pn 22 59 08.3 -0.8
baz=15
Y23A **Lovelace Mesa,** 14.76 357 ⇓P Pn 22 59 10.1 +0.8
baz=15
Y26A **Elida** 14.76 4 ⇑P Pn 22 59 09.4 +0.1
baz=15
Y27A **Causey** 14.77 6 ⇓P Pn 22 59 09.5 0.0
baz=15,SNR=27
Z31A **Sharp Cattle R** 14.77 16 ⇓P Pn 22 59 09.0 -0.4
baz=15
MSTX **Muleshoe** 14.90 7 *e*Pn Pn 22 59 10.3 -0.9
MSTX **Muleshoe** 14.90 7 ⇓P Pn 22 59 11.1 0.0
baz=15,SNR=8.8
Y28A **McKinney Farm,** 14.91 9 ⇑P Pn 22 59 10.8 -0.4
baz=15,SNR=8.3
Z32A **Haskell** 14.95 18 ⇓P Pn 22 59 11.2 -0.4
baz=15,SNR=5.6
Y29A **Porterfield Fa** 14.96 11 ⇓P Pn 22 59 11.5 -0.3
baz=15,SNR=28
Y22D **IRIS PASSCAL I** 14.96 354 ⇑P Pn 22 59 12.4 +0.4
baz=15
135A **Vickery Place,** 15.00 26 ⇑P Pn 22 59 12.0 -0.3
baz=15
Y30A **Stafford Cattl** 15.12 13 ⇑P Pn 22 59 14.6 +0.6
baz=15,SNR=8.8
Z33A **Whitaker Ranch** 15.15 20 ⇓P Pn 22 59 15.1 +0.8
baz=15,SNR=7.2
X25A **Clemmons Ranch** 15.32 1 ⇑P Pn 22 59 17.2 +0.5
baz=15,SNR=14
Y31A **Rekieta Farm,** 15.35 15 ⇑P Pn 22 59 16.5 -0.4
baz=15
X26A **CR and CF Fran** 15.38 4 ⇑P Pn 22 59 17.5 +0.1
baz=15,SNR=5.6
X23A **Hourglass Bar** 15.41 356 ⇑P Pn 22 59 19.1 +1.3
baz=15,SNR=13
X28A **Dimmitt** 15.52 9 ⇓P Pn 22 59 18.6 -0.5
baz=16
X29A **Tulia** 15.52 10 ⇓P Pn 22 59 18.6 -0.5
baz=16,SNR=6.1
Z34A **Collier Ranch,** 15.53 23 ⇓P Pn 22 59 18.5 -0.6
baz=15
X27A **F and S Farms,** 15.53 6 ⇓P Pn 22 59 19.0 -0.3
baz=16
Y32A **R-V Farms, Ver** 15.61 17 ⇑P Pn 22 59 20.3 +0.1
baz=16
NATX **Nacogdoches** 15.65 35 *e*Pn Pn 22 59 17.5 -3.2
80nm,1.1s
113A **Mohawk Valley,** 15.67 332 ⇓P Pn 22 59 21.5 +0.6
baz=16,SNR=19
X30A **Coker Ranch, T** 15.68 13 ⇑P Pn 22 59 20.6 -0.5
baz=16
Z35A **Perchaven, San** 15.74 25 ⇓P Pn 22 59 23.1 +1.2
baz=16,SNR=10
ANMO **Albuquerque** 15.79 356 *e*Pn Pn 22 59 22.3 -0.3
31nm,1.5s
ANMO Lg Lg 23 04 02.1
ANMO **Albuquerque** 15.79 356 Pn Pn 22 59 22.6 0.0
0.1nm,0.3s,baz=162,slow=13,SNR=10.0
ANMO Lg Lg 23 04 02.1
0.0nm,0.3s,baz=220,slow=20,SNR=1.9
ANMO LR LR 23 04 47.6
comp=Z,1μm,20.9s,baz=16,slow=36
TEIG **Tepich** 15.80 83 LR LR 23 06 01.8
comp=Z,625nm,19.9s,baz=158,slow=40
Z14A **Wintersburg** 15.83 335 ⇓P Pn 22 59 23.9 +0.8
baz=16,SNR=6.9
Y33A **Hilltop Ranch,** 15.86 20 ⇑P Pn 22 59 22.1 -1.3
baz=16
W26A **Owens Ranch, T** 15.92 4 ⇑P Pn 22 59 23.9 -0.3
baz=16
X18A **Snowflake** 15.94 345 ⇑P Pn 22 59 25.0 +0.4
baz=16,SNR=7.7
W27A **Bowe Ranch, En** 15.95 6 ⇓P Pn 22 59 24.0 -0.6
baz=16,SNR=15
AMTX **Amarillo** 15.95 10 ⇓P Pn 22 59 23.7 -0.9
baz=16
W23A **Werner Place,** 15.98 357 ⇑P Pn 22 59 26.4 +1.2
baz=16,SNR=7.0
W24A **Lazy 6 Ranch,** 16.01 359 ⇑P Pn 22 59 26.3 +0.8
baz=16,SNR=9.0
W25A **X Bar L Ranch,** 16.02 2 ⇑P Pn 22 59 25.5 0.0
baz=16,SNR=33
X32A **Elmer** 16.05 17 ⇑P Pn 22 59 25.6 -0.1
baz=16,SNR=9.4
X31A **McDonald Ranch** 16.06 15 ⇑P Pn 22 59 25.2 -0.7
baz=16,SNR=8.7
Y34A **Reagan Ranch,** 16.11 22 ⇑P Pn 22 59 26.2 -0.4
baz=16,SNR=12
W29A **Amraillo** 16.19 10 ⇑P Pn 22 59 27.5 -0.2
baz=16,SNR=9.6
W28A **Vega** 16.24 8 ⇑P Pn 22 59 27.6 -0.7
baz=16
X16A **Lo Mia Camp, P** 16.25 341 ⇑P Pn 22 59 28.6 +0.1
baz=16
Y14A **Wickenburg** 16.36 336 ⇓P Pn 22 59 30.5 +0.7
baz=16,SNR=8.1
X33A **Lawton** 16.39 19 ⇓P P 22 59 31.1 -1.0
baz=16,SNR=7.2
GLA **Glamis** 16.40 330 *e*Pn Pn 22 59 30.6 +0.3
43nm,1.8s
GLA **Glamis** 16.40 330 ⇑P Pn 22 59 30.5 +0.3
baz=16
W18A **Petrified Fore** 16.45 346 *e*Pn P 22 59 32.2 -0.7
W18A **Petrified Fore** 16.45 346 ⇓P Pn 22 59 31.9 +0.9
baz=16,SNR=9.0
W30A **Crocket Farms** 16.45 13 ⇓P Pn 22 59 30.0 -0.9
baz=16
WMOK **Wichita Mounta** 16.49 18 *e*Pn Pn 22 59 29.5 -1.8
44nm,1.3s
V24A **Rampart Ranch,** 16.52 359 ⇓P Pn 22 59 31.8 -0.1
baz=16
V23A **Ortiz Mt. (NFS** 16.57 357 ⇓P Pn 22 59 32.8 +0.3
baz=17
W31A **Holland Ranch,** 16.60 15 ⇓P Pn 22 59 32.1 -0.6
baz=16
V26A **Tequesquite Ra** 16.62 4 ⇑P Pn 22 59 33.0 -0.1
baz=17,SNR=14
V25A **Rancho No Teng** 16.63 1 ⇓P Pn 22 59 33.4 +0.1
baz=17,SNR=9.5
V27A **Dan Oppiter Fa** 16.66 6 ⇓P Pn 22 59 33.4 -0.1
baz=17
X34A **Smith Ranch, M** 16.66 21 ⇑P Pn 22 59 32.6 -0.9
baz=17,SNR=12
V28A **Channing** 16.72 8 ⇓P Pn 22 59 33.8 -0.6
baz=17
DVTC **Desert V Tower** 16.73 326 ⇓P Pn 22 59 34.8 +0.4
baz=17
V22A **San Miguel Ran** 16.79 355 ⇑P Pn 22 59 34.9 -0.4
baz=17
SWSC **Sam W. Stewart** 16.79 327 ⇑P P 22 59 36.0 -0.5
baz=17,SNR=6.3
Y12C **Blythe** 16.84 332 ⇓P Pn 22 59 36.2 +0.6
baz=17,SNR=14
V29A **Stinnett** 16.95 10 ⇓P Pn 22 59 36.5 -0.6
baz=17
W33A **Cado, Fort Co** 16.97 19 ⇓P Pn 22 59 36.3 -1.0
baz=17
V30A **Spur Ranch, Mi** 16.99 12 ⇑P Pn 22 59 36.7 -0.9
baz=17
MONP **Monument Peak** 17.08 326 ⇓P Pn 22 59 38.7 -0.2
baz=17
PDMCI **Parker Dam,Lak** 17.14 334 ⇓P P 22 59 40.2 -0.1
baz=17,SNR=9.6
U23A **El Rito** 17.15 357 ⇑P Pn 22 59 39.4 -0.3
baz=17
V31A **Spring Creek L** 17.18 14 ⇑P Pn 22 59 39.3 -0.7
baz=17
U25A **Circle Dot Ran** 17.20 2 ⇓P Pn 22 59 40.7 +0.4
baz=17,SNR=13
U24A **Moreno Valley** 17.20 359 ⇑P Pn 22 59 39.7 -0.7
baz=17
U26A **Atchley Ranch,** 17.22 3 ⇓P Pn 22 59 40.3 -0.3
baz=17
U22A **Llaves** 17.24 355 ⇑P Pn 22 59 41.1 +0.2
baz=17
WUAZ **Wupatki** 17.25 342 *e*Pn P 22 59 41.8 0.0
74nm,1.1s
WUAZ **Wupatki** 17.25 342 ⇓P P 22 59 41.7 0.0
baz=17,SNR=65
W34A **Bridge Creek,** 17.26 20 ⇓P Pn 22 59 39.9 -1.0
baz=17
U27A **Thompson Grove** 17.32 6 ⇑P Pn 22 59 41.5 -0.2
baz=17,SNR=6.1
V32A **Arapaho** 17.33 17 ⇓P Pn 22 59 42.1 +0.3
baz=17
U28A **Mallet** 17.34 8 ⇓P Pn 22 59 41.9 -0.1
baz=17,SNR=5.6
IRM **Iron Mountain** 17.46 331 ⇑P P 22 59 43.9 -0.1
baz=18,SNR=41
V33A **Lossen Ranch,** 17.64 18 ⇑P Pn 22 59 45.0 -0.6
baz=18,SNR=6.0
PFO **Pinyon Flat Ob** 17.66 327 *e*P P 22 59 46.1 -0.1
55nm,1.4s
PFO **Pinyon Flat Ob** 17.66 327 ⇑P P 22 59 47.2 +1.0
baz=18
PFO **Pinyon Flat Ob** 17.66 327 P Pn 22 59 45.4 -0.6
0.1nm,0.3s,baz=152,slow=6.8,SNR=6.4
PFO LR LR 23 05 53.3
comp=Z,452nm,20.3s,baz=147,slow=35
W13A **Hualapai Mount** 17.73 335 ⇓P Pn 22 59 46.9 0.0
baz=18,SNR=12
TGUH **Tegucigalpa,Un** 17.74 104 *e*P Pn 22 59 44.5 -2.4
51nm,1.2s
U30A **WK&E Inc. Balk** 17.74 12 ⇑P Pn 22 59 46.9 +0.1
baz=18
T23A **Casias Ranch,** 17.85 357 ⇑P P 22 59 48.6 +0.2
baz=18
T24B **San Luis** 17.85 359 ⇓P Pn 22 59 48.2 -0.3
baz=18,SNR=7.9
V34A **Guthrie** 17.89 20 ⇑P P 22 59 47.6 -1.1
baz=18,SNR=8.3
T25A **Trinidad** 17.93 2 ⇓P P 22 59 49.2 -0.2
baz=18,SNR=5.7
T27A **Campo** 17.96 6 ⇑P P 22 59 49.6 +0.1
baz=18
U32A **Winter Ranch,** 17.97 16 ⇑P P 22 59 48.9 -0.6
baz=18
T26A **Comanche Natio** 18.01 4 ⇑P P 22 59 49.9 -0.2
baz=18
MURC **Murrieta** 18.04 325 ⇓P Pn 22 59 50.9 +0.4
baz=18
T28A **Walsh** 18.09 7 ⇓P P 22 59 50.7 -0.2
baz=18
GMRC **Granite Mounta** 18.21 331 ⇓P Pn 22 59 52.8 +0.2
baz=18,SNR=13
LDFC **Landfair** 18.21 333 *e*P Pn 22 59 53.8 +1.0
171nm,1.8s
MVCO **Mesa Verde** 18.25 351 *e*P P 22 59 52.8 -0.1
134nm,2.3s
MVCO **Mesa Verde** 18.25 351 ⇑P Pn 22 59 53.4 +0.1
baz=18
T30A **Plains** 18.27 12 ⇓P P 22 59 52.4 -0.5
baz=18
SCI **San Clemente I** 18.34 321 ⇑P Pn 22 59 54.3 +0.2
baz=18
U15A **North Rim** 18.37 341 ⇑P Pn 22 59 54.6 -0.1
baz=18,SNR=17
BBRC **Big Bear Solar** 18.41 327 ⇑P Pn 22 59 55.6 +0.5
baz=18
S24A **Houchin Ranch,** 18.43 360 ⇑P P 22 59 54.5 -0.4
baz=18
U34A **Anderson Ranch** 18.44 19 ⇑P P 22 59 53.6 -1.1
baz=18,SNR=12
S25A **Robets Cordova** 18.45 1 ⇓P Pn 22 59 55.5 -0.2
baz=18
S26A **Kim** 18.46 4 ⇓P P 22 59 55.1 +0.1
baz=18,SNR=7.8
T31A **Randall Ranch,** 18.49 14 ⇓P P 22 59 55.0 -0.2
baz=18
S23A **Nye Farm, Mont** 18.51 358 ⇓P Pn 22 59 56.2 -0.2
baz=18
SDCO **Great Sand Dun** 18.54 359 *e*P P 22 59 53.2 -2.8
S27A **Las Animas** 18.56 5 ⇑P P 22 59 56.5 +0.3
baz=18
HEC **Hector,Ludlow** 18.57 330 ⇑P Pn 22 59 57.1 +0.2
baz=19
S28A **Manter** 18.58 8 ⇓P P 22 59 56.2 -0.1
baz=18
TUL1 **Tulsa** 18.58 24 *e*P P 22 59 52.3 -3.9
TUL1 **Tulsa** 18.58 24 ⇓P P 22 59 55.7 -0.5
baz=18,SNR=12
S22A **4UR Ranch, Cre** 18.60 355 ⇑P P 22 59 57.0 +0.2
baz=19
S29A **Ulysses** 18.72 10 ⇑P P 22 59 58.0 +0.2
baz=19
T32A **Huddler Ranch,** 18.74 15 ⇓P P 22 59 57.5 -0.5
baz=19,SNR=7.8
BFSC **Mount Baldy Ra** 18.77 326 ⇓P Pn 22 59 59.2 -0.3
baz=19
T33A **Patterson Ranc** 18.83 17 ⇓P P 22 59 58.2 -0.8
baz=19,SNR=8.4
TUQ **Turquoise Moun** 18.88 331 ⇓P Pn 23 00 00.2 -0.5
baz=19,SNR=12
R25A **Fountain Ranch** 18.94 2 ⇓P P 23 00 00.4 0.0
baz=19,SNR=7.9
MWC **Mount Wilson** 18.98 325 *e*P Pn 23 00 01.7 -0.3
76nm,1.5s
R23A **Moffat** 18.99 358 ⇓P P 23 00 01.1 +0.1
baz=19
PASC **Pasadena Art C** 19.01 325 *e*P Pn 23 00 02.5 +0.4
79nm,1.6s
R24A **Sanders Place,** 19.02 360 ⇓P P 23 00 00.7 -0.5
baz=19,SNR=6.9
KNB **Kanab** 19.07 341 *e*P Pn 23 00 02.8 -0.3
159nm,1.6s
R26A **Arlington** 19.14 4 ⇓P P 23 00 02.1 -0.4
baz=19,SNR=13
R27A **Eads** 19.17 5 ⇑P P 23 00 02.6 -0.1
baz=19
PV01 **Paradox Valley** 19.17 351 *e*P P 23 00 02.9 -0.1
GSC **Goldstone** 19.18 329 *e*P P 23 00 03.4 +0.5
50nm,1.4s
GSC **Goldstone** 19.18 329 ⇑P P 23 00 03.4 +0.5
baz=19,SNR=12
PV05 **Paradox Valley** 19.20 350 *e*P P 23 00 02.7 -0.5
UALR **University of** 19.20 33 *e*P P 22 59 57.3 -5.8
240nm,2.8s
S32A **Newby Ranch, P** 19.23 15 ⇑P P 23 00 03.2 -0.2
baz=19
SHOC **Shoshone** 19.42 332 ⇑P P 23 00 05.9 +0.4
baz=20
EDW2 **Edwards Air Fo** 19.44 326 ⇓P P 23 00 06.4 +0.6
baz=20,SNR=9.2
SHPR **Sheep Range** 19.46 335 *e*P P 23 00 06.5 +0.4
PV04 **Paradox Valley** 19.48 351 *e*P P 23 00 06.4 +0.2
PV10 **Paradox Valley** 19.48 350 *e*P P 23 00 06.1 -0.2
R30A **Dighton** 19.51 11 ⇑P P 23 00 06.1 -0.3
baz=20
PV09 **Paradox Valley** 19.61 350 *e*P P 23 00 07.3 -0.6
OSI **Osito Adit** 19.63 324 *e*P Pn 23 00 09.0 -0.6
267nm,2.7s
R31A **Burdett** 19.66 13 ⇓P P 23 00 07.6 -0.5
baz=20
Q25A **Bedland, Calha** 19.71 2 ⇑P P 23 00 08.6 -0.2
baz=20,SNR=8.9
CCUT **Cedar City** 19.73 340 *e*P Pn 23 00 10.2 -0.8
127nm,2.0s
Q24A **Divide** 19.75 360 ⇓P P 23 00 09.5 +0.1
baz=20
LRMC **Laurel Mountai** 19.75 328 ⇓P P 23 00 09.2 0.0
baz=20,SNR=40
Q26A **Hugo** 19.75 3 ⇓P P 23 00 09.2 0.0
baz=20
ARUT **Antelope Range** 19.98 340 *e*P P 23 00 12.3 +0.6
R32A **Long Quarter,** 19.98 15 ⇓P P 23 00 11.0 -0.5
baz=20
Q29A **Oakley** 19.98 9 ⇓P P 23 00 11.0 -0.7
baz=20,SNR=10
SMCO **Snowmass** 20.03 356 *e*P P 23 00 12.8 +0.3
28nm,1.3s
Q28A **Sharon Springs** 20.04 7 ⇑P P 23 00 11.8 -0.4
baz=20
R33A **Olander Ranch,** 20.05 16 ⇓P P 23 00 11.3 -1.0
baz=20,SNR=6.5
ARVC **Arvin** 20.07 325 ⇓P P 23 00 13.2 +0.7
baz=20
MPMC **Manual Prospec** 20.12 329 ⇓P P 23 00 12.9 -0.4
baz=20,SNR=16
FURC **Furnace Creek,** 20.16 331 ⇑P P 23 00 14.3 +0.9
baz=20
P23A **Jefferson** 20.17 358 ⇓P P 23 00 13.9 0.0
baz=20
Q30A **Quinter** 20.20 11 ⇑P P 23 00 13.2 -0.7
baz=20,SNR=5.4
MVU **Marysvale** 20.28 344 *e*P P 23 00 15.6 +0.6
79nm,1.4s
TPNV **Topopah Spring** 20.29 333 *e*P P 23 00 15.3 +0.2
TPNV **Topopah Spring** 20.29 333 ⇑P Pn 23 00 16.3 -1.2
baz=20,SNR=46
ISA **Isabella** 20.30 327 *e*P P 23 00 15.6 +0.6
15nm,1.4s
ISA **Isabella** 20.30 327 ⇓P P 23 00 15.9 +0.8
baz=20,SNR=24
P25A **Willow Gulch B** 20.31 2 ⇑P P 23 00 15.9 +0.6

baz=20
Q31A **Ellis** 20.38 13 ⇑P P 23 00 14.9 -0.9
baz=20,SNR=11
P26A **Davis Ranch, A** 20.39 4 ⇑P P 23 00 16.5 +0.4
baz=20
P22A **Eagle** 20.43 356 ⇑P P 23 00 17.1 +0.4
baz=20,SNR=6.9
P27A **Ficken Ranch,** 20.45 5 ⇓P P 23 00 17.2 +0.5
baz=20
PKM **Peak Mountain** 20.45 323 ⇑P P 23 00 17.8 +0.9
baz=20
SRU **San Rafael** 20.46 348 *eP* P 23 00 16.1 -0.7
26nm,1.1s
ISCO **Idaho Springs** 20.59 359 *eP* P 23 00 17.9 -0.6
18nm,1.2s
ISCO **Idaho Springs** 20.59 359 ⇑P P 23 00 18.2 -0.2
baz=21
P29A **Atwood** 20.69 9 ⇓P P 23 00 19.1 -0.2
baz=21
CWC **Cottonwood Cre** 20.71 329 ⇑P P 23 00 19.9 +0.3
baz=21
Q33A **Connelly Farm,** 20.74 16 ⇓P P 23 00 19.5 -0.2
baz=21
P30A **Selden** 20.74 10 ⇑P P 23 00 18.6 -1.2
baz=21,SNR=7.4
VES **Vestal, Richgr** 20.75 326 ⇑P P 23 00 20.7 +0.8
baz=21,SNR=17
TMUT **Trail Mountain** 20.78 346 *eP* P 23 00 20.4 -0.1
76nm,1.2s
GRAC **Grapevine Rang** 20.82 331 ⇓P P 23 00 21.4 +0.7
baz=21,SNR=9.4
P31A **Stockton** 20.88 12 ⇓P P 23 00 21.1 -0.2
baz=21
O24A **Longmont** 20.91 360 ⇑P P 23 00 22.2 +0.6
baz=21,SNR=17
O22A **Kremmling** 20.99 357 ⇑P P 23 00 22.8 +0.1
baz=21,SNR=13
O23A **Lake Granby, G** 21.01 358 ⇓P P 23 00 22.7 -0.2
baz=21,SNR=9.2
O28A **Krutsinger Ran** 21.09 7 ⇓P P 23 00 23.6 0.0
baz=21
O20A **White River Ci** 21.10 353 *eP* P 23 00 23.6 -0.2
O20A **White River Ci** 21.10 353 ⇓P P 23 00 24.1 +0.3
baz=21,SNR=10
P32A **Huiting Farm,** 21.14 14 ⇓P P 23 00 24.0 -0.1
baz=21
KSU1 **Kansas State U** 21.18 18 *eP* P 23 00 23.1 -1.3
48nm,0.8s
KSU1 **Kansas State U** 21.18 18 ⇑P P 23 00 23.5 -0.9
baz=21,SNR=10.0
RCTC **Rector, Farmer** 21.19 327 ⇑P P 23 00 25.7 +1.2
baz=21
O29A **4D Ranch, Culb** 21.22 9 ⇓P P 23 00 24.9 0.0
baz=21
PTRM **Twissleman Ran** 21.22 324 *eP* P 23 00 25.5 +0.5
R11A **Troy Canyon, C** 21.23 337 *eP* P 23 00 25.4 +0.2
R11A **Troy Canyon, C** 21.23 337 ⇓P P 23 00 25.9 +0.7
baz=21,SNR=29
JTS **JuntasAbangare** 21.29 112 *eP* P 23 00 27.5 +1.7
5.4nm,1.2s
JTS **JuntasAbangare** 21.29 112 P P 23 00 27.6 +1.7
5.6nm,0.9s,baz=298,slow=14,SNR=4.7
JTS LR LR 23 08 14.2
comp=Z,395nm,19.0s,baz=305,slow=36
O30A **MW Ranch, Wils** 21.39 10 ⇓P P 23 00 26.6 -0.1
baz=21
O31A **Woolen Ranch,** 21.50 12 ⇑P P 23 00 28.0 +0.1
baz=22
MPU **Maple Canyon** 21.57 346 *eP* P 23 00 28.7 -0.1
88nm,1.3s
NLU **North Lily Min** 21.61 345 *eP* P 23 00 28.9 -0.4
43nm,1.5s
N22A **Wattenberg Ran** 21.62 357 ⇓P P 23 00 29.9 +0.5
baz=22
TPH **Tonopah** 21.65 333 *eP* P 23 00 29.9 +0.2
100nm,1.8s
N23A **Red Feather La** 21.69 358 ⇓P P 23 00 30.6 +0.4
baz=22
N20A **Spence Gulch,** 21.79 353 ⇑P P 23 00 31.7 +0.5
baz=22,SNR=10
O32A **Brockman Farm,** 21.83 14 ⇑P P 23 00 31.7 +0.3
baz=22
DAU **Daniels Canyon** 21.86 347 *eP* P 23 00 32.6 +0.6
MLAC **Mammoth Lakes** 22.02 330 ⇑P P 23 00 34.5 +0.8
baz=22
DUG **Dugway** 22.02 344 *eP* P 23 00 33.2 -0.4
64nm,1.4s
DUG **Dugway** 22.02 344 ⇑P P 23 00 33.9 +0.2
baz=22,SNR=32
M22A **Cedar Creek Ra** 22.23 357 ⇑P P 23 00 36.4 +0.5
baz=22
M23A **Laramie** 22.26 359 ⇑P P 23 00 35.9 -0.3
baz=22,SNR=6.0
NV01 **Mina Array Sit** 22.42 332 *eP* P 23 00 37.5 -0.5
RWWY **Rawlins** 22.55 356 *eP* P 23 00 35.0 -4.4
490nm,3.0s
WVT **Waverly** 22.70 38 *eP* P 23 00 38.0 -2.8
77nm,1.9s
SAO **San Andreas Ge** 22.71 324 *eP* P 23 00 42.3 +1.4
30nm,1.5s
BGU **Big Grassy Mou** 22.77 344 *eP* P 23 00 41.0 -0.6
19nm,1.3s
L22A **Ellis Ranch, M** 22.84 357 ⇑P P 23 00 42.5 +0.1
baz=23,SNR=5.2
L23A **Garrett** 22.90 359 ⇓P P 23 00 43.5 +0.4
baz=23
SPUT **South Promonto** 22.98 346 *eP* P 23 00 42.2 -1.6
55nm,1.4s
WAKR **Walker** 23.00 330 *eP* P 23 00 44.3 +0.3
CMB **Columbia Colle** 23.10 328 *eP* P 23 00 44.3 -0.6
59nm,1.5s
ELK **Elko** 23.24 340 *eP* P 23 00 45.7 -0.7
35nm,1.5s
ELK **Elko** 23.24 340 P P 23 00 44.4 -2.1
4.4nm,0.9s,baz=178,slow=7.0,SNR=21
ELK LR LR 23 10 27.2
comp=Z,466nm,19.0s,baz=178,slow=39
SLM **Saint Louis** 23.28 30 *eP* P 23 00 41.5 -5.1
54nm,1.1s
K22A **Casper** 23.47 357 *eP* P 23 00 47.6 -0.9
K22A **Casper** 23.47 357 ⇑P P 23 00 48.9 +0.5
baz=24
K21A **Alcova** 23.49 356 ⇓P P 23 00 49.2 +0.5
baz=24
HVU **Hansel Valley** 23.51 345 *eP* P 23 00 48.5 -0.3
40nm,1.0s
K23A **Bowen Ranch, D** 23.54 359 ⇓P P 23 00 49.5 +0.3
baz=24
BMN **Battle Mountai** 23.66 336 *eP* P 23 00 50.2 -0.1
165nm,1.8s
BW06 **Boulder Array** 23.86 352 *eP* P 23 00 50.2 -2.0
PDAR **Pinedale Array** 23.86 352 P P 23 00 51.8 -0.3
PDAR **Pinedale Array** 23.86 352 P P 23 00 51.8 -0.3
2.6nm,0.9s,baz=169,slow=9.1,SNR=20
GOGA **Godfrey** 23.92 49 *eP* P 23 00 50.0 -2.5
42nm,1.1s
PAHR **Pah Rah Range** 23.95 332 *eP* P 23 00 53.6 +0.7
149nm,1.9s
USIN **University of** 24.09 35 *eP* P 23 00 51.0 -3.0
88nm,1.0s
AHID **Auburn Hatcher** 24.10 349 *eP* P 23 00 53.7 -0.7
39nm,1.3s
J22A **Midwest** 24.22 357 ⇑P P 23 00 55.0 -0.4
baz=24
J19A **Crowheart** 24.29 353 ⇓P P 23 00 55.9 -0.1
baz=24,SNR=13
BEKR **Beckworth** 24.52 331 *eP* P 23 00 58.7 +0.6
34nm,1.5s
REDW **Red Top Meadow** 24.64 350 *eP* P 23 00 58.5 -0.8
52nm,1.0s
I21A **Big Trails, Te** 24.67 356 ⇑P P 23 00 59.2 -0.3
baz=25,SNR=9.0
I22A **9 Mile Ranch,** 24.70 357 ⇓P P 23 00 59.5 -0.3
baz=25,SNR=5.7
SNOW **Snow King Moun** 24.72 350 *eP* P 23 00 59.8 -0.3
90nm,1.1s
SCIA **State Center** 24.81 21 *eP* P 23 00 59.1 -1.5
60nm,1.3s
LOHW **Long Hollow** 24.84 350 *eP* P 23 01 00.7 -0.5
61nm,1.1s
I20A **Worland** 24.87 355 ⇑P P 23 01 01.4 +0.2
baz=25,SNR=9.5
TKL **Tuckaleechee C** 24.94 44 P P 23 01 00.4 -1.5
TKL **Tuckaleechee C** 24.94 44 P P 23 01 00.4 -1.5
12nm,1.0s,baz=217,slow=10,SNR=4.4
TKL LR LR 23 13 35.8
comp=Z,261nm,20.7s,baz=74,slow=44
I28A **Midland** 24.99 7 ⇑P P 23 01 02.8 +0.6
baz=25
MOOW **Moose Ponds** 25.00 350 *eP* P 23 01 01.7 -0.8
37nm,1.4s
I19A **Meeteetse** 25.04 353 ⇑P P 23 01 03.4 +0.5
baz=25
I17A **Pilgrim Ck.** 25.14 351 ⇓P P 23 01 03.9 +0.1
baz=25,SNR=17
HOPS **Hopland** 25.21 325 *eP* P 23 01 04.5 +0.2
77nm,1.5s
FLWY **Flagg Ranch** 25.32 350 *eP* P 23 01 05.0 -0.4
54nm,1.3s
H20A **Greybull** 25.39 355 ⇑P P 23 01 06.6 +0.7
baz=25
H22A **Clearmont** 25.40 358 ⇑P P 23 01 06.4 +0.4
baz=25
H25A **Fruitdale** 25.43 2 ⇑P P 23 01 06.0 -0.3
baz=25
H21A **Big Horn, Sher** 25.46 357 ⇑P P 23 01 06.4 -0.2
baz=26
HLID **Hailey** 25.59 344 *eP* P 23 01 07.8 -0.1
21nm,1.3s
HLID **Hailey** 25.59 344 ⇓P P 23 01 08.0 +0.1
baz=26,SNR=20
H17A **Grant Village** 25.60 351 *eP* P 23 01 06.8 -1.2
H17A **Grant Village** 25.60 351 ⇑P P 23 01 08.7 +0.7
baz=26
H19A **Powell** 25.66 353 ⇑P P 23 01 08.4 -0.1
baz=26,SNR=10
H28A **Mission Ridge** 25.67 7 ⇓P P 23 01 08.3 -0.2
baz=26
H18A **Shoshone NF, C** 25.75 352 ⇓P P 23 01 09.9 +0.6
baz=26
MFID **Camas Ranch** 25.85 342 *eP* P 23 01 09.8 -0.3
78nm,2.3s
WVOR **Wild Horse Val** 25.93 337 *eP* P 23 01 11.3 +0.5
32nm,1.5s
YMR **Madison River** 25.93 350 *eP* P 23 01 10.5 -0.4
20nm,1.0s
KCPM **Cahto Peak** 25.99 326 *eP* P 23 01 10.9 -0.5
21nm,1.4s
G22A **Birney** 26.02 358 ⇓P P 23 01 11.5 -0.1
baz=26
KIPM **Iron Peak** 26.02 326 *eP* P 23 01 11.6 -0.2
MTDJ **Mount Denham** 26.04 88 *eP* P 23 01 10.9 -1.2
34nm,1.0s
G21A **Lodge Grass** 26.07 356 ⇑P P 23 01 12.4 +0.3
baz=26
G20A **Bridger** 26.14 355 ⇑P P 23 01 12.3 -0.5
baz=26,SNR=6.2
MOD **Modoc** 26.14 333 *eP* P 23 01 13.4 +0.5
20nm,1.8s
QLMT **Earthquake Lak** 26.16 350 *eP* P 23 01 12.5 -0.6
SFIN **Scholer Farm** 26.16 32 ⇑P P 23 01 12.9 0.0
baz=26
MCMT **McKenzie Canyo** 26.43 347 *eP* P 23 01 15.4 -0.1
F23A **Volborg** 26.50 359 ⇓P P 23 01 16.2 +0.3
baz=26
F22A **Rosebud** 26.58 358 ⇑P P 23 01 16.8 +0.2
baz=27
J08A **Circle Bar Ran** 26.67 338 *eP* P 23 01 17.0 -0.5
69nm,2.1s
F20A **Billings** 26.71 355 ⇑P P 23 01 17.9 +0.1
baz=27,SNR=5.4
M04C **Macdoel** 26.72 331 ⇑P P 23 01 18.4 +0.3
baz=27
JFWS **Jewell Farm** 26.78 25 *eP* P 23 01 17.1 -1.3
49nm,1.0s
F19A **Roth Farm, Mol** 26.83 354 ⇓P P 23 01 18.8 -0.2
baz=27
GCMT **Greycliff** 26.85 353 *eP* P 23 01 17.9 -1.2
DLMT **Dillon** 26.89 348 *eP* P 23 01 19.5 0.0
42nm,1.3s
KHMM **Horse Mountain** 26.94 328 *eP* P 23 01 25.8 +5.8
63nm,1.5s
BOZ **Bozeman (W)** 26.99 350 *eP* P 23 01 19.9 -0.5
29nm,1.2s
K05A **Summer Lake** 27.07 334 *eP* P 23 01 22.4 +1.2
137nm,2.2s
YBH **Yreka Blue Hor** 27.09 330 LR LR 23 12 39.4
comp=Z,195nm,18.4s,baz=51,slow=38
E22A **Miles City** 27.23 359 ⇑P P 23 01 22.0 -0.4
baz=27
LRM **Limekiln Ridge** 27.30 349 *eP* P 23 01 22.9 -0.5
E20A **Meyer Farm, Mu** 27.40 355 ⇓P P 23 01 23.9 -0.1
baz=27
E19A **Rath Farm, Rou** 27.42 354 ⇑P P 23 01 23.7 -0.5
baz=27,SNR=7.5
J05D **Fort Rock, OR** 27.67 334 ⇓P P 23 01 27.1 +0.5
baz=28
D24A **Glendive** 27.90 1 ⇑P P 23 01 28.5 0.0
baz=28
D22A **Cohagen** 27.95 358 ⇓P P 23 01 29.3 +0.5
baz=28
D20A **Manuel Ranch,** 27.99 355 ⇓P P 23 01 28.9 -0.4
baz=28,SNR=7.2
J04D **Umpqua Nationa** 28.01 333 ⇓P P 23 01 30.1 +0.4
baz=28
D19A **Cripps Ranch,** 28.12 354 ⇓P P 23 01 30.4 0.0
baz=28
CHMT **Chamberlain Mo** 28.51 348 *eP* P 23 01 33.5 -0.6
G08A **Pilot Rock** 28.53 339 *eP* P 23 01 34.2 +0.1
63nm,2.3s
MSO **Missoula** 28.57 347 *eP* P 23 01 33.9 -0.5
45nm,1.3s
MSO **Missoula** 28.57 347 ⇑P P 23 01 34.4 -0.1
baz=29,SNR=20
C23A **Lambert** 28.58 360 ⇓P P 23 01 35.1 +0.6
baz=29
I05D **Terrebonne, OR** 28.59 335 ⇑P P 23 01 35.2 +0.6
baz=29
F10A **Beach Ranch, E** 28.59 342 *eP* P 23 01 34.2 -0.5
55nm,1.6s
C20A **Veseth Ranch,** 28.60 356 ⇑P P 23 01 35.1 +0.5
baz=29
C19A **Slack Wire Ran** 28.70 354 ⇑P P 23 01 35.5 -0.1
baz=29,SNR=7.0
SLMT **Seeley Lake** 28.87 348 *eP* P 23 01 36.4 -0.8
EGMT **Eagleton** 29.06 353 *eP* P 23 01 37.4 -1.4
46nm,1.4s
EGMT **Eagleton** 29.06 353 ⇑P P 23 01 38.7 -0.1
baz=29
SWMT **Swartz Lake** 29.23 347 *eP* P 23 01 39.5 -0.8
B20A **Solberg Farm,** 29.32 356 ⇓P P 23 01 41.2 +0.1
baz=29
E09A **Wood Farm, Sta** 29.36 341 *eP* P 23 01 39.3 -2.0
25nm,1.8s
B19A **Brinkman Farms** 29.41 355 ⇓P P 23 01 41.7 -0.1
baz=29,SNR=7.5
JTMT **Jette** 29.51 347 *eP* P 23 01 41.1 -1.7
BSMT **Bassoo Peak** 29.72 347 *eP* P 23 01 43.0 -1.8
A20A **Cobblestone Ra** 29.75 356 ⇓P P 23 01 44.9 0.0
baz=30
BLMT **Blacktail Moun** 29.78 347 *eP* P 23 01 43.7 -1.6
A22A **Carney Farms,** 29.78 359 ⇑P P 23 01 45.5 +0.3
baz=30
A19A **Klindworth Far** 29.86 355 ⇑P P 23 01 46.2 +0.4
baz=30
AGMN **Agassiz Nation** 30.01 12 ⇓P P 23 01 46.9 -0.2
baz=30
NEW **Newport** 30.66 344 *eP* P 23 01 52.4 -0.5
36nm,1.5s
NEW **Newport** 30.66 344 ⇑P P 23 01 52.9 0.0
baz=31,SNR=8.0
WALA **Waterton Lakes** 30.69 349 *eP* P 23 01 52.9 -0.4
LTY **Liberty** 30.82 339 *eP* P 23 01 55.3 +1.0
117nm,2.1s
B08A **Colville Reser** 31.37 342 *eP* P 23 01 58.8 -0.3
81nm,1.5s
ULM **Lac du Bonnet** 31.88 11 LR LR 23 15 45.4
comp=Z,1µm,18.0s,baz=217,slow=38
OTAV **Otavalo** 32.13 123 *eP* P 23 02 06.3 -0.3
24nm,1.4s
B06A **Marblemount** 32.19 339 *eP* P 23 02 06.5 +0.3
47nm,1.5s
A05A **Maple Falls** 32.80 339 *eP* P 23 02 10.3 -1.3
57nm,1.5s
ROSC **El Rosal** 33.12 111 *eP* P 23 02 15.3 +0.1
EDM **Edmonton** 34.62 351 *eP* P 23 02 26.5 -0.9
SDV **Santo Domingo** 34.82 102 *eP* P 23 02 29.1 -0.7
18nm,1.4s
FFC **Flin Flon** 35.59 3 *eP* P 23 02 35.2 -0.5
19nm,1.6s
FCC **Fort Churchill** 40.36 9 *eP* P 23 03 14.5 -1.3
DLBC **Dease Lake** 43.29 341 *eP* P 23 03 39.3 -0.5
YKA **Yellowknife Ar** 43.82 354 P P 23 03 42.7 -1.2
YKA PcP PcP 23 05 29.3 -0.2
YKA **Yellowknife Ar** 43.82 354 P P 23 03 42.7 -1.2
7.2nm,1.0s,baz=166,slow=7.4,SNR=63
YKA PcP PcP 23 05 29.3 -0.2
1.3nm,1.0s,baz=165,slow=3.4,SNR=3.9
YKB5 **Yellowknife Ar** 43.82 354 *eP* P 23 03 42.4 -1.5
SCHQ **Schefferville** 45.91 30 LR LR 23 25 30.5
comp=Z,375nm,20.1s,baz=261,slow=40
PTGA **Pitinga** 48.42 109 P P 23 04 21.5 +0.8
PTGA **Pitinga** 48.42 109 P P 23 04 21.5 +0.8
8.2nm,1.2s,baz=320,slow=15,SNR=4.9
SAML **Samuel** 49.80 120 *eP* P 23 04 30.0 -1.3
61nm,2.1s
LPAZ **La Paz** 50.56 132 *eP* P 23 04 37.2 -0.5
9.5nm,1.4s
LPAZ **La Paz** 50.56 132 P P 23 04 40.7 +3.0
5.0nm,1.3s,baz=327,slow=5.5,SNR=7.0
RKT **Rikitea** 51.19 216 *eS* S 23 11 56.4 +0.4
222nm,31.8s
RKT *eLR* LR 23 19 16.9
612nm,27.5s
RKT **Rikitea** 51.19 216 *eT* T 23 59 18.8
3.4nm,0.3s
INK **Inuvik** 52.30 347 *eP* P 23 04 49.3 0.0
60nm,1.4s
IL1 **Eielson Array** 53.40 339 *eP* P 23 04 56.6 -0.9
ILAR **Eielson Array** 53.40 339 P P 23 04 57.8 +0.3
ILAR **Eielson Array** 53.40 339 P P 23 04 57.8 +0.3
5.1nm,1.0s,baz=152,slow=5.6,SNR=27
ILAR LR LR 23 28 57.8
comp=Z,198nm,18.0s,baz=120,slow=38
TRF **Thorofare Moun** 53.83 337 *eP* P 23 04 59.7 -1.1
133nm,1.9s
RES **Resolute Bay** 55.83 3 *eP* P 23 05 12.7 -2.2
5.2nm,1.0s
RES **Resolute Bay** 55.83 3 P P 23 05 13.7 -1.2
3.8nm,1.0s,baz=195,slow=12,SNR=8.8
COLD **Coldfoot** 55.97 341 *eP* P 23 05 15.1 -0.9
72nm,2.0s
PPT **Papeete** 56.99 233 LR LR 23 22 31.6
comp=Z,372nm,20.2s,baz=121,slow=28
PPT2 **Papeete2** 57.00 233 *eS* S 23 13 16.2 +1.3
167nm,26.5s
PPT2 *eLR* LR 23 21 51.0
424nm,25.2s
H03N2 **Juan Fernandez** 57.92 154 T T 00 08 11.8
baz=332,slow=76,SNR=16
H03N1 **Juan Fernandez** 57.93 154 T T 00 08 12.7
baz=332,slow=76,SNR=18
H03N3 **Juan Fernandez** 57.94 154 T T 00 08 13.2
baz=332,slow=76,SNR=17
TBI **Tubuai** 60.54 228 *eLR* LR 23 23 36.4
413nm,26.5s
CPUP **Villa Florida** 64.70 133 *eP* P 23 06 17.4 +1.2
CPUP **Villa Florida** 64.70 133 P P 23 06 18.4 +2.2
5.0nm,0.9s,baz=337,slow=6.1,SNR=4.3
BDFB **Brasilia** 65.88 118 P P 23 06 27.5 +3.3
BDFB **Brasilia** 65.88 118 P P 23 06 27.5 +3.3
3.5nm,0.8s,baz=256,slow=9.8,SNR=4.9
BDFB LR LR 23 37 29.8
comp=Z,135nm,18.4s,baz=236,slow=38
MTE **Manteigas** 83.31 50 *eP* P 23 08 07.1 +2.2
34nm,1.1s
MVO **Moncorvo** 83.42 49 *eP* P 23 08 05.5 0.0
45nm,1.5s
MORF **Marmelete** 83.50 53 *eP* P 23 08 07.0 +1.1
112nm,2.2s
EVO **Evora** 83.58 52 *eP* P 23 08 06.2 0.0
125nm,1.6s
PBAR **Barrancos** 84.42 52 *eP* P 23 08 11.8 +1.3
53nm,1.3s
ARCES **ARCESS Array B** 84.89 16 LR LR 23 46 27.7
comp=Z,251nm,19.2s,baz=343,slow=36
NOA **NORSAR Array B** 85.33 26 P P 23 08 15.2 +0.5
NOA **NORSAR Array B** 85.33 26 P P 23 08 15.2 +0.5
1.6nm,0.8s,baz=302,slow=5.0,SNR=3.9
NOA LR LR 23 44 27.2
comp=Z,68nm,19.9s,baz=305,slow=34
ESDC **Sonseca Array** 86.14 49 P P 23 08 19.3 +0.2
ESDC **Sonseca Array** 86.14 49 P P 23 08 19.3 +0.2
3.1nm,1.1s,baz=301,slow=4.9,SNR=9.3
ES19 **SONSECA Array** 86.17 49 *eP* P 23 08 16.4 -2.9
TCF **Toulx Ste Croi** 87.67 42 *eP* P 23 08 25.9 -0.5
78nm,1.8s
SSF **Saint Saulge** 88.13 40 *eP* P 23 08 30.7 +2.1
18nm,1.1s
AVF **Avril sur Loir** 88.16 41 *eP* P 23 08 29.1 +0.4
MDT **Midelt** 88.16 56 P P 23 08 29.6 +0.4
MDT **Midelt** 88.16 56 P P 23 08 29.6 +0.4
5.8nm,1.0s,baz=309,slow=4.6,SNR=4.6
SMF **Signal de Mont** 88.52 41 *eP* P 23 08 32.0 +1.6
FINES **FINESS Array B** 90.73 21 P P 23 08 40.5 +0.2
FINES **FINESS Array B** 90.73 21 P P 23 08 40.5 +0.2
6.1nm,1.1s,baz=300,slow=4.2,SNR=6.0
FINES LR LR 23 50 47.4
comp=Z,202nm,20.9s,baz=277,slow=37
DZM **Mont Dzumac** 95.71 249 *eLR* LR 23 39 59.9
313nm,25.9s
KEST **Kesra** 97.34 48 P Pdif 23 09 12.1 +0.6
KEST **Kesra** 97.34 48 P Pdif 23 09 12.1 +0.6
1.7nm,1.0s,baz=332,slow=4.6,SNR=4.0
MJAR **Matsushiro Arr** 98.61 313 LR LR 23 48 38.4
comp=Z,31nm,19.6s,baz=70,slow=32
CN2 **Changchun** 102.17 325 *eP* Pdif 23 09 32.3 -0.4
CN2 *eS* Sdif 23 21 08.3 -3.2
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,17.0s
BVAR **Borovoye Array** 108.02 3 PP PP 23 14 27.6 +0.6
BVAR **Borovoye Array** 108.02 3 PP PP 23 14 27.6 +0.6
0.6nm,0.8s,baz=289,slow=9.2,SNR=3.6
KURK **Kurchatov** 110.37 358 PP PP 23 14 48.0 +3.9
KURBB **Kurchatov Arra** 110.47 358 PP PP 23 14 48.0 +3.2
0.1nm,0.5s,baz=5.7,slow=6.1,SNR=4.5
HHC **Hu-ho-hao-te** 111.31 331 *eP*KP **PKiKP** 23 14 10.8 -1.1
HHC PP **PP** 23 14 55.8 +4.3
HHC PKS **PKSdf** 23 17 44.3 -4.3
HHC SKS **SKSdf** 23 21 18.5 -1.1
HHC SS **SS** 23 30 21.5 +1.2
HHC AMB AMB
comp=Z,90nm,8.7s
HHC LR LR
comp=N,290nm,20.7s
HHC LR LR
comp=E,300nm,20.4s
HHC LR LR
comp=Z,200nm,20.5s
WMQ **Urumqi** 116.27 350 PKP **PKPdf** 23 14 22.0 +0.8
WMQ PP PP 23 15 33.0 +6.9
WMQ PKS **PKSdf** 23 17 57.0 -0.9
WMQ SKS **SKSdf** 23 21 29.0 +0.1
WMQ AMB AMB
comp=Z,59nm,10.0s
WMQ LR LR
comp=N,130nm,22.0s
WMQ LR LR
comp=E,99nm,22.0s
WMQ LR LR
comp=Z,110nm,22.0s
LZH **Lanzhou** 118.65 334 *eP*KP **PKPdf** 23 14 26.3 +0.1
LZH LR LR
comp=N,150nm,15.9s
LZH LR LR
comp=E,160nm,17.0s
LZH LR LR
comp=Z,190nm,18.8s
CD2 **Chengdu** 123.06 330 *eP*KP **PKPdf** 23 14 34.5 -0.1
WRA **Warramunga Arr** 124.32 259 PKP **PKPdf** 23 14 42.2 +5.0
WRA **Warramunga Arr** 124.32 259 PKP **PKPdf** 23 14 42.2 +5.0
2.0nm,1.0s,baz=80,slow=1.9,SNR=6.6
GYA **Guiyang** 125.22 325 *eP*dif **Pdif** 23 11 15.3 -0.4
GYA PKP **PKPdf** 23 14 38.5 -0.5
GYA sPKP 23 14 55.0
GYA PP **PP** 23 16 32.5 +4.5
GYA AMB AMB
comp=Z,110nm,7.8s
AS01 **Alice Springs** 125.24 254 *eP*KPdf **PKPdf** 23 14 38.9 0.0
ASAR **Alice Springs** 125.28 254 PKP PKPdf 23 14 44.4 +5.4
ASAR **Alice Springs** 125.28 254 PKP PKPdf 23 14 44.4 +5.4
comp=Z,0.9nm,0.9s,baz=68,slow=2.2,SNR=6.9
CMAR **Chiang Mai Arr** 135.84 326 PKP **PKPdf** 23 15 00.2 +1.1
CMAR **Chiang Mai Arr** 135.84 326 PKP **PKPdf** 23 15 00.2 +1.1
comp=Z,0.4nm,0.3s,baz=320,slow=3.5,SNR=4.2
IPM **Ipoh** 145.24 310 *eP*KPbc **PKPbc** 23 15 15.6 -0.3
CISI **Cisompet, Garu** 146.11 285 *eP*KPdf **PKPbc** 23 15 18.1 -0.6

PSI	**Prapat**	**147.91**	**310**	PKPbc	**PKPab**	**23**	**15**	**26.6 +0.2**
PSI	**Prapat**	**147.91**	**310**	PKPbc	**PKPab**	**23**	**15**	**26.6 +0.2**

comp=Z,8.2nm,0.9s,baz=129,slow=5.4,SNR=4.7

MEX 25 23:27:10.9±0.7, 17.16N×95.58W, h105km±21km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.10**	**266**	*eP*	Pn	23 27 32.0	-1.1
VHO				*i* S	Sn	23 27 47.3	-2.5
HUIG	**Huatulco**	**1.47**	**200**	*i* P	Pn	23 27 35.4	-1.7
HUIG				*i* S	Sn	23 27 55.6	-1.3
PNIG	**Pinotepa**	**2.55**	**253**	*i* P	Pn	23 27 50.4	-0.5
PNIG				*i* S	Sn	23 28 19.9	-1.7
PCIG		**2.69**	**122**	*i* P	Pn	23 27 51.7	-0.9
PCIG				*i* S	Sn	23 28 23.3	-1.4

*ISCJB **25** 23:54:28.0±1.3, 6.3S±0.2×127.1E±0.2, h450km, mb2.8/1, Error ellipse: s-maj=28.3km s-min=14.2km az=143.5*
*IDC **25** 23:54:29.0±11.0, 6.52S×126.83E, h440km±161km, mb2.3/1, mb1 2.4/3, mb1mx2.4/20, mbtmp2.2/3, Error ellipse: s-maj=140.1km s-min=61.9km az=68.0*

ISC 25 23:54:29.6±1.5, 6.4S±0.2×127.2E±0.2, h450km, n9, σ0.970/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.39**	**221**	P	**P**	**23 55 47.4**	**-0.9**
	baz=14,SNR=4.8						
MTN	**Manton Dam**	**7.50**	**149**	P	**P**	**23 56 19.5**	**-0.1**
	baz=18,SNR=38						
KDU	**Kakadu**	**8.14**	**140**	P	**P**	**23 56 26.8**	**+0.2**
	baz=18,SNR=6.6						
KNRA	**Kununurra**	**9.34**	**170**	P	**P**	**23 56 40.1**	**+0.5**
	baz=20,SNR=20						
FITZ	**Fitzroy Crossi**	**11.71**	**187**	P	**P**	**23 57 05.5**	**+0.1**
	baz=22,SNR=3.2						
WRA	**Warramunga Arr**	**15.15**	**153**	P	**P**	**23 57 41.8**	**-0.6**
	0.2nm,0.3s,baz=328,slow=11,SNR=11						
WRA				S	**S**	**00 00 20.9**	**-0.8**
	0.1nm,0.3s,baz=332,slow=21,SNR=5.2						
ASAR	**Alice Springs**	**18.34**	**160**	P	**P**	**23 58 16.2**	**+0.5**
	0.1nm,0.3s,baz=332,slow=9.5,SNR=8.5						
WRKA	**Warakurna**	**18.55**	**177**	P	**P**	**23 58 18.7**	**+1.0**
	baz=29,SNR=3.4						
MKAR	**Makanchi Array**	**66.21**	**328**	P	**P**	**00 04 31.4**	**-0.2**
	0.1nm,0.4s,baz=134,slow=8.3,SNR=3.5						

*JMA **26** 00:00:37.8±0.4, 27.87N×127.77E, h10km±5km, M3.4*
*ISCJB **26** 00:00:39.7±1.4, 27.82N±0.06×127.81E±0.07, h23km±11km, mb3.5/6, Error ellipse: s-maj=12.9km s-min=5.4km az=44.9*
*IDC **26** 00:00:45.3±4.2, 27.56N×127.33E, h48km±45km, mb3.4/6, mb1 3.6/8, mb1mx3.6/8, mbtmp3.6/8, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=43.3km s-min=18.9km az=66.0*

ISC 26 00:00:39.0±1.8, 27.78N±0.05×127.86E±0.06, h7km±11km, n16, σ1.901/21, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.75**	**172**	P	**Pb**	**00 00 54.0**	**-0.3**
JIH				S	**Sb**	**00 01 05.0**	**+0.3**
JTK	**Tokunoshima**	**0.97**	**89**	P	**Pg**	**00 00 57.4**	**-0.2**
JTK				S	**Sb**	**00 01 11.2**	**0.0**
JOW	**Kunigami**	**1.01**	**158**	P	**Pg**	**00 00 58.6**	**+0.2**
JOW				S	**Sn**	**00 01 14.0**	**-0.1**
JAMN	**Amaminishikomi**	**1.26**	**68**	P	**Pn**	**00 01 02.0**	**-0.9**
JAMN				S	**Sg**	**00 01 19.7**	**+0.3**
JAGN	**Aguni-jima**	**1.30**	**205**	P	**Pn**	**00 01 02.4**	**-1.2**
JAGN				S	**Sn**	**00 01 21.6**	**+0.3**
JJT2	**Tamagusuku 2**	**1.64**	**183**	P	**Pb**	**00 01 09.2**	**-0.3**
JJT2				S	**Sg**	**00 01 32.8**	**+1.2**
JAM	**Amami Oshima**	**1.67**	**67**	P	**Pn**	**00 01 08.1**	**-0.5**
JAM				S	**Sn**	**00 01 29.3**	**-1.0**
JKE	**Kume jima 2**	**1.73**	**214**	P	**Pn**	**00 01 08.1**	**-1.4**
JNU	**Nakatsue**	**5.93**	**25**	P	Pb	00 02 16.2	-6.5
	0.8nm,0.3s,baz=181,slow=6.0,SNR=7.9						
MJAR	**Matsushiro Arr**	**12.37**	**42**	P	Pn	00 03 45.5	+10
	baz=215,slow=8.3,SNR=2.5						
MJAR				LR	LR	00 09 01.2	
	comp=Z,94nm,18.6s,baz=35,slow=39						
SONM	**Songino Array**	**26.08**	**326**	P	**P**	**00 06 12.9**	**-0.4**
	1.1nm,0.9s,baz=140,slow=7.0,SNR=5.1						
MKAR	**Makanchi Array**	**40.27**	**311**	P	**P**	**00 08 15.4**	**-1.2**
	0.4nm,0.7s,baz=106,slow=9.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**40.82**	**322**	P	**P**	**00 08 21.9**	**+0.9**
	0.6nm,0.3s,baz=117,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**47.85**	**172**	P	**P**	**00 09 17.2**	**-0.4**
	1.0nm,0.7s,baz=351,slow=8.2,SNR=5.6						
ASAR	**Alice Springs**	**51.48**	**173**	P	**P**	**00 09 44.6**	**-0.6**
	0.4nm,0.7s,baz=8.3,slow=6.8,SNR=10						
YKA	**Yellowknife Ar**	**77.27**	**25**	P	**P**	**00 12 36.3**	**+2.6**
	0.4nm,0.9s,baz=302,slow=5.1,SNR=3.6						

CASC 26 00:20:06.5±2.0, 13.49N×90.65W, h25km±6km, MD3.6, ML3.5, 1C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.90**	**3**	*eP*	Pn	00 20 24.5	+0.5
PCG				*eS*	Sn	00 20 36.3	-0.1
RTR	**El Retiro**	**1.06**	**68↓**	*eP*	Pn	00 20 25.8	-0.2
RTR				*eS*	Sn	00 20 40.9	+0.7
SBLS	**San Blas**	**1.06**	**71**	*eP*	Pn	00 20 25.5	-0.6
SBLS				*eS*	Sn	00 20 40.6	+0.3
SNJE	**San Jose**	**1.08**	**70**	*eP*	Pn	00 20 26.0	-0.5
RBDL	**Robledal**	**1.12**	**57**	*eP*	Pn	00 20 26.5	-0.5
RBDL				*eS*	Sn	00 20 41.6	-0.2
NBG	**Las Nubes**	**1.13**	**15**	*eP*	Pb	00 20 28.9	+1.2
NBG				*eS*	Sb	00 20 44.8	+2.5
JAT	**Jato**	**1.26**	**311**	*eP*	Pn	00 20 28.3	-0.3
JAT				*eS*	Sn	00 20 44.5	-0.3
BOQS	**Boqueron**	**1.36**	**80↓**	*eP*	Pn	00 20 30.3	+0.1
BOQS				*eS*	Sb	00 20 48.3	-0.4
SNET	**Serv Nac Est T**	**1.40**	**82**	*eP*	Pn	00 20 30.8	+0.2
SNET				AML	AML	00 20 51.7	
	comp=Z,801nm,0.2s						
LFRS	**El Faro**	**1.55**	**85↑**	*iP*	Pn	00 20 33.3	+0.6
SNVI	**San Vicente**	**1.77**	**86**	*eP*	Pn	00 20 36.4	+0.6
MRL	**Marmol**	**1.82**	**31↓**	*iP*	Pn	00 20 35.1	-1.4
MRL				*eS*	Sb	00 21 05.0	+3.1

*BJI **26** 00:23:34.4, 13.73N×92.67E, h42km, mB4.7/31, mb4.7/42, Ms4.2/29, Ms7 4.0/20*
*SZGRF **26** 00:23:35.9, 14.03N×93.41E, h33km, mb4.7, Andaman Islands, India, region*
*MOS **26** 00:23:35.9±0.9, 14.05N×92.83E, h33km, mb5.2/62, Error ellipse: s-maj=8.1km s-min=4.7km az=119.0*
*BKK **26** 00:23:36.9±0.3, 14.N±3.×9.3E±., h10km, M4.7/23, mB5.2/8, mb4.8/23, MLv4.8/11, Mw(mB)4.6/8*
*ISCJB **26** 00:23:36.7±0.4, 14.12N±0.02×92.84E±0.02, h35km±4km, mb4.8/132, MS3.7/22, Error ellipse: s-maj=4.0km s-min=3.6km az=37.0*
*NEIC **26** 00:23:38.6±0.6, 14.00N×92.86E, h43km±5km, mb5.0/56, Error ellipse: s-maj=5.3km s-min=4.1km az=58.0*
*IDC **26** 00:23:38.1±0.6, 13.99N×92.91E, h38km±4km, mb4.5/24, mb1 4.6/26, mb1mx4.5/28, mbtmp4.6/26, ML4.0/2, MS3.8/17, Ms1 3.8/17, ms1mx3.6/40, Error ellipse: s-maj=14.1km s-min=9.5km az=47.0*
*DJA **26** 00:23:44.8±1.8, 14.N±18.×9.3E±1.5, h97km±21km, M4.8/14, mb4.7/14, mB5.6/3, Mw(mB)5.1/3*

ISC 26 00:23:38.9±0.3, 14.03N±0.03×92.87E±0.04, h43km±2km, h43km:pP-P, n429, σ1.935/495, mb4.9/131, MS3.8/23, 19C-19D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.84**	**176**	*eP*	**Pn**	**00 23 55.1**	**+0.8**
DGPR				*eS*	**Sn**	**00 24 07.6**	**+2.0**
PBA	**Port Blair**	**2.36**	**183**	*eP*	**Pn**	**00 24 15.4**	**+0.3**
PBA				*eS*	**Sn**	**00 24 44.6**	**+1.7**
KHLT	**Khaolaem Dam**	**5.59**	**81**	P	**Pn**	**00 24 59.4**	**-0.1**
	40nm,0.8s,408nm0.1nm						
SRDT	**SRDT**	**6.07**	**86**	P	**Pn**	**00 25 06.8**	**+0.7**
	312nm,0.7s,6µm1.1nm						
MHMT	**Maesarieng**	**6.38**	**49**	P	**Pn**	**00 25 09.5**	**-0.8**
	39nm,0.7s,1µm0.4nm						
CMBY	**CAMPBELL BAY**	**7.05**	**171**	*eS*	**Sn**	**00 26 37.3**	**-1.1**
CM01	**Chiang Mai Arr**	**7.30**	**52**	*ePn*	**Pn**	**00 25 24.2**	**+1.2**
CM01				*eSn*	Sn	00 26 38.3	-6.3
CMAR	**Chiang Mai Arr**	**7.31**	**52**	Pn	**Pn**	**00 25 22.9**	**-0.2**
CMAR				Sn	**Sn**	**00 26 40.4**	**-4.5**
CMAR	**Chiang Mai Arr**	**7.31**	**52**	Pn	**Pn**	**00 25 22.9**	**-0.2**
	0.8nm,0.3s,baz=244,slow=15,SNR=20						
CMAR				Sn	**Sn**	**00 26 40.4**	**-4.5**
	4.9nm,0.3s,baz=241,slow=26,SNR=11						
CMAR				LR	LR	00 28 55.8	
	comp=Z,15nm,28.6s,baz=229,slow=44						
CHTO	**Chiang Mai**	**7.52**	**50**	*eP*	**Pn**	**00 25 25.5**	**-0.6**
CHTO				*e*		00 26 43.3	
CHTO	**Chiang Mai**	**7.52**	**50**	*ePn*	**Pn**	**00 25 25.5**	**-0.6**
CHTO				*eSn*	Sn	00 26 43.3	-6.9
CHTO	**Chiang Mai**	**7.52**	**50**	P	**Pn**	**00 25 25.4**	**-0.6**
	64nm,0.8s,1.5nm						
CMMT	**Chiang Mai**	**7.53**	**50**	P	**Pn**	**00 25 25.3**	**-0.8**
	33nm,0.7s,926nm0.4nm						
SURT	**Suratani**	**7.68**	**130**	P	Pn	00 25 32.3	+4.0
	11nm,1.1s,0.0nm						
PATY	**Pattaya**	**7.85**	**97**	P	**Pn**	**00 25 31.1**	**+0.5**
	31nm,0.6s,0.1nm						
LAMP	**Lampang**	**7.88**	**55**	P	**Pn**	**00 25 32.5**	**+1.5**
	9.7nm,0.7s,142nm0.1nm						
PKDT	**Phuket**	**8.12**	**138**	P	Pn	00 25 49.0	+15
PBKT	**Sadao Pong**	**8.21**	**71**	P	**Pn**	**00 25 37.4**	**+1.9**
	38nm,0.7s,2µm0.1nm						
CMAI	**Chiengmai2**	**8.33**	**44**	P	**Pn**	**00 25 39.4**	**+2.1**
	112nm,0.8s,0.5nm						
CHAI	**Chaiyaphum**	**9.00**	**77**	P	Pn	00 25 57.1	+11
LHMI	**Lhok Sumawe**	**9.62**	**155**	P	Pn	00 25 58.4	+3.6
	145nm,0.7s						
VIS	**Vishakhapatnam**	**9.89**	**293**	*eP*	**Pn**	**00 25 55.9**	**-2.6**
VIS				*eS*	Sn	00 27 36.8	-12
KCSI	**Kotacane, Aceh**	**11.50**	**155**	P	**Pn**	**00 26 21.0**	**+0.4**
	30nm,0.9s,418nm						
SHL	**Shillong**	**11.52**	**356**	*eP*	**Pn**	**00 26 17.8**	**-3.2**
SHL				AMB	AMB	00 26 30.8	
	comp=Z,12nm,1.1s						
KULM	**Kulim**	**11.58**	**138**	P	**Pn**	**00 26 24.4**	**+2.8**
KULM	**Kulim**	**11.58**	**138**	P	**Pn**	**00 26 23.9**	**+2.3**
	comp=Z,32nm,1.1s						
KULM	**Kulim**	**11.58**	**138**	*ePn*	**Pn**	**00 26 21.9**	**+0.3**
BOK	**Bokaro**	**11.75**	**327**	*eP*	**Pn**	**00 26 22.4**	**-1.6**
BOK				AMB	AMB	00 26 23.7	
	comp=Z,26nm,0.5s						
IPM	**Ipoh**	**12.43**	**139**	P	**Pn**	**00 26 34.4**	**+1.0**
IPM	**Ipoh**	**12.43**	**139**	*ePn*	**Pn**	**00 26 32.2**	**-1.1**
PSI	**Prapat**	**12.65**	**151**	P	Pn	00 26 40.6	+4.2
	comp=Z,12nm,1.1s						
PSI	**Prapat**	**12.65**	**151**	Pn	**Pn**	**00 26 37.2**	**+0.7**
PSI	**Prapat**	**12.65**	**151**	Pn	**Pn**	**00 26 37.2**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=321,slow=9.8,SNR=11						
PSI				LR	LR	00 32 03.8	
	comp=Z,309nm,19.4s,baz=328,slow=40						
KTGM	**Kuala Trenggan**	**13.30**	**130**	P	P	00 27 02.3	+8.4
PALK	**Pallekele**	**13.71**	**242**	*ePn*	**Pn**	**00 26 48.8**	**-2.0**
ODAN	**Odare**	**13.76**	**339**	*eP*	Pn	00 26 47.1	-4.5
	comp=Z,51nm,0.6s						
FRIM	**Kepong**	**13.77**	**140**	P	**P**	**00 26 59.9**	**+0.8**
TAPN	**Taplejung**	**14.11**	**341**	*eP*	Pn	00 26 51.3	-5.1
RAMN	**Ramite**	**14.13**	**336**	*eP*	Pn	00 26 51.4	-5.3
	comp=Z,114nm,0.6s						
HYB	**Hyderabad**	**14.19**	**286**	*i* P	**Pn**	**00 26 56.0**	**-1.4**
HYB				*eS*	**Sn**	**00 29 35.5**	**+1.9**
KMI	**Kunming**	**14.42**	**39**	P	**P**	**00 27 08.0**	**+1.4**
KMI				pP	pP	00 27 14.8	
KMI				sP	sP	00 27 18.5	
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
KMI				LR	LR		
	comp=Z,220nm,20.7s						
KMI				LR	LR		
	comp=Z,260nm,18.9s						
MNSI	**Mandailing Nat**	**14.72**	**153**	P	**P**	**00 27 08.6**	**-1.2**
	comp=Z,17nm,0.7s						
JIRN	**Jiri**	**14.93**	**336**	*eP*	**Pn**	**00 27 04.5**	**-3.0**
NGP	**Nagpur**	**14.96**	**300**	*eP*	**Pn**	**00 27 07.0**	**-0.5**
NGP				AMB	AMB	00 27 13.4	
	comp=Z,36nm,0.9s						
PKI	**Pulchoki**	**15.17**	**334**	*eP*	**Pn**	**00 27 08.7**	**-1.9**
PKIN	**Phulchoki**	**15.18**	**334**	*eP*	**Pn**	**00 27 08.0**	**-2.7**
	comp=Z,81nm,0.5s						
GUN	**Gumba**	**15.28**	**336**	*eP*	**Pn**	**00 27 09.2**	**-2.8**
ALBI	**Allahabad**	**15.30**	**319**	*e*	**Pn**	**00 27 10.0**	**-2.0**
DMN	**Daman**	**15.33**	**333**	*eP*	**Pn**	**00 27 10.4**	**-2.3**
KKN	**Kakani**	**15.42**	**334**	*eP*	**Pn**	**00 27 11.0**	**-2.7**
LSA	**Lhasa**	**15.68**	**354**	*eP*	**P**	**00 27 19.4**	**-1.4**
LSA				pmax	pmax		
	comp=Z,19nm,0.6s						
LSA	**Lhasa**	**15.68**	**354**	*ePn*	**P**	**00 27 19.4**	**-1.4**
	comp=Z,19nm,0.6s						
KGM	**Kluang**	**15.78**	**138**	P	**P**	**00 27 23.9**	**+2.4**
GKN	**Gorkha**	**15.88**	**332**	*eP*	**Pn**	**00 27 17.6**	**-2.0**
KOLN	**Koldanda**	**16.18**	**329**	*eP*	**Pn**	**00 27 21.2**	**-2.2**
PPI	**Padang Panjang**	**16.20**	**152**	P	**Pn**	**00 27 23.0**	**-0.6**
	comp=Z,24nm,0.6s						
MYKOM	**Kota Tinggi**	**16.30**	**137**	P	**P**	**00 27 28.4**	**+1.2**
MYKOM	**Kota Tinggi**	**16.30**	**137**	P	**P**	**00 27 28.0**	**+0.8**
	comp=Z,32nm,0.8s						
MYKOM	**Kota Tinggi**	**16.30**	**137**	*ePn*	**Pn**	**00 27 25.3**	**+0.5**
	comp=Z,22nm,0.8s						
DANN	**Dangsing**	**16.58**	**331**	*eP*	**Pn**	**00 27 26.6**	**-2.0**
PDSI	**Padang**	**16.64**	**153**	P	**Pn**	**00 27 27.4**	**-1.7**
	comp=Z,29nm,0.6s,comp=Z,14µm						
PYUN	**Piuthan**	**16.75**	**328**	*eP*	**Pn**	**00 27 28.4**	**-2.3**
QIZ	**Qiongzhong**	**17.01**	**71**	P	**Pn**	**00 27 33.8**	**0.0**
QIZ				S	**Sn**	**00 30 42.5**	**+0.5**
QIZ				LR	LR		
	comp=Z,160nm,15.9s						
QIZ				LR	LR		
	comp=Z,350nm,15.9s						
BHPL	**Bhopal**	**17.26**	**304**	*eP*	**Pn**	**00 27 37.3**	**+0.5**
GYA	**Guiyang**	**17.88**	**44**	P	**P**	**00 27 45.5**	**+0.7**
GYA				pP	**pP**	**00 27 53.8**	**-1.4**
GYA				sP	**sP**	**00 28 02.0**	**+1.3**
GYA				S	**S**	**00 31 09.5**	**+1.3**
GYA				sS	sS	00 31 15.3	-9.4
GYA				SS	**SnSn**	**00 31 23.8**	**+6.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=Z,520nm,13.8s						
GYA				LR	LR		
	comp=Z,460nm,14.6s						
GYA				LR	LR		
	comp=Z,550nm,13.0s						
POO	**Poona**	**18.80**	**286**	*eP*	**Pn**	**00 27 56.4**	**+0.7**
CD2	**Chengdu**	**19.56**	**29**	*eP*	**P**	**00 28 03.5**	**+0.3**
CD2				pP	**pP**	**00 28 14.3**	**+0.7**
CD2				sP	**sP**	**00 28 20.3**	**+1.2**
CD2				PP	**PnPn**	**00 28 23.0**	**+3.8**
CD2				S	**S**	**00 31 36.5**	**-5.4**
CD2				sS	sS	00 31 52.0	-6.6
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,170nm,4.8s						
CD2				LR	LR		
	comp=Z,340nm,15.6s						
CD2				LR	LR		
	comp=Z,240nm,14.2s						
CD2				LR	LR		
	comp=Z,190nm,14.4s						
NDI	**New Delhi**	**20.59**	**318**	*e*	Pn	00 28 24.5	+7.6
NDI				*e*		00 31 44.0	
KSM	**Kuching**	**21.28**	**124**	P	**P**	**00 28 24.1**	**+2.2**
KSM	**Kuching**	**21.28**	**124**	*eP*	**P**	**00 28 19.6**	**-2.2**
	comp=Z,10.0nm,0.7s						
ENH	**Enshi**	**22.27**	**41**	*eP*	**P**	**00 28 30.7**	**-1.8**
	comp=Z,30nm,0.9s						
SBUM	**Sibu**	**22.31**	**119**	P	**P**	**00 28 33.6**	**+0.7**
SBUM	**Sibu**	**22.31**	**119**	P	**P**	**00 28 32.8**	**-0.1**
	comp=Z,10nm,1.2s						
SBUM	**Sibu**	**22.31**	**119**	*eP*	**P**	**00 28 31.6**	**-1.3**
	comp=Z,13nm,1.2s						
SMLA	**Simla**	**22.32**	**322**	*eP*	**P**	**00 28 32.1**	**-0.7**
SMLA				AMB	AMB	00 28 36.4	
	comp=Z,27nm,0.3s						
STKI	**Sintang**	**23.05**	**125**	P	**P**	**00 28 41.7**	**+0.9**
	comp=Z,22nm,0.7s						
DHRM	**DHARAMSHALA**	**23.64**	**323**	*eP*	**P**	**00 28 46.5**	**0.0**
DHRM				AMB	AMB	00 28 59.3	
	comp=Z,60nm,0.7s						
LZH	**Lanzhou**	**24.07**	**22**	⇓P	**P**	**00 28 50.8**	**+0.3**
LZH				pP	**pP**	**00 29 01.3**	**-0.7**
LZH				sP	**sP**	**00 29 06.0**	**-1.1**
LZH				PP	**PnPn**	**00 29 26.5**	**+5.6**
LZH				*eS*	**S**	**00 33 02.0**	**-3.2**
LZH				SS	**SnSn**	**00 33 56.0**	**+6.9**
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.5s						
LZH				LR	LR		
	comp=Z,460nm,11.6s						
LZH				LR	LR		
	comp=Z,570nm,13.0s						
LZH				LR	LR		
	comp=Z,690nm,13.5s						
KDM	**Kudat**	**24.58**	**104**	P	**P**	**00 28 58.3**	**+3.2**
XAN	**Xi'an**	**24.67**	**33**	P	**P**	**00 28 54.5**	**-1.3**
XAN				pP	**pP**	**00 29 04.8**	**-2.5**
XAN				sP	**sP**	**00 29 10.5**	**-2.0**
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
XAN				pmax	pmax		
	comp=Z,22nm,5.7s						
SDKM	**Sandakan**	**25.35**	**107**	P	**P**	**00 29 05.1**	**+3.0**
GTA	**Gaotai**	**26.02**	**12**	⇓P	**P**	**00 29 08.5**	**+0.5**
GTA				pP	**pP**	**00 29 20.3**	**+0.7**
GTA				sP	**sP**	**00 29 25.8**	**+1.1**
GTA				PcP	**PcP**	**00 32 37.0**	**+1.6**
GTA				S	**S**	**00 33 34.0**	**-2.1**
GTA				sS	**sS**	**00 33 53.8**	**-1.6**
GTA				SS	**SnSn**	**00 34 42.3**	**+5.9**
GTA				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA				pmax	pmax		
	comp=Z,84nm,5.5s						
GTA				LR	LR		
	comp=Z,210nm,18.1s						
GTA				LR	LR		
	comp=Z,240nm,18.3s						
GTA				LR	LR		
	comp=Z,130nm,17.8s						
TSM	**Tawau**	**26.48**	**109**	P	**P**	**00 29 15.5**	**+3.2**
KSH	**Kashi**	**29.43**	**333**	P	**P**	**00 29 37.5**	**-1.1**
KSH				pP	**pP**	**00 29 53.5**	**+3.3**
KSH				sP	**sP**	**00 29 57.5**	**+2.2**
KSH				PP	**PnPn**	**00 30 34.0**	**+0.1**
KSH				S	S	00 34 23.3	-6.6
KSH				sS	**SnSn**	**00 36 05.0**	**+5.4**
KSH				PcS	**PcS**	**00 36 24.0**	**-2.8**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,70nm,5.3s						
KSH				LR	LR		
	comp=Z,110nm,6.4s						
KSH				LR	LR		
	comp=Z,150nm,4.9s						
KSH				LR	LR		
	comp=Z,150nm,8.2s						
H08S3	**Diego Garcia H**	**29.53**	**224**	T	T	01 00 32.8	
	baz=42,slow=76,SNR=36						
H08S2	**Diego Garcia H**	**29.54**	**224**	T	T	01 00 39.8	
	baz=42,slow=76,SNR=40						
H08S1	**Diego Carcia H**	**29.55**	**224**	T	T	01 00 27.1	
	baz=42,slow=76,SNR=46						
KBL	**Kabul**	**29.68**	**318**	*eP*	**P**	**00 29 40.2**	**-0.8**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBL	**Kabul**	**29.68**	**318**	*eP*	**P**	**00 29 40.2**	**-0.8**
	comp=Z,7.9nm,0.8s						
NJ2	**Nanjing**	**29.77**	**49**	*eP*	**P**	**00 29 42.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
WMQ	**Urumqi**	**30.02**	**352**	P	**P**	**00 29 45.0**	**+1.3**
WMQ				sP	**sP**	**00 30 03.0**	**+2.5**
WMQ				PP	**PnPn**	**00 30 45.0**	**+3.3**
WMQ				PcP	**PcP**	**00 32 46.0**	**+0.9**
WMQ				S	**S**	**00 34 39.0**	**0.0**
WMQ				sS	**sS**	**00 34 59.0**	**+0.6**
WMQ				SS	**SnSn**	**00 36 18.0**	**+4.1**
WMQ				PcS	**PcS**	**00 36 29.0**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,110nm,3.0s						
WMQ				LR	LR		
	comp=Z,220nm,10.0s						
WMQ				LR	LR		
	comp=Z,190nm,10.0s						
WMQ				LR	LR		
	comp=Z,100nm,10.0s						
MMSI	**Mamuju**	**30.70**	**121**	P	**P**	**00 29 50.6**	**+0.7**
	comp=Z,62nm,0.7s						
HHC	**Hu-ho-hao-te**	**31.31**	**28**	*eP*	**P**	**00 29 55.8**	**+0.6**
HHC				pP	**pP**	**00 30 07.0**	**+0.2**
HHC				PP	**PnPn**	**00 31 01.5**	**+2.9**
HHC				S	**S**	**00 34 57.3**	**-2.0**
HHC				ScP	**ScP**	**00 36 26.8**	**-1.5**
HHC				PcS	**PcS**	**00 36 29.5**	**-3.4**
HHC				pmax	pmax		
	comp=Z,49nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
HHC				LR	LR		
	comp=Z,290nm,12.4s						
HHC				LR	LR		
	comp=Z,350nm,11.7s						
HHC				LR	LR		
	comp=Z,220nm,11.7s						
SPSI	**Sidrap Palu**	**32.11**	**122**	P	**P**	**00 30 02.8**	**+0.5**
	comp=Z,14nm,0.7s						
AAK	**Ala-Archa**	**32.62**	**334↑**	*iP*	**P**	**00 30 07.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,12nm,1.2s						
AAK	**Ala-Archa**	**32.62**	**334**	*eP*	**P**	**00 30 08.0**	**+1.2**
	comp=Z,32nm,0.8s						
AAK	**Ala-Archa**	**32.62**	**334**	LR	LR	00 44 38.9	
	comp=Z,234nm,21.7s,baz=139,slow=39						
EKS2	**Erkin-Say**	**32.95**	**334**	*eP*	**P**	**00 30 10.0**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKS2	**Erkin-Say**	**32.95

ZAK Zakamensk 37.24 11 *e*P **P 00 30 46.7 +0.4**
ZAK *e* 00 33 06.2
ZAK pmax pmax
comp=Z,4.0nm,1.1s
IPAY Payeh 37.61 313 *e*P **P 00 30 50.3 +0.4**
IKRD Kardeh 38.11 313 *e*P P 00 30 49.3 -4.8
MOY Mondy 38.11 8 *e*P **P 00 30 54.8 +1.1**
KURK Kurchatov 38.38 345 *e*P **P 00 30 55.8 0.0**
KURK pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 38.38 345 *e*P **P 00 30 55.8 0.0**
comp=Z,14nm,1.1s
TLY Talaya 38.55 11 *e*P **P 00 30 58.8 +1.5**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY MLR MLR
comp=Z,19nm,5.0s
KSAR Wonju Array Be 38.88 47 P **P 00 31 00.1 -0.1**
KSRS Korea Array 38.91 47 P **P 00 31 00.1 -0.3**
comp=Z,2.9nm,0.8s,baz=232,slow=8.9,SNR=5.5
KSRS LR LR 00 49 43.1
comp=Z,175nm,18.8s,baz=230,slow=40
ABKT Ailbek 38.92 314 P **P 00 31 01.1 +0.4**
comp=Z,168nm,0.6s,SNR=12
IMEH Mehriz 39.05 303 *e*P **P 00 31 02.9 +0.8**
ISAD Sadrabad 39.97 303 *e*P **P 00 31 10.7 +1.0**
ZAA0 Zalesovo Array 40.33 353 *e*P **P 00 31 11.9 -0.1**
ZALV Zalesovo Beam 40.33 353 *i* P **P 00 31 11.8 -0.3**
ZALV pmax pmax
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 40.33 353 P **P 00 31 11.9 -0.2**
ZALV Zalesovo Beam 40.33 353 P **P 00 31 11.9 -0.2**
comp=Z,19nm,0.7s,baz=176,slow=8.4,SNR=71
CN2 Changchun 40.69 37 *e*P **P 00 31 14.3 -0.8**
CN2 *e*pP **pP 00 31 26.5 -0.5**
CN2 *e*S **S 00 37 20.5 -1.9**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
IZEF Zefreh 41.35 304 *e*P **P 00 31 21.9 +0.8**
NVS Novosibirsk 41.42 352 ⇓*i*P **P 00 31 19.0 -2.0**
NVS *e* 00 31 28.8
NVS pmax pmax
comp=Z,10.0nm,0.9s
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,1.0s
ISHM Shahmirzad 41.56 309 *e*P **P 00 31 23.8 +1.0**
IALA Alasht 42.02 309 *e*P **P 00 31 28.7 +2.1**
IPRN Peran 42.43 309 *e*P **P 00 31 31.1 +1.3**
IDMV Damavand 42.44 308 *e*P **P 00 31 31.4 +1.4**
IVRN Varamin 42.48 307 *e*P **P 00 31 31.7 +1.6**
BRVK Borovoye 42.87 340 *e*P **P 00 31 32.9 0.0**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 42.87 340 *e*P **P 00 31 31.9 -0.9**
comp=Z,6.1nm,0.8s
MDJ Mudanjiang 43.60 38 P **P 00 31 39.5 +0.6**
MDJ pP **pP 00 31 51.0 +0.2**
MDJ sP **sP 00 31 55.8 -0.1**
MDJ PP **PP 00 33 21.0 +0.1**
MDJ S **S 00 38 04.0 -1.3**
MDJ sS **sS 00 38 24.5 -0.7**
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,130nm,3.5s
MDJ LR LR
comp=Z,58nm,31.3s
MDJ LR LR
comp=Z,41nm,22.7s
IRAZ Razeghan 44.01 307 *e*P **P 00 31 44.1 +1.5**
ABKAR Akbulak array 44.30 329 *e*P **P 00 31 44.1 -0.4**
RDF Al-Radifah 44.43 297 *e*P **P 00 31 45.9 0.0**
RDF AMb AMB 00 31 57.5
comp=Z,48nm,1.4s
NAY Al-Naaiem 44.75 297 *e*P **P 00 31 47.6 -0.7**
NAY AMb AMB 00 32 03.0
comp=Z,14nm,1.3s
USRK Ussuriysk Arra 44.85 40 P **P 00 31 48.6 -0.3**
comp=Z,3.0nm,0.8s,baz=268,slow=7.4,SNR=6.3
FITZ Fitzroy Crossi 45.42 134 *e*P **P 00 31 52.6 -1.1**
comp=Z,8.8nm,1.0s
RAYN Ar Rayn 45.66 289 *e*P **P 00 31 56.0 +0.3**
comp=Z,8.3nm,1.4s
AKTO Aktyubinsk 46.02 329 LR LR 00 52 47.5
comp=Z,79nm,20.9s,baz=127,slow=38
IVIS Veis 46.19 305 *e*P **P 00 31 59.1 -0.7**
MJAR Matsushiro Arr 46.20 53 P **P 00 32 01.1 +1.4**
MJAR Matsushiro Arr 46.20 53 P **P 00 32 01.1 +1.4**
comp=Z,1.0nm,0.6s,baz=258,slow=9.8,SNR=3.5
MJAR LR LR 00 53 34.2
comp=Z,95nm,19.2s,baz=265,slow=39
IGHG Ghaleghazi 46.37 304 *e*P **P 00 32 01.0 -0.4**
DAMY Dhamar 46.91 277 *e*P **P 00 32 06.9 +0.9**
IBST Bostanabad 47.03 309 *e*P **P 00 32 06.7 +0.2**
IHRS Heris 47.11 310 *e*P **P 00 32 07.6 +0.5**
SVE Sverdlovsk 49.27 337 *e*P **P 00 32 23.4 +0.2**
SVE pmax pmax
comp=Z,46nm,0.9s
GNI Garni 49.37 311 *e*P **P 00 32 24.2 -0.2**
comp=Z,26nm,1.0s
GNI Garni 49.37 311 LR LR 00 57 01.7
comp=Z,80nm,18.9s,baz=102,slow=40
ARU Arti 49.79 336 *d i*P **P 00 32 26.8 -0.3**
ARU 00 34 19.3
ARU S **S 00 39 36.8 +3.4**
ARU pmax pmax
comp=Z,15nm,1.0s
ZEI Tsey 50.80 314 *e*P **P 00 32 35.4 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 51.80 315 P **P 00 32 43.1 +0.6**
KBZ Khabaz 51.80 315 P **P 00 32 43.0 +0.6**
KBZ Khabaz 51.80 315 P **P 00 32 43.0 +0.6**
comp=Z,3.9nm,0.8s,baz=122,slow=8.0,SNR=14
KBZ LR LR 00 59 03.7
comp=Z,16nm,28.6s,baz=94,slow=41
KIV Kislovodsk 52.02 315 P **P 00 32 45.9 +1.6**
comp=Z,184nm,0.7s,SNR=14
KIV Kislovodsk 52.02 315 *e*P **P 00 32 44.4 +0.1**
KIV *i* 00 32 54.4
KIV *e* 00 33 57.1
KIV pmax pmax
comp=Z,32nm,1.0s
KIV MLR MLR
comp=Z,100nm,18.0s
YSS Yuzh-Sakhalins 52.85 41 *e*P **P 00 32 50.0 -0.2**
YSS *e* 00 33 01.0
YSS pmax pmax
comp=Z,30nm,1.0s
WRA Warramunga Arr 52.95 129 P **P 00 32 50.7 -0.6**
WRA PcP **PcP 00 33 59.5 -0.3**
WRA Warramunga Arr 52.95 129 P **P 00 32 50.7 -0.6**
comp=Z,6.0nm,0.8s,baz=307,slow=8.0,SNR=37
WRA PcP **PcP 00 33 59.5 -0.3**
comp=Z,1.4nm,0.6s,baz=322,slow=3.5,SNR=5.1
WRAB Tennant Creek 52.95 129 *e*P **P 00 32 52.8 +1.5**
WRAB pmax pmax
comp=Z,48nm,2.5s
WRAB Tennant Creek 52.95 129 *e*P **P 00 32 50.9 -0.5**
comp=Z,6.9nm,0.6s
MALT Malatya 53.66 307 ⇓*i*P **P 00 32 56.9 +0.4**
YAK Yakutsk 54.64 20 *e*P **P 00 33 01.3 -1.7**
YAK pmax pmax
comp=Z,15nm,0.8s
ASAR Alice Springs 54.89 133 P **P 00 33 05.1 -0.4**
ASAR PcP **PcP 00 34 07.8 +0.5**
ASAR ScP **ScP 00 38 03.0 +0.5**
ASAR S **S 00 40 40.2 -4.0**
ASAR Alice Springs 54.89 133 P **P 00 33 05.1 -0.4**
comp=Z,4.9nm,0.5s,baz=310,slow=6.9,SNR=184
ASAR PcP **PcP 00 34 07.8 +0.5**
comp=Z,0.9nm,0.6s,baz=308,slow=4.6,SNR=1.3
ASAR ScP **ScP 00 38 03.0 +0.5**
comp=Z,1.1nm,1.0s,baz=308,slow=3.9,SNR=4.6
ASAR S **S 00 40 40.2 -4.0**
comp=Z,0.9nm,0.9s,baz=306,slow=13,SNR=9.1
AS01 Alice Springs 54.92 133 *e*P **P 00 33 04.4 -1.3**
VRHR Novokhopersk 55.25 323 *e*P **P 00 33 05.9 -1.7**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.9s
MMAI Mount Meron Ar 55.31 301 LR LR 00 59 46.3
comp=E,58nm,20.3s,baz=145,slow=39
VORD Divnogorie 56.57 322 *e*P **P 00 33 15.2 -1.9**
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,9.0nm,0.5s
VSR Storozhevoye 56.73 323 *e*P **P 00 33 16.5 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR pmax pmax
comp=N,2.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
KMBO Kilima Mbogo 57.10 259 *e*P **P 00 33 20.6 -1.1**
comp=E,2.7nm,1.0s
KMBO Kilima Mbogo 57.10 259 P **P 00 33 21.6 -0.1**
comp=E,1.5nm,0.7s,baz=58,slow=13,SNR=8.2
BRTR Keskin Array B 57.58 308 P **P 00 33 23.9 -0.7**
BRTR pP **pP 00 33 36.6 -0.4**
BRTR PcP **PcP 00 34 17.4 -0.2**
BRTR Keskin Array B 57.58 308 P **P 00 33 23.9 -0.7**
comp=E,12nm,0.8s,baz=121,slow=7.6,SNR=82
BRTR pP **pP 00 33 36.6 -0.4**
comp=E,8.7nm,0.7s,baz=130,slow=7.3,SNR=13
BRTR PcP **PcP 00 34 17.4 -0.2**
comp=E,1.9nm,0.8s,baz=134,slow=4.4,SNR=1.9
BRTR LR LR 01 01 39.2
comp=E,65nm,19.1s,baz=92,slow=40
PRGR Permogore 58.25 336 ⇓*i*P **P 00 33 25.7 -3.0**
PRGR *e* 00 34 14.9
PRGR pmax pmax
comp=Z,23nm,0.6s
OBN Obninsk 59.57 326 ⇓*e*P **P 00 33 37.6 -0.4**
OBN pmax pmax
comp=Z,28nm,1.5s
TIXI Tiksi 61.50 12 *e*P **P 00 33 50.0 -0.9**
TIXI pmax pmax
comp=Z,15nm,1.7s
TLCR 61.93 314 ⇓*i*P **P 00 33 54.7 +0.4**
TIRR Tirgusor 62.11 313 ⇑*i*P **P 00 33 55.7 +0.2**
CFR Carcaliu 62.41 314 ⇑*i*P **P 00 33 57.7 +0.3**
HARR Harsova 62.48 313 ⇑*i*P **P 00 33 58.1 +0.1**
TMCR Tamitsa 62.52 336 *e*P **P 00 33 57.8 -0.1**
TMCR *e* 00 36 16.7
TMCR pmax pmax
comp=Z,41nm,1.4s
AKASG Malin Array Be 62.63 320 P **P 00 33 57.9 -0.9**
AKASG Malin Array Be 62.63 320 P **P 00 33 57.9 -0.9**
AKASG Malin Array Be 62.63 320 P **P 00 33 57.9 -0.9**
comp=Z,3.7nm,0.5s,baz=90,slow=6.2,SNR=16
KIEV Kiev 62.63 320 *e*P **P 00 33 57.0 -1.9**
KIEV Kiev 62.63 320 *e*P **P 00 33 57.2 -1.7**
comp=Z,5.8nm,0.7s
JMB Yambol 63.21 311 ⇑*i*P **P 00 34 03.8 +0.9**
VRI Vrincioaia 63.48 314 ⇑*i*P **P 00 34 05.4 +0.8**
TESR Tescani 63.62 315 ⇑*i*P **P 00 34 05.8 +0.3**
MLR Muntele Rosu 63.98 314 ⇑*i*P **P 00 34 08.5 +0.4**
DOPR Dupca 64.42 314 ⇑*i*P **P 00 34 10.9 +0.1**
BURAR Bucovina Array 64.72 316 ⇑*i*P **P 00 34 13.0 +0.1**
BUR04 Bucovina Ar. S 64.73 316 *e*P **P 00 34 11.8 -1.1**
JOF Joensuu 64.81 334 *e*P **P 00 34 12.7 -0.3**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 64.81 334 *ep* **P 00 34 12.7 -0.3**
comp=Z,2.0nm,0.5s
ARR Arges 64.89 314 ⇑*i*P **P 00 34 13.9 0.0**
STKA Stephens Creek 65.28 135 *e*P **P 00 34 16.7 +0.2**
comp=Z,27nm,2.5s
STKA pP **pP 00 34 27.8 -1.3**
STKA Stephens Creek 65.28 135 P **P 00 34 16.7 +0.2**
comp=Z,4.2nm,0.6s,baz=311,slow=5.1,SNR=21
STKA pP **pP 00 34 27.8 -1.3**
comp=Z,4.3nm,0.6s,baz=321,slow=8.2,SNR=6.2
APA Apatity 65.69 339 ⇓*i*P **P 00 34 19.0 +0.4**
APA MLR MLR
comp=Z,400nm,11.0s
VTS Vitosha 65.70 311 ⇓*i*P **P 00 34 19.4 0.0**
DRGR 66.34 315 ⇑*i*P **P 00 34 23.3 0.0**
KWP Kalwaria Pacla 66.60 318 ⇑*i*P **P 00 34 25.1 +0.3**
FINES FINESS Array B 66.74 331 P **P 00 34 25.0 -0.4**
FINES FINESS Array B 66.74 331 P **P 00 34 25.0 -0.4**
comp=Z,15nm,0.7s,baz=99,slow=6.7,SNR=60
FINES LR LR 01 05 42.2
comp=Z,16nm,28.6s,baz=279,slow=38
KAF Kangasniemi 66.80 332 *e*P **P 00 34 25.1 -0.7**
KAF Kangasniemi 66.80 332 *ep* **P 00 34 25.1 -0.7**
comp=Z,0.4nm,0.3s
KOLS Kolonicke sedl 66.82 317 *e*P **P 00 34 26.0 -0.2**
KOLS pmax pmax
comp=Z,11nm,1.6s
KOLS Kolonicke sedl 66.82 317 *e*P **P 00 34 26.0 -0.2**
SUW Suwalki 66.85 323 *e*P **P 00 34 25.5 -0.7**
SUW Suwalki 66.85 323 *e*P **P 00 34 25.5 -0.7**
SUW Suwalki 66.85 323 *e*P **P 00 34 24.7 -1.6**
comp=Z,40nm,1.0s
CRVS Cervenica-Dubn 67.35 317 *e*P **P 00 34 30.0 +0.4**
CRVS pmax pmax
comp=Z,12nm,1.1s
CRVS Cervenica-Dubn 67.35 317 *e*P **P 00 34 30.0 +0.4**
STHS Stebnicka Huta 67.53 318 *e*P **P 00 34 30.9 +0.1**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 67.53 318 *e*P **P 00 34 30.9 +0.1**
BEL Belsk 68.03 320 *e*P **P 00 34 34.1 +0.3**
BEL Belsk 68.03 320 *e*P **P 00 34 34.1 +0.3**
OJC Ojcow 68.53 319 *e*P **P 00 34 36.7 -0.3**
OJC Ojcow 68.53 319 *e*P **P 00 34 36.7 -0.3**
OJC Ojcow 68.53 319 *e*P **P 00 34 35.6 -1.3**
comp=Z,9.5nm,0.8s
KEV Kevo 68.66 340 *e*P **P 00 34 36.5 -0.9**
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV Kevo 68.66 340 *ep* **P 00 34 36.5 -0.9**
comp=Z,2.3nm,0.3s
ARCES ARCESS Array B 69.10 340 P **P 00 34 40.2 +0.1**
ARCES pP **pP 00 34 51.1 -1.6**
ARCES ARCESS Array B 69.10 340 P **P 00 34 40.2 +0.1**
comp=Z,15nm,0.7s,baz=93,slow=6.9,SNR=81
ARCES pP **pP 00 34 51.1 -1.6**
comp=Z,2.6nm,0.5s,baz=102,slow=6.4,SNR=3.1
ARCES LR LR 01 08 09.4
comp=Z,159nm,18.6s,baz=157,slow=39
PKSM Moragy 69.12 314 ⇑*i*P **P 00 34 40.6 -0.1**
OKC Ostrava-Krasne 69.57 318 *i* P **P 00 34 43.7 +0.3**
OKC Ostrava-Krasne 69.57 318 ⇓*i*P **P 00 34 43.7 +0.3**
MORC Moravsky Berou 69.96 318 *e*P **P 00 34 44.7 -1.2**
MORC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 69.96 318 ⇑*i*P **P 00 34 46.1 +0.2**
MORC Moravsky Berou 69.96 318 *e*P **P 00 34 44.7 -1.2**
comp=Z,11nm,0.9s
LSZ Lusaka 70.28 248 *e*P **P 00 34 48.8 +0.3**
comp=Z,11nm,0.9s
LSZ Lusaka 70.28 248 LR LR 01 03 06.0
comp=Z,16nm,28.6s,baz=124,slow=34
VRAC Vranov 70.56 318 ⇑*i*P **P 00 34 49.8 +0.2**
DPC Dobruska-Polom 70.76 319 ⇓*i*P **P 00 34 51.1 +0.3**
DPC *e* 00 35 03.2
DPC Dobruska-Polom 70.76 319 ⇓*i*P **P 00 34 51.1 +0.3**
DPC epP **pP 00 35 03.2 -0.2**
DPC Dobruska-Polom 70.76 319 *e*P **P 00 34 51.1 +0.3**
comp=Z,74nm,1.3s
KSP Ksiaz 70.79 319 ⇓*e*P **P 00 34 51.2 +0.3**
KSP *e**PP **pP 00 35 00.8 -2.7**
KSP Ksiaz 70.79 319 *e*P **P 00 34 51.5 +0.6**
PRU Pruhonice 71.90 318 *i* P **P 00 34 57.9 +0.3**
PRU Pruhonice 71.90 318 ⇓*i*P **P 00 34 57.9 +0.3**
BRG Berggiesshubel 72.28 319 *e*P **P 00 34 59.7 -0.1**
comp=Z,9.4nm,0.8s
BRG *e* 00 35 12.5
comp=Z,7.8nm,1.0s
BRG Berggiesshubel 72.28 319 *e*P **P 00 34 59.7 -0.1**
BRG *e* 00 35 12.5
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG Berggiesshubel 72.28 319 *e*P **P 00 35 00.4 +0.6**
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 72.47 317 *e*P **P 00 35 00.4 -0.8**
GEC2 GERESS Array S 72.47 317 *e*P **P 00 35 01.5 +0.3**
comp=Z,8.0nm,0.8s
GEC2 GERESS Array S 72.47 317 *e*P **P 00 35 00.4 -0.8**
GERES GERESS Array B 72.47 317 P **P 00 35 01.2 +0.1**
GERES GERESS Array B 72.47 317 P **P 00 35 01.2 +0.1**
comp=Z,6.2nm,0.7s,baz=110,slow=7.3,SNR=13
KHC Kasperske Hory 72.54 317 ⇓*i*P **P 00 35 01.5 0.0**
KHC *e* 00 35 13.3
KHC Kasperske Hory 72.54 317 ⇓*i*P **P 00 35 01.5 0.0**
KHC epP **pP 00 35 13.3 -0.9**
KHC Kasperske Hory 72.54 317 *e*P **P 00 35 01.1 -0.4**
comp=Z,44nm,2.1s
CLL Collm 72.87 320 *e*P **P 00 35 03.0 -0.3**
CLL *e* 00 35 15.0
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 72.87 320 *e*P **P 00 35 03.4 +0.1**
comp=Z,5.0nm,0.9s
CLL Collm 72.87 320 *e*P **P 00 35 03.0 -0.3**
comp=Z,7.0nm,0.9s
CLL epP **pP 00 35 15.0 -1.0**
WET Wettzell 73.00 317 *e*P **P 00 35 05.4 +1.2**
comp=Z,4.0nm,0.7s
RJOB Jochberg 73.11 316 *e*P **P 00 35 04.7 -0.2**
comp=Z,4.0nm,0.7s
ROTZ Rotzenmuhle 73.42 318 *e*P **P 00 35 07.6 +1.0**
comp=Z,8.0nm,1.0s
MANZ Manzenberg 73.47 318 *e*P **P 00 35 07.0 0.0**
comp=Z,5.0nm,0.9s
NB2 NORSAR Subarra 73.81 330 P **P 00 35 07.6 -1.1**
comp=Z,7.9nm,0.7s,baz=89,slow=5.6
NOA NORSAR Array B 73.81 330 P **P 00 35 07.9 -0.8**
NOA NORSAR Array B 73.81 330 P **P 00 35 07.9 -0.8**
comp=Z,5.5nm,0.6s,baz=90,slow=5.8,SNR=21
NOA LR LR 01 12 25.5
comp=Z,32nm,18.1s,baz=125,slow=40
WATA Walderalm 73.95 316 ⇓*i*P **P 00 35 08.8 -1.2**
comp=Z,2.8nm,0.5s,SNR=4.4
GRF Grafenberg Arr 74.06 318 *e*P **P 00 35 10.7 +0.3**
comp=Z,7.0nm,0.7s
MOTA Moosalm 74.27 316 ⇓*i*P **P 00 35 10.7 -1.2**
comp=Z,20nm,1.3s,SNR=8.3
BSEG Bad Segeberg 74.42 323 *e*P **P 00 35 13.2 +0.8**
comp=Z,14nm,0.9s
RETA Reutte 74.50 316 *i* P **P 00 35 12.4 -0.7**
comp=Z,13nm,1.1s,SNR=8.1
FETA Feichten 74.55 315 ⇑*i*P **P 00 35 12.7 -0.8**
comp=Z,6.3nm,1.1s
DAVA Damuels 75.11 316 ⇑*i*P **P 00 35 16.4 -0.3**
comp=Z,20nm,1.3s,SNR=8.5
STU Stuttgart 75.45 317 *e*P **P 00 35 18.5 +0.1**
comp=Z,4.0nm,0.7s
TUE Stuetta 75.54 315 *e*P **P 00 35 19.1 -0.2**
comp=Z,9.5nm,1.0s
LBTB Lobatse 76.18 240 *e*P **P 00 35 24.4 +1.3**
comp=Z,11nm,0.6s
BUG Bochum--Univer 76.44 320 *e*P **P 00 35 23.6 -0.4**
comp=Z,8.0nm,0.9s
CDF Champ du Feu 76.75 317 *e*P **P 00 35 25.1 -0.9**
CDF Champ du Feu 76.75 317 *e*P **P 00 35 25.1 -0.9**
CDF Champ du Feu 76.75 317 *e*P **P 00 35 25.1 -0.9**
KEST Kesra 76.76 304 *e*P **P 00 35 26.0 -0.3**
KEST Kesra 76.76 304 P **P 00 35 25.7 -0.6**
comp=Z,3.6nm,0.9s,baz=313,slow=1.8,SNR=9.8
HINF Hinteralfeld 77.10 316 *e*P **P 00 35 27.8 -0.1**
HINF Hinteralfeld 77.10 316 *e*P **P 00 35 27.8 -0.1**
HINF Hinteralfeld 77.10 316 *e*P **P 00 35 27.8 -0.1**
SBF Sospel 77.17 312 *e*P **P 00 35 27.7 -0.7**
comp=Z,40nm,0.8s
SBF Sospel 77.17 312 *e*P **P 00 35 27.7 -0.7**
SBF pmax pmax
comp=Z,40nm,0.8s
SBF Sospel 77.17 312 *e*P **P 00 35 27.7 -0.7**
comp=Z,40nm,0.8s
HAU Haudompre 77.41 317 *e*P **P 00 35 28.8 -0.8**
comp=Z,13nm,0.7s
HAU Haudompre 77.41 317 *e*P **P 00 35 28.8 -0.8**
HAU pmax pmax
comp=Z,13nm,0.7s
HAU Haudompre 77.41 317 *e*P **P 00 35 28.8 -0.8**
comp=Z,13nm,0.7s
LPG La Plagne 77.45 314 *e*P **P 00 35 29.9 -0.3**
comp=Z,29nm,0.7s
LPG La Plagne 77.45 314 *e*P **P 00 35 29.9 -0.3**
LPG pmax pmax
comp=Z,29nm,0.7s
LPG La Plagne 77.45 314 *e*P **P 00 35 29.9 -0.3**
comp=Z,29nm,0.7s
LPL La Plagne 77.46 314 *e*P **P 00 35 30.0 -0.2**
comp=Z,44nm,0.7s
LPL La Plagne 77.46 314 *e*P **P 00 35 30.0 -0.2**
LPL pmax pmax
comp=Z,44nm,0.7s
LPL La Plagne 77.46 314 *e*P **P 00 35 30.0 -0.2**
comp=Z,44nm,0.7s
MBDF Montbardon 77.53 313 *e*P **P 00 35 30.5 0.0**
comp=Z,17nm,0.8s
MBDF Montbardon 77.53 313 *e*P **P 00 35 30.5 0.0**
MBDF pmax pmax
comp=Z,17nm,0.8s
MBDF Montbardon 77.53 313 *e*P **P 00 35 30.5 0.0**
comp=Z,17nm,0.8s
PAGF Fort de Pagny 77.76 317 *e*P **P 00 35 32.7 +1.2**
PAGF Fort de Pagny 77.76 317 *e*P **P 00 35 32.7 +1.2**
CABF La Chapelle 77.76 315 *e*P **P 00 35 31.3 -0.4**
CABF La Chapelle 77.76 315 *e*P **P 00 35 31.3 -0.4**
CABF La Chapelle 77.76 315 *e*P **P 00 35 31.3 -0.4**
FRF La Foret Royal 77.77 312 *e*P **P 00 35 31.1 -0.6**
comp=Z,45nm,1.0s
FRF La Foret Royal 77.77 312 *e*P **P 00 35 31.1 -0.6**
FRF pmax pmax
comp=Z,45nm,1.0s
FRF La Foret Royal 77.77 312 *e*P **P 00 35 31.1 -0.6**
comp=Z,45nm,1.0s
BOSA Boshof 77.86 236 *e*P **P 00 35 33.6 +1.0**
comp=Z,14nm,0.7s
BOSA Boshof 77.86 236 P **P 00 35 33.4 +0.8**
comp=Z,16nm,0.7s,baz=78,slow=4.1,SNR=43
LMR La Mourre 77.90 312 *e*P **P 00 35 31.8 -0.6**
comp=Z,13nm,0.8s
LMR La Mourre 77.90 312 *e*P **P 00 35 31.8 -0.6**
LMR pmax pmax
comp=Z,13nm,0.8s
LMR La Mourre 77.90 312 *e*P **P 00 35 31.8 -0.6**
comp=Z,13nm,0.8s
ORIF Oris-en-Rattie 78.13 314 *e*P **P 00 35 33.0 -0.8**
comp=Z,25nm,1.0s
ORIF Oris-en-Rattie 78.13 314 *e*P **P 00 35 33.0 -0.8**
ORIF pmax pmax
comp=Z,25nm,1.0s
ORIF Oris-en-Rattie 78.13 314 *e*P **P 00 35 33.0 -0.8**
comp=Z,25nm,1.0s
MEZF Maizieres J'vi 78.21 317 *e*P **P 00 35 34.3 +0.3**
MEZF Maizieres J'vi 78.21 317 *e*P **P 00 35 34.3 +0.3**
SFTF Sexfontaines 78.26 317 *e*P **P 00 35 33.8 -0.5**
SFTF Sexfontaines 78.26 317 *e*P **P 00 35 33.8 -0.5**
SMRF Simiane la Rot 78.48 313 *e*P **P 00 35 35.7 0.0**
comp=Z,22nm,0.9s
SMRF Simiane la Rot 78.48 313 *e*P **P 00 35 35.7 0.0**
comp=Z,22nm,0.9s
BAIF Baives 78.54 319 *e*P **P 00 35 35.7 -0.1**
comp=Z,42nm,1.2s
BAIF Baives 78.54 319 *e*P **P 00 35 35.7 -0.1**
BAIF pmax pmax
comp=Z,42nm,1.2s
BAIF Baives 78.54 319 *e*P **P 00 35 35.7 -0.1**
comp=Z,42nm,1.2s
VIVF Saint-Julien-l 78.99 314 *e*P **P 00 35 38.0 -0.5**
comp=Z,9.4nm,0.8s
VIVF Saint-Julien-l 78.99 314 *e*P **P 00 35 38.0 -0.5**
VIVF pmax pmax
comp=Z,9.0nm,0.8s
VIVF Saint-Julien-l 78.99 314 *e*P **P 00 35 38.0 -0.5**
comp=Z,9.4nm,0.8s
LOR Lormes 79.18 316 *e*P **P 00 35 38.6 -0.8**
comp=Z,21nm,1.0s
LOR Lormes 79.18 316 *e*P **P 00 35 38.6 -0.8**
comp=Z,21nm,1.0s
SMF Signal de Mont 79.29 315 *e*P **P 00 35 39.2 -0.8**
comp=Z,15nm,0.7s
SMF Signal de Mont 79.29 315 *e*P **P 00 35 39.2 -0.8**
SMF pmax pmax
comp=Z,15nm,0.7s
SMF Signal de Mont 79.29 315 *e*P **P 00 35 39.2 -0.8**
comp=Z,15nm,0.7s
SSF Saint Saulge 79.45 316 *e*P **P 00 35 40.2 -0.7**
comp=Z,14nm,1.0s

SSF	**Saint Saulge**	**79.45**	**316**	*e*P	**P**	**00 35 40.2**	**-0.7**
SSF				pmax	pmax		
	comp=Z,14nm,1.0s						
SSF	**Saint Saulge**	**79.45**	**316**	*e*P	**P**	**00 35 40.2**	**-0.7**
	comp=Z,14nm,1.0s						
AVF	**Avril sur Loir**	**79.60**	**316**	*e*P	**P**	**00 35 40.8**	**-0.9**
	comp=Z,6.4nm,0.6s						
AVF	**Avril sur Loir**	**79.60**	**316**	*e*P	**P**	**00 35 40.8**	**-0.9**
AVF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AVF	**Avril sur Loir**	**79.60**	**316**	*e*P	**P**	**00 35 40.8**	**-0.9**
	comp=Z,6.4nm,0.6s						
LASF	**Ste Croix**	**79.69**	**313**	*e*P	**P**	**00 35 42.2**	**-0.1**
	comp=Z,30nm,1.0s						
LASF	**Ste Croix**	**79.69**	**313**	*e*P	**P**	**00 35 42.2**	**-0.1**
	comp=Z,30nm,1.0s						
BGF	**Bois d'Agland**	**79.98**	**316**	*e*P	**P**	**00 35 43.3**	**-0.5**
BGF	**Bois d'Agland**	**79.98**	**316**	*e*P	**P**	**00 35 43.3**	**-0.5**
BGF	**Bois d'Agland**	**79.98**	**316**	*e*P	**P**	**00 35 43.3**	**-0.5**
HYF	**Humbligny**	**80.00**	**316**	*e*P	**P**	**00 35 43.8**	**-0.1**
HYF	**Humbligny**	**80.00**	**316**	*e*P	**P**	**00 35 43.8**	**-0.1**
TCF	**Toulx Ste Croi**	**80.46**	**315**	*e*P	**P**	**00 35 46.1**	**-0.3**
	comp=Z,43nm,1.3s						
TCF	**Toulx Ste Croi**	**80.46**	**315**	*e*P	**P**	**00 35 46.1**	**-0.3**
TCF				pmax	pmax		
	comp=Z,43nm,1.3s						
TCF	**Toulx Ste Croi**	**80.46**	**315**	*e*P	**P**	**00 35 46.1**	**-0.3**
	comp=Z,43nm,1.3s						
CAF	**Calviac**	**80.81**	**314**	*e*P	**P**	**00 35 47.8**	**-0.5**
	comp=Z,40nm,1.3s						
CAF	**Calviac**	**80.81**	**314**	*e*P	**P**	**00 35 47.8**	**-0.5**
CAF				pmax	pmax		
	comp=Z,40nm,1.3s						
CAF	**Calviac**	**80.81**	**314**	*e*P	**P**	**00 35 47.8**	**-0.5**
	comp=Z,40nm,1.3s						
MTLF	**Montolieu**	**80.99**	**312**	*e*P	**P**	**00 35 49.0**	**-0.2**
	comp=Z,18nm,1.0s						
MTLF	**Montolieu**	**80.99**	**312**	*e*P	**P**	**00 35 49.0**	**-0.2**
MTLF				pmax	pmax		
	comp=Z,18nm,1.0s						
MTLF	**Montolieu**	**80.99**	**312**	*e*P	**P**	**00 35 49.0**	**-0.2**
	comp=Z,18nm,1.0s						
RJF	**Les Rejaudoux**	**81.12**	**314**	*e*P	**P**	**00 35 49.9**	**0.0**
	comp=Z,23nm,0.9s						
RJF	**Les Rejaudoux**	**81.12**	**314**	*e*P	**P**	**00 35 49.9**	**0.0**
RJF				pmax	pmax		
	comp=Z,23nm,0.9s						
RJF	**Les Rejaudoux**	**81.12**	**314**	*e*P	**P**	**00 35 49.9**	**0.0**
	comp=Z,23nm,0.9s						
TSUM	**Tsumeb**	**81.13**	**248**	LR	LR	01 08 52.1	
	comp=Z,16nm,28.6s,baz=51,slow=33						
LDF	**La Druitiere**	**81.58**	**318**	*e*P	**P**	**00 35 51.6**	**-0.6**
	comp=Z,11nm,0.7s						
LDF	**La Druitiere**	**81.58**	**318**	*e*P	**P**	**00 35 51.6**	**-0.6**
LDF				pmax	pmax		
	comp=Z,11nm,0.7s						
LDF	**La Druitiere**	**81.58**	**318**	*e*P	**P**	**00 35 51.6**	**-0.6**
	comp=Z,11nm,0.7s						
LFF	**La Frestale**	**81.73**	**314**	*e*P	**P**	**00 35 53.0**	**-0.1**
	comp=Z,18nm,0.9s						
LFF	**La Frestale**	**81.73**	**314**	*e*P	**P**	**00 35 53.0**	**-0.1**
LFF				pmax	pmax		
	comp=Z,18nm,0.9s						
LFF	**La Frestale**	**81.73**	**314**	*e*P	**P**	**00 35 53.0**	**-0.1**
	comp=Z,18nm,0.9s						
FLN	**La Foliniere**	**81.78**	**318**	*e*P	**P**	**00 35 52.8**	**-0.5**
	comp=Z,31nm,1.1s						
FLN	**La Foliniere**	**81.78**	**318**	*e*P	**P**	**00 35 52.8**	**-0.5**
FLN				pmax	pmax		
	comp=Z,31nm,1.1s						
FLN	**La Foliniere**	**81.78**	**318**	*e*P	**P**	**00 35 52.8**	**-0.5**
	comp=Z,31nm,1.1s						
MFF	**Saint Martin d**	**82.00**	**316**	*e*P	**P**	**00 35 54.0**	**-0.5**
	comp=Z,12nm,0.9s						
MFF	**Saint Martin d**	**82.00**	**316**	*e*P	**P**	**00 35 54.0**	**-0.5**
MFF				pmax	pmax		
	comp=Z,12nm,0.9s						
MFF	**Saint Martin d**	**82.00**	**316**	*e*P	**P**	**00 35 54.0**	**-0.5**
	comp=Z,12nm,0.9s						
EPF	**Esparros**	**82.40**	**312**	*e*P	**P**	**00 35 58.9**	**+2.2**
EPF	**Esparros**	**82.40**	**312**	*e*P	**P**	**00 35 58.9**	**+2.2**
EPF	**Esparros**	**82.40**	**312**	*e*P	**P**	**00 35 58.9**	**+2.2**
SUR	**Sutherland**	**82.84**	**234**	LR	LR	01 07 06.8	
	comp=Z,49nm,19.4s,baz=58,slow=32						
ETSF	**Etsaut**	**83.07**	**312**	*e*P	**P**	**00 36 01.8**	**+1.5**
	comp=Z,18nm,1.1s						
ETSF	**Etsaut**	**83.07**	**312**	*e*P	**P**	**00 36 01.8**	**+1.5**
ETSF				pmax	pmax		
	comp=Z,18nm,1.1s						
ETSF	**Etsaut**	**83.07**	**312**	*e*P	**P**	**00 36 01.8**	**+1.5**
	comp=Z,18nm,1.1s						
SGMF	**Saint Gilles**	**83.24**	**318**	*e*P	**P**	**00 36 00.5**	**-0.4**
SGMF	**Saint Gilles**	**83.24**	**318**	*e*P	**P**	**00 36 00.5**	**-0.4**
SGMF	**Saint Gilles**	**83.24**	**318**	*e*P	**P**	**00 36 00.5**	**-0.4**
ES19	**SONSECA Array**	**86.28**	**310**	*e*P	**P**	**00 36 16.4**	**0.0**
ESDC	**Sonseca Array**	**86.33**	**310**	P	**P**	**00 36 16.5**	**-0.2**
ESDC	**Sonseca Array**	**86.33**	**310**	P	**P**	**00 36 16.5**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=61,slow=4.4,SNR=17						
SUMG	**Summit**	**87.91**	**347**	*i* P	**P**	**00 36 24.0**	**-0.1**
SUMG				*i*		00 36 34.8	
SUMG	**Summit**	**87.91**	**347**	*i* P	**P**	**00 36 24.0**	**-0.1**
	comp=Z,6.8nm,0.9s						
SUMG				*i*		00 36 34.8	
TOA0	**Torodi Ar. Sit**	**88.00**	**283**	*e*P	**P**	**00 36 24.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**88.00**	**283**	P	**P**	**00 36 25.5**	**+0.4**
TORD				pP	**pP**	**00 36 36.2**	**-1.9**
TORD				PP	**PP**	**00 39 52.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**88.00**	**283**	P	**P**	**00 36 25.5**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=78,slow=4.1,SNR=37						
TORD				pP	**pP**	**00 36 36.2**	**-1.9**
	comp=Z,3.3nm,0.8s,baz=83,slow=4.1,SNR=9.2						
TORD				PP	**PP**	**00 39 52.3**	**+0.3**
	comp=Z,1.6nm,1.2s,baz=60,slow=7.3,SNR=4.0						
CAST	**Castle Rocks**	**88.27**	**24**	*e*P	**P**	**00 36 26.2**	**+0.6**
	comp=Z,20nm,0.6s						
MCK	**McKinley**	**89.33**	**23**	*e*P	**P**	**00 36 30.5**	**-0.1**
MCK				pmax	pmax		
	comp=Z,12nm,0.9s						
MCK	**McKinley**	**89.33**	**23**	*e*P	**P**	**00 36 30.5**	**-0.1**
	comp=Z,12nm,0.9s						
IL1	**Eielson Array**	**89.54**	**22**	*e*P	**P**	**00 36 29.8**	**-1.7**
ILAR	**Eielson Array**	**89.54**	**22**	P	**P**	**00 36 30.6**	**-0.9**
ILAR				pP	**pP**	**00 36 42.0**	**-2.5**
ILAR	**Eielson Array**	**89.54**	**22**	P	**P**	**00 36 30.6**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=299,slow=4.4,SNR=18						
ILAR				pP	**pP**	**00 36 42.0**	**-2.5**
	comp=Z,2.2nm,0.8s,baz=294,slow=4.3,SNR=10						
KULLO	**Kullorsuaq**	**89.60**	**352**	*i* P	**P**	**00 36 31.6**	**+0.1**
KULLO				*i*		00 36 40.3	
KULLO	**Kullorsuaq**	**89.60**	**352**	*i* P	**P**	**00 36 31.6**	**+0.1**
	comp=Z,12nm,0.7s						
KULLO				*i*		00 36 40.3	
RES	**Resolute Bay**	**91.34**	**2**	*e*P	**P**	**00 36 38.5**	**-1.1**
	comp=Z,35nm,2.2s						
INK	**Inuvik**	**91.45**	**16**	*e*P	**P**	**00 36 39.4**	**-0.9**
	comp=Z,22nm,1.6s						
DBIC	**Dimbokro**	**95.85**	**278**	P	**P**	**00 37 01.9**	**+0.3**
DBIC	**Dimbokro**	**95.85**	**278**	P	**P**	**00 37 01.9**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=45,slow=5.7,SNR=3.4						
VNDA	**Vanda**	**99.17**	**168**	P	**Pdif**	**00 37 14.8**	**-0.4**
VNDA	**Vanda**	**99.17**	**168**	P	**Pdif**	**00 37 14.8**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=307,slow=5.1,SNR=12						
YKA	**Yellowknife Ar**	**100.75**	**13**	P	**Pdif**	**00 37 22.1**	**-0.5**
YKA				PKKP	**PKKPdf**	**00 53 45.1**	**+2.8**
YKA	**Yellowknife Ar**	**100.75**	**13**	P	**Pdif**	**00 37 22.0**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=330,slow=4.2,SNR=6.0						
YKA				PKKP	**PKKPdf**	**00 53 45.1**	**+2.8**
	comp=Z,0.2nm,0.8s,baz=150,slow=2.7,SNR=4.6						
PDAR	**Pinedale Array**	**119.85**	**19**	PKP	**PKPdf**	**00 42 25.1**	**-0.1**
PDAR				P'P'		01 01 31.8	
PDAR	**Pinedale Array**	**119.85**	**19**	PKP	**PKPdf**	**00 42 25.1**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=103,slow=1.5,SNR=14						
PDAR				PKPPKP	P'P'df	01 01 31.8	+13
	comp=Z,0.8nm,1.1s,baz=90,slow=2.7,SNR=3.9						
NV01	**Mina Array Sit**	**120.21**	**28**	*e*PKPdf	**PKPdf**	**00 42 25.7**	**-0.2**
NVAR	**Mina Array Bea**	**120.21**	**28**	PKP	**PKPdf**	**00 42 27.2**	**+1.3**
NVAR	**Mina Array Bea**	**120.21**	**28**	PKP	**PKPdf**	**00 42 27.2**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=311,slow=2.9,SNR=17						
R11A	**Troy Canyon, C**	**121.47**	**26**	*e*PKPdf	**PKPdf**	**00 42 29.2**	**+0.8**
ANMO	**Albuquerque**	**127.96**	**20**	*e*PKPdf	**PKPdf**	**00 42 40.0**	**-0.9**
TX31	**Lajitas Ar. Si**	**134.03**	**20**	*e*PKPdf	**PKPdf**	**00 42 53.0**	**+0.6**
TXAR	**Lajitas Array**	**134.03**	**20**	PKP	**PKPdf**	**00 42 54.1**	**+1.7**
TXAR	**Lajitas Array**	**134.03**	**20**	PKP	**PKPdf**	**00 42 54.1**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=269,slow=0.3,SNR=19						
JCT	**Junction City**	**134.10**	**15**	*e*PKIKP	**PKPdf**	**00 42 53.6**	**+1.2**
JCT	**Junction City**	**134.10**	**15**	*e*PKPdf	**PKPdf**	**00 42 53.6**	**+1.2**
BDFB	**Brasilia**	**142.19**	**262**	PKP	**PKPdf**	**00 43 08.3**	**+0.7**
BDFB	**Brasilia**	**142.19**	**262**	PKP	**PKPdf**	**00 43 08.3**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=148,slow=0.9,SNR=6.4						
CPUP	**Villa Florida**	**149.55**	**242**	*e*PKPbc	**PKPbc**	**00 43 24.0**	**-0.3**
CPUP	**Villa Florida**	**149.55**	**242**	PKPbc	**PKPbc**	**00 43 24.0**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=41,slow=2.3,SNR=11						
SDV	**Santo Domingo**	**151.97**	**323**	*e*PKPbc	**PKPbc**	**00 43 29.7**	**-0.9**
LPAZ	**La Paz**	**161.53**	**261**	PKP	**PKPdf**	**00 43 37.0**	**+0.2**
LPAZ				PKPab	**PKPab**	**00 44 21.1**	**-0.5**
LPAZ	**La Paz**	**161.53**	**261**	PKP	**PKPdf**	**00 43 37.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=117,slow=1.0,SNR=5.5						
LPAZ				PKPab	**PKPab**	**00 44 21.1**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=162,slow=2.6,SNR=4.5						

*THE **26** 00:29:23.4, 41°.26N × 22°.73E, h0km ± 1km, ML2.9/4, Error ellipse: s-maj=1.8km s-min=0.5km az=184.0*
*SKO **26** 00:29:26.9, 41°.29N × 22°.72E, h10km, M2.1, ML2.4*
*BEO **26** 00:29:28.3 ± 0.7, 41°.28N × 22°.68E, h5km ± 2km, ML2.5/7*

CSEM 26 00:29:25.1 ± 0.3, 41°.16N × 22°.77E, h2km, ML2.5, Error ellipse: s-maj=7.0km s-min=5.0km az=18.0,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.10**	**89**	P	Pg	00 29 26.9	-0.2
KNT				S	Sg	00 29 29.5	+1.0
KNT	**Kendrikon**	**0.10**	**89**	P	Pg	00 29 26.9	-0.2
KNT				S	Sg	00 29 29.5	+1.0
VAY	**Valandovo**	**0.22**	**318**	P	Pg	00 29 25.6	-3.7
VAY				S	Sg	00 29 28.9	-3.3
VAY	**Valandovo**	**0.22**	**318**	*e*Pg	Pg	00 29 29.9	+0.6
VAY	**Valandovo**	**0.22**	**318**	*e*Pg	Pg	00 29 28.1	-1.3
VAY				*e*Sg	Sg	00 29 32.1	-0.1
VAY				*e*Lg	Lg	00 29 32.2	
	comp=E,1μm,0.2s						
VAY				*e*Lg	Lg	00 29 32.2	
	comp=N,2μm,0.3s						
VAY	**Valandovo**	**0.22**	**318**	*e*Pg	Pg	00 29 29.9	+0.5
VAY				*e*Lg	Lg	00 29 32.2	
	comp=N,2μm,0.3s						
VAY				*e*Sg	Sg	00 29 32.4	+0.2
VAY				*e*Lg	Lg	00 29 32.4	
	comp=E,1μm,0.2s						
VAY	**Valandovo**	**0.22**	**318**	P	Pg	00 29 25.6	-3.7
VAY				S	Sg	00 29 28.9	-3.3
VAY	**Valandovo**	**0.22**	**318**	*e*Pg	Pg	00 29 29.9	+0.6
VAY				*e*Sg	Sg	00 29 32.6	+0.4
GRG	**Griva**	**0.34**	**234**	P	Pg	00 29 31.2	-0.5
GRG				S	Sg	00 29 36.9	+0.7
GRG	**Griva**	**0.34**	**234**	S	Sg	00 29 36.9	+0.7
THE	**Thessaloniki**	**0.55**	**164**	P	Pg	00 29 35.6	0.0
THE				S	Sb	00 29 45.6	-0.1
THE	**Thessaloniki**	**0.55**	**164**	S	Sb	00 29 45.6	-0.1
SOH	**Sokhos**	**0.56**	**127**	P	Pg	00 29 35.6	-0.3
SOH				S	Sb	00 29 45.8	-0.4
SOH	**Sokhos**	**0.56**	**127**	P	Pg	00 29 35.6	-0.3
SOH				S	Sb	00 29 45.8	-0.4
HORT	**Hortiatis**	**0.62**	**156**	P	Pg	00 29 37.3	+0.2
SRS	**Serrai**	**0.63**	**94**	P	Pg	00 29 35.6	-1.6
SRS				S	Sg	00 29 46.6	+1.3
SRS	**Serrai**	**0.63**	**94**	P	Pg	00 29 35.6	-1.6
SRS				S	Sg	00 29 46.6	+1.3
NVR	**Nevrokopi**	**0.85**	**77**	P	Pg	00 29 39.0	-2.5
NVR	**Nevrokopi**	**0.85**	**77**	P	Pg	00 29 39.0	-2.5
PLG	**Polygyros**	**0.94**	**146**	P	Pg	00 29 42.5	-0.7
BIA	**Bitola**	**1.10**	**263**	P	Pg	00 29 43.9	-2.4
BIA				S	Sg	00 30 00.0	-0.6
BIA	**Bitola**			*e*Pg	Pb	00 29 46.9	0.0
BIA	**Bitola**	**1.10**	**263**	*e*Pg	Pb	00 29 46.9	0.0
BIA	**Bitola**	**1.10**	**263**	P	Pg	00 29 43.9	-2.4
BIA	**Bitola**	**1.10**	**263**	*e*Pg	Pb	00 29 46.8	-0.1
BIA				S	Sg	00 30 00.0	-0.6
SKO	**Skopje**	**1.28**	**310**	*e*Pg	Pg	00 29 48.0	-1.8
SKO				*e*Sg	Sg	00 30 06.5	+0.1
SKO	**Skopje**	**1.28**	**310**	*e*Pg	Pg	00 29 48.0	-1.8
SKO				*e*Sg	Sg	00 30 06.5	+0.1
KAVA	**Kavala**	**1.33**	**96**	P	Pg	00 29 49.1	-1.6
VTS	**Vitosha**	**1.47**	**13**	P	Pn	00 29 49.1	-3.7
VTS				S	Sb	00 30 09.2	-3.4
VTS	**Vitosha**	**1.47**	**13**	*e*Pg	Pg	00 29 54.2	+0.7
VTS				*i* Sg	Sb	00 30 11.2	-1.4
VTS	**Vitosha**	**1.47**	**13**	P	Pn	00 29 49.1	-3.7
VTS	**Vitosha**	**1.47**	**13**	*e*Pg	Pg	00 29 54.2	+0.7
VTS				S	Sb	00 30 09.2	-3.4
VTS				*i* Sg	Sg	00 30 11.2	-1.5
PLD	**Plovdiv**	**1.73**	**56**	*e*Pg	Pg	00 29 58.9	+0.6
PLD				*i* Sg	Sg	00 30 23.2	+2.4
PLD	**Plovdiv**	**1.73**	**56**	*e*Pg	Pg	00 29 58.9	+0.6
PLD				*i* Sg	Sg	00 30 23.2	+2.4
ZAPS	**Zavoj**	**2.11**	**357**	*e*Pn	Pn	00 30 02.7	+1.1
ZAPS				*e*Sn	Sn	00 30 26.4	-2.1
SELS	**Selova**	**2.39**	**330**	*e*Pn	Pn	00 30 05.8	+0.4
BOLS	**Boljevac**	**2.73**	**348**	*e*Pn	Pn	00 30 11.5	+1.5
BOLS	**Boljevac**	**2.73**	**348**	*e*Pn	Pn	00 30 11.5	+1.5
IVAS	**Ivanjica**	**3.09**	**322**	*e*Pn	Pn	00 30 16.1	+1.0
IVAS	**Ivanjica**	**3.09**	**322**	*e*Pn	Pn	00 30 16.1	+1.0
GRUS	**Gruza**	**3.12**	**332**	*e*Pn	Pn	00 30 16.0	+0.7
GRUS				*e*Sn	Sn	00 30 51.6	-1.5
GRUS	**Gruza**	**3.12**	**332**	*e*Pn	Pn	00 30 16.0	+0.7
GRUS				*e*Sn	Sn	00 30 51.6	-1.5
DIVS	**Divibare**	**3.58**	**326**	*e*Pn	Pn	00 30 22.9	+1.2
DIVS				*e*Sn	Sn	00 31 03.8	-0.9
DIVS	**Divibare**	**3.58**	**326**	*e*Pn	Pn	00 30 22.9	+1.2
DIVS				*e*Sn	Sn	00 31 03.8	-0.9

*IDC **26** 00:42:51.4 ± 4.4, 31°.65S × 64°.03W, h0km, mb2.9/1, mb1 3.6/4, mb1mx3.5/19, mbtmp3.3/4, ML4.3/2, Error ellipse: s-maj=94.9km s-min=25.5km az=154.0*
*ISCJB **26** 00:42:53.5 ± 0.8, 31°.07S ± 0°.10 × 64°.08W ± 0°.08, h10km, mb2.8/1, Error ellipse: s-maj=15.4km s-min=8.7km az=153.6*
*NEIC **26** 00:42:57.0, 31°.02S × 64°.43W, h12km, MD4.0(SJA), After SJA.*
NEIC Felt [III] at Cordoba.

ISC 26 00:42:56.4 ± 0.9, 31°.1S ± 0°.1 × 64°.13W ± 0°.07, h10km, n10, σ1§16/14, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.56**	**260**	Pn	**Pn**	**00 43 50.5**	**-1.2**
CFAA				Pg	**Pb**	**00 44 00.8**	**+1.3**
CFAA				Lg	Lg	00 44 42.3	
CFAA	**Coronel Fontan**	**3.56**	**260**	Pn	**Pn**	**00 43 50.5**	**-1.2**
	0.4nm,0.3s,baz=89,slow=15,SNR=61						
CFAA				Pg	**Pb**	**00 44 00.8**	**+1.3**
	1.0nm,0.3s,baz=78,slow=19,SNR=26						
CFAA				Lg	Lg	00 44 42.3	
	2.4nm,0.3s,baz=198,slow=20,SNR=17						
LCO	**Las Campanas**	**6.05**	**288**	*e*Pn	**Pn**	**00 44 25.9**	**-0.3**
TRQA	**Tornquist**	**7.21**	**166**	*e*Pn	**Pn**	**00 44 41.0**	**-0.9**
CPUP	**Villa Florida**	**7.59**	**53**	*e*Pn	**Pn**	**00 44 48.2**	**+1.1**
	0.3nm,0.3s						
CPUP				Sn	**Sn**	**00 46 12.4**	**-0.8**
CPUP				Lg	Lg	00 47 03.6	
CPUP	**Villa Florida**	**7.59**	**53**	Pn	**Pn**	**00 44 48.7**	**+1.6**
	2.2nm,0.3s,baz=233,slow=15,SNR=24						
CPUP				Sn	**Sn**	**00 46 12.4**	**-0.8**
	3.9nm,0.3s,baz=216,slow=14,SNR=4.0						
CPUP				Lg	Lg	00 47 03.6	
	3.7nm,0.3s,baz=302,slow=18,SNR=2.9						
LPAZ	**La Paz**	**15.14**	**345**	Pn	**P**	**00 46 36.2**	**0.0**
LPAZ	**La Paz**	**15.14**	**345**	Pn	**P**	**00 46 36.2**	**0.0**
	0.3nm,0.3s,baz=198,slow=3.2,SNR=7.5						
TXAR	**Lajitas Array**	**70.86**	**324**	P	**P**	**00 54 12.6**	**-1.0**
TXAR	**Lajitas Array**	**70.86**	**324**	P	**P**	**00 54 12.6**	**-1.0**
	0.1nm,0.8s,baz=148,slow=6.9,SNR=2.5						

*IDC **26** 00:44:25.8 ± 0.8, 39°.99N × 70°.44E, h0km, mb3.9/11, mb1 4.0/17, mb1mx3.9/33, mbtmp3.8/17, ML3.6/6, Error ellipse: s-maj=14.5km s-min=9.8km az=153.0*
*ISCJB **26** 00:44:27.2 ± 0.6, 40°.02N ± 0°.07 × 70°.23E ± 0°.05, h17km, mb3.8/13, Error ellipse: s-maj=10.7km s-min=5.1km az=166.8*
*MOS **26** 00:44:29.1 ± 1.2, 39°.99N × 70°.26E, h33km, mb4.2/8, Error ellipse: s-maj=10.6km s-min=6.6km az=62.7*

*NNC **26** 00:44:29.6 ± 2.3, 40°.25N × 70°.23E, h4km ± 8km, mb4.2, mpv4.0, Error ellipse: s-maj=18.1km s-min=8.6km az=1.0*

ISC 26 00:44:28.3 ± 0.7, 39°.98N ± 0°.08 × 70°.23E ± 0°.06, h17km, n64, σ1§31/66, mb3.9/13, 13C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.13**	**4**	⇑Pn	**Pn**	**00 45 17.5**	**+0.6**
	4.0nm,0.2s,baz=171,slow=11,SNR=292						
KK31				⇑Pg	**Pb**	**00 45 22.5**	**-1.0**
	14nm,0.3s,baz=186,slow=16,SNR=34						
KK31				⇓Lg	Lg	00 46 00.3	
	109nm,0.5s,baz=188,slow=29,SNR=13						
AML	**Almayashu**	**3.39**	**49**	*i* PN	**Pn**	**00 45 21.1**	**+0.3**
AML	**Almayashu**	**3.39**	**49**	P	**Pn**	**00 45 21.1**	**+0.3**
	SNR=42						
EKS2	**Erkin-Say**	**3.78**	**44**	*i* PN	**Pn**	**00 45 26.8**	**+0.8**
EKS2	**Erkin-Say**	**3.78**	**44**	P	**Pn**	**00 45 26.8**	**+0.8**
	SNR=11						
UCH	**Uchtor**	**3.94**	**54**	*i* PN	**Pn**	**00 45 29.0**	**+0.6**
UCH	**Uchtor**	**3.94**	**54**	P	**Pn**	**00 45 29.1**	**+0.6**
	SNR=37						
AAK	**Ala-Archa**	**4.17**	**49**	*i* PN	**Pn**	**00 45 31.9**	**+0.7**
AAK	**Ala-Archa**	**4.17**	**49**	P	**Pn**	**00 45 32.0**	**+0.7**
	SNR=39						
AAK	**Ala-Archa**	**4.17**	**49**	Pn	**Pn**	**00 45 31.5**	**+0.3**
	8.6nm,0.3s,baz=216,slow=10,SNR=126						
AAK				Sn	**Sn**	**00 46 21.0**	**+1.4**
	16nm,0.3s,baz=343,slow=24,SNR=4.0						
AAK				Lg	Lg	00 46 35.4	
	6.4nm,0.3s,baz=252,slow=20,SNR=3.8						
AAK	**Ala-Archa**	**4.17**	**49**	⇑Pn	**Pn**	**00 45 31.8**	**+0.7**
	16nm,0.5s						
AAK				⇓Pg	**Pb**	**00 45 42.5**	**+1.3**
	38nm,0.5s						
AAK				⇓Sn	**Sn**	**00 46 20.7**	**+1.1**
	24nm,0.3s						
AAK				⇑Lg	Lg	00 46 34.5	
	74nm,0.6s						
KZA	**Kyzart**	**4.34**	**59**	*i* PN	**Pn**	**00 45 35.1**	**+1.3**
KZA	**Kyzart**	**4.34**	**59**	P	**Pn**	**00 45 35.2**	**+1.3**
	SNR=30						
FRU	**Bishkek**	**4.36**	**48**	*i* PN	**Pn**	**00 45 34.6**	**+0.8**
FRU				*i*		00 45 48.0	
FRU				*i*		00 46 33.0	
FRU				pmax	pmax		
	comp=Z,106nm,1.8s						
KBK	**Karagaybulak**	**4.45**	**51**	P	**Pn**	**00 45 36.7**	**+1.5**
	SNR=75						
KSH	**Kashi**	**4.45**	**94**	Pn	**Pn**	**00 45 34.5**	**-0.6**
KSH				Sn	**Sn**	**00 46 22.0**	**-4.5**
KSH				smax	smax		
	comp=N,100nm,0.8s						
KSH				smax	smax		
	comp=E,150nm,1.1s						
CHMS	**Chumysh**	**4.54**	**47**	*i* PN	**Pn**	**00 45 37.0**	**+0.7**
CHMS	**Chumysh**	**4.54**	**47**	P	**Pn**	**00 45 37.0**	**+0.7**
	SNR=19						
USP	**Ospenovka**	**4.59**	**43**	*i* PN	**Pn**	**00 45 37.3**	**+0.4**
USP	**Ospenovka**	**4.59**	**43**	P	**Pn**	**00 45 37.3**	**+0.4**
	SNR=11						
TKM2	**Tokmak 2**	**4.99**	**52**	*i* PN	**Pn**	**00 45 43.2**	**+0.6**
TKM2	**Tokmak 2**	**4.99**	**52**	P	**Pn**	**00 45 43.3**	**+0.6**
	SNR=14						
TKM2	**Tokmak 2**	**4.99**	**52**	⇑Pn	**Pn**	**00 45 43.2**	**+0.6**
	comp=E,5.0nm,0.2s						
TKM2				⇓Pg	**Pb**	**00 45 57.4**	**+2.1**
	comp=E,14nm,0.3s						
TKM2				⇑Sn	**Sn**	**00 46 39.8**	**-0.2**
	comp=E,61nm,1.1s						
TKM2				⇑Lg	Lg	00 47 00.7	
	comp=E,72nm,0.8s						
ULHL	**Ulahol**	**5.07**	**62**	*i* PN	**Pn**	**00 45 44.8**	**+1.1**
ULHL	**Ulahol**	**5.07**	**62**	P	**Pn**	**00 45 44.8**	**+1.1**
	SNR=14						
KNDC	**Almaty**	**6.00**	**55**	⇓Pn	**Pn**	**

TORD	**Torodi Ar. Bea**	**65.26**	**267**	P	**P**	**00 55 10.0**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=54,slow=6.6,SNR=19						
ILAR	**Eielson Array**	**71.61**	**16**	P	**P**	**00 55 47.5**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=331,slow=5.2,SNR=6.8						
YKA	**Yellowknife Ar**	**77.80**	**2**	P	**P**	**00 56 24.0**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=351,slow=5.8,SNR=23						
WRA	**Warramunga Arr**	**84.33**	**122**	P	**P**	**00 56 59.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=324,slow=4.6,SNR=8.5						
ASAR	**Alice Springs**	**86.73**	**125**	P	**P**	**00 57 11.3**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=313,slow=4.7,SNR=9.6						
QSPA	**South Pole Qui**	**129.77**	**180**	PKP	**PKPdf**	**01 03 35.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=243,slow=2.0,SNR=4.3						

IDC 26 00:58:00.9±19.0, 18.61S×178.08W, h420km±217km, mb3.2/9, mb1 3.5/9, mb1mx3.5/9, mbtmp4.0/9, Error ellipse: s-maj=57.6km s-min=47.9km az=15.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.65**	**262**	P	P	01 04 04.9	-0.1
	1.1nm,0.4s,baz=105,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**38.57**	**242**	P	P	01 04 46.0	0.0
	2.9nm,0.3s,baz=79,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**44.91**	**255**	P	P	01 05 36.0	-0.7
	5.5nm,0.5s,baz=90,slow=8.5,SNR=164						
FITZ	**Fitzroy Crossi**	**53.23**	**261**	P	P	01 06 39.2	+0.4
	2.9nm,0.8s,baz=129,slow=12,SNR=2.3						
PETK	**Petropavlovsk-**	**74.44**	**345**	P	P	01 08 54.8	+0.3
	3.0nm,0.9s,baz=157,slow=8.8,SNR=2.5						
NVAR	**Mina Array Bea**	**79.71**	**44**	P	P	01 09 24.1	0.0
	0.3nm,0.6s,baz=237,slow=5.0,SNR=3.6						
TXAR	**Lajitas Array**	**86.11**	**57**	P	P	01 09 56.8	+0.3
	0.2nm,0.7s,baz=237,slow=6.1,SNR=2.8						
ILAR	**Eielson Array**	**86.50**	**13**	P	P	01 09 57.0	-0.4
	0.4nm,0.4s,baz=216,slow=4.8,SNR=7.9						
YKA	**Yellowknife Ar**	**94.84**	**25**	P	P	01 10 35.4	-0.7
	0.1nm,0.5s,baz=244,slow=4.3,SNR=4.5						

*IDC **26** 01:00:32.7±0.3, 0.50N×126.18E, h0km, mb4.6/34, mb1 4.6/35, mb1mx4.6/38, mbtmp4.6/35, ML4.3/1, MS3.7/15, Ms1 3.6/15, ms1mx3.4/34, Error ellipse: s-maj=17.0km s-min=7.7km az=71.0*

*MOS **26** 01:00:36.2±1.0, 0.51N×126.15E, h33km, mb4.9/40, Error ellipse: s-maj=11.7km s-min=6.3km az=113.8*

*ISCJB **26** 01:00:38.4±0.5, 0.51N±0.03×126.19E±0.03, h55km±4km, mb4.8/102, MS3.8/20, Error ellipse: s-maj=4.8km s-min=4.0km az=37.1*

*NEIC **26** 01:00:38.2±0.9, 0.52N×126.16E, h38km±8km, mb4.9/46, Error ellipse: s-maj=5.7km s-min=3.9km az=56.0*

*BJI **26** 01:00:39.0, 0.50N×126.20E, h55km, mB5.0/24, mb4.8/33, Ms4.7/18, Ms7 4.4/17*

*DJA **26** 01:00:39.3±0.5, 1.1N±5.5×12.6E±1.1, h42km±5km, M4.7/30, mb4.7/30, mB5.2/9, MLv4.9/15, Mw(mB)4.6/9*

*AUST **26** 01:00:44.1±0.5, 0.17N×126.08E, h84km, Error ellipse: s-maj=1.3km s-min=0.8km az=33.0*

ISC 26 01:00:40.7±0.3, 0.49N±0.04×126.24E±0.04, h59km±2km, n291, σ1°45/351, mb4.8/103, MS3.8/20, 4C-2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**76**	P	**Pn**	**01 00 58.8**	**-2.1**
TNTI	**Ternate**	**1.17**	**76**	*e*Pn	**Pn**	**01 00 58.3**	**-2.6**
TNTI				*e*Sn	**Sn**	**01 01 14.5**	**-1.4**
LBMI	**Labuha**	**1.69**	**132**	P	**Pn**	**01 01 06.5**	**-1.5**
KMSI	**Cibinong**	**2.26**	**272**	P	**Pn**	**01 01 13.1**	**-2.6**
GTOI	**Gorontalo**	**3.23**	**273**	P	**Pn**	**01 01 29.2**	**+0.3**
LUWI	**Luwuk**	**3.78**	**246**	P	**Pn**	**01 01 36.6**	**0.0**
LUWI	**Luwuk**	**3.78**	**246**	P	**Pn**	**01 01 36.6**	**0.0**
	baz=3.5,SNR=26						
NLAI	**Namlea**	**3.80**	**167**	P	**Pn**	**01 01 36.8**	**0.0**
MRSI	**Marisa**	**4.29**	**270**	P	**Pn**	**01 01 41.2**	**-2.4**
MSAI	**Masohi**	**4.67**	**145**	P	**Pn**	**01 01 51.3**	**+2.6**
APSI	**Ampana**	**4.79**	**253**	P	**Pn**	**01 01 49.3**	**-1.1**
SWI	**Sorong**	**5.20**	**105**	P	Pn	01 02 05.4	+9.4
TOLI	**Toli-Toli**	**5.48**	**277**	P	Pn	01 02 06.8	+7.0
FAKI	**Fak Fak**	**6.90**	**119**	P	**Pn**	**01 02 21.5**	**+2.2**
	47nm,1.2s,0.2nm						
FAKI	**Fak Fak**	**6.90**	**119**	P	**Pn**	**01 02 21.3**	**+2.0**
	baz=6.9,SNR=8.0						
BBSI	**Bau Bau**	**6.98**	**212**	P	Pn	01 02 24.7	+4.4
	145nm,1.1s,3μm0.5nm						
TTSI	**Tana Toraja**	**7.31**	**241**	P	**Pn**	**01 02 24.1**	**-0.8**
	122nm,0.6s,2μm0.5nm						
BNSI	**Bone**	**7.82**	**232**	P	**Pn**	**01 02 31.4**	**-0.5**
	92nm,0.8s,904nm0.3nm						
SPSI	**Sidrap Palu**	**7.83**	**236**	P	**Pn**	**01 02 31.8**	**-0.3**
	106nm,1.0s,2μm0.4nm						
MMSI	**Mamuju**	**7.98**	**247**	P	**Pn**	**01 02 33.3**	**-0.8**
	61nm,0.7s,683nm						
MJSI	**Majene**	**8.29**	**241**	P	Pn	01 02 45.2	+6.9
BKSI	**Bulukumba**	**8.40**	**227**	P	**Pn**	**01 02 39.9**	**0.0**
	57nm,0.6s,707nm						
KAPI	**Kappang**	**8.48**	**230**	*e*Pn	**Pn**	**01 02 41.0**	**+0.1**
	208nm,0.6s						
TSM	**Tawau**	**9.17**	**294**	P	**Pn**	**01 02 49.0**	**-1.4**
BAKI	**Biak**	**10.01**	**100**	P	Pn	01 03 12.3	+10
SDKM	**Sandakan**	**10.37**	**300**	P	**Pn**	**01 03 07.7**	**+0.8**
LBFI	**Labuhan Bajo,**	**10.93**	**215**	P	**Pn**	**01 03 15.5**	**+1.1**
	33nm,0.9s						
KDM	**Kudat**	**11.35**	**304**	P	Pn	01 03 35.3	+15
WSI	**Waingapu**	**11.70**	**210**	P	Pn	01 03 19.6	-5.3
	baz=11,SNR=5.2						
KHKI	**Kahang-Kahang**	**13.77**	**230**	P	P	01 04 03.3	+3.5
MTN	**Manton Dam**	**14.11**	**160**	P	**Pn**	**01 03 57.0**	**-0.7**
	baz=14,SNR=9.6						
SBUM	**Sibu**	**14.14**	**278**	P	**Pn**	**01 03 59.0**	**+0.8**
SBUM	**Sibu**	**14.14**	**278**	P	**P**	**01 04 03.9**	**-0.2**
SBUM	**Sibu**	**14.14**	**278**	*e*Pn	**P**	**01 04 03.4**	**-0.6**
KMMI	**Kalianget**	**14.35**	**238**	P	P	01 04 10.1	+3.8
KDU	**Kakadu**	**14.48**	**155**	P	**Pn**	**01 04 00.1**	**-2.4**
	baz=14,SNR=25						
STKI	**Sintang**	**14.77**	**268**	P	**P**	**01 04 10.9**	**-0.1**
KSM	**Kuching**	**15.96**	**274**	P	**P**	**01 04 24.2**	**0.0**
KSM	**Kuching**	**15.96**	**274**	*e*Pn	**P**	**01 04 24.0**	**-0.2**
	124nm,0.8s						
KSM	**Kuching**	**15.96**	**274**	P	**P**	**01 04 24.2**	**0.0**
	baz=16,SNR=26						
KNRA	**Kununurra**	**16.26**	**171**	P	**Pn**	**01 04 25.1**	**-0.2**
	baz=16,SNR=15						
SJI	**Sawahan**	**16.58**	**240**	P	**P**	**01 04 32.0**	**+0.8**
	150nm,1.0s						
NGJI	**Ngawi**	**16.68**	**242**	P	**P**	**01 04 34.6**	**+2.4**
PWJI	**Pagerwojo**	**16.69**	**239**	P	**P**	**01 04 33.1**	**+0.8**
	78nm,0.8s,1μm						
PCJI	**Pacitan**	**17.31**	**240**	P	**P**	**01 04 39.9**	**+0.7**
	90nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.48**	**182**	*e*P	**P**	**01 04 50.2**	**-1.9**
	9.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.48**	**182**	P	**P**	**01 04 50.0**	**-2.1**
	0.7nm,0.3s,baz=16,slow=7.5,SNR=20						
FITZ				LR	LR	01 12 52.6	
	comp=Z,16nm,28.6s,baz=6.5,slow=40						
FITZ	**Fitzroy Crossi**	**18.48**	**182**	P	**P**	**01 04 50.4**	**-1.7**
	baz=18,SNR=6.3						
TGJI	**Tegal**	**18.58**	**247**	P	**Pn**	**01 04 55.0**	**+1.1**
	39nm,1.5s						
KPJI	**Karang Pucung**	**18.93**	**245**	P	**P**	**01 04 56.4**	**-0.6**
	59nm,1.1s						
CISI	**Cisompet, Garu**	**20.03**	**246**	P	**P**	**01 05 09.2**	**+0.1**
	49nm,1.1s						
CISI	**Cisompet, Garu**	**20.03**	**246**	*e*P	**P**	**01 05 07.9**	**-1.3**
	38nm,0.9s						
CISI				*e*Pn	Pn	01 05 11.7	+0.4
WRAB	**Tennant Creek**	**21.80**	**159**	*d*/P	**P**	**01 05 27.4**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,112nm,0.8s						
WRAB	**Tennant Creek**	**21.80**	**159**	*e*P	**P**	**01 05 27.0**	**-1.1**
	comp=Z,46nm,0.9s						
WRAB				*e*PcP	**PcP**	**01 09 26.8**	**+0.3**
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**01 05 26.9**	**-1.2**
WRA				S	**S**	**01 09 25.9**	**-0.2**
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**01 05 26.9**	**-1.2**
	comp=Z,20nm,0.5s,baz=337,slow=11,SNR=87						
WRA				S	**S**	**01 09 25.9**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=336,slow=2.6,SNR=5.5						
WRA				LR	LR	01 14 51.6	
	comp=Z,144nm,20.0s,baz=10.0,slow=39						
COEN	**Coen**	**22.08**	**131**	*e*P	**P**	**01 05 30.6**	**-0.5**
COEN	**Coen**	**22.08**	**131**	P	**P**	**01 05 31.0**	**-0.1**
	baz=22,SNR=28						
KLSI		**22.09**	**256**	P	**P**	**01 05 27.7**	**-3.5**
	comp=Z,36nm,1.1s						
MYKOM	**Kota Tinggi**	**22.42**	**273**	P	**P**	**01 05 36.9**	**+2.1**
GUMO	**Guam**	**22.58**	**54**	*e*P	**P**	**01 05 36.6**	**+0.2**
	comp=Z,106nm,1.1s						
MDSI	**Maura Dua**	**22.59**	**257**	P	**P**	**01 05 39.1**	**+2.6**
	comp=Z,11nm,1.0s						
KGM	**Kluang**	**22.96**	**274**	P	**P**	**01 05 41.5**	**+1.1**
PMG	**Port Moresby**	**23.04**	**116**	P	**P**	**01 05 41.6**	**+0.4**
	comp=Z,16nm,1.2s						
PMG	**Port Moresby**	**23.04**	**116**	*e*P	**P**	**01 05 41.9**	**+0.7**
	comp=Z,12nm,0.9s						
PMG	**Port Moresby**	**23.04**	**116**	P	**P**	**01 05 41.1**	**-0.1**
	comp=Z,16nm,1.0s,baz=292,slow=8.1,SNR=6.7						
PMG				LR	LR	01 17 19.4	
	comp=Z,250nm,18.2s,baz=304,slow=44						
YULB	**Yu-li**	**23.27**	**348**	*e*P	P	01 05 37.7	-5.6
	comp=Z,508nm,3.0s						
KTGM	**Kuala Trenggan**	**23.56**	**282**	P	**P**	**01 05 47.1**	**+0.9**
QIZ	**Qiongzhong**	**24.45**	**320**	P	**P**	**01 05 54.8**	**+0.5**
QIZ				pP	**pP**	**01 06 07.5**	**-1.3**
QIZ				S	**S**	**01 10 12.0**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,14nm,2.2s						
QIS	**Mount Isa**	**24.67**	**149**	P	**P**	**01 05 57.2**	**+0.9**
	baz=25,SNR=13						
FRIM	**Kepong**	**24.75**	**277**	P	**P**	**01 05 56.6**	**-0.5**
AS31	**Alice Springs**	**25.14**	**163**	*e*P	**P**	**01 06 00.5**	**0.0**
ASAR	**Alice Springs**	**25.14**	**163**	P	**P**	**01 06 00.3**	**-0.2**
ASAR				PcP	**PcP**	**01 09 34.0**	**+0.4**
ASAR				S	S	01 10 31.2	+10
ASAR				ScP	**ScP**	**01 13 13.4**	**+5.5**
ASAR	**Alice Springs**	**25.14**	**163**	P	**P**	**01 06 00.3**	**-0.2**
	comp=Z,11nm,0.4s,baz=339,slow=9.9,SNR=256						
ASAR				PcP	**PcP**	**01 09 34.0**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=353,slow=2.0,SNR=5.7						
ASAR				S	S	01 10 31.2	+10
	comp=Z,1.1nm,0.7s,baz=354,slow=22,SNR=4.8						
ASAR				ScP	**ScP**	**01 13 13.4**	**+5.5**
	comp=Z,0.5nm,0.8s,baz=345,slow=2.9,SNR=4.5						
WRKA	**Warakurna**	**25.45**	**176**	P	**P**	**01 06 03.4**	**0.0**
	baz=25,SNR=39						
IPM	**Ipoh**	**25.49**	**279**	P	**P**	**01 06 01.9**	**-1.9**
IPM	**Ipoh**	**25.49**	**279**	P	**P**	**01 06 03.4**	**-0.4**
	comp=Z,27nm,1.1s						
IPM	**Ipoh**	**25.49**	**279**	*e*P	**P**	**01 06 01.8**	**-2.0**
	comp=Z,18nm,0.6s						
GIRL	**Giralia**	**25.80**	**206**	P	**P**	**01 06 06.6**	**+0.2**
	baz=26,SNR=4.2						
PDSI	**Padang**	**25.81**	**267**	P	**P**	**01 06 06.8**	**+0.1**
	comp=Z,26nm,1.1s,comp=Z,2μm						
PPI	**Padang Panjang**	**25.86**	**268**	P	**P**	**01 06 07.3**	**+0.2**
	comp=Z,38nm,0.9s,comp=Z,578nm						
KULM	**Kulim**	**25.99**	**281**	P	**P**	**01 06 05.8**	**-2.5**
KULM	**Kulim**	**25.99**	**281**	*e*P	**P**	**01 06 06.4**	**-1.9**
	comp=Z,4.9nm,0.5s						
JOW	**Kunigami**	**26.26**	**4**	*e*P	**P**	**01 06 13.0**	**+2.4**
	comp=Z,46nm,1.2s						
PSI	**Prapat**	**27.39**	**275**	P	**P**	**01 06 19.7**	**-1.4**
	comp=Z,17nm,1.2s,comp=Z,7.9nm,1.4s						
PSI	**Prapat**	**27.39**	**275**	P	**P**	**01 06 19.1**	**-2.1**
	baz=27,SNR=4.5						
PSI	**Prapat**	**27.39**	**275**	P	**P**	**01 06 19.3**	**-1.8**
	comp=Z,17nm,1.2s,comp=Z,7.9nm,1.4s						
MEEK	**Meekatharra**	**27.95**	**195**	P	**P**	**01 06 25.2**	**-0.6**
	baz=28,SNR=8.6						
CTA	**Charters Tower**	**28.34**	**137**	P	**P**	**01 06 29.0**	**-0.3**
CTA	**Charters Tower**	**28.34**	**137**	P	**P**	**01 06 29.0**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=307,slow=11,SNR=5.0						
CTAO	**Charters Tower**	**28.34**	**137**	*e*P	**P**	**01 06 29.2**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CTAO	**Charters Tower**	**28.34**	**137**	*e*P	**P**	**01 06 29.1**	**-0.1**
	comp=Z,7.6nm,1.0s						
CHAI	**Chaiyaphum**	**28.41**	**304**	P	**P**	**01 06 28.5**	**-1.4**
	comp=Z,3.8nm,0.8s						
KHLT	**Khaolaem Dam**	**30.80**	**299**	P	**P**	**01 06 50.6**	**-0.6**
	comp=Z,5.0nm,0.8s						
MORW	**Morawa**	**30.97**	**198**	P	**P**	**01 06 52.2**	**-0.3**
	baz=31,SNR=4.2						
NANT	**Nan**	**30.97**	**307**	P	**P**	**01 06 51.9**	**-0.7**
	comp=Z,45nm,0.7s						
FORT	**Forrest**	**31.15**	**177**	*e*P	**P**	**01 06 54.0**	**0.0**
	comp=Z,48nm,0.7s						
FORT	**Forrest**	**31.15**	**177**	P	**P**	**01 06 54.2**	**+0.3**
	baz=31,SNR=19						
GYA	**Guiyang**	**31.96**	**325**	P	**P**	**01 07 02.8**	**+1.4**
GYA				pP	**pP**	**01 07 17.5**	**+1.4**
GYA				sP	**sP**	**01 07 25.3**	**+2.3**
GYA				PP	**PnPn**	**01 08 11.0**	**+2.6**
GYA				PcP	**PcP**	**01 09 50.5**	**-0.1**
GYA				S	**S**	**01 12 11.0**	**+2.1**
GYA				sS	**sS**	**01 12 34.5**	**+0.7**
GYA				ScP	**ScP**	**01 13 27.8**	**-1.5**
GYA				SS	**SnSn**	**01 14 04.0**	**+1.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,550nm,16.9s						
GYA				LR	LR		
	comp=Z,490nm,17.6s						
GYA				LR	LR		
	comp=Z,560nm,16.0s						
QLP	**Quilpie**	**32.02**	**149**	P	**P**	**01 07 02.9**	**+1.1**
	baz=32,SNR=3.5						
NJ2	**Nanjing**	**32.16**	**348**	*e*P	**P**	**01 07 04.3**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.20**	**305**	P	**P**	**01 07 02.9**	**-0.6**
CMAR				PcP	**PcP**	**01 09 52.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**32.20**	**305**	P	**P**	**01 07 02.9**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=138,slow=8.8,SNR=6.1						
CMAR				PcP	**PcP**	**01 09 52.8**	**+1.5**
	comp=Z,2.1nm,0.5s,baz=154,slow=2.3,SNR=12						
CMAR				LR	LR	01 19 40.1	
	comp=Z,16nm,28.6s,baz=134,slow=36						
BLDU	**Ballidu**	**32.23**	**196**	P	**P**	**01 07 03.2**	**-0.4**
	baz=32,SNR=8.8						
CHTO	**Chiang Mai**	**32.38**	**306**	*e*P	**P**	**01 07 03.8**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**32.38**	**306**	*e*P	**P**	**01 07 03.8**	**-1.3**
	comp=Z,3.2nm,0.7s						
KLBR	**Kellerberrin**	**32.91**	**193**	P	**P**	**01 07 09.3**	**-0.2**
	baz=33,SNR=5.8						
ENH	**Enshi**	**33.63**	**333**	*e*P	**P**	**01 07 14.7**	**-1.2**
	comp=Z,12nm,0.9s						
NWAO	**Narrogin (SRO)**	**34.31**	**194**	P	**P**	**01 07 21.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**34.31**	**194**	P	**P**	**01 07 21.4**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=25,slow=11,SNR=4.0						
BBOO	**Buckleboo**	**34.40**	**165**	*e*P	**P**	**01 07 22.3**	**-0.2**
	comp=Z,3μm,2.3s						
BBOO	**Buckleboo**	**34.40**	**165**	P	**P**	**01 07 22.2**	**-0.2**
	baz=34,SNR=28						
HNR	**Honiara**	**34.98**	**107**	P	**P**	**01 07 28.3**	**+0.6**
HNR	**Honiara**	**34.98**	**107**	P	**P**	**01 07 28.3**	**+0.6**
	comp=Z,42nm,0.5s,baz=288,slow=3.2,SNR=4.7						
HNR				LR	LR	01 22 42.6	
	comp=Z,170nm,20.5s,baz=288,slow=38						
EIDS	**Eidsvold**	**35.19**	**139**	*e*P	**P**	**01 07 29.0**	**-0.3**
	comp=Z,24nm,1.5s						
STKA	**Stephens Creek**	**35.33**	**157**	*e*P	**P**	**01 07 30.4**	**0.0**
	comp=Z,31nm,2.4s						
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**01 07 30.4**	**0.0**
	comp=Z,7.1nm,0.4s,baz=330,slow=8.3,SNR=31						
STKA				LR	LR	01 23 11.5	
	comp=Z,94nm,20.3s,baz=13,slow=38						
STKA	**Stephens Creek**	**35.33**	**157**	P	**P**	**01 07 30.4**	**0.0**
	baz=35,SNR=26						
HTT	**Hallett**	**35.79**	**162**	P	**P**	**01 07 35.0**	**+0.6**
	baz=36,SNR=4.6						
KSAR	**Wonju Array Be**	**36.80**	**2**	P	**P**	**01 07 43.3**	**+0.4**
KSAR				PcP	**PcP**	**01 10 04.7**	**+0.6**
KSRS	**Korea Array**	**36.81**	**2**	P	**P**	**01 07 43.3**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=185,slow=8.9,SNR=6.0						
KSRS				PcP	**PcP**	**01 10 04.7**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=193,slow=5.1,SNR=4.1						
CD2	**Chengdu**	**37.01**	**327**	*e*P	**P**	**01 07 45.0**	**+0.1**
CD2				pP	**pP**	**01 08 00.0**	**+0.2**
CD2				sP	**sP**	**01 08 07.3**	**+0.7**
CD2				PP	**PnPn**	**01 09 13.5**	**+2.4**
CD2				S	**S**	**01 13 27.5**	**+1.0**
CD2				sS	**sS**	**01 13 51.8**	**+0.1**
CD2				SS	**SnSn**	**01 16 00.3**	**-4.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				pmax	pmax		
	comp=Z,100nm,8.2s						
CD2				LR	LR		
	comp=Z,200nm,19.0s						
CD2				LR	LR		
	comp=Z,350nm,21.4s						
CD2				LR	LR		
	comp=Z,230nm,21.4s						
MAJO	**Matsushiro**	**37.55**	**16**	*e*P	**P**	**01 07 48.2**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,12nm,0.7s						
MAJO	**Matsushiro**	**37.55**	**16**	*e*P	**P**	**01 07 48.2**	**-1.1**
	comp=Z,12nm,0.7s						
MAT	**Matsushiro**	**37.55**	**16**	P	**P**	**01 07 47.2**	**-2.1**
MJAR	**Matsushiro Arr**	**37.55**	**16**	P	**P**	**01 07 48.1**	**-1.2**
MJAR	**Matsushiro Arr**	**37.55**	**16**	P	**P**	**01 07 48.1**	**-1.2**
	comp=Z,5.8nm,0.7s,baz=184,slow=9.8,SNR=17						
ARMA	**Armidale**	**39.10**	**144**	*e*P	**P**	**01 08 01.9**	**-0.7**
	comp=Z,261nm,2.6s						
ARMA	**Armidale**	**39.10**	**144**	P	**P**	**01 08 03.9**	**+1.3**
	baz=39,SNR=4.2						
ARPS	**Mount Arapiles**	**39.80**	**160**	P	**P**	**01 08 09.8**	**+1.6**
	baz=40,SNR=9.2						
BJT	**Baijiatuan**	**40.40**	**348**	*e*P	**P**	**01 08 12.1**	**-0.9**
	comp=Z,11nm,0.6s						
LZH	**Lanzhou**	**41.07**	**332**	*e*P	**P**	**01 08 19.8**	**+0.9**
LZH				pP	**pP**	**01 08 33.0**	**-0.9**
LZH				sP	**sP**	**01 08 39.0**	**-1.7**
LZH				PP	**PP**	**01 09 57.0**	**+2.3**
LZH				*e*S	**S**	**01 14 27.5**	**-0.2**
LZH				sS	**sS**	**01 14 54.0**	**+0.9**
LZH				SS	**SS**	**01 17 26.5**	**-5.6**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,67nm,4.2s						
LZH				LR	LR		
	comp=Z,490nm,13.0s						
LZH				LR	LR		
	comp=Z,560nm,13.6s						
LZH				LR	LR		
	comp=Z,610nm,15.4s						
HHC	**Hu-ho-hao-te**	**42.32**	**343**	*e*P	**P**	**01 08 31.0**	**+2.0**
HHC				sP	**sP**	**01 08 53.8**	**+2.9**
HHC				PP	**PP**	**01 10 12.5**	**+4.5**
HHC				PcP	**PcP**	**01 10 21.5**	**-0.2**
HHC				ScP	**ScP**	**01 14 07.8**	**+0.2**
HHC				S	**S**	**01 14 47.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,44nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.9s						
HHC				LR	LR		
	comp=Z,330nm,14.6s						
HHC				LR	LR		
	comp=Z,280nm,14.1s						
HHC				LR	LR		
	comp=Z,280nm,14.2s						
CN2	**Changchun**	**43.13**	**359**	*e*P	**P**	**01 08 34.5**	**-0.8**
CN2				*es*P	**sP**	**01 08 57.0**	**-0.2**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
USRK	**Ussuriysk Arra**	**43.82**	**6**	P	**P**	**01 08 41.6**	**+0.8**
	comp=Z,6.5nm,0.8s,baz=176,slow=6.7,SNR=9.9						
ERM	**Erimo**	**44.06**	**18**	*e*P	**P**	**01 08 41.9**	**-0.9**
ERM				pmax	pmax		
	comp=Z,18nm,1.2s						
LSA	**Lhasa**	**44.26**	**314**	*e*P	**P**	**01 08 44.3**	**-1.0**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**44.26**	**314**	*e*P	**P**	**01 08 44.3**	**-1.0**
	comp=Z,7.4nm,0.6s						
DZM	**Mont Dzumac**	**45.15**	**122**	P	**P**	**01 08 51.3**	**-0.7**
DZM	**Mont Dzumac**	**45.15**	**122**	P	**P**	**01 08 51.3**	**-0.7**
	comp=Z,12nm,1.1s,baz=292,slow=5.4,SNR=3.1						
TAPN	**Taplejung**	**45.60**	**309**	*e*P	**P**	**01 08 53.6**	**-2.1**
	comp=Z,6.8nm,0.4s						
TAPN	**Taplejung**	**45.60**	**309**	*e*P	**P**	**01 08 53.6**	**-2.1**
	comp=Z,6.8nm,0.4s						
ODAN	**Odare**	**45.61**	**308**	*e*P	**P**	**01 08 53.2**	**-2.5**
	comp=Z,12nm,0.6s						
ODAN	**Odare**	**45.61**	**308**	*e*P	**P**	**01 08 53.2**	**-2.5**
	comp=Z,12nm,0.6s						
GTA	**Gaotai**	**45.64**	**331**	*e*P	**P**	**01 08 54.8**	**-0.9**
GTA				pP	**pP**	**01 09 10.0**	**-0.9**
GTA				sP	**sP**	**01 09 17.5**	**-0.2**
GTA				PcP	**PcP**	**01 10 34.5**	**+1.4**
GTA				S	**S**	**01 15 33.0**	**-1.4**
GTA				sS	**sS**	**01 16 00.0**	**-0.1**
GTA				SS	**ScS**	**01 18 50.0**	**+3.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,130nm,5.5s						
GTA				LR	LR		
	comp=Z,220nm,20.4s						
GTA		

WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,100nm,5.0s
WMQ LR LR
comp=Z,220nm,18.0s
WMQ LR LR
comp=Z,230nm,18.0s
WMQ LR LR
comp=Z,160nm,18.0s
PETK Petropavlovsk- 58.60 22 P P 01 10 32.2 +0.7
PETK Petropavlovsk- 58.60 22 P P 01 10 32.2 +0.7
PETK Petropavlovsk- 58.60 22 P P 01 10 32.2 +0.7
comp=Z,8.4nm,0.7s,baz=196,slow=5.9,SNR=10
MK31 Makanchi Array 59.94 327 eP P 01 10 39.7 -1.2
MK31 e 01 11 26.3
MK31 Makanchi Array 59.94 327 eP P 01 10 39.7 -1.2
MK31 ePcP **PcP 01 11 26.2 -0.4**
MKAR Makanchi Array 59.94 327 ceP P 01 10 39.9 -1.0
MKAR pmax pmax
comp=Z,4.0nm,0.3s
MKAR Makanchi Array 59.94 327 eP P 01 10 39.7 -1.2
MKAR PcP **PcP 01 11 26.4 -0.3**
MKAR Makanchi Array 59.94 327 P P 01 10 39.9 -1.0
comp=Z,3.9nm,0.3s,baz=122,slow=7.6,SNR=136
MKAR PcP **PcP 01 11 26.4 -0.3**
comp=Z,2.8nm,0.6s,baz=126,slow=3.3,SNR=6.5
MKAR LR LR 01 36 52.7
comp=Z,109nm,21.4s,baz=143,slow=36
KSH Kashi 60.01 317 P P 01 10 42.0 +0.3
KSH sP **sP 01 11 05.3 +1.2**
KSH PP **PP 01 12 57.3 +2.7**
KSH PcS **PcS 01 15 30.0 +0.3**
KSH S **S 01 18 48.0 -2.2**
KSH SS **SS 01 22 49.0 +1.2**
KSH pmax pmax
comp=Z,97nm,5.6s
KSH LR LR
comp=Z,100nm,4.5s
KSH LR LR
comp=Z,90nm,4.6s
KSH LR LR
comp=Z,150nm,6.3s
BKZ Black Stump Fm 60.55 137 eP P 01 10 44.5 -0.8
comp=Z,36nm,1.7s
YAK Yakutsk 61.44 2 eP P 01 10 50.5 -0.2
YAK pmax pmax
comp=Z,13nm,0.8s
YAK Yakutsk 61.44 2 eP P 01 10 51.1 +0.4
comp=Z,23nm,0.7s
TKM2 Tokmak 2 61.86 320 eP P 01 10 54.1 -0.2
TKM2 pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 61.86 320 eP P 01 10 54.1 -0.2
comp=Z,3.4nm,0.7s
AAK Ala-Archa 62.44 319 eP P 01 10 59.3 +1.2
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 62.44 319 eP P 01 10 59.2 +1.2
comp=Z,3.3nm,0.9s
AAK Ala-Archa 62.44 319 P P 01 10 57.4 -0.7
comp=Z,1.8nm,0.6s,baz=129,slow=6.5,SNR=4.5
EKS2 Erkin-Say 62.92 319 eP P 01 11 02.8 +1.5
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 62.92 319 eP P 01 11 02.8 +1.5
comp=Z,5.5nm,0.8s
KBL Kabul 63.12 309 eP P 01 11 02.1 -0.8
KBL pmax pmax
comp=Z,4.0nm,0.7s
KBL Kabul 63.12 309 eP P 01 11 02.1 -0.8
comp=Z,4.0nm,0.7s
ZAA0 Zalesovo Array 63.25 334 eP P 01 11 01.4 -1.6
ZALV Zalesovo Beam 63.25 334 i P P 01 11 05.3 +2.3
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 63.25 334 P P 01 11 01.9 -1.1
ZALV Zalesovo Beam 63.25 334 P P 01 11 01.9 -1.1
comp=Z,1.8nm,0.4s,baz=123,slow=5.5,SNR=8.7
ZALV LR LR 01 38 36.1
comp=Z,56nm,21.8s,baz=50,slow=36
KURBB Kurchatov Arra 64.20 328 P P 01 11 08.6 -0.7
comp=Z,10nm,0.7s,baz=132,slow=6.4,SNR=44
KURK Kurchatov 64.21 329 eP P 01 11 08.6 -0.8
KURK pmax pmax
comp=Z,14nm,0.8s
KURK Kurchatov 64.21 329 eP P 01 11 08.6 -0.8
comp=Z,14nm,0.8s
NVS Novosibirsk 64.53 334 ↓↓i P P 01 11 09.0 -2.4
NVS pmax pmax
comp=Z,7.0nm,0.1s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
FX1 Attu Island--F 65.13 29 eP P 01 11 16.6 +1.3
FX1 Attu Island--F 65.13 29 P P 01 11 14.8 -0.5
comp=E,21nm,0.9s,baz=252,slow=3.2,SNR=6.4
KKAR Karatay Array 65.28 318 eP P 01 11 14.7 -1.8
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 65.28 318 eP P 01 11 14.7 -1.8
comp=Z,1.6nm,0.5s
SEY Seymchan 65.28 13 P P 01 11 15.5 -0.6
SEY Seymchan 65.28 13 P P 01 11 15.5 -0.6
SEY Seymchan 65.28 13 P P 01 11 15.5 -0.6
comp=Z,3.5nm,0.7s,baz=187,slow=4.0,SNR=4.9
BVAR Borovoye Array 69.77 328 P P 01 11 44.2 -0.4
BVAR Borovoye Array 69.77 328 P P 01 11 44.2 -0.4
BVAR Borovoye Array 69.77 328 P P 01 11 44.2 -0.4
comp=Z,1.9nm,0.4s,baz=139,slow=14,SNR=12
BVAR LR LR 01 43 19.8
comp=Z,62nm,21.4s,baz=92,slow=37
BRVK Borovoye 69.84 328 eP P 01 11 45.4 +0.3
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 69.84 328 eP P 01 11 45.0 -0.1
IDAH Dahanechah 69.98 305 eP P 01 11 46.1 -0.6
IKOO Kooshah 70.62 304 eP P 01 11 49.8 -0.8
ITEG Tejag 70.93 305 eP P 01 11 51.2 -1.2
TIXI Tiksi 71.07 1 ↑↑i P P 01 11 52.4 +0.2
TIXI pmax pmax
comp=Z,7.0nm,1.2s
TIXI Tiksi 71.07 1 eP P 01 11 51.2 -1.0
comp=Z,2.1nm,0.4s
IPAY Payeh 71.52 308 eP P 01 11 55.6 -0.4
IKRD Kardeh 71.97 309 eP P 01 11 53.3 -5.4
ABKAR Akbulak array 74.34 321 eP P 01 12 11.5 -0.6
IPAR Pars 75.20 301 eP P 01 12 16.4 -1.5
AKTO Aktyubinsk 75.89 322 P P 01 12 20.8 -0.2
AKTO Aktyubinsk 75.89 322 P P 01 12 20.8 -0.2
AKTO Aktyubinsk 75.89 322 P P 01 12 20.8 -0.2
comp=Z,8.2nm,0.7s,baz=95,slow=8.1,SNR=34
AKTO LR LR 01 47 13.1
comp=Z,53nm,20.8s,baz=110,slow=37
SVE Sverdlovsk 76.45 329 eP P 01 12 24.3 +0.3
SVE pmax pmax
comp=Z,16nm,0.8s
IKLH Kolahrood 76.93 304 eP P 01 12 27.8 +0.2
ARU Arti 77.40 328 ci P P 01 12 29.3 -0.1
ARU 01 15 20.4
ARU S **S 01 22 18.4 +3.1**
ARU SS **SS 01 27 17.3 +2.3**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 77.40 328 eP P 01 12 28.8 -0.6
comp=Z,7.5nm,0.6s
RDF Al-Radifah 79.86 299 eP P 01 12 42.6 -0.9
RDF AMb AMB 01 12 48.4
comp=Z,30nm,1.0s
NAY Al-Naaiem 80.16 299 eP P 01 12 44.0 -1.1
NAY AMb AMB 01 12 45.2
comp=Z,18nm,0.6s
VNDA Vanda 80.30 173 eP P 01 12 45.6 +0.8
comp=Z,3.3nm,0.7s
VNDA Vanda 80.30 173 P P 01 12 45.4 +0.5
comp=Z,3.5nm,0.7s,baz=316,slow=6.4,SNR=26
VNDA LR LR 01 49 58.1
comp=Z,25nm,18.6s,baz=342,slow=37
RST Umm Al-Ruwaisa 80.39 300 eP P 01 12 44.9 -1.4
RST AMb AMB 01 12 46.2
comp=Z,291nm,0.8s
MAW Mawson 80.56 200 P P 01 12 46.8 +0.4
MAW Mawson 80.56 200 P P 01 12 46.8 +0.4
comp=Z,5.5nm,1.0s,baz=34,slow=6.4,SNR=4.0

MAW LR LR 01 48 33.4
comp=Z,48nm,18.8s,baz=71,slow=36
IVIS Veis 80.97 305 eP P 01 12 47.8 -1.7
ZEI Tsey 84.03 313 eP P 01 13 05.1 -0.3
ZEI pmax pmax
comp=Z,9.0nm,1.4s
KBZ Khabaz 84.84 314 P P 01 13 09.6 +0.4
KBZ Khabaz 84.84 314 P P 01 13 09.6 +0.4
KBZ Khabaz 84.84 314 P P 01 13 09.6 +0.4
comp=Z,2.6nm,0.8s,baz=99,slow=3.4,SNR=6.6
KDAK Kodiak Island 84.88 32 eP P 01 13 09.9 +0.9
KIV Kislovodsk 85.01 314 eP P 01 13 10.2 0.0
KIV eS **S 01 23 34.9 -0.1**
KIV eSS **SS 01 29 11.4 +2.3**
KIV pmax pmax
comp=Z,2.0nm,1.0s
PRGR Permogore 85.10 332 eP P 01 13 11.7 +1.6
PRGR pmax pmax
comp=Z,13nm,1.0s
VRHR Novokhopersk 86.23 321 eP P 01 13 14.6 -1.3
VRHR pmax pmax
comp=Z,9.0nm,0.8s
VRHR pmax pmax
comp=N,6.0nm,1.0s
VRHR pmax pmax
comp=E,6.0nm,0.7s
COLD Coldfoot 87.05 23 eP P 01 13 20.3 +0.7
comp=E,6.1nm,0.9s
MCK McKinley 87.27 26 eP P 01 13 20.5 -0.3
MCK pmax pmax
comp=Z,4.0nm,0.9s
MCK McKinley 87.27 26 eP P 01 13 20.5 -0.3
comp=Z,4.3nm,0.9s
VORD Divnogorie 87.69 321 eP P 01 13 25.1 +2.1
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=Z,9.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 87.78 321 eP P 01 13 23.7 +0.3
VSR pmax pmax
comp=Z,7.0nm,0.9s
VSR pmax pmax
comp=N,5.0nm,1.0s
VSR pmax pmax
comp=E,6.0nm,0.8s
ILAR Eielson Array 88.22 25 P P 01 13 24.1 -1.1
ILAR Eielson Array 88.22 25 P P 01 13 24.1 -1.1
comp=E,1.0nm,0.6s,baz=243,slow=5.1,SNR=12
KMBO Kilima Mbogo 88.99 269 P P 01 13 31.8 +1.5
KMBO Kilima Mbogo 88.99 269 P P 01 13 31.8 +1.5
comp=E,1.5nm,0.5s,baz=46,slow=6.2,SNR=5.4
ASF Jabal al Asfar 89.18 302 P P 01 13 31.2 +0.5
ASF Jabal al Asfar 89.18 302 P P 01 13 31.2 +0.5
comp=E,0.8nm,0.4s,baz=113,slow=2.0,SNR=4.6
SYO Syowa Base 89.25 201 ↑↑eP P 01 13 28.8 -1.1
OBN Obninsk 89.41 325 eP P 01 13 29.6 -1.4
OBN eS **SKSac 01 24 00.9 +4.8**
OBN eSS **SS 01 30 17.4 +4.9**
OBN pmax pmax
comp=Z,6.0nm,1.0s
QSPA South Pole Qui 90.42 180 eP P 01 13 36.4 +0.7
comp=Z,6.5nm,1.0s
QSPA South Pole Qui 90.42 180 P P 01 13 36.3 +0.7
comp=Z,5.0nm,0.6s,baz=314,slow=1.7,SNR=44
MMAI Mount Meron Ar 90.44 303 P P 01 13 36.6 +0.2
MMAI Mount Meron Ar 90.44 303 P P 01 13 36.6 +0.2
comp=Z,0.5nm,0.4s,baz=92,slow=7.5,SNR=4.1
BR131 Keskin Array S 91.69 310 eP P 01 13 41.9 -0.3
BRTR Keskin Array B 91.69 310 P P 01 13 41.5 -0.8
BRTR Keskin Array B 91.69 310 P P 01 13 41.4 -0.8
comp=Z,0.9nm,0.8s,baz=127,slow=5.1,SNR=4.6
BRTR LR LR 02 00 59.1
comp=Z,20nm,19.1s,baz=84,slow=40
ARCES ARCESS Array B 93.30 340 P P 01 13 47.9 -0.9
ARCES ARCESS Array B 93.30 340 P P 01 13 47.9 -0.9
comp=Z,2.6nm,0.7s,baz=81,slow=7.5,SNR=11
INK Inuvik 93.34 21 eP P 01 13 48.7 -0.3
comp=Z,3.5nm,1.0s
FINES FINESS Array B 94.43 332 P P 01 13 53.9 -0.3
FINES FINESS Array B 94.43 332 P P 01 13 53.9 -0.3
comp=Z,11nm,1.2s,baz=76,slow=10.0,SNR=3.6
BUR08 Bucovina Ar. S 97.08 319 eP P 01 14 06.5 -0.2
BOSA Boshof 99.88 241 LR LR 01 55 58.3
comp=Z,25nm,18.0s,baz=121,slow=33
YKA Yellowknife Ar 102.63 25 P Pdif 01 14 31.4 +0.5
YKA PKiKP **PKiKP 01 18 51.5 -0.1**
YKA PKKPbc **PKKPbc 01 30 30.1 -2.9**
YKA Yellowknife Ar 102.63 25 P Pdif 01 14 31.4 +0.5
comp=Z,0.3nm,0.7s,baz=293,slow=4.3,SNR=8.0
YKA PKiKP **PKiKP 01 18 51.5 -0.1**
comp=Z,0.2nm,0.5s,baz=300,slow=1.8,SNR=10
YKA PKKPbc **PKKPbc 01 30 30.1 -2.9**
comp=Z,0.2nm,0.7s,baz=116,slow=2.7,SNR=6.4
PDAR Pinedale Array 114.09 42 PKP PKPdf 01 19 15.9 +1.9
PDAR Pinedale Array 114.09 42 PKP PKPdf 01 19 15.9 +1.9
comp=Z,0.5nm,0.7s,baz=98,slow=3.0,SNR=3.7
ULM Lac du Bonnet 118.02 29 PKP PKPdf 01 19 20.0 -1.0
ULM Lac du Bonnet 118.02 29 PKP PKPdf 01 19 20.0 -1.0
comp=Z,1.7nm,0.7s,baz=289,slow=2.2,SNR=3.0
TOA0 Torodi Ar. Sit 123.39 286 ePKPdf PKPdf 01 19 32.0 -0.4
TORD Torodi Ar. Bea 123.39 286 PKP PKPdf 01 19 32.0 -0.3
TORD PKKPab **PKKPab 01 29 22.4 +0.7**
TORD Torodi Ar. Bea 123.39 286 PKP PKPdf 01 19 32.0 -0.3
comp=Z,3.0nm,0.8s,baz=64,slow=1.7,SNR=17
TORD PKKPab **PKKPab 01 29 22.4 +0.7**
comp=Z,1.5nm,0.8s,baz=279,slow=4.1,SNR=7.5
TXAR Lajitas Array 123.93 54 PKP PKPdf 01 19 34.1 +0.9
TXAR Lajitas Array 123.93 54 PKP PKPdf 01 19 34.1 +0.9
comp=Z,0.7nm,0.8s,baz=238,slow=1.2,SNR=9.0
USHA Ushuaia 124.52 170 PKP PKPdf 01 19 33.5 +0.2
USHA Ushuaia 124.52 170 PKP PKPdf 01 19 33.5 +0.2
comp=Z,4.0nm,0.7s,baz=146,slow=3.6,SNR=2.9
DBIC Dimbokro 130.68 279 PKP PKPdf 01 19 46.9 +0.6
DBIC Dimbokro 130.68 279 PKP PKPdf 01 19 46.9 +0.6
comp=Z,6.5nm,1.1s,baz=78,slow=5.3,SNR=3.8
LCO Las Campanas 147.35 152 ePKPbc PKPbc 01 20 19.5 +0.6
CPUP Villa Florida 154.08 173 PKPbc PKPbc 01 20 35.0 +0.3
CPUP Villa Florida 154.08 173 PKPbc PKPbc 01 20 35.0 +0.3
comp=Z,3.0nm,0.8s,baz=213,slow=5.8,SNR=4.1

NNC 26 01:05:31.4±7.5, 36°.70N×69°.62E, h60km±181km, mb3.6, mpv3.5, 3C-3D, Error ellipse: s-maj=58.2km s-min=49.5km az=149.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.43**	**6**	↓↓P		Pn	01 07 04.8	+1.2
	1.7nm,0.5s,baz=189,slow=12,SNR=4.5						
KK31				↓↓S		Sn	01 08 17.4	+1.8
	1.2nm,0.5s,baz=190,slow=22,SNR=6.7						
AAK	**Ala-Archa**	**7.02**	**31**	↑↑P		Pn	01 07 10.0	-1.7
	2.5nm,0.8s						
AAK				↑↑S		Sn	01 08 29.7	-0.5
	3.2nm,0.6s						
AB31	**Akbulak array**	**14.39**	**334**	P		Pn	01 08 53.2	+1.4
	0.6nm,0.3s,baz=163,slow=12,SNR=43						
AB31				↓↓S		Sn	01 11 27.5	-2.4
	0.5nm,0.5s,baz=5.6,slow=85,SNR=4.3						
AKTO	**Aktyubinsk**	**16.07**	**332**	↑↑P		Pn	01 09 13.9	+0.5
	1.7nm,0.9s						

*IDC **26** 01:14:33.3±0.5, 6°.53N×126°.60E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.2/30, mbtmp4.2/20, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=28.1km s-min=12.0km az=69.0*
*MAN **26** 01:14:37, 6°.35N×126°.51E, h28km, mb5.0, ML3.9, MS4.0*
*AUST **26** 01:14:38.0±1.6, 6°.44N×126°.56E, h29km, Error ellipse: s-maj=1.2km s-min=0.8km az=230.0*
*ISCJB **26** 01:14:37.7±0.6, 6°.51N±0°.03×126°.53E±0°.04, h43km±5km, mb4.4/51, MS2.4/1, Error ellipse: s-maj=7.2km s-min=4.6km az=160.8*
*NEIC **26** 01:14:38.0±2.2, 6°.53N×126°.58E, h32km±16km, mb4.5/23, Error ellipse: s-maj=7.6km s-min=3.9km az=59.0*
*DJA **26** 01:14:49.8±2.3, 6°.N±18°×12°.6E±°, h41km±15km, M4.8/16, mb4.9/16, mB5.3/11, MLv4.9/5, Mw(mB)4.7/11*

ISC 26 01:14:38.4±1.1, 6°.56N±0°.04×126°.47E±0°.05, h32km±8km, n132, σ1°17/126, mb4.5/50, 1C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.44**	**331**	eP		**Pn**	**01 14 50.3 +1.8**
MATI				eS		**Sb**	**01 14 53.6 -1.1**
DAV	**Davao City (W)**	**1.02**	**300**	ePn		**Pb**	**01 14 57.8 +0.1**
DAV				eSn		**Sb**	**01 15 11.2 +0.4**
DMPH	**Davao City--Mi**	**1.09**	**299**	↑↑eP		**Pb**	**01 14 58.7 -0.1**
DMPH				eS		**Sb**	**01 15 13.9 +1.2**
KCP	**Kidapawan**	**1.44**	**288**	↓↓eP		**Pn**	**01 15 01.8 -0.6**
KCP				i S		**Sn**	**01 15 19.2 -1.1**
GSPH	**General Santos**	**1.58**	**253**	↓↓iP		Pn	01 14 60.0 -4.4
GSPH				i S		Sn	01 15 16.7 -7.1
BIPH	**Bislig**	**1.62**	**356**	↓↓iP		**Pb**	**01 15 08.1 +0.4**
BIPH				i S		**Sb**	**01 15 30.8 +3.0**
BUKP	**Musuan**	**1.92**	**313**	eP		**Pn**	**01 15 10.5 +1.6**
BUKP				eS		Sn	01 15 25.9 -6.0
CTBH	**Cotabato--PC H**	**2.31**	**287**	↓↓iP		**Pn**	**01 15 14.9 +0.7**
BUTP	**Butuan**	**2.54**	**341**	eP		**Pn**	**01 15 17.7 +0.3**
CGP	**Cagayan de Oro**	**2.58**	**317**	↓↓eP		**Pb**	**01 15 21.4 -2.7**
CGP				eS		**Sb**	**01 15 54.3 -1.1**
SGSI	**Sangihe**	**3.00**	**198**	P		**Pb**	**01 15 30.9 -0.4**
PAGZ	**Pagadian**	**3.32**	**293**	eP		**Pn**	**01 15 28.6 +0.5**
SCPH	**Surigao**	**3.35**	**343**	eP		**Pb**	**01 15 35.6 -1.5**
MSLP	**Maasin**	**3.90**	**336**	eP		**Pn**	**01 15 38.4 +2.3**
GAMI	**Galela, Maluku**	**4.87**	**164**	P		Pb	01 15 57.9 -5.1
TNTI	**Ternate**	**5.82**	**171**	P		Pn	01 16 06.7 +4.2
	211nm,0.7s,4μm0.9nm						
GTOI	**Gorontalo**	**6.82**	**211**	P		**Pn**	**01 16 14.9 -1.4**
	248nm,0.7s,2μm0.7nm						
LBMI	**Labuha**	**7.22**	**172**	P		Pb	01 16 34.8 -8.3
MRSI	**Marisa**	**7.54**	**217**	P		**Pn**	**01 16 24.8 -1.4**
	80nm,0.7s,1μm0.3nm						
PALU	**Palau**	**7.98**	**84**	P		**Pn**	**01 16 33.0 +0.7**
	baz=7.9,SNR=6.3						
LUWI	**Luwuk**	**8.40**	**206**	P		**Pn**	**01 16 40.8 +2.8**
	125nm,1.0s,2μm0.6nm						
LUWI	**Luwuk**	**8.40**	**206**	P		**Pn**	**01 16 40.6 +2.6**
	baz=8.4,SNR=6.4						
APSI	**Ampana**	**8.84**	**213**	P		**Pn**	**01 16 46.2 +2.1**
	65nm,1.1s,678nm						
NLAI	**Namlea**	**9.75**	**176**	P		**Pn**	**01 16 56.0 -0.5**
	44nm,0.6s,1μm						
PCI	**Palu**	**9.94**	**222**	P		**Pn**	**01 16 56.7 -2.4**
	850nm,0.8s,11μm						
FAKI	**Fak Fak**	**11.04**	**148**	P		Pn	01 17 07.7 -6.5
	baz=11,SNR=3.8						
TTSI	**Tana Toraja**	**11.62**	**215**	P		**Pn**	**01 17 22.4 +0.2**
	23nm,1.3s						
BNSI	**Bone**	**12.60**	**210**	P		P	01 17 42.7 -3.9
KAPI	**Kappang**	**13.31**	**210**	ePn		**Pn**	**01 17 45.9 +0.7**
	59nm,0.9s						
SBUM	**Sibu**	**14.78**	**255**	P		**Pn**	**01 18 06.0 +0.7**
	76nm,0.8s,568nm						
BBKI	**Banjar Baru**	**15.29**	**230**	P		**Pn**	**01 18 11.8 -0.3**
	60nm,1.1s,3μm						
STKI	**Sintang**	**16.29**	**247**	P		**P**	**01 18 29.2 +1.5**
MTN	**Manton Dam**	**19.82**	**166**	P		**Pn**	**01 19 08.0 -0.2**
	baz=20,SNR=7.3						
KDU	**Kakadu**	**20.03**	**163**	P		Pn	01 19 09.7 -0.9
	baz=20,SNR=5.0						
TGJI	**Tegal**	**21.85**	**233**	P		P	01 19 34.3 +5.8
KNRA	**Kununurra**	**22.21**	**174**	P		**P**	**01 19 32.8 +0.6**
	baz=22,SNR=12						
KPJI	**Karang Pucung**	**22.28**	**232**	P		**P**	**01 19 36.7 +3.6**
	28nm,1.1s						
KLSI		**24.41**	**243**	P		**P**	**01 19 55.9 +1.7**
	70nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.52**	**182**	P		**P**	**01 19 54.1 -0.9**
FITZ	**Fitzroy Crossi**	**24.52**	**182**	P		**P**	**01 19 54.1 -0.9**
	3.8nm,0.5s,baz=24,slow=7.5,SNR=27						
FITZ	**Fitzroy Crossi**	**24.52**	**182**	P		**P**	**01 19 54.1 -0.9**
	baz=25,SNR=18						
MDSI	**Maura Dua**	**24.81**	**244**	P		**P**	**01 19 57.8 -0.1**
	17nm,0.8s,1μm						
KASI	**Kota Agung**	**25.00**	**242**	P		**P**	**01 20 00.5 +0.9**
	54nm,0.9s						
LHSI	**Lahat**	**25.13**	**246**	P		**P**	**01 20 04.7 +4.0**
CBIJ	**Chichi jima**	**25.31**	**34**	P		**P**	**01 20 01.1 -1.2**
JCJ	**Chichijima**	**25.31**	**34**	P		**P**	**01 20 01.1 -1.2**
	49nm,0.7s,baz=226,slow=8.6,SNR=3.7						
IPM	**Ipoh**	**25.41**	**267**	eP		**P**	**01 20 03.1 -0.2**
	20nm,1.1s						
KULM	**Kulim**	**25.71**	**269**	eP		**P**	**01 20 06.5 +0.4**
	19nm,1.1s						
PMG	**Port Moresby**	**26.01**	**127**	eP		**P**	**01 20 08.3 -0.4**
	6.2nm,0.8s						
PMG	**Port Moresby**	**26.01**	**127**	LR		LR	01 31 15.1
	comp=Z,15nm,28.6s,baz=308,slow=39						
COEN	**Coen**	**26.27**	**141**	eP		**P**	**01 20 09.8 -1.3**
COEN	**Coen**	**26.27**	**141**	P		**P**	**01 20 12.6 +1.5**
	baz=26,SNR=4.5						
WRAB	**Tennant Creek**	**27.44**	**164**	eP		**P**	**01 20 20.7 -0.8**
	5.9nm,0.8s						
WRA	**Warramunga Arr**	**27.45**	**164**	P		**P**	**01 20 20.6 -1.0**
WRA	**Warramunga Arr**	**27.45**	**164**	P		**P**	**01 20 20.6 -1.0**
	1.3nm,0.7s,baz=343,slow=9.9,SNR=13						
ENH	**Enshi**	**28.49**	**328**	eP		**P**	**01 20 31.1 +0.2**
	8.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.31**	**296**	P		**P**	**01 20 39.8 +1.5**
CMAR				PcP		**PcP**	**01 23 44.5 -0.1**
CMAR	**Chiang Mai Arr**	**29.31**	**296**	P		**P**	**01 20 39.8 +1.5**
	1.3nm,0.3s,baz=116,slow=7.2,SNR=12						
CMAR				PcP		**PcP**	**01 23 44.5 -0.1**
	0.7nm,0.4s,baz=135,slow=1.7,SNR=4.7						
CHTO	**Chiang Mai**	**29.43**	**297**	eP		**P**	**01 20 39.1 -0.2**
	4.1nm,0.8s						
QIS	**Mount Isa**	**29.88**	**155**	P		**P**	**01 20 43.2 0.0**
	baz=30,SNR=3.8						
AS31	**Alice Springs**	**30.90**	**167**	eP		**P**	**01 20 51.6 -0.7**
ASAR	**Alice Springs**	**30.90**	**167**	P		**P**	**01 20 51.5 -0.8**
ASAR				PcP		**PcP**	**01 23 48.6 0.0**
ASAR	**Alice Springs**	**30.90**	**167**	P		**P**	**01 20 51.5 -0.8**
	1.9nm,0.6s,baz=342,slow=7.3,SNR=36						
ASAR				PcP		**PcP**	**01 23 48.6 0.0**
	0.9nm,0.6s,baz=350,slow=2.3,SNR=6.6						
WRKA	**Warakurna**	**31.45**	**177**	P		**P**	**01 20 56.8 -0.3**
	baz=32,SNR=16						
MAJO	**Matsushiro**	**31.72**	**18**	eP		**P**	**01 20 58.2 -1.1**
	7.6nm,0.7s						
CTA	**Charters Tower**	**32.86**	**144**	P		**P**	**01 21 08.0 -1.5**
CTA	**Charters Tower**	**32.86**	**144**	P		**P**	**01 21 08.0 -1.5**
	0.7nm,0.5s,baz=315,slow=8.6,SNR=2.3						
CTAO	**Charters Tower**	**32.86**	**144**	eP		**P**	**01 21 07.8 -1.7**
	6.2nm,1.2s						
MEEK	**Meekatharra**	**33.87**	**193**	P		**P**	**01 21 17.2 -1.1**
	baz=34,SNR=6.4						
MORW	**Morawa**	**36.82**	**195**	P		**P**	**01 21 44.7 +1.1**
	baz=37,SNR=3.9						
FORT	**Forrest**	**37.16**	**178**	eP		**P**	**01 21 45.8 -0.6**
	17nm,0.6s						
BBOO	**Buckleboo**	**40.20**	**167**	eP		**P**	**01 22 11.5 -0.4**
	148nm,0.8s						
BBOO	**Buckleboo**	**40.20**	**167**	P		**P**	**01 22 11.7 -0.2**
	baz=40,SNR=14						
STKA	**Stephens Creek**	**40.85**	**160**	P		**P**	**01 22 16.6 -0.7**
STKA	**Stephens Creek**	**40.85**	**160**	P		**P**	**01 22 16.6 -0.7**
	3.8nm,0.7s,baz=349,slow=5.9,SNR=13						
STKA	**Stephens Creek**	**40.85**	**160**	P		**P**	**01 22 17.6 +0.3**
	baz=41,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**40.91**	**69**	T		T	02 06 21.7
	baz=259,slow=62,SNR=13						
H11S1	**WAKE ISLAND Hy**	**40.92**	**69**	T		T	02 06 22.9
	baz=259,slow=62,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**40.92**	**69**	T		T	02 06 20.4
	baz=259,slow=62,SNR=5.3						
HTT	**Hallett**	**41.49**	**164**	P		**P**	**01 22 23.2 +0.6**
	baz=42,SNR=5.7						
RKGY	**Rocky Gully**	**41.91**	**192**	P		**P**	**01 22 26.0 0.0**
	baz=42,SNR=5.2						
ULN	**Ulaanbaatar**	**44.37**	**341**	eP		**P**	**01 22 47.3 +1.4**
	6.2nm,0.9s						
SONM	**Songino Array**	**44.56**	**341**	P		**P**	**01 22 48.6 +1.2**
SONM	**Songino Array**	**44.56**	**341**	P		**P**	**01 22 48.6 +1.2**
	1.8nm,0.8s,baz=134,slow=8.3,SNR=3.0						
PALK	**Pallekele**	**45.43**	**274**	eP		**P**	**01 22 55.3 +0.6**
	69nm,1.4s						
DZM	**Mont Dzumac**	**48.40**	**127**	eP		**P**	**01 23 15.9 -1.9**
	15nm,1.0s						
MK31	**Makanchi Array**	**55.11**	**324**	eP		**P**	**01 24 06.9 -0.7**
MKAR	**Makanchi Array**	**55.11**	**324**	P		**P**	**01 24 07.2 -0.4**
MKAR	**Makanchi Array**	**55.11**	**324**	P		**P**	**01 24 07.2 -0.4**
	4.6nm,0.6s,baz=123,slow=7.8,SNR=30						
ZALV	**Zalesovo Beam**	**57.97**	**332**	P		**P**	**01 24 27.5 -0.2**
ZALV	**Zalesovo Beam**	**57.97**	**332**	P		**P**	**01 24 27.5 -0.2**
	0.9nm,0.4s,baz=134,slow=6.4,SNR=4.8						
AAK	**Ala-Archa**	**58.12**	**317**	eP		**P**	**01 24 29.0 -0.2**
	1.6nm,0.8s						
EKS2	**Erkin-Say**	**58.62**	**317**	eP		**P**	**01 24 33.2 +0.6**

	3.9nm,0.9s								
KURK	**Kurchatov**	**59.24**	**327**	*eP*		**P**		**01 24 37.3**	**+0.7**
	6.8nm,1.0s								
KURBB	**Kurchatov Arra**	**59.24**	**327**	P		**P**		**01 24 36.5**	**-0.1**
	3.4nm,0.7s,baz=123,slow=7.2,SNR=25								
KBL	**Kabul**	**59.63**	**306**	*eP*		**P**		**01 24 39.8**	**-0.1**
	3.5nm,0.8s								
KKAR	**Karatay Array**	**61.02**	**316**	*eP*		**P**		**01 24 48.1**	**-0.9**
	2.4nm,0.8s								
BVAR	**Borovoye Array**	**64.83**	**326**	P		**P**		**01 25 14.6**	**+0.5**
BVAR	**Borovoye Array**	**64.83**	**326**	P		**P**		**01 25 14.6**	**+0.5**
	3.4nm,0.8s,baz=116,slow=5.3,SNR=11								
TIXI	**Tiksi**	**65.04**	**1**	*eP*		**P**		**01 25 14.3**	**-0.8**
	3.8nm,1.0s								
ABKAR	**Akbulak array**	**69.82**	**320**	*eP*		**P**		**01 25 45.6**	**-0.2**
	1.6nm,0.7s								
AKTO	**Aktyubinsk**	**71.31**	**321**	P		**P**		**01 25 55.7**	**+0.9**
AKTO	**Aktyubinsk**	**71.31**	**321**	P		**P**		**01 25 55.7**	**+0.9**
	2.0nm,0.6s,baz=98,slow=9.2,SNR=8.7								
ARU	**Arti**	**72.43**	**327**	*eP*		**P**		**01 26 01.6**	**+0.1**
	5.3nm,0.6s								
KBZ	**Khabaz**	**80.87**	**313**	P		**P**		**01 26 50.6**	**+1.2**
KBZ	**Khabaz**	**80.87**	**313**	P		**P**		**01 26 50.6**	**+1.2**
	0.7nm,0.7s,baz=150,slow=8.1,SNR=3.3								
KIV	**Kislovodsk**	**81.02**	**313**	*eP*		**P**		**01 26 50.3**	**-0.1**
	4.0nm,0.9s								
ILAR	**Eielson Array**	**82.68**	**26**	P		**P**		**01 26 58.7**	**+0.2**
ILAR	**Eielson Array**	**82.68**	**26**	P		**P**		**01 26 58.7**	**+0.2**
	0.4nm,0.9s,baz=234,slow=5.0,SNR=7.5								
VNDA	**Vanda**	**86.25**	**173**	*eP*		**P**		**01 27 16.0**	**-0.2**
	1.7nm,0.8s								
MAW	**Mawson**	**86.30**	**200**	P		**P**		**01 27 17.6**	**+1.0**
MAW	**Mawson**	**86.30**	**200**	P		**P**		**01 27 17.6**	**+1.0**
	2.6nm,0.9s,baz=34,slow=3.6,SNR=3.1								
JOF	**Joensuu**	**86.56**	**333**	*ep*		**P**		**01 27 15.6**	**-2.5**
	1.2nm,0.5s								
KEV	**Kevo**	**87.17**	**340**	*ep*		P		01 27 17.1	-3.8
	0.4nm,0.4s								
MMAI	**Mount Meron Ar**	**87.37**	**303**	P		**P**		**01 27 23.2**	**+0.4**
MMAI	**Mount Meron Ar**	**87.37**	**303**	P		**P**		**01 27 23.2**	**+0.4**
	0.3nm,0.6s,baz=66,slow=8.3,SNR=2.6								
INK	**Inuvik**	**87.64**	**21**	*eP*		**P**		**01 27 23.8**	**+0.5**
	3.3nm,1.2s								
ARCES	**ARCESS Array B**	**87.72**	**340**	P		**P**		**01 27 24.0**	**+0.3**
ARCES	**ARCESS Array B**	**87.72**	**340**	P		**P**		**01 27 24.0**	**+0.3**
	4.6nm,0.9s,baz=89,slow=5.3,SNR=11								
BRTR	**Keskin Array B**	**88.03**	**310**	P		**P**		**01 27 27.0**	**+1.0**
BRTR	**Keskin Array B**	**88.03**	**310**	P		**P**		**01 27 27.0**	**+1.0**
	0.9nm,0.9s,baz=135,slow=5.1,SNR=4.6								
KAF	**Kangasniemi**	**88.99**	**332**	*ep*		P		01 27 26.3	-3.5
	0.3nm,0.3s								
FINES	**FINESS Array B**	**89.24**	**332**	P		**P**		**01 27 31.6**	**+0.7**
FINES	**FINESS Array B**	**89.24**	**332**	P		**P**		**01 27 31.6**	**+0.7**
	2.2nm,0.7s,baz=90,slow=2.5,SNR=6.4								
BUR08	**Bucovina Ar. S**	**92.74**	**318**	*eP*		**P**		**01 27 48.5**	**+0.8**
YKA	**Yellowknife Ar**	**97.04**	**24**	P		Pdif		01 28 07.3	+0.3
YKA	**Yellowknife Ar**	**97.04**	**24**	P		Pdif		01 28 07.3	+0.3
	0.3nm,0.7s,baz=300,slow=4.3,SNR=9.4								
TOA0	**Torodi Ar. Sit**	**121.76**	**290**	*e*PKPdf		**PKPdf**		**01 33 29.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**121.76**	**290**	PKP		**PKPdf**		**01 33 29.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**121.76**	**290**	PKP		**PKPdf**		**01 33 29.1**	**-1.1**
	1.9nm,0.7s,baz=70,slow=1.6,SNR=16								
DBIC	**Dimbokro**	**129.69**	**284**	PKP		**PKPdf**		**01 33 44.9**	**-0.5**
DBIC	**Dimbokro**	**129.69**	**284**	PKP		**PKPdf**		**01 33 44.9**	**-0.5**
	6.0nm,1.2s,baz=238,slow=2.5,SNR=4.2								

IDC ***26*** *01:16:50.2±1.3, 39.°39N×110.°78E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.7/7, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=47.9km s-min=18.1km az=57.0*

ISCJB ***26*** *01:16:52.8±1.2, 39.°5N±0.°1×111.°0E±0.°3, h33km, mb3.5/6, Error ellipse: s-maj=37.0km s-min=14.3km az=157.4*

ISC 26 01:16:55.3±1.4, 39.°4N±0.°1×110.°7E±0.°3, h35km, n7, σ1§14/7, mb3.5/6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**8.99**	**341**	Pn	**Pn**	**01 19 02.7**	**0.0**
	0.2nm,0.3s,baz=161,slow=14,SNR=5.3						
MKAR	**Makanchi Array**	**21.96**	**299**	P	**P**	**01 21 46.0**	**0.0**
	2.4nm,0.8s,baz=96,slow=12,SNR=26						
ZALV	**Zalesovo Beam**	**22.80**	**318**	P	**P**	**01 21 54.7**	**0.0**
	0.5nm,0.3s,baz=134,slow=10,SNR=3.7						
CMAR	**Chiang Mai Arr**	**23.25**	**209**	P	**P**	**01 21 59.5**	**-0.1**
	1.3nm,0.3s,baz=19,slow=9.1,SNR=9.4						
KURBB	**Kurchatov Arra**	**25.18**	**307**	P	**P**	**01 22 17.1**	**-0.2**
	0.7nm,0.5s,baz=108,slow=9.4,SNR=5.7						
WRA	**Warramunga Arr**	**63.03**	**155**	P	**P**	**01 27 17.3**	**-1.5**
	0.3nm,0.8s,baz=341,slow=3.2,SNR=4.9						
ASAR	**Alice Springs**	**66.38**	**157**	P	**P**	**01 27 42.3**	**+1.7**
	0.2nm,0.7s,baz=343,slow=5.9,SNR=2.7						

NSSC ***26*** *01:54:50.9±2.7, 30.°09N×34.°72E, h9km±999km, MD2.1, ML2.6*

SGS ***26*** *01:54:52.7, 30.°21N×34.°99E, h14km*

GII ***26*** *01:54:53.7±0.5, 30.°06N×35.°14E, h11km±2km, MD3.0/3*

ISCJB ***26*** *01:54:53.2±0.5, 30.°07N±0.°02×35.°21E±0.°04, h8km±3km, Error ellipse: s-maj=6.0km s-min=2.5km az=13.2*

CSEM ***26*** *01:54:53.9±0.1, 30.°06N×35.°19E, h10km, ML3.5, Error ellipse: s-maj=2.5km s-min=1.6km az=107.0*

HLW ***26*** *01:54:53.2, 30.°11N×35.°16E, h0km±3km, Md0.0, Ml3.5*

ISC 26 01:54:54.0±0.9, 30.°07N±0.°02×35.°16E±0.°03, h15km±6km, n70, σ0§88/100, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HRFI	**Mount Harif**	**0.11**	**255**	Pg	**Pg**	**01 54 57.5**	**0.0**
HRFI	**Mount Harif**	**0.11**	**255**	Pg	**Pg**	**01 54 57.5**	**0.0**
PRNI	**Paran**	**0.32**	**334**	Pg	**Pg**	**01 55 00.3**	**-0.4**
PRNI				Sg	**Sb**	**01 55 05.5**	**-0.9**
PRNI	**Paran**	**0.32**	**334**	Pg	**Pg**	**01 55 00.3**	**-0.4**
PRNI				Sg	**Sb**	**01 55 05.5**	**-0.9**
MBRI	**Mt Berech**	**0.35**	**219**	Pg	**Pg**	**01 55 01.1**	**-0.1**
MBRI				Sg	**Sb**	**01 55 06.7**	**-0.5**
MBRI	**Mt Berech**	**0.35**	**219**	Pg	**Pg**	**01 55 01.1**	**-0.1**
MBRI				Sg	**Sb**	**01 55 06.7**	**-0.5**
KRMI	**Paran Flat**	**0.38**	**278**	Pg	**Pb**	**01 55 02.1**	**-0.4**
KRMI	**Paran Flat**	**0.38**	**278**	Pg	**Pb**	**01 55 02.1**	**-0.4**
EIL	**Elat**	**0.43**	**205**	Pg	**Pg**	**01 55 02.3**	**-0.5**
EIL				Sg	**Sg**	**01 55 08.5**	**-0.2**
EIL	**Elat**	**0.43**	**205**	Pg	**Pg**	**01 55 02.3**	**-0.5**
EIL				Sg	**Sg**	**01 55 08.5**	**-0.2**
ZFRI	**Zfri**	**0.49**	**2**	Pg	**Pg**	**01 55 03.7**	**0.0**
ZFRI				Sg	**Sg**	**01 55 10.2**	**-0.1**
ZFRI	**Zfri**	**0.49**	**2**	Pg	**Pg**	**01 55 03.7**	**0.0**
ZFRI				Sg	**Sg**	**01 55 10.2**	**-0.1**
RMNI	**Mount Ramon**	**0.63**	**327**	Pg	**Pb**	**01 55 07.1**	**+0.3**
RMNI	**Mount Ramon**	**0.63**	**327**	Pg	**Pb**	**01 55 07.1**	**+0.3**
HBST	**Basata**	**0.93**	**204**	P	**Pb**	**01 55 11.9**	**+0.1**
	baz=203						
HBST				AMP		01 55 00.0	
	comp=N,1320μm,0.4s,logA/T=6.5,baz=203						
HBST	**Basata**	**0.93**	**204**	P	**Pb**	**01 55 11.9**	**+0.1**
HAQS	**Haql**	**1.03**	**192**	S	**Sg**	**01 55 27.4**	**-0.1**
HAQS	**Haql**	**1.03**	**192**	P	**Pg**	**01 55 12.7**	**-1.4**
HNKL	**Nakhl**	**1.03**	**263**	P	**Pb**	**01 55 13.9**	**+0.3**
	baz=261						
HNKL				S	**Sn**	**01 55 28.0**	**-0.2**
	baz=261						
HNKL	**Nakhl**	**1.03**	**263**	P	**Pb**	**01 55 13.9**	**+0.3**
HNKL				S	**Sn**	**01 55 28.0**	**-0.2**
KZIT	**Kziot**	**1.07**	**322**	Pg	**Pb**	**01 55 14.2**	**0.0**
KZIT				Sg	**Sb**	**01 55 28.3**	**+0.3**
KZIT	**Kziot**	**1.07**	**322**	Pg	**Pb**	**01 55 14.2**	**0.0**
KZIT				Sg	**Sb**	**01 55 28.3**	**+0.3**
MZDA	**Masada**	**1.25**	**8**	Pg	**Pn**	**01 55 16.9**	**0.0**
MZDA				Sg	**Sn**	**01 55 34.5**	**+1.0**
MZDA	**Masada**	**1.25**	**8**	Pg	**Pn**	**01 55 16.9**	**0.0**
MZDA				Sg	**Sn**	**01 55 34.5**	**+1.0**
JLOS		**1.36**	**168**	S	**Sb**	**01 55 36.5**	**+0.1**
JLOS		**1.36**	**168**	P	**Pn**	**01 55 18.3**	**-0.2**
HDHB	**Dhahab**	**1.42**	**200**	P	**Pb**	**01 55 20.5**	**+0.3**
	baz=199						
HDHB	**Dhahab**	**1.42**	**200**	P	**Pb**	**01 55 20.5**	**+0.3**
RSH		**1.53**	**306**	P	**Pn**	**01 55 21.1**	**+0.3**
	baz=305						
RSH		**1.53**	**306**	P	**Pn**	**01 55 21.1**	**+0.3**
BDAS	**Al Bad'**	**1.63**	**182**	P	**Pn**	**01 55 21.0**	**-1.2**
AMAG	**Maghara**	**1.79**	**289**	P	**Pn**	**01 55 24.3**	**0.0**
	baz=288						
AMAG	**Maghara**	**1.79**	**289**	P	**Pn**	**01 55 24.3**	**0.0**
RSHS		**1.79**	**190**	P	**Pn**	**01 55 22.9**	**-1.4**
HKAT	**Jabal Katrina**	**1.85**	**214**	P	**Pn**	**01 55 25.5**	**+0.2**
	baz=213						
HKAT				S	**Sb**	**01 55 51.5**	**+1.0**
	baz=213						
HKAT	**Jabal Katrina**	**1.85**	**214**	P	**Pn**	**01 55 25.5**	**+0.2**
HKAT				S	**Sb**	**01 55 51.5**	**+1.0**
SUZ		**2.04**	**264**	P	**Pn**	**01 55 28.6**	**+0.9**
	baz=263						
SUZ		**2.04**	**264**	P	**Pn**	**01 55 28.6**	**+0.9**
ZNM		**2.10**	**252**	P	**Pn**	**01 55 29.6**	**+0.9**
	baz=251						
ZNM		**2.10**	**252**	P	**Pn**	**01 55 29.6**	**+0.9**
HRDS	**Abu Rudays**	**2.11**	**231**	P	**Pn**	**01 55 29.2**	**+0.4**
	baz=230						
SLTI	**Sal'it**	**2.17**	**357**	Pn	**Pn**	**01 55 30.4**	**+0.8**
SLTI				Sn	**Sb**	**01 55 59.6**	**-0.1**
SLTI	**Sal'it**	**2.17**	**357**	Pn	**Pn**	**01 55 30.4**	**+0.8**
SLTI				Sn	**Sb**	**01 55 59.6**	**-0.1**
TBKS	**Tabuk**	**2.20**	**146**	P	**Pn**	**01 55 31.9**	**+1.9**
HMDT	**Nahal Hemdat**	**2.20**	**8**	Pn	**Pn**	**01 55 30.5**	**+0.5**
HMDT				Sn	**Sb**	**01 55 59.6**	**-1.0**
HMDT	**Nahal Hemdat**	**2.20**	**8**	Pn	**Pn**	**01 55 30.5**	**+0.5**
HMDT				Sn	**Sb**	**01 55 59.6**	**-1.0**
MMLI	**Mount Malkishu**	**2.38**	**5**	Pn	**Pn**	**01 55 33.4**	**+0.9**
MMLI				Sn	**Sb**	**01 56 04.3**	**-1.4**
MMLI	**Mount Malkishu**	**2.38**	**5**	Pn	**Pn**	**01 55 33.4**	**+0.9**
MMLI				Sn	**Sb**	**01 56 04.3**	**-1.4**
ZAF		**2.41**	**252**	P	**Pn**	**01 55 33.4**	**+0.6**
	baz=251						
ZAF		**2.41**	**252**	P	**Pn**	**01 55 33.4**	**+0.6**
TCHB	**Talchebab**	**2.69**	**15**	*eP*	**Pn**	**01 55 37.0**	**+0.3**
TCHB				*eS*	**Sn**	**01 56 09.5**	**+0.5**
TCHB				AML	AML	01 56 32.2	
	comp=N,140nm,0.4s						
TCHB				AML	AML	01 56 35.3	
	comp=E,89nm,0.4s						
TCHB	**Talchebab**	**2.69**	**15**	*eP*	**Pn**	**01 55 37.0**	**+0.3**
	SNR=47						
TCHB				*eS*	**Sn**	**01 56 09.5**	**+0.5**
	comp=E,89nm,0.4s,SNR=49						
MMA0	**Mount Meron ar**	**2.95**	**4**	Pn	**Pn**	**01 55 41.5**	**+1.1**
MMA0	**Mount Meron ar**	**2.95**	**4**	Pn	**Pn**	**01 55 41.5**	**+1.1**
SALA	**Sala**	**2.96**	**27**	*eP*	**Pn**	**01 55 40.6**	**0.0**
SALA				*eS*	**Sn**	**01 56 15.6**	**-0.4**
SALA				AML	AML	01 56 32.1	
	comp=E,8.6nm,0.7s						
SALA				AML	AML	01 56 33.9	
	comp=N,58nm,0.4s						
SALA	**Sala**	**2.96**	**27**	*eP*	**Pn**	**01 55 40.6**	**0.0**
	SNR=47						
SALA				*eS*	**Sn**	**01 56 15.6**	**-0.4**
	comp=N,58nm,0.4s,SNR=49						
HNTI	**Hanita**	**3.01**	**0**	Pn	**Pn**	**01 55 41.8**	**+0.7**
HNTI	**Hanita**	**3.01**	**0**	Pn	**Pn**	**01 55 41.8**	**+0.7**
GLL	**Jalalah**	**3.04**	**262**	P	**Pn**	**01 55 41.9**	**+0.2**
	baz=261						
GLL	**Jalalah**	**3.04**	**262**	P	**Pn**	**01 55 41.8**	**+0.2**
KSDI	**Kefar Szold**	**3.15**	**8**	Pn	**Pn**	**01 55 44.0**	**+1.0**
KSDI	**Kefar Szold**	**3.15**	**8**	Pn	**Pn**	**01 55 44.0**	**+1.0**
HHRG	**Al Ghardaqah**	**3.16**	**207**	P	**Pn**	**01 55 43.9**	**+0.6**
	baz=207						
HHRG	**Al Ghardaqah**	**3.16**	**207**	P	**Pn**	**01 55 43.9**	**+0.6**
ZALF	**Zalf**	**3.40**	**33**	*eP*	**Pn**	**01 55 46.6**	**+0.1**
ZALF				*eS*	**Sn**	**01 56 29.5**	**+2.9**
ZALF				AML	AML	01 56 44.9	
	comp=N,49nm,0.5s						
ZALF				AML	AML	01 56 47.7	
	comp=E,38nm,0.5s						
ZALF	**Zalf**	**3.40**	**33**	*eP*	**Pn**	**01 55 46.6**	**+0.1**
	SNR=47						
ZALF				*eS*	**Sn**	**01 56 29.5**	**+2.9**
	comp=E,38nm,0.5s,SNR=49						
BRBR	**Barbar**	**3.40**	**11**	*eP*	**Pn**	**01 55 46.0**	**-0.8**
BRBR				*eS*	**Sn**	**01 56 24.1**	**-2.8**
BRBR				AML	AML	01 56 57.1	
	comp=E,24nm,0.6s						
BRBR				AML	AML	01 56 58.6	
	comp=N,23nm,0.8s						
BRBR	**Barbar**	**3.40**	**11**	*eP*	**Pn**	**01 55 46.0**	**-0.8**
	SNR=47						
BRBR				*eS*	**Sn**	**01 56 24.1**	**-2.8**
	comp=N,23nm,0.8s,SNR=49						
CSS	**Prodhromos**	**5.12**	**343**	Pn	**Pn**	**01 56 11.4**	**+1.2**
CSS	**Prodhromos**	**5.12**	**343**	Pn	**Pn**	**01 56 11.4**	**+1.2**

IDC ***26*** *02:05:22.9±0.7, 53.°65N×163.°40E, h0km, mb3.5/9, mb1 3.8/11, mb1mx3.8/11, mbtmp3.6/11, ML4.1/2, Error ellipse: s-maj=24.1km s-min=12.3km az=172.0*

MOS ***26*** *02:05:23.3±1.0, 53.°71N×163.°47E, h17km, mb4.1/5, Error ellipse: s-maj=12.7km s-min=10.6km az=85.0*

KRSC ***26*** *02:05:23.5±6.7, 53.°75N×163.°45E, h16km±16km, ML4.3*

ISC 26 02:05:22.6±1.9, 53.°75N±0.°04×163.°49E±0.°05, h2km±11km, n64, σ1§85/92, mb3.6/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.32**	**309**	PN	**Pg**	**02 05 47.6**	**-0.2**
MKZ				S	**Sg**	**02 06 04.1**	**-0.7**
MKZ	**Mys Kozlova**	**1.32**	**309**	*eP*	**Pg**	**02 05 47.6**	**-0.2**
MKZ				*eS*	**Sg**	**02 06 04.1**	**-0.7**
SPN	**Mys Shipunski**	**2.17**	**254**	*eS*	**Sn**	**02 06 23.9**	**-3.3**
KZV	**Kizimen**	**2.32**	**308**	*eP*	**Pn**	**02 06 01.8**	**-0.1**
KZV				*eS*	**Sn**	**02 06 28.4**	**-2.6**
KII	**Karymskiy**	**2.41**	**279**	*eP*	**Pn**	**02 06 03.1**	**0.0**
KII				*eS*	**Sn**	**02 06 30.4**	**-2.8**
TUMR	**Tumrok**	**2.48**	**310**	*eP*	**Pn**	**02 06 04.3**	**+0.1**
TUMR				*eS*	**Sn**	**02 06 32.7**	**-2.4**
KBTR	**Krutoberegovo**	**2.50**	**351**	PN	**Pn**	**02 06 02.7**	**-1.5**
KBTR	**Krutoberegovo**	**2.50**	**351**	*eP*	**Pn**	**02 06 02.7**	**-1.5**
KBTR				*eS*	**Sn**	**02 06 31.6**	**-3.7**
NLC	**Nalytchevo**	**2.54**	**259**	PN	**Pn**	**02 06 05.2**	**+0.4**
NLC				S	**Sn**	**02 06 33.2**	**-3.2**
NLC	**Nalytchevo**	**2.54**	**259**	*eP*	**Pn**	**02 06 05.2**	**+0.4**
NLC				*eS*	**Sn**	**02 06 33.2**	**-3.2**
BZGR	**Bezymyannyi-Gr**	**2.73**	**325**	*eP*	**Pn**	**02 06 07.7**	**+0.2**
BZGR				*eS*	**Sn**	**02 06 39.1**	**-2.0**
ZLN	**Zelenaya**	**2.75**	**327**	*eP*	**Pn**	**02 06 07.5**	**-0.4**
ZLN				*eS*	**Sn**	**02 06 39.8**	**-2.0**
KMNR	**Kamenistaya**	**2.76**	**318**	*eP*	**Pn**	**02 06 08.7**	**+0.8**
KMNR				*eS*	**Sn**	**02 06 41.0**	**-0.9**
SDLR	**Sedlovina**	**2.79**	**262**	*eP*	**Pn**	**02 06 09.0**	**+0.6**
SDLR				*eS*	**Sn**	**02 06 39.1**	**-3.5**
BZMR	**Bezymyannaya**	**2.80**	**323**	*eP*	**Pn**	**02 06 08.7**	**+0.2**
BZMR				*eS*	**Sn**	**02 06 40.6**	**-2.3**
BZWR	**Bezymyannyi-We**	**2.82**	**323**	*eP*	**Pn**	**02 06 08.5**	**-0.3**
BZWR				*eS*	**Sn**	**02 06 40.1**	**-3.3**
UGLR	**Uglovaya**	**2.84**	**261**	*eP*	**Pn**	**02 06 10.0**	**+1.0**
UGLR				*eS*	**Sn**	**02 06 41.7**	**-2.1**
SMAR	**Somma**	**2.84**	**262**	*eP*	**Pn**	**02 06 09.7**	**+0.5**
SMAR				*eS*	**Sn**	**02 06 42.3**	**-1.7**
LGNR	**Loginova**	**2.85**	**327**	*eS*	**Sn**	**02 06 43.0**	**-1.3**
KRER	**Koryakskii**	**2.86**	**263**	*eP*	**Pn**	**02 06 10.4**	**+0.9**
KRER				*eS*	**Sn**	**02 06 41.9**	**-2.7**
KIRR	**Kirishev**	**2.87**	**322**	*eP*	**Pn**	**02 06 10.6**	**+1.2**
KIRR				*eS*	**Sn**	**02 06 43.9**	**-0.6**
AVH	**Avacha**	**2.88**	**262**	*eP*	**Pn**	**02 06 10.4**	**+0.9**
AVH				*eS*	**Sn**	**02 06 42.9**	**-1.9**
KRX	**Arik**	**2.91**	**264**	*eP*	**Pn**	**02 06 10.6**	**+0.5**
KRX				*eS*	**Sn**	**02 06 43.2**	**-2.5**
KPT	**Kopyto**	**2.92**	**321**	*eP*	**Pn**	**02 06 10.7**	**+0.6**
KOK	**Koryaka**	**2.93**	**263**	*eP*	**Pn**	**02 06 11.0**	**+0.7**
KOK				*eS*	**Sn**	**02 06 43.7**	**-2.4**
PET	**Petropavlovsk**	**2.98**	**258**	*e*PN	**Pn**	**02 06 12.1**	**+1.2**
PET				pmax	pmax		
	comp=Z,61nm,0.4s						
PET	**Petropavlovsk**	**2.98**	**258**	*eP*	**Pn**	**02 06 11.6**	**+0.7**
PET				*eS*	**Sn**	**02 06 44.0**	**-3.2**
KRSR	**Krestovskiy**	**3.00**	**327**	*eP*	**Pn**	**02 06 11.0**	**-0.2**
KRSR				*eS*	**Sn**	**02 06 43.9**	**-3.8**
KLY	**Klyuchi**	**3.05**	**329**	PN	**Pn**	**02 06 10.8**	**-1.0**
KLY	**Klyuchi**	**3.05**	**329**	*eP*	**Pn**	**02 06 10.8**	**-1.0**
KLY				*eS*	**Sn**	**02 06 45.0**	**-3.8**
SMKR	**Semkarok**	**3.07**	**339**	*eS*	**Sn**	**02 06 48.5**	**-1.0**
KOZR	**Kozyr**	**3.12**	**320**	PN	**Pn**	**02 06 13.7**	**+0.9**
KOZR				S	**Sn**	**02 06 49.3**	**-1.3**
BDR	**Baidarnaya**	**3.12**	**336**	*eS*	**Sn**	**02 06 50.0**	**-0.7**
KOZ	**Kozyrevsk**	**3.12**	**319**	*eP*	**Pn**	**02 06 13.7**	**+0.9**
KOZ				*eS*	**Sn**	**02 06 49.3**	**-1.3**
SRKR	**Sorokina**	**3.21**	**336**	*eS*	**Sn**	**02 06 51.9**	**-0.9**
RUS	**Russkaya**	**3.28**	**248**	PN	**Pn**	**02 06 15.2**	**+0.3**
RUS	**Russkaya**	**3.28**	**248**	*eP*	**Pn**	**02 06 15.2**	**+0.3**
RUS				*eS*	**Sn**	**02 06 51.0**	**-3.4**
GNL	**Ganaly**	**3.30**	**271**	*eP*	**Pn**	**02 06 16.7**	**+1.4**
GNL				*eS*	**Sn**	**02 06 54.2**	**-0.9**
SRDR	**Sredinnyy**	**3.37**	**321**	*eP*	**Pn**	**02 06 16.3**	**0.0**
SRDR				*eS*	**Sn**	**02 06 53.1**	**-3.8**
MTVR	**Mutnovka**	**3.44**	**251**	*eP*	**Pn**	**02 06 18.1**	**+0.8**
MTVR				*eS*	**Sn**	**02 06 56.2**	**-2.5**
GRL	**Gorelyy**	**3.47**	**252**	*eP*	**Pn**	**02 06 18.5**	**+0.7**
GRL				*eS*	**Sn**	**02 06 57.8**	**-1.7**
PETK	**Petropavlovsk-**	**3.52**	**262**	PN	**Pn**	**02 06 19.6**	**+1.3**
PETK						02 06 59.0	
PETK				pmax	pmax		
	comp=Z,13nm,0.3s						
PETK				smax	smax		
	comp=N,17nm,0.3s						
PETK	**Petropavlovsk-**	**3.52**	**262**	Pn	**Pn**	**02 06 19.6**	**+1.3**
	comp=N,13nm,0.3s,baz=86,slow=18,SNR=165						
PETK				Sn	**Sn**	**02 06 59.0**	**-1.6**
	comp=N,17nm,0.3s,baz=79,slow=28,SNR=8.1						
ASAK	**Asacha**	**3.64**	**250**	*eP*	**Pn**	**02 06 21.1**	**+1.1**
ASAK				*eS*	**Sn**	**02 07 02.1**	**-1.4**
MIPR	**Malaya Ipel'ka**	**4.32**	**253**	*eP*	Pn	02 06 31.4	+2.1
SKR	**Severo-Kuril's**	**5.47**	**239**	PN	**Pn**	**02 06 43.0**	**-2.1**
FX1	**Attu Island--F**	**5.86**	**95**	Pn	**Pn**	**02 06 50.1**	**-0.3**
	comp=N,17nm,0.3s,baz=297,slow=5.0,SNR=114						
FX1				Sn	**Sn**	**02 07 52.8**	**-5.4**
	comp=N,20nm,0.3s,baz=173,slow=18,SNR=8.9						
TIXI	**Tiksi**	**23.38**	**333**	*eP*	P	02 10 26.2	-5.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MJA0	**Matsu Arr-Jizo**	**24.55**	**236**	*eP*	**P**	**02 10 46.4**	**+2.8**
MAJO	**Matsushiro**	**24.57**	**236**	*eP*	**P**	**02 10 44.0**	**+0.2**
MJAR	**Matsushiro Arr**	**24.57**	**236**	P	**P**	**02 10 43.9**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=37,slow=7.9,SNR=7.9						
ILAR	**Eielson Array**	**26.90**	**46**	P	**P**	**02 11 07.6**	**+2.9**
	comp=Z,0.4nm,0.7s,baz=252,slow=8.7,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**35.26**	**175**	T	T	02 49 53.7	
	baz=23,slow=77						
H11S3	**WAKE ISLAND Hy**	**35.27**	**175**	T	T	02 49 53.9	
	baz=23,slow=77						
H11S2	**WAKE ISLAND Hy**	**35.27**	**175**	T	T	02 49 54.5	
	baz=23,slow=77						
SONM	**Songino Array**	**35.72**	**284**	P	P	02 12 23.8	+1.4
	comp=Z,0.6nm,0.4s,baz=72,slow=4.7,SNR=2.1						
YKA	**Yellowknife Ar**	**41.29**	**44**	P	**P**	**02 13 10.0**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=295,slow=7.9,SNR=2.5						
KURK	**Kurchatov**	**49.10**	**303**	*eP*	**P**	**02 14 11.7**	**+0.7**
MKAR	**Makanchi Array**	**49.69**	**297**	*eP*	**P**	**02 14 16.1**	**+0.5**
MKAR	**Makanchi Array**	**49.69**	**297**	P	**P**	**02 14 14.2**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=61,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**60.30**	**338**	P	**P**	**02 15 33.0**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=37,slow=9.8,SNR=5.2						
TXAR	**Lajitas Array**	**68.51**	**70**	P	**P**	**02 16 27.1**	**+0.6**
	comp=Z,0.2n

NKC	**Novy Kostel**	**0.02**	**6**	*e*SG	Sg	02 23 51.5	-0.5
	5.5nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**6**	⇓P	Pg	02 23 50.4	-0.2
NKC				S	Sg	02 23 51.7	-0.3
KVC	**Kvetna**	**0.05**	**94**	⇑P	Pg	02 23 50.4	-0.3
KVC				S	Sg	02 23 51.7	-0.6
VAC	**Vackov**	**0.05**	**302**	⇓P	Pg	02 23 50.6	-0.2
VAC				S	Sg	02 23 52.0	-0.3
LBCW	**Luby**	**0.06**	**340**	⇓P	Pg	02 23 50.7	-0.2
LBCW				S	Sg	02 23 52.4	-0.2
STCW	**Studenec**	**0.07**	**44**	⇑P	Pg	02 23 50.7	-0.3
STCW				S	Sg	02 23 52.2	-0.5
KACW	**Kace¯ov**	**0.08**	**144**	S	Sg	02 23 52.5	-0.3
POCW	**Po¯itky**	**0.11**	**354**	⇑P	Pg	02 23 51.4	-0.1
POCW				S	Sg	02 23 53.4	-0.3
KRCW	**Kraslice**	**0.14**	**24**	⇑P	Pg	02 23 51.6	-0.3
KRCW				S	Sg	02 23 53.7	-0.5
KOCW	**Kopaniny**	**0.15**	**293**	⇓P	Pg	02 23 51.8	-0.2
KOCW				S	Sg	02 23 54.1	-0.3
ZHC	**Zelena Hora**	**0.16**	**212**	⇑P	Pg	02 23 52.1	-0.2
ZHC				S	Sg	02 23 54.5	-0.4
LACW	**Lazy**	**0.20**	**144**	S	Sg	02 23 55.5	-0.3

NIED ***26*** *02:24:00,31.00N×139.40E,h5km,Mw4.5 Best double couple: M₀6.71000×10¹⁵ NP1:φs171.00000°,δ86.00000°, λ140.00000°. NP2:φs265.00000°,δ50.00000°,λ5.00000°.*
JMA ***26*** *02:24:36.6±0.4,30.96N×139.43E,h2km±5km,M4.3*
IDC ***26*** *02:24:37.5±0.6,30.96N×139.60E,h0km,mb4.1/20, mb1 4.3/25,mb1mx4.2/31,mbtmp4.1/25,ML4.1/4,MS3.8/18, Ms1 3.8/18,ms1mx3.6/32,Error ellipse: s-maj=16.1km s-min=14.0km az=62.0*
ISCJB ***26*** *02:24:38.2±0.9,30.96N±0.02×139.51E±0.04,h10km±6km, mb4.3/55,MS3.8/22,Error ellipse: s-maj=5.3km s-min=3.9km az=157.6*
BJI ***26*** *02:24:40.2,31.00N×139.40E,h2km,mB4.9/26,mb4.5/32, Ms4.5/25,Ms7 4.1/21*
MOS ***26*** *02:24:41.6±1.2,30.99N×139.43E,h33km,mb4.5/33,Error ellipse: s-maj=10.8km s-min=6.3km az=109.0*
NEIC ***26*** *02:24:44.9±0.9,30.99N×139.45E,h44km±8km,mb4.6/22, MW4.5(NIED),Error ellipse: s-maj=7.7km s-min=6.7km az=116.0*
ISC 26 02:24:41.5±0.5,30.95N±0.04×139.49E±0.04,h17km±2km, n183,σ1s77/213,mb4.4/53,MS3.9/22,2C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.13**	**7**	P	**Pn**	**02 25 14.5**	**-1.8**
JHJ2	**Mitsune**	**2.17**	**7**	P	**Pn**	**02 25 14.5**	**-2.4**
JHJ2	**Mitsune**	**2.17**	**7**	*e*Pn	**Pn**	**02 25 14.4**	**-2.5**
TK02	**Tokai 2**	**3.33**	**334**	P	**Pn**	**02 25 31.0**	**-1.5**
TTO3	**TONANKAI O.B.S**	**3.40**	**329**	P	**Pn**	**02 25 33.1**	**-0.5**
TK03	**Tokai 3**	**3.45**	**339**	P	**Pn**	**02 25 32.8**	**-1.6**
TK03				*e*S	**Sn**	**02 26 13.9**	**-0.9**
TTO4	**TONANKAI O.B.S**	**3.46**	**332**	P	**Pn**	**02 25 32.4**	**-2.0**
TTO4				*e*S	**Sn**	**02 26 13.9**	**-1.0**
TTO1	**TONANKAI O.B.S**	**3.51**	**320**	P	**Pn**	**02 25 33.5**	**-1.5**
TTO1				*e*S	**Sn**	**02 26 15.6**	**-0.5**
BSO1	**Boso 1**	**3.90**	**18**	P	Pn	02 25 35.5	-4.6
BSO3	**Boso 3**	**3.93**	**12**	P	**Pn**	**02 25 38.0**	**-2.9**
BSO3				*e*S	**Sn**	**02 26 25.4**	**-1.1**
JWZ	**Kozaga**	**4.10**	**310**	P	**Pn**	**02 25 41.1**	**-2.3**
JWZ				*e*S	**Sn**	**02 26 28.0**	**-3.1**
JIE	**Ise**	**4.16**	**326**	P	**Pn**	**02 25 42.2**	**-1.9**
JIE				*e*S	**Sn**	**02 26 30.1**	**-2.2**
JKN2	**Miekihoku**	**4.25**	**321**	P	**Pn**	**02 25 43.1**	**-2.4**
JKN2				*e*S	**Sn**	**02 26 31.2**	**-3.6**
JOD2	**Odawara 2**	**4.31**	**356**	P	Pn	02 25 49.9	+3.6
CBIJ	**Chichi jima**	**4.51**	**148**	P	**Pn**	**02 25 47.8**	**-1.2**
CBIJ	**Chichi jima**	**4.51**	**148**	*e*Pn	**Pn**	**02 25 47.2**	**-1.8**
CBIJ				Sn	**Sn**	**02 26 38.2**	**-2.9**
JCJ	**Chichijima**	**4.51**	**148**	Pn	**Pn**	**02 25 46.6**	**-2.5**
	13nm,0.3s,baz=340,slow=13,SNR=8.7						
JCJ				Sn	**Sn**	**02 26 38.2**	**-2.9**
	12nm,0.3s,baz=300,slow=20,SNR=1.8						
JCJ				LR	LR	02 27 25.8	
	comp=Z,1μm,20.4s,baz=45,slow=38						
JNY	**Yasuok**	**4.60**	**343**	P	**Pn**	**02 25 49.2**	**-1.1**
JNY				*e*S	**Sn**	**02 26 41.8**	**-1.7**
JRY	**Ryogami san**	**5.08**	**355**	P	**Pn**	**02 25 59.0**	**+2.2**
MJAR	**Matsushiro Arr**	**5.68**	**350**	Pn	**Pn**	**02 26 04.9**	**-0.2**
MJAR	**Matsushiro Arr**	**5.68**	**350**	Pn	**Pn**	**02 26 04.9**	**-0.2**
	4.6nm,0.3s,baz=154,slow=13,SNR=47						
MJAR				LR	LR	02 28 14.8	
	comp=Z,15nm,28.6s,baz=150,slow=38						
MAJO	**Matsushiro**	**5.68**	**350**	*e*P	**Pn**	**02 26 02.6**	**-2.5**
MAJO	**Matsushiro**	**5.68**	**350**	*e*Pn	**Pn**	**02 26 06.0**	**+1.0**
MAT	**Matsushiro**	**5.68**	**350**	P	**Pn**	**02 26 05.2**	**+0.1**
MAT				S	**Sn**	**02 27 12.8**	**+2.9**
JHO	**Hitachi**	**5.72**	**9**	P	**Pn**	**02 26 04.3**	**-1.3**
JTO	**Tosashimizu**	**6.00**	**290**	P	**Pn**	**02 26 07.9**	**-1.5**
JTO				*e*S	**Sn**	**02 27 14.8**	**-2.9**
JNU	**Nakatsue**	**7.62**	**289**	*e*Pn	**Pn**	**02 26 32.3**	**+0.5**
JNU				*e*Sn	**Sn**	**02 27 57.1**	**-0.8**
JNU	**Nakatsue**	**7.62**	**289**	Pn	**Pn**	**02 26 32.4**	**+0.5**
	4.3nm,0.3s,baz=99,slow=3.8,SNR=19						
JNU				Sn	**Sn**	**02 28 00.0**	**+2.1**
	2.6nm,0.3s,baz=230,slow=15,SNR=6.8						
JNU				LR	LR	02 29 27.8	
	comp=Z,16nm,28.6s,baz=116,slow=38						
JSJ	**Shimokoshiki**	**8.39**	**277**	P	**Pn**	**02 26 44.2**	**+1.8**
JOW	**Kunigami**	**10.65**	**250**	*e*Pn	**Pn**	**02 27 15.4**	**+2.1**
ERM	**Erimo**	**11.43**	**14**	*e*P	Pn	02 27 20.5	-3.4
KSRS	**Korea Array**	**11.56**	**307**	Pn	**Pn**	**02 27 26.9**	**+1.2**
	0.1nm,0.3s,baz=122,slow=14,SNR=4.1						
KSRS				LR	LR	02 31 49.7	
	comp=Z,16nm,28.6s,baz=101,slow=37						
KSAR	**Wonju Array Be**	**11.58**	**307**	Pn	**Pn**	**02 27 26.9**	**+0.9**
ASAJ	**Asahikawa**	**13.37**	**10**	Pn	Pn	02 27 46.3	-4.1
ASAJ	**Asahikawa**	**13.37**	**10**	Pn	Pn	02 27 46.3	-4.1
	0.9nm,0.3s,baz=208,slow=11,SNR=4.0						
ASAJ				LR	LR	02 32 57.2	
	comp=Z,16nm,28.6s,baz=168,slow=37						
YUK	**Yuzh-Kuril'sk**	**14.00**	**19**	P	**Pn**	**02 28 01.3**	**+2.3**
YUK				S	**Sn**	**02 30 36.1**	**+2.2**
YUK				MLR	MLR		
	comp=Z,484nm,16.0s						
USRK	**Ussuriysk Arra**	**14.49**	**338**	LR	LR	02 33 20.0	
	comp=Z,16nm,28.6s,baz=140,slow=36						
MDJ	**Mudanjiang**	**15.71**	**333**	P	**Pn**	**02 28 23.3**	**+1.4**
MDJ				S	**Sn**	**02 31 17.3**	**+1.7**
MDJ				PcP	**PcP**	**02 33 23.3**	**+1.4**
MDJ				ScP	**ScP**	**02 36 57.5**	**+2.1**
MDJ				ScS	**ScS**	**02 40 34.0**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,280nm,3.7s						
MDJ				LR	LR		
	comp=Z,210nm,17.7s						
MDJ				LR	LR		
	comp=Z,200nm,17.3s						
YSS	**Yuzh-Sakhalins**	**16.18**	**8**	*e*P	**Pn**	**02 28 27.3**	**-0.6**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS	**Yuzh-Sakhalins**	**16.18**	**8**	*e*Pn	**Pn**	**02 28 28.7**	**+0.8**
CN2	**Changchun**	**16.97**	**323**	*e*P	**P**	**02 28 39.5**	**-0.4**
CN2				*e*PP	**PnPn**	**02 28 52.5**	**+4.8**
CN2				*e*S	**Sn**	**02 31 46.3**	**+0.1**
CN2				*e*SS	**SnSn**	**02 32 06.5**	**+7.0**
CN2				pmax	pmax		
	comp=N,10.0nm,1.2s						
CN2				LR	LR		
	comp=N,900nm,13.0s						
CN2				LR	LR		
	comp=N,600nm,13.0s						
NJ2	**Nanjing**	**17.63**	**279**	*e*P	**Pn**	**02 28 42.0**	**-4.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HABR	**Khabarovsk**	**17.82**	**350**	*e*P	**Pn**	**02 28 44.2**	**-4.4**
HABR				pmax	pmax		
	comp=Z,31nm,1.6s						
GUMO	**Guam**	**17.98**	**163**	*e*Pn	**P**	**02 28 52.8**	**+1.6**
	comp=Z,150nm,1.0s						
BJT	**Baijiatuan**	**20.99**	**302**	*e*P	**P**	**02 29 25.0**	**+1.1**
	comp=Z,30nm,0.8s						
BJI	**Beijing**	**20.99**	**302**	P	**P**	**02 29 24.8**	**+0.9**
BJI				S	**S**	**02 33 19.3**	**+2.2**
BJI				pmax	pmax		
	comp=Z,28nm,0.9s						
BJI				pmax	pmax		
	comp=Z,130nm,3.7s						
BJI				LR	LR		
	comp=Z,330nm,19.2s						
BJI				LR	LR		
	comp=Z,460nm,17.4s						
BJI				LR	LR		
	comp=Z,250nm,20.9s						
HHC	**Hu-ho-hao-te**	**24.59**	**301**	*e*P	**P**	**02 30 02.3**	**+1.4**
HHC				sP	**sP**	**02 30 10.3**	**+2.3**
HHC				PP	**PnPn**	**02 30 36.0**	**+3.8**
HHC				PcP	**PcP**	**02 33 40.3**	**+1.9**
HHC				S	**S**	**02 34 19.0**	**-2.3**
HHC				PcS	**PcS**	**02 37 20.5**	**+2.0**
HHC				pmax	pmax		
	comp=Z,22nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,5.0s						
HHC				LR	LR		
	comp=Z,450nm,12.1s						
HHC				LR	LR		
	comp=Z,640nm,12.9s						
HHC				LR	LR		
	comp=Z,640nm,12.4s						
PETK	**Petropavlovsk-**	**25.80**	**26**	P	**P**	**02 30 10.7**	**-0.8**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PETK				MLR	MLR		
	comp=Z,69nm,21.1s						
PETK	**Petropavlovsk-**	**25.80**	**26**	P	**P**	**02 30 10.7**	**-0.8**
PETK	**Petropavlovsk-**	**25.80**	**26**	P	**P**	**02 30 10.7**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=195,slow=10,SNR=3.5						
PETK				LR	LR	02 40 38.5	
	comp=Z,69nm,21.1s,baz=210,slow=37						
H11N2	**WAKE ISLAND Hy 27.10 108**			T	T	02 58 39.0	
	baz=303,slow=76,SNR=2055						
H11N1	**WAKE ISLAND Hy 27.11 108**			T	T	02 58 33.8	
	baz=303,slow=76,SNR=2133						
H11N3	**WAKE ISLAND Hy 27.12 108**			T	T	02 58 40.3	
	baz=303,slow=76,SNR=2037						
H11S3	**WAKE ISLAND Hy 27.56 110**			T	T	02 59 12.2	
	baz=306,slow=74,SNR=2737						
H11S1	**WAKE ISLAND Hy 27.57 110**			T	T	02 59 09.2	
	baz=306,slow=74,SNR=3005						
H11S2	**WAKE ISLAND Hy 27.58 110**			T	T	02 59 10.2	
	baz=306,slow=74,SNR=2055						
GYA	**Guiyang**	**29.07**	**269**	P	**P**	**02 30 42.0**	**+0.7**
GYA				PcP	**PcP**	**02 33 51.3**	**+2.0**
GYA				SS	SS	02 37 02.0	-34
GYA				ScP	**ScP**	**02 37 31.8**	**+1.6**
GYA				ScS	**ScS**	**02 41 23.3**	**-1.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=Z,580nm,17.5s						
GYA				LR	LR		
	comp=Z,510nm,18.0s						
GYA				LR	LR		
	comp=Z,540nm,17.7s						
QIZ	**Qiongzhong**	**29.28**	**253**	P	**P**	**02 30 43.5**	**+0.4**
QIZ				S	**S**	**02 35 38.3**	**+2.8**
ULN	**Ulaanbaatar**	**29.93**	**314**	*e*P	**P**	**02 30 49.7**	**+0.9**
	comp=Z,6.9nm,1.0s						
LZH	**Lanzhou**	**30.05**	**289**	*e*P	**P**	**02 30 50.8**	**+0.9**
LZH				pP	**pP**	**02 30 53.0**	**-2.0**
LZH				sP	**sP**	**02 30 55.5**	**-1.6**
LZH				PP	**PnPn**	**02 31 46.5**	**-0.2**
LZH				*e*S	**S**	**02 35 46.3**	**-1.3**
LZH				sS	**sS**	**02 35 53.0**	**-3.0**
LZH				SS	**SnSn**	**02 37 22.5**	**+2.6**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,63nm,4.2s						
LZH				LR	LR		
	comp=Z,600nm,14.8s						
LZH				LR	LR		
	comp=Z,520nm,13.8s						
LZH				LR	LR		
	comp=Z,780nm,15.4s						
SONM	**Songino Array**	**30.33**	**313**	P	**P**	**02 30 52.9**	**+0.7**
SONM	**Songino Array**	**30.33**	**313**	P	**P**	**02 30 52.9**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=119,slow=8.6,SNR=5.2						
SONM				LR	LR	02 43 33.4	
	comp=Z,166nm,19.1s,baz=59,slow=37						
CD2	**Chengdu**	**30.57**	**279**	*e*P	**P**	**02 30 55.8**	**+1.4**
CD2				pP	**pP**	**02 31 00.3**	**+0.8**
CD2				sP	**sP**	**02 31 03.0**	**+1.4**
CD2				PP	**PnPn**	**02 31 55.8**	**+2.2**
CD2				S	**S**	**02 35 55.5**	**-0.2**
CD2				sS	**sS**	**02 36 02.8**	**-1.3**
CD2				SS	**ScP**	**02 37 35.8**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,100nm,7.2s						
CD2				LR	LR		
	comp=Z,510nm,14.2s						
CD2				LR	LR		
	comp=Z,280nm,11.8s						
CD2				LR	LR		
	comp=Z,280nm,14.4s						
GTA	**Gaotai**	**33.29**	**296**	*e*P	**P**	**02 31 18.0**	**-0.4**
GTA				pP	**pP**	**02 31 22.3**	**-1.2**
GTA				sP	**sP**	**02 31 25.0**	**-0.6**
GTA				S	**S**	**02 36 36.5**	**-1.7**
GTA				SS	**SnSn**	**02 38 37.0**	**-1.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,52nm,5.0s						
GTA				LR	LR		
	comp=Z,490nm,17.6s						
GTA				LR	LR		
	comp=Z,750nm,19.0s						
GTA				LR	LR		
	comp=Z,220nm,19.5s						
CHTO	**Chiang Mai**	**38.52**	**261**	*e*P	**P**	**02 32 03.7**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CHTO	**Chiang Mai**	**38.52**	**261**	*e*P	**P**	**02 32 03.6**	**+0.5**
	comp=Z,3.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.67**	**261**	P	**P**	**02 32 04.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.67**	**261**	P	**P**	**02 32 04.3**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=55,slow=8.0,SNR=6.9						
TIXI	**Tiksi**	**41.16**	**355**	*e*P	**P**	**02 32 24.5**	**0.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.5s						
WMQ	**Urumqi**	**42.46**	**303**	P	**P**	**02 32 36.5**	**+0.9**
WMQ				sP	**sP**	**02 32 43.8**	**+0.9**
WMQ				PP	**PP**	**02 34 18.0**	**+4.0**
WMQ				PcP	**PcP**	**02 34 30.0**	**+1.6**
WMQ				PcS	**PcS**	**02 38 21.0**	**+0.7**
WMQ				S	**S**	**02 38 57.0**	**+0.1**
WMQ				SS	**SS**	**02 42 00.0**	**-6.1**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,90nm,4.0s						
WMQ				LR	LR		
	comp=Z,200nm,16.0s						
WMQ				LR	LR		
	comp=Z,180nm,16.0s						
WMQ				LR	LR		
	comp=Z,190nm,16.0s						
KULM	**Kulim**	**44.50**	**243**	*e*P	**P**	**02 32 52.6**	**+0.3**
	comp=Z,18nm,1.1s						
HNR	**Honiara**	**44.69**	**151**	LR	LR	02 50 57.3	
	comp=Z,16nm,28.6s,baz=312,slow=35						
COEN	**Coen**	**44.79**	**175**	*e*P	**P**	**02 32 55.4**	**+1.0**
ZALV	**Zalesovo Beam**	**45.05**	**317**	P	**P**	**02 32 55.9**	**-0.3**
ZALV						02 34 35.6	
ZALV	**Zalesovo Beam**	**45.05**	**317**	P	**P**	**02 32 55.9**	**-0.3**
ZALV				PcP	**PcP**	**02 34 35.6**	**-1.2**
ZALV	**Zalesovo Beam**	**45.05**	**317**	P	**P**	**02 32 55.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=101,slow=7.8,SNR=2.5						
ZALV				PcP	**PcP**	**02 34 35.6**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=98,slow=4.4,SNR=1.5						
MK31	**Makanchi Array**	**46.24**	**307**	*e*P	**P**	**02 33 05.5**	**-0.3**
MK31	**Makanchi Array**	**46.24**	**307**	*e*P	**P**	**02 33 05.5**	**-0.3**
MKAR	**Makanchi Array**	**46.24**	**307**	*ce*P	**P**	**02 33 05.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.24**	**307**	*e*P	**P**	**02 33 05.8**	**0.0**
MKAR	**Makanchi Array**	**46.24**	**307**	P	**P**	**02 33 05.3**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=90,slow=9.0,SNR=17						
MKAR				LR	LR	02 53 30.1	
	comp=Z,16nm,28.6s,baz=70,slow=37						
KURK	**Kurchatov**	**48.63**	**312**	P	**P**	**02 33 23.1**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**48.63**	**312**	*e*P	**P**	**02 33 23.1**	**-1.2**
	comp=Z,3.3nm,0.8s						
KURBB	**Kurchatov Arra**	**48.69**	**312**	P	**P**	**02 33 23.1**	**-1.6**
	comp=Z,2.2nm,0.5s,baz=90,slow=7.6,SNR=33						
WRAB	**Tennant Creek**	**50.83**	**186**	*e*P	**P**	**02 33 40.0**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**50.83**	**186**	*e*P	**P**	**02 33 40.0**	**-1.3**
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**50.84**	**186**	P	**P**	**02 33 40.1**	**-1.3**
WRA	**Warramunga Arr**	**50.84**	**186**	P	**P**	**02 33 40.1**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=6.2,slow=7.8,SNR=16						
TKM2	**Tokmak 2**	**51.32**	**302**	*e*P	**P**	**02 33 45.3**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TKM2	**Tokmak 2**	**51.32**	**302**	*e*P	**P**	**02 33 45.3**	**+0.2**
	comp=Z,6.9nm,1.3s						
KSH	**Kashi**	**51.63**	**298**	P	P	02 33 51.0	+3.6
KSH				sP	sP	02 33 58.0	+3.3
KSH				PP	PP	02 35 50.0	+5.2
KSH				PcS	**PcS**	**02 39 00.0**	**+0.9**
KSH				S	**S**	**02 41 12.0**	**+4.1**
KSH				SS	**SS**	**02 44 45.0**	**+1.0**
KSH				pmax	pmax		
	comp=Z,81nm,4.0s						
KSH				LR	LR		
	comp=Z,110nm,5.4s						
KSH				LR	LR		
	comp=Z,87nm,5.4s						
KSH				LR	LR		
	comp=Z,140nm,6.3s						
AAK	**Ala-Archa**	**52.17**	**302**	*e*P	**P**	**02 33 50.6**	**-0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**52.17**	**302**	*e*P	**P**	**02 33 50.6**	**-0.8**
	comp=Z,2.6nm,0.9s						
EKS2	**Erkin-Say**	**52.68**	**302**	*e*P	**P**	**02 33 54.0**	**-1.2**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EKS2	**Erkin-Say**	**52.68**	**302**	*e*P	**P**	**02 33 54.0**	**-1.2**
	comp=Z,2.6nm,0.9s						
BVAR	**Borovoye Array**	**53.63**	**316**	LR	LR	02 57 51.3	
	comp=Z,16nm,28.6s,baz=73,slow=37						
BRVK	**Borovoye**	**53.69**	**316**	*e*P	**P**	**02 34 01.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**53.69**	**316**	*e*P	**P**	**02 34 01.4**	**-0.9**
	comp=Z,4.3nm,0.9s						
AS31	**Alice Springs**	**54.57**	**186**	*e*P	**P**	**02 34 07.9**	**-1.1**
ASAR	**Alice Springs**	**54.57**	**186**	P	**P**	**02 34 07.7**	**-1.2**
ASAR	**Alice Springs**	**54.57**	**186**	P	**P**	**02 34 07.7**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=2.9,slow=6.6,SNR=43						
MCK	**McKinley**	**54.61**	**31**	*e*P	**P**	**02 34 09.2**	**+0.4**
MCK				pmax	pmax		
	comp=Z,14nm,1.2s						
MCK	**McKinley**	**54.61**	**31**	*e*P	**P**	**02 34 09.2**	**+0.4**
	comp=Z,14nm,1.2s						
KKAR	**Karatay Array**	**54.96**	**303**	*e*P	**P**	**02 34 11.1**	**-0.6**
KKAR	**Karatay Array**	**54.96**	**303**	*e*P	**P**	**02 34 11.1**	**-0.6**
COLA	**College**	**55.10**	**30**	*e*P	**P**	**02 34 12.7**	**+0.4**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
COLA	**College**	**55.10**	**30**	*e*P	**P**	**02 34 12.7**	**+0.4**
	comp=Z,6.6nm,1.1s						
ILAR	**Eielson Array**	**55.51**	**30**	P	**P**	**02 34 14.2**	**-1.1**
ILAR	**Eielson Array**	**55.51**	**30**	P	**P**	**02 34 14.2**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=267,slow=7.2,SNR=6.6						
RAGM	**Ragged Mountai**	**56.73**	**35**	*e*P	**P**	**02 34 24.5**	**+0.4**
	comp=Z,370nm,0.7s						
KBL	**Kabul**	**58.25**	**294**	*e*P	**P**	**02 34 35.0**	**-0.5**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBL	**Kabul**	**58.25**	**294**	*e*P	**P**	**02 34 35.0**	**-0.5**
	comp=Z,3.0nm,0.6s						
DZM	**Mont Dzumac**	**58.73**	**151**	*e*LR	LR	02 51 55.6	
	comp=Z,234nm,25.0s						
ARU	**Arti**	**59.95**	**321**	*c iP*	**P**	**02 34 43.7**	**-2.9**
ARU						02 36 55.0	
ARU				S	**S**	**02 42 52.6**	**-5.3**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**60.54**	**25**	P	**P**	**02 34 48.7**	**-1.7**
INK	**Inuvik**	**60.54**	**25**	P	**P**	**02 34 48.7**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=316,slow=4.6,SNR=6.9						
ABKAR	**Akbulak array**	**60.74**	**312**	*e*P	**P**	**02 34 51.0**	**-1.1**
AKTO	**Aktyubinsk**	**61.65**	**314**	LR	LR	03 02 37.9	
	comp=Z,175nm,20.0s,baz=67,slow=37						
STKA	**Stephens Creek**	**62.52**	**178**	LR	LR	03 03 56.4	
	comp=Z,73nm,18.0s,baz=26,slow=38						
KEV	**Kevo**	**68.57**	**340**	*e*P	P	02 35 55.4	+13
KEV	**Kevo**	**68.57**	**340**	*e*p	P	02 35 55.4	+13
	comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**69.13**	**340**	P	**P**	**02 35 45.5**	**-0.9**
ARCES	**ARCESS Array B**	**69.13**	**340**	P	**P**	**02 35 45.5**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=90,slow=7.2,SNR=2.7						
ARCES				LR	LR	03 09 41.9	
	comp=Z,16nm,28.6s,baz=76,slow=39						
YKA	**Yellowknife Ar**	**69.88**	**28**	P	**P**	**02 35 49.1**	**-2.0**
YKA	**Yellowknife Ar**	**69.88**	**28**	P	**P**	**02 35 49.1**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=299,slow=6.1,SNR=9.8						
JOF	**Joensuu**	**70.59**	**333**	*e*P	**P**	**02 35 54.0**	**-1.4**
JOF	**Joensuu**	**70.59**	**333**	*e*p	**P**	**02 35 54.0**	**-1.4**
	comp=Z,0.2nm,0.3s						
MAK	**Makhachkala**	**70.99**	**309**	*e*P	**P**	**02 35 56.3**	**-1.9**
MAK				MLR	MLR		
	comp=Z,338nm,14.0s	

NOA					LR	LR	03 14 39.9		
	comp=Z,16nm,28.6s,baz=10.0,slow=38								
LRM	**Limekiln Ridge**	**79.65**	**43**	*e*P	**P**	**02 36 50.3**	**+1.9**		
	comp=Z,46nm,0.8s								
FFC	**Flin Flon**	**79.70**	**31**	*e*P	**P**	**02 36 48.4**	**+0.3**		
FFC				pmax	pmax				
	comp=Z,3.0nm,0.8s								
FFC	**Flin Flon**	**79.70**	**31**	*e*P	**P**	**02 36 48.4**	**+0.3**		
	comp=Z,2.9nm,0.8s								
NVAR	**Mina Array Bea**	**79.97**	**51**	P	**P**	**02 36 48.4**	**-1.9**		
NVAR	**Mina Array Bea**	**79.97**	**51**	P	**P**	**02 36 48.3**	**-1.9**		
	comp=Z,0.8nm,0.7s,baz=286,slow=6.3,SNR=6.0								
BR131	**Keskin Array S**	**81.67**	**311**	*e*P	**P**	**02 36 58.5**	**-0.7**		
	comp=Z,2.1nm,0.9s								
BRTR	**Keskin Array B**	**81.67**	**311**	P	**P**	**02 36 57.0**	**-2.2**		
BRTR	**Keskin Array B**	**81.67**	**311**	P	**P**	**02 36 57.0**	**-2.2**		
	comp=Z,0.7nm,0.8s,baz=151,slow=2.8,SNR=4.1								
BRTR					LR	LR	03 17 39.4		
	comp=Z,16nm,28.6s,baz=54,slow=39								
BUR08	**Bucovina Ar. S**	**82.06**	**322**	*e*P	**P**	**02 37 01.2**	**+0.2**		
TPNV	**Topopah Spring**	**82.14**	**52**	*e*P	**P**	**02 37 01.9**	**+0.2**		
TPNV	**Topopah Spring**	**82.14**	**52**	*e*P	**P**	**02 37 01.9**	**+0.2**		
	comp=Z,72nm,2.6s								
PDAR	**Pinedale Array**	**83.11**	**44**	P	**P**	**02 37 04.6**	**-2.2**		
PDAR	**Pinedale Array**	**83.11**	**44**	P	**P**	**02 37 04.6**	**-2.2**		
	comp=Z,0.4nm,0.8s,baz=302,slow=5.2,SNR=3.3								
PMOR	**Pomariorio Ree**	**83.32**	**112**	*e*T	T	04 08 34.9			
	comp=Z,39nm,0.2s								
PPT	**Papeete**	**83.44**	**115**	LR	LR	03 04 18.2			
	comp=Z,50nm,21.8s,baz=344,slow=29								
PPT2	**Papeete2**	**83.46**	**115**	*e*LR	LR	03 03 11.2			
	comp=Z,89nm,25.5s								
PPT2	**Papeete2**	**83.46**	**115**	*e*T	T	04 08 46.9			
	comp=Z,2.0nm,0.2s								
TIAR	**Tiarei**	**83.62**	**115**	*e*T	T	04 08 57.6			
	comp=Z,1.8nm,0.2s								
MORC	**Moravsky Berou**	**84.55**	**326**	*e*P	**P**	**02 37 13.6**	**-0.1**		
MORC				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MORC	**Moravsky Berou**	**84.55**	**326**	*e*P	**P**	**02 37 13.6**	**-0.1**		
	comp=Z,2.3nm,0.8s								
SRU	**San Rafael**	**84.66**	**47**	*e*P	**P**	**02 37 14.7**	**0.0**		
SRU				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SRU	**San Rafael**	**84.66**	**47**	*e*P	**P**	**02 37 14.7**	**0.0**		
	comp=Z,4.3nm,0.9s								
PV04	**Paradox Valley**	**86.10**	**47**	*e*P	**P**	**02 37 24.4**	**+2.4**		
TBI	**Tubuai**	**86.86**	**119**	*e*LR	LR	03 04 51.7			
	comp=Z,132nm,30.0s								
TBI	**Tubuai**	**86.86**	**119**	*e*T	T	04 13 01.8			
	comp=Z,5.2nm,0.4s								
TXAR	**Lajitas Array**	**95.12**	**51**	P	**P**	**02 38 03.4**	**-0.8**		
TXAR	**Lajitas Array**	**95.12**	**51**	P	**P**	**02 38 03.4**	**-0.8**		
	comp=Z,1.5nm,0.7s,baz=300,slow=2.7,SNR=14								
TORD	**Torodi Ar. Bea**	**120.28**	**311**	PKP	**PKPdf**	**02 43 30.8**	**-1.7**		
TORD	**Torodi Ar. Bea**	**120.28**	**311**	PKP	**PKPdf**	**02 43 30.7**	**-1.7**		
	comp=Z,0.5nm,0.8s,baz=117,slow=2.5,SNR=2.7								
TSUM	**Tsumeb**	**126.61**	**268**	*e*PKPdf	**PKPdf**	**02 43 45.1**	**+0.6**		
H03N2	**Juan Fernandez**	**147.51**	**105**	T	T	05 29 07.8			
	baz=277,slow=75,SNR=542								
H03N3	**Juan Fernandez**	**147.52**	**105**	T	T	05 29 07.8			
	baz=277,slow=75,SNR=838								
H03N1	**Juan Fernandez**	**147.53**	**105**	T	T	05 29 09.1			
	baz=277,slow=75,SNR=581								
SAML	**Samuel**	**149.58**	**49**	*e*PKPdf	**PKPdf**	**02 44 26.9**	**+0.7**		
SAML				*e*PKPbc	**PKiKP**	**02 44 31.9**	**+0.1**		
SAML				*e*PKPab	**PKPab**	**02 44 36.9**	**+1.2**		
LPAZ	**La Paz**	**150.89**	**66**	*e*PKPbc	**PKPbc**	**02 44 34.3**	**-0.2**		
LPAZ	**La Paz**	**150.89**	**66**	PKPbc	**PKPbc**	**02 44 34.4**	**-0.2**		
	comp=Z,2.5nm,0.8s,baz=257,slow=3.6,SNR=9.5								

*IDC **26** 02:26:44.2±2.3, 23°.55S×71°.28W, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=63.9km s-min=46.9km az=5.0*
*ISCJB **26** 02:26:48.8±1.3, 23°.40S±0°.05×70°.8W±0°.1, h35km±11km, mb3.4/3, Error ellipse: s-maj=19.7km s-min=8.8km az=4.3*
*GUC **26** 02:26:49.2±0.8, 23°.32S×70°.72W, h34km±5km, ML4.0*

ISC 26 02:26:50.2±1.4, 23°.42S±0°.07×70°.7W±0°.1, h34km±3km, n16, σ0°89/16, mb3.5/3, 5C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB10	**Plate Boundary**	**0.16**	**124**	↓*i*P	**Pb**	**02 26 56.2**	**-0.5**
PB10				*i* S	**Sb**	**02 27 00.7**	**-0.3**
PB10				AML	AML	02 27 01.2	
	comp=E,91μm,0.3s						
ANCH	**Antofagasta**	**0.37**	**134**	↓*i*P	**Pn**	**02 26 58.9**	**-0.4**
ANCH				*i* S	**Sb**	**02 27 05.8**	**+0.7**
ANCH				AML	AML	02 27 06.2	
	comp=E,11μm,0.1s						
PB06	**Plate Boundary**	**1.26**	**56**	↑*i*P	**Pn**	**02 27 10.9**	**-0.7**
PB06				*i* S	**Sn**	**02 27 27.5**	**+0.1**
PB06				AML	AML	02 27 28.2	
	comp=N,7μm,0.3s						
MACH	**Maria Elena**	**1.50**	**36**	*e*P	**Pn**	**02 27 14.2**	**-0.8**
MACH				*i* S	**Sn**	**02 27 33.2**	**-0.2**
PB04	**Plate Boundary**	**1.61**	**44**	↑*i*P	Pn	02 27 09.4	-6.8
PB04				*i* S	Sn	02 27 24.4	-11
PB04				AML	AML	02 27 26.9	
	comp=N,2μm,0.3s						
PB07	**Plate Boundary**	**1.85**	**24**	↑*i*P	**Pn**	**02 27 18.6**	**-1.0**
PB07				*i* S	**Sn**	**02 27 41.5**	**-0.4**
PB07				AML	AML	02 27 48.9	
	comp=E,2μm,0.6s						
PB09	**Plate Boundary**	**2.11**	**40**	↑*i*P	**Pn**	**02 27 23.5**	**+0.3**
PB09				AML	AML	02 27 59.5	
	comp=E,4μm,0.5s						
PB01	**Plate Boundary**	**2.62**	**26**	↑*i*P	**Pn**	**02 27 29.6**	**-0.6**
PB01				AML	AML	02 28 17.5	
	comp=E,507nm,0.5s						
LPAZ	**La Paz**	**7.50**	**19**	Pn	**Pn**	**02 28 39.4**	**+1.6**
	comp=E,0.3nm,0.3s,baz=186,slow=8.0,SNR=8.6						
H03N1	**Juan Fernandez**	**12.32**	**214**	T	T	02 42 20.1	
	baz=39,slow=74,SNR=21						
H03N2	**Juan Fernandez**	**12.32**	**214**	T	T	02 42 17.7	
	baz=39,slow=74,SNR=428						
H03N3	**Juan Fernandez**	**12.33**	**214**	T	T	02 42 18.3	
	baz=39,slow=74,SNR=496						
BDFB	**Brasilia**	**22.72**	**74**	P	P	02 31 54.5	+5.1
	comp=E,0.5nm,0.4s,baz=237,slow=10,SNR=2.0						
TORD	**Torodi Ar. Bea**	**79.55**	**71**	P	**P**	**02 38 55.0**	**+0.9**
	comp=E,0.5nm,0.8s,baz=240,slow=5.3,SNR=5.1						
YKA	**Yellowknife Ar**	**92.45**	**341**	P	**P**	**02 39 55.9**	**-1.1**
	comp=E,0.1nm,0.5s,baz=142,slow=4.9,SNR=3.2						
MKAR	**Makanchi Array**	**148.16**	**36**	PKPbc	**PKPbc**	**02 46 33.5**	**+1.1**
	comp=E,0.3nm,0.9s,baz=306,slow=1.2,SNR=2.4						

*ISCJB **26** 02:34:60.0±1.4, 17°.55S±0°.6×178°.8W±0°.4, h547km, mb3.4/7, Error ellipse: s-maj=84.9km s-min=17.1km az=148.5*
*IDC **26** 02:35:02.4±5.5, 17°.80S×178°.59W, h570km±61km, mb2.9/7, mb1 3.2/7, mb1mx3.2/7, mbtmp3.8/7, Error ellipse: s-maj=76.7km s-min=24.0km az=149.0*

ISC 26 02:35:00.9±1.4, 17°.6S±0°.6×178°.7W±0°.4, h547km, n10, σ1°39/11, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**02 41 36.6**	**-0.4**
	1.6nm,0.6s,baz=88,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**02 42 23.6**	**+0.1**
	0.4nm,0.5s,baz=96,slow=7.1,SNR=9.3						
WRA				PcP	**PcP**	**02 43 54.1**	**-1.4**
	0.3nm,0.6s,baz=90,slow=3.7,SNR=9.5						
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**	**02 42 25.6**	**+0.6**
	1.8nm,0.5s,baz=87,slow=8.8,SNR=50						
ASAR				PcP	**PcP**	**02 43 54.5**	**-1.7**
	0.2nm,0.4s,baz=105,slow=3.7,SNR=6.2						
ILAR	**Eielson Array**	**85.63**	**13**	P	**P**	**02 46 40.8**	**-0.5**
	0.3nm,0.4s,baz=223,slow=4.7,SNR=9.2						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**02 46 44.4**	**0.0**
	0.4nm,0.7s,baz=219,slow=5.4,SNR=7.1						
PDAR	**Pinedale Array**	**87.31**	**44**	P	**P**	**02 46 49.7**	**-0.4**
	0.4nm,0.6s,baz=219,slow=3.8,SNR=4.0						
YKA	**Yellowknife Ar**	**94.15**	**25**	P	**P**	**02 47 20.4**	**-0.4**
	0.1nm,0.5s,baz=241,slow=4.2,SNR=2.6						
BRTR	**Keskin Array B**	**144.35**	**315**	PKP	PKPbc	02 53 34.5	-0.7
	0.3nm,0.5s,baz=66,slow=1.5,SNR=4.4						
MMAI	**Mount Meron Ar**	**145.73**	**303**	PKPbc	**PKPdf**	**02 53 39.3**	**+1.5**
	0.7nm,0.4s,baz=74,slow=6.2,SNR=8.1						
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc	**PKPdf**	**02 53 42.6**	**+2.7**
	0.6nm,0.5s,baz=330,slow=5.7,SNR=4.8						

IDC 26 02:38:59.1±5.7, 27°.52S×66°.45E, h0km, mb3.7/2, mb1 3.7/2, mb1mx3.3/24, mbtmp3.7/2, Error ellipse: s-maj=240.0km s-min=49.8km az=43.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**20.58**	**17**	T	T	03 04 48.1	
	baz=197,slow=76,SNR=10						
H08S2	**Diego Garcia H**	**20.59**	**17**	T	T	03 04 50.4	
	baz=197,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**20.60**	**17**	T	T	03 04 49.5	
	baz=197,slow=76,SNR=12						
ASAR	**Alice Springs**	**60.29**	**103**	P	P	02 49 09.8	0.0
	0.3nm,0.7s,baz=250,slow=6.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**82.68**	**11**	P	P	02 51 23.9	-0.2
	0.5nm,0.3s,baz=192,slow=5.6,SNR=3.6						
YKA	**Yellowknife Ar**	**145.02**	**1**	PKPbc	PKPbc	02 58 36.5	-0.5
	1.1nm,0.7s,baz=344,slow=3.7,SNR=38						

*IDC **26** 03:28:52.1±2.2, 15°.71S×172°.73W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/21, mbtmp3.8/5, ML1.6/1, Error ellipse: s-maj=98.7km s-min=20.1km az=137.0*
*ISCJB **26** 03:28:55.3±1.8, 15°.8S±0°.3×172°.7W±0°.4, h35km, mb3.8/4, Error ellipse: s-maj=67.7km s-min=11.3km az=38.2*

ISC 26 03:28:57.0±2.0, 15°.7S±0°.4×172°.7W±0°.4, h35km, n6, σ1°46/7, mb3.6/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.99**	**27**	Pn	**Pn**	**03 29 26.4**	**-1.9**
	14nm,0.3s,baz=80,slow=16,SNR=6.1						
AFI				Sn	**Sn**	**03 29 53.4**	**+1.2**
	56nm,0.3s,baz=172,slow=18,SNR=7.0						
WRA	**Warramunga Arr**	**50.42**	**257**	P	**P**	**03 37 52.0**	**+0.5**
	0.4nm,0.6s,baz=95,slow=7.5,SNR=3.4						
ASAR	**Alice Springs**	**50.65**	**252**	P	**P**	**03 37 52.4**	**-0.8**
	3.1nm,0.7s,baz=88,slow=8.6,SNR=22						
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**03 40 30.4**	**+0.3**
	0.4nm,0.6s,baz=243,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**82.61**	**11**	P	**P**	**03 41 17.6**	**+1.4**
	0.4nm,0.6s,baz=210,slow=4.9,SNR=8.7						
BRTR	**Keskin Array B**	**146.80**	**321**	PKPbc	**PKPab**	**03 48 36.8**	**-0.4**
	0.6nm,0.8s,baz=54,slow=7.4,SNR=4.0						

IDC 26 03:29:45.2±2.7, 19°.85S×177°.96W, h340km±29km, mb3.2/9, mb1 3.5/11, mb1mx3.4/21, mbtmp4.0/11, Error ellipse: s-maj=23.2km s-min=14.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.36**	**46**	P	Pn	03 31 43.0	-0.6
	1.8nm,0.3s,baz=197,slow=19,SNR=1.4						
AFI				S	S	03 33 12.4	-7.8
	4.0nm,0.3s,baz=61,slow=18,SNR=1.0						
URZ	**Urewera**	**18.84**	**192**	P	P	03 33 41.8	+0.4
	0.9nm,0.3s,baz=31,slow=14,SNR=6.6						
URZ				S	S	03 36 50.0	-7.5
	0.3nm,0.3s,baz=7.3,slow=20,SNR=1.5						
CTA	**Charters Tower**	**33.60**	**263**	P	P	03 35 56.0	+1.2
	1.2nm,0.4s,baz=88,slow=9.5,SNR=4.5						
STKA	**Stephens Creek**	**38.11**	**243**	P	P	03 36 32.2	-0.4
	0.7nm,0.4s,baz=87,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**44.71**	**256**	P	P	03 37 25.8	-0.2
	2.7nm,0.7s,baz=97,slow=8.2,SNR=54						
WRA	**Warramunga Arr**	**44.73**	**261**	P	P	03 37 25.3	-0.8
	0.7nm,0.3s,baz=97,slow=7.3,SNR=28						
FITZ	**Fitzroy Crossi**	**53.16**	**262**	P	P	03 38 29.5	0.0
	0.9nm,0.6s,baz=102,slow=9.3,SNR=3.5						
VNDA	**Vanda**	**58.56**	**185**	P	P	03 39 06.7	+0.2
	1.0nm,0.6s,baz=355,slow=7.9,SNR=7.3						
NVAR	**Mina Array Bea**	**80.53**	**43**	P	P	03 41 20.6	+0.2
	0.2nm,0.7s,baz=226,slow=8.5,SNR=4.1						
TXAR	**Lajitas Array**	**86.67**	**57**	P	P	03 41 52.1	+0.6
	0.4nm,0.6s,baz=224,slow=7.4,SNR=9.0						
PDAR	**Pinedale Array**	**88.46**	**43**	P	P	03 41 59.4	-0.4
	0.3nm,0.6s,baz=190,slow=4.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**173.33**	**177**	PKPab	PKPab	03 50 42.9	-2.0
	0.2nm,0.6s,baz=189,slow=2.9,SNR=1.5						

IDC 26 03:30:34.4±2.6, 3°.00N×128°.12E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.2/22, mbtmp3.0/3, Error ellipse: s-maj=198.4km s-min=27.3km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.60**	**165**	P	P	03 35 46.2	-0.9
	0.1nm,0.3s,baz=344,slow=9.9,SNR=6.2						
ASAR	**Alice Springs**	**27.09**	**168**	P	P	03 36 19.0	-0.1
	0.1nm,0.4s,baz=350,slow=7.5,SNR=8.8						
MKAR	**Makanchi Array**	**58.95**	**325**	P	P	03 40 36.4	+0.8
	0.1nm,0.3s,baz=111,slow=6.3,SNR=1.7						

GUC 26 03:37:14.8±0.5, 42°.84S×72°.64W, h10km, ML3.7, 2C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUNY	**Huinay**	**0.49**	**20**	↓*i*P	Pg	03 37 23.9	-0.5
HUNY				*i* S	Sg	03 37 31.2	+0.4
HUNY				AML	AML	03 37 35.7	
	comp=N,4μm,0.4s						
FUTA	**Futaleufœ**	**0.68**	**121**	↑*i*P	Pg	03 37 27.7	-0.3
FUTA				*i* S	Sg	03 37 37.1	+0.2
FUTA				AML	AML	03 37 37.8	
	comp=N,2μm,0.3s						
PUYE	**Entre Lagos**	**2.15**	**1**	↑*i*P	Pb	03 37 53.7	-0.2
PUYE				*i* S	Sg	03 38 24.3	+0.3
PUYE				AML	AML	03 38 33.8	
	comp=E,4μm,0.5s						
OSCH	**Osorno**	**2.29**	**351**	*e*P	Pb	03 37 55.2	-1.1
OSCH				*i* S	Sg	03 38 26.6	-1.8
OSCH				AML	AML	03 38 31.0	
	comp=E,2μm,0.7s						
COYC	**Coyhaique**	**2.76**	**172**	AML	AML	03 38 43.8	
	comp=E,140nm,0.6s						

*ISCJB **26** 03:38:06.0±0.9, 18°.4N±0°.1×94°.53E±0°.08, h33km, mb3.6/7, Error ellipse: s-maj=21.2km s-min=7.0km az=26.2*
*IDC **26** 03:38:13.2±6.5, 18°.46N×94°.83E, h71km±52km, mb3.3/7, mb1 3.6/8, mb1mx3.3/27, mbtmp3.6/8, ML4.1/1, MS2.3/1, Ms1 2.5/1, ms1mx2.3/28, Error ellipse: s-maj=51.8km s-min=18.2km az=60.0*

ISC 26 03:38:08.5±1.2, 18°.4N±0°.2×94°.5E±0°.1, h35km, n17, σ1°33/19, mb3.6/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.19**	**89**	P	**Pn**	**03 39 10.6**	**+0.6**
	3.1nm,0.3s,baz=266,slow=14,SNR=22						
CMAR				S	**Sn**	**03 39 56.0**	**-1.8**
	8.9nm,0.3s,baz=256,slow=17,SNR=8.5						
CMAR				LR	LR	03 41 18.2	
	comp=Z,42nm,20.1s,baz=174,slow=47						
ODAN	**Odare**	**10.66**	**323**	*e*S	**Sn**	**03 42 35.8**	**-1.5**
TAPN	**Taplejung**	**10.87**	**326**	*e*P	**Pn**	**03 40 43.8**	**+1.9**
	5.2nm,0.3s						
RAMN	**Ramite**	**11.19**	**321**	*e*P	**Pn**	**03 40 46.7**	**+0.4**
JIRN	**Jiri**	**11.96**	**322**	*e*P	**Pn**	**03 40 57.5**	**+0.5**
JIRN				*e*S	**Sn**	**03 43 06.2**	**-3.2**
GUN	**Gumba**	**12.33**	**321**	*e*P	**Pn**	**03 41 03.0**	**+1.0**
PKIN	**Phulchoki**	**12.38**	**319**	*e*P	**Pn**	**03 41 03.2**	**+0.6**
	9.0nm,0.5s						
KOLN	**Koldanda**	**13.68**	**315**	*e*P	**Pn**	**03 41 20.3**	**0.0**
DANN	**Dangsing**	**13.96**	**317**	*e*P	**Pn**	**03 41 24.1**	**-0.1**
MKAR	**Makanchi Array**	**30.02**	**343**	P	**P**	**03 44 15.9**	**+1.8**
	0.1nm,0.5s,baz=148,slow=8.4,SNR=3.4						
SONM	**Songino Array**	**30.89**	**16**	P	**P**	**03 44 22.3**	**+0.6**
	0.4nm,0.5s,baz=202,slow=7.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**36.23**	**350**	P	**P**	**03 45 09.3**	**+1.3**
	0.4nm,0.3s,baz=169,slow=8.2,SNR=1.9						
WRA	**Warramunga Arr**	**54.59**	**132**	P	**P**	**03 47 33.0**	**-0.8**
	1.0nm,0.7s,baz=320,slow=7.3,SNR=9.4						
ASAR	**Alice Springs**	**56.81**	**136**	P	**P**	**03 47 49.2**	**-0.5**
	0.4nm,0.4s,baz=313,slow=7.1,SNR=17						
ILAR	**Eielson Array**	**84.88**	**22**	P	**P**	**03 50 38.8**	**-0.7**
	0.3nm,0.7s,baz=289,slow=5.2,SNR=4.9						
YKA	**Yellowknife Ar**	**96.12**	**13**	P	**P**	**03 51 32.3**	**-0.1**
	0.1nm,0.5s,baz=333,slow=5.2,SNR=2.4						
TXAR	**Lajitas Array**	**129.37**	**21**	PKP	**PKPdf**	**03 57 14.7**	**+0.6**
	0.2nm,1.0s,baz=252,slow=0.6,SNR=2.7						

SKO 26 03:53:28.1, 41°.31N×22°.72E, h13km, ML0.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.11**	**276**	*i* Pg	Pg	03 53 31.4	0.0
VAY				*i* Sg	Sg	03 53 33.5	-0.1
VAY				*e*Lg	Lg	03 53 33.6	
	comp=N,14nm,0.2s						
VAY				*e*Lg	Lg	03 53 34.1	
	comp=E,9.0nm,0.2s						

IDC 26 04:04:50.9±2.2, 1°.55N×127°.07E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.2/21, mbtmp3.1/3, Error ellipse: s-maj=178.1km s-min=26.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.52**	**162**	P	P	04 09 53.2	+0.7
	0.2nm,0.4s,baz=341,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**25.93**	**166**	P	P	04 10 24.6	-0.5
	0.1nm,0.6s,baz=345,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**59.53**	**326**	P	P	04 14 56.2	0.0
	0.2nm,0.3s,baz=112,slow=8.2,SNR=5.5						

IDC 26 04:09:41.5±4.2, 6°.35S×147°.54E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.4/5, ML2.8/2, Error ellipse: s-maj=82.4km s-min=30.6km az=84.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.06**	**187**	Pn	Pn	04 10 31.7	+0.6
	1.5nm,0.3s,baz=308,slow=12,SNR=4.7						
PMG				Sn	Sb	04 11 14.3	-0.3
	2.6nm,0.3s,baz=57,slow=18,SNR=6.6						
WRA	**Warramunga Arr**	**18.63**	**222**	P	P	04 14 00.6	-0.2
	0.1nm,0.3s,baz=48,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**21.64**	**216**	P	P	04 14 33.2	-0.4
	0.4nm,0.3s,baz=50,slow=9.5,SNR=14						
FITZ	**Fitzroy Crossi**	**24.35**	**239**	P	P	04 15 01.4	+0.1
	0.9nm,0.5s,baz=71,slow=9.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**53.89**	**298**	P	P	04 19 07.0	-0.1
	0.8nm,0.4s,baz=119,slow=7.3,SNR=2.0						

*IDC **26** 04:14:01.7±0.4, 53°.85N×161°.57E, h0km, mb4.4/28, mb1 4.6/31, mb1mx4.6/33, mbtmp4.5/31, ML4.8/3, MS4.3/20, Ms1 4.3/20, ms1mx4.1/39, Error ellipse: s-maj=14.2km s-min=9.0km az=161.0*
*KRSC **26** 04:14:02.0±3.9, 53°.70N×161°.80E, h15km±15km, ML5.3*
*MOS **26** 04:14:03.4±1.0, 53°.83N×161°.49E, h21km, mb5.0/68, MS4.4/19, Error ellipse: s-maj=7.2km s-min=4.5km az=83.1*
*BJI **26** 04:14:04.4, 54°.06N×161°.43E, h37km, mB5.0/33, mb4.7/38, Ms4.9/35, Ms7 4.7/34*
*ISCJB **26** 04:14:05.6±0.3, 53°.75N±0°.02×161°.65E±0°.02, h42km±3km, mb4.8/211, MS4.5/39, Error ellipse: s-maj=4.0km s-min=2.1km az=163.9*
*NEIC **26** 04:14:07.4±0.1, 53°.89N×161°.43E, mb5.0/121, Error ellipse: s-maj=4.2km s-min=2.0km az=166.0*
*SZGRF **26** 04:14:30.1, 57°.59N×160°.04E, h33km, mb4.7, Kamchatka Peninsula, Russia*

ISC 26 04:14:06.7±0.3, 53°.76N±0°.03×161°.61E±0°.03, h35km±2km, h35km:pP-P, n857, σ1°13/962, mb4.9/211, MS4.5/39, 145C-170D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.80**	**5**	PN	**Pn**	**04 14 19.0**	**-2.4**
MKZ	**Mys Kozlova**	**0.80**	**5**	P	**Pn**	**04 14 19.0**	**-2.4**
SDLR	**Sedlovina**	**1.70**	**255**	P	**Pn**	**04 14 32.9**	**-1.1**
TUMR	**Tumrok**	**1.75**	**331**	P	**Pn**	**04 14 34.8**	**+0.2**
TUMR				*i* S	**Sn**	**04 14 57.7**	**+2.0**
SMAR	**Somma**	**1.75**	**255**	P	**Pn**	**04 14 33.7**	**-1.1**
SMAR				*i* S	**Sn**	**04 14 55.6**	**-0.3**
UGLR	**Uglovaya**	**1.76**	**253**	P	**Pn**	**04 14 34.0**	**-0.7**
UGLR				*i* S	**Sn**	**04 14 55.3**	**-0.6**
KRER	**Koryakskii**	**1.77**	**256**	P	**Pn**	**04 14 34.0**	**-1.0**
AVH	**Avacha**	**1.79**	**255**	P	**Pn**	**04 14 34.5**	**-0.6**
KRX	**Arik**	**1.81**	**258**	P	**Pn**	**04 14 34.6**	**-0.9**
KOK	**Koryaka**	**1.84**	**256**	P	**Pn**	**04 14 35.1**	**-0.7**
KOK				*i* S	**Sn**	**04 14 58.9**	**+1.0**
PET	**Petropavlovsk**	**1.92**	**249**	*e*PN	**Pn**	**04 14 35.7**	**-1.2**
PET				*e*S	**Sn**	**04 15 01.4**	**+1.6**
PET				pmax	pmax		
	com

FX1	**Attu Island--F**	**6.98**	**93**	*e*Pn	**Pn**	**04 15 43.8**	**-2.5**
FX1				*e*Sn	Sn	04 16 58.6	-5.7
FX1	**Attu Island--F**	**6.98**	**93**	Pn	Pn	04 15 43.6	-2.7
	comp=Z,128nm,0.3s,baz=330,slow=6.4,SNR=336						
FX1				Sn	Sn	04 16 57.5	-6.8
	comp=Z,36nm,0.3s,baz=162,slow=20,SNR=8.3						
YSS	**Yuzh-Sakhalins**	**13.81**	**248**	*e*P	**Pn**	**04 17 21.9**	**+2.1**
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
YSS				MLR	MLR		
	comp=N,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**13.81**	**248**	*e*Pn	**Pn**	**04 17 20.1**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**14.18**	**233**	*e*P	P	04 17 36.4	+4.6
YUK				pmax	pmax		
	comp=N,55nm,0.5s						
YUK				pmax	pmax		
	comp=Z,109nm,0.5s						
YUK				pmax	pmax		
	comp=E,76nm,0.1s						
YUK				MLR	MLR		
	comp=N,616nm,19.0s						
YUK				MLR	MLR		
	comp=E,1μm,19.0s						
YUK				MLR	MLR		
	comp=Z,862nm,19.0s						
ASAJ	**Asahikawa**	**15.74**	**240**	*e*Pn	**Pn**	**04 17 45.0**	**-0.5**
	comp=Z,59nm,1.3s						
ASAJ	**Asahikawa**	**15.74**	**240**	Pn	**Pn**	**04 17 45.3**	**-0.3**
	comp=Z,4.6nm,0.3s,baz=36,slow=7.1,SNR=15						
ASAJ				LR	LR	04 23 57.5	
	comp=Z,1μm,18.7s,baz=23,slow=38						
GAMB	**Gambell**	**16.95**	**43**	*e*Pn	**P**	**04 18 02.5**	**+0.1**
	comp=Z,29nm,1.0s						
ERM	**Erimo**	**17.01**	**234**	*e*P	**Pn**	**04 17 57.8**	**-3.9**
ERM	**Erimo**	**17.01**	**234**	*e*Pn	**Pn**	**04 17 58.1**	**-3.5**
	comp=Z,32nm,0.6s						
ERM	**Erimo**	**17.01**	**234**	Pn	**Pn**	**04 17 57.7**	**-3.9**
	comp=Z,324nm,0.4s,SNR=12						
HABR	**Khabarovsk**	**17.44**	**263**	*e*P	**Pn**	**04 18 03.9**	**-3.1**
HABR				*e*S	**Sn**	**04 21 16.3**	**-3.5**
HABR				pmax	pmax		
	comp=Z,111nm,1.4s						
YAK	**Yakutsk**	**18.70**	**309**	*e*P	**P**	**04 18 19.4**	**-2.3**
YAK				*e*S	**Sn**	**04 21 48.5**	**-1.7**
YAK				pmax	pmax		
	comp=Z,46nm,1.3s						
YAK				pmax	pmax		
	comp=E,41nm,1.6s						
YAK				pmax	pmax		
	comp=N,15nm,1.5s						
YAK				smax	smax		
	comp=N,47nm,1.4s						
YAK				smax	smax		
	comp=E,77nm,1.8s						
YAK				MLR	MLR		
	comp=Z,1μm,17.0s						
YAK				MLR	MLR		
	comp=N,615nm,12.0s						
YAK				MLR	MLR		
	comp=E,990nm,15.0s						
UNV	**Unalaska Valle**	**18.75**	**77**	*e*P	**Pn**	**04 18 23.7**	**+0.8**
	comp=E,172nm,1.1s						
KLR	**Kul'dur**	**19.06**	**268**	*e*P	**P**	**04 18 23.8**	**-1.9**
KLR				pmax	pmax		
	comp=E,110nm,1.8s						
KLR				pmax	pmax		
	comp=Z,180nm,1.8s						
KLR				MLR	MLR		
	comp=E,1μm,11.0s						
KLR				MLR	MLR		
	comp=Z,6μm,11.0s						
TNA	**Tin City**	**19.15**	**40**	*e*P	**Pn**	**04 18 27.5**	**-0.1**
	comp=Z,57nm,1.1s						
CLNS	**Chul'man**	**20.96**	**293**	*e*P	**P**	**04 18 44.6**	**-1.8**
CLNS				pmax	pmax		
	comp=Z,14nm,1.3s						
CLNS				pmax	pmax		
	comp=N,30nm,1.3s						
CLNS				pmax	pmax		
	comp=E,21nm,1.3s						
CLNS				MLR	MLR		
	comp=Z,1μm,13.0s						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s						
CLNS				MLR	MLR		
	comp=N,353nm,11.0s						
USRK	**Ussuriysk Arra**	**21.52**	**256**	P	**P**	**04 18 51.8**	**-0.6**
	comp=N,3.9nm,0.6s,baz=58,slow=12,SNR=10						
USRK				LR	LR	04 28 01.9	
	comp=N,841nm,18.7s,baz=48,slow=39						
MDJ	**Mudanjiang**	**22.67**	**259**	P	**P**	**04 19 03.5**	**-1.2**
MDJ				pP	**pP**	**04 19 11.8**	**-2.3**
MDJ				sP	**sP**	**04 19 16.0**	**-2.5**
MDJ				S	**S**	**04 23 09.0**	**-1.4**
MDJ				sS	Sn	04 23 23.0	-2.7
MDJ				pmax	pmax		
	comp=N,25nm,1.6s						
MDJ				pmax	pmax		
	comp=N,340nm,3.9s						
MDJ				LR	LR		
	comp=N,900nm,15.3s						
MDJ				LR	LR		
	comp=N,700nm,14.4s						
MDJ				LR	LR		
	comp=N,1μm,14.8s						
TIXI	**Tiksi**	**22.87**	**334**	*e*P	**P**	**04 19 04.3**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s						
TIXI				MLR	MLR		
	comp=Z,1μm,23.0s						
TIXI	**Tiksi**	**22.87**	**334**	*e*P	**P**	**04 19 04.2**	**-2.4**
	comp=Z,15nm,1.1s						
MJAR	**Matsushiro Arr**	**23.68**	**233**	P	**P**	**04 19 15.7**	**+0.8**
MJAR	**Matsushiro Arr**	**23.68**	**233**	P	**P**	**04 19 15.7**	**+0.8**
	comp=Z,33nm,1.0s,baz=19,slow=9.3,SNR=47						
MAJO	**Matsushiro**	**23.68**	**233**	*d*P	**P**	**04 19 16.0**	**+1.1**
MAJO	**Matsushiro**	**23.68**	**233**	*e*P	**P**	**04 19 15.8**	**+0.9**
	comp=Z,119nm,1.1s						
SVW2	**Sparrevohn**	**23.80**	**55**	*e*P	**P**	**04 19 16.8**	**+0.9**
	comp=Z,28nm,1.2s						
IM04	**Indian Mountai**	**24.88**	**43**	*e*P	**P**	**04 19 25.2**	**-0.5**
RSO	**Redoubt South**	**25.22**	**56**	*e*P	**P**	**04 19 30.8**	**+1.8**
	comp=Z,146nm,0.9s						
PPLA	**Purkeypile**	**25.37**	**50**	*e*P	**P**	**04 19 31.3**	**+1.0**
	comp=Z,125nm,1.4s						
OHAK	**Old Harbor**	**25.42**	**64**	*e*P	**P**	**04 19 29.8**	**-0.8**
	comp=Z,138nm,1.4s						
CAST	**Castle Rocks**	**25.42**	**49**	*e*P	**P**	**04 19 32.0**	**+1.3**
	comp=Z,19nm,1.0s						
CN2	**Changchun**	**25.57**	**262**	*e*P	**P**	**04 19 30.0**	**-2.1**
CN2				*es*P	**sP**	**04 19 43.5**	**-2.9**
CN2				*e*PP	**PnPn**	**04 20 09.3**	**+0.7**
CN2				*e*S	**S**	**04 23 52.0**	**-5.4**
CN2				*e*SS	**SnSn**	**04 24 54.8**	**+2.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.5s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,700nm,16.0s						
KTH	**Kantishna Hill**	**25.94**	**49**	*e*P	**P**	**04 19 35.2**	**-0.2**
	comp=Z,137nm,1.0s						
HIA	**Hailar**	**26.16**	**277**	*e*P	**P**	**04 19 36.4**	**-1.1**
	comp=Z,22nm,0.8s						
TRF	**Thorofare Moun**	**26.23**	**49**	*e*P	**P**	**04 19 38.1**	**-0.1**
	comp=Z,262nm,2.5s						
COLD	**Coldfoot**	**26.45**	**41**	*e*P	**P**	**04 19 39.4**	**-0.5**
	comp=Z,16nm,1.1s						
MCK	**McKinley**	**26.83**	**49**	*e*P	**P**	**04 19 43.3**	**0.0**
MCK				pmax	pmax		
	comp=Z,27nm,1.0s						
MCK	**McKinley**	**26.83**	**49**	*e*P	**P**	**04 19 43.3**	**0.0**
	comp=Z,27nm,1.0s						
COLA	**College**	**27.28**	**46**	*e*P	**P**	**04 19 46.9**	**-0.4**
COLA				pmax	pmax		
	comp=Z,15nm,0.9s						
COLA	**College**	**27.28**	**46**	*e*P	**P**	**04 19 46.9**	**-0.4**
	comp=Z,15nm,0.9s						
ILAR	**Eielson Array**	**27.70**	**46**	P	**P**	**04 19 50.5**	**-0.6**
ILAR	**Eielson Array**	**27.70**	**46**	P	**P**	**04 19 50.5**	**-0.6**
	comp=Z,5.6nm,0.9s,baz=263,slow=8.2,SNR=48						
ILAR				LR	LR	04 32 10.8	
	comp=Z,350nm,19.8s,baz=142,slow=39						
KSRS	**Korea Array**	**28.31**	**249**	P	**P**	**04 19 56.8**	**0.0**
	comp=Z,3.3nm,0.5s,baz=42,slow=8.9,SNR=10						
KSRS				LR	LR	04 30 34.3	
	comp=Z,448nm,18.6s,baz=60,slow=35						
KSAR	**Wonju Array Be**	**28.34**	**249**	P	**P**	**04 19 56.8**	**-0.3**
DOT	**Dot Lake**	**29.00**	**48**	*e*pP	pP	04 20 13.6	+0.7
JNU	**Nakatsue**	**30.02**	**239**	P	**P**	**04 20 12.7**	**+0.7**
JNU	**Nakatsue**	**30.02**	**239**	P	**P**	**04 20 12.7**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=212,slow=15,SNR=3.2						
JNU				LR	LR	04 33 44.1	
	comp=Z,257nm,18.4s,baz=41,slow=39						
EGAK	**Eagle**	**30.14**	**46**	*e*P	**P**	**04 20 12.0**	**-0.8**
	comp=Z,22nm,0.9s						
DAWY	**Dawson**	**31.00**	**47**	*e*P	**P**	**04 20 20.5**	**+0.1**
HYT	**Haines Junctio**	**32.54**	**53**	*e*P	**P**	**04 20 35.3**	**+1.2**
HYT				*e*pP	**pP**	**04 20 46.1**	**+1.9**
INK	**Inuvik**	**32.78**	**38**	*e*P	**P**	**04 20 35.8**	**-0.1**
	comp=Z,9.9nm,1.1s						
INK	**Inuvik**	**32.78**	**38**	P	**P**	**04 20 36.0**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=290,slow=7.7,SNR=22						
BJI	**Beijing**	**33.34**	**264**	P	**P**	**04 20 40.3**	**-0.8**
BJI				S	**S**	**04 25 58.0**	**-1.2**
BJI				pmax	pmax		
	comp=Z,11nm,0.7s						
BJI				pmax	pmax		
	comp=Z,110nm,5.5s						
BJI				LR	LR		
	comp=Z,880nm,18.1s						
BJI				LR	LR		
	comp=Z,1μm,18.1s						
H11N2	**WAKE ISLAND Hy**	**34.21**	**171**	T	T	04 58 11.3	
	baz=357,slow=76,SNR=326						
H11N3	**WAKE ISLAND Hy**	**34.23**	**171**	T	T	04 58 12.5	
	baz=357,slow=76,SNR=354						
H11N1	**WAKE ISLAND Hy**	**34.23**	**171**	T	T	04 58 12.7	
	baz=357,slow=76,SNR=264						
ULN	**Ulaanbaatar**	**34.24**	**283**	*e*P	**P**	**04 20 48.9**	**-0.1**
	comp=Z,3.5nm,1.1s						
TLY	**Talaya**	**34.34**	**291**	*e*P	**P**	**04 20 52.1**	**+2.4**
TLY				*e*		04 22 17.3	
TLY				pmax	pmax		
	comp=Z,12nm,1.4s						
TLY				MLR	MLR		
	comp=Z,811nm,16.0s						
SONM	**Songino Array**	**34.63**	**283**	P	**P**	**04 20 51.2**	**-1.3**
SONM				PcP	**PcP**	**04 23 26.8**	**+0.8**
SONM	**Songino Array**	**34.63**	**283**	P	**P**	**04 20 51.2**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=66,slow=8.2,SNR=8.3						
SONM				PcP	**PcP**	**04 23 26.8**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=102,slow=0.9,SNR=5.0						
SONM				LR	LR	04 36 20.9	
	comp=Z,903nm,19.0s,baz=152,slow=39						
HHC	**Hu-ho-hao-te**	**35.56**	**269**	*e*P	**P**	**04 21 00.0**	**-0.5**
HHC				sP	**sP**	**04 21 15.5**	**+0.6**
HHC				PcP	**PcP**	**04 23 30.8**	**+2.0**
HHC				S	**S**	**04 26 31.0**	**-2.8**
HHC				sS	**sS**	**04 26 49.5**	**-1.1**
HHC				ScP	**ScP**	**04 27 11.5**	**-0.2**
HHC				pmax	pmax		
	comp=Z,29nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,4.6s						
HHC				LR	LR		
	comp=Z,970nm,13.3s						
HHC				LR	LR		
	comp=Z,860nm,13.3s						
HHC				LR	LR		
	comp=Z,1μm,13.8s						
NJ2	**Nanjing**	**37.33**	**252**	S	**S**	**04 27 02.0**	**+1.3**
NJ2				sS	**ScP**	**04 27 19.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
NJ2				LR	LR		
	comp=N,650nm,29.9s						
NJ2				LR	LR		
	comp=E,1μm,25.2s						
NJ2				LR	LR		
	comp=Z,440nm,27.0s						
YKA	**Yellowknife Ar**	**42.05**	**44**	P	**P**	**04 21 54.2**	**-0.2**
YKA	**Yellowknife Ar**	**42.05**	**44**	P	**P**	**04 21 54.2**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=298,slow=7.7,SNR=24						
ZALV	**Zalesovo Beam**	**43.18**	**303**	P	**P**	**04 22 01.9**	**-1.7**
ZALV						04 23 48.7	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,720nm,18.8s						
ZALV	**Zalesovo Beam**	**43.18**	**303**	P	**P**	**04 22 01.9**	**-1.7**
ZALV				PP	**PcP**	**04 23 48.7**	**-3.8**
ZALV	**Zalesovo Beam**	**43.18**	**303**	P	**P**	**04 22 01.9**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=72,slow=6.7,SNR=3.6						
ZALV				PP	**PcP**	**04 23 48.7**	**-3.8**
	comp=Z,0.7nm,0.3s,baz=66,slow=5.2,SNR=4.2						
ZALV				LR	LR	04 41 29.2	
	comp=Z,720nm,18.8s,baz=83,slow=38						
LZH	**Lanzhou**	**43.25**	**270**	P	**P**	**04 22 05.3**	**+0.7**
LZH				pP	**pP**	**04 22 13.3**	**-1.7**
LZH				sP	**sP**	**04 22 17.8**	**-1.4**
LZH				PP	**PP**	**04 23 45.0**	**-0.3**
LZH				*e*S	**S**	**04 28 27.0**	**-2.3**
LZH				SS	SS	04 31 32.0	-11
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,86nm,4.2s						
LZH				LR	LR		
	comp=Z,680nm,14.2s						
LZH				LR	LR		
	comp=Z,480nm,12.0s						
LZH				LR	LR		
	comp=Z,790nm,15.6s						
GTA	**Gaotai**	**43.43**	**277**	P	**P**	**04 22 06.5**	**+0.4**
GTA				pP	**pP**	**04 22 16.5**	**+0.1**
GTA				sP	**sP**	**04 22 20.5**	**-0.1**
GTA				S	**S**	**04 28 32.3**	**+0.4**
GTA				sS	**sS**	**04 28 48.3**	**-0.6**
GTA				SS	SS	04 31 38.8	-7.5
GTA				pmax	pmax		
	comp=Z,12nm,1.3s						
GTA				pmax	pmax		
	comp=Z,100nm,5.7s						
GTA				LR	LR		
	comp=Z,550nm,14.7s						
GTA				LR	LR		
	comp=Z,560nm,14.7s						
GTA				LR	LR		
	comp=Z,780nm,13.8s						
NVS	**Novosibirsk**	**43.48**	**305**	⇑*i*P	P	04 22 02.1	-4.0
NVS				pmax	pmax		
	comp=N,3.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,14nm,1.2s						
CMW	**Cultus Mountai**	**46.05**	**64**	P	**P**	**04 22 27.9**	**+1.2**
JCW	**Jim Creek**	**46.29**	**64**	P	**P**	**04 22 29.4**	**+0.8**
CD2	**Chengdu**	**46.94**	**265**	*e*P	**P**	**04 22 33.8**	**0.0**
CD2				pP	**pP**	**04 22 44.0**	**-0.3**
CD2				sP	**sP**	**04 22 48.5**	**+0.1**
CD2				PP	**PP**	**04 24 23.3**	**-1.1**
CD2				S	**S**	**04 29 20.3**	**-2.2**
CD2				sS	**sS**	**04 29 37.5**	**-2.2**
CD2				SS	SS	04 32 39.3	-10
CD2				pmax	pmax		
	comp=Z,20nm,1.4s						
CD2				pmax	pmax		
	comp=Z,120nm,6.0s						
CD2				LR	LR		
	comp=Z,490nm,15.6s						
CD2				LR	LR		
	comp=Z,700nm,15.4s						
CD2				LR	LR		
	comp=Z,990nm,16.6s						
KKH	**Kailua Kona**	**46.96**	**120**	*e*P	pP	04 22 46.5	+2.0
KKH	**Kailua Kona**	**46.96**	**120**	*e*pP	pP	04 22 46.5	+2.0
NLW	**Nelson Butte**	**47.20**	**63**	P	**P**	**04 22 36.6**	**+0.8**
ETW	**Entiat**	**47.50**	**64**	P	**P**	**04 22 38.7**	**+0.6**
B08A	**Colville Reser**	**47.56**	**63**	*e*P	**P**	**04 22 38.5**	**0.0**
WMQ	**Urumqi**	**47.60**	**290**	P	**P**	**04 22 40.0**	**+1.1**
WMQ				sP	**sP**	**04 22 54.0**	**+0.5**
WMQ				PP	**PP**	**04 24 30.0**	**-0.4**
WMQ				ScP	**ScP**	**04 28 01.0**	**+1.7**
WMQ				S	**S**	**04 29 31.0**	**-0.7**
WMQ				sS	**sS**	**04 29 47.0**	**-2.0**
WMQ				ScS	**ScS**	**04 32 28.0**	**-1.4**
WMQ				SS	**SS**	**04 32 53.0**	**-6.5**
WMQ				pmax	pmax		
	comp=Z,15nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.0s						
WMQ				LR	LR		
	comp=Z,730nm,16.0s						
WMQ				LR	LR		
	comp=Z,810nm,16.0s						
WMQ				LR	LR		
	comp=Z,990nm,16.0s						
EDM	**Edmonton**	**47.63**	**54**	*e*P	**P**	**04 22 39.6**	**+0.6**
EDM				*e**PP	**pP**	**04 22 49.8**	**+0.4**
EDM	**Edmonton**	**47.63**	**54**	*e*P	**P**	**04 22 39.6**	**+0.6**
EDM				*e*pP	**pP**	**04 22 49.8**	**+0.4**
WTV	**Waterville**	**47.64**	**64**	P	**P**	**04 22 39.4**	**+0.2**
EBG	**Ellensburg**	**47.80**	**65**	P	**P**	**04 22 41.2**	**+0.8**
SAW	**Saint Andrews**	**47.93**	**63**	P	**P**	**04 22 41.6**	**+0.2**
VLL	**Laurance Lake**	**48.11**	**67**	P	**P**	**04 22 43.7**	**+0.9**
SZP	**Santa**	**48.12**	**237**	*e*P	**P**	**04 22 44.8**	**+1.8**
KURK	**Kurchatov**	**48.15**	**302**	*e*P	**P**	**04 22 39.9**	**-3.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**48.15**	**302**	*e*P	**P**	**04 22 39.9**	**-3.0**
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**48.15**	**302**	P	**P**	**04 22 40.0**	**-3.0**
	comp=Z,99nm,0.3s,SNR=6.7						
H04A	**Detroit Lake**	**48.32**	**68**	*e*P	**P**	**04 22 45.1**	**+0.7**
	comp=Z,18nm,0.9s						
H04A				*e*pP	**pP**	**04 22 56.2**	**+1.4**
E07A	**Sunnyside**	**48.41**	**65**	*e*P	**P**	**04 22 45.8**	**+0.8**
	comp=Z,14nm,0.8s						
G05D	**Wamic, OR**	**48.44**	**67**	⇑P	**P**	**04 22 45.4**	**+0.1**
	baz=48						
C09A	**Chrisman Ranch**	**48.47**	**63**	*e*P	**P**	**04 22 46.0**	**+0.5**
	comp=Z,17nm,0.9s						
OD2	**Odessa Site #2**	**48.49**	**63**	P	**P**	**04 22 45.9**	**+0.2**
GYA	**Guiyang**	**48.53**	**258**	P	**P**	**04 22 46.8**	**+0.5**
GYA				pP	**pP**	**04 22 56.5**	**-0.3**
GYA				PcP	**PcP**	**04 24 13.0**	**+1.2**
GYA				PP	**PP**	**04 24 37.8**	**-1.3**
GYA				ScP	**ScP**	**04 28 03.3**	**-0.2**
GYA				sS	**sS**	**04 30 01.0**	**-1.5**
GYA				SS	SS	04 33 07.8	-7.4
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,590nm,17.8s						
GYA				LR	LR		
	comp=Z,540nm,18.2s						
GYA				LR	LR		
	comp=Z,560nm,17.9s						
D08A	**Wollman Farm,**	**48.59**	**64**	*e*P	**P**	**04 22 46.7**	**+0.3**
	comp=Z,25nm,1.5s						
D08A				*e*pP	**pP**	**04 22 57.6**	**+0.7**
MK31	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**04 22 44.1**	**-3.0**
MK31	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**04 22 44.1**	**-3.0**
MKAR	**Makanchi Array**	**48.68**	**296**	*i* P	**P**	**04 22 44.2**	**-2.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**48.68**	**296**	P	**P**	**04 22 44.2**	**-2.9**
MKAR				ScP	ScP	04 28 12.5	+8.7
MKAR				S	S	04 29 55.4	+8.6
MKAR	**Makanchi Array**	**48.68**	**296**	P	**P**	**04 22 44.2**	**-2.9**
	comp=Z,1.5nm,0.4s,baz=46,slow=6.1,SNR=33						
MKAR				ScP	ScP	04 28 12.5	+8.7
	comp=Z,0.2nm,0.8s,baz=59,slow=4.1,SNR=2.3						
MKAR				S	S	04 29 55.4	+8.6
	comp=Z,0.2nm,0.8s,baz=50,slow=25,SNR=2.5						
MKAR				LR	LR	04 44 19.5	
	comp=Z,126nm,20.8s,baz=17,slow=37						
HAWA	**Hanford**	**48.68**	**65**	*e*P	**P**	**04 22 47.4**	**+0.3**
	comp=Z,17nm,1.0s						
HAWA				*e*pP	**pP**	**04 22 58.4**	**+0.8**
I04A	**Tendick Farm,**	**48.77**	**69**	⇑P	**P**	**04 22 47.3**	**-0.6**
	baz=49						
NEW	**Newport**	**48.78**	**61**	*e*P	**P**	**04 22 48.2**	**+0.3**
	comp=Z,16nm,1.1s						
NEW	**Newport**	**48.78**	**61**	⇓P	**P**	**04 22 47.4**	**-0.5**
	baz=49,SNR=8.8						
I05D	**Terrebonne, OR**	**49.01**	**68**	⇑P	**P**	**04 22 49.3**	**-0.4**
	baz=49						
HUMO	**Hull Mountain**	**49.23**	**71**	*e*P	**P**	**04 22 52.9**	**+1.6**
	comp=Z,10nm,1.0s						
HUMO				*e*pP	**pP**	**04 23 02.1**	**+0.2**
J04D	**Umpqua Nationa**	**49.29**	**69**	⇑P	**P**	**04 22 52.6**	**+0.6**
	baz=49						
VIPM	**Ingram Point**	**49.30**	**67**	P	**P**	**04 22 52.8**	**+0.8**
VIPM	**Ingram Point**	**49.30**	**67**	P	**P**	**04 22 52.8**	**+0.8**
E09A	**Wood Farm, Sta**	**49.35**	**64**	*e*P	**P**	**04 22 52.7**	**+0.5**
	comp=Z,26nm,0.8s						
PINOR	**Pine Mountain**	**49.61**	**68**	*e*P	**P**	**04 22 55.7**	**+1.6**
PINOR				*e*pP	**pP**	**04 23 06.3**	**+1.6**
G08A	**Pilot Rock**	**49.69**	**65**	*e*P	**P**	**04 22 55.5**	**+0.4**
	comp=Z,8.3nm,1.0s						
J05D	**Fort Rock, OR**	**49.75**	**69**	⇓P	**P**	**04 22 55.8**	**+0.3**
	baz=50						
K04D	**Chiloquin, OR**	**49.89**	**70**	⇓P	**P**	**04 22 56.6**	**+0.1**
	baz=50						
KHMM	**Horse Mountain**	**49.93**	**73**	*e*P	**P**	**04 22 59.2**	**+2.3**
	comp=Z,42nm,1.4s						
KHMM				*e*pP	**pP**	**04 23 09.8**	**+2.4**
WALA	**Waterton Lakes**	**49.93**	**59**	*e*P	**P**	**04 22 57.3**	**+0.6**
	comp=Z,1.1nm,1.0s						
WALA				*e*pP	**pP**	**04 23 08.2**	**+0.9**
YBH	**Yreka Blue Hor**	**49.94**	**71**	*e*P	**P**	**04 22 58.3**	**+1.4**
	comp=Z,10nm,0.9s						
M02C	**Callahan**	**50.09**	**72**	⇓P	**P**	**04 22 59.1**	**+1.1**
	baz=50						
F10A	**Beach Ranch, E**	**50.18**	**64**	*e*P	**P**	**04 22 59.2**	**+0.5**
	comp=Z,12nm,1.0s						
BSMT	**Bassoo Peak**	**50.26**	**61**	*e*P	**P**	**04 23 00.2**	**+0.9**
BSMT				*e*pP	**pP**	**04 23 11.2**	**+1.3**
K05A	**Summer Lake**	**50.30**	**69**	*e*P	**P**	**04 23 01.3**	**+1.6**
	comp=Z,19nm,1.0s						
M04C	**Macdoel**	**50.40**	**71**	⇑P	**P**	**04 23 01.0**	**+0.6**
	baz=50						
N02D	**Trinity Center**	**50.45**	**72**	⇑P	**P**	**04 23 01.3**	**+0.6**
	baz=50						
JTMT	**Jette**	**50.58**	**60**	*e*P	**P**	**04 23 02.6**	**+0.9**
JTMT				*e*pP	**pP**	**04 23 13.3**	**+1.1**
YBMT	**Yellow Bay**	**50.65**	**60**	*e*P	**P**	**04 23 03.0**	**+0.8**
YBMT				*e*pP	**pP**	**04 23 13.6**	**+0.8**
BVAR	**Borovoye Array**	**50.68**	**309**	LR	LR	04 47 08.8	
	comp=Z,623nm,18.0s,baz=253,slow=39						
BRVK	**Borovoye**	**50.71**	**309**	*ce*P	P	04 22 58.6	-3.8
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**50.71**	**309**	*e*P	**P**	**04 22 59.8**	**-2.6**
	comp=Z,4.1nm,0.9s						
WDC	**Whiskeytown Da**	**50.80**	**72**	*e*P	**P**	**04 23 04.7**	**+1.4**
WDC				pmax	pmax		
	comp=Z,12nm,0.9s						
WDC	**Whiskeytown Da**	**50.80**	**72**	*e*P	**P**	**04 23 04.7**	**+1.4**
	comp=Z,12nm,0.9s						
SWMT	**Swartz Lake**	**50.88**	**60**	*e*P	**P**	**04 23 04.4**	**+0.4**
SWMT				*e*pP	**p

OHCM **Honcut** 52.24 73 *e*P P 04 23 14.6 +0.6
FCC **Fort Churchill** 52.39 40 *e*P P 04 23 14.1 -0.7
FCC **Fort Churchill** 52.39 40 *e*P P 04 23 14.1 -0.7
comp=Z,0.2nm,0.9s
KEV **Kevo** 52.47 342 *e*P P 04 23 14.5 -0.8
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV **Kevo** 52.47 342 *e*p P 04 23 14.5 -0.8
comp=Z,0.5nm,0.4s
BEKR **Beckworth** 52.52 72 *e*P P 04 23 16.9 +0.6
comp=Z,7.0nm,0.9s
HRY **Holter Researc** 52.52 60 *e*P P 04 23 17.1 +0.9
HRY *e*pP pP 04 23 27.6 +0.8
QIZ **Qiongzhong** 52.53 249 P P 04 23 16.3 -0.1
QIZ S S 04 30 41.3 +0.6
QIZ LR LR
comp=Z,250nm,15.9s
QIZ LR LR
comp=Z,140nm,14.8s
QIZ LR LR
comp=Z,340nm,15.3s
A19A **Klindworth Far** 52.60 56 ⇓P P 04 23 16.6 -0.2
baz=52
MFID **Camas Ranch** 52.62 65 *e*P P 04 23 17.7 +0.7
comp=Z,7.5nm,0.8s
MFID *e*pP pP 04 23 28.3 +0.8
EGMT **Eagleton** 52.70 58 *e*pP pP 04 23 27.7 -0.4
EGMT **Eagleton** 52.70 58 ⇑P P 04 23 17.3 -0.2
baz=52
LRM **Limekiln Ridge** 52.80 61 *e*pP pP 04 23 27.9 -1.0
B19A **Brinkman Farms** 52.82 57 ⇑P P 04 23 18.6 +0.3
baz=53,SNR=5.1
ARCES **ARCESS Array B** 52.93 342 P P 04 23 17.9 -0.8
ARCES **ARCESS Array B** 52.93 342 P P 04 23 18.0 -0.8
comp=Z,7.4nm,1.0s,baz=23,slow=7.4,SNR=9.2
ARCES LR LR 04 50 00.4
comp=Z,178nm,18.2s,baz=159,slow=41
APA **Apatity** 52.98 338 *e*P P 04 23 13.2 -5.9
DLMT **Dillon** 53.03 62 *e*P P 04 23 21.2 +1.1
comp=Z,25nm,1.4s
A20A **Cobblestone Ra** 53.04 56 ⇓P P 04 23 19.7 -0.2
baz=53
PAHR **Pah Rah Range** 53.17 71 *e*P P 04 23 22.0 +0.9
comp=Z,23nm,1.0s
PAHR *e*pP pP 04 23 32.9 +1.2
SUMG **Summit** 53.18 7 *e*P P 04 23 21.7 +0.7
SUMG *e**PP pP 04 23 32.6 +1.0
SUMG pmax pmax
comp=Z,18nm,0.8s
SUMG **Summit** 53.18 7 *i* P P 04 23 23.8 +2.8
comp=Z,18nm,0.9s
SUMG **Summit** 53.18 7 *e*P P 04 23 21.7 +0.7
comp=Z,18nm,0.8s
SUMG *e*pP pP 04 23 32.6 +1.0
C19A **Slack Wire Ran** 53.25 57 ⇓P P 04 23 22.0 +0.5
baz=53
MCMT **McKenzie Canyo** 53.26 62 *e*P P 04 23 22.0 +0.1
comp=Z,3.6nm,1.0s
HLID **Hailey** 53.28 64 ⇓P P 04 23 22.2 +0.3
baz=53,SNR=9.5
B20A **Solberg Farm,** 53.29 56 ⇓P P 04 23 21.4 -0.3
baz=53
BOZ **Bozeman (W)** 53.34 61 *e*P P 04 23 23.3 +1.0
BOZ *e**PP pP 04 23 33.8 +0.9
BOZ pmax pmax
comp=Z,29nm,1.3s
BOZ **Bozeman (W)** 53.34 61 *e*P P 04 23 23.2 +1.0
comp=Z,29nm,1.3s
BOZ *e*pP pP 04 23 33.8 +0.9
A21A **Bergtoll Ranch** 53.45 55 ⇑P P 04 23 22.5 -0.5
baz=53
ARU **Arti** 53.52 318 *c i*P P 04 23 21.4 -1.8
ARU 04 25 18.6
ARU S S 04 30 52.2 -1.1
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU MLR MLR
comp=Z,551nm,18.0s
ARU **Arti** 53.52 318 *e*P P 04 23 22.5 -0.7
comp=Z,8.6nm,0.9s
D19A **Cripps Ranch,** 53.72 58 ⇓P P 04 23 25.0 +0.1
baz=54
CMB **Columbia Colle** 53.76 73 *e*P P 04 23 26.7 +1.4
CMB pmax pmax
comp=Z,20nm,1.4s
CMB **Columbia Colle** 53.76 73 *e*P P 04 23 26.7 +1.4
comp=Z,20nm,1.4s
C20A **Veseth Ranch,** 53.79 57 ⇑P P 04 23 25.0 -0.4
baz=54
BMN **Battle Mountai** 53.88 69 *e*P P 04 23 27.4 +1.0
BMN pmax pmax
comp=Z,23nm,0.9s
BMN **Battle Mountai** 53.88 69 *e*P P 04 23 27.4 +1.0
comp=Z,23nm,0.9s
A22A **Carney Farms,** 53.94 54 ⇓P P 04 23 25.9 -0.7
baz=54
WAKR **Walker** 53.97 72 *e*P P 04 23 28.3 +1.2
WAKR *e*pP pP 04 23 39.4 +1.7
SAO **San Andreas Ge** 54.03 75 *e*P P 04 23 28.5 +1.2
SAO pmax pmax
comp=Z,11nm,1.0s
SAO **San Andreas Ge** 54.03 75 *e*P P 04 23 28.5 +1.2
comp=Z,11nm,1.0s
SLVN **Son La** 54.07 257 *e*P P 04 23 28.4 +0.6
D20A **Manuel Ranch,** 54.14 57 ⇑P P 04 23 27.8 -0.2
baz=54
E19A **Rath Farm, Rou** 54.24 58 ⇑P P 04 23 28.3 -0.5
baz=54
GCMT **Greycliff** 54.25 60 *e*P P 04 23 30.5 +1.5
comp=Z,20nm,1.4s
YMR **Madison River** 54.35 61 *e*P P 04 23 30.9 +1.1
comp=Z,23nm,1.2s
PRGR **Permogore** 54.35 328 *e*P P 04 23 27.9 -1.3
PRGR pmax pmax
comp=Z,12nm,0.5s
E20A **Meyer Farm, Mu** 54.55 58 ⇑P P 04 23 31.0 0.0
baz=54
F19A **Roth Farm, Mol** 54.58 59 ⇓P P 04 23 31.3 +0.1
baz=54,SNR=5.1
TMCR **Tamitsa** 54.59 333 *e*P P 04 23 33.2 +2.3
TMCR pmax pmax
comp=Z,24nm,1.5s
NVAR **Mina Array Bea** 54.66 72 P P 04 23 33.4 +1.2
NVAR **Mina Array Bea** 54.66 72 P P 04 23 33.4 +1.2
comp=Z,7.6nm,0.8s,baz=298,slow=8.1,SNR=59
D21A **La Casta Ranch** 54.73 57 ⇑P P 04 23 32.4 +0.1
baz=54
H17A **Grant Village** 54.74 61 *e*P P 04 23 35.1 +2.5
H17A **Grant Village** 54.74 61 ⇑P P 04 23 32.4 -0.2
baz=55,SNR=6.3
NV11 **Mina Array Sit** 54.74 71 *e*P P 04 23 33.1 +0.5
ELK **Elko** 54.76 67 *e*P P 04 23 34.5 +1.7
comp=Z,13nm,0.9s
ELK *e*pP pP 04 23 45.2 +1.8
C22A **Vida** 54.81 56 ⇑P P 04 23 32.6 -0.3
baz=55
TKM2 **Tokmak 2** 54.81 296 *e*P P 04 23 32.0 -1.1
TKM2 *e**PP pP 04 23 43.1 -0.7
TKM2 **Tokmak 2** 54.81 296 *e*P P 04 23 32.0 -1.1
TKM2 *e*pP pP 04 23 43.0 -0.7
FLWY **Flagg Ranch** 54.89 62 *e*P P 04 23 35.6 +1.9
comp=Z,72nm,1.7s
A24A **Westby** 54.91 53 ⇑P P 04 23 33.3 -0.2
baz=55
RLMT **Red Lodge** 54.92 60 *e*P P 04 23 34.0 +0.2
comp=Z,22nm,1.0s
MLAC **Mammoth Lakes** 54.92 73 ⇓P P 04 23 33.9 -0.1
baz=55
H18A **Shoshone NF, C** 55.02 61 ⇓P P 04 23 33.5 -1.2
baz=55
F20A **Billings** 55.02 59 ⇓P P 04 23 34.3 -0.2
baz=55
I17A **Pilgrim Ck.** 55.07 62 ⇑P P 04 23 34.9 -0.1
baz=55
D22A **Cohagen** 55.08 56 ⇑P P 04 23 34.8 0.0
baz=55
MOOW **Moose Ponds** 55.10 62 *e*P P 04 23 36.6 +1.4
comp=Z,11nm,1.1s
C23A **Lambert** 55.11 55 ⇓P P 04 23 35.1 0.0
baz=55
DGMT **Dagmar** 55.13 54 ⇓P P 04 23 35.4 +0.3
baz=55
LOHW **Long Hollow** 55.27 62 *e*P P 04 23 37.7 +1.3
comp=Z,16nm,1.1s
MTUM **Tungsten Hills** 55.27 73 *e*P P 04 23 38.2 +1.7
MTUM *e*pP pP 04 23 49.1 +2.1

LSA **Lhasa** 55.29 274 P P 04 23 33.0 -4.1
LSA pmax pmax
comp=Z,30nm,1.0s
REDW **Red Top Meadow** 55.31 62 *e*P P 04 23 38.4 +1.6
comp=Z,20nm,1.3s
A25A **Svangstu Ranch** 55.32 53 ⇓P P 04 23 37.2 +0.7
baz=55
LAO **LASA Array** 55.37 57 *e*P P 04 23 38.3 +1.4
comp=Z,30nm,1.2s
H19A **Powell** 55.37 60 ⇓P P 04 23 36.9 -0.2
baz=55
HVU **Hansel Valley** 55.38 65 *e*P P 04 23 38.6 +1.4
HVU pmax pmax
comp=Z,21nm,1.0s
HVU **Hansel Valley** 55.38 65 *e*P P 04 23 38.6 +1.4
comp=Z,21nm,1.0s
G20A **Bridger** 55.39 59 ⇓P P 04 23 37.1 -0.1
baz=55
TPH **Tonopah** 55.52 71 *e*P P 04 23 39.3 +1.0
TPH pmax pmax
comp=Z,30nm,0.9s
TPH **Tonopah** 55.52 71 *e*P P 04 23 39.2 +1.0
comp=Z,30nm,0.9s
F21A **Absaloka Mine,** 55.52 58 ⇑P P 04 23 38.4 +0.4
baz=55
PTRM **Twissleman Ran** 55.52 75 *e*P P 04 23 39.8 +1.6
D23A **Lindsay** 55.54 56 ⇑P P 04 23 38.0 -0.1
baz=55
AAK **Ala-Archa** 55.59 297 *e*P P 04 23 37.4 -1.3
AAK **Ala-Archa** 55.59 297 *e*P P 04 23 37.4 -1.3
RCTC **Rector, Farmer** 55.62 74 ⇓P P 04 23 39.4 +0.6
baz=56
TIN **Tinemaha** 55.67 73 ⇑P P 04 23 39.5 +0.3
baz=56
C24A **Savage** 55.67 55 ⇑P P 04 23 38.7 -0.4
baz=55
E22A **Miles City** 55.68 57 ⇓P P 04 23 38.9 -0.3
baz=56
I19A **Meeteetse** 55.81 61 ⇓P P 04 23 40.3 0.0
baz=56
BGU **Big Grassy Mou** 55.84 66 *e*P P 04 23 41.8 +1.3
comp=Z,3.7nm,0.8s
A26A **Wade Farm, Ken** 55.86 52 ⇑P P 04 23 40.0 -0.3
baz=56
SPUT **South Promonto** 55.88 65 *e*P P 04 23 41.9 +1.1
comp=Z,22nm,1.1s
SMMC **Simmler** 55.89 75 ⇓P P 04 23 41.7 +0.9
baz=56
G21A **Lodge Grass** 55.90 59 ⇓P P 04 23 40.5 -0.2
baz=56
EKS2 **Erkin-Say** 55.95 297 *e*P P 04 23 40.7 -0.6
EKS2 pmax pmax
comp=Z,3.0nm,0.9s
EKS2 **Erkin-Say** 55.95 297 *e*P P 04 23 40.6 -0.6
comp=Z,3.1nm,0.9s
F22A **Rosebud** 55.99 58 ⇑P P 04 23 41.4 +0.1
baz=56
H20A **Greybull** 56.01 60 ⇓P P 04 23 41.4 -0.2
baz=56
D24A **Glendive** 56.01 55 ⇑P P 04 23 40.5 -0.9
baz=56
VES **Vestal, Richgr** 56.04 74 ⇓P P 04 23 42.1 +0.4
baz=56,SNR=7.9
C25A **Freed Ranch, W** 56.11 54 ⇓P P 04 23 42.0 -0.2
baz=56
R11A **Troy Canyon, C** 56.24 70 *e*P P 04 23 44.5 +1.1
comp=Z,17nm,1.2s
R11A **Troy Canyon, C** 56.24 70 ⇓P P 04 23 44.0 +0.5
baz=56,SNR=14
PKM **Peak Mountain** 56.29 76 ⇑P P 04 23 44.3 +0.5
baz=56,SNR=6.9
I20A **Worland** 56.32 60 ⇓P P 04 23 44.2 +0.4
baz=56
J19A **Crowheart** 56.32 61 ⇓P P 04 23 43.6 -0.3
baz=56
G22A **Birney** 56.36 58 ⇓P P 04 23 43.9 -0.2
baz=56
H21A **Big Horn, Sher** 56.40 59 ⇑P P 04 23 44.2 -0.2
baz=56
BW06 **Boulder Array** 56.40 62 *e*P P 04 23 45.2 +0.6
comp=Z,25nm,1.1s
PDAR **Pinedale Array** 56.40 62 P P 04 23 45.5 +0.9
PDAR **Pinedale Array** 56.40 62 P P 04 23 45.5 +0.9
comp=Z,5.7nm,0.9s,baz=315,slow=2.8,SNR=31
E24A **Baker** 56.41 56 ⇓P P 04 23 42.9 -1.4
F23A **Volborg** 56.45 57 ⇑P P 04 23 44.9 +0.2
baz=56
DUG **Dugway** 56.47 66 *e*P P 04 23 46.2 +1.2
DUG pmax pmax
comp=Z,28nm,1.0s
DUG **Dugway** 56.47 66 *e*P P 04 23 46.2 +1.2
comp=Z,28nm,1.0s
DUG **Dugway** 56.47 66 ⇑P P 04 23 45.8 +0.8
baz=56,SNR=26
ISA **Isabella** 56.51 74 *e*P P 04 23 45.8 +0.5
ISA pmax pmax
comp=Z,2.0nm,1.0s
ISA **Isabella** 56.51 74 *e*P P 04 23 45.8 +0.5
comp=Z,2.1nm,1.0s
ISA **Isabella** 56.51 74 ⇓P P 04 23 45.8 +0.5
baz=56,SNR=6.6
C26A **Wahner Farm, P** 56.59 53 ⇑P P 04 23 45.5 0.0
baz=56
SBC **Santa Barbara** 56.67 76 ⇓P P 04 23 46.0 -0.3
baz=57
A28A **Rude Farm, Bot** 56.68 51 ⇓P P 04 23 45.8 -0.4
baz=56
ARVC **Arvin** 56.69 75 ⇑P P 04 23 46.5 0.0
baz=57
J20A **Shoshoni** 56.76 61 ⇓P P 04 23 46.9 -0.1
baz=57
H22A **Clearmont** 56.77 59 ⇓P P 04 23 46.9 -0.2
baz=57
MPMC **Manual Prospec** 56.79 73 ⇑P P 04 23 47.7 +0.4
baz=57,SNR=9.4
G23A **Biddle** 56.83 58 ⇓P P 04 23 46.4 -1.0
baz=57
I21A **Big Trails, Te** 56.84 60 ⇓P P 04 23 47.3 -0.4
baz=57
F24A **Ekalaka** 56.84 56 ⇑P P 04 23 46.2 -1.3
baz=57
FURC **Furnace Creek,** 56.86 72 ⇓P P 04 23 47.9 +0.4
baz=57,SNR=13
TPNV **Topopah Spring** 56.86 71 *e*P P 04 23 48.8 +0.9
TPNV pmax pmax
comp=Z,26nm,1.1s
TPNV **Topopah Spring** 56.86 71 *e*P P 04 23 48.8 +0.9
comp=Z,26nm,1.1s
TPNV **Topopah Spring** 56.86 71 ⇑P P 04 23 48.0 +0.2
baz=57,SNR=12
E25A **Miller Ranch,** 56.89 55 ⇓P P 04 23 46.7 -1.1
baz=57
JLU **Jordanelle** 56.92 65 *e*P P 04 23 49.6 +1.3
comp=Z,33nm,1.4s
C27A **Sayler Ranch,** 56.95 53 ⇓P P 04 23 47.0 -1.1
baz=57
B28A **Dugan Ranch, T** 56.96 52 ⇓P P 04 23 47.7 -0.4
baz=57
KSH **Kashi** 56.98 293 P P 04 23 52.5 +3.9
KSH sP sP 04 24 06.0 +2.6
KSH PP PP 04 26 01.0 +5.9
KSH PcS **PcS** 04 28 46.0 +1.5
KSH S **S** 04 31 45.5 +5.1
KSH SS **SS** 04 35 35.0 +6.5
KSH pmax pmax
comp=Z,93nm,4.4s
KSH LR LR
comp=Z,170nm,8.8s
KSH LR LR
comp=Z,190nm,8.8s
KSH LR LR
comp=Z,310nm,12.7s
D26A **Manning** 56.99 54 ⇓P P 04 23 47.1 -1.3
baz=57
NLU **North Lily Min** 57.04 66 *e*P P 04 23 50.4 +1.2
comp=Z,10nm,1.4s
NLU *e*pP pP 04 24 00.5 +0.8
LRMC **Laurel Mountai** 57.09 74 ⇑P P 04 23 50.0 +0.5
baz=57,SNR=12
OSI **Osito Adit** 57.12 75 ⇓P P 04 23 50.2 +0.6
baz=57
DAU **Daniels Canyon** 57.16 65 *e*P P 04 23 52.0 +1.9
DAU *e**PP pP 04 24 02.9 +2.2
DAU **Daniels Canyon** 57.16 65 *e*P P 04 23 52.0 +1.9
DAU *e*pP pP 04 24 02.9 +2.2
I22A **9 Mile Ranch,** 57.20 59 ⇑P P 04 23 49.8 -0.3
baz=57
MPU **Maple Canyon** 57.23 66 *e*P P 04 23 52.1 +1.6
comp=Z,28nm,1.1s
F25A **Bowman** 57.27 56 ⇑P P 04 23 49.8 -0.7
baz=57
JOF **Joensuu** 57.34 336 *e*P P 04 23 50.6 0.0
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF **Joensuu** 57.34 336 *e*p P 04 23 50.6 0.0
comp=Z,1.5nm,0.3s
EDW2 **Edwards Air Fo** 57.35 74 ⇓P P 04 23 51.7 +0.5
baz=57,SNR=16
KKAR **Karatay Array** 57.35 300 *e*P P 04 23 50.4 -0.6
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR **Karatay Array** 57.35 300 *e*P P 04 23 50.4 -0.6
comp=Z,1.9nm,0.7s
E26A **Carlson Angus** 57.37 55 ⇓P P 04 23 50.7 -0.5
baz=57
J22A **Midwest** 57.54 60 ⇑P P 04 23 51.6 -1.0
baz=57,SNR=7.1
A30A **Hoffart Farm,** 57.56 50 ⇑P P 04 23 52.0 -0.4
baz=57
H24A **Dirks Ranch, A** 57.57 57 ⇓P P 04 23 51.4 -1.3
baz=57
SHOC **Shoshone** 57.59 72 ⇓P P 04 23 53.1 +0.3
baz=58,SNR=7.6
DECC **Green Verdugo** 57.61 75 ⇓P P 04 23 53.5 +0.6
baz=58
ULM **Lac du Bonnet** 57.70 48 P P 04 23 52.5 -0.8
ULM **Lac du Bonnet** 57.70 48 P P 04 23 52.5 -0.8
comp=Z,4.0nm,1.1s,baz=309,slow=6.5,SNR=2.8
ULM LR LR 04 48 32.8
comp=Z,369nm,18.5s,baz=57,slow=36
K21A **Alcova** 57.70 61 ⇓P P 04 23 52.3 -1.4
baz=58
F26A **Lodgepole** 57.71 55 ⇑P P 04 23 53.3 -0.3
baz=58
GSC **Goldstone** 57.72 73 *e*P P 04 23 54.6 +0.8
GSC pmax pmax
comp=Z,18nm,1.0s
GSC **Goldstone** 57.72 73 *e*P P 04 23 54.6 +0.8
comp=Z,18nm,1.0s
GSC **Goldstone** 57.72 73 ⇑P P 04 23 54.3 +0.5
baz=58,SNR=11
MDND **Maddock** 57.74 52 ⇑P P 04 23 53.2 -0.5
baz=58
MWC **Mount Wilson** 57.78 75 *e*P P 04 23 55.0 +0.6
MWC *e**PP pP 04 24 03.8 -1.2
MWC pmax pmax
comp=Z,22nm,1.1s
MWC **Mount Wilson** 57.78 75 *e*P P 04 23 55.0 +0.6
comp=Z,22nm,1.1s
MWC *e*pP pP 04 24 03.8 -1.2
SHPR **Sheep Range** 57.79 71 *e*P P 04 23 55.8 +1.4
ARUT **Antelope Range** 57.83 69 *e*P P 04 23 55.6 +0.9
ARUT **Antelope Range** 57.83 69 *e*P P 04 23 55.6 +0.9
comp=Z,186nm,1.0s
B30A **Myrvik Farm, E** 57.90 51 ⇓P P 04 23 53.4 -1.4
baz=58
RRX **Edison Barstow** 57.91 74 ⇓P P 04 23 54.7 -0.4
baz=58
TMUT **Trail Mountain** 57.98 66 *e*P P 04 23 57.5 +1.6
comp=Z,15nm,0.8s
CMAI **Chiengmai2** 57.99 260 P P 04 23 57.4 +1.4
comp=Z,24nm,1.2s,comp=Z,3µm
MVU **Marysvale** 57.99 67 *e*P P 04 23 57.7 +1.8
comp=Z,9nm,1.5s
UBPT **Khong Chiam** 58.00 251 P P 04 23 57.5 +1.7
comp=Z,32nm,1.1s,comp=Z,882nm
BFSC **Mount Baldy Ra** 58.00 75 ⇑P P 04 23 56.2 +0.3
baz=58
AKTO **Aktyubinsk** 58.04 313 LR LR 04 52 02.3
comp=Z,177nm,19.8s,baz=240,slow=39
CCUT **Cedar City** 58.04 69 *e*P P 04 23 57.7 +1.5
comp=Z,9.9nm,0.8s
ABKAR **Akbulak array** 58.05 311 *e*P P 04 23 53.7 -2.1
comp=Z,1.5nm,0.4s
K22A **Casper** 58.06 60 *e*P P 04 23 56.7 +0.5
K22A *e*pP pP 04 24 07.8 +0.9
K22A **Casper** 58.06 60 ⇑P P 04 23 55.8 -0.5
baz=58
TUQ **Turquoise Moun** 58.12 72 ⇓P P 04 23 56.8 +0.1
baz=58,SNR=5.7
H25A **Fruitdale** 58.14 57 ⇓P P 04 23 56.4 -0.2
baz=58
I24A **Kuemmerle Ranc** 58.17 58 ⇓P P 04 23 56.3 -0.6
baz=58
RSSD **Black Hills** 58.28 58 *e*P P 04 23 58.4 +0.7
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD **Black Hills** 58.28 58 *e*P P 04 23 58.4 +0.7
comp=Z,5.8nm,0.9s
HEC **Hector,Ludlow** 58.33 73 ⇓P P 04 23 58.3 +0.2
baz=58
RWWY **Rawlins** 58.40 62 *e*P P 04 24 02.5 +3.8
N20A **Spence Gulch,** 58.46 63 ⇓P P 04 23 58.9 -0.2
baz=58,SNR=9.7
SRU **San Rafael** 58.48 66 *e*P P 04 24 00.5 +1.3
SRU pmax pmax
comp=Z,26nm,0.8s
SRU **San Rafael** 58.48 66 *e*P P 04 24 00.5 +1.3
comp=Z,26nm,0.8s
I25A **Rochford** 58.50 57 ⇑P P 04 23 59.0 -0.2
baz=58
L22A **Ellis Ranch, M** 58.55 61 ⇓P P 04 23 59.5 -0.2
baz=58
D30A **Buchanan** 58.68 52 ⇓P P 04 23 59.1 -1.1
baz=58
MURC **Murrieta** 58.72 75 ⇑P P 04 24 01.1 +0.4
baz=59
GMRC **Granite Mounta** 58.75 73 ⇑P P 04 24 01.5 +0.4
baz=59,SNR=9.7
LAMP **Lampang** 58.75 258 P P 04 24 02.7 +1.6
comp=Z,8.2nm,1.1s,comp=Z,96nm
L23A **Garrett** 58.87 60 ⇓P P 04 24 01.5 -0.4
baz=59
K24A **Anderson Ranch** 58.89 59 ⇑P P 04 24 00.7 -1.3
baz=59
J25A **Sunshine Ranch** 58.92 58 ⇓P P 04 24 01.0 -1.1
baz=59
M22A **Cedar Creek Ra** 58.92 61 ⇓P P 04 24 01.2 -1.2
baz=59
CMMT **Chiang Mai** 58.92 259 P P 04 24 02.9 +0.6
comp=Z,30nm,1.1s
CHTO **Chiang Mai** 58.93 259 *e*P P 04 24 03.2 +0.9
CHTO *e**PP pP 04 24 14.8 +1.8
CHTO pmax pmax
comp=Z,10.0nm,1.3s
CHTO **Chiang Mai** 58.93 259 *e*P P 04 24 03.2 +0.9
comp=Z,10nm,1.3s
CHTO *e*pP pP 04 24 14.8 +1.8
CHTO **Chiang Mai** 58.93 259 P P 04 24 03.0 +0.7
comp=Z,122nm,1.2s
O20A **White River Ci** 58.97 63 *e*P P 04 24 03.5 +0.9
O20A **White River Ci** 58.97 63 ⇑P P 04 24 01.6 -1.0
baz=59
TAPN **Taplejung** 59.06 275 *e*P P 04 24 02.7 -0.8
comp=Z,10nm,0.3s
TAPN **Taplejung** 59.06 275 *e*P P 04 24 02.7 -0.8
comp=Z,10nm,0.3s
AGMN **Agassiz Nation** 59.13 49 ⇓P P 04 24 03.0 -0.4
baz=59
PFO **Pinyon Flat Ob** 59.14 74 *e*pP pP 04 24 15.4 +0.9
PFO **Pinyon Flat Ob** 59.14 74 ⇓P P 04 24 03.5 -0.3
baz=59
CMAR **Chiang Mai Arr** 59.21 259 P P 04 24 05.3 +1.1
CMAR **Chiang Mai Arr** 59.21 259 P P 04 24 05.3 +1.1
comp=Z,5.3nm,0.6s,baz=23,slow=7.3,SNR=48
CMAR LR LR 04 51 57.6
comp=Z,280nm,19.9s,baz=240,slow=38
KAF **Kangasniemi** 59.22 337 *e*P P 04 24 03.1 -0.6
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF **Kangasniemi** 59.22 337 *e*p P 04 24 03.1 -0.6
comp=Z,2.0nm,0.3s
M23A **Laramie** 59.33 61 ⇑P P 04 24 04.7 -0.4
baz=59
J26A **Sides Ranch, S** 59.34 58 ⇑P P 04 24 04.6 -0.4
baz=59
N22A **Wattenberg Ran** 59.43 62 ⇓P P 04 24 05.6 -0.3
baz=59
U15A **North Rim** 59.45 69 ⇓P P 04 24 04.5 -1.6
baz=59,SNR=6.7
CHAI **Chaiyaphum** 59.47 255 P P 04 24 06.9 +0.8
comp=Z,8.3nm,0.9s,comp=Z,91nm
IRM **Iron Mountain** 59.49 73 ⇓P P 04 24 06.4 +0.3

baz=59,SNR=12
W13A Hualapai Mount 59.52 71 ⇑P P 04 24 06.4 -0.1
baz=59
PBKT Sadao Pong 59.52 256 P P 04 24 07.5 +1.1
comp=Z,20nm,1.3s,comp=Z,842nm
PHWY Pilot Hill 59.59 61 *e*P P 04 24 10.2 +3.2
ODAN Odare 59.61 275 *e*P P 04 24 04.7 -2.6
comp=Z,20nm,0.3s
ODAN Odare 59.61 275 *e*P P 04 24 04.7 -2.6
comp=Z,20nm,0.3s
N23A Red Feather La 59.63 61 ⇓P P 04 24 06.8 -0.4
baz=59,SNR=5.6
MONP Monument Peak 59.69 75 ⇑P P 04 24 07.9 +0.2
baz=60
GUN Gumba 59.73 277 *e*P P 04 24 08.5 +0.3
comp=Z,15nm,0.3s
GUN Gumba 59.73 277 *e*P P 04 24 08.5 +0.3
comp=Z,15nm,0.3s
JIRN Jiri 59.73 276 *e*P P 04 24 08.6 +0.4
comp=Z,7.5nm,0.3s
JIRN Jiri 59.73 276 *e*P P 04 24 08.6 +0.4
comp=Z,7.5nm,0.3s
L25A Engebretsen Ra 59.73 59 ⇑P P 04 24 07.4 -0.4
baz=60
M24A Cheyenne 59.79 60 ⇑P P 04 24 07.3 -1.0
baz=60
O22A Kremmling 59.84 62 ⇑P P 04 24 07.6 -1.2
baz=60
FINES FINESS Array B 59.86 337 P P 04 24 07.6 -0.5
FINES FINESS Array B 59.86 337 P P 04 24 07.6 -0.5
comp=Z,10nm,0.7s,baz=33,slow=7.1,SNR=28
FINES LR LR 04 52 55.7
comp=Z,192nm,19.4s,baz=25,slow=39
PV04 Paradox Valley 59.87 65 *e*P P 04 24 10.2 +1.3
G30A Faulkton 59.94 54 ⇓P P 04 24 08.2 -0.8
baz=60
PDMCI Parker Dam,Lak 59.96 72 ⇓P P 04 24 08.6 -0.7
baz=60
SWSC Sam W. Stewart 60.01 74 ⇓P P 04 24 10.1 +0.5
baz=60
RAMN Ramite 60.01 275 *e*P P 04 24 08.6 -1.4
comp=Z,37nm,0.4s
RAMN Ramite 60.01 275 *e*P P 04 24 08.6 -1.4
comp=Z,37nm,0.4s
MHMT Maesarieng 60.02 260 P P 04 24 11.3 +1.5
comp=Z,19nm,1.1s,comp=Z,321nm
DVTC Desert V Tower 60.04 75 ⇓P P 04 24 10.1 +0.1
baz=60
O23A Lake Granby, G 60.14 62 ⇑P P 04 24 10.4 -0.4
baz=60
Y12C Blythe 60.14 73 ⇑P P 04 24 11.2 +0.7
baz=60,SNR=7.1
P22A Eagle 60.15 63 ⇓P P 04 24 11.0 +0.2
baz=60
KKN Kakani 60.17 277 *e*P P 04 24 10.8 -0.2
comp=Z,11nm,0.3s
KKN Kakani 60.17 277 *e*P P 04 24 10.8 -0.2
KKN pmax pmax
comp=Z,11nm,0.3s
KKN Kakani 60.17 277 *e*P P 04 24 10.8 -0.2
comp=Z,11nm,0.3s
J28A Allard Ranch, 60.18 56 ⇓P P 04 24 09.6 -1.1
baz=60
I29A Vivian Onida 60.20 55 ⇓P P 04 24 10.8 0.0
baz=60
K27A Flueckinger Fa 60.21 58 ⇑P P 04 24 10.4 -0.6
baz=60
M25A Palm-Egli Farm 60.21 60 ⇓P P 04 24 10.8 -0.3
baz=60
PV01 Paradox Valley 60.24 65 *e*P P 04 24 12.0 +0.6
comp=Z,416nm,0.8s
PKI Pulchoki 60.26 277 *e*P P 04 24 10.7 -1.1
comp=Z,35nm,0.9s
PKI Pulchoki 60.26 277 *e*P P 04 24 11.9 +0.1
PKI Pulchoki 60.26 277 *e*P P 04 24 11.9 +0.1
PKIN Phulchoki 60.26 277 *e*P P 04 24 11.9 +0.2
SMCO Snowmass 60.34 63 *e*P P 04 24 12.8 +0.5
GKN Gorkha 60.39 278 *e*P P 04 24 13.3 +0.8
comp=Z,11nm,0.4s
GKN Gorkha 60.39 278 *e*P P 04 24 13.3 +0.8
comp=Z,11nm,0.4s
DMN Daman 60.41 277 *e*P P 04 24 12.4 -0.3
DMN Daman 60.41 277 *e*P P 04 24 12.4 -0.3
GLA Glamis 60.48 74 *e*P P 04 24 14.1 +1.2
GLA *e**PP pP 04 24 25.2 +1.6
GLA Glamis 60.48 74 *e*P P 04 24 14.1 +1.2
GLA *ep*P pP 04 24 25.2 +1.6
GLA Glamis 60.48 74 ⇓P P 04 24 13.6 +0.7
baz=60,SNR=7.6
ISCO Idaho Springs 60.60 62 *e*P P 04 24 15.2 +1.2
ISCO pmax pmax
comp=Z,14nm,0.9s
ISCO Idaho Springs 60.60 62 *e*P P 04 24 15.2 +1.2
comp=Z,14nm,0.9s
ISCO Idaho Springs 60.60 62 ⇑P P 04 24 14.4 +0.4
baz=60,SNR=6.2
WUAZ Wupatki 60.62 69 *e*P P 04 24 15.4 +1.4
comp=Z,26nm,1.3s
WUAZ Wupatki 60.62 69 ⇑P P 04 24 14.4 +0.4
baz=60,SNR=10
J29A Okreek 60.64 56 ⇑P P 04 24 14.2 +0.4
baz=60
DANN Dangsing 60.65 279 *e*P P 04 24 14.7 +0.3
DANN Dangsing 60.65 279 *e*P P 04 24 14.7 +0.3
O24A Longmont 60.65 61 ⇓P P 04 24 14.1 0.0
baz=60
Y14A Wickenburg 60.86 72 ⇑P P 04 24 16.0 +0.5
baz=61,SNR=6.9
MVCO Mesa Verde 60.96 66 *e*P P 04 24 17.4 +1.0
comp=Z,9.4nm,0.9s
MVCO Mesa Verde 60.96 66 ⇑P P 04 24 16.8 +0.4
baz=61
K29A Lazy Trails An 61.12 56 ⇓P P 04 24 16.6 -0.6
baz=61
O25A Wiggins 61.15 61 ⇓P P 04 24 17.4 -0.1
baz=61
KOLN Koldanda 61.17 278 *e*P P 04 24 17.1 -0.8
comp=Z,6.5nm,0.4s
KOLN Koldanda 61.17 278 *e*P P 04 24 17.1 -0.8
comp=Z,6.5nm,0.4s
P24A Kohler Place, 61.18 62 ⇓P P 04 24 18.1 +0.3
baz=61
PYUN Piuthan 61.28 279 *e*P P 04 24 18.8 +0.2
PYUN Piuthan 61.28 279 *e*P P 04 24 18.8 +0.2
113A Mohawk Valley, 61.29 73 ⇓P P 04 24 18.4 +0.1
baz=61
X16A Lo Mia Camp, P 61.39 70 ⇑P P 04 24 19.3 0.0
baz=61
Q24A Divide 61.46 62 ⇓P P 04 24 19.2 -0.6
baz=61
S22A 4UR Ranch, Cre 61.46 64 ⇓P P 04 24 20.1 +0.3
baz=61,SNR=7.4
P25A Willow Gulch B 61.57 61 ⇓P P 04 24 20.8 +0.5
baz=61
R23A Moffat 61.67 63 ⇓P P 04 24 20.9 -0.3
baz=62
BORG Borgarnes 61.80 1 *e*P P 04 24 21.5 +0.2
comp=Z,152nm,1.6s
CHBT CHBT 61.81 252 P P 04 24 24.0 +2.0
comp=Z,63nm,1.4s,comp=Z,4μm
W18A Petrified Fore 61.82 68 *e*P P 04 24 23.4 +1.3
W18A *ep*P pP 04 24 33.6 +0.7
W18A Petrified Fore 61.82 68 ⇓P P 04 24 21.9 -0.2
baz=62
S23A Nye Farm, Mont 61.93 64 ⇓P P 04 24 22.9 -0.1
baz=62
P26A Davis Ranch, A 61.96 61 ⇓P P 04 24 21.7 -1.2
baz=62
Q25A Bedland, Calha 61.97 62 ⇓P P 04 24 21.3 -1.8
baz=62
R24A Sanders Place, 62.02 63 ⇓P P 04 24 23.0 -0.5
baz=62
X18A Snowflake 62.13 69 ⇑P P 04 24 24.6 +0.3
baz=62,SNR=10.0
SDCO Great Sand Dun 62.17 64 *e*P P 04 24 25.8 +1.2
SDCO *ep*P pP 04 24 36.1 +0.8
ECSD EROS Data Cent 62.19 53 ⇓P P 04 24 23.9 -0.4
baz=62
KHLT Khaolaem Dam 62.31 257 P P 04 24 27.1 +1.8
comp=Z,16nm,1.4s,comp=Z,978nm
Q26A Hugo 62.34 61 ⇑P P 04 24 25.9 +0.4
baz=62
SRDT SRDT 62.36 256 P pP 04 24 39.7 +3.3
S24A Houchin Ranch, 62.40 63 ⇑P P 04 24 26.2 +0.1
baz=62
T23A Casias Ranch, 62.41 64 ⇓P P 04 24 26.4 +0.2
baz=62
214A Organ Pipe Nat 62.43 73 ⇑P P 04 24 26.4 +0.3
baz=62
OBN Obninsk 62.44 328 ⇓*i*P P 04 24 25.1 -0.6
OBN *e* 04 25 02.5
OBN pmax pmax
comp=Z,20nm,1.6s
OBN MLR MLR
comp=Z,300nm,18.0s
U22A Llaves 62.46 65 ⇑P P 04 24 25.3 -1.2
baz=62
R25A Fountain Ranch 62.52 62 ⇑P P 04 24 27.1 +0.3
baz=62
T24B San Luis 62.74 64 ⇓P P 04 24 28.0 -0.4
baz=63
V22A San Miguel Ran 62.77 66 ⇑P P 04 24 28.4 -0.2
baz=63
S25A Robets Cordova 62.80 63 ⇓P P 04 24 28.0 -0.7
baz=63
R26A Arlington 62.84 62 ⇑P P 04 24 28.2 -0.7
baz=63
U23A El Rito 62.85 65 ⇑P P 04 24 28.8 -0.3
baz=63,SNR=6.0
NB2 NORSAR Subarra 63.15 344 P P 04 24 29.8 -0.6
comp=Z,21nm,0.9s,baz=23,slow=6.9
NB2 NORSAR Subarra 63.15 344 P P 04 24 29.8 -0.6
baz=23,slow=6.9
NOA NORSAR Array B 63.15 344 P P 04 24 30.1 -0.3
NOA NORSAR Array B 63.15 344 P P 04 24 30.1 -0.3
comp=Z,9.1nm,0.7s,baz=21,slow=6.6,SNR=25
NOA LR LR 04 56 08.2
comp=Z,57nm,18.5s,baz=20,slow=40
R27A Eads 63.19 61 ⇓P P 04 24 30.6 -0.5
baz=63
T25A Trinidad 63.20 63 ⇑P P 04 24 31.1 -0.3
baz=63
U24A Moreno Valley 63.28 64 ⇑P P 04 24 30.8 -1.2
baz=63
V23A Ortiz Mt. (NFS 63.29 65 ⇓P P 04 24 32.8 +0.8
baz=63,SNR=6.3
TUC Tucson 63.32 71 *e*P P 04 24 32.6 +0.6
TUC pmax pmax
comp=Z,4.0nm,1.5s
TUC Tucson 63.32 71 *e*P P 04 24 32.6 +0.6
comp=Z,4.1nm,1.5s
S26A Kim 63.34 62 ⇓P P 04 24 33.2 +1.1
baz=63
NAO01 NORSAR Array S 63.39 344 *e*P P 04 24 31.1 -0.8
comp=Z,5.4nm,0.7s
NAO01 *ep*P pP 04 24 42.5 -0.2
T26A Comanche Natio 63.61 63 ⇓P P 04 24 32.9 -1.1
baz=63
R28A Tribune 63.66 61 ⇓P P 04 24 35.5 +1.3
baz=64
ANMO Albuquerque 63.74 66 *e*P P 04 24 36.0 +1.0
comp=Z,6.4nm,0.9s
W23A Werner Place, 63.75 66 ⇓P P 04 24 36.2 +1.2
baz=64
U25A Circle Dot Ran 63.76 64 ⇑P P 04 24 35.6 +0.6
baz=64
V24A Rampart Ranch, 63.80 65 ⇓P P 04 24 35.9 +0.5
baz=64
Q30A Quinter 64.00 59 ⇑P P 04 24 37.6 +1.2
baz=64
VRHR Novokhopersk 64.06 323 *e*P P 04 24 33.6 -2.9
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,0.7s
V25A Rancho No Teng 64.07 64 ⇑P P 04 24 37.3 +0.3
baz=64
W24A Lazy 6 Ranch, 64.11 65 ⇓P P 04 24 37.4 0.0
baz=64
U26A Atchley Ranch, 64.11 63 ⇑P P 04 24 36.3 -1.1
baz=64
X23A Hourglass Bar 64.16 66 ⇑P P 04 24 37.5 -0.2
baz=64
V26A Tequesquite Ra 64.54 64 ⇑P P 04 24 39.1 -1.0
baz=64
U27A Thompson Grove 64.58 63 ⇑P P 04 24 39.3 -1.0
baz=64
X24A Lazy VL Ranch, 64.58 66 ⇓P P 04 24 40.7 +0.3
baz=64
W25A X Bar L Ranch, 64.62 65 ⇑P P 04 24 40.8 +0.2
baz=64
Y23A Lovelace Mesa, 64.72 67 ⇑P P 04 24 41.3 -0.1
baz=65
Z22A Elephant Butte 64.73 68 ⇑P P 04 24 42.1 +0.7
baz=65
121A Cookes Peak, D 64.82 69 ⇓P P 04 24 42.4 +0.4
baz=65
T29A Hugoton 64.83 61 ⇑P P 04 24 41.2 -0.7
baz=65
VSR Storozhevoye 64.83 324 *e*P P 04 24 40.0 -1.6
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
319A Douglas 64.86 71 ⇑P P 04 24 42.8 +0.6
baz=65,SNR=5.8
R31A Burdett 64.88 59 ⇓P P 04 24 42.2 +0.1
baz=65
U28A Mallet 64.93 62 ⇓P P 04 24 41.9 -0.7
baz=65
VORD Divnogorie 65.00 324 *e*P P 04 24 41.2 -1.4
VORD pmax pmax
comp=E,40nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,20nm,0.5s
Y24A Capitan 65.06 66 ⇓P P 04 24 44.3 +0.7
baz=65,SNR=5.3
221A Mesquite Ranch 65.22 69 ⇓P P 04 24 44.1 -0.4
baz=65
320A Kipp Ranch, An 65.31 70 ⇓P P 04 24 44.6 -0.5
baz=65
Y25A Mesa, Roswell 65.47 66 ⇑P P 04 24 46.6 +0.4
baz=65
X26A CR and CF Fran 65.47 65 ⇓P P 04 24 46.2 +0.1
baz=65
Z24A Sheeppen Canyo 65.55 67 ⇓P P 04 24 46.0 -0.7
baz=65
123A Bell Site, Whi 65.59 68 ⇑P P 04 24 46.2 -0.7
baz=65
X27A F and S Farms, 65.78 64 ⇑P P 04 24 48.6 +0.4
baz=66
Y26A Elida 65.94 65 ⇓P P 04 24 48.3 -0.9
baz=66
Z25A Roswell 65.94 66 ⇓P P 04 24 49.6 +0.4
baz=66
124A Stringfield Ra 65.98 67 ⇓P P 04 24 47.3 -2.3
baz=66
Y27A Causey 66.32 65 ⇑P P 04 24 52.0 +0.4
baz=66
Z26A Caprock 66.35 66 ⇓P P 04 24 52.2 +0.5
baz=66
AMTX Amarillo 66.35 63 ⇑P P 04 24 51.8 0.0
baz=66
224A Cornudas Mount 66.42 68 ⇓P P 04 24 52.5 +0.2
baz=66
125A Gardner Draw, 66.45 67 ⇑P P 04 24 52.4 0.0
baz=66
MSTX Muleshoe 66.47 64 *e*P P 04 24 52.5 0.0
MSTX Muleshoe 66.47 64 ⇓P P 04 24 52.2 -0.3
baz=66
X29A Tulia 66.67 63 ⇓P P 04 24 54.1 +0.3
baz=66
Z27A Tatum 66.73 65 ⇓P P 04 24 54.2 0.0
baz=67,SNR=5.4
225A Deer Hill, Car 66.77 67 ⇑P P 04 24 54.5 -0.1
baz=67
MNTX Cornudas Mount 66.78 68 *e*P P 04 24 55.3 +0.9
comp=N,14nm,1.3s
Y28A McKinney Farm, 66.79 64 ⇑P P 04 24 54.5 -0.1
baz=67
126A Clayton Basin, 66.80 66 ⇓P P 04 24 55.2 +0.5
baz=67
324A Moseley Ranch, 66.92 68 ⇓P P 04 24 56.0 +0.5
baz=67
X30A Coker Ranch, T 67.11 63 ⇑P P 04 24 55.8 -0.8
baz=67
Y29A Porterfield Fa 67.14 64 ⇑P P 04 24 56.0 -0.8
baz=67
127A Arkansas Junct 67.14 66 ⇑P P 04 24 56.9 +0.1
baz=67
226B Tecolote Peak, 67.16 67 ⇑P P 04 24 56.4 -0.5
baz=67,SNR=5.2
SUW Suwalki 67.21 335 *e*P P 04 24 56.9 +0.2
SUW Suwalki 67.21 335 *e*P P 04 24 56.9 +0.2
325A Bean Ranch, Si 67.26 68 ⇓P P 04 24 56.6 -1.1
baz=67
X31A McDonald Ranch 67.44 62 ⇑P P 04 24 58.1 -0.5
baz=67
Z29A Hungry Hill Ra 67.58 64 ⇑P P 04 24 58.6 -1.0
baz=67
128A Castleberry Fa 67.65 65 ⇓P P 04 24 59.3 -0.8
baz=68
425A Indio Mountain 67.70 68 ⇑P P 04 24 59.4 -1.1
baz=68
326A Caldwell Ranch 67.84 67 ⇓P P 04 25 00.2 -1.1
baz=68
Z30A Sanderson Ranc 67.87 64 ⇑P P 04 25 00.7 -0.7
baz=68
X32A Elmer 67.97 62 ⇑P P 04 25 01.1 -0.8
baz=68
129A Stewart Farms, 67.98 65 ⇑P P 04 25 01.6 -0.5
baz=68
WMOK Wichita Mounta 67.98 61 *e*P P 04 25 01.9 -0.1
WMOK pmax pmax
comp=Z,8.0nm,0.9s
WMOK Wichita Mounta 67.98 61 *e*P P 04 25 01.9 -0.1
comp=Z,7.8nm,0.9s
Y32A R-V Farms, Ver 68.21 62 ⇑P P 04 25 02.4 -1.0
baz=68
X33A Lawton 68.28 61 ⇑P P 04 25 03.2 -0.7
baz=68
426A McDonald Obser 68.31 68 ⇓P P 04 25 04.3 -0.1
baz=68
Z31A Sharp Cattle R 68.37 63 ⇑P P 04 25 03.7 -0.8
baz=68
MAK Makhachkala 68.39 314 *e*P pP 04 25 15.4 +0.2
MAK MLR MLR
comp=Z,547nm,17.0s
328A Wristen Ranch, 68.43 66 ⇑P P 04 25 04.0 -0.9
baz=68
AKASG Malin Array Be 68.50 330 P P 04 25 04.6 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 68.50 330 P P 04 25 04.6 -0.4
AKASG Malin Array Be 68.50 330 P P 04 25 04.6 -0.4
comp=Z,1.2nm,0.4s,baz=26,slow=6.1,SNR=18
KIEV Kiev 68.51 330 *e*P P 04 25 03.1 -1.9
KIEV Kiev 68.51 330 *e*P P 04 25 03.9 -1.1
comp=Z,10nm,1.3s
427A Hayter Ranch, 68.52 67 ⇑P P 04 25 04.5 -1.0
baz=68
X34A Smith Ranch, M 68.58 61 ⇑P P 04 25 04.9 -0.9
baz=68
TUL1 Tulsa 68.61 58 ⇓P P 04 25 04.8 -1.1
baz=68
Z32A Haskell 68.73 63 ⇓P P 04 25 05.8 -0.9
baz=68
131A Roby 68.73 64 ⇑P P 04 25 06.1 -0.7
baz=69
526A Mary Lane Ranc 68.75 68 ⇓P P 04 25 06.3 -0.7
baz=69
329A Wagon Wheel Ra 68.80 66 ⇓P P 04 25 06.7 -0.5
baz=69
KULM Kulim 68.86 249 *e*P P 04 25 07.1 -0.6
comp=Z,8.6nm,0.7s
527A Woodward Ranch 68.94 68 ⇑P P 04 25 08.2 -0.1
baz=69
230A Sterling City 68.96 65 ⇓P P 04 25 08.5 +0.3
baz=69
428A Kincaid Ranch, 69.00 67 ⇑P P 04 25 08.5 -0.1
baz=69
626A Big Bend Ranch 69.11 68 ⇑P P 04 25 08.3 -1.0
baz=69
ABTX Abilene, Hawle 69.17 63 *e*P P 04 25 08.9 -0.5
ABTX Abilene, Hawle 69.17 63 ⇓P P 04 25 08.5 -0.9
baz=69
COEN Coen 69.27 199 *e*P P 04 25 11.0 +0.9
330A Mertzon 69.30 65 ⇑P P 04 25 10.3 +0.1
baz=69
IPM Ipoh 69.32 248 *e*P P 04 25 11.4 +0.8
528A Cox Ranch, San 69.38 67 ⇑P P 04 25 10.3 -0.6
baz=69
Z34A Collier Ranch, 69.50 61 ⇑P P 04 25 10.4 -1.1
baz=69
429A Davenport Ranc 69.51 66 ⇑P P 04 25 10.8 -0.9
baz=69
TXAR Lajitas Array 69.54 68 P P 04 25 12.2 +0.4
TXAR Lajitas Array 69.54 68 P P 04 25 12.2 +0.4
comp=Z,1.9nm,0.7s,baz=298,slow=4.9,SNR=32
KIV Kislovodsk 69.56 318 *e*P P 04 25 11.3 -0.5
KIV *i* 04 25 22.1
KIV *i* 04 25 33.1
KIV *e*S S 04 34 24.2 +7.1
KIV pmax pmax
comp=Z,20nm,2.5s
KIV MLR MLR
comp=Z,400nm,19.0s
KIV Kislovodsk 69.56 318 *e*P P 04 25 12.1 +0.3
627A Terlingua Ranc 69.60 68 ⇓P P 04 25 10.9 -1.4
baz=70
KBZ Khabaz 69.67 317 P P 04 25 12.0 -0.3
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ MLR MLR
comp=Z,482nm,19.5s
KBZ Khabaz 69.67 317 P P 04 25 12.0 -0.3
KBZ Khabaz 69.67 317 P P 04 25 12.0 -0.3
comp=Z,5.2nm,0.8s,baz=50,slow=2.8,SNR=14
KBZ LR LR 04 59 50.9
comp=Z,482nm,19.5s,baz=25,slow=40
529A Stev Forest Ra 69.72 67 ⇓P P 04 25 12.5 -0.5
baz=70
430A Baggett Ranch, 69.74 66 ⇑P P 04 25 12.3 -0.8
baz=70
331A San Angelo 69.77 65 ⇑P P 04 25 12.5 -0.8
baz=70
BEL Belsk 69.79 335 *e*P P 04 25 13.9 +1.0
BEL Belsk 69.79 335 *e*P P 04 25 13.9 +1.0
628A Black Gap, Mar 69.85 68 ⇓P P 04 25 13.2 -0.5
baz=70
134A White-Moore Ra 70.03 62 ⇑P P 04 25 13.8 -0.9
baz=70
233A Rising Star 70.03 63 ⇑P P 04 25 13.4 -1.4
baz=70
ZEI Tsey 70.04 316 *e*P P 04 25 13.2 -1.7
ZEI pmax pmax
comp=Z,9.0nm,1.3s
332A Millersview 70.08 64 ⇓P P 04 25 13.7 -1.4
baz=70
431A Sonora 70.16 65 ⇓P P 04 25 14.4 -1.2
baz=70
530A J-C Ranch, Com 70.18 66 ⇑P P 04 25 14.7 -1.1
baz=70
234A Clairette 70.45 63 ⇓P P 04 25 16.6 -0.7
baz=70
432A Menard 70.45 64 ⇓P P 04 25 16.5 -0.9
baz=70
EKA Eskdalemuir Ar 70.55 351 P P 04 25 17.6 +0.1
EKA Eskdalemuir Ar 70.55 351 P P 04 25 17.5 +0.1
comp=Z,2.6nm,0.6s,baz=18,slow=5.2,SNR=12
531A Rocksprings 70.60 65 ⇓P P 04 25 17.6 -0.7
baz=70
JCT Junction City 70.75 65 *e*P P 04 25 18.9 -0.3
JCT pmax pmax
comp=Z,10.0nm,1.1s
JCT Junction City 70.75 65 *e*P P 04 25 18.9 -0.3
comp=Z,9.6nm,1.1s
JCT Junction City 70.75 65 ⇓P P 04 25 18.8 -0.3
baz=71
433A Art 70.92 64 ⇑P P 04 25 19.4 -0.9
baz=71
334A Lometa 70.92 63 ⇓P P 04 25 19.2 -1.0
baz=71
532A Rocksprings 70.97 65 ⇓P P 04 25 19.8 -0.8
baz=71
631A Perdido Creek 71.17 66 ⇓P P 04 25 21.0 -0.8
baz=71
434A Burnet 71.31 63 ⇓P P 04 25 21.9 -0.6
baz=71
KWP Kalwaria Pacla 71.31 333 *e*P P 04 25 23.0 +0.7
KWP Kalwaria Pacla 71.31 333 *e*P P 04 25 23.0 +0.7
KWP Kalwaria Pacla 71.31 333 *e*P P 04 25 22.8 +0.5
comp=Z,60nm,1.1s
KWP *ep*P pP 04 25 33.7 +0.5
335A Moody 71.39 62 ⇓P P 04 25 22.4 -0.6
baz=71

NRDL	**Niedersach Rie**	**71.48**	**342**	*e*P		**P**	**04 25 23.0**	**-0.1**
	comp=Z,6.0nm,1.0s							
533A	**Kerrville**	**71.48**	**64**	⇓P		**P**	**04 25 22.7**	**-0.9**
	baz=71							
632A	**Uvalde**	**71.52**	**65**	⇑P		**P**	**04 25 22.7**	**-1.2**
	baz=71							
OJC	**Ojcow**	**71.53**	**335**	*e*P		**P**	**04 25 23.6**	**+0.1**
OJC	**Ojcow**	**71.53**	**335**	*e*P		**P**	**04 25 23.6**	**+0.1**
KSP	**Ksiaz**	**71.78**	**338**	⇓*e*P		**P**	**04 25 25.0**	**0.0**
KSP				*e**PP		**pP**	**04 25 36.2**	**+0.3**
KSP	**Ksiaz**	**71.78**	**338**	*e*P		**P**	**04 25 25.6**	**+0.6**
534A	**Blanco**	**71.82**	**64**	⇓P		**P**	**04 25 24.8**	**-0.9**
	baz=72							
PSI	**Prapat**	**71.87**	**249**	P		**P**	**04 25 26.9**	**+0.6**
PSI	**Prapat**	**71.87**	**249**	P		**P**	**04 25 26.8**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=28,slow=2.6,SNR=3.2							
GNI	**Garni**	**71.88**	**314**	*e*P		**P**	**04 25 25.9**	**-0.1**
	comp=Z,8.1nm,0.9s							
STHS	**Stebnicka Huta**	**71.90**	**334**	*e*P		**P**	**04 25 26.3**	**+0.5**
STHS				pmax	pmax			
	comp=Z,9.0nm,0.9s							
STHS	**Stebnicka Huta**	**71.90**	**334**	*e*P		**P**	**04 25 26.3**	**+0.5**
KIS	**Kishinev**	**71.91**	**328**	*e*P		**P**	**04 25 25.0**	**-0.9**
KIS				*e*L		L	04 59 22.0	
KIS				LRM		MLR	05 01 26.0	
	comp=Z,500nm,17.0s							
KIS	**Kishinev**	**71.91**	**328**	*e*P		**P**	**04 25 25.0**	**-0.9**
KIS				*e*			04 25 39.0	
KIS				MLR		MLR		
	comp=Z,400nm,17.0s							
KIS				MLR		MLR		
	comp=Z,500nm,17.0s							
732A	**Laxson Ranch,**	**72.03**	**66**	⇓P		**P**	**04 25 26.2**	**-0.7**
	baz=72							
CLL	**Collm**	**72.05**	**340**	⇑*i*P		**P**	**04 25 26.2**	**-0.4**
CLL				*i*			04 25 37.4	
CLL				*i*			04 25 40.8	
CLL				pmax	pmax			
	comp=Z,37nm,1.5s							
CLL				MLR		MLR		
	comp=Z,200nm,18.6s							
CLL	**Collm**	**72.05**	**340**	*e*P		**P**	**04 25 27.3**	**+0.7**
	comp=Z,18nm,1.1s							
CLL	**Collm**	**72.05**	**340**	⇑*i*P		**P**	**04 25 26.2**	**-0.4**
	comp=Z,37nm,1.5s							
CLL				*i* pP		**pP**	**04 25 37.4**	**-0.1**
CLL				*i* sP		**sP**	**04 25 40.8**	**-0.8**
CLL				LmV			05 02 00.0	
	comp=Z,200nm,18.6s							
CLZ	**Clausthal**	**72.05**	**342**	*e*P		**P**	**04 25 27.1**	**+0.4**
	comp=Z,10.0nm,1.0s							
KOLS	**Kolonicke sedl**	**72.07**	**333**	*e*P		**P**	**04 25 27.0**	**+0.2**
KOLS				pmax	pmax			
	comp=Z,14nm,1.2s							
KOLS	**Kolonicke sedl**	**72.07**	**333**	*e*P		**P**	**04 25 27.0**	**+0.2**
UPC	**Upice**	**72.15**	**338**	⇓*i*P		**P**	**04 25 28.0**	**+0.7**
UPC				*e**PP		**pP**	**04 25 39.0**	**+0.8**
UPC	**Upice**	**72.15**	**338**	⇓*i*P		**P**	**04 25 28.0**	**+0.7**
UPC				*e*pP		**pP**	**04 25 39.0**	**+0.8**
DPC	**Dobruska-Polom**	**72.23**	**337**	*e*P		**P**	**04 25 28.2**	**+0.4**
DPC				*e**PP		**pP**	**04 25 39.6**	**+0.9**
DPC	**Dobruska-Polom**	**72.23**	**337**	*e*P		**P**	**04 25 28.2**	**+0.4**
DPC				*e*pP		**pP**	**04 25 39.6**	**+0.9**
DPC				AMS		AMS	05 01 40.0	
BRG	**Berggiesshubel**	**72.26**	**339**	*e*P		**P**	**04 25 27.6**	**-0.3**
	comp=Z,12nm,1.4s							
BRG				*e*			04 25 41.9	
	comp=Z,18nm,1.3s							
BRG	**Berggiesshubel**	**72.26**	**339**	*e*P		**P**	**04 25 27.6**	**-0.3**
BRG				*e*			04 25 41.9	
BRG				pmax	pmax			
	comp=Z,12nm,1.4s							
BRG	**Berggiesshubel**	**72.26**	**339**	*e*P		**P**	**04 25 28.7**	**+0.8**
	comp=Z,4.0nm,1.0s							
OKC	**Ostrava-Krasne**	**72.28**	**336**	⇓*i*P		**P**	**04 25 28.8**	**+0.7**
OKC	**Ostrava-Krasne**	**72.28**	**336**	⇓*i*P		**P**	**04 25 28.8**	**+0.7**
CRVS	**Cervenica-Dubn**	**72.31**	**334**	*e*P		**P**	**04 25 28.1**	**-0.2**
CRVS				pmax	pmax			
	comp=Z,7.0nm,1.3s							
CRVS	**Cervenica-Dubn**	**72.31**	**334**	*e*P		**P**	**04 25 28.1**	**-0.2**
832A	**Faith Ranch, C**	**72.38**	**66**	⇑P		**P**	**04 25 28.3**	**-0.7**
	baz=72							
733A	**Divot King Ran**	**72.41**	**65**	⇑P		**P**	**04 25 28.5**	**-0.6**
	baz=72							
BUR08	**Bucovina Ar. S**	**72.42**	**331**	*e*P		**P**	**04 25 28.6**	**-0.5**
BUR08				*e*pP		**pP**	**04 25 40.2**	**+0.2**
BURAR	**Bucovina Array**	**72.44**	**331**	⇑*i*P		**P**	**04 25 28.9**	**-0.3**
PVCC	**Panska Ves**	**72.45**	**339**	*e*P		**P**	**04 25 27.7**	**-1.4**
PVCC	**Panska Ves**	**72.45**	**339**	⇓*e*P		**P**	**04 25 27.7**	**-1.4**
MORC	**Moravsky Berou**	**72.48**	**336**	*e*P		**P**	**04 25 30.1**	**+0.8**
MORC				*e**PP		**pP**	**04 25 40.9**	**+0.7**
MORC				pmax	pmax			
	comp=Z,14nm,1.3s							
MORC	**Moravsky Berou**	**72.48**	**336**	*e*P		**P**	**04 25 30.1**	**+0.8**
	comp=Z,14nm,1.3s							
MORC				*e*pP		**pP**	**04 25 40.9**	**+0.7**
833A	**Chaparral WMA,**	**72.66**	**66**	⇑P		**P**	**04 25 29.8**	**-0.9**
	baz=72							
PRU	**Pruhonice**	**72.97**	**338**	⇓*i*P		**P**	**04 25 32.9**	**+0.8**
PRU				*e**PP		**pP**	**04 25 43.4**	**+0.3**
PRU	**Pruhonice**	**72.97**	**338**	⇓*i*P		**P**	**04 25 32.9**	**+0.8**
PRU				*e*pP		**pP**	**04 25 43.4**	**+0.3**
UBBA	**Unterbreizbach**	**73.10**	**342**	*e*P		**P**	**04 25 33.9**	**+1.1**
	comp=Z,2.0nm,0.6s							
NKC	**Novy Kostel**	**73.18**	**340**	*e*P		**P**	**04 25 34.1**	**+0.7**
NKC				*e**PP		**pP**	**04 25 45.0**	**+0.7**
NKC	**Novy Kostel**	**73.18**	**340**	*e*P		**P**	**04 25 34.1**	**+0.7**
NKC				*e*pP		**pP**	**04 25 45.0**	**+0.7**
834A	**Tilden**	**73.28**	**65**	⇓P		**P**	**04 25 33.8**	**-0.5**
	baz=73							
TREC	**Trest**	**73.41**	**338**	⇓AMS		AMS	05 03 00.0	
	comp=Z,300nm,18.7s							
MANZ	**Manzenberg**	**73.48**	**340**	*e*P		**P**	**04 25 36.2**	**+1.0**
	comp=Z,22nm,1.6s							
835A	**Beeville**	**73.54**	**65**	⇓P		**P**	**04 25 35.2**	**-0.6**
	baz=73							
PSZ	**Piszkesteto**	**73.63**	**334**	*e*P		**P**	**04 25 36.5**	**+0.3**
PSZ				pmax	pmax			
	comp=Z,22nm,1.6s							
PSZ	**Piszkesteto**	**73.63**	**334**	*e*P		**P**	**04 25 36.5**	**+0.3**
	comp=Z,22nm,1.6s							
ROTZ	**Rotzenmuhle**	**73.67**	**340**	*e*P		**P**	**04 25 37.7**	**+1.4**
	comp=Z,4.0nm,1.0s							
GRF	**Grafenberg Arr**	**73.94**	**340**	*e*P		**P**	**04 25 39.5**	**+1.6**
	comp=Z,6.0nm,0.7s							
KHC	**Kasperske Hory**	**73.98**	**339**	*e*P		**P**	**04 25 38.5**	**+0.3**
KHC				pmax	pmax			
	comp=Z,20nm,1.3s							
KHC	**Kasperske Hory**	**73.98**	**339**	*e*P		**P**	**04 25 38.3**	**+0.1**
KHC				*e*pP		**pP**	**04 25 50.5**	**+1.4**
KHC	**Kasperske Hory**	**73.98**	**339**	*e*P		**P**	**04 25 38.5**	**+0.3**
	comp=Z,20nm,1.3s							
MEM	**Membach**	**74.00**	**344**	P		**P**	**04 25 38.9**	**+0.7**
	comp=Z,17nm,1.3s							
WET	**Wettzell**	**74.12**	**339**	*e*P		**P**	**04 25 41.0**	**+2.0**
	comp=Z,8.0nm,1.2s							
MLR	**Muntele Rosu**	**74.14**	**329**	⇓*i*P		**P**	**04 25 40.6**	**+1.3**
GEC2	**GERESS Array S**	**74.23**	**339**	*e*P		**P**	**04 25 40.7**	**+1.0**
	comp=Z,5.0nm,1.1s							
GERES	**GERESS Array B**	**74.23**	**339**	P		**P**	**04 25 40.1**	**+0.4**
GERES	**GERESS Array B**	**74.23**	**339**	P		**P**	**04 25 40.1**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=33,slow=6.3,SNR=11							
BCLA	**Clavier**	**74.30**	**345**	P		**P**	**04 25 39.1**	**-0.8**
	comp=Z,32nm,3.5s							
TIRR	**Tirgusor**	**74.30**	**327**	⇓*i*P		**P**	**04 25 40.4**	**+0.4**
VOIR		**74.46**	**330**	⇑*i*P		**P**	**04 25 41.6**	**+0.5**
CONA	**Conrad Observa**	**74.61**	**337**	⇑*i*P		**P**	**04 25 42.0**	**+0.1**
	comp=Z,14nm,1.4s							
ARR	**Arges**	**74.65**	**330**	⇓*i*P		**P**	**04 25 43.2**	**+1.0**
SIRR	**Siria**	**74.68**	**332**	⇑*i*P		**P**	**04 25 42.5**	**+0.3**
CTAO	**Charters Tower**	**74.73**	**195**	*e*P		**P**	**04 25 43.3**	**+0.7**
CTAO				*e**PP		**pP**	**04 25 54.0**	**+0.4**
CTAO				pmax	pmax			
	comp=Z,5.0nm,1.1s							
CTAO	**Charters Tower**	**74.73**	**195**	*e*P		**P**	**04 25 43.3**	**+0.7**
	comp=Z,4.8nm,1.1s							
CTAO				*e*pP		**pP**	**04 25 54.0**	**+0.4**
BAIF	**Baives**	**74.81**	**345**	*e*P		**P**	**04 25 42.3**	**-0.6**
BAIF	**Baives**	**74.81**	**345**	*e*P		**P**	**04 25 42.3**	**-0.6**
BAIF	**Baives**	**74.81**	**345**	*e*P		**P**	**04 25 42.3**	**-0.6**
MOA	**Molln**	**75.05**	**338**	*e*P		**P**	**04 25 45.5**	**+1.1**
	comp=Z,5.0nm,1.1s							
GZR	**Gura Zlata**	**75.17**	**331**	⇓*i*P		**P**	**04 25 45.7**	**+0.6**
STU	**Stuttgart**	**75.21**	**342**	*e*P		**P**	**04 25 44.8**	**-0.4**
STU	**Stuttgart**	**75.21**	**342**	*e*P		**P**	**04 25 44.8**	**-0.4**
BZS	**Buzias**	**75.29**	**332**	⇓*i*P		**P**	**04 25 45.6**	**-0.1**
ARSA	**Arzberg**	**75.32**	**337**	*e*P		**P**	**04 25 47.5**	**+1.5**
	comp=Z,8.0nm,1.2s							
FUR	**Furstenfeldbru**	**75.38**	**340**	*e*P		**P**	**04 25 47.6**	**+1.3**
	comp=Z,3.0nm,0.8s							
RJOB	**Jochberg**	**75.47**	**339**	*e*P		**P**	**04 25 48.2**	**+1.3**
	comp=Z,6.0nm,0.9s							
PKSM	**Moragy**	**75.53**	**334**	⇑*i*P		**P**	**04 25 47.5**	**+0.4**
DZM	**Mont Dzumac**	**75.63**	**175**	LR		LR	04 56 56.6	
	comp=Z,114nm,18.1s,baz=12,slow=34							
BFO	**Black Forest**	**75.80**	**342**	*i* P		**P**	**04 25 50.2**	**+1.6**
CDF	**Champ du Feu**	**75.91**	**343**	*e*P		**P**	**04 25 49.5**	**+0.1**
CDF	**Champ du Feu**	**75.91**	**343**	*e*P		**P**	**04 25 49.5**	**+0.1**
CDF	**Champ du Feu**	**75.91**	**343**	*e*P		**P**	**04 25 49.5**	**+0.1**
PAGF	**Fort de Pagny**	**76.03**	**344**	*e*P		**P**	**04 25 50.4**	**+0.4**
	comp=Z,8.6nm,1.0s							
PAGF	**Fort de Pagny**	**76.03**	**344**	*e*P		**P**	**04 25 50.4**	**+0.4**
	comp=Z,8.6nm,1.0s							
MALT	**Malatya**	**76.05**	**317**	⇑*i*P		**P**	**04 25 50.8**	**+0.5**
MEZF	**Maizieres J'vi**	**76.20**	**344**	*e*P		**P**	**04 25 51.1**	**+0.2**
MEZF	**Maizieres J'vi**	**76.20**	**344**	*e*P		**P**	**04 25 51.1**	**+0.2**
HAU	**Haudompre**	**76.46**	**343**	*e*P		**P**	**04 25 53.0**	**+0.6**
HAU				*e*R				
	comp=Z,126nm,22.2s							
HAU	**Haudompre**	**76.46**	**343**	*e*P		**P**	**04 25 53.0**	**+0.6**
HAU	**Haudompre**	**76.46**	**343**	*e*P		**P**	**04 25 53.0**	**+0.6**
SFTF	**Sexfontaines**	**76.49**	**344**	*e*P		**P**	**04 25 52.6**	**+0.1**
	comp=Z,41nm,1.1s							
SFTF	**Sexfontaines**	**76.49**	**344**	*e*P		**P**	**04 25 52.6**	**+0.1**
	comp=Z,41nm,1.1s							
HINF	**Hinteralfeld**	**76.56**	**343**	*e*P		**P**	**04 25 53.8**	**+0.8**
HINF	**Hinteralfeld**	**76.56**	**343**	*e*P		**P**	**04 25 53.8**	**+0.8**
HINF	**Hinteralfeld**	**76.56**	**343**	*e*P		**P**	**04 25 53.8**	**+0.8**
BR131	**Keskin Array S**	**76.67**	**321**	*e*P		**P**	**04 25 53.6**	**-0.3**
	comp=Z,24nm,1.5s							
BRTR	**Keskin Array B**	**76.67**	**321**	P		**P**	**04 25 53.9**	**-0.1**
BRTR	**Keskin Array B**	**76.67**	**321**	P		**P**	**04 25 53.9**	**-0.1**
	comp=Z,6.4nm,1.1s,baz=60,slow=3.0,SNR=25							
BRTR				LR		LR	05 05 47.5	
	comp=Z,106nm,18.8s,baz=178,slow=41							
FLN	**La Foliniere**	**76.73**	**348**	*e*P		**P**	**04 25 54.2**	**+0.3**
FLN				*e*R				
	comp=Z,134nm,17.2s							
FLN	**La Foliniere**	**76.73**	**348**	*e*P		**P**	**04 25 54.2**	**+0.3**
FLN	**La Foliniere**	**76.73**	**348**	*e*P		**P**	**04 25 54.2**	**+0.3**
WRAB	**Tennant Creek**	**77.07**	**206**	*e*P		**P**	**04 25 56.1**	**+0.1**
WRAB				*e**PP		**pP**	**04 26 07.7**	**+0.7**
WRAB				pmax	pmax			
	comp=Z,21nm,1.2s							
WRAB	**Tennant Creek**	**77.07**	**206**	*e*P		**P**	**04 25 56.0**	**+0.1**
	comp=Z,21nm,1.2s							
WRAB				*e*pP		**pP**	**04 26 07.7**	**+0.7**
WRAB	**Tennant Creek**	**77.07**	**206**	P		**P**	**04 25 56.2**	**+0.2**
	comp=Z,35nm,1.2s,SNR=13							
WRA	**Warramunga Arr**	**77.08**	**206**	P		**P**	**04 25 56.2**	**+0.2**
WRA	**Warramunga Arr**	**77.08**	**206**	P		**P**	**04 25 56.2**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=19,slow=6.0,SNR=39							
GRR	**Gorron**	**77.15**	**348**	*e*P		**P**	**04 25 56.1**	**-0.1**
GRR	**Gorron**	**77.15**	**348**	*e*P		**P**	**04 25 56.1**	**-0.1**
GRR	**Gorron**	**77.15**	**348**	*e*P		**P**	**04 25 56.1**	**-0.1**
TUE	**Stuetta**	**77.39**	**341**	*e*P		**P**	**04 25 58.7**	**+0.8**
	comp=Z,22nm,1.3s							
ROSF	**Rostrenen**	**77.47**	**350**	*e*P		**P**	**04 25 58.7**	**+0.6**
	comp=Z,94nm,1.2s							
ROSF	**Rostrenen**	**77.47**	**350**	*e*P		**P**	**04 25 58.7**	**+0.6**
ROSF				pmax	pmax			
	comp=Z,94nm,1.2s							
ROSF	**Rostrenen**	**77.47**	**350**	*e*P		**P**	**04 25 58.7**	**+0.6**
	comp=Z,94nm,1.2s							
SGMF	**Saint Gilles**	**77.48**	**349**	*e*P		**P**	**04 25 58.6**	**+0.5**
SGMF	**Saint Gilles**	**77.48**	**349**	*e*P		**P**	**04 25 58.6**	**+0.5**
SGMF	**Saint Gilles**	**77.48**	**349**	*e*P		**P**	**04 25 58.6**	**+0.5**
LOR	**Lormes**	**77.58**	**345**	*e*P		**P**	**04 25 58.7**	**-0.1**
	comp=Z,54nm,1.3s							
LOR				*e*R				
	comp=Z,168nm,17.8s							
LOR	**Lormes**	**77.58**	**345**	*e*P		**P**	**04 25 58.7**	**-0.1**
	comp=Z,54nm,1.3s							
VTS	**Vitosha**	**77.60**	**330**	⇑*i*P		**P**	**04 25 59.3**	**+0.2**
SSF	**Saint Saulge**	**77.84**	**345**	*e*P		**P**	**04 26 00.8**	**+0.6**
	comp=Z,17nm,1.1s							
SSF	**Saint Saulge**	**77.84**	**345**	*e*P		**P**	**04 26 00.8**	**+0.6**
SSF				pmax	pmax			
	comp=Z,17nm,1.1s							
SSF	**Saint Saulge**	**77.84**	**345**	*e*P		**P**	**04 26 00.8**	**+0.6**
	comp=Z,17nm,1.1s							
CABF	**La Chapelle**	**77.86**	**343**	*e*P		**P**	**04 26 00.8**	**+0.4**
CABF	**La Chapelle**	**77.86**	**343**	*e*P		**P**	**04 26 00.8**	**+0.4**
CABF	**La Chapelle**	**77.86**	**343**	*e*P		**P**	**04 26 00.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**77.97**	**215**	*e*P		**P**	**04 26 01.6**	**+0.5**
	comp=Z,17nm,1.2s							
FITZ				*e*pP		**pP**	**04 26 13.1**	**+1.0**
AVF	**Avril sur Loir**	**78.13**	**345**	*e*P		**P**	**04 26 01.7**	**0.0**
	comp=Z,85nm,1.6s							
AVF	**Avril sur Loir**	**78.13**	**345**	*e*P		**P**	**04 26 01.7**	**0.0**
AVF				pmax	pmax			
	comp=Z,85nm,1.6s							
AVF	**Avril sur Loir**	**78.13**	**345**	*e*P		**P**	**04 26 01.7**	**0.0**
	comp=Z,85nm,1.6s							
SMF	**Signal de Mont**	**78.19**	**345**	*e*P		**P**	**04 26 01.5**	**-0.6**
SMF	**Signal de Mont**	**78.19**	**345**	*e*P		**P**	**04 26 01.5**	**-0.6**
SMF	**Signal de Mont**	**78.19**	**345**	*e*P		**P**	**04 26 01.5**	**-0.6**
MMB	**Musomiste**	**78.36**	**329**	⇑*i*P		**P**	**04 26 04.1**	**+0.9**
BGF	**Bois d'Agland**	**78.43**	**345**	*e*P		**P**	**04 26 03.8**	**+0.3**
	comp=Z,10nm,0.8s							
BGF	**Bois d'Agland**	**78.43**	**345**	*e*P		**P**	**04 26 03.8**	**+0.3**
BGF				pmax	pmax			
	comp=Z,11nm,0.8s							
BGF	**Bois d'Agland**	**78.43**	**345**	*e*P		**P**	**04 26 03.8**	**+0.3**
	comp=Z,10nm,0.8s							
TCF	**Toulx Ste Croi**	**78.79**	**346**	*e*P		**P**	**04 26 05.7**	**+0.2**
	comp=Z,29nm,1.2s							
TCF	**Toulx Ste Croi**	**78.79**	**346**	*e*P		**P**	**04 26 05.7**	**+0.2**
TCF				pmax	pmax			
	comp=Z,29nm,1.2s							
TCF	**Toulx Ste Croi**	**78.79**	**346**	*e*P		**P**	**04 26 05.7**	**+0.2**
	comp=Z,29nm,1.2s							
LPL	**La Plagne**	**78.80**	**342**	*e*P		**P**	**04 26 06.7**	**+0.9**
	comp=Z,51nm,1.3s							
LPL	**La Plagne**	**78.80**	**342**	*e*P		**P**	**04 26 06.7**	**+0.9**
LPL				pmax	pmax			
	comp=Z,51nm,1.3s							
LPL	**La Plagne**	**78.80**	**342**	*e*P		**P**	**04 26 06.7**	**+0.9**
	comp=Z,51nm,1.3s							
PALK	**Pallekele**	**78.80**	**267**	*e*P		**P**	**04 26 05.9**	**0.0**
	comp=Z,28nm,0.8s							
PALK				*e*pP		**pP**	**04 26 17.2**	**+0.2**
MFF	**Saint Martin d**	**78.81**	**347**	*e*P		**P**	**04 26 05.8**	**+0.3**
MFF	**Saint Martin d**	**78.81**	**347**	*e*P		**P**	**04 26 05.8**	**+0.3**
MFF	**Saint Martin d**	**78.81**	**347**	*e*P		**P**	**04 26 05.8**	**+0.3**
LPG	**La Plagne**	**78.81**	**342**	*e*P		**P**	**04 26 07.1**	**+1.2**
	comp=Z,50nm,1.1s							
LPG	**La Plagne**	**78.81**	**342**	*e*P		**P**	**04 26 07.1**	**+1.2**
LPG				pmax	pmax			
	comp=Z,51nm,1.1s							
LPG	**La Plagne**	**78.81**	**342**	*e*P		**P**	**04 26 07.1**	**+1.2**
	comp=Z,50nm,1.1s							
BNI	**Bardonecchia**	**79.26**	**342**	*e*P		**P**	**04 26 08.5**	**+0.3**
BNI				pmax	pmax			
	comp=Z,20nm,1.2s							
BNI	**Bardonecchia**	**79.26**	**342**	*e*P		**P**	**04 26 08.5**	**+0.3**
	comp=Z,20nm,1.2s							
ORIF	**Oris-en-Rattie**	**79.53**	**343**	*e*P		**P**	**04 26 10.0**	**+0.4**
ORIF				*e*R				
	comp=Z,136nm,19.0s							
ORIF	**Oris-en-Rattie**	**79.53**	**343**	*e*P		**P**	**04 26 10.0**	**+0.4**
ORIF	**Oris-en-Rattie**	**79.53**	**343**	*e*P		**P**	**04 26 10.0**	**+0.4**
MBDF	**Montbardon**	**79.56**	**342**	*e*P		**P**	**04 26 10.0**	**+0.2**
MBDF	**Montbardon**	**79.56**	**342**	*e*P		**P**	**04 26 10.0**	**+0.2**
MBDF	**Montbardon**	**79.56**	**342**	*e*P		**P**	**04 26 10.0**	**+0.2**
RST	**Umm Al-Ruwaisa**	**79.71**	**306**	*e*P		P	04 26 06.8	-3.9
RST				AMb		AMB	04 26 11.0	
	comp=Z,393nm,1.2s							
VIVF	**Saint-Julien-l**	**79.80**	**344**	*e*P		**P**	**04 26 11.0**	**0.0**
	comp=Z,24nm,1.1s							
VIVF	**Saint-Julien-l**	**79.80**	**344**	*e*P		**P**	**04 26 11.0**	**0.0**
VIVF				pmax	pmax			
	comp=Z,24nm,1.1s							
VIVF	**Saint-Julien-l**	**79.80**	**344**	*e*P		**P**	**04 26 11.0**	**0.0**
	comp=Z,24nm,1.1s							
NAY	**Al-Naaiem**	**79.80**	**306**	*e*P		P	04 26 06.6	-4.7
NAY				AMb		AMB	04 26 13.4	
	comp=Z,29nm,1.6s							
RDF	**Al-Radifah**	**79.92**	**306**	*e*P		P	04 26 07.4	-4.5
RDF				AMb		AMB	04 26 12.9	
	comp=Z,88nm,1.3s							
FRF	**La Foret Royal**	**80.71**	**342**	*e*P		**P**	**04 26 16.0**	**+0.1**
FRF	**La Foret Royal**	**80.71**	**342**	*e*P		**P**	**04 26 16.0**	**+0.1**
FRF	**La Foret Royal**	**80.71**	**342**	*e*P		**P**	**04 26 16.0**	**+0.1**
AS31	**Alice Springs**	**80.75**	**206**	*e*P		**P**	**04 26 16.8**	**+0.7**
AS31				*e*pP		**pP**	**04 26 28.4**	**+1.2**
ASAR	**Alice Springs**	**80.75**	**206**	P		**P**	**04 26 17.2**	**+1.1**
ASAR	**Alice Springs**	**80.75**	**206**	P		**P**	**04 26 17.2**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=17,slow=5.2,SNR=39							
PMOR	**Pomariorio Ree**	**80.91**	**131**	*e*T		T	05 56 07.3	
	comp=Z,4.4nm,0.4s							
CSS	**Prodhromos**	**80.97**	**319**	*e*P		**P**	**04 26 16.8**	**-0.7**
	comp=Z,8.5nm,1.4s							
CSS				*e*pP		**pP**	**04 26 28.7**	**+0.2**
PPT	**Papeete**	**82.44**	**134**	LR		LR	04 56 26.4	
	comp=Z,448nm,20.4s,baz=301,slow=31							
PPT2	**Papeete2**	**82.46**	**134**	*e*LR		LR	04 52 03.4	
	comp=Z,199nm,24.8s							
TIP	**Timpagrande**	**82.59**	**333**	*e*P		**P**	**04 26 27.4**	**+1.5**
	comp=Z,14nm,1.2s							
TIP				*e*pP		**pP**	**04 26 38.3**	**+1.3**
MEH	**Mehetia**	**83.37**	**132**	*e*T		T	05 59 11.1	
	comp=Z,67nm,0.4s							
RAYN	**Ar Rayn**	**85.44**	**304**	P		**P**	**04 26 40.4**	**-0.3**
	comp=Z,100nm,1.1s,SNR=5.7							
ESDC	**Sonseca Array**	**86.11**	**349**	P		**P**	**04 26 44.7**	**+0.9**
ESDC	**Sonseca Array**	**86.11**	**349**	P		**P**	**04 26 44.7**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=358,slow=5.6,SNR=5.9							
STKA	**Stephens Creek**	**87.04**	**197**	P		**P**	**04 26 49.0**	**+1.0**
STKA	**Stephens Creek**	**87.04**	**197**	P		**P**	**04 26 49.0**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=96,slow=1.2,SNR=4.1							
TBI	**Tubuai**	**87.63**	**136**	*e*LR		LR	04 54 22.9	
	comp=Z,148nm,23.8s							
KEST	**Kesra**	**87.69**	**338**	*e*P		**P**	**04 26 52.2**	**+0.6**
KEST	**Kesra**	**87.69**	**338**	P		**P**	**04 26 51.7**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=146,slow=9.5,SNR=4.1							
FORT	**Forrest**	**89.08**	**208**	*e*P		**P**	**04 26 59.6**	**+1.9**
	comp=Z,49nm,1.4s							
FORT				*e*pP		**pP**	**04 27 09.6**	**+0.7**
RPZ	**Rata Peaks**	**97.44**	**173**	*e*P		Pdif	04 27 37.7	+1.7
KMBO	**Kilima Mbogo**	**110.53**	**298**	PKKPbc		PKKPbc	04 43 33.4	+0.6
KMBO	**Kilima Mbogo**	**110.53**	**298**	PKKPbc		PKKPbc	04 43 33.4	+0.6
	comp=Z,2.2nm,0.4s,baz=225,slow=1.2,SNR=5.9							
TORD	**Torodi Ar. Bea**	**111.18**	**339**	PP		PP	04 33 12.7	-2.5
TORD	**Torodi Ar. Bea**	**111.18**	**339**	PP		PP	04 33 12.7	-2.5
	comp=Z,1.0nm,0.9s,baz=15,slow=6.3,SNR=4.1							
NNA	**Nana**	**118.03**	**71**	*e*PKPdf		**PKPdf**	**04 32 49.9**	**+0.1**
SAML	**Samuel**	**122.72**	**56**	*e*PKPdf		**PKPdf**	**04 33 00.6**	**+1.9**
LSZ	**Lusaka**	**127.20**	**298**	*e*PKPdf		**PKPdf**	**04 33 08.4**	**+1.0**
VNDA	**Vanda**	**131.01**	**180**	*e*PKPdf		**PKPdf**	**04 33 14

KLY	**Klyuchi**	**2.74**	**347**	PN	**Pb**	**04 23 29.6**	**-2.5**
KLY				S	**Sn**	**04 24 01.2**	**+0.4**
KLY	**Klyuchi**	**2.74**	**347**	*e*P	**Pb**	**04 23 29.6**	**-2.5**
KLY				*i* S	**Sn**	**04 24 01.2**	**+0.4**
APC	**Apacha**	**2.88**	**257**	*e*P	**Pn**	**04 23 31.2**	**+2.0**
APC				*e*S	**Sn**	**04 24 05.3**	**+1.1**
BKI	**Bering**	**2.89**	**56**	PN	**Pn**	**04 23 29.5**	**+0.3**
BKI	**Bering**	**2.89**	**56**	*e*P	**Pn**	**04 23 29.5**	**+0.3**
BKI				*i* S	**Sn**	**04 24 01.9**	**-2.4**
ESO	**Esso**	**2.89**	**323**	PN	**Pn**	**04 23 30.2**	**+0.8**
ESO				S	**Sn**	**04 24 05.5**	**+0.9**
ESO	**Esso**	**2.89**	**323**	*e*P	**Pn**	**04 23 30.2**	**+0.8**
ESO				*e*S	**Sn**	**04 24 05.5**	**+0.9**
SRDR	**Sredinnyy**	**2.92**	**337**	*e*P	**Pn**	**04 23 30.7**	**+0.9**
SRDR				*i* S	**Sn**	**04 24 07.0**	**+1.7**
BDR	**Baidarnaya**	**2.94**	**354**	*e*P	**Pb**	**04 23 32.8**	**-2.6**
BDR				*i* S	**Sn**	**04 24 08.1**	**+2.4**
SMKR	**Semkarok**	**2.94**	**356**	*e*P	**Pn**	**04 23 31.9**	**+1.9**
SMKR				*i* S	**Sn**	**04 24 08.6**	**+2.9**
SRKR	**Sorokina**	**3.02**	**353**	*e*P	**Pn**	**04 23 33.7**	**+2.5**
SRKR				*i* S	**Sb**	**04 24 11.6**	**-2.6**
MIPR	**Malaya Ipel'ka**	**3.35**	**248**	*e*P	**Pn**	**04 23 37.4**	**+1.8**
PAU	**Pauzhetka**	**3.75**	**236**	PN	**Pn**	**04 23 40.8**	**-0.3**
PAU	**Pauzhetka**	**3.75**	**236**	*e*P	**Pn**	**04 23 40.8**	**-0.3**
SKR	**Severo-Kuril's**	**4.59**	**232**	*e*PN	**Pb**	**04 24 02.0**	**-1.6**
FX1	**Attu Island--F**	**6.86**	**92**	Pn	**Pn**	**04 24 25.6**	**+1.8**
	comp=N,6.0nm,0.3s,baz=46,slow=1.0,SNR=10						
FX1				S	**Sn**	**04 25 40.1**	**-2.2**
	comp=N,1.4nm,0.3s,baz=44,slow=21,SNR=3.7						
ASAJ	**Asahikawa**	**15.79**	**241**	Pn	**Pn**	**04 26 26.6**	**+1.1**
	comp=N,0.7nm,0.3s,baz=32,slow=10,SNR=3.2						
USRK	**Ussuriysk Arra**	**21.61**	**256**	P	**P**	**04 27 32.5**	**-0.8**
	comp=N,2.0nm,0.9s,baz=153,slow=42,SNR=2.4						
MJAR	**Matsushiro Arr**	**23.70**	**233**	P	**P**	**04 27 57.6**	**+2.4**
	comp=N,2.5nm,0.8s,baz=31,slow=10,SNR=4.8						
ILAR	**Eielson Array**	**27.69**	**46**	P	**P**	**04 28 30.7**	**-0.5**
	comp=N,0.4nm,0.7s,baz=264,slow=8.4,SNR=5.5						
ILAR				S		**04 33 09.3**	**-4.3**
	comp=N,0.4nm,0.9s,baz=190,slow=6.6,SNR=2.8						
KSRS	**Korea Array**	**28.38**	**249**	P	**P**	**04 28 38.7**	**+1.1**
	comp=N,0.6nm,0.3s,baz=26,slow=38,SNR=2.5						
INK	**Inuvik**	**32.79**	**38**	P	**P**	**04 29 17.0**	**+0.7**
	comp=N,0.6nm,0.6s,baz=297,slow=6.2,SNR=4.5						
YKA	**Yellowknife Ar**	**42.05**	**44**	P	**P**	**04 30 35.3**	**+0.6**
	comp=N,0.2nm,0.6s,baz=297,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**48.83**	**296**	P	**P**	**04 31 25.9**	**-2.8**
MKAR	**Makanchi Array**	**48.83**	**296**	P	**P**	**04 31 25.9**	**-2.8**
	comp=N,0.3nm,0.4s,baz=48,slow=4.8,SNR=8.3						
NVAR	**Mina Array Bea**	**54.59**	**72**	P	**P**	**04 32 14.2**	**+2.1**
	comp=N,0.5nm,0.5s,baz=304,slow=8.5,SNR=5.0						
PDAR	**Pinedale Array**	**56.35**	**62**	P	**P**	**04 32 26.0**	**+1.3**
	comp=N,0.8nm,1.0s,baz=339,slow=3.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**59.30**	**259**	P	**P**	**04 32 44.2**	**-1.2**
	comp=N,1.5nm,0.3s,baz=27,slow=8.0,SNR=4.8						
FINES	**FINESS Array B**	**60.00**	**337**	P	**P**	**04 32 48.5**	**-1.1**
	comp=N,1.3nm,0.7s,baz=21,slow=8.1,SNR=5.5						
NOA	**NORSAR Array B**	**63.28**	**344**	P	**P**	**04 33 11.2**	**-0.6**
	comp=N,1.1nm,0.8s,baz=22,slow=6.7,SNR=4.9						
TXAR	**Lajitas Array**	**69.48**	**68**	P	**P**	**04 33 53.4**	**+1.3**
	comp=N,0.3nm,0.6s,baz=289,slow=3.5,SNR=8.2						
EKA	**Eskdalemuir Ar**	**70.67**	**351**	P	**P**	**04 33 59.1**	**+0.3**
	comp=N,0.9nm,0.8s,baz=19,slow=4.6,SNR=2.6						
WRA	**Warramunga Arr**	**77.03**	**206**	P	**P**	**04 34 37.4**	**+0.9**
	comp=N,0.5nm,0.6s,baz=18,slow=5.8,SNR=8.1						
ASAR	**Alice Springs**	**80.70**	**206**	P	**P**	**04 34 58.2**	**+1.7**
	comp=N,0.3nm,0.7s,baz=22,slow=5.3,SNR=8.1						

MOS ***26*** *04:34:07.5±2.8,56˚.38N×112˚.61E,h10km,mb4.1/1,Error ellipse: s-maj=42.4km s-min=22.9km az=88.4*
BYKL ***26*** *04:34:07.7±0.4,56˚.36N×112˚.66E*
ISC 26 04:34:06.4±0.8, 56˚.33N±0˚.03×112˚.58E±0˚.02, h10km, n24, σ2.914/41, 9C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**0.52**	**248**	*e*	Sg		**Sn**	**04 34 27.3**	**-1.5**
YOA					Smax				
	1μm,0.5s								
SVKR	**Severomuysk**	**0.59**	**111**	*e*	PG		**Pg**	**04 34 17.8**	**0.0**
SVKR				*e*				04 34 25.0	
SVKR					Pmax	pmax			
	comp=Z,355nm,0.1s								
SVKR					Smax	smax			
	comp=N,3μm,0.7s								
SVKR	**Severomuysk**	**0.59**	**111**	⇑ *i*	Pg		**Pb**	**04 34 18.0**	**-0.8**
SVKR				*i*	Sg		**Sg**	**04 34 25.1**	**-0.4**
SVKR					Pmax				
	comp=N,383nm,0.2s								
SVKR					Smax				
	comp=N,3μm,0.7s								
KMO	**Kumora**	**0.89**	**241**	⇑ *i*	Pg		**Pn**	**04 34 25.6**	**+0.6**
KMO				*e*	Pb		Pb	04 34 27.5	+3.5
KMO				*e*	Sg		**Sn**	**04 34 38.5**	**+0.5**
KMO					max				
	comp=N,51nm,0.1s								
KMO					Smax				
	comp=N,207nm,0.5s								
UKT	**Uakit**	**1.03**	**145**	*e*	PG		**Pb**	**04 34 26.3**	**-0.1**
UKT				*e*				04 34 39.9	
UKT					Pmax	pmax			
	comp=Z,93nm,0.2s								
UKT					Smax	smax			
	comp=E,447nm,0.3s								
UKT	**Uakit**	**1.03**	**145**	⇓ *i*	Pg		**Pb**	**04 34 26.3**	**-0.1**
	comp=E,147nm,0.6s								
UKT				⇑	*i* Pg		**Pb**	**04 34 26.3**	**-0.1**
	comp=E,68nm,0.6s								
UKT				⇑	*i* Pg		**Pb**	**04 34 26.3**	**-0.1**
	comp=E,123nm,0.6s								
UKT					*i* Pb		**Pn**	**04 34 27.8**	**+0.8**
UKT					*i* Sg		**Sb**	**04 34 40.0**	**0.0**
UKT					eSb		**Sn**	**04 34 43.5**	**+2.0**
UKT					max				
	comp=E,93nm,0.3s								
UKT					max				
	comp=E,452nm,0.4s								
YLYR	**Ulyunkhan**	**1.67**	**209**	⇑	PN		**Pg**	**04 34 38.2**	**-0.1**
YLYR					*i*			04 35 00.8	
YLYR					Pmax	pmax			
	comp=Z,34nm,0.4s								
YLYR					Smax	smax			
	comp=N,277nm,0.4s								
YLYR	**Ulyunkhan**	**1.67**	**209**	⇓ *i*	Pg		**Pg**	**04 34 38.3**	**-0.1**
YLYR					eSg		**Sg**	**04 35 01.1**	**+1.1**
YLYR					Pmax				
	comp=N,38nm,0.3s								
YLYR					Smax				
	comp=N,277nm,0.4s								
BOD	**Bodaibo**	**1.68**	**27**	*e*	PN		**Pb**	**04 34 36.7**	**-0.7**
BOD				*e*				04 34 58.2	
BOD					Pmax	pmax			
	comp=Z,51nm,0.2s								
BOD					Smax	smax			
	comp=E,490nm,0.4s								
BOD	**Bodaibo**	**1.68**	**27**	⇑ *i*	Pg		**Pb**	**04 34 37.2**	**-0.2**
	comp=E,35nm,0.5s								
BOD				⇑	*i* Pg		**Pb**	**04 34 37.2**	**-0.2**
	comp=E,10.0nm,0.5s								
BOD				⇑	*i* Pg		**Pb**	**04 34 37.2**	**-0.2**
	comp=E,35nm,0.5s								
BOD					eSg		**Sb**	**04 34 58.5**	**0.0**
BOD					Pmax				
	comp=E,68nm,0.4s								
BOD					Smax				
	comp=E,489nm,0.5s								
NIZ	**Nizh Angarsk**	**1.80**	**253**	*e*	Pn		**Pb**	**04 34 38.3**	**-1.1**
NIZ				*e*	Pg		**Pg**	**04 34 41.3**	**+0.5**
NIZ				*e*	Sg		**Sg**	**04 35 06.4**	**+2.3**
NIZ					Pmax				
	comp=E,14nm,0.3s								
NIZ					Smax				
	comp=E,151nm,0.4s								
SYVR	**Suvo**	**3.07**	**210**	⇑	Pn		**Pn**	**04 34 56.7**	**+1.8**
SYVR					*e*Pg		**Pg**	**04 35 03.1**	**-2.0**
SYVR				⇓	*i*			04 35 04.5	
SYVR					*e*			04 35 23.7	
SYVR					eSg		**Sg**	**04 35 42.8**	**-2.0**
SYVR					max				
	comp=E,6.0nm,0.4s								
SYVR					Smax				
	comp=E,52nm,0.8s								
VTMR	**Vitim**	**3.12**	**360**	*e*	Sg		**Sg**	**04 35 43.6**	**-2.8**
VTMR				*e*				04 35 46.4	
CRS	**Chara**	**3.19**	**77**	*e*	PN		**Pb**	**04 35 04.6**	**+1.4**
CRS				*e*				04 35 44.8	
CRS					pmax	pmax			
	comp=Z,32nm,1.0s								
CRS					smax	smax			
	comp=N,70nm,1.2s								
CRS	**Chara**	**3.19**	**77**	*e*	Pg		**Pb**	**04 35 04.2**	**+1.0**
CRS				*e*				04 35 16.0	
CRS				*e*				04 35 35.0	
CRS				*e*	Sg		**Sb**	**04 35 44.5**	**+2.4**
CRS				*e*				04 35 54.9	
CRS					Smax				
	comp=N,70nm,1.5s								
CIT	**Chita**	**4.36**	**172**	*e*	Sg		**Sg**	**04 36 23.5**	**-2.7**
CIT					Smax				
	comp=N,181nm,0.3s								
TUP	**Tupik**	**4.62**	**111**	*e*	Pn		**Pn**	**04 35 16.2**	**0.0**
TUP				*e*				04 35 21.7	
TUP				*e*	Pg		**Pb**	**04 35 29.1**	**+1.6**
TUP				*e*				04 36 07.1	
TUP				*e*	Sg		**Sg**	**04 36 29.0**	**-5.6**
TUP				*e*				04 36 33.1	
TUP					max				
	comp=N,26nm,0.8s								
YKLR	**Yuktali**	**5.04**	**83**	*e*	Pg		**Pb**	**04 36 07.9**	**+25**
YKLR				*e*	Sg		**Sb**	**04 36 40.5**	**+5.4**
TRG	**Tyrgan**	**5.10**	**228**	*e*	Pg		**Pb**	**04 35 38.4**	**+2.8**
TRG				*e*	Sg		**Sg**	**04 36 46.0**	**-3.9**
TRG					Smax				
	comp=N,18nm,0.9s								
HRMR	**Khuramsha**	**5.76**	**217**	*e*	Pg		Pb	04 35 51.2	+4.2
HRMR				*e*	Sg		**Sg**	**04 37 06.7**	**-4.6**
HRMR					Pmax				
	comp=N,4.0nm,0.6s								
HRMR					Smax				
	comp=N,72nm,1.0s								
KPC	**Khapcheranga**	**6.64**	**181**	*e*	Pn		Pn	04 35 48.9	+4.8
KPC				*e*				04 35 53.3	
KPC				*e*	Pg			04 36 09.5	-4.0
KPC				*e*				04 37 16.1	
KPC				*e*	Sg		**Sg**	**04 37 35.5**	**-4.0**
KPC					Pmax				
	comp=N,1.0nm,0.3s								
KPC					Smax				
	comp=N,28nm,1.0s								
IENR	**Iengra**	**6.84**	**86**	*e*	Pn		**Pn**	**04 35 46.4**	**-0.3**
IENR					Pg		Pb	04 36 08.9	+3.7
IENR					eSg		Sg	04 37 37.8	-7.9
MOY	**Mondy**	**8.27**	**240**	*e*	Pg		**Pg**	**04 37 38.5**	**+54**
MOY					eSg		Sg	04 38 25.0	-6.6
MOY					Smax				
	comp=N,11nm,1.0s								
ORL	**Orlik**	**8.36**	**248**	*e*	Pg		**Pg**	**04 37 45.9**	**+59**
ORL					eSn		Sb	04 38 13.8	+3.0
ORL					eSg		Sg	04 38 25.4	-9.0
ORL					Smax				
	comp=N,22nm,3.6s								

IDC 26 04:35:23.9±1.3, 5˚.37S×149˚.71E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/20, mbtmp3.8/8, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/25, Error ellipse: s-maj=54.4km s-min=19.4km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.74**	**212**	Pn		Pn	Pn	04 36 36.7	0.0
	3.3nm,0.3s,baz=22,slow=9.5,SNR=14								
PMG				Sn		Sn	Sn	04 37 27.9	-4.5
	4.4nm,0.3s,baz=104,slow=23,SNR=8.5								
PMG				LR		LR		04 38 16.5	
	comp=Z,134nm,20.4s,baz=39,slow=96								
CTA	**Charters Tower**	**15.01**	**193**	Pn		Pn	Pn	04 38 58.2	+0.7
	0.2nm,0.3s,baz=8.6,slow=14,SNR=4.6								
CTA				Sn		Sn	Sn	04 41 40.9	-3.7
	0.3nm,0.3s,baz=254,slow=16,SNR=3.7								
WRA	**Warramunga Arr**	**20.82**	**225**	P		P	P	04 40 06.3	-0.9
	3.0nm,0.7s,baz=50,slow=10,SNR=24								
ASAR	**Alice Springs**	**23.72**	**218**	P		P	P	04 40 36.2	-1.7
	0.5nm,0.6s,baz=56,slow=9.2,SNR=11								
FITZ	**Fitzroy Crossi**	**26.70**	**240**	P		P	P	04 41 05.5	+0.4
	1.8nm,0.7s,baz=67,slow=9.8,SNR=5.7								
STKA	**Stephens Creek**	**27.44**	**195**	P		P	P	04 41 13.1	+1.5
	1.3nm,0.7s,baz=27,slow=10,SNR=3.7								
SONM	**Songino Array**	**65.20**	**329**	P		P	P	04 46 07.6	+0.3
	0.3nm,0.5s,baz=106,slow=5.1,SNR=3.0								
ILAR	**Eielson Array**	**83.86**	**23**	P		P	P	04 47 54.3	-0.9
	0.4nm,0.8s,baz=260,slow=5.3,SNR=3.8								
GERES	**GERESS Array B**	**122.89**	**327**	PKP		PKPdf		04 54 21.9	-0.5
	0.6nm,0.6s,baz=64,slow=4.6,SNR=3.5								
TORD	**Torodi Ar. Bea**	**147.53**	**286**	PKPbc		PKPbc		04 55 11.4	+0.2
	1.8nm,0.8s,baz=75,slow=2.9,SNR=10								

IDC 26 04:38:31.0±5.8, 2˚.39S×131˚.38E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=415.8km s-min=27.0km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.69**	**171**	P		P	Pn	04 42 38.3	-0.7
	0.1nm,0.3s,baz=351,slow=12,SNR=4.5								
ASAR	**Alice Springs**	**21.30**	**174**	P		P	P	04 43 19.8	+0.3
	0.8nm,0.4s,baz=351,slow=11,SNR=15								
MKAR	**Makanchi Array**	**65.19**	**325**	P		P	P	04 49 14.2	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=2.5								

ROM ***26*** *04:50:42.9±0.2,46˚.19N×13˚.15E,h10km,Md2.0/3,Ml2.1/2, Error ellipse: s-maj=3.1km s-min=0.9km az=81.0*
VIE ***26*** *04:50:44.3±0.1,46˚.27N×13˚.67E,h9km±2km,mb1.7/2, ML2.1/8,Error ellipse: s-maj=1.2km s-min=0.8km az=24.0 5 km WSW of Camporosso*
LJU ***26*** *04:50:44.7,46˚.30N×13˚.66E,h10km,ML1.6*
CSEM ***26*** *04:50:45.0±0.1,46˚.30N×13˚.67E,h2km,ML2.3/5,Error ellipse: s-maj=3.4km s-min=2.8km az=52.0*
PRU ***26*** *04:50:46.6,46˚.28N×13˚.73E,h4km*
ISC 26 04:50:44.9±0.8, 46˚.27N±0˚.02×13˚.67E±0˚.02, h7km±5km, n53, σ0.989/97, 11C-7D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.07**	**134**	*i*	Pg		**Pg**	**04 50 46.6**	**-0.1**
CADS				*i*	Sg		**Sg**	**04 50 48.4**	**+0.3**
CADS									
	comp=Z,442nm,0.1s								
CADS	**Cadrg**	**0.07**	**134**	*i*	P		**Pg**	**04 50 46.7**	**-0.1**
CADS				*i*	Sg		**Sg**	**04 50 48.4**	**+0.3**
DRE	**Drenchia**	**0.10**	**189**	⇑	*e*Pg		**Pg**	**04 50 47.2**	**-0.1**
DRE					eSg		**Sg**	**04 50 49.5**	**+0.6**
DRE	**Drenchia**	**0.10**	**189**	*e*	P		**Pg**	**04 50 47.2**	**-0.1**
DRE					eSg		**Sg**	**04 50 49.5**	**+0.6**
ROBS	**Robic**	**0.11**	**255**	⇑	*i* Pg		**Pg**	**04 50 47.1**	**-0.3**
ROBS					*i* Sg		**Sg**	**04 50 49.1**	**0.0**
ROBS									
	comp=Z,76nm,0.1s								
ROBS	**Robic**	**0.11**	**255**	*i*	P		**Pg**	**04 50 47.1**	**-0.3**
ROBS				*i*	Sg		**Sg**	**04 50 49.2**	**0.0**
GORS	**Gorjuse**	**0.23**	**79**	*i*	Pg		**Pg**	**04 50 49.3**	**-0.2**
GORS				*i*	Sg		**Sg**	**04 50 53.9**	**+1.2**
GORS									
	comp=Z,33nm,0.1s								
GORS	**Gorjuse**	**0.23**	**79**	*i*	P		**Pg**	**04 50 49.3**	**-0.2**
GORS				*i*	Sg		**Sg**	**04 50 53.9**	**+1.2**
	comp=Z,33nm,0.1s								
COLI	**Coloredo**	**0.24**	**235**	⇑	*e*Pg		**Pg**	**04 50 49.8**	**0.0**
COLI					eSg		**Sg**	**04 50 54.5**	**+1.5**
COLI	**Coloredo**	**0.24**	**235**	*e*	P		**Pg**	**04 50 49.8**	**0.0**
COLI					eSg		**Sg**	**04 50 54.5**	**+1.5**
PTCC	**Patocco-Chiusa**	**0.25**	**301**	Pg			**Pg**	**04 50 49.2**	**-0.8**
PTCC				Sg			**Pn**	**04 50 53.3**	**-1.9**
	comp=Z,126nm,0.5s								
PTCC	**Patocco-Chiusa**	**0.25**	**301**	*e*	P		**Pg**	**04 50 49.2**	**-0.8**
PTCC					Sg		**Pn**	**04 50 53.3**	**-1.9**
	comp=Z,126nm,0.5s								
PTCC	**Patocco-Chiusa**	**0.25**	**301**	*e*	Pg		**Pn**	**04 50 53.3**	**-1.9**
VINO	**Villanova**	**0.27**	**266**	⇑	*e*Pg		**Pg**	**04 50 49.7**	**-0.5**
VINO					eSg		**Sg**	**04 50 54.5**	**+0.7**
VINO	**Villanova**	**0.27**	**266**	*e*	P		**Pg**	**04 50 49.7**	**-0.5**
VINO					eSg		**Sg**	**04 50 54.5**	**+0.7**
VOJS	**Vojsko**	**0.28**	**148**	*i*	Pg		**Pg**	**04 50 50.7**	**+0.1**
VOJS				*i*	Sg		**Sb**	**04 50 56.2**	**-1.2**
	comp=Z,44nm,0.2s								
VOJS	**Vojsko**	**0.28**	**148**	*i*	P		**Pg**	**04 50 50.7**	**+0.1**
VOJS					eSg		**Sb**	**04 50 56.2**	**-1.2**
BAD	**Bernadia**	**0.30**	**263**	⇓ *e*	Pg		**Pg**	**04 50 50.2**	**-0.6**
BAD					eSg		**Sb**	**04 50 56.4**	**-1.3**
BAD	**Bernadia**	**0.30**	**263**	*e*	P		**Pg**	**04 50 50.2**	**-0.6**
BAD					eSg		**Sb**	**04 50 56.4**	**-1.3**
SABO	**M.te Sabotino**	**0.30**	**189**	⇑ *e*	Pg		**Pg**	**04 50 51.4**	**+0.6**
SABO					eSg		**Sb**	**04 50 57.1**	**-0.6**
SABO	**M.te Sabotino**	**0.30**	**189**		Pg		**Pg**	**04 50 51.1**	**+0.3**
SABO					Sg		**Sb**	**04 50 57.2**	**-0.5**
	comp=Z,262nm,0.5s								
SABO	**M.te Sabotino**	**0.30**	**189**		Pg		**Pg**	**04 50 51.1**	**+0.3**
SABO					eSg		**Sb**	**04 50 57.1**	**-0.6**
MYKA	**Terra Mystica**	**0.36**	**357**	⇓ *i*	Pg		**Pg**	**04 50 51.2**	**-0.7**
MYKA				⇓ *i*	Sg		**Sg**	**04 50 56.7**	**+0.1**
	comp=Z,14nm,0.2s								
MYKA	**Terra Mystica**	**0.36**	**357**	*i*	P		**Pg**	**04 50 51.2**	**-0.7**
MYKA				*i*	Sg		**Sg**	**04 50 56.7**	**+0.1**
CRNS	**Crni Vrh**	**0.46**	**115**	*i*	Pg		**Pg**	**04 50 53.8**	**0.0**
CRNS				*i*	Sg		**Sb**	**04 51 01.3**	**-1.0**
CRNS									
	comp=Z,9.0nm,0.1s								
FUSE	**Fusea**	**0.48**	**287**	*e*	Pg		**Pg**	**04 50 53.8**	**-0.4**
FUSE					eSg		**Sb**	**04 51 02.1**	**-0.9**
FUSE	**Fusea**	**0.48**	**287**	*e*	P		**Pg**	**04 50 53.8**	**-0.4**
FUSE					eSg		**Sb**	**04 51 02.1**	**-0.9**
TRI	**Trieste**	**0.57**	**173**	⇑ *e*	Pg		**Pg**	**04 50 55.4**	**-0.5**
TRI					eSg		**Sb**	**04 51 04.6**	**-0.9**
TRI	**Trieste**	**0.57**	**173**		Pg		**Pg**	**04 50 55.2**	**-0.7**
TRI					Sg		**Sb**	**04 51 04.6**	**-0.9**
TRI	**Trieste**	**0.57**	**173**	*e*	P		**Pg**	**04 50 55.4**	**-0.5**
TRI					Sg		**Sb**	**04 51 04.6**	**-0.9**
OBKA	**Obir**	**0.65**	**69**	⇑ *i*	Pg		**Pg**	**04 50 56.8**	**-0.7**
OBKA	**Obir**	**0.65**	**69**	⇑ *i*	Pg		**Pg**	**04 50 56.8**	**-0.7**
POLC	**Polcenigo**	**0.85**	**253**	*e*	Pg		**Pg**	**04 51 00.8**	**-0.4**
ABTA	**Abfaltersbach**	**0.93**	**301**	⇓ *i*	Pg		**Pg**	**04 51 02.2**	**-0.5**
ABTA				⇑ *i*	Sg		**Sg**	**04 51 15.1**	**+0.3**
	comp=Z,7.2nm,0.2s								
ABTA	**Abfaltersbach**	**0.93**	**301**	*i*	P		**Pg**	**04 51 02.2**	**-0.5**
ABTA					Sg		**Sg**	**04 51 15.1**	**+0.3**
	comp=Z,7.2nm,0.2s								
CGRP	**Cima Grappa**	**1.36**	**254**	*e*	Pg		**Pg**	**04 51 11.2**	**+0.2**
CGRP	**Cima Grappa**	**1.36**	**254**	*e*	Pg		**Pg**	**04 51 11.2**	**+0.2**
KOSI	**Kohlern**	**1.60**	**278**	*e*	P		**Pg**	**04 51 15.4**	**-0.1**
ABSI	**Aberstueckl**	**1.68**	**287**	*e*	P		**Pb**	**04 51 16.7**	**+0.4**
ROSI	**Rosskopf**	**1.69**	**294**	⇑ *e*	Pg		**Pg**	**04 51 17.2**	**-0.1**
WATA	**Walderalm**	**1.79**	**307**	⇓ *e*	Pg		**Pb**	**04 51 18.3**	**+0.3**
	SNR=12								
WATA				⇑	*i* Sg		**Sg**	**04 51 44.2**	**+1.9**
	comp=Z,7.9nm,0.6s								
WATA	**Walderalm**	**1.79**	**307**	*e*	P		**Pb**	**04 51 18.4**	**+0.3**
WATA					Sg		**Sg**	**04 51 44.2**	**+1.9**
	comp=Z,7.9nm,0.6s								
NVLJ	**Novalja**	**1.91**	**153**	*e*	Pn		**Pb**	**04 51 19.1**	**-0.9**
NVLJ					Sn		**Sg**	**04 51 45.4**	**-0.8**
NVLJ	**Novalja**	**1.91**	**153**	*e*	Pn		**Pb**	**04 51 19.1**	**-0.9**
NVLJ					Sn		**Sg**	**04 51 45.4**	**-0.8**
MOTA	**Moosalm**	**2.06**	**302**	⇓ *e*	Pn		**Pn**	**04 51 19.4**	**-0.7**
	SNR=5.8								
MOTA				⇓	*i* Sg		**Sg**	**04 51 52.4**	**+1.3**
	comp=Z,4.1nm,0.5s								
MOTA	**Moosalm**	**2.06**	**302**	*e*	P		**Pn**	**04 51 19.4**	**-0.7**
MOTA					Sg		**Sg**	**04 51 52.4**	**+1.3**
	comp=Z,4.1nm,0.5s								
UDBI	**Udbina**	**2.29**	**139**	*i*	Pn		**Pb**	**04 51 26.0**	**-0.5**
UDBI					Sn		**Sb**	**04 51 56.5**	**+1.5**
UDBI	**Udbina**	**2.29**	**139**	*i*	Pn		**Pb**	**04 51 26.0**	**-0.5**
UDBI					Sn		**Sb**	**04 51 56.5**	**+1.5**
KHC	**Kasperske Hory**	**2.86**	**359**	*e*	PN		**Pn**	**04 51 32.4**	**+1.5**
KHC				*e*	PG		**Pg**	**04 51 38.8**	**-0.9**
KHC				*e*	SN		**Sn**	**04 52 07.2**	**+1.6**
KHC				*e*	SG		**Sg**	**04 52 18.0**	**+1.3**
KHC	**Kasperske Hory**	**2.86**	**359**		Pn		**Pn**	**04 51 32.4**	**+1.5**
KHC	**Kasperske Hory**	**2.86**	**359**		Pg		**Pg**	**04 51 38.8**	**-0.9**
KHC					Sn		**Sn**	**04 52 07.2**	**+1.6**
KHC					Sg		**Sg**	**04 52 18.0**	**+1.3**
PRU	**Pruhonice**	**3.76**	**9**	*e*	SG		**Sg**	**04 52 45.2**	**-0.5**
PRU

*NEIC **26** 05:09:28.1±0.8,6˚.48N×126˚.37E,h60km±7km,mb5.3/72*
Error ellipse: s-maj=6.1km s-min=4.3km az=64.0
NEIC Felt [II PIVS] at Davao and Tagum and [I PIVS] at Tarragona.
*DJA **26** 05:09:29.5±0.7,7˚.N±5˚×126˚.6E±˚,h63km±5km,M5.4/98,*
mb5.4/98,mB5.8/75,MLv6.1/3,Mw(mB)5.4/75,Mwp5.7/3
ISC 26 05:09:28.3±0.3,6˚.45N±0˚.03×126˚.33E±0˚.03,h58km±1km,
h58km:pP-P,n588,σ1s72/706,mb5.2/168,MS4.9/55,
38C-27D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MATI	**Mati**	**0.50**	**351**	*eP*		Pn	05 09 35.9	-4.2
DAV	**Davao City (W)**	**0.97**	**309**	*ePn*		**Pn**	**05 09 43.4**	**-2.5**
DAV				*eSn*		**Sn**	**05 09 56.7**	**-2.2**
DMPH	**Davao City--Mi**	**1.03**	**308**	⇓*eP*		**Pn**	**05 09 44.1**	**-2.6**
DMPH				*eS*		**Sn**	**05 09 59.8**	**-0.6**
KCP	**Kidapawan**	**1.35**	**294**	⇓*iP*		Pn	05 09 47.0	-4.0
KCP				*i* S		**Sn**	**05 10 05.1**	**-3.0**
GSPH	**General Santos**	**1.42**	**255**	⇓*iP*		Pn	05 09 45.5	-6.5
BIPH	**Bislig**	**1.72**	**1**	⇑*iP*		**Pn**	**05 09 53.8**	**-2.2**
BIPH				*eS*		**Sn**	**05 10 15.8**	**-1.2**
BUKP	**Musuan**	**1.90**	**318**	*eP*		**Pn**	**05 09 56.9**	**-1.6**
CTBH	**Cotabato--PC H**	**2.21**	**290**	⇑*eP*		**Pn**	**05 09 59.7**	**-2.9**
CGP	**Cagayan de Oro**	**2.57**	**321**	⇑*iP*		**Pn**	**05 10 08.5**	**+1.0**
CGP				*i* S		**Sn**	**05 10 39.0**	**+1.3**
BUTP	**Butuan**	**2.60**	**344**	*eP*		**Pn**	**05 10 08.8**	**+0.9**
SGSI	**Sangihe**	**2.86**	**196**	P		**Pn**	**05 10 09.4**	**-2.2**
PAGZ	**Pagadian**	**3.24**	**296**	*eP*		**Pn**	**05 10 15.0**	**-1.8**
SCPH	**Surigao**	**3.41**	**346**	*eP*		**Pn**	**05 10 19.6**	**+0.5**
MSLP	**Maasin**	**3.94**	**338**	*eP*		**Pn**	**05 10 27.4**	**+1.0**
IPIL	**Ipil**	**3.96**	**290**	*eP*		**Pn**	**05 10 28.1**	**+1.5**
TBP	**Tagbilaran**	**4.04**	**323**	*eP*		**Pn**	**05 10 27.8**	**+0.1**
LLP	**Lapu-Lapu**	**4.50**	**329**	⇑*eP*		**Pn**	**05 10 33.0**	**-0.9**
LLP				*eS*		**Sn**	**05 11 23.1**	**-2.0**
PLP	**Palo**	**4.87**	**344**	⇑*eP*		**Pn**	**05 10 39.9**	**+0.8**
OCLP	**Ormoc**	**4.88**	**340**	*eP*		**Pn**	**05 10 41.4**	**+2.2**
GUIM	**Jordan**	**5.56**	**319**	*eP*		**Pn**	**05 10 49.9**	**+1.4**
TNTI	**Ternate**	**5.74**	**170**	P		**Pn**	**05 10 51.1**	**+0.1**
	2μm,0.7s,19μm6.8nm							
TNTI	**Ternate**	**5.74**	**170**	*ePn*		**Pn**	**05 10 50.6**	**-0.4**
RCP	**Roxas**	**6.19**	**325**	⇑*eP*		**Pn**	**05 10 56.8**	**-0.4**
KMSI	**Cibinong**	**6.29**	**202**	P		**Pn**	**05 10 59.0**	**+0.4**
	2μm,0.9s,23μm12nm							
GTOI	**Gorontalo**	**6.66**	**210**	P		Pn	05 10 59.5	-4.1
LBMI	**Labuha**	**7.14**	**171**	P		**Pn**	**05 11 11.1**	**+0.9**
	936nm,0.9s,12μm6.0nm							
MRSI	**Marisa**	**7.38**	**217**	P		Pn	05 11 10.5	-3.0
PVCP	**Virac**	**7.42**	**343**	⇑*eP*		**Pn**	**05 11 16.9**	**+3.0**
TOLI	**Toli-Toli**	**7.65**	**226**	P		**Pn**	**05 11 14.6**	**-2.6**
PALU	**Palau**	**8.13**	**83**	⇓P		Pn	05 11 18.2	-5.6
	baz=7.9,SNR=37							
LUWI	**Luwuk**	**8.25**	**206**	P		**Pn**	**05 11 26.1**	**+0.7**
	2μm,1.2s,14μm							
LUWI	**Luwuk**	**8.25**	**206**	⇓P		**Pn**	**05 11 25.0**	**-0.4**
	baz=8.4,SNR=64							
GQP	**Guinayangan**	**8.33**	**333**	⇑*eP*		Pn	05 11 31.3	+4.8
APSI	**Ampana**	**8.68**	**213**	P		**Pn**	**05 11 32.7**	**+1.4**
	766nm,1.2s,8μm							
TSM	**Tawau**	**8.69**	**256**	P		**Pn**	**05 11 31.6**	**+0.1**
SWI	**Sorong**	**8.78**	**146**	P		**Pn**	**05 11 32.8**	**+0.2**
	251nm,1.1s,3μm							
LQP	**Lukban**	**8.95**	**329**	*eP*		**Pn**	**05 11 38.2**	**+3.0**
SDKM	**Sandakan**	**9.12**	**265**	P		**Pn**	**05 11 38.6**	**+1.2**
TGY	**Tagaytay City**	**9.27**	**326**	LR		LR	05 16 06.1	
	comp=Z,297nm,19.4s,baz=163,slow=43							
KDM	**Kudat**	**9.45**	**273**	P		**Pn**	**05 11 41.5**	**-0.3**
NLAI	**Namlea**	**9.66**	**175**	P		**Pn**	**05 11 41.7**	**-3.0**
MSAI	**Masohi**	**10.07**	**165**	P		Pn	05 11 53.8	+3.4
	62nm,1.0s,968nm							
MWPI	**Manokwari, Pap**	**10.63**	**133**	P		Pn	05 12 01.5	+3.5
	357nm,0.9s,7μm							
FAKI	**Fak Fak**	**11.03**	**147**	P		**Pn**	**05 12 04.2**	**+0.8**
	136nm,1.3s,3μm							
TTSI	**Tana Toraja**	**11.46**	**215**	P		**Pn**	**05 12 09.3**	**0.0**
	244nm,1.2s,3μm							
KKSI	**Kolaka, Sulawe**	**11.54**	**204**	P		**Pn**	**05 12 11.1**	**+0.6**
	152nm,0.8s,8μm							
MMSI	**Mamuju**	**11.72**	**219**	P		Pn	05 12 17.1	+4.2
	167nm,1.1s,3μm							
BKB	**Balikpapan**	**12.14**	**231**	P		**Pn**	**05 12 20.2**	**+1.6**
	271nm,1.4s,9μm							
SPSI	**Sidrap Palu**	**12.25**	**213**	P		**Pn**	**05 12 21.6**	**+1.5**
	132nm,0.9s,2μm							
MJSI	**Majene**	**12.35**	**217**	P		Pn	05 12 25.0	+3.5
	176nm,1.5s,3μm							
BAKI	**Biak**	**12.36**	**128**	P		**Pn**	**05 12 23.0**	**+1.3**
	438nm,1.1s,8μm							
SZP	**Santa**	**12.44**	**333**	*ePn*		Pn	05 12 27.1	+4.4
BNSI	**Bone**	**12.44**	**210**	P		**Pn**	**05 12 23.0**	**+0.2**
	241nm,1.5s,3μm							
KAPI	**Kappang**	**13.15**	**210**	Pn		**Pn**	**05 12 33.0**	**+0.6**
	830nm,0.9s,SNR=13							
KAPI	**Kappang**	**13.15**	**210**	*ePn*		**Pn**	**05 12 32.2**	**-0.2**
	802nm,1.0s							
KAPI				*ePcP*		**PcP**	**05 17 58.8**	**-1.5**
BKSI	**Bulukumba**	**13.24**	**208**	P		**Pn**	**05 12 34.2**	**+0.6**
	74nm,1.3s,1μm							
BTM	**Bintulu**	**13.59**	**257**	P		**Pn**	**05 12 40.1**	**+1.7**
KBKI	**Kotabaru**	**14.03**	**227**	P		**Pn**	**05 12 47.0**	**+2.7**
	112nm,1.5s							
SBUM	**Sibu**	**14.62**	**255**	P		**Pn**	**05 12 53.8**	**+1.8**
SBUM	**Sibu**	**14.62**	**255**	P		**Pn**	**05 12 53.5**	**+1.5**
	402nm,0.9s,5μm14μm							
SBUM	**Sibu**	**14.62**	**255**	*ePn*		**Pn**	**05 12 52.3**	**+0.3**
BBKI	**Banjar Baru**	**15.12**	**230**	P		**Pn**	**05 12 59.8**	**+1.2**
	501nm,1.5s,9μm							
MMRI	**Maumere**	**15.53**	**195**	P		**P**	**05 13 09.2**	**+2.1**
	317nm,0.8s,3μm							
STKI	**Sintang**	**16.12**	**247**	P		**P**	**05 13 12.9**	**-0.8**
	175nm,1.8s,12μm10μm							
LBFI	**Labuhan Bajo,**	**16.16**	**203**	P		**Pn**	**05 13 12.2**	**+0.3**
	377nm,1.4s,5μm							
SOEI	**Soe**	**16.23**	**187**	P		**Pn**	**05 13 13.4**	**+0.6**
	306nm,1.4s,5μm							
SOEI	**Soe**	**16.23**	**187**	P		**P**	**05 13 14.5**	**-0.5**
	baz=16,SNR=8.6							
GENI	**Genyem**	**16.48**	**123**	P		**Pn**	**05 13 15.0**	**-0.9**
	222nm,2.3s,9μm							
BMNI	**Bima**	**16.73**	**207**	P		**P**	**05 13 21.9**	**+1.5**
	111nm,1.2s							
KSM	**Kuching**	**16.73**	**253**	P		**P**	**05 13 22.3**	**+1.9**
KSM	**Kuching**	**16.73**	**253**	P		**P**	**05 13 22.8**	**+2.4**
	137nm,1.2s,3μm							
KSM	**Kuching**	**16.73**	**253**	*eP*		**P**	**05 13 21.8**	**+1.4**
	131nm,1.0s							
KSM					*eS*	**S**	**05 16 30.5**	**-1.8**
KSM					*eScP*	**ScP**	**05 21 37.6**	**+2.3**
KSM	**Kuching**	**16.73**	**253**	⇑P		**P**	**05 13 21.6**	**+1.2**
	baz=17,SNR=3.7							
JAY	**Jayapura**	**16.89**	**121**	Pn		**P**	**05 13 21.6**	**-0.7**
JAY	**Jayapura**	**16.89**	**121**	Pn		**P**	**05 13 21.6**	**-0.7**
	0.4nm,0.3s,baz=334,slow=13,SNR=3.4							
JAY				LR		LR	05 19 46.7	
	comp=Z,6μm,19.7s,baz=344,slow=37							
PBKI	**Pangkalan Bun**	**17.23**	**239**	P		**P**	**05 13 27.9**	**+1.9**
	355nm,1.1s,4μm14μm							
YULB	**Yu-li**	**17.53**	**344**	*eP*		**P**	**05 13 28.9**	**-0.3**
	24nm,0.8s							
TPUB	**Ta-pu**	**17.63**	**342**	*eP*		**P**	**05 13 31.0**	**+0.7**
	61nm,0.9s							
SSLB	**Suanglung**	**18.00**	**344**	*eP*		**Pn**	**05 13 34.6**	**+0.1**
	43nm,0.9s							
KHKI	**Kahang-Kahang**	**18.19**	**216**	P		**Pn**	**05 13 38.5**	**+1.6**
	97nm,0.7s,1μm							
SRBI	**Singaraja**	**18.21**	**218**	P		**Pn**	**05 13 39.0**	**+1.9**
	115nm,1.2s,2μm							
KMMI	**Kalianget**	**18.22**	**223**	P		**Pn**	**05 13 40.4**	**+3.1**
	163nm,1.3s,3μm							
BWJI	**Bawean**	**18.32**	**228**	P		**Pn**	**05 13 39.6**	**+1.1**
	275nm,1.2s,3μm							
DLV	**T Lat**	**18.43**	**289**	*eP*		**Pn**	**05 13 41.5**	**+1.4**
ABJI	**Asem Bagus**	**18.60**	**221**	P		**Pn**	**05 13 45.2**	**+3.4**
	89nm,1.5s,2μm							
NBBI	**Negara**	**18.79**	**219**	P		**Pn**	**05 13 45.5**	**+1.3**
	221nm,0.9s,3μm							
IGBI	**Denpasar**	**18.83**	**216**	P		**Pn**	**05 13 46.5**	**+1.9**
	164nm,0.7s,3μm							
BYJI	**Banyuwangi**	**18.84**	**220**	P		**Pn**	**05 13 48.6**	**+3.9**
	314nm,1.1s,13μm							
BLJI	**Banyuglugur**	**18.98**	**222**	P		**Pn**	**05 13 48.3**	**+1.9**
	104nm,1.2s,3μm							
JAGI	**Jajag, Banyuwa**	**19.16**	**219**	*ePn*		**Pn**	**05 13 49.1**	**+0.4**
	110nm,0.9s							
JAGI	**Jajag, Banyuwa**	**19.16**	**219**	P		**Pn**	**05 13 49.3**	**+0.6**
	baz=19,SNR=3.8							
GRJI	**Gresik**	**19.16**	**226**	P		**Pn**	**05 13 52.3**	**+3.7**
	152nm,1.3s,2μm							
GMJI	**Gumukmas**	**19.47**	**221**	P		**Pn**	**05 13 55.4**	**+3.1**
	94nm,1.4s							
GUMO	**Guam**	**19.57**	**67**	*eP*		**P**	**05 13 51.6**	**-0.1**
	43nm,1.0s							
HKC	**Hong Kong Obse**	**19.65**	**325**	P		**Pn**	**05 13 56.0**	**+1.7**
MTN	**Manton Dam**	**19.75**	**166**	P		**P**	**05 13 52.0**	**-1.7**
	baz=20,SNR=32							
QZH	**Quanzhou**	**19.83**	**339**	⇓*iP*		**Pn**	**05 13 58.0**	**+1.6**
QZH					S	**S**	**05 17 32.3**	**-2.3**
QZH					pmax	pmax		
	comp=Z,140nm,0.9s							
QZH					LR	LR		
	comp=N,2μm,11.5s							
QZH					LR	LR		
	comp=E,1μm,11.5s							
QZH					LR	LR		
	comp=Z,6μm,25.2s							
KDU	**Kakadu**	**19.97**	**162**	P		**P**	**05 13 55.2**	**-0.7**
	baz=20,SNR=39							
UWJI	**Ujung Watu**	**19.98**	**231**	P		Pn	05 14 00.0	+1.7
	554nm,1.0s,6μm							
KRKI	**Karangkates**	**20.05**	**224**	P		Pn	05 14 01.8	+2.6
	278nm,1.4s,19μm							
NGJI	**Ngawi**	**20.21**	**227**	P		Pn	05 14 02.7	+1.7
	224nm,0.9s,5μm							
QIZ	**Qiongzhong**	**20.34**	**309**	P		**P**	**05 14 00.8**	**+0.7**
QIZ				pP		**pP**	**05 14 12.5**	**-0.3**
QIZ				sP		**sP**	**05 14 19.0**	**-1.2**
QIZ				S		**S**	**05 17 44.5**	**-0.5**
QIZ				sS		**sS**	**05 18 06.3**	**+0.4**
QIZ				pmax		pmax		
	comp=Z,60nm,1.0s							
QIZ				pmax		pmax		
	comp=Z,1μm,13.0s							
QIZ				LR		LR		
	comp=N,4μm,17.0s							
QIZ				LR		LR		
	comp=Z,5μm,22.9s							
QIZ	**Qiongzhong**	**20.34**	**309**	*eP*		**P**	**05 14 01.0**	**+0.9**
	68nm,0.9s							
PWJI	**Pagerwojo**	**20.41**	**225**	P		Pn	05 14 05.6	+2.2
	79nm,1.2s							
GZH	**Guangzhou**	**20.74**	**324**	P		Pn	05 14 08.3	+1.2
GZH				S		Sn	05 17 57.0	-3.6
GZH				LR		LR		
	comp=N,5μm,15.2s							
GZH				LR		LR		
	comp=E,4μm,13.7s							
GZH				LR		LR		
	comp=Z,8μm,16.5s							
SMRI	**Semarang**	**20.77**	**230**	P		Pn	05 14 07.2	-0.4
	230nm,1.0s,5μm							
SMRI	**Semarang**	**20.77**	**230**	*ePn*		Pn	05 14 07.5	-0.1
	260nm,1.1s							
TPI	**Tatungpandan**	**20.77**	**244**	P		**P**	**05 14 05.1**	**+0.4**
	146nm,1.1s,2μm							
PCJI	**Pacitan**	**20.98**	**226**	P		**P**	**05 14 05.8**	**-1.1**
	131nm,0.8s							
UGM	**Wanagama**	**21.26**	**228**	P		**P**	**05 14 12.1**	**+2.1**
	193nm,1.5s							
UGM	**Wanagama**	**21.26**	**228**	P		**P**	**05 14 11.9**	**+1.9**
	baz=22,SNR=5.8							
BJII	**Banjamegara**	**21.50**	**231**	P		**P**	**05 14 14.4**	**+1.7**
	467nm,1.6s,6μm							
TGJI	**Tegal**	**21.68**	**233**	P		**P**	**05 14 15.7**	**+1.3**
	233nm,1.1s,4μm							
KPJI	**Karang Pucung**	**22.11**	**232**	P		**P**	**05 14 21.1**	**+2.0**
	185nm,1.6s,3μm							
TPRI	**Tanjung Pinang**	**22.43**	**257**	P		**P**	**05 14 23.4**	**+0.8**
	216nm,0.8s							
CMJI	**Cimerak**	**22.76**	**232**	P		**P**	**05 14 26.4**	**+0.4**
	84nm,0.8s							
LEM	**Lembang**	**22.86**	**235**	P		**P**	**05 14 28.3**	**+1.0**
	286nm,1.1s,6μm							
LEM	**Lembang**	**22.86**	**235**	⇑P		**P**	**05 14 28.1**	**+0.8**
	baz=23,SNR=5.7							
MYKOM	**Kota Tinggi**	**22.89**	**259**	P		**P**	**05 14 28.1**	**+0.7**
MYKOM	**Kota Tinggi**	**22.89**	**259**	P		**P**	**05 14 28.1**	**+0.7**
	126nm,1.2s,2μm							
MYKOM	**Kota Tinggi**	**22.89**	**259**	*eP*		**P**	**05 14 27.9**	**+0.5**
	118nm,1.0s							
KTGM	**Kuala Trenggan**	**23.10**	**268**	P		**P**	**05 14 29.6**	**0.0**
CISI	**Cisompet, Garu**	**23.12**	**233**	P		**P**	**05 14 30.6**	**+0.8**
	176nm,1.2s							
CISI	**Cisompet, Garu**	**23.12**	**233**	*eP*		**P**	**05 14 29.3**	**-0.5**
	328nm,1.4s							
CBJI	**Citeko**	**23.27**	**237**	P		**P**	**05 14 32.4**	**+1.3**
	882nm,0.9s,27μm							
KGM	**Kluang**	**23.36**	**260**	P		**P**	**05 14 32.5**	**+0.5**
DBJI	**Dramaga**	**23.43**	**237**	P		**P**	**05 14 33.0**	**+0.4**
	319nm,1.0s,6μm							
SBJI	**Serang**	**23.72**	**239**	P		**P**	**05 14 37.7**	**+2.4**
	380nm,1.6s,11μm							
SKJI	**Sukabumi**	**23.83**	**236**	P		P	05 14 54.9	+19
JMBI	**JAMBI**	**24.03**	**251**	P		**P**	**05 14 41.3**	**+3.1**
	587nm,0.6s,8μm							
BLSI	**Bandar Lampung**	**24.10**	**241**	P		**P**	**05 14 41.1**	**+2.3**
	406nm,1.1s,5μm							
KLSI		**24.24**	**243**	P		**P**	**05 14 41.0**	**+0.9**
	706nm,1.8s,9μm							
CGJI	**Cibinong**	**24.34**	**238**	P		**P**	**05 14 41.0**	**0.0**
	227nm,0.9s,3μm							
FITZ	**Fitzroy Crossi**	**24.41**	**182**	*eP*		**P**	**05 14 41.0**	**-0.5**
	57nm,0.8s							
FITZ					S	**S**	**05 18 58.1**	**+0.8**
FITZ					ScP	**ScP**	**05 21 56.6**	**+3.1**
FITZ	**Fitzroy Crossi**	**24.41**	**182**	P		**P**	**05 14 40.7**	**-0.7**
	47nm,0.7s,baz=13,slow=8.4,SNR=93							
FITZ					S	**S**	**05 18 58.1**	**+0.8**
	12nm,0.9s,baz=287,slow=19,SNR=3.1							
FITZ					ScP	**ScP**	**05 21 56.6**	**+3.1**
	6.1nm,0.8s,baz=302,slow=3.7,SNR=3.9							
FITZ	**Fitzroy rossi**	**24.41**	**182**	P		**P**	**05 14 40.9**	**-0.5**
	baz=25,SNR=179							
MDSI	**Maura Dua**	**24.64**	**244**	P		**P**	**05 14 43.6**	**-0.1**
	174nm,1.2s,2μm							
FRIM	**Kepong**	**24.82**	**264**	P		**P**	**05 14 46.2**	**+0.8**
KASI	**Kota Agung**	**24.83**	**242**	P		**P**	**05 14 46.4**	**+1.0**
	311nm,1.0s,3μm							
LHSI	**Lahat**	**24.96**	**246**	P		**P**	**05 14 47.5**	**+0.9**
	285nm,1.0s,3μm							
LWLI	**Liwa**	**24.98**	**243**	P		**P**	**05 14 48.0**	**+1.0**
	302nm,0.8s,6μm							
SSE	**Sheshan**	**24.99**	**350**	P		**P**	**05 14 46.5**	**-0.1**
SSE					S	**S**	**05 19 11.8**	**+5.3**
SSE					pmax	pmax		
	comp=Z,17nm,0.5s							
SSE					pmax	pmax		
	comp=Z,430nm,5.0s							
SSE					LR	LR		
	comp=N,1μm,20.3s							
SSE					LR	LR		
	comp=Z,2μm,20.9s							
IPM	**Ipoh**	**25.27**	**267**	P		**P**	**05 14 49.8**	**+0.4**
IPM	**Ipoh**	**25.27**	**267**	P		**P**	**05 14 51.2**	**+1.8**
	95nm,1.7s,2μm							
IPM	**Ipoh**	**25.27**	**267**	*eP*		**P**	**05 14 49.8**	**+0.4**
	58nm,0.8s							
IPM				*ePcP*		**PcP**	**05 18 20.9**	**-0.8**
CBIJ	**Chichi jima**	**25.47**	**34**	*eP*		**P**	**05 14 48.5**	**-2.6**
	120nm,0.8s							
CBIJ					S	**S**	**05 19 12.4**	**-1.9**
JCJ	**Chichijima**	**25.47**	**34**	P		**P**	**05 14 49.0**	**-2.2**
	140nm,0.4s,baz=241,slow=4.9,SNR=21							
JCJ					S	**S**	**05 19 12.4**	**-1.9**
	51nm,0.7s,baz=270,slow=20,SNR=3.3							
JCJ					LR	LR	05 24 07.9	
	comp=Z,1μm,18.6s,baz=138,slow=35							
KULM	**Kulim**	**25.57**	**269**	P		**P**	**05 14 52.9**	**+0.7**
KULM	**Kulim**	**25.57**	**269**	P		**P**	**05 14 52.3**	**+0.1**
	105nm,1.8s,1μm							
KULM	**Kulim**	**25.57**	**269**	*eP*		**P**	**05 14 52.4**	**+0.2**
	105nm,1.1s							
CHAI	**Chaiyaphum**	**25.64**	**294**	P		**P**	**05 14 52.7**	**0.0**
	25nm,0.8s,188nm							
MNAI	**Manna**	**25.69**	**246**	P		**P**	**05 14 55.3**	**+2.0**
	387nm,1.1s,5μm							
MNAI	**Manna**	**25.69**	**246**	*eP*		**P**	**05 14 55.5**	**+2.2**
	1μm,1.6s							
MNAI	**Manna**	**25.69**	**246**	P		**P**	**05 14 55.3**	**+2.0**
	baz=26,SNR=4.6							
MASI	**Maura Aman, Be**	**25.87**	**249**	P		**P**	**05 14 57.1**	**+2.1**
	311nm,0.9s,5μm							
PATY	**Pattaya**	**25.90**	**286**	P		**P**	**05 14 57.4**	**+2.3**
	7.1nm,0.9s,1μm							
BKNI	**Bangkinang**	**25.96**	**257**	P		**P**	**05 14 57.0**	**+1.3**
	134nm,1.0s,2μm							
PMG	**Port Moresby**	**26.06**	**127**	P		**P**	**05 14 55.6**	**-0.9**
	36nm,1.1s,880nm							
PMG	**Port Moresby**	**26.06**	**127**	*eP*		**P**	**05 14 56.3**	**-0.2**
	52nm,1.2s							
PMG					S	**S**		**05 19 26.0**	**+2.3**
PMG	**Port Moresby**	**26.06**	**127**	P		**P**	**05 14 55.2**	**-1.3**
	10.0nm,0.9s,baz=295,slow=6.5,SNR=4.2							
PMG					S	**S**		**05 19 26.0**	**+2.3**
	4.0nm,0.6s,baz=324,slow=19,SNR=3.4							
PMG					LR	LR	05 24 48.2	
	comp=Z,2μm,20.8s,baz=204,slow=36							
MBSI	**MBSI**	**26.08**	**248**	P		**P**	**05 15 00.2**	**+3.4**
	936nm,0.7s,19μm							
SLVN	**Son La**	**26.26**	**307**	*eP*		**P**	**05 14 58.7**	**+0.2**
COEN	**Coen**	**26.28**	**141**	*eP*		**P**	**05 14 57.4**	**-1.2**
	345nm,1.1s							
COEN	**Coen**	**26.28**	**141**	P		**P**	**05 14 57.3**	**-1.2**
	baz=26,SNR=18							
NJ2	**Nanjing**	**26.41**	**346**	*eP*		**P**	**05 15 01.5**	**+2.0**
NJ2				pP		**pP**	**05 15 13.0**	**-0.9**
NJ2				sP		**sP**	**05 15 20.3**	**-0.5**
NJ2				S		**S**	**05 19 34.0**	**+5.0**
NJ2				sS		**sS**	**05 19 52.5**	**-1.1**
NJ2				pmax		pmax		
	comp=Z,60nm,1.1s							
NJ2				pmax		pmax		
	comp=Z,700nm,8.0s							
NJ2				LR		LR		
	comp=N,1μm,23.2s							
NJ2				LR		LR		
	comp=E,1μm,21.7s							
NJ2				LR		LR		
	comp=Z,1μm,21.7s							
PBKT	**Sadao Pong**	**26.77**	**294**	P		**P**	**05 15 03.5**	**+0.5**
	68nm,0.8s							
PPI	**Padang Panjang**	**26.78**	**256**	P		**P**	**05 15 02.4**	**-0.7**
	104nm,1.6s,1μm							
PDSI	**Padang**	**26.84**	**255**	P		**P**	**05 15 04.1**	**+0.4**
	85nm,0.9s,7μm							
JNU	**Nakatsue**	**26.87**	**8**	P		**P**	**05 15 03.0**	**-0.7**
JNU	**Nakatsue**	**26.87**	**8**	P		**P**	**05 15 03.0**	**-0.7**
	10nm,0.9s,baz=152,slow=6.6,SNR=3.7							
JNU					LR	LR	05 25 07.6	
	comp=Z,651nm,20.7s,baz=312,slow=35							
MNSI	**Mandailing Nat**	**27.27**	**259**	P		**P**	**05 15 07.2**	**-0.3**
	35nm,0.7s							
GYA	**Guiyang**	**27.34**	**319**	⇑*iP*		**P**	**05 15 11.5**	**+3.4**
GYA				pP		**pP**	**05 15 23.8**	**+1.3**
GYA				sP		**sP**	**05 15 31.5**	**+2.1**
GYA				PP		**PnPn**	**05 15 58.0**	**+3.2**
GYA				PcP		**PcP**	**05 18 28.3**	**+1.9**
GYA				S		**S**	**05 19 45.5**	**+1.5**
GYA				sS		**sS**	**05 20 09.8**	**+1.2**
GYA				SS		**SnSn**	**05 21 04.8**	**+7.0**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,130nm,4.8s							
GYA				LR		LR		
	comp=N,890nm,17.9s							
GYA				LR		LR		
	comp=E,660nm,18.0s							
GYA				LR		LR		
	comp=Z,760nm,17.6s							
WRAB	**Tennant Creek**	**27.38**	**163**	⇑*iP*		**P**	**05 15 08.8**	**+0.4**
WRAB				pmax		pmax		
	comp=Z,66nm,1.3s							
WRAB	**Tennant Creek**	**27.38**	**163**	*eP*		**P**	**05 15 06.9**	**-1.5**
	comp=Z,85nm,1.0s							
WRAB	**Tennant Creek**	**27.38**	**163**	P		**P**	**05 15 08.0**	**-0.4**
	comp=Z,295nm,0.5s,SNR=32							
WRA	**Warramunga Arr**	**27.39**	**163**	P		**P**	**05 15 06.9**	**-1.6**
WRA				S		**S**	**05 19 42.5**	**-2.2**
WRA				ScP		**ScP**	**05 22 05.0**	**+2.8**
WRA	**Warramunga Arr**	**27.39**	**163**	P		**P**	**05 15 06.9**	**-1.6**
	comp=Z,7.9nm,0.5s,baz=343,slow=9.9,SNR=61							
WRA					S	**S**		**05 19 42.5**	**-2.2**
	comp=Z,12nm,1.2s,baz=332,slow=15,SNR=4.9							
WRA					ScP	**ScP**		**05 22 05.0**	**+2.8**
	comp=Z,3.1nm,0.7s,baz=339,slow=2.5,SNR=5.0							
SURT	**Suratani**	**27.40**	**277**	P		**P**	**05 15 09.2**	**+0.6**
	comp=Z,23nm,1.4s,comp=Z,484nm							
PSI	**Prapat**	**27.55**	**264**	P		**P**	**05 15 11.0**	**+0.8**
	comp=Z,49nm,1.1s,comp=Z,

KSRS	**Korea Array**	**30.89**	**2**	P	**P**		**05 15 38.6**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=181,slow=11,SNR=7.0							
KSRS				PcP	**PcP**		**05 18 35.4**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=182,slow=2.3,SNR=7.0							
KSRS				ScP	**ScP**		**05 22 15.8**	**+2.9**
	comp=Z,4.1nm,0.9s,baz=184,slow=3.0,SNR=6.8							
GIRL	**Giralia**	**31.25**	**202**	P	**P**		**05 15 42.8**	**+0.1**
	baz=32,SNR=6.6							
WRKA	**Warakurna**	**31.36**	**177**	P	**P**		**05 15 42.6**	**-1.0**
	baz=32,SNR=86							
XAN	**Xi'an**	**31.83**	**332**	P	**P**		**05 15 47.8**	**0.0**
XAN				pP	**pP**		**05 16 00.5**	**-1.8**
XAN				sP	**sP**		**05 16 07.3**	**-1.9**
XAN				S	**S**		**05 20 54.8**	**+0.5**
XAN				SS	**SnSn**		**05 22 51.5**	**+4.5**
XAN				pmax	pmax			
	comp=Z,27nm,0.9s							
XAN				pmax	pmax			
	comp=Z,110nm,8.9s							
XAN				LR	LR			
	comp=Z,2μm,26.7s							
XAN				LR	LR			
	comp=Z,1μm,24.3s							
MJAR	**Matsushiro Arr**	**31.86**	**18**	P	**P**		**05 15 46.4**	**-1.6**
MJAR				PcP	**PcP**		**05 18 38.5**	**+0.8**
MJAR				ScP	**ScP**		**05 22 20.2**	**+3.9**
MJAR	**Matsushiro Arr**	**31.86**	**18**	P	**P**		**05 15 46.4**	**-1.6**
	comp=Z,3.3nm,0.7s,baz=191,slow=9.7,SNR=7.8							
MJAR				PcP	**PcP**		**05 18 38.5**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=180,slow=2.7,SNR=4.1							
MJAR				ScP	**ScP**		**05 22 20.2**	**+3.9**
	comp=Z,3.4nm,0.7s,baz=225,slow=4.6,SNR=7.4							
MJAR				LR	LR		05 27 13.4	
	comp=Z,1μm,20.6s,baz=205,slow=34							
MAT	**Matsushiro**	**31.86**	**18**	P	**P**		**05 15 47.0**	**-1.0**
MAT				S	**S**		**05 20 57.2**	**+2.6**
CD2	**Chengdu**	**32.25**	**322**	P	**P**		**05 15 53.3**	**+1.8**
CD2				pP	**pP**		**05 16 07.0**	**+1.0**
CD2				sP	**sP**		**05 16 13.8**	**+0.9**
CD2				PP	**PnPn**		**05 17 02.3**	**+2.7**
CD2				PcP	**PcP**		**05 18 39.8**	**+0.9**
CD2				S	**S**		**05 21 02.0**	**+1.1**
CD2				sS	**sS**		**05 21 25.8**	**+0.2**
CD2				SS	**SnSn**		**05 22 59.8**	**+2.6**
CD2				ScS	**ScS**		**05 26 15.3**	**-1.7**
CD2				pmax	pmax			
	comp=Z,80nm,0.9s							
CD2				pmax	pmax			
	comp=Z,590nm,7.2s							
CD2				LR	LR			
	comp=Z,4μm,19.0s							
CD2				LR	LR			
	comp=Z,3μm,16.6s							
CD2				LR	LR			
	comp=Z,6μm,16.6s							
DL2	**Dalian**	**32.59**	**353**	P	**P**		**05 15 54.8**	**+0.6**
DL2				S	**S**		**05 21 06.5**	**+0.7**
DL2				pmax	pmax			
	comp=Z,50nm,1.7s							
DL2				pmax	pmax			
	comp=Z,200nm,4.9s							
DL2				LR	LR			
	comp=Z,880nm,18.4s							
DL2				LR	LR			
	comp=Z,490nm,15.3s							
DL2				LR	LR			
	comp=Z,880nm,19.6s							
CTAO	**Charters Tower**	**32.86**	**144**	*e*P	**P**		**05 15 57.2**	**+0.4**
CTAO				pmax	pmax			
	comp=Z,77nm,1.5s							
CTAO	**Charters Tower**	**32.86**	**144**	*e*P	**P**		**05 15 57.2**	**+0.4**
	comp=Z,77nm,1.5s							
TIY	**Taiyuan**	**33.59**	**340**	*e*P	**P**		**05 16 04.3**	**+1.2**
TIY				S	**S**		**05 21 24.0**	**+2.5**
TIY				SS	**SnSn**		**05 23 30.0**	**+0.4**
TIY				pmax	pmax			
	comp=Z,580nm,3.9s							
TIY				LR	LR			
	comp=Z,820nm,11.9s							
TIY				LR	LR			
	comp=Z,1μm,21.7s							
TIY				LR	LR			
	comp=Z,1μm,16.9s							
BJT	**Baijiatuan**	**34.65**	**346**	*e*P	**P**		**05 16 12.6**	**+0.5**
	comp=Z,93nm,0.8s							
BJI	**Beijing**	**34.66**	**346**	P	**P**		**05 16 12.8**	**+0.5**
BJI				S	**S**		**05 21 41.3**	**+3.4**
BJI				pmax	pmax			
	comp=Z,120nm,0.9s							
BJI				pmax	pmax			
	comp=Z,360nm,3.9s							
BJI				LR	LR			
	comp=Z,1μm,20.7s							
BJI				LR	LR			
	comp=Z,630nm,20.7s							
BJI				LR	LR			
	comp=Z,1μm,22.8s							
SNY	**Shenyang**	**35.31**	**356**	⇑P	**P**		**05 16 19.0**	**+1.2**
SNY				S	**S**		**05 21 49.0**	**+1.2**
SNY				pmax	pmax			
	comp=Z,230nm,1.6s							
SNY				pmax	pmax			
	comp=Z,2μm,3.5s							
SNY				LR	LR			
	comp=Z,1μm,19.4s							
SNY				LR	LR			
	comp=Z,1μm,17.6s							
SNY				LR	LR			
	comp=Z,1μm,21.0s							
LZH	**Lanzhou**	**35.98**	**328**	P	**P**		**05 16 26.8**	**+2.9**
LZH				pP	**pP**		**05 16 36.5**	**-2.1**
LZH				sP	**sP**		**05 16 42.5**	**-3.0**
LZH				PP	**PP**		**05 17 53.0**	**+6.4**
LZH				S	**S**		**05 22 03.5**	**+4.9**
LZH				pmax	pmax			
	comp=Z,220nm,1.2s							
LZH				pmax	pmax			
	comp=Z,510nm,4.2s							
LZH				LR	LR			
	comp=Z,2μm,14.0s							
LZH				LR	LR			
	comp=Z,2μm,15.3s							
LZH				LR	LR			
	comp=Z,4μm,17.0s							
HHC	**Hu-ho-hao-te**	**36.71**	**341**	*e*P	**P**		**05 16 30.5**	**+0.5**
HHC				pP	**pP**		**05 16 43.0**	**-1.7**
HHC				sP	**sP**		**05 16 51.5**	**0.0**
HHC				PP	**PnPn**		**05 17 59.0**	**+4.0**
HHC				S	**S**		**05 22 08.3**	**-1.2**
HHC				SS	**SnSn**		**05 24 39.8**	**-5.2**
HHC				pmax	pmax			
	comp=Z,46nm,0.9s							
HHC				pmax	pmax			
	comp=Z,870nm,5.4s							
HHC				LR	LR			
	comp=Z,2μm,13.7s							
HHC				LR	LR			
	comp=Z,2μm,14.0s							
HHC				LR	LR			
	comp=Z,2μm,14.3s							
FORT	**Forrest**	**37.06**	**178**	*e*P	**P**		**05 16 31.7**	**-1.2**
	comp=Z,108nm,0.5s							
QLP	**Quilpie**	**37.14**	**153**	⇓P	**P**		**05 16 33.1**	**-0.6**
	baz=37,SNR=20							
CN2	**Changchun**	**37.21**	**359**	*e*P	**P**		**05 16 32.5**	**-1.5**
CN2				*es*P	**sP**		**05 16 55.0**	**-0.6**
CN2				*e*PP	**PnPn**		**05 18 01.3**	**+0.4**
CN2				*e*S	**S**		**05 22 14.5**	**-2.3**
CN2				*e*SS	**SnSn**		**05 24 48.0**	**-8.8**
CN2				LR	LR			
	comp=Z,1μm,16.0s							
CN2				LR	LR			
	comp=Z,1μm,16.0s							
CN2				LR	LR			
	comp=Z,1μm,17.0s							
KMBL	**Kambalda**	**37.84**	**186**	P	**P**		**05 16 39.0**	**-0.6**
	baz=38,SNR=17							
USRK	**Ussuriysk Arra**	**37.92**	**7**	P	**P**		**05 16 38.0**	**-2.0**
	comp=Z,3.9nm,0.5s,baz=179,slow=7.8,SNR=13							
USRK				PcP	**PcP**		**05 18 54.8**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=180,slow=2.5,SNR=4.0							
USRK				LR	LR		05 32 56.0	
	comp=Z,1μm,20.7s,baz=337,slow=37							
SHL	**Shillong**	**37.99**	**304**	*i* x	**P**		**05 16 40.5**	**-0.7**
SHL				*ex*	x		05 26 50.0	
MDJ	**Mudanjiang**	**38.12**	**4**	P	**P**		**05 16 43.0**	**+1.3**
MDJ				pP	**pP**		**05 16 56.3**	**-0.2**
MDJ				sP	**sP**		**05 17 02.3**	**-1.0**
MDJ				PP	**PP**		**05 18 09.5**	**-0.3**
MDJ				S	**S**		**05 22 34.0**	**+3.4**
MDJ				sS	**sS**		**05 22 55.3**	**-0.4**
MDJ				ScS	**ScS**		**05 26 46.0**	**-2.1**
MDJ				pmax	pmax			
	comp=Z,14nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,280nm,3.9s							
MDJ				LR	LR			
	comp=Z,1μm,18.4s							
MDJ				LR	LR			
	comp=Z,700nm,14.7s							
MDJ				LR	LR			
	comp=Z,1μm,17.7s							
MDJ	**Mudanjiang**	**38.12**	**4**	*e*P	**P**		**05 16 41.4**	**-0.3**
RMQ	**Roma**	**39.31**	**147**	P	**P**		**05 16 52.1**	**+0.2**
	baz=39,SNR=4.8							
EIDS	**Eidsvold**	**39.75**	**144**	*e*P	**P**		**05 16 54.7**	**-0.8**
	comp=Z,27nm,0.8s							
EIDS	**Eidsvold**	**39.75**	**144**	P	**P**		**05 16 54.8**	**-0.8**
	baz=40,SNR=12							
NWAO	**Narrogin (SRO)**	**40.10**	**192**	P	**P**		**05 16 57.6**	**-0.8**
NWAO	**Narrogin (SRO)**	**40.10**	**192**	P	**P**		**05 16 57.6**	**-0.8**
	comp=Z,37nm,0.5s,baz=17,slow=8.2,SNR=41							
BBOO	**Buckleboo**	**40.13**	**167**	*e*P	**P**		**05 16 57.6**	**-1.0**
	comp=Z,2μm,0.6s							
ASAJ	**Asahikawa**	**40.13**	**18**	*e*P	**P**		**05 16 58.6**	**0.0**
	comp=Z,7.9nm,0.8s							
ASAJ	**Asahikawa**	**40.13**	**18**	P	**P**		**05 16 58.3**	**-0.2**
	comp=Z,6.8nm,0.4s,baz=224,slow=9.5,SNR=12							
ASAJ				LR	LR		05 32 05.2	
	comp=Z,2μm,21.5s,baz=336,slow=34							
LSA	**Lhasa**	**40.38**	**309**	*e*P	**P**		**05 17 01.6**	**+0.2**
LSA				pmax	pmax			
	comp=Z,53nm,1.4s							
LSA	**Lhasa**	**40.38**	**309**	*e*P	**P**		**05 17 01.6**	**+0.2**
	comp=Z,53nm,1.4s							
GTA	**Gaotai**	**40.58**	**328**	⇓P	**P**		**05 17 04.5**	**+2.0**
GTA				pP	**pP**		**05 17 18.5**	**+1.1**
GTA				sP	**sP**		**05 17 24.5**	**+0.3**
GTA				PcP	**PcP**		**05 19 07.0**	**+3.2**
GTA				ScP	**ScP**		**05 22 51.5**	**+3.0**
GTA				S	**S**		**05 23 10.8**	**+2.8**
GTA				ScS	**ScS**		**05 27 03.0**	**-0.1**
GTA				pmax	pmax			
	comp=Z,24nm,1.3s							
GTA				pmax	pmax			
	comp=Z,360nm,5.9s							
GTA				LR	LR			
	comp=Z,2μm,23.7s							
GTA				LR	LR			
	comp=Z,2μm,22.8s							
GTA				LR	LR			
	comp=Z,4μm,23.3s							
STKA	**Stephens Creek**	**40.80**	**160**	*e*P	**P**		**05 17 03.6**	**-0.6**
	comp=Z,21nm,1.0s							
STKA				ScP	ScP		05 22 56.7	+7.5
STKA	**Stephens Creek**	**40.80**	**160**	P	**P**		**05 17 03.8**	**-0.4**
	comp=Z,20nm,0.5s,baz=338,slow=7.7,SNR=42							
STKA				ScP	ScP		05 22 56.7	+7.5
	comp=Z,14nm,1.0s,baz=322,slow=6.3,SNR=5.5							
STKA	**Stephens Creek**	**40.80**	**160**	P	**P**		**05 17 03.3**	**-0.9**
	baz=41,SNR=48							
H11S3	**WAKE ISLAND Hy**	**41.08**	**69**	T	T		06 01 05.0	
	baz=251,slow=50,SNR=611							
H11S1	**WAKE ISLAND Hy**	**41.09**	**69**	T	T		06 01 09.6	
	baz=251,slow=50,SNR=280							
H11S2	**WAKE ISLAND Hy**	**41.09**	**69**	T	T		06 01 08.6	
	baz=251,slow=50,SNR=449							
YUK	**Yuzh-Kuril'sk**	**41.16**	**21**	*d* iP	P		05 17 10.1	+3.1
YUK				*i* *PP	pP		05 17 23.3	+1.4
YUK				*i* PPP	PPP		05 19 02.5	
YUK				*i* S	**S**		**05 23 14.5**	**-1.6**
YUK				*i* *SS	sS		05 23 33.2	-8.2
YUK				*i* SS	**SS**		**05 26 14.5**	**-6.5**
YUK				pmax	pmax			
	comp=E,194nm,1.6s							
YUK				pmax	pmax			
	comp=Z,181nm,1.6s							
YUK				pmax	pmax			
	comp=N,36nm,0.8s							
YUK				MLR	MLR			
	comp=N,773nm,20.0s							
YUK				MLR	MLR			
	comp=E,446nm,20.0s							
YUK				MLR	MLR			
	comp=Z,831nm,20.0s							
HTT	**Hallett**	**41.42**	**164**	P	**P**		**05 17 09.5**	**+0.2**
	baz=42,SNR=44							
RKGY	**Rocky Gully**	**41.78**	**192**	P	**P**		**05 17 12.3**	**+0.1**
	baz=42,SNR=43							
CMSA	**Cobar Meteorol**	**42.06**	**155**	P	**P**		**05 17 14.7**	**+0.2**
	baz=42,SNR=22							
TAPN	**Taplejung**	**42.13**	**304**	*e*P	**P**		**05 17 14.8**	**-0.8**
	comp=Z,77nm,0.9s							
TAPN	**Taplejung**	**42.13**	**304**	*e*P	**P**		**05 17 14.8**	**-0.8**
	comp=Z,77nm,0.9s							
ODAN	**Odare**	**42.21**	**303**	*e*P	**P**		**05 17 15.3**	**-0.9**
	comp=Z,120nm,0.9s							
ODAN	**Odare**	**42.21**	**303**	*e*P	**P**		**05 17 15.3**	**-0.9**
	comp=Z,120nm,0.9s							
HABR	**Khabarovsk**	**42.52**	**9**	P	P		05 17 14.6	-3.4
HABR				*e**PP	pP		05 17 31.4	-1.6
HABR				*e*			05 18 54.1	
HABR							05 19 06.4	
HABR				S	**S**		**05 23 31.6**	**-4.5**
HABR				*e*SS	**SS**		**05 26 44.5**	**-3.2**
HABR				*e*			05 27 09.1	
HABR				pmax	pmax			
	comp=Z,50nm,1.8s							
HABR				MLR	MLR			
	comp=Z,747nm,17.0s							
YSS	**Yuzh-Sakhalins**	**42.75**	**17**	*e*P	**P**		**05 17 18.9**	**-1.0**
YSS				*e*			05 19 16.0	
YSS				*e*S	**S**		**05 23 40.0**	**+0.5**
YSS				*e*SSS	SSS		05 27 30.0	
KLR	**Kul'dur**	**42.88**	**5**	*e*P	P		05 17 16.1	-4.8
RAMN	**Ramite**	**42.90**	**303**	*e*P	**P**		**05 17 21.0**	**-0.8**
	comp=Z,81nm,0.7s							
RAMN	**Ramite**	**42.90**	**303**	*e*P	**P**		**05 17 21.0**	**-0.8**
	comp=Z,81nm,0.7s							
JIRN	**Jiri**	**43.50**	**304**	*e*P	**P**		**05 17 25.8**	**-0.9**
	comp=Z,96nm,0.6s							
JIRN	**Jiri**	**43.50**	**304**	*e*P	**P**		**05 17 25.8**	**-0.9**
	comp=Z,96nm,0.6s							
GUN	**Gumba**	**43.85**	**304**	*e*P	**P**		**05 17 28.6**	**-0.9**
	comp=Z,173nm,0.9s							
GUN	**Gumba**	**43.85**	**304**	*e*P	**P**		**05 17 28.6**	**-0.9**
	comp=Z,173nm,0.9s							
ARMA	**Armidale**	**43.96**	**148**	*e*P	**P**		**05 17 30.2**	**+0.3**
	comp=Z,35nm,0.8s							
ARMA	**Armidale**	**43.96**	**148**	P	**P**		**05 17 30.7**	**+0.7**
	baz=44,SNR=21							
PKI	**Pulchoki**	**44.11**	**303**	*e*P	**P**		**05 17 30.1**	**-1.5**
	comp=Z,27nm,0.6s							
PKI	**Pulchoki**	**44.11**	**303**	*e*P	**P**		**05 17 30.1**	**-1.5**
PKI				pmax	pmax			
	comp=Z,27nm,0.6s							
PKI	**Pulchoki**	**44.11**	**303**	*e*P	**P**		**05 17 30.1**	**-1.5**
	comp=Z,27nm,0.6s							
PKIN	**Phulchoki**	**44.13**	**303**	*e*P	**P**		**05 17 29.8**	**-1.9**
	comp=Z,18nm,0.4s							
KKN	**Kakani**	**44.30**	**304**	*e*P	**P**		**05 17 32.4**	**-0.6**
	comp=Z,60nm,0.9s							
KKN	**Kakani**	**44.30**	**304**	*e*P	**P**		**05 17 32.4**	**-0.6**
KKN				pmax	pmax			
	comp=Z,60nm,0.9s							
KKN	**Kakani**	**44.30**	**304**	*e*P	**P**		**05 17 32.4**	**-0.6**
	comp=Z,60nm,0.9s							
DMN	**Daman**	**44.38**	**303**	*e*P	**P**		**05 17 32.8**	**-0.9**
DMN	**Daman**	**44.38**	**303**	*e*P	**P**		**05 17 32.8**	**-0.9**
ULN	**Ulaanbaatar**	**44.43**	**341**	*e*P	**P**		**05 17 33.6**	**0.0**
	comp=Z,49nm,0.8s							
SONM	**Songino Array**	**44.61**	**341**	P	**P**		**05 17 35.2**	**+0.2**
SONM				PcP	**PcP**		**05 19 17.3**	**+0.2**
SONM				ScP	**ScP**		**05 23 07.6**	**+3.1**
SONM	**Songino Array**	**44.61**	**341**	P	**P**		**05 17 35.2**	**+0.2**
	comp=Z,18nm,0.9s,baz=155,slow=7.8,SNR=33							
SONM				PcP	**PcP**		**05 19 17.3**	**+0.2**
	comp=Z,7.4nm,0.7s,baz=139,slow=3.2,SNR=5.5							
SONM				ScP	**ScP**		**05 23 07.6**	**+3.1**
	comp=Z,1.5nm,0.9s,baz=113,slow=3.3,SNR=4.2							
SONM				LR	LR		05 39 52.2	
	comp=Z,1μm,18.0s,baz=157,slow=41							
GKN	**Gorkha**	**44.91**	**304**	*e*P	**P**		**05 17 37.4**	**-0.4**
	comp=Z,22nm,0.5s							
GKN	**Gorkha**	**44.91**	**304**	*e*P	**P**		**05 17 37.4**	**-0.4**
	comp=Z,22nm,0.5s							
ARPS	**Mount Arapiles**	**45.38**	**162**	P	**P**		**05 17 41.1**	**0.0**
	baz=46,SNR=21							
KOLN	**Koldanda**	**45.69**	**303**	*e*P	**P**		**05 17 42.9**	**-1.1**
	comp=Z,103nm,0.8s							
KOLN	**Koldanda**	**45.69**	**303**	*e*P	**P**		**05 17 42.9**	**-1.1**
	comp=Z,103nm,0.8s							
DANN	**Dangsing**	**45.75**	**304**	*e*P	**P**		**05 17 42.7**	**-1.9**
	comp=Z,88nm,0.7s							
DANN	**Dangsing**	**45.75**	**304**	*e*P	**P**		**05 17 42.7**	**-1.9**
	comp=Z,88nm,0.7s							
PYUN	**Piuthan**	**46.31**	**303**	*e*P	**P**		**05 17 47.9**	**-1.0**
	comp=Z,140nm,0.9s							
PYUN	**Piuthan**	**46.31**	**303**	*e*P	**P**		**05 17 47.9**	**-1.0**
	comp=Z,140nm,0.9s							
CAN	**Canberra**	**46.72**	**154**	*e*P	**P**		**05 17 52.1**	**+0.4**
CAN				pmax	pmax			
	comp=Z,28nm,0.8s							
CAN	**Canberra**	**46.72**	**154**	*e*P	**P**		**05 17 52.1**	**+0.4**
	comp=Z,28nm,0.8s							
CNB	**Canberra Magne**	**46.87**	**154**	⇑P	**P**		**05 17 53.2**	**+0.2**
	baz=47,SNR=12							
TOO	**Toolangi**	**47.31**	**159**	P	**P**		**05 17 57.7**	**+1.5**
	baz=48,SNR=6.5							
ZAK	**Zakamensk**	**47.84**	**340**	*e*P	**P**		**05 17 59.8**	**-0.5**
ZAK				*e*			05 19 28.1	
ZAK				pmax	pmax			
	comp=Z,11nm,0.9s							
HYB	**Hyderabad**	**47.87**	**288**	*i* P	**P**		**05 18 00.0**	**-1.0**
DZM	**Mont Dzumac**	**48.45**	**127**	*e*P	**P**		**05 18 06.7**	**+1.3**
	comp=Z,80nm,1.5s							
DZM				*e*S	**S**		**05 25 06.2**	**+3.7**
	comp=Z,1μm,32.8s							
DZM				*e*LR	LR		05 31 57.2	
	comp=Z,3μm,23.4s							
TLY	**Talaya**	**48.84**	**341**	*e*P	**P**		**05 18 09.6**	**+1.7**
TLY				pmax	pmax			
	comp=Z,33nm,0.9s							
TLY				MLR	MLR			
	comp=Z,573nm,14.0s							
TLY	**Talaya**	**48.84**	**341**	*e*P	**P**		**05 18 08.4**	**+0.5**
	comp=Z,32nm,0.9s							
IRK	**Irkutsk**	**49.13**	**342**	*e*P	**P**		**05 18 08.8**	**-1.3**
IRK				pmax	pmax			
	comp=Z,78nm,1.7s							
MOY	**Mondy**	**49.71**	**340**	*e*P	**P**		**05 18 15.2**	**+0.6**
MOY				pmax	pmax			
	comp=Z,100nm,3.7s							
CLNS	**Chul'man**	**50.26**	**359**	*e*P	**P**		**05 18 18.1**	**-0.6**
CLNS				pmax	pmax			
	comp=Z,3.0nm,0.6s							
CLNS				pmax	pmax			
	comp=N,13nm,0.9s							
CLNS				pmax	pmax			
	comp=E,16nm,0.9s							
WMQ	**Urumqi**	**50.29**	**324**	P	**P**		**05 18 20.0**	**+0.8**
WMQ				pP	**pP**		**05 18 36.0**	**+1.5**
WMQ				sP	**sP**		**05 18 43.0**	**+1.8**
WMQ				PP	**PP**		**05 20 17.0**	**+2.0**
WMQ				ScP	**ScP**		**05 23 27.0**	**-1.4**
WMQ				S	**S**		**05 25 27.0**	**-0.7**
WMQ				sS	**sS**		**05 25 55.0**	**+1.5**
WMQ				ScS	**ScS**		**05 28 02.0**	**-3.2**
WMQ				SS	**SS**		**05 28 59.0**	**-2.9**
WMQ				pmax	pmax			
	comp=E,22nm,1.0s							
WMQ				pmax	pmax			
	comp=E,190nm,5.0s							
WMQ				LR	LR			
	comp=E,2μm,18.0s							
WMQ				LR	LR			
	comp=E,2μm,18.0s							
WMQ				LR	LR			
	comp=E,3μm,18.0s							
NDI	**New Delhi**	**51.33**	**302**	*ex*	P		05 18 23.0	-4.2
PETK	**Petropavlovsk-**	**53.09**	**23**	LR	LR		05 39 57.6	
	comp=E,368nm,20.4s,baz=93,slow=34							
PET	**Petropavlovsk**	**53.40**	**24**	*e*P	**P**		**05 18 43.5**	**+1.5**
PET				*e*S	**S**		**05 26 10.9**	**+1.1**
PET				*e*SS	**SS**		**05 29 50.8**	**+0.3**
PET				pmax	pmax			
	comp=Z,200nm,9.1s							
PET				MLR	MLR			
	comp=Z,400nm,20.0s							
MK31	**Makanchi Array**	**55.12**	**324**	*e*P	**P**		**05 18 53.1**	**-1.6**
MK31	**Makanchi Array**	**55.12**	**324**	*e*P	**P**		**05 18 53.1**	**-1.6**
MKAR	**Makanchi Array**	**55.12**	**324**	*ce*P	**P**		**05 18 52.7**	**-1.9**
MKAR				pmax	pmax			
	comp=Z,9.0nm,0.4s							
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**		**05 18 52.8**	**-1.9**
MKAR				ScP	**ScP**		**05 23 52.0**	**+2.7**
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**		**05 18 52.8**	**-1.9**
	comp=Z,8.8nm,0.4s,baz=122,slow=6.2,SNR=80							
MKAR				ScP	**ScP**		**05 23 52.0**	**+2.7**
	comp=Z,2.5nm,0.8s,baz=128,slow=5.4,SNR=3.8							
MKAR				LR	LR		05 44 01.0	
	comp=Z,2μm,20.5s,baz=121,slow=38							
YAK	**Yakutsk**	**55.52**	**2**	*e*P	**P**		**05 18 55.9**	**-1.3**
YAK				pmax	pmax			
	comp=Z,32nm,1.0s							
YAK				pmax	pmax			
	comp=E,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.0s							
YAK	**Yakutsk**	**55.52**	**2**	*e*P	**P**		**05 18 59.4**	**+2.2**
KSH	**Kashi**	**55.86**	**314**	P	**P**		**05 19 01.0**	**+0.7**
KSH				sP	**sP**		**05 19 24.0**	**+1.5**
KSH				PP	**PP**		**05 21 08.0**	**+2.5**
KSH				S	**S**		**05 26 39.8**	**-3.9**
KSH				sS	**sS**		**05 27 10.0**	**+0.1**
KSH				SS	**SS**		**05 30 29.3**	**-0.9**
KSH				pmax	pmax			
	comp=N,7.0nm,0.9s							
KSH				pmax	pmax			
	comp=N,80nm,2.9s							
KSH				LR	LR			
	comp=N,410nm,11.4s							
KSH				LR	LR			
	comp=N,870nm,13.9s							
KSH				LR	LR			
	comp=N,2μm,19.3s							
ULHL	**Ulahol**	**56.76**	**317**	*i* P	**P**		**05 19 07.2**	**+0.5**
ULHL	**Ulahol**	**56.76**	**317**	P	**P**		**05 19 07.2**	**+0.5**
	SNR=5.1							
KZA	**Kyzart**	**57.37**	**317**	*i* P	**P**		**05 19 12.1**	**+0.8**
KZA	**Kyzart**	**57.37**	**317**	P	**P**		**05 19 12.1**	**+0.8**
	SNR=17							
TKM2	**Tokmak 2**	**57.47**	**318**	*i* P	**P**		**05 19 11.6**	**-0.1**
TKM2	**Tokmak 2**	**57.47**	**318**	P	**P**		**05 19 11.7**	**-0.1**
	SNR=14							
TKM2	**Tokmak 2**	**57.47**	**318**	*e*P	**P**		**05 19 11.3**	**-0.4**
	comp=N,20nm,1.1s							
UCH	**Uchtor**	**57.93**	**316**	*i* P	**P**		**05 19 16.1**	**+0.8**
UCH	**Uchtor**	**57.93**	**316**	P	**P**		**05 19 16.1**	**+0.8**
	SNR=29							
ZALV	**Zalesovo Beam**	**58.00**	**332**	*i* P	**P**		**05 19 15.0**	**0.0**
ZALV				pmax	pmax			
	comp=Z,8.0nm,0.7s							
ZALV	**Zalesovo Beam**	**58.00**	**332**

AML	**Almayashu**	58.45	316		P		**P**	05 19 19.5	+0.6	
	SNR=19									
EKS2	**Erkin-Say**	58.60	317	*i*	P		**P**	05 19 20.1	+0.6	
EKS2	**Erkin-Say**	58.60	317		P		**P**	05 19 20.1	+0.6	
	SNR=17									
EKS2	**Erkin-Say**	58.60	317	*e*	P		**P**	05 19 18.0	-1.5	
	comp=Z,39nm,1.0s									
KURK	**Kurchatov**	59.25	327	*e*	P		**P**	05 19 21.7	-2.0	
KURK					pmax	pmax				
	comp=Z,31nm,0.7s									
KURK	**Kurchatov**	59.25	327	*e*	P		**P**	05 19 21.7	-2.0	
	comp=Z,31nm,0.7s									
KURK	**Kurchatov**	59.25	327		P		**P**	05 19 22.7	-1.0	
	comp=Z,571nm,1.0s,SNR=28									
KURBB	**Kurchatov Arra**	59.25	327		P		**P**	05 19 21.9	-1.9	
	comp=Z,35nm,1.1s,baz=127,slow=5.8,SNR=60									
NVS	**Novosibirsk**	59.28	333	⇑*i*	P		**P**	05 19 21.6	-2.3	
NVS				*e*	*PP		**pP**	05 19 37.0	-2.5	
NVS				*i*				05 20 18.8		
NVS				*e*				05 21 37.2		
NVS				*i*	S		**S**	05 27 28.6	+0.9	
NVS					pmax	pmax				
	comp=N,39nm,1.4s									
NVS					pmax	pmax				
	comp=E,18nm,1.4s									
NVS					pmax	pmax				
	comp=Z,46nm,1.4s									
NVS					pmax	pmax				
	comp=E,13nm,1.9s									
NVS					pmax	pmax				
	comp=Z,17nm,1.9s									
NVS					pmax	pmax				
	comp=N,9.0nm,1.5s									
NVS					smax	smax				
	comp=N,50nm,3.1s									
NVS					smax	smax				
	comp=E,63nm,3.1s									
KBL	**Kabul**	59.58	306	*e*	P		**P**	05 19 25.8	-0.8	
KBL					pmax	pmax				
	comp=Z,17nm,0.8s									
KBL	**Kabul**	59.58	306	*e*	P		**P**	05 19 25.8	-0.8	
	comp=Z,17nm,0.8s									
FX1	**Attu Island--F**	59.95	31	*e*	P		**P**	05 19 28.1	-0.4	
KK31	**Karatay Array**	60.99	316		P		**P**	05 19 34.1	-1.8	
KK31					pmax	pmax				
	comp=Z,5.0nm,0.7s									
KKAR	**Karatay Array**	60.99	316	*e*	P		**P**	05 19 33.4	-2.5	
KKAR					pmax	pmax				
	comp=Z,24nm,0.8s									
KKAR	**Karatay Array**	60.99	316	*e*	P		**P**	05 19 33.4	-2.5	
	comp=Z,24nm,0.8s									
RPZ	**Rata Peaks**	64.21	145	*e*	P		**P**	05 19 57.4	+0.1	
	comp=Z,28nm,0.9s									
BVA0	**Borovoye Array**	64.84	326		P		**P**	05 19 59.3	-1.9	
BVA0					pmax	pmax				
	comp=Z,72nm,1.0s									
BVAR	**Borovoye Array**	64.84	326		P		**P**	05 19 59.7	-1.5	
BVAR	**Borovoye Array**	64.84	326		P		**P**	05 19 59.6	-1.5	
BVAR	**Borovoye Array**	64.84	326		P		**P**	05 19 59.6	-1.5	
	comp=Z,28nm,0.7s,baz=123,slow=7.3,SNR=32									
BVAR					LR		LR	05 51 04.1		
	comp=Z,1μm,18.8s,baz=211,slow=38									
BRVK	**Borovoye**	64.91	326		P		**P**	05 19 59.9	-1.7	
	comp=Z,407nm,0.8s,SNR=9.6									
BRVK	**Borovoye**	64.91	326	*e*	P		**P**	05 20 00.0	-1.7	
BRVK					pmax	pmax				
	comp=Z,70nm,1.0s									
BRVK	**Borovoye**	64.91	326	*e*	P		**P**	05 19 59.7	-1.9	
	comp=Z,73nm,1.0s									
TIXI	**Tiksi**	65.14	1	*e*	P		**P**	05 20 01.0	-1.8	
TIXI					pmax	pmax				
	comp=Z,30nm,1.0s									
TIXI	**Tiksi**	65.14	1	*e*	P		**P**	05 20 01.3	-1.5	
	comp=Z,24nm,0.8s									
IDAH	**Dahanechah**	66.76	303	*e*	P		P	05 20 10.9	-3.4	
IMON	**Monand**	66.99	303	*e*	P		**P**	05 20 13.9	-1.8	
IMYA	**Miami**	67.09	307	*e*	P		**P**	05 20 15.6	-0.6	
IKOO	**Kooshah**	67.45	302	*e*	P		**P**	05 20 18.0	-0.6	
ISRO	**Mashad**	67.59	307	*e*	P		**P**	05 20 17.8	-1.5	
ITEG	**Tejag**	67.72	303	*e*	P		**P**	05 20 17.6	-2.7	
IPAY	**Payeh**	67.99	307	*e*	P		**P**	05 20 21.3	-0.7	
IAKL	**Akhelmad**	68.20	307	*e*	P		**P**	05 20 21.8	-1.6	
IKRD	**Kardeh**	68.42	307	*e*	P		P	05 20 19.1	-5.6	
AB31	**Akbulak array**	69.81	320	*i*	P		**P**	05 20 30.6	-2.1	
AB31					pmax	pmax				
	comp=Z,19nm,0.7s									
ABKAR	**Akbulak array**	69.81	320	*e*	P		**P**	05 20 30.2	-2.5	
	comp=Z,18nm,0.8s									
IGLO	**Ghaloghah**	72.13	306	*e*	P		**P**	05 20 45.5	-1.8	
IKIA	**Kiasar**	72.22	306	*e*	P		**P**	05 20 47.4	-0.5	
IPAR	**Pars**	72.33	299	*e*	P		**P**	05 20 47.2	-1.5	
ARU	**Arti**	72.44	327	*c i*	P		**P**	05 20 47.4	-1.1	
ARU								05 23 26.8		
ARU					S		**S**	05 30 07.5	-0.4	
ARU					SS		**SS**	05 34 44.4	-2.9	
ARU					pmax	pmax				
	comp=Z,55nm,0.7s									
ARU					MLR	MLR				
	comp=Z,1μm,18.0s									
ARU	**Arti**	72.44	327	*e*	P		**P**	05 20 49.1	+0.6	
	comp=Z,49nm,0.6s									
IFIR	**Firoozkooh**	72.93	305	*e*	P		**P**	05 20 50.4	-1.7	
IDMV	**Damavand**	73.51	305	*e*	P		**P**	05 20 53.8	-1.8	
DRV	**Dumont d'Urvil**	73.61	174		S		**SKiKP**	05 30 13.0	-7.0	
DRV					L		L	05 38 00.0		
DRV					R			05 44 00.0		
IRAZ	**Razeghan**	75.21	305	*e*	P		P	05 21 01.4	-4.0	
MIR	**Mirnyy**	76.70	193	⇓*i*	P		**P**	05 21 15.0	+2.2	
MIR				*i*				05 21 29.0		
MIR					pmax	pmax				
	comp=Z,84nm,1.0s									
MAK	**Makhachkala**	77.46	312	*e*	P		**P**	05 21 16.7	-1.0	
MAK				*e*				05 21 26.6		
MAK				*e*	*PP		**pP**	05 21 33.9	0.0	
MAK				*e*	S		**S**	05 31 04.3	+0.1	
MAK				*e*				05 31 23.1		
MAK				*e*	*SS		**sS**	05 31 32.5	+0.9	
MAK					pmax	pmax				
	comp=Z,67nm,0.9s									
MAK					MLR	MLR				
	comp=Z,1μm,19.0s									
IHRS	**Heris**	77.63	308	*e*	P		**P**	05 21 16.9	-2.2	
IBST	**Bostanabad**	77.73	307	*e*	P		**P**	05 21 19.7	0.0	
IAZR	**Azarshahr**	78.46	307	*e*	P		**P**	05 21 24.5	+0.8	
DGRG	**David-gareji**	78.99	311		P		P	05 21 23.0	-3.3	
RAYN	**Ar Rayn**	79.06	293		P		**P**	05 21 24.2	-2.8	
	comp=Z,200nm,0.8s,SNR=9.3									
GNI	**Garni**	79.45	310	*e*	P		**P**	05 21 31.1	+2.2	
	comp=Z,56nm,1.0s									
PRGR	**Permogore**	79.94	331	*e*	P		**P**	05 21 30.0	-0.9	
PRGR				*e*				05 21 38.2		
PRGR					*PP		**pP**	05 21 48.9	+1.7	
PRGR					pmax	pmax				
	comp=Z,55nm,1.0s									
IM04	**Indian Mountai**	80.02	24	*e*	P		**P**	05 21 30.6	-0.8	
ZEI	**Tsey**	80.10	312	*e*	P		**P**	05 21 30.8	-1.7	
ZEI					pmax	pmax				
	comp=Z,47nm,1.4s									
AKH	**Akhalkalaki**	80.40	311		P		**P**	05 21 36.4	+2.3	
ONI	**Oni**	80.43	312		P		P	05 21 27.3	-6.8	
KBZ	**Khabaz**	80.84	313		P		**P**	05 21 35.6	-0.5	
KBZ	**Khabaz**	80.84	313		P		**P**	05 21 35.6	-0.5	
KBZ	**Khabaz**	80.84	313		P		**P**	05 21 35.6	-0.5	
	comp=Z,10.0nm,1.1s,baz=215,slow=2.7,SNR=11									
KBZ					LR		LR	06 02 56.0		
	comp=Z,917nm,19.7s,baz=78,slow=40									
KIV	**Kislovodsk**	80.99	313	*e*	P		**P**	05 21 37.5	+0.4	
KIV				*i*				05 21 46.5		
KIV				*e*				05 24 48.2		
KIV				*i*	S		**S**	05 31 44.7	+2.8	
KIV					pmax	pmax				
	comp=Z,24nm,1.0s									
KIV	**Kislovodsk**	80.99	313	*e*	P		**P**	05 21 39.5	+2.4	
	comp=Z,18nm,0.8s									
KTH	**Kantishna Hill**	81.03	27	*e*	P		**P**	05 21 37.1	+0.2	
	comp=Z,11nm,0.8s									
TRF	**Thorofare Moun**	81.30	27	*e*	P		**P**	05 21 38.4	0.0	
	comp=Z,26nm,1.0s									
RC01	**Rabbit Creek A**	81.45	29	*e*	P		**P**	05 21 38.2	-0.9	
	comp=Z,13nm,0.6s									
COLD	**Coldfoot**	81.56	23	*e*	P		**P**	05 21 40.2	+0.7	
	comp=Z,11nm,0.7s									
VRHR	**Novokhopersk**	81.69	321	*e*	P		**P**	05 21 40.5	0.0	
VRHR					pmax	pmax				
	comp=N,10.0nm,0.8s									
VRHR					pmax	pmax				
	comp=Z,30nm,0.8s									
VRHR					pmax	pmax				
	comp=E,10.0nm,0.7s									
PMR	**Palmer**	81.76	29	*e*	P		**P**	05 21 39.6	-1.0	
PMR					pmax	pmax				
	comp=Z,21nm,0.9s									
PMR	**Palmer**	81.76	29	*e*	P		**P**	05 21 39.6	-1.0	
	comp=Z,21nm,0.9s									
MCK	**McKinley**	81.92	27	*e*	P		**P**	05 21 39.8	-1.7	
MCK					pmax	pmax				
	comp=Z,24nm,0.8s									
MCK	**McKinley**	81.92	27	*e*	P		**P**	05 21 39.8	-1.7	
	comp=Z,24nm,0.8s									
ILAR	**Eielson Array**	82.83	26		P		**P**	05 21 43.8	-2.4	
ILAR					PKKPbc		**PKKPbc**	05 40 12.2	+0.1	
ILAR	**Eielson Array**	82.83	26		P		**P**	05 21 43.8	-2.4	
	comp=Z,1.8nm,0.8s,baz=239,slow=4.7,SNR=16									
ILAR					PKKPbc		**PKKPbc**	05 40 12.2	+0.1	
	comp=Z,0.3nm,0.6s,baz=72,slow=1.7,SNR=4.3									
ILAR					LR		LR	05 59 28.1		
	comp=Z,364nm,19.7s,baz=52,slow=36									
SOC	**Sochi**	83.15	313	*e*	P		**P**	05 21 48.1	-0.2	
SOC				*e*	S		**S**	05 32 00.2	-3.6	
SOC					MLR	MLR				
	comp=Z,544nm,23.0s									
VORD	**Divnogorie**	83.17	321	*e*	P		**P**	05 21 48.2	0.0	
VORD					pmax	pmax				
	comp=N,9.0nm,0.8s									
VORD					pmax	pmax				
	comp=Z,20nm,0.8s									
VORD					pmax	pmax				
	comp=E,20nm,0.9s									
VSR	**Storozhevoye**	83.24	321	*e*	P		**P**	05 21 48.8	+0.2	
VSR					pmax	pmax				
	comp=Z,20nm,0.7s									
VSR					pmax	pmax				
	comp=N,5.0nm,1.3s									
VSR					pmax	pmax				
	comp=E,10.0nm,0.9s									
TMCR	**Tamitsa**	83.50	334	*e*	P		**P**	05 21 50.6	+1.0	
TMCR				*e*				05 25 06.2		
TMCR					pmax	pmax				
	comp=Z,76nm,1.1s									
BMRM	**Bremner River**	83.95	29	*e*	P		**P**	05 21 52.0	-0.1	
	comp=Z,35nm,0.9s									
MOS	**Moscow**	83.99	325	*e*	P		**P**	05 21 53.1	+0.8	
MOS				*e*	*PP		**pP**	05 22 10.9	+2.2	
MOS				*e*				05 25 11.9		
MOS				*e*	S		**S**	05 32 09.4	-2.4	
MOS					pmax	pmax				
	comp=Z,39nm,1.0s									
DOT	**Dot Lake**	84.09	27	*e*	P		**P**	05 21 52.1	-0.6	
	comp=Z,12nm,1.1s									
MENT	**Mentasta**	84.28	27	*e*	P		**P**	05 21 53.5	-0.2	
MALT	**Malatya**	84.40	308	⇑*i*	P		**P**	05 21 55.4	+0.4	
MALT	**Malatya**	84.40	308	⇑*i*	P		**P**	05 21 55.4	+0.4	
OBN	**Obninsk**	84.62	325	⇑*e*	P		**P**	05 21 55.4	-0.1	
OBN					pmax	pmax				
	comp=Z,52nm,1.0s									
OBN	**Obninsk**	84.62	325	*e*	P		**P**	05 21 55.9	+0.4	
	comp=Z,23nm,0.5s									
ANN	**Anapa**	84.72	314	*e*	P		**P**	05 21 56.3	+0.1	
ANN					pmax	pmax				
	comp=Z,127nm,1.3s									
APA	**Apatity**	85.20	337	⇑*i*	P		P	05 22 02.0	+3.8	
APA				*i*	S		**S**	05 32 28.0	+4.5	
APA				*i*	PS		PnS	05 33 38.0	+12	
APA					MLR	MLR				
	comp=Z,1μm,21.0s									
EGAK	**Eagle**	85.28	25	*e*	P		**P**	05 21 58.0	-0.6	
	comp=Z,13nm,0.9s									
MAW	**Mawson**	86.16	200	*e*	P		**P**	05 22 03.0	+0.2	
	comp=Z,5.7nm,0.9s									
MAW	**Mawson**	86.16	200		P		**P**	05 22 00.3	-2.5	
	comp=Z,18nm,0.8s,baz=61,slow=6.5,SNR=26									
MAW	**Mawson**	86.16	200		P		**P**	05 22 03.5	+0.7	
	baz=86,SNR=13									
VNDA	**Vanda**	86.16	173	*e*	P		**P**	05 22 01.4	-1.2	
	comp=Z,13nm,0.9s									
VNDA	**Vanda**	86.16	173		P		**P**	05 22 00.5	-2.2	
	comp=Z,9.8nm,0.9s,baz=308,slow=5.8,SNR=28									
VNDA					LR		LR	06 01 35.5		
	comp=Z,844nm,20.0s,baz=342,slow=36									
PPT	**Papeete**	86.33	108		LR		LR	05 54 45.6		
	comp=Z,726nm,19.1s,baz=309,slow=32									
PPT2	**Papeete2**	86.33	108	*e*	S		**S**	05 32 35.9	-0.6	
PPT2				*e*	SS		**SS**	05 38 19.5	+2.1	
	comp=Z,349nm,28.0s									
PPT2	**Papeete2**	86.33	108	*e*	LR		LR	05 49 29.6		
	comp=Z,2μm,24.5s									
JOF	**Joensuu**	86.59	333	*e*	P		**P**	05 22 04.9	-0.2	
JOF					pmax	pmax				
	comp=Z,5.0nm,0.4s									
JOF	**Joensuu**	86.59	333	*e*	p		**P**	05 22 04.9	-0.2	
	comp=Z,4.7nm,0.4s									
SBA	**Scott Base**	87.07	172	*e*	P		**P**	05 22 09.4	+2.3	
SBA					pmax	pmax				
	comp=Z,12nm,0.9s									
SBA	**Scott Base**	87.07	172	*e*	P		**P**	05 22 09.4	+2.3	
	comp=Z,12nm,0.9s									
KEV	**Kevo**	87.21	340	*e*	P		**P**	05 22 08.3	+0.3	
KEV					pmax	pmax				
	comp=Z,1.0nm,0.3s									
KEV	**Kevo**	87.21	340	*e*	p		**P**	05 22 08.3	+0.3	
	comp=Z,0.8nm,0.3s									
TBI	**Tubuai**	87.24	114	*e*	S		**S**	05 32 45.3	+0.4	
	comp=Z,488nm,29.0s									
TBI				*e*	SS		**SS**	05 38 33.4	+3.1	
	comp=Z,674nm,30.0s									
TBI	**Tubuai**	87.24	114	*e*	LR		LR	05 49 54.1		
	comp=Z,2μm,24.2s									
ARCES	**ARCESS Array B**	87.77	340		P		**P**	05 22 08.1	-2.6	
ARCES					PKKPbc		**PKKPdf**	05 39 57.1	+3.2	
ARCES	**ARCESS Array B**	87.77	340		P		**P**	05 22 08.1	-2.6	
	comp=Z,18nm,0.8s,baz=84,slow=6.2,SNR=34									
ARCES					PKKPbc		**PKKPdf**	05 39 57.1	+3.2	
	comp=Z,2.5nm,0.9s,baz=306,slow=4.2,SNR=6.0									
ARCES					LR		LR	06 06 48.8		
	comp=Z,478nm,18.3s,baz=86,slow=39									
ARE0	**ARCESS Array S**	87.77	340	*e*	P		**P**	05 22 10.6	-0.2	
INK	**Inuvik**	87.79	21	*e*	P		**P**	05 22 08.7	-2.1	
	comp=Z,8.9nm,1.0s									
INK					PKKPbc		**PKKPdf**	05 39 56.2	+2.4	
INK	**Inuvik**	87.79	21		PKKPbc	PKKPbc		05 39 56.2	-4.2	
	comp=Z,1.0nm,0.7s,baz=142,slow=5.1,SNR=5.1									
BR131	**Keskin Array S**	87.99	310	*e*	P		**P**	05 22 12.9	+0.3	
	comp=Z,5.6nm,0.8s									
BRTR	**Keskin Array B**	87.99	310		P		**P**	05 22 10.2	-2.4	
BRTR	**Keskin Array B**	87.99	310		P		**P**	05 22 10.2	-2.4	
	comp=Z,6.9nm,1.0s,baz=110,slow=4.0,SNR=23									
ANTO	**Ankara**	88.62	310	⇑*i*	P		**P**	05 22 14.7	-0.8	
ANTO	**Ankara**	88.62	310	⇑*i*	P		**P**	05 22 14.7	-0.8	
CSS	**Prodhromos**	88.80	305	*e*	P		**P**	05 22 16.9	+0.6	
	comp=Z,5.4nm,0.8s									
KAF	**Kangasniemi**	89.02	332	*e*	P		**P**	05 22 15.7	-1.0	
KAF					pmax	pmax				
	comp=Z,2.0nm,0.3s									
KAF	**Kangasniemi**	89.02	332	*e*	p		**P**	05 22 15.7	-1.0	
	comp=Z,2.2nm,0.3s									
KMBO	**Kilima Mbogo**	89.21	269	*e*	P		**P**	05 22 17.3	-1.7	
	comp=Z,4.5nm,1.0s									
KMBO	**Kilima Mbogo**	89.21	269		P		**P**	05 22 18.0	-1.0	
	comp=Z,3.1nm,0.9s,baz=57,slow=12,SNR=4.8									
KMBO					LR		LR	06 05 04.6		
	comp=Z,250nm,18.1s,baz=84,slow=37									
FIA1	**FINESS Array S**	89.26	332	*e*	P		**P**	05 22 17.8	-0.1	
FINES	**FINESS Array B**	89.26	332		P		**P**	05 22 15.5	-2.4	
FINES	**FINESS Array B**	89.26	332		P		**P**	05 22 15.5	-2.4	
	comp=Z,4.5nm,0.5s,baz=62,slow=5.0,SNR=40									
FINES					LR		LR	06 07 02.6		
	comp=Z,596nm,20.0s,baz=242,slow=39									
AKASG	**Malin Array Be**	89.54	321		P		**P**	05 22 17.6	-1.8	
AKASG	**Malin Array Be**	89.54	321		P		**P**	05 22 17.6	-1.8	
AKASG	**Malin Array Be**	89.54	321		P		**P**	05 22 17.6	-1.8	
	comp=Z,6.2nm,0.7s,baz=70,slow=4.4,SNR=17									
KIEV	**Kiev**	89.56	321	*e*	P		**P**	05 22 19.0	-0.5	
KIEV	**Kiev**	89.56	321	*e*	P		**P**	05 22 19.4	-0.1	
	comp=Z,14nm,1.0s									
MICGM	**Minsk**	89.69	325	*e*			P	05 22 24.0	+4.0	
MNK	**Minsk**	89.71	325	*e*	P		P	05 22 24.0	+3.8	
TIRR	**Tirgusor**	91.15	315	⇓*i*	P		**P**	05 22 25.7	-1.4	
TIRR	**Tirgusor**	91.15	315	⇓*i*	P		**P**	05 22 25.7	-1.4	
CFR	**Carcaliu**	91.22	316	⇓*i*	P		**P**	05 22 26.9	-0.5	
CFR	**Carcaliu**	91.22	316	⇓*i*	P		**P**	05 22 26.9	-0.5	
MSAB	**Monastry St. A**	91.63	315	⇓*i*	P		**P**	05 22 27.6	-1.7	
VRI	**Vrincioaia**	92.06	316	⇑*i*	P		**P**	05 22 30.5	-0.8	
VRI	**Vrincioaia**	92.06	316	⇑*i*	P		**P**	05 22 30.5	-0.8	
PLOR	**Plostina**	92.12	316	⇓*i*	P		**P**	05 22 30.4	-1.2	
PLOR	**Plostina**	92.12	316	⇓*i*	P		**P**	05 22 30.4	-1.2	
SUW	**Suwalki**	92.48	325	*e*	P		**P**	05 22 32.3	-0.7	
SUW					pmax	pmax				
	comp=Z,35nm,0.9s									
SUW	**Suwalki**	92.48	325	*e*	P		**P**	05 22 32.3	-0.7	
	comp=Z,35nm,0.9s									
MLR	**Muntele Rosu**	92.68	316	⇓*i*	P		**P**	05 22 32.5	-1.8	
BURAR	**Bucovina Array**	92.72	318	⇓*i*	P		**P**	05 22 33.7	-0.7	
BURAR	**Bucovina Array**	92.72	318	⇓*i*	P		**P**	05 22 33.7	-0.7	
BUR08	**Bucovina Ar. S**	92.72	318	*e*	P		**P**	05 22 34.8	+0.4	
DOPR	**Dopca**	92.96	317	⇓*i*	P		**P**	05 22 35.7	+0.2	
LVV	**L'vov**	92.99	321	*e*	P		P	05 22 31.9	-3.6	
VOIR		93.30	316	⇑*i*	P		**P**	05 22 36.9	-0.2	
VOIR		93.30	316	⇑*i*	P		**P**	05 22 36.9	-0.2	
ARR	**Arges**	93.60	316	⇓*i*	P		**P**	05 22 36.6	-1.9	
KWP	**Kalwaria Pacla**	93.86	321	⇓*i*	P		**P**	05 22 39.0	-0.5	
KWP	**Kalwaria Pacla**	93.86	321	⇓*i*	P		**P**	05 22 39.0	-0.5	
KWP	**Kalwaria Pacla**	93.86	321	*e*	P		**P**	05 22 38.2	-1.4	
	comp=Z,17nm,1.0s									
CJR	**Cluj-Napoca**	94.00	318	⇑*i*	P		**P**	05 22 40.1	-0.2	
CJR	**Cluj-Napoca**	94.00	318	⇑*i*	P		**P**	05 22 40.1	-0.2	
KOLS	**Kolonicke sedl**	94.32	320	*e*	P		**P**	05 22 41.3	-0.3	
KOLS					pmax	pmax				
	comp=Z,7.0nm,1.5s									
KOLS	**Kolonicke sedl**	94.32	320	*e*	P		**P**	05 22 41.3	-0.3	
DRGR		94.57	318	⇓*i*	P		**P**	05 22 40.5	-2.4	
DRGR		94.57	318	⇓*i*	P		**P**	05 22 40.5	-2.4	
DEV	**Deva**	94.67	317	⇑*i*	P		**P**	05 22 40.6	-2.7	
DEV	**Deva**	94.67	317	⇑*i*	P		**P**	05 22 40.6	-2.7	
SYO	**Syowa Base**	94.81	201	⇑*e*	P		**P**	05 22 42.2	-1.1	
STHS	**Stebnicka Huta**	94.84	321	*e*	P		**P**	05 22 43.8	-0.2	
STHS					pmax	pmax				
	comp=Z,3.0nm,1.1s									
STHS	**Stebnicka Huta**	94.84	321	*e*	P		**P**	05 22 43.8	-0.2	
CRVS	**Cervenica-Dubn**	94.84	320	*e*	P		**P**	05 22 44.2	+0.2	
CRVS					pmax	pmax				
	comp=Z,4.0nm,1.1s									
CRVS	**Cervenica-Dubn**	94.84	320	*e*	P		**P**	05 22 44.2	+0.2	
GZR	**Gura Zlata**	94.87	317	⇑*i*	P		**P**	05 22 43.4	-0.9	
GZR	**Gura Zlata**	94.87	317	⇑*i*	P		**P**	05 22 43.4	-0.9	
OJC	**Ojcow**	95.52	322	*e*	P		P	05 23 00.6	+14	
OJC	**Ojcow**	95.52	322	*e*	P		P	05 23 00.6	+14	
BZS	**Buzias**	95.60	317	⇑*i*	P		**P**	05 22 44.9	-2.7	
BZS	**Buzias**	95.60	317	⇑*i*	P		**P**	05 22 44.9	-2.7	
NB2	**NORSAR Subarra**	96.19	334		P		**P**	05 22 48.4	-1.5	
	comp=Z,8.2nm,0.9s,baz=65,slow=4.6									
NB2	**NORSAR Subarra**	96.19	334		P		**P**	05 22 48.4	-1.5	
	baz=65,slow=4.6									
NOA	**NORSAR Array B**	96.19	334		P		**P**	05 22 48.7	-1.2	
NOA	**NORSAR Array B**	96.19	334		P		**P**	05 22 48.7	-1.2	
	comp=Z,5.4nm,0.7s,baz=65,slow=4.6,SNR=16									
NOA					LR		LR	06 09 53.0		
	comp=Z,710nm,21.2s,baz=65,slow=38									
OKC	**Ostrava-Krasne**	96.65	322	*e*	P		P	05 22 57.7	+5.5	
OKC					MLR	MLR				
	comp=Z,600nm,16.2s									
OKC	**Ostrava-Krasne**	96.65	322	*e*	P		P	05 22 57.7	+5.5	
OKC					AMS	AMS		06 10 10.0		
	comp=Z,600nm,16.2s									
YKA	**Yellowknife Ar**	97.20	24		P		**P**	05 22 53.2	-1.2	
YKA					PKiKP		**PKiKP**	05 27 29.6	0.0	
YKA					PKKPbc

TORD	**Torodi Ar. Bea**	**121.67**	**290**	PKP	**PKPdf**	**05**	**28**	**15.0 -1.6**
	comp=Z,8.7nm,0.7s,baz=44,slow=1.8,SNR=46							
TORD				PKKPab	**PKKPab**	**05**	**38**	**17.7 +0.7**
	comp=Z,0.4nm,0.7s,baz=271,slow=3.7,SNR=3.1							
JCT	**Junction City**	**122.56**	**48**	*e*PKIKP	**PKPdf**	**05**	**28**	**17.3 -0.8**
JCT	**Junction City**	**122.56**	**48**	*e*PKPdf	**PKPdf**	**05**	**28**	**17.3 -0.8**
MIAR	**Mount Ida**	**124.49**	**40**	*e*PKIKP	**PKPdf**	**05**	**28**	**22.0 +0.4**
MIAR	**Mount Ida**	**124.49**	**40**	*e*PKPdf	**PKPdf**	**05**	**28**	**22.0 +0.4**
WCI	**Wyandotte Cave**	**126.18**	**32**	*e*PKIKP	**PKPdf**	**05**	**28**	**24.4 -0.4**
WCI	**Wyandotte Cave**	**126.18**	**32**	*e*PKPdf	**PKPdf**	**05**	**28**	**24.4 -0.4**
MDV	**Middlebury**	**126.78**	**18**	*e*PKPdf	**PKPdf**	**05**	**29**	**25.8 +0.1**
WVT	**Waverly**	**126.88**	**35**	*e*PKIKP	**PKPdf**	**05**	**28**	**25.9 -0.2**
WVT	**Waverly**	**126.88**	**35**	*e*PKPdf	**PKPdf**	**05**	**28**	**25.9 -0.2**
KIC	**Kosan Boka**	**129.54**	**284**	*e*PKIKP	**PKPdf**	**05**	**28**	**31.2 -0.6**
	comp=Z,34nm,0.9s							
KIC	**Kosan Boka**	**129.54**	**284**	*e*P	**PKSab**	**05**	**31**	**52.0 -2.7**
	comp=Z,33nm,1.1s							
DBIC	**Dimbokro**	**129.58**	**284**	*e*PKPdf	**PKPdf**	**05**	**28**	**31.3 -0.6**
DBIC	**Dimbokro**	**129.58**	**284**	PKP	**PKPdf**	**05**	**28**	**30.8 -1.1**
	comp=Z,8.7nm,0.8s,baz=318,slow=1.9,SNR=8.5							
TIC	**Toumodi**	**129.74**	**284**	*e*PKIKP	**PKPdf**	**05**	**28**	**31.4 -0.8**
	comp=Z,31nm,1.0s							
TIC	**Toumodi**	**129.74**	**284**	*e*P	**PKSab**	**05**	**31**	**52.9 -2.7**
	comp=Z,20nm,0.9s							
LIC	**Lamto**	**129.85**	**284**	*e*PKIKP	**PKPdf**	**05**	**28**	**30.5 -1.9**
	comp=Z,24nm,0.8s							
LIC	**Lamto**	**129.85**	**284**	*e*PKIKP	**PKPdf**	**05**	**28**	**31.6 -0.8**
	comp=Z,37nm,0.8s							
LIC	**Lamto**	**129.85**	**284**	*e*P	**PKSab**	**05**	**31**	**53.4 -2.6**
	comp=Z,37nm,0.9s							
LIC	**Lamto**	**129.85**	**284**	*e*PKPdf	**PKPdf**	**05**	**28**	**30.5 -1.9**
JTS	**JuntasAbangare**	**144.68**	**62**	*e*PKPdf	**PKPdf**	**05**	**28**	**59.6 0.0**
JTS	**JuntasAbangare**	**144.68**	**62**	PKP	**PKPab**	**05**	**28**	**58.2 -0.2**
	comp=Z,13nm,0.8s,baz=282,slow=5.0,SNR=4.6							
MTDJ	**Mount Denham**	**146.00**	**43**	*e*PKPdf	**PKPdf**	**05**	**29**	**01.9 0.0**
TRQA	**Tornquist**	**147.65**	**168**	*e*PKPdf	**PKPbc**	**05**	**29**	**05.4 +1.3**
SDDR	**Presa de Saban**	**149.34**	**34**	*e*PKPbc	**PKPbc**	**05**	**29**	**11.0 -0.8**
BCIP	**Isla Barro Col**	**149.65**	**60**	*e*PKPbc	**PKPbc**	**05**	**29**	**11.0 -1.6**
CFAA	**Coronel Fontan**	**151.51**	**153**	PKP	**PKPdf**	**05**	**29**	**11.1 +0.7**
CFAA				PKPbc	**PKPbc**	**05**	**29**	**16.3 -0.3**
CFAA				PKPab	**PKPab**	**05**	**29**	**26.9 +1.9**
CFAA	**Coronel Fontan**	**151.51**	**153**	PKP	**PKPdf**	**05**	**29**	**11.1 +0.7**
	comp=Z,2.5nm,0.7s,baz=234,slow=3.7,SNR=5.8							
CFAA				PKPbc	**PKPbc**	**05**	**29**	**16.3 -0.3**
	comp=Z,3.7nm,0.6s,baz=202,slow=3.5,SNR=4.3							
CFAA				PKPab	**PKPab**	**05**	**29**	**26.9 +1.9**
	comp=Z,2.9nm,0.6s,baz=223,slow=5.5,SNR=9.6							
LCO	**Las Campanas**	**152.39**	**146**	*e*PKPdf	**PKPdf**	**05**	**29**	**13.7 +1.6**
LCO				*e*PKPbc	**PKiKP**	**05**	**29**	**19.2 0.0**
OBIP	**Obispado Ponce**	**152.51**	**27**	*e*PKPbc	**PKPbc**	**05**	**29**	**19.1 0.0**
MTP	**Monte Pirata**	**152.93**	**25**	*e*PKPbc	**PKPbc**	**05**	**29**	**19.2 -0.9**
OTAV	**Otavalo**	**154.39**	**76**	*e*PKPbc	**PKPbc**	**05**	**29**	**21.6 -2.3**
ROSC	**El Rosal**	**156.51**	**62**	*e*PKPdf	**PKPdf**	**05**	**29**	**19.7 +1.3**
ROSC	**El Rosal**	**156.51**	**62**	PKP	**PKPdf**	**05**	**29**	**18.4 0.0**
	comp=Z,6.5nm,0.8s,baz=88,slow=4.8,SNR=9.9							
CPUP	**Villa Florida**	**159.93**	**170**	PKP	**PKPdf**	**05**	**29**	**21.6 -0.1**
CPUP	**Villa Florida**	**159.93**	**170**	PKP	**PKPdf**	**05**	**29**	**21.6 -0.1**
	comp=Z,2.1nm,0.8s,baz=153,slow=6.5,SNR=2.3							
RCBR	**Riachuelo**	**162.32**	**271**	PKP	**PKPdf**	**05**	**29**	**23.8 -0.8**
RCBR	**Riachuelo**	**162.32**	**271**	PKP	**PKPdf**	**05**	**29**	**23.8 -0.8**
	comp=Z,5.8nm,0.8s,baz=204,slow=13,SNR=3.2							
LPAZ	**La Paz**	**162.79**	**126**	*e*PKPdf	**PKPdf**	**05**	**29**	**28.1 +2.4**
LPAZ				PKPab	**PKPab**	**05**	**30**	**13.2 -1.5**
LPAZ	**La Paz**	**162.79**	**126**	PKP	**PKPdf**	**05**	**29**	**25.3 -0.4**
	comp=Z,3.3nm,0.9s,baz=245,slow=0.9,SNR=12							
LPAZ				PKPab	**PKPab**	**05**	**30**	**13.3 -1.5**
	comp=Z,2.7nm,0.8s,baz=160,slow=2.9,SNR=2.2							
SIV	**San Ignacio**	**168.06**	**143**	PKP	**PKPdf**	**05**	**29**	**28.8 -0.6**
SIV	**San Ignacio**	**168.06**	**143**	PKP	**PKPdf**	**05**	**29**	**28.8 -0.6**
	comp=Z,4.8nm,0.9s,baz=185,slow=1.7,SNR=11							
BDFB	**Brasilia**	**169.32**	**211**	PKP	**PKPdf**	**05**	**29**	**29.9 -0.4**
BDFB				PKPab	**PKPab**	**05**	**30**	**40.6 -2.0**
BDFB	**Brasilia**	**169.32**	**211**	PKP	**PKPdf**	**05**	**29**	**29.9 -0.4**
	comp=Z,2.9nm,0.9s,baz=68,slow=4.2,SNR=4.6							
BDFB				PKPab	**PKPab**	**05**	**30**	**40.6 -2.0**
	comp=Z,5.0nm,0.9s,baz=80,slow=7.1,SNR=4.3							
SAML	**Samuel**	**170.25**	**105**	*e*PKPdf	**PKPdf**	**05**	**29**	**31.9 +1.1**
PTGA	**Pitinga**	**171.53**	**48**	PKP	**PKPdf**	**05**	**29**	**30.7 -0.8**
PTGA	**Pitinga**	**171.53**	**48**	PKP	**PKPdf**	**05**	**29**	**30.7 -0.8**
	comp=Z,2.0nm,0.7s,baz=113,slow=22,SNR=4.3							

KRSC 26 05:16:52.9±2.6, 53.64N×161.86E, h5km±5km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.92**	**355**	*e*P	Pb	05 17 11.2	-0.1
MKZ				*e*S	Sb	05 17 24.0	+0.1
SPN	**Mys Shipunski**	**1.23**	**244**	*e*S	Sn	05 17 34.0	+0.4
Kll	**Karymskiy**	**1.48**	**286**	P	Pn	05 17 20.3	0.0
NLC	**Nalytchevo**	**1.58**	**254**	*e*P	Pb	05 17 22.0	-0.5
NLC				*e*S	Sn	05 17 42.4	+0.2
KZV	**Kizimen**	**1.74**	**329**	*e*P	Pn	05 17 23.7	-0.2
KZV				*e*S	Sn	05 17 45.3	-1.3
SDLR	**Sedlovina**	**1.82**	**260**	*e*P	Pb	05 17 26.1	-0.7
SDLR				*e*S	Sb	05 17 50.0	+0.1
UGLR	**Uglovaya**	**1.87**	**258**	*e*P	Pb	05 17 27.7	+0.1
UGLR				*e*S	Sn	05 17 48.9	-0.8
SMAR	**Somma**	**1.87**	**260**	*e*P	Pb	05 17 27.4	-0.4
SMAR				*e*S	Sn	05 17 49.8	-0.2
KRER	**Koryakskii**	**1.89**	**261**	*e*P	Pn	05 17 26.5	+0.4
KRER				*e*S	Sn	05 17 49.1	-1.4
AVH	**Avacha**	**1.90**	**260**	*e*P	Pb	05 17 28.4	+0.2
AVH				*e*S	Sn	05 17 51.1	+0.5
TUMR	**Tumrok**	**1.93**	**329**	*e*P	Pn	05 17 26.8	+0.3
TUMR				*e*S	Sn	05 17 49.5	-1.7
KRX	**Arik**	**1.94**	**263**	*e*P	Pn	05 17 26.9	+0.2
KRX				*e*S	Sn	05 17 48.2	-3.3
KOK	**Koryaka**	**1.96**	**261**	*e*P	Pn	05 17 27.1	+0.2
KOK				*e*S	Sn	05 17 52.0	+0.1
PET	**Petropavlovsk**	**2.02**	**253**	*e*S	Sn	05 17 53.6	+0.4
KMNR	**Kamenistaya**	**2.32**	**337**	*e*P	Pn	05 17 33.6	+1.7
KMNR				*e*S	Sb	05 18 03.8	-0.6
GNL	**Ganaly**	**2.33**	**273**	*e*P	Pn	05 17 33.4	+1.4
GNL				*e*S	Sn	05 18 01.7	+0.5
RUS	**Russkaya**	**2.35**	**240**	*e*P	Pn	05 17 33.9	+1.7
RUS				*e*S	Sn	05 18 02.9	+1.5
BZMR	**Bezymyannaya**	**2.43**	**342**	*e*P	Pb	05 17 36.2	-1.1
BZMR				*e*S	Sn	05 18 05.6	+1.8
BZWR	**Bezymyannyi-We**	**2.46**	**342**	S	Sb	05 18 07.8	-0.8
KIRR	**Kirishev**	**2.48**	**340**	*e*P	Pn	05 17 37.2	-0.9
KIRR				S	Sn	05 18 06.7	+1.8
MTVR	**Mutnovka**	**2.50**	**244**	*e*P	Pb	05 17 37.0	-1.5
MTVR				*e*S	Sn	05 18 07.2	+1.7
KPT	**Kopyto**	**2.52**	**339**	*e*P	Pn	05 17 36.5	+1.9
KPT				*e*S	Sb	05 18 08.5	-1.5
KBTR	**Krutoberegovo**	**2.63**	**12**	*e*P	Pn	05 17 36.9	+0.9
KBTR				*e*S	Sn	05 18 07.3	-1.0
KBG	**Krutoberegovo**	**2.67**	**10**	*e*P	Pn	05 17 37.4	+1.0
KBG				*e*S	Sn	05 18 10.2	+1.1
KOZ	**Kozyrevsk**	**2.68**	**335**	*e*P	Pn	05 17 38.6	+1.9
KOZ				*e*S	Sb	05 18 12.5	-2.1
ASAK	**Asacha**	**2.70**	**244**	*e*P	Pb	05 17 40.3	-1.5
ASAK				*e*S	Sb	05 18 14.3	-1.1
KLY	**Klyuchi**	**2.77**	**346**	*e*P	Pn	05 17 39.3	+1.4
KLY				*e*S	Sn	05 18 11.6	0.0
BKI	**Bering**	**2.87**	**55**	*e*P	Pn	05 17 40.2	+1.0
BKI				*e*S	Sn	05 18 11.3	-2.8
APC	**Apacha**	**2.91**	**258**	*e*P	Pn	05 17 42.5	+2.7
APC				*e*S	Sn	05 18 18.0	+2.8
ESO	**Esso**	**2.93**	**323**	*e*P	Pn	05 17 41.7	+1.5
ESO				*e*S	Sn	05 18 15.8	0.0
SRDR	**Sredinnyy**	**2.95**	**336**	*e*P	Pn	05 17 42.7	+2.2
SRDR				*e*S	Sn	05 18 17.6	+1.2
SMKR	**Semkarok**	**2.96**	**356**	*e*P	Pb	05 17 43.5	-2.7
SMKR				*e*S	Sb	05 18 19.9	-2.8
BDR	**Baidarnaya**	**2.96**	**353**	*e*P	Pn	05 17 41.6	+1.0
BDR				*e*S	Sb	05 18 20.3	-2.4
SRKR	**Sorokina**	**3.05**	**353**	*e*P	Pn	05 17 44.0	+2.2
SRKR				*e*S	Sn	05 18 21.5	+2.8

*ISCJB **26** 05:23:48.8±0.7, 6.21N±0.05×126.22E±0.07, h10km, mb3.6/7, Error ellipse: s-maj=10.1km s-min=7.2km az=164.8*
*MAN **26** 05:23:51, 6.44N×126.35E, h37km, mb4.8, ML3.8, MS3.8*
*IDC **26** 05:24:20.0±10.0, 6.04N×126.06E, h312km±125km, mb3.0/7, mb1 3.2/7, mb1mx3.0/26, mbtmp3.0/7, Error ellipse: s-maj=30.5km s-min=16.7km az=75.0*
ISC 26 05:23:49.4±1.1, 6.29N±0.07×126.2E±0.1, h10km, n12, σ1°28/13, mb3.8/7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.65**	**2**	*e*P	**Pb**	**05 24 02.9**	**0.0**
MATI				*e*S	**Sn**	**05 24 12.7**	**-2.3**
GSPH	**General Santos**	**1.29**	**261**	⇓*i*P	**Pn**	**05 24 12.1**	**-1.6**
KCP	**Kidapawan**	**1.34**	**302**	⇑P	**Pn**	**05 24 14.5**	**+0.2**
KCP				*i* S	**Sb**	**05 24 31.8**	**-0.2**
BUKP	**Musuan**	**1.96**	**324**	*e*P	**Pn**	**05 24 23.3**	**+0.5**
PAGZ	**Pagadian**	**3.23**	**299**	*e*P	**Pn**	**05 24 41.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.25**	**181**	P	**P**	**05 29 07.6**	**+0.9**
	1.5nn,0.8s,baz=5.2,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**27.26**	**163**	P	**P**	**05 29 35.0**	**+0.9**
	0.2mn,0.5s,baz=342,slow=10,SNR=3.1						
CMAR	**Chiang Mai Arr**	**29.22**	**297**	P	**P**	**05 29 53.4**	**+1.8**
	1.1nn,0.3s,baz=99,slow=5.7,SNR=4.0						
ASAR	**Alice Springs**	**30.70**	**166**	P	**P**	**05 30 04.4**	**-0.3**
	0.2nn,0.3s,baz=341,slow=7.5,SNR=5.6						
MJAR	**Matsushiro Arr**	**32.04**	**18**	P	P	05 30 20.7	+4.4
	0.6nn,0.3s,baz=199,slow=9.1,SNR=3.8						
MKAR	**Makanchi Array**	**55.19**	**324**	P	**P**	**05 33 22.1**	**-0.3**
	0.4nn,0.5s,baz=114,slow=7.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**59.33**	**327**	P	**P**	**05 33 50.3**	**-1.3**
	0.4nn,0.5s,baz=123,slow=7.2,SNR=4.5						

*ISCJB **26** 05:24:18.7±0.5, 42.86N±0.04×84.05E±0.06, h10km, mb3.6/10, MS4.0/2, Error ellipse: s-maj=6.4km s-min=5.8km az=29.0*
*BJI **26** 05:24:20.2, 42.72N×83.84E, h7km, ML3.4/8*
*IDC **26** 05:24:22.6±2.6, 42.75N×84.02E, h26km±17km, mb3.6/10, mb1 3.6/17, mb1mx3.5/34, mbtmp3.5/17, ML3.4/6, MS3.6/3, Ms1 3.6/3, ms1mx3.1/40, Error ellipse: s-maj=17.5km s-min=11.5km az=65.0*
*NNC **26** 05:24:26.6±1.1, 43.03N×83.38E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=10.4km s-min=5.0km az=121.0*
ISC 26 05:24:20.6±0.7, 42.73N±0.07×83.87E±0.06, h10km, n26, σ1°48/30, mb3.6/10, 10C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.00**	**67**	Pn	**Pn**	**05 25 10.5**	**+2.3**
WMQ				Sg	**Sb**	**05 25 52.8**	**+2.0**
WMQ				smax	smax		
	comp=N,520nm,0.6s						
WMQ				smax	smax		
	comp=E,630nm,0.5s						
MK31	**Makanchi Array**	**4.22**	**345**	⇑Pn	**Pn**	**05 25 27.6**	**+2.6**
	0.7nn,0.4s,baz=160,slow=15,SNR=297						
MK31				⇓Pg	**Pb**	**05 25 36.7**	**+1.8**
	6.4nn,0.5s,baz=152,slow=15,SNR=82						
MK31				⇑Lg	Lg	05 26 29.3	
	73nn,0.7s,baz=166,slow=29,SNR=11						
MKAR	**Makanchi Array**	**4.22**	**345**	Pn	**Pn**	**05 25 27.4**	**+2.4**
	0.8nn,0.3s,baz=163,slow=16,SNR=19						
MKAR				Pg	**Pg**	**05 25 39.5**	**-1.9**
	6.5nn,0.3s,baz=175,slow=14,SNR=55						
MKAR				Sn	**Sn**	**05 26 14.0**	**-0.2**
	4.5nn,0.3s,baz=160,slow=17,SNR=7.8						
MKAR				Lg	Lg	05 26 37.5	
	12nn,0.3s,baz=164,slow=25,SNR=14						
MKAR				LR	LR	05 27 24.6	
	comp=Z,125nn,19.6s,baz=192,slow=43						
TKM2	**Tokmak 2**	**6.09**	**275**	⇑Pn	**Pn**	**05 25 53.0**	**+2.2**
	4.3nn,0.8s						
TKM2				⇓Lg	Lg	05 27 28.4	
	50nn,1.2s						
AAK	**Ala-Archa**	**6.91**	**272**	Pn	Pn	05 26 06.3	+4.2
	0.3nn,0.3s,baz=81,slow=13,SNR=2.1						
AAK				Pg	Pg	05 26 28.4	-4.5
	0.6nn,0.3s,baz=83,slow=11,SNR=3.8						
AAK				Lg	Lg	05 28 05.5	
	0.8nn,0.3s,baz=279,slow=19,SNR=5.7						
AAK	**Ala-Archa**	**6.91**	**272**	⇓Pg	Pb	05 26 26.1	+5.3
	4.5nn,0.8s						
AAK				⇑Lg	Lg	05 27 54.4	
	28nn,1.1s						
KURBB	**Kurchatov Arra**	**8.71**	**337**	Pn	**Pn**	**05 26 27.5**	**+1.0**
	0.5nn,0.3s,baz=165,slow=12,SNR=9.5						
KURBB				Sn	**Sn**	**05 28 05.2**	**+0.6**
	0.6nn,0.3s,baz=157,slow=23,SNR=6.4						
KURBB				Lg	Lg	05 28 56.2	
	0.6nn,0.3s,baz=161,slow=33,SNR=5.5						
KURBB	**Kurchatov Arra**	**8.71**	**337**	⇓Pn	**Pn**	**05 26 27.2**	**+0.8**
	1.6nn,0.8s						
KURBB				⇑Sn	**Sn**	**05 28 03.7**	**-0.9**
	19nn,0.7s						
KURBB				⇓Lg	Lg	05 28 50.8	
	32nn,0.8s						
KURK	**Kurchatov**	**8.76**	**338**	⇑Pn	**Pn**	**05 26 27.9**	**+0.7**
	1.7nn,1.4s						
KURK				⇑Sn	**Sn**	**05 28 04.3**	**-1.7**
	6.5nn,0.7s						
KURK				Lg	Lg	05 28 52.6	
KK31	**Karatay Array**	**9.81**	**277**	⇑Pn	**Pn**	**05 26 43.8**	**+2.1**
	0.2nn,0.4s						
KK31				⇑Pg		05 27 18.2	
	0.7nn,0.6s						
KK31				⇑Lg	Lg	05 29 25.4	
	9.9nn,1.1s,baz=80,slow=28,SNR=5.1						
ZALV	**Zalesovo Beam**	**11.24**	**3**	Pn	**Pn**	**05 26 59.4**	**-1.9**
	0.6nn,0.3s,baz=180,slow=14,SNR=5.0						
ZALV				Sn	**Sn**	**05 29 06.5**	**-0.4**
	0.7nn,0.3s,baz=176,slow=22,SNR=6.2						
BVAR	**Borovoye Array**	**13.69**	**323**	Pn	**Pn**	**05 27 35.2**	**+0.7**
	0.2nn,0.3s,baz=98,slow=8.9,SNR=2.8						
SONM	**Songino Array**	**16.63**	**64**	Pn	**Pn**	**05 28 13.1**	**-0.7**
	baz=268,slow=11,SNR=3.1						
AKTO	**Aktyubinsk**	**19.30**	**302**	P	**Pn**	**05 28 46.6**	**0.0**
	0.1nn,0.3s,baz=84,slow=10,SNR=2.9						
CMAR	**Chiang Mai Arr**	**27.26**	**148**	P	**P**	**05 30 04.6**	**-1.4**
	1.0nn,0.3s,baz=320,slow=8.3,SNR=4.4						
KBZ	**Khabaz**	**29.66**	**286**	LR	LR	05 44 36.4	
	comp=Z,128nn,19.4s,baz=75,slow=41						
BRTR	**Keskin Array B**	**37.45**	**283**	P	**P**	**05 31 35.5**	**+1.3**
	0.2nn,0.4s,baz=97,slow=8.4,SNR=3.8						
FINES	**FINESS Array B**	**38.59**	**319**	P	**P**	**05 31 43.3**	**-0.1**
	9.7nn,1.1s,baz=94,slow=8.4,SNR=5.5						
ARCES	**ARCESS Array B**	**39.75**	**332**	P	**P**	**05 31 53.0**	**0.0**
	0.8nn,0.6s,baz=92,slow=8.5,SNR=5.2						
NOA	**NORSAR Array B**	**45.77**	**320**	P	**P**	**05 32 41.9**	**0.0**
	1.0nn,0.8s,baz=85,slow=6.1,SNR=3.2						
INK	**Inuvik**	**65.80**	**14**	LR	LR	06 02 25.7	
	comp=Z,298nn,20.8s,baz=320,slow=35						
YKA	**Yellowknife Ar**	**74.08**	**9**	P	**P**	**05 35 54.3**	**-2.0**
	0.1nn,0.5s,baz=339,slow=6.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**75.49**	**275**	P	**P**	**05 36 03.8**	**-1.5**
	0.2nn,0.5s,baz=45,slow=4.7,SNR=5.1						
WRA	**Warramunga Arr**	**77.76**	**132**	P	**P**	**05 36 17.5**	**-0.4**
	0.3nn,0.6s,baz=332,slow=5.4,SNR=2.9						
ASAR	**Alice Springs**	**80.55**	**135**	P	**P**	**05 36 32.2**	**-0.9**
	0.3nn,0.7s,baz=332,slow=5.6,SNR=5.8						
STKA	**Stephens Creek**	**91.18**	**134**	P	**P**	**05 37 25.9**	**+0.2**
	1.1nn,0.8s,baz=332,slow=17,SNR=2.3						

*IDC **26** 05:52:23.0±1.8, 6.37N×126.01E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/25, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/29, Error ellipse: s-maj=111.7km s-min=24.8km az=66.0*
*ISCJB **26** 05:52:24.7±1.0, 6.22N±0.08×126.27E±0.08, h10km, mb3.5/5, MS3.4/1, Error ellipse: s-maj=14.0km s-min=7.5km az=42.2*
ISC 26 05:52:25.3±1.1, 6.29N±0.09×126.2E±0.1, h10km, n8, σ1°14/9, mb3.6/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**1.03**	**320**	⇑*e*P	**Pn**	**05 52 47.5**	**+1.6**
DMPH				*e*S	**Sn**	**05 53 00.1**	**-0.4**
GSPH	**General Santos**	**1.24**	**261**	⇑*i*P	**Pn**	**05 52 49.0**	**+0.2**
GSPH				*i* S	**Sn**	**05 53 05.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.24**	**181**	P	**P**	**05 57 43.5**	**+1.0**
	1.0nn,0.5s,baz=0.0,slow=9.0,SNR=6.0						
WRA	**Warramunga Arr**	**27.27**	**163**	P	**P**	**05 58 09.9**	**-0.2**
	0.6nn,0.5s,baz=342,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**30.71**	**166**	P	**P**	**05 58 40.6**	**0.0**
	0.5nn,0.4s,baz=341,slow=7.0,SNR=13						
MJAR	**Matsushiro Arr**	**32.06**	**18**	LR	LR	06 10 16.6	
	comp=Z,69nn,18.8s,baz=255,slow=34						
STKA	**Stephens Creek**	**40.70**	**160**	P	**P**	**06 00 06.4**	**+0.2**
	0.7nn,0.5s,baz=329,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**55.16**	**325**	P	**P**	**06 01 56.1**	**-2.0**
	0.3nn,0.5s,baz=126,slow=8.6,SNR=5.4						

*IDC **26** 05:59:34.5±1.5, 19.79N×109.38W, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.9/24, mbtmp3.7/10, ML3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx3.0/30, Error ellipse: s-maj=47.0km s-min=18.8km az=66.0*
*ISCJB **26** 05:59:37.8±0.9, 19.83N±0.07×109.3W±0.1, h33km, mb3.6/6, Error ellipse: s-maj=17.6km s-min=10.2km az=171.5*
ISC 26 05:59:39.3±1.2, 19.8N±0.1×109.5W±0.2, h35km, n13, σ1°11/11, mb3.7/6, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**4.37**	**350**	Pn	**Pn**	**06 00 41.4**	**-1.7**
	7.6nn,0.3s,baz=188,slow=5.5,SNR=12						
LPIG				Sn	**Sn**	**06 01 34.6**	**+1.8**
	baz=163,slow=14,SNR=1.6						
LPIG				LR	LR	06 02 16.4	
	comp=Z,346nn,18.4s,baz=122,slow=37						
TXAR	**Lajitas Array**	**10.86**	**28**	Pn	**Pn**	**06 02 12.5**	**+0.1**
	0.1nn,0.3s,baz=200,slow=13,SNR=20						
TXAR				Sn	**Sn**	**06 04 13.0**	**+0.2**
	0.0nn,0.3s,baz=221,slow=26,SNR=1.9						
ANMO	**Albuquerque**	**15.33**	**9**	Pn	**Pn**	**06 03 14.2**	**+1.0**
	0.1nn,0.3s,baz=185,slow=11,SNR=4.9						
NVAR	**Mina Array Bea**	**20.10**	**339**	P	Pn	06 04 12.3	0.0
	3.8nn,1.0s,baz=162,slow=12,SNR=17						
PDAR	**Pinedale Array**	**22.91**	**360**	P	**P**	**06 04 39.6**	**-0.7**
	0.6nn,0.8s,baz=164,slow=11,SNR=5.7						
YKA	**Yellowknife Ar**	**42.82**	**356**	P	**P**	**06 07 32.8**	**-0.7**
	0.7nn,0.7s,baz=172,slow=7.9,SNR=19						
INK	**Inuvik**	**50.80**	**349**	P	**P**	**06 08 36.3**	**+0.6**
	2.2nn,0.8s,baz=146,slow=8.4,SNR=9.3						
ILAR	**Eielson Array**	**51.35**	**341**	P	**P**	**06 08 40.8**	**+0.7**
	0.4nn,0.7s,baz=156,slow=7.3,SNR=4.8						
LPAZ	**La Paz**	**54.17**	**129**	P	**P**	**06 09 02.0**	**-0.2**
	1.1nn,0.8s,baz=315,slow=7.2,SNR=5.3						
H03N2	**Juan Fernandez**	**60.42**	**151**	T	T	07 15 17.4	
	baz=328,slow=75,SNR=25						
H03N1	**Juan Fernandez**	**60.43**	**151**	T	T	07 15 23.6	
	baz=328,slow=75,SNR=25						
H03N3	**Juan Fernandez**	**60.43**	**151**	T	T	07 15 17.5	
	baz=328,slow=75,SNR=28						
BDFB	**Brasilia**	**69.91**	**116**	P	**P**	**06 10 48.1**	**+0.8**
	1.0nn,0.8s,baz=341,slow=14,SNR=3.2						

KRSC 26 06:29:45.7±3.8, 53.70N×161.82E, h5km±5km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.86**	**357**	P	Pb	06 30 03.6	+0.5
MKZ				*e*S	Sb	06 30 15.2	+0.3
SPN	**Mys Shipunski**	**1.23**	**241**	P	Pn	06 30 10.9	+1.3
SPN				S	Sn	06 30 27.3	+0.7
NLC	**Nalytchevo**	**1.57**	**251**	P	Pg	06 30 15.6	-0.2
NLC				S	Sg	06 30

comp=N,44nm,0.3s,SNR=1.0
BSTI Sart Tilman 0.67 91 P **Pg** **06 50 25.3 -0.4**
BLCH La Chartreuse 0.69 86 P **Pg** **06 50 25.5 -0.6**
BLCH S **Sg** **06 50 35.3 +0.1**
comp=N,88nm,0.3s
BDSL Dessel 0.71 29 P **Pb** **06 50 27.0 +0.2**
BMOL Mol 0.72 30 P **Pg** **06 50 26.7 +0.1**
BEBN Eben Emael 0.76 74 ⇓P **Pg** **06 50 26.7 -0.8**
BEBN S **Sg** **06 50 36.4 -1.2**
comp=N,137nm,0.3s
BEBN Eben Emael 0.76 74 P **Pg** **06 50 26.7 -0.8**
BEBN S **Sg** **06 50 36.4 -1.2**
comp=N,137nm,0.3s
HGN Heimansgroeve 0.92 79 *e*Pg **Pg** **06 50 29.7 -0.7**
comp=N,74nm,0.2s
HGN *e*Sg **Sb** **06 50 42.5 +0.3**
MEM Membach 0.95 89 ⇓P **Pg** **06 50 30.5 -0.5**
MEM S **Sg** **06 50 42.7 -0.7**
comp=N,122nm,0.4s
MEM Membach 0.95 89 P **Pg** **06 50 30.5 -0.5**
MEM S **Sg** **06 50 42.7 -0.7**
comp=N,122nm,0.4s
LKLB Kalborn 1.13 115 P **Pg** **06 50 34.6 +0.1**
LKLB S **Sg** **06 50 48.3 -1.0**
HKB Herkenbosch 1.20 60 P **Pg** **06 50 35.4 -0.4**
HKB S **Sb** **06 50 51.6 +1.1**
LVIA Vianden 1.27 121 P **Pg** **06 50 37.1 +0.1**
LVIA S **Sg** **06 50 52.5 -1.0**
comp=N,98nm,0.2s
WLF Walferdange 1.41 131 ⇓P **Pn** **06 50 39.6 +1.9**
WLF S **Sb** **06 50 56.7 +0.4**
comp=E,75nm,0.2s
WLF Walferdange 1.41 131 P **Pn** **06 50 39.6 +1.9**
WLF S **Sb** **06 50 56.7 +0.4**
comp=E,75nm,0.2s
MENF Mencas 1.51 269 Pg **Pn** **06 50 42.0 +2.9**
MENF Sg **Sg** **06 51 03.9 +2.7**
MENF Mencas 1.51 269 Pg **Pn** **06 50 42.0 +2.9**
MENF Sg **Sg** **06 51 03.9 +2.7**
ABH Alteburg 2.07 109 Pn **Pn** **06 50 49.2 +2.3**
MEZF Maizieres J'vi 2.12 170 *e*P **Pn** **06 50 49.7 +2.1**
baz=353,SNR=1.0
MEZF Maizieres J'vi 2.12 170 *e*Pg **Pb** **06 50 53.5 +2.6**
baz=349
MEZF *e*Sn **Sn** **06 51 13.1 -0.6**
MEZF *e*Sg **Sb** **06 51 21.0 +4.0**
comp=E,72nm,0.3s,baz=347,SNR=1.0
MEZF Maizieres J'vi 2.12 170 *e*P **Pn** **06 50 49.7 +2.1**
SNR=1.0
MEZF Maizieres J'vi 2.12 170 *e*Pg **Pb** **06 50 53.5 +2.6**
MEZF *e*Sn **Sn** **06 51 13.1 -0.6**
MEZF *e*Sg **Sb** **06 51 21.0 +4.0**
comp=E,36nm,0.3s,SNR=1.0
PAGF Fort de Pagny 2.19 159 *e*P **Pn** **06 50 51.0 +2.5**
baz=333
PAGF Fort de Pagny 2.19 159 *e*Pg **Pb** **06 50 54.7 +2.7**
baz=332
PAGF *e*Sn **Sn** **06 51 14.3 -1.1**
PAGF *e*Sg **Sb** **06 51 22.8 +3.9**
baz=335
PAGF Fort de Pagny 2.19 159 *e*P **Pn** **06 50 51.0 +2.5**
PAGF Fort de Pagny 2.19 159 *e*Pg **Pb** **06 50 54.7 +2.7**
PAGF *e*Sn **Sn** **06 51 14.3 -1.1**
PAGF *e*Sg **Sb** **06 51 22.8 +3.9**
SFTF Sexfontaines 2.42 172 *e*P **Pn** **06 50 53.8 +2.1**
baz=347
SFTF Sexfontaines 2.42 172 *e*Pg **Pb** **06 50 58.7 +2.9**
baz=344
SFTF *e*Sn **Sn** **06 51 20.2 -0.8**
SFTF *e*Sg **Sg** **06 51 30.1 -0.2**
comp=E,38nm,0.2s
SFTF Sexfontaines 2.42 172 *e*P **Pn** **06 50 53.8 +2.1**
SFTF Sexfontaines 2.42 172 *e*Pg **Pb** **06 50 58.7 +2.9**
SFTF *e*Sn **Sn** **06 51 20.2 -0.8**
SFTF *e*Sg **Sg** **06 51 30.1 -0.2**
comp=E,19nm,0.2s
THEF They Montfort 2.56 157 Pn **Pn** **06 50 55.1 +1.5**
THEF They Montfort 2.56 157 Pn **Pn** **06 50 55.1 +1.5**
LANF Langenberg 2.67 126 Pn **Pn** **06 50 57.9 +2.7**
LANF Langenberg 2.67 126 Pn **Pn** **06 50 57.9 +2.7**
CDF Champ du Feu 2.83 140 *e*Pn **Pn** **06 50 58.1 +0.7**
SNR=1.0
CDF Champ du Feu 2.83 140 *e*P **Pn** **06 50 59.9 +2.5**
CDF Champ du Feu 2.83 140 *e*Pg **Pg** **06 51 06.3 -0.6**
CDF *e*Sn **Sn** **06 51 29.5 -1.8**
CDF *e*Sg **Sg** **06 51 42.8 -0.7**
comp=E,39nm,0.5s
CDF Champ du Feu 2.83 140 *e*Pn **Pn** **06 50 58.1 +0.7**
SNR=1.0
CDF Champ du Feu 2.83 140 *e*P **Pn** **06 50 59.9 +2.5**
CDF Champ du Feu 2.83 140 *e*Pg **Pg** **06 51 06.3 -0.6**
CDF *e*Sn **Sn** **06 51 29.5 -1.8**
CDF *e*Sg **Sg** **06 51 42.8 -0.7**
comp=E,20nm,0.5s
HAU Haudompre 2.86 155 *e*Pn **Pn** **06 50 57.7 0.0**
HAU Haudompre 2.86 155 *e*P **Pn** **06 51 00.7 +3.0**
HAU Haudompre 2.86 155 *e*Pg Pb 06 51 06.8 +3.5
HAU *e*Sn **Sn** **06 51 30.3 -1.5**
HAU *e*Sg **Sg** **06 51 43.5 -0.9**
comp=E,67nm,0.3s,SNR=1.0
HAU Haudompre 2.86 155 *e*Pn **Pn** **06 50 57.7 0.0**
SNR=1.0
HAU Haudompre 2.86 155 *e*P **Pn** **06 51 00.7 +3.0**
HAU Haudompre 2.86 155 *e*Pg Pb 06 51 06.8 +3.5
HAU *e*Sn **Sn** **06 51 30.3 -1.5**
HAU *e*Sg **Sg** **06 51 43.5 -0.9**
comp=E,33nm,0.3s,SNR=1.0
TOD Tromm 2.93 108 Pn **Pn** **06 51 00.8 +2.0**
HINF Hinteralfeld 3.17 150 *e*Pn **Pn** **06 51 02.7 +0.6**
SNR=1.0
HINF Hinteralfeld 3.17 150 *e*P Pn 06 51 05.7 +3.6
HINF Hinteralfeld 3.17 150 *e*Pg Pb 06 51 12.5 +3.7
HINF *e*Sn **Sn** **06 51 37.9 -1.8**
comp=E,29nm,0.4s,SNR=1.0
HINF Hinteralfeld 3.17 150 *e*Pn **Pn** **06 51 02.7 +0.6**
SNR=1.0
HINF Hinteralfeld 3.17 150 *e*P Pn 06 51 05.7 +3.6
HINF Hinteralfeld 3.17 150 *e*Pg Pb 06 51 12.5 +3.7
HINF *e*Sn **Sn** **06 51 37.9 -1.8**
comp=E,14nm,0.4s,SNR=1.0
LOR Lormes 3.36 188 *e*Pn **Pn** **06 51 05.5 +0.9**
SNR=1.0
LOR Lormes 3.36 188 *e*P Pn 06 51 08.1 +3.5
baz=12
LOR Lormes 3.36 188 *e*Pg Pb 06 51 15.7 +3.8
baz=11
LOR *e*Sn **Sn** **06 51 42.9 -1.3**
LOR *e*Sg **Sg** **06 52 00.3 -0.2**
comp=E,28nm,0.4s,baz=12,SNR=1.0
LOR Lormes 3.36 188 *e*Pn **Pn** **06 51 05.5 +0.9**
SNR=1.0
LOR Lormes 3.36 188 *e*P Pn 06 51 08.1 +3.5
LOR Lormes 3.36 188 *e*Pg Pb 06 51 15.7 +3.8
LOR *e*Sn **Sn** **06 51 42.9 -1.3**
LOR *e*Sg **Sg** **06 52 00.3 -0.2**
comp=E,14nm,0.4s,SNR=1.0
FELD Feldberg im Sc 3.55 139 Pn **Pn** **06 51 09.6 +2.2**
FELD Feldberg im Sc 3.55 139 Pn **Pn** **06 51 09.6 +2.2**
HYF Humbligny 3.55 201 *e*Pn **Pn** **06 51 08.2 +0.9**
HYF Humbligny 3.55 201 *e*Pg **Pg** **06 51 20.5 -0.2**
HYF *e*Sg **Sg** **06 52 06.6 -0.1**
HYF Humbligny 3.55 201 *e*Pn **Pn** **06 51 08.2 +0.9**
HYF Humbligny 3.55 201 *e*Pg **Pg** **06 51 20.5 -0.2**
HYF *e*Sg **Sg** **06 52 06.6 -0.1**
SSF Saint Saulge 3.60 191 *e*Pn **Pn** **06 51 09.7 +1.8**
SNR=1.0
SSF Saint Saulge 3.60 191 *e*Pg **Pg** **06 51 20.7 -0.9**
SSF *e*Sn **Sn** **06 51 48.7 -1.5**
SNR=1.0
SSF *e*Sg **Sg** **06 52 07.0 -1.2**
comp=E,9.3nm,0.2s,SNR=1.0
SSF Saint Saulge 3.60 191 *e*Pn **Pn** **06 51 09.7 +1.8**
SNR=1.0
SSF Saint Saulge 3.60 191 *e*Pg **Pg** **06 51 20.7 -0.9**
SSF *e*Sn **Sn** **06 51 48.7 -1.5**
SNR=1.0
SSF *e*Sg **Sg** **06 52 07.0 -1.2**
comp=E,4.7nm,0.2s,SNR=1.0
LDF La Druitiere 3.62 238 *e*Pn **Pn** **06 51 10.2 +2.0**
SNR=1.0
LDF *e*Sn **Sn** **06 51 49.4 -1.3**
LDF *e*Sg **Sg** **06 52 08.6 -0.3**
comp=E,13nm,0.3s
LDF La Druitiere 3.62 238 *e*Pn **Pn** **06 51 10.2 +2.0**
SNR=1.0
LDF *e*Sn **Sn** **06 51 49.4 -1.3**
LDF *e*Sg **Sg** **06 52 08.6 -0.3**
comp=E,6.3nm,0.3s
FLN La Foliniere 3.73 242 *e*Pn **Pn** **06 51 11.5 +1.8**
baz=57,SNR=1.0
FLN *e*Sn **Sn** **06 51 52.0 -1.3**
FLN *e*Sg **Sg** **06 52 11.7 -0.6**
comp=E,39nm,0.6s
FLN La Foliniere 3.73 242 *e*Pn **Pn** **06 51 11.5 +1.8**
SNR=1.0
FLN *e*Sn **Sn** **06 51 52.0 -1.3**
FLN *e*Sg **Sg** **06 52 11.7 -0.6**
comp=E,20nm,0.6s
AVF Avril sur Loir 3.89 192 *e*Pn **Pn** **06 51 13.0 +1.2**
SNR=1.0
AVF Avril sur Loir 3.89 192 *e*Pg **Pg** **06 51 25.9 -1.2**
AVF *e*Sg **Sg** **06 52 16.7 -0.7**
comp=E,5.5nm,0.3s,SNR=1.0
AVF Avril sur Loir 3.89 192 *e*Pn **Pn** **06 51 13.0 +1.2**
SNR=1.0
AVF Avril sur Loir 3.89 192 *e*Pg **Pg** **06 51 25.9 -1.2**
AVF *e*Sg **Sg** **06 52 16.7 -0.7**
comp=E,2.8nm,0.3s,SNR=1.0
SMF Signal de Mont 3.98 187 *e*Pn **Pn** **06 51 14.2 +1.1**
SNR=1.0
SMF Signal de Mont 3.98 187 *e*Pg **Pg** **06 51 27.7 -1.1**
SMF *e*Sg **Sg** **06 52 19.6 -0.8**
comp=E,14nm,0.2s
SMF Signal de Mont 3.98 187 *e*Pn **Pn** **06 51 14.2 +1.1**
SNR=1.0
SMF Signal de Mont 3.98 187 *e*Pg **Pg** **06 51 27.7 -1.1**
SMF *e*Sg **Sg** **06 52 19.6 -0.8**
comp=E,6.8nm,0.2s
CABF La Chapelle 4.12 165 *e*Pn **Pn** **06 51 16.7 +1.5**
SNR=1.0
CABF *e*Sn **Sn** **06 52 00.4 -2.7**
CABF *e*Sg **Sg** **06 52 24.0 -0.9**
comp=E,41nm,0.7s,SNR=1.0
CABF La Chapelle 4.12 165 *e*Pn **Pn** **06 51 16.7 +1.5**
SNR=1.0
CABF *e*Sn **Sn** **06 52 00.4 -2.7**
CABF *e*Sg **Sg** **06 52 24.0 -0.9**
comp=E,20nm,0.7s,SNR=1.0
GRR Gorron 4.14 240 *e*Pn **Pn** **06 51 16.7 +1.3**
SNR=1.0
GRR *e*Sn **Sn** **06 52 01.6 -1.9**
SNR=1.0
GRR *e*Sg **Sg** **06 52 24.2 -1.4**
comp=E,13nm,0.3s,SNR=1.0
GRR Gorron 4.14 240 *e*Pn **Pn** **06 51 16.7 +1.3**
SNR=1.0
GRR *e*Sn **Sn** **06 52 01.6 -1.9**
SNR=1.0
GRR *e*Sg **Sg** **06 52 24.2 -1.4**
comp=E,6.4nm,0.3s,SNR=1.0
BGF Bois d'Agland 4.19 196 *e*Pn **Pn** **06 51 17.7 +1.7**
SNR=1.0
BGF *e*Sn **Sn** **06 52 02.4 -2.3**
SNR=1.0
BGF *e*Sg **Sg** **06 52 26.1 -1.0**
comp=E,44nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.19 196 *e*Pn **Pn** **06 51 17.7 +1.7**
SNR=1.0
BGF *e*Sn **Sn** **06 52 02.4 -2.3**
SNR=1.0
BGF *e*Sg **Sg** **06 52 26.1 -1.0**
comp=E,22nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 4.58 200 *e*Pn **Pn** **06 51 21.9 +0.5**
TCF Toulx Ste Croi 4.58 200 *e*P Pn 06 51 25.3 +3.9
TCF Toulx Ste Croi 4.58 200 *e*Pg **Pg** **06 51 38.8 -1.5**
TCF *e*Sn **Sn** **06 52 12.1 -2.2**
SNR=1.0
TCF *e*Sg **Sg** **06 52 37.9 -1.6**
comp=E,8.7nm,0.3s
TCF Toulx Ste Croi 4.58 200 *e*Pn **Pn** **06 51 21.9 +0.5**
TCF Toulx Ste Croi 4.58 200 *e*P Pn 06 51 25.3 +3.9
TCF Toulx Ste Croi 4.58 200 *e*Pg **Pg** **06 51 38.8 -1.5**
TCF *e*Sn **Sn** **06 52 12.1 -2.2**
SNR=1.0
TCF *e*Sg **Sg** **06 52 37.9 -1.6**
comp=E,4.3nm,0.3s
MFF Saint Martin d 5.05 220 *e*Pn **Pn** **06 51 29.6 +1.7**
SNR=1.0
MFF *e*Sn **Sn** **06 52 23.8 -2.2**
SNR=1.0
MFF *e*Sg **Sg** **06 52 52.6 -2.2**
comp=E,6.3nm,0.3s,SNR=1.0
MFF Saint Martin d 5.05 220 *e*Pn **Pn** **06 51 29.6 +1.7**
SNR=1.0
MFF *e*Sn **Sn** **06 52 23.8 -2.2**
SNR=1.0
MFF *e*Sg **Sg** **06 52 52.6 -2.2**
comp=E,3.2nm,0.3s,SNR=1.0
SGMF Saint Gilles 5.18 246 *e*Pn **Pn** **06 51 30.9 +1.3**
SNR=1.0
SGMF *e*Sn Sn 06 52 26.3 -2.7
SGMF *e*Sg **Sg** **06 52 57.2 -1.5**
comp=E,3.3nm,0.3s
SGMF Saint Gilles 5.18 246 *e*Pn **Pn** **06 51 30.9 +1.3**
SNR=1.0
SGMF *e*Sn Sn 06 52 26.3 -2.7
SGMF *e*Sg **Sg** **06 52 57.2 -1.5**
comp=E,1.6nm,0.3s
LPL La Plagne 5.29 163 *e*Pn **Pn** **06 51 32.9 +1.5**
LPL *e*Sn **Sn** **06 52 29.4 -2.9**
comp=E,1.9nm,0.3s
LPL La Plagne 5.29 163 *e*Pn **Pn** **06 51 32.9 +1.5**
LPL *e*Sn **Sn** **06 52 29.4 -2.9**
comp=E,0.9nm,0.3s
LPG La Plagne 5.32 163 *e*Pn **Pn** **06 51 34.0 +2.2**
SNR=1.0
LPG *e*Sn Sn 06 52 29.8 -3.1
comp=E,3.5nm,0.3s
LPG La Plagne 5.32 163 *e*Pn **Pn** **06 51 34.0 +2.2**
SNR=1.0
LPG *e*Sn Sn 06 52 29.8 -3.1
comp=E,1.8nm,0.3s
ROSF Rostrenen 5.56 249 *e*Pn **Pn** **06 51 35.8 +1.0**
SNR=1.0
ROSF *e*Sn Sn 06 52 35.1 -3.3
ROSF *e*Sg **Sg** **06 53 08.6 -2.4**
comp=E,4.2nm,0.4s
ROSF Rostrenen 5.56 249 *e*Pn **Pn** **06 51 35.8 +1.0**
SNR=1.0
ROSF *e*Sg **Sg** **06 53 08.6 -2.4**
comp=E,2.1nm,0.4s
RJF Les Rejaudoux 5.67 202 *e*Pn **Pn** **06 51 37.6 +1.3**
SNR=1.0
RJF *e*Sn Sn 06 52 38.0 -3.1
SNR=1.0
RJF *e*Sg **Sg** **06 53 11.9 -2.5**
comp=E,7.8nm,0.4s
RJF Les Rejaudoux 5.67 202 *e*Pn **Pn** **06 51 37.6 +1.3**
SNR=1.0
RJF *e*Sg **Sg** **06 53 11.9 -2.5**
comp=E,3.9nm,0.4s
QUIF Quistinic 5.70 245 *e*Pn **Pn** **06 51 37.7 +1.0**
SNR=1.0
QUIF *e*Sn Sn 06 52 38.4 -3.5
QUIF *e*Sg **Sg** **06 53 13.2 -2.3**
comp=E,2.2nm,0.3s
QUIF Quistinic 5.70 245 *e*Pn **Pn** **06 51 37.7 +1.0**
SNR=1.0
QUIF *e*Sg **Sg** **06 53 13.2 -2.3**
comp=E,1.1nm,0.3s
VIVF Saint-Julien-l 5.74 179 *e*Pn **Pn** **06 51 39.1 +1.7**
VIVF *e*Sn Sn 06 52 39.8 -3.3
VIVF *e*Sg **Sg** **06 53 15.1 -1.8**
comp=E,3.4nm,0.3s
VIVF Saint-Julien-l 5.74 179 *e*Pn **Pn** **06 51 39.1 +1.7**
VIVF *e*Sg **Sg** **06 53 15.1 -1.8**
comp=E,1.7nm,0.3s
ORIF Oris-en-Rattie 5.75 170 *e*Pn **Pn** **06 51 39.1 +1.5**
SNR=1.0
ORIF *e*Sn **Sn** **06 52 40.6 -2.8**
ORIF *e*Sg **Sg** **06 53 14.6 -2.7**
comp=E,10nm,0.6s
ORIF Oris-en-Rattie 5.75 170 *e*Pn **Pn** **06 51 39.1 +1.5**
SNR=1.0
ORIF *e*Sg **Sg** **06 53 14.6 -2.7**
comp=E,5.1nm,0.6s
CAF Calviac 5.91 197 *e*Pn **Pn** **06 51 40.9 +1.2**
SNR=1.0
CAF *e*Sn Sn 06 52 43.8 -3.3
SNR=1.0
CAF *e*Sg **Sg** **06 53 19.4 -2.8**
comp=E,7.8nm,0.5s
CAF Calviac 5.91 197 *e*Pn **Pn** **06 51 40.9 +1.2**
SNR=1.0
CAF *e*Sg **Sg** **06 53 19.4 -2.8**
comp=E,3.9nm,0.5s
MBDF Montbardon 6.07 165 *e*Pn **Pn** **06 51 43.3 +1.4**
SNR=1.0
MBDF *e*Sn Sn 06 52 47.6 -3.5
MBDF *e*Sg **Sg** **06 53 24.6 -2.7**
comp=E,0.9nm,0.3s
MBDF Montbardon 6.07 165 *e*Pn **Pn** **06 51 43.3 +1.4**
SNR=1.0
MBDF *e*Sg **Sg** **06 53 24.6 -2.7**
comp=E,0.4nm,0.3s
LFF La Frestale 6.21 206 *e*Pn **Pn** **06 51 44.5 +0.8**
LFF *e*Sn Sn 06 52 50.8 -3.5
LFF *e*Sg **Sg** **06 53 28.4 -3.3**
comp=E,23nm,0.7s
LFF La Frestale 6.21 206 *e*Pn **Pn** **06 51 44.5 +0.8**
LASF Ste Croix 6.54 184 *e*Sn Sn 06 52 59.2 -3.4
LASF *e*Sg **Sg** **06 53 39.1 -3.3**
comp=E,2.1nm,0.3s
SMRF Simiane la Rot 6.66 173 *e*Pn **Pn** **06 51 50.1 +0.1**
SMRF *e*Sn Sn 06 53 01.9 -3.8
comp=E,0.9nm,0.3s
SMRF Simiane la Rot 6.66 173 *e*Pn **Pn** **06 51 50.1 +0.1**
FRF La Foret Royal 7.19 168 *e*Pn **Pn** **06 51 57.9 +0.7**
SNR=1.0
FRF *e*Sn Sn 06 53 14.0 -4.5
comp=E,4.3nm,0.3s,SNR=1.0
FRF La Foret Royal 7.19 168 *e*Pn **Pn** **06 51 57.9 +0.7**
SNR=1.0
EPF Esparros 8.09 202 *e*Sn Sn 06 53 35.7 -5.1
EPF *e*Sg Sg 06 54 27.7 -4.4
comp=E,0.5nm,0.2s
ETSF Etsaut 8.45 206 *e*Pn **Pn** **06 52 15.6 +1.0**
ETSF *e*Sg **Sg** **06 54 41.7 -1.9**
comp=E,0.4nm,0.2s
ETSF Etsaut 8.45 206 *e*Pn **Pn** **06 52 15.6 +1.0**
ETSF *e*Sg **Sg** **06 54 41.7 -1.9**
comp=E,0.2nm,0.2s

*ISCJB **26** 06:51:01.9±0.7,6°1N±0°1×125°5E±0°2,h111km,mb3.5/9, Error ellipse: s-maj=24.3km s-min=11.4km az=150.8*
*IDC **26** 06:51:02.9±9.6,6°31N×125°97E,h105km±91km,mb3.3/9, mb1 3.5/9,mb1mx3.3/27,mbtmp3.3/9,Error ellipse: s-maj=97.9km s-min=16.8km az=70.0*
ISC 26 06:51:03.8±0.9,**6°1N**±0°2×**125°4E**±0°3,**h111**km,**n12,** σ1§**16**/12,**mb3.5**/9,**1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.47 267**		⇓*i*P	**Pn**		06 51 16.3	-4.4
GSPH				*i* S	**Sn**		**06 51 32.7**	**-0.7**
CTBH	**Cotabato--PC H**	**1.60 314**		⇑*i*P	**Pn**		**06 51 31.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**24.06 179**		P	**P**		**06 56 10.8**	**+2.0**
	0.5nm,0.3s,baz=340,slow=4.3,SNR=3.4							
WRA	**Warramunga Arr**	**27.34 161**		P	**P**		**06 56 38.6**	**+0.1**
	0.5nm,0.8s,baz=343,slow=10,SNR=6.3							
ASAR	**Alice Springs**	**30.73 165**		P	**P**		**06 57 08.2**	**-0.4**
	0.3nm,0.5s,baz=352,slow=7.0,SNR=8.2							
STKA	**Stephens Creek**	**40.80 159**		P	**P**		**06 58 33.5**	**-1.0**
	0.6nm,0.5s,baz=300,slow=8.1,SNR=3.1							
SONM	**Songino Array**	**44.64 342**		P	**P**		**06 59 06.4**	**+1.0**
	0.2nm,0.5s,baz=157,slow=9.5,SNR=2.2							
MKAR	**Makanchi Array**	**54.87 325**		P	**P**		**07 00 23.4**	**+0.6**
	0.7nm,0.6s,baz=121,slow=7.6,SNR=8.3							
KURBB	**Kurchatov Arra**	**59.04 327**		P	**P**		**07 00 52.0**	**-0.1**
	0.5nm,0.6s,baz=127,slow=6.4,SNR=7.0							
BVAR	**Borovoye Array**	**64.63 327**		P	**P**		**07 01 30.0**	**+0.4**
	0.3nm,0.4s,baz=205,slow=37,SNR=3.5							
ARCES	**ARCESS Array B**	**87.78 340**		P	**P**		**07 03 38.6**	**-1.5**
	1.7nm,0.9s,baz=70,slow=7.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**120.92 289**		PKP	**PKPdf**		**07 09 45.8**	**+1.6**
	0.3nm,0.6s,baz=45,slow=2.1,SNR=2.5							

*IDC **26** 06:53:38.0±2.9,6°55N×126°49E,h20km±18km,mb4.1/28, mb1 4.2/28,mb1mx4.1/35,mbtmp4.2/28,Error ellipse: s-maj=17.5km s-min=8.4km az=68.0*
*ISCJB **26** 06:53:40.1±0.5,6°45N±0°03×126°42E±0°04,h50km±3km, mb4.5/63,MS4.3/4,Error ellipse: s-maj=7.6km s-min=3.6km az=161.3*
*NEIC **26** 06:53:41.6±1.1,6°54N×126°45E,h49km±10km,mb4.6/24, Error ellipse: s-maj=10.5km s-min=5.0km az=61.0*
*AUST **26** 06:53:41.2±1.9,6°46N×126°40E,h52km,Error ellipse: s-maj=2.7km s-min=0.9km az=247.0*
*BJI **26** 06:53:42.3,6°50N×126°40E,h64km,mB4.9/17,mb4.6/30, Ms4.5/10,Ms7 4.3/10*
*MAN **26** 06:53:42,6°66N×126°02E,h1km,mb5.3,ML4.3,MS4.6*
*DJA **26** 06:53:51.8±1.1,6°N±8°×12°6E±°,h10km,M4.9/6,mb5.1/6, mB5.2/6,MLv5.0/5,Mw(mB)4.6/6*
ISC 26 06:53:39.6±0.9,**6°55N**±0°03×**126°47E**±0°05,**h31**km±6km, **n158,**σ1§**53**/174,**mb4.5**/63,**MS4.2**/5,**4C-4D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.44 332**		*e*P	**Pn**		**06 53 50.4**	**+0.5**
MATI				*e*S	**Sn**		**06 53 59.1**	**+2.2**
DAV	**Davao City (W)**	**1.02 300**		*e*Pn	**Pn**		**06 53 58.4**	**+0.5**
DAV				*e*Sn	Sn		06 54 16.9	+5.7
DMPH	**Davao City--Mi**	**1.09 299**		⇑*e*P	Pn		06 53 50.0	-8.8
DMPH				*i* S	**Sn**		**06 54 14.5**	**+1.6**
KCP	**Kidapawan**	**1.44 288**		⇑*i*P	**Pn**		**06 54 02.7**	**-1.0**
KCP				*i* S	**Sn**		**06 54 20.8**	**-0.9**
GSPH	**General Santos**	**1.58 253**		⇓*i*P	**Pn**		**06 54 00.9**	**-4.7**
GSPH				*i* S	Sn		06 54 18.5	-6.6
BIPH	**Bislig**	**1.62 356**		⇓*e*P	**Pb**		**06 54 07.8**	**-1.2**
BIPH				*e*S	**Sb**		**06 54 32.2**	**+3.1**
BUKP	**Musuan**	**1.92 313**		*e*P	**Pn**		**06 54 11.0**	**+0.8**
BUKP				*e*S	**Sb**		**06 54 37.1**	**-0.4**
CTBH	**Cotabato--PC H**	**2.30 287**		⇓*e*P	**Pn**		**06 54 14.7**	**-0.8**
CGP	**Cagayan de Oro**	**2.58 317**		⇑*e*P	Pb		06 54 21.6	-3.6
CGP				*e*S	**Sn**		**06 54 50.4**	**+0.7**
SGSI	**Sangihe**	**3.00 198**		P	**Pn**		**06 54 24.4**	**-0.7**
SGSI				S	Sn		06 54 50.9	-9.1
PAGZ	**Pagadian**	**3.32 293**		*e*P	**Pn**		**06 54 29.9**	**+0.5**
SCPH	**Surigao**	**3.35 343**		*e*P	Pb		06 54 33.8	-4.6
MSLP	**Maasin**	**3.90 336**		*e*P	Pn		06 54 41.2	+3.8
LLP	**Lapu-Lapu**	**4.48 327**		*e*P	Pb		06 54 50.7	-7.0
LLP				*e*S	**Sb**		**06 55 45.8**	**-5.5**
PLP	**Palo**	**4.81 342**		⇑*e*P	Pn		06 54 55.5	+5.5
OCLP	**Ormoc**	**4.83 338**		*e*P	Pn		06 54 55.6	+5.3
TNTI	**Ternate**	**5.81 171**		P	Pn		06 55 09.4	+5.6
TNTI	**Ternate**	**5.81 171**		*e*Pn	Pn		06 55 06.8	+3.1
TNTI				*e*Sn	**Sn**		**06 56 12.5**	**+3.0**
RCP	**Roxas**	**6.19 324**		⇓*e*P	Pn		06 55 13.4	+4.5
KMSI	**Cibinong**	**6.44 203**		P	Pb		06 55 26.8	-4.1
GTOI	**Gorontalo**	**6.81 211**		P	**Pn**		**06 55 15.1**	**-2.5**
	299nm,0.5s,3μm1.2nm							
LBMI	**Labuha**	**7.22 172**		P	**Pn**		**06 55 24.6**	**+1.5**
	132nm,0.8s,1μm0.5nm							
MRSI	**Marisa**	**7.54 217**		P	**Pn**		**06 55 25.8**	**-1.7**
	115nm,0.6s,1μm0.7nm							
LUWI	**Luwuk**	**8.40 206**		P	Pn		06 55 41.7	+2.4
	154nm,1.1s,3μm							
LUWI	**Luwuk**	**8.40 206**		P	Pn		06 55 42.2	+2.9
	baz=8.3,SNR=3.7							
APSI	**Ampana**	**8.84 213**		P	Pn		06 55 47.8	+2.5
	123nm,1.0s,1μm							
NLAI	**Namlea**	**9.75 176**		P	**Pn**		**06 55 57.2**	**-0.6**
SBUM	**Sibu**	**14.77 255**		*e*Pn	**Pn**		**06 57 07.9**	**+1.3**
MTN	**Manton Dam**	**19.82 166**		P	**Pn**		**06 58 08.6**	**-1.0**
	baz=20,SNR=11							
KDU	**Kakadu**	**20.02 163**		P	**P**		**06 58 10.0**	**-0.1**
	baz=20,SNR=8.1							
QIZ	**Qiongzhong**	**20.38 309**		P	**P**		**06 58 14.0**	**-0.1**
QIZ				S	**S**		**07 02 00.3**	**-0.8**
QIZ				sS	sS		07 02 22.0	+7.9
QIZ				pmax	pmax			
	comp=Z,27nm,2.0s							
QIZ				LR	LR			
	comp=N,230nm,15.1s							
QIZ				LR	LR			
	comp=Z,360nm,22.2s							
KNRA	**Kununurra**	**22.20 174**		P	**P**		**06 58 33.2**	**-0.4**
	baz=22,SNR=23							
UBPT	**Khong Chiam**	**22.35 295**		P	**P**		**06 58 37.7**	**+2.4**
	18nm,1.2s							
FITZ	**Fitzroy Crossi**	**24.51 182**		*e*P	**P**		**06 58 55.2**	**-1.2**

16nm,1.1s
FITZ Fitzroy Crossi 24.51 182 P **P** 06 58 55.4 -1.0
5.2nm,0.4s,baz=12,slow=7.4,SNR=24
FITZ Fitzroy Crossi 24.51 182 P **P** 06 58 54.8 -1.7
baz=25,SNR=22
CHBT CHBT 24.57 286 P **P** 06 58 59.1 +2.0
11nm,2.0s
CBIJ Chichi jima 25.31 34 P **P** 06 59 03.5 -0.2
JCJ Chichijima 25.31 34 P **P** 06 59 03.5 -0.2
35nm,0.5s,baz=248,slow=11,SNR=5.3
IPM Ipoh 25.41 267 *eP* **P** 06 59 05.8 +1.1
15nm,0.8s
CHAI Chaiyaphum 25.72 293 P **P** 06 59 09.6 +2.1
4.0nm,1.0s
COEN Coen 26.27 141 *eP* **P** 06 59 11.8 -0.7
38nm,0.9s
COEN Coen 26.27 141 P **P** 06 59 14.9 +2.4
baz=26,SNR=4.8
NJ2 Nanjing 26.35 345 *eP* **P** 06 59 15.0 +2.0
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
PBKT Sadao Pong 26.86 294 P **P** 06 59 18.7 +0.9
12nm,0.8s
GYA Guiyang 27.35 319 *eP* **P** 06 59 23.8 +1.5
GYA pP pP 06 59 39.5 +8.4
GYA sP sP 06 59 49.0 +14
GYA PP **PnPn** **07 00 12.5 +5.5**
GYA PcP **PcP** **07 02 41.8 +0.6**
GYA S **S** **07 03 56.5 -3.9**
GYA sS sS 07 04 24.3 +9.2
GYA ScP **ScP** **07 06 15.0 -4.7**
GYA ScS ScS 07 10 03.8 -7.7
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.5s
WRAB Tennant Creek 27.44 164 *eP* **P** 06 59 23.3 +0.3
15nm,1.2s
WRA Warramunga Arr 27.45 164 P **P** 06 59 21.8 -1.2
WRA S **S** **07 03 58.4 -3.4**
WRA Warramunga Arr 27.45 164 P **P** 06 59 21.8 -1.2
1.2nm,0.3s,baz=343,slow=9.7,SNR=15
WRA S **S** **07 03 58.4 -3.4**
0.6nm,0.9s,baz=332,slow=16,SNR=3.0
PSI Prapat 27.70 264 P **P** 06 59 26.4 +0.8
PSI Prapat 27.70 264 P **P** 06 59 26.4 +0.8
3.7nm,0.6s,baz=111,slow=9.9,SNR=2.8
CMAR Chiang Mai Arr 29.31 296 P **P** 06 59 40.5 +0.7
CMAR S **S** **07 04 32.8 +1.6**
CMAR Chiang Mai Arr 29.31 296 P **P** 06 59 40.5 +0.7
1.8nm,0.3s,baz=121,slow=7.8,SNR=7.5
CMAR S **S** **07 04 32.8 +1.6**
0.9nm,0.3s,baz=102,slow=16,SNR=2.3
QIS Mount Isa 29.88 155 P **P** 06 59 44.6 -0.1
baz=30,SNR=5.4
AS31 Alice Springs 30.90 167 *eP* **P** 06 59 53.6 -0.1
ASAR Alice Springs 30.90 167 P **P** 06 59 52.5 -1.3
ASAR PcP **PcP** **07 02 50.7 +0.6**
ASAR S **S** **07 04 57.5 +1.4**
ASAR Alice Springs 30.90 167 P **P** 06 59 52.5 -1.3
1.4nm,0.5s,baz=348,slow=6.9,SNR=35
ASAR PcP **PcP** **07 02 50.7 +0.6**
0.6nm,0.6s,baz=355,slow=1.9,SNR=4.1
ASAR S **S** **07 04 57.5 +1.4**
0.3nm,0.7s,baz=346,slow=11,SNR=3.9
WRKA Warakurna 31.45 177 P **P** 06 59 57.6 -0.9
baz=32,SNR=12
XAN Xi'an 31.81 332 P **P** 07 00 01.5 -0.1
XAN pP pP 07 00 15.0 +4.4
XAN pmax pmax
comp=Z,5.0nm,1.3s
XAN pmax pmax
comp=Z,27nm,9.8s
CD2 Chengdu 32.25 322 *eP* **P** 07 00 07.8 +2.2
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CTA Charters Tower 32.86 144 P **P** 07 00 09.4 -1.6
CTA Charters Tower 32.86 144 P **P** 07 00 09.4 -1.6
1.2nm,0.8s,baz=339,slow=12,SNR=2.5
CTAO Charters Tower 32.86 144 *eP* **P** 07 00 12.6 +1.7
7.0nm,1.1s
MEEK Meekatharra 33.86 193 P **P** 07 00 18.1 -1.5
baz=34,SNR=3.2
BJT Baijiatuau 34.58 346 *eP* **P** 07 00 28.6 +2.9
13nm,0.4s
BJI Beijing 34.60 346 P **P** 07 00 27.3 +1.5
BJI S **S** **07 05 53.5 +0.3**
BJI pmax pmax
comp=Z,13nm,1.3s
BJI pmax pmax
comp=Z,130nm,6.6s
BJI LR LR
comp=N,290nm,16.9s
BJI LR LR
comp=E,260nm,16.2s
BJI LR LR
comp=Z,250nm,21.2s
LZH Lanzhou 35.97 328 P P 07 00 41.3 +3.4
LZH pP pP 07 00 56.0 +9.1
LZH sP sP 07 01 05.3 +15
LZH PP **PP** **07 02 03.0 +3.0**
LZH S **S** **07 06 12.5 -2.3**
LZH sS ScP 07 06 39.3 -9.2
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.5s
LZH LR LR
comp=N,500nm,13.6s
LZH LR LR
comp=E,610nm,14.2s
LZH LR LR
comp=Z,810nm,16.2s
HHC Hu-ho-hao-te 36.66 341 *eP* P 07 00 47.3 +3.6
HHC S **S** **07 06 25.8 +0.8**
HHC ScP **ScP** **07 06 47.5 -3.4**
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,240nm,5.0s
HHC LR LR
comp=N,380nm,14.8s
HHC LR LR
comp=E,590nm,14.4s
HHC LR LR
comp=Z,510nm,13.8s
MORW Morawa 36.81 195 P **P** 07 00 43.8 -1.1
baz=37,SNR=3.9
FORT Forrest 37.15 178 *eP* **P** 07 00 46.7 -1.1
9.3nm,0.3s
USRK Ussuriysk Arra 37.81 6 P **P** 07 00 53.9 +0.7
1.7nm,0.5s,baz=144,slow=42,SNR=4.4
BLDU Ballidu 38.12 194 P **P** 07 00 54.5 -1.6
baz=38,SNR=7.5
ASAJ Asahikawa 40.00 18 P **P** 07 01 11.8 +0.3
ASAJ Asahikawa 40.00 18 P **P** 07 01 11.8 +0.3
3.6nm,0.6s,baz=307,slow=20,SNR=2.7
BBOO Buckleboo 40.19 167 *eP* **P** 07 01 12.9 -0.4
442nm,1.3s
BBOO Buckleboo 40.19 167 P **P** 07 01 12.5 -0.8
baz=40,SNR=33
NWAO Narrogin (SRO) 40.23 192 P **P** 07 01 13.4 -0.2
NWAO Narrogin (SRO) 40.23 192 P **P** 07 01 13.4 -0.2
6.2nm,0.7s,baz=14,slow=6.8,SNR=12
GTA Gaotai 40.57 328 P **P** 07 01 19.3 +2.7
GTA S **S** **07 07 24.3 +0.1**
GTA SS **SS** **07 10 24.0 -0.8**
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA pmax pmax
comp=Z,75nm,4.7s
GTA LR LR
comp=N,310nm,21.4s
GTA LR LR
comp=E,360nm,19.5s
GTA LR LR
comp=Z,200nm,17.6s
STKA Stephens Creek 40.85 160 *eP* **P** 07 01 18.5 -0.3
12nm,2.0s
STKA PcP **PcP** **07 03 22.7 +3.3**
STKA Stephens Creek 40.85 160 P **P** 07 01 18.6 -0.1
3.9nm,0.6s,baz=341,slow=7.1,SNR=11
STKA PcP **PcP** **07 03 22.7 +3.3**
2.5nm,0.6s,baz=358,slow=4.8,SNR=3.6
STKA Stephens Creek 40.85 160 P **P** 07 01 18.5 -0.3
baz=41,SNR=9.0

H11S3 WAKE ISLAND Hy 40.91 69 T T 07 45 22.9
baz=238
H11S1 WAKE ISLAND Hy 40.93 69 T T 07 45 16.0
baz=238
H11S2 WAKE ISLAND Hy 40.93 69 T T 07 45 19.3
baz=238
HTT Hallett 41.48 164 P **P** **07 01 25.5 +1.5**
baz=42,SNR=6.7
TAPN Taplejung 42.19 304 *eP* **P** **07 01 29.6 -0.6**
6.7nm,0.5s
TAPN Taplejung 42.19 304 *eP* **P** **07 01 29.6 -0.6**
6.7nm,0.5s
RAMN Ramite 42.96 303 *eP* **P** **07 01 36.2 -0.3**
12nm,0.7s
RAMN Ramite 42.96 303 *eP* **P** **07 01 36.2 -0.3**
12nm,0.7s
JIRN Jiri 43.56 304 *eP* **P** **07 01 40.9 -0.5**
9.5nm,0.5s
JIRN Jiri 43.56 304 *eP* **P** **07 01 40.9 -0.5**
9.5nm,0.5s
GUN Gumba 43.90 304 *eP* **P** **07 01 43.0 -1.2**
13nm,0.6s
GUN Gumba 43.90 304 *eP* **P** **07 01 43.0 -1.2**
13nm,0.6s
PKI Pulchoki 44.17 303 *eP* **P** **07 01 45.6 -0.7**
PKI Pulchoki 44.17 303 *eP* **P** **07 01 45.6 -0.7**
KKN Kakani 44.36 303 *eP* **P** **07 01 46.5 -1.2**
13nm,0.6s
KKN Kakani 44.36 303 *eP* **P** **07 01 46.5 -1.2**
13nm,0.6s
ULN Ulaanbaatar 44.38 341 *eP* **P** **07 01 48.4 +1.0**
11nm,1.2s
DMN Daman 44.44 303 *eP* **P** **07 01 48.8 +0.4**
DMN Daman 44.44 303 *eP* **P** **07 01 48.8 +0.4**
SONM Songino Array 44.56 341 P **P** **07 01 49.9 +1.1**
SONM PcP **PcP** **07 03 32.0 +0.4**
SONM Songino Array 44.56 341 P **P** **07 01 49.9 +1.1**
1.6nm,0.8s,baz=160,slow=6.8,SNR=10
SONM PcP **PcP** **07 03 32.0 +0.4**
0.8nm,0.7s,baz=148,slow=3.9,SNR=3.6
KOLN Koldanda 45.75 303 *eP* **P** **07 01 59.5 +0.8**
KOLN Koldanda 45.75 303 *eP* **P** **07 01 59.5 +0.8**
DANN Dangsing 45.81 304 *eP* **P** **07 01 58.2 -1.1**
11nm,0.5s
DANN Dangsing 45.81 304 *eP* **P** **07 01 58.2 -1.1**
11nm,0.5s
PYUN Piuthan 46.37 303 *eP* **P** **07 02 04.0 +0.4**
14nm,0.7s
PYUN Piuthan 46.37 303 *eP* **P** **07 02 04.0 +0.4**
14nm,0.7s
WMQ Urumqi 50.29 324 *eP* **P** **07 02 34.0 +0.6**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 55.11 324 *eP* **P** **07 03 08.1 -0.9**
MKAR Makanchi Array 55.11 324 *eP* **P** **07 03 08.1 -1.0**
MKAR Makanchi Array 55.11 324 P **P** **07 03 08.0 -1.0**
3.6nm,0.5s,baz=121,slow=8.2,SNR=34
ZALV Zalesovo Beam 57.98 332 P **P** **07 03 29.1 0.0**
ZALV Zalesovo Beam 57.98 332 P **P** **07 03 29.1 0.0**
1.1nm,0.4s,baz=128,slow=6.1,SNR=6.5
AAK Ala-Archa 58.12 317 *eP* **P** **07 03 31.4 +0.8**
2.2nm,0.7s
AAK Ala-Archa 58.12 317 P **P** **07 03 29.3 -1.4**
0.4nm,0.3s,baz=155,slow=8.7,SNR=2.7
EKS2 Erkin-Say 58.62 317 *eP* **P** **07 03 33.6 -0.5**
4.1nm,1.0s
KURK Kurchatov 59.24 327 *eP* **P** **07 03 36.6 -1.4**
3.8nm,0.8s
KURBB Kurchatov Arra 59.24 327 P **P** **07 03 37.1 -1.0**
3.1nm,0.6s,baz=126,slow=6.3,SNR=41
KKAR Karatay Array 61.02 316 *eP* **P** **07 03 49.8 -0.7**
1.7nm,0.6s
BVAR Borovoye Array 64.83 326 P **P** **07 04 15.1 -0.5**
BVAR Borovoye Array 64.83 326 P **P** **07 04 15.1 -0.5**
2.4nm,0.7s,baz=126,slow=8.3,SNR=13
BRVK Borovoye 64.91 326 *eP* **P** **07 04 15.9 -0.1**
4.8nm,0.8s
TIXI Tiksi 65.04 1 *eP* **P** **07 04 17.9 +1.4**
4.6nm,0.8s
ABKAR Akbulak array 69.82 320 *eP* **P** **07 04 45.8 -1.5**
1.7nm,0.6s
AKTO Aktyubinsk 71.31 321 P **P** **07 04 56.3 0.0**
AKTO Aktyubinsk 71.31 321 P **P** **07 04 56.3 0.0**
3.1nm,0.7s,baz=107,slow=8.9,SNR=15
ARU Arti 72.43 327 *eP* **P** **07 05 02.9 0.0**
18nm,1.4s
ILAR Eielson Array 82.68 26 P **P** **07 05 58.5 -1.6**
ILAR Eielson Array 82.68 26 P **P** **07 05 58.5 -1.6**
0.4nm,0.5s,baz=238,slow=5.4,SNR=8.4
VNDA Vanda 86.24 173 P **P** **07 06 19.1 +1.4**
VNDA Vanda 86.24 173 P **P** **07 06 19.1 +1.4**
0.5nm,0.5s,baz=308,slow=5.2,SNR=3.1
MAW Mawson 86.30 200 P **P** **07 06 20.0 +1.9**
MAW Mawson 86.30 200 P **P** **07 06 20.0 +1.9**
1.1nm,0.7s,baz=53,slow=10,SNR=4.8
INK Inuvik 87.65 21 P **P** **07 06 26.4 +1.6**
INK Inuvik 87.65 21 P **P** **07 06 26.4 +1.6**
0.5nm,0.4s,baz=271,slow=4.6,SNR=3.9
ARCES ARCESS Array B 87.73 340 P **P** **07 06 24.7 -0.5**
ARCES ARCESS Array B 87.73 340 P **P** **07 06 24.7 -0.5**
2.5nm,0.8s,baz=76,slow=5.1,SNR=8.7
BRTR Keskin Array B 88.03 310 P **P** **07 06 28.1 +0.7**
BRTR Keskin Array B 88.03 310 P **P** **07 06 28.2 +0.7**
0.6nm,0.8s,baz=60,slow=3.5,SNR=2.2
FINES FINESS Array B 89.24 332 P **P** **07 06 32.5 +0.1**
FINES FINESS Array B 89.24 332 P **P** **07 06 32.5 +0.1**
3.4nm,0.9s,baz=93,slow=2.8,SNR=11
AKASG Malin Array Be 89.55 321 P **P** **07 06 33.6 -0.5**
AKASG Malin Array Be 89.55 321 P **P** **07 06 33.6 -0.5**
0.5nm,0.5s,baz=65,slow=5.6,SNR=6.0
NOA NORSAR Array B 96.16 334 P **P** **07 07 03.1 -1.3**
NOA NORSAR Array B 96.16 334 P **P** **07 07 03.1 -1.3**
1.2nm,0.8s,baz=64,slow=4.6,SNR=2.9
QSPA South Pole Qui 96.44 180 P **P** **07 07 05.6 -0.1**
QSPA South Pole Qui 96.44 180 P **P** **07 07 05.6 -0.1**
0.5nm,0.7s,baz=148,slow=18,SNR=3.9
YKA Yellowknife Ar 97.05 24 P **P** **07 07 07.3 -1.1**
YKA PKKPbc **PKKPbc** **07 23 47.8 -3.3**
YKA Yellowknife Ar 97.05 24 P **P** **07 07 07.3 -1.1**
0.3nm,0.7s,baz=295,slow=3.9,SNR=7.4
YKA PKKPbc **PKKPbc** **07 23 47.8 -3.3**
0.1nm,0.5s,baz=122,slow=2.9,SNR=5.9
TXAR Lajitas Array 120.06 51 PKP **PKPdf** **07 12 28.2 0.0**
TXAR Lajitas Array 120.06 51 PKP **PKPdf** **07 12 28.2 0.0**
0.3nm,1.0s,baz=302,slow=4.1,SNR=3.0
TORD Torodi Ar. Bea 121.76 290 PKP **PKPdf** **07 12 30.6 -1.1**
TORD Torodi Ar. Bea 121.76 290 PKP **PKPdf** **07 12 30.6 -1.1**
0.9nm,0.6s,baz=62,slow=2.0,SNR=7.9
TRQA Tornquist 147.72 167 *e*PKPbc **PKPbc** **07 13 21.9 +0.1**
CFAA Coronel Fontan 151.53 153 PKPbc **PKPbc** **07 13 31.1 -0.3**
CFAA PKPab **PKPab** **07 13 39.9 +0.1**
CFAA Coronel Fontan 151.53 153 PKPbc **PKPbc** **07 13 31.1 -0.3**
0.5nm,0.6s,baz=227,slow=3.6,SNR=18
CFAA PKPab **PKPab** **07 13 39.9 +0.1**
0.4nm,0.6s,baz=276,slow=4.2,SNR=8.2

*MOS **26** 06:59:11.5±1.0,6˚.42N×126˚.34E,h33km,mb5.2/32, Error ellipse: s-maj=12.7km s-min=6.0km az=118.7*
*BJI **26** 06:59:12.4,6˚.12N×126˚.45E,h61km,mB5.1/34,mb4.7/44, Ms4.6/32,Ms7 4.3/34*
*AUST **26** 06:59:13.0,6˚.50N×126˚.51E,h35km*
*MAN **26** 06:59:13,6˚.41N×126˚.31E,h22km,mb5.5,ML4.5,MS4.8*
MAN Intensity II - Davao City; Tagum City; Padada Davao Del Sur.
*ISCJB **26** 06:59:13.3±0.4,6˚.48N±0˚.02×126˚.51E±0˚.03,h50km±3km, mb4.8/112,MS4.2/38, Error ellipse: s-maj=4.9km s-min=2.8km az=167.0*
*IDC **26** 06:59:14.1±1.4,6˚.42N×126˚.34E,h41km±11km,mb4.3/36, mb1 4.4/36,mb1mx4.4/38,mbtmp4.3/36,MS4.2/26, Ms1 4.2/26,ms1mx4.0/42, Error ellipse: s-maj=13.7km s-min=7.0km az=73.0*
*GCMT **26** 06:59:15.2±0.3,6˚.38N×126˚.46E,h27km±1km,MW5.2, Moment Tensor Solution. s45,c56; s59,c80; Moment tensor: Scale 10^{16}Nm; M_{rr}5.25±.30; $M_{\theta\theta}$1.60±.19; $M_{\phi\phi}$-6.85±.23; $M_{r\theta}$-0.47±.43; $M_{\theta\phi}$0.81±.15; $M_{\phi r}$7.10±.64; Best double couple: $M_0$9.40000×10^{16} NP1:ϑ_s356.00000°, δ70.00000°, λ91.00000° NP2:ϑ_s172.00000°,δ20.00000°, λ86.00000°. Principal axes: T 8.5000, Plg65.0000°, Azm268.0000°; N 1.7000, Plg1.0000°, Azm176.0000°: P -10.2000, Plg25.0000°, Azm85.0000°; Data Used: II IU IC G CN CU.*

*NEIC **26** 06:59:16.4±0.9,6˚.42N×126˚.40E,h65km±8km,mb5.0/44*
Error ellipse: s-maj=7.5km s-min=4.6km az=60.0
NEIC Felt [II PIVS] at Davao, Padada and Tagum.
*DJA **26** 06:59:17.7±0.9,6˚N±8˚×12˚6E±˚,h10km,M5.3/27, mb5.2/27,mB5.6/15,MLv5.8/5,Mw(mB)5.1/15*
ISC 26 06:59:15.2±0.5,**6˚.42N**±0˚.03×**126˚.42E**±0˚.05,**h50**km±3km,
n373,σ1ϟ**40**/386,**mb4.9**/111,**MS4.3**/39,**16C-5D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.55**	**342**	*eP*	**Pn**	**06 59 24.7**	**-2.4**
MATI				*eS*	**Sn**	**06 59 34.2**	**-1.4**
DAV	**Davao City (W)**	**1.06**	**308**	*e*Pn	**Pn**	**06 59 32.2**	**-1.5**
DAV				*e*Sn	**Sn**	**06 59 46.8**	**-0.7**
DMPH	**Davao City--Mi**	**1.12**	**306**	*eP*	**Pn**	**06 59 32.6**	**-2.0**
DMPH				*eS*	**Sn**	**06 59 47.9**	**-1.2**
KCP	**Kidapawan**	**1.45**	**294**	*iP*	**Pn**	**06 59 35.9**	**-3.2**
KCP				*i S*	**Sn**	**06 59 54.2**	**-2.8**
GSPH	**General Santos**	**1.50**	**257**	*iP*	Pn	06 59 34.1	-5.7
GSPH				*i* S	Sn	06 59 48.3	-10
BIPH	**Bislig**	**1.76**	**358**	*eP*	Pn	06 59 31.2	-12
BIPH				*eS*	**Sn**	**07 00 04.2**	**-0.2**
BUKP	**Musuan**	**1.98**	**317**	*eP*	**Pn**	**06 59 45.1**	**-1.3**
BUKP				*eS*	**Sn**	**07 00 08.1**	**-2.0**
CTBH	**Cotabato--PC H**	**2.31**	**290**	*eP*	**Pn**	**06 59 48.2**	**-2.5**
CGP	**Cagayan de Oro**	**2.65**	**320**	*iP*	**Pn**	**06 59 55.0**	**-0.5**
CGP				*i S*	**Sn**	**07 00 26.8**	**+0.3**
BUTP	**Butuan**	**2.66**	**343**	*eP*	Pn	06 59 57.4	+1.8
SGSI	**Sangihe**	**2.86**	**198**	P	**Pn**	**06 59 58.2**	**-0.1**
SGSI				S	Sn	07 00 22.2	-9.3
PAGZ	**Pagadian**	**3.34**	**295**	*eP*	**Pn**	**07 00 03.2**	**-1.7**
SCPH	**Surigao**	**3.47**	**345**	*eP*	**Pn**	**07 00 06.7**	**0.0**
MSLP	**Maasin**	**4.00**	**337**	*eP*	**Pn**	**07 00 14.2**	**+0.1**
LLP	**Lapu-Lapu**	**4.57**	**328**	*eP*	**Pn**	**07 00 21.8**	**-0.1**
LLP				*eS*	**Sn**	**07 01 15.1**	**+1.3**
PLP	**Palo**	**4.93**	**343**	*eP*	**Pn**	**07 00 27.1**	**+0.3**
GUIM	**Jordan**	**5.64**	**318**	*eP*	Pn	07 00 37.6	+1.1
TNTI	**Ternate**	**5.69**	**170**	P	Pn	07 00 38.9	+1.7
	853nm,0.9s,11μm3.3nm						
TNTI	**Ternate**	**5.69**	**170**	*e*Pn	**Pn**	**07 00 37.8**	**+0.6**
TNTI				*e*Sn	Sn	07 01 49.4	+8.2
RCP	**Roxas**	**6.27**	**325**	*eP*	**Pn**	**07 00 45.5**	**+0.3**
KMSI	**Cibinong**	**6.30**	**203**	P	**Pn**	**07 00 46.6**	**+1.1**
	1μm,0.7s,15μm5.9nm						
GTOI	**Gorontalo**	**6.68**	**211**	P	**Pn**	**07 00 48.6**	**-2.2**
LBMI	**Labuha**	**7.09**	**171**	P	**Pn**	**07 00 54.3**	**-2.2**
MRSI	**Marisa**	**7.41**	**217**	P	**Pn**	**07 00 58.7**	**-2.1**
PALU	**Palau**	**8.04**	**83**	P	Pn	07 01 01.3	-8.2
	baz=7.9,SNR=8.1						
LUWI	**Luwuk**	**8.26**	**206**	P	Pn	07 01 14.6	+2.1
	659nm,0.8s,6μm3.0nm						
LUWI	**Luwuk**	**8.26**	**206**	P	Pn	07 01 15.1	+2.6
	baz=8.4,SNR=5.2						
APSI	**Anpana**	**8.70**	**213**	P	Pn	07 01 20.3	+1.8
	436nm,1.2s,4μm1.7nm						
TSM	**Tawau**	**8.77**	**257**	P	**Pn**	**07 01 20.3**	**+0.8**
SDKM	**Sandakan**	**9.21**	**266**	P	**Pn**	**07 01 24.7**	**-0.9**
KDM	**Kudat**	**9.54**	**274**	P	**Pn**	**07 01 29.5**	**-0.5**
NLAI	**Namlea**	**9.62**	**176**	P	**Pn**	**07 01 29.5**	**-1.6**
FAKI	**Fak Fak**	**10.95**	**148**	P	Pn	07 01 51.3	+2.0
	64nm,1.0s						
FAKI	**Fak Fak**	**10.95**	**148**	P	Pn	07 01 52.1	+2.8
	baz=11,SNR=4.9						
TTSI	**Tana Toraja**	**11.48**	**215**	P	**Pn**	**07 01 57.6**	**+1.0**
	84nm,0.8s						
MMSI	**Mamuju**	**11.75**	**220**	P	Pn	07 02 03.7	+3.4
	85nm,0.8s,1μm						
BKB	**Balikpapan**	**12.19**	**232**	P	**P**	**07 02 16.1**	**-1.4**
SPSI	**Sidrap Palu**	**12.27**	**213**	P	Pn	07 02 10.0	+2.7
	47nm,0.6s,746nm						
BNSI	**Bone**	**12.46**	**211**	P	Pn	07 02 12.6	+2.6
	76nm,0.8s,848nm						
BKSI	**Bulukumba**	**13.25**	**208**	P	Pn	07 02 23.1	+2.3
	30nm,0.9s,364nm						
BTM	**Bintulu**	**13.67**	**257**	P	**Pn**	**07 02 27.3**	**+0.7**
SBUM	**Sibu**	**14.70**	**255**	P	**P**	**07 02 42.9**	**-2.5**
SBUM	**Sibu**	**14.70**	**255**	P	**P**	**07 02 42.9**	**-2.5**
	373nm,0.8s,3μm						
SBUM	**Sibu**	**14.70**	**255**	*e*Pn	P	07 02 41.9	-3.4
BBKI	**Banjar Baru**	**15.17**	**230**	P	**P**	**07 02 49.1**	**-1.5**
	215nm,1.1s,3μm						
MMRI	**Maumere**	**15.53**	**196**	P	P	07 03 07.9	+13
LBFI	**Labuhan Bajo,**	**16.17**	**204**	P	**P**	**07 03 01.4**	**-0.3**
	115nm,0.8s,1μm						
STKI	**Sintang**	**16.20**	**248**	P	**P**	**07 03 04.8**	**+2.8**
	63nm,1.5s,22μm						
JAY	**Jayapura**	**16.79**	**121**	LR	LR	07 09 34.2	
	comp=Z,1μm,19.3s,baz=309,slow=37						
KSM	**Kuching**	**16.81**	**254**	P	**P**	**07 03 09.5**	**+0.7**
KSM	**Kuching**	**16.81**	**254**	P	**P**	**07 03 10.1**	**+1.2**
	54nm,0.8s,718nm						
KSM	**Kuching**	**16.81**	**254**	*eP*	**P**	**07 03 10.0**	**+1.2**
	43nm,0.9s						
KSM	**Kuching**	**16.81**	**254**	P	**P**	**07 03 10.0**	**+1.2**
	baz=17,SNR=9.3						
KHKI	**Kahang-Kahang**	**18.22**	**216**	P	Pn	07 03 32.5	+7.9
SRBI	**Singaraja**	**18.24**	**218**	P	Pn	07 03 29.3	+4.5
	56nm,0.7s						
KMMI	**Kalianget**	**18.26**	**223**	P	**Pn**	**07 03 27.7**	**+2.6**
	80nm,0.9s						
DLV	**T Lat**	**18.53**	**289**	*eP*	**Pn**	**07 03 30.3**	**+1.7**
NBBI	**Negara**	**18.82**	**219**	P	**Pn**	**07 03 34.9**	**+3.0**
	108nm,0.8s						
JAGI	**Jajag, Banyuwa**	**19.20**	**220**	*e*Pn	Pn	07 03 40.3	+3.9
	56nm,1.0s						
JAGI	**Jajag, Banyuwa**	**19.20**	**220**	P	Pn	07 03 40.3	+3.9
	baz=19,SNR=4.6						
MTN	**Manton Dam**	**19.70**	**166**	P	**P**	**07 03 40.2**	**-0.3**
	baz=20,SNR=10						
KDU	**Kakadu**	**19.91**	**162**	P	**Pn**	**07 03 43.3**	**-1.5**
	baz=20,SNR=18						
KRKI	**Karangkates**	**20.09**	**224**	P	Pn	07 03 52.0	+5.0
	178nm,0.9s,28μm						
NGJI	**Ngawi**	**20.26**	**228**	P	Pn	07 03 51.6	+2.6
	204nm,0.8s						
QIZ	**Qiongzhong**	**20.44**	**309**	P	**P**	**07 03 48.8**	**+0.2**
QIZ				pP	pP	07 03 59.5	-0.6
QIZ				sP	sP	07 04 06.3	0.0
QIZ				S	**S**	**07 07 35.3**	**+0.5**
QIZ				sS	sS	07 07 53.8	+0.4
QIZ				pmax	pmax		
	comp=Z,25nm,1.0s						
QIZ				LR	LR		
	comp=N,730nm,16.4s						
QIZ				LR	LR		
	comp=Z,940nm,21.6s						
QIZ	**Qiongzhong**	**20.44**	**309**	*eP*	Pn	07 03 49.8	-1.3
	32nm,1.0s						
PWJI	**Pagerwojo**	**20.45**	**226**	P	Pn	07 03 55.3	+4.0
	44nm,0.9s						
TPI	**Tanjungpandan**	**20.84**	**245**	P	Pn	07 03 58.6	+2.7
	104nm,0.9s						
UGM	**Wanagama**	**21.31**	**228**	P	P	07 04 02.7	+4.6
	baz=22,SNR=3.8						
BJII	**Banjamegara**	**21.55**	**231**	P	**P**	**07 04 03.4**	**+2.7**
TGJI	**Tegal**	**21.73**	**233**	P	**P**	**07 04 05.7**	**+3.2**
	136nm,0.8s						
KNRA	**Kununurra**	**22.07**	**174**	P	**P**	**07 04 05.4**	**-0.7**
	baz=22,SNR=36						
KPJI	**Karang Pucung**	**22.16**	**232**	P	**P**	**07 04 09.5**	**+2.4**
JCJI	**Jatiwangi**	**22.20**	**235**	P	P	07 04 13.6	+6.1
	191nm,0.9s						
TPRI	**Tanjung Pinang**	**22.52**	**257**	P	**P**	**07 04 12.1**	**+1.1**
CMJI	**Cimerak**	**22.81**	**232**	P	**P**	**07 04 16.9**	**+2.8**
	54nm,1.1s						
LEM	**Lembang**	**22.92**	**235**	P	**P**	**07 04 17.1**	**+1.7**
LEM	**Lembang**	**22.92**	**235**	P	**P**	**07 04 17.6**	**+2.2**
	baz=23,SNR=6.5						
MYKOM	**Kota Tinggi**	**22.98**	**259**	P	**P**	**07 04 16.5**	**+0.7**
MYKOM	**Kota Tinggi**	**22.98**	**259**	P	**P**	**07 04 17.4**	**+1.6**
MYKOM	**Kota Tinggi**	**22.98**	**259**	*eP*	**P**	**07 04 16.3**	**+0.5**
	55nm,0.8s						
BTDF	**Bukit Timah Da**	**23.14**	**258**	P	**P**	**07 04 18.9**	**+1.5**
	baz=23,SNR=5.4						
BTDF				P	**P**	**07 04 18.9**	**+1.5**
	baz=23,SNR=5.4						
CISI	**Cisompet, Garu**	**23.18**	**233**	P	**P**	**07 04 17.9**	**0.0**
CISI	**Cisompet, Garu**	**23.18**	**233**	*eP*	**P**	**07 04 17.3**	**-0.5**
	76nm,0.8s						
KTGM	**Kuala Trenggan**	**23.19**	**269**	P	**P**	**07 04 17.8**	**-0.2**
CBJI	**Citeko**	**23.33**	**237**	P	**P**	**07 04 20.4**	**+1.2**
KGM	**Kluang**	**23.45**	**260**	P	**P**	**07 04 20.9**	**+0.5**
DBJI	**Dramaga**	**23.48**	**237**	P	**P**	**07 04 21.4**	**+0.6**
JMBI	**JAMBI**	**24.11**	**251**	P	**P**	**07 04 29.2**	**+2.7**

BLSI	**Bandar Lampung**	**24.17**	**241**	P		**P**	**07 04 29.9**	**+2.8**
KLSI		**24.31**	**244**	P		**P**	**07 04 29.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.38**	**182**	*eP*		**P**	**07 04 28.9**	**0.0**
	22nm,0.8s							
FITZ				S		**S**	**07 08 48.8**	**+3.6**
FITZ				ScP		**ScP**	**07 11 43.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.38**	**182**	P		**P**	**07 04 28.6**	**-0.3**
	17nm,0.6s,baz=12,slow=12,SNR=28							
FITZ				S		**S**	**07 08 48.8**	**+3.6**
	5.9nm,0.9s,baz=336,slow=19,SNR=2.3							
FITZ				ScP		**ScP**	**07 11 43.1**	**+0.9**
	5.2nm,0.8s,baz=359,slow=3.0,SNR=3.2							
FITZ	**Fitzroy Crossi**	**24.38**	**182**	P		**P**	**07 04 28.4**	**-0.5**
	baz=25,SNR=42							
CGJI	**Cibinong**	**24.40**	**238**	P		**P**	**07 04 29.6**	**+0.4**
CHBT	**CHBT**	**24.57**	**287**	P		P	07 04 36.4	+5.7
	27nm,1.1s							
MDSI	**Maura Dua**	**24.71**	**245**	P		**P**	**07 04 32.0**	**0.0**
KASI	**Kota Agung**	**24.89**	**242**	P		**P**	**07 04 34.7**	**+1.0**
FRIM	**Kepong**	**24.91**	**264**	P		**P**	**07 04 34.9**	**+1.1**
LHSI	**Lahat**	**25.03**	**247**	P		**P**	**07 04 35.7**	**+0.8**
LWLI	**Liwa**	**25.05**	**244**	P		**P**	**07 04 36.4**	**+1.2**
IPM	**Ipoh**	**25.36**	**267**	P		**P**	**07 04 38.6**	**+0.7**
IPM	**Ipoh**	**25.36**	**267**	P		**P**	**07 04 38.0**	**+0.1**
IPM	**Ipoh**	**25.36**	**267**	*eP*		**P**	**07 04 36.3**	**-1.6**
	42nm,1.0s							
CBIJ	**Chichi jima**	**25.45**	**34**	P		**P**	**07 04 37.0**	**-1.6**
JCJ	**Chichijima**	**25.45**	**34**	P		**P**	**07 04 37.0**	**-1.6**
	35nm,0.4s,baz=285,slow=16,SNR=6.5							
JCJ				LR		LR	07 12 30.4	
	comp=Z,387nm,19.9s,baz=109,slow=31							
KULM	**Kulim**	**25.66**	**269**	P		**P**	**07 04 40.4**	**-0.3**
KULM	**Kulim**	**25.66**	**269**	*eP*		**P**	**07 04 40.0**	**-0.7**
	39nm,1.0s							
CHAI	**Chaiyaphum**	**25.73**	**294**	P		**P**	**07 04 42.6**	**+1.3**
	13nm,0.8s,106nm							
MASI	**Maura Aman, Be**	**25.95**	**249**	P		**P**	**07 04 46.9**	**+3.6**
PMG	**Port Moresby**	**25.96**	**127**	P		P	07 04 57.9	+15
PMG	**Port Moresby**	**25.96**	**127**	P		**P**	**07 04 44.4**	**+1.1**
PMG	**Port Moresby**	**25.96**	**127**	P		**P**	**07 04 44.4**	**+1.1**
	6.5nm,0.8s,baz=249,slow=8.6,SNR=2.4							
PMG				LR		LR	07 16 09.2	
	comp=Z,263nm,19.0s,baz=209,slow=39							
BKNI	**Bangkinang**	**26.04**	**258**	P		**P**	**07 04 45.4**	**+1.3**
BKNI	**Bangkinang**	**26.04**	**258**	P		P	07 04 49.3	+5.2
	baz=26,SNR=7.7							
COEN	**Coen**	**26.20**	**141**	*eP*		**P**	**07 04 45.9**	**+0.4**
	120nm,1.1s							
COEN	**Coen**	**26.20**	**141**	P		**P**	**07 04 45.2**	**-0.3**
	baz=26,SNR=18							
SLVN	**Son La**	**26.36**	**306**	*eP*		**P**	**07 04 48.9**	**+1.9**
NJ2	**Nanjing**	**26.46**	**345**	*eP*		**P**	**07 04 51.0**	**+3.3**
NJ2				pmax		pmax		
	comp=Z,20nm,0.7s							
PPI	**Padang Panjang**	**26.86**	**256**	P		**P**	**07 04 50.5**	**-1.0**
PBKT	**Sadao Pong**	**26.87**	**294**	P		**P**	**07 04 51.8**	**+0.3**
	40nm,0.8s							
JNU	**Nakatsue**	**26.89**	**8**	P		**P**	**07 04 52.6**	**+1.0**
JNU	**Nakatsue**	**26.89**	**8**	P		**P**	**07 04 52.6**	**+1.0**
	14nm,1.1s,baz=354,slow=18,SNR=2.5							
JNU				LR		LR	07 15 24.4	
	comp=Z,127nm,19.6s,baz=330,slow=36							
PDSI	**Padang**	**26.92**	**255**	P		**P**	**07 04 51.7**	**-0.4**
WRAB	**Tennant Creek**	**27.32**	**164**	*ceP*		**P**	**07 04 53.8**	**-1.8**
WRAB				pmax		pmax		
	comp=Z,42nm,0.8s							
WRAB	**Tennant Creek**	**27.32**	**164**	*eP*		**P**	**07 04 54.3**	**-1.3**
	comp=Z,26nm,0.9s							
WRA	**Warramunga Arr**	**27.33**	**164**	P		**P**	**07 04 54.6**	**-1.0**
WRA				S		**S**	**07 09 30.5**	**-1.5**
WRA				ScP		**ScP**	**07 11 52.0**	**+1.2**
WRA	**Warramunga Arr**	**27.33**	**164**	P		**P**	**07 04 54.6**	**-1.0**
	comp=Z,8.2nm,0.8s,baz=342,slow=9.9,SNR=24							
WRA				S		**S**	**07 09 30.5**	**-1.5**
	comp=Z,2.7nm,1.1s,baz=334,slow=15,SNR=5.5							
WRA				ScP		**ScP**	**07 11 52.0**	**+1.2**
	comp=Z,1.9nm,1.0s,baz=345,slow=3.1,SNR=4.3							
MNSI	**Mandailing Nat**	**27.36**	**259**	P		**P**	**07 04 55.4**	**-0.6**
GYA	**Guiyang**	**27.42**	**319**	*i*P		**P**	**07 04 56.8**	**+0.3**
GYA				pP		pP	07 05 11.0	+1.7
GYA				sP		sP	07 05 19.5	+4.2
GYA				PP		**PnPn**	**07 05 45.3**	**+2.3**
GYA				PcP		**PcP**	**07 08 15.8**	**+1.3**
GYA				S		**S**	**07 09 31.5**	**-2.2**
GYA				sS		**sS**	**07 09 56.8**	**+1.5**
GYA				SS		**SnSn**	**07 10 51.5**	**+4.5**
GYA				ScP		ScP	07 11 48.0	-3.1
GYA				ScS		**ScS**	**07 15 40.3**	**-2.7**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,130nm,4.9s							
GYA				LR		LR		
	comp=Z,610nm,17.0s							
GYA				LR		LR		
	comp=Z,580nm,17.8s							
GYA				LR		LR		
	comp=Z,620nm,17.2s							
SURT	**Suratani**	**27.49**	**277**	P		**P**	**07 04 59.6**	**+2.4**
	comp=Z,12nm,1.2s							
PSI	**Prapat**	**27.64**	**264**	P		**P**	**07 05 00.1**	**+1.4**
PSI	**Prapat**	**27.64**	**264**	P		**P**	**07 04 58.9**	**+0.3**
PSI	**Prapat**	**27.64**	**264**	P		**P**	**07 04 58.9**	**+0.3**
	comp=Z,13nm,0.8s,baz=47,slow=5.3,SNR=8.4							
PSI	**Prapat**	**27.64**	**264**	P		**P**	**07 04 59.1**	**+0.4**
	baz=28,SNR=8.5							
NANT	**Nan**	**27.91**	**299**	P		**P**	**07 05 01.6**	**+0.8**
	comp=Z,65nm,0.5s,comp=Z,6μm							
SRDT	**SRDT**	**27.96**	**289**	P		P	07 05 05.5	+4.1
	comp=Z,59nm,0.7s,comp=Z,8μm							
UTHA	**Uthaitani**	**27.97**	**291**	P		**P**	**07 05 02.3**	**+0.9**
	comp=Z,7.0nm,0.9s,comp=Z,61nm							
KHLT	**Khaolaem Dam**	**28.57**	**289**	P		P	07 05 09.4	+2.6
	comp=Z,5.7nm,1.4s							
ENH	**Enshi**	**28.58**	**328**	*eP*		**P**	**07 05 07.6**	**+0.9**
	comp=Z,13nm,0.8s							
KCSI	**Kotacane, Aceh**	**28.69**	**266**	P		**P**	**07 05 06.6**	**-1.3**
LAMP	**Lampang**	**28.74**	**297**	P		**P**	**07 05 09.9**	**+1.6**
	comp=Z,6.2nm,0.8s							
KMI	**Kunming**	**29.32**	**312**	P		**P**	**07 05 14.5**	**+0.9**
KMI				pP		**pP**	**07 05 25.0**	**-1.5**
KMI				S		S	07 09 57.5	-6.3
KMI				pmax		pmax		
	comp=Z,17nm,0.8s							
KMI				LR		LR		
	comp=Z,500nm,16.4s							
KMI				LR		LR		
	comp=Z,390nm,19.6s							
KMI				LR		LR		
	comp=Z,760nm,18.8s							
CMAR	**Chiang Mai Arr**	**29.33**	**297**	P		**P**	**07 05 14.1**	**+0.5**
CMAR				PcP		**PcP**	**07 08 19.3**	**+0.1**
CMAR				S		**S**	**07 10 00.7**	**-3.0**
CMAR				ScP		**ScP**	**07 11 58.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**29.33**	**297**	P		**P**	**07 05 14.1**	**+0.5**
	comp=Z,6.6nm,0.8s,baz=120,slow=7.4,SNR=30							
CMAR				PcP		**PcP**	**07 08 19.3**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=109,slow=0.7,SNR=6.6							
CMAR				S		**S**	**07 10 00.7**	**-3.0**
	comp=Z,1.1nm,0.4s,baz=292,slow=26,SNR=4.5							
CMAR				ScP		**ScP**	**07 11 58.1**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=97,slow=1.1,SNR=9.6							
CMAR				LR		LR	07 17 00.5	
	comp=Z,499nm,19.2s,baz=292,slow=36							
CMMT	**Chiang Mai**	**29.45**	**297**	P		**P**	**07 05 14.9**	**+0.3**
	comp=Z,11nm,0.9s,comp=Z,493nm							
CHTO	**Chiang Mai**	**29.45**	**297**	*eP*		**P**	**07 05 14.6**	**0.0**
CHTO	**Chiang Mai**	**29.45**	**297**	*eP*		**P**	**07 05 14.6**	**0.0**
	comp=Z,1.8nm,0.7s							
CHTO	**Chiang Mai**	**29.45**	**297**	P		**P**	**07 05 15.0**	**+0.4**
	comp=Z,54nm,1.8s							
QIS	**Mount Isa**	**29.77**	**155**	P		**P**	**07 05 17.3**	**-0.1**
	baz=30,SNR=16							
CMAI	**Chiengmai2**	**29.78**	**299**	P		P	07 05 20.5	+2.8
	comp=Z,43nm,0.9s,comp=Z,9μm							
MHMT	**Maesarieng**	**30.14**	**295**	P		**P**	**07 05 21.4**	**+0.8**
	comp=Z,20nm,0.8s							
AS31	**Alice Springs**	**30.78**	**167**	*eP*		**P**	**07 05 25.3**	**-1.0**
ASAR	**Alice Springs**	**30.78**	**167**	P		**P**	**07 05 25.4**	**-0.9**
ASAR				PcP		**PcP**	**07 08 22.9**	**0.0**
ASAR				S		**S**	**07 10 25.9**	**-0.4**
ASAR				ScP		**ScP**	**07 12 03.5**	**+1.8**
ASAR	**Alice Springs**	**30.78**	**167**	P		**P**	**07 05 25.4**	**-0.9**
	comp=Z,3.9nm,0.4s,baz=342,slow=6.9,SNR=38							
ASAR				PcP		**PcP**	**07 08 22.9**	**0.0**
	comp=Z,4.0nm,0.7s,baz=356,slow=2.4,SNR=5.5							
ASAR				S		**S**	**07 10 25.9**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=341,slow=23,SNR=4.1							
ASAR				ScP		**ScP**	**07 12 03.5**	**+1.8**
	comp=Z,2.8nm,0.8s,baz=342,slow=3.0,SNR=6.8							
KSAR	**Wonju Array Be**	**30.91**	**2**	P		**P**	**07 05 26.7**	**-0.5**
KSRS	**Korea Array**	**30.92**	**2**	P		**P**	**07 05 26.7**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=189,slow=10,SNR=4.3							
KSRS				LR		LR	07 17 19.6	
	comp=Z,205nm,19.4s,baz=183,slow=35							
GIRL	**Giralia**	**31.25**	**202**	P		**P**	**07 05 30.0**	**-0.3**
	baz=32,SNR=4.2							
WRKA	**Warakurna**	**31.32**	**177**	P		**P**	**07 05 30.5**	**-0.5**
	baz=32,SNR=29							
MJAR	**Matsushiro Arr**	**31.86**	**18**	P		**P**	**07 05 37.3**	**+1.6**
MJAR	**Matsushiro Arr**	**31.86**	**18**	P		**P**	**07 05 37.3**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=249,slow=43,SNR=2.6							
MJAR				LR		LR	07 17 21.3	
	comp=Z,228nm,19.4s,baz=205,slow=34							
XAN	**Xi'an**	**31.91**	**332**	P		**P**	**07 05 36.5**	**+0.4**
XAN				pP		**pP**	**07 05 46.3**	**-2.7**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,16nm,4.8s							
CD2	**Chengdu**	**32.33**	**322**	*eP*		**P**	**07 05 41.3**	**+1.4**
CD2				pP		pP	07 05 55.3	+2.5
CD2				sP		sP	07 06 01.8	+3.1
CD2				PP		**PP**	**07 06 50.5**	**-3.2**
CD2				PcP		**PcP**	**07 08 28.0**	**+1.0**
CD2				S		**S**	**07 10 50.3**	**-0.2**
CD2				sS		**sS**	**07 11 14.3**	**+2.0**
CD2				SS		**SnSn**	**07 12 48.3**	**+1.9**
CD2				pmax		pmax		
	comp=Z,30nm,0.8s							
CD2				pmax		pmax		
	comp=Z,210nm,4.8s							
CD2				LR		LR		
	comp=Z,680nm,15.4s							
CD2				LR		LR		
	comp=Z,650nm,17.8s							
CD2				LR		LR		
	comp=Z,1μm,16.6s							
CTA	**Charters Tower**	**32.78**	**144**	P		**P**	**07 05 45.6**	**+1.8**
CTA	**Charters Tower**	**32.78**	**144**	P		**P**	**07 05 45.6**	**+1.8**
	comp=Z,4.8nm,0.8s,baz=334,slow=12,SNR=11							
CTAO	**Charters Tower**	**32.78**	**144**	*eP*		**P**	**07 05 45.4**	**+1.6**
CTAO				pmax		pmax		
	comp=Z,14nm,1.0s							
CTAO	**Charters Tower**	**32.78**	**144**	*eP*		**P**	**07 05 45.4**	**+1.6**
	comp=Z,14nm,1.0s							
MEEK	**Meekatharra**	**33.72**	**193**	P		**P**	**07 05 49.8**	**-2.2**
	baz=34,SNR=18							
BJT	**Baijiatuao**	**34.70**	**346**	*eP*		**P**	**07 05 59.5**	**-0.9**
	comp=Z,21nm,0.6s							
BJI	**Beijing**	**34.72**	**346**	P		**P**	**07 06 00.5**	**+0.1**
BJI				S		**S**	**07 11 27.5**	**+0.4**
BJI				pmax		pmax		
	comp=Z,23nm,1.2s							
BJI				pmax		pmax		
	comp=Z,240nm,4.1s							
BJI				LR		LR		
	comp=Z,350nm,29.4s							
BJI				LR		LR		
	comp=Z,260nm,26.7s							
BJI				LR		LR		
	comp=Z,250nm,23.1s							
LZH	**Lanzhou**	**36.06**	**328**	⇓P		P	07 06 15.0	+2.7
LZH				pP		pP	07 06 28.5	+3.2
LZH				sP		sP	07 06 35.5	+4.3
LZH				S		**S**	**07 11 53.3**	**+5.1**
LZH				pmax		pmax		
	comp=Z,44nm,1.0s							
LZH				pmax		pmax		
	comp=Z,170nm,4.0s							
LZH				LR		LR		
	comp=Z,810nm,15.0s							
LZH				LR		LR		
	comp=Z,740nm,14.8s							
LZH				LR		LR		
	comp=Z,1μm,16.6s							
MORW	**Morawa**	**36.67**	**195**	P		**P**	**07 06 16.9**	**-0.4**
	baz=37,SNR=14							
HHC	**Hu-ho-hao-te**	**36.77**	**341**	*eP*		**P**	**07 06 18.3**	**+0.1**
HHC				pP		pP	07 06 31.3	+0.1
HHC				sP		sP	07 06 41.3	+4.2
HHC				PP		**PnPn**	**07 07 44.5**	**+1.4**
HHC				S		**S**	**07 11 57.3**	**-1.5**
HHC				sS		**ScP**	**07 12 22.0**	**-0.6**
HHC				pmax		pmax		
	comp=Z,54nm,1.0s							
HHC				pmax		pmax		
	comp=Z,290nm,5.7s							
HHC				LR		LR		
	comp=Z,310nm,13.7s							
HHC				LR		LR		
	comp=Z,540nm,13.7s							
HHC				LR		LR		
	comp=Z,510nm,13.9s							
HNR	**Honiara**	**36.93**	**115**	LR		LR	07 19 24.4	
	comp=Z,276nm,21.2s,baz=286,slow=33							
FORT	**Forrest**	**37.02**	**178**	*eP*		**P**	**07 06 19.5**	**-0.7**
	comp=Z,38nm,0.6s							
FORT	**Forrest**	**37.02**	**178**	P		**P**	**07 06 19.8**	**-0.4**
	baz=37,SNR=22							
QLP	**Quilpie**	**37.07**	**153**	P		**P**	**07 06 20.7**	**-0.1**
	baz=37,SNR=7.8							
CN2	**Changchun**	**37.24**	**359**	*eP*		**P**	**07 06 21.3**	**-0.7**
CN2				*es*P		sP	07 06 43.8	+2.9
CN2				*eS*		**S**	**07 12 03.3**	**-2.4**
KMBL	**Kambalda**	**37.82**	**186**	P		**P**	**07 06 26.1**	**-0.9**
	baz=38,SNR=17							
USRK	**Usuriysk Arra**	**37.95**	**7**	P		**P**	**07 06 27.2**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=173,slow=8.6,SNR=5.8							
BLDU	**Ballidu**	**37.98**	**194**	P		**P**	**07 06 28.5**	**+0.1**
	baz=38,SNR=10							
MDJ	**Mudanjiang**	**38.15**	**4**	P		**P**	**07 06 29.8**	**+0.1**
MDJ				pP		pP	07 06 43.0	+0.3
MDJ				sP		sP	07 06 49.0	+0.4
MDJ				S		S	07 12 16.5	-2.9
MDJ				sS		sS	07 12 44.8	+3.4
MDJ				ScS		**ScS**	**07 16 34.5**	**-2.5**
MDJ				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,130nm,4.0s							
MDJ				LR		LR		
	comp=Z,190nm,26.9s							
MDJ				LR		LR		
	comp=Z,140nm,28.8s							
MDJ				LR		LR		
	comp=Z,260nm,26.9s							
KLBR	**Kellerberrin**	**38.69**	**192**	P		**P**	**07 06 34.6**	**+0.2**
	baz=39,SNR=9.8							
EIDS	**Eidsvold**	**39.66**	**144**	*eP*		**P**	**07 06 43.1**	**+0.5**
	comp=Z,140nm,2.4s							
EIDS	**Eidsvold**	**39.66**	**144**	P		**P**	**07 06 42.4**	**-0.2**
	baz=40,SNR=6.9							
BBOO	**Buckleboo**	**40.07**	**167**	*eP*		**P**	**07 06 44.6**	**-1.3**
	comp=Z,606nm,0.7s							
BBOO	**Buckleboo**	**40.07**	**167**	P		**P**	**07 06 45.6**	**-0.2**
	baz=40,SNR=37							
NWAO	**Narrogin (SRO)**	**40.09**	**192**	P		**P**	**07 06 45.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**40.09**	**192**	P		**P**	**07 06 45.3**	**-0.7**
	comp=Z,30nm,0.8s,baz=16,slow=9.2,SNR=21							
NWAO				LR		LR	07 22 52.6	
	comp=Z,167nm,20.6s,baz=186,slow=35							
ASAJ	**Asahikawa**	**40.14**	**18**	P		**P**	**07 06 45.8**	**-0.5**
ASAJ	**Asahikawa**	**40.14**	**18**	P		**P**	**07 06 45.8**	**-0.5**
	comp=Z,2.9nm,0.3s,baz=212,slow=9.5,SNR=5.1							
GTA	**Gaotai**	**40.66**	**328**	*eP*		**P**	**07 06 53.0**	**+2.1**
GTA				pP		pP	07 07 05.3	+1.3
GTA				sP		sP	07 07 10.8	+0.9
GTA				PcP		**PcP**	**07 08 55.3**	**+3.3**
GTA				S		**S**	**07 13 01.5**	**+3.9**
GTA				sS		**sS**	**07 13 22.0**	**+2.3**
GTA				SS		**SS**	**07 16 00.5**	**+1.1**
GTA				pmax		pmax		
	comp=Z,15nm,2.2s							
GTA				LR		LR		
	comp=Z,360nm,17.1s							
GTA				LR		LR		
	comp=Z,540nm,18.5s							
GTA				LR		LR		
	comp=Z,680nm,22.3s							
STKA	**Stephens Creek**	**40.74**	**160**	*eP*		**P**	**07 06 51.2**	**-0.1**
	comp=Z,8.1nm,1.2s							
STKA				ScP		**ScP**	**07 12 40.2**	**+2.4**
STKA	**Stephens Creek**	**40.74**	**160**	P		**P**	**07 06 51.4**	**0.0**
	comp=Z,15nm,0.6s,baz=336,slow=7.9,SNR=27							
STKA				ScP		**ScP**	**07 12 40.2**	**+2.4**
	comp=Z,9.6nm,1.0s,baz=321,slow=7.4,SNR=3.3							
STKA	**Stephens Creek**	**40.74**	**160**	P		**P**	**07 06 51.3**	**-0.1**
	baz=41,SNR=30							
H11S3	**WAKE ISLAND Hy**	**41.00**	**69**	T		T	07 50 54.1	
	baz=259,slow=68,SNR=23							
H11S1	**WAKE ISLAND Hy**	**41.02**	**69**	T		T	07 50 56.3	
	baz=259,slow=68,SNR=25							
H11S2	**WAKE ISLAND Hy**	**41.02**	**69**	T		T	07 50 54.3	
	baz=259,slow=68,SNR=41							
YUK	**Yuzh-Kuril'sk**	**41.16**	**21**	*de*P		P	07 06 50.2	-4.5
YUK				*i*			07 08 26.0	
YUK				MLR		MLR		
	comp=E,354nm,18.0s							
YUK				MLR		MLR		
	comp=Z,282nm,18.0s							
HTT	**Hallett**	**41.37**	**164**	P		**P**	**07 06 56.9**	**+0.3**
	baz=42,SNR=13							
RKGY	**Rocky Gully**	**41.77**	**192**	P		**P**	**07 07 00.1**	**+0.3**
	baz=42,SNR=30							
CMSA	**Cobar Meteorol**	**41.99**	**155**	P		**P**	**07 07 02.2**	**+0.6**
	baz=42,SNR=5.2							
TAPN	**Taplejung**	**42.23**	**304**	*eP*		**P**	**07 07 03.4**	**-0.7**
	comp=Z,37nm,1.0s							
TAPN	**Taplejung**	**42.23**	**304**	*eP*		**P**	**07 07 03.4**	**-0.7**
	comp=Z,37nm,1.0s							
ODAN	**Odare**	**42.31**	**303**	*eP*		**P**	**07 07 05.6**	**+0.9**
ODAN	**Odare**	**42.31**	**303**	*eP*		**P**	**07 07 05.6**	**+0.9**
RAMN	**Ramite**	**43.00**	**303**	*eP*		**P**	**07 07 09.9**	**-0.4**
	comp=Z,36nm,0.8s							
RAMN	**Ramite**	**43.00**	**303**	*eP*		**P**	**07 07 09.9**	**-0.4**
	comp=Z,36nm,0.8s							
JIRN	**Jiri**	**43.59**	**304**	*eP*		**P**	**07 07 13.9**	**-1.3**
	comp=Z,35nm,0.7s							
JIRN	**Jiri**	**43.59**	**304**	*eP*		**P**	**07 07 13.9**	**-1.3**
	comp=Z,35nm,0.7s							
ARMA	**Armidale**	**43.88**	**148**	P		**P**	**07 07 17.8**	**+0.7**
	baz=44,SNR=14							
GUN	**Gumba**	**43.94**	**304**	*eP*		**P**	**07 07 16.4**	**-1.6**
	comp=Z,58nm,0.8s							
GUN	**Gumba**	**43.94**	**304**	*eP*		**P**	**07 07 16.4**	**-1.6**
	comp=Z,58nm,0.8s							
PKI	**Pulchoki**	**44.21**	**303**	*eP*		**P**	**07 07 20.0**	**-0.1**
PKI	**Pulchoki**	**44.21**	**303**	*eP*		**P**	**07 07 20.0**	**-0.1**
PKI	**Pulchoki**	**44.21**	**303**	*eP*		**P**	**07 07 20.0**	**-0.1**
PKIN	**Phulchoki**	**44.22**	**303**	*eP*		**P**	**07 07 19.6**	**-0.6**
	comp=Z,9.9nm,0.5s							
KKN	**Kakani**	**44.39**	**304**	*eP*		**P**	**07 07 21.1**	**-0.4**
	comp=Z,33nm,1.0s							
KKN	**Kakani**	**44.39**	**304**	*eP*		**P**	**07 07 21.1**	**-0.4**
KKN				pmax		pmax		
	comp=Z,33nm,1.0s							
KKN	**Kakani**	**44.39**	**304**	*eP*		**P**	**07 07 21.1**	**-0.4**
	comp=Z,33nm,1.0s							
DMN	**Daman**	**44.48**	**303**	*eP*		**P**	**07 07 22.1**	**-0.1**
	comp=Z,29nm,0.8s							
DMN	**Daman**	**44.48**	**303**	*eP*		**P**	**07 07 22.1**	**-0.1**
	comp=Z,29nm,0.8s							
ULN	**Ulaanbaatar**	**44.49**	**341**	*eP*		**P**	**07 07 22.2**	**+0.4**
	comp=Z,15nm,1.1s							
SONM	**Songino Array**	**44.67**	**341**	P		**P**	**07 07 23.3**	**+0.1**
SONM				PcP		**PP**	**07 09 06.4**	**-1.9**
SONM				ScP		**ScP**	**07 12 55.5**	**+2.0**
SONM	**Songino Array**	**44.67**	**341**	P		**P**	**07 07 23.3**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=158,slow=8.4,SNR=26							
SONM				PcP		**PP**	**07 09 06.4**	**-1.9**
	comp=Z,3.1nm,0.8s,baz=149,slow=3.5,SNR=6.0							
SONM				ScP		**ScP**	**07 12 55.5**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=152,slow=3.8,SNR=4.8							
SONM				LR		LR	07 29 39.8	
	comp=Z,175nm,18.1s,baz=146,slow=41							
GKN	**Gorkha**	**45.00**	**304**	*eP*		**P**	**07 07 25.8**	**-0.4**
GKN	**Gorkha**	**45.00**	**304**	*eP*		**P**	**07 07 25.8**	**-0.4**
ARPS	**Mount Arapiles**	**45.32**	**163**	P		**P**	**07 07 29.0**	**+0.6**
	baz=46,SNR=14							
PALK	**Pallekele**	**45.39**	**274**	*eP*		**P**	**07 07 29.4**	**0.0**
	comp=Z,43nm,1.1s							
KOLN	**Koldanda**	**45.78**	**303**	*eP*		**P**	**07 07 31.2**	**-1.3**
	comp=Z,48nm,0.9s							
KOLN	**Koldanda**	**45.78**	**303**	*eP*		**P**	**07 07 31.2**	**-1.3**
	comp=Z,48nm,0.9s							
DANN	**Dangsing**	**45.85**	**304**	*eP*		**P**	**07 07 31.2**	**-1.9**
	comp=Z,44nm,0.7s							
DANN	**Dangsing**	**45.85**	**304**	*eP*		**P**	**07 07 31.2**	**-1.9**
	comp=Z,44nm,0.7s							
PYUN	**Piuthan**	**46.40**	**303**	*eP*		**P**	**07 07 36.6**	**-0.8**
	comp=Z,69nm,0.9s							
PYUN	**Piuthan**	**46.40**	**303**	*eP*		**P**	**07 07 36.6**	**-0.8**
	comp=Z,69nm,0.9s							
TOO	**Toolangi**	**47.24**	**159**	P		**P**	**07 07 45.2**	**+1.7**
	baz=48,SNR=8.8							
ZAK	**Zakamensk**	**47.91**	**340**	*eP*		**P**	**07 07 48.0**	**-0.6**
DZM	**Mont Dzumac**	**48.36**	**127**	*e*LR		LR	07 21 43.6	
	comp=Z,504nm,23.5s							
DZM	**Mont Dzumac**	**48.36**	**127**	P		**P**	**07

KSH LR LR
comp=N,140nm,5.7s
KSH LR LR
comp=N,100nm,4.3s
KSH LR LR
comp=N,250nm,16.3s
TKM2 Tokmak 2 57.56 318 *i* P **P** 07 08 59.9 -0.2
TKM2 Tokmak 2 57.56 318 P **P** 07 08 59.9 -0.2
SNR=5.3
UCH Uchtor 58.02 316 *i* P **P** 07 09 02.6 -1.1
UCH Uchtor 58.02 316 P **P** 07 09 02.6 -1.1
SNR=8.7
ZALV Zalesovo Beam 58.07 332 *i* P **P** 07 09 03.0 -0.2
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 58.07 332 P **P** 07 09 03.1 -0.2
ZALV Zalesovo Beam 58.07 332 P **P** 07 09 03.1 -0.2
comp=Z,3.5nm,0.8s,baz=116,slow=6.8,SNR=11
ZALV LR LR 07 34 55.1
comp=Z,193nm,21.9s,baz=171,slow=37
AAK Ala-Archa 58.19 317 *e*P **P** 07 09 04.4 -0.1
AAK pmax pmax
comp=Z,27nm,2.0s
AAK Ala-Archa 58.19 317 *e*P **P** 07 09 04.3 -0.1
comp=Z,27nm,2.0s
AAK Ala-Archa 58.19 317 P **P** 07 09 04.9 +0.4
comp=Z,0.7nm,0.4s,baz=159,slow=9.6,SNR=6.9
USP Ospenovka 58.43 318 *i* P **P** 07 09 05.9 -0.1
USP Ospenovka 58.43 318 P **P** 07 09 06.0 -0.1
SNR=6.3
AML Almayashu 58.54 316 P **P** 07 09 05.8 -1.5
SNR=7.1
EKS2 Erkin-Say 58.69 317 *i* P **P** 07 09 08.2 +0.3
EKS2 Erkin-Say 58.69 317 P **P** 07 09 08.3 +0.3
SNR=5.8
EKS2 Erkin-Say 58.69 317 *e*P **P** 07 09 08.3 +0.3
comp=Z,21nm,1.6s
KURK Kurchatov 59.33 327 P P 07 09 09.3 -2.8
KURK pmax pmax
comp=Z,19nm,1.0s
KURK Kurchatov 59.33 327 *e*P **P** 07 09 09.9 -2.1
comp=Z,16nm,0.9s
NVS Novosibirsk 59.36 333⇓ *i*P **P** 07 09 10.9 -1.2
NVS *e*S **S** 07 17 17.9 +0.8
NVS pmax pmax
comp=N,18nm,1.9s
NVS pmax pmax
comp=E,18nm,1.9s
NVS pmax pmax
comp=Z,27nm,1.9s
NVS smax smax
comp=N,32nm,3.0s
NVS smax smax
comp=E,22nm,2.7s
KKAR Karatay Array 61.08 316 *e*P **P** 07 09 21.9 -2.4
KKAR pmax pmax
comp=Z,23nm,1.3s
KKAR Karatay Array 61.08 316 *e*P **P** 07 09 21.9 -2.4
comp=Z,22nm,1.3s
BKZ Black Stump Fm 64.78 139 *e*P **P** 07 09 49.2 +0.3
comp=Z,21nm,1.1s
BVA0 Borovoye Array 64.92 326 P **P** 07 09 48.0 -1.5
BVA0 pmax pmax
comp=Z,40nm,1.2s
BVAR Borovoye Array 64.92 326 P **P** 07 09 48.2 -1.3
BVAR Borovoye Array 64.92 326 P **P** 07 09 48.2 -1.3
BVAR Borovoye Array 64.92 326 P **P** 07 09 48.2 -1.3
comp=Z,13nm,0.8s,baz=120,slow=8.7,SNR=51
BRVK Borovoye 64.99 326⇑ *e*P P 07 09 47.6 -2.4
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK Borovoye 64.99 326 *e*P P 07 09 47.5 -2.4
comp=Z,23nm,0.9s
TIXI Tiksi 65.18 1⇑ *e*P **P** 07 09 50.6 -0.2
TIXI pmax pmax
comp=Z,27nm,1.7s
TIXI Tiksi 65.18 1 *e*P **P** 07 09 50.2 -0.6
comp=Z,26nm,1.3s
AB31 Akbulak array 69.90 320 P **P** 07 10 19.6 -1.4
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 69.90 320 *e*P P 07 10 18.6 -2.5
comp=Z,11nm,0.9s
AKTO Aktyubinsk 71.38 321 LR LR 07 44 04.2
comp=Z,227nm,20.5s,baz=103,slow=38
SVE Sverdlovsk 71.53 328 *e*P **P** 07 10 30.9 +0.1
SVE pmax pmax
comp=Z,28nm,0.9s
ARU Arti 72.52 327 *c i*P **P** 07 10 36.5 -0.2
ARU 07 13 13.4
ARU S **S** 07 20 00.0 +2.7
ARU pmax pmax
comp=Z,17nm,0.7s
ARU Arti 72.52 327 *e*P **P** 07 10 36.3 -0.5
comp=Z,19nm,0.5s
PRGR Permogore 80.01 331 *e*P **P** 07 11 17.9 -1.2
PRGR pmax pmax
comp=Z,15nm,0.3s
ZEI Tsey 80.19 312 *e*P **P** 07 11 20.7 -0.1
ZEI pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 80.93 313 P **P** 07 11 25.4 +0.9
KBZ Khabaz 80.93 313 P **P** 07 11 25.4 +0.9
KBZ Khabaz 80.93 313 P **P** 07 11 25.4 +0.9
comp=Z,2.6nm,1.0s,baz=103,slow=5.7,SNR=5.2
KBZ LR LR 07 52 43.6
comp=Z,149nm,19.6s,baz=79,slow=40
KIV Kislovodsk 81.08 313 *e*P **P** 07 11 25.9 +0.5
KIV *e* 07 11 35.8
KIV pmax pmax
comp=Z,8.0nm,1.1s
COLD Coldfoot 81.55 23 *e*P **P** 07 11 29.1 +1.8
comp=Z,6.0nm,0.8s
VRHR Novokhopersk 81.78 321 *e*P **P** 07 11 27.7 -1.1
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,4.0nm,0.9s
MCK McKinley 81.91 27 *e*P **P** 07 11 30.3 +1.0
MCK pmax pmax
comp=Z,22nm,1.0s
MCK McKinley 81.91 27 *e*P **P** 07 11 30.3 +1.0
comp=Z,22nm,1.0s
COLA College 82.41 25 *e*P **P** 07 11 31.6 -0.2
COLA pmax pmax
comp=Z,7.0nm,1.1s
COLA College 82.41 25 *e*P **P** 07 11 31.6 -0.2
comp=Z,7.4nm,1.1s
ILAR Eielson Array 82.82 26 P **P** 07 11 32.6 -1.5
ILAR Eielson Array 82.82 26 P **P** 07 11 32.6 -1.5
comp=Z,0.6nm,0.6s,baz=244,slow=4.9,SNR=11
VORD Divnogorie 83.25 321 *e*P **P** 07 11 35.9 -0.6
VORD pmax pmax
comp=Z,8.0nm,0.6s
VORD pmax pmax
comp=N,7.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 83.33 321 *e*P **P** 07 11 35.7 -1.1
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=Z,7.0nm,0.7s
VSR pmax pmax
comp=E,7.0nm,0.8s
TMCR Tamitsa 83.57 334 *e*P **P** 07 11 37.9 +0.1
TMCR *e* 07 14 50.2
TMCR pmax pmax
comp=Z,38nm,1.2s
OBN Obninsk 84.70 325 *e*P **P** 07 11 43.9 +0.2
OBN *e* 07 11 51.3
OBN pmax pmax
comp=Z,46nm,1.6s
OBN MLR MLR
comp=Z,200nm,18.0s
VNDA Vanda 86.11 173 *e*P **P** 07 11 49.8 -0.5
comp=Z,4.5nm,0.9s
VNDA Vanda 86.11 173 P **P** 07 11 49.7 -0.5
comp=Z,4.3nm,0.8s,baz=310,slow=5.9,SNR=18
VNDA LR LR 07 51 42.9
comp=Z,198nm,19.3s,baz=349,slow=37
MAW Mawson 86.16 200 *e*P **P** 07 11 50.2 -0.5
comp=Z,2.4nm,0.8s
MAW Mawson 86.16 200 P **P** 07 11 49.8 -0.8
comp=Z,10nm,0.8s,baz=51,slow=6.3,SNR=13
MAW Mawson 86.16 200 P **P** 07 11 51.9 +1.2
baz=86,SNR=7.9
PPT Papeete 86.23 108 LR LR 07 43 34.6
comp=Z,284nm,21.5s,baz=336,slow=31
PPT2 Papeete2 86.23 108 *e*S S 07 22 22.1 -2.0
comp=Z,146nm,29.0s
PPT2 Papeete2 86.23 108 *e*LR LR 07 39 15.9
comp=Z,366nm,25.2s
TBI Tubuai 87.14 114 *e*SS SS 07 28 17.0 -0.3
comp=Z,130nm,30.0s
TBI Tubuai 87.14 114 *e*LR LR 07 39 47.0
comp=Z,300nm,24.5s
INK Inuvik 87.79 21 *e*P **P** 07 11 58.1 -0.6
comp=Z,5.3nm,1.0s
INK Inuvik 87.79 21 P **P** 07 11 58.5 -0.2
comp=Z,2.5nm,0.8s,baz=270,slow=1.6,SNR=5.0
SPITS Spitsbergen Ar 87.80 349 LR LR 07 54 57.6
comp=Z,164nm,19.3s,baz=55,slow=38
ARCES ARCESS Array B 87.84 340 P **P** 07 11 58.1 -0.8
ARCES ARCESS Array B 87.84 340 P **P** 07 11 58.1 -0.8
comp=Z,3.6nm,0.6s,baz=78,slow=6.3,SNR=19
ARCES LR LR 07 52 17.0
comp=Z,109nm,19.4s,baz=3.7,slow=36
BRTR Keskin Array B 88.08 310 P **P** 07 12 00.2 -0.7
BRTR Keskin Array B 88.08 310 P **P** 07 12 00.2 -0.7
comp=Z,1.0nm,0.9s,baz=113,slow=3.5,SNR=4.2
KMBO Kilima Mbogo 89.30 269 LR LR 07 48 57.6
comp=Z,80nm,19.8s,baz=91,slow=33
FINES FINESS Array B 89.33 332 P **P** 07 12 05.1 -1.0
FINES FINESS Array B 89.33 332 P **P** 07 12 05.1 -1.0
comp=Z,4.3nm,0.9s,baz=99,slow=2.5,SNR=9.8
FINES LR LR 07 54 01.0
comp=Z,161nm,20.9s,baz=55,slow=37
AKASG Malin Array Be 89.63 321 *c e*P **P** 07 12 07.8 +0.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 89.63 321 P **P** 07 12 06.6 -1.1
AKASG Malin Array Be 89.63 321 P **P** 07 12 06.6 -1.1
comp=Z,2.0nm,0.6s,baz=69,slow=4.6,SNR=12
AKASG LR LR 07 57 18.7
comp=Z,152nm,21.5s,baz=280,slow=39
KIEV Kiev 89.64 321⇓ *e*P **P** 07 12 07.0 -0.8
MLR Muntele Rosu 92.76 316 LR LR 07 58 26.5
comp=Z,73nm,21.1s,baz=79,slow=38
SYO Syowa Base 94.81 201⇑ *e*P P 07 12 29.0 -2.2
SYO Syowa Base 94.81 201⇑ *e*PcP **P** 07 12 30.5 -0.7
RES Resolute Bay 95.24 10 P **P** 07 12 32.7 -0.5
RES Resolute Bay 95.24 10 P **P** 07 12 32.7 -0.5
comp=Z,0.7nm,0.8s,baz=323,slow=8,SNR=3.6
NB2 NORSAR Subarra 96.26 334 P **P** 07 12 36.9 -1.2
comp=Z,1.8nm,0.7s,baz=66,slow=4.8
NOA NORSAR Array B 96.26 334 P **P** 07 12 36.6 -1.5
NOA NORSAR Array B 96.26 334 P **P** 07 12 36.6 -1.5
comp=Z,1.8nm,0.8s,baz=64,slow=4.4,SNR=5.1
NOA LR LR 07 58 21.2
comp=Z,173nm,21.8s,baz=85,slow=37
QSPA South Pole Qui 96.31 180 P **P** 07 12 37.1 -1.2
QSPA South Pole Qui 96.31 180 P **P** 07 12 37.1 -1.2
comp=Z,1.6nm,0.8s,baz=256,slow=2.5,SNR=9.1
JMIC Jan Mayen 97.19 346 LR LR 08 02 44.2
comp=Z,125nm,21.3s,baz=286,slow=39
YKA Yellowknife Ar 97.19 24 P **P** 07 12 41.5 -0.7
YKA PKKPbc PKKPbc 07 29 19.8 -4.1
YKA Yellowknife Ar 97.19 24 P **P** 07 12 41.5 -0.7
comp=Z,0.5nm,0.7s,baz=300,slow=4.4,SNR=12
YKA PKKPbc PKKPbc 07 29 19.8 -4.1
comp=Z,0.7nm,0.7s,baz=119,slow=2.5,SNR=20
VRAC Vranov 97.86 322 LR LR 08 02 31.8
comp=Z,112nm,20.3s,baz=280,slow=39
GERES GERESS Array B 99.80 322 P **Pdif** 07 12 53.0 -1.5
GERES GERESS Array B 99.80 322 P **Pdif** 07 12 53.0 -1.5
comp=Z,0.3nm,0.6s,baz=15,slow=4.1,SNR=2.2
PDAR Pinedale Array 109.53 40 PKKPab PKKPab 07 28 55.2 -3.5
PDAR Pinedale Array 109.53 40 PKKPab PKKPab 07 28 55.3 -3.5
comp=Z,0.8nm,0.9s,baz=116,slow=4.1,SNR=4.1
SCHQ Schefferville 117.97 9 PKP **PKPdf** 07 17 54.9 -1.6
SCHQ Schefferville 117.97 9 PKP **PKPdf** 07 17 54.9 -1.6
comp=Z,2.9nm,0.8s,baz=315,slow=2.9,SNR=3.1
TXAR Lajitas Array 120.17 51 PKP **PKPdf** 07 18 02.0 +0.5
TXAR PKKPbc **PKKPbc** 07 28 09.7 -0.1
TXAR Lajitas Array 120.17 51 PKP **PKPdf** 07 18 02.0 +0.5
comp=Z,0.2nm,0.7s,baz=256,slow=2.7,SNR=4.1
TXAR PKKPbc **PKKPbc** 07 28 09.7 -0.1
comp=Z,0.2nm,0.6s,baz=126,slow=4.6,SNR=3.9
TOA0 Torodi Ar. Sit 121.77 290 *e*PKPdf **PKPdf** 07 18 03.1 -1.6
TORD Torodi Ar. Bea 121.77 290 PKP **PKPdf** 07 18 03.0 -1.8
TORD Torodi Ar. Bea 121.77 290 PKP **PKPdf** 07 18 03.0 -1.8
comp=Z,4.6nm,0.7s,baz=46,slow=2.0,SNR=34
JCT Junction City 122.51 48 *e*PKIKP **PKPdf** 07 18 04.7 -1.2
JCT Junction City 122.51 48 *e*PKPdf **PKPdf** 07 18 04.7 -1.2
SADO Sadowa 124.10 22 PKP **PKPdf** 07 18 07.9 -0.6
SADO Sadowa 124.10 22 PKP **PKPdf** 07 18 07.9 -0.6
comp=Z,10.0nm,0.9s,baz=280,slow=3.7,SNR=3.4
DBIC Dimbokro 129.68 284 *e*PKPdf **PKPdf** 07 18 17.2 -2.8
DBIC Dimbokro 129.68 284 PKP **PKPdf** 07 18 19.7 -0.3
comp=Z,4.8nm,0.9s,baz=94,slow=4.7,SNR=5.4
JTS JuntasAbangare 144.62 62 *e*PKPdf **PKPdf** 07 18 47.0 -0.5
TRQA Tornquist 147.59 168 *e*PKPbc **PKPbc** 07 18 53.9 -0.6
CFAA Coronel Fontan 151.43 153 PKPbc **PKPbc** 07 19 04.4 0.0
CFAA Coronel Fontan 151.43 153 PKPbc **PKPbc** 07 19 04.4 0.0
LCO Las Campanas 152.31 146 *e*PKPbc **PKPbc** 07 19 07.1 +0.4
MTP Monte Pirata 152.92 26 *e*PKPbc **PKPbc** 07 19 07.8 -0.2
LPAZ La Paz 162.70 126 *e*PKPdf **PKPdf** 07 19 13.6 0.0
LPAZ La Paz 162.70 126 PKP **PKPdf** 07 19 14.9 +1.4
comp=Z,1.7nm,0.8s,baz=184,slow=0.7,SNR=5.5
BDFB Brasilia 169.33 210 PKPab **PKPab** 07 20 29.8 -0.8
BDFB Brasilia 169.33 210 PKPab **PKPab** 07 20 29.8 -0.8
comp=Z,3.9nm,0.9s,baz=184,slow=4.7,SNR=6.5

IDC 26 07:25:50.2±3.3, **5.85N**×**124.99E, h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.3**/24, **mbtmpg3.3**/3, **Error ellipse: s-maj=357.3km s-min=27.3km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.23**	**160**	P	P	07 31 36.7	+0.5
	0.2nm,0.5s,baz=340,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**30.60**	**164**	P	P	07 32 05.6	-0.6
	0.1nm,0.4s,baz=347,slow=8.1,SNR=4.7						
MKAR	**Makanchi Array**	**54.84**	**325**	P	P	07 35 22.2	-0.1
	0.3nm,0.6s,baz=120,slow=7.9,SNR=5.1						

MEX ***26*** *07:41:46.4±0.6, 14.39N×93.12W, h30km±28km, MD4.2*
NEIC ***26*** *07:41:46.4, 14.39N×93.12W, h30km, mb4.3/23, MD4.2(MEX), After MEX.*
IDC ***26*** *07:41:47.4±3.9, 14.19N×92.62W, h64km±30km, mb3.7/8, mb1 3.9/11, mb1mx3.7/28, mbtmpg3.9/11, ML3.8/4, MS3.3/2, Ms1 3.3/2, ms1mx2.9/36, Error ellipse: s-maj=50.4km s-min=24.5km az=38.0*

ISC 26 07:41:47.5±0.8, **14.39N**±0.08×**93.09W**±0.04, **h51**km, **n181**, σ2**s15**/182, **mb4.3**/25, **63C-56D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.95**	**57**	*e*P	**Pn**	**07 42 01.5**	**-3.1**
THIG				*i* S	**Sn**	**07 42 13.7**	**-3.4**
THIG		**0.95**	**57**	*e*P	**Pn**	**07 42 01.5**	**-3.1**
THIG				*i* S	**Sn**	**07 42 13.7**	**-3.4**
PCIG		**1.31**	**355**	*e*P	**Pn**	**07 42 06.9**	**-2.5**
PCIG				*i* S	**Sn**	**07 42 21.4**	**-4.4**
PCIG		**1.31**	**355**	*e*P	**Pn**	**07 42 06.9**	**-2.5**
PCIG				*i* S	**Sn**	**07 42 21.4**	**-4.4**
APG	**El Apazote**	**2.61**	**76**	P	Pn	07 42 22.6	-4.9
APG	**El Apazote**	**2.61**	**76**	P	Pn	07 42 22.6	-4.9
	38nm,0.3s,baz=247,slow=6.9,SNR=195						
HUIG	**Huatulco**	**3.22**	**295**	*e*P	Pn	07 42 32.4	-3.2
HUIG				*i* S	**Sn**	**07 43 09.5**	**-3.2**
HUIG	**Huatulco**	**3.22**	**295**	*e*P	Pn	07 42 32.4	-3.2
HUIG				*i* S	**Sn**	**07 43 09.5**	**-3.2**
VHO	**Vista Hermosa**	**4.40**	**308**	*i* P	**Pn**	**07 42 49.7**	**-2.3**
VHO				*i* S	**Sn**	**07 43 38.7**	**-3.5**
VHO	**Vista Hermosa**	**4.40**	**308**	*i* P	**Pn**	**07 42 49.7**	**-2.3**
VHO				*e*S	**Sn**	**07 43 38.7**	**-3.5**
SCIG	**Sabancuy**	**4.90**	**22**	*e*P	**Pn**	**07 42 57.8**	**-0.9**
SCIG				*i* S	**Sn**	**07 43 52.2**	**-1.8**
SCIG	**Sabancuy**	**4.90**	**22**	*e*P	**Pn**	**07 42 57.8**	**-0.9**
SCIG				*i* S	**Sn**	**07 43 52.2**	**-1.8**
PNIG	**Pinotepa**	**5.25**	**293**	*e*P	**Pn**	**07 43 02.2**	**-1.3**
PNIG				*i* S	**Sn**	**07 43 59.6**	**-3.1**
PNIG	**Pinotepa**	**5.25**	**293**	*e*P	**Pn**	**07 43 02.2**	**-1.3**
PNIG				*i* S	**Sn**	**07 43 59.6**	**-3.1**
TGUH	**Tegucigalpa,Un**	**5.65**	**93**	*e*Pn	**Pn**	**07 43 08.3**	**-0.7**
TEIG	**Tepich**	**7.40**	**38**	*i* P	**Pn**	**07 43 31.6**	**-1.4**
TEIG	**Tepich**	**7.40**	**38**	*e*Pn	**Pn**	**07 43 31.6**	**-1.4**
TEIG				*e*Sn	**Sn**	**07 44 56.0**	**+0.4**
TEIG	**Tepich**	**7.40**	**38**	P	**Pn**	**07 43 31.1**	**-1.8**
	16nm,0.3s,baz=292,slow=0.6,SNR=77						
TEIG				LR	LR	07 46 48.0	
	comp=Z,155nm,19.8s,baz=268,slow=41						
JTS	**JuntasAbangare**	**8.94**	**116**	*e*Pn	**Pn**	**07 43 54.1**	**+0.1**
	26nm,1.0s						
JTS	**JuntasAbangare**	**8.94**	**116**	P	Pn	07 43 47.0	-7.0
	0.2nm,0.3s,baz=41,slow=20,SNR=2.0						
832A	**Faith Ranch, C**	**15.23**	**336**	⇑P	**P**	**07 45 23.9**	**+0.5**
	baz=15						
732A	**Laxson Ranch,**	**15.63**	**337**	⇓P	**P**	**07 45 28.8**	**+1.0**
	baz=16						
532A	**Rocksprings**	**16.87**	**339**	⇑P	**P**	**07 45 42.8**	**+1.1**
	baz=17						
434A	**Burnet**	**17.02**	**345**	⇑P	**P**	**07 45 44.4**	**+1.1**
	baz=17						
531A	**Rocksprings**	**17.13**	**338**	⇓P	**P**	**07 45 46.5**	**+2.0**
	baz=17						
JCT	**Junction City**	**17.16**	**340**	⇓P	**P**	**07 45 46.6**	**+1.7**
	baz=17						
433A	**Art**	**17.19**	**342**	⇑P	**P**	**07 45 46.1**	**+0.9**
	baz=17						
335A	**Moody**	**17.27**	**347**	⇑P	**P**	**07 45 47.1**	**+1.1**
	baz=17						
334A	**Lometa**	**17.51**	**345**	⇑P	**P**	**07 45 50.2**	**+1.6**
	baz=18						
432A	**Menard**	**17.52**	**341**	⇓P	**P**	**07 45 50.2**	**+1.3**
	baz=18						
628A	**Black Gap, Mar**	**17.54**	**331**	⇓P	**P**	**07 45 52.0**	**+2.9**
	baz=18						
431A	**Sonora**	**17.62**	**338**	⇑P	**P**	**07 45 52.5**	**+2.6**
	baz=18						
333A	**Richland Sprin**	**17.70**	**343**	⇑P	**P**	**07 45 52.5**	**+1.8**
	baz=18						
627A	**Terlingua Ranc**	**17.75**	**329**	⇑P	**P**	**07 45 54.4**	**+2.9**
	baz=18,SNR=12						
529A	**Stev Forest Ra**	**17.77**	**333**	⇑P	**P**	**07 45 53.7**	**+2.0**
	baz=18						
TXAR	**Lajitas Array**	**17.80**	**328**	P	**P**	**07 45 54.9**	**+3.0**
TXAR	**Lajitas Array**	**17.80**	**328**	P	**P**	**07 45 54.9**	**+3.0**
	0.1nm,0.3s,baz=150,slow=13,SNR=14						
332A	**Millersview**	**17.98**	**341**	⇓P	**Pn**	**07 45 55.8**	**+1.9**
	baz=18						
528A	**Cox Ranch, San**	**18.06**	**332**	⇓P	**Pn**	**07 45 57.6**	**+2.6**
	baz=18						
429A	**Davenport Ranc**	**18.07**	**335**	⇑P	**Pn**	**07 45 57.7**	**+2.7**
	baz=18,SNR=9.9						
234A	**Clairette**	**18.13**	**346**	⇑P	**Pn**	**07 45 56.9**	**+1.3**
	baz=18						
331A	**San Angelo**	**18.13**	**339**	⇑P	**Pn**	**07 45 57.6**	**+1.9**
	baz=18						
626A	**Big Bend Ranch**	**18.21**	**328**	⇑P	**Pn**	**07 45 59.9**	**+3.1**
	baz=18						
527A	**Woodward Ranch**	**18.43**	**330**	⇓P	**Pn**	**07 46 01.9**	**+2.3**
	baz=18						
330A	**Mertzon**	**18.48**	**338**	⇓P	**Pn**	**07 46 01.4**	**+1.3**
	baz=18						
428A	**Kincaid Ranch,**	**18.50**	**333**	⇓P	**Pn**	**07 46 04.5**	**+4.3**
	baz=18						
526A	**Mary Lane Ranc**	**18.60**	**329**	⇓P	**Pn**	**07 46 04.1**	**+2.6**
	baz=19,SNR=6.5						
231A	**Bronte**	**18.67**	**340**	⇑P	**Pn**	**07 46 03.8**	**+1.5**
	baz=19						
329A	**Wagon Wheel Ra**	**18.86**	**336**	⇓P	**Pn**	**07 46 05.7**	**+1.1**
	baz=19						
230A	**Sterling City**	**18.90**	**338**	⇓P	**Pn**	**07 46 06.5**	**+1.5**
	baz=19						
426A	**McDonald Obser**	**19.07**	**330**	⇓P	**Pn**	**07 46 08.5**	**+1.2**
	baz=19						
ABTX	**Abilene, Hawle**	**19.11**	**343**	*e*P	**Pn**	**07 46 09.1**	**+1.6**
	7.3nm,0.9s						
328A	**Wristen Ranch,**	**19.11**	**334**	⇓P	**Pn**	**07 46 08.6**	**+1.0**
	baz=19,SNR=11						
326A	**Caldwell Ranch**	**19.58**	**331**	⇑P	**Pn**	**07 46 14.9**	**+1.8**
	baz=20						
228A	**UT Block 9, Go**	**19.66**	**335**	⇑P	**Pn**	**07 46 14.5**	**+0.3**
	baz=20						
Z32A	**Haskell**	**19.70**	**344**	⇑P	**Pn**	**07 46 15.4**	**+0.9**
	baz=20						
129A	**Stewart Farms,**	**19.84**	**338**	⇑P	**Pn**	**07 46 16.8**	**+0.6**
	baz=20						
227A	**Bennet, Jal**	**19.86**	**334**	⇓P	**Pn**	**07 46 18.1**	**+1.6**
	baz=20						
Z31A	**Sharp Cattle R**	**19.90**	**342**	⇓P	**Pn**	**07 46 17.7**	**+0.8**
	baz=20						
128A	**Castleberry Fa**	**20.07**	**336**	⇓P	Pn	07 46 19.0	+0.2
	baz=20,SNR=6.9						
MIAR	**Mount Ida**	**20.07**	**359**	*e*P	**P**	**07 46 16.6**	**0.0**
	9.8nm,0.9s						
226B	**Tecolote Peak,**	**20.30**	**332**	⇑P	Pn	07 46 22.0	+0.3
	baz=20						
Z29A	**Hungry Hill Ra**	**20.35**	**339**	⇑P	**P**	**07 46 22.2**	**0.0**
	baz=20						
324A	**Moseley Ranch,**	**20.42**	**328**	⇓P	Pn	07 46 23.6	+0.4
	baz=20						
127A	**Arkansas Junct**	**20.46**	**335**	⇑P	**P**	**07 46 22.2**	**+1.1**
	baz=20						
Y31A	**Rekieta Farm,**	**20.54**	**343**	⇑P	**P**	**07 46 22.9**	**+1.1**
	baz=21,SNR=6.2						
Z28A	**Tucker Farm, M**	**20.62**	**337**	⇑P	Pn	07 46 24.3	-1.2
	baz=21,SNR=8.0						
225A	**Deer Hill, Car**	**20.64**	**331**	⇓P	Pn	07 46 25.4	-0.4
	baz=21						
X33A	**Lawton**	**20.65**	**347**	⇓P	Pn	07 46 25.3	-0.4
	baz=21						
126A	**Clayton Basin,**	**20.72**	**333**	⇑P	Pn	07 46 26.1	-0.6
	baz=21						
WMOK	**Wichita Mounta**	**20.90**	**347**	*e*P	Pn	07 46 27.5	-1.1
	2.8nm,0.9s						
224A	**Cornudas Mount**	**20.95**	**329**	⇑P	**P**	**07 46 27.6**	**+1.2**
	baz=21						
Z27A	**Tatum**	**20.96**	**336**	⇑P	**P**	**07 46 27.1**	**+0.7**
	baz=21,SNR=9.9						
125A	**Gardner Draw,**	**21.02**	**332**	⇓P	**P**	**07 46 29.4**	**+2.3**
	baz=21,SNR=13						
X31A	**McDonald Ranch**	**21.09**	**344**	⇑P	**P**	**07 46 29.0**	**+1.3**
	baz=21						
Y28A	**McKinney Farm,**	**21.13**	**338**	⇑P	**P**	**07 46 29.3**	**+1.1**
	baz=21,SNR=6.2						
X30A	**Coker Ranch, T**	**21.17**	**342**	⇑P	**P**	**07 46 29.8**	**+1.2**
	baz=21,SNR=5.1						
Z26A	**Caprock**	**21.24**	**334**	⇑P	**P**	**07 46 31.6**	**+2.1**
	baz=21,SNR=9.2						
MSTX	**Muleshoe**	**21.37**	**337**	*e*P	**P**	**07 46 33.6**	**+2.8**
	9.2nm,0.9s						
MSTX	**Muleshoe**	**21.37**	**337**	⇓P	**P**	**07 46 32.7**	**+1.8**
	baz=21						
124A	**Stringfield Ra**	**21.43**	**330**	⇑P	**P**	**07 46 33.5**	**+2.0**
	baz=22						
X29A	**Tulia**	**21.43**	**340**	⇓P	**P**	**07 46 33.0**	**+1.6**
	baz=22,SNR=5.2						
Y27A	**Causey**	**21.44**	**337**	⇓P	**P**	**07 46 33.9**	**+2.2**
	baz=22						
Z25A	**Roswell**	**21.57**	**333**	⇓P	**P**	**07 46 34.9**	**+1.9**
	baz=22						
W31A	**Holland Ranch,**	**21.60**	**345**	⇑P	**P**	**07 46 35.1**	**+1.9**
	baz=22						
AMTX	**Amarillo**	**21.82**	**341**	*e*P	**P**	**07 46 38.1**	**+2.4**
	20nm,0.6s						
AMTX	**Amarillo**	**21.82**	**341**	⇓P	**P**	**07 46 37.8**	**+2.2**
	baz=22						
V33A	**Lossen Ranch,**	**21.84**	**349**	⇓P	**P**	**07 46 36.3**	**+0.6**
	baz=22						
Z24A	**Sheeppen Canyo**	**21.90**	**332**	⇑P	**P**	**07 46 38.9**	**+2.2**
	baz=22,SNR=8.9						
320A	**Kipp Ranch, An**	**22.02**	**323**	⇓P	**P**	**07 46 41.1**	**+3.3**
	baz=22						
W29A	**Amarillo**	**22.03**	**341**	⇓P	**P**	**07 46 39.7**	**+1.8**
	baz=22						
X27A	**F and S Farms,**	**22.10**	**338**	⇓P	**P**	**07 46 40.7**	**+2.1**
	baz=22						
Y25A	**Mesa, Roswell**	**22.10**	**334**	⇑P	**P**	**07 46 41.4**	**+2.7**
	baz=22,SNR=8.8						
V31A	**Spring Creek L**	**22.14**	**345**	⇑P	**P**	**07 46 41.4**	**+2.4**
	baz=22						
Z23A	**Rita Site, Whi**	**22.26**	**330**	⇑P	**P**	**07 46 43.4**	**+3.0**
	baz=22						
X26A	**CR and CF Fran**	**22.28**	**336**	⇓P	**P**	**07 46 43.1**	**+2.5**
	baz=22						
U34A	**Anderson Ranch**	**22.31**	**351**	⇓P	**P**	**07 46 42.1**	**+1.3**
	baz=22						
W28A	**Vega**	**22.34**	**340**	⇑P	**P**	**07 46 41.7**	**+0.5**
	baz=22,SNR=6.2						
Y24A	**Capitan**	**22.43**	**332**	⇓P	**P**	**07 46 44.4

W27A	**Bowe Ranch, En**	**22.46**	**338**	⇑P		**P**	**07 46 43.5**	**+1.0**
	baz=22,SNR=11							
121A	**Cookes Peak, D**	**22.48**	**326**	*e*P		**P**	**07 46 45.8**	**+3.0**
	7.3nm,0.8s							
121A	**Cookes Peak, D**	**22.48**	**326**	⇑P		**P**	**07 46 45.5**	**+2.6**
	baz=22,SNR=11							
319A	**Douglas**	**22.49**	**321**	⇑P		**P**	**07 46 46.3**	**+3.3**
	baz=22							
X25A	**Clemmons Ranch**	**22.61**	**334**	⇑P		**P**	**07 46 46.0**	**+1.9**
	baz=23,SNR=5.5							
Z22A	**Elephant Butte**	**22.62**	**329**	⇑P		**P**	**07 46 45.7**	**+1.4**
	baz=23							
Y23A	**Lovelace Mesa,**	**22.72**	**331**	⇓P		**P**	**07 46 47.5**	**+2.1**
	baz=23,SNR=5.3							
TKL	**Tuckaleechee C**	**22.77**	**20**	LR		LR	07 57 48.1	
	comp=Z,100nm,20.4s,baz=85,slow=42							
W25A	**X Bar L Ranch,**	**23.12**	**336**	⇓P		**P**	**07 46 51.0**	**+1.5**
	baz=23,SNR=5.7							
U28A	**Mallet**	**23.37**	**341**	⇓P		**P**	**07 46 53.1**	**+1.4**
	baz=23							
V26A	**Tequesquite Ra**	**23.37**	**338**	⇑P		**P**	**07 46 54.1**	**+2.3**
	baz=23							
W24A	**Lazy 6 Ranch,**	**23.51**	**334**	⇓P		**P**	**07 46 55.9**	**+2.7**
	baz=24							
U27A	**Thompson Grove**	**23.60**	**340**	⇓P		**P**	**07 46 55.3**	**+1.4**
	baz=24							
V25A	**Rancho No Teng**	**23.73**	**336**	⇑P		**P**	**07 46 57.1**	**+1.9**
	baz=24							
ANMO	**Albuquerque**	**23.75**	**332**	*e*P		**P**	**07 46 57.9**	**+2.5**
	1.0nm,0.6s							
ANMO	**Albuquerque**	**23.75**	**332**	P		**P**	**07 46 57.6**	**+2.2**
	1.2nm,0.7s,baz=162,slow=15,SNR=10.0							
W23A	**Werner Place,**	**23.79**	**333**	⇓P		**P**	**07 46 58.6**	**+2.8**
	baz=24							
V24A	**Rampart Ranch,**	**23.89**	**335**	⇓P		**P**	**07 46 59.4**	**+2.6**
	baz=24,SNR=5.9							
U26A	**Atchley Ranch,**	**23.89**	**338**	⇑P		**P**	**07 46 58.8**	**+2.0**
	baz=24,SNR=9.9							
TUC	**Tucson**	**24.06**	**321**	*e*P		**P**	**07 47 01.7**	**+3.5**
	3.1nm,0.9s							
U25A	**Circle Dot Ran**	**24.14**	**337**	⇑P		**P**	**07 47 02.4**	**+3.4**
	baz=24,SNR=6.9							
V23A	**Ortiz Mt. (NFS**	**24.29**	**333**	⇑P		**P**	**07 47 02.5**	**+2.0**
	baz=24							
R31A	**Burdett**	**24.47**	**348**	⇑P		**P**	**07 47 02.3**	**+0.5**
	baz=25							
T26A	**Comanche Natio**	**24.54**	**339**	⇑P		**P**	**07 47 03.6**	**+1.0**
	baz=25							
V22A	**San Miguel Ran**	**24.75**	**332**	⇑P		**P**	**07 47 08.1**	**+3.4**
	baz=25							
U23A	**El Rito**	**24.79**	**334**	⇓P		**P**	**07 47 07.6**	**+2.6**
	baz=25							
T25A	**Trinidad**	**24.80**	**338**	⇑P		**P**	**07 47 08.4**	**+3.3**
	baz=25,SNR=6.5							
KSU1	**Kansas State U**	**24.80**	**353**	*e*P		**P**	**07 47 05.3**	**+0.5**
	6.1nm,0.5s							
KSU1	**Kansas State U**	**24.80**	**353**	⇑P		**P**	**07 47 03.9**	**-0.9**
	baz=25							
T24B	**San Luis**	**25.09**	**336**	⇓P		**P**	**07 47 11.5**	**+3.7**
	baz=25							
U22A	**Llaves**	**25.12**	**333**	⇓P		**P**	**07 47 09.7**	**+1.7**
	baz=25							
S25A	**Robets Cordova**	**25.27**	**339**	⇓P		**P**	**07 47 10.0**	**+0.7**
	baz=25							
T23A	**Casias Ranch,**	**25.33**	**335**	⇓P		**P**	**07 47 14.1**	**+4.1**
	baz=25,SNR=8.7							
S24A	**Houchin Ranch,**	**25.54**	**337**	⇑P		**P**	**07 47 12.8**	**+1.0**
	baz=26							
SDCO	**Great Sand Dun**	**25.74**	**337**	*e*P		**P**	**07 47 14.8**	**+1.2**
	3.6nm,1.0s							
P30A	**Selden**	**25.83**	**347**	⇓P		**P**	**07 47 14.7**	**+0.5**
	baz=26							
R24A	**Sanders Place,**	**26.02**	**338**	⇓P		**P**	**07 47 16.1**	**+0.1**
	baz=26							
R23A	**Moffat**	**26.25**	**337**	⇑P		**P**	**07 47 20.3**	**+2.0**
	baz=26							
S22A	**4UR Ranch, Cre**	**26.27**	**335**	⇑P		**P**	**07 47 20.9**	**+2.5**
	baz=26							
P23A	**Jefferson**	**27.30**	**338**	⇑P		**P**	**07 47 29.9**	**+2.2**
	baz=27							
SMCO	**Snowmass**	**27.55**	**336**	*e*P		**P**	**07 47 33.6**	**+3.6**
	16nm,1.8s							
N20A	**Spence Gulch,**	**29.48**	**336**	⇓P		**P**	**07 47 48.1**	**+1.1**
	baz=30							
PDAR	**Pinedale Array**	**31.63**	**337**	P		**P**	**07 48 07.7**	**+1.6**
PDAR				PcP		**PcP**	**07 50 53.9**	**-3.4**
PDAR	**Pinedale Array**	**31.63**	**337**	P		**P**	**07 48 07.7**	**+1.6**
	0.7nm,0.8s,baz=125,slow=7.8,SNR=4.5							
PDAR				PcP		**PcP**	**07 50 53.9**	**-3.4**
	0.6nm,1.1s,baz=172,slow=2.7,SNR=3.9							
G25A	**Newell**	**31.92**	**346**	⇓P		**P**	**07 48 09.9**	**+1.5**
	baz=32							
I20A	**Worland**	**32.14**	**339**	⇑P		**P**	**07 48 11.9**	**+1.6**
	baz=32							
H21A	**Big Horn, Sher**	**32.39**	**341**	⇓P		**P**	**07 48 14.0**	**+1.5**
	baz=32							
I19A	**Meeteetse**	**32.52**	**338**	⇑P		**P**	**07 48 14.6**	**+0.9**
	baz=33							
H20A	**Greybull**	**32.57**	**340**	⇑P		**P**	**07 48 16.0**	**+1.9**
	baz=33							
REDW	**Red Top Meadow**	**32.64**	**336**	*e*P		**P**	**07 48 17.3**	**+2.5**
	8.7nm,0.9s							
NVAR	**Mina Array Bea**	**32.70**	**322**	P		**P**	**07 48 18.6**	**+3.2**
NVAR	**Mina Array Bea**	**32.70**	**322**	P		**P**	**07 48 18.6**	**+3.2**
	2.2nm,0.7s,baz=134,slow=8.2,SNR=19							
LOHW	**Long Hollow**	**32.76**	**336**	*e*P		**P**	**07 48 18.0**	**+2.2**
	4.4nm,0.8s							
MOOW	**Moose Ponds**	**32.92**	**336**	*e*P		P	07 48 21.6	+4.3
	2.9nm,0.8s							
H19A	**Powell**	**33.06**	**339**	⇑P		**P**	**07 48 19.7**	**+1.3**
	baz=33							
FLWY	**Flagg Ranch**	**33.19**	**337**	*e*P		P	07 48 23.5	+3.9
	4.4nm,0.9s							
H18A	**Shoshone NF, C**	**33.31**	**338**	⇑P		**P**	**07 48 22.5**	**+1.9**
	baz=33,SNR=14							
YMR	**Madison River**	**33.78**	**337**	*e*P		P	07 48 29.4	+4.6
	20nm,1.4s							
F19A	**Roth Farm, Mol**	**34.09**	**340**	⇓P		**P**	**07 48 27.8**	**+0.5**
	baz=34							
E20A	**Meyer Farm, Mu**	**34.41**	**342**	⇓P		**P**	**07 48 31.4**	**+1.5**
	baz=34							
E19A	**Rath Farm, Rou**	**34.58**	**341**	⇑P		**P**	**07 48 32.9**	**+1.5**
	baz=35							
MCMT	**McKenzie Canyo**	**34.66**	**335**	*e*P		**P**	**07 48 35.2**	**+2.7**
	3.1nm,1.0s							
BOZ	**Bozeman (W)**	**34.86**	**337**	*e*P		**P**	**07 48 36.8**	**+2.7**
	15nm,1.8s							
DLMT	**Dillon**	**35.00**	**336**	*e*P		**P**	**07 48 38.1**	**+2.9**
	10nm,1.5s							
D19A	**Cripps Ranch,**	**35.23**	**341**	⇓P		**P**	**07 48 39.2**	**+2.1**
	baz=35							
MSO	**Missoula**	**36.74**	**336**	*e*P		**P**	**07 48 51.9**	**+1.8**
	40nm,2.6s							
MSO	**Missoula**	**36.74**	**336**	⇓P		**P**	**07 48 51.4**	**+1.4**
	baz=37							
A19A	**Klindworth Far**	**36.77**	**343**	⇓P		**P**	**07 48 51.8**	**+1.6**
	baz=37							
F10A	**Beach Ranch, E**	**37.46**	**332**	*e*P		**P**	**07 48 57.9**	**+1.7**
	61nm,2.5s							
YKA	**Yellowknife Ar**	**50.41**	**347**	P		**P**	**07 50 40.0**	**+0.5**
YKA				PcP		**PcP**	**07 51 56.8**	**-0.5**
YKA	**Yellowknife Ar**	**50.41**	**347**	P		**P**	**07 50 40.0**	**+0.5**
	2.3nm,0.6s,baz=152,slow=7.4,SNR=78							
YKA				PcP		**PcP**	**07 51 56.7**	**-0.5**
	0.2nm,0.6s,baz=151,slow=3.6,SNR=4.4							
INK	**Inuvik**	**59.76**	**344**	*e*P		**P**	**07 51 47.5**	**+0.6**
	3.2nm,0.8s							
INK	**Inuvik**	**59.76**	**344**	P		**P**	**07 51 47.8**	**+0.9**
	2.2nm,0.8s,baz=111,slow=8.3,SNR=9.1							
RES	**Resolute Bay**	**60.30**	**359**	*e*P		**P**	**07 51 50.1**	**-0.3**
	2.0nm,0.8s							
RES	**Resolute Bay**	**60.30**	**359**	P		**P**	**07 51 50.4**	**-0.1**
	1.4nm,0.6s,baz=182,slow=5.2,SNR=11							
ILAR	**Eielson Array**	**62.06**	**337**	P		**P**	**07 52 03.8**	**+1.1**
ILAR	**Eielson Array**	**62.06**	**337**	P		**P**	**07 52 03.8**	**+1.1**
	0.6nm,0.7s,baz=137,slow=4.6,SNR=7.6							
EKA	**Eskdalemuir Ar**	**78.27**	**36**	P		**P**	**07 53 39.9**	**-2.0**
EKA	**Eskdalemuir Ar**	**78.27**	**36**	P		**P**	**07 53 39.9**	**-2.0**
	0.8nm,0.7s,baz=285,slow=6.6,SNR=4.3							
HHC	**Hu-ho-hao-te**	**120.47**	**338**	*e*PKP		**PKPdf**	**08 00 32.5**	**-1.4**
HHC				sPKP			08 01 11.0	
HHC				PP		**PP**	**08 02 04.0**	**+4.2**
HHC				PKS		**PKSdf**	**08 04 10.0**	**-0.7**
HHC				SKS		SKSdf	08 07 32.5	-9.5
CMAR	**Chiang Mai Arr**	**145.27**	**340**	PKPbc		**PKPbc**	**08 01 20.2**	**0.0**
CMAR	**Chiang Mai Arr**	**145.27**	**340**	PKPbc		**PKPbc**	**08 01 20.2**	**0.0**
	1.5nm,0.6s,baz=341,slow=3.6,SNR=5.9							

IDC ***26*** *07:48:59.0±0.5, 53°.91N×161°.58E, h0km, mb4.1/29, mb1 4.3/32, mb1mx4.3/39, mbtmp4.1/32, ML4.4/3, MS3.7/6, Ms1 3.7/6, ms1mx3.2/43, Error ellipse: s-maj=14.2km s-min=9.1km az=168.0*

MOS ***26*** *07:48:59.9±1.2, 53°.73N×161°.73E, h18km, mb4.7/37, Error ellipse: s-maj=9.1km s-min=5.3km az=76.8*

KRSC ***26*** *07:48:59.2±4.1, 53°.63N×161°.86E, h12km±12km, ML4.8*

ISCJB ***26*** *07:49:00.8±0.7, 53°.62N±0°.02×161°.90E±0°.03, h23km±4km, mb4.2/63, MS4.0/7, Error ellipse: s-maj=3.4km s-min=2.2km az=39.4*

NEIC ***26*** *07:49:00.4±2.9, 53°.89N×161°.55E, h7km±19km, mb4.6/24, Error ellipse: s-maj=8.7km s-min=4.5km az=164.0*

BJI ***26*** *07:49:04.7, 54°.50N×161°.06E, h29km, mB5.0/18, mb4.5/22, Ms4.5/7, Ms7 4.2/5*

ISC 26 07:49:00.7±0.8, 53°66N±0°.02×161°78E±0°.03, h16km±4km, n214, σ1s57/260, mb4.3/63, MS4.0/7, 3C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.90**	**358**	PN		**Pg**	**07 49 16.5**	**-1.7**
MKZ				*S*		**Sg**	**07 49 28.7**	**-1.3**
MKZ	**Mys Kozlova**	**0.90**	**358**	*e*P		**Pg**	**07 49 16.5**	**-1.7**
MKZ				*i* S		**Sg**	**07 49 28.7**	**-1.3**
SPN	**Mys Shipunski**	**1.20**	**243**	PN		**Pg**	**07 49 23.6**	**-0.1**
SPN				S		**Sg**	**07 49 39.7**	**+0.4**
SPN	**Mys Shipunski**	**1.20**	**243**	*e*P		**Pg**	**07 49 23.6**	**-0.1**
SPN				*i* S		**Sg**	**07 49 39.7**	**+0.4**
KII	**Karymskiy**	**1.44**	**286**	*e*P		**Pn**	**07 49 24.9**	**-1.2**
KII				*i* S		**Sn**	**07 49 42.8**	**-1.8**
NLC	**Nalytchevo**	**1.54**	**253**	PN		**Pn**	**07 49 27.1**	**-0.3**
NLC				S		**Sb**	**07 49 48.5**	**+0.5**
NLC	**Nalytchevo**	**1.54**	**253**	*e*P		**Pn**	**07 49 27.1**	**-0.3**
NLC				*i* S		**Sb**	**07 49 48.5**	**+0.5**
KZV	**Kizimen**	**1.70**	**330**	*e*P		**Pn**	**07 49 29.5**	**-0.3**
KZV				*i* S		**Sn**	**07 49 51.2**	**0.0**
SDLR	**Sedlovina**	**1.77**	**259**	*e*P		**Pn**	**07 49 30.3**	**-0.5**
SDLR				*i* S		**Sn**	**07 49 53.2**	**+0.2**
SMAR	**Somma**	**1.83**	**259**	*e*P		**Pn**	**07 49 31.5**	**-0.1**
SMAR				*i* S		**Sn**	**07 49 55.2**	**+0.8**
UGLR	**Uglovaya**	**1.83**	**257**	*e*P		**Pn**	**07 49 31.7**	**+0.2**
UGLR				*i* S		**Sn**	**07 49 54.1**	**-0.2**
KRER	**Koryakskii**	**1.85**	**260**	*e*P		**Pn**	**07 49 32.2**	**+0.4**
KRER				*i* S		**Sb**	**07 49 57.1**	**0.0**
AVH	**Avacha**	**1.86**	**259**	*e*P		**Pn**	**07 49 32.4**	**+0.5**
AVH				*i* S		**Sb**	**07 49 56.7**	**-0.7**
TUMR	**Tumrok**	**1.89**	**330**	*e*P		**Pn**	**07 49 32.6**	**+0.3**
TUMR				*i* S		**Sn**	**07 49 56.6**	**+0.8**
PET	**Petropavlovsk**	**1.98**	**253**	*e*PN		**Pn**	**07 49 33.9**	**+0.4**
PET				*e*			07 49 59.5	
PET	**Petropavlovsk**	**1.98**	**253**	*e*P		**Pb**	**07 49 34.2**	**-2.1**
PET				*i* S		**Sn**	**07 49 58.1**	**+0.2**
PET	**Petropavlovsk**	**1.98**	**253**	*e*Pn		**Pn**	**07 49 33.9**	**+0.4**
PET				*e*Sn		**Sb**	**07 49 59.5**	**-1.2**
INSR	**Institute**	**2.00**	**254**	*e*P		**Pn**	**07 49 33.7**	**0.0**
INSR				*i* S		**Sn**	**07 49 58.4**	**+0.1**
GNL	**Ganaly**	**2.29**	**272**	*e*P		**Pn**	**07 49 38.4**	**+0.6**
GNL				*i* S		**Sn**	**07 50 07.8**	**+2.2**
KMNR	**Kamenistaya**	**2.29**	**338**	*e*P		**Pn**	**07 49 39.0**	**+1.2**
KMNR				*i* S		**Sb**	**07 50 08.3**	**-1.3**
RUS	**Russkaya**	**2.33**	**239**	PN		**Pb**	**07 49 39.5**	**-2.6**
RUS				S		**Sb**	**07 50 08.8**	**-1.8**
RUS	**Russkaya**	**2.33**	**239**	*e*P		**Pb**	**07 49 39.5**	**-2.6**
RUS				*i* S		**Sb**	**07 50 08.8**	**-1.8**
BZMR	**Bezymyannaya**	**2.40**	**342**	*e*P		**Pn**	**07 49 40.8**	**+1.4**
BZMR				*i* S		**Sn**	**07 50 11.0**	**+2.4**
BZWR	**Bezymyannyi-We**	**2.43**	**343**	*e*P		**Pb**	**07 49 41.9**	**-2.1**
BZWR				*i* S		**Sb**	**07 50 12.7**	**-1.1**
ZLN	**Zelenaya**	**2.43**	**347**	*e*P		**Pb**	**07 49 42.1**	**-1.9**
ZLN				*i* S		**Sn**	**07 50 11.5**	**+2.3**
KIRR	**Kirishev**	**2.45**	**341**	*e*P		**Pn**	**07 49 41.5**	**+1.5**
KIRR				*i* S		**Sb**	**07 50 12.5**	**-1.8**
MTVR	**Mutnovka**	**2.47**	**243**	*e*P		**Pb**	**07 49 42.0**	**-2.7**
MTVR				*i* S		**Sb**	**07 50 13.2**	**-1.7**
KPT	**Kopyto**	**2.48**	**339**	*e*P		**Pb**	**07 49 42.2**	**-2.7**
KPT				*i* S		**Sb**	**07 50 13.6**	**-1.7**
GRL	**Gorelyy**	**2.50**	**245**	*e*P		**Pb**	**07 49 43.2**	**-1.9**
GRL				*i* S		**Sb**	**07 50 14.0**	**-1.6**
PEA0B	**Petropavlovsk-**	**2.51**	**259**	*e*Pn		**Pn**	**07 49 41.9**	**+1.2**
PEA0B				*e*Sn		**Sn**	**07 50 13.1**	**+2.1**
PETK	**Petropavlovsk-**	**2.51**	**259**	PN		**Pn**	**07 49 41.4**	**+0.7**
PETK							07 50 13.5	
PETK				pmax	pmax			
	comp=Z,54nm,0.3s							
PETK				smax	smax			
	comp=N,43nm,0.3s							
PETK	**Petropavlovsk-**	**2.51**	**259**	Pn		**Pn**	**07 49 41.4**	**+0.7**
PETK				Sn		**Sn**	**07 50 13.4**	**+2.5**
PETK	**Petropavlovsk-**	**2.51**	**259**	Pn		**Pn**	**07 49 41.4**	**+0.7**
	comp=N,54nm,0.3s,baz=83,slow=19,SNR=250							
PETK				Sn		**Sn**	**07 50 13.5**	**+2.5**
	comp=N,42nm,0.3s,baz=99,slow=13,SNR=8.5							
PETK				LR			07 50 52.4	
	comp=N,676nm,18.7s,baz=260,slow=46							
LGNR	**Loginova**	**2.51**	**346**	*e*P		**Pn**	**07 49 42.3**	**+1.3**
LGNR				*i* S		**Sn**	**07 50 13.4**	**+2.0**
CIRR	**Tsirk**	**2.54**	**347**	*e*P		**Pn**	**07 49 42.8**	**+1.6**
CIRR				*i* S		**Sn**	**07 50 14.2**	**+2.4**
KBTR	**Krutoberegovo**	**2.62**	**13**	PN		**Pn**	**07 49 42.4**	**+0.1**
KBTR				S		**Sn**	**07 50 14.8**	**+1.0**
KBTR	**Krutoberegovo**	**2.62**	**13**	*e*P		**Pn**	**07 49 42.4**	**+0.1**
KBTR				*i* S		**Sn**	**07 50 14.8**	**+1.0**
KOZ	**Kozyrevsk**	**2.65**	**336**	*e*P		**Pn**	**07 49 43.5**	**+0.8**
KOZ				*i* S		**Sn**	**07 50 16.8**	**+2.4**
KOZR	**Kozyr**	**2.65**	**336**	PN		**Pn**	**07 49 43.5**	**+0.8**
KOZR				S		**Sn**	**07 50 16.8**	**+2.4**
KBG	**Krutoberegovo**	**2.66**	**11**	PN		**Pn**	**07 49 43.2**	**+0.5**
KBG				S		**Sn**	**07 50 16.4**	**+1.8**
KBG	**Krutoberegovo**	**2.66**	**11**	*e*P		**Pn**	**07 49 43.2**	**+0.5**
KBG				*i* S		**Sn**	**07 50 16.4**	**+1.8**
KRSR	**Krestovskiy**	**2.66**	**345**	*e*P		**Pb**	**07 49 45.3**	**-2.6**
KRSR				*i* S		**Sn**	**07 50 16.9**	**+2.1**
ASAK	**Asacha**	**2.67**	**243**	*e*P		**Pb**	**07 49 45.5**	**-2.6**
ASAK				*i* S		**Sb**	**07 50 18.0**	**-2.6**
KLY	**Klyuchi**	**2.74**	**347**	PN		**Pn**	**07 49 45.7**	**+1.8**
KLY				S		**Sb**	**07 50 19.7**	**-2.8**
KLY	**Klyuchi**	**2.74**	**347**	*e*P		**Pn**	**07 49 45.7**	**+1.8**
KLY				*i* S		**Sb**	**07 50 19.7**	**-2.8**
APC	**Apacha**	**2.87**	**257**	*e*P		**Pb**	**07 49 48.5**	**-3.0**
APC				*i* S		**Sb**	**07 50 23.3**	**-3.0**
ESO	**Esso**	**2.89**	**323**	PN		**Pn**	**07 49 46.4**	**+0.4**
ESO				S		**Sn**	**07 50 21.7**	**+1.3**
ESO	**Esso**	**2.89**	**323**	*e*P		**Pn**	**07 49 46.4**	**+0.4**
ESO				*i* S		**Sn**	**07 50 21.7**	**+1.3**
BKI	**Bering**	**2.90**	**56**	PN		**Pn**	**07 49 45.5**	**-0.5**
BKI	**Bering**	**2.90**	**56**	*e*P		**Pn**	**07 49 45.5**	**-0.5**
BKI				*i* S		**Sn**	**07 50 17.8**	**-2.6**
SRDR	**Sredinnyy**	**2.92**	**337**	*e*P		**Pn**	**07 49 47.1**	**+0.7**
SRDR				*i* S		**Sn**	**07 50 22.0**	**+0.8**
BDR	**Baidarnaya**	**2.94**	**354**	*e*P		**Pn**	**07 49 48.2**	**+1.5**
BDR				*i* S		**Sn**	**07 50 23.3**	**+1.7**
SMKR	**Semkarok**	**2.94**	**357**	*e*P		**Pn**	**07 49 48.6**	**+1.9**
SMKR				*i* S		**Sn**	**07 50 24.3**	**+2.7**
SRKR	**Sorokina**	**3.02**	**354**	*e*P		**Pn**	**07 49 50.0**	**+2.1**
SRKR				*i* S		**Sn**	**07 50 27.0**	**+3.2**
MIPR	**Malaya Ipel'ka**	**3.34**	**248**	*e*P		Pb	07 49 55.3	-4.1
PAU	**Pauzhetka**	**3.74**	**236**	PN		Pn	07 50 00.5	+2.8
PAU	**Pauzhetka**	**3.74**	**236**	*e*P		Pn	07 50 00.5	+2.8
SKR	**Severo-Kuril's**	**4.59**	**232**	*e*PN		**Pn**	**07 50 08.0**	**-1.3**
SKR				pmax	pmax			
	comp=Z,50nm,0.5s							
SKR	**Severo-Kuril's**	**4.59**	**232**	*e*P		**Pn**	**07 50 10.8**	**+1.5**
SKR				*i* S		**Sn**	**07 51 01.1**	**-1.0**
OSSR	**Ossora**	**5.65**	**7**	*e*P		**Pn**	**07 50 24.5**	**+0.7**
FX1	**Attu Island--F**	**6.87**	**92**	*e*Pn		**Pn**	**07 50 40.8**	**+0.2**
FX1				*e*Sn		**Sn**	**07 51 54.2**	**-4.2**
FX1	**Attu Island--F**	**6.87**	**92**	Pn		**Pn**	**07 50 40.6**	**-0.1**
	comp=Z,53nm,0.3s,baz=280,slow=4.6,SNR=178							
FX1				Sn		**Sn**	**07 51 52.9**	**-5.5**
	comp=Z,13nm,0.3s,baz=143,slow=20,SNR=5.3							
TILK	**Tilichiki**	**7.21**	**17**	*e*P		Pn	07 50 48.0	+2.8
TILK				*i* S		**Sn**	**07 52 10.3**	**+3.7**
YSS	**Yuzh-Sakhalins**	**13.86**	**249**	*e*P		**Pn**	**07 52 13.2**	**-3.1**
YUK	**Yuzh-Kuril'sk**	**14.20**	**234**	⇓*e*P		**Pn**	**07 52 20.0**	**-0.9**
ASAJ	**Asahikawa**	**15.78**	**241**	*e*P		**P**	**07 52 43.3**	**-2.5**
	comp=Z,23nm,1.1s							
ASAJ	**Asahikawa**	**15.78**	**241**	Pn		**Pn**	**07 52 42.7**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=71,slow=20,SNR=7.4							
ASAJ				LR		LR	07 58 45.4	
	comp=Z,175nm,19.2s,baz=129,slow=37							
HABR	**Khabarovsk**	**17.53**	**264**	*e*P		P	07 53 10.1	+4.9
HABR				*e*S		**Sn**	**07 56 16.5**	**-2.3**
HABR				pmax	pmax			
	comp=Z,42nm,1.5s							
HABR				MLR	MLR			
	comp=Z,212nm,18.0s							
YAK	**Yakutsk**	**18.85**	**309**	*e*P		**Pn**	**07 53 19.6**	**-0.6**
TNA	**Tin City**	**19.17**	**40**	*e*P		**Pn**	**07 53 24.7**	**+0.7**
	comp=Z,12nm,0.9s							
USRK	**Ussuriysk Arra**	**21.60**	**256**	P		**P**	**07 53 51.3**	**+1.8**
	comp=Z,3.9nm,0.8s,baz=54,slow=14,SNR=7.1							
TIXI	**Tiksi**	**23.01**	**334**	⇑*e*P		**P**	**07 54 03.6**	**-0.7**
MAJO	**Matsushiro**	**23.69**	**233**	*de*P		**P**	**07 54 13.4**	**+1.9**
MAJO	**Matsushiro**	**23.69**	**233**	*e*P		**P**	**07 54 13.7**	**+2.2**
	comp=Z,52nm,1.4s							
MAT	**Matsushiro**	**23.69**	**233**	P		**P**	**07 54 13.4**	**+1.9**
MJAR	**Matsushiro Arr**	**23.69**	**233**	P		**P**	**07 54 13.8**	**+2.3**
MJAR	**Matsushiro Arr**	**23.69**	**233**	P		**P**	**07 54 13.8**	**+2.3**
	comp=Z,12nm,0.9s,baz=8.9,slow=14,SNR=15							
ILAR	**Eielson Array**	**27.70**	**46**	P		**P**	**07 54 47.5**	**-0.1**
ILAR	**Eielson Array**	**27.70**	**46**	P		**P**	**07 54 47.5**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=262,slow=8.3,SNR=22							
KSRS	**Korea Array**	**28.37**	**249**	P		**P**	**07 54 54.7**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=48,slow=9.9,SNR=6.7							
KSAR	**Wonju Array Be**	**28.40**	**249**	P		**P**	**07 54 54.7**	**+0.6**
INK	**Inuvik**	**32.80**	**38**	*e*P		**P**	**07 55 32.9**	**+0.3**
	comp=Z,2.5nm,0.8s							
INK	**Inuvik**	**32.80**	**38**	P		**P**	**07 55 32.3**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=291,slow=6.7,SNR=14							
H11N2	**WAKE ISLAND Hy**	**34.09**	**171**	T		T		
	baz=356,slow=76,SNR=56						08 33 05.3	
H11N3	**WAKE ISLAND Hy**	**34.11**	**171**	T		T		
	baz=356,slow=76,SNR=39						08 33 06.3	
H11N1	**WAKE ISLAND Hy**	**34.11**	**171**	T		T		
	baz=356,slow=76,SNR=40						08 33 14.7	
TLY	**Talaya**	**34.47**	**291**	⇑*e*P		**P**	**07 55 49.6**	**+2.2**
SONM	**Songino Array**	**34.76**	**283**	P		**P**	**07 55 48.2**	**-1.8**
SONM				PcP		**PcP**	**07 58 25.1**	**+1.9**
SONM	**Songino Array**	**34.76**	**283**	P		**P**	**07 55 48.2**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=86,slow=7.9,SNR=3.7							
SONM				PcP		**PcP**	**07 58 25.1**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=94,slow=2.7,SNR=3.8							
SONM				LR		LR	08 11 54.1	
	comp=Z,141nm,18.4s,baz=24,slow=40							
HHC	**Hu-ho-hao-te**	**35.66**	**270**	*e*P		**P**	**07 56 00.0**	**+2.1**
HHC				pP		pP	07 56 08.3	+5.5
HHC				PP		**PP**	**07 57 19.8**	**+1.1**
HHC				S		**S**	**08 01 30.0**	**-3.6**
HHC				sS		sS	08 01 48.5	+6.7
HHC				pmax	pmax			
	comp=Z,33nm,0.8s							
HHC				pmax	pmax			
	comp=Z,200nm,5.3s							
HHC				LR	LR			
	comp=Z,320nm,14.0s							
HHC		

NVAR	**Mina Array Bea**	**54.60**	**72**	P		**P**	**07 58 30.2**	**+1.9**
NVAR	**Mina Array Bea**	**54.60**	**72**	P		**P**	**07 58 30.2**	**+1.9**
	comp=Z,2.6nm,0.7s,baz=300,slow=7.9,SNR=18							
ELK	**Elko**	**54.71**	**68**	*e*P		**P**	**07 58 30.9**	**+1.8**
	comp=Z,1.9nm,0.9s							
HVU	**Hansel Valley**	**55.34**	**65**	*e*P		**P**	**07 58 35.1**	**+1.6**
HVU				pmax	pmax			
	comp=Z,4.0nm,1.1s							
HVU	**Hansel Valley**	**55.34**	**65**	*e*P		**P**	**07 58 35.1**	**+1.6**
	comp=Z,3.9nm,1.1s							
TPH	**Tonopah**	**55.46**	**71**	*e*P		**P**	07 58 36.7	+2.2
TPH				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TPH	**Tonopah**	**55.46**	**71**	*e*P		**P**	07 58 36.6	+2.2
	comp=Z,3.3nm,0.8s							
AAK	**Ala-Archa**	**55.73**	**297**	⇓*e*P		**P**	**07 58 37.3**	**+0.9**
AAK				pmax	pmax			
	comp=Z,6.0nm,1.5s							
PDAR	**Pinedale Array**	**56.36**	**62**	P		**P**	**07 58 42.5**	**+1.5**
PDAR	**Pinedale Array**	**56.36**	**62**	P		**P**	**07 58 42.5**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=319,slow=2.9,SNR=12							
DUG	**Dugway**	**56.42**	**66**	*e*P		P	07 58 43.5	+2.2
DUG				pmax	pmax			
	comp=Z,3.0nm,0.9s							
DUG	**Dugway**	**56.42**	**66**	*e*P		P	07 58 43.5	+2.2
	comp=Z,2.9nm,0.9s							
JOF	**Joensuu**	**57.48**	**336**	*e*P		**P**	**07 58 48.0**	**-0.2**
JOF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
JOF	**Joensuu**	**57.48**	**336**	*ep*		**P**	**07 58 48.0**	**-0.2**
	comp=Z,0.6nm,0.4s							
AKTO	**Aktyubinsk**	**58.18**	**313**	P		**P**	**07 58 52.5**	**-0.9**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKTO				MLR	MLR			
	comp=Z,52nm,18.9s							
AKTO	**Aktyubinsk**	**58.18**	**313**	P		**P**	**07 58 52.5**	**-0.9**
AKTO	**Aktyubinsk**	**58.18**	**313**	P		**P**	**07 58 52.5**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=60,slow=10							
AKTO				LR	LR		08 27 26.3	
	comp=Z,52nm,18.9s,baz=229,slow=40							
ABKAR	**Akbulak array**	**58.19**	**311**	*e*P		**P**	**07 58 52.4**	**-1.1**
SRU	**San Rafael**	**58.43**	**66**	*e*P		P	07 58 57.8	+2.3
SRU				pmax	pmax			
	comp=Z,4.0nm,0.8s							
SRU	**San Rafael**	**58.43**	**66**	*e*P		P	07 58 57.8	+2.3
	comp=Z,4.2nm,0.8s							
CHTO	**Chiang Mai**	**59.01**	**259**	*e*P		**P**	**07 59 00.9**	**+1.4**
CHTO				pmax	pmax			
	comp=Z,3.0nm,0.6s							
CHTO	**Chiang Mai**	**59.01**	**259**	*e*P		**P**	**07 59 00.9**	**+1.4**
	comp=Z,3.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**59.29**	**259**	P		**P**	**07 59 03.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**59.29**	**259**	P		**P**	**07 59 03.2**	**+1.7**
	comp=Z,3.7nm,0.6s,baz=26,slow=7.2,SNR=11							
KAF	**Kangasniemi**	**59.36**	**337**	*e*P		P	07 58 58.0	-3.4
KAF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**59.36**	**337**	*ep*		P	07 58 58.0	-3.4
	comp=Z,0.6nm,0.3s							
PHWY	**Pilot Hill**	**59.55**	**61**	*e*P		P	07 59 10.6	+7.2
	comp=Z,23nm,1.2s							
FINES	**FINESS Array B**	**60.00**	**337**	P		**P**	**07 59 05.1**	**-0.7**
FINES	**FINESS Array B**	**60.00**	**337**	P		**P**	**07 59 05.1**	**-0.7**
	comp=Z,5.9nm,0.8s,baz=32,slow=8.1,SNR=16							
NB2	**NORSAR Subarra**	**63.28**	**344**	P		**P**	**07 59 27.4**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=22,slow=6.9							
NOA	**NORSAR Array B**	**63.28**	**344**	P		**P**	**07 59 27.6**	**-0.3**
NOA	**NORSAR Array B**	**63.28**	**344**	P		**P**	**07 59 27.6**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=21,slow=6.6,SNR=8.4							
ANMO	**Albuquerque**	**63.69**	**66**	P		**P**	**07 59 33.0**	**+1.7**
ANMO	**Albuquerque**	**63.69**	**66**	P		**P**	**07 59 33.0**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=352,slow=6.4,SNR=3.7							
AKASG	**Malin Array Be**	**68.64**	**330**	P		**P**	**08 00 01.5**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
AKASG	**Malin Array Be**	**68.64**	**330**	P		**P**	**08 00 01.5**	**-1.1**
AKASG	**Malin Array Be**	**68.64**	**330**	P		**P**	**08 00 01.5**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=28,slow=6.2,SNR=9.7							
TXAR	**Lajitas Array**	**69.48**	**68**	P		**P**	**08 00 09.5**	**+1.2**
TXAR	**Lajitas Array**	**69.48**	**68**	P		**P**	**08 00 09.5**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=297,slow=4.8,SNR=45							
KBZ	**Khabaz**	**69.81**	**317**	P		**P**	**08 00 09.5**	**-0.4**
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KBZ				MLR	MLR			
	comp=Z,88nm,18.1s							
KBZ	**Khabaz**	**69.81**	**317**	P		**P**	**08 00 09.5**	**-0.4**
KBZ	**Khabaz**	**69.81**	**317**	P		**P**	**08 00 09.5**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=68,slow=4.2,SNR=6.4							
KBZ				LR	LR		08 34 47.7	
	comp=Z,88nm,18.1s,baz=262,slow=40							
EKA	**Eskdalemuir Ar**	**70.67**	**351**	P		**P**	**08 00 14.7**	**-0.3**
EKA	**Eskdalemuir Ar**	**70.67**	**351**	P		**P**	**08 00 14.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=20,slow=5.0,SNR=8.6							
BUR08	**Bucovina Ar. S**	**72.56**	**331**	*e*P		**P**	**08 00 26.4**	**-0.3**
MLR	**Muntele Rosu**	**74.29**	**329**	P		**P**	**08 00 37.3**	**+0.4**
MLR	**Muntele Rosu**	**74.29**	**329**	P		**P**	**08 00 37.3**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=211,slow=5.9,SNR=6.1							
GERES	**GERESS Array B**	**74.36**	**339**	P		**P**	**08 00 36.9**	**-0.3**
GERES	**GERESS Array B**	**74.36**	**339**	P		**P**	**08 00 36.9**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=22,slow=7.7,SNR=10.0							
CDF	**Champ du Feu**	**76.04**	**343**	*e*P		**P**	**08 00 47.1**	**+0.2**
	comp=Z,4.0nm,0.7s							
CDF	**Champ du Feu**	**76.04**	**343**	*e*P		**P**	**08 00 47.1**	**+0.2**
CDF				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CDF	**Champ du Feu**	**76.04**	**343**	*e*P		**P**	**08 00 47.1**	**+0.2**
	comp=Z,4.0nm,0.7s							
SFTF	**Sexfontaines**	**76.61**	**344**	*e*P		**P**	**08 00 50.1**	**0.0**
	comp=Z,20nm,1.0s							
SFTF	**Sexfontaines**	**76.61**	**344**	*e*P		**P**	**08 00 50.1**	**0.0**
	comp=Z,20nm,1.0s							
HINF	**Hinteralfeld**	**76.69**	**343**	*e*P		**P**	**08 00 51.4**	**+0.9**
HINF	**Hinteralfeld**	**76.69**	**343**	*e*P		**P**	**08 00 51.4**	**+0.9**
HINF	**Hinteralfeld**	**76.69**	**343**	*e*P		**P**	**08 00 51.4**	**+0.9**
BRTR	**Keskin Array B**	**76.82**	**321**	P		**P**	**08 00 50.8**	**-0.7**
BRTR	**Keskin Array B**	**76.82**	**321**	P		**P**	**08 00 50.8**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=25,slow=3.3,SNR=4.9							
WRAB	**Tennant Creek**	**77.02**	**206**	*e*P		**P**	**08 00 53.4**	**+0.9**
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRAB	**Tennant Creek**	**77.02**	**206**	*e*P		**P**	**08 00 53.4**	**+0.9**
	comp=Z,2.1nm,0.8s							
WRA	**Warramunga Arr**	**77.03**	**206**	P		**P**	**08 00 53.8**	**+1.2**
WRA	**Warramunga Arr**	**77.03**	**206**	P		**P**	**08 00 53.8**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=19,slow=6.1,SNR=12							
LOR	**Lormes**	**77.71**	**345**	*e*P		**P**	**08 00 56.8**	**+0.5**
	comp=Z,7.5nm,0.9s							
LOR	**Lormes**	**77.71**	**345**	*e*P		**P**	**08 00 56.8**	**+0.5**
	comp=Z,7.5nm,0.9s							
SSF	**Saint Saulge**	**77.97**	**345**	*e*P		**P**	**08 00 57.9**	**+0.2**
SSF	**Saint Saulge**	**77.97**	**345**	*e*P		**P**	**08 00 57.9**	**+0.2**
SSF	**Saint Saulge**	**77.97**	**345**	*e*P		**P**	**08 00 57.9**	**+0.2**
AVF	**Avril sur Loir**	**78.26**	**345**	*e*P		**P**	**08 00 59.9**	**+0.7**
	comp=Z,7.3nm,0.9s							
AVF	**Avril sur Loir**	**78.26**	**345**	*e*P		**P**	**08 00 59.9**	**+0.7**
AVF				pmax	pmax			
	comp=Z,7.0nm,0.9s							
AVF	**Avril sur Loir**	**78.26**	**345**	*e*P		**P**	**08 00 59.9**	**+0.7**
	comp=Z,7.3nm,0.9s							
SMF	**Signal de Mont**	**78.32**	**345**	*e*P		**P**	**08 01 00.3**	**+0.7**
	comp=Z,11nm,0.9s							
SMF	**Signal de Mont**	**78.32**	**345**	*e*P		**P**	**08 01 00.3**	**+0.7**
SMF				pmax	pmax			
	comp=Z,11nm,0.9s							
SMF	**Signal de Mont**	**78.32**	**345**	*e*P		**P**	**08 01 00.3**	**+0.7**
	comp=Z,11nm,0.9s							
TCF	**Toulx Ste Croi**	**78.92**	**346**	*e*P		**P**	**08 01 03.0**	**0.0**
TCF	**Toulx Ste Croi**	**78.92**	**346**	*e*P		**P**	**08 01 03.0**	**0.0**
TCF	**Toulx Ste Croi**	**78.92**	**346**	*e*P		**P**	**08 01 03.0**	**0.0**
LPL	**La Plagne**	**78.93**	**342**	*e*P		**P**	**08 01 03.7**	**+0.4**
	comp=Z,12nm,1.1s							
LPL	**La Plagne**	**78.93**	**342**	*e*P		**P**	**08 01 03.7**	**+0.4**
LPL				pmax	pmax			
	comp=Z,13nm,1.1s							
LPL	**La Plagne**	**78.93**	**342**	*e*P		**P**	**08 01 03.7**	**+0.4**
	comp=Z,12nm,1.1s							
LPG	**La Plagne**	**78.95**	**342**	*e*P		**P**	**08 01 04.2**	**+0.8**
	comp=Z,13nm,1.0s							
LPG	**La Plagne**	**78.95**	**342**	*e*P		**P**	**08 01 04.2**	**+0.8**
LPG				pmax	pmax			
	comp=Z,13nm,1.0s							
LPG	**La Plagne**	**78.95**	**342**	*e*P		**P**	**08 01 04.2**	**+0.8**
	comp=Z,13nm,1.0s							
ASAR	**Alice Springs**	**80.70**	**206**	P		**P**	**08 01 14.3**	**+1.7**
ASAR	**Alice Springs**	**80.70**	**206**	P		**P**	**08 01 14.3**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=19,slow=5.4,SNR=7.3							
STKA	**Stephens Creek**	**86.97**	**197**	P		**P**	**08 01 45.9**	**+1.5**
STKA	**Stephens Creek**	**86.97**	**197**	P		**P**	**08 01 45.9**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=304,slow=3.6,SNR=2.8							

IDC ***26*** *07:51:19.9±0.7,53°.81N×161°.58E, h0km, mb3.6/11, mb1 3.9/13, mb1mx3.7/30, mbtmp3.7/13, ML4.0/2, Error ellipse: s-maj=20.8km s-min=13.2km az=178.0*

MOS ***26*** *07:51:20.5±0.8, 53°.65N×161°.95E, h14km, mb4.2/3, Error ellipse: s-maj=14.7km s-min=9.1km az=79.3*

KRSC ***26*** *07:51:21.0±3.4, 53°.64N×161°.85E, h10km±10km, ML4.3*

ISCJB ***26*** *07:51:22.0±0.8, 53°.60N±0°.02×161°.94E±0°.04, h22km±6km, mb3.6/11, Error ellipse: s-maj=5.0km s-min=2.9km az=37.9*

ISC 26 07:51:20.1±1.4, 53°.63N±0°.03×161°.88E±0°.03, h6km±9km, n65, σ1s38/106, mb3.6/11, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.93**	**355**	PN	**Pg**	**07 51 37.8**	**-0.1**
MKZ				S	**Sg**	**07 51 50.4**	**+0.5**
MKZ	**Mys Kozlova**	**0.93**	**355**	P	**Pg**	**07 51 37.8**	**-0.1**
MKZ				S	**Sg**	**07 51 50.4**	**+0.5**
SPN	**Mys Shipunski**	**1.24**	**245**	PN	**Pg**	**07 51 44.6**	**+0.9**
SPN				S	**Sn**	**07 52 02.0**	**+1.1**
SPN	**Mys Shipunski**	**1.24**	**245**	P	**Pg**	**07 51 44.6**	**+0.9**
SPN				S	**Sn**	**07 52 02.0**	**+1.1**
KII	**Karymskiy**	**1.50**	**287**	P	**Pn**	**07 51 46.9**	**-0.7**
KII				S	**Sn**	**07 52 05.8**	**-1.6**
NLC	**Nalytchevo**	**1.59**	**254**	PN	**Pn**	**07 51 48.6**	**-0.1**
NLC				S	**Sn**	**07 52 09.0**	**-0.5**
NLC	**Nalytchevo**	**1.59**	**254**	P	**Pn**	**07 51 48.6**	**-0.1**
NLC				S	**Sn**	**07 52 09.0**	**-0.5**
KZV	**Kizimen**	**1.75**	**329**	P	**Pn**	**07 51 50.5**	**-0.6**
KZV				S	**Sn**	**07 52 11.9**	**-1.9**
SDLR	**Sedlovina**	**1.83**	**260**	P	**Pn**	**07 51 53.0**	**+0.9**
SDLR				S	**Sb**	**07 52 17.2**	**+0.1**
SMAR	**Somma**	**1.88**	**260**	P	**Pn**	**07 51 53.1**	**+0.2**
SMAR				S	**Sn**	**07 52 16.9**	**-0.1**
UGLR	**Uglovaya**	**1.88**	**258**	P	**Pn**	**07 51 53.0**	**+0.2**
UGLR				S	**Sn**	**07 52 16.7**	**-0.2**
KRER	**Koryakskii**	**1.90**	**261**	P	**Pn**	**07 51 53.1**	**-0.1**
KRER				S	**Sn**	**07 52 17.7**	**+0.1**
AVH	**Avacha**	**1.92**	**260**	P	**Pb**	**07 51 54.9**	**-0.5**
AVH				S	**Sb**	**07 52 20.1**	**+0.5**
TUMR	**Tumrok**	**1.94**	**329**	P	**Pn**	**07 51 53.5**	**-0.2**
TUMR				S	**Sn**	**07 52 17.6**	**-0.8**
KRX	**Arik**	**1.95**	**263**	P	**Pn**	**07 51 53.5**	**-0.3**
KRX				S	**Sn**	**07 52 17.9**	**-0.8**
KOK	**Koryaka**	**1.97**	**261**	P	**Pn**	**07 51 54.2**	**+0.1**
KOK				S	**Sn**	**07 52 19.0**	**-0.1**
PET	**Petropavlovsk**	**2.03**	**254**	*e*PN	**Pb**	**07 51 56.4**	**-0.9**
PET				*e*S	**Sn**	**07 52 20.3**	**-0.1**
PET				smax	smax		
	comp=E,436nm,0.8s						
PET	**Petropavlovsk**	**2.03**	**254**	P	**Pn**	**07 51 55.0**	**+0.2**
PET				S	**Sn**	**07 52 20.4**	**0.0**
KMNR	**Kamenistaya**	**2.33**	**336**	P	**Pn**	**07 52 00.8**	**+1.8**
KMNR				S	**Sb**	**07 52 30.3**	**-1.3**
GNL	**Ganaly**	**2.34**	**273**	P	**Pn**	**07 51 59.9**	**+0.7**
GNL				S	**Sn**	**07 52 28.5**	**+0.1**
RUS	**Russkaya**	**2.36**	**241**	PN	**Pb**	**07 52 01.6**	**-1.4**
RUS				S	**Sb**	**07 52 32.1**	**-0.3**
RUS	**Russkaya**	**2.36**	**241**	P	**Pb**	**07 52 01.6**	**-1.4**
RUS				S	**Sb**	**07 52 32.1**	**-0.3**
BZMR	**Bezymyannaya**	**2.44**	**341**	P	**Pb**	**07 52 03.0**	**-1.5**
ZLN	**Zelenaya**	**2.47**	**346**	P	**Pn**	**07 52 03.2**	**+2.3**
ZLN				S	**Sb**	**07 52 34.2**	**-1.4**
BZWR	**Bezymyannyi-We**	**2.47**	**342**	P	**Pn**	**07 52 03.4**	**+2.4**
KIRR	**Kirishev**	**2.49**	**340**	P	**Pn**	**07 52 03.3**	**+2.0**
KIRR				S	**Sn**	**07 52 34.1**	**+2.1**
MTVR	**Mutnovka**	**2.51**	**244**	P	**Pb**	**07 52 04.0**	**-1.6**
MTVR				S	**Sb**	**07 52 36.2**	**-0.6**
KPT	**Kopyto**	**2.53**	**338**	P	**Pb**	**07 52 04.5**	**-1.4**
KPT				S	**Sb**	**07 52 36.0**	**-1.2**
GRL	**Gorelyy**	**2.54**	**246**	P	**Pb**	**07 52 05.6**	**-0.5**
GRL				S	**Sb**	**07 52 38.1**	**+0.5**
LGNR	**Loginova**	**2.55**	**345**	P	**Pb**	**07 52 05.3**	**-1.1**
PETK	**Petropavlovsk-**	**2.56**	**260**	PN	**Pn**	**07 52 02.9**	**+0.8**
PETK						07 52 33.5	
PETK				pmax	pmax		
	comp=Z,12nm,0.3s						
PETK				smax	smax		
	comp=N,12nm,0.3s						
PETK	**Petropavlovsk-**	**2.56**	**260**	Pn	**Pn**	**07 52 02.9**	**+0.8**
	comp=N,12nm,0.3s,baz=80,slow=16,SNR=15						
PETK				Sn	**Sn**	**07 52 33.5**	**0.0**
	comp=N,12nm,0.3s,baz=106,slow=15,SNR=4.2						
CIRR	**Tsirk**	**2.57**	**346**	P	**Pb**	**07 52 06.9**	**+0.2**
KBTR	**Krutoberegovo**	**2.64**	**11**	PN	**Pn**	**07 52 03.9**	**+0.8**
KBTR				S	**Sn**	**07 52 35.3**	**-0.1**
KBTR	**Krutoberegovo**	**2.64**	**11**	P	**Pn**	**07 52 03.9**	**+0.8**
KBTR				S	**Sn**	**07 52 35.3**	**-0.1**
KBG	**Krutoberegovo**	**2.67**	**10**	S	**Sn**	**07 52 37.2**	**+1.0**
KOZ	**Kozyrevsk**	**2.69**	**335**	P	**Pn**	**07 52 06.2**	**+2.3**
KOZ				S	**Sb**	**07 52 39.0**	**-2.0**
KOZR	**Kozyr**	**2.69**	**336**	PN	**Pn**	**07 52 06.2**	**+2.2**
KOZR				S	**Sb**	**07 52 39.9**	**-2.1**
KRSR	**Krestovskiy**	**2.70**	**344**	P	**Pn**	**07 52 06.8**	**+2.7**
KRSR				S	**Sb**	**07 52 40.2**	**-2.0**
ASAK	**Asacha**	**2.71**	**244**	P	**Pb**	**07 52 07.7**	**-1.3**
ASAK				S	**Sb**	**07 52 42.1**	**-0.4**
KLY	**Klyuchi**	**2.78**	**346**	PN	**Pn**	**07 52 07.2**	**+2.2**
KLY				S	**Sn**	**07 52 40.7**	**+1.8**
KLY	**Klyuchi**	**2.78**	**346**	P	**Pn**	**07 52 07.2**	**+2.2**
KLY				S	**Sn**	**07 52 40.7**	**+1.8**
BKI	**Bering**	**2.86**	**55**	PN	**Pn**	**07 52 06.7**	**+0.5**
BKI	**Bering**	**2.86**	**55**	P	**Pn**	**07 52 06.7**	**+0.5**
BKI				S	**Sn**	**07 52 37.8**	**-3.1**
APC	**Apacha**	**2.92**	**258**	P	**Pb**	**07 52 10.6**	**-1.9**
APC				S	**Sb**	**07 52 47.0**	**-1.5**
ESO	**Esso**	**2.94**	**323**	PN	**Pn**	**07 52 08.0**	**+0.6**
ESO				S	**Sn**	**07 52 43.0**	**0.0**
ESO	**Esso**	**2.94**	**323**	P	**Pn**	**07 52 08.0**	**+0.6**
ESO				S	**Sn**	**07 52 43.0**	**0.0**
SMKR	**Semkarok**	**2.96**	**356**	P	**Pb**	**07 52 11.2**	**-2.1**
SRDR	**Sredinnyy**	**2.96**	**336**	P	**Pn**	**07 52 09.7**	**+2.0**
SRDR				S	**Sn**	**07 52 45.9**	**+2.3**
BDR	**Baidarnaya**	**2.97**	**353**	P	**Pb**	**07 52 13.0**	**-0.4**
SRKR	**Sorokina**	**3.06**	**353**	P	**Pn**	**07 52 12.0**	**+3.0**
MIPR	**Malaya Ipel'ka**	**3.38**	**248**	P	Pn	07 52 16.9	+3.5
FX1	**Attu Island--F**	**6.81**	**92**	Pn	**Pn**	**07 53 01.9**	**+1.4**
	comp=N,16nm,0.3s,baz=284,slow=5.5,SNR=9.8						
FX1				Sn	**Sn**	**07 54 14.4**	**-3.9**
	comp=N,3.9nm,0.3s,baz=108,slow=20,SNR=2.5						
YKA	**Yellowknife Ar**	**42.03**	**44**	P	**P**	**07 59 12.6**	**+0.8**
	comp=N,0.1nm,0.5s,baz=297,slow=7.4,SNR=4.0						
SPITS	**Spitsbergen Ar**	**46.78**	**351**	P	**P**	**07 59 48.9**	**-0.7**
	comp=N,5.6nm,0.8s,baz=35,slow=7.8,SNR=4.2						
MKAR	**Makanchi Array**	**48.88**	**296**	P	**P**	**08 00 04.2**	**-2.1**
MKAR	**Makanchi Array**	**48.88**	**296**	P	**P**	**08 00 04.2**	**-2.1**
	comp=N,0.3nm,0.5s,baz=61,slow=8.3,SNR=4.4						
NVAR	**Mina Array Bea**	**54.55**	**72**	P	**P**	**08 00 51.2**	**+2.2**
	comp=N,0.4nm,0.6s,baz=302,slow=7.3,SNR=4.0						
PDAR	**Pinedale Array**	**56.32**	**62**	P	**P**	**08 01 03.6**	**+1.8**
	comp=N,0.3nm,0.8s,baz=279,slow=6.3,SNR=2.6						
FINES	**FINESS Array B**	**60.04**	**337**	P	**P**	**08 01 25.7**	**-1.4**
	comp=N,1.1nm,0.6s,baz=21,slow=11,SNR=3.4						
NOA	**NORSAR Array B**	**63.31**	**345**	P	**P**	**08 01 48.7**	**-0.6**
	comp=N,1.0nm,0.8s,baz=40,slow=10,SNR=3.4						
TXAR	**Lajitas Array**	**69.44**	**68**	P	**P**	**08 02 30.9**	**+1.8**
	comp=N,0.2nm,0.5s,baz=289,slow=4.4,SNR=3.9						
GERES	**GERESS Array B**	**74.41**	**339**	P	**P**	**08 02 57.9**	**-0.7**
	comp=N,0.4nm,0.4s,baz=20,slow=6.9,SNR=5.2						
WRA	**Warramunga Arr**	**77.03**	**207**	P	**P**	**08 03 14.1**	**+0.4**
	comp=N,0.3nm,0.6s,baz=21,slow=5.8,SNR=3.6						
ASAR	**Alice Springs**	**80.70**	**206**	P	**P**	**08 03 35.5**	**+1.7**
	comp=N,0.3nm,0.7s,baz=27,slow=6.3,SNR=3.4						

CSEM ***26*** *08:01:06.1±0.2, 39°.79N×54°.27E, h10km, ML2.7, Error ellipse: s-maj=6.0km s-min=4.4km az=166.0*

IDC ***26*** *08:01:06.2±1.8, 39°.85N×54°.04E, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.6/30, mbtmp3.8/9, ML3.7/4, Error ellipse: s-maj=26.0km s-min=15.4km az=175.0*

AZER ***26*** *08:01:10.9±5.2, 39°.41N×53°.78E, h10km, Error ellipse: s-maj=32.6km s-min=18.6km az=99.0*

NNC ***26*** *08:01:18.9±3.1, 40°.64N×55°.28E, h0km, mb3.8, Error ellipse: s-maj=26.4km s-min=17.4km az=49.0*

ISC 26 08:01:08.9±1.9, 39°.69N±0°.07×54°.16E±0°.05, h36km±3km, n44, σ1s69/51, mb3.8/4, 19C-7D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**2.53**	**143**	*e*Pg	Pn	08 01 50.8	+3.4
MRVT				*e*Sg	**Sn**	**08 02 20.0**	**+3.0**
NDR	**Nardaran**	**3.32**	**287**	⇑S	**Sn**	**08 02 39.3**	**+2.9**
NDR	**Nardaran**	**3.32**	**287**	S	**Sn**	**08 02 39.3**	**+2.9**
SHRO	**Shahrood**	**3.97**	**158**	*e*Pn	**Pn**	**08 02 08.2**	**+0.8**
ALIB	**Äli-Bayra**	**3.98**	**275**	⇑S	**Sn**	**08 02 54.7**	**+2.1**
ALIB	**Äli-Bayra**	**3.98**	**275**	S	**Sn**	**08 02 54.7**	**+2.1**
SIZA	**Siyzn**	**4.25**	**291**	⇑Pn	**Pn**	**08 02 12.7**	**+1.6**
SIZA				⇑S	**Sn**	**08 03 00.8**	**+1.3**
SIZA	**Siyzn**	**4.25**	**291**	Pn	**Pn**	**08 02 12.7**	**+1.6**
SIZA				S	**Sn**	**08 03 00.8**	**+1.3**
LKRN	**Lenkeran, Azer**	**4.29**	**259**	⇑Pn	**Pn**	**08 02 13.0**	**+1.4**
LKRN				⇓S	**Sn**	**08 02 58.2**	**-2.2**
LKRN	**Lenkeran, Azer**	**4.29**	**259**	Pn	**Pn**	**08 02 13.0**	**+1.4**
LKRN				S	**Sn**	**08 02 58.2**	**-2.2**
PQL	**Pirkuli**	**4.40**	**286**	⇓Pn	**Pn**	**08 02 14.7**	**+1.4**
PQL				⇑S	**Sn**	**08 03 04.2**	**+0.9**
PQL	**Pirkuli**	**4.40**	**286**	Pn	**Pn**	**08 02 14.7**	**+1.4**
PQL				S	**Sn**	**08 03 04.2**	**+0.9**
CHTH	**Charan**	**4.48**	**213**	*e*Pn	**Pn**	**08 02 15.7**	**+1.3**
GLBA	**Clilabad**	**4.49**	**266**	⇑S	**Sn**	**08 03 03.6**	**-1.6**
GLBA	**Clilabad**	**4.49**	**266**	S	**Sn**	**08 03 03.6**	**-1.6**
QUBA	**Quba, Azerbaij**	**4.63**	**293**	⇓S	**Sn**	**08 03 08.9**	**+0.1**
QUBA	**Quba, Azerbaij**	**4.63**	**293**	S	**Sn**	**08 03 08.9**	**+0.1**
LRK	**Lerik**	**4.64**	**259**	⇑S	**Sn**	**08 03 06.5**	**-2.8**
LRK	**Lerik**	**4.64**	**259**	S	**Sn**	**08 03 06.5**	**-2.8**
IML	**Ismayilli**	**4.71**	**285**	⇑Pn	Pn	08 02 21.6	+4.3
IML				⇑S	**Sn**	**08 03 11.3**	**+0.6**
IML	**Ismayilli**	**4.71**	**285**	Pn	Pn	08 02 21.6	+4.3
IML				S	**Sn**	**08 03 11.3**	**+0.6**
SEKA	**Sheki**	**5.53**	**288**	⇓Pn	**Pn**	**08 02 30.2**	**+1.6**
SEKA				⇑S	**Sn**	**08 03 31.9**	**+1.0**
SEKA	**Sheki**	**5.53**	**288**	Pn	**Pn**	**08 02 30.2**	**+1.6**
SEKA				S	**Sn**	**08 03 31.9**	**+1.0**
ZKTA	**Zakatala**	**6.05**	**291**	⇓S	**Sn**	**08 03 45.0**	**+1.2**
ASAO	**Ashtian**	**6.10**	**214**	*e*Pn	**Pn**	**08 02 38.4**	**+1.6**
KBZ	**Khabaz**	**9.34**	**299**	Pn	**Pn**	**08 03 19.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=98,slow=4.2,SNR=5.3						
KBZ				Sn	Sn	08 04 57.8	-6.7
	comp=Z,0.3nm,0.3s,baz=280,slow=19,SNR=3.1						
AB31	**Akbulak array**	**10.41**	**21**	Pn	**Pn**	**08 03 33.6**	**-1.9**
	comp=Z,0.6nm,0.5s,SNR=21						
AB31				Sn	Sn	08

*ISCJB **26** 08:13:59.8±0.8, 51.6N±0.1×173.8W±0.0, h35km, mb3.2/3, Error ellipse: s-maj=20.8km s-min=4.7km az=179.5*

*NEIC **26** 08:14:02.9, 52.0N×174.0W, h12km, ML3.4(AEIC), After AEIC.*

ISC 26 08:14:00.0±1.0, **51.7N**±0.2×**173.9W**±0.0, **h35**km, **n31**, σ1§**83**/26, **mb3.2/3**, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**1.39**	**286**	P		**Pn**		**08 14 23.4**	**+0.5**
GSTR	**Great Sitkin T**	**1.41**	**288**	*e*Pn		**Pn**		**08 14 23.8**	**+0.6**
GSTR				*e*Sn		**Sn**		**08 14 42.6**	**+2.1**
GSCK	**Great Sitkin C**	**1.45**	**284**	P		**Pn**		**08 14 24.4**	**+0.7**
GSTD	**Great Sitkin T**	**1.45**	**286**	P		**Pn**		**08 14 24.4**	**+0.6**
GSTD				S		**Sn**		**08 14 41.5**	**0.0**
ETKA	**Kagalaska Isla**	**1.57**	**278**	P		**Pn**		**08 14 26.6**	**+1.2**
ETKA				S		**Sn**		**08 14 45.4**	**+0.8**
ADAG	**Mount Adagdak**	**1.71**	**281**	P		**Pn**		**08 14 29.2**	**+1.9**
KIRH	**Kanaga Island**	**2.00**	**278**	P		**Pn**		**08 14 33.2**	**+1.9**
KINC	**Kanaga Island**	**2.02**	**278**	P		**Pn**		**08 14 33.9**	**+2.3**
KIKV	**Kanaga Island**	**2.05**	**277**	P		**Pn**		**08 14 33.7**	**+1.7**
TAFP	**Tanaga Falls P**	**2.55**	**277**	P		**Pn**		**08 14 40.5**	**+1.6**
TAFP				S		**Sn**		**08 15 10.0**	**+1.3**
TASE	**Tanaga Southea**	**2.58**	**275**	P		**Pn**		**08 14 41.4**	**+2.0**
GANE	**Gareloi Northe**	**3.04**	**275**	P		**Pn**		**08 14 47.7**	**+2.2**
OKSP	**Okmok Steeple**	**3.77**	**63**	P		**Pn**		**08 14 58.6**	**+2.9**
OKTU	**Okmok Mt. Tuli**	**3.96**	**62**	P		**Pn**		**08 15 01.1**	**+2.8**
MREP	**Makushin Rep't**	**4.84**	**61**	P		**Pn**		**08 15 13.4**	**+3.1**
UNV	**Unalaska Valle**	**4.98**	**61**	P		**Pn**		**08 15 14.6**	**+2.3**
FX1	**Attu Island--F**	**8.03**	**284**	Pn		**Pn**		**08 15 53.4**	**-0.7**
	0.3nm,0.3s,baz=327,slow=17,SNR=5.3								
ILAR	**Eielson Array**	**19.13**	**36**	P		**P**		**08 18 17.6**	**-2.2**
	0.5nm,0.3s,baz=228,slow=9.1,SNR=30								
YKA	**Yellowknife Ar**	**32.78**	**47**	P		P		08 20 26.3	-3.1
	0.0nm,0.3s,baz=278,slow=9.1,SNR=4.4								
YKA				PcP		**PcP**		**08 23 12.2**	**-1.4**
	0.1nm,0.3s,baz=286,slow=3.0,SNR=4.7								
H11N2	**WAKE ISLAND Hy**	**35.27**	**212**	T		T		08 58 30.9	
	baz=23,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**35.28**	**212**	T		T		08 58 51.4	
	baz=23,slow=75,SNR=28								
H11N1	**WAKE ISLAND Hy**	**35.29**	**212**	T		T		08 58 52.3	
	baz=23,slow=75,SNR=30								
H11S1	**WAKE ISLAND Hy**	**36.47**	**212**	T		T		09 00 00.5	
	baz=20,slow=77,SNR=48								
H11S2	**WAKE ISLAND Hy**	**36.49**	**212**	T		T		09 00 01.1	
	baz=20,slow=77,SNR=51								
H11S3	**WAKE ISLAND Hy**	**36.49**	**212**	T		T		09 00 03.0	
	baz=20,slow=77,SNR=48								
PDAR	**Pinedale Array**	**43.28**	**76**	P		**P**		**08 21 57.5**	**-0.8**
	0.3nm,0.7s,baz=305,slow=3.7,SNR=3.9								
TXAR	**Lajitas Array**	**55.58**	**85**	P		**P**		**08 23 31.0**	**-1.0**
	0.1nm,0.7s,baz=320,slow=5.1,SNR=4.0								
ASAR	**Alice Springs**	**87.85**	**226**	P		**P**		**08 26 45.6**	**0.0**
	0.2nm,0.6s,baz=25,slow=4.5,SNR=4.9								
H03N2	**Juan Fernandez**	**118.31**	**109**	T		T		10 41 52.6	
	baz=315,slow=75,SNR=11								
H03N1	**Juan Fernandez**	**118.32**	**109**	T		T		10 41 47.4	
	baz=315,slow=75,SNR=11								
H03N3	**Juan Fernandez**	**118.33**	**109**	T		T		10 42 08.9	
	baz=315,slow=75,SNR=11								

*IDC **26** 08:21:20.5±1.3, 17.19N×84.95W, h0km, mb3.7/11, mb1 4.1/14, mb1mx3.9/29, mbtmp3.8/14, ML4.0/3, MS3.3/7, Ms1 3.3/7, ms1mx3.1/40, Error ellipse: s-maj=30.3km s-min=24.3km az=35.0*

*ISCJB **26** 08:21:22.6±0.7, 17.14N±0.07×85.28W±0.09, h28km, mb3.8/10, MS3.5/3, Error ellipse: s-maj=13.1km s-min=9.7km az=151.7*

ISC 26 08:21:24.3±0.7, **17.12N**±0.07×**85.3W**±0.1, **h28**km, **n17**, σ2§**07**/19, **mb3.8**/10, **MS3.4**/3, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**4.16**	**318**	Pn		**Pn**		**08 22 26.4**	**+0.4**
	58nm,0.3s,baz=341,slow=2.5,SNR=473								
TEIG				Sn		**Sn**		**08 23 12.8**	**-0.9**
	35nm,0.3s,baz=54,slow=22,SNR=16								
TEIG				LR		LR		08 24 15.1	
	comp=Z,169nm,21.8s,baz=234,slow=40								
APG	**El Apazote**	**5.36**	**248**	Pn		**Pn**		**08 22 42.8**	**+0.1**
	0.8nm,0.3s,baz=82,slow=13,SNR=19								
APG				LR		LR		08 24 36.1	
	comp=Z,87nm,20.9s,baz=240,slow=34								
JTS	**JuntasAbangare**	**6.80**	**177**	Pn		**Pn**		**08 23 02.4**	**+0.1**
	0.6nm,0.3s,baz=174,slow=23,SNR=3.9								
JTS				Sn		**Sb**		**08 24 41.2**	**-1.3**
	0.5nm,0.3s,baz=212,slow=19,SNR=2.7								
JTS				LR		LR		08 25 36.7	
	comp=Z,167nm,20.6s,baz=7.3,slow=37								
ROSC	**El Rosal**	**16.27**	**137**	LR		LR		08 31 43.5	
	comp=Z,166nm,18.1s,baz=39,slow=39								
TKL	**Tuckaleechee C**	**18.52**	**4**	P		**P**		**08 25 38.1**	**-0.4**
	0.5nm,0.3s,baz=165,slow=13,SNR=6.4								
TXAR	**Lajitas Array**	**20.74**	**309**	P		Pn		08 26 05.5	+0.1
	1.3nm,0.8s,baz=124,slow=12,SNR=18								
TXAR				S		**S**		**08 29 47.3**	**-6.0**
	0.2nm,0.5s,baz=107,slow=22,SNR=3.7								
ANMO	**Albuquerque**	**25.89**	**317**	P		**P**		**08 26 56.7**	**+2.5**
	0.2nm,0.3s,baz=127,slow=14,SNR=3.2								
ANMO				LR		LR		08 39 39.9	
	comp=Z,77nm,20.7s,baz=97,slow=42								
SADO	**Sadowa**	**28.05**	**9**	P		**P**		**08 27 11.9**	**-1.3**
	20nm,1.2s,baz=248,slow=6.3,SNR=4.3								
SADO				LR		LR		08 38 01.1	
	comp=Z,100nm,19.8s,baz=169,slow=36								
PDAR	**Pinedale Array**	**32.85**	**326**	P		**P**		**08 27 57.2**	**+1.3**
	0.9nm,0.9s,baz=130,slow=11,SNR=6.2								
NVAR	**Mina Array Bea**	**35.79**	**313**	P		**P**		**08 28 24.1**	**+2.7**
	0.2nm,0.4s,baz=111,slow=8.1,SNR=4.9								
SCHQ	**Schefferville**	**40.25**	**17**	P		**P**		**08 28 57.1**	**-1.4**
	1.3nm,0.5s,baz=359,slow=18,SNR=3.8								
SCHQ				LR		LR		08 48 44.1	
	comp=Z,141nm,18.2s,baz=313,slow=41								
YKA	**Yellowknife Ar**	**49.73**	**343**	P		**P**		**08 30 13.7**	**-0.1**
	0.3nm,0.6s,baz=137,slow=8.0,SNR=13								
YKA				PcP		**PcP**		**08 31 34.5**	**0.0**
	0.2nm,0.9s,baz=140,slow=4.9,SNR=2.1								
DLBC	**Dease Lake**	**52.67**	**332**	P		**P**		**08 30 38.5**	**+2.4**
	1.8nm,0.8s,baz=90,slow=1.0,SNR=3.1								
INK	**Inuvik**	**59.43**	**341**	P		**P**		**08 31 25.0**	**+1.0**
	1.4nm,0.8s,baz=106,slow=7.8,SNR=4.1								
ILAR	**Eielson Array**	**62.64**	**335**	P		**P**		**08 31 47.6**	**+1.6**
	2.0nm,1.0s,baz=111,slow=5.1,SNR=15								
ESDC	**Sonseca Array**	**72.74**	**53**	P		**P**		**08 32 49.1**	**-1.1**
	0.2nm,0.4s,baz=281,slow=6.7,SNR=3.8								
ASAR	**Alice Springs**	**142.74**	**253**	PKhKP		PKPpre		08 40 51.5	
	0.2nm,0.7s,baz=96,slow=3.8,SNR=5.0								
ASAR				PKP		**PKPdf**		**08 40 56.1**	**+0.4**
	0.2nm,0.7s,baz=110,slow=3.6,SNR=4.4								

*BJI **26** 08:57:20.5, 5.78S×131.60E, h62km, mB6.2/50, mb6.1/72, Ms5.5/74, Ms7 5.4/69*

*MOS **26** 08:57:23.9±1.0, 5.48S×131.30E, h65km, mb6.3/79, MS5.2/40, Error ellipse: s-maj=7.7km s-min=4.8km az=118.1*

*ISCJB **26** 08:57:25.0±0.3, 5.52S±0.02×131.29E±0.02, h76km±3km, mb6.0/265, Error ellipse: s-maj=3.2km s-min=2.8km az=153.9*

*AUST **26** 08:57:24.2±0.5, 5.53S×131.26E, h51km±5km, Error ellipse: s-maj=4.6km s-min=3.5km az=63.0*

*BGS **26** 08:57:27.4±1.5, 5.53S×131.21E, h83km, mb6.1(NEIC)*

*NEIC **26** 08:57:27.7±0.1, 5.53S×131.21E, h85km, mb6.1/107, MW6.1, MW6.1, Error ellipse: s-maj=4.0km s-min=2.9km az=49.0, Moment Tensor Solution. s39 Moment tensor: Scale 10¹⁸Nm; Mrr=1.31; Mθθ=1.59; Mϕϕ=0.28; Mrθ=0.18; Mθϕ=0.71; Mϕr=0.54; Best double couple: M₀1.70000×10¹⁸ NP1:ϕs86.00000°, δ44.00000°, λ55.00000°. NP2: ϕs310.00000°, δ55.00000°, λ119.00000°. Principal axes: T 1.5400, Plg65.0000°, Azm275.0000°; N 0.3200, Plg23.0000°, Azm112.0000°; P -1.8700, Plg6.0000°, Azm19.0000°; Broadband fault plane solution: P waves. NP1:ϕs256.00000°, δ38.00000°, λ43.00000°. NP2: ϕs130.00000°, δ65.00000°, λ120.00000°. Principal axes: T Plg59.0000°, Azm83.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm199.0000°; Depth from synthetics of broadband displacement seismograms.*

NEIC Felt [III] at Bandanaira, Saumlaki and Tual, Indonesia.

*DJA **26** 08:57:27.9±0.2, 5.5S×131.1E±, h100km±3km, M6.2/124, mb6.2/124, mB6.5/117, MLv6.9/10, Mw(mB)6.3/117, Mwp6.0/41*

*GCMT **26** 08:57:28.9±0.1, 5.37S×131.38E, h77km, MW6.1, Moment Tensor Solution. s130, c289; s92, c135; Moment tensor: Scale 10¹⁸Nm; Mrr=0.84±.01; Mθθ=1.67±.01; Mϕϕ=0.83±.01; Mrθ=-0.03±.01; Mθϕ=0.43±.01; Mϕr=0.77±.01; Best double couple: M₀1.70000×10¹⁸ NP1:ϕs315.00000°, δ64.00000°, λ143.00000°. NP2:ϕs64.00000°, δ58.00000°, λ32.00000°. Principal axes: T 1.6300, Plg44.0000°, Azm277.0000°; N 0.1300, Plg46.0000°, Azm104.0000°; P -1.7500, Plg4.0000°, Azm11.0000°; Data Used: II IU CU CN IC G. Surface waves: sta=131, comp=297, per= 50.*

*IDC **26** 08:57:29.6±0.5, 5.47S×131.27E, h96km±3km, mb5.5/31, mb1 5.5/31, mb1mx5.5/31, mbtmp5.5/31, MS5.2/27, Ms1 5.2/27, ms1mx5.1/38 Error ellipse: s-maj=11.9km s-min=6.4km az=65.0*

*NEIC **26** 08:57:38.5±0.0, 5.13S×131.17E, h63km, Moment Tensor Solution. s131 Moment tensor: Scale 10¹⁸Nm; Mrr=0.86; Mθθ=1.44; Mϕϕ=0.58; Mrθ=-0.17; Mθϕ=0.39; Mϕr=0.68; Best double couple: M₀1.50000×10¹⁸ NP1:ϕs313.00000°, δ63.00000°, λ135.00000°. NP2:ϕs67.00000°, δ51.00000°, λ35.00000°. Principal axes: T 1.4200, Plg49.0000°, Azm273.0000°; N 0.1300, Plg39.0000°, Azm108.0000°; P -1.5500, Plg7.0000°, Azm12.0000°;*

ISC 26 08:57:25.1±0.2, **5.43S**±0.03×**131.32E**±0.03, **h65**km±1km, **h65**km:**pP-P**, **n1694**, σ1§**42**/1931, **mb6.1**/261, **187C-45D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.67**	**302**	P		Pn		08 57 56.5	+4.3
BNDI				S		**Sn**		**08 58 16.8**	**+4.0**
FAKI	**Fak Fak**	**2.66**	**20**	P		**Pn**		**08 58 07.2**	**+1.6**
FAKI				S		**Sn**		**08 58 37.1**	**+0.5**
FAKI	**Fak Fak**	**2.66**	**20**	P	⇓	**Pn**		**08 58 07.2**	**+1.6**
	baz=2.8,SNR=1000								
MSAI	**Masohi**	**3.16**	**311**	P		**Pn**		**08 58 15.5**	**+3.1**
MSAI				S		**Sn**		**08 58 51.7**	**+2.8**
SWI	**Sorong**	**4.53**	**359**	P		**Pn**		**08 58 31.6**	**+0.4**
SWI				S		**Sn**		**08 59 20.8**	**-1.8**
NLAI	**Namlea**	**4.74**	**297**	P		Pn		08 58 37.7	+3.7
NLAI				S		**Sn**		**08 59 33.5**	**+5.8**
MWPI	**Manokwari, Pap**	**5.22**	**31**	P		**Pn**		**08 58 42.6**	**+1.9**
	89μm,1.1s,980μm193μm695nm								
SRPI	**Serui, Papua**	**6.04**	**54**	P		**Pn**		**08 58 52.0**	**+0.1**
	5μm,0.9s,240μm79μm88nm								
LBMI	**Labuha**	**6.10**	**321**	P		**Pn**		**08 58 54.9**	**+2.2**
	7μm,1.0s,170μm65μm133nm								
BAKI	**Biak**	**6.36**	**49**	P		**Pn**		**08 58 57.6**	**+1.3**
	25μm,0.9s,156μm76nm								
KDU	**Kakadu**	**7.30**	**171**	P	⇓	**Pn**		**08 59 07.4**	**-1.7**
	baz=7.3,SNR=1000								
TNTI	**Ternate**	**7.32**	**327**	P		**Pn**		**08 59 12.0**	**+2.7**
	3μm,1.2s,39μm132μm18nm								
TNTI	**Ternate**	**7.32**	**327**	*e*Pn		**Pn**		**08 59 12.1**	**+2.7**
TNTI				*e*Sn		**Sn**		**09 00 29.8**	**-1.1**
MTN	**Manton Dam**	**7.37**	**181**	P	⇑	**Pn**		**08 59 09.2**	**-0.9**
	baz=7.3,SNR=1000								
SOEI	**Soe**	**8.21**	**238**	P		**Pn**		**08 59 23.6**	**+1.9**
	7μm,1.2s,68μm92μm49nm								
BBSI	**Bau Bau**	**8.71**	**269**	P		Pn		08 59 35.2	+6.7
	14μm,1.8s,201μm77μm								
GENI	**Genyem**	**9.26**	**73**	P		**Pn**		**08 59 37.3**	**+1.4**
	3μm,1.1s,38μm61μm								
KMSI	**Cing**	**9.45**	**309**	P		**Pn**		**08 59 40.2**	**+1.7**
	3μm,0.9s,41μm								
MMPI	**Merauke**	**9.49**	**109**	P		Pn		08 59 35.9	-3.1
MMRI	**Maumere**	**9.56**	**250**	P		Pn		08 59 44.2	+4.1
	3μm,1.8s,43μm65μm								
LUWI	**Luwuk**	**9.58**	**297**	P		**Pn**		**08 59 43.0**	**+2.7**
	3μm,1.2s,31μm45μm								
KKSI	**Kolaka, Sulawe**	**9.72**	**277**	P		Pn		08 59 48.3	+6.1
	7μm,1.6s,89μm								
JAY	**Jayapura**	**9.79**	**73**	P		**Pn**		**08 59 44.5**	**+1.3**
JAY				S		**Sn**		**09 01 26.9**	**-4.9**
JAY	**Jayapura**	**9.79**	**73**	P		**Pn**		**08 59 44.5**	**+1.3**
	19nm,0.3s,baz=251,slow=7.6,SNR=82								
JAY				S		**Sn**		**09 01 26.9**	**-4.9**
	34nm,0.3s,baz=129,slow=20,SNR=8.0								
JAY	**Jayapura**	**9.79**	**73**	P	⇑	**Pn**		**08 59 44.3**	**+1.0**
	baz=9.9,SNR=110								
KNRA	**Kununurra**	**10.49**	**194**	P	⇑	**Pn**		**08 59 50.7**	**-2.1**
	baz=10,SNR=1000								
APSI	**Ampana**	**10.65**	**295**	P		**Pn**		**08 59 57.8**	**+2.9**
	2μm,1.2s,31μm33μm								
SGSI	**Sangihe**	**10.74**	**327**	P		Pn		08 59 59.7	+3.5
	2μm,1.2s,16μm								
MRSI	**Marisa**	**11.05**	**302**	P		**Pn**		**09 00 02.3**	**+1.9**
	1μm,1.4s,11μm								
BKSI	**Bulukumba**	**11.15**	**270**	P		Pn		09 00 06.5	+4.7
	4μm,1.3s,46μm49μm								
BNSI	**Bone**	**11.22**	**275**	P		Pn		09 00 07.3	+4.6
	2μm,1.8s,51μm71μm								
KAPI	**Kappang**	**11.53**	**271**	Pn		Pn		09 00 11.0	+4.0
	13μm,1.1s								
SPSI	**Sidrap Palu**	**11.61**	**277**	P		Pn		09 00 12.8	+4.8
	3μm,1.4s,56μm57μm								
TTSI	**Tana Toraja**	**11.71**	**281**	P		Pn		09 00 13.9	+4.4
	2μm,1.2s,31μm53μm								
WSI	**Waingapu**	**11.71**	**248**	P		**Pn**		**09 00 09.8**	**+0.3**
	7μm,0.6s,81μm76μm								
LBFI	**Labuhan Bajo,**	**11.75**	**254**	P		**Pn**		**09 00 12.8**	**+2.9**
	3μm,1.6s,42μm54μm								
TOLI	**Toli-Toli**	**12.37**	**301**	P		**Pn**		**09 00 20.9**	**+2.5**
	1μm,0.9s,14μm46μm								
MJSI	**Majene**	**12.45**	**278**	P		P		09 00 24.7	-4.4
	3μm,1.4s,59μm								
MMSI	**Mamuju**	**12.68**	**282**	P		Pn		09 00 26.8	+4.2
	2μm,1.4s,47μm66μm								
BMNI	**Bima**	**12.91**	**255**	P		**P**		**09 00 31.5**	**-2.7**
	1μm,0.9s,20μm36μm								
PALU	**Palau**	**13.07**	**14**	P	⇓	**Pn**		**09 00 30.4**	**+2.5**
	baz=13,SNR=333								
GSPH	**General Santos**	**13.09**	**331**	P	‖	**Pn**		**09 00 28.6**	**+0.3**
DAV	**Davao City (W)**	**13.67**	**335**	*e*Pn		**Pn**		**09 00 37.1**	**+1.0**
	2μm,1.0s								
DAV				*e*S		**S**		**09 03 24.4**	**-1.1**
DAV	**Davao City (W)**	**13.67**	**335**	P	‖	**Pn**		**09 00 38.2**	**+2.1**
FITZ	**Fitzroy Crossi**	**13.77**	**203**	*e*Pn		Pn		09 00 32.5	-4.9
FITZ				*e*Sn		Sn		09 02 54.1	-15
FITZ	**Fitzroy Crossi**	**13.77**	**203**	P		Pn		09 00 31.2	-6.1
	71nm,0.3s,baz=36,slow=13,SNR=479								
FITZ				S		Sn		09 02 54.0	-15
	327nm,0.3s,baz=91,slow=18,SNR=8.9								
FITZ				LR		LR		09 06 34.6	
	comp=Z,12μm,20.4s,baz=26,slow=40								
CTBH	**Cotabato--PC H**	**14.41**	**331**	P	‖	**Pn**		**09 00 46.8**	**+0.9**
COEN	**Coen**	**14.43**	**127**	*e*Pn		Pn		09 00 41.5	-4.6
COEN				*e*Sn		Sn		09 03 09.8	-15
SGKI	**Sangatta, Kali**	**14.54**	**289**	P		**P**		**09 00 55.3**	**+3.0**
BUKP	**Musuan**	**14.62**	**335**	*e*P		**Pn**		**09 00 50.3**	**+1.8**
WRAB	**Tennant Creek**	**14.72**	**169**	*d*	*i*P	Pn		09 00 43.1	-6.7
WRAB				MLR		MLR			
	comp=Z,46μm,15.0s								
WRAB	**Tennant Creek**	**14.72**	**169**	*e*Pn		Pn		09 00 44.2	-5.6
WRAB				*e*Sn		Sn		09 03 17.1	-15
WRAB	**Tennant Creek**	**14.72**	**169**	P		Pn		09 00 43.0	-6.7
	comp=Z,13μm,1.3s								
WRA	**Warramunga Arr**	**14.72**	**169**	P		Pn		09 00 42.9	-7.0
WRA				S		Sn		09 03 14.6	-17
WRA				*e*				09 36 16.8	
WRA				PKKKP				09 36 57.8	
WRA	**Warramunga Arr**	**14.72**	**169**	P		Pn		09 00 42.9	-7.0
	comp=Z,7.6nm,0.3s,baz=344,slow=12,SNR=418								
WRA				S		Sn		09 03 14.6	-17
	comp=Z,244nm,0.3s,baz=347,slow=23,SNR=11								
WRA				LR		LR		09 06 55.2	
	comp=Z,20μm,19.3s,baz=345,slow=38								
WRA				P3KPbc				09 36 16.8	
	comp=Z,0.0nm,0.3s,baz=153,slow=3.3,SNR=6.9								
WRA				P3KP				09 36 57.8	
	comp=Z,0.0nm,0.3s,baz=164,slow=2.5,SNR=5.3								
BKB	**Balikpapan**	**14.98**	**286**	P		**P**		**09 00 57.7**	**+0.4**
	comp=Z,975nm,1.2s,comp=Z,17μmcomp=Z,78μm								
KBKI	**Kotabaru**	**15.26**	**277**	P		**P**		**09 00 59.0**	**-1.3**
	comp=Z,1μm,1.3s,comp=Z,22μmcomp=Z,38μm								
CGP	**Cagayan de Oro**	**15.29**	**334**	*e*P	‖	**P**		**09 01 01.9**	**+1.2**
PAGZ	**Pagadian**	**15.38**	**329**	*e*P		**Pn**		**09 00 59.1**	**+0.8**
KHKI	**Kahang-Kahang**	**15.87**	**259**	P		**Pn**		**09 01 04.0**	**-0.6**
	comp=Z,1μm,1.3s,comp=Z,12μm								
SCPH	**Surigao**	**16.19**	**339**	*e*P		**P**		**09 01 12.3**	**+1.7**
PMG	**Port Moresby**	**16.19**	**105**	P		**Pn**		**09 01 07.0**	**-1.6**
	comp=Z,1μm,1.1s,comp=Z,19μm								
PMG	**Port Moresby**	**16.19**	**105**	*e*P		**Pn**		**09 01 07.1**	**-1.6**
	comp=Z,302nm,0.9s								
PMG				S		Sn		09 03 56.1	-11
PMG	**Port Moresby**	**16.19**	**105**	P		**Pn**		**09 01 06.7**	**-1.9**
	comp=Z,9.1nm,0.3s,baz=294,slow=8.3,SNR=111								
PMG				S		Sn		09 03 56.1	-11
	comp=Z,14nm,0.3s,baz=15,slow=20,SNR=5.2								
PMG	**Port Moresby**	**16.19**	**105**	P	⇑	**Pn**		**09 01 07.6**	**-1.1**
	baz=16,SNR=60								
PMG				P	⇑	**Pn**		**09 01 07.6**	**-1.1**
	baz=16,SNR=60								
PMG				P	⇑	**Pn**		**09 01 07.6**	**-1.1**
	baz=16,SNR=60								
SRBI	**Singaraja**	**16.21**	**260**	P		**Pn**		**09 01 09.3**	**+0.4**
	comp=Z,1μm,1.3s,comp=Z,17μmcomp=Z,35μm								
DNP	**Denpasar**	**16.31**	**258**	P		**Pn**		**09 01 10.8**	**+0.6**
	comp=Z,2μm,0.9s,comp=Z,30μm								
IGBI	**Denpasar**	**16.40**	**257**	P		**Pn**		**09 01 10.7**	**-0.6**
	comp=Z,1μm,0.5s,comp=Z,17μm								
TSM	**Tawau**	**16.54**	**305**	P		**P**		**09 01 14.7**	**+0.1**
BBKI	**Banjar Baru**	**16.55**	**276**	P		**P**		**09 01 15.8**	**+1.1**
	comp=Z,4μm,1.3s,comp=Z,56μm								
SNPH	**Sibulan**	**16.74**	**331**	*e*P	‖	**Pn**		**09 01 11.5**	**-4.0**
MSLP	**Maasin**	**16.75**	**337**	*e*P		**P**		**09 01 21.0**	**+4.2**
MTKI	**Muara Teweh, K**	**16.99**	**285**	P		**P**		**09 01 21.1**	**+1.5**
	comp=Z,558nm,0.7s,comp=Z,25μm								
BYJI	**Banyuwangi**	**17.07**	**260**	P		**P**		**09 01 21.0**	**+0.5**
	comp=Z,6μm,1.2s,comp=Z,67μm								
ABJI	**Asem Bagus**	**17.14**	**261**	P		**P**		**09 01 21.4**	**+0.2**
	comp=Z,3μm,1.2s,comp=Z,47μm								
LLP	**Lapu-Lapu**	**17.27**	**335**	*e*P	‖	**P**		**09 01 24.0**	**+1.4**
LLP				*e*S		**S**		**09 04 41.9**	**+2.9**
JAGI	**Jajag, Banyuwa**	**17.31**	**259**	*e*Pn		**Pn**		**09 01 20.1**	**-2.4**
	comp=Z,816nm,0.7s								
JAGI	**Jajag, Banyuwa**	**17.31**	**259**	P		**Pn**		**09 01 21.0**	**-1.6**
	baz=17,SNR=61								
KMMI	**Kalianget**	**17.33**	**264**	P		**P**		**09 01 26.5**	**+3.2**
	comp=Z,7μm,1.2s,comp=Z,93μmcomp=Z,151μm								
PLP	**Palo**	**17.65**	**339**	P	⇑	**P**		**09 01 29.8**	**+3.0**
BLJI	**Banyuglugur**	**17.76**	**262**	P		**P**		**09 01 28.5**	**+0.4**
	comp=Z,3μm,0.9s,comp=Z,48μm								
SDKM	**Sandakan**	**17.88**	**308**	P		**Pn**		**09 01 32.1**	**+2.5**
GMJI	**Gumukmas**	**17.98**	**260**	P		**P**		**09 01 28.9**	**-1.5**
	comp=Z,923nm,1.0s,comp=Z,17μmcomp=Z,28μm								
GUIM	**Jordan**	**18.16**	**331**	*e*P		**Pn**		**09 01 35.0**	**+2.1**
AS31	**Alice Springs**	**18.30**	**172**	*e*P		**P**		**09 01 31.6**	**-2.4**
AS31				*e*S		Sn		09 04 46.1	-13
ASAR	**Alice Springs**	**18.30**	**172**	P		**P**		**09 01 29.9**	**-4.1**
ASAR				S		Sn		09 04 44.8	-14
ASAR				*e*				09 36 03.6	
ASAR	**Alice Springs**	**18.30**	**172**	P		**P**		**09 01 29.9**	**-4.1**
	comp=Z,69nm,0.3s,baz=6.0,slow=11,SNR=1296								
ASAR				S		Sn		09 04 44.8	-14
	comp=Z,61nm,0.3s,baz=348,slow=19,SNR=10								
ASAR				P3KPbc				09 36 03.6	
	comp=Z,0.0nm,0.3s,baz=146,slow=1.5,SNR=4.4								
BWJI	**Bawean**	**18.58**	**268**	P		**Pn**		**09 01 38.7**	**+0.7**
	comp=Z,1μm,1.3s,comp=Z,14μm								
GRJI	**Gresik**	**18.79**	**265**	P		**Pn**		**09 01 40.8**	**+0.3**
	comp=Z,2μm,1.2s,comp=Z,17μm								
RCP	**Roxas**	**18.91**	**333**	*e*P		**Pn**		**09 01 44.1**	**+2.2**
KRKI	**Karangkates**	**18.93**	**261**	P		**P**		**09 01 41.3**	**+0.4**
	comp=Z,3μm,1.7s,comp=Z,33μmcomp=Z,57

QLP Quilpie 24.38 151 ⇓P **P 09 02 37.7 +0.4**
baz=24,SNR=212
BOLP Bolinao 24.43 333 *e*P **P 09 02 38.1 +0.3**
DBJI Dramaga 24.46 266 P **P 09 02 36.0 -2.2**
comp=Z,846nm,1.8s,comp=Z,17μm
SKJI Sukabumi 24.67 265 P **P 09 02 37.5 -2.6**
comp=Z,1μm,1.3s,comp=Z,17μm
SBJI Serang 25.07 267 P **P 09 02 39.1 -4.7**
comp=Z,516nm,1.4s,comp=Z,25μm
APYP Conner 25.19 337 *e*P **P 09 02 45.0 +0.3**
SZP Santa 25.23 335 *e*P **P 09 02 44.8 -0.3**
comp=Z,1μm,1.3s
FORT Forrest 25.41 187 *e*P **P 09 02 46.5 -0.1**
comp=Z,2μm,0.9s
FORT Forrest 25.41 187 ⇑P **P 09 02 46.8 +0.2**
baz=25,SNR=299
CGJI Cibinong 25.52 266 P **P 09 02 45.1 -2.7**
comp=Z,805nm,0.9s,comp=Z,10μm
XMI Christmas Isla 25.86 257 ⇓P **P 09 02 50.8 -0.2**
baz=26,SNR=26
XMIS Christmas Isla 25.91 257 *e*P **P 09 02 48.7 -2.6**
comp=Z,1μm,1.1s
XMIS Christmas Isla 25.91 257 ⇓P **P 09 02 51.1 -0.2**
baz=26,SNR=12
BLSI Bandar Lampung 25.96 269 P **P 09 02 55.4 +3.5**
comp=Z,249nm,0.7s,comp=Z,6μm
KLSI 26.50 270 P **P 09 02 56.2 -0.5**
comp=Z,702nm,1.2s,comp=Z,11μm
KASI Kota Agung 26.70 268 P **P 09 02 55.8 -2.7**
comp=Z,512nm,1.1s,comp=Z,6μm
RMQ Roma 26.75 143 ⇓P **P 09 03 00.7 +1.8**
baz=27,SNR=14
MDSI Maura Dua 27.06 271 P **P 09 02 59.9 -1.8**
comp=Z,243nm,1.4s,comp=Z,5μm
LWLI Liwa 27.15 270 P **P 09 03 02.6 -0.1**
comp=Z,361nm,1.6s,comp=Z,10μm
KMBL Kambalda 27.29 198 P **P 09 03 03.6 +0.1**
baz=27,SNR=594
EIDS Eidsvold 27.42 138 *e*P **P 09 03 05.7 +0.9**
comp=Z,295nm,1.0s
TPRI Tanjung Pinang 27.50 282 P **P 09 03 06.0 +0.4**
comp=Z,466nm,1.4s,comp=Z,56μm
BBOO Buckleboo 27.60 171 *e*P **P 09 03 05.9 -0.4**
comp=Z,1μm,0.9s
BBOO Buckleboo 27.60 171 P **P 09 03 05.8 -0.6**
baz=28,SNR=75
MORW Morawa 27.61 210 P **P 09 03 06.1 -0.4**
baz=28,SNR=69
LHSI Lahat 27.75 272 P **P 09 03 07.8 -0.1**
comp=Z,407nm,1.1s,comp=Z,5μm
JMBI JAMBI 27.88 277 P **P 09 03 11.1 +2.0**
comp=Z,1μm,1.6s,comp=Z,16μm
STKA Stephens Creek 28.02 161 *e*P **P 09 03 09.8 -0.3**
comp=Z,272nm,1.3s
STKA PP **PnPn 09 03 57.9 -2.7**
STKA S **S 09 07 44.8 -5.2**
STKA Stephens Creek 28.02 161 P **P 09 03 09.9 -0.2**
comp=Z,46nm,0.4s,baz=341,slow=7.6,SNR=140
STKA PP **PnPn 09 03 57.9 -2.7**
comp=Z,464nm,0.8s,baz=313,slow=14,SNR=4.1
STKA S **S 09 07 44.8 -5.2**
comp=Z,123nm,1.0s,baz=117,slow=12,SNR=2.1
STKA LR LR 09 16 06.8
comp=Z,17μm,18.6s,baz=330,slow=40
STKA Stephens Creek 28.02 161 P **P 09 03 09.9 -0.2**
baz=28,SNR=220
MNAI Manna 28.28 271 P **P 09 03 10.9 -1.8**
comp=Z,306nm,0.9s,comp=Z,9μm
MNAI Manna 28.28 271 ⇑P **P 09 03 11.4 -1.3**
baz=28,SNR=7.3
BTDF Bukit Timah Da 28.33 283 ⇓P **P 09 03 12.7 -0.4**
baz=28,SNR=5.9
BTDF ⇓P **P 09 03 12.7 -0.4**
baz=28,SNR=5.9
MYKOM Kota Tinggi 28.36 284 P **P 09 03 13.5 +0.1**
MYKOM Kota Tinggi 28.36 284 P **P 09 03 13.2 -0.2**
comp=Z,320nm,1.6s,comp=Z,5μm
MYKOM Kota Tinggi 28.36 284 *e*P **P 09 03 12.9 -0.5**
comp=Z,608nm,1.4s
DLV T Lat 28.52 307 *e*P **P 09 03 15.9 +0.9**
comp=Z,1μm,1.4s
DLV *e*PcP **PcP 09 06 26.6 +1.1**
BLDU Ballidu 28.58 207 P **P 09 03 15.0 -0.2**
baz=29,SNR=203
HNR Honiara 28.65 100 P **P 09 03 15.6 -0.3**
HNR Honiara 28.65 100 P **P 09 03 15.6 -0.3**
comp=Z,106nm,0.9s,baz=218,slow=5.3,SNR=5.1
HTT Hallett 28.75 167 P **P 09 03 16.6 0.0**
baz=29,SNR=82
KGM Kluang 28.93 284 P **P 09 03 18.6 +0.1**
KLBR Kellerberrin 28.97 204 ⇑P **P 09 03 18.6 0.0**
baz=29,SNR=237
MBSI MBSI 29.00 272 P **P 09 03 15.9 -3.2**
comp=Z,603nm,1.3s,comp=Z,12μm
MASI Maura Aman, Be 29.09 273 P **P 09 03 17.5 -2.4**
comp=Z,539nm,1.2s,comp=Z,13μm
CMSA Cobar Meteorol 29.26 154 ⇓P **P 09 03 21.5 +0.3**
baz=29,SNR=98
RGRI Rengat 29.38 279 P **P 09 03 23.5 +1.1**
comp=Z,370nm,1.1s,comp=Z,91μm
KTGM Kuala Trenggan 30.11 290 P **P 09 03 29.7 +0.8**
NWAO Narrogin (SRO) 30.35 204 P **P 09 03 30.9 +0.1**
NWAO Narrogin (SRO) 30.35 204 P **P 09 03 30.9 +0.1**
comp=Z,72nm,0.4s,baz=30,slow=9.3,SNR=138
BKNI Bangkinang 30.78 280 P **P 09 03 34.0 -0.8**
comp=Z,332nm,1.5s,comp=Z,6μmcomp=Z,16μm
YOJ Yonaguni jima 30.79 345 *e*P **P 09 03 35.1 +0.4**
YOJ pmax pmax
comp=Z,101nm,0.9s
YOJ Yonaguni jima 30.79 345 *e*P **P 09 03 35.1 +0.4**
comp=Z,101nm,0.9s
FRIM Kepong 30.89 286 P **P 09 03 35.5 -0.3**
PDSI Padang 31.13 277 P **P 09 03 35.1 -2.8**
comp=Z,209nm,0.7s,comp=Z,5μm
PPI Padang Panjang 31.27 278 P **P 09 03 37.6 -1.5**
comp=Z,610nm,0.9s,comp=Z,6μm
PPI Padang Panjang 31.27 278 P **P 09 03 37.4 -1.7**
baz=31,SNR=18
ARMA Armidale 31.36 145 *e*P **P 09 03 42.2 +2.4**
comp=Z,179nm,1.0s
ARMA Armidale 31.36 145 ⇓P **P 09 03 39.9 +0.1**
baz=31,SNR=6.1
YHNB Yeheng 31.44 342 *e*P **P 09 03 40.8 +0.2**
comp=Z,218nm,1.3s
TATO Taipei 31.70 343 *e*P **P 09 03 42.2 -0.5**
comp=Z,301nm,1.4s
IPM Ipoh 31.82 287 P **P 09 03 43.8 -0.1**
IPM Ipoh 31.82 287 P **P 09 03 43.5 -0.5**
comp=Z,285nm,1.4s,comp=Z,4μm
IPM Ipoh 31.82 287 *e*P **P 09 03 43.1 -0.9**
comp=Z,246nm,1.0s
IPM *e*PcP **PcP 09 06 34.7 +0.8**
IPM *e*ScP **ScP 09 10 11.1 -0.8**
RKGY Rocky Gully 31.93 203 P **P 09 03 46.0 +1.4**
baz=32,SNR=227
JOW Kunigami 32.20 355 *e*P **P 09 03 49.9 +2.8**
comp=Z,121nm,1.1s
JOW *e*PP **PP 09 05 01.8 +0.7**
QIZ Qiongzhong 32.22 319 P **P 09 03 48.8 +1.4**
QIZ sP **sP 09 04 08.5 -2.3**
QIZ PP **PP 09 05 03.0 +1.7**
QIZ S **S 09 08 52.8 -3.3**
QIZ sS **sS 09 09 20.3 -2.8**
QIZ pmax pmax
comp=Z,250nm,1.3s
QIZ pmax pmax
comp=Z,3μm,4.7s
QIZ LR LR
comp=Z,4μm,19.5s
QIZ LR LR
comp=Z,4μm,15.3s
QIZ Qiongzhong 32.22 319 *e*P **P 09 03 48.4 +1.0**
comp=Z,434nm,1.4s
HKC Hong Kong Obse 32.27 329 P **P 09 03 48.0 +0.3**
MNSI Mandailing Nat 32.30 280 P **P 09 03 46.5 -1.7**
comp=Z,398nm,0.7s,comp=Z,6μm
KULM Kulim 32.43 289 P **P 09 03 49.2 -0.1**
KULM Kulim 32.43 289 P **P 09 03 48.4 -0.9**
comp=Z,281nm,1.5s,comp=Z,5μm
KULM Kulim 32.43 289 *e*P **P 09 03 48.9 -0.4**
comp=Z,2μm,2.1s
KULM *e*PcP **PcP 09 06 36.3 +0.8**
KULM *e*ScP **ScP 09 10 13.3 -0.6**
QZH Quanzhou 32.63 338⇑ *i*P **P 09 03 47.8 -3.0**
QZH pmax pmax
comp=Z,430nm,1.1s
QZH LR LR
comp=Z,4μm,12.6s
QZH LR LR
comp=Z,4μm,13.3s
QZH LR LR
comp=Z,11μm,20.6s
ARPS Mount Arapiles 32.65 164 ⇓P **P 09 03 51.6 +0.7**
baz=33,SNR=30
YNG Young 32.80 153 P **P 09 03 53.6 +1.3**
baz=33,SNR=48
MGCD Mangrove Creek 33.22 149 ⇑P **P 09 03 56.4 +0.4**
baz=33,SNR=10
GZH Guangzhou 33.34 329 P P 09 04 00.8 +3.7
GZH S **S 09 09 15.5 +2.1**
GZH LR LR
comp=Z,8μm,20.0s
GZH LR LR
comp=Z,8μm,21.4s
GZH LR LR
comp=Z,20μm,31.9s
PSI Prapat 33.38 283 P **P 09 03 55.6 -2.1**
comp=Z,258nm,1.2s,comp=Z,4μmcomp=Z,12μm
PSI Prapat 33.38 283 P **P 09 03 55.8 -1.9**
PSI PcP **PcP 09 06 38.4 0.0**
PSI Prapat 33.38 283 P **P 09 03 55.8 -1.9**
comp=Z,138nm,0.9s,baz=105,slow=4.9,SNR=56
PSI PcP **PcP 09 06 38.4 0.0**
comp=Z,72nm,0.8s,baz=51,slow=6.5,SNR=4.8
PSI LR LR 09 20 09.2
comp=Z,8μm,18.6s,baz=134,slow=41
PSI Prapat 33.38 283 ⇑P **P 09 03 55.7 -2.0**
baz=33,SNR=39
TSI Tuntungan 33.90 284 P **P 09 04 02.4 +0.3**
comp=Z,259nm,1.6s
CAN Canberra 33.92 154 *e*P **P 09 04 03.1 +0.9**
CAN pmax pmax
comp=Z,604nm,1.3s
CAN Canberra 33.92 154 *e*P **P 09 04 03.1 +0.9**
comp=Z,604nm,1.3s
JCJ Chichijima 33.99 17 P **P 09 04 02.2 -0.5**
comp=Z,117nm,0.7s,baz=306,slow=8.2,SNR=7.2
JCJ S S 09 09 16.2 -7.2
comp=Z,73nm,0.7s,baz=108,slow=19,SNR=5.3
JCJ LR LR 09 16 49.1
comp=Z,5μm,20.8s,baz=39,slow=34
CBIJ Chichi jima 33.99 17 *e*P **P 09 04 00.3 -2.4**
comp=Z,150nm,1.0s
CBIJ S S 09 09 16.2 -7.2
CHBT CHBT 34.00 302 P **P 09 04 03.7 +0.7**
comp=Z,1μm,1.2s
CNB Canberra Magne 34.08 153 ⇑P **P 09 04 04.8 +1.3**
baz=34,SNR=22
GSI Gunungsitoli 34.36 280 *e*P **P 09 04 03.3 -2.8**
comp=Z,950nm,1.5s
TOO Toolangi 34.51 160 P **P 09 04 08.6 +1.5**
baz=35,SNR=41
KCSI Kotacane, Aceh 34.67 284 P **P 09 04 05.8 -3.0**
comp=Z,99nm,1.8s,comp=Z,2μm
COCO West Island 34.71 256 *e*P **P 09 04 09.4 +0.3**
COCO pmax pmax
comp=Z,95nm,0.9s
COCO West Island 34.71 256 *e*P **P 09 04 09.4 +0.3**
comp=Z,95nm,0.9s
TPTI 35.18 283 P **P 09 04 10.3 -2.9**
comp=Z,58nm,0.7s
PATY Pattaya 35.33 301 P **P 09 04 14.9 +0.5**
comp=Z,84nm,1.1s,comp=Z,1μm
SURT Suratani 35.44 294 P **P 09 04 15.3 -0.1**
comp=Z,308nm,1.3s,comp=Z,4μm
PKDT Phuket 35.47 292 P **P 09 04 15.5 -0.1**
comp=Z,668nm,1.2s
SNSI Sinabang, Aceh 35.81 282 P **P 09 04 17.6 -1.0**
comp=Z,275nm,1.7s,comp=Z,6μm
LHMI Lhok Sumawe 35.92 287 P **P 09 04 18.4 -1.1**
comp=Z,744nm,0.8s,comp=Z,11μm
LHMI Lhok Sumawe 35.92 287 ⇓P **P 09 04 19.1 -0.4**
baz=36,SNR=9.8
CHAI Chaiyaphum 35.95 307 P **P 09 04 20.2 +0.5**
comp=Z,282nm,1.1s,comp=Z,2μm
PBKT Sadao Pong 37.13 307 P **P 09 04 30.3 +0.5**
comp=Z,349nm,1.4s,comp=Z,7μm
SRDT SRDT 37.50 302 P **P 09 04 34.1 +1.2**
comp=Z,2μm,1.1s,comp=Z,31μm
SSE Sheshan 37.59 346 P **P 09 04 34.8 +1.4**
SSE sP **sP 09 04 55.8 -1.2**
SSE S **S 09 10 18.3 0.0**
SSE pmax pmax
comp=Z,210nm,0.8s
SSE pmax pmax
comp=Z,510nm,4.3s
SSE LR LR
comp=Z,5μm,25.7s
SSE LR LR
comp=Z,5μm,32.8s
NOUC Port Laguerre 37.66 120 *e*P **P 09 04 34.0 -0.3**
DZM Mont Dzumac 37.77 119 *e*P **P 09 04 38.1 +2.8**
comp=Z,613nm,1.4s
DZM *e*S **S 09 10 27.3 +5.6**
comp=Z,6μm,26.8s
DZM *e*LR LR 09 15 00.6
comp=Z,10μm,29.6s
DZM Mont Dzumac 37.77 119 *e*P **P 09 04 35.8 +0.5**
comp=Z,348nm,1.4s
DZM Mont Dzumac 37.77 119 P **P 09 04 35.7 +0.4**
comp=Z,15nm,0.7s,baz=255,slow=14,SNR=10
SLVN Son La 37.82 316 *e*P **P 09 04 37.0 +1.4**
comp=Z,463nm,1.4s
UTHA Uthaitani 37.83 304 P **P 09 04 36.4 +0.7**
comp=Z,366nm,1.2s,comp=Z,3μm
PHIT Phitsanulok 37.91 307 P **P 09 04 37.6 +1.2**
comp=Z,1μm,1.1s
KHLT Khaolaem Dam 38.17 302 P **P 09 04 39.6 +1.0**
comp=Z,458nm,1.4s,comp=Z,6μm
JNU Nakatsue 38.34 359 *e*P **P 09 04 41.5 +1.8**
comp=Z,164nm,1.0s
JNU S **S 09 10 27.0 -2.7**
JNU Nakatsue 38.34 359 P **P 09 04 41.4 +1.6**
comp=Z,276nm,1.0s,baz=177,slow=4.0,SNR=74
JNU S **S 09 10 27.0 -2.7**
comp=Z,12nm,1.0s,baz=252,slow=20,SNR=2.7
JNU LR LR 09 18 46.5
comp=Z,4μm,20.1s,baz=331,slow=33
NJ2 Nanjing 39.12 343 *e*P **P 09 04 48.0 +1.8**
NJ2 pP **pP 09 05 03.3 +0.9**
NJ2 sP **sP 09 05 09.3 -0.6**
NJ2 PP **PnPn 09 06 21.0 +0.8**
NJ2 S **S 09 10 42.0 +0.6**
NJ2 sS **sS 09 11 12.0 +3.2**
NJ2 pmax pmax
comp=Z,290nm,1.2s
NJ2 pmax pmax
comp=Z,960nm,7.2s
NJ2 LR LR
comp=Z,4μm,23.7s
NJ2 LR LR
comp=Z,3μm,21.6s
NJ2 LR LR
comp=Z,3μm,23.2s
LAMP Lampang 39.27 308 P **P 09 04 49.0 +1.2**
comp=Z,209nm,1.2s,comp=Z,2μm
WHN Wuhan 39.28 337⇑ *i*P **P 09 04 49.8 +2.1**
WHN S **S 09 10 44.0 +0.1**
WHN SS **SS 09 13 39.8 0.0**
WHN pmax pmax
comp=Z,1μm,1.1s
WHN LR LR
comp=Z,15μm,26.7s
CMBY CAMPBELL BAY 39.31 288 *e*P **P 09 04 47.1 -1.1**
CMBY AMB AMB 09 04 49.4
comp=Z,412nm,2.1s
MOO Moorlands 39.46 161 ⇓P **P 09 04 50.0 +0.9**
baz=40,SNR=14
PAYA Payao 39.56 309 P **P 09 04 51.9 +1.7**
comp=Z,256nm,1.3s,comp=Z,3μm
GYA Guiyang 39.69 324⇑ *i*P **P 09 04 52.0 +0.7**
GYA pP **pP 09 05 08.8 +1.3**
GYA sP **sP 09 05 15.5 +0.5**
GYA PP **PnPn 09 06 30.5 +3.2**
GYA ScP **ScP 09 10 41.0 +0.6**
GYA sS **sS 09 11 19.0 +1.0**
GYA SS **SS 09 13 44.8 -3.6**
GYA ScS **ScS 09 14 50.0 -3.4**
GYA pmax pmax
comp=Z,320nm,0.8s
GYA pmax pmax
comp=Z,1μm,9.6s
GYA LR LR
comp=Z,3μm,15.9s
GYA LR LR
comp=Z,3μm,15.9s
GYA LR LR
comp=Z,2μm,18.2s
CM31 Chiang Mai Arr 39.78 307 *e*P **P 09 04 53.5 +1.4**
comp=Z,396nm,0.9s
CMAR Chiang Mai Arr 39.78 307 P **P 09 04 53.6 +1.6**
CMAR PcP **PcP 09 06 59.1 +1.8**
CMAR ScP **ScP 09 10 39.6 -1.2**
CMAR PKiKP **PKiKP 09 14 08.9 +0.1**
CMAR Chiang Mai Arr 39.78 307 P **P 09 04 53.6 +1.6**
comp=Z,282nm,0.8s,baz=137,slow=6.9,SNR=998
CMAR PcP **PcP 09 06 59.1 +1.8**
comp=Z,72nm,1.0s,baz=156,slow=2.0,SNR=5.0
CMAR ScP **ScP 09 10 39.6 -1.2**
comp=Z,28nm,1.0s,baz=156,slow=3.3,SNR=8.2
CMAR PKiKP **PKiKP 09 14 08.9 +0.1**
comp=Z,2.3nm,0.4s,baz=276,slow=1.0,SNR=4.8
CMAR LR LR 09 21 24.7
comp=Z,4μm,21.9s,baz=128,slow=36
TAU Tasmania Unive 39.93 162 *e*P **P 09 04 54.4 +1.5**
TAU pmax pmax
comp=Z,360nm,1.3s
TAU Tasmania Unive 39.93 162 *e*P **P 09 04 54.4 +1.5**
comp=Z,362nm,1.3s
CMMT Chiang Mai 39.97 308 P **P 09 04 54.5 +0.9**
comp=Z,1μm,1.4s,comp=Z,13μm
CHTO Chiang Mai 39.98 308 *e*P **P 09 04 55.1 +1.4**
CHTO pmax pmax
comp=Z,574nm,1.5s
CHTO Chiang Mai 39.98 308 *e*P **P 09 04 55.1 +1.4**
comp=Z,574nm,1.5s
CHTO *e*ScP **ScP 09 10 41.7 +0.1**
CHTO Chiang Mai 39.98 308 P **P 09 04 54.6 +0.9**
comp=Z,5μm,1.4s,comp=Z,58μm
MHMT Maesarieng 40.44 306 P **P 09 04 58.3 +0.9**
comp=Z,486nm,1.2s,comp=Z,5μm
CMAI Chiengmai2 40.53 309 P **P 09 04 59.1 +0.7**
comp=Z,517nm,1.3s,comp=Z,6μm
KMI Kunming 41.16 319 P **P 09 05 05.5 +1.9**
KMI pP **pP 09 05 19.5 -0.4**
KMI sP **sP 09 05 28.8 +1.4**
KMI PP **PnPn 09 06 45.0 +0.3**
KMI PcS **PcS 09 10 53.5 0.0**
KMI S **S 09 11 10.0 -2.7**
KMI pmax pmax
comp=Z,390nm,1.4s
KMI LR LR
comp=Z,5μm,18.7s
KMI LR LR
comp=Z,4μm,18.7s
KMI LR LR
comp=Z,4μm,18.7s
ENH Enshi 41.20 331 *e*P **P 09 05 04.1 +0.4**
comp=Z,212nm,0.8s
PBA Port Blair 41.96 294 *e*P **P 09 05 08.7 -1.3**
PBA AMB AMB 09 05 09.8
comp=Z,313nm,1.7s
MJAR Matsushiro Arr 42.24 8 P **P 09 05 12.0 0.0**
MJAR ScP **ScP 09 10 48.9 -1.3**
MJAR Matsushiro Arr 42.24 8 P **P 09 05 12.0 0.0**
comp=Z,227nm,0.8s,baz=186,slow=9.8,SNR=398
MJAR ScP **ScP 09 10 48.9 -1.3**
comp=Z,28nm,1.0s,baz=197,slow=5.4,SNR=11
MJAR LR LR 09 20 49.2
comp=Z,6μm,20.1s,baz=170,slow=33
MAJO Matsushiro 42.24 8*d i*P **P 09 05 12.0 0.0**
MAJO Matsushiro 42.24 8 *e*P **P 09 05 12.2 +0.3**
comp=Z,450nm,0.8s
MAJO *e*ScP **ScP 09 10 49.3 -0.8**
MAT Matsushiro 42.24 8 P **P 09 05 12.0 0.0**
MAT S **S 09 11 24.0 -3.9**
DGPR DIGLIPUR 42.38 296 *e*P **P 09 05 11.5 -1.9**
DGPR AMB AMB 09 05 14.6
comp=Z,226nm,0.3s
WAKE Wake Island 42.58 54 *e*P **P 09 05 16.3 +1.4**
comp=Z,675nm,1.4s
KSAR Wonju Array Be 42.77 356 P **P 09 05 17.9 +1.7**
KSAR PcP **PcP 09 07 08.0 +1.3**
KSAR ScP **ScP 09 10 50.5 -1.7**
KSRS Korea Array 42.78 356 P **P 09 05 17.9 +1.6**
comp=Z,27nm,0.9s,baz=177,slow=11,SNR=63
KSRS PcP **PcP 09 07 08.0 +1.3**
comp=Z,41nm,0.9s,baz=187,slow=3.3,SNR=6.7
KSRS ScP **ScP 09 10 50.5 -1.7**
comp=Z,11nm,1.0s,baz=183,slow=4.0,SNR=5.1
KSRS LR LR 09 23 47.0
comp=Z,3μm,19.7s,baz=187,slow=37
INCN Inchon 42.91 355 *e*P **P 09 05 19.6 +2.2**
comp=Z,146nm,1.1s
TIA Tai'an 43.51 343⇑P **P 09 05 22.8 +0.6**
TIA PP **PcP 09 07 10.8 +1.6**
TIA S **S 09 11 44.5 -1.9**
TIA SS **SS 09 15 01.0 -2.2**
TIA pmax pmax
comp=Z,130nm,1.4s
TIA pmax pmax
comp=Z,1μm,6.1s
TIA LR LR
comp=Z,2μm,21.4s
TIA LR LR
comp=Z,2μm,20.2s
TIA LR LR
comp=Z,5μm,29.1s
XAN Xi'an 44.60 333 P **P 09 05 31.8 +0.7**
XAN pP **pP 09 05 46.5 -1.0**
XAN sP **sP 09 05 54.0 -1.0**
XAN PP **PcP 09 07 14.5 +1.4**
XAN S **S 09 11 59.0 -3.5**
XAN pmax pmax
comp=Z,170nm,1.2s
XAN pmax pmax
comp=Z,350nm,12.7s
XAN LR LR
comp=Z,3μm,33.0s
XAN LR LR
comp=Z,810nm,33.7s
CD2 Chengdu 44.72 326⇑ *i*P **P 09 05 32.8 +0.7**
CD2 pP **pP 09 05 47.3 -1.2**
CD2 sP **sP 09 05 54.3 -1.7**
CD2 PcP **PcP 09 07 13.3 -0.3**
CD2 PP **PP 09 07 19.3 +1.6**
CD2 sS **sS 09 12 30.8 -1.4**
CD2 SS **ScS 09 15 19.5 -4.5**
CD2 ScS **SS 09 15 23.0 -4.1**
CD2 pmax pmax
comp=Z,410nm,1.2s
CD2 pmax pmax
comp=Z,2μm,8.4s
CD2 LR LR
comp=Z,3μm,21.4s
CD2 LR LR
comp=Z,4μm,16.6s
CD2 LR LR
comp=Z,6μm,23.8s
DL2 Dalian 45.01 349 P **P 09 05 36.0 +1.8**
DL2 sP **sP 09 05 59.5 +1.4**
DL2 S **S 09 12 07.5 -0.6**
DL2 SS **ScS 09 15 25.5 +0.2**
DL2 pmax pmax
comp=Z,210nm,1.2s
DL2 pmax pmax
comp=Z,510nm,4.5s
DL2 LR LR
comp=Z,3μm,15.7s
DL2 LR LR
comp=Z,2μm,17.9s
TIY Taiyuan 46.38 339 *e*P **P 09 05 46.0 +0.9**
TIY sP **sP 09 06 09.3 +0.2**
TIY S **S 09 12 27.0 -1.1**
TIY ScS **ScS 09 15 34.0 -0.5**
TIY pmax pmax
comp=Z,1μm,3.9s
TIY LR LR
comp=Z,1μm,12.1s
TIY LR LR
comp=Z,850nm,13.0s
TIY LR LR
comp=Z,4μm,33.6s
BJT Baijiatuau 47.33 344 *e*P **P 09 05 53.4 +1.1**
comp=Z,243nm,0.8s
BJI Beijing 47.34 344 P **P 09 05 53.5 +1.0**
BJI S **S 09 12 38.3 -3.2**
BJI pmax pmax
comp=Z,290nm,1.3s

BJI					pmax	pmax			
	comp=Z,1μm,3.7s								
BJI					LR	LR			
	comp=Z,2μm,37.3s								
BJI					LR	LR			
	comp=Z,3μm,32.1s								
BJI					LR	LR			
	comp=Z,4μm,38.2s								
SNY	**Shenyang**	**47.55**	**352**	⇑	P	**P**	**09 05 54.3**	**+0.2**	
SNY					S	**S**	**09 12 42.0**	**-2.5**	
SNY					pmax	pmax			
	comp=Z,210nm,0.8s								
SNY					pmax	pmax			
	comp=Z,3μm,3.6s								
SNY					LR	LR			
	comp=Z,3μm,19.8s								
SNY					LR	LR			
	comp=Z,2μm,21.2s								
SNY					LR	LR			
	comp=Z,5μm,21.6s								
VLA	**Vladivostok**	**48.32**	**1**	⇑	*i* P	**P**	**09 06 02.7**	**+2.8**	
VLA					pmax	pmax			
	comp=Z,139nm,0.8s								
VLA					MLR	MLR			
	comp=Z,1μm,18.0s								
LZH	**Lanzhou**	**48.67**	**330**	⇑	P	**P**	**09 06 05.0**	**+2.0**	
LZH					S	**S**	**09 12 59.3**	**-1.6**	
LZH					ScS	**ScS**	**09 15 48.0**	**-1.9**	
LZH					pmax	pmax			
	comp=Z,1μm,1.4s								
LZH					pmax	pmax			
	comp=Z,3μm,4.2s								
LZH					LR	LR			
	comp=Z,2μm,16.8s								
LZH					LR	LR			
	comp=Z,2μm,16.6s								
LZH					LR	LR			
	comp=Z,3μm,17.6s								
OUZ	**Omahuta**	**48.92**	**133**	*e*	P	**P**	**09 06 06.6**	**+1.8**	
	comp=Z,110nm,1.6s								
SHL	**Shillong**	**49.15**	**311**	*i*	P	**P**	**09 06 08.0**	**+1.1**	
SHL					AMB	AMB	09 06 18.4		
	comp=Z,158nm,1.8s								
SHL				*i*	x	x	09 12 57.0		
CN2	**Changchun**	**49.28**	**354**	*e*	P	**P**	**09 06 08.3**	**+0.9**	
CN2				*e*	PP	**PP**	**09 08 04.3**	**+2.4**	
CN2				*e*	SS	SS	09 16 38.5	-2.9	
CN2					pmax	pmax			
	comp=Z,20nm,0.7s								
CN2					pmax	pmax			
	comp=Z,200nm,3.0s								
CN2					LR	LR			
	comp=Z,2μm,17.0s								
CN2					LR	LR			
	comp=Z,3μm,17.0s								
CN2					LR	LR			
	comp=Z,1μm,18.0s								
USRK	**Ussuriysk Arra**	**49.40**	**1**		P	**P**	**09 06 10.0**	**+1.8**	
	comp=Z,90nm,0.9s,baz=181,slow=6.9,SNR=94								
USRK					LR	LR	09 25 30.6		
	comp=Z,2μm,20.5s,baz=180,slow=34								
HHC	**Hu-ho-hao-te**	**49.49**	**340**	*e*	P	**P**	**09 06 10.8**	**+1.7**	
HHC					sP	**sP**	**09 06 34.3**	**+1.1**	
HHC					PcP	**PcP**	**09 07 31.5**	**+1.2**	
HHC					PP	**PP**	**09 08 08.5**	**+4.5**	
HHC					S	**S**	**09 13 13.3**	**+1.3**	
HHC					sS	**sS**	**09 13 39.5**	**-0.8**	
HHC					pmax	pmax			
	comp=Z,250nm,1.3s								
HHC					pmax	pmax			
	comp=Z,3μm,6.2s								
HHC					LR	LR			
	comp=Z,3μm,15.8s								
HHC					LR	LR			
	comp=Z,4μm,15.5s								
HHC					LR	LR			
	comp=Z,3μm,15.3s								
MDJ	**Mudanjiang**	**49.84**	**358**		P	**P**	**09 06 13.3**	**+1.7**	
MDJ					pP	**pP**	**09 06 26.8**	**-1.4**	
MDJ					sP	**sP**	**09 06 32.8**	**-2.8**	
MDJ					PP	**PP**	**09 08 05.3**	**-1.6**	
MDJ					S	**S**	**09 13 11.0**	**-5.5**	
MDJ					ScS	**ScS**	**09 15 51.0**	**-6.0**	
MDJ					SS	**SS**	**09 16 49.0**	**-1.2**	
MDJ					pmax	pmax			
	comp=Z,100nm,0.8s								
MDJ					pmax	pmax			
	comp=Z,810nm,4.4s								
MDJ					LR	LR			
	comp=Z,2μm,16.2s								
MDJ					LR	LR			
	comp=Z,2μm,20.6s								
MDJ					LR	LR			
	comp=Z,2μm,19.1s								
MDJ	**Mudanjiang**	**49.84**	**358**	*e*	P	**P**	**09 06 13.2**	**+1.7**	
	comp=Z,138nm,0.9s								
ASAJ	**Asahikawa**	**50.35**	**11**	*e*	P	**P**	**09 06 17.1**	**+1.6**	
	comp=Z,55nm,0.9s								
ASAJ	**Asahikawa**	**50.35**	**11**		P	**P**	**09 06 17.2**	**+1.8**	
	comp=Z,80nm,0.7s,baz=216,slow=8.3,SNR=38								
DCZ	**Deep Cove**	**50.61**	**148**	*e*	P	P	09 06 23.0	+5.6	
	comp=Z,423nm,1.4s								
YUK	**Yuzh-Kuril'sk**	**50.95**	**13**	*c*	*i* P	**P**	**09 06 20.2**	**+0.3**	
YUK					*i* *SP	**sP**	**09 06 41.4**	**-2.6**	
YUK					*i*		09 07 33.7		
YUK					*i*		09 08 15.5		
YUK					*i* PPP	PPP	09 09 14.6		
YUK					*i* S	**S**	**09 13 31.6**	**-0.3**	
YUK					*i* *SS	**sS**	**09 13 58.4**	**-1.9**	
YUK					*i*		09 16 03.0		
YUK					*i* SS	**SS**	**09 17 06.2**	**-1.6**	
YUK					*i* SSS	SSS	09 18 43.6		
YUK					pmax	pmax			
	comp=N,109nm,1.0s								
YUK					pmax	pmax			
	comp=E,106nm,1.0s								
YUK					pmax	pmax			
	comp=Z,286nm,1.0s								
YUK					pmax	pmax			
	comp=Z,401nm,1.1s								
WHZ	**Wether Hill Ro**	**51.30**	**148**	*e*	P	**P**	**09 06 22.9**	**+0.3**	
RPZ	**Rata Peaks**	**51.70**	**144**	*e*	P	**P**	**09 06 26.5**	**+0.9**	
	comp=Z,371nm,1.2s								
LSA	**Lhasa**	**52.01**	**315**		P	**P**	**09 06 30.5**	**+1.8**	
LSA					S	S	09 13 40.0	-8.0	
LSA					pmax	pmax			
	comp=Z,40nm,1.0s								
LSA					pmax	pmax			
	comp=Z,180nm,6.0s								
LSA					LR	LR			
	comp=Z,2μm,29.0s								
LSA					LR	LR			
	comp=Z,1μm,29.0s								
LSA					LR	LR			
	comp=Z,4μm,40.0s								
LSA	**Lhasa**	**52.01**	**315**	*e*	P	**P**	**09 06 30.2**	**+1.5**	
LSA				*e*	S	**S**	**09 13 46.6**	**-1.4**	
LSA					pmax	pmax			
	comp=Z,329nm,0.8s								
LSA	**Lhasa**	**52.01**	**315**	*e*	P	**P**	**09 06 30.2**	**+1.5**	
	comp=Z,329nm,0.8s								
LSA				*e*	S	**S**	**09 13 46.6**	**-1.4**	
PALK	**Pallekele**	**52.06**	**284**		P	**P**	**09 06 28.8**	**-0.1**	
	comp=Z,3μm,1.6s,SNR=42								
PALK	**Pallekele**	**52.06**	**284**	*e*	P	**P**	**09 06 28.4**	**-0.5**	
	comp=Z,2μm,1.4s								
PALK				*e*	ScP	**ScP**	**09 11 31.2**	**-0.7**	
ODZ	**Otahua Downs**	**52.25**	**145**	*e*	P	**P**	**09 06 30.6**	**+0.9**	
	comp=Z,194nm,1.2s								
KHZ	**Kahutara**	**52.47**	**141**	*e*	P	**P**	**09 06 31.4**	**0.0**	
	comp=Z,338nm,1.2s								
VIS	**Vishakhapatnam**	**52.66**	**297**	*e*	P	**P**	**09 06 34.2**	**+1.1**	
VIS					AMB	AMB	09 06 35.0		
	comp=Z,878nm,1.2s								
BKZ	**Black Stump Fm**	**52.79**	**136**	*e*	P	**P**	**09 06 33.9**	**0.0**	
	comp=Z,281nm,1.2s								
URZ	**Urewera**	**52.81**	**135**	*e*	P	**P**	**09 06 34.3**	**+0.3**	
	comp=Z,199nm,1.1s								
URZ	**Urewera**	**52.81**	**135**		P	**P**	**09 06 34.1**	**+0.1**	
	comp=Z,21nm,0.8s,baz=223,slow=4.1,SNR=7.2								
BOK	**Bokaro**	**52.97**	**305**	*e*	P	**P**	**09 06 35.6**	**+0.2**	
BOK					AMB	AMB	09 06 37.0		
	comp=Z,517nm,1.4s								
YSS	**Yuzh-Sakhalins**	**53.13**	**10**	⇓	*e* P	**P**	**09 06 36.5**	**+0.4**	
YSS					*e* *PP	**pP**	**09 06 52.0**	**-0.9**	
YSS					*e*		09 07 04.6		
YSS					*e*		09 07 43.2		
YSS					*e*		09 08 44.0		
YSS					*e* PPP	PPP	09 09 48.0		
YSS					*e* S	**S**	**09 14 00.0**	**-1.7**	
YSS					*e* PS	PnS	09 14 10.0	-10	
YSS					pmax	pmax			
	comp=N,70nm,1.0s								
YSS					pmax	pmax			
	comp=E,40nm,1.0s								
YSS					pmax	pmax			
	comp=Z,120nm,1.0s								
YSS	**Yuzh-Sakhalins**	**53.13**	**10**	*e*	P	**P**	**09 06 37.7**	**+1.7**	
	comp=Z,124nm,0.9s								
ODAN	**Odare**	**53.25**	**309**	*e*	P	**P**	**09 06 38.7**	**+1.0**	
	comp=Z,2μm,1.1s								
ODAN	**Odare**	**53.25**	**309**	*e*	P	**P**	**09 06 38.7**	**+1.0**	
	comp=Z,2μm,1.1s								
TAPN	**Taplejung**	**53.26**	**310**	*e*	P	**P**	**09 06 38.7**	**+0.9**	
	comp=Z,956nm,0.7s								
TAPN	**Taplejung**	**53.26**	**310**	*e*	P	**P**	**09 06 38.7**	**+0.9**	
	comp=Z,956nm,0.7s								
GTA	**Gaotai**	**53.26**	**330**	⇑	P	**P**	**09 06 39.0**	**+1.6**	
GTA					pP	**pP**	**09 06 55.0**	**+0.8**	
GTA					sP	**sP**	**09 07 02.5**	**+0.9**	
GTA					PcP	**PcP**	**09 07 46.8**	**+2.3**	
GTA					ScP	**ScP**	**09 11 34.0**	**-2.7**	
GTA					S	**S**	**09 14 02.5**	**-1.6**	
GTA					sS	**sS**	**09 14 29.5**	**-3.1**	
GTA					ScS	**ScS**	**09 16 19.8**	**-1.5**	
GTA					SS	**SS**	**09 17 41.8**	**-3.1**	
GTA					pmax	pmax			
	comp=Z,410nm,1.3s								
GTA					pmax	pmax			
	comp=Z,3μm,5.6s								
GTA					LR	LR			
	comp=Z,2μm,19.5s								
GTA					LR	LR			
	comp=Z,3μm,18.5s								
GTA					LR	LR			
	comp=Z,4μm,19.5s								
HABR	**Khabarovsk**	**53.77**	**3**	*e*	P	**P**	**09 06 39.6**	**-1.1**	
HABR				*e*	*PP	**pP**	**09 06 55.0**	**-2.6**	
HABR				*e*	*SP	**sP**	**09 07 02.1**	**-2.9**	
HABR							09 07 44.7		
HABR					S	**S**	**09 14 09.9**	**-0.5**	
HABR				*e*			09 14 20.1		
HABR				*e*	*SS	**sS**	**09 14 37.2**	**-1.7**	
HABR				*e*			09 16 22.6		
HABR				*e*	SS	**SS**	**09 17 53.2**	**+0.9**	
HABR				*e*	SSS	SSS	09 19 53.3		
HABR					pmax	pmax			
	comp=E,34nm,1.1s								
HABR					pmax	pmax			
	comp=N,68nm,1.8s								
HABR					pmax	pmax			
	comp=Z,192nm,1.4s								
HABR					pmax	pmax			
	comp=Z,727nm,3.3s								
HABR					MLR	MLR			
	comp=E,2μm,19.0s								
HABR					MLR	MLR			
	comp=N,1μm,18.0s								
HABR					MLR	MLR			
	comp=Z,2μm,16.0s								
RAMN	**Ramite**	**53.91**	**309**	*e*	P	**P**	**09 06 43.9**	**+1.4**	
RAMN	**Ramite**	**53.91**	**309**	*e*	P	**P**	**09 06 43.9**	**+1.4**	
MDRS	**Chennai**	**53.96**	**290**	*e*	P	**P**	**09 06 41.7**	**-1.0**	
MDRS					AMB	AMB	09 06 44.0		
	comp=Z,1μm,1.5s								
MDRS				*e*	x	x	09 06 58.2		
KLR	**Kul'dur**	**54.43**	**0**	*e*	P	**P**	**09 06 43.4**	**-2.2**	
KLR				*e*			09 06 56.8		
KLR				*e*	S	**S**	**09 14 15.0**	**-4.3**	
KLR					pmax	pmax			
	comp=E,68nm,1.6s								
KLR					pmax	pmax			
	comp=Z,280nm,1.6s								
JIRN	**Jiri**	**54.58**	**310**	*e*	P	**P**	**09 06 48.5**	**+1.0**	
JIRN	**Jiri**	**54.58**	**310**	*e*	P	**P**	**09 06 48.5**	**+1.0**	
GUN	**Gumba**	**54.94**	**310**	*e*	P	**P**	**09 06 51.0**	**+0.9**	
	comp=Z,1μm,0.6s								
GUN	**Gumba**	**54.94**	**310**	*e*	P	**P**	**09 06 51.0**	**+0.9**	
	comp=Z,1μm,0.6s								
PKI	**Pulchoki**	**55.14**	**309**	*e*	P	**P**	**09 06 52.1**	**+0.6**	
PKI	**Pulchoki**	**55.14**	**309**	*e*	P	**P**	**09 06 52.1**	**+0.6**	
PKI	**Pulchoki**	**55.14**	**309**	*e*	P	**P**	**09 06 52.1**	**+0.6**	
PKIN	**Phulchoki**	**55.15**	**309**	*e*	P	**P**	**09 06 52.0**	**+0.5**	
KKN	**Kakani**	**55.34**	**309**	*e*	P	**P**	**09 06 53.8**	**+0.9**	
KKN	**Kakani**	**55.34**	**309**	*e*	P	**P**	**09 06 53.8**	**+0.9**	
KKN	**Kakani**	**55.34**	**309**	*e*	P	**P**	**09 06 53.8**	**+0.9**	
DMN	**Daman**	**55.39**	**309**	*e*	P	**P**	**09 06 54.3**	**+1.1**	
	comp=Z,4μm,1.3s								
DMN	**Daman**	**55.39**	**309**	*e*	P	**P**	**09 06 54.3**	**+1.1**	
	comp=Z,4μm,1.3s								
HIA	**Hailar**	**55.40**	**351**	*e*	P	**P**	**09 06 53.5**	**+1.0**	
	comp=Z,49nm,0.9s								
GKN	**Gorkha**	**55.94**	**309**	*e*	P	**P**	**09 06 58.0**	**+0.9**	
	comp=Z,2μm,0.9s								
GKN	**Gorkha**	**55.94**	**309**	*e*	P	**P**	**09 06 58.0**	**+0.9**	
	comp=Z,2μm,0.9s								
TRD	**Trivandrum**	**55.95**	**284**	*e*	P	**P**	**09 06 57.4**	**+0.3**	
TRD					AMB	AMB	09 06 58.0		
	comp=Z,748nm,1.1s								
AFI	**Afiamalu**	**56.61**	**103**		P	**P**	**09 07 03.8**	**+1.9**	
AFI	**Afiamalu**	**56.61**	**103**		P	**P**	**09 07 03.8**	**+1.9**	
	comp=Z,33nm,0.8s,baz=249,slow=14,SNR=3.1								
KOLN	**Koldanda**	**56.64**	**308**	*e*	P	**P**	**09 07 03.2**	**+1.1**	
KOLN	**Koldanda**	**56.64**	**308**	*e*	P	**P**	**09 07 03.2**	**+1.1**	
DANN	**Dangsing**	**56.79**	**309**	*e*	P	**P**	**09 07 04.0**	**+0.7**	
	comp=Z,5μm,1.4s								
DANN	**Dangsing**	**56.79**	**309**	*e*	P	**P**	**09 07 04.0**	**+0.7**	
	comp=Z,5μm,1.4s								
HYB	**Hyderabad**	**56.83**	**295**	*i*	P	**P**	**09 07 02.0**	**-1.4**	
	comp=Z,107nm,0.5s								
HYB				*e*	S	**S**	**09 14 50.0**	**-2.4**	
HYB	**Hyderabad**	**56.83**	**295**	*e*	P	**P**	**09 07 02.9**	**-0.6**	
HYB					AMB	AMB	09 07 03.8		
	comp=Z,757nm,1.9s								
ULN	**Ulaanbaatar**	**57.20**	**341**	*e*	P	**P**	**09 07 06.9**	**+1.3**	
	comp=Z,520nm,1.5s								
PYUN	**Piuthan**	**57.27**	**308**	*e*	P	**P**	**09 07 07.8**	**+1.2**	
PYUN	**Piuthan**	**57.27**	**308**	*e*	P	**P**	**09 07 07.8**	**+1.2**	
SONM	**Songino Array**	**57.39**	**340**		P	**P**	**09 07 08.7**	**+1.7**	
SONM					S	**S**	**09 14 56.3**	**-2.7**	
SONM					P'P'		09 36 47.5		
SONM				*e*			09 44 17.6		
SONM	**Songino Array**	**57.39**	**340**		P	**P**	**09 07 08.7**	**+1.7**	
	comp=Z,108nm,0.9s,baz=157,slow=6.5,SNR=292								
SONM					S	**S**	**09 14 56.3**	**-2.7**	
	comp=Z,2.1nm,1.0s,baz=241,slow=29,SNR=2.2								
SONM					LR	LR	09 34 28.0		
	comp=Z,2μm,18.8s,baz=36,slow=39								
SONM					PKPPKP	P'P'df	09 36 47.5	-5.4	
	comp=Z,2.0nm,1.0s,baz=293,slow=2.0,SNR=6.3								
SONM					P4KPbc		09 44 17.6		
	comp=Z,0.9nm,0.9s,baz=165,slow=6.0,SNR=5.3								
NGP	**Nagpur**	**57.66**	**299**	*e*	P	**P**	**09 07 08.7**	**-0.5**	
NGP					AMB	AMB	09 07 09.2		
	comp=Z,750nm,0.9s								
DGAR	**Diego Garcia**	**58.50**	**265**		P	**P**	**09 07 15.0**	**-0.2**	
	comp=Z,8μm,1.2s,SNR=12								
DGAR	**Diego Garcia**	**58.50**	**265**	*c*	*i* P	**P**	**09 07 14.6**	**-0.6**	
DGAR	**Diego Garcia**	**58.50**	**265**	*e*	P	**P**	**09 07 15.0**	**-0.2**	
	comp=Z,3μm,1.4s								
KAAM	**Kaadhehdhoo**	**58.54**	**274**		P	**P**	**09 07 16.7**	**+1.2**	
	comp=Z,1μm,1.3s,comp=Z,16μm								
CIT	**Chita**	**59.20**	**347**	*e*	P	**P**	**09 07 21.4**	**+2.0**	
CIT				*e*			09 07 38.1		
CIT				*e*			09 07 45.0		
CIT				*e*			09 08 07.3		
CIT				*e*	S	**S**	**09 15 25.0**	**+2.7**	
CIT					pmax	pmax			
	comp=Z,281nm,2.3s								
BHPL	**Bhopal**	**59.82**	**301**	*e*	P	**P**	**09 07 23.6**	**-0.6**	
BHPL					AMB	AMB	09 07 26.6		
	comp=Z,854nm,2.9s								
SKR	**Severo-Kuril's**	**59.84**	**18**	*e*	P	**P**	**09 07 22.5**	**-1.2**	
SKR				*e*			09 07 41.0		
SKR				*e*			09 08 13.0		
SKR				*e*			09 09 47.0		
SKR				*e*	S	**S**	**09 15 26.0**	**-4.3**	
SKR					pmax	pmax			
	comp=N,130nm,1.0s								
SKR					pmax	pmax			
	comp=E,180nm,1.0s								
SKR					pmax	pmax			
	comp=Z,220nm,1.0s								
SKR					smax	smax			
	comp=N,4μm,10.0s								
SKR					smax	smax			
	comp=E,2μm,10.0s								
SKR					MLR	MLR			
	comp=Z,3μm,18.0s								
SKR					MLR	MLR			
	comp=N,2μm,20.0s								
LGTI	**Lohaghat**	**60.03**	**308**	*e*	P	**P**	**09 07 26.1**	**+0.7**	
GOA	**Goa**	**60.61**	**291**	*e*	P	**P**	**09 07 29.4**	**-0.2**	
GOA					AMB	AMB	09 07 30.5		
	comp=Z,544nm,0.5s								
ZAK	**Zakamensk**	**60.63**	**340**	⇓	*i* P	**P**	**09 07 30.3**	**+1.0**	
ZAK				*e*			09 08 14.5		
ZAK				*e*			09 15 42.0		
ZAK					pmax	pmax			
	comp=Z,100nm,1.3s								
KAD	**Karad**	**60.77**	**293**	*i*	P	**P**	**09 07 30.5**	**-0.3**	
POO	**Poona**	**61.43**	**294**	*e*	P	**P**	**09 07 34.7**	**-0.6**	
POO					⇑ *i* PS	**P**	**09 07 35.0**	**-0.2**	
	comp=Z,710nm,1.0s								
POO					AMB	AMB	09 07 37.1		
	comp=Z,510nm,0.4s								
POO				*i*	S	**S**	**09 15 52.0**	**+0.1**	
TLY	**Talaya**	**61.61**	**341**		P	**P**	**09 07 37.1**	**+1.3**	
	comp=Z,610nm,1.0s,SNR=24								
TLY	**Talaya**	**61.61**	**341**	*c*	*i* P	**P**	**09 07 37.6**	**+1.8**	
TLY				*e*			09 07 53.9		
TLY				*e*	S	**S**	**09 15 52.2**	**-0.9**	
TLY				*e*			09 17 20.1		
TLY					pmax	pmax			
	comp=Z,113nm,0.9s								
TLY					MLR	MLR			
	comp=Z,1μm,19.0s								
TLY	**Talaya**	**61.61**	**341**	*e*	P	**P**	**09 07 37.7**	**+1.8**	
	comp=Z,113nm,1.0s								
IRK	**Irkutsk**	**61.89**	**342**	*e*	P	**P**	**09 07 38.4**	**+0.7**	
IRK				*e*	S	**S**	**09 15 59.3**	**+2.8**	
IRK					pmax	pmax			
	comp=Z,441nm,1.3s								
NDI	**New Delhi**	**62.10**	**306**	*e*	P	**P**	**09 07 40.0**	**+0.5**	
NDI					AMB	AMB	09 07 43.6		
	comp=Z,138nm,0.7s								
NDI				*e*	x	x	09 15 52.5		
DDI	**Dehra Dun**	**62.12**	**308**	*e*	P	**P**	**09 07 39.6**	**-0.1**	
CLNS	**Chul'man**	**62.27**	**356**	*e*	P	**P**	**09 07 41.1**	**+0.9**	
CLNS				*e*	*PP	pP	09 08 06.2	+8.8	
CLNS				*e*			09 08 19.3		
CLNS				*e*			09 09 57.2		
CLNS				*e*	PPP	PPP	09 11 25.0		
CLNS				*e*	S	**S**	**09 15 58.0**	**-3.2**	
CLNS				*e*	*SS	sS	09 16 38.1	+7.7	
CLNS				*e*			09 17 19.9		
CLNS					pmax	pmax			
	comp=Z,61nm,1.1s								
CLNS					pmax	pmax			
	comp=N,45nm,1.3s								
CLNS					pmax	pmax			
	comp=E,15nm,1.0s								
CLNS					pmax	pmax			
	comp=Z,20nm,1.1s								
CLNS					pmax	pmax			
	comp=N,28nm,1.1s								
CLNS					pmax	pmax			
	comp=E,27nm,0.9s								
CLNS					smax	smax			
	comp=N,1μm,11.1s								
CLNS					smax	smax			
	comp=E,2μm,12.5s								
PEA0B	**Petropavlovsk-**	**62.43**	**18**	*e*	P	**P**	**09 07 43.2**	**+2.0**	
PETK	**Petropavlovsk-**	**62.43**	**18**		P	**P**	**09 07 43.1**	**+1.9**	
PETK					*PP	pP	09 08 07.2	+8.7	
PETK					S	**S**	**09 16 02.1**	**-1.2**	
PETK					pmax	pmax			
	comp=Z,93nm,0.7s								
PETK					smax	smax			
	comp=N,2.0nm,0.8s								
PETK					MLR	MLR			
	comp=Z,834nm,19.3s								
PETK	**Petropavlovsk-**	**62.43**	**18**		P	**P**	**09 07 43.1**	**+1.9**	
PETK					pP	pP	09 08 07.2	+8.7	
PETK					S	**S**	**09 16 02.1**	**-1.2**	
PETK	**Petropavlovsk-**	**62.43**	**18**		P	**P**	**09 07 43.1**	**+1.9**	
	comp=Z,93nm,0.7s,baz=188,slow=6.9,SNR=114								
PETK					pP	pP	09 08 07.2	+8.7	
	comp=Z,184nm,1.1s,baz=183,slow=5.5,SNR=4.8								
PETK					S	**S**	**09 16 02.1**	**-1.2**	
	comp=Z,2.0nm,0.8s,baz=298,slow=6.4,SNR=1.8								
PETK					LR	LR	09 34 55.2		
	comp=Z,834nm,19.3s,baz=215,slow=36								
MOY	**Mondy**	**62.50**	**339**	*e*	P	**P**	**09 07 43.5**	**+1.6**	
PET	**Petropavlovsk**	**62.65**	**18**	*e*	P	**P**	**09 07 44.6**	**+1.9**	
PET				*e*	*SP	**sP**	**09 08 07.7**	**+0.5**	
PET				*e*	S	**S**	**09 16 05.4**	**-0.5**	
PET					pmax	pmax			
	comp=Z,146nm,1.0s								
PET					pmax	pmax			
	comp=Z,500nm,6.5s								
PET					MLR	MLR			
	comp=Z,1μm,17.0s								
PET	**Petropavlovsk**	**62.65**	**18**	*e*	P	**P**	**09 07 44.2**	**+1.5**	
	comp=Z,249nm,1.2s								
WMQ	**Urumqi**	**62.82**	**326**		P	**P**	**09 07 46.0**	**+1.9**	
WMQ					pP	**pP**	**09 08 02.0**	**+0.6**	
WMQ					sP	**sP**	**09 08 09.0**	**+0.4**	
WMQ					PcP	**PcP**	**09 08 24.0**	**+2.0**	
WMQ					PP	**PP**	**09 10 06.0**	**+2.9**	
WMQ					ScP	**ScP**	**09 12 19.0**	**+0.3**	
WMQ					S	**S**	**09 16 09.0**	**+0.4**	
WMQ					ScS	**SKSac**	**09 17 29.0**	**-2.1**	
WMQ					SS	**SS**	**09 20 17.0**	**+2.1**	
WMQ					pmax	pmax			
	comp=Z,1μm,1.0s								
WMQ					pmax	pmax			
	comp=Z,4μm,5.0s								
WMQ					LR	LR			
	comp=Z,3μm,20.0s								
WMQ					LR	LR			
	comp=Z,2μm,20.0s								
WMQ					LR	LR			
	comp=Z,5μm,22.0s								
SMLA	**Simla**	**63.15**	**309**	⇑	*i* P	**P**	**09 07 47.8**	**+1.3**	
SMLA					*i* x	x	09 16 03.1		
SDNR	**Sundarnagar**	**63.46**	**309**	*e*	P	**P**	**09 07 50.0**	**+1.4**	
BHK	**Bhakra**	**63.86**	**309**	*e*	P	**P**	**09 07 51.0**	**-0.2**	
DHRM	**DHARAMSHALA**	**64.30**	**310**	*e*	P	**P**	**09 07 54.9**	**+0.6**	
MIR	**Mirnyy**	**66.50**	**196**	⇑	*i* P	**P**	**09 08 09.0**	**+1.4**	
MIR				*e*			09 08 35.0		
MIR				*e*	PPP	PPP	09 12 19.0		
MIR				*e*	S	**S**	**09 16 52.0**	**-1.0**	
MIR				*e*	PS	**PnS**	**09 17 24.0**	**+1.5**	
MIR				*e*			09 17 56.0		
MIR					pmax	pmax			
	comp=Z,2μm,2.0s								
MIR					pmax	pmax			
	comp=Z,810nm,1.5s								
BHJ	**Bhuj**	**66.57**	**298**

comp=N,2µm,3.7s
YAK Yakutsk 67.27 359 *e*P **P** **09 08 13.6 +1.1**
comp=N,458nm,0.8s
MK31 Makanchi Array 67.65 326 *i* P **P** **09 08 16.9 +1.6**
MK31 pmax pmax
comp=Z,720nm,0.9s
MKAR Makanchi Array 67.65 326 P **P** **09 08 17.0 +1.7**
MKAR *PP **PcP** **09 08 40.6 -1.3**
MKAR S **S** **09 17 08.1 +0.4**
MKAR pmax pmax
comp=Z,767nm,0.9s
MKAR smax smax
comp=N,7.0nm,1.2s
MKAR Makanchi Array 67.65 326 P **P** **09 08 16.9 +1.7**
MKAR pP **PcP** **09 08 40.6 -1.3**
MKAR S **S** **09 17 08.1 +0.4**
MKAR P'P' 09 36 30.3
MKAR *e* 09 45 03.8
MKAR Makanchi Array 67.65 326 P **P** **09 08 16.9 +1.7**
comp=N,766nm,0.9s,baz=121,slow=7.6,SNR=2633
MKAR pP **PcP** **09 08 40.6 -1.3**
comp=N,292nm,0.8s,baz=126,slow=9.2,SNR=6.1
MKAR S **S** **09 17 08.1 +0.4**
comp=N,7.2nm,1.2s,baz=134,slow=8.3,SNR=3.6
MKAR PKPPKP P'P'df 09 36 30.3 -6.8
comp=N,3.0nm,1.0s,baz=303,slow=2.2,SNR=10
MKAR P4KPbc 09 45 03.8
comp=N,1.1nm,0.8s,baz=116,slow=5.5,SNR=7.2
KSH Kashi 67.77 317⇑ *i*P **P** **09 08 18.0 +1.7**
KSH pP **pP** **09 08 34.0 +0.3**
KSH sP **sP** **09 08 41.0 0.0**
KSH PP **PP** **09 10 50.5 +3.9**
KSH S **S** **09 17 07.5 -2.0**
KSH sS **sS** **09 17 39.3 +0.3**
KSH ScS **SKiKP** **09 18 08.0 +0.3**
KSH SS **SS** **09 21 37.0 +4.8**
KSH pmax pmax
comp=N,220nm,1.0s
KSH pmax pmax
comp=N,2µm,6.2s
KSH LR LR
comp=N,380nm,8.3s
KSH LR LR
comp=N,530nm,10.7s
KSH LR LR
comp=N,2µm,20.4s
FX1 Attu Island--F 67.99 26 *e*P **P** **09 08 19.4 +2.2**
FX1 Attu Island--F 67.99 26 P **P** **09 08 19.1 +1.9**
comp=N,99nm,0.7s,baz=104,slow=2.5,SNR=36
FX1 LR LR 09 34 37.7
comp=N,2µm,21.9s,baz=257,slow=33
SMY Shemya 68.29 26 *e*P **P** **09 08 21.7 +2.6**
SMY pmax pmax
comp=Z,346nm,1.3s
SMY Shemya 68.29 26 *e*P **P** **09 08 21.7 +2.6**
comp=Z,346nm,1.3s
RAR Rarotonga 68.40 111 *e*P **P** **09 08 21.4 +1.0**
comp=Z,75nm,1.4s
RAR Rarotonga 68.40 111 P **P** **09 08 21.4 +1.0**
comp=Z,26nm,0.9s,baz=0.7,slow=0.0,SNR=5.1
ULHL Ulahol 68.89 319 *i* P **P** **09 08 24.9 +1.6**
ULHL Ulahol 68.89 319 P **P** **09 08 25.0 +1.6**
SNR=107
AAA Alma-Ata 68.94 320 *i* P **P** **09 08 25.5 +2.1**
AAA *i* S **S** **09 17 22.6 -0.5**
AAA pmax pmax
comp=Z,3µm,1.2s
AAA smax smax
comp=E,3µm,5.2s
AAA MLR MLR
comp=Z,1µm,16.0s
KZA Kyzart 69.45 319 *i* P **P** **09 08 29.4 +2.3**
KZA Kyzart 69.45 319 P **P** **09 08 29.4 +2.3**
SNR=561
TKM2 Tokmak 2 69.63 320 *i* P **P** **09 08 29.6 +1.7**
TKM2 Tokmak 2 69.63 320 P **P** **09 08 29.6 +1.7**
SNR=470
TKM2 Tokmak 2 69.63 320 *e*P **P** **09 08 29.5 +1.7**
comp=Z,1µm,1.7s
KBK Karagaybulak 69.92 319 P **P** **09 08 31.7 +2.0**
SNR=99
UCH Uchtor 70.01 319 *i* P **P** **09 08 32.5 +1.9**
UCH Uchtor 70.01 319 P **P** **09 08 32.5 +1.9**
SNR=827
SEY Seymchan 70.03 10 P **P** **09 08 31.4 +1.7**
SEY *PP **PcP** **09 08 56.3 +4.9**
SEY S **S** **09 17 37.1 +2.0**
SEY pmax pmax
comp=Z,78nm,0.7s
SEY pmax pmax
comp=Z,140nm,0.8s
SEY smax smax
comp=N,4.0nm,1.1s
SEY Seymchan 70.03 10 P **P** **09 08 31.4 +1.7**
SEY pP **PcP** **09 08 56.3 +4.9**
SEY S **S** **09 17 37.1 +2.0**
SEY Seymchan 70.03 10 P **P** **09 08 31.4 +1.7**
comp=N,78nm,0.7s,baz=192,slow=4.8,SNR=164
SEY pP **PcP** **09 08 56.3 +4.9**
comp=N,140nm,0.8s,baz=188,slow=6.6,SNR=10
SEY S **S** **09 17 37.1 +2.0**
comp=N,3.9nm,1.1s,baz=13,slow=21,SNR=8.6
AAK Ala-Archa 70.21 319 P **P** **09 08 33.0 +1.6**
comp=N,2µm,1.1s
AAK Ala-Archa 70.21 319*c* *i*P **P** **09 08 33.4 +2.0**
AAK pmax pmax
comp=Z,1µm,1.2s
AAK MLR MLR
comp=Z,6µm,26.0s
AAK Ala-Archa 70.21 319 P **P** **09 08 33.5 +2.0**
SNR=370
AAK Ala-Archa 70.21 319 *e*P **P** **09 08 33.0 +1.6**
comp=Z,894nm,1.4s
AAK S **S** **09 17 40.3 +2.0**
AAK P'P' 09 36 29.0
AAK Ala-Archa 70.21 319 P **P** **09 08 33.3 +2.0**
comp=Z,262nm,1.0s,baz=109,slow=5.2,SNR=373
AAK S **S** **09 17 40.3 +2.0**
comp=Z,4.7nm,0.9s,baz=264,slow=21,SNR=8.2
AAK PKPPKP **P'P'df** **09 36 29.0 -4.4**
comp=Z,6.6nm,1.0s,baz=162,slow=6.4,SNR=3.8
AAK LR LR 09 41 55.6
comp=Z,1µm,21.7s,baz=234,slow=38
CHMS Chumysh 70.21 319 *i* P **P** **09 08 32.4 +1.1**
CHMS Chumysh 70.21 319 P **P** **09 08 32.4 +1.1**
SNR=115
FRU Bishkek 70.22 319⇑ *i*P **P** **09 08 31.0 -0.3**
FRU *i* *PP **PcP** **09 08 52.0 -0.8**
FRU *i* S **S** **09 17 38.0 -0.2**
FRU pmax pmax
comp=Z,770nm,2.1s
FRU smax smax
comp=N,180nm,2.2s
FRU MLR MLR
comp=Z,2µm,26.0s
USP Ospenovka 70.50 320 *i* P **P** **09 08 34.7 +1.7**
USP Ospenovka 70.50 320 P **P** **09 08 34.8 +1.7**
SNR=329
AML Almayashu 70.51 318 *i* P **P** **09 08 35.6 +2.1**
AML Almayashu 70.51 318 P **P** **09 08 35.6 +2.1**
SNR=38
EKS2 Erkin-Say 70.69 319 *i* P **P** **09 08 36.2 +1.9**
EKS2 Erkin-Say 70.69 319 P **P** **09 08 36.2 +1.9**
SNR=384
EKS2 Erkin-Say 70.69 319 *e*P **P** **09 08 36.3 +1.9**
comp=Z,1µm,1.6s
EKS2 *e*S **S** **09 17 44.8 +0.9**
ZAA0 Zalesovo Array 70.77 333 *e*P **P** **09 08 34.6 +0.2**
ZAA0 *e*S **S** **09 17 41.8 -2.3**
ZALV Zalesovo Beam 70.77 333 P **P** **09 08 34.9 +0.5**
ZALV S **S** **09 17 42.2 -1.9**
ZALV pmax pmax
comp=Z,255nm,0.8s
ZALV smax smax
comp=N,68nm,1.2s
ZALV Zalesovo Beam 70.77 333 P **P** **09 08 34.9 +0.5**
ZALV S **S** **09 17 42.2 -1.9**
ZALV ⇑*e* 09 36 28.3
ZALV *e* 09 45 17.0
ZALV Zalesovo Beam 70.77 333 P **P** **09 08 34.9 +0.5**
comp=N,256nm,0.8s,baz=119,slow=4.9,SNR=545
ZALV S **S** **09 17 42.2 -1.9**
comp=N,68nm,1.2s,baz=141,slow=9.6,SNR=21
ZALV PKP2bc 09 36 28.3
comp=N,5.6nm,1.0s,baz=315,slow=0.8,SNR=6.8
ZALV P4KPbc 09 45 17.0
comp=N,0.4nm,0.3s,baz=112,slow=1.6,SNR=4.6
KBL Kabul 70.78 309 *e*P **P** **09 08 36.2 +1.1**
KBL pmax pmax
comp=Z,555nm,1.0s
KBL Kabul 70.78 309 *e*P **P** **09 08 36.1 +1.1**
comp=Z,555nm,1.0s
KBL Kabul 70.78 309 P **P** **09 08 36.2 +1.1**
baz=71,SNR=59
KURBB Kurchatov Arra 71.88 328 P **P** **09 08 42.2 +1.1**
comp=Z,344nm,0.9s,baz=128,slow=4.8,SNR=1365
KURBB S S 09 17 50.9 -6.0
comp=Z,10nm,1.1s,baz=134,slow=12,SNR=17
KURBB PKPPKP P'P'df 09 36 12.6 -17
comp=Z,0.7nm,0.8s,baz=343,slow=2.9,SNR=4.5
KURBB P4KPbc 09 45 22.2
comp=Z,0.8nm,0.8s,baz=120,slow=3.7,SNR=4.8
KURK Kurchatov 71.88 328 P **P** **09 08 42.3 +1.1**
KURK S S 09 17 50.9 -6.1
KURK pmax pmax
comp=Z,344nm,0.9s
KURK smax smax
comp=N,10.0nm,1.1s
KURK Kurchatov 71.88 328 *e*P **P** **09 08 42.2 +1.1**
comp=N,658nm,0.9s
KURK S S 09 17 50.9 -6.1
KURK *e*S SKiKP 09 17 56.6 -16
KURK P'P' 09 36 12.6
KURK *e* 09 45 22.2
KURK Kurchatov 71.88 328 P **P** **09 08 42.5 +1.4**
comp=N,5µm,0.9s
NVS Novosibirsk 72.06 333⇑ *i*P **P** **09 08 41.8 -0.3**
NVS *e**PP **pP** **09 08 59.3 -0.4**
NVS *e* 09 11 24.3
NVS *i* S **S** **09 17 55.4 -3.4**
NVS *e* 09 18 22.3
NVS pmax pmax
comp=N,194nm,1.2s
NVS pmax pmax
comp=E,263nm,1.2s
NVS pmax pmax
comp=Z,426nm,1.2s
NVS pmax pmax
comp=Z,68nm,1.4s
NVS pmax pmax
comp=N,30nm,1.3s
NVS pmax pmax
comp=E,43nm,1.3s
NVS smax smax
comp=N,550nm,2.0s
NVS smax smax
comp=E,785nm,2.0s
MRIV Mauritius Mete 72.98 251 *e*P **P** **09 08 49.0 +0.7**
KK31 Karatay Array 73.04 318 *i* P **P** **09 08 49.2 +0.9**
KK31 pmax pmax
comp=Z,210nm,0.8s
KKAR Karatay Array 73.04 318 *e*P **P** **09 08 49.4 +1.1**
KKAR pmax pmax
comp=Z,394nm,1.0s
KKAR Karatay Array 73.04 318 *e*P **P** **09 08 49.4 +1.1**
comp=Z,394nm,1.0s
VNDA Vanda 73.85 173 *e*P **P** **09 08 52.6 +0.3**
comp=Z,92nm,0.8s
VNDA P'P' 09 36 22.7
VNDA Vanda 73.85 173 P **P** **09 08 52.7 +0.3**
comp=Z,40nm,0.8s,baz=323,slow=6.1,SNR=176
VNDA PKPPKP **P'P'df** **09 36 22.7 -4.0**
comp=Z,1.9nm,1.1s,baz=222,slow=5.2,SNR=3.2
VNDA LR LR 09 39 24.7
comp=Z,2µm,20.1s,baz=341,slow=34
KIP Kipapa 74.15 66 *e*P **P** **09 08 57.5 +2.3**
KIP pmax pmax
comp=Z,167nm,1.3s
KIP Kipapa 74.15 66 *e*P **P** **09 08 57.5 +2.3**
comp=Z,167nm,1.3s
RER Riviere de l'E 74.62 250 *e*P **P** **09 08 59.0 +0.9**
comp=Z,889nm,1.0s
SBA Scott Base 74.72 173 *e*P **P** **09 08 58.7 +1.3**
SBA pmax pmax
comp=Z,136nm,1.1s
SBA Scott Base 74.72 173 *e*P **P** **09 08 58.7 +1.3**
comp=Z,136nm,1.1s
MSEY Mahe Island 75.51 267 P **P** **09 09 04.7 +1.5**
comp=Z,2µm,1.2s,SNR=20
MSEY Mahe Island 75.51 267 *e*P **P** **09 09 04.0 +0.7**
comp=Z,635nm,1.4s
HKL Haleakala 75.61 67 *e*P P 09 09 08.9 +4.8
HKL Haleakala 75.61 67 *e*P P 09 09 08.9 +4.8
WBK Wadi Bani Khal 75.94 295 P **P** **09 09 06.8 +1.3**
SNR=93
JMDO Jabal Madar 76.67 294 P **P** **09 09 10.6 +0.9**
SNR=85
SMDO Samad 76.86 295 P **P** **09 09 11.8 +1.0**
SNR=104
MAW Mawson 76.89 201 *e*P **P** **09 09 10.7 +0.8**
comp=Z,102nm,1.2s
MAW PKKPbc **PKKPbc** **09 28 18.0 -3.5**
MAW Mawson 76.89 201 PKKPbc PKKPbc 09 28 18.0 -3.5
comp=Z,3.9nm,0.9s,baz=262,slow=7.1,SNR=4.9
MAW LR LR 09 43 28.3
comp=Z,2µm,18.7s,baz=63,slow=36
MAW Mawson 76.89 201 P **P** **09 09 10.8 +0.9**
baz=77,SNR=199
TIXI Tiksi 76.94 359*c* *i*P **P** **09 09 09.8 -0.3**
TIXI pmax pmax
comp=Z,178nm,1.0s
TIXI Tiksi 76.94 359 *e*P **P** **09 09 09.3 -0.8**
comp=Z,122nm,0.8s
BVA0 Borovoye Array 77.45 327 *i* P **P** **09 09 14.2 +0.8**
BVA0 pmax pmax
comp=Z,1µm,1.6s
BVAR Borovoye Array 77.45 327 P **P** **09 09 14.2 +0.9**
BVAR *PP pP 09 09 39.9 +8.8
BVAR S **S** **09 18 56.1 -2.9**
BVAR pmax pmax
comp=Z,186nm,0.8s
BVAR smax smax
comp=N,20nm,1.2s
BVAR Borovoye Array 77.45 327 P **P** **09 09 14.2 +0.9**
BVAR pP pP 09 09 39.9 +8.8
BVAR S **S** **09 18 56.1 -2.9**
BVAR PKKPbc **PKKPbc** **09 28 17.8 -2.5**
BVAR P'P' 09 36 04.3
BVAR *e* 09 45 46.9
BVAR Borovoye Array 77.45 327 P **P** **09 09 14.2 +0.9**
comp=N,186nm,0.8s,baz=126,slow=7.5,SNR=910
BVAR pP pP 09 09 39.9 +8.8
comp=N,218nm,0.9s,baz=117,slow=5.2,SNR=6.7
BVAR S **S** **09 18 56.1 -2.9**
comp=N,20nm,1.2s,baz=141,slow=7.6,SNR=11
BVAR PKKPbc **PKKPbc** **09 28 17.8 -2.5**
comp=N,0.8nm,0.4s,baz=293,slow=2.3,SNR=7.1
BVAR PKPPKP P'P'df 09 36 04.3 -16
comp=N,0.3nm,0.5s,baz=90,slow=0.1,SNR=3.4
BVAR P4KPbc 09 45 46.9
comp=N,0.8nm,0.7s,baz=129,slow=3.9,SNR=4.4
BRVK Borovoye 77.52 327 P **P** **09 09 14.4 +0.7**
comp=N,3µm,0.8s
BRVK Borovoye 77.52 327*c* *i*P **P** **09 09 14.6 +0.9**
BRVK pmax pmax
comp=Z,701nm,1.2s
BRVK MLR MLR
comp=Z,1µm,20.0s
BRVK Borovoye 77.52 327 *e*P **P** **09 09 14.8 +1.0**
comp=Z,349nm,0.8s
BRVK *e*S **S** **09 18 57.1 -2.7**
HOQ Hoqain 77.63 295 P **P** **09 09 16.2 +1.2**
SNR=61
TBI Tubuai 77.98 113 *e*P P 09 09 20.4 +3.5
comp=Z,326nm,1.0s
TBI *e*S **S** **09 19 08.0 +2.1**
comp=Z,2µm,33.0s
TBI Tubuai 77.98 113 *e*LR LR 09 33 37.7
comp=Z,3µm,34.5s
PAE Paea 78.00 107 *e*P P 09 09 21.0 +3.9
comp=Z,49nm,1.2s
PPT2 Papeete2 78.01 107 *e*P P 09 09 21.4 +4.1
comp=Z,258nm,1.3s
PPT2 *e*S **S** **09 19 12.0 +5.4**
comp=Z,3µm,29.8s
PPT2 Papeete2 78.01 107 *e*LR LR 09 33 44.2
comp=Z,8µm,40.0s
PPT Papeete 78.01 107 P **P** **09 09 19.4 +2.2**
PPT Papeete 78.01 107 P **P** **09 09 19.4 +2.2**
comp=Z,64nm,0.8s,baz=64,slow=3.4,SNR=5.3
PPT LR LR 09 38 46.4
comp=Z,1µm,19.8s,baz=354,slow=32
TIAR Tiarei 78.23 107 *e*P P 09 09 22.3 +3.9
comp=Z,53nm,1.0s
ARQ Araqi 78.29 295 P **P** **09 09 19.8 +1.1**
SNR=46
TVO Taravao 78.31 107 *e*P P 09 09 23.1 +4.2
comp=Z,106nm,1.3s
UNV Unalaska Valle 78.48 32 *e*P **P** **09 09 21.0 +2.0**
comp=Z,128nm,1.0s
UOSS Wadi Hilu 78.89 297 P **P** **09 09 22.6 +0.7**
comp=Z,1µm,1.1s,SNR=33
ASHO Ashiyiah 78.97 296 P **P** **09 09 23.6 +1.2**
SNR=42
BANOM Banah 79.00 298 P **P** **09 09 24.1 +1.6**
SNR=86
RBK Rabkut 79.41 289 P **P** **09 09 25.6 +0.6**
SNR=125
MEH Mehetia 79.44 107 *e*P P 09 09 28.8 +3.7
comp=Z,114nm,1.3s
PMOR Pomariorio Ree 79.73 104 *e*P P 09 09 31.7 +5.0
comp=Z,344nm,1.3s
ABKT Ailbek 80.21 310 P **P** **09 09 30.9 +2.0**
comp=Z,2µm,0.8s,SNR=70
ABTO Aybut 80.25 289 P **P** **09 09 30.3 +0.8**
SNR=151
GAMB Gambell 80.97 22 *e*P **P** **09 09 33.9 +1.6**
comp=Z,51nm,0.8s
AB31 Akbulak array 82.11 321 *i* P **P** **09 09 38.8 +0.2**
AB31 pmax pmax
comp=Z,282nm,1.0s
ABKAR Akbulak array 82.11 321 *e*P **P** **09 09 39.1 +0.5**
SDPT Sand Point 82.30 32 *e*P **P** **09 09 40.6 +1.2**
comp=Z,321nm,1.0s
ABPO Ambohimpanom 82.69 252 P **P** **09 09 43.4 +0.9**
comp=Z,143nm,0.5s,SNR=5.2
ABPO Ambohimpanom 82.69 252 *e*P **P** **09 09 42.6 +0.1**
ABPO pmax pmax
comp=Z,221nm,1.2s
ABPO Ambohimpanom 82.69 252 *e*P **P** **09 09 42.6 +0.1**
comp=Z,221nm,1.2s
OPO Ambohidratompo 82.75 252 LR LR 09 42 44.7
comp=Z,967nm,20.9s,baz=92,slow=33
TNA Tin City 83.28 21 *e*P **P** **09 09 45.8 +1.4**
comp=Z,47nm,0.9s
AKTO Aktyubinsk 83.65 322 P **P** **09 09 47.4 +0.8**
AKTO S **S** **09 20 00.6 -3.3**
AKTO pmax pmax
comp=Z,94nm,0.8s
AKTO smax smax
comp=N,2.0nm,0.9s
AKTO Aktyubinsk 83.65 322 P **P** **09 09 47.4 +0.8**
AKTO S **S** **09 20 00.6 -3.3**
AKTO PKKP **PKKPdf** **09 27 58.1 +0.8**
AKTO P'P' 09 36 08.4
AKTO Aktyubinsk 83.65 322 P **P** **09 09 47.4 +0.8**
comp=N,94nm,0.8s,baz=108,slow=11,SNR=26
AKTO S **S** **09 20 00.6 -3.3**
comp=N,2.3nm,0.9s,baz=13,slow=23,SNR=12
AKTO PKKP **PKKPdf** **09 27 58.1 +0.8**
comp=N,1.0nm,0.7s,baz=56,slow=3.6,SNR=2.2
AKTO PKPPKP **P'P'df** **09 36 08.4 -0.6**
comp=N,4.0nm,1.1s,baz=222,slow=0.8,SNR=4.8
MUKL Al Mukalla 83.91 285⇑ *e*P **P** **09 09 49.3 +0.7**
MUKL AMb AMB 09 09 51.0
comp=Z,324nm,0.8s
SVE Sverdlovsk 84.11 329 *e*P **P** **09 09 49.5 +0.7**
SVE pmax pmax
comp=Z,977nm,1.1s
QSPA South Pole Qui 84.54 180 PKKPbc PKKPbc 09 28 01.6 -3.3
QSPA P'P' 09 35 51.8
QSPA South Pole Qui 84.54 180 S S 09 20 05.6 -7.0
comp=Z,6.6nm,1.0s,baz=56,slow=20,SNR=8.7
QSPA PKKPbc **PKKPbc** **09 28 01.6 -3.3**
comp=Z,4.8nm,0.8s,baz=200,slow=2.5,SNR=7.5
QSPA PKPPKP P'P'df 09 35 51.8 -16
comp=Z,3.8nm,1.0s,baz=199,slow=5.3,SNR=5.2
QSPA LR LR 09 47 27.3
comp=Z,3µm,19.5s,baz=189,slow=36
ARU Arti 85.08 328 P **P** **09 09 53.5 -0.2**
comp=Z,2µm,0.8s,SNR=87
ARU Arti 85.08 328*c* *i*P **P** **09 09 53.4 -0.2**
ARU 09 13 08.8
ARU S S 09 20 11.8 -6.1
ARU SSS SSS 09 29 17.7
ARU pmax pmax
comp=Z,483nm,1.2s
ARU MLR MLR
comp=Z,1µm,29.0s
ARU Arti 85.08 328 *e*P **P** **09 09 53.3 -0.4**
comp=Z,243nm,0.8s
SYO Syowa Base 85.60 201⇓ *i*P **P** **09 09 55.0 -1.0**
SVW2 Sparrevohn 86.64 28 *e*P **P** **09 10 02.9 +1.6**
comp=Z,66nm,1.0s
OHAK Old Harbor 86.69 32 *e*P **P** **09 10 03.2 +1.6**
comp=Z,203nm,1.0s
SOKR Solikamsk 86.89 331*c* *i*P **P** **09 10 01.9 -0.6**
SOKR 09 13 25.4
SOKR S S 09 20 27.7 -7.7
SOKR pmax pmax
comp=Z,200nm,1.2s
KBD Kabd 87.07 300 *e*P **P** **09 10 04.4 +0.2**
KBD AMb AMB 09 10 06.7
comp=Z,291nm,2.0s
RDF Al-Radifah 87.17 299 *e*P **P** **09 10 04.9 +0.3**
RDF AMb AMB 09 10 06.3
comp=Z,640nm,1.7s
KDAK Kodiak Island 87.20 31 P **P** **09 10 05.0 +0.9**
comp=Z,462nm,1.2s,SNR=10
KDAK Kodiak Island 87.20 31 *e*P **P** **09 10 05.1 +1.1**
comp=Z,233nm,1.4s
NAY Al-Naaiem 87.47 300 *e*P **P** **09 10 06.1 0.0**
NAY AMb AMB 09 10 08.4
comp=Z,674nm,0.9s
LBOS 87.49 284⇑ *e*P **P** **09 10 07.3 +0.5**
LBOS AMb AMB 09 10 09.3
comp=Z,747nm,0.9s
LBOS *e* 09 10 09.9
RST Umm Al-Ruwaisa 87.72 300 *e*P **P** **09 10 07.0 -0.2**
RST AMb AMB 09 10 08.4
comp=Z,4µm,1.0s
RSO Redoubt South 87.80 29 *e*P **P** **09 10 08.1 +0.9**
SPU Mount Spurr 88.31 28 *e*P **P** **09 10 09.5 +0.1**
SPU *e*pP pP 09 10 20.2 -7.3
RAYN Ar Rayn 88.32 294 P **P** **09 10 10.0 -0.3**
comp=Z,2µm,1.1s
DAMY Dhamar 88.39 285⇓ P **P** **09 10 13.2 +2.2**
baz=88,SNR=7.8
TRBA At Turbah 88.52 283⇑ *e*P **P** **09 10 12.1 +0.5**
TRBA AMb AMB 09 10 13.2
comp=Z,399nm,1.8s
PPLA Purkeypile 88.68 26 *e*P **P** **09 10 12.6 +1.3**
comp=Z,114nm,1.2s
IM04 Indian Mountai 88.82 23 *e*P **P** **09 10 11.9 +0.2**
CAST Castle Rocks 88.86 26 *e*P **P** **09 10 13.3 +1.4**
comp=Z,29nm,1.0s
MAK Makhachkala 89.14 313 *e*P **P** **09 10 14.4 +0.8**
MAK *e**SP **sP** **09 10 36.0 -2.8**
MAK *e* 09 13 43.7
MAK *e*PPP PPP 09 15 43.9
MAK *e*S **SKSac** **09 20 37.0 -1.0**
MAK *e* 09 21 00.3
MAK pmax pmax
comp=Z,271nm,1.4s
MAK MLR MLR
comp=Z,2µm,33.0s
SEW Seward 89.32 29 *e*P **P** **09 10 16.0 +2.0**
comp=Z,153nm,1.0s
RC01 Rabbit Creek A 89.39 28 *e*P **P** **09 10 16.0 +1.6**
comp=Z,74nm,0.8s
KTH Kantishna Hill 89.39 26 *e*P **P** **09 10 14.7 +0.2**
comp=Z,270nm,0.9s
TRF Thorofare Moun 89.65 26 *e*P **P** **09 10 16.0 +0.2**
comp=Z,36nm,1.0s
PMR Palmer 89.78 28 *e*P **P** **09 10 15.8 -0.4**
PMR pmax pmax
comp=Z,92nm,1.2s
PMR Palmer 89.78 28 *e*P **P** **09 10 15.8 -0.4**
comp=Z,92nm,1.2s
MCK McKinley 90.30 26 *e*P **P** **09 10 18.7 +0.1**
MCK pmax pmax
comp=Z,80nm,1.0s
MCK McKinley 90.30 26 *e*P **P** **09 10 18.7 +0.1**
comp=Z,80nm,1.0s
COLD Coldfoot 90.52 22 *e*P **P** **09 10 20.9 +1.3**
comp=Z,38nm,1.0s
DGRG David-gareji 90.52 311 P **P** **09 10 21.9 +1.7**
GNI Garni 90.85 310 *e*P **P** **09 10 23.2 +1.3**

comp=Z,122nnm,1.1s
SEAG Tbilisi Sea 90.98 312 P **P** **09 10 22.5 +0.2**
COLA College 90.98 25 *e*P **P** **09 10 21.3 -0.4**
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 90.98 25 *e*P **P** **09 10 21.2 -0.4**
comp=Z,6.0nm,0.9s
TBLG Delisi 91.03 312 P **P** **09 10 23.4 +0.9**
DUS Dusheti 91.09 312 P **P** **09 10 24.2 +1.3**
KZR Kazreti 91.23 311 P **P** **09 10 24.7 +1.2**
DIV Divide 91.29 29 *e*P **P** **09 10 24.5 +1.1**
comp=Z,170nm,1.2s
RKT Rikitea 91.29 113 *e*SKSac **SKSac** **09 20 51.2 -0.2**
comp=Z,2µm,29.2s
RKT Rikitea 91.29 113 *e*LR LR 09 39 46.1
comp=Z,2µm,31.8s
GUDG Gudauri 91.30 312 P **P** **09 10 24.4 +0.3**
ILAR Eielson Array 91.37 25 P **P** **09 10 22.1 -1.5**
ILAR PP PP 09 13 52.2 -10
ILAR PKKP **PKKPdf** **09 27 45.1 +0.8**
ILAR P'P' 09 35 41.0
ILAR Eielson Array 91.37 25 P **P** **09 10 22.1 -1.5**
comp=Z,16nm,0.7s,baz=269,slow=3.6,SNR=146
ILAR PP PP 09 13 52.2 -10
comp=Z,7.3nm,1.0s,baz=256,slow=5.7,SNR=4.7
ILAR PKKP **PKKPdf** **09 27 45.1 +0.8**
comp=Z,4.3nm,1.0s,baz=79,slow=1.1,SNR=9.4
ILAR PKPPKP P'P'df 09 35 41.0 -13
comp=Z,0.7nm,1.0s,baz=126,slow=1.2,SNR=3.9
ILAR LR LR 09 46 56.7
comp=Z,765nm,20.1s,baz=273,slow=32
PAX Paxson 91.70 27 *e*P **P** **09 10 26.2 +0.9**
PAX pmax pmax
comp=Z,123nm,1.7s
PAX Paxson 91.70 27 *e*P **P** **09 10 26.1 +0.9**
comp=Z,123nm,1.7s
ZEI Tsey 91.75 313 *e*P **P** **09 10 23.8 -2.3**
ZEI pmax pmax
comp=Z,154nm,1.4s
BMRM Bremner River 91.83 29 *e*P **P** **09 10 27.4 +1.6**
comp=Z,42nm,0.9s
AKH Akhalkalaki 91.92 311 P **P** **09 10 28.3 +1.4**
ONI Oni 92.06 312 P **P** **09 10 28.2 +0.9**
DOT Dot Lake 92.43 26 *e*P **P** **09 10 29.2 +0.6**
comp=Z,29nm,0.8s
MENT Mentasta 92.49 27 *e*P **P** **09 10 30.2 +1.4**
KBZ Khabaz 92.57 313 P **P** **09 10 29.4 -0.1**
KBZ pmax pmax
comp=Z,39nm,1.0s
KBZ MLR MLR
comp=Z,698nm,19.5s
KBZ Khabaz 92.57 313 P **P** **09 10 29.4 -0.1**
KBZ Khabaz 92.57 313 P **P** **09 10 29.4 -0.1**
comp=Z,39nm,1.0s,baz=131,slow=1.2,SNR=36
KBZ LR LR 09 53 42.5
comp=Z,698nm,19.5s,baz=257,slow=36
GOF Gofitskoye 92.58 315 *e*P **P** **09 10 29.4 -0.2**
GOF *e*S **S** **09 21 29.4 +0.4**
GOF pmax pmax
comp=Z,120nm,1.4s
GOF smax smax
comp=N,70nm,1.2s
GOF smax smax
comp=E,80nm,1.2s
PRGR Permogore 92.69 332 *e*P P 09 10 25.1 -4.6
PRGR pmax pmax
comp=Z,203nm,1.3s
KIV Kislovodsk 92.74 314 P **P** **09 10 30.5 0.0**
comp=Z,212nm,1.2s,SNR=5.5
KIV Kislovodsk 92.74 314*c i*P **P** **09 10 30.3 -0.2**
KIV *i* 09 10 55.2
KIV *i* S **S** **09 21 27.1 -3.5**
KIV pmax pmax
comp=Z,50nm,1.1s
KIV MLR MLR
comp=Z,800nm,19.0s
KIV Kislovodsk 92.74 314 *e*P **P** **09 10 30.9 +0.4**
comp=Z,54nm,1.1s
EGAK Eagle 93.81 25 *e*P **P** **09 10 35.2 +0.5**
comp=Z,50nm,0.9s
KMBO Kilima Mbogo 93.95 268 *e*P **P** **09 10 37.8 +0.9**
comp=Z,67nm,1.4s
KMBO Kilima Mbogo 93.95 268 P **P** **09 10 37.9 +0.9**
comp=Z,122nm,1.2s,baz=68,slow=5.6,SNR=170
KMBO LR LR 09 52 51.9
comp=Z,1µm,19.3s,baz=103,slow=35
KMBO Kilima Mbogo 93.95 268 P **P** **09 10 37.9 +1.0**
baz=94,SNR=26
VRHR Novokhopersk 93.99 321 *e*P P 09 10 32.7 -3.2
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.5s
VRHR pmax pmax
comp=E,60nm,1.3s
VRHR MLR MLR
comp=Z,1µm,24.0s
VRHR MLR MLR
comp=N,980nm,27.0s
VRHR MLR MLR
comp=E,4µm,25.0s
NVL N'lazarevskaya 94.23 197 *e*P **P** **09 10 35.6 -1.1**
NVL pmax pmax
comp=Z,97nm,1.1s
DAWY Dawson 94.53 26 *e*P **P** **09 10 38.9 +0.7**
SOC Sochi 94.86 313*c i*P **P** **09 10 38.7 -1.4**
SOC *e**PP **pP** **09 10 55.2 -3.1**
SOC *e**SP **sP** **09 11 01.5 -3.9**
SOC *e* 09 14 26.6
SOC *e*S **SKSac** **09 21 07.9 -2.3**
SOC *e*SS **SS** **09 28 11.2 -3.7**
SOC pmax pmax
comp=Z,38nm,0.8s
SOC MLR MLR
comp=Z,1µm,21.0s
VORD Divnogorie 95.45 321 *e*P P 09 10 39.4 -3.2
VORD pmax pmax
comp=Z,80nm,1.5s
VORD pmax pmax
comp=N,170nm,0.7s
VORD pmax pmax
comp=E,100nm,0.7s
VORD MLR MLR
comp=Z,1µm,21.0s
VORD MLR MLR
comp=N,880nm,17.0s
VORD MLR MLR
comp=E,760nm,20.0s
VOR Voronezh 95.54 321 P **P** **09 10 42.0 -1.0**
VOR pmax pmax
comp=Z,280nm,1.0s
VSR Storozhevoye 95.54 321 *e*P P 09 10 39.4 -3.6
VSR pmax pmax
comp=Z,60nm,1.4s
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,40nm,1.2s
VSR MLR MLR
comp=Z,810nm,19.0s
VSR MLR MLR
comp=N,580nm,17.0s
VSR MLR MLR
comp=E,480nm,18.0s
MALT Malatya 95.60 308 ⇓P **P** **09 10 45.0 +1.2**
MALT Malatya 95.60 308 ⇓*i*P **P** **09 10 45.0 +1.2**
ZALF Zalf 96.26 302 *i* P **P** **09 10 47.6 +0.8**
TMCR Tamitsa 96.28 334 *e*P **P** **09 10 45.2 -0.9**
TMCR *e* 09 14 40.4
TMCR pmax pmax
comp=Z,145nm,1.4s
RABH Abou Rabah 96.43 304 *i* P **P** **09 10 44.9 -2.7**
MOS Moscow 96.53 325 ⇓*i*P **P** **09 10 45.6 -1.8**
MOS *e**PP **pP** **09 11 03.4 -2.2**
MOS *e* 09 11 10.0
MOS *e* 09 14 38.3
MOS *e*S **SKSac** **09 21 15.7 -2.7**
MOS *e* 09 21 51.1
MOS pmax pmax
comp=Z,500nm,1.9s
MOS pmax pmax
comp=Z,221nm,1.3s
ANN Anapa 96.55 314 *e*P **P** **09 10 46.6 -1.1**
ANN *e**PP **pP** **09 11 03.5 -2.4**
ANN *e* 09 14 44.0
ANN *e*SP SP 09 23 21.2 -2.4
ANN pmax pmax
comp=Z,154nm,1.0s
ANN MLR MLR
comp=Z,897nm,25.0s
ASF Jabal al Asfar 96.60 302 PKKP 09 27 32.5
comp=Z,4.4nm,0.9s,baz=181,slow=3.1,SNR=5.0
ASF LR LR 09 57 52.4
comp=Z,412nm,21.4s,baz=232,slow=38
SALA Sala 96.76 302 *i* P **P** **09 10 49.8 +0.5**
INK Inuvik 96.92 22 *e*P **P** **09 10 48.5 -0.4**
comp=Z,50nm,1.1s
INK PP PP 09 14 39.1 -5.7
INK Inuvik 96.92 22 P **P** **09 10 48.5 -0.4**
comp=Z,31nm,1.0s,baz=273,slow=6.3,SNR=45
INK PP PP 09 14 39.1 -5.7
comp=Z,6.5nm,1.0s,baz=241,slow=8.5,SNR=3.3
INK LR LR 09 49 29.3
comp=Z,347nm,21.6s,baz=262,slow=32
MARH Ras Al Marh 97.01 304 *i* P Pdif 09 10 50.8 +0.2
TOTH TOTAH 97.04 303 *e*P Pdif 09 10 50.8 +0.3
OBN Obninsk 97.14 325 P **P** **09 10 49.8 -0.4**
comp=Z,858nm,0.9s,SNR=6.8
OBN Obninsk 97.14 325*c i*P **P** **09 10 48.6 -1.6**
OBN *i* 09 11 11.2
OBN *i* 09 14 44.9
OBN *i* S **SKSac** **09 21 27.3 +5.7**
OBN pmax pmax
comp=Z,242nm,1.3s
OBN MLR MLR
comp=Z,900nm,19.0s
OBN Obninsk 97.14 325 *e*P **P** **09 10 49.1 -1.0**
comp=Z,381nm,1.5s
BRBR Barbar 97.44 303 *i* P Pdif 09 10 52.5 +0.1
SNAA Sanae 97.49 193 *e*P Pdif 09 10 51.7 0.0
comp=Z,58nm,1.0s
SNAA PKKPbc **PKKPbc** **09 27 26.6 -4.9**
SNAA Sanae 97.49 193 PKKPbc PKKPbc 09 27 26.6 -4.9
comp=Z,1.8nm,0.9s,baz=329,slow=2.6,SNR=23
LVZ Lovozero 97.51 338 P **P** **09 10 50.7 -1.0**
comp=Z,437nm,1.5s,SNR=5.1
LVZ Lovozero 97.51 338 *e*P **P** **09 10 50.9 -0.7**
LVZ pmax pmax
comp=Z,140nm,1.3s
LVZ Lovozero 97.51 338 *e*P **P** **09 10 50.9 -0.7**
comp=Z,140nm,1.3s
MMAI Mount Meron Ar 97.89 302 PKKPbc PKKPbc 09 27 26.9 -2.3
MMAI Mount Meron Ar 97.89 302 PKKPbc PKKPbc 09 27 26.9 -2.3
comp=Z,2.6nm,0.7s,baz=151,slow=3.3,SNR=3.6
APA Apatity 98.01 337 ⇓*i*P **P** **09 10 52.4 -1.4**
APA *i* 09 14 55.0
APA *i* 09 21 24.0
APA *i* S S 09 22 09.0 -6.1
APA *i* PS **PS** **09 23 40.0 -7.2**
APA *i* PPS PPS 09 24 26.0
APA *i* SS **SS** **09 28 58.0 0.0**
APA pmax pmax
comp=Z,792nm,1.2s
APA MLR MLR
comp=Z,2µm,26.0s
EIL Elat 98.19 299 LR LR 09 57 16.7
comp=Z,1µm,21.4s,baz=96,slow=36
EIL Elat 98.19 299 P Pdif 09 10 56.0 +0.4
baz=98,SNR=10.0
SIM Simferopol' 98.91 315*ce*P **P** **09 10 57.8 -0.6**
SIM 09 15 01.2
SIM 09 21 30.9
SIM PPS PPS 09 24 47.8
SIM SS SS 09 29 10.0 -1.9
SIM pmax pmax
comp=Z,43nm,1.1s
SIM MLR MLR
comp=Z,140nm,17.0s
HOPEN Hopen 99.03 347 *e*PP PP 09 14 59.1 -1.7
HOPEN *e*SS SS 09 29 14.9 +3.0
DLBC Dease Lake 99.13 32 P **Pdif** **09 10 59.9 +0.8**
DLBC Dease Lake 99.13 32 P **Pdif** **09 10 59.9 +0.8**
comp=Z,4.5nm,0.9s,baz=292,slow=8.5,SNR=5.2
DLBC LR LR 09 52 14.8
comp=Z,485nm,18.7s,baz=72,slow=33
BR131 Keskin Array S 99.35 309 *e*P **Pdif** **09 10 59.4 -1.3**
comp=Z,8.5nm,0.8s
BRTR Keskin Array B 99.35 309 P **Pdif** **09 10 59.9 -0.8**
BRTR PP PP 09 14 51.9 -13
BRTR PKKPbc **PKKPbc** **09 27 25.9 +0.4**
BRTR P'P' 09 35 37.0
BRTR Keskin Array B 99.35 309 P **Pdif** **09 10 59.9 -0.8**
comp=Z,13nm,0.9s,baz=119,slow=4.4,SNR=42
BRTR PP PP 09 14 51.9 -13
comp=Z,6.9nm,0.9s,baz=105,slow=8.2,SNR=3.6
BRTR PKKPbc **PKKPbc** **09 27 25.9 +0.4**
comp=Z,4.6nm,1.1s,baz=225,slow=1.6,SNR=8.3
BRTR PKPPKP **P'P'df** **09 35 37.0 -3.8**
comp=Z,0.8nm,0.7s,baz=270,slow=2.9,SNR=4.4
BRTR LR LR 10 00 30.7
comp=Z,610nm,21.5s,baz=93,slow=38
JOF Joensuu 99.36 333 *e*P **Pdif** **09 10 59.8 -0.2**
JOF pmax pmax
comp=Z,4.0nm,0.3s
JOF Joensuu 99.36 333 *ep* **Pdif** **09 10 59.8 -0.2**
comp=Z,3.5nm,0.3s
JOF Joensuu 99.36 333 *ep* 09 27 23.5
comp=Z,2.1nm,0.3s
CSS Prodhromos 99.63 304 *e*Pdif **Pdif** **09 11 01.7 -0.2**
comp=Z,8.8nm,0.9s
KEV Kevo 100.01 340 *e*P **Pdif** **09 11 02.7 0.0**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 100.01 340 *ep* **Pdif** **09 11 02.7 0.0**
comp=Z,0.8nm,0.3s
KEV Kevo 100.01 340 *ep* **PKiKP** **09 15 30.5 +0.3**
comp=Z,0.9nm,0.4s
KEV Kevo 100.01 340 *ep* **PKKPbc** **09 27 21.1 -3.3**
comp=Z,0.5nm,0.4s
KEV Kevo 100.01 340 *e*Pdif **Pdif** **09 11 02.6 0.0**
PUL Pulkovo 100.21 330 ⇓*i*P **Pdif** **09 11 03.2 -0.6**
PUL pmax pmax
comp=Z,53nm,0.3s
PUL MLR MLR
comp=Z,2µm,27.0s
SPA0 Spitsbergen Ar 100.28 349 *e*P **Pdif** **09 11 04.4 +0.6**
SPA0 *e*PP **PP** **09 15 10.7 +0.4**
ARCES ARCESS Array B 100.57 340 P **Pdif** **09 11 04.8 -0.5**
ARCES PKiKP **PKiKP** **09 15 31.9 +0.6**
ARCES PKKPbc **PKKPbc** **09 27 19.9 -3.0**
ARCES ARCESS Array B 100.57 340 P **Pdif** **09 11 04.8 -0.5**
comp=Z,81nm,1.1s,baz=86,slow=4.1,SNR=72
ARCES PKiKP **PKiKP** **09 15 31.9 +0.6**
comp=Z,2.5nm,0.6s,baz=104,slow=1.5,SNR=25
ARCES PKKPbc **PKKPbc** **09 27 19.9 -3.0**
comp=Z,3.0nm,0.5s,baz=257,slow=3.0,SNR=27
ARE0 ARCESS Array S 100.57 340 *e*P **Pdif** **09 11 07.0 +1.7**
ARE0 *e*PP **PP** **09 15 13.8 +1.1**
ARE0 *e*SKS 09 21 36.5
ARE0 *e*SS **SS** **09 29 34.8 +1.1**
LSZ Lusaka 101.17 253 *e*Pdif **Pdif** **09 11 08.8 -0.4**
comp=Z,55nm,1.0s
BOSA Boshof 101.39 240 *e*Pdif **Pdif** **09 11 10.0 0.0**
BOSA PKiKP **PKiKP** **09 15 35.7 +1.5**
BOSA PKKPbc **PKKPbc** **09 27 19.0 -0.1**
BOSA Boshof 101.39 240 P **Pdif** **09 11 09.8 -0.3**
comp=Z,52nm,1.1s,baz=102,slow=1.9,SNR=26
BOSA PKiKP **PKiKP** **09 15 35.7 +1.5**
comp=Z,7.8nm,1.0s,baz=127,slow=3.7,SNR=3.9
BOSA PKKPbc **PKKPbc** **09 27 19.0 -0.1**
comp=Z,3.3nm,0.9s,baz=221,slow=3.4,SNR=3.0
KAF Kangasniemi 101.78 332 *e*P **Pdif** **09 11 09.0 -1.8**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 101.78 332 *ep* **Pdif** **09 11 09.0 -1.8**
comp=Z,1.4nm,0.3s
KAF Kangasniemi 101.78 332 *ep* **PKiKP** **09 15 33.7 0.0**
comp=Z,0.9nm,0.3s
KAF Kangasniemi 101.78 332 *ep* **PKKPbc** **09 27 16.5 -2.6**
comp=Z,1.5nm,0.3s
AKASG Malin Array Be 101.84 321 P **Pdif** **09 11 10.1 -1.2**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 101.84 321 P **Pdif** **09 11 10.1 -1.2**
AKASG PP PP 09 15 13.0 -10
AKASG Malin Array Be 101.84 321 P **Pdif** **09 11 10.1 -1.2**
comp=Z,4.9nm,0.8s,baz=74,slow=4.0,SNR=18
AKASG PP PP 09 15 13.0 -10
comp=Z,5.9nm,1.1s,baz=77,slow=6.6,SNR=4.4
LBTB Lobatse 101.85 243 *e*Pdif **Pdif** **09 11 11.9 -0.2**
FIA1 FINESS Array S 102.01 332 *e*Pdif **Pdif** **09 11 10.5 -1.3**
FINES FINESS Array B 102.02 332 P **Pdif** **09 11 10.7 -1.2**
FINES PKiKP **PKiKP** **09 15 34.5 +0.4**
FINES PKKPbc **PKKPbc** **09 27 15.4 -3.0**
FINES PKKP **PKKPdf** **09 27 27.8 +2.9**
FINES FINESS Array B 102.02 332 P **Pdif** **09 11 10.7 -1.2**
comp=Z,66nm,1.2s,baz=72,slow=6.5,SNR=22
FINES PKiKP **PKiKP** **09 15 34.5 +0.4**
comp=Z,6.2nm,0.8s,baz=26,slow=2.6,SNR=18
FINES PKKPbc **PKKPbc** **09 27 15.4 -3.0**
comp=Z,7.4nm,0.9s,baz=246,slow=3.0,SNR=11
FINES PKKP **PKKPdf** **09 27 27.8 +2.9**
comp=Z,8.1nm,1.0s,baz=277,slow=3.3,SNR=4.0
MICGM Minsk 102.20 325⇓*e*P **Pdif** **09 11 11.0 -1.8**
MNK Minsk 102.22 325⇓*e*P **Pdif** **09 11 11.0 -1.9**
MNK *e* 09 15 32.0
MNK *e*SP SP 09 24 18.0 -6.1
MNK *e*SPP SPP 09 25 26.0
MNK *e*SS SS 09 30 20.0 +23
MNK pmax pmax
comp=Z,320nm,1.0s
MNK pmax pmax
comp=E,3µm,20.0s
KIS Kishinev 102.48 317 *e*P **Pdif** **09 11 13.0 -1.2**
comp=E,100nm,1.4s
KIS Kishinev 102.48 317 *e*PP PP 09 15 25.0 -2.7
KIS Kishinev 102.48 317 *e*PPP PPP 09 17 38.0
KIS *e*SKS 09 21 54.0
KIS *e*SKKS **SKKSac** **09 22 29.0 +1.4**
KIS *e*S **Sdif** **09 22 49.0 -4.3**
KIS *e*sS sS 09 23 15.0 -10
KIS *e*L L 09 51 40.0
KIS LRM MLR 10 01 28.0
comp=E,700nm,20.0s
KIS Kishinev 102.48 317 *e*P **Pdif** **09 11 13.0 -1.2**
KIS *e* **PP** **09 15 25.0 -2.7**
KIS *e*PPP PPP 09 17 38.0
KIS *e*S **Sdif** **09 22 49.0 -4.3**
KIS pmax pmax
comp=Z,110nm,1.4s
KIS pmax pmax
comp=Z,300nm,5.0s
TLCR 102.64 315 ⇓P **Pdif** **09 11 15.4 +0.4**
TLCR 102.64 315 ⇓*i*P **Pdif** **09 11 15.4 +0.4**
IDID Didziasalis 102.73 325 *e*P **Pdif** **09 11 15.7 +0.6**
IDID AMB AMB 09 11 16.8
comp=Z,10nm,1.4s
TRO Tromso 102.75 341 *e*PP PP 09 15 32.6 +3.6
TRO *e*SKS 09 21 48.9
TRO *e*SS **SS** **09 30 05.8 +2.0**
TRO AMS AMS 09 56 30.5
comp=Z,1µm,21.0s
NACGM Naroch 102.77 325 *e*P **Pdif** **09 11 13.0 -2.3**
LEOM Leova 102.92 316 ⇑P **Pdif** **09 11 16.8 +0.6**
LEOM Leova 102.92 316 ⇑*i*P **Pdif** **09 11 16.8 +0.6**
IIGN Ignalina 103.02 326 *e*P **Pdif** **09 11 15.7 -0.8**
IIGN AMB AMB 09 11 17.4
comp=Z,15nm,1.2s
ISAL Salakas 103.03 326 *e*P **Pdif** **09 11 15.8 -0.7**
ISAL AMB AMB 09 11 18.0
comp=Z,13nm,1.2s
CFR Carcaliu 103.12 315 ⇑P **Pdif** **09 11 16.2 -0.9**
CFR Carcaliu 103.12 315 ⇑*i*P **Pdif** **09 11 16.2 -0.9**
PSN Preselentsi 103.23 313 *i* P **PKiKP** **09 15 36.6 -0.3**
ARG Arkhangelos 103.83 306 *e*P **PKiKP** **09 15 36.5 -1.7**
TESR Tescani 104.01 316 ⇑*i*P **Pdif** **09 11 21.1 0.0**
VRI Vrincioaia 104.03 316 ⇑P **Pdif** **09 11 21.5 +0.3**
VRI Vrincioaia 104.03 316 ⇑*i*P **Pdif** **09 11 21.5 +0.3**
PLOR Plostina 104.09 316 ⇑P **Pdif** **09 11 22.1 +0.6**
PLOR Plostina 104.09 316 ⇑*i*P **Pdif** **09 11 22.1 +0.6**
SUR Sutherland 104.19 235 PKiKP **PKiKP** **09 15 39.8 +0.5**
SUR Sutherland 104.19 235 PKiKP **PKiKP** **09 15 39.8 +0.5**
comp=Z,8.5nm,0.9s,baz=135,slow=4.3,SNR=3.4
JMB Yambol 104.51 312 *i* P **PP** **09 15 45.5 +2.4**
MLR Muntele Rosu 104.62 315 ⇑*i*P **Pdif** **09 11 24.8 +0.8**
MLR Muntele Rosu 104.62 315 Pdif **Pdif** **09 11 23.1 -0.9**
MLR Muntele Rosu 104.62 315 Pdiff **Pdif** **09 11 23.1 -0.9**
comp=Z,3.8nm,1.0s,baz=120,slow=20,SNR=6.5
KARP Karpathos 104.66 305 *e*P **PP** **09 15 47.0 +2.6**
BURAR Bucovina Array 104.83 318 ⇑P **Pdif** **09 11 25.2 +0.4**
BURAR Bucovina Array 104.83 318 ⇑*i*P **Pdif** **09 11 25.2 +0.4**
BUR08 Bucovina Ar. S 104.84 318 *e*Pdif **Pdif** **09 11 24.9 0.0**
DOPR Dopca 104.95 316 ⇑*i*P **Pdif** **09 11 25.6 +0.3**
SUW Suwalki 105.00 325 *e*P **Pdif** **09 11 24.8 -0.5**
SUW Suwalki 105.00 325 *e*P **Pdif** **09 11 24.8 -0.5**
SUW Suwalki 105.00 325 *e*Pdif **Pdif** **09 11 24.8 -0.5**
PRK Paraskevi 105.07 309 *e*P **PP** **09 15 47.5 +0.3**
VOIR 105.26 316 ⇑P **Pdif** **09 11 26.1 -0.6**
VOIR 105.26 316 ⇑*i*P **Pdif** **09 11 26.1 -0.6**
LVV L'vov 105.26 320 *e*P **Pdif** **09 11 26.5 -0.1**
LVV *i* 09 15 50.1
LVV MLR MLR
comp=N,400nm,20.0s
LVV MLR MLR
comp=E,400nm,20.0s
LVV MLR MLR
comp=Z,500nm,20.0s
ZKR Zakros 105.46 305 *e*P PP 09 15 44.0 -6.3
YBH Yreka Blue Hor 105.50 48 Pdif **Pdif** **09 11 30.9 +2.9**
YBH Yreka Blue Hor 105.50 48 Pdiff **Pdif** **09 11 30.9 +2.9**
comp=Z,3.5nm,0.8s,baz=205,slow=4.0,SNR=6.1
YKA Yellowknife Ar 105.77 26 Pdif **Pdif** **09 11 29.8 +1.3**
YKA PKiKP **PKiKP** **09 15 41.4 +0.4**
YKA PKKPbc **PKKPbc** **09 27 04.0 -3.1**
YKA PKKPab **PKKPab** **09 27 20.5 -1.3**
YKA Yellowknife Ar 105.77 26 Pdiff **Pdif** **09 11 29.7 +1.3**
comp=Z,1.3nm,0.6s,baz=291,slow=4.7,SNR=41
YKA PKiKP **PKiKP** **09 15 41.3 +0.4**
comp=Z,8.8nm,0.8s,baz=293,slow=2.0,SNR=136
YKA PKKPbc **PKKPbc** **09 27 04.0 -3.1**
comp=Z,4.8nm,0.8s,baz=106,slow=3.0,SNR=24
YKA PKKPab **PKKPab** **09 27 20.5 -1.3**
comp=Z,7.3nm,1.0s,baz=112,slow=3.6,SNR=6.0
RES Resolute Bay 105.88 12 Pdif **Pdif** **09 11 29.4 +0.7**
RES PKiKP **PKiKP** **09 15 40.8 0.0**
RES PKKPbc PKKPbc 09 26 57.3 -10
RES Resolute Bay 105.88 12 Pdiff **Pdif** **09 11 29.4 +0.7**
comp=Z,5.7nm,0.9s,baz=307,slow=5.2,SNR=18
RES PKiKP **PKiKP** **09 15 40.8 0.0**
comp=Z,9.5nm,1.0s,baz=301,slow=3.3,SNR=13
RES PKKPbc PKKPbc 09 26 57.3 -10
comp=Z,5.0nm,0.9s,baz=81,slow=5.5,SNR=4.3
NPS Neapolis 105.94 305 *e*P **PP** **09 15 49.5 -4.4**
SANT Santorini 105.97 306 *e*P PP 09 15 47.0 -7.1
SANT Santorini 105.97 306 *e*PKPdf PP 09 15 46.2 -7.9
BMR Baia Mare 105.97 318 ⇓P **Pdif** **09 11 30.1 +0.3**
BMR Baia Mare 105.97 318 ⇓*i*P **Pdif** **09 11 30.1 +0.3**
LAST Lasithi 106.06 305 *e*P PP 09 15 49.5 -5.3
CJR Cluj-Napoca 106.06 317 ⇑P **Pdif** **09 11 31.6 +1.3**
CJR Cluj-Napoca 106.06 317 ⇑*i*P **Pdif** **09 11 31.6 +1.3**
KWP Kalwaria Pacla 106.14 320 *e*P **Pdif** **09 11 30.8 +0.2**
KWP Kalwaria Pacla 106.14 320 *e*P **Pdif** **09 11 30.7 +0.2**
KWP Kalwaria Pacla 106.14 320 ⇑*i*P **Pdif** **09 11 30.7 +0.2**
J05D Fort Rock, OR 106.38 47 PKiKP **PKiKP** **09 15 43.7 +0.8**
baz=106
MPEP Malo Peshtene 106.48 314 *i* P **PP** **09 16 00.1 +2.6**
IDI Anoyia 106.53 305 *e*P **PKiKP** **09 15 43.0 -0.3**
IDI Anoyia 106.53 305 PKiKP **PKiKP** **09 15 43.9 +0.6**
IDI PKKPbc **PKKPbc** **09 27 05.7 +1.7**
IDI Anoyia 106.53 305 PKKP **PKiKP** **09 15 43.9 +0.6**
comp=Z,12nm,0.6s,baz=46,slow=2.0,SNR=11
IDI PKKPbc **PKKPbc** **09 27 05.7 +1.7**
comp=Z,5.5nm,0.7s,baz=211,slow=5.9,SNR=3.7
KOLS Kolonicke sedl 106.55 319 *i* P **Pdif** **09 11 32.9 +0.6**
KOLS Kolonicke sedl 106.55 319 PDIF **Pdif** **09 11 32.9 +0.6**
NVR Nevrokopi 106.66 311 *e*P PP 09 15 53.5 -5.5
OUR Ouranopolis 106.70 310 *e*P **PKiKP** **09 15 48.5 +5.2**
MMB Musomiste 106.73 312 *i* P **PP** **09 16 01.7 +2.2**
GZR Gura Zlata 106.84 316 ⇑P **Pdif** **09 11 33.3 -0.5**
GZR Gura Zlata 106.84 316 ⇑*i*P **Pdif** **09 11 33.3 -0.5**
B08A Colville Reser 106.85 41 *e*Pdif **Pdif** **09 11 35.8 +2.0**
SRS Serrai 106.89 311 *e*P **PP** **09 15 57.5 -3.2**
VTS Vitosha 106.97 313 ⇑P **Pdif** **09 11 34.4 -0.1**
VTS Vitosha 106.97 313 *i* P **PP** **09 16 03.9 +2.5**
VTS Vitosha 106.97 313 ⇑*i*P **Pdif** **09 11 34.4 -0.1**
PAIG Paliouri 106.98 310 *e*P PP 09 15 55.0 -6.3
VAM Vamos 107.08 305 *e*P PP 09 15 56.5 -5.7
CRVS Cervenica-Dubn 107.08 320 *i* P **Pdif** **09 11 35.2 +0.5**
CRVS Cervenica-Dubn 107.08 320 PDIF **Pdif** **09 11 35.2 +0.5**
PLG Polygyros 107.10 310 *e*P PP 09 15 55.0 -7.3
SOH Sokhos 107.11 311 *e*P **PP** **09 15 59.0 -3.3**
STHS Stebnicka Huta 107.12 320 *i* P **Pdif** **09 11 35.6 +0.7**
STHS Stebnicka Huta 107.12 320 PDIF **Pdif** **09 11 35.6 +0.7**

KKB	Krupnik	107.17	312	*i* P		PP	09 16 00.5	-2.2	
ATH	Athens Observa	107.19	308	*e*P		PP	09 15 55.0	-7.9	
KARN	Karanos	107.31	305	*e*P		PP	09 15 57.0	-6.9	
HORT	Hortiatis	107.33	311	*e*P		PP	09 15 42.0	-22	
KNT	Kendrikon	107.41	311	*e*P		PP	09 15 55.0	-9.4	
NEO	Neokhori	107.41	309	*e*P		**PP**	**09 16 02.5**	**-2.1**	
XOR	Xorichti	107.43	309	*e*P		**PP**	**09 16 01.5**	**-3.2**	
THE	Thessaloniki	107.43	311	*e*P		PP	09 15 57.0	-7.6	
SIRR	Siria	107.46	317	⇑*i*P		**Pdif**	**09 11 36.6**	**+0.2**	
BZS	Buzias	107.61	316	⇓P		**Pdif**	**09 11 36.9**	**-0.2**	
BZS	Buzias	107.61	316	⇓*i*P		**Pdif**	**09 11 36.9**	**-0.2**	
DID	Didima	107.62	308	*e*P		**PKiK**	**09 15 45.0**	**-0.2**	
LKR	Lokris	107.67	309	*e*P		**PKiK**	**09 15 45.0**	**-0.2**	
CMB	Columbia Colle	107.72	52	*e*PKPdf		**PKiK**	**09 15 45.8**	**+0.3**	
LTK	Loutraki	107.77	308	*e*P		**PKiK**	**09 15 44.0**	**-1.5**	
GRG	Griva	107.81	311	*e*P		**PKiK**	**09 15 46.0**	**+0.5**	
OJC	Ojcow	107.86	321	*e*P		**Pdif**	**09 11 38.1**	**0.0**	
OJC				*e*			09 16 11.8		
OJC				*e*SS		SS	09 31 23.9	+9.4	
OJC				MLR		MLR			
	comp=Z,2µm,25.3s								
OJC	Ojcow	107.86	321	*e*Pdiff		**Pdif**	**09 11 38.1**	**0.0**	
OJC				*e*PP		**PP**	**09 16 11.8**	**+4.4**	
OJC				*e*SS		SS	09 31 23.9	+9.4	
OJC				L		L	10 02 55.0		
	comp=Z,2µm,25.3s								
LIT	Litokhoron	107.86	310	*e*P		**PP**	**09 16 06.0**	**-1.8**	
KYTH	Kithira	107.92	306	*e*P		**PKiK**	**09 15 46.5**	**+0.7**	
DSF	Desfina	108.07	309	*e*P		**PKiK**	**09 15 45.5**	**-0.6**	
AGG	Agios Georgios	108.14	309	*e*P		**PKiK**	**09 15 46.5**	**+0.4**	
GUR	Goura	108.27	308	*e*P		**PKiK**	**09 15 46.5**	**0.0**	
THL	Klokotos Trika	108.30	310	*e*P		**PKiK**	**09 15 46.0**	**-0.4**	
PSZ	Piszkesteto	108.31	319	*e*P		**Pdif**	**09 11 40.7**	**+0.4**	
PSZ	Piszkesteto	108.31	319	*e*Pdif		**Pdif**	**09 11 40.7**	**+0.4**	
PSZ	Piszkesteto	108.31	319	*e*		**PP**	**09 16 11.4**	**+0.6**	
VLX	Vlachokerasia	108.32	307	*e*P		**PKiK**	**09 15 47.0**	**+0.4**	
KALE	Kalithea	108.37	309	*e*P		**PKiK**	**09 15 47.0**	**+0.4**	
KZN	Kozani	108.38	311	*e*P		**PP**	**09 16 09.5**	**-2.2**	
WAKR	Walker	108.40	51	*e*PKPdf		**PKiK**	**09 15 48.6**	**+1.7**	
WVOR	Wild Horse Val	108.40	47	*e*PKPdf		**PKiK**	**09 15 46.3**	**-0.3**	
KLV	Kalavryta, Ach	108.41	308	*e*P		**PKiK**	**09 15 47.0**	**+0.3**	
EFP	Efpalio	108.55	309	*e*P		**PKiK**	**09 15 48.5**	**+1.6**	
PKSN	Nyarlorinc	108.55	318	*e*		**PP**	**09 16 13.2**	**+0.7**	
EVR	Evrytania	108.56	309	*e*P		**PKiK**	**09 15 48.5**	**+1.5**	
PSA1	Psathopyrgos	108.58	309	*e*P		**PKiK**	**09 15 48.0**	**+1.1**	
FNA	Florina	108.60	311	*e*P		**PKiK**	**09 15 47.0**	**0.0**	
ITM	Ithomi	108.70	307	*e*P		**PKiK**	**09 15 47.0**	**-0.2**	
DRO	Drossia	108.77	308	*e*P		**PKiK**	**09 15 49.0**	**+1.7**	
PKS6	Bocsa	108.81	317	*e*		**PP**	**09 16 15.6**	**+1.2**	
AMT	Artemida-Makis	108.82	308	*e*P		**PKiK**	**09 15 47.0**	**-0.5**	
RLS	Riolos of Patr	108.94	308	*e*P		**PKiK**	**09 15 49.0**	**+1.4**	
NC602	NORSAR Array S	108.95	333	*e*		**PKiK**	**09 15 47.3**	**+0.4**	
NB2	NORSAR Subarra	108.97	334	P		**Pdif**	**09 11 41.9**	**-0.9**	
	comp=Z,17nm,1.0s,baz=68,slow=4.6								
NB2	NORSAR Subarra	108.97	334	PKPdf		**PKiK**	**09 15 46.9**	**-0.1**	
	comp=Z,2.9nm,0.8s,baz=68,slow=1.9								
NB2	NORSAR Subarra	108.97	334	P		**Pdif**	**09 11 41.9**	**-0.9**	
	baz=68,slow=4.6								
NB2				PKPdf		**PKiK**	**09 15 46.9**	**-0.1**	
	baz=68,slow=1.9								
NOA	NORSAR Array B	108.97	334	Pdif		**Pdif**	**09 11 42.0**	**-0.9**	
NOA				PKiKP		**PKiK**	**09 15 47.0**	**-0.1**	
NOA				PKKPbc		**PKKPbc**	**09 26 54.3**	**-2.9**	
NOA	NORSAR Array B	108.97	334	Pdiff		**Pdif**	**09 11 42.0**	**-0.9**	
	comp=Z,7.9nm,0.8s,baz=68,slow=4.5,SNR=16								
NOA				PKiKP		**PKiK**	**09 15 47.0**	**-0.1**	
	comp=Z,3.8nm,0.8s,baz=89,slow=4.0,SNR=5.7								
NOA				PKKPbc		**PKKPbc**	**09 26 54.3**	**-2.9**	
	comp=Z,2.2nm,1.0s,baz=60,slow=2.2,SNR=7.8								
BUD	Budapest	108.98	318	*e*		**PP**	**09 16 15.1**	**-0.5**	
OKC	Ostrava-Krasne	108.98	321	*e*P		**Pdif**	**09 11 43.5**	**+0.4**	
OKC				*e*			09 31 34.5		
OKC				MLR		MLR			
	comp=Z,800nm,24.1s								
OKC	Ostrava-Krasne	108.98	321	*e*PDIFF		**Pdif**	**09 11 43.5**	**+0.4**	
OKC				*ex*		x	09 15 06.5		
OKC				*e*PKP		**PKiK**	**09 15 47.5**	**+0.2**	
OKC				*e*SKKS			09 23 12.6		
OKC				*e*SS		**SS**	**09 31 34.5**	**+4.8**	
OKC				AMS		AMS	10 02 40.0		
	comp=Z,800nm,24.1s								
PMSA	Palmer Station	109.06	173	*e*Pdif		**Pdif**	**09 11 43.3**	**+0.2**	
	comp=Z,98nm,0.5s								
PKS2	Kecel	109.08	317	*e*PKiKP		**PP**	**09 16 17.8**	**+1.5**	
PDO	Prodromos	109.08	309	*e*P		**PKiK**	**09 15 49.0**	**+1.1**	
JAN	Janina	109.18	310	*e*P		**PKiK**	**09 15 49.0**	**+0.9**	
NAO01	NORSAR Array S	109.20	333	*e*PKPdf		**PKiK**	**09 15 48.0**	**+0.6**	
NVAR	Mina Array Bea	109.29	51	Pdif		**Pdif**	**09 11 47.5**	**+2.5**	
NVAR				PKiKP		**PKiK**	**09 15 49.3**	**+0.8**	
NVAR				PKKPbc		**PKKPbc**	**09 26 55.7**	**+0.1**	
NVAR				PKKPab		**PKKPab**	**09 27 07.2**	**+0.4**	
NVAR	Mina Array Bea	109.29	51	Pdiff		**Pdif**	**09 11 47.5**	**+2.5**	
	comp=Z,1.2nm,0.7s,baz=278,slow=5.7,SNR=10								
NVAR				PKiKP		**PKiK**	**09 15 49.3**	**+0.8**	
	comp=Z,3.1nm,0.7s,baz=261,slow=3.1,SNR=8.6								
NVAR				PKKPbc		**PKKPbc**	**09 26 55.7**	**+0.1**	
	comp=Z,4.6nm,0.9s,baz=137,slow=1.8,SNR=12								
NVAR				PKKPab		**PKKPab**	**09 27 07.2**	**+0.4**	
	comp=Z,9.5nm,0.8s,baz=104,slow=4.9,SNR=21								
ARVC	Arvin	109.32	55	PKiKP		**PKiK**	**09 15 50.1**	**+1.7**	
	baz=110								
EDM	Edmonton	109.34	35	*e*P		**Pdif**	**09 11 46.6**	**+2.0**	
EDM	Edmonton	109.34	35	*e*Pdif		**Pdif**	**09 11 46.6**	**+2.0**	
EDM				*e*PKPdf		**PKiK**	**09 15 47.9**	**0.0**	
PKSG		109.42	318	*e*			09 16 14.4		
PKSM	Moragy	109.52	317	⇓P		**Pdif**	**09 11 45.5**	**-0.1**	
PKSM	Moragy	109.52	317	⇓*i*P		**Pdif**	**09 11 45.5**	**-0.1**	
PKSM	Moragy	109.52	317	*e*PKiKP		**PP**	**09 16 17.0**	**-2.6**	
ISA	Isabella	109.54	54	*e*P		**Pdif**	**09 11 47.6**	**+1.6**	
ISA	Isabella	109.54	54	*e*Pdif		**Pdif**	**09 11 47.6**	**+1.6**	
IGT	Igoumenitsa	109.59	310	*e*P		**PKiK**	**09 15 49.5**	**+0.7**	
PKS9	Tamasi	109.68	318	*e*		PP	09 16 14.6	-6.1	
KSP	Ksiaz	109.86	322	*e*P		**Pdif**	**09 11 47.4**	**+0.4**	
KSP	Ksiaz	109.86	322	*e*P		**Pdif**	**09 11 48.8**	**+1.8**	
CIS	Catalina Islan	109.88	57	PKiKP		**PKiK**	**09 15 50.6**	**+1.0**	
	baz=110								
BSMT	Bassoo Peak	109.94	41	*e*PKPdf		**PKiK**	**09 15 50.1**	**+0.6**	
KEK	Kerkira	109.97	310	*e*P		**PKiK**	**09 15 50.0**	**+0.5**	
DPC	Dobruska-Polom	109.98	322	*e*P		**Pdif**	**09 11 48.6**	**+1.0**	
DPC				*e*			09 25 50.8		
DPC				*e*			09 31 53.0		
DPC	Dobruska-Polom	109.98	322	*e*PDIFF		**Pdif**	**09 11 48.6**	**+1.0**	
DPC				*ex*		x	09 15 10.7		
DPC				*e*PKP		**PKiK**	**09 15 49.9**	**+0.6**	
DPC				*e*PS		**PS**	**09 25 50.8**	**-2.0**	
DPC				*ex*		x	09 31 53.0		
DPC				AMS		AMS	10 00 20.0		
DPC	Dobruska-Polom	109.98	322	*e*Pdif		**Pdif**	**09 11 48.4**	**+0.8**	
EDW2	Edwards Air Fo	110.04	55	PKiKP		**PKiK**	**09 15 51.3**	**+1.5**	
	baz=110								
VRAC	Vranov	110.10	321	⇑*i*P		**Pdif**	**09 11 48.9**	**+0.8**	
VRAC	Vranov	110.10	321	Pdif		**Pdif**	**09 11 48.7**	**+0.6**	
VRAC				PKiKP		**PKiK**	**09 15 50.1**	**+0.7**	
VRAC	Vranov	110.10	321	Pdiff		**Pdif**	**09 11 48.7**	**+0.6**	
	comp=Z,6.6nm,1.1s,baz=91,slow=6.9,SNR=4.7								
VRAC				PKiKP		**PKiK**	**09 15 50.1**	**+0.7**	
	comp=Z,9.6nm,1.1s,baz=80,slow=6.1,SNR=4.0								
UPC	Upice	110.12	322	*e*P		**Pdif**	**09 11 46.9**	**-1.3**	
UPC				*e*			09 15 49.5		
UPC	Upice	110.12	322	*e*PDIFF		**Pdif**	**09 11 46.9**	**-1.3**	
UPC				*e*PKP		**PKiK**	**09 15 49.5**	**0.0**	
TPH	Tonopah	110.19	51	*e*PKiKP		**PKiK**	**09 15 50.3**	**0.0**	
TPH	Tonopah	110.19	51	*e*PKPdf		**PKiK**	**09 15 50.3**	**0.0**	
LRMC	Laurel Mountai	110.20	54	PKiKP		**PKiK**	**09 15 51.3**	**+1.1**	
	baz=110								
MFID	Camas Ranch	110.24	46	*e*PKPdf		**PKiK**	**09 15 50.6**	**+0.6**	
KONO	Kongsberg	110.29	333	*e*PP		PP	09 16 25.7	+1.1	
KONO				*e*SS		SS	09 31 48.0	+1.5	
KONO				AMS		AMS	10 00 56.0		
	comp=Z,2µm,22.3s								
TSUM	Tsumeb	110.37	247	*e*PKPdf		**PKiK**	**09 15 51.2**	**+0.2**	
TSUM	Tsumeb	110.37	247	PKiKP		**PKiK**	**09 15 51.7**	**+0.7**	
	comp=Z,8.4nm,0.9s,baz=90,slow=2.8,SNR=7.1								
BFSC	Mount Baldy Ra	110.39	56	PKiKP		**PKiK**	**09 15 51.6**	**+1.0**	
	baz=110								
SWMT	Swartz Lake	110.54	41	*e*PKPdf		**PKiK**	**09 15 50.4**	**-0.1**	
SOP	Sopron	110.55	319	*ep*PKiKP		**PP**	**09 16 30.0**	**+3.0**	
BEHE	Becsehely	110.72	318	*ep*PKiKP		**PP**	**09 16 31.7**	**+3.5**	
FURC	Furnace Creek,	110.72	53	PKiKP		**PKiK**	**09 15 52.5**	**+1.6**	
	baz=111								
KULLO	Kullorsuaq	110.73	2	*i* PKiKP		**PKiK**	**09 15 49.3**	**-0.6**	
KULLO	Kullorsuaq	110.73	2	*i* P		**PKiK**	**09 15 49.3**	**-0.6**	
MSO	Missoula	110.75	42	PKiKP		**PKiK**	**09 15 51.6**	**+0.7**	
	baz=111								
TREC	Trest	110.80	321	*e*PP		PP	09 16 30.7	+2.0	
TREC				AMS		AMS	10 08 10.0		
	comp=Z,1µm,18.6s								
GSC	Goldstone	110.94	54	*e*PKIKP		**PKiK**	**09 15 52.9**	**+1.3**	
GSC	Goldstone	110.94	54	*e*PKPdf		**PKiK**	**09 15 52.9**	**+1.3**	
GSC	Goldstone	110.94	54	PKiKP		**PKiK**	**09 15 53.0**	**+1.4**	
	baz=111								
SLMT	Seeley Lake	110.94	41	*e*PKPdf		**PKiK**	**09 15 51.6**	**+0.2**	
PVCC	Panska Ves	111.00	322	AMS		AMS	10 05 10.0		
	comp=Z,1µm,23.5s								
TPNV	Topopah Spring	111.13	53	*e*P		**Pdif**	**09 11 58.5**	**+5.3**	
TPNV	Topopah Spring	111.13	53	*e*Pdif		**Pdif**	**09 11 58.5**	**+5.3**	
TPNV	Topopah Spring	111.13	53	PKiKP		**PKiK**	**09 15 53.0**	**+1.0**	
	baz=111								
PRU	Pruhonice	111.18	322	*e*P		**Pdif**	**09 11 52.4**	**-0.5**	
PRU				*e*			09 16 31.5		
PRU				*e*			09 26 01.6		
PRU				*e*			09 32 11.4		
PRU				MLR		MLR			
	comp=Z,1µm,18.4s								
PRU	Pruhonice	111.18	322	*e*PDIFF		**Pdif**	**09 11 52.4**	**-0.5**	
PRU				*ex*		x	09 15 19.9		
PRU				*e*PP		**PP**	**09 16 31.5**	**+0.1**	
PRU				*ex*		x	09 16 38.3		
PRU				*e*PS		**PS**	**09 26 01.6**	**-2.2**	
PRU				*ex*		x	09 32 11.4		
PRU				AMS		AMS	10 13 40.0		
	comp=Z,1µm,18.4s								
CHMT	Chamberlain Mo	111.19	42	*e*PKPdf		**PKiK**	**09 15 51.9**	**0.0**	
HLID	Hailey	111.22	45	*e*PKPdf		**PKiK**	**09 15 52.9**	**+0.9**	
HLID	Hailey	111.22	45	PKiKP		**PKiK**	**09 15 53.7**	**+1.7**	
	baz=111								
ELK	Elko	111.22	48	*e*PKPdf		**PKiK**	**09 15 53.2**	**+1.0**	
PRA	Prague	111.22	322	PDIFF		**Pdif**	**09 11 53.0**	**0.0**	
PRA				PP		**PP**	**09 16 32.0**	**+0.3**	
BRG	Berggiesshubel	111.27	323	*i* PDIF		**Pdif**	**09 11 54.2**	**+1.0**	
	comp=Z,33nm,1.4s								
BRG				*e*			09 12 06.9		
	comp=Z,9.9nm,1.3s								
BRG				*e*			09 12 24.0		
	comp=Z,22nm,1.6s								
BRG				*e*			09 15 25.6		
	comp=Z,8.4nm,1.1s								
BRG				*e*			09 15 51.8		
	comp=Z,33nm,1.3s								
BRG				*e*			09 16 20.5		
	comp=Z,39nm,1.5s								
BRG				*e*			09 16 32.2		
	comp=Z,57nm,1.5s								
BRG				*e*			09 16 40.0		
BRG				*i*			09 23 47.0		
BRG				*i*			09 26 05.0		
BRG				*e*			09 33 24.0		
BRG									
	comp=Z,2µm,34.4s								
BRG									
	comp=N,1µm,24.8s								
BRG									
	comp=E,1µm,24.8s								
BRG	Berggiesshubel	111.27	323	*i* P		**Pdif**	**09 11 54.2**	**+1.0**	
BRG				*e*			09 15 51.8		
BRG				*e*			09 16 20.5		
BRG				*e*			09 16 32.2		
BRG				*i*			09 26 05.0		
BRG				pmax		pmax			
	comp=Z,33nm,1.4s								
BRG				pmax		pmax			
	comp=Z,57nm,1.5s								
BRG				MLR		MLR			
	comp=Z,2µm,24.4s								
BRG				MLR		MLR			
	comp=N,1µm,24.8s								
BRG				MLR		MLR			
	comp=E,1µm,24.8s								
BRG	Berggiesshubel	111.27	323	*e*PKPdf		**PKiK**	**09 15 51.5**	**-0.1**	
BRG				*ep*PKPdf		pPKPdf	09 15 59.4		
SHOC	Shoshone	111.27	54	PKiKP		**PKiK**	**09 15 53.8**	**+1.6**	
	baz=111								
HEC	Hector,Ludlow	111.39	55	PKiKP		**PKiK**	**09 15 53.7**	**+1.3**	
	baz=112								
R11A	Troy Canyon, C	111.41	51	*e*PKPdf		**PKiK**	**09 15 53.7**	**+1.1**	
R11A	Troy Canyon, C	111.41	51	PKiKP		**PKiK**	**09 15 53.4**	**+0.9**	
	baz=112								
PFO	Pinyon Flat Ob	111.47	56	*e*PKPdf		**PKiK**	**09 15 53.8**	**+1.1**	
PFO	Pinyon Flat Ob	111.47	56	PKiKP		**PKiK**	**09 15 54.0**	**+1.3**	
	baz=112								
PFO	Pinyon Flat Ob	111.47	56	PKiKP		**PKiK**	**09 15 53.8**	**+1.1**	
	comp=E,12nm,0.9s,baz=270,slow=2.8,SNR=14								
MONP	Monument Peak	111.59	57	PKiKP		**PKiK**	**09 15 54.6**	**+1.5**	
	baz=112								
GOLS	Golise	111.61	318	*i* PKiKP		**PKiK**	**09 15 52.9**	**+0.4**	
TUQ	Turquoise Moun	111.63	54	PKiKP		**PKiK**	**09 15 54.9**	**+1.9**	
	baz=112								
CLL	Collm	111.69	324	*e*P		**Pdif**	**09 11 55.0**	**-0.1**	
CLL				*e*			09 15 53.0		
CLL				*i*			09 16 35.8		
CLL				pmax		pmax			
	comp=Z,13nm,1.4s								
CLL				pmax		pmax			
	comp=Z,18nm,0.9s								
CLL				pmax		pmax			
	comp=Z,92nm,1.6s								
CLL				MLR		MLR			
	comp=Z,1µm,21.7s								
CLL	Collm	111.69	324	*e*PKPdf		**PKiK**	**09 15 53.0**	**+0.6**	
CLL				*ep*PKPdf		pPKPdf	09 16 01.8		
CLL	Collm	111.69	324	*e*Pdif		**Pdif**	**09 11 55.0**	**-0.1**	
	comp=Z,13nm,1.4s								
CLL				*e*PKiKP		**PKiK**	**09 15 53.0**	**+0.6**	
	comp=Z,18nm,0.9s								
CLL				*e*			09 16 20.0		
CLL				*i* PP		**PP**	**09 16 35.8**	**+0.8**	
	comp=Z,92nm,1.6s								
CLL				*i*			09 16 45.6		
CLL				*e*PPP		PPP	09 18 57.0		
CLL				*e*Sdif		Sdif	09 24 10.0	0.0	
CLL				*e*SP		**SP**	**09 25 54.0**	**-5.9**	
CLL				*e*PS		**PS**	**09 26 09.0**	**+0.6**	
CLL				*ep*SP			09 26 34.0		
CLL				*e*(PPS)			09 27 34.0		
CLL				*e*SS		SS	09 31 54.0	-12	
CLL				*ep*PPPrev			09 35 05.0		
CLL				*e*SSS		SSS	09 36 19.0		
CLL				*e*			09 42 42.0		
CLL				LmV			10 12 00.0		
	comp=Z,1µm,21.7s								
PERS	Pernice	111.78	318	*i* PKiKP		**PKiK**	**09 15 52.6**	**-0.2**	
PERS				*e*			09 24 11.4		
SOKA	Soboth	111.82	318	⇓*i*PKiKP		**PKiK**	**09 15 52.7**	**-0.2**	
	comp=Z,28nm,1.4s								
BER	Bergen	111.85	334	*e*PP		PP	09 16 38.3	+2.6	
BER				AMS		AMS	10 01 45.7		
	comp=Z,2µm,20.7s								
DVTC	Desert V Tower	111.89	57	PKiKP		**PKiK**	**09 15 55.2**	**+1.7**	
	baz=112								
GMRC	Granite Mounta	111.95	55	PKiKP		**PKiK**	**09 15 55.4**	**+1.8**	
	baz=112								
BOJS	Bojanci	111.99	317	*i* PKiKP		**PKiK**	**09 15 53.6**	**+0.5**	
BOJS				*e*			09 26 08.8		
MCMT	McKenzie Canyo	112.00	44	*e*PKPdf		**PKiK**	**09 15 54.2**	**+0.6**	
LRM	Limekiln Ridge	112.01	43	*e*PKPdf		**PKiK**	**09 15 54.2**	**+0.7**	
KHC	Kasperske Hory	112.04	321	*e*P		**Pdif**	**09 11 56.8**	**0.0**	
KHC				*e*			09 15 51.8		
KHC				*e*			09 32 19.5		
KHC				MLR		MLR			
	comp=Z,1µm,18.2s								
KHC	Kasperske Hory	112.04	321	*e*PDIFF		**Pdif**	**09 11 56.8**	**0.0**	
KHC				*e*PKP		**PKiK**	**09 15 51.8**	**-1.4**	
KHC				*e*SS		SS	09 32 19.5	+8.8	
KHC				AMS		AMS	10 08 30.0		
	comp=Z,1µm,18.2s								
GEC2	GERESS Array S	112.05	321	*ep*PKPdf		PKiKP	09 16 01.4	+8.1	
GERES	GERESS Array B	112.05	321	Pdif		**Pdif**	**09 11 56.9**	**-0.1**	
GERES				PKiKP		**PKiK**	**09 15 53.6**	**+0.3**	
GERES				PKKPbc		**PKKPbc**	**09 26 45.8**	**-1.0**	
GERES	GERESS Array B	112.05	321	Pdiff		**Pdif**	**09 11 56.9**	**-0.1**	
	comp=Z,1.2nm,0.8s,baz=27,slow=3.3,SNR=5.0								
GERES				PKiKP		**PKiK**	**09 15 53.6**	**+0.3**	
	comp=Z,8.7nm,0.7s,baz=67,slow=1.7,SNR=19								
GERES				PKKPbc		**PKKPbc**	**09 26 45.8**	**-1.0**	
	comp=Z,0.7nm,0.7s,baz=224,slow=3.7,SNR=3.6								
SHPR	Sheep Range	112.07	53	*e*PKPdf		**PKiK**	**09 15 54.3**	**+0.5**	
SWSC	Sam W. Stewart	112.11	57	PKiKP		**PKiK**	**09 15 54.9**	**+1.2**	
	baz=112								
TANN	Tannenbergstha	112.31	323	*e*PKPdf		**PKiK**	**09 15 54.2**	**+0.5**	
LJU	Ljubljana	112.33	318	*i* PKiKP		**PKiK**	**09 15 54.2**	**+0.4**	
LJU				*e*			09 16 36.4		
LJU				*e*			09 16 44.9		
LJU				*e*			09 32 12.4		
TIP	Timpagrande	112.38	310	*e*PKPdf		**PKiK**	**09 15 54.8**	**+0.6**	
IRM	Iron Mountain	112.46	55	PKiKP		**PKiK**	**09 15 55.8**	**+1.3**	
	baz=113								
WET	Wettzell	112.47	321	*e*PKPdf		**PKiK**	**09 15 54.6**	**+0.6**	
WET				*ep*PKPdf		pPKPdf	09 16 04.2		
SUMG	Summit	112.63	357	*e*PKIKP		**PKiK**	**09 15 54.6**	**+0.5**	
SUMG	Summit	112.63	357	*i* P		**PKiK**	**09 15 55.8**	**+1.7**	
SUMG	Summit	112.63	357	⇑*i*P		**PKKPbc**	**09 26 43.5**	**-2.5**	
	comp=Z,19nm,0.9s								
SUMG	Summit	112.63	357	*e*PKPdf		**PKiK**	**09 15 54.6**	**+0.5**	
SUMG				*e*PKKPbc		**PKKPbc**	**09 26 42.6**	**-3.4**	
MANZ	Manzenberg	112.67	322	*e*PKPdf		**PKiK**	**09 15 55.1**	**+0.7**	
VOY	Vojsko	112.76	318	*e*			09 15 35.4		
VOY				*e*PKiKP		**PKiK**	**09 15 54.1**	**-0.6**	
VOY				*e*			09 16 09.0		
VOY				*e*			09 16 45.8		
SCO	Scoresbysund	112.79	351	*i* PKiKP		**PKiK**	**09 15 53.5**	**-0.4**	
SCO	Scoresbysund	112.79	351	*i* P		**PKiK**	**09 15 53.5**	**-0.4**	
SCO	Scoresbysund	112.79	351	*i* P		**PKKPab**	**09 26 49.7**	**-0.8**	
	comp=Z,8.9nm,1.1s								
KBA	Koelnbreinsper	112.82	319	⇑*i*PKiKP		**PKiK**	**09 15 54.0**	**-0.9**	
	comp=Z,26nm,0.8s								
GLA	Glamis	112.90	56	PKiKP		**PKiK**	**09 15 57.2**	**+1.9**	
	baz=113								
NRDL	Niedersach Rie	112.94	325	*e*PKPdf		**PKiK**	**09 15 55.8**	**+1.2**	
RJOB	Jochberg	112.97	320	*e*PKPdf		**PKiK**	**09 15 55.1**	**+0.1**	
CLZ	Clausthal	113.04	325	*e*PKPdf		**PKiK**	**09 15 56.2**	**+1.2**	
Y12C	Blythe	113.04	56	PKiKP		**PKiK**	**09 15 57.3**	**+1.8**	
	baz=113								
EGMT	Eagleton	113.13	40	*e*PKPdf		**PKiK**	**09 15 56.0**	**+0.6**	
EGMT	Eagleton	113.13	40	PKiKP		**PKiK**	**09 15 56.1**	**+0.7**	
	baz=113								
DUG	Dugway	113.14	49	*e*PKiKP		**PKiK**	**09 15 56.9**	**+1.2**	
DUG	Dugway	113.14	49	*e*PKPdf		**PKiK**	**09 15 56.9**	**+1.2**	
DUG	Dugway	113.14	49	PKiKP		**PKiK**	**09 15 56.6**	**+0.9**	
	baz=113								
SPUT	South Promonto	113.16	47	*e*PKPdf		**PKiK**	**09 15 55.5**	**-0.2**	
CEL	Celeste	113.23	309	*e*PKPdf		**PKiK**	**09 15 55.8**	**0.0**	
GRF	Grafenberg Arr	113.31	322	*e*PKPdf		**PKiK**	**09 15 56.2**	**+0.6**	
GRF				*e*L		L	10 01 59.3		
	comp=Z,714nm,21.1s								
W13A	Hualapai Mount	113.33	54	PKiKP		**PKiK**	**09 15 57.4**	**+1.1**	
	baz=114								
YMR	Madison River	113.34	43	*e*PKPdf		**PKiK**	**09 15 57.6**	**+1.6**	
ABTA	Abfaltersbach	113.46	319	⇑*i*PKiKP		**PKiK**	**09 15 55.4**	**-0.7**	
	comp=Z,46nm,1.0s,SNR=12								
A19A	Klindworth Far	113.47	39	PKiKP		**PKiK**	**09 15 56.5**	**+0.5**	
	baz=114	

BFO	Black Forest	115.58	322	*e*PKPdf	PKPdf	09 15 59.3	-0.7
TUE	Stuetta	115.61	319	*e*PKPdf	PKPdf	09 15 59.6	-0.7
LANF	Langenberg	115.65	322	PKP	PKPdf	09 16 00.5	+0.4
C22A	Vida	115.67	39	PKiKP	PKPdf	09 16 01.2	+1.0
	baz=116						
D22A	Cohagen	115.70	40	PKiKP	PKPdf	09 16 01.5	+1.2
	baz=116						
G21A	Lodge Grass	115.71	42	PKiKP	PKPdf	09 16 01.1	+0.6
	baz=116						
J20A	Shoshoni	115.71	44	PKiKP	PKPdf	09 16 01.3	+0.8
	baz=116						
A23A	Redstone	115.83	37	PKiKP	PKPdf	09 16 00.8	+0.4
	baz=116						
LAO	LASA Array	115.84	40	*e*PKPdf	PKPdf	09 16 01.4	+0.8
LAO				*e*SKPdf	SKPdf	09 19 29.1	-1.6
B23A	Brockton	115.95	38	PKiKP	PKPdf	09 16 01.1	+0.4
	baz=116						
FELD	Feldberg im Sc	115.95	321	PKP	PKPdf	09 16 00.7	-0.2
H21A	Big Horn, Sher	116.02	43	PKiKP	PKiKP	09 16 01.4	+0.3
	baz=116						
MEM	Membach	116.05	325	PKP	PKPdf	09 16 01.1	+0.3
C23A	Lambert	116.09	39	PKiKP	PKiKP	09 16 01.9	+0.9
	baz=116						
E22A	Miles City	116.11	40	PKiKP	PKiKP	09 16 01.5	+0.4
	baz=116						
I21A	Big Trails, Te	116.11	43	PKiKP	PKiKP	09 16 01.8	+0.5
	baz=116						
F22A	Rosebud	116.14	41	PKiKP	PKiKP	09 16 01.6	+0.4
	baz=116						
J21A	Lysite	116.16	44	PKiKP	PKiKP	09 16 01.9	+0.4
	baz=116						
CDF	Champ du Feu	116.19	322	⇑*i*PKiKP	PKPdf	09 16 00.7	-0.6
	comp=Z,52nm,1.3s						
CDF	Champ du Feu	116.19	322	⇑*i*PKiKP	PKPdf	09 16 00.7	-0.6
CDF	Champ du Feu	116.19	322	⇑*i*PKPdf	PKPdf	09 16 00.7	-0.6
D23A	Lindsay	116.31	39	PKiKP	PKiKP	09 16 02.4	+0.9
	baz=116						
G22A	Birney	116.32	42	PKiKP	PKiKP	09 16 02.4	+0.8
	baz=116						
N20A	Spence Gulch,	116.33	47	PKiKP	PKiKP	09 16 02.8	+0.8
	baz=116						
ECH	Echery	116.34	322	PKP	PKPdf	09 16 00.5	-1.0
WLF	Walferdange	116.36	324	PKP	PKPdf	09 16 01.3	-0.1
WLF	Walferdange	116.36	324	*e*PKPdf	PKPdf	09 16 02.6	+1.2
A24A	Westby	116.37	37	PKiKP	PKiKP	09 16 02.3	+0.8
	baz=116						
TUC	Tucson	116.38	57	*e*PKiKP	PKPdf	09 16 03.2	+1.1
TUC	Tucson	116.38	57	*e*PKPdf	PKPdf	09 16 03.2	+1.1
FCC	Fort Churchill	116.39	24	*e*PKiKP	PKPdf	09 16 00.2	-0.9
FCC	Fort Churchill	116.39	24	*e*PKPdf	PKPdf	09 16 00.2	-0.9
DGMT	Dagmar	116.44	38	*e*PKPdf	PKPdf	09 16 02.5	+0.8
DGMT	Dagmar	116.44	38	PKiKP	PKPdf	09 16 02.5	+0.8
	baz=116						
H22A	Clearmont	116.49	42	PKiKP	PKiKP	09 16 02.6	+0.6
	baz=117						
E23A	Ismay	116.50	40	PKiKP	PKiKP	09 16 02.8	+1.0
	baz=117						
MOF	Molkenrain	116.50	321	PKP	PKPdf	09 16 01.5	-0.4
K21A	Alcova	116.52	45	PKiKP	PKiKP	09 16 02.8	+0.6
	baz=117						
PV04	Paradox Valley	116.52	50	*e*PKPdf	PKPdf	09 16 03.8	+1.5
BCLA	Clavier	116.53	325	PKP	PKPdf	09 16 02.0	+0.3
O20A	White River Ci	116.55	48	*e*PKPdf	PKPdf	09 16 03.4	+1.1
O20A				*e*SKPdf	SKPdf	09 19 31.7	-0.7
O20A	White River Ci	116.55	48	PKiKP	PKPdf	09 16 03.4	+1.1
	baz=117						
X18A	Snowflake	116.62	54	PKiKP	PKiKP	09 16 03.8	+1.2
	baz=117						
I22A	9 Mile Ranch,	116.64	43	PKiKP	PKiKP	09 16 02.8	+0.5
	baz=117						
W18A	Petrified Fore	116.66	53	*e*PKPdf	PKPdf	09 16 03.8	+1.1
W18A	Petrified Fore	116.66	53	PKiKP	PKiKP	09 16 02.9	+0.2
	baz=117						
C24A	Savage	116.67	39	PKiKP	PKiKP	09 16 03.4	+1.2
	baz=117						
HINF	Hinteralfeld	116.69	322	⇑*i*PKiKP	PKPdf	09 16 01.8	-0.4
	comp=Z,90nm,1.2s						
HINF	Hinteralfeld	116.69	322	⇑*i*PKiKP	PKPdf	09 16 01.8	-0.4
HINF	Hinteralfeld	116.69	322	⇑*i*PKPdf	PKPdf	09 16 01.8	-0.4
F23A	Volborg	116.72	41	PKiKP	PKiKP	09 16 02.9	+0.5
	baz=117						
J22A	Midwest	116.80	44	PKiKP	PKPdf	09 16 02.6	-0.1
	baz=117						
PV01	Paradox Valley	116.84	50	*e*PKPdf	PKPdf	09 16 04.2	+1.2
D24A	Glendive	116.89	39	PKiKP	PKiKP	09 16 03.5	+0.9
	baz=117						
LOMF	Lomont	116.89	321	PKP	PKPdf	09 16 02.3	-0.3
A25A	Svangstu Ranch	116.90	37	PKiKP	PKiKP	09 16 03.3	+0.8
	baz=117						
G23A	Biddle	116.92	42	PKiKP	PKPdf	09 16 02.7	0.0
	baz=117						
HAU	Haudompre	116.93	322	⇑*i*PKiKP	PKPdf	09 16 02.4	-0.2
	comp=Z,155nm,1.3s						
HAU				*e*R			
	comp=Z,632nm,22.8s						
HAU	Haudompre	116.93	322	⇑*i*PKiKP	PKPdf	09 16 02.4	-0.2
HAU	Haudompre	116.93	322	⇑*i*PKPdf	PKPdf	09 16 02.4	-0.2
GIVF	Givet	116.95	324	⇑*i*PKiKP	PKPdf	09 16 03.0	+0.5
	comp=Z,44nm,0.7s						
GIVF	Givet	116.95	324	⇑*i*PKiKP	PKPdf	09 16 03.0	+0.5
GIVF	Givet	116.95	324	⇑*i*PKPdf	PKPdf	09 16 03.0	+0.5
K22A	Casper	117.02	45	*e*PKPdf	PKPdf	09 16 03.2	+0.1
K22A	Casper	117.02	45	PKiKP	PKPdf	09 16 02.9	-0.2
	baz=117						
THEF	They Montfort	117.06	322	PKP	PKPdf	09 16 02.7	-0.1
SNF	Seneffe	117.08	325	PKP	PKPdf	09 16 03.0	+0.2
PAGF	Fort de Pagny	117.08	323	⇑*i*PKiKP	PKPdf	09 16 02.9	+0.1
	comp=Z,20nm,1.2s						
PAGF	Fort de Pagny	117.08	323	⇑*i*PKPdf	PKPdf	09 16 02.9	+0.1
DOU	Dourbes	117.08	325	PKP	PKPdf	09 16 02.4	-0.3
E24A	Baker	117.12	40	PKiKP	PKiKP	09 16 03.3	+0.2
	baz=117						
MVCO	Mesa Verde	117.14	51	*e*PKPdf	PKPdf	09 16 05.0	+1.3
MVCO	Mesa Verde	117.14	51	PKiKP	PKiKP	09 16 04.4	+0.8
	baz=117						
PGF	Pioggiola	117.17	315	*e*PKiKP	PKPdf	09 16 03.2	-0.1
	comp=Z,189nm,1.2s						
PGF	Pioggiola	117.17	315	*e*PKiKP	PKPdf	09 16 03.2	-0.1
PGF	Pioggiola	117.17	315	*e*PKPdf	PKPdf	09 16 03.2	-0.1
L22A	Ellis Ranch, M	117.28	45	PKiKP	PKiKP	09 16 04.6	+0.9
	baz=117						
MVH1	Achvaich	117.28	335	*e*P	PKPdf	09 16 02.9	0.0
C25A	Freed Ranch, W	117.32	38	PKiKP	PKiKP	09 16 04.5	+1.1
	baz=117						
BAIF	Baives	117.32	325	⇑*i*PKiKP	PKPdf	09 16 03.7	+0.5
	comp=Z,51nm,0.9s						
BAIF	Baives	117.32	325	⇑*i*PKiKP	PKPdf	09 16 03.7	+0.5
BAIF	Baives	117.32	325	⇑*i*PKPdf	PKPdf	09 16 03.7	+0.5
M22A	Cedar Creek Ra	117.36	46	PKiKP	PKiKP	09 16 04.4	+0.5
	baz=118						
J23A	Dilts Ranch, B	117.44	43	PKiKP	PKiKP	09 16 04.3	+0.4
	baz=118						
MEZF	Maizieres J'vi	117.51	323	⇑*i*PKiKP	PKPdf	09 16 04.0	+0.4
MEZF	Maizieres J'vi	117.51	323	⇑*i*PKPdf	PKPdf	09 16 04.0	+0.4
H24A	Dirks Ranch, A	117.64	42	PKiKP	PKiKP	09 16 04.3	+0.1
	baz=118						
SFTF	Sexfontaines	117.64	323	⇑*i*PKiKP	PKPdf	09 16 03.9	0.0
SFTF	Sexfontaines	117.64	323	⇑*i*PKPdf	PKPdf	09 16 03.9	0.0
CABF	La Chapelle	117.65	321	⇑*i*PKiKP	PKPdf	09 16 04.4	+0.3
	comp=Z,76nm,0.9s						
CABF	La Chapelle	117.65	321	⇑*i*PKiKP	PKPdf	09 16 04.4	+0.3
CABF	La Chapelle	117.65	321	⇑*i*PKPdf	PKPdf	09 16 04.4	+0.3
LPG	La Plagne	117.65	319	⇑*i*PKiKP	PKPdf	09 16 04.5	+0.1
	comp=Z,26nm,0.5s						
LPG	La Plagne	117.65	319	⇑*i*PKiKP	PKPdf	09 16 04.5	+0.1
LPG	La Plagne	117.65	319	⇑*i*PKPdf	PKPdf	09 16 04.5	+0.1
N22A	Wattenberg Ran	117.65	46	PKiKP	PKiKP	09 16 04.7	+0.1
	baz=118						
LPL	La Plagne	117.66	319	⇑*i*PKiKP	PKPdf	09 16 04.4	+0.1
	comp=Z,38nm,0.5s						
LPL	La Plagne	117.66	319	⇑*i*PKiKP	PKPdf	09 16 04.4	+0.1
LPL	La Plagne	117.66	319	⇑*i*PKPdf	PKPdf	09 16 04.4	+0.1
MDO	Dochfour	117.66	335	⇑*e*P	PKPdf	09 16 03.4	-0.3
SAOF	Saorge	117.67	317	PKP	PKPdf	09 16 04.1	-0.1
E25A	Miller Ranch,	117.72	40	PKiKP	PKiKP	09 16 04.7	+0.5
	baz=118						
AUTN	L'Aution	117.76	317	PKP	PKPdf	09 16 04.4	-0.2
L23A	Garrett	117.77	45	PKiKP	PKiKP	09 16 04.8	+0.1
	baz=118						
O22A	Kremmling	117.78	47	PKiKP	PKiKP	09 16 04.9	0.0
	baz=118						
P22A	Eagle	117.80	48	PKiKP	PKiKP	09 16 06.1	+1.3
	baz=118						
SBF	Sospel	117.80	317	*e*PKiKP	PKPdf	09 16 04.2	-0.2
	comp=Z,92nm,0.8s						
SBF	Sospel	117.80	317	*e*PKiKP	PKPdf	09 16 04.2	-0.2
SBF	Sospel	117.80	317	*e*PKPdf	PKPdf	09 16 04.2	-0.2
ESY	Stoneypath	117.81	333	⇑*e*P	PKPdf	09 16 03.9	-0.1
319A	Douglas	117.82	57	PKiKP	PKiKP	09 16 05.9	+1.0
	baz=118						
VSL	Villasalto	117.85	312	*e*PKPdf	PKPdf	09 16 04.3	-0.2
BNI	Bardonecchia	117.87	319	*e*PKiKP	PKPdf	09 16 04.7	+0.1
BNI				*e*		09 17 18.3	
BNI	Bardonecchia	117.87	319	*e*PKPdf	PKPdf	09 16 04.7	+0.1
BNI				*e*PP	PP	09 17 18.3	-0.6
TOUF	Mont Tournerai	117.87	317	PKP	PKPdf	09 16 04.4	-0.4
REVF	Revere	117.89	317	PKP	PKPdf	09 16 04.4	-0.2
F25A	Bowman	117.91	40	PKiKP	PKiKP	09 16 05.6	+1.0
	baz=118						
I24A	Kuemmerle Ranc	117.91	43	PKiKP	PKPdf	09 16 04.6	-0.1
	baz=118						
MBDF	Montbardon	117.93	318	*e*PKiKP	PKPdf	09 16 04.4	-0.4
	comp=Z,42nm,0.7s						
MBDF	Montbardon	117.93	318	*e*PKiKP	PKPdf	09 16 04.4	-0.4
MBDF	Montbardon	117.93	318	*e*PKPdf	PKPdf	09 16 04.4	-0.4
M23A	Laramie	117.97	46	PKiKP	PKiKP	09 16 05.4	+0.3
	baz=118						
MVIF	Mont Vial	117.98	317	PKP	PKPdf	09 16 05.9	+1.0
C26A	Wahner Farm, P	117.98	38	PKiKP	PKiKP	09 16 05.0	+0.4
	baz=118						
N23A	Red Feather La	117.99	46	PKiKP	PKiKP	09 16 05.9	+0.6
	baz=118						
KAC	Achnashellach	118.02	335	*e*P	PKPdf	09 16 04.8	+0.5
LPIG	La Paz	118.06	66	PKP	PKPdf	09 16 06.6	+1.2
LPIG	La Paz	118.06	66	PKP	PKPdf	09 16 06.6	+1.2
	comp=Z,38nm,1.0s,baz=79,slow=5.2,SNR=4.8						
J24A	Dixon Ranch, L	118.08	43	PKiKP	PKiKP	09 16 05.3	+0.2
	baz=118						
EBL	Broad Law	118.09	333	*e*P	PKPdf	09 16 05.2	+0.6
LMK	Market Rasen	118.10	330	*e*P	PKPdf	09 16 05.0	+0.4
LMK				AMB	AMB	09 16 13.4	
	comp=Z,278nm,2.8s						
D26A	Manning	118.11	39	PKiKP	PKiKP	09 16 05.8	+0.9
	baz=118						
K24A	Anderson Ranch	118.18	44	PKiKP	PKiKP	09 16 05.6	+0.2
	baz=118						
CALN	Calern	118.21	317	PKP	PKPdf	09 16 05.6	+0.3
RSSD	Black Hills	118.21	42	*e*PKiKP	PKPdf	09 16 05.0	-0.4
RSSD	Black Hills	118.21	42	*e*PKPdf	PKPdf	09 16 05.0	-0.4
RSSD				*e*SKPdf	SKPdf	09 19 34.0	-1.5
O23A	Lake Granby, G	118.23	47	PKiKP	PKiKP	09 16 06.8	+1.0
	baz=118						
KPL	Plockton	118.27	335	⇑*e*P	PKPdf	09 16 04.8	0.0
KPL				AMB	AMB	09 16 05.5	
	comp=Z,174nm,4.6s						
S22A	4UR Ranch, Cre	118.27	50	PKiKP	PKiKP	09 16 07.0	+1.1
	baz=118						
E26A	Carlson Angus	118.32	39	PKiKP	PKiKP	09 16 06.2	+0.8
	baz=118						
C27A	Sayler Ranch,	118.39	38	PKiKP	PKiKP	09 16 06.1	+0.7
	baz=118						
EKA	Eskdalemuir Ar	118.40	332	PKP	PKPdf	09 16 05.5	+0.3
EKA				PKKPbc	PKKPbc	09 26 23.5	-1.5
EKA				PKKP	PKKPdf	09 26 50.6	-3.3
EKA	Eskdalemuir Ar	118.40	332	PKP	PKPdf	09 16 05.5	+0.3
	comp=Z,5.9nm,0.4s,baz=30,slow=3.8,SNR=124						
EKA				PKKPbc	PKKPbc	09 26 23.5	-1.5
	comp=Z,4.5nm,0.7s,baz=231,slow=3.4,SNR=11						
EKA				PKKP	PKKPdf	09 26 50.6	-3.3
	comp=Z,4.9nm,0.8s,baz=235,slow=2.4,SNR=5.6						
EAB	Aberfoyle	118.42	334	⇑*e*P	PKPdf	09 16 05.1	-0.1
ESK	Eskdalemuir	118.44	332	⇑*e*P	PKPdf	09 16 05.0	-0.2
ESK				AMB	AMB	09 16 17.1	
	comp=Z,124nm,3.2s						
ESK	Eskdalemuir	118.44	332	*i* PKiKP	PKPdf	09 16 07.4	+2.2
ESK	Eskdalemuir	118.44	332	*e*PKPdf	PKPdf	09 16 05.4	+0.2
F26A	Lodgepole	118.44	40	PKiKP	PKiKP	09 16 06.5	+0.9
	baz=118						
FRF	La Foret Royal	118.44	317	⇑*i*PKiKP	PKPdf	09 16 05.6	0.0
	comp=Z,52nm,0.8s						
FRF	La Foret Royal	118.44	317	⇑*i*PKiKP	PKPdf	09 16 05.6	0.0
FRF	La Foret Royal	118.44	317	⇑*i*PKPdf	PKPdf	09 16 05.6	0.0
ORIF	Oris-en-Rattie	118.44	319	⇑*i*PKiKP	PKPdf	09 16 05.7	0.0
	comp=Z,31nm,0.6s						
ORIF				*e*R			
	comp=Z,1μm,22.5s						
ORIF	Oris-en-Rattie	118.44	319	⇑*i*PKiKP	PKPdf	09 16 05.7	0.0
ORIF	Oris-en-Rattie	118.44	319	⇑*i*PKPdf	PKPdf	09 16 05.7	0.0
I25A	Rochford	118.45	42	PKiKP	PKiKP	09 16 06.3	+0.3
	baz=119						
320A	Kipp Ranch, An	118.45	57	PKiKP	PKiKP	09 16 07.6	+1.4
	baz=119						
HPK	Haverah Park	118.47	331	*e*P	PKPdf	09 16 05.1	-0.2
HPK				AMB	AMB	09 16 06.6	
	comp=Z,224nm,3.1s						
SFJD	Kangerlussuaq	118.52	1	*i* P	PKPdf	09 16 05.1	+0.1
SFJD	Kangerlussuaq	118.52	1	*i* P	PKKPbc	09 26 23.0	-1.8
	comp=Z,8.9nm,0.9s						
SFJD	Kangerlussuaq	118.52	1	PKKPbc	PKKPbc	09 26 23.0	-1.8
SFJD	Kangerlussuaq	118.52	1	PKKPbc	PKKPbc	09 26 23.0	-1.8
	comp=Z,20nm,1.2s,baz=173,slow=9.6,SNR=3.6						
OG25	Le Caire	118.53	318	PKP	PKPdf	09 16 05.8	-0.1
ISCO	Idaho Springs	118.58	47	*e*PKiKP	PKPdf	09 16 07.1	+0.7
ISCO	Idaho Springs	118.58	47	*e*PKPdf	PKPdf	09 16 07.0	+0.7
ISCO	Idaho Springs	118.58	47	PKiKP	PKiKP	09 16 07.2	+0.8
	baz=119						
LMR	La Mourre	118.62	317	⇑*i*PKiKP	PKPdf	09 16 05.9	0.0
	comp=Z,66nm,1.1s						
LMR	La Mourre	118.62	317	⇑*i*PKiKP	PKPdf	09 16 05.9	0.0
LMR	La Mourre	118.62	317	⇑*i*PKPdf	PKPdf	09 16 05.9	0.0
U22A	Llaves	118.63	51	PKiKP	PKiKP	09 16 08.5	+1.9
	baz=119						
J25A	Sunshine Ranch	118.64	43	PKiKP	PKiKP	09 16 06.5	+0.4
	baz=119						
D27A	Center	118.64	38	PKiKP	PKiKP	09 16 06.6	+0.6
	baz=119						
V22A	San Miguel Ran	118.71	52	PKiKP	PKiKP	09 16 08.4	+1.7
	baz=119						
B28A	Dugan Ranch, T	118.75	37	PKiKP	PKiKP	09 16 07.1	+1.0
	baz=119						
LOR	Lormes	118.76	322	⇑*i*PKiKP	PKPdf	09 16 06.2	+0.1
	comp=Z,74nm,1.1s						
LOR				*e*R			
	comp=Z,771nm,21.5s						
LOR	Lormes	118.76	322	⇑*i*PKPdf	PKPdf	09 16 06.2	+0.1
N24A	Carr	118.78	46	PKiKP	PKiKP	09 16 07.7	+1.1
	baz=119						
KESW	Keswick, Cumbr	118.82	332	*e*P	PKPdf	09 16 06.2	+0.2
121A	Cookes Peak, D	118.82	56	*e*PKPdf	PKPdf	09 16 08.1	+1.2
121A	Cookes Peak, D	118.82	56	PKiKP	PKiKP	09 16 08.2	+1.3
	baz=119						
TAVF	Tavernes	118.82	317	PKP	PKPdf	09 16 06.8	+0.4
F27A	Lemmon	118.85	40	PKiKP	PKiKP	09 16 07.1	+0.7
	baz=119						
H26A	Fairpoint	118.86	41	PKiKP	PKiKP	09 16 07.1	+0.6
	baz=119						
O24A	Longmont	118.87	47	PKiKP	PKiKP	09 16 07.6	+0.8
	baz=119						
K25A	Mack Ranch, Ha	118.87	44	PKiKP	PKiKP	09 16 07.4	+0.7
	baz=119						
E27A	Carson	118.90	39	PKiKP	PKiKP	09 16 07.4	+0.9
	baz=119						
R23A	Moffat	118.91	49	PKiKP	PKiKP	09 16 08.7	+1.6
	baz=119						
S23A	Nye Farm, Mont	118.91	50	PKiKP	PKiKP	09 16 08.7	+1.6
	baz=119						
KEST	Kesra	118.92	308	*e*PKPdf	PKPdf	09 16 06.8	0.0
KEST				*e*PP	PP	09 17 24.6	-1.9
KEST				PKKPab	PKKPab	09 26 25.4	+1.3
KEST	Kesra	118.92	308	PKP	PKPdf	09 16 07.7	+0.8
	comp=Z,19nm,1.1s,baz=250,slow=2.0,SNR=15						
KEST				PKKPab	PKKPab	09 26 25.4	+1.3
	comp=Z,1.6nm,0.7s,baz=289,slow=6.5,SNR=4.1						
221A	Mesquite Ranch	118.94	56	PKiKP	PKiKP	09 16 08.7	+1.6
	baz=119						
L25A	Engebretsen Ra	118.97	44	PKiKP	PKiKP	09 16 07.9	+1.0
	baz=119						
SMRF	Simiane la Rot	119.01	318	⇑*i*PKPdf	PKPdf	09 16 07.2	+0.5
	comp=Z,82nm,0.9s						
SMRF	Simiane la Rot	119.01	318	⇑*i*PKPdf	PKPdf	09 16 07.2	+0.5
SMF	Signal de Mont	119.04	321	⇑*i*PKiKP	PKPdf	09 16 06.6	-0.1
	comp=Z,95nm,1.2s						
SMF	Signal de Mont	119.04	321	⇑*i*PKiKP	PKPdf	09 16 06.6	-0.1
SMF	Signal de Mont	119.04	321	⇑*i*PKPdf	PKPdf	09 16 06.6	-0.1
SSF	Saint Saulge	119.07	322	⇑*i*PKiKP	PKPdf	09 16 06.9	+0.2
	comp=Z,166nm,1.2s						
SSF	Saint Saulge	119.07	322	⇑*i*PKiKP	PKPdf	09 16 06.9	+0.2
SSF	Saint Saulge	119.07	322	⇑*i*PKPdf	PKPdf	09 16 06.9	+0.2
T23A	Casias Ranch,	119.08	50	PKiKP	PKiKP	09 16 09.2	+1.7
	baz=119						
LEPF	PUYLOUBIER	119.09	317	PKP	PKPdf	09 16 07.0	+0.1
G27A	Dupree	119.11	40	PKiKP	PKiKP	09 16 07.0	0.0
	baz=119						
U23A	El Rito	119.16	51	PKiKP	PKiKP	09 16 09.3	+1.7
	baz=119						
J26A	Sides Ranch, S	119.16	43	PKiKP	PKiKP	09 16 07.2	+0.1
	baz=119						
Y22D	IRIS PASSCAL I	119.16	54	PKiKP	PKiKP	09 16 09.2	+1.6
	baz=119						
SSB	Saint Sauveur	119.17	320	PKP	PKPdf	09 16 07.1	+0.1
SSB	Saint Sauveur	119.17	320	*e*PKiKP	PKPdf	09 16 06.9	-0.1
SSB				*e*		09 17 27.4	
SSB	Saint Sauveur	119.17	320	*e*PKPdf	PKPdf	09 16 06.8	-0.1
SSB				*e*PP	PP	09 17 27.4	-0.3
Q24A	Divide	119.18	48	PKiKP	PKiKP	09 16 08.6	+0.9
	baz=119						
BERF	Bertagne	119.18	317	PKP	PKPdf	09 16 08.0	+0.8
P24A	Kohler Place,	119.18	47	PKiKP	PKiKP	09 16 08.5	+1.0
	baz=119						
D28A	Regan	119.19	38	PKiKP	PKiKP	09 16 07.5	+0.5
	baz=119						
A29A	Manning Farm,	119.20	36	PKiKP	PKiKP	09 16 07.1	+0.1
	baz=119						
STNC	Stoke	119.24	330	*e*P	PKPdf	09 16 07.1	+0.3
STNC				AMB	AMB	09 16 08.6	
	comp=Z,132nm,3.2s						
VIVF	Saint-Julien-l	119.26	319	⇑*i*PKiKP	PKPdf	09 16 07.2	0.0
	comp=Z,78nm,1.1s						
VIVF	Saint-Julien-l	119.26	319	⇑*i*PKiKP	PKPdf	09 16 07.2	0.0
VIVF	Saint-Julien-l	119.26	319	⇑*i*PKPdf	PKPdf	09 16 07.2	0.0
SDCO	Great Sand Dun	119.28	50	*e*PKPdf	PKPdf	09 16 08.8	+1.0
SDCO				*e*SKPdf	SKPdf	09 19 37.5	-0.3
AVF	Avril sur Loir	119.28	322	⇑*i*PKiKP	PKPdf	09 16 07.0	-0.1
	comp=Z,58nm,1.1s						
AVF	Avril sur Loir	119.28	322	⇑*i*PKiKP	PKPdf	09 16 07.0	-0.1
AVF	Avril sur Loir	119.28	322	⇑*i*PKPdf	PKPdf	09 16 07.0	-0.1
H27A	Howes	119.31	41	PKiKP	PKiKP	09 16 07.7	+0.3
	baz=119						
ANMO	Albuquerque	119.31	53	*e*PKPdf	PKPdf	09 16 08.9	+1.1
ANMO				pPKP	pPKPdf	09 16 35.1	+8.4
ANMO	Albuquerque	119.31	53	PKP	PKPdf	09 16 09.1	+1.3
	comp=Z,35nm,1.0s,baz=219,slow=2.2,SNR=62						
ANMO				pPKP	pPKPdf	09 16 35.1	+8.4
	comp=Z,26nm,1.0s,baz=227,slow=0.9,SNR=7.0						
K26A	Motz Farm, Whi	119.32	43	PKiKP	PKiKP	09 16 07.6	+0.1
	baz=119						
V23A	Ortiz Mt. (NFS	119.32	52	PKiKP	PKiKP	09 16 09.9	+2.0
	baz=120						
Z22A	Elephant Butte	119.33	55	PKiKP	PKiKP	09 16 09.1	+1.2
	baz=120						
GELF	Grande-Etoile	119.33	317	PKP	PKPdf	09 16 07.3	-0.1
B29A	Wagenman Farm,	119.34	36	PKiKP	PKiKP	09 16 08.1	+0.8
	baz=119						
E28A	Huff	119.38	39	PKiKP	PKiKP	09 16 08.1	+0.7
	baz=120						
GAL1	Galloway	119.40	333	⇑*e*P	PKPdf	09 16 06.9	-0.2
GAL1				AMB	AMB	09 16 09.3	
	comp=Z,96nm,5.0s						
R24A	Sanders Place,	119.43	49	PKiKP	PKiKP	09 16 09.0	+1.0
	baz=120						
MDND	Maddock	119.48	37	*e*PKPdf	PKPdf	09 16 07.8	+0.3
MDND	Maddock	119.48	37	PKiKP	PKiKP	09 16 08.2	+0.6
	baz=120						
W23A	Werner Place,	119.50	53	PK

	baz=120								
YRE	Yr Eifl	120.40	331		*e*P	PKPdf	09 16 08.7	-0.3	
ULM	Lac du Bonnet	120.42	33		*e*PKPdf	PKPdf	09 16 08.5	-0.7	
ULM					PKKPab	PKKPab	09 26 16.2	-1.0	
ULM	Lac du Bonnet	120.42	33		PKP	PKPdf	09 16 08.8	-0.4	
	comp=Z,22nm,0.7s,baz=314,slow=2.5,SNR=29								
ULM					PKKPab	PKKPab	09 26 16.2	-1.0	
	comp=Z,22nm,0.9s,baz=122,slow=4.3,SNR=17								
N27A	Anderson Farm,	120.45	45		PKiKP	PKiKP	09 16 10.5	+0.6	
	baz=121								
G29A	Hoven	120.47	40		PKiKP	PKPdf	09 16 09.4	-0.1	
	baz=121								
LDF	La Druitiere	120.51	325	⇑	*i*PKiKP	PKPdf	09 16 09.4	0.0	
	comp=Z,159nm,1.4s								
LDF	La Druitiere	120.51	325	⇑	*i*PKiKP	PKPdf	09 16 09.4	0.0	
LDF	La Druitiere	120.51	325	⇑	*i*PKPdf	PKPdf	09 16 09.4	0.0	
U25A	Circle Dot Ran	120.52	51		PKiKP	PKiKP	09 16 11.2	+1.0	
	baz=121								
E30A	Jud	120.52	38		PKiKP	PKPdf	09 16 09.5	-0.1	
	baz=121								
V25A	Rancho No Teng	120.52	51		PKiKP	PKiKP	09 16 11.4	+1.2	
	baz=121								
Z24A	Sheeppen Canyo	120.61	54		PKiKP	PKiKP	09 16 11.5	+1.0	
	baz=121								
FLN	La Foliniere	120.63	325		*e*PKiKP	PKPdf	09 16 09.7	+0.1	
FLN					*e*R				
	comp=Z,1μm,21.5s								
FLN	La Foliniere	120.63	325		*e*PKiKP	PKPdf	09 16 09.7	+0.1	
FLN	La Foliniere	120.63	325		*e*PKPdf	PKPdf	09 16 09.7	+0.1	
R26A	Arlington	120.65	48		PKiKP	PKiKP	09 16 11.2	+0.9	
	baz=121								
124A	Stringfield Ra	120.69	55		PKiKP	PKiKP	09 16 11.3	+0.7	
	baz=121								
O27A	Beecher Island	120.72	46		PKiKP	PKiKP	09 16 11.3	+0.9	
	baz=121								
I29A	Vivian Onida	120.72	41		PKiKP	PKiKP	09 16 10.5	+0.4	
	baz=121								
CKFL	Kef-Lekhel	120.77	309		P	PKPdf	09 16 11.1	+0.6	
224A	Cornudas Mount	120.79	56		PKiKP	PKiKP	09 16 11.7	+0.9	
	baz=121								
W25A	X Bar L Ranch,	120.82	52		PKiKP	PKiKP	09 16 11.6	+0.9	
	baz=121								
S26A	Kim	120.85	49		PKiKP	PKiKP	09 16 11.5	+0.7	
	baz=121								
P27A	Ficken Ranch,	120.87	47		PKiKP	PKiKP	09 16 11.3	+0.6	
	baz=121								
T26A	Comanche Natio	120.90	50		PKiKP	PKiKP	09 16 11.9	+1.0	
	baz=121								
CAF	Calviac	120.91	320	⇑	*i*PKiKP	PKPdf	09 16 10.9	+0.5	
	comp=Z,104nm,1.2s								
CAF	Calviac	120.91	320	⇑	*i*PKiKP	PKPdf	09 16 10.9	+0.5	
CAF	Calviac	120.91	320	⇑	*i*PKPdf	PKPdf	09 16 10.9	+0.5	
J29A	Okreek	120.97	42		PKiKP	PKiKP	09 16 11.2	+0.6	
	baz=121								
324A	Moseley Ranch,	120.97	57		PKiKP	PKiKP	09 16 11.5	+0.3	
	baz=121								
Y25A	Mesa, Roswell	120.99	54		PKiKP	PKiKP	09 16 11.8	+0.7	
	baz=121								
CASM	Ain Smara	120.99	309		P	PKPdf	09 16 11.1	+0.3	
G30A	Faulkton	120.99	40		PKiKP	PKiKP	09 16 10.9	+0.2	
	baz=121								
MNTX	Cornudas Mount	121.00	56		*e*PKPdf	PKPdf	09 16 11.7	+0.8	
MNTX					*e*SKPdf	SKPdf	09 19 41.0	+0.1	
U26A	Atchley Ranch,	121.03	51		PKiKP	PKiKP	09 16 11.9	+0.7	
	baz=121								
GRR	Gorron	121.04	325		*e*PKiKP	PKPdf	09 16 10.6	+0.2	
	comp=Z,103nm,1.3s								
GRR	Gorron	121.04	325		*e*PKiKP	PKPdf	09 16 10.6	+0.2	
GRR	Gorron	121.04	325		*e*PKPdf	PKPdf	09 16 10.6	+0.2	
RJF	Les Rejaudoux	121.09	321	⇑	*i*PKiKP	PKPdf	09 16 11.1	+0.4	
	comp=Z,89nm,1.3s								
RJF					*e*R				
	comp=Z,1μm,20.0s								
RJF	Les Rejaudoux	121.09	321	⇑	*i*PKiKP	PKPdf	09 16 11.1	+0.4	
RJF	Les Rejaudoux	121.09	321	⇑	*i*PKPdf	PKPdf	09 16 11.1	+0.4	
CTEI	Djebel Teiouat	121.12	309		P	PKPdf	09 16 11.9	+0.7	
R27A	Eads	121.14	48		PKiKP	PKiKP	09 16 11.8	+0.5	
	baz=121								
Z25A	Roswell	121.14	54		PKiKP	PKiKP	09 16 12.1	+0.7	
	baz=121								
V26A	Tequesquite Ra	121.17	51		PKiKP	PKiKP	09 16 12.0	+0.6	
	baz=121								
HEX	Exmoor	121.20	329	⇑	*e*P	PKPdf	09 16 10.1	-0.6	
N28A	Pribbeno Ranch	121.20	45		PKiKP	PKiKP	09 16 11.9	+0.6	
	baz=121								
125A	Gardner Draw,	121.35	55		PKiKP	PKiKP	09 16 12.4	+0.6	
	baz=122								
225A	Deer Hill, Car	121.36	56		PKiKP	PKiKP	09 16 12.6	+0.7	
	baz=122								
DFRA	Djebel Bou Aff	121.38	310		P	PKPdf	09 16 12.9	+1.3	
W26A	Owens Ranch, T	121.40	52		PKiKP	PKiKP	09 16 12.5	+0.6	
	baz=122								
325A	Bean Ranch, Si	121.41	56		PKiKP	PKiKP	09 16 12.3	+0.3	
	baz=122								
AGMN	Agassiz Nation	121.45	35		*e*PKPdf	PKPdf	09 16 10.7	-0.6	
AGMN	Agassiz Nation	121.45	35		PKiKP	PKPdf	09 16 10.9	-0.4	
	baz=122								
P28A	Saint Francis	121.46	46		PKiKP	PKiKP	09 16 12.5	+0.7	
	baz=122								
MTLF	Montolieu	121.49	318	⇑	*i*PKiKP	PKPdf	09 16 11.6	+0.1	
	comp=Z,104nm,1.1s								
MTLF	Montolieu	121.49	318	⇑	*i*PKiKP	PKPdf	09 16 11.6	+0.1	
MTLF	Montolieu	121.49	318	⇑	*i*PKPdf	PKPdf	09 16 11.6	+0.1	
MFF	Saint Martin d	121.51	323	⇑	*i*PKiKP	PKPdf	09 16 11.5	+0.1	
	comp=Z,120nm,0.9s								
MFF	Saint Martin d	121.51	323	⇑	*i*PKiKP	PKPdf	09 16 11.5	+0.1	
MFF	Saint Martin d	121.51	323	⇑	*i*PKPdf	PKPdf	09 16 11.5	+0.1	
X26A	CR and CF Fran	121.52	53		PKiKP	PKiKP	09 16 12.5	+0.4	
	baz=122								
425A	Indio Mountain	121.54	57		PKiKP	PKiKP	09 16 12.8	+0.5	
	baz=122								
J30A	Dallas	121.55	42		PKiKP	PKiKP	09 16 11.8	0.0	
	baz=122								
Q28A	Sharon Springs	121.58	47		PKiKP	PKiKP	09 16 13.2	+1.1	
	baz=122								
T27A	Campo	121.60	49		PKiKP	PKiKP	09 16 13.1	+0.9	
	baz=122								
Y26A	Elida	121.69	53		PKiKP	PKiKP	09 16 13.3	+0.8	
	baz=122								
U27A	Thompson Grove	121.72	50		PKiKP	PKiKP	09 16 13.0	+0.5	
	baz=122								
Z26A	Caprock	121.74	54		PKiKP	PKiKP	09 16 12.7	+0.2	
	baz=122								
LFF	La Frestale	121.74	321	⇑	*i*PKiKP	PKPdf	09 16 12.5	+0.6	
	comp=Z,120nm,1.2s								
LFF	La Frestale	121.74	321	⇑	*i*PKiKP	PKPdf	09 16 12.5	+0.6	
LFF	La Frestale	121.74	321	⇑	*i*PKPdf	PKPdf	09 16 12.5	+0.6	
K30A	Basset	121.74	42		PKiKP	PKiKP	09 16 12.8	+0.6	
	baz=122								
CKHR	Kef el Ahmar	121.82	309		P	PKPdf	09 16 13.0	+0.5	
LCHF	La Chataignera	121.83	323		PKP	PKPdf	09 16 12.8	+0.8	
SET	Setif	121.85	310		P	PKPdf	09 16 14.0	+1.5	
R28A	Tribune	121.85	48		PKiKP	PKiKP	09 16 13.1	+0.5	
	baz=122								
126A	Clayton Basin,	121.87	55		PKiKP	PKiKP	09 16 13.4	+0.5	
	baz=122								
226B	Tecolote Peak,	121.90	55		PKiKP	PKiKP	09 16 13.6	+0.7	
	baz=122								
V27A	Dan Oppiter Fa	121.92	51		PKiKP	PKiKP	09 16 13.4	+0.6	
	baz=122								
O29A	4D Ranch, Culb	121.94	45		PKiKP	PKiKP	09 16 13.3	+0.6	
	baz=122								
W27A	Bowe Ranch, En	121.96	52		PKiKP	PKiKP	09 16 13.4	+0.4	
	baz=122								
VALF	Valcebollere	122.02	317		PKP	PKPdf	09 16 13.0	+0.3	
T28A	Walsh	122.04	49		PKiKP	PKiKP	09 16 13.5	+0.5	
	baz=122								
S28A	Manter	122.04	49		PKiKP	PKiKP	09 16 13.5	+0.5	
	baz=122								
X27A	F and S Farms,	122.05	52		PKiKP	PKiKP	09 16 13.2	0.0	
	baz=122								
SGMF	Saint Gilles	122.08	325	⇑	*i*PKiKP	PKPdf	09 16 12.5	+0.1	
	comp=Z,87nm,1.0s								
SGMF	Saint Gilles	122.08	325	⇑	*i*PKiKP	PKPdf	09 16 12.5	+0.1	
SGMF	Saint Gilles	122.08	325	⇑	*i*PKPdf	PKPdf	09 16 12.5	+0.1	
N30A	Hueftle Ranch,	122.17	45		PKiKP	PKiKP	09 16 13.8	+0.7	
	baz=122								
Y27A	Causey	122.22	53		PKiKP	PKiKP	09 16 13.8	+0.3	
	baz=122								
326A	Caldwell Ranch	122.25	56		PKiKP	PKiKP	09 16 13.8	+0.2	
	baz=122								
Q29A	Oakley	122.27	47		PKiKP	PKiKP	09 16 13.8	+0.4	
	baz=122								
R29A	Marienthal	122.32	47		PKiKP	PKiKP	09 16 14.3	+0.8	
	baz=122								
Z27A	Tatum	122.34	54		PKiKP	PKiKP	09 16 14.4	+0.6	
	baz=122								
426A	McDonald Obser	122.37	57		PKiKP	PKiKP	09 16 14.5	+0.5	
	baz=122								
V28A	Channing	122.40	51		PKiKP	PKiKP	09 16 14.7	+0.9	
	baz=122								
127A	Arkansas Junct	122.40	55		PKiKP	PKiKP	09 16 14.5	+0.6	
	baz=122								
ROSF	Rostrenen	122.44	326		*e*PKiKP	PKPdf	09 16 13.1	0.0	
	comp=Z,50nm,0.8s								
ROSF	Rostrenen	122.44	326		*e*PKiKP	PKPdf	09 16 13.1	0.0	
ROSF	Rostrenen	122.44	326		*e*PKPdf	PKPdf	09 16 13.1	0.0	
526A	Mary Lane Ranc	122.46	58		PKiKP	PKiKP	09 16 14.6	+0.4	
	baz=123								
MSTX	Muleshoe	122.51	53		*e*PKPdf	PKPdf	09 16 14.4	+0.5	
MSTX	Muleshoe	122.51	53		PKiKP	PKPdf	09 16 14.3	+0.5	
	baz=123								
626A	Big Bend Ranch	122.55	58		PKiKP	PKiKP	09 16 14.3	+0.1	
	baz=123								
P30A	Selden	122.55	46		PKiKP	PKiKP	09 16 14.2	+0.3	
	baz=123								
EFI	East Falkland	122.56	173	*c*	*i*PKiKP	PKPdf	09 16 13.3	0.0	
W28A	Vega	122.57	51		PKiKP	PKiKP	09 16 14.4	+0.3	
	baz=123								
QUIF	Quistinic	122.60	325		*e*PKiKP	PKPdf	09 16 13.4	0.0	
QUIF	Quistinic	122.60	325		*e*PKiKP	PKPdf	09 16 13.4	0.0	
QUIF	Quistinic	122.60	325		*e*PKPdf	PKPdf	09 16 13.4	0.0	
S29A	Ulysses	122.61	48		PKiKP	PKiKP	09 16 14.8	+0.6	
	baz=123								
227A	Bennet, Jal	122.64	55		PKiKP	PKiKP	09 16 14.9	+0.6	
	baz=123								
X28A	Dimmitt	122.80	52		PKiKP	PKiKP	09 16 15.3	+0.6	
	baz=123								
527A	Woodward Ranch	122.84	58		PKiKP	PKiKP	09 16 15.2	+0.3	
	baz=123								
427A	Hayter Ranch,	122.85	57		PKiKP	PKiKP	09 16 15.3	+0.5	
	baz=123								
EPF	Esparros	122.86	319	⇑	*i*PKiKP	PKPdf	09 16 14.3	+0.1	
	comp=Z,50nm,0.9s								
EPF	Esparros	122.86	319	⇑	*i*PKiKP	PKPdf	09 16 14.3	+0.1	
EPF	Esparros	122.86	319	⇑	*i*PKPdf	PKPdf	09 16 14.3	+0.1	
V29A	Stinnett	122.90	50		PKiKP	PKiKP	09 16 15.4	+0.6	
	baz=123								
Y28A	McKinney Farm,	122.94	53		PKiKP	PKiKP	09 16 15.2	+0.3	
	baz=123								
RESF	Ens	122.96	319		PKP	PKPdf	09 16 15.5	+1.0	
TXAR	Lajitas Array	122.99	59		PKP	PKPdf	09 16 15.7	+0.8	
TXAR					pPKP	pPKPdf	09 16 42.5	+8.8	
TXAR					PKKPab	PKKPab	09 26 05.5	-1.2	
TXAR	Lajitas Array	122.99	59		PKP	PKPdf	09 16 15.7	+0.8	
	comp=Z,16nm,0.9s,baz=179,slow=1.8,SNR=76								
TXAR					pPKP	pPKPdf	09 16 42.5	+8.8	
	comp=Z,12nm,1.0s,baz=270,slow=1.3,SNR=4.7								
TXAR					PKKPab	PKKPab	09 26 05.5	-1.2	
	comp=Z,12nm,1.0s,baz=113,slow=5.8,SNR=28								
R30A	Dighton	123.00	47		PKiKP	PKiKP	09 16 15.1	+0.3	
	baz=123								
Z28A	Tucker Farm, M	123.02	54		PKiKP	PKiKP	09 16 15.2	+0.2	
	baz=123								
W29A	Amraillo	123.04	51		PKiKP	PKiKP	09 16 15.8	+0.7	
	baz=123								
AKET	Djebel Ketaf	123.06	310		P	PKPdf	09 16 16.7	+1.8	
AMTX	Amarillo	123.09	52		PKiKP	PKiKP	09 16 15.8	+0.6	
	baz=123								
S30A	Montezuma	123.09	48		PKiKP	PKiKP	09 16 15.8	+0.8	
	baz=123								
128A	Castleberry Fa	123.13	54		PKiKP	PKiKP	09 16 15.6	+0.3	
	baz=123								
VIEF	Viey	123.14	319		PKP	PKPdf	09 16 15.6	+0.8	
228A	UT Block 9, Go	123.18	55		PKiKP	PKiKP	09 16 15.6	+0.2	
	baz=123								
328A	Wristen Ranch,	123.20	56		PKiKP	PKiKP	09 16 15.8	+0.4	
	baz=123								
627A	Terlingua Ranc	123.20	58		PKiKP	PKiKP	09 16 16.0	+0.4	
	baz=123								
X29A	Tulia	123.21	52		PKiKP	PKiKP	09 16 15.9	+0.5	
	baz=123								
ECSD	EROS Data Cent	123.24	40		*e*PKPdf	PKPdf	09 16 14.5	-0.4	
ECSD	EROS Data Cent	123.24	40		PKiKP	PKiKP	09 16 15.2	+0.1	
	baz=123								
T30A	Plains	123.25	49		PKiKP	PKiKP	09 16 16.0	+0.6	
	baz=123								
BGNE	Belgrade	123.27	43		*e*PKPdf	PKPdf	09 16 15.2	+0.2	
BGNE	Belgrade	123.27	43		PKiKP	PKiKP	09 16 15.5	+0.3	
	baz=123								
REYF	Montagne du Re	123.33	319		PKP	PKPdf	09 16 15.7	+0.6	
U30A	WK&E Inc. Balk	123.34	49		PKiKP	PKiKP	09 16 16.1	+0.6	
	baz=124								
ADJB	Djebel Djouab	123.36	310		P	PKPdf	09 16 16.7	+1.3	
Q31A	Ellis	123.37	46		PKiKP	PKiKP	09 16 15.9	+0.3	
	baz=124								
Y29A	Porterfield Fa	123.42	53		PKiKP	PKiKP	09 16 16.2	+0.4	
	baz=124								
N32A	Stulken Farm,	123.44	44		PKiKP	PKiKP	09 16 15.9	+0.3	
	baz=124								
ABA	Alger-Bouzarea	123.45	311		P	PKPdf	09 16 13.5	-1.9	
428A	Kincaid Ranch,	123.47	57		PKiKP	PKiKP	09 16 16.4	+0.4	
	baz=124								
ETSF	Etsaut	123.51	319	⇑	*i*PKiKP	PKPdf	09 16 16.4	+0.9	
	comp=Z,107nm,1.0s								
ETSF	Etsaut	123.51	319	⇑	*i*PKiKP	PKPdf	09 16 16.4	+0.9	
ETSF	Etsaut	123.51	319	⇑	*i*PKPdf	PKPdf	09 16 16.4	+0.9	
528A	Cox Ranch, San	123.53	57		PKiKP	PKiKP	09 16 16.5	+0.3	
	baz=124								
R31A	Burdett	123.54	47		PKiKP	PKiKP	09 16 16.5	+0.6	
	baz=124								
Z29A	Hungry Hill Ra	123.57	53		PKiKP	PKiKP	09 16 16.7	+0.6	
	baz=124								
V30A	Spur Ranch, Mi	123.57	50		PKiKP	PKiKP	09 16 17.0	+0.9	
	baz=124								
628A	Black Gap, Mar	123.61	58		PKiKP	PKiKP	09 16 16.6	+0.3	
	baz=124								
129A	Stewart Farms,	123.62	54		PKiKP	PKiKP	09 16 16.5	+0.3	
	baz=124								
O32A	Brockman Farm,	123.66	44		PKiKP	PKiKP	09 16 16.0	0.0	
	baz=124								
P32A	Huiting Farm,	123.69	45		PKiKP	PKiKP	09 16 16.6	+0.5	
	baz=124								
EMHD	Djebel Mahouad	123.72	310		P	PKPdf	09 16 17.5	+1.4	
LARF	Larrau	123.73	319		PKP	PKPdf	09 16 16.8	+1.0	
S31A	Mullinville	123.83	48		PKiKP	PKiKP	09 16 16.9	+0.4	
	baz=124								
SJPF	Ste Jean	123.85	319		*e*PKiKP	PKPdf	09 16 16.9	+0.9	
	comp=Z,32nm,0.8s								
SJPF	Ste Jean	123.85	319		*e*PKiKP	PKPdf	09 16 16.9	+0.9	
SJPF	Ste Jean	123.85	319		*e*PKPdf	PKPdf	09 16 16.9	+0.9	
329A	Wagon Wheel Ra	123.85	56		PKiKP	PKiKP	09 16 16.9	+0.2	
	baz=124								
229A	Bryant Ranch,	123.86	55		PKiKP	PKiKP	09 16 17.1	+0.3	
	baz=124								
X30A	Coker Ranch, T	123.86	52		PKiKP	PKiKP	09 16 16.9	+0.3	
	baz=124								
Q32A	Meier Ranch,	123.97	46		PKiKP	PKiKP	09 16 17.1	+0.4	
	baz=124								
U31A	Nine Bar Ranch	124.00	49		PKiKP	PKiKP	09 16 17.9	+1.0	
	baz=124								
529A	Stev Forest Ra	124.02	57		PKiKP	PKiKP	09 16 17.3	+0.2	
	baz=124								
Y30A	Stafford Cattl	124.02	53		PKiKP	PKiKP	09 16 17.8	+0.8	
	baz=124								
Z30A	Sanderson Ranc	124.02	53		PKiKP	PKiKP	09 16 17.3	+0.3	
	baz=124								
R32A	Long Quarter,	124.08	47		PKiKP	PKiKP	09 16 17.4	+0.4	
	baz=124								
429A	Davenport Ranc	124.16	57		PKiKP	PKiKP	09 16 17.6	+0.2	
	baz=124								
S32A	Newby Ranch, P	124.20	48		PKiKP	PKiKP	09 16 17.8	+0.6	
	baz=124								
V31A	Spring Creek L	124.22	50		PKiKP	PKiKP	09 16 18.5	+1.2	
	baz=124								
W31A	Holland Ranch,	124.34	51		PKiKP	PKiKP	09 16 18.2	+0.6	
	baz=124								
130A	Snyder	124.36	54		PKiKP	PKiKP	09 16 18.2	+0.5	
	baz=124								
T32A	Huddler Ranch,	124.40	48		PKiKP	PKiKP	09 16 18.5	+0.8	
	baz=124								
P33A	Williams Farm,	124.41	45		PKiKP	PKiKP	09 16 17.8	+0.3	
	baz=124								
230A	Sterling City	124.45	55		PKiKP	PKPdf	09 16 17.7	+0.1	
	baz=125								
Q33A	Connelly Farm,	124.49	46		PKiKP	PKiKP	09 16 17.7	0.0	
	baz=125								
Y31A	Rekieta Farm,	124.50	52		PKiKP	PKPdf	09 16 17.7	+0.2	
	baz=125								
X31A	McDonald Ranch	124.50	51		PKiKP	PKiKP	09 16 18.2	+0.3	
	baz=125								
330A	Mertzon	124.54	55		PKiKP	PKiKP	09 16 18.0	-0.1	
	baz=125								
U32A	Winter Ranch,	124.64	49		PKiKP	PKiKP	09 16 18.5	+0.4	
	baz=125								
R33A	Olander Ranch,	124.66	46		PKiKP	PKiKP	09 16 18.5	+0.4	
	baz=125								
430A	Baggett Ranch,	124.66	56		PKiKP	PKiKP	09 16 18.4	+0.1	
	baz=125								
530A	J-C Ranch, Com	124.75	57		PKiKP	PKiKP	09 16 18.7	+0.2	
	baz=125								
Z31A	Sharp Cattle R	124.80	53		PKiKP	PKiKP	09 16 18.8	+0.3	
	baz=125								
131A	Roby	124.80	54		PKiKP	PKiKP	09 16 18.6	+0.1	
	baz=125								
V32A	Arapaho	124.84	50		PKiKP	PKiKP	09 16 19.2	+0.7	
	baz=125								
SPMN	St. Paul	124.85	37		*e*PKPdf	PKPdf	09 16 18.2	+0.3	
SPMN	St. Paul	124.85	37		PKiKP	PKiKP	09 16 18.3	+0.1	
	baz=125								
S33A	Kaszmaul Farm,	124.92	47		PKiKP	PKiKP	09 16 18.8	+0.2	
	baz=125								
T33A	Patterson Ranc	124.94	48		PKiKP	PKiKP	09 16 19.0	+0.4	
	baz=125								
TAM	Tamanrasset	125.00	294		*e*PKiKP	PKPdf	09 16 20.0	+1.0	
TAM	Tamanrasset	125.00	294		*e*PKPdf	PKPdf	09 16 20.0	+1.0	
231A	Bronte	125.08	55		PKiKP	PKiKP	09 16 19.3	+0.2	
	baz=125								
X32A	Elmer	125.11	51		PKiKP	PKiKP	09 16 19.3	+0.2	
	baz=125								
Y32A	R-V Farms, Ver	125.13	52		PKiKP	PKiKP	09 16 19.3	+0.2	
	baz=125								
331A	San Angelo	125.18	55		PKiKP	PKiKP	09 16 19.4	+0.1	
	baz=125								
431A	Sonora	125.21	56		PKiKP	PKiKP	09 16 19.6	+0.1	
	baz=125								
EANR	'Ain N'Sour	125.21	311		P	PKPdf	09 16 19.8	+0.9	
ETRT	Tiaret	125.26	310		P	PKPdf	09 16 20.5	+1.4	
U33A	Lingo Farm, Me	125.28	49		PKiKP	PKiKP	09 16 19.6	+0.2	
	baz=125								
KSU1	Kansas State U	125.31	45		*e*PKPdf	PKPdf	09 16 19.1	+0.1	
KSU1	Kansas State U	125.31	45		PKiKP	PKiKP	09 16 19.6	+0.3	
	baz=125								
Z32A	Haskell	125.33	53		PKiKP	PKiKP	09 16 20.0	+0.5	
	baz=126								
V33A	Lossen Ranch,	125.38	49		PKiKP	PKiKP	09 16 19.9	+0.4	
	baz=126								
WMOK	Wichita Mounta	125.39	51		*e*PKiKP	PKPdf	09 16 19.4	+0.1	
WMOK	Wichita Mounta	125.39	51		*e*PKPdf	PKPdf	09 16 19.4	+0.1	
531A	Rocksprings	125.40	57		PKiKP	PKiKP	09 16 20.6	+0.8	
	baz=126								
ABTX	Abilene, Hawle	125.42	54		*e*PKPdf	PKPdf	09 16 19.9	+0.5	
ABTX	Abilene, Hawle	125.42	54		PKiKP	PKiKP	09 16 20.2	+0.5	
	baz=126								
631A	Perdido Creek	125.58	58		PKiKP	PKiKP	09 16 20.4	+0.3	
	baz=126								
232A	Coleman	125.64	54		PKiKP	PKiKP	09 16 20.7	+0.4	
	baz=126								
X33A	Lawton	125.68	51		PKiKP	PKiKP	09 16 20.6	+0.4	
	baz=126								
332A	Millersview	125.72	55		PKiKP	PKiKP	09 16 20.7	+0.4	
	baz=126								
U34A	Anderson Ranch	125.72	48		PKiKP	PKiKP	09 16 20.6	+0.4	
	baz=126								
Y33A	Hilltop Ranch,	125.76	52		PKiKP	PKiKP	09 16 21.7	+1.4	
	baz=126								
432A	Menard	125.82	56		PKiKP	PKiKP	09 16 20.6	0.0	
	baz=126								
Z33A	Whitaker Ranch	125.90	52		PKiKP	PKiKP	09 16 20.9	+0.2	
	baz=126								
JCT	Junction City	125.93	56		*e*PKiKP	PKPdf	09 16 21.2	+0.7	
JCT	Junction City	125.93	56		*e*PKPdf	PKPdf	09 16 21.2

POLO	**Lamas de Olo**	**128.93**	**321**	*e*PKPdf	**PKPdf**	**09 16 27.4**	**+1.5**
POLO	**Lamas de Olo**	**128.93**	**321**	*e*LR	LR	10 01 32.4	
MTE	**Manteigas**	**129.29**	**320**	*e*PKPdf	**PKPdf**	**09 16 28.1**	**+1.5**
MTE	**Manteigas**	**129.29**	**320**	*e*LR	LR	10 02 33.1	
MTE	**Manteigas**	**129.29**	**320**	*e*PKPdf	**PKPdf**	**09 16 27.9**	**+1.3**
MTE				*e*PP	**PP**	**09 18 37.4**	**+1.8**
HKT	**Hockley**	**129.36**	**55**	*e*PKIKP	**PKPdf**	**09 16 27.9**	**+1.1**
HKT	**Hockley**	**129.36**	**55**	*e*PKPdf	**PKPdf**	**09 16 27.9**	**+1.1**
MIAR	**Mount Ida**	**129.43**	**49**	*e*PKIKP	**PKPdf**	**09 16 27.3**	**+0.3**
MIAR	**Mount Ida**	**129.43**	**49**	*e*PKPdf	**PKPdf**	**09 16 27.3**	**+0.3**
PMRV	**Marv??o**	**129.71**	**318**	*e*PKPdf	**PKPdf**	**09 16 28.7**	**+1.4**
PMRV	**Marv??o**	**129.71**	**318**	*e*LR	LR	10 01 48.4	
TOA0	**Torodi Ar. Sit**	**129.78**	**283**	*e*PKPdf	**PKPdf**	**09 16 27.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**129.78**	**283**	PKPpre	PKPpre	09 16 13.0	
TORD				PKP	**PKPdf**	**09 16 27.9**	**-0.1**
TORD				SKPbc	SKPab	09 19 44.0	-0.5
TORD	**Torodi Ar. Bea**	**129.78**	**283**	PKhKP	PKPpre	09 16 13.0	
	comp=Z,2.7nm,0.9s,baz=53,slow=2.0,SNR=6.5						
TORD				PKP	**PKPdf**	**09 16 27.9**	**-0.1**
	comp=Z,92nm,0.8s,baz=90,slow=1.9,SNR=71						
TORD				SKPbc	SKPab	09 19 44.0	-0.5
	comp=Z,101nm,1.1s,baz=78,slow=2.9,SNR=15						
PCAS	**Casmilo, Conde**	**130.10**	**320**	*e*PKPdf	**PKPdf**	**09 16 29.3**	**+1.2**
PCAS	**Casmilo, Conde**	**130.10**	**320**	*e*PP	PP	09 18 42.2	+1.4
PCAS	**Casmilo, Conde**	**130.10**	**320**	*e*LR	LR	10 02 29.9	
PBAR	**Barrancos**	**130.11**	**317**	*e*PKPdf	**PKPdf**	**09 16 29.7**	**+1.6**
PBAR	**Barrancos**	**130.11**	**317**	*e*PP	PP	09 18 42.1	+1.2
PBAR	**Barrancos**	**130.11**	**317**	*e*LR	LR	10 04 10.8	
PESTR	**Estremoz**	**130.13**	**318**	*e*PKPdf	**PKPdf**	**09 16 29.7**	**+1.5**
UALR	**University of**	**130.25**	**48**	*e*PKPdf	**PKPdf**	**09 16 29.4**	**+1.0**
UALR				*e*SKPbc	**SKPbc**	**09 19 46.6**	**+0.4**
EVO	**Evora**	**130.58**	**318**	*e*PKIKP	**PKPdf**	**09 16 27.9**	**-1.1**
	comp=Z,262nm,1.4s						
EVO				*e*R			
	comp=Z,1μm,21.5s						
EVOP	**Sao Brissos**	**130.66**	**318**	*e*PKIKP	**PKPdf**	**09 16 27.9**	**-1.2**
EVOP	**Sao Brissos**	**130.66**	**318**	*e*PKPdf	**PKPdf**	**09 16 27.9**	**-1.2**
MDT	**Midelt**	**130.77**	**309**	SKPbc	**SKPbc**	**09 19 43.7**	**-4.6**
MDT	**Midelt**	**130.77**	**309**	SKPbc	**SKPbc**	**09 19 43.7**	**-4.6**
	comp=Z,111nm,0.7s,baz=240,slow=7.4,SNR=7.0						
PVAQ	**Vaqueiros**	**130.96**	**316**	*e*LR	LR	10 04 30.4	
SFIN	**Scholer Farm**	**131.03**	**39**	*e*PKPdf	**PKPdf**	**09 16 31.1**	**+1.3**
SFIN				*e*SKPbc	**SKPbc**	**09 19 48.5**	**-0.3**
SFIN	**Scholer Farm**	**131.03**	**39**	PKiKP	**PKiKP**	**09 16 31.3**	**+0.6**
	baz=131						
PCVE	**Castro Verde**	**131.06**	**317**	*e*PKPdf	**PKPdf**	**09 16 32.1**	**+2.2**
PCVE	**Castro Verde**	**131.06**	**317**	*e*LR	LR	10 04 37.8	
MESJ	**Messejana**	**131.08**	**317**	*e*PP	PP	09 18 46.9	-0.3
MESJ				*e*SS	SS	09 36 13.4	-0.4
MESJ				AMS	AMS	10 24 20.7	
	comp=Z,720nm,14.5s						
SIUC	**Southern Illin**	**131.09**	**43**	*e*PKPdf	**PKPdf**	**09 16 30.0**	**0.0**
SIUC				*e*SKPbc	**SKPab**	**09 19 49.6**	**+0.2**
PNCL	**Nicolau / Gran**	**131.15**	**318**	*e*PKPdf	**PKPdf**	**09 16 32.3**	**+2.2**
PNCL	**Nicolau / Gran**	**131.15**	**318**	*e*LR	LR	10 04 28.0	
PBDV	**Barranco-do-Ve**	**131.19**	**316**	*e*LR	LR	10 02 39.8	
PMAFR	**Mafra**	**131.20**	**319**	*e*LR	LR	10 02 44.0	
LIS	**Lisbon**	**131.24**	**319**	*e*PP	PP	09 18 48.1	-0.1
LIS				AMS	AMS	10 20 38.5	
	comp=Z,806nm,15.5s						
USIN	**University of**	**132.00**	**42**	*e*PKPdf	**PKPdf**	**09 16 32.5**	**+0.8**
USIN				*e*SKPbc	**SKPbc**	**09 19 52.1**	**-0.3**
WCI	**Wyandotte Cave**	**132.76**	**41**	*e*PKIKP	PKPpre	09 16 25.0	
WCI	**Wyandotte Cave**	**132.76**	**41**	*e*PKPpre	PKPpre	09 16 25.0	
WCI				*e*PKPdf	**PKiKP**	**09 16 33.9**	**-0.4**
WCI				*e*SKPbc	**SKPbc**	**09 19 53.9**	**-1.2**
WVT	**Waverly**	**132.85**	**44**	*e*PKIKP	**PKPdf**	**09 16 33.7**	**+0.3**
WVT	**Waverly**	**132.85**	**44**	*e*PKPdf	**PKPdf**	**09 16 33.7**	**+0.3**
WVT				*e*SKPbc	**SKPbc**	**09 19 55.4**	**-0.1**
SWET	**Sewanee**	**134.65**	**44**	*e*PKPdf	**PKPdf**	**09 16 36.4**	**-0.4**
SWET				*e*SKPbc	**SKPbc**	**09 20 00.0**	**-1.5**
LONY	**Lake Ozonia**	**134.85**	**26**	*e*PKPdf	**PKPdf**	**09 16 36.8**	**-0.1**
LONY				*e*SKPbc	**SKPbc**	**09 20 00.1**	**-1.7**
LRAL	**Lakeview Retre**	**135.00**	**47**	*e*PKPdf	**PKPdf**	**09 16 35.7**	**-1.8**
LRAL				*e*SKPbc	**SKPbc**	**09 20 02.2**	**-0.4**
TRQA	**Tornquist**	**135.00**	**165**	*e*PKPdf	**PKPdf**	**09 16 37.1**	**-0.3**
TRQA				*e*SKPbc	**SKPbc**	**09 20 01.3**	**-1.3**
FRNY	**Flat Rock**	**135.11**	**25**	*e*PKPdf	**PKPdf**	**09 16 37.6**	**+0.2**
FRNY				*e*SKPbc	**SKPbc**	**09 20 00.6**	**-2.0**
NCB	**Newcomb**	**135.52**	**26**	*e*PKPdf	**PKPdf**	**09 16 39.1**	**+0.9**
NCB				*e*SKPbc	**SKPbc**	**09 20 02.7**	**-1.2**
TKL	**Tuckaleechee C**	**135.88**	**42**	*e*PKPdf	**PKPdf**	**09 16 39.1**	**0.0**
TKL				*e*SKPbc	**SKPbc**	**09 20 04.0**	**-1.3**
TKL	**Tuckaleechee C**	**135.88**	**42**	SKPbc	**SKPbc**	**09 20 04.9**	**-0.4**
	comp=Z,37nm,1.0s,baz=154,slow=1.0,SNR=9.9						
MDV	**Middlebury**	**135.95**	**26**	*e*PKPpre	PKPpre	09 16 33.8	
MDV				*e*PKPdf	**PKiKP**	**09 16 40.1**	**-0.5**
MDV				*e*SKPbc	**SKPbc**	**09 20 03.9**	**-1.4**
BINY	**Binghamton**	**136.07**	**29**	*e*PKPdf	**PKPdf**	**09 16 40.2**	**+0.9**
BINY				*e*SKPbc	**SKPbc**	**09 20 04.4**	**-1.3**
ACCN	**Adirondack Com**	**136.23**	**26**	*e*PKPdf	**PKPdf**	**09 16 39.3**	**-0.2**
ACCN				*e*SKPbc	**SKPbc**	**09 20 04.1**	**-2.1**
LBNH	**Lisbon**	**136.28**	**24**	*e*PKIKP	**PKPdf**	**09 16 40.5**	**+0.9**
LBNH	**Lisbon**	**136.28**	**24**	*e*PKPdf	**PKPdf**	**09 16 40.5**	**+0.9**
LBNH				*e*SKPbc	**SKPbc**	**09 20 05.0**	**-1.3**
KIC	**Kosan Boka**	**136.30**	**274**	*e*P	PKPpre	09 16 25.8	
	comp=Z,292nm,1.2s						
DBIC	**Dimbokro**	**136.42**	**274**	*e*PKPpre	PKPpre	09 16 27.6	
DBIC				*e*PKPdf	**PKPdf**	**09 16 40.9**	**+0.3**
DBIC				*e*PP	**PP**	**09 18 22.3**	**-0.2**
DBIC				*e*SKPbc	**SKPbc**	**09 20 06.3**	**-1.3**
DBIC	**Dimbokro**	**136.42**	**274**	PKhKP	PKPpre	09 16 28.4	
	comp=Z,8.6nm,0.7s,baz=91,slow=6.2,SNR=12						
DBIC				PKP	**PKPdf**	**09 16 40.9**	**+0.3**
	comp=Z,88nm,1.0s,baz=72,slow=2.1,SNR=18						
DBIC				SKPbc	**SKPbc**	**09 20 04.5**	**-3.1**
	comp=Z,21nm,0.9s,baz=154,slow=3.5,SNR=4.7						
LIC	**Lamto**	**136.58**	**273**	⇑*i*PKIKP	**PKPdf**	**09 16 40.8**	**-0.1**
	comp=Z,318nm,1.2s						
LIC				*e*R			
	comp=Z,1μm,22.0s						
LIC	**Lamto**	**136.58**	**273**	*e*P	PKPpre	09 16 28.1	
	comp=Z,355nm,1.2s						
LIC	**Lamto**	**136.58**	**273**	⇑*i*PKPdf	**PKPdf**	**09 16 40.8**	**-0.1**
TIC	**Toumodi**	**136.58**	**274**	*e*P	PKPpre	09 16 28.4	
	comp=Z,197nm,1.0s						
BLA	**Blacksburg**	**137.09**	**38**	*e*PKIKP	**PKPdf**	**09 16 42.5**	**+1.2**
BLA	**Blacksburg**	**137.09**	**38**	*e*PKPdf	**PKPdf**	**09 16 42.5**	**+1.2**
BLA				*e*SKPbc	**SKPbc**	**09 20 07.8**	**-1.2**
GOGA	**Godfrey**	**137.34**	**45**	*e*PKIKP	**PKPdf**	**09 16 42.7**	**+0.9**
GOGA	**Godfrey**	**137.34**	**45**	*e*PKPdf	**PKPdf**	**09 16 42.7**	**+0.9**
VWC	**Virginia Weste**	**137.34**	**38**	*e*PKPdf	**PKPdf**	**09 16 40.8**	**-0.9**
SDMD	**Soldier's Deli**	**137.68**	**33**	*e*PKPdf	**PKPdf**	**09 16 42.2**	**-0.1**
SDMD				*e*SKPbc	**SKPbc**	**09 20 09.0**	**-1.5**
KMSC	**Kings Mountain**	**137.80**	**41**	*e*PKPdf	**PKPdf**	**09 16 43.0**	**+0.4**
KMSC				*e*SKPbc	**SKPbc**	**09 20 10.2**	**-0.9**
KMSC	**Kings Mountain**	**137.80**	**41**	PKiKP	**PKiKP**	**09 16 44.0**	**-0.6**
	baz=138						
HRV	**Adam Dziewonsk**	**137.86**	**25**	*e*PKIKP	**PKPdf**	**09 16 42.2**	**-0.3**
HRV	**Adam Dziewonsk**	**137.86**	**25**	*e*PKPdf	**PKPdf**	**09 16 42.2**	**-0.3**
HRV				*e*SKPbc	**SKPbc**	**09 20 09.6**	**-1.3**
APG	**El Apazote**	**137.86**	**74**	PKPpre	PKPpre	09 16 32.0	
APG				PKP	**PKPdf**	**09 16 41.5**	**-2.0**
APG				SKPbc	**SKPbc**	**09 20 10.1**	**-2.0**
APG	**El Apazote**	**137.86**	**74**	PKhKP	PKPpre	09 16 32.0	
	comp=Z,9.3nm,0.9s,baz=22,slow=6.8,SNR=4.1						
APG				PKP	**PKPdf**	**09 16 41.5**	**-2.0**
	comp=Z,33nm,0.9s,baz=91,slow=3.2,SNR=10						
APG				SKPbc	**SKPbc**	**09 20 10.1**	**-2.0**
	comp=Z,24nm,1.0s,baz=274,slow=5.3,SNR=7.6						
PAL	**Palisades**	**137.99**	**29**	*e*PKIKP	**PKPdf**	**09 16 43.9**	**+1.1**
PAL	**Palisades**	**137.99**	**29**	*e*PKPdf	**PKPdf**	**09 16 43.9**	**+1.1**
CBN	**Corbin**	**138.23**	**35**	*e*PKPdf	**PKPdf**	**09 16 44.2**	**+0.9**
CBN				*e*SKPbc	**SKPbc**	**09 20 11.0**	**-1.1**
CBN				*e*SKPab	**SKPab**	**09 20 20.8**	**+0.3**
JSRW	**J. Sargeant Re**	**138.29**	**36**	*e*PKPdf	**PKPdf**	**09 16 43.2**	**-0.2**
JSRW				*e*SKPbc	**SKPbc**	**09 20 11.0**	**-1.4**
CFAA	**Coronel Fontan**	**138.72**	**154**	PKPpre	PKPpre	09 16 36.5	
CFAA				PKP	**PKPdf**	**09 16 44.5**	**0.0**
CFAA				SKPbc	**SKPbc**	**09 20 11.5**	**-2.4**
CFAA	**Coronel Fontan**	**138.72**	**154**	PKhKP	PKPpre	09 16 36.5	
	comp=Z,2.0nm,0.6s,baz=228,slow=2.8,SNR=30						
CFAA				PKP	**PKPdf**	**09 16 44.5**	**0.0**
	comp=Z,4.0nm,0.8s,baz=226,slow=4.1,SNR=16						
CFAA				SKPbc	**SKPbc**	**09 20 11.5**	**-2.4**
	comp=Z,2.2nm,1.0s,baz=224,slow=4.0,SNR=3.6						
TLL	**Tololo Astrono**	**138.74**	**150**	*e*P	PKPdf	09 16 37.1	-7.8
TEIG	**Tepich**	**138.82**	**65**	*e*PKPdf	**PKPdf**	**09 16 45.3**	**+0.5**
TEIG				SKPbc	**SKPbc**	**09 20 13.4**	**-0.9**
TEIG	**Tepich**	**138.82**	**65**	PKP	**PKPdf**	**09 16 45.4**	**+0.5**
	baz=328,slow=5.5,SNR=4.4						
TEIG				SKPbc	**SKPbc**	**09 20 13.4**	**-0.9**
	comp=Z,22nm,1.1s,baz=357,slow=8.6,SNR=3.6						
LCO	**Las Campanas**	**139.74**	**149**	*e*P	PKPdf	09 16 40.4	-6.3
LCO	**Las Campanas**	**139.74**	**149**	*e*P	PKPdf	09 16 40.4	-6.3
TGUH	**Tegucigalpa,Un**	**141.06**	**74**	*e*PKPdf	**PKPdf**	**09 16 49.5**	**+0.5**
ASCN	**Ascension**	**143.29**	**249**	*e*PKPdf	PKPbc	09 16 51.5	+1.2
JTS	**JuntasAbangare**	**143.76**	**80**	*e*PKPdf	PKPbc	09 16 52.8	+1.1
JTS				*e*SKPbc	**SKPbc**	**09 20 27.6**	**+0.3**
JTS	**JuntasAbangare**	**143.76**	**80**	PKP	**PKPdf**	**09 16 53.0**	**-1.0**
	comp=Z,63nm,0.8s,baz=256,slow=4.4,SNR=51						
JTS				SKPbc	**SKPbc**	**09 20 26.3**	**-1.0**
	comp=Z,44nm,1.0s,baz=295,slow=2.9,SNR=6.3						
LVC	**Limon Verde**	**145.82**	**145**	*e*PKPdf	**PKPab**	**09 16 59.6**	**+0.9**
NNA	**Nana**	**147.08**	**122**	*e*PKPdf	**PKPbc**	**09 17 01.1**	**-0.8**
BBTS	**Babate**	**147.09**	**289**	PKP	**PKPdf**	**09 17 00.3**	**+0.8**
BBTS				PKPbc	**PKPab**	**09 17 02.9**	**-0.5**
BBTS	**Babate**	**147.09**	**289**	PKP	**PKPdf**	**09 17 00.3**	**+0.8**
	comp=Z,723nm,0.8s,baz=83,slow=0.8						
BBTS				PKPbc	**PKPab**	**09 17 02.9**	**-0.5**
	comp=Z,723nm,0.8s,baz=340,slow=0.1,SNR=9.2						
CPUP	**Villa Florida**	**147.34**	**166**	*e*PKPdf	**PKPdf**	**09 17 00.5**	**+0.7**
CPUP				SKPbc	**SKPbc**	**09 20 33.5**	**-1.6**
CPUP	**Villa Florida**	**147.34**	**166**	PKP	**PKPdf**	**09 17 00.4**	**+0.7**
	comp=Z,66nm,0.6s,baz=186,slow=2.3,SNR=73						
CPUP				PKPbc	**PKPbc**	**09 17 02.6**	**+0.5**
	comp=Z,66nm,0.6s,baz=149,slow=0.7,SNR=65						
CPUP				SKPbc	**SKPbc**	**09 20 33.5**	**-1.6**
	comp=Z,29nm,0.9s,baz=169,slow=6.3,SNR=3.0						
ATAH	**Atahualpa**	**147.83**	**113**	PKPbc	**PKPbc**	**09 17 03.9**	**-0.5**
ATAH	**Atahualpa**	**147.83**	**113**	PKPbc	**PKPbc**	**09 17 03.9**	**-0.5**
	comp=Z,405nm,1.0s,baz=289,slow=2.6,SNR=39						
BCIP	**Isla Barro Col**	**148.88**	**81**	*e*PKPdf	**PKPdf**	**09 17 02.7**	**+0.1**
BCIP				*e*PKPbc	**PKPbc**	**09 17 07.0**	**+0.5**
MCJ	**Malvern**	**149.06**	**64**	*i*P	**PKPbc**	**09 17 07.5**	**+0.5**
MTDJ	**Mount Denham**	**149.09**	**63**	*e*PKPdf	**PKPdf**	**09 17 03.5**	**+0.6**
MTDJ				*e*PKPbc	**PKPbc**	**09 17 07.7**	**+0.6**
STH	**Stony Hill**	**149.78**	**63**	*i*P	**PKPdf**	**09 17 04.8**	**+0.8**
OTAV	**Otavalo**	**149.83**	**99**	*e*PKPdf	**PKPdf**	**09 17 05.8**	**+1.0**
GWJ	**Greenwich**	**149.86**	**63**	*i*P	**PKPbc**	**09 17 10.0**	**+1.0**
HOJ	**Hope**	**149.86**	**63**	*i*P	**PKPbc**	**09 17 09.2**	**+0.3**
YHJ	**Yallahs**	**150.13**	**63**	*i*P	**PKPdf**	**09 17 05.3**	**+0.8**
GTBY	**Guantanamo Bay**	**150.53**	**58**	*e*PKPdf	**PKPdf**	**09 17 05.9**	**+0.9**
GTBY				*e*PKPbc	**PKPbc**	**09 17 10.7**	**+0.3**
LPAZ	**La Paz**	**151.09**	**139**	*e*PKPdf	**PKPdf**	**09 17 08.0**	**+1.2**
LPAZ				*e*PKPbc	**PKiKP**	**09 17 14.1**	**+0.9**
LPAZ	**La Paz**	**151.09**	**139**	PKP	**PKPdf**	**09 17 08.1**	**+1.2**
	comp=Z,39nm,1.1s,baz=311,slow=0.5,SNR=75						
LPAZ				PKPbc	**PKiKP**	**09 17 13.9**	**+0.8**
	comp=Z,247nm,0.9s,baz=336,slow=0.6,SNR=186						
SACV	**Santiago Islan**	**153.60**	**293**	*e*PKPdf	**PKPdf**	**09 17 10.9**	**+1.2**
SACV				*e*PKPbc	**PKiKP**	**09 17 18.5**	**+0.9**
SDDR	**Presa de Saban**	**154.16**	**57**	*e*PKPdf	**PKPdf**	**09 17 09.8**	**-0.8**
SDDR				*e*PKPbc	**PKiKP**	**09 17 19.2**	**+0.4**
ROSC	**El Rosal**	**154.44**	**90**	*e*PKPdf	**PKPdf**	**09 17 12.7**	**+1.2**
ROSC				PKPbc	**PKiKP**	**09 17 20.5**	**+0.5**
ROSC	**El Rosal**	**154.44**	**90**	PKP	**PKPdf**	**09 17 12.6**	**+1.0**
	comp=Z,32nm,0.9s,baz=111,slow=11,SNR=26						
ROSC				PKPbc	**PKiKP**	**09 17 20.5**	**+0.5**
	comp=Z,16nm,0.5s,baz=297,slow=6.8,SNR=7.1						
SIV	**San Ignacio**	**155.44**	**150**	PKP	**PKPdf**	**09 17 13.1**	**+0.7**
SIV				PKPbc	PKPbc	09 17 22.4	
SIV				PKPab	**PKPab**	**09 17 38.5**	**+0.6**
SIV	**San Ignacio**	**155.44**	**150**	PKP	**PKPdf**	**09 17 13.1**	**+0.7**
	comp=Z,16nm,0.9s,baz=217,slow=2.0,SNR=26						
SIV				PKPbc	PKPbc	09 17 22.4	
	comp=Z,20nm,1.0s,baz=269,slow=1.7,SNR=11						
SIV				PKPab	**PKPab**	**09 17 38.5**	**+0.6**
	comp=Z,21nm,1.0s,baz=218,slow=8.8,SNR=6.4						
SDV	**Santo Domingo**	**157.95**	**80**	*e*PKPdf	**PKPdf**	**09 17 15.8**	**0.0**
SDV				*e*PKPab	**PKPab**	**09 17 52.4**	**+3.2**
LSP	**Las Mesas**	**158.00**	**53**	*e*PKPdf	**PKPdf**	**09 17 14.7**	**-0.9**
CRPR	**Cabo Rojo, PR**	**158.07**	**54**	*e*PKPdf	**PKPdf**	**09 17 15.6**	**0.0**
CRPR				*e*PKPab	**PKPab**	**09 17 50.0**	**+0.7**
DBIP	**Obispado Ponce**	**158.46**	**53**	*e*PKPdf	**PKPdf**	**09 17 15.4**	**+0.2**
CELP	**Cerrillos**	**158.46**	**53**	*e*PKPdf	**PKPdf**	**09 17 16.6**	**+0.5**
CBYP	**Canovanas**	**158.92**	**51**	*e*PKPdf	**PKPdf**	**09 17 15.7**	**-1.0**
BDFB	**Brasilia**	**159.06**	**182**	PKP	**PKPdf**	**09 17 17.4**	**+0.4**
BDFB				PKPab	**PKPab**	**09 17 53.5**	**0.0**
BDFB	**Brasilia**	**159.06**	**182**	PKP	**PKPdf**	**09 17 17.4**	**+0.4**
	comp=Z,54nm,1.0s,baz=178,slow=0.8,SNR=44						
BDFB				PKPab	**PKPab**	**09 17 53.5**	**0.0**
	comp=Z,59nm,1.1s,baz=168,slow=2.0,SNR=9.1						
MTP	**Monte Pirata**	**159.25**	**51**	*e*PKPdf	**PKPdf**	**09 17 17.1**	**+0.1**
MTP				*e*PKPab	**PKPab**	**09 17 55.3**	**+0.9**
SAML	**Samuel**	**159.68**	**135**	*e*PKPdf	**PKPdf**	**09 17 18.2**	**+0.5**
SAML				*e*PKPab	**PKPab**	**09 17 56.1**	**-0.2**
CDVI	**St. Croix**	**160.06**	**51**	*e*PKPdf	**PKPdf**	**09 17 18.2**	**+0.3**
CDVI				*e*PKPab	**PKPab**	**09 17 59.3**	**+1.5**
RCBR	**Riachuelo**	**163.04**	**229**	*e*PKPdf	**PKPdf**	**09 17 21.3**	**0.0**
RCBR				*e*PKPab	**PKPab**	**09 18 12.0**	**+0.9**
RCBR	**Riachuelo**	**163.04**	**229**	PKP	**PKPdf**	**09 17 21.9**	**+0.6**
	comp=Z,43nm,1.0s,baz=187,slow=1.7,SNR=11						
RCBR				PKPab	**PKPab**	**09 18 11.9**	**+0.9**
	comp=Z,164nm,0.8s,baz=125,slow=5.7,SNR=48						
FDF	**Fort de France**	**164.63**	**52**	*e*PKIKP	**PKPdf**	**09 17 22.4**	**-0.2**
FDF	**Fort de France**	**164.63**	**52**	*e*PKPdf	**PKPdf**	**09 17 22.4**	**-0.2**
PTGA	**Pitinga**	**167.17**	**118**	*e*PKPdf	**PKPdf**	**09 17 24.7**	**0.0**
PTGA				*e*PKPab	**PKPab**	**09 18 29.5**	**+0.1**
PTGA	**Pitinga**	**167.17**	**118**	PKP	**PKPdf**	**09 17 24.9**	**+0.2**
	comp=Z,35nm,1.1s,baz=260,slow=0.7,SNR=24						
PTGA				PKPab	**PKPab**	**09 18 31.3**	**+1.9**
	comp=Z,28nm,1.0s,baz=233,slow=4.4,SNR=7.3						

MEX 26 09:12:32.3±1.0, 16.57N×95.14W, h130km±17km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.22**	**229**	*e*P	Pn	09 12 55.6	-1.8
HUIG				*e*S	Sn	09 13 15.1	-1.4
VHO	**Vista Hermosa**	**1.60**	**288**	*e*P	Pn	09 13 00.9	-0.9
VHO				*e*S	Sn	09 13 21.8	-2.5
TUIG	**Tuzandepetl**	**1.61**	**25**	*i*P	Pn	09 12 54.0	-7.6
TUIG				*i*S	Sn	09 13 15.7	-8.3
PCIG		**2.04**	**115**	*i*P	Pn	09 13 04.8	-1.9
PCIG				*e*S	Sn	09 13 31.9	-1.3
PNIG	**Pinotepa**	**2.87**	**267**	*e*P	Pn	09 13 16.2	-1.1
PNIG				*i*S	Sn	09 13 49.7	-2.2
THIG		**3.23**	**120**	*i*P	Pn	09 13 20.5	-1.4
THIG				*e*S	Sn	09 13 58.3	-1.9
SCIG	**Sabancuy**	**4.46**	**57**	*e*P	Pn	09 13 33.1	-5.0
TEIG	**Tepich**	**7.46**	**60**	*i*P	Pn	09 14 13.1	-5.4

*CSEM **26** 09:13:26.9, 40.42N×21.86E, h5km±3km, MD3.0, After ATH*
ATH 26 09:13:26.9, 40.42N×21.86E, h5km±3km, MD3.0/9, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.13**	**211**	*e*PG	Pg	09 13 29.7	0.0
KZN	**Kozani**	**0.13**	**211**	*e*Pg	Pg	09 13 29.7	0.0
FNA	**Florina**	**0.52**	**315**	*e*PB	Pg	09 13 37.1	+0.1
FNA	**Florina**	**0.52**	**315**	*e*Pb	Pg	09 13 37.1	+0.1
LIT	**Litokhoron**	**0.58**	**123**	*e*PB	Pg	09 13 38.2	+0.1
LIT	**Litokhoron**	**0.58**	**123**	*e*Pb	Pg	09 13 38.2	+0.1
GRG	**Griva**	**0.68**	**37**	*e*PG	Pg	09 13 39.9	-0.1
GRG	**Griva**	**0.68**	**37**	*e*Pg	Pg	09 13 39.9	-0.1
THL	**Klokotos Trika**	**0.86**	**172**	*e*PB	Pg	09 13 43.5	0.0
THL	**Klokotos Trika**	**0.86**	**172**	*e*Pb	Pg	09 13 43.5	0.0
THE	**Thessaloniki**	**0.87**	**76**	*e*PB	Pg	09 13 43.6	0.0
THE	**Thessaloniki**	**0.87**	**76**	*e*Pb	Pg	09 13 43.6	0.0
HORT	**Hortiatis**	**0.96**	**79**	*e*PB	Pg	09 13 45.5	0.0
HORT				*e*SB	Sb	09 13 59.6	+0.3
HORT	**Hortiatis**	**0.96**	**79**	*e*Pb	Pg	09 13 45.5	0.0
HORT				*e*Sb	Sb	09 13 59.6	+0.3
KNT	**Kendrikon**	**1.08**	**46**	*e*PG	Pg	09 13 47.1	-0.6
KNT				*e*SB	Sb	09 14 03.0	+0.4
KNT	**Kendrikon**	**1.08**	**46**	*e*Pg	Pg	09 13 47.1	-0.6
KNT				*e*Sb	Sb	09 14 03.0	+0.4
SOH	**Sokhos**	**1.21**	**70**	*e*PG	Pg	09 13 49.4	-0.7
SOH	**Sokhos**	**1.21**	**70**	*e*Pg	Pg	09 13 49.4	-0.7
PLG	**Polygyros**	**1.21**	**92**	*e*PB	Pg	09 13 50.1	-0.1
PLG	**Polygyros**	**1.21**	**92**	*e*Pb	Pg	09 13 50.1	-0.1
AGG	**Agios Georgios**	**1.44**	**165**	*e*PB	Pg	09 13 54.9	+0.3
AGG	**Agios Georgios**	**1.44**	**165**	*e*Pb	Pg	09 13 54.9	+0.3
XOR	**Xorichti**	**1.47**	**135**	*e*PG	Pn	09 13 54.3	+0.2
XOR	**Xorichti**	**1.47**	**135**	*e*Pg	Pn	09 13 54.3	+0.2
IGT	**Igoumenitsa**	**1.47**	**233**	*e*PB	Pg	09 13 55.4	+0.3
IGT	**Igoumenitsa**	**1.47**	**233**	*e*Pb	Pg	09 13 55.4	+0.3

MAN 26 09:23:31, 10.72N×122.37E, h9km, mb4.2, ML3.0, MS2.8, 2C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**0.91**	**24**	⇑*e*P	Pg	09 23 46.4	-2.2
RCP				*e*S	Sg	09 23 58.3	-2.1
LLP	**Lapu-Lapu**	**1.62**	**104**	⇑*e*P	Pn	09 23 59.4	-0.4
LLP				*e*S	Sn	09 24 20.9	+0.1

*CSEM **26** 09:28:53.9, 34.74N×22.98E, h12km±1km, MD3.5, After ATH*
ATH 26 09:28:53.9, 34.74N×22.98E, h12km±1km, MD3.5/13, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARN	**Karanos**	**1.01**	**49**	*e*PN	Pn	09 29 13.8	-0.2
KARN				*e*SB	Sb	09 29 27.1	+0.3
KARN	**Karanos**	**1.01**	**49**	*e*Pn	P

KUR					smax		smax		
	comp=E,280nm,1.0s								
KUR	**Kuril'sk**	**3.91**	**259**	*i*	P		**Pn**	**09 33 48.0**	**0.0**
KUR					AMB		AMB	09 33 48.2	
	comp=E,180nm,0.3s								
KUR					*e*S		**Sn**	**09 34 33.0**	**+0.1**
KUR					A		A	09 34 42.0	
	comp=E,120nm,0.8s								
SKR	**Severo-Kuril's**	**4.98**	**21**	*e*	PN		**Pn**	**09 34 02.6**	**-0.1**
SKR				*e*				09 34 55.9	
SKR	**Severo-Kuril's**	**4.98**	**21**	*e*	P		**Pn**	**09 34 02.6**	**-0.1**
SKR					*e*S		**Sn**	**09 34 57.5**	**-1.8**
SKR					A		A	09 35 03.1	
	comp=E,60nm,0.3s								
SHO	**Shikotan**	**5.10**	**247**	*e*	P		**Pn**	**09 34 03.0**	**-1.4**
SHO					*e*S		**Sn**	**09 35 00.6**	**-1.7**
YSS	**Yuzh-Sakhalins**	**7.33**	**281**	*e*	P		**Pn**	**09 34 36.6**	**+1.6**
PETK	**Petropavlovsk-**	**7.59**	**20**		PN		**Pn**	**09 34 37.4**	**-1.2**
PETK	**Petropavlovsk-**	**7.59**	**20**		Pn		**Pn**	**09 34 37.4**	**-1.2**
	comp=E,0.3nm,0.3s,baz=183,slow=12,SNR=9.4								
JKA	**Kamikawa-asahi**	**7.82**	**259**	*e*	P		**Pn**	**09 34 42.2**	**+0.4**
ASAJ	**Asahikawa**	**7.83**	**259**		Pn		**Pn**	**09 34 42.1**	**+0.3**
	comp=E,1.2nm,0.3s,baz=67,slow=21,SNR=11								
TYV	**Tymovskoe**	**8.54**	**308**	*e*	P		**Pn**	**09 34 52.4**	**+0.8**
EKMR	**Ekimchan**	**14.91**	**305**	*e*	P		**Pn**	**09 36 20.4**	**+1.7**
USRK	**Ussuriysk Arra**	**15.16**	**271**		Pn		**Pn**	**09 36 21.9**	**0.0**
	comp=E,0.2nm,0.3s,baz=72,slow=8.7,SNR=5.0								
KSRS	**Korea Array**	**20.73**	**254**		LR		LR	09 44 35.2	
	comp=E,226nm,18.5s,baz=215,slow=34								
H11N2	**WAKE ISLAND Hy**	**28.56**	**152**		T		T	10 10 28.6	
	baz=342,slow=76,SNR=4.9								
H11N1	**WAKE ISLAND Hy**	**28.57**	**152**		T		T	10 10 30.9	
	baz=342,slow=76,SNR=4.4								
H11N3	**WAKE ISLAND Hy**	**28.58**	**152**		T		T	10 10 28.2	
	baz=342,slow=76,SNR=5.0								
H11S1	**WAKE ISLAND Hy**	**29.64**	**154**		T		T	10 11 47.0	
	baz=0.8,SNR=5.3								
H11S3	**WAKE ISLAND Hy**	**29.65**	**154**		T		T	10 11 45.4	
	baz=0.8,SNR=4.3								
H11S2	**WAKE ISLAND Hy**	**29.66**	**154**		T		T	10 11 44.6	
	baz=0.8,SNR=3.6								
YKA	**Yellowknife Ar**	**51.39**	**36**	*e*	P		**P**	**09 41 52.8**	**+1.1**
YKA	**Yellowknife Ar**	**51.39**	**36**		P		**P**	**09 41 52.8**	**+1.1**
	comp=E,0.1nm,0.6s,baz=295,slow=6.8,SNR=3.3								
FINES	**FINESS Array B**	**64.71**	**335**		P		**P**	**09 43 23.1**	**-1.8**
	comp=E,3.1nm,0.8s,baz=14,slow=8.5,SNR=6.5								
NOA	**NORSAR Array B**	**68.91**	**341**	*e*	P		**P**	**09 43 51.3**	**-0.5**
NOA	**NORSAR Array B**	**68.91**	**341**		P		**P**	**09 43 51.3**	**-0.5**
	comp=E,0.5nm,0.6s,baz=28,slow=6.5,SNR=5.0								
KBZ	**Khabaz**	**71.42**	**314**		P		**P**	**09 44 07.7**	**+0.3**
KBZ					pmax		pmax		
	comp=Z,2.0nm,0.8s								
KBZ	**Khabaz**	**71.42**	**314**	*e*	P		**P**	**09 44 07.7**	**+0.3**
KBZ	**Khabaz**	**71.42**	**314**		P		**P**	**09 44 07.7**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=0.0,slow=0.0,SNR=4.0								
AKASG	**Malin Array Be**	**72.18**	**326**		P		**P**	**09 44 10.8**	**-1.0**
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**72.18**	**326**		P		**P**	**09 44 10.8**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=34,slow=6.1,SNR=4.3								
EKA	**Eskdalemuir Ar**	**77.02**	**346**	*e*	P		**P**	**09 44 40.7**	**+0.8**
EKA	**Eskdalemuir Ar**	**77.02**	**346**		P		**P**	**09 44 40.7**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=25,slow=5.7,SNR=5.3								
TXAR	**Lajitas Array**	**77.71**	**61**	*e*	P		**P**	**09 44 46.2**	**+1.9**
TXAR	**Lajitas Array**	**77.71**	**61**		P		**P**	**09 44 46.2**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=298,slow=5.1,SNR=5.5								

*IDC **26** 09:36:27.7±0.5, 10.43S×118.90E, h0km, mb4.4/19, mb1 4.4/20, mb1mx4.4/27, mbtmp4.4/20, ML4.6/1, Error ellipse: s-maj=23.4km s-min=12.2km az=68.0*
*AUST **26** 09:36:28.1, 10.49S×118.95E, h0km*
*DJA **26** 09:36:30.6±0.8, 11.5S×11.9E±, h10km, M4.9/21, mb4.9/12, mB5.4/7, MLv4.9/21, Mw(mB)4.8/7*
*ISCJB **26** 09:36:31.1±0.5, 10.69S±0.03×118.87E±0.03, h50km±4km, mb4.6/46, MS4.6/2, Error ellipse: s-maj=5.5km s-min=4.4km az=135.9*
*NEIC **26** 09:36:32.4±0.3, 10.41S×119.05E, h35km, mb4.9/16, Error ellipse: s-maj=14.9km s-min=5.2km az=53.0*

ISC 26 09:36:32.1±0.5, 10.63S±0.04×118.91E±0.03, h34km±1km, n177, σ1s71/177, mb4.7/46, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.09**	**26**	P		P	Pb	09 36 59.4	+6.8
WBSI				S		S	**Sb**	**09 37 11.0**	**+4.4**
WSI	**Waingapu**	**1.67**	**55**	P		P	**Pb**	**09 37 01.4**	**-0.9**
WSI				S		S	**Sn**	**09 37 19.1**	**-0.2**
WSI	**Waingapu**	**1.67**	**55**	P		P	**Pn**	**09 37 00.5**	**+1.5**
WSI	**Waingapu**	**1.67**	**55**	P		P	**Pn**	**09 37 00.7**	**+1.6**
	baz=1.6,SNR=12								
BMNI	**Bima**	**2.08**	**354**	P		P	**Pb**	**09 37 07.6**	**-1.8**
BMNI				S		S	**Sb**	**09 37 39.2**	**+4.3**
BMNI	**Bima**	**2.08**	**354**	P		P	**Pb**	**09 37 07.2**	**-2.2**
LBFI	**Labuhan Bajo,**	**2.34**	**25**	P		P	**Pn**	**09 37 09.7**	**+1.4**
LBFI				S		S	**Sn**	**09 37 39.1**	**+3.1**
LBFI	**Labuhan Bajo,**	**2.34**	**25**	P		P	**Pn**	**09 37 09.4**	**+1.1**
LBFI				S		S	**Sn**	**09 37 35.2**	**-0.8**
MMRI	**Maumere**	**3.84**	**59**	P		P	**Pn**	**09 37 29.0**	**+0.1**
MMRI				S		S	**Sn**	**09 38 09.0**	**-3.8**
MMRI	**Maumere**	**3.84**	**59**	P		P	**Pn**	**09 37 29.6**	**+0.7**
KHKI	**Kahang-Kahang**	**3.95**	**304**	P		P	**Pn**	**09 37 32.1**	**+1.6**
IGBI	**Denpasar**	**4.12**	**296**	P		P	**Pn**	**09 37 35.3**	**+2.6**
IGBI	**Denpasar**	**4.12**	**296**	P		P	**Pn**	**09 37 31.3**	**-1.4**
IGBI				S		S	**Sn**	**09 38 15.7**	**-4.1**
DNP	**Denpasar**	**4.13**	**298**	P		P	**Pb**	**09 37 45.0**	**+0.9**
DNP				S		S	**Sn**	**09 38 20.2**	**+0.2**
DNP	**Denpasar**	**4.13**	**298**	P		P	**Pn**	**09 37 35.3**	**+2.5**
SRBI	**Singaraja**	**4.43**	**304**	P		P	Pn	09 37 43.2	+6.1
SRBI				S		S	**Sn**	**09 38 27.1**	**-0.4**
SRBI	**Singaraja**	**4.43**	**304**	P		P	**Pn**	**09 37 37.4**	**+0.3**
BYJI	**Banyuwangi**	**5.09**	**298**	P		P	**Pb**	**09 38 01.2**	**+0.7**
	247nm,0.7s,1.4nm								
BYJI	**Banyuwangi**	**5.09**	**298**	P		P	**Pn**	**09 37 46.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**5.16**	**294**	P		P	**Pn**	**09 37 44.6**	**-2.4**
	baz=5.1,SNR=12								
SOEI	**Soe**	**5.35**	**81**	P		P	**Pn**	**09 37 48.6**	**-1.2**
ABJI	**Asem Bagus**	**5.40**	**301**	P		P	**Pb**	**09 38 04.8**	**-1.0**
	129nm,0.5s,3μm0.8nm								
ABJI	**Asem Bagus**	**5.40**	**301**	P		P	**Pn**	**09 37 52.8**	**+2.4**
	129nm,0.6s,0.8nm								
BKSI	**Bulukumba**	**5.41**	**13**	P		P	**Pn**	**09 37 52.8**	**+2.3**
	320nm,0.6s,4μm1.4nm								
BKSI				S		S	**Sn**	**09 38 54.0**	**+2.4**
	320nm,0.6s,4μm1.4nm								
BKSI	**Bulukumba**	**5.41**	**13**	P		P	**Pn**	**09 37 52.3**	**+1.8**
	319nm,0.6s,4μm1.4nm								
GMJI	**Gumukmas**	**5.87**	**293**	P		P	**Pb**	**09 38 12.4**	**-1.5**
	92nm,0.8s,2μm0.6nm								
GMJI	**Gumukmas**	**5.87**	**293**	P		P	Pn	09 37 52.8	-4.1
	74nm,0.8s,2μm0.6nm								
BLJI	**Banyuglugur**	**5.97**	**298**	P		P	Pn	09 37 48.7	-10
	139nm,0.4s,9μm1.2nm								
KMMI	**Kalianget**	**6.04**	**306**	P		P	Pb	09 38 26.3	+10
KMMI	**Kalianget**	**6.04**	**306**	P		P	**Pn**	**09 38 00.9**	**+1.8**
	57nm,0.8s,5μm0.4nm								
BNSI	**Bone**	**6.30**	**11**	P		P	Pn	09 38 08.1	+5.4
	128nm,0.8s,2μm0.4nm								
BNSI	**Bone**	**6.30**	**11**	P		P	**Pn**	**09 38 05.7**	**+3.0**
	128nm,0.8s,2μm0.4nm								
SPSI	**Sidrap Palu**	**6.68**	**7**	P		P	Pn	09 38 13.5	+5.6
	56nm,0.8s,0.2nm								
SPSI	**Sidrap Palu**	**6.68**	**7**	P		P	**Pn**	**09 38 09.1**	**+1.2**
	56nm,0.8s,0.2nm								
KRKI	**Karangkates**	**6.82**	**291**	P		P	Pb	09 38 25.4	-4.6
	325nm,0.7s,2.3nm								
KKSI	**Kolaka, Sulawe**	**6.97**	**23**	P		P	Pn	09 38 15.4	+3.5
	134nm,0.7s,0.5nm								
PWJI	**Pagerwojo**	**7.47**	**290**	P		P	Pb	09 38 33.3	-7.7
	65nm,0.7s,3μm0.7nm								
PWJI	**Pagerwojo**	**7.47**	**290**	P		P	**Pn**	**09 38 17.5**	**-1.3**
	65nm,0.7s,2μm0.7nm								
TTSI	**Tana Toraja**	**7.59**	**7**	P		P	Pn	09 38 25.7	+5.3
	59nm,0.9s,2μm0.2nm								
TTSI	**Tana Toraja**	**7.59**	**7**	P		P	**Pn**	**09 38 22.5**	**+2.1**
	59nm,0.9s,2μm0.2nm								
MMSI	**Mamuju**	**7.89**	**0**	P		P	Pb	09 38 39.3	-8.8
MMSI	**Mamuju**	**7.89**	**0**	P		P	**Pn**	**09 38 26.1**	**+1.6**
	46nm,0.7s,0.2nm								
PCJI	**Pacitan**	**8.00**	**287**	P		P	**Pn**	**09 38 24.5**	**-1.6**
	71nm,0.8s,0.6nm								
BBKI	**Banjar Baru**	**8.18**	**330**	P		P	Pn	09 38 39.9	+11
	46nm,1.1s								
UGM	**Wanagama**	**8.70**	**287**	P		P	**Pn**	**09 38 35.5**	**-0.3**
UGM	**Wanagama**	**8.70**	**287**	P		P	**Pn**	**09 38 37.4**	**+1.6**
	baz=8.7,SNR=5.7								
FITZ	**Fitzroy Crossi**	**9.88**	**139**	*e*	Pn		**Pn**	**09 38 51.0**	**-0.9**
	22nm,0.7s								
FITZ				*e*	Sn		Sn	09 40 34.4	-7.4
FITZ	**Fitzroy Crossi**	**9.88**	**139**		Pn		**Pn**	**09 38 50.6**	**-1.3**
	3.2nm,0.3s,baz=335,slow=7.8,SNR=53								
FITZ					Sn		Sn	09 40 31.8	-10
	1.0nm,0.3s,baz=194,slow=19,SNR=3.6								
FITZ	**Fitzroy Crossi**	**9.88**	**139**	P		P	**Pn**	**09 38 51.0**	**-0.9**
	baz=10.0,SNR=27								
KPJI	**Karang Pucung**	**10.38**	**288**	P		P	Pn	09 39 13.9	+15
	33nm,0.6s								
MRSI	**Marisa**	**11.44**	**15**	P		P	Pn	09 39 17.4	+4.2
	22nm,1.0s								
MTN	**Manton Dam**	**12.17**	**102**	P		P	**Pn**	**09 39 21.3**	**-2.0**
	baz=12,SNR=21								
GIRL	**Giralia**	**12.76**	**200**	P		P	**Pn**	**09 39 30.1**	**-1.1**
	baz=13,SNR=23								
KDU	**Kakadu**	**13.45**	**100**	P		P	P	09 39 45.9	-3.7
	baz=13,SNR=3.6								
KSM	**Kuching**	**14.75**	**324**	P		P	**P**	**09 40 07.0**	**+2.9**
	16nm,1.0s								
FAKI	**Fak Fak**	**15.30**	**61**	P		P	**Pn**	**09 40 02.9**	**-2.8**
	baz=15,SNR=6.1								
MEEK	**Meekatharra**	**15.93**	**181**	P		P	**Pn**	**09 40 10.8**	**-3.1**
	baz=16,SNR=30								
WRKA	**Warakurna**	**16.88**	**149**	P		P	**Pn**	**09 40 23.8**	**-2.1**
	baz=17,SNR=72								
WRA	**Warramunga Arr**	**17.52**	**124**	P		Pn	**Pn**	**09 40 31.9**	**-2.1**
WRA						Sn	Sn	09 43 32.4	-16
WRA	**Warramunga Arr**	**17.52**	**124**	P		Pn	**Pn**	**09 40 31.9**	**-2.1**
	0.8nm,0.3s,baz=298,slow=13,SNR=48								
WRA						Sn	Sn	09 43 32.4	-16
	0.4nm,0.3s,baz=293,slow=24,SNR=4.3								
WRAB	**Tennant Creek**	**17.52**	**124**	*e*	Pn		**Pn**	**09 40 33.5**	**-0.5**
	11nm,0.8s								
WRAB				*e*	Sn		Sn	09 43 31.0	-17
MORW	**Morawa**	**18.54**	**188**	P		P	**P**	**09 40 45.8**	**-0.2**
	baz=19,SNR=36								
AS31	**Alice Springs**	**19.30**	**134**	*e*	P		**P**	**09 40 54.2**	**-0.2**
AS31				*e*	S		S	09 44 12.8	-19
ASAR	**Alice Springs**	**19.30**	**134**	P			**Pn**	**09 40 55.8**	**+0.1**
ASAR				S			S	09 44 20.6	-11
ASAR	**Alice Springs**	**19.30**	**134**	P			**Pn**	**09 40 55.8**	**+0.1**
	1.7nm,0.3s,baz=323,slow=12,SNR=102								
ASAR				S			S	09 44 20.6	-11
	0.4nm,0.3s,baz=313,slow=24,SNR=8.5								
BLDU	**Ballidu**	**19.99**	**186**	P			**Pn**	**09 41 03.3**	**-0.5**
	baz=20,SNR=31								
KMBL	**Kambalda**	**20.82**	**173**	P			Pn	09 41 15.5	+2.0
	baz=21,SNR=5.1								
KLBR	**Kellerberrin**	**20.89**	**183**	P			Pn	09 41 17.1	+2.8
	baz=21,SNR=7.8								
FORT	**Forrest**	**21.78**	**158**	*e*	P		**P**	**09 41 24.1**	**+3.0**
	33nm,0.6s								
FORT				*e*	S		**S**	**09 45 17.3**	**-3.0**
QIS	**Mount Isa**	**22.22**	**119**	P			**P**	**09 41 27.4**	**+1.4**
	baz=22,SNR=6.6								
NWAO	**Narrogin (SRO)**	**22.25**	**184**	P			P	09 41 34.1	+8.0
NWAO				S			S	09 45 17.8	-11
NWAO	**Narrogin (SRO)**	**22.25**	**184**	P			P	09 41 34.1	+8.0
	28nm,0.4s,baz=12,slow=11,SNR=55								
NWAO					S		S	09 45 17.8	-11
	12nm,0.3s,baz=267,slow=5.9,SNR=7.3								
IPM	**Ipoh**	**23.28**	**309**	*e*	P		**P**	**09 41 36.9**	**-0.3**
	4.6nm,0.6s								
RKGY	**Rocky Gully**	**23.94**	**184**	P			P	09 41 52.2	+9.0
	baz=24,SNR=12								
COEN	**Coen**	**23.94**	**100**	P			**P**	**09 41 44.3**	**+0.9**
	baz=24,SNR=5.7								
PSI	**Prapat**	**23.95**	**303**	P			P	**09 41 42.7**	**-0.9**
PSI	**Prapat**	**23.95**	**303**	P			P	**09 41 43.0**	**-0.6**
PSI	**Prapat**	**23.95**	**303**	P			P	**09 41 43.0**	**-0.6**
	7.3nm,0.4s,baz=138,slow=4.6,SNR=6.5								
PSI	**Prapat**	**23.95**	**303**	P			P	**09 41 43.2**	**-0.4**
	baz=24,SNR=6.0								
KCSI	**Kotacane, Aceh**	**25.30**	**303**	P			P	**09 41 54.8**	**-1.1**
BBOO	**Buckleboo**	**27.14**	**147**	*e*	P		P	**09 42 13.8**	**+1.5**
	186nm,1.1s								
CTA	**Charters Tower**	**27.96**	**113**	P			P	**09 42 21.2**	**+1.4**
CTA	**Charters Tower**	**27.96**	**113**	P			P	**09 42 21.2**	**+1.4**
	3.2nm,0.9s,baz=299,slow=9.7,SNR=5.7								
MANU	**Manus Island**	**29.52**	**75**	P			P	09 42 42.2	+8.5
	baz=30,SNR=4.2								
STKA	**Stephens Creek**	**29.78**	**139**	*e*	P		**P**	**09 42 37.1**	**+1.2**
	7.8nm,2.0s								
STKA	**Stephens Creek**	**29.78**	**139**	P			**P**	**09 42 36.6**	**+0.8**
	0.8nm,0.4s,baz=305,slow=12,SNR=5.3								
EIDS	**Eidsvold**	**33.81**	**120**	*e*	P		**P**	**09 43 09.7**	**-1.7**
	13nm,1.2s								
CMAR	**Chiang Mai Arr**	**34.98**	**326**	P			**P**	**09 43 20.9**	**-0.6**
CMAR				PcP			**PcP**	**09 45 55.9**	**+2.4**
CMAR	**Chiang Mai Arr**	**34.98**	**326**	P			**P**	**09 43 20.9**	**-0.6**
	1.4nm,0.5s,baz=133,slow=5.5,SNR=4.6								
CMAR				PcP			**PcP**	**09 45 55.9**	**+2.4**
	1.1nm,0.3s,baz=185,slow=3.3,SNR=5.6								
ARMA	**Armidale**	**36.22**	**128**	*e*	P		P	09 43 35.8	+3.6
GYA	**Guiyang**	**38.74**	**342**	*e*	P		**P**	**09 43 53.3**	**-0.2**
GYA				pP			**pP**	**09 44 03.8**	**+0.4**
GYA				PP			**PnPn**	**09 45 26.0**	**+1.0**
GYA				PcP			**PcP**	**09 46 05.5**	**+0.7**
GYA				S			**S**	**09 49 47.5**	**-1.1**
GYA				sS			**sS**	**09 50 04.3**	**-0.7**
GYA				SS			**SnSn**	**09 52 29.8**	**-10**
GYA				pmax			pmax		
	comp=Z,10.0nm,0.8s								
GYA				pmax			pmax		
	comp=Z,90nm,4.9s								
GYA				LR			LR		
	comp=N,470nm,16.5s								
GYA				LR			LR		
	comp=E,360nm,17.4s								
GYA				LR			LR		
	comp=Z,420nm,17.0s								
WHN	**Wuhan**	**41.17**	**354**	P			**P**	**09 44 14.0**	**+0.6**
ENH	**Enshi**	**41.66**	**348**	P			**P**	**09 44 16.4**	**-1.2**
	6.7nm,0.5s								
NJ2	**Nanjing**	**42.44**	**360**	*e*	P		**P**	**09 44 23.5**	**-0.3**
CD2	**Chengdu**	**43.79**	**341**	*e*	P		**P**	**09 44 34.3**	**-0.5**
CD2				pmax			pmax		
	comp=Z,20nm,0.6s								
XAN	**Xi'an**	**45.42**	**348**	P			**P**	**09 44 46.5**	**-1.3**
XAN				pP			**pP**	**09 44 53.8**	**-4.1**
XAN				pmax			pmax		
	comp=Z,4.0nm,0.9s								
H08S2	**Diego Garcia H**	**45.89**	**270**	T			T	10 34 20.6	
	baz=95,slow=75,SNR=7.4								
H08S3	**Diego Garcia H**	**45.90**	**270**	T			T	10 34 29.6	
	baz=95,slow=75,SNR=8.3								
H08S1	**Diego Garcia H**	**45.91**	**270**	T			T	10 34 25.5	
	baz=95,slow=75,SNR=11								
TAPN	**Taplejung**	**48.38**	**322**	*e*	P		**P**	**09 45 10.7**	**-0.7**
TAPN	**Taplejung**	**48.38**	**322**	*e*	P		**P**	**09 45 10.7**	**-0.7**
KSAR	**Wonju Array Be**	**48.55**	**10**	P			**P**	**09 45 12.0**	**-0.1**
KSRS	**Korea Array**	**48.57**	**10**	P			**P**	**09 45 12.0**	**-0.3**
	4.8nm,0.7s,baz=191,slow=8.4,SNR=18								
LZH	**Lanzhou**	**48.59**	**344**	*e*	P		**P**	**09 45 12.8**	**+0.1**
LZH				pP			**pP**	**09 45 24.3**	**+1.5**
LZH				sP			**sP**	**09 45 28.0**	**+1.2**
LZH				pmax			pmax		
	comp=Z,17nm,1.0s								
RAMN	**Ramite**	**48.77**	**321**	*e*	P		**P**	**09 45 13.6**	**-0.7**
	13nm,0.7s								
RAMN	**Ramite**	**48.77**	**321**	*e*	P		**P**	**09 45 13.6**	**-0.7**
	13nm,0.7s								
JIRN	**Jiri**	**49.53**	**321**	*e*	P		**P**	**09 45 19.4**	**-0.9**
	12nm,0.4s								
JIRN	**Jiri**	**49.53**	**321**	*e*	P		**P**	**09 45 19.4**	**-0.9**
	12nm,0.4s								
GUN	**Gumba**	**49.90**	**321**	*e*	P		**P**	**09 45 22.1**	**-1.0**
	25nm,0.8s								
GUN	**Gumba**	**49.90**	**321**	*e*	P		**P**	**09 45 22.1**	**-1.0**
	25nm,0.8s								
PKI	**Pulchoki**	**49.96**	**320**	*e*	P		**P**	**09 45 22.1**	**-1.4**
	8.4nm,0.5s								
PKI	**Pulchoki**	**49.96**	**320**	*e*	P		**P**	**09 45 22.1**	**-1.4**
PKIN	**Phulchoki**	**49.97**	**320**	*e*	P		**P**	**09 45 22.1**	**-1.4**
MJAR	**Matsushiro Arr**	**50.32**	**20**	P			**P**	**09 45 23.6**	**-2.0**
MJAR	**Matsushiro Arr**	**50.32**	**20**	P			**P**	**09 45 23.6**	**-2.0**
	3.5nm,0.9s,baz=190,slow=10,SNR=6.4								
BJI	**Beijing**	**50.47**	**357**	P			**P**	**09 45 25.8**	**-0.9**
BJI				pmax			pmax		
	comp=Z,31nm,0.6s								
KOLN	**Koldanda**	**51.25**	**319**	*e*	P		P	09 45 29.7	-3.4
KOLN	**Koldanda**	**51.25**	**319**	*e*	P		P	09 45 29.7	-3.4
DANN	**Dangsing**	**51.54**	**320**	*e*	P		P	09 45 31.9	-3.5
	15nm,0.5s								
DANN	**Dangsing**	**51.54**	**320**	*e*	P		P	09 45 31.9	-3.5
	15nm,0.5s								
HHC	**Hu-ho-hao-te**	**51.67**	**353**	*e*	P		**P**	**09 45 35.0**	**-0.8**
HHC				sP			**sP**	**09 45 47.8**	**-2.2**
HHC				PP			**PP**	**09 47 33.8**	**0.0**
HHC				ScP			**ScP**	**09 50 42.8**	**-0.7**
HHC				PcS			**PcS**	**09 50 46.3**	**-0.8**
HHC				S			**S**	**09 52 51.8**	**-3.2**
HHC				pmax			pmax		
	comp=Z,42nm,1.1s								
HHC				pmax			pmax		
	comp=Z,530nm,7.2s								
HHC				LR			LR		
	comp=N,490nm,16.7s								
HHC				LR			LR		
	comp=E,720nm,16.5s								
HHC				LR			LR		
	comp=Z,470nm,16.9s								
PYUN	**Piuthan**	**51.87**	**319**	*e*	P		P	09 45 33.5	-4.2
	23nm,0.9s								
PYUN	**Piuthan**	**51.87**	**319**	*e*	P		P	09 45 33.5	-4.2
	23nm,0.9s								
GTA	**Gaotai**	**52.85**	**341**	*e*	P		**P**	**09 45 44.3**	**-0.4**
GTA				pP			**pP**	**09 45 54.3**	**-0.7**
GTA				sP			**sP**	**09 45 58.0**	**-1.0**
GTA				pmax			pmax		
	comp=Z,10.0nm,1.0s								
MDJ	**Mudanjiang**	**55.83**	**9**	P			**P**	**09 46 04.8**	**-1.3**
MDJ				pmax			pmax		
	comp=Z,16nm,1.3s								
USRK	**Ussuriysk Arra**	**55.85**	**11**	P			**P**	**09 46 05.1**	**-1.1**
	7.6nm,0.6s,baz=190,slow=6.8,SNR=30								
ULN	**Ulaanbaatar**	**59.18**	**351**	P			**P**	**09 46 27.2**	**-2.6**
	5.0nm,0.9s								
SONM	**Songino Array**	**59.26**	**350**	P			**P**	**09 46 29.7**	**-0.7**
SONM	**Songino Array**	**59.26**	**350**	P			**P**	**09 46 29.7**	**-0.7**
	5.9nm,0.6s,baz=168,slow=8.6,SNR=62								
WMQ	**Urumqi**	**61.17**	**335**	*e*	P		**P**	**09 46 44.5**	**+1.0**
WMQ				pmax			pmax		
	comp=Z,11nm,1.0s								
KSH	**Kashi**	**63.86**	**324**	P			**P**	**09 47 00.8**	**-0.8**
KSH				sP			**sP**	**09 47 15.5**	**-0.5**
KSH				PP			**PP**	**09 49 23.0**	**+0.5**
KSH				S			S	09 55 28.0	-6.9
KSH				SS			**SS**	**09 59 45.0**	**+1.2**
KSH				pmax			pmax		
	comp=Z,10.0nm,0.8s								
KSH				pmax			pmax		
	comp=Z,250nm,7.3s								
KSH				LR			LR		
	comp=N,100nm,4.4s								
KSH				LR			LR		
	comp=E,140nm,4.9s								
KSH				LR			LR		
	comp=Z,190nm,7.1s								
KBL	**Kabul**	**65.18**	**316**	*e*	P		**P**	**09 47 09.3**	**-1.2**
	5.3nm,0.5s								
MK31	**Makanchi Array**	**65.86**	**333**	*e*	P		**P**	**09 47 13.4**	**-0.9**
MKAR	**Makanchi Array**	**65.86**	**333**	P			**P**	**09 47 13.6**	**-0.7**
MKAR	**Makanchi Array**	**65.86**	**333**	P			**P**	**09 47 13.6**	**-0.7**
	5.7nm,0.5s,baz=158,slow=7.1,SNR=94								
KZA	**Kyzart**	**65.97**	**326**	P			**P**	**09 47 15.6**	**-0.1**
	SNR=10								
TKM2	**Tokmak 2**	**66.

BPAT	Tungurahua Vol	3.19	85	⇑P		Pn	09 39 55.7	-0.4
BRUN	Tungurahua Vol	3.22	84	⇑P		Pn	09 39 55.9	-0.6
BULB	Ulba Tungurahu	3.22	84	⇑P		Pn	09 39 56.3	-0.2
ULBA	Ulba	3.22	85	P		Pn	09 39 56.6	+0.1
CAMI	Rancho Maria	3.29	71	P		Pn	09 39 57.1	-0.4
PISA	Pisayambo	3.31	78	P		Pn	09 39 57.9	+0.2
BNAS	Cotopaxi Volca	3.32	71	P		Pn	09 39 58.0	0.0
BMOR	Cotopaxi Volca	3.32	72	P		Pn	09 39 57.4	-0.6
NAS2	Nasa	3.34	71	P		Pn	09 39 59.1	+0.9
MOV1	Cotopaxi Vol s	3.34	72	P		Pn	09 39 58.7	+0.4
BREF	Cotopaxi Volca	3.36	71	⇑P		Pn	09 39 59.0	+0.5
JUA2	San Juan 2	3.38	63	S		Sn	09 40 41.6	+3.7
JUA2	San Juan 2	3.38	63	P		Pn	09 39 57.7	-1.1
BVC2	Cotopaxi Volca	3.39	71	P		Pn	09 39 58.9	-0.1
BTAM	Cotopaxi Volca	3.40	72	P		Pn	09 39 59.4	+0.4
TERV	Terraza Guagua	3.40	62	P		Pn	09 39 58.4	-0.7
VC1	Cotopaxi 1	3.40	71	P		Pn	09 39 59.2	+0.2
PINO	Pino	3.41	62	P		Pn	09 39 57.6	-1.6
GGP	Refugio Guagua	3.41	62	P		Pn	09 39 57.6	-1.6
TAMB	Tambo	3.42	72	P		Pn	09 39 59.9	+0.6
COV1	Cotopaxi Volc	3.45	72	P		Pn	09 39 58.8	-1.1
MACE	Macas	3.45	98	S		Sn	09 40 40.0	+0.7
MACE	Macas	3.45	98	P		Pn	09 39 58.9	-0.6
ANTI	Antisana	3.69	69	P		Pn	09 40 03.6	+0.5
OTAV	Otavalo	3.74	58	⇑S		Sn	09 40 44.8	-1.9
OTAV	Otavalo	3.74	58	⇑P		Pn	09 40 01.8	-1.8
OTAV	Otavalo	3.74	58	*e*Pn		Pn	09 40 01.9	-1.8
CAYR	Refugio Cayamb	4.02	64	P		Pn	09 40 08.4	+0.7
CAYA	Cayambe	4.06	63	P		Pn	09 40 08.4	+0.3
LITE	Lita	4.13	52	S		Sn	09 40 54.4	-1.7
LITE	Lita	4.13	52	P		Pn	09 40 07.4	-1.4
ATAH	Atahualpa	6.23	149	Pn		Pn	09 40 39.3	+1.4
ATAH				Sn		Sn	09 41 49.0	+0.9
	1.6nm,0.3s,baz=166,slow=19,SNR=3.9							
PAYG	Puerto Ayora	8.73	277	*e*Pn		Pn	09 41 12.7	+0.8
	52nm,1.0s							
PAYG				*e*Sn		Sn	09 42 48.5	-0.7
ROSC	El Rosal	9.81	48	*e*Pn		Pn	09 41 27.7	+0.7
BCIP	Isla Barro Col	11.00	9	Pn		Pn	09 41 43.5	+0.6
NNA	Nana	11.21	155	*e*Pn		Pn	09 41 47.3	+1.4
NNA				*e*Sn		Sn	09 43 45.6	-4.5
JTS	JuntasAbangare	12.43	345	LR		LR	09 45 19.1	
	comp=Z,336nm,21.7s,baz=245,slow=30							
SDV	Santo Domingo	15.22	46	Pn		Pn	09 42 39.3	-1.4
	4.7nm,0.9s							
LPAZ	La Paz	19.62	138	P		Pn	09 43 35.1	-0.6
LPAZ	La Paz	19.62	138	P		Pn	09 43 35.1	-0.6
	0.2nm,0.3s,baz=299,slow=6.8,SNR=16							
SAML	Samuel	19.68	112	*e*P		P	09 43 33.6	-0.8
	5.8nm,0.6s							
PTGA	Pitinga	21.67	88	P		P	09 43 54.6	-1.2
	9.6nm,0.8s							
LVC	Limon Verde	24.12	150	*e*P		P	09 44 21.4	+0.4
	7.8nm,1.2s							
SIV	San Ignacio	24.69	126	P		P	09 44 26.7	+0.7
SIV	San Ignacio	24.69	126	P		P	09 44 26.7	+0.7
	3.6nm,0.8s,baz=310,slow=10,SNR=9.5							
H03N2	Juan Fernandez	31.61	176	T		T	10 19 45.6	
	baz=354,slow=75,SNR=54							
H03N1	Juan Fernandez	31.62	176	T		T	10 19 45.5	
	baz=354,slow=75,SNR=60							
H03N3	Juan Fernandez	31.63	176	T		T	10 19 46.8	
	baz=354,slow=75,SNR=53							
JCT	Junction City	36.45	333	*e*P		P	09 46 10.0	+0.3
	3.9nm,0.8s							
TXAR	Lajitas Array	37.43	327	P		P	09 46 17.2	-0.9
TXAR				PcP		PcP	09 48 36.8	+0.4
TXAR	Lajitas Array	37.43	327	P		P	09 46 17.2	-0.9
	0.1nm,0.6s,baz=131,slow=4.2,SNR=2.6							
TXAR				PcP		PcP	09 48 36.8	+0.4
	0.3nm,0.7s,baz=142,slow=4.6,SNR=6.4							
WMOK	Wichita Mounta	39.72	338	*e*P		P	09 46 37.1	-0.1
	11nm,1.6s							
MSTX	Muleshoe	40.74	333	P		P	09 46 46.0	+0.2
121A	Cookes Peak, D	42.15	326	*e*P		P	09 46 58.9	+1.5
ANMO	Albuquerque	43.30	330	*e*P		P	09 47 07.7	+0.9
	4.6nm,0.9s							
SDCO	Great Sand Dun	45.10	333	*e*P		P	09 47 22.2	+1.0
	3.5nm,1.1s							
WUAZ	Wupatki	46.35	326	*e*P		P	09 47 32.3	+1.2
	6.2nm,1.0s							
PDAR	Pinedale Array	50.98	334	P		P	09 48 06.3	-0.2
PDAR	Pinedale Array	50.98	334	P		P	09 48 06.3	-0.2
	0.5nm,0.8s,baz=135,slow=10,SNR=3.5							
NVAR	Mina Array Bea	52.36	324	P		P	09 48 18.1	+1.1
NVAR	Mina Array Bea	52.36	324	P		P	09 48 18.1	+1.1
	1.2nm,0.8s,baz=139,slow=6.9,SNR=9.6							
ULM	Lac du Bonnet	53.24	349	P		P	09 48 22.6	-0.4
ULM	Lac du Bonnet	53.24	349	P		P	09 48 22.6	-0.4
	1.5nm,0.5s,baz=164,slow=13,SNR=3.3							
HLID	Hailey	53.86	331	*e*P		P	09 48 28.4	+0.5
	2.2nm,1.0s							
NEW	Newport	58.60	333	*e*P		P	09 49 06.2	+4.8
	4.1nm,0.6s							
YKA	Yellowknife Ar	68.76	344	P		P	09 50 07.1	-1.0
YKA	Yellowknife Ar	68.76	344	P		P	09 50 07.1	-1.0
	0.5nm,0.8s,baz=141,slow=6.2,SNR=9.2							
ILAR	Eielson Array	81.28	337	P		P	09 51 19.6	-0.7
ILAR	Eielson Array	81.28	337	P		P	09 51 19.6	-0.7
	0.5nm,0.8s,baz=173,slow=5.6,SNR=4.6							
TORD	Torodi Ar. Bea	83.89	77	P		P	09 51 34.5	-0.5
TORD	Torodi Ar. Bea	83.89	77	P		P	09 51 34.5	-0.5
	0.9nm,1.1s,baz=260,slow=6.5,SNR=3.9							
QSPA	South Pole Qui	88.30	180	P		P	09 51 56.4	+0.6
QSPA	South Pole Qui	88.30	180	P		P	09 51 56.4	+0.6
	1.4nm,0.6s,baz=176,slow=2.2,SNR=14							
WMQ	Urumqi	137.06	11	*e*PKP		PKPdf	09 58 30.0	+2.3
HHC	Hu-ho-hao-te	139.30	345	*e*PKP		PKPdf	09 58 30.8	-1.2
HHC				PP		PP	10 01 28.5	+4.0
HHC				PKS		PKSdf	10 02 05.5	-2.7
HHC				SKS		SKSdf	10 05 38.0	-2.2
HHC				SS		SS	10 19 42.5	+2.9
HHC				LR	LR			
	comp=N,160nm,21.9s							
HHC				LR	LR			
	comp=E,220nm,21.5s							
HHC				LR	LR			
	comp=Z,140nm,22.2s							
LZH	Lanzhou	145.47	352	*e*PKPbc		PKPbc	09 58 42.3	-0.9
LZH				LR	LR			
	comp=N,130nm,18.3s							
LZH				LR	LR			
	comp=E,140nm,19.2s							
LZH				LR	LR			
	comp=Z,170nm,20.1s							
CD2	Chengdu	150.56	351	*e*PKPbc		PKPdf	09 58 51.3	-0.2

*ISCJB **26** 09:47:13.6±0.5,37.53N±0.03×30.48E±0.03,h3km±5km, Error ellipse: s-maj=5.1km s-min=3.8km az=154.6*
*ISK **26** 09:47:13.4,37.54N×30.49E,h6km,MD3.2*
*DDA **26** 09:47:13.8,37.44N×30.50E,h46km,MD3.5*
*CSEM **26** 09:47:13.8±0.1,37.55N×30.47E,h5km,MD3.2, Error ellipse: s-maj=3.2km s-min=2.9km az=155.0*

ISC 26 09:47:14.1±1.1,37.54N±0.02×30.47E±0.02,h4km±9km, n54,σ0963/72,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.12**	**129**	*e*PG		**Pg**	**09 47 16.2**	**-0.3**
BCK				*e*SG		**Sg**	**09 47 18.6**	**+0.4**
BCK	**Bucak**	**0.12**	**129**	*e*Pg		**Pg**	**09 47 16.2**	**-0.3**
BCK				*e*Sg		**Sg**	**09 47 18.6**	**+0.4**
ISP	**Isparta**	**0.29**	**8**	*e*PG		**Pg**	**09 47 19.5**	**-0.2**
ISP				*e*SG		**Sg**	**09 47 24.3**	**+0.8**
ISP	**Isparta**	**0.29**	**8**	*e*Pg		**Pg**	**09 47 19.5**	**-0.2**
ISP				*e*Sg		**Sg**	**09 47 24.3**	**+0.8**
SUTC	**Sutluce-Ispart**	**0.42**	**98**	*e*PG		**Pg**	**09 47 21.6**	**-0.7**
SUTC	**Sutluce-Ispart**	**0.42**	**98**	*e*Pg		**Pg**	**09 47 21.6**	**-0.7**
ANTB	**Antalya**	**0.65**	**167**	*e*PG		**Pg**	**09 47 26.3**	**-0.3**
ANTB	**Antalya**	**0.65**	**167**	*e*Pg		**Pg**	**09 47 26.3**	**-0.3**
GOLH	**Golhisar**	**0.79**	**248**	*i* P		**Pg**	**09 47 28.0**	**-1.1**
GOLH				*i* S		**Sb**	**09 47 40.9**	**-0.5**
GOLH	**Golhisar**	**0.79**	**248**	*i* P		**Pg**	**09 47 28.0**	**-1.1**
GOLH				*i* S		**Sb**	**09 47 40.9**	**-0.5**
GLHS	**Glhisar (BURDU**	**0.86**	**244**	*e*PG		**Pg**	**09 47 30.9**	**+0.2**
GLHS				*e*SG		**Sb**	**09 47 43.2**	**-0.5**
GLHS	**Glhisar (BURDU**	**0.86**	**244**	*e*Pg		**Pg**	**09 47 30.9**	**+0.2**
GLHS				*e*Sg		**Sb**	**09 47 43.2**	**-0.5**
ELL	**Elmali**	**0.91**	**210**	*e*PG		**Pg**	**09 47 31.6**	**+0.1**
ELL	**Elmali**	**0.91**	**210**	*e*Pg		**Pg**	**09 47 31.6**	**+0.1**
SHUT	**Suhut-Afyon**	**1.02**	**4**	*e*PG		**Pg**	**09 47 33.3**	**-0.3**
SHUT	**Suhut-Afyon**	**1.02**	**4**	*e*Pg		**Pg**	**09 47 33.3**	**-0.3**
KHL	**Karahalli**	**1.08**	**317**	*e*PN		**Pg**	**09 47 34.4**	**-0.5**
KHL	**Karahalli**	**1.08**	**317**	*e*Pn		**Pg**	**09 47 34.4**	**-0.5**
KHAL	**Karahalli**	**1.14**	**317**	*i* P		**Pg**	**09 47 35.3**	**-0.6**
KHAL				*i* S		**Sn**	**09 47 54.7**	**+1.7**
KHAL	**Karahalli**	**1.14**	**317**	*i* P		**Pg**	**09 47 35.3**	**-0.6**
KHAL				*i* S		**Sn**	**09 47 54.7**	**+1.7**
DNZL	**Cakiroluk**	**1.14**	**278**	*i* P		**Pg**	**09 47 35.6**	**-0.4**
DNZL				*i* S		**Sn**	**09 47 54.1**	**+0.8**
DNZL	**Cakiroluk**	**1.14**	**278**	*i* P		**Pg**	**09 47 35.6**	**-0.4**
DNZL				*i* S		**Sn**	**09 47 54.1**	**+0.8**
DENT	**Denizli**	**1.16**	**281**	*e*PN		**Pg**	**09 47 36.5**	**+0.1**
DENT	**Denizli**	**1.16**	**281**	*e*Pn		**Pg**	**09 47 36.5**	**+0.1**
BOLV	**Bolvadin**	**1.24**	**18**	*i* P		**Pg**	**09 47 37.7**	**-0.1**
BOLV				*i* S		**Sn**	**09 47 55.3**	**-0.3**
BOLV	**Bolvadin**	**1.24**	**18**	*i* P		**Pg**	**09 47 37.7**	**-0.1**
BOLV				*i* S		**Sn**	**09 47 55.3**	**-0.3**
AKAS	**Kas**	**1.48**	**208**	*i* P		**Pg**	**09 47 42.9**	**+0.5**
AKAS				*i* S		Sg	09 48 08.3	+6.8
AKAS	**Kas**	**1.48**	**208**	*i* P		**Pg**	**09 47 42.9**	**+0.5**
KONT	**Konya--Tatoy**	**1.55**	**74**	*e*PN		**Pn**	**09 47 42.0**	**-0.6**
KONT	**Konya--Tatoy**	**1.55**	**74**	*e*Pn		**Pn**	**09 47 42.0**	**-0.6**
DALY	**Dalyan (Mu˙la**	**1.62**	**244**	*e*PN		**Pn**	**09 47 43.4**	**0.0**
DALY	**Dalyan (Mu˙la**	**1.62**	**244**	*e*Pn		**Pn**	**09 47 43.4**	**0.0**
LADK	**Ladik-KONYA**	**1.64**	**66**	*e*PN		**Pn**	**09 47 43.8**	**0.0**
LADK	**Ladik-KONYA**	**1.64**	**66**	*e*Pn		**Pn**	**09 47 43.8**	**0.0**
KULA	**Kula-Manisa**	**1.73**	**305**	*e*PN		**Pn**	**09 47 44.7**	**-0.4**
KULA	**Kula-Manisa**	**1.73**	**305**	*e*Pn		**Pn**	**09 47 44.7**	**-0.4**
GDZ	**Gediz**	**1.73**	**334**	*i* P		Pn	09 47 41.6	-3.6
GDZ				*i* S		**Sb**	**09 48 08.6**	**-0.2**
GDZ	**Gediz**	**1.73**	**334**	*i* P		Pn	09 47 41.6	-3.6
GDZ				*i* S		**Sb**	**09 48 08.6**	**-0.2**
KIZT	**Kizilcal**	**1.74**	**39**	*e*PN		**Pn**	**09 47 44.9**	**-0.4**
KIZT	**Kizilcal**	**1.74**	**39**	*e*Pn		**Pn**	**09 47 44.9**	**-0.4**
MANT	**Manisa**	**1.79**	**303**	*i* P		**Pn**	**09 47 45.1**	**-0.9**
MANT				*i* S		**Sb**	**09 48 10.8**	**+0.4**
MANT	**Manisa**	**1.79**	**303**	*i* P		**Pn**	**09 47 45.1**	**-0.9**
MANT				*i* S		**Sb**	**09 48 10.8**	**+0.4**
AYDN	**Tasoluk**	**2.06**	**274**	*i* P		**Pn**	**09 47 47.7**	**-1.9**
AYDN				*i* S		**Sn**	**09 48 15.7**	**-0.1**
AYDN	**Tasoluk**	**2.06**	**274**	*i* P		**Pn**	**09 47 47.7**	**-1.9**
AYDN				*i* S		**Sn**	**09 48 15.7**	**-0.1**
TVSB	**Tavsanli**	**2.07**	**338**	*e*PN		**Pn**	**09 47 49.3**	**-0.4**
TVSB	**Tavsanli**	**2.07**	**338**	*e*Pn		**Pn**	**09 47 49.3**	**-0.4**
SVRH	**Sivrihisar-ESK**	**2.08**	**23**	*e*PN		**Pn**	**09 47 49.6**	**-0.2**
SVRH	**Sivrihisar-ESK**	**2.08**	**23**	*e*Pn		**Pn**	**09 47 49.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**2.09**	**282**	*e*PN		**Pn**	**09 47 49.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**2.09**	**282**	*e*Pn		**Pn**	**09 47 49.8**	**-0.2**
SULT	**Sultanhani-AKS**	**2.50**	**74**	*e*PN		**Pn**	**09 47 55.5**	**-0.1**
SULT	**Sultanhani-AKS**	**2.50**	**74**	*e*Pn		**Pn**	**09 47 55.5**	**-0.1**
IKL	**Isikli**	**2.88**	**116**	*e*PN		**Pn**	**09 48 00.7**	**-0.1**
IKL	**Isikli**	**2.88**	**116**	*e*Pn		**Pn**	**09 48 00.7**	**-0.1**

*IDC **26** 09:48:06.5±1.2,10.06S×119.52E,h0km,mb3.8/3, mb1 3.8/6,mb1mx3.6/21,mbtmp3.7/6,ML3.4/3,Error ellipse: s-maj=56.1km s-min=20.5km az=65.0*
*ISCJB **26** 09:48:09.3±1.0,10.15S±0.2×119.7E±0.2,h33km,mb3.8/3, Error ellipse: s-maj=37.7km s-min=15.3km az=148.5*

ISC 26 09:48:11.3±1.1,10.1S±0.2×119.7E±0.3,h35km,n6, σ1§16/6,mb3.8/3,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.81**	**145**	Pn		**Pn**	**09 50 29.1**	**-0.9**
	0.5nm,0.3s,baz=330,slow=11,SNR=5.2							
FITZ				Sn		Sn	09 52 10.5	-8.5
	0.4nm,0.3s,baz=175,slow=22,SNR=7.3							
WRA	**Warramunga Arr**	**17.18**	**126**	Pn		**P**	**09 52 09.8**	**-0.2**
	0.1nm,0.3s,baz=297,slow=13,SNR=6.4							
ASAR	**Alice Springs**	**19.12**	**137**	P		**Pn**	**09 52 33.8**	**+1.3**
	0.2nm,0.3s,baz=323,slow=13,SNR=20							
NWAO	**Narrogin (SRO)**	**22.83**	**185**	P		**P**	**09 53 11.8**	**+0.5**
	5.2nm,0.6s,baz=0.6,slow=12,SNR=7.4							
SONM	**Songino Array**	**58.88**	**350**	P		**P**	**09 58 07.4**	**+0.7**
	0.4nm,0.5s,baz=168,slow=8.5,SNR=4.6							
MKAR	**Makanchi Array**	**65.75**	**333**	P		**P**	**09 58 51.8**	**-0.8**
	0.4nm,0.6s,baz=131,slow=6.5,SNR=4.6							

*IDC **26** 09:50:02.2±1.1,6.23S×130.02E,h0km,mb3.9/8, mb1 4.1/11,mb1mx4.0/22,mbtmp4.0/11,ML4.3/3,Error ellipse: s-maj=47.4km s-min=21.9km az=89.0*
*AUST **26** 09:50:13.3,6.48S×130.03E,h100km*

ISC 26 09:50:15.7±0.7,6.84S±0.06×130.0E±0.1,h146km,n17, σ2§11/16,mb3.8/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.50**	**30**	P		Pn	09 51 16.7	-5.8
	baz=4.2,SNR=18							
MTN	**Manton Dam**	**6.07**	**169**	P		Pn	09 51 47.7	+4.4
	baz=6.5,SNR=37							
KDU	**Kakadu**	**6.30**	**157**	P		Pn	09 51 50.1	+3.7
	baz=6.7,SNR=90							
FITZ	**Fitzroy Crossi**	**11.97**	**200**	Pn		**Pn**	**09 53 03.2**	**+1.5**
	1.7nm,0.3s,baz=36,slow=11,SNR=10							
FITZ				Sn		**Sn**	**09 55 11.8**	**-2.2**
	2.3nm,0.3s,baz=69,slow=19,SNR=9.8							
FITZ	**Fitzroy Crossi**	**11.97**	**200**	P		**P**	**09 53 06.4**	**-2.2**
	baz=12,SNR=4.9							
WRA	**Warramunga Arr**	**13.69**	**162**	Pn		**Pn**	**09 53 25.4**	**+1.5**
	1.6nm,0.3s,baz=332,slow=14,SNR=25							
WRA				Sn		**Sn**	**09 55 51.9**	**-3.6**
	2.6nm,0.3s,baz=350,slow=23,SNR=11							
COEN	**Coen**	**14.77**	**120**	P		**P**	**09 53 40.4**	**+0.7**
	baz=15,SNR=29							
ASAR	**Alice Springs**	**17.15**	**168**	P		**Pn**	**09 54 11.2**	**+4.5**
	0.6nm,0.3s,baz=347,slow=9.4,SNR=30							
ASAR				S		**Sn**	**09 57 19.3**	**+0.8**
	0.6nm,0.3s,baz=354,slow=28,SNR=6.8							
WRKA	**Warakurna**	**18.17**	**185**	P		Pn	09 54 24.7	+5.9
	baz=19,SNR=7.9							
MJAR	**Matsushiro Arr**	**43.84**	**10**	P		**P**	**09 58 04.7**	**-2.7**
	1.7nm,0.7s,baz=188,slow=9.9,SNR=6.6							
KSRS	**Korea Array**	**44.11**	**358**	P		**P**	**09 58 08.8**	**-0.6**
	0.9nm,0.6s,baz=173,slow=9.6,SNR=3.6							
USRK	**Ussuriysk Arra**	**50.84**	**2**	P		**P**	**09 59 00.5**	**-0.8**
	2.0nm,0.7s,baz=188,slow=7.0,SNR=6.7							
SONM	**Songino Array**	**58.29**	**342**	P		**P**	**09 59 55.5**	**+0.3**
	0.4nm,0.7s,baz=147,slow=4.9,SNR=3.5							
PETK	**Petropavlovsk-**	**64.18**	**18**	P		**P**	**10 00 34.3**	**-0.2**
	2.2nm,0.8s,baz=158,slow=9.0,SNR=5.0							
MKAR	**Makanchi Array**	**68.08**	**327**	P		**P**	**10 01 00.6**	**+0.9**
	1.1nm,0.5s,baz=120,slow=8.2,SNR=14							
SEY	**Seymchan**	**71.65**	**11**	P		**P**	**10 01 21.4**	**+0.3**
	1.4nm,0.7s,baz=159,slow=14,SNR=4.1							
KURBB	**Kurchatov Arra**	**72.37**	**328**	P		**P**	**10 01 25.9**	**+0.3**
	0.2nm,0.5s,baz=127,slow=5.0,SNR=5.5							

*MAN **26** 09:54:51,6.43N×126.38E,h18km,mb4.5,ML3.4,MS3.4*
*AUST **26** 09:54:51.1,6.00N×125.51E,h0km*
*IDC **26** 09:54:56.6±7.1,6.32N×126.05E,h76km±64km,mb3.9/15, mb1 4.0/15,mb1mx3.8/28,mbtmp3.9/15,Error ellipse: s-maj=38.9km s-min=12.7km az=67.0*
*DJA **26** 09:55:28.7±0.7,4.7N±6.7×12.7E±7.2,h115km±9km,M4.6/7, mb4.6/6,mB5.0/3,MLv4.6/7,Mw(mB)4.4/3*

ISC 26 09:54:50.5±0.8,6.40N±0.05×126.46E±0.08,h23km±5km, n49,σ1§59/50,mb4.2/16,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**1.15**	**306**	*e*P		Pn	09 55 05.7	-5.5
DMPH				*i* S		**Sb**	**09 55 26.3**	**+0.2**
KCP	**Kidapawan**	**1.47**	**294**	‖*i*P		**Pn**	**09 55 16.6**	**+0.9**
KCP				*i* S		**Sn**	**09 55 33.3**	**-1.0**
GSPH	**General Santos**	**1.52**	**258**	‖*i*P		Pn	09 55 12.6	-3.8
GSPH				*i* S		Sn	09 55 29.3	-6.2
BIPH	**Bislig**	**1.77**	**357**	‖*e*P		**Pb**	**09 55 20.8**	**-1.5**
BIPH				*e*S		**Sb**	**09 55 47.2**	**+3.1**
CTBH	**Cotabato--PC H**	**2.33**	**291**	‖*i*P		**Pn**	**09 55 28.1**	**+0.7**
CGP	**Cagayan de Oro**	**2.67**	**320**	‖*e*P		**Pn**	**09 55 34.7**	**+2.5**
SGSI	**Sangihe**	**2.85**	**199**	P		Pb	09 55 50.3	+10
SGSI				S		**Sn**	**09 56 07.5**	**-0.8**
KMSI	**Cibinong**	**6.29**	**203**	P		Pn	09 56 25.7	+3.7
KMSI				S		Sn	09 57 09.3	-24
KMSI	**Cibinong**	**6.29**	**203**	P		**Pn**	**09 56 22.0**	**0.0**
	302nm,0.7s,6μm							
GTOI	**Gorontalo**	**6.67**	**211**	P		**Pn**	**09 56 26.9**	**-0.3**
GTOI	**Gorontalo**	**6.67**	**211**	P		**Pn**	**09 56 25.5**	**-1.7**
	236nm,0.6s,2μm							
MRSI	**Marisa**	**7.40**	**217**	P		**Pn**	**09 56 37.5**	**+0.2**
MRSI	**Marisa**	**7.40**	**217**	P		**Pn**	**09 56 35.6**	**-1.7**
	39nm,0.8s,892nm							
LUWI	**Luwuk**	**8.25**	**206**	P		**Pn**	**09 56 51.7**	**+2.8**
	103nm,0.9s,6μm0.4nm							
LUWI	**Luwuk**	**8.25**	**206**	P		**Pn**	**09 56 49.7**	**+0.8**
	103nm,0.9s,6μm							
LUWI	**Luwuk**	**8.25**	**206**	P		Pn	09 56 52.5	+3.5
	baz=7.6,SNR=6.9							
APSI	**Ampana**	**8.70**	**214**	P		**Pn**	**09 56 56.6**	**+1.5**
	72nm,0.8s,830nm0.3nm							
APSI				S		Sn	09 58 05.9	-27
	72nm,0.8s,830nm0.3nm							
APSI	**Ampana**	**8.70**	**214**	P		Pn	09 56 59.1	+4.0
	72nm,0.8s,830nm							
NLAI	**Namlea**	**9.60**	**176**	P		**Pn**	**09 57 07.2**	**-0.3**
TTSI	**Tana Toraja**	**11.48**	**215**	P		**Pn**	**09 57 34.1**	**+0.9**
	17nm,0.8s							
SBUM	**Sibu**	**14.71**	**255**	P		**P**	**09 58 22.5**	**-0.8**
	38nm,0.7s							
MTN	**Manton Dam**	**19.68**	**166**	P		**P**	**09 59 17.0**	**-1.2**
	baz=20,SNR=4.7							
KDU	**Kakadu**	**19.89**	**162**	P		**P**	**09 59 21.6**	**+1.0**
	baz=20,SNR=3.3							
KLSI		**24.32**	**244**	P		**P**	**10 00 09.1**	**+2.4**
FITZ	**Fitzroy Crossi**	**24.36**	**182**	P		**P**	**10 00 06.8**	**-0.2**
	3.7nm,0.5s,baz=350,slow=6.2,SNR=5.3							
FITZ	**Fitzroy Crossi**	**24.36**	**182**	P		**P**	**10 00 07.9**	**+0.8**
	baz=24,SNR=4.9							
MDSI	**Maura Dua**	**24.72**	**245**	P		**P**	**10 00 14.5**	**+4.1**
WRA	**Warramunga Arr**	**27.31**	**164**	P		**P**	**10 00 35.9**	**+2.2**
	3.6nm,0.5s,baz=340,slow=10,SNR=9.4							
CMAR	**Chiang Mai Arr**	**29.35**	**297**	P		**P**	**10 00 51.6**	**-0.4**
	0.4nm,0.3s,baz=123,slow=7.0,SNR=6.4							
QIS	**Mount Isa**	**29.75**	**155**	P		P	10 01 04.0	+8.5
	baz=30,SNR=3.9							
ASAR	**Alice Springs**	**30.76**	**167**	P		**P**	**10 01 04.0**	**-0.5**
	0.9nm,0.4s,baz=344,slow=7.2,SNR=6.3							
ASAR				PcP		**PcP**	**10 04 01.1**	**-0.7**
	0.7nm,0.5s,baz=341,slow=2.3,SNR=5.0							
WRKA	**Warakurna**	**31.30**	**177**	P		**P**	**10 01 11.7**	**+2.5**
	baz=31,SNR=3.9							
FORT	**Forrest**	**37.00**	**178**	P		**P**	**10 01 58.4**	**-0.1**
	baz=37,SNR=12							
KLBR	**Kellerberrin**	**38.68**	**192**	P		**P**	**10 02 15.3**	**+2.6**
	baz=38,SNR=5.4							
BBOO	**Buckleboo**	**40.06**	**167**	P		**P**	**10 02 24.2**	**+0.1**
	baz=40,SNR=12							
NWAO	**Narrogin (SRO)**	**40.08**	**192**	P		**P**	**10 02 23.4**	**-0.9**
	4.6nm,0.5s,baz=359,slow=8.5,SNR=4.6							
GTA	**Gaotai**	**40.68**	**328**	*e*P		**P**	**10 02 31.8**	**+2.4**
GTA				pP		**pP**	**10 02 36.5**	**0.0**
GTA				sP		**sP**	**10 02 39.0**	**-0.3**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
STKA	**Stephens Creek**	**40.72**	**160**	P		**P**	**10 02 30.2**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=356,slow=11,SNR=6.3							
HTT	**Hallett**	**41.35**	**164**	P		**P**	**10 02 36.3**	**+1.5**
	baz=41,SNR=4.1							
SONM	**Songino Array**	**44.69**	**341**	P		**P**	**10 03 01.9**	**0.0**

IDC 26 10:25:21.8±2.3, 6°08N×125°68E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/25, mbtmp3.4/4, Error ellipse: s-maj=232.9km s-min=21.5km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.23**	**162**	P	P	10 31 08.4	+0.7
	0.1nm,0.4s,baz=342,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**30.64**	**165**	P	P	10 31 37.4	-0.7
	0.1nm,0.5s,baz=336,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**55.04**	**325**	P	P	10 34 55.5	+0.1
	0.5nm,0.5s,baz=121,slow=7.5,SNR=11						
KURBB	**Kurchatov Arra**	**59.21**	**327**	P	P	10 35 24.4	-0.4
	0.4nm,0.6s,baz=124,slow=6.4,SNR=5.1						

IDC 26 10:34:05.0±51.0, 16°42S×174°76W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=961.2km s-min=173.9km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.40**	**241**	P	P	10 42 02.1	+0.7
	1.9nm,1.1s,baz=90,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**48.34**	**258**	P	P	10 42 48.5	-0.3
	0.6nm,0.6s,baz=95,slow=8.1,SNR=22						
ASAR	**Alice Springs**	**48.56**	**253**	P	P	10 42 49.9	-0.6
	4.3nm,0.6s,baz=88,slow=8.2,SNR=139						

*ISCJB **26** 10:47:17.7±0.9, 48°.3N±0°.1×153°.0E±0°.2, h150km, mb3.4/10, Error ellipse: s-maj=21.9km s-min=16.8km az=135.2*

*IDC **26** 10:47:22.1±2.3, 48°.48N×153°.05E, h170km±21km, mb3.2/9, mb1 3.5/12, mb1mx3.2/27, mbtmp3.2/12, MS2.9/1, Ms1 2.9/1, ms1mx2.6/11, Error ellipse: s-maj=21.6km s-min=15.2km az=142.0*

ISC 26 10:47:20.5±0.9, 48°.5N±0°.1×153°.1E±0°.1, h150km, n14, σ1s10/13, mb3.4/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.43**	**31**	P	Pn	10 48 40.8	+1.3
	0.9nm,0.3s,baz=170,slow=13,SNR=32						
ASAJ	**Asahikawa**	**8.51**	**243**	P	Pn	10 49 22.4	+1.9
	0.4nm,0.3s,baz=80,slow=15,SNR=4.1						
SEY	**Seymchan**	**14.46**	**359**	P	P	10 50 40.2	-0.1
	0.1nm,0.3s,baz=218,slow=19,SNR=6.1						
KSRS	**Korea Array**	**21.40**	**248**	LR	LR	10 59 41.2	
	comp=Z,29nm,19.2s,baz=345,slow=35						
ILAR	**Eielson Array**	**35.18**	**40**	P	P	10 53 59.6	+0.1
	0.5nm,0.7s,baz=269,slow=5.3,SNR=7.7						
MKAR	**Makanchi Array**	**46.15**	**296**	P	P	10 55 29.7	0.0
	0.3nm,0.8s,baz=73,slow=4.2,SNR=3.8						
YKA	**Yellowknife Ar**	**49.51**	**38**	P	P	10 55 55.5	+0.3
	0.8nm,0.8s,baz=298,slow=6.9,SNR=12						
ARCES	**ARCESS Array B**	**56.19**	**340**	P	P	10 56 43.3	-0.7
	1.4nm,0.8s,baz=27,slow=8.1,SNR=3.0						
JOF	**Joensuu**	**59.75**	**333**	*ep*	P	10 57 07.1	-1.8
	0.4nm,0.3s						
FINES	**FINESS Array B**	**62.45**	**334**	P	P	10 57 26.4	-0.6
	1.3nm,0.4s,baz=35,slow=7.2,SNR=18						
PDAR	**Pinedale Array**	**63.71**	**55**	P	P	10 57 36.4	+0.4
	0.3nm,0.7s,baz=238,slow=3.1,SNR=2.8						
WRA	**Warramunga Arr**	**70.19**	**199**	P	P	10 58 15.4	-1.4
	0.5nm,0.8s,baz=12,slow=6.2,SNR=3.3						
TXAR	**Lajitas Array**	**76.62**	**61**	P	P	10 58 54.6	-0.1
	0.1nm,0.5s,baz=297,slow=4.0,SNR=5.2						
GERES	**GERESS Array B**	**76.87**	**334**	P	P	10 58 54.8	-0.9
	2.0nm,1.2s,baz=52,slow=4.1,SNR=3.7						

IDC 26 10:51:59.7±4.7, 5°89S×153°94E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=133.2km s-min=30.7km az=108.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**232**	P	P	10 57 14.6	+1.9
	0.6nm,0.4s,baz=59,slow=10,SNR=22						
ASAR	**Alice Springs**	**26.16**	**225**	P	P	10 57 34.9	-1.1
	0.4nm,0.3s,baz=60,slow=9.5,SNR=23						
SONM	**Songino Array**	**67.85**	**328**	P	P	11 02 59.7	-0.3
	0.9nm,0.9s,baz=126,slow=6.6,SNR=8.4						

*IGQ **26** 10:54:54.1, 1°.76S×81°.91W, h12km±11km, Mb4.6, Ms4.4, Error ellipse: s-maj=11.1km s-min=3.6km az=11.3*

*ISCJB **26** 10:55:00.6±0.4, 1°.73S±0°.04×81°.68W±0°.03, h33km, mb3.9/14, MS4.3/5, Error ellipse: s-maj=5.2km s-min=4.5km az=174.5*

*NEIC **26** 10:55:02.9±0.3, 1°.64S×81°.58W, h35km, mb4.2/6, Error ellipse: s-maj=9.9km s-min=6.4km az=49.0*

*IDC **26** 10:55:03.6±3.3, 1°.89S×81°.86W, h43km±35km, mb3.5/9, mb1 3.8/11, mb1mx3.7/22, mbtmp3.6/11, ML3.9/2, MS4.0/3, Ms1 4.0/3, ms1mx3.5/21, Error ellipse: s-maj=41.6km s-min=16.3km az=46.0*

ISC 26 10:55:02.6±0.5, 1°.72S±0°.05×81°.66W±0°.06, h35km, n88, σ1s23/91, mb3.9/14, MS4.1/5, 5C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**1.86**	**60**	P	Sn	10 55 51.4	-2.9
PECV	**Mancha de Ca P**	**1.86**	**60**	P	Pn	10 55 25.6	-6.4
ARNL	**Arenillas**	**2.42**	**139**	⇑S	Sn	10 56 05.3	-2.7
ARNL	**Arenillas**	**2.42**	**139**	⇑P	Pn	10 55 37.9	-1.7
MAG1	**Magdalena**	**2.49**	**49**	P	Pn	10 55 38.9	-1.8
IGUA	**Igualata**	**3.02**	**86**	P	Pn	10 55 47.5	-1.0
PAST	**Pastocalle**	**3.18**	**71**	P	Pn	10 55 50.6	+0.1
BMAS	**Trigal station**	**3.18**	**86**	P	Pn	10 55 49.5	-1.1
JUI6	**Juive**	**3.20**	**85**	P	Pn	10 55 50.4	-0.3
ARRY	**Arrayan**	**3.21**	**86**	S	Sn	10 56 29.3	+1.2
ARRY	**Arrayan**	**3.21**	**86**	P	Pn	10 55 49.8	-1.1
RETU	**Refugio**	**3.22**	**85**	P	Pn	10 55 50.5	-0.6
PAT1	**Patacocha**	**3.22**	**86**	⇓P	Pn	10 55 50.8	-0.4
BPAT	**Tungurahua Vol**	**3.23**	**86**	⇑P	Pn	10 55 50.5	-0.8
BRUN	**Tungurahua Vol**	**3.25**	**85**	S	Sn	10 56 31.7	+2.5
BRUN	**Tungurahua Vol**	**3.25**	**85**	P	Pn	10 55 51.0	-0.6
BULB	**Ulba Tungurahu**	**3.26**	**85**	P	Pn	10 55 50.9	-0.7
ULBA	**Ulba**	**3.26**	**85**	P	Pn	10 55 51.3	-0.2
CAMI	**Rancho Maria**	**3.31**	**72**	P	Pn	10 55 52.2	-0.2
PISA	**Pisayambo**	**3.33**	**79**	⇓P	Pn	10 55 53.0	+0.3
BNAS	**Cotopaxi Volca**	**3.34**	**72**	P	Pn	10 55 52.6	-0.2
BMOR	**Cotopaxi Volca**	**3.34**	**73**	P	Pn	10 55 52.1	-0.8
NAS2	**Nasa**	**3.36**	**72**	P	Pn	10 55 53.3	+0.2
MOV1	**Cotopaxi Vol s**	**3.37**	**73**	P	Pn	10 55 53.3	0.0
BREF	**Cotopaxi Volca**	**3.38**	**72**	P	Pn	10 55 53.1	-0.3
JUA2	**San Juan 2**	**3.40**	**64**	S	Sn	10 56 35.9	+3.0
JUA2	**San Juan 2**	**3.40**	**64**	P	Pn	10 55 52.2	-1.3
BVC2	**Cotopaxi Volca**	**3.41**	**72**	P	Pn	10 55 54.0	+0.2
TERV	**Terraza Guagua**	**3.41**	**63**	P	Pn	10 55 52.6	-1.2
PINO	**Pino**	**3.42**	**63**	P	Pn	10 55 52.4	-1.6
BTAM	**Cotopaxi Volca**	**3.42**	**72**	P	Pn	10 55 54.0	0.0
GGP	**Refugio Guagua**	**3.42**	**63**	P	Pn	10 55 52.6	-1.4
VC1	**Cotopaxi 1**	**3.42**	**72**	P	Pn	10 55 54.7	+0.7
TAMB	**Tambo**	**3.44**	**73**	P	Pn	10 55 54.5	+0.3
COV1	**Cotopaxi Volc**	**3.47**	**73**	P	Pn	10 55 53.7	-1.1
MACE	**Macas**	**3.50**	**99**	P	Pn	10 55 53.8	-0.8
ANTI	**Antisana**	**3.71**	**70**	P	Pn	10 55 58.4	+0.4
OTAV	**Otavalo**	**3.75**	**59**	⇑S	Sn	10 56 40.6	-0.9
OTAV	**Otavalo**	**3.75**	**59**	⇑P	Pn	10 55 56.1	-2.2
OTAV	**Otavalo**	**3.75**	**59**	*e*Pn	Pn	10 55 55.9	-2.4
OTAV				*e*Sn	Sn	10 56 39.8	-1.7
CAYR	**Refugio Cayamb**	**4.03**	**65**	P	Pn	10 56 03.0	+0.6
CAYA	**Cayambe**	**4.07**	**64**	P	Pn	10 56 03.0	+0.1
ATAH	**Atahualpa**	**6.29**	**149**	P	Pn	10 56 34.7	+1.4
ATAH				S	Sn	10 57 43.6	-0.5
ATAH	**Atahualpa**	**6.29**	**149**	P	Pn	10 56 34.7	+1.4
	2.6nm,0.3s,baz=345,slow=6.5,SNR=19						
ATAH				S	Sn	10 57 43.6	-0.5
	3.5nm,0.3s,baz=150,slow=20,SNR=4.9						
PAYG	**Puerto Ayora**	**8.69**	**277**	*e*Pn	Pn	10 57 06.3	+0.3
	69nm,1.2s						
NNA	**Nana**	**11.27**	**155**	*e*Pn	Pn	10 57 41.0	-0.3
SDV	**Santo Domingo**	**15.22**	**46**	*e*Pn	Pn	10 58 33.8	-1.4
	11nm,1.6s						
LPAZ	**La Paz**	**19.68**	**138**	*e*P	P	10 59 30.2	+0.7
	18nm,1.3s						
LPAZ	**La Paz**	**19.68**	**138**	P	Pn	10 59 30.4	-0.6
	0.2nm,0.3s,baz=323,slow=10,SNR=16						
SAML	**Samuel**	**19.73**	**112**	*e*P	P	10 59 28.5	-1.0
	14nm,0.9s						
PTGA	**Pitinga**	**21.70**	**88**	*e*P	P	10 59 50.0	-0.8
	9.8nm,1.0s						
PTGA	**Pitinga**	**21.70**	**88**	P	P	10 59 53.8	+2.9
	6.4nm,0.7s,baz=279,slow=11,SNR=11						
PTGA				LR	LR	11 08 38.6	
	comp=Z,308nm,20.5s,baz=198,slow=37						
LVC	**Limon Verde**	**24.18**	**150**	*e*P	P	11 00 17.0	+0.8
	3.1nm,0.6s						
SIV	**San Ignacio**	**24.75**	**126**	P	P	11 00 21.8	+0.7
SIV	**San Ignacio**	**24.75**	**126**	P	P	11 00 21.8	+0.7
	2.3nm,0.7s,baz=309,slow=11,SNR=8.9						
LCO	**Las Campanas**	**29.08**	**160**	P	P	11 01 00.0	-0.3
	27nm,1.5s						
H03N2	**Juan Fernandez**	**31.66**	**176**	T	T	11 35 48.1	
	baz=354,slow=75,SNR=38						
H03N1	**Juan Fernandez**	**31.66**	**176**	T	T	11 35 48.2	
	baz=354,slow=75,SNR=43						
H03N3	**Juan Fernandez**	**31.68**	**176**	T	T	11 35 49.2	
	baz=354,slow=75,SNR=40						
BDFB	**Brasilia**	**35.93**	**115**	LR	LR	11 18 47.7	
	comp=Z,261nm,20.3s,baz=45,slow=40						
TXAR	**Lajitas Array**	**37.38**	**327**	P	P	11 02 12.7	+0.4
TXAR				PcP	PcP	11 04 31.4	+0.4
TXAR	**Lajitas Array**	**37.38**	**327**	P	P	11 02 12.7	+0.4
	0.1nm,0.7s,baz=152,slow=10,SNR=2.4						
TXAR				PcP	PcP	11 04 31.4	+0.4
	0.4nm,0.7s,baz=148,slow=7.4,SNR=5.3						
ANMO	**Albuquerque**	**43.24**	**330**	P	P	11 03 01.9	+0.9
ANMO	**Albuquerque**	**43.24**	**330**	P	P	11 03 01.9	+0.9
	1.9nm,0.8s,baz=164,slow=10,SNR=9.5						
PFO	**Pinyon Flat Ob**	**48.04**	**320**	LR	LR	11 20 58.6	
	comp=Z,212nm,21.5s,baz=188,slow=32						
PDAR	**Pinedale Array**	**50.92**	**334**	P	P	11 04 00.8	0.0
PDAR	**Pinedale Array**	**50.92**	**334**	P	P	11 04 00.8	0.0
	0.4nm,0.8s,baz=159,slow=7.7,SNR=3.7						
AHID	**Auburn Hatcher**	**51.62**	**332**	*e*P	P	11 04 06.1	+0.1
	14nm,0.6s						
NVAR	**Mina Array Bea**	**52.30**	**324**	P	P	11 04 12.0	+0.8
NVAR	**Mina Array Bea**	**52.30**	**324**	P	P	11 04 12.0	+0.8
	0.9nm,0.9s,baz=126,slow=7.6,SNR=4.8						
ULM	**Lac du Bonnet**	**53.19**	**349**	P	P	11 04 17.9	+0.7
ULM	**Lac du Bonnet**	**53.19**	**349**	P	P	11 04 17.9	+0.7
	2.6nm,0.9s,baz=140,slow=9.6,SNR=3.3						
HLID	**Hailey**	**53.80**	**331**	*e*P	P	11 04 22.2	+0.1
	0.9nm,0.9s						
FFC	**Flin Flon**	**58.70**	**346**	*e*P	P	11 04 56.6	0.0
	5.9nm,0.8s						
ILAR	**Eielson Array**	**81.22**	**337**	P	P	11 07 13.9	-0.7
ILAR	**Eielson Array**	**81.22**	**337**	P	P	11 07 13.9	-0.7
	0.8nm,1.0s,baz=130,slow=2.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**83.91**	**77**	P	P	11 07 31.1	+1.4
TORD	**Torodi Ar. Bea**	**83.91**	**77**	P	P	11 07 31.1	+1.4
	0.5nm,1.1s,baz=286,slow=7.7,SNR=2.3						
SONM	**Songino Array**	**133.53**	**353**	PKP	PKPdf	11 14 15.9	+0.2
SONM	**Songino Array**	**133.53**	**353**	PKP	PKPdf	11 14 15.9	+0.2
	0.2nm,0.7s,baz=2.9,slow=5.8,SNR=2.4						
WMQ	**Urumqi**	**137.02**	**11**	*e*PKP	PKPdf	11 14 24.0	+1.7
ASAR	**Alice Springs**	**137.20**	**232**	PKP	PKPdf	11 14 22.8	-0.4
ASAR	**Alice Springs**	**137.20**	**232**	PKP	PKPdf	11 14 22.8	-0.4
	0.4nm,0.8s,baz=101,slow=1.3,SNR=5.9						
WRA	**Warramunga Arr**	**138.65**	**237**	PKP	PKPdf	11 14 25.2	-0.7
WRA	**Warramunga Arr**	**138.65**	**237**	PKP	PKPdf	11 14 25.2	-0.7
	0.5nm,0.7s,baz=110,slow=2.6,SNR=7.9						
HHC	**Hu-ho-hao-te**	**139.25**	**345**	*e*PKP	PKPdf	11 14 25.0	-1.5
HHC				PP	PP	11 17 19.8	+1.0
HHC				PKS	PKSdf	11 18 00.0	-2.7
HHC				SKS	SKSdf	11 21 31.8	-2.9
HHC				SS	SS	11 35 36.3	+2.7
HHC				LR	LR		
	comp=N,170nm,21.4s						
HHC				LR	LR		
	comp=E,310nm,21.4s						
LZH	**Lanzhou**	**145.42**	**352**	*e*PKPbc	PKPbc	11 14 36.5	-1.1
LZH				LR	LR		
	comp=N,140nm,18.0s						
LZH				LR	LR		
	comp=E,150nm,18.6s						
LZH				LR	LR		
	comp=Z,170nm,20.2s						
CD2	**Chengdu**	**150.51**	**351**	*e*PKPbc	PKPdf	11 14 45.3	-0.8

*NNC **26** 11:46:04.7±3.4, 36°.87N×70°.84E, h186km±52km, mb3.0, mpv3.9, Error ellipse: s-maj=32.3km s-min=19.8km az=16.0*

*IDC **26** 11:46:05.2±8.6, 36°.86N×70°.97E, h209km±52km, mb3.4/4, mb1 3.4/9, mb1mx3.0/30, mbtmp3.2/9, MS3.0/2, Ms1 3.0/2, ms1mx2.6/35, Error ellipse: s-maj=82.3km s-min=32.5km az=177.0*

ISC 26 11:46:04.2±1.9, 36°.8N±0°.2×70°.9E±0°.1, h200km, n25, σ0s39/28, mb3.5/4, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.73**	**21**	P	Pn	11 47 28.5	+0.2
	SNR=103						
UCH	**Uchtor**	**6.08**	**26**	P	Pn	11 47 33.2	+0.3
	SNR=23						
KZA	**Kyzart**	**6.24**	**31**	P	Pn	11 47 34.7	-0.1
	SNR=8.0						
EKS2	**Erkin-Say**	**6.24**	**20**	P	Pn	11 47 35.0	+0.4
	SNR=14						
KK31	**Karatay Array**	**6.28**	**358**	⇓P	Pn	11 47 35.2	+0.2
	1.5nm,0.3s,baz=189,slow=13,SNR=42						
KK31				⇑S	Sn	11 48 46.2	-0.7
	8.8nm,0.5s,baz=189,slow=24,SNR=13						
AAK	**Ala-Archa**	**6.44**	**25**	P	Pn	11 47 37.6	+0.5
	SNR=17						
AAK	**Ala-Archa**	**6.44**	**25**	P	Pn	11 47 37.6	+0.5
	3.3nm,0.3s,baz=166,slow=5.3,SNR=41						
AAK				S	Sn	11 48 50.9	0.0
	0.8nm,0.3s,baz=312,slow=22,SNR=10						
AAK				LR	LR	11 50 43.0	
	comp=Z,64nm,19.7s,baz=11,slow=44						
AAK	**Ala-Archa**	**6.44**	**25**	⇑P	Pn	11 47 37.1	0.0
	3.1nm,0.3s						
AAK				⇓S	Sn	11 48 51.1	+0.3
	7.4nm,0.6s						
KBK	**Karagaybulak**	**6.62**	**27**	P	Pn	11 47 39.8	+0.3
	SNR=11						
CHMS	**Chumysh**	**6.85**	**25**	P	Pn	11 47 42.8	+0.4
	SNR=5.7						
USP	**Ospenovka**	**7.01**	**22**	P	Pn	11 47 44.2	-0.2
	SNR=5.3						
TKM2	**Tokmak 2**	**7.09**	**29**	P	Pn	11 47 45.8	+0.2
	SNR=8						
TKM2	**Tokmak 2**	**7.09**	**29**	⇓P	Pn	11 47 45.4	-0.2
	20nm,0.6s						
TKM2				⇑S	Sn	11 49 06.0	-0.2
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**13.09**	**37**	P	Pn	11 49 02.4	-0.3
	0.1nm,0.3s,baz=213,slow=12,SNR=8.9						
AB31	**Akbulak array**	**14.75**	**331**	⇑P	P	11 49 24.3	+0.2
	1.6nm,0.7s,baz=145,slow=11,SNR=16						
KURBB	**Kurchatov Arra**	**14.85**	**19**	P	Pn	11 49 23.4	-0.9
	0.2nm,0.3s,baz=209,slow=13,SNR=4.8						
BVAR	**Borovoye Array**	**16.20**	**359**	LR	LR	11 56 02.9	
	comp=Z,99nm,20.4s,baz=254,slow=37						
AKTO	**Aktyubinsk**	**16.45**	**330**	P	Pn	11 49 44.1	+0.4
	0.5nm,0.3s,baz=143,slow=9.8,SNR=13						
AKTO	**Aktyubinsk**	**16.45**	**330**	⇑P	Pn	11 49 43.4	-0.3
	5.1nm,1.1s						
ZALV	**Zalesovo Beam**	**19.66**	**25**	P	P	11 50 18.1	+0.5
	0.4nm,0.3s,baz=224,slow=11,SNR=6.5						
FINES	**FINESS Array B**	**37.16**	**326**	P	P	11 52 56.0	+0.5
	11nm,1.1s,baz=134,slow=8.2,SNR=4.5						
ARCES	**ARCESS Array B**	**40.81**	**337**	P	P	11 53 25.5	-0.1
	1.3nm,0.8s,baz=110,slow=10,SNR=5.3						
NB2	**NORSAR Subarra**	**44.06**	**323**	P	P	11 53 51.5	-0.5
	comp=Z,1.0nm,0.8s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.06**	**323**	P	P	11 53 51.9	-0.1
	comp=Z,1.3nm,0.7s,baz=97,slow=7.7,SNR=4.0						
YKA	**Yellowknife Ar**	**80.93**	**3**	P	P	11 57 55.3	-0.3
	comp=Z,0.3nm,0.5s,baz=350,slow=5.4,SNR=16						

IDC 26 11:55:17.9±1.2, 21°.07N×143°.37E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.6/4, MS4.1/1, Ms1 4.1/1, ms1mx2.8/40, Error ellipse: s-maj=99.2km s-min=25.6km az=102.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**22.09**	**89**	T	T	12 22 31.7	
	baz=280,slow=75,SNR=64						
H11S3	**WAKE ISLAND Hy**	**22.09**	**93**	T	T	12 22 27.6	
	baz=282,slow=73,SNR=44						
H11N2	**WAKE ISLAND Hy**	**22.09**	**89**	T	T	12 22 31.2	
	baz=280,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**22.09**	**93**	T	T	12 22 31.0	
	baz=282,slow=73,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**22.10**	**89**	T	T	12 22 31.6	
	baz=280,slow=75,SNR=40						
H11S2	**WAKE ISLAND Hy**	**22.10**	**93**	T	T	12 22 28.5	
	baz=282,slow=73,SNR=5.9						
HNR	**Honiara**	**34.41**	**150**	LR	LR	12 14 09.5	
	comp=Z,322nm,19.1s,baz=260,slow=33						
WRA	**Warramunga Arr**	**41.71**	**193**	P	P	12 03 08.2	-0.4
	0.4nm,0.9s,baz=7.1,slow=8.5,SNR=4.3						
ASAR	**Alice Springs**	**45.41**	**192**	P	P	12 03 38.7	+0.1
	0.2nm,0.6s,baz=17,slow=10,SNR=7.1						
YKA	**Yellowknife Ar**	**76.93**	**28**	P	P	12 07 11.8	-0.1
	0.2nm,0.5s,baz=292,slow=5.6,SNR=8.1						
FINES	**FINESS Array B**	**83.82**	**335**	P	P	12 07 49.3	+0.2
	5.6nm,1.1s,baz=356,slow=4.3,SNR=3.4						

*IDC **26** 12:00:00.6±0.6, 3°.04S×139°.79E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.3/22, mbtmp4.3/15, ML3.6/2, MS4.1/11, Ms1 4.1/11, ms1mx3.9/19, Error ellipse: s-maj=14.5km s-min=10.2km az=146.0*

*ISCJB **26** 12:00:04.7±0.3, 3°.20S±0°.03×139°.85E±0°.05, h46km, mb4.7/46, MS4.1/17, Error ellipse: s-maj=7.0km s-min=4.7km az=173.8*

*AUST **26** 12:00:04.3±0.5, 3°.28S×140°.09E, h38km±6km, Error ellipse: s-maj=7.9km s-min=4.7km az=123.0*

*NEIC **26** 12:00:05.9±0.3, 3°.09S×139°.75E, h35km, mb4.6/9, Error ellipse: s-maj=9.1km s-min=5.3km az=69.0*

*BJI **26** 12:00:05.2, 3°.20S×139°.50E, h25km, mB4.9/16, mb4.6/28, Ms4.5/14, Ms7 4.3/17*

*DJA **26** 12:00:06.1±0.4, 3°.5±4°×14°.0E±°, h10km, M5.0/18, mb4.8/18, mB5.1/2, MLv5.0/5, Mw(mB)4.4/2*

ISC 26 12:00:07.0±0.5, 3°.24S±0°.04×139°.69E±0°.07, h46km, n129, σ1s85/153, mb4.7/46, MS4.1/17, 5C-2D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.80**	**37**	P	Pn	12 00 16.2	-5.7
JAY	**Jayapura**	**1.24**	**55**	Pg	Pn	12 00 21.7	-6.3
JAY				Lg	Lg	12 00 34.2	
JAY	**Jayapura**	**1.24**	**55**	Pg	Pn	12 00 21.7	-6.3
	133nm,0.3s,baz=243,slow=10,SNR=448						
JAY				Lg	Lg	12 00 34.2	
	566nm,0.3s,baz=156,slow=20,SNR=35						
JAY	**Jayapura**	**1.24**	**55**	⇓P	Pn	12 00 21.7	-6.3
	baz=1.0,SNR=188						
SRPI	**Serui, Papua**	**3.71**	**291**	P	Pn	12 01 03.2	+1.4
BAKI	**Biak**	**4.12**	**299**	P	Pn	12 01 08.2	+0.7
MWPI	**Manokwari, Pap**	**6.10**	**292**	P	Pn	12 01 34.1	-0.5
	157nm,1.2s,0.9nm						
FAKI	**Fak Fak**	**7.44**	**272**	P	Pn	12 01 55.0	+1.9
	46nm,1.1s,0.2nm						
FAKI	**Fak Fak**	**7.44**	**272**	⇓P	Pn	12 01 55.7	+2.7
	baz=7.8,SNR=14						
SWI	**Sorong**	**8.75**	**285**	P	Pn	12 02 10.1	-0.9
	44nm,0.9s						
COEN	**Coen**	**11.19**	**162**	*e*Pn	Pn	12 02 45.5	+1.0
	89nm,0.7s						
COEN				*e*Sn	Sn	12 04 46.7	-1.7
KDU	**Kakadu**	**11.80**	**217**	⇑P	Pn	12 02 53.6	+0.9
	baz=12,SNR=23						
LBMI	**Labuha**	**12.46**	**282**	P	P	12 03 12.6	+0.1
MTN	**Manton Dam**	**12.76**	**221**	⇑P	Pn	12 03 05.9	0.0
	baz=13,SNR=45						
KNRA	**Kununurra**	**16.39**	**220**	P	P	12 03 55.4	-0.8
	baz=17,SNR=37						
SOEI	**Soe**	**16.63**	**246**	P	P	12 04 03.8	+4.8
	66nm,1.1s						
SOEI	**Soe**	**16.63**	**246**	⇑P	P	12 03 59.8	+0.8
	baz=17,SNR=3.5						
LUWI	**Luwuk**	**17.05**	**277**	P	P	12 04 07.1	+3.6
	70nm,1.3s						
GTOI	**Gorontalo**	**17.11**	**283**	P	P	12 04 08.4	+4.2
	55nm,0.8s						
WRAB	**Tennant Creek**	**17.39**	**197**	*e*Pn	Pn	12 04 06.6	+0.1
	20nm,0.8s						
WRA	**Warramunga Arr**	**17.41**	**197**	P	Pn	12 04 06.0	-0.7
WRA				S	Sn	12 07 13.9	-5.7
WRA	**Warramunga Arr**	**17.41**	**197**	P	Pn	12 04 06.0	-0.7
	0.4nm,0.3s,baz=19,slow=12,SNR=25						
WRA				S	Sn	12 07 13.9	-5.7
	0.3nm,0.3s,baz=9.2,slow=22,SNR=7.7						
CTA	**Charters Tower**	**17.93**	**160**	P	P	12 04 14.7	+1.5
CTA	**Charters Tower**	**17.93**	**160**	P	P	12 04 14.7	+1.5
	0.1nm,0.3s,baz=3.4,slow=16,SNR=2.4						
CTAO	**Charters Tower**	**17.93**	**160**	*e*P	P	12 04 15.8	+2.5
	15nm,1.1s						
MRSI	**Marisa**	**18.12**	**281**	P	Pn	12 04 16.5	+1.0
	22nm,0.8s						
APSI	**Ampana**	**18.18**	**277**	P	Pn	12 04 18.8	+2.6
	92nm,1.3s,850nm						
BNSI	**Bone**	**19.58**	**266**	P	Pn	12 04 38.5	+5.5
	27nm,1.6s						
TTSI	**Tana Toraja**	**19.84**	**270**	P	Pn	12 04 39.0	+2.8
	41nm,1.3s						
SPSI	**Sidrap Palu**

KSRS	**Korea Array**	**41.94 346**	P	**P**	**12 07 53.5**	**+0.2**
	2.5nm,0.7s,baz=159,slow=8.9,SNR=12					
KSRS			LR	LR	12 22 18.5	
	comp=Z,172nm,19.6s,baz=173,slow=32					
GYA	**Guiyang**	**43.49 315**	*eP*	**P**	**12 08 07.8**	**+1.6**
GYA			pmax	pmax		
	comp=Z,10.0nm,1.0s					
NANT	**Nan**	**44.18 301**	P	**P**	**12 08 11.4**	**-0.4**
	21nm,1.0s					
LAMP	**Lampang**	**44.98 300**	P	**P**	**12 08 18.9**	**+0.7**
	3.8nm,0.9s					
CM31	**Chiang Mai Arr**	**45.55 300**	*eP*	**P**	**12 08 22.3**	**-0.4**
	2.7nm,0.5s					
CMAR	**Chiang Mai Arr**	**45.55 300**	P	**P**	**12 08 22.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**45.55 300**	P	**P**	**12 08 22.4**	**-0.2**
	5.4nm,0.9s,baz=122,slow=6.2,SNR=34					
CMAR			LR	LR	12 30 16.0	
	comp=Z,93nm,18.5s,baz=264,slow=40					
KMI	**Kunming**	**45.61 310**	P	P	12 08 29.8	+6.5
KMI			pmax	pmax		
	comp=Z,13nm,0.9s					
CMMT	**Chiang Mai**	**45.69 300**	P	**P**	**12 08 23.5**	**-0.3**
	6.5nm,1.1s					
CHTO	**Chiang Mai**	**45.69 300**	*eP*	**P**	**12 08 23.1**	**-0.7**
	1.6nm,0.5s					
CHTO	**Chiang Mai**	**45.69 300**	P	**P**	**12 08 23.5**	**-0.3**
	29nm,1.2s					
USRK	**Usuriysk Arra**	**47.73 353**	P	**P**	**12 08 39.1**	**-0.2**
	5.1nm,0.9s,baz=159,slow=12,SNR=4.8					
CD2	**Chengdu**	**48.23 317**	*eP*	**P**	**12 08 44.0**	**+0.5**
CD2			pP	**pP**	**12 08 54.5**	**-1.7**
CD2			sP	**sP**	**12 08 58.8**	**-2.8**
CD2			PP	**PP**	**12 10 36.0**	**-0.3**
CD2			S	**S**	**12 15 40.0**	**0.0**
CD2			sS	**sS**	**12 15 57.0**	**-4.2**
CD2			SS	**SS**	**12 19 04.3**	**-5.7**
CD2			pmax	pmax		
	comp=Z,10.0nm,1.1s					
CD2			pmax	pmax		
	comp=Z,130nm,5.9s					
CD2			LR	LR		
	comp=E,280nm,14.2s					
CD2			LR	LR		
	comp=Z,400nm,16.7s					
MDJ	**Mudanjiang**	**48.49 350**	P	**P**	**12 08 47.8**	**+2.6**
MDJ			pP	**pP**	**12 08 56.8**	**-1.1**
MDJ			sP	**sP**	**12 09 00.5**	**-2.8**
MDJ			PP	**PP**	**12 10 39.5**	**+1.1**
MDJ			S	**S**	**12 15 48.0**	**+4.9**
MDJ			pmax	pmax		
	comp=Z,9.0nm,1.4s					
MDJ			pmax	pmax		
	comp=Z,120nm,3.0s					
MDJ			LR	LR		
	comp=N,80nm,25.8s					
MDJ			LR	LR		
	comp=E,61nm,25.8s					
MDJ			LR	LR		
	comp=Z,160nm,21.2s					
RPZ	**Rata Peaks**	**48.94 150**	P	**P**	**12 08 50.1**	**+1.3**
RPZ	**Rata Peaks**	**48.94 150**	P	**P**	**12 08 50.1**	**+1.3**
	13nm,0.9s,baz=338,slow=11,SNR=2.7					
HHC	**Hu-ho-hao-te**	**50.85 333**	*eP*	**P**	**12 09 04.5**	**+1.2**
HHC			pP	**pP**	**12 09 14.0**	**-2.1**
HHC			sP	**sP**	**12 09 16.5**	**-5.0**
HHC			PP	**PP**	**12 11 02.5**	**+2.5**
HHC			ScP	**ScP**	**12 14 11.3**	**-0.9**
HHC			S	**S**	**12 16 16.3**	**-0.1**
HHC			pmax	pmax		
	comp=Z,33nm,1.1s					
HHC			pmax	pmax		
	comp=Z,150nm,6.4s					
HHC			LR	LR		
	comp=N,310nm,16.7s					
HHC			LR	LR		
	comp=E,360nm,16.5s					
HHC			LR	LR		
	comp=Z,220nm,16.3s					
LZH	**Lanzhou**	**51.49 323**	*eP*	**P**	**12 09 10.0**	**+1.7**
LZH			pP	**pP**	**12 09 18.5**	**-2.6**
LZH			sP	**sP**	**12 09 22.3**	**-4.2**
LZH			pmax	pmax		
	comp=Z,17nm,1.1s					
SHL	**Shillong**	**54.44 305**	*eP*	**P**	**12 09 31.5**	**+1.2**
GTA	**Gaotai**	**56.08 323**	*eP*	**P**	**12 09 42.5**	**+0.7**
GTA			pP	**pP**	**12 09 53.0**	**-1.7**
GTA			sP	**sP**	**12 09 56.5**	**-3.5**
GTA			S	**S**	**12 17 27.0**	**-0.5**
GTA			sS	sS	12 17 44.0	-5.1
GTA			SS	**SS**	**12 21 13.0**	**-1.4**
GTA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
GTA			pmax	pmax		
	comp=Z,65nm,5.5s					
GTA			LR	LR		
	comp=N,110nm,17.3s					
GTA			LR	LR		
	comp=E,140nm,15.9s					
GTA			LR	LR		
	comp=Z,97nm,16.6s					
LSA	**Lhasa**	**56.81 309**	*eP*	**P**	**12 09 48.2**	**+0.7**
	3.5nm,0.5s					
TAPN	**Taplejung**	**58.58 305**	*eP*	**P**	**12 09 59.9**	**0.0**
	17nm,0.7s					
TAPN	**Taplejung**	**58.58 305**	*eP*	**P**	**12 09 59.9**	**0.0**
	17nm,0.7s					
SONM	**Songino Array**	**58.61 334**	P	**P**	**12 09 59.1**	**-0.4**
SONM	**Songino Array**	**58.61 334**	P	**P**	**12 09 59.1**	**-0.4**
	0.4nm,0.6s,baz=152,slow=7.0,SNR=5.2					
SONM			LR	LR	12 37 13.0	
	comp=Z,273nm,18.6s,baz=157,slow=38					
ODAN	**Odare**	**58.66 304**	*eP*	**P**	**12 10 00.3**	**0.0**
	17nm,0.7s					
ODAN	**Odare**	**58.66 304**	*eP*	**P**	**12 10 00.3**	**0.0**
	17nm,0.7s					
RAMN	**Ramite**	**59.34 304**	*eP*	**P**	**12 10 05.2**	**+0.1**
	16nm,0.8s					
RAMN	**Ramite**	**59.34 304**	*eP*	**P**	**12 10 05.2**	**+0.1**
	16nm,0.8s					
JIRN	**Jiri**	**59.95 305**	*eP*	**P**	**12 10 09.2**	**-0.2**
	13nm,0.6s					
JIRN	**Jiri**	**59.95 305**	*eP*	**P**	**12 10 09.2**	**-0.2**
	13nm,0.6s					
GUN	**Gumba**	**60.29 305**	*eP*	**P**	**12 10 11.9**	**+0.2**
	26nm,0.8s					
GUN	**Gumba**	**60.29 305**	*eP*	**P**	**12 10 11.9**	**+0.2**
	26nm,0.8s					
PKI	**Pulchoki**	**60.56 304**	*eP*	**P**	**12 10 13.2**	**-0.3**
PKI	**Pulchoki**	**60.56 304**	*eP*	**P**	**12 10 13.2**	**-0.3**
PKIN	**Phulchoki**	**60.57 304**	*eP*	**P**	**12 10 12.8**	**-0.7**
KKN	**Kakani**	**60.74 304**	*eP*	**P**	**12 10 14.0**	**-0.7**
KKN	**Kakani**	**60.74 304**	*eP*	**P**	**12 10 14.0**	**-0.7**
DMN	**Daman**	**60.82 304**	*eP*	**P**	**12 10 15.4**	**+0.2**
DMN	**Daman**	**60.82 304**	*eP*	**P**	**12 10 15.4**	**+0.2**
GKN	**Gorkha**	**61.35 304**	*eP*	**P**	**12 10 18.8**	**+0.1**
	34nm,0.8s					
GKN	**Gorkha**	**61.35 304**	*eP*	**P**	**12 10 18.8**	**+0.1**
	34nm,0.8s					
KOLN	**Koldanda**	**62.12 304**	*eP*	**P**	**12 10 24.0**	**0.0**
	21nm,0.9s					
KOLN	**Koldanda**	**62.12 304**	*eP*	**P**	**12 10 24.0**	**0.0**
	21nm,0.9s					
DANN	**Dangsing**	**62.20 304**	*eP*	**P**	**12 10 24.4**	**-0.2**
	19nm,0.8s					
DANN	**Dangsing**	**62.20 304**	*eP*	**P**	**12 10 24.4**	**-0.2**
	19nm,0.6s					
PYUN	**Piuthan**	**62.75 304**	*eP*	**P**	**12 10 28.3**	**+0.2**
	60nm,0.9s					
PYUN	**Piuthan**	**62.75 304**	*eP*	**P**	**12 10 28.3**	**+0.2**
	60nm,0.9s					
WMQ	**Urumqi**	**66.03 321**	P	**P**	**12 10 51.0**	**+1.9**
WMQ			sP	**sP**	**12 11 05.0**	**-2.6**
WMQ			PcP	**PcP**	**12 11 21.0**	**+1.6**
WMQ			PP	**PP**	**12 13 18.0**	**+3.0**
WMQ			ScP		12 15 21.0	
WMQ			S	**S**	**12 19 34.0**	**+0.1**
WMQ			ScS	**SKSac**	**12 20 41.0**	**-0.5**
WMQ			SS	**SS**	**12 23 51.0**	**+0.9**
WMQ			pmax	pmax		
	comp=Z,12nm,1.0s					
WMQ			pmax	pmax		
	comp=Z,75nm,5.0s					
WMQ			LR	LR		
	comp=N,86nm,19.0s					
WMQ			LR	LR		
	comp=E,79nm,18.0s					
WMQ			LR	LR		
	comp=Z,67nm,18.0s					
MK31	**Makanchi Array**	**70.80 322**	*eP*	**P**	**12 11 18.8**	**0.0**
MKAR	**Makanchi Array**	**70.80 322**	P	**P**	**12 11 18.8**	**-0.1**
MKAR	**Makanchi Array**	**70.80 322**	P	**P**	**12 11 18.8**	**-0.1**
	1.6nm,0.7s,baz=114,slow=7.8,SNR=22					
MKAR			LR	LR	12 46 17.9	
	comp=Z,92nm,18.4s,baz=357,slow=39					
KSH	**Kashi**	**72.16 313**	P	**P**	**12 11 27.5**	**+0.2**
KSH			sP	**sP**	**12 11 45.3**	**-0.6**
KSH			PP	**PP**	**12 14 11.3**	**+3.1**
KSH			S	**S**	**12 20 45.5**	**-1.1**
KSH			SKS	**SKSac**	**12 21 26.5**	**-1.8**
KSH			SS	**SS**	**12 25 29.0**	**+4.0**
KSH			pmax	pmax		
	comp=Z,110nm,5.0s					
KSH			LR	LR		
	comp=Z,130nm,6.4s					
ZALV	**Zalesovo Beam**	**72.88 330**	P	**P**	**12 11 29.3**	**-1.8**
ZALV	**Zalesovo Beam**	**72.88 330**	P	**P**	**12 11 29.3**	**-1.8**
	0.4nm,0.3s,baz=115,slow=6.8,SNR=2.9					
ZALV			LR	LR	12 43 40.2	
	comp=Z,123nm,20.2s,baz=54,slow=36					
TKM2	**Tokmak 2**	**73.60 316**	*eP*	**P**	**12 11 35.3**	**-0.6**
	2.1nm,0.7s					
KURK	**Kurchatov**	**74.71 325**	*eP*	**P**	**12 11 41.6**	**-0.3**
	2.6nm,1.1s					
KURBB	**Kurchatov Arra**	**74.72 325**	P	**P**	**12 11 40.1**	**-1.9**
	0.4nm,0.3s,baz=110,slow=4.8,SNR=5.6					
EKS2	**Erkin-Say**	**74.77 316**	*eP*	**P**	**12 11 42.9**	**+0.2**
	3.6nm,1.1s					
VNDA	**Vanda**	**75.17 175**	P	**P**	**12 11 45.5**	**+1.4**
VNDA	**Vanda**	**75.17 175**	P	**P**	**12 11 45.5**	**+1.4**
	1.8nm,0.7s,baz=325,slow=6.9,SNR=13					
VNDA			LR	LR	12 43 06.0	
	comp=Z,373nm,20.5s,baz=352,slow=34					
KBL	**Kabul**	**76.03 307**	*eP*	**P**	**12 11 49.5**	**-0.7**
	1.6nm,0.5s					
BRVK	**Borovoye**	**80.38 325**	*eP*	**P**	**12 12 13.0**	**-0.5**
	3.1nm,0.9s					
ILAR	**Eielson Array**	**85.91 24**	P	**P**	**12 12 39.9**	**-1.9**
	1.9nm,0.8s,baz=260,slow=4.8,SNR=14					
INK	**Inuvik**	**91.79 22**	*eP*	**P**	**12 13 11.0**	**+1.4**
	5.0nm,0.8s					
YBH	**Yreka Blue Hor**	**97.82 48**	LR	LR	12 48 38.2	
	comp=Z,193nm,21.7s,baz=347,slow=30					
DBIC	**Dimbokro**	**144.53 277**	PKP	**PKPdf**	**12 19 39.5**	**-0.1**
DBIC	**Dimbokro**	**144.53 277**	PKP	**PKPdf**	**12 19 39.5**	**-0.1**
	7.9nm,0.8s,baz=72,slow=6.4,SNR=4.5					
LPAZ	**La Paz**	**146.34 126**	PKPbc	**PKPbc**	**12 19 44.0**	**-0.6**
LPAZ	**La Paz**	**146.34 126**	PKPbc	**PKPbc**	**12 19 44.0**	**-0.6**
	0.4nm,0.5s,baz=288,slow=6.4,SNR=1.9					

*IDC **26** 12:00:00.9±1.2,5.°96S×148.°06E,h0km,mb4.5/5, mb1 4.6/7,mb1mx4.1/19,mbtmp4.4/7,ML3.4/2,MS3.9/3, Ms1 3.9/3,ms1mx3.5/20,Error ellipse: s-maj=55.6km s-min=19.4km az=110.0*

*ISCJB **26** 12:00:06.5±1.0,6.°15S±0.°10×148.°1E±0.°3,h60km,mb4.4/5, MS4.0/3,Error ellipse: s-maj=39.2km s-min=10.6km az=14.2*

ISC 26 12:00:08.1±1.1,6.°2S±0.°1×148.°1E±0.°3,h60km,n12, σ1s21/11,mb4.3/5,MS4.0/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.37**	**197**	P	**Pn**	**12 00 57.8**	**-0.5**
PMG	**Port Moresby**	**3.37**	**197**	Pn	**Pn**	**12 00 58.3**	**0.0**
	20nm,0.3s,baz=22,slow=5.6,SNR=50						
PMG				Sn	**Sn**	**12 01 35.4**	**-1.7**
	13nm,0.3s,baz=170,slow=21,SNR=8.6						
PMG				LR	LR	12 02 13.3	
	comp=Z,169nm,21.5s,baz=14,slow=37						
CTA	**Charters Tower**	**13.97**	**187**	Pn	**Pn**	**12 03 24.1**	**+1.0**
	0.2nm,0.3s,baz=4.2,slow=16,SNR=6.5						
ASAR	**Alice Springs**	**22.15**	**217**	P	**P**	**12 04 59.1**	**0.0**
	6.6nm,0.5s,baz=22,slow=9.7,SNR=43						
FITZ	**Fitzroy Crossi**	**24.96**	**240**	P	**P**	**12 05 25.9**	**-0.2**
	18nm,0.5s,baz=64,slow=7.4,SNR=11						
STKA	**Stephens Creek**	**26.31**	**193**	P	**P**	**12 05 39.7**	**+1.4**
	8.5nm,0.9s,baz=2.0,slow=8.0,SNR=20						
RAO	**Raoul Island**	**39.41**	**130**	LR	LR	12 19 58.6	
	comp=Z,219nm,18.6s,baz=124,slow=30						
PETK	**Petropavlovsk-**	**59.60**	**7**	P	**P**	**12 10 06.2**	**+0.6**
	3.0nm,0.8s,baz=171,slow=8.1,SNR=5.0						
PETK				LR	LR	12 34 41.3	
	comp=Z,55nm,18.9s,baz=187,slow=35						
ILAR	**Eielson Array**	**85.18**	**23**	P	**P**	**12 12 36.1**	**-1.5**
ILAR	**Eielson Array**	**85.18**	**23**	P	**P**	**12 12 36.1**	**-1.5**
	0.6nm,0.6s,baz=257,slow=4.8,SNR=5.6						
BBB	**Bella Bella**	**90.99**	**38**	LR	LR	12 45 20.1	
	comp=Z,98nm,21.7s,baz=251,slow=30						
TORD	**Torodi Ar. Bea**	**146.23**	**284**	PKPbc	**PKPab**	**12 19 44.6**	**+0.8**
	0.5nm,0.6s,baz=80,slow=4.4,SNR=3.2						

*IDC **26** 12:29:11.3±2.2,6.°46N×126.°35E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/25,mbtmp3.4/4,MS3.0/2,Ms1 3.0/2, ms1mx2.7/24,Error ellipse: s-maj=140.5km s-min=23.4km az=68.0*

*ISCJB **26** 12:29:19.2±1.0,6.°45N±0.°09×125.°8E±0.°1,h97km,mb3.2/4, Error ellipse: s-maj=16.7km s-min=12.1km az=170.5*

ISC 26 12:29:20.4±1.2,6.°5N±0.°1×125.°6E±0.°2,h97km,n7,σ1s76/7, mb3.2/4,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**0.57**	**352**	*eP*	**Pn**	**12 29 35.0**	**-1.5**
DMPH				*eS*	**Sn**	**12 29 50.3**	**+1.8**
GSPH	**General Santos**	**0.76**	**236**	*i*P	**Pn**	**12 29 36.6**	**-1.6**
GSPH				*i* S	**Sn**	**12 29 53.0**	**+1.4**
TGY	**Tagaytay City**	**8.82**	**329**	LR	LR	12 36 01.8	
	comp=Z,46nm,20.9s,baz=73,slow=44						
FITZ	**Fitzroy Crossi**	**24.46**	**180**	P	**P**	**12 34 31.6**	**+1.2**
	0.8nm,0.5s,baz=4.8,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**27.66**	**162**	P	**P**	**12 34 58.5**	**-0.8**
	0.3nm,0.8s,baz=346,slow=9.8,SNR=5.7						
WRA				LR	LR	12 43 52.9	
	comp=Z,81nm,21.3s,baz=125,slow=32						
ASAR	**Alice Springs**	**31.07**	**165**	P	**P**	**12 35 29.6**	**0.0**
	0.2nm,0.5s,baz=340,slow=7.1,SNR=8.6						
MKAR	**Makanchi Array**	**54.64**	**325**	P	P	12 38 45.4	+6.2
	0.4nm,0.4s,baz=116,slow=7.2,SNR=12						

IDC 26 12:31:39.2±2.1,4.°06N×127.°30E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/23,mbtmp3.6/4,Error ellipse: s-maj=179.8km s-min=25.0km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.83**	**164**	P	P	12 37 02.3	-1.1
	1.6nm,0.9s,baz=344,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**28.30**	**167**	P	P	12 37 35.9	+1.2
	0.2nm,0.5s,baz=349,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**38.24**	**160**	P	P	12 39 00.9	-0.2
	0.7nm,0.5s,baz=332,slow=10.0,SNR=3.5						
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	12 41 31.1	-0.1
	0.5nm,0.5s,baz=117,slow=7.4,SNR=6.2						

WEL 26 13:10:25.2±0.1,39.°72S×177.°09E,h25km±1km,ML3.5/24, 5C-9D,Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CKHZ	**Cape Kidnapper**	**0.06**	**353**	⇑P*	Pb	13 10 30.0	+0.4
KAHZ	**Kahuranaki**	**0.18**	**246**	⇓P*	Pb	13 10 31.0	+0.2
PXZ	**Pawanui**	**0.35**	**209**	P*	Pb	13 10 33.6	+0.5
PXZ				AML	AML	13 10 43.5	
PXZ				AML	AML	13 10 43.5	
PXZ				AML	AML	13 10 44.2	
PXZ				AML	AML	13 10 44.3	
MCHZ	**McNeill Hill**	**0.41**	**312**	⇑P*	Pb	13 10 33.3	-0.7
MCHZ				S*	Sb	13 10 39.9	-0.1
WPHZ	**Waipukurau**	**0.60**	**235**	⇓P*	Pb	13 10 37.3	+0.1
PRHZ	**Porangahau**	**0.65**	**212**	⇑P*	Pb	13 10 38.1	+0.2
WHHZ	**Waihua**	**0.66**	**10**	⇓P*	Pb	13 10 38.3	+0.2
NMHZ	**Naumai**	**0.66**	**341**	⇓P*	Pb	13 10 38.0	-0.2
PNHZ	**Pukenui**	**0.71**	**254**	⇓P*	Pb	13 10 38.4	-0.7
BKZ	**Black Stump Fm**	**0.72**	**320**	P*	Pb	13 10 38.3	-1.0
BKZ				AML	AML	13 10 48.8	
BKZ				AML	AML	13 10 48.8	
RAHZ	**Arahi**	**0.80**	**360**	⇓P*	Pb	13 10 40.3	-0.3
BHHZ	**Black Hill Sta**	**0.82**	**286**	P*	Pb	13 10 39.7	-1.4
KNZ	**Kokohu**	**0.83**	**33**	P*	Pb	13 10 40.6	-0.4
MHGZ	**Mahia Peninsul**	**0.85**	**48**	⇑P*	Pb	13 10 41.4	+0.1
ANWZ	**Angora Road**	**0.88**	**212**	PN	Pb	13 10 41.0	-0.8
TSZ	**Takapari Road**	**0.93**	**248**	⇓PN	Pn	13 10 41.3	-1.5
TSZ					AML	13 10 55.6	
TSZ					AML	13 10 57.1	
SNGZ	**Shannon Statio**	**0.96**	**12**	⇑PN	Pn	13 10 42.6	-0.6
PRGZ	**Paritu Road**	**1.01**	**38**	PN	Pn	13 10 43.2	-0.6
MOVZ	**Moawhango**	**1.08**	**287**	⇓PN	Pn	13 10 43.8	-1.0
MOVZ					AML	13 10 59.2	
MOVZ					AML	13 10 59.8	
HATZ	**Hinemaiaia**	**1.13**	**317**	PN	Pn	13 10 45.0	-0.5
HATZ					AML	13 11 01.2	
HATZ					AML	13 11 01.3	
RIGZ	**Rimuhau**	**1.14**	**28**	PN	Pn	13 10 44.8	-0.9
TUVZ	**Tukino**	**1.20**	**292**	PN	Pn	13 10 46.1	-0.5
TUVZ					AML	13 11 06.4	
TUVZ					AML	13 11 07.3	
RITZ	**Rihia Road**	**1.21**	**308**	PN	Pn	13 10 46.6	+0.1
RITZ					AML	13 11 08.9	
RITZ					AML	13 11 09.2	
POWZ	**Post Office Ro**	**1.22**	**236**	PN	Pn	13 10 46.6	0.0
WNVZ	**Wahianoa**	**1.22**	**288**	PN	Pn	13 10 46.3	-0.6
WNVZ					AML	13 11 09.8	
WNVZ					AML	13 11 11.1	
OTVZ	**Oturere**	**1.23**	**296**	PN	Pn	13 10 46.5	-0.6
OTVZ					AML	13 11 05.0	
OTVZ					AML	13 11 09.0	
WHVZ	**Whangaehu Hut**	**1.24**	**290**	⇓PN	Pn	13 10 46.9	-0.4
DRZ	**Dome Shelter**	**1.26**	**290**	PN	Pn	13 10 47.2	-0.4
DRZ					AML	13 11 10.4	
DRZ					AML	13 11 13.1	
TRVZ	**Turoa**	**1.26**	**289**	PN	Pn	13 10 47.3	-0.3
TRVZ					AML	13 11 08.2	
TRVZ					AML	13 11 08.6	
NGZ	**Ngauruhoe**	**1.27**	**295**	PN	Pn	13 10 46.9	-0.7
NGZ					AML	13 11 07.1	
NGZ					AML	13 11 09.2	
FWVZ	**Far West T-bar**	**1.28**	**291**	PN	Pn	13 10 46.9	-0.9
FWVZ					AML	13 11 07.9	
FWVZ					AML	13 11 08.9	
KRVZ	**Karewarewa**	**1.28**	**299**	AML	AML	13 11 06.0	
KRVZ					AML	13 11 08.4	
ALRZ	**Allen Road**	**1.29**	**333**	PN	Pn	13 10 47.1	-0.6
MTVZ	**Mangateitei**	**1.29**	**285**	PN	Pn	13 10 47.8	0.0
MTVZ					AML	13 11 08.5	
MTVZ					AML	13 11 17.9	
WPVZ	**Whakapapa**	**1.30**	**293**	PN	Pn	13 10 47.2	-0.8
WPVZ					AML	13 11 06.7	
WPVZ					AML	13 11 10.3	
COVZ	**Chateau Observ**	**1.30**	**293**	PN	Pn	13 10 47.2	-0.8
KATZ	**Kakaramea**	**1.31**	**304**	AML	AML	13 11 09.2	
KATZ					AML	13 11 10.3	
RATZ	**Rangitukua**	**1.33**	**309**	PN	Pn	13 10 48.3	0.0
RATZ					AML	13 11 15.4	
RATZ					AML	13 11 23.8	
PRRZ	**Plateau Road**	**1.34**	**336**	PN	Pn	13 10 47.5	-0.8
PKVZ	**Pokaka**	**1.42**	**287**	PN	Pn	13 10 49.5	+0.1
PKVZ					AML	13 11 09.3	
PKVZ					AML	13 11 14.8	
MWZ	**Matawai**	**1.43**	**14**	PN	Pn	13 10 48.3	-1.2
MWZ					AML	13 11 22.0	
MWZ					AML	13 11 25.3	
RRRZ	**Republican Roa**	**1.45**	**342**	PN	Pn	13 10 49.2	-0.7
WATZ	**Wairara**	**1.46**	**313**	PN	Pn	13 10 50.2	+0.2
URZ	**Urewera**	**1.46**	**1**	PN	Pn	13 10 48.9	-1.1
URZ					AML	13 11 23.0	
URZ					AML	13 11 23.6	
MRZ	**Mangatainoka R**	**1.49**	**230**	PN	Pn	13 10 49.0	-1.4
MRZ					AML	13 11 16.0	
MRZ					AML	13 11 18.7	
CNGZ	**Carnagh Statio**	**1.51**	**36**	PN	Pn	13 10 49.8	-0.9
TARZ	**Mount Tarawera**	**1.55**	**343**	PN	Pn	13 10 51.0	-0.4
WAZ	**Wanganui**	**1.62**	**268**	PN	Pn	13 10 52.4	+0.1
WAZ					AML	13 11 18.2	
WAZ					AML	13 11 24.9	
OGWZ	**Otaki Gorge**	**1.83**	**233**	PN	Pn	13 10 53.7	-1.4
VRZ	**Vera Road**	**1.90**	**288**	PN	Pn	13 10 56.3	+0.3
KIW	**Kapiti Island**	**2.02**	**235**	PN	Pn	13 10 56.7	-1.0
CAW	**Cannon Point**	**2.07**	**227**	PN	Pn	13 10 56.7	-1.7
CAW					AML	13 11 40.7	
HIZ	**Hauiti**	**2.11**	**304**	PN	Pn	13 10 58.1	-0.9
MXZ	**Matakaoa Point**	**2.36**	**24**	PN	Pn	13 11 01.1	-1.2

*IDC **26** 13:48:03.6±2.5,7.°58S×119.°47E,h0km,mb3.4/2, mb1 3.5/3,mb1mx3.3/22,mbtmp3.3/3,ML2.9/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/21,Error ellipse: s-maj=252.0km s-min=27.0km az=53.0*

*DJA **26** 13:48:04.2±1.4,9.°5S±11.°×11.°9E±.°,h25km±13km,M3.4/3, MLv3.4/3*

ISC 26 13:48:07.3±1.2,8.°4S±0.°1×118.°81E±0.°07,h35km,n8, σ2s07/7,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMNI	**Bima**	**0.20**	**216**	P	Pn	13 48 17.4	+3.2
BMNI				S	Sn	13 48 28.6	+10
LBFI	**Labuhan Bajo,**	**1.07**	**96**	P	**Pn**	**13 48 25.4**	**-0.5**
LBFI				S	**Sn**	**13 48 40.5**	**+0.9**
MTNI	**Mataram**	**2.62**	**264**	P	**Pn**	**13 48 47.3**	**0.0**
FITZ	**Fitzroy Crossi**	**11.73**	**146**	Sn	**Sn**	**13 52 59.8**	**-2.2**
	0.1nm,0.3s,baz=13,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**18.92**	**129**	P	**Pn**	**13 52 25.9**	**-0.3**
	0.0nm,0.3s,baz=307,slow=13,SNR=4.7						
ASAR	**Alice Springs**	**20.98**	**138**	P	**P**	**13 52 51.0**	**+3.2**
	0.9nm,0.6s,baz=315,slow=9.6,SNR=22						
HNR	**Honiara**	**40.64**	**95**	LR	LR	14 13 51.1	
	comp=Z,72nm,20.3s,baz=292,slow=39						
MKAR	**Makanchi Array**	**63.82**	**333**	P	**P**	**13 58 35.1**	**-1.1**
	0.5nm,0.8s,baz=140,slow=6.3,SNR=4.9						

IDC 26 14:00:47.8±5.3,21.°79S×174.°34E,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.5/16,mbtmp3.6/2,MS3.5/3,Ms1 3.5/3, ms1mx3.1/19,Error ellipse: s-maj=245.4km s-min=54.0km az=153.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

*ISCJB **26** 14:19:28.4±0.9, 14°.51S±0°.07×75°.11W±0°.07, h33km, mb3.5/5, Error ellipse: s-maj=10.9km s-min=8.3km az=140.6*

*NEIC **26** 14:19:33.3±1.3, 14°.68S×74°.70W, h46km±24km, mb3.5/2, Error ellipse: s-maj=19.2km s-min=12.5km az=62.0*

NEIC Felt [II] at Palpa.

*IDC **26** 14:19:33.0±8.1, 14°.78S×74°.84W, h75km±73km, mb3.3/4, mb1 3.4/5, mb1mx3.3/16, mbtmp3.2/5, ML3.0/1, Error ellipse: s-maj=45.0km s-min=27.2km az=39.0*

ISC 26 14:19:29.0±0.8, 14°.58S±0°.09×75°.22W±0°.09, h35km, n23, σ2s 15/22, mb3.4/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.02**	**328**	*eP*	Pn		Pn	14 20 24.0	+10
NNA				*eS*	Sn		Sn	14 21 00.7	+11
ARE	**Arequipa**	**4.05**	**118**	*eP*	**Pn**		**Pn**	**14 20 30.0**	**+1.2**
ARE				*eS*	**Sn**		**Sn**	**14 21 18.0**	**+2.8**
LPAZ	**La Paz**	**7.04**	**105**	*ePn*	**Pn**		**Pn**	**14 21 09.1**	**-1.1**
	4.7nm,0.5s								
LPAZ				*eSn*	**Sn**		**Sn**	**14 22 30.3**	**+0.9**
LPAZ	**La Paz**	**7.04**	**105**	P	**Pn**		**Pn**	**14 21 12.1**	**+1.8**
	1.3nm,0.3s,baz=297,slow=10.0,SNR=28								
ATAH	**Atahualpa**	**8.03**	**337**	P	Pn			14 21 36.0	+12
	0.9nm,0.3s,baz=157,slow=18,SNR=3.0								
ATAH				S	Sn			14 23 05.3	+12
	0.7nm,0.3s,baz=78,slow=14,SNR=1.7								
LVC	**Limon Verde**	**9.98**	**144**	*ePn*	**Pn**		**Pn**	**14 21 47.6**	**-2.6**
	6.1nm,0.6s								
LVC				*eSn*	**Sn**		**Sn**	**14 23 43.6**	**+2.5**
SAML	**Samuel**	**13.04**	**66**	*ePn*	**Pn**		**Pn**	**14 22 29.7**	**-2.1**
SAML				*eSn*	**Sn**		**Sn**	**14 24 55.5**	**-0.3**
LCO	**Las Campanas**	**14.96**	**165**	*ePn*	**Pn**		**Pn**	**14 22 59.8**	**+1.6**
CFAA	**Coronel Fontan**	**18.11**	**161**	P	**Pn**		**Pn**	**14 23 35.8**	**-2.1**
	0.1nm,0.3s,baz=350,slow=12,SNR=3.4								
H03N1	**Juan Fernandez**	**19.08**	**189**	T	T		T	14 42 44.8	
	baz=12,slow=75,SNR=297								
H03N2	**Juan Fernandez**	**19.08**	**190**	T	T		T	14 42 47.9	
	baz=12,slow=75,SNR=294								
H03N3	**Juan Fernandez**	**19.09**	**190**	T	T		T	14 42 46.1	
	baz=12,slow=75,SNR=207								
PTGA	**Pitinga**	**20.41**	**49**	*eP*	**P**		**P**	**14 24 03.1**	**-0.1**
	1.6nm,0.5s								
SDV	**Santo Domingo**	**23.75**	**11**	*eP*	**P**		**P**	**14 24 42.0**	**+3.5**
	0.6nm,0.5s								
BDFB	**Brasilia**	**26.28**	**96**	P	**P**		**P**	**14 24 58.2**	**-3.3**
	2.5nm,0.6s,baz=253,slow=7.9,SNR=4.6								
TXAR	**Lajitas Array**	**51.58**	**328**	P	**P**		**P**	**14 28 34.7**	**+2.6**
	0.2nm,0.4s,baz=154,slow=7.8,SNR=8.4								
TXAR				pP	pP			14 28 52.7	+10
	0.2nm,0.4s,baz=156,slow=7.4,SNR=7.5								
TORD	**Torodi Ar. Bea**	**80.97**	**74**	P	**P**		**P**	**14 31 38.5**	**-2.1**
	0.8nm,0.6s,baz=258,slow=5.8,SNR=7.8								
YKA	**Yellowknife Ar**	**82.77**	**343**	P	**P**		**P**	**14 31 49.3**	**+0.3**
	0.1nm,0.7s,baz=142,slow=6.0,SNR=3.3								
YKA				pP	pP			14 32 08.5	+8.4
	0.2nm,0.7s,baz=139,slow=5.8,SNR=5.2								
ASAR	**Alice Springs**	**132.51**	**217**	PKP	**PKPdf**		**PKPdf**	**14 38 38.9**	**-1.9**
	0.2nm,0.6s,baz=108,slow=2.1,SNR=5.1								
WRA	**Warramunga Arr**	**135.03**	**221**	PKP	**PKPdf**		**PKPdf**	**14 38 44.3**	**-1.2**
	0.2nm,0.4s,baz=132,slow=2.0,SNR=4.8								
ZALV	**Zalesovo Beam**	**137.70**	**17**	PKP	**PKPdf**		**PKPdf**	**14 38 49.2**	**-0.2**
	0.4nm,0.4s,baz=292,slow=4.7,SNR=4.0								
MKAR	**Makanchi Array**	**142.78**	**26**	PKP	**PKPdf**		**PKPdf**	**14 38 55.9**	**-2.9**
	0.2nm,0.6s,baz=319,slow=1.7,SNR=3.3								
SONM	**Songino Array**	**146.81**	**358**	PKPbc	**PKPbc**		**PKPbc**	**14 39 07.6**	**-0.1**
	1.1nm,0.6s,baz=333,slow=2.3,SNR=9.5								

*KRSC **26** 14:52:24.9±5.9, 50°.83N×156°.78E, h151km±40km, ML3.6*

*ISCJB **26** 14:52:26.3±0.6, 50°.87N±0°.07×156°.8E±0°.1, h140km±5km, mb2.9/4, Error ellipse: s-maj=17.6km s-min=6.6km az=36.4*

*IDC **26** 14:52:27.9±1.8, 51°.01N×156°.40E, h149km±17km, mb2.7/4, mb1 3.1/7, mb1mx2.9/27, mbtmp2.9/7, Error ellipse: s-maj=30.9km s-min=18.1km az=141.0*

ISC 26 14:52:26.5±0.9, 50°.85N±0°.08×156°.79E±0°.09, h140km±7km, n33, σ1s 47/43, mb2.9/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.46**	**249**	*eP*	**Pn**		**Pn**	**14 52 46.5**	**0.0**
SKR				*eS*	**Sn**		**Sn**	**14 53 00.9**	**-0.7**
PAU	**Pauzhetka**	**0.62**	**1**	*eP*	**Pn**		**Pn**	**14 52 47.7**	**+0.3**
PAU				*eS*	**Sn**		**Sn**	**14 53 04.4**	**+1.1**
MIPR	**Malaya Ipel'ka**	**1.43**	**359**	*eP*	**Pn**		**Pn**	**14 52 54.9**	**+0.4**
MIPR				*eS*	**Sn**		**Sn**	**14 53 15.8**	**-0.2**
ASAK	**Asacha**	**1.68**	**24**	*eP*	**Pn**		**Pn**	**14 52 57.2**	**-0.2**
ASAK				*eS*	**Sn**		**Sn**	**14 53 19.2**	**-1.9**
MTVR	**Mutnovka**	**1.85**	**28**	*eP*	**Pn**		**Pn**	**14 53 00.7**	**+1.3**
MTVR				*eS*	**Sn**		**Sn**	**14 53 25.3**	**+0.7**
GRL	**Gorelyy**	**1.88**	**25**	*eP*	**Pn**		**Pn**	**14 53 00.0**	**+0.3**
GRL				*eS*	**Sn**		**Sn**	**14 53 25.3**	**+0.1**
RUS	**Russkaya**	**1.91**	**34**	*eP*	**Pn**		**Pn**	**14 53 00.4**	**+0.5**
RUS				*eS*	**Sn**		**Sn**	**14 53 24.9**	**-0.7**
APC	**Apacha**	**2.09**	**6**	*eP*	**Pn**		**Pn**	**14 53 02.3**	**+0.3**
PETK	**Petropavlovsk-**	**2.33**	**14**	P	**Pn**		**Pn**	**14 53 05.8**	**+0.8**
	0.6nm,0.3s,baz=174,slow=13,SNR=85								
PETK				S	**Sn**		**Sn**	**14 53 35.7**	**+1.1**
	1.3nm,0.3s,baz=158,slow=19,SNR=11								
PET	**Petropavlovsk**	**2.46**	**27**	*eP*	**Pn**		**Pn**	**14 53 07.6**	**+1.0**
PET				*eS*	**Sn**		**Sn**	**14 53 37.8**	**+0.3**
UGLR	**Uglovaya**	**2.67**	**27**	*eP*	**Pn**		**Pn**	**14 53 11.2**	**+1.8**
UGLR				*eS*	**Sn**		**Sn**	**14 53 44.0**	**+1.5**
KOK	**Koryaka**	**2.70**	**24**	*eP*	**Pn**		**Pn**	**14 53 11.8**	**+2.1**
KOK				*eS*	**Sn**		**Sn**	**14 53 41.6**	**-1.4**
AVH	**Avacha**	**2.70**	**26**	*eP*	**Pn**		**Pn**	**14 53 11.1**	**+1.4**
AVH				*eS*	**Sn**		**Sn**	**14 53 41.7**	**-1.3**
SMAR	**Somma**	**2.72**	**26**	*eP*	**Pn**		**Pn**	**14 53 11.7**	**+1.7**
KRER	**Koryakskii**	**2.74**	**25**	*eP*	**Pn**		**Pn**	**14 53 12.0**	**+1.7**
SDLR	**Sedlovina**	**2.75**	**27**	*eP*	**Pn**		**Pn**	**14 53 11.7**	**+1.3**
SDLR				*eS*	**Sn**		**Sn**	**14 53 42.3**	**-2.0**
KRX	**Arik**	**2.76**	**24**	*eP*	**Pn**		**Pn**	**14 53 11.4**	**+0.9**
KRX				*eS*	**Sn**		**Sn**	**14 53 42.7**	**-1.8**
NLC	**Nalytchevo**	**2.81**	**33**	*eS*	**Sn**		**Sn**	**14 53 42.6**	**-2.7**
GNL	**Ganaly**	**2.94**	**14**	*eP*	**Pn**		**Pn**	**14 53 13.6**	**+0.9**
GNL				*eS*	**Sn**		**Sn**	**14 53 47.4**	**-1.0**
SPN	**Mys Shipunski**	**3.01**	**40**	*eS*	**Sn**		**Sn**	**14 53 47.2**	**-2.7**
KBTR	**Krutoberegovo**	**6.46**	**31**	*eP*	**Pn**		**Pn**	**14 53 58.1**	**-1.0**
FX1	**Attu Island--F**	**10.33**	**72**	P	**Pn**		**Pn**	**14 54 53.6**	**+2.7**
	1.0nm,0.3s,baz=227,slow=19,SNR=9.5								
FX1				S	**Sn**		**Sn**	**14 56 41.9**	**-3.0**
	0.9nm,0.3s,baz=290,slow=18,SNR=6.3								
MJAR	**Matsushiro Arr**	**19.54**	**230**	P	**P**		**P**	**14 56 43.0**	**-0.1**
	0.2nm,0.3s,baz=28,slow=9.1,SNR=5.7								
H11N2	**WAKE ISLAND Hy**	**32.07**	**162**	T	T		T	15 32 42.7	
	baz=356								
H11N3	**WAKE ISLAND Hy**	**32.09**	**162**	T	T		T	15 32 41.9	
	baz=356								
H11N1	**WAKE ISLAND Hy**	**32.09**	**162**	T	T		T	15 32 45.5	
	baz=356								
H11S1	**WAKE ISLAND Hy**	**33.22**	**163**	T	T		T	15 34 06.9	
	baz=351,slow=77,SNR=13								
H11S3	**WAKE ISLAND Hy**	**33.23**	**163**	T	T		T	15 34 07.8	
	baz=351,slow=77,SNR=14								
H11S2	**WAKE ISLAND Hy**	**33.24**	**163**	T	T		T	15 34 08.3	
	baz=351,slow=77,SNR=12								
YKA	**Yellowknife Ar**	**46.20**	**40**	P	**P**		**P**	**15 00 37.9**	**+1.1**
	0.1nm,0.7s,baz=297,slow=6.7,SNR=4.0								
MKAR	**Makanchi Array**	**47.28**	**296**	P	**P**		**P**	**15 00 43.1**	**-2.3**
	0.1nm,0.3s,baz=64,slow=7.9,SNR=5.7								
PDAR	**Pinedale Array**	**60.43**	**58**	P	**P**		**P**	**15 02 22.1**	**+0.8**
	0.4nm,0.8s,baz=300,slow=3.3,SNR=3.7								
ASAR	**Alice Springs**	**76.89**	**201**	P	**P**		**P**	**15 04 03.9**	**+0.9**
	0.2nm,0.9s,baz=17,slow=5.1,SNR=4.0								

*ISCJB **26** 14:56:35.1±0.4, 18°.86N±0°.09×68°.95W±0°.04, h115km±4km, mb3.7/14, Error ellipse: s-maj=16.1km s-min=4.4km az=19.9*

*RSPR **26** 14:56:36.5, 18°.92N×68°.93W, h101km±3km, MD4.1/16*

*IDC **26** 14:56:36.8±2.7, 18°.58N×69°.01W, h126km±26km, mb3.6/11, mb1 3.8/11, mb1mx3.6/22, mbtmp3.6/11, Error ellipse: s-maj=32.9km s-min=14.0km az=17.0*

ISC 26 14:56:36.0±0.8, 18°.8N±0°.1×68°.96W±0°.05, h107km±8km, n50, σ0s 99/56, mb3.8/14, 20C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.40**	**267**	*ip*	**Pn**		**Pn**	**14 56 51.1**	**-0.9**
IMO	**Isla Mona**	**1.22**	**125**	*eP*	**Pn**		**Pn**	**14 56 59.4**	**0.0**
IMO				*eS*	**Sn**		**Sn**	**14 57 17.8**	**+0.7**
IDE	**Isla Desecheo**	**1.47**	**106**	*eP*	**Pn**		**Pn**	**14 57 02.2**	**-0.2**
IDE	**Isla Desecheo**	**1.47**	**106**	*eS*	**Sn**		**Sn**	**14 57 22.2**	**-0.2**
AGPR	**Aguadilla, PR**	**1.79**	**101**	*eP*	**Pn**		**Pn**	**14 57 07.8**	**+1.5**
LSP	**Las Mesas**	**1.89**	**109**	*eS*	**Sn**		**Sn**	**14 57 31.5**	**0.0**
LSP	**Las Mesas**	**1.89**	**109**	*eP*	**Pn**		**Pn**	**14 57 07.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.93**	**114**	*eS*	**Sn**		**Sn**	**14 57 33.0**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.93**	**114**	*eP*	**Pn**		**Pn**	**14 57 08.0**	**0.0**
AOPR	**Arecibo Observ**	**2.15**	**102**	*eP*	**Pn**		**Pn**	**14 57 12.3**	**+1.5**
AOPR				*eS*	**Sn**		**Sn**	**14 57 37.5**	**+0.1**
GBPR	**Guanica, Bosqu**	**2.15**	**112**	*eP*	**Pn**		**Pn**	**14 57 10.7**	**0.0**
GBPR	**Guanica, Bosqu**	**2.15**	**112**	*eS*	**Sn**		**Sn**	**14 57 37.0**	**-0.3**
SDDR	**Presa de Saban**	**2.21**	**275**	*eP*	**Pn**		**Pn**	**14 57 11.8**	**+0.1**
SDDR	**Presa de Saban**	**2.21**	**275**	*eS*	**Sn**		**Sn**	**14 57 40.0**	**+1.1**
OBIP	**Obispado Ponce**	**2.36**	**108**	*eP*	**Pn**		**Pn**	**14 57 13.8**	**+0.2**
CELP	**Cerrillos**	**2.38**	**108**	*eP*	**Pn**		**Pn**	**14 57 13.9**	**+0.1**
CELP				*eS*	**Sn**		**Sn**	**14 57 42.1**	**-0.6**
SJG	**San Juan**	**2.76**	**104**	*eP*	**Pn**		**Pn**	**14 57 19.1**	**+0.3**
SJG				*eS*	**Sn**		**Sn**	**14 57 51.6**	**-0.1**
CPD	**Cerro la Pandu**	**2.99**	**104**	*eP*	**Pn**		**Pn**	**14 57 22.9**	**+1.0**
CPD	**Cerro la Pandu**	**2.99**	**104**	*eS*	**Sn**		**Sn**	**14 57 58.1**	**+0.8**
CBYP	**Canovanas**	**3.00**	**100**	*eP*	**Pn**		**Pn**	**14 57 22.4**	**+0.4**
CBYP	**Canovanas**	**3.00**	**100**	*eP*	**Pn**		**Pn**	**14 57 22.8**	**+0.9**
CBYP	**Canovanas**	**3.00**	**100**	*eS*	**Sn**		**Sn**	**14 57 57.7**	**+0.4**
HUMP	**Col San Antoni**	**3.03**	**102**	*eP*	**Pn**		**Pn**	**14 57 23.1**	**+0.7**
HUMP	**Col San Antoni**	**3.03**	**102**	*eS*	**Sn**		**Sn**	**14 57 58.8**	**+0.8**
HUMP	**Col San Antoni**	**3.03**	**102**	*eP*	**Pn**		**Pn**	**14 57 22.5**	**+0.2**
HUMP				*eS*	**Sn**		**Sn**	**14 57 58.0**	**-0.1**
MTP	**Monte Pirata**	**3.31**	**102**	*eP*	**Pn**		**Pn**	**14 57 27.1**	**+0.9**
GRTK	**Grand Turk**	**3.37**	**323**	*eP*	**Pn**		**Pn**	**14 57 26.4**	**-0.5**
GRTK	**Grand Turk**	**3.37**	**323**	*eS*	**Sn**		**Sn**	**14 58 05.8**	**-0.5**
CDVI	**St. Croix**	**4.12**	**104**	*eP*	**Pn**		**Pn**	**14 57 36.6**	**-0.4**
TBVI	**Tortola**	**4.14**	**95**	*eP*	**Pn**		**Pn**	**14 57 36.6**	**-0.6**
ABV	**Anegada**	**4.39**	**90**	*ip*	**Pn**		**Pn**	**14 57 40.2**	**-0.4**
H05N1	**Guadeloupe/Mar**	**7.94**	**107**	P	**Pn**		**Pn**	**14 58 28.8**	**0.0**
H05S1	**Guadeloupe/Mar**	**8.93**	**118**	P	**Pn**		**Pn**	**14 58 42.8**	**+0.7**
TKL	**Tuckaleechee C**	**21.29**	**325**	P	P		P	15 01 26.7	+13
	1.5nm,0.4s,baz=136,slow=13,SNR=4.3								
TKL				S	**S**		**S**	**15 05 07.2**	**+2.8**
	4.2nm,1.0s,baz=188,slow=8.0,SNR=3.0								
TXAR	**Lajitas Array**	**33.26**	**295**	P	**P**		**P**	**15 03 02.7**	**-0.8**
	0.7nm,0.7s,baz=108,slow=8.5,SNR=13								
PDAR	**Pinedale Array**	**41.71**	**314**	P	**P**		**P**	**15 04 14.0**	**-0.7**
	0.4nm,0.6s,baz=122,slow=11,SNR=4.6								
PDAR				PcP	**PcP**		**PcP**	**15 06 07.8**	**-1.5**
	0.7nm,0.5s,baz=117,slow=4.5,SNR=8.2								
NVAR	**Mina Array Bea**	**46.91**	**305**	P	**P**		**P**	**15 04 56.6**	**+0.5**
	0.8nm,0.4s,baz=79,slow=5.4,SNR=11								
NVAR				PcP	**PcP**		**PcP**	**15 06 26.9**	**-0.3**
	0.3nm,0.5s,baz=142,slow=4.6,SNR=2.6								
YKA	**Yellowknife Ar**	**53.75**	**336**	P	**P**		**P**	**15 05 46.1**	**-0.8**
	2.3nm,0.7s,baz=112,slow=7.3,SNR=26								
DBIC	**Dimbokro**	**63.39**	**92**	P	**P**		**P**	**15 06 53.5**	**-1.2**
	2.7nm,0.9s,baz=262,slow=8.3,SNR=3.3								
TORD	**Torodi Ar. Bea**	**67.79**	**83**	P	**P**		**P**	**15 07 21.6**	**-1.3**
	1.4nm,0.8s,baz=288,slow=6.1,SNR=7.8								
ILAR	**Eielson Array**	**68.01**	**333**	P	**P**		**P**	**15 07 23.1**	**-0.4**
	1.1nm,0.9s,baz=108,slow=3.8,SNR=9.0								
GERES	**GERESS Array B**	**71.31**	**44**	P	**P**		**P**	**15 07 43.9**	**-0.3**
	0.3nm,0.6s,baz=320,slow=4.0,SNR=4.6								
ARCES	**ARCESS Array B**	**74.09**	**21**	P	**P**		**P**	**15 08 00.5**	**+0.4**
	1.2nm,0.5s,baz=306,slow=4.3,SNR=10								
KAF	**Kangasniemi**	**76.00**	**29**	*ep*	P			15 08 06.1	-5.1
	0.3nm,0.3s								
FINES	**FINESS Array B**	**76.05**	**30**	P	**P**		**P**	**15 08 11.8**	**+0.3**
	6.5nm,1.1s,baz=236,slow=2.1,SNR=9.4								
JOF	**Joensuu**	**78.02**	**27**	*ep*	**P**		**P**	**15 08 21.7**	**-0.8**
	0.3nm,0.4s								
BRTR	**Keskin Array B**	**87.44**	**49**	P	**P**		**P**	**15 09 12.1**	**+0.1**
	0.6nm,0.7s,baz=304,slow=2.6,SNR=3.0								
HHC	**Hu-ho-hao-te**	**120.65**	**360**	*e*PKP	**PKPdf**		**PKPdf**	**15 15 16.5**	**+0.7**
HHC				PP	**PP**		**PP**	**15 16 47.3**	**+4.1**
HHC	**Hu-ho-hao-te**	**120.65**	**360**	SS	SS		SS	15 33 07.3	+3.3
HHC				AMB	AMB				
	comp=Z,87nm,9.4s								
STKA	**Stephens Creek**	**149.59**	**239**	PKPbc	**PKPdf**		**PKPdf**	**15 16 10.4**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=90,slow=7.1,SNR=5.8								

*IDC **26** 15:07:40.0±1.1, 27°.52N×141°.29E, h0km, mb3.2/4, mb1 3.4/5, mb1mx3.3/23, mbtmp3.3/5, ML3.6/1, Error ellipse: s-maj=32.7km s-min=15.1km az=40.0*

*ISCJB **26** 15:07:41.1±0.8, 27°.73N±0°.09×141°.3E±0°.1, h25km, mb3.4/4, Error ellipse: s-maj=21.2km s-min=7.3km az=146.8*

ISC 26 15:07:43.3±0.9, 27°.7N±0°.1×141°.4E±0°.2, h25km, n6, σ0s 97/8, mb3.4/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.91**	**129**	Pn	**Pn**		**Pn**	**15 08 00.7**	**+0.2**
	59nm,0.3s,baz=288,slow=19,SNR=32								
JCJ				Sn	**Sn**		**Sn**	**15 08 13.0**	**+0.2**
	317nm,0.3s,baz=289,slow=21,SNR=34								
MJAR	**Matsushiro Arr**	**9.24**	**344**	Pn	**Pn**		**Pn**	**15 09 54.5**	**-0.5**
	0.6nm,0.3s,baz=160,slow=14,SNR=10.0								
MJAR				Sn	**Sn**		**Sn**	**15 11 37.5**	**-0.8**
	0.3nm,0.3s,baz=41,slow=38,SNR=4.5								
SONM	**Songino Array**	**33.81**	**316**	P	**P**		**P**	**15 14 24.4**	**+0.9**
	0.2nm,0.5s,baz=108,slow=9.3,SNR=2.5								
WRA	**Warramunga Arr**	**47.83**	**189**	P	**P**		**P**	**15 16 18.3**	**-0.7**
	0.2nm,0.2s,baz=8.3,slow=8.6,SNR=6.9								
MKAR	**Makanchi Array**	**49.57**	**309**	P	**P**		**P**	**15 16 33.1**	**+0.9**
	0.1nm,0.2s,baz=77,slow=9.0,SNR=3.9								
PCIG		**2.29**	**132**	*eP*	**Pn**		**Pn**	**15 11 03.1**	**-0.9**
PCIG				*eS*	Sn			15 11 38.4	-1.8
ASAR	**Alice Springs**	**51.55**	**189**	P	**P**		**P**	**15 16 46.0**	**-1.3**
	0.1nm,0.3s,baz=13,slow=6.7,SNR=5.0								

MEX 26 15:10:30.1±0.8, 17°.26N×94°.98W, h167km±17km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.69**	**264**	*i* P	Pn			15 11 02.2	-0.9
VHO				*eS*	Sn			15 11 26.0	-2.6
HUIG	**Huatulco**	**1.84**	**216**	*i* P	Pn			15 11 03.1	-1.4
HUIG				*i* S	Sn			15 11 28.9	-2.2
PCIG		**2.29**	**132**	*eP*	Pn			15 11 07.5	-2.0
PCIG				*eS*	Sn			15 11 38.4	-1.8

*ISCJB **26** 15:19:37.3±0.5, 5°.59S±0°.06×68°.68E±0°.05, h13km, mb4.5/46, MS4.0/26, Error ellipse: s-maj=11.0km s-min=4.2km az=41.2*

*IDC **26** 15:19:37.5±0.7, 5°.46S×68°.69E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.2/27, mbtmp4.2/18, MS4.0/26, Ms1 4.0/26, ms1mx3.8/46, Error ellipse: s-maj=21.7km s-min=16.1km az=37.0*

*NEIC **26** 15:19:38.8±0.3, 5°.53S×68°.71E, h10km, mb4.9/24, Error ellipse: s-maj=8.1km s-min=7.0km az=224.0*

*GCMT **26** 15:19:40.0±0.3, 5°.50S×68°.62E, h12km, MW4.8, Moment Tensor Solution. s17,c18; s64,c88; Moment tensor: Scale 10^16 Nm; Mrr=0.48±.09; Mθθ=1.70±.07; Mφφ=2.18±.07; Mrθ=0.84±.25; Mθφ=0.13±.09; Mφr=0.42±.24; Best double couple: Mo=2.20000×10^16 NP1:ϕs=40.00000°, δ=77.00000°, λ=-26.00000°. NP2:ϕs=136.00000°, δ=64.00000°, λ=-166.00000°. Principal axes: T 2.2400, Plg=9.0000°, Azm=90.0000°; N -0.0900, Plg=61.0000°, Azm=196.0000°; P -2.1500, Plg=27.0000°, Azm=355.0000°; Data Used: II G IU CU IC CN.*

ISC 26 15:19:39.4±0.5, 5°.51S±0°.10×68°.73E±0°.07, h13km, n129, σ0s 84/124, mb4.7/46, MS4.1/26, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.40**	**110**	Pn	**Pn**		**Pn**	**15 20 16.4**	**-1.7**
H08N3				Sn	**Sb**		**Sb**	**15 20 51.8**	**+0.1**
	SNR=22								
H08N3				T	T		T	15 22 45.0	
	baz=291,slow=75								
H08N2	**Diego Garcia H**	**2.40**	**110**	Pn	**Pn**		**Pn**	**15 20 17.2**	**-0.9**
H08N2				Sn	**Sb**		**Sb**	**15 20 50.8**	**-1.0**
H08N2				T	T		T	15 22 39.2	
	baz=291,slow=75								
H08N1	**Diego Garcia H**	**2.42**	**110**	Pn	**Pn**		**Pn**	**15 20 17.5**	**-0.9**
H08N1				Sn	**Sb**		**Sb**	**15 20 52.8**	**+0.4**
H08N1				T	T		T	15 22 58.9	
	baz=291,slow=75								
DGAR	**Diego Garcia**	**4.16**	**117**	*e*Pn	**Pn**		**Pn**	**15 20 41.4**	**-1.2**
DGAR				*e*Sn	**Sn**		**Sn**	**15 21 29.5**	**-1.6**
H08S3	**Diego Garcia H**	**4.28**	**120**	Pn	**Pn**		**Pn**	**15 20 44.1**	**0.0**
	baz=323,slow=25,SNR=3282								
H08S3				Sn	**Sn**		**Sn**	**15 21 32.4**	**-1.5**
H08S3				T	T		T	15 25 25.0	
	baz=311,slow=74,SNR=9.4								
H08S1	**Diego Carcia H**	**4.28**	**120**	Pn	**Pn**		**Pn**	**15 20 44.3**	**+0.2**
	baz=323,slow=25,SNR=3204								
H08S1				Sn	**Sn**		**Sn**	**15 21 34.7**	**+0.8**
H08S1				T	T		T	15 25 24.7	
	baz=311,slow=74,SNR=12								
H08S2	**Diego Garcia H**	**4.30**	**120**	Pn	**Pn**		**Pn**	**15 20 44.7**	**+0.4**
	baz=323,slow=25,SNR=3058								
H08S2				Sn	**Sn**		**Sn**	**15 21 35.0**	**+0.7**
H08S2				T	T		T	15 25 26.8	
	baz=311,slow=74,SNR=10								
OPO	**Ambohidratompo**	**24.70**	**236**	LR	LR		LR	15 32 21.1	
	comp=Z,522nm,20.5s,baz=58,slow=31								
PSI	**Prapat**	**31.27**	**75**	LR	LR		LR	15 36 42.6	
	comp=Z,572nm,20.7s,baz=279,slow=33								
KULM	**Kulim**	**33.63**	**72**	P	**P**		**P**	**15 26 21.4**	**+1.3**
FRIM	**Kepong**	**33.99**	**76**	P	**P**		**P**	**15 26 25.4**	**+2.2**
MYKOM	**Kota Tinggi**	**35.82**	**79**	P	**P**		**P**	**15 26 39.4**	**+0.3**
KHLT	**Khaolaem Dam**	**35.83**	**55**	P	**P**		**P**	**15 26 41.0**	**+2.0**
	6.1nm,1.0s								
KOLN	**Koldanda**	**36.07**	**23**	*eP*	**P**		**P**	**15 26 41.3**	**+0.1**
KOLN	**Koldanda**	**36.07**	**23**	*eP*	**P**		**P**	**15 26 41.3**	**+0.1**
PYUN	**Piuthan**	**36.14**	**22**	*eP*	**P**		**P**	**15 26 42.2**	**+0.4**
	14nm,0.8s								
PYUN	**Piuthan**	**36.14**	**22**	*eP*	**P**		**P**	**15 26 42.2**	**+0.4**
	14nm,0.8s								
DMN	**Daman**	**36.53**	**25**	*eP*	**P**		**P**	**15 26 45.7**	**+0.5**
	25nm,0.8s								
DMN	**Daman**	**36.53**	**25**	*eP*	**P**		**P**	**15 26 45.7**	**+0.5**
	25nm,0.8s								
RAMN	**Ramite**	**36.62**	**27**	*eP*	**P**		**P**	**15 26 46.7**	**+0.8**
	30nm,1.1s								
RAMN	**Ramite**	**36.62**	**27**	*eP*	**P**		**P**	**15 26 46.7**	**+0.8**
	30nm,1.0s								
PKI	**Pulchoki**	**36.63**	**25**	*eP*	**P**		**P**	**15 26 46.0**	**-0.1**
	13nm,0.8s								
PKI	**Pulchoki**	**36.63**	**25**	*eP*	**P**		**P**	**15 26 46.0**	**

	9.1nm,0.8s,baz=284,slow=6.2,SNR=72							
WRAB	**Tennant Creek**	**65.24**	**109**	*e*P	**P**	**15 30 20.8**	**-0.5**	
	13nm,0.8s							
AKASG	**Malin Array Be**	**65.50**	**334**	P	**P**	**15 30 20.6**	**-1.7**	
AKASG	**Malin Array Be**	**65.50**	**334**	P	**P**	**15 30 20.6**	**-1.7**	
	0.7nm,0.6s,baz=133,slow=5.8,SNR=8.0							
TORD	**Torodi Ar. Bea**	**69.09**	**286**	P	**P**	**15 30 45.2**	**-0.6**	
TORD	**Torodi Ar. Bea**	**69.09**	**286**	P	**P**	**15 30 45.2**	**-0.6**	
	0.7nm,1.1s,baz=64,slow=3.4,SNR=3.9							
TORD				LR	LR	16 03 22.6		
	comp=Z,93nm,18.9s,baz=10.0,slow=38							
KSAR	**Wonju Array Be**	**69.61**	**47**	P	**P**	**15 30 49.1**	**+0.5**	
KSRS	**Korea Array**	**69.64**	**47**	P	**P**	**15 30 49.1**	**+0.3**	
	0.7nm,0.6s,baz=253,slow=7.8,SNR=3.6							
KSRS				LR	LR	16 03 14.0		
	comp=Z,106nm,18.4s,baz=112,slow=38							
JNU	**Nakatsue**	**70.23**	**52**	LR	LR	16 03 53.7		
	comp=Z,90nm,18.2s,baz=292,slow=38							
VRAC	**Vranov**	**70.87**	**327**	LR	LR	16 00 03.8		
	comp=Z,67nm,18.9s,baz=175,slow=34							
STKA	**Stephens Creek**	**72.57**	**122**	P	**P**	**15 31 06.3**	**-0.4**	
STKA	**Stephens Creek**	**72.57**	**122**	P	**P**	**15 31 06.3**	**-0.4**	
	2.0nm,0.3s,baz=292,slow=11,SNR=4.3							
STKA				LR	LR	15 59 36.5		
	comp=Z,194nm,19.7s,baz=24,slow=33							
DBIC	**Dimbokro**	**74.43**	**278**	LR	LR	16 00 40.2		
	comp=Z,79nm,21.3s,baz=106,slow=33							
FINES	**FINESS Array B**	**74.45**	**340**	P	**P**	**15 31 17.2**	**+0.1**	
FINES	**FINESS Array B**	**74.45**	**340**	P	**P**	**15 31 17.2**	**+0.1**	
	7.8nm,1.1s,baz=111,slow=7.6,SNR=3.8							
FINES				LR	LR	16 02 37.1		
	comp=Z,99nm,18.7s,baz=177,slow=35							
SENIN	**Lac Senin/Sane**	**74.88**	**321**	*e*P	**P**	**15 31 21.7**	**+1.5**	
	10nm,0.8s							
USRK	**Ussuriysk Arra**	**75.18**	**42**	LR	LR	16 05 36.9		
	comp=Z,65nm,18.8s,baz=131,slow=37							
MJAR	**Matsushiro Arr**	**77.03**	**51**	LR	LR	16 06 36.1		
	comp=Z,60nm,19.8s,baz=230,slow=37							
PMG	**Port Moresby**	**77.73**	**98**	LR	LR	16 02 41.0		
	comp=Z,148nm,19.5s,baz=25,slow=33							
NOA	**NORSAR Array B**	**79.81**	**335**	P	**P**	**15 31 47.4**	**0.0**	
NOA	**NORSAR Array B**	**79.81**	**335**	P	**P**	**15 31 47.4**	**0.0**	
	1.0nm,0.8s,baz=102,slow=9.3,SNR=3.2							
NOA				LR	LR	16 07 31.5		
	comp=Z,39nm,21.8s,baz=110,slow=36							
ESDC	**Sonseca Array**	**80.33**	**312**	P	**P**	**15 31 51.7**	**+1.1**	
ESDC	**Sonseca Array**	**80.33**	**312**	P	**P**	**15 31 51.7**	**+1.1**	
	0.4nm,0.7s,baz=93,slow=3.8,SNR=4.1							
ARCES	**ARCESS Array B**	**80.46**	**346**	P	**P**	**15 31 51.5**	**+0.9**	
ARCES	**ARCESS Array B**	**80.46**	**346**	P	**P**	**15 31 51.6**	**+0.9**	
	2.2nm,0.8s,baz=357,slow=23,SNR=3.9							
ARCES				LR	LR	16 07 51.1		
	comp=Z,88nm,19.9s,baz=351,slow=36							
VNDA	**Vanda**	**85.33**	**167**	LR	LR	16 06 57.9		
	comp=Z,80nm,18.3s,baz=58,slow=33							
PETK	**Petropavlovsk-**	**93.75**	**37**	LR	LR	16 19 17.1		
	comp=Z,59nm,19.1s,baz=104,slow=38							
YKA	**Yellowknife Ar**	**123.09**	**2**	PKP	**PKPdf**	**15 38 34.7**	**-0.8**	
YKA	**Yellowknife Ar**	**123.09**	**2**	PKP	**PKPdf**	**15 38 34.7**	**-0.8**	
	0.6nm,0.9s,baz=347,slow=2.5,SNR=9.6							
PDAR	**Pinedale Array**	**142.87**	**358**	PKP	**PKPdf**	**15 39 13.2**	**-0.2**	
PDAR	**Pinedale Array**	**142.87**	**358**	PKP	**PKPdf**	**15 39 13.2**	**-0.2**	
	0.6nm,1.0s,baz=48,slow=1.3,SNR=3.5							
ELK	**Elko**	**144.74**	**5**	*e*PKPdf	**PKPdf**	**15 39 16.3**	**-0.5**	
BMN	**Battle Mountai**	**144.83**	**8**	*e*PKPdf	**PKPdf**	**15 39 17.1**	**+0.2**	
DAU	**Daniels Canyon**	**145.25**	**360**	*e*PKPdf	**PKPdf**	**15 39 18.3**	**+0.6**	
DUG	**Dugway**	**145.44**	**2**	*e*PKPab	**PKPab**	**15 39 18.4**	**+0.5**	
SMCO	**Snowmass**	**146.26**	**354**	*e*PKPab	**PKPab**	**15 39 21.3**	**-0.1**	
CMB	**Columbia Colle**	**146.58**	**13**	*e*PKPab	**PKPab**	**15 39 22.1**	**-0.1**	
NVAR	**Mina Array Bea**	**146.62**	**10**	PKPbc	**PKPab**	**15 39 22.4**	**-0.2**	
NVAR	**Mina Array Bea**	**146.62**	**10**	PKPbc	**PKPab**	**15 39 22.4**	**-0.2**	
	1.6nm,0.7s,baz=349,slow=3.2,SNR=12							
MIAR	**Mount Ida**	**146.79**	**333**	*e*PKPab	**PKPab**	**15 39 24.2**	**+1.2**	
OTAV	**Otavalo**	**146.81**	**262**	*e*PKPdf	**PKPdf**	**15 39 21.9**	**+0.6**	
TPH	**Tonopah**	**147.14**	**9**	*e*PKPab	**PKPab**	**15 39 24.8**	**+0.2**	
MVU	**Marysvale**	**147.15**	**1**	*e*PKPab	**PKPab**	**15 39 24.3**	**-0.4**	
WMOK	**Wichita Mounta**	**148.71**	**340**	*e*PKPab	**PKPab**	**15 39 29.1**	**-1.6**	
TXAR	**Lajitas Array**	**155.24**	**344**	PKPab	**PKPab**	**15 39 58.0**	**-0.1**	
TXAR	**Lajitas Array**	**155.24**	**344**	PKPab	**PKPab**	**15 39 58.0**	**-0.1**	
	1.3nm,0.9s,baz=32,slow=3.3,SNR=9.1							

IDC 26 15:46:45.3±2.1, 21°62N×143°10E, h286km±20km, mb3.0/5, mb1 3.2/7, mb1mx2.8/28, mbtmp3.1/7, Error ellipse: s-maj=43.8km s-min=15.4km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.51**	**351**	P	Pn	15 48 08.4	+0.1
	6.8nm,0.3s,baz=285,slow=23,SNR=3.3						
JCJ				S	S	15 49 15.0	0.0
	6.7nm,0.3s,baz=270,slow=22,SNR=4.2						
MJAR	**Matsushiro Arr**	**15.46**	**345**	P	P	15 50 08.8	+0.7
	0.2nm,0.3s,baz=168,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**42.19**	**192**	P	P	15 54 10.9	+0.2
	0.3nm,0.5s,baz=15,slow=9.6,SNR=6.1						
ASAR	**Alice Springs**	**45.90**	**192**	P	P	15 54 39.5	-0.4
	0.1nm,0.6s,baz=11,slow=6.5,SNR=3.0						
BVAR	**Borovoye Array**	**62.68**	**320**	P	P	15 56 40.0	+0.1
	0.8nm,0.3s,baz=99,slow=7.9,SNR=13						
YKA	**Yellowknife Ar**	**76.55**	**28**	P	P	15 58 04.2	+0.3
	0.2nm,0.6s,baz=392,slow=6.4,SNR=6.4						
FINES	**FINESS Array B**	**83.21**	**334**	P	P	15 58 38.6	-0.9
	5.9nm,1.1s,baz=67,slow=5.0,SNR=8.4						

*IDC **26** 15:53:30.1±2.1, 6°61N×126°21E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/25, mbtmp3.2/4, Error ellipse: s-maj=132.4km s-min=24.5km az=68.0*

ISC 26 15:53:31.7±1.5, 6°6N±0°2×126°2E±0°1, h10km, n6, σ0°40/6, mb3.2/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.81**	**308**⇑	*e*P	Pn	15 53 54.1	+5.0
DMPH				eS	Sn	15 54 09.4	+8.3
GSPH	**General Santos**	**1.29**	**247**⇓	*i*P	**Pb**	**15 53 55.8**	**-0.3**
GSPH				eS	**Sb**	**15 54 13.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.54**	**181**	P	**P**	**15 58 52.1**	**+0.5**
	1.0nm,0.8s,baz=4.4,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**27.57**	**163**	P	**P**	**15 59 18.9**	**-0.2**
	0.1nm,0.5s,baz=343,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**31.01**	**166**	P	**P**	**15 59 49.5**	**-0.2**
	0.2nm,0.6s,baz=342,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**54.39**	**324**	P	**P**	**16 03 02.7**	**+0.1**
	0.1nm,0.4s,baz=118,slow=7.5,SNR=3.0						

IDC 26 16:03:07.1±1.9, 1°14N×127°18E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.2/22, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=113.3km s-min=23.8km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.18**	**184**	P	Pn	16 07 33.0	-0.4
	0.1nm,0.3s,baz=5.7,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**22.10**	**162**	P	P	16 08 05.0	+0.8
	0.9nm,0.6s,baz=341,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**25.51**	**166**	P	P	16 08 36.5	-1.0
	0.2nm,0.6s,baz=342,slow=6.6,SNR=5.2						
MKAR	**Makanchi Array**	**59.93**	**326**	P	P	16 13 15.1	0.0
	0.1nm,0.6s,baz=126,slow=9.1,SNR=3.1						

FUNV 26 16:14:15.8, 9°74N×68°57W, h3km, MW3.8, 2C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPV	**Macapo**	**0.14**	**51**⇑	*i*P	Pg	16 14 19.0	+0.4
MAPV				eS	Sg	16 14 21.3	+0.7
TEPV	**Terepaima**	**0.65**	**290**⇓	*i*P	Pg	16 14 27.4	-0.9
TEPV				eS	Sg	16 14 36.8	-0.1
BAUV	**El Baul**	**0.95**	**147**⇓	*i*P	Pg	16 14 33.4	-0.6
BAUV				eS	Sg	16 14 46.5	+0.1
SANV	**Sanarito**	**0.98**	**256**	*e*P	Pg	16 14 34.5	-0.3
SANV				eS	Sb	16 14 48.5	-0.7
TURV	**Turiamo**	**1.01**	**46**⇑	*e*P	Pg	16 14 34.4	-0.8
TURV				eS	Sg	16 14 48.3	0.0
JACV	**Jacura**	**1.36**	**349**	*e*P	Pn	16 14 40.6	-1.3
CURV	**Curarigua**	**1.40**	**281**	*e*P	Pn	16 14 41.8	-0.6
CURV				eS	Sb	16 15 01.1	+0.1
SIQV	**Siquisique**	**1.52**	**307**	*e*P	Pn	16 14 43.8	-0.1
SIQV				eS	Sn	16 15 04.2	-0.1
FUNV	**FUNVISIS**	**1.88**	**67**	*e*P	Pn	16 14 48.4	-0.7
FUNV				eS	Sn	16 15 12.6	-0.8
QARV	**Quebrada Arrib**	**1.98**	**284**	*e*P	Pn	16 14 49.7	-0.6
QARV				eS	Sn	16 15 14.5	-1.2
DABV	**Dabajuro**	**2.35**	**300**	*e*P	Pn	16 14 54.9	-0.4
DABV				eS	Sn	16 15 23.3	-1.4
MONV	**Montecano**	**2.59**	**328**	*e*P	Pn	16 14 57.7	-1.1
MONV				eS	Sn	16 15 29.3	-1.6
SOCV	**Socops**	**2.68**	**238**	*e*P	Pn	16 14 59.3	-0.6
CUPV	**Cœpira**	**2.76**	**83**	*e*P	Pn	16 15 00.3	-0.8
CUPV				eS	Sn	16 15 33.0	-2.1
ELOV	**Elorza**	**2.87**	**198**	*e*P	Pn	16 15 01.7	-0.8
ELOV				eS	Sn	16 15 35.7	-1.8
VIRV	**Villa del Rosa**	**3.85**	**282**	*e*P	Pn	16 15 14.4	-1.6
VIRV				eS	Sn	16 15 58.8	-3.1
PCRV	**Puerto La Cruz**	**3.90**	**83**	*e*P	Pn	16 15 16.4	-0.4
PRGV	**PARIAGUAN**	**4.00**	**104**	*e*P	Pn	16 15 16.4	-1.6
CAPV	**Capacho**	**4.14**	**244**	*e*P	Pn	16 15 18.5	-1.8

*IDC **26** 16:23:46.5±5.9, 4°39S×145°03E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.5/19, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=86.1km s-min=42.0km az=22.0*
*AUST **26** 16:24:17.5±99.0, 7°26S×144°66E, h3km±3km, Error ellipse: s-maj=4.1km s-min=1.0km az=356.0*

ISC 26 16:24:01.0±5.2, 5°4S±0°5×144°8E±0°3, h35km, n9, σ0°65/11, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**149**	Pn	**Pn**	**16 25 09.2**	**+0.2**
	2.1nm,0.3s,baz=341,slow=7.4,SNR=10						
PMG				Sn	**Sn**	**16 26 01.9**	**-0.2**
	3.3nm,0.3s,baz=133,slow=19,SNR=6.5						
PMG	**Port Moresby**	**4.67**	**149**	P	**Pn**	**16 25 09.3**	**+0.2**
	baz=3.3,SNR=4.7						
PMG				P	**Pn**	**16 25 09.3**	**+0.2**
	baz=3.3,SNR=4.7						
PMG				P	**Pn**	**16 25 09.3**	**+0.2**
	baz=3.3,SNR=4.7						
KDU	**Kakadu**	**14.13**	**238**	P	**P**	**16 27 26.1**	**+0.2**
	baz=13,SNR=7.7						
MTN	**Manton Dam**	**15.35**	**240**	P	**P**	**16 27 40.0**	**+0.6**
	baz=14,SNR=7.9						
WRA	**Warramunga Arr**	**17.68**	**214**	P	**P**	**16 28 05.6**	**+0.4**
	0.6nm,0.3s,baz=35,slow=11,SNR=47						
KNRA	**Kununurra**	**18.74**	**236**	P	Pn	16 28 26.8	+9.2
	baz=18,SNR=7.8						
ASAR	**Alice Springs**	**20.98**	**209**	P	**P**	**16 28 42.0**	**+0.6**
	0.8nm,0.7s,baz=44,slow=7.1,SNR=37						
FITZ	**Fitzroy Crossi**	**22.55**	**234**	P	**P**	**16 28 56.9**	**-1.3**
	1.7nm,0.4s,baz=65,slow=9.1,SNR=27						
STKA	**Stephens Creek**	**26.54**	**186**	P	**P**	**16 29 34.9**	**-0.7**
	0.7nm,0.3s,baz=32,slow=12,SNR=4.1						

*ISCJB **26** 16:27:45.6±0.6, 7°08S±0°06×129°3E±0°1, h79km, mb3.6/5, Error ellipse: s-maj=16.6km s-min=7.7km az=168.5*
*AUST **26** 16:27:48.8±0.0, 6°96S×129°60E, h112km, Error ellipse: s-maj=1.5km s-min=1.0km az=298.0*
*IDC **26** 16:27:51.6±3.1, 7°31S×129°34E, h135km±28km, mb3.4/5, mb1 3.6/8, mb1mx3.4/20, mbtmp3.5/8, Error ellipse: s-maj=47.9km s-min=15.5km az=69.0*

ISC 26 16:27:47.0±0.8, 7°17S±0°07×129°4E±0°1, h79km, n17, σ1°84/15, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.07**	**34**	P	**Pn**	**16 29 01.4**	**+0.7**
	baz=4.8,SNR=24						
SOEI	**Soe**	**5.71**	**243**	P	Pn	16 29 19.7	+10
	baz=6.0,SNR=4.3						
MTN	**Manton Dam**	**5.88**	**164**	P	Pn	16 29 16.8	+5.1
	baz=6.1,SNR=177						
KDU	**Kakadu**	**6.25**	**152**	P	Pn	16 29 21.2	+4.6
	baz=6.4,SNR=37						
KNRA	**Kununurra**	**8.48**	**184**	P	Pn	16 29 51.5	+4.4
	baz=8.8,SNR=63						
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	**Pn**	**16 30 30.7**	**+2.8**
	0.3nm,0.3s,baz=38,slow=10,SNR=10.0						
FITZ				S	**Sn**	**16 32 32.2**	**-2.2**
	2.0nm,0.3s,baz=97,slow=17,SNR=5.6						
WRA	**Warramunga Arr**	**13.56**	**160**	P	**Pn**	**16 30 55.7**	**-0.4**
	2.1nm,0.3s,baz=331,slow=14,SNR=30						
WRA				S	Sn	16 33 18.6	-6.7
	2.7nm,0.3s,baz=331,slow=22,SNR=10						
COEN	**Coen**	**15.10**	**118**	P	**P**	**16 31 20.3**	**+0.8**
	baz=15,SNR=7.6						
QIS	**Mount Isa**	**16.57**	**144**	P	**Pn**	**16 31 35.8**	**+1.3**
	baz=17,SNR=7.9						
ASAR	**Alice Springs**	**16.96**	**166**	P	**Pn**	**16 31 40.2**	**+0.9**
	1.0nm,0.3s,baz=340,slow=8.9,SNR=40						
ASAR				S	**Sn**	**16 34 43.9**	**-3.5**
	0.8nm,0.3s,baz=352,slow=24,SNR=7.4						
ASAR				ScP	ScP	16 39 40.9	-8.8
	0.1nm,0.3s,baz=2.5,slow=1.7,SNR=8.0						
WRKA	**Warakurna**	**17.80**	**183**	P	**Pn**	**16 31 51.7**	**+2.1**
	baz=18,SNR=20						
QLP	**Quilpie**	**23.90**	**146**	P	**P**	**16 32 53.9**	**+0.3**
	baz=24,SNR=8.5						
STKA	**Stephens Creek**	**27.08**	**157**	P	**P**	**16 33 22.6**	**+0.3**
	1.2nm,0.7s,baz=313,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**39.40**	**311**	P	**P**	**16 35 09.2**	**-0.2**
	0.8nm,0.6s,baz=139,slow=7.1,SNR=12						
SONM	**Songino Array**	**58.42**	**342**	P	**P**	**16 37 34.2**	**-0.4**
	0.2nm,0.5s,baz=148,slow=8.5,SNR=3.2						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**16 38 37.1**	**-1.1**
	1.0nm,0.5s,baz=117,slow=8.2,SNR=31						
ZALV	**Zalesovo Beam**	**71.48**	**334**	P	**P**	**16 38 56.5**	**-2.5**
	0.4nm,0.4s,baz=129,slow=4.1,SNR=2.1						

IDC 26 16:31:06.2±1.1, 4°40N×62°67E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/27, mbtmp3.8/5, MS3.4/4, Ms1 3.4/4, ms1mx3.1/36, Error ellipse: s-maj=37.4km s-min=26.9km az=4.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**13.52**	**142**	T	T	16 48 01.5	
	baz=322,slow=75,SNR=164						
H08N3	**Diego Garcia H**	**13.53**	**142**	T	T	16 47 57.1	
	baz=322,slow=75,SNR=143						
H08N1	**Diego Garcia H**	**13.54**	**142**	T	T	16 47 59.1	
	baz=322,slow=75,SNR=169						
KMBO	**Kilima Mbogo**	**25.98**	**258**	P	P	16 36 41.3	0.0
	2.9nm,1.0s,baz=56,slow=14,SNR=5.4						
CMAR	**Chiang Mai Arr**	**38.10**	**66**	P	P	16 38 26.9	-0.3
	0.8nm,0.9s,baz=260,slow=9.1,SNR=6.9						
CMAR				LR	LR	16 53 21.0	
	comp=Z,28nm,20.0s,baz=298,slow=35						
LSZ	**Lusaka**	**39.34**	**240**	LR	LR	16 53 27.3	
	comp=Z,35nm,18.8s,baz=297,slow=34						
AKTO	**Aktyubinsk**	**46.05**	**356**	P	P	16 39 31.5	-0.2
	2.0nm,0.8s,baz=177,slow=9.2,SNR=5.0						
TSUM	**Tsumeb**	**50.17**	**241**	LR	LR	16 58 53.7	
	comp=Z,69nm,19.1s,baz=341,slow=33						
KSRS	**Korea Array**	**67.78**	**51**	LR	LR	17 12 29.2	
	comp=Z,39nm,21.4s,baz=354,slow=37						
WRA	**Warramunga Arr**	**74.39**	**112**	P	P	16 42 45.3	-1.4
	1.1nm,1.1s,baz=293,slow=5.7,SNR=4.0						
ASAR	**Alice Springs**	**74.71**	**116**	P	P	16 42 50.1	+1.6
	0.5nm,1.1s,baz=272,slow=7.0,SNR=3.4						

*IDC **26** 16:49:59.9±1.9, 43°53N×105°47W, h0km, mb1 3.4/3, mb1mx3.2/27, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=40.3km s-min=7.4km az=150.0*
*ISCJB **26** 16:50:00.2±0.2, 43°60N±0°02×105°37W±0°02, h0km, Error ellipse: s-maj=2.5km s-min=2.1km az=174.3*
*NEIC **26** 16:50:00.2±0.6, 43°63N×105°19W, h0km, ML2.9, Error ellipse: s-maj=10.9km s-min=6.5km az=129.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.

ISC 26 16:50:00.2±0.7, 43°62N±0°02×105°27W±0°02, h0km, n55, σ0°77/87, 11C-20D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.30**	**224**	P	**Pg**	**16 50 06.5**	**+0.5**
	baz=0.3,SNR=418						
I23A	**Meade Ranch, G**	**0.37**	**337**	⇓P	**Pg**	**16 50 08.5**	**+1.2**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.52**	**63**	P	**Pb**	**16 50 12.1**	**-0.2**
	baz=0.5,SNR=149						
I24A				⇓S	**Sb**	**16 50 21.4**	**+0.9**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.53**	**123**	P	**Pb**	**16 50 11.8**	**-0.6**
	baz=0.5,SNR=121						
J24A				⇑S	**Sb**	**16 50 19.8**	**-0.9**
	baz=0.5						
J22A	**Midwest**	**0.91**	**257**	⇓P	**Pg**	**16 50 17.2**	**-0.4**
	baz=1.0,SNR=212						
K23A	**Bowen Ranch, D**	**0.91**	**197**	⇑P	**Pg**	**16 50 17.5**	**0.0**
	baz=0.9,SNR=8.0						
I22A	**9 Mile Ranch,**	**0.92**	**287**	P	**Pg**	**16 50 18.1**	**+0.2**
	baz=1.0,SNR=279						
I22A				⇑S	**Sg**	**16 50 30.7**	**+0.8**
	baz=1.0						
H23A	**Clabaugh Cattl**	**0.94**	**354**	⇓P	**Pb**	**16 50 19.2**	**-0.3**
	baz=0.9,SNR=10						
K24A	**Anderson Ranch**	**0.96**	**160**	P	**Pg**	**16 50 18.9**	**+0.4**
	baz=0.9,SNR=18						
RSSD	**Black Hills**	**1.02**	**60**	*e*Pg	**Pg**	**16 50 17.5**	**-2.3**
RSSD				*e*Sg	**Sg**	**16 50 32.5**	**-0.4**
J25A	**Sunshine Ranch**	**1.09**	**102**	⇓P	**Pb**	**16 50 22.4**	**+0.4**
	baz=1.0,SNR=67						
I25A	**Rochford**	**1.18**	**70**	⇓P	**Pb**	**16 50 24.0**	**+0.4**
	baz=1.1,SNR=168						
I25A				⇓S	**Sn**	**16 50 41.8**	**+0.8**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.23**	**24**	⇓P	**Pb**	**16 50 24.5**	**+0.1**
	baz=1.2						
H24A				⇑S	**Sn**	**16 50 43.5**	**+1.2**
	baz=1.2						
H22A	**Clearmont**	**1.25**	**321**	P	**Pb**	**16 50 24.7**	**0.0**
	baz=1.3,SNR=118						
K22A	**Casper**	**1.34**	**224**	*e*Pg	**Pg**	**16 50 24.6**	**-1.3**
K22A				*e*Sg	**Sb**	**16 50 43.5**	**-0.6**
K22A	**Casper**	**1.34**	**224**	P	**Pg**	**16 50 24.7**	**-1.1**
	baz=1.4,SNR=173						
K22A				⇑S	**Sb**	**16 50 43.7**	**-0.4**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.44**	**134**	⇓Pb	**Pb**	**16 50 28.5**	**+0.6**
	baz=1.4,SNR=112						
I21A	**Big Trails, Te**	**1.48**	**278**	⇓P	**Pn**	**16 50 27.4**	**-0.9**
	baz=1.5,SNR=108						
I21A				⇓S	**Sb**	**16 50 48.0**	**-0.2**
	baz=1.5						
L23A	**Garrett**	**1.54**	**192**	⇓P	**Pn**	**16 50 28.5**	**-0.7**
	baz=1.6,SNR=100						
H25A	**Fruitdale**	**1.56**	**50**	⇑Pb	**Pg**	**16 50 31.1**	**+1.0**
	baz=1.5						
G23A	**Biddle**	**1.58**	**357**	⇑Pb	**Pg**	**16 50 31.2**	**+0.7**
	baz=1.6,SNR=77						
L24A	**Wheatland**	**1.60**	**171**	⇓P	**Pn**	**16 50 29.8**	**0.0**
	baz=1.6						
J21A	**Lysite**	**1.61**	**261**	⇓P	**Pn**	**16 50 29.4**	**-0.7**
	baz=1.7,SNR=16						
J26A	**Sides Ranch, S**	**1.62**	**100**	⇓Pb	**Pb**	**16 50 31.6**	**+0.5**
	baz=1.6,SNR=22						
H21A	**Big Horn, Sher**	**1.63**	**309**	⇓Pb	**Pb**	**16 50 30.8**	**-0.3**
	baz=1.7,SNR=34						
L25A	**Engebretsen Ra**	**1.75**	**147**	⇑Pb	**Pg**	**16 50 33.6**	**-0.2**
	baz=1.7,SNR=28						
G22A	**Birney**	**1.76**	**336**	⇑Pb	**Pb**	**16 50 33.6**	**+0.2**
	baz=1.8,SNR=49						
K21A	**Alcova**	**1.76**	**236**	⇓Pb	**Pn**	**16 50 32.1**	**0.0**
	baz=1.8,SNR=409						
K26A	**Motz Farm, Whi**	**1.78**	**120**	⇑Pb	**Pg**	**16 50 34.4**	**0.0**
	baz=1.7,SNR=31						
L22A	**Ellis Ranch, M**	**1.81**	**209**	⇓Pb	**Pn**	**16 50 33.1**	**+0.3**
	baz=1.8,SNR=14						
G25A	**Newell**	**2.05**	**40**	⇓Pb	**Pg**	**16 50 39.5**	**-0.1**
	baz=2.0						
I20A	**Worland**	**2.10**	**280**	⇓Pb	**Pb**	**16 50 38.3**	**-0.9**
	baz=2.1,SNR=118						
M24A	**Cheyenne**	**2.18**	**171**	Pb	**Pb**	**16 50 40.4**	**-0.2**
	baz=2.2						
M23A	**Laramie**	**2.18**	**189**	Pb	**Pb**	**16 50 39.7**	**-0.9**
	baz=2.2						
L26A	**Underwood Farm**	**2.26**	**134**	Pb	**Pb**	**16 50 42.0**	**+0.1**
	baz=2.2						
K27A	**Flueckinger Fa**	**2.40**	**111**	Pb	**Pb**	**16 50 44.9**	**+0.6**
	baz=2.3						
J27A	**Elkhorn Farm,**	**2.40**	**98**	Pb	**Pb**	**16 50 45.3**	**+0.9**
	baz=2.3						
M22A	**Cedar Creek Ra**	**2.43**	**204**	Pb	**Pb**	**16 50 44.3**	**-0.6**
	baz=2.5						
H27A	**Howes**	**2.51**	**65**	Pb	**Pb**	**16 50 47.5**	**+1.3**

VAM	**Vamos**	**2.53**	**312**	*e*PN	Pb	17 14 39.8	-0.5
VAM	**Vamos**	**2.53**	**312**	*e*Pn	Pb	17 14 39.8	-0.5
KARN	**Karanos**	**2.71**	**308**	*e*PN	Pb	17 14 42.5	-0.9
KARN	**Karanos**	**2.71**	**308**	*e*Pn	Pb	17 14 42.5	-0.9
SANT	**Santorini**	**2.76**	**342**	*e*PN	Pb	17 14 42.2	-2.2
SANT	**Santorini**	**2.76**	**342**	*e*Pn	Pb	17 14 42.2	-2.2
APE	**Apeiranthos**	**3.42**	**347**	*e*PN	Pn	17 14 50.8	+2.4
APE	**Apeiranthos**	**3.42**	**347**	*e*Pn	Pn	17 14 50.8	+2.4
VLI	**Veliai**	**4.17**	**316**	*e*PN	Pn	17 15 02.8	+4.1
VLI	**Veliai**	**4.17**	**316**	*e*Pn	Pn	17 15 02.8	+4.1
DID	**Didima**	**4.61**	**326**	*e*PN	Pn	17 15 08.6	+3.8
DID	**Didima**	**4.61**	**326**	*e*Pn	Pn	17 15 08.6	+3.8

IDC 26 17:20:39.1±4.5, 15°66S×172°83W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/21, mbtmp3.7/4, Error ellipse: s-maj=208.0km s-min=24.4km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**31**	Pn	Pn	17 21 13.0	-1.5
	13nm,0.3s,baz=256,slow=8.3,SNR=20						
AFI				Sn	Sn	17 21 32.0	-8.4
	43nm,0.3s,baz=205,slow=20,SNR=11						
WRA	**Warramunga Arr**	**50.32**	**257**	P	P	17 29 36.9	-1.2
	0.4nm,0.8s,baz=97,slow=6.0,SNR=6.7						
ASAR	**Alice Springs**	**50.55**	**252**	P	P	17 29 39.5	-0.4
	2.2nm,0.8s,baz=86,slow=8.1,SNR=28						
YKA	**Yellowknife Ar**	**90.12**	**23**	P	P	17 33 40.5	-0.1
	0.3nm,0.8s,baz=237,slow=4.7,SNR=7.2						
BRTR	**Keskin Array B**	**146.70**	**321**	PKPbc	PKPab	17 40 24.8	+0.2
	0.6nm,0.6s,baz=64,slow=3.8,SNR=3.6						

SKHL 26 17:55:21.2±0.1, 43°75N×147°48E, h30km, mb4.3/1, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.49**	**285**	*e*P	Pb	17 55 30.9	-0.5
SHO				*e*S	Sb	17 55 38.1	-0.2
SHO				A	A	17 55 38.8	
	110nm,0.4s						
SHO				A	A	17 55 38.8	
	660nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.20**	**284**	⇓*i*P	Pn	17 55 41.4	-0.6
YUK				AMB	AMB	17 55 43.2	
	1µm,0.2s						
YUK				AMB	AMB	17 55 43.2	
	50nm,0.2s						
YUK				AMB	AMB	17 55 43.2	
	30nm,0.2s						
YUK				AMB	AMB	17 55 43.2	
	70nm,0.2s						
YUK				*e*S	Sn	17 55 56.6	-0.7
YUK				A	A	17 55 57.3	
	300nm,0.3s						
YUK				A	A	17 55 57.5	
	220nm,0.2s						
YUK				A	A	17 55 57.5	
	330nm,0.2s						
KUR	**Kuril'sk**	**1.51**	**10**	*e*S	Sn	17 56 03.4	-1.4
KUR				A	A	17 56 11.5	
	50nm,0.3s						

*IDC **26** 18:22:16.4±1.0, 6°44N×126°48E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, Error ellipse: s-maj=62.1km s-min=16.2km az=66.0*
*ISCJB **26** 18:22:24.5±0.7, 6°42N±0°05×125°91E±0°07, h97km, mb3.5/7, Error ellipse: s-maj=10.3km s-min=7.5km az=166.2*
*MAN **26** 18:22:24, 6°58N×126°58E, h13km, mb5.3, ML4.2, MS4.4*
ISC 26 18:22:26.6±0.9, 6°37N±0°07×125°9E±0°1, h97km, n19, σ2°58/16, mb3.4/7, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**0.81**	**330**	⇓*e*P	Pn	18 22 41.2	-3.7
DMPH				*e*S	**Sn**	**18 22 54.0**	**-4.5**
GSPH	**General Santos**	**1.00**	**254**	⇓*i*P	Pn	18 22 42.6	-4.3
GSPH				*i* S	**Sn**	**18 22 59.4**	**-2.9**
KCP	**Kidapawan**	**1.04**	**308**	⇓*e*P	**Pn**	**18 22 44.4**	**-2.8**
KCP				*i* S	**Sn**	**18 23 01.7**	**-1.1**
BIPH	**Bislig**	**1.85**	**14**	⇓*e*P	Pn	18 22 50.9	-6.3
BIPH				*e*S	**Sn**	**18 23 16.4**	**-4.1**
CTBH	**Cotabato--PC H**	**1.86**	**297**	⇑*e*P	**Pn**	**18 22 56.6**	**-0.7**
CGP	**Cagayan de Oro**	**2.40**	**330**	⇑*i*P	**Pn**	**18 23 04.8**	**+0.5**
CGP				*i* S	**Sn**	**18 23 36.3**	**+3.1**
FITZ	**Fitzroy Crossi**	**24.32**	**181**	P	**P**	**18 27 36.7**	**+1.4**
	0.9nm,0.4s,baz=31,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**27.43**	**163**	P	**P**	**18 28 04.9**	**+1.4**
	0.6nm,0.6s,baz=341,slow=10,SNR=21						
WRA				PcP	**PcP**	**18 31 22.6**	**+2.6**
	0.2nm,0.6s,baz=336,slow=2.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**28.90**	**297**	P	P	18 28 22.1	+5.6
	0.5nm,0.7s,baz=112,slow=5.9,SNR=7.2						
ASAR	**Alice Springs**	**30.86**	**166**	P	**P**	**18 28 33.1**	**-0.7**
	0.3nm,0.4s,baz=348,slow=6.8,SNR=11						
ASAR				PcP	**PcP**	**18 31 30.9**	**+2.1**
	0.5nm,0.8s,baz=352,slow=3.1,SNR=4.6						
STKA	**Stephens Creek**	**40.87**	**159**	P	**P**	**18 29 58.2**	**-1.0**
	1.4nm,0.7s,baz=350,slow=12,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**41.49**	**69**	T	T	19 14 04.1	
	baz=250,slow=73,SNR=14						
H11S1	**WAKE ISLAND Hy**	**41.50**	**69**	T	T	19 14 05.0	
	baz=250,slow=73,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**41.51**	**69**	T	T	19 14 02.8	
	baz=250,slow=73,SNR=11						
H11N1	**WAKE ISLAND Hy**	**41.93**	**68**	T	T	19 14 31.7	
	baz=268,slow=75,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**41.94**	**68**	T	T	19 14 35.2	
	baz=268,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**41.95**	**68**	T	T	19 14 33.8	
	baz=268,slow=75,SNR=7.9						
SONM	**Songino Array**	**44.55**	**341**	P	P	18 30 32.0	+3.1
	0.3nm,0.5s,baz=178,slow=12,SNR=4.1						
SONM				PcP	**PP**	**18 32 14.2**	**-0.5**
	0.3nm,0.8s,baz=127,slow=3.8,SNR=2.9						
MKAR	**Makanchi Array**	**54.94**	**325**	P	**P**	**18 31 49.8**	**+2.3**
	0.7nm,0.5s,baz=116,slow=7.7,SNR=17						

GUC 26 18:28:35.2±0.9, 33°18S×70°33W, h13km±2km, MD3.7, ML2.6, 6C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLCH	**Cerro Calan**	**0.28**	**219**	⇑*i*P	Pg	18 28 41.7	+0.5
CLCH				*i* S	Sb	18 28 46.4	-0.5
CLCH				AML	AML	18 28 48.1	
	comp=N,5µm,0.6s						
PEL	**Peldehue**	**0.30**	**276**	⇑*i*P	Pg	18 28 42.0	+0.4
PEL				*i* S	Sb	18 28 46.8	-0.6
PEL				AML	AML	18 28 52.3	
	comp=E,962nm,0.7s						
SAN	**Santiago**	**0.39**	**225**	*i* S	Sb	18 28 49.8	-0.2
SAN				AML	AML	18 28 50.0	
	comp=N,701nm,0.4s						
ANTU	**Antumapu**	**0.47**	**213**	⇑*i*P	Pg	18 28 44.9	+0.3
ANTU				*i* S	Sb	18 28 51.9	-0.4
ANTU				AML	AML	18 28 55.9	
	comp=N,608nm,0.5s						
PCH	**Pirque**	**0.47**	**199**	⇓*i*P	Pg	18 28 44.9	+0.2
PCH				*i* S	Sb	18 28 52.0	-0.4
ROCH	**El Roble**	**0.61**	**289**	⇓*i*P	Pg	18 28 47.5	0.0
ROCH				*i* S	Sb	18 28 56.5	-0.2
ROCH				AML	AML	18 28 59.8	
	comp=E,258nm,0.3s						
LMEL	**Las Melosas**	**0.68**	**171**	⇑*i*P	Pg	18 28 48.0	-0.7
LMEL				*i* S	Sg	18 28 57.5	-0.3
LMEL				AML	AML	18 28 58.1	
	comp=N,600nm,0.1s						
TACH	**Talagante**	**0.70**	**227**	⇓*i*P	Pg	18 28 49.0	+0.2
TACH				*i* S	Sb	18 28 58.8	0.0
CHCH	**Chadas Angostu**	**0.80**	**200**	⇑*i*P	Pg	18 28 50.3	-0.5
CHCH				*i* S	Sb	18 29 01.7	-0.2
CACH	**El Canelo**	**0.96**	**194**	⇑*i*P	Pb	18 28 53.8	-0.2
CACH				*i* S	Sb	18 29 06.1	-0.7
LNV	**Longovilo**	**1.19**	**229**	⇓*i*P	Pn	18 28 57.4	-0.2
LNV				*i* S	Sn	18 29 13.3	-0.3

MEX 26 18:35:09.3±0.3, 15°05N×93°99W, h30km±397km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.99**	**49**	*e*P	Pn	18 35 25.0	-2.1
PCIG				*i* S	Sn	18 35 36.8	-3.3
THIG		**1.67**	**95**	*i* P	Pn	18 35 34.3	-2.1
THIG				*i* S	Sn	18 35 54.2	-2.7
HUIG	**Huatulco**	**2.17**	**290**	*i* P	Pn	18 35 41.7	-1.7
HUIG				*i* S	Sn	18 36 06.3	-2.9
VHO	**Vista Hermosa**	**3.32**	**308**	*i* P	Pn	18 35 57.0	-2.5
VHO				*i* S	Sn	18 36 36.2	-1.9
PNIG	**Pinotepa**	**4.20**	**289**	*i* P	Pn	18 36 09.9	-1.5
PNIG				*i* S	Sn	18 36 57.0	-2.5
TEIG	**Tepich**	**7.49**	**46**	*i* P	Pn	18 36 54.9	-1.7

WEL 26 18:36:44.1±0.3, 38°07S×176°02E, h166km±3km, ML3.8/11, 3C-8D, Error ellipse: s-maj=1.6km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.88**	**103**	PN	Pn	18 37 08.9	-0.6
URZ				SN	Sn	18 37 29.2	+0.2
URZ				AML	AML	18 37 30.8	
HIZ	**Hauiti**	**1.02**	**244**	⇓PN	Pn	18 37 10.4	-0.1
TWVZ	**Taurewa**	**1.10**	**204**	PN	Pn	18 37 11.6	+0.2
NGZ	**Ngauruhoe**	**1.15**	**196**	⇓PN	Pn	18 37 12.0	+0.2
BKZ	**Black Stump Fm**	**1.16**	**161**	⇑PN	Pn	18 37 11.6	-0.2
BKZ				SN	Sn	18 37 32.9	-0.3
BKZ				AML	AML	18 37 34.9	
MKAZ	**Moumakai**	**1.17**	**324**	⇓PN	Pn	18 37 11.7	-0.1
RAHZ	**Arahi**	**1.19**	**136**	PN	Pn	18 37 12.5	+0.5
WPVZ	**Whakapapa**	**1.19**	**198**	PN	Pn	18 37 12.2	0.0
NMHZ	**Naumai**	**1.20**	**149**	*e*PN	Pn	18 37 12.6	+0.5
MWZ	**Matawai**	**1.22**	**103**	PN	Pn	18 37 12.1	-0.2
MWZ				SN	Sn	18 37 33.6	-0.4
MWZ				AML	AML	18 37 34.7	
MWZ				AML	AML	18 37 34.7	
MWZ				AML	AML	18 37 35.3	
TUVZ	**Tukino**	**1.23**	**193**	PN	Pn	18 37 12.5	-0.1
FWVZ	**Far West T-bar**	**1.24**	**197**	PN	Pn	18 37 12.9	+0.2
WHVZ	**Whangaehu Hut**	**1.26**	**195**	⇓PN	Pn	18 37 13.2	+0.3
SNGZ	**Shannon Statio**	**1.26**	**125**	PN	Pn	18 37 12.9	+0.3
TRVZ	**Turoa**	**1.28**	**196**	PN	Pn	18 37 13.1	0.0
WNVZ	**Wahianoa**	**1.30**	**194**	PN	Pn	18 37 13.1	-0.1
PKVZ	**Pokaka**	**1.33**	**203**	PN	Pn	18 37 13.1	-0.2
MOVZ	**Moawhango**	**1.35**	**189**	⇑PN	Pn	18 37 13.0	-0.6
MTVZ	**Mangateitei**	**1.38**	**198**	PN	Pn	18 37 13.7	-0.1
WHHZ	**Waihua**	**1.39**	**137**	PN	Pn	18 37 14.0	+0.2
BHHZ	**Black Hill Sta**	**1.42**	**179**	⇑PN	Pn	18 37 13.6	-0.6
MCHZ	**McNeill Hill**	**1.47**	**159**	PN	Pn	18 37 15.0	+0.4
RIGZ	**Rimuhau**	**1.51**	**115**	PN	Pn	18 37 15.0	0.0
KNZ	**Kokohu**	**1.61**	**127**	⇓PN	Pn	18 37 15.6	-0.3
CNGZ	**Carnagh Statio**	**1.77**	**104**	PN	Pn	18 37 17.9	+0.2
CKHZ	**Cape Kidnapper**	**1.79**	**153**	PN	Pn	18 37 17.7	-0.2
MHGZ	**Mahia Peninsul**	**1.83**	**127**	PN	Pn	18 37 18.2	-0.2
PNHZ	**Pukenui**	**1.85**	**176**	PN	Pn	18 37 17.6	-1.0
KAHZ	**Kahuranaki**	**1.85**	**159**	PN	Pn	18 37 18.3	-0.3
WAZ	**Wanganui**	**1.87**	**205**	PN	Pn	18 37 18.0	-0.8
MXZ	**Matakaoa Point**	**1.88**	**75**	PN	Pn	18 37 18.5	-0.4
TSZ	**Takapari Road**	**1.99**	**181**	⇓PN	Pn	18 37 18.9	-1.2
TSZ				AML	AML	18 37 49.5	
TSZ				AML	AML	18 37 49.9	
WPHZ	**Waipukurau**	**2.02**	**171**	PN	Pn	18 37 19.5	-1.0
PXZ	**Pawanui**	**2.07**	**162**	⇓PN	Pn	18 37 20.1	-0.8
PXZ				AML	AML	18 37 51.3	
PXZ				AML	AML	18 37 51.3	
PXZ				AML	AML	18 37 52.6	
PXZ				AML	AML	18 37 52.6	
DVHZ	**Dannevirke**	**2.23**	**177**	PN	Pn	18 37 21.2	-1.6
PRHZ	**Porangahau**	**2.25**	**168**	PN	Pn	18 37 21.9	-1.2
PRWZ	**Pori Road**	**2.48**	**181**	PN	Pn	18 37 24.1	-1.7
MRZ	**Mangatainoka R**	**2.61**	**187**	⇓PN	Pn	18 37 24.9	-2.5
MRZ				AML	AML	18 37 59.8	
MRZ				AML	AML	18 37 60.0	
TIWZ	**Tintock**	**2.71**	**182**	PN	Pn	18 37 26.2	-2.4
TIWZ				AML	AML	18 38 01.9	
TIWZ				AML	AML	18 38 02.1	
OGWZ	**Otaki Gorge**	**2.82**	**193**	PN	Pn	18 37 23.4	-2.5
HOWZ	**Holdsworth Sta**	**2.85**	**188**	PN	Pn	18 37 27.4	-2.9
KIW	**Kapiti Island**	**2.92**	**197**	PN	Pn	18 37 28.1	-3.0
MTW	**Mount Morrison**	**3.11**	**187**	PN	Pn	18 37 30.1	-3.4
MTW				AML	AML	18 38 08.1	
MTW				AML	AML	18 38 09.4	
CAW	**Cannon Point**	**3.12**	**193**	PN	Pn	18 37 30.5	-3.1
CAW				AML	AML	18 38 11.2	
TRWZ	**Traveller**	**3.34**	**184**	PN	Pn	18 37 33.0	-3.3
MSWZ	**Moikau Station**	**3.40**	**190**	PN	Pn	18 37 33.4	-3.7
MSWZ				AML	AML	18 38 14.3	
MSWZ				AML	AML	18 38 15.1	
TCW	**Tory Channel**	**3.42**	**203**	PN	Pn	18 37 34.0	-3.3
PLWZ	**Palliser**	**3.55**	**189**	PN	Pn	18 37 35.1	-3.9
TUWZ	**Tuamarina**	**3.72**	**205**	PN	Pn	18 37 37.7	-3.4
TUWZ				AML	AML	18 38 22.0	
NNZ	**Nelson**	**3.75**	**212**	PN	Pn	18 37 37.6	-3.9
QRZ	**Quartz Range**	**3.86**	**223**	PN	Pn	18 37 38.8	-4.1
THZ	**Tophouse**	**4.40**	**216**	PN	Pn	18 37 46.5	-3.5
LTZ	**Lake Taylor**	**5.51**	**210**	PN	Pn	18 37 58.8	-5.7
MQZ	**McQueen's Vall**	**6.18**	**203**	PN	Pn	18 38 06.9	-6.4

*IDC **26** 18:55:56.5±1.1, 3°38N×127°00E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/25, mbtmp3.8/9, Error ellipse: s-maj=66.4km s-min=14.9km az=68.0*
*NEIC **26** 18:55:57.7±0.4, 3°38N×126°95E, h10km, mb4.4/8, Error ellipse: s-maj=22.7km s-min=7.2km az=70.0*
*ISCJB **26** 18:56:00.6±0.4, 3°49N±0°05×127°19E±0°09, h48km, mb4.0/15, Error ellipse: s-maj=13.9km s-min=6.3km az=162.6*
*AUST **26** 18:56:02.6, 3°50N×127°50E, h60km*
ISC 26 18:56:03.2±0.6, 3°45N±0°06×127°1E±0°1, h48km, n45, σ1°25/41, mb4.1/15, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.68**	**323**	⇑*i*P	**Pn**	**18 57 13.6**	**+2.2**
LUWI	**Luwuk**	**6.20**	**224**	P	**Pn**	**18 57 34.1**	**+1.9**
	baz=6.6,SNR=6.8						
FAKI	**Fak Fak**	**8.18**	**141**	P	**Pn**	**18 58 01.2**	**+1.8**
	baz=8.0,SNR=3.7						
PALU	**Palau**	**8.32**	**62**	P	Pn	18 58 05.0	+3.7
	baz=7.9,SNR=3.5						
MTN	**Manton Dam**	**16.69**	**166**	P	**Pn**	**18 59 51.1**	**-2.7**
	baz=17,SNR=6.0						
KDU	**Kakadu**	**16.91**	**162**	P	**P**	**18 59 59.4**	**+1.4**
	baz=17,SNR=3.9						
JAGI	**Jajag, Banyuwa**	**17.50**	**227**	P	**P**	**19 00 05.5**	**+0.9**
	baz=18,SNR=5.4						
KNRA	**Kununurra**	**19.08**	**175**	P	**P**	**19 00 21.0**	**-0.9**
	baz=19,SNR=8.0						
TPUB	**Ta-pu**	**20.69**	**343**	*e*P	**P**	**19 00 37.5**	**-1.9**
	51nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.47**	**184**	P	**P**	**19 00 46.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**21.47**	**184**	P	**P**	**19 00 46.0**	**-1.7**
	1.4nm,0.7s,baz=3.4,slow=8.0,SNR=8.2						
PMBI	**Palembang**	**23.17**	**254**	P	**P**	**19 01 06.2**	**+0.4**
	baz=24,SNR=3.8						
WRAB	**Tennant Creek**	**24.32**	**163**	*e*P	**P**	**19 01 15.2**	**-1.3**
	17nm,1.4s						
WRA	**Warramunga Arr**	**24.32**	**163**	P	**P**	**19 01 15.1**	**-1.4**
WRA	**Warramunga Arr**	**24.32**	**163**	P	**P**	**19 01 15.1**	**-1.4**
	1.3nm,0.6s,baz=339,slow=11,SNR=16						
RABL	**Rabaul**	**26.20**	**107**	P	P	19 01 26.6	-7.1
	baz=26,SNR=3.5						
PPI	**Padang Panjang**	**26.94**	**262**	P	P	19 01 45.7	+5.4
	baz=27,SNR=5.1						
ASAR	**Alice Springs**	**27.77**	**166**	P	**P**	**19 01 46.9**	**-0.8**
ASAR	**Alice Springs**	**27.77**	**166**	P	**P**	**19 01 46.9**	**-0.8**
	0.2nm,0.4s,baz=352,slow=7.8,SNR=5.8						
WRKA	**Warakurna**	**28.35**	**178**	P	**P**	**19 01 53.0**	**+0.2**
	baz=28,SNR=5.2						
CMAR	**Chiang Mai Arr**	**31.30**	**301**	P	**P**	**19 02 18.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.30**	**301**	P	**P**	**19 02 18.9**	**-0.2**
	0.6nm,0.6s,baz=103,slow=6.0,SNR=8.7						
ENH	**Enshi**	**31.43**	**330**	P	**P**	**19 02 19.9**	**-0.2**
CHTO	**Chiang Mai**	**31.45**	**301**	P	**P**	**19 02 18.7**	**-1.7**
STKA	**Stephens Creek**	**37.76**	**160**	*e*P	**P**	**19 03 13.5**	**-1.1**
	0.9nm,1.0s						
STKA	**Stephens Creek**	**37.76**	**160**	P	**P**	**19 03 14.2**	**-0.5**

	1.5nm,0.6s,baz=334,slow=9.1,SNR=7.4						
MDJ	**Mudanjiang**	**41.05**	**3**	*e*P	**P**	**19 03 41.6**	**-0.3**
LSA	**Lhasa**	**42.87**	**311**	*e*P	**P**	**19 03 57.1**	**-0.5**
	2.3nm,0.6s						
ULN	**Ulaanbaatar**	**47.48**	**342**	P	P	19 04 29.3	-4.3
	2.6nm,1.0s						
SONM	**Songino Array**	**47.66**	**341**	P	**P**	**19 04 35.8**	**+0.9**
SONM	**Songino Array**	**47.66**	**341**	P	**P**	**19 04 35.8**	**+0.9**
	1.0nm,0.8s,baz=150,slow=9.6,SNR=11						
MK31	**Makanchi Array**	**57.97**	**325**	*e*P	**P**	**19 05 50.9**	**0.0**
MKAR	**Makanchi Array**	**57.97**	**325**	P	**P**	**19 05 51.0**	**+0.1**
MKAR	**Makanchi Array**	**57.97**	**325**	P	**P**	**19 05 51.0**	**+0.1**
	1.3nm,0.6s,baz=121,slow=7.7,SNR=22						
YAK	**Yakutsk**	**58.47**	**1**	*e*P	**P**	**19 05 56.1**	**+2.0**
	6.0nm,0.7s						
TKM2	**Tokmak 2**	**60.17**	**319**	P	**P**	**19 06 06.0**	**-0.5**
ZALV	**Zalesovo Beam**	**60.98**	**333**	P	**P**	**19 06 11.4**	**-0.1**
ZALV	**Zalesovo Beam**	**60.98**	**333**	P	**P**	**19 06 11.4**	**-0.1**
	1.3nm,0.9s,baz=131,slow=6.9,SNR=4.9						
KBL	**Kabul**	**61.96**	**307**	P	**P**	**19 06 17.9**	**-0.8**
KURK	**Kurchatov**	**62.15**	**327**	*e*P	**P**	**19 06 19.5**	**0.0**
	2.8nm,0.7s						
BRVK	**Borovoye**	**67.81**	**327**	*e*P	**P**	**19 06 53.7**	**-2.4**
AKTO	**Aktyubinsk**	**74.08**	**322**	P	**P**	**19 07 34.1**	**-0.1**
AKTO	**Aktyubinsk**	**74.08**	**322**	P	**P**	**19 07 34.1**	**-0.1**
	0.9nm,0.4s,baz=86,slow=11,SNR=7.6						
ARU	**Arti**	**75.35**	**328**	*e*P	**P**	**19 07 39.9**	**-1.6**
	4.0nm,0.9s						
MAW	**Mawson**	**83.61**	**200**	P	**P**	**19 08 26.6**	**+0.5**
	baz=84,SNR=25						

*ISCJB **26** 18:56:49.7±0.5, 39°22N±0°02×27°47E±0°03, h4km±4km, Error ellipse: s-maj=3.4km s-min=2.9km az=179.3*
*ISK **26** 18:56:49.3, 39°21N×27°48E, h8km, MD3.3*
*ATH **26** 18:56:50.5, 39°28N×27°55E, h28km, MD3.1/5*
*DDA **26** 18:56:50.2, 39°20N×27°52E, h7km, ML3.6*
*CSEM **26** 18:56:50.3±0.1, 39°22N×27°49E, h8km, ML3.6, Error ellipse: s-maj=2.2km s-min=2.0km az=84.0*
ISC 26 18:56:50.4±1.0, 39°21N±0°02×27°50E±0°02, h9km±9km, n106, σ0°45/132, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.41**	**143**	*e*PG	**Pg**	**18 56 58.4**	**-0.1**
AKS				*e*SG	**Sg**	**18 57 04.3**	**+0.4**
AKS	**Akhisar**	**0.41**	**143**	*e*Pg	**Pg**	**18 56 58.4**	**-0.1**
AKS				*e*Sg	**Sg**	**18 57 04.3**	**+0.4**
AKHS	**Akhisar**	**0.41**	**143**	*i* P	**Pg**	**18 56 58.5**	**0.0**
AKHS				*i* S	**Sg**	**18 57 04.8**	**+0.8**
AKHS	**Akhisar**	**0.41**	**143**	*i* P	**Pg**	**18 56 58.5**	**0.0**
AKHS				*i* S	**Sg**	**18 57 04.8**	**+0.8**
BALB	**Balikesir**	**0.52**	**35**	*e*PG	**Pg**	**18 57 00.3**	**-0.2**
BALB				*e*SG	**Sg**	**18 57 07.8**	**+0.4**
BALB	**Balikesir**	**0.52**	**35**	*e*Pg	**Pg**	**18 57 00.3**	**-0.2**
BALB				*e*Sg	**Sg**	**18 57 07.8**	**+0.4**
BALY	**Balya**	**0.54**	**10**	*i* P	**Pg**	**18 57 01.2**	**+0.4**
BALY				*i* S	**Sb**	**18 57 09.3**	**-0.7**
BALY	**Balya**	**0.54**	**10**	*i* P	**Pg**	**18 57 01.2**	**+0.4**
BALY				*i* S	**Sb**	**18 57 09.3**	**-0.7**
IZM	**Izmir**	**0.83**	**193**	*e*PG	**Pg**	**18 57 05.7**	**-0.7**
IZM				*e*SG	**Sg**	**18 57 17.3**	**+0.1**
IZM	**Izmir**	**0.83**	**193**	*e*Pg	**Pg**	**18 57 05.7**	**-0.7**
IZM				*e*Sg	**Sg**	**18 57 17.3**	**+0.1**
GONE	**Gonen-Balikesi**	**0.85**	**10**	*e*PG	**Pg**	**18 57 06.3**	**-0.4**
GONE				*e*SG	**Sg**	**18 57 18.2**	**+0.5**
GONE	**Gonen-Balikesi**	**0.85**	**10**	*e*Pg	**Pg**	**18 57 06.3**	**-0.4**
GONE				*e*Sg	**Sg**	**18 57 18.2**	**+0.5**
BLCB	**Balcova**	**0.90**	**203**	*e*PG	**Pg**	**18 57 06.8**	**-0.8**
BLCB	**Balcova**	**0.90**	**203**	*e*Pg	**Pg**	**18 57 06.8**	**-0.8**
PRK	**Paraskevi**	**0.95**	**272**	*e*PN	Pn	**18 57 09.8**	**-0.2**
PRK				*e*SN	**Sn**	**18 57 23.7**	**0.0**
PRK	**Paraskevi**	**0.95**	**272**	*e*Pn	**Pn**	**18 57 09.8**	**-0.2**
PRK				*e*Sn	**Sn**	**18 57 23.7**	**0.0**
DEMI	**Demirci**	**0.96**	**100**	*i* P	**Pg**	**18 57 08.8**	**-0.1**
DEMI				*i* S	**Sb**	**18 57 22.1**	**-0.2**
DEMI	**Demirci**	**0.96**	**100**	*i* P	**Pg**	**18 57 08.8**	**-0.1**
DEMI				*i* S	**Sb**	**18 57 22.1**	**-0.2**
KULA	**Kula-Manisa**	**1.15**	**127**	*e*PN	**Pb**	**18 57 11.7**	**-0.7**
KULA	**Kula-Manisa**	**1.15**	**127**	*e*Pn	**Pb**	**18 57 11.7**	**-0.7**
EDC	**Edincik**	**1.17**	**14**	*e*PN	**Pb**	**18 57 12.1**	**-0.7**
EDC	**Edincik**	**1.17**	**14**	*e*Pn	**Pb**	**18 57 12.1**	**-0.7**
BNT	**Bandirma**	**1.19**	**16**	*e

SILT	**Sile**	**2.54**	**40**	*e*Pn	**Pn**	**18 57 32.0**	**+0.1**
SILT	**Sile**	**2.54**	**40**	*e*Pn	**Pn**	**18 57 32.0**	**+0.1**
GULT	**Gulveren**	**2.63**	**61**	*e*Pn	**Pn**	**18 57 33.4**	**+0.3**
GULT	**Gulveren**	**2.63**	**61**	*e*Pn	**Pn**	**18 57 33.4**	**+0.3**
EDRB	**Edirne**	**2.69**	**348**	*e*PN	**Pn**	**18 57 34.1**	**+0.2**
EDRB	**Edirne**	**2.69**	**348**	*e*Pn	**Pn**	**18 57 34.1**	**+0.2**
MDUB	**Mudurnu**	**3.12**	**65**	*e*PN	**Pn**	**18 57 40.3**	**+0.4**
MDUB	**Mudurnu**	**3.12**	**65**	*e*Pn	**Pn**	**18 57 40.3**	**+0.4**
SVRH	**Sivrihisar-ESK**	**3.13**	**84**	*e*PN	**Pn**	**18 57 40.0**	**-0.1**
SVRH	**Sivrihisar-ESK**	**3.13**	**84**	*e*Pn	**Pn**	**18 57 40.0**	**-0.1**
NEO	**Neokhori**	**3.32**	**273**	*e*PN	**Pn**	**18 57 43.4**	**+0.8**
NEO	**Neokhori**	**3.32**	**273**	*e*Pn	**Pn**	**18 57 43.4**	**+0.8**
PLG	**Polygyros**	**3.33**	**292**	*e*PN	**Pn**	**18 57 43.4**	**+0.7**
PLG	**Polygyros**	**3.33**	**292**	*e*Pn	**Pn**	**18 57 43.4**	**+0.7**
NVR	**Nevrokopi**	**3.50**	**309**	*e*PN	**Pn**	**18 57 45.7**	**+0.6**
NVR	**Nevrokopi**	**3.50**	**309**	*e*Pn	**Pn**	**18 57 45.7**	**+0.6**

IDC 26 19:08:16.9±17.0, **22.75S**×**174.80W**, **h0**km, **mb4.3**/5, **mb1 4.4**/5, **mb1mx3.9**/20, **mbtmp4.3**/5, **Error ellipse: s-maj=316.5km s-min=139.4km az=81.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMSA	**Cobar Meteorol**	**36.08**	**247**	P	P	19 15 19.7	-0.7
	baz=33,SNR=7.5						
CTA	**Charters Tower**	**36.29**	**267**	P	P	19 15 23.4	+1.1
	6.8nm,0.3s,baz=100,slow=11,SNR=26						
STKA	**Stephens Creek**	**39.58**	**247**	P	P	19 15 49.3	-0.8
	0.7nm,0.4s,baz=92,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**39.58**	**247**	P	P	19 15 49.5	-0.6
	baz=37,SNR=5.5						
BBOO	**Buckleboo**	**44.28**	**246**	P	P	19 16 27.2	-1.4
	baz=42,SNR=6.5						
ASAR	**Alice Springs**	**46.95**	**258**	P	P	19 16 49.0	-0.9
	0.7nm,0.3s,baz=94,slow=6.8,SNR=37						
WRA	**Warramunga Arr**	**47.27**	**263**	P	P	19 16 51.6	-0.8
	2.6nm,0.5s,baz=97,slow=8.4,SNR=148						
KDU	**Kakadu**	**50.99**	**272**	P	P	19 17 22.0	+1.1
	baz=49,SNR=3.8						
WRKA	**Warakurna**	**51.75**	**255**	P	P	19 17 25.7	-0.9
	baz=49,SNR=21						
MTN	**Manton Dam**	**52.17**	**271**	P	P	19 17 30.4	+0.7
	baz=50,SNR=4.2						
KNRA	**Kununurra**	**53.50**	**267**	P	P	19 17 40.4	+0.8
	baz=51,SNR=11						
FITZ	**Fitzroy Crossi**	**55.70**	**263**	P	P	19 17 56.3	+0.7
	1.5nm,0.4s,baz=108,slow=5.5						

MEX 26 19:20:52.0±0.4, **16.73N**×**94.12W**, **h82**km±28km, **MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.33**	**139**	*e*P	Pn	19 21 14.1	-1.2
PCIG				*i* S	Sn	19 21 31.0	-1.8
HUIG	**Huatulco**	**2.13**	**244**	*e*P	Pn	19 21 24.4	-1.4
HUIG				*e*S	Sn	19 21 50.6	-1.0
VHO	**Vista Hermosa**	**2.52**	**278**	*i* P	Pn	19 21 29.4	-1.8
VHO				*i* S	Sn	19 22 00.1	-1.3

KRSC 26 19:21:37.2±4.7, **54.64N**×**164.15E**, **h32**km±32km, **ML3.6, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.19**	**61**	*e*P	Pb	19 22 00.1	+0.9
BKI				*e*S	Sb	19 22 14.1	-0.2
MKZ	**Mys Kozlova**	**1.41**	**268**	*e*P	Pb	19 22 02.9	0.0
MKZ				*e*S	Sn	19 22 19.2	+1.2
KBTR	**Krutoberegovo**	**1.75**	**335**	*e*P	Pn	19 22 06.4	+1.2
KBTR				*e*S	Sn	19 22 27.0	+0.6
KBG	**Krutoberegovo**	**1.82**	**334**	*e*P	Pb	19 22 08.5	-1.2
KBG				*e*S	Sn	19 22 29.5	+1.4
KZV	**Kizimen**	**2.28**	**284**	*e*P	Pb	19 22 15.5	-2.3
KZV				*e*S	Sn	19 22 42.4	+2.5
TUMR	**Tumrok**	**2.40**	**287**	*e*P	Pb	19 22 17.5	-2.3
SMKR	**Semkarok**	**2.47**	**323**	P	Pn	19 22 17.4	+2.1
KMNR	**Kamenistaya**	**2.51**	**298**	*e*P	Pb	19 22 19.0	-2.6
BDR	**Baidarnaya**	**2.55**	**320**	*e*P	Pb	19 22 19.6	-2.8
KLY	**Klyuchi**	**2.60**	**312**	*e*P	Pn	19 22 18.5	+1.5
KLY				*e*S	Sn	19 22 47.6	+0.1
SRKR	**Sorokina**	**2.63**	**321**	*e*P	Pn	19 22 20.4	+2.9
SRDR	**Sredinnyy**	**3.03**	**305**	*e*P	Pb	19 22 26.8	-3.7
SRDR				*e*S	Sn	19 23 02.0	+3.8
NLC	**Nalytchevo**	**3.20**	**245**	S	Sn	19 23 02.1	-0.1
ESO	**Esso**	**3.37**	**295**	*e*P	Pn	19 22 30.3	+2.7
SDLR	**Sedlovina**	**3.40**	**248**	*e*P	Pn	19 22 31.4	+3.3
SDLR				*e*S	Sn	19 23 08.9	+1.5
SMAR	**Somma**	**3.45**	**249**	*e*P	Pn	19 22 32.8	+3.9
SMAR				*e*S	Sn	19 23 10.3	+1.5
KRER	**Koryakskii**	**3.46**	**249**	*e*P	Pn	19 22 32.5	+3.4
KRER				*e*S	Sn	19 23 09.6	+0.5
UGLR	**Uglovaya**	**3.46**	**248**	*e*P	Pn	19 22 32.8	+3.9
UGLR				*e*S	Sn	19 23 10.6	+1.7
AVH	**Avacha**	**3.48**	**249**	*e*P	Pn	19 22 33.3	+4.1
AVH				*e*S	Sn	19 23 11.6	+2.2
KRX	**Arik**	**3.49**	**251**	*e*P	Pn	19 22 33.1	+3.7
KRX				*e*S	Sn	19 23 10.8	+1.1
KOK	**Koryaka**	**3.53**	**250**	*e*P	Pn	19 22 33.7	+3.9
KOK				*e*S	Sn	19 23 11.4	+0.9
GNL	**Ganaly**	**3.77**	**258**	*e*P	Pn	19 22 37.4	+4.2
GNL				*e*S	Sn	19 23 19.4	+2.8
RUS	**Russkaya**	**4.02**	**239**	*e*P	Pn	19 22 38.9	+2.4
RUS				*e*S	Sn	19 23 22.6	+0.1
MTVR	**Mutnovka**	**4.16**	**241**	P	Pn	19 22 42.4	+3.8
MTVR				S	Sn	19 23 28.2	-0.1
ASAK	**Asacha**	**4.36**	**241**	*e*S	Sn	19 23 32.2	+1.1

NIED ***26*** *19:39:00, 30.90N×139.50E, h5km, Mw4.3 Best double couple: M0 2.76000×10^15 NP1:φ,δ 172.00000°, 84.00000°, λ 112.00000°. NP2:φ,δ 277.00000°, 23.00000°, λ 16.00000°.*
ISCJB ***26*** *19:39:12.7±0.6, 30.98N±0.04×139.49E±0.06, h10km, mb3.5/8, MS3.1/3, Error ellipse: s-maj=7.5km s-min=4.8km az=155.5*
JMA ***26*** *19:39:12.0±0.2, 30.93N×139.45E, h13km, M3.9*
IDC ***26*** *19:39:13.5±0.8, 30.78N×139.47E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.7/26, mbtmp3.7/11, ML3.6/3, MS3.2/6, Ms1 3.2/6, ms1mx3.0/37, Error ellipse: s-maj=24.2km s-min=17.4km az=67.0*
ISC 26 19:39:14.7±0.8, **30.93N**±0.07×**139.49E**±0.06, **h10**km, **n35**, σ1°**63**/31, **mb3.5/8, MS3.3/3, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.19**	**7**	P	Pn	19 39 49.2	-2.0
TK01	**Tokai 1**	**3.25**	**331**	*e*S	Sn	19 40 43.4	-0.7
TK02	**Tokai 2**	**3.35**	**334**	*e*S	Sn	19 40 45.2	-1.3
TK03	**Tokai 3**	**3.47**	**339**	*e*S	Sn	19 40 48.9	-0.9
TTO4	**TONANKAI O.B.S**	**3.48**	**332**	*e*S	Sn	19 40 49.2	-0.7
TTO2	**TONANKAI O.B.S**	**3.49**	**324**	P	Pn	19 40 07.6	-1.1
TTO2				*e*S	Sn	19 40 49.9	-0.1
TTO1	**TONANKAI O.B.S**	**3.53**	**320**	P	Pn	19 40 08.3	-1.0
TTO1				*e*S	Sn	19 40 50.4	-0.6
BSO1	**Boso 1**	**3.92**	**18**	P	Pn	19 40 10.5	-3.9
BSO1				*e*S	Sn	19 40 58.5	-1.6
JWZ	**Kozaga**	**4.12**	**310**	P	Pn	19 40 15.7	-2.0
JWZ				*e*S	Sn	19 41 02.4	-3.5
JHMK	**Hamakita**	**4.14**	**340**	P	Pn	19 40 16.1	-1.8
JHMK				*e*S	Sn	19 41 03.3	-3.0
JIE	**Ise**	**4.17**	**326**	P	Pn	19 40 17.0	-1.4
JIE				*e*S	Sn	19 41 04.6	-2.7
JCJ	**Chichijima**	**4.49**	**148**	Pn	Pn	19 40 22.1	-0.7
	4.2nm,0.3s,baz=286,slow=17,SNR=2.4						
JCJ				LR	LR	19 42 00.9	
	comp=Z,323nm,19.1s,baz=272,slow=38						
MJAR	**Matsushiro Arr**	**5.70**	**350**	Pn	Pn	19 40 42.3	+2.9
	0.6nm,0.3s,baz=171,slow=14,SNR=12						
MAT	**Matsushiro**	**5.70**	**350**	P	Pn	19 40 40.8	+1.4
MAT				*e*S	Sn	19 41 44.7	-0.2
JTO	**Tosashimizu**	**6.01**	**290**	P	Pn	19 40 43.1	-0.5
JTO				*e*S	Sn	19 41 49.8	-2.7
JNU	**Nakatsue**	**7.63**	**289**	Pn	Pn	19 41 07.0	+1.0
	1.3nm,0.3s,baz=88,slow=5.6,SNR=17						
JNU				Sn	Sn	19 42 35.0	+2.4
	0.7nm,0.3s,baz=243,slow=15,SNR=5.5						
JNU				LR	LR	19 43 53.1	
	comp=Z,170nm,20.0s,baz=320,slow=36						

KSRS	**Korea Array**	**11.57**	**307**	LR	LR	19 46 02.0		
	comp=Z,99nm,19.5s,baz=154,slow=35							
PETK	**Petropavlovsk-**	**25.82**	**26**	LR	LR	19 55 25.4		
	comp=Z,29nm,18.4s,baz=258,slow=37							
H11N2	**WAKE ISLAND Hy 27.09**	**108**		T	T	20 13 13.2		
	baz=303,slow=76,SNR=905							
H11N1	**WAKE ISLAND Hy 27.09**	**108**		T	T	20 13 06.5		
	baz=303,slow=76,SNR=1078							
H11N3	**WAKE ISLAND Hy 27.11**	**108**		T	T	20 13 07.2		
	baz=303,slow=76,SNR=772							
H11S3	**WAKE ISLAND Hy 27.55**	**110**		T	T	20 13 40.5		
	baz=306,slow=74,SNR=573							
H11S1	**WAKE ISLAND Hy 27.55**	**110**		T	T	20 13 40.6		
	baz=306,slow=74,SNR=821							
H11S2	**WAKE ISLAND Hy 27.57**	**110**		T	T	20 13 41.8		
	baz=306,slow=74,SNR=485							
SONM	**Songino Array**	**30.35**	**313**	P	**P**	**19 45 27.7**	**+1.1**	
	0.7nm,0.9s,baz=114,slow=7.0,SNR=2.9							
SONM				LR	LR	19 56 22.4		
	comp=Z,62nm,18.1s,baz=263,slow=34							
CMAR	**Chiang Mai Arr**	**38.67**	**261**	P	**P**	**19 46 39.3**	**+0.5**	
	0.1nm,0.3s,baz=72,slow=5.9,SNR=3.2							
MKAR	**Makanchi Array**	**46.26**	**307**	P	**P**	**19 47 40.4**	**+0.2**	
	0.3nm,0.6s,baz=89,slow=9.0,SNR=4.4							
MKAR				LR	LR	20 07 42.5		
	comp=Z,34nm,20.0s,baz=358,slow=37							
WRA	**Warramunga Arr**	**50.82**	**186**	P	**P**	**19 48 14.4**	**-1.1**	
	0.4nm,0.5s,baz=6.0,slow=7.6,SNR=12							
ASAR	**Alice Springs**	**54.55**	**186**	P	**P**	**19 48 42.2**	**-0.8**	
	0.2nm,0.5s,baz=3.9,slow=6.1,SNR=12							
YKA	**Yellowknife Ar**	**69.90**	**28**	P	**P**	**19 50 27.0**	**+1.5**	
	0.3nm,0.8s,baz=296,slow=5.8,SNR=6.5							
FINES	**FINESS Array B**	**73.47**	**333**	P	**P**	**19 50 48.0**	**+1.0**	
	4.0nm,1.0s,baz=108,slow=5.0,SNR=5.7							
TXAR	**Lajitas Array**	**95.13**	**51**	P	**P**	**19 52 39.5**	**+0.9**	
	0.5nm,0.7s,baz=306,slow=4.2,SNR=9.2							
H03N2	**Juan Fernandez**	**147.50**	**105**	T	T	22 43 37.2		
	baz=277,slow=75,SNR=173							
H03N3	**Juan Fernandez**	**147.51**	**105**	T	T	22 43 43.1		
	baz=277,slow=75,SNR=253							
H03N1	**Juan Fernandez**	**147.52**	**105**	T	T	22 43 38.6		
	baz=277,slow=75,SNR=273							

IDC ***26*** *19:47:37.0±1.3, 4.11S×152.75E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=66.6km s-min=27.4km az=133.0*
ISCJB ***26*** *19:47:41.3±1.8, 4.08S±0.7×152.66E±0.7, h33km, mb3.5/4, Error ellipse: s-maj=142.6km s-min=21.3km az=42.1*
ISC 26 19:47:42.5±1.3, **4.12S**±0.4×**152.66E**±0.4, **h35**km, **n6**, σ0°**83**/8, **mb3.6**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.74**	**227**	P	**P**	**19 52 52.7**	**+0.9**
	1.3nm,0.4s,baz=53,slow=9.6,SNR=47						
WRA				S	**S**	**19 57 03.9**	**-1.1**
	0.4nm,0.7s,baz=70,slow=14,SNR=3.3						
ASAR	**Alice Springs**	**26.51**	**221**	P	**P**	**19 53 17.6**	**+0.5**
	0.3nm,0.3s,baz=54,slow=9.3,SNR=8.6						
FITZ	**Fitzroy Crossi**	**29.82**	**240**	P	**P**	**19 53 47.2**	**+0.6**
	0.9nm,0.6s						
YKA	**Yellowknife Ar**	**94.94**	**28**	P	**P**	**20 01 01.3**	**+0.3**
	0.1nm,0.6s,baz=271,slow=4.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.95**	**289**	PKPbc	**PKPbc**	**20 07 30.2**	**-0.2**
	0.6nm,0.4s,baz=89,slow=2.5,SNR=18						
TORD				PKPab	**PKPab**	**20 07 35.4**	**-0.6**
	0.5nm,0.7s,baz=85,slow=4.1,SNR=4.2						
BDFB	**Brasilia**	**151.63**	**134**	PKPbc	**PKPbc**	**20 07 33.9**	**-0.5**
	1.5nm,0.8s,baz=198,slow=4.3,SNR=3.4						

GUC 26 20:41:43.2±0.6, **31.68S**×**69.95W**, **h154**km±8km, **MD3.3, ML3.7, 3C-9D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.03**	**299**	*i*P	Pn	20 42 09.6	+0.9
CMCH				*i* S	Sn	20 42 29.6	+1.5
CMCH				AML	AML	20 42 31.9	
	comp=N,2μm,0.3s						
JACH	**Jahuel**	**1.14**	**208**	*i*P	Pn	20 42 10.3	+0.6
JACH				*i* S	Sn	20 42 30.6	+0.6
ROCH	**El Roble**	**1.57**	**215**	*i*P	Pn	20 42 14.8	+0.7
ROCH				*i* S	Sn	20 42 38.9	+1.0
ROCH				AML	AML	20 42 39.7	
	comp=N,577nm,0.3s						
PEL	**Peldehue**	**1.59**	**203**	*i*P	Pn	20 42 14.5	+0.4
PEL				*i* S	Sn	20 42 37.8	0.0
PEL				AML	AML	20 42 39.9	
	comp=E,686nm,0.3s						
TLL	**Tololo Astrono**	**1.67**	**334**	*e*P	Pn	20 42 16.7	+1.4
TLL				*i* S	Sn	20 42 41.3	+1.5
TLL				AML	AML	20 42 42.3	
	comp=N,274nm,0.2s						
CLCH	**Cerro Calan**	**1.79**	**196**	*i*P	Pn	20 42 16.7	+0.5
CLCH				*i* S	Sn	20 42 42.1	+0.4
CLCH				AML	AML	20 42 45.4	
	comp=N,486nm,0.4s						
SAN	**Santiago**	**1.87**	**199**	*i* S	Sn	20 42 43.6	+0.3
SAN				AML	AML	20 42 46.2	
	comp=N,274nm,0.3s						
ANTU	**Antumapu**	**1.97**	**197**	*i*P	Pn	20 42 19.0	+0.7
ANTU				*i* S	Sn	20 42 45.5	+0.1
ANTU				AML	AML	20 42 49.2	
	comp=E,381nm,0.3s						
PCH	**Pirque**	**2.00**	**194**	*i*P	Pn	20 42 19.5	+0.9
PCH				*i* S	Sn	20 42 46.7	+0.7
TACH	**Talagante**	**2.14**	**203**	*i*P	Pn	20 42 20.8	+0.5
TACH				*i* S	Sn	20 42 49.9	+1.1
LMEL	**Las Melosas**	**2.18**	**186**	*i*P	Pn	20 42 20.9	+0.1
LMEL				AML	AML	20 42 57.9	
	comp=N,345nm,0.1s						
CHCH	**Chadas Angostu**	**2.33**	**195**	*i*P	Pn	20 42 23.2	+0.7
CHCH				*i* S	Sn	20 42 53.2	+0.4
CACH	**El Canelo**	**2.50**	**193**	*i*P	Pn	20 42 25.5	+0.9
CACH				*i* S	Sn	20 42 57.7	+1.0
LNV	**Longovilo**	**2.59**	**208**	*i*P	Pn	20 42 25.9	+0.3
LNV				*i* S	Sn	20 42 57.7	-0.5
LCO	**Las Campanas**	**2.73**	**346**	*e*P	Pn	20 42 28.8	+1.0
LCO				*i* S	Sn	20 43 02.7	+0.5
LCO				AML	AML	20 43 04.0	
	comp=E,274nm,0.3s						
VACH	**Vallenar**	**3.17**	**347**	*i* S	Sn	20 43 11.8	+0.3
VACH				AML	AML	20 43 13.4	
	comp=E,867nm,0.1s						

IDC ***26*** *20:52:12.7±0.5, 6.51N×126.46E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/26, mbtmp4.2/16, Error ellipse: s-maj=27.5km s-min=12.6km az=74.0*
BJI ***26*** *20:52:15.0, 6.40N×126.40E, h26km, mB4.9/5, mb4.3/10*
NEIC ***26*** *20:52:19.1±1.3, 6.48N×126.42E, h46km±12km, mb4.5/19, Error ellipse: s-maj=10.3km s-min=5.6km az=61.0*
NEIC Felt [II PIVS] at Mati.
DJA ***26*** *20:52:19.7±1.1, 6.1N±9.1×12.6E±?, h10km, M4.8/10, mb5.2/10, mB5.3/9, MLv4.9/2, Mw(mB)4.7/9*
AUST ***26*** *20:52:20.2±0.3, 6.55N×126.48E, h60km, Error ellipse: s-maj=1.1km s-min=0.8km az=243.0*
MAN ***26*** *20:52:20, 6.60N×126.25E, h23km, mb5.0, ML4.0, MS4.1*
MAN Intensity II - Mati Davao Oriental.
ISC 26 20:52:17.9±1.0, **6.52N**±0.04×**126.44E**±0.05, **h31**km±6km, **n124**, σ1°**20**/133, **mb4.4**/39, **4C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.02**	**303**	*e*Pg	**Pb**	**20 52 36.6**	**-0.3**
DAV				*e*Sg	**Sb**	**20 52 51.0**	**+1.1**
DMPH	**Davao City--Mi**	**1.08**	**301**	*e*P	**Pb**	**20 52 37.5**	**-0.6**
DMPH				*e*S	**Sb**	**20 52 53.1**	**+1.2**
KCP	**Kidapawan**	**1.43**	**290**	*e*P	**Pn**	**20 52 40.8**	**-1.0**
KCP				*i* S	**Sn**	**20 52 58.7**	**-0.9**
GSPH	**General Santos**	**1.54**	**254**	*i*P	Pn	20 52 39.4	-4.1
GSPH				*i* S	Sn	20 52 56.0	-6.5
BIPH	**Bislig**	**1.66**	**357**	*e*P	**Pb**	**20 52 46.5**	**-1.3**
BIPH				*e*S	**Sb**	**20 53 12.3**	**+4.1**
CTBH	**Cotabato--PC H**	**2.29**	**288**	*e*P	**Pn**	**20 52 53.1**	**-0.5**
CGP	**Cagayan de Oro**	**2.59**	**318**	*i*P	**Pn**	**20 52 59.9**	**+2.2**
CGP				*i* S	**Sn**	**20 53 28.3**	**+0.2**
SGSI	**Sangihe**	**2.96**	**198**	P	**Pn**	**20 53 03.5**	**+0.7**
SGSI				S	**Sn**	**20 53 37.1**	**-0.2**
SCPH	**Surigao**	**3.38**	**344**	*e*P	Pn	20 53 12.7	+4.1
LLP	**Lapu-Lapu**	**4.50**	**327**	*e*P	**Pn**	**20 53 25.4**	**+1.4**
LLP				*e*S	Sn	20 53 54.7	-21
TNTI	**Ternate**	**5.78**	**171**	P	**Pn**	**20 53 44.2**	**+2.5**
	151nm,1.0s,2μm0.5nm						
KMSI	**Cibinong**	**6.40**	**203**	P	**Pn**	**20 53 49.8**	**-0.3**
	226nm,0.7s,3μm						
GTOI	**Gorontalo**	**6.77**	**210**	P	**Pn**	**20 53 53.0**	**-2.3**
	369nm,0.7s,4μm						
LBMI	**Labuha**	**7.19**	**172**	P	**Pn**	**20 54 02.8**	**+1.8**
	70nm,0.7s,956nm						
MRSI	**Marisa**	**7.50**	**217**	P	**Pn**	**20 54 04.0**	**-1.2**
	97nm,0.5s,1μm						
TOLI	**Toli-Toli**	**7.78**	**227**	P	**Pn**	**20 54 07.4**	**-1.7**
	101nm,0.4s,3μm						
PALU	**Palau**	**8.02**	**84**	P	**Pn**	**20 54 11.2**	**-1.2**
	baz=8.0,SNR=5.6						
LUWI	**Luwuk**	**8.36**	**206**	P	**Pn**	**20 54 18.5**	**+1.5**
	176nm,0.7s,2μm						
LUWI	**Luwuk**	**8.36**	**206**	P	**Pn**	**20 54 18.9**	**+1.9**
	baz=8.4,SNR=31						
SWI	**Sorong**	**8.77**	**147**	P	**Pn**	**20 54 25.0**	**+2.3**
	18nm,0.8s						
APSI	**Ampana**	**8.80**	**213**	P	Pn	20 54 26.4	+3.3
	85nm,0.8s,904nm						
NLAI	**Namlea**	**9.72**	**176**	P	**Pn**	**20 54 35.4**	**-0.3**
FAKI	**Fak Fak**	**11.02**	**148**	P	Pn	20 55 00.3	+6.7
	baz=11,SNR=3.2						
TTSI	**Tana Toraja**	**11.57**	**215**	P	Pn	20 55 08.6	+7.4
SBUM	**Sibu**	**14.74**	**255**	P	**P**	**20 55 52.1**	**+2.0**
SOEI	**Soe**	**16.31**	**188**	P	**P**	**20 56 08.2**	**+0.5**
	baz=16,SNR=4.3						
KSM	**Kuching**	**16.85**	**253**	*e*Pn	Pn	20 56 05.5	-6.2
WSI	**Waingapu**	**17.21**	**201**	P	**Pn**	**20 56 16.3**	**+0.1**
	baz=17,SNR=3.4						
JAGI	**Jajag, Banyuwa**	**19.28**	**220**	P	**Pn**	**20 56 45.0**	**+3.4**
	baz=19,SNR=4.8						
MTN	**Manton Dam**	**19.79**	**166**	P	**Pn**	**20 56 47.3**	**-0.3**
	baz=20,SNR=4.7						
KDU	**Kakadu**	**20.00**	**163**	P	Pn	20 56 50.5	+0.4
	baz=20,SNR=11						
QIZ	**Qiongzhong**	**20.39**	**309**	P	Pn	20 56 54.9	+0.3
KNRA	**Kununurra**	**22.17**	**174**	P	**P**	**20 57 10.6**	**-1.0**
	baz=22,SNR=41						
CISI	**Cisompet, Garu**	**23.25**	**233**	P	**P**	**20 57 23.8**	**+0.8**
	baz=23,SNR=3.4						
FITZ	**Fitzroy Crossi**	**24.48**	**182**	P	**P**	**20 57 33.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**24.48**	**182**	P	**P**	**20 57 33.5**	**-1.0**
	7.3nm,0.7s,baz=4.8,slow=9.6,SNR=28						
CBIJ	**Chichi jima**	**25.36**	**34**	P	**P**	**20 57 41.5**	**-0.8**
JCJ	**Chichijima**	**25.36**	**34**	P	**P**	**20 57 41.5**	**-0.8**
	38nm,0.5s,baz=263,slow=20,SNR=5.2						
KULM	**Kulim**	**25.68**	**269**	P	**P**	**20 57 46.6**	**+1.1**
WRAB	**Tennant Creek**	**27.41**	**164**	*e*P	**P**	**20 58 01.2**	**+0.2**
	5.9nm,0.7s						
WRA	**Warramunga Arr**	**27.42**	**164**	P	**P**	**20 57 60.0**	**-1.1**
WRA				PcP	**PcP**	**21 01 19.6**	**0.0**
WRA	**Warramunga Arr**	**27.42**	**164**	P	**P**	**20 57 60.0**	**-1.1**
	1.9nm,0.3s,baz=339,slow=10,SNR=42						
WRA				PcP	**PcP**	**21 01 19.6**	**0.0**
	0.4nm,0.5s,baz=340,slow=2.5,SNR=3.2						
ENH	**Enshi**	**28.50**	**328**	*e*P	**P**	**20 58 12.2**	**+1.5**
	2.1nm,0.4s						
CM31	**Chiang Mai Arr**	**29.30**	**296**	P	**P**	**20 58 18.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**29.30**	**296**	P	**P**	**20 58 17.9**	**0.0**
CMAR	**Chiang Mai Arr**	**29.30**	**296**	P	**P**	**20 58 17.9**	**0.0**
	1.4nm,0.7s,baz=124,slow=7.3,SNR=17						
QIS	**Mount Isa**	**29.86**	**155**	P	**P**	**20 58 23.0**	**+0.2**
	baz=30,SNR=3.2						
AS31	**Alice Springs**	**30.87**	**167**	*e*P	**P**	**20 58 30.9**	**-0.9**
ASAR	**Alice Springs**	**30.88**	**167**	P	**P**	**20 58 30.9**	**-0.9**
ASAR				PcP	**PcP**	**21 01 27.6**	**-0.7**
ASAR	**Alice Springs**	**30.88**	**167**	P	**P**	**20 58 30.9**	**-0.9**
	3.1nm,0.5s,baz=347,slow=6.8,SNR=52						
ASAR				PcP	**PcP**	**21 01 27.6**	**-0.7**
	0.4nm,0.4s,baz=6.2,slow=1.8,SNR=4.1						
WRKA	**Warakurna**	**31.42**	**177**	P	**P**	**20 58 35.7**	**-0.9**
	baz=32,SNR=12						
XAN	**Xi'an**	**31.82**	**332**	P	**P**	**20 58 41.0**	**+0.9**
XAN				pP	**pP**	**20 58 47.5**	**-1.5**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,28nm,5.5s						
CTAO	**Charters Tower**	**32.85**	**144**	*e*P	**P**	**20 58 51.0**	**+1.8**
	3.1nm,0.8s						
MEEK	**Meekatharra**	**33.

MKAR	**Makanchi Array**	**55.12**	**324**	P		**P**	**21 01 46.1**	**-1.3**
	3.3nm,0.5s,baz=118,slow=6.8,SNR=47							
MKAR				PcP		**PcP**	**21 02 49.2**	**+0.7**
	1.0nm,0.7s,baz=105,slow=4.2,SNR=3.7							
TKM2	**Tokmak 2**	**57.49**	**318**	*e*P		**P**	**21 02 04.7**	**+0.1**
	2.3nm,0.9s							
ZALV	**Zalesovo Beam**	**57.99**	**332**	P		**P**	**21 02 06.3**	**-1.2**
ZALV	**Zalesovo Beam**	**57.99**	**332**	P		**P**	**21 02 06.3**	**-1.2**
	0.8nm,0.4s,baz=123,slow=6.3,SNR=6.4							
AAK	**Ala-Archa**	**58.12**	**317**	*e*P		**P**	**21 02 08.8**	**-0.2**
EKS2	**Erkin-Say**	**58.62**	**317**	*e*P		**P**	**21 02 10.5**	**-2.0**
	2.1nm,0.7s							
KURK	**Kurchatov**	**59.26**	**327**	*e*P		**P**	**21 02 16.1**	**-0.4**
	1.7nm,0.6s							
KBL	**Kabul**	**59.63**	**306**	*e*P		**P**	**21 02 19.0**	**-0.7**
	2.3nm,0.6s							
BRVK	**Borovoye**	**64.92**	**326**	*e*P		**P**	**21 02 55.1**	**+0.6**
	3.9nm,0.6s							
AKTO	**Aktyubinsk**	**71.31**	**321**	P		**P**	**21 03 34.5**	**-0.1**
AKTO	**Aktyubinsk**	**71.31**	**321**	P		**P**	**21 03 34.5**	**-0.1**
	2.4nm,0.7s,baz=101,slow=10,SNR=11							
ARU	**Arti**	**72.44**	**327**	*e*P		**P**	**21 03 40.4**	**-0.9**
	3.6nm,0.5s							
HON	**Honolulu**	**74.23**	**70**	P		**P**	**21 03 52.7**	**+0.2**
MCK	**McKinley**	**81.81**	**27**	*e*P		**P**	**21 04 31.8**	**-2.1**
ILAR	**Eielson Array**	**82.72**	**26**	P		**P**	**21 04 37.6**	**-0.9**
ILAR	**Eielson Array**	**82.72**	**26**	P		**P**	**21 04 37.6**	**-0.9**
	0.4nm,0.8s,baz=235,slow=5.5,SNR=5.4							
VNDA	**Vanda**	**86.21**	**173**	P		**P**	**21 04 56.1**	**+0.3**
VNDA	**Vanda**	**86.21**	**173**	P		**P**	**21 04 56.1**	**+0.3**
	1.4nm,0.8s,baz=317,slow=4.2,SNR=6.3							
INK	**Inuvik**	**87.69**	**21**	*e*P		**P**	**21 05 03.6**	**+0.3**
	2.1nm,0.8s							
ARCES	**ARCESS Array B**	**87.75**	**340**	P		**P**	**21 05 03.0**	**-0.6**
ARCES	**ARCESS Array B**	**87.75**	**340**	P		**P**	**21 05 03.0**	**-0.6**
	4.7nm,0.9s,baz=92,slow=5.8,SNR=6.7							
FINES	**FINESS Array B**	**89.25**	**332**	P		**P**	**21 05 10.8**	**0.0**
FINES	**FINESS Array B**	**89.25**	**332**	P		**P**	**21 05 10.8**	**0.0**
	1.8nm,0.6s,baz=52,slow=3.1,SNR=9.6							
NOA	**NORSAR Array B**	**96.17**	**334**	P		**P**	**21 05 42.2**	**-0.7**
NOA	**NORSAR Array B**	**96.17**	**334**	P		**P**	**21 05 42.2**	**-0.7**
	1.5nm,0.9s,baz=63,slow=4.8,SNR=2.8							
YKA	**Yellowknife Ar**	**97.09**	**24**	P		**P**	**21 05 46.4**	**-0.5**
YKA	**Yellowknife Ar**	**97.09**	**24**	P		**P**	**21 05 46.4**	**-0.5**
	0.1nm,0.5s,baz=298,slow=3.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**121.75**	**290**	PKP		**PKPdf**	**21 11 07.8**	**-2.1**
TORD	**Torodi Ar. Bea**	**121.75**	**290**	PKP		**PKPdf**	**21 11 07.8**	**-2.1**
	0.3nm,0.4s,baz=56,slow=1.8,SNR=5.8							

*ISK **26** 21:05:13.3,34°.65N×30°.78E,h11km,MD3.8*
*CSEM **26** 21:05:16.5±0.1,34°.78N×30°.84E,h10km,ML3.3,Error ellipse: s-maj=3.5km s-min=3.2km az=77.0*
*DDA **26** 21:05:18.2,35°.17N×30°.81E,h14km,MD3.2*
*NIC **26** 21:05:19.3±0.3,34°.95N×30°.86E,h46km,ML3.3*
*HLW **26** 21:05:20.8,34°.60N×30°.79E,h33km±30km,Md0.0,Ml3.1*

ISC 26 21:05:15.9±1.5,**34°.77N**±0°.04×**30°.81E**±0°.03,**h13**km±12km, **n106,σ1s52/129,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**1.27**	**85**	P	**Pg**	**21 05 40.1**	**-0.2**
	baz=273						
PPCY	**Paphos**	**1.27**	**85**	P	**Pg**	**21 05 40.1**	**-0.2**
AKMC	**Akamas**	**1.28**	**78**	P	**Pg**	**21 05 40.0**	**-0.5**
	baz=266						
AKMC	**Akamas**	**1.28**	**78**	P	**Pg**	**21 05 40.0**	**-0.5**
ALFC	**Alevga**	**1.52**	**75**	*i* P	**Pn**	**21 05 43.2**	**+0.4**
	baz=262						
ALFC				S	**Sn**	**21 06 01.9**	**-0.6**
ALFC	**Alevga**	**1.52**	**75**	*i* P	**Pn**	**21 05 43.2**	**+0.4**
ALFC				S	**Sn**	**21 06 01.9**	**-0.6**
SZAC	**Souni-Zanaja**	**1.71**	**90**	P	**Pb**	**21 05 46.6**	**-0.6**
	baz=277						
SZAC				S	**Sb**	**21 06 07.9**	**-0.7**
SZAC	**Souni-Zanaja**	**1.71**	**90**	P	**Pb**	**21 05 46.6**	**-0.6**
SZAC				S	**Sb**	**21 06 07.9**	**-0.7**
LEF	**Lefka**	**1.75**	**78**	*e*PN	**Pn**	**21 05 44.7**	**-1.2**
LEF				*e*SN	**Sn**	**21 06 07.3**	**-0.7**
LEF	**Lefka**	**1.75**	**78**	*e*Pn	**Pn**	**21 05 44.7**	**-1.2**
LEF				*e*Sn	**Sn**	**21 06 07.3**	**-0.7**
AKDN	**Akdeniz- K¯–br**	**1.85**	**73**	*e*PN	**Pn**	**21 05 46.6**	**-0.7**
AKDN	**Akdeniz- K¯–br**	**1.85**	**73**	*e*Pn	**Pn**	**21 05 46.6**	**-0.7**
GAZI	**Gazipasa**	**1.91**	**40**	*i* P	**Pn**	**21 05 48.2**	**+0.1**
GAZI				*i* S	**Sn**	**21 06 09.9**	**-2.2**
GAZI	**Gazipasa**	**1.91**	**40**	*i* P	**Pn**	**21 05 48.2**	**+0.1**
GAZI				*i* S	**Sn**	**21 06 09.9**	**-2.2**
MAMC	**Mammari**	**2.02**	**78**	P	**Pn**	**21 05 50.7**	**+1.1**
	baz=264						
MAMC	**Mammari**	**2.02**	**78**	P	**Pn**	**21 05 50.7**	**+1.1**
CSS	**Prodhromos**	**2.08**	**84**	*e*PN	**Pn**	**21 05 50.0**	**-0.5**
CSS				*e*SN	**Sn**	**21 06 16.3**	**0.0**
CSS	**Prodhromos**	**2.08**	**84**	P	**Pn**	**21 05 50.9**	**+0.4**
	baz=270						
CSS	**Prodhromos**	**2.08**	**84**	*e*Pn	**Pn**	**21 05 50.0**	**-0.5**
CSS	**Prodhromos**	**2.08**	**84**	P	**Pn**	**21 05 50.9**	**+0.4**
CSS				*e*Sn	**Sn**	**21 06 16.3**	**0.0**
ELL	**Elmali**	**2.10**	**340**	*e*PN	**Pn**	**21 05 51.1**	**+0.2**
ELL				*e*SN	**Sn**	**21 06 18.3**	**+1.3**
ELL	**Elmali**	**2.10**	**340**	*e*Pn	**Pn**	**21 05 51.1**	**+0.2**
ELL				*e*Sn	**Sn**	**21 06 18.3**	**+1.3**
ANTB	**Antalya**	**2.13**	**357**	*e*PN	**Pn**	**21 05 51.8**	**+0.7**
ANTB	**Antalya**	**2.13**	**357**	*e*Pn	**Pn**	**21 05 51.8**	**+0.7**
LFK	**Lefkose**	**2.29**	**76**	*e*PN	**Pn**	**21 05 52.7**	**-0.8**
LFK	**Lefkose**	**2.29**	**76**	*e*Pn	**Pn**	**21 05 52.7**	**-0.8**
ERMK	**Ermenek**	**2.53**	**42**	*i* P	**Pn**	**21 05 59.0**	**+2.1**
ERMK				*i* S	**Sn**	**21 06 29.0**	**+1.3**
ERMK	**Ermenek**	**2.53**	**42**	*i* P	**Pn**	**21 05 59.0**	**+2.1**
ERMK				*i* S	**Sn**	**21 06 29.0**	**+1.3**
GOLH	**Golhisar**	**2.66**	**338**	*e*P	**Pn**	**21 06 01.3**	**+2.8**
GOLH	**Golhisar**	**2.66**	**338**	*e*P	**Pn**	**21 06 01.3**	**+2.8**
BCK	**Bucak**	**2.69**	**356**	*e*PN	**Pn**	**21 05 59.5**	**+0.6**
BCK	**Bucak**	**2.69**	**356**	*e*Pn	**Pn**	**21 05 59.5**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.70**	**3**	*e*PN	**Pn**	**21 05 59.8**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.70**	**3**	*e*Pn	**Pn**	**21 05 59.8**	**+0.7**
TURN	**Turunc**	**2.76**	**320**	*e*P	**Pb**	**21 06 03.1**	**-1.9**
TURN	**Turunc**	**2.76**	**320**	*e*P	**Pb**	**21 06 03.1**	**-1.9**
IKL	**Isikli**	**2.77**	**57**	*e*PN	**Pn**	**21 06 00.1**	**+0.1**
IKL	**Isikli**	**2.77**	**57**	*e*Pn	**Pn**	**21 06 00.0**	**+0.1**
KIZK	**Mersin**	**3.21**	**57**	*i* P	**Pn**	**21 06 07.8**	**+1.8**
KIZK				*i* S	**Sn**	**21 06 45.7**	**+1.6**
KIZK	**Mersin**	**3.21**	**57**	*i* P	**Pn**	**21 06 07.8**	**+1.8**
KIZK				*i* S	**Sn**	**21 06 45.7**	**+1.6**
KONT	**Konya--Tatoy**	**3.41**	**21**	*e*PN	**Pn**	**21 06 09.6**	**+0.9**
KONT	**Konya--Tatoy**	**3.41**	**21**	*e*Pn	**Pn**	**21 06 09.6**	**+0.9**
BDRM	**Kayabasi**	**3.56**	**311**	*i* P	**Pn**	**21 06 12.2**	**+1.3**
BDRM				*i* S	**Sn**	**21 06 50.0**	**-2.8**
BDRM	**Kayabasi**	**3.56**	**311**	*i* P	**Pn**	**21 06 12.2**	**+1.3**
BDRM				*i* S	**Sn**	**21 06 50.0**	**-2.8**
BODT	**Bodrum**	**3.64**	**310**	*e*PN	**Pn**	**21 06 11.9**	**-0.1**
BODT	**Bodrum**	**3.64**	**310**	*e*Pn	**Pn**	**21 06 11.9**	**-0.1**
LADK	**Ladik-KONYA**	**3.64**	**20**	*e*PN	**Pn**	**21 06 13.2**	**+1.2**
LADK	**Ladik-KONYA**	**3.64**	**20**	*e*Pn	**Pn**	**21 06 13.3**	**+1.2**
MERS	**Mersin**	**3.67**	**54**	*e*PN	**Pn**	**21 06 12.9**	**+0.5**
MERS	**Mersin**	**3.67**	**54**	*e*Pn	**Pn**	**21 06 13.0**	**+0.5**
AYDN	**Tasoluk**	**3.73**	**321**	*i* P	**Pn**	**21 06 13.2**	**0.0**
AYDN	**Tasoluk**	**3.73**	**321**	*i* P	**Pn**	**21 06 13.2**	**0.0**
KHAL	**Karahalli**	**3.74**	**344**	*i* P	**Pn**	**21 06 14.5**	**+1.0**
KHAL				*i* S	**Sn**	**21 06 54.7**	**-2.7**
KHAL	**Karahalli**	**3.74**	**344**	*i* P	**Pn**	**21 06 14.5**	**+1.0**
KHAL				*i* S	**Sn**	**21 06 54.7**	**-2.7**
SHUT	**Suhut-Afyon**	**3.78**	**357**	*e*PN	**Pn**	**21 06 15.1**	**+1.1**
SHUT	**Suhut-Afyon**	**3.78**	**357**	*e*Pn	**Pn**	**21 06 15.1**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.95**	**324**	*e*PN	**Pn**	**21 06 16.9**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**3.95**	**324**	*e*Pn	**Pn**	**21 06 16.9**	**+0.7**
GULE	**Gulek**	**4.08**	**51**	*i* P	**Pn**	**21 06 20.6**	**+2.5**
GULE				*i* S	**Sn**	**21 07 08.8**	**+3.0**
GULE	**Gulek**	**4.08**	**51**	*i* P	**Pn**	**21 06 20.6**	**+2.5**
GULE				*i* S	**Sn**	**21 07 08.8**	**+3.0**
GCAM	**G?zelcaml?**	**4.11**	**316**	*i* P	**Pn**	**21 06 19.2**	**+0.9**
GCAM				*i* S	**Sn**	**21 07 02.8**	**-3.4**
GCAM	**G?zelcaml?**	**4.11**	**316**	*i* P	**Pn**	**21 06 19.2**	**+0.9**
GCAM				*i* S	**Sn**	**21 07 02.8**	**-3.4**
KULA	**Kula-Manisa**	**4.11**	**336**	*e*PN	**Pn**	**21 06 18.7**	**+0.2**
KULA	**Kula-Manisa**	**4.11**	**336**	*e*Pn	**Pn**	**21 06 18.7**	**+0.2**
KIZT	**Kizilcal**	**4.19**	**12**	*e*PN	**Pn**	**21 06 21.1**	**+1.6**
KIZT	**Kizilcal**	**4.19**	**12**	*e*Pn	**Pn**	**21 06 21.2**	**+1.6**
KARA	**Karaisali**	**4.25**	**53**	*e*PN	**Pn**	**21 06 21.2**	**+0.9**
KARA	**Karaisali**	**4.25**	**53**	*e*Pn	**Pn**	**21 06 21.2**	**+0.9**
ARNB	**Al Arnab**	**4.36**	**74**	*e*P	**Sn**	**21 07 09.7**	**-3.0**
RSH		**4.52**	**146**	P	**Pn**	**21 06 25.1**	**+1.0**
	baz=145						
RSH		**4.52**	**146**	P	**Pn**	**21 06 25.1**	**+1.0**
BIDA	**Albida**	**4.54**	**85**	*e*P	**Sn**	**21 07 13.2**	**-3.9**
MATC	**Matruh**	**4.55**	**222**	P	**Pn**	**21 06 26.0**	**+1.6**
	baz=224						
MATC	**Matruh**	**4.55**	**222**	P	**Pn**	**21 06 26.0**	**+1.6**
AMAG	**Maghara**	**4.59**	**153**	P	**Pn**	**21 06 25.9**	**+0.9**
	baz=152						
AMAG	**Maghara**	**4.59**	**153**	P	**Pn**	**21 06 25.9**	**+0.9**
WRDH	**Warideh**	**4.65**	**79**	*e*P	**Sn**	**21 07 15.7**	**-4.1**
TAHT	**Tahtakopru-Hat**	**4.67**	**68**	*e*PN	**Pn**	**21 06 26.7**	**+0.7**
TAHT	**Tahtakopru-Hat**	**4.67**	**68**	*e*Pn	**Pn**	**21 06 26.7**	**+0.7**
BTCH	**Batrach**	**4.79**	**73**	*e*P	**Sn**	**21 07 22.0**	**-1.1**
TCHB	**Talchebab**	**4.79**	**115**	*e*P	**Sn**	**21 07 18.0**	**-5.0**
TVSB	**Tavsanli**	**4.79**	**347**	*e*PN	**Pn**	**21 06 28.4**	**+0.6**
TVSB	**Tavsanli**	**4.79**	**347**	*e*Pn	**Pn**	**21 06 28.4**	**+0.6**
HMAT	**Matruh**	**4.81**	**221**	AMP		21 07 00.0	
	comp=E,20μm,0.2s,logA/T=5.0,baz=223						
TOTH	**TOTAH**	**4.87**	**105**	*e*P	**Sn**	**21 07 24.1**	**-1.2**
KOZT	**Kozan**	**4.88**	**55**	*e*PN	**Pn**	**21 06 29.8**	**+0.8**
KOZT	**Kozan**	**4.88**	**55**	*e*Pn	**Pn**	**21 06 29.8**	**+0.8**
HMYD	**Mayadein**	**4.96**	**180**	P	**Pn**	**21 06 31.4**	**+1.3**
	baz=179						
HMYD	**Mayadein**	**4.96**	**180**	P	**Pn**	**21 06 31.4**	**+1.3**
HSAF	**As Saff**	**5.18**	**173**	P	**Pn**	**21 06 34.2**	**+1.1**
	baz=172						
HSAF	**As Saff**	**5.18**	**173**	P	**Pn**	**21 06 34.2**	**+1.1**
SUZ		**5.21**	**160**	P	**Pn**	**21 06 34.8**	**+1.3**
	baz=159						
SUZ		**5.21**	**160**	P	**Pn**	**21 06 34.8**	**+1.3**
GLL	**Jalalah**	**5.24**	**171**	P	**Pn**	**21 06 34.4**	**+0.5**
	baz=170						
GLL	**Jalalah**	**5.24**	**171**	P	**Pn**	**21 06 34.4**	**+0.5**
SALA	**Sala**	**5.35**	**111**	*e*P	**Sn**	**21 07 38.1**	**+1.0**
HNKL	**Nakhl**	**5.53**	**150**	P	**Pn**	**21 06 38.7**	**+0.8**
	baz=149						
HNKL	**Nakhl**	**5.53**	**150**	P	**Pn**	**21 06 38.7**	**+0.8**
SLUM		**5.72**	**237**	P	**Pn**	**21 06 42.4**	**+1.9**
	baz=239						
SLUM		**5.72**	**237**	P	**Pn**	**21 06 42.4**	**+1.9**
HKAT	**Jabal Katrina**	**6.80**	**156**	P	**Pn**	**21 06 56.2**	**+0.7**
	baz=154						
HKAT	**Jabal Katrina**	**6.80**	**156**	P	**Pn**	**21 06 56.2**	**+0.7**
SWA2		**7.14**	**221**	P	**Pn**	**21 07 01.2**	**+1.2**
	baz=222						
SWA2		**7.14**	**221**	P	**Pn**	**21 07 01.2**	**+1.2**
HHRG	**Al Ghardaqah**	**7.89**	**162**	P	**Pn**	**21 07 11.9**	**+1.5**
	baz=161						
HHRG	**Al Ghardaqah**	**7.89**	**162**	P	**Pn**	**21 07 11.9**	**+1.5**

IDC 26 21:06:19.5±1.7,**15°.72S**×**175°.13W**,**h0km**,**mb3.6**/6, **mb1 3.9**/6,**mb1mx3.7**/18,**mbtmp3.6**/6,**MS3.9**/3,**Ms1 3.9**/3, **ms1mx3.4**/34,**Error ellipse: s-maj=102.4km s-min=23.3km az=147.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.71**	**61**	LR	LR	21 08 41.2	
	comp=Z,16nm,28.6s,baz=235,slow=38						
DZM	**Mont Dzumac**	**18.54**	**247**	*e*LR	LR	21 15 07.4	
	922nm,25.9s						
DZM	**Mont Dzumac**	**18.54**	**247**	LR	LR	21 16 46.0	
	comp=Z,443nm,20.5s,baz=42,slow=34						
PAE	**Paea**	**24.54**	**98**	*e*T	T	21 36 06.6	
	2.7nm,0.3s						
PPT2	**Papeete2**	**24.55**	**98**	*e*LQ	LQ	21 16 20.4	
	452nm,23.8s						
PPT2				*e*LR	LR	21 17 19.6	
	400nm,26.5s						
PPT2	**Papeete2**	**24.55**	**98**	*e*T	T	21 36 07.5	
	5.7nm,0.4s						
TIAR	**Tiarei**	**24.77**	**98**	*e*T	T	21 36 23.0	
	3.0nm,0.3s						
HNR	**Honiara**	**25.10**	**281**	LR	LR	21 20 16.5	
	comp=Z,16nm,28.6s,baz=128,slow=33						
TBI	**Tubuai**	**25.33**	**111**	*e*LQ	LQ	21 16 26.6	
	522nm,28.5s						
TBI				*e*LR	LR	21 17 47.1	
	317nm,27.2s						
TBI	**Tubuai**	**25.33**	**111**	*e*T	T	21 37 17.0	
	10nm,0.3s						
VAH	**Vaihoa**	**26.50**	**93**	*e*T	T	21 38 28.8	
	9.7nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.41**	**332**	T	T	21 54 44.3	
	baz=153,slow=76,SNR=124						
H11S3	**WAKE ISLAND Hy**	**38.42**	**332**	T	T	21 54 44.6	
	baz=153,slow=76,SNR=52						
H11S1	**WAKE ISLAND Hy**	**38.43**	**332**	T	T	21 54 44.4	
	baz=153,slow=76,SNR=60						
RKT	**Rikitea**	**38.48**	**107**	*e*T	T	21 53 39.2	
	3.2nm,0.3s						
H11N3	**WAKE ISLAND Hy**	**39.40**	**333**	T	T	21 55 56.4	
	baz=153,slow=77,SNR=154						
H11N1	**WAKE ISLAND Hy**	**39.40**	**333**	T	T	21 55 56.7	
	baz=153,slow=77,SNR=273						
H11N2	**WAKE ISLAND Hy**	**39.41**	**333**	T	T	21 55 57.4	
	baz=153,slow=77,SNR=193						
STKA	**Stephens Creek**	**42.44**	**240**	P	P	21 14 16.1	-0.2
	2.0nm,0.9s,baz=90,slow=7.1,SNR=2.5						
WRA	**Warramunga Arr**	**48.15**	**257**	P	P	21 15 01.9	0.0
	0.2nm,0.7s,baz=96,slow=7.0,SNR=3.6						
ASAR	**Alice Springs**	**48.43**	**252**	P	P	21 15 03.6	-0.5
	0.8nm,0.7s,baz=86,slow=7.7,SNR=13						
TXAR	**Lajitas Array**	**82.17**	**57**	P	P	21 18 43.2	+0.3
	0.3nm,0.8s,baz=216,slow=4.5,SNR=4.4						
ILAR	**Eielson Array**	**83.09**	**12**	P	P	21 18 46.1	-0.6
	0.3nm,0.9s,baz=227,slow=5.4,SNR=3.1						
PDAR	**Pinedale Array**	**83.62**	**42**	P	P	21 18 49.9	-0.4
	0.9nm,0.9s,baz=152,slow=2.7,SNR=4.8						
BRTR	**Keskin Array B**	**145.33**	**319**	PKPbc	PKPbc	21 25 59.7	0.0
	0.7nm,0.9s,baz=147,slow=2.0,SNR=3.7						
GERES	**GERESS Array B**	**146.18**	**350**	PKPbc	PKPbc	21 26 01.9	-0.1
	0.4nm,0.9s,baz=58,slow=2.4,SNR=3.5						

IDC 26 21:21:52.2±4.2,**6°.69N**×**73°.11W**,**h173km**±33km,**mb2.9**/3, **mb1 3.4**/4,**mb1mx3.0**/21,**mbtmp3.0**/4,**Error ellipse: s-maj=76.9km s-min=34.5km az=84.0,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.19**	**214**	P	Pn	21 22 31.9	+0.5
	21nm,0.3s,baz=88,slow=17,SNR=70						
ROSC				S	Sn	21 23 02.1	+0.2
	103nm,0.3s,baz=74,slow=20,SNR=11						
TXAR	**Lajitas Array**	**36.56**	**312**	P	P	21 28 42.0	+0.4
	0.1nm,0.4s,baz=131,slow=10,SNR=4.1						
PDAR	**Pinedale Array**	**48.19**	**324**	P	P	21 30 15.2	-0.2
	0.6nm,1.0s,baz=115,slow=6.1,SNR=2.9						
YKA	**Yellowknife Ar**	**63.39**	**340**	P	P	21 32 02.6	-0.2
	0.4nm,0.5s,baz=134,slow=6.7,SNR=22						
WRA	**Warramunga Arr**	**150.28**	**241**	PKPbc	PKPbc	21 41 23.6	-0.3
	0.1nm,0.4s,baz=106,slow=2.9,SNR=5.4						

*AUST **26** 21:23:13.1,16°.24S×174°.96W,h10km*
*ISCJB **26** 21:23:24.7±0.2,17°.36S±0°.06×176°.93W±0°.05,h10km, mb4.7/57,MS5.2/157,Error ellipse: s-maj=9.4km s-min=5.5km az=149.9*
*IDC **26** 21:23:24.4±0.6,17°.30S×176°.90W,h0km,mb4.3/18, mb1 4.4/19,mb1mx4.4/24,mbtmp4.3/19,ML1.8/1,MS5.0/28, Ms1 5.0/28,ms1mx5.0/34,Error ellipse: s-maj=22.4km s-min=14.2km az=140.0*
*NEIC **26** 21:23:27.3±0.2,17°.30S×176°.94W,h17km,mb4.9/33, MS5.3/121,MW5.5,Error ellipse: s-maj=8.0km s-min=4.2km az=139.0,Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁷Nm; Mrr0.44; Mθθ-2.10; Mφφ 1.66; Mrθ0.33; Mθφ 0.67; Mφr0.26; Best double couple: M₀2.10000×10¹⁷ NP1:φs324.00000°,δ77.00000°, λ175.00000°. NP2:φs55.00000°,δ85.00000°,λ13.00000°. Principal axes: T 1.8500, Plg12.0000°, Azm280.0000°; N 0.4000, Plg75.0000°, Azm74.0000°; P -2.2500, Plg6.0000°, Azm189.0000°;*
*BJI **26** 21:23:29.7,17°.40S×176°.90W,h40km,mB5.4/16, mb4.9/22,Ms5.3/18,Ms7 5.0/17*
*GCMT **26** 21:23:31.7±0.1,17°.28S×176°.69W,h18km,MW5.6, Moment Tensor Solution. s93,c166; s56,c62; Moment tensor: Scale 10¹⁷Nm; Mrr-0.14±.03; Mθθ-2.47±.03; Mφφ2.60±.03; Mrθ0.08±.08; Mθφ 1.28±.03; Mφr0.56±.08; Best double couple: M₀2.90000×10¹⁷ NP1:φs328.00000°, δ84.00000°,λ172.00000°. NP2:φs59.00000°,δ82.00000°, λ6.00000°. Principal axes: T 3.0000, Plg10.0000°, Azm283.0000°; N -0.2300, Plg80.0000°, Azm110.0000°; P -2.7800, Plg1.0000°, Azm14.0000°; Data Used: II IU CU CN IC G. Surface waves: sta=123, comp=244, per= 50.*
*MOS **26** 21:23:32.1±1.1,16°.26S×176°.98W,h33km,mb5.1/12, MS5.2/12 Error ellipse: s-maj=19.8km s-min=12.4km az=51.6*

ISC 26 21:23:26.2±0.4,**17°.28S**±0°.08×**176°.86W**±0°.06,**h10**km, **n336,σ1s51/221,mb4.8/57,MS5.2/127,22C-7D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.94**	**56**	Pn	**Pn**	**21 24 54.2**	**-0.1**
AFI	**Afiamalu**	**5.94**	**56**	Pn	**Pn**	**21 24 54.2**	**-0.1**
	1.5nm,0.3s,baz=243,slow=18,SNR=2.3						
AFI				LR	LR	21 26 16.8	
	comp=Z,4μm,18.8s,baz=70,slow=29						
RAO	**Raoul Island**	**11.96**	**184**	LR	LR	21 30 12.7	
	comp=Z,18μm,20.4s,baz=26,slow=34						
DZM	**Mont Dzumac**	**16.43**	**250**	*e*P	**P**	**21 27 22.7**	**+2.9**
	101nm,1.3s						
DZM				*e*LR	LR	21 30 53.2	
	10μm,24.6s						
DZM	**Mont Dzumac**	**16.43**	**250**	LR	LR	21 32 18.6	
	comp=Z,7μm,20.0s,baz=77,slow=33						
RAR	**Rarotonga**	**16.60**	**106**	LR	LR	21 32 10.8	
	comp=Z,6μm,21.6s,baz=225,slow=32						
OUZ	**Omahuta**	**19.79**	**204**	*e*P	**P**	**21 27 56.9**	**+0.1**
	334nm,2.4s						
URZ	**Urewera**	**21.56**	**193**	*e*P	**P**	**21 28 15.1**	**-0.8**
	30nm,1.0s						
URZ	**Urewera**	**21.56**	**193**	P	**P**	**21 28 14.5**	**-1.4**
	26nm,0.9s,baz=26,slow=9.6,SNR=8.7						
URZ				LR	LR	21 35 23.0	
	comp=Z,12μm,21.0s,baz=44,slow=33						
BKZ	**Black Stump Fm**	**22.57**	**194**	*e*P	**P**	**21 28 26.3**	**-0.4**
	67nm,1.8s						
HNR	**Honiara**	**23.85**	**286**	LR	LR	21 36 34.0	
	comp=Z,7μm,19.7s,baz=120,slow=33						
BFZ	**Birch Farm**	**24.07**	**193**	*e*P	**P**	**21 28 40.7**	**-1.1**
PPT2	**Papeete2**	**26.03**	**95**	*e*LQ	LQ	21 34 11.2	
	5μm,26.8s						
PPT2				*e*LR	LR	21 35 24.3	
	14μm,27.0s,baz=260						
PPT	**Papeete**	**26.03**	**95**	LR	LR	21 36 38.4	
	comp=Z,3μm,19.6s,baz=266,slow=30						
TBI	**Tubuai**	**26.37**	**108**	*e*S	**S**	**21 33 35.2**	**-1.0**
	1μm,26.7s						
TBI				*e*LR	LR	21 35 40.3	
	15μm,28.8s,baz=281						
RMQ	**Roma**	**33.11**	**248**	P	**P**	**21 30 05.7**	**+3.0**
	baz=35,SNR=3.8						
CTA	**Charters Tower**	**35.01**	**260**	P	**P**	**21 30 18.7**	**-0.5**
CTA	**Charters Tower**	**35.01**	**260**	P	**P**	**21 30 18.7**	**-0.5**
	6.7nm,0.8s,baz=92,slow=13,SNR=12						
CTAO	**Charters Tower**	**35.01**	**260**	*e*P	**P**	**21 30 19.7**	**+0.5**
	27nm,1.3s						
CTAO				LR	LR		
	comp=Z,5μm,20.0s						
CAN	**Canberra**	**35.26**	**233**	PFAKE		21 30 30.0	+8.8
CAN				LR	LR		
	comp=Z,2μm,22.0s						
PMG	**Port Moresby**	**35.82**	**278**	LR	LR	21 42 44.2	
	comp=Z,2μm,20.2s,baz=84,slow=32						
QLP	**Quilpie**	**37.13**	**249**	P	**P**	**21 30 37.0**	**-0.3**
	baz=39,SNR=4.3						
COEN	**Coen**	**38.58**	**269**	P	**P**	**21 30 51.7**	**+2.0**

QSPA LR LR
comp=Z,643nm,20.0s
PET Petropavlovsk 73.14 345 *eP* P 21 35 04.6 +7.9
PET pmax pmax
comp=Z,200nm,5.7s
PET MLR MLR
comp=Z,500nm,15.0s
PET Petropavlovsk 73.14 345 PFAKE 21 35 10.0 +13
PET LR LR
comp=Z,849nm,21.0s
YHNB Yeheng 73.22 303 PFAKE 21 35 10.0 +12
YHNB LR LR
comp=Z,1μm,20.0s
PETK Petropavlovsk- 73.46 344 P **P 21 34 58.0 -0.7**
PETK Petropavlovsk- 73.46 344 P **P 21 34 58.0 -0.7**
comp=Z,6.0nm,0.9s,baz=133,slow=8.5,SNR=6.9
PETK LR LR 22 04 42.6
comp=Z,590nm,18.1s,baz=153,slow=34
KSM Kuching 74.07 277 PFAKE 21 35 10.0 +6.9
KSM LR LR
comp=Z,278nm,20.0s
KSRS Korea Array 75.22 317 LR LR 22 08 26.5
comp=Z,362nm,18.4s,baz=118,slow=36
INCN Inchon 76.08 317 PFAKE 21 35 30.0 +16
INCN LR LR
comp=Z,487nm,19.0s
ISA Isabella 76.32 46 *eP* **P 21 35 16.4 +0.7**
comp=Z,13nm,1.4s
CMB Columbia Colle 76.38 43 *eP* **P 21 35 16.2 +0.3**
comp=Z,9.8nm,1.4s
PFO Pinyon Flat Ob 76.64 48 LR LR 22 04 16.7
comp=Z,2μm,18.2s,baz=95,slow=32
LPIG La Paz 76.85 59 LR LR 22 02 15.1
comp=Z,564nm,19.0s,baz=221,slow=30
USRK Ussuriysk Arra 76.94 325 LR LR 22 05 30.8
comp=Z,505nm,18.8s,baz=309,slow=33
YBH Yreka Blue Hor 77.11 38 P **P 21 35 20.4 +0.4**
YBH Yreka Blue Hor 77.11 38 P **P 21 35 20.4 +0.4**
comp=Z,3.6nm,1.0s,baz=169,slow=5.2,SNR=3.0
YBH LR LR 22 01 07.4
comp=Z,2μm,21.1s,baz=233,slow=29
GSC Goldstone 77.28 47 *eP* **P 21 35 21.4 +0.3**
GSC pmax pmax
comp=Z,6.0nm,1.0s
GSC Goldstone 77.28 47 *eP* **P 21 35 21.4 +0.3**
comp=Z,5.8nm,1.0s
KDAK Kodiak Island 77.45 13 PFAKE 21 35 30.0 +8.6
KDAK LR LR
comp=Z,3μm,21.0s
GLA Glamis 77.53 49 *eP* **P 21 35 21.8 -0.7**
GLA pmax pmax
comp=Z,2.0nm,1.0s
GLA Glamis 77.53 49 *eP* **P 21 35 21.8 -0.7**
comp=Z,2.0nm,1.0s
NV01 Mina Array Sit 77.95 43 *eP* **P 21 35 24.8 -0.2**
NVAR Mina Array Bea 77.95 43 P **P 21 35 25.3 +0.3**
NVAR Mina Array Bea 77.95 43 P **P 21 35 25.3 +0.3**
comp=Z,1.6nm,0.9s,baz=235,slow=8.7,SNR=8.5
TPH Tonopah 78.47 44 *eP* **P 21 35 28.2 +0.3**
TPH pmax pmax
comp=Z,15nm,1.5s
TPH Tonopah 78.47 44 *eP* **P 21 35 28.2 +0.3**
comp=Z,15nm,1.5s
TPNV Topopah Spring 78.53 45 *eP* **P 21 35 28.4 +0.2**
TPNV Topopah Spring 78.53 45 *eP* **P 21 35 28.4 +0.2**
MDJ Mudanjiang 78.53 324 PFAKE 21 35 40.0 +12
MDJ LR LR
comp=Z,613nm,21.0s
NJ2 Nanjing 78.69 309 *eP* **P 21 35 29.0 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SHPR Sheep Range 79.04 46 *eP* **P 21 35 31.2 +0.2**
R11A Troy Canyon, C 79.71 44 *eP* **P 21 35 35.1 +0.5**
comp=Z,4.8nm,1.3s
NLWA Neilton Lookou 79.97 33 PFAKE 21 35 50.0 +14
NLWA LR LR
comp=Z,2μm,19.0s
TUC Tucson 80.15 52 *eP* **P 21 35 38.9 +1.9**
TUC pmax pmax
comp=Z,95nm,2.8s
TUC Tucson 80.15 52 *eP* **P 21 35 38.9 +1.9**
comp=Z,95nm,2.8s
QIZ Qiongzhong 80.55 293 P **P 21 35 39.0 -0.3**
QIZ pP **PcP 21 35 51.0 +4.8**
QIZ PP **PP 21 38 42.5 -0.5**
QIZ S **S 21 45 44.0 -2.7**
QIZ sS **SKKSac 21 46 00.5 +0.2**
QIZ SS **SS 21 50 56.0 -3.5**
QIZ LR LR
comp=Z,380nm,21.3s
QIZ LR LR
comp=Z,860nm,24.9s
QIZ Qiongzhong 80.55 293 PFAKE 21 35 50.0 +11
QIZ LR LR
comp=Z,709nm,22.0s
ARUT Antelope Range 80.88 46 *eP* **P 21 35 41.1 +0.2**
ARUT Antelope Range 80.88 46 *eP* **P 21 35 41.0 +0.2**
BBB Bella Bella 81.07 28 LR LR 22 02 37.1
comp=Z,1μm,21.2s,baz=249,slow=29
WUAZ Wupatki 81.22 49 *eP* **P 21 35 43.0 +0.3**
comp=Z,81nm,2.8s
HAWA Hanford 81.73 36 PFAKE 21 36 00.0 +15
HAWA LR LR
comp=Z,2μm,20.0s
DUG Dugway 82.50 44 PFAKE 21 36 00.0 +11
DUG LR LR
comp=Z,946nm,21.0s
F10A Beach Ranch, E 82.80 37 *eP* **P 21 35 51.1 +0.4**
comp=Z,71nm,2.3s
TNA Tin City 82.86 4 *eP* **P 21 35 50.8 +0.3**
comp=Z,27nm,1.2s
COCO West Island 82.98 259 PFAKE 21 36 00.0 +7.7
COCO LR LR
comp=Z,1μm,20.0s
TRF Throfare Moun 83.09 12 *eP* **P 21 35 53.9 +2.0**
comp=Z,14nm,0.9s
TMUT Trail Mountain 83.14 45 *eP* **P 21 35 54.8 +1.8**
comp=Z,18nm,1.2s
HLID Hailey 83.19 40 *eP* **P 21 35 52.8 -0.2**
comp=Z,9.4nm,1.2s
HLID LR LR
comp=Z,1μm,19.0s
MPU Maple Canyon 83.20 45 *eP* **P 21 35 53.2 +0.1**
comp=Z,11nm,1.2s
HVU Hansel Valley 83.32 43 *eP* **P 21 35 54.2 +0.5**
HVU pmax pmax
comp=Z,10.0nm,1.2s
HVU Hansel Valley 83.32 43 *eP* **P 21 35 54.2 +0.5**
comp=Z,9.9nm,1.2s
SEY Seymchan 83.51 346 P **P 21 35 53.5 -0.4**
SEY Seymchan 83.51 346 P **P 21 35 53.5 -0.4**
SEY Seymchan 83.51 346 P **P 21 35 53.5 -0.4**
comp=Z,4.0nm,0.9s,baz=132,slow=11,SNR=3.8
SRU San Rafael 83.52 46 *eP* **P 21 35 54.8 0.0**
SRU pmax pmax
comp=Z,14nm,1.2s
SRU San Rafael 83.52 46 *eP* **P 21 35 54.8 0.0**
comp=Z,14nm,1.2s
IPM Ipoh 83.81 277 *eP* **P 21 35 55.1 -1.5**
comp=Z,19nm,1.0s
MNTX Cornudas Mount 84.01 54 *eP* **P 21 35 57.5 +0.3**
comp=Z,9.4nm,1.4s
MNTX LR LR
comp=Z,736nm,19.0s
PV05 Paradox Valley 84.03 47 *eP* **P 21 35 58.5 +1.0**
MVCO Mesa Verde 84.06 48 PFAKE 21 36 10.0 +12
MVCO LR LR
comp=Z,2μm,21.0s
NEW Newport 84.14 35 PFAKE 21 36 10.0 +12
NEW LR LR
comp=Z,2μm,19.0s
PV09 Paradox Valley 84.20 47 *eP* **P 21 35 57.6 -0.8**
PV10 Paradox Valley 84.21 47 *eP* **P 21 35 58.9 +0.5**
PV04 Paradox Valley 84.31 47 *eP* **P 21 35 58.7 -0.1**
BJT Baijiatuau 84.38 315 PFAKE 21 36 10.0 +11
BJT LR LR
comp=Z,443nm,20.0s
BJI Beijing 84.38 315 P **P 21 35 59.5 +0.6**
BJI S **S 21 46 22.5 -2.6**
BJI SS **SS 21 51 55.8 +0.1**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI pmax pmax
comp=Z,140nm,5.2s
BJI LR LR
comp=Z,490nm,19.8s
BJI LR LR
comp=Z,420nm,18.8s
BJI LR LR
comp=Z,460nm,28.6s
KULM Kulim 84.41 277 PFAKE 21 36 10.0 +10
KULM LR LR
comp=Z,404nm,19.0s
TX31 Lajitas Ar. Si 84.42 57 *eP* **P 21 36 00.9 +1.5**
TXAR Lajitas Array 84.42 57 P **P 21 35 59.7 +0.3**
TXAR Lajitas Array 84.42 57 P **P 21 35 59.7 +0.3**
comp=Z,0.7nm,1.0s,baz=216,slow=4.5,SNR=4.4
TXAR LR LR 22 04 56.1
comp=Z,484nm,19.4s,baz=120,slow=30
PV01 Paradox Valley 84.43 47 *eP* **P 21 35 59.8 +0.3**
ANMO Albuquerque 84.56 51 *eP* **P 21 36 01.3 +1.1**
comp=Z,16nm,1.4s
ANMO LR LR
comp=Z,1μm,19.0s
COLA College 84.85 12 PFAKE 21 36 10.0 +9.4
COLA LR LR
comp=Z,2μm,20.0s
AHID Auburn Hatcher 84.89 42 PFAKE 21 36 10.0 +8.3
AHID LR LR
comp=Z,786nm,19.0s
MAW Mawson 84.94 199 LR LR 22 11 15.8
comp=Z,2μm,19.4s,baz=103,slow=34
ILAR Eielson Array 84.95 12 P **P 21 36 00.4 -0.8**
ILAR Eielson Array 84.95 12 P **P 21 36 00.4 -0.8**
comp=Z,4.4nm,1.0s,baz=209,slow=5.4,SNR=9.8
ILAR LR LR 22 06 39.9
comp=Z,1μm,21.3s,baz=219,slow=30
IL1 Eielson Array 84.95 12 *eP* **P 21 36 00.1 -1.1**
ENH Enshi 85.15 304 *eP* **P 21 36 02.6 -0.4**
comp=Z,10.0nm,1.3s
REDW Red Top Meadow 85.33 42 *eP* **P 21 36 03.6 -0.3**
comp=Z,19nm,1.4s
IMW Indian Meadow 85.54 41 *eP* **P 21 36 05.7 +0.7**
comp=Z,6.9nm,1.0s
MOOW Moose Ponds 85.59 42 *eP* **P 21 36 07.0 +1.8**
comp=Z,12nm,1.6s
LOHW Long Hollow 85.61 42 *eP* **P 21 36 05.9 +0.6**
comp=Z,9.0nm,1.4s
FLWY Flagg Ranch 85.78 41 *eP* **P 21 36 06.2 +0.1**
comp=Z,14nm,1.3s
BW06 Boulder Array 85.89 43 PFAKE 21 36 20.0 +13
BW06 LR LR
comp=Z,775nm,20.0s
PDAR Pinedale Array 85.89 43 P **P 21 36 06.1 -0.6**
PDAR Pinedale Array 85.89 43 P **P 21 36 06.1 -0.6**
comp=Z,0.7nm,1.0s,baz=205,slow=4.0,SNR=4.5
PDAR LR LR 22 08 31.6
comp=Z,464nm,19.2s,baz=249,slow=32
BOZ Bozeman (W) 85.96 40 *eP* **P 21 36 07.3 +0.4**
BOZ pmax pmax
comp=Z,20nm,1.6s
BOZ MLR MLR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 85.96 40 *eP* **P 21 36 07.3 +0.4**
comp=Z,20nm,1.6s
BOZ LR LR
comp=Z,2μm,19.0s
GYA Guiyang 86.01 299 *eP* **P 21 36 08.0 +0.5**
GYA pP pP 21 36 20.0 +9.1
GYA sP sP 21 36 24.8 +13
GYA PP **PP 21 39 30.5 +2.6**
GYA SKS **SKSac 21 46 27.3 -6.8**
GYA S **SKKSac 21 46 37.5 -3.9**
GYA sS **ScS 21 46 57.0 +5.8**
GYA SS **SS 21 52 18.8 -1.7**
GYA pmax pmax
comp=Z,110nm,5.2s
GYA LR LR
comp=Z,370nm,19.5s
GYA LR LR
comp=Z,260nm,20.4s
GYA LR LR
comp=Z,450nm,19.0s
LKWY Lake 86.20 41 PFAKE 21 36 20.0 +12
LKWY LR LR
comp=Z,854nm,22.0s
EGAK Eagle 86.23 15 PFAKE 21 36 20.0 +12
EGAK LR LR
comp=Z,2μm,21.0s
SDCO Great Sand Dun 86.44 49 PFAKE 21 36 20.0 +10
SDCO LR LR
comp=Z,1μm,20.0s
PAYG Puerto Ayora 86.53 90 PFAKE 21 36 20.0 +10
PAYG LR LR
comp=Z,1μm,22.0s
HIA Hailar 86.72 324 PFAKE 21 36 20.0 +10
HIA LR LR
comp=Z,649nm,21.0s
XAN Xi'an 87.06 307 P **P 21 36 14.5 +2.1**
XAN pP pP 21 36 23.5 +7.8
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN pmax pmax
comp=Z,24nm,4.8s
RLMT Red Lodge 87.17 41 PFAKE 21 36 20.0 +7.1
RLMT LR LR
comp=Z,1μm,22.0s
ISCO Idaho Springs 87.23 47 PFAKE 21 36 20.0 +6.5
ISCO LR LR
comp=Z,830nm,20.0s
HHC Hu-ho-hao-te 87.89 314 *eP* **P 21 36 19.0 +2.6**
HHC sP sP 21 36 39.0 +18
HHC PP PP 21 39 49.0 +6.3
HHC SKS **SKSac 21 46 42.5 -2.5**
HHC S **S 21 46 58.0 -1.7**
HHC sS ScS 21 47 19.0 +13
HHC pmax pmax
comp=Z,32nm,1.2s
HHC pmax pmax
comp=Z,190nm,7.9s
HHC LR LR
comp=Z,780nm,17.6s
HHC LR LR
comp=Z,820nm,18.0s
HHC LR LR
comp=Z,690nm,17.8s
JCT Junction City 87.95 57 PFAKE 21 36 30.0 +13
JCT LR LR
comp=Z,496nm,20.0s
EGMT Eagleton 88.24 38 PFAKE 21 36 30.0 +12
EGMT LR LR
comp=Z,1μm,20.0s
EDM Edmonton 88.83 33 *eP* **P 21 36 20.5 +0.1**
EDM Edmonton 88.83 33 *eP* **P 21 36 20.5 +0.1**
KMI Kunming 88.86 297 P **P 21 36 24.5 +3.0**
KMI pP pP 21 36 35.5 +11
KMI sP sP 21 36 39.8 +14
KMI pmax pmax
comp=Z,6.0nm,1.6s
KMI LR LR
comp=Z,380nm,18.3s
KMI LR LR
comp=Z,530nm,20.5s
KMI LR LR
comp=Z,850nm,20.5s
LAO LASA Array 89.78 41 PFAKE 21 36 40.0 +15
LAO LR LR
comp=Z,977nm,22.0s
CD2 Chengdu 89.97 302 *eP* **P 21 36 26.0 -0.3**
CD2 pP pP 21 36 38.3 +8.6
CD2 sP sP 21 36 43.0 +12
CD2 PP **PP 21 40 01.5 +2.0**
CD2 SKS **SKSac 21 46 51.3 -6.3**
CD2 S **SKKSac 21 47 13.3 +2.5**
CD2 sS sS 21 47 34.0 +8.9
CD2 SS **SS 21 53 15.8 -2.2**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,90nm,9.4s
CD2 LR LR
comp=Z,470nm,16.7s
CD2 LR LR
comp=Z,430nm,25.0s
CD2 LR LR
comp=Z,600nm,21.4s
CM01 Chiang Mai Arr 90.04 289 *eP* **P 21 36 25.3 -1.5**
CMAR Chiang Mai Arr 90.07 289 P **P 21 36 27.3 +0.4**
CMAR Chiang Mai Arr 90.07 289 P **P 21 36 27.3 +0.4**
comp=Z,0.7nm,0.7s,baz=109,slow=2.9,SNR=7.0
CMAR LR LR 22 13 35.2
comp=Z,314nm,21.0s,baz=290,slow=33
CHTO Chiang Mai 90.18 290 PFAKE 21 36 40.0 +13
CHTO LR LR
comp=Z,350nm,21.0s
PAF Port-aux-Franc 91.15 217 PFAKE 21 36 40.0 +8.6
PAF LR LR
comp=Z,2μm,19.0s
DGMT Dagmar 91.77 39 PFAKE 21 36 50.0 +16
DGMT LR LR
comp=Z,2μm,21.0s
NATX Nacogdoches 92.53 58 PFAKE 21 36 50.0 +12
NATX LR LR
comp=Z,3μm,22.0s
YKA Yellowknife Ar 93.15 24 P **P 21 36 39.8 -0.4**
YKA Yellowknife Ar 93.15 24 P **P 21 36 39.8 -0.4**
comp=Z,0.6nm,0.9s,baz=246,slow=4.4,SNR=9.2
KSU1 Kansas State U 93.42 50 PFAKE 21 36 50.0 +8.0
KSU1 LR LR
comp=Z,1μm,20.0s
SONM Songino Array 94.04 319 P **P 21 36 44.4 -0.5**
SONM Songino Array 94.04 319 P **P 21 36 44.4 -0.5**
comp=Z,0.3nm,0.7s,baz=126,slow=5.0,SNR=4.1
SONM LR LR 22 14 31.4
comp=Z,302nm,20.6s,baz=104,slow=33
MIAR Mount Ida 94.27 55 PFAKE 21 37 00.0 +14
MIAR LR LR
comp=Z,653nm,21.0s
JTS JuntasAbangare 94.80 81 PFAKE 21 37 00.0 +11
JTS LR LR
comp=Z,529nm,20.0s
ECSD EROS Data Cent 94.94 46 PFAKE 21 37 00.0 +11
ECSD LR LR
comp=Z,2μm,22.0s
LCO Las Campanas 95.19 122 PFAKE 21 37 00.0 +9.1
LCO LR LR
comp=Z,2μm,22.0s
FFC Flin Flon 95.50 34 PFAKE 21 37 00.0 +8.8
FFC LR LR
comp=Z,1μm,20.0s
GTA Gaotai 95.77 309 *eP* **P 21 36 53.3 +0.3**
GTA pP pP 21 37 06.0 +10
GTA sP sP 21 37 11.8 +14
GTA pmax pmax
comp=Z,2.0nm,1.3s
NNA Nana 95.84 104 PFAKE 21 37 10.0 +16
NNA LR LR
comp=Z,399nm,19.0s
SCIA State Center 96.75 48 PFAKE 21 37 10.0 +13
SCIA LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 96.89 42 PFAKE 21 37 10.0 +12
AGMN LR LR
comp=Z,1μm,19.0s
TLY Talaya 97.04 322 *eP* **P 21 36 55.8 -2.5**
TLY *eS* **SKSac 21 47 34.3 -1.1**
TLY *eSS* **SS 21 54 58.5 +0.4**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,160nm,15.0s
TLY Talaya 97.04 322 PFAKE 21 37 10.0 +12
TLY LR LR
comp=Z,316nm,22.0s
ULM Lac du Bonnet 97.48 40 LR LR 22 13 44.9
comp=Z,1μm,21.2s,baz=74,slow=31
OTAV Otavalo 98.11 92 PFAKE 21 37 20.0 +15
OTAV LR LR
comp=Z,363nm,21.0s
JFWS Jewell Farm 99.14 48 PFAKE 21 37 20.0 +12
JFWS LR LR
comp=Z,2μm,21.0s
LVC Limon Verde 99.16 117 PFAKE 21 37 20.0 +11
LVC LR LR
comp=Z,1μm,20.0s
BCIP Isla Barro Col 99.33 83 PFAKE 21 37 20.0 +11
BCIP LR LR
comp=Z,466nm,22.0s
EYMN Ely 99.59 43 PFAKE 21 37 20.0 +10
EYMN LR LR
comp=Z,971nm,19.0s
LSA Lhasa 100.04 298 PFAKE 21 37 20.0 +7.1
LSA LR LR
comp=Z,341nm,22.0s
COWI Conover 100.70 45 PFAKE 21 37 30.0 +15
COWI LR LR
comp=Z,2μm,20.0s
AAM Ann Arbor 103.75 50 PFAKE 21 37 40.0 +12
AAM LR LR
comp=Z,1μm,20.0s
MTDJ Mount Denham 103.83 75 PFAKE 21 37 40.0 +11
MTDJ LR LR
comp=Z,508nm,20.0s
ACSO Alum Creek Sta 103.85 52 PFAKE 21 37 40.0 +11
ACSO LR LR
comp=Z,1μm,20.0s
WMQ Urumqi 105.62 312 Pdif **Pdif 21 37 38.0 +1.2**
WMQ PP **PP 21 42 03.0 +3.6**
WMQ Urumqi 105.62 312 SKS **SKSdf 21 48 57.0 -5.1**
WMQ Urumqi 105.62 312 SS SS 21 56 55.0 -2.8
WMQ AMB AMB
comp=Z,170nm,9.0s
WMQ LR LR
comp=N,220nm,22.0s
WMQ LR LR
comp=E,230nm,22.0s
WMQ LR LR
comp=Z,240nm,22.0s
GTBY Guantanamo Bay 106.45 74 PFAKE 21 42 00.0
GTBY LR LR
comp=Z,351nm,21.0s
CBN Corbin 107.81 55 PFAKE 21 42 10.0
CBN LR LR
comp=Z,1μm,20.0s
BINY Binghamton 109.36 51 PFAKE 21 42 10.0
BINY LR LR
comp=Z,1μm,19.0s
SAML Samuel 109.48 106 PFAKE 21 42 10.0
SAML LR LR
comp=Z,627nm,19.0s
SDDR Presa de Saban 109.77 76 PFAKE 21 42 10.0
SDDR LR LR
comp=Z,878nm,21.0s
LONY Lake Ozonia 110.59 48 PFAKE 21 42 10.0
LONY LR LR
comp=Z,1μm,20.0s
NCB Newcomb 110.81 49 PFAKE 21 42 10.0
NCB LR LR
comp=Z,1μm,21.0s
KURK Kurchatov 112.34 318 PFAKE 21 42 10.0
KURK LR LR
comp=Z,192nm,19.0s
LBNH Lisbon 112.47 49 PFAKE 21 42 10.0
LBNH LR LR
comp=Z,2μm,19.0s
TKM2 Tokmak 2 114.32 310 PFAKE 21 42 20.0 +13
TKM2 LR LR
comp=Z,315nm,20.0s
PKME Peaks-Kenny Pk 114.38 48 PFAKE 21 42 20.0 +14
PKME LR LR
comp=Z,1μm,20.0s
AAK Ala-Archa 115.13 309 PFAKE 21 42 20.0 +12
AAK LR LR
comp=Z,316nm,22.0s
PTGA Pitinga 115.37 99 PFAKE 21 42 20.0 +11
PTGA LR LR
comp=Z,932nm,20.0s
EKS2 Erkin-Say 115.66 309 PFAKE 21 42 20.0 +11
EKS2 LR LR
comp=Z,270nm,20.0s
BRVK Borovoye 117.34 321 PFAKE 21 42 20.0 +8.1
BRVK LR LR
comp=Z,469nm,22.0s
GRGR Grenville 117.36 85 PFAKE 21 42 20.0 +7.0
GRGR LR LR
comp=Z,251nm,21.0s
ARU Arti 123.14 327 *i* PKIKP **PKPdf 21 42 23.5 +0.6**
ARU 21 44 04.0
ARU 21 49 21.5
ARU SS SS 22 00 37.0 -10
ARU Arti 123.14 327 PFAKE 21 42 30.0 +7.1
ARU LR LR
comp=Z,467nm,20.0s
ABPO Ambohimpanom 123.62 232 PFAKE 21 42 40.0 +15
ABPO LR LR
comp=Z,740nm,20.0s

MSEY	**Mahe Island**	**123.91**	**252**	PFAKE			21 42 40.0	+14
MSEY				LR	LR			
	comp=Z,797nm,20.0s							
KEV	**Kevo**	**125.51**	**350**	PFAKE			21 42 40.0	+13
KEV				LR	LR			
	comp=Z,862nm,22.0s							
LVZ	**Lovozero**	**125.56**	**346**	PFAKE			21 42 40.0	+13
LVZ				LR	LR			
	comp=Z,651nm,21.0s							
SUR	**Sutherland**	**127.80**	**199**	PFAKE			21 42 40.0	+7.0
SUR				LR	LR			
	comp=Z,684nm,22.0s							
OBN	**Obninsk**	**134.41**	**334**	PFAKE			21 43 00.0	+16
OBN				LR	LR			
	comp=Z,579nm,20.0s							
MAK	**Makhachkala**	**134.58**	**314**	*e*PKIKP	PKPdf		21 42 56.5	+11
RCBR	**Riachuelo**	**135.12**	**117**	PFAKE			21 43 00.0	+13
RCBR				LR	LR			
	comp=Z,792nm,20.0s							
KIV	**Kislovodsk**	**137.41**	**317**	*e*PKIKP	**PKPdf**		**21 42 49.7**	**-0.8**
KIV				*e*			21 45 42.6	
KIV				pmax	pmax			
	comp=Z,7.0nm,1.2s							
KIV	**Kislovodsk**	**137.41**	**317**	PFAKE			21 43 00.0	+10
KIV				LR	LR			
	comp=Z,523nm,20.0s							
KONO	**Kongsberg**	**137.43**	**355**	PFAKE			21 43 00.0	+10
KONO				LR	LR			
	comp=Z,477nm,20.0s							
GNI	**Garni**	**137.49**	**311**	PFAKE			21 43 00.0	+9.2
GNI				LR	LR			
	comp=Z,262nm,20.0s							
LSZ	**Lusaka**	**139.29**	**219**	PFAKE			21 43 10.0	+15
LSZ				LR	LR			
	comp=Z,642nm,20.0s							
AKASG	**Malin Array Be**	**140.67**	**334**	*i* PKIKP	**PKPdf**		**21 42 55.0**	**-1.0**
AKASG	**Malin Array Be**	**140.67**	**334**	PKP	**PKPdf**		**21 42 56.4**	**+0.3**
AKASG	**Malin Array Be**	**140.67**	**334**	PKP	**PKPdf**		**21 42 56.4**	**+0.3**
	comp=Z,0.1nm,0.2s,baz=40,slow=4.9,SNR=4.1							
KIEV	**Kiev**	**140.68**	**334**	PFAKE			21 43 10.0	+14
KIEV				LR	LR			
	comp=Z,503nm,20.0s							
ESK	**Eskdalemuir**	**141.72**	**6**	PFAKE			21 43 10.0	+12
ESK				LR	LR			
	comp=Z,383nm,19.0s							
KMBO	**Kilima Mbogo**	**141.73**	**245**	PFAKE			21 43 10.0	+11
KMBO				LR	LR			
	comp=Z,709nm,19.0s							
KWP	**Kalwaria Pacla**	**144.06**	**338**	PFAKE			21 43 10.0	+7.8
KWP				LR	LR			
	comp=Z,997nm,21.0s							
BUR04	**Bucovina Ar. S**	**144.72**	**334**	*e*PKPdf	**PKPab**		**21 43 02.4**	**+0.1**
BURAR	**Bucovina Array**	**144.73**	**334**	⇑PKIKP	**PKPab**		**21 43 03.0**	**+0.8**
BURAR	**Bucovina Array**	**144.73**	**334**	⇑*i*P	**PKPab**		**21 43 03.0**	**+0.8**
STHS	**Stebnicka Huta**	**144.75**	**339**	*e*PKIKP	PKPbc		21 43 03.5	+1.2
STHS	**Stebnicka Huta**	**144.75**	**339**	*e*PKP	PKPbc		21 43 03.5	+1.2
KOLS	**Kolonicke sedl**	**144.80**	**338**	*e*PKIKP	**PKPab**		**21 43 03.0**	**+0.6**
KOLS	**Kolonicke sedl**	**144.80**	**338**	*e*PKP	**PKPab**		**21 43 03.0**	**+0.6**
KSP	**Ksiaz**	**144.90**	**345**	*e*PKIKP	**PKPab**		**21 43 03.4**	**+0.8**
KSP				*e*			21 43 17.5	
CRVS	**Cervenica-Dubn**	**145.11**	**339**	*e*PKIKP	**PKPbc**		**21 43 04.1**	**+0.6**
CRVS	**Cervenica-Dubn**	**145.11**	**339**	*e*PKP	**PKPbc**		**21 43 04.1**	**+0.6**
CLL	**Collm**	**145.15**	**349**	*e*PKIKP	**PKPbc**		**21 43 03.0**	**-0.5**
CLL				*e*			21 43 17.0	
CLL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CLL				MLR	MLR			
	comp=Z,600nm,21.2s							
CLL	**Collm**	**145.15**	**349**	*e*PKPdf	**PKPbc**		**21 43 03.0**	**-0.5**
	comp=Z,4.0nm,0.8s							
CLL				*e*			21 43 17.0	
CLL				*e*SSS	SSS		22 10 48.0	
CLL				LmV			22 45 00.0	
	comp=Z,600nm,21.2s							
UPC	**Upice**	**145.28**	**346**	*e*PKIKP	**PKPbc**		**21 43 04.5**	**+0.6**
UPC				*e*			21 43 15.7	
UPC	**Upice**	**145.28**	**346**	*e*PKP	**PKPbc**		**21 43 04.5**	**+0.6**
UPC				*ex*	x		21 43 15.7	
OKC	**Ostrava-Krasne**	**145.34**	**343**	*e*PKIKP	**PKPbc**		**21 43 03.6**	**-0.5**
OKC				*e*			21 43 12.9	
OKC				MLR	MLR			
	comp=Z,600nm,26.8s							
OKC	**Ostrava-Krasne**	**145.34**	**343**	*e*PKP	**PKPbc**		**21 43 03.6**	**-0.5**
OKC				*ep*PKP	**PKiKP**		**21 43 12.9**	**+4.6**
OKC				AMS	AMS		22 44 50.0	
	comp=Z,600nm,26.8s							
DPC	**Dobruska-Polom**	**145.35**	**345**	*e*PKIKP	**PKPbc**		**21 43 04.5**	**+0.3**
DPC	**Dobruska-Polom**	**145.35**	**345**	*e*PKP	**PKPbc**		**21 43 04.8**	**+0.6**
DPC				AMS	AMS		22 39 10.0	
DPC	**Dobruska-Polom**	**145.35**	**345**	*e*PKPdf	**PKPdf**		**21 43 04.5**	**+0.3**
BRTR	**Keskin Array B**	**145.37**	**316**	PKPbc	**PKPbc**		**21 43 04.2**	**-0.6**
BRTR	**Keskin Array B**	**145.37**	**316**	PKPbc	**PKPbc**		**21 43 04.2**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=74,slow=2.2,SNR=14							
VRI	**Vrincioaia**	**145.38**	**331**	⇓PKIKP	**PKPbc**		**21 43 05.2**	**+0.8**
VRI	**Vrincioaia**	**145.38**	**331**	⇓*i*P	**PKPbc**		**21 43 05.2**	**+0.8**
BRG	**Berggiesshubel**	**145.39**	**348**	*e*PKP	PKPab		21 43 12.8	+8.4
	comp=Z,26nm,1.9s							
BRG				*e*			21 43 18.4	
	comp=Z,8.8nm,1.1s							
BRG								
	comp=Z,690nm,25.9s							
BRG								
	comp=N,604nm,22.7s							
BRG								
	comp=E,523nm,22.7s							
BRG	**Berggiesshubel**	**145.39**	**348**	*e*PKIKP	PKPab		21 43 12.8	+8.4
BRG				*e*			21 43 18.4	
BRG				pmax	pmax			
	comp=Z,26nm,1.9s							
BRG				MLR	MLR			
	comp=Z,690nm,25.9s							
BRG				MLR	MLR			
	comp=N,604nm,22.7s							
BRG				MLR	MLR			
	comp=E,523nm,22.7s							
KRLC	**Kraliky**	**145.49**	**344**	*e*PKIKP	**PKPdf**		**21 43 04.7**	**0.0**
KRLC	**Kraliky**	**145.49**	**344**	*e*PKP	**PKPdf**		**21 43 04.7**	**0.0**
MORC	**Moravsky Berou**	**145.56**	**343**	⇑PKIKP	**PKPdf**		**21 43 03.4**	**-1.4**
MORC	**Moravsky Berou**	**145.56**	**343**	⇑*i*P	**PKPdf**		**21 43 03.4**	**-1.4**
MORC	**Moravsky Berou**	**145.56**	**343**	*e*PKPdf	**PKPdf**		**21 43 04.9**	**+0.1**
TIRR	**Tirgusor**	**145.56**	**327**	⇑PKIKP	**PKPab**		**21 43 08.6**	**+3.4**
TIRR	**Tirgusor**	**145.56**	**327**	⇑*i*P	**PKPab**		**21 43 08.6**	**+3.4**
PVCC	**Panska Ves**	**145.58**	**347**	*e*PKIKP	**PKPdf**		**21 43 05.1**	**+0.4**
PVCC				MLR	MLR			
	comp=Z,1μm,27.0s							
PVCC	**Panska Ves**	**145.58**	**347**	*e*PKP	**PKPdf**		**21 43 05.1**	**+0.4**
PVCC				AMS	AMS		22 38 20.0	
	comp=Z,1μm,27.0s							
ANTO	**Ankara**	**145.84**	**317**	PFAKE			21 43 20.0	+13
ANTO				LR	LR			
	comp=Z,352nm,22.0s							
BR231	**Keskin MP Arra**	**145.87**	**317**	*e*PKPdf	**PKPdf**		**21 43 05.4**	**-0.4**
DOPR	**Dopca**	**145.93**	**332**	⇑*i*P	**PKPab**		**21 43 07.9**	**+1.3**
MLR	**Muntele Rosu**	**146.03**	**331**	⇓*i*P	**PKPdf**		**21 43 06.5**	**+0.6**
PRU	**Pruhonice**	**146.10**	**347**	*e*PKIKP	**PKPbc**		**21 43 06.9**	**+0.4**
PRU				*e*			21 43 20.9	
PRU				MLR	MLR			
	comp=Z,700nm,22.5s							
PRU	**Pruhonice**	**146.10**	**347**	*e*PKP	**PKPbc**		**21 43 06.9**	**+0.4**
PRU				*ex*	x		21 43 20.9	
PRU				AMS	AMS		22 38 40.0	
	comp=Z,700nm,22.5s							
NKC	**Novy Kostel**	**146.28**	**349**	*e*PKIKP	**PKPbc**		**21 43 07.8**	**+0.7**
NKC				*e*			21 43 21.3	
NKC	**Novy Kostel**	**146.28**	**349**	*e*PKP	**PKPbc**		**21 43 07.8**	**+0.7**
NKC				*ex*	x		21 43 21.3	
DRGR		**146.41**	**335**	⇑PKIKP	**PKPdf**		**21 43 07.0**	**+0.6**
DRGR		**146.41**	**335**	⇑*i*P	**PKPdf**		**21 43 07.0**	**+0.6**
VOIR		**146.48**	**332**	⇓PKP2	**PKPab**		**21 43 11.7**	**+2.9**
VOIR		**146.48**	**332**	⇓*i*P	**PKPab**		**21 43 11.7**	**+2.9**
PSZ	**Piszkesteto**	**146.49**	**339**	*e*PKIKP	**PKPdf**		**21 43 05.1**	**-1.4**
PSZ				MLR	MLR			
	comp=Z,634nm,22.0s							
PSZ	**Piszkesteto**	**146.49**	**339**	⇑*i*P	PKPpre		21 42 57.3	
PSZ	**Piszkesteto**	**146.49**	**339**	*e*PKPdf	**PKPdf**		**21 43 05.1**	**-1.4**
PSZ				LR	LR			
	comp=Z,634nm,22.0s							
TREC	**Trest**	**146.53**	**345**	*e*PKP2	**PKPbc**		**21 43 08.3**	**+0.4**
TREC				MLR	MLR			
	comp=Z,800nm,23.7s							
TREC	**Trest**	**146.53**	**345**	*e*PKP	**PKPbc**		**21 43 08.3**	**+0.4**
TREC				AMS	AMS		22 39 30.0	
	comp=Z,800nm,23.7s							
ARR	**Arges**	**146.73**	**332**	⇓*i*P	**PKPdf**		**21 43 08.5**	**+1.6**

KHC	**Kasperske Hory**	**147.12**	**347**	*e*PKP	**PKPbc**		**21 43 09.4**	**-0.2**
KHC				*ex*	x		21 43 19.1	
DOU	**Dourbes**	**147.24**	**358**	PKP	**PKPbc**		**21 43 10.2**	**+0.4**
SIRR	**Siria**	**147.25**	**336**	⇑*i*P	**PKPbc**		**21 43 10.5**	**+0.5**
GEC2	**GERESS Array S**	**147.36**	**347**	*e*PKP2	**PKPdf**		**21 43 09.3**	**+1.4**
GEC2	**GERESS Array S**	**147.36**	**347**	*e*PKPdf	**PKPdf**		**21 43 09.3**	**+1.4**
GERES	**GERESS Array B**	**147.36**	**347**	PKPbc	**PKPbc**		**21 43 10.2**	**-0.2**
GERES	**GERESS Array B**	**147.36**	**347**	PKPbc	**PKPbc**		**21 43 10.1**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=25,slow=3.2,SNR=13							
GZR	**Gura Zlata**	**147.51**	**334**	⇑PKIKP	**PKPdf**		**21 43 09.7**	**+1.4**
GZR	**Gura Zlata**	**147.51**	**334**	⇑*i*P	**PKPdf**		**21 43 09.7**	**+1.4**
WLF	**Walferdange**	**147.60**	**356**	PKP	**PKPbc**		**21 43 11.4**	**+0.6**
WLF	**Walferdange**	**147.60**	**356**	PFAKE			21 43 20.0	+7.1
WLF				LR	LR			
	comp=Z,1μm,20.0s							
CONA	**Conrad Observa**	**147.70**	**344**	⇑*i*PKiKP	**PKPbc**		**21 43 12.7**	**+1.4**
	comp=Z,19nm,1.2s							
BZS	**Buzias**	**147.81**	**335**	⇑PKP2	**PKPbc**		**21 43 12.5**	**+1.0**
BZS	**Buzias**	**147.81**	**335**	⇑*i*P	**PKPbc**		**21 43 12.5**	**+1.0**
CSS	**Prodhromos**	**147.85**	**309**	PFAKE			21 43 20.0	+5.5
CSS				LR	LR			
	comp=Z,82nm,20.0s							
PKSM	**Moragy**	**148.40**	**339**	⇑PKIKP	**PKPdf**		**21 43 11.4**	**+1.8**
PKSM	**Moragy**	**148.40**	**339**	⇑*i*P	**PKPdf**		**21 43 11.4**	**+1.8**
ISP	**Isparta**	**148.44**	**316**	PFAKE			21 43 20.0	+3.1
ISP				LR	LR			
	comp=Z,370nm,21.0s							
BFO	**Black Forest**	**148.74**	**353**	*e*PKP2	**PKPbc**		**21 43 13.3**	**-0.6**
BFO				MLR	MLR			
	comp=Z,594nm,22.0s							
BFO	**Black Forest**	**148.74**	**353**	*e*PKPbc	**PKPbc**		**21 43 13.3**	**-0.6**
BFO				LR	LR			
	comp=Z,594nm,22.0s							
DAVA	**Damuels**	**149.56**	**351**	⇑*i*PKiKP	**PKPbc**		**21 43 17.0**	**+0.8**
	comp=Z,21nm,1.3s							
ABTA	**Abfaltersbach**	**149.60**	**347**	⇑*i*pPKPdf	**PKPbc**		**21 43 16.5**	**+0.2**
	comp=Z,13nm,1.1s							
MMB	**Musomiste**	**150.01**	**328**	⇑PKIKP	**PKPbc**		**21 43 15.6**	**-1.7**
MMB	**Musomiste**	**150.01**	**328**	⇑*i*P	**PKPbc**		**21 43 15.6**	**-1.7**
TUE	**Stuetta**	**150.44**	**351**	*e*PKPbc	**PKPbc**		**21 43 19.6**	**+1.2**
TUE				LR	LR			
	comp=Z,798nm,20.0s							
SENIN	**Lac Senin/Sane**	**150.79**	**354**	*e*PKPbc	**PKPbc**		**21 43 19.4**	**+0.1**
SSB	**Saint Sauveur**	**152.06**	**358**	PFAKE			21 43 30.0	-1.3
SSB				LR	LR			
	comp=Z,688nm,20.0s							
BNI	**Bardonecchia**	**152.15**	**355**	PFAKE			21 43 30.0	-1.8
BNI				LR	LR			
	comp=Z,876nm,20.0s							
VLC	**Villacollemand**	**152.51**	**349**	PFAKE			21 43 30.0	-3.2
VLC				LR	LR			
	comp=Z,618nm,21.0s							
SANT	**Santorini**	**152.58**	**318**	PFAKE			21 43 30.0	-3.9
SANT				LR	LR			
	comp=Z,316nm,20.0s							
SACV	**Santiago Islan**	**154.21**	**91**	PFAKE			21 43 30.0	+2.5
SACV				LR	LR			
	comp=Z,868nm,22.0s							
CUC	**Castrocucco**	**154.84**	**337**	PFAKE			21 43 30.0	+1.8
CUC				LR	LR			
	comp=Z,311nm,19.0s							
TIP	**Timpagrande**	**155.16**	**334**	PFAKE			21 43 30.0	+10
TIP				LR	LR			
	comp=Z,354nm,21.0s							
MTE	**Manteigas**	**155.17**	**20**	PFAKE			21 43 30.0	+10
MTE				LR	LR			
	comp=Z,1μm,21.0s							
CEL	**Celeste**	**156.29**	**334**	PFAKE			21 43 30.0	+8.4
CEL				LR	LR			
	comp=Z,607nm,20.0s							
PAB	**San Pablo**	**156.88**	**15**	PFAKE			21 43 30.0	+7.6
PAB				LR	LR			
	comp=Z,1μm,21.0s							
VSL	**Villasalto**	**157.21**	**347**	PFAKE			21 43 30.0	+7.3
VSL				LR	LR			
	comp=Z,693nm,19.0s							
CLTB	**Caltabellotta**	**157.92**	**338**	PFAKE			21 43 30.0	+6.2
CLTB				LR	LR			
	comp=Z,304nm,19.0s							
WDD	**Wield Dalam**	**158.90**	**334**	PFAKE			21 43 40.0	+15
WDD				LR	LR			
	comp=Z,686nm,19.0s							
RTC	**Rabat Centre**	**161.10**	**26**	PFAKE			21 43 40.0	+13
RTC				LR	LR			
	comp=Z,1μm,22.0s							
TAM	**Tamanrasset**	**174.07**	**338**	PFAKE			21 43 50.0	+13
TAM				LR	LR			
	comp=Z,772nm,21.0s							
TORD	**Torodi Ar. Bea**	**175.66**	**161**	PKPab	**PKPab**		**21 45 15.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**175.66**	**161**	PKPab	**PKPab**		**21 45 15.5**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=174,slow=2.9,SNR=4.5							

*SKO **26** 21:26:30.8,41°.24N×22°.66E,h15km,M0.7,ML1.3*
*CSEM **26** 21:26:31.5±0.1,41°.35N×22°.67E,h2km,ML1.6,Error ellipse: s-maj=3.3km s-min=2.4km az=170.0*

THE 26 21:26:31.7,41°.34N×22°.67E,h2km±2km,ML1.6/4,Error ellipse: s-maj=2.7km s-min=0.4km az=184.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.07**	**259**	P	Pg	21 26 33.0	-0.2
VAY				S	Sg	21 26 34.3	+0.1
VAY	**Valandovo**	**0.07**	**259**	*i* Pg	Pg	21 26 33.0	-0.2
VAY				*e*Lg	Lg	21 26 34.2	
	comp=E,172nm,0.3s						
VAY				*i* Sg	Sg	21 26 34.2	0.0
VAY				*e*Lg	Lg	21 26 34.3	
	comp=N,278nm,0.2s						
VAY	**Valandovo**	**0.07**	**259**	P	Pg	21 26 33.0	-0.2
VAY	**Valandovo**	**0.07**	**259**	*i* Pg	Pg	21 26 33.4	+0.2
VAY				S	Sg	21 26 34.3	+0.1
KNT	**Kendrikon**	**0.24**	**135**	P	Pg	21 26 36.6	+0.1
KNT				S	Sg	21 26 40.0	+0.3
KNT	**Kendrikon**	**0.24**	**135**	P	Pg	21 26 36.6	+0.1
KNT				S	Sg	21 26 40.0	+0.3
GRG	**Griva**	**0.43**	**208**	P	Pg	21 26 39.8	-0.2
GRG				S	Sg	21 26 45.9	+0.3
GRG	**Griva**	**0.43**	**208**	P	Pg	21 26 39.8	-0.2
GRG				S	Sg	21 26 45.9	+0.3
SOH	**Sokhos**	**0.73**	**134**	P	Pg	21 26 45.2	-0.6
SOH				S	Sg	21 26 56.2	+0.9
SOH	**Sokhos**	**0.73**	**134**	P	Pg	21 26 45.2	-0.6
SOH				S	Sg	21 26 56.2	+0.9
SRS	**Serrai**	**0.73**	**107**	P	Pg	21 26 45.3	-0.5
SRS				S	Sg	21 26 55.7	+0.4
SRS	**Serrai**	**0.73**	**107**	P	Pg	21 26 45.3	-0.5
SRS				S	Sg	21 26 55.7	+0.4
NVR	**Nevrokopi**	**0.90**	**89**	P	Pg	21 26 48.4	-0.6
NVR				S	Sg	21 27 01.6	+0.9
NVR	**Nevrokopi**	**0.90**	**89**	P	Pg	21 26 48.4	-0.6
NVR				S	Sg	21 27 01.6	+0.9
VTS	**Vitosha**	**1.32**	**18**	P	Pg	21 26 56.4	-0.8
VTS	**Vitosha**	**1.32**	**18**	P	Pg	21 26 56.4	-0.8

*IDC **26** 21:26:51.9±1.4,39°.11N×141°.14E,h0km,mb3.5/4, mb1 3.5/7,mb1mx3.3/29,mbtmpb3.4/7,ML2.6/3,Error ellipse: s-maj=30.2km s-min=25.1km az=94.0*
*ISCJB **26** 21:26:53.6±0.5,39°.14N±0°.04×140°.97E±0°.05,h19km±6km, mb3.4/4,Error ellipse: s-maj=7.1km s-min=5.8km az=20.4*
*JMA **26** 21:26:53.9,39°.13N×140°.93E,h7km±1km,M3.4*
JMA Felt I J1.

ISC 26 21:26:53.6±1.2,39°.14N±0°.04×141°.00E±0°.04,h5km±9km, n19,σ1§59/19,mb3.5/4,4D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.25**	**137**	⇓P	**Pg**	**21 26 59.5**	**+1.1**
JMK				S	**Sg**	**21 27 03.3**	**+1.6**
JRG	**Rokugo**	**0.39**	**313**	⇓P	**Pg**	**21 27 01.1**	**0.0**
JOM	**Ohasama**	**0.41**	**34**	⇓P	**Pb**	**21 27 02.5**	**-0.8**
JOM				S	**Sb**	**21 27 08.6**	**-1.2**
JYK	**Kaneyama**	**0.55**	**247**	⇓P	**Pg**	**21 27 03.5**	**-0.6**
JYK				S	**Sg**	**21 27 10.4**	**-0.7**
JIO	**Ouri**	**0.73**	**158**	P	**Pb**	**21 27 07.8**	**-1.0**
JIO				S	**Sb**	**21 27 17.9**	**-1.2**
JOU	**Okura**	**0.81**	**199**	P	**Pg**	**21 27 08.9**	**-0.3**
JOU				S	**Sg**	**21 27 19.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.40**	**221**	Pn	**Pn**	**21 27 47.5**	**+0.1**
	0.5nm,0.3s,baz=28,slow=13,SNR=6.2						

USRK	**Ussuriysk Arra**	**8.43**	**310**	Pn		**Pn**	**21 28 56.4**	**+0.1**
	0.1nm,0.3s,baz=119,slow=15,SNR=3.1							
KSRS	**Korea Array**	**10.42**	**265**	Pn		**Pn**	**21 29 25.9**	**+2.3**
	0.3nm,0.3s,baz=74,slow=14,SNR=8.2							
KSRS				Sn		**Sn**	**21 31 25.2**	**+4.5**
	0.2nm,0.3s,baz=75,slow=22,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**29.54**	**123**	T		T	22 03 28.8	
	baz=320,slow=76,SNR=94							
H11N1	**WAKE ISLAND Hy**	**29.55**	**123**	T		T	22 03 30.6	
	baz=320,slow=76,SNR=118							
H11N3	**WAKE ISLAND Hy**	**29.56**	**123**	T		T	22 03 29.9	
	baz=320,slow=76,SNR=95							
H11S1	**WAKE ISLAND Hy**	**30.31**	**125**	T		T	22 04 20.3	
	baz=322,slow=76,SNR=24							
H11S3	**WAKE ISLAND Hy**	**30.31**	**125**	T		T	22 04 25.4	
	baz=322,slow=76,SNR=37							
H11S2	**WAKE ISLAND Hy**	**30.32**	**125**	T		T	22 04 24.8	
	baz=322,slow=76,SNR=15							
MKAR	**Makanchi Array**	**42.76**	**300**	P		**P**	**21 34 51.5**	**-0.3**
	0.2nm,0.7s,baz=88,slow=8.7,SNR=4.1							
KURBB	**Kurchatov Arra**	**44.48**	**306**	P		**P**	**21 35 04.7**	**-0.9**
	0.4nm,0.5s,baz=83,slow=8.4,SNR=4.8							
WRA	**Warramunga Arr**	**59.10**	**187**	P		**P**	**21 36 53.7**	**-1.3**
	0.2nm,0.5s,baz=4.8,slow=7.1,SNR=7.2							
RES	**Resolute Bay**	**60.65**	**15**	P		**P**	**21 37 04.7**	**-0.3**
	0.7nm,0.9s,baz=311,slow=5.0,SNR=5.3							

IDC 26 21:27:38.4±2.7,17°.34S×176°.95W,h0km,mb3.8/5, mb1 4.2/5,mb1mx3.8/18,mbtmpb3.8/5,Error ellipse: s-maj=158.2km s-min=24.3km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPT2	**Papeete2**	**26.11**	**95**	*e*LR	LR	21 39 41.9	
	1μm,24.8s						
TBI	**Tubuai**	**26.44**	**108**	*e*LR	LR	21 39 52.4	
	2μm,27.8s						
RKT	**Rikitea**	**39.71**	**105**	*e*LR	LR	21 46 01.4	
	938nm,25.8s						
WRA	**Warramunga Arr**	**46.10**	**259**	P	P	21 36 04.0	-0.7
	0.6nm,1.0s,baz=95,slow=7.8,SNR=3.0						
ASAR	**Alice Springs**	**46.28**	**254**	P	P	21 36 05.7	-0.4
	3.6nm,0.8s,baz=86,slow=8.4,SNR=9.5						
NVAR	**Mina Array Bea**	**78.06**	**43**	P	P	21 39 38.5	-1.0
	0.1nm,0.3s,baz=225,slow=8.7,SNR=3.0						
ILAR	**Eielson Array**	**85.03**	**12**	P	P	21 40 14.4	-1.0
	1.2nm,1.1s,baz=207,slow=5.8,SNR=3.3						
PDAR	**Pinedale Array**	**85.99**	**43**	P	P	21 40 22.1	+1.1
	0.7nm,1.2s,baz=255,slow=3.5,SNR=2.2						
BRTR	**Keskin Array B**	**145.35**	**316**	PKPbc	PKPdf	21 47 19.9	+1.1
	1.2nm,1.0s,baz=46,slow=4.2,SNR=3.4						
GERES	**GERESS Array B**	**147.40**	**347**	PKPbc	PKPbc	21 47 23.8	-0.5
	0.2nm,0.7s,baz=39,slow=6.3,SNR=2.7						

*SKHL **26** 21:49:16.7±0.3,45°.77N×153°.70E,h35km±5km,mb5.1/1*
*IDC **26** 21:49:17.4±2.5,46°.29N×152°.86E,h0km,mb3.6/11, mb1 3.7/13,mb1mx3.6/29,mbtmpb3.6/13,ML2.6/2,Error ellipse: s-maj=64.2km s-min=26.3km az=169.0*
*ISCJB **26** 21:49:21.2±1.2,46°.3N±0°.1×153°.0E±0°.2,h40km,mb3.6/11, Error ellipse: s-maj=24.3km s-min=7.1km az=143.0*
*MOS **26** 21:49:22.8±1.0,46°.52N×152°.78E,h45km,mb4.3/4,Error ellipse: s-maj=24.6km s-min=14.2km az=80.4*

ISC 26 21:49:23.8±1.3,46°.4N±0°.2×152°.9E±0°.1,h40km,n38, σ1§18/32,mb3.8/11,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.69**	**253**	*e*PN	**Pn**	**21 50 18.5**	**+0.2**
KUR				pmax	pmax		
	comp=Z,190nm,0.5s						
KUR	**Kuril'sk**	**3.69**	**253**	*e*P	**Pn**	**21 50 18.5**	**+0.2**
KUR				AMB	AMB	21 50 19.0	
	comp=Z,150nm,0.5s						
KUR				*e*S	**Sn**	**21 51 04.6**	**+4.1**
KUR				A	A	21 51 13.0	
	comp=Z,80nm,0.5s						
KUR				A	A	21 51 13.0	
	comp=Z,120nm,0.5s						
SKR	**Severo-Kuril's**	**4.79**	**26**	*e*PN	**Pn**	**21 50 34.2**	**+0.9**
SKR				*e*		21 51 25.6	
SKR	**Severo-Kuril's**	**4.79**	**26**	*e*P	**Pn**	**21 50 33.1**	**-0.2**
SKR				*e*S	**Sn**	**21 51 30.6**	**+3.2**
SKR				A	A	21 51 45.6	
	comp=Z,70nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.98**	**278**	*e*P	Pn	21 51 14.7	+11
PETK	**Petropavlovsk-**	**7.39**	**23**	PN	**Pn**	**21

DZM *eS* **Sn** **21 55 23.7 +1.1**
NOUC Port Laguerre 3.02 218 *eS* **Sn** **21 55 26.1 +1.0**
NOUC Port Laguerre 3.02 218 *eS* **Sn** **21 55 26.1 +1.0**
WRA Warramunga Arr 31.91 264 P **P** **22 00 26.4 -0.5**
0.1nm,0.4s,baz=87,slow=8.6,SNR=3.2
ASAR Alice Springs 32.14 257 P **P** **22 00 28.8 -0.2**
1.4nm,0.7s,baz=86,slow=9.0,SNR=29
GERES GERESS Array B 144.47 331 PKP **PKPab** **22 13 37.0 +1.1**
0.2nm,0.5s,baz=48,slow=1.5,SNR=4.3

*AUST **26** 21:54:15.1,6˚.86S×105˚.40E,h60km*
*ISCJB **26** 21:54:21.0±0.6,7˚.21S±0˚.06×105˚.83E±0˚.05,h63km,Error ellipse: s-maj=8.7km s-min=5.7km az=33.5*
*DJA **26** 21:54:21.8±0.4,7˚.5±.5×10˚.6E±˚,h88km±11km,M3.6/13, MLv3.6/13*
ISC 26 21:54:21.9±1.1,7˚.17S±0˚.06×105˚.86E±0˚.06,h63km,n20, σ1°15/20,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.57**	**343**	P		Pn	21 54 38.1	+3.2
SKJI	**Sukabumi**	**0.71**	**77**	P		Pn	21 54 39.7	+3.3
DBJI	**Dramaga**	**1.07**	**55**	P		**Pn**	**21 54 42.0**	**+1.0**
DBJI				S		**Sn**	**21 54 57.6**	**+2.4**
CBJI	**Citeko**	**1.23**	**53**	P		**Pn**	**21 54 43.6**	**+0.5**
LEM	**Lembang**	**1.78**	**79**	P		**Pn**	**21 54 52.2**	**+1.7**
LEM	**Lembang**	**1.78**	**79**	P		**Pn**	**21 54 52.0**	**+1.5**
	baz=2.2,SNR=17							
CISI	**Cisompet, Garu**	**1.98**	**101**	P		**Pn**	**21 54 53.6**	**+0.5**
CISI	**Cisompet, Garu**	**1.98**	**101**	P		**Pn**	**21 54 53.4**	**+0.3**
	baz=2.5,SNR=40							
KASI	**Kota Agung**	**2.12**	**320**	P		**Pn**	**21 54 55.2**	**+0.1**
KASI				S		**Sn**	**21 55 21.1**	**+0.7**
CMJI	**Cimerak**	**2.64**	**104**	P		**Pn**	**21 55 02.6**	**+0.5**
LWLI	**Liwa**	**2.79**	**320**	P		**Pn**	**21 55 04.1**	**-0.1**
KPJI	**Karang Pucung**	**3.05**	**93**	P		**Pn**	**21 55 07.1**	**-0.6**
MDSI	**Maura Dua**	**3.15**	**328**	P		**Pn**	**21 55 08.5**	**-0.5**
XMI	**Christmas Isla**	**3.27**	**183**	P		**Pn**	**21 55 12.2**	**+1.5**
	baz=3.6,SNR=6.0							
XMIS	**Christmas Isla**	**3.30**	**184**	P		**Pn**	**21 55 12.3**	**+1.2**
	baz=3.6,SNR=30							
MNAI	**Manna**	**4.02**	**314**	P		**Pn**	**21 55 20.3**	**-0.6**
UGM	**Wanagama**	**4.68**	**99**	P		**Pn**	**21 55 29.8**	**-0.3**
	baz=5.2,SNR=3.6							
JAGI	**Jajag, Banyuwa**	**8.32**	**99**	P		**Pn**	**21 56 19.6**	**-0.3**
	baz=8.8,SNR=4.6							
MTN	**Manton Dam**	**25.51**	**105**	P		**P**	**21 59 42.7**	**-2.0**
	baz=26,SNR=3.3							
QLP	**Quilpie**	**41.25**	**123**	P		**P**	**22 02 00.5**	**-0.6**
	baz=42,SNR=3.5							

IDC 26 21:54:33.5±5.9,19˚.74S×174˚.58W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/19,mbtmp3.7/4,MS4.0/6,Ms1 4.1/6, ms1mx3.6/33,Error ellipse: s-maj=287.3km s-min=31.4km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**23.63**	**103**	*e*LR		LR	22 06 57.7	
	692nm,28.0s,baz=284							
CTA	**Charters Tower**	**36.77**	**263**	LR		LR	22 16 53.7	
	comp=Z,16nm,28.6s,baz=337,slow=36							
RKT	**Rikitea**	**36.95**	**102**	*e*LR		LR	22 13 04.8	
	385nm,27.5s,baz=280							
ASAR	**Alice Springs**	**47.82**	**256**	P		P	22 03 13.6	+0.2
	3.4nm,0.7s,baz=89,slow=8.3,SNR=27							
WRA	**Warramunga Arr**	**47.89**	**261**	P		P	22 03 13.1	-0.8
	0.5nm,0.7s,baz=98,slow=7.6,SNR=7.2							
VNDA	**Vanda**	**58.97**	**186**	LR		LR	22 30 08.6	
	comp=Z,50nm,18.1s,baz=333,slow=36							
NVAR	**Mina Array Bea**	**78.29**	**42**	LR		LR	22 33 50.2	
	comp=Z,96nm,20.6s,baz=66,slow=30							
MAW	**Mawson**	**83.35**	**199**	LR		LR	22 42 25.2	
	comp=Z,162nm,18.5s,baz=79,slow=34							
ILAR	**Eielson Array**	**86.89**	**12**	P		P	22 07 20.9	+1.2
	0.6nm,1.0s,baz=224,slow=6.3,SNR=7.5							
ILAR				LR		LR	22 37 16.4	
	comp=Z,99nm,20.1s,baz=252,slow=30							
YKA	**Yellowknife Ar**	**94.50**	**24**	P		P	22 07 53.3	-2.0
	0.1nm,0.7s,baz=248,slow=4.7,SNR=3.9							
LPAZ	**La Paz**	**99.36**	**111**	LR		LR	22 45 15.1	
	comp=Z,58nm,19.4s,baz=334,slow=31							
BRTR	**Keskin Array B**	**148.63**	**316**	PKPbc		PKPbc	22 14 22.8	-0.3
	0.3nm,0.8s,baz=45,slow=5.1,SNR=2.6							

*IDC **26** 21:54:52.4±0.7,41˚.49N×46˚.32E,h0km,mb3.7/11, mb1 3.8/18,mb1mx3.7/33,mbtmp3.7/18,ML3.4/6,MS2.5/1, Ms1 2.4/1,ms1mx2.1/41,Error ellipse: s-maj=11.9km s-min=8.2km az=143.0*
*NSSP **26** 21:54:54.8,41˚.55N×46˚.03E,h5km,Ms3.7*
*ISCJB **26** 21:54:55.2±0.3,41˚.58N±0˚.01×46˚.36E±0˚.02,h11km±2km, mb3.6/13,Error ellipse: s-maj=2.3km s-min=1.9km az=161.6*
*MOS **26** 21:54:55.9±1.0,41˚.53N×46˚.16E,h17km,mb4.5/7,Error ellipse: s-maj=6.1km s-min=4.4km az=95.8*
*CSEM **26** 21:54:56.1±0.1,41˚.60N×46˚.30E,h15km,mb3.9/5,Error ellipse: s-maj=3.1km s-min=2.9km az=161.0*
*TIF **26** 21:54:56.4,41˚.69N×46˚.03E,h14km±4km*
*AZER **26** 21:54:58.0±0.0,41˚.53N×46˚.35E,h32km,Error ellipse: s-maj=0.7km s-min=0.6km az=302.0*
*NNC **26** 21:55:00.3±3.8,41˚.88N×47˚.15E,h0km,mb3.9,Error ellipse: s-maj=37.8km s-min=30.6km az=7.0*
ISC 26 21:54:56.9±0.9,41˚.59N±0˚.01×46˚.15E±0˚.01,h28km±8km, n243,σ1°59/356,mb3.8/14,54C-72D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.36**	**81**	⇓Pg		**Pb**	**21 55 04.1**	**-1.0**
	SNR=5693							
ZKTA				⇑Sg		**Sn**	**21 55 10.4**	**-2.1**
DGRG	**David-gareji**	**0.59**	**257**	*e*PG		**Pb**	**21 55 08.9**	**+0.1**
DGRG	**David-gareji**	**0.59**	**257**	P		**Pb**	**21 55 08.9**	**+0.1**
DGRG				S		**Sb**	**21 55 17.4**	**+0.5**
DGRG	**David-gareji**	**0.59**	**257**	P		**Pb**	**21 55 08.9**	**+0.1**
DGRG				S		**Sb**	**21 55 17.4**	**+0.5**
SEKA	**Sheki**	**0.88**	**115**	⇓Pg		**Pn**	**21 55 12.6**	**-0.8**
	SNR=1896							
SEKA				⇑Sg		**Sn**	**21 55 24.2**	**-1.1**
SEKA	**Sheki**	**0.88**	**115**	Pg		**Pn**	**21 55 12.6**	**-0.8**
	SNR=1000							
SEKA				Sg		**Sn**	**21 55 24.2**	**-1.1**
KMKR	**Kumukh**	**0.90**	**52**	⇓*i*PG		**Pb**	**21 55 12.8**	**-1.2**
KMKR				*e*S		**Sn**	**21 55 25.2**	**-0.8**
KMKR	**Kumukh**	**0.90**	**52**	*i* Pg		**Pb**	**21 55 12.8**	**-1.2**
KMKR				*e*Sg		**Sn**	**21 55 25.2**	**-0.8**
GANJ	**Ganja**	**0.95**	**172**	⇓Pg		**Pb**	**21 55 13.7**	**-1.0**
	SNR=718							
GANJ				⇓Sg		**Sn**	**21 55 27.5**	**+0.6**
GANJ	**Ganja**	**0.95**	**172**	Pg		**Pb**	**21 55 13.7**	**-1.0**
	SNR=718							
GANJ				Sg		**Sn**	**21 55 27.5**	**+0.6**
GNBR	**Gunib**	**1.01**	**37**	⇑*i*PG		**Pb**	**21 55 14.6**	**-1.2**
GNBR				*i* S		**Sb**	**21 55 28.1**	**-0.6**
GNBR	**Gunib**	**1.01**	**37**	*i* Pg		**Pb**	**21 55 14.6**	**-1.2**
GNBR				*i* Sg		**Sb**	**21 55 28.1**	**-0.6**
XNZR	**Khunzakh**	**1.04**	**23**	⇓*i*PG		**Pn**	**21 55 15.0**	**-0.8**
XNZR				*e*S		**Sn**	**21 55 30.0**	**+0.5**
XNZR				pmax		pmax		
	comp=Z,254nm,0.3s							
XNZR	**Khunzakh**	**1.04**	**23**	*i* Pg		**Pn**	**21 55 15.0**	**-0.8**
	comp=Z,254nm,0.3s							
XNZR				*e*Sg		**Sn**	**21 55 30.0**	**+0.5**
TBLG	**Delisi**	**1.06**	**278**	*e*PG		**Pn**	**21 55 15.0**	**-0.9**
TBLG	**Delisi**	**1.06**	**278**	P		**Pn**	**21 55 15.1**	**-0.9**
TBLG				S		**Sb**	**21 55 29.6**	**-0.6**
TBLG	**Delisi**	**1.06**	**278**	P		**Pn**	**21 55 15.1**	**-0.9**
TBLG				S		**Sb**	**21 55 29.6**	**-0.6**
BTLR	**Botlikh**	**1.08**	**3**	*i* PG		**Pn**	**21 55 15.0**	**-1.2**
BTLR				*e*S		**Sb**	**21 55 30.0**	**-0.8**
BTLR				pmax		pmax		
	comp=Z,612nm,0.3s							
BTLR	**Botlikh**	**1.08**	**3**	*i* Pg		**Pn**	**21 55 15.0**	**-1.2**
	comp=Z,612nm,0.3s							
BTLR				*e*Sg		**Sb**	**21 55 30.0**	**-0.8**
DUS	**Dusheti**	**1.19**	**296**	P		**Pn**	**21 55 17.6**	**-0.1**
DUS				S		**Sn**	**21 55 34.6**	**+1.6**
DUS	**Dusheti**	**1.19**	**296**	P		**Pn**	**21 55 17.6**	**-0.1**
DUS				S		**Sn**	**21 55 34.6**	**+1.6**
AKT	**Akhty**	**1.20**	**94**	⇓*i*PG		**Pb**	**21 55 17.5**	**-1.5**
AKT				*i* S		**Sn**	**21 55 35.0**	**+1.8**
AKT				pmax		pmax		
	comp=Z,248nm,0.3s							
AKT	**Akhty**	**1.20**	**94**	*i* Pg		**Pb**	**21 55 17.5**	**-1.5**
	comp=Z,248nm,0.3s							
AKT				*i* Sg		**Sn**	**21 55 35.0**	**+1.8**
ARKR	**Arakani**	**1.20**	**32**	⇓*i*PG		**Pn**	**21 55 17.7**	**-0.1**
ARKR				*e*S		**Sn**	**21 55 35.0**	**+1.8**
ARKR				pmax		pmax		
	comp=Z,316nm,0.3s							
ARKR	**Arakani**	**1.20**	**32**	*i* Pg		**Pn**	**21 55 17.7**	**-0.1**
	comp=Z,316nm,0.3s							
ARKR				*e*Sg		**Sn**	**21 55 35.0**	**+1.8**
URKR	**Urkarakh**	**1.25**	**62**	*i* PG		**Pb**	**21 55 21.0**	**+1.0**
URKR				*e*S		**Sb**	**21 55 40.0**	**+4.2**
URKR				pmax		pmax		
	comp=Z,303nm,0.3s							
URKR	**Urkarakh**	**1.25**	**62**	*i* Pg		**Pb**	**21 55 21.0**	**+1.0**
	comp=Z,303nm,0.3s							
URKR				*e*Sg		**Sb**	**21 55 40.0**	**+4.2**
CKLZ	**Chkalov**	**1.30**	**241**	⇓*i*P		Pn	21 55 17.2	-2.1
CKLZ				*i* S		**Sn**	**21 55 36.7**	**+0.9**
CKLZ	**Chkalov**	**1.30**	**241**	⇓P		Pn	21 55 17.2	-2.1
CKLZ				S		**Sn**	**21 55 36.7**	**+0.9**
KZR	**Kazreti**	**1.31**	**262**	P		**Pn**	**21 55 18.5**	**-0.9**
KZR				S		**Sn**	**21 55 36.0**	**0.0**
KZR	**Kazreti**	**1.31**	**262**	P		**Pn**	**21 55 18.5**	**-0.9**
KZR				S		**Sn**	**21 55 36.0**	**0.0**
KRNR	**Karanay**	**1.36**	**24**	*i* PG		**Pn**	**21 55 20.5**	**+0.3**
KRNR				*i* S		**Sb**	**21 55 41.2**	**+2.3**
KRNR				pmax		pmax		
	comp=Z,149nm,0.3s							
KRNR	**Karanay**	**1.36**	**24**	*i* Pg		**Pn**	**21 55 20.5**	**+0.3**
	comp=Z,149nm,0.3s							
KRNR				*i* Sg		**Sb**	**21 55 41.2**	**+2.3**
BUJR	**Buynaksk**	**1.43**	**30**	⇑*i*PG		**Pb**	**21 55 22.0**	**-0.9**
BUJR				*e*S		**Sb**	**21 55 43.0**	**+2.2**
BUJR				pmax		pmax		
	comp=Z,176nm,0.3s							
BUJR	**Buynaksk**	**1.43**	**30**	*i* Pg		**Pb**	**21 55 22.0**	**-0.9**
	comp=Z,176nm,0.3s							
BUJR				*e*Sg		**Sb**	**21 55 43.0**	**+2.2**
STEZ	**Stepenevan**	**1.44**	**247**	⇑*i*P		**Pn**	**21 55 22.1**	**+0.9**
STEZ				⇓*i*S		**Sb**	**21 55 42.1**	**+1.1**
STEZ	**Stepenevan**	**1.44**	**247**	⇑*i*P		**Pn**	**21 55 20.0**	**-1.2**
STEZ				⇑*i*S		**Sn**	**21 55 39.0**	**-0.2**
VADZ	**Vardenis**	**1.44**	**192**	⇓*i*P		**Pb**	**21 55 24.0**	**+0.8**
VADZ				⇓*i*S		**Sb**	**21 55 44.0**	**+2.7**
VADZ	**Vardenis**	**1.44**	**192**	⇓P		**Pb**	**21 55 24.0**	**+0.8**
VADZ				S		**Sb**	**21 55 44.0**	**+2.7**
STE	**Stepanavan**	**1.46**	**247**	⇑P		**Pn**	**21 55 22.1**	**+0.6**
STE				S		**Sb**	**21 55 42.1**	**+0.4**
MTKZ	**Martakert**	**1.48**	**159**	⇓*i*P		**Pn**	**21 55 19.9**	**-1.6**
MTKZ				⇑*i*S		**Sb**	**21 55 40.5**	**-1.5**
MTKZ	**Martakert**	**1.48**	**159**	⇓P		**Pn**	**21 55 20.0**	**-1.6**
MTKZ				S		**Sb**	**21 55 40.5**	**-1.5**
KSMR	**Kasumkent**	**1.49**	**89**	*i* PG		**Pb**	**21 55 24.0**	**+0.1**
KSMR				*i* S		**Sb**	**21 55 46.5**	**+4.1**
KSMR				pmax		pmax		
	comp=Z,428nm,0.2s							
KSMR	**Kasumkent**	**1.49**	**89**	*i* Pg		**Pb**	**21 55 24.0**	**+0.1**
	comp=Z,428nm,0.2s							
KSMR				*i* Sg		**Sb**	**21 55 46.5**	**+4.1**
DBC	**Dubki**	**1.52**	**19**	⇑*i*PG		**Pb**	**21 55 23.4**	**-1.1**
DBC				*i* S		**Sb**	**21 55 46.2**	**+2.8**
DBC	**Dubki**	**1.52**	**19**	*i* Pg		**Pb**	**21 55 23.4**	**-1.1**
DBC				*i* Sg		**Sb**	**21 55 46.2**	**+2.8**
DLMR	**Dylym**	**1.53**	**13**	⇓*i*PG		**Pb**	**21 55 23.5**	**-1.1**
DLMR				*e*S		**Sb**	**21 55 45.0**	**+1.5**
DLMR				pmax		pmax		
	comp=Z,393nm,0.3s							
DLMR	**Dylym**	**1.53**	**13**	*i* Pg		**Pb**	**21 55 23.5**	**-1.1**
	comp=Z,393nm,0.3s							
DLMR				*e*Sg		**Sb**	**21 55 45.0**	**+1.5**
BRDA	**Brd**	**1.54**	**149**	⇓Pg		**Pb**	**21 55 24.6**	**-0.1**
	SNR=176							
BRDA				⇓Sg		**Sb**	**21 55 46.0**	**+2.3**
BRDA	**Brd**	**1.54**	**149**	Pg		**Pb**	**21 55 24.6**	**-0.1**
	SNR=176							
BRDA				Sg		**Sb**	**21 55 46.0**	**+2.3**
SPIZ	**Spitak**	**1.60**	**242**	⇓*i*P		**Pn**	**21 55 23.3**	**-0.2**
SPIZ				⇑*i*S		**Sn**	**21 55 43.0**	**-0.3**
SPIZ	**Spitak**	**1.60**	**242**	⇓P		**Pn**	**21 55 23.3**	**-0.2**
SPIZ				S		**Sn**	**21 55 43.0**	**-0.3**
MNSR	**Manas**	**1.62**	**46**	*e*PN		**Pb**	**21 55 27.0**	**+0.9**
MNSR				*i* S		**Sb**	**21 55 50.5**	**+4.4**
MNSR				pmax		pmax		
	comp=Z,135nm,0.2s							
MNSR	**Manas**	**1.62**	**46**	*e*Pn		**Pb**	**21 55 27.0**	**+0.9**
	comp=Z,135nm,0.2s							
MNSR				*i* Sg		**Sb**	**21 55 50.5**	**+4.4**
KAPZ	**Kaputan**	**1.67**	**221**	⇑*i*P		**Pn**	**21 55 24.3**	**-0.1**
KAPZ				⇓*i*S		**Sb**	**21 55 47.0**	**-0.8**
KAPZ	**Kaputan**	**1.67**	**221**	⇑P		**Pn**	**21 55 24.3**	**-0.1**
KAPZ				S		**Sb**	**21 55 47.0**	**-0.8**
DRN	**Derbent**	**1.69**	**74**	*e*PN		**Pb**	**21 55 28.8**	**+1.5**
DRN				*e*S		Sb	21 55 53.5	+5.3
DRN				pmax		pmax		
	comp=Z,105nm,0.2s							
DRN	**Derbent**	**1.69**	**74**	*e*Pn		**Pb**	**21 55 28.8**	**+1.5**
	comp=Z,105nm,0.2s							
DRN				*e*Sg		Sb	21 55 53.5	+5.3
MAK	**Makhachkala**	**1.71**	**36**	*e*PN		**Pb**	**21 55 25.8**	**-1.8**
MAK				*e*S		**Sb**	**21 55 49.7**	**+1.1**
MAK				pmax		pmax		
	comp=Z,117nm,0.3s							
MAK				smax		smax		
	comp=N,2μm,0.5s							
MAK				smax		smax		
	comp=E,1μm,0.5s							
MAK	**Makhachkala**	**1.71**	**36**	*e*Pn		**Pb**	**21 55 25.8**	**-1.8**
	comp=E,117nm,0.3s							
MAK				*e*Sg		**Sb**	**21 55 49.7**	**+1.1**
	comp=E,2μm,0.5s							
IML	**Ismayilli**	**1.73**	**117**	⇓Pg		**Pb**	**21 55 26.5**	**-1.5**
	SNR=77							
IML				⇑Sg		**Sb**	**21 55 49.4**	**+0.1**
IML	**Ismayilli**	**1.73**	**117**	Pg		**Pb**	**21 55 26.5**	**-1.5**
	SNR=77							
IML				Sg		**Sb**	**21 55 49.4**	**+0.1**
GRO	**Groznyy**	**1.76**	**351**	⇓*i*PN		**Pn**	**21 55 26.4**	**+0.9**
GRO	**Groznyy**	**1.76**	**351**	*i* Pn		**Pn**	**21 55 26.4**	**+0.9**
QUBA	**Quba, Azerbaij**	**1.78**	**97**	⇓Pg		**Pb**	**21 55 28.7**	**-0.1**
	SNR=57							
QUBA				⇑Sg		**Sb**	**21 55 51.1**	**+0.3**
QUBA	**Quba, Azerbaij**	**1.78**	**97**	Pg		**Pb**	**21 55 28.7**	**-0.1**
	SNR=57							
QUBA				Sg		**Sb**	**21 55 51.1**	**+0.3**
SNJR	**Sundja**	**1.78**	**327**	⇓*i*PN		**Pb**	**21 55 28.6**	**-0.3**
SNJR	**Sundja**	**1.78**	**327**	*i* Pn		**Pb**	**21 55 28.6**	**-0.3**
GNI	**Garni**	**1.79**	**217**	⇑*i*P		**Pb**	**21 55 28.2**	**-0.8**
GNI				⇑*i*S		**Sb**	**21 55 53.1**	**+2.1**
GNI	**Garni**	**1.79**	**217**	*i* Pn		**Pb**	**21 55 27.9**	**-1.1**
GNI	**Garni**	**1.79**	**217**	⇑P		**Pb**	**21 55 28.2**	**-0.8**
GNI				S		**Sb**	**21 55 53.1**	**+2.1**
GNI	**Garni**	**1.79**	**217**	Pn		**Pb**	**21 55 28.0**	**-1.0**
	comp=E,79nm,0.3s,baz=5.5,slow=6.6,SNR=514							
GNI				Sn		**Sb**	**21 55 52.6**	**+1.6**
	comp=E,51nm,0.3s,baz=19,slow=8.7,SNR=5.9							
HNAZ	**Hnaberd**	**1.79**	**238**	⇓*i*P		**Pb**	**21 55 30.2**	**+1.2**
HNAZ				⇓*i*S		**Sb**	**21 55 54.8**	**+3.7**
HNAZ	**Hnaberd**	**1.79**	**238**	⇓P		**Pb**	**21 55 30.2**	**+1.2**
HNAZ				S		**Sb**	**21 55 54.8**	**+3.7**
KAMZ	**Kamo**	**1.82**	**246**	⇓*i*P		**Pb**	**21 55 30.4**	**+0.8**
KAMZ				⇓*i*S		**Sb**	**21 55 54.6**	**+2.6**
KAMZ	**Kamo**	**1.82**	**246**	⇓P		**Pb**	**21 55 30.4**	**+0.8**
KAMZ				S		**Sb**	**21 55 54.6**	**+2.6**
VLKR	**Vladikavkaz**	**1.82**	**324**	*e*PN		**Pb**	**21 55 29.7**	**+0.1**
VLKR	**Vladikavkaz**	**1.82**	**324**	*e*Pn		**Pb**	**21 55 29.7**	**+0.1**
STKZ		**1.83**	**165**	⇓*i*P		Pb	21 55 35.6	+5.9
STKZ				⇑*i*S		Sb	21 55 59.7	+7.5
TSOZ	**Tsokhamarg**	**1.83**	**250**	⇓*i*P		**Pb**	**21 55 30.7**	**+0.9**
TSOZ				⇑*i*S		**Sb**	**21 55 55.4**	**+3.0**
TSOZ	**Tsokhamarg**	**1.83**	**250**	⇓P		**Pb**	**21 55 30.7**	**+0.9**
TSOZ				S		**Sb**	**21 55 55.4**	**+3.0**
LACR	**Lac**	**1.85**	**313**	*e*PN		**Pn**	**21 55 28.1**	**+1.2**
LACR	**Lac**	**1.85**	**313**	*e*Pn		**Pn**	**21 55 28.1**	**+1.2**
AMBZ	**Amberd**	**1.86**	**231**	⇑*i*P		**Pn**	**21 55 27.8**	**+0.7**
AMBZ				⇑*i*S		**Sb**	**21 55 52.3**	**-1.0**
AMBZ	**Amberd**	**1.86**	**231**	⇑P		**Pn**	**21 55 27.8**	**+0.7**
AMBZ				S		**Sb**	**21 55 52.3**	**-1.0**
HARI	**Harich**	**1.89**	**240**	⇓*i*P		**Pb**	**21 55 31.6**	**+0.7**
HARI				⇑*i*S		**Sb**	**21 55 56.4**	**+2.2**
HARI	**Harich**	**1.89**	**240**	⇓P		**Pb**	**21 55 31.6**	**+0.7**
HARI				S		**Sb**	**21 55 56.4**	**+2.2**
ERE	**Yerevan**	**1.90**	**222**	*e*P		**Pn**	**21 55 27.0**	**-0.5**
ERE				⇑S		**Sb**	**21 55 55.4**	**+1.1**
ERE	**Yerevan**	**1.90**	**222**	P		**Pn**	**21 55 27.0**	**-0.5**
ERE				S		**Sb**	**21 55 55.4**	**+1.1**
GMRZ	**Gyumri**	**1.91**	**247**	⇓*i*P		**Pb**	**21 55 31.9**	**+0.8**
GMRZ				⇓*i*S		**Sb**	**21 55 57.1**	**+2.5**
GMRZ	**Gyumri**	**1.91**	**247**	*e*P		**Pb**	**21 55 31.0**	**-0.1**
GMRZ				S		**Sb**	**21 55 56.0**	**+1.4**
LERZ	**Lernakert**	**1.95**	**239**	⇓*i*P		**Pb**	**21 55 32.8**	**+1.0**
LERZ				⇓*i*S		**Sb**	**21 55 59.4**	**+3.7**
LERZ	**Lernakert**	**1.95**	**239**	⇓P		**Pb**	**21 55 32.8**	**+1.0**
LERZ				S		**Sb**	**21 55 59.4**	**+3.7**
KDMR	**Kurdemir**	**1.96**	**127**	⇓Pg		**Pb**	**21 55 30.7**	**-1.2**
KDMR				⇑Sg		**Sb**	**21 55 57.7**	**+1.8**
KDMR	**Kurdemir**	**1.96**	**127**	Pg		**Pb**	**21 55 30.7**	**-1.2**
KDMR				Sg		**Sb**	**21 55 57.7**	**+1.8**
PAAR	**P'arak'ar**	**1.96**	**224**	⇑*i*P		**Pn**	**21 55 28.6**	**+0.3**
PAAR				⇓*i*S		**Sn**	**21 55 54.1**	**+2.1**
PAAR	**P'arak'ar**	**1.96**	**224**	⇑P		**Pn**	**21 55 28.6**	**+0.3**
PAAR				S		**Sn**	**21 55 54.1**	**+2.1**
AKH	**Akhalkalaki**	**2.00**	**266**	P		**Pn**	**21 55 29.8**	**+0.8**
AKH				S		**Sb**	**21 55 56.4**	**-0.8**
AKH	**Akhalkalaki**	**2.00**	**266**	P		**Pn**	**21 55 29.8**	**+0.8**
AKH				S		**Sb**	**21 55 56.4**	**-0.8**
PQL	**Pirkuli**	**2.01**	**112**	⇓Pg		**Pb**	**21 55 31.5**	**-1.4**
	SNR=40							
PQL				⇓Sg		**Sb**	**21 55 58.6**	**+1.1**
PQL	**Pirkuli**	**2.01**	**112**	Pg		**Pb**	**21 55 31.5**	**-1.4**
	SNR=40							
PQL				Sg		**Sb**	**21 55 58.6**	**+1.1**
ZEI	**Tsey**	**2.06**	**307**	⇓*i*PN		**Pn**	**21 55 31.4**	**+1.7**
ZEI	**Tsey**	**2.06**	**307**	*i* Pn		**Pn**	**21 55 31.4**	**+1.7**
GRS	**Goris**	**2.09**	**176**	⇓*i*P		**Pn**	**21 55 30.0**	**-0.1**
GRS				⇓*i*S		**Sb**	**21 55 58.0**	**-1.7**
GRS	**Goris**	**2.09**	**176**	⇓P		**Pn**	**21 55 30.0**	**-0.1**
GRS				S		**Sb**	**21 55 58.0**	**-1.7**
ARNR	**Ardon**	**2.11**	**320**	*e*PN		**Pb**	**21 55 33.8**	**-0.6**
ARNR				*e*S		**Sb**	**21 56 00.9**	**+0.7**
ARNR	**Ardon**	**2.11**	**320**	*e*Pn		**Pb**	**21 55 33.8**	**-0.6**
ARNR				*e*Sn		**Sb**	**21 56 00.9**	**+0.7**
VRNZ	**Vardanashen**	**2.13**	**225**	⇑*i*P		**Pb**	**21 55 33.6**	**-1.3**
VRNZ				⇑*i*S		**Sb**	**21 56 01.3**	**+0.4**
VRNZ	**Vardanashen**	**2.13**	**225**	⇑P		**Pb**	**21 55 33.6**	**-1.3**
VRNZ				S		**Sb**	**21 56 01.3**	**+0.4**
SIZA	**Siyzn**	**2.14**	**103**	⇑Pg		**Pb**	**21 55 33.9**	**-1.1**
	SNR=127							
SIZA				⇓Sg		**Sb**	**21 56 02.6**	**+1.5**
SIZA	**Siyzn**	**2.14**	**103**	Pg		**Pb**	**21 55 33.8**	**-1.1**
	SNR=127							
SIZA				Sg		**Sb**	**21 56 02.6**	**+1.5**
BTKR	**Batakoyurt**	**2.14**	**327**	⇓*i*PN		**Pb**	**21 55 34.7**	**-0.3**
BTKR				*e*S		**Sb**	**21 56 02.7**	**+1.5**
BTKR	**Batakoyurt**	**2.14**	**327**	*i* Pn		**Pb**	**21 55 34.7**	**-0.3**
BTKR				*e*Sn		**Sb**	**21 56 02.7**	**+1.5**
KORR	**Kora**	**2.15**	**315**	*d*PN		**Pn**	**21 55 33.4**	**+2.5**
KORR	**Kora**	**2.15**	**315**	*i* Pn		**Pn**	**21 55 33.4**	**+2.5**
NARZ	**Nor Artik**	**2.15**	**239**	⇓*i*P		**Pb**	**21 55 35.9**	**+0.7**
NARZ				⇓*i*S		**Sb**	**21 56 02.6**	**+4.7**
**NAR

	comp=Z,5.0nm,1.6s							
KIV	**Kislovodsk**	**3.48**	**314**	*i* Pb	**Pb**	**21 55 58.0**	**+0.2**
KIV				*i* Sb	**Sb**	**21 56 43.0**	**+3.4**
LKRN	**Lenkeran, Azer**	**3.51**	**144**	⇑Pn	**Pn**	**21 55 50.9**	**+1.4**
LKRN				⇑S	**Sn**	**21 56 30.4**	**+0.3**
LKRN	**Lenkeran, Azer**	**3.51**	**144**	Pn	**Pn**	**21 55 50.9**	**+1.4**
LKRN				S	**Sn**	**21 56 30.4**	**+0.3**
EZM	**Erzurum**	**4.00**	**247**	*e*PN	Pn	21 56 00.7	+4.1
GOF	**Gofitskoye**	**4.14**	**328**	*e*PN	Pn	21 56 01.9	+3.7
GOF				*e*S	**Sb**	**21 56 53.8**	**-4.8**
GOF				pmax	pmax		
	comp=Z,20nm,0.9s						
GOF				smax	smax		
	comp=N,80nm,1.2s						
GOF				smax	smax		
	comp=E,50nm,0.8s						
GOF	**Gofitskoye**	**4.14**	**328**	*e*Pn	Pn	21 56 01.9	+3.7
	comp=E,20nm,0.9s						
GOF				*e*Sn	**Sb**	**21 56 53.8**	**-4.8**
	comp=E,80nm,1.2s						
VRTB	**Varto-Mus**	**4.32**	**237**	*e*PN	Pn	21 56 04.8	+3.9
VRTB	**Varto-Mus**	**4.32**	**237**	*e*Pn	Pn	21 56 04.8	+3.9
BAYT	**Ayd¨–ntepe-Bay**	**4.70**	**257**	*e*PN	Pn	21 56 11.3	+5.3
BAYT	**Ayd¨–ntepe-Bay**	**4.70**	**257**	*e*Pn	Pn	21 56 11.3	+5.3
SOC	**Sochi**	**5.15**	**295**	*e*PN	**Pn**	**21 56 14.1**	**+2.1**
SOC	**Sochi**	**5.15**	**295**	*e*Pn	**Pn**	**21 56 14.1**	**+2.1**
BRTR	**Keskin Array B**	**9.69**	**263**	P	**Pn**	**21 57 16.3**	**+1.8**
BRTR	**Keskin Array B**	**9.69**	**263**	Pn	**Pn**	**21 57 16.3**	**+1.8**
	comp=E,0.0nm,0.3s,baz=64,slow=13,SNR=3.4						
AKTK	**Aktyubinsk**	**12.09**	**39**	P	**Pn**	**21 57 45.4**	**-1.7**
	comp=E,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.09**	**39**	P	**Pn**	**21 57 45.4**	**-1.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.09**	**39**	Pn	**Pn**	**21 57 45.4**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=204,slow=8.0,SNR=6.7						
AKTO				Sn	Sn	21 59 53.6	-7.2
	comp=Z,0.4nm,0.3s,baz=32,slow=20,SNR=5.7						
AKTO	**Aktyubinsk**	**12.09**	**39**	⇑Pn	**Pn**	**21 57 44.9**	**-2.2**
	comp=Z,1.9nm,0.6s						
AKTO				⇓Sn	Sn	21 59 53.2	-7.7
	comp=Z,4.0nm,0.7s						
AB31	**Akbulak array**	**12.35**	**47**	Pn	**Pn**	**21 57 49.9**	**-0.8**
	comp=Z,0.8nm,0.4s,SNR=20						
AB31	**Akbulak array**	**12.35**	**47**	⇑Pn	**Pn**	**21 57 49.9**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=240,slow=13,SNR=20						
AB31				⇓Sn	Sn	21 59 58.5	-8.7
	comp=Z,1.4nm,0.5s,baz=233,slow=26,SNR=4.8						
AKASG	**Malin Array Be**	**14.82**	**314**	P	**Pn**	**21 58 23.2**	**-1.2**
AKASG	**Malin Array Be**	**14.82**	**314**	P	**Pn**	**21 58 23.2**	**-1.2**
AKASG	**Malin Array Be**	**14.82**	**314**	Pn	**Pn**	**21 58 23.2**	**-1.2**
	baz=120,slow=11,SNR=2.8						
OBN	**Obninsk**	**14.94**	**338**	*e*P	**Pn**	**21 58 25.4**	**-0.5**
OBN				pmax	pmax		
	comp=Z,11nm,1.6s						
OBN	**Obninsk**	**14.94**	**338**	*e*P	**Pn**	**21 58 25.4**	**-0.5**
	comp=Z,11nm,1.6s						
MLR	**Muntele Rosu**	**15.15**	**292**	P	**Pn**	**21 58 30.5**	**+1.5**
MLR	**Muntele Rosu**	**15.15**	**292**	Pn	**Pn**	**21 58 30.5**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=153,slow=16,SNR=2.1						
ARU	**Arti**	**16.90**	**24***c*	*i* P	**Pn**	**21 58 51.9**	**+0.8**
ARU				S	**Sn**	**22 02 00.0**	**+2.1**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**16.90**	**24**	*i* P	**Pn**	**21 58 51.9**	**+0.8**
	comp=Z,5.0nm,0.6s						
IDI	**Anoyia**	**17.78**	**256**	P	**P**	**21 59 04.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=75,slow=16,SNR=2.6						
SVE	**Sverdlovsk**	**17.89**	**27**	*e*P	**P**	**21 59 04.1**	**+0.2**
SVE				*e*S	**Sn**	**22 02 23.3**	**+1.4**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SVE	**Sverdlovsk**	**17.89**	**27**	*e*P	**P**	**21 59 04.1**	**+0.2**
	comp=Z,8.0nm,0.7s						
KK31	**Karatay Array**	**18.07**	**77**	⇑Pn	**Pn**	**21 59 03.6**	**-2.1**
	comp=Z,1.1nm,0.6s,baz=278,slow=13,SNR=22						
KK31				⇑Sn	Sn	22 02 16.4	-10
	comp=Z,0.7nm,0.7s						
BRVK	**Borovoye**	**19.88**	**47**⇑	*e*P	**P**	**21 59 25.0**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**19.88**	**47**	*e*P	**P**	**21 59 25.0**	**-0.7**
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**19.88**	**47**	⇓Pn	**P**	**21 59 24.7**	**-1.0**
	comp=Z,5.5nm,0.6s						
BVA0	**Borovoye Array**	**19.92**	**47**	⇑Pn	**P**	**21 59 24.9**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=256,slow=9.2,SNR=21						
BVAR	**Borovoye Array**	**19.92**	**47**	P	**P**	**21 59 25.3**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**19.92**	**47**	P	**P**	**21 59 25.3**	**-0.9**
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**19.92**	**47**	P	**P**	**21 59 25.3**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=237,slow=11,SNR=12						
AAK	**Ala-Archa**	**21.02**	**78***c*	*e*P	**P**	**21 59 38.7**	**+0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AAK	**Ala-Archa**	**21.02**	**78**	*e*P	**P**	**21 59 38.7**	**+0.3**
	comp=Z,6.0nm,0.8s						
AAK	**Ala-Archa**	**21.02**	**78**	P	**P**	**21 59 37.1**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=234,slow=7.5,SNR=7.5						
JOF	**Joensuu**	**23.10**	**343**	*e*P	**P**	**21 59 59.0**	**-1.1**
JOF	**Joensuu**	**23.10**	**343**	*e*p	**P**	**21 59 59.0**	**-1.1**
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**23.10**	**343**	*e*P	**P**	**21 59 59.0**	**-1.1**
FINES	**FINESS Array B**	**23.30**	**335**	P	**P**	**22 00 01.5**	**-0.6**
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**23.30**	**335**	P	**P**	**22 00 01.5**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=137,slow=8.5,SNR=18						
KAF	**Kangasniemi**	**23.74**	**337**	*e*P	**P**	**22 00 04.8**	**-1.6**
KAF	**Kangasniemi**	**23.74**	**337**	*e*p	**P**	**22 00 04.8**	**-1.6**
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**23.85**	**299**	P	**P**	**22 00 07.7**	**0.0**
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**23.85**	**299**	P	**P**	**22 00 07.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=99,slow=8.2,SNR=6.1						
KURBB	**Kurchatov Arra**	**24.04**	**57**	P	**P**	**22 00 08.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=265,slow=9.6,SNR=8.0						
KURK	**Kurchatov**	**24.11**	**57**	P	**P**	**22 00 08.8**	**-1.2**
KURK	**Kurchatov**	**24.11**	**57**	P	**P**	**22 00 08.8**	**-1.2**
CLL	**Collm**	**24.63**	**305**	*e*P	**P**	**22 00 18.0**	**+3.3**
CLL				*i*		22 00 25.6	
CLL	**Collm**	**24.63**	**305**	*e*P	**P**	**22 00 18.0**	**+3.3**
CLL				*i*		22 00 25.6	
CLL				*e*		22 00 30.0	
CLL				Lm	MLR	22 11 00.0	
	comp=Z,100nm,18.2s						
CLL	**Collm**	**24.63**	**305**	*e*P	**P**	**22 00 18.0**	**+3.3**
MKAR	**Makanchi Array**	**26.28**	**66**	P	**P**	**22 00 29.3**	**-0.5**
MKAR	**Makanchi Array**	**26.28**	**66**	P	**P**	**22 00 29.3**	**-0.5**
MKAR	**Makanchi Array**	**26.28**	**66**	P	**P**	**22 00 29.3**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=266,slow=8.6,SNR=14						
ZALV	**Zalesovo Beam**	**28.41**	**51**	P	**P**	**22 00 47.4**	**-1.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**28.41**	**51**	P	**P**	**22 00 47.4**	**-1.4**
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**28.41**	**51**	P	**P**	**22 00 47.4**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=265,slow=7.3,SNR=4.9						
NB2	**NORSAR Subarra**	**28.72**	**325**	P	P	22 00 50.0	-1.5
	comp=Z,0.9nm,0.5s,baz=116,slow=8.6						
NOA	**NORSAR Array B**	**28.72**	**325**	P	P	22 00 50.1	-1.4
	comp=Z,1.0nm,0.5s,baz=118,slow=8.4,SNR=4.4						
ARCES	**ARCESS Array B**	**30.02**	**346**	P	**P**	**22 01 02.4**	**-0.4**
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**30.02**	**346**	P	**P**	**22 01 02.4**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=156,slow=10.0,SNR=9.5						
ESDC	**Sonseca Array**	**37.65**	**284**	P	**P**	**22 02 08.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=66,slow=8.9,SNR=2.9						
SPITS	**Spitsbergen Ar**	**38.62**	**351**	P	**P**	**22 02 16.9**	**-0.2**
	comp=Z,6.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**38.62**	**351**	P	**P**	**22 02 16.9**	**-0.2**
	comp=Z,6.1nm,0.9s,baz=248,slow=7.6,SNR=2.7						
SONM	**Songino Array**	**42.32**	**60**	P	**P**	**22 02 47.3**	**-0.9**
SONM	**Songino Array**	**42.32**	**60**	P	**P**	**22 02 47.3**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=284,slow=7.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**47.85**	**247**	P	**P**	**22 03 31.4**	**-0.9**
	comp=Z,1.0nm,1.0s,baz=31,slow=6.5,SNR=4.9						

CASC 26 22:05:46.1±0.8, 12°.89N×90°.34W, h55km±72km, MD3.7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.18**	**36**	*e*P	Pn	22 06 06.2	-0.4
SBLS				*e*S	Sn	22 06 23.1	+1.2
SNJE	**San Jose**	**1.21**	**36**	*e*P	Pn	22 06 07.0	0.0
SNJE				*e*S	Sn	22 06 23.6	+1.0
RTR	**El Retiro**	**1.21**	**34**	*e*P	Pn	22 06 07.0	0.0
IXG	**Ixpaco**	**1.29**	**355**	*e*P	Pn	22 06 08.2	+0.2
IXG				*e*S	Sn	22 06 24.8	+0.4
BOQS	**Boqueron**	**1.33**	**50**	*e*P	Pn	22 06 09.1	+0.4
RBDL	**Robledal**	**1.37**	**27**	*e*P	Pn	22 06 09.6	+0.3
RBDL				*e*S	Sn	22 06 27.2	+0.7
LFRS	**El Faro**	**1.44**	**59**	*e*P	Pn	22 06 10.5	+0.4
MRL	**Marmol**	**2.26**	**16**	*e*P	Pn	22 06 25.5	+4.3
MRL				*e*S	Sn	22 06 42.3	-5.8

*IDC **26** 22:33:13.8±3.3, 39°.71N×72°.56E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.2/27, mbtmp3.8/3, ML2.5/1, Error ellipse: s-maj=72.8km s-min=18.7km az=149.0*
*NNC **26** 22:33:14.7±1.8, 39°.93N×74°.28E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=14.3km s-min=8.3km az=163.0*
ISC 26 22:33:11.8±1.7, 39°.8N±0°.1×73°.81E±0°.09, h14km, n15, σ1§59/17, mb3.9/3, 4C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.36**	**358**	P	**Pb**	**22 33 54.0**	**-0.3**
	SNR=29						
UCH	**Uchtor**	**2.52**	**12**	P	**Pn**	**22 33 54.4**	**+1.8**
	SNR=41						
KZA	**Kyzart**	**2.55**	**25**	P	**Pn**	**22 33 53.1**	**0.0**
	SNR=8.5						
EKS2	**Erkin-Say**	**2.89**	**360**	P	**Pb**	**22 34 01.6**	**-1.5**
	SNR=9.0						
AAK	**Ala-Archa**	**2.91**	**10**	P	**Pn**	**22 34 00.3**	**+2.5**
	SNR=13						
AAK	**Ala-Archa**	**2.91**	**10**	⇓Pn	**Pn**	**22 34 00.4**	**+2.5**
	3.2nm,0.3s						
AAK				⇑Lg	Lg	22 34 39.8	
	33nm,0.8s						
KBK	**Karagaybulak**	**3.01**	**16**	P	**Pn**	**22 34 00.9**	**+1.7**
	SNR=23						
ULHL	**Ulahol**	**3.09**	**36**	P	**Pb**	**22 34 05.8**	**-0.7**
	SNR=6.2						
TKM2	**Tokmak 2**	**3.43**	**23**	P	**Pn**	**22 34 05.2**	**+0.2**
	SNR=25						
TKM2	**Tokmak 2**	**3.43**	**23**	⇑Pn	**Pn**	**22 34 04.8**	**-0.1**
	6.3nm,0.3s						
TKM2				Pg	**Pb**	**22 34 11.6**	**-0.8**
TKM2				⇓Sn	**Sn**	**22 34 45.8**	**+0.3**
	20nm,0.6s						
TKM2				Lg	Lg	22 34 54.4	
KK31	**Karatay Array**	**4.15**	**324**	Pn	Pb	22 34 20.4	-4.2
	0.5nm,0.2s,baz=129,slow=12,SNR=46						
KK31				⇑Pg	**Pg**	**22 34 32.7**	**+1.4**
	0.8nm,0.3s,baz=138,slow=16,SNR=6.8						
KK31				⇑Sn	**Sb**	**22 35 11.7**	**-2.9**
	2.4nm,0.5s,baz=135,slow=24,SNR=3.5						
KK31				⇓Lg	Lg	22 35 31.1	
	3.5nm,0.4s,baz=128,slow=28,SNR=6.2						
MKAR	**Makanchi Array**	**9.36**	**39**	Pn	Pn	22 35 38.7	+13
	0.0nm,0.3s,baz=227,slow=15,SNR=3.2						
MKAR				Sn	Sn	22 37 32.6	+21
	0.1nm,0.3s,baz=237,slow=20,SNR=2.2						
FINES	**FINESS Array B**	**36.11**	**323**	P	**P**	**22 40 13.8**	**+0.9**
	4.8nm,1.1s,baz=110,slow=8.1,SNR=4.4						
ARCES	**ARCESS Array B**	**39.03**	**335**	P	**P**	**22 40 37.2**	**-0.4**
	2.8nm,1.0s,baz=106,slow=6.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**68.00**	**269**	P	**P**	**22 44 09.8**	**-1.0**
	0.2nm,0.5s,baz=67,slow=4.7,SNR=2.0						

IDC 26 22:33:33.3±4.0, 4°.95S×129°.33E, h250km±40km, mb3.1/1, mb1 3.0/4, mb1mx2.8/21, mbtmp2.8/4, Error ellipse: s-maj=76.9km s-min=14.0km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.56**	**195**	P	Pn	22 36 35.3	-0.8
	0.1nm,0.3s,baz=30,slow=13,SNR=3.6						
FITZ				S	S	22 38 59.9	-6.6
	0.1nm,0.3s,baz=150,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**15.68**	**162**	P	P	22 37 00.1	-0.6
	0.2nm,0.3s,baz=342,slow=12,SNR=2.8						
WRA				S	S	22 39 46.4	-6.8
	0.4nm,0.3s,baz=334,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**19.12**	**167**	P	P	22 37 38.5	+0.3
	0.2nm,0.3s,baz=349,slow=11,SNR=21						
ASAR				S	S	22 41 02.2	+0.7
	0.0nm,0.3s,baz=346,slow=19,SNR=4.1						
MKAR	**Makanchi Array**	**66.16**	**327**	P	P	22 43 54.2	0.0
	0.3nm,0.4s,baz=123,slow=8.4,SNR=15						

*ISK **26** 22:35:32.9, 38°.59N×39°.58E, h6km, MD3.1*
*DDA **26** 22:35:33.1, 38°.59N×39°.57E, h18km, ML3.5*
*CSEM **26** 22:35:33.4±0.2, 38°.58N×39°.58E, h2km, MD3.1, Error ellipse: s-maj=5.0km s-min=4.2km az=40.0*
ISC 26 22:35:33.6±1.1, 38°.58N±0°.02×39°.58E±0°.02, h4km±10km, n50, σ0§85/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.34**	**335**	*e*PG	**Pg**	**22 35 39.6**	**-0.7**
PTK				*e*SG	**Sg**	**22 35 45.2**	**+0.4**
PTK	**Pertek**	**0.34**	**335**	*e*Pg	**Pg**	**22 35 39.6**	**-0.7**
PTK				*e*Sg	**Sg**	**22 35 45.2**	**+0.4**
ELZG	**Elazig**	**0.47**	**260**	*i* P	**Pg**	**22 35 42.6**	**-0.2**
ELZG				*i* S	**Sg**	**22 35 49.4**	**+0.5**
ELZG	**Elazig**	**0.47**	**260**	*i* P	**Pg**	**22 35 42.6**	**-0.2**
ELZG				*i* S	**Sg**	**22 35 49.4**	**+0.5**
DYBB	**Diyarbakir**	**0.77**	**145**	*e*PG	**Pg**	**22 35 48.2**	**-0.2**
DYBB				*e*SG	**Sg**	**22 35 59.2**	**+0.9**
DIYA	**Diyarbakir**	**0.79**	**147**	*i* P	**Pb**	**22 35 49.5**	**-0.4**
DIYA				*i* S	**Sb**	**22 36 00.6**	**-0.3**
DIYA	**Diyarbakir**	**0.79**	**147**	*i* P	**Pb**	**22 35 49.5**	**-0.4**
DIYA				*i* S	**Sb**	**22 36 00.6**	**-0.3**
DIY	**Diyarbakir**	**0.85**	**143**	*e*Pg	**Pg**	**22 35 48.2**	**-1.8**
DIY				*e*Sg	**Sg**	**22 35 59.2**	**-1.9**
MALT	**Malatya**	**0.94**	**254**	*e*PG	**Pg**	**22 35 51.3**	**-0.4**
MALT				*e*SG	**Sb**	**22 36 05.4**	**-0.1**
MALT	**Malatya**	**0.94**	**254**	*e*Pg	**Pg**	**22 35 51.3**	**-0.4**
MALT				*e*Sg	**Sb**	**22 36 05.4**	**-0.1**
BNGB	**Bing¨¶l**	**0.95**	**64**	*e*PG	**Pg**	**22 35 51.6**	**-0.3**
BNGB				*e*SG	**Sb**	**22 36 05.3**	**-0.4**
ERZN	**Erzincan**	**1.01**	**6**	*e*PG	**Pg**	**22 35 52.3**	**-0.7**
KEMA	**Kemaliye**	**1.09**	**309**	*i* P	**Pg**	**22 35 53.0**	**-1.5**
KEMA	**Kemaliye**	**1.09**	**309**	*i* P	**Pg**	**22 35 53.0**	**-1.5**
EUZM	**Uzumlu**	**1.12**	**5**	*i* P	**Pn**	**22 35 56.0**	**-0.3**
EUZM				*i* S	**Sn**	**22 36 11.6**	**-0.7**
EUZM	**Uzumlu**	**1.12**	**5**	*i* P	**Pn**	**22 35 56.0**	**-0.3**
EUZM				*i* S	**Sn**	**22 36 11.6**	**-0.7**
ILIC	**ilic-Erzincan**	**1.17**	**318**	*e*PN	**Pg**	**22 35 55.6**	**-0.4**
ILIC	**ilic-Erzincan**	**1.17**	**318**	*e*Pn	**Pg**	**22 35 55.7**	**-0.4**
MAZI	**Mazidag**	**1.31**	**148**	*e*PN	**Pn**	**22 35 58.2**	**-0.6**
MAZI	**Mazidag**	**1.31**	**148**	*e*Pn	**Pn**	**22 35 58.2**	**-0.6**
AKCD	**Akcadag**	**1.33**	**258**	*i* P	**Pn**	**22 35 58.0**	**-1.1**
AKCD				*i* S	**Sn**	**22 36 18.1**	**+0.7**
AKCD	**Akcadag**	**1.33**	**258**	*i* P	**Pn**	**22 35 58.0**	**-1.1**
AKCD				*i* S	**Sn**	**22 36 18.1**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.34**	**108**	*e*PN	**Pn**	**22 35 58.2**	**-1.0**
BEST	**Besiri**	**1.50**	**117**	*i* P	**Pn**	**22 36 01.2**	**-0.2**
BEST				*i* S	**Sg**	**22 36 22.4**	**+0.6**
ATAB	**Bozova**	**1.51**	**223**	*i* P	**Pn**	**22 36 01.3**	**-0.1**
ATAB				*i* S	**Sg**	**22 36 23.2**	**+1.2**
ATAB	**Bozova**	**1.51**	**223**	*i* P	**Pn**	**22 36 01.3**	**-0.1**
ATAB				*i* S	**Sg**	**22 36 23.2**	**+1.2**
BTMT	**Batman**	**1.55**	**104**	*e*PN	**Pn**	**22 36 02.1**	**0.0**
BTMT	**Batman**	**1.55**	**104**	*e*Pn	**Pn**	**22 36 02.1**	**0.0**
VRTB	**Varto-Mus**	**1.57**	**68**	*e*PN	**Pn**	**22 36 02.0**	**-0.4**
VRTB	**Varto-Mus**	**1.57**	**68**	*e*Pn	**Pn**	**22 36 02.0**	**-0.4**
KELT	**Kelkit**	**1.58**	**351**	*i* P	**Pb**	**22 36 03.2**	**-0.4**
KELT				*i* S	**Sb**	**22 36 24.3**	**+0.3**
KELT	**Kelkit**	**1.58**	**351**	*i* P	**Pb**	**22 36 03.2**	**-0.4**
KELT				*i* S	**Sb**	**22 36 24.3**	**+0.3**
MARD	**Mardin**	**1.58**	**143**	*i* P	**Pn**	**22 36 02.1**	**-0.4**
MARD				*i* S	**Sn**	**22 36 23.1**	**-0.4**
DARE	**Darende-Malaty**	**1.64**	**270**	*e*PN	**Pn**	**22 36 02.9**	**-0.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.86**	**13**	*e*PN	**Pn**	**22 36 06.0**	**-0.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.86**	**13**	*e*Pn	**Pn**	**22 36 06.0**	**-0.4**
GUMT	**Gumushane**	**1.88**	**358**	*e*PN	**Pn**	**22 36 06.4**	**-0.2**
GUMT	**Gumushane**	**1.88**	**358**	*e*Pn	**Pn**	**22 36 06.4**	**-0.2**
EZM	**Erzurum**	**1.91**	**46**	*e*PN	**Pn**	**22 36 06.9**	**-0.3**
SUSE	**Susehri**	**1.94**	**327**	*e*P	**Pg**	**22 36 10.9**	**+0.1**
SUSE				*e*S	**Sg**	**22 36 37.7**	**+1.6**
SUSE	**Susehri**	**1.94**	**327**	*e*P	**Pg**	**22 36 10.9**	**+0.1**
GZT	**Gaziantep**	**2.01**	**233**	*e*P	**Pn**	**22 36 08.5**	**+0.1**
EKAR	**Karacoban**	**2.05**	**70**	*i* P	**Pg**	**22 36 14.8**	**+1.9**
SVSK	**Karacayir**	**2.41**	**304**	*e*PN	**Pn**	**22 36 13.8**	**+0.1**
SVSK	**Karacayir**	**2.41**	**304**	*e*Pn	**Pn**	**22 36 13.9**	**+0.1**
SIRT	**Sirnak**	**2.50**	**115**	*e*PN	**Pn**	**22 36 15.6**	**+0.4**
SIRT	**Sirnak**	**2.50**	**115**	*e*Pn	**Pn**	**22 36 15.6**	**+0.4**
KUZU	**Kuzuini**	**2.69**	**228**	*i* P	**Pg**	**22 36 24.9**	**-0.2**
KUZU				*i* S	**Sg**	**22 37 02.6**	**+2.7**
HAKT	**HAKKARI**	**3.42**	**106**	*e*P	**Pn**	**22 36 29.8**	**+1.9**
HAKT	**HAKKARI**	**3.42**	**106**	*e*P	**Pn**	**22 36 29.8**	**+1.9**

MAN 26 22:37:42, 11°.57N×126°.13E, h13km, mb4.5, ML3.4, MS3.3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.20**	**251**⇑	*i* P	Pn	22 38 02.9	-1.6
PLP				*i* S	Sb	22 38 17.7	-2.4

*ISCJB **26** 23:02:06.0±0.4, 33°.02N±0°.02×115°.87W±0°.03, h7km±3km, Error ellipse: s-maj=3.8km s-min=2.9km az=172.2*
*ECX **26** 23:02:08.8±0.6, 32°.94N×115°.92W, h6km, MD3.9, ML4.0*
*NEIC **26** 23:02:08.2, 32°.95N×115°.92W, h14km, ML3.9(PAS), ML4.0(ECX), After PAS.*
NEIC Felt [IV] at Calipatria; [III] at Brawley and Imperial; [II] at El Centro. Also felt at Big Bear City, Borrego Springs, Calexico, Campo, Cathedral City, Costa Mesa, El Cajon, La Canada Flintridge, Palm Desert, Pine Valley, Riverside, San Clemente, San Diego and Westmorland.
ISC 26 23:02:07.0±0.9, 32°.92N±0°.02×115°.88W±0°.02, h14km±7km, n37, σ1§40/58, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRR	**Carrizo Plain**	**0.09**	**246**⇓	*i* P	**Pg**	**23 02 10.5**	**+0.6**
COK	**Cook Ranch**	**0.14**	**120**⇑	*i* P	**Pb**	**23 02 12.6**	**+1.2**
YUH	**Yuha Desert**	**0.28**	**188**⇓	*i* P	**Pb**	**23 02 14.0**	**+0.3**
SGL	**Mount Signal**	**0.30**	**155**⇓	*i* P	**Pb**	**23 02 14.8**	**+0.7**
RMX	**La Rumorosa**	**0.36**	**208**	*e*P	**Pb**	**23 02 15.3**	**0.0**
RMX				*i* S	**Sb**	**23 02 20.9**	**+0.1**
MONP	**Monument Peak**	**0.46**	**266**⇑	*i* P	**Pg**	**23 02 16.4**	**+0.3**
PFO	**Pinyon Flat Ob**	**0.84**	**325**	*e*Pg	**Pg**	**23 02 22.5**	**-0.8**
PFO				*e*Sg	**Sg**	**23 02 33.1**	**-1.3**
GLA	**Glamis**	**0.89**	**81**	*e*Pg	**Pb**	**23 02 23.9**	**-0.4**
GLA				*e*Sg	**Sb**	**23 02 37.2**	**+1.2**
CBX	**Cerro Bola**	**0.90**	**228**	*e*P	**Pb**	**23 02 24.6**	**+0.3**
CBX				*i* S	**Sg**	**23 02 36.5**	**+0.2**
RDX	**Rancho Dawling**	**0.99**	**183**⇓	*e*P	**Pb**	**23 02 26.2**	**+0.2**
RDX				⇑*e*		23 02 45.7	
	comp=N,2μm,0.5s						
EMX	**El Mayor**	**1.07**	**150**	*e*P	**Pb**	**23 02 27.4**	**+0.1**
EMX				*i* S	**Sn**	**23 02 42.6**	**+0.4**
PBX	**Punta Banda**	**1.38**	**212**	*e*P	**Pb**	**23 02 32.6**	**+0.1**
PBX				⇓*e*		23 02 55.6	
	comp=N,4μm,0.7s						
PBX				⇑*e*		23 02 56.5	
	comp=E,2μm,0.6s						
ECNX	**Esteban Cantu**	**1.40**	**206**⇓	*e*P	**Pb**	**23 02 32.9**	**0.0**
ZAX	**El Zacaton**	**1.44**	**194**	*e*P	**Pb**	**23 02 33.8**

ODBI	**Odobesti**	0.26	90⇑	*i*P	Pn	23 04 55.5	-0.3
ODBI				*i*S	Sn	23 05 07.3	-0.7
ODBI	**Odobesti**	0.26	90⇑	*i*P	Pn	23 04 55.5	-0.3
ODBI				*i*S	Sn	23 05 07.3	-0.7
PETR	**Petresti**	0.38	96⇓	*i*P	Pn	23 04 55.6	-0.7
PETR	**Petresti**	0.38	96⇓	*i*P	Pn	23 04 55.6	-0.7
PETR				*i*S	Sn	23 05 07.6	-1.4
PETR	**Petresti**	0.38	96	P	Pn	23 04 55.6	-0.7
PETR				S	Sn	23 05 07.6	-1.4
PETR	**Petresti**	0.38	96⇓	*i*P	Pn	23 04 55.6	-0.7
PETR				*i*S	Sn	23 05 07.6	-1.4
GRER		0.43	152⇑	*i*P	Pn	23 04 56.6	-0.1
GRER		0.43	152⇑	*i*P	Pn	23 04 56.6	-0.1
GRER		0.43	152⇑	*i*P	Pn	23 04 56.6	-0.1
GHRR		0.58	59⇓	*i*P	Pn	23 04 56.8	-0.8
GHRR		0.58	59⇓	*i*P	Pn	23 04 56.8	-0.8
GHRR		0.58	59	P	Pn	23 04 56.8	-0.8
GHRR		0.58	59⇓	*i*P	Pn	23 04 56.8	-0.8
MLR	**Muntele Rosu**	0.59	242⇑	*i*P	Pn	23 04 57.0	-0.8
MLR	**Muntele Rosu**	0.59	242⇑	*i*P	Pn	23 04 57.0	-0.8
MLR				*i*S	Sn	23 05 09.5	-2.0
MLR	**Muntele Rosu**	0.59	242	P	Pn	23 04 57.0	-0.8
MLR				S	Sn	23 05 09.5	-2.0
MLR	**Muntele Rosu**	0.59	242⇑	*i*P	Pn	23 04 57.0	-0.8
MLR				S	Sn	23 05 09.9	-1.6
	298nm,0.3s						
MLR	**Muntele Rosu**	0.59	242	P	Pn	23 04 56.7	-1.1
	488nm,0.3s,baz=349,slow=7.6						
MLR				S	Sn	23 05 09.9	-1.6
	298nm,0.3s,baz=203,slow=22,SNR=89						
ISR	**Istrita**	0.65	189	*e*P	Pn	23 04 57.6	-0.6
ISR				*e*		23 05 09.8	
ISR	**Istrita**	0.65	189⇑	*i*P	Pn	23 04 57.7	-0.6
ISR	**Istrita**	0.65	189⇑	*i*P	Pn	23 04 57.7	-0.6
ISR				*i*S	Sn	23 05 09.9	-2.3
ISR	**Istrita**	0.65	189	P	Pn	23 04 57.6	-0.6
ISR				S	Sn	23 05 09.9	-2.3
ISR	**Istrita**	0.65	189	*e*P	Pn	23 04 57.6	-0.6
ISR				*i*S	Sn	23 05 09.9	-2.3
TESR	**Tescani**	0.75	358⇓	*i*P	Pn	23 04 57.5	-1.4
TESR	**Tescani**	0.75	358⇓	*i*P	Pn	23 04 57.5	-1.4
TESR				*i*S	Sn	23 05 10.8	-2.7
TESR	**Tescani**	0.75	358	P	Pn	23 04 57.5	-1.4
TESR				S	Sn	23 05 10.8	-2.7
TESR	**Tescani**	0.75	358⇓	*i*P	Pn	23 04 57.5	-1.4
SECR		0.85	211⇑	*i*P	Pn	23 04 59.7	-0.1
SECR		0.85	211⇑	*i*P	Pn	23 04 59.7	-0.1
SECR				*i*S	Sn	23 05 14.8	-0.2
SECR		0.85	211⇑	*i*P	Pn	23 04 59.7	-0.1
SECR				*i*S	Sn	23 05 14.8	-0.2
PGOR	**Pogoanele**	0.88	166⇑	*i*P	Pn	23 04 59.6	-0.5
PGOR	**Pogoanele**	0.88	166⇑	*i*P	Pn	23 04 59.6	-0.5
PGOR				*i*S	Sn	23 05 13.5	-2.0
PGOR	**Pogoanele**	0.88	166⇑	*i*P	Pn	23 04 59.6	-0.5
PGOR				*i*S	Sn	23 05 13.5	-2.0
DOPR	**Dopca**	0.93	283⇑	*i*P	Pn	23 04 59.7	-0.9
DOPR	**Dopca**	0.93	283⇑	*i*P	Pn	23 04 59.7	-0.9
DOPR				*i*S	Sn	23 05 15.1	-1.3
DOPR	**Dopca**	0.93	283⇑	*i*P	Pn	23 04 59.7	-0.9
DOPR				*i*S	Sn	23 05 15.1	-1.3
SULR		1.13	196⇑	*i*P	Pn	23 05 02.3	-0.2
SULR		1.13	196⇑	*i*P	Pn	23 05 02.3	-0.2
SULR				*i*S	Sn	23 05 19.4	-0.5
SULR		1.13	196⇑	*i*P	Pn	23 05 02.3	-0.2
SULR				*i*S	Sn	23 05 19.4	-0.5
CFR	**Carcaliu**	1.18	119	P	Pn	23 05 02.0	-1.0
CFR				S	Sn	23 05 19.1	-1.7
CFR	**Carcaliu**	1.18	119⇑	*i*P	Pn	23 05 02.0	-1.0
CFR	**Carcaliu**	1.18	119⇑	*i*P	Pn	23 05 02.0	-1.0
CFR				*i*S	Sn	23 05 19.0	-1.7
CFR	**Carcaliu**	1.18	119	P	Pn	23 05 02.0	-1.0
CFR				S	Sn	23 05 19.1	-1.7
CFR	**Carcaliu**	1.18	119⇑	*i*P	Pn	23 05 02.0	-1.0
CFR				S	Sn	23 05 19.1	-1.7
VOIR		1.20	255	P	Pn	23 05 02.4	-1.0
VOIR				S	Sn	23 05 19.0	-2.3
VOIR		1.20	255⇑	*i*P	Pn	23 05 02.4	-1.0
VOIR		1.20	255⇑	*i*P	Pn	23 05 02.4	-1.0
VOIR				*i*S	Sn	23 05 19.0	-2.3
VOIR		1.20	255	P	Pn	23 05 02.4	-1.0
VOIR				S	Sn	23 05 19.0	-2.3
VOIR		1.20	255⇑	*i*P	Pn	23 05 02.4	-1.0
VOIR				*i*S	Sn	23 05 19.0	-2.3
AMRR	**Amara**	1.24	158	P	Pn	23 05 03.2	-0.6
AMRR				S	Sn	23 05 20.9	-1.2
AMRR	**Amara**	1.24	158⇑	*i*P	Pn	23 05 03.2	-0.6
AMRR	**Amara**	1.24	158⇑	*i*P	Pn	23 05 03.2	-0.6
AMRR				*i*S	Sn	23 05 20.9	-1.2
AMRR	**Amara**	1.24	158	P	Pn	23 05 03.2	-0.6
AMRR				S	Sn	23 05 20.9	-1.2
AMRR	**Amara**	1.24	158⇑	*i*P	Pn	23 05 03.2	-0.6
AMRR				*i*S	Sn	23 05 20.9	-1.2
MTUR	**Matau**	1.26	245	P	Pn	23 05 04.2	+0.1
MTUR	**Matau**	1.26	245⇓	*i*P	Pn	23 05 04.2	+0.1
MTUR	**Matau**	1.26	245⇓	*i*P	Pn	23 05 04.2	+0.1
MTUR	**Matau**	1.26	245	P	Pn	23 05 04.2	+0.1
MTUR	**Matau**	1.26	245⇓	*i*P	Pn	23 05 04.2	+0.1
LEOM	**Leova**	1.30	56⇓	*i*P	Pn	23 05 03.8	-0.5
LEOM	**Leova**	1.30	56⇓	*i*P	Pn	23 05 03.8	-0.5
LEOM				*i*S	Sn	23 05 21.7	-1.4
LEOM	**Leova**	1.30	56⇓	*i*P	Pn	23 05 03.8	-0.5
INCR	**INCERC-Sediu C**	1.38	196⇓	*i*P	Pn	23 05 04.6	-0.7
INCR	**INCERC-Sediu C**	1.38	196⇓	*i*P	Pn	23 05 04.6	-0.7
INCR				*i*S	Sn	23 05 23.4	-1.3
INCR	**INCERC-Sediu C**	1.38	196⇓	*i*P	Pn	23 05 04.6	-0.7
INCR				*i*S	Sn	23 05 23.4	-1.3
HARR	**Harsova**	1.39	140	P	Pn	23 05 04.6	-0.8
HARR	**Harsova**	1.39	140⇑	*i*P	Pn	23 05 04.6	-0.8
HARR	**Harsova**	1.39	140⇑	*i*P	Pn	23 05 04.6	-0.8
HARR	**Harsova**	1.39	140	P	Pn	23 05 04.6	-0.8
HARR	**Harsova**	1.39	140⇑	*i*P	Pn	23 05 04.6	-0.8
BAPR	**Bucharest-Chil**	1.42	197	S	Sn	23 05 23.8	-1.8
BAPR	**Bucharest-Chil**	1.42	197	*i*S	Sn	23 05 23.8	-1.8
BAPR	**Bucharest-Chil**	1.42	197	*i*S	Sn	23 05 23.8	-1.8
CIOR	**Ciorogarla**	1.43	204⇓	*i*P	Pn	23 05 05.3	-0.7
CIOR	**Ciorogarla**	1.43	204⇓	*i*P	Pn	23 05 05.3	-0.7
CIOR				*i*S	Sn	23 05 24.6	-1.3
CIOR	**Ciorogarla**	1.43	204⇓	*i*P	Pn	23 05 05.3	-0.7
CIOR				*i*S	Sn	23 05 24.6	-1.3
BUC1	**Bucharest**	1.49	198⇑	*i*P	Pn	23 05 06.0	-0.6
BUC1				S	Sn	23 05 25.6	-1.5
BUC1	**Bucharest**	1.49	198⇑	*i*P	Pn	23 05 06.0	-0.6
BUC1				*i*S	Sn	23 05 25.6	-1.5
BUC1	**Bucharest**	1.49	198⇑	*i*P	Pn	23 05 06.0	-0.6
BUC1				*i*S	Sn	23 05 25.6	-1.5
ARR	**Arges**	1.50	255⇑	*i*P	Pn	23 05 06.3	-0.4
ARR	**Arges**	1.50	255⇑	*i*P	Pn	23 05 06.3	-0.4
ARR				*i*S	Sn	23 05 25.6	-1.8
ARR	**Arges**	1.50	255	P	Pn	23 05 06.3	-0.4
ARR				S	Sn	23 05 25.6	-1.8
ARR	**Arges**	1.50	255⇑	*i*P	Pn	23 05 06.3	-0.4
ARR				*i*S	Sn	23 05 25.6	-1.8
GOLR		1.53	233⇓	*i*P	Pn	23 05 06.8	-0.3
GOLR		1.53	233⇓	*i*P	Pn	23 05 06.8	-0.3
GOLR				*i*S	Sn	23 05 26.9	-1.0
GOLR		1.53	233	P	Pn	23 05 06.8	-0.3
GOLR				S	Sn	23 05 26.9	-1.0
GOLR		1.53	233⇓	*i*P	Pn	23 05 06.8	-0.3
GOLR				*i*S	Sn	23 05 26.9	-1.0
IAS	**Iasi**	1.55	23	P	Pn	23 05 06.5	-0.8
IAS				S	Sn	23 05 26.2	-2.2
IAS	**Iasi**	1.55	23⇓	*i*P	Pn	23 05 06.5	-0.8
IAS	**Iasi**	1.55	23⇓	*i*P	Pn	23 05 06.5	-0.8
IAS				*i*S	Sn	23 05 26.1	-2.3
IAS	**Iasi**	1.55	23	P	Pn	23 05 06.5	-0.8
IAS				S	Sn	23 05 26.1	-2.3
IAS	**Iasi**	1.55	23⇓	*i*P	Pn	23 05 06.5	-0.8
IAS				S	Sn	23 05 26.2	-2.3
MDB	**Medias**	1.65	284	P	Pn	23 05 08.4	-0.1
MDB	**Medias**	1.65	284⇓	*i*P	Pn	23 05 08.4	-0.1
MDB	**Medias**	1.65	284⇓	*i*P	Pn	23 05 08.4	-0.1
MDB	**Medias**	1.65	284	P	Pn	23 05 08.4	-0.1
MDB	**Medias**	1.65	284⇓	*i*P	Pn	23 05 08.4	-0.1
HUMR	**Humele**	1.73	225⇓	*i*P	Pn	23 05 08.6	-0.9
HUMR	**Humele**	1.73	225⇓	*i*P	Pn	23 05 08.6	-0.9
HUMR				*i*S	Sn	23 05 30.5	-1.7
HUMR	**Humele**	1.73	225⇓	*i*P	Pn	23 05 08.6	-0.9
HUMR				*i*S	Sn	23 05 30.5	-1.7
CVD	**Cernavoda**	1.74	146	P	Pn	23 05 08.6	-0.9
CVD				S	Sn	23 05 29.2	-3.1
CVD	**Cernavoda**	1.74	146⇑	*i*P	Pn	23 05 08.6	-0.9
CVD	**Cernavoda**	1.74	146⇑	*i*P	Pn	23 05 08.6	-0.9
CVD				*i*S	Sn	23 05 29.2	-3.1
CVD	**Cernavoda**	1.74	146	P	Pn	23 05 08.6	-0.9
CVD				S	Sn	23 05 29.2	-3.1
CVD	**Cernavoda**	1.74	146⇑	*i*P	Pn	23 05 08.6	-0.9
TIRR	**Tirgusor**	1.79	136	*e*PN	Pn	23 05 06.5	-3.7
TIRR				*e*SN	Sn	23 05 27.9	-5.6
TIRR	**Tirgusor**	1.79	136	*e*P	Pn	23 05 09.3	-0.9
TIRR				*e*		23 05 30.8	
TIRR	**Tirgusor**	1.79	136⇑	*i*P	Pn	23 05 09.3	-0.9
TIRR	**Tirgusor**	1.79	136⇑	*i*P	Pn	23 05 09.3	-0.9
TIRR				*i*S	Sn	23 05 30.8	-2.7
TIRR	**Tirgusor**	1.79	136	P	Pn	23 05 09.3	-0.9
TIRR				S	Sn	23 05 30.8	-2.7
TIRR	**Tirgusor**	1.79	136	*e*Pn	Pn	23 05 06.5	-3.7
TIRR	**Tirgusor**	1.79	136⇑	*i*P	Pn	23 05 09.3	-0.9
RMVG	**GOVORA**	1.84	248⇓	*i*P	Pn	23 05 11.7	+0.9
RMVG	**GOVORA**	1.84	248⇓	*i*P	Pn	23 05 11.7	+0.9
RMVG				*i*S	Sn	23 05 35.3	+0.6
RMVG	**GOVORA**	1.84	248⇓	*i*P	Pn	23 05 11.7	+0.9
RMVG				*i*S	Sn	23 05 35.3	+0.6
MSAB	**Monastry St. A**	1.86	154⇓	*i*P	Pn	23 05 10.5	-0.6
MSAB	**Monastry St. A**	1.86	154⇓	*i*P	Pn	23 05 10.5	-0.6
MSAB				*i*S	Sn	23 05 32.9	-2.1
MSAB	**Monastry St. A**	1.86	154⇓	*i*P	Pn	23 05 10.5	-0.6
MSAB				*i*S	Sn	23 05 32.9	-2.1
KIS	**Kishinev**	1.92	49⇓	*i*P	Pn	23 05 11.5	-0.3
	4μm,0.6s						
KIS				*i*S	Sn	23 05 34.0	-2.5
	7μm,0.8s						
KIS	**Kishinev**	1.92	49⇓	*i*P	Pn	23 05 11.5	-0.3
KIS				*i*S	Sn	23 05 34.0	-2.5
KIS				pmax	pmax		
	comp=Z,4μm,0.6s						
KIS				smax	smax		
	comp=N,7μm,0.8s						
KIS				smax	smax		
	comp=E,3μm,0.6s						
KIS	**Kishinev**	1.92	49⇓	*i*P	Pn	23 05 11.3	-0.5
KIS	**Kishinev**	1.92	49⇓	*i*P	Pn	23 05 11.3	-0.5
KIS				*i*S	Sn	23 05 34.3	-2.2
KIS	**Kishinev**	1.92	49	P	Pn	23 05 11.3	-0.5
KIS				S	Sn	23 05 34.3	-2.2
KIS	**Kishinev**	1.92	49	*i*P	Pn	23 05 11.5	-0.3
	comp=E,4μm,0.6s						
KIS				*i*S	Sn	23 05 34.0	-2.5
	comp=E,7μm,0.8s						
LOT	**Lotru**	2.07	262⇓	*i*P	Pn	23 05 13.0	-0.8
LOT	**Lotru**	2.07	262⇓	*i*P	Pn	23 05 13.0	-0.8
LOT				*i*S	Sn	23 05 40.3	+0.3
LOT	**Lotru**	2.07	262	P	Pn	23 05 13.0	-0.8
LOT				S	Sn	23 05 40.2	+0.3
LOT	**Lotru**	2.07	262⇓	*i*P	Pn	23 05 13.0	-0.8
LOT				S	Sn	23 05 40.2	+0.3
BURAR	**Bucovina Array**	2.11	332⇑	*i*P	Pn	23 05 14.9	+0.6
BURAR	**Bucovina Array**	2.11	332⇑	*i*P	Pn	23 05 14.9	+0.6
BURAR	**Bucovina Array**	2.11	332⇑	*i*P	Pn	23 05 14.9	+0.6
BUR04	**Bucovina Ar. S**	2.11	332	*e*Pn	Pn	23 05 14.3	-0.1
BUR04				*e*Sn	Sn	23 05 38.4	-2.5
BUR04	**Bucovina Ar. S**	2.11	332	*e*Pn	Pn	23 05 14.3	-0.1
BUR04				*e*Sn	Sn	23 05 38.4	-2.5
EFOR	**EFORIE**	2.18	140⇑	*i*P	Pn	23 05 14.7	-0.4
EFOR	**EFORIE**	2.18	140⇑	*i*P	Pn	23 05 14.7	-0.4
EFOR				*i*S	Sn	23 05 40.1	-2.1
EFOR	**EFORIE**	2.18	140⇑	*i*P	Pn	23 05 14.7	-0.4
EFOR				*i*S	Sn	23 05 40.1	-2.1
PSN	**Preselentsi**	2.34	152	P	Pn	23 05 17.2	+0.1
PSN	**Preselentsi**	2.34	152	P	Pn	23 05 17.2	+0.1
CJR	**Cluj-Napoca**	2.34	295⇑	*i*P	Pn	23 05 16.5	-0.7
CJR	**Cluj-Napoca**	2.34	295⇑	*i*P	Pn	23 05 16.5	-0.7
CJR	**Cluj-Napoca**	2.34	295⇑	*i*P	Pn	23 05 16.5	-0.7
MANR	**Mangalia**	2.37	145⇑	*i*P	Pn	23 05 17.2	-0.3
MANR	**Mangalia**	2.37	145⇑	*i*P	Pn	23 05 17.2	-0.3
MANR				*i*S	Sn	23 05 44.3	-2.3
MANR	**Mangalia**	2.37	145⇑	*i*P	Pn	23 05 17.2	-0.3
MANR				*i*S	Sn	23 05 44.3	-2.3
SZH	**Strazhica**	2.56	192	P	Pn	23 05 19.3	-0.6
SZH	**Strazhica**	2.56	192	P	Pn	23 05 19.3	-0.6
DEV	**Deva**	2.65	274	P	Pn	23 05 20.1	-1.0
DEV				S	Sn	23 05 52.6	-0.4
DEV	**Deva**	2.65	274⇑	*i*P	Pn	23 05 20.1	-1.0
DEV	**Deva**	2.65	274⇑	*i*P	Pn	23 05 20.1	-1.0
DEV				*i*S	Sn	23 05 52.6	-0.4
DEV	**Deva**	2.65	274	P	Pn	23 05 20.1	-1.0
DEV				S	Sn	23 05 52.6	-0.4
DEV	**Deva**	2.65	274⇑	*i*P	Pn	23 05 20.1	-1.0
DEV				*i*S	Sn	23 05 52.6	-0.4
SRE	**Strehaia**	2.70	247	P	Pn	23 05 20.9	-0.9
SRE	**Strehaia**	2.70	247⇑	*i*P	Pn	23 05 20.9	-0.9
SRE	**Strehaia**	2.70	247⇑	*i*P	Pn	23 05 20.9	-0.9
SRE				*i*S	Sn	23 05 51.7	-2.5
SRE	**Strehaia**	2.70	247	P	Pn	23 05 20.9	-0.9
SRE	**Strehaia**	2.70	247⇑	*i*P	Pn	23 05 20.9	-0.9
SRE				*i*S	Sn	23 05 51.7	-2.5
GZR	**Gura Zlata**	2.77	264⇑	*i*P	Pn	23 05 22.7	-0.1
GZR	**Gura Zlata**	2.77	264⇑	*i*P	Pn	23 05 22.7	-0.1
GZR	**Gura Zlata**	2.77	264	P	Pn	23 05 22.7	-0.1
GZR				S	Sn	23 05 56.1	+0.1
GZR	**Gura Zlata**	2.77	264⇑	*i*P	Pn	23 05 22.7	-0.1
GZR				S	Sn	23 05 56.1	+0.1
BMR	**Baia Mare**	2.91	312	P	Pn	23 05 24.5	0.0
BMR	**Baia Mare**	2.91	312⇑	*i*P	Pn	23 05 24.5	0.0
BMR	**Baia Mare**	2.91	312⇑	*i*P	Pn	23 05 24.5	0.0
BMR	**Baia Mare**	2.91	312	P	Pn	23 05 24.5	0.0
BMR	**Baia Mare**	2.91	312⇑	*i*P	Pn	23 05 24.5	0.0
DRGR		2.94	292	P	Pn	23 05 23.7	-1.3
DRGR		2.94	292⇑	*i*P	Pn	23 05 23.7	-1.3
DRGR		2.94	292⇑	*i*P	Pn	23 05 23.7	-1.3
DRGR		2.94	292	P	Pn	23 05 23.7	-1.3
DRGR		2.94	292⇑	*i*P	Pn	23 05 23.7	-1.3
RMGR	**Halanga-Turnu**	3.03	250⇓	*i*P	Pn	23 05 25.0	-1.1
RMGR	**Halanga-Turnu**	3.03	250⇓	*i*P	Pn	23 05 25.0	-1.1
RMGR				*i*S	Sn	23 05 58.8	-3.1
RMGR	**Halanga-Turnu**	3.03	250⇓	*i*P	Pn	23 05 25.0	-1.1
RMGR				*i*S	Sn	23 05 58.8	-3.1
DJES	**Djerdap**	3.14	251	*e*Pn	Pn	23 05 25.7	-1.9
DJES				*e*Sn	Sn	23 06 00.7	-4.0
MPEP	**Malo Peshtene**	3.20	222	P	Pn	23 05 27.4	-1.0
JMB	**Yambol**	3.30	181	P	Pn	23 05 28.4	-1.3
JMB				S	Sn	23 06 05.2	-3.1
JMB	**Yambol**	3.30	181	P	Pn	23 05 28.4	-1.3
JMB				S	Sn	23 06 05.2	-3.1
BZS	**Buzias**	3.56	269	*e*PN	Pn	23 05 31.7	-1.4
BZS	**Buzias**	3.56	269	P	Pn	23 05 32.4	-0.7
BZS	**Buzias**	3.56	269	*e*Pn	Pn	23 05 32.4	-0.7
BZS	**Buzias**	3.56	269⇑	P	Pn	23 05 32.4	-0.7
BZS	**Buzias**	3.56	269⇑	P	Pn	23 05 32.4	-0.7
BZS	**Buzias**	3.56	269	P	Pn	23 05 32.4	-0.7
BZS	**Buzias**	3.56	269⇑	P	Pn	23 05 32.4	-0.7
BZS				*e*Sn	Sn	23 06 12.4	-2.0
ZAPS	**Zavoj**	3.82	231	*e*Pn	Pn	23 05 35.6	-1.1
ZAPS				*e*Sn	Sn	23 06 16.9	-4.0
BOLS	**Boljevac**	3.88	242	*e*Pn	Pn	23 05 34.8	-2.7
BOLS				*e*Sn	Sn	23 06 17.7	-4.6
BANR	**Banloc**	3.92	266⇑	*i*P	Pn	23 05 38.4	+0.5
BANR	**Banloc**	3.92	266⇑	*i*P	Pn	23 05 38.4	+0.5
BANR	**Banloc**	3.92	266	P	Pn	23 05 38.4	+0.5
BANR	**Banloc**	3.92	266⇑	P	Pn	23 05 38.4	+0.5
EDRB	**Edirne**	3.92	179	*e*PN	Pn	23 05 35.2	-2.7
EDRB	**Edirne**	3.92	179	*e*Pn	Pn	23 05 35.2	-2.7
EDRB				*e*Sn	Sn	23 06 18.5	-4.6
PLD	**Plovdiv**	3.93	202	P	Pn	23 05 36.5	-1.6
PLD				S	Sn	23 06 19.3	-4.1
PLD	**Plovdiv**	3.93	202	P	Pn	23 05 36.5	-1.6
PLD				S	Sn	23 06 19.3	-4.1
VTS	**Vitosha**	4.04	219	*e*PN	Pn	23 05 37.9	-1.8
VTS	**Vitosha**	4.04	219	P	Pn	23 05 38.4	-1.3
VTS				S	Sn	23 06 21.6	-4.7
VTS	**Vitosha**	4.04	219	P	Pn	23 05 38.6	-1.1
VTS	**Vitosha**	4.04	219	*e*Pn	Pn	23 05 38.4	-1.3
VTS				*e*Sn	Sn	23 06 22.8	-3.5
VTS	**Vitosha**	4.04	219	*e*Sn	Sn	23 06 21.6	-4.7
VTS	**Vitosha**	4.04	219	P	Pn	23 05 38.6	-1.1
VTS				S	Sn	23 06 21.6	-4.7
VTS				*e*Sn	Sn	23 06 22.8	-3.6
BOVS	**Bovan**	4.14	241	*e*Sn	Sn	23 06 24.6	-3.8
UZH	**Uzhgorod**	4.15	315	*e*P	Pn	23 05 38.0	-2.9
UZH				*e*S	Sn	23 06 27.0	-1.5
UZH	**Uzhgorod**	4.15	315	*e*P	Pn	23 05 38.0	-2.9
UZH				*e*S	Sn	23 06 27.0	-1.5
SVIS	**Svilajnac**	4.16	251	*e*Pn	Pn	23 05 40.1	-1.0
SVIS				*e*Sn	Sn	23 06 25.7	-3.1
PHSR	**Pinarhisar**	4.18	171	*e*PN	Pn	23 05 38.9	-2.5
PHSR	**Pinarhisar**	4.18	171	*e*Pn	Pn	23 05 38.9	-2.5
KDZ	**Kurdzhali**	4.21	193	P	Pn	23 05 41.5	-0.4
KDZ	**Kurdzhali**	4.21	193	P	Pn	23 05 41.5	-0.4
RZN	**Rozhen**	4.32	200	P	Pn	23 05 42.9	-0.6
RZN	**Rozhen**	4.32	200	P	Pn	23 05 42.9	-0.6
KOLS	**Kolonicke sedl**	4.36	318	*e*P	Pn	23 05 44.5	+0.6
KOLS	**Kolonicke sedl**	4.36	318	*e*PN	Pn	23 05 44.5	+0.6
KOLS	**Kolonicke sedl**	4.36	318	*e*P	Pn	23 05 44.5	+0.6
LVV	**L'vov**	4.43	337	*e*P	Pn	23 05 44.0	-0.8
LVV				*i*S	Sn	23 06 34.0	-1.4
LVV				MLR	MLR		
	comp=Z,200nm,2.0s						
LVV	**L'vov**	4.43	337	*e*P	Pn	23 05 44.0	-0.8
LVV				*i*S	Sn	23 06 34.0	-1.4
	comp=Z,200nm,2.0s						
CTYL	**Yal??k??y-??at**	4.44	164	*e*PN	Pn	23 05 42.8	-2.1
CTYL	**Yal??k??y-??at**	4.44	164	*e*Pn	Pn	23 05 42.8	-2.1
GRUS	**Gruza**	4.64	248	*e*Pn	Pn	23 05 46.3	-1.3
GRUS				*e*Sn	Sn	23 06 36.1	-4.4
GRUS	**Gruza**	4.64	248	*e*Pn	Pn	23 05 46.3	-1.3
GRUS				*e*Sn	Sn	23 06 36.1	-4.4
SLVT	**Silivri**	4.67	166	*e*PN	Pn	23 05 45.8	-2.2
SLVT	**Silivri**	4.67	166	*e*Pn	Pn	23 05 45.8	-2.2
CRLT	**Corlu**	4.70	170	*e*PN	Pn	23 05 46.2	-2.1
CRLT	**Corlu**	4.70	170	*e*Pn	Pn	23 05 46.3	-2.1
KWP	**Kalwaria Pacla**	4.71	327	*e*P	Pn	23 05 50.0	+1.5
KWP	**Kalwaria Pacla**	4.71	327	*e*Pn	Pn	23 05 50.0	+1.5
KWP	**Kalwaria Pacla**	4.71	327	*e*Pn	Pn	23 05 49.3	+0.8
KWP				*e*Sn	Sn	23 06 38.6	-3.5
KWP	**Kalwaria Pacla**	4.71	327	*e*Pn	Pn	23 05 49.3	+0.8
KWP	**

SMTH	Samothraki Isl	5.36	189	ePN	Pn	23 05 56.5	-0.9	TVSB	Tavsanli	6.63	161	ePN	Pn	23 06 13.9	-0.7
SMTH	Samothraki Isl	5.36	189	P	Pn	23 05 56.4	-0.9	HCY	Herceg Novi	6.76	244⇑	iPn	Pn	23 06 16.7	+0.4
SMTH				S	Sn	23 06 56.2	-1.6	HCY				eSn	Sn	23 07 29.3	-2.5
SMTH	Samothraki Isl	5.36	189	P	Pn	23 05 56.4	-0.9	HCY	Herceg Novi	6.76	244⇑	iPn	Pn	23 06 16.7	+0.4
SMTH				S	Sn	23 06 56.2	-1.6	HCY				eSn	Sn	23 07 29.3	-2.5
SKO	Skopje	5.36	227	ePN	Pn	23 05 55.8	-1.6	DEMI	Demirci	6.88	167	iP	Pn	23 06 17.1	-0.9
SKO	Skopje	5.36	227	iPn	Pn	23 05 57.5	+0.1	XOR	Xorichti	6.89	203	ePN	Pn	23 06 16.5	-1.6
SKO	Skopje	5.36	227	iPn	Pn	23 05 57.9	+0.5	AOS	Alonnisos	6.91	198	ePN	Pn	23 06 17.1	-1.2
KNT	Kendrikon	5.36	212	P	Pn	23 05 56.7	-0.7	AOS	Alonnisos	6.91	198	ePN	Pn	23 06 16.5	-1.8
KNT				S	Sn	23 06 55.1	-2.8	AKHS	Akhisar	6.93	173	iP	Pn	23 06 16.9	-1.7
KNT	Kendrikon	5.36	212	ePN	Pn	23 05 56.5	-0.9	AKS	Akhisar	6.93	173	ePN	Pn	23 06 16.9	-1.7
KNT	Kendrikon	5.36	212	eSn	Sn	23 06 55.1	-2.8	NEO	Neokhori	6.94	203	ePN	Pn	23 06 17.0	-1.7
GELI	Tayfur-Gelibol	5.37	182	ePN	Pn	23 05 55.6	-1.7	SEYT	Eskypehyr	6.95	152	iP	Pn	23 06 19.8	+0.8
GELI	Tayfur-Gelibol	5.37	182	ePn	Pn	23 05 55.7	-1.7	SEYT	Eskypehyr	6.95	152	iP	Pn	23 06 19.8	+0.8
KRBG	Karabiga-Canak	5.39	175	ePN	Pn	23 05 56.1	-1.6	ILGA	Ilgaz	6.96	130	eP	Pn	23 06 20.3	+1.2
KRBG	Karabiga-Canak	5.39	175	ePn	Pn	23 05 56.1	-1.6	ILGA	Ilgaz	6.96	130	eP	Pn	23 06 20.3	+1.2
LPK	Lapseki	5.39	179	ePN	Pn	23 05 56.0	-1.7	GDZ	Gediz	6.98	162	iP	Pn	23 06 19.2	-0.3
LPK	Lapseki	5.39	179	ePn	Pn	23 05 56.0	-1.7	SKIA	Skiathos	7.01	201	ePN	Pn	23 06 18.0	-1.6
HRT	Hereke	5.40	155	ePN	Pn	23 05 56.9	-1.0	OKC	Ostrava-Krasne	7.05	308	eP	Pn	23 06 28.4	+8.4
HRT	Hereke	5.40	155	ePn	Pn	23 05 56.9	-1.0	OKC	Ostrava-Krasne	7.05	308	ePN	Pn	23 06 28.4	+8.4
SJES	Sjenica	5.41	245	ePn	Pn	23 05 55.8	-2.3	OKC	Ostrava-Krasne	7.05	308	Pn	Pn	23 06 28.4	+8.4
SJES				eSn	Sn	23 06 52.9	-6.4	THL	Klokotos Trika	7.09	211	ePN	Pn	23 06 20.0	-0.7
ARMT	Armutlu	5.43	162	ePN	Pn	23 05 57.0	-1.4	TOS	Tosya	7.13	129	ePN	Pn	23 06 20.6	-0.7
ARMT	Armutlu	5.43	162	ePn	Pn	23 05 57.0	-1.4	SVRH	Sivrihisar-ESK	7.25	149	ePN	Pn	23 06 22.3	-0.7
YAL	Yalta	5.44	101⇓	eP	Pn	23 05 57.3	-1.0	SMIA	Simia	7.35	202	ePN	Pn	23 06 23.0	-1.2
YAL				eS	Sn	23 06 55.1	-4.5	MORC	Moravsky Berou	7.35	306	eP	Pn	23 06 24.4	+0.2
YAL				pmax	pmax			MORC	Moravsky Berou	7.35	306	ePn	Pn	23 06 24.4	+0.2
	comp=Z,45nm,0.3s							MORC	Moravsky Berou	7.35	306	eP	Pn	23 06 24.4	+0.2
YAL				smax	smax			IZM	Izmir	7.37	176	ePN	Pn	23 06 23.6	-1.0
	comp=N,45nm,0.5s							BLCB	Balcova	7.38	178	ePN	Pn	23 06 23.4	-1.2
YAL				smax	smax			CHOS	Chios island	7.39	184	ePN	Pn	23 06 23.7	-1.1
	comp=E,72nm,0.5s							CHOS	Chios island	7.39	184	ePn	Pn	23 06 24.5	-0.3
YAL	Yalta	5.44	101	eP	Pn	23 05 57.3	-1.0	KULA	Kula-Manisa	7.39	168	ePN	Pn	23 06 23.0	-1.9
	comp=E,45nm,0.3s							MRKA	Markates	7.42	199	ePN	Pn	23 06 24.0	-1.2
BNT	Bandirma	5.48	170	ePN	Pn	23 05 57.5	-1.5	BR231	Keskin MP Arra	7.42	141	ePn	Pn	23 06 29.4	+4.1
EDC	Edincik	5.48	171	ePN	Pn	23 05 57.5	-1.5	BR231	Keskin MP Arra	7.42	141	ePn	Pn	23 06 29.4	+4.1
SOH	Sokhos	5.51	207	P	Pn	23 05 58.8	-0.6	AGG	Agios Georgios	7.47	207	ePN	Pn	23 06 24.5	-1.4
SOH	Sokhos	5.51	207	eP	Pn	23 05 58.8	-0.6	MAKR	Makrakomi, Fth	7.54	208	ePN	Pn	23 06 26.5	-0.4
SOH	Sokhos	5.51	207	ePN	Pn	23 05 59.0	-0.4	LKR	Lokris	7.62	202	ePN	Pn	23 06 26.0	-1.8
SOH	Sokhos	5.51	207	ePn	Pn	23 05 58.8	-0.6	ANN	Anapa	7.64	93	eP	Pn	23 06 20.0	-8.1
BBLS	Lazi?i	5.52	252	ePn	Pn	23 05 58.4	-1.1	ANN				eS	Sn	23 07 43.8	-9.2
BBLS				eSn	Sn	23 06 57.7	-4.0	ANN				pmax	pmax		
BBLS	Lazi?i	5.52	252	ePn	Pn	23 06 58.4	-1.1		comp=Z,177nm,1.7s						
BBLS				eSn	Sn	23 06 57.7	-4.0	KHAL	Karahalli	7.68	163	iP	Pn	23 06 28.6	-0.2
ALU	Alushta	5.56	98⇓	eP	Pn	23 05 59.1	-0.8	KHAL	Karahalli	7.68	163	iP	Pn	23 06 28.6	-0.2
ALU				eS	Sn	23 06 59.0	-3.5	VRAC	Vranov	7.69	301	P	Pn	23 06 27.5	-1.3
ALU				pmax	pmax			VRAC	Vranov	7.69	301	P	Pn	23 06 27.5	-1.3
	comp=Z,31nm,0.2s								comp=Z,0.1nm,0.3s,baz=98,slow=14,SNR=2.5						
ALU				smax	smax			KHL	Karahalli	7.73	163	ePN	Pn	23 06 28.2	-1.2
	comp=N,149nm,0.5s							CONA	Conrad Observa	7.73	290⇓	iPn	Pn	23 06 34.6	+5.1
ALU				smax	smax			EVR	Evrytania	7.74	210	ePN	Pn	23 06 29.0	-0.6
	comp=E,90nm,0.5s							SHUT	Suhut-Afyon	7.76	157	ePN	Pn	23 06 28.9	-0.9
ALU	Alushta	5.56	98	eP	Pn	23 05 59.1	-0.8	IGT	Igoumenitsa	7.79	219	ePN	Pn	23 06 31.0	+0.8
	comp=E,31nm,0.2s							AYDB	Zeytinkoy-Aydi	7.86	173	ePN	Pn	23 06 29.4	-1.9
PKSM	Moragy	5.62	277⇓	ePN	Pn	23 06 00.6	-0.2	AFSR	Af˙ar-Bala (A	7.87	141	ePN	Pn	23 06 30.9	-0.5
MDNY	Mudanya-Bursa	5.63	163	ePN	Pn	23 05 59.7	-1.3	KIZT	Kizilcal	7.88	149	ePN	Pn	23 06 30.7	-0.9
KCTX	Karacabey (Bur	5.63	167	ePN	Pn	23 05 59.4	-1.7	BRTR	Keskin Array B	7.91	137	iP	Pn	23 06 30.7	-1.3
KDZE	Karadeniz Ereo	5.63	140	ePN	Pn	23 06 00.3	-0.7		comp=Z,1.0nm,0.7s						
NIE	Niedzica	5.65	313	eP	Pn	23 06 01.8	+0.6	BRTR	Keskin Array B	7.91	137	P	Pn	23 06 30.8	-1.2
NIE	Niedzica	5.65	313	ePn	Pn	23 06 01.8	+0.6		comp=Z,0.2nm,0.3s,baz=326,slow=13,SNR=20						
NIE				ePP		23 06 07.5		KRLC	Kraliky	7.93	307	eP	Pn	23 06 40.7	+8.7
NIE	Niedzica	5.65	313	eP	Pn	23 06 01.8	+0.6	KRLC	Kraliky	7.93	307	ePN	Pn	23 06 40.7	+8.7
BEY	Berane	5.67	242⇓	iPn	Pn	23 06 00.8	-0.7	KRLC	Kraliky	7.93	307	Pn	Pn	23 06 40.7	+8.7
BEY				eSn	Sn	23 07 02.0	-3.4	DSF	Desfina	7.97	204	ePN	Pn	23 06 31.0	-1.7
IVA	Berane	5.67	242⇓	iPn	Pn	23 06 00.8	-0.7	PTL	Penteli	7.99	196	ePN	Pn	23 06 31.5	-1.5
IVA				eSn	Sn	23 07 02.0	-3.4	SMG	Samos	8.05	179	ePN	Pn	23 06 33.5	-0.2
GRG	Griva	5.73	215	P	Pn	23 06 01.4	-1.0	HAVZ	Havza	8.07	122	iP	Pn	23 06 32.4	-1.6
GRG	Griva	5.73	215	ePN	Pn	23 06 01.0	-1.4	HAVZ	Havza	8.07	122	iP	Pn	23 06 32.4	-1.6
PLE	Pljevlja	5.75	248	ePn	Pn	23 06 01.5	-1.2	ATH	Athens Observa	8.10	197	ePB	Pn	23 06 33.5	-0.8
PLE				eSn	Sn	23 07 04.0	-3.5	KALE	Kalithea	8.11	206	ePN	Pn	23 06 35.0	+0.5
PLE	Pljevlja	5.75	248	ePn	Pn	23 06 01.5	-1.2	SOKA	Soboth	8.13	281⇑	iPn	Pn	23 06 37.0	+2.2
PLE				eSn	Sn	23 07 04.0	-3.5	EFP	Efpalio	8.15	208	ePN	Pn	23 06 33.0	-2.0
GONE	Gonen-Balikesi	5.76	172	ePN	Pn	23 06 00.8	-1.9	LTK	Loutraki	8.22	201	ePN	Pn	23 06 34.5	-1.5
OUR	Ouranopolis	5.78	201	ePN	Pn	23 06 01.3	-1.7	KAMT	Kaman	8.23	138	ePN	Pn	23 06 35.5	-0.7
OUR	Ouranopolis	5.78	201	ePN	Pn	23 06 01.5	-1.4	PDO	Prodromos	8.24	212	ePN	Pn	23 06 36.0	-0.3
PVY	Plav	5.78	239⇓	iPn	Pn	23 06 02.4	-0.7	LKD2	Lefkada island	8.28	215	ePN	Pn	23 06 37.0	+0.2
PVY				eSn	Sn	23 07 04.6	-3.6	LAKA	Lakka	8.29	207	ePN	Pn	23 06 37.0	-0.1
PVY	Plav	5.78	239⇓	iPn	Pn	23 06 02.4	-0.7	DPC	Dobruska-Polom	8.32	307	eP	Pn	23 06 39.0	+1.7
PVY				eSn	Sn	23 07 04.6	-3.6	DPC	Dobruska-Polom	8.32	307	ePN	Pn	23 06 45.9	+8.6
HORT	Hortiatis	5.79	208	P	Pn	23 06 02.3	-0.9	DPC	Dobruska-Polom	8.32	307	ePn	Pn	23 06 39.0	+1.7
HORT	Hortiatis	5.79	208	ePN	Pn	23 06 02.0	-1.2	DPC	Dobruska-Polom	8.32	307	eP	Pn	23 06 39.0	+1.7
THE	Thessaloniki	5.81	209	P	Pn	23 06 02.9	-0.4	DPC	Dobruska-Polom	8.32	307	Pn	Pn	23 06 45.9	+8.6
THE				S	Sn	23 07 06.3	-2.3	NAIG	Nisos Aigina	8.35	198	ePN	Pn	23 06 37.0	-0.8
THE	Thessaloniki	5.81	209	ePN	Pn	23 06 02.5	-0.8	KLV	Kalavryta, Ach	8.42	205	ePN	Pn	23 06 37.5	-1.3
PLG	Polygyros	5.89	205	P	Pn	23 06 03.7	-0.8	GUR	Goura	8.47	204	ePN	Pn	23 06 38.5	-0.9
PLG	Polygyros	5.89	205	ePN	Pn	23 06 04.0	-0.5	SUW	Suwalki	8.56	346	eP	Pn	23 06 38.2	-2.3
PKS9	Tamasi	5.90	281	ePn	Pn	23 06 03.1	-1.4	SUW	Suwalki	8.56	346	eP	Pn	23 06 38.1	-2.4
SUDU	Sudak	5.93	96⇑	eP	Pn	23 06 03.7	-1.2	SUW	Suwalki	8.56	346	ePn	Pn	23 06 37.2	-3.3
SUDU				eS	Sn	23 07 07.2	-4.3	SUW	Suwalki	8.56	346	ePn	Pn	23 06 37.2	-3.3
SUDU				pmax	pmax			RLS	Riolos of Patr	8.63	209	ePN	Pn	23 06 40.0	-1.5
	comp=Z,14nm,0.3s							DRO	Drossia	8.64	207	ePN	Pn	23 06 41.0	-0.8
SUDU				smax	smax			DID	Didima	8.64	199	ePN	Pn	23 06 40.5	-1.3
	comp=N,296nm,0.5s							LADK	Ladik-KONYA	8.66	149	ePN	Pn	23 06 41.1	-0.9
SUDU				smax	smax			APE	Apeiranthos	8.73	186	ePN	Pn	23 06 41.5	-1.5
	comp=E,112nm,0.4s							VLS	Valsamata	8.83	215	ePB	Pn	23 06 46.5	+2.2
SUDU	Sudak	5.93	96	eP	Pn	23 06 03.7	-1.2	KONT	Kontso-Tatoy	8.88	150	ePN	Pn	23 06 44.0	-1.1
	comp=E,14nm,0.3s							SUTC	Sutluce-Ispart	8.89	157	ePN	Pn	23 06 44.1	-1.1
ORLT	Orhaneli	5.94	163	ePN	Pn	23 06 04.1	-1.1	ERBA	Erbaa	8.93	121	iP	Pn	23 06 45.0	-0.7
PKSG		5.95	289	ePN	Pn	23 06 05.6	+0.4	ERBA	Erbaa	8.93	121	iP	Pn	23 06 45.0	-0.7
LIA	Limnos Island	5.97	191	ePN	Pn	23 06 04.5	-1.0	VLX	Vlachokerasia	8.98	203	ePN	Pn	23 06 47.0	+0.5
GULT	Gulveren	6.02	151	ePN	Pn	23 06 05.5	-0.9	NACGM	Naroch	9.15	0	eP	Pn	23 06 43.0	-5.4
BALY	Balya	6.06	173	iP	Pn	23 06 05.9	-1.0	ITM	Ithomi	9.29	204	ePN	Pn	23 06 52.0	+1.5
BALY	Balya	6.06	173	iP	Pn	23 06 05.9	-1.0	GEC2	GERESS Array S	9.34	294	eP	Pn	23 06 51.2	0.0
BTAS	Taskesti	6.07	147	iP	Pn	23 06 07.9	+0.9	GEC2	GERESS Array S	9.34	294	ePn	Pn	23 06 51.2	0.0
BTAS	Taskesti	6.07	147	iP	Pn	23 06 07.9	+0.9	GEC2	GERESS Array S	9.34	294	eP	Pn	23 06 51.2	0.0
GPA	Golpazari	6.08	153	ePN	Pn	23 06 06.1	-1.1	GERES	GERESS Array B	9.34	294	P	Pn	23 06 50.5	-0.7
UPM	Unac-Piva	6.13	248	ePn	Pn	23 06 07.1	-0.7	GERES	GERESS Array B	9.34	294	P	Pn	23 06 50.5	-0.7
UPM				eSn	Sn	23 07 13.0	-3.7		comp=Z,0.1nm,0.3s,baz=107,slow=13,SNR=4.5						
UPM	Unac-Piva	6.13	248	ePn	Pn	23 06 07.1	-0.7	SANT	Santorini	9.43	186	ePN	Pn	23 06 55.0	+2.6
UPM				eSn	Sn	23 07 13.0	-3.7	SANT	Santorini	9.43	186	ePn	Pn	23 06 52.1	-0.3
BIA	Bitola	6.14	221	iPn	Pn	23 06 07.1	-0.8	SANT	Santorini	9.43	186	ePN	Pn	23 06 52.1	-0.3
PKST	T˜s	6.16	287⇓	ePn	Pn	23 06 08.3	+0.3	VLI	Veliai	9.47	199	ePN	Pn	23 06 53.0	+0.1
BALB	Balikesir	6.18	171	ePN	Pn	23 06 06.8	-1.6	IDID	Didziasalis	9.56	0	eP	Pn	23 06 51.2	-2.8
MDUB	Mudurnu	6.24	146	ePN	Pn	23 06 08.2	-1.1	IDID				AMB	AMB	23 06 52.0	
PAIG	Paliouri	6.24	202	ePN	Pn	23 06 07.5	-1.7		comp=Z,15nm,0.9s						
SAFT	Safranbolu	6.28	134	ePN	Pn	23 06 08.8	-1.0	IIGN	Ignalina	9.60	358	eP	Pn	23 06 51.1	-3.4
DURS	Dursunbey	6.30	167	iP	Pn	23 06 08.9	-1.2	IIGN				AMB	AMB	23 06 51.9	
DURS	Dursunbey	6.30	167	iP	Pn	23 06 08.9	-1.2		comp=Z,10nm,0.6s						
PDG	Podgorica	6.30	241	ePN	Pn	23 06 09.9	-0.1	PYL	PYLOS	9.61	204	ePB	Pn	23 06 56.0	+1.2
PDG	Podgorica	6.30	241⇓	iPn	Pn	23 06 10.2	+0.2	ISAL	Salakas	9.82	358	eP	Pn	23 06 54.0	-3.6
PDG				eSn	Sn	23 07 18.0	-2.6	ISAL				AMB	AMB	23 06 55.1	
TTG	Podgorica	6.30	241⇓	iPn	Pn	23 06 10.2	+0.2		comp=Z,11nm,0.6s						
TTG				eSn	Sn	23 07 18.0	-2.6	TIP	Timpagrande	9.85	232	ePn	Pn	23 06 57.8	-0.3
FNA	Florina	6.31	220	P	Pn	23 06 09.8	-0.4	TIP	Timpagrande	9.85	232	ePN	Pn	23 06 57.8	-0.3
FNA				S	Sn	23 07 18.4	-2.5	KYTH	Kithira	9.87	197	ePN	Pn	23 06 59.5	+1.2
FNA	Florina	6.31	220	eP	Pn	23 06 09.8	-0.4	VORD	Divnogorie	9.87	54	eP	Pn	23 06 55.9	-2.3
FNA				e		23 07 18.4		VORD				eS	Sn	23 08 40.0	-6.9
FNA	Florina	6.31	220	ePN	Pn	23 06 10.0	-0.2	VORD				pmax	pmax		
FNA	Florina	6.31	220	ePn	Pn	23 06 09.8	-0.4		comp=N,60nm,0.7s						
FNA				eSn	Sn	23 07 18.4	-2.5	VORD				pmax	pmax		
FNA	Florina	6.31	220	P	Pn	23 06 09.8	-0.4		comp=Z,40nm,0.7s						
FNA				S	Sn	23 07 18.4	-2.5	VORD				pmax	pmax		
NKME	Niksic	6.31	244	ePn	Pn	23 06 09.4	-0.8		comp=E,80nm,0.9s						
NKME				eSn	Sn	23 07 17.6	-3.3	VORD				smax	smax		
NKME	Niksic	6.31	244	ePn	Pn	23 06 09.4	-0.8		comp=E,280nm,0.9s						
NKME				eSn	Sn	23 07 17.6	-3.3	VORD				smax	smax		
BCAM	Yenicaga	6.31	140	iP	Pn	23 06 09.8	-0.5		comp=Z,80nm,0.6s						
BCAM	Yenicaga	6.31	140	iP	Pn	23 06 09.8	-0.5	VORD				smax	smax		
OJC	Ojcow	6.42	316	eP	Pn	23 06 12.1	+0.5		comp=N,280nm,0.8s						
OJC	Ojcow	6.42	316	ePn	Pn	23 06 11.7	+0.1	VSR	Storozhevoye	9.91	52	eP	Pn	23 06 56.0	-2.8
OJC				ePP		23 06 18.4		VSR				eS	Sn	23 08 41.2	-6.9
OJC	Ojcow	6.42	316	ePn	Pn	23 06 12.1	+0.5	VSR				pmax	pmax		
OJC	Ojcow	6.42	316	ePn	Pn	23 06 11.7	+0.1		comp=Z,20nm,0.7s						
OJC	Ojcow	6.42	316	eP	Pn	23 06 12.1	+0.5	VSR				pmax	pmax		
LIT	Litokhoron	6.44	210	ePN	Pn	23 06 10.5	-1.5		comp=N,20nm,0.9s						
AYVA	Ayvalik	6.45	180	iP	Pn	23 06 12.3	+0.2	VSR				pmax	pmax		
BORA	Eskisehir	6.50	153	iP	Pn	23 06 13.5	+0.7		comp=E,20nm,0.8s						
BORA	Eskisehir	6.50	153	iP	Pn	23 06 13.5	+0.7	VSR				smax	smax		
BZK	Bozkurt	6.51	123	ePN	Pn	23 06 13.0	+0.1		comp=N,260nm,1.0s						
PRK	Paraskevi	6.52	183	ePN	Pn	23 06 13.5	+0.5	VSR				smax	smax		
KZN	Kozani	6.54	215	ePN	Pn	23 06 12.5	-0.8		comp=E,290nm,1.0s						
SIGR	SIGRI	6.58	186	ePN	Pn	23 06 13.5	-0.3	VSR				smax	smax		
ULC	Ulcinj	6.58	237⇓	iPn	Pn	23 06 14.1	+0.2		comp=Z,130nm,0.7s						
ULC				eSn	Sn	23 07 25.0	-2.5	VOR	Voronezh	10.19	50	P	Pn	23 07 05.0	+2.5
ULC	Ulcinj	6.58	237⇓	iPn	Pn	23 06 14.1	+0.2	VOR				pmax	pmax		
ULC				eSn	Sn	23 07 25.0	-2.5		comp=Z,250nm,1.0s						
BUM	Brajici-Budva	6.60	241⇓	iPn	Pn	23 06 15.4	+1.3	VOR	Voronezh	10.19	50	P	Pn	23 07 05.0	+2.5
BUM				eSn	Sn	23 07 25.1	-2.8		comp=Z,250nm,1.0s						
BUM	Brajici-Budva	6.60	241⇓	iPn	Pn	23 06 15.4	+1.3	KARP	Karpathos	10.21	178	ePB	Pn	23 07 03.5	+0.5
BUM				eSn	Sn	23 07 25.1	-2.8	VAM	Vamos	10.52	191	ePB	Pn	23 07 07.0	-0.1
								NPS	Neapolis	10.52	185	ePN	Pn	23 07 07.0	-0.2
								IDI	Anoyia	10.55	188	ePB	Pn	23 07 07.5	-0.2
								IDI	Anoyia	10.55	188	ePn	Pn	23 07 05.6	-2.0
								IDI	Anoyia	10.55	188	ePn	Pn	23 07 05.6	-2.0
								IDI	Anoyia	10.55	188	P	Pn	23 07 07.3	-0.3
									comp=Z,0.5nm,0.3s,baz=8.3,slow=15,SNR=7.2						
KARN	Karanos	10.56	192	ePB	Pn	23 07 07.5	-0.2								
LAST	Lasithi	10.63	185	ePN	Pn	23 07 07.5	-1.2								
ZKR	Zakros	10.64	182	ePB	Pn	23 07 08.0	-0.8								
SIVA	Sivas	10.83	188	ePN	Pn	23 07 08.5	-2.8								
CEL	Celeste	10.98	231	ePn	Pn	23 07 12.3	-1.1								
CEL	Celeste	10.98	231	ePn	Pn	23 07 12.3	-1.1								
VRHR	Novokhopersk	11.26	56	eP	Pn	23 07 14.9	-2.0								
VRHR				eS	Sn	23 09 15.2	-5.5								
VRHR				pmax	pmax										
	comp=Z,60nm,0.7s														
VRHR				pmax	pmax										
	comp=N,30nm,1.0s														
VRHR				pmax	pmax										
	comp=E,50nm,0.8s														
VRHR				smax	smax										
	comp=N,70nm,0.5s														
VRHR				smax	smax										
	comp=Z,30nm,0.7s														
VRHR				smax	smax										
	comp=E,70nm,0.6s														
OBN	Obninsk	11.27	30⇑	iP	Pn	23 07 12.9	-4.1								
OBN				pmax	pmax										
	comp=Z,33nm,1.0s														
OBN	Obninsk	11.27	30	ePn	Pn	23 07 13.2	-3.8								
OBN	Obninsk	11.27	30	ePn	Pn	23 07 13.2	-3.8								
KIV	Kislovodsk	11.50	93	eP	Pn	23 07 22.0	+1.7								
KIV	Kislovodsk	11.50	93	eP	Pn	23 07 22.0	+1.7								
KBZ	Khabaz	11.71	94	P	Pn	23 07 24.0	+1.1								
KBZ				S	Sn	23 09 32.7	+1.1								
KBZ				smax	smax										
	comp=N,1.0nm,0.3s														
KBZ	Khabaz	11.71	94	P	Pn	23 07 24.0	+1.1								
	comp=N,1.0nm,0.3s														
KBZ				S	Sn	23 09 32.7	+1.1								
KBZ	Khabaz	11.71	94	P	Pn	23 07 24.0	+1.1								
	comp=N,0.2nm,0.3s,baz=293,slow=15,SNR=6.1														
KBZ				S	Sn	23 09 32.7	+1.1								
	comp=N,0.5nm,0.3s,baz=213,slow=15,SNR=3.2														
MOS	Moscow	12.13	31	eP	Pn	23 07 23.4	-5.0								
MOS				e		23 09 35.6									
VSU	Vasula	12.72	0	deP	Pn	23 07 32.0	-4.0								
PGF	Pioggiola	13.10	262	eP	P	23 07 48.9	+1.8								
	comp=N,52nm,1.1s														
SBF	Sospel	13.80	269	eP	P	23 07 56.2	+1.4								
	comp=N,50nm,1.0s														
SBF	Sospel	13.80	269	eP	P	23 07 56.2	+1.4								
	comp=N,49nm,1.0s														
LPG	La Plagne	13.95	276	eP	P	23 07 58.8	+2.0								
	comp=N,8.3nm,0.9s														
LPG	La Plagne	13.95	276	eP	P	23 07 58.8	+2.0								
	comp=N,8.0nm,0.9s														
LPL	La Plagne	13.96	276	eP	P	23 07 58.8	+2.0								
LPL	La Plagne	13.96	276	eP	P	23 07 58.8	+2.0								
MBDF	Montbardon	14.07	273	eP	P	23 07 57.4	-0.5								
	comp=N,24nm,1.0s														
MBDF	Montbardon	14.07	273	eP	P	23 07 57.4	-0.5								
	comp=N,23nm,1.0s														
GNI	Garni	14.35	107	P	P	23 07 59.4	-1.7								
	comp=N,0.1nm,0.3s,baz=210,slow=14,SNR=2.6														
FINES	FINESS Array B	15.71	359	P	Pn	23 08 09.1	-5.1								
	comp=N,1.3nm,0.3s,baz=180,slow=12,SNR=25														
FINES				S	Sn	23 10 57.3	-11								
	comp=N,0.4nm,0.3s,baz=179,slow=22,SNR=3.6														
KAF	Kangasniemi	16.38	359	eP	Pn	23 08 17.2	-5.3								
KAF				pmax	pmax										
	comp=Z,3.0nm,0.3s														
KAF	Kangasniemi	16.38	359	ep	Pn	23 08 17.2	-5.3								
	comp=Z,2.6nm,0.3s														

comp=Z,167nm,2.1s
RAYN Ar Rayn 26.93 139 *e*P **P 23 10 12.3 +2.3**
comp=Z,37nm,2.7s
RAYN Ar Rayn 26.93 139 *e*P **P 23 10 12.4 +2.3**
comp=Z,37nm,2.7s
BRVK Borovoye 28.91 59 *e*P **P 23 10 29.5 +2.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 28.91 59 *e*P **P 23 10 29.5 +2.1**
comp=Z,2.8nm,0.8s
BRVK Borovoye 28.91 59 *e*P **P 23 10 29.5 +2.1**
comp=Z,2.8nm,0.8s
BVAR Borovoye Array 28.98 59 P **P 23 10 29.3 +1.3**
BVAR *PP **pP 23 10 53.2 0.0**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 28.98 59 P **P 23 10 29.3 +1.3**
comp=Z,1.2nm,0.7s,baz=267,slow=8.8,SNR=11
BVAR pP **pP 23 10 53.2 0.0**
comp=Z,0.7nm,0.6s,baz=282,slow=7.2,SNR=4.7
EKS2 Erkin-Say 33.52 78 *e*P **P 23 11 10.3 +2.2**
EKS2 pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 33.52 78 *e*P **P 23 11 10.3 +2.2**
comp=Z,4.1nm,0.9s
EKS2 Erkin-Say 33.52 78 *e*P **P 23 11 10.3 +2.2**
comp=Z,4.1nm,0.9s
AAK Ala-Archa 34.02 78 *e*P **P 23 11 15.1 +2.6**
AAK pmax pmax
comp=Z,70nm,1.3s
AAK Ala-Archa 34.02 78 *e*P **P 23 11 15.1 +2.6**
comp=Z,70nm,1.3s
AAK Ala-Archa 34.02 78 *e*P **P 23 11 15.1 +2.6**
comp=Z,70nm,1.3s
NVS Novosibirsk 36.32 55 *e*P **P 23 11 33.0 +1.2**
NVS *e* 23 11 55.5
NVS pmax pmax
comp=Z,3.0nm,0.6s
NVS pmax pmax
comp=N,1.0nm,0.8s
NVS pmax pmax
comp=E,2.0nm,0.8s
NVS Novosibirsk 36.32 55 *e*P **P 23 11 33.0 +1.2**
comp=E,3.0nm,0.6s
ZAA0 Zalesovo Array 37.40 56 *e*P **P 23 11 42.5 +1.5**
ZAA0 Zalesovo Array 37.40 56 *e*P **P 23 11 42.5 +1.5**
ZALV Zalesovo Beam 37.40 56 *e*P **P 23 11 42.5 +1.6**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 37.40 56 *e*P **P 23 11 42.5 +1.6**
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 37.40 56 P **P 23 11 42.6 +1.6**
comp=Z,3.5nm,0.5s,baz=282,slow=9.3,SNR=16
ZALV pP **pP 23 12 05.4 -1.4**
comp=Z,2.5nm,0.5s,baz=282,slow=8.9,SNR=5.8
MKAR Makanchi Array 37.76 68 *e*P **P 23 11 46.0 +1.8**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 37.76 68 *e*P **P 23 11 46.0 +1.8**
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 37.76 68 P **P 23 11 45.9 +1.8**
comp=Z,2.6nm,0.4s,baz=271,slow=8.2,SNR=77
MKAR pP **pP 23 12 09.1 -1.0**
comp=Z,1.1nm,0.8s,baz=276,slow=7.2,SNR=4.5
MKAR PcP **PcP 23 13 58.8 +0.2**
comp=Z,0.3nm,0.6s,baz=288,slow=3.5,SNR=2.7
MK01 Makanchi Array 37.77 68 *e*P **P 23 11 46.2 +1.9**
MK01 Makanchi Array 37.77 68 *e*P **P 23 11 46.2 +1.9**
TOA0 Torodi Ar. Sit 38.79 221 *e*P **P 23 11 53.8 +0.8**
TOA0 Torodi Ar. Sit 38.79 221 *e*P **P 23 11 53.8 +0.8**
TORD Torodi Ar. Bea 38.79 221 P **P 23 11 53.6 +0.6**
comp=Z,1.2nm,0.3s,baz=26,slow=8.5,SNR=48
TORD pP **pP 23 12 17.2 -1.8**
comp=Z,1.0nm,0.5s,baz=23,slow=8.7,SNR=5.1
TORD PcP **PcP 23 14 01.9 -0.3**
comp=Z,0.4nm,0.4s,baz=31,slow=1.9,SNR=5.8
PYUN Piuthan 47.34 92 *e*P **P 23 13 02.7 +0.7**
DBIC Dimbokro 47.55 225 *e*P **P 23 13 03.3 -0.1**
comp=Z,93nm,2.4s
DBIC Dimbokro 47.55 225 *e*P **P 23 13 03.3 -0.1**
comp=Z,93nm,2.4s
DBIC Dimbokro 47.55 225 P **P 23 13 03.1 -0.3**
comp=Z,1.6nm,0.3s,baz=24,slow=8.5,SNR=15
DANN Dangsing 47.72 91 *e*P **P 23 13 07.3 +2.2**
comp=Z,5.3nm,0.4s
KOLN Koldanda 47.96 92 *e*P **P 23 13 08.0 +1.2**
GKN Gorkha 48.55 91 *e*P **P 23 13 13.0 +1.7**
comp=Z,12nm,0.5s
KKN Kakani 49.13 90 *e*P **P 23 13 16.9 +1.1**
comp=Z,13nm,0.6s
PKIN Phulchoki 49.34 91 *e*P **P 23 13 18.6 +1.2**
comp=Z,5.6nm,0.7s
PKI Pulchoki 49.35 91 *e*P **P 23 13 18.4 +0.8**
comp=Z,5.5nm,0.7s
GUN Gumba 49.47 90 *e*P **P 23 13 20.3 +1.8**
comp=Z,6.3nm,0.4s
JIRN Jiri 49.84 90 *e*P **P 23 13 22.7 +1.3**
comp=Z,10nm,0.6s
RAMN Ramite 50.57 90 *e*P **P 23 13 27.9 +1.2**
comp=Z,11nm,0.6s
TAPN Taplejung 51.10 89 *e*P **P 23 13 32.5 +1.8**
ODAN Odare 51.18 90 *e*P **P 23 13 31.9 +0.7**
comp=Z,7.9nm,0.7s
LSA Lhasa 52.08 84 *e*P **P 23 13 40.5 +2.3**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 52.08 84 *e*P **P 23 13 40.5 +2.3**
comp=Z,3.5nm,0.8s
LSA Lhasa 52.08 84 *e*P **P 23 13 40.5 +2.3**
comp=Z,3.5nm,0.8s
SONM Songino Array 52.27 57 P **P 23 13 40.4 +1.5**
comp=Z,1.5nm,0.7s,baz=294,slow=8.1,SNR=20
SONM pP **pP 23 14 06.3 +0.1**
comp=Z,0.4nm,0.4s,baz=290,slow=8.1,SNR=5.4
CHTO Chiang Mai 64.47 89 *e*P **P 23 15 04.7 +0.7**
CHTO pmax pmax
comp=Z,1.0nm,0.9s
CHTO Chiang Mai 64.47 89 *e*P **P 23 15 04.7 +0.7**
comp=Z,1.1nm,0.9s
CHTO Chiang Mai 64.47 89 *e*P **P 23 15 04.7 +0.7**
comp=Z,1.1nm,0.9s
CMAR Chiang Mai Arr 64.71 89 P **P 23 15 06.7 +1.2**
comp=Z,1.8nm,0.6s,baz=303,slow=7.5,SNR=12
YKA Yellowknife Ar 67.74 342 P **P 23 15 24.9 +0.8**
comp=Z,0.9nm,0.6s,baz=31,slow=6.1,SNR=26
YKA pP **pP 23 15 52.3 -0.3**
comp=Z,0.3nm,0.7s,baz=26,slow=6.0,SNR=3.7
USRK Ussuriysk Arra 68.70 48 P **P 23 15 31.2 +0.8**
comp=Z,1.3nm,0.6s,baz=281,slow=6.9,SNR=4.3
ILAR Eielson Array 69.69 357 P **P 23 15 36.9 +0.7**
comp=Z,0.2nm,0.9s,baz=1.4,slow=3.6,SNR=4.2
KSRS Korea Array 71.10 56 P **P 23 15 46.2 +1.0**
comp=Z,1.6nm,0.6s,baz=309,slow=4.9,SNR=5.5
DLBC Dease Lake 74.39 348 P **P 23 16 05.8 +1.4**
comp=Z,2.7nm,0.9s,baz=37,slow=5.1,SNR=5.6
PDAR Pinedale Array 83.64 329 P **P 23 16 55.6 +0.3**
comp=Z,0.3nm,0.6s,baz=64,slow=6.3,SNR=2.5

MAN 26 23:08:20,11.56N×126.15E,h10km,mb4.4,ML3.2,MS3.0, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.21**	**251**	↓*i*P	Pn	23 08 40.9	-2.1
PLP				*i* S	Sb	23 08 55.6	-3.3

*IDC **26** 23:10:30.6±2.5,30.93S×177.88W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.9/17,mbtmp4.1/3,MS3.4/2,Ms1 3.4/2, ms1mx2.9/23,Error ellipse: s-maj=167.1km s-min=34.3km az=162.0*

ISC 26 23:10:35.1±1.4,31.4S±0.1×177.8W±0.3,h35km,n15, σ1.956/14,mb4.0/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.14**	**358**	Pn	Pn	23 10 57.4	-11
RAO	96nm,0.3s,baz=143,slow=20,SNR=4.2			LR	LR	23 11 12.5	
RAO	comp=Z,15nm,28.6s,baz=122,slow=25			Sn	**Sn**	**23 11 32.1**	**-1.4**
URZ	**Urewera**	**8.02**	**210**	Pn	Pn	23 12 21.4	-7.6
URZ	201nm,0.3s,baz=116,slow=22,SNR=7.8 0.8nm,0.3s,baz=37,slow=15,SNR=3.5			Sn	**Sn**	**23 13 56.6**	**-1.8**
	baz=351,slow=19,SNR=4.6						

DZM Mont Dzumac 16.83 300 LR LR 23 19 35.5
comp=Z,15nm,28.6s,baz=34,slow=33
STKA Stephens Creek 34.42 258 P **P 23 17 20.6 +1.4**
1.6nm,0.9s,baz=77,slow=14,SNR=2.9
STKA LR LR 23 29 47.2
comp=Z,65nm,18.2s,baz=43,slow=34
ASAR Alice Springs 43.22 268 P **P 23 18 33.2 +0.1**
2.8nm,0.8s,baz=105,slow=7.5,SNR=29
WRA Warramunga Arr 44.30 273 P **P 23 18 41.5 -0.2**
1.4nm,0.3s,baz=113,slow=7.7,SNR=13
MKAR Makanchi Array 118.53 310 PKP **PKPdf 23 29 19.1 +0.2**
0.2nm,0.7s,baz=128,slow=1.4,SNR=3.0
KURBB Kurchatov Arra 121.88 313 PKP **PKPdf 23 29 25.3 +0.2**
0.3nm,0.5s,baz=107,slow=1.9,SNR=6.7
BVAR Borovoye Array 127.22 315 PKP **PKPdf 23 29 35.6 +0.3**
0.4nm,0.7s,baz=103,slow=3.1,SNR=4.3
KAF Kangasniemi 145.53 340 *ep* **PKPdf 23 30 04.8 -3.9**
0.8nm,0.4s
FINES FINESS Array B 146.13 340 PKPbc **PKPdf 23 30 10.0 +0.3**
6.0nm,0.9s,baz=32,slow=4.8,SNR=12
NB2 NORSAR Subarra149.75 351 PKP **PKPbc 23 30 22.3 +1.7**
comp=Z,12nm,1.7s,baz=17,slow=2.6
MMAI Mount Meron Ar 151.91 282 PKPbc **PKPbc 23 30 27.2 +0.6**
comp=Z,3.0nm,0.6s,baz=62,slow=4.1,SNR=7.4
AKASG Malin Array Be 152.18 322 PKPbc **PKPbc 23 30 26.7 +0.2**
comp=Z,0.3nm,0.3s,baz=47,slow=3.1,SNR=7.0
BRTR Keskin Array B 153.20 297 PKPbc **PKPbc 23 30 29.9 +0.6**
comp=Z,0.4nm,0.6s,baz=123,slow=5.3,SNR=3.6

IDC 26 23:11:50.0±4.7,24.13S×178.05W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/17,mbtmp4.0/3,Error ellipse: s-maj=194.7km s-min=62.5km az=148.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.30**	**249**	P	P	23 18 56.1	+0.6
	2.5nm,0.9s,baz=89,slow=9.4,SNR=4.1						
ASAR	**Alice Springs**	**43.76**	**260**	P	P	23 19 57.4	-0.2
	1.4nm,0.7s,baz=94,slow=7.9,SNR=4.9						
WRA	**Warramunga Arr**	**44.17**	**266**	P	P	23 20 00.3	-0.6
	1.0nm,0.5s,baz=105,slow=8.2,SNR=3.8						
BRTR	**Keskin Array B**	**149.14**	**308**	PKPbc	PKPbc	23 31 40.2	-0.6
	0.4nm,0.6s,baz=103,slow=2.2,SNR=4.3						

*ISCJB **26** 23:21:57.7±0.2,59.78N±0.03×150.87E±0.06,h10km, mb4.2/63,MS3.5/19,Error ellipse: s-maj=4.7km s-min=4.0km az=142.4*
*MOS **26** 23:21:57.1±0.9,59.79N×150.89E,h9km,mb4.5/25,Error ellipse: s-maj=14.0km s-min=7.4km az=90.0*
MOS Felt (V-VI) at Magadan, Snezhny, Radist, Dukcha, Gadlya, Solnechny; (IV-V) at Ola, Klepka, Uptar, Sokol, Arman'; (III-IV) at Stekol'ny, Palatka, Karamken, Talaya, Ust'-Omchug. NMA2 Magadan 25191P D N I 2322 48 10SPZ.
*IDC **26** 23:21:57.7±0.5,59.76N×150.89E,h0km,mb3.9/32, mb1 4.1/37,mb1mx4.1/41,mbtmp4.0/37,ML3.8/5,MS3.7/16, Ms1 3.7/16,ms1mx3.5/32,Error ellipse: s-maj=11.6km s-min=9.6km az=144.0*
*NEIC **26** 23:21:59.5±0.2,59.76N×150.83E,h10km,mb4.7/20,Error ellipse: s-maj=5.6km s-min=3.7km az=167.0*
NEIC Felt [VI] at Magadan.
*NERS **26** 23:22:00.4,59.72N×151.05E,h10km,Felt I=V-VI MSK at Magadan, Snezhnyi, I=IV-V at Ola, Klepka, Sokol, Arman', I=III-IV at Stekolniy,Karamken,Palatka, Ust'-Omchag,Talaya*

ISC 26 23:21:59.7±0.3,59.81N±0.04×150.93E±0.04,h10km,n184, σ1.933/180,mb4.2/63,MS3.5/19,19C-12D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGD	**Magadan 1**	**0.26**	**338**	↓*i*Pg	**Pn**	**23 22 08.3**	**-1.2**
MGD	**Magadan 1**	**0.26**	**338**	↓*i*P	**Pn**	**23 22 08.4**	**-1.1**
SNGR	**Sinegor'e**	**2.28**	**354**	↑*i*P	**Pb**	**23 22 40.7**	**-0.1**
SNGR				Pmax		23 22 40.8	
	50nm,0.2s						
SNGR				*e*Pg	**Pg**	**23 22 44.9**	**+1.6**
OCHR	**Omchak**	**2.39**	**322**	↑*i*P	**Pb**	**23 22 41.5**	**-1.3**
OCHR				Pmax		23 22 41.8	
	90nm,0.2s						
OCHR				↓*i*		23 22 44.5	
OCHR				Pgmax		23 22 45.3	
	2μm,0.2s						
OCHR				↓*i*Pg	**Pg**	**23 22 46.5**	**+1.0**
OCHR				*e*S	**Sg**	**23 23 15.7**	**-0.8**
SEY	**Seymchan**	**3.21**	**12**	↓*i*P	**Pn**	**23 22 53.0**	**+2.9**
SEY				Pmax		23 22 53.8	
	80nm,0.4s						
SEY				*e*Pg	**Pg**	**23 23 01.0**	**-0.2**
SEY				Pgmax		23 23 03.3	
	400nm,0.6s						
SEY				*e*S	**Sn**	**23 23 31.3**	**+2.9**
SEY				*e*Sg	**Sg**	**23 23 43.2**	**+0.4**
SEY				Sgmax		23 23 47.7	
	10μm,0.8s						
SEY	**Seymchan**	**3.21**	**12**	↓*i*P	**Pn**	**23 22 53.0**	**+2.9**
SEY				*e*S	**Sn**	**23 23 31.3**	**+2.9**
SEY				pmax	pmax		
	comp=Z,80nm,0.4s						
SEY				smax	smax		
	comp=N,10μm,0.8s						
SEY	**Seymchan**	**3.21**	**12**	P	**Pn**	**23 22 51.0**	**+0.9**
SEY				Sn	**Sn**	**23 23 28.8**	**+0.4**
SEY				Lg	Lg	23 23 41.1	
SEY	**Seymchan**	**3.21**	**12**	Pn	**Pn**	**23 22 50.4**	**+0.3**
	comp=N,68nm,0.3s,baz=188,slow=12,SNR=521						
SEY				Sn	**Sn**	**23 23 28.8**	**+0.4**
	comp=N,393nm,0.3s,baz=12,slow=19,SNR=15						
SEY				Lg	Lg	23 23 41.1	
	comp=N,1μm,0.3s,baz=108,slow=20,SNR=18						
SUUS	**Susuman**	**3.27**	**337**	↑*i*P	**Pn**	**23 22 53.6**	**+2.7**
SUUS				Pmax		23 22 54.6	
	comp=N,240nm,0.2s						
SUUS				↑*i*Pg	**Pg**	**23 23 02.6**	**+0.5**
SUUS				Pgmax		23 23 03.8	
	comp=N,2μm,0.7s						
SUUS				*e*S	**Sg**	**23 23 44.4**	**0.0**
SUUS	**Susuman**	**3.27**	**337**	↑*i*P	**Pn**	**23 22 53.6**	**+2.7**
SUUS				pmax	pmax		
	comp=Z,240nm,0.2s						
PEA0	**Petropavlovsk-**	**7.69**	**148**	*e*Pn	**Pn**	**23 23 50.5**	**-1.0**
PETK	**Petropavlovsk-**	**7.69**	**148**	P	**Pn**	**23 23 50.2**	**-1.3**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.69**	**148**	Pn	**Pn**	**23 23 50.2**	**-1.3**
PETK	**Petropavlovsk-**	**7.69**	**148**	Pn	**Pn**	**23 23 50.2**	**-1.3**
	comp=Z,2.7nm,0.3s,baz=325,slow=10,SNR=87						
PETK				LR	LR	23 26 50.4	
	comp=Z,15nm,28.6s,baz=282,slow=38						
YAK	**Yakutsk**	**10.56**	**291**	*e*P	**Pn**	**23 24 28.6**	**-2.3**
YAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YAK				MLR	MLR		
	comp=Z,376nm,10.0s						
YAK				MLR	MLR		
	comp=E,273nm,10.0s						
YAK	**Yakutsk**	**10.56**	**291**	P	**Pn**	**23 24 28.5**	**-2.3**
BILL	**Bilibino**	**10.63**	**33**	*e*	**Pn**	**23 24 33.0**	**+1.2**
BILL				*e*		23 24 43.0	
BILL				*e*S	**Sn**	**23 26 26.4**	**-4.3**
BILL				*e*		23 27 23.6	
BILL				*e*max		23 27 52.7	
	comp=E,190nm,1.2s						
BILL				*e*max		23 27 52.7	
	comp=E,80nm,1.0s						
FX1	**Attu Island--F**	**14.10**	**110**	Pn	**Pn**	**23 25 18.2**	**-1.0**
FX1	**Attu Island--F**	**14.10**	**110**	Pn	**Pn**	**23 25 18.2**	**-1.0**
	comp=E,2.4nm,0.3s,baz=343,slow=19,SNR=6.2						
FX1				LR	LR	23 30 43.7	
	comp=E,16nm,28.6s,baz=311,slow=37						
HABR	**Khabarovsk**	**14.63**	**226**	*e*P	**P**	**23 25 32.0**	**-0.8**
HABR				*e*S	**Sn**	**23 28 13.3**	**+4.9**
HABR				pmax	pmax		
	comp=Z,32nm,1.4s						
HABR				MLR	MLR		
	comp=Z,181nm,17.0s						
TIXI	**Tiksi**	**14.80**	**332**	↓*e*P	**Pn**	**23 25 25.7**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KLR	**Kul'dur**	**15.30**	**235**	*e*P	P	23 25 47.1	+6.8
ASAJ	**Asahikawa**	**16.51**	**202**	Pn	**Pn**	**23 25 50.9**	**-0.2**
ASAJ	**Asahikawa**	**16.51**	**202**	Pn	**Pn**	**23 25 50.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=61,slow=5.6,SNR=3.3						
ASAJ				LR	LR	23 32 05.2	
	comp=Z,168nm,20.6s,baz=346,slow=37						
USRK	**Ussuriysk Arra**	**19.38**	**225**	P	**P**	**23 26 24.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=34,slow=8.8,SNR=9.8						
USRK				LR	LR	23 34 32.3	
	comp=Z,210nm,18.7s,baz=24,slow=39						
TNA	**Tin City**	**19.44**	**55**	*e*P	**Pn**	**23 26 27.4**	**+0.4**
	comp=Z,17nm,0.7s						
HIA	**Hailar**	**20.74**	**253**	*e*P	**P**	**23 26 39.9**	**-0.2**
	comp=Z,15nm,0.9s						
CN2	**Changchun**	**22.25**	**235**	*e*P	P	23 26 50.3	-6.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
UNV	**Unalaska Valle**	**23.70**	**86**	*e*P	**P**	**23 27 11.6**	**+0.3**
	comp=Z,393nm,2.6s						
MJAR	**Matsushiro Arr**	**24.69**	**205**	P	**P**	**23 27 19.3**	**-1.3**
MJAR	**Matsushiro Ar**	**24.69**	**205**	P	**P**	**23 27 19.3**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=10,slow=7.8,SNR=4.3						
MJAR				LR	LR	23 36 44.9	
	comp=Z,118nm,18.3s,baz=355,slow=36						
COLD	**Coldfoot**	**26.30**	**49**	*e*P	**P**	**23 27 35.0**	**+0.1**
	comp=Z,7.4nm,0.8s						
PPLA	**Purkeypile**	**26.68**	**59**	*e*P	**P**	**23 27 41.6**	**+3.0**
	comp=Z,65nm,2.0s						
KS01	**Wonju Array Si**	**26.77**	**224**	*e*P	P	23 27 44.8	+5.5
KSRS	**Korea Array**	**26.78**	**224**	P	**P**	**23 27 38.8**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=25,slow=9.0,SNR=4.4						
KSRS				LR	LR	23 38 27.5	
	comp=Z,15nm,28.6s,baz=40,slow=37						
KSAR	**Wonju Array Be**	**26.80**	**224**	P	**P**	**23 27 38.8**	**-0.9**
KTH	**Kantishna Hill**	**27.01**	**57**	*e*P	**P**	**23 27 42.5**	**+1.1**
	comp=Z,44nm,1.8s						
TLY	**Talaya**	**27.29**	**274**	*e*P	**P**	**23 27 41.7**	**-2.3**
TLY				*e*		23 31 09.0	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,325nm,14.0s						
MCK	**McKinley**	**27.78**	**56**	*e*P	**P**	**23 27 48.6**	**+0.3**
MCK	**McKinley**	**27.78**	**56**	*e*P	**P**	**23 27 48.6**	**+0.3**
	comp=Z,114nm,2.6s						
ZAK	**Zakamensk**	**28.25**	**272**	*e*P	P	23 27 56.9	+4.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ILAR	**Eielson Array**	**28.28**	**53**	P	**P**	**23 27 52.8**	**+0.1**
ILAR	**Eielson Array**	**28.28**	**53**	P	**P**	**23 27 52.8**	**+0.1**
	comp=Z,7.1nm,0.8s,baz=280,slow=8.9,SNR=87						
IL1	**Eielson Array**	**28.28**	**53**	*e*P	**P**	**23 27 52.9**	**+0.2**
SONA1	**Songino Array**	**28.30**	**265**	*e*P	**P**	**23 27 55.5**	**+2.4**
SONM	**Songino Array**	**28.31**	**265**	P	**P**	**23 27 52.7**	**-0.6**
SONM				PcP	**PcP**	**23 31 10.8**	**+4.9**
SONM	**Songino Array**	**28.31**	**265**	P	**P**	**23 27 52.7**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=58,slow=8.7,SNR=5.2						
SONM				PcP	**PcP**	**23 31 10.8**	**+4.9**
	comp=Z,1.4nm,0.9s,baz=47,slow=3.1,SNR=4.0						
SONM				LR	LR	23 39 45.3	
	comp=Z,16nm,28.6s,baz=348,slow=38						
MOY	**Mondy**	**28.63**	**276**	*e*P	P	23 28 03.2	+7.1
HHC	**Hu-ho-hao-te**	**30.84**	**250**	*e*P	**P**	**23 28 18.3**	**+2.6**
HHC				S	**S**	**23 33 19.3**	**+0.2**
HHC				pmax	pmax		
	comp=Z,26nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,5.5s						
INK	**Inuvik**	**32.02**	**43**	P	**P**	**23 28 25.8**	**+0.1**
INK	**Inuvik**	**32.02**	**43**	P	**P**	**23 28 25.8**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=301,slow=5.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**35.22**	**290**	*i* P	P	23 29 02.0	+8.4
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**35.22**	**290**	P	**P**	**23 28 52.8**	**-0.8**
ZALV	**Zalesovo Beam**	**35.22**	**290**	P	**P**	**23 28 52.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=52,slow=9.5,SNR=2.5						
ZALV				LR	LR	23 44 13.8	
	comp=Z,138nm,18.3s,baz=302,slow=38						
NVS	**Novosibirsk**	**35.43**	**293**	*e*P	**P**	**23 28 53.3**	**-2.1**
NVS				pmax	pmax		
	comp=N,3.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA	**Gaotai**	**37.68**	**261**	*e*P	P	23 29 20.0	+5.0
GTA				pP	pP	23 29 27.5	+9.4
GTA				sP	sP	23 29 31.0	+12
GTA				S	**ScP**	**23 35 15.3**	**-3.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,84nm,5.7s						
GTA				LR	LR		
	comp=Z,230nm,12.4s						
GTA				LR	LR		
	comp=Z,230nm,12.8s						
GTA				LR	LR		
	comp=Z,270nm,14.0s						
DLBC	**Dease Lake**	**38.34**	**56**	P	**P**	**23 29 20.8**	**+0.5**
DLBC	**Dease Lake**	**38.34**	**56**	P	**P**	**23 29 20.8**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=293,slow=8.8,SNR=6.5						
DLBC				LR	LR	23 46 34.7	
	comp=Z,285nm,21.0s,baz=338,slow=38						
RES	**Resolute Bay**	**39.03**	**23**	P	**P**	**23 29 25.6**	**-0.1**
RES	**Resolute Bay**	**39.03**	**23**	P	**P**	**23 29 25.6**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=307,slow=10,SNR=6.2						
KURK	**Kurchatov**	**40.21**	**290**	P	**P**	**23 29 35.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**40.21**	**290**	P	**P**	**23 29 35.7**	**-0.1**
KURBB	**Kurchatov Arra**	**40.31**	**290**	P	**P**	**23 29 35.7**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=54,slow=8.6,SNR=24						
MKAR	**Makanchi Array**	**41.11**	**283**	*ce*P	**P**	**23 29 42.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**41.11**	**283**	P	**P**	**23 29 42.8**	**-0.6**
MKAR	**Makanchi Array**	**41.11**	**283**	P	**P**	**23 29 42.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=50,slow=6.9,SNR=14						
MK01	**Makanchi Array**	**41.12**	**283**	*e*P	**P**	**23 29 42.2**	**-1.3**
YKA	**Yellowknife Ar**	**41.76**	**44**	P	**P**	**23 29 47.5**	**-0.9**
YKA	**Yellowknife Ar**	**41.76**	**44**	P	**P**	**23 29 47.5**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=306,slow=7.5,SNR=4.1						
BVAR	**Borovoye Array**	**42.45**	**298**	P	**P**	**23 29 53.8**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**42.45**	**298**	P	**P**	**23 29 53.8**	**-0.4**
BVAR	**Borovoye Array**	**42.45**	**298**	P	**P**	**23 29 53.8**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=66,slow=8.2,SNR=14						
BRVK	**Borovoye**	**42.48**	**298**	↓*e*P	**P**	**23 29 54.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK				MLR	MLR		
	comp=Z,132nm,13.0s						
SVE	**Sverdlovsk**	**44.00**	**308**	*e*P	P	23 30 13.2	+6.5
ARU	**Arti**	**45.10**	**308**	*c* i*P*	**P**	**23 30 14.7**	**-0.8**
ARU						23 31 58.3	
ARU				S	S	23 36 47.5	-6.7
ARU				SS	**ScS**	**23 40 11.9**	**0.0**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ARCES	**ARCESS Array B**	**45.19**	**336**	P	**P**	**23 30 15.3**	**-0.7**
ARCES	**ARCESS Array B**	**45.19**	**336**	P	**P**	**23 30 15.3**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=40,slow=9.6,SNR=5.8						
ARCES				LR	LR	23 53 36.1	
	comp=Z,16nm,28.6s,baz=0.5,slow=42						
TMCR	**Tamitsa**	**46.41**	**326**	*e*P	**P**	**23 30 25.5**	**-0.2**
TMCR				*e*		23 32 03.6	
TMCR				*e*		23 32 12.0	
TMCR				pmax	pmax		
	comp=Z,27nm,1.3s						
AAK	**Ala-Archa**	**47.95**	**285**	↑*e*P	**P**	**23 30 38.5**	**+0.3**
AAK		

LSA	**Lhasa**	**49.71**	**260**	*e*P		P		23 30 55.9	+3.7
LSA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
LSA	**Lhasa**	**49.71**	**260**	*e*P		P		23 30 55.9	+3.7
	comp=Z,3.4nm,0.8s								
B08A	**Colville Reser**	**49.88**	**61**	*e*P		**P**		**23 30 53.5**	**+0.7**
	comp=Z,15nm,1.5s								
QIZ	**Qiongzhong**	**50.20**	**234**	P		**P**		**23 30 58.3**	**+2.8**
QIZ				S		**S**		**23 38 08.0**	**+0.6**
QIZ					pmax	pmax			
	comp=Z,84nm,4.2s								
QIZ					LR	LR			
	comp=Z,210nm,17.5s								
QIZ					LR	LR			
	comp=Z,150nm,16.3s								
QIZ					LR	LR			
	comp=Z,160nm,12.2s								
FCC	**Fort Churchill**	**51.31**	**37**	*e*P		**P**		**23 31 02.7**	**-0.6**
FCC	**Fort Churchill**	**51.31**	**37**	*e*P		**P**		**23 31 02.7**	**-0.6**
WALA	**Waterton Lakes**	**51.68**	**57**	*e*P		**P**		**23 31 07.3**	**+0.9**
FINES	**FINESS Array B**	**51.83**	**330**	P		**P**		**23 31 06.4**	**-0.8**
FINES	**FINESS Array B**	**51.83**	**330**	P		**P**		**23 31 06.4**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=34,slow=8.6,SNR=5.9								
FFC	**Flin Flon**	**51.93**	**45**	*i* P		P		23 31 17.4	+9.4
BSMT	**Bassoo Peak**	**52.24**	**58**	*e*P		**P**		**23 31 11.2**	**+0.5**
SLMT	**Seeley Lake**	**53.27**	**58**	*e*P		**P**		**23 31 18.8**	**+0.5**
K05A	**Summer Lake**	**53.48**	**66**	*e*P		**P**		**23 31 19.6**	**-0.3**
	comp=Z,226nm,2.8s								
OBN	**Obninsk**	**54.09**	**320**	*e*P		**P**		**23 31 21.9**	**-2.0**
OBN					pmax	pmax			
	comp=Z,6.0nm,1.6s								
OBN					MLR	MLR			
	comp=Z,100nm,15.0s								
HRY	**Holter Researc**	**54.39**	**57**	*e*P		**P**		**23 31 27.8**	**+1.4**
CHTO	**Chiang Mai**	**55.15**	**245**	*e*P		**P**		**23 31 32.1**	**0.0**
CHTO					pmax	pmax			
	comp=Z,1.0nm,0.8s								
CHTO	**Chiang Mai**	**55.15**	**245**	*e*P		**P**		**23 31 32.1**	**0.0**
	comp=Z,1.1nm,0.8s								
MCMT	**McKenzie Canyo**	**55.44**	**59**	*e*P		**P**		**23 31 34.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**55.46**	**245**	P		**P**		**23 31 33.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**55.46**	**245**	P		**P**		**23 31 33.8**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=80,slow=8.1,SNR=3.9								
CM01	**Chiang Mai Arr**	**55.48**	**245**	*e*P		**P**		**23 31 33.9**	**-0.6**
NB2	**NORSAR Subarra**	**55.52**	**338**	P		**P**		**23 31 32.0**	**-2.3**
	comp=Z,2.9nm,0.8s,baz=26,slow=7.4								
NB2	**NORSAR Subarra**	**55.52**	**338**	P		**P**		**23 31 32.8**	**-1.5**
	comp=Z,3.3nm,0.9s,baz=26,slow=7.4								
NOA	**NORSAR Array B**	**55.52**	**338**	P		**P**		**23 31 33.4**	**-1.0**
NOA	**NORSAR Array B**	**55.52**	**338**	P		**P**		**23 31 33.3**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=24,slow=7.2,SNR=6.2								
NOA					LR	LR		23 57 39.2	
	comp=Z,46nm,20.9s,baz=35,slow=38								
GCMT	**Greycliff**	**56.03**	**56**	*e*P		**P**		**23 31 37.5**	**-0.8**
RLMT	**Red Lodge**	**56.74**	**57**	*e*P		**P**		**23 31 44.1**	**+0.6**
	comp=Z,14nm,1.1s								
WAKR	**Walker**	**57.49**	**68**	*e*P		**P**		**23 31 47.8**	**-1.0**
ELK	**Elko**	**57.63**	**64**	P		**P**		**23 31 48.0**	**-1.9**
ELK	**Elko**	**57.63**	**64**	P		**P**		**23 31 48.0**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=318,slow=4.3,SNR=6.7								
ULM	**Lac du Bonnet**	**57.74**	**44**	P		**P**		**23 31 50.8**	**+0.6**
ULM	**Lac du Bonnet**	**57.74**	**44**	P		**P**		**23 31 50.8**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=338,slow=11,SNR=2.0								
NV01	**Mina Array Sit**	**58.08**	**68**	*e*P		**P**		**23 31 54.0**	**+1.0**
NVAR	**Mina Array Bea**	**58.08**	**68**	P		**P**		**23 31 53.2**	**+0.2**
NVAR	**Mina Array Bea**	**58.08**	**68**	P		**P**		**23 31 53.2**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=311,slow=5.8,SNR=9.1								
BW06	**Boulder Array**	**58.52**	**58**	*e*P		**P**		**23 31 55.5**	**-0.5**
PDAR	**Pinedale Array**	**58.52**	**58**	P		**P**		**23 31 56.5**	**+0.5**
PDAR	**Pinedale Array**	**58.52**	**58**	P		**P**		**23 31 56.5**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=348,slow=2.8,SNR=7.5								
TPH	**Tonopah**	**58.87**	**67**	*e*P		**P**		**23 31 59.0**	**+0.5**
TPH					pmax	pmax			
	comp=Z,9.0nm,1.3s								
TPH	**Tonopah**	**58.87**	**67**	*e*P		**P**		**23 31 59.0**	**+0.5**
	comp=Z,8.6nm,1.3s								
DUG	**Dugway**	**59.17**	**62**	*e*P		**P**		**23 32 01.3**	**+0.8**
DUG					pmax	pmax			
	comp=Z,6.0nm,0.9s								
DUG	**Dugway**	**59.17**	**62**	*e*P		**P**		**23 32 01.3**	**+0.8**
	comp=Z,6.0nm,0.9s								
DAU	**Daniels Canyon**	**59.69**	**61**	*e*P		**P**		**23 32 04.5**	**+0.2**
DAU	**Daniels Canyon**	**59.69**	**61**	*e*P		**P**		**23 32 04.5**	**+0.2**
NLU	**North Lily Min**	**59.70**	**62**	*e*P		**P**		**23 32 05.3**	**+1.0**
	comp=Z,8.8nm,1.0s								
MAK	**Makhachkala**	**60.01**	**304**	*e*P		P		23 32 13.3	+7.3
MAK					MLR	MLR			
	comp=Z,302nm,19.0s								
AKASG	**Malin Array Be**	**60.20**	**321**	*ce*P		**P**		**23 32 06.0**	**-1.2**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**60.20**	**321**	P		**P**		**23 32 06.5**	**-0.7**
AKASG	**Malin Array Be**	**60.20**	**321**	P		**P**		**23 32 06.5**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=30,slow=7.5,SNR=5.0								
AKASG					LR	LR		00 00 34.3	
	comp=Z,16nm,28.6s,baz=55,slow=38								
TPNV	**Topopah Spring**	**60.23**	**67**	*e*P		**P**		**23 32 08.5**	**+0.6**
TPNV	**Topopah Spring**	**60.23**	**67**	*e*P		**P**		**23 32 08.5**	**+0.6**
MVU	**Marysvale**	**60.82**	**63**	*e*P		**P**		**23 32 12.4**	**+0.5**
	comp=Z,3.7nm,0.9s								
KIV	**Kislovodsk**	**61.15**	**308**	*e*P		**P**		**23 32 13.5**	**-0.4**
KIV				*e*				23 33 00.3	
KIV					pmax	pmax			
	comp=Z,5.0nm,1.2s								
KIV					MLR	MLR			
	comp=Z,100nm,17.0s								
KBZ	**Khabaz**	**61.25**	**308**	LR		LR		00 01 44.5	
	comp=Z,16nm,28.6s,baz=26,slow=39								
PHWY	**Pilot Hill**	**61.47**	**56**	*e*P		**P**		**23 32 17.9**	**+1.6**
	comp=Z,14nm,0.8s								
SCHQ	**Schefferville**	**61.80**	**24**	LR		LR		00 01 27.6	
	comp=Z,16nm,28.6s,baz=40,slow=38								
PV09	**Paradox Valley**	**62.20**	**61**	*e*P		**P**		**23 32 22.2**	**+0.9**
PV04	**Paradox Valley**	**62.38**	**61**	*e*P		**P**		**23 32 22.8**	**+0.4**
SMCO	**Snowmass**	**62.58**	**59**	*e*P		**P**		**23 32 26.0**	**+2.0**
	comp=Z,7.4nm,0.9s								
GNI	**Garni**	**63.50**	**305**	P		**P**		**23 32 30.5**	**+0.7**
GNI	**Garni**	**63.50**	**305**	P		**P**		**23 32 30.5**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=31,slow=8.3,SNR=3.6								
CLL	**Collm**	**64.14**	**332**	*e*P		**P**		**23 32 34.0**	**+0.4**
CLL	**Collm**	**64.14**	**332**	*e*P		**P**		**23 32 34.0**	**+0.4**
CLL				*e*				23 32 53.0	
VRI	**Vrincioaia**	**65.24**	**320**	⇑P		P		23 32 45.9	+4.9
VRI	**Vrincioaia**	**65.24**	**320**	⇑*i*P		P		23 32 45.9	+4.9
CFR	**Carcaliu**	**65.39**	**319**	⇑P		**P**		**23 32 42.2**	**+0.3**
CFR	**Carcaliu**	**65.39**	**319**	⇑*i*P		**P**		**23 32 42.2**	**+0.3**
MLR	**Muntele Rosu**	**65.83**	**321**	⇓*i*P		P		23 32 52.1	+7.2
MLR	**Muntele Rosu**	**65.83**	**321**	P		**P**		**23 32 45.9**	**+1.0**
MLR	**Muntele Rosu**	**65.83**	**321**	P		**P**		**23 32 45.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=211,slow=5.9,SNR=5.6								
TIRR	**Tirgusor**	**65.94**	**319**	⇑P		P		23 32 53.0	+7.6
TIRR	**Tirgusor**	**65.94**	**319**	⇑*i*P		P		23 32 53.0	+7.6
VOIR		**66.16**	**321**	⇑P		P		23 32 43.2	-3.8
VOIR		**66.16**	**321**	⇑*i*P		P		23 32 43.2	-3.8
GERES	**GERESS Array B**	**66.25**	**331**	P		**P**		**23 32 47.6**	**+0.1**
GERES	**GERESS Array B**	**66.25**	**331**	P		**P**		**23 32 47.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=12,slow=5.2,SNR=3.0								
GERES					LR	LR		00 04 59.5	
	comp=Z,16nm,28.6s,baz=25,slow=39								
ARR	**Arges**	**66.35**	**322**	⇓*i*P		**P**		**23 32 49.5**	**+1.3**
BZS	**Buzias**	**67.05**	**324**	⇓P		**P**		**23 32 52.4**	**-0.1**
BZS	**Buzias**	**67.05**	**324**	⇓*i*P		**P**		**23 32 52.4**	**-0.1**
BRTR	**Keskin Array B**	**68.25**	**312**	P		**P**		**23 33 00.3**	**-0.1**
BRTR	**Keskin Array B**	**68.25**	**312**	P		**P**		**23 33 00.3**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=27,slow=3.1,SNR=6.0								
BRTR					LR	LR		00 04 41.0	
	comp=Z,16nm,28.6s,baz=358,slow=38								
BR231	**Keskin MP Arra**	**68.47**	**313**	*e*P		**P**		**23 33 01.0**	**-0.7**
VTS	**Vitosha**	**69.30**	**321**	⇑P		P		23 33 14.4	+7.5
VTS	**Vitosha**	**69.30**	**321**	⇑*i*P		P		23 33 14.4	+7.5
TX31	**Lajitas Ar. Si**	**72.34**	**62**	*e*P		**P**		**23 33 26.1**	**+0.6**
TXAR	**Lajitas Array**	**72.34**	**62**	P		**P**		**23 33 25.9**	**+0.4**
TXAR	**Lajitas Array**	**72.34**	**62**	P		**P**		**23 33 25.9**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=328,slow=3.2,SNR=4.1								
MMAI	**Mount Meron Ar**	**73.44**	**308**	P		**P**		**23 33 32.0**	**0.0**
MMAI	**Mount Meron Ar**	**73.44**	**308**	P		**P**		**23 33 32.0**	**0.0**
	comp=Z,2.2nm,0.7s,baz=36,slow=7.3,SNR=4.2								
RAYN	**Ar Rayn**	**77.35**	**295**	*e*P		**P**		**23 33 53.5**	**-1.0**
	comp=Z,2.5nm,0.8s								
ES19	**SONSECA Array**	**78.69**	**340**	*e*P		**P**		**23 34 02.1**	**+0.4**
ESDC	**Sonseca Array**	**78.73**	**340**	P		**P**		**23 34 01.8**	**-0.2**
ESDC	**Sonseca Array**	**78.73**	**340**	P		**P**		**23 34 01.8**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=3.2,slow=6.1,SNR=14								
KEST	**Kesra**	**79.66**	**329**	P		**P**		**23 34 07.0**	**-0.1**
KEST	**Kesra**	**79.66**	**329**	P		**P**		**23 34 07.0**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=333,slow=6.8,SNR=4.3								
WRA	**Warramunga Arr**	**80.61**	**196**	P		**P**		**23 34 12.4**	**+0.3**
WRA	**Warramunga Arr**	**80.61**	**196**	P		**P**		**23 34 12.4**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=15,slow=6.9,SNR=7.1								
ASAR	**Alice Springs**	**84.33**	**196**	P		**P**		**23 34 30.2**	**-1.3**
ASAR	**Alice Springs**	**84.33**	**196**	P		**P**		**23 34 30.2**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=8.8,slow=5.5,SNR=4.1								

OTT 26 23:24:57.9±0.4, 79°39N×116°36W, h18km, ML3.5/3, 280km west from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EUNU	**Eureka**	**5.36**	**68**	PN		Pn	23 26 16.4	-0.5
EUNU				SN		Sn	23 27 13.2	-4.8
EUNU				Trac			23 27 19.4	
	comp=Z,3.4nm,0.4s							
RES	**Resolute Bay**	**6.70**	**124**	PN		Pn	23 26 34.4	-0.7
RES				SN		Sn	23 27 46.6	-4.2
RES				Trac			23 27 53.1	
	comp=Z,14nm,0.8s							
CB31	**Cambridge Bay**	**10.72**	**158**	PN		Pn	23 27 29.2	-1.0
CB31				SN		Sn	23 29 20.4	-9.1
CB31				Trac			23 29 23.1	
	comp=Z,3.6nm,0.2s							
INK	**Inuvik**	**12.02**	**212**	SN		Sn	23 29 50.4	-11
ILON	**Igloolik, Nuna**	**13.34**	**119**	PN		Pn	23 28 03.5	-2.5
YKW3	**Yellowknife Ar**	**16.92**	**177**	PN		Pn	23 28 52.4	-0.9
YKW3				SN		Sn	23 31 46.2	-14

KRSC 26 23:29:14.3±5.0, 50°17N×156°88E, h10km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**0.71**	**317**	*e*P		Pb	23 29 29.3	+0.6
SKR				*i* S		Sb	23 29 39.3	+0.8
PAU	**Pauzhetka**	**1.30**	**358**	*e*P		Pn	23 29 38.4	-0.1
PAU				*i* S		Sb	23 29 55.5	0.0
ASAK	**Asacha**	**2.31**	**16**	*e*P		Pb	23 29 54.3	-1.8
MTVR	**Mutnovka**	**2.46**	**19**	*e*P		Pn	23 29 56.1	+1.5
MTVR				*i* S		Sn	23 30 25.4	+0.6
RUS	**Russkaya**	**2.49**	**24**	*e*P		Pn	23 29 55.7	+0.9
RUS				*i* S		Sn	23 30 25.0	-0.2
UGLR	**Uglovaya**	**3.27**	**21**	*e*P		Pn	23 30 07.8	+2.0
KOK	**Koryaka**	**3.31**	**19**	*e*P		Pn	23 30 09.1	+2.8
KOK				*e*S		Sn	23 30 48.7	+2.9
SMAR	**Somma**	**3.32**	**20**	*e*P		Pn	23 30 09.6	+3.0
GNL	**Ganaly**	**3.59**	**10**	*e*P		Pn	23 30 11.5	+1.3

*ISCJB **26** 23:33:50.5±0.5, 24°59N±0°03×122°70E±0°02, h101km±5km, Error ellipse: s-maj=5.5km s-min=2.8km az=167.3*
*TAP **26** 23:33:50.9, 24°53N×122°76E, h89km±2km, ML3.6, D*
*JMA **26** 23:33:50.3±0.1, 24°58N×122°65E, h105km±2km, M2.8*

ISC 26 23:33:50.5±1.4, 24°60N±0°05×122°70E±0°03, h104km±9km, n48, σ0°89/85, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	**Yonaguni jima**	**0.32**	**115**	P		**Pn**	**23 34 05.9**	**+0.2**
YOJ				*e*S		**Sn**	**23 34 17.4**	**+0.4**
TWB1	**Santiao Chiao**	**0.77**	**303**	P		**Pn**	**23 34 09.1**	**+0.1**
	baz=304							
TWB1				S		**Sn**	**23 34 21.9**	**-0.9**
	baz=304							
TWC	**Suao**	**0.77**	**271**	*i* P		**Pn**	**23 34 08.9**	**-0.1**
	baz=275							
TWC				S		**Sn**	**23 34 21.9**	**-1.0**
	baz=275							
ILA	**Ilan**	**0.88**	**281**	*e*P		**Pn**	**23 34 10.2**	**+0.2**
	baz=284							
ILA				*e*S		**Sn**	**23 34 25.0**	**+0.3**
	baz=284							
ENA	**Nanau**	**0.89**	**259**	*e*P		**Pn**	**23 34 10.3**	**+0.2**
	baz=263							
ENA				*e*S		**Sn**	**23 34 24.6**	**-0.3**
	baz=263							
NWF	**Wu-fen Shan**	**0.96**	**300**	P		**Pn**	**23 34 11.3**	**+0.3**
	baz=301							
NWF				S		**Sn**	**23 34 26.4**	**+0.1**
	baz=301							
IRIF	**Iriomote-Funau**	**0.98**	**105**	P		**Pn**	**23 34 11.3**	**+0.3**
IRIF				*e*S		**Sn**	**23 34 26.7**	**+0.3**
ENTT	**Nioudou**	**1.03**	**273**	*i* P		**Pn**	**23 34 12.1**	**+0.5**
	baz=275							
ENTT				*e*S		**Sn**	**23 34 27.6**	**+0.1**
	baz=275							
TWD	**Chiawan**	**1.13**	**243**	P		**Pn**	**23 34 12.5**	**-0.2**
	baz=247							
TWD				S		**Sn**	**23 34 28.7**	**-0.7**
	baz=247							
HATJ	**Hateruma jima**	**1.14**	**118**	P		**Pn**	**23 34 13.9**	**+1.1**
HATJ				*e*S		**Sn**	**23 34 30.6**	**+0.9**
HWA	**Hwalien**	**1.17**	**239**	*e*P		**Pn**	**23 34 12.9**	**-0.2**
	baz=242							
HWA				*e*S		**Sn**	**23 34 29.8**	**-0.5**
	baz=242							
TWY	**Chenhua**	**1.21**	**304**	*e*P		**Pn**	**23 34 13.9**	**+0.3**
	baz=305							
NNS	**Nan Shan**	**1.22**	**263**	P		**Pn**	**23 34 14.1**	**+0.3**
	baz=265							
NNS				S		**Sn**	**23 34 30.8**	**-0.6**
	baz=265							
NSK	**Sanguang**	**1.22**	**274**	⇓*i*P		**Pn**	**23 34 14.3**	**+0.5**
	baz=276							
NSK				S		**Sn**	**23 34 31.2**	**-0.2**
	baz=276							
JKRS	**Kuro-shima**	**1.25**	**106**	P		**Pn**	**23 34 14.8**	**+0.8**
JKRS				*e*S		**Sn**	**23 34 32.4**	**+0.6**
TWS1	**Kuangyinshan**	**1.27**	**294**	*e*P		**Pn**	**23 34 14.3**	**+0.1**
	baz=295							
TWS1				*e*S		**Sn**	**23 34 31.8**	**-0.4**
	baz=295							
JIJ	**Ishigaki jima**	**1.34**	**100**	P		**Pn**	**23 34 15.3**	**+0.2**
JIJ				*e*S		**Sn**	**23 34 33.1**	**-0.5**
WHF	**Hehuan Shan**	**1.38**	**251**	*i* P		**Pn**	**23 34 16.2**	**+0.1**
	baz=254							
WHF				S		**Sn**	**23 34 34.5**	**-0.8**
	baz=254							
ESL	**Shilin**	**1.39**	**236**	⇓P		**Pn**	**23 34 15.5**	**-0.3**
	baz=239							
ESL				*e*S		**Sn**	**23 34 33.6**	**-1.2**
	baz=239							
NCU	**National Centr**	**1.42**	**285**	*e*P		**Pn**	**23 34 16.5**	**+0.4**
	baz=287							
TWT	**Tachien**	**1.43**	**256**	P		**Pn**	**23 34 17.3**	**+1.0**
	baz=259							
TWT				S		**Sn**	**23 34 36.2**	**+0.3**
	baz=259							
NSTT	**Nanjuang**	**1.54**	**272**	*e*P		**Pn**	**23 34 17.3**	**-0.3**
	baz=273							
NSTT				*e*S		**Sn**	**23 34 37.9**	**-0.2**
	baz=273							
HSN	**Hsinchu**	**1.59**	**278**	*e*P		**Pn**	**23 34 17.7**	**-0.4**
	baz=280							
EHY	**Hungye**	**1.66**	**230**	P		**Pn**	**23 34 18.6**	**-0.4**
	baz=232							
TWQ1	**Liyutan**	**1.77**	**262**	*e*P		**Pn**	**23 34 20.5**	**+0.1**
	baz=264							
TWF1	**Yuli**	**1.78**	**226**	P		**Pn**	**23 34 20.4**	**-0.2**
	baz=228							
TWF1				*e*S		**Sn**	**23 34 41.2**	**-2.2**
	baz=228							
SMLT	**Sun Moon Lake**	**1.79**	**247**	*e*P		**Pn**	**23 34 21.5**	**+0.8**
	baz=249							
SMLT				*e*S		**Sn**	**23 34 45.4**	**+1.7**
	baz=249							
TYC	**Yuchr**	**1.82**	**248**	*e*P		**Pn**	**23 34 21.9**	**+1.0**
	baz=250							
TYC				*e*S		**Sn**	**23 34 44.8**	**+0.7**
	baz=250							
JTJ	**Tarama**	**1.82**	**88**	P		**Pn**	**23 34 21.4**	**+0.4**
JTJ				*e*S		**Sn**	**23 34 43.6**	**-0.7**
TCU	**Taichung**	**1.90**	**257**	*e*P		**Pn**	**23 34 22.4**	**+0.4**
	baz=258							
CHKT	**Chengkung**	**1.93**	**220**	*e*P		**Pn**	**23 34 21.9**	**-0.4**
	baz=221							
CHKT				S		**Sn**	**23 34 45.1**	**-1.5**
	baz=221							
YUS	**Yu-Shan**	**1.94**	**236**	*e*P		**Pn**	**23 34 23.4**	**+0.4**
	baz=237							
YUS				*e*S		**Sn**	**23 34 47.0**	**-0.7**
	baz=237							
ALS	**Alishan**	**2.04**	**238**	⇓P		**Pn**	**23 34 25.2**	**+1.1**
	baz=240							
ALS				*e*S		**Sn**	**23 34 51.1**	**+1.4**
	baz=240							
ELDTW	**Lidau**	**2.08**	**228**	*e*P		**Pn**	**23 34 24.4**	**0.0**
	baz=229							
ELDTW				*e*S		**Sn**	**23 34 49.0**	**-1.3**
	baz=229							
CHN5	**Tsauling**	**2.10**	**242**	*e*P		**Pn**	**23 34 25.8**	**+1.2**
	baz=244							
CHN5				*e*S		**Sn**	**23 34 52.4**	**+1.7**
	baz=244							
STYT	**Tauyuan**	**2.28**	**232**	*e*P		**Pn**	**23 34 27.9**	**+1.0**
	baz=233							
STYT				*e*S		**Sn**	**23 34 54.9**	**+0.1**
	baz=233							
CHN4	**Tsaushan**	**2.29**	**238**	*e*P		**Pn**	**23 34 28.1**	**+1.1**
	baz=239							
CHN4				*e*S		**Sn**	**23 34 55.5**	**+0.5**
	baz=239							
TWG	**Pinlang**	**2.31**	**220**	*e*P		**Pn**	**23 34 27.1**	**-0.3**
	baz=222							
TWG				*e*S		**Sn**	**23 34 54.5**	**-1.1**
	baz=222							
JMJ	**Miyako jima 2**	**2.37**	**84**	P		**Pn**	**23 34 29.1**	**+1.0**
TWK	**Hsinying**	**2.42**	**237**	*e*P		**Pn**	**23 34 30.0**	**+1.2**
	baz=238							
TWK				*e*S		**Sn**	**23 34 59.4**	**+1.3**
	baz=238							
CHN1	**Nanshi**	**2.43**	**235**	*e*P		**Pn**	**23 34 29.7**	**+0.8**
	baz=236							
CHN1				*e*S		**Sn**	**23 34 59.9**	**+1.5**
	baz=236							
SGST	**Jiashian**	**2.45**	**233**	*e*P		**Pn**	**23 34 30.9**	**+1.6**
	baz=234							
JOGS	**Gusukube**	**2.47**	**86**	P		**Pn**	**23 34 30.1**	**+0.7**
ECL	**Taimali**	**2.55**	**219**	*e*P		**Pn**	**23 34 30.1**	**-0.4**
	baz=220							
ECL				*e*S		**Sn**	**23 34 58.7**	**-2.5**
	baz=220							
SSD	**Sandimen**	**2.64**	**226**	*e*P		**Pn**	**23 34 33.8**	**+2.1**
	baz=227							
EAST	**Anshuo**	**2.78**	**218**	*e*P		**Pn**	**23 34 33.5**	**0.0**
	baz=219							
EAST				*e*S		**Sn**	**23 35 05.2**	**-1.4**
	baz=219							
JKE	**Kume jima 2**	**4.08**	**64**	P		**Pn**	**23 34 50.4**	**-0.4**
JKE				*e*S		**Sn**	**23 35 37.7**	**+0.1**
JOW	**Kunigami**	**5.50**	**65**	P		**Pn**	**23 35 08.3**	**-1.8**

IDC 26 23:42:01.3±3.3, 0°66S×133°16E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=180.4km s-min=26.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.19**	**177**	P		P	23 46 26.8	0.0
	0.2nm,0.3s,baz=356,slow=11,SNR=4.9							
ASAR	**Alice Springs**	**22.88**	**178**	P		P	23 47 06.8	+0.1
	0.6nm,0.5s,baz=358,slow=11,SNR=10.0							
H11N1	**WAKE ISLAND Hy**	**38.78**	**57**	T		T	00 30 33.8	
	baz=234							
H11N2	**WAKE ISLAND Hy**	**38.79**	**57**	T		T	00 30 37.0	
	baz=234							
H11N3	**WAKE ISLAND Hy**	**38.79**	**57**	T		T	00 30 33.7	
	baz=234							
MKAR	**Makanchi Array**	**64.84**	**324**	P		P	23 52 42.1	-0.1
	0.2nm,0.5s,baz=116,slow=7.6,SNR=2.9							

MAN 27 00:26:17, 10°78N×123°53E, h5km, mb4.2, ML3.0, MS2.8, 2C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LLP	**Lapu-Lapu**	**0.64**	**137**	⇑*i*P		Pg	00 26 29.7	+0.5
LLP				*e*S		Sg	00 26 38.5	+1.0
GUIM	**Jordan**	**0.93**	**260**	*e*P		Pn	00 26 36.6	-0.1
GUIM				*e*S		Sn	00 26 50.2	-0.3
RCP	**Roxas**	**1.09**	**315**	⇑*e*P		Pn	00 26 39.0	+0.1
RCP				*e*S		Sn	00 26 54.7	+0.3
TBP	**Tagbilaran**	**1.14**	**163**	*e*P		Pn	00 26 39.5	-0.1
TBP				*e*S		Sn	00 26 56.6	+1.0
MSLP

KSRS	Korea Array	44.20	34	P		P	00 35 53.1	+0.3
	1.9nm,0.5s,baz=221,slow=8.9,SNR=8.3							
QIS	Mount Isa	45.74	121	P		P	00 36 05.2	0.0
	baz=46,SNR=6.8							
SONM	Songino Array	46.09	7	P		P	00 36 08.9	+1.3
	1.4nm,0.4s,baz=192,slow=9.0,SNR=29							
SONM				PcP		PcP	00 37 42.6	+1.2
	0.9nm,0.8s,baz=197,slow=3.9,SNR=5.1							
MKAR	Makanchi Array	46.88	344	P		P	00 36 14.9	+1.2
	4.2nm,0.4s,baz=156,slow=8.6,SNR=152							
USRK	Ussuriysk Arra	51.19	30	P		P	00 36 47.6	+1.2
	2.9nm,0.8s,baz=224,slow=5.4,SNR=7.0							
KURBB	Kurchatov Arra	51.41	344	P		P	00 36 49.3	+1.3
	2.3nm,0.6s,baz=164,slow=7.0,SNR=38							
KURBB				PcP		PcP	00 38 01.8	+1.3
	0.8nm,0.5s,baz=157,slow=3.1,SNR=9.8							
HTT	Hallett	51.62	137	P		P	00 36 52.9	+3.0
	baz=52,SNR=3.9							
QLP	Quilpie	52.15	126	P		P	00 36 54.3	+0.4
	baz=52,SNR=16							
STKA	Stephens Creek	52.66	133	P		P	00 36 57.1	-0.5
	0.7nm,0.4s,baz=162,slow=21,SNR=4.4							
ZALV	Zalesovo Beam	53.04	350	P		P	00 37 01.0	+1.0
	7.4nm,0.5s,baz=177,slow=6.6,SNR=48							
CMSA	Cobar Meteorol	55.52	131	P		P	00 37 18.5	+0.1
	baz=56,SNR=15							
AKTO	Aktyubinsk	59.33	331	P		P	00 37 45.0	+0.3
	0.7nm,0.4s,baz=107,slow=14,SNR=1.9							
LHI	Lord Howe Isla	66.01	126	P		P	00 38 20.7	-8.6
	baz=66,SNR=3.8							
PETK	Petropavlovsk-	70.10	33	P		P	00 38 55.8	+1.3
	1.4nm,0.6s,baz=190,slow=4.2,SNR=2.6							
AKASG	Malin Array Be	75.66	322	P		P	00 39 27.5	+0.3
	0.3nm,0.3s,baz=97,slow=5.2,SNR=2.6							
FINES	FINESS Array B	80.07	332	P		P	00 39 51.9	+0.5
	2.1nm,0.8s,baz=108,slow=5.4,SNR=11							
ARCES	ARCESS Array B	82.34	340	P		P	00 40 04.3	+1.0
	1.4nm,0.7s,baz=101,slow=3.1,SNR=5.2							
NVAR	Mina Array Bea	127.11	37	PKP		PKPdf	00 46 47.8	+2.0
	0.5nm,0.7s,baz=316,slow=4.1,SNR=4.1							
TXAR	Lajitas Array	142.05	33	PKhKP		PKPpre	00 47 10.9	
	0.2nm,0.6s,baz=232,slow=1.1,SNR=7.0							
CFAA	Coronel Fontan	148.18	201	PKPbc		PKPab	00 47 28.7	-2.1
	0.6nm,0.5s,baz=129,slow=2.7,SNR=6.7							

*ISCJB **27** 00:31:08.9±0.2,51.51°N×16.01°×16.08E±0.02,h0km, mb3.5/7,Error ellipse: s-maj=2.0km s-min=1.7km az=12.3*
*CSEM **27** 00:31:10.6±0.1,51.53°N×16.13E,h2km,ML4.0/17,Ms3.6, Error ellipse: s-maj=2.9km s-min=2.2km az=19.0*
*IPEC **27** 00:31:10.3±0.3,51.57°N×16.25E,h0km,ML3.1/3,Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*
*LDG **27** 00:31:10.8±0.1,51.48°N×16.10E,h1km,Mld.1/19,Error ellipse: s-maj=2.8km s-min=1.3km az=7.0,Suspected Mining induced.*
*BGR **27** 00:31:11.8±0.3,51.51°N×16.14E,h1km,ML3.7/18,Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
*PRU **27** 00:31:11.8,51.51°N×16.11E,h0km,???*
*STR **27** 00:31:12.3±1.0,52.09°N×15.61E,h2km,Mlr3.9,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **27** 00:31:14.3±1.7,51.46°N×16.05E,h21km±13km,mb3.5/7, mb1 3.6/14,mb1mx3.5/32,mbtmp3.5/14,ML3.4/7,Error ellipse: s-maj=12.1km s-min=8.6km az=114.0*
*VIE **27** 00:31:14.5±0.4,51.26°N×15.98E,h0km,mb3.1/10, ML3.2/11,Ms3.6/1,Error ellipse: s-maj=2.7km s-min=2.1km az=10.0 74 km WNW of Wroclaw Suspected Mining induced.*
*UPP **27** 00:31:29.9,52.89°N×15.46E,h0km,ML2.1,Suspected Mining explosion.*

ISC 27 00:31:09.9±0.5,51.53N±0.02×16.10E±0.02,h0km,n188,
σ1§60/286,mb3.5/7,24C-13D,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	170	*e*Pg		Pb	00 31 24.8	-0.2
KSP				*e*Sg		Sg	00 31 33.8	+1.5
KSP	Ksiaz	0.70	170	*e*Pg		Pb	00 31 24.7	-0.2
KSP				*e*Sg		Sg	00 31 34.3	+2.0
KSP	Ksiaz	0.70	170	Pg		Pb	00 31 24.8	-0.2
KSP				Sg		Sg	00 31 33.8	+1.5
UPC	Upice	1.03	183	*e*PG		Pb	00 31 30.8	+0.3
UPC				*e*SG		Sb	00 31 44.4	-0.1
	211nm,0.6s							
UPC	Upice	1.03	183	Pg		Pb	00 31 30.8	+0.3
UPC				Sg		Sb	00 31 44.4	-0.1
	211nm,0.6s							
DPC	Dobruska-Polom	1.19	173	*e*Pg		Pb	00 31 33.6	+0.2
DPC				*e*Sg		Sg	00 31 48.8	+0.7
DPC	Dobruska-Polom	1.19	173	*e*PG		Pb	00 31 33.6	+0.2
DPC				*e*SG		Sg	00 31 48.7	+0.7
DPC	Dobruska-Polom	1.19	173	Pg		Pb	00 31 33.6	+0.2
DPC				Sg		Sg	00 31 48.8	+0.7
PVCC	Panska Ves	1.39	224	*e*PG		Pb	00 31 37.5	+0.8
PVCC				*e*SG		Sn	00 31 56.2	+0.6
	581nm,0.4s							
PVCC	Panska Ves	1.39	224	Pg		Pb	00 31 37.5	+0.8
PVCC				Sg		Sn	00 31 56.2	+0.6
	581nm,0.4s							
BRG	Berggiesshubel	1.51	245	PN		Pn	00 31 38.5	+0.4
BRG				PG		Pg	00 31 40.6	+1.9
BRG				SG		Sn	00 32 00.6	+2.1
	321nm,0.5s							
BRG	Berggiesshubel	1.51	245	*e*Pn		Pn	00 31 38.5	+0.4
BRG				*e*Sg		Sn	00 32 00.5	+2.1
BRG	Berggiesshubel	1.51	245	Pn		Pn	00 31 38.5	+0.4
BRG				Sg		Sn	00 32 00.5	+2.1
KRLC	Kraliky	1.52	163	*e*PG		Pn	00 31 38.9	+0.5
KRLC				*e*SG		Sb	00 31 59.5	+0.7
KRLC	Kraliky	1.52	163	Pg		Pn	00 31 38.9	+0.5
KRLC				Sg		Sb	00 31 59.5	+0.7
PRA	Prague	1.80	216	PN		Pn	00 31 42.0	-0.2
PRA				PG		Pb	00 31 44.0	+0.3
PRA				SG		Sb	00 32 07.0	+0.1
FBE	Freiberg	1.83	252	*e*Pn		Pn	00 31 43.5	+1.0
FBE				*e*Pg		Pg	00 31 45.9	+1.0
FBE				*e*Sg		Sg	00 32 10.6	+2.0
FBE	Freiberg	1.83	252	Pn		Pn	00 31 43.5	+1.0
PRU	Pruhonice	1.83	213	*e*PN		Pn	00 31 43.3	+0.7
PRU				*e*PG		Pg	00 31 45.5	+0.5
PRU				*e*SG		Sg	00 32 09.0	+0.3
	193nm,0.4s							
PRU	Pruhonice	1.83	213	Pn		Pn	00 31 43.3	+0.7
GKP	Gorka Klasztor	1.88	21	*e*Pn		Pb	00 31 45.1	+0.1
GKP				*e*Pg		Pg	00 31 51.7	+5.9
GKP				*e*Sg		Sg	00 32 13.8	+3.7
GKP	Gorka Klasztor	1.88	21	*e*Pn		Pb	00 31 45.2	+0.2
GKP				*e*Sg		Sg	00 32 13.9	+3.8
CLL	Collm	1.95	265	*e*Pn		Pn	00 31 44.9	+0.7
CLL				*e*Pg		Pg	00 31 48.5	+1.3
CLL				*e*Sg		Sg	00 32 14.4	+1.9
CLL	Collm	1.95	265	*e*Pn		Pn	00 31 45.0	+0.8
CLL				*e*Pg		Pg	00 31 48.0	+0.8
CLL				*i*			00 31 51.3	
CLL				*e*			00 32 10.0	
CLL				*i* Sg		Sg	00 32 14.4	+1.9
	comp=Z,355nm,0.6s							
CLL	Collm	1.95	265	Pn		Pn	00 31 44.9	+0.7
RAC	Raciborz	1.97	137	*e*Pn		Pn	00 31 44.3	-0.2
RAC	Raciborz	1.97	137	*e*Pg		Pg	00 31 47.8	+0.2
RAC				*e*Sg		Sb	00 32 12.6	+1.0
MORC	Moravsky Berou	1.98	152	*e*Pn		Pn	00 31 45.0	+0.3
MORC	Moravsky Berou	1.98	152	⇓*i*P		Pn	00 31 45.2	+0.5
MORC	Moravsky Berou	1.98	152	Pn		Pn	00 31 45.0	+0.3
MORC				*e*Sg		Sb	00 32 12.4	+0.3
	comp=Z,103nm,0.5s							
OKC	Ostrava-Krasne	2.14	142	*e*Pn		Pn	00 31 46.5	-0.2
OKC				*e*Sg		Sb	00 32 17.8	+1.3
OKC	Ostrava-Krasne	2.14	142	*e*PN		Pn	00 31 46.6	-0.2
OKC				*e*PG		Pg	00 31 51.2	+0.3
OKC				*e*SG		Sb	00 32 17.9	+1.3
	comp=Z,315nm,0.7s							
OKC	Ostrava-Krasne	2.14	142	Pn		Pn	00 31 46.6	-0.2
CHZP	Chorzow	2.21	123	*e*Pg		Pg	00 31 52.5	+0.2
CHZP				*e*Sg		Sb	00 32 19.5	+0.8
VRAC	Vranov	2.25	172	⇑*i*P		Pn	00 31 49.8	+1.5
VRAC	Vranov	2.25	172	*e*Pn		Pn	00 31 49.1	+0.8
VRAC	Vranov	2.25	172	⇑*i*P		Pn	00 31 49.8	+1.5
VRAC				*e*Sg		Sb	00 32 21.5	+1.8
	comp=Z,105nm,0.5s							
VRAC	Vranov	2.25	172	Pn		Pn	00 31 49.4	+1.0
	comp=Z,4.2nm,0.3s,baz=353,slow=15,SNR=56							
VRAC				Lg		Lg	00 32 21.4	
	comp=Z,16nm,0.3s,baz=266,slow=23,SNR=9.7							
TREC	Trest	2.27	190	*e*PN		Pn	00 31 49.7	+1.0
TREC				*e*PG		Pg	00 31 53.8	+0.4
TREC				*e*SG		Sg	00 32 22.3	-0.5
	comp=Z,170nm,0.7s							
TREC	Trest	2.27	190	Pn		Pn	00 31 49.7	+1.0
SCHF	Schoenfels	2.48	251	*e*Pn		Pn	00 31 52.7	+1.2
SCHF				*e*Sg		Sg	00 32 31.1	+1.6
SCHF	Schoenfels	2.48	251	Pn		Pn	00 31 52.7	+1.2
SCHF				Sg		Sg	00 32 31.1	+1.6
KRUC	Moravsky	2.48	175	*e*Pn		Pn	00 31 52.6	+1.1
KRUC				*e*Sg		Sg	00 32 29.1	-0.4
	comp=Z,104nm,0.7s							
HKWD	Heukewalde	2.51	255	*e*Pn		Pn	00 31 53.0	+1.1
HKWD				*e*Pg		Pg	00 31 58.2	+0.3
HKWD				*e*Sg		Sg	00 32 32.0	+1.6
HKWD	Heukewalde	2.51	255	Pn		Pn	00 31 53.0	+1.1
TANN	Tannenbergstha	2.55	245	*e*Pn		Pn	00 31 53.9	+1.3
TANN	Tannenbergstha	2.55	245	Pn		Pn	00 31 53.9	+1.3
MULD	Muldenberg	2.59	246	*e*Pn		Pn	00 31 54.3	+1.3
MULD				*e*Pg		Pg	00 32 01.2	+1.7
MULD	Muldenberg	2.59	246	Pn		Pn	00 31 54.3	+1.3
WERD	Werda	2.63	247	*e*Pn		Pn	00 31 54.2	+0.6
WERD	Werda	2.63	247	Pn		Pn	00 31 54.2	+0.6
NKC	Novy Kostel	2.65	242	*e*Pn		Pn	00 31 55.5	+1.7
NKC	Novy Kostel	2.65	242	*e*PN		Pn	00 31 55.3	+1.4
NKC				*e*PG		Pg	00 32 01.8	+1.2
NKC				*e*SG		Sg	00 32 37.7	+2.7
	comp=Z,176nm,0.5s							
NKC	Novy Kostel	2.65	242	Pn		Pn	00 31 55.3	+1.4
NKC	Novy Kostel	2.65	242	Pg		Pg	00 32 01.8	+1.2
NKC				Sg		Sg	00 32 37.7	+2.7
	comp=Z,176nm,0.5s							
GUNZ	Gunzen	2.65	245	*e*Sg		Sg	00 32 35.9	+0.9
GUNZ	Gunzen	2.65	245	Sg		Sg	00 32 35.9	+0.9
WERN	Wernitzgruen	2.66	244	*e*Sg		Sg	00 32 35.7	+0.3
WERN	Wernitzgruen	2.66	244	Sg		Sg	00 32 35.7	+0.3
OJC	Ojcow	2.69	118	*e*Pn		Pn	00 31 53.3	-1.1
OJC				*e*Pg		Pg	00 32 01.2	-0.2
OJC				*e*Sg		Sg	00 32 35.9	-0.3
OJC	Ojcow	2.69	118	*e*Pn		Pn	00 31 53.2	-1.1
OJC				*e*Pg		Pg	00 32 01.1	-0.2
OJC				*e*Sg		Sg	00 32 37.1	+0.9
OJC	Ojcow	2.69	118	Pn		Pn	00 31 53.3	-1.1
PLN	Plauen	2.70	249	*e*Pn		Pn	00 31 55.7	+1.2
PLN	Plauen	2.70	249	Pn		Pn	00 31 55.7	+1.2
WIMM	Wimmelburg	2.87	272	*e*Pn		Pb	00 31 59.5	-2.4
WIMM				*e*Sg		Sg	00 32 43.4	+1.5
WIMM	Wimmelburg	2.87	272	Pn		Pb	00 31 59.5	-2.4
WIMM				Sg		Sg	00 32 43.4	+1.5
KHC	Kasperske Hory	2.89	215	*e*PN		Pn	00 31 58.0	+0.8
KHC				*e*PG		Pg	00 32 04.3	-1.0
KHC				*e*SN		Sn	00 32 33.2	+0.5
KHC				*e*SG		Sg	00 32 42.3	-0.5
	comp=Z,68nm,0.5s							
BEL	Belsk	2.94	82	*e*Pn		Pn	00 32 00.7	+2.9
BEL				*e*Pg		Pg	00 32 11.1	+4.9
BEL				*e*Sg		Sg	00 32 51.8	+7.5
BEL	Belsk	2.94	82	*e*Pn		Pn	00 32 00.7	+2.9
MANZ	Manzenberg	2.97	240	*e*Pn		Pn	00 31 59.7	+1.5
MANZ	Manzenberg	2.97	240	Pn		Pn	00 31 59.7	+1.5
GEC2	GERESS Array S	3.10	211	*e*Pn		Pn	00 32 01.2	+1.1
GEC2				*e*Pg		Pg	00 32 08.5	-0.7
GEC2				*e*Sg		Sg	00 32 50.7	+1.3
GEC2	GERESS Array S	3.10	211	Pn		Pn	00 32 01.2	+1.1
GERES	GERESS Array B	3.10	211	Pn		Pn	00 32 00.8	+0.7
	comp=Z,4.1nm,0.3s,baz=32,slow=12,SNR=225							
GERES				Pg		Pg	00 32 09.3	+0.1
	comp=Z,7.2nm,0.3s,baz=29,slow=15,SNR=52							
GERES				Lg		Lg	00 32 46.9	
	comp=Z,9.0nm,0.3s,baz=33,slow=30,SNR=5.1							
SMOL	Smolenice	3.14	164	*e*PN		Pn	00 32 02.0	+1.4
SMOL				*e*PG		Pg	00 32 10.5	+0.5
SMOL				*e*SG		Sg	00 32 53.3	+2.6
WET	Wettzell	3.16	222	*e*Pn		Pn	00 32 02.3	+1.5
WET	Wettzell	3.16	222	Pn		Pn	00 32 02.3	+1.5
SCHD	Schmiedefeld	3.24	254	*e*Pn		Pn	00 32 03.4	+1.4
SCHD				*e*Pg		Pg	00 32 12.6	+0.7
SCHD	Schmiedefeld	3.24	254	Pn		Pn	00 32 03.4	+1.4
NIE	Niedzica	3.42	126	*e*Pn		Pn	00 32 06.0	+1.5
NIE				*e*Pg		Pg	00 32 15.4	-0.1
NIE				*e*Sg		Sg	00 33 00.2	+0.4
NIE				*e*			00 33 01.5	
NIE	Niedzica	3.42	126	*e*Pn		Pn	00 32 06.0	+1.5
CLZ	Clausthal	3.58	277	*e*Pn		Pn	00 32 08.6	+2.0
CLZ				*e*Sg		Sg	00 33 05.5	+0.8
CLZ	Clausthal	3.58	277	Pn		Pn	00 32 08.6	+2.0
CLZ				Sg		Sg	00 33 05.5	+0.8
GRA1	Grafenberg Arr	3.61	241	Pn		Pn	00 32 08.6	+1.6
GRA1	Grafenberg Arr	3.61	241	Pg		Pg	00 32 20.7	+1.7
GRA1				Sg		Sg	00 33 07.2	+1.5
GRF	Grafenberg Arr	3.61	241	*e*Pn		Pn	00 32 08.6	+1.6
GRF				*e*Pg		Pg	00 32 20.7	+1.7
GRF				*e*Sg		Sg	00 33 07.2	+1.5
CONA	Conrad Observa	3.61	182	⇑*i*Pn		Pn	00 32 08.3	+1.2
	SNR=8.7							
CONA				⇓*i*Sg		Sg	00 33 04.8	-1.0
	comp=Z,82nm,0.5s							
CONA	Conrad Observa	3.61	182	Pn		Pn	00 32 08.3	+1.2
	SNR=8.7							
CONA				Sg		Sg	00 33 04.8	-1.0
	comp=Z,82nm,0.5s							
BSD	Bornholm Skovb	3.66	349	*i* P		Pn	00 32 07.7	+0.1
BSD				*i* S		Sn	00 32 50.5	-0.9
BSD	Bornholm Skovb	3.66	349	*i* P		Pn	00 32 07.8	+0.1
	SNR=49							
BSD				*i* S		Sn	00 32 50.6	-0.9
	comp=Z,13nm,0.7s,SNR=49							
SOP	Sopron	3.86	175	⇑*e*		Pn	00 32 11.7	+1.2
SOP				*e*			00 33 11.5	
MOA	Molln	3.87	199	⇑*i*Pn		Pn	00 32 11.9	+1.3
	SNR=12							
MOA				⇑*i*Sg		Sg	00 33 13.8	-0.4
	comp=Z,109nm,0.7s							
MOA	Molln	3.87	199	Pn		Pn	00 32 11.9	+1.3
	SNR=12							
MOA				Sg		Sg	00 33 13.8	-0.4
	comp=Z,109nm,0.7s							
STHS	Stebnicka Huta	3.91	121	*e*PN		Pn	00 32 11.8	+0.6
STHS				*e*SG		Sg	00 33 20.1	+4.7
STHS	Stebnicka Huta	3.91	121	*e*Pn		Pn	00 32 11.8	+0.6
ARSA	Arzberg	4.30	185	⇑*i*Pn		Pn	00 32 17.7	+1.1
ARSA				⇓*i*Sg		Sg	00 33 27.1	-0.9
	comp=Z,89nm,0.7s							
ARSA	Arzberg	4.30	185	Pn		Pn	00 32 17.7	+1.1
ARSA				Sg		Sg	00 33 27.1	-0.9
	comp=Z,89nm,0.7s							
CRVS	Cervenica-Dubn	4.34	125	*e*PN		Pn	00 32 17.8	+0.8
CRVS				*e*SG		Sg	00 33 30.8	+1.7
CRVS	Cervenica-Dubn	4.34	125	*e*Pn		Pn	00 32 17.8	+0.8
CRVS				*e*Sg		Sg	00 33 30.8	+1.7
PSZ	Piszkesteto	4.38	144	⇓*i*P		Pn	00 32 19.4	+1.8
PSZ	Piszkesteto	4.38	144	⇓*i*P		Pn	00 32 19.4	+1.8
PSZ	Piszkesteto	4.38	144	⇓*e*		Pn	00 32 18.8	+1.2
CSKK	Cs˘‡kako	4.41	160	⇓*e*		Pn	00 32 18.8	+0.8
PKSG		4.41	159	⇓*e*pn		Pn	00 32 18.7	+0.8
PKSG				*e*sn		Sg	00 33 29.3	-2.0
LLD	Lille Linde	4.46	330	*i* P		Pn	00 32 18.0	-0.6
LLD				*i* S		Sn	00 33 10.3	-0.9
LLD	Lille Linde	4.46	330	*i* P		Pn	00 32 18.0	-0.6
LLD				*i* S		Sn	00 33 10.3	-0.9
KWP	Kalwaria Pacla	4.62	112	*e*Pn		Pg	00 32 36.3	-2.1
KWP				*e*Sb		Sg	00 33 46.5	+8.2
COP	Copenhagen	4.70	334	*i* S		Sn	00 33 14.4	-2.7
	SNR=49							
KOLS	Kolonicke sedl	4.74	121	*e*PN		Pn	00 32 22.8	+0.2
KOLS	Kolonicke sedl	4.74	121	*e*Pn		Pn	00 32 22.8	+0.2
BLEU	Blekinge	4.79	358	P		Pn	00 32 23.4	+0.3
KBA	Koelnbreinsper	4.81	203	⇑*i*Pn		Pn	00 32 25.0	+1.4
	SNR=5.9							
KBA				⇑*i*Sg		Sg	00 33 44.2	0.0
	comp=Z,60nm,0.7s							
KBA	Koelnbreinsper	4.81	203	Pn		Pn	00 32 25.0	+1.4
	SNR=5.9							
KBA				Sg		Sg	00 33 44.2	0.0
	comp=Z,60nm,0.7s							
BJUU	Bjuv	4.90	339	P		Pn	00 32 24.1	-0.6
TOD	Tromm	5.03	250	P		Pn	00 32 27.2	+0.6
TOD				S		Sn	00 33 30.1	+4.7
DEL	Delary	5.12	346	P		Pn	00 32 27.4	-0.3
WATA	Walderalm	5.13	217	⇓*i*Pn		Pn	00 32 28.1	0.0
	SNR=18							
WATA				⇑*i*Sg		Sg	00 33 55.0	+0.4
	comp=Z,52nm,0.9s							
WATA	Walderalm	5.13	217	Pn		Pn	00 32 28.1	0.0
	SNR=18							
WATA				Sg		Sg	00 33 55.0	+0.4
	comp=Z,52nm,0.9s							
MOTA	Moosalm	5.31	220	⇑*i*Pn		Pn	00 32 31.4	+0.9
	SNR=8.1							
MOTA				⇓*i*Sg		Sg	00 34 01.5	+1.3
	comp=Z,61nm,1.0s							
MOTA	Moosalm	5.31	220	Pn		Pn	00 32 31.4	+0.9
	SNR=8.1							
MOTA				Sg		Sg	00 34 01.5	+1.3
	comp=Z,61nm,1.0s							
ABTA	Abfaltersbach	5.33	208	⇑*i*Pn		Pn	00 32 32.6	+1.8
	SNR=6.0							
ABTA				⇓*i*Sg		Sg	00 34 00.4	-0.7
	comp=Z,33nm,0.6s							
ABTA	Abfaltersbach	5.33	208	Pn		Pn	00 32 32.6	+1.8
	SNR=6.0							
ABTA				Sg		Sg	00 34 00.4	-0.7
	comp=Z,33nm,0.6s							
VNDS	Vrh nad Dolski	5.51	190	*e*Pn		Pn	00 32 35.5	+2.3
PDKS	Podkum	5.52	188	*i* Pn		Pn	00 32 35.9	+2.5
PDKS	Podkum	5.52	188	*i* Pn		Pn	00 32 35.9	+2.5
KTD	Kalmit	5.58	250	P		Pn	00 32 35.1	+1.0
PKSM	Moragy	5.58	162	⇑*i*P		Pn	00 32 36.0	+1.9
PKSM	Moragy	5.58	162	⇑*i*P		Pn	00 32 36.0	+1.9
PKSM	Moragy	5.58	162	⇓*e*PKPPKPdf		Pn	00 32 35.2	+1.1
VOY	Vojsko	5.69	196	*e*Pn		Pn	00 32 41.2	+5.5
VOY				*e*(Sn)		Sg	00 34 10.8	-1.9
VOY				*e*			00 34 18.8	
FETA	Feichten	5.72	220	⇓*i*Pn		Pn	00 32 37.3	+1.1
FETA				⇑*i*Sg		Sg	00 34 15.6	+2.1
	comp=Z,22nm,0.8s							
FETA	Feichten	5.72	220	Pn		Pn	00 32 37.3	+1.1
FETA				Sg		Sg	00 34 15.6	+2.1
	comp=Z,22nm,0.8s							
DAVA	Damuels	5.87	226	⇑*i*Pn		Pn	00 32 39.0	+0.7
DAVA	Damuels	5.87	226	Pn		Pn	00 32 39.0	+0.7
LANF	Langenberg	5.90	248	P		Pn	00 32 39.5	+1.0
LANF	Langenberg	5.90	248	P		Pn	00 32 39.5	+1.0
RUP	Ruppelstein	6.04	256	P		Pn	00 32 41.4	+1.0
DAVOX	Davos/Dischmat	6.26	223	Pn		Pn	00 32 43.9	+0.3
	comp=Z,0.7nm,0.3s,baz=26,slow=9.8,SNR=24							
DAVOX				Lg		Lg	00 34 32.0	
	comp=Z,0.9nm,0.3s,baz=180,slow=22,SNR=3.7							
MEM	Membach	6.43	266	P		Pn	00 32 47.1	+1.4
DRGR		6.43	135	⇑*i*P		Pn	00 32 46.8	+1.0
DRGR		6.43	135	⇑*i*P		Pn	00 32 46.8	+1.0
WLS	Welschbruch	6.44	244	P		Pn	00 32 47.5	+1.5
WLS	Welschbruch	6.44	244	P		Pn	00 32 47.5	+1.5
CDF	Champ du Feu	6.49	245	*e*Pn		Pn	00 32 45.2	-1.4
CDF				*e*Sg		Sg	00 34 33.2	-5.0
	comp=Z,97nm,1.0s							
CDF	Champ du Feu	6.49	245	*e*Pn		Pn	00 32 45.2	-1.4
BZS	Buzias	6.96	146	⇓*i*P		Pn	00 32 52.9	-0.1
BZS	Buzias	6.96	146	⇓*i*P		Pn	00 32 52.9	-0.1
HINF	Hinteralfeld	7.05	242	*e*Pn		Pn	00 32 53.0	-1.4
HINF				*e*Sg		Sg	00 34 50.5	-5.8
	comp=Z,47nm,0.7s							
HINF	Hinteralfeld	7.05	242	*e*Pn		Pn	00 32 53.0	-1.4
BURAR	Bucovina Array	7.11	120	⇑*i*P		Pn	00 32 52.9	-2.3
BURAR	Bucovina Array	7.11	120	⇑*i*P		Pn	00 32 52.9	-2.3
HAU	Haudompre	7.23	245	*e*Pn		Pn	00 32 55.1	-1.7
HAU				*e*Sg		Sg	00 34 56.3	-5.6
	comp=Z,80nm,1.1s							
GIVF	Givet	7.28	263	*e*Pn		Pn	00 32 55.7	-1.8
GIVF				*e*Sg		Sg	00 34 58.3	-5.3
	comp=Z,51nm,0.9s							
PAGF	Fort de Pagny	7.31	250	*e*Pn

1.1nm,0.7s,baz=205,slow=4.5,SNR=3.9
LPAZ La Paz 50.26 304 P **P 00 55 36.2 +0.3**
0.8nm,0.6s,baz=169,slow=5.2,SNR=2.2
TORD Torodi Ar. Bea 72.41 29 P **P 00 58 05.6 +0.5**
1.1nm,0.7s,baz=198,slow=6.8,SNR=11
YKA Yellowknife Ar 135.91 318 PKP **PKPdf 01 05 57.2 -1.0**
0.1nm,0.6s,baz=124,slow=1.9,SNR=4.3
INK Inuvik 145.51 321 PKPbc **PKPdf 01 06 15.1 -0.3**
0.9nm,0.6s,baz=108,slow=0.9,SNR=5.8
ILAR Eielson Array 149.91 312 PKPbc **PKPbc 01 06 27.6 -0.1**
0.8nm,0.8s,baz=132,slow=2.4,SNR=9.1
SONM Songino Array 150.42 85 PKPbc **PKPbc 01 06 29.1 -0.5**
0.5nm,0.6s,baz=203,slow=3.3,SNR=6.4

IDC 27 00:50:53.6±6.7, 14.92S×72.29W, h124km±62km, mb3.1/2, mb1 3.3/3, mb1mx3.1/19, mbtmp3.1/3, Error ellipse: s-maj=327.7km s-min=56.8km az=25.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.24**	**109**	P		P	Pn	00 51 57.0	-0.2
	1.2nm,0.3s,baz=276,slow=9.5,SNR=3.8								
H03N1	**Juan Fernandez**	**19.40**	**197**	T		T		01 13 19.7	
	baz=17,slow=75,SNR=114								
H03N2	**Juan Fernandez**	**19.40**	**197**	T		T		01 13 14.4	
	baz=17,slow=75,SNR=123								
H03N3	**Juan Fernandez**	**19.41**	**197**	T		T		01 13 21.6	
	baz=17,slow=75,SNR=113								
TORD	**Torodi Ar. Bea**	**78.35**	**73**	P		P		01 02 40.9	0.0
	0.4nm,0.7s,baz=248,slow=5.2,SNR=3.5								
YKA	**Yellowknife Ar**	**83.95**	**342**	P		P		01 03 09.3	-0.1
	0.2nm,0.7s,baz=135,slow=4.9,SNR=7.3								
SONM	**Songino Array**	**147.16**	**2**	PKPbc		PKPbc		01 10 21.9	-0.5
	0.2nm,0.6s,baz=11,slow=1.5,SNR=2.7								

IDC 27 01:13:40.6±1.3, 2.19N×125.71E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/23, mbtmp3.4/5, Error ellipse: s-maj=139.4km s-min=19.3km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**159**	P		P		01 18 54.0	+0.9
	0.3nm,0.4s,baz=338,slow=11,SNR=8.3								
ASAR	**Alice Springs**	**26.91**	**163**	P		P		01 19 23.3	-0.4
	0.3nm,0.5s,baz=345,slow=7.8,SNR=11								
SONM	**Songino Array**	**48.44**	**343**	P		P		01 22 24.6	-0.4
	0.3nm,0.7s,baz=156,slow=7.3,SNR=2.1								
MKAR	**Makanchi Array**	**58.24**	**326**	P		P		01 23 37.2	+0.3
	0.2nm,0.5s,baz=123,slow=7.9,SNR=9.5								
KURBB	**Kurchatov Arra**	**62.49**	**328**	P		P		01 24 05.5	-0.4
	0.4nm,0.5s,baz=130,slow=6.4,SNR=12								

IDC 27 01:31:15.0±10.0, 1.24S×99.78E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/23, mbtmp3.1/3, Error ellipse: s-maj=526.3km s-min=29.5km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.92**	**256**	T		T		02 04 57.7	
	baz=78,slow=75,SNR=21								
H08S3	**Diego Garcia H**	**27.93**	**256**	T		T		02 05 00.7	
	baz=78,slow=75,SNR=28								
H08S1	**Diego Carcia H**	**27.94**	**256**	T		T		02 05 00.8	
	baz=78,slow=75,SNR=27								
WRA	**Warramunga Arr**	**38.57**	**121**	P		P		01 38 39.7	-0.2
	0.2nm,0.4s,baz=308,slow=8.6,SNR=3.2								
ASAR	**Alice Springs**	**39.88**	**127**	P		P		01 38 50.9	0.0
	0.1nm,0.7s,baz=298,slow=8.0,SNR=3.0								
MKAR	**Makanchi Array**	**50.24**	**344**	P		P		01 40 12.8	-0.1
	0.3nm,0.6s,baz=156,slow=8.8,SNR=4.3								

GUC 27 01:58:41.1±0.4, 31.99S×71.40W, h36km±1km, MD3.8, ML2.9, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.88**	**23**	⇑*i*P		P	Pn	01 58 57.4	+0.3
CMCH				*i*S		S	Sn	01 59 10.1	+1.2
CMCH				AML		AML	AML	01 59 13.9	
	comp=E,2µm,0.8s								
IHA	**Instituto Hidr**	**1.05**	**191**	⇓*i*P		P	Pn	01 58 59.8	+0.5
IHA				*i*S		S	Sn	01 59 14.2	+1.5
PEL	**Peldehue**	**1.30**	**153**	⇑*i*P		P	Pn	01 59 03.8	+1.0
PEL				*i*S		S	Sn	01 59 21.1	+2.2
PEL				AML		AML	AML	01 59 22.8	
	comp=N,374nm,0.3s								
CLCH	**Cerro Calan**	**1.58**	**153**	⇓*i*P		P	Pn	01 59 08.0	+1.3
CLCH				*i*S		S	Sn	01 59 28.7	+2.8
CLCH				AML		AML	AML	01 59 37.5	
	comp=N,163nm,0.5s								
TLL	**Tololo Astrono**	**1.89**	**16**	⇓*i*P		P	Pn	01 59 13.0	+1.8
TLL				*i*S		S	Sn	01 59 36.8	+2.9
TLL				AML		AML	AML	01 59 42.6	
	comp=N,108nm,0.3s								
LMEL	**Las Melosas**	**2.11**	**152**	*i*P		P	Pn	01 59 15.5	+1.4
LMEL				*i*S		S	Sn	01 59 41.8	+2.7
LMEL				AML		AML	AML	01 59 48.4	
	comp=N,161nm,0.2s								
CACH	**El Canelo**	**2.22**	**163**	⇓*i*P		P	Pn	01 59 17.6	+2.0
CACH				*i*S		S	Sn	01 59 45.6	+3.7

MEX 27 02:01:44.9±1.1, 16.07N×97.62W, h10km±16km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.58**	**303**	*e*P		P	Pg	02 01 54.6	-1.7
PNIG				*i*S		S	Sg	02 02 02.8	-1.1
VHO	**Vista Hermosa**	**1.31**	**40**	*e*P		P	Pn	02 02 05.2	-4.4
VHO				*e*S		S	Sb	02 02 21.5	-5.4
HUIG	**Huatulco**	**1.49**	**102**	*e*P		P	Pn	02 02 08.6	-3.1
HUIG				*i*S		S	Sn	02 02 26.5	-4.7
TLIG	**Tlapa**	**1.74**	**329**	*e*P		P	Pn	02 02 12.5	-2.9
TLIG				*i*S		S	Sn	02 02 33.2	-4.5

*FUNV **27** 02:09:23.2, 10.40N×73.45W, h2km, MW4.1*
*ISCJB **27** 02:09:25.1±0.9, 10.42N±0.05×73.38W±0.06, h61km±9km, mb3.7/9, Error ellipse: s-maj=9.3km s-min=6.7km az=42.8*
*IDC **27** 02:09:27.2±3.3, 10.48N×73.33W, h61km±30km, mb3.5/9, mb1 3.8/11, mb1mx3.6/23, mbtmp3.6/11, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/31, Error ellipse: s-maj=21.3km s-min=16.5km az=83.0*

ISC 27 02:09:25.5±0.9, 10.47N±0.05×73.39W±0.06, h44km±8km, n29, σ1.34/46, mb3.7/9, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.97**	**88**	⇓*i*P		P	Pn	02 09 42.8	+0.1
VIRV				*e*S		S	Sn	02 09 56.3	+1.0
DABV	**Dabajuro**	**2.75**	**80**	*e*P		P	Pn	02 10 08.1	+1.0
DABV				*e*S		S	Sn	02 10 42.0	+3.0
CAPV	**Capacho**	**2.80**	**158**	*e*P		P	Pn	02 10 07.2	-0.7
CAPV				*e*S		S	Sn	02 10 40.7	+0.1
QARV	**Quebrada Arrib**	**2.83**	**95**	*e*P		P	Pn	02 10 09.4	+1.1
QARV				*e*S		S	Sn	02 10 44.0	+2.8
SOCV	**Socops**	**3.31**	**131**	*e*P		P	Pn	02 10 15.5	+0.7
SOCV				*e*S		S	Sn	02 10 52.6	-0.4
CURV	**Curarigua**	**3.41**	**97**	*e*P		P	Pn	02 10 17.1	+0.9
CURV				*e*S		S	Sn	02 10 57.5	+2.0
SIQV	**Siquisique**	**3.53**	**87**	*e*P		P	Pn	02 10 18.8	+1.0
SIQV				*e*S		S	Sn	02 10 59.8	+1.4
MONV	**Montecano**	**3.67**	**66**	*e*P		P	Pn	02 10 20.4	+0.7
MONV				*e*S		S	Sn	02 11 03.6	+1.8
SANV	**Sanarito**	**3.92**	**104**	*e*P		P	Pn	02 10 24.2	+0.9
SANV				*e*S		S	Sn	02 11 09.3	+1.2
TEPV	**Terepaima**	**4.17**	**97**	*e*P		P	Pn	02 10 27.1	+0.5
TEPV				*e*S		S	Sn	02 11 15.0	+0.9
JACV	**Jacura**	**4.53**	**82**	*e*P		P	Pn	02 10 32.2	+0.7
JACV				*e*S		S	Sn	02 11 22.7	-0.2
MAPV	**Macapo**	**4.90**	**97**	*e*P		P	Pn	02 10 37.6	+0.9
MAPV				*e*S		S	Sn	02 11 31.3	-0.9
ELOV	**Elorza**	**5.18**	**131**	*e*P		P	Pn	02 10 40.6	+0.1
TURV	**Turiamo**	**5.46**	**90**	*e*P		P	Pn	02 10 43.7	-0.7
BAUV	**El Baul**	**5.49**	**106**	*e*P		P	Pn	02 10 45.3	+0.5
ROSC	**El Rosal**	**5.65**	**190**	P		P	Pn	02 10 48.6	+1.2
	6.8nm,0.3s,baz=201,slow=0.5,SNR=23								
ROSC						S	Sn	02 11 56.4	+5.2
	baz=85,slow=21,SNR=0.9								
ROSC						LR	LR	02 13 13.0	
	comp=Z,84nm,20.9s,baz=182,slow=40								
CUPV	**Cœpira**	**7.50**	**92**	*e*P		P	Pn	02 11 12.3	0.0
ATAH	**Atahualpa**	**18.18**	**196**	P		P	P	02 13 34.6	-0.5
	0.8nm,0.3s,baz=14,slow=7.6,SNR=4.8								
LPAZ	**La Paz**	**27.09**	**169**	P		P	P	02 15 04.2	-0.7
	0.8nm,0.5s,baz=356,slow=4.5,SNR=5.2								
TXAR	**Lajitas Array**	**33.93**	**308**	P		P	P	02 16 04.9	+0.2
	0.3nm,0.6s,baz=129,slow=8.6,SNR=4.5								
SCHQ	**Schefferville**	**44.56**	**5**	P		P	P	02 17 33.8	+0.9
	2.2nm,0.7s,baz=184,slow=9.0,SNR=3.7								
PDAR	**Pinedale Array**	**45.02**	**322**	P		P	P	02 17 36.9	-0.2
	0.6nm,0.9s,baz=111,slow=8.4,SNR=4.8								
YKA	**Yellowknife Ar**	**59.77**	**339**	P		P	P	02 19 25.5	-0.3
	1.0nm,0.7s,baz=129,slow=7.2,SNR=20								
YKA				pP		pP	pP	02 19 37.8	-0.6
	0.3nm,0.5s,baz=126,slow=7.0,SNR=5.1								
DBIC	**Dimbokro**	**67.77**	**87**	P		P	P	02 20 18.4	-0.8
	2.6nm,0.9s,baz=270,slow=6.1,SNR=2.2								
TORD	**Torodi Ar. Bea**	**73.30**	**79**	P		P	P	02 20 52.0	-1.0
	0.6nm,0.6s,baz=284,slow=6.6,SNR=12								
TORD				pP		pP	pP	02 21 04.4	-1.6
	0.5nm,0.6s,baz=286,slow=6.9,SNR=3.1								
ILAR	**Eielson Array**	**73.57**	**335**	P		P	P	02 20 53.5	-0.2
	0.2nm,0.5s,baz=114,slow=5.3,SNR=4.7								
GERES	**GERESS Array B**	**80.30**	**42**	P		P	P	02 21 32.9	+0.9
	0.6nm,0.5s,baz=273,slow=4.0,SNR=14								
ASAR	**Alice Springs**	**150.86**	**240**	PKPbc		PKPbc	PKPbc	02 29 13.6	-0.6
	0.5nm,0.6s,baz=118,slow=2.9,SNR=11								
ASAR				PKPab		PKPab	PKPab	02 29 22.3	+0.9
	1.0nm,0.7s,baz=112,slow=3.2,SNR=15								
WRA	**Warramunga Arr**	**151.67**	**247**	PKPbc		PKPbc	PKPbc	02 29 15.6	-0.4
	0.3nm,0.5s,baz=289,slow=0.2,SNR=16								
WRA				PKPab		PKPab	PKPab	02 29 24.3	-0.6
	1.3nm,0.5s,baz=103,slow=2.9,SNR=26								

*MDD **27** 02:32:14.9±1.2, 39.28N×11.30W, h40km, mb4.4/27, Error ellipse: s-maj=11.6km s-min=6.1km az=77.0, PRXIMO*
*IGIL **27** 02:32:15.5, 39.30N×11.28W, h48km, ML3.5*
*SFS **27** 02:32:15.0, 39.28N×11.20W, h58km, ML4.1*
*INMG **27** 02:32:16.8±1.3, 39.25N×11.41W, h10km, ML3.1, Error ellipse: s-maj=3.7km s-min=1.6km az=82.0*
*ISCJB **27** 02:32:16.0±0.6, 39.33N±0.02×10.64W±0.05, h10km, Error ellipse: s-maj=5.3km s-min=2.5km az=168.6*
*CSEM **27** 02:32:17.5±0.3, 39.29N×10.90W, h30km, ML4.0/24, Error ellipse: s-maj=6.0km s-min=3.0km az=80.0*
*LDG **27** 02:32:19.1±0.3, 39.44N×10.52W, h30km, Ml3.1/4, Error ellipse: s-maj=7.1km s-min=3.9km az=89.0*

ISC 27 02:32:14.6±0.7, 39.31N±0.02×10.90W±0.03, h10km, n162, σ1.52/237, 11C-4D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**1.30**	**105**	⇑P		P	Pb	02 32 40.8	+1.6
	45nm,0.3s,SNR=18								
PMAFR				S		S	Sg	02 32 59.0	+2.5
	142nm,0.3s,SNR=6.2								
PMAFR	**Mafra**	**1.30**	**105**	*e*P		P	Pb	02 32 40.7	+1.6
PMAFR				*e*S		S	Sn	02 32 58.8	+2.5
PMAFR				A		A		02 33 00.5	
	414nm,0.1s								
PMAFR	**Mafra**	**1.30**	**105**	*e*P		P	Pb	02 32 40.7	+1.6
PMAFR				*e*S		S	Sn	02 32 58.8	+2.5
	414nm,0.1s								
LIS	**Lisbon**	**1.48**	**113**	*e*S		S	Sn	02 33 03.0	+2.3
LIS				AML		AML	AML	02 33 05.1	
	comp=N,911nm,0.4s								
LIS	**Lisbon**	**1.48**	**113**	S		S	Sb	02 33 03.5	+2.4
	SNR=7.9								
PACT	**Alcochete**	**1.69**	**108**	*e*Pn		Pn		02 32 46.3	+2.1
PACT				*e*Sn		S	Sn	02 33 08.0	+2.1
PACT				A		A		02 33 15.8	
	comp=N,82nm,0.3s								
PACT	**Alcochete**	**1.69**	**108**	*e*Pn		Pn		02 32 46.3	+2.1
PACT				*e*Sn		S	Sn	02 33 08.0	+2.1
	comp=N,82nm,0.3s								
ALMR	**Almeirim**	**1.81**	**94**	*e*P		Pn		02 32 47.5	+1.7
ALMR				*e*S		S	Sn	02 33 11.0	+2.3
ALMR				AML		AML	AML	02 33 13.2	
	comp=N,311nm,0.3s								
ALMR	**Almeirim**	**1.81**	**94**	P		P	Pn	02 32 47.2	+1.4
	SNR=7.9								
ALMR				S		S	Sn	02 33 11.2	+2.5
	SNR=7.9								
ALMR	**Almeirim**	**1.81**	**94**	P		P	Pn	02 32 47.2	+1.4
	SNR=7.9								
ALMR				S		S	Sn	02 33 11.2	+2.5
	SNR=7.9								
PTOM	**Tomar**	**1.95**	**80**	*e*Pn		Pn		02 32 49.8	+2.1
PTOM				*e*Sn		S	Sn	02 33 14.4	+2.2
PTOM				A		A		02 33 17.2	
	comp=N,62nm,0.1s								
PTOM	**Tomar**	**1.95**	**80**	*e*Pn		Pn		02 32 49.8	+2.1
PTOM				*e*Sn		S	Sn	02 33 14.4	+2.2
	comp=N,62nm,0.1s								
PCAS	**Casmilo, Conde**	**1.99**	**67**	⇑*i*Pn		Pn		02 32 50.1	+1.8
PCAS				*e*Sn		S	Sn	02 33 15.8	+2.5
PCAS				A		A		02 33 18.3	
	comp=N,17nm,0.1s								
PCAS	**Casmilo, Conde**	**1.99**	**67**	⇑*i*Pn		Pn		02 32 50.1	+1.8
PCAS				*e*Sn		S	Sn	02 33 15.8	+2.5
	comp=N,17nm,0.1s								
MOE	**Montemor**	**2.13**	**111**	*e*Sn		S	Sb	02 33 20.9	+1.0
MOE	**Montemor**	**2.13**	**111**	*e*Sn		S	Sb	02 33 20.9	+1.0
PNCL	**Nicolau / Gran**	**2.21**	**122**	*e*Pn		Pn	Pn	02 32 51.9	+0.7
PNCL				*e*Sn		S	Sn	02 33 18.5	0.0
PNCL				A		A		02 33 20.9	
	comp=N,52nm,0.1s								
PNCL	**Nicolau / Gran**	**2.21**	**122**	*e*Pn		Pn	Pn	02 32 51.9	+0.7
PNCL				*e*Sn		S	Sn	02 33 18.5	0.0
	comp=N,52nm,0.1s								
EVOP	**Sao Brissos**	**2.30**	**109**	*e*Pn		Pn	Pn	02 32 53.7	+1.2
EVOP				*e*Sn		S	Sn	02 33 19.4	-1.5
	comp=N,39nm,0.3s								
EVO	**Evora**	**2.38**	**108**	*e*Pn		Pn	Pn	02 32 53.7	+0.1
EVO				*e*Sn		S	Sn	02 33 19.4	-3.5
	comp=N,78nm,0.3s								
PTEO	**Sao Teotonio**	**2.45**	**135**	*e*Pn		Pn	Pn	02 32 54.5	-0.1
PTEO				*e*Sn		S	Sn	02 33 22.3	-2.4
PTEO				A		A		02 33 25.4	
	comp=N,58nm,0.3s								
PTEO	**Sao Teotonio**	**2.45**	**135**	*e*Pn		Pn	Pn	02 32 54.5	-0.1
PTEO				*e*Sn		S	Sn	02 33 22.3	-2.4
	comp=N,58nm,0.3s								
PTO	**Porto**	**2.53**	**43**	⇓*i*Pn		Pn	Pn	02 32 56.4	+0.7
PTO				*e*Sn		S	Sn	02 33 26.8	+0.2
PTO				A		A		02 33 28.3	
	comp=N,107nm,0.2s								
PTO	**Porto**	**2.53**	**43**	⇓*i*Pn		Pn	Pn	02 32 56.4	+0.7
PTO				*e*Sn		S	Sn	02 33 26.8	+0.2
	comp=N,107nm,0.2s								
MESJ	**Messejana**	**2.56**	**124**	*e*P		P	Pn	02 32 56.7	+0.6
MESJ				*e*S		S	Sn	02 33 26.1	-1.3
MESJ				AML		AML	AML	02 33 28.6	
	comp=N,100nm,0.2s								
MESJ	**Messejana**	**2.56**	**124**	P		P	Pn	02 32 56.4	+0.3
	SNR=7.9								
MESJ				S		S	Sn	02 33 26.4	-0.9
	SNR=7.9								
MESJ	**Messejana**	**2.56**	**124**	P		P	Pn	02 32 56.4	+0.3
	SNR=7.9								
MESJ				S		S	Sn	02 33 26.4	-0.9
	SNR=7.9								
PESTR	**Estremoz**	**2.61**	**99**	*e*Sn		S	Sn	02 33 29.9	+1.3
PESTR				A		A		02 33 32.7	
	comp=N,38nm,0.2s								
PESTR	**Estremoz**	**2.61**	**99**	*e*Sn		S	Sn	02 33 29.9	+1.3
	comp=N,38nm,0.2s								
MORF	**Manelete**	**2.67**	**138**	P		P	Pn	02 32 57.4	-0.3
	SNR=7.9								
MORF				S		S	Sn	02 33 27.6	-2.5
	SNR=7.9								
MORF	**Marmelete**	**2.67**	**138**	*e*Pn		Pn	Pn	02 32 57.3	-0.3
MORF				*e*Sn		S	Sn	02 33 27.2	-2.9
MORF				A		A		02 33 29.5	
	comp=N,84nm,0.1s								
MORF	**Marmelete**	**2.67**	**138**	P		P	Pn	02 32 57.4	-0.3
	SNR=7.9								
MORF				*e*Sn		S	Sn	02 33 27.2	-2.9
	comp=N,84nm,0.1s								
MORF				S		S	Sn	02 33 27.6	-2.5
	SNR=7.9								
PCBR	**Castelo Branco**	**2.69**	**78**	⇑*i*Pn		Pn	Pn	02 32 59.6	+1.6
PCBR				*e*Sn		S	Sn	02 33 31.2	+0.6
PCBR				A		A		02 33 33.5	
	comp=N,17nm,0.1s								
PCBR	**Castelo Branco**	**2.69**	**78**	⇑*i*Pn		Pn	Pn	02 32 59.6	+1.6
PCBR				*e*Sn		S	Sn	02 33 31.2	+0.6
	comp=N,17nm,0.1s								
PBEJ	**Beja**	**2.70**	**117**	*e*Pn		Pn	Pn	02 32 59.0	+1.0
PBEJ				*e*Sn		S	Sn	02 33 30.7	0.0
PBEJ				A		A		02 33 32.6	
	comp=N,43nm,0.3s								
PBEJ	**Beja**	**2.70**	**117**	*e*Pn		Pn	Pn	02 32 59.0	+1.0
PBEJ				*e*Sn		S	Sn	02 33 30.7	0.0
	comp=N,43nm,0.3s								
PVIS	**Viseu**	**2.70**	**58**	*e*Pn		Pn	Pn	02 32 59.3	+1.2
PVIS				*e*Sn		S	Sn	02 33 31.7	+0.9
PVIS				A		A		02 33 36.0	
	comp=N,32nm,0.1s								
PVIS	**Viseu**	**2.70**	**58**	*e*Pn		Pn	Pn	02 32 59.3	+1.2
PVIS				*e*Sn		S	Sn	02 33 31.7	+0.9
	comp=N,32nm,0.1s								
PFVI	**Vila Bisbo**	**2.72**	**143**	⇑P		P	Pn	02 32 57.7	-0.6
	comp=N,14nm,0.3s,SNR=18								
PFVI				S		S	Sn	02 33 28.0	-3.2
	comp=N,18nm,0.3s,SNR=6.3								
PFVI	**Vila Bisbo**	**2.72**	**143**	*e*Pn		Pn	Pn	02 32 57.7	-0.6
PFVI				*e*Sn		S	Sn	02 33 28.0	-3.2
PFVI				A		A		02 33 30.3	
	comp=N,24nm,0.2s								
PFVI	**Vila Bisbo**	**2.72**	**143**	P		P	Pn	02 32 57.7	-0.6
	comp=N,14nm,0.3s,SNR=18								
PFVI				*e*Sn		S	Sn	02 33 28.0	-3.2
	comp=N,24nm,0.2s								
PMRV	**Marv??o**	**2.72**	**86**	⇑*e*Pn		Pn	Pn	02 32 59.9	+1.6
PMRV				*e*Sn		S	Sn	02 33 32.1	+0.8
PMRV				A		A		02 33 35.6	
	comp=N,68nm,0.3s								
PMRV	**Marv??o**	**2.72**	**86**	⇑*e*Pn		Pn	Pn	02 32 59.9	+1.6
PMRV				*e*Sn		S	Sn	02 33 32.1	+0.8
	comp=N,68nm,0.3s								
MTE	**Manteigas**	**2.80**	**66**	*e*Pn		Pn	Pn	02 33 01.0	+1.5
MTE				*e*Sn		S	Sn	02 33 35.2	+1.9
MTE				A		A		02 33 39.0	
	comp=N,26nm,0.2s								
MTE	**Manteigas**	**2.80**	**66**	*e*Pn		Pn	Pn	02 33 01.0	+1.5
MTE				*e*Sn		S	Sn	02 33 35.2	+1.9
	comp=N,26nm,0.2s								
PCVE	**Castro Verde**	**2.80**	**126**	⇓*e*Pn		Pn	Pn	02 32 59.9	+0.5
PCVE				*e*Sn		S	Sn	02 33 31.9	-1.3
PCVE				A		A		02 33 35.6	
	comp=N,26nm,0.1s								
PCVE	**Castro Verde**	**2.80**	**126**	⇓*e*Pn		Pn	Pn	02 32 59.9	+0.5
PCVE				*e*Sn		S	Sn	02 33 31.9	-1.3
	comp=N,26nm,0.1s								
EBAD	**Badajoz**	**3.07**	**99**	P		P	Pn	02 33 04.6	+1.4
	comp=N,1.7nm,0.3s,SNR=82								
EBAD				S		S	Sn	02 33 40.3	+0.3
	comp=N,22nm,0.3s,SNR=23								
EBAD	**Badajoz**	**3.07**	**99**	P		P	Pn	02 33 04.6	+1.4
	comp=N,1.7nm,0.3s,SNR=82								
EBAD				S		S	Sn	02 33 40.3	+0.3
	comp=N,22nm,0.3s,SNR=23								
PBDV	**Barranco-do-Ve**	**3.12**	**131**	*e*Pn		Pn	Pn	02 33 04.5	+0.7
PBDV				*e*Sn		S	Sn	02 33 39.5	-1.6
PBDV				A		A		02 33 42.5	
	comp=N,33nm,0.1s								
PBDV	**Barranco-do-Ve**	**3.12**	**131**	*e*Pn		Pn	Pn	02 33 04.5	+0.7
PBDV				*e*Sn		S	Sn	02 33 39.5	-1.6
	comp=N,33nm,0.1s								
PVRL	**Vila Real**	**3.12**	**50**	*e*Pn		Pn	Pn	02 33 04.9	+1.0
PVRL				*e*Sn		S	Sn	02 33 40.5	-0.8
PVRL				A		A		02 33 42.3	
	comp=N,33nm,0.1s								
PVRL	**Vila Real**	**3.12**	**50**	*e*Pn		Pn	Pn	02 33 04.9	+1.0
PVRL				*e*Sn		S	Sn	02 33 40.5	-0.8
	comp=N,33nm,0.1s								
POLO	**Lamas de Olo**	**3.14**	**48**	*e*Pn		Pn	Pn	02 33 05.2	+1.0
POLO				*e*Sn		S	Sn	02 33 41.8	0.0
POLO	**Lamas de Olo**	**3.14**	**48**	*e*Pn		Pn	Pn	02 33 05.2	+1.0
POLO				*e*Sn		S	Sn	02 33 41.8	0.0
PVAQ	**Vaqueiros**	**3.14**	**126**	*e*Pn		Pn	Pn	02 33 04.6	+0.5
PVAQ				*e*Sn		S	Sn	02 33 40.4	-1.3
PVAQ				A		A		02 33 43.2	
	comp=N,30nm,0.1s								
PVAQ	**Vaqueiros**	**3.14**	**126**	*e*Pn		Pn	Pn	02 33 04.6	+0.5
PVAQ				*e*Sn		S	Sn	02 33 40.4	-1.3
	comp=N,30nm,0.1s								
EGRO	**El Granado**	**3.21**	**122**	P		P	Pn	02 33 05.7	+0.6
	comp=N,18nm,0.3s,SNR=91								
EGRO				S		S	Sn	02 33 43.1	-0.3
	comp=N,24nm,0.3s,SNR=11								
EGRO	**El Granado**	**3.21**	**122**	P

PBRG	**Braganca**	**4.03**	**50**	*e*Pn	**Pn**	**02 33 17.3 +1.0**		comp=N,1.0nm,0.1s,SNR=7.9		
PBRG				*e*Sn	**Sn**	**02 34 02.3 -1.3**	**ELIZ**	**Elizondo**	**8.04**	**58**	P	**Pn**	**02 34 12.8 +1.4**
PBRG				A	A	02 34 04.3		comp=N,3.4nm,0.3s,SNR=15					
	comp=N,12nm,0.1s						**ELIZ**	**Elizondo**	**8.04**	**58**	P	**Pn**	**02 34 12.8 +1.4**
PBRG	**Braganca**	**4.03**	**50**	*e*Pn	**Pn**	**02 33 17.3 +1.0**		comp=N,3.4nm,0.3s,SNR=15					
PBRG				*e*Sn	**Sn**	**02 34 02.3 -1.3**	**IEPA**	**Eparoz**	**8.06**	**61**	P	Pn	02 34 13.6 +1.9
	comp=N,12nm,0.1s							comp=N,2.7nm,0.3s,SNR=7.9					
ECAL	**Calabor**	**4.11**	**49**	P	**Pn**	**02 33 18.3 +0.7**	**IEPA**	**Eparoz**	**8.06**	**61**	P	Pn	02 34 13.6 +1.9
ECAL	comp=N,37nm,0.3s,SNR=41			S	**Sn**	**02 34 04.7 -1.0**		comp=N,2.7nm,0.3s,SNR=7.9					
	comp=N,29nm,0.3s,SNR=11						**EALK**	**Alkurruntz**	**8.08**	**58**	P	Pn	02 34 13.8 +2.0
ECAL	**Calabor**	**4.11**	**49**	P	**Pn**	**02 33 18.3 +0.7**		comp=N,0.7nm,0.2s,SNR=7.9					
	comp=N,37nm,0.3s,SNR=41						**EALK**	**Alkurruntz**	**8.08**	**58**	P	Pn	02 34 13.8 +2.0
ECAL				S	**Sn**	**02 34 04.7 -1.0**		comp=N,0.7nm,0.2s,SNR=7.9					
	comp=N,29nm,0.3s,SNR=11						**EMOS**	**Mosqueruela**	**8.09**	**79**	P	Pn	02 34 14.3 +2.1
ECAB	**El Cabril**	**4.46**	**104**	P	Pn	02 33 23.8 +1.5		comp=N,5.7nm,0.4s,SNR=11					
	comp=N,3.9nm,0.6s,SNR=27						EMOS				S	Sn	02 35 40.0 -3.8
ECAB				S	**Sn**	**02 34 13.4 -0.9**		comp=N,2.2nm,0.5s,SNR=7.9					
	comp=N,9.4nm,0.3s,SNR=9.6						**EMOS**	**Mosqueruela**	**8.09**	**79**	P	Pn	02 34 14.3 +2.1
ECAB	**El Cabril**	**4.46**	**104**	P	Pn	02 33 23.8 +1.5		comp=N,5.7nm,0.4s,SNR=11					
	comp=N,3.9nm,0.6s,SNR=27						EMOS				S	Sn	02 35 40.0 -3.8
ECAB				S	**Sn**	**02 34 13.4 -0.9**		comp=N,2.2nm,0.5s,SNR=7.9					
	comp=N,9.4nm,0.3s,SNR=9.6						**IELO**	**Elcoad**	**8.10**	**61**	P	Pn	02 34 14.0 +1.7
ESPR	**Espera**	**4.66**	**120**	P	Pn	02 33 26.5 +1.4		comp=N,0.6nm,0.2s,SNR=7.9					
	comp=N,5.5nm,0.4s,SNR=8.6						IELO				S	**Sn**	**02 35 41.7 -2.3**
ESPR				S	**Sn**	**02 34 18.0 -1.2**		comp=N,4.4nm,0.8s,SNR=7.9					
	comp=N,7.2nm,0.4s						**IELO**	**Elcoad**	**8.10**	**61**	P	Pn	02 34 14.0 +1.7
ESPR	**Espera**	**4.66**	**120**	P	Pn	02 33 26.5 +1.4		comp=N,0.6nm,0.2s,SNR=7.9					
	comp=N,5.5nm,0.4s,SNR=8.6						IELO				S	**Sn**	**02 35 41.7 -2.3**
ESPR				S	**Sn**	**02 34 18.0 -1.2**		comp=N,4.4nm,0.8s,SNR=7.9					
	comp=N,7.2nm,0.4s						**SJPF**	**Ste Jean**	**8.22**	**59**	*e*Pn	Pn	02 34 09.3 -4.6
EPON	**Pontenova**	**4.90**	**34**	P	**Pn**	**02 33 28.0 -0.4**	**SJPF**	**Ste Jean**	**8.22**	**59**	*e*P	**Pn**	**02 34 14.8 +0.9**
	comp=N,13nm,0.9s,SNR=7.5						SJPF				*e*Sn	Sn	02 35 33.7 -13
EPON				S	**Sn**	**02 34 21.5 -3.7**		comp=N,0.8nm,0.3s					
	comp=N,18nm,0.7s						**SJPF**	**Ste Jean**	**8.22**	**59**	P	**Pn**	**02 34 14.8 +0.9**
EPON	**Pontenova**	**4.90**	**34**	P	**Pn**	**02 33 28.0 -0.4**	**EBEN**	**Beniarda**	**8.33**	**91**	P	**Pn**	**02 34 16.5 +1.0**
	comp=N,13nm,0.9s,SNR=7.5							comp=N,0.3nm,0.2s,SNR=4.0					
EPON				S	**Sn**	**02 34 21.5 -3.7**	**EBEN**	**Beniarda**	**8.33**	**91**	P	**Pn**	**02 34 16.5 +1.0**
	comp=N,18nm,0.7s							comp=N,0.3nm,0.2s,SNR=4.0					
LIJA	**Lijar**	**4.95**	**117**	P	Pn	02 33 31.5 +2.4	**ATE**	**Arette**	**8.56**	**61**	P	Pn	02 34 20.4 +1.9
LIJA				S	**Sn**	**02 34 23.8 -2.7**		comp=N,0.6nm,0.2s,SNR=7.9					
LIJA	**Lijar**	**4.95**	**117**	P	Pn	02 33 31.5 +2.4	**ETSF**	**Etsaut**	**8.59**	**62**	*e*Pn	Pn	02 34 14.2 -4.8
LIJA				S	**Sn**	**02 34 23.8 -2.7**	**ETSF**	**Etsaut**	**8.59**	**62**	*e*P	Pn	02 34 20.7 +1.7
EADA	**Adamuz**	**5.07**	**101**	P	**Pn**	**02 33 32.0 +1.3**	ETSF				*e*Sn	Sn	02 35 42.3 -14
	comp=N,5.9nm,0.3s,SNR=58							comp=N,0.8nm,0.3s					
EADA				S	**Sn**	**02 34 28.2 -1.1**	**ETSF**	**Etsaut**	**8.59**	**62**	P	Pn	02 34 20.7 +1.7
	comp=N,7.5nm,0.3s,SNR=7.3						**ERTA**	**Horta de San J**	**8.76**	**76**	P	**Pn**	**02 34 22.5 +1.2**
EADA	**Adamuz**	**5.07**	**101**	P	**Pn**	**02 33 32.0 +1.3**		comp=N,0.5nm,0.1s,SNR=7.9					
	comp=N,5.9nm,0.3s,SNR=58						ERTA				S	Sn	02 35 55.9 -4.1
EADA				S	**Sn**	**02 34 28.2 -1.1**		comp=N,8.4nm,1.0s,SNR=7.9					
	comp=N,7.5nm,0.3s,SNR=7.3						**ERTA**	**Horta de San J**	**8.76**	**76**	P	**Pn**	**02 34 22.5 +1.2**
GUD	**Guadarrama**	**5.35**	**73**	P	**Pn**	**02 33 35.6 +1.0**		comp=N,0.5nm,0.1s,SNR=7.9					
	comp=N,2.0nm,0.3s,SNR=25						**EBIE**	**Bielsa**	**9.00**	**64**	P	**Pn**	**02 34 25.5 +0.7**
GUD				S	**Sn**	**02 34 35.1 -1.1**		comp=N,0.3nm,0.1s,SNR=6.6					
	comp=N,2.8nm,0.3s,SNR=7.4						EBIE				S	Sn	02 36 01.9 -4.4
GUD	**Guadarrama**	**5.35**	**73**	P	**Pn**	**02 33 35.6 +1.0**		comp=N,1.5nm,0.7s,SNR=7.9					
	comp=N,2.0nm,0.3s,SNR=25						**EBIE**	**Bielsa**	**9.00**	**64**	P	**Pn**	**02 34 25.5 +0.7**
GUD				S	**Sn**	**02 34 35.1 -1.1**		comp=N,0.3nm,0.1s,SNR=6.6					
	comp=N,2.8nm,0.3s,SNR=7.4						**EPF**	**Esparros**	**9.25**	**63**	*e*Pn	Pn	02 34 23.4 -4.6
ESDC	**Sonseca Array**	**5.38**	**84**	P	**Pn**	**02 33 35.7 +0.8**	**EPF**	**Esparros**	**9.25**	**63**	*e*P	Pn	02 34 29.7 +1.7
	comp=N,24nm,0.2s,baz=269,slow=13,SNR=18						EPF				*e*Sn	Sn	02 35 58.1 -14
ESDC				S	**Sn**	**02 34 35.8 -1.0**		comp=N,0.3nm,0.2s					
	comp=N,4.1nm,0.3s,baz=266,slow=23,SNR=16						**EPF**	**Esparros**	**9.25**	**63**	P	Pn	02 34 29.7 +1.7
ESDC	**Sonseca Array**	**5.38**	**84**	P	**Pn**	**02 33 35.7 +0.8**	**CSOR**	**Sort**	**9.62**	**68**	P	**Pn**	**02 34 33.9 +0.8**
	comp=N,24nm,0.2s,SNR=18							comp=N,0.9nm,0.3s,SNR=7.9					
ESDC				S	**Sn**	**02 34 35.8 -1.0**	CSOR				S	Sn	02 36 15.7 -5.5
	comp=N,4.1nm,0.3s,SNR=16							comp=N,5.1nm,0.7s,SNR=4.0					
ELUQ	**Luque**	**5.49**	**106**	P	**Pn**	**02 33 37.4 +0.9**	**CSOR**	**Sort**	**9.62**	**68**	P	**Pn**	**02 34 33.9 +0.8**
	comp=N,1.3nm,0.3s,SNR=7.9							comp=N,0.9nm,0.3s,SNR=7.9					
ELUQ				S	**Sn**	**02 34 38.6 -1.1**	**EMIR**	**Miracle**	**9.80**	**71**	P	**Pn**	**02 34 36.7 +1.2**
	comp=N,5.2nm,0.2s,SNR=7.9							comp=N,0.7nm,0.1s,SNR=7.9					
ELUQ	**Luque**	**5.49**	**106**	P	**Pn**	**02 33 37.4 +0.9**	**EMIR**	**Miracle**	**9.80**	**71**	P	**Pn**	**02 34 36.7 +1.2**
	comp=N,1.3nm,0.3s,SNR=7.9							comp=N,0.7nm,0.1s,SNR=7.9					
ELUQ				S	**Sn**	**02 34 38.6 -1.1**	**CLLI**	**Llivia**	**10.24**	**68**	P	**Pn**	**02 34 42.7 +1.0**
	comp=N,5.2nm,0.2s,SNR=7.9							comp=N,0.4nm,0.3s,SNR=7.9					
EMIJ	**Mijas**	**5.56**	**118**	P	**Pn**	**02 33 37.9 +0.5**	CLLI				S	Sn	02 36 31.2 -5.5
	comp=N,1.5nm,0.5s,SNR=7.9							comp=N,3.0nm,0.9s,SNR=7.9					
EMIJ				S	**Sn**	**02 34 39.0 -2.4**	**CLLI**	**Llivia**	**10.24**	**68**	P	**Pn**	**02 34 42.7 +1.0**
	comp=N,8.4nm,0.4s,SNR=7.9							comp=N,0.4nm,0.3s,SNR=7.9					
EMIJ	**Mijas**	**5.56**	**118**	P	**Pn**	**02 33 37.9 +0.5**	**CFON**	**Fontmartina**	**10.44**	**72**	P	**Pn**	**02 34 45.5 +1.1**
	comp=N,1.5nm,0.5s,SNR=7.9							comp=N,2.4nm,0.5s,SNR=12					
EMIJ				S	**Sn**	**02 34 39.0 -2.4**	**CFON**	**Fontmartina**	**10.44**	**72**	P	**Pn**	**02 34 45.5 +1.1**
	comp=N,8.4nm,0.4s,SNR=7.9							comp=N,2.4nm,0.5s,SNR=12					
EARI	**Arriondas**	**5.85**	**45**	P	**Pn**	**02 33 42.0 +0.6**							
	comp=N,1.9nm,0.2s,SNR=33												
EARI				S	**Sn**	**02 34 45.8 -2.7**							
	comp=N,2.2nm,0.3s												
EARI	**Arriondas**	**5.85**	**45**	P	**Pn**	**02 33 42.0 +0.6**							
	comp=N,1.9nm,0.2s,SNR=33												
EARI				S	**Sn**	**02 34 45.8 -2.7**							
	comp=N,2.2nm,0.3s												
SELV	**Sierra Elvira**	**6.01**	**108**	S	**Sn**	**02 34 50.2 -2.2**							
	comp=N,4.5nm,0.7s,SNR=7.9												
SELV	**Sierra Elvira**	**6.01**	**108**	S	**Sn**	**02 34 50.2 -2.2**							
	comp=N,4.5nm,0.7s,SNR=7.9												
ECOG	**Cogollos-Vega**	**6.11**	**107**	S	**Sn**	**02 34 52.7 -2.4**							
	comp=N,20nm,0.9s,SNR=7.9												
ECOG	**Cogollos-Vega**	**6.11**	**107**	S	**Sn**	**02 34 52.7 -2.4**							
	comp=N,20nm,0.9s,SNR=7.9												
EQUE	**Quentar**	**6.23**	**107**	P	Pn	02 33 49.1 +2.4							
	comp=N,1.2nm,0.6s,SNR=7.8												
EQUE				S	**Sn**	**02 34 55.5 -2.5**							
	comp=N,12nm,0.8s,SNR=17												
EQUE	**Quentar**	**6.23**	**107**	P	Pn	02 33 49.1 +2.4							
	comp=N,1.2nm,0.6s,SNR=7.8												
EQUE				S	**Sn**	**02 34 55.5 -2.5**							
	comp=N,12nm,0.8s,SNR=17												
EQES	**Quesada**	**6.31**	**101**	P	**Pn**	**02 33 48.7 +0.9**							
	comp=N,7.6nm,1.1s,SNR=11												
EQES				S	**Sn**	**02 34 58.0 -2.1**							
	comp=N,8.8nm,0.7s												
EQES	**Quesada**	**6.31**	**101**	P	**Pn**	**02 33 48.7 +0.9**							
	comp=N,7.6nm,1.1s,SNR=11												
EQES				S	**Sn**	**02 34 58.0 -2.1**							
	comp=N,8.8nm,0.7s												
EVIA	**Vianos**	**6.57**	**93**	P	**Pn**	**02 33 52.6 +1.2**							
	comp=N,3.3nm,0.3s,SNR=7.9												
EVIA				S	**Sn**	**02 35 04.1 -2.3**							
	comp=N,23nm,0.6s,SNR=5.0												
EVIA	**Vianos**	**6.57**	**93**	P	**Pn**	**02 33 52.6 +1.2**							
	comp=N,3.3nm,0.3s,SNR=7.9												
EVIA				S	**Sn**	**02 35 04.1 -2.3**							
	comp=N,23nm,0.6s,SNR=5.0												
EHUE	**Huescar**	**6.67**	**100**	P	**Pn**	**02 33 53.6 +0.8**							
	comp=N,1.4nm,0.3s,SNR=7.9												
EHUE				S	**Sn**	**02 35 06.6 -2.3**							
	comp=N,1.8nm,0.3s,SNR=7.9												
EHUE	**Huescar**	**6.67**	**100**	P	**Pn**	**02 33 53.6 +0.8**							
	comp=N,1.4nm,0.3s,SNR=7.9												
EHUE				S	**Sn**	**02 35 06.6 -2.3**							
	comp=N,1.8nm,0.3s,SNR=7.9												
EBER	**Berja**	**6.76**	**108**	P	**Pn**	**02 33 55.2 +1.2**							
	comp=N,5.7nm,0.3s,SNR=8.7												
EBER	**Berja**	**6.76**	**108**	P	**Pn**	**02 33 55.2 +1.2**							
	comp=N,5.7nm,0.3s,SNR=8.7												
ELAN	**Lanestosa**	**6.85**	**53**	P	**Pn**	**02 33 56.0 +0.9**							
	comp=N,2.7nm,0.3s,SNR=32												
ELAN				S	**Sn**	**02 35 09.4 -3.6**							
	comp=N,16nm,1.2s,SNR=6.2												
ELAN	**Lanestosa**	**6.85**	**53**	P	**Pn**	**02 33 56.0 +0.9**							
	comp=N,2.7nm,0.3s,SNR=32												
ETOR	**Torete**	**6.95**	**75**	P	**Pn**	**02 33 57.7 +1.2**							
	comp=N,14nm,0.6s,SNR=25												
ETOR				S	Sn	02 35 10.8 -4.8							
	comp=N,5.9nm,0.5s												
ETOR	**Torete**	**6.95**	**75**	P	**Pn**	**02 33 57.7 +1.2**							
	comp=N,14nm,0.6s,SNR=25												
ETOB	**Tobarra**	**7.31**	**92**	P	**Pn**	**02 34 02.7 +1.2**							
	comp=N,7.0nm,1.0s,SNR=8.4												
ETOB				S	**Sn**	**02 35 21.9 -2.7**							
	comp=N,9.6nm,0.9s,SNR=7.9												
ETOB	**Tobarra**	**7.31**	**92**	P	**Pn**	**02 34 02.7 +1.2**							
	comp=N,7.0nm,1.0s,SNR=8.4												
ETOB				S	**Sn**	**02 35 21.9 -2.7**							
	comp=N,9.6nm,0.9s,SNR=7.9												
EARA	**Aranguren**	**7.84**	**61**	P	**Pn**	**02 34 09.6 +0.9**							
	comp=N,0.7nm,0.2s,SNR=7.9												
EARA	**Aranguren**	**7.84**	**61**	P	**Pn**	**02 34 09.6 +0.9**							
	comp=N,0.7nm,0.2s,SNR=7.9												
IUNC	**Unciti**	**7.89**	**61**	P	**Pn**	**02 34 10.4 +1.0**							
	comp=N,3.6nm,0.3s,SNR=7.9												
IUNC				S	**Sn**	**02 35 35.5 -3.3**							
	comp=N,21nm,1.2s,SNR=7.9												
IUNC	**Unciti**	**7.89**	**61**	P	**Pn**	**02 34 10.4 +1.0**							
	comp=N,3.6nm,0.3s,SNR=7.9												
IUNC				S	**Sn**	**02 35 35.5 -3.3**							
	comp=N,21nm,1.2s,SNR=7.9												
IUSE	**Utxeti**	**7.93**	**60**	P	Pn	02 34 12.1 +2.1							
	comp=N,1.0nm,0.1s,SNR=7.9												
IUSE	**Utxeti**	**7.93**	**60**	P	Pn	02 34 12.1 +2.1							

*MDD **27** 02:33:28.2s 1.3, 39°.26N × 11°.24W, h30km, mb4.4/15, Error ellipse: s-maj=12.6km s-min=6.9km az=74.0, PRXIMO*
*CSEM **27** 02:33:29.9s 0.3, 39°.26N × 10°.86W, h20km, ML3.7/19, Error ellipse: s-maj=7.0km s-min=3.8km az=80.0*
*IGIL **27** 02:33:29.1, 39°.29N × 11°.25W, h50km, ML3.0*
*INMG **27** 02:33:30.4s 1.6, 39°.23N × 11°.36W, h10km, ML2.7, Error ellipse: s-maj=5.1km s-min=2.4km az=82.0*

ISC 27 02:33:25.4s 2.0, 39°26N ± 0°.03 × 11°22W ± 0°.08, h30km ± 14km, n126, σ1s 96/187, 3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**1.54**	**101**	P	**Pb**	**02 33 53.6**	**+0.4**
	32nm,0.2s,SNR=9.2						
PMAFR				S	**Sb**	**02 34 11.9**	**-0.4**
	96nm,0.3s,SNR=6.5						
PMAFR	**Mafra**	**1.54**	**101**	*e*P	**Pb**	**02 33 53.6**	**+0.4**
PMAFR				*e*S	**Sb**	**02 34 11.4**	**-0.9**
PMAFR				A	A	02 34 13.2	
	183nm,0.2s						
PMAFR	**Mafra**	**1.54**	**101**	P	**Pb**	**02 33 53.6**	**+0.4**
	32nm,0.2s,SNR=9.2						
PMAFR				*e*S	**Sb**	**02 34 11.4**	**-0.9**
	183nm,0.2s						
LIS	**Lisbon**	**1.70**	**108**	*e*S	**Sn**	**02 34 14.7**	**+0.8**
LIS				AML	AML	02 34 16.8	
	comp=N,130nm,0.3s						
LIS	**Lisbon**	**1.70**	**108**	S	**Sn**	**02 34 14.8**	**+1.0**
	SNR=7.9						
PACT	**Alcochete**	**1.92**	**104**	*e*Pn	**Pb**	**02 33 59.1**	**-0.7**
PACT				*e*Sn	**Sn**	**02 34 21.6**	**+2.3**
PACT				A	A	02 34 27.1	
	comp=N,56nm,0.3s						
PACT	**Alcochete**	**1.92**	**104**	*e*Pn	**Pb**	**02 33 59.1**	**-0.7**
PACT				*e*Sn	**Sn**	**02 34 21.6**	**+2.3**
	comp=N,56nm,0.3s						
ALMR	**Almeirim**	**2.06**	**92**	*e*P	**Pb**	**02 34 00.6**	**-1.4**
ALMR				*e*S	**Sn**	**02 34 23.4**	**+0.9**
ALMR				AML	AML	02 34 25.9	
	comp=N,94nm,0.4s						
ALMR	**Almeirim**	**2.06**	**92**	P	**Pb**	**02 34 00.8**	**-1.3**
	SNR=7.9						
ALMR				S	**Sn**	**02 34 23.5**	**+0.9**
	SNR=7.9						
ALMR	**Almeirim**	**2.06**	**92**	P	**Pb**	**02 34 00.8**	**-1.3**
	SNR=7.9						
ALMR				S	**Sn**	**02 34 23.5**	**+0.9**
	SNR=7.9						
PTOM	**Tomar**	**2.21**	**80**	⇓*i*Pn	**Pn**	**02 34 02.6**	**+2.6**
PTOM				*e*Sn	**Sn**	**02 34 27.1**	**+0.9**
PTOM				A	A	02 34 29.9	
	comp=N,31nm,0.2s						
PTOM	**Tomar**	**2.21**	**80**	⇓*i*Pn	**Pn**	**02 34 02.6**	**+2.6**
PTOM				*e*Sn	**Sn**	**02 34 27.1**	**+0.9**
	comp=N,31nm,0.2s						
PCAS	**Casmilo, Conde**	**2.25**	**69**	*e*Pn	**Pn**	**02 34 02.9**	**+2.4**
PCAS				*e*Sn	**Sn**	**02 34 28.4**	**+1.1**
PCAS				A	A	02 34 33.9	
	comp=N,7.3nm,0.2s						
PCAS	**Casmilo, Conde**	**2.25**	**69**	*e*Pn	**Pn**	**02 34 02.9**	**+2.4**
PCAS				*e*Sn	**Sn**	**02 34 28.4**	**+1.1**
	comp=N,7.3nm,0.2s						
PNCL	**Nicolau / Gran**	**2.40**	**118**	*e*Pn	**Pn**	**02 34 04.8**	**+2.2**
PNCL				*e*Sn	**Sn**	**02 34 30.8**	**-0.2**
PNCL				A	A	02 34 33.4	
	comp=N,25nm,0.1s						
PNCL	**Nicolau / Gran**	**2.40**	**118**	*e*Pn	**Pn**	**02 34 04.8**	**+2.2**
PNCL				*e*Sn	**Sn**	**02 34 30.8**	**-0.2**
	comp=N,25nm,0.1s						
PTEO	**Sao Teotonio**	**2.60**	**130**	*e*Pn	**Pn**	**02 34 07.3**	**+1.8**
PTEO				*e*Sn	**Sn**	**02 34 34.5**	**-1.6**
PTEO				A	A	02 34 38.0	
	comp=N,24nm,0.1s						
PTEO	**Sao Teotonio**	**2.60**	**130**	*e*Pn	**Pn**	**02 34 07.3**	**+1.8**
PTEO				*e*Sn	**Sn**	**02 34 34.5**	**-1.6**
	comp=N,24nm,0.1s						
PTO	**Porto**	**2.75**	**46**	*e*Sn	**Sn**	**02 34 40.0**	**+0.5**
PTO				A	A	02 34 41.0	
	comp=N,45nm,0.1s						
PTO	**Porto**	**2.75**	**46**	*e*Sn	**Sn**	**02 34 40.0**	**+0.5**
	comp=N,45nm,0.1s						
MESJ	**Messejana**	**2.75**	**120**	*e*P	**Pn**	**02 34 09.4**	**+2.0**
MESJ				*e*S	**Sn**	**02 34 39.1**	**-0.5**
MESJ				AML	AML	02 34 41.3	
	comp=N,47nm,0.2s						
MESJ	**Messejana**	**2.75**	**120**	P	**Pn**	**02 34 09.1**	**+1.7**
	SNR=7.9						
MESJ				S	**Sn**	**02 34 39.5**	**-0.1**
	SNR=7.9						
MESJ	**Messejana**	**2.75**	**120**	P	**Pn**	**02 34 09.1**	**+1.7**
	SNR=7.9						
MESJ				S	**Sn**	**02 34 39.5**	**-0.1**
	SNR=7.9						
MORF	**Marmelete**	**2.81**	**133**	P	**Pn**	**02 34 10.1**	**+1.7**
	SNR=7.9						
MORF				S	**Sn**	**02 34 40.9**	**-0.4**
	SNR=7.9						
MORF	**Marmelete**	**2.81**	**133**	*e*Pn	**Pn**	**02 34 10.2**	**+1.8**
MORF				*e*Sn	**Sn**	**02 34 39.6**	**-1.7**
MORF				A	A	02 34 42.6	
	comp=N,32nm,0.1s						
MORF	**Marmelete**	**2.81**	**133**	*e*Pn	**Pn**	**02 34 10.2**	**+1.8**
MORF				*e*Sn	**Sn**	**02 34 39.6**	**-1.7**
	comp=N,32nm,0.1s						
MORF				S	**Sn**	**02 34 40.9**	**-0.4**
	SNR=7.9						
PFVI	**Vila Bisbo**	**2.84**	**138**	P	**Pn**	**02 34 10.5**	**+1.8**
	comp=N,8.6nm,0.3s,SNR=6.1						
PFVI				S	**Sn**	**02 34 40.5**	**-1.4**
	comp=N,35nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.84**	**138**	*e*Pn	**Pn**	**02 34 10.4**	**+1.7**
PFVI				*e*Sn	**Sn**	**02 34 40.7**	**-1.3**
PFVI				A	A	02 34 44.7	
	comp=N,16nm,0.3s						
PFVI	**Vila Bisbo**	**2.84**	**138**	P	**Pn**	**02 34 10.5**	**+1.8**
	comp=N,8.6nm,0.3s,SNR=6.1						
PFVI				*e*Sn	**Sn**	**02 34 40.7**	**-1.3**
	comp=N,16nm,0.3s						
PESTR	**Estremoz**	**2.85**	**97**	*e*Sn	**Sn**	**02 34 42.3**	**0.0**
PESTR				A	A	02 34 45.4	
	comp=N,18nm,0.3s						
PESTR	**Estremoz**	**2.85**	**97**	*e*Sn	**Sn**	**02 34 42.3**	**0.0**
	comp=N,18nm,0.3s						
PBEJ	**Beja**	**2.90**	**114**	*e*Sn	**Sn**	**02 34 43.3**	**-0.2**
PBEJ				A	A	02 34 45.3	
	comp=N,18nm,0.2s						
PBEJ	**Beja**	**2.90**	**114**	*e*Sn	**Sn**	**02 34 43.3**	**-0.2**
	comp=N,18nm,0.2s						
PVIS	**Viseu**	**2.94**	**59**	*e*Pn	**Pn**	**02 34 12.5**	**+2.4**
PVIS				*e*Sn	**Sn**	**02 34 45.0**	**+0.6**
PVIS	**Viseu**	**2.94**	**59**	*e*Pn	**Pn**	**02 34 12.5**	**+2.4**
PVIS				*e*Sn	**Sn**	**02 34 45.0**	**+0.6**
PMRV	**Marv??o**	**2.97**	**86**	*e*Pn	**Pn**	**02 34 12.7**	**+2.1**
PMRV				*e*Sn	**Sn**	**02 34 44.8**	**-0.5**
PMRV				A	A	02 34 48.2	
	comp=N,31nm,0.1s						
PMRV	**Marv??o**	**2.97**	**86**	*e*Pn	**Pn**	**02 34 12.7**	**+2.1**
PMRV				*e*Sn	**Sn**	**02 34 44.8**	**-0.5**
	comp=N,31nm,0.1s						
PCVE	**Castro Verde**	**2.98**	**122**	*e*Pn	**Pn**	**02 34 13.0**	**+2.3**
PCVE				*e*Sn	**Sn**	**02 34 44.6**	**-0.8**
PCVE				A	A	02 34 48.0	
	comp=N,12nm,0.2s						
PCVE	**Castro Verde**	**2.98**	**122**	*e*Pn	**Pn**	**02 34 13.0**	**+2.3**
PCVE				*e*Sn	**Sn**	**02 34 44.6**	**-0.8**
	comp=N,12nm,0.2s						
MTE	**Manteigas**	**3.05**	**67**	*e*Pn	**Pn**	**02 34 14.2**	**+2.5**
MTE				*e*Sn	**Sn**	**02 34 47.8**	**+0.6**
MTE				A	A	02 34 51.7	
	comp=N,11nm,0.2s						
MTE	**Manteigas**	**3.05**	**67**	*e*Pn	**Pn**	**02 34 14.2**	**+2.5**
MTE				*e*Sn	**Sn**	**02 34 47.8**	**+0.6**
	comp=N,11nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.28**	**127**	*e*Pn	**Pn**	**02 34 17.8**	**+3.0**
PBDV				*e*Sn	**Sn**	**02 34 52.5**	**-0.4**
PBDV				A	A	02 34 56.5	
	comp=N,14nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.28**	**127**	*e*Pn	**Pn**	**02 34 17.8**	**+3.0**
PBDV				*e*Sn	**Sn**	**02 34 52.5**	**-0.4**
	comp=N,14nm,0.1s						
EBAD	**Badajoz**	**3.32**	**97**	P	**Pn**	**02 34 18.0**	**+2.7**
	comp=N,11nm,0.3s,SNR=4.6						
EBAD				S	**Sn**	**02 34 52.9**	**-0.8**
	comp=N,16nm,0.5s,SNR=4.7						
EBAD	**Badaj

STS	**Santiago**	**4.14**	**28**	P		**Pn**	**02 34 28.7**	**+2.1**
	comp=N,14nm,0.4s							
PBRG	**Braganca**	**4.25**	**52**	*e*Pn		**Pn**	**02 34 30.7**	**+2.5**
PBRG				*e*Sn		**Sn**	**02 35 15.4**	**-1.5**
PBRG				A		A	02 35 18.5	
	comp=N,5.3nm,0.1s							
PBRG	**Braganca**	**4.25**	**52**	*e*Pn		**Pn**	**02 34 30.7**	**+2.5**
PBRG				*e*Sn		**Sn**	**02 35 15.4**	**-1.5**
	comp=N,5.3nm,0.1s							
ECAL	**Calabor**	**4.34**	**50**	P		**Pn**	**02 34 31.6**	**+2.2**
	comp=N,19nm,0.3s							
ECAL				S		**Sn**	**02 35 17.6**	**-1.3**
	comp=N,19nm,0.3s							
ECAL	**Calabor**	**4.34**	**50**	P		**Pn**	**02 34 31.6**	**+2.2**
	comp=N,19nm,0.3s							
ECAL				S		**Sn**	**02 35 17.6**	**-1.3**
	comp=N,19nm,0.3s							
ECAB	**El Cabril**	**4.69**	**103**	S		**Sn**	**02 35 27.0**	**-0.7**
	comp=N,9.7nm,0.4s							
ECAB	**El Cabril**	**4.69**	**103**	S		**Sn**	**02 35 27.0**	**-0.7**
	comp=N,9.7nm,0.4s							
ESPR	**Espera**	**4.86**	**118**	S		**Sn**	**02 35 30.5**	**-1.2**
	comp=N,7.2nm,0.4s							
ESPR	**Espera**	**4.86**	**118**	S		**Sn**	**02 35 30.5**	**-1.2**
	comp=N,7.2nm,0.4s							
EPON	**Pontenova**	**5.09**	**36**	P		**Pn**	**02 34 41.9**	**+2.3**
	comp=N,18nm,0.7s							
EPON				S		**Sn**	**02 35 34.6**	**-2.8**
	comp=N,41nm,1.1s							
EPON	**Pontenova**	**5.09**	**36**	P		**Pn**	**02 34 41.9**	**+2.3**
	comp=N,18nm,0.7s							
EADA	**Adamuz**	**5.31**	**100**	S		**Sn**	**02 35 40.9**	**-2.0**
	comp=N,7.7nm,0.4s							
EADA	**Adamuz**	**5.31**	**100**	S		**Sn**	**02 35 40.9**	**-2.0**
	comp=N,7.7nm,0.4s							
GUD	**Guadarrama**	**5.60**	**74**	P		**Pn**	**02 34 48.9**	**+2.0**
	comp=N,3.8nm,0.3s,SNR=4.0							
GUD				S		**Sn**	**02 35 47.9**	**-2.4**
	comp=N,4.4nm,0.4s							
GUD	**Guadarrama**	**5.60**	**74**	P		**Pn**	**02 34 48.8**	**+2.0**
	comp=N,3.8nm,0.3s,SNR=4.0							
GUD				S		**Sn**	**02 35 47.9**	**-2.4**
	comp=N,4.4nm,0.4s							
ESDC	**Sonseca Array**	**5.63**	**84**	⇓P		**Pn**	**02 34 49.4**	**+2.2**
	comp=N,3.6nm,0.3s,baz=266,slow=13,SNR=18							
ESDC				S		**Sn**	**02 35 48.9**	**-1.9**
	comp=N,1.6nm,0.3s,baz=266,slow=24,SNR=4.1							
ESDC	**Sonseca Array**	**5.63**	**84**	P		**Pn**	**02 34 49.4**	**+2.2**
	comp=N,3.6nm,0.3s,SNR=18							
ESDC				S		**Sn**	**02 35 48.9**	**-1.9**
	comp=N,1.6nm,0.3s,SNR=4.1							
ELUQ	**Luque**	**5.72**	**105**	S		**Sn**	**02 35 51.0**	**-2.0**
	comp=N,2.3nm,0.3s,SNR=7.9							
ELUQ	**Luque**	**5.72**	**105**	S		**Sn**	**02 35 51.0**	**-2.0**
	comp=N,2.3nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**5.76**	**116**	S		**Sn**	**02 35 51.6**	**-2.5**
	comp=N,6.6nm,0.4s,SNR=7.9							
EMIJ	**Mijas**	**5.76**	**116**	S		**Sn**	**02 35 51.6**	**-2.5**
	comp=N,6.6nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**6.06**	**46**	S		**Sn**	**02 35 58.2**	**-3.2**
	comp=N,4.7nm,0.6s,SNR=7.9							
SELV	**Sierra Elvira**	**6.23**	**107**	S		**Sn**	**02 36 03.1**	**-2.6**
	comp=N,1.6nm,0.3s,SNR=7.9							
SELV	**Sierra Elvira**	**6.23**	**107**	S		**Sn**	**02 36 03.1**	**-2.6**
	comp=N,1.6nm,0.3s,SNR=7.9							
EQUE	**Quentar**	**6.46**	**106**	S		**Sn**	**02 36 08.7**	**-2.6**
	comp=N,14nm,1.0s							
EQUE	**Quentar**	**6.46**	**106**	S		**Sn**	**02 36 08.7**	**-2.6**
	comp=N,14nm,1.0s							
EQES	**Quesada**	**6.55**	**100**	S		**Sn**	**02 36 11.3**	**-2.3**
	comp=N,5.9nm,0.3s,SNR=7.9							
EQES	**Quesada**	**6.55**	**100**	S		**Sn**	**02 36 11.3**	**-2.3**
	comp=N,5.9nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**6.82**	**92**	S		**Sn**	**02 36 17.7**	**-2.6**
	comp=N,0.1nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**6.82**	**92**	S		**Sn**	**02 36 17.7**	**-2.6**
	comp=N,0.1nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**6.92**	**99**	S		**Sn**	**02 36 19.9**	**-2.6**
	comp=N,0.5nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**6.92**	**99**	S		**Sn**	**02 36 19.9**	**-2.6**
	comp=N,0.5nm,0.1s,SNR=7.9							
ELAN	**Lanestosa**	**7.08**	**53**	S		**Sn**	**02 36 22.8**	**-3.6**
	comp=N,16nm,0.7s,SNR=7.9							
ETOR	**Torete**	**7.20**	**75**	S		**Sn**	**02 36 26.6**	**-3.0**
	comp=N,5.6nm,0.3s,SNR=7.9							
ETOR	**Torete**	**7.20**	**75**	S		**Sn**	**02 36 26.6**	**-3.0**
	comp=N,5.6nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**7.56**	**92**	S		**Sn**	**02 36 34.7**	**-3.7**
	comp=N,0.1nm,0.2s,SNR=4.0							
ETOB	**Tobarra**	**7.56**	**92**	S		**Sn**	**02 36 34.7**	**-3.7**
	comp=N,0.1nm,0.2s,SNR=4.0							
IUNC	**Unciti**	**8.14**	**61**	P		**Pn**	**02 35 24.0**	**+2.5**
	comp=N,0.2nm,0.1s,SNR=7.9							
IUNC				S		Sn	02 36 48.2	-4.3
	comp=N,1.6nm,0.6s,SNR=4.0							
IUNC	**Unciti**	**8.14**	**61**	P		**Pn**	**02 35 24.0**	**+2.5**
	comp=N,0.2nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**8.18**	**60**	P		**Pn**	**02 35 24.5**	**+2.4**
	comp=N,1.3nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**8.18**	**60**	P		**Pn**	**02 35 24.5**	**+2.4**
	comp=N,1.3nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**8.28**	**59**	P		**Pn**	**02 35 25.9**	**+2.4**
	comp=N,0.7nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**8.28**	**59**	P		**Pn**	**02 35 25.9**	**+2.4**
	comp=N,0.7nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**8.30**	**62**	P		**Pn**	**02 35 26.5**	**+2.7**
	comp=N,0.1nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**8.30**	**62**	P		**Pn**	**02 35 26.5**	**+2.7**
	comp=N,0.1nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**8.35**	**79**	P		**Pn**	**02 35 27.2**	**+2.7**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMOS				S		**Sn**	**02 36 53.8**	**-4.0**
	comp=N,5.1nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**8.35**	**79**	P		**Pn**	**02 35 27.2**	**+2.7**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMOS				S		**Sn**	**02 36 53.8**	**-4.0**
	comp=N,5.1nm,0.4s,SNR=7.9							
IELO	**Elcoad**	**8.35**	**61**	P		**Pn**	**02 35 26.9**	**+2.6**
	comp=N,0.5nm,0.2s,SNR=7.9							
IELO				S		Sn	02 36 53.2	-4.5
	comp=N,0.5nm,0.5s,SNR=7.9							
IELO	**Elcoad**	**8.35**	**61**	P		**Pn**	**02 35 27.0**	**+2.6**
	comp=N,0.5nm,0.2s,SNR=7.9							
ATE	**Arette**	**8.80**	**61**	P		**Pn**	**02 35 33.1**	**+2.5**
	comp=N,0.5nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**9.01**	**76**	P		**Pn**	**02 35 36.3**	**+2.8**
	comp=N,1.8nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**9.01**	**76**	P		**Pn**	**02 35 36.3**	**+2.8**
	comp=N,1.8nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**9.25**	**65**	P		**Pn**	**02 35 39.4**	**+2.5**
	comp=N,0.7nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**9.25**	**65**	P		**Pn**	**02 35 39.4**	**+2.5**
	comp=N,0.7nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**10.69**	**72**	P		**Pn**	**02 35 58.5**	**+1.9**
	comp=N,1.8nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**10.69**	**72**	P		**Pn**	**02 35 58.5**	**+1.9**
	comp=N,1.8nm,0.3s,SNR=7.9							

*ISCJB **27** 02:33:59.8±0.4,25°.07S±0°.03×69°.25W±0°.09,h110km±7km, mb3.7/6,Error ellipse: s-maj=13.5km s-min=3.9km az=8.4*
*GUC **27** 02:33:59.9±0.4,25°.08S×69°.23W,h36km±3km,ML4.5*
*IDC **27** 02:34:02.0±0.8,25°.12S×68°.99W,h101km±5km,mb3.6/6, mb1 3.5/7,mb1mx3.4/18,mbtmp3.5/7,Error ellipse: s-maj=29.9km s-min=16.3km az=93.0*

ISC 27 02:34:00.9±0.7,**25°.06S**±0°.04×**69°.25W**±0°.08,**h101**km±7km, **n30,σ0°73/36,mb3.8/6,2C-2D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**1.73**	**322**	⇓*i*P	**Pn**	**02 34 29.4**	**-0.6**
ANCH				*i* S	**Sn**	**02 34 52.3**	**0.0**
ANCH				AML	AML	02 34 59.1	
	comp=E,4μm,0.1s						
PB10	**Plate Boundary**	**1.94**	**322**	*e*P	**Pn**	**02 34 32.7**	**-0.1**
PB10				*i* S	**Sn**	**02 34 57.6**	**+0.5**
PB10				AML	AML	02 35 07.8	
	comp=E,7μm,0.4s						
SPCH	**San Pedro de A**	**2.34**	**24**	⇑*i*P	**Pn**	**02 34 38.8**	**+0.5**
SPCH				*i* S	**Sn**	**02 35 08.2**	**+1.2**
SPCH				AML	AML	02 35 11.9	
	comp=E,4μm,0.2s						
PB06	**Plate Boundary**	**2.36**	**353**	*e*P	**Pn**	**02 34 38.0**	**-0.4**
PB06				*i* S	**Sn**	**02 35 07.4**	**+0.4**
PB06				AML	AML	02 35 11.5	
	comp=N,2μm,0.6s						
CDCH	**Caldera**	**2.45**	**215**	*e*P	**Pn**	**02 34 39.5**	**+0.1**
CDCH				*i* S	**Sn**	**02 35 09.5**	**+0.6**
CDCH				AML	AML	02 35 19.1	
	comp=N,1μm,0.6s						
CPCH	**Copiapo**	**2.50**	**203**	*e*P	**Pn**	**02 34 39.6**	**-0.4**
CPCH				*i* S	**Sn**	**02 35 10.3**	**+0.2**
CPCH				AML	AML	02 35 20.8	
	comp=N,11μm,0.1s						
PB04	**Plate Boundary**	**2.79**	**356**	⇑*i*P	**Pn**	**02 34 43.3**	**-0.6**
PB04				*i* S	**Sn**	**02 35 17.8**	**+0.9**
PB04				AML	AML	02 35 28.9	
	comp=E,2μm,0.2s						
MACH	**Maria Elena**	**2.88**	**351**	⇓*i*P	**Pn**	**02 34 44.4**	**-1.0**
MACH				*i* S	**Sn**	**02 35 19.8**	**+0.2**
VACH	**Vallenar**	**3.75**	**201**	*i* P	**Pn**	**02 34 57.3**	**+0.5**
VACH				*i* S	**Sn**	**02 35 41.3**	**+1.2**
LCO	**Las Campanas**	**4.15**	**198**	*e*P	**Pn**	**02 35 01.0**	**-1.3**
LCO				*i* S	**Sn**	**02 35 49.4**	**-0.5**
CFAA	**Coronel Fontan**	**6.59**	**172**	P	**Pn**	**02 35 34.5**	**-0.6**
	comp=E,0.4nm,0.3s,baz=350,slow=13,SNR=41						
CFAA				S	**Sn**	**02 36 48.8**	**-0.1**
	comp=E,1.0nm,0.3s,baz=236,slow=18,SNR=7.9						
LPAZ	**La Paz**	**8.79**	**7**	P	**Pn**	**02 36 04.3**	**-1.4**
	comp=E,0.6nm,0.3s,baz=166,slow=10,SNR=17						
SIV	**San Ignacio**	**11.83**	**42**	P	Pn	02 36 40.8	-5.6
	comp=E,4.6nm,0.3s,baz=257,slow=12,SNR=29						
BDFB	**Brasilia**	**21.98**	**69**	P	**P**	**02 38 45.6**	**-1.3**
	comp=E,0.8nm,0.5s,baz=231,slow=6.5,SNR=1.4						
SNAA	**Sanae**	**59.05**	**160**	P	**P**	**02 43 50.3**	**+0.3**
	comp=E,0.2nm,0.6s,baz=272,slow=11,SNR=2.7						
DBIC	**Dimbokro**	**70.08**	**72**	P	**P**	**02 45 01.8**	**-0.8**
	comp=E,3.0nm,1.1s,baz=233,slow=5.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**78.86**	**70**	P	**P**	**02 45 53.2**	**-0.2**
	comp=E,2.4nm,0.7s,baz=261,slow=5.3,SNR=36						
TORD				pP	**pP**	**02 46 19.6**	**+0.2**
	comp=E,0.7nm,0.5s,baz=260,slow=5.3,SNR=3.8						
BOSA	**Boshof**	**82.07**	**118**	P	**P**	**02 46 10.1**	**-0.6**
	comp=E,2.8nm,0.8s,baz=221,slow=3.0,SNR=2.0						
YKA	**Yellowknife Ar**	**94.42**	**341**	P	**P**	**02 47 09.5**	**+0.6**
	comp=E,0.1nm,0.5s,baz=136,slow=4.8,SNR=4.6						
YKA				pP	**pP**	**02 47 35.4**	**-0.1**
	comp=E,0.3nm,0.9s,baz=134,slow=4.3,SNR=4.1						
ARCES	**ARCESS Array B**	**114.88**	**23**	PKP	PKPdf	02 52 31.9	+2.9
	comp=E,1.1nm,0.8s,baz=243,slow=3.6,SNR=1.2						
ASAR	**Alice Springs**	**126.62**	**207**	PKP	**PKPdf**	**02 52 53.5**	**+0.4**
	comp=E,0.2nm,0.5s,baz=140,slow=1.9,SNR=6.4						
H11S2	**WAKE ISLAND Hyd**	**27.92**	**275**	T	T	05 13 12.3	
	baz=111,slow=73,SNR=36						
H11S1	**WAKE ISLAND Hyd**	**27.93**	**275**	T	T	05 13 10.0	
	baz=111,slow=73,SNR=32						
H11S3	**WAKE ISLAND Hyd**	**27.94**	**275**	T	T	05 13 10.6	
	baz=111,slow=73,SNR=29						
H11N3	**WAKE ISLAND Hyd**	**28.10**	**276**	T	T	05 13 24.3	
	baz=110,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hyd**	**28.12**	**276**	T	T	05 13 26.3	
	baz=110,slow=76,SNR=4.6						
H11N1	**WAKE ISLAND Hyd**	**28.12**	**276**	T	T	05 13 27.1	
	baz=110,slow=76,SNR=3.5						
WRA	**Warramunga Arr**	**129.73**	**209**	PKP	**PKPdf**	**02 52 59.4**	**+0.3**
	comp=E,0.3nm,0.4s,baz=153,slow=1.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**145.27**	**27**	PKPbc	**PKPab**	**02 53 27.5**	**+1.0**
	comp=E,1.5nm,0.5s,baz=300,slow=4.3,SNR=10						
ZALV				pPKPbc	pPKPbc	02 53 54.3	+0.5
	comp=E,1.2nm,0.8s,baz=316,slow=4.1,SNR=4.1						
MKAR	**Makanchi Array**	**148.64**	**39**	PKPbc	**PKPbc**	**02 53 36.9**	**+0.8**
	comp=E,1.6nm,0.9s,baz=322,slow=2.7,SNR=13						
MKAR				pPKPbc	**pPKPbc**	**02 54 04.0**	**+0.3**
	comp=E,0.8nm,0.8s,baz=296,slow=2.1,SNR=5.3						

*DJA **27** 02:38:05.9±0.9,0°.S±5°×10°.1E±°,h135km±7km, M3.5/5, MLv3.5/5*
*IDC **27** 02:38:13.3±1.8, 1°.25S×99°.78E,h0km,mb3.4/4,mb1 3.5/4, mb1mx3.3/23,mbtmp3.4/4,Error ellipse: s-maj=86.9km s-min=28.3km az=47.0*
*ISCJB **27** 02:38:17.4±1.1,0°.97S±0°.09×99°.66E±0°.07,h33km, mb3.4/4,Error ellipse: s-maj=13.3km s-min=10.5km az=9.1*

ISC 27 02:38:18.9±1.2,**1°.0S**±0°.1×**99°.65E**±0°.08,**h35**km,**n12, σ2s49/10,mb3.5/4,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.81**	**87**	P	**Pn**	**02 38 32.0**	**-1.9**
PDSI				S	**Sn**	**02 38 48.9**	**+4.2**
PPI	**Padang Panjang**	**0.90**	**56**	P	Pn	02 38 30.1	-4.9
PPI				S	**Sn**	**02 38 46.1**	**-0.7**
MNSI	**Mandailing Nat**	**1.74**	**358**	P	Pn	02 38 40.0	-6.7
MNSI				S	**Sn**	**02 39 06.7**	**-1.0**
GSI	**Gunungsitoli**	**3.06**	**317**	P	**Pn**	**02 39 03.7**	**-1.1**
GSI				S	Sn	02 39 51.6	+11
H08S2	**Diego Garcia H**	**27.87**	**255**	T	T	03 12 08.7	
	baz=78,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**27.88**	**255**	T	T	03 12 06.9	
	baz=78,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**27.89**	**255**	T	T	03 11 58.0	
	baz=78,slow=76,SNR=12						
WRA	**Warramunga Arr**	**38.82**	**121**	P	**P**	**02 45 38.2**	**-2.7**
	0.3nm,0.8s,baz=304,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**49.94**	**344**	P	**P**	**02 47 11.6**	**+2.3**
	0.2nm,0.5s,baz=157,slow=8.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**56.09**	**349**	P	**P**	**02 47 56.8**	**+2.3**
	0.2nm,0.3s,baz=172,slow=8.5,SNR=2.2						
BRTR	**Keskin Array B**	**72.37**	**312**	P	**P**	**02 49 42.9**	**+1.1**
	0.4nm,0.8s,baz=87,slow=6.1,SNR=3.8						
TXAR	**Lajitas Array**	**144.08**	**36**	PKP	**PKPdf**	**02 57 51.1**	**-0.7**
	0.2nm,0.5s,baz=275,slow=5.3,SNR=2.3						

IDC 27 02:43:15.9±2.3,**4°.50N**×**123°.54E,h0**km,**mb3.7/3, mb1 3.9/3,mb1mx3.4/24,mbtmp3.7/3,Error ellipse: s-maj=319.3km s-min=24.3km az=63.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.50**	**157**	P	P	02 48 55.5	+0.1
	0.6nm,0.3s,baz=336,slow=9.6,SNR=16						
ASAR	**Alice Springs**	**29.76**	**161**	P	P	02 49 24.2	-0.2
	0.3nm,0.5s,baz=340,slow=6.5,SNR=7.7						
MKAR	**Makanchi Array**	**55.14**	**326**	P	P	02 52 50.1	-0.1
	0.3nm,0.3s,baz=123,slow=7.8,SNR=12						

MEX 27 02:58:30.6±0.7,**18°.33N**×**99°.95W,h46**km±6km,**MD4.0, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.38**	**262**	*e*P	Pn	02 58 38.6	-1.7
ARIG				*i* S	Sn	02 58 45.5	-1.7
PLIG	**Platanillo**	**0.43**	**82**	*e*P	Pn	02 58 39.2	-1.8
PLIG				*i* S	Sn	02 58 46.4	-1.9
YAIG	**Yautepec**	**0.99**	**58**	*e*P	Pn	02 58 46.6	-1.7
YAIG				*i* S	Sn	02 58 59.4	-2.0
PPM	**Popocatepetl**	**1.45**	**60**	*i* P	Pn	02 58 53.1	-2.0
PPM				*i* S	Sn	02 59 11.8	-1.7
ACX	**Acapulco**	**1.46**	**176**	*i* P	Pn	02 58 52.5	-2.0
ACX				*e*S	Sn	02 59 10.8	-1.7
TLIG	**Tlapa**	**1.52**	**120**	*i* P	Pn	02 58 54.2	-1.4
TLIG				*i* S	Sn	02 59 12.1	-2.3
ZIIG	**Zihuatanejo**	**1.61**	**244**	*e*P	Pn	02 58 55.1	-1.5
ZIIG				*e*S	Sn	02 59 13.4	-2.7
MOIG	**Morelia**	**1.78**	**319**	*i* P	Pn	02 58 58.3	-0.9
MOIG				*i* S	Sn	02 59 18.9	-1.9
PNIG	**Pinotepa**	**2.60**	**138**	*e*P	Pn	02 59 09.3	-0.9
PNIG				*i* S	Sn	02 59 38.2	-2.5
MMIG	**Aquila**	**3.22**	**270**	*e*P	Pn	02 59 16.9	-1.8
MMIG				*i* S	Sn	02 59 53.3	-2.6
VHO	**Vista Hermosa**	**3.31**	**112**	*i* P	Pn	02 59 19.6	-0.6
VHO				*i* S	Sn	02 59 55.9	-2.7

GUC 27 03:01:04.3±0.4,**31°.99S**×**71°.43W,h35**km±1km,**MD3.5, ML2.8,5C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.90**	**24**	⇑*i*P	Pn	03 01 20.8	+0.2
CMCH				*i* S	Sb	03 01 33.4	+0.1
CMCH				AML	AML	03 01 35.2	
	comp=N,1μm,0.6s						
ROCH	**El Roble**	**1.04**	**160**	⇑*i*P	Pn	03 01 22.8	+0.1
ROCH				*i* S	Sb	03 01 37.5	-0.3
ROCH				AML	AML	03 01 39.1	
	comp=N,402nm,0.1s						
IHA	**Instituto Hidr**	**1.05**	**190**	⇑*i*P	Pn	03 01 23.1	+0.6
IHA				*i* S	Sb	03 01 37.0	-0.5
PEL	**Peldehue**	**1.31**	**151**	⇑*i*P	Pn	03 01 27.3	+1.1
PEL				*i* S	Sb	03 01 44.7	-0.4
PEL				AML	AML	03 01 47.1	
	comp=N,250nm,0.3s						
CLCH	**Cerro Calan**	**1.59**	**152**	*i* P	Pb	03 01 31.8	-1.4
CLCH				*i* S	Sb	03 01 52.3	-0.9
CLCH				AML	AML	03 01 58.5	
	comp=E,119nm,0.5s						
ANTU	**Antumapu**	**1.71**	**157**	AML	AML	03 01 59.7	
	comp=E,152nm,0.2s						
TLL	**Tololo Astrono**	**1.90**	**17**	*i* P	Pn	03 01 36.3	+1.7
TLL				*i* S	Sb	03 02 00.4	-1.8
CACH	**El Canelo**	**2.23**	**162**	⇑*i*P	Pn	03 01 41.1	+2.1
CACH				*i* S	Sb	03 02 09.1	-2.5

IDC 27 03:11:39.8±26.0,**18°.10S**×**174°.03W,h0**km,**mb3.8/4, mb1 4.0/4,mb1mx3.7/20,mbtmp3.8/4,Error ellipse: s-maj=490.7km s-min=162.9km az=73.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.52**	**260**	P	P	03 18 57.2	+1.3
	1.1nm,0.3s,baz=88,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**42.21**	**242**	P	P	03 19 34.9	+0.2
	0.5nm,0.5s,baz=82,slow=7.1,SNR=3.2						
WRA	**Warramunga Arr**	**48.69**	**259**	P	P	03 20 25.5	-0.8
	0.5nm,0.4s,baz=98,slow=7.9,SNR=13						
ASAR	**Alice Springs**	**48.74**	**254**	P	P	03 20 26.0	-0.7
	0.6nm,0.4s,baz=85,slow=8.3,SNR=27						

*MOS **27** 03:12:42.6±0.8,56°.62N×152°.84W,h14km,mb5.6/125, MS4.9/46,Error ellipse: s-maj=7.9km s-min=5.0km az=90.5*
*NEIC **27** 03:12:42.6,56°.33N×152°.62W,h4km,mb5.2/167, MS5.0/134,ML5.2(AEIC),After AEIC.*
*BJI **27** 03:12:42.0,56°.78N×153°.29W,h5km,mB5.4/35,mb5.5/53, Ms5.5/54,Ms7 5.3/50*
*ISCJB **27** 03:12:44.6±0.1,56°.61N±0°.02×152°.79W±0°.02,h23km, mb5.2/347,MS5.0/191,Error ellipse: s-maj=2.5km s-min=1.3km az=35.3*
*IDC **27** 03:12:45.4±2.0,56°.56N×152°.86W,h18km±11km,mb4.9/39, mb1 5.0/41,mb1mx5.0/44,mbtmp4.9/41,ML4.5/2,MS4.8/30, Ms1 4.8/30,ms1mx4.7/56,Error ellipse: s-maj=13.7km s-min=8.8km az=9.0*
*GCMT **27** 03:12:46.8±0.2,56°.19N×152°.38W,h16km,MW5.3 Best double couple: NP1:φs61.00000°,δ79.00000°, λ92.00000°. NP2:φs229.00000°,δ11.00000°,λ78.00000°. Principal axes: T 1.1300, Plg56.0000°, Azm334.0000°; N 0.1700, Plg2.0000°, Azm241.0000°; P -1.3000, Plg34.0000°, Azm149.0000°; Data Used: ll IU CU IC G CN.*
*SZGRF **27** 03:12:48.2,56°.69N×152°.81W,h26km,mb5.5,MS5.0, Kodiak Island, Alaska, United States, region*

ISC 27 03:12:44.9±0.3,**56°.53N**±0°.03×**152°.76W**±0°.03,**h18**km±1km, **h18**km:**pP-P,n1489,σ1s18**/1545,**mb5.3**/355,**MS4.9**/191, **377C-248D,Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**0.75**	**338**	P	**Pg**	**03 12 59.9**	**+0.3**
OHAK				S	**Sn**	**03 13 15.1**	**+3.7**
KDAK	**Kodiak Island**	**1.26**	**4**	Pn	**Pn**	**03 13 07.7**	**+0.2**
	83μm,0.9s						
KDAK	**Kodiak Island**	**1.26**	**4**	P	**Pb**	**03 13 08.1**	**+0.1**
KDAK				S	**Sg**	**03 13 25.6**	**0.0**
KABR	**Katmai Barrier**	**2.00**	**324**	P	**Pn**	**03 13 18.3**	**+0.5**
KCE	**Katmai Mt Cerb**	**2.16**	**324**	P	**Pn**	**03 13 20.1**	**+0.1**
KAKN	**Katmai Knife C**	**2.16**	**326**	P	**Pn**	**03 13 20.4**	**+0.4**
KAKN				S	**Sb**	**03 13 49.0**	**-1.0**
KABU	**Katmai Buttres**	**2.21**	**323**	P	**Pn**	**03 13 21.5**	**+0.7**
PLK3	**Peulik 3**	**2.23**	**303**	P	**Pn**	**03 13 21.3**	**+0.3**
KAPH	**Katmai Pasha**	**2.24**	**338**	P	**Pn**	**03 13 22.0**	**+0.9**
PLK4	**Peulik 4**	**2.25**	**301**	P	**Pn**	**03 13 21.3**	**+0.1**
KVTA	**Katmai Vly 10**	**2.30**	**325**	P	**Pn**	**03 13 22.9**	**+0.9**
KAHC	**Katmai Hardscr**	**2.44**	**331**	P	**Pn**	**03 13 24.9**	**+0.9**
PLWL	**Peulik Whale M**	**2.46**	**309**	P	**Pn**	**03 13 24.3**	**+0.3**
KELA	**Mount Kel

CHX Chaix Hills 7.08 55 P Pn 03 14 26.2 -1.4
PTPK Patty Peak 7.09 45 P Pn 03 14 26.5 -1.2
DHY Denali Highway 7.10 20 P Pn 03 14 27.0 -0.9
KTH Kantishna Hill 7.10 7 P Pn 03 14 27.8 0.0
GRNC Granite Creek 7.12 49 P Pn 03 14 26.6 -1.7
RND Reindeer 7.17 14 P Pn 03 14 28.2 -0.5
RND Reindeer 7.17 14 P Pn 03 14 28.2 -0.5
BARN Barnard Glacie 7.33 47 P Pn 03 14 29.7 -1.4
CHUM Lake Minchumin 7.38 2 P Pn 03 14 31.9 +0.4
PAX Paxson 7.43 27 P Pn 03 14 31.5 -0.9
PAX Paxson 7.43 27 P Pn 03 14 31.5 -0.9
MCK McKinley 7.47 13 P Pn 03 14 32.4 -0.4
MCK McKinley 7.47 13 P Pn 03 14 32.4 -0.4
LOGN Logan Glacier 7.48 50 P Pn 03 14 30.7 -2.5
AKSA Akutan Strait 7.76 257 P Pn 03 14 35.0 -1.7
AKUT Akutan 7.80 257 P Pn 03 14 35.3 -2.0
MENT Mentasta 7.88 32 P Pn 03 14 37.5 -1.0
ZRO Akutan Zero 7.93 258 P Pn 03 14 37.2 -1.9
WRH Wood River Hil 8.29 14 P Pn 03 14 42.9 -1.2
UNV Unalaska Valle 8.31 257 P Pn 03 14 42.3 -2.0
DOT Dot Lake 8.35 28 eP Pn 03 14 45.1 +0.2
HDA Harding Lake 8.40 18 P Pn 03 14 44.6 -1.0
MSW Makushin Switc 8.43 258 P Pn 03 14 44.0 -2.0
MCIR Makushin Cirqu 8.48 258 P Pn 03 14 44.6 -2.1
GCSA Galena City Sc 8.48 348 P Pn 03 14 46.7 0.0
CCB Clear Creek Bu 8.49 15 P Pn 03 14 45.4 -1.4
MLY Manley 8.58 6 P Pn 03 14 46.8 -1.3
SCRK Sand Creek 8.64 27 P Pn 03 14 48.4 -0.6
COLA College 8.70 14 eP Pn 03 14 48.0 -1.7
COLA College 8.70 14 P Pn 03 14 48.7 -1.0
MDM Murphy Dome 8.74 13 P Pn 03 14 49.1 -1.1
ILAR Eielson Array 8.75 17 Pn Pn 03 14 48.6 -1.7
ILAR Sn Sn 03 16 22.6 -5.8
6.3nm,0.3s,baz=204,slow=13,SNR=147
ILAR Sn Sn 03 16 22.6 -5.8
3.6nm,0.3s,baz=206,slow=25,SNR=3.1
ILAR LR LR 03 18 46.9
comp=Z,17μm,18.5s,baz=207,slow=41
ILB Eielson Array 8.75 17 P Pn 03 14 49.4 -1.0
IL1 Eielson Array 8.75 17 P Pn 03 14 48.8 -1.5
HYT Haines Junctio 9.03 55 P Pn 03 14 52.6 -1.7
OKTU Okmok Mt. Tuli 9.34 257 P Pn 03 14 56.0 -2.5
IM04 Indian Mountai 9.49 357 ePn Pn 03 14 59.8 -0.6
SIT Sitka 9.58 80 eP Pn 03 14 59.6 -2.1
SIT Sitka 9.58 80 ePn Pn 03 14 59.6 -2.1
SPIA Saint Paul Isl 9.60 281 ePn Pn 03 15 01.9 -0.1
NIKH Nikolski High 9.96 256 P Pn 03 15 04.3 -2.6
EGAK Eagle 10.02 30 ePn Pn 03 15 07.1 -0.7
DAWY Dawson 10.03 36 P Pn 03 15 06.5 -1.5
COLD Coldfoot 10.80 5 ePn Pn 03 15 17.1 -1.3
TNA Tin City 11.62 327 ePn Pn 03 15 31.4 +1.8
GAMB Gambell 11.86 315 ePn Pn 03 15 34.1 +1.2
H02S1 DAWSON INLET T 12.14 97 T T 03 27 55.2
SNR=12
DLBC Dease Lake 12.37 72 ePn Pn 03 15 40.9 +1.0
DLBC Dease Lake 12.37 72 Pn Pn 03 15 40.5 +0.6
0.9nm,0.3s,baz=250,slow=12,SNR=10
DLBC LR LR 03 19 59.3
comp=Z,6μm,18.7s,baz=281,slow=35
INK Inuvik 14.69 29 ePn Pn 03 16 10.4 -1.1
105nm,1.0s
INK Inuvik 14.69 29 Pn Pn 03 16 10.6 -0.9
0.3nm,0.3s,baz=228,slow=14,SNR=18
ADK Adak 14.71 262 eP Pn 03 16 12.7 +0.8
ADK pmax pmax
comp=Z,129nm,0.9s
ADK Adak 14.71 262 ePn Pn 03 16 12.7 +0.8
comp=Z,129nm,0.9s
BBB Bella Bella 14.98 97 LR LR 03 20 51.5
comp=Z,3μm,18.4s,baz=302,slow=32
PGC Sidney 19.36 102 eP Pn 03 17 10.1 -0.2
comp=Z,1.7nm,1.0s
NLWA Neilton Lookou 19.88 105 eP Pn 03 17 16.3 -0.4
comp=Z,76nm,1.4s
FX1 Attu Island--F 19.89 274 eP P 03 17 14.8 -0.3
FX1 Attu Island--F 19.89 274 P P 03 17 15.0 0.0
comp=Z,7.2nm,0.3s,baz=38,slow=8.2,SNR=22
A05A Maple Falls 19.90 99 eP P 03 17 16.0 +0.8
comp=Z,112nm,1.5s
YKA Yellowknife Ar 20.02 57 P P 03 17 16.1 -0.2
YKA PcP PcP 03 21 31.3 -0.1
YKA ScP ScP 03 25 06.6 +0.2
YKA Yellowknife Ar 20.02 57 P P 03 17 16.0 -0.2
comp=Z,5.8nm,0.6s,baz=272,slow=8.8,SNR=91
YKA PcP PcP 03 21 31.3 -0.1
comp=Z,2.3nm,0.7s,baz=274,slow=1.4,SNR=11
YKA ScP ScP 03 25 06.6 +0.2
comp=Z,3.7nm,1.0s,baz=277,slow=1.9,SNR=11
B06A Marblemount 20.50 100 ePn P 03 17 22.7 +1.0
comp=Z,258nm,2.2s
E03A Lebam 20.58 107 ePn P 03 17 23.3 +0.8
comp=Z,112nm,1.5s
D05A Enumclaw 21.02 103 ePn P 03 17 29.6 +2.3
comp=Z,313nm,1.6s
LON Longmire 21.38 104 eP P 03 17 32.0 +0.7
LON pmax pmax
comp=Z,322nm,2.4s
LON Longmire 21.38 104 eP P 03 17 32.0 +0.7
comp=Z,322nm,2.4s
F04A Amboy 21.58 107 eP P 03 17 34.4 +1.1
comp=Z,83nm,1.3s
G03D McMinnville, O 21.61 109 ⇓P P 03 17 32.1 -1.5
baz=21
ETW Entiat 21.66 101 P P 03 17 34.7 +0.4
LTY Liberty 21.69 102 eP P 03 17 34.9 +0.3
comp=Z,78nm,1.3s
B08A Colville Reser 21.77 98 eP P 03 17 35.8 +0.4
comp=Z,130nm,1.5s
WTV Waterville 21.81 100 P P 03 17 36.0 +0.2
NAC Naches 21.92 103 P P 03 17 37.6 +0.6
EBG Ellensburg 21.95 102 P P 03 17 38.0 +0.7
SAW Saint Andrews 22.11 99 P P 03 17 39.1 0.0
VFP Flag Point 22.49 107 P P 03 17 43.5 +0.3
H04A Detroit Lake 22.53 109 eP P 03 17 44.0 +0.4
comp=Z,773nm,2.5s
E07A Sunnyside 22.56 102 eP P 03 17 44.0 +0.1
comp=Z,490nm,2.6s
I03D Drain, OR 22.61 112 ⇑P P 03 17 43.0 -1.4
baz=22
G05D Wamic, OR 22.62 107 ⇓P P 03 17 44.6 +0.1
baz=22
C09A Chrisman Ranch 22.67 98 eP P 03 17 45.3 +0.3
comp=Z,20nm,0.9s
OD2 Odessa Site #2 22.68 99 P P 03 17 44.8 -0.3
BROR Big Rock Looko 22.68 110 P P 03 17 45.5 +0.5
EDM Edmonton 22.70 82 eP P 03 17 44.7 -0.6
EDM Edmonton 22.70 82 eP P 03 17 44.7 -0.6
D08A Wollman Farm, 22.76 100 eP P 03 17 45.3 -0.6
comp=Z,72nm,1.4s
BLTW Bickleton 22.79 104 P P 03 17 46.6 +0.3
HAWA Hanford 22.84 102 eP P 03 17 46.9 +0.2
comp=Z,242nm,2.3s
REDWA Red Mountain 22.95 102 P P 03 17 49.1 +1.2
G06A Carlson Farm, 22.98 106 eP P 03 17 49.2 +0.8
comp=Z,105nm,1.8s
I04A Tendick Farm, 23.02 111 ⇑P P 03 17 49.0 +0.3
baz=23
NEW Newport 23.04 96 eP P 03 17 49.1 +0.2
comp=Z,171nm,2.2s
NEW LR LR
comp=Z,2μm,19.0s
NEW Newport 23.04 96 ⇓P P 03 17 48.9 0.0
baz=23
I05D Terrebonne, OR 23.21 108 ⇑P P 03 17 51.2 +0.5
baz=23
E09A Wood Farm, Sta 23.51 100 eP P 03 17 53.8 +0.2
comp=Z,117nm,1.6s
J04D Umpqua Nationa 23.57 111 ⇓P P 03 17 56.0 +1.6
baz=23
HUMO Hull Mountain 23.59 114 eP P 03 17 55.7 +1.3
comp=Z,393nm,2.5s
PINOR Pine Mountain 23.82 109 eP P 03 17 58.3 +1.8
G08A Pilot Rock 23.84 104 eP P 03 17 57.5 +0.6
comp=Z,146nm,2.0s
KRMB Red Mountain 23.91 117 eP P 03 17 59.1 +1.5
comp=Z,596nm,2.3s
J05D Fort Rock, OR 23.99 110 ⇓P P 03 17 59.6 +1.2
baz=24
K04D Chiloquin, OR 24.19 112 ⇑P P 03 18 01.2 +1.0
baz=24
F10A Beach Ranch, E 24.35 101 eP P 03 18 02.1 +0.5
comp=Z,410nm,2.6s
I07A Izee 24.35 107 eP P 03 18 02.8 +1.1
comp=Z,132nm,1.6s

YBH Yreka Blue Hor 24.36 115 eP P 03 18 03.3 +1.6
comp=Z,404nm,2.5s
YBH Yreka Blue Hor 24.36 115 P P 03 18 03.1 +1.4
comp=Z,17nm,0.8s,baz=321,slow=5.2,SNR=36
YBH LR LR 03 25 29.6
comp=Z,2μm,18.1s,baz=316,slow=31
WALA Waterton Lakes 24.38 91 eP P 03 18 03.1 +1.2
comp=Z,2.1nm,1.4s
M02C Callahan 24.54 115 ⇓P P 03 18 04.8 +1.5
baz=24
BSMT Bassoo Peak 24.57 94 eP P 03 18 04.8 +1.2
BLMT Blacktail Moun 24.71 94 eP P 03 18 06.1 +1.2
M04C Macdoel 24.76 113 ⇑P P 03 18 06.7 +1.3
baz=24
JTMT Jette 24.90 94 eP P 03 18 07.2 +0.5
N02D Trinity Center 24.92 116 ⇑P P 03 18 07.7 +0.9
baz=25
YBMT Yellow Bay 24.99 94 eP P 03 18 07.7 +0.3
SWMT Swartz Lake 25.20 94 eP P 03 18 09.8 +0.5
WDC Whiskeytown Da 25.30 116 eP P 03 18 11.5 +1.4
WDC pmax pmax
comp=Z,23nm,1.0s
WDC Whiskeytown Da 25.30 116 eP P 03 18 11.5 +1.4
comp=Z,23nm,1.0s
J08A Circle Bar Ran 25.39 107 eP P 03 18 12.1 +1.0
comp=Z,311nm,2.5s
MOD Modoc 25.46 111 eP P 03 18 13.1 +1.4
comp=Z,93nm,2.5s
MSO Missoula 25.63 96 eP P 03 18 15.6 +2.4
comp=Z,5nm,1.3s
MSO Missoula 25.63 96 ⇑P P 03 18 14.0 +0.9
baz=25
SLMT Seeley Lake 25.63 94 eP P 03 18 13.1 -0.2
LBCM Butte Creek Ri 25.71 114 P P 03 18 15.1 +1.1
WVOR Wild Horse Val 25.95 108 eP P 03 18 17.1 +0.9
WVOR pmax pmax
comp=Z,84nm,1.4s
WVOR MLR MLR
comp=Z,2μm,20.0s
WVOR Wild Horse Val 25.95 108 eP P 03 18 17.1 +0.9
comp=Z,84nm,1.4s
WVOR LR LR
comp=Z,2μm,20.0s
CHMT Chamberlain Mo 25.96 95 eP P 03 18 16.3 0.0
MFID Camas Ranch 26.77 104 eP P 03 18 24.1 +0.6
comp=Z,42nm,1.5s
OHCM Honcut 26.78 117 eP P 03 18 23.7 +0.2
HRY Holter Researc 26.86 94 eP P 03 18 24.5 +0.1
BEKR Beckworth 26.93 114 eP P 03 18 26.1 +1.0
comp=Z,5.4nm,0.8s
LRM Limekiln Ridge 27.06 96 eP P 03 18 27.1 +0.8
EGMT Eagleton 27.25 90 eP P 03 18 27.8 0.0
comp=Z,20nm,0.9s
EGMT LR LR
comp=Z,3μm,19.0s
EGMT Eagleton 27.25 90 ⇓P P 03 18 27.8 0.0
baz=27,SNR=5.5
DLMT Dillon 27.27 97 eP P 03 18 29.1 +1.0
comp=Z,54nm,1.8s
A19A Klindworth Far 27.31 87 ⇓P P 03 18 28.9 +0.6
baz=27,SNR=7.1
HLID Hailey 27.44 102 eP P 03 18 29.9 +0.3
comp=Z,37nm,1.8s
HLID LR LR
comp=Z,2μm,20.0s
HLID Hailey 27.44 102 ⇑P P 03 18 30.1 +0.5
baz=27,SNR=12
B19A Brinkman Farms 27.46 88 ⇓P P 03 18 30.2 +0.6
baz=27,SNR=19
MCMT Mcmtz Canyo 27.47 98 eP P 03 18 29.8 -0.1
comp=Z,10nm,1.4s
PAHR Pah Rah Range 27.55 113 eP P 03 18 31.5 +0.9
comp=Z,36nm,1.3s
SEY Seymchan 27.60 306 P P 03 18 29.8 -0.9
SEY Seymchan 27.60 306 P P 03 18 29.8 -0.9
SEY Seymchan 27.60 306 P P 03 18 29.8 -0.9
comp=Z,28nm,1.0s,baz=0.3,slow=23,SNR=25
BOZ Bozeman (W) 27.62 96 eP P 03 18 32.6 +1.4
BOZ pmax pmax
comp=Z,18nm,1.5s
BOZ MLR MLR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 27.62 96 eP P 03 18 32.6 +1.4
comp=Z,18nm,1.5s
BOZ LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 27.77 284 eP P 03 18 31.7 -0.5
PET e*PP pP 03 18 40.6 +2.9
PET eS S 03 23 14.4 +0.7
PET pmax pmax
comp=Z,134nm,1.0s
PET MLR MLR
comp=Z,3μm,19.0s
PET Petropavlovsk 27.77 284 eP P 03 18 31.3 -0.9
comp=Z,115nm,1.0s
PET LR LR
comp=Z,2μm,20.0s
A20A Cobblestone Ra 27.79 87 ⇓P P 03 18 33.2 +0.6
baz=28,SNR=22
C19A Slack Wire Ran 27.81 90 ⇓P P 03 18 33.1 +0.3
baz=28,SNR=14
B20A Solberg Farm, 27.98 88 ⇓P P 03 18 34.8 +0.6
baz=28,SNR=10
BMN Battle Mountai 28.13 110 eP P 03 18 36.7 +0.9
BMN pmax pmax
comp=Z,9.0nm,0.9s
BMN Battle Mountai 28.13 110 eP P 03 18 36.7 +0.9
comp=Z,9.0nm,0.9s
FFC Flin Flon 28.20 72 eP P 03 18 36.6 +0.5
FFC pmax pmax
comp=Z,53nm,2.5s
FFC MLR MLR
comp=Z,4μm,19.0s
FFC Flin Flon 28.20 72 eP P 03 18 36.6 +0.5
comp=Z,53nm,2.5s
FFC LR LR
comp=Z,4μm,19.0s
D19A Cripps Ranch, 28.23 91 ⇓P P 03 18 37.2 +0.6
baz=28,SNR=8.1
PEA0B Petpavlovsk- 28.24 284 eP P 03 18 35.3 -1.2
PETK Petropavlovsk- 28.24 284 P P 03 18 35.8 -0.7
PETK Petropavlovsk- 28.24 284 P P 03 18 35.8 -0.7
PETK ScP ScP 03 25 29.5 +0.4
PETK Petropavlovsk- 28.24 284 P P 03 18 35.8 -0.7
comp=Z,23nm,0.9s,baz=83,slow=11,SNR=30
PETK ScP ScP 03 25 29.5 +0.4
comp=Z,5.1nm,1.0s,baz=89,slow=9.6,SNR=3.7
PETK LR LR 03 30 19.6
comp=Z,1μm,20.0s,baz=188,slow=37
QLMT Earthquake Lak 28.24 97 eP P 03 18 37.7 +0.8
RES Resolute Bay 28.25 28 P P 03 18 36.5 +0.2
RES Resolute Bay 28.25 28 P P 03 18 36.5 +0.2
comp=Z,4.8nm,0.8s,baz=253,slow=12,SNR=26
RES LR LR 03 30 30.2
comp=Z,743nm,20.8s,baz=82,slow=38
CMB Columbia Colle 28.33 117 eP P 03 18 38.3 +0.8
CMB pmax pmax
comp=Z,138nm,2.6s
CMB Columbia Colle 28.33 117 eP P 03 18 38.2 +0.8
comp=Z,138nm,2.6s
C20A Veseth Ranch, 28.40 89 ⇑P P 03 18 38.4 +0.4
baz=28,SNR=6.7
WAKR Walker 28.43 115 eP P 03 18 39.5 +0.9
YMR Madison River 28.60 97 eP P 03 18 41.1 +1.0
comp=Z,42nm,1.3s
GCMT Greycliff 28.62 94 eP P 03 18 41.2 +1.2
comp=Z,17nm,1.3s
GCMT eScP ScP 03 25 30.7 +0.1
D20A Manuel Ranch, 28.69 90 ⇑P P 03 18 41.5 +1.0
baz=28,SNR=12
E19A Rath Farm, Rou 28.70 92 ⇑P P 03 18 42.0 +1.2
baz=28,SNR=9.5
A22A Carney Farms, 28.84 85 ⇑P P 03 18 42.7 +0.8
baz=29
ELK Elko 28.94 107 eP P 03 18 44.4 +1.3
comp=Z,127nm,2.5s
F19A Roth Farm, Mol 28.98 93 ⇑P P 03 18 44.4 +1.1
baz=29,SNR=8.3
H17A Grant Village 28.99 97 eP P 03 18 45.8 +2.2
H17A Grant Village 28.99 97 ⇓P P 03 18 43.8 +0.3
baz=29,SNR=13
E20A Meyer Farm, Mu 29.04 91 ⇑P P 03 18 45.0 +1.3
baz=29,SNR=10
NVAR Mina Array Bea 29.06 114 P P 03 18 45.1 +0.9
NVAR PcP PcP 03 21 53.3 +1.4
NVAR ScP ScP 03 25 33.0 +0.8

NVAR Mina Array Bea 29.06 114 P P 03 18 45.1 +0.9
comp=Z,6.6nm,0.8s,baz=306,slow=9.3,SNR=37
NVAR PcP PcP 03 21 53.3 +1.4
comp=Z,1.9nm,0.8s,baz=298,slow=3.8,SNR=3.8
NVAR ScP ScP 03 25 33.0 +0.8
comp=Z,2.6nm,1.0s,baz=300,slow=3.9,SNR=8.3
NVAR LR LR 03 28 19.1
comp=Z,3μm,19.4s,baz=43,slow=32
IMW Indian Meadow 29.11 98 eP P 03 18 45.8 +1.1
comp=Z,17nm,1.2s
FLWY Flagg Ranch 29.12 97 eP P 03 18 46.3 +1.6
comp=Z,43nm,1.4s
NV11 Mina Array Sit 29.14 114 eP P 03 18 45.4 +0.7
FXWY Fox Creek 29.23 98 eP P 03 18 46.7 +1.0
comp=Z,8.2nm,1.3s
RLMT Red Lodge 29.25 94 PFAKE 03 19 00.0 +14
RLMT LR LR
comp=Z,1μm,19.0s
I17A Pilgrim Ck. 29.30 97 ⇓P P 03 18 47.4 +1.2
baz=29
H18A Shoshone NF, C 29.31 95 ⇓P P 03 18 47.5 +1.1
baz=29,SNR=6.6
MOOW Moose Ponds 29.32 98 eP P 03 18 48.0 +1.6
comp=Z,12nm,1.4s
D21A La Casta Ranch 29.33 89 ⇓P P 03 18 47.6 +1.3
baz=29
MLAC Mammoth Lakes 29.41 116 ⇑P P 03 18 49.5 +2.2
baz=29
F20A Billings 29.45 92 ⇓P P 03 18 48.2 +0.8
baz=29
LOHW Long Hollow 29.48 98 eP P 03 18 48.9 +1.0
comp=Z,14nm,1.3s
REDW Red Top Meadow 29.51 98 eP P 03 18 49.4 +1.3
comp=Z,41nm,1.7s
HVU Hansel Valley 29.53 103 eP P 03 18 49.6 +1.3
HVU pmax pmax
comp=Z,19nm,1.2s
HVU Hansel Valley 29.53 103 eP P 03 18 49.6 +1.3
comp=Z,19nm,1.2s
C22A Vida 29.55 87 ⇑P P 03 18 49.2 +1.0
baz=29
B23A Brockton 29.64 85 ⇑P P 03 18 49.8 +0.8
baz=30
H19A Powell 29.69 95 ⇑P P 03 18 50.7 +1.0
baz=30
D22A Cohagen 29.73 88 ⇑P P 03 18 51.0 +1.2
baz=30,SNR=6.5
MTUM Tungsten Hills 29.76 116 eP P 03 18 51.5 +1.2
AHID Auburn Hatcher 29.77 100 PFAKE 03 19 00.0 +10
AHID LR LR
comp=Z,1μm,19.0s
G20A Bridger 29.77 93 ⇓P P 03 18 51.1 +0.7
baz=30
TPH Tonopah 29.88 113 eP P 03 18 52.5 +1.1
TPH pmax pmax
comp=Z,89nm,2.1s
TPH Tonopah 29.88 113 eP P 03 18 52.5 +1.1
comp=Z,89nm,2.1s
C23A Lambert 29.91 86 ⇓P P 03 18 52.5 +1.1
baz=30,SNR=13
A24A Westby 29.93 84 ⇓P P 03 18 52.8 +1.2
baz=30
LAO LASA Array 29.98 89 eP P 03 18 52.4 +0.4
comp=Z,14nm,0.9s
LAO eScP ScP 03 25 33.1 -1.7
LAO LR LR
comp=Z,3μm,20.0s
BGU Big Grassy Mou 29.99 104 eP P 03 18 53.5 +1.2
comp=Z,11nm,1.7s
SPUT South Promonto 30.04 103 eP P 03 18 53.2 +0.5
comp=Z,46nm,1.6s
DGMT Dagmar 30.08 85 eP P 03 18 52.6 -0.2
comp=Z,18nm,1.1s
DGMT eScP ScP 03 25 34.6 -0.5
DGMT LR LR
comp=Z,3μm,19.0s
DGMT Dagmar 30.08 85 ⇓P P 03 18 53.4 +0.6
baz=30
I19A Meeteetse 30.09 96 ⇓P P 03 18 53.5 +0.2
baz=30
TIN Tinemaha 30.16 115 ⇑P P 03 18 54.6 +0.8
baz=30
RCTC Rector, Farmer 30.25 118 ⇑P P 03 18 56.2 +1.9
baz=30
D23A Lindsay 30.26 88 ⇓P P 03 18 55.7 +1.1
baz=30
SKR Severo-Kuril's 30.28 281 eP P 03 18 50.5 -4.0
SKR ePPP PPP 03 20 14.0
SKR S S 03 23 46.0 -7.3
SKR eSSS SSS 03 25 52.0
SKR pmax pmax
comp=Z,80nm,0.9s
SKR pmax pmax
comp=Z,1μm,6.0s
SKR smax smax
comp=N,1μm,10.0s
SKR smax smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=N,2μm,20.0s
SKR MLR MLR
comp=E,2μm,20.0s
E22A Miles City 30.28 89 ⇓P P 03 18 56.2 +1.5
baz=30,SNR=7.4
G21A Lodge Grass 30.33 92 ⇓P P 03 18 55.5 +0.3
baz=30
H20A Greybull 30.35 94 ⇓P P 03 18 56.0 +0.5
baz=30
A25A Svangstu Ranch 30.41 83 ⇓P P 03 18 56.6 +0.8
baz=30
C24A Savage 30.48 86 ⇓P P 03 18 57.8 +1.3
baz=30,SNR=15
F22A Rosebud 30.51 91 ⇓P P 03 18 57.9 +1.1
baz=30
R11A Troy Canyon, C 30.52 111 eP P 03 18 57.7 +0.6
R11A ePcP PcP 03 21 55.2 -0.4
R11A Troy Canyon, C 30.52 111 ⇓P P 03 18 57.5 +0.5
baz=30,SNR=20
J19A Crowheart 30.56 97 ⇑P P 03 18 57.8 +0.4
baz=30
E23A Ismay 30.61 89 ⇓P P 03 18 59.0 +1.5
baz=30
BW06 Boulder Array 30.61 98 eP P 03 18 58.0 +0.1
comp=Z,26nm,1.6s
BW06 LR LR
comp=Z,1μm,19.0s
FCC Fort Churchill 30.61 61 eP P 03 18 57.2 -0.2
FCC Fort Churchill 30.61 61 eP P 03 18 57.2 -0.2
comp=Z,2.5nm,2.1s
PDAR Pinedale Array 30.61 98 P P 03 18 58.0 0.0
PDAR ScP ScP 03 25 37.0 -0.2
PDAR Pinedale Array 30.61 98 P P 03 18 58.0 0.0
comp=Z,4.5nm,0.7s,baz=310,slow=5.1,SNR=44
PDAR ScP ScP 03 25 37.0 -0.2
comp=Z,1.9nm,1.2s,baz=285,slow=2.9,SNR=4.4
I20A Worland 30.63 95 ⇓P P 03 18 58.0 +0.1
baz=30
DUG Dugway 30.63 105 eP P 03 18 58.2 +0.3
DUG e 03 21 56.7
DUG e 03 25 36.9
DUG pmax pmax
comp=Z,122nm,2.8s
DUG MLR MLR
comp=Z,1μm,22.0s
DUG Dugway 30.63 105 eP P 03 18 58.2 +0.3
comp=Z,122nm,2.8s
DUG ePcP PcP 03 21 56.7 +0.9
DUG eScP ScP 03 25 36.9 -0.2
DUG LR LR
comp=Z,1μm,22.0s
DUG Dugway 30.63 105 ⇓P P 03 18 58.6 +0.7
baz=30,SNR=7.7
GRAC Grapevine Rang 30.64 114 ⇑P P 03 18 59.3 +1.4
baz=30,SNR=17
SMMC Simmler 30.68 120 ⇑P P 03 18 59.9 +1.7
baz=30
VES Vestal, Richgr 30.70 118 ⇓P P 03 18 59.5 +1.1
baz=30
CWC Cottonwood Cre 30.72 116 ⇑P P 03 19 00.3 +1.5
baz=30,SNR=6.5
B25A Knox Farm, Ray 30.76 84 ⇑P P 03 19 00.3 +1.4
baz=31
D24A Glendive 30.78 87 ⇑P P 03 19 01.0 +1.9
baz=31,SNR=12
H21A Big Horn, Sher 30.79 93 ⇓P P 03 19 01.1 +1.8

baz=31
G22A **Birney** 30.84 91 ⇑P P 03 19 01.0 +1.3
baz=31
F23A **Volborg** 31.02 90 ⇓P P 03 19 02.5 +1.2
baz=31
A26A **Wade Farm, Ken** 31.03 82 ⇓P P 03 19 02.3 +1.1
baz=31,SNR=13
C25A **Freed Ranch, W** 31.03 85 ⇓P P 03 19 02.9 +1.7
baz=31
J20A **Shoshoni** 31.04 96 ⇑P P 03 19 03.1 +1.5
baz=31,SNR=15
PKM **Peak Mountain** 31.10 120 ⇓P P 03 19 03.9 +1.7
baz=31
E24A **Baker** 31.12 88 ⇓P P 03 19 03.6 +1.4
baz=31
ISA **Isabella** 31.14 117 *e*P P 03 19 02.7 +0.3
ISA **Isabella** 31.14 117 *e*P P 03 19 02.7 +0.3
comp=Z,3.3nm,1.0s
ISA **Isabella** 31.14 117 ⇓P P 03 19 02.7 +0.3
baz=31,SNR=11
I21A **Big Trails, Te** 31.18 94 ⇓P P 03 19 03.6 +0.9
baz=31
NLU **North Lily Min** 31.19 105 *e*P P 03 19 04.0 +1.0
comp=Z,8.2nm,1.1s
H22A **Clearmont** 31.20 92 ⇓P P 03 19 04.5 +1.7
baz=31
TPNV **Topopah Spring** 31.24 113 *e*P P 03 19 04.6 +1.2
TPNV pmax pmax
comp=Z,51nm,1.4s
TPNV **Topopah Spring** 31.24 113 *e*P P 03 19 04.5 +1.2
comp=Z,51nm,1.4s
TPNV **Topopah Spring** 31.24 113 ⇑P P 03 19 04.1 +0.7
baz=31,SNR=21
FURC **Furnace Creek,** 31.30 115 ⇑P P 03 19 05.1 +1.4
baz=31,SNR=9.4
DAU **Daniels Canyon** 31.31 103 *e*P P 03 19 04.7 +0.6
DAU **Daniels Canyon** 31.31 103 *e*P P 03 19 04.7 +0.6
MPMC **Manual Prospec** 31.31 116 ⇓P P 03 19 05.0 +0.9
baz=31,SNR=14
D25A **Fairfield** 31.32 86 ⇑P P 03 19 05.2 +1.3
baz=31
G23A **Biddle** 31.35 91 ⇑P P 03 19 04.5 +0.3
baz=31,SNR=6.0
ARVC **Arvin** 31.39 119 ⇓P P 03 19 05.1 +0.6
baz=31
J21A **Lysite** 31.39 95 ⇑P P 03 19 05.7 +0.9
baz=31,SNR=9.9
F24A **Ekalaka** 31.48 89 ⇑P P 03 19 06.7 +1.4
baz=31,SNR=6.6
SBC **Santa Barbara** 31.52 120 ⇑P P 03 19 07.5 +1.9
baz=31
I22A **9 Mile Ranch,** 31.57 94 ⇑P P 03 19 06.9 +0.7
baz=31
C26A **Wahner Farm, P** 31.60 84 ⇓P P 03 19 07.3 +1.0
baz=31
E25A **Miller Ranch,** 31.66 87 ⇑P P 03 19 08.1 +1.2
baz=32
LRMC **Laurel Mountai** 31.67 117 ⇓P P 03 19 07.7 +0.6
baz=31,SNR=17
B27A **Peters Farms,** 31.73 83 ⇑P P 03 19 06.7 -0.7
baz=32
H23A **Clabaugh Cattl** 31.74 92 ⇑P P 03 19 07.4 -0.2
baz=32
OSI **Osito Adit** 31.85 119 ⇑P P 03 19 09.7 +1.0
baz=32
D26A **Manning** 31.88 86 ⇓P P 03 19 10.3 +1.5
baz=32
J22A **Midwest** 31.89 94 ⇑P P 03 19 09.2 +0.2
baz=32
BSC **Santa Cruz Isl** 31.92 121 ⇑P P 03 19 10.4 +1.2
baz=32
K21A **Alcova** 31.97 96 ⇓P P 03 19 10.4 +0.6
baz=32,SNR=16
F25A **Bowman** 31.97 88 ⇓P P 03 19 10.5 +0.9
baz=32
A28A **Rude Farm, Bot** 31.99 81 ⇑P P 03 19 11.2 +1.5
baz=32
C27A **Sayler Ranch,** 31.99 84 ⇓P P 03 19 10.3 +0.6
baz=32
EDW2 **Edwards Air Fo** 32.00 118 ⇑P P 03 19 10.5 +0.5
baz=32,SNR=7.6
SHOC **Shoshone** 32.04 115 ⇑P P 03 19 11.2 +0.9
baz=32,SNR=6.7
ARUT **Antelope Range** 32.06 109 *e*P P 03 19 10.8 +0.2
ARUT pmax pmax
comp=Z,246nm,1.1s
ARUT **Antelope Range** 32.06 109 *e*P P 03 19 10.8 +0.2
comp=Z,246nm,1.1s
H24A **Dirks Ranch, A** 32.10 91 ⇓P P 03 19 10.8 +0.1
baz=32
BLG **Laguna Peak** 32.10 120 ⇓P P 03 19 10.8 0.0
baz=32
TMUT **Trail Mountain** 32.13 105 *e*P P 03 19 13.3 +1.9
comp=Z,12nm,1.1s
SHPR **Sheep Range** 32.14 112 *e*P P 03 19 10.9 -0.4
MVU **Marysvale** 32.17 107 *e*P P 03 19 13.1 +1.4
comp=Z,36nm,1.4s
E26A **Carlson Angus** 32.20 86 ⇓P P 03 19 12.2 +0.7
baz=32
B28A **Dugan Ranch, T** 32.20 82 ⇓P P 03 19 12.8 +1.3
baz=32
GSC **Goldstone** 32.25 116 *e*P P 03 19 13.1 +0.9
GSC pmax pmax
comp=Z,42nm,1.6s
GSC **Goldstone** 32.25 116 *e*P P 03 19 13.1 +0.9
comp=Z,42nm,1.6s
GSC **Goldstone** 32.25 116 ⇓P P 03 19 13.0 +0.8
baz=32,SNR=12
CCUT **Cedar City** 32.28 109 *e*P P 03 19 13.6 +1.1
comp=Z,36nm,1.7s
D27A **Center** 32.33 85 ⇓P P 03 19 13.9 +1.1
baz=32
K22A **Casper** 32.36 95 *e*P P 03 19 13.4 +0.2
K22A **Casper** 32.36 95 ⇑P P 03 19 13.4 +0.2
baz=32
G25A **Newell** 32.45 89 ⇓P P 03 19 15.1 +1.3
baz=32
F26A **Lodgepole** 32.45 88 ⇓P P 03 19 15.1 +1.3
baz=32
RRX **Edison Barstow** 32.49 117 ⇑P P 03 19 15.3 +1.2
baz=32
MWC **Mount Wilson** 32.49 119 *e*P P 03 19 15.3 +0.9
MWC pmax pmax
comp=Z,197nm,2.7s
MWC **Mount Wilson** 32.49 119 *e*P P 03 19 15.3 +0.9
comp=Z,197nm,2.7s
A29A **Manning Farm,** 32.55 80 ⇓P P 03 19 16.1 +1.5
baz=32,SNR=16
TUQ **Turquoise Moun** 32.59 115 ⇓P P 03 19 15.9 +0.8
baz=32,SNR=12
I24A **Kuemmerle Ranc** 32.62 92 ⇓P P 03 19 16.6 +1.2
baz=32
RWWY **Rawlins** 32.63 97 *e*P P 03 19 10.1 -5.5
comp=Z,34nm,1.0s
SRU **San Rafael** 32.63 104 *e*P P 03 19 16.9 +1.3
SRU pmax pmax
comp=Z,54nm,1.2s
SRU **San Rafael** 32.63 104 *e*P P 03 19 16.9 +1.3
comp=Z,54nm,1.2s
SRU *e*ScP ScP 03 25 43.1 -0.8
N20A **Spence Gulch,** 32.64 100 ⇓P P 03 19 17.0 +1.3
baz=32,SNR=14
BFSC **Mount Baldy Ra** 32.68 118 ⇑P P 03 19 16.9 +0.9
baz=32,SNR=11
H25A **Fruitdale** 32.70 90 ⇓P P 03 19 17.0 +0.9
baz=32
E27A **Carson** 32.72 86 ⇓P P 03 19 17.8 +1.7
baz=32
B29A **Wagenman Farm,** 32.74 81 ⇓P P 03 19 17.7 +1.4
baz=33
RSSD **Black Hills** 32.78 91 *e*P P 03 19 17.8 +0.9
RSSD pmax pmax
comp=Z,20nm,1.6s
RSSD **Black Hills** 32.78 91 *e*P P 03 19 17.8 +0.9
comp=Z,20nm,1.6s
K23A **Bowen Ranch, D** 32.79 94 ⇓P P 03 19 17.6 +0.7
baz=33,SNR=6.5
F27A **Lemmon** 32.80 87 ⇑P P 03 19 17.7 +0.9
baz=33
D28A **Regan** 32.81 84 ⇑P P 03 19 18.9 +2.0
baz=33
L22A **Ellis Ranch, M** 32.83 96 ⇓P P 03 19 18.5 +1.2
baz=33
G26A **Maurine** 32.84 88 ⇑P P 03 19 18.4 +1.2
baz=33,SNR=5.9
HEC **Hector,Ludlow** 32.86 116 ⇓P P 03 19 18.2 +0.7
baz=33,SNR=9.9
MDND **Maddock** 32.96 82 *e*P P 03 19 19.5 +1.3
MDND **Maddock** 32.96 82 ⇓P P 03 19 19.8 +1.7
baz=33
CIS **Catalina Islan** 32.99 120 ⇑P P 03 19 19.9 +1.3
baz=33
I25A **Rochford** 33.01 91 ⇑P P 03 19 19.9 +1.0
baz=33
A30A **Hoffart Farm,** 33.05 80 ⇓P P 03 19 19.9 +0.9
baz=33,SNR=14
E28A **Huff** 33.11 85 ⇑P P 03 19 21.1 +1.6
baz=33
O20A **White River Ci** 33.14 100 *e*P P 03 19 20.5 +0.5
O20A **White River Ci** 33.14 100 ⇓P P 03 19 20.7 +0.7
baz=33,SNR=14
G27A **Dupree** 33.15 88 ⇓P P 03 19 20.8 +0.8
baz=33
M22A **Cedar Creek Ra** 33.16 97 ⇑P P 03 19 20.6 +0.3
baz=33,SNR=7.9
H26A **Fairpoint** 33.16 89 ⇓P P 03 19 20.4 +0.3
baz=33
L23A **Garrett** 33.17 95 ⇓P P 03 19 20.9 +0.5
baz=33,SNR=23
GMRC **Granite Mounta** 33.23 115 ⇑P P 03 19 21.3 +0.5
baz=33,SNR=10
K24A **Anderson Ranch** 33.26 94 ⇓P P 03 19 22.1 +1.1
baz=33
LDFC **Landfair** 33.28 114 *e*P P 03 19 21.7 +0.5
comp=Z,67nm,1.4s
B30A **Myrvik Farm, E** 33.31 80 ⇑P P 03 19 22.2 +0.9
baz=33,SNR=15
J25A **Sunshine Ranch** 33.38 92 ⇓P P 03 19 23.1 +1.1
baz=33
MURC **Murrieta** 33.41 118 ⇓P P 03 19 24.1 +1.8
baz=33
D29A **Pettibone, Tap** 33.42 83 ⇓P P 03 19 23.9 +1.6
baz=33
F28A **McLaughlin** 33.49 86 ⇓P P 03 19 24.1 +1.3
baz=33,SNR=6.3
H27A **Howes** 33.54 89 ⇑P P 03 19 24.8 +1.5
baz=33
ULM **Lac du Bonnet** 33.63 76 *e*P P 03 19 24.6 +0.6
comp=Z,28nm,1.0s
ULM ScP ScP 03 25 45.2 -1.8
ULM **Lac du Bonnet** 33.63 76 P P 03 19 25.3 +1.3
comp=Z,14nm,0.6s,baz=294,slow=9.7,SNR=30
ULM ScP ScP 03 25 45.2 -1.8
comp=Z,3.6nm,1.0s,baz=312,slow=2.7,SNR=4.2
ULM LR LR 03 32 57.1
comp=Z,2µm,18.6s,baz=314,slow=36
L24A **Wheatland** 33.65 95 ⇓P P 03 19 25.8 +1.4
baz=33
N22A **Wattenberg Ran** 33.65 98 ⇑P P 03 19 25.9 +1.3
baz=33,SNR=11
C30A **Mose, Pekin** 33.66 82 ⇓P P 03 19 25.5 +1.2
baz=34
U15A **North Rim** 33.69 109 ⇑P P 03 19 25.7 +0.7
baz=34,SNR=7.7
E29A **Napoleon** 33.69 84 ⇓P P 03 19 25.8 +1.2
baz=34
PFO **Pinyon Flat Ob** 33.77 117 *e*P P 03 19 25.9 +0.5
comp=Z,49nm,1.7s
PFO **Pinyon Flat Ob** 33.77 117 ⇓P P 03 19 25.5 0.0
baz=34,SNR=6.3
PFO **Pinyon Flat Ob** 33.77 117 P P 03 19 26.1 +0.5
comp=Z,4.6nm,1.0s,baz=335,slow=8.8,SNR=9.3
PFO LR LR 03 30 12.3
comp=Z,1µm,21.1s,baz=317,slow=31
J26A **Sides Ranch, S** 33.83 91 ⇓P P 03 19 26.0 0.0
baz=34
K25A **Mack Ranch, Ha** 33.85 93 ⇓P P 03 19 26.7 +0.5
baz=34
D30A **Buchanan** 33.86 83 ⇓P P 03 19 27.1 +1.1
baz=34,SNR=13
N23A **Red Feather La** 33.87 97 ⇓P P 03 19 26.3 -0.2
baz=34
W13A **Hualapai Mount** 33.88 113 ⇑P P 03 19 27.5 +0.9
baz=34,SNR=16
I27A **Quinn** 33.91 90 ⇓P P 03 19 26.7 +0.2
baz=34
IRM **Iron Mountain** 33.98 115 ⇓P P 03 19 28.3 +1.1
baz=34,SNR=29
PV04 **Paradox Valley** 34.02 103 *e*P P 03 19 28.7 +1.0
109C **Camp Elliot, M** 34.04 119 ⇑P P 03 19 28.7 +1.1
baz=34
O22A **Kremmling** 34.05 99 ⇑P P 03 19 28.8 +0.7
baz=34,SNR=5.1
M24A **Cheyenne** 34.09 95 ⇓P P 03 19 30.0 +1.7
baz=34
H28A **Mission Ridge** 34.10 88 ⇑P P 03 19 29.6 +1.5
baz=34
L25A **Engebretsen Ra** 34.10 94 ⇑P P 03 19 29.5 +1.1
baz=34
E30A **Jud** 34.14 84 ⇓P P 03 19 29.9 +1.5
baz=34
K26A **Motz Farm, Whi** 34.18 92 ⇓P P 03 19 30.2 +1.3
baz=34
P22A **Eagle** 34.33 100 ⇑P P 03 19 31.0 +0.6
baz=34,SNR=6.5
O23A **Lake Granby, G** 34.36 98 ⇑P P 03 19 31.8 +1.0
baz=34,SNR=12
MONP **Monument Peak** 34.37 118 ⇓P P 03 19 31.8 +1.0
baz=34,SNR=12
PDMCI **Parker Dam,Lak** 34.38 114 ⇑P P 03 19 31.8 +1.2
baz=34
G29A **Hoven** 34.38 86 ⇓P P 03 19 31.6 +1.0
baz=34
PV01 **Paradox Valley** 34.39 103 *e*P P 03 19 31.4 +0.4
comp=Z,2µm,1.2s
PV01 *e*ScP ScP 03 25 49.7 -0.6
TIXI **Tiksi** 34.41 327 *c e*P P 03 19 30.1 -0.4
TIXI pmax pmax
comp=Z,52nm,1.0s
TIXI **Tiksi** 34.41 327 *e*P P 03 19 29.8 -0.7
comp=Z,39nm,0.9s
TIXI *e*PcP PcP 03 22 05.2 -0.3
TIXI LR LR
comp=Z,2µm,19.0s
ALE **Alert** 34.44 13 P P 03 19 31.6 +1.0
comp=Z,314nm,1.0s,SNR=29
I28A **Midland** 34.45 89 ⇓P P 03 19 31.8 +0.6
baz=34,SNR=6.3
J27A **Elkhorn Farm,** 34.46 91 ⇑P P 03 19 32.9 +1.5
baz=34
F30A **Leola** 34.48 85 ⇓P P 03 19 33.1 +1.7
baz=34
N24A **Carr** 34.50 96 ⇓P P 03 19 33.4 +1.6
baz=34
SMCO **Snowmass** 34.51 100 *e*P P 03 19 33.3 +1.2
comp=Z,11nm,1.1s
M25A **Palm-Egli Farm** 34.54 95 ⇓P P 03 19 32.5 +0.3
baz=34
H29A **Orida** 34.58 87 ⇑P P 03 19 32.3 0.0
baz=34
Y12C **Blythe** 34.62 115 ⇑P P 03 19 33.6 +0.9
baz=34,SNR=22
SWSC **Sam W. Stewart** 34.64 117 ⇓P P 03 19 33.4 +0.5
baz=34,SNR=7.8
L26A **Underwood Farm** 34.67 93 ⇑P P 03 19 34.1 +0.8
baz=34
K27A **Flueckinger Fa** 34.70 92 ⇑P P 03 19 34.5 +1.0
baz=34
DVTC **Desert V Tower** 34.72 118 ⇑P P 03 19 34.3 +0.6
baz=34
AGMN **Agassiz Nation** 34.74 79 *e*P P 03 19 33.9 +0.2
comp=Z,46nm,0.9s
AGMN LR LR
comp=Z,2µm,20.0s
AGMN **Agassiz Nation** 34.74 79 ⇑P P 03 19 34.2 +0.6
baz=35,SNR=30
J28A **Allard Ranch,** 34.78 90 ⇓P P 03 19 35.3 +1.2
baz=35
ISCO **Idaho Springs** 34.81 98 *e*P P 03 19 36.3 +1.6
ISCO MLR MLR
comp=Z,1µm,20.0s
ISCO **Idaho Springs** 34.81 98 *e*P P 03 19 36.3 +1.6
comp=Z,8.8nm,1.2s
ISCO LR LR
comp=Z,1µm,20.0s
ISCO **Idaho Springs** 34.81 98 ⇑P P 03 19 36.5 +1.8
baz=35
G30A **Faulkton** 34.85 86 ⇑P P 03 19 36.1 +1.5
baz=35,SNR=8.0
WUAZ **Wupatki** 34.86 109 *e*P P 03 19 36.0 +1.0
comp=Z,25nm,1.3s
WUAZ LR LR
comp=Z,1µm,19.0s
WUAZ **Wupatki** 34.86 109 ⇑P P 03 19 36.0 +1.0
baz=35,SNR=11
O24A **Longmont** 34.88 97 ⇓P P 03 19 37.0 +1.8
baz=35
N25A **Grover** 34.95 96 ⇑P P 03 19 37.2 +1.5
baz=35
P23A **Jefferson** 34.99 99 ⇓P P 03 19 37.9 +1.6
baz=35,SNR=8.2
GLA **Glamis** 35.03 116 *e*P P 03 19 37.2 +0.9
GLA **Glamis** 35.03 116 *e*P P 03 19 37.2 +0.9
comp=Z,5.9nm,1.1s
GLA **Glamis** 35.03 116 ⇓P P 03 19 36.9 +0.6
baz=35,SNR=8.2
L27A **T5 Ranch, Ells** 35.06 92 ⇑P P 03 19 37.8 +1.1
baz=35
MVCO **Mesa Verde** 35.11 104 *e*P P 03 19 37.5 +0.3
comp=Z,16nm,1.1s
MVCO LR LR
comp=Z,913nm,19.0s
MVCO **Mesa Verde** 35.11 104 ⇑P P 03 19 37.2 0.0
baz=35
K28A **Ten Mile Ranch** 35.17 91 ⇓P P 03 19 38.7 +1.2
baz=35
Y14A **Wickenburg** 35.24 113 ⇑P P 03 19 39.0 +0.8
baz=35,SNR=13
J29A **Okreek** 35.30 89 ⇑P P 03 19 40.0 +1.5
baz=35
BRSD **Miller** 35.39 87 *e*P P 03 19 41.0 +1.7
BRSD **Miller** 35.39 87 ⇑P P 03 19 41.0 +1.7
baz=35
P24A **Kohler Place,** 35.40 98 ⇑P P 03 19 41.5 +1.9
baz=35
M27A **Reverse DX Ran** 35.40 93 ⇑P P 03 19 40.9 +1.4
baz=35
S22A **4UR Ranch, Cre** 35.62 102 ⇓P P 03 19 43.4 +1.8
baz=35,SNR=5.8
Q24A **Divide** 35.66 99 ⇓P P 03 19 43.3 +1.3
baz=35
X16A **Lo Mia Camp, P** 35.67 111 ⇑P P 03 19 43.7 +1.7
baz=35,SNR=18
K29A **Lazy Trails An** 35.72 90 ⇑P P 03 19 43.2 +1.0
baz=36
Z14A **Wintersburg** 35.73 113 ⇑P P 03 19 43.5 +1.3
baz=36
O26A **Horse Wrangler** 35.77 96 ⇑P P 03 19 43.2 +0.5
baz=36
113A **Mohawk Valley,** 35.79 115 ⇑P P 03 19 43.8 +1.0
baz=36,SNR=8.5
P25A **Willow Gulch B** 35.81 97 ⇓P P 03 19 45.0 +1.9
baz=36,SNR=9.5
N27A **Anderson Farm,** 35.81 94 ⇑P P 03 19 44.7 +1.6
baz=36
R23A **Moffat** 35.84 101 ⇓P P 03 19 44.3 +0.7
baz=36
W18A **Petrified Fore** 36.02 108 ⇓P P 03 19 46.9 +1.8
baz=36
M28A **Bar X Bar Ranc** 36.05 93 ⇑P P 03 19 47.1 +2.1
baz=36
S23A **Nye Farm, Mont** 36.09 101 ⇑P P 03 19 46.5 +0.8
baz=36
L29A **Maesberg Ranch** 36.10 91 ⇑P P 03 19 47.2 +1.8
baz=36
K30A **Basset** 36.17 89 ⇓P P 03 19 47.8 +1.8
baz=36
Q25A **Bedland, Calha** 36.19 98 ⇓P P 03 19 47.3 +0.9
baz=36
R24A **Sanders Place,** 36.20 100 ⇓P P 03 19 48.0 +1.4
baz=36,SNR=10
P26A **Davis Ranch, A** 36.22 97 ⇓P P 03 19 48.6 +1.9
baz=36,SNR=6.7
O27A **Beecher Island** 36.26 95 ⇑P P 03 19 48.1 +1.2
baz=36
SDCO **Great Sand Dun** 36.34 101 *e*P P 03 19 48.7 +0.9
comp=Z,12nm,1.1s
SDCO LR LR
comp=Z,1µm,19.0s
X18A **Snowflake** 36.36 109 ⇓P P 03 19 49.1 +1.2
baz=36,SNR=6.2
M29A **Burnside Ranch** 36.40 92 ⇓P P 03 19 49.6 +1.6
baz=36
N28A **Pribbeno Ranch** 36.44 94 ⇑P P 03 19 50.1 +1.7
baz=36
T23A **Casias Ranch,** 36.57 102 ⇓P P 03 19 51.2 +1.5
baz=36
S24A **Houchin Ranch,** 36.57 101 ⇓P P 03 19 51.6 +1.7
baz=36,SNR=10
Q26A **Hugo** 36.58 97 ⇓P P 03 19 51.4 +1.7
baz=36,SNR=10
L30A **Spencer Herefo** 36.59 90 ⇓P P 03 19 50.9 +1.3
baz=36
U22A **Llaves** 36.61 104 ⇓P P 03 19 51.3 +1.2
baz=36,SNR=6.1
P27A **Ficken Ranch,** 36.65 96 ⇑P P 03 19 51.8 +1.5
baz=36
R25A **Fountain Ranch** 36.71 99 ⇑P P 03 19 52.2 +1.4
baz=36,SNR=11
M30A **Dale-Ortello V** 36.78 91 ⇓P P 03 19 52.8 +1.5
baz=37
N29A **Votaw Ranch, W** 36.85 93 ⇓P P 03 19 53.7 +1.8
baz=37
T24B **San Luis** 36.90 101 ⇑P P 03 19 54.0 +1.3
baz=37
214A **Organ Pipe Nat** 36.92 115 *e*P P 03 19 52.8 +0.3
214A **Organ Pipe Nat** 36.92 115 ⇑P P 03 19 53.6 +1.1
baz=37,SNR=7.9
V22A **San Miguel Ran** 36.93 104 ⇑P P 03 19 54.0 +1.2
baz=37,SNR=8.5
L31A **Butterfield Fa** 36.93 89 ⇑P P 03 19 53.9 +1.4
baz=37
S25A **Robets Cordova** 36.98 100 ⇓P P 03 19 54.1 +0.9
baz=37
U23A **El Rito** 37.00 103 ⇑P P 03 19 55.0 +1.5
baz=37,SNR=15
KSCO **Kaye Shedlock'** 37.01 97 *e*P P 03 19 54.8 +1.6
KSCO **Kaye Shedlock'** 37.01 97 ⇑P P 03 19 54.9 +1.6
baz=37
R26A **Arlington** 37.06 98 ⇑P P 03 19 54.9 +1.1
baz=37,SNR=6.4
P28A **Saint Francis** 37.09 95 ⇑P P 03 19 55.5 +1.5
baz=37
ECSD **EROS Data Cent** 37.14 86 *e*P P 03 19 53.6 -0.7
comp=Z,11nm,0.8s
ECSD LR LR
comp=Z,3µm,20.0s
ECSD **EROS Data Cent** 37.14 86 ⇓P P 03 19 54.2 0.0
baz=37,SNR=7.2
O29A **4D Ranch, Culb** 37.24 94 ⇑P P 03 19 56.2 +1.0
baz=37
EYMN **Ely** 37.31 77 *e*P P 03 19 56.4 +0.7
comp=Z,50nm,0.8s
EYMN LR LR
comp=Z,2µm,19.0s
T25A **Trinidad** 37.37 100 ⇑P P 03 19 58.5 +1.9
baz=37,SNR=5.4
Q28A **Sharon Springs** 37.41 96 ⇑P P 03 19 58.2 +1.5
baz=37
M31A **Lambtecht Ranc** 37.41 91 ⇓P P 03 19 57.4 +0.8
baz=37
R27A **Eads** 37.43 98 ⇓P P 03 19 58.4 +1.5
baz=37,SNR=12
U24A **Moreno Valley** 37.44 102 ⇑P P 03 19 59.3 +2.1
baz=37
V23A **Ortiz Mt. (NFS** 37.44 104 ⇓P P 03 19 58.9 +1.8
baz=37,SNR=6.8
P29A **Atwood** 37.53 94 ⇑P P 03 19 59.2 +1.5
baz=37
S26A **Kim** 37.54 99 ⇓P P 03 19 59.0 +1.2
baz=37,SNR=16
TUC **Tucson** 37.67 112 *e*P P 03 19 59.9 +1.0
TUC pmax pmax
comp=Z,140nm,2.8s
TUC MLR MLR
comp=Z,1µm,22.0s
TUC **Tucson** 37.67 112 *e*P P 03 19 59.9 +1.0
comp=Z,140nm,2.8s
TUC LR LR
comp=Z,1µm,22.0s
YAK **Yakutsk** 37.77 311 *c i*P P 03 19 58.2 -1.1
YAK *e**PP pP 03 20 05.8 +0.9
YAK *e* 03 21 26.8
YAK *e*PPP PPP 03 21 51.7
YAK *e* 03 22 14.6
YAK *e*S S 03 25 48.0 -0.7
YAK *e* 03 30 09.0
YAK pmax pmax
comp=Z,128nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,41nm,1.1s
YAK pmax pmax

comp=Z,22nm,0.8s
YAK pmax pmax
comp=E,110nm,1.8s
YAK pmax pmax
comp=N,23nm,1.1s
YAK smax smax
comp=N,66nm,1.7s
YAK smax smax
comp=E,87nm,1.8s
YAK MLR MLR
comp=Z,4μm,19.0s
YAK MLR MLR
comp=E,2μm,19.0s
YAK MLR MLR
comp=N,2μm,17.0s
YAK Yakutsk 37.77 311 *e*P **P 03 19 58.9 -0.4**
comp=N,144nm,0.7s
YAK LR LR
comp=Z,3μm,19.0s
T26A Comanche Natio 37.79 100 ⇓P **P 03 20 01.0 +0.9**
baz=38,SNR=10.0
BGNE Belgrade 37.83 90 *e*P **P 03 20 00.5 +0.4**
BGNE Belgrade 37.83 90 ⇓P **P 03 20 01.4 +1.3**
baz=38
ANMO Albuquerque 37.90 105 *e*P **P 03 20 01.6 +0.6**
comp=Z,15nm,1.5s
ANMO LR LR
comp=Z,837nm,21.0s
W23A Werner Place, 37.90 104 ⇓P **P 03 20 02.3 +1.3**
baz=38,SNR=6.1
U25A Circle Dot Ran 37.92 101 ⇓P **P 03 20 01.7 +0.6**
baz=38,SNR=19
R28A Tribune 37.93 97 ⇓P **P 03 20 02.7 +1.6**
baz=38
P30A Seiden 37.95 94 ⇑P **P 03 20 02.3 +1.1**
baz=38,SNR=5.1
LAZ Ladron 37.95 106 *e*P **P 03 20 02.2 +0.8**
comp=Z,40nm,2.1s
V24A Rampart Ranch, 37.95 103 ⇓P **P 03 20 03.2 +1.7**
baz=38,SNR=7.5
Q29A Oakley 38.00 95 ⇓P **P 03 20 02.5 +0.8**
baz=38,SNR=8.5
O31A Woolen Ranch, 38.03 92 ⇓P **P 03 20 03.1 +1.3**
baz=38
N32A Stulken Farm, 38.18 91 ⇑P **P 03 20 04.9 +1.8**
baz=38
LENM Lemitar 38.22 106 *e*P **P 03 20 05.3 +1.7**
V25A Rancho No Teng 38.22 102 ⇑P **P 03 20 05.2 +1.5**
baz=38,SNR=7.3
R29A Marienthal 38.24 96 ⇓P **P 03 20 05.6 +1.9**
baz=38
W24A Lazy 6 Ranch, 38.26 103 ⇓P **P 03 20 05.6 +1.5**
baz=38,SNR=7.0
SPMN St. Paul 38.28 81 *e*P **P 03 20 05.3 +1.5**
SPMN St. Paul 38.28 81 ⇓P **P 03 20 05.4 +1.6**
baz=38,SNR=8.4
U26A Atchley Ranch, 38.28 101 ⇓P **P 03 20 05.4 +1.2**
baz=38,SNR=16
LPM Los Pinos Moun 38.29 106 *e*P **P 03 20 04.1 -0.1**
X23A Hourglass Bar 38.32 105 ⇓P **P 03 20 05.5 +0.9**
baz=38,SNR=5.6
T27A Campo 38.35 99 ⇓P **P 03 20 06.2 +1.5**
baz=38
Q30A Quinter 38.36 94 ⇑P **P 03 20 06.1 +1.4**
baz=38
BNM Barren Site 38.41 106 *e*P **P 03 20 05.9 +0.6**
comp=Z,9.7nm,1.2s
BNM *e*ScP **ScP 03 26 05.5 +0.3**
S28A Manter 38.42 97 ⇑P **P 03 20 06.9 +1.6**
baz=38,SNR=9.7
P31A Stockton 38.44 93 ⇓P **P 03 20 06.4 +1.0**
baz=38
O32A Brockman Farm, 38.54 91 ⇓P **P 03 20 07.2 +1.0**
baz=38
T28A Walsh 38.64 98 ⇑P **P 03 20 08.4 +1.3**
baz=38,SNR=6.2
V26A Tequesquite Ra 38.70 101 ⇑P **P 03 20 08.8 +1.2**
baz=38,SNR=46
X24A Lazy VL Ranch, 38.73 104 ⇑P **P 03 20 08.9 +0.9**
baz=38
U27A Thompson Grove 38.77 100 ⇓P **P 03 20 08.8 +0.6**
baz=38,SNR=8.5
W25A X Bar L Ranch, 38.77 102 ⇑P **P 03 20 09.2 +1.0**
baz=38,SNR=8.9
Q31A Ellis 38.80 94 ⇓P **P 03 20 09.3 +1.0**
baz=39
P32A Huiting Farm, 38.80 92 ⇑P **P 03 20 09.6 +1.3**
baz=39
R30A Dighton 38.82 95 ⇓P **P 03 20 10.1 +1.6**
baz=39,SNR=11
S29A Ulysses 38.83 97 ⇓P **P 03 20 10.0 +1.3**
baz=39
Y23A Lovelace Mesa, 38.88 105 ⇑P **P 03 20 10.7 +1.5**
baz=39,SNR=10
Z22A Elephant Butte 38.92 107 ⇓P **P 03 20 11.3 +1.7**
baz=39,SNR=13
121A Cookes Peak, D 39.05 109 *e*P **P 03 20 11.4 +0.8**
121A Cookes Peak, D 39.05 109 ⇓P **P 03 20 12.1 +1.4**
baz=39,SNR=12
T29A Hugoton 39.07 97 ⇓P **P 03 20 12.2 +1.5**
baz=39,SNR=6.7
U28A Mallet 39.12 99 ⇑P **P 03 20 12.6 +1.4**
baz=39
S30A Montezuma 39.17 96 ⇑P **P 03 20 13.0 +1.4**
baz=39
X25A Clemmons Ranch 39.18 103 ⇑P **P 03 20 13.1 +1.4**
baz=39
319A Douglas 39.18 111 ⇓P **P 03 20 13.6 +1.9**
baz=39
Y24A Capitan 39.22 105 ⇓P **P 03 20 13.4 +1.4**
baz=39,SNR=10
R31A Burdett 39.23 95 ⇑P **P 03 20 13.0 +1.0**
baz=39,SNR=7.1
W26A Owens Ranch, T 39.24 102 ⇓P **P 03 20 13.8 +1.6**
baz=39
V27A Dan Oppiter Fa 39.25 100 ⇑P **P 03 20 13.9 +1.7**
baz=39
Q32A Meitler Ranch, 39.27 93 ⇓P **P 03 20 13.4 +1.2**
baz=39,SNR=5.9
Z23A Rita Site, Whi 39.30 106 ⇑P **P 03 20 14.3 +1.6**
baz=39
P33A Williams Farm, 39.43 92 ⇑P **P 03 20 15.1 +1.5**
baz=39
221A Mesquite Ranch 39.46 109 ⇑P **P 03 20 15.5 +1.4**
baz=39
R32A Long Quarter, 39.58 94 ⇑P **P 03 20 16.3 +1.5**
baz=39
V28A Channing 39.59 100 ⇑P **P 03 20 15.8 +0.8**
baz=39,SNR=5.8
320A Kipp Ranch, An 39.60 111 ⇑P **P 03 20 16.4 +1.2**
baz=39,SNR=15
X26A CR and CF Fran 39.62 103 ⇑P **P 03 20 16.3 +1.0**
baz=39,SNR=13
Y25A Mesa, Roswell 39.62 104 ⇑P **P 03 20 16.7 +1.3**
baz=39,SNR=19
W27A Bowe Ranch, En 39.64 101 ⇓P **P 03 20 16.6 +1.1**
baz=39
YSS Yuzh-Sakhalins 39.65 284⇑ *e*P **P 03 20 14.5 -0.7**
YSS *e* 03 20 25.3
YSS *e*S **S 03 26 18.0 +0.7**
YSS *e* 03 30 18.0
YSS pmax pmax
comp=Z,40nm,1.0s
YSS smax smax
comp=E,400nm,7.0s
YSS MLR MLR
comp=Z,2μm,20.0s
YSS MLR MLR
comp=N,1μm,19.0s
YSS MLR MLR
comp=E,2μm,19.0s
YSS MLR MLR
comp=Z,2μm,20.0s
YSS MLR MLR
comp=N,1μm,19.0s
YSS MLR MLR
comp=E,1μm,19.0s
YSS Yuzh-Sakhalins 39.65 284 *e*P **P 03 20 14.1 -1.1**
comp=E,40nm,1.0s
YSS LR LR
comp=Z,745nm,22.0s
Q33A Connelly Farm, 39.66 92 ⇑P **P 03 20 16.6 +1.1**
baz=39,SNR=7.3
Z24A Sheeppen Canyo 39.71 105 ⇓P **P 03 20 17.2 +1.0**
baz=40,SNR=12
S31A Mullinville 39.73 95 ⇓P **P 03 20 17.5 +1.3**
baz=40
222A Williams Famil 39.74 108 ⇓P **P 03 20 17.4 +1.0**
baz=40,SNR=7.9
YUK Yuzh-Kuril'sk 39.82 279*c i*P **P 03 20 15.4 -1.3**
YUK *e*S **S 03 26 14.2 -5.7**
YUK pmax pmax
comp=Z,690nm,1.2s
YUK MLR MLR
comp=E,1μm,20.0s
YUK MLR MLR
comp=Z,2μm,20.0s
YUK MLR MLR
comp=N,1μm,19.0s
U30A WK&E Inc. Balk 39.88 97 ⇓P **P 03 20 18.4 +1.0**
baz=40,SNR=7.3
V29A Stinnett 39.88 99 ⇓P **P 03 20 17.6 +0.2**
baz=40
X27A F and S Farms, 39.94 102 ⇑P **P 03 20 19.0 +1.1**
baz=40,SNR=5.5
W28A Vega 39.96 100 ⇑P **P 03 20 19.2 +1.1**
baz=40
S32A Newby Ranch, P 39.98 95 ⇓P **P 03 20 19.1 +0.9**
baz=40
T31A Randall Ranch, 40.00 96 ⇑P **P 03 20 19.4 +1.1**
baz=40,SNR=8.8
R33A Olander Ranch, 40.07 93 ⇑P **P 03 20 19.7 +0.8**
baz=40
Y26A Elida 40.09 103 ⇓P **P 03 20 20.2 +1.0**
baz=40,SNR=6.6
Z25A Roswell 40.10 105 ⇑P **P 03 20 20.4 +1.1**
baz=40
124A Stringfield Ra 40.15 106 ⇓P **P 03 20 20.9 +1.0**
baz=40,SNR=7.7
SCIA State Center 40.22 85 *e*P **P 03 20 20.0 -0.1**
comp=N,106nm,1.8s
SCIA LR LR
comp=Z,3μm,19.0s
KSU1 Kansas State U 40.27 91 *e*P **P 03 20 20.9 +0.3**
comp=Z,16nm,0.8s
KSU1 LR LR
comp=Z,2μm,20.0s
KSU1 Kansas State U 40.27 91 ⇓P **P 03 20 21.2 +0.6**
baz=40
T32A Huddler Ranch, 40.35 95 ⇑P **P 03 20 22.3 +1.0**
baz=40
W29A Amraillo 40.37 100 ⇓P **P 03 20 23.2 +1.7**
baz=40
V30A Spur Ranch, Mi 40.42 98 ⇓P **P 03 20 23.5 +1.6**
baz=40
U31A Nine Bar Ranch 40.43 97 ⇑P **P 03 20 23.6 +1.7**
baz=40
Y27A Causey 40.48 103 ⇑P **P 03 20 23.3 +0.9**
baz=40,SNR=16
Z26A Caprock 40.50 104 ⇑P **P 03 20 23.3 +0.7**
baz=40,SNR=11
X28A Dimmitt 40.52 101 ⇑P **P 03 20 23.6 +0.8**
baz=40
AMTX Amarillo 40.53 100 *e*P **P 03 20 23.5 +0.7**
comp=Z,32nm,1.0s
AMTX Amarillo 40.53 100 ⇓P **P 03 20 23.7 +0.9**
baz=40
224A Cornudas Mount 40.60 107 ⇓P **P 03 20 24.5 +1.0**
baz=40,SNR=18
125A Gardner Draw, 40.61 105 ⇑P **P 03 20 24.8 +1.2**
baz=40,SNR=7.8
MSTX Muleshoe 40.62 102 *e*P **P 03 20 24.1 +0.5**
MSTX Muleshoe 40.62 102 ⇑P **P 03 20 24.5 +0.9**
baz=40,SNR=11
T33A Patterson Ranc 40.80 95 ⇑P **P 03 20 26.3 +1.4**
baz=41
X29A Tulia 40.85 101 ⇑P **P 03 20 26.2 +0.8**
baz=41
V31A Spring Creek L 40.88 98 ⇑P **P 03 20 27.1 +1.5**
baz=41,SNR=9.7
Z27A Tatum 40.88 103 ⇑P **P 03 20 27.1 +1.3**
baz=41,SNR=7.6
U32A Winter Ranch, 40.89 96 ⇓P **P 03 20 26.9 +1.2**
baz=41
225A Deer Hill, Car 40.95 106 ⇑P **P 03 20 27.5 +1.1**
baz=41
Y28A McKinney Farm, 40.95 102 ⇓P **P 03 20 27.6 +1.2**
baz=41,SNR=6.0
126A Clayton Basin, 40.96 105 ⇑P **P 03 20 27.7 +1.3**
baz=41
MNTX Cornudas Mount 40.97 107 *e*P **P 03 20 27.4 +1.0**
comp=Z,11nm,1.0s
MNTX LR LR
comp=Z,1μm,19.0s
324A Moseley Ranch, 41.12 107 ⇑P **P 03 20 28.8 +1.0**
baz=41,SNR=7.5
GDL2 Guadalupe Moun 41.12 105 *e*P **P 03 20 28.2 +0.5**
comp=Z,4.1nm,0.9s
JFWS Jewell Farm 41.18 82 PFAKE 03 20 40.0 +12
JFWS LR LR
comp=Z,3μm,19.0s
W31A Holland Ranch, 41.25 98 ⇓P **P 03 20 29.7 +0.9**
baz=41
127A Arkansas Junct 41.29 104 ⇑P **P 03 20 29.6 +0.5**
baz=41
X30A Coker Ranch, T 41.30 100 ⇑P **P 03 20 29.9 +0.8**
baz=41,SNR=11
Y29A Porterfield Fa 41.30 101 ⇑P **P 03 20 29.6 +0.4**
baz=41,SNR=9.0
226B Tecolote Peak, 41.32 105 ⇑P **P 03 20 29.9 +0.5**
baz=41
CLNB Carlsbad 41.33 105 *e*P **P 03 20 30.5 +1.0**
comp=Z,4.2nm,1.1s
Z28A Tucker Farm, M 41.35 102 ⇑P **P 03 20 29.8 +0.2**
baz=41
V32A Arapaho 41.35 97 ⇓P **P 03 20 29.9 +0.4**
baz=41
325A Bean Ranch, Si 41.44 107 ⇑P **P 03 20 31.3 +0.9**
baz=41,SNR=16
ASAJ Asahikawa 41.55 281 *e*P **P 03 20 30.1 -0.9**
comp=Z,42nm,0.8s
ASAJ Asahikawa 41.55 281 P **P 03 20 30.0 -0.9**
comp=Z,94nm,0.8s,baz=54,slow=5.1,SNR=36
X31A McDonald Ranch 41.65 99 ⇑P **P 03 20 32.6 +0.6**
baz=41,SNR=8.9
U34A Anderson Ranch 41.66 95 ⇓P **P 03 20 32.4 +0.4**
baz=41,SNR=11
V33A Lossen Ranch, 41.70 96 ⇓P **P 03 20 32.6 +0.3**
baz=42
Y30A Stafford Cattl 41.71 100 ⇑P **P 03 20 33.1 +0.6**
baz=42
Z29A Hungry Hill Ra 41.74 102 ⇓P **P 03 20 33.3 +0.5**
baz=42,SNR=7.9
128A Castleberry Fa 41.80 103 ⇑P **P 03 20 33.8 +0.5**
baz=42,SNR=11
227A Bennet, Jal 41.84 105 ⇑P **P 03 20 34.6 +1.0**
baz=42
425A Indio Mountain 41.89 107 ⇑P **P 03 20 35.1 +0.9**
baz=42,SNR=18
Y31A Rekieta Farm, 41.99 100 ⇓P **P 03 20 35.5 +0.8**
baz=42
326A Caldwell Ranch 42.01 106 ⇓P **P 03 20 35.7 +0.6**
baz=42,SNR=19
Z30A Sanderson Ranc 42.03 101 ⇓P **P 03 20 35.0 -0.1**
baz=42,SNR=7.6
W33A Cedo, Fort Co 42.09 97 ⇑P **P 03 20 36.7 +1.2**
baz=42
V34A Guthrie 42.11 95 ⇓P **P 03 20 35.6 -0.1**
baz=42
129A Stewart Farms, 42.13 103 ⇑P **P 03 20 36.5 +0.5**
baz=42
228A UT Block 9, Go 42.13 104 ⇑P **P 03 20 37.0 +0.9**
baz=42,SNR=8.4
X32A Elmer 42.18 98 ⇑P **P 03 20 36.8 +0.5**
baz=42
WMOK Wichita Mounta 42.22 98 *e*P **P 03 20 37.3 +0.7**
WMOK pmax pmax
comp=Z,31nm,1.1s
WMOK MLR MLR
comp=Z,602nm,20.0s
WMOK Wichita Mounta 42.22 98 *e*P **P 03 20 37.3 +0.7**
comp=Z,31nm,1.1s
WMOK LR LR
comp=Z,602nm,20.0s
W34A Bridge Creek, 42.41 96 ⇓P **P 03 20 38.9 +0.7**
baz=42
Y32A R-V Farms, Ver 42.41 99 ⇓P **P 03 20 38.7 +0.6**
baz=42
426A McDonald Obser 42.49 107 ⇓P **P 03 20 40.4 +1.2**
baz=42,SNR=9.0
X33A Lawton 42.52 98 ⇑P **P 03 20 39.9 +0.9**
baz=42
Z31A Sharp Cattle R 42.54 100 ⇓P **P 03 20 40.1 +0.9**
baz=42,SNR=6.0
328A Wristen Ranch, 42.59 105 ⇓P **P 03 20 40.5 +0.8**
baz=42
CLNS Chul'man 42.60 306 *e*P **P 03 20 38.3 -1.2**
CLNS *e**PP **pP 03 20 47.9 +2.8**
CLNS *e* 03 22 20.0
CLNS *e*PPP PPP 03 22 55.1
CLNS *e*S **S 03 27 05.1 +4.0**
CLNS *e* 03 30 09.8
CLNS pmax pmax
comp=E,29nm,0.9s
CLNS pmax pmax
comp=Z,37nm,0.9s
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=Z,9.0nm,0.9s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS smax smax
comp=N,128nm,13.8s
CLNS smax smax
comp=E,298nm,14.5s
CLNS MLR MLR
comp=N,2μm,12.0s
CLNS MLR MLR
comp=Z,5μm,14.0s
CLNS MLR MLR
comp=E,3μm,13.0s
ERM Erimo 42.64 278*d i*P **P 03 20 40.6 +0.7**
ERM pmax pmax
comp=Z,255nm,1.2s
ERM Erimo 42.64 278 *e*P **P 03 20 40.9 +1.0**
comp=Z,233nm,1.1s
ERM LR LR
comp=Z,2μm,21.0s
130A Snyder 42.65 102 ⇓P **P 03 20 40.9 +0.8**
baz=42,SNR=8.5
229A Bryant Ranch, 42.67 103 ⇓P **P 03 20 41.3 +1.0**
baz=42
427A Hayter Ranch, 42.68 106 ⇑P **P 03 20 41.5 +1.0**
baz=42,SNR=5.3
HABR Khabarovsk 42.76 291 *i* P **P 03 20 39.3 -1.5**
HABR *e**PP **pP 03 20 48.9 +2.5**
HABR *e* 03 22 18.6
HABR *e* 03 22 30.5
HABR *e*PPP PPP 03 22 50.3
HABR *e*S **S 03 27 00.9 -2.5**
HABR *e*SS **SS 03 30 13.0 -0.9**
HABR *e* 03 30 37.5
HABR *e*SSS SSS 03 30 48.0
HABR pmax pmax
comp=E,119nm,2.3s
HABR pmax pmax
comp=Z,129nm,1.1s
HABR pmax pmax
comp=N,14nm,0.8s
HABR MLR MLR
comp=Z,2μm,17.0s
X34A Smith Ranch, M 42.85 97 ⇓P **P 03 20 43.0 +1.3**
baz=43
Y33A Hilltop Ranch, 42.85 98 ⇓P **P 03 20 43.0 +1.2**
baz=43,SNR=7.8
131A Roby 42.90 101 ⇑P **P 03 20 42.7 +0.5**
baz=43,SNR=7.6
Z32A Haskell 42.91 100 ⇑P **P 03 20 42.0 -0.3**
baz=43,SNR=14
526A Mary Lane Ranc 42.94 107 ⇓P **P 03 20 42.9 +0.3**
baz=43,SNR=9.4
329A Wagon Wheel Ra 42.95 104 ⇓P **P 03 20 43.0 +0.3**
baz=43,SNR=13
TUL1 Tulsa 43.01 94 *e*P **P 03 20 43.1 +0.1**
TUL1 Tulsa 43.01 94 ⇓P **P 03 20 43.4 +0.4**
baz=43,SNR=5.1
230A Sterling City 43.11 103 ⇓P **P 03 20 44.3 +0.4**
baz=43,SNR=11
527A Woodward Ranch 43.12 107 ⇓P **P 03 20 45.0 +0.8**
baz=43,SNR=8.9
428A Kincaid Ranch, 43.16 105 ⇑P **P 03 20 45.6 +1.2**
baz=43,SNR=20
626A Big Bend Ranch 43.32 108 ⇑P **P 03 20 46.5 +0.9**
baz=43,SNR=12
Z33A Whitaker Ranch 43.32 99 ⇑P **P 03 20 45.6 0.0**
baz=43,SNR=7.7
ABTX Abilene, Hawle 43.34 100 *e*P **P 03 20 46.0 +0.3**
ABTX Abilene, Hawle 43.34 100 ⇑P **P 03 20 46.3 +0.6**
baz=43,SNR=9.0
Y34A Reagan Ranch, 43.37 97 ⇓P **P 03 20 46.9 +1.0**
baz=43,SNR=10
330A Mertzon 43.45 103 ⇓P **P 03 20 47.0 +0.3**
baz=43,SNR=13
231A Bronte 43.50 102 ⇑P **P 03 20 47.1 0.0**
baz=43,SNR=8.7
SUMG Summit 43.52 23 *e*P **P 03 20 47.3 +0.2**
SUMG pmax pmax
comp=Z,57nm,0.9s
SUMG Summit 43.52 23 *e*P **P 03 20 47.3 +0.2**
comp=Z,57nm,0.9s
528A Cox Ranch, San 43.55 106 ⇓P **P 03 20 48.7 +1.1**
baz=43,SNR=13
429A Davenport Ranc 43.67 104 ⇓P **P 03 20 49.0 +0.6**
baz=43,SNR=14
Z34A Collier Ranch, 43.72 98 ⇓P **P 03 20 49.1 +0.3**
baz=44,SNR=7.3
TXAR Lajitas Array 43.74 107 P **P 03 20 49.9 +0.8**
TXAR PcP **PcP 03 22 35.4 -0.3**
TXAR ScP **ScP 03 26 24.8 -1.3**
TXAR Lajitas Array 43.74 107 P **P 03 20 49.9 +0.8**
comp=Z,5.5nm,0.8s,baz=319,slow=6.0,SNR=30
TXAR PcP **PcP 03 22 35.4 -0.3**
comp=Z,2.5nm,0.9s,baz=195,slow=0.9,SNR=3.8
TXAR ScP **ScP 03 26 24.8 -1.3**
comp=Z,1.6nm,1.1s,baz=112,slow=3.4,SNR=4.1
TXAR LR LR 03 38 00.2
comp=Z,1μm,18.4s,baz=355,slow=35
133A Hamilton Ranch 43.75 100 ⇓P **P 03 20 49.4 +0.4**
baz=44,SNR=11
627A Terlingua Ranc 43.79 107 ⇓P **P 03 20 50.0 +0.5**
baz=44,SNR=16
529A Stev Forest Ra 43.88 105 ⇑P **P 03 20 50.6 +0.5**
baz=44,SNR=23
430A Baggett Ranch, 43.89 104 ⇓P **P 03 20 50.8 +0.6**
baz=44,SNR=13
232A Coleman 43.90 101 ⇑P **P 03 20 50.6 +0.3**
baz=44,SNR=8.6
331A San Angelo 43.93 102 ⇑P **P 03 20 50.3 -0.2**
baz=44
SFJD Kangerlussuaq 43.97 34 *e*P **P 03 20 50.9 +0.5**
comp=Z,63nm,0.8s
SFJD Kangerlussuaq 43.97 34 P **P 03 20 51.1 +0.8**
comp=Z,41nm,0.9s,baz=321,slow=9.3,SNR=16
SFJD LR LR 03 41 26.7
comp=Z,1μm,18.2s,baz=312,slow=39
KLR Kul'dur 43.97 294⇓ *i*P P 03 20 46.3 -4.3
KLR *e*S **S 03 27 20.5 -0.7**
KLR *e*SS **ScS 03 30 49.0 +1.0**
KLR pmax pmax
comp=N,48nm,1.4s
KLR pmax pmax
comp=E,80nm,1.4s
KLR pmax pmax
comp=Z,240nm,1.4s
KLR MLR MLR
comp=N,2μm,12.0s
KLR MLR MLR
comp=E,1μm,12.0s
KLR MLR MLR
comp=Z,4μm,12.0s
628A Black Gap, Mar 44.03 106 ⇓P **P 03 20 51.7 +0.4**
baz=44,SNR=17
Z35A Perchaven, San 44.12 98 ⇑P **P 03 20 52.6 +0.7**
baz=44
233A Rising Star 44.21 100 ⇑P **P 03 20 53.7 +1.0**
baz=44
134A White-Moore Ra 44.24 99 ⇓P **P 03 20 53.6 +0.7**
baz=44,SNR=6.4
332A Millersview 44.24 102 ⇑P **P 03 20 53.0 0.0**
baz=44
431A Sonora 44.31 103 ⇓P **P 03 20 54.0 +0.3**
baz=44,SNR=8.8
530A J-C Ranch, Com 44.34 104 ⇑P **P 03 20 53.9 +0.2**
baz=44,SNR=11
KBS Kingsbay 44.48 4 PFAKE 03 21 10.0 +16
KBS LR LR
comp=Z,1μm,19.0s
432A Menard 44.60 102 ⇑P **P 03 20 56.2 +0.2**
baz=44
135A Vickery Place, 44.61 98 ⇑P **P 03 20 56.3 +0.4**

baz=44
SFIN Scholer Farm 44.63 82 *e*P P **03 20 56.2 +0.2**
SFIN Scholer Farm 44.63 82 ⇑P P **03 20 56.0 +0.1**
baz=44
234A Clairette 44.64 100 ⇑P P **03 20 56.5 +0.4**
baz=44
333A Richland Sprin 44.70 101 ⇑P P **03 20 56.9 +0.3**
baz=44,SNR=10
531A Rocksprings 44.75 104 ⇑P P **03 20 57.6 +0.5**
baz=44,SNR=12
JCT Junction City 44.91 103 *e*P P **03 20 58.4 +0.1**
JCT pmax pmax
comp=Z,45nm,1.1s
JCT MLR MLR
comp=Z,1μm,19.0s
JCT Junction City 44.91 103 *e*P P **03 20 58.4 +0.1**
comp=Z,45nm,1.1s
JCT LR LR
comp=Z,1μm,19.0s
JCT Junction City 44.91 103 ⇓P P **03 20 59.0 +0.7**
baz=45
WHTX Lake Whitney 45.02 99 *e*P P **03 20 59.7 +0.6**
WHTX Lake Whitney 45.02 99 ⇑P P **03 20 59.9 +0.8**
baz=45
433A Art 45.08 102 ⇑P P **03 20 59.8 +0.2**
baz=45,SNR=12
334A Lometa 45.10 100 ⇓P P **03 21 00.1 +0.3**
baz=45,SNR=11
532A Rocksprings 45.12 103 ⇓P P **03 21 00.4 +0.4**
baz=45
AAM Ann Arbor 45.19 78 PFAKE 03 21 10.0 +10
AAM LR LR
comp=Z,3μm,19.0s
MIAR Mount Ida 45.24 93 *e*P P **03 21 01.0 +0.1**
MIAR pmax pmax
comp=Z,49nm,1.3s
MIAR MLR MLR
comp=Z,2μm,19.0s
MIAR Mount Ida 45.24 93 *e*P P **03 21 01.0 +0.1**
comp=Z,49nm,1.3s
MIAR LR LR
comp=Z,2μm,19.0s
631A Perdido Creek 45.32 104 ⇑P P **03 21 01.6 0.0**
baz=45,SNR=20
PBMO Poplar Bluff 45.35 88 *e*P P **03 21 01.1 -0.5**
comp=Z,18nm,1.0s
SPA0 Spitsbergen Ar 45.38 3 *e*P P **03 21 00.6 -0.9**
SPA0 *e*S S **03 27 45.2 +4.2**
SPITS Spitsbergen Ar 45.38 3 P P **03 21 01.9 +0.4**
SPITS Spitsbergen Ar 45.38 3 P P **03 21 01.9 +0.4**
comp=Z,26nm,0.8s,baz=2.3,slow=7.2,SNR=27
SCHQ Schefferville 45.43 54 *e*P P **03 21 01.6 -0.5**
comp=Z,11nm,0.6s
SCHQ Schefferville 45.43 54 P P **03 21 02.2 +0.1**
comp=Z,13nm,0.6s,baz=307,slow=8.7,SNR=42
SCHQ LR LR 03 42 44.0
comp=Z,3μm,18.3s,baz=316,slow=40
434A Burnet 45.48 101 ⇑P P **03 21 03.3 +0.5**
baz=45,SNR=22
335A Moody 45.58 100 ⇑P P **03 21 04.7 +1.1**
baz=45
533A Kerrville 45.64 102 ⇑P P **03 21 04.6 +0.5**
baz=45
632A Uvalde 45.67 103 ⇑P P **03 21 04.4 0.0**
baz=46,SNR=8.4
534A Blanco 45.98 102 ⇓P P **03 21 07.2 +0.4**
baz=46,SNR=9.9
USIN University of 46.02 85 *e*P P **03 21 07.5 +0.5**
comp=Z,30nm,0.8s
732A Laxson Ranch, 46.19 104 ⇓P P **03 21 09.5 +1.1**
baz=46
535A Dale 46.47 101 ⇓P P **03 21 11.8 +1.2**
baz=46
832A Faith Ranch, C 46.53 105 ⇓P P **03 21 11.4 +0.2**
baz=46
733A Divot King Ran 46.56 104 ⇓P P **03 21 11.9 +0.6**
baz=46
WCI Wyandotte Cave 46.59 84 *e*P P **03 21 11.1 -0.4**
WCI Wyandotte Cave 46.59 84 *e*P P **03 21 11.1 -0.4**
NATX Nacogdoches 46.73 97 PFAKE 03 21 20.0 +7.4
NATX LR LR
comp=Z,2μm,22.0s
833A Chaparral WMA, 46.82 104 ⇓P P **03 21 14.7 +1.3**
baz=47
734A JLa Parita Cre 46.85 103 ⇑P P **03 21 15.1 +1.5**
baz=47
635A Leesville 46.86 102 ⇓P P **03 21 15.3 +1.7**
baz=47
ACSO Alum Creek Sta 46.99 79 *e*P P **03 21 15.3 +0.7**
ACSO LR LR
comp=Z,2μm,19.0s
USRK Ussuriysk Arra 47.17 288 P P **03 21 14.8 -1.1**
comp=Z,13nm,0.9s,baz=67,slow=7.2,SNR=18
USRK PP PP 03 23 16.2 +10
comp=Z,2.0nm,0.8s,baz=64,slow=6.6,SNR=5.2
USRK LR LR 03 43 20.2
comp=Z,2μm,19.3s,baz=49,slow=39
HOPEN Hopen 47.21 1 *e*P P **03 21 17.1 +1.3**
HOPEN *e*PP PP **03 23 03.9 -2.5**
HOPEN *e*S S **03 28 04.9 -2.4**
HOPEN AMS AMS 03 46 27.4
comp=Z,1μm,15.8s
735A Kenedy 47.25 102 ⇓P P **03 21 18.1 +1.4**
baz=47
WVT Waverly 47.26 87 *e*P P **03 21 16.8 +0.1**
WVT Waverly 47.26 87 *e*P P **03 21 16.8 +0.1**
H11N2 WAKE ISLAND Hy 47.38 236 T T 04 12 13.4
baz=13,slow=75,SNR=13
H11N1 WAKE ISLAND Hy 47.39 236 T T 04 12 06.3
baz=27,slow=75,SNR=25
834A Tilden 47.43 103 ⇑P P **03 21 19.6 +1.5**
baz=47
HKT Hockley 47.48 99 *e*P P **03 21 19.5 +1.1**
HKT pmax pmax
comp=Z,41nm,1.4s
HKT Hockley 47.48 99 *e*P P **03 21 19.5 +1.1**
comp=Z,41nm,1.4s
ALLY Alegheny Colle 47.53 76 *e*P P **03 21 19.2 +0.4**
comp=Z,45nm,0.9s
835A Beeville 47.69 103 ⇓P P **03 21 21.2 +1.1**
baz=48
WAKE Wake Island 47.88 236 PFAKE 03 21 30.0 +8.4
WAKE LR LR
comp=Z,2μm,21.0s
MMNY Mt. Morris Dam 47.97 73 *e*P P **03 21 22.5 +0.3**
MDJ Mudanjiang 48.13 290 P P **03 21 22.5 -1.0**
MDJ pP **pP 03 21 25.5 -3.6**
MDJ sP **sP 03 21 26.8 -4.5**
MDJ ScP **ScP 03 26 44.3 +0.3**
MDJ PcS **PcS 03 26 45.8 -0.5**
MDJ S **S 03 28 21.3 +0.2**
MDJ sS **sS 03 28 26.8 -3.7**
MDJ ScS **ScS 03 31 15.8 +0.6**
MDJ pmax pmax
comp=Z,32nm,1.1s
MDJ pmax pmax
comp=Z,250nm,6.1s
MDJ LR LR
comp=Z,1μm,15.7s
MDJ LR LR
comp=Z,1μm,19.3s
MDJ LR LR
comp=Z,2μm,16.8s
MDJ Mudanjiang 48.13 290 *e*P P **03 21 22.4 -1.0**
comp=Z,33nm,1.0s
MDJ LR LR
comp=Z,2μm,20.0s
LONY Lake Ozonia 48.41 69 PFAKE 03 21 40.0 +14
LONY LR LR
comp=Z,2μm,19.0s
SCO Scoresbysund 48.52 20 *e*P P **03 21 28.0 +2.0**
SCO Scoresbysund 48.52 20 *i* P P **03 21 28.0 +2.0**
comp=Z,16nm,1.0s
H11S1 WAKE ISLAND Hy 48.53 235 T T 04 13 38.0
baz=29,slow=77,SNR=48
H11S2 WAKE ISLAND Hy 48.54 235 T T 04 13 42.3
baz=29,slow=77,SNR=39
H11S3 WAKE ISLAND Hy 48.55 235 T T 04 13 45.9
baz=29,slow=77,SNR=26
VBMS Vicksburg 48.67 93 *e*P P **03 21 29.2 +1.6**
FRNY Flat Rock 48.77 68 *e*P P **03 21 27.1 -1.2**
comp=Z,11nm,0.7s
H06E1 SOCORRO T-PHAS 48.89 123 T T 04 14 02.8
SNR=26
SWET Sewanee 48.98 86 *e*P P **03 21 29.9 -0.1**
comp=Z,18nm,0.7s
NCB Newcomb 49.05 70 PFAKE 03 21 40.0 +10
NCB LR LR
comp=Z,2μm,20.0s
MAJO Matsushiro 49.22 277 *d* iP P **03 21 32.0 +0.1**
MAJO pmax pmax
comp=Z,299nm,1.0s
MAJO Matsushiro 49.22 277 *e*P P **03 21 31.5 -0.4**
comp=Z,55nm,1.0s
MAJO LR LR
comp=Z,1μm,20.0s
MAT Matsushiro 49.22 277 P P **03 21 31.5 -0.4**
MAT S S 03 28 43.6 +7.0
MJAR Matsushiro Arr 49.22 277 P P **03 21 31.6 -0.3**
MJAR Matsushiro Arr 49.22 277 P P **03 21 31.6 -0.3**
comp=Z,11nm,0.9s,baz=31,slow=5.6,SNR=25
BINY Binghamton 49.36 72 *e*P P **03 21 34.8 +1.9**
comp=Z,50nm,1.1s
BINY LR LR
comp=Z,2μm,20.0s
CPCT Cooper Cave 49.58 85 *e*P P **03 21 36.6 +2.0**
HIA Hailar 49.84 301 *e*P P **03 21 35.2 -1.2**
comp=Z,49nm,0.9s
HIA LR LR
comp=Z,742nm,20.0s
LRAL Lakeview Retre 50.01 89 *e*P P **03 21 37.8 -0.1**
LBNH Lisbon 50.04 68 PFAKE 03 21 50.0 +12
LBNH LR LR
comp=Z,3μm,19.0s
JMIC Jan Mayen 50.27 14 LR LR 03 41 17.0
comp=Z,226nm,21.4s,baz=280,slow=34
BLA Blacksburg 50.55 80 *e*P P **03 21 42.2 +0.2**
BLA pmax pmax
comp=Z,16nm,0.8s
BLA MLR MLR
comp=Z,2μm,20.0s
BLA Blacksburg 50.55 80 *e*P P **03 21 42.2 +0.2**
comp=Z,16nm,0.8s
BLA LR LR
comp=Z,2μm,20.0s
PKME Peaks-Kenny Pk 50.66 65 PFAKE 03 21 50.0 +7.3
PKME LR LR
comp=Z,3μm,19.0s
CIT Chita 50.76 307 *e*P P **03 21 44.1 +0.7**
CIT pmax pmax
comp=Z,284nm,1.2s
CN2 Changchun 50.84 292 ⇑P P **03 21 43.5 -0.5**
CN2 *e*pP **pP 03 21 51.0 +1.2**
CN2 *e*S S 03 28 52.8 -6.2
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,900nm,19.0s
CN2 LR LR
comp=Z,500nm,17.0s
SDMD Soldier's Deli 50.89 76 *e*P P **03 21 44.5 0.0**
comp=Z,19nm,0.9s
CBN Corbin 51.48 77 PFAKE 03 22 00.0 +11
CBN LR LR
comp=Z,2μm,19.0s
BRAL Brewton 51.50 91 PFAKE 03 22 00.0 +11
BRAL LR LR
comp=Z,1μm,20.0s
KMSC Kings Mountain 51.56 83 *e*P P **03 21 50.0 +0.4**
KMSC Kings Mountain 51.56 83 ⇓P P **03 21 50.3 +0.7**
baz=51
GOGA Godfrey 51.68 86 PFAKE 03 22 00.0 +10
GOGA LR LR
comp=Z,3μm,20.0s
BORG Borgarnes 53.51 24 *e*P P **03 22 02.4 -1.1**
comp=Z,78nm,1.1s
NHSC New Hope 53.72 83 PFAKE 03 22 20.0 +14
NHSC LR LR
comp=Z,4μm,19.0s
TRO Tromso 53.99 4 *e*P P **03 22 08.3 +1.2**
TRO *e*S S **03 29 39.0 -2.4**
TRO AMS AMS 03 45 19.7
comp=Z,816nm,19.8s
KEV Kevo 54.01 0 PFAKE 03 22 20.0 +13
KEV LR LR
comp=Z,882nm,19.0s
KSRS Korea Array 54.13 285 P P **03 22 08.9 +0.4**
comp=Z,18nm,0.9s,baz=43,slow=6.7,SNR=38
KSRS LR LR 03 43 22.3
comp=Z,413nm,21.0s,baz=45,slow=34
CBIJ Chichi jima 54.16 266 *e*P P **03 22 09.0 +0.2**
comp=Z,51nm,0.9s
JCJ Chichijima 54.16 266 P P **03 22 09.1 +0.2**
comp=Z,152nm,0.8s,baz=312,slow=21,SNR=5.5
KSAR Wonju Array Be 54.16 285 P P **03 22 08.9 +0.2**
ARCES ARCESS Array B 54.23 1 P P **03 22 08.6 -0.2**
ARCES ARCESS Array B 54.23 1 P P **03 22 08.6 -0.2**
comp=Z,20nm,0.9s,baz=358,slow=8.3,SNR=56
ARE0 ARCESS Array S 54.23 1 *e*P P 03 22 05.5 -3.3
ARE0 *e*S S **03 29 42.2 -2.5**
ARE0 ARCESS Array S 54.23 1 *e*P P **03 22 08.4 -0.4**
INCN Inchon 54.80 286 PFAKE 03 22 30.0 +17
INCN LR LR
comp=Z,559nm,19.0s
TLY Talaya 55.22 313 P P **03 22 17.0 +0.7**
comp=Z,270nm,1.2s,SNR=5.4
TLY Talaya 55.22 313 *c* iP P **03 22 16.6 +0.3**
TLY *e* 03 24 20.1
TLY *e*S S **03 30 01.5 +3.0**
TLY *e*PS PnS 03 30 19.1 +10
TLY pmax pmax
comp=Z,81nm,1.4s
TLY MLR MLR
comp=Z,2μm,16.0s
TLY Talaya 55.22 313 *e*P P **03 22 16.9 +0.6**
comp=Z,357nm,2.1s
TJN Taejon 55.23 285 *i* P P **03 22 17.0 +0.5**
HEF Hetta 55.34 2 *e* P **03 22 16.6 -0.2**
LVZ Lovozero 55.76 357 P P **03 22 20.8 +0.9**
comp=Z,580nm,0.9s,SNR=10
LVZ Lovozero 55.76 357 *c* iP P **03 22 20.1 +0.2**
LVZ pmax pmax
comp=Z,89nm,0.8s
LVZ Lovozero 55.76 357 *e*P P **03 22 19.9 0.0**
comp=Z,797nm,0.9s
LVZ LR LR
comp=Z,614nm,20.0s
JNU Nakatsue 55.78 280 *e*P P **03 22 20.4 -0.1**
comp=Z,25nm,1.4s
JNU ScS ScS 03 32 11.1 +2.4
JNU Nakatsue 55.78 280 P P **03 22 20.4 -0.1**
comp=Z,21nm,0.9s,baz=72,slow=3.5,SNR=7.2
JNU ScS ScS 03 32 11.1 +2.4
comp=Z,3.7nm,0.7s,baz=90,slow=7.6,SNR=4.3
MOY Mondy 56.30 314 *e*P P **03 22 24.4 +0.3**
MOY pmax pmax
comp=Z,96nm,2.8s
ZAK Zakamensk 56.36 312 ⇓ *i*P P **03 22 23.9 -0.7**
ZAK pmax pmax
comp=Z,17nm,1.1s
DL2 Dalian 56.37 291 P P **03 22 24.5 -0.1**
DL2 S S **03 30 15.8 +1.8**
DL2 pmax pmax
comp=Z,95nm,1.1s
DL2 pmax pmax
comp=Z,210nm,3.2s
DL2 LR LR
comp=Z,860nm,16.1s
DL2 LR LR
comp=Z,710nm,13.3s
DL2 LR LR
comp=Z,950nm,17.0s
ULN Ulaanbaatar 56.66 308 *e*P P **03 22 26.5 -0.3**
comp=Z,40nm,0.8s
ULN LR LR
comp=Z,2μm,19.0s
SONM Songino Array 56.98 308 P P **03 22 29.5 +0.5**
SONM Songino Array 56.98 308 P P **03 22 29.5 +0.5**
comp=Z,92nm,0.8s,baz=45,slow=6.8,SNR=546
SONM LR LR 03 49 21.6
comp=Z,3μm,18.2s,baz=39,slow=39
MOR8 Moi Rana 57.23 6 *e*P P **03 22 29.7 -0.7**
BJI Beijing 58.29 296 P P **03 22 38.5 +0.3**
BJI PcP **PcP 03 23 27.8 -1.3**
BJI S **S 03 30 41.0 +1.7**
BJI SS **SS 03 34 33.3 +2.7**
BJI pmax pmax
comp=Z,41nm,0.9s
BJI pmax pmax
comp=Z,280nm,6.6s
BJI LR LR
comp=Z,2μm,21.0s
BJI LR LR
comp=Z,1μm,19.7s
BJI LR LR
comp=Z,740nm,22.4s
BJT Baijiatuau 58.31 296 *e*P P **03 22 38.4 +0.1**
comp=Z,29nm,0.7s
BJT LR LR
comp=Z,1μm,20.0s
TEIG Tepich 59.32 100 *e*P P **03 22 45.2 -0.4**
comp=Z,36nm,1.2s
TEIG LR LR
comp=Z,1μm,19.0s
TMCR Tamitsa 59.34 355 *e*P P **03 22 45.3 +0.2**
TMCR *e* 03 24 56.8
TMCR *e*S S **03 30 55.1 +2.9**
TMCR pmax pmax
comp=Z,101nm,1.2s
HHC Hu-ho-hao-te 59.94 299 *e*P P **03 22 50.3 +0.5**
HHC pP **pP 03 22 54.8 -0.8**
HHC sP **sP 03 22 57.0 -0.8**
HHC PP **PP 03 25 04.8 +3.2**
HHC S S **03 31 04.5 +3.6**
HHC sS **sS 03 31 08.0 -2.5**
HHC pmax pmax
comp=Z,150nm,1.1s
HHC pmax pmax
comp=Z,950nm,8.8s
HHC LR LR
comp=Z,3μm,17.1s
HHC LR LR
comp=Z,3μm,16.8s
HHC LR LR
comp=Z,3μm,17.6s
NVS Novosibirsk 60.01 326 ⇑ *i*P P **03 22 48.2 -1.6**
NVS *e*S S **03 30 56.7 -4.4**
NVS pmax pmax
comp=N,21nm,1.2s
NVS pmax pmax
comp=E,26nm,1.2s
NVS pmax pmax
comp=Z,61nm,1.2s
NVS smax smax
comp=N,34nm,2.1s
NVS smax smax
comp=E,45nm,2.1s
ZAA0 Zalesovo Array 60.27 325 *e*P P **03 22 51.6 0.0**
ZALV Zalesovo Beam 60.27 325 *i* P P **03 22 51.7 +0.1**
ZALV pmax pmax
comp=Z,55nm,0.9s
ZALV Zalesovo Beam 60.27 325 P P **03 22 51.8 +0.1**
ZALV Zalesovo Beam 60.27 325 P P **03 22 51.8 +0.1**
comp=Z,55nm,0.9s,baz=29,slow=6.8,SNR=192
ZALV LR LR 03 54 19.3
comp=Z,831nm,18.2s,baz=153,slow=41
JOF Joensuu 60.84 358 *e*P P **03 22 56.2 +0.8**
JOF pmax pmax
comp=Z,35nm,0.7s
JOF Joensuu 60.84 358 *e*p P **03 22 56.2 +0.8**
comp=Z,35nm,0.7s
PRGR Permogore 61.29 350 ⇑ *i*P P **03 22 58.9 +0.5**
PRGR *e* 03 23 39.9
PRGR pmax pmax
comp=Z,107nm,1.0s
TARA Tarawa 61.51 220 PFAKE 03 23 10.0 +9.5
TARA LR LR
comp=Z,3μm,22.0s
KAF Kangasniemi 61.69 0 *e*P P **03 23 01.3 +0.2**
KAF Kangasniemi 61.69 0 *e*p P **03 23 01.3 +0.2**
SOKR Solikamsk 61.86 343 *c* iP P **03 23 01.8 -0.5**
SOKR pmax pmax
comp=Z,120nm,1.1s
JOW Kunigami 62.06 277 *e*P P **03 23 03.9 -0.3**
comp=Z,16nm,0.9s
NB2 NORSAR Subarra 62.09 9 P P **03 23 04.2 +0.3**
comp=Z,49nm,0.8s,baz=349,slow=6.9
NB2 NORSAR Subarra 62.09 9 P P **03 23 04.2 +0.3**
baz=349,slow=6.9
NOA NORSAR Array B 62.09 9 P P **03 23 04.2 +0.3**
NOA NORSAR Array B 62.09 9 P P **03 23 04.2 +0.3**
comp=Z,39nm,0.9s,baz=350,slow=6.7,SNR=76
NAO01 NORSAR Array S 62.26 9 *e*P P **03 23 05.2 +0.2**
comp=Z,32nm,0.8s
FINES FINESS Array B 62.36 1 P P **03 23 05.8 +0.1**
FINES FINESS Array B 62.36 1 P P **03 23 05.8 +0.1**
comp=Z,51nm,0.9s,baz=5.6,slow=4.6,SNR=68
FINES LR LR 03 51 15.4
comp=Z,412nm,20.8s,baz=190,slow=37
NC602 NORSAR Array S 62.42 9 *e*P P **03 23 06.0 -0.1**
NJ2 Nanjing 63.07 288 *e*P P **03 23 10.8 0.0**
NJ2 pP **pP 03 23 14.0 -2.7**
NJ2 PP **PP 03 25 30.5 +1.3**
NJ2 S S **03 31 40.5 0.0**
NJ2 sS **sS 03 31 48.0 -2.1**
NJ2 pmax pmax
comp=Z,50nm,0.9s
NJ2 pmax pmax
comp=Z,120nm,11.0s
NJ2 LR LR
comp=Z,1μm,18.1s
NJ2 LR LR
comp=Z,840nm,15.0s
NJ2 LR LR
comp=Z,690nm,13.0s
KONO Kongsberg 63.32 10 *e* 03 31 50.2
KONO Kongsberg 63.32 10 *e*P P **03 23 12.5 +0.4**
KONO pmax pmax
comp=Z,46nm,0.9s
KONO MLR MLR
comp=Z,582nm,19.0s
KONO Kongsberg 63.32 10 *e*P P **03 23 12.5 +0.4**
comp=Z,46nm,0.9s
KONO LR LR
comp=Z,582nm,19.0s
GUMO Guam 63.63 254 PFAKE 03 23 30.0 +15
GUMO LR LR
comp=Z,909nm,19.0s
SVE Sverdlovsk 63.82 340 *e*P P **03 23 15.3 -0.2**
SVE *e*S S **03 31 50.7 +1.5**
SVE pmax pmax
comp=Z,85nm,1.0s
PUL Pulkovo 64.02 358 ⇓ *e*P P **03 23 17.1 +0.4**
PUL pmax pmax
comp=Z,88nm,0.7s
ARU Arti 64.58 341 P P **03 23 20.8 +0.4**
comp=Z,407nm,0.7s,SNR=24
ARU Arti 64.58 341 *c* iP P **03 23 19.8 -0.6**
ARU 03 23 53.0
ARU 03 25 41.5
ARU PPP PPP 03 27 12.3
ARU S S **03 31 58.0 -0.6**
ARU 03 33 10.3
ARU pmax pmax
comp=Z,74nm,1.0s
ARU MLR MLR
comp=Z,1μm,20.0s
ARU Arti 64.58 341 *e*P P **03 23 19.6 -0.8**
comp=Z,57nm,0.9s
ARU LR LR
comp=Z,1μm,20.0s
TGUH Tegucigalpa,Un 64.92 103 *e*P P **03 23 23.9 +0.8**
comp=Z,26nm,1.1s
TGUH LR LR
comp=Z,782nm,20.0s
KURK Kurchatov 64.99 327 *e*P P **03 23 22.6 -0.6**
KURK pmax pmax
comp=Z,27nm,1.0s
KURK MLR MLR
comp=Z,830nm,19.0s
KURK Kurchatov 64.99 327 *e*P P **03 23 22.6 -0.6**
comp=Z,27nm,1.0s
KURK LR LR
comp=Z,830nm,19.0s
BRVK Borovoye 65.20 333 P P **03 23 24.5 -0.1**
comp=Z,427nm,0.8s,SNR=22
BRVK Borovoye 65.20 333 P P **03 23 23.5 -1.1**
BRVK pmax pmax
comp=Z,109nm,1.0s
BRVK Borovoye 65.20 333 *e*P P **03 23 24.0 -0.6**
comp=Z,59nm,0.8s
BRVK LR LR
comp=Z,1μm,19.0s
BVA0 Borovoye Array 65.21 333 *i* P P **03 23 23.7 -0.9**
BVA0 pmax pmax
comp=Z,69nm,0.8s
BVAR Borovoye Array 65.21 333 P P **03 23 24.3 -0.3**

BVAR **Borovoye Array** 65.21 333 P **P** 03 23 24.3 -0.3
BVAR **Borovoye Array** 65.21 333 P **P** 03 23 24.3 -0.3
comp=Z,63nm,0.8s,baz=43,slow=6.7,SNR=268
VSU **Vasula** 65.35 0 *d* iP **P** 03 23 26.0 +0.6
VSU pmax pmax
comp=Z,297nm,1.0s
EKA **Eskdalemuir Ar** 65.78 18 P **P** 03 23 28.6 +0.3
EKA **Eskdalemuir Ar** 65.78 18 P **P** 03 23 28.6 +0.3
comp=Z,9.4nm,0.5s,baz=328,slow=5.8,SNR=104
ESK **Eskdalemuir** 65.79 19 *i* P **P** 03 23 29.6 +1.3
ESK **Eskdalemuir** 65.79 19 *e*P **P** 03 23 28.4 +0.1
comp=Z,50nm,1.1s
ESK LR LR
comp=Z,834nm,21.0s
TAOE **Nuku Hiva Isla** 65.98 166 *e*T T 04 35 07.4
comp=Z,206nm,0.2s
MUD **Monsted U'grnd** 66.42 11 *i* P **P** 03 23 33.9 +1.6
MUD **Monsted U'grnd** 66.42 11 *i* P **P** 03 23 33.9 +1.6
comp=Z,33nm,0.9s
GTA **Gaotai** 66.55 306 ⇑P **P** 03 23 33.3 -0.3
GTA pP **pP** 03 23 38.0 -1.5
GTA sP **sP** 03 23 40.3 -1.4
GTA S **S** 03 32 25.0 +1.5
GTA sS **sS** 03 32 33.3 +0.1
GTA pmax pmax
comp=Z,42nm,1.1s
GTA pmax pmax
comp=Z,260nm,5.9s
GTA LR LR
comp=Z,1μm,18.0s
GTA LR LR
comp=Z,3μm,17.1s
GTA LR LR
comp=Z,3μm,16.9s
XAN **Xi'an** 66.59 296 P **P** 03 23 33.3 -0.5
XAN sP **sP** 03 23 41.0 -0.9
XAN PcP **PcP** 03 24 02.5 -0.6
XAN PP **PP** 03 26 01.5 +1.4
XAN S **S** 03 32 23.0 -0.9
XAN SS **SS** 03 36 43.5 +3.0
XAN pmax pmax
comp=Z,8.0nm,1.5s
XAN pmax pmax
comp=Z,63nm,11.0s
XAN LR LR
comp=Z,790nm,17.9s
XAN LR LR
comp=Z,430nm,19.0s
XAN LR LR
comp=Z,400nm,14.7s
GTBY **Guantanamo Bay** 66.83 89 PFAKE 03 23 50.0 +15
GTBY LR LR
comp=Z,2μm,20.0s
MTDJ **Mount Denham** 66.86 92 *e*P **P** 03 23 35.4 -0.4
comp=Z,30nm,1.1s
MTDJ LR LR
comp=Z,1μm,19.0s
MK31 **Makanchi Array** 67.24 322 *i* P **P** 03 23 37.2 -0.6
MK31 pmax pmax
comp=Z,63nm,1.1s
MK31 **Makanchi Array** 67.24 322 *e*P **P** 03 23 37.4 -0.3
MKAR **Makanchi Array** 67.24 322 P **P** 03 23 37.7 -0.1
MKAR **Makanchi Array** 67.24 322 P **P** 03 23 37.7 -0.1
MKAR ⇑*e* 03 52 04.5
MKAR **Makanchi Array** 67.24 322 P **P** 03 23 37.7 -0.1
comp=Z,31nm,0.9s,baz=45,slow=5.9,SNR=226
MKAR PKP2bc 03 52 04.5
comp=Z,0.5nm,1.0s,baz=250,slow=2.5,SNR=3.8
MKAR LR LR 03 59 14.9
comp=Z,740nm,18.6s,baz=33,slow=42
TATO **Taipei** 67.24 281 PFAKE 03 23 50.0 +12
TATO LR LR
comp=Z,573nm,19.0s
LZH **Lanzhou** 67.40 301 *e*P **P** 03 23 39.0 -0.1
LZH pP **pP** 03 23 42.5 -2.5
LZH sP **sP** 03 23 44.5 -2.7
LZH PP **PP** 03 26 05.0 -2.2
LZH *e*S **S** 03 32 35.0 +1.1
LZH sS sS 03 32 38.3 -5.3
LZH SS **SS** 03 36 54.3 +1.1
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,200nm,5.6s
LZH LR LR
comp=Z,830nm,12.1s
LZH LR LR
comp=Z,2μm,12.8s
LZH LR LR
comp=Z,2μm,13.4s
YHNB **Yeheng** 67.55 281 PFAKE 03 23 50.0 +10
YHNB LR LR
comp=Z,597nm,19.0s
GRTK **Grand Turk** 67.75 84 PFAKE 03 23 50.0 +8.7
GRTK LR LR
comp=Z,2μm,21.0s
MOS **Moscow** 67.77 354 *e*P **P** 03 23 40.1 -0.7
MOS *e* 03 23 48.0
MOS pmax pmax
comp=Z,54nm,0.9s
MOS MLR MLR
comp=Z,800nm,20.0s
WMQ **Urumqi** 67.87 317 P **P** 03 23 42.5 +0.7
WMQ pP **pP** 03 23 52.5 +4.8
WMQ PcP **PcP** 03 24 10.0 +1.7
WMQ PP **PP** 03 26 14.5 +3.5
WMQ ScP 03 28 09.0
WMQ S **S** 03 32 36.5 -2.7
WMQ ScS **SKiKP** 03 33 35.0 -1.9
WMQ SS **SS** 03 37 00.0 +0.1
WMQ pmax pmax
comp=Z,48nm,1.2s
WMQ pmax pmax
comp=Z,310nm,4.0s
WMQ LR LR
comp=Z,3μm,18.0s
WMQ LR LR
comp=Z,2μm,18.0s
WMQ LR LR
comp=Z,1μm,18.0s
OBN **Obninsk** 68.45 354 P **P** 03 23 45.5 +0.4
comp=Z,389nm,0.8s,SNR=7.1
OBN **Obninsk** 68.45 354 α *i*P **P** 03 23 44.4 -0.7
OBN *i* 03 23 51.9
OBN 03 26 18.0
OBN *e*S S 03 32 52.9 +7.4
OBN *e* 03 33 40.9
OBN *e*SS **SS** 03 37 05.8 -2.2
OBN pmax pmax
comp=Z,82nm,1.0s
OBN MLR MLR
comp=Z,500nm,15.0s
OBN **Obninsk** 68.45 354 *e*P **P** 03 23 44.5 -0.7
comp=Z,59nm,0.9s
OBN LR LR
comp=Z,677nm,19.0s
SSLB **Suanglung** 68.48 281 *e*P **P** 03 23 45.4 -0.5
comp=Z,22nm,0.9s
BSEG **Bad Segeberg** 69.02 11 *e*P **P** 03 23 49.9 +1.2
comp=Z,79nm,1.3s
JTS **JuntasAbangare** 69.29 103 PFAKE 03 24 00.0 +9.0
JTS LR LR
comp=Z,440nm,21.0s
MICGM **Minsk** 69.32 360 ‖ *e*P **P** 03 23 49.0 -1.6
MNK **Minsk** 69.32 360 ‖ *e*P **P** 03 23 49.0 -1.6
MNK pmax pmax
comp=Z,250nm,1.0s
ENH **Enshi** 69.33 294 *e*P **P** 03 23 50.9 -0.2
comp=Z,14nm,0.8s
ENH LR LR
comp=Z,40nm,19.0s
SDDR **Presa de Saban** 69.70 86 *e*P **P** 03 23 54.0 +0.5
comp=Z,21nm,0.9s
SDDR LR LR
comp=Z,955nm,19.0s
SUW **Suwalki** 69.76 3 *e*P **P** 03 23 53.1 -0.3
SUW pmax pmax
comp=Z,120nm,0.9s
SUW **Suwalki** 69.76 3 *e*P **P** 03 23 53.0 -0.3
SUW **Suwalki** 69.76 3 *e*P **P** 03 23 53.1 -0.3
comp=Z,120nm,0.9s
GKP **Gorka Klasztor** 70.25 6 *e*P **P** 03 23 57.1 +0.8
GKP **Gorka Klasztor** 70.25 6 *e*P **P** 03 23 57.1 +0.8
IBBN **Ibbenburen** 70.34 13 *e*P **P** 03 23 57.8 +0.9
comp=Z,83nm,1.3s

AKTO **Aktyubinsk** 70.39 340 P **P** 03 23 56.1 -1.2
AKTO pmax pmax
comp=Z,41nm,0.9s
AKTO **Aktyubinsk** 70.39 340 P **P** 03 23 56.9 -0.4
AKTO **Aktyubinsk** 70.39 340 P **P** 03 23 56.9 -0.4
comp=Z,34nm,0.8s,baz=22,slow=6.3,SNR=102
NRDL **Niedersach Rie** 70.42 11 *e*P **P** 03 23 58.1 +0.8
comp=Z,70nm,1.2s
RUE **Ruedersdorf** 70.79 9 *e*P **P** 03 24 00.6 +1.0
comp=Z,95nm,1.0s
RUE **Ruedersdorf** 70.79 9 *e*P **P** 03 24 00.9 +1.3
comp=Z,111nm,1.1s
CLZ **Clausthal** 70.79 11 *e*P **P** 03 24 02.6 +1.0
comp=Z,78nm,1.3s
AB31 **Akbulak array** 71.13 338 *i* P **P** 03 24 01.6 -0.1
AB31 pmax pmax
comp=Z,76nm,1.2s
ABKAR **Akbulak array** 71.13 338 *e*P **P** 03 24 01.1 -0.7
comp=Z,33nm,0.8s
BUG **Bochum–Univer** 71.13 13 *e*P **P** 03 24 02.3 +0.6
comp=Z,68nm,1.0s
MENF **Mencas** 71.27 17 *e*P **P** 03 24 03.3 +0.7
PMOR **Pomariorio Ree** 71.38 175 *e*T T 04 41 50.7
comp=Z,734nm,0.3s
BEBN **Eben Emael** 71.56 14 P **P** 03 24 04.2 -0.1
HGN **Heimansgroeve** 71.62 14 *e*P **P** 03 24 04.2 -0.5
comp=Z,114nm,1.4s
VAH **Vaihoa** 71.63 175 *e*T T 04 42 09.1
comp=Z,82nm,0.4s
SNF **Seneffe** 71.64 15 P **P** 03 24 05.3 +0.5
CD2 **Chengdu** 71.67 298 ⇑*i*P **P** 03 24 05.0 -0.4
CD2 pP **pP** 03 24 16.0 +4.7
CD2 PcP **PcP** 03 24 25.0 +0.5
CD2 PP **PP** 03 26 45.5 +1.5
CD2 S **S** 03 33 19.5 -4.5
CD2 sS **sS** 03 33 37.5 +3.7
CD2 ScS **SKSac** 03 34 03.5 -4.5
CD2 SS **SS** 03 37 56.5 -2.3
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,270nm,4.8s
CD2 LR LR
comp=Z,1μm,16.6s
CD2 LR LR
comp=Z,1μm,13.1s
CD2 LR LR
comp=Z,2μm,16.6s
MEM **Membach** 71.78 14 P **P** 03 24 06.1 +0.4
comp=Z,26nm,1.3s
BEL **Belsk** 71.86 4 *e*P **P** 03 24 06.5 +0.4
BEL **Belsk** 71.86 4 *e*P **P** 03 24 06.5 +0.4
NEUB **Neuenburg** 71.86 10 *e*P **P** 03 24 06.8 +0.7
comp=Z,69nm,1.2s
NEUB *e*pP **pP** 03 24 14.2 +2.1
BCLA **Clavier** 71.87 15 P **P** 03 24 06.8 +0.6
comp=Z,19nm,1.4s
CLL **Collm** 71.88 9 *e*P **P** 03 24 06.0 -0.2
CLL *i* 03 24 13.8
CLL *i* 03 24 22.8
CLL *e*S **S** 03 33 26.0 +0.2
CLL pmax pmax
comp=Z,49nm,1.3s
CLL MLR MLR
comp=Z,600nm,19.5s
CLL **Collm** 71.88 9 *e*P **P** 03 24 06.7 +0.5
comp=Z,48nm,1.3s
CLL *e*pP **pP** 03 24 14.0 +1.8
CLL **Collm** 71.88 9 *e*P **P** 03 24 06.0 -0.2
comp=Z,49nm,1.3s
CLL *i* 03 24 13.8
CLL *i* (PcP) **PcP** 03 24 22.8 -2.2
CLL *e*PP PP 03 26 51.0 +5.9
CLL *e*S **S** 03 33 26.0 +0.2
CLL *e*SS SS 03 38 12.0 +11
CLL *e* 03 40 00.0
CLL *e*(SSS) 03 41 00.0
CLL LmH 03 59 00.0
comp=N,500nm,21.7s
CLL LmH 03 59 00.0
comp=E,200nm,18.5s
CLL LmH 03 59 00.0
comp=Z,600nm,19.5s
UBBA **Unterbreizbach** 72.06 11 *e*P **P** 03 24 07.7 +0.5
comp=Z,80nm,2.0s
BAIF **Baives** 72.07 15 ⇑*i*P **P** 03 24 08.2 +0.8
comp=Z,98nm,1.1s
BAIF **Baives** 72.07 15 ⇑*i*P **P** 03 24 08.2 +0.8
BAIF pmax pmax
comp=Z,98nm,1.1s
BAIF **Baives** 72.07 15 ⇑*i*P **P** 03 24 08.2 +0.8
comp=Z,98nm,1.1s
VRHR **Novokhopersk** 72.08 351 *e*P **P** 03 24 04.9 -2.5
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,1.7s
DOU **Dourbes** 72.09 15 P **P** 03 24 08.2 +0.7
GIVF **Givet** 72.11 15 ⇑*i*P **P** 03 24 08.4 +0.7
comp=E,102nm,1.0s
GIVF **Givet** 72.11 15 ⇑*i*P **P** 03 24 08.4 +0.7
GIVF pmax pmax
comp=Z,102nm,1.0s
GIVF **Givet** 72.11 15 ⇑*i*P **P** 03 24 08.4 +0.7
comp=Z,102nm,1.0s
VSR **Storozhevoye** 72.16 352 *e*P **P** 03 24 06.5 -1.4
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,9.0nm,1.0s
FBE **Freiberg** 72.30 9 *e*P **P** 03 24 09.6 +0.9
comp=Z,62nm,1.3s
BRG **Berggiesshubel** 72.39 9 ⇑*i*P **P** 03 24 09.9 +0.6
comp=Z,48nm,1.3s
BRG *e* 03 24 17.7
comp=Z,21nm,1.1s
BRG *e* 03 24 26.7
comp=Z,30nm,1.2s
BRG S **S** 03 33 36.0 +4.3
BRG SS SS 03 38 23.0 +14
BRG
comp=Z,824nm,20.0s
BRG
comp=N,375nm,16.7s
BRG
comp=E,483nm,16.7s
BRG **Berggiesshubel** 72.39 9 ⇑*i*P **P** 03 24 09.9 +0.6
BRG *e* 03 24 17.7
BRG *e* 03 24 26.7
BRG S **S** 03 33 36.0 +4.3
BRG pmax pmax
comp=Z,48nm,1.3s
BRG MLR MLR
comp=Z,824nm,20.0s
BRG MLR MLR
comp=N,375nm,16.7s
BRG MLR MLR
comp=E,483nm,16.7s
BRG **Berggiesshubel** 72.39 9 *e*P **P** 03 24 09.7 +0.4
comp=Z,48nm,1.3s
VORD **Divnogorie** 72.40 352 *e*P **P** 03 24 08.1 -1.2
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
ROSF **Rostrenen** 72.45 21 ⇑*i*P **P** 03 24 10.4 +0.7
comp=E,122nm,1.2s
ROSF **Rostrenen** 72.45 21 ⇑*i*P **P** 03 24 10.4 +0.7
ROSF pmax pmax
comp=Z,122nm,1.2s
ROSF **Rostrenen** 72.45 21 ⇑*i*P **P** 03 24 10.4 +0.7
comp=Z,122nm,1.2s
TNS **Taunus Mts** 72.47 13 *e*P **P** 03 24 10.4 +0.5
comp=Z,47nm,1.2s
TNS *e*pP **pP** 03 24 17.9 +2.1
FLN **La Foliniere** 72.56 19 *e*P **P** 03 24 10.6 +0.2
comp=Z,125nm,1.2s
FLN *e*R
comp=Z,1μm,19.0s
FLN **La Foliniere** 72.56 19 *e*P **P** 03 24 10.6 +0.2

FLN pmax pmax
comp=Z,125nm,1.2s
FLN **La Foliniere** 72.56 19 *e*P **P** 03 24 10.6 +0.2
comp=Z,125nm,1.2s
KSP **Ksiaz** 72.61 7 ⇑*e*P **P** 03 24 11.0 +0.4
KSP *e**PP **pP** 03 24 18.2 +1.7
KSP *e*S **S** 03 33 34.0 -0.1
KSP **Ksiaz** 72.61 7 *e*P **P** 03 24 11.1 +0.4
PLN **Plauen** 72.62 10 *e*P **P** 03 24 11.2 +0.5
comp=Z,44nm,1.2s
PLN *e*pP **pP** 03 24 18.6 +2.0
SGMF **Saint Gilles** 72.67 20 ⇑*i*P **P** 03 24 11.7 +0.7
comp=Z,136nm,1.2s
SGMF **Saint Gilles** 72.67 20 ⇑*i*P **P** 03 24 11.7 +0.7
SGMF pmax pmax
comp=Z,136nm,1.2s
SGMF **Saint Gilles** 72.67 20 ⇑*i*P **P** 03 24 11.7 +0.7
comp=Z,136nm,1.2s
WERD **Werda** 72.67 10 *e*P **P** 03 24 11.5 +0.5
comp=Z,31nm,1.3s
TANN **Tannenbergstha** 72.72 10 *e*P **P** 03 24 12.0 +0.7
comp=Z,33nm,1.3s
TANN *e*pP **pP** 03 24 19.3 +2.0
WLF **Walferdange** 72.73 14 P **P** 03 24 12.7 +1.4
comp=Z,58nm,2.1s
WLF **Walferdange** 72.73 14 *e*P **P** 03 24 12.6 +1.3
WLF pmax pmax
comp=Z,23nm,1.0s
WLF MLR MLR
comp=Z,662nm,19.0s
WLF **Walferdange** 72.73 14 *e*P **P** 03 24 12.0 +0.7
comp=Z,95nm,1.5s
WLF **Walferdange** 72.73 14 *e*P **P** 03 24 12.6 +1.3
comp=Z,23nm,1.0s
WLF LR LR
comp=Z,662nm,19.0s
GUNZ **Gunzen** 72.75 10 *e*P **P** 03 24 12.1 +0.6
comp=Z,27nm,1.2s
LDF **La Druitiere** 72.79 19 *e*P **P** 03 24 11.9 +0.2
comp=Z,95nm,1.2s
LDF **La Druitiere** 72.79 19 *e*P **P** 03 24 11.9 +0.2
LDF pmax pmax
comp=Z,95nm,1.3s
LDF **La Druitiere** 72.79 19 *e*P **P** 03 24 11.9 +0.2
comp=Z,95nm,1.3s
PVCC **Panska Ves** 72.79 8 ⇑*i*P **P** 03 24 12.7 +1.0
PVCC *e**PP **pP** 03 24 19.5 +1.9
PVCC MLR MLR
comp=Z,600nm,18.8s
PVCC **Panska Ves** 72.79 8 ⇑*i*P **P** 03 24 12.7 +1.0
PVCC *ex* x 03 24 19.5
PVCC AMS AMS 04 05 10.0
comp=Z,600nm,18.8s
WERN **Wernitzgruen** 72.83 10 *e*P **P** 03 24 12.7 +0.7
comp=Z,38nm,1.2s
GRR **Gorron** 72.85 19 ⇑*i*P **P** 03 24 12.6 +0.5
comp=Z,115nm,1.2s
GRR **Gorron** 72.85 19 ⇑*i*P **P** 03 24 12.6 +0.5
GRR pmax pmax
comp=Z,115nm,1.2s
GRR **Gorron** 72.85 19 ⇑*i*P **P** 03 24 12.6 +0.5
comp=Z,115nm,1.2s
QUIF **Quistinic** 72.87 21 *e*P **P** 03 24 12.9 +0.7
QUIF **Quistinic** 72.87 21 *e*P **P** 03 24 12.9 +0.7
QUIF **Quistinic** 72.87 21 *e*P **P** 03 24 12.9 +0.7
TKM2 **Tokmak 2** 72.87 325 *i* P **P** 03 24 12.6 0.0
TKM2 pmax pmax
comp=Z,22nm,1.2s
TKM2 **Tokmak 2** 72.87 325 P **P** 03 24 13.1 +0.5
SNR=46
TKM2 **Tokmak 2** 72.87 325 *e*P **P** 03 24 12.8 +0.2
comp=Z,57nm,1.1s
TKM2 LR LR
comp=Z,1μm,19.0s
NKC **Novy Kostel** 72.89 10 ⇑*i*P **P** 03 24 13.2 +0.8
NKC *e**PP **pP** 03 24 20.4 +2.1
NKC **Novy Kostel** 72.89 10 ⇑*i*P **P** 03 24 13.2 +0.8
NKC *ex* x 03 24 20.4
USP **Ospenovka** 72.91 326 *i* P **P** 03 24 13.1 +0.5
USP **Ospenovka** 72.91 326 P **P** 03 24 13.2 +0.5
SNR=27
UPC **Upice** 72.92 7 ⇑*i*P **P** 03 24 13.3 +0.8
UPC *e**PP **pP** 03 24 20.4 +2.0
UPC **Upice** 72.92 7 ⇑*i*P **P** 03 24 13.3 +0.8
UPC *ex* x 03 24 20.4
BCIP **Isla Barro Col** 73.00 99 PFAKE 03 24 20.0 +6.6
BCIP LR LR
comp=Z,491nm,21.0s
CHMS **Chumysh** 73.07 326 *i* P **P** 03 24 13.9 +0.4
CHMS **Chumysh** 73.07 326 P **P** 03 24 14.0 +0.4
SNR=22
DPC **Dobruska-Polom** 73.10 7 ⇑*i*P **P** 03 24 14.3 +0.7
DPC *e**PP **pP** 03 24 21.9 +2.4
DPC *e*S **S** 03 33 41.0 +1.2
DPC **Dobruska-Polom** 73.10 7 ⇑*i*P **P** 03 24 14.3 +0.7
DPC *ex* x 03 24 21.9
DPC *e*S **S** 03 33 41.0 +1.2
DPC AMS AMS 04 05 20.0
MANZ **Manzenberg** 73.11 10 *e*P **P** 03 24 14.2 +0.6
comp=Z,33nm,1.2s
AKASG **Malin Array Be** 73.12 359 *i* P **P** 03 24 13.1 -0.5
AKASG pmax pmax
comp=Z,53nm,0.9s
AKASG **Malin Array Be** 73.12 359 P **P** 03 24 13.2 -0.4
AKASG **Malin Array Be** 73.12 359 P **P** 03 24 13.2 -0.4
comp=Z,53nm,0.9s,baz=3.1,slow=6.0,SNR=165
AKBB **Malin Array Si** 73.12 359 *e*P **P** 03 24 12.7 -0.9
AKBB **Malin Array Si** 73.12 359 *e*P **P** 03 24 12.7 -0.9
KIEV **Kiev** 73.12 359 *c* iP **P** 03 24 12.9 -0.8
KIEV **Kiev** 73.12 359 *e*P **P** 03 24 12.8 -0.9
comp=Z,57nm,0.9s
KIEV LR LR
comp=Z,544nm,19.0s
AK01 **Malin Array Si** 73.13 359 *e*P **P** 03 24 13.2 -0.5
AK02 **Malin Array Si** 73.16 359 *e*P **P** 03 24 12.8 -1.1
FRU **Bishkek** 73.26 326 ⇑*i*P **P** 03 24 13.8 -0.9
FRU pmax pmax
comp=Z,290nm,2.2s
ULHL **Ulahol** 73.27 324 *i* P **P** 03 24 16.2 +1.2
ULHL **Ulahol** 73.27 324 P **P** 03 24 16.2 +1.2
SNR=10
GRF **Grafenberg Arr** 73.31 11 *e*P **P** 03 24 15.5 +0.7
comp=Z,39nm,1.2s
GRF *e*L L 04 02 20.2
comp=Z,732nm,18.1s
KBK **Karagaybulak** 73.32 325 P **P** 03 24 15.8 +0.6
SNR=44
PRU **Pruhonice** 73.32 9 ⇑*i*P **P** 03 24 15.5 +0.6
PRU *e**PP **pP** 03 24 22.4 +1.6
PRU *e*S **SKiKP** 03 33 45.3 +0.7
PRU MLR MLR
comp=Z,700nm,15.6s
PRU **Pruhonice** 73.32 9 ⇑*i*P **P** 03 24 15.5 +0.6
PRU *ex* x 03 24 22.4
PRU *e*S **SKiKP** 03 33 45.3 +0.7
PRU AMS AMS 04 05 20.0
comp=Z,700nm,15.6s
ROTZ **Rotzenmuhle** 73.33 10 *e*P **P** 03 24 15.5 +0.6
comp=Z,32nm,1.1s
KRLC **Kraliky** 73.40 7 ⇑*i*P **P** 03 24 15.9 +0.5
KRLC *e**PP **pP** 03 24 23.3 +2.0
KRLC **Kraliky** 73.40 7 ⇑*i*P **P** 03 24 15.9 +0.5
KRLC *ex* x 03 24 23.3
OJC **Ojcow** 73.43 5 *e*P **P** 03 24 15.9 +0.4
OJC **Ojcow** 73.43 5 *e*P **P** 03 24 15.9 +0.4
AAK **Ala-Archa** 73.48 326 P **P** 03 24 16.3 +0.1
comp=Z,208nm,0.8s,SNR=22
AAK **Ala-Archa** 73.48 326 *c* iP **P** 03 24 16.3 +0.1
AAK pmax pmax
comp=Z,47nm,1.1s
AAK **Ala-Archa** 73.48 326 P **P** 03 24 16.7 +0.6
SNR=28
AAK **Ala-Archa** 73.48 326 *e*P **P** 03 24 16.0 -0.2
comp=Z,46nm,1.1s
AAK *e*PP **PP** 03 26 58.3 -1.0
AAK LR LR
comp=Z,1μm,20.0s
LANF **Langenberg** 73.62 13 *e*P **P** 03 24 17.0 +0.4
EKS2 **Erkin-Say** 73.68 326 *i* P **P** 03 24 17.9 +0.6
EKS2 **Erkin-Say** 73.68 326 P **P** 03 24 17.9 +0.6
SNR=30
EKS2 **Erkin-Say** 73.68 326 *e*P **P** 03 24 17.6 +0.3
comp=Z,61nm,1.1s
EKS2 LR LR
comp=Z,1μm,19.0s

MEZF Maizieres J'vi 73.71 15 *e*P **P 03 24 18.0 +0.8**
comp=Z,600nm,1.0s
MEZF Maizieres J'vi 73.71 15 *e*P **P 03 24 18.0 +0.8**
comp=Z,600nm,1.0s
OKC Ostrava-Krasne 73.73 6⇑*i*P **P 03 24 17.7 +0.5**
OKC *e**PP **pP 03 24 25.2 +2.0**
OKC *e*S **SKiKP 03 33 42.2 -3.1**
OKC MLR MLR
comp=Z,400nm,16.5s
OKC Ostrava-Krasne 73.73 6⇑*i*P **P 03 24 17.7 +0.5**
OKC *ex* x 03 24 25.2
OKC *ex* x 03 33 42.2
OKC AMS AMS 04 08 30.0
comp=Z,400nm,16.5s
KZA Kyzart 73.75 325 *i* P P 03 24 14.0 -4.0
KZA Kyzart 73.75 325 P P 03 24 14.0 -4.0
SNR=8.5
MORC Moravsky Berou 73.75 7 *e*P **P 03 24 17.5 +0.1**
MORC pmax pmax
comp=Z,25nm,1.3s
MORC Moravsky Berou 73.75 7⇑*i*P **P 03 24 18.1 +0.6**
MORC Moravsky Berou 73.75 7 *e*P **P 03 24 17.5 +0.1**
comp=Z,25nm,1.3s
PAGF Fort de Pagny 73.75 15⇑*i*P **P 03 24 18.5 +1.1**
comp=Z,8.9nm,0.8s
PAGF Fort de Pagny 73.75 15⇑*i*P **P 03 24 18.5 +1.1**
comp=Z,8.9nm,0.8s
UCH Uchtor 73.84 325 *i* P **P 03 24 19.9 +1.3**
UCH Uchtor 73.84 325 P **P 03 24 19.9 +1.3**
SNR=10
TIAR Tiarei 73.86 177 *e*T T 04 44 56.5
comp=Z,58nm,0.3s
PPT Papeete 73.86 177 LR LR 03 48 56.1
comp=Z,638nm,19.6s,baz=18,slow=29
GYA Guiyang 73.87 293⇑*i*P **P 03 24 18.0 -0.6**
GYA PP **PP 03 27 06.5 +3.5**
GYA S **S 03 33 49.0 -0.4**
GYA SKS **SKSac 03 34 20.8 -4.0**
GYA SS **SS 03 38 36.5 +3.7**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA LR LR
comp=Z,560nm,20.2s
GYA LR LR
comp=Z,490nm,21.4s
GYA LR LR
comp=Z,530nm,19.8s
PPT2 Papeete2 73.89 177 *e*S **S 03 33 51.1 +1.9**
comp=Z,1μm,28.2s
PPT2 Papeete2 73.89 177 *e*LR LR 03 47 05.0
comp=Z,679nm,22.0s,baz=351
PPT2 Papeete2 73.89 177 *e*T T 04 44 58.5
comp=Z,32nm,0.3s
PAE Paea 73.96 177 *e*T T 04 45 03.6
comp=Z,9.5nm,0.3s
LVV L'vov 73.98 2 *e*P **P 03 24 18.8 +0.1**
LVV *e*S S 03 33 57.6 +7.9
STU Stuttgart 73.99 12 *e*P **P 03 24 19.3 +0.5**
STU pmax pmax
comp=Z,16nm,0.9s
STU Stuttgart 73.99 12 *e*P **P 03 24 19.3 +0.5**
comp=Z,23nm,1.1s
STU Stuttgart 73.99 12 *e*P **P 03 24 19.3 +0.5**
comp=Z,16nm,0.9s
SFTF Sexfontaines 74.00 15⇑*i*P **P 03 24 19.5 +0.6**
comp=Z,65nm,1.1s
SFTF Sexfontaines 74.00 15⇑*i*P **P 03 24 19.5 +0.6**
comp=Z,65nm,1.1s
WET Wettzell 74.01 10 *e*P **P 03 24 20.3 +1.3**
comp=Z,36nm,1.4s
TREC Trest 74.09 8⇑*i*P **P 03 24 19.9 +0.5**
TREC *e**PP **pP 03 24 27.1 +1.8**
TREC MLR MLR
comp=Z,600nm,19.5s
TREC Trest 74.09 8⇑*i*P **P 03 24 19.9 +0.5**
TREC *ex* x 03 24 27.1
TREC AMS AMS 04 06 00.0
comp=Z,600nm,19.5s
TVO Taravao 74.09 177 *e*T T 04 45 13.7
comp=Z,8.6nm,0.3s
KHC Kasperske Hory 74.09 9⇑*i*P **P 03 24 20.2 +0.8**
KHC *ex* x 03 24 26.2
KHC *ex* x 03 24 31.8
KHC AMS AMS 04 02 10.0
comp=Z,600nm,14.8s
CDF Champ du Feu 74.11 14⇑*i*P **P 03 24 20.3 +0.7**
comp=Z,49nm,1.1s
CDF Champ du Feu 74.11 14⇑*i*P **P 03 24 20.3 +0.7**
CDF pmax pmax
comp=Z,49nm,1.1s
CDF Champ du Feu 74.11 14⇑*i*P **P 03 24 20.3 +0.7**
comp=Z,49nm,1.1s
THEF They Montfort 74.11 15 *e*P **P 03 24 20.2 +0.6**
WLS Welschbruch 74.11 14 *e*P **P 03 24 20.0 +0.4**
KWP Kalwaria Pacla 74.14 3 *e*P **P 03 24 19.9 +0.2**
KWP Kalwaria Pacla 74.14 3 *e*P **P 03 24 19.9 +0.2**
KWP Kalwaria Pacla 74.14 3⇑*i*P **P 03 24 20.6 +0.9**
KWP Kalwaria Pacla 74.14 3 *e*P **P 03 24 20.4 +0.7**
comp=Z,49nm,0.9s
KWP LR LR
comp=Z,746nm,22.0s
VRAC Vranov 74.15 7⇑*i*P **P 03 24 20.4 +0.7**
VRAC Vranov 74.15 7 P **P 03 24 20.5 +0.7**
VRAC Vranov 74.15 7 P **P 03 24 20.5 +0.7**
comp=Z,19nm,0.9s,baz=358,slow=5.1,SNR=46
AML Almayashu 74.19 326 *i* P **P 03 24 21.4 +0.8**
AML Almayashu 74.19 326 P **P 03 24 21.4 +0.8**
SNR=27
MEH Mehetia 74.23 175 *e*T T 04 45 24.2
comp=Z,19nm,0.3s
KK31 Karatay Array 74.25 329 *i* P **P 03 24 20.6 +0.1**
KK31 pmax pmax
comp=Z,63nm,1.2s
NIE Niedzica 74.26 5 *e*P **P 03 24 20.9 +0.5**
ECH Echery 74.28 14 *e*P **P 03 24 21.4 +0.8**
STHS Stebnicka Huta 74.30 4 *e*P **P 03 24 21.9 +1.3**
STHS pmax pmax
comp=Z,28nm,0.9s
STHS Stebnicka Huta 74.30 4 *e*P **P 03 24 21.9 +1.3**
BFO Black Forest 74.32 13 *i* P **P 03 24 21.8 +1.0**
BFO Black Forest 74.32 13 *e*P **P 03 24 21.2 +0.4**
comp=Z,37nm,1.4s
BFO Black Forest 74.32 13 *e*P **P 03 24 21.4 +0.6**
comp=Z,15nm,0.9s
BFO LR LR
comp=Z,937nm,19.0s
HAU Haudompre 74.38 14⇑*i*P **P 03 24 21.7 +0.6**
comp=Z,47nm,0.9s
HAU *eR*
comp=Z,868nm,19.8s
HAU Haudompre 74.38 14⇑*i*P **P 03 24 21.7 +0.6**
HAU pmax pmax
comp=Z,47nm,0.9s
HAU Haudompre 74.38 14⇑*i*P **P 03 24 21.7 +0.6**
comp=Z,47nm,0.9s
GEC2 GERESS Array S 74.39 9 *e*P **P 03 24 21.6 +0.4**
comp=Z,20nm,1.1s
GERES GERESS Array B 74.39 9 P **P 03 24 21.8 +0.6**
GERES ⇑*e* 03 51 33.2
GERES GERESS Array B 74.39 9 P **P 03 24 21.8 +0.6**
comp=Z,11nm,0.9s,baz=355,slow=4.6,SNR=80
GERES PKP2bc 03 51 33.2
comp=Z,0.1nm,0.3s,baz=140,slow=4.7,SNR=4.5
HYF Humbligny 74.54 17 *e*P **P 03 24 22.9 +0.8**
HYF Humbligny 74.54 17 *e*P **P 03 24 22.9 +0.8**
HINF Hinteralfeld 74.63 14⇑*i*P **P 03 24 23.1 +0.5**
comp=Z,39nm,1.1s
HINF Hinteralfeld 74.63 14⇑*i*P **P 03 24 23.1 +0.5**
HINF pmax pmax
comp=Z,39nm,1.1s
HINF Hinteralfeld 74.63 14⇑*i*P **P 03 24 23.1 +0.5**
comp=Z,39nm,1.1s
MOF Molkenrain 74.64 14 *e*P **P 03 24 23.3 +0.6**
MFF Saint Martin d 74.70 19⇑*i*P **P 03 24 23.7 +0.7**
comp=Z,77nm,1.0s
MFF Saint Martin d 74.70 19⇑*i*P **P 03 24 23.7 +0.7**
MFF pmax pmax
comp=Z,77nm,1.0s
MFF Saint Martin d 74.70 19⇑*i*P **P 03 24 23.7 +0.7**
comp=Z,77nm,1.0s
LOR Lormes 74.73 16 *e*P **P 03 24 23.7 +0.5**
comp=Z,68nm,1.0s
LOR *eR*
comp=Z,555nm,22.8s
LOR Lormes 74.73 16 *e*P **P 03 24 23.7 +0.5**
comp=Z,68nm,1.0s

KOLS Kolonicke sedl 74.82 3 *e*P **P 03 24 24.0 +0.4**
KOLS pmax pmax
comp=Z,34nm,1.5s
KOLS Kolonicke sedl 74.82 3 *e*P **P 03 24 24.0 +0.4**
CRVS Cervenica-Dubn 74.82 4 *e*P **P 03 24 22.9 -0.8**
CRVS pmax pmax
comp=Z,61nm,2.0s
CRVS Cervenica-Dubn 74.82 4 *e* **P 03 24 22.8 -0.9**
FUR Furstenfeldbru 74.82 11 *e*P **P 03 24 24.4 +0.7**
comp=Z,40nm,1.1s
SSF Saint Saulge 74.88 17⇑*i*P **P 03 24 24.7 +0.7**
comp=Z,115nm,1.1s
SSF Saint Saulge 74.88 17⇑*i*P **P 03 24 24.7 +0.7**
SSF pmax pmax
comp=Z,115nm,1.1s
SSF Saint Saulge 74.88 17⇑*i*P **P 03 24 24.7 +0.7**
comp=Z,115nm,1.1s
AVF Avril sur Loir 75.12 17⇑*i*P **P 03 24 25.8 +0.4**
comp=Z,65nm,1.1s
AVF Avril sur Loir 75.12 17⇑*i*P **P 03 24 25.8 +0.4**
AVF pmax pmax
comp=Z,65nm,1.1s
AVF Avril sur Loir 75.12 17⇑*i*P **P 03 24 25.8 +0.4**
comp=Z,65nm,1.1s
BGF Bois d'Agland 75.27 17⇑*i*P **P 03 24 26.7 +0.5**
comp=Z,62nm,1.0s
BGF Bois d'Agland 75.27 17⇑*i*P **P 03 24 26.7 +0.5**
BGF pmax pmax
comp=Z,62nm,1.0s
BGF Bois d'Agland 75.27 17⇑*i*P **P 03 24 26.7 +0.5**
comp=Z,62nm,1.0s
SMF Signal de Mont 75.34 16⇑*i*P **P 03 24 27.0 +0.3**
comp=Z,82nm,1.2s
SMF Signal de Mont 75.34 16⇑*i*P **P 03 24 27.0 +0.3**
SMF pmax pmax
comp=Z,82nm,1.2s
SMF Signal de Mont 75.34 16⇑*i*P **P 03 24 27.0 +0.3**
comp=Z,82nm,1.2s
RJOB Jochberg 75.40 10 *e*P **P 03 24 27.7 +0.6**
comp=Z,28nm,0.9s
MOA Molln 75.42 9⇑*i*pP **P 03 24 27.4 +0.3**
comp=Z,27nm,1.9s,SNR=6.0
TCF Toulx Ste Croi 75.42 18⇑*i*P **P 03 24 27.6 +0.4**
comp=Z,35nm,0.9s
TCF Toulx Ste Croi 75.42 18⇑*i*P **P 03 24 27.6 +0.4**
TCF pmax pmax
comp=Z,35nm,0.9s
TCF Toulx Ste Croi 75.42 18⇑*i*P **P 03 24 27.6 +0.4**
comp=Z,35nm,0.9s
CONA Conrad Observa 75.47 8⇑*i*pP **P 03 24 28.2 +0.7**
comp=Z,25nm,0.9s,SNR=12
MOTA Moosalm 75.61 11⇑*i*pP **P 03 24 28.9 +0.5**
comp=Z,22nm,1.0s,SNR=11
WATA Walderalm 75.67 11⇓*i*pP **P 03 24 29.3 +0.6**
comp=Z,28nm,0.9s,SNR=19
CABF La Chapelle 75.71 15⇑*i*P **P 03 24 29.8 +0.9**
comp=Z,90nm,1.2s
CABF La Chapelle 75.71 15⇑*i*P **P 03 24 29.8 +0.9**
CABF pmax pmax
comp=Z,90nm,1.2s
CABF La Chapelle 75.71 15⇑*i*P **P 03 24 29.8 +0.9**
comp=Z,90nm,1.2s
PSZ Piszkesteto 75.74 5 *e*P **P 03 24 29.5 +0.5**
PSZ pmax pmax
comp=Z,19nm,0.9s
PSZ MLR MLR
comp=Z,560nm,20.0s
PSZ Piszkesteto 75.74 5⇓*i*P **P 03 24 30.4 +1.4**
PSZ Piszkesteto 75.74 5 *e*P **P 03 24 29.5 +0.5**
comp=Z,19nm,0.9s
PSZ LR LR
comp=Z,560nm,20.0s
PSZ Piszkesteto 75.74 5⇓*e*P **P 03 24 27.1 -1.9**
PSZ ⇑*e*P **P 03 24 30.4 +1.4**
AGO Saint Agoulin 75.80 17 *e*P **P 03 24 30.2 +0.8**
KSH Kashi 75.82 323 P **P 03 24 32.5 +2.8**
KSH sP **sP 03 24 39.0 +1.2**
KSH PP **PP 03 27 22.5 +3.4**
KSH S **S 03 34 15.0 +4.2**
KSH sS **sS 03 34 22.0 +1.4**
KSH SS SS 03 39 11.3 +10
KSH pmax pmax
comp=Z,50nm,1.0s
KSH pmax pmax
comp=Z,200nm,3.0s
KSH LR LR
comp=Z,3μm,15.3s
KSH LR LR
comp=Z,2μm,14.4s
FETA Feichten 75.89 12⇓*i*pP **P 03 24 30.3 +0.2**
comp=Z,28nm,1.0s,SNR=9.9
ANWB Willy Bob 75.99 79 PFAKE 03 24 40.0 +9.3
ANWB LR LR
comp=Z,1μm,20.0s
PYM Petit Puy Mans 76.08 17 *e*P **P 03 24 31.4 +0.4**
KBA Koelnbreinsper 76.10 10⇑*i*pP **P 03 24 32.0 +0.8**
comp=Z,60nm,1.2s,SNR=10.0
BMR Baia Mare 76.11 3⇓*i*P **P 03 24 32.0 +0.9**
ARSA Arzberg 76.12 8⇓*i*P **P 03 24 31.0 -0.2**
comp=Z,15nm,1.0s,SNR=5.7
BUD Budapest 76.12 6⇓*e*P **P 03 24 30.8 -0.3**
BUR08 Bucovina Ar. S 76.18 1 *e*P **P 03 24 31.8 +0.3**
PKSG 76.18 6⇓*e*P **P 03 24 33.0 +1.6**
CSKK Cs^ákako 76.20 6⇓*e*P **P 03 24 33.0 +1.4**
BURAR Bucovina Array 76.21 1⇑*i*P **P 03 24 32.3 +0.6**
RJF Les Rejaudoux 76.26 18⇑*i*P **P 03 24 32.1 +0.2**
comp=Z,40nm,1.0s
RJF *eR*
comp=Z,2μm,19.2s
RJF Les Rejaudoux 76.26 18⇑*i*P **P 03 24 32.1 +0.2**
RJF pmax pmax
comp=Z,40nm,1.0s
RJF Les Rejaudoux 76.26 18⇑*i*P **P 03 24 32.1 +0.2**
comp=Z,40nm,1.0s
TUE Stuetta 76.27 13 *e*P **P 03 24 33.2 +1.0**
comp=Z,22nm,1.0s
TUE LR LR
comp=Z,824nm,19.0s
PKST T^'s 76.29 6⇓*e*P **P 03 24 33.5 +1.4**
ABTA Abfaltersbach 76.35 10⇑*i*pP **P 03 24 32.9 +0.4**
comp=Z,15nm,1.1s
HNR Honiara 76.39 228 LR LR 03 52 32.9
comp=Z,732nm,19.0s,baz=121,slow=31
LFF La Frestale 76.47 19⇑*i*P **P 03 24 33.8 +0.7**
comp=Z,86nm,1.0s
LFF La Frestale 76.47 19⇑*i*P **P 03 24 33.8 +0.7**
LFF pmax pmax
comp=Z,86nm,1.0s
LFF La Frestale 76.47 19⇑*i*P **P 03 24 33.8 +0.7**
comp=Z,86nm,1.0s
LBL Lubilhac 76.62 17 *e*P **P 03 24 32.4 -1.7**
SOKA Soboth 76.65 9 *i* pP **P 03 24 34.8 +0.5**
comp=Z,42nm,1.2s,SNR=13
RSL Roselend 76.69 15 *e*P **P 03 24 35.6 +1.0**
PERS Pernice 76.70 9 *i* P **P 03 24 34.8 +0.3**
CAF Calviac 76.72 18⇑*i*P **P 03 24 35.1 +0.5**
comp=Z,32nm,1.0s
CAF Calviac 76.72 18⇑*i*P **P 03 24 35.1 +0.5**
CAF pmax pmax
comp=Z,32nm,1.0s
CAF Calviac 76.72 18⇑*i*P **P 03 24 35.1 +0.5**
comp=Z,32nm,1.0s
ARCR ARCALIA 76.72 2⇑*i*P **P 03 24 35.9 +1.4**
PKSN Nyarlorinc 76.75 5⇓*e*P **P 03 24 36.8 +2.1**
OBKA Obir 76.78 9⇑*i*pP **P 03 24 35.3 +0.3**
comp=Z,53nm,1.0s,SNR=8.5
SSB Saint Sauveur 76.78 16 PFAKE 03 24 50.0 +15
SSB LR LR
comp=Z,1μm,19.0s
KIS Kishinev 76.83 359 *e*P **P 03 24 34.0 -1.1**
comp=Z,200nm,2.0s
KIS *e*S **S 03 34 18.0 -3.3**
KIS *e*L L 03 54 20.0
KIS LRM MLR 06 02 56.0
comp=Z,500nm,18.0s
KIS Kishinev 76.83 359 *e*P **P 03 24 34.0 -1.1**
KIS *e*S **S 03 34 18.0 -3.3**
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=N,400nm,18.0s
KIS MLR MLR
comp=Z,400nm,18.0s
KIS MLR MLR
comp=Z,500nm,18.0s
LPL La Plagne 76.87 15⇑*i*P **P 03 24 37.1 +1.4**

LPL La Plagne 76.87 15⇑*i*P **P 03 24 37.1 +1.4**
LPG La Plagne 76.89 15⇑*i*P **P 03 24 37.4 +1.5**
comp=Z,64nm,1.4s
LPG La Plagne 76.89 15⇑*i*P **P 03 24 37.4 +1.5**
LPG pmax pmax
comp=Z,65nm,1.4s
LPG La Plagne 76.89 15⇑*i*P **P 03 24 37.4 +1.5**
comp=Z,64nm,1.4s
KMI Kunming 76.95 296 P **P 03 24 36.0 -0.4**
KMI S **S 03 34 23.5 -0.3**
KMI pmax pmax
comp=Z,230nm,6.3s
KMI LR LR
comp=Z,1μm,18.9s
KMI LR LR
comp=Z,820nm,16.1s
KMI LR LR
comp=Z,530nm,20.4s
DRGR 76.97 3⇑*i*P **P 03 24 36.4 +0.3**
DRGR 76.97 3⇑*i*P **P 03 24 36.4 +0.3**
PKS9 Tamasi 76.97 6⇓*e*P **P 03 24 37.2 +1.3**
KOGS Kog 76.97 8 *e*P **P 03 24 36.1 +0.2**
BEHE Becsehely 76.99 7⇓*e*P **P 03 24 37.2 +1.1**
CJR Cluj-Napoca 77.08 3⇓*i*P **P 03 24 37.3 +0.7**
DOBS Dobrina 77.21 8 *e*P **P 03 24 37.1 -0.2**
VIVF Saint-Julien-l 77.21 16⇑*i*P **P 03 24 38.1 +0.7**
comp=Z,37nm,1.0s
VIVF Saint-Julien-l 77.21 16⇑*i*P **P 03 24 38.1 +0.7**
VIVF pmax pmax
comp=Z,37nm,1.0s
VIVF Saint-Julien-l 77.21 16⇑*i*P **P 03 24 38.1 +0.7**
comp=Z,37nm,1.0s
LJU Ljubljana 77.24 9 *e*P **P 03 24 37.1 -0.3**
BNI Bardonecchia 77.32 15 *e*P **P 03 24 39.4 +1.3**
BNI pmax pmax
comp=Z,20nm,1.0s
BNI MLR MLR
comp=Z,976nm,21.0s
BNI Bardonecchia 77.32 15 *e*P **P 03 24 39.4 +1.3**
comp=Z,20nm,1.0s
BNI LR LR
comp=Z,976nm,21.0s
TESR Tescani 77.32 0⇑*i*P **P 03 24 38.0 +0.1**
ORIF Oris-en-Rattie 77.33 15⇑*i*P **P 03 24 39.0 +0.9**
comp=Z,37nm,1.1s
ORIF *eR*
comp=Z,683nm,17.2s
ORIF Oris-en-Rattie 77.33 15⇑*i*P **P 03 24 39.0 +0.9**
ORIF pmax pmax
comp=Z,37nm,1.1s
ORIF Oris-en-Rattie 77.33 15⇑*i*P **P 03 24 39.0 +0.9**
comp=Z,37nm,1.1s
LEOM Leova 77.36 359⇓*i*P **P 03 24 38.3 +0.2**
PKSM Moragy 77.37 6⇑*i*P **P 03 24 38.2 0.0**
PKSM Moragy 77.37 6⇑*e*P **P 03 24 38.8 +0.6**
PGAV Gavieira, Arco 77.39 26 *e*P **P 03 24 39.4 +0.9**
comp=Z,78nm,1.7s
MBDF Montbardon 77.65 15⇑*i*P **P 03 24 41.4 +1.4**
comp=Z,48nm,1.2s
MBDF Montbardon 77.65 15⇑*i*P **P 03 24 41.4 +1.4**
MBDF pmax pmax
comp=Z,49nm,1.2s
MBDF Montbardon 77.65 15⇑*i*P **P 03 24 41.4 +1.4**
comp=Z,48nm,1.2s
PCAB Cabril 77.69 26 *e*P **P 03 24 41.8 +1.7**
comp=Z,78nm,1.7s
GHRR 77.78 360⇓*i*P **P 03 24 41.5 +1.1**
LASF Ste Croix 77.84 17⇑*i*P **P 03 24 42.0 +1.1**
LASF Ste Croix 77.84 17⇑*i*P **P 03 24 42.0 +1.1**
DOPR Dopca 77.86 1⇑*i*P **P 03 24 41.6 +0.7**
SJPF Ste Jean 77.86 21⇑*i*P **P 03 24 42.0 +1.0**
comp=Z,38nm,1.2s
SJPF Ste Jean 77.86 21⇑*i*P **P 03 24 42.0 +1.0**
SJPF pmax pmax
comp=Z,38nm,1.2s
SJPF Ste Jean 77.86 21⇑*i*P **P 03 24 42.0 +1.0**
comp=Z,38nm,1.2s
GOF Gofitskoye 77.91 349⇑*i*P **P 03 24 41.6 +0.4**
GOF pmax pmax
comp=Z,140nm,1.3s
PBRG Braganca 77.91 25 *e*P **P 03 24 42.4 +1.0**
comp=Z,43nm,1.9s
VRI Vrincioaia 77.97 0⇑*i*P **P 03 24 42.1 +0.5**
PLOR Plostina 77.98 0⇓*i*P **P 03 24 42.3 +0.6**
POLO Lamas de Olo 78.07 26 *e*P **P 03 24 43.5 +1.2**
comp=Z,17nm,1.3s
BZS Buzias 78.11 4⇑*i*P **P 03 24 42.6 +0.3**
BZS Buzias 78.11 4⇑*i*P **P 03 24 42.6 +0.3**
PVRL Vila Real 78.18 26 *e*P **P 03 24 44.8 +2.0**
comp=Z,51nm,2.2s
ETSF Etsaut 78.20 20⇑*i*P **P 03 24 44.0 +1.0**
comp=Z,47nm,1.0s
ETSF Etsaut 78.20 20⇑*i*P **P 03 24 44.0 +1.0**
ETSF pmax pmax
comp=Z,47nm,1.0s
ETSF Etsaut 78.20 20⇑*i*P **P 03 24 44.0 +1.0**
comp=Z,47nm,1.0s
SMRF Simiane la Rot 78.21 16⇑*i*P **P 03 24 44.3 +1.3**
comp=Z,51nm,1.1s
SMRF Simiane la Rot 78.21 16⇑*i*P **P 03 24 44.3 +1.3**
comp=Z,51nm,1.1s
EPF Esparros 78.24 20⇑*i*P **P 03 24 43.1 -0.1**
comp=Z,24nm,1.0s
EPF Esparros 78.24 20⇑*i*P **P 03 24 43.1 -0.1**
EPF pmax pmax
comp=Z,24nm,1.0s
EPF Esparros 78.24 20⇑*i*P **P 03 24 43.1 -0.1**
comp=Z,24nm,1.0s
MTLF Montolieu 78.28 18⇑*i*P **P 03 24 43.9 +0.6**
comp=Z,30nm,1.0s
MTLF Montolieu 78.28 18⇑*i*P **P 03 24 43.9 +0.6**
MTLF pmax pmax
comp=Z,30nm,1.0s
MTLF Montolieu 78.28 18⇑*i*P **P 03 24 43.9 +0.6**
comp=Z,30nm,1.0s
SDV Santo Domingo 78.31 92 *e*P **P 03 24 45.7 +1.6**
comp=Z,1.8nm,0.8s
QIZ Qiongzhong 78.32 287 P **P 03 24 43.5 -0.4**
QIZ S **S 03 34 39.0 +0.7**
QIZ pmax pmax
comp=Z,18nm,1.6s
QIZ LR LR
comp=Z,570nm,19.9s
QIZ LR LR
comp=Z,730nm,14.6s
QIZ Qiongzhong 78.32 287 PFAKE 03 25 00.0 +16
QIZ LR LR
comp=Z,601nm,19.0s
MLR Muntele Rosu 78.34 1⇑*i*P **P 03 24 44.9 +1.1**
MLR Muntele Rosu 78.34 1 P **P 03 24 44.4 +0.7**
MLR Muntele Rosu 78.34 1 P **P 03 24 44.4 +0.7**
comp=Z,1.8nm,0.8s,baz=320,slow=2.3,SNR=14
GZR Gura Zlata 78.37 3⇑*i*P **P 03 24 44.1 +0.2**
VOIR 78.38 2⇑*i*P **P 03 24 44.3 +0.4**
ARR Arges 78.44 2⇑*i*P **P 03 24 44.8 +0.5**
MVO Moncorvo 78.45 26 *e*P **P 03 24 45.6 +1.2**
comp=Z,54nm,1.3s
LSA Lhasa 78.56 307 *e*P **P 03 24 46.4 +0.7**
LSA pmax pmax
comp=Z,39nm,0.9s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 78.56 307 *e*P **P 03 24 46.4 +0.7**
comp=Z,40nm,0.9s
LSA LR LR
comp=Z,2μm,22.0s
SBF Sospel 78.59 14⇑*i*P **P 03 24 45.6 +0.5**
comp=Z,72nm,1.0s
SBF Sospel 78.59 14⇑*i*P **P 03 24 45.6 +0.5**
SBF pmax pmax
comp=Z,72nm,1.0s
SBF Sospel 78.59 14⇑*i*P **P 03 24 45.6 +0.5**
comp=Z,72nm,1.0s
MTUR Matau 78.59 2⇑*i*P P 03 24 49.9 +4.8
TLCR 78.64 359⇑*i*P **P 03 24 45.9 +0.7**
CFR Carcaliu 78.66 359⇑*i*P **P 03 24 45.6 +0.3**
PVIS Viseu 78.67 26 *e*P **P 03 24 46.6 +1.1**
comp=Z,45nm,1.9s
VLC Villacollemand 78.68 12 PFAKE 03 25 00.0 +14
VLC LR LR
comp=Z,613nm,20.0s
FDF Fort de France 78.74 80 PFAKE 03 25 00.0 +14
FDF LR LR
comp=Z,873nm,20.0s
FRF La Foret Royal 78.78 15⇑*i*P **P 03 24 46.7 +0.7**

comp=Z,87nm,1.3s
FRF La Foret Royal 78.78 15⇑ *i*P **P 03 24 46.7 +0.7**
FRF pmax pmax
comp=Z,87nm,1.3s
FRF La Foret Royal 78.78 15⇑ *i*P **P 03 24 46.7 +0.7**
comp=Z,87nm,1.3s
SECR 78.80 1⇑ *i*P **P 03 24 46.9 +0.8**
PGOR Pogoanele 78.93 0⇑ *i*P **P 03 24 47.2 +0.4**
LMR La Mourre 78.98 15⇑ *i*P **P 03 24 48.0 +0.9**
LMR La Mourre 78.98 15⇑ *i*P **P 03 24 48.0 +0.9**
LMR La Mourre 78.98 15⇑ *i*P **P 03 24 48.0 +0.9**
KIV Kislovodsk 79.04 349 P **P 03 24 48.4 +0.8**
comp=Z,255nm,0.9s,SNR=6.0
KIV Kislovodsk 79.04 349 *e*P **P 03 24 47.7 +0.1**
KIV *e* 03 27 45.9
KIV *e*S **S 03 34 43.9 -1.6**
KIV *e*SS **SS 03 39 47.9 -1.8**
KIV pmax pmax
comp=Z,48nm,1.1s
KIV pmax pmax
comp=Z,101nm,4.4s
KIV Kislovodsk 79.04 349 *e*P **P 03 24 47.5 0.0**
comp=Z,40nm,0.9s
KIV LR LR
comp=Z,525nm,19.0s
MTE Manteigas 79.05 26 *e*P **P 03 24 49.2 +1.5**
comp=Z,47nm,1.4s
MTE Manteigas 79.05 26 PFAKE 03 25 00.0 +12
MTE LR LR
comp=Z,1μm,20.0s
PCAS Casmilo, Conde 79.14 27 *e*P **P 03 24 48.8 +0.7**
comp=Z,55nm,1.6s
SULR 79.15 1⇓ *i*P **P 03 24 46.9 -1.1**
KBZ Khabaz 79.24 349 P **P 03 24 49.2 +0.7**
KBZ Khabaz 79.24 349 P **P 03 24 49.1 +0.7**
KBZ Khabaz 79.24 349 P **P 03 24 49.1 +0.7**
comp=Z,25nm,0.9s,baz=334,slow=3.9,SNR=30
KBZ LR LR 04 07 07.6
comp=Z,351nm,18.6s,baz=263,slow=41
TIRR Tirgusor 79.37 359 *e*P **P 03 24 49.2 -0.1**
TIRR pmax pmax
comp=Z,20nm,0.8s
TIRR Tirgusor 79.37 359⇓ *i*P **P 03 24 49.8 +0.6**
TIRR Tirgusor 79.37 359 *e*P **P 03 24 49.2 -0.1**
comp=Z,20nm,0.8s
MAK Makhachkala 79.41 345 *e*P P 03 24 44.4 -5.1
MAK *e* 03 27 45.7
MAK *e*PPP PPP 03 29 48.0
MAK *e*S **S 03 34 46.2 -3.0**
MAK *e* 03 35 14.9
MAK *e*SS SS 03 40 03.5 +8.5
MAK pmax pmax
comp=Z,272nm,2.2s
DAV Davao City (W) 79.54 267 PFAKE 03 25 00.0 +9.4
DAV LR LR
comp=Z,781nm,20.0s
PTOM Tomar 79.57 27 *e*P P 03 24 55.1 +4.7
comp=Z,32nm,1.3s
ROSC El Rosal 79.59 97 LR LR 04 06 33.7
comp=Z,362nm,18.3s,baz=0.1,slow=40
PCBR Castelo Branco 79.60 26 *e*P **P 03 24 49.9 -0.7**
comp=Z,38nm,2.3s
TBI Tubuai 79.61 177 *e*S **S 03 34 50.3 -1.2**
comp=Z,473nm,25.0s
TBI Tubuai 79.61 177 *e*LR LR 03 49 37.4
comp=Z,599nm,24.8s,baz=354
TBI Tubuai 79.61 177 *e*T T 04 52 07.7
comp=Z,103nm,0.3s
SOC Sochi 79.70 351 *e*P **P 03 24 49.4 -1.7**
SOC *e* 03 27 50.6
SOC *e*S **S 03 34 48.3 -4.0**
SOC *e*S SKSac 03 34 54.5 -12
SOC *e* 03 35 04.0
SOC *e*SS **SS 03 39 59.7 +0.4**
SOC *e*SSS SSS 03 43 24.1
MSAB Monastry St. A 79.74 360⇑ *i*P **P 03 24 51.6 +0.3**
PMAFR Mafra 79.97 28 *e*P **P 03 24 54.2 +1.6**
comp=Z,174nm,1.9s
PMRV Marv??o 80.01 27 *e*P **P 03 24 54.1 +1.3**
comp=Z,32nm,1.4s
ZEI Tsey 80.05 348 *e*P **P 03 24 51.1 -2.2**
ZEI pmax pmax
comp=Z,39nm,1.7s
PGF Pioggiola 80.09 14 *e*P **P 03 24 53.8 +0.4**
comp=Z,86nm,1.1s
PGF Pioggiola 80.09 14 *e*P **P 03 24 53.8 +0.4**
PGF pmax pmax
comp=Z,86nm,1.1s
PGF Pioggiola 80.09 14 *e*P **P 03 24 53.8 +0.4**
comp=Z,86nm,1.1s
ONI Oni 80.30 348 P **P 03 24 55.0 +0.6**
GUDG Gudauri 80.30 347 P **P 03 24 55.5 +0.9**
PESTR Estremoz 80.49 27 *e*P **P 03 24 56.5 +1.1**
comp=Z,34nm,1.8s
ESDC Sonseca Array 80.58 24 P **P 03 24 57.1 +1.1**
ESDC Sonseca Array 80.58 24 P **P 03 24 57.1 +1.1**
comp=Z,10.0nm,0.9s,baz=343,slow=5.0,SNR=34
ESDC LR LR 04 03 20.8
comp=Z,711nm,18.7s,baz=335,slow=38
ESLA Sonseca Array 80.58 24 *e*P **P 03 24 56.7 +0.7**
comp=Z,3.5nm,0.9s
GRGR Grenville 80.60 82 PFAKE 03 25 10.0 +14
GRGR LR LR
comp=Z,601nm,19.0s
PAB San Pablo 80.62 24 PFAKE 03 25 10.0 +14
PAB LR LR
comp=Z,1μm,19.0s
EVOP Sao Brissos 80.67 27 *e*P **P 03 24 56.6 +0.2**
EVOP pmax pmax
comp=Z,55nm,1.2s
EVOP Sao Brissos 80.67 27 *e*P **P 03 24 56.6 +0.2**
comp=Z,55nm,1.2s
EVO Evora 80.70 27 *e*P **P 03 24 56.6 +0.1**
comp=Z,55nm,1.2s
EVO *e*R
comp=Z,1μm,22.0s
RKT Rikitea 80.76 163 *e*S **S 03 35 05.8 +2.3**
comp=Z,588nm,26.5s
RKT Rikitea 80.76 163 *e*LR LR 03 50 06.0
comp=Z,482nm,23.2s,baz=347
RKT Rikitea 80.76 163 *e*T T 04 53 34.6
comp=Z,29nm,0.3s
BBGH Gun Hill 80.91 80 PFAKE 03 25 10.0 +12
BBGH LR LR
comp=Z,1μm,19.0s
SEAG Tbilisi Sea 80.95 347 P **P 03 24 58.8 +0.9**
PNCL Nicolau / Gran 80.96 28 *e*P **P 03 24 59.3 +1.4**
comp=Z,54nm,1.4s
TBLG Delisi 80.99 347 P **P 03 24 59.7 +1.6**
DGRG David-gareji 81.19 346 P **P 03 25 00.5 +1.4**
VTS Vitosha 81.19 3⇓ *i*P **P 03 24 59.3 0.0**
OTAV Otavalo 81.19 103 *e*P **P 03 25 00.1 +0.1**
comp=Z,6.6nm,1.0s
OTAV LR LR
comp=Z,315nm,20.0s
PBAR Barrancos 81.28 27 *e*P **P 03 25 00.5 +0.8**
comp=Z,36nm,1.7s
AKH Akhalkalaki 81.46 348 P **P 03 25 00.4 -0.4**
PCVE Castro Verde 81.54 28 *e*P **P 03 25 02.6 +1.6**
comp=Z,46nm,1.8s
MORF Marmelete 81.69 28 *e*P **P 03 25 02.8 +0.9**
comp=Z,108nm,2.3s
SKO Skopje 81.74 4 *i*P **P 03 25 02.3 +0.3**
SKO Skopje 81.74 4 *i*P **P 03 24 58.9 -3.2**
PVAQ Vaqueiros 81.84 27 *e*P **P 03 25 03.5 +0.9**
comp=Z,66nm,1.5s
PBDV Barranco-do-Ve 81.94 28 *e*P **P 03 25 03.1 -0.1**
comp=Z,63nm,1.7s
TAPN Taplejung 82.09 309 *e*P **P 03 25 04.8 +0.3**
comp=Z,107nm,0.9s
TAPN Taplejung 82.09 309 *e*P **P 03 25 04.8 +0.3**
comp=Z,107nm,0.9s
PMG Port Moresby 82.09 240 *e*P **P 03 25 03.8 -0.3**
comp=Z,30nm,1.3s
PMG LR LR
comp=Z,476nm,22.0s
MMB Musomiste 82.20 3⇑ *i*P **P 03 25 05.1 +0.6**
ABKT Ailbek 82.32 336 P **P 03 25 05.7 +0.5**
comp=Z,169nm,0.9s,SNR=7.8
GUN Gumba 82.39 310 *e*P **P 03 25 06.3 +0.2**
comp=Z,200nm,1.1s
GUN Gumba 82.39 310 *e*P **P 03 25 06.3 +0.2**
comp=Z,200nm,1.1s
VAY Valandovo 82.43 4 *i*P **P 03 25 06.1 +0.5**
VAY Valandovo 82.43 4 *i*P **P 03 25 05.1 -0.6**
JIRN Jiri 82.47 310 *e*P **P 03 25 06.8 +0.2**
comp=Z,195nm,0.9s
JIRN Jiri 82.47 310 *e*P **P 03 25 06.8 +0.2**
comp=Z,195nm,0.9s
GNI Garni 82.55 347 *e*P **P 03 25 08.0 +1.5**
comp=Z,69nm,1.4s
GNI LR LR
comp=Z,636nm,20.0s
GNI Garni 82.55 347 P **P 03 25 08.3 +1.8**
comp=Z,10.0nm,0.9s,baz=39,slow=3.2,SNR=9.9
KBL Kabul 82.59 326 *e*P **P 03 25 05.5 -1.4**
KBL *e* 03 28 12.5
KBL pmax pmax
comp=Z,20nm,0.9s
KBL Kabul 82.59 326 *e*P **P 03 25 05.5 -1.4**
comp=Z,20nm,0.9s
KBL *e*PP **PP 03 28 12.4 -3.2**
ODAN Odare 82.66 309 *e*P **P 03 25 07.2 -0.2**
comp=Z,65nm,1.0s
ODAN Odare 82.66 309 *e*P **P 03 25 07.2 -0.2**
comp=Z,65nm,1.0s
BIA Bitola 82.69 5 *i*P **P 03 25 07.1 0.0**
BIA Bitola 82.69 5 *i*P **P 03 25 06.6 -0.5**
KKN Kakani 82.74 311 *e*P **P 03 25 08.2 +0.4**
comp=Z,83nm,1.0s
KKN Kakani 82.74 311 *e*P **P 03 25 08.2 +0.4**
KKN pmax pmax
comp=Z,83nm,1.0s
KKN Kakani 82.74 311 *e*P **P 03 25 08.2 +0.4**
comp=Z,83nm,1.0s
GKN Gorkha 82.83 311 *e*P **P 03 25 08.2 +0.1**
comp=Z,141nm,1.0s
GKN Gorkha 82.83 311 *e*P **P 03 25 08.2 +0.1**
comp=Z,141nm,1.0s
DANN Dangsing 82.88 312 *e*P **P 03 25 08.8 +0.2**
comp=Z,307nm,0.9s
DANN Dangsing 82.88 312 *e*P **P 03 25 08.8 +0.2**
comp=Z,307nm,0.9s
PKI Pulchoki 82.88 311 *e*P **P 03 25 08.5 -0.1**
comp=Z,122nm,1.0s
PKI Pulchoki 82.88 311 *e*P **P 03 25 08.5 -0.1**
PKI pmax pmax
comp=Z,123nm,1.0s
PKI Pulchoki 82.88 311 *e*P **P 03 25 08.5 -0.1**
comp=Z,122nm,1.0s
PKIN Phulchoki 82.88 311 *e*P **P 03 25 08.3 -0.3**
comp=Z,85nm,1.0s
RAMN Ramite 82.92 309 *e*P **P 03 25 08.6 -0.1**
comp=Z,161nm,0.8s
RAMN Ramite 82.92 309 *e*P **P 03 25 08.6 -0.1**
comp=Z,161nm,0.8s
DMN Daman 82.97 311 *e*P **P 03 25 09.3 +0.3**
comp=Z,121nm,1.0s
DMN Daman 82.97 311 *e*P **P 03 25 09.3 +0.3**
comp=Z,121nm,1.0s
CMAI Chiengmai2 83.14 296 P **P 03 25 09.2 -0.7**
comp=Z,25nm,1.0s,comp=Z,3μm
VSL Villasalto 83.14 14 PFAKE 03 25 20.0 +11
VSL LR LR
comp=Z,489nm,20.0s
CUC Castrocucco 83.35 9 PFAKE 03 25 20.0 +9.5
CUC LR LR
comp=Z,350nm,19.0s
PMPST Porto Santo, M 83.38 36 *e*P **P 03 25 11.5 +0.8**
comp=Z,215nm,1.9s
PYUN Piuthan 83.42 313 *e*P **P 03 25 11.3 0.0**
comp=Z,208nm,0.9s
PYUN Piuthan 83.42 313 *e*P **P 03 25 11.3 0.0**
comp=Z,208nm,0.9s
KOLN Koldanda 83.46 312 *e*P **P 03 25 10.8 -0.7**
comp=Z,106nm,1.0s
KOLN Koldanda 83.46 312 *e*P **P 03 25 10.8 -0.7**
comp=Z,106nm,1.0s
UBPT Khong Chiam 83.74 288 P **P 03 25 13.0 +0.2**
comp=Z,31nm,1.2s
ANTO Ankara 83.85 356 *e*P **P 03 25 13.8 +0.7**
ANTO pmax pmax
comp=Z,33nm,1.1s
ANTO MLR MLR
comp=Z,279nm,19.0s
ANTO Ankara 83.85 356⇑ *i*P **P 03 25 13.8 +0.7**
ANTO Ankara 83.85 356 *e*P **P 03 25 13.8 +0.7**
comp=Z,33nm,1.1s
ANTO LR LR
comp=Z,279nm,19.0s
BR131 Keskin Array S 83.95 355 *e*P **P 03 25 13.6 -0.1**
comp=Z,13nm,0.9s
BRTR Keskin Array B 83.95 355 P **P 03 25 14.1 +0.4**
BRTR Keskin Array B 83.95 355 P **P 03 25 14.1 +0.4**
comp=Z,13nm,0.9s,baz=34,slow=2.8,SNR=50
BRTR LR LR 04 10 52.3
comp=Z,259nm,18.7s,baz=199,slow=42
CMMT Chiang Mai 84.14 295 P **P 03 25 14.5 -0.3**
comp=Z,15nm,1.3s,comp=Z,522nm
CHTO Chiang Mai 84.14 295 *e*P **P 03 25 13.0 -1.8**
CHTO pmax pmax
comp=Z,13nm,1.1s
CHTO MLR MLR
comp=Z,472nm,19.0s
CHTO Chiang Mai 84.14 295 *e*P **P 03 25 13.0 -1.8**
comp=Z,13nm,1.1s
CHTO LR LR
comp=Z,472nm,19.0s
CHTO Chiang Mai 84.14 295 P **P 03 25 14.5 -0.3**
comp=Z,70nm,1.3s,comp=Z,2μm
TIP Timpagrande 84.24 8 *e*P **P 03 25 15.4 +0.3**
comp=Z,9.9nm,0.8s
TIP LR LR
comp=Z,455nm,20.0s
CMAR Chiang Mai Arr 84.44 295 P **P 03 25 16.2 -0.1**
CMAR Chiang Mai Arr 84.44 295 P **P 03 25 16.2 -0.1**
comp=Z,14nm,0.9s,baz=16,slow=5.4,SNR=18
CMAR LR LR 04 08 17.0
comp=Z,726nm,18.2s,baz=43,slow=40
PBKT Sadao Pong 85.00 292 P **P 03 25 18.4 -0.7**
comp=Z,13nm,0.8s
MALT Malatya 85.04 351⇑ *i*P **P 03 25 20.5 +1.3**
CEL Celeste 85.08 9 PFAKE 03 25 30.0 +11
CEL LR LR
comp=Z,383nm,19.0s
NDI New Delhi 85.15 318 *e*P **P 03 25 18.0 -1.8**
RTC Rabat Centre 85.30 28 PFAKE 03 25 30.0 +10
RTC LR LR
comp=Z,479nm,19.0s
CLTB Caltabellotta 85.50 11 PFAKE 03 25 30.0 +8.5
CLTB LR LR
comp=Z,235nm,21.0s
DZM Mont Dzumac 85.52 217 *e*S **S 03 35 53.9 +1.8**
comp=Z,146nm,23.4s
DZM Mont Dzumac 85.52 217 *e*LR LR 03 52 29.0
comp=Z,830nm,21.6s
DZM Mont Dzumac 85.52 217 LR LR 03 58 13.2
comp=Z,674nm,20.7s,baz=344,slow=32
ISP Isparta 85.97 357 PFAKE 03 25 40.0 +16
ISP LR LR
comp=Z,391nm,20.0s
KBSD Kabsdagh 86.14 349 *e*P **P 03 25 21.8 -2.8**
SFNV Gufian 86.76 350 *e*P **P 03 25 27.5 -0.3**
KEST Kesra 86.84 14 *e*P **P 03 25 28.5 +0.4**
KEST Kesra 86.84 14 P **P 03 25 28.9 +0.7**
comp=Z,2.6nm,1.0s,baz=318,slow=11,SNR=5.4
KEST LR LR 04 07 12.1
comp=Z,257nm,18.8s,baz=294,slow=38
WDD Wield Dalam 87.33 10 PFAKE 03 25 40.0 +10
WDD LR LR
comp=Z,645nm,20.0s
SANT Santorini 87.44 1 PFAKE 03 25 40.0 +9.0
SANT LR LR
comp=Z,388nm,19.0s
BTCH Batrach 87.46 353 *e*P **P 03 25 31.4 +0.3**
ARNB Al Arnab 87.67 353 *e*P **P 03 25 35.2 +3.1**
COEN Coen 87.95 241 *e*P **P 03 25 33.1 -0.4**
RAO Raoul Island 88.08 202 PFAKE 03 25 40.0 +6.3
RAO LR LR
comp=Z,890nm,19.0s
BIDA Albida 88.48 353 *e*P **P 03 25 35.8 -0.3**
CSS Prodhromos 88.71 355 *e*P **P 03 25 37.2 +0.1**
comp=Z,13nm,1.2s
CSS LR LR
comp=Z,74nm,21.0s
HAWK Haweek 88.97 352 *e*P **P 03 25 39.1 +0.7**
MARH Ras Al Marh 89.45 352 *e*P **P 03 25 41.7 +0.8**
BRBR Barbar 90.10 353 *e*P **P 03 25 43.9 +0.1**
TOTH TOTAH 90.12 352 *e*P **P 03 25 44.2 +0.5**
ZALF Zalf 90.48 352 *e*P **P 03 25 44.9 -0.5**
MMAI Mount Meron Ar 90.53 353 LR LR 04 15 01.2
comp=Z,208nm,18.3s,baz=25,slow=41
SALA Sala 90.74 352 *e*P **P 03 25 46.5 -0.2**
CTA Charters Tower 91.81 235 P **P 03 25 52.6 +1.2**
CTA Charters Tower 91.81 235 P **P 03 25 52.6 +1.2**
comp=Z,5.3nm,0.8s,baz=31,slow=6.9,SNR=8.7
CTAO Charters Tower 91.81 235 *e*P **P 03 25 52.1 +0.6**
CTAO pmax pmax
comp=Z,12nm,1.1s
CTAO MLR MLR
comp=Z,438nm,20.0s
CTAO Charters Tower 91.81 235 *e*P **P 03 25 52.1 +0.6**
comp=Z,12nm,1.1s
CTAO LR LR
comp=Z,438nm,20.0s
PTGA Pitinga 92.15 88 PFAKE 03 26 00.0 +6.7
PTGA LR LR
comp=Z,414nm,20.0s
NNA Nana 92.29 108 *e*P **P 03 25 53.4 -0.4**
comp=Z,11nm,0.9s
NNA LR LR
comp=Z,326nm,19.0s
KAPI Kappang 92.75 265 *e*P **P 03 25 55.9 0.0**
comp=Z,79nm,1.1s
KAPI LR LR
comp=Z,186nm,21.0s
KULM Kulim 94.66 287 PFAKE 03 26 20.0 +15
KULM LR LR
comp=Z,278nm,20.0s
HYB Hyderabad 94.76 312 *i*P **P 03 26 03.5 -1.8**
SAML Samuel 97.16 95 *e*P Pdif 03 26 16.6 +0.4
comp=Z,6.3nm,1.4s
SAML LR LR
comp=Z,1μm,21.0s
WRAB Tennant Creek 97.40 245 *e*P **P 03 26 17.0 0.0**
WRAB pmax pmax
comp=Z,14nm,1.6s
WRAB MLR MLR
comp=Z,581nm,22.0s
WRAB Tennant Creek 97.40 245 *e*P **P 03 26 17.0 0.0**
comp=Z,14nm,1.6s
WRAB LR LR
comp=Z,581nm,22.0s
URZ Urewera 97.83 204 LR LR 04 04 28.0
comp=Z,457nm,19.2s,baz=22,slow=32
TAM Tamanrasset 98.88 20 *e*P **P 03 26 21.6 -2.4**
TAM MLR MLR
comp=Z,675nm,20.0s
TAM Tamanrasset 98.88 20 *e*P **P 03 26 21.6 -2.4**
TAM LR LR
comp=Z,675nm,20.0s
LPAZ La Paz 100.50 103 *e*Pdif **Pdif 03 26 31.6 -0.1**
SNZO South Karori 101.28 204 PFAKE 03 26 40.0 +6.2
SNZO LR LR
comp=Z,530nm,20.0s
CAN Canberra 103.93 226 PFAKE 03 27 00.0 +14
CAN LR LR
comp=Z,310nm,19.0s
LVC Limon Verde 105.28 108 *e*PKP 03 31 06.8
LVC LR LR
comp=Z,274nm,20.0s
TORD Torodi Ar. Bea 107.38 26 PKiKP **PKiKP 03 31 12.2 +1.9**
TORD PP **PP 03 31 29.9 +1.6**
TORD PKKPbc **PKKPbc 03 42 23.4 +0.3**
TORD Torodi Ar. Bea 107.38 26 PKiKP **PKiKP 03 31 12.2 +1.9**
comp=Z,0.6nm,0.9s,baz=321,slow=1.8,SNR=2.4
TORD PP **PP 03 31 29.9 +1.6**
comp=Z,1.1nm,0.9s,baz=350,slow=6.8,SNR=3.8
TORD PKKPbc **PKKPbc 03 42 23.4 +0.3**
comp=Z,0.9nm,0.7s,baz=150,slow=2.4,SNR=9.4
H03N2 Juan Fernandez 109.12 122 T T 05 29 30.5
baz=321,slow=75,SNR=28
H03N1 Juan Fernandez 109.14 122 T T 05 29 32.9
baz=321,slow=75,SNR=41
H03N3 Juan Fernandez 109.14 122 T T 05 29 24.1
baz=321,slow=75,SNR=38
RCBR Riachuelo 109.45 70 PFAKE 03 31 30.0
RCBR LR LR
comp=Z,1μm,19.0s
FORT Forrest 109.53 244 *e*PKP **PKiKP 03 31 14.2 +0.4**
LCO Las Campanas 109.55 113 *e*PKP **PKiKP 03 31 14.1 -0.1**
TRQA Tornquist 121.13 113 *e*PKPdf **PKPdf 03 31 35.6 -0.1**
TRQA LR LR
comp=Z,484nm,19.0s
ASCN Ascension 121.64 51 PFAKE 03 31 50.0 +13
ASCN LR LR
comp=Z,1μm,21.0s
MSEY Mahe Island 123.63 325 PFAKE 03 31 50.0 +8.6
MSEY LR LR
comp=Z,353nm,20.0s
KMBO Kilima Mbogo 124.18 348 *e*PKPdf **PKPdf 03 31 43.1 +0.5**
KMBO LR LR
comp=Z,409nm,19.0s
KMBO Kilima Bogo 124.18 348 PKP **PKPdf 03 31 43.3 +0.6**
comp=Z,3.9nm,0.9s,baz=345,slow=2.0,SNR=16
EFI East Falkland 132.82 122 PFAKE 03 32 10.0 +13
EFI LR LR
comp=Z,680nm,21.0s
SBA Scott Base 136.41 192 PFAKE 03 32 20.0 +16
SBA LR LR
comp=Z,511nm,19.0s
LSZ Lusaka 138.82 359 *e*PKPdf **PKPdf 03 32 10.0 0.0**
LSZ LR LR
comp=Z,529nm,20.0s
ABPO Ambohimpanom 139.66 330 PFAKE 03 32 20.0 +8.5
ABPO LR LR
comp=Z,276nm,19.0s
TSUM Tsumeb 142.03 15 PFAKE 03 32 30.0 +14
TSUM LR LR
comp=Z,570nm,22.0s
QSPA South Pole Qui 146.32 180 *e*PKPbc **PKPbc 03 32 23.0 0.0**
QSPA LR LR
comp=Z,494nm,19.0s
QSPA South Pole Qui 146.32 180 PKPbc **PKPbc 03 32 22.4 -0.5**
comp=Z,21nm,0.8s,baz=41,slow=1.1,SNR=39
LBTB Lobatse 148.49 3 *e*PKPbc **PKPbc 03 32 30.1 -0.1**
BOSA Boshof 152.06 4 *e*PKPbc **PKPbc 03 32 38.3 -0.4**
BOSA Boshof 152.06 4 PKPbc **PKPbc 03 32 38.4 -0.3**
comp=Z,9.5nm,0.7s,baz=40,slow=2.4,SNR=24
SNAA Sanae 160.29 152 *e*PKPdf **PKPdf 03 32 41.1 -0.4**
SNAA *e*PKPab **PKPab 03 33 21.0 -1.4**

IDC ***27*** *03:16:16.9±1.7,31.41S×177.51W,h0km,mb4.2/5, mb1 4.3/6,mb1mx4. 1/19,mbtmp4.2/6,MS3.4/3,Ms1 3.4/3, ms1mx3.0/35,Error ellipse: s-maj=49.4km s-min=28.1km az=141.0*

ISCJB ***27*** *03:16:21.4±1.6,31.23S±0.09×177.9W±0.3,h27km, mb4.1/5,MS4.1/2,Error ellipse: s-maj=33.3km s-min=9.4km az=16.1*

ISC 27 03:16:22.0±1.3,31.2S±0.1×177.7W±0.2,h27km,n20, σ0.677/16,mb4.1/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.98**	**354**	Pn	**Pn**	**03 16 54.4**	**+0.7**
	106nm,0.3s,baz=94,slow=23,SNR=9.9						
RAO				Sn	**Sn**	**03 17 17.2**	**-0.4**
	269nm,0.3s,baz=108,slow=22,SNR=7.9						
RAO				LR	LR	03 17 33.6	
	comp=Z,371nm,18.1s,baz=131,slow=35						
DZM	**Mont Dzumac**	**16.86**	**299**	LR	LR	03 25 32.7	
	comp=Z,234nm,18.4s,baz=37,slow=33						
CTA	**Charters Tower**	**34.22**	**280**	P	**P**	**03 23 06.1**	**+0.5**
	3.1nm,0.7s,baz=100,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**34.58**	**258**	P	**P**	**03 23 09.1**	**+0.5**
	2.5nm,1.0s,baz=81,slow=15,SNR=4.5						
STKA				LR	LR	03 36 24.2	
	comp=Z,60nm,18.9s,baz=26,slow=35						
HTT	**Hallett**	**36.56**	**255**	P	**P**	**03 23 25.2**	**-0.4**
	baz=31,SNR=4.0						
BBOO	**Buckleboo**	**39.03**	**255**	P	**P**	**03 23 45.4**	**-1.1**
	baz=34,SNR=5.1						
ASAR	**Alice Springs**	**43.36**	**268**	P	**P**	**03 24 21.7**	**-0.5**
	1.7nm,0.7s,baz=105,slow=7.9,SNR=13						
WRA	**Warramunga Arr**	**44.42**	**273**	P	**P**	**03 24 30.2**	**-0.5**
	0.9nm,0.3s,baz=111,slow=8.1,SNR=17						
WRKA	**Warakurna**	**47.67**	**263**	P	**P**	**03 24 55.9**	**-0.4**
	baz=43,SNR=4.0						
MTN	**Manton Dam**	**50.40**	**279**	P	**P**	**03 25 18.5**	**+1.3**
	baz=46,SNR=3.5						
MAW	**Mawson**	**71.64**	**201**	P	**P**	**03 27 41.8**	**+1.1**
	baz=68,SNR=13						
H03N3	**Juan Fernandez**	**79.97**	**123**	T	T	04 57 49.9	
	baz=192,slow=75,SNR=6.5						
H03N2	**Juan Fernandez**	**79.97**	**123**	T	T	04 57 38.0	
H03N1	**Juan Fernandez**	**79.98**	**123**	T	T	04 57 42.5	

baz=239,slow=75,SNR=4.3
PETK Petropavlovsk- 86.68 345 P **P** 03 29 03.0 **+0.2**
1.6nm,0.7s,baz=134,slow=6.2,SNR=3.5
ELK Elko 91.95 42 LR LR 04 02 21.1
comp=Z,487nm,21.3s,baz=90,slow=30
KURBB Kurchatov Arra 121.86 313 PKP **PKPdf** 03 35 12.2 **-1.1**
0.3nm,0.4s,baz=98,slow=2.3,SNR=6.1
FINES FINESS Array B 146.01 340 PKPbc **PKPab** 03 35 58.5 **-0.7**
7.3nm,0.8s,baz=54,slow=4.4,SNR=16
AKASG Malin Array Be 152.12 322 PKPbc **PKPbc** 03 36 14.2 **-0.4**
2.7nm,0.8s,baz=53,slow=2.9,SNR=15
BRTR Keskin Array B 153.24 297 PKPbc **PKPbc** 03 36 17.2 **-0.4**
0.9nm,0.9s,baz=96,slow=3.8,SNR=4.4

*ROM **27** 03:26:14.8±0.1, 42.°26N×13.°50E, h10km, Md2.6/17, Ml2.5/12, Error ellipse: s-maj=0.8km s-min=0.6km az=49.0*
*ISCJB **27** 03:26:15.1±0.4, 42.°25N±0.°02×13.°48E±0.°03, h10km±4km, Error ellipse: s-maj=4.1km s-min=3.4km az=174.0*
*CSEM **27** 03:26:15.3±0.1, 42.°25N×13.°48E, h5km, ML3.0/7, Error ellipse: s-maj=2.6km s-min=2.1km az=91.0*

ISC 27 03:26:15.8±0.9, 42.°26N±0.°02×13.°50E±0.°02, h9km±5km, n42, σ0°86/63, 2C, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.06**	**82**	Pg	**Pg**	**03 26 17.6**	**-0.3**
FAGN				Sg	**Sg**	**03 26 19.1**	**-0.3**
	14μm,0.3s						
FAGN	**Fagnano**	**0.06**	**82**	Pg	**Pg**	**03 26 17.6**	**-0.3**
FAGN				Sg	**Sg**	**03 26 19.1**	**-0.3**
	14μm,0.3s						
T0104	**Madonna delle**	**0.16**	**310**	Pg	**Pg**	**03 26 19.1**	**-0.2**
T0104				Sg	**Sg**	**03 26 21.9**	**+0.2**
PTQR	**Pietraquaria**	**0.25**	**198↑**	*i*Pg	**Pg**	**03 26 20.7**	**-0.1**
PTQR				Sg	**Sg**	**03 26 24.8**	**+0.6**
PTQR	**Pietraquaria**	**0.25**	**198↑**	*i*Pg	**Pg**	**03 26 20.7**	**-0.1**
PTQR				Sg	**Sg**	**03 26 24.8**	**+0.6**
FIAM	**Fiamignano**	**0.29**	**272**	Pg	**Pg**	**03 26 21.2**	**-0.4**
FIAM				Sg	**Sg**	**03 26 25.8**	**+0.4**
	435nm,0.7s						
FIAM	**Fiamignano**	**0.29**	**272**	Pg	**Pg**	**03 26 21.2**	**-0.4**
FIAM				Sg	**Sg**	**03 26 25.8**	**+0.4**
	435nm,0.7s						
VCEL	**Villa Celiera**	**0.29**	**61**	Pg	**Pg**	**03 26 21.2**	**-0.4**
VCEL				Sg	**Sb**	**03 26 26.7**	**-1.5**
	863nm,0.7s						
VCEL	**Villa Celiera**	**0.29**	**61**	Pg	**Pg**	**03 26 21.2**	**-0.4**
VCEL				Sg	**Sb**	**03 26 26.7**	**-1.5**
	863nm,0.7s						
CAMP	**Campotosto**	**0.29**	**346**	Pg	**Pg**	**03 26 21.0**	**-0.6**
CAMP				Sg	**Sg**	**03 26 25.8**	**+0.3**
	424nm,0.5s						
CAMP	**Campotosto**	**0.29**	**346**	Pg	**Pg**	**03 26 21.0**	**-0.6**
CAMP				Sg	**Sg**	**03 26 25.8**	**+0.3**
	424nm,0.5s						
TERO	**Teramo**	**0.37**	**12**	Pg	**Pg**	**03 26 22.6**	**-0.6**
TERO				Sg	**Sg**	**03 26 28.2**	**0.0**
	526nm,0.7s						
TERO	**Teramo**	**0.37**	**12**	Pg	**Pg**	**03 26 22.6**	**-0.6**
TERO				Sg	**Sg**	**03 26 28.2**	**0.0**
	526nm,0.7s						
SMA1	**SAN MARTINO**	**0.39**	**342**	Pg	**Pg**	**03 26 23.5**	**-0.1**
	350nm,0.5s						
VVLD	**Villa Vallelon**	**0.40**	**167**	Pg	**Pg**	**03 26 23.2**	**-0.4**
VVLD				Sg	**Sg**	**03 26 29.4**	**+0.6**
	309nm,0.5s						
VVLD	**Villa Vallelon**	**0.40**	**167**	Pg	**Pg**	**03 26 23.2**	**-0.4**
VVLD				Sg	**Sg**	**03 26 29.4**	**+0.6**
	309nm,0.5s						
GUAR	**Guarcino**	**0.48**	**197**	Pg	**Pg**	**03 26 24.7**	**-0.5**
	316nm,0.3s						
GUAR	**Guarcino**	**0.48**	**197**	Pg	**Pg**	**03 26 24.7**	**-0.5**
	316nm,0.3s						
LPEL	**Lama dei Pelig**	**0.55**	**112**	Pg	**Pg**	**03 26 25.7**	**-0.8**
LPEL				Sg	**Sg**	**03 26 34.1**	**+0.4**
	821nm,0.3s						
LPEL	**Lama dei Pelig**	**0.55**	**112**	Pg	**Pg**	**03 26 25.7**	**-0.8**
LPEL				Sg	**Sg**	**03 26 34.1**	**+0.4**
	821nm,0.3s						
SDI	**San Donato**	**0.59**	**157**	Pg	**Pg**	**03 26 26.5**	**-0.8**
	66nm,0.2s						
SDI	**San Donato**	**0.59**	**157**	Pg	**Pg**	**03 26 26.5**	**-0.8**
	66nm,0.2s						
MTCE	**Montecelio**	**0.61**	**248**	Pg	**Pg**	**03 26 26.7**	**-0.9**
	88nm,0.4s						
MTCE	**Montecelio**	**0.61**	**248**	Pg	**Pg**	**03 26 26.7**	**-0.9**
	88nm,0.4s						
MNS	**Montasola**	**0.62**	**282**	Pg	**Pg**	**03 26 26.8**	**-1.1**
	126nm,0.6s						
MNS	**Montasola**	**0.62**	**282**	Pg	**Pg**	**03 26 26.8**	**-1.1**
	126nm,0.6s						
NRCA	**Norcia**	**0.64**	**334**	Pg	**Pg**	**03 26 27.2**	**-1.1**
	20nm,0.5s						
NRCA	**Norcia**	**0.64**	**334**	Pg	**Pg**	**03 26 27.2**	**-1.1**
	20nm,0.5s						
GIUL	**Giuliano Di Ro**	**0.72**	**195**	Pg	**Pg**	**03 26 28.7**	**-1.0**
	157nm,0.8s						
GIUL	**Giuliano Di Ro**	**0.72**	**195**	Pg	**Pg**	**03 26 28.7**	**-1.0**
	157nm,0.8s						
RMP	**Rome, Mte Porz**	**0.74**	**233**	Pg	**Pg**	**03 26 29.1**	**-1.1**
	257nm,0.4s						
RMP	**Rome, Mte Porz**	**0.74**	**233**	Pg	**Pg**	**03 26 29.1**	**-1.1**
	257nm,0.4s						
CERA	**Filignano**	**0.76**	**149**	Pg	**Pg**	**03 26 28.8**	**-1.7**
CERA	**Filignano**	**0.76**	**149**	Pg	**Pg**	**03 26 28.8**	**-1.7**
FDMO	**Fiordimonte**	**0.84**	**339**	Pg	**Pg**	**03 26 30.8**	**-1.2**
FDMO	**Fiordimonte**	**0.84**	**339**	Pg	**Pg**	**03 26 30.8**	**-1.2**
CESI	**CESI - Serrava**	**0.87**	**330**	Pg	**Pg**	**03 26 31.6**	**-0.9**
CESI	**CESI - Serrava**	**0.87**	**330**	Pg	**Pg**	**03 26 31.6**	**-0.9**
NVLJ	**Novalja**	**2.51**	**23**	*e*Pn	**Pn**	**03 26 56.8**	**0.0**
NVLJ				Sn	**Sn**	**03 27 28.5**	**+1.0**
NVLJ	**Novalja**	**2.51**	**23**	*e*Pn	**Pn**	**03 26 56.8**	**0.0**
NVLJ				Sn	**Sn**	**03 27 28.5**	**+1.0**
UDBI	**Udbina**	**2.81**	**35**	*i* Pn	**Pn**	**03 27 01.8**	**+0.9**
UDBI				Sn	**Sn**	**03 27 36.8**	**+1.8**
UDBI	**Udbina**	**2.81**	**35**	*i* Pn	**Pn**	**03 27 01.8**	**+0.9**
UDBI				Sn	**Sn**	**03 27 36.7**	**+1.8**

IDC 27 03:42:32.4±51.0, 22.°94S×177.°56W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=926.3km s-min=154.4km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.16**	**247**	P	P	03 49 44.1	-1.1
	0.6nm,0.3s,baz=94,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**44.41**	**259**	P	P	03 50 45.1	-0.2
	0.6nm,0.3s,baz=94,slow=7.3,SNR=54						
WRA	**Warramunga Arr**	**44.72**	**264**	P	P	03 50 48.5	+0.7
	2.0nm,0.3s,baz=100,slow=8.3,SNR=44						

IDC 27 03:58:53.1±59.0, 19.°61S×179.°22W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.9/3, Error ellipse: s-maj=1066.0km s-min=162.8km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.16**	**243**	P	P	04 06 05.5	-0.5
	0.4nm,0.4s,baz=80,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**43.60**	**261**	P	P	04 06 59.5	0.0
	1.0nm,0.6s,baz=96,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**43.62**	**256**	P	P	04 06 59.6	0.0
	1.4nm,0.5s,baz=95,slow=7.6,SNR=46						

*ISCJB **27** 04:13:45.5±0.6, 16.°95N±0.°07×94.°12W±0.°06, h174km±6km, mb3.5/3, Error ellipse: s-maj=13.0km s-min=7.5km az=36.4*
*IDC **27** 04:13:46.7±4.7, 17.°02N×93.°82W, h163km±48km, mb3.2/3, mb1 3.4/6, mb1mx3.1/24, mbtmp3.2/6, MS2.9/1, Ms1 2.9/1, ms1mx2.7/19, Error ellipse: s-maj=65.8km s-min=32.1km az=71.0*
*MEX **27** 04:13:49.1±0.5, 16.°62N×94.°31W, h185km±7km, MD4.0*

ISC 27 04:13:46.3±0.9, 16.°96N±0.°07×94.°08W±0.°05, h170km±8km, n12, σ2°09/18, mb3.5/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.78**	**280**	*e*P	**Pn**	**04 14 11.0**	**-0.4**
TUIG	**Tuzandepetl**	**1.12**	**343**	*i* P	**Pn**	**04 14 13.2**	**-0.8**
TUIG				*i* S	**Sn**	**04 14 36.7**	**+1.3**
PCIG		**1.50**	**146**	*e*P	**Pn**	**04 14 19.4**	**+2.0**
PCIG				*i* S	**Sn**	**04 14 42.4**	**+1.0**
HUIG	**Huatulco**	**2.27**	**239**	*e*P	**Pn**	**04 14 24.4**	**-1.5**
HUIG				*e*S	**Sn**	**04 14 52.5**	**-3.9**
VHO	**Vista Hermosa**	**2.54**	**273**	*i* P	**Pn**	**04 14 29.4**	**+0.3**
VHO				*i* S	**Sn**	**04 15 01.3**	**-0.9**
THIG		**2.69**	**139**	*e*P	**Pn**	**04 14 31.4**	**+0.7**
THIG				*e*S	**Sn**	**04 15 06.2**	**+1.1**
APG	**El Apazote**	**3.99**	**119**	P	**Pn**	**04 14 45.1**	**-2.1**
	0.6nm,0.3s,baz=315,slow=12,SNR=20						
APG				S	**Sn**	**04 15 29.9**	**-4.7**
	3.6nm,0.3s,baz=223,slow=22,SNR=9.4						
APG				LR	LR	04 16 19.7	
	comp=Z,150nm,18.4s,baz=26,slow=40						
TEIG	**Tepich**	**6.39**	**59**	P	**Pn**	**04 15 16.5**	**-1.9**
	2.0nm,0.3s,baz=24,slow=9.4,SNR=14						
JTS	**JuntasAbangare**	**11.07**	**126**	P	**Pn**	**04 16 20.4**	**+0.2**
	0.4nm,0.3s,baz=312,slow=19,SNR=2.0						
YKA	**Yellowknife Ar**	**47.71**	**347**	P	**P**	**04 22 06.0**	**+0.4**
	0.8nm,0.6s,baz=152,slow=7.4,SNR=24						
ILAR	**Eielson Array**	**59.34**	**337**	P	**P**	**04 23 31.8**	**+1.5**
	0.2nm,0.6s,baz=137,slow=5.8,SNR=6.7						
ARCES	**ARCESS Array B**	**83.97**	**18**	P	**P**	**04 25 57.9**	**+0.7**
	1.3nm,0.8s,baz=307,slow=6.6,SNR=3.9						

IDC 27 04:31:28.4±3.8, 3.°99S×153.°06E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/18, mbtmp3.3/2, Error ellipse: s-maj=179.2km s-min=47.3km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.18**	**228**	P	P	04 36 47.2	+0.5
	0.7nm,0.4s,baz=53,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**26.92**	**222**	P	P	04 37 11.4	-0.2
	0.2nm,0.8s,baz=54,slow=9.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**150.29**	**290**	PKPbc	PKPbc	04 51 22.1	-0.6
	0.4nm,0.8s,baz=85,slow=3.6,SNR=3.0						

*DJA **27** 04:48:10.2±0.3, 3.°S±6.°×10.°2E±.°, h10km, M3.8/11, MLv3.8/11*
*ISCJB **27** 04:48:11.6±0.9, 1.°8S±0.°2×102.°70E±0.°10, h150km, mb3.4/6, Error ellipse: s-maj=24.9km s-min=9.7km az=25.2*
*IDC **27** 04:48:14.7±2.8, 2.°22S×101.°91E, h200km±31km, mb3.1/6, mb1 3.2/7, mb1mx3.0/24, mbtmp3.1/7, Error ellipse: s-maj=71.5km s-min=14.4km az=58.0*

ISC 27 04:48:12.9±1.2, 1.°8S±0.°2×102.°6E±0.°1, h150km, n14, σ1°30/10, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**2.34**	**292**	P	**Pn**	**04 48 52.7**	**+0.6**
PDSI				S	**Sn**	**04 49 22.2**	**0.0**
PPI	**Padang Panjang**	**2.60**	**301**	P	Pn	04 48 48.4	-6.8
MNSI	**Mandailing Nat**	**3.99**	**310**	P	**Pn**	**04 49 13.7**	**+0.7**
PSI	**Prapat**	**5.88**	**321**	P	**Pn**	**04 49 38.4**	**+0.3**
	2.2nm,0.3s,baz=146,slow=3.8,SNR=8.0						
H08S2	**Diego Garcia H**	**30.57**	**258**	T	T	05 23 39.7	
	baz=81,slow=75,SNR=5.1						
H08S3	**Diego Garcia H**	**30.58**	**258**	T	T	05 23 43.6	
	baz=81,slow=75,SNR=5.6						
H08S1	**Diego Carcia H**	**30.59**	**258**	T	T	05 23 42.6	
	baz=81,slow=75,SNR=3.1						
WRA	**Warramunga Arr**	**35.86**	**122**	P	**P**	**04 54 58.3**	**-0.3**
	0.2nm,0.4s,baz=300,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**37.28**	**128**	P	**P**	**04 55 10.8**	**+0.1**
	0.4nm,0.5s,baz=302,slow=8.1,SNR=13						
SONM	**Songino Array**	**49.54**	**3**	P	**P**	**04 56 49.7**	**+1.2**
	1.1nm,0.6s,baz=184,slow=9.7,SNR=13						
MKAR	**Makanchi Array**	**51.59**	**342**	P	**P**	**04 57 01.6**	**-2.2**
	0.1nm,0.4s,baz=146,slow=9.4,SNR=6.1						
USRK	**Ussuriysk Arra**	**52.78**	**26**	P	**P**	**04 57 13.5**	**+1.0**
	0.5nm,0.6s,baz=183,slow=3.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**57.49**	**348**	P	**P**	**04 57 44.3**	**-1.9**
	0.7nm,0.5s,baz=184,slow=6.2,SNR=3.7						
TXAR	**Lajitas Array**	**142.90**	**40**	PKP		05 07 25.0	
	0.3nm,0.6s,baz=196,slow=0.9,SNR=6.6						

MAN 27 04:55:01, 9.°09N×124.°60E, h32km, mb4.4, ML3.2, MS3.1, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.64**	**171↑**	*i*P	Pn	04 55 14.5	+0.6
CGP				*i* S	Sn	04 55 24.6	+1.6
TBP	**Tagbilaran**	**0.94**	**309**	*e*P	Pn	04 55 16.9	-1.0
TBP				*e*S	Sn	04 55 28.8	-1.5
BUTP	**Butuan**	**1.02**	**97**	*e*P	Pb	04 55 21.5	+1.3
BUTP				*e*S	Sb	04 55 37.9	+4.6
MSLP	**Maasin**	**1.07**	**14**	*e*P	Pn	04 55 20.1	+0.4
MSLP				*e*S	Sb	04 55 34.3	-0.3
SCPH	**Surigao**	**1.11**	**52**	*e*P	Pn	04 55 20.7	+0.3
SCPH				*i* S	Sn	04 55 34.9	+0.2
BUKP	**Musuan**	**1.29**	**159**	*e*P	Pb	04 55 25.5	+0.7
BUKP				*e*S	Sb	04 55 46.3	+5.1
LLP	**Lapu-Lapu**	**1.37**	**333↑**	*e*P	Pn	04 55 23.7	-0.1
LLP				*e*S	Sn	04 55 41.6	+0.7
PAGZ	**Pagadian**	**1.73**	**224**	*e*P	Pn	04 55 30.4	+1.6
PAGZ				*e*S	Sb	04 55 55.0	+1.6
CTBH	**Cotabato--PC H**	**1.89**	**191**	*i*P	Pb	04 55 36.1	+1.2
OCLP	**Ormoc**	**1.95**	**0**	*e*P	Pn	04 55 33.0	+1.1

*IDC **27** 04:55:13.2±0.9, 0.°31S×135.°26E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=47.0km s-min=18.3km az=79.0*
*ISCJB **27** 04:55:15.1±0.5, 0.°30S±0.°05×135.°29E±0.°05, h26km, mb4.1/12, Error ellipse: s-maj=8.7km s-min=6.2km az=44.8*
*NEIC **27** 04:55:18.2±0.5, 0.°33S×135.°30E, h35km, mb4.3/8, Error ellipse: s-maj=20.8km s-min=7.5km az=73.0*
*DJA **27** 04:55:21.1±0.6, 1.°S±12.°×13.°5E±.°, h23km±11km, M4.3/5, MLv4.3/5*
*AUST **27** 04:55:44.9±3.1, 2.°38S×135.°40E, h106km, Error ellipse: s-maj=2.6km s-min=1.6km az=260.0*

ISC 27 04:55:17.0±0.7, 0.°31S±0.°08×135.°35E±0.°06, h26km, n51, σ0°95/45, mb4.1/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**1.16**	**139**	P	**Pn**	**04 55 36.9**	**-0.7**
BAKI				S	**Sb**	**04 55 55.2**	**+2.1**
MWPI	**Manokwari, Pap**	**1.45**	**245**	P	**Pn**	**04 55 40.8**	**-0.7**
SRPI	**Serui, Papua**	**1.79**	**150**	P	**Pn**	**04 55 44.8**	**-1.5**
FAKI	**Fak Fak**	**4.04**	**230**	P	Pn	04 56 11.8	-5.4
FAKI				S	Pn	04 56 10.8	-6.4
FAKI	**Fak Fak**	**4.04**	**230**	P	**Pn**	**04 56 18.0**	**+0.8**
	baz=3.2,SNR=75						
SWI	**Sorong**	**4.12**	**262**	P	**Pn**	**04 56 18.8**	**+0.4**
SWI				S	**Sn**	**04 57 03.9**	**-1.9**
JAY	**Jayapura**	**5.79**	**112**	LR	LR	04 59 10.8	
	comp=Z,134nm,18.9s,baz=188,slow=40						
GTOI	**Gorontalo**	**12.37**	**274**	P	P	04 58 18.1	-5.3
KDU	**Kakadu**	**12.63**	**193**	P	**Pn**	**04 58 15.2**	**+0.2**
	baz=11,SNR=16						
MTN	**Manton Dam**	**13.14**	**198**	P	**Pn**	**04 58 22.4**	**+0.4**
	baz=11,SNR=9.4						
SOEI	**Soe**	**14.48**	**229**	P	P	04 58 50.4	+3.4
	baz=13,SNR=3.2						
TOLI	**Toli-Toli**	**14.62**	**276**	P	Pn	04 58 36.7	-5.6
COEN	**Coen**	**15.62**	**151**	*e*Pn	**Pn**	**04 58 54.0**	**-1.6**
KAPI	**Kappang**	**16.26**	**253**	*e*Pn	Pn	04 58 56.4	-7.5
KNRA	**Kunununra**	**16.60**	**203**	P	**Pn**	**04 59 07.7**	**-0.3**
	baz=15,SNR=26						
WRAB	**Tennant Creek**	**19.53**	**183**	*e*P	**P**	**04 59 42.2**	**-0.5**
	23nm,1.2s						
WRA	**Warramunga Arr**	**19.54**	**183**	P	**P**	**04 59 42.2**	**-0.5**
WRA	**Warramunga Arr**	**19.54**	**183**	P	**P**	**04 59 42.2**	**-0.5**
	0.7nm,0.3s,baz=1.7,slow=12,SNR=49						
FITZ	**Fitzroy Crossi**	**20.09**	**208**	*e*P	**P**	**04 59 49.4**	**+0.6**
	5.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.09**	**208**	P	**P**	**04 59 48.7**	**-0.1**
	2.4nm,0.7s,baz=90,slow=2.0,SNR=4.5						
FITZ	**Fitzroy Crossi**	**20.09**	**208**	P	Pn	04 59 53.1	+2.3
	baz=18,SNR=5.1						
QIS	**Mount Isa**	**20.55**	**169**	P	Pn	04 59 58.9	+2.7
	baz=19,SNR=4.4						
CTA	**Charters Tower**	**22.37**	**152**	P	**P**	**05 00 14.1**	**+0.6**
CTA	**Charters Tower**	**22.37**	**152**	P	**P**	**05 00 14.1**	**+0.6**
	2.6nm,0.8s,baz=336,slow=14,SNR=5.1						
CTAO	**Charters Tower**	**22.37**	**152**	*e*P	**P**	**05 00 14.6**	**+1.1**
	12nm,1.2s						
AS31	**Alice Springs**	**23.26**	**183**	*e*P	**P**	**05 00 22.4**	**-0.3**
ASAR	**Alice Springs**	**23.26**	**183**	P	**P**	**05 00 22.4**	**-0.3**
ASAR	**Alice Springs**	**23.26**	**183**	P	**P**	**05 00 22.4**	**-0.3**
	18nm,0.8s,baz=8.8,slow=12,SNR=46						
WRKA	**Warakurna**	**25.51**	**195**	P	**P**	**05 00 44.0**	**+0.4**
	baz=24,SNR=5.3						
QLP	**Quilpie**	**27.49**	**163**	P	**P**	**05 01 02.1**	**+0.7**
	baz=26,SNR=4.1						
FORT	**Forrest**	**31.09**	**192**	*e*P	**P**	**05 01 33.7**	**+0.5**
	14nm,0.9s						
STKA	**Stephens Creek**	**31.95**	**170**	P	**P**	**05 01 39.9**	**-1.0**
STKA	**Stephens Creek**	**31.95**	**170**	P	**P**	**05 01 39.9**	**-1.0**
	2.1nm,0.7s,baz=345,slow=8.0,SNR=6.9						
MK31	**Makanchi Array**	**65.85**	**323**	*e*P	**P**	**05 06 02.1**	**+1.8**
MKAR	**Makanchi Array**	**65.85**	**323**	P	**P**	**05 06 00.9**	**+0.5**
MKAR	**Makanchi Array**	**65.85**	**323**	P	**P**	**05 06 00.9**	**+0.5**
	0.5nm,0.6s,baz=110,slow=7.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**68.19**	**331**	P	**P**	**05 06 14.2**	**-0.9**
ZALV	**Zalesovo Beam**	**68.19**	**331**	P	**P**	**05 06 14.2**	**-0.9**
	0.3nm,0.3s,baz=103,slow=6.5,SNR=2.0						
TKM2	**Tokmak 2**	**68.50**	**317**	*e*P	**P**	**05 06 16.6**	**-1.0**
	2.8nm,1.0s						
AAK	**Ala-Archa**	**69.16**	**316**	*e*P	**P**	**05 06 19.9**	**-1.6**
	5.1nm,1.3s						
KURK	**Kurchatov**	**69.84**	**326**	*e*P	**P**	**05 06 25.1**	**-0.3**
	0.6nm,0.5s						
BRVK	**Borovoye**	**75.51**	**326**	*e*P	**P**	**05 06 58.6**	**-0.4**
	2.0nm,0.7s						
VNDA	**Vanda**	**78.47**	**174**	P	**P**	**05 07 15.5**	**+0.2**
VNDA	**Vanda**	**78.47**	**174**	P	**P**	**05 07 15.5**	**+0.2**
	1.1nm,0.8s,baz=322,slow=6.2,SNR=5.5						
ABKAR	**Akbulak array**	**80.73**	**320**	*e*P	**P**	**05 07 27.1**	**-0.9**
ILAR	**Eielson Array**	**85.07**	**25**	P	**P**	**05 07 50.3**	**+0.1**
ILAR	**Eielson Array**	**85.07**	**25**	P	**P**	**05 07 50.3**	**+0.1**
	0.3nm,0.7s,baz=269,slow=5.3,SNR=1.7						
CPUP	**Villa Florida**	**150.83**	**156**	PKPbc	**PKPbc**	**05 15 09.0**	**+1.0**
CPUP	**Villa Florida**	**150.83**	**156**	PKPbc	**PKPbc**	**05 15 09.0**	**+1.0**
	3.9nm,1.0s,baz=231,slow=4.5,SNR=3.1						
LPAZ	**La Paz**	**151.57**	**127**	PKPbc	**PKPbc**	**05 15 12.3**	**+1.5**
LPAZ	**La Paz**	**151.57**	**127**	PKPbc	**PKPbc**	**05 15 12.3**	**+1.5**
	3.1nm,0.7s,baz=228,slow=2.4,SNR=4.3						

*IDC **27** 05:19:01.6±3.6, 4.°63S×101.°18E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, Error ellipse: s-maj=143.1km s-min=20.2km az=56.0*
*ISCJB **27** 05:19:06.5±0.9, 4.°30S±0.°06×103.°00E±0.°05, h5km±7km, mb3.5/6, Error ellipse: s-maj=11.4km s-min=5.0km az=39.2*
*DJA **27** 05:19:07.5±0.4, 4.°S±4.°×10.°3E±.°, h13km, M3.7/11, MLv3.7/11*

ISC 27 05:19:06.5±1.1, 4.°33S±0.°06×102.°92E±0.°06, h13km±7km, n29, σ1°07/20, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.05**	**125**	P	**Pg**	**05 19 08.6**	**-0.4**
LHSI	**Lahat**	**0.79**	**50**	P	**Pg**	**05 19 20.5**	**-1.3**
MBSI	**MBSI**	**0.86**	**311**	P	**Pb**	**05 19 24.3**	**+1.0**
MBSI				S	**Sn**	**05 19 36.9**	**+0.1**
MDSI	**Maura Dua**	**1.27**	**97**	P	**Pg**	**05 19 31.2**	**+0.3**
MDSI				S	**Sn**	**05 19 48.1**	**+1.2**
LWLI	**Liwa**	**1.33**	**121**	S	**Sg**	**05 19 49.8**	**+0.4**
MASI	**Maura Aman, Be**	**1.36**	**330**	P	**Pb**	**05 19 32.1**	**+0.2**
MASI				S	**Sg**	**05 19 51.8**	**+1.3**
KLSI		**1.84**	**101**	P	**Pn**	**05 19 38.5**	**+0.6**
KASI	**Kota Agung**	**1.97**	**127**	P	**Pn**	**05 19 39.0**	**-0.6**
KASI				S	**Sn**	**05 20 05.4**	**+1.2**
PMBI	**Palembang**	**2.32**	**53**	P	**Pn**	**05 19 45.4**	**+1.0**
BLSI	**Bandar Lampung**	**2.54**	**114**	P	**Pn**	**05 19 46.8**	**-0.7**
JMBI	**JAMBI**	**2.78**	**15**	P	**Pn**	**05 19 50.7**	**0.0**
SBJI	**Serang**	**3.66**	**119**	P	**Pn**	**05 20 01.9**	**-1.0**
TPI	**Tanjungpandan**	**4.98**	**72**	P	**Pn**	**05 20 20.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**22.98**	**350**	P	**P**	**05 24 08.6**	**-2.6**
	0.9nm,0.4s,baz=185,slow=8.2,SNR=6.5						
H08S2	**Diego Garcia H**	**30.43**	**262**	T	T	05 55 02.5	
	baz=85,slow=75,SNR=424						
H08S3	**Diego Garcia H**	**30.44**	**262**	T	T	05 55 03.2	
	baz=85,slow=75,SNR=442						
H08S1	**Diego Carcia H**	**30.45**	**262**	T	T	05 55 02.4	
	baz=85,slow=75,SNR=407						
H08N1	**Diego Carcia H**	**31.82**	**265**	T	T	05 57 22.6	
	baz=97,slow=31,SNR=12						
H08N2	**Diego Garcia H**	**31.84**	**265**	T	T	05 57 21.4	
	baz=97,slow=31,SNR=11						
H08N3	**Diego Garcia H**	**31.84**	**265**	T	T	05 57 19.3	
	baz=97,slow=31,SNR=11						
H01W3	**Cape Leeuwin H**	**32.13**

ellipse: s-maj=25.5km s-min=17.1km az=168.0
NNC 27 06:17:48.6±4.3, 41.12N×77.62E, h6km, 20km, mb3.3, mpv2.9, Error ellipse: s-maj=25.0km s-min=12.2km az=162.0

ISC 27 06:17:55.2±3.3, 41.7N±0.3×77.6E±0.1, h10km, n18, σ1§27/14, 5C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.14**	**300**	P	**Pn**	**06 18 15.9**	**-1.5**
	SNR=48						
KZA	**Kyzart**	**1.77**	**284**	P	Pn	06 18 22.5	-3.9
	SNR=35						
TKM2	**Tokmak 2**	**1.92**	**311**	P	**Pn**	**06 18 27.6**	**-0.5**
	SNR=12						
TKM2	**Tokmak 2**	**1.92**	**311**	⇑Pn	**Pn**	**06 18 27.3**	**-0.7**
	6.6nm,0.5s						
TKM2				⇓Lg	Lg	06 19 04.7	
	24nm,0.5s						
UCH	**Uchtor**	**2.34**	**284**	P	**Pn**	**06 18 32.7**	**-1.5**
	SNR=9.7						
AAK	**Ala-Archa**	**2.47**	**294**	P	**Pn**	**06 18 36.8**	**+1.1**
	SNR=9.5						
AAK	**Ala-Archa**	**2.47**	**294**	Pg	**Pn**	**06 18 37.5**	**+1.8**
	2.3nm,0.3s,baz=130,slow=11,SNR=17						
AAK				Lg	Lg	06 19 15.7	
	2.7nm,0.3s,baz=137,slow=22,SNR=13						
AAK	**Ala-Archa**	**2.47**	**294**	Pn	**Pn**	**06 18 34.5**	**-1.2**
	5.9nm,0.5s						
AAK				⇑Lg	Lg	06 19 15.5	
	18nm,0.6s						
USP	**Ospenovka**	**2.77**	**306**	P	**Pb**	**06 18 44.6**	**-0.1**
	SNR=7.9						
EKS2	**Erkin-Say**	**2.98**	**290**	P	**Pb**	**06 18 46.8**	**-1.6**
	SNR=5.8						
KK31	**Karatay Array**	**5.41**	**288**	⇑Pg	**Pb**	**06 19 31.7**	**+1.9**
	0.4nm,0.5s,baz=109,slow=15,SNR=7.4						
KK31				⇓Lg	Lg	06 20 46.5	
	1.9nm,0.7s,baz=106,slow=28,SNR=5.9						
MK31	**Makanchi Array**	**6.13**	**32**	⇑Pn	**Pn**	**06 19 26.0**	**+0.1**
	0.2nm,0.4s,baz=318,slow=71,SNR=6.2						
MK31				⇓Lg	Lg	06 21 18.6	
	1.0nm,0.6s,baz=208,slow=29,SNR=4.7						
MKAR	**Makanchi Array**	**6.13**	**32**	Pn	**Pn**	**06 19 25.8**	**0.0**
	0.1nm,0.3s,baz=202,slow=15,SNR=7.8						
MKAR				Lg	Lg	06 21 23.3	
	0.2nm,0.3s,baz=209,slow=32,SNR=6.4						
KURBB	**Kurchatov Arra**	**8.97**	**4**	Pn	**Pn**	**06 20 05.1**	**+0.5**
	0.1nm,0.3s,baz=194,slow=12,SNR=3.4						
KURBB				Lg	Lg	06 22 53.5	
	0.1nm,0.3s,baz=189,slow=29,SNR=5.2						
KURBB	**Kurchatov Arra**	**8.97**	**4**	⇑Lg	Lg	06 22 51.2	
	5.2nm,0.7s						
KURK	**Kurchatov**	**9.06**	**4**	⇓Lg	Lg	06 22 53.5	
	1.4nm,0.9s						
ZALV	**Zalesovo Beam**	**13.20**	**19**	Pn	**Pn**	**06 21 02.2**	**-0.2**
	0.1nm,0.3s,baz=213,slow=10,SNR=1.3						
TORD	**Torodi Ar. Bea**	**70.86**	**271**	P	P	06 29 04.9	-7.6
	0.3nm,0.6s,baz=49,slow=5.9,SNR=2.1						

IDC 27 06:32:27.7±4.0, 9.00S×109.51W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.5/4, MS3.5/6, Ms1 3.5/6, ms1mx3.3/18, Error ellipse: s-maj=198.3km s-min=56.0km az=110.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**30.42**	**39**	LR	LR	06 48 09.1	
	comp=Z,130nm,19.8s,baz=260,slow=31						
ATAH	**Atahualpa**	**30.86**	**89**	LR	LR	06 47 58.4	
	comp=Z,62nm,19.7s,baz=110,slow=30						
JTS	**JuntasAbangare**	**31.06**	**52**	LR	LR	06 48 15.8	
	comp=Z,65nm,20.9s,baz=224,slow=30						
H03N2	**Juan Fernandez**	**37.22**	**135**	T	T	07 19 12.2	
	baz=304,slow=75,SNR=13						
H03N3	**Juan Fernandez**	**37.23**	**135**	T	T	07 19 05.0	
	baz=304,slow=75,SNR=35						
H03N1	**Juan Fernandez**	**37.23**	**135**	T	T	07 19 10.6	
	baz=304,slow=75,SNR=18						
LPAZ	**La Paz**	**40.96**	**104**	LR	LR	06 54 37.5	
	comp=Z,68nm,18.5s,baz=238,slow=32						
CFAA	**Coronel Fontan**	**44.40**	**126**	LR	LR	06 54 05.0	
	comp=Z,18nm,20.4s,baz=132,slow=29						
NVAR	**Mina Array Bea**	**47.89**	**351**	P	P	06 41 07.6	-0.4
	0.6nm,0.8s,baz=170,slow=9.8,SNR=3.8						
PDAR	**Pinedale Array**	**51.51**	**360**	P	P	06 41 36.0	+0.4
	0.3nm,0.8s,baz=163,slow=6.6,SNR=2.3						
ULM	**Lac du Bonnet**	**60.19**	**10**	P	P	06 42 37.4	0.0
	1.4nm,0.6s,baz=199,slow=2.4,SNR=3.3						
BDFB	**Brasilia**	**60.28**	**103**	LR	LR	07 06 24.5	
	comp=Z,74nm,19.2s,baz=336,slow=34						
YKA	**Yellowknife Ar**	**71.38**	**358**	P	P	06 43 48.8	-0.5
	0.2nm,0.9s,baz=170,slow=5.4,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**86.99**	**289**	T	T	08 21 01.2	
	baz=104,slow=72,SNR=14						
H11S1	**WAKE ISLAND Hy**	**87.00**	**289**	T	T	08 21 03.0	
	baz=104,slow=72,SNR=15						
H11S3	**WAKE ISLAND Hy**	**87.01**	**289**	T	T	08 21 11.0	
	baz=104,slow=72,SNR=21						
H11N3	**WAKE ISLAND Hy**	**87.02**	**290**	T	T	08 21 15.2	
	baz=105,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**87.04**	**290**	T	T	08 21 17.0	
	baz=105,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**87.04**	**290**	T	T	08 21 22.2	
	baz=105,slow=75,SNR=25						
CMAR	**Chiang Mai Arr**	**150.84**	**292**	PKPbc	PKPbc	06 52 23.1	-0.1
	0.7nm,0.3s,baz=39,slow=0.8,SNR=4.2						

ISCJB 27 06:41:25.9±0.7, 24.14S±0.06×67.02W±0.08, h181km±8km, mb3.6/6, Error ellipse: s-maj=11.7km s-min=9.3km az=152.2
IDC 27 06:41:26.3±1.9, 24.14S×66.97W, h171km±16km, mb3.5/6, mb1 3.6/10, mb1mx3.5/19, mbtmp3.9/10, Error ellipse: s-maj=22.3km s-min=15.9km az=69.0
GUC 27 06:41:29.7±0.3, 23.93S×67.60W, h225km, MD3.4, ML4.3

ISC 27 06:41:25.8±0.8, 24.22S±0.06×66.97W±0.08, h169km±9km, n21, σ1§48/26, mb3.8/6, 5C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**2.82**	**302**	⇑*i*P	**Pn**	**06 42 13.9**	**+2.0**
PB06				*i* S	**Sn**	**06 42 47.3**	**-0.4**
PB06				AML	AML	06 42 50.5	
	comp=E,506nm,0.5s						
PB04	**Plate Boundary**	**3.02**	**310**	⇑*i*P	Pn	06 42 21.0	+6.8
PB04				*i* S	Sn	06 42 59.9	+8.1
PB04				AML	AML	06 43 06.5	
	comp=N,361nm,0.5s						
ANCH	**Antofagasta**	**3.19**	**279**	⇑*i*P	**Pn**	**06 42 17.6**	**+1.4**
ANCH				*i* S	**Sn**	**06 42 54.3**	**-1.2**
ANCH				AML	AML	06 42 57.6	
	comp=N,860nm,0.4s						
PB09	**Plate Boundary**	**3.19**	**319**	⇑*i*P	**Pn**	**06 42 18.6**	**+2.1**
PB09				*i* S	**Sn**	**06 42 55.7**	**-0.3**
PB09				AML	AML	06 42 59.9	
	comp=N,947nm,0.5s						
PB07	**Plate Boundary**	**3.65**	**312**	⇑*i*P	**Pn**	**06 42 23.3**	**+1.0**
PB07				*i* S	**Sn**	**06 43 04.3**	**-2.1**
PB01	**Plate Boundary**	**3.92**	**323**	*e*P	**Pn**	**06 42 26.4**	**+0.7**
PB01				*i* S	**Sn**	**06 43 10.2**	**-2.2**
CFAA	**Coronel Fontan**	**7.44**	**188**	P	**Pn**	**06 43 13.0**	**+1.2**
	comp=N,0.1nm,0.3s,baz=338,slow=9.4,SNR=13						
CFAA				S	**Sn**	**06 44 32.0**	**-3.4**
	comp=N,0.3nm,0.3s,baz=231,slow=17,SNR=15						
LPAZ	**La Paz**	**7.96**	**352**	P	**Pn**	**06 43 20.3**	**+1.0**
	comp=N,0.7nm,0.3s,baz=160,slow=7.6,SNR=24						
LPAZ				S	**Sn**	**06 44 45.7**	**-3.1**
	comp=N,0.2nm,0.3s,baz=178,slow=15,SNR=2.5						
CPUP	**Villa Florida**	**8.98**	**106**	P	**Pn**	**06 43 33.1**	**+1.1**
	comp=N,0.4nm,0.3s,baz=276,slow=13,SNR=3.2						
SIV	**San Ignacio**	**9.88**	**35**	P	**Pn**	**06 43 43.8**	**-0.3**
	comp=N,0.8nm,0.3s,baz=234,slow=13,SNR=11						
BDFB	**Brasilia**	**19.74**	**68**	P	**P**	**06 45 42.8**	**0.0**
	comp=N,0.5nm,0.3s,baz=233,slow=7.8,SNR=5.2						
TXAR	**Lajitas Array**	**63.87**	**324**	P	**P**	**06 51 41.2**	**+0.7**
	comp=N,0.2nm,0.6s,baz=123,slow=6.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**06 52 58.0**	**-0.3**
	comp=N,0.5nm,0.4s,baz=262,slow=5.4,SNR=5.9						
PDAR	**Pinedale Array**	**77.35**	**329**	P	**P**	**06 53 01.7**	**-0.3**
	comp=N,0.3nm,0.5s,baz=127,slow=9.4,SNR=4.1						
ULM	**Lac du Bonnet**	**78.44**	**342**	P	**P**	**06 53 07.2**	**-0.4**
	comp=N,1.5nm,0.6s,baz=143,slow=6.4,SNR=4.2						
BOSA	**Boshof**	**80.61**	**117**	P	**P**	**06 53 20.6**	**+0.4**
	comp=N,4.4nm,1.1s,baz=288,slow=7.1,SNR=2.8						
YKA	**Yellowknife Ar**	**94.34**	**340**	P	**P**	**06 54 25.5**	**0.0**
	comp=N,0.4nm,0.5s,baz=131,slow=4.6,SNR=19						
ASAR	**Alice Springs**	**128.27**	**205**	PKP	**PKPdf**	**07 00 12.4**	**-0.4**
	comp=N,0.2nm,0.5s,baz=144,slow=1.8,SNR=8.3						
WRA	**Warramunga Arr**	**131.44**	**207**	PKP	**PKPdf**	**07 00 19.2**	**+0.4**
	comp=N,0.4nm,0.5s,baz=152,slow=1.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**143.57**	**28**	PKP	PKPbc	07 00 38.4	+0.5
	comp=N,1.2nm,0.5s,baz=293,slow=3.8,SNR=5.7						
MKAR	**Makanchi Array**	**146.68**	**40**	PKPbc	**PKPbc**	**07 00 47.9**	**+0.4**
	comp=N,1.3nm,0.5s,baz=331,slow=2.7,SNR=17						

IDC 27 06:44:32.1±2.0, 28.55S×178.21W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=49.3km s-min=15.9km az=52.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.75**	**160**	Pn	Pn	06 44 50.6	+0.7
	176nm,0.3s,baz=56,slow=12,SNR=17						
RAO				Sn	Sn	06 45 01.4	-0.6
	791nm,0.3s,baz=120,slow=21,SNR=15						
STKA	**Stephens Creek**	**34.76**	**254**	P	P	06 51 23.2	-1.0
	1.0nm,0.6s,baz=106,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**43.05**	**265**	P	P	06 52 33.5	-0.4
	0.5nm,0.6s,baz=100,slow=7.6,SNR=16						
WRA	**Warramunga Arr**	**43.87**	**270**	P	P	06 52 41.5	+0.9
	1.1nm,0.4s,baz=110,slow=7.9,SNR=14						
H10S3	**ASCENSION HYDR**	**139.47**	**154**	T	T	09 38 26.6	
H10S2	**ASCENSION HYDR**	**139.47**	**155**	T	T	09 38 26.6	
H10S1	**ASCENSION HYDR**	**139.49**	**155**	T	T	09 38 27.8	
H10N3	**ASCENSION HYDR**	**140.56**	**154**	T	T	09 39 45.6	
	baz=203,slow=75,SNR=10						
H10N1	**ASCENSION HYDR**	**140.56**	**154**	T	T	09 39 49.9	
	baz=203,slow=75,SNR=8.3						
H10N2	**ASCENSION HYDR**	**140.57**	**154**	T	T	09 39 46.9	
	baz=203,slow=75,SNR=7.7						
FINES	**FINESS Array B**	**143.34**	**341**	PKP	PKPbc	07 04 05.1	+0.3
	1.6nm,0.5s,baz=70,slow=6.3,SNR=8.7						
AKASG	**Malin Array Be**	**149.70**	**324**	PKPbc	PKPbc	07 04 22.9	-0.6
	0.7nm,0.6s,baz=49,slow=3.0,SNR=4.8						

MAN 27 06:49:17, 17.93N×122.33E, h9km, mb3.5, ML2.2, MS1.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.41**	**319**	*e*P	Pb	06 49 26.8	+0.4
SGCP				*e*S	Sb	06 49 37.5	+4.7
CVP	**Callao Caves**	**0.53**	**245**	⇓*i*P	Pn	06 49 29.8	-1.0
CVP				*i* S	Sn	06 49 39.3	-0.6
APYP	**Conner**	**1.04**	**266**	*e*P	Pn	06 49 38.3	+0.5
APYP				*e*S	Sn	06 49 53.7	+1.3

MAN 27 06:53:36, 6.23N×126.35E, h13km, mb4.6, ML3.5, MS3.5, Mindanao

NNC 27 06:53:46.8±4.0, 54.44N×86.63E, h33km±39km, mb3.5, mpv3.5, 5C-5D, Error ellipse: s-maj=25.7km s-min=22.1km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.14**	**236**	⇓Pn	Pn	06 55 15.6	+0.5
	3.0nm,0.9s						
KURK				⇑Sn	Sn	06 56 25.9	+1.7
	2.2nm,0.7s						
KURK				⇑Lg	Lg	06 57 00.5	
	3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**6.25**	**236**	⇑Pn	Pn	06 55 17.0	+0.5
	4.5nm,0.5s						
KURBB				⇓Sn	Sn	06 56 28.0	+1.3
	11nm,0.6s						
KURBB				⇓Lg	Lg	06 57 07.1	
	15nm,0.6s						
MK31	**Makanchi Array**	**8.14**	**202**	⇓Pn	Pn	06 55 42.0	-0.5
	0.7nm,0.6s,baz=26,slow=12,SNR=26						
MK31				⇑Sn	Sn	06 57 12.9	-0.4
	0.7nm,0.6s,baz=26,slow=22,SNR=5.0						
MK31				⇑Lg	Lg	06 58 00.4	
	5.1nm,1.0s,baz=33,slow=30,SNR=3.9						
BVA0	**Borovoye Array**	**9.73**	**268**	⇓Pn	Pn	06 56 04.8	+0.5
	0.1nm,0.7s,baz=91,slow=12,SNR=5.2						
BVA0				Sn	Sn	06 57 49.8	-2.5
	2.3nm,0.8s,baz=78,slow=22,SNR=8.3						

IDC 27 06:53:57.8±6.9, 67.63N×171.19W, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.4/30, mbtmp3.3/5, ML3.4/2, Error ellipse: s-maj=114.8km s-min=75.5km az=127.0, Chukchi Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**10.20**	**95**	Pn	Pn	06 56 19.9	-5.3
	0.2nm,0.3s,baz=291,slow=14,SNR=15						
INK	**Inuvik**	**14.01**	**70**	Pn	Pn	06 57 13.2	-4.0
	0.1nm,0.3s,baz=290,slow=12,SNR=2.7						
YKA	**Yellowknife Ar**	**23.64**	**75**	P	P	06 59 10.9	+0.8
	0.3nm,0.7s,baz=303,slow=12,SNR=6.2						
PDAR	**Pinedale Array**	**40.63**	**96**	P	P	07 01 37.7	-1.6
	0.4nm,0.7s,baz=1.9,slow=4.5,SNR=4.0						
NVAR	**Mina Array Bea**	**41.12**	**108**	P	P	07 01 44.1	+0.6
	0.7nm,0.8s,baz=320,slow=8.3,SNR=4.9						

MAN 27 07:09:26, 6.46N×126.45E, h18km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.52**	**338**	*e*P	Pn	07 09 37.6	-0.9
MATI				*e*S	Sn	07 09 48.3	+1.4
DMPH	**Davao City--Mi**	**1.12**	**303**	⇑*e*P	Pn	07 09 46.6	-0.2
DMPH				*e*S	Sg	07 10 02.5	-0.1
BUKP	**Musuan**	**1.97**	**316**	*e*P	Pn	07 09 59.5	+0.9
BUKP				*e*S	Sb	07 10 25.0	-0.8

DJA 27 07:15:21.1±0.5, 10.5S±7.×12.0E±., h100km±7km, M4.0/10, mb4.3/3, MLv3.8/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.09**	**169**	P	Pn	07 15 35.6	+0.5
WSI				S	Sn	07 15 46.7	+1.3
WBSI	**Waikabubak, Su**	**0.88**	**266**	P	Pn	07 15 33.9	-6.4
LBFI	**Labuhan Bajo,**	**1.16**	**341**	P	Pn	07 15 41.0	-2.3
MMRI	**Maumere**	**2.15**	**64**	P	Pn	07 15 55.6	0.0
TWSI	**Taliwang, Sumb**	**3.46**	**284**	P	Pn	07 16 12.8	-0.2
SOEI	**Soe**	**3.94**	**93**	P	Pn	07 16 18.2	-1.4
MTNI	**Mataram**	**4.17**	**283**	P	Pn	07 16 21.9	-0.7
BBSI	**Bau Bau**	**4.66**	**29**	P	Pn	07 16 29.2	0.0
IGBI	**Denpasar**	**5.12**	**278**	P	Pn	07 16 34.7	-0.8
	42nm,1.1s,0.2nm						
SRBI	**Singaraja**	**5.22**	**286**	P	Pn	07 16 36.6	-0.3
	31nm,0.9s,0.2nm						
MMSI	**Mamuju**	**6.98**	**349**	P	Pn	07 17 01.5	+0.7

IDC 27 07:39:25.8±65.0, 21.46S×177.84W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=1187.0km s-min=173.2km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.51**	**245**	P	P	07 46 40.7	-0.9
	0.9nm,0.6s,baz=100,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**44.45**	**259**	P	P	07 47 38.8	-0.2
	0.6nm,0.8s,baz=97,slow=6.5,SNR=6.7						
WRA	**Warramunga Arr**	**44.62**	**263**	P	P	07 47 40.8	+0.4
	0.6nm,0.6s,baz=96,slow=8.5,SNR=10						

IDC 27 07:51:33.3±43.0, 15.72S×172.94W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.8/20, mbtmp4.2/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/34, Error ellipse: s-maj=827.6km s-min=179.7km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**14.23**	**198**	LR	LR	07 59 24.3	
	comp=Z,118nm,18.7s,baz=161,slow=33						
STKA	**Stephens Creek**	**44.26**	**240**	P	P	07 59 45.2	+0.4
	0.5nm,0.3s,baz=60,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**50.20**	**257**	P	P	08 00 30.8	-0.5
	0.7nm,0.5s,baz=95,slow=6.9,SNR=26						
ASAR	**Alice Springs**	**50.43**	**252**	P	P	08 00 33.0	-0.1
	6.2nm,0.6s,baz=88,slow=8.4,SNR=131						
JNU	**Nakatsue**	**72.34**	**313**	LR	LR	08 31 46.0	
	comp=Z,29nm,18.1s,baz=70,slow=33						

ISCJB 27 07:54:24.9±1.2, 43.78N±0.08×147.2E±0.1, h59km±8km, Error ellipse: s-maj=16.2km s-min=6.7km az=135.8
SKHL 27 07:54:25.9±0.0, 43.86N×147.23E, h55km±5km, mb4.9/2
JMA 27 07:54:25.3±0.2, 43.66N×147.18E, h39km, M3.4
MOS 27 07:54:28.2±2.7, 43.82N×146.69E, h47km, mb4.0/1, Error ellipse: s-maj=48.7km s-min=28.3km az=141.4

ISC 27 07:54:23.9±2.5, 43.7N±0.1×147.3E±0.1, h57km±11km, n22, σ1§05/26, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.36**	**298**	*e*PN	Pn	07 54 34.9	+0.7
SHO				*e*S	**Sn**	**07 54 41.7**	**+0.1**
SHO				pmax	pmax		
	comp=Z,73nm,0.4s						
SHO				smax	smax		
	comp=N,54nm,0.4s						
SHO	**Shikotan**	**0.36**	**298**	*e*P	Pn	07 54 34.9	+0.7
SHO				AMB	AMB	07 54 35.2	
	comp=N,730nm,0.4s						
SHO				*e*S	**Sn**	**07 54 41.7**	**+0.1**
SHO				A	A	07 54 42.3	
	comp=N,540nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.07**	**289**	*d* iPN	**Pn**	**07 54 43.2**	**+0.5**
YUK				*i* S	**Sn**	**07 54 56.1**	**-0.6**
YUK				pmax	pmax		
	comp=Z,594nm,0.3s						
YUK				pmax	pmax		
	comp=N,31nm,0.2s						
YUK				pmax	pmax		
	comp=E,88nm,0.2s						
YUK				smax	smax		
	comp=N,663nm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.07**	**289**	⇓*i*P	**Pn**	**07 54 43.2**	**+0.5**
YUK				AMB	AMB	07 54 43.4	
	comp=E,30nm,0.3s						
YUK				AMB	AMB	07 54 43.4	
	comp=E,90nm,0.3s						
YUK				AMB	AMB	07 54 43.4	
	comp=E,590nm,0.3s						
YUK				AMB	AMB	07 54 45.1	
	comp=E,9μm,0.2s						
YUK				*i* S	**Sn**	**07 54 56.2**	**-0.5**
YUK				A	A	07 54 56.4	
	comp=E,1μm,0.4s						
YUK				A	A	07 54 56.5	
	comp=E,660nm,0.4s						
YUK				A	A	07 54 56.5	
	comp=E,2μm,0.4s						
NEM2	**Nemuro 2**	**1.16**	**254**	P	**Pn**	**07 54 44.5**	**+0.6**
NEM2				*e*S	**Sn**	**07 54 58.6**	**-0.2**
JRA	**Rausu**	**1.57**	**279**	P	**Pn**	**07 54 50.7**	**+1.2**
JRA				*e*S	**Sn**	**07 55 09.5**	**+0.7**
KUR	**Kuril'sk**	**1.59**	**15**	PN	Pn	07 54 57.0	+7.3
KUR	**Kuril'sk**	**1.59**	**15**	*e*P	Pn	07 54 52.0	+2.3
KUR				*e*S	**Sn**	**07 55 08.4**	**-0.7**
KUR				A	A	07 55 11.3	
	comp=E,320nm,0.3s						
KUR				A	A	07 55 11.3	
	comp=E,210nm,0.3s						
JNK	**Nakash**	**1.86**	**267**	P	**Pn**	**07 54 54.4**	**+1.1**
JNK				*e*S	**Sn**	**07 55 16.0**	**+0.3**
JAK	**Akkeshi**	**2.01**	**250**	P	**Pn**	**07 54 56.5**	**+1.1**
JAK				*e*S	**Sn**	**07 55 19.3**	**0.0**
JKR	**Abashiri--Toko**	**2.45**	**277**	P	Pn	07 55 03.3	+1.9
JAR	**Ashorobuto**	**2.58**	**262**	P	**Pn**	**07 55 05.1**	**+1.9**
JAR				*e*S	**Sn**	**07 55 34.9**	**+1.5**
JOB	**Onbets**	**2.63**	**254**	P	**Pn**	**07 55 05.6**	**+1.7**
JOB				*e*S	**Sn**	**07 55 35.8**	**+1.2**
JMP	**Maruseppu**	**2.85**	**277**	P	Pn	07 55 09.0	+2.1
JCH	**Churui**	**3.06**	**251**	P	**Pn**	**07 55 11.1**	**+1.3**
JCH				*e*S	**Sn**	**07 55 45.4**	**+0.3**
ERM	**Erimo**	**3.46**	**242**	*e*PN	Pn	07 55 18.5	+3.2
ERM	**Erimo**	**3.46**	**242**	*e*P	Pn	07 55 18.5	+3.2
JSE	**Soyaes**	**3.59**	**292**	P	**Pn**	**07 55 18.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.55**	**317**	*e*P	**Pn**	**07 55 31.4**	**+1.2**
VLA	**Vladivostok**	**11.21**	**272**	*e*PN	**Pn**	**07 57 00.4**	**-0.9**
VLA	**Vladivostok**	**11.21**	**272**	*e*P	**Pn**	**07 57 00.4**	**-0.9**
EKMR	**Ekimchan**	**13.34**	**320**	*e*P	**Pn**	**07 57 30.6**	**+0.4**

IDC 27 08:15:25.5±17.0, 22.96S×174.41W, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.9/20, mbtmp4.3/5, Error ellipse: s-maj=319.5km s-min=137.7km az=81.0

ISC 27 08:15:32.1±13.0, 23.2S±0.4×177.5W±., h36km, n11, σ1§27/10, mb4.2/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.47**	**267**	P	**P**	**08 22 34.8**	**+0.9**
	5.6nm,0.3s,baz=99,slow=11,SNR=22						
STKA	**Stephens Creek**	**39.60**	**248**	P	**P**	**08 22 59.6**	**-0.6**
	0.8nm,0.4s,baz=84,slow=8.5,SNR=6.8						
COEN	**Coen**	**40.96**	**275**	P	P	08 23 15.4	+3.8
	baz=43,SNR=3.9						
MANU	**Manus Island**	**42.43**	**294**	P	**P**	**08 23 22.6**	**-1.1**
	baz=44,SNR=5.0						
BBOO	**Buckleboo**	**44.30**	**246**	P	**P**	**08 23 37.3**	**-1.2**
	baz=46,SNR=7.4						
ASAR	**Alice Springs**	**47.06**	**259**	P	**P**	**08 23 60.0**	**-0.6**
	0.6nm,0.3s,baz=93,slow=7.7,SNR=37						
WRA	**Warramunga Arr**	**47.43**	**264**	P	**P**	**08 24 03.2**	**-0.2**
	0.4nm,0.5s,baz=99,slow=7.1,SNR=67						
**WRK

JOD2				*e*S	**Sn**	**08 22 50.3**	**-0.9**
JHU	**Hanno**	**6.49**	**333**	P	**Pn**	**08 21 49.3**	**+0.8**
JHU				*e*S	**Sn**	**08 22 59.2**	**-2.3**
JYT	**Yasato**	**6.50**	**340**	*e*S	**Sn**	**08 23 00.2**	**-1.7**
JHO	**Hitachi**	**6.76**	**343**	P	**Pn**	**08 21 51.6**	**-0.7**
JRY	**Ryogami san**	**6.78**	**331**	P	**Pn**	**08 21 53.4**	**+0.7**
JAG	**Ashikaga**	**6.93**	**336**	P	**Pn**	**08 21 54.5**	**-0.1**
MJAR	**Matsushiro Arr**	**7.53**	**329**	Pn	**Pn**	**08 22 03.8**	**+1.0**
	1.2nm,0.3s,baz=265,slow=30,SNR=13						
MJAR				Sn	**Sn**	**08 23 25.6**	**-1.5**
	0.7nm,0.3s,baz=309,slow=9.1,SNR=2.0						
MAT	**Matsushiro**	**7.53**	**329**	P	**Pn**	**08 22 04.2**	**+1.3**
MAT				S	**Sn**	**08 23 25.5**	**-1.7**
ASAJ	**Asahikawa**	**13.96**	**359**	Pn	Pn	08 23 27.1	-3.8
	0.5nm,0.3s,baz=235,slow=30,SNR=6.0						
SONM	**Songino Array**	**33.08**	**313**	P	P	08 26 51.7	+3.4
	0.3nm,0.6s,baz=115,slow=7.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**41.54**	**264**	LR	LR	08 43 53.8	
	comp=Z,22nm,21.0s,baz=308,slow=34						
WRA	**Warramunga Arr**	**50.47**	**191**	P	**P**	**08 29 10.7**	**+0.3**
	1.4nm,0.7s,baz=11,slow=8.0,SNR=16						
ASAR	**Alice Springs**	**54.19**	**190**	P	**P**	**08 29 39.0**	**+1.0**
	0.6nm,0.7s,baz=14,slow=10,SNR=12						
ILAR	**Eielson Array**	**54.74**	**30**	P	**P**	**08 29 41.0**	**-0.4**
	0.8nm,0.8s,baz=264,slow=6.8,SNR=7.6						
YKA	**Yellowknife Ar**	**69.16**	**29**	P	**P**	**08 31 18.1**	**-0.2**
	0.5nm,0.8s,baz=294,slow=6.1,SNR=8.3						
FINES	**FINESS Array B**	**75.53**	**334**	P	**P**	**08 31 58.2**	**+1.8**
	1.5nm,0.8s,baz=46,slow=4.0,SNR=7.4						
NVAR	**Mina Array Bea**	**78.12**	**52**	P	**P**	**08 32 12.5**	**+0.7**
	1.2nm,0.7s,baz=303,slow=5.6,SNR=7.8						
NOA	**NORSAR Array B**	**81.05**	**338**	P	**P**	**08 32 26.8**	**-0.2**
	1.5nm,0.9s,baz=71,slow=16,SNR=3.4						
PDAR	**Pinedale Array**	**81.59**	**45**	P	**P**	**08 32 29.7**	**-0.8**
	0.4nm,0.6s,baz=0.2,slow=2.5,SNR=4.1						
BRTR	**Keskin Array B**	**84.44**	**313**	P	**P**	**08 32 47.5**	**+2.4**
	1.0nm,1.0s,baz=117,slow=4.3,SNR=4.1						
TXAR	**Lajitas Array**	**93.25**	**53**	P	**P**	**08 33 26.4**	**-0.9**
	1.7nm,1.2s,baz=356,slow=1.8,SNR=3.9						

*ISCJB **27** 08:30:46.8±1.8,25.0°04N±0.0°09×123.0°48E±0.0°06, h16km±14km, mb3.1/3, Error ellipse: s-maj=15.3km s-min=8.6km az=177.4*
*JMA **27** 08:30:47.2±0.3,25.0°03N×123.0°48E, h21km, M2.6*
*IDC **27** 08:30:53.5±1.5,23.2°21N×120.0°09E, h0km, mb3.0/3, mb1 3.5/4, mb1mx3.2/27, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=57.8km s-min=27.2km az=65.0*
ISC 27 08:30:47.3±2.2,24°99N±0°10×123°50E±0°06, h12km±13km, n9, σ0°67/13, mb3.1/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.69**	**162**	P		**Pg**	**08 31 00.9**	**+0.3**
IRIF				S		**Sb**	**08 31 10.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.69**	**220**	P		**Pg**	**08 31 00.5**	**-0.2**
YOJ				S		**Sg**	**08 31 09.5**	**-0.3**
JIJ	**Ishigaki jima**	**0.86**	**137**	P		**Pb**	**08 31 03.4**	**-0.7**
JIJ				S		**Sb**	**08 31 14.6**	**-1.0**
JKRS	**Kuro-shima**	**0.88**	**148**	P		**Pb**	**08 31 04.6**	**0.0**
JKRS				S		**Sg**	**08 31 16.7**	**+0.9**
HATJ	**Hateruma jima**	**0.97**	**163**	P		**Pb**	**08 31 05.8**	**-0.3**
HATJ				S		**Sb**	**08 31 18.2**	**-0.7**
JTJ	**Tarama**	**1.15**	**108**	S		**Sb**	**08 31 23.0**	**-0.9**
MKAR	**Makanchi Array**	**39.26**	**314**	P	**P**		**08 38 16.0**	**+0.3**
	0.3nm,0.7s,baz=101,slow=9.8,SNR=3.0							
WRA	**Warramunga Arr**	**45.89**	**166**	P	**P**		**08 39 10.4**	**+0.6**
	0.2nm,0.8s,baz=345,slow=8.8,SNR=1.7							
ASAR	**Alice Springs**	**49.41**	**167**	P	P		08 39 39.0	+1.9
	0.1nm,0.6s,baz=353,slow=6.9,SNR=1.6							

*IDC **27** 08:52:49.2±1.4,5.7°17S×147.8°48E, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.6/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/28, Error ellipse: s-maj=44.1km s-min=18.9km az=97.0*
*AUST **27** 08:52:50.1,4.7°79S×147.7°57E, h30km*
*ISCJB **27** 08:52:51.2±0.6,5.7°13S±0.0°06×147.7°55E±0.0°09, h29km, mb3.7/7, MS3.3/2, Error ellipse: s-maj=13.2km s-min=8.5km az=14.6*
ISC 27 08:52:53.0±0.8,5°10S±0.0°08×147°6E±0.1, h29km, n21, σ1°20/22, mb3.8/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.30**	**186**	Pn		**Pn**	**08 53 56.1**	**-0.4**
	5.9nm,0.3s,baz=340,slow=6.4,SNR=17							
PMG				Sn		**Sn**	**08 54 46.1**	**+0.4**
	6.4nm,0.3s,baz=64,slow=21,SNR=8.0							
PMG				LR		LR	08 55 33.2	
	comp=Z,246nm,18.6s,baz=15,slow=39							
PMG	**Port Moresby**	**4.30**	**186**	P		**Pn**	**08 53 56.3**	**-0.2**
	baz=4.6,SNR=17							
PMG				P		**Pn**	**08 53 56.3**	**-0.2**
	baz=4.6,SNR=17							
PMG				P		**Pn**	**08 53 56.3**	**-0.2**
	baz=4.6,SNR=17							
RABL	**Rabaul**	**4.66**	**79**	P		**Pn**	**08 54 00.5**	**-0.9**
	baz=4.6,SNR=11							
COEN	**Coen**	**9.81**	**206**	P		**Pn**	**08 55 11.7**	**-0.5**
	baz=10,SNR=33							
HNR	**Honiara**	**12.99**	**110**	LR		LR	08 59 47.8	
	comp=Z,136nm,21.6s,baz=80,slow=32							
KDU	**Kakadu**	**16.71**	**242**	P		**P**	**08 56 45.5**	**-1.8**
	baz=17,SNR=4.3							
QIS	**Mount Isa**	**17.21**	**206**	P		**P**	**08 56 52.9**	**+0.1**
	baz=18,SNR=7.6							
MTN	**Manton Dam**	**17.97**	**244**	P		P	08 57 05.9	+4.7
	baz=18,SNR=4.4							
WRA	**Warramunga Arr**	**19.59**	**220**	P		**P**	**08 57 17.2**	**-1.8**
	0.5nm,0.3s,baz=41,slow=12,SNR=35							
WRA				LR		LR	09 05 02.8	
	comp=Z,96nm,21.5s,baz=65,slow=38							
KNRA	**Kununurra**	**21.26**	**239**	P		**P**	**08 57 35.3**	**-1.8**
	baz=21,SNR=11							
RMQ	**Roma**	**21.29**	**177**	P		**P**	**08 57 39.6**	**+2.2**
	baz=22,SNR=4.0							
ASAR	**Alice Springs**	**22.68**	**214**	P		**P**	**08 57 50.5**	**-1.9**
	1.7nm,0.5s,baz=50,slow=8.8,SNR=32							
ASAR				LR		LR	09 06 46.9	
	comp=Z,107nm,18.7s,baz=37,slow=37							
FITZ	**Fitzroy Crossi**	**25.04**	**237**	P		**P**	**08 58 13.6**	**-1.2**
	5.2nm,0.8s,baz=80,slow=11,SNR=25							
FITZ	**Fitzroy Crossi**	**25.04**	**237**	P		**P**	**08 58 13.7**	**-1.2**
	baz=25,SNR=7.8							
WRKA	**Warakurna**	**27.12**	**221**	P		**P**	**08 58 32.7**	**-1.1**
	baz=27,SNR=3.6							
STKA	**Stephens Creek**	**27.22**	**191**	P		**P**	**08 58 34.9**	**+0.4**
	0.8nm,0.4s,baz=7.1,slow=11,SNR=4.8							
STKA				LR		LR	09 09 04.1	
	comp=Z,84nm,20.4s,baz=27,slow=36							
CMAR	**Chiang Mai Arr**	**53.35**	**297**	P		**P**	**09 02 11.1**	**+0.9**
	1.1nm,0.4s,baz=128,slow=5.5,SNR=6.8							
MKAR	**Makanchi Array**	**77.18**	**320**	P		**P**	**09 04 45.6**	**+1.4**
	0.6nm,0.9s,baz=90,slow=7.9,SNR=3.3							
ZALV	**Zalesovo Beam**	**78.57**	**328**	P		**P**	**09 04 52.0**	**+0.3**
	0.3nm,0.3s,baz=151,slow=3.3,SNR=1.9							
ILAR	**Eielson Array**	**84.43**	**23**	P		**P**	**09 05 22.9**	**+0.4**
	0.2nm,0.8s,baz=258,slow=4.7,SNR=1.4							
TORD	**Torodi Ar. Bea**	**145.42**	**286**	PKPbc		**PKPdf**	**09 12 29.9**	**+0.6**
	0.4nm,0.9s,baz=79,slow=3.7,SNR=2.7							

*ISCJB **27** 09:13:01.6±0.3,32.0°03S±0.0°02×71.0°09W±0.0°07, h83km±3km, mb4.2/17, Error ellipse: s-maj=10.3km s-min=3.3km az=178.1*
*IDC **27** 09:13:01.8±0.9,32.0°08S×71.0°02W, h72km±7km, mb3.9/9, mb1 4.0/13, mb1mx3.9/20, mbtmp3.9/13, MS3.4/2, Ms1 3.4/2, ms1mx2.9/30, Error ellipse: s-maj=19.8km s-min=15.9km az=80.0*
*NEIC **27** 09:13:01.1,32.0°03S×71.0°35W, h62km, mb4.6/10, After GUC.*
*GUC **27** 09:13:02.0±0.5,32.0°04S×71.0°22W, h61km±5km, MD4.1, ML4.6*
ISC 27 09:13:01.9±0.5,32°04S±0.0°02×71°08W±0.0°05, h73km±4km, n88, σ1°26/117, mb4.2/17, 8C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.76**	**148**	⇑*iP*		**Pn**	**09 13 18.2**	**+0.3**
JACH				*i*S		**Sn**	**09 13 30.7**	**+1.0**
CMCH	**Combarbala**	**0.86**	**4**	⇓*iP*		**Pn**	**09 13 19.2**	**+0.1**
CMCH				*i*S		**Sn**	**09 13 32.2**	**+0.4**
CMCH				AML		AML	09 13 33.0	
	comp=N,71μm,0.8s							
ROCH	**El Roble**	**0.93**	**177**	⇓*iP*		**Pn**	**09 13 20.2**	**+0.2**
ROCH				*i*S		**Sn**	**09 13 34.2**	**+0.8**
ROCH				AML		AML	09 13 36.4	
	comp=N,33μm,0.4s							
IHA	**Instituto Hidr**	**1.09**	**206**	*i*P		**Pn**	**09 13 22.0**	**+0.3**
IHA				*i*S		**Sn**	**09 13 36.2**	**-0.3**
IHA	**Instituto Hidr**	**1.09**	**206**	*i*P		**Pn**	**09 13 22.0**	**+0.3**
IHA				*i*S		**Sn**	**09 13 36.2**	**-0.3**
PEL	**Peldehue**	**1.15**	**163**	⇑*iP*		**Pn**	**09 13 23.1**	**+0.6**
PEL				*i*S		**Sn**	**09 13 38.8**	**+0.8**
PEL				AML		AML	09 13 47.5	
	comp=E,23μm,0.4s							
CLCH	**Cerro Calan**	**1.43**	**162**	⇓*iP*		**Pn**	**09 13 26.8**	**+0.7**
CLCH				*i*S		**Sn**	**09 13 45.8**	**+1.5**
CLCH				AML		AML	09 13 53.1	
	comp=E,11μm,0.6s							
STL	**Santa Lucia**	**1.44**	**165**	*i*P		**Pn**	**09 13 26.9**	**+0.7**
STL				*i*S		**Sn**	**09 13 45.8**	**+1.2**
SAN	**Santiago**	**1.45**	**166**	⇑*iP*		**Pn**	**09 13 27.0**	**+0.6**
SAN				*e*S		**Sn**	**09 13 46.0**	**+1.1**
SAN				AML		AML	09 13 47.4	
	comp=N,8μm,0.3s							
LACH	**Col Las Americ**	**1.48**	**162**	*i*P		**Pn**	**09 13 27.6**	**+0.8**
LACH				*i*S		**Sn**	**09 13 46.7**	**+1.2**
LACH				AML		AML	09 13 49.6	
	comp=E,3μm,0.4s							
FSR	**Penalolen**	**1.51**	**162**	⇓*iP*		**Pn**	**09 13 29.1**	**+2.0**
FSR				*i*S		**Sn**	**09 13 49.1**	**+2.9**
FSR	**Penalolen**	**1.51**	**162**	⇓*iP*		**Pn**	**09 13 29.1**	**+2.0**
FSR				*i*S		**Sn**	**09 13 49.1**	**+2.9**
ANTU	**Antumapu**	**1.57**	**166**	⇓*iP*		**Pn**	**09 13 28.5**	**+0.6**
ANTU				*i*S		**Sn**	**09 13 48.9**	**+1.2**
ANTU				AML		AML	09 13 50.3	
	comp=N,8μm,0.3s							
ANTU	**Antumapu**	**1.57**	**166**	⇓*iP*		**Pn**	**09 13 28.5**	**+0.6**
ANTU				*i*S		**Sn**	**09 13 48.9**	**+1.2**
TACH	**Talagante**	**1.61**	**176**	*e*P		**Pn**	**09 13 29.0**	**+0.4**
TACH				*i*S		**Sn**	**09 13 49.1**	**+0.5**
PCH	**Pirque**	**1.65**	**163**	*i*P		**Pn**	**09 13 29.6**	**+0.6**
PCH				*i*S		**Sn**	**09 13 50.6**	**+1.1**
SJCH	**San Jose de Ma**	**1.71**	**159**	⇑*iP*		**Pn**	**09 13 30.0**	**+0.1**
SJCH				*i*S		**Sn**	**09 13 52.0**	**+1.0**
SJCH				AML		AML	09 13 55.2	
	comp=E,3μm,0.3s							
TLL	**Tololo Astrono**	**1.88**	**7**	⇓*iP*		**Pn**	**09 13 33.2**	**+0.9**
TLL				*i*S		**Sn**	**09 13 57.1**	**+1.8**
TLL				AML		AML	09 14 03.2	
	comp=N,9μm,0.5s							
TLL	**Tololo Astrono**	**1.88**	**7**	⇓*iP*		**Pn**	**09 13 33.2**	**+0.9**
TLL				*i*S		**Sn**	**09 13 57.1**	**+1.8**
CHCH	**Chadas Angostu**	**1.92**	**169**	⇑*iP*		**Pn**	**09 13 33.4**	**+0.8**
LMEL	**Las Melosas**	**1.95**	**158**	⇑*iP*		**Pn**	**09 13 34.3**	**+1.2**
LMEL				*i*S		**Sn**	**09 13 58.6**	**+1.8**
LMEL				AML		AML	09 14 01.4	
	comp=N,6μm,0.2s							
LMEL	**Las Melosas**	**1.95**	**158**	⇓*iP*		**Pn**	**09 13 34.3**	**+1.2**
LMEL				*i*S		**Sn**	**09 13 59.1**	**+2.4**
CACH	**El Canelo**	**2.11**	**169**	⇓*iP*		**Pn**	**09 13 36.5**	**+1.2**
CACH				*i*S		**Sn**	**09 14 02.8**	**+2.2**
CFAA	**Coronel Fontan**	**2.46**	**81**	P		**Pn**	**09 13 41.1**	**+1.3**
CFAA				S		**Sn**	**09 14 04.6**	**-4.2**
CFAA	**Coronel Fontan**	**2.46**	**81**	P		**Pn**	**09 13 41.1**	**+1.3**
	comp=N,3.0nm,0.3s,baz=255,slow=12,SNR=283							
CFAA				S		**Sn**	**09 14 04.6**	**-4.2**
	comp=N,16nm,0.3s,baz=250,slow=13,SNR=21							
NICH	**Los Niches**	**2.96**	**182**	*e*P		**Pn**	**09 13 47.0**	**+0.4**
NICH				*i*S		**Sn**	**09 14 20.9**	**0.0**
NICH				AML		AML	09 14 31.4	
	comp=E,6μm,0.5s							
LCO	**Las Campanas**	**3.04**	**6**	⇓*iP*		**Pn**	**09 13 48.2**	**+0.3**
LCO				*i*S		**Sn**	**09 14 23.7**	**+0.5**
LCO				AML		AML	09 14 40.1	
	comp=N,2μm,0.6s							
LCO	**Las Campanas**	**3.04**	**6**	⇓*iP*		**Pn**	**09 13 48.2**	**+0.3**
LCO				*i*S		**Sn**	**09 14 23.9**	**+0.7**
VACH	**Vallenar**	**3.46**	**5**	⇑*iP*		**Pn**	**09 13 54.1**	**+0.6**
VACH				*i*S		**Sn**	**09 14 33.7**	**+0.4**
VACH	**Vallenar**	**3.46**	**5**	⇑*iP*		**Pn**	**09 13 54.1**	**+0.6**
VACH				*i*S		**Sn**	**09 14 34.0**	**+0.6**
COCH	**Cobquecura**	**4.32**	**199**	*e*P		**Pn**	**09 14 03.9**	**-1.3**
COCH				*i*S		**Sn**	**09 14 51.5**	**-2.7**
COCH	**Cobquecura**	**4.32**	**199**	*e*P		**Pn**	**09 14 03.9**	**-1.3**
COCH				*i*S		**Sn**	**09 14 51.5**	**-2.7**
H03N1	**Juan Fernandez**	**6.75**	**256**	T		T	09 21 19.4	
	baz=81,slow=74,SNR=482							
H03N3	**Juan Fernandez**	**6.76**	**256**	T		T	09 21 22.5	
	baz=81,slow=74,SNR=384							
H03N2	**Juan Fernandez**	**6.76**	**256**	T		T	09 21 18.2	
	baz=81,slow=74,SNR=423							
TRQA	**Tornquist**	**9.57**	**131**	*e*Pn		**Pn**	**09 15 16.2**	**-0.6**
	comp=N,13nm,0.7s							
LVC	**Limon Verde**	**9.58**	**12**	*e*Pn		Pn	09 15 12.9	-4.4
	comp=N,24nm,0.8s							
LVC				*e*Sn		Sn	09 17 12.5	+9.0
CPUP	**Villa Florida**	**13.28**	**68**	*e*Pn		**Pn**	**09 16 07.0**	**-0.3**
CPUP	**Villa Florida**	**13.28**	**68**	P		**Pn**	**09 16 07.1**	**-0.3**
	comp=N,0.5nm,0.3s,baz=231,slow=15,SNR=3.1							
LPAZ	**La Paz**	**15.91**	**10**	*e*P		**Pn**	**09 16 42.2**	**+0.3**
	comp=N,9.2nm,0.8s							
LPAZ	**La Paz**	**15.91**	**10**	P		**Pn**	**09 16 42.0**	**0.0**
	comp=N,0.9nm,0.3s,baz=183,slow=7.6,SNR=39							
SIV	**San Ignacio**	**18.39**	**32**	P		**P**	**09 17 09.6**	**-1.4**
SIV	**San Ignacio**	**18.39**	**32**	P		**P**	**09 17 09.6**	**-1.4**
	comp=N,0.9nm,0.3s,baz=234,slow=11,SNR=27							
USHA	**Ushuaia**	**22.86**	**176**	P		**P**	**09 17 58.8**	**-0.2**
USHA	**Ushuaia**	**22.86**	**176**	P		**P**	**09 17 58.8**	**-0.2**
	comp=N,10nm,0.7s,baz=341,slow=10,SNR=9.7							
USHA				LR		LR	09 26 44.6	
	comp=N,108nm,18.3s,baz=330,slow=36							
SAML	**Samuel**	**24.12**	**19**	*e*P		**P**	**09 18 10.2**	**-0.7**
	comp=N,8.2nm,0.8s							
BDFB	**Brasilia**	**26.58**	**58**	P		**P**	**09 18 32.2**	**-1.2**
BDFB	**Brasilia**	**26.58**	**58**	P		**P**	**09 18 32.2**	**-1.2**
	comp=N,7.4nm,0.9s,baz=236,slow=7.9,SNR=8.9							
BDFB				LR		LR	09 28 38.7	
	comp=N,66nm,19.2s,baz=211,slow=35							
ROSC	**El Rosal**	**36.82**	**355**	P		**P**	**09 20 05.4**	**+2.0**
ROSC	**El Rosal**	**36.82**	**355**	P		**P**	**09 20 05.4**	**+2.0**
	comp=N,7.0nm,0.4s,baz=202,slow=5.9,SNR=5.6							
SDV	**Santo Domingo**	**40.70**	**1**	*e*P		**P**	**09 20 35.1**	**-0.5**
	comp=N,1.1nm,0.8s							
SNAA	**Sanae**	**53.10**	**158**	*e*P		**P**	**09 22 11.8**	**+0.3**
	comp=N,9.3nm,1.0s							
SNAA	**Sanae**	**53.10**	**158**	P		**P**	**09 22 12.3**	**+0.8**
	comp=N,1.3nm,0.6s,baz=280,slow=7.5,SNR=15							
TEIG	**Tepich**	**54.52**	**340**	*e*P		**P**	**09 22 23.0**	**+0.7**
	comp=N,6.2nm,0.7s							
QSPA	**South Pole Qui**	**58.19**	**180**	*e*P		**P**	**09 22 49.0**	**+0.9**
	comp=N,4.7nm,0.8s							
SWET	**Sewanee**	**68.34**	**347**	*e*P		**P**	**09 23 55.4**	**+0.1**
	comp=N,6.3nm,0.8s							
TXAR	**Lajitas Array**	**68.44**	**330**	P		**P**	**09 23 57.2**	**+1.1**
TXAR				pP		**pP**	**09 24 15.1**	**-0.3**
TXAR	**Lajitas Array**	**68.44**	**330**	P		**P**	**09 23 57.2**	**+1.1**
	comp=N,0.6nm,0.6s,baz=157,slow=9.5,SNR=8.3							
TXAR				pP		**pP**	**09 24 15.1**	**-0.3**
	comp=N,0.5nm,0.8s,baz=128,slow=5.8,SNR=3.0							
WVT	**Waverly**	**69.61**	**346**	*e*P		**P**	**09 24 03.0**	**0.0**
	comp=N,8.5nm,0.8s							
SDCO	**Great Sand Dun**	**76.50**	**333**	*e*P		**P**	**09 24 45.5**	**+1.4**
	comp=N,1.4nm,0.8s							
RSSD	**Black Hills**	**81.55**	**337**	*e*P		**P**	**09 25 12.2**	**+0.7**
	comp=N,1.9nm,0.8s							
PDAR	**Pinedale Array**	**82.39**	**332**	P		**P**	**09 25 16.3**	**+0.3**
PDAR	**Pinedale Array**	**82.39**	**332**	P		**P**	**09 25 16.3**	**+0.3**
	comp=N,0.5nm,0.9s,baz=145,slow=5.4,SNR=3.1							
NVAR	**Mina Array Bea**	**82.75**	**324**	P		**P**	**09 25 19.4**	**+1.5**
NVAR	**Mina Array Bea**	**82.75**	**324**	P		**P**	**09 25 19.4**	**+1.5**
	comp=N,0.6nm,0.6s,baz=147,slow=5.4,SNR=5.3							
TOA0	**Torodi Ar. Sit**	**82.78**	**70**	*e*P		**P**	**09 25 17.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.78**	**70**	P		**P**	**09 25 17.5**	**-0.8**
TORD				pP		**pP**	**09 25 38.1**	**0.0**
TORD	**Torodi Ar. Bea**	**82.78**	**70**	P		**P**	**09 25 17.5**	**-0.8**
	comp=N,1.9nm,0.7s,baz=224,slow=6.0,SNR=14							
TORD				pP		**pP**	**09 25 38.1**	**0.0**
	comp=N,0.5nm,0.5s,baz=286,slow=6.0,SNR=2.5							
ULM	**Lac du Bonnet**	**84.83**	**344**	P		**P**	**09 25 27.9**	**+0.1**
ULM	**Lac du Bonnet**	**84.83**	**344**	P		**P**	**09 25 27.9**	**+0.1**
	comp=N,1.9nm,0.8s,baz=167,slow=5.9,SNR=4.0							
YKA	**Yellowknife Ar**	**100.47**	**341**	P		**Pdif**	**09 26 39.2**	**-1.0**
YKA	**Yellowknife Ar**	**100.47**	**341**	P		**Pdif**	**09 26 39.2**	**-1.0**
	comp=N,0.1nm,0.8s,baz=139,slow=4.9,SNR=3.3							
ASAR	**Alice Springs**	**119.68**	**206**	PKP		**PKPdf**	**09 31 41.5**	**-2.4**
ASAR	**Alice Springs**	**119.68**	**206**	PKP		**PKPdf**	**09 31 41.5**	**-2.4**
	comp=N,0.4nm,0.9s,baz=140,slow=2.2,SNR=4.2							
WRA	**Warramunga Arr**	**122.86**	**209**	PKP		**PKPdf**	**09 31 49.3**	**-0.9**
WRA				pPKP		**pPKPdf**	**09 32 09.3**	**-1.7**
WRA	**Warramunga Arr**	**122.86**	**209**	PKP		**PKPdf**	**09 31 49.3**	**-0.9**
	comp=N,0.5nm,0.5s,baz=158,slow=1.7,SNR=14							
WRA				pPKP		**pPKPdf**	**09 32 09.3**	**-1.7**
	comp=N,0.3nm,0.5s,baz=163,slow=1.6,SNR=3.1							
H11S2	**WAKE ISLAND Hyl**	**26.59**	**270**	T		T	11 51 18.8	
	baz=120							
H11S1	**WAKE ISLAND Hyl**	**26.61**	**270**	T		T	11 51 20.5	
	baz=120							
H11S3	**WAKE ISLAND Hyl**	**26.61**	**270**	T		T	11 51 20.1	
	baz=120							
H11N3	**WAKE ISLAND Hyl**	**26.96**	**272**	T		T	11 51 43.5	
	baz=120							
H11N1	**WAKE ISLAND Hyl**	**26.97**	**272**	T		T	11 51 43.5	
	baz=120							
H11N2	**WAKE ISLAND Hyl**	**26.97**	**272**	T		T	11 51 43.7	
	baz=120							
AAK	**Ala-Archa**	**150.84**	**59**	*e*PKPbc		**PKPbc**	**09 32 45.8**	**-0.2**
ZAA0	**Zalesovo Array**	**152.14**	**31**	*e*PKPbc		**PKPbc**	**09 32 48.4**	**0.0**
ZALV	**Zalesovo Beam**	**152.14**	**31**	PKPbc		**PKPbc**	**09 32 48.6**	**+0.2**
ZALV	**Zalesovo Beam**	**152.14**	**31**	PKPbc		**PKPbc**	**09 32 48.6**	**+0.2**
	comp=N,2.9nm,0.5s,baz=328,slow=2.5,SNR=16							
MKAR	**Makanchi Array**	**154.85**	**46**	PKPab		**PKPab**	**09 33 10.1**	**0.0**
MKAR				pPKPab		**pPKPab**	**09 33 29.9**	**-0.5**
MKAR	**Makanchi Array**	**154.85**	**46**	PKPab		**PKPab**	**09 33 10.1**	**0.0**
	comp=N,0.9nm,0.6s,baz=292,slow=4.5,SNR=9.9							
MKAR				pPKPab		**pPKPab**	**09 33 29.9**	**-0.5**
	comp=N,1.1nm,0.7s,baz=301,slow=2.9,SNR=5.1							

*NIED **27** 09:24:00,45.4°40N×151.1°10E, h20km, Mw3.9 Best double couple: M0 7.14000×10^14 NP1:φ0 13.00000°, δ63.00000°, λ70.00000°. NP2:φ0 232.00000°, δ33.00000°, λ124.00000°.*
*IDC **27** 09:24:24.6±1.0,45.2°32N×151.1°11E, h0km, mb3.6/11, mb1 3.8/15, mb1mx3.7/27, mbtmp3.6/15, ML3.0/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/48, Error ellipse: s-maj=27.7km s-min=18.9km az=144.0*
*JMA **27** 09:24:28.5±0.5,45.4°44N×151.1°08E, h30km, M4.3*
*MOS **27** 09:24:28.0±1.3,45.2°6N×151.1°6E, h40km, mb4.1/7, Error ellipse: s-maj=15.9km s-min=11.1km az=53.3*
*SKHL **27** 09:24:29.6±0.8,45.1°6N×151.1°5E, h60km±4km, mb4.8/3*
ISC 27 09:24:28.5±2.4,45°09N±0.0°09×151°21E±0.0°07, h33km±14km, n68, σ1°54/74, mb3.8/12, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.37**	**275**	*e*PN		**Pn**	**09 25 05.5**	**+0.4**
KUR				*e*S		**Sn**	**09 25 33.5**	**+0.4**
KUR				pmax		pmax		
	comp=Z,130nm,0.5s							
KUR				pmax		pmax		
	comp=E,190nm,0.8s							
KUR				smax		smax		
	comp=N,380nm,0.8s							
KUR				smax		smax		
	comp=E,80nm,0.6s							
KUR	**Kuril'sk**	**2.37**	**275**	⇓*iP*		**Pn**	**09 25 05.5**	**+0.4**
KUR				AMB		AMB	09 25 07.5	
	comp=E,190nm,0.5s							
KUR				AMB		AMB	09 25 07.5	
	comp=E,130nm,0.5s							
KUR				*e*S		**Sn**	**09 25 33.0**	**-0.1**
KUR				A		A

H11S2 **WAKE ISLAND Hy** **29.50 149** T T 10 02 35.0
baz=340,slow=75
SONM **Songino Array** **30.67 291** P **P** **09 30 40.4 +0.3**
comp=E,0.3nm,0.6s,baz=86,slow=7.7,SNR=2.9
SONM LR LR 09 43 28.1
comp=E,41nm,19.5s,baz=63,slow=38
ILAR **Eielson Array** **38.67 37** *e*P **P** **09 31 49.2 +0.5**
ILAR **Eielson Array** **38.67 37** P **P** **09 31 49.2 +0.5**
comp=E,0.2nm,0.6s,baz=272,slow=6.8,SNR=4.1
MKAR **Makanchi Array** **46.54 298** P **P** **09 32 52.1 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,44nm,18.3s
MKAR **Makanchi Array** **46.54 298** *e*P **P** **09 32 52.1 -0.7**
MKAR **Makanchi Array** **46.54 298** P **P** **09 32 52.1 -0.7**
comp=Z,0.6nm,0.7s,baz=74,slow=8.3,SNR=8.8
MKAR LR LR 09 53 30.2
comp=Z,44nm,18.3s,baz=271,slow=38
YKA **Yellowknife Ar** **53.05 35** *e*P **P** **09 33 41.2 -0.8**
YKA **Yellowknife Ar** **53.05 35** P **P** **09 33 41.2 -0.8**
comp=Z,0.2nm,0.7s,baz=298,slow=7.2,SNR=3.9
FINES **FINESS Array B** **64.97 334** P **P** **09 35 03.0 -1.6**
comp=Z,0.6nm,0.5s,baz=44,slow=8.2,SNR=6.4
WRA **Warramunga Arr** **66.52 197** *e*P **P** **09 35 17.3 +2.2**
WRA **Warramunga Arr** **66.52 197** P **P** **09 35 17.2 +2.2**
comp=Z,0.8nm,0.8s,baz=16,slow=6.9,SNR=6.8
NB2 **NORSAR Subarra** **69.36 340** P **P** **09 35 31.3 -1.2**
comp=Z,0.7nm,0.6s,baz=28,slow=6.5
NOA **NORSAR Array B** **69.36 340** *e*P **P** **09 35 31.9 -0.7**
NOA **NORSAR Array B** **69.36 340** P **P** **09 35 31.9 -0.7**
comp=Z,1.0nm,0.6s,baz=34,slow=6.5,SNR=5.7
KBZ **Khabaz** **71.05 313** P **P** **09 35 44.0 +0.9**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ **Khabaz** **71.05 313** *e*P **P** **09 35 44.0 +0.9**
KBZ **Khabaz** **71.05 313** P **P** **09 35 44.0 +0.9**
comp=Z,4.5nm,0.9s,baz=350,slow=0.6,SNR=6.9
AKASG **Malin Array Be** **72.18 325** P **P** **09 35 48.9 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** **72.18 325** P **P** **09 35 48.9 -0.8**
comp=Z,0.7nm,0.4s,baz=37,slow=5.8,SNR=3.3
BRTR **Keskin Array B** **78.67 316** P **P** **09 36 27.6 +0.1**
comp=Z,1.2nm,0.9s,baz=27,slow=3.5,SNR=4.4
GERES **GERESS Array B** **79.35 333** *e*P **P** **09 36 30.3 -0.7**
GERES **GERESS Array B** **79.35 333** P **P** **09 36 30.3 -0.7**
comp=Z,0.5nm,0.6s,baz=28,slow=4.4,SNR=5.4
TXAR **Lajitas Array** **79.47 59** *e*P **P** **09 36 33.4 +1.5**
TXAR **Lajitas Array** **79.47 59** P **P** **09 36 33.4 +1.5**
comp=Z,0.1nm,0.5s,baz=292,slow=4.8,SNR=3.8

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*AUST **27** 09:26:55.1, 16˚.02S×172˚.90W, h60km*
*IDC **27** 09:26:59.6±9.1, 16˚.18S×174˚.84W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/18, mbtmp4.3/4, Error ellipse: s-maj=210.8km s-min=44.1km az=33.0*
ISC 27 09:27:00.2±7.3, 16˚.0S±1˚.0×174.7W±0˚.7, h10km, n12, σ0s 50/9, mb4.3/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**33.22**	**248**	P	P	09 33 41.0	+3.4
	baz=35,SNR=4.1						
CMSA	**Cobar Meteorol**	**39.13**	**240**	P	**P**	**09 34 28.4**	**+0.3**
	baz=41,SNR=8.1						
STKA	**Stephens Creek**	**42.61**	**240**	P	**P**	**09 34 56.8**	**-0.1**
	2.7nm,0.5s,baz=84,slow=8.0,SNR=18						
STKA	**Stephens Creek**	**42.61**	**240**	P	**P**	**09 34 57.2**	**+0.3**
	baz=44,SNR=9.9						
HTT	**Hallett**	**45.12**	**239**	P	**P**	**09 35 17.4**	**+0.3**
	baz=47,SNR=3.9						
WRA	**Warramunga Arr**	**48.45**	**257**	P	**P**	**09 35 42.9**	**-0.5**
	1.2nm,0.4s,baz=95,slow=7.1,SNR=70						
ASAR	**Alice Springs**	**48.70**	**252**	P	**P**	**09 35 44.9**	**-0.3**
	11nm,0.6s,baz=88,slow=8.4,SNR=330						
MTN	**Manton Dam**	**52.41**	**266**	P	P	09 36 14.8	+1.5
	baz=54,SNR=3.1						
WRKA	**Warakurna**	**53.77**	**251**	P	**P**	**09 36 22.7**	**-0.6**
	baz=55,SNR=12						
KNRA	**Kununurra**	**54.21**	**262**	P	**P**	**09 36 27.2**	**+0.7**
	baz=56,SNR=6.6						
FITZ	**Fitzroy Crossi**	**56.83**	**259**	P	P	09 36 46.6	+1.3
	baz=58,SNR=3.4						
VNDA	**Vanda**	**62.62**	**186**	P	**P**	**09 37 24.4**	**0.0**
	1.0nm,0.9s,baz=21,slow=8.6,SNR=3.9						

IDC 27 09:43:32.4±0.8, 55˚.84S×27˚.27W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=40.1km s-min=20.6km az=73.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.95**	**156**	P	Pn	09 47 56.2	+0.9
	0.4nm,0.3s,baz=323,slow=14,SNR=54						
QSPA	**South Pole Qui**	**34.41**	**180**	P	P	09 50 20.6	-0.4
	1.4nm,0.3s,baz=211,slow=2.1,SNR=6.8						
MAW	**Mawson**	**40.34**	**144**	P	P	09 51 11.1	+0.1
	1.3nm,0.7s,baz=243,slow=6.8,SNR=2.8						
VNDA	**Vanda**	**46.78**	**183**	P	P	09 52 02.6	-0.2
	1.6nm,0.7s,baz=182,slow=6.1,SNR=9.4						
LPAZ	**La Paz**	**50.22**	**305**	P	P	09 52 31.6	+0.8
	1.0nm,0.4s,baz=153,slow=5.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**72.89**	**30**	P	P	09 55 03.5	+0.5
	0.5nm,0.6s,baz=205,slow=6.6,SNR=5.7						
INK	**Inuvik**	**145.61**	**321**	PKPbc	PKPdf	10 03 10.3	-0.5
	0.6nm,0.4s,baz=114,slow=5.4,SNR=4.6						
ILAR	**Eielson Array**	**149.94**	**312**	PKPbc	PKPbc	10 03 21.4	-1.6
	1.3nm,1.0s,baz=126,slow=1.1,SNR=8.1						
SONM	**Songino Array**	**150.76**	**86**	PKPbc	PKPbc	10 03 24.8	-0.9
	0.4nm,0.6s,baz=220,slow=3.0,SNR=3.6						

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*IDC **27** 09:47:43.0±3.0, 15˚.15S×173˚.57W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.6/5, MS3.7/12, Ms1 3.7/12, ms1mx3.5/32, Error ellipse: s-maj=178.4km s-min=25.7km az=148.0*
*ISCJB **27** 09:47:46.4±2.6, 15˚.1S±0˚.9×173˚.7W±0˚.6, h33km, mb3.6/6, MS3.7/10, Error ellipse: s-maj=154.9km s-min=21.8km az=147.6*
ISC 27 09:47:48.0±2.9, 15˚.0S±0˚.9×173˚.7W±0˚.6, h30km, n23, σ0s 96/6, mb3.5/6, MS3.6/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.15**	**59**	Pn	Pn	09 48 13.8	-8.1
	23nm,0.3s,baz=283,slow=5.7,SNR=20						
AFI				Sn	Sn	09 48 34.8	-13
	56nm,0.3s,baz=211,slow=21,SNR=6.9						
RAR	**Rarotonga**	**14.57**	**117**	LR	LR	09 55 37.0	
	comp=Z,271nm,18.8s,baz=135,slow=33						
RAO	**Raoul Island**	**14.68**	**195**	LR	LR	09 55 53.8	
	comp=Z,241nm,19.8s,baz=113,slow=34						
DZM	**Mont Dzumac**	**20.09**	**247**	*e*LR	LR	09 57 22.8	
	249nm,29.6s						
PPT	**Papeete**	**23.27**	**100**	LR	LR	09 58 47.7	
	comp=Z,194nm,20.6s,baz=223,slow=29						
PPT2	**Papeete2**	**23.27**	**100**	*e*LR	LR	09 58 19.4	
	189nm,27.5s						
TBI	**Tubuai**	**24.29**	**114**	*e*LR	LR	09 58 53.7	
	233nm,27.0s						
URZ	**Urewera**	**24.53**	**198**	LR	LR	10 01 29.2	
	comp=Z,169nm,21.9s,baz=16,slow=34						
HNR	**Honiara**	**26.36**	**279**	LR	LR	10 02 45.8	
	comp=Z,98nm,19.2s,baz=122,slow=34						
PMG	**Port Moresby**	**38.64**	**274**	LR	LR	10 07 11.1	
	comp=Z,71nm,20.9s,baz=75,slow=30						
WRA	**Warramunga Arr**	**49.67**	**256**	P	**P**	**09 56 37.4**	**-0.1**
	0.4nm,0.6s,baz=90,slow=7.2,SNR=8.4						
ASAR	**Alice Springs**	**49.97**	**252**	P	**P**	**09 56 39.5**	**-0.2**
	2.9nm,0.8s,baz=86,slow=8.1,SNR=42						
JCJ	**Chichijima**	**59.91**	**314**	LR	LR	10 18 20.2	
	comp=Z,82nm,19.3s,baz=90,slow=31						
VNDA	**Vanda**	**63.71**	**186**	LR	LR	10 22 30.7	
	comp=Z,30nm,19.8s,baz=3.0,slow=33						
MJAR	**Matsushiro Arr**	**68.49**	**320**	LR	LR	10 23 41.4	
	comp=Z,56nm,19.1s,baz=140,slow=32						
NVAR	**Mina Array Bea**	**74.24**	**42**	P	**P**	**09 59 21.4**	**-1.1**
	0.5nm,0.8s,baz=252,slow=8.4,SNR=3.1						
KSRS	**Korea Array**	**75.71**	**316**	LR	LR	10 25 22.8	
	comp=Z,36nm,21.6s,baz=170,slow=30						
USRK	**Ussuriysk Arra**	**76.93**	**323**	LR	LR	10 27 24.2	
	comp=Z,76nm,19.9s,baz=353,slow=31						
TXAR	**Lajitas Array**	**80.63**	**56**	P	P	10 00 02.7	+4.4
	0.4nm,0.9s,baz=236,slow=6.4,SNR=3.8						
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**10 00 05.4**	**0.0**
	0.4nm,1.0s,baz=213,slow=6.5,SNR=3.2						
PDAR	**Pinedale Array**	**82.17**	**42**	P	**P**	**10 00 07.5**	**+1.2**
	0.3nm,0.7s,baz=234,slow=4.3,SNR=2.8						
CMAR	**Chiang Mai Arr**	**92.25**	**288**	LR	LR	10 35 53.6	
	comp=Z,40nm,20.2s,baz=68,slow=31						
BRTR	**Keskin Array B**	**145.70**	**321**	PKPbc	**PKPab**	**10 07 25.0**	**+0.2**
	0.6nm,0.8s,baz=48,slow=2.1,SNR=3.1						

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*ISCJB **27** 09:51:51.2±0.7, 1˚.20S±0˚.08×27˚.72E±0˚.06, h10km, mb3.8/5, Error ellipse: s-maj=12.3km s-min=8.1km az=13.4*
*IDC **27** 09:51:51.3±1.2, 1˚.15S×27˚.89E, h0km, mb3.9/5, mb1 3.8/6, mb1mx3.5/24, mbtmp3.8/6, ML2.4/1, Error ellipse: s-maj=29.7km s-min=21.7km az=3.0*
*NEIC **27** 09:51:53.2±0.7, 1˚.17S×27˚.75E, h10km, mb4.3/2, Error ellipse: s-maj=16.0km s-min=14.1km az=103.0*
ISC 27 09:51:52.6±0.8, 1˚.34S±0˚.09×27˚.68E±0˚.08, h10km, n15, σ2s 31/16, mb3.9/5, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**9.38**	**121**	*i* P	Pn	09 54 02.0	-6.2
DODT				*i* S	**Sn**	**09 55 56.6**	**+2.7**
KMBO	**Kilima Mbogo**	**9.58**	**89**	*e*Pn	**Pn**	**09 54 12.1**	**+1.2**
	2.8nm,0.4s						
KMBO				Sn	**Sn**	**09 56 01.1**	**+2.3**
KMBO				Lg	Lg	09 56 50.5	
KMBO	**Kilima Mbogo**	**9.58**	**89**	Pn	**Pn**	**09 54 07.8**	**-3.1**
	0.0nm,0.3s,baz=255,slow=18,SNR=1.8						
KMBO				Sn	**Sn**	**09 56 01.1**	**+2.3**
	0.5nm,0.3s,baz=245,slow=18,SNR=2.2						
KMBO				Lg	Lg	09 56 50.5	
	1.0nm,0.3s,baz=218,slow=19,SNR=4.3						
LSZ	**Lusaka**	**13.85**	**178**	*e*Pn	Pn	09 55 12.0	+2.6
	3.8nm,0.4s						
LSZ				*e*Sn	**Sn**	**09 57 40.0**	**-3.4**
TSUM	**Tsumeb**	**20.32**	**208**	*e*P	Pn	09 56 32.2	+1.1
	7.3nm,1.1s						
BOSA	**Boshof**	**27.21**	**185**	*e*P	**P**	**09 57 37.8**	**+0.8**
	18nm,1.3s						
BOSA	**Boshof**	**27.21**	**185**	P	**P**	**09 57 38.8**	**+1.8**
	6.6nm,1.1s,baz=359,slow=8.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.52**	**300**	P	**P**	**09 57 58.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**29.52**	**300**	P	**P**	**09 57 58.2**	**+0.6**
	0.6nm,0.4s,baz=109,slow=8.3,SNR=17						
DBIC	**Dimbokro**	**33.43**	**284**	P	**P**	**09 58 34.4**	**+2.3**
DBIC	**Dimbokro**	**33.43**	**284**	P	**P**	**09 58 34.4**	**+2.3**
	1.8nm,0.6s,baz=89,slow=12,SNR=3.5						
BRTR	**Keskin Array B**	**41.23**	**7**	P	**P**	**09 59 36.1**	**-1.9**
BRTR	**Keskin Array B**	**41.23**	**7**	P	**P**	**09 59 36.1**	**-1.9**
	0.5nm,0.6s,baz=183,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**67.61**	**37**	P	**P**	**10 02 48.0**	**-1.7**
MKAR	**Makanchi Array**	**67.61**	**37**	P	**P**	**10 02 48.0**	**-1.7**
	0.2nm,0.5s,baz=247,slow=6.3,SNR=3.5						

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*ISCJB **27** 10:02:06.4±0.2, 7˚.34S±0˚.03×128˚.92E±0˚.05, h100km, mb4.7/61, Error ellipse: s-maj=8.0km s-min=3.7km az=161.1*
*NEIC **27** 10:02:07.0±1.1, 7˚.39S×128˚.88E, h93km±11km, mb4.9/30, Error ellipse: s-maj=9.3km s-min=5.6km az=62.0*
*BJI **27** 10:02:07.2, 7˚.40S×128˚.90E, h104km, mB5.0/25, mb4.9/35*
*AUST **27** 10:02:08.7, 7˚.48S×129˚.04E, h100km*
*IDC **27** 10:02:09.9±3.5, 7˚.37S×128˚.86E, h118km±31km, mb4.2/24, mb1 4.2/25, mb1mx4.2/31, mbtmp4.2/25, MS2.6/1, Ms1 2.6/1, ms1mx2.4/31, Error ellipse: s-maj=17.1km s-min=9.2km az=76.0*
*DJA **27** 10:02:12.8±0.3, 8˚.S±4˚×12˚.9E±˚, h121km±7km, M4.9/11, mb4.7/11, mB5.4/4, MLv5.1/8, Mw(mB)4.8/4*
ISC 27 10:02:08.9±0.4, 7˚.51S±0˚.05×128˚.93E±0˚.06, h107km±2km, n178, σ1s 71/206, mb4.7/60, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.12**	**18**	P	Pn	10 03 01.8	+5.3
MSAI	**Masohi**	**4.14**	**360**	P	Pn	10 03 15.5	+5.4
NLAI	**Namlea**	**4.62**	**337**	P	Pn	10 03 21.8	+5.2
SOEI	**Soe**	**5.12**	**244**	P	**Pn**	**10 03 25.8**	**+2.3**
	289nm,0.8s,6μm4.9nm						
SOEI	**Soe**	**5.12**	**244**	P	**Pn**	**10 03 26.4**	**+3.0**
	baz=5.2,SNR=45						
FAKI	**Fak Fak**	**5.63**	**36**	P	**Pn**	**10 03 32.3**	**+2.0**
	46nm,0.5s,2μm0.9nm						
FAKI	**Fak Fak**	**5.63**	**36**	P	**Pn**	**10 03 32.4**	**+2.0**
	baz=5.6,SNR=31						
MTN	**Manton Dam**	**5.72**	**158**	P	**Pn**	**10 03 34.6**	**+3.1**
	baz=5.7,SNR=503						
KDU	**Kakadu**	**6.21**	**146**	P	**Pn**	**10 03 40.9**	**+2.8**
	baz=6.2,SNR=964						
SWI	**Sorong**	**7.00**	**19**	P	Pn	10 03 52.3	+3.4
	38nm,0.9s,1μm0.4nm						
KNRA	**Kununurra**	**8.12**	**181**	P	**Pn**	**10 04 04.7**	**+0.7**
	baz=8.2,SNR=451						
FITZ	**Fitzroy Crossi**	**11.00**	**197**	*e*Pn	**Pn**	**10 04 41.6**	**-1.5**
FITZ				*e*Sn	Sn	10 06 36.0	-8.3
FITZ	**Fitzroy Crossi**	**11.00**	**197**	P	**Pn**	**10 04 41.7**	**-1.5**
	19nm,0.3s,baz=28,slow=10,SNR=322						
FITZ				S	Sn	10 06 35.8	-8.5
	17nm,0.3s,baz=306,slow=19,SNR=11						
FITZ				LR	LR	10 08 52.8	
	comp=Z,33nm,20.9s,baz=329,slow=36						
FITZ	**Fitzroy Crossi**	**11.00**	**197**	P	**Pn**	**10 04 41.6**	**-1.5**
	baz=11,SNR=212						
WRAB	**Tennant Creek**	**13.42**	**157**	*e*Pn	**Pn**	**10 05 13.8**	**-1.3**
WRAB				*e*Sn	Sn	10 07 33.3	-10
WRA	**Warramunga Arr**	**13.42**	**158**	P	**Pn**	**10 05 13.9**	**-1.3**
WRA				S	Sn	10 07 33.3	-10
WRA	**Warramunga Arr**	**13.42**	**158**	P	**Pn**	**10 05 13.9**	**-1.3**
	13nm,0.3s,baz=344,slow=12,SNR=277						
WRA				S	Sn	10 07 33.3	-10
	11nm,0.3s,baz=331,slow=26,SNR=11						
BBKI	**Banjar Baru**	**14.59**	**285**	P	**P**	**10 05 35.0**	**+1.3**
	51nm,0.8s						
COEN	**Coen**	**15.39**	**116**	*e*P	**P**	**10 05 41.1**	**-1.4**
	49nm,0.6s						
COEN				*e*Sn	Sn	10 08 21.8	-8.8
COEN	**Coen**	**15.39**	**116**	P	**Pn**	**10 05 40.9**	**+0.6**
	baz=15,SNR=19						
MYLDM	**Lahad Datu**	**16.35**	**320**	P	P	10 06 00.6	+7.4
MYLDM	**Lahad Datu**	**16.35**	**320**	*e*P	**P**	**10 05 55.9**	**+2.7**
	29nm,1.0s						
QIS	**Mount Isa**	**16.58**	**143**	P	**P**	**10 05 56.5**	**+0.8**
	baz=17,SNR=26						
AS31	**Alice Springs**	**16.76**	**164**	*e*P	**P**	**10 05 57.5**	**-0.2**
ASAR	**Alice Springs**	**16.76**	**164**	P	**P**	**10 05 57.8**	**+0.1**
ASAR				S	Sn	10 08 53.9	-10
ASAR	**Alice Springs**	**16.76**	**164**	P	**P**	**10 05 57.8**	**+0.1**
	8.9nm,0.3s,baz=332,slow=8.8,SNR=220						
ASAR				S	Sn	10 08 53.9	-10
	2.8nm,0.3s,baz=328,slow=17,SNR=6.2						
WRKA	**Warakurna**	**17.44**	**182**	P	**P**	**10 06 05.4**	**+0.3**
	baz=18,SNR=228						
STKI	**Sintang**	**18.96**	**293**	P	Pn	10 06 29.8	+6.0
SBUM	**Sibu**	**19.39**	**300**	P	**Pn**	**10 06 29.4**	**+0.6**
	27nm,1.4s						
SBUM	**Sibu**	**19.39**	**300**	*e*Pn	**Pn**	**10 06 30.3**	**+1.5**
	51nm,1.4s						
KSM	**Kuching**	**20.61**	**295**	P	**P**	**10 06 41.6**	**+1.8**
	55nm,0.9s						
KSM	**Kuching**	**20.61**	**295**	*e*P	**P**	**10 06 38.3**	**-1.5**
	38nm,0.8s						
KSM	**Kuching**	**20.61**	**295**	P	**P**	**10 06 40.6**	**+0.8**
	baz=21,SNR=10						
CTA	**Charters Tower**	**20.93**	**128**	P	Pn	10 06 45.7	-1.0
CTA	**Charters Tower**	**20.93**	**128**	P	Pn	10 06 45.7	-1.0
	2.0nm,0.5s,baz=328,slow=10,SNR=5.9						
MEEK	**Meekatharra**	**21.40**	**206**	P	**P**	**10 06 49.1**	**+1.0**
	baz=22,SNR=14						
FORT	**Forrest**	**23.16**	**182**	*e*P	**P**	**10 07 07.8**	**+1.8**
	30nm,0.8s						
FORT	**Forrest**	**23.16**	**182**	P	**P**	**10 07 08.6**	**+2.5**
	baz=23,SNR=9.4						
QLP	**Quilpie**	**23.90**	**144**	P	**P**	**10 07 16.6**	**+3.7**
	baz=24,SNR=11						
KMBL	**Kambalda**	**24.63**	**195**	P	**P**	**10 07 20.9**	**+1.4**
	baz=25,SNR=9.4						
MORW	**Morawa**	**24.64**	**208**	P	**P**	**10 07 21.0**	**+1.4**
	baz=25,SNR=6.0						
BLDU	**Ballidu**	**25.68**	**205**	P	**P**	**10 07 32.4**	**+3.4**
	baz=26,SNR=8.5						
BBOO	**Buckleboo**	**26.03**	**166**	*e*P	**P**	**10 07 33.6**	**+1.5**
	131nm,0.8s						
BBOO	**Buckleboo**	**26.03**	**166**	P	**P**	**10 07 33.4**	**+1.3**
	baz=26,SNR=19						
KLBR	**Kellerberrin**	**26.13**	**202**	P	**P**	**10 07 34.5**	**+1.5**
	baz=26,SNR=7.8						
STKA	**Stephens Creek**	**26.96**	**156**	*e*P	**P**	**10 07 42.0**	**+1.5**
	11nm,1.8s						
STKA	**Stephens Creek**	**26.96**	**156**	P	**P**	**10 07 41.6**	**+1.1**
	2.3nm,0.5s,baz=329,slow=12,SNR=15						
STKA	**Stephens Creek**	**26.96**	**156**	P	**P**	**10 07 42.1**	**+1.5**
	baz=27,SNR=12						
HTT	**Hallett**	**27.40**	**162**	P	**P**	**10 07 48.1**	**+3.6**
	baz=28,SNR=4.2						
NWAO	**Narrogin (SRO)**	**27.52**	**202**	P	**P**	**10 07 46.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**27.52**	**202**	P	**P**	**10 07 46.0**	**+0.6**
	3.4nm,0.3s,baz=54,slow=9.9,SNR=11						
CMSA	**Cobar Meteorol**	**28.57**	**149**	P	**P**	**10 07 56.8**	**+2.0**
	baz=29,SNR=15						
ARPS	**Mount Arapiles**	**31.41**	**160**	P	**P**	**10 08 22.2**	**+2.4**
	baz=32,SNR=21						
PSI	**Prapat**	**31.64**	**288**	P	**P**	**10 08 22.2**	**-0.2**
PSI	**Prapat**	**31.64**	**288**	P	**P**	**10 08 21.6**	**-0.7**
PSI	**Prapat**	**31.64**	**288**	P	**P**	**10 08 21.6**	**-0.7**
	5.7nm,0.5s,baz=94,slow=9.4,SNR=3.7						
PSI	**Prapat**	**31.64**	**288**	P	**P**	**10 08 22.1**	**-0.2**
	baz=32,SNR=4.0						
TOO	**Toolangi**	**33.49**	**156**	P	P	10 08 41.6	+3.5
	baz=34,SNR=5.9						
JOW	**Kunigami**	**34.15**	**359**	*e*P	**P**	**10 08 43.5**	**-0.3**
	7.6nm,0.8s						
CHAI	**Chaiyaphum**	**35.40**	**311**	P	**P**	**10 08 54.8**	**+0.1**
	3.9nm,0.8s						
CBIJ	**Chichi jima**	**36.72**	**20**	P	**P**	**10 09 04.0**	**-1.8**
JCJ	**Chichijima**	**36.72**	**20**	P	**P**	**10 09 04.0**	**-1.8**
	17nm,0.5s,baz=271,slow=22,SNR=5.2						
CMAR	**Chiang Mai Arr**	**39.26**	**311**	P	**P**	**10 09 26.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**39.26**	**311**	P	**P**	**10 09 26.9**	**-0.4**
	3.5nm,0.8s,baz=136,slow=7.5,SNR=29						
CMMT	**Chiang Mai**	**39.48**	**312**	P	**P**	**10 09 29.3**	**+0.2**
	8.9nm,0.9s						
CHTO	**Chiang Mai**	**39.48**	**312**	*e*P	**P**	**10 09 28.2**	**-1.0**
	3.5nm,0.6s						
CHTO	**Chiang Mai**	**39.48**	**312**	P	**P**	**10 09 29.4**	**+0.3**
	37nm,0.9s						
GYA	**Guiyang**	**40.09**	**328**	*e*P	**P**	**10 09 36.8**	**+2.6**
GYA				pP	**pP**	**10 10 01.5**	**+2.7**
GYA				sP	**sP**	**10 10 13.3**	**+2.3**
GYA				PP	**PnPn**	**10 11 15.0**	**+1.9**
GYA				ScP	**ScP**	**10 15 16.8**	**+0.3**
GYA				S	**S**	**10 15 36.5**	**+3.8**
GYA				sS	**sS**	**10 16 19.0**	**+3.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
CMAI	**Chiengmai2**	**40.11**	**313**	P	**P**	**10 09 34.1**	**-0.4**
	12nm,0.7s,746nm						
JNU	**Nakatsue**	**40.45**	**3**	P	**P**	**10 09 34.6**	**-2.3**
JNU	**Nakatsue**	**40.45**	**3**	P	**P**	**10 09 34.6**	**-2.3**
	4.2nm,0.6s,baz=215,slow=6.6,SNR=6.1						
NJ2	**Nanjing**	**40.50**	**347**	*e*P	**P**	**10 09 39.8**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ENH	**Enshi**	**41.95**	**334**	*e*P	**P**	**10 09 48.2**	**-1.1**
	5.4nm,0.5s						
MAJO	**Matsushiro**	**44.68**	**11**	*e*P	**P**	**10 10 09.2**	**-1.9**
	8.7nm,0.8s						
MAT	**Matsushiro**	**44.68**	**11**	P	**P**	**10 10 08.3**	**-2.8**
MJAR	**Matsushiro Arr**	**44.68**	**11**	P	**P**	**10 10 08.7**	**-2.4**
MJAR	**Matsushiro Arr**	**44.68**	**11**	P	**P**	**10 10 08.7**	**-2.4**
	6.2nm,0.8s,baz=186,slow=9.4,SNR=25						
KSAR	**Wonju Array Be**	**44.73**	**359**	P	**P**	**10 10 11.1**	**-0.4**
KSAR				PcP	**PcP**	**10 11 50.9**	**-1.1**
KSRS	**Korea Array**	**44.74**	**359**	P	**P**	**10 10 11.1**	**-0.5**
	2.6nm,0.5s,baz=175,slow=8.9,SNR=16						
KSRS				PcP	**PcP**	**10 11 50.9**	**-1.1**
	1.2nm,0.9s,baz=189,slow=4.0,SNR=4.1						
CD2	**Chengdu**	**45.18**	**329**	*e*P	**P**	**10 10 14.0**	**-1.2**
CD2				sP	**sP**	**10 10 50.5**	**-1.9**
CD2				PP	**PP**	**10 12 03.0**	**-0.1**
CD2				S	**S**	**10 16 47.5**	**+0.4**
CD2				SS	**ScS**	**10 20 05.0**	**+3.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,100nm,4.8s						
XAN	**Xi'an**	**45.47**	**337**	P	**P**	**10 10 15.5**	**-2.0**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,22nm,4.8s						
LZH	**Lanzhou**	**49.37**	**333**	*e*P	**P**	**10 10 47.5**	**-0.3**
LZH				pP	**pP**	**10 11 09.5**	**-3.7**
LZH				sP	**sP**	**10 11 20.5**	**-4.7**
LZH				pmax	pmax		
	comp=Z,38nm,1.1s						
LZH				pmax	pmax		
	comp=Z,150nm,4.9s						
LZH				LR	LR		
	comp=N,2μm,15.0s						
LZH				LR	LR		

	comp=N,48nm,15.9s							
GTA				LR	LR			
	comp=E,86nm,16.4s							
GTA				LR	LR			
	comp=Z,71nm,16.4s							
JIRN	**Jiri**	**54.13 312**	*eP*	**P**		**10 11 22.3**	**-1.3**	
	16nm,0.7s							
JIRN	**Jiri**	**54.13 312**	*eP*	**P**		**10 11 22.3**	**-1.3**	
	16nm,0.6s							
GUN	**Gumba**	**54.50 312**	*eP*	**P**		**10 11 24.9**	**-1.3**	
	24nm,0.6s							
GUN	**Gumba**	**54.50 312**	*eP*	**P**		**10 11 24.9**	**-1.3**	
	24nm,0.6s							
PKI	**Pulchoki**	**54.66 311**	*eP*	**P**		**10 11 25.8**	**-1.6**	
	12nm,0.5s							
PKI	**Pulchoki**	**54.66 311**	*eP*	**P**		**10 11 25.8**	**-1.6**	
	12nm,0.5s							
PKIN	**Phulchoki**	**54.67 311**	*eP*	**P**		**10 11 25.6**	**-1.8**	
	8.9nm,0.5s							
KKN	**Kakani**	**54.87 312**	*eP*	**P**		**10 11 27.4**	**-1.4**	
	10nm,0.5s							
KKN	**Kakani**	**54.87 312**	*eP*	**P**		**10 11 27.4**	**-1.4**	
	10nm,0.5s							
DMN	**Daman**	**54.91 311**	*eP*	**P**		**10 11 27.8**	**-1.3**	
	7.2nm,0.3s							
GKN	**Gorkha**	**55.47 311**	*eP*	**P**		**10 11 31.6**	**-1.4**	
	20nm,0.3s							
KOLN	**Koldanda**	**56.12 311**	*eP*	**P**		**10 11 36.1**	**-1.6**	
	14nm,0.6s							
KOLN	**Koldanda**	**56.12 311**	*eP*	**P**		**10 11 36.1**	**-1.6**	
	14nm,0.6s							
DANN	**Dangsing**	**56.30 311**	*eP*	**P**		**10 11 37.6**	**-1.5**	
	10nm,0.6s							
DANN	**Dangsing**	**56.30 311**	*eP*	**P**		**10 11 37.6**	**-1.5**	
	10nm,0.6s							
PYUN	**Piuthan**	**56.75 311**	*eP*	**P**		**10 11 40.9**	**-1.3**	
	40nm,0.8s							
PYUN	**Piuthan**	**56.75 311**	*eP*	**P**		**10 11 40.9**	**-1.3**	
	40nm,0.8s							
ULN	**Ulaanbaatar**	**58.43 343**	*eP*	**P**		**10 11 52.7**	**-0.8**	
	2.5nm,0.8s							
SONM	**Songino Array**	**58.60 342**	P	**P**		**10 11 54.0**	**-0.7**	
SONM	**Songino Array**	**58.60 342**	P	**P**		**10 11 54.0**	**-0.7**	
	1.5nm,0.6s,baz=161,slow=7.4,SNR=16							
WMQ	**Urumqi**	**63.25 328**	P	**P**		**10 12 26.8**	**+0.6**	
WMQ			pmax	pmax				
	comp=Z,11nm,1.0s							
PETK	**Petropavlovsk-**	**65.14 19**	P	**P**		**10 12 38.0**	**-0.2**	
PETK			PcP	**PcP**		**10 13 08.8**	**-1.2**	
PETK	**Petropavlovsk-**	**65.14 19**	P	**P**		**10 12 38.0**	**-0.2**	
	10nm,0.7s,baz=196,slow=4.0,SNR=51							
PETK			PcP	**PcP**		**10 13 08.8**	**-1.2**	
	1.7nm,0.6s,baz=190,slow=4.8,SNR=4.3							
KSH	**Kashi**	**67.68 318**	P	**P**		**10 12 54.5**	**-0.4**	
KSH			sP	**sP**		**10 13 30.0**	**-3.4**	
KSH			PP	**PP**		**10 15 28.0**	**+2.4**	
KSH			S	**S**		**10 21 43.5**	**-0.5**	
KSH			sS	**sS**		**10 22 28.3**	**-1.7**	
KSH			SS	**SS**		**10 26 11.0**	**+3.6**	
KSH			pmax	pmax				
	comp=Z,6.0nm,0.7s							
KSH			pmax	pmax				
	comp=Z,120nm,4.2s							
KSH			LR	LR				
	comp=N,89nm,5.8s							
KSH			LR	LR				
	comp=E,96nm,5.3s							
KSH			LR	LR				
	comp=Z,140nm,6.0s							
MK31	**Makanchi Array**	**68.08 327**	*eP*	**P**		**10 12 56.3**	**-0.8**	
MKAR	**Makanchi Array**	**68.08 327**	P	**P**		**10 12 56.3**	**-0.8**	
MKAR			PcP	**PcP**		**10 13 21.1**	**-1.3**	
MKAR	**Makanchi Array**	**68.08 327**	P	**P**		**10 12 56.3**	**-0.8**	
	10.0nm,0.4s,baz=123,slow=7.9,SNR=302							
MKAR			PcP	**PcP**		**10 13 21.1**	**-1.3**	
	1.6nm,0.5s,baz=139,slow=4.1,SNR=4.3							
YAK	**Yakutsk**	**69.34 0**	*eP*	**P**		**10 13 02.7**	**-1.7**	
	34nm,0.5s							
KZA	**Kyzart**	**69.48 320**	P	**P**		**10 13 06.5**	**+0.1**	
	SNR=6.4							
TKM2	**Tokmak 2**	**69.71 321**	P	**P**		**10 13 07.0**	**-0.5**	
	SNR=7.8							
TKM2	**Tokmak 2**	**69.71 321**	*eP*	**P**		**10 13 07.0**	**-0.5**	
	6.9nm,0.8s							
UCH	**Uchtor**	**70.03 320**	P	**P**		**10 13 09.7**	**-0.1**	
	SNR=7.8							
AAK	**Ala-Archa**	**70.25 320**	P	**P**		**10 13 10.7**	**-0.1**	
	SNR=8.3							
AAK	**Ala-Archa**	**70.25 320**	*eP*	**P**		**10 13 10.6**	**-0.1**	
	7.7nm,0.8s							
AAK	**Ala-Archa**	**70.25 320**	P	**P**		**10 13 10.3**	**-0.4**	
	6.6nm,0.7s,baz=130,slow=4.9,SNR=21							
AML	**Almayashu**	**70.50 320**	P	**P**		**10 13 12.5**	**-0.2**	
	SNR=13							
USP	**Ospenovka**	**70.57 321**	P	**P**		**10 13 12.1**	**-0.5**	
	SNR=7.6							
EKS2	**Erkin-Say**	**70.72 320**	P	**P**		**10 13 13.6**	**0.0**	
	SNR=9.5							
EKS2	**Erkin-Say**	**70.72 320**	*eP*	**P**		**10 13 13.6**	**0.0**	
	9.1nm,0.8s							
ZAA0	**Zalesovo Array**	**71.58 334**	*eP*	**P**		**10 13 16.3**	**-2.0**	
ZALV	**Zalesovo Beam**	**71.58 334**	P	**P**		**10 13 16.4**	**-1.9**	
ZALV	**Zalesovo Beam**	**71.58 334**	P	**P**		**10 13 16.4**	**-1.9**	
	7.8nm,0.6s,baz=130,slow=5.9,SNR=34							
VNDA	**Vanda**	**72.07 173**	P	**P**		**10 13 22.0**	**+1.0**	
VNDA	**Vanda**	**72.07 173**	P	**P**		**10 13 22.0**	**+1.0**	
	0.9nm,0.7s,baz=337,slow=3.6,SNR=6.0							
KURBB	**Kurchatov Arra**	**72.39 329**	P	**P**		**10 13 22.1**	**-1.1**	
	11nm,0.6s,baz=131,slow=4.9,SNR=149							
KURK	**Kurchatov**	**72.40 329**	*eP*	**P**		**10 13 22.1**	**-1.2**	
	10nm,0.9s							
SEY	**Seymchan**	**72.50 11**	P	**P**		**10 13 23.4**	**-0.3**	
SEY	**Seymchan**	**72.50 11**	P	**P**		**10 13 23.4**	**-0.3**	
	7.6nm,0.8s,baz=214,slow=14,SNR=19							
BVAR	**Borovoye Array**	**77.93 328**	P	**P**		**10 13 53.7**	**-1.3**	
BVAR	**Borovoye Array**	**77.93 328**	P	**P**		**10 13 53.7**	**-1.3**	
	2.4nm,0.4s,baz=118,slow=5.2,SNR=23							
BRVK	**Borovoye**	**78.00 328**	*eP*	**P**		**10 13 52.5**	**-2.9**	
	6.9nm,0.8s							
TIXI	**Tiksi**	**79.00 360**	*eP*	**P**		**10 13 58.8**	**-1.6**	
	12nm,0.7s							
QSPA	**South Pole Qui**	**82.47 180**	P	**P**		**10 14 18.9**	**-0.5**	
QSPA	**South Pole Qui**	**82.47 180**	P	**P**		**10 14 18.8**	**-0.5**	
	2.4nm,0.3s,baz=89,slow=2.4,SNR=5.9							
SYO	**Syowa Base**	**82.80 201**	⇑*eP*	**P**		**10 14 20.3**	**-0.5**	
AKTO	**Aktyubinsk**	**83.83 323**	P	**P**		**10 14 24.9**	**-1.5**	
AKTO	**Aktyubinsk**	**83.83 323**	P	**P**		**10 14 24.9**	**-1.5**	
	3.3nm,0.9s,baz=126,slow=3.6,SNR=12							
ARU	**Arti**	**85.58 328**	*eP*	**P**		**10 14 33.3**	**-1.8**	
	8.9nm,1.1s							
ILAR	**Eielson Array**	**94.26 25**	P	**P**		**10 15 13.1**	**-2.6**	
ILAR	**Eielson Array**	**94.26 25**	P	**P**		**10 15 13.1**	**-2.6**	
	0.9nm,0.8s,baz=262,slow=4.4,SNR=6.5							
ARCES	**ARCESS Array B**	**101.69 340**	P	**Pdif**		**10 15 46.4**	**-2.6**	
ARCES	**ARCESS Array B**	**101.69 340**	P	**Pdif**		**10 15 46.4**	**-2.6**	
	1.5nm,0.9s,baz=79,slow=4.7,SNR=3.2							
FINES	**FINESS Array B**	**102.70 331**	PKiKP	**PKiKP**		**10 20 12.4**	**-1.5**	
FINES	**FINESS Array B**	**102.70 331**	PKiKP	**PKiKP**		**10 20 12.4**	**-1.5**	
	2.7nm,1.0s,baz=93,slow=3.8,SNR=4.8							
YKA	**Yellowknife Ar**	**108.67 26**	PKiKP	**PKiKP**		**10 20 23.1**	**-1.9**	
YKA	**Yellowknife Ar**	**108.67 26**	PKiKP	**PKiKP**		**10 20 23.0**	**-1.9**	
	0.2nm,0.6s,baz=297,slow=1.2,SNR=5.3							
GERES	**GERESS Array B**	**112.13 320**	PKiKP	**PKiKP**		**10 20 30.7**	**-1.3**	
GERES	**GERESS Array B**	**112.13 320**	PKiKP	**PKiKP**		**10 20 30.7**	**-1.3**	
	0.8nm,0.6s,baz=64,slow=2.3,SNR=7.7							
PDAR	**Pinedale Array**	**118.00 45**	PKP	**PKPdf**		**10 20 42.2**	**-1.4**	
PDAR	**Pinedale Array**	**118.00 45**	PKP	**PKPdf**		**10 20 42.2**	**-1.4**	
	0.5nm,0.7s,baz=309,slow=1.7,SNR=4.9							
FRB	**Frobisher Bay**	**122.47 9**	PKP	**PKPdf**		**10 20 50.0**	**-1.2**	
FRB	**Frobisher Bay**	**122.47 9**	PKP	**PKPdf**		**10 20 50.0**	**-1.2**	
	1.9nm,0.6s,baz=8.5,slow=3.2,SNR=7.2							
TXAR	**Lajitas Array**	**126.10 59**	PKP	**PKPdf**		**10 20 59.5**	**0.0**	
TXAR	**Lajitas Array**	**126.10 59**	PKP	**PKPdf**		**10 20 59.5**	**0.0**	
	0.3nm,0.5s,baz=216,slow=3.5,SNR=8.2							
TORD	**Torodi Ar. Bea**	**127.86 281**	PKP	**PKPdf**		**10 21 01.7**	**-1.4**	
TORD	**Torodi Ar. Bea**	**127.86 281**	PKP	**PKPdf**		**10 21 01.7**	**-1.4**	
	0.7nm,0.6s,baz=62,slow=2.7,SNR=8.7							
DBIC	**Dimbokro**	**134.15 272**	PKP	**PKPdf**		**10 21 14.8**	**-0.2**	
DBIC	**Dimbokro**	**134.15 272**	PKP	**PKPdf**		**10 21 14.8**	**-0.2**	
	1.0nm,0.4s,baz=81,slow=2.5,SNR=5.2							
CPUP	**Villa Florida**	**145.81 170**	PKPbc	**PKPdf**		**10 21 35.8**	**0.0**	
CPUP	**Villa Florida**	**145.81 170**	PKPbc	**PKPdf**		**10 21 35.8**	**0.0**	
	3.3nm,0.7s,baz=195,slow=3.4,SNR=5.7							
LPAZ	**La Paz**	**150.94 145**	*e*PKPbc	**PKPbc**		**10 21 51.5**	**+0.6**	
LPAZ	**La Paz**	**150.94 145**	PKPbc	**PKPbc**		**10 21 51.7**	**+0.8**	
	2.6nm,0.4s,baz=225,slow=2.9,SNR=28							

DJA 27 10:05:27.4±0.8,**4°S**×6°×**12°8E**±°,**h11**km±5km,**M4.3**/6,
mb4.9/2,**mB5.0**/1,**MLv4.0**/6,**Mw(mB)4.4**/1,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.88**	**54**	P	Pg	10 05 43.9	-0.5
MSAI				S	Sg	10 05 55.2	-0.7
NLAI	**Namlea**	**1.28**	**299**	P	Pn	10 05 51.3	0.0
NLAI				S	Sb	10 06 07.9	-0.2
BNDI	**Bandanaira**	**1.80**	**111**	P	Pn	10 05 58.8	+0.4
LUWI	**Luwuk**	**6.12**	**297**	P	Pn	10 06 57.1	-0.8
	28nm,0.8s,1μm0.1nm						
KKSI	**Kolaka, Sulawe**	**6.56**	**267**	P	Pn	10 07 01.2	-2.7

*IDC **27** 10:13:38.8±0.7,54°.73N×168°.08E,h0km,mb3.6/9,*
mb1 3.9/11,mb1mx3.7/30,mbtmp3.6/11,ML3.5/2,MS3.4/2,
Ms1 3.4/2,ms1mx2.8/33,Error ellipse: s-maj=18.6km
s-min=11.9km az=19.0
*ISCJB **27** 10:13:40.4±0.5,54°.76N±0°.06×167°.97E±0°.05,h23km,*
mb3.5/9,MS3.4/2,Error ellipse: s-maj=8.7km s-min=4.2km
az=12.2
*KRSC **27** 10:13:40.4±5.9,54°.64N×167°.69E,h10km±10km,ML4.0*
ISC 27 10:13:41.6±0.7,**54°.65N**±0°.08×**168°.06E**±0°.05,**h23**km,**n40,**
σ188/43,mb3.5/9,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.33**	**296**	*eP*	**Pn**	**10 14 01.8**	**-2.8**
BKI				*eS*	**Sn**	**10 14 17.3**	**-4.3**
KBTR	**Krutoberegovo**	**3.37**	**300**	*eP*	**Pn**	**10 14 30.9**	**-1.8**
KBTR				*eS*	**Sn**	**10 15 07.0**	**-4.9**
FX1	**Attu Island--F**	**3.51**	**118**	Pn	**Pn**	**10 14 33.3**	**-1.3**
	19nm,0.3s,baz=344,slow=6.3,SNR=59						
FX1				Sn	**Sn**	**10 15 13.9**	**-1.5**
	23nm,0.3s,baz=89,slow=19,SNR=13						
SMKR	**Semkarok**	**4.21**	**300**	*eP*	**Pn**	**10 14 45.0**	**+0.7**
SMKR				*eS*	**Sn**	**10 15 31.9**	**-0.9**
BDR	**Baidarnaya**	**4.33**	**299**	*eP*	**Pn**	**10 14 47.0**	**+0.9**
BDR				*eS*	**Sn**	**10 15 35.4**	**-0.5**
SRKR	**Sorokina**	**4.39**	**300**	P	**Pn**	**10 14 46.8**	**0.0**
SRKR				*eS*	**Sn**	**10 15 34.6**	**-2.6**
KZV	**Kizimen**	**4.51**	**279**	*eP*	**Pn**	**10 14 49.4**	**+0.9**
KZV				S	**Sn**	**10 15 39.4**	**-0.9**
BZWR	**Bezymyannyi-We**	**4.52**	**290**	S	**Sn**	**10 15 39.3**	**-1.2**
KLY	**Klyuchi**	**4.53**	**295**	*eS*	**Sn**	**10 15 37.5**	**-3.1**
KRSR	**Krestovskiy**	**4.55**	**293**	S	**Sn**	**10 15 40.7**	**-0.5**
TUMR	**Tumrok**	**4.61**	**281**	*eP*	**Pn**	**10 14 51.4**	**+1.6**
TUMR				S	**Sn**	**10 15 42.2**	**-0.4**
KMNR	**Kamenistaya**	**4.62**	**287**	P	**Pn**	**10 14 51.5**	**+1.6**
KMNR				S	**Sn**	**10 15 42.0**	**-0.8**
SRDR	**Sredinnyy**	**5.03**	**293**	S	**Sn**	**10 15 51.4**	**-1.6**
NLC	**Nalytchevo**	**5.36**	**258**	S	**Sn**	**10 15 56.0**	**-5.0**
OSSR	**Ossora**	**5.36**	**331**	P	Pn	10 15 04.5	+4.5
ESO	**Esso**	**5.50**	**287**	P	**Pn**	**10 15 03.5**	**+1.5**
SDLR	**Sedlovina**	**5.59**	**259**	*eP*	**Pn**	**10 15 03.0**	**-0.3**
UGLR	**Uglovaya**	**5.64**	**259**	*eP*	**Pn**	**10 15 04.0**	**-0.1**
KRER	**Koryakskii**	**5.66**	**260**	*eP*	**Pn**	**10 15 04.4**	**+0.1**
AVH	**Avacha**	**5.68**	**260**	*eP*	**Pn**	**10 15 05.0**	**+0.5**
GNL	**Ganaly**	**6.02**	**265**	*eP*	**Pn**	**10 15 10.1**	**+0.9**
MTVR	**Mutnovka**	**6.27**	**254**	*eP*	**Pn**	**10 15 13.4**	**+0.7**
MTVR				*i* S	**Sn**	**10 16 19.9**	**-3.8**
PETK	**Petropavlovsk-**	**6.32**	**260**	Pn	**Pn**	**10 15 14.1**	**+0.9**
	0.8nm,0.3s,baz=70,slow=17,SNR=25						
PETK				Sn	**Sn**	**10 16 26.7**	**+2.0**
	0.7nm,0.3s,baz=255,slow=22,SNR=5.3						
ASAK	**Asacha**	**6.47**	**254**	*eP*	**Pn**	**10 15 16.4**	**+1.0**
ILAR	**Eielson Array**	**24.32**	**47**	P	**P**	**10 18 56.8**	**-0.3**
	1.3nm,0.9s,baz=253,slow=8.2,SNR=13						
INK	**Inuvik**	**29.70**	**40**	P	**P**	**10 19 45.5**	**+0.2**
	0.4nm,0.6s,baz=306,slow=12,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**34.87**	**182**	T	T	10 57 19.8	
	baz=3.5,slow=76,SNR=626						
H11N3	**WAKE ISLAND Hy**	**34.88**	**182**	T	T	10 57 20.8	
	baz=3.5,slow=76,SNR=689						
H11N1	**WAKE ISLAND Hy**	**34.89**	**182**	T	T	10 57 23.7	
	baz=3.5,slow=76,SNR=718						
H11S1	**WAKE ISLAND Hy**	**36.09**	**182**	T	T	10 58 53.8	
	baz=2.6,slow=78,SNR=105						
H11S3	**WAKE ISLAND Hy**	**36.10**	**182**	T	T	10 58 54.7	
	baz=2.6,slow=78,SNR=32						
H11S2	**WAKE ISLAND Hy**	**36.11**	**182**	T	T	10 58 56.1	
	baz=2.6,slow=78,SNR=144						
SONM	**Songino Array**	**38.08**	**286**	P	**P**	**10 20 59.3**	**+1.0**
	0.3nm,0.6s,baz=61,slow=9.1,SNR=3.8						
SONM				LR	LR	10 36 56.2	
	comp=Z,66nm,19.3s,baz=19,slow=37						
YKA	**Yellowknife Ar**	**38.75**	**46**	P	**P**	**10 21 04.1**	**+0.6**
	0.4nm,0.6s,baz=294,slow=8.1,SNR=9.5						
PDAR	**Pinedale Array**	**52.60**	**67**	P	**P**	**10 22 53.6**	**0.0**
	0.4nm,0.8s,baz=11,slow=3.0,SNR=3.9						
AAK	**Ala-Archa**	**58.50**	**300**	LR	LR	10 50 10.7	
	comp=Z,30nm,20.1s,baz=198,slow=38						
TXAR	**Lajitas Array**	**65.67**	**73**	P	**P**	**10 24 24.9**	**+0.8**
	0.7nm,0.5s,baz=305,slow=5.4,SNR=20						
AKASG	**Malin Array Be**	**69.52**	**333**	P	**P**	**10 24 47.5**	**-0.4**
	0.2nm,0.3s,baz=26,slow=6.6,SNR=4.2						
WRA	**Warramunga Arr**	**79.70**	**212**	P	**P**	**10 25 47.9**	**+0.8**
	1.1nm,1.0s,baz=25,slow=5.8,SNR=6.0						
ASAR	**Alice Springs**	**83.33**	**211**	P	**P**	**10 26 07.9**	**+1.6**
	1.0nm,0.7s,baz=18,slow=6.1,SNR=19						

*IDC **27** 10:26:39.0±1.1,54°.65N×168°.07E,h0km,mb3.4/5,*
mb1 3.7/6,mb1mx3.4/28,mbtmp3.3/6,ML2.8/1,Error
ellipse: s-maj=24.4km s-min=16.5km az=22.0
*KRSC **27** 10:26:40.7±6.2,54°.75N×167°.67E,h10km±10km,ML3.5*
*ISCJB **27** 10:26:41.2±0.7,54°.85N±0°.09×167°.89E±0°.08,h23km,*
mb3.3/5,Error ellipse: s-maj=12.8km s-min=6.7km az=4.3
ISC 27 10:26:41.6±0.8,**54°.72N**±0°.09×**168°.03E**±0°.06,**h23**km,**n24,**
σ215/22,mb3.5/5,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.28**	**293**	*eP*	**Pn**	**10 27 01.9**	**-2.2**
BKI				*eS*	**Sn**	**10 27 16.9**	**-3.6**
KBTR	**Krutoberegovo**	**3.32**	**299**	P	**Pn**	**10 27 32.2**	**+0.1**
KBTR				S	**Sn**	**10 28 07.1**	**-3.7**
FX1	**Attu Island--F**	**3.56**	**119**	Pn	**Pn**	**10 27 33.1**	**-2.3**
	3.2nm,0.3s,baz=294,slow=12,SNR=12						
FX1				Sn	**Sn**	**10 28 13.7**	**-2.9**
	9.2nm,0.3s,baz=90,slow=19,SNR=8.1						
KZV	**Kizimen**	**4.48**	**278**	S	**Sn**	**10 28 38.9**	**-0.7**
TUMR	**Tumrok**	**4.58**	**280**	P	**Pn**	**10 27 51.2**	**+1.8**
SDLR	**Sedlovina**	**5.58**	**259**	P	**Pn**	**10 28 04.0**	**+0.7**
UGLR	**Uglovaya**	**5.64**	**258**	P	**Pn**	**10 28 04.9**	**+0.8**
KRER	**Koryakskii**	**5.65**	**259**	P	**Pn**	**10 28 04.7**	**+0.4**
AVH	**Avacha**	**5.67**	**259**	P	**Pn**	**10 28 05.6**	**+1.1**
KRX	**Arik**	**5.69**	**260**	P	**Pn**	**10 28 05.5**	**+0.7**
GNL	**Ganaly**	**6.01**	**264**	P	**Pn**	**10 28 11.1**	**+2.0**
MTVR	**Mutnovka**	**6.27**	**253**	P	**Pn**	**10 28 14.6**	**+1.8**
MTVR				S	**Sn**	**10 29 19.4**	**-4.4**
ASAK	**Asacha**	**6.47**	**253**	P	**Pn**	**10 28 17.5**	**+2.0**
ILAR	**Eielson Array**	**24.29**	**48**	P	**P**	**10 31 57.6**	**+0.8**
	0.4nm,0.7s,baz=253,slow=8.0,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**34.94**	**182**	T	T	11 10 18.4	
	baz=3.7,slow=76						
H11N3	**WAKE ISLAND Hy**	**34.95**	**182**	T	T	11 10 22.6	
	baz=3.7,slow=76						
H11N1	**WAKE ISLAND Hy**	**34.95**	**182**	T	T	11 10 24.2	
	baz=3.7,slow=76						
H11S1	**WAKE ISLAND Hy**	**36.16**	**182**	T	T	11 11 55.1	
	baz=359,slow=77						
H11S3	**WAKE ISLAND Hy**	**36.17**	**182**	T	T	11 11 54.4	
	baz=359,slow=77						
H11S2	**WAKE ISLAND Hy**	**36.18**	**182**	T	T	11 11 56.5	
	baz=359,slow=77						
YKA	**Yellowknife Ar**	**38.71**	**46**	P	**P**	**10 34 04.4**	**+1.2**
	0.1nm,0.4s,baz=297,slow=8.3,SNR=4.2						
TXAR	**Lajitas Array**	**65.67**	**73**	P	**P**	**10 37 25.1**	**+1.1**
	0.2nm,0.5s,baz=298,slow=4.1,SNR=7.9						
WRA	**Warramunga Arr**	**79.75**	**212**	P	**P**	**10 38 48.0**	**+0.6**
	0.7nm,1.0s,baz=26,slow=5.4,SNR=3.4						
ASAR	**Alice Springs**	**83.38**	**211**	P	**P**	**10 39 08.0**	**+1.4**
	0.4nm,0.7s,baz=16,slow=5.6,SNR=5.7						

*ISCJB **27** 10:29:38.1±0.8,36°.06N±0°.05×139°.91E±0°.07,h63km±7km,*
mb3.4/2,Error ellipse: s-maj=9.8km s-min=8.1km az=25.5
*JMA **27** 10:29:39.6±0.1,36°.07N×139°.84E,h51km±1km,M3.1*
JMA Felt I J1.

*IDC **27** 10:29:39.4±4.8,36°.67N×139°.90E,h100km±41km,mb3.0/2,*
mb1 3.3/2,mb1mx2.8/25,mbtmp3.0/2,Error ellipse:
s-maj=63.4km s-min=31.5km az=88.0
ISC 27 10:29:39.2±1.2,**36°.06N**±0°.05×**139°.88E**±0°.06,**h54**km±10km,
n10,σ0°71/17,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.30**	**58**	P	**Pn**	**10 29 49.1**	**+0.3**
JYT				S	**Sn**	**10 29 56.0**	**+0.4**
JAG	**Ashikaga**	**0.50**	**317**	P	**Pn**	**10 29 50.6**	**-0.1**
JAG				S	**Sn**	**10 29 58.6**	**-0.4**
JRY	**Ryogami san**	**0.79**	**267**	P	**Pn**	**10 29 54.2**	**-0.2**
JRY				S	**Sn**	**10 30 05.1**	**-0.3**
JKT	**Katashina**	**0.86**	**324**	P	**Pn**	**10 29 55.0**	**-0.4**
JKT				S	**Sn**	**10 30 06.7**	**-0.5**
JOD2	**Odawara 2**	**1.02**	**219**	P	**Pn**	**10 29 57.8**	**+0.4**
JOD2				S	**Sn**	**10 30 11.0**	**+0.2**
JYN	**Shimob**	**1.22**	**243**	P	**Pn**	**10 30 00.8**	**+0.7**
JFY	**Yanaizu**	**1.35**	**354**	P	**Pn**	**10 30 02.3**	**+0.5**
JFY				S	**Sn**	**10 30 19.5**	**+0.9**
MJAR	**Matsushiro Arr**	**1.43**	**290**	P	**Pn**	**10 30 03.4**	**+0.5**
	26nm,0.3s,baz=87,slow=12,SNR=376						
MJAR				S	**Sn**	**10 30 22.3**	**+1.7**
	7.9nm,0.3s,baz=82,slow=25,SNR=6.4						
WRA	**Warramunga Arr**	**55.95**	**186**	P	**P**	**10 39 11.2**	**-0.7**
	0.3nm,0.4s,baz=0.4,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**59.67**	**186**	P	**P**	**10 39 37.5**	**-0.5**
	0.2nm,0.8s,baz=7.8,slow=7.5,SNR=5.4						

*IDC **27** 10:42:11.9±0.6,50°.11N×87°.87E,h0km,mb3.8/15,*
mb1 4.1/21,mb1mx4.0/33,mbtmp3.9/21,ML4.3/6,MS3.0/5,
Ms1 3.0/5,ms1mx2.8/38,Error ellipse: s-maj=10.6km
s-min=8.2km az=174.0
*ISCJB **27** 10:42:11.9±0.3,50°.11N±0°.02×87°.73E±0°.04,h10km,*
mb3.9/18,MS2.9/1,Error ellipse: s-maj=4.2km
s-min=3.2km az=27.5
*BJI **27** 10:42:12.6,50°.06N×87°.71E,h5km,mb4.1/6,ML4.3/6*
*MOS **27** 10:42:12.3±1.9,50°.04N×87°.84E,h16km,mb4.1/11,Error*
ellipse: s-maj=9.1km s-min=7.7km az=102.8
*ASRS **27** 10:42:15.4±0.5,50°.08N×87°.65E,h15km,Ms3.6/7*
*NNC **27** 10:42:17.1±1.6,50°.10N×87°.48E,h12km±8km,mb4.4,*
mpv4.4,Error ellipse: s-maj=12.1km s-min=7.3km az=81.0
ISC 27 10:42:13.9±0.5,**50°.08N**±0°.03×**87°.70E**±0°.04,**h10**km,**n77,**
σ172/88,mb3.9/18,17C-10D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.24**	**348**	*i* PG	**Pb**	**10 42 20.5**	**+1.6**
AKAR				*i*		10 42 24.7	
AKAR	**Aktash**	**0.24**	**348**	*i* Pg	**Pb**	**10 42 20.5**	**+1.6**
AKAR				*i* Sg	**Sb**	**10 42 24.7**	**+2.4**
ARTR	**Artybash**	**1.74**	**351**	*e*PN	**Pg**	**10 42 46.9**	**-0.3**
ARTR				*e*		10 43 09.8	
ARTR	**Artybash**	**1.74**	**351**	*e*Pg	**Pg**	**10 42 46.9**	**-0.3**
ARTR				*e*Sg	**Sg**	**10 43 09.8**	**+0.1**
UKR	**Ust'-Kan**	**2.05**	**296**	*e*PN	**Pb**	**10 42 51.9**	**+0.6**
UKR				*e*		10 43 19.6	
UKR	**Ust'-Kan**	**2.05**	**296**	*e*Pg	**Pb**	**10 42 51.9**	**+0.6**
UKR				*e*Sg	**Sg**	**10 43 19.6**	**-0.2**
TASR	**Tashtagol**	**2.69**	**2**	*e*PN	**Pg**	**10 43 04.3**	**-1.0**
TASR				*e*		10 43 39.5

BVA0			⇓Lg	Lg	10 48 08.7	
	comp=Z,51nm,1.3s					
BVAR	**Borovoye Array**	**11.17 292**	P	**Pn**	**10 44 53.3**	**-0.2**
BVAR					10 46 54.2	
BVAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
BVAR			smax	smax		
	comp=N,3.0nm,0.3s					
BVAR			MLR	MLR		
	comp=Z,92nm,19.6s					
BVAR	**Borovoye Array**	**11.17 292**	Pn	**Pn**	**10 44 53.3**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=102,slow=14,SNR=16					
BVAR			Sn	**Sn**	**10 46 54.2**	**-4.1**
	comp=Z,2.6nm,0.3s,baz=94,slow=22,SNR=7.9					
BVAR			Lg	Lg	10 48 10.7	
	baz=113,slow=32,SNR=2.7					
BVAR			LR	LR	10 49 22.0	
	comp=Z,92nm,19.6s,baz=86,slow=38					
BRVK	**Borovoye**	**11.24 292**	*e*P	**Pn**	**10 44 54.6**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,4.0nm,1.3s					
BRVK	**Borovoye**	**11.24 292**	⇑Pn	**Pn**	**10 44 54.9**	**+0.5**
	comp=Z,5.6nm,0.5s					
BRVK			⇓Sn	**Sn**	**10 46 58.6**	**-1.4**
	comp=Z,22nm,0.6s					
USP	**Ospenovka**	**11.33 238**	*i* P	**Pn**	**10 44 57.2**	**+1.4**
USP	**Ospenovka**	**11.33 238**	P	**Pn**	**10 44 57.3**	**+1.4**
SNR=8.4						
KBK	**Karagaybulak**	**11.51 235**	P	**Pn**	**10 45 01.2**	**+2.8**
SNR=13						
AAK	**Ala-Archa**	**11.77 236**	*i* P	**Pn**	**10 45 04.2**	**+2.4**
AAK			pmax	pmax		
	comp=Z,8.0nm,0.4s					
AAK	**Ala-Archa**	**11.77 236**	P	**Pn**	**10 45 04.5**	**+2.6**
SNR=8.0						
AAK	**Ala-Archa**	**11.77 236**	Pn	**Pn**	**10 45 03.2**	**+1.4**
	comp=Z,1.7nm,0.3s,baz=69,slow=11,SNR=18					
AAK			Sn	**Sn**	**10 47 08.4**	**-4.8**
	comp=Z,0.4nm,0.3s,baz=248,slow=19,SNR=7.2					
AAK			Lg	Lg	10 48 25.2	
	comp=Z,0.4nm,0.3s,baz=264,slow=19,SNR=3.9					
AAK	**Ala-Archa**	**11.77 236**	⇑Pn	**Pn**	**10 45 03.4**	**+1.5**
	comp=Z,3.7nm,0.5s					
AAK			⇓Sn	**Sn**	**10 47 11.3**	**-1.9**
	comp=Z,11nm,0.8s					
AAK			⇑Lg	Lg	10 48 25.4	
	comp=Z,27nm,1.2s					
UCH	**Uchtor**	**12.04 234**	*i* P	Pn	10 45 09.4	+3.6
UCH	**Uchtor**	**12.04 234**	P	Pn	10 45 09.5	+3.6
SNR=7.3						
SONM	**Songino Array**	**12.49 93**	Pn	Pn	10 45 08.0	-3.7
	comp=Z,0.1nm,0.3s,baz=280,slow=12,SNR=2.4					
SONM			Lg	Lg	10 48 46.7	
	comp=Z,0.1nm,0.3s,baz=287,slow=30,SNR=9.0					
SONM			LR	LR	10 50 09.5	
	comp=Z,84nm,20.6s,baz=66,slow=39					
GTA	**Gaotai**	**13.69 137**	*e*P	P	10 45 40.3	+3.4
GTA			pP	Pn	10 45 45.0	+17
GTA			sP		10 45 47.5	
GTA			S	Sn	10 48 11.0	+11
GTA			sS	S	10 48 16.0	-7.2
GTA			SS	SnSn	10 48 25.8	+13
GTA			pmax	pmax		
	comp=Z,4.0nm,0.9s					
GTA			pmax	pmax		
	comp=Z,33nm,5.5s					
GTA			LR	LR		
	comp=N,250nm,8.8s					
GTA			LR	LR		
	comp=E,200nm,9.7s					
GTA			LR	LR		
	comp=Z,300nm,11.6s					
KK31	**Karatay Array**	**13.71 246**	*e*P	**Pn**	**10 45 26.7**	**-1.4**
KK31			pmax	pmax		
	comp=Z,2.0nm,0.3s					
KK31	**Karatay Array**	**13.71 246**	⇓Pn	**Pn**	**10 45 26.8**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=53,slow=13,SNR=25					
KK31			⇓Sn	**Sn**	**10 47 59.7**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=51,slow=22,SNR=4.1					
KK31			⇑Lg	Lg	10 49 27.9	
	comp=Z,7.0nm,0.6s					
SVE	**Sverdlovsk**	**17.39 303**	*e*P	**P**	**10 46 22.2**	**+4.5**
SVE			pmax	pmax		
	comp=Z,17nm,1.6s					
AB31	**Akbulak array**	**17.95 278**	P	**P**	**10 46 23.7**	**-0.2**
AB31			pmax	pmax		
	comp=Z,2.0nm,0.4s					
AB31	**Akbulak array**	**17.95 278**	⇑Pn	**Pn**	**10 46 23.5**	**+0.2**
	comp=Z,0.9nm,0.4s					
ARU	**Arti**	**18.46 301**	*d* P	**P**	**10 46 29.0**	**-0.4**
ARU			S	**Sn**	**10 49 54.3**	**-1.2**
ARU			pmax	pmax		
	comp=Z,8.0nm,1.7s					
AKTO	**Aktyubinsk**	**18.93 283**	P	**Pn**	**10 46 35.5**	**+0.2**
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKTO	**Aktyubinsk**	**18.93 283**	P	**Pn**	**10 46 35.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=90,slow=12,SNR=19					
AKTO	**Aktyubinsk**	**18.93 283**	⇑Pn	**Pn**	**10 46 35.9**	**+0.6**
	comp=Z,3.7nm,0.7s					
TIXI	**Tiksi**	**28.47 26**	*e*P	**P**	**10 48 10.6**	**+2.0**
TIXI			pmax	pmax		
	comp=Z,8.0nm,2.1s					
USRK	**Ussuriysk Arra**	**30.34 84**	P	**P**	**10 48 26.2**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=290,slow=8.0,SNR=6.8					
OBN	**Obninsk**	**30.88 299**	P	**P**	**10 48 33.0**	**+3.0**
OBN			*e*		10 49 53.3	
OBN			pmax	pmax		
	comp=Z,13nm,1.3s					
KSRS	**Korea Array**	**31.29 98**	P	**P**	**10 48 34.0**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=304,slow=8.7,SNR=4.2					
KSRS			LR	LR	11 02 23.8	
	comp=Z,28nm,19.5s,baz=270,slow=39					
CMAR	**Chiang Mai Air**	**32.81 160**	P	**P**	**10 48 47.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=339,slow=9.8,SNR=5.5					
FINES	**FINESS Array B**	**35.13 313**	P	**P**	**10 49 06.7**	**-0.4**
	comp=Z,2.6nm,1.0s,baz=81,slow=10.0,SNR=5.0					
AKASG	**Malin Array Be**	**36.44 294**	*e*P	**P**	**10 49 18.4**	**0.0**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKASG	**Malin Array Be**	**36.44 294**	P	**P**	**10 49 18.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=65,slow=9.0,SNR=4.9					
BRTR	**Keskin Array B**	**38.88 276**	P	**P**	**10 49 39.8**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=76,slow=8.0,SNR=11					
YUK	**Yuzh-Kuril'sk**	**39.21 76**	*e*P	P	10 49 50.3	+8.4
NB2	**NORSAR Subarra**	**42.15 315**	P	P	10 50 11.1	+5.1
	comp=Z,5.4nm,1.0s,baz=65,slow=7.9					
NOA	**NORSAR Array B**	**42.15 315**	P	**P**	**10 50 05.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=70,slow=5.2,SNR=2.5					
ILAR	**Eielson Array**	**57.92 24**	P	**P**	**10 52 04.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=323,slow=5.5,SNR=13					
INK	**Inuvik**	**58.01 17**	P	**P**	**10 52 06.8**	**+0.7**
	comp=Z,1.5nm,1.1s,baz=15,slow=14,SNR=3.8					
ESDC	**Sonseca Array**	**61.84 299**	P	**P**	**10 52 33.0**	**0.0**
	comp=Z,0.7nm,0.6s,baz=48,slow=6.4,SNR=5.4					
YKA	**Yellowknife Ar**	**66.38 11**	P	**P**	**10 53 01.9**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=338,slow=6.9,SNR=11					
TORD	**Torodi Ar. Bea**	**77.49 276**	P	**P**	**10 54 08.8**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=32,slow=5.4,SNR=19					
WRA	**Warramunga Arr**	**80.98 136**	P	**P**	**10 54 26.6**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=340,slow=5.9,SNR=12					
ASAR	**Alice Springs**	**84.06 138**	P	**P**	**10 54 42.9**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=334,slow=5.0,SNR=9.8					
PDAR	**Pinedale Array**	**86.31 13**	P	**P**	**10 54 55.8**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=20,slow=2.9,SNR=2.1					
NVAR	**Mina Array Bea**	**88.93 20**	P	**P**	**10 55 08.1**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=337,slow=3.9,SNR=4.3					
TXAR	**Lajitas Array**	**100.30 10**	P	**Pdif**	**10 55 56.4**	**-4.3**
	comp=Z,0.2nm,0.5s,baz=333,slow=3.0,SNR=3.4					
CPUP	**Villa Florida**	**144.21 298**	PKP	**PKPab**	**11 01 46.6**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=76,slow=4.2,SNR=3.8					

*ISCJB **27** 11:18:05.4±0.8, 1°.28S±0°.07×99°.38E±0°.07, h33km, mb4.0/10, Error ellipse: s-maj=9.9km s-min=9.0km az=136.0*

*AUST **27** 11:18:13.5±28.0, 0°.77S×100°.02E, h0km, Error ellipse: s-maj=5.9km s-min=1.4km az=32.0*

*IDC **27** 11:18:13.0±4.0, 0°.88S×100°.03E, h66km±33km, mb3.7/10, mb1 3.7/12, mb1mx3.5/25, mbtmp3.6/12, ML3.7/2, Error ellipse: s-maj=45.8km s-min=16.5km az=58.0*

*DJA **27** 11:18:18.9±0.5, 1°.5S×10°.0E±°, h40km±7km, M3.8/7, MLv3.8/7*

ISC 27 11:18:08.2±0.9, 1°.21S±0°.09×99°.52E±0°.09, h35km, n28, σ1§42/25, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.98**	**73**	P	Pn	11 18 29.9	+4.4
PDSI				S	**Sn**	**11 18 40.1**	**+1.8**
PPI	**Padang Panjang**	**1.15**	**50**	P	**Pn**	**11 18 29.8**	**+2.0**
MNSI	**Mandailing Nat**	**1.99**	**2**	P	Pn	11 18 43.1	+3.7
MNSI				S	**Sn**	**11 19 03.4**	**+0.3**
BKNI	**Bangkinang**	**2.15**	**45**	P	**Pn**	**11 18 41.8**	**+0.2**
BKNI				S	Sn	11 18 59.8	-7.2
BKNI	**Bangkinang**	**2.15**	**45**	P	**Pn**	**11 18 42.0**	**+0.4**
	baz=1.5,SNR=9.7						
RGRI	**Rengat**	**2.94**	**73**	P	**Pn**	**11 18 54.8**	**+2.4**
GSI	**Gunungsitoli**	**3.16**	**322**	P	Pn	11 19 06.0	+10
PSI	**Prapat**	**4.03**	**351**	P	**Pn**	**11 19 10.7**	**+3.2**
PSI	**Prapat**	**4.03**	**351**	P	**Pn**	**11 19 08.5**	**+1.0**
	1.1nm,0.3s,baz=163,slow=12,SNR=2.9						
PSI				S	Sn	11 19 38.3	-15
	1.9nm,0.3s,baz=142,slow=22,SNR=3.7						
PSI	**Prapat**	**4.03**	**351**	P	Pn	11 19 11.8	+4.3
	baz=3.6,SNR=4.6						
BTDF	**Bukit Timah Da**	**4.96**	**59**	P	**Pn**	**11 19 20.5**	**+0.3**
	baz=4.3,SNR=4.0						
BTDF				P	**Pn**	**11 19 20.5**	**+0.3**
	baz=4.3,SNR=4.0						
KGM	**Kluang**	**4.97**	**50**	P	**Pn**	**11 19 20.8**	**+0.4**
KULM	**Kulim**	**6.55**	**10**	P	**Pn**	**11 19 43.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**19.55**	**358**	P	**P**	**11 22 32.7**	**-0.3**
	0.3nm,0.3s,baz=189,slow=10.0,SNR=6.3						
H08S2	**Diego Garcia H**	**27.68**	**256**	T	T	11 53 30.6	
	baz=70,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**27.69**	**256**	T	T	11 53 34.0	
	baz=70,slow=75,SNR=29						
H08S1	**Diego Garcia H**	**27.70**	**256**	T	T	11 53 37.2	
	baz=70,slow=75,SNR=50						
WRA	**Warramunga Arr**	**38.81**	**121**	P	**P**	**11 25 28.6**	**-1.4**
	0.4nm,0.6s,baz=304,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**	**40.10**	**127**	P	**P**	**11 25 39.5**	**-1.3**
	0.5nm,0.8s,baz=299,slow=8.3,SNR=3.7						
ASAR				PcP	**PcP**	**11 27 46.6**	**+1.4**
	0.2nm,0.7s,baz=312,slow=3.2,SNR=3.3						
KSRS	**Korea Array**	**46.59**	**31**	P	P	11 26 30.0	-2.8
	1.2nm,0.6s,baz=222,slow=8.3,SNR=5.7						
SONM	**Songino Array**	**49.21**	**6**	P	**P**	**11 26 51.6**	**-1.5**
	0.6nm,0.7s,baz=185,slow=9.4,SNR=7.0						
SONM				PcP	**PcP**	**11 28 15.5**	**-0.5**
	0.7nm,0.7s,baz=183,slow=3.4,SNR=6.3						
STKA	**Stephens Creek**	**50.03**	**132**	P	**P**	**11 27 01.2**	**+1.6**
	1.6nm,0.9s,baz=310,slow=7.9,SNR=3.1						
MKAR	**Makanchi Array**	**50.14**	**345**	P	**P**	**11 27 00.2**	**+0.1**
	1.5nm,0.5s,baz=154,slow=8.6,SNR=30						
USRK	**Ussuriysk Arra**	**53.69**	**29**	P	P		
	2.6nm,0.6s,baz=202,slow=6.2,SNR=9.6					11 27 24.4	-2.2
ZALV	**Zalesovo Beam**	**56.31**	**350**	P	**P**	**11 27 44.8**	**-0.5**
	3.3nm,0.7s,baz=180,slow=6.2,SNR=19						
FINES	**FINESS Array B**	**83.19**	**332**	P	**P**	**11 30 31.5**	**+0.9**
	2.5nm,1.1s,baz=101,slow=7.2,SNR=7.8						
ARCES	**ARCESS Array B**	**85.57**	**340**	P	**P**	**11 30 42.6**	**+0.1**
	2.4nm,0.9s,baz=115,slow=6.1,SNR=4.0						
TXAR	**Lajitas Array**	**144.36**	**36**	PKP	**PKPab**	**11 37 39.5**	**-0.1**
	0.2nm,0.6s,baz=333,slow=1.2,SNR=3.0						

MAN 27 11:18:33, 18°.81N×120°.75E, h33km, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.50**	**194**	⇑*i* P	Pn	11 18 45.5	+1.6
PIP				*e*S	Sn	11 18 52.7	+1.4
APYP	**Conner**	**1.05**	**153**	*e*P	Pb	11 18 53.0	+0.2
APYP				*e*S	Sb	11 19 06.1	-0.2
SGCP	**Mt. Cagua**	**1.36**	**114**	*e*P	Pn	11 18 56.6	+0.9
SGCP				*e*S	Sb	11 19 21.1	+6.2

IDC 27 11:19:40.5±2.8, 6°.20S×147°.14E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.5/19, mbtmp3.8/4, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=61.3km s-min=37.7km az=94.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.19**	**180**	Pn	Pn	11 20 32.2	+0.4
	6.3nm,0.3s,baz=335,slow=11,SNR=23						
PMG				Sn	Sn	11 21 05.0	-5.6
	9.9nm,0.3s,baz=17,slow=19,SNR=14						
WRA	**Warramunga Arr**	**18.47**	**221**	P	P	11 23 57.6	-0.5
	0.3nm,0.3s,baz=47,slow=11,SNR=15						
ASAR	**Alice Springs**	**21.53**	**215**	P	P	11 24 30.7	-0.7
	0.9nm,0.3s,baz=34,slow=12,SNR=60						
FITZ	**Fitzroy Crossi**	**24.08**	**239**	P	P	11 24 57.8	-0.1
	3.5nm,0.5s,baz=59,slow=9.9,SNR=27						
KSRS	**Korea Array**	**46.99**	**339**	LR	LR	11 44 32.3	
	comp=Z,25nm,20.4s,baz=185,slow=32						
TORD	**Torodi Ar. Bea**	**145.27**	**284**	PKPbc	PKPbc	11 39 20.7	-0.3
	0.7nm,0.5s,baz=72,slow=2.9,SNR=13						

*IDC **27** 11:25:36.5±1.8, 12°.78S×165°.86E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/20, mbtmp3.7/6, ML4.4/1, Error ellipse: s-maj=45.9km s-min=30.7km az=142.0*

*ISCJB **27** 11:25:38.6±1.2, 12°.8S±0°.2×165°.7E±0°.1, h20km, mb3.5/5, Error ellipse: s-maj=28.3km s-min=15.2km az=29.6*

ISC 27 11:25:39.9±1.4, 12°.8S±0°.2×165°.8E±0°.2, h20km, n6, σ1§30/7, mb3.5/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.69**	**300**	Pn	**Pn**	**11 27 17.7**	**+0.6**
	7.2nm,0.3s,baz=166,slow=4.0,SNR=6.0						
HNR				Sn	**Sn**	**11 28 31.9**	**-0.9**
	2.6nm,0.3s,baz=342,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**31.01**	**253**	P	**P**	**11 31 55.9**	**-0.6**
	0.4nm,0.7s,baz=80,slow=9.5,SNR=6.8						
ASAR	**Alice Springs**	**32.12**	**246**	P	**P**	**11 32 05.8**	**-0.4**
	0.9nm,0.7s,baz=73,slow=9.5,SNR=17						
SONM	**Songino Array**	**80.14**	**324**	P	**P**	**11 37 48.9**	**+0.2**
	0.2nm,0.7s,baz=141,slow=5.5,SNR=3.2						
ILAR	**Eielson Array**	**85.15**	**18**	P	**P**	**11 38 12.8**	**-1.4**
	0.2nm,0.6s,baz=234,slow=6.2,SNR=4.3						
MKAR	**Makanchi Array**	**94.87**	**317**	P	**P**	**11 39 02.4**	**+1.8**
	0.2nm,0.7s,baz=114,slow=5.4,SNR=2.7						

*IDC **27** 11:37:41.4±0.8, 32°.10S×178°.22W, h0km, mb4.4/7, mb1 4.5/9, mb1mx4.2/22, mbtmp4.5/9, ML4.5/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/27, Error ellipse: s-maj=25.0km s-min=19.8km az=106.0*

*ISCJB **27** 11:37:43.0±0.9, 32°.19S±0°.06×178°.1W±0°.1, h24km, mb4.5/11, MS3.5/3, Error ellipse: s-maj=18.4km s-min=7.7km az=17.7*

*NEIC **27** 11:37:44.7±3.2, 32°.18S×178°.15W, h24km±21km, mb4.8/6, Error ellipse: s-maj=16.8km s-min=11.5km az=105.0*

*AUST **27** 11:38:21.1±0.0, 33°.67S×179°.38E, h213km, Error ellipse: s-maj=2.8km s-min=1.5km az=310.0*

ISC 27 11:37:44.5±0.7, 32°.24S±0°.07×178°.1W±0°.1, h24km, n64, σ1§33/62, mb4.6/11, MS3.4/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.98**	**2**	*e*Pn	**Pn**	**11 38 29.4**	**-0.9**
RAO				*e*Sn	**Sn**	**11 39 03.5**	**-1.8**
RAO	**Raoul Island**	**2.98**	**2**	Pn	**Pn**	**11 38 29.1**	**-1.2**
	121nm,0.3s,baz=87,slow=18,SNR=5.9						
RAO				Sn	**Sn**	**11 39 03.3**	**-2.0**
	193nm,0.3s,baz=120,slow=20,SNR=4.3						
RAO				LR	LR	11 39 30.8	
	comp=Z,328nm,21.4s,baz=196,slow=38						
URZ	**Urewera**	**7.19**	**212**	*e*Pn	**Pn**	**11 39 27.2**	**-0.9**
	58nm,0.8s						
URZ				*e*Sn	**Sn**	**11 40 45.7**	**-3.3**
URZ	**Urewera**	**7.19**	**212**	Pn	**Pn**	**11 39 26.9**	**-1.2**
	3.8nm,0.3s,baz=278,slow=7.1,SNR=26						
URZ				Sn	**Sn**	**11 40 46.3**	**-2.7**
	5.4nm,0.3s,baz=158,slow=19,SNR=7.9						
OUZ	**Omahuta**	**7.56**	**245**	*e*Pn	**Pn**	**11 39 35.9**	**+2.7**
	45nm,0.8s						
RPZ	**Rata Peaks**	**14.30**	**214**	*e*Pn	**Pn**	**11 41 04.1**	**-1.4**
RPZ	**Rata Peaks**	**14.30**	**214**	Pn	Pn	11 41 01.8	-3.7
	0.8nm,0.3s,baz=21,slow=17,SNR=3.9						
EIDS	**Eidsvold**	**27.83**	**276**	P	**P**	**11 43 33.4**	**+1.3**
	baz=26,SNR=3.2						
RMQ	**Roma**	**29.41**	**273**	P	**P**	**11 43 48.2**	**+2.0**
	baz=27,SNR=4.7						
CMSA	**Cobar Meteorol**	**30.70**	**261**	P	**P**	**11 43 58.5**	**+0.9**
	baz=28,SNR=30						
QLP	**Quilpie**	**33.21**	**270**	P	**P**	**11 44 20.1**	**+0.5**
	baz=31,SNR=4.1						
STKA	**Stephens Creek**	**34.06**	**260**	*e*P	**P**	**11 44 27.7**	**+0.7**
	0.6nm,0.9s						
STKA	**Stephens Creek**	**34.06**	**260**	P	**P**	**11 44 27.5**	**+0.5**
	2.5nm,0.8s,baz=102,slow=9.3,SNR=7.2						
STKA				LR	LR	11 57 34.9	
	comp=Z,72nm,18.3s,baz=27,slow=35						
STKA	**Stephens Creek**	**34.06**	**260**	P	P	**11 44 28.0**	**+1.0**
	baz=32,SNR=5.4						
CTA	**Charters Tower**	**34.09**	**282**	P	**P**	**11 44 27.9**	**+0.6**
CTA	**Charters Tower**	**34.09**	**282**	P	**P**	**11 44 27.9**	**+0.6**
	4.0nm,0.5s,baz=103,slow=12,SNR=20						
CTAO	**Charters Tower**	**34.09**	**282**	*e*P	**P**	**11 44 27.6**	**+0.2**
	5.7nm,0.8s						
COEN	**Coen**	**39.76**	**288**	*e*P	**P**	**11 45 15.6**	**-0.1**
	74nm,1.1s						
COEN	**Coen**	**39.76**	**288**	P	**P**	**11 45 16.4**	**+0.8**
	baz=38,SNR=4.8						
AS31	**Alice Springs**	**42.99**	**269**	*e*P	**P**	**11 45 41.0**	**-1.2**
ASAR	**Alice Springs**	**42.99**	**269**	P	**P**	**11 45 41.0**	**-1.2**
ASAR	**Alice Springs**	**42.99**	**269**	P	**P**	**11 45 41.0**	**-1.2**
	3.8nm,0.6s,baz=105,slow=7.6,SNR=78						
WRAB	**Tennant Creek**	**44.14**	**274**	*e*P	**P**	**11 45 50.0**	**-1.4**
	9.0nm,0.6s						
WRA	**Warramunga Arr**	**44.15**	**274**	P	**P**	**11 45 50.1**	**-1.4**
WRA	**Warramunga Arr**	**44.15**	**274**	P	**P**	**11 45 50.1**	**-1.4**
	8.0nm,0.6s,baz=115,slow=7.7,SNR=121						
FORT	**Forrest**	**45.55**	**257**	*e*P	**P**	**11 46 00.5**	**-2.0**
	19nm,0.8s						
FORT	**Forrest**	**45.55**	**257**	P	**P**	**11 46 01.1**	**-1.5**
	baz=43,SNR=6.4						
VNDA	**Vanda**	**46.27**	**186**	LR	LR	12 02 22.0	
	comp=Z,40nm,20.0s,baz=196,slow=32						
WRKA	**Warakurna**	**47.23**	**264**	P	**P**	**11 46 13.9**	**-1.9**
	baz=45,SNR=12						
KDU	**Kakadu**	**49.21**	**282**	P	**P**	**11 46 33.4**	**+2.2**
	baz=47,SNR=3.5						
FITZ	**Fitzroy Crossi**	**52.33**	**271**	P	**P**	**11 46 53.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.33**	**271**	P	**P**	**11 46 53.3**	**-1.3**
	2.2nm,0.9s,baz=143,slow=7.7,SNR=3.6						
FAKI	**Fak Fak**	**54.95**	**292**	P	P	11 47 18.4	+4.5
	baz=54,SNR=6.1						
QSPA	**South Pole Qui**	**57.88**	**180**	*e*P	**P**	**11 47 36.8**	**+2.6**
	11nm,0.9s						
QSPA	**South Pole Qui**	**57.88**	**180**	P	**P**	**11 47 36.8**	**+2.6**
	4.9nm,0.8s,baz=32,slow=8.1,SNR=22						
MAW	**Mawson**	**70.58**	**201**	LR	LR	12 18 52.2	
	comp=Z,58nm,20.9s,baz=277,slow=35						
SNAA	**Sanae**	**76.32**	**178**	*e*P	**P**	**11 49 32.2**	**+1.1**
	5.9nm,1.0s						
PETK	**Petropavlovsk-**	**87.58**	**346**	P	**P**	**11 50 30.2**	**+0.1**
PETK	**Petropavlovsk-**	**87.58**	**346**	P	**P**	**11 50 30.2**	**+0.1**
	1.2nm,0.5s,baz=119,slow=6.6,SNR=5.1						
MKAR	**Makanchi Array**	**118.91**	**309**	PKP	**PKPdf**	**11 56 29.9**	**-0.8**
MKAR	**Makanchi Array**	**118.91**	**309**	PKP	**PKPdf**	**11 56 29.9**	**-0.8**
	0.5nm,0.6s,baz=90,slow=2.0,SNR=8.4						
KURK	**Kurchatov**	**122.27**	**313**	*e*PKPdf	**PKPdf**	**11 56 36.0**	**-0.9**
KBL	**Kabul**	**124.88**	**292**	*e*PKPdf	**PKPdf**	**11 56 43.1**	**+0.4**
AKTO	**Aktyubinsk**	**135.28**	**311**	PKP	**PKPdf**	**11 57 03.2**	**+1.4**
AKTO	**Aktyubinsk**	**135.28**	**311**	PKP	**PKPdf**	**11 57 03.2**	**+1.4**
	1.1nm,0.5s,baz=90,slow=3.0,SNR=5.3						
ARCES	**ARCESS Array B**	**140.37**	**347**	PKPpre	PKPpre	11 57 04.5	
ARCES	**ARCESS Array B**	**140.37**	**347**	PKhKP	PKPpre	11 57 04.5	
	2.1nm,0.8s,baz=18,slow=3.2,SNR=3.7						
JOF	**Joensuu**	**144.10**	**337**	*e*p	**PKPab**	**11 57 14.3**	**-0.6**
KAF	**Kangasniemi**	**146.25**	**340**	*e*p	**PKPdf**	**11 57 21.6**	**+0.5**
FIA1	**FINESS Array S**	**146.84**	**339**	*e*PKPdf	**PKPdf**	**11 57 22.8**	**+0.7**
FINES	**FINESS Array B**	**146.84**	**339**	PKPbc	**PKPbc**	**11 57 23.6**	**-0.3**
FINES	**FINESS Array B**	**146.84**	**339**	PKPbc	**PKPbc**	**11 57 23.6**	**-0.3**
	8.3nm,0.6s,baz=64,slow=3.2,SNR=57						
NB2	**NORSAR Subarra**	**150.56**	**351**	PKP	**PKPbc**	**11 57 33.8**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=14,slow=2.6						
NOA	**NORSAR Array B**	**150.56**	**351**	PKPbc	**PKPbc**	**11 57 34.0**	**+0.4**
NOA	**NORSAR Array B**	**150.56**	**351**	PKPbc	**PKPbc**	**11 57 34.0**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=15,slow=4.2,SNR=9.1						
MMAI	**Mount Meron Ar**	**151.87**	**281**	PKPbc	**PKPbc**	**11 57 38.5**	**+0.9**
MMAI	**Mount Meron Ar**	**151.87**	**281**	PKPbc	**PKPbc**	**11 57 38.5**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=76,slow=7.0,SNR=9.4						
AKASG	**Malin Array Be**	**152.71**	**321**	PKPbc	**PKPbc**	**11 57 38.5**	**-0.3**

25nm,0.3s,baz=306,slow=22,SNR=10.0
MJAR Matsushiro Arr 8.39 353 P **P 12 23 25.4 -0.1**
0.6nm,0.3s,baz=177,slow=12,SNR=11
USRK Ussuriysk Arra 17.06 341 P **P 12 24 57.0 +0.9**
0.2nm,0.3s,baz=170,slow=8.8,SNR=6.2
MKAR Makanchi Array 47.92 309 P **P 12 29 16.7 0.0**
0.2nm,0.4s,baz=91,slow=8.4,SNR=3.3
WRA Warramunga Arr 48.11 186 P **P 12 29 18.4 0.0**
0.3nm,0.3s,baz=3.8,slow=7.7,SNR=18
KURBB Kurchatov Arra 50.55 314 P **P 12 29 35.8 -0.3**
0.8nm,0.5s,baz=92,slow=7.7,SNR=9.9
ASAR Alice Springs 51.84 186 P **P 12 29 45.9 +0.1**
0.2nm,0.5s,baz=4.2,slow=6.7,SNR=9.3
BVAR Borovoye Array 55.60 317 P **P 12 30 12.5 +0.4**
0.9nm,0.4s,baz=100,slow=6.4,SNR=5.4
FINES FINESS Array B 75.89 333 P **P 12 32 18.4 -0.4**
0.7nm,0.3s,baz=69,slow=5.2,SNR=13
NOA NORSAR Array B 81.69 337 P **P 12 32 48.6 -1.1**
0.6nm,0.6s,baz=56,slow=4.1,SNR=2.7

DHMR ***27*** *12:33:21.5±0.8, 11°.62N×42°.13E, h2km±10km, ML4.0*
ISCJB ***27*** *12:33:28.4±1.2, 11°.3N±0°.2×42°.6E±0°.2, h10km, Error ellipse: s-maj=37.0km s-min=5.7km az=138.4*
ISC 27 12:33:20.3±1.7, 11°.4N±0°.2×42°.5E±0°.2, h10km, n5, σ1§24/8, 1C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**2.47**	**41**	⇓*i* P	**Pb**	**12 34 05.3**	**+0.3**
TRBA				*i* S	**Sg**	**12 34 40.3**	**+0.5**
TRBA				AML	AML	12 34 47.8	
	comp=N,1μm,0.6s						
UDYN	**Al 'Udayn**	**2.98**	**30**	⇑*i* P	**Pb**	**12 34 11.9**	**-1.8**
UDYN				*i* S	**Sb**	**12 34 52.0**	**+1.7**
LBOS		**3.70**	**47**	*i* P	Pn	12 34 23.8	+6.0
LBOS				*i* S	**Sb**	**12 35 11.8**	**+0.8**
BDHA	**Al Bayda'**	**4.00**	**49**	*i* P	Pn	12 34 28.0	+6.1
BDHA				*i* S	**Sb**	**12 35 18.8**	**-0.9**
FURI	**Furi**	**4.45**	**237**	*e*P	**Pb**	**12 34 38.5**	**-0.2**
FURI				S	**Sb**	**12 35 33.0**	**+0.3**

IDC ***27*** *12:40:52.8±1.7, 7°.75S×123°.77E, h0km, mb3.3/1, mb1 3.2/4, mb1mx3.2/20, mbtmp3.1/4, ML2.8/3, Error ellipse: s-maj=125.4km s-min=26.8km az=64.0*
ISC 27 12:40:54.2±1.6, 7°.8S±0°.2×123°.8E±0°.3, h10km, n6, σ1§05/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNRA	**Kununurra**	**9.25**	**149**	P	Pn	12 43 13.6	+5.8
	baz=7.0,SNR=11						
FITZ	**Fitzroy Crossi**	**10.43**	**170**	Pn	**Pn**	**12 43 23.2**	**-0.8**
	0.2nm,0.3s,baz=357,slow=14,SNR=7.2						
FITZ				Sn	Sn	12 45 07.4	-14
	0.4nm,0.3s,baz=90,slow=20,SNR=7.9						
FITZ	**Fitzroy Crossi**	**10.43**	**170**	P	**Pn**	**12 43 24.0**	**+0.1**
	baz=8.2,SNR=4.1						
WRA	**Warramunga Arr**	**15.85**	**141**	Pn	**Pn**	**12 44 36.9**	**-0.8**
	0.0nm,0.3s,baz=316,slow=13,SNR=3.9						
WRA				Sn	Sn	12 47 23.4	-10
	0.2nm,0.3s,baz=312,slow=24,SNR=8.6						
ASAR	**Alice Springs**	**18.55**	**150**	P	**Pn**	**12 45 12.5**	**+1.0**
	0.0nm,0.3s,baz=321,slow=12,SNR=3.6						
ASAR				S	Sn	12 48 26.4	-13
	0.0nm,0.3s,baz=323,slow=23,SNR=4.4						
MKAR	**Makanchi Array**	**65.64**	**330**	P	**P**	**12 51 38.7**	**0.0**
	0.2nm,0.4s,baz=135,slow=8.2,SNR=6.0						

NIED ***27*** *13:05:00, 31°.00N×141°.60E, h5km, Mw4.9 Best double couple: M₀2.44000×10¹⁶ NP1:φs355.00000°, δ83.00000°, λ84.00000°. NP2:φs216.00000°, δ9.00000°, λ131.00000°.*
IDC ***27*** *13:05:09.7±0.5, 30°.94N×141°.41E, h0km, mb4.0/21, mb1 4.1/25, mb1mx4.1/30, mbtmp4.0/25, ML3.9/3, MS3.9/7, Ms1 3.9/7, ms1mx3.6/64, Error ellipse: s-maj=18.6km s-min=12.4km az=84.0*
MOS ***27*** *13:05:12.9±1.1, 30°.91N×141°.44E, h33km, mb4.9/16, Error ellipse: s-maj=14.7km s-min=6.2km az=118.4*
JMA ***27*** *13:05:12.5±0.3, 30°.97N×141°.56E, h30km, M4.3*
NEIC ***27*** *13:05:13.1±1.8, 30°.97N×141°.43E, h22km±12km, mb4.8/13, MW4.9(NIED), Error ellipse: s-maj=7.5km s-min=5.5km az=79.0*
ISCJB ***27*** *13:05:13.2±0.3, 30°.90N±0°.03×141°.43E±0°.07, h37km, mb4.4/41, MS4.3/7, Error ellipse: s-maj=8.8km s-min=3.2km az=165.8*
ISC 27 13:05:15.0±0.4, 30°.96N±0°.04×141°.54E±0°.08, h37km, n156, σ1§27/166, mb4.4/41, MS4.4/7, 4C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.57**	**325**	P	**Pn**	**13 05 53.3**	**-0.8**
JHJ2	**Mitsune**	**2.60**	**326**	P	**Pn**	**13 05 53.3**	**-1.1**
JHJ2	**Mitsune**	**2.60**	**326**	*e*P	**Pn**	**13 05 53.5**	**-0.9**
BSO1	**Boso 1**	**3.71**	**353**	P	**Pn**	**13 06 10.5**	**+1.3**
CBIJ	**Chichi jima**	**3.90**	**172**	P	**Pn**	**13 06 12.3**	**0.0**
CBIJ				*e*S	**Sn**	**13 06 54.6**	**-2.1**
CBIJ	**Chichi jima**	**3.90**	**172**	*e*P	**Pn**	**13 06 12.3**	**0.0**
CBIJ				Sn	**Sn**	**13 06 55.0**	**-1.7**
JCJ	**Chichijima**	**3.90**	**172**	Pn	**Pn**	**13 06 11.0**	**-1.3**
	12nm,0.3s,baz=290,slow=20,SNR=24						
JCJ				Sn	**Sn**	**13 06 55.0**	**-1.7**
	51nm,0.3s,baz=296,slow=22,SNR=13						
JCJ				LR	LR	13 07 51.1	
	comp=Z,1μm,18.4s,baz=356,slow=42						
BSO3	**Boso 3**	**3.92**	**347**	P	**Pn**	**13 06 13.5**	**+1.1**
JHU	**Hanno**	**5.23**	**339**	P	**Pn**	**13 06 31.5**	**+0.9**
JHU				*e*S	**Sn**	**13 07 29.9**	**+0.3**
JYT	**Yasato**	**5.37**	**348**	P	**Pn**	**13 06 33.3**	**+0.8**
JYT				*e*S	**Sn**	**13 07 30.8**	**-2.2**
JRY	**Ryogami san**	**5.50**	**337**	P	**Pn**	**13 06 35.7**	**+1.3**
JRY				S	**Sn**	**13 07 37.0**	**+0.6**
JHO	**Hitachi**	**5.69**	**352**	P	**Pn**	**13 06 35.8**	**-1.1**
JHO				*e*S	**Sn**	**13 07 37.8**	**-3.2**
JAG	**Ashikaga**	**5.72**	**343**	P	**Pn**	**13 06 37.2**	**-0.1**
JAG				*e*S	**Sn**	**13 07 41.3**	**-0.4**
MJAR	**Matsushiro Arr**	**6.22**	**334**	Pn	**Pn**	**13 06 42.9**	**-1.2**
MJAR				Sn	**Sn**	**13 07 56.9**	**+2.9**
MJAR	**Matsushiro Arr**	**6.22**	**334**	Pn	**Pn**	**13 06 42.9**	**-1.2**
	3.3nm,0.3s,baz=90,slow=24,SNR=28						
MJAR				Sn	**Sn**	**13 07 56.9**	**+2.9**
	1.5nm,0.3s,baz=134,slow=14,SNR=4.0						
MJAR				LR	LR	13 09 11.4	
	comp=Z,990nm,19.4s,baz=155,slow=39						
MAJO	**Matsushiro**	**6.22**	**334**	⇓*e*P	**Pn**	**13 06 46.6**	**+2.4**
MAJO	**Matsushiro**	**6.22**	**334**	*e*P	**Pn**	**13 06 44.9**	**+0.7**
	31nm,0.8s						
MAT	**Matsushiro**	**6.22**	**334**	P	**Pn**	**13 06 46.3**	**+2.1**
MAT				S	**Sn**	**13 07 56.4**	**+2.4**
JNU	**Nakatsue**	**9.30**	**286**	Pn	Pn	13 07 29.6	+3.1
JNU	**Nakatsue**	**9.30**	**286**	Pn	Pn	13 07 29.6	+3.1
	0.2nm,0.3s,baz=323,slow=10,SNR=3.0						
JNU				LR	LR	13 10 54.9	
	comp=Z,2μm,19.3s,baz=87,slow=38						
ERM	**Erimo**	**11.11**	**6**	*i* P	**Pn**	**13 07 49.3**	**-1.8**
ERM	**Erimo**	**11.11**	**6**	*e*P	**Pn**	**13 07 48.7**	**-2.4**
KSRS	**Korea Array**	**12.99**	**304**	Pn	**Pn**	**13 08 17.3**	**+0.4**
	0.1nm,0.3s,baz=108,slow=13,SNR=2.8						
KSRS				LR	LR	13 13 19.1	
	comp=Z,750nm,18.4s,baz=114,slow=38						
KSAR	**Wonju Array Be**	**13.02**	**303**	Pn	**Pn**	**13 08 17.3**	**0.0**
ASAJ	**Asahikawa**	**13.16**	**3**	*e*P	Pn	13 08 16.2	-3.0
ASAJ	**Asahikawa**	**13.16**	**3**	Pn	Pn	13 08 16.0	-3.1
	0.8nm,0.3s,baz=121,slow=26,SNR=11						
USRK	**Ussuriysk Arra**	**15.21**	**333**	Pn	**Pn**	**13 08 46.9**	**0.0**
	0.1nm,0.3s,baz=137,slow=9.7,SNR=2.9						
USRK				LR	LR	13 14 35.0	
	comp=Z,428nm,18.1s,baz=136,slow=37						
YSS	**Yuzh-Sakhalins**	**15.99**	**3**	*e*P	**P**	**13 09 01.9**	**+1.8**
YSS				*e*S	**S**	**13 12 02.0**	**-3.9**
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
HABR	**Khabarovsk**	**18.17**	**346**	*de*P	**P**	**13 09 22.2**	**-2.0**
HABR				*e*S	**Sn**	**13 12 45.2**	**-0.7**
HABR				pmax	pmax		
	comp=N,25nm,2.5s						
HABR				pmax	pmax		
	comp=E,36nm,2.5s						
HABR				pmax	pmax		
	comp=Z,39nm,2.5s						
HABR				MLR	MLR		
	comp=Z,365nm,16.0s						
KLR	**Kul'dur**	**19.69**	**341**	*e*P	**P**	**13 09 38.8**	**-2.1**
HIA	**Hailar**	**24.59**	**324**	*e*P	**P**	**13 10 32.5**	**+1.0**
	comp=Z,34nm,1.4s						
HIA				*e*		13 10 42.9	
PETK	**Petropavlovsk-**	**25.06**	**23**	LR	LR	13 21 07.1	
	comp=Z,142nm,18.5s,baz=39,slow=38						
H11N2	**WAKE ISLAND Hy**	**25.43**	**110**	T	T	13 37 14.4	
	baz=307,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**25.44**	**110**	T	T	13 37 08.6	
	baz=307,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**25.45**	**110**	T	T	13 37 13.5	
	baz=307,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**25.92**	**113**	T	T	13 37 52.6	
	baz=307,slow=74,SNR=59						
H11S1	**WAKE ISLAND Hy**	**25.93**	**113**	T	T	13 37 52.0	
	baz=307,slow=74,SNR=72						
H11S2	**WAKE ISLAND Hy**	**25.94**	**113**	T	T	13 37 53.0	
	baz=307,slow=74,SNR=70						
ULN	**Ulaanbaatar**	**31.21**	**313**	*e*P	**P**	**13 11 31.2**	**+0.3**
	comp=Z,5.2nm,1.0s						
SONM	**Songino Array**	**31.62**	**312**	P	**P**	**13 11 33.9**	**-0.6**
SONM	**Songino Array**	**31.62**	**312**	P	**P**	**13 11 33.9**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=107,slow=7.5,SNR=15						
SONM				LR	LR	13 24 28.8	
	comp=Z,282nm,19.3s,baz=31,slow=37						
SEY	**Seymchan**	**32.73**	**9**	P	**P**	**13 11 43.4**	**-0.4**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SEY	**Seymchan**	**32.73**	**9**	P	**P**	**13 11 43.4**	**-0.4**
SEY	**Seymchan**	**32.73**	**9**	P	**P**	**13 11 43.4**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=195,slow=4.4,SNR=4.3						
ZAK	**Zakamensk**	**34.40**	**315**	*e*P	**P**	**13 11 59.0**	**+0.3**
TLY	**Talaya**	**34.65**	**318**	*e*P	**P**	**13 11 59.4**	**-1.3**
TLY				*e*S	**S**	**13 17 29.9**	**+2.2**
TLY				pmax	pmax		
	comp=Z,27nm,1.3s						
TLY				MLR	MLR		
	comp=Z,352nm,17.0s						
CMAR	**Chiang Mai Arr**	**40.42**	**262**	P	**P**	**13 12 48.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**40.42**	**262**	P	**P**	**13 12 48.3**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=55,slow=7.3,SNR=5.1						
HVS	**Khovu-Aksy**	**40.46**	**314**	⇓*i* P	**P**	**13 12 51.2**	**+1.3**
TIXI	**Tiksi**	**41.32**	**354**	*ce*P	**P**	**13 12 57.2**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
COEN	**Coen**	**44.69**	**178**	*e*P	**P**	**13 13 26.2**	**+1.8**
ZAA0	**Zalesovo Array**	**46.25**	**317**	*e*P	**P**	**13 13 35.2**	**-1.2**
ZALV	**Zalesovo Beam**	**46.25**	**317**	P	**P**	**13 13 36.2**	**-0.2**
ZALV						13 15 11.4	
ZALV	**Zalesovo Beam**	**46.25**	**317**	P	**P**	**13 13 36.2**	**-0.2**
ZALV				PcP	**PcP**	**13 15 11.4**	**-0.1**
ZALV	**Zalesovo Beam**	**46.25**	**317**	P	**P**	**13 13 36.2**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=90,slow=7.4,SNR=7.0						
ZALV				PcP	**PcP**	**13 15 11.4**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=90,slow=5.8,SNR=3.4						
TAPN	**Taplejung**	**46.78**	**280**	*e*P	**P**	**13 13 39.8**	**-1.5**
	comp=Z,16nm,1.3s						
TAPN	**Taplejung**	**46.78**	**280**	*e*P	**P**	**13 13 39.8**	**-1.5**
	comp=Z,16nm,1.3s						
ODAN	**Odare**	**47.20**	**279**	*e*P	**P**	**13 13 43.2**	**-1.3**
	comp=Z,7.1nm,0.6s						
ODAN	**Odare**	**47.20**	**279**	*e*P	**P**	**13 13 43.2**	**-1.3**
	comp=Z,7.1nm,0.6s						
NVS	**Novosibirsk**	**47.26**	**318**	*i* P	**P**	**13 13 43.8**	**-0.5**
MK31	**Makanchi Array**	**47.65**	**307**	*e*P	**P**	**13 13 47.7**	**+0.2**
MK31	**Makanchi Array**	**47.65**	**307**	*e*P	**P**	**13 13 47.7**	**+0.2**
MKAR	**Makanchi Array**	**47.65**	**307**	P	**P**	**13 13 47.0**	**-0.5**
MKAR	**Makanchi Array**	**47.65**	**307**	P	**P**	**13 13 47.0**	**-0.5**
MKAR	**Makanchi Array**	**47.65**	**307**	P	**P**	**13 13 47.0**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=73,slow=11,SNR=8.1						
RAMN	**Ramite**	**47.84**	**280**	*e*P	**P**	**13 13 48.5**	**-1.0**
	comp=Z,18nm,0.9s						
RAMN	**Ramite**	**47.84**	**280**	*e*P	**P**	**13 13 48.5**	**-1.0**
	comp=Z,18nm,0.9s						
JIRN	**Jiri**	**47.97**	**281**	*e*P	**P**	**13 13 50.0**	**-0.6**
JIRN	**Jiri**	**47.97**	**281**	*e*P	**P**	**13 13 50.0**	**-0.6**
GUN	**Gumba**	**48.15**	**281**	*e*P	**P**	**13 13 51.6**	**-0.4**
	comp=Z,40nm,1.0s						
GUN	**Gumba**	**48.15**	**281**	*e*P	**P**	**13 13 51.6**	**-0.4**
	comp=Z,40nm,1.0s						
PKI	**Pulchoki**	**48.65**	**281**	*e*P	**P**	**13 13 54.3**	**-1.6**
PKI	**Pulchoki**	**48.65**	**281**	*e*P	**P**	**13 13 54.6**	**-1.3**
PKI	**Pulchoki**	**48.65**	**281**	*e*P	**P**	**13 13 54.6**	**-1.3**
PKIN	**Phulchoki**	**48.66**	**281**	*e*P	**P**	**13 13 54.6**	**-1.3**
KKN	**Kakani**	**48.69**	**281**	*e*P	**P**	**13 13 54.8**	**-1.3**
KKN	**Kakani**	**48.69**	**281**	*e*P	**P**	**13 13 54.8**	**-1.3**
KKN	**Kakani**	**48.69**	**281**	*e*P	**P**	**13 13 54.8**	**-1.3**
DMN	**Daman**	**48.90**	**281**	*e*P	**P**	**13 13 55.9**	**-1.8**
	comp=Z,6.4nm,0.6s						
DMN	**Daman**	**48.90**	**281**	*e*P	**P**	**13 13 55.9**	**-1.8**
	comp=Z,6.4nm,0.6s						
GKN	**Gorkha**	**49.17**	**282**	*e*P	**P**	**13 13 58.5**	**-1.1**
GKN	**Gorkha**	**49.17**	**282**	*e*P	**P**	**13 13 58.5**	**-1.1**
DANN	**Dangsing**	**49.80**	**282**	*e*P	**P**	**13 14 04.5**	**-0.1**
DANN	**Dangsing**	**49.80**	**282**	*e*P	**P**	**13 14 04.5**	**-0.1**
KURK	**Kurchatov**	**49.93**	**312**	P	**P**	**13 14 03.3**	**-1.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURK	**Kurchatov**	**49.93**	**312**	P	**P**	**13 14 03.3**	**-1.6**
	comp=Z,5.4nm,1.1s						
KOLN	**Koldanda**	**50.11**	**282**	*e*P	**P**	**13 14 06.2**	**-0.7**
KOLN	**Koldanda**	**50.11**	**282**	*e*P	**P**	**13 14 06.2**	**-0.7**
PYUN	**Piuthan**	**50.52**	**282**	*e*P	**P**	**13 14 09.3**	**-0.7**
	comp=Z,89nm,1.2s						
PYUN	**Piuthan**	**50.52**	**282**	*e*P	**P**	**13 14 09.3**	**-0.7**
	comp=Z,89nm,1.2s						
CTA	**Charters Tower**	**50.96**	**174**	P	**P**	**13 14 12.9**	**0.0**
CTA	**Charters Tower**	**50.96**	**174**	P	**P**	**13 14 12.9**	**0.0**
	comp=Z,2.5nm,0.8s,baz=315,slow=3.8,SNR=3.1						
WRAB	**Tennant Creek**	**51.08**	**189**	*ce*P	**P**	**13 14 13.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,31nm,1.7s						
WRAB	**Tennant Creek**	**51.08**	**189**	*e*P	**P**	**13 14 13.6**	**-0.2**
	comp=Z,4.1nm,0.4s						
WRA	**Warramunga Arr**	**51.09**	**189**	P	**P**	**13 14 13.7**	**-0.2**
WRA	**Warramunga Arr**	**51.09**	**189**	P	**P**	**13 14 13.7**	**-0.2**
	comp=Z,5.6nm,0.3s,baz=6.1,slow=7.7,SNR=211						
ILAR	**Eielson Array**	**54.62**	**30**	P	**P**	**13 14 40.0**	**+0.4**
ILAR	**Eielson Array**	**54.62**	**30**	P	**P**	**13 14 40.0**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=254,slow=6.6,SNR=5.9						
AS31	**Alice Springs**	**54.81**	**189**	*e*P	**P**	**13 14 41.0**	**-0.3**
ASAR	**Alice Springs**	**54.81**	**189**	P	**P**	**13 14 40.8**	**-0.6**
ASAR	**Alice Springs**	**54.81**	**189**	P	**P**	**13 14 40.8**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=358,slow=4.7,SNR=132						
BRVK	**Borovoye**	**54.92**	**316**	*ce*P	**P**	**13 14 42.6**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRVK	**Borovoye**	**54.92**	**316**	*e*P	**P**	**13 14 41.8**	**0.0**
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**59.77**	**25**	P	**P**	**13 15 15.4**	**-0.4**
INK	**Inuvik**	**59.77**	**25**	P	**P**	**13 15 15.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=296,slow=11,SNR=4.9						
SVE	**Sverdlovsk**	**59.85**	**321**	*e*P	**P**	**13 15 17.9**	**+1.4**
SVE				pmax	pmax		
	comp=Z,18nm,1.2s						
ARU	**Arti**	**61.05**	**321**	*c i*P	**P**	**13 15 25.0**	**+0.2**
ARU						13 17 36.4	
ARU				S	**S**	**13 23 43.7**	**+2.9**
ARU				SS	**SS**	**13 27 42.1**	**+1.8**
ARU				pmax	pmax		
	comp=Z,24nm,1.2s						
ARU				MLR	MLR		
	comp=Z,265nm,19.0s						
ARU	**Arti**	**61.05**	**321**	*e*P	**P**	**13 15 24.9**	**+0.2**
	comp=Z,22nm,1.1s						
STKA	**Stephens Creek**	**62.50**	**180**	P	**P**	**13 15 34.9**	**+0.2**
STKA	**Stephens Creek**	**62.50**	**180**	P	**P**	**13 15 34.9**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=347,slow=7.3,SNR=9.8						
PRGR	**Permogore**	**65.95**	**329**	*e*P	**P**	**13 15 56.9**	**-0.1**
PRGR				pmax	pmax		
	comp=Z,12nm,1.2s						
YKA	**Yellowknife Ar**	**69.03**	**29**	P	**P**	**13 16 17.1**	**+0.6**
YKA	**Yellowknife Ar**	**69.03**	**29**	P	**P**	**13 16 17.0**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=298,slow=6.5,SNR=7.4						
ARCES	**ARCESS Array B**	**69.72**	**340**	P	**P**	**13 16 21.3**	**+0.7**
ARCES	**ARCESS Array B**	**69.72**	**340**	P	**P**	**13 16 21.3**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=57,slow=6.8,SNR=5.1						
JOF	**Joensuu**	**71.38**	**333**	*e*P	**P**	**13 16 32.0**	**+1.2**
JOF	**Joensuu**	**71.38**	**333**	*e*p	**P**	**13 16 32.0**	**+1.2**
OBN	**Obninsk**	**73.05**	**325**	P	**P**	**13 16 42.0**	**+1.1**
OBN				*e*		13 16 55.3	
OBN				pmax	pmax		
	comp=Z,22nm,1.4s						
OBN				MLR	MLR		
	comp=Z,200nm,14.0s						
FINES	**FINESS Array B**	**74.25**	**333**	P	**P**	**13 16 48.1**	**+0.3**
FINES	**FINESS Array B**	**74.25**	**333**	P	**P**	**13 16 48.1**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=61,slow=5.1,SNR=14						
KBZ	**Khabaz**	**74.99**	**312**	P	**P**	**13 16 53.1**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**74.99**	**312**	P	**P**	**13 16 53.1**	**+0.7**
KBZ	**Khabaz**	**74.99**	**312**	P	**P**	**13 16 53.1**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=110,slow=4.2,SNR=10.0						
KIV	**Kislovodsk**	**75.01**	**312**	*e*P	**P**	**13 16 53.9**	**+1.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KIV				MLR	MLR		
	comp=Z,167nm,18.0s						
NVAR	**Mina Array Bea**	**78.58**	**52**	P	**P**	**13 17 14.4**	**+1.3**
NVAR	**Mina Array Bea**	**78.58**	**52**	P	**P**	**13 17 14.4**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=295,slow=6.2,SNR=5.4						
AKASG	**Malin Array Be**	**79.18**	**323**	P	**P**	**13 17 16.0**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**79.18**	**323**	P	**P**	**13 17 16.0**	**+0.1**
AKASG	**Malin Array Be**	**79.18**	**323**	P	**P**	**13 17 16.0**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=48,slow=6.1,SNR=17						
AK01	**Malin Array Si**	**79.20**	**323**	P	**P**	**13 17 15.3**	**-0.7**
KIEV	**Kiev**	**79.20**	**323**	*i* P	**P**	**13 17 16.4**	**+0.4**
KIEV	**Kiev**	**79.20**	**323**	*e*P	**P**	**13 17 15.3**	**-0.6**
	comp=Z,4.4nm,0.7s						
AK02	**Malin Array Si**	**79.22**	**323**	*e*P	**P**	**13 17 16.2**	**+0.1**
NB2	**NORSAR Subarra**	**79.83**	**338**	P	**P**	**13 17 19.7**	**+0.4**
	comp=Z,4.2nm,1.0s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**79.83**	**338**	P	**P**	**13 17 19.5**	**+0.2**
NOA	**NORSAR Array B**	**79.83**	**338**	P	**P**	**13 17 19.5**	**+0.2**
	comp=Z,3.2nm,1.1s,baz=41,slow=5.1,SNR=3.1						
PDAR	**Pinedale Array**	**81.87**	**45**	P	**P**	**13 17 32.8**	**+2.0**
PDAR	**Pinedale Array**	**81.87**	**45**	P	**P**	**13 17 32.8**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=340,slow=1.8,SNR=3.9						
BRTR	**Keskin Array B**	**82.98**	**312**	P	**P**	**13 17 37.0**	**+0.4**
BRTR	**Keskin Array B**	**82.98**	**312**	P	**P**	**13 17 37.0**	**+0.4**
	comp=Z,3.8nm,1.1s,baz=96,slow=2.5,SNR=8.5						
DPC	**Dobruska-Polom**	**85.66**	**328**	*e*P	**P**	**13 17 51.2**	**+1.4**
DPC				*e*		13 17 57.8	
DPC	**Dobruska-Polom**	**85.66**	**328**	*e*P	**P**	**13 17 51.2**	**+1.4**
DPC				*ep*P	**pP**	**13 17 57.8**	**-3.6**
UPC	**Upice**	**85.69**	**329**	*e*P	**P**	**13 17 48.6**	**-1.3**
UPC	**Upice**	**85.69**	**329**	*e*P	**P**	**13 17 48.6**	**-1.3**
CLL	**Collm**	**86.41**	**331**	*e*P	**P**	**13 17 54.0**	**+0.6**
CLL				*e*		13 18 01.0	
CLL	**Collm**	**86.41**	**331**	*e*P	**P**	**13 17 54.0**	**+0.6**
CLL				*ep*P	**pP**	**13 18 01.0**	**-4.0**
PRU	**Pruhonice**	**86.71**	**329**	*e*P	**P**	**13 17 55.7**	**+0.8**
PRU				*e*		13 18 04.7	
PRU				MLR	MLR		
	comp=Z,1μm,17.7s						
PRU	**Pruhonice**	**86.71**	**329**	*e*P	**P**	**13 17 55.7**	**+0.8**
PRU				*ep*P	**pP**	**13 18 04.7**	**-1.8**
GERES	**GERESS Array B**	**87.92**	**329**	P	**P**	**13 18 00.6**	**-0.3**
GERES	**GERESS Array B**	**87.92**	**329**	P	**P**	**13 18 00.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=69,slow=5.4,SNR=3.0						
TXAR	**Lajitas Array**	**93.72**	**53**	P	**P**	**13 18 30.2**	**+1.9**
TXAR	**Lajitas Array**	**93.72**	**53**	P	**P**	**13 18 30.2**	**+1.9**
	comp=Z,0.8nm,0.9s,baz=301,slow=2.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**121.59**	**312**	PKP	**PKPdf**	**13 24 04.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**121.59**	**312**	PKP	**PKPdf**	**13 24 04.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=15,slow=1.1,SNR=4.0						
LPAZ	**La Paz**	**149.26**	**68**	PKPbc	**PKPbc**	**13 25 02.0**	**+1.0**
LPAZ	**La Paz**	**149.26**	**68**	PKPbc	**PKPbc**	**13 25 02.0**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=270,slow=1.0,SNR=2.7						

NNC ***27*** *13:07:44.5±1.6, 40°.80N×73°.52E,

CAHU	**Cacacuatique**	**2.01**	**172**	*eP*	**Pn**	**13 11 04.3**	**-1.3**
CAHU				*eS*	**Sn**	**13 11 30.5**	**-0.4**
RBDL	**Robledal**	**2.01**	**215**	*eP*	**Pn**	**13 11 05.2**	**-0.4**
APG	**El Apazote**	**2.05**	**248**	Pn	Pn	13 11 02.8	-3.4
	41nm,0.3s,baz=83,slow=8.7,SNR=237						
APG				Sn	**Sn**	**13 11 31.1**	**-0.8**
	39nm,0.3s,baz=354,slow=23,SNR=7.9						
APG				Lg	Lg	13 11 35.9	
	132nm,0.3s,baz=70,slow=14,SNR=13						
TGUH	**Tegucigalpa,Un**	**2.08**	**145**	*eP*	**Pn**	**13 11 05.7**	**-0.6**
LBRS	**Las Brisas**	**2.09**	**195**	*eP*	**Pn**	**13 11 05.6**	**-1.1**
LBRS				*eS*	**Sn**	**13 11 33.4**	**+0.6**
LFU	**La Fuente**	**2.10**	**197**	*eP*	**Pn**	**13 11 06.2**	**-0.6**
LFU				*eS*	**Sn**	**13 11 34.1**	**+1.1**
NBG	**Las Nubes**	**2.14**	**237**	*eP*	**Pn**	**13 11 07.5**	**0.0**
NBG				*eS*	**Sb**	**13 11 38.5**	**+1.2**
BOQS	**Boqueron**	**2.16**	**201**	*eP*	**Pn**	**13 11 07.0**	**-0.8**
BOQS				*eS*	**Sn**	**13 11 35.9**	**+1.1**
RTR	**El Retiro**	**2.17**	**211**	*eP*	**Pn**	**13 11 08.3**	**+0.5**
SNVI	**San Vicente**	**2.17**	**189**	*eS*	**Sn**	**13 11 34.7**	**-0.3**
SNET	**Serv Nac Est T**	**2.19**	**199**	*eP*	**Pn**	**13 11 08.3**	**+0.2**
SNET				AML	AML	13 11 41.0	
	comp=Z,1μm,0.6s						
LFRS	**El Faro**	**2.21**	**194**	*eP*	**Pn**	**13 11 07.9**	**-0.3**
LFRS				*eS*	**Sn**	**13 11 36.0**	**+0.3**
SBLS	**San Blas**	**2.21**	**210**	*eP*	**Pn**	**13 11 08.9**	**+0.5**
VSM	**San Miguel**	**2.34**	**175**	*eP*	**Pn**	**13 11 09.3**	**-0.9**
CNCH	**Conchagua**	**2.56**	**165**	*eP*	**Pn**	**13 11 12.6**	**-0.5**
CNCH				*eS*	**Sn**	**13 11 44.3**	**-0.2**
JAT	**Jato**	**3.36**	**245**	*eP*	**Pn**	**13 11 22.1**	**-2.0**
JAT				*eS*	**Sn**	**13 12 03.8**	**-0.3**
TEIG	**Tepich**	**4.43**	**3**	Pn	**Pn**	**13 11 38.3**	**-0.5**
	comp=Z,21nm,0.3s,baz=307,slow=1.9,SNR=134						
TEIG				Pg	Pg	13 11 54.0	-2.3
	comp=Z,18nm,0.3s,baz=224,slow=4.4,SNR=6.5						
TEIG				Sn	**Sn**	**13 12 30.9**	**+0.4**
	comp=Z,5.5nm,0.3s,baz=18,slow=20,SNR=2.7						
TEIG				Lg	Lg	13 12 56.6	
	comp=Z,13nm,0.3s,baz=251,slow=21,SNR=6.0						
TXAR	**Lajitas Array**	**19.43**	**317**	P	**Pn**	**13 15 00.9**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=128,slow=11,SNR=17						
TKL	**Tuckaleechee C**	**20.25**	**11**	P	**P**	**13 15 07.7**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=186,slow=15,SNR=3.6						
YKA	**Yellowknife Ar**	**50.16**	**345**	P	**P**	**13 19 26.7**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=141,slow=7.8,SNR=34						
DLBC	**Dease Lake**	**52.49**	**334**	P	P	13 19 46.0	+1.4
	comp=Z,0.9nm,0.7s,baz=153,slow=14,SNR=3.3						
ILAR	**Eielson Array**	**62.59**	**336**	P	**P**	**13 20 55.2**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=138,slow=4.4,SNR=4.9						

WEL 27 13:11:35.9±0.5, 45°.43S×165°.89E, h5km, ML3.7/10, 1C-1D, Error ellipse: s-maj=5.9km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.89**	**94**	⇓P*	Pg	13 11 53.1	+0.1
DCZ				S*	Sg	13 12 04.5	0.0
DCZ				AML	AML	13 12 05.1	
DCZ				AML	AML	13 12 05.1	
DCZ				AML	AML	13 12 05.5	
PYZ	**Puysegur Point**	**0.93**	**144**	P*	Pg	13 11 53.2	-0.5
PYZ				S*	Sg	13 12 05.6	-0.1
WHZ	**Wether Hill Ro**	**1.52**	**109**	PN	Pn	13 12 03.7	0.0
WHZ				AML	AML	13 12 25.7	
WHZ				AML	AML	13 12 36.9	
MLZ	**Mavora Lakes**	**1.61**	**88**	PN	Pn	13 12 04.1	-0.9
MLZ				AML	AML	13 12 28.8	
MLZ				AML	AML	13 12 38.5	
MSZ	**Milford Sound**	**1.63**	**63**	PN	Pn	13 12 04.4	-0.8
MSZ				AML	AML	13 12 41.6	
MSZ				AML	AML	13 12 41.6	
MSZ				AML	AML	13 12 47.3	
MSZ				AML	AML	13 12 47.3	
APZ	**The Paps**	**2.03**	**135**	⇑PN	Pn	13 12 09.9	-0.9
APZ				SN	Sn	13 12 34.4	-2.2
APZ				AML	AML	13 12 38.0	
WKZ	**Wanaka**	**2.29**	**76**	PN	Pn	13 12 15.6	+1.2
WKZ				AML	AML	13 12 52.4	
WKZ				AML	AML	13 12 59.2	
WKZ				AML	AML	13 13 01.9	
WKZ				AML	AML	13 13 01.9	
EAZ	**Earnscleugh**	**2.42**	**87**	PN	Pn	13 12 17.0	+0.9
EAZ				SN	Sn	13 12 45.3	-0.7
EAZ				AML	AML	13 12 55.5	
EAZ				AML	AML	13 13 00.8	
EAZ				AML	AML	13 13 01.5	
JCZ	**Jackson Bay**	**2.45**	**58**	PN	Pn	13 12 19.6	-1.0
JCZ				SN	Sn	13 12 45.0	-2.0
JCZ				AML	AML	13 13 09.4	
SYZ	**Scrubby Hill**	**2.52**	**117**	PN	Pn	13 12 17.0	-0.5
SYZ				AML	AML	13 12 53.0	
SYZ				AML	AML	13 13 01.0	
TUZ	**Tuapeka**	**2.67**	**103**	PN	Pn	13 12 19.8	+0.2
TUZ				SN	Sn	13 12 51.0	-1.4
TUZ				AML	AML	13 13 00.0	
LBZ	**Lake Benmore**	**3.22**	**73**	PN	Pn	13 12 27.0	-0.2
FOZ	**Fox Glacier**	**3.29**	**57**	PN	Pn	13 12 27.7	-0.3
HHSZ	**Highcliff Hill**	**3.33**	**100**	PN	Pn	13 12 28.8	+0.1
ODZ	**Otahua Downs**	**3.38**	**85**	PN	Pn	13 12 28.9	-0.4
ODZ				SN	Sn	13 13 07.6	-2.1
RPZ	**Rata Peaks**	**4.07**	**67**	PN	Pn	13 12 37.8	-0.9
WVZ	**Waitaha Valley**	**4.20**	**58**	PN	Pn	13 12 38.9	-1.6
OXZ	**Oxford**	**4.88**	**67**	PN	Pn	13 12 48.4	-1.5
MQZ	**McQueen's Vall**	**5.13**	**73**	PN	Pn	13 12 51.7	-1.5
CRLZ	**Canterbury Las**	**5.16**	**71**	PN	Pn	13 12 51.3	-2.3

GUC 27 13:14:51.2±0.5, 30°.36S×70°.73W, h75km±3km, MD3.5, ML3.5, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.20**	**340**	⇑*i*P	Pn	13 15 03.4	+0.6
TLL				*i* S	Sn	13 15 12.1	+0.9
TLL				AML	AML	13 15 15.3	
	comp=N,1μm,0.4s						
CMCH	**Combarbala**	**0.85**	**196**	⇓*i*P	Pn	13 15 08.4	+0.1
CMCH				*i* S	Sn	13 15 21.9	+0.9
CMCH				AML	AML	13 15 23.0	
	comp=N,3μm,0.7s						
LCO	**Las Campanas**	**1.34**	**1**	⇓*i*P	Pn	13 15 15.3	+0.6
LCO				*i* S	Sn	13 15 33.8	+1.5
LCO				AML	AML	13 15 36.2	
	comp=E,1μm,0.4s						
VACH	**Vallenar**	**1.78**	**359**	*eP*	Pn	13 15 20.7	+0.6
VACH				*eS*	Sn	13 15 43.1	+1.2
VACH				AML	AML	13 15 48.1	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**2.78**	**179**	AML	AML	13 16 28.7	
	comp=E,265nm,0.2s						
CLCH	**Cerro Calan**	**3.03**	**177**	AML	AML	13 16 37.0	
	comp=E,206nm,0.7s						

CASC 27 13:18:48.4±1.4, 15°.98N×88°.28W, h35km±30km, MD3.8, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.64**	**236**	*eP*	Pn	13 19 14.6	-0.3
MRL				*eS*	Sn	13 19 34.7	-0.2
TGUH	**Tegucigalpa,Un**	**2.15**	**153**	*eP*	Pn	13 19 22.6	+0.9
TGUH				*eS*	Sn	13 19 47.8	+0.6
CAHU	**Cacacuatique**	**2.20**	**178**	*eP*	Pn	13 19 22.8	0.0
RBDL	**Robledal**	**2.30**	**216**	*eP*	Pn	13 19 23.9	-0.2
LBRS	**Las Brisas**	**2.35**	**198**	*eP*	Pn	13 19 24.5	-0.2
LBRS				*eS*	Sn	13 19 52.8	+0.4
NBG	**Las Nubes**	**2.43**	**235**	*eP*	Pn	13 19 26.3	+0.4
NBG				*eS*	Sn	13 20 00.3	+5.7
BOQS	**Boqueron**	**2.43**	**203**	*eP*	Pn	13 19 26.5	+0.5
BOQS				*eS*	Sn	13 19 56.2	+1.4
RTR	**El Retiro**	**2.46**	**213**	*eP*	Pn	13 19 27.0	+0.7
SNJE	**San Jose**	**2.46**	**211**	*eP*	Pn	13 19 27.0	+0.6
SNJE				*eS*	Sn	13 19 57.0	+1.7
LFRS	**El Faro**	**2.46**	**198**	*eP*	Pn	13 19 26.3	+0.1
SBLS	**San Blas**	**2.49**	**211**	*eP*	Pn	13 19 27.8	+1.0
VSM	**San Miguel**	**2.54**	**180**	*eP*	Pn	13 19 27.3	-0.2
VSM				*eS*	Sn	13 19 58.1	+0.6

BJI **27** *13:19:01.9, 3°.67S×140°.12E, h18km, mB5.6/48, mb5.5/67, Ms5.4/72, Ms7 5.3/65*

IDC **27** *13:19:05.9±0.3, 3°.10S×139°.70E, h0km, mb5.1/32, mb1 5.2/34, mb1mx5.2/36, mbtmp5.1/34, ML4.8/2, MS5.3/27, Ms1 5.3/27, ms1mx5.2/34, Error ellipse: s-maj=9.5km s-min=7.2km az=80.0*

NEIC **27** *13:19:07.2±2.2, 3°.10S×139°.65E, h7km±14km, mb5.6/77, MS5.4/106, MW5.5, MW5.6, Error ellipse: s-maj=4.8km s-min=3.6km az=67.0, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁷Nm; Mrr=1.60; Mθθ=0.13; Mϕϕ=1.73; Mrθ=0.47; Mθϕ=1.59; Mϕr=0.69; Best double couple: M₀=2.50000×10¹⁷ NP1:ϕs=181.00000°, δ=59.00000°, λ=-131.00000°. NP2:ϕs=60.00000°, δ=50.00000°, λ=-43.00000°. Principal axes: T 2.6700, Plg5.0000°, Azm298.0000°; N -0.5300, Plg34.0000°, Azm205.0000°; P -2.1500, Plg55.0000°, Azm36.0000°;*

NEIC Felt [IV] at Genyem and Sentani and [III] at Jayapura and Wamena. Also felt at Aberpura.

MOS **27** *13:19:09.3±1.0, 3°.09S×139°.75E, h33km, mb5.7/37, MS5.3/19 Error ellipse: s-maj=8.8km s-min=5.1km az=110.5*

ISCJB **27** *13:19:09.1±0.5, 3°.12S±0°.02×139°.78E±0°.02, h31km±3km, mb5.5/205, MS5.3/159, Error ellipse: s-maj=3.5km s-min=3.1km az=172.7*

DJA **27** *13:19:11.8±0.4, 3°.S±3°×14°.0E±°, h35km±4km, M5.7/99, mb5.7/99, mB6.0/79, MLv6.2/6, Mw(mB)5.6/79, Mwp5.8/8*

AUST **27** *13:19:12.4±0.6, 3°.23S×139°.64E, h43km±6km, Error ellipse: s-maj=5.6km s-min=4.2km az=64.0*

GCMT **27** *13:19:14.3±0.1, 3°.03S×139°.75E, h21km, MW5.7, Moment Tensor Solution. s104,c191; s62,c72; Moment tensor: Scale 10¹⁷Nm; Mrr=0.08±.04; Mθθ=2.22±.04; Mϕϕ2.14±.04; Mrθ=3.21±.15; Mθϕ2.72±.04; Mϕr0.65±.09; Best double couple: M₀=4.60000×10¹⁷ NP1:ϕs=71.00000°, δ83.00000°, λ=-37.00000°. NP2:ϕs167.00000°, δ54.00000°, λ=-171.00000°. Principal axes: T 3.7300, Plg19.0000°, Azm124.0000°; N 1.6600, Plg53.0000°, Azm242.0000°; P -5.3900, Plg30.0000°, Azm23.0000°; Data Used: II IU CU CN IC G. Surface waves: sta=123, comp=248, per= 50.*

NEIC **27** *13:19:22.7±0.0, 2°.80S×140°.16E, h23km, Moment Tensor Solution. s131 Moment tensor: Scale 10¹⁷Nm; Mrr=0.10; Mθθ=1.52; Mϕϕ1.63; Mrθ=1.18; Mθϕ1.81; Mϕr0.19; Best double couple: M₀=2.70000×10¹⁷ NP1:ϕs=162.00000°, δ=68.00000°, λ=-168.00000°. NP2:ϕs=68.00000°, δ=79.00000°, λ=-21.00000°. Principal axes: T 2.5000, Plg7.0000°, Azm116.0000°; N 0.3400, Plg65.0000°, Azm223.0000°; P -2.8400, Plg23.0000°, Azm23.0000°;*

ISC 27 13:19:10.1±0.3, 3°.16S±0°.03×139°.71E±0°.03, h28km±1km, h28km:pP-P,n650,σ1§56/640, mb5.5/205, MS5.4/160, 43C-32D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.73**	**39**	P	**Pb**	**13 19 21.2**	**-3.0**
GENI				S	**Sb**	**13 19 32.1**	**-1.8**
JAY	**Jayapura**	**1.19**	**57**	P	**Sn**	**13 19 45.6**	**-0.5**
JAY	**Jayapura**	**1.19**	**57**	Pg	Pn	13 19 27.0	-3.9
JAY				Lg	Lg	13 19 42.5	
JAY	**Jayapura**	**1.19**	**57**	Pg	Pn	13 19 27.0	-3.9
	1μm,0.3s,baz=237,slow=8.8,SNR=1039						
JAY				Lg	Lg	13 19 42.5	
	5μm,0.3s,baz=75,slow=20,SNR=31						
SRPI	**Serui, Papua**	**3.69**	**290**	P	**Pn**	**13 20 07.2**	**+1.9**
BAKI	**Biak**	**4.09**	**298**	P	**Pn**	**13 20 13.4**	**+2.5**
MMPI	**Merauke**	**5.32**	**173**	P	Pn	13 20 31.8	+4.1
	6μm,0.6s,69μm68μm55nm						
MWPI	**Manokwari, Pap**	**6.08**	**291**	P	Pn	13 20 41.6	+3.4
	3μm,1.2s,28μm56μm9.9nm						
FAKI	**Fak Fak**	**7.45**	**272**	P	**Pn**	**13 21 00.0**	**+3.0**
	564nm,1.2s,7μm38μm2.2nm						
MANU	**Manus Island**	**7.73**	**82**	⇑P	**Pn**	**13 21 03.2**	**+2.3**
	baz=7.8,SNR=9.8						
SWI	**Sorong**	**8.74**	**285**	P	**Pn**	**13 21 17.1**	**+2.3**
	614nm,0.7s,6μm50μm						
SWI	**Sorong**	**8.74**	**285**	⇓P	Pn	13 21 18.1	+3.3
	baz=8.7						
PMG	**Port Moresby**	**9.66**	**130**	P	**Pn**	**13 21 29.4**	**+2.0**
	770nm,0.9s,6μm15μm						
PMG	**Port Moresby**	**9.66**	**130**	⇑*e*P	**Pn**	**13 21 28.9**	**+1.4**
PMG				Sn	Sn	13 23 21.6	+6.5
PMG	**Port Moresby**	**9.66**	**130**	Pn	Pn	13 21 31.0	+3.6
	5.2nm,0.3s,baz=325,slow=9.6,SNR=24						
PMG				Sn	Sn	13 23 21.6	+6.5
	6.7nm,0.3s,baz=94,slow=18,SNR=2.8						
PMG	**Port Moresby**	**9.66**	**130**	⇓P	**Pn**	**13 21 29.8**	**+2.4**
	baz=9.7,SNR=67						
PMG				⇓P	**Pn**	**13 21 29.8**	**+2.4**
	baz=9.7,SNR=67						
PMG				⇓P	**Pn**	**13 21 29.8**	**+2.4**
	baz=9.7,SNR=67						
BNDI	**Bandanaira**	**9.87**	**262**	P	Pn	13 21 34.6	+4.3
	942nm,1.5s,14μm						
MSAI	**Masohi**	**10.76**	**269**	P	Pn	13 21 47.1	+4.6
	128nm,1.2s,1μm						
COEN	**Coen**	**11.26**	**162**	*e*P	**Pn**	**13 21 50.0**	**+0.6**
COEN	**Coen**	**11.26**	**162**	⇓P	**Pn**	**13 21 51.5**	**+2.1**
	baz=11,SNR=221						
PALU	**Palau**	**11.67**	**333**	⇓P	**Pn**	**13 21 56.6**	**+1.8**
	baz=12,SNR=30						
KDU	**Kakadu**	**11.87**	**217**	⇓P	**Pn**	**13 21 57.2**	**-0.4**
	baz=12,SNR=934						
LBMI	**Labuha**	**12.45**	**281**	P	**Pn**	**13 22 07.5**	**+1.9**
	862nm,0.9s,8μm						
NLAI	**Namlea**	**12.59**	**269**	P	**Pn**	**13 22 10.1**	**+2.6**
	307nm,1.2s,4μm						
MTN	**Manton Dam**	**12.83**	**221**	⇑P	**Pn**	**13 22 10.0**	**-0.8**
	baz=13,SNR=171						
TNTI	**Ternate**	**12.94**	**287**	P	**Pn**	**13 22 15.4**	**+3.1**
	455nm,2.1s,8μm42μm						
TNTI	**Ternate**	**12.94**	**287**	*e*Pn	Pn	13 22 16.2	+3.9
SGSI	**Sangihe**	**15.71**	**296**	P	P	13 22 58.7	+5.2
KMSI	**Cibinong**	**16.15**	**283**	P	**P**	**13 22 57.2**	**-1.1**
	1μm,1.3s,13μm						
KNRA	**Kununurra**	**16.46**	**220**	⇑P	**Pn**	**13 22 59.2**	**0.0**
	baz=16,SNR=118						
SOEI	**Soe**	**16.67**	**246**	P	**P**	**13 23 06.3**	**+2.0**
	2μm,1.2s,14μm						
MATI	**Mati**	**16.76**	**307**	*e*P	**Pn**	**13 23 03.1**	**0.0**
LUWI	**Luwuk**	**17.05**	**277**	P	**Pn**	**13 23 07.6**	**+0.9**
	1μm,1.0s,11μm						
GTOI	**Gorontalo**	**17.11**	**282**	P	**P**	**13 23 10.0**	**+1.1**
	600nm,1.4s,8μm						
QIS	**Mount Isa**	**17.29**	**180**	⇑P	**Pn**	**13 23 09.2**	**-0.5**
	baz=17,SNR=97						
DAV	**Davao City (W)**	**17.38**	**306**	⇑*i*P	P	13 23 18.0	+6.1
WRAB	**Tennant Creek**	**17.47**	**197**	*i* P	**Pn**	**13 23 11.5**	**-0.4**
WRAB	**Tennant Creek**	**17.47**	**197**	*e*P	**Pn**	**13 23 10.0**	**-1.9**
	525nm,1.0s						
WRAB				*e*Sn	Sn	13 26 17.6	-8.2
WRAB	**Tennant Creek**	**17.47**	**197**	Pn	**Pn**	**13 23 10.0**	**-1.9**
	1μm,1.5s						
WRA	**Warramunga Arr**	**17.48**	**197**	P	**Pn**	**13 23 11.4**	**-0.7**
WRA				S	**Sn**	**13 26 21.3**	**-4.8**
WRA				Lg	Lg	13 28 15.9	
WRA	**Warramunga Arr**	**17.48**	**197**	P	**Pn**	**13 23 11.4**	**-0.7**
	3.9nm,0.3s,baz=18,slow=12,SNR=197						
WRA				S	**Sn**	**13 26 21.3**	**-4.8**
	5.9nm,0.3s,baz=12,slow=22,SNR=11						
WRA				Lg	Lg	13 28 15.9	
	baz=24,slow=27,SNR=2.6						
WRA				LR	LR	13 30 14.6	
	comp=Z,21μm,21.7s,baz=20,slow=38						
CTA	**Charters Tower**	**18.00**	**160**	P	**P**	**13 23 20.1**	**+1.3**
CTA				S	**Sn**	**13 26 39.8**	**+1.3**
CTA				Lg	Lg	13 28 23.4	
CTA	**Charters Tower**	**18.00**	**160**	P	**P**	**13 23 20.1**	**+1.3**
	1.6nm,0.3s,baz=336,slow=14,SNR=12						
CTA				S	**Sn**	**13 26 39.8**	**+1.3**
	0.9nm,0.3s,baz=43,slow=19,SNR=2.0						
CTA				Lg	Lg	13 28 23.4	
	1.7nm,0.3s,baz=280,slow=10.0,SNR=3.7						
CTA				LR	LR	13 30 38.4	
	comp=Z,25μm,18.7s,baz=345,slow=38						
CTA	**Charters Tower**	**18.00**	**160**	⇑P	**P**	**13 23 21.1**	**+2.3**
	baz=18						
CTAO	**Charters Tower**	**18.00**	**160**	*e*P	**Pn**	**13 23 18.4**	**0.0**
CTAO				pmax	pmax		
	comp=Z,131nm,0.9s						
CTAO	**Charters Tower**	**18.00**	**160**	*e*P	**Pn**	**13 23 18.4**	**0.0**
	comp=Z,131nm,0.9s						

MRSI	**Marisa**	**18.12**	**281**	P	**P**	**13 23 20.8**	**+0.7**
	comp=Z,398nm,1.0s,comp=Z,3μm						
APSI	**Ampana**	**18.18**	**277**	P	**P**	**13 23 22.6**	**+1.8**
	comp=Z,898nm,1.1s,comp=Z,10μm						
MMRI	**Maumere**	**18.20**	**252**	P	**P**	**13 23 23.4**	**+2.4**
	comp=Z,215nm,0.9s,comp=Z,3μm						
BUKP	**Musuan**	**18.27**	**307**	*e*P	**Pn**	**13 23 22.8**	**+1.0**
BUTP	**Butuan**	**18.50**	**311**	*e*P	**Pn**	**13 23 26.3**	**+1.7**
CTBH	**Cotabato--PC H**	**18.56**	**304**	⇑*i*P	**Pn**	**13 23 25.8**	**+0.5**
TOLI	**Toli-Toli**	**19.38**	**282**	P	**Pn**	**13 23 35.6**	**+0.4**
	comp=Z,451nm,1.0s,comp=Z,6μm						
BNSI	**Bone**	**19.59**	**266**	P	**Pn**	**13 23 40.4**	**+2.6**
	comp=Z,413nm,1.1s,comp=Z,5μm						
PAGZ	**Pagadian**	**19.61**	**304**	*e*P	**Pn**	**13 23 39.2**	**+1.2**
MSLP	**Maasin**	**19.82**	**312**	*e*P	**P**	**13 23 39.5**	**+0.7**
TTSI	**Tana Toraja**	**19.86**	**270**	P	**Pn**	**13 23 42.9**	**+2.0**
	comp=Z,630nm,1.2s,comp=Z,8μm						
SPSI	**Sidrap Palu**	**19.91**	**267**	P	**Pn**	**13 23 43.4**	**+1.8**
	comp=Z,304nm,1.5s,comp=Z,4μm						
KAPI	**Kappang**	**19.99**	**264**	Pn	**Pn**	**13 23 44.0**	**+1.5**
	comp=Z,680nm,1.2s,SNR=9.7						
FITZ	**Fitzroy Crossi**	**20.26**	**222**	*e*P	**P**	**13 23 44.1**	**+0.5**
	comp=Z,376nm,1.0s						
FITZ				S	**S**	**13 27 24.5**	**-5.1**
FITZ	**Fitzroy Crossi**	**20.26**	**222**	P	**P**	**13 23 44.2**	**+0.7**
	comp=Z,332nm,1.1s,baz=46,slow=11,SNR=211						
FITZ				S	**S**	**13 27 24.5**	**-5.1**
	comp=Z,306nm,0.8s,baz=115,slow=14,SNR=6.1						
FITZ				LR	LR	13 32 10.9	
	comp=Z,18μm,18.2s,baz=40,slow=39						
FITZ	**Fitzroy Crossi**	**20.26**	**222**	⇓P	Pn	13 23 45.0	-0.6
	baz=20,SNR=287						
WSI	**Waingapu**	**20.33**	**251**	P	Pn	13 23 49.2	+2.7
	comp=Z,679nm,0.7s,comp=Z,10μm						
LBFI	**Labuhan Bajo,**	**20.40**	**254**	P	Pn	13 23 47.3	-0.1
	comp=Z,191nm,1.4s,comp=Z,3μm						
PLP	**Palo**	**20.43**	**314**	⇑*i*P	**P**	**13 23 45.8**	**+0.5**
OCLP	**Ormoc**	**20.61**	**313**	*e*P	**P**	**13 23 47.8**	**+0.4**
MJSI	**Majene**	**20.69**	**268**	P	Pn	13 23 52.6	+1.9
	comp=Z,413nm,1.1s,comp=Z,6μm						
MMSI	**Mamuju**	**20.77**	**271**	P	Pn	13 23 52.1	+0.4
	comp=Z,1μm,1.1s,comp=Z,12μm						
HNR	**Honiara**	**21.05**	**108**	P	**P**	**13 23 53.0**	**+0.8**
HNR	**Honiara**	**21.05**	**108**	P	**P**	**13 23 52.9**	**+0.8**
	comp=Z,126nm,0.7s,baz=326,slow=2.7,SNR=12						
PATS	**Pohnpei**	**21.06**	**62**	⇑P	**P**	**13 23 54.0**	**+1.7**
	baz=21,SNR=4.1						
AS05	**Alice Springs**	**21.12**	**195**	⇑P	**P**	**13 23 53.2**	**+0.3**
	baz=21						
AS01	**Alice Springs**	**21.13**	**195**	⇑P	**P**	**13 23 53.3**	**+0.3**
	baz=21						
AS31	**Alice Springs**	**21.14**	**195**	*e*P	**P**	**13 23 52.9**	**-0.2**
AS31				*e*S	**S**	**13 27 42.9**	**-4.1**
AS08	**Alice Springs**	**21.14**	**195**	⇓P	**P**	**13 23 53.3**	**+0.2**
	baz=21						
ASAR	**Alice Springs**	**21.14**	**195**	P	**P**	**13 23 52.9**	**-0.3**
ASAR				S	**S**	**13 27 45.5**	**-1.6**
ASAR	**Alice Springs**	**21.14**	**195**	P	**P**	**13 23 52.9**	**-0.3**
	comp=Z,25nm,0.5s,baz=29,slow=9.5,SNR=166						
ASAR				S	**S**	**13 27 45.5**	**-1.6**
	comp=Z,111nm,0.9s,baz=15,slow=26,SNR=7.9						
ASAR				LR	LR	13 32 27.7	
	comp=Z,21μm,18.8s,baz=240,slow=38						
CNP	**Catarman**	**21.58**	**316**	*e*P	**P**	**13 23 58.3**	**+0.5**
GUIM	**Jordan**	**21.86**	**309**	*e*P	**P**	**13 24 02.4**	**+1.6**
SGKI	**Sangatta, Kali**	**22.24**	**276**	P	**P**	**13 24 07.4**	**+2.4**
	comp=Z,387nm,1.5s,comp=Z,6μm						
RCP	**Roxas**	**22.32**	**311**	⇑*e*P	**P**	**13 24 07.6**	**+1.8**
PVCP	**Virac**	**22.70**	**318**	⇓*i*P	**P**	**13 24 09.7**	**-0.1**
MYLDM	**Lahad Datu**	**22.75**	**291**	P	**P**	**13 24 14.7**	**+4.4**
MYLDM	**Lahad Datu**	**22.75**	**291**	P	**P**	**13 24 15.4**	**+5.1**
	comp=Z,342nm,1.4s,comp=Z,6μm						
MYLDM	**Lahad Datu**	**22.75**	**291**	*e*P	P	13 24 15.6	+5.2
BKB	**Balikpapan**	**22.87**	**274**	P	**P**	**13 24 15.5**	**+3.9**
	comp=Z,595nm,1.2s,comp=Z,8μmcomp=Z,10μm						
TSM	**Tawau**	**23.04**	**289**	P	**P**	**13 24 16.5**	**+3.2**
CUYO	**Cuyo Island**	**23.23**	**307**	*e*P	**P**	**13 24 15.7**	**+0.4**
OTRP	**Odiongan**	**23.38**	**312**	*e*P	**P**	**13 24 17.4**	**+0.6**
KBKI	**Kotabaru**	**23.50**	**269**	P	**P**	**13 24 20.1**	**+2.1**
	comp=Z,264nm,1.3s,comp=Z,3μm						
AUQP	**San Andres**	**23.54**	**314**	*e*P	**P**	**13 24 19.7**	**+1.4**
QLP	**Quilpie**	**23.69**	**170**	⇓P	**P**	**13 24 20.0**	**+0.3**
	baz=24,SNR=24						
MTNI	**Mataram**	**24.02**	**256**	P	**P**	**13 24 23.6**	**+0.6**
	comp=Z,260nm,0.9s,comp=Z,3μm						
GQP	**Guinayangan**	**24.09**	**315**	⇓*e*P	**P**	**13 24 23.7**	**+0.2**
SJMP	**San Jose**	**24.12**	**310**	*e*P	**P**	**13 24 24.3**	**+0.5**
SDKM	**Sandakan**	**24.12**	**291**	P	**P**	**13 24 25

comp=Z,146nm,1.2s
UGM Wanagama 29.42 260 P **P** **13 25 13.2 +1.6**
comp=Z,72nm,1.4s,comp=Z,2μm
UGM Wanagama 29.42 260 P **P** **13 25 13.1 +1.5**
baz=29,SNR=3.6
FORT Forrest 29.59 201 *e*P **P** **13 25 13.0 +0.1**
FORT Forrest 29.59 201 P **P** **13 25 13.5 +0.6**
baz=30,SNR=13
BBOO Buckleboo 29.70 186 *e*P **P** **13 25 12.2 -1.6**
BBOO Buckleboo 29.70 186 ⇑P **P** **13 25 14.2 +0.4**
baz=30,SNR=28
KSM Kuching 29.74 278 P **P** **13 25 16.7 +2.2**
KSM Kuching 29.74 278 P **P** **13 25 16.7 +2.2**
comp=Z,56nm,1.5s,comp=Z,715nm
KSM Kuching 29.74 278 *e*P **P** **13 25 14.3 -0.2**
comp=Z,119nm,1.4s
KSM *e*S **S** **13 30 06.7 -2.6**
KSM LR LR
comp=Z,1μm,20.0s
HTT Hallett 30.12 181 ⇑P **P** **13 25 18.1 +0.5**
baz=30,SNR=19
BJII Banjamegara 30.15 261 P **P** **13 25 19.4 +1.3**
comp=Z,57nm,1.3s,comp=Z,1μm
CBIJ Chichi jima 30.17 4 P **P** **13 25 18.0 -0.1**
JCJ Chichijima 30.17 4 P **P** **13 25 18.0 -0.1**
comp=Z,50nm,0.8s,baz=184,slow=8.4,SNR=4.9
JCJ LR LR 13 36 11.5
comp=Z,3μm,19.2s,baz=172,slow=34
MEEK Meekatharra 30.88 219 ⇑P **P** **13 25 24.7 +0.3**
baz=31,SNR=17
KPJI Karang Pucung 30.92 261 P **P** **13 25 26.9 +2.1**
comp=Z,67nm,1.0s,comp=Z,1μm
CMJI Cimerak 31.44 260 P **P** **13 25 31.4 +1.9**
comp=Z,75nm,0.8s
MGCD Mangrove Creek 31.74 162 ⇑P **P** **13 25 33.9 +2.0**
baz=32,SNR=4.9
JOW Kunigami 31.80 340 *e*P **P** **13 25 33.3 +0.9**
comp=Z,95nm,1.4s
YULB Yu-li 31.91 327 *e*P **P** **13 25 32.5 -1.0**
comp=Z,38nm,1.0s
TPI Tanjungpandan 32.01 270 P **P** **13 25 36.7 +2.2**
comp=Z,65nm,0.9s,comp=Z,761nm
YNG Young 32.02 166 ⇓P **P** **13 25 35.7 +1.4**
baz=32
CISI Cisompet, Garu 32.04 261 P **P** **13 25 33.2 -1.6**
comp=Z,103nm,0.7s,comp=Z,1μm
CISI Cisompet, Garu 32.04 261 ⇑P **P** **13 25 35.0 +0.2**
baz=32,SNR=8.5
DZM Mont Dzumac 32.05 128 *e*P P 13 25 38.2 +3.4
comp=Z,146nm,1.3s
DZM *e*S **S** **13 30 45.8 +0.4**
comp=Z,3μm,30.8s
DZM *e*LR LR 13 34 01.3
comp=Z,14μm,23.8s
DZM Mont Dzumac 32.05 128 P **P** **13 25 36.2 +1.4**
DZM Mont Dzumac 32.05 128 P **P** **13 25 36.2 +1.4**
comp=Z,15nm,0.9s,baz=326,slow=11,SNR=5.3
LEM Lembang 32.17 262 P **P** **13 25 38.3 +2.3**
comp=Z,55nm,1.6s,comp=Z,989nm
TPUB Ta-pu 32.21 326 *e*P **P** **13 25 34.8 -1.3**
comp=Z,140nm,1.3s
NACB Ninganchiao 32.38 328 *e*P **P** **13 25 36.6 -1.0**
comp=Z,201nm,1.4s
SSLB Suanglung 32.42 327 *e*P **P** **13 25 37.4 -0.6**
comp=Z,40nm,0.7s
KMBL Kambalda 32.70 209 ⇓P **P** **13 25 40.3 0.0**
baz=33,SNR=4.3
YHNB Yeheng 32.90 328 *e*P **P** **13 25 42.7 +0.5**
comp=Z,103nm,1.2s
YHNB LR LR
comp=Z,7μm,20.0s
DBJI Dramaga 33.00 263 P **P** **13 25 44.9 +1.7**
comp=Z,50nm,1.5s
TATO Taipei 33.09 329 PFAKE 13 26 00.0 +16
TATO LR LR
comp=Z,5μm,21.0s
CAN Canberra 33.14 166 *e*P **P** **13 25 46.1 +1.9**
CAN pmax pmax
comp=Z,62nm,1.3s
CAN MLR MLR
comp=Z,16μm,19.0s
CAN Canberra 33.14 166 *e*P **P** **13 25 46.1 +1.9**
comp=Z,62nm,1.3s
CAN LR LR
comp=Z,16μm,19.0s
CAN Canberra 33.14 166 ⇑P **P** **13 25 45.6 +1.4**
baz=33
CNB Canberra Magne 33.23 166 ⇑P **P** **13 25 46.3 +1.4**
baz=33,SNR=25
ARPS Mount Arapiles 33.51 177 ⇑P **P** **13 25 48.5 +1.3**
baz=34,SNR=34
CGJI Cibinong 34.05 263 P **P** **13 25 51.2 -1.1**
comp=Z,54nm,1.0s,comp=Z,1μm
MORW Morawa 34.20 219 ⇓P **P** **13 25 54.0 +0.6**
baz=34,SNR=15
XMIS Christmas Isla 34.56 256 ⇑P **P** **13 25 55.6 -1.1**
baz=34,SNR=3.1
WAKE Wake Island 34.63 49 PFAKE 13 26 10.0 +13
WAKE LR LR
comp=Z,5μm,21.0s
QZH Quanzhou 34.65 325⇑ *i*P **P** **13 25 54.5 -2.8**
QZH S **S** **13 31 20.3 -5.1**
QZH pmax pmax
comp=Z,230nm,1.0s
QZH LR LR
comp=Z,4μm,17.3s
QZH LR LR
comp=Z,6μm,18.1s
QZH LR LR
comp=Z,9μm,22.2s
TOO Toolangi 34.66 172 ⇑P **P** **13 26 00.0 +2.7**
baz=35,SNR=13
MILA Mila 34.84 167 ⇑P **P** **13 26 00.6 +1.7**
baz=35,SNR=11
BLDU Ballidu 34.90 216 ⇓P **P** **13 26 00.5 +1.0**
baz=35,SNR=7.3
KLSI 34.92 266 P **P** **13 26 02.8 +2.9**
comp=Z,54nm,1.1s,comp=Z,1μm
KLBR Kellerberrin 35.03 214 ⇑P **P** **13 26 01.4 +0.8**
baz=35,SNR=8.8
KASI Kota Agung 35.18 265 P **P** **13 25 59.5 -2.6**
comp=Z,81nm,1.0s,comp=Z,778nm
TPRI Tanjung Pinang 35.40 276 P **P** **13 26 05.6 +1.6**
comp=Z,93nm,1.2s,comp=Z,18μm
MDSI Maura Dua 35.47 267 P **P** **13 26 04.6 0.0**
comp=Z,107nm,1.2s,comp=Z,1μm
LWLI Liwa 35.60 266 P **P** **13 26 07.3 +1.5**
comp=Z,136nm,0.8s,comp=Z,4μm
JMBI JAMBI 36.06 272 P P 13 26 13.9 +4.2
comp=Z,437nm,1.1s
LHSI Lahat 36.12 268 P **P** **13 26 12.3 +2.1**
comp=Z,201nm,1.1s
MYKOM Kota Tinggi 36.18 277 P **P** **13 26 12.8 +2.1**
MYKOM Kota Tinggi 36.18 277 P **P** **13 26 12.7 +2.1**
comp=Z,86nm,1.4s,comp=Z,1μm
NWAO Narrogin (SRO) 36.33 213 P **P** **13 26 12.7 +0.9**
NWAO LR LR
comp=Z,1.0nm,20.0s
NWAO Narrogin (SRO) 36.33 213 P **P** **13 26 12.7 +0.9**
comp=Z,20nm,0.9s,baz=49,slow=6.9,SNR=6.2
QIZ Qiongzhong 36.73 308 P **P** **13 26 15.5 +0.2**
QIZ S **S** **13 32 00.5 +2.9**
QIZ pmax pmax
comp=Z,64nm,1.2s
QIZ LR LR
comp=Z,3μm,22.6s
QIZ LR LR
comp=Z,4μm,17.8s
QIZ Qiongzhong 36.73 308 PFAKE 13 26 30.0 +15
QIZ LR LR
comp=Z,4μm,19.0s
KGM Kluang 36.73 278 P **P** **13 26 18.0 +2.6**
JNU Nakatsue 37.04 348 *e*P **P** **13 26 18.7 +1.0**
comp=Z,124nm,1.3s
JNU Nakatsue 37.04 348 P **P** **13 26 17.3 -0.4**
comp=Z,97nm,0.9s,baz=150,slow=4.1,SNR=28
JNU LR LR 13 40 53.5
comp=Z,5μm,18.9s,baz=166,slow=35
RGRI Rengat 37.45 274 P **P** **13 26 23.9 +2.4**
comp=Z,168nm,1.7s,comp=Z,196μm
KTGM Kuala Trenggan 37.49 283 P **P** **13 26 22.9 +1.1**
SSE Sheshan 38.37 334 P **P** **13 26 30.5 +1.6**
SSE sP **sP** **13 26 39.3 -1.3**
SSE S **ScP** **13 32 26.0 -2.5**
SSE pmax pmax
comp=Z,150nm,1.2s
SSE pmax pmax
comp=Z,580nm,10.4s
SSE LR LR
comp=Z,3μm,19.3s
SSE LR LR
comp=Z,2μm,19.3s
SSE LR LR
comp=Z,4μm,19.9s
UBPT Khong Chiam 38.52 299 P **P** **13 26 30.8 +0.3**
comp=Z,70nm,1.0s
FRIM Kepong 38.59 279 P **P** **13 26 32.4 +1.3**
BKNI Bangkinang 38.80 274 P **P** **13 26 34.7 +1.8**
comp=Z,373nm,1.1s
PDSI Padang 39.28 272 P **P** **13 26 36.4 -0.5**
comp=Z,115nm,1.1s,comp=Z,2μm
PPI Padang Panjang 39.38 273 P **P** **13 26 37.9 +0.2**
comp=Z,377nm,1.0s,comp=Z,3μm
PPI Padang Panjang 39.38 273 ⇓P **P** **13 26 37.8 +0.1**
baz=39,SNR=19
IPM Ipoh 39.39 281 P **P** **13 26 38.6 +0.8**
IPM Ipoh 39.39 281 P **P** **13 26 38.1 +0.3**
comp=Z,72nm,0.9s,comp=Z,1μm
IPM Ipoh 39.39 281 *e*P **P** **13 26 37.5 -0.3**
comp=Z,39nm,0.6s
MJAR Matsushiro Arr 39.52 358 P **P** **13 26 37.7 -0.8**
MJAR Matsushiro Arr 39.52 358 P **P** **13 26 37.7 -0.8**
comp=Z,11nm,0.8s,baz=178,slow=8.7,SNR=28
MJAR LR LR 13 41 07.2
comp=Z,3μm,21.9s,baz=190,slow=34
MAJO Matsushiro 39.52 358 *i* P **P** **13 26 38.2 -0.4**
MAJO Matsushiro 39.52 358 P **P** **13 26 37.2 -1.4**
comp=Z,50nm,1.1s
MAJO LR LR
comp=Z,4μm,22.0s
MAT Matsushiro 39.52 358 P **P** **13 26 37.8 -0.8**
MAT S S 13 32 47.6 +8.2
MOO Moorlands 39.68 171 ⇑P **P** **13 26 41.0 +1.2**
baz=40,SNR=4.4
KULM Kulim 39.91 282 P **P** **13 26 43.6 +1.5**
KULM Kulim 39.91 282 P **P** **13 26 41.5 -0.6**
comp=Z,86nm,1.3s,comp=Z,1μm
KULM Kulim 39.91 282 *e*P **P** **13 26 41.6 -0.6**
comp=Z,102nm,1.2s
KULM LR LR
comp=Z,1μm,20.0s
TAU Tasmania Unive 40.16 171 *e*P **P** **13 26 45.1 +1.3**
TAU pmax pmax
comp=Z,118nm,1.2s
TAU MLR MLR
comp=Z,12μm,19.0s
TAU Tasmania Unive 40.16 171 *e*P **P** **13 26 45.1 +1.3**
comp=Z,118nm,1.2s
TAU LR LR
comp=Z,12μm,19.0s
NJ2 Nanjing 40.23 332 *e*P **P** **13 26 47.0 +2.5**
NJ2 pP **pP** **13 26 50.3 -2.5**
NJ2 sP **sP** **13 26 51.8 -4.4**
NJ2 S **S** **13 32 52.0 +2.0**
NJ2 SS **SnSn** **13 35 53.5 -0.4**
NJ2 pmax pmax
comp=Z,250nm,1.0s
NJ2 pmax pmax
comp=Z,710nm,5.4s
NJ2 LR LR
comp=Z,3μm,16.0s
NJ2 LR LR
comp=Z,2μm,16.9s
NJ2 LR LR
comp=Z,9μm,17.6s
MNSI Mandailing Nat 40.30 275 P **P** **13 26 46.1 +0.7**
comp=Z,190nm,0.9s,comp=Z,3μm
CHBT CHBT 40.34 294 P **P** **13 26 45.9 +0.2**
comp=Z,102nm,0.8s
PSI Prapat 41.19 278 P **P** **13 26 52.2 -0.7**
PSI S **S** **13 33 03.2 -1.9**
PSI Prapat 41.19 278 P **P** **13 26 52.2 -0.7**
comp=Z,156nm,0.7s,baz=89,slow=5.2,SNR=75
PSI S **S** **13 33 03.2 -1.9**
comp=Z,2.6nm,0.3s,baz=241,slow=22,SNR=10
PSI Prapat 41.19 278 ⇓P **P** **13 26 52.6 -0.3**
baz=41,SNR=101
WHN Wuhan 41.34 326 ⇓P **P** **13 26 56.5 +2.8**
WHN S **S** **13 33 09.5 +2.9**
WHN LR LR
comp=Z,3μm,16.3s
WHN LR LR
comp=Z,3μm,13.9s
WHN LR LR
comp=Z,6μm,17.7s
TSI Tuntungan 41.65 279 P **P** **13 26 57.2 +0.7**
comp=Z,247nm,1.1s,comp=Z,3μm
PATY Pattaya 41.74 293 P **P** **13 26 59.9 +2.7**
comp=Z,12nm,0.9s,comp=Z,8μm
CHAI Chaiyaphum 41.83 298 P **P** **13 26 57.1 -0.9**
comp=Z,48nm,0.7s,comp=Z,370nm
KSAR Wonju Array Be 41.86 346 P **P** **13 26 58.5 +0.6**
KSRS Korea Array 41.86 346 P **P** **13 26 58.5 +0.6**
comp=Z,25nm,0.7s,baz=160,slow=8.3,SNR=83
KSRS LR LR 13 44 19.1
comp=Z,3μm,18.8s,baz=170,slow=36
INCN Inchon 42.22 344 *e*P **P** **13 27 02.0 +1.2**
comp=Z,260nm,1.4s
INCN LR LR
comp=Z,3μm,19.0s
GSI Gunungsitoli 42.35 275 P **P** **13 27 01.3 -0.9**
comp=Z,358nm,0.8s,comp=Z,3μm
KCSI Kotacane, Aceh 42.43 279 P **P** **13 27 01.2 -1.7**
comp=Z,189nm,1.0s,comp=Z,2μm
SURT Suratani 42.52 287 P **P** **13 27 04.3 +0.7**
comp=Z,16nm,0.9s
PKDT Phuket 42.70 285 P **P** **13 27 05.8 +0.7**
comp=Z,83nm,0.9s,comp=Z,5μm
TPTI 42.98 278 P **P** **13 27 06.7 -0.7**
comp=Z,56nm,0.9s,comp=Z,30μm
PBKT Sadao Pong 42.99 298 P **P** **13 27 07.7 +0.3**
comp=Z,34nm,1.2s,comp=Z,689nm
COCO West Island 43.37 256 PFAKE 13 27 20.0 +10
COCO LR LR
comp=Z,1μm,22.0s
GYA Guiyang 43.44 315⇑ *i*P **P** **13 27 12.3 +1.3**
GYA pP **pP** **13 27 19.5 +0.1**
GYA PP **PP** **13 28 55.0 +2.6**
GYA PcP **PcP** **13 29 01.8 +2.7**
GYA ScP **ScP** **13 32 50.5 +1.6**
GYA S **S** **13 33 39.5 +1.5**
GYA SS **SS** **13 36 47.8 -5.0**
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,150nm,5.0s
GYA LR LR
comp=Z,860nm,20.8s
GYA LR LR
comp=Z,790nm,21.0s
GYA LR LR
comp=Z,930nm,19.6s
LHMI Lhok Sumawe 43.52 281 P **P** **13 27 12.1 +0.4**
comp=Z,382nm,0.9s,comp=Z,3μm
SNSI Sinabang, Aceh 43.71 277 P **P** **13 27 14.0 +0.7**
SRDT SRDT 43.82 294 P **P** **13 27 14.8 +0.7**
comp=Z,172nm,1.2s,comp=Z,7μm
ENH Enshi 44.03 321 *e*P **P** **13 27 16.0 +0.3**
comp=Z,15nm,0.7s
ENH LR LR
comp=Z,83nm,19.0s
NANT Nan 44.15 301 P **P** **13 27 16.5 -0.2**
comp=Z,192nm,0.9s,comp=Z,2μm
KHLT Khaolaem Dam 44.46 295 P **P** **13 27 20.2 +1.0**
comp=Z,22nm,1.2s,comp=Z,347nm
TIA Tai'an 44.49 334 *e*P **P** **13 27 18.5 -0.6**
TIA S **S** **13 33 52.8 +0.1**
TIA SS **SS** **13 37 13.8 +0.9**
TIA pmax pmax
comp=Z,100nm,1.1s
TIA pmax pmax
comp=Z,840nm,5.5s
TIA LR LR
comp=Z,3μm,19.0s
TIA LR LR
comp=Z,1μm,21.4s
TIA LR LR
comp=Z,5μm,20.2s
OUZ Omahuta 44.76 140 *e*P **P** **13 27 24.3 +3.0**
comp=Z,67nm,1.2s
LAMP Lampang 44.95 300 P **P** **13 27 23.4 +0.3**
comp=Z,32nm,0.8s,comp=Z,249nm
DL2 Dalian 45.06 340 P **P** **13 27 22.5 -1.1**
DL2 S **S** **13 34 02.0 +1.1**
DL2 pmax pmax
comp=Z,83nm,1.0s
DL2 pmax pmax
comp=Z,430nm,6.3s
DL2 LR LR
comp=Z,840nm,22.6s
DL2 LR LR
comp=Z,1μm,23.0s
DL2 LR LR
comp=Z,1μm,20.2s
ERM Erimo 45.07 4 PFAKE 13 27 40.0 +16
ERM LR LR
comp=Z,3μm,21.0s
CM31 Chiang Mai Arr 45.52 300 *e*P **P** **13 27 27.3 -0.4**
comp=Z,23nm,0.6s
CMAR Chiang Mai Arr 45.52 300 P **P** **13 27 27.8 +0.1**
CMAR Chiang Mai Arr 45.52 300 P **P** **13 27 27.8 +0.1**
comp=Z,47nm,0.9s,baz=115,slow=6.3,SNR=9.4
CMAR LR LR 13 48 30.2
comp=Z,2μm,18.9s,baz=352,slow=39
KMI Kunming 45.57 310 P **P** **13 27 29.8 +1.6**
KMI pP **pP** **13 27 34.0 -2.6**
KMI S **S** **13 34 07.3 -1.9**
KMI pmax pmax
comp=Z,72nm,1.1s
KMI LR LR
comp=Z,1μm,19.3s
KMI LR LR
comp=Z,2μm,20.0s
KMI LR LR
comp=Z,4μm,28.4s
CMMT Chiang Mai 45.66 300 P **P** **13 27 28.3 -0.5**
comp=Z,54nm,1.1s,comp=Z,648nm
CHTO Chiang Mai 45.67 300 *e*P **P** **13 27 28.0 -0.8**
CHTO pmax pmax
comp=Z,32nm,0.8s
CHTO MLR MLR
comp=Z,1μm,21.0s
CHTO Chiang Mai 45.67 300 *e*P **P** **13 27 27.9 -0.8**
comp=Z,32nm,0.8s
CHTO LR LR
comp=Z,1μm,21.0s
CHTO Chiang Mai 45.67 300 P **P** **13 27 28.3 -0.5**
comp=Z,246nm,1.1s,comp=Z,3μm
CMAI Chiengmai2 46.05 302 P **P** **13 27 32.1 +0.1**
comp=Z,44nm,1.2s
MHMT Maesariang 46.29 299 P **P** **13 27 34.0 +0.3**
comp=Z,38nm,0.8s,comp=Z,406nm
VLA Vladivostok 46.60 352⇑ *e*P **P** **13 27 37.2 +1.5**
VLA pmax pmax
comp=Z,55nm,0.9s
XAN Xi'an 47.01 324 P **P** **13 27 39.5 +0.3**
XAN pP **pP** **13 27 44.5 -3.2**
XAN sP **sP** **13 27 47.5 -3.5**
XAN PcP **PcP** **13 29 12.5 +1.3**
XAN PP **PP** **13 29 28.8 -1.3**
XAN S **S** **13 34 28.0 -1.3**
XAN pmax pmax
comp=Z,18nm,1.2s
XAN pmax pmax
comp=Z,110nm,12.0s
XAN LR LR
comp=Z,1μm,25.2s
XAN LR LR
comp=Z,450nm,23.7s
XAN LR LR
comp=Z,830nm,20.9s
ASAJ Asahikawa 47.13 3 *e*P **P** **13 27 40.0 +0.1**
comp=Z,62nm,1.3s
ASAJ Asahikawa 47.13 3 P **P** **13 27 40.2 +0.4**
comp=Z,45nm,0.9s,baz=232,slow=15,SNR=21
ASAJ LR LR 13 46 27.0
comp=Z,945nm,21.1s,baz=42,slow=35
YUK Yuzh-Kuril'sk 47.30 6*d* *i*P **P** **13 27 39.3 -1.9**
YUK *e* 13 29 25.1
YUK *i* S **S** **13 34 31.8 -1.2**
USRK Ussuriysk Arra 47.65 352 P **P** **13 27 44.7 +0.8**
comp=Z,56nm,1.0s,baz=174,slow=7.7,SNR=54
USRK LR LR 13 44 26.8
comp=Z,3μm,21.0s,baz=164,slow=32
RAO Raoul Island 47.84 127 PFAKE 13 28 00.0 +14
RAO LR LR
comp=Z,3μm,20.0s
TIY Taiyuan 47.89 331 *e*P **P** **13 27 44.8 -1.2**
TIY pP **pP** **13 27 53.3 -1.2**
TIY S **S** **13 34 37.5 -4.3**
TIY pmax pmax
comp=Z,360nm,5.4s
TIY LR LR
comp=Z,5μm,18.0s
TIY LR LR
comp=Z,2μm,16.9s
TIY LR LR
comp=Z,5μm,19.5s
BJT Baijiatuan 48.09 336 *e*P **P** **13 27 47.9 +0.5**
comp=Z,132nm,1.1s
BJT LR LR
comp=Z,5μm,20.0s
BJI Beijing 48.11 336 P **P** **13 27 48.3 +0.8**
BJI sP **sP** **13 27 55.0 -4.3**
BJI PP **PP** **13 29 42.0 +2.0**
BJI S **S** **13 34 44.8 +0.3**
BJI SS **SS** **13 38 15.5 +1.5**
BJI pmax pmax
comp=Z,90nm,1.3s
BJI pmax pmax
comp=Z,570nm,3.4s
BJI LR LR
comp=Z,4μm,18.5s
BJI LR LR
comp=Z,3μm,19.0s
BJI LR LR
comp=Z,4μm,21.5s
CD2 Chengdu 48.18 317⇑ *i*P **P** **13 27 49.5 +1.2**
CD2 pP **pP** **13 28 00.0 +3.2**
CD2 sP **sP** **13 28 04.3 +4.1**
CD2 PcP **PcP** **13 29 16.8 +1.3**
CD2 PP **PP** **13 29 41.3 +0.4**
CD2 S **S** **13 34 45.3 -0.7**
CD2 sS **sS** **13 35 02.5 +2.5**
CD2 ScS **ScS** **13 37 36.8 -3.1**
CD2 pmax pmax
comp=Z,120nm,1.2s
CD2 pmax pmax
comp=Z,690nm,6.0s
CD2 LR LR
comp=Z,2μm,19.0s
CD2 LR LR
comp=Z,3μm,19.0s
CD2 LR LR
comp=Z,4μm,19.0s
MDJ Mudanjiang 48.42 350 P **P** **13 27 50.5 +0.7**
MDJ pP **pP** **13 27 53.5 -4.8**
MDJ ScP **ScP** **13 33 11.5 +2.6**
MDJ PcS **PcS** **13 33 13.0 +1.3**
MDJ S **S** **13 34 51.3 +2.5**
MDJ pmax pmax
comp=Z,100nm,1.3s
MDJ pmax pmax
comp=Z,400nm,4.3s
MDJ LR LR
comp=Z,2μm,20.0s
MDJ LR LR
comp=Z,1μm,20.4s
MDJ LR LR
comp=Z,3μm,20.2s
MDJ Mudanjiang 48.42 350 *e*P **P** **13 27 49.5 -0.4**
comp=Z,156nm,1.3s
MDJ LR LR
comp=Z,4μm,20.0s
CN2 Changchun 48.47 346 *e*P **P** **13 27 51.5 +1.2**
CN2 *e*S **S** **13 34 48.0 -1.6**
CN2 pmax pmax
comp=Z,90nm,1.3s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,900nm,22.0s
URZ Urewera 48.84 141 *e*P **P** **13 27 53.8 +0.6**
comp=Z,33nm,0.8s
URZ Urewera 48.84 141 P **P** **13 27 54.7 +1.4**
comp=Z,4.7nm,0.4s,baz=334,slow=3.4,SNR=8.9
RPZ Rata Peaks 49.00 150 *e*P **P** **13 27 54.9 +0.5**
comp=Z,230nm,1.0s

RPZ **Rata Peaks** 49.00 150 P **P** 13 27 55.4 +0.9
comp=Z,182nm,0.9s,baz=345,slow=3.7,SNR=44
RPZ LR LR 13 47 06.6
comp=Z,7μm,20.7s,baz=316,slow=34
AFI **Afiamalu** 49.06 106 PFAKE 13 28 10.0 +15
AFI LR LR
comp=Z,4μm,22.0s
WHZ **Wether Hill Ro** 49.19 154 *e*P **P** 13 27 56.2 +0.4
comp=Z,88nm,1.2s
SNZO **South Karori** 49.29 145 PFAKE 13 28 10.0 +13
SNZO LR LR
comp=Z,5μm,19.0s
KHZ **Kahutara** 49.39 147 *e*P **P** 13 27 57.3 0.0
comp=Z,36nm,0.6s
YSS **Yuzh-Sakhalins** 49.97 3⇓ *e*P **P** 13 28 01.5 -0.2
YSS *e**SP **sP** 13 28 10.0 -3.5
YSS *e* 13 28 19.0
YSS *e*S **S** 13 35 09.0 -1.5
YSS *e*PS **sS** 13 35 25.0 +0.5
YSS *e* 13 37 40.0
YSS *e*SSS SSS 13 40 02.0
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,400nm,6.0s
YSS MLR MLR
comp=N,1μm,17.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS **Yuzh-Sakhalins** 49.97 3 *e*P **P** 13 28 00.6 -1.0
comp=Z,52nm,0.9s
YSS LR LR
comp=Z,655nm,22.0s
HHC **Hu-ho-hao-te** 50.78 332 *e*P **P** 13 28 08.3 +0.2
HHC sP **sP** 13 28 17.8 -2.1
HHC PP **PP** 13 30 07.3 +2.8
HHC PcS **PcS** 13 33 22.5 +0.2
HHC S **S** 13 35 24.3 +2.0
HHC ScS **ScS** 13 37 56.8 -0.4
HHC SS **SS** 13 38 56.8 -0.5
HHC pmax pmax
comp=Z,61nm,1.1s
HHC pmax pmax
comp=Z,1μm,7.6s
HHC LR LR
comp=Z,5μm,17.5s
HHC LR LR
comp=Z,4μm,17.0s
HHC LR LR
comp=Z,6μm,17.4s
HABR **Khabarovsk** 51.58 356*d* *i*P **P** 13 28 13.1 -0.6
HABR *e**SP **sP** 13 28 26.5 +0.9
HABR *e* 13 29 26.0
HABR *e* 13 30 10.0
HABR *e*S **S** 13 35 32.2 -0.5
HABR *e**SS **sS** 13 35 48.5 +1.7
HABR *e* 13 38 00.1
HABR *e*SS **SS** 13 39 09.1 -0.2
HABR *e*SSS SSS 13 40 47.7
HABR pmax pmax
comp=Z,110nm,1.2s
HABR pmax pmax
comp=N,38nm,1.2s
HABR pmax pmax
comp=E,12nm,1.2s
HABR MLR MLR
comp=Z,1μm,18.0s
MIDW **Midway** 51.72 50 PFAKE 13 28 30.0 +15
MIDW LR LR
comp=Z,3μm,19.0s
KLR **Kul'dur** 52.63 353 *e*P **P** 13 28 18.7 -2.9
KLR *e*S **S** 13 35 45.0 -2.2
KLR pmax pmax
comp=N,68nm,1.6s
KLR pmax pmax
comp=E,74nm,1.6s
KLR pmax pmax
comp=Z,400nm,1.6s
KLR pmax pmax
comp=Z,1μm,8.5s
KLR MLR MLR
comp=N,1μm,16.0s
KLR MLR MLR
comp=E,1μm,16.0s
SHL **Shillong** 54.41 305 *e*P **P** 13 28 38.0 +2.7
SHL *i*S **S** 13 36 13.0 +0.5
HIA **Hailar** 55.01 344 *e*P **P** 13 28 39.1 0.0
comp=E,100nm,1.4s
HIA LR LR
comp=Z,4μm,20.0s
SKR **Severo-Kuril's** 55.45 13 *e*P P 13 28 38.0 -4.1
SKR *e* 13 30 54.0
SKR *e*PPP PPP 13 31 58.0
SKR *e*S **S** 13 36 22.0 -3.2
SKR *e*SS **SS** 13 40 13.0 +2.6
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR smax smax
comp=N,2μm,12.0s
SKR smax smax
comp=E,1μm,12.0s
SKR MLR MLR
comp=Z,1μm,16.0s
SKR MLR MLR
comp=N,1μm,18.0s
SKR MLR MLR
comp=E,1μm,18.0s
GTA **Gaotai** 56.02 323 P **P** 13 28 47.0 +0.4
GTA S **S** 13 36 33.8 +0.3
GTA SS **SS** 13 40 20.0 -0.1
GTA pmax pmax
comp=E,51nm,1.2s
GTA pmax pmax
comp=E,450nm,6.4s
GTA LR LR
comp=E,1μm,18.5s
GTA LR LR
comp=E,1μm,20.4s
GTA LR LR
comp=E,2μm,18.8s
LSA **Lhasa** 56.77 309 *e*P **P** 13 28 53.0 +0.5
LSA pmax pmax
comp=Z,54nm,0.7s
LSA MLR MLR
comp=Z,1μm,19.0s
LSA **Lhasa** 56.77 309 *e*P **P** 13 28 53.0 +0.5
comp=Z,54nm,0.7s
LSA LR LR
comp=Z,1μm,19.0s
PEA0B **Petropavlovsk-** 58.07 13 *e*P **P** 13 29 01.7 +1.0
PETK **Petropavlovsk-** 58.07 13 P **P** 13 29 01.2 +0.5
PETK **Petropavlovsk-** 58.07 13 P **P** 13 29 01.2 +0.5
PETK **Petropavlovsk-** 58.07 13 P **P** 13 29 01.2 +0.5
comp=Z,8.3nm,0.7s,baz=170,slow=6.2,SNR=13
PETK LR LR 13 51 59.6
comp=Z,478nm,20.6s,baz=204,slow=34
PET **Petropavlovsk** 58.21 13 *e*P **P** 13 29 00.7 -0.9
PET *e*S **S** 13 37 00.2 -1.3
PET *e*SS **SS** 13 40 51.5 -2.2
PET pmax pmax
comp=Z,900nm,5.4s
PET pmax pmax
comp=Z,400nm,7.8s
PET MLR MLR
comp=Z,800nm,18.0s
PET MLR MLR
comp=Z,800nm,15.0s
PET **Petropavlovsk** 58.21 13 PFAKE 13 29 10.0 +8.4
PET LR LR
comp=Z,849nm,20.0s
ULN **Ulaanbaatar** 58.29 335 *e*P **P** 13 29 02.3 -0.3
comp=Z,13nm,0.8s
ULN LR LR
comp=Z,4μm,20.0s
SONM **Songino Array** 58.55 334 P **P** 13 29 04.9 +0.6
SONM ⇑*e* 13 58 57.1
SONM **Songino Array** 58.55 334 P **P** 13 29 04.9 +0.6
comp=Z,3.7nm,0.6s,baz=154,slow=7.9,SNR=46
SONM LR LR 13 56 18.3
comp=Z,6μm,18.2s,baz=142,slow=38
SONM PKP2bc 13 58 57.1
comp=Z,0.6nm,1.1s,baz=328,slow=5.3,SNR=4.8
ODAN **Odare** 58.62 304 *e*P **P** 13 29 05.2 -0.2
comp=Z,263nm,0.7s
ODAN **Odare** 58.62 304 *e*P **P** 13 29 05.2 -0.2
comp=Z,263nm,0.7s
CIT **Chita** 59.28 342 *e*P **P** 13 29 11.1 +1.9
CIT *e* 13 29 18.3
CIT *e* 13 29 26.8
CIT *e* 13 29 53.3
CIT *e* 13 37 17.1
CIT pmax pmax
comp=Z,224nm,2.1s
RAMN **Ramite** 59.31 304 *e*P **P** 13 29 09.8 -0.4
comp=Z,235nm,0.8s
RAMN **Ramite** 59.31 304 *e*P **S** 13 37 16.4 -1.0
comp=Z,109nm,1.8s
RAMN **Ramite** 59.31 304 *e*P **P** 13 29 09.8 -0.4
comp=Z,235nm,0.8s
JIRN **Jiri** 59.91 304 *e*P **P** 13 29 14.3 -0.1
comp=Z,170nm,0.6s
JIRN **Jiri** 59.91 304 *e*P **P** 13 29 14.3 -0.1
comp=Z,170nm,0.6s
GUN **Gumba** 60.26 305 *e*P **P** 13 29 16.3 -0.5
comp=Z,255nm,0.7s
GUN **Gumba** 60.26 305 *e*P **S** 13 37 29.5 -0.3
GUN **Gumba** 60.26 305 *e*P **P** 13 29 16.3 -0.5
comp=Z,255nm,0.7s
PKI **Pulchoki** 60.52 304 *e*P **P** 13 29 18.1 -0.5
comp=Z,108nm,0.7s
PKI **Pulchoki** 60.52 304 *e*P **S** 13 37 32.8 -0.3
PKI **Pulchoki** 60.52 304 *e*P **P** 13 29 18.1 -0.5
PKI pmax pmax
comp=Z,108nm,0.7s
PKI **Pulchoki** 60.52 304 *e*P **P** 13 29 18.1 -0.5
comp=Z,108nm,0.7s
PKIN **Phulchoki** 60.53 304 *e*P **P** 13 29 18.0 -0.6
comp=Z,86nm,0.7s
PKIN **Phulchoki** 60.53 304 *e*P **S** 13 37 32.6 -0.6
comp=Z,82nm,1.9s
KKN **Kakani** 60.71 304 *e*P **P** 13 29 19.8 +0.1
comp=Z,233nm,0.8s
KKN **Kakani** 60.71 304 *e*P **S** 13 37 35.3 0.0
KKN **Kakani** 60.71 304 *e*P **P** 13 29 19.8 +0.1
KKN pmax pmax
comp=Z,233nm,0.8s
KKN **Kakani** 60.71 304 *e*P **P** 13 29 19.8 +0.1
comp=Z,233nm,0.8s
DMN **Daman** 60.79 304 *e*P **P** 13 29 19.7 -0.6
comp=Z,250nm,0.7s
DMN **Daman** 60.79 304 *e*P **S** 13 37 36.8 +0.4
DMN **Daman** 60.79 304 *e*P **P** 13 29 19.7 -0.6
comp=Z,250nm,0.7s
GKN **Gorkha** 61.32 304 *e*P **P** 13 29 23.2 -0.6
comp=Z,333nm,0.7s
GKN **Gorkha** 61.32 304 *e*P **S** 13 37 43.1 +0.2
comp=Z,126nm,1.5s
GKN **Gorkha** 61.32 304 *e*P **P** 13 29 23.2 -0.6
comp=Z,333nm,0.7s
ZAK **Zakamensk** 61.81 334⇓ *i*P **P** 13 29 27.5 +0.9
ZAK pmax pmax
comp=Z,26nm,1.6s
KOLN **Koldanda** 62.09 304 *e*P **P** 13 29 28.6 -0.5
comp=Z,230nm,0.9s
KOLN **Koldanda** 62.09 304 *e*P **S** 13 37 52.9 +0.1
comp=Z,69nm,1.5s
KOLN **Koldanda** 62.09 304 *e*P **P** 13 29 28.6 -0.5
comp=Z,230nm,0.9s
DANN **Dangsing** 62.16 304 *e*P **P** 13 29 29.0 -0.6
comp=Z,212nm,0.7s
DANN **Dangsing** 62.16 304 *e*P **S** 13 37 53.5 -0.4
comp=Z,84nm,1.2s
DANN **Dangsing** 62.16 304 *e*P **P** 13 29 29.0 -0.6
comp=Z,212nm,0.7s
FX1 **Attu Island--F** 62.53 22 *e*P **P** 13 29 31.0 -0.2
FX1 **Attu Island--F** 62.53 22 P **P** 13 29 31.3 +0.1
comp=Z,32nm,0.6s,baz=285,slow=1.9,SNR=18
TLY **Talaya** 62.63 336*d* *i*P **P** 13 29 31.6 -0.4
TLY *e*S **S** 13 38 00.2 +1.8
TLY pmax pmax
comp=Z,30nm,0.9s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY **Talaya** 62.63 336 PFAKE 13 29 40.0 +8.0
TLY LR LR
comp=Z,3μm,20.0s
PYUN **Piuthan** 62.71 304 *e*P **P** 13 29 32.5 -0.7
comp=Z,579nm,0.8s
PYUN **Piuthan** 62.71 304 *e*P **S** 13 38 01.2 +0.6
comp=Z,46nm,0.8s
PYUN **Piuthan** 62.71 304 *e*P **P** 13 29 32.5 -0.7
comp=Z,579nm,0.8s
IRK **Irkutsk** 62.80 336 *e*P **P** 13 29 34.0 +0.9
IRK *e* 13 31 52.9
IRK pmax pmax
comp=Z,81nm,2.2s
DRV **Dumont d'Urvil** 63.39 180 PP PP 13 31 52.0 -4.3
DRV S S 13 38 00.0 -7.3
DRV SS SS 13 41 50.0 -24
DRV L L 13 45 00.0
DRV R 13 50 00.0
HYB **Hyderabad** 63.66 291 *i*P **P** 13 29 38.0 -1.5
MOY **Mondy** 63.74 334 *e*P **P** 13 29 40.6 +1.1
MOY pmax pmax
comp=Z,81nm,3.5s
YAK **Yakutsk** 65.46 355 *e*P **P** 13 29 49.5 -0.8
YAK *e**PP pP 13 30 05.0 +6.0
YAK *e* 13 32 15.4
YAK *e*S **S** 13 38 32.6 -0.4
YAK *e**SS **sS** 13 38 48.9 +1.5
YAK *e* 13 39 41.5
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=N,30nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,58nm,1.9s
YAK pmax pmax
comp=N,75nm,2.0s
YAK pmax pmax
comp=E,15nm,1.5s
YAK smax smax
comp=N,126nm,2.3s
YAK smax smax
comp=E,759nm,2.8s
YAK **Yakutsk** 65.46 355 *e*P **P** 13 29 50.0 -0.3
comp=E,84nm,0.8s
YAK LR LR
comp=Z,2μm,22.0s
KIP **Kipapa** 65.61 65*ce*P **P** 13 29 51.2 -0.9
KIP pmax pmax
comp=Z,285nm,2.5s
KIP **Kipapa** 65.61 65 *e*P **P** 13 29 51.8 -0.3
comp=Z,165nm,1.3s
WMQ **Urumqi** 65.98 321 P **P** 13 29 55.0 +0.9
WMQ pP **pP** 13 30 05.0 +2.1
WMQ sP **sP** 13 30 09.0 +2.8
WMQ PcP **PcP** 13 30 25.0 +0.3
WMQ PP **PP** 13 32 22.0 +2.4
WMQ ScP 13 34 25.0
WMQ S **S** 13 38 39.0 -1.2
WMQ ScS **SKSac** 13 39 45.0 -3.4
WMQ pmax pmax
comp=Z,65nm,1.0s
WMQ pmax pmax
comp=Z,430nm,5.0s
WMQ LR LR
comp=Z,1μm,18.0s
WMQ LR LR
comp=Z,1μm,18.0s
WMQ LR LR
comp=Z,1μm,18.0s
ADK **Adak** 66.10 28 PFAKE 13 30 10.0 +15
ADK LR LR
comp=Z,3μm,20.0s
SEY **Seymchan** 66.61 6 P **P** 13 29 57.8 +0.1
SEY **Seymchan** 66.61 6 P **P** 13 29 57.8 +0.1
SEY **Seymchan** 66.61 6 P **P** 13 29 57.8 +0.1
comp=Z,7.6nm,0.8s,baz=164,slow=8.4,SNR=13
HVS **Khovu-Aksy** 66.77 330*c* *i*P **P** 13 30 00.5 +1.4
HVS pmax pmax
comp=Z,465nm,1.3s
DGAR **Diego Garcia** 67.05 263 PFAKE 13 30 10.0 +8.5
DGAR LR LR
comp=Z,879nm,21.0s
NDI **New Delhi** 67.72 303 *ex* **P** 13 30 04.0 -1.5
SMLA **Simla** 68.49 305 *i*P **P** 13 30 10.7 +0.5
SMLA *i*x x 13 30 10.7
baz=105,slow=16
SMLA **Simla** 68.49 305 *i*x **P** 13 30 10.7 +0.5
PPT **Papeete** 70.67 107 LR LR 13 58 14.6
comp=Z,1μm,18.1s,baz=269,slow=33
PPT2 **Papeete2** 70.67 107 *e*S **S** 13 39 36.8 -0.3
comp=Z,2μm,24.5s
PPT2 *e*LQ LQ 13 49 00.0
comp=Z,5μm,31.2s
PPT2 *e*LR LR 13 52 02.8
comp=Z,3μm,23.2s
MK31 **Makanchi Array** 70.75 322 *e*P **P** 13 30 23.3 -0.6
MK31 **Makanchi Array** 70.75 322 *e*P **P** 13 30 23.3 -0.6
MKAR **Makanchi Array** 70.75 322 P **P** 13 30 23.7 -0.2
MKAR S **S** 13 39 36.2 -0.7
MKAR **Makanchi Array** 70.75 322 P **P** 13 30 23.7 -0.2
MKAR S **S** 13 39 36.1 -0.7
MKAR **Makanchi Array** 70.75 322 P **P** 13 30 23.7 -0.2
comp=Z,17nm,0.8s,baz=106,slow=7.0,SNR=145
MKAR S **S** 13 39 36.1 -0.7
comp=Z,3.4nm,1.1s,baz=116,slow=8.2,SNR=5.6
MKAR LR LR 14 04 13.1
comp=Z,2μm,18.4s,baz=220,slow=38
TBI **Tubuai** 71.16 113 *e*S **S** 13 39 40.6 -1.8
comp=Z,1μm,30.5s
TBI *e*LQ LQ 13 49 12.0
comp=Z,3μm,37.0s
TBI *e*LR LR 13 52 13.9
comp=Z,2μm,31.5s
KSH **Kashi** 72.11 313 P **P** 13 30 34.0 +1.6
KSH sP **sP** 13 30 40.0 -4.5
KSH PP **PP** 13 33 16.0 +3.1
KSH S **S** 13 39 54.0 +0.9
KSH SS **SS** 13 44 34.0 +3.1
KSH pmax pmax
comp=Z,78nm,1.3s
KSH pmax pmax
comp=Z,340nm,3.3s
KSH LR LR
comp=Z,670nm,16.7s
KSH LR LR
comp=Z,1μm,16.3s
KSH LR LR
comp=Z,2μm,19.0s
UNV **Unalaska Valle** 72.22 30 *e*P **P** 13 30 32.5 -0.1
comp=Z,115nm,1.4s
AAA **Alma-Ata** 72.76 317 *i*P **P** 13 30 36.7 +0.6
AAA *e*S **S** 13 40 00.1 -0.1
AAA pmax pmax
comp=Z,500nm,3.1s
AAA smax smax
comp=E,600nm,8.0s
AAA MLR MLR
comp=Z,1μm,20.0s
ZAA0 **Zalesovo Array** 72.82 330 *e*P **P** 13 30 35.2 -0.9
ZALV **Zalesovo Beam** 72.82 330 *i*P **P** 13 30 35.5 -0.6
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV **Zalesovo Beam** 72.82 330 P **P** 13 30 35.5 -0.6
ZALV **Zalesovo Beam** 72.82 330 P **P** 13 30 35.5 -0.6
comp=Z,8.1nm,0.6s,baz=111,slow=6.2,SNR=36
ZALV LR LR 14 02 35.9
comp=Z,2μm,20.4s,baz=117,slow=36
ULHL **Ulahol** 72.87 316 *i*P **P** 13 30 37.9 +0.9
ULHL **Ulahol** 72.87 316 P **P** 13 30 37.9 +0.9
SNR=7.2
KZA **Kyzart** 73.50 316 *i*P **P** 13 30 42.7 +1.7
KZA **Kyzart** 73.50 316 P **P** 13 30 42.7 +1.7
SNR=61
TKM2 **Tokmak 2** 73.55 316 *i*P **P** 13 30 41.5 +0.5
TKM2 **Tokmak 2** 73.55 316 P **P** 13 30 41.5 +0.5
SNR=36
TKM2 **Tokmak 2** 73.55 316 *e*P **P** 13 30 40.6 -0.3
comp=Z,72nm,1.4s
TKM2 LR LR
comp=Z,1μm,19.0s
KBK **Karagaybulak** 73.91 316 P **P** 13 30 43.6 +0.5
SNR=18
UCH **Uchtor** 74.07 315 *i*P **P** 13 30 45.8 +1.5
UCH **Uchtor** 74.07 315 P **P** 13 30 45.8 +1.5
SNR=46
NVS **Novosibirsk** 74.08 330⇑ *i*P **P** 13 30 42.5 -1.0
NVS *i* 13 30 56.2
NVS *e*PPP PPP 13 35 15.5
NVS *i*S **SKiKP** 13 40 11.9 +2.0
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,23nm,1.4s
NVS pmax pmax
comp=Z,42nm,1.4s
NVS smax smax
comp=N,54nm,2.6s
NVS smax smax
comp=E,57nm,2.6s
CHMS **Chumysh** 74.16 316 *i*P **P** 13 30 44.9 +0.6
CHMS **Chumysh** 74.16 316 P **P** 13 30 45.0 +0.6
SNR=9.9
FRU **Bishkek** 74.20 316 *e*P **P** 13 30 43.8 -0.8
FRU pmax pmax
comp=Z,76nm,1.8s
AAK **Ala-Archa** 74.22 316 P **P** 13 30 45.0 +0.2
comp=Z,118nm,1.3s,SNR=17
AAK **Ala-Archa** 74.22 316 *i*P **P** 13 30 44.6 -0.2
AAK pmax pmax
comp=Z,38nm,1.3s
AAK **Ala-Archa** 74.22 316 P **P** 13 30 45.8 +1.0
SNR=19
AAK **Ala-Archa** 74.22 316 *e*P **P** 13 30 45.4 +0.5
comp=Z,41nm,1.3s
AAK **Ala-Archa** 74.22 316 P **P** 13 30 45.2 +0.4
comp=Z,12nm,1.0s,baz=92,slow=5.6,SNR=30
AAK LR LR 14 04 38.9
comp=Z,1μm,21.1s,baz=104,slow=37
FALS **False Pass** 74.29 30 *e*P **P** 13 30 45.1 +0.4
comp=Z,29nm,0.7s
PAF **Port-aux-Franc** 74.33 220 PFAKE 13 31 00.0 +15
PAF LR LR
comp=Z,3μm,21.0s
USP **Ospenovka** 74.43 316 *i*P **P** 13 30 46.3 +0.5
USP **Ospenovka** 74.43 316 P **P** 13 30 46.4 +0.5
SNR=41
AML **Almayashu** 74.61 315 P **P** 13 30 48.8 +1.4
SNR=58
KURK **Kurchatov** 74.65 325 P **P** 13 30 46.5 -0.4
KURK pmax pmax
comp=Z,35nm,1.3s
KURK **Kurchatov** 74.65 325 *e*P **P** 13 30 46.4 -0.6
comp=Z,37nm,1.3s
KURK LR LR
comp=Z,787nm,19.0s
KURK **Kurchatov** 74.65 325 P **P** 13 30 47.3 +0.4
comp=Z,260nm,1.0s,SNR=8.3
KURBB **Kurchatov Arra** 74.67 325 P **P** 13 30 45.2 -1.8
comp=Z,7.8nm,0.8s,baz=115,slow=5.0,SNR=77
EKS2 **Erkin-Say** 74.72 316 *i*P **P** 13 30 49.0 +1.3
EKS2 **Erkin-Say** 74.72 316 P **P** 13 30 49.0 +1.3
SNR=16
EKS2 **Erkin-Say** 74.72 316 *e*P **P** 13 30 48.4 +0.6
comp=Z,50nm,1.3s
EKS2 LR LR
comp=Z,1μm,20.0s
TIXI **Tiksi** 75.01 356⇑ *i*P **P** 13 30 48.3 -0.3
TIXI pmax pmax
comp=Z,26nm,1.7s
TIXI **Tiksi** 75.01 356 *e*P **P** 13 30 47.9 -0.7
comp=Z,43nm,1.5s
TIXI LR LR
comp=Z,2μm,21.0s
VNDA **Vanda** 75.25 175 *e*P **P** 13 30 50.4 +0.4
comp=Z,54nm,1.1s
VNDA **Vanda** 75.25 175 P **P** 13 30 50.2 +0.3
comp=Z,33nm,0.9s,baz=323,slow=5.8,SNR=65
VNDA LR LR 14 02 13.9
comp=Z,6μm,21.9s,baz=354,slow=34
GAMB **Gambell** 75.86 20 *e*P **P** 13 30 54.5 +0.9
comp=Z,110nm,1.9s
KBL **Kabul** 75.99 307 *e*P **P** 13 30 55.1 -0.2
KBL pmax pmax
comp=Z,41nm,0.9s
KBL **Kabul** 75.99 307 *e*P **P** 13 30 55.1 -0.2
comp=Z,41nm,0.9s
KBL **Kabul** 75.99 307 ⇓P **P** 13 30 55.4 +0.1

baz=76,SNR=4.0
SBA Scott Base 76.00 174 *e*P **P 13 30 56.4 +2.1**
SBA pmax pmax
comp=Z,152nm,1.4s
SBA MLR MLR
comp=Z,4μm,19.0s
SBA Scott Base 76.00 174 *e*P **P 13 30 56.4 +2.1**
comp=Z,152nm,1.4s
SBA LR LR
comp=Z,4μm,19.0s
SDPT Sand Point 76.01 31 *e*P **P 13 30 55.4 +0.8**
comp=Z,188nm,1.4s
KK31 Karatay Array 77.14 315 *i* P **P 13 31 01.4 0.0**
KK31 pmax pmax
comp=Z,34nm,1.1s
TNA Tin City 78.24 20 *e*P **P 13 31 07.6 +0.7**
comp=Z,57nm,1.4s
BVA0 Borovoye Array 80.25 325 P **P 13 31 17.7 -0.5**
BVA0 pmax pmax
comp=Z,83nm,1.2s
BVAR Borovoye Array 80.25 325 P **P 13 31 17.7 -0.5**
BVAR Borovoye Array 80.25 325 P **P 13 31 17.7 -0.5**
BVAR Borovoye Array 80.25 325 P **P 13 31 17.7 -0.5**
comp=Z,15nm,0.7s,baz=115,slow=6.7,SNR=70
BVAR LR LR 14 10 06.0
comp=Z,1μm,19.7s,baz=325,slow=38
BRVK Borovoye 80.32 325 P **P 13 31 19.4 +0.8**
comp=Z,341nm,1.0s,SNR=16
BRVK Borovoye 80.32 325 ⇓*i*P **P 13 31 18.1 -0.5**
BRVK pmax pmax
comp=Z,81nm,1.7s
BRVK Borovoye 80.32 325 *e*P **P 13 31 17.8 -0.8**
comp=Z,80nm,1.1s
BRVK LR LR
comp=Z,1μm,20.0s
OHAK Old Harbor 80.43 31 *e*P **P 13 31 20.2 +1.1**
comp=Z,61nm,1.0s
KDAK Kodiak Island 80.99 30 PFAKE 13 31 30.0 +8.0
KDAK LR LR
comp=Z,3μm,21.0s
MAW Mawson 82.08 202 P **P 13 31 28.5 +0.8**
MAW Mawson 82.08 202 P **P 13 31 28.5 +0.8**
comp=Z,34nm,1.2s,baz=76,slow=7.0,SNR=12
MAW LR LR 14 07 17.0
comp=Z,3μm,18.4s,baz=76,slow=35
MAW Mawson 82.08 202 ⇓P **P 13 31 28.8 +1.1**
baz=82,SNR=8.1
WBK Wadi Bani Khal 82.67 293 P **P 13 31 33.5 +1.7**
SNR=5.9
PPLA Purkeypile 83.00 25 *e*P **P 13 31 33.2 +0.5**
comp=Z,135nm,1.7s
IDAH Dahanechah 83.16 303 *e*P **P 13 31 35.2 +0.8**
JMDO Jabal Madar 83.44 293 P **P 13 31 37.0 +1.3**
SNR=6.6
RC01 Rabbit Creek A 83.47 27 *e*P **P 13 31 34.6 -0.4**
comp=Z,100nm,1.4s
IMYA Miami 83.50 307 *e*P **P 13 31 36.4 +0.4**
IM04 Indian Mountai 83.51 22 *e*P **P 13 31 35.3 +0.2**
SMDO Samad 83.56 293 P **P 13 31 37.1 +0.7**
SNR=10.0
KTH Kantishna Hill 83.77 25 *e*P **P 13 31 36.0 -0.5**
comp=Z,68nm,1.4s
IKOO Kooshah 83.84 303 *e*P **P 13 31 38.2 +0.3**
PMR Palmer 83.91 27 *e*P **P 13 31 36.8 -0.4**
PMR pmax pmax
comp=Z,75nm,1.2s
PMR Palmer 83.91 27 *e*P **P 13 31 36.8 -0.4**
comp=Z,75nm,1.2s
MSEY Mahe Island 84.00 266 PFAKE 13 31 50.0 +11
MSEY LR LR
comp=Z,823nm,22.0s
ISRO Mashad 84.00 307 *e*P **P 13 31 36.4 -2.0**
TRF Thorofare Moun 84.00 25 *e*P **P 13 31 37.5 -0.4**
comp=Z,33nm,1.3s
IMOG Moghan 84.08 307 *e*P **P 13 31 40.2 +1.1**
ITEG Tejag 84.12 303 *e*P **P 13 31 39.7 +0.5**
HOQ Hoqain 84.29 294 P **P 13 31 41.1 +1.1**
SNR=25
IPAY Payeh 84.40 307 *e*P **P 13 31 41.4 +0.8**
RKT Rikitea 84.47 113 *e*S **S 13 42 04.5 -1.7**
comp=Z,542nm,28.0s
RKT Rikitea 84.47 113 *e*LQ LQ 13 54 40.5
RKT comp=Z,1μm,33.5s *e*LR LR 13 58 26.2
comp=Z,2μm,22.2s
IAKL Akhelmad 84.61 307 *e*P **P 13 31 42.7 +0.9**
MCK McKinley 84.67 25 *e*P **P 13 31 40.5 -0.6**
MCK pmax pmax
comp=Z,85nm,1.4s
MCK McKinley 84.67 25 *e*P **P 13 31 40.5 -0.6**
comp=Z,85nm,1.4s
IKRD Kardeh 84.83 307 *e*P **P 13 31 39.9 -2.9**
ARQ Araqi 84.99 294 P **P 13 31 44.7 +1.1**
SNR=24
ISFR Sfrayin 85.27 307 *e*P **P 13 31 46.5 +1.4**
ABKT Ailbek 85.30 308 P **P 13 31 45.1 +0.2**
comp=Z,364nm,1.1s,SNR=20
COLD Coldfoot 85.30 22 *e*P **P 13 31 45.0 +0.9**
comp=Z,22nm,1.0s
DIV Divide 85.33 28 *e*P **P 13 31 44.9 +0.4**
comp=Z,94nm,1.1s
IBND Bandar-abas 85.38 298 *e*P **P 13 31 46.5 +1.1**
UOSS Wadi Hilu 85.43 295 P **P 13 31 45.2 -0.6**
comp=Z,304nm,0.8s,SNR=7.3
BANOM Banah 85.44 296 P **P 13 31 47.4 +1.5**
SNR=8.6
COLA College 85.46 24*c i*P **P 13 31 45.0 0.0**
COLA pmax pmax
comp=Z,110nm,1.0s
COLA College 85.46 24 *e*P **P 13 31 44.1 -0.9**
comp=Z,19nm,0.9s
COLA LR LR
comp=Z,852nm,20.0s
ASHO Ashiyiah 85.54 295 P **P 13 31 47.2 +0.9**
SNR=9.5
ISHV Shirvan 85.57 308 *e*P **P 13 31 47.9 +1.5**
AB31 Akbulak array 85.70 320 P **P 13 31 46.0 -0.5**
AB31 pmax pmax
comp=Z,16nm,0.7s
ILAR Eielson Array 85.83 24 P **P 13 31 45.7 -1.1**
ILAR Eielson Array 85.83 24 P **P 13 31 45.7 -1.1**
comp=Z,15nm,0.9s,baz=262,slow=8.5,SNR=4.2
ILAR LR LR 14 06 06.7
comp=Z,825nm,20.2s,baz=260,slow=33
BMRM Bremner River 85.84 28 *e*P **P 13 31 47.6 +0.6**
comp=Z,66nm,1.2s
PAX Paxson 85.94 26 *e*P **P 13 31 47.3 -0.3**
PAX pmax pmax
comp=Z,71nm,1.8s
PAX Paxson 85.94 26 *e*P **P 13 31 47.2 -0.3**
comp=Z,71nm,1.8s
IBAF Bafgh 86.65 302 *e*P **P 13 31 51.2 -0.6**
RBK Rabkut 86.65 288 P **P 13 31 52.8 +0.8**
SNR=9.9
SVE Sverdlovsk 86.65 327 *e*P **P 13 31 53.9 +2.8**
SVE *e* 13 35 15.6
SVE *e* 13 42 24.3
SVE pmax pmax
comp=Z,16nm,0.9s
SVE MLR MLR
comp=Z,2μm,20.0s
MENT Mentasta 86.71 26 *e*P **P 13 31 52.0 +0.7**
DOT Dot Lake 86.73 26 *e*P **P 13 31 51.9 +0.6**
comp=Z,67nm,1.4s
AKTO Aktyubinsk 87.12 321 P **P 13 31 52.7 -0.8**
AKTO Aktyubinsk 87.12 321 P **P 13 31 52.7 -0.8**
AKTO Aktyubinsk 87.12 321 P **P 13 31 52.7 -0.8**
comp=Z,1.5nm,0.6s,baz=97,slow=3.7,SNR=7.8
AKTO LR LR 14 15 55.5
comp=Z,986nm,19.7s,baz=359,slow=39
IMEH Mehriz 87.44 301 *e*P **P 13 31 54.8 -1.0**
ABTO Aybut 87.51 287 P **P 13 31 57.0 +0.8**
SNR=11
ARU Arti 87.71 327*c i*P **P 13 31 54.9 -1.3**
ARU 13 35 17.3
ARU S **SKSac 13 42 19.7 -2.6**
ARU SS **SS 13 48 22.9 -0.4**
ARU pmax pmax
comp=Z,14nm,1.7s
ARU MLR MLR
comp=Z,1μm,21.0s
ARU Arti 87.71 327 PFAKE 13 32 10.0 +14
ARU LR LR
comp=Z,1μm,21.0s
EGAK Eagle 88.21 25 P **P 13 31 58.7 +0.3**
comp=Z,68nm,1.2s
EGAK LR LR
comp=Z,993nm,21.0s
IANJ Anjilo 88.38 305 *e*P **P 13 32 00.1 -0.1**
IGLO Ghaloghah 88.54 306 *e*P **P 13 32 00.1 -0.8**
ISRV Sarvestan 88.56 299 *e*P **P 13 32 00.9 -0.4**
IKIA Kiasar 88.63 306 *e*P **P 13 32 01.0 -0.4**
IPAR Pars 88.65 300 *e*P **P 13 32 02.4 +0.7**
ISHM Shahmirzad 88.92 306 *e*P **P 13 32 03.7 +0.9**
ILAS Lasjerd 89.16 305 *e*P **P 13 32 02.1 -1.7**
IFIR Firoozkooh 89.34 306 *e*P **P 13 32 05.3 +0.6**
IPRN Peran 89.72 306 *e*P **P 13 32 05.0 -1.3**
IDMV Damavand 89.92 305 *e*P **P 13 32 07.1 -0.4**
IKLH Kolahrood 90.15 303 *e*P **P 13 32 09.7 +1.1**
SYO Syowa Base 90.69 201⇓*e*P **P 13 32 10.0 0.0**
SYO Syowa Base 90.69 201⇓*e*pP P 13 32 14.3 +4.3
ABPO Ambohimpanom 91.32 251 P **P 13 32 15.0 +0.8**
ABPO pmax pmax
comp=Z,4.0nm,0.4s
ABPO MLR MLR
comp=Z,980nm,19.0s
ABPO Ambohimpanom 91.32 251 P **P 13 32 15.0 +0.8**
comp=Z,3.7nm,0.4s
ABPO LR LR
comp=Z,980nm,19.0s
WRAK Wrangell Islan 91.47 34 PFAKE 13 32 30.0 +16
WRAK LR LR
comp=Z,2μm,20.0s
INK Inuvik 91.72 22 P **P 13 32 13.6 -1.1**
INK Inuvik 91.72 22 P **P 13 32 13.6 -1.1**
comp=Z,16nm,1.4s,baz=274,slow=4.6,SNR=9.1
INK LR LR 14 12 47.0
comp=Z,864nm,20.2s,baz=264,slow=35
DLBC Dease Lake 92.81 32 P **P 13 32 21.0 +0.9**
DLBC Dease Lake 92.81 32 P **P 13 32 21.0 +0.9**
comp=Z,8.9nm,1.1s,baz=305,slow=4.7,SNR=6.9
DLBC LR LR 14 08 38.3
comp=Z,1μm,19.3s,baz=313,slow=32
RDF Al-Radifah 93.40 299 *e*P **P 13 32 23.2 -0.2**
RDF AMb AMB 13 32 28.0
comp=Z,55nm,1.4s
IKOM Komasi 93.57 304 *e*P **P 13 32 24.0 -0.3**
NAY Al-Naaiem 93.68 299 *e*P **P 13 32 24.4 -0.2**
NAY AMb AMB 13 32 29.8
comp=Z,42nm,1.0s
MAK Makhachkala 93.75 313 *e*P P 13 32 15.6 -9.0
MAK MLR MLR
comp=Z,1μm,22.0s
RST Umm Al-Ruwaisa 93.90 299 *e*P **P 13 32 25.3 -0.3**
RST AMb AMB 13 32 30.6
comp=Z,344nm,1.0s
PRGR Permogore 94.70 331 P **P 13 32 29.3 +0.7**
PRGR pmax pmax
comp=Z,7.0nm,0.5s
RAYN Ar Rayn 95.10 293 P **P 13 32 31.5 +0.1**
comp=Z,78nm,0.8s,SNR=7.2
GNI Garni 95.82 310 PFAKE 13 32 50.0 +16
GNI LR LR
comp=Z,344nm,20.0s
ZEI Tsey 96.39 313 *e*P **P 13 32 35.0 -2.1**
ZEI pmax pmax
comp=Z,13nm,1.6s
NLWA Neilton Lookou 96.67 43 PFAKE 13 32 50.0 +12
NLWA LR LR
comp=Z,1μm,21.0s
KBZ Khabaz 97.09 314 LR LR 14 23 27.2
comp=Z,754nm,21.2s,baz=80,slow=40
KIV Kislovodsk 97.24 314 *e*P **P 13 32 38.1 -2.6**
KIV *e* 13 36 34.8
KIV *e* 13 43 12.6
KIV *e*SS SS 13 50 39.4 -1.4
KIV *e*SSS SSS 13 54 25.0
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 97.24 314 PFAKE 13 32 50.0 +9.2
KIV LR LR
comp=Z,966nm,20.0s
VRHR Novokhopersk 97.53 321 *e*P Pdif 13 32 43.6 +1.9
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,20nm,1.9s
VRHR pmax pmax
comp=E,50nm,1.7s
VORD Divnogorie 99.00 321 *e*P **Pdif 13 32 49.1 +0.8**
VORD pmax pmax
comp=Z,20nm,1.7s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,40nm,0.7s
VSR Storozhevoye 99.06 321 *e*P **Pdif 13 32 48.4 -0.1**
VSR pmax pmax
comp=E,40nm,1.5s
VSR pmax pmax
comp=Z,10.0nm,1.5s
VSR pmax pmax
comp=N,40nm,1.7s
APA Apatity 99.10 338 *e*P **Pdif 13 32 53.0 +4.6**
APA MLR MLR
comp=Z,2μm,24.0s
SOC Sochi 99.41 313 *e*P **Pdif 13 32 50.7 +0.4**
SOC *e*S **SKSac 13 43 26.4 -0.7**
SOC *e*SS **SS 13 51 11.8 +0.8**
SOC *e*SSS SSS 13 54 55.3
SOC MLR MLR
comp=Z,849nm,20.0s
HAWA Hanford 99.70 44 PFAKE 13 33 00.0 +8.4
HAWA LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 100.01 27 P **Pdif 13 32 52.0 -0.5**
YKA PKKPbc **PKKPbc 13 49 13.0 -0.9**
YKA Yellowknife Ar 100.01 27 P **Pdif 13 32 52.0 -0.5**
comp=Z,1.4nm,0.9s,baz=283,slow=4.6,SNR=13
YKA PKKPbc **PKKPbc 13 49 13.0 -0.9**
comp=Z,0.1nm,0.4s,baz=112,slow=2.7,SNR=3.8
OBN Obninsk 100.09 325⇓*e*P **Pdif 13 32 52.6 -0.4**
OBN *i* 13 37 00.3
OBN *e* 13 43 30.3
OBN *i* 13 44 30.2
OBN PS **PS 13 45 59.0 +0.8**
OBN *e* 13 46 47.7
OBN pmax pmax
comp=Z,25nm,1.8s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 100.09 325 PFAKE 13 33 00.0 +7.0
OBN LR LR
comp=Z,2μm,21.0s
KEV Kevo 100.69 341 PFAKE 13 33 10.0 +15
KEV LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 100.73 48 PFAKE 13 33 10.0 +14
WVOR LR LR
comp=Z,2μm,21.0s
ANN Anapa 100.93 315 *e*P **Pdif 13 32 54.9 -2.1**
ANN *e* 13 43 27.0
ANN pmax pmax
comp=Z,52nm,1.5s
NEW Newport 101.11 42 PFAKE 13 33 10.0 +12
NEW LR LR
comp=Z,1μm,19.0s
ARCES ARCESS Array B 101.26 341 P **Pdif 13 32 57.0 -0.9**
ARCES ARCESS Array B 101.26 341 P **Pdif 13 32 57.0 -0.9**
comp=Z,4.1nm,0.9s,baz=92,slow=3.6,SNR=9.4
NVAR Mina Array Bea 101.35 52 P **Pdif 13 32 58.9 -0.5**
NVAR Mina Array Bea 101.35 52 P **Pdif 13 32 58.9 -0.5**
comp=Z,1.4nm,0.8s,baz=274,slow=6.6,SNR=9.0
SNAA Sanae 101.47 191 *e*Pdif **Pdif 13 32 59.6 +0.6**
comp=Z,16nm,1.4s
KMBO Kilima Mbogo 102.37 268 PFAKE 13 33 20.0 +16
KMBO LR LR
comp=Z,558nm,19.0s
PFO Pinyon Flat Ob 103.27 56 PFAKE 13 33 20.0 +12
PFO LR LR
comp=Z,2μm,20.0s
R11A Troy Canyon, C 103.48 51 *e*Pdif **Pdif 13 33 09.9 +1.1**
comp=Z,7.0nm,1.7s
HLID Hailey 103.66 46 PFAKE 13 33 20.0 +11
HLID LR LR
comp=Z,2μm,22.0s
FINES FINESS Array B 103.90 333 Pdif **Pdif 13 33 09.7 -0.1**
FINES PKiKP **PKiKP 13 37 27.2 -0.1**
FINES FINESS Array B 103.90 333 Pdiff **Pdif 13 33 09.7 -0.1**
comp=Z,1.9nm,0.9s,baz=76,slow=7.3,SNR=2.6
FINES PKiKP **PKiKP 13 37 27.2 -0.1**
comp=Z,7.4nm,1.0s,baz=142,slow=5.3,SNR=4.8
BRTR Keskin Array B 104.36 310 Pdif **Pdif 13 33 12.6 0.0**
BRTR Keskin Array B 104.36 310 Pdiff **Pdif 13 33 12.6 0.0**
comp=Z,1.8nm,0.9s,baz=100,slow=4.6,SNR=6.9
ANTO Ankara 104.98 310 PFAKE 13 33 30.0 +15
ANTO LR LR
comp=Z,620nm,20.0s
CSS Prodhromos 105.21 305 PFAKE 13 37 40.0
CSS LR LR
comp=Z,158nm,20.0s
BOZ Bozeman (W) 105.26 44 PFAKE 13 37 40.0
BOZ LR LR
comp=Z,1μm,20.0s
AKASG Malin Array Be 105.33 322 P **Pdif 13 33 14.4 -2.0**
AKASG Malin Array Be 105.33 322 Pdif **Pdif 13 33 14.4 -2.0**
AKASG Malin Array Be 105.33 322 Pdiff **Pdif 13 33 14.4 -2.0**
comp=Z,0.2nm,0.3s,baz=61,slow=4.4,SNR=4.6
KIEV Kiev 105.34 322 PFAKE 13 37 40.0
KIEV LR LR
comp=Z,1μm,22.0s
DUG Dugway 105.36 49 PFAKE 13 37 40.0
DUG LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 106.01 41 PFAKE 13 37 40.0
EGMT LR LR
comp=Z,1μm,21.0s
AHID Auburn Hatcher 106.19 46 PFAKE 13 37 40.0
AHID LR LR
comp=Z,2μm,20.0s
RLMT Red Lodge 107.00 44 PFAKE 13 37 50.0
RLMT LR LR
comp=Z,1μm,21.0s
ISP Isparta 107.05 309 PFAKE 13 37 50.0
ISP LR LR
comp=Z,445nm,20.0s
WUAZ Wupatki 107.20 54 PFAKE 13 37 50.0
WUAZ LR LR
comp=Z,2μm,20.0s
BW06 Boulder Array 107.30 46 PFAKE 13 37 50.0
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 107.30 46 Pdif **Pdif 13 33 27.6 +1.8**
PDAR Pinedale Array 107.30 46 Pdiff **Pdif 13 33 27.6 +1.8**
comp=Z,0.4nm,0.8s,baz=280,slow=2.7,SNR=3.7
TUC Tucson 108.15 57 PFAKE 13 37 50.0
TUC LR LR
comp=Z,1μm,20.0s
FFC Flin Flon 108.62 33 PFAKE 13 37 50.0
FFC LR LR
comp=Z,1μm,20.0s
LAO LASA Array 108.67 42 PFAKE 13 37 50.0
LAO LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 109.21 52 PFAKE 13 37 50.0
MVCO LR LR
comp=Z,1μm,20.0s
H06S1 SOCORRO T 109.32 71 T T 15 37 18.8
SNR=11
DGMT Dagmar 109.46 39 PFAKE 13 37 50.0
DGMT LR LR
comp=Z,1μm,21.0s
KWP Kalwaria Pacla 109.65 322 PFAKE 13 37 50.0
KWP LR LR
comp=Z,2μm,20.0s
LSZ Lusaka 109.82 253 PFAKE 13 37 50.0
LSZ LR LR
comp=Z,830nm,19.0s
PMSA Palmer Station 110.01 169 PFAKE 13 37 50.0
PMSA LR LR
comp=Z,2μm,20.0s
ISCO Idaho Springs 110.86 49 PFAKE 13 37 50.0
ISCO LR LR
comp=Z,1μm,19.0s
ANMO Albuquerque 111.27 54 PFAKE 13 37 50.0
ANMO LR LR
comp=Z,2μm,20.0s
SANT Santorini 111.30 308 PFAKE 13 37 50.0
SANT LR LR
comp=Z,342nm,22.0s
SDCO Great Sand Dun 111.43 51 PFAKE 13 37 50.0
SDCO LR LR
comp=Z,1μm,19.0s
KONO Kongsberg 111.95 335 PFAKE 13 37 50.0
KONO LR LR
comp=Z,4μm,20.0s
SUR Sutherland 112.28 233 PFAKE 13 38 00.0
SUR LR LR
comp=Z,1μm,20.0s
OKC Ostrava-Krasne 112.34 323 *e*SP SP 13 48 00.9 +1.9
OKC AMS AMS 14 28 00.0
comp=Z,900nm,20.2s
MNTX Cornudas Mount 112.78 57 PFAKE 13 38 00.0
MNTX LR LR
comp=Z,924nm,22.0s
DPC Dobruska-Polom 113.20 324 AMS AMS 14 29 50.0
PVCC Panska Ves 114.14 325 AMS AMS 14 32 10.0
comp=Z,1μm,19.2s
TREC Trest 114.14 324 AMS AMS 14 30 10.0
comp=Z,1μm,19.1s
BRG Berggiesshubel 114.33 326 *e*(P) PKPpre 13 34 37.8
comp=Z,11nm,1.6s
BRG
comp=Z,2μm,18.3s
BRG
comp=N,870nm,19.6s
BRG
comp=E,1μm,19.6s
BRG Berggiesshubel 114.33 326 *e*(P) **PS 13 48 20.1 -1.3**
comp=E,1.8nm,1.0s
PRU Pruhonice 114.39 325 *e*SP SP 13 48 12.2 -5.5
PRU *e*SS **SS 13 54 27.3 -6.4**
PRU AMS AMS 14 31 30.0
comp=E,1μm,17.7s
CLL Collm 114.66 326 *e*PP PP 13 38 51.0 +5.8
CLL *e*SKSac **SKSac 13 44 34.0 +0.4**
CLL *e*Sdif **Sdif 13 46 27.0 -1.0**
CLL *e*PS **PS 13 48 26.0 +1.7**
CLL *e* 13 51 13.0
CLL *e*SS **SS 13 54 40.0 +2.9**
CLL *e*SSS SSS 13 58 42.0
CLL *e* 14 00 26.0
CLL *e* 14 05 48.0
CLL Lm MLR 14 30 00.0
comp=N,2μm,20.3s
CLL Lm MLR 14 30 00.0
comp=E,2μm,19.3s
CLL Lm MLR 14 30 00.0
comp=Z,3μm,19.3s
CLL LmV 17 14 00.0
comp=Z,100nm,19.8s
TXAR Lajitas Array 114.67 59 PKP PKPdf 13 37 49.4 +0.6
TXAR PKKPab **PKKPab 13 48 34.2 +1.5**
TXAR Lajitas Array 114.67 59 PKP PKPdf 13 37 49.4 +0.6
comp=Z,0.3nm,0.9s,baz=132,slow=1.3,SNR=3.0
TXAR PKKPab **PKKPab 13 48 34.2 +1.5**
comp=Z,0.7nm,0.7s,baz=110,slow=5.6,SNR=8.8
AGMN Agassiz Nation 114.69 37 PFAKE 13 38 00.0 +12
AGMN LR LR
comp=Z,2μm,20.0s
KHC Kasperske Hory 115.34 324 AMS AMS 14 32 10.0
comp=Z,1μm,20.0s
GERES GERESS Array B 115.39 324 PKP **PKPdf 13 37 48.8 -0.8**
GERES GERESS Array B 115.39 324 PKP **PKPdf 13 37 48.8 -0.8**
comp=Z,0.3nm,0.6s,baz=165,slow=4.1,SNR=2.6
NKC Novy Kostel 115.48 326 AMS AMS 14 32 20.0
comp=Z,1μm,17.7s
SFJD Kangerlussuaq 115.88 4 PFAKE 13 38 00.0 +10
SFJD LR LR
comp=Z,768nm,20.0s
ECSD EROS Data Cent 116.05 42 PFAKE 13 38 00.0 +9.1
ECSD LR LR
comp=Z,1μm,21.0s
WMOK Wichita Mounta 117.44 52 PFAKE 13 38 10.0 +16
WMOK LR LR
comp=Z,2μm,20.0s
EYMN Ely 117.46 36 PFAKE 13 38 10.0 +17
EYMN LR LR
comp=Z,2μm,21.0s
CUC Castrocucco 117.57 314 PFAKE 13 38 10.0 +16
CUC LR LR
comp=Z,573nm,21.0s
KSU1 Kansas State U 117.73 47 PFAKE 13 38 10.0 +16
KSU1 LR LR
comp=Z,1μm,20.0s
CEL Celeste 118.11 312 PFAKE 13 38 10.0 +15

CEL					LR	LR			
	comp=Z,690nm,22.0s								
SCIA	**State Center**	**119.06**	**43**		PFAKE			13 38 10.0	+13
SCIA					LR	LR			
	comp=Z,1μm,20.0s								
CDF	**Champ du Feu**	**119.32**	**326**	*e*PKIKP		PKPdf		13 37 51.8	-5.3
	comp=Z,29nm,1.3s								
ESK	**Eskdalemuir**	**120.01**	**337**		PFAKE			13 38 10.0	+12
ESK					LR	LR			
	comp=Z,3μm,21.0s								
CLTB	**Caltabellotta**	**120.33**	**312**		PFAKE			13 38 10.0	+11
CLTB					LR	LR			
	comp=Z,331nm,21.0s								
JFWS	**Jewell Farm**	**120.61**	**41**		PFAKE			13 38 10.0	+10
JFWS					LR	LR			
	comp=Z,1μm,21.0s								
BNI	**Bardonecchia**	**121.44**	**323**		PFAKE			13 38 10.0	+8.7
BNI					LR	LR			
	comp=Z,3μm,20.0s								
MIAR	**Mount Ida**	**121.58**	**51**		PFAKE			13 38 10.0	+8.2
MIAR					LR	LR			
	comp=Z,2μm,21.0s								
SSF	**Saint Saulge**	**122.18**	**326**	*e*PKIKP		**PKPdf**		**13 37 58.7**	**-3.8**
	comp=Z,51nm,1.5s								
AAM	**Ann Arbor**	**125.12**	**39**		PFAKE			13 38 20.0	+12
AAM					LR	LR			
	comp=Z,2μm,19.0s								
ACSO	**Alum Creek Sta**	**126.66**	**40**		PFAKE			13 38 20.0	+8.7
ACSO					LR	LR			
	comp=Z,1μm,20.0s								
BRAL	**Brewton**	**127.98**	**53**		PFAKE			13 38 30.0	+16
BRAL					LR	LR			
	comp=Z,904nm,19.0s								
LONY	**Lake Ozonia**	**128.86**	**31**		PFAKE			13 38 30.0	+15
LONY					LR	LR			
	comp=Z,2μm,20.0s								
NCB	**Newcomb**	**129.50**	**31**		PFAKE			13 38 30.0	+13
NCB					LR	LR			
	comp=Z,2μm,22.0s								
GOGA	**Godfrey**	**129.72**	**48**		PFAKE			13 38 30.0	+13
GOGA					LR	LR			
	comp=Z,1μm,20.0s								
BINY	**Binghamton**	**129.73**	**34**		PFAKE			13 38 30.0	+13
BINY					LR	LR			
	comp=Z,2μm,20.0s								
BLA	**Blacksburg**	**129.98**	**42**		PFAKE			13 38 30.0	+12
BLA					LR	LR			
	comp=Z,1μm,19.0s								
LBNH	**Lisbon**	**130.47**	**30**		PFAKE			13 38 30.0	+12
LBNH					LR	LR			
	comp=Z,1μm,20.0s								
PKME	**Peaks-Kenny Pk**	**130.96**	**27**		PFAKE			13 38 30.0	+11
PKME					LR	LR			
	comp=Z,2μm,21.0s								
CBN	**Corbin**	**131.40**	**39**		PFAKE			13 38 30.0	+10
CBN					LR	LR			
	comp=Z,1μm,20.0s								
NHSC	**New Hope**	**132.29**	**47**		PFAKE			13 38 30.0	+7.8
NHSC					LR	LR			
	comp=Z,1μm,19.0s								
TGUH	**Tegucigalpa,Un**	**132.40**	**74**		PFAKE			13 38 30.0	+7.1
TGUH					LR	LR			
	comp=Z,902nm,20.0s								
TORD	**Torodi Ar. Bea**	**137.33**	**286**	PKPpre		PKPpre		13 38 21.8	
TORD				PKP		**PKPdf**		**13 38 32.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**137.33**	**286**	PKhKP		PKPpre		13 38 21.8	
	comp=Z,0.9nm,0.7s,baz=89,slow=2.9,SNR=9.2								
TORD				PKP		**PKPdf**		**13 38 32.7**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=55,slow=2.4,SNR=5.5								
DBIC	**Dimbokro**	**144.53**	**277**	PKP		PKPbc		13 38 43.8	+0.1
DBIC				*e*PKPdf		**PKPdf**		**13 38 44.6**	**-0.5**
DBIC	**Dimbokro**	**144.53**	**277**	PKP		PKPbc		13 38 43.8	+0.1
	comp=Z,58nm,0.5s,baz=74,slow=4.4,SNR=48								
LIC	**Lamto**	**144.73**	**276**	*e*PKIKP		PKPbc		13 38 44.7	+0.3
	comp=Z,262nm,1.0s								
LIC	**Lamto**	**144.73**	**276**	*e*PKPdf		PKPbc		13 38 44.7	+0.3
SDDR	**Presa de Saban**	**145.86**	**60**	*e*PKPbc		**PKPab**		**13 38 48.9**	**+0.5**
ROSC	**El Rosal**	**146.01**	**86**	*e*PKPbc		**PKPab**		**13 38 49.4**	**-0.1**
ROSC	**El Rosal**	**146.01**	**86**	PKPbc		**PKPab**		**13 38 49.9**	**+0.4**
	comp=Z,7.0nm,0.3s,baz=101,slow=18,SNR=8.1								
CPUP	**Villa Florida**	**146.37**	**152**	*e*PKPbc		**PKPab**		**13 38 50.0**	**+0.1**
CPUP	**Villa Florida**	**146.37**	**152**	PKPbc		**PKPab**		**13 38 51.0**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=204,slow=4.5,SNR=7.4								
LPAZ	**La Paz**	**146.38**	**126**	*e*PKPbc		**PKPab**		**13 38 51.4**	**+0.3**
LPAZ	**La Paz**	**146.38**	**126**	PKPbc		**PKPbc**		**13 38 49.8**	**-0.4**
	comp=Z,7.9nm,0.7s,baz=264,slow=2.3,SNR=39								
SDV	**Santo Domingo**	**149.31**	**78**	*e*PKPdf		**PKPdf**		**13 38 52.9**	**-0.5**
SDV				*e*PKPbc		**PKPbc**		**13 38 57.9**	**+0.1**
OBIP	**Obispado Ponce**	**150.28**	**58**	PKPbc		**PKPbc**		**13 38 59.2**	**-0.5**
MTP	**Monte Pirata**	**151.14**	**57**	*e*PKPbc		**PKPbc**		**13 39 02.3**	**+0.6**
SIV	**San Ignacio**	**152.00**	**133**	PKPbc		**PKPbc**		**13 39 04.5**	**+0.6**
SIV	**San Ignacio**	**152.00**	**133**	PKPbc		**PKPbc**		**13 39 04.5**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=265,slow=1.2,SNR=7.4								

NIED ***27*** *13:26:00,31.˚10N×141.˚60E,h5km,Mw4.5 Best double couple: M₀5.97000×10¹⁵ NP1:φ₀s353.00000°,δ88.00000°, λ78.00000°. NP2:φ₀s253.00000°,δ12.00000°,λ170.00000°.*

IDC ***27*** *13:26:41.8±0.6,30.˚93N×141.˚29E,h0km,mb4.2/23, mb1 4.3/26,mb1mx4.3/32,mbtmp4.2/26,ML3.5/3,MS3.8/1, Ms1 3.8/1,ms1mx3.3/38,Error ellipse: s-maj=19.7km s-min=16.0km az=67.0*

JMA ***27*** *13:26:43.8±0.2,31.˚12N×141.˚63E,h21km,M4.1*

NEIC ***27*** *13:26:44.6±3.1,30.˚91N×141.˚30E,h18km±19km,mb5.1/9, MW4.5(NIED),Error ellipse: s-maj=9.9km s-min=8.6km az=88.0*

ISCJB ***27*** *13:26:45.8±0.4,30.˚84N±0.˚04×141.˚17E±0.˚09,h37km, mb4.4/32,MS5.3/1,Error ellipse: s-maj=11.4km s-min=3.8km az=161.3*

MOS ***27*** *13:26:45.0±1.6,30.˚99N×141.˚24E,h33km,mb4.8/9,Error ellipse: s-maj=15.5km s-min=7.8km az=116.2*

ISC 27 13:26:47.3±0.5,30.˚94N±0.˚05×141.˚27E±0.˚09,h37km,n116, σ1§20/119,mb4.4/32,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.47**	**330**	P		**Pn**	**13 27 24.3**	**-0.6**
JHCJ				S		**Sn**	**13 27 55.1**	**+1.3**
JHJ2	**Mitsune**	**2.49**	**331**	P		**Pn**	**13 27 24.8**	**-0.4**
JHJ2				S		**Sn**	**13 27 54.2**	**-0.2**
JHJ2	**Mitsune**	**2.49**	**331**	*e*P		**Pn**	**13 27 25.0**	**-0.3**
CBIJ	**Chichi jima**	**3.91**	**168**	P		**Pn**	**13 27 46.3**	**+1.5**
CBIJ	**Chichi jima**	**3.91**	**168**	*e*P		**Pn**	**13 27 44.0**	**-0.7**
CBIJ				Sn		**Sn**	**13 28 27.1**	**-2.4**
JCJ	**Chichijima**	**3.91**	**168**	Pn		**Pn**	**13 27 44.7**	**-0.1**
	8.1nm,0.3s,baz=304,slow=21,SNR=15							
JCJ				Sn		**Sn**	**13 28 27.1**	**-2.4**
	36nm,0.3s,baz=264,slow=23,SNR=12							
JOD2	**Odawara 2**	**4.69**	**338**	P		**Pn**	**13 27 56.3**	**+0.9**
MJAR	**Matsushiro Arr**	**6.14**	**336**	Pn		**Pn**	**13 28 17.2**	**+1.8**
MJAR				Sn		**Sn**	**13 29 28.7**	**+4.3**
MJAR	**Matsushiro Arr**	**6.14**	**336**	Pn		**Pn**	**13 28 17.2**	**+1.8**
	2.3nm,0.3s,baz=75,slow=28,SNR=20							
MJAR				Sn		**Sn**	**13 29 28.7**	**+4.3**
	0.6nm,0.3s,baz=132,slow=14,SNR=2.9							
MAJO	**Matsushiro**	**6.14**	**336**	*e*P		**Pn**	**13 28 17.7**	**+2.3**
MAJO				pmax		pmax		
	comp=Z,9.0nm,0.6s							
MAJO	**Matsushiro**	**6.14**	**336**	*e*P		**Pn**	**13 28 17.7**	**+2.3**
	comp=Z,9.2nm,0.6s							
MAT	**Matsushiro**	**6.14**	**336**	P		**Pn**	**13 28 17.4**	**+2.0**
MAT				*e*S		**Sn**	**13 29 26.5**	**+2.1**
JNU	**Nakatsue**	**9.09**	**287**	LR		LR	13 32 24.9	
	comp=Z,525nm,18.6s,baz=41,slow=38							
ERM	**Erimo**	**11.16**	**7**	*e*P		**Pn**	**13 29 21.6**	**-2.5**
ERM	**Erimo**	**11.16**	**7**	*e*P		**Pn**	**13 29 21.6**	**-2.5**
KSRS	**Korea Array**	**12.81**	**304**	Pn		**Pn**	**13 29 44.6**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=139,slow=8.0,SNR=2.4							
KSAR	**Wonju Array Be**	**12.83**	**304**	Pn		**Pn**	**13 29 44.6**	**-2.5**
ASAJ	**Asahikawa**	**13.20**	**4**	*e*P		**Pn**	**13 29 48.8**	**-3.1**
ASAJ				Sn		Sn	13 32 06.3	-11
ASAJ	**Asahikawa**	**13.20**	**4**	Pn		Pn	13 29 48.6	-3.3
	comp=Z,0.4nm,0.3s,baz=209,slow=30,SNR=7.3							
ASAJ				Sn		Sn	13 32 06.3	-11
	comp=Z,0.4nm,0.3s,baz=114,slow=18,SNR=3.5							
H11N2	**WAKE ISLAND Hy 25.65**	**110**		T		T	13 59 01.0	
	baz=306,slow=74,SNR=8.5							
H11N1	**WAKE ISLAND Hy 25.65**	**110**		T		T	13 58 57.8	
	baz=306,slow=74,SNR=13							
H11N3	**WAKE ISLAND Hy 25.66**	**110**		T		T	13 59 01.3	
	baz=306,slow=74,SNR=11							
H11S3	**WAKE ISLAND Hy 26.13**	**112**		T		T	13 59 28.5	
H11S1	**WAKE ISLAND Hy 26.13**	**112**		T		T	13 59 28.8	
H11S2	**WAKE ISLAND Hy 26.15**	**112**		T		T	13 59 29.8	
SONM	**Songino Array**	**31.46**	**312**	P		**P**	**13 33 06.1**	**+0.8**
SONM	**Songino Array**	**31.46**	**312**	P		**P**	**13 33 06.1**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=116,slow=6.6,SNR=4.9							
CMAR	**Chiang Mai Arr**	**40.19**	**262**	P		**P**	**13 34 19.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**40.19**	**262**	P		**P**	**13 34 19.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=56,slow=6.1,SNR=9.1							
ZALV	**Zalesovo Beam**	**46.11**	**317**	P		**P**	**13 35 07.1**	**-0.4**
ZALV							13 36 43.1	
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**46.11**	**317**	P		**P**	**13 35 07.1**	**-0.4**
ZALV				PcP		**PcP**	**13 36 43.1**	**-0.1**
ZALV	**Zalesovo Beam**	**46.11**	**317**	P		**P**	**13 35 07.1**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=120,slow=5.4,SNR=3.3							
ZALV				PcP		**PcP**	**13 36 43.1**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=103,slow=4.6,SNR=3.1							
TAPN	**Taplejung**	**46.55**	**280**	*e*P		**P**	**13 35 11.4**	**-0.4**
	comp=Z,13nm,1.0s							
TAPN	**Taplejung**	**46.55**	**280**	*e*P		**P**	**13 35 11.4**	**-0.4**
	comp=Z,13nm,1.0s							
ODAN	**Odare**	**46.97**	**279**	*e*P		**P**	**13 35 15.3**	**+0.3**
ODAN	**Odare**	**46.97**	**279**	*e*P		**P**	**13 35 15.3**	**+0.3**
MKAR	**Makanchi Array**	**47.47**	**307**	P		**P**	**13 35 18.4**	**-0.1**
MKAR							13 36 49.0	
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**47.47**	**307**	P		**P**	**13 35 18.4**	**-0.1**
MKAR				PcP		**PcP**	**13 36 49.0**	**+0.7**
MKAR	**Makanchi Array**	**47.47**	**307**	P		**P**	**13 35 18.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=67,slow=11,SNR=11							
MKAR				PcP		**PcP**	**13 36 49.0**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=100,slow=4.4,SNR=3.6							
RAMN	**Ramite**	**47.61**	**280**	*e*P		**P**	**13 35 20.2**	**+0.2**
	comp=Z,20nm,0.9s							
RAMN	**Ramite**	**47.61**	**280**	*e*P		**P**	**13 35 20.2**	**+0.2**
	comp=Z,20nm,0.9s							
JIRN	**Jiri**	**47.74**	**281**	*e*P		**P**	**13 35 21.8**	**+0.6**
	comp=Z,20nm,0.7s							
JIRN	**Jiri**	**47.74**	**281**	*e*P		**P**	**13 35 21.8**	**+0.6**
	comp=Z,20nm,0.7s							
GUN	**Gumba**	**47.93**	**281**	*e*P		**P**	**13 35 23.0**	**+0.4**
	comp=Z,30nm,0.9s							
GUN	**Gumba**	**47.93**	**281**	*e*P		**P**	**13 35 23.0**	**+0.4**
	comp=Z,30nm,0.9s							
PKI	**Pulchoki**	**48.43**	**281**	*e*P		**P**	**13 35 26.5**	**+0.1**
PKI	**Pulchoki**	**48.43**	**281**	*e*P		**P**	**13 35 26.5**	**+0.1**
PKI	**Pulchoki**	**48.43**	**281**	*e*P		**P**	**13 35 26.5**	**+0.1**
PKIN	**Phulchoki**	**48.44**	**281**	*e*P		**P**	**13 35 26.1**	**-0.3**
	comp=Z,5.8nm,0.7s							
KKN	**Kakani**	**48.47**	**281**	*e*P		**P**	**13 35 26.6**	**0.0**
KKN	**Kakani**	**48.47**	**281**	*e*P		**P**	**13 35 26.6**	**0.0**
KKN	**Kakani**	**48.47**	**281**	*e*P		**P**	**13 35 26.6**	**0.0**
DMN	**Daman**	**48.67**	**281**	*e*P		**P**	**13 35 28.3**	**+0.1**
	comp=Z,7.3nm,0.4s							
DMN	**Daman**	**48.67**	**281**	*e*P		**P**	**13 35 28.3**	**+0.1**
	comp=Z,7.3nm,0.4s							
GKN	**Gorkha**	**48.94**	**282**	*e*P		**P**	**13 35 30.1**	**-0.1**
	comp=Z,11nm,0.9s							
GKN	**Gorkha**	**48.94**	**282**	*e*P		**P**	**13 35 30.1**	**-0.1**
	comp=Z,11nm,0.9s							
DANN	**Dangsing**	**49.58**	**282**	*e*P		**P**	**13 35 34.5**	**-0.7**
DANN	**Dangsing**	**49.58**	**282**	*e*P		**P**	**13 35 34.5**	**-0.7**
KURK	**Kurchatov**	**49.77**	**312**	P		**P**	**13 35 36.4**	**+0.5**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.2s							
KURK	**Kurchatov**	**49.77**	**312**	*e*P		**P**	**13 35 35.8**	**-0.1**
	comp=Z,3.9nm,0.9s							
KURBB	**Kurchatov Arra**	**49.83**	**312**	P		**P**	**13 35 36.4**	**0.0**
	comp=Z,2.3nm,0.2s,baz=88,slow=7.4,SNR=7.0							
KOLN	**Koldanda**	**49.89**	**282**	*e*P		**P**	**13 35 37.1**	**-0.4**
KOLN	**Koldanda**	**49.89**	**282**	*e*P		**P**	**13 35 37.1**	**-0.4**
PYUN	**Piuthan**	**50.30**	**282**	*e*P		**P**	**13 35 40.1**	**-0.5**
	comp=Z,42nm,0.9s							
PYUN	**Piuthan**	**50.30**	**282**	*e*P		**P**	**13 35 40.1**	**-0.5**
	comp=Z,42nm,0.9s							
WRA	**Warramunga Arr**	**51.03**	**188**	P		**P**	**13 35 44.9**	**-0.8**
WRA	**Warramunga Arr**	**51.03**	**188**	P		**P**	**13 35 44.9**	**-0.8**
	comp=Z,4.6nm,0.3s,baz=6.2,slow=7.7,SNR=9.8							
AAK	**Ala-Archa**	**53.47**	**302**	P		**P**	**13 36 04.5**	**+0.6**
AAK	**Ala-Archa**	**53.47**	**302**	P		**P**	**13 36 04.5**	**+0.6**
AAK	**Ala-Archa**	**53.47**	**302**	P		**P**	**13 36 04.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=111,slow=8.6,SNR=3.3							
BVAR	**Borovoye Array**	**54.71**	**316**	P		**P**	**13 36 13.1**	**+0.4**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**54.71**	**316**	P		**P**	**13 36 13.1**	**+0.4**
BVAR	**Borovoye Array**	**54.71**	**316**	P		**P**	**13 36 13.1**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=96,slow=9.0,SNR=5.8							
ASAR	**Alice Springs**	**54.75**	**188**	P		**P**	**13 36 13.0**	**-0.2**
ASAR	**Alice Springs**	**54.75**	**188**	P		**P**	**13 36 13.0**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=358,slow=4.9,SNR=6.2							
ILAR	**Eielson Array**	**54.76**	**30**	P		**P**	**13 36 11.6**	**-1.2**
ILAR	**Eielson Array**	**54.76**	**30**	P		**P**	**13 36 11.6**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=265,slow=6.7,SNR=2.8							
ARU	**Arti**	**60.92**	**321**	P		**P**	**13 36 56.1**	**-0.1**
ARU	**Arti**	**60.92**	**321**	*e*P		**P**	**13 36 56.6**	**+0.4**
	comp=Z,8.3nm,0.6s							
AKTO	**Aktyubinsk**	**62.75**	**314**	P		**P**	**13 37 08.4**	**-0.1**
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKTO	**Aktyubinsk**	**62.75**	**314**	P		**P**	**13 37 08.4**	**-0.1**
AKTO	**Aktyubinsk**	**62.75**	**314**	P		**P**	**13 37 08.4**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=76,slow=14,SNR=7.4							
YKA	**Yellowknife Ar**	**69.16**	**29**	P		**P**	**13 37 50.8**	**+1.3**
YKA	**Yellowknife Ar**	**69.16**	**29**	P		**P**	**13 37 50.8**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=289,slow=6.4,SNR=3.9							
ARCES	**ARCESS Array B**	**69.66**	**340**	P		**P**	**13 37 53.3**	**+0.7**
ARCES	**ARCESS Array B**	**69.66**	**340**	P		**P**	**13 37 53.3**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=52,slow=16,SNR=3.6							
FINES	**FINESS Array B**	**74.16**	**333**	P		**P**	**13 38 19.8**	**+0.1**
FINES	**FINESS Array B**	**74.16**	**333**	P		**P**	**13 38 19.8**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=61,slow=6.2,SNR=8.1							
KBZ	**Khabaz**	**74.83**	**312**	P		**P**	**13 38 24.8**	**+1.0**
KBZ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
KBZ	**Khabaz**	**74.83**	**312**	P		**P**	**13 38 24.8**	**+1.0**
KBZ	**Khabaz**	**74.83**	**312**	P		**P**	**13 38 24.8**	**+1.0**
	comp=Z,6.8nm,0.8s,baz=43,slow=3.7,SNR=14							
NVAR	**Mina Array Bea**	**78.78**	**52**	P		**P**	**13 38 47.5**	**+1.0**
NVAR	**Mina Array Bea**	**78.78**	**52**	P		**P**	**13 38 47.5**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=294,slow=6.8,SNR=2.9							
AKASG	**Malin Array Be**	**79.06**	**323**	P		**P**	**13 38 47.8**	**+0.3**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**79.06**	**323**	P		**P**	**13 38 47.8**	**+0.3**
AKASG	**Malin Array Be**	**79.06**	**323**	P		**P**	**13 38 47.8**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=48,slow=5.6,SNR=10							
NB2	**NORSAR Subarra**	**79.76**	**338**	P		**P**	**13 38 51.3**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=48,slow=5.1							
NOA	**NORSAR Array B**	**79.76**	**338**	P		**P**	**13 38 50.7**	**-0.5**
NOA	**NORSAR Array B**	**79.76**	**338**	P		**P**	**13 38 50.7**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=42,slow=5.2,SNR=4.4							
PDAR	**Pinedale Array**	**82.05**	**45**	P		**P**	**13 39 05.3**	**+1.3**
PDAR	**Pinedale Array**	**82.05**	**45**	P		**P**	**13 39 05.3**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=343,slow=2.8,SNR=2.7							
BRTR	**Keskin Array B**	**82.82**	**312**	P		**P**	**13 39 08.7**	**+0.7**
BRTR	**Keskin Array B**	**82.82**	**312**	P		**P**	**13 39 08.7**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=114,slow=4.1,SNR=6.1							
KSP	**Ksiaz**	**85.22**	**329**	*e*P		**P**	**13 39 20.6**	**+0.8**
MMAI	**Mount Meron Ar**	**85.41**	**306**	P		**P**	**13 39 23.5**	**+2.3**
MMAI	**Mount Meron Ar**	**85.41**	**306**	P		**P**	**13 39 23.5**	**+2.3**
	comp=Z,18nm,1.2s,baz=43,slow=8.7,SNR=5.0							
GERES	**GERESS Array B**	**87.82**	**328**	P		**P**	**13 39 32.3**	**-0.4**
GERES	**GERESS Array B**	**87.82**	**328**	P		**P**	**13 39 32.3**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=54,slow=5.5,SNR=3.8							
TXAR	**Lajitas Array**	**93.92**	**52**	P		**P**	**13 40 02.8**	**+1.2**
TXAR	**Lajitas Array**	**93.92**	**52**	P		**P**	**13 40 02.8**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=296,slow=3.0,SNR=3.9							
TXAR				LR		LR	14 17 18.2	
	comp=Z,1μm,21.4s,baz=5.0,slow=32							
ESDC	**Sonseca Array**	**102.68**	**333**	P		**Pdif**	**13 40 40.0**	**-0.6**
ESDC	**Sonseca Array**	**102.68**	**333**	P		**Pdif**	**13 40 40.0**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=46,slow=5.3,SNR=4.9							
TORD	**Torodi Ar. Bea**	**121.44**	**312**	PKP		**PKPdf**	**13 45 36.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**121.44**	**312**	PKP		**PKPdf**	**13 45 36.9**	**-0.4**
	comp=Z,1.2nm,1.2s,baz=354,slow=1.9,SNR=4.2							
LPAZ	**La Paz**	**149.48**	**68**	PKPbc		**PKPbc**	**13 46 31.6**	**-2.2**
LPAZ	**La Paz**	**149.48**	**68**	PKPbc		**PKPbc**	**13 46 31.6**	**-2.2**
	comp=Z,1.5nm,0.8s,baz=27,slow=1.7,SNR=4.6							

IDC ***27*** *13:27:47.1±0.6,3.˚02S×139.˚71E,h0km,mb4.2/13, mb1 4.4/14,mb1mx4.3/22,mbtmp4.3/14,ML4.8/1,Error ellipse: s-maj=15.5km s-min=10.7km az=154.0*

NEIC ***27*** *13:27:48.7±2.1,2.˚99S×139.˚73E,h9km±14km,mb4.7/1, Error ellipse: s-maj=14.7km s-min=9.1km az=94.0*

DJA ***27*** *13:27:50.1±0.9,2.˚5±9.˚3×14.˚0E±˚,h68km±8km,M4.9/7, mb4.8/3,MLv5.0/7*

ISCJB ***27*** *13:27:52.5±0.4,3.˚00S±0.˚06×139.˚75E±0.˚06,h54km, mb4.1/13,Error ellipse: s-maj=8.7km s-min=7.6km az=147.8*

ISC 27 13:27:53.8±0.6,3.˚04S±0.˚08×139.˚89E±0.˚07,h54km,n45, σ1§27/38,mb3.9/12,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**0.52**	**32**	P		**Pn**	**13 28 03.7**	**-1.9**
GENI				S		**Sn**	**13 28 13.7**	**-0.3**
JAY	**Jayapura**	**0.96**	**58**	P		Pn	13 28 06.3	-4.9
JAY	**Jayapura**	**0.96**	**58**	Pg		**Pn**	**13 28 09.3**	**-1.9**
JAY				Lg		Lg	13 28 23.2	
JAY	**Jayapura**	**0.96**	**58**	Pg		**Pn**	**13 28 09.3**	**-1.9**
	330nm,0.3s,baz=228,slow=9.9,SNR=48							
JAY				Lg		Lg	13 28 23.2	
	481nm,0.3s,baz=59,slow=19,SNR=14							
SRPI	**Serui, Papua**	**3.83**	**288**	P		**Pn**	**13 28 49.3**	**-0.9**
BAKI	**Biak**	**4.20**	**296**	P		Pn	13 28 47.8	-7.5
MMPI	**Merauke**	**5.42**	**175**	P		Pn	13 29 20.0	+7.9
	779nm,0.6s,5.1nm							
MWPI	**Manokwari, Pap**	**6.21**	**290**	P		Pn	13 29 19.1	-3.8
	150nm,4.5s,1.7nm							
FAKI	**Fak Fak**	**7.63**	**271**	P		**Pn**	**13 29 40.8**	**-1.6**
PMG	**Port Moresby**	**9.61**	**132**	*e*P		Pn	13 30 00.5	-8.9
PMG	**Port Moresby**	**9.61**	**132**	Pn		Pn	13 30 14.2	+4.7
	3.1nm,0.3s,baz=333,slow=7.4,SNR=10							
WRA	**Warramunga Arr**	**17.66**	**197**	P		**Pn**	**13 31 53.3**	**-2.8**
WRA	**Warramunga Arr**	**17.66**	**197**	P		**Pn**	**13 31 53.3**	**-2.8**
	3.6nm,0.3s,baz=18,slow=13,SNR=15							
FITZ	**Fitzroy Crossi**	**20.48**	**222**	P		**P**	**13 32 25.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**20.48**	**222**	P		**P**	**13 32 25.6**	**-1.7**
	59nm,1.0s,baz=30,slow=16,SNR=3.4							
HNR	**Honiara**	**20.92**	**109**	P		Pn	13 32 34.4	-0.8
HNR	**Honiara**	**20.92**	**109**	P		Pn	13 32 34.4	-0.8
	31nm,0.7s,baz=235,slow=1.2,SNR=4.8							
AS31	**Alice Springs**	**21.31**	**195**	*e*P		**P**	**13 32 38.6**	**+2.4**
ASAR	**Alice Springs**	**21.31**	**195**	P		**P**	**13 32 36.4**	**+0.1**
ASAR	**Alice Springs**	**21.31**	**195**	P		**P**	**13 32 36.4**	**+0.1**
	10nm,0.5s,baz=20,slow=10,SNR=7.2							
KSAR	**Wonju Array Be**	**41.79**	**346**	P		**P**	**13 35 38.9**	**+0.

	baz=291							
PCYT	**Pengchaiyu**	**0.82**	**2**	*e*P	**Pn**	**13 57 38.1**	**+0.7**
	baz=4.0							
PCYT				*e*S	**Sn**	**13 57 51.3**	**+1.7**
	baz=4.0							
TWD	**Chiawan**	**0.83**	**209**	*e*P	**Pn**	**13 57 37.0**	**-0.5**
	baz=216							
TWD				*e*S	**Sn**	**13 57 49.5**	**-0.4**
	baz=216							
HWA	**Hwalien**	**0.92**	**206**	*e*P	**Pn**	**13 57 38.0**	**-0.6**
	baz=192							
HWA				*e*S	**Sn**	**13 57 52.0**	**+0.3**
	baz=192							
YOJ	**Yonaguni jima**	**0.95**	**111**	P	**Pn**	**13 57 39.3**	**+0.4**
YOJ				S	**Sn**	**13 57 52.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.95**	**111**	*i* P	**Pn**	**13 57 39.3**	**+0.4**
	baz=106							
YOJ				*e*S	**Sn**	**13 57 52.7**	**+0.4**
	baz=106							
NSTT	**Nanjuang**	**0.96**	**260**	⇓*i*P	**Pn**	**13 57 39.4**	**+0.3**
	baz=259							
NSTT				*i* S	**Sn**	**13 57 52.8**	**+0.1**
	baz=259							
TWT	**Tachien**	**0.96**	**235**	⇓P	**Pn**	**13 57 40.3**	**+1.0**
	baz=225							
TWT				*i* S	**Sn**	**13 57 54.1**	**+1.2**
	baz=225							
WHF	**Hehuan Shan**	**0.97**	**227**	*e*P	**Pn**	**13 57 39.4**	**-0.3**
	baz=219							
WHF				*e*S	**Sn**	**13 57 54.3**	**+0.8**
	baz=219							
HSN	**Hsinchu**	**0.97**	**270**	*e*P	**Pn**	**13 57 39.2**	**-0.1**
	baz=272							
HSN				*e*S	**Sn**	**13 57 52.6**	**-0.3**
	baz=272							
ESF	**Shoufeng Towns**	**1.05**	**208**	*e*P	**Pn**	**13 57 39.4**	**-0.8**
	baz=214							
ESF				*e*S	**Sn**	**13 57 53.7**	**-1.0**
	baz=214							
ESL	**Shilin**	**1.13**	**209**	⇓P	**Pn**	**13 57 40.0**	**-1.3**
	baz=215							
TEGC	**Jichi Village**	**1.19**	**203**	*e*P	**Pn**	**13 57 43.1**	**+1.2**
	baz=193							
TEGC				*e*S	**Sn**	**13 57 58.6**	**+1.0**
	baz=193							
NSY	**Sanyi**	**1.23**	**252**	*e*P	**Pn**	**13 57 43.1**	**+0.6**
	baz=260							
NSY				*e*S	**Sn**	**13 57 59.7**	**+1.0**
	baz=260							
TWQ1	**Liyutan**	**1.24**	**249**	⇓*i*P	**Pn**	**13 57 43.1**	**+0.4**
	baz=247							
TWQ1				*e*S	**Sn**	**13 57 59.3**	**+0.3**
	baz=247							
SMLT	**Sun Moon Lake**	**1.39**	**229**	*e*P	**Pn**	**13 57 45.0**	**+0.3**
	baz=219							
SMLT				*e*S	**Sn**	**13 58 04.9**	**+2.4**
	baz=219							
TYC	**Yuchr**	**1.41**	**230**	*e*P	**Pn**	**13 57 45.4**	**+0.7**
	baz=228							
TYC				*e*S	**Sn**	**13 58 04.0**	**+1.4**
	baz=228							
TCU	**Taichung**	**1.41**	**242**	*e*P	**Pn**	**13 57 45.4**	**+0.7**
	baz=241							
EHY	**Hungye**	**1.45**	**207**	*e*P	**Pn**	**13 57 43.8**	**-1.6**
	baz=196							
WNT	**Mingjian**	**1.55**	**234**	*e*P	**Pn**	**13 57 46.9**	**+0.3**
	baz=242							
WNT				*e*S	**Sn**	**13 58 06.5**	**+0.5**
	baz=242							
TWF1	**Yuli**	**1.60**	**205**	⇓*e*P	**Pn**	**13 57 45.6**	**-1.7**
	baz=210							
IRIF	**Iriomote-Funau**	**1.61**	**107**	P	**Pn**	**13 57 47.7**	**+0.3**
IRIF				S	**Sn**	**13 58 08.3**	**+0.9**
YUS	**Yu-Shan**	**1.65**	**217**	*e*P	**Pn**	**13 57 48.8**	**+0.4**
	baz=205							
YUS				*e*S	**Sn**	**13 58 09.4**	**+0.3**
	baz=205							
ALS	**Alishan**	**1.71**	**221**	*e*P	**Pn**	**13 57 49.9**	**+0.8**
	baz=228							
ALS				*e*S	**Sn**	**13 58 12.4**	**+2.0**
	baz=228							
CHN5	**Tsauling**	**1.73**	**226**	*e*P	**Pn**	**13 57 50.0**	**+0.8**
	baz=234							
CHN5				*e*S	**Sn**	**13 58 12.6**	**+2.1**
	baz=234							
WGK	**Gukeng**	**1.75**	**231**	*e*P	**Pn**	**13 57 49.9**	**+0.5**
	baz=238							
WGK				*e*S	**Sn**	**13 58 12.4**	**+1.5**
	baz=238							
HATJ	**Hateruma jima**	**1.77**	**115**	P	**Pn**	**13 57 50.4**	**+0.8**
CHKT	**Chengkung**	**1.81**	**200**	*e*P	**Pn**	**13 57 48.7**	**-1.4**
	baz=196							
WTCT	**Ta-ch'eng**	**1.86**	**240**	*e*P	**Pn**	**13 57 51.1**	**+0.4**
	baz=237							
WTCT				*e*S	**Sn**	**13 58 13.6**	**+0.1**
	baz=237							
ELDTW	**Lidau**	**1.86**	**210**	*e*P	**Pn**	**13 57 50.5**	**-0.5**
	baz=200							
JKRS	**Kuro-shima**	**1.88**	**107**	P	**Pn**	**13 57 52.0**	**+1.0**
CHN4	**Tsaushan**	**1.96**	**223**	*e*P	**Pn**	**13 57 52.9**	**+0.7**
	baz=219							
CHN4				*e*S	**Sn**	**13 58 18.5**	**+2.6**
	baz=219							
JIJ	**Ishigaki jima**	**1.96**	**103**	P	**Pn**	**13 57 52.9**	**+0.8**
JIJ				S	**Sn**	**13 58 17.1**	**+1.2**
CHY	**Chiayi**	**1.97**	**229**	*e*P	**Pn**	**13 57 53.3**	**+1.0**
	baz=227							
STYT	**Tauyuan**	**2.02**	**216**	*e*P	**Pn**	**13 57 54.1**	**+1.2**
	baz=203							
STYT				*e*S	**Sn**	**13 58 18.8**	**+1.5**
	baz=203							
WSF	**Szhu**	**2.03**	**235**	*e*P	**Pn**	**13 57 53.2**	**+0.2**
	baz=232							
WSF				*e*S	**Sn**	**13 58 18.2**	**+0.7**
	baz=232							
TWK	**Hsinying**	**2.09**	**223**	*e*P	**Pn**	**13 57 54.8**	**+0.8**
	baz=219							
TWK				*e*S	**Sn**	**13 58 21.7**	**+2.7**
	baz=219							
CHN1	**Nanshi**	**2.13**	**221**	*e*P	**Pn**	**13 57 55.2**	**+0.8**
	baz=229							
CHN1				*e*S	**Sn**	**13 58 20.6**	**+0.6**
	baz=229							
TWG	**Pinlang**	**2.17**	**204**	*e*P	**Pn**	**13 57 53.5**	**-1.4**
	baz=194							
SGST	**Jiashian**	**2.17**	**218**	*e*P	**Pn**	**13 57 55.9**	**+0.9**
	baz=225							
SGST				*e*S	**Sn**	**13 58 22.2**	**+1.2**
	baz=225							
TTN	**Taitung**	**2.20**	**202**	*e*P	**Pn**	**13 57 53.0**	**-2.4**
	baz=199							
CHN8	**Yiju**	**2.22**	**229**	*e*P	**Pn**	**13 57 56.2**	**+0.7**
	baz=226							
CHN8				*e*S	**Sn**	**13 58 23.5**	**+1.5**
	baz=226							
CHN3	**Shinhua**	**2.31**	**222**	*e*P	**Pn**	**13 57 55.1**	**-1.6**
	baz=219							
SCLT	**Jiali**	**2.34**	**226**	*e*P	**Pn**	**13 57 57.2**	**0.0**
	baz=222							
SCLT				*e*S	**Sn**	**13 58 25.5**	**+0.4**
	baz=222							
ECL	**Taimali**	**2.42**	**205**	*e*P	**Pn**	**13 57 56.8**	**-1.4**
	baz=195							
TAI1	**Yung-k'ang**	**2.42**	**224**	*e*P	**Pn**	**13 58 00.0**	**+1.8**
	baz=221							
SSD	**Sandimen**	**2.42**	**212**	*e*P	**Pn**	**13 57 59.6**	**+1.2**
	baz=199							
JTJ	**Tarama**	**2.42**	**93**	P	**Pn**	**13 58 00.3**	**+1.9**
TWM1	**Shoushan**	**2.47**	**217**	*e*P	**Pn**	**13 58 00.0**	**+1.0**
	baz=225							
SGLT	**Jiouru**	**2.51**	**215**	*e*P	**Pn**	**13 58 01.6**	**+2.0**
	baz=224							
EAST	**Anshuo**	**2.65**	**205**	*e*P	**Pn**	**13 58 00.1**	**-1.4**
	baz=195							
TAW	**Tawu**	**2.66**	**204**	*e*P	**Pn**	**13 58 03.0**	**+1.5**
	baz=195							
WDGT	**Dungji**	**2.67**	**235**	*e*P	**Pn**	**13 58 02.5**	**+0.9**
	baz=233							
SCZT	**Fangliau**	**2.75**	**209**	*e*P	**Pn**	**13 58 04.0**	**+1.2**
	baz=195							
LAY	**Lan-yu**	**2.79**	**189**	*e*P	**Pn**	**13 58 02.1**	**-1.3**
	baz=185							
LAY				*e*S	**Sn**	**13 58 32.2**	**-3.8**
	baz=185							
JMJ	**Miyako jima 2**	**2.96**	**89**	P	Pn	13 58 08.5	+3.0
HEN	**Hengchun**	**3.04**	**203**	*e*P	**Pn**	**13 58 07.6**	**+1.0**
	baz=200							
JOGS	**Gusukube**	**3.06**	**90**	P	Pn	13 58 09.9	+2.9
TWK1	**Hengchun**	**3.07**	**202**	*e*P	**Pn**	**13 58 05.8**	**-1.3**
	baz=198							
TSEB	**Hengchuen, Pin**	**3.08**	**200**	*e*P	**Pn**	**13 58 08.1**	**+0.9**
	baz=195							
TSEB				*e*S	**Sn**	**13 58 40.0**	**-2.9**
	baz=195							
QZH	**Quanzhou**	**3.14**	**273**	⇑*i*Pn	Pn	13 58 03.8	-4.2
QZH				Sn	Sn	13 58 37.5	-6.8
QZH				smax	smax		
	comp=N,2μm,1.0s						
QZH				smax	smax		
	comp=E,1μm,1.2s						
KNM	**Kinmen**	**3.31**	**264**	*e*P	**Pn**	**13 58 11.6**	**+1.3**
	baz=262							
KNM				*e*S	**Sn**	**13 58 48.5**	**0.0**
	baz=262							
JKE	**Kume jima 2**	**4.54**	**70**	P	Pn	13 58 30.3	+3.1
JIH	**Iheya**	**5.78**	**66**	P	**Pn**	**13 58 44.7**	**+0.6**
JOW	**Kunigami**	**5.97**	**69**	P	**Pn**	**13 58 47.9**	**+1.2**
JTK	**Tokunoshima**	**6.87**	**63**	P	**Pn**	**13 59 00.2**	**+1.2**
JAMN	**Amaminishikomi**	**7.25**	**60**	P	**Pn**	**13 59 04.8**	**+0.7**
JAM	**Amami Oshima**	**7.66**	**60**	P	**Pn**	**13 59 10.4**	**+0.6**
KSRS	**Korea Array**	**13.57**	**20**	P	**P**	**14 00 36.0**	**-0.6**
	0.7nm,0.3s,baz=201,slow=11,SNR=54							
MJAR	**Matsushiro Arr**	**18.14**	**46**	P	**Pn**	**14 01 28.8**	**+0.9**
	0.1nm,0.3s,baz=229,slow=11,SNR=3.5							
USRK	**Ussuriysk Arra**	**20.98**	**20**	P	**P**	**14 01 59.7**	**+1.6**
	1.7nm,0.6s,baz=218,slow=13,SNR=6.0							
CMAR	**Chiang Mai Arr**	**22.37**	**258**	P	**P**	**14 02 15.1**	**+1.9**
	0.3nm,0.3s,baz=67,slow=9.2,SNR=3.4							
GTA	**Gaotai**	**23.71**	**313**	*e*P	**P**	**14 02 28.3**	**+1.9**
GTA				pP	**pP**	**14 02 38.0**	**-4.9**
GTA				sP	sP	14 02 41.8	-10
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s							
SONM	**Songino Array**	**26.11**	**336**	P	**P**	**14 02 48.5**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=154,slow=10.0,SNR=9.0							
MKAR	**Makanchi Array**	**38.44**	**315**	P	**P**	**14 04 35.7**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=101,slow=10,SNR=42							
ZALV	**Zalesovo Beam**	**40.15**	**326**	P	**P**	**14 04 48.1**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=111,slow=9.0,SNR=5.2							
KURBB	**Kurchatov Arra**	**42.14**	**319**	P	**P**	**14 05 06.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=108,slow=9.9,SNR=6.4							
WRA	**Warramunga Arr**	**46.06**	**164**	P	**P**	**14 05 37.4**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=347,slow=8.8,SNR=14							
BVAR	**Borovoye Array**	**47.69**	**320**	P	**P**	**14 05 49.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=99,slow=9.2,SNR=4.7							
ASAR	**Alice Springs**	**49.54**	**166**	P	**P**	**14 06 04.8**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=337,slow=6.7,SNR=10							
ASAR				PcP	**PcP**	**14 07 24.8**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=355,slow=2.0,SNR=4.7							
STKA	**Stephens Creek**	**59.38**	**161**	P	**P**	**14 07 15.4**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=344,slow=15,SNR=2.7							
ILAR	**Eielson Array**	**68.30**	**27**	P	**P**	**14 08 13.7**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=238,slow=4.7,SNR=4.5							
SPITS	**Spitsbergen Ar**	**69.04**	**348**	P	**P**	**14 08 17.1**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=77,slow=9.0,SNR=4.9							
ARCES	**ARCESS Array B**	**69.25**	**338**	P	**P**	**14 08 19.1**	**-0.7**
	comp=Z,4.6nm,1.1s,baz=52,slow=31,SNR=2.9							
FINES	**FINESS Array B**	**71.30**	**330**	P	**P**	**14 08 32.1**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=242,slow=4.1,SNR=4.0							
INK	**Inuvik**	**72.36**	**22**	P	**P**	**14 08 37.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=324,slow=6.4,SNR=5.2							
AKASG	**Malin Array Be**	**72.93**	**318**	P	**P**	**14 08 41.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=62,slow=5.6,SNR=3.8							
BRTR	**Keskin Array B**	**73.43**	**306**	P	**P**	**14 08 44.0**	**-1.7**
	comp=Z,2.0nm,0.9s,baz=96,slow=4.5,SNR=6.9							
NOA	**NORSAR Array B**	**78.04**	**332**	P	**P**	**14 09 10.8**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=65,slow=6.4,SNR=2.6							
YKA	**Yellowknife Ar**	**82.09**	**23**	P	**P**	**14 09 32.3**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=311,slow=5.1,SNR=13							
NVAR	**Mina Array Bea**	**95.44**	**43**	P	**P**	**14 10 38.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=306,slow=6.6,SNR=2.5							

*IDC **27** 14:00:02.5±5.6, 39°.42N×110°.96E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/27, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=118.3km s-min=24.1km az=83.0*

ISC 27 14:00:02.0±1.8, 39°.29N±0°.08×111°.2E±0°.2, h10km, n6, σ1§42/7, mb3.7/3, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**5.55**	**200**	P		**Pb**		**14 01 37.5**	**-1.5**
XAN				pP		**Pg**		**14 01 48.5**	**+0.3**
XAN				pmax		pmax			
	comp=Z,5.0nm,1.1s								
LZH	**Lanzhou**	**6.63**	**243**	*e*P		**Pg**		**14 02 09.3**	**+0.3**
LZH				pP		pP		14 02 15.0	
LZH				sP		sP		14 02 18.8	
LZH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SONM	**Songino Array**	**9.21**	**339**	Pn		**Pn**		**14 02 14.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=12								
SONM				Lg		Lg		14 04 50.3	
	comp=Z,0.3nm,0.3s,baz=152,slow=25,SNR=5.0								
MKAR	**Makanchi Array**	**22.31**	**299**	P		**P**		**14 04 59.0**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=107,slow=13,SNR=7.6								
CMAR	**Chiang Mai Arr**	**23.32**	**211**	P		**P**		**14 05 12.6**	**+2.3**
	comp=Z,2.0nm,0.9s,baz=13,slow=9.8,SNR=15								
KURBB	**Kurchatov Arra**	**25.52**	**307**	P		**P**		**14 05 30.4**	**0.0**
	comp=Z,1.8nm,1.1s,baz=106,slow=9.5,SNR=4.8								

IDC 27 14:06:50.3±1.5, 2°.04N×127°.71E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/22, mbtmp3.5/5, Error ellipse: s-maj=129.4km s-min=19.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.80**	**164**	P		P		14 11 55.3	+0.5
	1.5nm,0.5s,baz=344,slow=11,SNR=26								
ASAR	**Alice Springs**	**26.26**	**167**	P		P		14 12 26.9	-0.6
	0.3nm,0.5s,baz=344,slow=7.3,SNR=9.1								
STKA	**Stephens Creek**	**36.22**	**160**	P		P		14 13 54.9	-0.1
	0.9nm,0.4s,baz=339,slow=6.3,SNR=6.0								
MKAR	**Makanchi Array**	**59.49**	**325**	P		P		14 16 55.9	+0.6
	0.2nm,0.5s,baz=116,slow=7.8,SNR=5.5								
KURBB	**Kurchatov Arra**	**63.68**	**327**	P		P		14 17 23.0	-0.5
	0.2nm,0.5s,baz=127,slow=6.3,SNR=4.8								

*NIED **27** 14:17:00, 23°.30N×123°.70E, h26km, Mw3.9 Best double couple: M0 8.59000×10^14 NP1:φ=237.00000°, δ=81.00000°, λ=-143.00000°. NP2:φ=140.00000°, δ=53.00000°, λ=-12.00000°.*

*IDC **27** 14:17:22.4±0.8, 23°.32N×123°.65E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/29, mbtmp3.9/13, ML3.7/2, Error ellipse: s-maj=25.0km s-min=16.5km az=74.0*

*JMA **27** 14:17:26.5±0.2, 23°.31N×123°.68E, h52km±4km, M4.4*

ISC 27 14:17:24.8±1.9, 23°.31N±0°.07×123°.82E±0°.05, h17km±10km, n28, σ0§92/38, mb3.8/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.75**	**359**	P		**Pn**		**14 17 41.2**	**+0.6**
HATJ				S		**Sn**		**14 17 51.3**	**-0.3**
JKRS	**Kuro-shima**	**0.94**	**11**	P		**Pn**		**14 17 44.3**	**+1.0**
JKRS				S		**Sn**		**14 17 57.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.03**	**355**	P		**Pg**		**14 17 45.0**	**+0.2**
IRIF				S		**Sn**		**14 17 57.9**	**-0.6**
JIJ	**Ishigaki jima**	**1.09**	**16**	P		**Pg**		**14 17 46.2**	**+0.2**
JIJ				S		**Sg**		**14 18 00.3**	**-0.1**
YOJ	**Yonaguni jima**	**1.37**	**327**	P		**Pn**		**14 17 49.1**	**-0.1**
YOJ				S		**Sn**		**14 18 04.8**	**-2.1**
JTJ	**Tarama**	**1.56**	**31**	P		**Pb**		**14 17 53.3**	**+0.1**
JTJ				S		**Sb**		**14 18 13.0**	**+0.4**
JMJ	**Miyako jima 2**	**2.02**	**42**	P		**Pb**		**14 18 00.0**	**-1.1**
JMJ				S		**Sb**		**14 18 24.9**	**-1.0**
JOGS	**Gusukube**	**2.05**	**45**	P		**Pb**		**14 18 00.4**	**-1.2**
JOGS				S		**Sb**		**14 18 26.7**	**-0.1**
JKE	**Kume jima 2**	**4.04**	**41**	P		**Pn**		**14 18 25.6**	**-0.3**
JKE				S		**Sn**		**14 19 12.4**	**-0.4**
JAGN	**Aguni-jima**	**4.51**	**43**	P		**Pn**		**14 18 32.9**	**+0.5**
JIH	**Iheya**	**5.28**	**44**	S		**Sn**		**14 19 43.3**	**-0.2**
JOW	**Kunigami**	**5.35**	**48**	P		**Pn**		**14 18 43.7**	**-0.3**
JOW				S		**Sn**		**14 19 44.7**	**-0.6**
JTK	**Tokunoshima**	**6.43**	**45**	P		**Pn**		**14 18 57.6**	**-1.2**
JAMN	**Amaminishikomi**	**6.89**	**43**	P		**Pn**		**14 19 03.9**	**-1.2**
JMZ	**Minamidaito 2**	**7.19**	**68**	P		**Pn**		**14 19 08.3**	**-0.9**
JMZ				S		Sn		14 20 23.3	-7.2
KSRS	**Korea Array**	**14.54**	**13**	Pn		**Pn**		**14 20 50.9**	**+1.1**
	0.3nm,0.3s,baz=196,slow=12,SNR=9.9								
MJAR	**Matsushiro Arr**	**18.12**	**40**	P		**P**		**14 21 37.9**	**+1.9**
	0.2nm,0.3s,baz=229,slow=9.0,SNR=12								
ASAJ	**Asahikawa**	**25.86**	**32**	P		**P**		**14 22 55.1**	**-0.4**
	5.2nm,0.9s,baz=241,slow=29,SNR=8.3								
SONM	**Songino Array**	**28.15**	**335**	P		**P**		**14 23 15.1**	**-1.2**
	1.1nm,0.7s,baz=154,slow=9.0,SNR=7.0								
PETK	**Petropavlovsk-**	**39.28**	**32**	P		**P**		**14 24 53.5**	**+0.9**
	1.2nm,0.6s,baz=197,slow=4.3,SNR=20								
MKAR	**Makanchi Array**	**40.65**	**316**	P		**P**		**14 25 03.7**	**-0.4**
	0.5nm,0.4s,baz=100,slow=8.9,SNR=15								
ZALV	**Zalesovo Beam**	**42.30**	**326**	P		**P**		**14 25 16.3**	**-1.2**
	0.8nm,0.4s,baz=112,slow=9.2,SNR=6.7								
WRA	**Warramunga Arr**	**44.19**	**166**	P		**P**		**14 25 33.1**	**0.0**
	1.4nm,0.7s,baz=347,slow=8.9,SNR=21								
KURBB	**Kurchatov Arra**	**44.34**	**320**	P		**P**		**14 25 33.8**	**-0.1**
	0.7nm,0.4s,baz=104,slow=7.7,SNR=7.4								
ASAR	**Alice Springs**	**47.71**	**167**	P		**P**		**14 26 01.8**	**+1.0**
	0.5nm,0.5s,baz=351,slow=7.5,SNR=30								
BVAR	**Borovoye Array**	**49.88**	**321**	P		**P**		**14 26 17.0**	**-0.3**
	0.6nm,0.6s,baz=98,slow=9.5,SNR=6.3								
FINES	**FINESS Array B**	**73.41**	**330**	P		**P**		**14 28 55.0**	**-0.8**
	5.7nm,1.2s,baz=73,slow=4.8,SNR=2.7								
YKA	**Yellowknife Ar**	**82.83**	**23**	P		**P**		**14 29 49.7**	**+1.7**
	0.2nm,0.5s,baz=304,slow=4.9,SNR=4.4								

CASC 27 14:18:11.0±1.6, 13°.57N×90°.73W, h37km±174km, MD3.5, ML4.0, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.83**	**8**	*e*P		Pn		14 18 26.8	+0.2
PCG				*e*S		Sn		14 18 38.6	+0.8
NBG	**Las Nubes**	**1.08**	**20**	*e*P		Pn		14 18 31.2	+1.2
NBG				*e*S		Sn		14 18 45.8	+1.9
RTR	**El Retiro**	**1.10**	**73**	*e*P		Pn		14 18 30.4	+0.2
RTR				*e*S		Sn		14 18 44.9	+0.6
SBLS	**San Blas**	**1.11**	**76**	*e*P		Pn		14 18 30.2	-0.1
SNJE	**San Jose**	**1.13**	**75**	*e*P		Pn		14 18 30.6	0.0
SNJE				*e*S		Sn		14 18 45.4	+0.3
RBDL	**Robledal**	**1.15**	**62**	*e*P		Pn		14 18 30.9	+0.1
RBDL				*e*S		Sn		14 18 46.5	+1.1
JAT	**Jato**	**1.15**	**310**	⇓*e*P		Pn		14 18 31.7	+1.1
JAT				*e*S		Sn		14 18 44.3	-0.8
BOQS	**Boqueron**	**1.42**	**83**	*e*P		Pn		14 18 34.9	+0.3
BOQS				*e*S		Sn		14 18 53.1	+0.9
SNET	**Serv Nac Est T**	**1.46**	**85**	AML		AML		14 18 55.5	
	comp=Z,3μm,0.4s								
LFU	**La Fuente**	**1.58**	**83**	*e*P		Pn		14 18 36.6	0.0
LFRS	**El Faro**	**1.62**	**88**	*e*P		Pn		14 18 37.8	+0.5
LBRS	**Las Brisas**	**1.65**	**84**	*e*P		Pn		14 18 37.6	+0.1
MRL	**Marmol**	**1.80**	**34**	*e*P		Pn		14 18 39.7	0.0
MRL				*e*S		Sn		14 19 05.8	+4.4
SNVI	**San Vicente**	**1.84**	**88**	*e*P		Pn		14 18 40.6	+0.4
SNVI				*e*S		Sn		14 19 03.9	+1.4
VSM	**San Miguel**	**2.39**	**93**	*e*P		Pn		14 18 48.9	+0.9

*ISCJB **27** 14:24:55.5±1.1, 21°.46S±0°.07×68°.4W±0°.2, h118km, mb3.8/2, Error ellipse: s-maj=24.4km s-min=10.4km az=179.2*

*IDC **27** 14:24:56.2±2.5, 21°.43S×68°.47W, h114km±20km, mb3.6/3, mb1 3.6/6, mb1mx3.4/19, mbtmp3.5/6, Error ellipse: s-maj=32.3km s-min=19.4km az=81.0*

ISC 27 14:24:56.7±1.1, 21°.45S±0°.09×68°.3W±0°.2, h118km, n7, σ1§06/8, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.14**	**2**	P		**Pn**		**14 26 12.7**	**+0.5**
	2.0nm,0.3s,baz=208,slow=6.6,SNR=57								
LPAZ				S		**Sn**		**14 27 10.3**	**-0.4**
	0.5nm,0.3s,baz=85,slow=11,SNR=2.6								
SIV	**San Ignacio**	**8.77**	**53**	P		**Pn**		**14 26 59.7**	**-1.0**
	2.1nm,0.3s,baz=250,slow=13,SNR=29								
CFAA	**Coronel Fontan**	**10.11**	**180**	P		**Pn**		**14 27 18.7**	**-0.1**
	0.1nm,0.3s,baz=14,slow=13,SNR=5.3								
BDFB	**Brasilia**	**20.11**	**77**	P		**P**		**14 29 23.2**	**+1.8**
	3.8nm,0.5s,baz=238,slow=9.4,SNR=10								
TORD	**Torodi Ar. Bea**	**76.84**	**70**	P		**P**		**14 36 36.5**	**+0.3**
	0.4nm,0.3s,baz=255,slow=5.5,SNR=11								
YKA	**Yellowknife Ar**	**91.32**	**340**	P		**P**		**14 37 47.5**	**-1.0**
	0.6nm,0.5s,baz=134,slow=4.5,SNR=20								
MKAR	**Makanchi Array**	**145.28**	**36**	PKPbc		**PKPab**		**14 44 20.8**	**+0.1**
	0.5nm,0.7s,baz=316,slow=3.3,SNR=7.9								

**IDC 27 14:31:09.4±2.9, 19°.34S×169°.73E, h272km±28km, mb3.3/9, mb1 3.4/10, mb1mx3.3/20, mbtmp3.3/10, Error ellipse: s-ma

*ISCJB **27** 14:45:36.7±0.5,38°.69N±0°.02×26°.48E±0°.03,h14km±4km, Error ellipse: s-maj=3.7km s-min=3.2km az=158.8*

*THE **27** 14:45:36.6,38°.72N×26°.51E,h12km±2km,ML3.2/3, Error ellipse: s-maj=2.8km s-min=0.4km az=281.0*

*DDA **27** 14:45:36.2,38°.71N×26°.56E,h6km,MD3.1*

*ISK **27** 14:45:37.1,38°.57N×26°.51E,h22km,MD3.3*

ISC 27 14:45:35.7±1.1,38.70N±0°.02×26.52E±0°.02,h12km±10km, n73,σ0°81/109,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.34**	**170**	*i* P	**Pb**	**14 45 43.8**	**0.0**
URLA				*i* S	**Sb**	**14 45 50.0**	**+0.8**
URLA	**Izmir**	**0.34**	**170**	*i* P	**Pb**	**14 45 43.8**	**0.0**
URLA				*i* S	**Sb**	**14 45 50.0**	**+0.8**
CHOS	**Chios island**	**0.48**	**229**	*e*PG	**Pb**	**14 45 45.8**	**-0.3**
CHOS				*e*SG	**Sb**	**14 45 52.7**	**-0.4**
CHOS	**Chios island**	**0.48**	**229**	P	**Pb**	**14 45 46.1**	**0.0**
CHOS				S	**Sb**	**14 45 53.4**	**+0.3**
CHOS	**Chios island**	**0.48**	**229**	*e*PB	**Pb**	**14 45 46.2**	**+0.1**
CHOS				*e*SB	**Sb**	**14 45 52.8**	**-0.3**
CHOS	**Chios island**	**0.48**	**229**	*e*Pg	**Pb**	**14 45 45.8**	**-0.3**
CHOS	**Chios island**	**0.48**	**229**	*e*Pb	**Pb**	**14 45 46.2**	**+0.1**
CHOS				*e*Sg	**Sb**	**14 45 52.7**	**-0.4**
CHOS				S	**Sb**	**14 45 53.4**	**+0.3**
BLCB	**Balcova**	**0.52**	**127**	*e*PG	**Pb**	**14 45 47.0**	**+0.3**
BLCB				*e*SG	**Sb**	**14 45 54.4**	**+0.2**
BLCB	**Balcova**	**0.52**	**127**	*e*Pg	**Pb**	**14 45 47.0**	**+0.3**
BLCB				*e*Sg	**Sb**	**14 45 54.4**	**+0.2**
PRK	**Paraskevi**	**0.58**	**341**	P	**Pg**	**14 45 47.3**	**+0.3**
PRK				S	**Sb**	**14 45 56.0**	**+0.1**
PRK	**Paraskevi**	**0.58**	**341**	*e*PN	**Pb**	**14 45 47.4**	**-0.3**
PRK				*e*SN	**Sb**	**14 45 55.5**	**-0.4**
PRK	**Paraskevi**	**0.58**	**341**	P	**Pg**	**14 45 47.3**	**+0.3**
PRK				*e*Sn	**Sb**	**14 45 55.5**	**-0.4**
PRK				S	**Sb**	**14 45 56.0**	**+0.1**
AYVA	**Ayvalik**	**0.62**	**12**	*i* P	**Pg**	**14 45 47.8**	**0.0**
AYVA				*i* S	**Sb**	**14 45 57.8**	**+0.6**
AYVA	**Ayvalik**	**0.62**	**12**	*i* P	**Pg**	**14 45 47.8**	**0.0**
AYVA				*i* S	**Sb**	**14 45 57.8**	**+0.6**
SIGR	**SIGRI**	**0.73**	**315**	P	**Pb**	**14 45 50.0**	**-0.2**
SIGR				S	**Sb**	**14 46 00.7**	**+0.6**
SIGR	**SIGRI**	**0.73**	**315**	*e*PN	**Pb**	**14 45 50.3**	**+0.1**
SIGR				*e*SN	**Sb**	**14 46 00.0**	**-0.1**
SIGR	**SIGRI**	**0.73**	**315**	P	**Pb**	**14 45 50.0**	**-0.2**
SIGR	**SIGRI**	**0.73**	**315**	*e*Pn	**Pb**	**14 45 50.3**	**+0.1**
SIGR				*e*Sn	**Sb**	**14 46 00.0**	**-0.1**
SMG	**Samos**	**1.02**	**166**	P	**Pb**	**14 45 55.4**	**+0.1**
SMG				S	**Sn**	**14 46 10.9**	**+0.8**
SMG	**Samos**	**1.02**	**166**	P	**Pb**	**14 45 55.4**	**+0.1**
SMG				S	**Sn**	**14 46 10.9**	**+0.8**
AKHS	**Akhisar**	**1.03**	**80**	*i* P	**Pn**	**14 45 56.4**	**+0.5**
AKHS				*i* S	**Sn**	**14 46 10.3**	**0.0**
AKHS	**Akhisar**	**1.03**	**80**	*i* P	**Pn**	**14 45 56.4**	**+0.5**
AKHS				*i* S	**Sn**	**14 46 10.3**	**0.0**
AKS	**Akhisar**	**1.03**	**80**	*e*PG	**Pn**	**14 45 57.2**	**+1.3**
AKS	**Akhisar**	**1.03**	**80**	*e*Pg	**Pn**	**14 45 57.2**	**+1.3**
GCAM	**G?zelcaml?**	**1.15**	**150**	*i* P	**Pg**	**14 45 57.9**	**+0.1**
GCAM				*i* S	**Sn**	**14 46 13.6**	**+0.5**
GCAM	**G?zelcaml?**	**1.15**	**150**	*i* P	**Pg**	**14 45 57.9**	**+0.1**
GCAM				*i* S	**Sn**	**14 46 13.6**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**124**	*e*PN	**Pn**	**14 45 59.9**	**-0.1**
AYDB				*e*SN	**Sb**	**14 46 16.5**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**124**	*e*Pn	**Pn**	**14 45 59.9**	**-0.1**
AYDB				*e*Sn	**Sb**	**14 46 16.5**	**-0.8**
BALY	**Balya**	**1.35**	**39**	*i* P	**Pn**	**14 46 00.6**	**+0.3**
BALY				*i* S	**Sg**	**14 46 19.5**	**+0.4**
BALY	**Balya**	**1.35**	**39**	*i* P	**Pn**	**14 46 00.6**	**+0.3**
BALY				*i* S	**Sg**	**14 46 19.5**	**+0.4**
AYDN	**Tasoluk**	**1.49**	**134**	*i* P	**Pn**	**14 46 02.4**	**0.0**
AYDN				*i* S	**Sn**	**14 46 20.4**	**-1.4**
AYDN	**Tasoluk**	**1.49**	**134**	*i* P	**Pn**	**14 46 02.4**	**0.0**
AYDN				*i* S	**Sn**	**14 46 20.4**	**-1.4**
LIA	**Limnos Island**	**1.58**	**320**	*e*PN	**Pb**	**14 46 04.6**	**-0.2**
LIA	**Limnos Island**	**1.58**	**320**	*e*Pn	**Pb**	**14 46 04.6**	**-0.2**
LPK	**Lapseki**	**1.68**	**6**	*e*PN	**Pb**	**14 46 07.0**	**+0.5**
LPK	**Lapseki**	**1.68**	**6**	*e*Pn	**Pb**	**14 46 07.0**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.70**	**359**	*e*PN	**Pg**	**14 46 07.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.70**	**359**	*e*Pn	**Pg**	**14 46 07.8**	**-0.4**
DEMI	**Demirci**	**1.75**	**78**	*i* P	**Pb**	**14 46 08.3**	**+0.5**
DEMI				*i* S	**Sg**	**14 46 31.8**	**-0.2**
DEMI	**Demirci**	**1.75**	**78**	*i* P	**Pb**	**14 46 08.3**	**+0.5**
BODT	**Bodrum**	**1.75**	**159**	*e*PN	**Pn**	**14 46 04.5**	**-1.4**
BODT	**Bodrum**	**1.75**	**159**	*e*Pn	**Pn**	**14 46 04.5**	**-1.4**
DURS	**Dursunbey**	**1.77**	**59**	*i* P	**Pn**	**14 46 07.1**	**+0.9**
DURS				*i* S	**Sn**	**14 46 28.6**	**0.0**
DURS	**Dursunbey**	**1.77**	**59**	*i* P	**Pn**	**14 46 07.1**	**+0.9**
DURS				*i* S	**Sn**	**14 46 28.6**	**0.0**
APE	**Apeiranthos**	**1.81**	**206**	*e*PN	**Pn**	**14 46 06.0**	**-0.6**
APE	**Apeiranthos**	**1.81**	**206**	P	**Pn**	**14 46 06.3**	**-0.4**
APE	**Apeiranthos**	**1.81**	**206**	*e*PB	**Pn**	**14 46 06.3**	**-0.4**
APE				*e*SN	**Sn**	**14 46 30.4**	**+0.9**
APE	**Apeiranthos**	**1.81**	**206**	P	**Pn**	**14 46 06.3**	**-0.4**
APE				*e*Sn	**Sn**	**14 46 30.4**	**+0.9**
EDC	**Edincik**	**1.95**	**32**	*e*PN	**Pb**	**14 46 12.0**	**+0.9**
EDC	**Edincik**	**1.95**	**32**	*e*Pn	**Pb**	**14 46 12.0**	**+0.9**
ENEZ	**Enez**	**2.05**	**352**	*e*PN	**Pb**	**14 46 13.1**	**+0.2**
ENEZ	**Enez**	**2.05**	**352**	*e*Pn	**Pb**	**14 46 13.1**	**+0.2**
KCTX	**Karacabey (Bur**	**2.11**	**42**	*e*PN	**Pb**	**14 46 13.5**	**-0.5**
KCTX	**Karacabey (Bur**	**2.11**	**42**	*e*Pn	**Pb**	**14 46 13.5**	**-0.5**
ALN	**Alexandroupoli**	**2.22**	**351**	*e*PN	**Pb**	**14 46 13.2**	**+0.5**
ALN	**Alexandroupoli**	**2.22**	**351**	*e*PB	**Pn**	**14 46 13.1**	**+0.8**
ALN	**Alexandroupoli**	**2.22**	**351**	*e*Pb	**Pn**	**14 46 13.1**	**+0.8**
ALN	**Alexandroupoli**	**2.22**	**351**	*e*Pn	**Pb**	**14 46 16.3**	**+0.5**
ORLT	**Orhaneli**	**2.28**	**53**	*e*PN	**Pb**	**14 46 16.0**	**-0.8**
ORLT	**Orhaneli**	**2.28**	**53**	*e*Pn	**Pb**	**14 46 16.0**	**-0.8**
GDZ	**Gediz**	**2.34**	**80**	*i* P	**Pg**	**14 46 20.4**	**-0.3**
GDZ				*i* S	**Sg**	**14 46 51.4**	**+0.3**
KHL	**Karahalli**	**2.39**	**98**	*e*PN	**Pn**	**14 46 16.0**	**+1.3**
KHL	**Karahalli**	**2.39**	**98**	*e*Pn	**Pn**	**14 46 16.0**	**+1.3**
RDO	**Rodhopi**	**2.56**	**343**	*e*PN	**Pn**	**14 46 17.2**	**+0.3**
RDO	**Rodhopi**	**2.56**	**343**	*e*Pn	**Pn**	**14 46 17.2**	**+0.3**
ARMT	**Armutlu**	**2.60**	**43**	*e*PN	**Pb**	**14 46 20.5**	**-1.7**
ARMT	**Armutlu**	**2.60**	**43**	*e*Pn	**Pb**	**14 46 20.5**	**-1.7**
CTKS	**Kestanelik-??a**	**2.96**	**30**	*e*PN	**Pb**	**14 46 25.7**	**-2.6**
CTKS	**Kestanelik-??a**	**2.96**	**30**	*e*Pn	**Pb**	**14 46 25.7**	**-2.6**
EDRB	**Edirne**	**3.15**	**3**	*e*PN	**Pb**	**14 46 28.8**	**-2.8**
EDRB	**Edirne**	**3.15**	**3**	*e*Pn	**Pb**	**14 46 28.8**	**-2.8**
NVR	**Nevrokopi**	**3.34**	**323**	*e*PN	**Pn**	**14 46 28.5**	**+0.8**
NVR	**Nevrokopi**	**3.34**	**323**	*e*Pn	**Pn**	**14 46 28.5**	**+0.8**

*IDC **27** 14:55:07.6±0.6,3°.01S×139°.71E,h0km,mb3.9/11, mb1 4.2/13,mb1mx4.1/20,mbtmp4.1/13,ML3.7/2,MS4.0/8, Ms1 4.0/8,ms1mx3.7/25, Error ellipse: s-maj=16.0km s-min=10.5km az=145.0*

*AUST **27** 14:55:08.7±2.4,3°.11S×139°.77E,h0km, Error ellipse: s-maj=1.8km s-min=0.9km az=6.0*

*ISCJB **27** 14:55:11.8±0.4,3°.13S±0°.05×139°.85E±0°.05,h46km, mb3.9/10,MS3.9/6, Error ellipse: s-maj=7.8km s-min=6.8km az=159.0*

*DJA **27** 14:55:13.3±0.4,3°S±4°×14°0E±°,h10km,M4.8/11, mb4.6/11,mB5.3/3,MLv4.8/6,Mw(mB)4.7/3*

ISC 27 14:55:14.6±0.6,3°.15S±0°.07×139°.67E±0°.08,h46km,n44, σ2s03/40,mb3.8/10,MS3.8/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.74**	**42**	P	Pn	14 55 23.9	-4.9
JAY	**Jayapura**	**1.21**	**59**	Pg	Pn	14 55 29.3	-5.9
	243nm,0.3s,baz=227,slow=11,SNR=1110						
JAY				Lg	Lg	14 55 43.7	
	792nm,0.3s,baz=99,slow=19,SNR=26						
JAY	**Jayapura**	**1.21**	**59**	P	Pn	14 55 29.3	-5.9
	baz=1.1,SNR=402						
SRPI	**Serui, Papua**	**3.65**	**290**	P	**Pn**	**14 56 10.8**	**+2.2**
BAKI	**Biak**	**4.05**	**299**	P	**Pn**	**14 56 15.3**	**+1.1**
MMPI	**Merauke**	**5.33**	**172**	P	Pn	14 56 35.7	+3.9
	339nm,0.7s,5µm3.6nm						
MWPI	**Manokwari, Pap**	**6.04**	**291**	P	**Pn**	**14 56 43.8**	**+2.3**
	93nm,1.0s,0.4nm						
FAKI	**Fak Fak**	**7.41**	**272**	P	**Pn**	**14 57 02.2**	**+1.9**
	25nm,1.1s,0.1nm						
FAKI	**Fak Fak**	**7.41**	**272**	P	**Pn**	**14 57 02.5**	**+2.2**
	baz=7.5,SNR=9.2						
SWI	**Sorong**	**8.70**	**285**	P	Pn	14 57 21.6	+3.6
	20nm,0.6s,1µm						
PMG	**Port Moresby**	**9.70**	**130**	Pn	**Pn**	**14 57 31.1**	**-0.5**
	0.5nm,0.3s,baz=323,slow=14,SNR=3.8						
PMG	**Port Moresby**	**9.70**	**130**	P	**Pn**	**14 57 33.7**	**+2.0**
	baz=9.7,SNR=6.6						
PMG				P	**Pn**	**14 57 33.7**	**+2.0**
	baz=9.7,SNR=6.6						
PMG				P	**Pn**	**14 57 33.7**	**+2.0**
	baz=9.7,SNR=6.6						
COEN	**Coen**	**11.29**	**162**	P	**Pn**	**14 57 54.2**	**+0.8**
	baz=11,SNR=20						
KDU	**Kakadu**	**11.86**	**217**	P	**Pn**	**14 58 00.4**	**-0.8**
	baz=12,SNR=54						
LBMI	**Labuha**	**12.41**	**281**	P	**P**	**14 58 20.2**	**+0.6**
MTN	**Manton Dam**	**12.81**	**221**	P	**Pn**	**14 58 14.2**	**0.0**
	baz=13,SNR=18						
KNRA	**Kununurra**	**16.44**	**220**	P	**Pn**	**14 59 01.3**	**-0.9**
	baz=17,SNR=37						
SOEI	**Soe**	**16.65**	**246**	P	**P**	**14 59 09.2**	**+2.4**
	54nm,0.9s						
SOEI	**Soe**	**16.65**	**246**	P	**P**	**14 59 10.1**	**+3.3**
	baz=17,SNR=5.2						
LUWI	**Luwuk**	**17.01**	**277**	P	**P**	**14 59 11.8**	**+1.0**
	33nm,1.2s,888nm						
GTOI	**Gorontalo**	**17.07**	**282**	P	**P**	**14 59 14.7**	**+3.3**
	24nm,0.9s						
QIS	**Mount Isa**	**17.31**	**180**	P	**Pn**	**14 59 10.4**	**-2.7**
	baz=18,SNR=11						
WRA	**Warramunga Arr**	**17.49**	**197**	P	**Pn**	**14 59 13.3**	**-2.0**
	0.9nm,0.3s,baz=20,slow=13,SNR=42						
WRA				S	Sn	15 02 20.8	-8.4
	0.3nm,0.3s,baz=10.0,slow=22,SNR=5.3						
WRA				Lg	Lg	15 04 27.2	
	0.2nm,0.3s,baz=10,slow=28,SNR=5.2						
WRA				LR	LR	15 06 16.4	
	comp=Z,471nm,20.1s,baz=25,slow=38						
CTA	**Charters Tower**	**18.02**	**160**	P	**P**	**14 59 23.6**	**+1.7**
	0.2nm,0.3s,baz=332,slow=12,SNR=11						
CTA				Lg	Lg	15 04 44.1	
	0.1nm,0.3s,baz=68,slow=20,SNR=3.8						
CTA				LR	LR	15 06 39.4	
	comp=Z,984nm,18.5s,baz=354,slow=38						
APSI	**Ampana**	**18.14**	**277**	P	Pn	14 59 32.9	+10
FITZ	**Fitzroy Crossi**	**20.25**	**222**	P	**P**	**14 59 46.4**	**+0.2**
	11nm,0.9s,baz=49,slow=9.7,SNR=24						
FITZ				S	**S**	**15 03 24.3**	**-6.7**
	5.6nm,0.8s,baz=150,slow=12,SNR=3.3						
FITZ				Lg	Lg	15 05 56.6	
	6.3nm,0.9s,baz=135,slow=17,SNR=1.7						
FITZ				LR	LR	15 08 12.6	
	comp=Z,362nm,20.1s,baz=48,slow=38						
FITZ	**Fitzroy Crossi**	**20.25**	**222**	P	**P**	**14 59 46.6**	**+0.4**
	baz=20,SNR=18						
ASAR	**Alice Springs**	**21.15**	**195**	P	**P**	**14 59 55.3**	**-0.7**
	7.9nm,0.8s,baz=27,slow=10.0,SNR=104						
ASAR				S	**S**	**15 03 48.2**	**-0.7**
	2.7nm,0.9s,baz=15,slow=27,SNR=5.0						
ASAR				Lg	Lg	15 06 22.8	
	3.6nm,0.8s,baz=13,slow=30,SNR=4.2						
ASAR				LR	LR	15 08 29.4	
	comp=Z,456nm,18.6s,baz=15,slow=38						
QLP	**Quilpie**	**23.71**	**170**	P	**P**	**15 00 25.0**	**+2.5**
	baz=24,SNR=4.7						
WRKA	**Warakurna**	**24.37**	**206**	P	**P**	**15 00 27.6**	**-1.0**
	baz=25,SNR=30						
EIDS	**Eidsvold**	**24.68**	**155**	P	**P**	**15 00 33.4**	**+2.1**
	baz=25,SNR=4.6						
STKA	**Stephens Creek**	**28.64**	**177**	P	**P**	**15 01 07.5**	**+0.6**
	0.9nm,0.5s,baz=16,slow=9.1,SNR=4.6						
STKA				LR	LR	15 13 39.3	
	comp=Z,565nm,18.6s,baz=107,slow=39						
NWAO	**Narrogin (SRO)**	**36.32**	**213**	LR	LR	15 18 57.6	
	comp=Z,224nm,18.9s,baz=39,slow=39						
MJAR	**Matsushiro Arr**	**39.51**	**358**	LR	LR	15 17 09.1	
	comp=Z,87nm,20.7s,baz=190,slow=34						
KSRS	**Korea Array**	**41.84**	**346**	P	**P**	**15 02 57.8**	**-2.3**
	1.5nm,1.0s,baz=156,slow=9.4,SNR=5.2						
KSRS				LR	LR	15 18 09.4	
	comp=Z,115nm,18.0s,baz=330,slow=33						
CMAR	**Chiang Mai Arr**	**45.48**	**300**	P	**P**	**15 03 29.9**	**+0.2**
	1.4nm,0.8s,baz=120,slow=6.2,SNR=12						
SONM	**Songino Array**	**58.52**	**334**	P	**P**	**15 05 06.4**	**-0.1**
	0.3nm,0.6s,baz=161,slow=7.1,SNR=3.1						
MKAR	**Makanchi Array**	**70.72**	**322**	P	**P**	**15 06 25.1**	**-0.9**
	0.6nm,0.8s,baz=115,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**72.79**	**330**	P	**P**	**15 06 35.8**	**-2.4**
	0.2nm,0.4s,baz=147,slow=6.6,SNR=2.4						
VNDA	**Vanda**	**75.27**	**175**	P	**P**	**15 06 52.9**	**+0.6**
	3.0nm,0.7s,baz=306,slow=6.9,SNR=16						
ILAR	**Eielson Array**	**85.83**	**24**	P	**P**	**15 07 47.5**	**-1.5**
	0.8nm,0.9s,baz=244,slow=4.7,SNR=6.3						
QSPA	**South Pole Qui**	**86.80**	**180**	P	**P**	**15 07 54.0**	**0.0**
	2.5nm,0.6s,baz=357,slow=12						
DBIC	**Dimbokro**	**144.49**	**277**	PKP	**PKPab**	**15 14 45.1**	**-0.4**
	0.9nm,0.5s,baz=83,slow=5.6,SNR=3.6						
LPAZ	**La Paz**	**146.42**	**126**	PKPbc	**PKPdf**	**15 14 52.4**	**+1.3**
	0.8nm,0.7s,baz=99,slow=2.4,SNR=4.1						

CASC 27 14:58:49.8±1.2,15°.96N×88°.34W,h36km±999km,MD3.7, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.58**	**236**	*e*P	Pn	14 59 15.2	-0.4
MRL				*e*S	Sn	14 59 35.3	+0.5
TGUH	**Tegucigalpa,Un**	**2.15**	**151**	*e*P	Pn	14 59 23.1	-0.1
TGUH				*e*S	Sn	14 59 49.3	+0.7
CAHU	**Cacacuatique**	**2.18**	**177**	*e*P	Pn	14 59 25.0	+1.2
RBDL	**Robledal**	**2.25**	**216**	*e*P	Pn	14 59 25.0	+0.3
LBRS	**Las Brisas**	**2.31**	**197**	*e*P	Pn	14 59 25.5	0.0
LFU	**La Fuente**	**2.32**	**199**	*e*P	Pn	14 59 25.6	-0.1
NBG	**Las Nubes**	**2.37**	**235**	*e*P	Pn	14 59 30.1	+3.6
NBG				*e*S	Sn	14 59 56.0	+1.4
SNVI	**San Vicente**	**2.38**	**192**	*e*P	Pn	14 59 26.3	-0.3
BOQS	**Boqueron**	**2.39**	**203**	*e*P	Pn	14 59 26.6	-0.1
BOQS				*e*S	Sn	14 59 56.6	+1.6
RTR	**El Retiro**	**2.41**	**212**	*e*P	Pn	14 59 28.0	+1.1
SNJE	**San Jose**	**2.41**	**211**	*e*P	Pn	14 59 27.8	+0.8
LFRS	**El Faro**	**2.42**	**197**	*e*P	Pn	14 59 27.0	-0.1
SBLS	**San Blas**	**2.45**	**211**	*e*P	Pn	14 59 28.3	+0.8
VSM	**San Miguel**	**2.52**	**179**	*e*P	Pn	14 59 28.8	+0.2
VSM				*e*S	Sn	14 59 58.5	+0.3
CNCH	**Conchagua**	**2.71**	**170**	*e*P	Pn	14 59 31.5	+0.5
CNCH				*e*S	Sn	15 00 04.1	+1.5

*NIED **27** 15:23:00,37°.80N×141°.50E,h62km,Mw4.0 Best double couple: M◎9.45000×10^14 NP1:φ◎226.00000°,δ62.00000°, λ108.00000°. NP2:φ◎12.00000°,δ33.00000°,λ60.00000°.*

*ISCJB **27** 15:23:28.6±0.6,37°.81N±0°.03×141°.58E±0°.07,h66km±5km, mb3.8/15, Error ellipse: s-maj=9.9km s-min=4.7km az=20.5*

*IDC **27** 15:23:29.7±0.6,37°.80N×141°.41E,h60km±5km,mb3.6/15, mb1 3.8/18,mb1mx3.7/29,mbtmp3.7/18, Error ellipse: s-maj=16.2km s-min=11.5km az=97.0*

*JMA **27** 15:23:30.0,37°.82N×141°.49E,h60km±1km,M4.1*

JMA Felt II J1.

ISC 27 15:23:29.6±0.6,37°.80N±0°.04×141°.56E±0°.06,h59km±5km, n39,σ0s84/52,mb3.8/15,4C-7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.61**	**276**	↑P	**Pn**	**15 23 42.7**	**0.0**
JMM				S	**Sn**	**15 23 51.8**	**-0.5**
JIO	**Ouri**	**0.67**	**346**	↑P	**Pn**	**15 23 43.7**	**+0.3**
JIO				S	**Sn**	**15 23 53.5**	**0.0**
JFK	**Kawauchi**	**0.70**	**232**	↓P	**Pn**	**15 23 43.9**	**+0.1**
JFK				S	**Sn**	**15 23 53.7**	**-0.5**
JOU	**Okura**	**0.90**	**309**	↑P	**Pn**	**15 23 46.3**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.93**	**221**	↓P	**Pn**	**15 23 46.8**	**+0.1**
ONAJ				*e*S	**Sn**	**15 23 58.8**	**-0.5**
JFT	**Otama**	**1.01**	**254**	↓P	**Pn**	**15 23 48.0**	**+0.2**
JFT				S	**Sn**	**15 24 01.1**	**-0.1**
JMK	**Ichinoseki**	**1.18**	**347**	↑P	**Pn**	**15 23 50.2**	**+0.3**
JMK				S	**Sn**	**15 24 05.1**	**0.0**
JYS	**Shirataka**	**1.25**	**290**	↓P	**Pn**	**15 23 51.1**	**+0.1**
JYS				*e*S	**Sn**	**15 24 06.2**	**-0.7**
JYK	**Kaneyama**	**1.46**	**320**	↓P	**Pn**	**15 23 54.0**	**+0.3**
JYK				S	**Sn**	**15 24 11.7**	**-0.2**
JFY	**Yanaizu**	**1.53**	**256**	↓P	**Pn**	**15 23 54.9**	**+0.3**
JFY				S	**Sn**	**15 24 13.3**	**-0.2**
JYA	**Atsumi**	**1.66**	**299**	P	**Pn**	**15 23 56.3**	**-0.1**
JOM	**Ohasama**	**1.68**	**353**	↓P	**Pn**	**15 23 57.1**	**+0.4**
JOM				S	**Sn**	**15 24 17.5**	**+0.3**
MJAR	**Matsushiro Arr**	**2.96**	**246**	P	**Pn**	**15 24 15.1**	**+1.0**
	8.7nm,0.3s,baz=53,slow=11,SNR=94						
MJAR				S	**Sn**	**15 24 55.5**	**+7.1**
	6.9nm,0.3s,baz=85,slow=29,SNR=5.1						
MAT	**Matsushiro**	**2.96**	**246**	P	**Pn**	**15 24 15.4**	**+1.2**
MAT				S	**Sn**	**15 24 51.3**	**+2.8**
ASAJ	**Asahikawa**	**6.36**	**7**	P	**Pn**	**15 24 59.6**	**-1.0**
	1.4nm,0.3s,baz=202,slow=10.0,SNR=28						
ASAJ				S	**Sn**	**15 26 11.2**	**-0.6**
	0.6nm,0.3s,baz=148,slow=30,SNR=1.3						
USRK	**Ussuriysk Arra**	**9.65**	**314**	P	**Pn**	**15 25 46.5**	**+0.8**
	0.8nm,0.3s,baz=121,slow=14,SNR=19						
JCJ	**Chichijima**	**10.69**	**177**	P	**Pn**	**15 25 58.2**	**-1.7**
	2.7nm,0.3s,baz=342,slow=20,SNR=6.4						
JCJ				S	Sn	15 27 47.9	-10
	4.1nm,0.3s,baz=321,slow=18,SNR=2.0						
KSRS	**Korea Array**	**10.82**	**272**	P	Pn	15 26 04.8	+3.0
	0.3nm,0.3s,baz=81,slow=14,SNR=7.6						
SONM	**Songino Array**	**27.46**	**303**	P	**P**	**15 29 09.5**	**-0.6**
	0.6nm,0.4s,baz=38,slow=8.7,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**28.45**	**122**	T	T	15 59 36.5	
	baz=318,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.46**	**122**	T	T	15 59 34.9	
	baz=318,slow=75,SNR=257						
H11N3	**WAKE ISLAND Hy**	**28.47**	**122**	T	T	15 59 37.8	
	baz=318,slow=75,SNR=591						
H11S1	**WAKE ISLAND Hy**	**29.19**	**124**	T	T	16 00 29.8	
	baz=320,slow=76,SNR=269						
H11S3	**WAKE ISLAND Hy**	**29.19**	**124**	T	T	16 00 30.0	
	baz=320,slow=76,SNR=256						
H11S2	**WAKE ISLAND Hy**	**29.20**	**124**	T	T	16 00 31.2	
	baz=320,slow=76,SNR=209						
ZALV	**Zalesovo Beam**	**41.49**	**312**	P	**P**	**15 31 10.0**	**-0.6**
	1.7nm,0.5s,baz=88,slow=7.1,SNR=11						
ZALV				pP	**pP**	**15 31 25.0**	**-0.7**
	0.5nm,0.3s,baz=85,slow=9.5,SNR=2.8						
ZALV				PcP	**PcP**	**15 33 07.9**	**+0.7**
	0.2nm,0.3s,baz=64,slow=6.7,SNR=2.7						
ZALV				pPcP		15 33 24.0	
	0.7nm,0.6s,baz=116,slow=3.4,SNR=3.7						
MKAR	**Makanchi Array**	**43.81**	**301**	P	**P**	**15 31 28.9**	**-0.7**
	1.0nm,0.7s,baz=90,slow=9.0,SNR=13						
MKAR				pP	**pP**	**15 31 44.7**	**-0.1**
	0.4nm,0.5s,baz=84,slow=11,SNR=3.0						
ILAR	**Eielson Array**	**48.78**	**33**	P	**P**	**15 32 08.3**	**+0.1**
	0.4nm,0.5s,baz=264,slow=5.7,SNR=9.0						
ILAR				pP	**pP**	**15 32 24.8**	**+1.2**
	0.6nm,0.9s,baz=269,slow=6.3,SNR=2.8						
INK	**Inuvik**	**53.65**	**27**	P	**P**	**15 32 46.0**	**+1.4**
	0.5nm,0.5s,baz=278,slow=7.1,SNR=5.7						
INK				pP	**pP**	**15 33 02.4**	**+2.2**
	0.7nm,0.7s,baz=297,slow=4.5,SNR=2.2						
FITZ	**Fitzroy Crossi**	**57.59**	**198**	P	**P**	**15 33 13.5**	**+0.1**
	1.2nm,0.6s,baz=45,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**57.84**	**188**	P	**P**	**15 33 14.3**	**-0.8**
	4.6nm,0.6s,baz=6.0,slow=7.3,SNR=85						
ASAR	**Alice Springs**	**61.56**	**188**	P	**P**	**15 33 40.6**	**-0.1**
	1.3nm,0.7s,baz=12,slow=5.6,SNR=30						
YKA	**Yellowknife Ar**	**63.09**	**30**	P	**P**	**15 33 50.7**	**+0.3**
	0.2nm,0.5s,baz=306,slow=7.5,SNR=4.3						
FINES	**FINESS Array B**	**68.19**	**332**	P

PCIG		**2.55**	**98**	*e*P	Pn	15 40 47.6	-1.0
PCIG				*e*S	Sn	15 41 16.6	-2.0
TLIG	**Tlapa**	**2.99**	**300**	*e*P	Pn	15 40 53.5	-1.3
TLIG				*e*S	Sn	15 41 28.5	-1.2

IDC **27** *16:21:47.9±0.9, 12°.42N×120°.60E, h0km, mb3.9/7, mb1 1.1/7, mb1mx3.7/25, mbtmp3.9/7, Error ellipse: s-maj=34.4km s-min=15.6km az=74.0*
MAN **27** *16:21:49, 12°.43N×120°.44E, h11km, mb4.8, ML3.7, MS3.7*
ISCJB **27** *16:21:50.0±0.7, 12°.42N±0°.03×120°.42E±0°.03, h18km±7km, mb3.9/7, Error ellipse: s-maj=5.1km s-min=4.8km az=9.2*
ISC 27 16:21:48.7±1.4**, 12°.44N**±0°.03×**120°.45E**±0°.03**, h4**km±10km**, n26,** σ1§**04/39, mb4.0/7, 1C-3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.50**	**209**	*e*P		**Pb**		**16 21 59.5**	**-0.6**
BUSP				*e*S		**Sb**		**16 22 07.6**	**-0.1**
SJMP	**San Jose**	**0.66**	**88**	*e*P		**Pb**		**16 22 02.0**	**-0.7**
SJMP				*e*S		**Sb**		**16 22 11.5**	**-0.8**
LUBP	**Lubang**	**1.30**	**351**	*e*P		**Pn**		**16 22 12.4**	**-1.2**
LUBP				*e*S		**Sb**		**16 22 30.4**	**-0.4**
OTRP	**Odiongan**	**1.54**	**93**	*e*P		**Pn**		**16 22 15.8**	**-1.2**
OTRP				*e*S		**Sg**		**16 22 39.5**	**+1.3**
ENPP	**El Nido**	**1.58**	**219**	*e*P		**Pn**		**16 22 16.8**	**-0.7**
ENPP				*e*S		**Sn**		**16 22 37.6**	**-0.9**
CUYO	**Cuyo Island**	**1.68**	**160**	*e*P		**Pg**		**16 22 20.7**	**-0.2**
TGY	**Tagaytay City**	**1.72**	**16**⇓	*e*P		**Pn**		**16 22 19.8**	**+0.4**
TGY				*e*S		**Sg**		**16 22 43.8**	**-0.1**
TGY	**Tagaytay City**	**1.72**	**16**	Pn		**Pn**		**16 22 19.8**	**+0.4**
	402nm,0.3s,baz=194,slow=2.5,SNR=32								
TGY				Sn		**Sb**		**16 22 43.0**	**+0.1**
	213nm,0.3s,baz=311,slow=13,SNR=5.6								
LQP	**Lukban**	**1.97**	**33**⇓	*e*P		**Pn**		**16 22 23.7**	**+0.6**
KALP	**Kalibo**	**2.00**	**112**	*e*P		**Pn**		**16 22 22.3**	**-1.0**
AUQP	**San Andres**	**2.34**	**68**	*e*P		**Pg**		**16 22 32.8**	**-0.9**
RCP	**Roxas**	**2.42**	**111**⇓	*e*P		**Pn**		**16 22 29.2**	**+0.1**
RCP				*e*S		**Sn**		**16 22 58.4**	**-0.7**
GQP	**Guinayangan**	**2.43**	**53**	*e*P		**Pb**		**16 22 30.8**	**-2.2**
GQP				*e*S		**Sb**		**16 23 02.6**	**-0.8**
POLP	**Polilio Island**	**2.70**	**32**	*e*P		**Pb**		**16 22 37.1**	**-0.4**
POLP				*e*S		**Sg**		**16 23 17.3**	**+1.9**
GUIM	**Jordan**	**2.77**	**130**	*e*P		**Pn**		**16 22 34.3**	**+0.4**
GUIM				*e*S		**Sn**		**16 23 08.7**	**+0.9**
BOLP	**Bolinao**	**3.95**	**353**	*e*P		**Pg**		**16 23 05.0**	**+0.6**
LLP	**Lapu-Lapu**	**4.05**	**121**⇑	*e*P		**Pn**		**16 22 52.5**	**+1.0**
LLP				*e*S		**Sn**		**16 23 40.4**	**+1.0**
OCLP	**Ormoc**	**4.31**	**108**	*e*P		**Pn**		**16 22 56.5**	**+1.4**
MSLP	**Maasin**	**4.90**	**117**	*e*P		**Pn**		**16 23 05.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**21.56**	**289**	P		**P**		**16 26 41.6**	**+2.1**
	2.9nm,0.9s,baz=103,slow=9.0,SNR=20								
WRA	**Warramunga Arr**	**34.97**	**157**	P		**P**		**16 28 40.7**	**-1.5**
	2.2nm,0.7s,baz=338,slow=9.4,SNR=16								
SONM	**Songino Array**	**37.19**	**344**	P		**P**		**16 29 00.7**	**-0.5**
	1.8nm,0.6s,baz=155,slow=8.8,SNR=11								
ASAR	**Alice Springs**	**38.23**	**160**	P		**P**		**16 29 09.5**	**-0.5**
	1.0nm,0.6s,baz=338,slow=7.1,SNR=19								
MKAR	**Makanchi Array**	**46.90**	**324**	P		**P**		**16 30 20.7**	**+0.4**
	1.1nm,0.9s,baz=129,slow=9.6,SNR=7.4								
MKAR				PcP		**PcP**		**16 31 53.4**	**+0.3**
	0.7nm,0.8s,baz=93,slow=5.8,SNR=3.6								
ZALV	**Zalesovo Beam**	**50.06**	**333**	P		**P**		**16 30 44.0**	**-0.4**
	0.8nm,0.4s,baz=117,slow=8.5,SNR=5.3								
FINES	**FINESS Array B**	**81.26**	**331**	P		**P**		**16 34 06.8**	**+0.9**
	1.9nm,0.9s,baz=72,slow=10,SNR=4.3								

IDC 27 16:22:12.5±1.8**, 13°.62N×93°.81E, h0**km**, mb3.2/3, mb1 3.3/4, mb1mx3.1/27, mbtmp3.1/4, ML3.1/1, Error ellipse: s-maj=47.1km s-min=26.3km az=73.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.89**	**45**	Pn		Pn		16 23 55.8	+0.9
	0.1nm,0.3s,baz=244,slow=16,SNR=3.0								
CMAR				Sn		Sn		16 25 13.3	-0.8
	0.1nm,0.3s,baz=102,slow=33,SNR=4.4								
MKAR	**Makanchi Array**	**34.46**	**346**	P		P		16 29 01.9	-0.1
	0.2nm,0.7s,baz=179,slow=10,SNR=3.2								
WRA	**Warramunga Arr**	**51.98**	**129**	P		P		16 31 23.9	0.0
	0.3nm,0.8s,baz=308,slow=7.3,SNR=2.3								
ASAR	**Alice Springs**	**53.94**	**133**	P		P		16 31 38.0	-0.3
	0.1nm,0.4s,baz=311,slow=7.1,SNR=4.5								

ISCJB **27** *16:23:13.6±0.6, 6°.94N±0°.07×73°.09W±0°.07, h166km, mb3.4/3, Error ellipse: s-maj=12.2km s-min=6.4km az=39.2*
FUNV **27** *16:23:14.7, 6°.82N×73°.16W, h154km, MW3.1*
IDC **27** *16:23:16.4±2.4, 6°.38N×73°.11W, h208km±111km, mb3.1/3, mb1 3.4/3, mb1mx2.9/21, mbtmp3.1/3, Error ellipse: s-maj=210.3km s-min=52.5km az=165.0*
ISC 27 16:23:14.5±1.0**, 6°.90N**±0°.07×**73°.06W**±0°.08**, h166**km**, n16,** σ1§**17/20, mb3.6/3, 2C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**37**⇑	*i*P		**Pn**		**16 23 43.2**	**+0.3**
CAPV				*e*S		**Sn**		**16 24 02.5**	**-2.2**
ROSC	**El Rosal**	**2.39**	**212**	P		**Pn**		**16 23 54.8**	**-0.8**
	32nm,0.3s,baz=74,slow=0.9,SNR=38								
ROSC				S		**Sn**		**16 24 26.1**	**-1.2**
	61nm,0.3s,baz=107,slow=17,SNR=8.5								
SOCV	**Socops**	**2.58**	**58**	*e*P		**Pn**		**16 23 57.3**	**-0.1**
SOCV				*e*S		**Sn**		**16 24 29.9**	**-0.8**
ELOV	**Elorza**	**3.55**	**88**⇑	*e*P		**Pn**		**16 24 09.2**	**-0.2**
VIRV	**Villa del Rosa**	**3.64**	**10**	*e*P		**Pn**		**16 24 10.0**	**-0.6**
VIRV				*e*S		**Sn**		**16 24 51.1**	**-3.2**
QARV	**Quebrada Arrib**	**4.13**	**37**	*e*P		**Pn**		**16 24 17.4**	**+0.4**
SANV	**Sanarito**	**4.34**	**53**	*e*P		**Pn**		**16 24 19.2**	**-0.5**
CURV	**Curarigua**	**4.35**	**44**	*e*P		**Pn**		**16 24 20.0**	**+0.1**
DABV	**Dabajuro**	**4.66**	**31**	*e*P		**Pn**		**16 24 24.3**	**+0.5**
SIQV	**Siquisique**	**4.92**	**41**	*e*P		**Pn**		**16 24 26.7**	**-0.5**
BAUV	**El Baul**	**5.37**	**67**	*e*P		**Pn**		**16 24 32.4**	**-0.7**
MAPV	**Macapo**	**5.40**	**57**	*e*P		**Pn**		**16 24 33.7**	**+0.1**
MONV	**Montecano**	**5.88**	**31**	*e*P		**Pn**		**16 24 39.5**	**-0.2**
TXAR	**Lajitas Array**	**36.46**	**312**	P		**P**		**16 30 04.2**	**+0.4**
	0.1nm,0.5s,baz=130,slow=8.4,SNR=3.6								
SCHQ	**Schefferville**	**48.06**	**5**	P		**P**		**16 31 38.7**	**+1.7**
	2.2nm,0.8s,baz=186,slow=9.2,SNR=2.4								
YKA	**Yellowknife Ar**	**63.21**	**340**	P		**P**		**16 33 25.3**	**+0.5**
	0.5nm,0.6s,baz=135,slow=6.8,SNR=13								

ISCJB **27** *16:32:49.7±0.7, 3°.45S±0°.07×139°.7E±0°.1, h37km, mb3.5/6, Error ellipse: s-maj=17.2km s-min=9.5km az=8.7*
IDC **27** *16:32:53.1±3.3, 3°.53S×139°.65E, h51km±31km, mb3.3/7, mb1 3.7/10, mb1mx3.5/20, mbtmp3.5/10, ML3.6/3, Error ellipse: s-maj=29.3km s-min=11.5km az=104.0*
ISC 27 16:32:51.9±0.8**, 3°.49S**±0°.08×**139°.6E**±0°.1**, h37**km**, n11,** σ0§**95/14, mb3.5/6, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.56**	**128**	P		**Pn**		**16 35 07.6**	**+0.6**
	0.5nm,0.3s,baz=311,slow=7.3,SNR=4.5								
WRA	**Warramunga Arr**	**17.13**	**197**	P		**Pn**		**16 36 48.2**	**-0.3**
	0.4nm,0.3s,baz=20,slow=13,SNR=16								
WRA				S		**Sn**		**16 39 58.0**	**-0.1**
	0.2nm,0.3s,baz=9.6,slow=22,SNR=4.8								
FITZ	**Fitzroy Crossi**	**19.92**	**222**	P		**Pn**		**16 37 21.6**	**-0.8**
	0.2nm,0.3s,baz=46,slow=12,SNR=7.6								
FITZ				S		**S**		**16 41 03.0**	**+0.1**
	0.2nm,0.3s,baz=175,slow=11,SNR=5.4								
ASAR	**Alice Springs**	**20.79**	**195**	P		**P**		**16 37 30.5**	**+0.5**
	2.3nm,0.6s,baz=26,slow=10,SNR=35								
ASAR				S		**S**		**16 41 20.7**	**+0.6**
	0.9nm,0.9s,baz=22,slow=23,SNR=6.1								
SONM	**Songino Array**	**58.79**	**334**	P		**P**		**16 42 46.4**	**-0.1**
	0.3nm,0.7s,baz=134,slow=4.2,SNR=2.5								
MKAR	**Makanchi Array**	**70.93**	**322**	P		**P**		**16 44 05.7**	**+0.2**
	0.2nm,0.6s,baz=96,slow=8.2,SNR=4.1								
KURBB	**Kurchatov Arra**	**74.86**	**325**	P		**P**		**16 44 28.0**	**-0.6**
	0.1nm,0.3s,baz=123,slow=4.5,SNR=3.0								
VNDA	**Vanda**	**74.93**	**175**	P		**P**		**16 44 27.3**	**-1.3**
	1.0nm,0.7s,baz=290,slow=1.7,SNR=6.5								
BVAR	**Borovoye Array**	**80.44**	**325**	P		**P**		**16 45 01.6**	**+1.9**
	0.3nm,0.6s,baz=91,slow=5.8,SNR=3.0								
ILAR	**Eielson Array**	**86.19**	**24**	P		**P**		**16 45 27.8**	**-1.3**
	0.7nm,1.0s,baz=240,slow=7.2,SNR=4.4								
DBIC	**Dimbokro**	**144.43**	**277**	PKP		**PKPdf**		**16 52 26.2**	**+0.8**
	1.4nm,0.4s,baz=151,slow=3.4,SNR=5.2								

NNC 27 16:42:13.4±6.5**, 36°.87N×70°.58E, h171**km±140km**, mb2.7, mpv3.6, 4C-2D, Error ellipse: s-maj=66.2km s-min=37.4km az=16.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.22**	**360**	⇓P		Pn		16 43 43.4	+0.2
	1.2nm,0.2s,baz=171,slow=9.6,SNR=140								
KK31				⇑S		Sn		16 44 53.7	-0.1
	0.6nm,0.3s,baz=190,slow=26,SNR=4.3								
AAK	**Ala-Archa**	**6.50**	**26**	⇑P		Pn		16 43 46.6	-0.4
	1.5nm,0.5s								
AAK				⇓S		Sn		16 45 02.7	+2.0
	2.8nm,0.6s								
TKM2	**Tokmak 2**	**7.17**	**31**	⇑P		Pn		16 43 55.7	-0.2
	3.7nm,0.5s								
TKM2				⇑S		Sn		16 45 15.0	-1.8
	1.7nm,0.7s								
AB31	**Akbulak array**	**14.60**	**331**	P		Pn		16 45 32.0	+0.4
	0.7nm,0.7s,baz=148,slow=12,SNR=9.3								

ISCJB **27** *16:44:23.1±1.2, 11°.7S±0°.1×166°.3E±0°.2, h59km, mb3.7/7, MS3.5/1, Error ellipse: s-maj=23.3km s-min=16.5km az=162.2*
IDC **27** *16:44:26.5±3.8, 11°.73S×166°.31E, h77km±31km, mb3.5/7, mb1 3.7/9, mb1mx3.5/22, mbtmp3.6/9, MS3.2/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=34.2km s-min=26.3km az=117.0*
ISC 27 16:44:24.4±1.2**, 11°.6S**±0°.1×**166°.4E**±0°.2**, h59**km**, n9,** σ1§**14/10, mb3.8/7, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.70**	**288**	P		**Pn**		**16 46 01.5**	**+1.3**
	9.8nm,0.3s,baz=128,slow=5.0,SNR=5.8								
HNR				LR		LR		16 47 55.0	
	comp=Z,95nm,18.2s,baz=58,slow=31								
DZM	**Mont Dzumac**	**10.38**	**180**	P		**Pn**		**16 46 51.8**	**+1.1**
	0.2nm,0.3s,baz=113,slow=17,SNR=2.3								
STKA	**Stephens Creek**	**30.46**	**225**	P		**P**		**16 50 31.5**	**-0.2**
	1.2nm,0.7s,baz=24,slow=7.7,SNR=6.8								
WRA	**Warramunga Arr**	**31.88**	**251**	P		**P**		**16 50 43.5**	**-0.9**
	0.7nm,0.8s,baz=85,slow=9.4,SNR=12								
ASAR	**Alice Springs**	**33.10**	**244**	P		**P**		**16 50 53.3**	**-1.8**
	0.5nm,0.7s,baz=68,slow=9.8,SNR=14								
ASAR				PcP		**PcP**		**16 53 36.3**	**-1.1**
	0.3nm,0.8s,baz=43,slow=2.7,SNR=4.4								
FITZ	**Fitzroy Crossi**	**39.84**	**256**	P		**P**		**16 51 52.4**	**-0.1**
	1.6nm,0.8s,baz=47,slow=6.2,SNR=4.9								
CMAR	**Chiang Mai Arr**	**72.92**	**294**	P		**P**		**16 55 48.8**	**+0.8**
	1.0nm,0.8s,baz=127,slow=4.3,SNR=9.8								
CMAR				LR		LR		17 24 45.3	
	comp=Z,30nm,20.7s,baz=346,slow=33								
ILAR	**Eielson Array**	**83.87**	**18**	P		**P**		**16 56 47.7**	**+0.3**
	0.4nm,0.6s,baz=231,slow=5.2,SNR=8.0								
MKAR	**Makanchi Array**	**94.38**	**317**	P		**P**		**16 57 37.2**	**-0.7**
	0.3nm,0.6s,baz=101,slow=6.3,SNR=4.7								

IDC **27** *16:46:37.7±31.0, 2°.01S×100°.96E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/24, mbtmp3.5/3, Error ellipse: s-maj=576.5km s-min=204.7km az=139.0*
DJA **27** *16:46:50.9±8.2, 6°.S±32°.×10°.E±3°.1, h494km±83km, M3.0/6, MLv3.0/6*
ISC 27 16:46:42.6±3.0**, 2°.6S**±0°.8×**101°.1E**±0°.6**, h10**km**, n7,** σ0§**81/6, mb3.3/3, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDSI	**Maura Dua**	**3.63**	**122**	P		**Pg**		**16 47 52.3**	**+0.2**
LWLI	**Liwa**	**3.84**	**130**	P		**Pb**		**16 47 51.0**	**+0.5**
KLSI		**4.20**	**120**	P		Pn		16 47 50.5	+3.7
KASI	**Kota Agung**	**4.50**	**131**	P		**Pn**		**16 47 49.7**	**-1.1**
WRA	**Warramunga Arr**	**36.77**	**121**	P		**P**		**16 53 50.3**	**-0.4**
	0.2nm,0.8s,baz=297,slow=9.2,SNR=12								
ASAR	**Alice Springs**	**38.05**	**126**	P		**P**		**16 54 01.9**	**+0.4**
	0.1nm,0.3s,baz=300,slow=8.1,SNR=9.7								
STKA	**Stephens Creek**	**47.97**	**132**	P		**P**		**16 55 22.2**	**+0.4**
	1.0nm,0.5s,baz=307,slow=6.8,SNR=6.6								

MEX 27 16:47:35.2±0.3**, 16°.80N×99°.71W, h16**km±28km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.33**	**55**	*i* P		Pn		16 47 55.9	-3.4
TLIG				*i* S		Sn		16 48 11.2	-5.5
ARIG	**Puente Sto Nin**	**1.60**	**338**	*i* P		Pn		16 47 59.3	-3.5
ARIG				*i* S		Sn		16 48 17.7	-5.4
PLIG	**Platanillo**	**1.60**	**7**	*i* P		Pn		16 47 59.5	-3.5
PLIG				*i* S		Sn		16 48 18.8	-4.5

IDC **27** *16:55:14.6±3.6, 8°.96S×117°.60E, h25km±21km, mb3.8/10, mb1 3.8/12, mb1mx3.7/25, mbtmp3.8/12, ML3.9/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=57.6km s-min=13.8km az=53.0*
ISCJB **27** *16:55:15.6±0.3, 9°.20S±0°.04×117°.75E±0°.03, h35km, mb3.9/10, Error ellipse: s-maj=6.6km s-min=3.7km az=20.7*
AUST **27** *16:55:15.7, 8°.99S×117°.95E, h25km*
DJA **27** *16:55:18.3±0.3, 9°.S±5°.×11°.8E±°., h88km±21km, M4.6/25, mb4.7/14, mB4.9/5, MLv4.8/25, Mw(mB)4.2/5*
ISC 27 16:55:17.1±0.6**, 9°.13S**±0°.06×**117°.72E**±0°.06**, h35**km**, n63,** σ1§**59/54, mb3.9/10, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.61**	**288**	P		**Pn**		**16 55 45.5**	**+2.5**
KHKI	**Kahang-Kahang**	**2.22**	**290**	P		**Pn**		**16 55 52.4**	**+1.0**
LBFI	**Labuhan Bajo,**	**2.24**	**73**	P		**Pn**		**16 55 54.3**	**+2.6**
DNP	**Denpasar**	**2.52**	**280**	P		**Pn**		**16 55 57.6**	**+2.1**
IGBI	**Denpasar**	**2.56**	**277**	P		**Pn**		**16 55 56.8**	**+0.7**
WSI	**Waingapu**	**2.60**	**102**	P		**Pn**		**16 55 56.9**	**+0.3**
WSI	**Waingapu**	**2.60**	**102**	P		**Pn**		**16 55 56.4**	**-0.2**
	baz=2.4,SNR=20								
SRBI	**Singaraja**	**2.69**	**292**	P		**Pn**		**16 55 58.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**3.59**	**280**	P		**Pn**		**16 56 10.6**	**+0.4**
	baz=5.8,SNR=444								
ABJI	**Asem Bagus**	**3.69**	**291**	P		**Pn**		**16 56 13.6**	**+1.9**
KMMI	**Kalianget**	**4.25**	**299**	P		**Pn**		**16 56 21.4**	**+2.0**
BLJI	**Banyuglugur**	**4.31**	**288**	P		**Pn**		**16 56 21.2**	**+1.1**
GMJI	**Gumukmas**	**4.31**	**281**	P		**Pn**		**16 56 20.7**	**+0.5**
BKSI	**Bulukumba**	**4.47**	**32**	P		**Pn**		**16 56 23.5**	**+1.1**
MMRI	**Maumere**	**4.49**	**84**	P		**Pn**		**16 56 24.9**	**+2.2**
BNSI	**Bone**	**5.26**	**27**	P		**Pn**		**16 56 35.8**	**+2.6**
	115nm,0.7s,1µm0.7nm								
KRKI	**Karangkates**	**5.30**	**280**	P		Pn		16 56 37.7	+4.0
SPSI	**Sidrap Palu**	**5.52**	**22**	P		**Pn**		**16 56 37.5**	**+0.7**
	37nm,0.6s,5nm0.2nm								
GRJI	**Gresik**	**5.64**	**293**	P		**Pn**		**16 56 40.0**	**+1.6**
	115nm,0.6s,2µm0.5nm								
MJSI	**Majene**	**5.68**	**13**	P		**Pn**		**16 56 41.0**	**+2.0**
	67nm,0.9s,1µm0.4nm								
PWJI	**Pagerwojo**	**5.95**	**280**	P		**Pn**		**16 56 42.7**	**-0.1**
	65nm,0.7s,0.9nm								
BBKI	**Banjar Baru**	**6.31**	**333**	P		**Pn**		**16 56 49.0**	**+1.3**
	56nm,0.8s,0.3nm								
SOEI	**Soe**	**6.49**	**96**	P		**Pn**		**16 56 53.3**	**+3.0**
	84nm,0.9s,0.3nm								
SOEI	**Soe**	**6.49**	**96**	P		**Pn**		**16 56 53.2**	**+3.0**
	baz=6.3,SNR=29								
MMSI	**Mamuju**	**6.50**	**11**	P		**Pn**		**16 56 51.8**	**+1.4**
	33nm,1.4s,0.1nm								
PCJI	**Pacitan**	**6.54**	**278**	P		**Pn**		**16 56 51.0**	**+0.2**
	64nm,1.1s,1µm0.6nm								
UGM	**Wanagama**	**7.22**	**279**	P		**Pn**		**16 56 59.3**	**-0.9**
	70nm,0.8s,0.6nm								
UGM	**Wanagama**	**7.22**	**279**	P		**Pn**		**16 57 03.4**	**+3.1**
	baz=7.4,SNR=4.9								
UWJI	**Ujung Watu**	**7.23**	**291**	P		**Pn**		**16 57 01.8**	**+1.5**
	131nm,0.9s,0.5nm								
CMJI	**Cimerak**	**9.27**	**278**	P		**Pn**		**16 57 27.8**	**-0.5**
	48nm,1.3s								
CISI	**Cisompet, Garu**	**9.93**	**278**	P		**Pn**		**16 57 35.7**	**-1.7**
	43nm,1.0s								
CISI	**Cisompet, Garu**	**9.93**	**278**	P		**Pn**		**16 57 36.8**	**-0.6**
	baz=10,SNR=9.1								
FITZ	**Fitzroy Crossi**	**11.78**	**140**	Pn		**Pn**		**16 58 01.9**	**-0.8**
	0.4nm,0.3s,baz=330,slow=10,SNR=14								
FITZ				Sn		Sn		17 00 06.5	-6.5
	0.5nm,0.3s,baz=168,slow=20,SNR=3.6								
FITZ				LR		LR		17 02 43.4	
	comp=Z,63nm,19.0s,baz=294,slow=38								
FITZ	**Fitzroy Crossi**	**11.78**	**140**	P		**Pn**		**16 58 01.7**	**-0.9**
	baz=12,SNR=16								
CGJI	**Cibinong**	**12.17**	**281**	P		**Pn**		**16 58 05.7**	**-2.4**
KNRA	**Kununurra**	**12.59**	**122**	P		**Pn**		**16 58 13.4**	**-0.5**
	baz=12,SNR=29								
MTN	**Manton Dam**	**13.67**	**107**	P		**Pn**		**16 58 26.9**	**-1.7**
	baz=14,SNR=45								
GIRL	**Giralia**	**13.85**	**194**	P		**Pn**		**16 58 30.4**	**-0.6**
	baz=14,SNR=3.9								
KDU	**Kakadu**	**14.91**	**105**	P		**Pn**		**16 58 44.2**	**-1.2**
	baz=15,SNR=7.3								
FAKI	**Fak Fak**	**15.70**	**68**	P		**Pn**		**16 58 55.6**	**-0.3**
	baz=16,SNR=4.4								
MEEK	**Meekatharra**	**17.44**	**177**	P		**P**		**16 59 19.6**	**+1.0**
	baz=18,SNR=16								
WRKA	**Warakurna**	**18.76**	**149**	P		**Pn**		**16 59 34.9**	**+1.0**
	baz=19,SNR=20								
WRA	**Warramunga Arr**	**19.33**	**126**	P		**P**		**16 59 39.6**	**+0.1**
	0.4nm,0.3s,baz=299,slow=12,SNR=34								
WRA				S				17 03 09.0	-7.6
	0.1nm,0.3s,baz=27,slow=12,SNR=6.7								
WRA				ScP		**ScP**		**17 07 34.0**	**-0.7**
	0.0nm,0.3s,baz=326,slow=2.1,SNR=4.9								
MORW	**Morawa**	**19.90**	**184**	P		**Pn**		**16 59 50.5**	**+3.0**
	baz=20,SNR=7.0								
ASAR	**Alice Springs**	**21.18**	**135**	P		**P**		**17 00 00.3**	**+0.7**
	2.7nm,0.6s,baz=311,slow=8.9,SNR=65								
ASAR				ScP		**ScP**		**17 07 39.0**	**0.0**
	0.8nm,1.0s,baz=324,slow=1.9,SNR=5.0								
COEN	**Coen**	**25.39**	**103**	P		**P**		**17 00 41.9**	**+0.4**
	baz=25,SNR=6.9								
CTA	**Charters Tower**	**29.63**	**115**	P		**P**		**17 01 20.1**	**+0.6**
	2.8nm,0.7s,baz=276,slow=12,SNR=4.2								
HTT	**Hallett**	**31.09**	**144**	P		P		17 01 36.6	+4.4
	baz=31,SNR=4.5								
STKA	**Stephens Creek**	**31.67**	**139**	P		**P**		**17 01 38.4**	**+1.0**
	0.7nm,0.4s,baz=305,slow=19,SNR=7.3								
STKA	**Stephens Creek**	**31.67**	**139**	P		**P**		**17 01 38.7**	**+1.4**
	baz=32,SNR=4.3								
CMAR	**Chiang Mai Arr**	**33.09**	**326**	ScP		**ScP**		**17 08 12.2**	**-2.5**
	0.3nm,0.6s,baz=170,slow=3.9,SNR=4.7								
H08S2	**Diego Garcia H**	**44.75**	**268**	T		T		17 51 03.0	
	baz=95,slow=76,SNR=7.3								
H08S3	**Diego Garcia H**	**44.76**	**268**	T		T		17 51 04.2	
	baz=95,slow=76,SNR=8.0								
H08S1	**Diego Garcia H**	**44.77**	**268**	T		T		17 51 02.8	
	baz=95,slow=76,SNR=8.4								
USRK	**Ussuriysk Arra**	**54.63**	**13**	P		P		17 04 39.7	-2.6
	1.2nm,0.4s,baz=190,slow=6.0,SNR=8.0								
SONM	**Songino Array**	**57.59**	**351**	P		**P**		**17 05 01.6**	**-1.9**
	0.5nm,0.5s,baz=169,slow=7.8,SNR=7.0								
MKAR	**Makanchi Array**	**64.00**	**334**	P		P		17 05 44.4	-2.6
	0.8nm,0.6s,baz=146,slow=7.4,SNR=13								
AAK	**Ala-Archa**	**64.87**	**326**	P		**P**		**17 05 51.0**	**-2.0**
	1.2nm,0.8s,baz=127,slow=6.1,SNR=3.6								
KURBB	**Kurchatov Arra**	**68.53**	**334**	P		P		17 06 13.3	-2.6
	0.5nm,0.8s,baz=148,slow=5.4,SNR=9.7								
ZALV	**Zalesovo Beam**	**68.72**	**340**	P		P		17 06 13.7	-3.3
	0.8nm,0.4s,baz=152,slow=4.0,SNR=6.1								
BVAR

IKAS Kald??rsel 6.23 37 P **Pn** 17 10 41.6 -1.6
IKAS S **Sn** 17 11 52.5 -1.5
ISAN Sandskeio 6.34 38 P **Pn** 17 10 42.9 -1.8
ISAN S **Sn** 17 11 54.8 -1.9
IKUD Kuludalsa 6.44 35 P **Pn** 17 10 45.8 -0.2
IKUD S **Sn** 17 11 59.0 -0.1
ISOL Solvholt 6.46 40 P **Pn** 17 10 44.6 -1.7
ISOL S **Sn** 17 11 55.7 -3.8
IASM Asmuli 6.51 42 P **Pn** 17 10 45.7 -1.2
IASM S **Sn** 17 11 57.0 -3.7
IKRO Krokur 6.52 39 P **Pn** 17 10 45.8 -1.3
IKRO S **Sn** 17 11 58.8 -2.1
IHEI Heioarbar 6.55 38 P **Pn** 17 10 45.8 -1.7
IHEI S **Sn** 17 12 00.5 -1.3
ISAU Saurbar 6.68 41 P **Pn** 17 10 47.8 -1.4
ISAU S **Sn** 17 12 01.1 -3.8
BORG Borgarnes 6.92 34 *e*Pn **Pn** 17 10 49.9 -2.7
BORG *e*Sn **Sn** 17 12 08.7 -2.2
BORG Borgarnes 6.92 34 *e*Pn **Pn** 17 10 49.9 -2.7
BORG *e*Sn **Sn** 17 12 08.7 -2.2
BORG Borgarnes 6.92 34 Pn **Pn** 17 10 54.2 +1.7
3.4nm,0.3s,baz=222,slow=8.4,SNR=12
BORG Sn **Sn** 17 12 10.8 -0.1
3.0nm,0.3s,baz=103,slow=23,SNR=11
IASB `sbjarnarst 6.92 34 P **Pn** 17 10 53.7 +1.1
SFJD Kangerlussuaq 11.90 319 Pn **Pn** 17 12 01.1 +0.4
SFJD Sn Sn 17 14 01.6 -11
SFJD Kangerlussuaq 11.90 319 Pn **Pn** 17 12 01.1 +0.4
SFJD Kangerlussuaq 11.90 319 Pn **Pn** 17 12 01.1 +0.4
0.3nm,0.3s,baz=123,slow=6.4,SNR=4.2
SFJD Sn Sn 17 14 01.6 -11
0.2nm,0.3s,baz=107,slow=11,SNR=3.7
SFJD LR LR 17 15 45.4
comp=Z,1µm,21.4s,baz=126,slow=33
SUMG Summit 13.70 350 *e*P Pn 17 12 21.3 -4.3
SUMG *e* 17 14 57.1
SUMG Summit 13.70 350 *e*Pn Pn 17 12 21.3 -4.3
SUMG *e*Sn **Sn** **17 14 57.1 -0.3**
JMIC Jan Mayen 14.76 29 LR LR 17 16 49.3
comp=Z,544nm,21.1s,baz=349,slow=31
EKA Eskdalemuir Ar 15.19 93 Pn **Pn** **17 12 45.3 -0.2**
EKA Eskdalemuir Ar 15.19 93 Pn **Pn** **17 12 45.3 -0.2**
EKA Eskdalemuir Ar 15.19 93 Pn **Pn** **17 12 45.3 -0.2**
baz=304,slow=10,SNR=4.0
FRB Frobisher Bay 18.51 300 P **P** **17 13 27.1 -0.1**
FRB Frobisher Bay 18.51 300 P **P** **17 13 27.1 -0.1**
FRB Frobisher Bay 18.51 300 P **P** **17 13 27.1 -0.1**
0.1nm,0.3s,baz=89,slow=12,SNR=7.4
FRB LR LR 17 19 42.5
comp=Z,1µm,19.5s,baz=104,slow=34
SGMF Saint Gilles 19.66 112 *e*P **P** **17 13 39.6 -0.3**
276nm,1.7s
SGMF Saint Gilles 19.66 112 *e*P **P** **17 13 39.6 -0.3**
SGMF pmax pmax
comp=Z,276nm,1.7s
SGMF Saint Gilles 19.66 112 *e*P **P** **17 13 39.6 -0.3**
comp=Z,276nm,1.7s
SGMF Saint Gilles 19.66 112 *e*P **P** **17 13 39.6 -0.3**
comp=Z,276nm,1.7s
SCHQ Schefferville 20.13 273 P **P** **17 13 43.5 -1.5**
SCHQ Schefferville 20.13 273 P **P** **17 13 43.5 -1.5**
SCHQ Schefferville 20.13 273 P **P** **17 13 43.5 -1.5**
comp=Z,3.8nm,0.7s,baz=85,slow=14,SNR=6.6
SCHQ LR LR 17 20 17.2
comp=Z,698nm,18.1s,baz=251,slow=33
FLN La Foliniere 20.31 108 *e*P **P** **17 13 46.6 -0.4**
comp=Z,182nm,1.6s
FLN *e*R
comp=Z,498nm,22.5s
FLN La Foliniere 20.31 108 *e*P **P** **17 13 46.6 -0.4**
FLN pmax pmax
comp=Z,182nm,1.6s
FLN La Foliniere 20.31 108 *e*P **P** **17 13 46.6 -0.4**
comp=Z,182nm,1.6s
FLN La Foliniere 20.31 108 *e*P **P** **17 13 46.6 -0.4**
comp=Z,182nm,1.6s
GRR Gorron 20.38 109 *e*P **P** **17 13 48.0 +0.2**
comp=Z,202nm,1.7s
GRR Gorron 20.38 109 *e*P **P** **17 13 48.0 +0.2**
GRR pmax pmax
comp=Z,202nm,1.7s
GRR Gorron 20.38 109 *e*P **P** **17 13 48.0 +0.2**
comp=Z,202nm,1.7s
GRR Gorron 20.38 109 *e*P **P** **17 13 48.0 +0.2**
comp=Z,202nm,1.7s
NOA NORSAR Array B 20.52 67 P **P** **17 13 49.4 +0.1**
NOA NORSAR Array B 20.52 67 P **P** **17 13 49.3 +0.1**
NOA NORSAR Array B 20.52 67 P **P** **17 13 49.4 +0.1**
comp=Z,4.8nm,1.1s,baz=282,slow=10,SNR=3.7
NOA LR LR 17 20 46.9
comp=Z,476nm,20.4s,baz=285,slow=34
LDF La Druitiere 20.60 108 *e*P **P** **17 13 50.7 +0.6**
comp=Z,83nm,1.4s
LDF La Druitiere 20.60 108 *e*P **P** **17 13 50.7 +0.6**
LDF pmax pmax
comp=Z,83nm,1.4s
LDF La Druitiere 20.60 108 *e*P **P** **17 13 50.7 +0.6**
comp=Z,83nm,1.4s
LDF La Druitiere 20.60 108 *e*P **P** **17 13 50.7 +0.6**
comp=Z,83nm,1.4s
BAIF Baives 21.80 100 *e*P **P** **17 14 01.9 -1.1**
comp=Z,92nm,1.3s
BAIF Baives 21.80 100 *e*P **P** **17 14 01.9 -1.1**
BAIF pmax pmax
comp=Z,92nm,1.3s
BAIF Baives 21.80 100 *e*P **P** **17 14 01.9 -1.1**
comp=Z,92nm,1.3s
BAIF Baives 21.80 100 *e*P **P** **17 14 01.9 -1.1**
comp=Z,92nm,1.3s
DOU Dourbes 21.98 99 P **P** **17 14 06.1 +1.2**
MFF Saint Martin d 21.99 112 *e*P **P** **17 14 03.6 -1.4**
MFF Saint Martin d 21.99 112 *e*P **P** **17 14 03.6 -1.4**
MFF Saint Martin d 21.99 112 *e*P **P** **17 14 03.6 -1.4**
MFF Saint Martin d 21.99 112 *e*P **P** **17 14 03.6 -1.4**
GIVF Givet 22.09 99 *e*P **P** **17 14 06.1 0.0**
comp=Z,103nm,1.4s
GIVF Givet 22.09 99 *e*P **P** **17 14 06.1 0.0**
GIVF pmax pmax
comp=Z,103nm,1.4s
GIVF Givet 22.09 99 *e*P **P** **17 14 06.1 0.0**
comp=Z,103nm,1.4s
GIVF Givet 22.09 99 *e*P **P** **17 14 06.1 0.0**
comp=Z,103nm,1.4s
BCLA Clavier 22.14 98 P **P** **17 14 08.8 +2.2**
comp=Z,25nm,1.6s
MEM Membach 22.38 97 P **P** **17 14 10.4 +1.2**
MEZF Maizieres J'vi 23.23 102 *e*P **P** **17 14 18.4 +0.3**
comp=Z,77nm,1.3s
MEZF Maizieres J'vi 23.23 102 *e*P **P** **17 14 18.4 +0.3**
comp=Z,77nm,1.3s
MEZF Maizieres J'vi 23.23 102 *e*P **P** **17 14 18.4 +0.3**
comp=Z,77nm,1.3s
SFTF Sexfontaines 23.41 103 *e*P **P** **17 14 19.3 -0.7**
comp=Z,70nm,1.2s
SFTF Sexfontaines 23.41 103 *e*P **P** **17 14 19.3 -0.7**
comp=Z,70nm,1.2s
SFTF Sexfontaines 23.41 103 *e*P **P** **17 14 19.3 -0.7**
comp=Z,70nm,1.2s
SSF Saint Saulge 23.43 106 *e*P **P** **17 14 19.6 -0.6**
comp=Z,32nm,1.1s
SSF Saint Saulge 23.43 106 *e*P **P** **17 14 19.6 -0.6**
SSF pmax pmax
comp=Z,32nm,1.1s
SSF Saint Saulge 23.43 106 *e*P **P** **17 14 19.6 -0.6**
comp=Z,32nm,1.1s
SSF Saint Saulge 23.43 106 *e*P **P** **17 14 19.6 -0.6**
comp=Z,32nm,1.1s
AVF Avril sur Loir 23.55 107 *e*P **P** **17 14 21.7 +0.4**
comp=Z,38nm,1.3s
AVF Avril sur Loir 23.55 107 *e*P **P** **17 14 21.7 +0.4**
AVF pmax pmax
comp=Z,38nm,1.3s
AVF Avril sur Loir 23.55 107 *e*P **P** **17 14 21.7 +0.4**
comp=Z,38nm,1.3s
AVF Avril sur Loir 23.55 107 *e*P **P** **17 14 21.7 +0.4**
comp=Z,38nm,1.3s
RJF Les Rejaudoux 23.73 112 *e*P **P** **17 14 23.1 0.0**
comp=Z,148nm,1.9s
RJF *e*R
comp=Z,686nm,19.0s
RJF Les Rejaudoux 23.73 112 *e*P **P** **17 14 23.1 0.0**
RJF pmax pmax
comp=Z,148nm,1.8s
RJF Les Rejaudoux 23.73 112 *e*P **P** **17 14 23.1 0.0**
comp=Z,148nm,1.8s
RJF Les Rejaudoux 23.73 112 *e*P **P** **17 14 23.1 0.0**
comp=Z,148nm,1.8s
SMF Signal de Mont 23.89 107 *e*P **P** **17 14 23.5 -1.1**
comp=Z,62nm,1.6s
SMF Signal de Mont 23.89 107 *e*P **P** **17 14 23.5 -1.1**
SMF pmax pmax
comp=Z,62nm,1.6s
SMF Signal de Mont 23.89 107 *e*P **P** **17 14 23.5 -1.1**
comp=Z,62nm,1.6s
SMF Signal de Mont 23.89 107 *e*P **P** **17 14 23.5 -1.1**
comp=Z,62nm,1.6s
SJPF Ste Jean 24.14 119 *e*P **P** **17 14 26.0 -1.0**
comp=Z,62nm,1.3s
SJPF Ste Jean 24.14 119 *e*P **P** **17 14 26.0 -1.0**
SJPF pmax pmax
comp=Z,62nm,1.3s
SJPF Ste Jean 24.14 119 *e*P **P** **17 14 26.0 -1.0**
comp=Z,62nm,1.3s
SJPF Ste Jean 24.14 119 *e*P **P** **17 14 26.0 -1.0**
comp=Z,62nm,1.3s
HAU Haudompre 24.20 102 *e*P **P** **17 14 27.9 +0.3**
comp=Z,65nm,1.6s
HAU *e*R
comp=Z,1µm,19.8s
HAU Haudompre 24.20 102 *e*P **P** **17 14 27.9 +0.3**
HAU pmax pmax
comp=Z,65nm,1.6s
HAU Haudompre 24.20 102 *e*P **P** **17 14 27.9 +0.3**
comp=Z,65nm,1.6s
HAU Haudompre 24.20 102 *e*P **P** **17 14 27.9 +0.3**
comp=Z,65nm,1.6s
CDF Champ du Feu 24.41 100 *e*P **P** **17 14 30.8 +1.3**
comp=Z,38nm,1.4s
CDF Champ du Feu 24.41 100 *e*P **P** **17 14 30.8 +1.3**
CDF pmax pmax
comp=Z,38nm,1.4s
CDF Champ du Feu 24.41 100 *e*P **P** **17 14 30.8 +1.3**
comp=Z,38nm,1.4s
CDF Champ du Feu 24.41 100 *e*P **P** **17 14 30.8 +1.3**
comp=Z,38nm,1.4s
ARCES ARCESS Array B 25.21 43 P **P** **17 14 36.1 -0.4**
ARCES ARCESS Array B 25.21 43 P **P** **17 14 36.1 -0.4**
ARCES ARCESS Array B 25.21 43 P **P** **17 14 36.1 -0.4**
comp=Z,3.5nm,0.9s,baz=262,slow=7.0,SNR=6.8
ARCES LR LR 17 22 42.3
comp=Z,215nm,18.8s,baz=266,slow=32
CLL Collm 25.55 89 *e*P **P** **17 14 39.0 -0.7**
CLL pmax pmax
comp=Z,14nm,1.5s
CLL MLR MLR
comp=Z,500nm,20.5s
CLL Collm 25.55 89 *e*P **P** **17 14 39.0 -0.7**
comp=Z,14nm,1.5s
CLL LmH 17 24 00.0
comp=N,500nm,18.4s
CLL LmH 17 24 00.0
comp=E,600nm,21.2s
CLL LmH 17 24 00.0
comp=Z,500nm,20.5s
CLL Collm 25.55 89 *e*P **P** **17 14 39.0 -0.7**
comp=Z,500nm,20.5s
ESDC Sonseca Array 25.80 128 P **P** **17 14 41.1 -1.0**
ESDC Sonseca Array 25.80 128 P **P** **17 14 41.1 -1.0**
ESDC Sonseca Array 25.80 128 P **P** **17 14 41.1 -1.0**
comp=Z,5.6nm,1.1s,baz=331,slow=9.5,SNR=7.6
ESDC LR LR 17 21 52.4
comp=Z,186nm,20.5s,baz=290,slow=30
NKC Novy Kostel 25.90 91 *e*P **P** **17 14 43.7 +0.8**
NKC MLR MLR
comp=Z,600nm,17.5s
NKC Novy Kostel 25.90 91 *e*P **P** **17 14 43.7 +0.8**
NKC AMS AMS 17 25 20.0
comp=Z,600nm,17.5s
NKC Novy Kostel 25.90 91 *e*P **P** **17 14 43.7 +0.8**
comp=Z,600nm,17.5s
LPL La Plagne 26.11 105 *e*P **P** **17 14 45.0 -0.1**
LPL La Plagne 26.11 105 *e*P **P** **17 14 45.0 -0.1**
LPL La Plagne 26.11 105 *e*P **P** **17 14 45.0 -0.1**
LPL La Plagne 26.11 105 *e*P **P** **17 14 45.0 -0.1**
ORIF Oris-en-Rattie 26.12 107 *e*P **P** **17 14 44.7 -0.3**
comp=Z,24nm,1.2s
ORIF *e*R
comp=Z,428nm,17.2s
ORIF Oris-en-Rattie 26.12 107 *e*P **P** **17 14 44.7 -0.3**
ORIF pmax pmax
comp=Z,24nm,1.2s
ORIF Oris-en-Rattie 26.12 107 *e*P **P** **17 14 44.7 -0.3**
comp=Z,24nm,1.2s
ORIF Oris-en-Rattie 26.12 107 *e*P **P** **17 14 44.7 -0.3**
comp=Z,24nm,1.2s
LPG La Plagne 26.13 105 *e*P **P** **17 14 44.9 -0.5**
comp=Z,48nm,1.6s
LPG La Plagne 26.13 105 *e*P **P** **17 14 44.9 -0.5**
LPG pmax pmax
comp=Z,48nm,1.6s
LPG La Plagne 26.13 105 *e*P **P** **17 14 44.9 -0.5**
comp=Z,48nm,1.6s
LPG La Plagne 26.13 105 *e*P **P** **17 14 44.9 -0.5**
comp=Z,48nm,1.6s
BRG Berggiesshubel 26.29 89 *e*P P 17 14 59.6 +13
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG MLR MLR
comp=Z,777nm,19.4s
BRG MLR MLR
comp=N,636nm,16.9s
BRG MLR MLR
comp=E,305nm,16.9s
BRG Berggiesshubel 26.29 89 *e*P P 17 14 59.6 +13
TUE Stuetta 26.75 101 *e*P **P** **17 14 51.1 +0.3**
comp=E,43nm,2.1s
TUE Stuetta 26.75 101 *e*P **P** **17 14 51.1 +0.3**
comp=E,43nm,2.1s
DAVOX Davos/Dischmat 26.81 100 LR LR 17 24 50.6
comp=E,385nm,21.0s,baz=267,slow=35
PVCC Panska Ves 26.81 89 AMS AMS 17 26 30.0
comp=E,500nm,15.6s
PRU Pruhonice 27.12 90 AMS AMS 17 26 20.0
comp=E,700nm,12.1s
KHC Kasperske Hory 27.16 92 *e*P **P** **17 14 54.0 -0.3**
KHC AMS AMS 17 25 40.0
comp=E,800nm,18.0s
FINES FINESS Array B 27.26 61 P **P** **17 14 54.8 -0.1**
FINES FINESS Array B 27.26 61 P **P** **17 14 54.8 -0.1**
FINES FINESS Array B 27.26 61 P **P** **17 14 54.8 -0.1**
comp=E,5.9nm,0.9s,baz=229,slow=11,SNR=2.7
FINES LR LR 17 25 05.4
comp=E,338nm,18.4s,baz=110,slow=35
FIA1 FINESS Array S 27.26 61 *e*P **P** **17 14 51.5 -3.5**
GERES GERESS Array B 27.40 93 P **P** **17 14 56.4 -0.1**
GERES GERESS Array B 27.40 93 P **P** **17 14 56.4 -0.1**
GERES GERESS Array B 27.40 93 P **P** **17 14 56.4 -0.1**
comp=E,0.2nm,0.6s,baz=295,slow=16,SNR=3.9
GERES LR LR 17 25 54.9
comp=E,662nm,18.5s,baz=279,slow=37
KSP Ksiaz 27.51 87 *e*P **P** **17 14 56.9 -0.5**
KSP Ksiaz 27.51 87 *e*P **P** **17 14 56.9 -0.5**
UPC Upice 27.57 88 *e*P **P** **17 14 59.4 +1.5**
UPC Upice 27.57 88 *e*P **P** **17 14 59.4 +1.5**
UPC Upice 27.57 88 *e*P **P** **17 14 59.4 +1.5**
RES Resolute Bay 27.60 329 P **P** **17 14 58.0 +0.1**
RES Resolute Bay 27.60 329 P **P** **17 14 58.0 +0.1**
RES Resolute Bay 27.60 329 P **P** **17 14 58.0 +0.1**
comp=E,1.2nm,0.9s,baz=60,slow=8.5,SNR=3.9
RES LR LR 17 25 35.9
comp=E,242nm,18.9s,baz=55,slow=36
DPC Dobruska-Polom 27.82 88 *e*P **P** **17 15 00.3 +0.1**
DPC Dobruska-Polom 27.82 88 *e*P **P** **17 15 01.1 +0.9**
DPC AMS AMS 17 26 40.0
DPC Dobruska-Polom 27.82 88 *e*P **P** **17 15 00.3 +0.1**
DPC Dobruska-Polom 27.82 88 *e*P **P** **17 15 00.3 +0.1**
TREC Trest 28.04 90 AMS AMS 17 26 40.0
comp=E,1µm,15.6s
VRAC Vranov 28.59 89 LR LR 17 27 12.5
comp=E,543nm,19.0s,baz=302,slow=38
MORC Moravsky Berou 28.79 88 *e*P **P** **17 15 10.0 +1.1**
MORC Moravsky Berou 28.79 88 *e*P **P** **17 15 10.0 +1.1**
MORC Moravsky Berou 28.79 88 P **P** **17 15 10.0 +1.1**
OKC Ostrava-Krasne 29.07 87 AMS AMS 17 28 20.0
comp=E,500nm,15.9s
TMCR Tamitsa 31.32 52 *e*P **P** **17 15 31.7 +0.7**
TMCR *e* 17 16 33.1
TMCR *e* 17 18 23.5
TMCR pmax pmax
comp=Z,20nm,1.2s
TMCR Tamitsa 31.32 52 *e*P **P** **17 15 31.7 +0.7**
comp=Z,20nm,1.2s
TMCR Tamitsa 31.32 52 *e*PcP **PcP** **17 18 23.5 -0.9**
PKSM Moragy 31.66 92 *e*P **P** **17 15 34.5 +0.4**
PKSM Moragy 31.66 92 *e*P **P** **17 15 34.5 +0.4**
PKSM Moragy 31.66 92 P **P** **17 15 34.5 +0.4**
SIRR Siria 33.17 90 *e*P **P** **17 15 48.8 +1.4**
DRGR 33.35 88 *e*P **P** **17 15 50.7 +1.6**
DRGR 33.35 88 *e*P **P** **17 15 50.7 +1.6**
DRGR 33.35 88 P **P** **17 15 50.7 +1.6**
BZS Buzias 33.59 91 *e*P **P** **17 15 51.9 +0.9**
BZS Buzias 33.59 91 *e*P **P** **17 15 51.9 +0.9**
BZS Buzias 33.59 91 P **P** **17 15 51.9 +0.9**
BURAR Bucovina Array 34.09 85 *e*P **P** **17 15 57.5 +1.9**
BURAR Bucovina Array 34.09 85 *e*P **P** **17 15 57.5 +1.9**
KIEV Kiev 34.16 78 *e*P **P** **17 15 55.9 0.0**
KIEV pmax pmax
comp=Z,17nm,1.5s
KIEV Kiev 34.16 78 *e*P **P** **17 15 55.9 0.0**
comp=Z,17nm,1.5s
KIEV Kiev 34.16 78 *e*P **P** **17 15 55.9 0.0**
comp=Z,17nm,1.5s
AKASG Malin Array Be 34.16 78 P **P** **17 15 55.1 -0.9**
AKASG Malin Array Be 34.16 78 P **P** **17 15 55.1 -0.9**
AKASG Malin Array Be 34.16 78 P **P** **17 15 55.1 -0.9**
AKASG Malin Array Be 34.16 78 P **P** **17 15 55.1 -0.9**
comp=Z,3.1nm,1.0s,baz=308,slow=8.3,SNR=6.5
AKASG LR LR 17 29 58.4
comp=Z,229nm,18.7s,baz=310,slow=36
GZR Gura Zlata 34.33 90 *e*P **P** **17 15 59.3 +1.7**
GZR Gura Zlata 34.33 90 *e*P **P** **17 15 59.3 +1.7**
GZR Gura Zlata 34.33 90 P **P** **17 15 59.3 +1.7**
KEST Kesra 34.92 115 LR LR 17 28 42.0
comp=Z,216nm,20.5s,baz=116,slow=34
OBN Obninsk 35.12 67 *e*P **P** **17 16 03.8 -0.4**
OBN 17 17 24.0
OBN 17 18 31.0
OBN SS SS 17 23 48.0 -20
OBN pmax pmax
comp=Z,13nm,1.3s
OBN MLR MLR
comp=Z,500nm,21.0s
OBN Obninsk 35.12 67 *e*P **P** **17 16 03.8 -0.4**
comp=Z,13nm,1.3s
VOIR 35.47 88 *e*P P 17 16 11.5 +4.1
VOIR 35.47 88 *e*P P 17 16 11.5 +4.1
ULM Lac du Bonnet 37.36 286 P **P** **17 16 23.5 +0.1**
ULM Lac du Bonnet 37.36 286 P **P** **17 16 23.5 +0.1**
ULM Lac du Bonnet 37.36 286 P **P** **17 16 23.5 +0.1**
comp=Z,2.2nm,0.6s,baz=72,slow=6.9,SNR=5.1
ULM LR LR 17 30 32.3
comp=Z,528nm,18.0s,baz=213,slow=34
YKA Yellowknife Ar 38.34 312 P **P** **17 16 31.3 -0.3**
YKA PcP **PcP** **17 18 43.9 -1.0**
YKA Yellowknife Ar 38.34 312 P **P** **17 16 31.3 -0.3**
YKA Yellowknife Ar 38.34 312 PcP **PcP** **17 18 43.8 -1.0**
YKA Yellowknife Ar 38.34 312 P **P** **17 16 31.3 -0.3**
comp=Z,1.0nm,0.7s,baz=56,slow=9.2,SNR=15
YKA PcP **PcP** **17 18 43.8 -1.0**
comp=Z,0.6nm,0.9s,baz=44,slow=4.1,SNR=4.9
EDM Edmonton 43.64 300 *e*P P 17 17 19.5 +4.2
EDM Edmonton 43.64 300 *e*P P 17 17 19.4 +4.2
BRTR Keskin Array B 43.98 87 P **P** **17 17 18.8 +0.5**
BRTR Keskin Array B 43.98 87 P **P** **17 17 18.8 +0.5**
BRTR Keskin Array B 43.98 87 P **P** **17 17 18.8 +0.5**
comp=Z,1.6nm,1.1s,baz=267,slow=5.9,SNR=4.7
BRTR LR LR 17 36 02.1
comp=Z,242nm,21.1s,baz=115,slow=37
ARU Arti 44.03 53*c i*P **P** **17 17 18.6 +0.2**
ARU 17 19 01.4
ARU S **S** **17 23 50.8 +1.3**
ARU SS **ScS** **17 27 19.2 +3.4**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 44.03 53 *e*P **P** **17 17 18.5 +0.2**
ARU Arti 44.03 53 *e*P **P** **17 17 18.5 +0.2**
ARU S **S** **17 23 50.8 +1.3**
ARU ScS **ScS** **17 27 19.2 +3.4**
KIV Kislovodsk 45.45 76 *e*P **P** **17 17 31.2 +1.3**
KIV *e*S **S** **17 24 13.1 +2.6**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,174nm,16.0s
KIV Kislovodsk 45.45 76 *e*P **P** **17 17 31.2 +1.3**
comp=Z,6.0nm,1.1s
KIV *e*S **S** **17 24 13.1 +2.6**
comp=Z,174nm,16.0s
KBZ Khabaz 45.72 76 LR LR 17 37 08.8
comp=Z,210nm,18.7s,baz=330,slow=37
DAWY Dawson 45.77 325 *e*P **P** **17 17 30.9 -1.3**
DAWY Dawson 45.77 325 *e*P **P** **17 17 30.9 -1.3**
WALA Waterton Lakes 46.79 296 *e*P **P** **17 17 42.1 +1.6**
comp=Z,2.8nm,2.5s
WALA Waterton Lakes 46.79 296 *e*P **P** **17 17 42.1 +1.6**
comp=Z,2.8nm,2.5s
ILAR Eielson Array 47.35 329 P **P** **17 17 44.2 -0.3**
ILAR PcP **PcP** **17 19 15.1 +0.2**
ILAR Eielson Array 47.35 329 P **P** **17 17 44.2 -0.3**
ILAR Eielson Array 47.35 329 P **P** **17 17 44.2 -0.3**
comp=Z,0.8nm,0.9s,baz=42,slow=6.1,SNR=6.0
ILAR PcP **PcP** **17 19 15.1 +0.2**
comp=Z,0.7nm,0.9s,baz=21,slow=3.5,SNR=4.4
ILAR LR LR 17 38 34.8
comp=Z,202nm,18.2s,baz=72,slow=37
CSS Prodhromos 47.45 92 *e*P **P** **17 17 44.8 -0.9**
comp=Z,15nm,1.2s
CSS Prodhromos 47.45 92 *e*P **P** **17 17 44.8 -0.9**
comp=Z,15nm,1.2s
AKTO Aktyubinsk 48.01 59 LR LR 17 37 24.1
comp=Z,157nm,19.5s,baz=324,slow=35
TIXI Tiksi 48.52 9*c*e**P** **P** **17 17 54.7 +1.3**
TIXI pmax pmax
comp=Z,24nm,2.5s
TIXI Tiksi 48.52 9 *e*P **P** **17 17 54.7 +1.3**
comp=Z,24nm,2.5s
GNI Garni 49.29 78 *e*P **P** **17 18 01.1 +1.1**
comp=Z,15nm,1.7s
BW06 Boulder Array 49.32 288 *e*P **P** **17 17 58.9 -1.5**
comp=Z,11nm,1.5s
BW06 Boulder Array 49.32 288 *e*P **P** **17 17 58.8 -1.5**
comp=Z,11nm,1.5s
PDAR Pinedale Array 49.32 288 P **P** **17 17 59.1 -1.2**
PDAR Pinedale Array 49.32 288 P **P** **17 17 59.1 -1.2**
PDAR Pinedale Array 49.32 288 P **P** **17 17 59.1 -1.2**
comp=Z,1.5nm,0.8s,baz=28,slow=6.7,SNR=10.0
PDAR LR LR 17 38 05.3
comp=Z,464nm,18.0s,baz=11,slow=35
ISCO Idaho Springs 49.60 282 *e*P **P** **17 18 03.7 +1.2**
ISCO pmax pmax
comp=Z,9.0nm,1.4s
ISCO Idaho Springs 49.60 282 *e*P **P** **17 18 03.7 +1.2**
comp=Z,9.2nm,1.4s
ISCO Idaho Springs 49.60 282 *e*P **P** **17 18 03.7 +1.2**
comp=Z,9.2nm,1.4s
BRVK Borovoye 51.17 50 *e*P **P** **17 18 14.1 +0.3**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 51.17 50 *e*P **P** **17 18 11.4 -2.4**
comp=Z,18nm,1.7s
BRVK Borovoye 51.17 50 *e*P **P** **17 18 14.1 +0.3**
comp=Z,7.0nm,1.2s
TORD Torodi Ar. Bea 51.88 139 P **P** **17 18 18.4 -1.1**
TORD Torodi Ar. Bea 51.88 139 P **P** **17 18 18.4 -1.1**
TORD Torodi Ar. Bea 51.88 139 P **P** **17 18 18.4 -1.1**
comp=Z,1.1nm,0.7s,baz=340,slow=8.4,SNR=6.3
TORD LR LR 17 38 29.1
comp=Z,117nm,18.9s,baz=250,slow=34
ANMO Albuquerque 53.77 279 *e*P **P** **17 18 34.2 +0.6**
comp=Z,17nm,1.7s
NVS Novosibirsk 54.46 41 *e*P **P** **17 18 37.4 -0.6**
NVS pmax pmax
comp=Z,15nm,1.1s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,2.0nm,0.7s
NVS Novosibirsk 54.46 41 *e*P **P** **17 18 37.4 -0.6**
comp=E,3.0nm,0.9s

R11A	**Troy Canyon, C**	**55.65**	**288**	*e*P		**P**		**17 18 48.3**	**+1.2**
	comp=E,10nm,1.6s								
R11A	**Troy Canyon, C**	**55.65**	**288**	*e*P		**P**		**17 18 48.3**	**+1.2**
	comp=E,10nm,1.6s								
ZALV	**Zalesovo Beam**	**55.72**	**40**	*i* P		**P**		**17 18 47.2**	**+0.1**
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.9s								
ZALV	**Zalesovo Beam**	**55.72**	**40**	P		**P**		**17 18 47.2**	**+0.1**
ZALV	**Zalesovo Beam**	**55.72**	**40**	P		**P**		**17 18 47.2**	**+0.1**
ZALV	**Zalesovo Beam**	**55.72**	**40**	P		**P**		**17 18 47.2**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=335,slow=6.6,SNR=5.0								
ZALV				LR		LR		17 46 05.0	
	comp=Z,81nm,19.0s,baz=242,slow=40								
DBIC	**Dimbokro**	**56.03**	**149**	LR		LR		17 41 19.4	
	comp=Z,208nm,18.8s,baz=344,slow=34								
KURK	**Kurchatov**	**56.19**	**46**	*e*P		**P**		**17 18 48.3**	**-2.3**
KURK				pmax	pmax				
	comp=Z,7.0nm,1.3s								
KURK	**Kurchatov**	**56.19**	**46**	*e*P		**P**		**17 18 48.3**	**-2.3**
	comp=Z,6.8nm,1.3s								
KURK	**Kurchatov**	**56.19**	**46**	*e*P		**P**		**17 18 48.3**	**-2.3**
	comp=Z,6.8nm,1.3s								
KURBB	**Kurchatov Arra**	**56.23**	**46**	P		**P**		**17 18 51.0**	**+0.1**
	comp=Z,4.3nm,1.0s,baz=320,slow=7.1,SNR=25								
PAHR	**Pah Rah Range**	**56.41**	**292**	*e*P		**P**		**17 18 53.6**	**+1.1**
	comp=Z,45nm,2.0s								
PAHR	**Pah Rah Range**	**56.41**	**292**	*e*P		**P**		**17 18 53.6**	**+1.1**
	comp=Z,45nm,2.0s								
TXAR	**Lajitas Array**	**56.82**	**272**	P		**P**		**17 18 55.6**	**+0.2**
TXAR	**Lajitas Array**	**56.82**	**272**	P		**P**		**17 18 55.7**	**+0.2**
TXAR	**Lajitas Array**	**56.82**	**272**	P		**P**		**17 18 55.7**	**+0.2**
	comp=Z,2.3nm,1.2s,baz=96,slow=3.8,SNR=5.2								
TXAR				LR		LR		17 42 17.2	
	comp=Z,140nm,20.6s,baz=10.0,slow=35								
NVAR	**Mina Array Bea**	**56.90**	**290**	P		**P**		**17 18 55.9**	**-0.2**
NVAR	**Mina Array Bea**	**56.90**	**290**	P		**P**		**17 18 55.9**	**-0.2**
NVAR	**Mina Array Bea**	**56.90**	**290**	P		**P**		**17 18 55.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=29,slow=7.6,SNR=3.2								
NVAR				LR		LR		17 43 01.2	
	comp=Z,227nm,19.0s,baz=335,slow=36								
SEY	**Seymchan**	**58.06**	**359**	P		**P**		**17 19 02.6**	**-1.0**
SEY	**Seymchan**	**58.06**	**359**	P		**P**		**17 19 02.6**	**-1.0**
SEY	**Seymchan**	**58.06**	**359**	P		**P**		**17 19 02.6**	**-1.0**
SEY	**Seymchan**	**58.06**	**359**	P		**P**		**17 19 02.6**	**-1.0**
	comp=Z,3.7nm,1.0s,baz=62,slow=14,SNR=3.7								
GLA	**Glamis**	**59.48**	**284**	*e*P		**P**		**17 19 15.3**	**+1.3**
GLA				pmax	pmax				
	comp=Z,19nm,1.3s								
GLA	**Glamis**	**59.48**	**284**	*e*P		**P**		**17 19 15.3**	**+1.3**
	comp=Z,19nm,1.3s								
GLA	**Glamis**	**59.48**	**284**	*e*P		**P**		**17 19 15.3**	**+1.3**
	comp=Z,19nm,1.3s								
MK31	**Makanchi Array**	**60.80**	**47**	*e*P		**P**		**17 19 21.6**	**-1.3**
MK31	**Makanchi Array**	**60.80**	**47**	*e*P		**P**		**17 19 21.6**	**-1.3**
MK31	**Makanchi Array**	**60.80**	**47**	*e*P		**P**		**17 19 21.6**	**-1.3**
MKAR	**Makanchi Array**	**60.80**	**47**	*ce*P		**P**		**17 19 23.0**	**+0.1**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
MKAR	**Makanchi Array**	**60.80**	**47**	P		**P**		**17 19 22.8**	**-0.1**
MKAR	**Makanchi Array**	**60.80**	**47**	P		**P**		**17 19 22.8**	**-0.1**
MKAR	**Makanchi Array**	**60.80**	**47**	P		**P**		**17 19 22.8**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=336,slow=5.3,SNR=24								
MKAR				LR		LR		17 46 24.9	
	comp=Z,88nm,18.6s,baz=89,slow=37								
EKS2	**Erkin-Say**	**60.86**	**55**	*e*P		P		17 19 19.9	-3.5
EKS2				pmax	pmax				
	comp=Z,8.0nm,1.1s								
EKS2	**Erkin-Say**	**60.86**	**55**	*e*P		P		17 19 19.9	-3.5
	comp=Z,7.9nm,1.1s								
AAK	**Ala-Archa**	**61.18**	**54**	*d i*P		**P**		**17 19 26.4**	**+0.7**
AAK				pmax	pmax				
	comp=Z,32nm,2.1s								
AAK	**Ala-Archa**	**61.18**	**54**	*e*P		**P**		**17 19 25.9**	**+0.2**
	comp=Z,9.8nm,1.3s								
AAK	**Ala-Archa**	**61.18**	**54**	*e*P		**P**		**17 19 25.9**	**+0.2**
	comp=Z,9.8nm,1.3s								
AAK	**Ala-Archa**	**61.18**	**54**	P		**P**		**17 19 25.8**	**+0.2**
	baz=311,slow=3.9								
TKM2	**Tokmak 2**	**61.40**	**54**	*e*P		**P**		**17 19 25.1**	**-2.1**
TKM2	**Tokmak 2**	**61.40**	**54**	*e*P		**P**		**17 19 25.1**	**-2.1**
TKM2	**Tokmak 2**	**61.40**	**54**	*e*P		**P**		**17 19 25.1**	**-2.1**
KSH	**Kashi**	**64.39**	**55**	P		**P**		**17 19 49.0**	**+2.0**
KSH				pP		**pP**		**17 19 53.0**	**+0.8**
KSH				sP		**sP**		**17 19 55.3**	**+1.2**
KSH				PP		**PP**		**17 22 11.0**	**+2.8**
KSH				S		**S**		**17 28 24.0**	**-0.7**
KSH				pmax	pmax				
	comp=Z,15nm,1.3s								
KSH				pmax	pmax				
	comp=Z,70nm,4.6s								
KSH				LR	LR				
	comp=Z,86nm,5.1s								
KSH				LR	LR				
	comp=Z,140nm,4.8s								
KSH				LR	LR				
	comp=Z,130nm,5.7s								
WMQ	**Urumqi**	**65.32**	**45**	P		**P**		**17 19 55.0**	**+2.0**
WMQ				sP		**sP**		**17 20 02.0**	**+2.0**
WMQ				PcP		**PcP**		**17 20 27.0**	**+1.9**
WMQ				PP		**PP**		**17 22 21.0**	**+4.8**
WMQ				ScP				17 24 28.0	
WMQ				S		**S**		**17 28 36.0**	**+0.1**
WMQ				ScS		**SKSac**		**17 29 46.0**	**-1.2**
WMQ				SS		**SS**		**17 32 49.0**	**+1.1**
WMQ				pmax	pmax				
	comp=Z,12nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,87nm,5.0s								
WMQ				LR	LR				
	comp=Z,72nm,18.0s								
WMQ				LR	LR				
	comp=Z,110nm,18.0s								
WMQ				LR	LR				
	comp=Z,89nm,18.0s								
SONM	**Songino Array**	**67.51**	**30**	P		**P**		**17 20 06.9**	**-0.1**
SONM	**Songino Array**	**67.51**	**30**	P		**P**		**17 20 06.9**	**-0.1**
SONM	**Songino Array**	**67.51**	**30**	P		**P**		**17 20 06.9**	**-0.1**
	comp=Z,1.4nm,1.1s,baz=326,slow=5.8,SNR=9.8								
SONM				LR		LR		17 50 55.5	
	comp=Z,85nm,20.4s,baz=326,slow=37								
ULN	**Ulaanbaatar**	**67.65**	**29**	*e*P		**P**		**17 20 07.0**	**-0.9**
	comp=Z,20nm,1.8s								
ULN	**Ulaanbaatar**	**67.65**	**29**	*e*P		**P**		**17 20 07.8**	**-0.1**
	comp=Z,17nm,2.5s								
PETK	**Petropavlovsk-**	**67.75**	**355**	LR		LR		17 50 25.2	
	comp=Z,62nm,19.7s,baz=273,slow=36								
GTA	**Gaotai**	**73.36**	**38**	⇑P		**P**		**17 20 43.0**	**+0.1**
GTA				pP		**pP**		**17 20 47.8**	**-0.3**
GTA				sP		**sP**		**17 20 50.0**	**0.0**
GTA				S		**S**		**17 30 10.8**	**-0.2**
GTA				sS		**sS**		**17 30 18.5**	**-1.1**
GTA				SS		**SS**		**17 34 56.0**	**+4.1**
GTA				pmax	pmax				
	comp=Z,6.0nm,1.4s								
GTA				pmax	pmax				
	comp=Z,95nm,5.2s								
GTA				LR	LR				
	comp=Z,100nm,15.7s								
GTA				LR	LR				
	comp=Z,98nm,15.9s								
GTA				LR	LR				
	comp=Z,120nm,17.1s								
MDJ	**Mudanjiang**	**75.13**	**15**	P		**P**		**17 20 51.5**	**-1.4**
MDJ				pP		**pP**		**17 20 54.8**	**-3.3**
MDJ				S		**S**		**17 30 28.3**	**-2.0**
MDJ				ScS		**ScS**		**17 31 03.0**	**-1.5**
MDJ				pmax	pmax				
	comp=Z,13nm,2.4s								
MDJ				pmax	pmax				
	comp=Z,130nm,3.2s								
HHC	**Hu-ho-hao-te**	**75.35**	**29**	*e*P		**P**		**17 20 52.3**	**-2.1**
HHC				PP		**PP**		**17 23 43.5**	**+1.1**
HHC				S		SKiKP		17 30 23.5	+7.7
HHC				SKS		**SKSac**		**17 30 56.5**	**-6.6**
HHC				pmax	pmax				
	comp=Z,24nm,1.3s								
HHC				pmax	pmax				
	comp=Z,140nm,7.8s								
HHC				LR	LR				
	comp=Z,180nm,17.8s								
HHC				LR	LR				
	comp=Z,200nm,17.9s								
HHC				LR	LR				
	comp=Z,87nm,17.9s								
USRK	**Ussuriysk Arra**	**75.83**	**13**	LR		LR		17 58 09.6	
	comp=Z,53nm,18.9s,baz=88,slow=39								
BDFB	**Brasilia**	**76.06**	**197**	LR		LR		17 49 07.9	
	comp=Z,97nm,21.4s,baz=32,slow=32								
LZH	**Lanzhou**	**77.67**	**36**	*e*P		P		17 21 12.3	+4.7
LZH				pP		**PcP**		**17 21 16.8**	**-1.0**
LZH				sP		sP		17 21 19.8	+5.0
LZH				pmax	pmax				
	comp=Z,21nm,1.0s								
LZH				pmax	pmax				
	comp=Z,89nm,4.5s								
LPAZ	**La Paz**	**81.36**	**216**	LR		LR		17 55 55.2	
	comp=Z,91nm,20.4s,baz=304,slow=34								
KSRS	**Korea Array**	**81.92**	**17**	LR		LR		18 01 05.7	
	comp=Z,21nm,18.2s,baz=345,slow=38								
CD2	**Chengdu**	**82.43**	**38**	*e*P		**P**		**17 21 32.5**	**-0.8**
CD2				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CD2				pmax	pmax				
	comp=Z,40nm,5.4s								
MJAR	**Matsushiro Arr**	**84.03**	**9**	P		**P**		**17 21 41.4**	**0.0**
MJAR	**Matsushiro Arr**	**84.03**	**9**	P		**P**		**17 21 41.4**	**0.0**
MJAR	**Matsushiro Arr**	**84.03**	**9**	P		**P**		**17 21 41.4**	**0.0**
	comp=Z,2.2nm,1.0s,baz=338,slow=6.7,SNR=5.4								
NJ2	**Nanjing**	**85.47**	**26**	*e*P		**P**		**17 21 47.5**	**-1.2**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
GYA	**Guiyang**	**87.49**	**38**	*e*P		**P**		**17 21 58.8**	**-0.1**
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CPUP	**Villa Florida**	**88.18**	**204**	LR		LR		17 55 33.8	
	comp=Z,57nm,18.8s,baz=179,slow=32								
CMAR	**Chiang Mai Arr**	**92.21**	**47**	LR		LR		18 03 42.8	
	comp=Z,48nm,18.3s,baz=349,slow=36								
BOSA	**Boshof**	**98.89**	**133**	LR		LR		18 08 46.9	
	comp=Z,108nm,19.4s,baz=356,slow=36								
PPT2	**Papeete2**	**119.76**	**286**	*e*LR		LR		18 04 49.6	
	comp=Z,132nm,21.0s								
TBI	**Tubuai**	**124.56**	**283**	*e*LR		LR		18 07 02.8	
	comp=Z,107nm,27.0s								
QSPA	**South Pole Qui**	**149.21**	**180**	*e*PKPbc		**PKPbc**		**17 28 57.4**	**-0.7**
QSPA	**South Pole Qui**	**149.21**	**180**	*e*PKPbc		**PKPbc**		**17 28 57.4**	**-0.7**
STKA	**Stephens Creek**	**152.04**	**15**	PKPbc		**PKPbc**		**17 29 04.5**	**-1.3**
STKA	**Stephens Creek**	**152.04**	**15**	PKPbc		**PKPbc**		**17 29 04.5**	**-1.3**
STKA	**Stephens Creek**	**152.04**	**15**	PKPbc		**PKPbc**		**17 29 04.5**	**-1.3**
	comp=Z,2.7nm,1.1s,baz=123,slow=2.1,SNR=4.3								

IDC 27 17:11:42.3±19.0, 2°.53S×118°.73E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=383.2km s-min=213.2km az=14.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.06**	**140**	P	P	17 16 49.8	+0.1
	0.4nm,0.3s,baz=322,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**25.63**	**146**	P	P	17 17 13.7	-0.1
	0.1nm,0.3s,baz=322,slow=8.8,SNR=13						
STKA	**Stephens Creek**	**36.27**	**146**	P	P	17 18 47.5	-0.1
	0.5nm,0.4s,baz=314,slow=7.3,SNR=3.5						

*JMA **27** 17:12:20.5±0.4, 44°.00N×148°.27E, h0km, M3.5*
*SKHL **27** 17:12:21.9±0.2, 44°.46N×148°.34E, h35km, mb3.9/2*

ISC 27 17:12:19.9±3.6, 44°.4N±0°.1×148°.3E±0°.2, h8km±15km, n11, σ1§10/16, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.89**	**340**	*e*P	**Pg**	**17 12 36.7**	**-0.3**
KUR				AMB	AMB	17 12 43.2	
	60nm,0.4s						
KUR				AMB	AMB	17 12 43.2	
	100nm,0.4s						
KUR				*e*S	**Sg**	**17 12 47.9**	**-0.6**
KUR				A	A	17 12 52.0	
	400nm,0.5s						
KUR				A	A	17 12 52.0	
	160nm,0.5s						
SHO	**Shikotan**	**1.18**	**244**	*e*P	**Pn**	**17 12 42.5**	**-0.2**
SHO				*e*S	**Sg**	**17 12 57.8**	**+0.1**
SHO				A	A	17 13 05.6	
	150nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.78**	**259**	⇓*i*P	Pn	17 12 50.6	-0.5
YUK				AMB	AMB	17 12 53.4	
	60nm,0.4s						
YUK				*i* S	**Sn**	**17 13 14.0**	**+0.1**
YUK				A	A	17 13 15.7	
	200nm,0.5s						
YUK				A	A	17 13 20.4	
	130nm,0.5s						
YUK				A	A	17 13 20.4	
	70nm,0.5s						
NEM2	**Nemuro 2**	**2.11**	**242**	P	Pn	17 12 55.2	-0.4
NEM2				*e*S	**Sn**	**17 13 20.9**	**-1.1**
JRA	**Rausu**	**2.32**	**260**	P	**Pn**	**17 12 59.7**	**+1.2**
JNK	**Nakash**	**2.70**	**254**	P	**Pn**	**17 13 04.7**	**+1.0**
JNK				*e*S	**Sn**	**17 13 36.7**	**+0.1**
JAK	**Akkeshi**	**2.96**	**243**	P	**Pn**	**17 13 07.3**	**+0.1**
JAK				*e*S	**Sn**	**17 13 41.6**	**-1.3**
JAR	**Ashorobuto**	**3.45**	**253**	P	**Pn**	**17 13 15.9**	**+1.9**
JCH	**Churui**	**4.00**	**245**	*e*S	**Sn**	**17 14 07.4**	**-1.3**
JNBK	**Urakawa-nobuka**	**4.56**	**244**	P	**Pn**	**17 13 30.5**	**+1.3**
JKB	**Kayabe**	**5.87**	**247**	P	**Pn**	**17 13 48.2**	**+1.0**
JKB				*e*S	**Sn**	**17 14 53.8**	**-0.9**

*ISCJB **27** 17:12:45.1±0.5, 59°.32N±0°.08×30°.6W±0°.1, h10km, mb4.1/24, Error ellipse: s-maj=12.5km s-min=7.1km az=18.0*
*IDC **27** 17:12:45.6±0.7, 59°.31N×30°.57W, h0km, mb3.7/12, mb1 3.9/15, mb1mx3.7/35, mbtmp3.8/15, ML3.6/2, Error ellipse: s-maj=22.9km s-min=15.2km az=2.0*
*CSEM **27** 17:12:49.6±0.5, 59°.19N×29°.99W, h10km, mb4.5/11, Ms3.8, Error ellipse: s-maj=20.6km s-min=15.4km az=20.0*
*NEIC **27** 17:12:50.0±0.9, 59°.20N×29°.99W, h10km, mb4.8/13, Error ellipse: s-maj=17.8km s-min=13.3km az=20.0*

ISC 27 17:12:47.0±0.6, 59°.26N±0°.09×30°.55W±0°.08, h10km, n67, σ1§14/62, mb4.2/24, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**7.01**	**34**	*e*Pn	**Pn**	**17 14 30.7**	**+1.2**
BORG	**Borgarnes**	**7.01**	**34**	*e*Pn	**Pn**	**17 14 30.7**	**+1.2**
BORG	**Borgarnes**	**7.01**	**34**	Pn	**Pn**	**17 14 29.6**	**+0.2**
	2.5nm,0.3s,baz=209,slow=7.2,SNR=6.8						
BORG				Sn	**Sn**	**17 15 46.3**	**-2.8**
	0.7nm,0.3s,baz=294,slow=20,SNR=5.2						
EKA	**Eskdalemuir Ar**	**15.26**	**93**	Pn	**Pn**	**17 16 23.2**	**+1.0**
	baz=288,slow=12,SNR=2.7						
FRB	**Frobisher Bay**	**18.47**	**300**	P	**P**	**17 17 02.1**	**-0.4**
	baz=56,slow=11,SNR=2.3						
SGMF	**Saint Gilles**	**19.72**	**112**	*e*P	**Pn**	**17 17 16.6**	**-1.2**
	343nm,1.8s						
SGMF	**Saint Gilles**	**19.72**	**112**	*e*P	**Pn**	**17 17 16.6**	**-1.2**
	343nm,1.8s						
SGMF	**Saint Gilles**	**19.72**	**112**	*e*P	**Pn**	**17 17 16.6**	**-1.2**
	172nm,1.8s						
SCHQ	**Schefferville**	**20.05**	**273**	P	**P**	**17 17 19.6**	**-0.4**
	2.3nm,0.6s,baz=63,slow=14,SNR=6.2						
FLN	**La Foliniere**	**20.37**	**108**	*e*P	**P**	**17 17 23.4**	**0.0**
	70nm,1.2s						
FLN	**La Foliniere**	**20.37**	**108**	*e*P	**P**	**17 17 23.4**	**0.0**
	70nm,1.2s						
FLN	**La Foliniere**	**20.37**	**108**	*e*P	**P**	**17 17 23.4**	**0.0**
	35nm,1.2s						
GRR	**Gorron**	**20.45**	**109**	*e*P	Pn	17 17 24.6	-1.7
GRR	**Gorron**	**20.45**	**109**	*e*P	Pn	17 17 24.6	-1.7
GRR	**Gorron**	**20.45**	**109**	*e*P	Pn	17 17 24.6	-1.7
BAIF	**Baives**	**21.88**	**100**	*e*P	**P**	**17 17 38.2**	**-1.4**
	95nm,1.5s						
BAIF	**Baives**	**21.88**	**100**	*e*P	**P**	**17 17 38.2**	**-1.4**
	95nm,1.5s						
BAIF	**Baives**	**21.88**	**100**	*e*P	**P**	**17 17 38.2**	**-1.4**
	48nm,1.5s						
GIVF	**Givet**	**22.16**	**99**	*e*P	**P**	**17 17 43.2**	**+0.5**
GIVF	**Givet**	**22.16**	**99**	*e*P	**P**	**17 17 43.2**	**+0.5**
GIVF	**Givet**	**22.16**	**99**	*e*P	**P**	**17 17 43.2**	**+0.5**
MEZF	**Maizieres J'vi**	**23.30**	**102**	*e*P	**P**	**17 17 55.4**	**+0.8**
	36nm,1.1s						
MEZF	**Maizieres J'vi**	**23.30**	**102**	*e*P	**P**	**17 17 55.4**	**+0.8**
	36nm,1.1s						
MEZF	**Maizieres J'vi**	**23.30**	**102**	*e*P	**P**	**17 17 55.4**	**+0.8**
	18nm,1.1s						
TCF	**Toulx Ste Croi**	**23.41**	**109**	*e*P	**P**	**17 17 55.0**	**-0.8**
TCF	**Toulx Ste Croi**	**23.41**	**109**	*e*P	**P**	**17 17 55.0**	**-0.8**
SFTF	**Sexfontaines**	**23.48**	**102**	*e*P	**P**	**17 17 56.6**	**+0.1**
	81nm,1.5s						
SFTF	**Sexfontaines**	**23.48**	**102**	*e*P	**P**	**17 17 56.6**	**+0.1**
	81nm,1.5s						
SFTF	**Sexfontaines**	**23.48**	**102**	*e*P	**P**	**17 17 56.6**	**+0.1**
	41nm,1.5s						
SSF	**Saint Saulge**	**23.50**	**106**	*e*P	**P**	**17 17 56.6**	**0.0**
	32nm,1.3s						
SSF	**Saint Saulge**	**23.50**	**106**	*e*P	**P**	**17 17 56.6**	**0.0**
	32nm,1.3s						
SSF	**Saint Saulge**	**23.50**	**106**	*e*P	**P**	**17 17 56.6**	**0.0**
	16nm,1.3s						
LOR	**Lormes**	**23.53**	**105**	*e*P	**P**	**17 17 56.9**	**-0.1**
	14nm,1.0s						
LOR	**Lormes**	**23.53**	**105**	*e*P	**P**	**17 17 56.9**	**-0.1**
	14nm,1.0s						
LOR	**Lormes**	**23.53**	**105**	*e*P	**P**	**17 17 56.9**	**-0.1**
	7.1nm,1.0s						
PAGF	**Fort de Pagny**	**23.60**	**101**	*e*P	**P**	**17 17 56.9**	**-0.7**
	17nm,1.3s						
PAGF	**Fort de Pagny**	**23.60**	**101**	*e*P	**P**	**17 17 56.9**	**-0.7**
	17nm,1.3s						
PAGF	**Fort de Pagny**	**23.60**	**101**	*e*P	**P**	**17 17 56.9**	**-0.7**
	8.5nm,1.3s						
AVF	**Avril sur Loir**	**23.61**	**107**	*e*P	**P**	**17 17 58.5**	**+0.8**
	51nm,1.6s						
AVF	**Avril sur Loir**	**23.61**	**107**	*e*P	**P**	**17 17 58.5**	**+0.8**
	51nm,1.6s						
AVF	**Avril sur Loir**	**23.61**	**107**	*e*P	**P**	**17 17 58.5**	**+0.8**
	26nm,1.6s						
SMF	**Signal de Mont**	**23.95**	**107**	*e*P	**P**	**17 18 00.1**	**-0.9**
	28nm,1.1s						
SMF	**Signal de Mont**	**23.95**	**107**	*e*P	**P**	**17 18 00.1**	**-0.9**
	28nm,1.1s						
SMF	**Signal de Mont**	**23.95**	**107**	*e*P	**P**	**17 18 00.1**	**-0.9**
	14nm,1.1s						
SJPF	**Ste Jean**	**24.18**	**119**	*e*P	**P**	**17 18 02.7**	**-0.6**
	82nm,1.4s						
SJPF	**Ste Jean**	**24.18**	**119**	*e*P	**P**	**17 18 02.7**	**-0.6**
	82nm,1.4s						
SJPF	**Ste Jean**	**24.18**	**119**	*e*P	**P**	**17 18 02.7**	**-0.6**
	41nm,1.4s						
CDF	**Champ du Feu**	**24.48**	**100**	*e*P	**P**	**17 18 08.5**	**+2.5**
	35nm,1.4s						
CDF	**Champ du Feu**	**24.48**	**100**	*e*P	**P**	**17 18 08.5**	**+2.5**
	35nm,1.4s						
CDF	**Champ du Feu**	**24.48**	**100**	*e*P	**P**	**17 18 08.5**	**+2.5**
	18nm,1.4s						
ESDC	**Sonseca Array**	**25.83**	**128**	P	**P**	**17 18 20.2**	**+1.9**
	2.6nm,0.9s,baz=322,slow=8.7,SNR=3.8						
FINES	**FINESS Array B**	**27.35**	**61**	P	**P**	**17 18 35.0**	**+3.3**
	2.3nm,0.8s,baz=301,slow=9.5,SNR=4.9						
AKASG	**Malin Array Be**	**34.25**	**78**	P	**P**	**17 19 33.2**	**+0.6**
	0.2nm,0.3s,baz=309,slow=6.6,SNR=6.4						
ACSO	**Alum Creek Sta**	**37.65**	**263**	*e*P	P	17 20 07.3	+5.5
	7.1nm,0.4s						
ACSO	**Alum Creek Sta**	**37.65**	**263**	*e*P	P	17 20 07.3	+5.5
	7.1nm,0.4s						
YKA	**Yellowknife Ar**	**38.31**	**312**	P	**P**	**17 20 06.4**	**-0.8**
	0.7nm,0.9s,baz=56,slow=8.5,SNR=7.7						
YKA				PcP	**PcP**	**17 22 22.9**	**+2.2**
	0.4nm,0.9s,baz=44,slow=2.8,SNR=5.3						
ILAR	**Eielson Array**	**47.35**	**329**	P	P	17 21 23.8	+3.4
	0.7nm,1.0s,baz=44,slow=6.6,SNR=4.2						
AKTO	**Aktyubinsk**	**48.10**	**59**	P	**P**	**17 21 26.8**	**+0.4**
	1.4nm,0.7s,baz=351,slow=8.4						
PDAR	**Pinedale Array**	**49.26**	**287**	P	**P**	**17 21 35.8**	**+0.1**
	1.8nm,0.9s,baz=64,slow=6.9,SNR=7.6						
BVAR	**Borovoye Array**	**51.33**	**49**	P	**P**	**17 21 50.9**	**0.0**
	0.9nm,0.8s,baz=306,slow=3.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**51.89**	**139**	P	**P**	**17 21 54.5**	**-1.1**
	0.8nm,0.9s,baz=337,slow=7.4,SNR=4.6						
TXAR	**Lajitas Array**	**56.74**	**272**	P	**P**	**17 22 31.0**	**+0.2**
	0.2nm,0.8s,baz=40,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**60.90**	**46**	P	**P**	**17 22 58.4**	**-1.0**
	1.2nm,0.8s,baz=338,slow=6.2,SNR=9.7						
SONM	**Songino Array**	**67.60**	**30**	P	**P**	**17 23 42.5**	**-1.0**
	0.3nm,0.6s,baz=330,slow=8.5,SNR=4.2						
BDFB	**Brasilia**	**75.98**	**197**	P	**P**	**17 24 33.9**	**-0.1**
	1.0nm,0.5s,baz=27,slow=2.3,SNR=3.2						
ASAR	**Alice Springs**	**142.77**	**24**	PKhKP	PKPpre	17 32 15.7	
	0.3nm,0.9s,baz=349,slow=2.7,SNR=3.6						

*BKK **27** 17:18:29.3±8.1, 14°.N×29°.9°2E±6°.2, h10km, M4.7/10, mB4.6/2, mb4.7/10, Mw(mB)3.8/2*
*ISCJB **27** 17:18:44.4±0.3, 14°.50N±0°.03×93°.03E±0°.04, h33km, mb4.0/21, MS3.2/2, Error ellipse: s-maj=6.0km s-min=4.6km az=148.6*
*IDC **27** 17:18:47.5±0.5, 14°.36N×93°.20E, h41km±3km, mb3.8/21, mb1 3.9/22, mb1mx3.8/32, mbtmp4.0/22, ML4.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/39, Error ellipse: s-maj=15.4km s-min=9.3km az=53.0*

**ISC 27 17:

	comp=E,49nm,0.6s							
DANN	**Dangsing**	**16.34**	**330**	*e*P		**Pn**	**17 22 29.5**	**-4.3**
	comp=E,26nm,0.5s							
BHPL	**Bhopal**	**17.20**	**303**	*e*P		**P**	**17 22 45.3**	**-0.5**
POO	**Poona**	**18.88**	**285**	*e*		Pn	17 23 16.0	+11
SMLA	**Simla**	**22.12**	**321**	*e*P		**P**	**17 23 41.9**	**+2.6**
DHRM	**DHARAMSHALA**	**23.44**	**322**	*e*P		**P**	**17 23 54.7**	**+1.5**
H08S3	**Diego Garcia H**	**29.96**	**224**	T		T	17 56 10.4	
	baz=42,slow=76,SNR=9.6							
H08S2	**Diego Garcia H**	**29.96**	**224**	T		T	17 56 11.9	
	baz=42,slow=76,SNR=7.9							
H08S1	**Diego Garcia H**	**29.98**	**224**	T		T	17 56 10.8	
	baz=42,slow=76,SNR=8.9							
MKAR	**Makanchi Array**	**33.51**	**347**	P		**P**	**17 25 24.6**	**+1.6**
	comp=E,1.1nm,0.5s,baz=159,slow=9.2,SNR=15							
SONM	**Songino Array**	**35.10**	**16**	P		**P**	**17 25 38.0**	**+1.2**
	comp=E,0.8nm,0.6s,baz=204,slow=8.8,SNR=8.8							
SONM				PcP		**PcP**	**17 28 09.1**	**+1.1**
	comp=E,0.6nm,0.9s,baz=190,slow=2.6,SNR=3.2							
KSRS	**Korea Array**	**38.49**	**47**	P		**P**	**17 26 04.9**	**-0.8**
	comp=E,1.2nm,0.6s,baz=240,slow=9.3,SNR=8.3							
KSRS				LR		LR	17 44 43.4	
	comp=E,56nm,18.0s,baz=230,slow=40							
ZALV	**Zalesovo Beam**	**39.97**	**352**	P		**P**	**17 26 18.8**	**+1.0**
	comp=E,0.9nm,0.4s,baz=180,slow=8.0,SNR=10							
BVAR	**Borovoye Array**	**42.50**	**340**	P		**P**	**17 26 38.2**	**-0.4**
	comp=E,0.3nm,0.5s,baz=147,slow=8.1,SNR=3.0							
BVAR				pP		**pP**	**17 26 50.7**	**+1.8**
	comp=E,0.6nm,0.7s,baz=145,slow=11,SNR=4.8							
USRK	**Ussuriysk Arra**	**44.42**	**40**	P		**P**	**17 26 54.8**	**+0.6**
	comp=E,1.3nm,0.6s,baz=263,slow=5.7,SNR=3.7							
FITZ	**Fitzroy Crossi**	**45.56**	**134**	P		**P**	**17 27 01.8**	**-1.7**
	comp=E,3.7nm,0.5s,baz=324,slow=5.0,SNR=37							
FITZ				pP		**pP**	**17 27 13.6**	**-0.3**
	comp=E,1.4nm,0.4s,baz=342,slow=6.2,SNR=5.0							
AKTO	**Aktyubinsk**	**45.77**	**329**	P		**P**	**17 27 05.0**	**+0.1**
	comp=E,0.5nm,0.3s,baz=140,slow=11,SNR=3.3							
MJAR	**Matsushiro Arr**	**45.80**	**53**	P		**P**	**17 27 06.0**	**+0.7**
	comp=E,1.6nm,0.7s,baz=262,slow=10,SNR=9.6							
MJAR				PcP		**PcP**	**17 28 42.9**	**+0.4**
	comp=E,0.4nm,0.5s,baz=226,slow=3.1,SNR=4.3							
JCJ	**Chichijima**	**47.34**	**66**	P		**P**	**17 27 17.1**	**-0.5**
	comp=E,15nm,0.7s,baz=278,slow=19,SNR=1.9							
WRKA	**Warakurna**	**52.13**	**138**	P		**P**	**17 27 52.9**	**-1.1**
	baz=5.1,SNR=4.9							
NWAO	**Narrogin (SRO)**	**52.44**	**154**	P		**P**	**17 27 54.6**	**-1.4**
	comp=E,10nm,0.9s,baz=310,slow=3.8,SNR=3.9							
NWAO				pP		**pP**	**17 28 06.5**	**-0.1**
	comp=E,8.9nm,0.9s,baz=45,slow=1.6,SNR=2.9							
WRA	**Warramunga Arr**	**53.04**	**129**	P		**P**	**17 27 59.3**	**-1.4**
	comp=E,1.5nm,0.8s,baz=304,slow=10,SNR=17							
WRA				pP		**pP**	**17 28 11.5**	**+0.2**
	comp=E,0.4nm,0.4s,baz=309,slow=8.1,SNR=3.4							
WRA				PcP		**PcP**	**17 29 08.8**	**-0.3**
	comp=E,0.3nm,0.5s,baz=318,slow=3.4,SNR=4.7							
ASAR	**Alice Springs**	**55.01**	**133**	P		**P**	**17 28 13.8**	**-1.4**
	comp=E,1.1nm,0.5s,baz=309,slow=6.9,SNR=60							
ASAR				pP		**pP**	**17 28 26.6**	**+0.8**
	comp=E,0.7nm,0.4s,baz=307,slow=6.9,SNR=6.0							
ASAR				PcP		**PcP**	**17 29 16.5**	**-0.1**
	comp=E,0.4nm,0.6s,baz=311,slow=4.8,SNR=2.9							
BRTR	**Keskin Array B**	**57.48**	**308**	P		**P**	**17 28 33.2**	**+0.4**
	comp=E,0.6nm,0.7s,baz=126,slow=7.4,SNR=3.5							
BRTR				pP		**pP**	**17 28 46.3**	**+3.0**
	comp=E,1.1nm,0.8s,baz=116,slow=5.7,SNR=6.2							
STKA	**Stephens Creek**	**65.42**	**136**	P		**P**	**17 29 25.4**	**-0.8**
	comp=E,0.5nm,0.3s,baz=307,slow=7.3,SNR=7.7							
STKA				pP		**pP**	**17 29 38.1**	**+1.1**
	comp=E,0.7nm,0.5s,baz=276,slow=10,SNR=1.3							
FINES	**FINESS Array B**	**66.48**	**331**	P		**P**	**17 29 32.9**	**+0.3**
	comp=E,1.3nm,0.5s,baz=102,slow=6.8,SNR=12							
FINES				pP		**pP**	**17 29 45.4**	**+2.1**
	comp=E,1.0nm,0.5s,baz=92,slow=6.0,SNR=1.8							
ARCES	**ARCESS Array B**	**68.79**	**340**	P		**P**	**17 29 47.8**	**+0.7**
	comp=E,1.5nm,0.6s,baz=98,slow=6.4,SNR=6.6							
ARCES				pP		**pP**	**17 29 59.5**	**+1.6**
	comp=E,1.7nm,0.7s,baz=92,slow=5.5,SNR=1.9							
ARCES				LR		LR	18 02 44.6	
	comp=E,15nm,28.6s,baz=317,slow=38							
GERES	**GERESS Array B**	**72.31**	**317**	P		**P**	**17 30 09.4**	**+0.4**
	comp=E,0.8nm,0.6s,baz=92,slow=6.0,SNR=8.8							
GERES				pP		**pP**	**17 30 21.9**	**+1.9**
	comp=E,1.7nm,0.8s,baz=76,slow=5.6,SNR=8.1							
NOA	**NORSAR Array B**	**73.56**	**330**	P		**P**	**17 30 15.3**	**-0.8**
	comp=E,1.0nm,0.6s,baz=90,slow=5.8,SNR=3.4							
NOA				pP		**PcP**	**17 30 28.6**	**-3.3**
	comp=E,1.3nm,0.8s,baz=90,slow=5.5,SNR=2.4							
TORD	**Torodi Ar. Bea**	**88.10**	**283**	P		**P**	**17 31 35.5**	**+1.0**
	comp=E,0.5nm,0.7s,baz=81,slow=3.9,SNR=3.1							
TORD				pP		**pP**	**17 31 47.9**	**+2.2**
	comp=E,2.0nm,0.8s,baz=74,slow=4.3,SNR=12							
ILAR	**Eielson Array**	**89.09**	**22**	P		**P**	**17 31 37.6**	**-0.6**
	comp=E,0.6nm,0.8s,baz=310,slow=4.6,SNR=9.5							
NVAR	**Mina Array Bea**	**119.76**	**28**	PKP		**PKPdf**	**17 37 34.7**	**+0.7**
	comp=E,0.3nm,0.5s,baz=309,slow=2.0,SNR=3.8							
TXAR	**Lajitas Array**	**133.59**	**20**	PKP		**PKPdf**	**17 38 01.0**	**+0.6**
	comp=E,0.1nm,0.5s,baz=343,slow=2.4,SNR=3.8							
TXAR				pPKP		**pPKPdf**	**17 38 14.7**	**+2.8**
	comp=E,0.2nm,0.6s,baz=318,slow=1.2,SNR=2.4							

BJI 27 17:36:25.1, 41.86N×123.56E, h4km, ML3.9/13, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**0.04**	**157**	⇑Pg	Pg	17 36 24.8	-1.2
SNY				smax	smax		
	comp=N,79μm,0.5s						
SNY				smax	smax		
	comp=E,63μm,0.5s						
CN2	**Changchun**	**2.39**	**35**	*e*Pg	Pn	17 37 06.5	+1.5
CN2				*e*Sg	Sb	17 37 37.0	-1.4
CN2				smax	smax		
	comp=N,100nm,0.5s						
CN2				smax	smax		
	comp=E,100nm,0.5s						
DL2	**Dalian**	**3.30**	**207**	Pg	Pb	17 37 23.5	-0.7
DL2				Sg	Sb	17 38 07.3	+2.7
DL2				smax	smax		
	comp=N,450nm,0.8s						
DL2				smax	smax		
	comp=E,640nm,0.9s						

ISCJB ***27*** *18:04:32.9±0.6, 3.26S±0.06×140.03E±0.07, h56km, mb3.6/7, MS3.2/1, Error ellipse: s-maj=10.6km s-min=8.2km az=177.9*
IDC ***27*** *18:04:32.1±3.0, 3.16S×139.96E, h28km±25km, mb3.4/8, mb1 3.7/10, mb1mx3.6/19, mbtmp3.7/10, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/20, Error ellipse: s-maj=34.2km s-min=16.7km az=99.0*

ISC 27 18:04:35.0±0.8, 3.35S±0.08×139.9E±0.1, h56km, n12, σ1§85/13, mb3.7/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.19**	**46**	Pg	Pn	18 04 50.0	-5.4
	46nm,0.3s,baz=232,slow=10,SNR=11						
JAY				Lg	Lg	18 05 04.5	
	340nm,0.3s,baz=162,slow=20,SNR=25						
PMG	**Port Moresby**	**9.43**	**130**	Pn	Pn	18 06 54.0	+5.8
	0.5nm,0.3s,baz=312,slow=12,SNR=5.9						
PMG				Sn	**Sn**	**18 08 31.4**	**-1.4**
	0.2nm,0.3s,baz=303,slow=15,SNR=1.4						
PMG				LR	LR	18 10 09.1	
	comp=E,15nm,28.6s,baz=326,slow=36						
WRA	**Warramunga Arr**	**17.35**	**198**	Pn	**P**	**18 08 34.6**	**+0.5**
	0.4nm,0.3s,baz=18,slow=12,SNR=16						
WRA				Sn	**Sn**	**18 11 42.4**	**-3.5**
	0.1nm,0.3s,baz=18,slow=24,SNR=4.3						
WRA				LR	LR	18 15 54.3	
	comp=Z,151nm,18.6s,baz=315,slow=39						
CTA	**Charters Tower**	**17.77**	**160**	Pn	**P**	**18 08 40.5**	**+1.8**
	0.1nm,0.3s,baz=308,slow=7.7,SNR=2.4						
FITZ	**Fitzroy Crossi**	**20.22**	**223**	P	Pn	18 09 06.9	-1.0
	2.0nm,0.9s,baz=40,slow=14,SNR=2.7						
FITZ				S	**S**	**18 12 48.5**	**-1.1**
	5.5nm,1.1s,baz=173,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**21.00**	**195**	P	**P**	**18 09 16.4**	**+2.3**
	1.3nm,0.7s,baz=8.1,slow=9.7,SNR=17						
ASAR				S	**S**	**18 13 05.9**	**+0.9**
	0.8nm,0.8s,baz=18,slow=25,SNR=3.0						
KSRS	**Korea Array**	**42.08**	**346**	P	**P**	**18 12 21.1**	**-0.3**
	1.4nm,0.7s,baz=157,slow=8.5,SNR=4.3						
KSRS				LR	LR	18 27 51.5	
	comp=Z,30nm,18.5s,baz=171,slow=33						

CMAR	**Chiang Mai Arr**	**45.74**	**300**	P		**P**	**18 12 50.4**	**-0.8**
	0.7nm,0.7s,baz=126,slow=5.5,SNR=7.2							
SONM	**Songino Array**	**58.78**	**334**	P		**P**	**18 14 28.7**	**+1.1**
	0.3nm,0.7s,baz=160,slow=4.6,SNR=2.6							
MKAR	**Makanchi Array**	**70.99**	**322**	P		**P**	**18 15 47.0**	**+0.1**
	0.3nm,0.6s,baz=105,slow=8.3,SNR=3.9							
VNDA	**Vanda**	**75.05**	**175**	P		**P**	**18 16 11.9**	**+1.6**
	1.0nm,0.8s,baz=18,slow=6.8,SNR=3.6							
ILAR	**Eielson Array**	**85.94**	**24**	P		**P**	**18 17 06.7**	**-2.1**
	0.7nm,1.0s,baz=260,slow=5.1,SNR=4.3							

MAN 27 18:24:35, 18.31N×120.80E, h52km, mb3.7, ML2.4, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.17**	**275**	⇑*i*P	Pn	18 24 45.5	+2.1
APYP	**Conner**	**0.61**	**136**	*e*P	Pn	18 24 50.3	+2.6
APYP				*e*S	Sn	18 25 00.8	+3.9
ABRA	**Dolores**	**0.66**	**187**	*e*P	Pn	18 24 50.3	+1.9
ABRA				*e*S	Sn	18 25 01.6	+3.6

SKHL 27 18:47:16.1±0.1, 53.85N×142.81E, h9km±4km, mb4.3/4, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.31**	**166**	⇑*i*Pg	Pg	18 47 20.2	-2.0
OKH				*i* Pg	Pg	18 47 20.2	-2.0
OKH				AMB	AMB	18 47 20.9	
	6μm,0.3s						
OKH				pP	Pb	18 47 21.3	-2.5
OKH				*i* Sg	Sg	18 47 23.0	-3.3
OKH				A	A	18 47 24.1	
	5μm,0.3s						
OKH				A	A	18 47 24.1	
	9μm,0.3s						
NKL	**Nikolayevsk**	**1.45**	**242**	*i* Pg	Pg	18 47 44.8	+0.9
NKL				AMB	AMB	18 47 45.8	
	71nm,0.3s						
NKL				pP	Pb	18 47 48.0	+4.7
NKL				sP	Sn	18 47 52.0	-10
NKL				*e*Sg	Sg	18 48 05.0	+2.2
NKL				A	A	18 48 09.0	
	140nm,0.4s						
NKL				A	A	18 48 09.0	
	160nm,0.4s						
TYV	**Tymovskoe**	**2.99**	**182**	*e*Pg	Pg	18 48 16.0	+2.6
TYV				AMB	AMB	18 48 18.0	
	5.0nm,0.6s						
TYV				*e*Sg	Sg	18 48 57.0	+4.8
TYV				A	A	18 48 58.2	
	7.0nm,0.5s						
GRNR	**Gornyy**	**4.99**	**234**	*e*Pg	Pg	18 48 54.7	+3.1
GRNR				AMB	AMB	18 48 58.7	
	6.0nm,0.5s						
GRNR				*e*Sg	Sg	18 50 03.0	+6.8
GRNR				A	A	18 50 08.0	
	14nm,0.7s						
EKMR	**Ekimchan**	**5.94**	**266**	*e*Pg	Pg	18 49 13.6	+3.7
EKMR				AMB	AMB	18 49 15.8	
	4.0nm,0.5s						
EKMR				*e*Sg	Sg	18 50 36.0	+9.1
EKMR				A	A	18 50 49.3	
	4.0nm,0.6s						
EKMR				A	A	18 50 49.3	
	5.0nm,0.6s						

ISCJB ***27*** *18:54:57.6±2.3, 13.1S±0.4×167.0E±0.5, h180km, mb3.5/5, Error ellipse: s-maj=90.3km s-min=24.7km az=41.5*
IDC ***27*** *18:54:58.4±13.0, 13.01S×167.10E, h176km±113km, mb3.3/5, mb1 3.5/5, mb1mx3.2/19, mbtmp3.8/5, Error ellipse: s-maj=86.3km s-min=38.4km az=127.0*

ISC 27 18:54:58.6±1.9, 13.1S±0.4×167.1E±0.5, h180km, n7, σ0§69/8, mb3.5/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.00**	**227**	P	**P**	**19 00 51.1**	**+0.6**
	1.0nm,0.5s,baz=62,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**32.14**	**253**	P	**P**	**19 01 08.8**	**-0.7**
	0.1nm,0.4s,baz=84,slow=8.7,SNR=5.0						
ASAR	**Alice Springs**	**33.18**	**247**	P	**P**	**19 01 18.2**	**-0.2**
	0.4nm,0.3s,baz=74,slow=10,SNR=27						
ASAR				PcP	**PcP**	**19 03 56.5**	**-0.7**
	0.2nm,0.6s,baz=78,slow=2.4,SNR=4.8						
ILAR	**Eielson Array**	**84.99**	**18**	P	**P**	**19 07 13.2**	**-0.1**
	0.6nm,0.6s,baz=239,slow=5.2,SNR=16						
MKAR	**Makanchi Array**	**95.91**	**317**	P	**P**	**19 08 05.8**	**+0.8**
	0.3nm,0.6s,baz=92,slow=7.2,SNR=2.8						
ARCES	**ARCESS Array B**	**118.61**	**346**	PKP	**PKPdf**	**19 13 24.1**	**-0.4**
	2.7nm,0.9s,baz=69,slow=2.0,SNR=27						
FINES	**FINESS Array B**	**124.13**	**339**	PKP	**PKPdf**	**19 13 35.4**	**+0.1**
	1.6nm,0.9s,baz=98,slow=2.8,SNR=5.7						

IDC ***27*** *19:07:34.3±1.2, 59.09N×30.37W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/32, mbtmp3.7/7, ML3.9/1, MS3.5/19, Ms1 3.5/19, ms1mx3.3/37, Error ellipse: s-maj=36.4km s-min=21.3km az=4.0*
ISCJB ***27*** *19:07:35.4±0.8, 59.3N±0.1×30.4W±0.2, h17km, mb3.6/6, MS3.1/18, Error ellipse: s-maj=19.0km s-min=13.5km az=1.0*

ISC 27 19:07:37.4±0.8, 59.2N±0.2×30.4W±0.1, h17km, n27, σ1§41/10, mb3.6/6, MS3.1/18, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.99**	**34**	Pn	**Pn**	**19 09 18.7**	**-0.2**
	2.2nm,0.3s,baz=227,slow=8.1,SNR=11						
EKA	**Eskdalemuir Ar**	**15.18**	**93**	Pn	**P**	**19 11 16.0**	**+0.3**
	baz=301,slow=7.4,SNR=3.7						
FRB	**Frobisher Bay**	**18.56**	**300**	LR	LR	19 18 06.6	
	comp=Z,16nm,28.6s,baz=72,slow=34						
SCHQ	**Schefferville**	**20.14**	**273**	P	**P**	**19 12 10.8**	**+0.5**
	2.1nm,0.7s,baz=66,slow=20,SNR=3.9						
SCHQ				LR	LR	19 18 33.3	
	comp=Z,105nm,20.6s,baz=136,slow=33						
NOA	**NORSAR Array B**	**20.55**	**67**	LR	LR	19 19 13.7	
	comp=Z,94nm,18.8s,baz=285,slow=34						
ARCES	**ARCESS Array B**	**25.28**	**43**	LR	LR	19 20 49.5	
	comp=Z,15nm,28.6s,baz=279,slow=31						
ESDC	**Sonseca Array**	**25.74**	**128**	P	**P**	**19 13 08.8**	**+1.9**
	0.5nm,0.6s,baz=338,slow=6.8,SNR=3.9						
ESDC				LR	LR	19 22 24.4	
	comp=Z,45nm,18.4s,baz=300,slow=35						
DAVOX	**Davos/Dischmat**	**26.79**	**100**	LR	LR	19 22 54.7	
	comp=Z,16nm,28.6s,baz=265,slow=34						
FINES	**FINESS Array B**	**27.30**	**61**	LR	LR	19 23 30.9	
	comp=Z,15nm,28.6s,baz=301,slow=35						
GERES	**GERESS Array B**	**27.40**	**93**	LR	LR	19 23 52.8	
	comp=Z,142nm,18.5s,baz=279,slow=36						
RES	**Resolute Bay**	**27.67**	**329**	LR	LR	19 22 59.6	
	comp=Z,57nm,21.3s,baz=168,slow=33						
VRAC	**Vranov**	**28.59**	**89**	LR	LR	19 25 31.0	
	comp=Z,16nm,28.6s,baz=307,slow=38						
AKASG	**Malin Array Be**	**34.18**	**78**	P	**P**	**19 14 19.9**	**-1.5**
	1.3nm,1.0s,baz=295,slow=9.1,SNR=3.5						
KEST	**Kesra**	**34.88**	**115**	LR	LR	19 27 08.1	
	comp=Z,15nm,28.6s,baz=265,slow=34						
ULM	**Lac du Bonnet**	**37.39**	**286**	LR	LR	19 28 47.7	
	comp=Z,141nm,18.1s,baz=26,slow=34						
YKA	**Yellowknife Ar**	**38.40**	**312**	P	**P**	**19 14 56.8**	**-0.5**
	0.4nm,0.8s,baz=56,slow=8.4,SNR=5.7						
BRTR	**Keskin Array B**	**43.98**	**87**	LR	LR	19 34 40.5	
	comp=Z,44nm,21.1s,baz=298,slow=37						
KBZ	**Khabaz**	**45.74**	**76**	LR	LR	19 35 44.1	
	comp=Z,15nm,28.6s,baz=40,slow=37						
ILAR	**Eielson Array**	**47.42**	**329**	LR	LR	19 35 51.1	
	comp=Z,71nm,18.3s,baz=126,slow=36						
PDAR	**Pinedale Array**	**49.35**	**288**	P	**P**	**19 16 25.2**	**-0.5**
	1.2nm,0.8s,baz=65,slow=6.0,SNR=7.6						
PDAR				LR	LR	19 36 14.2	
	comp=Z,131nm,18.5s,baz=48,slow=35						
TORD	**Torodi Ar. Bea**	**51.81**	**139**	P	**P**	**19 16 42.7**	**-1.5**
	0.4nm,0.8s,baz=330,slow=6.1,SNR=3.0						
DBIC	**Dimbokro**	**55.95**	**149**	LR	LR	19 38 15.5	
	comp=Z,50nm,19.5s,baz=306,slow=33						
TXAR	**Lajitas Array**	**56.82**	**272**	LR	LR	19 38 41.1	
	comp=Z,15nm,28.6s,baz=0.0,slow=33						
NVAR	**Mina Array Bea**	**56.94**	**291**	LR	LR	19 39 31.2	
	comp=Z,16nm,28.6s,baz=24,slow=34						
MKAR	**Makanchi Array**	**60.86**	**47**	P	**P**	**19 17 49.7**	**+1.1**
	0.9nm,0.9s,baz=330,slow=6.1,SNR=6.6						
WRA	**Warramunga Arr**	**139.25**	**22**	PKP	**PKPdf**	**19 27 05.0**	**+1.9**
	0.4nm,1.0s,baz=339,slow=1.8,SNR=3.2						
ASAR	**Alice Springs**	**142.77**	**24**	PKhKP	PKPpre	19 27 05.2	
	0.2nm,0.8s,baz=355,slow=4.6,SNR=3.1						

ISCJB ***27*** *19:09:00.4±0.2, 43.78N±0.01×105.29W±0.02, h0km, Error ellipse: s-maj=2.1km s-min=1.9km az=30.8*
NEIC ***27*** *19:09:01.0±0.4, 43.76N×105.19W, h0km, ML3.1, Error ellipse: s-maj=5.5km s-min=4.1km az=120.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
IDC ***27*** *19:09:01.2±1.7, 43.89N×105.60W, h0km, mb1 3.5/4, mb1mx3.3/29, mbtmp3.2/4, ML3.2/4, Error ellipse: s-maj=49.3km s-min=8.3km az=147.0*

ISC 27 19:09:01.0±0.7, 43.77N±0.02×105.20W±0.02, h0km, n74, σ0§87/118, 13C-24D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**315**	⇑P	**Pg**	**19 09 07.0**	**+0.8**
	baz=0.2,SNR=386						
I24A	**Kuemmerle Ranc**	**0.43**	**78**	⇓P	**Pb**	**19 09 10.7**	**-0.8**
	baz=0.5,SNR=229						
J23A	**Dilts Ranch, B**	**0.45**	**215**	P	**Pg**	**19 09 09.8**	**+0.3**
	baz=0.4,SNR=149						
J24A	**Dixon Ranch, L**	**0.59**	**138**	P	**Pg**	**19 09 13.4**	**+1.1**
	baz=0.6,SNR=113						
H23A	**Clabaugh Cattl**	**0.80**	**350**	⇑P	**Pg**	**19 09 16.5**	**+0.1**
	baz=0.8,SNR=50						
RSSD	**Black Hills**	**0.91**	**67**	*e*Pg	**Pg**	**19 09 18.7**	**+0.2**
RSSD				*e*Sg	**Sg**	**19 09 29.0**	**-1.4**
I22A	**9 Mile Ranch,**	**0.94**	**278**	⇓P	**Pg**	**19 09 18.5**	**-0.4**
	baz=0.9,SNR=706						
I22A				⇓S	**Sg**	**19 09 31.2**	**+0.2**
	baz=0.9						
J22A	**Midwest**	**0.99**	**249**	⇓P	**Pg**	**19 09 19.0**	**-1.0**
	baz=1.0,SNR=126						
K23A	**Bowen Ranch, D**	**1.06**	**197**	⇓P	**Pg**	**19 09 21.1**	**-0.2**
	baz=1.1,SNR=7.4						
H24A	**Dirks Ranch, A**	**1.08**	**25**	⇓P	**Pg**	**19 09 21.7**	**0.0**
	baz=1.1,SNR=278						
H24A				⇓S	**Sb**	**19 09 36.8**	**-0.6**
	baz=1.1						
K24A	**Anderson Ranch**	**1.08**	**165**	⇑P	**Pg**	**19 09 22.4**	**+0.6**
	baz=1.1,SNR=81						
J25A	**Sunshine Ranch**	**1.09**	**110**	⇓P	**Pg**	**19 09 22.4**	**+0.6**
	baz=1.1,SNR=150						
I25A	**Rochford**	**1.09**	**76**	⇑P	**Pg**	**19 09 22.4**	**+0.5**
	baz=1.1,SNR=47						
H22A	**Clearmont**	**1.17**	**315**	⇓P	**Pg**	**19 09 23.0**	**-0.4**
	baz=1.1,SNR=197						
H25A	**Fruitdale**	**1.43**	**53**	⇓P	**Pb**	**19 09 28.7**	**+0.1**
	baz=1.5,SNR=67						
G23A	**Biddle**	**1.44**	**355**	⇓P	**Pg**	**19 09 28.0**	**-0.5**
	baz=1.4,SNR=518						
K22A	**Casper**	**1.48**	**221**	*e*Pn	**Pn**	**19 09 27.7**	**-1.3**
K22A				*e*Pg	**Pg**	**19 09 30.3**	**+0.9**
K22A				*e*Sn	**Sg**	**19 09 48.7**	**+0.2**
K22A	**Casper**	**1.48**	**221**	⇑P	**Pn**	**19 09 28.0**	**-1.1**
	baz=1.5,SNR=244						
K25A	**Mack Ranch, Ha**	**1.51**	**139**	⇓Pb	**Pn**	**19 09 30.1**	**+0.7**
	baz=1.5,SNR=36						
K25A				⇑S	**Sn**	**19 09 50.8**	**+0.8**
	baz=1.5						
I21A	**Big Trails, Te**	**1.51**	**272**	⇑P	**Pn**	**19 09 28.1**	**-1.4**
	baz=1.5,SNR=236						
H21A	**Big Horn, Sher**	**1.58**	**304**	⇓Pb	**Pn**	**19 09 30.1**	**-0.3**
	baz=1.5,SNR=92						
J26A	**Sides Ranch, S**	**1.61**	**106**	⇓Pb	**Pb**	**19 09 32.0**	**+0.3**
	baz=1.6,SNR=81						
G22A	**Birney**	**1.65**	**332**	⇓Pb	**Pg**	**19 09 31.9**	**-0.6**
	baz=1.6,SNR=192						
G24A	**Alzada**	**1.66**	**20**	⇑Pb	**Pg**	**19 09 32.4**	**-0.4**
	baz=1.7,SNR=56						
J21A	**Lysite**	**1.69**	**256**	⇓Pb	**Pn**	**19 09 32.1**	**+0.1**
	baz=1.6,SNR=324						
L23A	**Garrett**	**1.69**	**193**	⇓Pb	**Pn**	**19 09 32.7**	**+0.6**
	baz=1.7,SNR=676						
L23A				⇓Sb	**Sn**	**19 09 55.6**	**+1.0**
	baz=1.7						
L24A	**Wheatland**	**1.74**	**173**	⇓Pb	**Pb**	**19 09 33.8**	**-0.1**
	baz=1.7						
K26A	**Motz Farm, Whi**	**1.82**	**125**	⇑Pb	**Pb**	**19 09 35.4**	**+0.1**
	baz=1.9,SNR=30						
L25A	**Engebretsen Ra**	**1.85**	**150**	⇑Pb	**Pb**	**19 09 36.0**	**+0.2**
	baz=1.9,SNR=51						
K21A	**Alcova**	**1.88**	**234**	⇓Pb	**Pn**	**19 09 35.0**	**+0.4**
	baz=1.8,SNR=282						
G25A	**Newell**	**1.91**	**41**	⇓Pb	**Pb**	**19 09 36.9**	**+0.1**
	baz=1.9,SNR=21

HRY	**Holter Researc**	**5.53**	**304**	*e*Pn		**Pn**	**19 10 25.0**	**+0.4**
	8.9nm,0.3s							
LRM	**Limekiln Ridge**	**5.55**	**294**	*e*P		**Pn**	**19 10 26.3**	**+1.2**
	20nm,0.4s							
LRM				*e*Sn		**Sn**	**19 11 30.2**	**+0.5**
MCMT	**McKenzie Canyo**	**5.59**	**284**	*e*Pn		**Pn**	**19 10 25.8**	**+0.2**
	1.7nm,0.3s							
MCMT				*e*Pg		**Pg**	**19 10 49.7**	**+1.6**
MCMT				*e*Sn		**Sn**	**19 11 31.5**	**+0.9**
HVU	**Hansel Valley**	**5.92**	**253**	*e*Pn		**Pn**	**19 10 30.0**	**0.0**
	5.5nm,0.7s							
PV04	**Paradox Valley**	**6.06**	**209**	*e*Pn		**Pn**	**19 10 31.4**	**-0.5**
PV04				*e*Sn		**Sn**	**19 11 42.6**	**+0.6**
MPU	**Maple Canyon**	**6.09**	**234**	*e*Pn		**Pn**	**19 10 32.7**	**+0.2**
	6.0nm,0.9s							
MPU				*e*Sg		**Sg**	**19 12 18.1**	**+1.5**
SRU	**San Rafael**	**6.14**	**222**	*e*Pn		**Pn**	**19 10 31.8**	**-1.3**
	4.2nm,0.3s							
SRU				*e*Pg		**Pg**	**19 10 58.0**	**-0.5**
SRU				*e*Sg		**Sg**	**19 12 17.9**	**-0.1**
TMUT	**Trail Mountain**	**6.35**	**227**	*e*Pn		**Pn**	**19 10 35.7**	**-0.3**
	2.7nm,0.3s							
TMUT				*e*Pg		**Pg**	**19 11 03.6**	**+1.0**
TMUT				*e*Sn		**Sn**	**19 11 49.9**	**+0.5**
CHMT	**Chamberlain Mo**	**6.49**	**302**	*e*Pn		**Pn**	**19 10 37.8**	**0.0**
	1.5nm,0.3s							
CHMT				*e*Sn		**Sn**	**19 11 52.8**	**+0.1**
SLMT	**Seeley Lake**	**6.78**	**304**	*e*Pn		**Pn**	**19 10 41.7**	**-0.2**
	2.4nm,0.5s							
SWMT	**Swartz Lake**	**7.21**	**304**	*e*Pn		**Pn**	**19 10 46.2**	**-1.5**
	1.7nm,0.3s							
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn		**Pn**	**19 11 12.2**	**-1.1**
ULM				Lg		Lg	19 13 43.2	
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn		**Pn**	**19 11 12.2**	**-1.1**
	1.2nm,0.3s,baz=234,slow=11,SNR=8.6							
ULM				Lg		Lg	19 13 43.2	
	0.4nm,0.3s,baz=148,slow=18,SNR=2.7							
NVAR	**Mina Array Bea**	**11.23**	**246**	Pn		**Pn**	**19 11 43.1**	**+0.2**
NVAR	**Mina Array Bea**	**11.23**	**246**	Pn		**Pn**	**19 11 43.1**	**+0.2**
	0.1nm,0.3s,baz=68,slow=9.8,SNR=2.7							
YKA	**Yellowknife Ar**	**19.55**	**347**	P		**Pn**	**19 13 30.2**	**-0.9**
YKA	**Yellowknife Ar**	**19.55**	**347**	P		**Pn**	**19 13 30.2**	**-0.9**
	0.1nm,0.3s,baz=157,slow=10,SNR=5.0							

*TUN **27** 20:00:04.5, 34.˚45N×8.˚75E, h11km, MD3.5*
CSEM 27 20:00:04.5, 34.˚45N×8.˚75E, h11km, MD3.5, After SBS, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYA	**Sidi Yaiche**	**0.29**	**9**	*i* P	Pg	20 00 10.0	-0.6
BERT	**Berda**	**0.30**	**134**	*i* P	Pg	20 00 10.5	-0.1
OAR	**Oum El Arais**	**0.30**	**286**	*i* P	Pg	20 00 10.3	-0.4
THTN	**Thala**	**1.11**	**357**	*i* P	Pb	20 00 24.0	-1.9
SGNT	**Sidi Gnaou**	**1.22**	**130**	*i* P	Pn	20 00 15.8	-12
TROT	**Trozza**	**1.31**	**32**	*i* P	Pn	20 00 28.7	-0.2
BTHT	**Jabal bu Thady**	**1.44**	**61**	*i* P	Pn	20 00 29.6	-0.9
GHAT	**Ghardimaou**	**2.07**	**350**	*i* P	Pn	20 00 38.2	-1.1

*BYKL **27** 20:04:46.8±0.2, 55.˚34N×110.˚27E*
*MOS **27** 20:04:46.2±1.1, 55.˚36N×110.˚31E, h10km, mb4.3/1, Error ellipse: s-maj=13.8km s-min=8.9km az=76.8*
*IDC **27** 20:04:46.9±2.1, 55.˚47N×110.˚52E, h0km, mb3.1/2, mb1 3.2/6, mb1mx3.1/31, mbtmp3.1/6, ML3.3/4, Error ellipse: s-maj=47.6km s-min=28.3km az=146.0*
ISC 27 20:04:46.3±1.1, 55.˚36N±0.˚02×110.˚35E±0.˚02, h1km±9km, n50, σ2s09/87, 7C-7D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.62**	**313**	⇑*i*PG	**Pb**	**20 04 58.6**	**-1.3**
NIZ				*e*		20 05 07.5	
NIZ				pmax	pmax		
	comp=Z,123nm,0.5s						
NIZ				smax	smax		
	comp=N,359nm,0.4s						
NIZ	**Nizh Angarsk**	**0.62**	**313**	⇑*i*Pg	**Pb**	**20 04 58.7**	**-1.2**
NIZ				*e*Sg	**Sg**	**20 05 06.2**	**0.0**
NIZ				Pmax			
	comp=N,69nm,0.3s						
NIZ				Smax			
	comp=N,356nm,0.4s						
YLYR	**Ulyunkhan**	**0.67**	**136**	⇑*i*PG	**Pg**	**20 04 59.3**	**+0.2**
YLYR				*e*		20 05 08.8	
YLYR				pmax	pmax		
	comp=Z,299nm,0.4s						
YLYR				smax	smax		
	comp=N,352nm,0.4s						
YLYR	**Ulyunkhan**	**0.67**	**136**	⇓*i*Pg	**Pg**	**20 04 59.4**	**+0.3**
	comp=N,210nm,0.4s						
YLYR				⇑*i*Pg	**Pg**	**20 04 59.4**	**+0.3**
	comp=N,231nm,0.4s						
YLYR				⇑*i*Pg	**Pg**	**20 04 59.4**	**+0.3**
	comp=N,310nm,0.4s						
YLYR				*e*Sg	**Sg**	**20 05 08.5**	**+0.7**
YLYR				Pmax			
	comp=N,299nm,0.4s						
YLYR				Smax			
	comp=N,345nm,0.1s						
KMO	**Kumora**	**0.72**	**42**	*e*PG	**Pg**	**20 05 00.6**	**+0.6**
KMO				*e*		20 05 10.1	
KMO				pmax	pmax		
	comp=Z,422nm,0.4s						
KMO				smax	smax		
	comp=N,406nm,0.8s						
KMO	**Kumora**	**0.72**	**42**	⇓*i*Pg	**Pg**	**20 05 00.7**	**+0.7**
	comp=N,18nm,0.5s						
KMO				⇓*i*Pg	**Pg**	**20 05 00.7**	**+0.7**
	comp=N,32nm,0.5s						
KMO				⇓*i*Pg	**Pg**	**20 05 00.7**	**+0.7**
	comp=N,330nm,0.5s						
KMO				*e*Sg	**Sg**	**20 05 10.0**	**+0.7**
KMO				*e*		20 05 17.5	
KMO				Pmax			
	comp=N,424nm,0.4s						
KMO				Smax			
	comp=N,440nm,1.2s						
YOA	**Uoyan**	**1.10**	**44**	⇑*i*PG	**Pb**	**20 05 07.9**	**-0.2**
YOA				*i*		20 05 24.0	
YOA				pmax	pmax		
	comp=Z,236nm,0.3s						
YOA				smax	smax		
	comp=N,924nm,0.6s						
YOA	**Uoyan**	**1.10**	**44**	⇓*i*Pg	**Pb**	**20 05 07.8**	**-0.3**
YOA				*e*Sg	**Sb**	**20 05 23.5**	**+0.6**
YOA				Pmax			
	comp=N,239nm,0.2s						
YOA				Smax			
	comp=N,852nm,0.4s						
SYVR	**Suvo**	**1.71**	**187**	*e*PN	**Pn**	**20 05 17.6**	**+0.4**
SYVR				*e*		20 05 40.7	
SYVR				pmax	pmax		
	comp=Z,93nm,0.4s						
SYVR				smax	smax		
	comp=N,728nm,0.5s						
SYVR	**Suvo**	**1.71**	**187**	⇓*i*Pg	**Pn**	**20 05 17.6**	**+0.4**
SYVR				*e*Sg	**Sb**	**20 05 40.5**	**-0.1**
SYVR				Pmax			
	comp=N,93nm,0.4s						
SYVR				Smax			
	comp=N,723nm,0.5s						
UKT	**Uakit**	**1.87**	**85**	*e*PN	**Pb**	**20 05 20.9**	**-0.3**
UKT				*e*		20 05 46.1	
UKT				pmax	pmax		
	comp=Z,63nm,0.4s						
UKT				smax	smax		
	comp=N,444nm,0.3s						
UKT	**Uakit**	**1.87**	**85**	⇑*i*Pg	**Pb**	**20 05 21.0**	**-0.3**
UKT				*e*Sg	**Sg**	**20 05 46.6**	**+0.2**
UKT				Pmax			
	comp=N,53nm,0.3s						
UKT				Smax			
	comp=N,444nm,0.4s						
SVKR	**Severomuysk**	**1.97**	**66**	*e*Sg	**Sg**	**20 05 50.0**	**+0.6**
SVKR				Smax			
	comp=N,992nm,0.4s						
MXMB	**Maximikha**	**2.30**	**205**	*e*Pg	**Pb**	**20 05 27.8**	**-0.7**
MXMB				*e*Sg	**Sg**	**20 05 58.9**	**-1.2**
MXMB				Pmax			
	comp=N,75nm,0.5s						
MXMB				Smax			
	comp=N,447nm,0.4s						
BOD	**Bodaibo**	**3.19**	**38**	*e*Pn	**Pn**	**20 05 38.5**	**+1.0**
BOD				*e*Pg	**Pb**	**20 05 43.8**	**+0.2**
BOD				*e*Sn	**Sn**	**20 06 16.0**	**-0.1**
BOD				*e*Sg	**Sb**	**20 06 25.9**	**+2.9**
BOD				Pmax			
	comp=N,33nm,0.3s						
BOD				Smax			
	comp=N,57nm,0.4s						
NLYR	**Nelyaty**	**3.22**	**67**	*e*PN	**Pn**	**20 05 38.8**	**+0.9**
NLYR				*e*		20 05 45.0	
NLYR				*e*		20 06 27.7	
NLYR				pmax	pmax		
	comp=Z,29nm,0.6s						
NLYR				smax	smax		
	comp=N,198nm,1.5s						
NLYR	**Nelyaty**	**3.22**	**67**	⇓*i*Pn	**Pn**	**20 05 39.3**	**+1.4**
NLYR				*e*Pg	**Pb**	**20 05 45.4**	**+1.2**
NLYR				*e*PgPg	**Pg**	**20 05 48.7**	**+0.8**
NLYR				*e*Sn	**Sn**	**20 06 15.3**	**-1.6**
NLYR				*e*Sg	**Sg**	**20 06 27.6**	**-2.0**
NLYR				max			
	comp=N,24nm,0.6s						
NLYR				Smax			
	comp=N,194nm,0.9s						
ZRHB	**Zarechye**	**3.38**	**215**	*e*Pg	**Pb**	**20 05 46.6**	**-0.4**
ZRHB				*e*Sn	**Sn**	**20 06 18.9**	**-2.1**
ZRHB				*e*Sg	**Sb**	**20 06 30.9**	**+2.3**
ZRHB				Pmax			
	comp=N,50nm,0.5s						
ZRHB				Smax			
	comp=N,356nm,1.0s						
TRG	**Tyrgan**	**3.51**	**224**	*e*Pn	**Pn**	**20 05 43.0**	**+1.0**
TRG				*e*Sg	**Sb**	**20 06 33.0**	**+0.7**
TRG				Smax			
	comp=N,114nm,0.2s						
CIT	**Chita**	**3.85**	**149**	*e*PN	**Pb**	**20 05 56.4**	**+1.5**
CIT	**Chita**	**3.85**	**149**	*e*Pg	**Pb**	**20 05 55.9**	**+1.0**
CIT				*e*		20 06 00.7	
CIT				*e*Sg	**Sg**	**20 06 46.3**	**-3.4**
CIT				max			
	comp=N,33nm,0.2s						
CIT				Smax			
	comp=N,111nm,0.3s						
KAB	**Kabansk**	**3.98**	**215**	*e*PN	**Pg**	**20 05 59.6**	**-2.8**
KAB				*e*		20 06 51.2	
KAB				pmax	pmax		
	comp=Z,55nm,0.5s						
KAB				smax	smax		
	comp=E,253nm,0.9s						
HRMR	**Khuramsha**	**4.25**	**210**	*e*Pn	**Pn**	**20 05 52.7**	**+0.6**
HRMR				*e*Pg	**Pb**	**20 06 02.2**	**+0.4**
HRMR				*e*		20 06 05.1	
HRMR				*e*Sn	**Sn**	**20 06 39.1**	**-3.2**
HRMR				*e*Sg	**Sb**	**20 06 57.2**	**+3.7**
HRMR				max			
	comp=E,37nm,0.5s						
HRMR				Smax			
	comp=E,296nm,0.5s						
VTMR	**Vitim**	**4.26**	**15**	*e*Sg	**Sg**	**20 06 59.0**	**-4.1**
CRS	**Chara**	**4.69**	**68**	*e*PN	**Pg**	**20 06 13.3**	**-2.8**
CRS				*e*		20 07 12.6	
CRS				pmax	pmax		
	comp=Z,54nm,1.1s						
CRS				smax	smax		
	comp=E,98nm,1.3s						
CRS	**Chara**	**4.69**	**68**	*e*Pg	**Pb**	**20 06 12.1**	**+2.8**
CRS				*e*Sg	**Sg**	**20 07 12.6**	**-4.3**
CRS				Pmax			
	comp=E,9.0nm,0.3s						
CRS				Smax			
	comp=E,101nm,1.4s						
IRK	**Irkutsk**	**4.77**	**232**	*e*PN	Pg	20 06 13.6	-3.9
IRK				*e*		20 07 13.7	
IRK				pmax	pmax		
	comp=Z,72nm,0.2s						
IRK				smax	smax		
	comp=N,223nm,1.1s						
IRK	**Irkutsk**	**4.77**	**232**	*e*Sn	**Sn**	**20 06 52.1**	**-2.9**
IRK				*e*Sg	**Sb**	**20 07 12.8**	**+4.5**
IRK				Smax			
	comp=N,340nm,0.9s						
TLY	**Talaya**	**5.44**	**230**	*e*PN	**Pn**	**20 06 07.8**	**-0.6**
TLY				*e*		20 06 23.5	
TLY				*e*S	**Sn**	**20 07 08.1**	**-3.4**
TLY				*e*		20 07 32.5	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.3s						
TLY				smax	smax		
	comp=E,62nm,1.1s						
TLY	**Talaya**	**5.44**	**230**	*e*Pg	**Pb**	**20 06 23.3**	**+1.3**
TLY				*e*		20 07 10.6	
TLY				*e*Sg	**Sb**	**20 07 32.7**	**+5.1**
TLY				Pmax			
	comp=E,7.0nm,0.4s						
TLY				Smax			
	comp=E,47nm,0.6s						
KHNR	**Khani**	**5.61**	**70**	*e*Pn	**Pn**	**20 06 13.1**	**+2.4**
KHNR				*e*Sn	**Sn**	**20 07 13.8**	**-1.9**
KHNR				*e*Sg	**Sg**	**20 07 41.2**	**-5.0**
TUP	**Tupik**	**5.62**	**96**	*e*PN	**Pn**	**20 06 12.0**	**+1.1**
TUP				*e*		20 06 28.1	
TUP				*e*S	**Sn**	**20 07 14.9**	**-1.2**
TUP				*e*		20 07 40.8	
TUP				pmax	pmax		
	comp=Z,9.0nm,0.4s						
TUP				smax	smax		
	comp=N,81nm,0.9s						
TUP	**Tupik**	**5.62**	**96**	*e*Pn	**Pn**	**20 06 12.2**	**+1.3**
TUP				*e*Pg	**Pb**	**20 06 28.1**	**+3.0**
TUP				*e*Sn	**Sn**	**20 07 14.6**	**-1.5**
TUP				*e*Sg	**Sg**	**20 07 41.9**	**-4.8**
TUP				Pmax			
	comp=N,9.0nm,0.2s						
TUP				Smax			
	comp=N,99nm,1.1s						
KPC	**Khapcheranga**	**5.80**	**167**	*e*PN	**Pn**	**20 06 13.9**	**+0.6**
KPC				*e*		20 06 31.1	
KPC				*e*		20 07 46.3	
KPC				pmax	pmax		
	comp=Z,35nm,2.2s						
KPC				smax	smax		
	comp=E,77nm,1.6s						
KPC	**Khapcheranga**	**5.80**	**167**	*e*Pn	**Pn**	**20 06 14.0**	**+0.6**
KPC				*e*Pg	Pb	20 06 31.3	+3.2
KPC				*e*Sn	**Sn**	**20 07 16.7**	**-3.8**
KPC				*e*Sg	Sg	20 07 46.1	-6.2
KPC				Pmax			
	comp=E,6.0nm,0.7s						
KPC				Smax			
	comp=E,62nm,1.2s						
ZAK	**Zakamensk**	**6.57**	**224**	*e*Pn	**Pn**	**20 06 25.7**	**+1.7**
ZAK				*e*Sn	**Sn**	**20 07 35.6**	**-3.9**
ZAK				*e*Sg	Sg	20 08 08.8	-8.2
ZAK				Smax			
	comp=E,24nm,1.2s						
MOY	**Mondy**	**6.69**	**240**	*e*PN	Pb	20 06 37.6	-5.8
MOY				*e*		20 06 48.0	
MOY				*e*S	**Sn**	**20 07 40.2**	**-2.4**
MOY				*e*		20 08 11.9	
MOY				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MOY				smax	smax		
	comp=E,49nm,1.0s						
MOY	**Mondy**	**6.69**	**240**	*e*Pn	**Pn**	**20 06 27.6**	**+1.9**
MOY				*e*Sn	**Sn**	**20 07 39.1**	**-3.5**
MOY				*e*Sg	Sg	20 08 11.7	-9.3
MOY				Smax			
	comp=E,50nm,1.0s						
ORL	**Orlik**	**6.83**	**250**	*e*PN	**Pn**	**20 06 28.8**	**+1.1**
ORL				*e*		20 06 50.7	
ORL				*e*		20 08 19.1	
ORL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ORL				smax	smax		
	comp=N,111nm,1.6s						
ORL	**Orlik**	**6.83**	**250**	*e*Pn	**Pn**	**20 06 28.7**	**+1.1**
ORL				*e*Sn	**Sn**	**20 07 43.5**	**-2.5**
ORL				*e*Sg	Sg	20 08 18.1	-7.4
ORL				Smax			
	comp=N,108nm,1.2s						
SONM	**Songino Array**	**7.92**	**200**	Pn	Pn	20 06 45.6	+3.0
	comp=N,0.3nm,0.3s,baz=13,slow=14,SNR=16						
SONM				Lg	Lg	20 08 54.6	
	comp=N,1.6nm,0.3s,baz=16,slow=28,SNR=18						
ZALV	**Zalesovo Beam**	**14.82**	**275**	P	**Pn**	**20 08 17.6**	**+0.9**
ZALV	**Zalesovo Beam**	**14.82**	**275**	Pn	**Pn**	**20 08 17.6**	**+0.9**
	comp=N,0.1nm,0.3s,baz=72,slow=9.5,SNR=6.8						
MKAR	**Makanchi Array**	**19.49**	**256**	P	**Pn**	**20 09 15.7**	**0.0**
MKAR	**Makanchi Array**	**19.49**	**256**	P	**Pn**	**20 09 15.7**	**0.0**
	comp=N,0.1nm,0.3s,baz=58,slow=7.8,SNR=2.1						
KURK	**Kurchatov**	**19.53**	**269**	P	**Pn**	**20 09 17.8**	**+1.7**
KURBB	**Kurchatov Arra**	**19.62**	**269**	P	**Pn**	**20 09 17.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=67,slow=12,SNR=2.2						
BVAR	**Borovoye Array**	**23.27**	**281**	P	**P**	**20 09 57.7**	**+2.7**
BVAR	**Borovoye Array**	**23.27**	**281**	P	**P**	**20 09 57.7**	**+2.7**
	comp=N,0.3nm,0.5s,baz=74,slow=11,SNR=2.9						
ILAR	**Eielson Array**	**46.56**	**35**	P	**P**	**20 13 14.3**	**-0.6**
	comp=N,0.4nm,1.0s,baz=332,slow=5.5,SNR=2.6						

*ISCJB **27** 20:09:16.6±0.4, 27.˚88S±0.˚03×69.˚39W±0.˚08, h104km±7km, mb4.2/8, Error ellipse: s-maj=11.1km s-min=5.4km az=177.3*
*GUC **27** 20:09:18.2±0.5, 27.˚97S×69.˚35W, h38km±4km, MD4.0, ML4.3*
*NEIC **27** 20:09:18.0±0.3, 27.˚88S×69.˚43W, mb4.6/4, Error ellipse: s-maj=9.2km s-min=6.4km az=106.0*
*IDC **27** 20:09:19.1±0.6, 27.˚92S×69.˚35W, h111km±4km, mb3.9/7, mb1 3.8/11, mb1mx3.7/20, mbtmp4.1/11, MS3.2/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=20.8km s-min=10.5km az=81.0*
ISC 27 20:09:18.2±0.5, 27.˚87S±0.˚04×69.˚46W±0.˚06, h108km±4km, n58, σ1s01/77, mb4.3/8, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.95**	**303**	*e*P	**Pn**	**20 09 37.4**	**-1.3**
CPCH				*i* S	**Sn**	**20 09 52.3**	**-1.8**
CPCH				AML	AML	20 09 53.7	
	comp=N,50μm,0.1s						
CPCH	**Copiapo**	**0.95**	**303**	*e*P	**Pn**	**20 09 37.4**	**-1.3**
CPCH				*i* S	**Sn**	**20 09 52.3**	**-1.8**
VACH	**Vallenar**	**1.35**	**238**	*e*P	**Pn**	**20 09 42.5**	**-0.5**
VACH				*e*S	**Sn**	**20 10 00.7**	**-1.2**
VACH				AML	AML	20 10 02.6	
	comp=N,13μm,0.3s						
VACH	**Vallenar**	**1.35**	**238**	*e*P	**Pn**	**20 09 42.5**	**-0.5**
VACH				*e*S	**Sn**	**20 10 00.7**	**-1.2**
LCO	**Las Campanas**	**1.58**	**224**	⇑*i*P	**Pn**	**20 09 45.9**	**-0.2**
LCO				*i* S	**Sn**	**20 10 06.4**	**-0.9**
LCO				AML	AML	20 10 09.1	
	comp=E,3μm,0.8s						
LCO	**Las Campanas**	**1.58**	**224**	⇑*i*P	**Pn**	**20 09 45.9**	**-0.2**
LCO				*i* S	**Sn**	**20 10 06.4**	**-0.9**
TLL	**Tololo Astrono**	**2.57**	**207**	*i* P	**Pn**	**20 09 58.7**	**0.0**
TLL				*i* S	**Sn**	**20 10 29.5**	**-0.3**
TLL				AML	AML	20 10 35.8	
	comp=E,543nm,0.6s						
TLL	**Tololo Astrono**	**2.57**	**207**	*i* P	**Pn**	**20 09 58.7**	**0.0**
TLL				*i* S	**Sn**	**20 10 29.5**	**-0.3**
CFAA	**Coronel Fontan**	**3.87**	**164**	P	**Pn**	**20 10 16.0**	**+0.2**
CFAA				S	**Sn**	**20 10 59.2**	**-1.1**
CFAA	**Coronel Fontan**	**3.87**	**164**	P	**Pn**	**20 10 16.0**	**+0.2**
	comp=E,2.8nm,0.3s,baz=345,slow=12,SNR=254						
CFAA				S	**Sn**	**20 10 59.2**	**-1.1**
	comp=E,12nm,0.3s,baz=251,slow=20,SNR=34						
LVC	**Limon Verde**	**5.26**	**6**	*e*Pn	**Pn**	**20 10 33.9**	**-0.9**
	comp=E,102nm,0.6s						
LVC				*e*Sn	**Sn**	**20 11 35.1**	**+0.7**
H03N1	**Juan Fernandez**	**9.85**	**233**	T	T	20 21 42.6	
	baz=50,slow=74,SNR=95						
H03N2	**Juan Fernandez**	**9.87**	**233**	T	T	20 21 37.7	
	baz=50,slow=74,SNR=106						
H03N3	**Juan Fernandez**	**9.87**	**233**	T	T	20 21 38.1	
	baz=50,slow=74,SNR=135						
CPUP	**Villa Florida**	**10.91**	**85**	P	**Pn**	**20 11 49.2**	**-2.0**
CPUP	**Villa Florida**	**10.91**	**85**	P	**Pn**	**20 11 49.2**	**-2.0**
	comp=E,2.0nm,0.3s,baz=238,slow=11,SNR=12						
CPUP				LR	LR	20 16 47.7	
	comp=E,50nm,20.1s,baz=242,slow=42						
LPAZ	**La Paz**	**11.59**	**6**	P	**Pn**	**20 12 00.7**	**-0.3**
LPAZ	**La Paz**	**11.59**	**6**	P	**Pn**	**20 12 00.7**	**-0.3**
	comp=E,0.2nm,0.3s,baz=198,slow=6.6,SNR=5.2						
LPAZ				LR	LR	20 17 15.5	
	comp=E,14nm,28.6s,baz=244,slow=41						
TRQA	**Tornquist**	**11.93**	**150**	*e*Pn	**Pn**	**20 12 02.7**	**-2.1**
	comp=E,8.9nm,0.8s						
TRQA				*e*Sn	**Sn**	**20 14 15.2**	**-0.8**
SIV	**San Ignacio**	**14.14**	**35**	P	**Pn**	**20 12 33.9**	**+0.1**
SIV	**San Ignacio**	**14.14**	**35**	P	**Pn**	**20 12 33.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=214,slow=15,SNR=2.1						
SAML	**Samuel**	**19.73**	**19**	*e*P	**P**	**20 13 39.0**	**-0.6**
	comp=E,4.0nm,1.1s						
BDFB	**Brasilia**	**23.30**	**63**	P	**P**	**20 14 15.1**	**-1.8**
BDFB	**Brasilia**	**23.30**	**63**	P	**P**	**20 14 15.1**	**-1.8**
	comp=E,2.6nm,0.7s,baz=240,slow=7.4,SNR=5.1						
SNAA	**Sanae**	**56.47**	**160**	P	**P**	**20 18 49.0**	**+0.4**
SNAA	**Sanae**	**56.47**	**160**	P	**P**	**20 18 49.0**	**+0.4**
	comp=E,1.9nm,0.5s,baz=284,slow=8.3,SNR=93						
QSPA	**South Pole Qui**	**62.35**	**180**	*e*P	**P**	**20 19 27.6**	**-1.6**
	comp=E,5.9nm,0.7s						
TXAR	**Lajitas Array**	**65.63**	**327**	pP	pP	20 20 17.3	-0.4
TXAR	**Lajitas Array**	**65.63**	**327**	pP	pP	20 20 17.3	-0.4
	comp=E,0.2nm,0.6s,baz=150,slow=10,SNR=3.1						
DBIC	**Dimbokro**	**71.12**	**71**	P	**P**	**20 20 25.9**	**+0.4**
DBIC				pP	**pP**	**20 20 54.6**	**+2.1**
DBIC	**Dimbokro**	**71.12**	**71**	P	**P**	**20 20 25.9**	**+0.4**
	comp=E,5.7nm,0.6s,baz=211,slow=6.4,SNR=18						
DBIC				pP	**pP**	**20 20 54.6**	**+2.1**
	comp=E,2.2nm,0.6s,baz=235,slow=6.0,SNR=2.8						
PDAR	**Pinedale Array**	**79.40**	**331**	P	**P**	**20 21 14.1**	**+1.6**
PDAR				pP	**pP**	**20 21 40.5**	**+0.5**
PDAR	**Pinedale Array**	**79.40**	**331**	P	**P**	**20 21 14.1**	**+1.6**
	comp=E,0.4nm,0.8s,baz=136,slow=8.4,SNR=3.1						
PDAR				pP	**pP**	**20 21 40.5**	**+0.5**
	comp=E,0.4nm,0.9s,baz=134,slow=6.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**80.01**	**69**	P	**P**	**20 21 16.7**	**+0.5**
TORD				pP	**pP**	**20 21 45.3**	**+1.6**
TORD	**Torodi Ar. Bea**	**80.01**	**69**	P	**P**	**20 21 16.7**	**+0.5**
	comp=E,4.4nm,0.5s,baz=274,slow=6.2,SNR=103						
TORD				pP	**pP**	**20 21 45.3**	**+1.6**
	comp=E,1.4nm,0.6s,baz=261,slow=5.2,SNR=4.9						
BOSA	**Boshof**	**80.93**	**117**	P	**P**	**20 21 21.4**	**+0.3**
BOSA	**Boshof**	**80.93**	**117**	P	**P**	**20 21 21.4**	**+0.3**
	comp=E,4.7nm,1.0s,baz=248,slow=7.1,SNR=6.0						
AFI	**Afiamalu**	**94.15**	**252**	LR	LR	20 55 09.1	
	comp=E,17nm,28.6s,baz=285,slow=29						
YKA	**Yellowknife Ar**	**97.01**	**341**	P	**P**	**20 22 36.8**	**-0.4**
YKA				pP	**pP**	**20 23 05.3**	**0.0**
YKA	**Yellowknife Ar**	**97.01**	**341**	P	**P**	**20 22 36.7**	**-0.4**
	comp=E,0.2nm,0.8s,baz=141,slow=5.0,SNR=4.4						
YKA				pP	**pP**	**20 23 05.3**	**0.0**
	comp=E,0.1nm,0.5s,baz=133,slow=4.5,SNR=2.3						
ASAR	**Alice Springs**	**124.02**	**206**	PKP	**PKPdf**	**20 28

*IDC **27** 20:09:59.4±0.6, 7.°45S×106.°52E, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.1/29, mbtmp4.1/19, MS3.1/8, Ms1 3.1/8, ms1mx2.9/38, Error ellipse: s-maj=28.4km s-min=11.9km az=51.0*

*ISCJB **27** 20:10:01.5±0.4, 7.°81S±0.°04×106.°29E±0.°04, h33km, mb4.1/19, MS2.9/8, Error ellipse: s-maj=6.9km s-min=4.3km az=30.7*

*AUST **27** 20:10:04.2, 7.°86S×106.°38E, h35km*

*DJA **27** 20:10:04.3±0.3, 8.°S±2.′×10.′7E±.′, h10km, M4.7/30, mb5.0/12, mB5.3/10, MLv4.6/30, Mw(mB)4.8/10*

ISC 27 20:10:04.3±0.4, 7.°74S±0.°05×106.°46E±0.°05, h35km, n101, σ1°63/88, mb4.2/19, MS3.0/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.73**	**8**	P	**P**	**Pn**	**20 10 20.3**	**+2.1**
SKJI					S	**Sn**	**20 10 29.3**	**+1.2**
DBJI	**Dramaga**	**1.21**	**14**	P	**P**	**Pn**	**20 10 26.6**	**+1.9**
CGJI	**Cibinong**	**1.35**	**326**	P	**P**	**Pn**	**20 10 28.8**	**+2.2**
CISI	**Cisompet, Garu**	**1.36**	**83**	P	**P**	**Pn**	**20 10 26.6**	**-0.2**
CISI	**Cisompet, Garu** baz=1.5,SNR=722	**1.36**	**83**	P	**P**	**Pn**	**20 10 26.0**	**-0.8**
LEM	**Lembang**	**1.46**	**52**	P	**P**	**Pn**	**20 10 30.3**	**+2.0**
LEM	**Lembang** baz=1.6,SNR=969	**1.46**	**52**	P	**P**	**Pn**	**20 10 29.8**	**+1.4**
TNG	**Tangerang**	**1.56**	**7**	P	**P**	**Pn**	**20 10 31.9**	**+2.3**
SBJI	**Serang**	**1.64**	**349**	P	**P**	**Pn**	**20 10 33.4**	**+2.8**
CMJI	**Cimerak**	**1.97**	**92**	P	**P**	**Pn**	**20 10 35.2**	**0.0**
JCJI	**Jatiwangi**	**2.18**	**56**	P	**P**	**Pn**	**20 10 38.6**	**+0.5**
KPJI	**Karang Pucung**	**2.48**	**81**	P	**P**	**Pn**	**20 10 43.8**	**+1.5**
CLJI	**Cilicap**	**2.53**	**90**	P	**P**	**Pn**	**20 10 46.0**	**+3.0**
BLSI	**Bandar Lampung**	**2.64**	**333**	P	Pn		20 10 48.6	+4.1
TGJI	**Tegal**	**2.78**	**72**	P	**P**	**Pn**	**20 10 48.7**	**+2.4**
XMI	**Christmas Isla** baz=2.7,SNR=26	**2.80**	**196**	P	**P**	**Pn**	**20 10 47.2**	**+0.5**
XMIS	**Christmas Isla** baz=2.7,SNR=94	**2.84**	**196**	P	**Pn**		**20 10 47.4**	**+0.2**
KASI	**Kota Agung**	**2.94**	**318**	P	Pn		20 10 52.8	+4.3
BJII	**Banjamegara**	**3.25**	**83**	P	**Pn**	**Pn**	**20 10 54.5**	**+1.6**
KLSI		**3.48**	**330**	P	Pn		20 11 00.9	+4.9
LWLI	**Liwa**	**3.60**	**318**	P	Pn		20 11 02.4	+4.6
MDSI	**Maura Dua**	**3.94**	**325**	P	Pn		20 11 06.3	+3.9
SMRI	**Semarang**	**4.01**	**80**	P	**Pn**		**20 11 05.5**	**+2.2**
SMRI	**Semarang** baz=4.1,SNR=8.2	**4.01**	**80**	P	**Pn**		**20 11 06.2**	**+3.0**
UGM	**Wanagama**	**4.03**	**93**	P	**Pn**		**20 11 03.9**	**+0.3**
UGM	**Wanagama** baz=4.1,SNR=34	**4.03**	**93**	P	**Pn**		**20 11 03.8**	**+0.3**
UWJI	**Ujung Watu**	**4.64**	**74**	P	**Pn**		**20 11 13.3**	**+1.3**
PCJI	**Pacitan**	**4.70**	**96**	P	**Pn**		**20 11 13.4**	**+0.7**
LHSI	**Lahat**	**4.86**	**323**	P	Pn		20 11 23.3	+8.4
NGJI	**Ngawi**	**4.97**	**86**	P	**Pn**		**20 11 18.0**	**+1.5**
TPI	**Tanjungpandan** 45nm,0.7s,474nm0.2nm	**5.09**	**14**	P	Pn		20 11 22.4	+4.3
PWJI	**Pagerwojo** 151nm,0.8s,2μm0.7nm	**5.30**	**93**	P	**Pn**		**20 11 21.7**	**+0.6**
KRKI	**Karangkates**	**5.95**	**94**	P	Pn		20 11 36.0	+6.0
GRJI	**Gresik** 58nm,1.2s,0.2nm	**6.03**	**83**	P	**Pn**		**20 11 32.6**	**+1.6**
GMJI	**Gumukmas** 38nm,0.8s,1μm0.2nm	**6.94**	**95**	P	**Pn**		**20 11 44.8**	**+1.3**
BLJI	**Banyuglugur** 65nm,0.5s,5μm0.4nm	**7.07**	**91**	P	**Pn**		**20 11 48.0**	**+2.6**
KMMI	**Kalianget** 44nm,1.6s	**7.48**	**85**	P	**Pn**		**20 11 51.6**	**+0.7**
JAGI	**Jajag, Banyuwa** baz=7.7,SNR=112	**7.65**	**96**	P	**Pn**		**20 11 56.1**	**+2.7**
ABJI	**Asem Bagus** 149nm,0.7s,2μm	**7.71**	**91**	P	Pn		20 11 59.0	+4.9
BYJI	**Banyuwangi** 146nm,0.9s,8μm	**7.84**	**94**	P	**Pn**		**20 11 58.1**	**+2.2**
IGBI	**Denpasar** 114nm,0.8s,2μm	**8.66**	**98**	P	**Pn**		**20 12 09.0**	**+1.8**
SRBI	**Singaraja** 131nm,0.8s,2μm	**8.68**	**93**	P	**Pn**		**20 12 10.1**	**+2.7**
KHKI	**Kahang-Kahang**	**9.08**	**95**	P	**Pn**		**20 12 14.3**	**+1.3**
GIRL	**Giralia** baz=17,SNR=6.6	**16.60**	**154**	P	**Pn**		**20 13 53.5**	**-0.9**
SOEI	**Soe** baz=18,SNR=11	**17.72**	**98**	P	**Pn**		**20 14 06.3**	**-2.3**
FITZ	**Fitzroy Crossi** 4.3nm,0.6s,baz=286,slow=6.6,SNR=29	**21.32**	**121**	P	**P**		**20 14 49.3**	**+0.9**
FITZ	0.5nm,0.6s,baz=282,slow=20,SNR=2.3			S	S		20 18 32.6	-11
FITZ	comp=Z,15nm,28.6s,baz=302,slow=38			LR	LR		20 23 42.7	
FITZ	**Fitzroy Crossi** baz=21,SNR=10	**21.32**	**121**	P	**P**		**20 14 49.2**	**+0.9**
MEEK	**Meekatharra** baz=22,SNR=4.7	**22.07**	**150**	P	**P**		**20 15 00.4**	**+4.1**
KNRA	**Kununurra** baz=23,SNR=12	**23.20**	**112**	P	**P**		**20 15 07.8**	**-0.5**
MTN	**Manton Dam** baz=25,SNR=5.1	**24.79**	**104**	P	**P**		**20 15 23.3**	**+0.1**
KDU	**Kakadu** baz=26,SNR=3.1	**26.06**	**103**	P	**P**		**20 15 33.5**	**-1.2**
NWAO	**Narrogin (SRO)** comp=Z,50nm,21.6s,baz=324,slow=32	**26.99**	**160**	LR	LR		20 24 43.9	
WRKA	**Warakurna** baz=27,SNR=6.0	**27.04**	**132**	P	**P**		**20 15 44.0**	**+0.5**
CMAR	**Chiang Mai Arr** 1.8nm,0.6s,baz=180,slow=8.7,SNR=32	**27.06**	**344**	P	**P**		**20 15 41.1**	**-2.5**
CMAR	0.7nm,0.6s,baz=212,slow=2.5,SNR=9.3			PcP	**PcP**		**20 19 05.8**	**+1.3**
CMAR	comp=Z,28nm,21.6s,baz=175,slow=36			LR	LR		20 26 09.4	
H01W3	**Cape Leeuwin H** baz=347,slow=76,SNR=43	**27.93**	**166**	T	T		20 45 19.7	
H01W1	**Cape Leeuwin H** baz=347,slow=76,SNR=34	**27.94**	**166**	T	T		20 45 21.5	
H01W2	**Cape Leeuwin H** baz=347,slow=76,SNR=54	**27.94**	**166**	T	T		20 45 21.3	
WRA	**Warramunga Arr** 1.2nm,0.6s,baz=288,slow=11,SNR=25	**29.61**	**117**	P	**P**		**20 16 06.5**	**0.0**
WRA	0.2nm,0.4s,baz=298,slow=1.8,SNR=6.1			PcP	**PcP**		**20 19 11.5**	**+0.6**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=309,slow=8.3,SNR=26	**30.71**	**124**	P	**P**		**20 16 16.5**	**+0.3**
ASAR	1.1nm,0.8s,baz=297,slow=2.9,SNR=7.5			PcP	**PcP**		**20 19 14.6**	**+0.9**
ASAR	comp=Z,15nm,28.6s,baz=336,slow=35			LR	LR		20 28 04.2	
H08S2	**Diego Garcia H** baz=92,slow=75,SNR=52	**33.65**	**268**	T	T		20 52 09.9	
H08S3	**Diego Garcia H** baz=92,slow=75,SNR=48	**33.66**	**268**	T	T		20 52 10.1	
H08S1	**Diego Garcia H** baz=92,slow=75,SNR=64	**33.67**	**268**	T	T		20 52 14.3	
COEN	**Coen** baz=37,SNR=7.1	**36.55**	**103**	P	**P**		**20 17 06.5**	**-0.6**
ODAN	**Odare** 4.4nm,0.5s	**39.05**	**332**	*eP*	**P**		**20 17 26.1**	**-2.1**
TAPN	**Taplejung** 6.0nm,0.7s	**39.32**	**333**	*eP*	**P**		**20 17 29.0**	**-1.6**
RAMN	**Ramite**	**39.49**	**332**	*eP*	**P**		**20 17 30.4**	**-1.5**
PMG	**Port Moresby** 4.1nm,0.4s,baz=254,slow=5.0,SNR=4.5	**40.27**	**95**	P	**P**		**20 17 37.8**	**-0.5**
JIRN	**Jiri** 7.2nm,0.6s	**40.28**	**332**	*eP*	**P**		**20 17 37.0**	**-1.7**
CTA	**Charters Tower** 2.9nm,0.5s,baz=273,slow=10,SNR=6.3	**40.42**	**112**	P	**P**		**20 17 40.8**	**+1.2**
STKA	**Stephens Creek** 9.0nm,0.5s,baz=304,slow=7.8,SNR=45	**40.56**	**131**	P	**P**		**20 17 41.7**	**+1.2**
STKA	comp=Z,35nm,21.4s,baz=25,slow=35			LR	LR		20 33 53.7	
STKA	**Stephens Creek** baz=41,SNR=20	**40.56**	**131**	P	**P**		**20 17 41.7**	**+1.2**
PKI	**Pulchoki**	**40.58**	**331**	*eP*	**P**		**20 17 39.5**	**-1.6**
PKIN	**Phulchoki** 2.4nm,0.6s	**40.59**	**331**	*eP*	**P**		**20 17 39.2**	**-1.9**
GUN	**Gumba** 8.9nm,0.6s	**40.64**	**331**	*eP*	**P**		**20 17 39.8**	**-1.8**
DMN	**Daman**	**40.76**	**330**	*eP*	**P**		**20 17 40.7**	**-1.8**
KKN	**Kakani**	**40.83**	**331**	*eP*	**P**		**20 17 41.6**	**-1.4**
GKN	**Gorkha**	**41.32**	**330**	*eP*	**P**		**20 17 45.0**	**-2.0**
KOLN	**Koldanda** 13nm,0.7s	**41.65**	**329**	*eP*	**P**		**20 17 48.2**	**-1.5**
DANN	**Dangsing** 9.7nm,0.6s	**42.04**	**329**	*eP*	**P**		**20 17 51.1**	**-1.9**
CMSA	**Cobar Meteorol** baz=44,SNR=12	**43.53**	**128**	P	**P**		**20 18 06.5**	**+1.7**
KSRS	**Korea Array** 1.6nm,0.8s,baz=210,slow=9.2,SNR=4.7	**49.23**	**23**	P	**P**		**20 18 47.3**	**-2.1**
SONM	**Songino Array**	**55.33**	**360**	P	**P**		**20 19 33.7**	**-0.9**
SONM	0.6nm,0.7s,baz=167,slow=6.4,SNR=6.7			PcP	**PcP**		**20 20 34.9**	**-0.1**
USRK	**Ussuriysk Arra** 2.8nm,0.8s,baz=176,slow=3.8,SNR=14	**56.61**	**22**	P	**P**		**20 19 41.8**	**-1.9**
AAK	**Ala-Archa** comp=Z,15nm,28.6s,baz=61,slow=40	**57.98**	**333**	LR	LR		20 49 00.3	
MKAR	**Makanchi Array** 1.1nm,0.5s,baz=146,slow=7.3,SNR=18	**58.39**	**341**	P	**P**		**20 19 53.9**	**-2.4**
MKAR	0.4nm,0.8s,baz=122,slow=4.4,SNR=2.4			PcP	**PcP**		**20 20 46.4**	**-0.4**
KURBB	**Kurchatov Arra** 0.9nm,0.2s,baz=155,slow=6.0,SNR=5.0	**62.96**	**340**	P	**P**		**20 20 25.4**	**-1.8**
ZALV	**Zalesovo Beam** comp=Z,9.2nm,21.3s,baz=165,slow=36	**64.11**	**346**	P	**P**		**20 20 32.3**	**-2.5**
BVAR	**Borovoye Array** 1.5nm,0.4s,baz=142,slow=9.0,SNR=28	**67.83**	**337**	P	**P**		**20 20 57.2**	**-1.5**
AKTO	**Aktyubinsk** 1.5nm,0.6s,baz=117,slow=7.2,SNR=5.8	**71.48**	**330**	P	**P**		**20 21 20.9**	**-0.4**
PETK	**Petropavlovsk-** comp=Z,21nm,19.0s,baz=125,slow=37	**74.49**	**29**	LR	LR		20 55 54.9	
MMAI	**Mount Meron Ar** 2.5nm,1.0s,baz=121,slow=5.4,SNR=4.0	**78.59**	**306**	LR	LR		20 56 25.6	
BRTR	**Keskin Array B** 1.1nm,0.8s,baz=151,slow=5.2,SNR=6.2	**81.91**	**312**	P	**P**		**20 22 20.9**	**+0.2**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=100,slow=6.6,SNR=3.8	**87.93**	**322**	P	**P**		**20 22 50.3**	**-0.2**
SNAA	**Sanae** 0.5nm,0.8s,baz=84,slow=3.9,SNR=5.3	**88.67**	**197**	P	**P**		**20 22 56.0**	**+2.2**
FINES	**FINESS Array B** 2.5nm,1.0s,baz=121,slow=5.4,SNR=4.0	**92.16**	**332**	P	**P**		**20 23 10.6**	**+0.6**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=326,slow=1.9,SNR=6.9	**117.73**	**20**	PKP	**PKPdf**		**20 28 46.2**	**-0.3**
NVAR	**Mina Array Bea** 0.5nm,0.6s,baz=289,slow=4.2,SNR=4.5	**129.45**	**46**	PKP	**PKPdf**		**20 29 11.6**	**+1.5**
PDAR	**Pinedale Array** 0.6nm,0.6s,baz=153,slow=0.8,SNR=6.1	**132.90**	**36**	PKP	**PKPdf**		**20 29 17.6**	**+1.2**
CPUP	**Villa Florida** 2.0nm,0.8s,baz=231,slow=6.5,SNR=2.0	**142.66**	**204**	PKP	**PKPdf**		**20 29 35.3**	**+0.7**
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=300,slow=1.7,SNR=14	**144.45**	**49**	PKP	**PKPdf**		**20 29 37.6**	**-0.2**
LPAZ	**La Paz** 0.6nm,0.5s,baz=309,slow=6.5,SNR=3.1	**155.54**	**193**	PKPab	**PKPab**		**20 30 21.4**	**-0.3**

*IDC **27** 20:15:54.1±1.4, 1.°09S×146.°66E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, MS3.6/2, Ms1 3.6/2, ms1mx2.7/30, Error ellipse: s-maj=47.4km s-min=21.1km az=106.0*

*ISCJB **27** 20:15:55.9±1.4, 1.°1S±0.′1×146.′6E±0.′3, h22km, mb3.5/8, MS3.1/2, Error ellipse: s-maj=44.2km s-min=16.9km az=15.0*

ISC 27 20:15:57.4±1.7, 1.°2S±0.′2×146.′7E±0.′3, h22km, n16, σ0°69/8, mb3.5/8, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=32,slow=11,SNR=15	**22.25**	**212**	P	**P**		**20 20 52.6**	**-0.4**
ASAR	**Alice Springs** 0.9nm,0.8s,baz=39,slow=9.1,SNR=13	**25.59**	**208**	P	**P**		**20 21 26.0**	**+0.8**
FITZ	**Fitzroy Crossi** 1.1nm,0.9s,baz=54,slow=17,SNR=3.0	**26.68**	**230**	P	**P**		**20 21 34.3**	**-0.8**
H11S3	**WAKE ISLAND Hy** baz=228,slow=75,SNR=9.2	**27.70**	**44**	T	T		20 50 12.5	
H11S2	**WAKE ISLAND Hy** baz=228,slow=75,SNR=9.8	**27.71**	**44**	T	T		20 50 13.3	
H11S1	**WAKE ISLAND Hy** baz=228,slow=75,SNR=8.0	**27.71**	**44**	T	T		20 50 13.6	
H11N1	**WAKE ISLAND Hy** baz=229,slow=76,SNR=13	**28.67**	**43**	T	T		20 51 21.1	
H11N2	**WAKE ISLAND Hy** baz=229,slow=76,SNR=13	**28.69**	**43**	T	T		20 51 22.5	
H11N3	**WAKE ISLAND Hy** baz=229,slow=76,SNR=6.5	**28.69**	**43**	T	T		20 51 24.0	
KSRS	**Korea Array** comp=Z,14nm,19.1s,baz=325,slow=35	**42.18**	**338**	LR	LR		20 40 41.8	
CMAR	**Chiang Mai Arr** 0.3nm,0.5s,baz=114,slow=6.0,SNR=6.3	**50.84**	**295**	P	**P**		**20 24 57.5**	**+0.6**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=95,slow=7.3,SNR=4.5	**73.63**	**320**	P	**P**		**20 27 28.5**	**-0.7**
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=104,slow=5.4,SNR=4.1	**77.22**	**323**	P	**P**		**20 27 49.5**	**-0.2**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=256,slow=5.6,SNR=7.7	**81.17**	**23**	P	**P**		**20 28 11.1**	**0.0**
BVAR	**Borovoye Array** 0.9nm,0.6s,baz=110,slow=7.9,SNR=11	**82.72**	**324**	P	**P**		**20 28 19.3**	**-0.1**
YBH	**Yreka Blue Hor** comp=Z,16nm,28.6s,baz=46,slow=30	**91.19**	**48**	LR	LR		21 01 22.6	

IDC 27 20:23:48.1±8.3, 60.°10S×26.°79W, h90km±82km, mb3.8/2, mb1 3.9/3, mb1mx3.5/15, mbtmp4.2/3, ML4.2/1, Error ellipse: s-maj=72.0km s-min=34.4km az=44.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae** 1.1nm,0.3s,baz=307,slow=15,SNR=134	**15.02**	**150**	P	Pn		20 27 15.2	0.0
SNAA				S	Sn		20 29 51.5	-9.0
CPUP	**Villa Florida** 0.9nm,0.4s,baz=155,slow=14,SNR=3.7	**39.73**	**314**	P	P		20 31 11.5	-0.1
TORD	**Torodi Ar. Bea** 1.0nm,0.3s,baz=196,slow=6.2,SNR=48	**76.50**	**29**	P	P		20 35 28.1	+0.1
SONM	**Songino Array** 0.2nm,0.5s,baz=245,slow=4.2,SNR=2.7	**150.52**	**93**	PKPbc	PKPbc		20 43 28.0	-0.3

*NIED **27** 20:29:00, 27.°70N×141.°10E, h116km, Mw4.4 Best double couple: M0 3.9300×10^15 NP1:φ9=318.00000°, δ81.00000°, λ=-82.00000°. NP2:φ9=95.00000°, δ13.00000°, λ=-132.00000°.*

*NEIC **27** 20:29:33.9±0.7, 27.°68N×141.°03E, h113km±6km, mb4.7/18, MW4.3(NIED), Error ellipse: s-maj=7.5km s-min=7.2km az=130.0*

*JMA **27** 20:29:34.7±0.1, 27.°68N×141.°07E, h106km, M4.3*

*ISCJB **27** 20:29:36.4±0.3, 27.°85N±0.°03×140.°97E±0.°06, h150km, mb4.2/50, Error ellipse: s-maj=7.5km s-min=4.2km az=2.6*

*IDC **27** 20:29:37.4±1.9, 27.°70N×140.°75E, h140km±16km, mb3.7/29, mb1 3.9/32, mb1mx3.8/36, mbtmp4.1/32, MS3.4/2, Ms1 3.4/2, ms1mx2.7/39, Error ellipse: s-maj=15.0km s-min=9.7km az=87.0*

*BJI **27** 20:29:38.9, 27.°93N×140.°43E, h128km, mB4.6/6, mb4.3/10*

ISC 27 20:29:38.1±0.5, 27.°77N±0.°05×140.°86E±0.°08, h150km, n110, σ1°32/101, mb4.2/50, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.36**	**120**	P	Pn		20 29 57.4	-8.8
CBIJ				*eS*	Sn		20 30 14.2	-13
CBIJ	**Chichi jima**	**1.36**	**120**	*ePn*	Pn		20 29 57.5	-8.6
JCJ	**Chichijima** 692nm,0.3s,baz=284,slow=0.5,SNR=577	**1.36**	**120**	P	Pn		20 29 58.2	-7.9
JCJ	2μm,0.3s,baz=294,slow=19,SNR=65			S	Sn		20 30 14.2	-13
JHHJ	**Haha-jima-NKT**	**1.64**	**134**	P	Pn		20 30 00.7	-8.4
JHHJ				*eS*	Sn		20 30 20.1	-13
JHJ2	**Mitsune**	**5.40**	**351**	P	**Pn**		**20 30 56.7**	**0.0**
JHJ2				*eS*	**Sn**		**20 31 55.9**	**-2.2**
JHJ2	**Mitsune**	**5.40**	**351**	*ePn*	Pn		20 32 52.8	-3.8
BSO3	**Boso 3**	**7.01**	**358**	P	**Pn**		**20 31 15.6**	**-2.3**
BSO4	**Boso 4**	**7.21**	**357**	P	**Pn**		**20 31 19.3**	**-1.4**
BSO4				*eS*	**Sn**		**20 32 39.9**	**-1.4**
JOD2	**Odawara 2**	**7.62**	**349**	P	**Pn**		**20 31 25.5**	**-0.8**
JOD2				S	**Sn**		**20 32 49.3**	**-2.0**
JHU	**Hanno**	**8.16**	**351**	P	Pn		20 31 30.0	-3.6
JHU				*eS*	**Sn**		**20 33 01.7**	**-2.8**
JRY	**Ryogami san**	**8.38**	**349**	P	**Pn**		**20 31 34.8**	**-1.7**
JRY				*eS*	**Sn**		**20 33 06.3**	**-3.5**
JYT	**Yasato**	**8.45**	**356**	P	**Pn**		**20 31 34.8**	**-2.5**
JYT				*eS*	Sn		20 33 04.4	-6.8
JAG	**Ashikaga**	**8.71**	**352**	P	Pn		20 31 37.3	-3.5
JHO	**Hitachi**	**8.81**	**358**	P	Pn		20 31 38.2	-4.0
JHO				*eS*	Sn		20 33 11.1	-9.0
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=159,slow=11,SNR=5.9	**9.03**	**346**	P	**Pn**		**20 31 43.5**	**-1.5**
MJAR	0.4nm,0.3s,baz=301,slow=13,SNR=3.3			S	Sn		20 33 17.9	-7.3
MAJO	**Matsushiro**	**9.03**	**346**	*ePn*	**Pn**		**20 31 42.6**	**-2.5**
JFK	**Kawauchi**	**9.56**	**0**	*eS*	Sn		20 33 28.6	-10
JNU	**Nakatsue**	**10.13**	**304**	*ePn*	**Pn**		**20 32 00.5**	**+0.7**
JNU	**Nakatsue** 0.3nm,0.3s,baz=37,slow=4.1,SNR=6.3	**10.13**	**304**	P	Pn		20 32 05.6	+5.9
JNU	comp=Z,90nm,18.2s,baz=202,slow=31			LR	LR		20 34 50.3	
JMK	**Ichinoseki**	**11.15**	**1**	P	Pn		20 32 09.1	-4.0
JMK				*eS*	Sn		20 34 07.4	-9.0
KSRS	**Korea Array** 0.4nm,0.3s,baz=125,slow=12,SNR=9.7	**14.55**	**315**	P	**P**		**20 32 59.9**	**+0.8**
GUMO	**Guam**	**14.60**	**164**	*ePn*	Pn		20 32 53.4	-4.2
ASAJ	**Asahikawa** 0.8nm,0.3s,baz=201,slow=16,SNR=12	**16.37**	**4**	P	**P**		**20 33 20.1**	**+0.9**
USRK	**Ussuriysk Arra** 0.6nm,0.3s,baz=146,slow=10.0,SNR=14	**17.87**	**339**	P	**Pn**		**20 33 36.4**	**-0.8**
SSLB	**Suanglung** 14nm,0.4s	**18.36**	**262**	*eP*	**Pn**		**20 33 40.5**	**-2.6**
H11N2	**WAKE ISLAND Hy** baz=299,slow=75,SNR=9.5	**25.10**	**103**	T	T		21 00 19.4	
H11N1	**WAKE ISLAND Hy** baz=299,slow=75,SNR=7.5	**25.11**	**103**	T	T		21 00 47.8	
H11N3	**WAKE ISLAND Hy** baz=299,slow=75,SNR=7.0	**25.12**	**103**	T	T		21 00 26.0	
HHC	**Hu-ho-hao-te**	**27.35**	**306**	*eP*	**P**		**20 35 08.3**	**-0.8**
HHC				S	**S**		**20 39 36.5**	**-1.5**
HHC	comp=Z,29nm,0.7s			pmax	pmax			
HHC	comp=Z,140nm,4.3s			pmax	pmax			
XAN	**Xi'an**	**28.03**	**291**	P	**P**		**20 35 16.8**	**+1.6**
XAN	comp=Z,3.0nm,0.7s			pmax	pmax			
XAN	comp=Z,26nm,7.4s			pmax	pmax			
SONM	**Songino Array** 0.4nm,0.4s,baz=123,slow=8.8,SNR=7.1	**33.41**	**316**	P	**P**		**20 36 02.7**	**+0.3**
FX1	**Attu Island--F**	**34.65**	**35**	*eP*	**P**		**20 36 11.7**	**-1.2**
SEY	**Seymchan** 1.4nm,0.5s,baz=8.8,slow=22,SNR=8.0	**35.97**	**9**	P	**P**		**20 36 25.3**	**+1.4**
PMG	**Port Moresby** 3.2nm,0.6s,baz=37,slow=5.1,SNR=2.6	**37.46**	**170**	P	**P**		**20 36 37.3**	**+0.2**
CMAR	**Chiang Mai Arr** 0.3nm,0.6s,baz=46,slow=8.2,SNR=4.1	**39.49**	**266**	P	**P**		**20 36 55.2**	**+1.0**
CMAR	0.6nm,0.6s,baz=84,slow=2.8,SNR=6.7			PcP	**PcP**		**20 39 00.8**	**+1.8**
COEN	**Coen**	**41.54**	**177**	*eP*	**P**		**20 37 08.3**	**-2.6**
TIXI	**Tiksi** 6.9nm,0.4s	**44.42**	**355**	*eP*	**P**		**20 37 34.2**	**+0.8**
TAPN	**Taplejung** 4.7nm,0.4s	**46.80**	**282**	*eP*	P		20 37 54.9	+1.7
TAPN	**Taplejung** 4.7nm,0.4s	**46.80**	**282**	*eP*	P		20 37 54.9	+1.7
ODAN	**Odare** 12nm,0.6s	**47.20**	**282**	*eP*	**P**		**20 37 57.6**	**+1.5**
ODAN	**Odare** 12nm,0.6s	**47.20**	**282**	*eP*	**P**		**20 37 57.6**	**+1.5**
WRAB	**Tennant Creek** 5.9nm,0.6s	**47.84**	**188**	*eP*	**P**		**20 38 00.0**	**-0.7**
WRA	**Warramunga Arr** 6.1nm,0.6s,baz=10,slow=8.5,SNR=116	**47.85**	**188**	P	**P**		**20 37 59.8**	**-1.1**
WRA	1.0nm,0.9s,baz=4.3,slow=4.2,SNR=6.7			ScP	**ScP**		**20 43 06.6**	**-0.9**
RAMN	**Ramite** 1.1nm,0.9s,baz=6.2,slow=14,SNR=5.7	**47.86**	**282**	*eP*	**S**		**20 44 41.5**	**-5.0**
RAMN	**Ramite** 6.7nm,0.5s	**47.86**	**282**	*eP*	P		20 38 02.9	+1.6
RAMN	**Ramite** 6.7nm,0.5s	**47.86**	**282**	*eP*	P		20 38 02.9	+1.6
FITZ	**Fitzroy Crossi** 1.2nm,0.5s,baz=4.5,slow=9.5,SNR=8.6	**47.93**	**200**	P	**P**		**20 38 01.2**	**-0.2**
JIRN	**Jiri** 21nm,0.6s	**48.05**	**283**	*eP*	**P**		**20 38 04.1**	**+1.3**
JIRN	**Jiri** 21nm,0.6s	**48.05**	**283**	*eP*	**P**		**20 38 04.1**	**+1.3**
ZALV	**Zalesovo Beam** 1.1nm,0.5s,baz=84,slow=8.1,SNR=7.5	**48.21**	**319**	P	**P**		**20 38 02.7**	**-0.5**
ZALV	0.9nm,0.5s,baz=127,slow=4.2,SNR=5.1			PcP	**PcP**		**20 39 28.2**	**+0.2**
GUN	**Gumba** 9.6nm,0.4s	**48.25**	**284**	*eP*	P		20 38 06.3	+1.9
GUN	**Gumba** 9.6nm,0.4s	**48.25**	**284**	*eP*	P		20 38 06.3	+1.9
PKI	**Pulchoki**	**48.74**	**283**	*eP*	**P**		**20 38 09.3**	**+1.2**
PKI	**Pulchoki** 2.7nm,0.5s	**48.74**	**283**	*eP*	**P**		**20 38 09.3**	**+1.2**
PKIN	**Phulchoki** 2.7nm,0.5s	**48.75**	**283**	*eP*	**P**		**20 38 09.3**	**+1.2**
KKN	**Kakani**	**48.80**	**284**	*eP*	**P**		**20 38 09.5**	**+1.1**
KKN	**Kakani**	**48.80**	**284**	*eP*	**P**		**20 38 09.5**	**+1.1**
DMN	**Daman**	**48.99**	**284**	*eP*	**P**		**20 38 11.2**	**+1.3**
DMN	**Daman**	**48.99**	**284**	*eP*	**P**		**20 38 11.2**	**+1.3**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=93,slow=10,SNR=4.7	**49.14**	**309**	P	**P**		**20 38 09.9**	**-0.6**
MKAR	0.6nm,0.6s,baz=87,slow=4.5,SNR=5.6			PcP	**PcP**		**20 39 32.1**	**+0.5**
MKAR	0.4nm,0.4s,baz=77,slow=4.5,SNR=4.2			ScP	**ScP**		**20 43 13.2**	**+0.5**
TNA	**Tin City** 4.9nm,0.9s	**49.27**	**25**	*eP*	**P**		**20 38 09.2**	**-2.0**
GKN	**Gorkha**	**49.30**	**284**	*eP*	**P**		**20 38 12.5**	**+0.3**
GKN	**Gorkha**	**49.30**	**284**	*eP*	**P**		**20 38 12.5**	**+0.3**
DANN	**Dangsing** 7.8nm,0.6s	**49.97**	**285**	*eP*	**P**		**20 38 17.4**	**0.0**
DANN	**Dangsing** 7.8nm,0.6s	**49.97**	**285**	*eP*	**P**		**20 38 17.4**	**0.0**
KOLN	**Koldanda**	**50.25**	**284**	*eP*	**P**		**20 38 19.4**	**0.0**
KOLN	**Koldanda**	**50.25**	**284**	*eP*	**P**		**20 38 19.4**	**0.0**
PYUN	**Piuthan**	**50.69**	**285**	*eP*	**P**		**20 38 21.4**	**-1.3**
PYUN	**Piuthan**	**50.69**	**285**	*eP*	**P**		**20 38 21.4**	**-1.3**
AS31	**Alice Springs**	**51.58**	**188**	*eP*	**P**		**20 38 28.9**	**-0.1**
ASAR	**Alice Springs** 0.4nm,0.4s,baz=17,slow=8.9,SNR=26	**51.58**	**189**	P	**P**		**20 38 28.4**	**-0.6**
ASAR	0.3nm,0.7s,baz=5.8,slow=5.1,SNR=4.7		

PDAR	**Pinedale Array**	**84.55**	**44**	P		**P**	**20 41 55.8**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=287,slow=2.1,SNR=8.3							
BRTR	**Keskin Array B**	**84.68**	**312**	P		**P**	**20 41 55.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=64,slow=6.7,SNR=4.0							
ASF	**Jabal al Asfar**	**86.31**	**304**	P		**P**	**20 42 04.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=90,slow=2.0,SNR=2.5							
MMAI	**Mount Meron Ar**	**86.96**	**306**	P		**P**	**20 42 06.6**	**0.0**
	comp=Z,1.5nm,0.7s,baz=61,slow=6.8,SNR=5.4							
GERES	**GERESS Array B**	**90.32**	**328**	P		**P**	**20 42 21.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=41,slow=4.3,SNR=4.7							
ANMO	**Albuquerque**	**90.94**	**49**	LR		LR	21 20 32.3	
	comp=Z,16nm,28.6s,baz=224,slow=34							
EKA	**Eskdalemuir Ar**	**91.68**	**340**	P		**P**	**20 42 28.4**	**+0.2**
	comp=Z,8.5nm,1.2s,baz=69,slow=3.0,SNR=5.8							
TXAR	**Lajitas Array**	**96.13**	**52**	P		**P**	**20 42 51.1**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=323,slow=1.9,SNR=6.7							
TORD	**Torodi Ar. Bea**	**123.25**	**310**	PKP		**PKPdf**	**20 48 17.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=36,slow=2.0,SNR=8.5							
LPAZ	**La Paz**	**150.87**	**73**	PKPbc		**PKPbc**	**20 49 15.8**	**+1.4**
	comp=Z,2.3nm,0.6s,baz=282,slow=2.4,SNR=9.0							

GUC 27 20:45:44.3±0.6, 29.69S×70.95W, h77km±20km, MD3.5, ML3.5, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.49**	**165**	*i* P	Pn	20 45 58.9	+0.8
TLL				*i* S	Sn	20 46 09.4	+1.2
TLL				AML	AML	20 46 10.0	
	comp=E,2μm,0.6s						
LCO	**Las Campanas**	**0.71**	**18**	*i*P	Pn	20 46 00.7	+0.4
LCO				*i* S	Sn	20 46 13.2	+1.1
LCO				AML	AML	20 46 13.7	
	comp=N,2μm,0.3s						
VACH	**Vallenar**	**1.13**	**9**	*e*P	Pn	20 46 05.2	+0.4
VACH				*i* S	Sn	20 46 20.8	+0.7
VACH				AML	AML	20 46 22.4	
	comp=E,5μm,0.1s						
CMCH	**Combarbala**	**1.48**	**182**	*e*P	Pn	20 46 09.6	+0.2
CMCH				*i* S	Sn	20 46 29.0	+0.7
CMCH				AML	AML	20 46 30.6	
	comp=E,1μm,0.5s						

OTT 27 20:52:54.5±0.6, 74.88N×72.32W, h18km, ML3.7/6, Baffin Bay Seismic Zone. 285km southeast from Craig Harbour, Nu, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**5.93**	**279**	PN	Pn	20 54 21.1	-0.2
RES				SN	Sn	20 55 23.4	-5.2
RES				Trac		20 55 30.4	
	comp=Z,4.5nm,0.1s						
EUNU	**Eureka**	**6.01**	**336**	PN	Pn	20 54 21.6	-0.8
EUNU				SN	Sn	20 55 23.2	-7.4
EUNU				Trac		20 55 26.6	
	comp=Z,8.5nm,0.3s						
ILON	**Igloolik, Nuna**	**6.25**	**213**	PN	Pn	20 54 26.2	+0.6
ILON				SN	Sn	20 55 31.8	-4.7
ILON				Trac		20 55 35.1	
	comp=Z,11nm,0.1s						
FRB	**Frobisher Bay**	**11.26**	**171**	SN	Sn	20 57 30.2	-9.2
CB31	**Cambridge Bay**	**11.50**	**257**	PN	Pn	20 55 36.8	-0.7
CB31				SN	Sn	20 57 36.8	-8.4
CB31				Trac		20 57 40.4	
	comp=Z,14nm,0.4s						
YBKN	**Baker Lake, Hu**	**13.28**	**230**	PN	Pn	20 55 57.5	-4.3
YBKN				SN	Sn	20 58 19.6	-9.1
AKVQ	**Akulivik**	**14.30**	**192**	PN	Pn	20 56 15.2	-0.4
AKVQ				SN	Sn	20 58 41.5	-12
AKVQ				Trac		20 58 45.1	
	comp=Z,1.2nm,0.2s						
INUQ	**Inukjuak**	**16.65**	**191**	SN	Sn	20 59 36.7	-14
COKN	**Cook Lake**	**17.04**	**246**	PN	Pn	20 56 48.4	-3.0
COKN				SN	Sn	20 59 44.0	-16
SNLN	**Sandy Lake, NW**	**17.14**	**244**	PN	Pn	20 56 52.3	-0.3
SNLN				SN	Sn	20 59 50.0	-12
YKW3	**Yellowknife Ar**	**19.07**	**253**	PN	Pn	20 57 16.9	+0.6
YKW3				SN	Sn	21 00 31.6	-18
YKW3				Trac		21 00 36.7	
	comp=Z,0.4nm,0.2s						
SILO	**Sutton Inlier**	**21.08**	**201**	SN	S	21 01 21.3	-10

IDC 27 21:02:43.3±8.4, 18.21N×107.91W, h0km, mb3.1/4, mb1 3.6/5, mb1mx3.5/21, mbtmp3.1/5, MS3.2/2, Ms1 3.2/2, ms1mx2.7/14, Error ellipse: s-maj=147.3km s-min=76.9km az=148.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**2.92**	**282**	T	T	21 06 16.6	
	SNR=30						
H06S1	**SOCORRO T**	**2.94**	**281**	T	T	21 06 09.0	
	SNR=8.5						
TXAR	**Lajitas Array**	**11.73**	**19**	Pn	Pn	21 05 33.2	+1.0
	baz=190,slow=15,SNR=2.2						
TEIG	**Tepich**	**18.65**	**81**	LR	LR	21 14 17.2	
	comp=Z,78nm,18.2s,baz=120,slow=37						
NVAR	**Mina Array Bea**	**22.09**	**338**	P	P	21 07 40.0	-0.4
	0.5nm,0.7s,baz=163,slow=12,SNR=4.7						
JTS	**JuntasAbangare**	**23.58**	**106**	LR	LR	21 15 22.0	
	comp=Z,58nm,19.7s,baz=189,slow=32						
PDAR	**Pinedale Array**	**24.52**	**357**	P	P	21 08 05.0	+0.3
	0.3nm,0.8s,baz=146,slow=9.7,SNR=2.9						
YKA	**Yellowknife Ar**	**44.49**	**356**	P	P	21 10 55.9	-0.1
	0.2nm,0.6s,baz=165,slow=7.9,SNR=5.3						
ILAR	**Eielson Array**	**53.32**	**340**	P	P	21 12 03.8	-0.2
	0.5nm,0.9s,baz=160,slow=5.5,SNR=5.1						
H03N2	**Juan Fernandez**	**58.34**	**152**	T	T	22 16 55.7	
	baz=328,slow=75,SNR=27						
H03N1	**Juan Fernandez**	**58.35**	**152**	T	T	22 16 58.1	
	baz=328,slow=75,SNR=24						
H03N3	**Juan Fernandez**	**58.35**	**152**	T	T	22 17 03.3	
	baz=328,slow=75,SNR=34						

IDC 27 21:11:11.2±1.2, 3.03S×139.75E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=31.8km s-min=11.6km az=147.0
AUST 27 21:11:13.5±2.4, 3.22S×139.85E, h0km, Error ellipse: s-maj=2.0km s-min=1.1km az=348.0
ISCJB 27 21:11:15.3±0.8, 3.1S±0.1×139.9E±0.1, h54km, mb3.4/2, Error ellipse: s-maj=18.1km s-min=11.2km az=40.7

ISC 27 21:11:16.5±1.1, 3.1S±0.1×139.97E±0.10, h54km, n13, σ1§26/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.94**	**51**	Pg	**Pn**	**21 11 33.0**	**-0.6**
	38nm,0.3s,baz=242,slow=13,SNR=162						
JAY				Lg	Lg	21 11 46.2	
	245nm,0.3s,baz=77,slow=19,SNR=39						
JAY	**Jayapura**	**0.94**	**51**	P	**Pn**	**21 11 33.1**	**-0.5**
	baz=1.1,SNR=18						
FAKI	**Fak Fak**	**7.71**	**271**	P	**Pn**	**21 13 06.0**	**-0.3**
	baz=7.6,SNR=3.6						
KDU	**Kakadu**	**12.07**	**218**	P	**Pn**	**21 14 04.6**	**-1.3**
	baz=12,SNR=9.3						
MTN	**Manton Dam**	**13.04**	**222**	P	**Pn**	**21 14 18.2**	**-0.9**
	baz=13,SNR=4.3						
KNRA	**Kununurra**	**16.67**	**221**	P	**Pn**	**21 15 06.3**	**-0.3**
	baz=17,SNR=9.4						
QIS	**Mount Isa**	**17.35**	**181**	P	**P**	**21 15 17.9**	**+2.2**
	baz=17,SNR=3.8						
WRA	**Warramunga Arr**	**17.61**	**198**	P	**Pn**	**21 15 16.9**	**-1.4**
	0.4nm,0.3s,baz=13,slow=13,SNR=17						
FITZ	**Fitzroy Crossi**	**20.48**	**222**	P	Pn	21 15 51.3	-1.4
	2.5nm,0.7s,baz=66,slow=14,SNR=5.5						
FITZ	**Fitzroy Crossi**	**20.48**	**222**	P	Pn	21 15 51.4	-1.2
	baz=20,SNR=4.0						
ASAR	**Alice Springs**	**21.27**	**196**	P	**P**	**21 15 59.1**	**+0.6**
	1.1nm,0.5s,baz=24,slow=8.9,SNR=15						
WRKA	**Warakurna**	**24.53**	**206**	P	P	21 16 40.3	+9.1
	baz=24,SNR=4.4						
MKAR	**Makanchi Array**	**70.87**	**322**	P	**P**	**21 22 28.7**	**+0.8**
	0.2nm,0.5s,baz=99,slow=7.8,SNR=3.8						

ISCJB 27 21:35:21.6±0.6, 6.87N±0.08×73.06W±0.08, h166km, mb3.4/3, Error ellipse: s-maj=13.8km s-min=6.7km az=43.9
IDC 27 21:35:23.7±2.6, 6.79N×73.29W, h167km±20km, mb3.1/3, mb1 3.4/4, mb1mx3.1/22, mbtmp3.2/4, Error ellipse: s-maj=60.4km s-min=25.3km az=96.0
FUNV 27 21:35:26.2, 7.01N×72.98W, h148km, MW3.4

ISC 27 21:35:22.6±0.9, 6.93N±0.07×73.03W±0.08, h166km, n21, σ1§72/25, mb3.2/3, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.17**	**37**	*i*P	**Pn**	**21 35 51.7**	**+1.1**
CAPV				*e*S	**Sn**	**21 36 09.2**	**-3.0**
ROSC	**El Rosal**	**2.43**	**212**	P	**Pn**	**21 36 03.4**	**-0.7**
	27nm,0.3s,baz=284,slow=12,SNR=47						
ROSC				S	**Sn**	**21 36 32.6**	**-3.7**
	25nm,0.3s,baz=264,slow=23,SNR=8.1						
SOCV	**Socops**	**2.54**	**58**	*e*P	**Pn**	**21 36 05.9**	**+0.8**
SOCV				*e*S	**Sn**	**21 36 35.3**	**-2.7**
ELOV	**Elorza**	**3.52**	**89**	*e*P	**Pn**	**21 36 18.1**	**+0.9**
VIRV	**Villa del Rosa**	**3.61**	**10**	*e*P	**Pn**	**21 36 18.1**	**-0.2**
VIRV				*e*S	**Sn**	**21 36 57.5**	**-4.2**
QARV	**Quebrada Arrib**	**4.09**	**37**	*i*P	**Pn**	**21 36 26.0**	**+1.4**
SANV	**Sanarito**	**4.30**	**53**	*e*P	**Pn**	**21 36 27.7**	**+0.4**
CURV	**Curarigua**	**4.31**	**44**	*e*P	**Pn**	**21 36 28.5**	**+1.0**
DABV	**Dabajuro**	**4.62**	**31**	*e*P	**Pn**	**21 36 32.5**	**+1.2**
TEPV	**Terepaima**	**4.85**	**51**	*e*P	**Pn**	**21 36 35.4**	**+1.0**
SIQV	**Siquisique**	**4.88**	**40**	*e*P	**Pn**	**21 36 35.4**	**+0.6**
BAUV	**El Baul**	**5.33**	**68**	*e*P	**Pn**	**21 36 40.2**	**-0.4**
MAPV	**Macapo**	**5.36**	**57**	*i*P	**Pn**	**21 36 41.6**	**+0.5**
MONV	**Montecano**	**5.83**	**31**	*e*P	**Pn**	**21 36 47.1**	**-0.2**
TURV	**Turiamo**	**6.21**	**55**	*e*P	**Pn**	**21 36 53.0**	**+0.7**
CUPV	**Cepira**	**7.81**	**66**	*e*P	**Pn**	**21 37 12.5**	**-1.0**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**21 42 12.5**	**+0.6**
	0.2nm,0.5s,baz=128,slow=8.1,SNR=4.3						
SCHQ	**Schefferville**	**48.03**	**5**	P	**P**	**21 43 47.2**	**+2.4**
	2.0nm,0.6s,baz=175,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**21 45 33.2**	**+0.4**
	0.2nm,0.5s,baz=131,slow=6.5,SNR=7.1						
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc	**PKPbc**	**21 54 52.2**	**-0.4**
	0.3nm,0.9s,baz=99,slow=3.1,SNR=3.8						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	**PKPbc**	**21 54 55.7**	**+0.1**
	0.2nm,0.4s,baz=113,slow=2.6,SNR=3.4						

IDC 27 22:00:13.7±15.0, 0.68S×77.34W, h217km±145km, mb3.2/8, mb1 3.4/8, mb1mx3.4/19, mbtmp3.2/8, Error ellipse: s-maj=107.8km s-min=25.3km az=28.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**39.03**	**322**	P	P	22 07 19.7	0.0
	0.3nm,0.7s,baz=140,slow=7.1,SNR=3.6						
PDAR	**Pinedale Array**	**52.05**	**330**	P	P	22 09 01.5	-0.1
	0.3nm,0.6s,baz=145,slow=9.9,SNR=2.8						
ULM	**Lac du Bonnet**	**53.16**	**345**	P	P	22 09 09.0	-0.2
	1.1nm,0.5s,baz=153,slow=5.7,SNR=3.2						
NVAR	**Mina Array Bea**	**54.15**	**321**	P	P	22 09 16.7	-0.2
	0.3nm,0.4s,baz=131,slow=6.3,SNR=3.2						
YKA	**Yellowknife Ar**	**68.96**	**342**	P	P	22 10 55.2	+0.2
	0.4nm,0.6s,baz=142,slow=6.2,SNR=7.6						
DBIC	**Dimbokro**	**72.69**	**83**	P	P	22 11 18.6	0.0
	3.8nm,1.1s,baz=251,slow=4.4,SNR=7.1						
TORD	**Torodi Ar. Bea**	**79.48**	**77**	P	P	22 11 56.9	+0.1
	0.4nm,0.3s,baz=284,slow=5.7,SNR=17						
ILAR	**Eielson Array**	**82.01**	**336**	P	P	22 12 09.2	0.0
	0.5nm,0.6s,baz=138,slow=3.4,SNR=4.5						

ISCJB 27 22:13:07.5±1.5, 49.8S±0.2×111.8E±0.4, h10km, mb3.7/5, MS3.4/1, Error ellipse: s-maj=41.6km s-min=22.6km az=7.7
IDC 27 22:13:08.2±1.4, 49.80S×111.80E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/14, mbtmp3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=47.4km s-min=28.5km az=98.0

ISC 27 22:13:09.6±1.5, 49.8S±0.2×111.9E±0.3, h10km, n10, σ1§04/7, mb3.8/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.00**	**7**	T	T	22 32 05.4	
	baz=187,slow=74,SNR=9.5						
H01W1	**Cape Leeuwin H**	**15.01**	**7**	T	T	22 32 05.0	
	baz=187,slow=74,SNR=8.3						
H01W3	**Cape Leeuwin H**	**15.02**	**7**	T	T	22 32 01.8	
	baz=187,slow=74,SNR=7.5						
STKA	**Stephens Creek**	**28.47**	**62**	P	**P**	**22 19 03.5**	**-1.2**
	1.3nm,0.7s,baz=193,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**31.27**	**41**	P	**P**	**22 19 30.8**	**+1.2**
	0.5nm,1.0s,baz=203,slow=9.1,SNR=3.3						
VNDA	**Vanda**	**33.46**	**162**	P	**P**	**22 19 48.5**	**+0.2**
	1.1nm,0.8s,baz=304,slow=8.0,SNR=3.6						
WRA	**Warramunga Arr**	**34.76**	**39**	P	**P**	**22 20 01.1**	**+1.0**
	0.9nm,0.8s,baz=204,slow=8.1,SNR=5.5						
WRA				LR	LR	22 33 03.1	
	comp=Z,79nm,21.1s,baz=30,slow=34						
CMAR	**Chiang Mai Arr**	**68.94**	**347**	P	**P**	**22 24 14.2**	**-0.5**
	0.4nm,0.3s,baz=192,slow=6.4,SNR=5.1						
TXAR	**Lajitas Array**	**146.25**	**114**	PKPbc	**PKPab**	**22 32 50.8**	**-0.2**
	0.8nm,1.0s,baz=211,slow=4.4,SNR=5.5						
YKA	**Yellowknife Ar**	**151.86**	**46**	PKPbc	**PKPbc**	**22 33 03.4**	**+0.1**
	0.4nm,0.7s,baz=291,slow=2.3,SNR=6.4						

NSSC 27 22:14:34.5±16.0, 34.13N×24.82E, h0km±999km, ML3.2
IDC 27 22:14:44.9±1.3, 34.44N×24.99E, h0km, mb3.6/5, mb1 3.7/11, mb1mx3.6/32, mbtmp3.7/11, ML3.8/6, MS3.3/2, Ms1 3.3/2, ms1mx2.4/39, Error ellipse: s-maj=21.9km s-min=11.4km az=75.0
ISCJB 27 22:14:47.8±0.4, 34.55N±0.03×24.91E±0.05, h40km±8km, mb3.6/5, MS3.8/1, Error ellipse: s-maj=7.7km s-min=3.6km az=142.0
CSEM 27 22:14:49.4±0.2, 34.55N×24.78E, h30km, MD3.8, Error ellipse: s-maj=7.2km s-min=3.4km az=50.0
ATH 27 22:14:51.5, 34.79N×24.68E, h41km±1km, MD3.8/15
HLW 27 22:14:52.2, 34.51N×25.18E, h31km±36km, Md0.0, Ml3.2
THE 27 22:14:52.8, 34.77N×24.70E, h26km, ML3.3/3, Error ellipse: s-maj=1.6km s-min=0.6km az=18.0

ISC 27 22:14:48.6±1.1, 34.52N±0.04×24.75E±0.04, h35km±4km, n115, σ1§42/121, mb3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.49**	**6**	P	**Pb**	**22 14 59.0**	**-0.2**
SIVA				S	**Sb**	**22 15 04.6**	**-2.0**
SIVA	**Sivas**	**0.49**	**6**	*e*P	**Pb**	**22 14 59.4**	**+0.2**
SIVA				*e*S	**Sb**	**22 15 05.1**	**-1.5**
SIVA	**Sivas**	**0.49**	**6**	P	**Pb**	**22 14 59.0**	**-0.2**
SIVA				*e*S	**Sb**	**22 15 05.1**	**-1.5**
IDI	**Anoyia**	**0.77**	**9**	P	**Pn**	**22 15 03.2**	**+0.1**
IDI				S	**Sn**	**22 15 12.0**	**-1.5**
IDI	**Anoyia**	**0.77**	**9**	*e*P	**Pn**	**22 15 03.3**	**+0.1**
IDI				*e*S	**Sn**	**22 15 12.5**	**-1.0**
IDI	**Anoyia**	**0.77**	**9**	*e*P	**Pn**	**22 15 03.3**	**+0.1**
IDI				*e*S	**Sn**	**22 15 12.5**	**-1.0**
IDI	**Anoyia**	**0.77**	**9**	Pg	**Pn**	**22 15 03.0**	**-0.1**
	62nm,0.3s,baz=196,slow=16,SNR=358						
IDI				Lg	Lg	22 15 12.6	
	237nm,0.3s,baz=74,slow=20,SNR=45						
LAST	**Lasithi**	**0.88**	**43**	P	**Pb**	**22 15 06.3**	**+0.8**
LAST				S	**Sn**	**22 15 17.1**	**+1.0**
LAST	**Lasithi**	**0.88**	**43**	*e*P	**Pb**	**22 15 06.7**	**+1.2**
LAST	**Lasithi**	**0.88**	**43**	P	**Pb**	**22 15 06.3**	**+0.8**
LAST				S	**Sn**	**22 15 17.1**	**+1.0**
VAM	**Vamos**	**0.99**	**333**	P	**Pn**	**22 15 06.5**	**+0.5**
VAM				S	**Sn**	**22 15 17.4**	**-1.3**
VAM	**Vamos**	**0.99**	**333**	*e*P	**Pn**	**22 15 06.7**	**+0.7**
VAM				*e*S	**Sn**	**22 15 17.5**	**-1.3**
VAM	**Vamos**	**0.99**	**333**	*e*P	**Pn**	**22 15 06.7**	**+0.7**
VAM				*e*S	**Sn**	**22 15 17.5**	**-1.3**
NPS	**Neapolis**	**1.02**	**44**	*e*P	**Pb**	**22 15 09.2**	**+1.2**
NPS				*e*S	**Sn**	**22 15 20.7**	**+1.0**
NPS	**Neapolis**	**1.02**	**44**	*e*P	**Pb**	**22 15 09.2**	**+1.2**
NPS				*e*S	**Sn**	**22 15 20.7**	**+1.0**
KARN	**Karanos**	**1.11**	**322**	P	**Pn**	**22 15 08.7**	**+1.0**
KARN				S	**Sn**	**22 15 21.1**	**-0.7**
KARN	**Karanos**	**1.11**	**322**	*e*P	**Pn**	**22 15 09.0**	**+1.3**
KARN	**Karanos**	**1.11**	**322**	P	**Pn**	**22 15 08.7**	**+1.0**
KARN				S	**Sn**	**22 15 21.1**	**-0.7**
ZKR	**Zakros**	**1.35**	**64**	P	**Pb**	**22 15 14.3**	**+1.0**
ZKR	**Zakros**	**1.35**	**64**	*e*P	**Pb**	**22 15 15.0**	**+1.7**
ZKR	**Zakros**	**1.35**	**64**	P	**Pb**	**22 15 14.3**	**+1.0**
ANKY	**Antikythira Is**	**1.79**	**319**	P	**Pn**	**22 15 18.7**	**+1.7**
ANKY	**Antikythira Is**	**1.79**	**319**	*e*P	**Pn**	**22 15 18.8**	**+1.7**
ANKY	**Antikythira Is**	**1.79**	**319**	P	**Pn**	**22 15 18.9**	**+1.7**
SANT	**Santorini**	**1.93**	**17**	P	**Pn**	**22 15 20.2**	**+1.1**
SANT	**Santorini**	**1.93**	**17**	*e*P	**Pn**	**22 15 20.0**	**+0.9**
SANT	**Santorini**	**1.93**	**17**	*e*P	**Pn**	**22 15 20.0**	**+0.9**
KARP	**Karpathos**	**2.23**	**62**	P	**Pb**	**22 15 26.9**	**-1.4**
KARP				S	**Sn**	**22 15 52.3**	**+2.8**
KARP	**Karpathos**	**2.23**	**62**	*e*P	**Pb**	**22 15 27.1**	**-1.2**
KARP	**Karpathos**	**2.23**	**62**	P	**Pb**	**22 15 26.9**	**-1.4**
KARP				S	**Sn**	**22 15 52.3**	**+2.8**
APE	**Apeiranthos**	**2.62**	**14**	*e*P	**Pn**	**22 15 29.7**	**+1.2**
APE	**Apeiranthos**	**2.62**	**14**	*e*P	**Pn**	**22 15 29.7**	**+1.2**
VLI	**Veliai**	**2.64**	**327**	P	**Pn**	**22 15 29.5**	**+0.8**
VLI				S	**Sn**	**22 15 58.7**	**-0.8**
VLI	**Veliai**	**2.64**	**327**	*e*P	**Pn**	**22 15 29.9**	**+1.2**
VLI	**Veliai**	**2.64**	**327**	*e*P	**Pn**	**22 15 29.9**	**+1.2**
VLI				S	**Sn**	**22 15 58.7**	**-0.8**
SLUM		**3.05**	**172**	AMP		22 16 00.0	
	comp=N,70μm,0.3s,logA/T=5.4,baz=179						
SLUM		**3.05**	**172**	P	Pn	22 15 37.7	+3.3
DID	**Didima**	**3.22**	**338**	P	**Pn**	**22 15 37.4**	**+0.8**
DID				S	**Sn**	**22 16 12.7**	**-1.1**
DID	**Didima**	**3.22**	**338**	*e*P	**Pn**	**22 15 37.5**	**+0.8**
DID	**Didima**	**3.22**	**338**	*e*P	**Pn**	**22 15 37.5**	**+0.8**
DID				S	**Sn**	**22 16 12.7**	**-1.1**
ARG	**Arkhangelos**	**3.24**	**58**	*e*P	**Pn**	**22 15 39.8**	**+2.8**
ARG	**Arkhangelos**	**3.24**	**58**	*e*P	**Pn**	**22 15 39.8**	**+2.8**
ITM	**Ithomi**	**3.50**	**320**	*e*P	**Pn**	**22 15 41.3**	**+0.7**
ITM	**Ithomi**	**3.50**	**320**	*e*P	**Pn**	**22 15 41.3**	**+0.7**
LTK	**Loutraki**	**3.77**	**338**	*e*P	**Pn**	**22 15 45.0**	**+0.6**
LTK	**Loutraki**	**3.77**	**338**	*e*P	**Pn**	**22 15 45.0**	**+0.6**
AMT	**Artemida-Makis**	**3.88**	**322**	*e*P	**Pn**	**22 15 48.0**	**+2.2**
AMT	**Artemida-Makis**	**3.88**	**322**	*e*P	**Pn**	**22 15 48.0**	**+2.2**
GUR	**Goura**	**3.92**	**331**	*e*P	**Pn**	**22 15 47.8**	**+1.4**
GUR	**Goura**	**3.92**	**331**	*e*P	**Pn**	**22 15 47.8**	**+1.4**
HMAT	**Matruh**	**3.95**	**149**	P	**Pn**	**22 15 48.5**	**+1.6**
HMAT	baz=154			S	**Sn**	**22 16 29.3**	**-2.7**
	baz=154						
HMAT	**Matruh**	**3.95**	**149**	P	**Pn**	**22 15 48.4**	**+1.6**
HMAT				S	**Sn**	**22 16 29.3**	**-2.7**
DRO	**Drossia**	**4.21**	**325**	*e*P	**Pn**	**22 15 52.0**	**+1.7**
DRO	**Drossia**	**4.21**	**325**	*e*P	**Pn**	**22 15 52.0**	**+1.7**
DSF	**Desfina**	**4.27**	**336**	*e*P	**Pn**	**22 15 51.9**	**+0.7**
DSF	**Desfina**	**4.27**	**336**	*e*P	**Pn**	**22 15 51.9**	**+0.7**
PDO	**Prodromos**	**4.97**	**326**	*e*P	**Pn**	**22 16 02.5**	**+1.7**
PDO	**Prodromos**	**4.97**	**326**	*e*P	**Pn**	**22 16 02.5**	**+1.7**
SWA2		**5.30**	**173**	P	Pn	22 16 08.6	+3.3
	baz=177						
SWA2				S	**Sn**	**22 17 06.0**	**+0.8**
	baz=177						
SWA2		**5.30**	**173**	P	Pn	22 16 08.6	+3.3
SWA2				S	**Sn**	**22 17 06.0**	**+0.8**
HSAF	**As Saff**	**7.57**	**128**	P	**Pn**	**22 16 36.8**	**+0.3**
	baz=130						
HSAF	**As Saff**	**7.57**	**128**	P	**Pn**	**22 16 36.8**	**+0.3**
GLL	**Jalalah**	**7.70**	**128**	P	**Pn**	**22 16 38.9**	**+0.6**
	baz=129						
GLL	**Jalalah**	**7.70**	**128**	P	**Pn**	**22 16 38.9**	**+0.6**
SUZ		**8.29**	**122**	P	**Pn**	**22 16 47.3**	**+0.9**
	baz=123						
SUZ		**8.29**	**122**	P	**Pn**	**22 16 47.3**	**+0.9**
RSH		**8.35**	**113**	P	**Pn**	**22 16 47.6**	**+0.3**
	baz=113						
RSH		**8.35**	**113**	P	**Pn**	**22 16 47.6**	**+0.3**
BRTR	**Keskin Array B**	**8.79**	**51**	Pn	**Pn**	**22 16 54.0**	**+0.5**
	comp=N,0.1nm,0.3s,baz=222,slow=14,SNR=8.4						
KZIT	**Kziot**	**8.89**	**111**	Pn	**Pn**	**22 16 54.9**	**+0.2**
SLTI	**Sal'it**	**8.90**	**102**	Pn	**Pn**	**22 16 54.4**	**-0.4**
MMA0	**Mount Meron ar**	**9.00**	**97**	Pn	**Pn**	**22 16 56.8**	**+0.6**
MMAI	**Mount Meron Ar**	**9.00**	**97**	Pn	**Pn**	**22 16 55.0**	**-1.2**
	comp=N,1.4nm,0.3s,baz=279,slow=11,SNR=12						
MMAI				Sn	**Sn**	**22 18 32.0**	**-4.3**
	comp=N,7.7nm,0.3s,baz=272,slow=21,SNR=11						
HNKL	**Nakhl**	**9.06**	**118**	P	**Pn**	**22 16 56.9**	**-0.1**
	baz=119						
HNKL	**Nakhl**	**9.06**	**118**	P	**Pn**	**22 16 56.9**	**-0.1**
MMLI	**Mount Malkishu**	**9.16**	**100**	Pn	**Pn**	**22 16 58.2**	**-0.1**
KSDI	**Kefar Szold**	**9.17**	**95**	Pn	**Pn**	**22 16 56.8**	**-1.7**
ARNB	**Al Arnab**	**9.29**	**79**	*e*P

EIL				Sn	**Sn**			**22 18 53.7**	**-5.1**
	comp=N,4.8nm,0.3s,baz=286,slow=19,SNR=11								
SALA	**Sala**	**10.16**	**97**	*e*P	Pn	22 16 57.2	-15		
SALA				*e*S	Sn	22 18 54.3	-11		
SALA				AML	AML	22 19 05.4			
	comp=E,1.7nm,0.5s								
SALA				AML	AML	22 19 14.6			
	comp=N,19nm,0.5s								
SALA				AML	AML	22 19 15.5			
	comp=Z,13nm,0.6s								
SALA	**Sala**	**10.16**	**97**	*e*P	Pn	22 16 57.2	-15		
	SNR=45								
SALA				*e*S	Sn	22 18 54.3	-11		
	comp=Z,13nm,0.6s,SNR=40								
ASF	**Jabal al Asfar**	**10.43**	**100**	Sn	**Sn**	**22 19 07.1**	**-4.4**		
	comp=Z,0.6nm,0.3s,baz=333,slow=6.8,SNR=3.6								
ZALF	**Zalf**	**10.61**	**95**	*e*P	Pn	22 17 12.0	-6.1		
ZALF				*e*S	Sn	22 19 04.7	-11		
ZALF				AML	AML	22 19 30.3			
	comp=Z,5.3nm,0.7s								
ZALF				AML	AML	22 19 34.8			
	comp=E,7.7nm,0.5s								
ZALF				AML	AML	22 19 35.6			
	comp=N,5.9nm,0.6s								
ZALF	**Zalf**	**10.61**	**95**	*e*P	Pn	22 17 12.0	-6.1		
	SNR=45								
ZALF				*e*S	Sn	22 19 04.7	-11		
	comp=N,5.9nm,0.6s,SNR=40								
GERES	**GERESS Array B**	**16.49**	**334**	Pn	**Pn**	**22 18 39.4**	**+2.2**		
	comp=N,0.1nm,0.3s,baz=148,slow=11,SNR=6.1								
AKASG	**Malin Array Be**	**16.49**	**10**	Pn	**Pn**	**22 18 36.5**	**-0.7**		
	comp=N,0.6nm,0.3s,baz=201,slow=11,SNR=11								
KBZ	**Khabaz**	**16.79**	**51**	Pn	**P**	**22 18 42.7**	**-0.1**		
	comp=N,0.3nm,0.3s,baz=228,slow=12,SNR=15								
GNI	**Garni**	**16.85**	**65**	Pn	**Pn**	**22 18 43.6**	**+1.6**		
	comp=N,0.2nm,0.3s,baz=352,slow=5.3,SNR=4.9								
GNI				LR	LR	22 26 31.4			
	comp=N,40nm,18.7s,baz=103,slow=42								
TORD	**Torodi Ar. Bea**	**29.82**	**230**	P	**P**	**22 20 55.0**	**+2.4**		
	comp=N,0.5nm,0.7s,baz=32,slow=8.5,SNR=5.6								
KURBB	**Kurchatov Arra**	**41.79**	**50**	P	**P**	**22 22 33.6**	**-0.9**		
	comp=N,0.6nm,0.7s,baz=278,slow=8.6,SNR=5.0								
MKAR	**Makanchi Array**	**44.41**	**56**	P	**P**	**22 22 56.2**	**+0.3**		
	comp=N,1.3nm,0.5s,baz=324,slow=6.0,SNR=6.2								
ZALV	**Zalesovo Beam**	**45.69**	**46**	P	**P**	**22 23 05.2**	**-0.7**		
	comp=N,0.6nm,0.5s,baz=254,slow=10,SNR=4.1								
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**22 24 53.4**	**+0.6**		
	comp=N,0.4nm,0.8s,baz=282,slow=5.5,SNR=3.6								
JNU	**Nakatsue**	**83.44**	**54**	LR	LR	23 05 45.9			
	comp=N,36nm,18.0s,baz=251,slow=37								

IDC ***27*** *22:33:17.3±1.7,34.5′54N×25.2′24E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/26, mbtmp3.2/3, ML3.7/1, Error ellipse: s-maj=33.0km s-min=13.3km az=72.0*
ATH ***27*** *22:33:19.9, 34.6′63N×24.7′70E, h31km±1km, MD3.6/11*
ISCJB ***27*** *22:33:20.8±1.2, 34.6′64N±0.0′07×24.7′70E±0.0′04, h28km±5km, mb3.0/2, Error ellipse: s-maj=11.1km s-min=5.6km az=177.6*
CSEM ***27*** *22:33:20.6±0.4, 34.6′63N×24.7′71E, h20km, MD3.6, Error ellipse: s-maj=8.3km s-min=3.9km az=176.0*
THE ***27*** *22:33:21.2, 34.6′67N×24.7′69E, h11km±2km, Error ellipse: s-maj=2.5km s-min=0.7km az=10.0*

ISC 27 22:33:21.3±1.6, 34.6′67N±0.0′09×24.73E±0.0′03, h25km±9km, n45, σ0°77/61, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.36**	**11**	P	**Pb**	**22 33 28.6**	**-0.6**
SIVA				S	**Sb**	**22 33 34.3**	**-0.3**
SIVA	**Sivas**	**0.36**	**11**	*e*PB	**Pb**	**22 33 28.7**	**-0.5**
SIVA				*e*SB	**Sb**	**22 33 35.6**	**+1.0**
SIVA	**Sivas**	**0.36**	**11**	*e*Pb	**Pb**	**22 33 28.7**	**-0.5**
SIVA				S	**Sb**	**22 33 34.3**	**-0.3**
SIVA				*e*Sb	**Sb**	**22 33 35.6**	**+1.0**
IDI	**Anoyia**	**0.63**	**12**	P	**Pb**	**22 33 33.5**	**-0.3**
IDI				S	**Sb**	**22 33 42.9**	**+0.5**
IDI	**Anoyia**	**0.63**	**12**	*e*PN	**Pb**	**22 33 33.6**	**-0.3**
IDI				*e*SN	**Sb**	**22 33 43.5**	**+1.1**
IDI	**Anoyia**	**0.63**	**12**	P	**Pb**	**22 33 33.5**	**-0.3**
IDI				S	**Sb**	**22 33 42.9**	**+0.5**
IDI				*e*Sn	**Sb**	**22 33 43.5**	**+1.1**
IDI	**Anoyia**	**0.63**	**12**	Pg	**Pb**	**22 33 33.4**	**-0.3**
	18nm,0.3s,baz=210,slow=14,SNR=127						
IDI				Lg	Lg	22 33 43.6	
	59nm,0.3s,baz=258,slow=20,SNR=47						
LAST	**Lasithi**	**0.79**	**51**	P	**Pb**	**22 33 36.4**	**-0.1**
LAST				S	**Sn**	**22 33 48.6**	**+0.6**
LAST	**Lasithi**	**0.79**	**51**	*e*PN	**Pn**	**22 33 37.1**	**+0.2**
LAST				*e*SN	**Sn**	**22 33 48.1**	**+0.1**
LAST	**Lasithi**	**0.79**	**51**	P	**Pb**	**22 33 36.4**	**-0.1**
LAST	**Lasithi**	**0.79**	**51**	*e*Pn	**Pn**	**22 33 37.1**	**+0.2**
LAST				*e*Sn	**Sn**	**22 33 48.1**	**+0.1**
VAM	**Vamos**	**0.85**	**330**	P	**Pb**	**22 33 36.6**	**-0.9**
VAM	**Vamos**	**0.85**	**330**	*e*PN	**Pb**	**22 33 36.9**	**-0.6**
VAM	**Vamos**	**0.85**	**330**	P	**Pb**	**22 33 36.6**	**-0.9**
VAM	**Vamos**	**0.85**	**330**	*e*Pn	**Pb**	**22 33 36.9**	**-0.6**
NPS	**Neapolis**	**0.94**	**51**	*e*PN	**Pb**	**22 33 38.3**	**-0.7**
NPS				*e*SN	**Sn**	**22 33 51.8**	**+0.3**
NPS	**Neapolis**	**0.94**	**51**	*e*Pn	**Pb**	**22 33 38.3**	**-0.7**
NPS				*e*Sn	**Sn**	**22 33 51.8**	**+0.3**
KARN	**Karanos**	**0.99**	**318**	P	**Pb**	**22 33 39.3**	**-0.5**
KARN				S	**Sn**	**22 33 53.0**	**+0.2**
KARN	**Karanos**	**0.99**	**318**	*e*PN	**Pb**	**22 33 39.5**	**-0.3**
KARN				*e*SN	**Sn**	**22 33 53.2**	**+0.4**
KARN	**Karanos**	**0.99**	**318**	P	**Pb**	**22 33 39.3**	**-0.5**
KARN				*e*Sn	**Sn**	**22 33 53.2**	**+0.4**
ANKY	**Antikythira Is**	**1.67**	**316**	*e*PN	**Pn**	**22 33 49.5**	**+0.6**
ANKY	**Antikythira Is**	**1.67**	**316**	*e*Pn	**Pn**	**22 33 49.5**	**+0.6**
SANT	**Santorini**	**1.80**	**19**	*e*PN	**Pn**	**22 33 51.1**	**+0.3**
SANT	**Santorini**	**1.80**	**19**	*e*Pn	**Pn**	**22 33 51.1**	**+0.3**
KYTH	**Kithira**	**2.12**	**320**	*e*PN	**Pn**	**22 33 55.6**	**+0.5**
KYTH	**Kithira**	**2.12**	**320**	*e*Pn	**Pn**	**22 33 55.6**	**+0.5**
KARP	**Karpathos**	**2.18**	**66**	*e*PN	**Pn**	**22 33 56.6**	**+0.6**
KARP	**Karpathos**	**2.18**	**66**	*e*Pn	**Pn**	**22 33 56.6**	**+0.6**
APE	**Apeiranthos**	**2.48**	**15**	*e*PN	**Pn**	**22 34 01.3**	**+1.1**
APE	**Apeiranthos**	**2.48**	**15**	*e*Pn	**Pn**	**22 34 01.3**	**+1.1**
VLI	**Veliai**	**2.51**	**325**	*e*PN	**Pn**	**22 34 00.7**	**+0.2**
VLI	**Veliai**	**2.51**	**325**	*e*Pn	**Pn**	**22 34 00.7**	**+0.2**
DID	**Didima**	**3.08**	**337**	*e*PN	**Pn**	**22 34 08.5**	**+0.2**
DID	**Didima**	**3.08**	**337**	*e*Pn	**Pn**	**22 34 08.5**	**+0.2**
ITM	**Ithomi**	**3.38**	**319**	*e*PN	**Pn**	**22 34 11.8**	**-0.7**
ITM	**Ithomi**	**3.38**	**319**	*e*Pn	**Pn**	**22 34 11.8**	**-0.7**
GUR	**Goura**	**3.79**	**330**	*e*PN	**Pn**	**22 34 18.5**	**+0.3**
GUR	**Goura**	**3.79**	**330**	*e*Pn	**Pn**	**22 34 18.5**	**+0.3**
DRO	**Drossia**	**4.08**	**324**	*e*PN	**Pn**	**22 34 22.5**	**+0.4**
DRO	**Drossia**	**4.08**	**324**	*e*Pn	**Pn**	**22 34 22.5**	**+0.4**
PDO	**Prodromos**	**4.85**	**325**	*e*PN	**Pn**	**22 34 34.2**	**+1.6**
PDO	**Prodromos**	**4.85**	**325**	*e*Pn	**Pn**	**22 34 34.2**	**+1.6**
GERES	**GERESS Array B**	**16.35**	**333**	Pn	**P**	**22 37 10.9**	**-0.9**
	0.1nm,0.3s,baz=143,slow=13,SNR=2.9						
TORD	**Torodi Ar. Bea**	**29.90**	**230**	P	**P**	**22 39 29.1**	**+2.0**
	0.1nm,0.3s,baz=32,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**22 41 26.7**	**-2.6**
	0.2nm,0.5s,baz=271,slow=6.5,SNR=5.0						

KRSC 27 22:47:25.6±4.4, 53.6′3N×161.8′1E, h15km±15km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.20**	**244**	S	Sg	22 48 07.0	+2.7
NLC	**Nalytchevo**	**1.55**	**254**	P	Pn	22 47 52.8	+0.3
NLC				S	Sb	22 48 12.8	-0.4
KZV	**Kizimen**	**1.73**	**330**	P	Pn	22 47 55.6	+0.3
KZV				S	Sn	22 48 17.1	-0.2
SDLR	**Sedlovina**	**1.79**	**260**	P	Pn	22 47 56.2	+0.2
SDLR				S	Sn	22 48 19.4	+0.8
UGLR	**Uglovaya**	**1.84**	**258**	P	Pn	22 47 57.3	+0.6
UGLR				S	Sn	22 48 20.6	+0.8
SMAR	**Somma**	**1.84**	**260**	P	Pn	22 47 57.1	+0.2
SMAR				S	Sn	22 48 20.1	+0.1
KRER	**Koryakskii**	**1.86**	**261**	P	Pn	22 47 57.8	+0.6
KRER				S	Sn	22 48 21.3	+0.7
AVH	**Avacha**	**1.87**	**260**	P	Pn	22 47 57.7	+0.5
AVH				S	Sn	22 48 21.0	+0.4
KRX	**Arik**	**1.91**	**263**	P	Pn	22 47 57.9	+0.1
KRX				S	Sn	22 48 21.2	-0.4
TUMR	**Tumrok**	**1.92**	**330**	P	Pn	22 47 58.6	+0.7
TUMR				S	Sn	22 48 22.5	+0.6
KOK	**Koryaka**	**1.93**	**261**	P	Pn	22 47 58.5	+0.5
KOK				S	Sn	22 48 22.4	+0.4
PET	**Petropavlovsk**	**1.99**	**253**	S	Sb	22 48 25.2	-0.8
GNL	**Ganaly**	**2.30**	**273**	P	Pn	22 48 04.4	+1.3
GNL				S	Sn	22 48 33.3	+2.0
RUS	**Russkaya**	**2.32**	**240**	P	Pb	22 48 05.7	-1.5
RUS				S	Sb	22 48 34.6	-1.0
BZMR	**Bezymyannaya**	**2.43**	**342**	P	Pb	22 48 07.3	-2.0
BZWR	**Bezymyannyi-We**	**2.46**	**343**	P	Pb	22 48 07.7	-2.0
BZWR				S	Sn	22 48 37.6	+2.3
ZLN	**Zelenaya**	**2.46**	**347**	P	Pn	22 48 06.9	+1.6
MTVR	**Mutnovka**	**2.47**	**244**	P	Pn	22 48 07.4	+1.9
MTVR				S	Sb	22 48 38.3	-2.0
KIRR	**Kirishev**	**2.48**	**341**	P	Pn	22 48 07.7	+2.1
KIRR				S	Sb	22 48 38.3	-2.2
GRL	**Gorelyy**	**2.50**	**246**	P	Pb	22 48 09.4	-0.9
GRL				S	Sb	22 48 40.7	-0.3
KPT	**Kopyto**	**2.52**	**339**	P	Pb	22 48 08.6	-2.0
KPT				S	Sb	22 48 40.0	-1.4
KBTR	**Krutoberegovo**	**2.65**	**12**	P	Pn	22 48 09.3	+1.6
KBTR				S	Sn	22 48 41.3	+1.7
ASAK	**Asacha**	**2.67**	**244**	P	Pb	22 48 11.2	-2.0
ASAK				S	Sb	22 48 44.5	-1.4
KOZ	**Kozyrevsk**	**2.68**	**336**	S	Sn	22 48 41.3	+0.9
KBG	**Krutoberegovo**	**2.68**	**11**	P	Pn	22 48 10.1	+2.0
KBG				S	Sn	22 48 42.3	+2.0
KRSR	**Krestovskiy**	**2.69**	**345**	P	Pn	22 48 09.3	+0.8
KLY	**Klyuchi**	**2.77**	**347**	P	Pn	22 48 11.2	+1.8
KLY				S	Sn	22 48 44.3	+1.8
APC	**Apacha**	**2.88**	**258**	P	Pb	22 48 13.8	-2.8
APC				S	Sb	22 48 49.4	-2.3
BKI	**Bering**	**2.90**	**55**	P	Pn	22 48 12.1	+1.0
BKI				S	Sn	22 48 45.1	-0.6
ESO	**Esso**	**2.92**	**323**	P	Pn	22 48 12.0	+0.5
SRDR	**Sredinnyy**	**2.95**	**337**	P	Pn	22 48 13.1	+1.1
BDR	**Baidarnaya**	**2.96**	**354**	P	Pn	22 48 14.9	+2.7
BDR				S	Sb	22 48 51.1	-3.2
SMKR	**Semkarok**	**2.96**	**356**	P	Pn	22 48 14.7	+2.5
SMKR				S	Sn	22 48 50.8	+3.2
SRKR	**Sorokina**	**3.05**	**353**	P	Pn	22 48 15.9	+2.5
SRKR				S	Sb	22 48 53.3	-3.5

MEX 27 22:51:44.7±0.4, 16.2′7N×98.2′8W, h14km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.20**	**50**	*e*P	Pg	22 51 48.6	-0.6
PNIG				*e*S	Sg	22 51 52.0	-0.3
VHO	**Vista Hermosa**	**1.69**	**61**	*e*P	Pn	22 52 10.8	-3.4
VHO				*i* S	Sn	22 52 30.1	-5.7
HUIG	**Huatulco**	**2.15**	**103**	*i* P	Pn	22 52 17.8	-2.4
HUIG				*i* S	Sn	22 52 41.8	-4.9
PCIG		**4.90**	**96**	*i* P	Pn	22 52 55.5	-2.5
PCIG				*i* S	Sn	22 53 51.1	-3.6

IDC 27 23:01:20.8±8.1, 10.7′7S×165.7′7E, h186km±83km, mb3.5/10, mb1 3.8/11, mb1mx3.6/21, mbtmp3.6/11, Error ellipse: s-maj=58.3km s-min=20.2km az=167.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.25**	**177**	P	Pn	23 03 55.6	-1.0
	9.4nm,0.3s,baz=40,slow=22,SNR=123						
CTA	**Charters Tower**	**20.95**	**241**	P	P	23 05 50.1	+0.7
	8.6nm,0.7s,baz=67,slow=13,SNR=11						
WRA	**Warramunga Arr**	**31.60**	**249**	P	P	23 07 26.7	+0.3
	2.2nm,0.7s,baz=78,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**32.93**	**243**	P	P	23 07 38.0	0.0
	1.4nm,0.8s,baz=72,slow=9.2,SNR=17						
CMAR	**Chiang Mai Arr**	**72.03**	**293**	P	P	23 12 23.8	-1.2
	1.0nm,0.3s,baz=122,slow=3.7,SNR=4.8						
SONM	**Songino Array**	**78.46**	**324**	P	P	23 13 01.8	+0.5
	0.1nm,0.4s,baz=157,slow=7.8,SNR=2.7						
ILAR	**Eielson Array**	**83.25**	**19**	P	P	23 13 26.1	0.0
	1.0nm,0.5s,baz=241,slow=5.0,SNR=31						
NVAR	**Mina Array Bea**	**85.83**	**50**	P	P	23 13 40.1	+0.2
	1.0nm,0.9s,baz=246,slow=8.2,SNR=5.9						
MKAR	**Makanchi Array**	**93.34**	**317**	P	P	23 14 14.1	-0.6
	0.4nm,0.7s,baz=114,slow=5.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**93.35**	**324**	P	P	23 14 14.3	-0.2
	0.2nm,0.4s,baz=116,slow=6.6,SNR=3.2						
PDAR	**Pinedale Array**	**93.35**	**47**	P	P	23 14 15.8	+0.6
	0.3nm,0.8s,baz=308,slow=3.0,SNR=3.1						
ARCES	**ARCESS Array B**	**116.08**	**346**	PKP	PKPdf	23 19 40.5	-0.7
	1.5nm,0.8s,baz=38,slow=1.8,SNR=5.2						

ISCJB ***27*** *23:17:53.5±0.9, 49.9′9S×111.8′E±0.4, h10km, mb3.9/6, MS3.8/9, Error ellipse: s-maj=41.3km s-min=15.4km az=15.3*
IDC ***27*** *23:17:54.2±0.9, 49.9′0S×111.7′6E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, MS3.8/10, Ms1 3.8/10, ms1mx3.7/26, Error ellipse: s-maj=47.9km s-min=19.2km az=103.0*

ISC 27 23:17:55.7±0.9, 49.9′S±0.1×111.8′E±0.3, h10km, n22, σ0°66/10, mb3.9/6, MS3.8/9, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.11**	**7**	T	T	23 36 52.2	
	baz=187,slow=74,SNR=52						
H01W1	**Cape Leeuwin H**	**15.12**	**7**	T	T	23 36 53.7	
	baz=187,slow=74,SNR=50						
H01W3	**Cape Leeuwin H**	**15.12**	**7**	T	T	23 36 53.8	
	baz=187,slow=74,SNR=63						
NWAO	**Narrogin (SRO)**	**17.45**	**15**	LR	LR	23 27 00.3	
	comp=Z,208nm,18.6s,baz=60,slow=31						
STKA	**Stephens Creek**	**28.57**	**62**	LR	LR	23 33 10.6	
	comp=Z,188nm,20.5s,baz=204,slow=32						
MAW	**Mawson**	**29.83**	**216**	LR	LR	23 33 30.8	
	comp=Z,217nm,18.3s,baz=228,slow=31						
ASAR	**Alice Springs**	**31.39**	**41**	P	**P**	**23 24 17.1**	**+0.4**
	0.5nm,0.7s,baz=206,slow=7.6,SNR=7.0						
ASAR				LR	LR	23 35 23.1	
	comp=Z,151nm,19.5s,baz=105,slow=33						
VNDA	**Vanda**	**33.38**	**162**	P	**P**	**23 24 33.1**	**-0.5**
	1.2nm,0.8s,baz=281,slow=10,SNR=2.9						
VNDA				LR	LR	23 37 37.6	
	comp=Z,162nm,18.4s,baz=303,slow=35						
WRA	**Warramunga Arr**	**34.88**	**39**	P	**P**	**23 24 46.5**	**-0.7**
	2.4nm,0.8s,baz=207,slow=8.6,SNR=9.1						
WRA				LR	LR	23 37 23.9	
	comp=Z,178nm,21.7s,baz=220,slow=34						
QSPA	**South Pole Qui**	**40.21**	**180**	P	**P**	**23 25 31.8**	**-0.2**
	1.1nm,0.3s,baz=29,slow=2.2,SNR=6.0						
PMG	**Port Moresby**	**49.90**	**48**	LR	LR	23 46 32.4	
	comp=Z,129nm,19.1s,baz=298,slow=34						
SNAA	**Sanae**	**50.32**	**202**	P	**P**	**23 26 52.2**	**+0.3**
	1.2nm,1.0s,baz=154,slow=12,SNR=4.6						
BOSA	**Boshof**	**66.57**	**253**	LR	LR	23 51 01.7	
	comp=Z,120nm,18.2s,baz=186,slow=30						
SUR	**Sutherland**	**66.60**	**247**	LR	LR	23 52 08.0	
	comp=Z,105nm,18.9s,baz=182,slow=31						
CMAR	**Chiang Mai Arr**	**69.02**	**347**	P	**P**	**23 29 00.7**	**-0.5**
	0.6nm,0.3s,baz=188,slow=5.7,SNR=4.9						
CMAR				LR	LR	23 53 12.5	
	comp=Z,38nm,20.8s,baz=172,slow=31						
H10S2	**ASCENSION HYDR**	**105.15**	**235**	T	T	01 30 21.3	
	baz=147,slow=75,SNR=14						
H10S3	**ASCENSION HYDR**	**105.17**	**235**	T	T	01 30 22.8	
	baz=147,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**105.17**	**235**	T	T	01 30 21.4	
	baz=147,slow=75,SNR=8.9						
TXAR	**Lajitas Array**	**146.25**	**114**	PKPbc	**PKPbc**	**23 37 36.5**	**+0.2**
	0.2nm,0.8s,baz=188,slow=5.5,SNR=3.0						
PDAR	**Pinedale Array**	**150.86**	**88**	PKPbc	**PKPbc**	**23 37 49.0**	**+1.0**
	0.3nm,0.8s,baz=186,slow=4.4,SNR=3.0						
YKA	**Yellowknife Ar**	**151.97**	**46**	PKPbc	**PKPbc**	**23 37 49.2**	**-0.4**
	0.1nm,0.6s,baz=315,slow=2.4,SNR=3.7						
RES	**Resolute Bay**	**152.75**	**15**	PKPbc	**PKPbc**	**23 37 51.9**	**+0.9**
	0.6nm,1.0s,baz=117,slow=4.5,SNR=2.5						

NOU ***27*** *23:31:28.4±0.9, 23.7′3S×170.8′2E, h30km, MD3.4, ML3.3*
ISCJB ***27*** *23:31:33.8±1.1, 22.3′S±0.3×170.6′0E±0.0′8, h51km, mb3.9/5, MS3.3/3, Error ellipse: s-maj=43.5km s-min=10.1km az=175.2*
IDC ***27*** *23:31:36.0±6.4, 22.0′7S×170.5′4E, h52km±49km, mb3.7/5, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, ML4.1/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/25, Error ellipse: s-maj=60.4km s-min=34.9km az=154.0*

ISC 27 23:31:35.4±1.3, 22.2′S±0.4×170.6′E±0.1, h51km, n15, σ0°73/15, mb4.0/5, MS3.2/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NORM	**Noumea**	**3.83**	**269**	*e*P	**Pn**	**23 32 30.8**	**-1.1**
NORM				*e*S	**Sn**	**23 33 15.8**	**+0.2**
NORM				AMP		23 33 26.4	
	comp=Z,114nm,1.2s						
DZM	**Mont Dzumac**	**3.87**	**271**	P	**Pn**	**23 32 32.3**	**-0.3**
	comp=Z,14nm,0.3s,baz=142,slow=12,SNR=153						
DZM				S	**Sn**	**23 33 16.0**	**-0.8**
	comp=Z,4.0nm,0.3s,baz=93,slow=18,SNR=3.6						
DZM				LR	LR	23 33 21.2	
	comp=Z,151nm,20.7s,baz=224,slow=28						
DZM	**Mont Dzumac**	**3.87**	**271**	*e*P	**Pn**	**23 32 31.8**	**-0.7**
DZM				*e*S	**Sn**	**23 33 18.5**	**+1.7**
DZM				AMP		23 33 18.8	
	comp=Z,786nm,0.9s						
NOUC	**Port Laguerre**	**4.00**	**271**	*e*P	**Pn**	**23 32 33.9**	**-0.2**
NOUC				AMP		23 33 26.4	
	comp=Z,29nm,1.6s						
URZ	**Urewera**	**16.95**	**162**	LR	LR	23 40 16.2	
	comp=Z,136nm,19.4s,baz=141,slow=30						
RPZ	**Rata Peaks**	**21.46**	**179**	LR	LR	23 42 45.9	
	comp=Z,99nm,19.3s,baz=32,slow=31						
STKA	**Stephens Creek**	**27.51**	**243**	P	**P**	**23 37 17.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=90,slow=9.1,SNR=2.6						
STKA				LR	LR	23 46 52.7	
	comp=Z,48nm,18.6s,baz=208,slow=33						
ASAR	**Alice Springs**	**33.78**	**260**	P	**P**	**23 38 12.8**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=79,slow=9.4,SNR=19						
VNDA	**Vanda**	**55.53**	**182**	LR	LR	00 00 51.6	
	comp=Z,64nm,21.1s,baz=330,slow=31						
CMAR	**Chiang Mai Arr**	**80.89**	**294**	P	**P**	**23 43 44.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=132,slow=3.7,SNR=6.9						
NVAR	**Mina Array Bea**	**89.80**	**48**	P	**P**	**23 44 29.0**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=234,slow=8.7,SNR=4.4						
SONM	**Songino Array**	**90.35**	**323**	P	**P**	**23 44 31.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=134,slow=3.8,SNR=9.8						
ARCES	**ARCESS Array B**	**128.25**	**345**	PKP	**PKPdf**	**23 50 35.0**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=45,slow=1.9,SNR=7.8						
BRG	**Berggiesshubel**	**146.09**	**333**	*e*(P)	**PKPab**	**23 51 10.9**	**+0.7**
	comp=Z,2.9nm,0.7s						
CLL	**Collm**	**146.14**	**335**	*i* PKP	**PKPab**	**23 51 10.5**	**+0.1**
	comp=Z,4.0nm,0.8s						

ISCJB ***27*** *23:32:41.9±0.4, 3.4′1N±0.0′8×31.4′6W±0.0′6, h10km, mb4.4/46, MS4.0/14, Error ellipse: s-maj=12.0km s-min=7.7km az=157.0*
IDC ***27*** *23:32:42.0±0.4, 3.3′7N×31.4′4W, h0km, mb4.2/25, mb1 4.4/26, mb1mx4.3/29, mbtmp4.2/26, ML3.6/1, MS3.9/15, Ms1 3.9/15, ms1mx3.7/30, Error ellipse: s-maj=16.3km s-min=11.6km az=139.0*
NEIC ***27*** *23:32:44.0±0.3, 3.3′5N×31.5′0W, h10km, mb4.9/25, Error ellipse: s-maj=8.6km s-min=6.8km az=150.0*

ISC 27 23:32:43.2±0.3, 3.2′6N±0.0′7×31.4′9W±0.0′8, h10km, n110, σ0°97/113, mb4.5/47, MS3.9/14, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.04**	**206**	P	**Pn**	**23 35 07.2**	**-0.5**
RCBR				Sn	**Sn**	**23 36 57.4**	**-3.2**
RCBR				TT		23 44 50.1	
RCBR	**Riachuelo**	**10.04**	**206**	Pn	**Pn**	**23 35 07.2**	**-0.5**
	0.5nm,0.3s,baz=6.6,slow=16,SNR=8.6						
RCBR				Sn	**Sn**	**23 36 57.4**	**-3.2**
	0.3nm,0.3s,baz=90,slow=20,SNR=4.1						
RCBR				LR	LR	23 38 08.2	
	comp=Z,682nm,20.9s,baz=14,slow=32						
RCBR				T	T	23 44 50.1	
	0.5nm,0.3s,baz=102,slow=21,SNR=3.3						
BBTS	**Babate**	**18.60**	**52**	LR	LR	23 42 07.7	
	comp=Z,354nm,21.5s,baz=338,slow=31						
H10S3	**ASCENSION HYDR**	**20.70**	**126**

KIEV	Kiev	69.25	36	*e*P		P		23 43 49.6	-0.8
	comp=Z,61nm,2.3s								
AKASG	Malin Array Be	69.26	36	P		P		23 43 50.7	+0.2
AKASG	Malin Array Be	69.26	36	P		P		23 43 50.7	+0.2
	comp=Z,5.3nm,0.8s,baz=250,slow=6.1,SNR=23								
JCT	Junction City	69.69	301	*e*P		P		23 43 52.9	-0.7
	comp=Z,13nm,1.1s								
ECSD	EROS Data Cent	69.92	316	*e*P		P		23 43 53.8	-0.9
	comp=Z,106nm,3.0s								
ULM	Lac du Bonnet	71.31	322	P		P		23 44 02.3	-0.8
ULM	Lac du Bonnet	71.31	322	P		P		23 44 02.3	-0.8
	comp=Z,1.6nm,0.7s,baz=129,slow=9.6,SNR=3.6								
FINES	FINESS Array B	72.13	25	P		P		23 44 07.3	-0.4
FINES	FINESS Array B	72.13	25	P		P		23 44 07.3	-0.4
	comp=Z,2.8nm,0.8s,baz=320,slow=5.0,SNR=7.0								
FINES				LR		LR		00 16 26.8	
	comp=Z,52nm,18.0s,baz=245,slow=36								
TXAR	Lajitas Array	72.88	300	P		P		23 44 13.6	+0.6
TXAR	Lajitas Array	72.88	300	P		P		23 44 13.6	+0.6
	comp=Z,1.3nm,0.8s,baz=122,slow=6.2,SNR=17								
TX31	Lajitas Ar. Si	72.88	300	*e*P		P		23 44 12.8	-0.3
FCC	Fort Churchill	73.28	331	*e*P		P		23 44 13.4	-1.2
MNTX	Cornudas Mount	74.59	302	*e*P		P		23 44 22.1	-0.8
	comp=Z,20nm,2.2s								
SDCO	Great Sand Dun	75.38	308	*e*P		P		23 44 27.9	+0.2
ISCO	Idaho Springs	75.73	310	*e*P		P		23 44 30.3	+0.6
	comp=Z,12nm,1.6s								
ANMO	Albuquerque	75.82	305	*e*P		P		23 44 29.3	-0.9
	comp=Z,13nm,1.8s								
ARCES	ARCESS Array B	75.87	18	P		P		23 44 29.2	-0.3
ARCES	ARCESS Array B	75.87	18	P		P		23 44 29.2	-0.3
	comp=Z,1.5nm,0.8s,baz=274,slow=4.6,SNR=5.4								
DGMT	Dagmar	76.13	319	*e*P		P		23 44 29.9	-1.6
	comp=Z,15nm,0.9s								
FFC	Flin Flon	76.14	326	*e*P		P		23 44 30.9	-0.4
	comp=Z,19nm,2.0s								
LAZ	Ladron	76.32	304	*e*P		P		23 44 33.3	+0.2
KBZ	Khabaz	76.48	46	P		P		23 44 34.5	+1.0
KBZ	Khabaz	76.48	46	P		P		23 44 34.5	+1.0
	comp=Z,2.1nm,0.8s,baz=330,slow=4.3,SNR=5.1								
SMCO	Snowmass	76.70	309	*e*P		P		23 44 34.8	-0.6
	comp=Z,41nm,2.6s								
SNAA	Sanae	77.08	171	*e*P		P		23 44 37.3	+0.9
	comp=Z,5.6nm,1.2s								
LAO	LASA Array	77.17	317	*e*P		P		23 44 37.7	+0.3
	comp=Z,111nm,2.5s								
PDAR	Pinedale Array	79.03	313	P		P		23 44 47.8	-0.3
PDAR	Pinedale Array	79.03	313	P		P		23 44 47.8	-0.3
	comp=Z,0.7nm,0.7s,baz=101,slow=7.7,SNR=5.1								
PDAR				LR		LR		00 13 20.3	
	comp=Z,75nm,19.3s,baz=350,slow=31								
BW06	Boulder Array	79.03	313	*e*P		P		23 44 46.7	-1.4
LOHW	Long Hollow	79.87	314	*e*P		P		23 44 52.1	-0.5
	comp=Z,19nm,2.1s								
RES	Resolute Bay	80.02	346	P		P		23 44 52.2	-0.3
RES	Resolute Bay	80.02	346	P		P		23 44 52.2	-0.3
	comp=Z,0.9nm,0.8s,baz=133,slow=5.1,SNR=7.1								
MVU	Marysvale	80.71	308	*e*P		P		23 44 56.9	-0.4
	comp=Z,38nm,2.3s								
BGU	Big Grassy Mou	81.48	311	*e*P		P		23 45 00.9	-0.3
	comp=Z,14nm,2.1s								
CCUT	Cedar City	81.58	307	*e*P		P		23 45 02.4	+0.5
	comp=Z,6.0nm,1.3s								
EDM	Edmonton	82.52	323	*e*P		P		23 45 05.3	-1.0
WALA	Waterton Lakes	82.58	319	*e*P		P		23 45 05.8	-1.0
YKA	Yellowknife Ar	83.94	332	P		P		23 45 12.7	-0.5
YKA	Yellowknife Ar	83.94	332	P		P		23 45 12.7	-0.5
	comp=Z,0.8nm,0.6s,baz=95,slow=5.4,SNR=15								
YKB5	Yellowknife Ar	83.94	332	*e*P		P		23 45 11.8	-1.5
NV01	Mina Array Sit	85.49	308	*e*P		P		23 45 21.3	-0.7
NVAR	Mina Array Bea	85.49	308	P		P		23 45 22.4	+0.4
NVAR	Mina Array Bea	85.49	308	P		P		23 45 22.4	+0.4
	comp=Z,0.4nm,0.6s,baz=90,slow=4.4,SNR=5.8								
J08A	Circle Bar Ran	85.58	313	*e*P		P		23 45 22.2	0.0
	comp=Z,6.9nm,1.0s								
WVOR	Wild Horse Val	85.71	312	*e*P		P		23 45 23.6	+0.7
	comp=Z,16nm,1.5s								
ILAR	Eielson Array	97.61	337	P		P		23 46 16.7	-1.0
ILAR	Eielson Array	97.61	337	P		P		23 46 16.7	-1.0
	comp=Z,1.2nm,0.8s,baz=48,slow=4.7,SNR=11								
HHC	Hu-ho-hao-te	124.64	34	*e*PKP		PKPdf		23 51 44.3	+0.7
HHC				PP		PP		23 53 35.3	+5.5
HHC				PKS		PKSdf		23 55 21.0	+0.7
HHC				SKS		SKSdf		23 58 56.0	0.0
HHC				SKKS		SKKSac		00 00 28.0	-1.5
HHC				AMB		AMB			
	comp=Z,49nm,8.6s								
HHC				LR		LR			
	comp=Z,200nm,20.5s								
HHC				LR		LR			
	comp=Z,200nm,20.2s								
CD2	Chengdu	125.49	48	*e*PKP		PKPdf		23 51 45.5	0.0
CMAR	Chiang Mai Arr	126.64	64	PKP		PKPdf		23 51 48.3	+0.4
CMAR	Chiang Mai Arr	126.64	64	PKP		PKPdf		23 51 48.3	+0.4
	comp=Z,0.4nm,0.4s,baz=324,slow=2.8,SNR=4.6								
MDJ	Mudanjiang	129.42	17	PKP		PKPdf		23 51 51.3	-1.2
GYA	Guiyang	129.92	51	*e*Pdif		Pdif		23 48 41.3	-1.2
GYA				PKP		PKPdf		23 51 53.0	-1.1
GYA				PP		PP		23 54 07.5	+2.2
GYA				AMB		AMB			
	comp=Z,110nm,7.6s								
BBOO	Buckleboo	148.37	160	*e*PKPdf		PKPdf		23 52 28.8	+1.6
STKA	Stephens Creek	150.80	168	*e*PKPdf		PKPdf		23 52 31.8	+0.7
STKA	Stephens Creek	150.80	168	PKPbc		PKPbc		23 52 36.1	-0.5
	comp=Z,4.5nm,0.9s,baz=213,slow=3.4,SNR=9.9								
FITZ	Fitzroy Crossi	153.18	125	PKPbc		PKPbc		23 52 42.6	+0.3
FITZ	Fitzroy Crossi	153.18	125	PKPbc		PKPbc		23 52 42.6	+0.3
	comp=Z,4.2nm,1.1s,baz=180,slow=6.1,SNR=4.6								
ASAR	Alice Springs	155.29	146	PKP		PKPdf		23 52 37.7	-0.1
ASAR				PKPab		PKPab		23 53 03.0	+0.3
ASAR	Alice Springs	155.29	146	PKP		PKPdf		23 52 37.7	-0.1
	comp=Z,0.6nm,0.8s,baz=137,slow=1.6,SNR=6.8								
ASAR				PKPab		PKPab		23 53 03.0	+0.3
	comp=Z,2.3nm,0.9s,baz=206,slow=4.2,SNR=15								
AS01	Alice Springs	155.31	147	*e*PKPdf		PKPdf		23 52 37.0	-0.8
AS01				*e*PKPab		PKPab		23 53 02.2	-0.6
WRA	Warramunga Arr	158.41	141	PKPab		PKPab		23 53 15.8	-0.4
WRA	Warramunga Arr	158.41	141	PKPab		PKPab		23 53 15.8	-0.4
	comp=Z,1.0nm,0.9s,baz=355,slow=20,SNR=5.5								
WRAB	Tennant Creek	158.43	141	*e*PKPdf		PKPdf		23 52 41.2	-0.7

*IDC **27** 23:50:35.1±2.1, 10.48S×118.89E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML3.6/3, Error ellipse: s-maj=95.2km s-min=21.7km az=55.0*
*ISCJB **27** 23:50:37.9±0.7, 10.64S±0.08×118.8E±0.1, h41km, mb3.9/3, Error ellipse: s-maj=14.7km s-min=10.7km az=166.8*
*AUST **27** 23:50:43.0±0.0, 10.88S×118.94E, h45km±1km, Error ellipse: s-maj=2.3km s-min=1.2km az=304.0*

ISC 27 23:50:40.0±0.8, 10.67S±0.09×118.8E±0.1, h41km, n15, σ1.9 s 20/14, mb3.9/3, 1C, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	Waingapu	1.79	56	P	Pn	23 51 09.6	+1.2
	baz=1.8,SNR=5.1						
SOEI	Soe	5.47	81	P	Pn	23 52 03.2	+4.0
	baz=5.4,SNR=5.7						
FITZ	Fitzroy Crossi	9.93	139	Pn	Pn	23 52 59.3	-0.9
	0.4nm,0.3s,baz=334,slow=8.0,SNR=15						
FITZ				Sn	Sn	23 54 42.9	-7.5
	0.4nm,0.3s,baz=166,slow=16,SNR=4.0						
FITZ	Fitzroy Crossi	9.93	139	P	Pn	23 52 60.0	-0.2
	baz=9.7,SNR=8.7						
KNRA	Kununurra	10.91	118	P	Pn	23 53 13.3	-0.4
	baz=11,SNR=7.7						
GIRL	Giralia	12.68	200	P	Pn	23 53 39.6	+1.8
	baz=13,SNR=3.5						
MEEK	Meekatharra	15.89	181	P	Pn	23 54 20.5	-0.3
	baz=16,SNR=4.9						
WRKA	Warakurna	16.90	149	P	Pn	23 54 32.9	-0.7
	baz=17,SNR=5.0						
WRA	Warramunga Arr	17.59	123	P	Pn	23 54 42.3	0.0
	0.2nm,0.3s,baz=299,slow=12,SNR=5.1						
MORW	Morawa	18.49	188	P	Pn	23 54 55.3	+2.2
	baz=18,SNR=5.7						
ASAR	Alice Springs	19.36	134	P	Pn	23 55 03.8	+0.1
	0.3nm,0.3s,baz=314,slow=14,SNR=21						
USRK	Ussuriysk Arra	55.91	11	P	P	00 00 13.2	-0.6
	1.0nm,0.5s,baz=203,slow=9.3,SNR=4.6						
SONM	Songino Array	59.28	350	P	P	00 00 37.4	-0.1
	0.6nm,0.6s,baz=174,slow=7.6,SNR=6.5						
MKAR	Makanchi Array	65.84	333	P	P	00 01 21.6	+0.3
	0.7nm,0.7s,baz=155,slow=7.0,SNR=9.9						
SYO	Syowa Base	76.23	201	*e*P	P	00 02 21.8	-2.1

IDC 27 23:54:16.8±1.5, 15.95S×177.89W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/19, mbtmp3.9/7, MS3.9/11, Ms1 3.9/11, ms1mx3.7/28, Error ellipse: s-maj=98.2km s-min=19.5km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	13.24	180	LR	LR	00 01 18.5	
	comp=Z,646nm,21.6s,baz=124,slow=32						
DZM	Mont Dzumac	16.01	245	*e*LR	LR	00 01 45.4	
	508nm,26.9s						
DZM	Mont Dzumac	16.01	245	LR	LR	00 02 19.6	
	comp=Z,125nm,20.9s,baz=220,slow=30						
RAR	Rarotonga	17.95	110	LR	LR	00 03 35.3	
	comp=Z,175nm,18.5s,baz=135,slow=31						
HNR	Honiara	22.56	284	LR	LR	00 07 04.6	
	comp=Z,442nm,19.2s,baz=276,slow=34						
URZ	Urewera	22.66	190	LR	LR	00 06 03.9	
	comp=Z,335nm,18.1s,baz=37,slow=31						
PPT	Papeete	27.15	97	LR	LR	00 06 57.4	
	comp=Z,282nm,20.1s,baz=191,slow=28						
PPT2	Papeete2	27.15	98	*e*LR	LR	00 06 28.4	
	488nm,26.2s						
TBI	Tubuai	27.73	110	*e*LR	LR	00 06 45.0	
	493nm,28.8s						
RPZ	Rata Peaks	29.23	197	LR	LR	00 10 37.5	
	comp=Z,388nm,20.4s,baz=332,slow=34						
CTA	Charters Tower	34.30	258	P	P	00 01 05.0	-0.3
	4.9nm,1.0s,baz=85,slow=11,SNR=3.0						
STKA	Stephens Creek	40.03	239	P	P	00 01 53.5	-0.3
	2.5nm,0.8s,baz=98,slow=6.9,SNR=7.5						
STKA				LR	LR	00 17 43.4	
	comp=Z,61nm,18.8s,baz=204,slow=35						
RKT	Rikitea	40.96	107	*e*LR	LR	00 12 52.6	
	352nm,26.5s						
WRA	Warramunga Arr	45.50	258	P	P	00 02 37.8	-0.6
	0.7nm,0.9s,baz=90,slow=7.9,SNR=3.1						
ASAR	Alice Springs	45.82	252	P	P	00 02 41.1	+0.1
	3.2nm,0.9s,baz=86,slow=8.2,SNR=15						
NVAR	Mina Array Bea	77.68	44	P	P	00 06 14.6	-1.1
	0.6nm,0.8s,baz=256,slow=7.3,SNR=2.4						
ILAR	Eielson Array	83.88	13	P	P	00 06 47.4	-0.7
	2.2nm,1.2s,baz=228,slow=5.0,SNR=4.3						
ILAR				LR	LR	00 36 38.4	
	comp=Z,104nm,21.5s,baz=203,slow=30						
TXAR	Lajitas Array	84.53	58	P	P	00 06 53.1	+0.7
	0.5nm,0.8s,baz=224,slow=3.5,SNR=5.6						
MAW	Mawson	85.86	200	LR	LR	00 39 30.9	
	comp=Z,84nm,19.0s,baz=334,slow=32						
CMAR	Chiang Mai Arr	88.70	289	LR	LR	00 41 54.6	
	comp=Z,88nm,18.6s,baz=156,slow=32						
BRTR	Keskin Array B	143.73	317	PKP	PKPdf	00 13 54.4	0.0
	2.2nm,0.9s,baz=108,slow=4.0,SNR=8.4						
GERES	GERESS Array B	145.85	346	PKPbc	PKPab	00 13 59.5	+0.8
	0.5nm,0.7s,baz=356,slow=2.9,SNR=3.1						

*MOS **28** 00:12:48.9±1.1, 43.22N×144.58E, h97km, mb5.1/90, Error ellipse: s-maj=7.0km s-min=6.1km az=93.6*
MOS Felt (II-III) at Yuzhno-Kuril'sk.
*NEIC **28** 00:12:48.4±0.4, 43.27N×144.53E, h72km±4km, mb5.2/189, MW4.9(NIED), Error ellipse: s-maj=3.6km s-min=2.1km az=160.0*
NEIC Recorded [4 JMA] in southeastern Hokkaido, [3 JMA] in southern Hokkaido and [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.
*ISCJB **28** 00:12:48.6±0.2, 43.17N±0.02×144.55E±0.02, h89km±1km, mb5.1/290, Error ellipse: s-maj=3.1km s-min=1.8km az=159.7*
*IDC **28** 00:12:49.4±0.4, 43.23N×144.66E, h84km±2km, mb4.6/34, mb1 4.7/40, mb1mx4.7/40, mbtmp4.9/40, MS3.9/16, Ms1 3.9/16, ms1mx3.7/33, Error ellipse: s-maj=8.1km s-min=5.6km az=12.0*
*SKHL **28** 00:12:49.3±0.6, 43.13N×144.66E, h98km±8km, mb6.4/2, mbh6.2/2, Ms4.3/2, msh5.6/4*
*BJI **28** 00:12:49.0, 43.33N×144.55E, h97km, mB5.1/38, mb5.3/60*
*JMA **28** 00:12:49.4±0.1, 43.17N×144.64E, h85km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φs=39.00000°, δ=78.00000°, λ=-105.00000°. NP2: φs=270.00000°, δ=19.00000°, λ=-41.00000°. Principal axes: T Plg31.0000°, Azm141.0000°; N Plg14.0000°, Azm42.0000°; P Plg55.0000°, Azm291.0000°;*
JMA Felt IV J1.
*GCMT **28** 00:12:51.2±0.2, 43.28N×144.49E, h99km±3km, MW5.0, Moment Tensor Solution. s42,c49; s91,c145; Moment tensor: Scale 10^16 Nm; Mrr=0.50±.14; Mθθ=1.70±.12; Mφφ=-2.20±.13; Mrθ=-0.01±.08; Mrφ=-1.20±.13; Mθφ=-2.92±.07; Best double couple: Mo=3.50000×10^16 NP1:φs=164.00000°, δ=85.00000°, λ=56.00000°. NP2:φs=66.00000°, δ=34.00000°, λ=170.00000°. Principal axes: T 2.7900, Plg41.0000°, Azm43.0000°; N 1.4500, Plg34.0000°, Azm168.0000°; P -4.2400, Plg31.0000°, Azm281.0000°; Data Used: II IU IC G CN CU.*
*NIED **28** 00:13:00, 43.20N×144.70E, h77km, Mw4.9 Best double couple: Mo=2.91000×10^16 NP1:φs=174.00000°, δ=87.00000°, λ=73.00000°. NP2:φs=74.00000°, δ=18.00000°, λ=169.00000°.*

ISC 28 00:12:49.2±0.3, 43.22N±0.03×144.57E±0.03, h83km±1km, h83km:pP-P, n1246, σ0.96/1410, mb5.2/291, 284C-247D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAK	Akkeshi	0.24	157	⇓P	Pn	00 13 01.7	+0.1
JAK				*e*S	Sn	00 13 11.0	+0.4
JNK	Nakash	0.38	16	P	Pn	00 13 02.7	+0.3
JNK				*e*S	Sn	00 13 12.6	+0.4
JAR	Ashorobuto	0.59	278	⇑P	Pn	00 13 05.0	+0.9
JAR				*e*S	Sn	00 13 16.7	+1.6
JOB	Onbets	0.62	240	⇑P	Pn	00 13 05.4	+1.0
JOB				*e*S	Sn	00 13 16.9	+1.3
JRA	Rausu	0.82	29	⇓P	Pn	00 13 07.0	+0.6
JRA				*e*S	Sn	00 13 20.6	+1.3
NEM2	Nemuro 2	0.87	80	⇓P	Pn	00 13 06.5	-0.4
NEM2				*e*S	Sn	00 13 19.0	-1.1
JTKR	Abashiri--Toko	0.89	328	⇑P	Pn	00 13 08.6	+1.4
JTKR				*e*S	Sn	00 13 22.7	+2.1
JCH	Churui	1.07	236	⇑P	Pn	00 13 10.1	+0.8
JCH				*e*S	Sn	00 13 25.1	+0.8
HRK	Horoka	1.08	284	*e*P	Pn	00 13 10.8	+1.3
JMP	Maruseppu	1.18	312	⇑P	Pn	00 13 12.1	+1.4
JMP				*e*S	Sn	00 13 28.8	+2.0
YUK	Yuzh-Kuril'sk	1.24	49	*c*iPN	Pn	00 13 11.9	+0.6
YUK				*i* S	Sn	00 13 28.7	+0.6
YUK				pmax	pmax		
	comp=E,11μm,0.4s						
YUK				pmax	pmax		
	comp=Z,47μm,0.4s						
YUK				pmax	pmax		
	comp=N,4μm,0.2s						
YUK	Yuzh-Kuril'sk	1.24	49	⇑*i*P	Pn	00 13 12.0	+0.6
YUK				AMB	AMB	00 13 13.1	
	comp=N,36μm,0.4s						
YUK				AMB	AMB	00 13 13.1	
	comp=N,4μm,0.3s						
YUK				AMB	AMB	00 13 13.1	
	comp=N,11μm,0.3s						
YUK				AMB	AMB	00 13 13.1	
	comp=N,47μm,0.3s						
YUK				*e*S	Sn	00 13 28.7	+0.6
YUK				A	A	00 13 30.9	
	comp=N,10μm,0.6s						
JFR	Furan	1.45	269	⇑P	Pn	00 13 15.1	+1.1
JFR				*e*S	Sn	00 13 34.3	+1.6
JKK2	Kamakawa 2	1.48	297	⇑P	Pn	00 13 16.1	+1.7
JKK2				*e*S	Sn	00 13 35.3	+1.9
JEM	Erimo	1.59	221	P	Pn	00 13 16.3	+0.5
ERM	Erimo	1.59	221	*c*ePN	Pn	00 13 17.8	+2.0
ERM	Erimo	1.59	221	*e*P	Pn	00 13 17.8	+2.0
ERM	Erimo	1.59	221	*e*Pn	Pn	00 13 16.2	+0.4
ERM				*e*Sn	Sn	00 13 40.3	+4.3
ERM	Erimo	1.59	221	Pn	Pn	00 13 18.5	+2.7
	comp=N,128μm,0.4s						
JNBK	Urakawa-nobuka	1.63	236	⇑P	Pn	00 13 16.5	+0.1
ASAJ	Asahikawa	1.69	303	*e*Pn	Pn	00 13 19.6	+2.4
ASAJ				*e*Sn	Sn	00 13 38.6	+0.4
ASAJ	Asahikawa	1.69	303	P	Pn	00 13 19.5	+2.4
	comp=N,2μm,0.3s,baz=144,slow=8.8,SNR=6912						
ASAJ				S	Sn	00 13 40.4	+2.1
	comp=N,720nm,0.3s,baz=249,slow=31,SNR=28						
ASAJ				LR	LR	00 14 00.2	
	comp=N,4μm,21.3s,baz=103,slow=41						
SHO	Shikotan	1.77	68	*e*P	Pn	00 13 17.9	-0.2
SHO				AMB	AMB	00 13 18.5	
	comp=N,740nm,0.4s						
SHO				*e*S	Sn	00 13 39.1	-1.0
SHO				A	A	00 13 40.3	
	comp=N,961nm,0.4s						
KUR	Kuril'sk	3.11	48	⇓*i*PN	Pn	00 13 38.3	+2.2
KUR				*i* S	Sn	00 14 15.6	+3.4
KUR				pmax	pmax		
	comp=Z,10μm,1.2s						
KUR				pmax	pmax		
	comp=N,8μm,1.6s						
KUR				pmax	pmax		
	comp=N,1μm,0.5s						
KUR				pmax	pmax		
	comp=Z,3μm,0.5s						
KUR				pmax	pmax		
	comp=E,1μm,0.9s						
KUR				smax	smax		
	comp=N,48μm,1.2s						
KUR				smax	smax		
	comp=E,25μm,2.0s						
KUR				smax	smax		
	comp=N,11μm,0.5s						
KUR				smax	smax		
	comp=E,18μm,1.0s						
KUR	Kuril'sk	3.11	48	*i* P	Pn	00 13 38.3	+2.2
KUR				AMB	AMB	00 13 48.0	
	comp=E,8μm,1.5s						
KUR				AMB	AMB	00 13 48.0	
	comp=E,10μm,1.5s						
KUR				AMB	AMB	00 13 49.7	
	comp=E,1μm,0.5s						
KUR				AMB	AMB	00 13 49.7	
	comp=E,3μm,0.5s						
KUR				AMB	AMB	00 13 49.7	
	comp=E,1μm,0.9s						
KUR				*e*S	Sn	00 14 15.6	+3.4
KUR				A	A	00 14 24.0	
	comp=E,25μm,2.0s						
KUR				A	A	00 14 24.0	
	comp=E,48μm,1.2s						
KUR				A	A	00 14 24.0	
	comp=E,28μm,1.2s						
KUR				A	A	00 14 25.0	
	comp=E,11μm,0.5s						
KUR				A	A	00 14 25.0	
	comp=E,18μm,0.5s						
JOT	Ohata	3.19	236	⇓P	Pn	00 13 37.7	+0.5
JTM	Tenmabayashi	3.56	228	⇓P	Pn	00 13 42.2	0.0
JANG	Nango	3.65	220	⇓P	Pn	00 13 42.4	-1.0
JSI2	Shiura 2	3.77	236	⇓P	Pn	00 13 45.8	+0.8
YSS	Yuzh-Sakhalins	3.95	342	*c*iPN	Pn	00 13 48.4	+0.9
YSS				*i* S	Sn	00 14 33.4	+0.8
YSS				pmax	pmax		
	comp=N,180nm,1.1s						
YSS				pmax	pmax		
	comp=E,110nm,1.1s						
YSS				pmax	pmax		
	comp=Z,190nm,1.1s						
YSS				smax	smax		
	comp=N,490nm,1.1s						
YSS				smax	smax		
	comp=E,710nm,1.1s						
YSS				smax	smax		
	comp=E,1μm,3.0s						
YSS				MLR	MLR		
	comp=N,1μm,10.0s						
YSS				MLR	MLR		
	comp=Z,1μm,10.0s						
YSS	Yuzh-Sakhalins	3.95	342	⇑*i*P	Pn	00 13 48.4	+0.9
YSS				⇑*i*P	Pn	00 13 48.4	+0.9
YSS				AMB	AMB	00 13 49.7	
	comp=Z,180nm,1.1s						
YSS				AMB	AMB	00 13 49.7	
	comp=Z,110nm,1.1s						
YSS				AMB	AMB	00 13 49.7	
	comp=Z,190nm,1.1s						
YSS				*i* S	Sn	00 14 33.4	+0.8
YSS				A	A	00 14 35.0	
	comp=Z,490nm,1.1s						
YSS				A	A	00 14 35.0	
	comp=Z,710nm,1.1s						
YSS				A	A	00 14 37.0	
	comp=Z,1μm,3.0s						
YSS				AMS	AMS	00 15 54.0	
	comp=Z,1μm,10.0s						
JKZ	Kuzumaki	4.04	218	P	Pn	00 13 48.0	-0.8
JIW	Iwasaki	4.30	234	P	Pn	00 13 52.3	+0.1
JOM	Ohasama	4.48	214	⇑P	Pn	00 13 53.8	-0.9
JMK	Ichinoseki	4.96	212	P	Pn	00 14 00.0	-1.2
UGL	Uglegorsk	6.11	344	*e*PN	Pn	00 14 20.0	+3.1
UGL				*e*		00 15 29.9	
UGL				pmax	pmax		
	comp=Z,130nm,0.8s						
UGL				smax	smax		
	comp=N,2μm,2.0s						
UGL				smax	smax		
	comp=E,120nm,0.6s						
UGL				smax	smax		
	comp=N,2μm,2.2s						
UGL				smax	smax		
	comp=E,900nm,4.0s						
UGL				smax	smax		
	comp=Z,1μm,4.0s						
UGL	Uglegorsk	6.11	344	*e*P	Pn	00 14 20.0	+3.1
UGL				AMB	AMB	00 14 21.0	
	comp=Z,130nm,0.8s						
UGL				*e*S	Sn	00 15 31.0	+5.7
UGL				A	A	00 15 41.0	
	comp=Z,2μm,2.0s						
UGL				A	A	00 15 42.0	
	comp=Z,2μm,2.2s						
UGL				A	A	00 15 42.0	
	comp=Z,900nm,2.2s						
UGL				A	A	00 15 42.0	
	comp=Z,1μm,2.2s						
ONAJ	Iwakimizuishiy	6.76	207	P	Pn	00 14 23.4	-2.4
JSD	Sado	7.05	225	P	Pn	00 14 29.8	0.0
JKT	Katashina	7.63	214	P	Pn	00 14 37.6	-0.1
JJN	Nakama	7.83	221	P	Pn	00 14 41.1	+0.7
JAG	Ashikaga	7.84	212	P	Pn	00 14 39.3	-1.2
MAJO	Matsushiro	8.27	218	*d*iPN	Pn	00 14 45.9	-0.5
MAJO	Matsushiro	8.27	218	*e

KLR MLR MLR
comp=E,1µm,12.0s
KLR MLR MLR
comp=E,3µm,12.0s
SKR Severo-Kuril's 10.86 43 *e*PN Pn 00 15 17.6 -3.9
SKR S **Sn 00 17 22.5 +1.5**
SKR pmax pmax
comp=Z,1µm,2.0s
SKR pmax pmax
comp=N,1µm,3.0s
SKR pmax pmax
comp=N,110nm,0.5s
SKR pmax pmax
comp=E,110nm,0.5s
SKR pmax pmax
comp=Z,280nm,0.5s
SKR smax smax
comp=N,200nm,1.0s
SKR smax smax
comp=E,220nm,1.0s
SKR smax smax
comp=N,1µm,4.0s
SKR smax smax
comp=E,1µm,6.0s
SKR MLR MLR
comp=E,1µm,12.0s
SKR MLR MLR
comp=Z,1µm,12.0s
SKR Severo-Kuril's 10.86 43 *e*P Pn 00 15 17.6 -3.9
SKR AMB AMB 00 15 21.0
comp=Z,1µm,2.5s
SKR AMB AMB 00 15 21.0
comp=Z,1µm,2.5s
SKR AMB AMB 00 15 22.0
comp=Z,110nm,0.5s
SKR AMB AMB 00 15 22.0
comp=Z,280nm,0.5s
SKR *e*S **Sn 00 17 22.5 +1.5**
SKR A A 00 17 30.5
comp=Z,200nm,1.0s
SKR A A 00 17 30.5
comp=Z,220nm,1.0s
SKR A A 00 17 38.0
comp=Z,1µm,6.0s
SKR AMS AMS 00 20 18.0
comp=Z,1µm,12.0s
MDJ Mudanjiang 10.90 283 P **Pn 00 15 22.0 -0.1**
MDJ S **Sn 00 17 21.8 -0.3**
MDJ PcP **PcP 00 21 13.8 -0.8**
MDJ ScP **ScP 00 24 40.3 +0.8**
MDJ PcS **PcS 00 24 51.0 +2.8**
MDJ ScS **ScS 00 28 15.5 +0.9**
MDJ pmax pmax
comp=Z,88nm,0.9s
MDJ pmax pmax
comp=Z,210nm,4.8s
MDJ LR LR
comp=Z,180nm,7.0s
MDJ LR LR
comp=Z,560nm,13.2s
MDJ LR LR
comp=Z,740nm,11.8s
MDJ Mudanjiang 10.90 283 *e*Pn **Pn 00 15 22.1 -0.1**
JKS Kasai 11.16 226 P **Pn 00 15 25.5 -0.3**
PETK Petropavlovsk- 13.20 37 PN **Pn 00 15 51.2 -1.9**
PETK pmax pmax
comp=Z,14nm,0.3s
PETK Petropavlovsk- 13.20 37 P **Pn 00 15 51.1 -1.9**
PETK Petropavlovsk- 13.20 37 P **Pn 00 15 51.1 -1.9**
comp=Z,14nm,0.3s,baz=204,slow=12,SNR=43
PET Petropavlovsk 13.57 39 *e*P **Pn 00 15 57.8 -0.1**
PET *e*S **Sn 00 18 28.2 +1.4**
PET pmax pmax
comp=Z,111nm,0.4s
PET pmax pmax
comp=Z,400nm,4.9s
PET MLR MLR
comp=Z,600nm,18.0s
PET MLR MLR
comp=Z,700nm,20.0s
PET Petropavlovsk 13.57 39 *e*P **Pn 00 15 57.8 -0.1**
PET AMB AMB 00 15 59.1
comp=Z,110nm,0.4s
PET AMB AMB 00 16 02.2
comp=Z,400nm,5.0s
PET *e*S **Sn 00 18 28.2 +1.4**
PET AMS AMS 00 20 52.0
comp=Z,700nm,20.0s
CN2 Changchun 13.89 279 ⇑P **Pn 00 16 02.0 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
KSRS Korea Array 13.93 251 P **Pn 00 16 02.5 -0.3**
comp=Z,0.7nm,0.3s,baz=61,slow=12,SNR=18
KSRS S **S 00 18 49.0 -3.4**
comp=Z,0.5nm,0.3s,baz=62,slow=24,SNR=6.7
KSRS LR LR 00 20 52.6
comp=Z,299nm,21.5s,baz=53,slow=34
KSRS ScP **ScP 00 24 44.9 +0.7**
comp=Z,0.2nm,0.3s,baz=29,slow=0.9,SNR=6.6
KS01 Wonju Array Si 13.94 251 *e*Pn **Pn 00 16 01.7 -1.2**
KS01 *e*ScP **ScP 00 24 44.0 -0.3**
KSAR Wonju Array Be 13.97 251 P **Pn 00 16 02.5 -0.7**
KSAR S **S 00 18 49.0 -4.1**
KSAR ScP **ScP 00 24 44.9 +0.6**
JNU Nakatsue 14.73 231 *e*Pn **Pn 00 16 12.1 -1.2**
JNU Nakatsue 14.73 231 P **Pn 00 16 12.2 -1.1**
comp=Z,0.7nm,0.3s,baz=80,slow=3.7,SNR=7.5
JNU LR LR 00 21 47.7
comp=Z,260nm,21.7s,baz=198,slow=36
TJN Taejon 14.87 248 *i* P **Pn 00 16 15.0 0.0**
SNY Shenyang 15.54 272 ⇑P **Pn 00 16 23.5 +0.1**
SNY pmax pmax
comp=Z,39nm,1.6s
SNY pmax pmax
comp=Z,610nm,3.8s
SNY LR LR
comp=Z,540nm,30.0s
SNY LR LR
comp=Z,700nm,32.4s
CBIJ Chichi jima 16.20 188 P **Pn 00 16 31.1 -0.7**
CBIJ S Sn 00 19 18.8 -12
JCJ Chichijima 16.20 188 P **Pn 00 16 31.1 -0.7**
comp=Z,7.2nm,0.3s,baz=345,slow=11,SNR=5.2
JCJ S Sn 00 19 18.8 -12
comp=Z,6.5nm,0.3s,baz=270,slow=20,SNR=4.1
DL2 Dalian 17.81 264 P **Pn 00 16 51.5 0.0**
DL2 S **Sn 00 20 03.3 -6.4**
DL2 pmax pmax
comp=Z,190nm,0.8s
DL2 pmax pmax
comp=Z,230nm,5.6s
HIA Hailar 18.16 298 *e*P **P 00 16 53.4 -1.6**
comp=Z,25nm,0.8s
SEY Seymchan 20.27 10 P **P 00 17 16.1 -1.7**
SEY S **S 00 20 56.7 -3.5**
SEY pmax pmax
comp=Z,17nm,0.5s
SEY smax smax
comp=N,2.0nm,0.5s
SEY Seymchan 20.27 10 P **P 00 17 16.1 -1.7**
SEY S **S 00 20 56.7 -3.5**
SEY Seymchan 20.27 10 P **P 00 17 16.1 -1.7**
comp=N,17nm,0.5s,baz=186,slow=10,SNR=29
SEY S **S 00 20 56.7 -3.5**
comp=N,1.7nm,0.5s,baz=142,slow=19,SNR=3.7
YAK Yakutsk 20.80 340 *e*P **P 00 17 23.3 -0.1**
YAK *e*S **S 00 21 04.6 -6.0**
YAK *e* 00 21 33.1
YAK *e* 00 28 35.3
YAK smax smax
comp=N,543nm,2.0s
YAK smax smax
comp=E,191nm,1.5s
YAK Yakutsk 20.80 340 *e*P **P 00 17 23.7 +0.3**
JOW Kunigami 21.04 224 *e*P **P 00 17 26.4 +0.1**
comp=E,70nm,0.7s
FX1 Attu Island--F 21.29 53 *e*P **P 00 17 29.4 +0.6**
FX1 S **S 00 21 20.1 -0.5**
FX1 Attu Island--F 21.29 53 P **P 00 17 29.9 +1.1**
comp=E,220nm,0.7s,baz=298,slow=2.1,SNR=61
FX1 S **S 00 21 20.1 -0.5**
comp=E,6.5nm,0.6s,baz=270,slow=20,SNR=2.3
FX1 LR LR 00 24 36.5
comp=E,232nm,20.0s,baz=255,slow=33
BJI Beijing 21.42 271 P **P 00 17 30.0 -0.2**
BJI pP **pP 00 17 46.0 -0.9**
BJI S **S 00 21 22.8 -0.4**
BJI sS **sS 00 21 48.0 -2.7**
BJI ScP **ScP 00 25 00.3 +0.4**
BJI pmax pmax
comp=E,160nm,1.0s
BJI pmax pmax
comp=E,480nm,3.3s
BJI LR LR
comp=E,160nm,20.8s
BJI LR LR
comp=E,370nm,20.5s
BJI LR LR
comp=E,550nm,32.8s
BJT Baijiatuan 21.43 271 *e*P **P 00 17 29.2 -1.2**
comp=E,928nm,2.1s
SSE Sheshan 22.14 245 P **P 00 17 38.0 0.0**
SSE S **S 00 21 38.0 +1.2**
SSE pmax pmax
comp=E,74nm,1.2s
SSE pmax pmax
comp=E,230nm,5.9s
SSE LR LR
comp=E,260nm,26.2s
SSE LR LR
comp=E,290nm,26.2s
SSE LR LR
comp=E,410nm,29.6s
TIA Tai'an 22.18 261 P **P 00 17 37.5 -0.9**
TIA pmax pmax
comp=E,140nm,0.9s
NJ2 Nanjing 23.12 250 *e*P **P 00 17 47.8 -0.4**
NJ2 pP **pP 00 18 06.5 +1.1**
NJ2 sP **sP 00 18 16.5 +0.9**
NJ2 S **S 00 21 55.5 +2.6**
NJ2 sS **sS 00 22 24.5 +0.2**
NJ2 pmax pmax
comp=E,20nm,0.6s
NJ2 pmax pmax
comp=E,260nm,6.2s
NJ2 LR LR
comp=E,1µm,26.0s
NJ2 LR LR
comp=E,8µm,23.5s
NJ2 LR LR
comp=E,270nm,17.2s
HHC Hu-ho-hao-te 24.54 276 *e*P **P 00 18 01.3 +0.2**
HHC pP **pP 00 18 20.8 +0.8**
HHC sP **sP 00 18 29.5 -0.4**
HHC PP **PnPn 00 18 40.5 +3.6**
HHC S **S 00 22 13.3 -2.6**
HHC sS **sS 00 22 45.0 -3.6**
HHC pmax pmax
comp=E,93nm,0.8s
HHC pmax pmax
comp=E,880nm,4.7s
HHC LR LR
comp=E,430nm,10.1s
HHC LR LR
comp=E,510nm,12.2s
HHC LR LR
comp=E,420nm,10.2s
BTO Baotou 25.74 276 *e*P **P 00 18 12.0 +0.1**
ULN Ulaanbaatar 26.50 293 *e*P **P 00 18 19.1 +0.2**
ULN Ulaanbaatar 26.50 293 *e*P **P 00 18 18.9 +0.1**
comp=E,52nm,1.4s
SONA1 Songino Array 26.94 293 *e*P **P 00 18 22.7 -0.1**
SONM Songino Array 26.95 293 P **P 00 18 23.4 +0.5**
SONM S **S 00 22 53.2 -0.7**
SONM ScP **ScP 00 25 13.8 -1.3**
SONM Songino Array 26.95 293 P **P 00 18 23.4 +0.5**
comp=E,31nm,0.6s,baz=87,slow=8.2,SNR=278
SONM S **S 00 22 53.2 -0.7**
comp=E,0.8nm,0.8s,baz=86,slow=14,SNR=2.2
SONM ScP **ScP 00 25 13.8 -1.3**
comp=E,1.5nm,0.8s,baz=139,slow=3.2,SNR=5.0
SONM LR LR 00 29 53.8
comp=E,517nm,19.1s,baz=5.1,slow=38
WHN Wuhan 27.12 252 ⇓P **P 00 18 25.5 +1.1**
WHN pP **pP 00 18 44.5 +1.1**
WHN pmax pmax
comp=E,100nm,0.6s
SSLB Suanglung 27.47 233 *e*P **P 00 18 27.7 +0.1**
comp=E,289nm,2.6s
YULB Yu-li 27.58 232 *e*P **P 00 18 28.1 -0.4**
comp=E,27nm,1.0s
TLY Talaya 28.62 302 *e*P **P 00 18 39.4 +1.9**
TLY *e*S S 00 23 09.9 -10
TLY pmax pmax
comp=Z,11nm,1.0s
TLY MLR MLR
comp=Z,343nm,19.0s
TLY Talaya 28.62 302 *e*P **P 00 18 39.3 +1.8**
ZAK Zakamensk 28.86 299 *e*P **P 00 18 39.8 0.0**
ZAK *e* 00 19 00.2
ZAK pmax pmax
comp=Z,33nm,1.3s
XAN Xi'an 29.13 264 P **P 00 18 43.0 +0.7**
XAN pP **pP 00 19 02.3 +0.8**
XAN PP **PnPn 00 19 38.8 0.0**
XAN S **S 00 23 25.3 -3.0**
XAN pmax pmax
comp=Z,24nm,1.0s
XAN LR LR
comp=Z,170nm,40.0s
XAN LR LR
comp=Z,94nm,34.9s
XAN LR LR
comp=Z,93nm,39.4s
TIXI Tiksi 29.53 350 *ce*P **P 00 18 43.7 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
H11N2 WAKE ISLAND Hy 30.00 134 T T 00 49 59.7
baz=330,slow=76
H11N1 WAKE ISLAND Hy 30.01 134 T T 00 50 07.5
baz=330,slow=76,SNR=4859
H11N3 WAKE ISLAND Hy 30.02 134 T T 00 50 08.1
baz=330,slow=76,SNR=4822
MOY Mondy 30.27 302 *e*P **P 00 18 52.8 +0.6**
ENH Enshi 30.71 257 *e*P **P 00 18 55.2 -1.0**
comp=Z,44nm,0.8s
H11S1 WAKE ISLAND Hy 30.92 136 T T 00 50 50.2
baz=332,slow=76,SNR=121
H11S3 WAKE ISLAND Hy 30.92 136 T T 00 51 13.0
baz=332,slow=76,SNR=927
H11S2 WAKE ISLAND Hy 30.94 136 T T 00 51 16.0
baz=332,slow=76,SNR=3591
LZH Lanzhou 31.91 271 *e*P **P 00 19 08.3 +1.4**
LZH pP **pP 00 19 24.5 -1.7**
LZH PP **PnPn 00 20 16.0 +1.3**
LZH *e*S **S 00 24 12.5 +0.6**
LZH pmax pmax
comp=Z,57nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.2s
LZH LR LR
comp=Z,1µm,12.8s
LZH LR LR
comp=Z,1µm,15.1s
LZH LR LR
comp=Z,2µm,18.0s
GAMB Gambell 32.22 35 *e*P **P 00 19 09.3 +0.2**
comp=Z,5.9nm,0.8s
UNV Unalaska Valle 33.46 54 *e*P **P 00 19 19.8 -0.3**
comp=Z,146nm,1.8s
GTA Gaotai 33.53 279 P **P 00 19 21.3 +0.3**
GTA pP **pP 00 19 41.0 +0.7**
GTA S **S 00 24 35.8 -1.1**
GTA ScP **ScP 00 25 37.3 +0.5**
GTA SS **SnSn 00 26 43.8 -3.6**
GTA ScS **ScS 00 29 38.3 +0.1**
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,150nm,5.7s
GTA LR LR
comp=Z,200nm,12.8s
GTA LR LR
comp=Z,240nm,12.8s
GTA LR LR
comp=Z,260nm,11.6s
AKUT Akutan 33.88 54 *e*P **P 00 19 21.6 -2.0**
comp=Z,280nm,1.8s
TNA Tin City 34.32 33 *e*P **P 00 19 26.6 -0.7**
comp=Z,29nm,0.8s
CD2 Chengdu 34.48 263 ⇓*i*P **P 00 19 29.8 +0.6**
CD2 pP **pP 00 19 50.0 +1.4**
CD2 sP **sP 00 20 00.3 +2.1**
CD2 PP **PP 00 20 47.8 -0.9**
CD2 PcP **PcP 00 22 04.0 +1.4**
CD2 S **S 00 24 50.5 -1.1**
CD2 sS **sS 00 25 24.8 -0.2**
CD2 SS **SnSn 00 27 05.8 -4.7**
CD2 ScS **ScS 00 29 41.8 -1.5**
CD2 pmax pmax
comp=Z,230nm,1.1s
CD2 pmax pmax
comp=Z,190nm,4.8s
CD2 LR LR
comp=Z,330nm,11.8s
CD2 LR LR
comp=Z,310nm,16.6s
HVS Khovu-Aksy 34.86 301 *d*iP **P 00 19 32.5 +0.2**
HVS pmax pmax
comp=Z,165nm,1.2s
GYA Guiyang 34.97 254 ScS ScS 00 29 45.0 -1.2
GYA pmax pmax
comp=Z,30nm,1.1s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,890nm,17.0s
GYA LR LR
comp=E,740nm,17.9s
GYA LR LR
comp=Z,780nm,17.3s
TGY Tagaytay City 35.41 222 P **P 00 19 39.5 +2.2**
TGY Tagaytay City 35.41 222 P **P 00 19 39.5 +2.2**
comp=Z,108nm,0.3s,baz=96,slow=17,SNR=6.1
SDPT Sand Point 36.88 51 *e*P **P 00 19 48.0 -1.4**
comp=Z,177nm,1.4s
QIZ Qiongzhong 37.86 241 P **P 00 19 58.8 +0.8**
QIZ pP **pP 00 20 18.3 +0.7**
QIZ S **S 00 25 44.5 +1.3**
QIZ pmax pmax
comp=Z,23nm,1.5s
QIZ pmax pmax
comp=Z,170nm,3.6s
KMI Kunming 38.57 256 P **P 00 20 05.0 +0.8**
KMI pP **pP 00 20 24.0 +0.2**
KMI PP **PnPn 00 21 38.0 +1.3**
KMI S **S 00 25 53.0 -1.3**
KMI pmax pmax
comp=Z,51nm,1.1s
KMI pmax pmax
comp=Z,150nm,3.3s
KMI LR LR
comp=Z,180nm,27.2s
KMI LR LR
comp=Z,190nm,23.9s
KMI LR LR
comp=Z,210nm,24.6s
SVW2 Sparrevohn 39.22 42 *e*P **P 00 20 09.5 +0.5**
comp=Z,20nm,0.6s
ZAA0 Zalesovo Array 39.82 307 *e*P **P 00 20 14.1 +0.1**
ZALV Zalesovo Beam 39.82 307 P **P 00 20 14.0 0.0**
ZALV *PP **pP 00 20 34.0 +0.3**
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV MLR MLR
comp=Z,160nm,20.4s
ZALV Zalesovo Beam 39.82 307 P **P 00 20 14.0 0.0**
ZALV pP **pP 00 20 34.0 +0.3**
ZALV ScP **ScP 00 25 58.8 -0.9**
ZALV Zalesovo Beam 39.82 307 P **P 00 20 14.0 0.0**
comp=Z,6.9nm,0.5s,baz=83,slow=8.6,SNR=46
ZALV pP **pP 00 20 34.0 +0.3**
comp=Z,25nm,0.8s,baz=84,slow=7.3,SNR=12
ZALV ScP **ScP 00 25 58.8 -0.9**
comp=Z,5.9nm,0.9s,baz=72,slow=4.8,SNR=7.7
ZALV LR LR 00 38 15.1
comp=Z,160nm,20.4s,baz=248,slow=38
WMQ Urumqi 40.54 291 P **P 00 20 21.0 +0.8**
WMQ pP **pP 00 20 41.0 +1.0**
WMQ sP **sP 00 20 51.0 +1.5**
WMQ PP **PnPn 00 21 58.0 -1.5**
WMQ PcP **PcP 00 22 24.0 +3.0**
WMQ ScP **ScP 00 26 04.0 +1.2**
WMQ S **S 00 26 24.0 +0.8**
WMQ SS **SS 00 29 21.0 -4.6**
WMQ ScS **ScS 00 30 15.0 -2.3**
WMQ pmax pmax
comp=Z,42nm,1.0s
WMQ pmax pmax
comp=Z,160nm,4.0s
WMQ LR LR
comp=Z,120nm,17.0s
WMQ LR LR
comp=Z,210nm,18.0s
WMQ LR LR
comp=Z,240nm,17.0s
NVS Novosibirsk 40.59 309 *i* P **P 00 20 19.4 -0.9**
NVS *i* *PP **pP 00 20 39.6 -0.5**
NVS *i* S **S 00 26 20.6 -2.8**
NVS pmax pmax
comp=Z,27nm,1.6s
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=E,14nm,1.2s
NVS smax smax
comp=N,4.0nm,1.1s
NVS smax smax
comp=E,40nm,2.2s
RSO Redoubt South 40.63 43 *e*P **P 00 20 21.4 +0.5**
OHAK Old Harbor 40.68 48 *e*P **P 00 20 20.8 -0.2**
comp=E,108nm,1.0s
PPLA Purkeypile 40.77 39 *e*P **P 00 20 23.5 +1.5**
comp=E,164nm,1.7s
CAST Castle Rocks 40.81 38 *e*P **P 00 20 23.2 +1.1**
comp=E,21nm,0.7s
KDAK Kodiak Island 40.98 47 P **P 00 20 23.3 -0.3**
comp=E,609nm,0.4s,SNR=31
KDAK Kodiak Island 40.98 47 *e*P **P 00 20 23.5 0.0**
comp=E,82nm,0.8s
KTH Kantishna Hill 41.33 38 *e*P **P 00 20 27.4 +1.0**
comp=E,288nm,0.8s
COLD Coldfoot 41.60 32 *e*P **P 00 20 28.4 -0.1**
comp=E,14nm,0.9s
TRF Thorofare Moun 41.61 38 *e*P **P 00 20 29.4 +0.6**
comp=E,30nm,0.8s
RC01 Rabbit Creek A 42.05 41 *e*P **P 00 20 32.2 0.0**
comp=E,38nm,0.6s
MCK McKinley 42.20 37 *e*P **P 00 20 34.0 +0.5**
MCK pmax pmax
comp=Z,36nm,0.7s
MCK McKinley 42.20 37 *e*P **P 00 20 34.0 +0.5**
comp=Z,36nm,0.7s
PMR Palmer 42.29 41 *e*P **P 00 20 34.3 +0.2**
PMR pmax pmax
comp=Z,25nm,0.9s
PMR Palmer 42.29 41 *e*P **P 00 20 34.3 +0.2**
comp=Z,24nm,0.9s
SEW Seward 42.30 43 *e*P **P 00 20 33.9 -0.4**
comp=Z,105nm,1.6s
COLA College 42.60 36 *c*iP **P 00 20 37.3 +0.6**
COLA College 42.60 36 *e*P **P 00 20 37.3 +0.6**
COLA College 42.60 36 *e*P **P 00 20 37.5 +0.9**
comp=Z,34nm,0.8s
ILAR Eielson Array 43.02 36 P **P 00 20 39.9 -0.2**
ILAR ScP **ScP 00 26 10.2 -2.0**
ILAR Eielson Array 43.02 36 P **P 00 20 39.9 -0.2**
comp=Z,69nm,1.0s,baz=256,slow=5.5,SNR=377
ILAR ScP **ScP 00 26 10.2 -2.0**
comp=Z,1.1nm,0.7s,baz=283,slow=4.5,SNR=4.3
ILB Eielson Array 43.02 36 *e*P **P 00 20 40.1 +0.1**
IL1 Eielson Array 43.02 36 *e*P **P 00 20 40.1 0.0**
MK31 Makanchi Array 43.16 297 *i* P **P 00 20 41.7 +0.2**
MK31 pmax pmax
comp=Z,32nm,0.5s
MKAR Makanchi Array 43.16 297 P **P 00 20 41.9 +0.4**
MKAR pmax pmax
comp=Z,34nm,0.6s
MKAR MLR MLR

comp=Z,188nm,18.6s
MKAR Makanchi Array 43.16 297 P **P 00 20 41.9 +0.4**
MKAR Makanchi Array 43.16 297 P **P 00 20 41.9 +0.4**
comp=Z,34nm,0.6s,baz=82,slow=10,SNR=595
MKAR LR LR 00 39 56.9
comp=Z,188nm,18.6s,baz=277,slow=38
MK01 Makanchi Array 43.16 297 *eP* **P 00 20 41.9 +0.3**
PAX Paxson 43.83 38 *eP* **P 00 20 46.7 0.0**
PAX pmax pmax
comp=Z,10.0nm,0.6s
PAX Paxson 43.83 38 *eP* **P 00 20 46.7 0.0**
comp=Z,10.0nm,0.6s
DIV Divide 43.95 41 *eP* **P 00 20 48.2 +0.5**
comp=Z,40nm,0.8s
KURK Kurchatov 44.27 304 P **P 00 20 50.9 +0.7**
KURK *PP **pP 00 21 11.9 +1.7**
KURK S **S 00 27 19.6 +2.0**
KURK pmax pmax
comp=Z,14nm,0.4s
KURK smax smax
comp=N,2.0nm,0.9s
KURK Kurchatov 44.27 304 *eP* **P 00 20 49.9 -0.3**
KURK Kurchatov 44.27 304 *eP* **P 00 20 49.2 -1.0**
comp=N,31nm,0.8s
KURK pP **pP 00 21 11.9 +1.7**
KURK S **S 00 27 19.6 +2.0**
KURK Kurchatov 44.27 304 P **P 00 20 50.4 +0.2**
comp=N,198nm,0.5s,SNR=40
LSA Lhasa 44.32 271 *eP* **P 00 20 51.8 +0.3**
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 44.32 271 *eP* **P 00 20 51.8 +0.3**
comp=Z,17nm,0.8s
KURBB Kurchatov Arra 44.35 304 P **P 00 20 50.9 0.0**
comp=Z,14nm,0.4s,baz=72,slow=9.1,SNR=209
KURBB pP **pP 00 21 11.9 +1.0**
comp=Z,47nm,0.7s,baz=72,slow=9.0,SNR=16
KURBB S **S 00 27 19.6 +0.8**
comp=Z,1.9nm,0.9s,baz=72,slow=12,SNR=6.8
DOT Dot Lake 44.37 37 *eP* **P 00 20 49.9 -1.0**
comp=Z,27nm,0.6s
CMAI Chiengmai2 44.51 253 P **P 00 20 54.0 +1.2**
comp=Z,37nm,0.9s,comp=Z,6µm
BMRM Bremner River 44.54 41 *eP* **P 00 20 52.4 0.0**
comp=Z,32nm,0.8s
BMRM *ePcP* **PcP 00 22 35.3 +1.2**
SDKM Sandakan 44.54 221 P **P 00 20 54.8 +1.9**
RAGM Ragged Mountai 44.61 42 *eP* **P 00 20 54.0 +1.1**
comp=Z,202nm,2.0s
MENT Mentasta 44.63 38 *eP* **P 00 20 54.4 +1.4**
LAMP Lampang 45.05 251 P **P 00 20 58.0 +1.2**
comp=Z,21nm,0.8s,comp=Z,168nm
CHAI Chaiyaphum 45.27 246 P **P 00 20 59.2 +0.6**
comp=Z,23nm,0.8s,comp=Z,188nm
CMMT Chiang Mai 45.33 252 P **P 00 20 59.8 +0.7**
comp=Z,40nm,1.0s
CHTO Chiang Mai 45.33 252 *eP* **P 00 20 59.8 +0.7**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 45.33 252 *eP* **P 00 20 59.8 +0.7**
comp=Z,8.5nm,1.0s
CHTO Chiang Mai 45.33 252 P **P 00 20 59.9 +0.8**
comp=Z,181nm,1.0s,comp=Z,2µm
EGAK Eagle 45.46 35 *eP* **P 00 20 59.6 +0.1**
comp=Z,137nm,1.5s
PBKT Sadao Pong 45.48 248 P **P 00 21 01.1 +0.8**
comp=Z,26nm,0.8s
CMAR Chiang Mai Arr 45.57 252 P **P 00 21 01.7 +0.7**
CMAR pP **pP 00 21 21.6 +0.5**
CMAR ScP **ScP 00 26 24.1 +0.6**
CMAR Chiang Mai Arr 45.57 252 P **P 00 21 01.7 +0.7**
comp=Z,7.6nm,0.6s,baz=45,slow=6.9,SNR=47
CMAR pP **pP 00 21 21.6 +0.5**
comp=Z,5.1nm,0.8s,baz=36,slow=12,SNR=4.6
CMAR ScP **ScP 00 26 24.1 +0.6**
comp=Z,1.7nm,0.9s,baz=38,slow=3.1,SNR=7.2
CM01 Chiang Mai Arr 45.59 252 *eP* **P 00 21 01.5 +0.4**
SHL Shillong 46.12 265 *i P* **P 00 21 06.0 +0.5**
DAWY Dawson 46.34 36 *eP* **P 00 21 06.5 0.0**
MHMT Maesarieng 46.47 252 P **P 00 21 09.3 +1.3**
comp=Z,24nm,0.9s,comp=Z,459nm
CHBT CHBT 47.34 243 P **P 00 21 16.3 +1.6**
comp=Z,39nm,1.0s
INK Inuvik 47.80 30 *eP* **P 00 21 17.0 -0.7**
comp=Z,24nm,0.6s
HYT Haines Junctio 47.95 40 *eP* **P 00 21 20.3 +1.1**
TAPN Taplejung 48.14 270 *eP* **P 00 21 21.8 +0.5**
comp=Z,47nm,0.9s
KHLT Khaolaem Dam 48.35 249 P **P 00 21 24.7 +2.1**
comp=Z,12nm,1.0s,comp=Z,372nm
BVA0 Borovoye Array 48.38 309 *i P* **P 00 21 21.8 -0.7**
BVA0 pmax pmax
comp=Z,20nm,0.9s
BVAR Borovoye Array 48.38 309 P **P 00 21 22.5 0.0**
BVAR S **S 00 28 16.3 -0.2**
BVAR pmax pmax
comp=Z,6.0nm,0.4s
BVAR pmax pmax
comp=N,3.0nm,0.8s
BVAR smax smax
comp=N,1.0nm,0.9s
BVAR Borovoye Array 48.38 309 P **P 00 21 22.5 0.0**
BVAR ScP **ScP 00 26 33.8 -0.9**
BVAR S **S 00 28 16.3 -0.2**
BVAR Borovoye Array 48.38 309 P **P 00 21 22.5 0.0**
comp=N,6.4nm,0.4s,baz=79,slow=9.6,SNR=88
BVAR ScP **ScP 00 26 33.8 -0.9**
comp=N,3.3nm,0.8s,baz=49,slow=4.5,SNR=6.0
BVAR S **S 00 28 16.3 -0.2**
comp=N,1.2nm,0.9s,baz=53,slow=13,SNR=4.1
BRVK Borovoye 48.43 309 P **P 00 21 22.6 -0.2**
comp=N,138nm,1.0s,SNR=12
BRVK Borovoye 48.43 309 *d iP* **P 00 21 22.6 -0.2**
BRVK pmax pmax
comp=Z,51nm,1.7s
BRVK Borovoye 48.43 309 *eP* **P 00 21 21.9 -0.9**
comp=Z,74nm,1.6s
BRVK *eS* **S 00 28 13.8 -3.3**
ODAN Odare 48.65 270 *eP* **P 00 21 25.5 +0.3**
comp=Z,50nm,0.9s
TKM2 Tokmak 2 49.03 295 *i P* **P 00 21 28.4 +0.6**
TKM2 pmax pmax
comp=Z,11nm,0.6s
TKM2 Tokmak 2 49.03 295 P **P 00 21 28.7 +0.9**
SNR=84
TKM2 Tokmak 2 49.03 295 *eP* **P 00 21 28.1 +0.3**
comp=Z,61nm,0.8s
JIRN Jiri 49.08 272 *eP* **P 00 21 29.0 +0.5**
comp=Z,51nm,0.6s
GUN Gumba 49.16 272 *eP* **P 00 21 29.3 +0.1**
comp=Z,73nm,0.5s
RAMN Ramite 49.18 270 *eP* **P 00 21 29.3 +0.1**
comp=Z,73nm,0.7s
CHMS Chumysh 49.56 295 *i P* **P 00 21 31.9 +0.3**
CHMS Chumysh 49.56 295 P **P 00 21 32.0 +0.3**
SNR=9.6
KBK Karagaybulak 49.58 295 P **P 00 21 32.5 +0.6**
SNR=14
USP Ospenovka 49.61 296 *i P* **P 00 21 32.5 +0.5**
USP Ospenovka 49.61 296 P **P 00 21 32.6 +0.5**
SNR=24
KZA Kyzart 49.63 294 *i P* **P 00 21 33.7 +1.1**
KZA Kyzart 49.63 294 P **P 00 21 33.7 +1.1**
SNR=17
KKN Kakani 49.67 272 *eP* **P 00 21 33.0 +0.1**
comp=Z,48nm,0.6s
PKI Pulchoki 49.70 272 *eP* **P 00 21 33.2 0.0**
comp=Z,52nm,0.6s
PKIN Phulchoki 49.70 272 *eP* **P 00 21 33.1 -0.1**
FRU Bishkek 49.72 295 *eP* **P 00 21 31.0 -1.8**
FRU pmax pmax
comp=Z,85nm,2.2s
SBUM Sibu 49.76 224 *eP* **P 00 21 33.2 -0.1**
comp=Z,9.9nm,0.9s
AAK Ala-Archa 49.89 295 P **P 00 21 34.3 0.0**
comp=Z,243nm,0.4s,SNR=21
AAK Ala-Archa 49.89 295 *i P* **P 00 21 34.3 0.0**
AAK pmax pmax
comp=Z,43nm,0.6s
AAK Ala-Archa 49.89 295 P **P 00 21 34.7 +0.5**
SNR=8.4
AAK Ala-Archa 49.89 295 *eP* **P 00 21 34.3 0.0**
AAK Ala-Archa 49.89 295 *eP* **P 00 21 34.1 -0.2**
comp=Z,23nm,0.6s
AAK Ala-Archa 49.89 295 P **P 00 21 34.6 +0.3**
comp=Z,20nm,0.5s,baz=107,slow=5.7,SNR=140

DMN Daman 49.90 272 *eP* **P 00 21 35.0 +0.3**
comp=Z,57nm,0.7s
GKN Gorkha 50.02 273 *eP* **P 00 21 35.4 0.0**
comp=Z,76nm,0.7s
UCH Uchtor 50.05 294 *i P* **P 00 21 36.5 +0.6**
UCH Uchtor 50.05 294 P **P 00 21 36.6 +0.6**
SNR=8.1
SIT Sitka 50.20 44 *eP* **P 00 21 36.5 +0.3**
SIT pmax pmax
comp=Z,41nm,0.9s
SIT Sitka 50.20 44 *eP* **P 00 21 36.5 +0.3**
comp=Z,41nm,0.9s
KSH Kashi 50.30 291 P P 00 21 41.3 +3.9
KSH PP PP 00 23 39.0 +5.7
KSH PcS **PcS 00 26 54.0 +1.6**
KSH S **S 00 28 46.5 +2.7**
KSH SS **SS 00 32 21.0 +3.1**
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,140nm,3.0s
KSH LR LR
comp=Z,98nm,4.8s
KSH LR LR
comp=Z,95nm,4.2s
KSH LR LR
comp=Z,140nm,6.9s
EKS2 Erkin-Say 50.35 295 *i P* **P 00 21 38.2 +0.5**
EKS2 Erkin-Say 50.35 295 P **P 00 21 38.3 +0.5**
SNR=17
EKS2 Erkin-Say 50.35 295 *eP* **P 00 21 37.6 -0.1**
comp=Z,31nm,0.6s
DANN Dangsing 50.46 274 *eP* **P 00 21 39.7 +0.7**
comp=Z,295nm,0.7s
AML Almayashu 50.64 295 *i P* **P 00 21 41.2 +0.9**
AML Almayashu 50.64 295 P **P 00 21 41.2 +0.9**
SNR=23
KOLN Koldanda 50.91 273 *eP* **P 00 21 42.6 +0.4**
comp=Z,119nm,0.9s
KSM Kuching 51.58 226 *eP* **P 00 21 48.0 +0.9**
comp=Z,30nm,1.1s
CRAG Craig 51.93 46 *eP* **P 00 21 50.9 +1.7**
comp=Z,92nm,1.4s
SVE Sverdlovsk 52.23 316 *c iP* **P 00 21 51.5 +0.1**
SVE pmax pmax
comp=Z,43nm,1.3s
KK31 Karatay Array 52.29 297 *eP* **P 00 21 51.9 -0.2**
KK31 pmax pmax
comp=Z,21nm,0.4s
DLBC Dease Lake 52.33 41 *eP* **P 00 21 52.5 +0.3**
LGTI Lohaghat 52.41 277 *e* P 00 21 57.1 +4.0
LGTI *ex* x 00 25 36.8
SURT Suratani 52.46 243 P **P 00 21 56.3 +2.7**
comp=Z,12nm,1.2s,comp=Z,499nm
ARU Arti 53.44 316 P **P 00 22 00.9 +0.6**
comp=Z,193nm,1.2s,SNR=14
ARU Arti 53.44 316 *d iP* **P 00 21 59.8 -0.5**
ARU *PP **pP 00 22 20.0 -0.9**
ARU 00 23 05.8
ARU 00 23 59.6
ARU S **S 00 29 26.7 +0.5**
ARU SS **SS 00 33 06.5 -0.1**
ARU pmax pmax
comp=Z,55nm,1.7s
ARU Arti 53.44 316 *eP* **P 00 21 59.8 -0.5**
PKDT Phuket 53.56 243 P **P 00 22 03.8 +2.1**
comp=Z,48nm,0.8s
SMLA Simla 53.71 281 *i P* **P 00 22 02.9 +0.3**
SMLA *i P* **P 00 22 02.9 +0.3**
KULM Kulim 54.06 239 *eP* **P 00 22 06.6 +1.3**
comp=Z,42nm,1.0s
KKR Kurukshetra 54.60 280 *eP* **P 00 22 09.0 -0.2**
KKR AMB AMB 00 22 10.0
comp=Z,57nm,1.0s
BISR Bishrakh 54.93 278 *eP* **P 00 22 12.3 +0.7**
BISR AMB AMB 00 22 15.7
comp=Z,32nm,0.7s
NDI New Delhi 55.03 278 *eP* **P 00 22 11.0 -1.3**
AYAN Aya Nagar 55.21 278 *eP* **P 00 22 13.7 +0.2**
RTK Rohtak 55.41 279 *eP* **P 00 22 14.6 -0.4**
RTK AMB AMB 00 22 15.8
comp=Z,61nm,0.9s
AB31 Akbulak array 55.92 308 P **P 00 22 18.0 -0.3**
AB31 pmax pmax
comp=Z,16nm,0.4s
KHET Khetri 56.40 279 *eP* **P 00 22 22.1 +0.1**
AKTO Aktyubinsk 56.45 310 P **P 00 22 22.1 0.0**
AKTO *PP **pP 00 22 43.9 +1.0**
AKTO pmax pmax
comp=Z,7.0nm,0.6s
AKTO Aktyubinsk 56.45 310 P **P 00 22 22.1 0.0**
AKTO pP **pP 00 22 43.9 +1.0**
AKTO Aktyubinsk 56.45 310 P **P 00 22 22.1 0.0**
comp=Z,7.0nm,0.6s,baz=64,slow=7.2,SNR=31
AKTO pP **pP 00 22 43.9 +1.0**
comp=Z,8.2nm,0.6s,baz=90,slow=8.1,SNR=6.2
PRGR Permogore 56.96 326 *eP* **P 00 22 24.4 -1.1**
PRGR *e*PP **pP 00 22 46.7 +0.4**
PRGR pmax pmax
comp=Z,19nm,1.0s
YKA Yellowknife Ar 57.28 33 P **P 00 22 27.8 +0.1**
YKA pP **pP 00 22 48.9 +0.3**
YKA ScP **ScP 00 27 12.8 -0.4**
YKA Yellowknife Ar 57.28 33 P **P 00 22 27.8 +0.1**
comp=Z,13nm,0.7s,baz=301,slow=7.0,SNR=213
YKA pP **pP 00 22 48.9 +0.3**
comp=Z,7.3nm,0.6s,baz=302,slow=6.6,SNR=8.2
YKA ScP **ScP 00 27 12.8 -0.4**
comp=Z,0.3nm,0.6s,baz=297,slow=4.2,SNR=3.7
YKB5 Yellowknife Ar 57.28 33 *eP* **P 00 22 26.8 -0.9**
KBL Kabul 57.59 289 *eP* **P 00 22 29.3 -1.4**
KBL pmax pmax
comp=Z,33nm,0.8s
KBL Kabul 57.59 289 *eP* **P 00 22 29.3 -1.4**
comp=Z,33nm,0.8s
APA Apatity 58.08 335 ⇓ *iP* **P 00 22 35.6 +2.4**
APA MLR MLR
comp=Z,400nm,14.0s
TMCR Tamitsa 58.52 330 *eP* **P 00 22 34.5 -1.9**
TMCR pmax pmax
comp=Z,38nm,1.4s
KEV Kevo 58.54 339 *eP* **P 00 22 36.3 -0.1**
KEV Kevo 58.54 339 *ep* **P 00 22 35.8 -0.6**
comp=Z,0.6nm,0.3s
KEV Kevo 58.54 339 *eP* **P 00 22 36.3 -0.1**
comp=Z,403nm,2.5s
GSI Gunungsitoli 59.07 238 *eP* **P 00 22 41.6 +0.8**
comp=Z,33nm,0.7s
ARA0 ARCESS Array S 59.08 339 *eP* **P 00 22 39.0 -1.3**
ARCES **ARCESS Array B 59.08 339** P **P 00 22 39.8 -0.4**
ARCES **ARCESS Array B 59.08 339** P **P 00 22 39.8 -0.4**
comp=Z,1.7nm,0.4s,baz=36,slow=6.8,SNR=17
UGM Wanagama 59.55 220 *eP* **P 00 22 43.2 -1.0**
comp=Z,75nm,1.0s
PGC Sidney 60.40 50 *eP* **P 00 22 49.3 -0.2**
NLWA Neilton Lookou 60.85 51 *eP* **P 00 22 53.9 +1.2**
comp=Z,41nm,1.1s
HYB Hyderabad 60.88 267 *i P* **P 00 22 52.0 -1.3**
A05A Maple Falls 60.96 49 *eP* **P 00 22 53.3 -0.1**
comp=Z,1µm,0.4s
E03A Lebam 61.49 52 *eP* **P 00 22 56.6 -0.3**
comp=Z,56nm,0.9s
B06A Marblemount 61.56 49 *eP* **P 00 22 57.4 0.0**
comp=Z,35nm,0.5s
JOF Joensuu 61.67 331 *eP* **P 00 22 56.5 -1.4**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 61.67 331 *ep* **P 00 22 56.5 -1.4**
comp=Z,4.9nm,0.5s
F03A Seaside 61.84 52 *eP* **P 00 23 00.7 +1.4**
comp=Z,933nm,2.5s
D05A Enumclaw 62.03 50 *eP* **P 00 23 02.0 +1.4**
comp=Z,26nm,0.8s
F04D Rainier, OR 62.07 52 ⇓ **P P 00 23 02.1 +1.2**
baz=62
LON Longmire 62.38 51 *eP* **P 00 23 03.9 +0.9**
LON pmax pmax
comp=Z,9.0nm,0.9s
LON Longmire 62.38 51 *eP* **P 00 23 03.9 +0.9**
comp=Z,9.2nm,0.9s
G03D McMinnville, O 62.41 53 ⇓ **P P 00 23 04.3 +1.2**
baz=62
F04A Amboy 62.49 52 *eP* **P 00 23 04.6 +0.9**
comp=Z,60nm,0.6s
IMYA Miami 62.65 295 *eP* **P 00 23 03.4 -1.7**

LTY Liberty 62.73 50 *eP* **P 00 23 06.0 +0.6**
comp=Z,20nm,0.5s
COR Corvallis 62.74 53 *eP* **P 00 23 07.1 +1.7**
COR Corvallis 62.74 53 *eP* **P 00 23 07.1 +1.7**
comp=Z,342nm,1.8s
B08A Colville Reser 62.83 48 *eP* **P 00 23 06.5 +0.5**
comp=Z,72nm,1.6s
ABKT Ailbek 63.03 298 P **P 00 23 07.7 +0.2**
comp=Z,173nm,0.5s,SNR=18
EDM Edmonton 63.05 41 *eP* **P 00 23 07.7 +0.3**
EDM Edmonton 63.05 41 *eP* **P 00 23 07.7 +0.3**
KEBM Edson Butte 63.11 55 *eP* **P 00 23 09.7 +1.7**
comp=Z,242nm,1.5s
I03D Drain, OR 63.23 54 ⇑ **P P 00 23 10.1 +1.5**
baz=63
IMOG Moghan 63.28 295 *eP* **P 00 23 10.1 +0.6**
IPAY Payeh 63.31 296 *eP* **P 00 23 09.7 +0.1**
H04A Detroit Lake 63.34 53 *eP* **P 00 23 10.3 +0.9**
comp=Z,34nm,0.8s
IKRD Kardeh 63.44 296 *eP* **P** 00 23 07.0 -3.5
FITZ Fitzroy Crossi 63.45 200 *eP* **P 00 23 10.3 +0.1**
comp=Z,7.3nm,1.1s
WRAB Tennant Creek 63.54 191 P **P 00 23 11.2 +0.4**
comp=Z,30nm,0.9s,SNR=5.1
WRA Warramunga Arr 63.55 191 P **P 00 23 10.8 0.0**
WRA pP **pP 00 23 31.4 -0.7**
WRA Warramunga Arr 63.55 191 P **P 00 23 10.8 0.0**
comp=Z,3.7nm,0.7s,baz=7.9,slow=6.9,SNR=13
WRA pP **pP 00 23 31.4 -0.7**
comp=Z,6.2nm,0.8s,baz=10,slow=7.0,SNR=6.6
KBO Bosley Butte 63.56 56 *eP* **P 00 23 12.4 +1.4**
comp=Z,245nm,1.5s
POO Poona 63.60 271 ⇑ *iP* **P 00 23 11.0 -0.5**
comp=Z,50nm,1.0s
ISFR Sfrayin 63.62 297 *eP* **P 00 23 12.1 +0.4**
I04A Tendick Farm, baz=64 63.73 54 ⇑ **P P 00 23 12.9 +0.9**
C09A Chrisman Ranch 63.73 48 *eP* **P 00 23 12.8 +0.8**
comp=Z,29nm,0.7s
MOS Moscow 63.75 323 *eP* **P 00 23 10.7 -1.2**
MOS pmax pmax
comp=Z,37nm,1.3s
D08A Wollman Farm, 63.82 49 *eP* **P 00 23 12.9 +0.5**
comp=Z,23nm,0.6s
HAWA Hanford 63.87 50 *eP* **P 00 23 13.5 +0.7**
comp=Z,23nm,1.0s
G06A Carlson Farm, 63.92 52 *eP* **P 00 23 13.9 +0.7**
comp=Z,12nm,0.9s
KAF Kangasniemi 63.93 333 *eP* **P 00 23 11.9 -1.0**
KAF pmax pmax
comp=Z,7.0nm,0.5s
KAF Kangasniemi 63.93 333 *ep* **P 00 23 11.9 -1.0**
comp=Z,6.5nm,0.5s
L02D Cave Junction, 63.96 56 ⇑ **P P 00 23 14.9 +1.4**
baz=64
I05D Terrebonne, OR 64.04 53 ⇓ **P P 00 23 15.2 +1.1**
baz=64
NEW Newport 64.08 47 *eP* **P 00 23 15.1 +0.8**
comp=Z,24nm,0.8s
NEW Newport 64.08 47 ⇑ **P P 00 23 14.8 +0.5**
baz=64,SNR=25
HUMO Hull Mountain 64.09 55 *eP* **P 00 23 15.6 +1.2**
comp=Z,50nm,1.6s
KRMB Red Mountain 64.15 57 *eP* **P 00 23 15.8 +0.9**
comp=Z,540nm,2.6s
J04D Umpqua Nationa 64.23 54 ⇓ **P P 00 23 16.7 +1.3**
baz=64
FINES FINESS Array B 64.48 332 P **P 00 23 16.1 -0.5**
FINES FINESS Array B 64.48 332 P **P 00 23 16.1 -0.5**
comp=Z,13nm,0.5s,baz=46,slow=6.9,SNR=115
FINES LR LR 00 51 50.9
comp=Z,96nm,20.6s,baz=58,slow=36
SUMG Summit 64.49 1 *eP* **P 00 23 17.4 +0.4**
SUMG pmax pmax
comp=Z,37nm,0.7s
SUMG Summit 64.49 1 *eP* **P 00 23 17.4 +0.4**
comp=Z,37nm,0.7s
E09A Wood Farm, Sta 64.57 49 *eP* **P 00 23 18.2 +0.8**
comp=Z,37nm,0.8s
OBN Obninsk 64.62 323 ⇑ *iP* **P 00 23 17.3 -0.2**
OBN *e*SP **sP 00 23 48.0 +0.1**
OBN *e* 00 25 45.3
OBN *eS* **S 00 31 48.3 -2.2**
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 64.62 323 *eP* **P 00 23 17.5 0.0**
PINOR Pine Mountain 64.62 53 *eP* **P 00 23 19.2 +1.5**
KHMM Horse Mountain 64.64 57 *eP* **P 00 23 20.0 +1.9**
comp=Z,36nm,0.8s
J05D Fort Rock, OR 64.72 54 ⇑ **P P 00 23 20.0 +1.4**
baz=64
YBH Yreka Blue Hor 64.75 56 *eP* **P 00 23 20.4 +1.6**
comp=Z,13nm,0.7s
VRHR Novokhopersk 64.77 317 *eP* **P 00 23 16.5 -2.1**
VRHR *e*PP **pP 00 23 38.7 -1.1**
VRHR pmax pmax
comp=Z,50nm,1.6s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,1.0s
K04D Chiloquin, OR 64.80 54 ⇑ **P P 00 23 20.4 +1.2**
baz=65
G08A Pilot Rock 64.84 51 *eP* **P 00 23 19.9 +0.5**
comp=E,15nm,1.3s
M02C Callahan 64.87 56 ⇑ **P P 00 23 21.1 +1.6**
baz=65
IDAH Dahanechah 64.90 292 *eP* **P 00 23 20.5 +0.4**
KMRM Mail Ridge 65.03 58 *eP* **P 00 23 22.1 +1.4**
N02D Trinity Center baz=65 65.20 56 ⇑ **P P 00 23 23.3 +1.6**
M04C Macdoel baz=65 65.25 55 ⇑ **P P 00 23 23.4 +1.3**
K05A Summer Lake comp=E,42nm,0.8s 65.25 54 *eP* **P 00 23 23.5 +1.4**
I07A Izee 65.25 52 *eP* **P 00 23 22.9 +0.8**
comp=E,12nm,0.9s
WALA Waterton Lakes 65.30 45 *eP* **P 00 23 23.0 +0.8**
F10A Beach Ranch, E 65.40 49 *eP* **P 00 23 23.9 +0.9**
comp=E,233nm,0.4s
KIPM Iron Peak 65.42 58 *eP* **P 00 23 24.6 +1.4**
KCPM Cahto Peak 65.43 58 *eP* **P 00 23 24.6 +1.3**
comp=E,25nm,0.7s
WDC Whiskeytown Da 65.54 57 *eP* **P 00 23 24.6 +0.8**
WDC pmax pmax
comp=Z,19nm,0.8s
WDC Whiskeytown Da 65.54 57 *eP* **P 00 23 24.6 +0.8**
comp=Z,19nm,0.8s
ITEG Tejag 65.56 293 *eP* **P 00 23 24.6 +0.3**
BSMT Bassoo Peak 65.58 47 *eP* **P 00 23 25.3 +1.1**
IKOO Kooshah 65.67 292 *eP* **P 00 23 25.4 +0.3**
BLMT Blacktail Moun 65.71 46 *eP* **P 00 23 25.8 +0.7**
VSR Storozhevoye 65.90 318 *eP* **P 00 23 24.9 -1.0**
VSR *e*PP **pP 00 23 47.0 -0.2**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,6.0nm,0.4s
VSR pmax pmax
comp=E,20nm,1.7s
JTMT Jette 65.91 46 *eP* **P 00 23 26.7 +0.5**
YBMT Yellow Bay 65.98 46 *eP* **P 00 23 26.6 -0.1**
VORD Divnogorie 66.00 318 *eP* **P 00 23 25.5 -1.0**
VORD *e*PP **pP 00 23 47.5 -0.3**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
MOD Modoc 66.09 54 *eP* **P 00 23 27.4 -0.1**
comp=E,4.2nm,0.6s
HOPS Hopland 66.16 58 *eP* **P 00 23 28.6 +0.8**
comp=E,518nm,2.5s
SWMT Swartz Lake 66.21 47 *eP* **P 00 23 28.6 +0.5**
J08A Circle Bar Ran 66.28 52 *eP* **P 00 23 29.5 +0.9**
comp=E,26nm,0.9s
IGLO Ghaloghah 66.64 299 *eP* **P 00 23 31.3 +0.1**
SLMT Seeley Lake 66.65 47 *eP* **P 00 23 31.8 +0.8**
MSO Missoula 66.67 47 *eP* **P 00 23 30.5 -0.6**
comp=E,24nm,1.0s
MSO Missoula 66.67 47 ⇓ **P P 00 23 31.4 +0.4**
baz=66,SNR=18
WVOR Wild Horse Val 66.75 53 *eP* **P 00 23 31.8 +0.1**

WVOR pmax pmax
comp=Z,25nm,1.0s
WVOR Wild Horse Val 66.75 53 *e*P **P 00 23 31.8 +0.1**
comp=Z,25nm,1.0s
CHMT Chamberlain Mo 66.98 47 *e*P **P** 00 23 26.2 -8.6
IANJ Anjilo 67.21 298 *e*P P **00 23 34.6 +0.3**
FFC Flin Flon 67.23 35 P **P**
comp=Z,189nm,0.9s,SNR=13
FFC Flin Flon 67.23 35 *e*P **P 00 23 34.4 +0.1**
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 67.23 35 *e*P **P 00 23 34.6 +0.3**
FFC Flin Flon 67.23 35 *e*P **P 00 23 34.4 +0.1**
comp=Z,12nm,0.9s
ASAR Alice Springs 67.27 191 P **P 00 23 34.6 -0.2**
ASAR pP **pP 00 23 57.4 +1.1**
ASAR ⇑*e* 00 52 02.0
ASAR Alice Springs 67.27 191 P **P 00 23 34.6 -0.2**
comp=Z,5.0nm,0.3s,baz=9.6,slow=5.3,SNR=23
ASAR pP **pP 00 23 57.4 +1.1**
comp=Z,4.2nm,0.8s,baz=12,slow=5.8,SNR=6.0
ASAR PKP2bc 00 52 02.0
comp=Z,0.5nm,0.8s,baz=186,slow=3.3,SNR=4.6
BEKR Beckworth 67.30 56 *e*P **P 00 23 35.9 +0.6**
comp=Z,20nm,0.8s
FCC Fort Churchill 67.41 29 *e*P **P 00 23 34.6 -0.7**
FCC Fort Churchill 67.41 29 *e*P **P 00 23 34.6 -0.7**
IPRN Peran 67.75 299 *e*P **P 00 23 37.9 -0.2**
MFID Camas Ranch 67.76 51 *e*P **P 00 23 38.0 -0.1**
comp=Z,25nm,0.4s
GOF Gofitskoye 67.80 311 ⇑*i*P **P 00 23 38.8 +0.7**
GOF pmax pmax
comp=Z,40nm,0.8s
HRY Holter Researc 67.86 46 *e*P **P 00 23 39.4 +0.8**
ILAS Lasjerd 67.88 298 *e*P P 00 23 30.7 -8.4
PAHR Pah Rah Range 67.99 56 *e*P **P 00 23 39.6 0.0**
comp=Z,30nm,0.9s
A19A Klindworth Far 68.01 43 ⇑P **P 00 23 40.0 +0.6**
baz=68,SNR=40
EGMT Eagleton 68.09 44 *e*P **P 00 23 39.8 -0.2**
comp=Z,46nm,0.8s
EGMT Eagleton 68.09 44 ⇑P **P 00 23 40.4 +0.4**
baz=68,SNR=12
LRM Limekiln Ridge 68.10 47 *e*P **P 00 23 40.4 +0.1**
B19A Brinkman Farms 68.22 43 ⇑P **P 00 23 41.3 +0.6**
baz=68,SNR=24
DLMT Dillon 68.32 48 *e*P **P 00 23 41.6 +0.1**
comp=Z,40nm,0.6s
IDMV Damavand 68.36 299 *e*P **P 00 23 42.3 +0.2**
CMB Columbia Colle 68.41 58 *e*P **P 00 23 41.9 -0.2**
CMB pmax pmax
comp=Z,25nm,0.7s
CMB Columbia Colle 68.41 58 *e*P **P 00 23 41.9 -0.2**
comp=Z,25nm,0.7s
A20A Cobblestone Ra 68.45 43 ⇑P **P 00 23 42.6 +0.5**
baz=68,SNR=20
HLID Hailey 68.47 50 *e*P **P 00 23 42.7 +0.2**
comp=Z,16nm,0.9s
HLID Hailey 68.47 50 ⇑P **P 00 23 43.3 +0.8**
baz=68,SNR=29
IBAF Bafgh 68.50 293 *e*P **P 00 23 42.9 0.0**
MCMT McKenzie Canyo 68.53 48 *e*P **P 00 23 42.4 -0.6**
IDID Didziasalis 68.61 327 *e*P **P 00 23 43.0 +0.1**
C19A Slack Wire Ran 68.64 44 ⇓P **P 00 23 44.3 +0.9**
baz=68,SNR=38
GUDG Gudauri 68.64 309 P **P 00 23 44.3 +0.7**
BOZ Bozeman (W) 68.66 47 *e*P **P 00 23 44.8 +1.2**
BOZ pmax pmax
comp=Z,69nm,0.6s
BOZ Bozeman (W) 68.66 47 *e*P **P 00 23 44.8 +1.2**
comp=Z,69nm,0.6s
ISAL Salakas 68.67 328 *e*P **P 00 23 43.5 +0.2**
ISAL AMB AMB 00 23 53.5
comp=Z,9.2nm,1.2s
B20A Solberg Farm, 68.69 43 ⇓P **P 00 23 43.9 +0.3**
baz=68,SNR=19
KIV Kislovodsk 68.70 311 P **P 00 23 44.8 +0.9**
comp=Z,370nm,0.7s,SNR=12
KIV Kislovodsk 68.70 311 *e*P **P 00 23 44.7 +0.9**
KIV *e*S **S 00 32 41.1 +0.7**
KIV pmax pmax
comp=Z,64nm,1.1s
KIV Kislovodsk 68.70 311 *e*P **P 00 23 44.8 +0.9**
WAKR Walker 68.71 57 *e*P **P 00 23 45.4 +1.3**
KBZ Khabaz 68.73 310 P **P 00 23 44.7 +0.9**
KBZ pmax pmax
comp=Z,20nm,0.8s
KBZ MLR MLR
comp=Z,107nm,20.6s
KBZ Khabaz 68.73 310 P **P 00 23 44.7 +0.9**
KBZ Khabaz 68.73 310 P **P 00 23 44.7 +0.9**
comp=Z,20nm,0.8s,baz=70,slow=4.0,SNR=50
KBZ LR LR 00 54 46.8
comp=Z,107nm,20.6s,baz=224,slow=37
DUS Dusheti 68.75 308 P **P 00 23 45.7 +1.6**
ZEI Tsey 68.77 309 *e*P **P 00 23 43.1 -1.3**
ZEI pmax pmax
comp=Z,11nm,0.6s
DGRG David-gareji 68.77 307 P **P 00 23 44.9 +0.7**
IIGN Ignalina 68.79 327 *e*P **P 00 23 44.0 -0.1**
IIGN AMB AMB 00 23 54.4
comp=Z,9.3nm,0.7s
BMN Battle Mountai 68.83 54 *e*P **P 00 23 44.2 -0.6**
BMN pmax pmax
comp=Z,21nm,0.8s
BMN Battle Mountai 68.83 54 *e*P **P 00 23 44.1 -0.6**
comp=Z,22nm,0.8s
ICHK Chekchek 68.87 295 *e*P **P 00 23 44.8 -0.4**
IVRN Varamin 68.91 298 *e*P **P 00 23 45.2 -0.1**
TBLG Delisi 68.96 308 P **P 00 23 46.1 +0.7**
D19A Cripps Ranch, 69.10 44 ⇓P **P 00 23 46.9 +0.6**
baz=69,SNR=22
ONI Oni 69.15 309 P **P 00 23 46.9 +0.3**
C20A Veseth Ranch, 69.18 44 ⇑P **P 00 23 47.5 +0.8**
baz=69,SNR=42
B21A Ellsworth Farm 69.20 43 ⇑P **P 00 23 47.2 +0.4**
baz=69
IMEH Mehriz 69.26 294 *e*P **P 00 23 46.9 -0.8**
QLMT Earthquake Lak 69.29 48 *e*P **P 00 23 47.8 +0.1**
A22A Carney Farms, 69.36 42 ⇓P **P 00 23 48.1 +0.3**
baz=69,SNR=37
NB2 NORSAR Subarra 69.40 338 P **P 00 23 47.4 -0.4**
comp=Z,3.6nm,0.6s,baz=33,slow=6.5
NOA NORSAR Array B 69.40 338 P **P 00 23 47.5 -0.4**
NOA pP **PcP 00 24 10.2 -0.5**
NOA NORSAR Array B 69.40 338 P **P 00 23 47.5 -0.4**
comp=Z,4.6nm,0.6s,baz=34,slow=6.2,SNR=28
NOA pP **PcP 00 24 10.2 -0.5**
comp=Z,4.1nm,0.6s,baz=34,slow=6.3,SNR=3.8
NOA LR LR 00 56 09.8
comp=Z,48nm,21.2s,baz=270,slow=38
NV01 Mina Array Sit 69.44 56 *e*P **P 00 23 49.8 +1.1**
NVAR Mina Array Bea 69.44 56 P **P 00 23 49.5 +0.8**
NVAR pP **pP 00 24 10.2 0.0**
NVAR Mina Array Bea 69.44 56 P **P 00 23 49.5 +0.8**
comp=Z,35nm,0.7s,baz=294,slow=6.8,SNR=243
NVAR pP **pP 00 24 10.2 0.0**
comp=Z,16nm,0.7s,baz=302,slow=6.9,SNR=7.4
NBO02 NORSAR Array S 69.49 338 *e*P **P 00 23 48.4 +0.1**
SFJD Kangerlussuaq 69.50 6 *e*P **P 00 23 47.8 -0.5**
comp=Z,22nm,0.8s
SFJD Kangerlussuaq 69.50 6 P **P 00 23 47.9 -0.3**
comp=Z,9.2nm,0.6s,baz=332,slow=5.8,SNR=10
D20A Manuel Ranch, 69.53 44 ⇓P **P 00 23 49.8 +0.9**
baz=69,SNR=36
ISAD Sadrabad 69.55 295 *e*P **P 00 23 49.5 0.0**
GCMT Greycliff 69.60 46 *e*P **P 00 23 50.2 +0.7**
E19A Rath Farm, Rou 69.62 45 ⇓P **P 00 23 50.3 +0.8**
baz=69,SNR=26
MLAC Mammoth Lakes 69.62 57 ⇑P **P 00 23 51.0 +1.1**
baz=69
YMR Madison River 69.65 47 *e*P **P 00 23 50.3 +0.4**
comp=Z,34nm,0.7s
IHRS Heris 69.76 304 *e*P **P 00 23 51.0 +0.3**
B22A Reddig Ranch S 69.79 42 ⇑P **P 00 23 50.8 +0.3**
baz=70
ELK Elko 69.80 53 *e*P **P 00 23 51.5 +0.6**
comp=Z,8.8nm,0.9s
IZEF Zefreh 69.83 296 *e*P **P 00 23 51.2 0.0**
A23A Redstone 69.88 41 ⇑P **P 00 23 51.1 +0.1**
baz=70,SNR=5.1
AKH Akhalkalaki 69.88 308 P **P 00 23 52.5 +1.2**
E20A Meyer Farm, Mu 69.93 45 ⇓P **P 00 23 52.1 +0.8**
baz=70,SNR=16
F19A Roth Farm, Mol 69.94 46 ⇑P **P 00 23 52.2 +0.8**
baz=70,SNR=36

GNI Garni 69.97 306 *e*P **P 00 23 53.1 +1.3**
comp=Z,13nm,0.8s
GNI Garni 69.97 306 P **P 00 23 53.2 +1.4**
comp=Z,3.2nm,0.4s,baz=296,slow=2.9,SNR=8.4
PTRM Twissleman Ran 70.01 60 *e*P **P 00 23 52.5 +0.5**
LKWY Lake 70.02 47 *e*P **P 00 23 53.7 +1.5**
LKWY pmax pmax
comp=Z,31nm,0.6s
LKWY Lake 70.02 47 *e*P **P 00 23 53.7 +1.5**
comp=Z,31nm,0.6s
H17A Grant Village 70.04 47 *e*P **P 00 23 53.5 +1.1**
H17A Grant Village 70.04 47 ⇑P **P 00 23 54.8 +2.5**
baz=70,SNR=32
IKLH Kolahrood 70.06 297 *e*P **P 00 23 52.9 +0.3**
D21A La Casta Ranch 70.13 44 ⇓P **P 00 23 53.1 +0.5**
baz=70,SNR=21
B23A Brockton 70.17 42 ⇑P **P 00 23 53.0 +0.3**
baz=70,SNR=30
IMW Indian Meadow 70.17 48 *e*P **P 00 23 53.6 +0.4**
comp=Z,29nm,0.7s
FLWY Flagg Ranch 70.18 48 *e*P **P 00 23 54.3 +1.2**
comp=Z,18nm,0.9s
FRB Frobisher Bay 70.19 15 P **P 00 23 51.8 -0.8**
FRB pP **PcP 00 24 13.2 -0.7**
FRB Frobisher Bay 70.19 15 P **P 00 23 51.8 -0.8**
comp=Z,21nm,0.6s,baz=328,slow=6.4,SNR=62
FRB pP **PcP 00 24 13.2 -0.7**
comp=Z,25nm,0.8s,baz=342,slow=6.1,SNR=9.0
RCTC Rector, Farmer 70.21 59 ⇑P **P 00 23 54.0 +0.9**
baz=70
C22A Vida 70.22 43 ⇓P **P 00 23 53.1 0.0**
baz=70,SNR=11
IBST Bostanabad 70.24 303 *e*P **P 00 23 53.2 -0.4**
RLMT Red Lodge 70.26 46 *e*P **P 00 23 53.7 +0.1**
comp=Z,13nm,0.6s
A24A Westby 70.32 41 ⇓P **P 00 23 54.0 +0.3**
baz=70,SNR=8.0
TPH Tonopah 70.33 56 *e*P **P 00 23 54.8 +0.7**
TPH pmax pmax
comp=Z,32nm,0.7s
TPH Tonopah 70.33 56 *e*P **P 00 23 54.8 +0.7**
comp=Z,32nm,0.7s
H18A Shoshone NF, C 70.34 47 ⇓P **P 00 23 54.9 +0.8**
baz=70,SNR=25
I17A Pilgrim Ck. 70.35 48 ⇓P **P 00 23 56.1 +1.9**
baz=70,SNR=46
ITBZ Tabriz 70.36 304 *e*P **P 00 23 54.8 +0.6**
TIN Tinemaha 70.36 57 ⇑P **P 00 23 55.4 +1.1**
baz=70
SMMC Simmler 70.36 60 ⇑P **P 00 23 55.8 +1.7**
baz=70
MOOW Moose Ponds 70.38 48 *e*P **P 00 23 55.5 +1.1**
comp=Z,29nm,0.9s
F20A Billings 70.39 45 ⇓P **P 00 23 54.6 +0.4**
baz=70
E21A Keefer Ranch, 70.44 44 ⇑P **P 00 23 55.3 +0.8**
baz=70
D22A Cohagen 70.48 43 ⇑P **P 00 23 55.1 +0.5**
baz=70,SNR=6.9
C23A Lambert 70.53 42 ⇓P **P 00 23 55.3 +0.4**
baz=70,SNR=20
HVU Hansel Valley 70.54 51 *e*P **P 00 23 56.4 +1.1**
HVU pmax pmax
comp=Z,30nm,0.8s
HVU Hansel Valley 70.54 51 *e*P **P 00 23 56.4 +1.1**
comp=Z,30nm,0.8s
LOHW Long Hollow 70.54 48 *e*P **P 00 23 56.8 +1.4**
comp=Z,13nm,0.6s
DGMT Dagmar 70.55 41 *e*P **P 00 23 55.3 +0.3**
comp=Z,53nm,0.6s
DGMT Dagmar 70.55 41 ⇑P **P 00 23 55.3 +0.3**
baz=70,SNR=15
SNOW Snow King Moun 70.56 48 *e*P **P 00 23 56.5 +1.0**
comp=Z,26nm,0.7s
REDW Red Top Meadow 70.57 48 *e*P **P 00 23 56.7 +1.1**
comp=Z,24nm,0.8s
VES Vestal, Richgr 70.60 59 ⇑P **P 00 23 55.5 0.0**
baz=70,SNR=7.4
H19A Powell 70.71 46 ⇑P **P 00 23 57.2 +1.0**
baz=70,SNR=7.6
A25A Svangstu Ranch 70.73 40 ⇓P **P 00 23 56.6 +0.5**
baz=70,SNR=9.5
PKM Peak Mountain 70.74 60 ⇓P **P 00 23 57.6 +1.0**
baz=70,SNR=6.9
G20A Bridger 70.75 46 ⇑P **P 00 23 56.5 0.0**
baz=70,SNR=13
LAO LASA Array 70.77 44 *e*P **P 00 23 56.8 +0.3**
comp=Z,35nm,0.9s
IAZR Azarshahr 70.81 304 *e*P **P 00 23 57.9 +0.8**
AHID Auburn Hatcher 70.83 49 *e*P **P 00 23 58.1 +1.1**
comp=Z,23nm,0.6s
CWC Cottonwood Cre 70.85 58 ⇑P **P 00 23 57.7 +0.5**
baz=71,SNR=19
AKASG Malin Array Be 70.88 323 P **P 00 23 56.6 -0.3**
AKASG *PP **pP 00 24 18.4 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 70.88 323 P **P 00 23 56.6 -0.3**
AKASG pP **pP 00 24 18.4 -0.1**
AKASG Malin Array Be 70.88 323 P **P 00 23 56.6 -0.3**
comp=Z,3.9nm,0.5s,baz=41,slow=5.9,SNR=56
AKASG pP **pP 00 24 18.4 -0.1**
comp=Z,4.7nm,0.5s,baz=42,slow=6.8,SNR=4.2
KIEV Kiev 70.89 323*d*iP **P 00 23 56.6 -0.4**
KIEV Kiev 70.89 323 *e*P **P 00 23 56.5 -0.5**
comp=Z,21nm,1.1s
F21A Absaloka Mine, 70.90 45 ⇓P **P 00 23 57.7 +0.4**
baz=71,SNR=7.8
AK11 Malin Array Si 70.92 323 *e*P **P 00 23 57.1 -0.1**
GRAC Grapevine Rang 70.92 57 ⇓P **P 00 23 58.7 +1.2**
baz=71,SNR=10.0
D23A Lindsay 70.95 43 ⇑P **P 00 23 58.3 +0.7**
baz=71,SNR=15
BGU Big Grassy Mou 70.96 52 *e*P **P 00 23 58.5 +0.7**
comp=Z,3.0nm,0.7s
SUW Suwalki 70.97 328 *e*P **P 00 23 58.2 +0.8**
SUW Suwalki 70.97 328 *e*P **P 00 23 58.2 +0.8**
SUW Suwalki 70.97 328 *e*P **P 00 23 57.5 +0.1**
comp=Z,32nm,1.1s
ANN Anapa 70.99 314 *e*P **P 00 23 57.1 -0.6**
ANN *e*PP **pP 00 24 20.6 +1.4**
ANN *e* 00 26 31.6
ANN *e*S **S 00 33 04.5 -2.3**
ANN *e*SS **SKSac 00 33 51.9 -0.6**
ANN pmax pmax
comp=Z,89nm,1.5s
SPUT South Promonto 71.03 51 *e*P **P 00 23 59.4 +1.1**
comp=Z,20nm,0.7s
E22A Miles City 71.08 44 ⇓P **P 00 23 58.7 +0.4**
baz=71,SNR=6.9
C24A Savage 71.08 42 ⇓P **P 00 23 58.8 +0.5**
baz=71,SNR=5.8
SBC Santa Barbara 71.10 60 ⇓P **P 00 24 00.2 +1.6**
baz=71
ISA Isabella 71.10 59 *e*P **P 00 23 58.5 -0.2**
ISA pmax pmax
comp=Z,12nm,0.9s
ISA Isabella 71.10 59 *e*P **P 00 23 58.5 -0.2**
comp=Z,12nm,0.9s
ISA Isabella 71.10 59 ⇑P **P 00 23 58.4 -0.2**
baz=71,SNR=13
I19A Meeteetse 71.13 47 ⇓P **P 00 23 59.7 +0.9**
baz=71,SNR=14
R11A Troy Canyon, C 71.14 55 *e*P **P 00 23 59.7 +0.7**
R11A Troy Canyon, C 71.14 55 ⇓P **P 00 23 59.7 +0.7**
baz=71,SNR=36
B25A Knox Farm, Ray 71.18 41 ⇑P **P 00 23 59.5 +0.6**
baz=71
ARVC Arvin 71.22 59 ⇓P **P 00 23 59.6 +0.3**
baz=71
G21A Lodge Grass 71.27 45 ⇓P **P 00 23 59.6 +0.1**
baz=71,SNR=12
A26A Wade Farm, Ken 71.27 40 ⇑P **P 00 23 59.8 +0.4**
baz=71,SNR=9.1
IPAR Pars 71.28 294 *e*P **P 00 24 00.4 +0.3**
H20A Greybull 71.35 46 ⇑P **P 00 24 00.2 +0.1**
baz=71,SNR=11
E23A Ismay 71.36 43 ⇓P **P 00 24 00.7 +0.6**
baz=71,SNR=15
F22A Rosebud 71.38 44 ⇑P **P 00 24 00.4 +0.3**
baz=71,SNR=11
D24A Glendive 71.42 42 ⇓P **P 00 24 01.1 +0.7**
baz=71,SNR=20
BSC Santa Cruz Isl 71.44 61 ⇓P **P 00 24 01.9 +1.3**
baz=71
MPMC Manual Prospec 71.45 58 ⇓P **P 00 24 01.6 +0.7**
baz=71,SNR=36

C25A Freed Ranch, W 71.53 41 ⇓P **P 00 24 01.7 +0.7**
baz=71
B26A Jensen Ranch, 71.55 40 ⇓P **P 00 24 01.8 +0.7**
baz=71,SNR=7.0
DUG Dugway 71.56 52 *e*P **P 00 24 02.6 +1.2**
DUG pmax pmax
comp=Z,25nm,0.7s
DUG Dugway 71.56 52 *e*P **P 00 24 02.6 +1.2**
comp=Z,25nm,0.7s
DUG Dugway 71.56 52 ⇑P **P 00 24 02.4 +1.0**
baz=71,SNR=50
FURC Furnace Creek, 71.58 57 ⇓P **P 00 24 02.4 +1.0**
baz=71,SNR=33
OSI Osito Adit 71.61 60 *e*P **P 00 24 02.0 +0.3**
comp=Z,31nm,0.8s
OSI Osito Adit 71.61 60 ⇓P **P 00 24 02.7 +0.9**
baz=71
J19A Crowheart 71.61 48 ⇓P **P 00 24 02.6 +0.8**
baz=71,SNR=42
TPNV Topopah Spring 71.64 56 *e*P **P 00 24 02.5 +0.5**
TPNV Topopah Spring 71.64 56 *e*P **P 00 24 02.5 +0.5**
TPNV Topopah Spring 71.64 56 ⇑P **P 00 24 02.8 +0.8**
baz=71,SNR=77
I20A Worland 71.65 47 ⇑P **P 00 24 03.2 +1.3**
baz=71
BW06 Boulder Array 71.68 48 *e*P **P 00 24 01.9 -0.3**
comp=Z,32nm,0.6s
PDAR Pinedale Array 71.68 48 P **P 00 24 02.6 +0.4**
PDAR pP **pP 00 24 23.2 -0.6**
PDAR Pinedale Array 71.68 48 P **P 00 24 02.6 +0.4**
comp=Z,32nm,0.4s,baz=252,slow=1.3,SNR=346
PDAR pP **pP 00 24 23.2 -0.6**
comp=Z,14nm,0.6s,baz=270,slow=2.7,SNR=6.0
PDAR LR LR 00 55 27.9
comp=Z,94nm,18.9s,baz=40,slow=36
LRMC Laurel Mountai 71.71 58 ⇑P **P 00 24 02.8 +0.4**
baz=72,SNR=10
BLG Laguna Peak 71.72 60 ⇓P **P 00 24 02.9 +0.5**
baz=72
G22A Birney 71.74 45 ⇑P **P 00 24 02.6 +0.2**
baz=72,SNR=12
H21A Big Horn, Sher 71.76 46 ⇑P **P 00 24 03.0 +0.5**
baz=72,SNR=19
BORG Borgarnes 71.81 354 *e*P **P 00 24 03.9 +1.6**
comp=Z,470nm,2.0s
BORG Borgarnes 71.81 354 P **P 00 24 03.6 +1.3**
comp=Z,13nm,0.8s,baz=231,slow=6.5,SNR=5.2
E24A Baker 71.82 43 ⇑P **P 00 24 03.1 +0.3**
baz=72,SNR=8.4
F23A Volborg 71.85 44 ⇓P **P 00 24 03.4 +0.4**
baz=72,SNR=22
D25A Fairfield 71.89 42 ⇓P **P 00 24 03.7 +0.5**
baz=72,SNR=5.3
EDW2 Edwards Air Fo 71.91 59 ⇓P **P 00 24 04.2 +0.6**
baz=72,SNR=31
B27A Peters Farms, 71.98 40 ⇓P **P 00 24 04.3 +0.6**
baz=72
C26A Wahner Farm, P 72.00 41 ⇓P **P 00 24 04.4 +0.6**
baz=72,SNR=6.1
J20A Shoshoni 72.08 47 ⇓P **P 00 24 05.2 +0.7**
baz=72,SNR=42
A28A Rude Farm, Bot 72.08 39 ⇓P **P 00 24 04.6 +0.4**
baz=72,SNR=5.5
DECC Green Verdugo 72.10 60 ⇑P **P 00 24 05.3 +0.6**
baz=72
H22A Clearmont 72.14 45 ⇑P **P 00 24 05.1 +0.3**
baz=72,SNR=5.2
NLU North Lily Min 72.14 52 *e*P **P 00 24 05.0 -0.1**
comp=Z,21nm,0.9s
I21A Big Trails, Te 72.18 46 ⇓P **P 00 24 05.7 +0.5**
baz=72,SNR=45
G23A Biddle 72.22 44 ⇓P **P 00 24 05.3 0.0**
baz=72,SNR=9.2
UOSS Wadi Hilu 72.23 288 P **P 00 24 05.6 +0.1**
comp=Z,143nm,0.6s,SNR=7.2
PASC Pasadena Art C 72.24 60 *e*P **P 00 24 05.8 +0.3**
comp=Z,31nm,1.3s
F24A Ekalaka 72.25 43 ⇓P **P 00 24 05.7 +0.3**
baz=72,SNR=13
MWC Mount Wilson 72.29 60 *e*P **P 00 24 06.3 +0.3**
MWC pmax pmax
comp=Z,57nm,1.5s
MWC Mount Wilson 72.29 60 *e*P **P 00 24 06.2 +0.3**
comp=Z,57nm,1.5s
E25A Miller Ranch, 72.31 42 ⇓P **P 00 24 06.1 +0.4**
baz=72,SNR=24
DAU Daniels Canyon 72.31 51 *e*P **P 00 24 06.4 +0.3**
DAU Daniels Canyon 72.31 51 *e*P **P 00 24 06.4 +0.3**
SHOC Shoshone 72.31 57 ⇑P **P 00 24 06.5 +0.6**
baz=72,SNR=5.3
IVIS Veis 72.31 301 *e*P **P 00 24 05.7 -0.3**
MPU Maple Canyon 72.36 52 *e*P **P 00 24 06.5 +0.2**
comp=Z,31nm,0.7s
C27A Sayler Ranch, 72.36 40 ⇑P **P 00 24 06.5 +0.5**
baz=72
B28A Dugan Ranch, T 72.37 39 ⇑P **P 00 24 06.2 +0.2**
baz=72,SNR=6.7
GSC Goldstone 72.37 58 *e*P **P 00 24 06.5 +0.2**
GSC pmax pmax
comp=Z,18nm,0.8s
GSC Goldstone 72.37 58 *e*P **P 00 24 06.5 +0.2**
comp=Z,18nm,0.8s
GSC Goldstone 72.37 58 ⇑P **P 00 24 06.8 +0.5**
baz=72,SNR=25
D26A Manning 72.40 41 ⇑P **P 00 24 06.4 +0.2**
baz=72,SNR=7.1
J21A Lysite 72.42 47 ⇑P **P 00 24 07.0 +0.4**
baz=72,SNR=18
BFSC Mount Baldy Ra 72.53 59 ⇑P **P 00 24 07.8 +0.5**
baz=72,SNR=17
A29A Manning Farm, 72.54 38 ⇓P **P 00 24 07.3 +0.3**
baz=72,SNR=15
I22A 9 Mile Ranch, 72.55 46 ⇑P **P 00 24 07.8 +0.5**
baz=72,SNR=14
SHPR Sheep Range 72.59 56 *e*P **P 00 24 08.9 +1.2**
CIS Catalina Islan 72.60 60 ⇑P **P 00 24 08.0 +0.4**
baz=72
IGHG Ghaleghazi 72.61 301 *e*P **P 00 24 07.5 -0.5**
G24A Alzada 72.62 44 ⇓P **P 00 24 07.4 -0.3**
baz=72,SNR=5.8
H23A Clabaugh Cattl 72.65 45 ⇓P **P 00 24 08.5 +0.7**
baz=72
F25A Bowman 72.68 43 ⇓P **P 00 24 08.2 +0.3**
baz=72,SNR=6.7
SCI San Clemente I 72.78 61 ⇓P **P 00 24 09.9 +1.2**
baz=73
ARUT Antelope Range 72.78 54 *e*P **P 00 24 09.5 +0.7**
ARUT Antelope Range 72.78 54 *e*P **P 00 24 09.5 +0.7**
D27A Center 72.78 41 ⇓P **P 00 24 09.1 +0.6**
baz=72
E26A Carlson Angus 72.78 42 ⇑P **P 00 24 08.7 +0.1**
baz=72,SNR=6.1
B29A Wagenman Farm, 72.82 39 ⇓P **P 00 24 09.0 +0.4**
baz=72
TUQ Turquoise Moun 72.83 57 ⇑P **P 00 24 09.9 +0.8**
baz=73,SNR=42
C28A Hausauer Farms 72.89 40 ⇑P **P 00 24 09.6 +0.5**
baz=73,SNR=6.2
J22A Midwest 72.89 46 ⇑P **P 00 24 09.5 +0.2**
baz=73,SNR=32
A30A Hoffart Farm, 72.95 38 ⇑P **P 00 24 09.5 +0.1**
baz=73,SNR=9.8
H24A Dirks Ranch, A 72.96 44 ⇓P **P 00 24 09.4 -0.3**
baz=73,SNR=24
HEC Hector,Ludlow 72.97 58 ⇓P **P 00 24 10.6 +0.7**
baz=73,SNR=16
BBRC Big Bear Solar 72.98 59 ⇓P **P 00 24 10.6 +0.5**
baz=73
CCUT Cedar City 72.98 54 *e*P **P 00 24 11.0 +0.9**
comp=Z,9.7nm,0.8s
K21A Alcova 73.01 47 ⇑P **P 00 24 10.3 +0.2**
baz=73,SNR=20
MVU Marysvale 73.03 53 *e*P **P 00 24 11.2 +0.9**
comp=Z,7.7nm,0.6s
ULM Lac du Bonnet 73.04 36 *e*P **P 00 24 09.2 -0.7**
comp=Z,7.6nm,0.8s
ULM pP **pP 00 24 31.1 -0.5**
ULM Lac du Bonnet 73.04 36 P **P 00 24 09.4 -0.5**
comp=Z,8.0nm,0.8s,baz=319,slow=7.2,SNR=13
ULM pP **pP 00 24 31.1 -0.5**
comp=Z,7.5nm,0.7s,baz=302,slow=5.4,SNR=5.5
ULM LR LR 00 56 46.2
comp=Z,81nm,18.1s,baz=273,slow=36
TMUT Trail Mountain 73.08 52 *e*P **P 00 24 11.0 +0.3**
comp=Z,27nm,1.2s
F26A Lodgepole 73.12 42 ⇑P **P 00 24 10.6 +0.1**
baz=73,SNR=9.1
MDND Maddock 73.16 39 *e*P **P 00 24 10.3 -0.4**

MDND **Maddock** 73.16 39 ⇓P P 00 24 11.2 +0.6
baz=73
D28A **Regan** 73.18 40 ⇓P P 00 24 11.5 +0.6
baz=73
G25A **Newell** 73.22 43 ⇑P P 00 24 11.3 +0.2
baz=73
MURC **Murrieta** 73.23 60 ⇑P P 00 24 11.6 +0.2
baz=73,SNR=9.4
E27A **Carson** 73.25 41 ⇓P P 00 24 11.8 +0.6
baz=73
B30A **Myrvik Farm, E** 73.30 38 ⇑P P 00 24 11.7 +0.2
baz=73,SNR=17
K22A **Casper** 73.39 47 *e*P P 00 24 12.1 -0.2
K22A **Casper** 73.39 47 ⇑P P 00 24 12.4 +0.1
baz=73,SNR=16
GMRC **Granite Mounta** 73.42 58 ⇓P P 00 24 13.2 +0.6
baz=73,SNR=26
F27A **Lemmon** 73.43 42 ⇑P P 00 24 12.2 -0.1
baz=73
H25A **Fruitdale** 73.53 44 ⇓P P 00 24 12.9 -0.1
baz=73,SNR=5.0
I24A **Kuemmerle Ranc** 73.54 45 ⇑P P 00 24 12.7 -0.5
baz=73,SNR=5.3
G26A **Maurine** 73.56 43 ⇓P P 00 24 13.2 +0.1
baz=73,SNR=12
E28A **Huff** 73.56 41 ⇓P P 00 24 13.4 +0.3
baz=73
LDFC **Landfair** 73.56 57 *e*P P 00 24 13.2 -0.2
comp=Z,58nm,0.9s
BEL **Belsk** 73.57 327 *e*P P 00 24 13.7 +0.8
BEL **Belsk** 73.57 327 *e*P P 00 24 13.6 +0.7
SRU **San Rafael** 73.60 52 *e*P P 00 24 13.9 +0.3
SRU pmax pmax
comp=Z,42nm,1.0s
SRU **San Rafael** 73.60 52 *e*P P 00 24 13.9 +0.3
comp=Z,42nm,1.0s
KNB **Kanab** 73.66 54 *e*P P 00 24 15.4 +1.4
KNB pmax pmax
comp=Z,17nm,0.9s
KNB **Kanab** 73.66 54 *e*P P 00 24 15.4 +1.4
comp=Z,17nm,0.9s
RSSD **Black Hills** 73.66 44 *e*P P 00 24 14.1 +0.2
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD **Black Hills** 73.66 44 *e*P P 00 24 14.1 +0.2
comp=Z,4.8nm,0.8s
PFO **Pinyon Flat Ob** 73.70 59 P P 00 24 14.9 +0.7
comp=Z,125nm,0.8s,SNR=12
PFO **Pinyon Flat Ob** 73.70 59 *e*P P 00 24 14.3 +0.2
comp=Z,18nm,0.8s
PFO **Pinyon Flat Ob** 73.70 59 ⇑P P 00 24 14.4 +0.2
baz=74,SNR=15
N20A **Spence Gulch,** 73.70 49 ⇑P P 00 24 15.1 +0.9
baz=73,SNR=29
D29A **Pettibone, Tap** 73.73 40 ⇑P P 00 24 14.3 +0.3
baz=73
109C **Camp Elliot, M** 73.76 60 ⇑P P 00 24 14.9 +0.5
baz=74,SNR=5.1
C30A **Mose, Pekin** 73.78 39 ⇓P P 00 24 14.4 +0.1
baz=74
GKP **Gorka Klasztor** 73.78 330 *e*P P 00 24 14.7 +0.5
GKP **Gorka Klasztor** 73.78 330 *e*P P 00 24 14.7 +0.5
LVV **L'vov** 73.79 324 *e*P P 00 24 14.7 +0.4
K23A **Bowen Ranch, D** 73.80 46 ⇑P P 00 24 14.5 -0.2
baz=74
G27A **Dupree** 73.82 42 ⇓P P 00 24 14.5 -0.2
baz=74,SNR=6.0
L22A **Ellis Ranch, M** 73.87 47 ⇑P P 00 24 15.8 +0.7
baz=74,SNR=21
I25A **Rochford** 73.89 44 ⇑P P 00 24 15.2 -0.1
baz=74,SNR=20
J24A **Dixon Ranch, L** 73.90 45 ⇑P P 00 24 15.0 -0.2
baz=74
H26A **Fairpoint** 73.95 43 ⇓P P 00 24 15.8 +0.4
baz=74
F28A **McLaughlin** 74.04 41 ⇑P P 00 24 16.0 +0.1
baz=74,SNR=5.9
E29A **Napoleon** 74.07 40 ⇓P P 00 24 15.8 -0.2
baz=74
D30A **Buchanan** 74.09 39 ⇑P P 00 24 16.0 -0.1
baz=74,SNR=12
IRM **Iron Mountain** 74.15 58 ⇓P P 00 24 17.5 +0.8
baz=74,SNR=31
O20A **White River Ci** 74.19 50 *e*P P 00 24 17.5 +0.4
O20A **White River Ci** 74.19 50 ⇑P P 00 24 17.3 +0.2
baz=74,SNR=18
MONP **Monument Peak** 74.19 60 ⇓P P 00 24 17.5 +0.3
baz=74,SNR=8.0
L23A **Garrett** 74.20 47 ⇑P P 00 24 16.9 -0.3
baz=74,SNR=13
M22A **Cedar Creek Ra** 74.22 48 ⇓P P 00 24 17.5 +0.3
baz=74,SNR=19
H27A **Howes** 74.29 43 ⇑P P 00 24 17.2 -0.1
baz=74,SNR=9.2
J25A **Sunshine Ranch** 74.30 45 ⇓P P 00 24 16.9 -0.6
baz=74,SNR=5.5
W13A **Hualapai Mount** 74.30 57 ⇑P P 00 24 18.4 +0.6
baz=74
I26A **New Underwood** 74.32 44 ⇑P P 00 24 18.0 +0.3
baz=74,SNR=7.2
U15A **North Rim** 74.37 55 ⇑P P 00 24 19.3 +1.0
baz=74,SNR=28
E30A **Jud** 74.46 40 ⇓P P 00 24 18.4 +0.1
baz=74
KWP **Kalwaria Pacla** 74.49 325 *e*P P 00 24 18.2 -0.2
KWP **Kalwaria Pacla** 74.49 325 *e*P P 00 24 18.1 -0.3
KWP **Kalwaria Pacla** 74.49 325 ⇑*i*P P 00 24 19.3 +0.9
KWP **Kalwaria Pacla** 74.49 325 *e*P P 00 24 19.4 +1.0
comp=Z,169nm,2.1s
AGMN **Agassiz Nation** 74.51 37 *e*P P 00 24 17.1 -1.4
comp=Z,12nm,0.8s
AGMN **Agassiz Nation** 74.51 37 ⇓P P 00 24 17.9 -0.7
baz=74,SNR=6.3
F29A **Eureka** 74.52 41 ⇓P P 00 24 18.8 +0.1
baz=74
G28A **Parade** 74.54 42 ⇓P P 00 24 18.9 +0.1
baz=74
DVTC **Desert V Tower** 74.55 60 ⇓P P 00 24 19.6 +0.5
baz=74,SNR=7.8
SWSC **Sam W. Stewart** 74.55 59 ⇑P P 00 24 19.2 +0.2
baz=74,SNR=5.5
M23A **Laramie** 74.64 47 ⇑P P 00 24 19.9 +0.2
baz=74,SNR=12
L24A **Wheatland** 74.66 46 ⇓P P 00 24 20.5 +0.8
baz=74
PDMCI **Parker Dam,Lak** 74.68 57 ⇑P P 00 24 20.5 +0.8
baz=74,SNR=26
I27A **Quinn** 74.70 43 ⇑P P 00 24 19.9 +0.1
baz=74,SNR=9.5
N22A **Wattenberg Ran** 74.71 48 ⇓P P 00 24 20.8 +0.7
baz=74,SNR=13
J26A **Sides Ranch, S** 74.73 44 ⇓P P 00 24 19.8 -0.2
baz=74,SNR=10.0
H28A **Mission Ridge** 74.78 42 ⇑P P 00 24 20.4 +0.2
baz=74,SNR=12
STKA **Stephens Creek** 74.78 183 P P 00 24 20.6 +0.6
STKA **Stephens Creek** 74.78 183 P P 00 24 20.6 +0.6
comp=Z,1.5nm,0.7s,baz=12,slow=8.5,SNR=4.3
Y12C **Blythe** 74.81 58 ⇑P P 00 24 21.3 +0.8
baz=75,SNR=26
PV09 **Paradox Valley** 74.81 51 *e*P P 00 24 21.6 +0.8
K25A **Mack Ranch, Ha** 74.81 45 ⇓P P 00 24 20.8 +0.2
baz=74
MALT **Malatya** 74.85 308 ⇓*i*P P 00 24 22.2 +1.4
PHWY **Pilot Hill** 74.90 47 *e*P P 00 24 21.9 +0.6
comp=Z,7.1nm,0.7s
N23A **Red Feather La** 74.92 48 ⇓P P 00 24 22.1 +0.7
baz=75,SNR=12
BUR04 **Bucovina Ar. S** 74.93 322 *e*P P 00 24 21.5 +0.4
BURAR **Bucovina Array** 74.93 322 ⇑*i*P P 00 24 21.7 +0.6
PV10 **Paradox Valley** 74.95 51 *e*P P 00 24 22.7 +1.1
UMR **Umm Al-Rimmam** 75.00 296 *e*P P 00 24 21.1 -0.5
UMR AMb AMB 00 24 22.3
comp=Z,42nm,0.7s
PV04 **Paradox Valley** 75.01 51 *e*P P 00 24 22.7 +0.9
GLA **Glamis** 75.08 59 *e*P P 00 24 23.0 +0.9
GLA pmax pmax
comp=Z,9.0nm,0.8s
GLA **Glamis** 75.08 59 *e*P P 00 24 23.0 +0.9
comp=Z,8.7nm,0.8s
GLA **Glamis** 75.08 59 ⇓P P 00 24 23.1 +0.9
baz=75,SNR=25
L25A **Engebretsen Ra** 75.09 46 ⇑P P 00 24 23.0 +0.8
baz=75
TESR **Tescani** 75.11 321 ⇑*i*P P 00 24 22.4 +0.4
O22A **Kremmling** 75.11 49 ⇓P P 00 24 22.9 +0.4
baz=75,SNR=16

K26A **Motz Farm, Whi** 75.11 45 ⇓P P 00 24 22.1 -0.1
baz=75,SNR=7.4
PV05 **Paradox Valley** 75.12 52 *e*P P 00 24 23.3 +0.8
M24A **Cheyenne** 75.12 47 ⇑P P 00 24 23.3 +0.9
baz=75,SNR=16
FORT **Forrest** 75.18 195 *e*P P 00 24 21.5 -0.9
comp=Z,21nm,1.0s
I28A **Midland** 75.19 43 ⇑P P 00 24 22.7 +0.1
baz=75,SNR=15
KOLS **Kolonicke sedl** 75.20 325 *e*P P 00 24 22.6 +0.1
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS **Kolonicke sedl** 75.20 325 *e*P P 00 24 22.6 +0.1
OJC **Ojcow** 75.22 327 *e*P P 00 24 22.8 +0.2
OJC **Ojcow** 75.22 327 *e*P P 00 24 22.8 +0.2
OJC **Ojcow** 75.22 327 *e*P P 00 24 22.9 +0.3
comp=Z,23nm,0.8s
STHS **Stebnicka Huta** 75.26 326 *e*P P 00 24 23.8 +0.9
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS **Stebnicka Huta** 75.26 326 *e*P P 00 24 23.8 +0.9
J27A **Elkhorn Farm,** 75.31 44 ⇑P P 00 24 23.9 +0.5
baz=75,SNR=9.1
G30A **Faulkton** 75.36 41 ⇑P P 00 24 23.2 -0.3
baz=75,SNR=17
PV01 **Paradox Valley** 75.38 51 *e*P P 00 24 24.7 +0.7
P22A **Eagle** 75.39 49 ⇑P P 00 24 24.7 +0.7
baz=75,SNR=18
CFR **Carcaliu** 75.39 319 ⇓*i*P P 00 24 23.9 +0.3
QRN **Al-Qurain** 75.40 296 *e*P P 00 24 23.6 -0.4
QRN AMb AMB 00 24 24.4
comp=Z,69nm,0.5s
O23A **Lake Granby, G** 75.42 48 ⇑P P 00 24 25.3 +1.0
baz=75,SNR=17
RST **Umm Al-Ruwaisa** 75.50 297 *e*P P 00 24 23.7 -0.9
RST AMb AMB 00 24 25.0
comp=Z,298nm,1.0s
NAY **Al-Naaiem** 75.51 296 *e*P P 00 24 24.0 -0.6
NAY AMb AMB 00 24 25.5
comp=Z,23nm,0.8s
RDF **Al-Radifah** 75.52 296 *e*P P 00 24 24.4 -0.3
RDF AMb AMB 00 24 25.6
comp=Z,51nm,0.6s
WUAZ **Wupatki** 75.54 55 *e*P P 00 24 25.4 +0.5
comp=Z,14nm,0.9s
WUAZ **Wupatki** 75.54 55 ⇓P P 00 24 25.9 +1.0
baz=75,SNR=15
N24A **Carr** 75.54 47 ⇑P P 00 24 25.8 +0.9
baz=75,SNR=5.3
VRI **Vrincioaia** 75.55 320 ⇑*i*P P 00 24 25.9 +1.3
M25A **Palm-Egli Farm** 75.55 46 ⇓P P 00 24 25.6 +0.8
baz=75,SNR=7.6
SMCO **Snowmass** 75.56 50 *e*P P 00 24 25.8 +0.5
comp=Z,17nm,1.0s
CRVS **Cervenica-Dubn** 75.57 325 *e*P P 00 24 25.1 +0.5
CRVS **Cervenica-Dubn** 75.57 325 *e*P P 00 24 25.1 +0.5
J28A **Allard Ranch,** 75.58 43 ⇑P P 00 24 25.3 +0.5
baz=75,SNR=17
K27A **Flueckinger Fa** 75.59 44 ⇓P P 00 24 25.4 +0.5
baz=75
Y14A **Wickenburg** 75.62 57 ⇓P P 00 24 26.0 +0.8
baz=75,SNR=30
NIE **Niedzica** 75.64 326 *e*P P 00 24 25.6 +0.5
NIE **Niedzica** 75.64 326 *e*P P 00 24 25.6 +0.5
ISCO **Idaho Springs** 75.87 48 *e*P P 00 24 27.6 +0.7
ISCO pmax pmax
comp=Z,9.0nm,0.8s
ISCO **Idaho Springs** 75.87 48 *e*P P 00 24 27.6 +0.7
comp=Z,8.7nm,0.8s
ISCO **Idaho Springs** 75.87 48 ⇓P P 00 24 27.7 +0.7
baz=76,SNR=14
113A **Mohawk Valley,** 75.94 58 ⇓P P 00 24 27.4 +0.4
baz=76,SNR=23
O24A **Longmont** 75.94 48 ⇓P P 00 24 28.0 +0.9
baz=76
N25A **Grover** 75.98 47 ⇓P P 00 24 28.1 +0.8
baz=76
L27A **T5 Ranch, Ells** 76.00 45 ⇑P P 00 24 27.5 +0.2
baz=76,SNR=5.4
M26A **McRoberts Ranc** 76.01 46 ⇑P P 00 24 28.4 +1.0
baz=76
K28A **Ten Mile Ranch** 76.03 44 ⇓P P 00 24 27.9 +0.5
baz=76
Z14A **Wintersburg** 76.04 57 ⇑P P 00 24 28.2 +0.6
baz=76,SNR=6.0
J29A **Okreek** 76.05 43 ⇑P P 00 24 27.5 0.0
baz=76,SNR=8.7
P23A **Jefferson** 76.05 49 ⇑P P 00 24 29.1 +1.1
baz=76,SNR=8.7
BBOO **Buckleboo** 76.06 187 *e*P P 00 24 28.5 +1.1
comp=Z,36nm,0.9s
MVCO **Mesa Verde** 76.06 52 *e*P P 00 24 28.4 +0.5
comp=Z,19nm,0.8s
MVCO **Mesa Verde** 76.06 52 ⇓P P 00 24 28.6 +0.6
baz=76,SNR=20
KSP **Ksiaz** 76.08 329 *e*P P 00 24 27.9 +0.4
KSP *e**PP pP 00 24 49.4 +0.1
KSP **Ksiaz** 76.08 329 *e*P P 00 24 27.9 +0.4
DOPR **Dopca** 76.09 321 ⇑*i*P P 00 24 28.8 +1.1
OKC **Ostrava-Krasne** 76.18 328 *e*P P 00 24 28.8 +0.8
OKC **Ostrava-Krasne** 76.18 328 ⇓*e*P P 00 24 28.8 +0.8
ISR **Istrita** 76.19 320 ⇑*i*P P 00 24 28.3 0.0
MLR **Muntele Rosu** 76.19 321 ⇓*i*P P 00 24 29.3 +0.9
X16A **Lo Mia Camp, P** 76.24 56 ⇑P P 00 24 30.2 +1.2
baz=76,SNR=13
CJR **Cluj-Napoca** 76.33 323 ⇓*i*P P 00 24 29.8 +0.7
MSAB **Monastry St. A** 76.35 319 ⇓*i*P P 00 24 29.9 +0.8
M27A **Reverse DX Ran** 76.36 45 ⇑P P 00 24 29.6 +0.3
baz=76,SNR=5.5
N26A **Koester Ranch,** 76.43 46 ⇓P P 00 24 30.3 +0.5
baz=76
UPC **Upice** 76.46 329 *e*P P 00 24 29.9 +0.3
UPC *e* 00 24 40.2
UPC **Upice** 76.46 329 ⇓*e*P P 00 24 29.9 +0.3
UPC *e*PCP PcP 00 24 40.2 -0.8
P24A **Kohler Place,** 76.46 48 ⇓P P 00 24 31.0 +0.9
baz=76,SNR=5.5
O25A **Wiggins** 76.46 47 ⇓P P 00 24 30.6 +0.6
baz=76,SNR=5.5
MORC **Moravsky Berou** 76.46 328 *e*P P 00 24 29.9 +0.2
MORC pmax pmax
comp=Z,10.0nm,0.9s
MORC **Moravsky Berou** 76.46 328 ⇑*i*P P 00 24 30.6 +0.9
MORC **Moravsky Berou** 76.46 328 *e*P P 00 24 29.9 +0.2
comp=Z,10nm,0.9s
L28A **Comealy Angus** 76.46 44 ⇓P P 00 24 30.2 +0.2
baz=76
DPC **Dobruska-Polom** 76.47 329 *e*P P 00 24 29.5 -0.2
DPC pmax pmax
comp=Z,314nm,2.0s
DPC **Dobruska-Polom** 76.47 329 ⇓*i*P P 00 24 30.6 +0.9
DPC *e*PCP PcP 00 24 40.5 -0.6
DPC **Dobruska-Polom** 76.47 329 *e*P P 00 24 29.5 -0.2
comp=Z,314nm,2.0s
KRLC **Kraliky** 76.52 328 ⇓*i*P P 00 24 30.3 +0.3
KRLC *e* 00 24 40.2
KRLC **Kraliky** 76.52 328 ⇓*i*P P 00 24 30.3 +0.3
KRLC *e*PCP PcP 00 24 40.2 -1.1
J30A **Dallas** 76.52 42 ⇑P P 00 24 30.2 +0.1
baz=76,SNR=11
K29A **Lazy Trails An** 76.52 43 ⇑P P 00 24 30.6 +0.4
baz=76,SNR=8.9
BRTR **Keskin Array B** 76.53 312 P P 00 24 30.6 +0.2
BRTR **Keskin Array B** 76.53 312 P P 00 24 30.6 +0.2
comp=Z,2.7nm,0.7s,baz=65,slow=3.6,SNR=15
BRTR LR LR 01 04 56.9
comp=Z,39nm,19.5s,baz=220,slow=41
S22A **4UR Ranch, Cre** 76.64 51 ⇓P P 00 24 32.2 +1.0
baz=76,SNR=16
EYMN **Ely** 76.66 35 *e*P P 00 24 30.4 -0.5
comp=Z,19nm,0.8s
DRGR 76.67 323 ⇑*i*P P 00 24 31.5 +0.5
Q24A **Divide** 76.72 49 ⇑P P 00 24 32.3 +0.6
baz=76
O26A **Horse Wrangler** 76.80 47 ⇓P P 00 24 32.0 +0.1
baz=76,SNR=5.9
N27A **Anderson Farm,** 76.80 46 ⇑P P 00 24 32.4 +0.5
baz=76,SNR=26
P25A **Willow Gulch B** 76.86 48 ⇑P P 00 24 33.0 +0.6
baz=77,SNR=12
ANTO **Ankara** 76.88 313 *e*P P 00 24 32.4 +0.1
ANTO pmax pmax
comp=Z,8.0nm,0.7s
ANTO **Ankara** 76.88 313 ⇑*i*P P 00 24 33.2 +0.9
ANTO **Ankara** 76.88 313 *e*P P 00 24 32.4 +0.1
comp=Z,8.4nm,0.7s

R23A **Moffat** 76.89 50 ⇑P P 00 24 33.7 +1.1
baz=77,SNR=16
ARR **Arges** 76.89 321 ⇑*i*P P 00 24 33.8 +1.5
CLL **Collm** 76.90 331 *i* P P 00 24 32.0 -0.1
CLL *i* 00 24 40.8
CLL *i* *PP pP 00 24 53.2 -0.7
CLL *i* *SP sP 00 25 02.9 -0.1
CLL pmax pmax
comp=Z,13nm,1.1s
CLL **Collm** 76.90 331 *i* P P 00 24 32.0 -0.1
comp=Z,13nm,1.1s
CLL *i* PcP PcP 00 24 42.0 -0.9
comp=Z,10.0nm,0.7s
CLL *i* pP pP 00 24 53.2 -0.7
CLL *i* (sP) sP 00 25 02.9 -0.1
CLL *e* 00 42 42.0
CLL LmV 02 50 00.0
comp=Z,100nm,21.0s
BR231 **Keskin MP Arra** 76.91 313 *e*P P 00 24 31.3 -1.3
BRG **Berggiesshubel** 76.92 330 *e*P P 00 24 32.9 +0.7
comp=Z,6.1nm,1.1s
BRG *e* 00 24 56.2
comp=Z,13nm,1.3s
BRG **Berggiesshubel** 76.92 330 *e*P P 00 24 32.9 +0.7
BRG *e* 00 24 56.2
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,13nm,1.3s
K30A **Basset** 76.94 43 ⇓P P 00 24 32.7 +0.1
baz=77,SNR=15
L29A **Maesberg Ranch** 76.95 44 ⇑P P 00 24 32.6 0.0
baz=77
OGNE **Ogallala** 76.97 46 ⇓P P 00 24 33.0 +0.2
baz=77,SNR=14
PVCC **Panska Ves** 76.98 330 *e*P P 00 24 34.4 +1.9
PVCC **Panska Ves** 76.98 330 ⇓*e*P P 00 24 34.4 +1.9
M28A **Bar X Bar Ranc** 76.98 45 ⇓P P 00 24 32.8 0.0
baz=77
PSZ **Piszkesteto** 76.99 325 *e*P P 00 24 32.8 0.0
PSZ pmax pmax
comp=Z,83nm,2.4s
PSZ **Piszkesteto** 76.99 325 ⇑*i*P P 00 24 33.1 +0.3
PSZ **Piszkesteto** 76.99 325 *e*P P 00 24 32.8 0.0
comp=Z,83nm,2.4s
X18A **Snowflake** 77.06 55 ⇑P P 00 24 34.5 +1.0
baz=77,SNR=9.3
214A **Organ Pipe Nat** 77.08 58 ⇓P P 00 24 34.1 +0.6
baz=77,SNR=12
S23A **Nye Farm, Mont** 77.13 50 ⇑P P 00 24 35.0 +1.0
baz=77,SNR=6.6
VRAC **Vranov** 77.21 328 ⇑*i*P P 00 24 34.9 +1.0
Q25A **Bedland, Calha** 77.25 48 ⇓P P 00 24 34.7 +0.2
baz=77,SNR=14
R24A **Sanders Place,** 77.26 49 ⇓P P 00 24 35.5 +0.8
baz=77,SNR=26
P26A **Davis Ranch, A** 77.27 47 ⇓P P 00 24 34.7 +0.1
baz=77,SNR=7.6
O27A **Beecher Island** 77.28 46 ⇓P P 00 24 34.6 0.0
baz=77
M29A **Burnside Ranch** 77.30 44 ⇓P P 00 24 34.4 -0.2
baz=77
SDCO **Great Sand Dun** 77.39 50 *e*P P 00 24 35.9 +0.5
comp=Z,8.9nm,1.0s
N28A **Pribbeno Ranch** 77.41 45 ⇑P P 00 24 35.1 -0.2
baz=77
L30A **Spencer Herefo** 77.42 44 ⇓P P 00 24 35.0 -0.3
baz=77
PRU **Pruhonice** 77.43 330 ⇓*i*P P 00 24 35.5 +0.4
PRU *e* 00 24 44.9
PRU **Pruhonice** 77.43 330 ⇓*i*P P 00 24 35.5 +0.4
PRU *e*PCP PcP 00 24 44.9 -0.3
T23A **Casias Ranch,** 77.59 51 ⇑P P 00 24 37.3 +0.7
baz=77,SNR=15
U22A **Llaves** 77.59 52 ⇑P P 00 24 37.2 +0.7
baz=77,SNR=6.3
ECSD **EROS Data Cent** 77.61 41 *e*P P 00 24 36.0 -0.3
comp=Z,26nm,0.9s
ECSD **EROS Data Cent** 77.61 41 ⇓P P 00 24 35.9 -0.3
baz=77,SNR=22
S24A **Houchin Ranch,** 77.62 50 ⇑P P 00 24 37.5 +0.7
baz=77,SNR=11
Q26A **Hugo** 77.64 48 ⇓P P 00 24 36.9 +0.3
baz=77,SNR=11
P27A **Ficken Ranch,** 77.68 47 ⇓P P 00 24 36.7 -0.2
baz=77
L31A **Butterfield Fa** 77.69 43 ⇓P P 00 24 36.8 0.0
baz=77,SNR=11
O28A **Krutsinger Ran** 77.70 46 ⇓P P 00 24 36.9 0.0
baz=77
GZR **Gura Zlata** 77.72 322 ⇑*i*P P 00 24 37.3 +0.5
R25A **Fountain Ranch** 77.77 49 ⇑P P 00 24 37.5 +0.1
baz=78,SNR=17
N29A **Votaw Ranch, W** 77.79 45 ⇑P P 00 24 37.0 -0.4
baz=78
V22A **San Miguel Ran** 77.88 52 ⇓P P 00 24 38.9 +0.7
baz=78,SNR=11
T24B **San Luis** 77.94 50 ⇑P P 00 24 39.9 +1.3
baz=78,SNR=19
NKC **Novy Kostel** 77.99 331 *e*P P 00 24 38.8 +0.6
NKC **Novy Kostel** 77.99 331 ⇓*e*P P 00 24 38.8 +0.6
U23A **El Rito** 78.00 51 ⇓P P 00 24 39.9 +1.1
baz=78,SNR=33
S25A **Robets Cordova** 78.04 49 ⇑P P 00 24 39.5 +0.5
baz=78,SNR=15
KSCO **Kaye Shedlock'** 78.05 47 *e*P P 00 24 38.3 -0.6
KSCO **Kaye Shedlock'** 78.05 47 ⇓P P 00 24 39.1 +0.2
baz=78
BZS **Buzias** 78.06 323 ⇑*i*P P 00 24 38.8 +0.2
EKA **Eskdalemuir Ar** 78.07 342 P P 00 24 38.8 +0.3
EKA **Eskdalemuir Ar** 78.07 342 P P 00 24 38.8 +0.3
comp=Z,2.6nm,0.4s,baz=25,slow=5.0,SNR=3.6
N30A **Huefte Ranch,** 78.08 45 ⇑P P 00 24 38.7 -0.2
baz=78
TUC **Tucson** 78.09 57 *e*P P 00 24 39.8 +0.6
TUC pmax pmax
comp=Z,16nm,0.9s
TUC **Tucson** 78.09 57 *e*P P 00 24 39.8 +0.6
comp=Z,16nm,0.9s
ESK **Eskdalemuir** 78.09 342 *e*P P 00 24 39.1 +0.4
ESK pmax pmax
comp=Z,134nm,1.8s
ESK **Eskdalemuir** 78.09 342 *e*P P 00 24 39.1 +0.4
comp=Z,134nm,1.8s
P28A **Saint Francis** 78.11 46 ⇑P P 00 24 39.1 -0.1
baz=78
R26A **Arlington** 78.12 48 ⇑P P 00 24 39.3 0.0
baz=78,SNR=33
O29A **4D Ranch, Culb** 78.21 45 ⇑P P 00 24 39.3 -0.4
baz=78,SNR=7.6
SPMN **St. Paul** 78.22 37 *e*P P 00 24 38.4 -1.2
SPMN **St. Paul** 78.22 37 ⇓P P 00 24 39.1 -0.4
baz=78
M31A **Lambtecht Ranc** 78.24 44 ⇑P P 00 24 39.5 -0.3
baz=78
V23A **Ortiz Mt. (NFS** 78.42 52 ⇑P P 00 24 42.7 +1.6
baz=78,SNR=13
T25A **Trinidad** 78.42 50 ⇓P P 00 24 41.5 +0.4
baz=78,SNR=20
Q28A **Sharon Springs** 78.44 47 ⇓P P 00 24 41.1 +0.1
baz=78
U24A **Moreno Valley** 78.46 51 ⇑P P 00 24 42.8 +1.4
baz=78
R27A **Eads** 78.48 48 ⇓P P 00 24 41.3 0.0
baz=78,SNR=16
KHC **Kasperske Hory** 78.49 330 *e*P P 00 24 40.6 -0.4
KHC pmax pmax
comp=Z,10.0nm,0.6s
KHC **Kasperske Hory** 78.49 330 ⇓*i*P P 00 24 41.5 +0.5
KHC *e*PCP PcP 00 24 51.7 +1.8
KHC **Kasperske Hory** 78.49 330 *e*P P 00 24 40.6 -0.4
comp=Z,10nm,0.6s
P29A **Atwood** 78.52 46 ⇓P P 00 24 41.9 +0.4
baz=78
O30A **MW Ranch, Wils** 78.55 45 ⇓P P 00 24 40.8 -0.7
baz=78,SNR=5.5
S26A **Kim** 78.60 49 ⇑P P 00 24 41.6 -0.4
baz=78,SNR=15
BGNE **Belgrade** 78.61 43 *e*P P 00 24 40.7 -1.1
comp=Z,47nm,0.8s
BGNE **Belgrade** 78.61 43 ⇑P P 00 24 41.3 -0.5
baz=78,SNR=6.3
CONA **Conrad Observa** 78.61 328 ⇑*i*P P 00 24 43.1 +1.3
comp=Z,8.3nm,1.1s
N31A **Bailey Ranch,** 78.64 44 ⇓P P 00 24 41.7 -0.4
baz=78,SNR=8.7
GEC2 **GERESS Array S** 78.68 329 *e*P P 00 24 42.1 -0.1

GEC2 GERESS Array S 78.68 329 eP P 00 24 42.1 -0.1
GERES GERESS Array B 78.68 329 P P 00 24 42.4 +0.2
GERES GERESS Array B 78.68 329 P P 00 24 42.4 +0.2
comp=Z,0.9nm,0.3s,baz=42,slow=5.5,SNR=17
GERES LR LR 01 01 00.5
comp=Z,101nm,19.3s,baz=318,slow=37
SCHQ Schefferville 78.72 18 eP P 00 24 42.1 -0.1
comp=Z,15nm,0.8s
SCHQ Schefferville 78.72 18 P P 00 24 42.0 -0.1
comp=Z,7.8nm,0.6s,baz=0.4,slow=7.0,SNR=18
SCHQ LR LR 01 01 01.2
comp=Z,114nm,18.2s,baz=330,slow=37
LAZ Ladron 78.81 53 eP P 00 24 44.1 +0.8
ANMO Albuquerque 78.83 52 eP P 00 24 44.2 +0.9
comp=Z,8.1nm,0.8s
W23A Werner Place, 78.85 52 ⇑P P 00 24 44.5 +1.0
baz=79,SNR=5.1
T26A Comanche Natio 78.85 49 ⇑P P 00 24 43.3 -0.1
baz=79,SNR=34
PKSM Moragy 78.87 325 ⇑iP P 00 24 43.0 -0.1
S27A Las Animas 78.87 48 ⇑P P 00 24 43.5 0.0
baz=79
P30A Selden 78.92 45 ⇑P P 00 24 43.2 -0.4
baz=79,SNR=5.7
O31A Woolen Ranch, 78.95 45 ⇑P P 00 24 43.0 -0.7
baz=79
V24A Rampart Ranch, 78.95 51 ⇑P P 00 24 45.2 +1.1
baz=79,SNR=12
U25A Circle Dot Ran 78.96 50 ⇑P P 00 24 44.4 +0.4
baz=79,SNR=15
R28A Tribune 78.98 47 ⇑P P 00 24 43.7 -0.3
baz=79,SNR=6.4
N32A Stulken Farm, 79.02 44 ⇑P P 00 24 43.6 -0.4
baz=79
Q29A Oakley 79.02 46 ⇑P P 00 24 43.7 -0.4
baz=79,SNR=13
LENM Lemitar 79.08 53 eP P 00 24 44.4 -0.3
Y22D IRIS PASSCAL I 79.17 53 ⇑P P 00 24 46.6 +1.4
baz=79
LPM Los Pinos Moun 79.17 53 eP P 00 24 45.6 +0.4
X23A Hourglass Bar 79.24 52 ⇑P P 00 24 46.7 +1.1
baz=79,SNR=7.7
W24A Lazy 6 Ranch, 79.24 52 ⇓P P 00 24 46.9 +1.3
baz=79,SNR=22
V25A Rancho No Teng 79.24 51 ⇓P P 00 24 46.3 +0.7
baz=79,SNR=11
R29A Marienthal 79.28 47 ⇓P P 00 24 45.5 -0.1
baz=79
BNM Barren Site 79.29 53 eP P 00 24 45.9 0.0
U26A Atchley Ranch, 79.33 50 ⇓P P 00 24 46.3 +0.2
baz=79,SNR=14
Q30A Quinter 79.35 46 ⇓P P 00 24 45.7 -0.3
baz=79
P31A Stockton 79.39 45 ⇑P P 00 24 45.5 -0.6
baz=79,SNR=18
O32A Brockman Farm, 79.40 44 ⇓P P 00 24 45.0 -1.1
baz=79
T27A Campo 79.42 49 ⇑P P 00 24 46.3 -0.2
baz=79,SNR=8.2
S28A Manter 79.48 48 ⇓P P 00 24 46.7 -0.1
baz=79,SNR=15
319A Douglas 79.65 57 ⇓P P 00 24 48.8 +1.0
baz=79,SNR=25
VTS Vitosha 79.68 320 ⇓iP P 00 24 48.4 +0.6
X24A Lazy VL Ranch, 79.69 52 ⇓P P 00 24 49.3 +1.3
baz=79,SNR=22
T28A Walsh 79.70 48 ⇑P P 00 24 47.5 -0.5
baz=79
P32A Huiting Farm, 79.71 44 ⇑P P 00 24 47.0 -0.8
baz=79,SNR=9.8
Z22A Elephant Butte 79.72 54 ⇓P P 00 24 49.1 +0.9
baz=80,SNR=31
V26A Tequesquite Ra 79.74 50 ⇓P P 00 24 48.3 +0.1
baz=80,SNR=11
121A Cookes Peak, D 79.75 55 ⇑P P 00 24 49.6 +1.2
baz=80,SNR=23
Q31A Ellis 79.77 45 ⇑P P 00 24 47.3 -0.9
baz=80,SNR=5.2
W25A X Bar L Ranch, 79.78 51 ⇓P P 00 24 49.3 +0.9
baz=80,SNR=24
Y23A Lovelace Mesa, 79.78 53 ⇑P P 00 24 49.4 +0.9
baz=80,SNR=37
MEM Membach 79.82 335 P P 00 24 48.9 +0.7
U27A Thompson Grove 79.82 49 ⇓P P 00 24 48.8 +0.1
baz=80,SNR=13
R30A Dighton 79.84 46 ⇓P P 00 24 48.1 -0.5
baz=80,SNR=10
S29A Ulysses 79.88 47 ⇑P P 00 24 48.8 -0.1
baz=80
SOKA Soboth 79.96 327 iP P 00 24 49.8 +0.7
comp=Z,8.1nm,1.1s,SNR=4.8
CSS Prodhromos 80.11 309 eP P 00 24 50.2 +0.1
comp=Z,2.2nm,0.6s
T29A Hugoton 80.12 48 ⇑P P 00 24 50.0 -0.2
baz=80
320A Kipp Ranch, An 80.14 56 ⇓P P 00 24 51.3 +0.8
baz=80,SNR=8.3
Y24A Capitan 80.14 52 ⇓P P 00 24 51.1 +0.6
baz=80,SNR=15
Z23A Rita Site, Whi 80.15 53 ⇓P P 00 24 51.3 +0.9
baz=80,SNR=14
X25A Clemmons Ranch 80.16 52 ⇑P P 00 24 51.5 +1.0
baz=80,SNR=22
U28A Mallet 80.19 49 ⇓P P 00 24 50.1 -0.5
baz=80,SNR=5.1
MMB Musomiste 80.21 319 ⇑iP P 00 24 51.0 +0.5
Q32A Meitler Ranch, 80.21 45 ⇑P P 00 24 49.9 -0.7
baz=80,SNR=15
S30A Montezuma 80.21 47 ⇑P P 00 24 50.4 -0.3
baz=80,SNR=9.2
R31A Burdett 80.23 46 ⇑P P 00 24 50.2 -0.5
baz=80,SNR=8.4
W26A Owens Ranch, T 80.26 51 ⇓P P 00 24 51.9 +0.9
baz=80,SNR=7.3
V27A Dan Oppiter Fa 80.30 50 ⇓P P 00 24 51.3 +0.1
baz=80,SNR=12
P33A Williams Farm, 80.32 44 ⇑P P 00 24 50.2 -0.9
baz=80
222A Williams Famil 80.46 55 ⇓P P 00 24 52.8 +0.7
baz=80,SNR=14
RAYN Ar Rayn 80.50 293 eP P 00 24 52.5 +0.1
comp=Z,7.4nm,0.8s
RAYN Ar Rayn 80.50 293 P P 00 24 52.5 +0.1
comp=Z,60nm,0.6s,SNR=6.5
R32A Long Quarter, 80.56 45 ⇑P P 00 24 51.4 -1.0
baz=80,SNR=5.8
Y25A Mesa, Roswell 80.57 52 ⇑P P 00 24 53.2 +0.5
baz=80,SNR=11
Q33A Connelly Farm, 80.58 44 ⇑P P 00 24 52.0 -0.5
baz=80,SNR=19
123A Bell Site, Whi 80.58 54 ⇓P P 00 24 53.6 +0.8
baz=80
Z24A Sheeppen Canyo 80.61 53 ⇓P P 00 24 53.6 +0.6
baz=80,SNR=12
SCIA State Center 80.61 40 eP P 00 24 51.9 -0.7
comp=Z,40nm,0.8s
T30A Plains 80.61 47 ⇓P P 00 24 52.5 -0.2
baz=80
X26A CR and CF Fran 80.63 51 ⇑P P 00 24 53.6 +0.6
baz=80,SNR=9.3
GIVF Givet 80.63 335 eP P 00 24 53.5 +0.9
GIVF Givet 80.63 335 eP P 00 24 53.5 +0.9
GIVF Givet 80.63 335 eP P 00 24 53.5 +0.9
V28A Channing 80.64 49 ⇑P P 00 24 53.4 +0.3
baz=80
U29A Oasis Ranch, S 80.65 48 ⇓P P 00 24 52.9 -0.2
baz=80
W27A Bowe Ranch, En 80.68 50 ⇓P P 00 24 53.9 +0.7
baz=80,SNR=13
BAIF Baives 80.86 335 eP P 00 24 54.3 +0.5
BAIF Baives 80.86 335 eP P 00 24 54.3 +0.5
BAIF Baives 80.86 335 eP P 00 24 54.3 +0.5
MOTA Moosalm 80.89 330 ⇓iP P 00 24 54.4 +0.2
comp=Z,9.0nm,0.7s
223A Chaparral, Ant 80.93 54 ⇓P P 00 24 55.3 +0.6
baz=81
U30A WK&E Inc. Balk 80.93 48 ⇓P P 00 24 54.4 -0.1
baz=81
V29A Stinnett 80.94 49 ⇓P P 00 24 54.3 -0.3
baz=81,SNR=5.5
X27A F and S Farms, 80.96 51 ⇓P P 00 24 55.5 +0.8
baz=81
S32A Newby Ranch, P 80.98 46 ⇓P P 00 24 54.1 -0.6
baz=81,SNR=6.1
124A Stringfield Ra 81.01 53 ⇓P P 00 24 55.7 +0.5
baz=81,SNR=16
W28A Vega 81.02 50 ⇑P P 00 24 55.7 +0.7
baz=81,SNR=10

R33A Olander Ranch, 81.02 45 ⇑P P 00 24 54.1 -0.8
baz=81,SNR=5.9
Z25A Roswell 81.02 52 ⇓P P 00 24 55.9 +0.8
baz=81,SNR=18
T31A Randall Ranch, 81.03 47 ⇑P P 00 24 54.6 -0.4
baz=81,SNR=6.7
Y26A Elida 81.07 51 ⇑P P 00 24 55.9 +0.5
baz=81,SNR=42
KSU1 Kansas State U 81.12 44 eP P 00 24 54.7 -0.7
comp=Z,26nm,0.6s
KSU1 Kansas State U 81.12 44 ⇓P P 00 24 54.6 -0.8
baz=81,SNR=7.8
CDF Champ du Feu 81.32 333 eP P 00 24 56.9 +0.5
comp=Z,16nm,1.0s
CDF Champ du Feu 81.32 333 eP P 00 24 56.9 +0.5
CDF pmax pmax
comp=Z,16nm,1.0s
CDF Champ du Feu 81.32 333 eP P 00 24 56.9 +0.5
comp=Z,16nm,1.0s
T32A Huddler Ranch, 81.37 46 ⇓P P 00 24 56.5 -0.3
baz=81,SNR=7.2
DAVA Damuels 81.39 331 ⇑iP P 00 24 57.2 +0.4
comp=Z,7.7nm,0.9s
224A Cornudas Mount 81.42 54 ⇓P P 00 24 58.1 +0.9
baz=81,SNR=28
W29A Amraillo 81.42 49 ⇑P P 00 24 58.3 +1.1
baz=81
Z26A Caprock 81.45 52 ⇓P P 00 24 58.0 +0.6
baz=81,SNR=64
Y27A Causey 81.48 51 ⇑P P 00 24 57.9 +0.4
baz=81,SNR=26
V30A Spur Ranch, Mi 81.48 48 ⇑P P 00 24 57.6 +0.1
baz=81
U31A Nine Bar Ranch 81.48 47 ⇓P P 00 24 57.7 +0.3
baz=81
125A Gardner Draw, 81.50 53 ⇓P P 00 24 58.5 +0.8
baz=81,SNR=25
S33A Kaszmaul Farm, 81.55 45 ⇓P P 00 24 57.8 +0.1
baz=81
X28A Dimmitt 81.56 50 ⇑P P 00 24 58.3 +0.4
baz=81
AMTX Amarillo 81.58 50 ⇓P P 00 24 58.5 +0.5
baz=81
MSTX Muleshoe 81.64 51 eP P 00 24 58.0 -0.4
MSTX Muleshoe 81.64 51 ⇑P P 00 24 58.4 0.0
baz=81,SNR=9.8
PAGF Fort de Pagny 81.71 334 ⇑iP P 00 24 59.1 +0.8
comp=Z,6.0nm,0.6s
PAGF Fort de Pagny 81.71 334 ⇑iP P 00 24 59.1 +0.8
comp=Z,6.0nm,0.6s
MNTX Cornudas Mount 81.77 54 eP P 00 24 59.0 +0.1
comp=Z,14nm,0.9s
225A Deer Hill, Car 81.80 53 ⇓P P 00 25 00.1 +0.7
baz=82,SNR=12
Z27A Tatum 81.86 52 ⇓P P 00 24 59.8 +0.3
baz=82,SNR=56
126A Clayton Basin, 81.88 53 ⇑P P 00 24 59.9 +0.2
baz=82,SNR=9.7
X29A Tulia 81.89 50 ⇓P P 00 25 00.1 +0.5
baz=82,SNR=11
324A Moseley Ranch, 81.89 54 ⇓P P 00 25 00.1 +0.3
baz=82,SNR=10
V31A Spring Creek L 81.93 48 ⇓P P 00 25 00.3 +0.5
baz=82,SNR=7.0
U32A Winter Ranch, 81.93 47 ⇓P P 00 24 59.9 +0.2
baz=82,SNR=7.1
MEZF Maizieres J'vi 81.97 334 eP P 00 25 01.1 +1.4
MEZF Maizieres J'vi 81.97 334 eP P 00 25 01.1 +1.4
HINF Hinteralfeld 81.98 333 eP P 00 25 00.5 +0.7
comp=Z,9.0nm,1.0s
HINF Hinteralfeld 81.98 333 eP P 00 25 00.5 +0.7
HINF pmax pmax
comp=Z,9.0nm,1.0s
HINF Hinteralfeld 81.98 333 eP P 00 25 00.5 +0.7
comp=Z,9.0nm,1.0s
Y28A McKinney Farm, 81.98 51 ⇑P P 00 25 00.3 +0.2
baz=82,SNR=5.1
HAU Haudompre 81.98 333 eP P 00 25 00.6 +0.8
comp=Z,11nm,0.8s
HAU eR
comp=Z,87nm,19.5s
HAU Haudompre 81.98 333 eP P 00 25 00.6 +0.8
HAU pmax pmax
comp=Z,11nm,0.8s
HAU Haudompre 81.98 333 eP P 00 25 00.6 +0.8
comp=Z,11nm,0.8s
226B Tecolote Peak, 82.21 53 ⇓P P 00 25 02.1 +0.7
baz=82,SNR=27
SFTF Sexfontaines 82.23 334 ⇑iP P 00 25 01.5 +0.4
comp=Z,11nm,0.7s
SFTF Sexfontaines 82.23 334 ⇑iP P 00 25 01.5 +0.4
comp=Z,11nm,0.7s
127A Arkansas Junct 82.25 52 ⇑P P 00 25 01.6 +0.1
baz=82
325A Bean Ranch, Si 82.25 54 ⇑P P 00 25 02.1 +0.4
baz=82,SNR=9.5
TUE Stuetta 82.27 331 eP P 00 25 02.2 +0.6
comp=Z,79nm,2.3s
W31A Holland Ranch, 82.31 48 ⇑P P 00 25 02.2 +0.5
baz=82,SNR=16
Y29A Porterfield Fa 82.34 50 ⇓P P 00 25 02.5 +0.5
baz=82,SNR=6.1
X30A Cider Ranch, T 82.35 49 ⇓P P 00 25 02.2 +0.2
baz=82,SNR=6.5
Z28A Tucker Farm, M 82.35 51 ⇑P P 00 25 02.3 +0.2
baz=82,SNR=13
U33A Lingo Farm, Me 82.36 46 ⇓P P 00 25 01.9 -0.1
baz=82
V32A Arapaho 82.40 47 ⇓P P 00 25 02.7 +0.5
baz=82
425A Indio Mountain 82.66 54 ⇓P P 00 25 04.4 +0.6
baz=82,SNR=7.1
U34A Anderson Ranch 82.67 46 ⇓P P 00 25 03.9 +0.3
baz=82,SNR=9.9
X31A McDonald Ranch 82.71 49 ⇓P P 00 25 04.2 +0.3
baz=82,SNR=19
V33A Lossen Ranch, 82.73 47 ⇑P P 00 25 04.1 +0.2
baz=82,SNR=9.9
Y30A Stafford Cattl 82.76 50 ⇑P P 00 25 04.5 +0.3
baz=82
Z29A Hungry Hill Ra 82.76 51 ⇑P P 00 25 04.7 +0.5
baz=82,SNR=43
227A Bennet, Jal 82.77 52 ⇑P P 00 25 04.8 +0.6
baz=82,SNR=6.0
128A Castleberry Fa 82.79 52 ⇓P P 00 25 04.9 +0.5
baz=82,SNR=27
326A Caldwell Ranch 82.87 53 ⇑P P 00 25 05.2 +0.4
baz=83,SNR=24
Y31A Rekieta Farm, 83.05 49 ⇑P P 00 25 05.8 +0.2
baz=83
Z30A Sanderson Ranc 83.07 50 ⇑P P 00 25 05.9 +0.2
baz=83,SNR=14
228A UT Block 9, Go 83.09 52 ⇑P P 00 25 06.5 +0.5
baz=83,SNR=11
V34A Guthrie 83.13 46 ⇑P P 00 25 06.3 +0.3
baz=83,SNR=15
129A Stewart Farms, 83.13 51 ⇑P P 00 25 06.3 +0.2
baz=83,SNR=7.8
W33A Caddo, Fort Co 83.14 47 ⇓P P 00 25 06.9 +0.8
baz=83,SNR=7.4
X32A Elmer 83.24 48 ⇑P P 00 25 06.7 +0.1
baz=83,SNR=18
WMOK Wichita Mounta 83.28 48 eP P 00 25 06.3 -0.5
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK Wichita Mounta 83.28 48 eP P 00 25 06.3 -0.5
comp=Z,16nm,1.0s
CABF La Chapelle 83.28 333 eP P 00 25 07.2 +0.5
CABF La Chapelle 83.28 333 eP P 00 25 07.2 +0.5
CABF La Chapelle 83.28 333 eP P 00 25 07.2 +0.5
426A McDonald Obser 83.31 54 ⇑P P 00 25 07.4 +0.2
baz=83,SNR=11
FLN La Foliniere 83.39 338 eP P 00 25 07.2 +0.2
FLN eR
comp=Z,80nm,18.5s
FLN La Foliniere 83.39 338 eP P 00 25 07.2 +0.2
FLN La Foliniere 83.39 338 eP P 00 25 07.2 +0.2
LOR Lormes 83.44 334 eP P 00 25 07.5 +0.2
LOR epP pP 00 25 27.6 -1.8
LOR eR
comp=Z,97nm,17.5s
LOR Lormes 83.44 334 eP P 00 25 07.5 +0.2
LOR epP pP 00 25 27.6 -1.8
LDF La Druitiere 83.44 337 eP P 00 25 07.6 +0.3
LDF La Druitiere 83.44 337 eP P 00 25 07.6 +0.3
LDF La Druitiere 83.44 337 eP P 00 25 07.6 +0.3
W34A Bridge Creek, 83.45 47 ⇓P P 00 25 08.2 +0.6
baz=83,SNR=8.9

Y32A R-V Farms, Ver 83.47 49 ⇓P P 00 25 07.7 0.0
baz=83,SNR=10.0
328A Wristen Ranch, 83.51 53 ⇓P P 00 25 08.6 +0.6
baz=83,SNR=33
427A Hayter Ranch, 83.55 53 ⇑P P 00 25 08.7 +0.4
baz=83,SNR=18
X33A Lawton 83.58 48 ⇑P P 00 25 08.3 0.0
baz=83,SNR=10
Z31A Sharp Cattle R 83.59 50 ⇑P P 00 25 08.5 0.0
baz=83,SNR=8.5
229A Bryant Ranch, 83.65 52 ⇑P P 00 25 09.3 +0.5
baz=83,SNR=8.0
130A Snyder 83.67 51 ⇑P P 00 25 09.0 +0.2
baz=83,SNR=6.5
526A Mary Lane Ranc 83.72 54 ⇑P P 00 25 09.9 +0.7
baz=84,SNR=31
SSF Saint Saulge 83.73 334 eP P 00 25 09.0 +0.2
SSF epP pP 00 25 28.4 -2.5
SSF Saint Saulge 83.73 334 eP P 00 25 09.0 +0.2
SSF Saint Saulge 83.73 334 eP P 00 25 09.0 +0.2
SSF epP pP 00 25 28.4 -2.5
GRR Gorron 83.83 338 eP P 00 25 10.0 +0.7
GRR Gorron 83.83 338 eP P 00 25 10.0 +0.7
GRR Gorron 83.83 338 eP P 00 25 10.0 +0.7
X34A Smith Ranch, M 83.90 47 ⇑P P 00 25 10.5 +0.6
baz=84,SNR=6.7
329A Wagon Wheel Ra 83.91 52 ⇑P P 00 25 10.7 +0.6
baz=84,SNR=26
Y33A Hilltop Ranch, 83.92 48 ⇑P P 00 25 10.0 0.0
baz=84,SNR=30
131A Roby 83.94 50 ⇑P P 00 25 10.5 +0.3
baz=84,SNR=6.7
527A Woodward Ranch 83.94 54 ⇓P P 00 25 10.7 +0.3
baz=84,SNR=14
Z32A Haskell 83.97 49 ⇑P P 00 25 10.5 +0.1
baz=84,SNR=10
TUL1 Tulsa 83.98 45 eP P 00 25 10.6 +0.3
TUL1 Tulsa 83.98 45 ⇑P P 00 25 10.5 +0.3
baz=84,SNR=20
SMF Signal de Mont 83.99 334 ⇑iP P 00 25 10.4 +0.2
comp=Z,28nm,1.0s
SMF Signal de Mont 83.99 334 ⇑iP P 00 25 10.4 +0.2
SMF pmax pmax
comp=Z,28nm,1.0s
SMF Signal de Mont 83.99 334 ⇑iP P 00 25 10.4 +0.2
comp=Z,28nm,1.0s
LPL La Plagne 84.02 332 ⇑iP P 00 25 11.5 +0.9
comp=Z,8.8nm,0.7s
LPL La Plagne 84.02 332 ⇑iP P 00 25 11.5 +0.9
LPL pmax pmax
comp=Z,9.0nm,0.7s
LPL La Plagne 84.02 332 ⇑iP P 00 25 11.5 +0.9
comp=Z,8.8nm,0.7s
AVF Avril sur Loir 84.02 334 eP P 00 25 10.8 +0.5
comp=Z,34nm,1.1s
AVF Avril sur Loir 84.02 334 eP P 00 25 10.8 +0.5
AVF pmax pmax
comp=Z,34nm,1.1s
AVF Avril sur Loir 84.02 334 eP P 00 25 10.8 +0.5
comp=Z,34nm,1.1s
LPG La Plagne 84.03 332 ⇑iP P 00 25 11.5 +0.8
comp=Z,19nm,1.0s
LPG La Plagne 84.03 332 ⇑iP P 00 25 11.5 +0.8
LPG pmax pmax
comp=Z,19nm,1.0s
LPG La Plagne 84.03 332 ⇑iP P 00 25 11.5 +0.8
comp=Z,19nm,1.0s
428A Kincaid Ranch, 84.06 53 ⇑P P 00 25 12.0 +1.1
baz=84,SNR=23
626A Big Bend Ranch 84.06 55 ⇑P P 00 25 11.3 +0.4
baz=84,SNR=20
230A Sterling City 84.11 51 ⇑P P 00 25 11.5 +0.4
baz=84,SNR=58
Z33A Whitaker Ranch 84.38 49 ⇓P P 00 25 12.4 0.0
baz=84,SNR=12
BGF Bois d'Agland 84.39 335 eP P 00 25 12.8 +0.6
BGF Bois d'Agland 84.39 335 eP P 00 25 12.8 +0.6
BGF Bois d'Agland 84.39 335 eP P 00 25 12.8 +0.6
ABTX Abilene, Hawle 84.39 50 eP P 00 25 12.7 +0.2
ABTX Abilene, Hawle 84.39 50 ⇑P P 00 25 12.8 +0.2
baz=84,SNR=9.3
SGMF Saint Gilles 84.42 339 eP P 00 25 13.0 +0.7
SGMF Saint Gilles 84.42 339 eP P 00 25 13.0 +0.7
SGMF Saint Gilles 84.42 339 eP P 00 25 13.0 +0.7
Y34A Reagan Ranch, 84.42 48 ⇓P P 00 25 12.8 +0.2
baz=84,SNR=17
330A Mertzon 84.43 52 ⇓P P 00 25 12.9 +0.2
baz=84,SNR=19
IDI Anoyia 84.47 314 eP P 00 25 12.0 -0.9
comp=Z,41nm,1.1s
AAM Ann Arbor 84.48 34 eP P 00 25 11.8 -0.9
AAM pmax pmax
comp=Z,55nm,1.4s
AAM Ann Arbor 84.48 34 eP P 00 25 11.8 -0.9
comp=Z,54nm,1.4s
TX31 Lajitas Ar. Si 84.50 55 eP P 00 25 13.8 +0.6
TXAR Lajitas Array 84.50 55 P P 00 25 13.6 +0.4
TXAR pP pP 00 25 34.9 -0.4
TXAR Lajitas Array 84.50 55 P P 00 25 13.6 +0.4
comp=Z,14nm,0.8s,baz=299,slow=3.9,SNR=150
TXAR pP pP 00 25 34.9 -0.4
comp=Z,10nm,0.8s,baz=298,slow=3.3,SNR=11
231A Bronte 84.53 51 ⇓P P 00 25 13.3 +0.1
baz=84,SNR=20
ROSF Rostrenen 84.53 339 eP P 00 25 13.2 +0.4
ROSF Rostrenen 84.53 339 eP P 00 25 13.2 +0.4
ROSF Rostrenen 84.53 339 eP P 00 25 13.2 +0.4
627A Terlingua Ranc 84.58 54 ⇑P P 00 25 14.1 +0.5
baz=84,SNR=14
PMOR Pomariorio Ree 84.58 116 eT T 01 57 14.6
comp=Z,104nm,0.3s
429A Davenport Ranc 84.59 53 ⇑P P 00 25 13.6 +0.1
baz=84,SNR=6.8
MBDF Montbardon 84.69 331 eP P 00 25 14.5 +0.6
comp=Z,7.9nm,0.6s
MBDF Montbardon 84.69 331 eP P 00 25 14.5 +0.6
MBDF pmax pmax
comp=Z,8.0nm,0.6s
MBDF Montbardon 84.69 331 eP P 00 25 14.5 +0.6
comp=Z,7.9nm,0.6s
529A Stev Forest Ra 84.77 53 ⇓P P 00 25 15.0 +0.5
baz=84,SNR=23
Z34A Collier Ranch, 84.78 48 ⇑P P 00 25 14.4 0.0
baz=84,SNR=23
133A Hamilton Ranch 84.81 49 ⇑P P 00 25 14.7 +0.1
baz=84,SNR=16
TCF Toulx Ste Croi 84.83 335 ⇑iP P 00 25 15.1 +0.7
TCF Toulx Ste Croi 84.83 335 ⇑iP P 00 25 15.1 +0.7
TCF Toulx Ste Croi 84.83 335 ⇑iP P 00 25 15.1 +0.7
ORIF Oris-en-Rattie 84.83 332 eP P 00 25 14.9 +0.3
comp=Z,23nm,1.0s
ORIF eR
comp=Z,85nm,21.2s
ORIF Oris-en-Rattie 84.83 332 eP P 00 25 14.9 +0.3
ORIF pmax pmax
comp=Z,23nm,1.0s
ORIF Oris-en-Rattie 84.83 332 eP P 00 25 14.9 +0.3
comp=Z,23nm,1.0s
628A Black Gap, Mar 84.85 54 ⇑P P 00 25 15.1 +0.3
baz=85,SNR=8.8
430A Baggett Ranch, 84.86 52 ⇓P P 00 25 15.0 +0.1
baz=85,SNR=14
331A San Angelo 84.93 51 ⇓P P 00 25 15.3 +0.1
baz=85,SNR=15
232A Coleman 84.94 50 ⇓P P 00 25 15.5 +0.3
baz=85,SNR=43
Z35A Perchaven, San 85.17 48 ⇑P P 00 25 16.2 -0.2
baz=85,SNR=11
SBF Sospel 85.21 330 eP P 00 25 17.1 +0.7
SBF Sospel 85.21 330 eP P 00 25 17.1 +0.7
SBF Sospel 85.21 330 eP P 00 25 17.1 +0.7
MFF Saint Martin d 85.25 336 eP P 00 25 16.9 +0.4
MFF Saint Martin d 85.25 336 eP P 00 25 16.9 +0.4
MFF Saint Martin d 85.25 336 eP P 00 25 16.9 +0.4
233A Rising Star 85.26 50 ⇓P P 00 25 17.1 +0.3
baz=85
332A Millersview 85.26 51 ⇓P P 00 25 17.4 +0.5
baz=85,SNR=32
530A J-C Ranch, Com 85.27 53 ⇓P P 00 25 17.5 +0.6
baz=85,SNR=14
431A Sonora 85.29 52 ⇑P P 00 25 17.1 +0.1
baz=85,SNR=14
134A White-Moore Ra 85.30 49 ⇓P P 00 25 17.2 +0.2
baz=85,SNR=6.2
VIVF Saint-Julien-l 85.30 333 eP P 00 25 17.6 +0.8

	comp=Z,13nm,0.8s								
VIVF	**Saint-Julien-I**	**85.30**	**333**	*e*P		**P**		**00 25 17.6**	**+0.8**
VIVF				pmax		pmax			
	comp=Z,13nm,0.8s								
VIVF	**Saint-Julien-I**	**85.30**	**333**	*e*P		**P**		**00 25 17.6**	**+0.8**
	comp=Z,13nm,0.8s								
PPT2	**Papeete2**	**85.39**	**119**	*e*LR		LR		00 52 06.5	
	comp=Z,544nm,32.2s								
PPT2	**Papeete2**	**85.39**	**119**	*e*T		T		01 58 17.2	
	comp=Z,7.0nm,0.3s								
PAE	**Paea**	**85.45**	**119**	*e*T		T		01 58 20.3	
	comp=Z,1.7nm,0.3s								
TIAR	**Tiarei**	**85.52**	**119**	*e*T		T		01 58 25.8	
	comp=Z,3.7nm,0.3s								
432A	**Menard**	**85.61**	**51**	⇓P		**P**		**00 25 18.8**	**+0.1**
	baz=85,SNR=13								
135A	**Vickery Place,**	**85.68**	**48**	⇓P		**P**		**00 25 19.1**	**+0.3**
	baz=85,SNR=6.2								
234A	**Clairette**	**85.69**	**49**	⇑P		**P**		**00 25 19.3**	**+0.3**
	baz=85								
531A	**Rocksprings**	**85.72**	**52**	⇑P		**P**		**00 25 19.3**	**+0.1**
	baz=86,SNR=12								
333A	**Richland Sprin**	**85.73**	**50**	⇑P		**P**		**00 25 19.6**	**+0.4**
	baz=86,SNR=21								
FRF	**La Foret Royal**	**85.75**	**331**	*e*P		**P**		**00 25 19.4**	**+0.4**
FRF	**La Foret Royal**	**85.75**	**331**	*e*P		**P**		**00 25 19.4**	**+0.4**
FRF	**La Foret Royal**	**85.75**	**331**	*e*P		**P**		**00 25 19.4**	**+0.4**
PGF	**Pioggiola**	**85.76**	**329**	*e*P		**P**		**00 25 19.8**	**+0.6**
PGF	**Pioggiola**	**85.76**	**329**	*e*P		**P**		**00 25 19.8**	**+0.6**
PGF	**Pioggiola**	**85.76**	**329**	*e*P		**P**		**00 25 19.8**	**+0.6**
SMRF	**Simiane la Rot**	**85.77**	**332**	*e*P		**P**		**00 25 20.0**	**+0.8**
SMRF	**Simiane la Rot**	**85.77**	**332**	*e*P		**P**		**00 25 20.0**	**+0.8**
SIUC	**Southern Illin**	**85.81**	**40**	*e*P		**P**		**00 25 19.2**	**-0.1**
	comp=Z,49nm,0.8s								
JCT	**Junction City**	**85.91**	**51**	*e*P		**P**		**00 25 19.9**	**-0.2**
JCT				pmax		pmax			
	comp=Z,18nm,0.8s								
JCT	**Junction City**	**85.91**	**51**	*e*P		**P**		**00 25 19.9**	**-0.2**
	comp=Z,18nm,0.8s								
JCT	**Junction City**	**85.91**	**51**	⇓P		**P**		**00 25 20.3**	**+0.2**
	baz=86								
RJF	**Les Rejaudoux**	**85.92**	**335**	*e*P		**P**		**00 25 19.9**	**0.0**
RJF				*e*R					
	comp=Z,104nm,18.2s								
RJF	**Les Rejaudoux**	**85.92**	**335**	*e*P		**P**		**00 25 19.9**	**0.0**
RJF	**Les Rejaudoux**	**85.92**	**335**	*e*P		**P**		**00 25 19.9**	**0.0**
LMR	**La Mourre**	**86.00**	**331**	*e*P		**P**		**00 25 20.7**	**+0.5**
	comp=Z,46nm,1.0s								
LMR	**La Mourre**	**86.00**	**331**	*e*P		**P**		**00 25 20.7**	**+0.5**
LMR				pmax		pmax			
	comp=Z,46nm,1.0s								
LMR	**La Mourre**	**86.00**	**331**	*e*P		**P**		**00 25 20.7**	**+0.5**
	comp=Z,46nm,1.0s								
WHTX	**Lake Whitney**	**86.08**	**49**	*e*P		**P**		**00 25 20.4**	**-0.5**
WHTX	**Lake Whitney**	**86.08**	**49**	⇑P		**P**		**00 25 20.9**	**+0.1**
	baz=86,SNR=9.6								
CAF	**Calviac**	**86.09**	**334**	*e*P		**P**		**00 25 21.3**	**+0.6**
	comp=Z,32nm,1.2s								
CAF	**Calviac**	**86.09**	**334**	*e*P		**P**		**00 25 21.3**	**+0.6**
CAF				pmax		pmax			
	comp=Z,32nm,1.2s								
CAF	**Calviac**	**86.09**	**334**	*e*P		**P**		**00 25 21.3**	**+0.6**
	comp=Z,32nm,1.2s								
433A	**Art**	**86.10**	**51**	⇑P		**P**		**00 25 20.9**	**-0.1**
	baz=86,SNR=8.5								
532A	**Rocksprings**	**86.11**	**52**	⇓P		**P**		**00 25 21.0**	**-0.1**
	baz=86,SNR=12								
334A	**Lometa**	**86.15**	**50**	⇑P		**P**		**00 25 21.4**	**+0.1**
	baz=86,SNR=14								
MIAR	**Mount Ida**	**86.18**	**45**	*e*P		**P**		**00 25 20.8**	**-0.5**
MIAR				pmax		pmax			
	comp=Z,29nm,0.8s								
MIAR	**Mount Ida**	**86.18**	**45**	*e*P		**P**		**00 25 20.8**	**-0.5**
	comp=Z,29nm,0.8s								
631A	**Perdido Creek**	**86.26**	**53**	⇓P		**P**		**00 25 21.6**	**-0.2**
	baz=86,SNR=19								
LASF	**Ste Croix**	**86.26**	**333**	*e*P		**P**		**00 25 22.3**	**+0.7**
LASF	**Ste Croix**	**86.26**	**333**	*e*P		**P**		**00 25 22.3**	**+0.7**
ACSO	**Alum Creek Sta**	**86.49**	**34**	*e*P		**P**		**00 25 21.9**	**-0.8**
	comp=Z,22nm,1.0s								
434A	**Burnet**	**86.52**	**50**	⇓P		**P**		**00 25 22.7**	**-0.4**
	baz=86,SNR=8.3								
MEH	**Mehetia**	**86.57**	**118**	*e*T		T		01 59 44.5	
	comp=Z,22nm,0.3s								
335A	**Moody**	**86.64**	**49**	⇓P		**P**		**00 25 23.3**	**-0.3**
	baz=86								
632A	**Uvalde**	**86.64**	**52**	⇑P		**P**		**00 25 23.9**	**+0.2**
	baz=86,SNR=6.9								
533A	**Kerrville**	**86.65**	**51**	⇓P		**P**		**00 25 23.7**	**0.0**
	baz=86,SNR=9.2								
WCI	**Wyandotte Cave**	**86.73**	**38**	*e*P		**P**		**00 25 23.0**	**-1.0**
WCI				pmax		pmax			
	comp=Z,28nm,1.3s								
WCI	**Wyandotte Cave**	**86.73**	**38**	*e*P		**P**		**00 25 23.0**	**-1.0**
	comp=Z,28nm,1.3s								
534A	**Blanco**	**87.00**	**51**	⇓P		**P**		**00 25 25.4**	**0.0**
	baz=87,SNR=11								
633A	**Saathoff Ranch**	**87.03**	**52**	⇑P		**P**		**00 25 26.0**	**+0.5**
	baz=87								
732A	**Laxson Ranch,**	**87.12**	**53**	⇑P		**P**		**00 25 26.1**	**+0.1**
	baz=87								
832A	**Faith Ranch, C**	**87.45**	**53**	⇑P		**P**		**00 25 27.7**	**+0.1**
	baz=87								
MTLF	**Montolieu**	**87.46**	**334**	*e*P		**P**		**00 25 28.8**	**+1.4**
	comp=Z,12nm,0.9s								
MTLF	**Montolieu**	**87.46**	**334**	*e*P		**P**		**00 25 28.8**	**+1.4**
MTLF				pmax		pmax			
	comp=Z,12nm,0.9s								
MTLF	**Montolieu**	**87.46**	**334**	*e*P		**P**		**00 25 28.8**	**+1.4**
	comp=Z,12nm,0.9s								
733A	**Divot King Ran**	**87.52**	**52**	⇑P		**P**		**00 25 28.0**	**+0.1**
	baz=87								
WVT	**Waverly**	**87.74**	**40**	*e*P		**P**		**00 25 27.9**	**-1.0**
WVT				pmax		pmax			
	comp=Z,17nm,0.7s								
WVT	**Waverly**	**87.74**	**40**	*e*P		**P**		**00 25 27.9**	**-1.0**
	comp=Z,17nm,0.7s								
EPF	**Esparros**	**88.34**	**335**	*e*P		**P**		**00 25 32.5**	**+0.9**
	comp=Z,5.0nm,0.7s								
EPF	**Esparros**	**88.34**	**335**	*e*P		**P**		**00 25 32.5**	**+0.9**
EPF				pmax		pmax			
	comp=Z,5.0nm,0.7s								
EPF	**Esparros**	**88.34**	**335**	*e*P		**P**		**00 25 32.5**	**+0.9**
	comp=Z,5.0nm,0.7s								
ETSF	**Etsaut**	**88.74**	**335**	*e*P		**P**		**00 25 33.9**	**+0.4**
ETSF	**Etsaut**	**88.74**	**335**	*e*P		**P**		**00 25 33.9**	**+0.4**
ETSF	**Etsaut**	**88.74**	**335**	*e*P		**P**		**00 25 33.9**	**+0.4**
SJPF	**Ste Jean**	**88.74**	**336**	*e*P		**P**		**00 25 34.3**	**+0.8**
SJPF	**Ste Jean**	**88.74**	**336**	*e*P		**P**		**00 25 34.3**	**+0.8**
SJPF	**Ste Jean**	**88.74**	**336**	*e*P		**P**		**00 25 34.3**	**+0.8**
TZTN	**Tazewell**	**89.34**	**37**	*e*P		**P**		**00 25 36.7**	**+0.3**
	comp=Z,13nm,0.6s								
SWET	**Sewanee**	**89.37**	**39**	*e*P		**P**		**00 25 36.6**	**0.0**
	comp=Z,18nm,0.8s								
TBI	**Tubuai**	**89.73**	**123**	*e*LR		LR		00 53 52.7	
	comp=Z,186nm,31.5s								
TBI	**Tubuai**	**89.73**	**123**	*e*T		T		02 03 42.7	
	comp=Z,20nm,0.3s								
CPCT	**Cooper Cave**	**89.82**	**38**	*e*P		**P**		**00 25 38.9**	**+0.2**
TKL	**Tuckaleechee C**	**89.98**	**37**	*e*P		**P**		**00 25 39.8**	**+0.3**
TKL				pP		**pP**		**00 26 02.1**	**+0.3**
TKL	**Tuckaleechee C**	**89.98**	**37**	P		**P**		**00 25 39.6**	**+0.2**
	comp=Z,17nm,0.7s,baz=201,slow=1.9,SNR=16								
TKL				pP		**pP**		**00 26 02.1**	**+0.3**
	comp=Z,10.0nm,0.7s,baz=180,slow=0.4,SNR=5.2								
ESDC	**Sonseca Array**	**92.72**	**336**	P		**P**		**00 25 52.3**	**+0.2**
ESDC				pP		**pP**		**00 26 13.4**	**-1.1**
ESDC	**Sonseca Array**	**92.72**	**336**	P		**P**		**00 25 52.3**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=13,slow=4.3,SNR=6.7								
ESDC				pP		**pP**		**00 26 13.4**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=11,slow=4.3,SNR=4.2								
RKT	**Rikitea**	**98.91**	**113**	*e*LR		LR		00 58 30.4	
	comp=Z,212nm,31.2s								
TORD	**Torodi Ar. Bea**	**114.43**	**320**	PKP		PKPdf		00 31 20.0	+0.2
TORD				PKKPbc		**PKKPbc**		**00 41 59.6**	**+2.3**
TORD	**Torodi Ar. Bea**	**114.43**	**320**	PKP		PKPdf		00 31 20.0	+0.2
	comp=Z,0.4nm,0.4s,baz=28,slow=2.2,SNR=7.9								
TORD				PKKPbc		**PKKPbc**		**00 41 59.6**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=215,slow=2.1,SNR=6.0								
BOSA	**Boshof**	**129.77**	**266**	PKP		**PKPdf**		**00 31 48.8**	**-0.1**
BOSA	**Boshof**	**129.77**	**266**	PKP		**PKPdf**		**00 31 48.8**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=255,slow=1.9,SNR=3.0								
SAML	**Samuel**	**138.13**	**44**	*e*PKPdf		**PKPdf**		**00 32 05.4**	**+0.5**
LPAZ	**La Paz**	**141.35**	**56**	*e*PKPpre		PKPpre		00 32 03.7	
LPAZ				PKP		**PKPdf**		**00 32 10.9**	**-0.5**
LPAZ	**La Paz**	**141.35**	**56**	PKP		**PKPdf**		**00 32 10.9**	**-0.5**

	comp=Z,1.6nm,0.6s,baz=0.4,slow=2.9,SNR=7.3								
H03N2	**Juan Fernandez**	**144.85**	**89**	T		T		03 13 48.3	
	baz=298,slow=75,SNR=2.7								
H03N3	**Juan Fernandez**	**144.86**	**89**	T		T		03 13 46.3	
	baz=298,slow=75,SNR=3.2								
H03N1	**Juan Fernandez**	**144.86**	**89**	T		T		03 13 37.0	
	baz=298,slow=75,SNR=4.4								
LVC	**Limon Verde**	**145.52**	**64**	*e*PKPdf		**PKPab**		**00 32 19.7**	**+1.0**
SNAA	**Sanae**	**147.37**	**198**	*e*PKPdf		**PKPbc**		**00 32 22.3**	**+0.2**
LCO	**Las Campanas**	**148.43**	**75**	*e*PKPdf		**PKPdf**		**00 32 24.5**	**+1.7**
LCO				*e*PKPbc		**PKiKP**		**00 32 27.3**	**-0.7**
BDFB	**Brasilia**	**150.49**	**25**	*e*PKPbc		**PKPbc**		**00 32 32.0**	**+0.3**
BDFB				*e*PKPab		**PKPab**		**00 32 37.4**	**-1.0**
BDFB	**Brasilia**	**150.49**	**25**	PKPbc		**PKPbc**		**00 32 31.5**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=176,slow=6.6,SNR=7.7								
BDFB				PKPab		**PKPab**		**00 32 37.4**	**-1.0**
	comp=Z,7.2nm,0.8s,baz=237,slow=2.9,SNR=8.8								
CPUP	**Villa Florida**	**155.47**	**54**	PKPbc		PKPdf		00 32 42.5	+9.5
CPUP				*e*pPKPdf		**PKPab**		**00 32 59.1**	**0.0**
CPUP	**Villa Florida**	**155.47**	**54**	PKPbc		PKPdf		00 32 42.5	+9.5
	comp=Z,1.0nm,0.5s,baz=190,slow=1.4,SNR=4.3								
CPUP				PKPab		**PKPab**		**00 32 59.2**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=316,slow=3.5,SNR=7.3								

IDC ***28*** *00:25:25.0±10.0, 25.˚54S×179.˚73E, h483km±109km, mb3.1/3, mb1 3.4/4, mb1mx3.4/4, mbtmp4.2/4, Error ellipse: s-maj=92.9km s-min=37.3km az=25.0*

ISC 28 00:25:27.5±3.0, 25.˚7S±0.˚2×179.˚6E±0.˚4, h507km, n7, σ0s84/6, mb3.8/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.68**	**189**	P	**P**	**00 28 13.5**	**+0.5**
	2.0nm,0.3s,baz=70,slow=1.4,SNR=18						
URZ				S	**S**	**00 30 28.6**	**-0.8**
	0.2nm,0.3s,baz=53,slow=20,SNR=3.5						
STKA	**Stephens Creek**	**33.77**	**251**	P	**P**	**00 31 27.4**	**+0.7**
	0.5nm,0.4s,baz=82,slow=7.1,SNR=4.3						
ASAR	**Alice Springs**	**41.45**	**263**	P	**P**	**00 32 29.6**	**-0.1**
	2.9nm,0.8s,baz=104,slow=8.4,SNR=26						
WRA	**Warramunga Arr**	**41.99**	**268**	P	**P**	**00 32 33.2**	**-0.8**
	3.9nm,0.9s,baz=104,slow=8.1,SNR=11						
NB2	**NORSAR Subarra**	**143.83**	**350**	PKP	PKPbc	00 44 02.1	-1.0
	comp=Z,1.1nm,0.6s,baz=15,slow=3.3						
NOA	**NORSAR Array B**	**143.83**	**350**	PKP	PKPbc	00 44 02.4	-0.7
	comp=Z,1.0nm,0.8s,baz=19,slow=2.5,SNR=6.3						
BRTR	**Keskin Array B**	**148.38**	**305**	PKPbc	**PKPbc**	**00 44 16.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=110,slow=3.4,SNR=3.3						

IDC ***28*** *00:55:00.2±1.0, 2.˚12N×121.˚64E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.8/8, mbtmp3.6/8, MS3.3/3, Ms1 3.4/3, ms1mx2.9/33, Error ellipse: s-maj=125.9km s-min=16.3km az=63.0*

DJA ***28*** *00:55:02.7±0.7, 2.˚1N±5.˚1×12.˚2E±˚, h10km, M4.2/5, MLv4.2/5*

ISCJB ***28*** *00:55:03.3±0.7, 2.˚14N±0.˚07×121.˚6E±0.˚1, h33km, mb3.5/7, MS3.2/3, Error ellipse: s-maj=21.7km s-min=7.2km az=159.6*

ISC 28 00:55:05.7±0.9, 2.˚03N±0.˚09×121.˚5E±0.˚1, h35km, n15, σ0s70/14, mb3.6/7, MS2.8/3, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOLI	**Toli-Toli**	**1.14**	**218**	P	**Pn**	**00 55 24.8**	**-0.4**
MRSI	**Marisa**	**1.61**	**164**	P	**Pn**	**00 55 30.9**	**-0.7**
MRSI				S	**Sn**	**00 55 51.6**	**+0.5**
APSI	**Ampana**	**2.93**	**177**	P	**Pn**	**00 55 50.6**	**+0.8**
LUWI	**Luwuk**	**3.31**	**157**	P	**Pn**	**00 55 55.2**	**+0.2**
MYLDM	**Lahad Datu**	**4.32**	**316**	P	**Pn**	**00 56 09.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.42**	**169**	P	**P**	**00 59 39.1**	**-0.9**
	2.7nm,0.6s,baz=357,slow=8.7,SNR=13						
FITZ				LR	LR	01 09 51.0	
	comp=Z,36nm,19.0s,baz=11,slow=44						
WRA	**Warramunga Arr**	**25.22**	**151**	P	**P**	**01 00 27.3**	**-1.1**
	2.0nm,0.8s,baz=327,slow=10,SNR=8.9						
CMAR	**Chiang Mai Arr**	**27.48**	**308**	LR	LR	01 10 48.5	
	comp=Z,18nm,18.2s,baz=130,slow=34						
ASAR	**Alice Springs**	**28.26**	**155**	P	**P**	**01 00 55.7**	**-0.1**
	0.5nm,0.8s,baz=334,slow=11,SNR=6.4						
STKA	**Stephens Creek**	**38.75**	**152**	P	**P**	**01 02 27.5**	**+0.7**
	1.0nm,0.8s,baz=284,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**56.10**	**328**	P	**P**	**01 04 41.9**	**+0.3**
	0.2nm,0.4s,baz=126,slow=8.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**59.85**	**336**	P	**P**	**01 05 06.9**	**-0.8**
	0.3nm,0.2s,baz=134,slow=6.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**60.46**	**330**	P	**P**	**01 05 11.6**	**-0.2**
	0.1nm,0.5s,baz=128,slow=6.5,SNR=4.0						
BRTR	**Keskin Array B**	**87.06**	**309**	P	**P**	**01 07 48.8**	**+0.6**
	0.3nm,0.8s,baz=117,slow=6.0,SNR=3.0						
NOA	**NORSAR Array B**	**97.92**	**333**	LR	LR	01 56 32.8	
	comp=Z,76nm,19.1s,baz=265,slow=38						

IDC 28 00:55:10.9±1.0, 2.˚08N×121.˚65E, h0km, mb3.9/8, mb1 4.0/8, mb1mx4.0/8, mbtmp3.9/8, Error ellipse: s-maj=129.3km s-min=15.9km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.44**	**169**	P	P	00 59 49.4	-0.6
	7.6nm,0.8s,baz=12,slow=6.4,SNR=16						
WRA	**Warramunga Arr**	**25.18**	**151**	P	P	01 00 38.0	-0.3
	6.4nm,0.8s,baz=330,slow=10.0,SNR=18						
ASAR	**Alice Springs**	**28.24**	**156**	P	P	01 01 05.7	-0.2
	0.7nm,0.6s,baz=342,slow=14,SNR=22						
STKA	**Stephens Creek**	**38.72**	**152**	P	P	01 02 37.7	+0.8
	1.2nm,0.4s,baz=332,slow=9.5,SNR=6.6						
MKAR	**Makanchi Array**	**56.14**	**328**	P	P	01 04 52.7	+0.3
	0.5nm,0.5s,baz=125,slow=8.3,SNR=11						
ZALV	**Zalesovo Beam**	**59.87**	**336**	P	P	01 05 17.7	-0.6
	0.7nm,0.6s,baz=126,slow=7.7,SNR=3.9						
KURBB	**Kurchatov Arra**	**60.49**	**330**	P	P	01 05 22.4	-0.3
	0.2nm,0.5s,baz=142,slow=6.7,SNR=4.9						
BRTR	**Keskin Array B**	**87.15**	**309**	P	P	01 07 59.8	+0.4
	0.6nm,0.8s,baz=116,slow=8.4,SNR=4.6						

LDG ***28*** *00:57:14.9±0.2, 21.˚18S×70.˚27W, h10km, Mb5.2/12, Ms4.4/11, Error ellipse: s-maj=15.6km s-min=6.8km az=1.0*

GUC ***28*** *00:57:16.2±0.7, 22.˚47S×70.˚31W, h38km±2km, ML5.5, MS4.4*

NEIC ***28*** *00:57:16.4±0.7, 22.˚50S×70.˚13W, h34km±5km, mb5.4/162, MW5.2, ML5.5(GUC), Error ellipse: s-maj=5.0km s-min=3.0km az=80.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^16 Nm; Mrr=6.36; Mθθ=1.76; Mφφ=4.60; Mrθ=0.57; Mrφ=2.72; Mθφ=-3.25; Best double couple: M=7.10000×10^16 NP1:φs=158.00000°, δ=59.00000°, λ=100.00000°. NP2:φs=320.00000°, δ=33.00000°, λ=75.00000°. Principal axes: T 7.2500, Plg74.0000°, Azm94.0000°; N -0.2900, Plg8.0000°, Azm333.0000°; P -6.9700, Plg13.0000°, Azm241.0000°;*

NEIC Felt [IV] at Maria Elena, [III] at Tocopilla and [II] at Calama and Mejillones.

IDC ***28*** *00:57:16.7±0.3, 22.˚43S×70.˚17W, h31km±2km, mb4.9/21, mb1 4.9/24, mb1mx4.9/24, mbtmp5.0/24, ML4.1/3, MS4.4/19, Ms1 4.4/19, ms1mx4.3/25 Error ellipse: s-maj=13.4km s-min=9.1km az=72.0*

MOS ***28*** *00:57:16.2±1.0, 22.˚14S×70.˚06W, h33km, mb5.5/57, Error ellipse: s-maj=11.0km s-min=6.1km az=110.7*

ISCJB ***28*** *00:57:16.7±0.4, 22.˚45S±0.˚02×70.˚20W±0.˚03, h47km±3km, mb5.3/185, MS4.5/18, Error ellipse: s-maj=4.8km s-min=3.6km az=172.6*

GCMT ***28*** *00:57:20.6±0.2, 22.˚59S×70.˚70W, h43km±1km, MW5.2, Moment Tensor Solution. s69,c90; s4,c4; Moment tensor: Scale 10^16 Nm; Mrr=6.22±.22; Mθθ=1.04±.16; Mφφ=-7.26±.19; Mrθ=1.97±.16; Mrφ=1.33±.13; Mθφ=-5.52±.24; Best double couple: M=9.00000×10^16 NP1:φs=163.00000°, δ=65.00000°, λ=82.00000°. NP2:φs=1.00000°, δ=26.00000°, λ=106.00000°. Principal axes: T 8.4700, Plg69.0000°, Azm58.0000°; N 1.1100, Plg7.0000°, Azm166.0000°; P -9.5800, Plg20.0000°, Azm259.0000°; Data Used: II IU G CN IC CU. Surface waves: sta= 77, comp=120, per= 50.*

BJI ***28*** *00:57:21.2, 22.˚30S×70.˚00W, h53km, mB5.3/30, Ms5.6/19, Ms7 5.2/22*

ISC 28 00:57:16.5±0.3, 22.˚49S±0.˚03×70.˚26W±0.˚04, h33km±1km, h33km:pP-P,n1047, σ1s07/1093, mb5.4/184, MS4.4/18, 257C-207D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MACH	**Maria Elena**	**0.55**	**58**	*e*P	**Pb**	**00 57 27.9**	**-0.1**
MACH				*e*S	**Sn**	**00 57 36.9**	**+0.5**
MACH	**Maria Elena**	**0.55**	**58**	*e*P	**Pb**	**00 57 27.9**	**-0.1**
MACH				*e*S	**Sn**	**00 57 36.9**	**+0.5**
PB06	**Plate Boundary**	**0.67**	**109**	*e*P	**Pb**	**00 57 30.3**	**+0.3**
PB06				*i* S	**Sb**	**00 57 40.3**	**+1.1**
PB06				AML	AML	00 57 40.8	
	comp=E,106μm,0.4s						
PB06	**Plate Boundary**	**0.67**	**109**	*e*P	**Pb**	**00 57 30.3**	**+0.3**
PB06				*i* S	**Sb**	**00 57 40.3**	**+1.1**
PB04	**Plate Boundary**	**0.75**	**73**	⇓*i*P	Pn	00 57 23.6	-7.1
PB04				*i* S	Sn	00 57 28.6	-12
PB04				AML	AML	00 57 29.3	
	comp=E,1230μm,0.4s						
PB07	**Plate Boundary**	**0.83**	**25**	⇓*i*P	**Pn**	**00 57 32.1**	**+0.1**
PB07				*i* S	**Sn**	**00 57 43.3**	**0.0**
PB07				AML	AML	00 57 48.2	
	comp=E,181μm,0.4s						
PB07	**Plate Boundary**	**0.83**	**25**	⇓*i*P	**Pn**	**00 57 32.1**	**+0.1**
PB07				*i* S	**Sn**	**00 57 43.3**	**0.0**
PB10	**Plate Boundary**	**1.05**	**195**	⇑*i*P	**Pn**	**00 57 35.0**	**0.0**
PB10				*e*S	**Sb**	**00 57 49.4**	**-0.4**
PB10				AML	AML	00 57 53.8	
	comp=N,275μm,0.8s						
PB09	**Plate Boundary**	**1.17**	**54**	*e*P	**Pb**	**00 57 37.8**	**-0.5**
PB09				*e*S	**Sb**	**00 57 53.8**	**+0.5**
PB09				AML	AML	00 57 59.7	
	comp=E,236μm,0.6s						
PB09	**Plate Boundary**	**1.17**	**54**	*e*P	**Pb**	**00 57 37.8**	**-0.5**
PB09				*e*S	**Sb**	**00 57 53.8**	**+0.5**
ANCH	**Antofagasta**	**1.20**	**187**	*e*P	**Pn**	**00 57 37.0**	**+0.1**
ANCH				*e*S	**Sb**	**00 57 53.3**	**-0.5**
ANCH				AML	AML	00 57 55.9	
	comp=E,43μm,0.5s						
ANCH	**Antofagasta**	**1.20**	**187**	*e*P	**Pn**	**00 57 37.0**	**+0.1**
ANCH				*e*S	**Sb**	**00 57 53.3**	**-0.5**
LVC	**Limon Verde**	**1.25**	**96**	*e*Pn	**Pb**	**00 57 40.0**	**+1.2**
PB01	**Plate Boundary**	**1.61**	**27**	⇓*e*P	**Pn**	**00 57 43.6**	**+1.0**
PB01				*e*S	**Sb**	**00 58 04.8**	**-0.9**
PB01	**Plate Boundary**	**1.61**	**27**	⇓*e*P	**Pn**	**00 57 43.6**	**+1.0**
PB01				*e*S	**Sb**	**00 58 04.8**	**-0.9**
PATCX	**Punta Patache**	**1.66**	**4**	⇑*e*P	**Pn**	**00 57 43.6**	**+0.2**
PATCX				*e*S	**Sn**	**00 58 03.9**	**+0.3**
PATCX				AML	AML	00 58 13.5	
	comp=N,61μm,0.7s						
HMBC	**Humberstone**	**2.23**	**9**	⇑*e*P	**Pn**	**00 57 51.2**	**0.0**
HMBC				*e*S	**Sn**	**00 58 18.6**	**+0.9**
HMBC				AML	AML	00 58 35.5	
	comp=N,55μm,0.5s						
HMBC	**Humberstone**	**2.23**	**9**	⇑*e*P	**Pn**	**00 57 51.2**	**0.0**
HMBC				*e*S	**Sn**	**00 58 18.6**	**+0.9**
PB11	**Plate Boundary**	**2.77**	**12**	⇑*e*P	**Pn**	**00 57 59.0**	**+0.3**
PB11	**Plate Boundary**	**2.77**	**12**	P	**Pn**	**00 57 59.0**	**+0.3**
PSGC	**Pisagua**	**2.88**	**3**	⇑*e*P	**Pn**	**00 57 59.9**	**-0.3**
PSGC				AML	AML	00 58 47.9	
	comp=E,22μm,0.5s						
PSGC	**Pisagua**	**2.88**	**3**	P	**Pn**	**00 57 59.9**	**-0.3**
MNMC	**Minimini**	**3.40**	**11**	⇑*e*P	**Pn**	**00 58 08.0**	**+0.5**
MNMC				AML	AML	00 59 12.2	
	comp=E,32μm,0.6s						
MNMC	**Minimini**	**3.40**	**11**	P	**Pn**	**00 58 08.0**	**+0.5**
CDCH	**Caldera**	**4.59**	**186**	*e*P	**Pn**	**00 58 21.2**	**-2.3**
CDCH	**Caldera**	**4.59**	**186**	P	**Pn**	**00 58 21.2**	**-2.3**
CPCH	**Copiapo**	**4.85**	**181**	*e*P	**Pn**	**00 58 24.8**	**-2.4**
CPCH	**

comp=Z,239nm,19.0s,baz=349,slow=38
TGUH Tegucigalpa,Un 39.96 334 *e*P P 01 04 47.6 -0.4
comp=Z,39nm,0.8s
CRPR Cabo Rojo, PR 40.37 5 *e*P P 01 04 50.1 -1.1
comp=Z,102nm,1.1s
CELP Cerrillos 40.48 5 *e*P P 01 04 50.0 -2.2
CPD Cerro la Pandu 40.50 6 *e*P P 01 04 49.9 -2.5
CPD pmax pmax
comp=Z,46nm,1.0s
CPD Cerro la Pandu 40.50 6 *e*P P 01 04 49.9 -2.5
comp=Z,46nm,1.0s
LSP Las Mesas 40.53 5 *e*P P 01 04 50.7 -2.1
MTP Monte Pirata 40.60 7 *e*P P 01 04 50.8 -2.4
comp=Z,77nm,1.2s
HUMP Col San Antoni 40.61 6 *e*P P 01 04 51.0 -2.3
comp=Z,44nm,1.1s
AOPR Arecibo Observ 40.73 5 *e*P P 01 04 51.8 -2.6
comp=Z,65nm,1.0s
CBYP Canovanas 40.74 6 *e*P P 01 04 51.8 -2.6
comp=Z,74nm,0.9s
MTDJ Mount Denham 41.09 349 *e*P P 01 04 58.0 +0.7
comp=Z,163nm,1.3s
APG El Apazote 42.19 330 LR LR 01 19 56.0
comp=Z,356nm,18.9s,baz=145,slow=32
GTBY Guantanamo Bay 42.42 353 *e*P P 01 05 07.7 -0.4
comp=Z,15nm,0.8s
PMSA Palmer Station 42.47 176 *e*P P 01 05 09.6 +1.6
comp=Z,372nm,2.3s
TEIG Tepich 45.95 336 *e*P P 01 05 36.6 +0.2
comp=Z,27nm,0.7s
TEIG pP pP 01 05 46.0 -0.3
TEIG Tepich 45.95 336 P P 01 05 36.2 -0.3
comp=Z,23nm,0.5s,baz=51,slow=1.0,SNR=47
TEIG pP pP 01 05 46.0 -0.3
comp=Z,19nm,0.6s,baz=140,slow=1.6,SNR=5.8
TEIG LR LR 01 25 49.7
comp=Z,144nm,18.4s,baz=155,slow=37
TIGA Tifton 55.12 346 *e*P P 01 06 44.8 -0.7
TIGA Tifton 55.12 346 ⇓P P 01 06 45.3 -0.2
baz=56
BRAL Brewton 55.58 342 *e*P P 01 06 49.3 +0.5
comp=Z,100nm,0.9s
NHSC New Hope 56.09 350 *e*P P 01 06 52.4 0.0
comp=Z,143nm,1.4s
934A Benavides 56.79 330 ⇑P P 01 06 57.9 +0.4
baz=57
GOGA Godfrey 57.00 347 *e*P P 01 06 58.1 -0.8
GOGA pmax pmax
comp=Z,25nm,1.3s
GOGA Godfrey 57.00 347 *e*P P 01 06 58.1 -0.8
comp=Z,25nm,1.3s
835A Beeville 57.06 331 ⇓P P 01 07 00.7 +1.2
baz=57,SNR=6.9
H06S1 SOCORRO T 57.11 313 T T 02 08 39.2
SNR=14
834A Tilden 57.25 330 ⇓P P 01 07 01.6 +0.8
baz=58,SNR=8.1
735A Kenedy 57.54 331 ⇓P P 01 07 03.9 +1.1
baz=58
HKT Hockley 57.65 334 *e*P P 01 07 02.9 -0.6
HKT pmax pmax
comp=Z,19nm,1.0s
HKT Hockley 57.65 334 *e*P P 01 07 02.9 -0.6
comp=Z,19nm,1.0s
833A Chaparral WMA, 57.81 330 ⇓P P 01 07 05.3 +0.6
baz=58,SNR=29
734A JLa Parita Cre 57.87 331 ⇑P P 01 07 05.6 +0.5
baz=58,SNR=15
635A Leesville 57.98 332 ⇓P P 01 07 06.0 0.0
baz=58,SNR=7.7
832A Faith Ranch, C 58.05 329 ⇓P P 01 07 06.9 +0.4
baz=58,SNR=38
733A Divot King Ran 58.10 330 ⇓P P 01 07 07.2 +0.5
baz=58,SNR=18
634A China Grove, S 58.23 331 ⇓P P 01 07 07.7 +0.1
baz=59
KMSC Kings Mountain 58.27 349 *e*P P 01 07 06.8 -1.1
KMSC Kings Mountain 58.27 349 ⇑P P 01 07 07.8 -0.1
baz=59
732A Laxson Ranch, 58.42 329 ⇑P P 01 07 09.3 +0.2
baz=59,SNR=32
535A Dale 58.45 332 ⇑P P 01 07 09.4 +0.2
baz=59
633A Saathoff Ranch 58.67 330 ⇓P P 01 07 11.1 +0.3
baz=59,SNR=29
NATX Nacogdoches 58.78 336 *e*P P 01 07 12.2 +0.8
comp=Z,36nm,1.0s
534A Blanco 58.84 331 ⇑P P 01 07 11.3 -0.7
baz=59,SNR=10
632A Uvalde 58.99 330 ⇓P P 01 07 13.5 +0.5
baz=59,SNR=20
533A Kerrville 59.13 331 ⇓P P 01 07 14.0 0.0
baz=60
CPCT Cooper Cave 59.19 346 *e*P P 01 07 13.3 -0.9
RKT Rikitea 59.19 256 *e*S S 01 15 23.0 +2.7
comp=Z,870nm,28.2s
RKT *e*LR LR 01 24 48.6
comp=Z,2μm,26.8s,baz=110
TKL Tuckaleechee C 59.23 347 *e*P P 01 07 13.3 -1.2
631A Perdido Creek 59.28 329 ⇑P P 01 07 14.9 -0.1
baz=60,SNR=51
SWET Sewanee 59.28 345 *e*P P 01 07 13.7 -1.3
comp=Z,39nm,0.7s
434A Burnet 59.43 332 ⇓P P 01 07 15.8 -0.2
baz=60,SNR=16
335A Moody 59.47 333 ⇓P P 01 07 16.3 +0.1
baz=60,SNR=8.1
532A Rocksprings 59.57 330 ⇑P P 01 07 17.5 +0.4
baz=60,SNR=25
433A Art 59.74 331 ⇑P P 01 07 18.1 0.0
baz=60,SNR=41
JCT Junction City 59.82 331 *e*P P 01 07 18.3 -0.4
JCT pmax pmax
comp=Z,56nm,0.9s
JCT Junction City 59.82 331 *e*P P 01 07 18.3 -0.4
comp=Z,56nm,0.9s
JCT Junction City 59.82 331 ⇑P P 01 07 19.1 +0.4
baz=60
334A Lometa 59.86 332 ⇓P P 01 07 18.7 -0.2
baz=60,SNR=15
531A Rocksprings 59.90 330 ⇓P P 01 07 19.9 +0.6
baz=60,SNR=48
TZTN Tazewell 60.04 348 *e*P P 01 07 18.5 -1.6
comp=Z,39nm,1.3s
WHTX Lake Whitney 60.10 333 *e*P P 01 07 19.7 -0.9
WHTX Lake Whitney 60.10 333 ⇓P P 01 07 20.7 +0.1
baz=60,SNR=13
URVA University of 60.13 353 *e*P P 01 07 20.6 -0.1
BLA Blacksburg 60.15 351 *e*P P 01 07 20.6 -0.2
BLA pmax pmax
comp=Z,80nm,1.5s
BLA Blacksburg 60.15 351 *e*P P 01 07 20.6 -0.2
comp=Z,80nm,1.5s
432A Menard 60.15 331 ⇑P P 01 07 21.1 0.0
baz=60,SNR=34
333A Richland Sprin 60.18 332 ⇓P P 01 07 21.1 0.0
baz=60,SNR=29
530A J-C Ranch, Com 60.26 329 ⇑P P 01 07 22.4 +0.6
baz=61,SNR=48
JSRW J. Sargeant Re 60.29 353 *e*P P 01 07 21.2 -0.5
431A Sonora 60.36 330 ⇓P P 01 07 22.7 +0.2
baz=61,SNR=33
234A Clairette 60.40 333 ⇑P P 01 07 22.8 +0.2
baz=61,SNR=39
628A Black Gap, Mar 60.47 327 ⇑P P 01 07 24.3 +1.1
baz=61,SNR=52
332A Millersview 60.56 331 ⇑P P 01 07 24.0 +0.2
baz=61,SNR=9.2
135A Vickery Place, 60.58 334 ⇓P P 01 07 23.8 0.0
baz=61,SNR=6.5
WVT Waverly 60.62 344 *e*P P 01 07 22.5 -1.5
WVT pmax pmax
comp=Z,43nm,0.8s
WVT Waverly 60.62 344 *e*P P 01 07 22.5 -1.5
comp=Z,43nm,0.8s
529A Stev Forest Ra 60.66 328 ⇓P P 01 07 25.2 +0.7
baz=61,SNR=74
UALR University of 60.69 339 *e*P P 01 07 23.3 -1.2
comp=Z,59nm,1.1s
627A Terlingua Ranc 60.70 327 ⇑P P 01 07 25.4 +0.6
baz=61,SNR=23
233A Rising Star 60.73 332 ⇓P P 01 07 25.1 +0.1
baz=61,SNR=52
TXAR Lajitas Array 60.74 327 P P 01 07 25.6 +0.5
TXAR Lajitas Array 60.74 327 P P 01 07 25.6 +0.5
comp=Z,9.4nm,0.9s,baz=147,slow=8.6,SNR=67
TXAR LR LR 01 30 28.1
comp=Z,242nm,21.5s,baz=160,slow=33

CBN Corbin 60.74 354 *e*P P 01 07 24.0 -0.8
comp=Z,68nm,1.3s
TX31 Lajitas Ar. Si 60.74 327 *e*P P 01 07 24.8 -0.3
430A Baggett Ranch, 60.74 329 ⇓P P 01 07 25.4 +0.3
baz=61,SNR=22
331A San Angelo 60.81 330 ⇑P P 01 07 25.5 +0.1
baz=61,SNR=31
HALT Halls 60.83 342 *e*P P 01 07 23.3 -2.1
134A White-Moore Ra 60.87 333 ⇑P P 01 07 25.8 0.0
baz=61,SNR=9.1
MIAR Mount Ida 60.90 338 *e*P P 01 07 25.1 -0.8
MIAR pmax pmax
comp=Z,52nm,0.8s
MIAR Mount Ida 60.90 338 *e*P P 01 07 25.1 -0.8
comp=Z,52nm,0.8s
429A Davenport Ranc 60.92 329 ⇑P P 01 07 26.9 +0.6
baz=61,SNR=56
232A Coleman 60.95 331 ⇓P P 01 07 26.5 +0.1
baz=61,SNR=15
GNAR Gosnell 61.07 342 *e*P P 01 07 26.2 -0.8
626A Big Bend Ranch 61.16 326 ⇑P P 01 07 29.1 +1.2
baz=62,SNR=71
Z35A Perchaven, San 61.19 334 ⇑P P 01 07 28.3 +0.4
baz=62,SNR=12
330A Mertzon 61.23 330 ⇑P P 01 07 28.2 -0.2
baz=62,SNR=14
133A Hamilton Ranch 61.25 333 ⇓P P 01 07 28.6 +0.2
baz=62,SNR=28
231A Bronte 61.29 331 ⇓P P 01 07 28.5 -0.2
baz=62,SNR=15
527A Woodward Ranch 61.37 327 ⇓P P 01 07 30.0 +0.6
baz=62,SNR=25
428A Kincaid Ranch, 61.39 328 ⇑P P 01 07 30.2 +0.7
baz=62,SNR=22
PVMO Portageville 61.40 342 *e*P P 01 07 28.9 -0.4
comp=Z,238nm,0.9s
Z34A Collier Ranch, 61.49 334 ⇑P P 01 07 30.2 +0.2
baz=62,SNR=8.9
526A Mary Lane Ranc 61.54 327 ⇓P P 01 07 31.7 +1.1
baz=62,SNR=55
ABTX Abilene, Hawle 61.58 332 *e*P P 01 07 30.1 -0.6
ABTX Abilene, Hawle 61.58 332 ⇓P P 01 07 30.9 +0.2
baz=62,SNR=44
230A Sterling City 61.61 330 ⇓P P 01 07 31.0 +0.1
baz=62
329A Wagon Wheel Ra 61.68 329 ⇑P P 01 07 31.7 +0.3
baz=62,SNR=39
SNAA Sanae 61.76 161 *e*P P 01 07 31.6 +0.2
comp=Z,74nm,1.3s
SNAA pP pP 01 07 41.4 -0.3
SNAA Sanae 61.76 161 P P 01 07 32.1 +0.6
comp=Z,12nm,1.0s,baz=292,slow=4.8,SNR=54
SNAA pP pP 01 07 41.4 -0.3
comp=Z,7.1nm,0.6s,baz=271,slow=7.7,SNR=14
Z33A Whitaker Ranch 61.77 333 ⇑P P 01 07 32.1 +0.2
baz=62,SNR=28
427A Haer Ranch, 61.84 328 ⇑P P 01 07 32.9 +0.4
baz=62,SNR=20
SDMD Soldier's Deli 61.88 354 *e*P P 01 07 32.0 -0.4
comp=Z,41nm,1.1s
Y34A Reagan Ranch, 61.94 334 ⇓P P 01 07 32.9 -0.1
baz=62,SNR=27
131A Roby 61.95 331 ⇓P P 01 07 33.4 +0.2
baz=62,SNR=9.1
328A Wristen Ranch, 61.99 329 ⇑P P 01 07 33.8 +0.4
baz=62,SNR=15
229A Bryant Ranch, 62.00 330 ⇑P P 01 07 33.6 +0.1
baz=62,SNR=17
426A McDonald Obser 62.00 327 ⇓P P 01 07 34.4 +0.6
baz=62,SNR=46
Z32A Haskell 62.09 332 ⇑P P 01 07 34.0 -0.1
baz=62,SNR=11
130A Snyder 62.14 331 ⇑P P 01 07 34.5 0.0
baz=62,SNR=13
WCI Wyandotte Cave 62.25 346 *e*P P 01 07 33.5 -1.5
WCI pmax pmax
comp=Z,52nm,0.7s
WCI Wyandotte Cave 62.25 346 *e*P P 01 07 33.5 -1.5
comp=Z,52nm,0.7s
327A Balmorhea Ranc 62.31 328 ⇓P P 01 07 36.1 +0.5
baz=63
USIN University of 62.32 345 *e*P P 01 07 34.0 -1.5
comp=Z,61nm,1.0s
Y33A Hilltop Ranch, 62.34 334 ⇑P P 01 07 35.6 -0.1
baz=63,SNR=15
Z31A Sharp Cattle R 62.39 332 ⇓P P 01 07 36.3 +0.2
baz=63,SNR=32
MVL Millersville 62.42 355 *e*P P 01 07 35.7 -0.4
SIUC Southern Illin 62.48 343 *e*P P 01 07 35.2 -1.3
comp=Z,85nm,0.9s
228A UT Block 9, Go 62.49 329 ⇓P P 01 07 36.9 +0.1
baz=63,SNR=13
326A Caldwell Ranch 62.50 328 ⇑P P 01 07 37.6 +0.6
baz=63,SNR=39
X34A Smith Ranch, M 62.53 335 ⇑P P 01 07 37.2 +0.2
baz=63,SNR=7.1
129A Stewart Farms, 62.58 330 ⇓P P 01 07 37.4 0.0
baz=63,SNR=15
425A Indio Mountain 62.58 326 ⇑P P 01 07 38.2 +0.6
baz=63,SNR=60
Y32A R-V Farms, Ver 62.67 333 ⇑P P 01 07 38.0 +0.1
baz=63,SNR=19
227A Bennet, Jal 62.74 329 ⇓P P 01 07 39.2 +0.7
baz=63,SNR=19
X33A Lawton 62.75 334 ⇑P P 01 07 37.7 -0.8
baz=63,SNR=9.9
Z30A Sanderson Ranc 62.79 331 ⇑P P 01 07 38.9 +0.1
baz=63,SNR=36
128A Castleberry Fa 62.86 330 ⇑P P 01 07 39.2 -0.1
baz=63,SNR=12
TUL1 Tulsa 62.91 337 *e*P P 01 07 38.8 -0.7
TUL1 Tulsa 62.91 337 ⇓P P 01 07 39.2 -0.2
baz=63,SNR=22
X32A Elmer 62.97 333 ⇑P P 01 07 39.8 0.0
baz=63,SNR=8.6
Y31A Rekieta Farm, 62.98 332 ⇑P P 01 07 40.2 +0.2
baz=63,SNR=33
WMOK Wichita Mounta 63.03 334 *e*P P 01 07 39.1 -1.2
WMOK pmax pmax
comp=Z,10.0nm,0.9s
WMOK Wichita Mounta 63.03 334 *e*P P 01 07 39.1 -1.2
comp=Z,10nm,0.9s
Z29A Hungry Hill Ra 63.03 331 ⇓P P 01 07 40.1 -0.4
baz=63,SNR=26
325A Bean Ranch, Si 63.05 327 ⇓P P 01 07 41.3 +0.6
baz=63,SNR=167
W34A Bridge Creek, 63.06 335 ⇑P P 01 07 40.4 -0.1
baz=63
Y30A Stafford Cattl 63.19 332 ⇑P P 01 07 41.3 -0.1
baz=64,SNR=10
226B Tecolote Peak, 63.22 328 ⇑P P 01 07 42.9 +1.2
baz=64,SNR=46
W33A Caddo, Fort Co 63.26 334 ⇓P P 01 07 42.3 +0.4
baz=64,SNR=36
127A Arkansas Junct 63.31 329 ⇑P P 01 07 42.4 0.0
baz=64
324A Moseley Ranch, 63.36 327 ⇓P P 01 07 42.6 -0.2
baz=64,SNR=57
Z28A Tucker Farm, M 63.37 330 ⇑P P 01 07 42.4 -0.3
baz=64,SNR=17
GDL2 Guadalupe Moun 63.41 328 *e*P P 01 07 43.8 +0.8
X31A McDonald Ranch 63.44 333 ⇓P P 01 07 43.0 0.0
baz=64,SNR=34
V34A Guthrie 63.49 335 ⇑P P 01 07 42.9 -0.4
baz=64,SNR=14
ACSO Alum Creek Sta 63.51 349 *e*P P 01 07 42.1 -1.3
comp=Z,71nm,1.0s
MNTX Cornudas Mount 63.52 327 *e*P P 01 07 43.0 -0.6
comp=Z,33nm,1.2s
Y29A Porterfield Fa 63.52 331 ⇑P P 01 07 43.6 -0.1
baz=64,SNR=35
225A Deer Hill, Car 63.57 327 ⇑P P 01 07 44.7 +0.6
baz=64,SNR=57
126A Clayton Basin, 63.61 328 ⇓P P 01 07 45.0 +0.7
baz=64,SNR=33
SLM Saint Louis 63.62 343 *e*P P 01 07 43.1 -1.0
SLM pmax pmax
comp=Z,47nm,1.1s
SLM Saint Louis 63.62 343 *e*P P 01 07 43.0 -1.0
comp=Z,47nm,1.1s
X30A Coker Ranch, T 63.66 332 ⇓P P 01 07 44.3 -0.3
baz=64,SNR=13
Z27A Tatum 63.77 329 ⇑P P 01 07 45.3 0.0
baz=64,SNR=37
V33A Lossen Ranch, 63.77 335 ⇑P P 01 07 45.2 -0.1
baz=64,SNR=28
Y28A McKinney Farm, 63.82 331 ⇑P P 01 07 45.4 -0.2
baz=64,SNR=15

224A Cornudas Mount 63.89 327 ⇑P P 01 07 46.4 +0.2
baz=64,SNR=46
W31A Holland Ranch, 63.90 333 ⇑P P 01 07 45.8 -0.3
baz=64
125A Gardner Draw, 63.93 328 ⇑P P 01 07 46.6 +0.1
baz=64,SNR=31
V32A Arapaho 63.99 334 ⇑P P 01 07 46.8 +0.2
baz=64,SNR=7.1
U34A Anderson Ranch 64.02 336 ⇑P P 01 07 46.7 -0.2
baz=64
X29A Tulia 64.02 331 ⇓P P 01 07 46.7 -0.3
baz=64,SNR=16
BRYW Bryant College 64.09 359 *e*P P 01 07 46.2 -0.9
Z26A Caprock 64.10 329 ⇓P P 01 07 48.0 +0.4
baz=64,SNR=43
MSTX Muleshoe 64.11 330 *e*P P 01 07 47.1 -0.5
MSTX Muleshoe 64.11 330 ⇑P P 01 07 47.5 -0.1
baz=64,SNR=18
W30A Crocket Farms 64.16 333 ⇑P P 01 07 48.0 +0.1
baz=64
Y27A Causey 64.22 330 ⇑P P 01 07 48.2 -0.2
baz=65,SNR=35
U33A Lingo Farm, Me 64.24 335 ⇑P P 01 07 47.8 -0.4
baz=65
223A Chaparral, Ant 64.30 326 ⇑P P 01 07 49.6 +0.8
baz=65
X28A Dimmitt 64.31 331 ⇑P P 01 07 48.8 0.0
baz=65,SNR=9.6
124A Stringfield Ra 64.36 327 ⇓P P 01 07 50.0 +0.6
baz=65,SNR=48
V31A Spring Creek L 64.36 334 ⇓P P 01 07 49.6 +0.5
baz=65,SNR=12
AMTX Amarillo 64.39 332 ⇓P P 01 07 49.4 +0.1
baz=65
Z25A Roswell 64.46 328 ⇑P P 01 07 50.2 +0.2
baz=65,SNR=44
ALLY Allegheny Colle 64.47 352 *e*P P 01 07 48.7 -0.9
comp=Z,71nm,1.1s
U32A Winter Ranch, 64.54 335 ⇓P P 01 07 50.2 0.0
baz=65,SNR=6.2
Y26A Elida 64.56 329 ⇑P P 01 07 50.4 -0.1
baz=65,SNR=34
W29A Amraillo 64.57 332 ⇑P P 01 07 50.2 -0.3
baz=65,SNR=10
BINY Binghamton 64.58 355 *e*P P 01 07 49.9 -0.4
comp=Z,592nm,2.7s
HRV Adam Dziewonsk 64.68 359 *e*P P 01 07 51.6 +0.6
HRV Adam Dziewonsk 64.68 359 *e*P P 01 07 51.6 +0.6
comp=Z,1μm,2.8s
V30A Spur Ranch, Mi 64.70 333 ⇑P P 01 07 52.3 +0.9
baz=65
222A Williams Famil 64.72 326 ⇑P P 01 07 53.0 +1.3
baz=65,SNR=14
Z24A Sheeppen Canyo 64.82 328 ⇓P P 01 07 52.9 +0.6
baz=65,SNR=61
X27A F and S Farms, 64.82 330 ⇓P P 01 07 52.2 0.0
baz=65,SNR=8.9
T33A Patterson Ranc 64.86 336 ⇑P P 01 07 52.2 -0.1
baz=65,SNR=5.9
U31A Nine Bar Ranch 64.88 334 ⇓P P 01 07 52.8 +0.3
baz=65,SNR=5.4
320A Kipp Ranch, An 64.88 324 ⇑P P 01 07 54.2 +1.5
baz=65,SNR=18
W28A Vega 64.93 331 ⇓P P 01 07 53.2 +0.3
baz=65,SNR=7.3
TRY Troy 64.97 357 *e*P P 01 07 54.0 +1.2
Y25A Mesa, Roswell 64.97 329 ⇑P P 01 07 53.4 +0.1
baz=65,SNR=31
221A Mesquite Ranch 65.00 325 ⇓P P 01 07 54.8 +1.3
baz=65
X26A CR and CF Fran 65.07 330 ⇑P P 01 07 54.3 +0.4
baz=65,SNR=24
V29A Stinnett 65.15 332 ⇑P P 01 07 54.7 +0.3
baz=66
W27A Bowe Ranch, En 65.15 331 ⇑P P 01 07 54.6 +0.2
baz=66,SNR=18
Z23A Rita Site, Whi 65.20 327 ⇑P P 01 07 56.0 +1.3
baz=66,SNR=21
T32A Huddler Ranch, 65.21 335 ⇑P P 01 07 54.9 +0.3
baz=66,SNR=9.0
S33A Kaszmaul Farm, 65.22 336 ⇑P P 01 07 54.7 +0.1
baz=66
MMNY Mt. Morris Dam 65.28 354 *e*P P 01 07 55.1 +0.3
comp=Z,180nm,1.4s
319A Douglas 65.32 324 ⇓P P 01 07 57.1 +1.6
baz=66,SNR=17
Y24A Capitan 65.33 328 ⇓P P 01 07 56.1 +0.4
baz=66,SNR=12
U30A WK&E Inc. Balk 65.34 333 ⇓P P 01 07 55.8 +0.3
baz=66
V28A Channing 65.35 332 ⇓P P 01 07 56.1 +0.4
baz=66,SNR=27
121A CookPeak, D 65.41 326 ⇑P P 01 07 57.9 +1.7
baz=66,SNR=19
T31A Randall Ranch, 65.44 334 ⇑P P 01 07 56.3 +0.2
baz=66,SNR=10
X25A Clemmons Ranch 65.45 329 ⇓P P 01 07 56.5 +0.1
baz=66,SNR=26
W26A Owens Ranch, T 65.49 330 ⇓P P 01 07 57.1 +0.5
baz=66,SNR=19
U29A Oasis Ranch, S 65.54 333 ⇑P P 01 07 57.0 +0.3
baz=66
Z22A Elephant Butte 65.56 327 ⇓P P 01 07 58.8 +1.7
baz=66,SNR=66
ACCN Adirondack Com 65.62 357 *e*P P 01 07 56.8 -0.3
comp=Z,248nm,2.1s
V27A Dan Oppiter Fa 65.63 331 ⇓P P 01 07 58.1 +0.6
baz=66,SNR=12
Y23A Lovelace Mesa, 65.64 328 ⇑P P 01 07 58.5 +0.9
baz=66,SNR=26
S32A Newby Ranch, P 65.67 335 ⇑P P 01 07 57.8 +0.3
baz=66,SNR=8.5
T30A Plains 65.74 334 ⇑P P 01 07 58.4 +0.3
baz=66
S31A Mullinville 65.81 335 ⇑P P 01 07 58.9 +0.4
baz=66,SNR=9.0
R33A Olander Ranch, 65.84 336 ⇑P P 01 07 58.5 -0.2
baz=66,SNR=6.9
X24A Lazy VL Ranch, 65.85 329 ⇑P P 01 07 59.6 +0.5
baz=66
U28A Mallet 65.88 332 ⇓P P 01 07 59.1 0.0
baz=66,SNR=8.5
W25A X Bar L Ranch, 65.92 330 ⇑P P 01 07 59.8 +0.4
baz=66,SNR=25
KSU1 Kansas State U 66.05 338 *e*P P 01 07 59.0 -1.0
comp=Z,34nm,0.8s
KSU1 Kansas State U 66.05 338 ⇓P P 01 07 59.4 -0.6
baz=66
V26A Tequesquite Ra 66.09 331 ⇑P P 01 08 00.9 +0.5
baz=66,SNR=37
BNM Barren Site 66.10 327 *e*P P 01 08 01.3 +0.6
T29A Hugoton 66.15 333 ⇓P P 01 08 01.0 +0.3
baz=66,SNR=6.8
U27A Thompson Grove 66.18 332 ⇑P P 01 08 01.3 +0.3
baz=66,SNR=6.1
Y22D IRIS PASSCAL I 66.19 327 ⇑P P 01 08 02.4 +1.3
baz=66
R32A Long Quarter, 66.21 336 ⇓P P 01 08 01.3 +0.3
baz=67,SNR=14
MDV Middlebury 66.22 358 *e*P P 01 08 00.9 0.0
S30A Montezuma 66.22 334 ⇑P P 01 08 01.5 +0.3
baz=67,SNR=6.9
X23A Hourglass Bar 66.23 328 ⇓P P 01 08 02.6 +1.1
baz=67,SNR=27
LPM Los Pinos Moun 66.23 328 *e*P P 01 08 02.3 +0.8
LENM Lemitar 66.29 327 *e*P P 01 08 02.8 +1.0
NVL N'lazarevskaya 66.36 159 *e*P P 01 08 01.0 -0.6
NVL pmax pmax
comp=Z,38nm,1.0s
W24A Lazy 6 Ranch, 66.36 329 ⇑P P 01 08 02.8 +0.5
baz=67,SNR=30
Q33A Connelly Farm, 66.39 337 ⇑P P 01 08 02.1 0.0
baz=67,SNR=6.6
R31A Burdett 66.41 335 ⇑P P 01 08 02.5 +0.2
baz=67,SNR=11
T28A Walsh 66.46 333 ⇑P P 01 08 02.6 -0.1
baz=67,SNR=10
S29A Ulysses 66.47 334 ⇑P P 01 08 03.4 +0.7
baz=67,SNR=15
V25A Rancho No Teng 66.50 330 ⇑P P 01 08 03.8 +0.6
baz=67,SNR=30
LAZ Ladron 66.56 327 *e*P P 01 08 04.2 +0.7
U26A Atchley Ranch, 66.56 331 ⇓P P 01 08 04.1 +0.6
baz=67,SNR=58
Q32A Meitler Ranch, 66.65 336 ⇑P P 01 08 03.9 +0.1
baz=67,SNR=21
ANMO Albuquerque 66.66 328 *e*P P 01 08 04.7 +0.5
comp=Z,21nm,0.8s

T27A **Campo** 66.67 332 ⇓P P 01 08 04.5 +0.3
baz=67,SNR=16
W23A **Werner Place,** 66.68 328 ⇓P P 01 08 05.4 +1.1
baz=67,SNR=22
R30A **Dighton** 66.70 335 ⇑P P 01 08 04.6 +0.4
baz=67,SNR=14
V24A **Rampart Ranch,** 66.72 329 ⇑P P 01 08 05.2 +0.6
baz=67,SNR=34
P33A **Williams Farm,** 66.73 337 ⇑P P 01 08 04.2 -0.1
baz=67
S28A **Manter** 66.77 333 ⇑P P 01 08 05.1 +0.4
baz=67,SNR=39
TUC **Tucson** 66.86 323 *e*P P 01 08 06.0 +0.6
TUC pmax pmax
comp=Z,26nm,1.1s
TUC **Tucson** 66.86 323 *e*P P 01 08 06.0 +0.6
comp=Z,26nm,1.1s
U25A **Circle Dot Ran** 66.87 330 ⇑P P 01 08 06.3 +0.8
baz=67,SNR=51
PTN **Potsdam (NY)** 66.87 356 *e*P P 01 08 05.1 0.0
PTN **Potsdam (NY)** 66.87 356 *e*P P 01 08 05.1 0.0
comp=Z,1μm,2.9s
LONY **Lake Ozonia** 66.90 357 *e*P P 01 08 05.6 +0.3
comp=Z,288nm,2.5s
EMMW **East Machias** 66.92 2 *e*P P 01 08 05.1 -0.2
Q31A **Ellis** 66.98 336 ⇓P P 01 08 06.4 +0.5
baz=67,SNR=6.2
FRNY **Flat Rock** 67.06 357 *e*P P 01 08 06.9 +0.6
comp=Z,227nm,2.1s
T26A **Comanche Natio** 67.15 332 ⇑P P 01 08 08.1 +0.8
baz=68,SNR=35
R29A **Marienthal** 67.16 334 ⇓P P 01 08 07.6 +0.4
baz=68,SNR=13
V23A **Ortiz Mt. (NFS** 67.17 329 ⇓P P 01 08 09.0 +1.6
baz=68,SNR=41
P32A **Huiting Farm,** 67.22 337 ⇓P P 01 08 07.4 -0.1
baz=68,SNR=12
S27A **Las Animas** 67.27 332 ⇑P P 01 08 08.5 +0.5
baz=68
Q30A **Quinter** 67.28 335 ⇓P P 01 08 08.5 +0.7
baz=68,SNR=15
U24A **Moreno Valley** 67.28 330 ⇑P P 01 08 09.6 +1.4
baz=68,SNR=11
R28A **Tribune** 67.37 334 ⇓P P 01 08 08.8 +0.3
baz=68,SNR=14
P31A **Stockton** 67.42 336 ⇓P P 01 08 09.1 +0.3
baz=68,SNR=25
PKME **Peaks-Kenny Pk** 67.43 1 *e*P P 01 08 09.1 +0.5
comp=Z,94nm,1.3s
S26A **Kim** 67.47 332 ⇑P P 01 08 10.1 +1.0
baz=68,SNR=51
T25A **Trinidad** 67.48 331 ⇓P P 01 08 10.5 +1.1
baz=68,SNR=16
Q29A **Oakley** 67.50 334 ⇓P P 01 08 09.5 +0.2
baz=68,SNR=25
SCIA **State Center** 67.50 342 *e*P P 01 08 08.1 -1.1
comp=Z,52nm,0.8s
JFWS **Jewell Farm** 67.64 344 *e*P P 01 08 08.9 -1.1
JFWS pmax pmax
comp=Z,35nm,0.8s
JFWS **Jewell Farm** 67.64 344 *e*P P 01 08 08.9 -1.1
comp=Z,35nm,0.8s
U23A **El Rito** 67.64 329 ⇑P P 01 08 11.8 +1.4
baz=68,SNR=30
V22A **San Miguel Ran** 67.65 328 ⇑P P 01 08 12.3 +1.8
baz=68,SNR=53
O32A **Brockman Farm,** 67.67 337 ⇑P P 01 08 10.0 -0.2
baz=68,SNR=10
QSPA **South Pole Qui** 67.71 180 *e*P P 01 08 11.2 +0.8
QSPA pP pP 01 08 21.1 +0.4
comp=Z,40nm,0.8s
QSPA **South Pole Qui** 67.71 180 P P 01 08 11.7 +1.3
comp=Z,20nm,0.8s,baz=147,slow=2.4,SNR=40
QSPA pP pP 01 08 21.1 +0.4
comp=Z,27nm,0.5s,baz=176,slow=2.4,SNR=18
R27A **Eads** 67.73 333 ⇓P P 01 08 11.1 +0.3
baz=68,SNR=9.6
214A **Organ Pipe Nat** 67.74 322 ⇑P P 01 08 12.8 +1.9
baz=68,SNR=16
P30A **Selden** 67.78 335 ⇑P P 01 08 11.3 +0.3
baz=68,SNR=9.7
T24B **San Luis** 67.86 330 ⇓P P 01 08 13.3 +1.4
baz=68,SNR=27
S25A **Robets Cordova** 67.92 331 ⇓P P 01 08 13.0 +0.9
baz=68
O31A **Woolen Ranch,** 67.95 336 ⇑P P 01 08 12.5 +0.5
baz=68
Q28A **Sharon Springs** 67.99 334 ⇑P P 01 08 13.0 +0.6
baz=68,SNR=8.7
U22A **Llaves** 68.00 329 ⇓P P 01 08 14.5 +1.8
baz=68,SNR=18
R26A **Arlington** 68.02 332 ⇓P P 01 08 13.4 +0.8
baz=68,SNR=22
P29A **Atwood** 68.09 335 ⇑P P 01 08 13.5 +0.5
baz=68,SNR=6.2
X18A **Snowflake** 68.10 325 ⇑P P 01 08 14.9 +1.6
baz=68,SNR=8.6
N32A **Stulken Farm,** 68.12 337 ⇑P P 01 08 13.0 -0.1
baz=68
T23A **Casias Ranch,** 68.14 330 ⇑P P 01 08 14.8 +1.2
baz=68,SNR=7.9
O30A **MW Ranch, Wils** 68.25 336 ⇑P P 01 08 14.5 +0.5
baz=69,SNR=7.4
S24A **Houchin Ranch,** 68.25 331 ⇓P P 01 08 15.9 +1.5
baz=69,SNR=34
R25A **Fountain Ranch** 68.26 332 ⇑P P 01 08 14.9 +0.8
baz=69,SNR=5.1
KSCO **Kaye Shedlock'** 68.27 333 *e*P P 01 08 14.3 +0.1
KSCO **Kaye Shedlock'** 68.27 333 ⇑P P 01 08 15.2 +0.9
baz=69,SNR=11
P28A **Saint Francis** 68.39 334 ⇑P P 01 08 15.7 +0.7
baz=69,SNR=7.7
N31A **Bailey Ranch,** 68.41 337 ⇑P P 01 08 15.2 +0.3
baz=69,SNR=6.3
W18A **Petrified Fore** 68.44 326 *e*P P 01 08 16.3 +0.9
W18A **Petrified Fore** 68.44 326 ⇑P P 01 08 17.1 +1.7
baz=69,SNR=13
SDCO **Great Sand Dun** 68.47 331 *e*P P 01 08 16.1 +0.4
comp=Z,53nm,1.0s
O29A **4D Ranch, Culb** 68.49 335 ⇑P P 01 08 16.1 +0.7
baz=69,SNR=7.7
Q26A **Hugo** 68.58 333 ⇓P P 01 08 17.2 +1.0
baz=69,SNR=17
BGNE **Belgrade** 68.64 338 *e*P P 01 08 15.5 -0.8
BGNE **Belgrade** 68.64 338 ⇑P P 01 08 16.4 +0.1
baz=69,SNR=18
S23A **Nye Farm, Mont** 68.67 330 ⇑P P 01 08 18.3 +1.4
baz=69,SNR=11
R24A **Sanders Place,** 68.69 331 ⇑P P 01 08 18.3 +1.3
baz=69,SNR=26
P27A **Ficken Ranch,** 68.71 334 ⇓P P 01 08 17.8 +0.8
baz=69,SNR=10
N30A **Hueftle Ranch,** 68.81 336 ⇑P P 01 08 17.8 +0.4
baz=69
X16A **Lo Mia Camp, P** 68.81 324 ⇑P P 01 08 19.6 +1.8
baz=69,SNR=30
Z14A **Wintersburg** 68.85 323 ⇑P P 01 08 19.3 +1.5
baz=69
PQI **Presque Isle** 68.86 2 *e*P P 01 08 17.9 +0.3
M31A **Lambtecht Ranc** 68.87 337 ⇓P P 01 08 18.3 +0.5
baz=69,SNR=13
O28A **Krutsinger Ran** 68.87 335 ⇓P P 01 08 18.7 +0.9
baz=69,SNR=6.0
Q25A **Bedland, Calha** 68.88 332 ⇑P P 01 08 18.8 +0.7
baz=69,SNR=5.9
113A **Mohawk Valley,** 68.88 322 ⇑P P 01 08 19.8 +1.8
baz=69,SNR=6.6
R23A **Moffat** 68.98 331 ⇑P P 01 08 20.1 +1.3
baz=69,SNR=25
N29A **Votaw Ranch, W** 69.02 336 ⇑P P 01 08 19.3 +0.6
baz=69,SNR=6.5
P26A **Davis Ranch, A** 69.04 333 ⇓P P 01 08 19.8 +0.8
baz=69,SNR=11
S22A **4UR Ranch, Cre** 69.08 330 ⇓P P 01 08 20.8 +1.2
baz=69,SNR=21
O27A **Beecher Island** 69.21 334 ⇓P P 01 08 21.1 +1.1
baz=70,SNR=31
N28A **Pribbeno Ranch** 69.26 335 ⇑P P 01 08 20.9 +0.6
baz=70,SNR=6.4
Y14A **Wickenburg** 69.31 323 ⇓P P 01 08 22.2 +1.5
baz=70,SNR=8.6
Q24A **Divide** 69.31 332 ⇓P P 01 08 22.0 +1.1
baz=70,SNR=33
P25A **Willow Gulch B** 69.34 333 ⇓P P 01 08 22.2 +1.3
baz=70,SNR=14
M30A **Dale-Ortello V** 69.37 337 ⇑P P 01 08 21.4 +0.6
baz=70,SNR=5.5
MVCO **Mesa Verde** 69.45 328 *e*P P 01 08 22.2 +0.5
comp=Z,36nm,0.9s
MVCO **Mesa Verde** 69.45 328 ⇑P P 01 08 23.2 +1.5
baz=70,SNR=30
L31A **Butterfield Fa** 69.56 338 ⇓P P 01 08 22.6 +0.6
baz=70,SNR=8.3
M29A **Burnside Ranch** 69.59 336 ⇑P P 01 08 23.0 +0.8
baz=70,SNR=5.4
O26A **Horse Wrangler** 69.59 334 ⇑P P 01 08 23.4 +1.0
baz=70,SNR=12
WUAZ **Wupatki** 69.61 325 *e*P P 01 08 23.7 +1.1
comp=Z,62nm,1.0s
WUAZ **Wupatki** 69.61 325 ⇑P P 01 08 24.5 +1.8
baz=70,SNR=56
P24A **Kohler Place,** 69.66 332 ⇑P P 01 08 23.9 +1.0
baz=70
L30A **Spencer Herefo** 69.67 337 ⇑P P 01 08 23.4 +0.6
baz=70,SNR=11
OGNE **Ogallala** 69.68 335 ⇑P P 01 08 23.6 +0.7
baz=70,SNR=6.0
GLA **Glamis** 69.70 321 *e*P P 01 08 24.3 +1.2
GLA pmax pmax
comp=Z,6.0nm,1.1s
GLA **Glamis** 69.70 321 *e*P P 01 08 24.3 +1.2
comp=Z,6.2nm,1.1s
GLA **Glamis** 69.70 321 ⇓P P 01 08 24.8 +1.7
baz=70,SNR=5.9
N27A **Anderson Farm,** 69.76 334 ⇓P P 01 08 24.2 +0.8
baz=70,SNR=7.6
M28A **Bar X Bar Ranc** 69.81 336 ⇓P P 01 08 24.3 +0.7
baz=70,SNR=6.2
O25A **Wiggins** 69.82 333 ⇓P P 01 08 25.2 +1.4
baz=70,SNR=5.5
LIC **Lamto** 69.87 74⇑*i*P P 01 08 23.9 -0.6
comp=Z,54nm,1.0s,baz=242
LIC *e*R
comp=Z,582nm,22.0s
LIC **Lamto** 69.87 74 *e*P P 01 08 23.9 -0.6
comp=Z,54nm,1.2s
LIC **Lamto** 69.87 74⇑*i*P P 01 08 23.9 -0.6
comp=Z,54nm,1.0s
P23A **Jefferson** 69.96 331 ⇑P P 01 08 26.0 +1.1
baz=70
Y12C **Blythe** 70.03 322 ⇑P P 01 08 26.9 +1.9
baz=70,SNR=22
L29A **Maesberg Ranch** 70.05 337 ⇑P P 01 08 25.7 +0.6
baz=70,SNR=11
N26A **Koester Ranch,** 70.05 334 ⇑P P 01 08 26.2 +1.0
baz=70,SNR=6.2
TIC **Toumodi** 70.06 74 *e*P P 01 08 25.3 -0.4
comp=Z,85nm,1.2s
DVTC **Desert V Tower** 70.17 320 ⇑P P 01 08 27.7 +1.7
baz=70
KIC **Kosan Boka** 70.18 74 *e*P P 01 08 26.0 -0.4
comp=Z,108nm,1.0s
SWSC **Sam W. Stewart** 70.19 320 ⇓P P 01 08 28.0 +1.9
baz=70,SNR=5.8
ECSD **EROS Data Cent** 70.20 340 *e*P P 01 08 24.8 -1.1
comp=Z,34nm,1.1s
ECSD **EROS Data Cent** 70.20 340 ⇑P P 01 08 25.7 -0.2
baz=71,SNR=16
ISCO **Idaho Springs** 70.20 332 *e*P P 01 08 26.7 +0.3
ISCO pmax pmax
comp=Z,58nm,1.5s
ISCO **Idaho Springs** 70.20 332 *e*P P 01 08 26.7 +0.3
comp=Z,58nm,1.5s
ISCO **Idaho Springs** 70.20 332 ⇓P P 01 08 27.4 +1.0
baz=70,SNR=21
PDMCI **Parker Dam,Lak** 70.21 322 ⇑P P 01 08 27.7 +1.6
baz=70,SNR=7.1
DBIC **Dimbokro** 70.22 74 *e*P P 01 08 25.6 -1.0
comp=Z,63nm,1.0s
DBIC pP pP 01 08 36.8 -0.1
DBIC **Dimbokro** 70.22 74 P P 01 08 26.5 -0.2
comp=Z,40nm,0.9s,baz=218,slow=6.2,SNR=57
DBIC pP pP 01 08 36.8 -0.1
comp=Z,20nm,0.8s,baz=215,slow=6.9,SNR=10
DBIC LR LR 01 37 21.1
comp=Z,448nm,21.6s,baz=229,slow=34
PV01 **Paradox Valley** 70.22 329 *e*P P 01 08 27.1 +0.7
O24A **Longmont** 70.24 332 ⇑P P 01 08 27.2 +0.8
baz=71
K30A **Basset** 70.27 337 ⇑P P 01 08 26.8 +0.4
baz=71,SNR=16
SMCO **Snowmass** 70.31 330 *e*P P 01 08 28.0 +0.8
comp=Z,47nm,1.2s
M27A **Reverse DX Ran** 70.31 335 ⇓P P 01 08 27.6 +0.8
baz=71
L28A **Connealy Angus** 70.39 336 ⇓P P 01 08 28.0 +0.8
baz=71,SNR=6.8
N25A **Grover** 70.39 333 ⇑P P 01 08 28.8 +1.4
baz=71
PV05 **Paradox Valley** 70.43 328 *e*P P 01 08 28.6 +0.9
SPMN **St. Paul** 70.45 343 *e*P P 01 08 26.2 -1.2
SPMN **St. Paul** 70.45 343 ⇑P P 01 08 26.7 -0.7
baz=71,SNR=12
MONP **Monument Peak** 70.52 320 ⇓P P 01 08 30.0 +1.7
baz=71,SNR=8.3
P22A **Eagle** 70.55 331 ⇑P P 01 08 29.7 +1.3
baz=71,SNR=18
M26A **McRoberts Ranc** 70.56 334 ⇑P P 01 08 30.1 +1.8
baz=71
PV04 **Paradox Valley** 70.59 329 *e*P P 01 08 28.7 +0.1
K29A **Lazy Trails An** 70.59 337 ⇓P P 01 08 29.2 +0.8
baz=71,SNR=18
PV10 **Paradox Valley** 70.64 329 *e*P P 01 08 29.3 +0.3
W13A **Hualapai Mount** 70.66 323 ⇓P P 01 08 30.9 +1.8
baz=71
O23A **Lake Granby, G** 70.68 332 ⇑P P 01 08 30.5 +1.3
baz=71,SNR=22
IRM **Iron Mountain** 70.69 322 ⇑P P 01 08 30.8 +1.7
baz=71,SNR=35
N24A **Carr** 70.74 333 ⇑P P 01 08 31.0 +1.6
baz=71,SNR=9.0
L27A **T5 Ranch, Ells** 70.76 335 ⇓P P 01 08 30.5 +1.1
baz=71,SNR=9.9
PV09 **Paradox Valley** 70.78 329 *e*P P 01 08 30.6 +0.6
U15A **North Rim** 70.78 325 ⇓P P 01 08 32.1 +2.2
baz=71,SNR=48
J30A **Dallas** 70.79 338 ⇑P P 01 08 29.6 0.0
baz=71,SNR=18
O22A **Kremmling** 70.91 331 ⇓P P 01 08 31.6 +0.9
baz=71,SNR=28
109C **Camp Elliot, M** 70.93 320 ⇑P P 01 08 31.4 +0.8
baz=71
L26A **Underwood Farm** 71.02 335 ⇓P P 01 08 32.0 +0.9
baz=71
PFO **Pinyon Flat Ob** 71.05 320 P P 01 08 33.9 +2.4
comp=Z,99nm,0.8s,SNR=8.6
PFO **Pinyon Flat Ob** 71.05 320 *e*P P 01 08 32.2 +0.8
comp=Z,32nm,1.3s
PFO **Pinyon Flat Ob** 71.05 320 ⇑P P 01 08 33.3 +1.8
baz=71,SNR=12
J29A **Okreek** 71.16 337 ⇑P P 01 08 32.3 +0.5
baz=72,SNR=29
M24A **Cheyenne** 71.25 333 ⇓P P 01 08 34.0 +1.5
baz=72,SNR=18
N23A **Red Feather La** 71.25 332 ⇓P P 01 08 33.8 +1.1
baz=72,SNR=20
K27A **Flueckinger Fa** 71.26 336 ⇓P P 01 08 33.7 +1.2
baz=72,SNR=11
LDFC **Landfair** 71.32 322 *e*P P 01 08 34.4 +1.3
comp=Z,31nm,0.9s
PHWY **Pilot Hill** 71.38 333 *e*P P 01 08 33.3 -0.2
comp=Z,54nm,1.5s
N22A **Wattenberg Ran** 71.39 332 ⇑P P 01 08 35.1 +1.5
baz=72,SNR=22
GMRC **Granite Mounta** 71.42 322 ⇓P P 01 08 35.6 +1.9
baz=72,SNR=35
L25A **Engebretsen Ra** 71.47 334 ⇑P P 01 08 35.7 +1.9
baz=72
MURC **Murrieta** 71.48 320 ⇑P P 01 08 35.7 +1.7
baz=72,SNR=5.4
KNB **Kanab** 71.50 325 *e*P P 01 08 35.7 +1.5
KNB pmax pmax
comp=Z,104nm,1.2s
KNB **Kanab** 71.50 325 *e*P P 01 08 35.6 +1.5
comp=Z,104nm,1.2s
J28A **Allard Ranch,** 71.50 337 ⇓P P 01 08 34.8 +0.9
baz=72,SNR=19
K26A **Mcz Farm, Whi** 71.62 335 ⇑P P 01 08 36.0 +1.3
baz=72
M23A **Laramie** 71.62 333 ⇑P P 01 08 36.1 +1.2
baz=72,SNR=6.4
J27A **Elkhorn Farm,** 71.64 336 ⇓P P 01 08 36.1 +1.3
baz=72,SNR=26
O20A **White River Ci** 71.66 330 *e*P P 01 08 35.5 +0.4
O20A **White River Ci** 71.66 330 ⇑P P 01 08 36.5 +1.4
baz=72,SNR=35
L24A **Wheatland** 71.77 334 ⇓P P 01 08 36.8 +1.1
baz=72,SNR=6.5
K25A **Mack Ranch, Ha** 71.82 335 ⇑P P 01 08 37.1 +1.3
baz=72
HEC **Hector,Ludlow** 71.84 321 ⇑P P 01 08 38.1 +2.0
baz=72,SNR=6.7
SRU **San Rafael** 71.93 328 *e*P P 01 08 37.3 +0.6
SRU pmax pmax
comp=Z,51nm,0.8s
SRU **San Rafael** 71.93 328 *e*P P 01 08 37.3 +0.6
comp=Z,51nm,0.8s
M22A **Cedar Creek Ra** 71.95 332 ⇑P P 01 08 38.1 +1.3
baz=72,SNR=16
I28A **Midland** 71.98 337 ⇓P P 01 08 37.1 +0.4
baz=72,SNR=8.6
TBI **Tubuai** 71.99 252 *e*LR LR 01 30 44.4
comp=Z,430nm,24.2s
TUQ **Turquoise Moun** 72.04 322 ⇓P P 01 08 39.2 +1.7
baz=72,SNR=20
CIS **Catalina Islan** 72.07 319 ⇓P P 01 08 38.6 +1.1
baz=72
J26A **Sides Ranch, S** 72.10 335 ⇑P P 01 08 38.6 +1.1
baz=72,SNR=13
L23A **Garrett** 72.15 333 ⇑P P 01 08 38.9 +0.9
baz=72,SNR=8.4
CCUT **Cedar City** 72.19 325 *e*P P 01 08 40.1 +1.7
comp=Z,60nm,0.9s
BFSC **Mount Baldy Ra** 72.20 320 ⇓P P 01 08 39.9 +1.5
baz=72,SNR=16
N20A **Spence Gulch,** 72.23 331 ⇑P P 01 08 39.8 +1.2
baz=73,SNR=34
G30A **Faulkton** 72.27 339 ⇓P P 01 08 39.2 +0.8
baz=73
K24A **Anderson Ranch** 72.29 334 ⇑P P 01 08 40.0 +1.2
baz=73
MVU **Marysvale** 72.31 327 *e*P P 01 08 40.5 +1.4
comp=Z,46nm,1.0s
DRLN **Deer Lake** 72.32 9 *e*P P 01 08 38.2 -0.3
comp=Z,84nm,1.3s
I27A **Quinn** 72.36 337 ⇑P P 01 08 39.8 +0.8
baz=73,SNR=14
SHPR **Sheep Range** 72.39 323 *e*P P 01 08 40.8 +1.3
L22A **Ellis Ranch, M** 72.39 333 ⇑P P 01 08 40.6 +1.2
baz=73
ARUT **Antelope Range** 72.41 325 *e*P P 01 08 41.6 +2.0
ARUT **Antelope Range** 72.41 325 *e*P P 01 08 41.6 +2.0
TMUT **Trail Mountain** 72.41 328 *e*P P 01 08 40.2 +0.5
comp=Z,16nm,0.8s
MWC **Mount Wilson** 72.43 320 *e*P P 01 08 40.7 +0.9
MWC pmax pmax
comp=Z,43nm,1.4s
MWC **Mount Wilson** 72.43 320 *e*P P 01 08 40.7 +0.9
comp=Z,43nm,1.4s
J25A **Sunshine Ranch** 72.45 335 ⇓P P 01 08 40.7 +1.1
baz=73,SNR=5.8
GSC **Goldstone** 72.45 321 *e*P P 01 08 40.5 +0.7
GSC pmax pmax
comp=Z,43nm,1.5s
GSC **Goldstone** 72.45 321 *e*P P 01 08 40.5 +0.7
comp=Z,43nm,1.5s
GSC **Goldstone** 72.45 321 ⇑P P 01 08 41.6 +1.8
baz=73,SNR=14
PASC **Pasadena Art C** 72.47 320 *e*P P 01 08 40.4 +0.6
comp=Z,31nm,1.3s
H28A **Mission Ridge** 72.51 338 ⇑P P 01 08 40.3 +0.5
baz=73,SNR=11
G29A **Hoven** 72.58 338 ⇑P P 01 08 40.4 +0.2
baz=73
I26A **New Underwood** 72.63 336 ⇓P P 01 08 41.5 +0.9
baz=73,SNR=7.9
K23A **Bowen Ranch, D** 72.65 333 ⇓P P 01 08 42.0 +1.1
baz=73,SNR=11
EYMN **Ely** 72.66 345 *e*P P 01 08 39.7 -1.0
comp=Z,24nm,0.9s
J24A **Dixon Ranch, L** 72.73 334 ⇓P P 01 08 42.8 +1.5
baz=73,SNR=7.2
G28A **Parade** 72.82 338 ⇑P P 01 08 42.2 +0.5
baz=73,SNR=9.5
EDW2 **Edwards Air Fo** 72.84 320 ⇑P P 01 08 43.3 +1.2
baz=73,SNR=13
H27A **Howes** 72.85 337 ⇓P P 01 08 42.3 +0.3
baz=73,SNR=20
K22A **Casper** 72.94 333 *e*P P 01 08 43.1 +0.5
K22A **Casper** 72.94 333 ⇓P P 01 08 43.7 +1.0
baz=73,SNR=12
I25A **Rochford** 72.95 335 ⇑P P 01 08 44.1 +1.4
baz=73,SNR=53
BLG **Laguna Peak** 72.95 319 ⇑P P 01 08 43.8 +1.1
baz=73
LRMC **Laurel Mountai** 73.09 321 ⇓P P 01 08 45.1 +1.5
baz=73,SNR=7.5
F29A **Eureka** 73.11 339 ⇑P P 01 08 43.7 +0.3
baz=74
RSSD **Black Hills** 73.15 335 *e*P P 01 08 43.7 -0.2
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD **Black Hills** 73.15 335 *e*P P 01 08 43.7 -0.2
comp=Z,8.2nm,0.8s
J23A **Dilts Ranch, B** 73.16 334 ⇓P P 01 08 44.7 +0.8
baz=74
I24A **Kuemmerle Ranc** 73.16 335 ⇓P P 01 08 45.0 +1.1
baz=74,SNR=7.5
MPU **Maple Canyon** 73.18 328 *e*P P 01 08 45.1 +0.9
comp=Z,6nm,1.1s
BSC **Santa Cruz Isl** 73.22 319 ⇓P P 01 08 45.8 +1.5
baz=74
K21A **Alcova** 73.23 332 ⇑P P 01 08 45.6 +1.2
baz=74,SNR=52
DAU **Daniels Canyon** 73.30 328 *e*P P 01 08 45.8 +0.8
DAU **Daniels Canyon** 73.30 328 *e*P P 01 08 45.8 +0.8
FURC **Furnace Creek,** 73.31 322 ⇓P P 01 08 46.5 +1.8
baz=74,SNR=11
TPNV **Topopah Spring** 73.31 323 *e*P P 01 08 46.3 +1.3
TPNV **Topopah Spring** 73.31 323 *e*P P 01 08 46.3 +1.3
TPNV **Topopah Spring** 73.31 323 ⇓P P 01 08 47.0 +2.0
baz=74,SNR=35
NLU **North Lily Min** 73.35 328 *e*P P 01 08 46.3 +1.1
comp=Z,34nm,1.4s
MPMC **Manual Prospec** 73.38 322 ⇓P P 01 08 46.8 +1.3
baz=74,SNR=14
E30A **Jud** 73.40 340 ⇑P P 01 08 45.7 +0.6
baz=74
H25A **Fruitdale** 73.41 336 ⇑P P 01 08 45.7 +0.5
baz=74,SNR=12
G27A **Dupree** 73.44 337 ⇓P P 01 08 45.9 +0.5
baz=74,SNR=11
F28A **McLaughlin** 73.45 338 ⇑P P 01 08 46.2 +0.7
baz=74,SNR=15
ARVC **Arvin** 73.51 320 ⇑P P 01 08 47.9 +1.9
baz=74
J22A **Midwest** 73.54 333 ⇓P P 01 08 46.8 +0.7
baz=74,SNR=20
G26A **Maurine** 73.61 337 ⇑P P 01 08 46.7 +0.3
baz=74,SNR=20
ISA **Isabella** 73.67 321 *e*P P 01 08 48.4 +1.4
ISA pmax pmax
comp=Z,7.0nm,1.1s
ISA **Isabella** 73.67 321 *e*P P 01 08 48.4 +1.4
comp=Z,6.8nm,1.1s
ISA **Isabella** 73.67 321 ⇑P P 01 08 48.6 +1.6
baz=74,SNR=27
E29A **Napoleon** 73.70 339 ⇓P P 01 08 46.9 +0.1
baz=74
G25A **Newell** 73.83 336 ⇑P P 01 08 48.2 +0.6
baz=74,SNR=12
PPT2 **Papeete2** 73.87 257 *e*S S 01 18 22.3 +3.7
comp=Z,338nm,26.0s
PPT2 **Papeete2** 73.87 257 *e*LR LR 01 31 40.2
comp=Z,811nm,25.0s,baz=101
PPT **Papeete** 73.88 257 LR LR 01 32 57.3
comp=Z,353nm,20.5s,baz=79,slow=29
H24A **Dirks Ranch, A** 73.88 335 ⇑P P 01 08 48.6 +0.6
baz=74,SNR=35
D30A **Buchanan** 73.89 340 ⇓P P 01 08 48.2 +0.2
baz=74,SNR=13
J21A **Lysite** 73.89 333 ⇓P P 01 08 49.3 +1.0
baz=74,SNR=19
DUG **Dugway** 73.90 327 *e*P P 01 08 49.0 +0.7
DUG pmax pmax
comp=Z,38nm,0.9s
DUG **Dugway** 73.90 327 *e*P P 01 08 49.0 +0.7
comp=Z,38nm,0.9s
DUG **Dugway** 73.90 327 ⇑P P 01 08 49.9 +1.6
baz=74,SNR=47
F27A **Lemmon** 73.90 337 ⇓P P 01 08 48.8 +0.7
baz=74,SNR=19
I22A **9 Mile Ranch,** 73.94 334 ⇓P P 01 08 49.4 +1.0
baz=74,SNR=23

PKM Peak Mountain 73.94 319 ⇓P P 01 08 50.3 +1.5
baz=74,SNR=13
R11A Troy Canyon, C 73.96 324 eP P 01 08 49.5 +0.8
R11A Troy Canyon, C 73.96 324 ⇑P P 01 08 50.8 +2.0
baz=74,SNR=43
CWC Cottonwood Cre 73.99 322 ⇓P P 01 08 50.7 +1.8
baz=74,SNR=10.0
E28A Huff 74.05 339 ⇑P P 01 08 49.7 +0.8
baz=74
H23A Clabaugh Cattl 74.06 335 ⇑P P 01 08 49.6 +0.5
baz=74
AGMN Agassiz Nation 74.11 343 eP P 01 08 48.4 -0.8
comp=Z,25nm,0.8s
AGMN Agassiz Nation 74.11 343 ⇓P P 01 08 48.8 -0.4
baz=74,SNR=12
F26A Lodgepole 74.11 337 ⇓P P 01 08 50.1 +0.8
baz=74,SNR=32
VES Vestal, Richgr 74.16 321 ⇑P P 01 08 51.3 +1.6
baz=74,SNR=7.3
J20A Shoshoni 74.17 332 ⇓P P 01 08 51.1 +1.2
baz=74,SNR=13
I21A Big Trails, Te 74.21 333 ⇑P P 01 08 50.8 +0.7
baz=75,SNR=43
E27A Carson 74.22 338 ⇓P P 01 08 50.6 +0.7
baz=75,SNR=5.3
G24A Alzada 74.32 336 ⇑P P 01 08 51.4 +0.8
baz=75,SNR=13
C30A Mose, Pekin 74.33 341 ⇑P P 01 08 50.9 +0.4
baz=75,SNR=17
SMMC Simmler 74.33 320 ⇑P P 01 08 52.7 +1.9
baz=75
BW06 Boulder Array 74.35 331 eP P 01 08 50.7 -0.3
comp=Z,11nm,0.8s
PD31 Pinedale Array 74.35 331 eP P 01 08 50.5 -0.5
PDAR Pinedale Array 74.35 331 P P 01 08 51.5 +0.4
PDAR Pinedale Array 74.35 331 P P 01 08 51.5 +0.4
comp=Z,4.5nm,0.5s,baz=137,slow=7.4,SNR=54
F25A Bowman 74.46 337 ⇑P P 01 08 52.2 +0.9
baz=75,SNR=16
H22A Clearmont 74.46 334 ⇓P P 01 08 51.9 +0.5
baz=75,SNR=15
TIN Tinemaha 74.50 322 ⇑P P 01 08 53.8 +2.0
baz=75,SNR=6.2
J19A Crowheart 74.52 332 ⇓P P 01 08 52.8 +0.9
baz=75,SNR=34
D28A Regan 74.55 339 ⇓P P 01 08 52.4 +0.6
baz=75,SNR=5.0
BGU Big Grassy Mou 74.56 328 eP P 01 08 52.6 +0.5
comp=Z,11nm,1.0s
SPUT South Promonto 74.56 328 eP P 01 08 52.7 +0.5
comp=Z,34nm,0.9s
RCTC Rector, Farmer 74.57 321 ⇑P P 01 08 53.0 +0.9
baz=75
E26A Carlson Angus 74.57 338 ⇓P P 01 08 52.6 +0.6
baz=75,SNR=14
G23A Biddle 74.58 335 ⇓P P 01 08 52.9 +0.7
baz=75,SNR=33
TPH Tonopah 74.66 323 eP P 01 08 53.3 +0.4
TPH pmax pmax
comp=Z,30nm,1.1s
TPH Tonopah 74.66 323 eP P 01 08 53.3 +0.4
comp=Z,30nm,1.1s
I20A Worland 74.67 333 ⇓P P 01 08 53.6 +0.8
baz=75,SNR=13
PTRM Twissleman Ran 74.70 320 eP P 01 08 55.2 +2.3
F24A Ekalaka 74.76 336 ⇓P P 01 08 53.9 +0.7
baz=75,SNR=25
H21A Big Horn, Sher 74.77 334 ⇑P P 01 08 53.6 +0.3
baz=75
D27A Center 74.80 338 ⇑P P 01 08 54.0 +0.8
baz=75
MDND Maddock 74.81 340 eP P 01 08 53.7 +0.4
MDND Maddock 74.81 340 ⇑P P 01 08 53.9 +0.6
baz=75,SNR=11
E25A Miller Ranch, 74.93 337 ⇓P P 01 08 55.0 +0.9
baz=75,SNR=14
C28A Hausauer Farms 74.95 339 ⇑P P 01 08 54.3 +0.2
baz=75
G22A Birney 74.95 335 ⇑P P 01 08 54.7 +0.4
baz=75,SNR=13
B30A Myrvik Farm, E 74.96 341 ⇑P P 01 08 54.2 +0.1
baz=75,SNR=17
F23A Volborg 75.03 335 ⇓P P 01 08 55.3 +0.7
baz=75,SNR=31
D26A Manning 75.04 338 ⇓P P 01 08 55.4 +0.8
baz=75,SNR=12
AHID Auburn Hatcher 75.05 330 eP P 01 08 55.1 +0.1
comp=Z,51nm,0.7s
H20A Greybull 75.05 333 ⇑P P 01 08 55.4 +0.6
baz=75,SNR=34
HVU Hansel Valley 75.08 328 eP P 01 08 55.3 +0.1
HVU pmax pmax
comp=Z,30nm,0.9s
HVU Hansel Valley 75.08 328 eP P 01 08 55.3 +0.1
comp=Z,30nm,0.9s
I19A Meeteetse 75.11 332 ⇑P P 01 08 56.5 +1.1
baz=76,SNR=30
MLAC Mammoth Lakes 75.25 322 ⇓P P 01 08 58.0 +1.7
baz=76
B29A Wagenman Farm, 75.28 340 ⇑P P 01 08 56.5 +0.5
baz=76,SNR=10
E24A Baker 75.31 336 ⇓P P 01 08 57.5 +1.2
baz=76,SNR=30
C27A Sayler Ranch, 75.32 339 ⇑P P 01 08 57.5 +1.3
baz=76
G21A Lodge Grass 75.33 334 ⇑P P 01 08 57.2 +0.8
baz=76,SNR=28
A30A Hoffart Farm, 75.39 341 ⇓P P 01 08 56.5 -0.1
baz=76,SNR=13
REDW Red Top Meadow 75.40 331 eP P 01 08 57.4 +0.3
comp=Z,26nm,0.8s
F22A Rosebud 75.41 335 ⇑P P 01 08 57.4 +0.6
baz=76,SNR=33
SNOW Snow King Moun 75.44 331 eP P 01 08 57.5 +0.2
comp=Z,31nm,0.8s
D25A Fairfield 75.46 337 ⇑P P 01 08 58.4 +1.3
baz=76,SNR=28
LOHW Long Hollow 75.49 331 eP P 01 08 57.7 +0.1
comp=Z,20nm,0.8s
NV01 Mina Array Sit 75.51 323 eP P 01 08 59.0 +1.2
NVAR Mina Array Bea 75.51 323 P P 01 08 59.4 +1.6
NVAR pP pP 01 09 09.1 +0.9
NVAR Mina Array Bea 75.51 323 P P 01 08 59.4 +1.6
comp=Z,12nm,0.8s,baz=150,slow=5.7,SNR=69
NVAR pP pP 01 09 09.1 +0.9
comp=Z,7.4nm,0.8s,baz=143,slow=6.5,SNR=12
ELK Elko 75.53 326 eP P 01 08 59.3 +1.4
comp=Z,15nm,1.0s
B28A Dugan Ranch, T 75.58 340 ⇓P P 01 08 58.2 +0.5
baz=76,SNR=12
C26A Wahner Farm, P 75.61 338 ⇑P P 01 08 58.9 +1.0
baz=76,SNR=13
H19A Powell 75.62 333 ⇑P P 01 08 59.1 +0.9
baz=76,SNR=15
E23A Ismay 75.64 336 ⇓P P 01 08 58.6 +0.5
baz=76,SNR=14
A29A Manning Farm, 75.65 341 ⇓P P 01 08 58.2 +0.1
baz=76,SNR=38
MOOW Moose Ponds 75.66 331 eP P 01 08 59.2 +0.7
comp=Z,12nm,0.8s
VNDA Vanda 75.66 190 eP P 01 08 59.8 +1.9
comp=Z,30nm,1.6s
VNDA pP PcP 01 09 09.7 -0.9
VNDA Vanda 75.66 190 P P 01 08 59.8 +1.9
comp=Z,5.3nm,0.9s,baz=156,slow=5.9,SNR=10
VNDA pP PcP 01 09 09.7 -0.9
comp=Z,8.2nm,0.9s,baz=131,slow=7.0,SNR=9.3
I17A Pilgrim Ck. 75.72 331 ⇓P P 01 09 00.6 +1.8
baz=76,SNR=31
G20A Bridger 75.74 333 ⇓P P 01 08 59.4 +0.6
baz=76,SNR=27
F21A Absaloka Mine, 75.78 334 ⇓P P 01 08 60.0 +1.0
baz=76,SNR=21
D24A Glendive 75.79 337 ⇑P P 01 09 00.2 +1.3
baz=76,SNR=17
E22A Miles City 75.83 335 ⇓P P 01 08 59.6 +0.4
baz=76
IMW Indian Meadow 75.86 331 eP P 01 09 01.0 +1.2
comp=Z,21nm,0.9s
ULM Lac du Bonnet 75.89 343 eP P 01 08 58.8 -0.6
comp=Z,14nm,0.8s
ULM pP pP 01 09 08.5 -1.3
ULM Lac du Bonnet 75.89 343 P P 01 08 58.7 -0.7
comp=Z,12nm,0.7s,baz=157,slow=6.3,SNR=20
ULM pP pP 01 09 08.5 -1.3
comp=Z,13nm,0.7s,baz=151,slow=6.7,SNR=14
ULM LR LR 01 45 44.3
comp=Z,146nm,21.1s,baz=199,slow=38

FLWY Flagg Ranch 75.90 331 eP P 01 09 01.7 +1.8
comp=Z,69nm,0.9s
H18A Shoshone NF, C 75.92 332 ⇑P P 01 09 00.9 +0.9
baz=76,SNR=59
C25A Freed Ranch, W 75.92 338 ⇓P P 01 09 00.8 +1.1
baz=76
A28A Rude Farm, Bot 75.96 340 ⇓P P 01 08 59.9 +0.1
baz=76
SYO Syowa Base 76.02 160 ⇓/P P 01 08 59.4 -0.6
SYO Syowa Base 76.02 160 ⇓/PcP PcP 01 09 09.2 -3.0
H17A Grant Village 76.09 331 eP P 01 09 02.4 +1.4
H17A Grant Village 76.09 331 ⇓P P 01 09 02.6 +1.6
baz=76
RLMT Red Lodge 76.10 333 eP P 01 09 02.2 +1.2
comp=Z,25nm,0.8s
B26A Jensen Ranch, 76.14 339 ⇓P P 01 09 01.6 +0.8
baz=76,SNR=8.5
LAO LASA Array 76.14 335 eP P 01 09 01.6 +0.5
comp=Z,75nm,0.9s
LKWY Lake 76.15 332 eP P 01 09 03.5 +2.2
LKWY pmax pmax
comp=Z,25nm,0.9s
LKWY Lake 76.15 332 eP P 01 09 03.5 +2.2
comp=Z,25nm,0.9s
D23A Lindsay 76.16 336 ⇑P P 01 09 02.5 +1.4
baz=76,SNR=31
C24A Savage 76.18 337 ⇓P P 01 09 02.4 +1.3
baz=76,SNR=32
F20A Billings 76.18 334 ⇓P P 01 09 02.2 +0.9
baz=76,SNR=8.3
WAKR Walker 76.20 322 eP P 01 09 03.7 +2.0
BMN Battle Mountai 76.34 325 eP P 01 09 02.4 0.0
BMN pmax pmax
comp=Z,7.0nm,0.9s
BMN Battle Mountai 76.34 325 eP P 01 09 02.4 0.0
comp=Z,6.9nm,0.9s
E21A Keefer Ranch, 76.36 335 ⇑P P 01 09 03.4 +1.2
baz=77,SNR=34
B25A Kram, Ray 76.36 338 ⇑P P 01 09 03.5 +1.3
baz=77,SNR=24
CMB Columbia Colle 76.42 321 eP P 01 09 02.7 0.0
CMB pmax pmax
comp=Z,11nm,1.1s
CMB Columbia Colle 76.42 321 eP P 01 09 02.7 0.0
comp=Z,11nm,1.1s
YMR Madison River 76.48 331 eP P 01 09 04.2 +1.0
comp=Z,58nm,1.0s
D22A Cohagen 76.51 336 ⇓P P 01 09 04.3 +1.2
baz=77,SNR=28
A26A Wade Farm, Ken 76.52 339 ⇓P P 01 09 03.7 +0.7
baz=77,SNR=6.8
F19A Roth Farm, Mol 76.55 333 ⇑P P 01 09 04.3 +0.9
baz=77,SNR=33
C23A Lambert 76.68 337 ⇓P P 01 09 05.1 +1.0
baz=77,SNR=13
E20A Meyer Farm, Mu 76.75 334 ⇑P P 01 09 05.6 +1.2
baz=77,SNR=60
D21A La Casta Ranch 76.75 335 ⇓P P 01 09 05.7 +1.2
baz=77,SNR=55
GCMT Greycliff 76.81 333 eP P 01 09 05.0 +0.1
QLMT Earthquake Lak 76.81 331 eP P 01 09 05.9 +0.9
DGMT Dagmar 76.89 338 eP P 01 09 05.7 +0.5
comp=Z,96nm,0.8s
DGMT Dagmar 76.89 338 ⇑P P 01 09 06.5 +1.3
baz=77,SNR=21
C22A Vida 76.89 336 ⇑P P 01 09 06.2 +1.0
baz=77,SNR=21
A25A Svangstu Ranch 76.92 338 ⇑P P 01 09 06.3 +1.0
baz=77,SNR=22
E19A Rath Farm, Rou 76.98 334 ⇑P P 01 09 06.8 +1.0
baz=77,SNR=76
PAHR Pah Rah Range 77.00 323 eP P 01 09 07.4 +1.3
comp=Z,61nm,1.0s
SCHQ Schefferville 77.06 2 eP P 01 09 05.1 -0.8
comp=Z,24nm,0.8s
SCHQ Schefferville 77.06 2 P P 01 09 06.0 0.0
comp=Z,21nm,0.8s,baz=183,slow=4.9,SNR=20
B23A Brockton 77.17 337 ⇑P P 01 09 07.9 +1.2
baz=78,SNR=26
A24A Westby 77.21 338 ⇓P P 01 09 08.2 +1.3
baz=78,SNR=11
HLID Hailey 77.22 329 eP P 01 09 08.2 +0.9
comp=Z,29nm,0.9s
HLID Hailey 77.22 329 ⇓P P 01 09 09.2 +1.8
baz=78,SNR=53
D20A Manuel Ranch, 77.22 335 ⇑P P 01 09 08.0 +0.9
baz=78,SNR=44
MCMT McKenzie Canyo 77.45 330 eP P 01 09 09.5 +0.8
BOZ Bozeman (W) 77.54 332 eP P 01 09 08.6 -0.4
BOZ pmax pmax
comp=Z,32nm,1.3s
BOZ Bozeman (W) 77.54 332 eP P 01 09 08.6 -0.4
comp=Z,32nm,1.3s
A23A Redstone 77.55 337 ⇓P P 01 09 09.8 +1.0
baz=78,SNR=6.2
D19A Cripps Ranch, 77.58 334 ⇑P P 01 09 09.9 +0.8
baz=78,SNR=41
BEKR Beckworth 77.66 323 eP P 01 09 10.2 +0.3
comp=Z,11nm,1.0s
C20A Veseth Ranch, 77.68 335 ⇓P P 01 09 10.1 +0.4
baz=78,SNR=24
DLMT Dillon 77.75 331 eP P 01 09 11.2 +1.0
comp=Z,33nm,1.0s
MFID Camas Ranch 77.80 328 eP P 01 09 11.1 +0.7
comp=Z,36nm,1.3s
B21A Ellsworth Farm 77.89 336 ⇑P P 01 09 11.8 +1.1
baz=78,SNR=5.9
A22A Carney Farms, 77.95 337 ⇑P P 01 09 12.2 +1.1
baz=78,SNR=34
LRM Limekiln Ridge 78.03 331 eP P 01 09 12.4 +0.5
C19A Slack Wire Ran 78.11 334 ⇓P P 01 09 12.9 +0.9
baz=78,SNR=22
B20A Solberg Farm, 78.28 335 ⇑P P 01 09 13.7 +0.7
baz=79,SNR=14
HRY Holter Researc 78.45 332 eP P 01 09 14.6 +0.5
WVOR Wild Horse Val 78.52 326 eP P 01 09 14.8 +0.3
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 78.52 326 eP P 01 09 14.8 +0.3
comp=Z,6.3nm,0.9s
A20A Cobblestone Ra 78.60 336 ⇓P P 01 09 15.4 +0.7
baz=79,SNR=44
EGMT Eagleton 78.62 334 eP P 01 09 15.0 +0.1
comp=Z,32nm,0.8s
EGMT Eagle 78.62 334 ⇓P P 01 09 15.5 +0.6
baz=79,SNR=7.1
B19A Brinkman Farms 78.65 335 ⇓P P 01 09 15.7 +0.7
baz=79,SNR=45
TORD Torodi Ar. Bea 78.87 71 P P 01 09 16.6 -0.3
TORD ScS ScS 01 19 37.6 +0.9
TORD Torodi Ar. Bea 78.87 71 P P 01 09 16.6 -0.3
comp=Z,44nm,0.8s,baz=253,slow=5.3,SNR=187
TORD ScS ScS 01 19 37.6 +0.9
comp=Z,2.8nm,1.2s,baz=240,slow=9.9,SNR=5.5
A19A Klindworth Far 78.95 335 ⇓P P 01 09 17.3 +0.6
baz=79,SNR=21
MOD Modoc 79.03 324 eP P 01 09 18.1 +0.8
comp=Z,8.1nm,1.0s
J08A Circle Bar Ran 79.09 326 eP P 01 09 18.6 +1.0
comp=Z,19nm,1.1s
SUR Sutherland 79.16 121 eP P 01 09 19.2 +0.7
comp=Z,142nm,1.8s
SUR Sutherland 79.16 121 P P 01 09 19.8 +1.3
comp=Z,175nm,1.5s,SNR=5.4
CHMT Chamberlain Mo 79.23 332 eP P 01 09 18.6 +0.2
WDC Whiskeytown Da 79.37 322 eP P 01 09 19.0 0.0
WDC pmax pmax
comp=Z,14nm,0.7s
WDC Whiskeytown Da 79.37 322 eP P 01 09 19.0 0.0
comp=Z,14nm,0.7s
KCPM Cahto Peak 79.37 321 eP P 01 09 19.5 +0.3
comp=Z,97nm,1.9s
KIPM Iron Peak 79.39 321 eP P 01 09 21.2 +1.9
MSO Missoula 79.47 331 eP P 01 09 21.1 +1.5
comp=Z,51nm,1.6s
MSO Missoula 79.47 331 ⇓P P 01 09 20.9 +1.3
baz=80,SNR=19
SLMT Seeley Lake 79.59 332 eP P 01 09 21.7 +1.5
N02D Trinity Center 79.72 322 ⇑P P 01 09 21.6 +0.5
baz=80
M04C Macdoel 79.78 323 ⇑P P 01 09 22.4 +1.0
baz=80
K05A Summer Lake 79.91 325 eP P 01 09 23.8 +1.6
comp=Z,64nm,1.0s
SWMT Swartz Lake 80.01 332 eP P 01 09 23.7 +1.2
M02C Callahan 80.08 323 ⇓P P 01 09 23.4 +0.4
baz=80

I07A Izee 80.13 326 eP P 01 09 24.6 +1.4
comp=Z,26nm,0.9s
YBH Yreka Blue Hor 80.23 323 eP P 01 09 23.5 -0.3
comp=Z,9.4nm,0.8s
KHMM Horse Mountain 80.24 322 eP P 01 09 25.3 +1.4
comp=Z,44nm,1.1s
YBMT Yellow Bay 80.29 332 eP P 01 09 25.2 +1.2
K04D Chiloquin, OR 80.31 324 ⇓P P 01 09 25.4 +1.2
baz=81
JTMT Jette 80.32 332 eP P 01 09 25.8 +1.6
F10A Beach Ranch, E 80.35 329 eP P 01 09 25.7 +1.4
comp=Z,40nm,0.8s
J05D Fort Rock, OR 80.48 325 ⇑P P 01 09 26.6 +1.4
baz=81
BLMT Blacktail Moun 80.55 332 eP P 01 09 26.9 +1.3
BSMT Bassoo Peak 80.62 331 eP P 01 09 27.1 +1.2
PINOR Pine Mountain 80.65 325 eP P 01 09 27.8 +2.0
G08A Pilot Rock 80.70 327 eP P 01 09 27.4 +1.1
comp=Z,17nm,0.8s
KRMB Red Mountain 80.77 322 eP P 01 09 27.3 +0.6
comp=Z,485nm,3.0s
HUMO Hull Mountain 80.95 324 eP P 01 09 27.6 0.0
comp=Z,208nm,2.7s
TSUM Tsumeb 80.96 107 eP P 01 09 28.6 +0.3
comp=Z,53nm,1.0s
WALA Waterton Lakes 81.16 333 eP P 01 09 29.7 +1.1
E09A Wood Farm, Sta 81.18 329 eP P 01 09 29.3 +0.6
comp=Z,17nm,0.8s
G06A Carlson Farm, 81.51 327 eP P 01 09 32.0 +1.5
comp=Z,21nm,0.9s
FFC Flin Flon 81.57 342 P P 01 09 30.5 0.0
comp=Z,127nm,1.2s,SNR=8.6
FFC Flin Flon 81.57 342 eP P 01 09 30.6 0.0
FFC pmax pmax
comp=Z,18nm,1.3s
FFC Flin Flon 81.57 342 eP P 01 09 30.6 +0.1
comp=Z,18nm,1.3s
HAWA Hanford 81.77 328 eP P 01 09 33.3 +1.6
comp=Z,62nm,0.8s
H04A Detroit Lake 81.93 325 eP P 01 09 33.4 +0.6
comp=Z,31nm,0.8s
D08A Wollman Farm, 81.94 329 eP P 01 09 33.4 +0.7
comp=Z,23nm,0.8s
NEW Newport 81.98 331 eP P 01 09 33.1 +0.2
comp=Z,13nm,0.9s
NEW Newport 81.98 331 ⇓P P 01 09 33.1 +0.2
baz=82,SNR=6.9
C09A Chrisman Ranch 82.17 330 eP P 01 09 35.4 +1.5
comp=Z,57nm,0.8s
COR Corvallis 82.46 325 eP P 01 09 36.9 +1.5
COR pmax pmax
comp=Z,179nm,1.4s
COR Corvallis 82.46 325 eP P 01 09 36.9 +1.5
comp=Z,179nm,1.4s
PFVI Vila Bisbo 82.83 45 eP pP 01 09 49.3 +1.2
comp=Z,174nm,1.6s
PFVI Vila Bisbo 82.83 45 eLR LR 01 37 24.8
F04A Amboy 82.90 326 eP P 01 09 37.8 +0.1
comp=Z,54nm,0.8s
LTY Liberty 82.93 328 eP P 01 09 38.0 +0.1
comp=Z,22nm,0.8s
MORF Marmelete 83.04 45 eLQ LQ 01 32 48.3
MORF eLR LR 01 38 28.1
B08A Colville Reser 83.07 329 eP P 01 09 38.0 -0.6
comp=Z,27nm,1.3s
LON Longmire 83.15 327 eP P 01 09 39.5 +0.4
LON Longmire 83.15 327 eP P 01 09 39.5 +0.4
FCC Fort Churchill 83.32 348 eP P 01 09 39.7 +0.2
FCC Fort Churchill 83.32 348 eP P 01 09 39.7 +0.2
MDT Midelt 83.34 51 LR LR 01 47 51.0
comp=Z,222nm,20.5s,baz=254,slow=36
PBDV Barranco-do-Ve 83.48 45 eLR LR 01 37 47.0
D05A Enumclaw 83.54 327 eP P 01 09 40.6 -0.4
comp=Z,43nm,0.8s
PNCL Nicolau / Gran 83.58 44 eLR LR 01 38 40.4
PMAFR Mafra 83.59 43 eLQ LQ 01 34 05.4
PVAQ Vaqueiros 83.71 45 eP pP 01 09 51.3 -1.3
comp=Z,81nm,1.6s
PVAQ Vaqueiros 83.71 45 eLQ LQ 01 34 32.9
PVAQ eLR LR 01 38 47.0
MAW Mawson 83.74 164 eP P 01 09 42.1 +0.3
comp=Z,8.4nm,1.0s
MAW pP pP 01 09 52.7 +0.4
MAW Mawson 83.74 164 P P 01 09 42.7 +0.9
comp=Z,30nm,0.9s,baz=214,slow=7.0,SNR=14
MAW pP pP 01 09 52.7 +0.4
comp=Z,20nm,0.8s,baz=242,slow=8.1,SNR=6.4
MAW LR LR 01 47 04.6
comp=Z,348nm,19.1s,baz=233,slow=36
E03A Lebam 83.90 326 eP P 01 09 44.1 +1.3
comp=Z,43nm,0.8s
BOSA Boshof 84.09 118 eP P 01 09 44.8 +0.2
comp=Z,30nm,0.9s
BOSA Boshof 84.09 118 P P 01 09 44.3 -0.3
comp=Z,24nm,1.0s,baz=234,slow=4.8,SNR=30
BOSA LR LR 01 45 47.2
comp=Z,245nm,18.0s,baz=253,slow=35
EDM Edmonton 84.13 336 eP P 01 09 43.4 -0.5
EDM Edmonton 84.13 336 eP P 01 09 43.4 -0.5
B06A Marblemount 84.20 329 eP P 01 09 43.8 -0.5
PTOM Tomar 84.52 43 eP P 01 09 47.7 +1.5
comp=Z,28nm,1.0s
PBAR Barrancos 84.59 45 eP P 01 09 47.5 +1.0
comp=Z,95nm,1.5s
PBAR Barrancos 84.59 45 eLQ LQ 01 33 45.2
PBAR eLR LR 01 36 07.0
NLWA Neilton Lookou 84.62 327 eP P 01 09 47.6 +1.1
comp=Z,19nm,0.9s
PESTR Estremoz 84.62 44 eP P 01 09 48.3 +1.6
comp=Z,65nm,1.6s
PESTR Estremoz 84.62 44 eLQ LQ 01 32 57.4
PCAS Casmilo, Conde 84.72 43 eP P 01 09 49.7 +2.6
PCAS Casmilo, Conde 84.72 43 eLR LR 01 35 58.0
A05A Maple Falls 84.82 329 eP P 01 09 47.3 -0.1
comp=Z,43nm,0.8s
PCBR Castelo Branco 85.24 43 eP P 01 09 50.5 +0.7
comp=Z,5.6nm,0.9s
PGC Sidney 85.25 328 eP P 01 09 50.0 +0.5
PVIS Viseu 85.47 42 eP P 01 09 52.4 +1.4
comp=Z,13nm,1.1s
MTE Manteigas 85.51 43 eP P 01 09 52.1 +0.9
comp=Z,84nm,1.4s
MTE Manteigas 85.51 43 eP P 01 09 51.8 +0.6
comp=Z,79nm,1.3s
LBTB Lobatse 85.74 115 eP P 01 09 53.3 +0.4
comp=Z,58nm,1.6s
POLO Lamas de Olo 85.91 42 eP P 01 09 54.1 +0.9
comp=Z,5.0nm,1.2s
POLO Lamas de Olo 85.91 42 eLR LR 01 40 53.8
PGAV Gavieira, Arco 85.96 41 eLQ LQ 01 32 46.3
MVO Moncorvo 86.27 42 eP P 01 09 55.9 +1.0
comp=Z,12nm,0.6s
MVO Moncorvo 86.27 42 eLQ LQ 01 33 57.5
MVO eLR LR 01 37 24.8
PBRG Braganca 86.81 42 eP P 01 09 58.0 +0.5
comp=Z,11nm,0.8s
PBRG Braganca 86.81 42 eLQ LQ 01 32 42.6
PAB San Pablo 87.10 45 eP P 01 09 57.3 -1.7
PAB pmax pmax
comp=Z,20nm,1.1s
PAB San Pablo 87.10 45 eP P 01 09 57.3 -1.7
comp=Z,20nm,1.1s
ESDC Sonseca Array 87.42 45 P P 01 10 00.9 +0.3
ESDC Sonseca Array 87.42 45 P P 01 10 00.9 +0.3
comp=Z,11nm,1.2s,baz=245,slow=2.8,SNR=11
ESDC LR LR 01 46 58.2
comp=Z,114nm,18.9s,baz=240,slow=34
ES19 SONSECA Array 87.47 45 eP P 01 09 59.5 -1.3
ETSF Etsaut 91.27 44 eP P 01 10 17.4 -1.2
comp=Z,5.3nm,0.7s
ETSF Etsaut 91.27 44 eP P 01 10 17.4 -1.2
ETSF pmax pmax
comp=Z,5.0nm,0.6s
ETSF Etsaut 91.27 44 eP P 01 10 17.4 -1.2
comp=Z,5.3nm,0.6s
YKA Yellowknife Ar 91.70 341 P P 01 10 19.9 -0.1
YKA pP pP 01 10 30.1 -0.5
YKA Yellowknife Ar 91.70 341 P P 01 10 19.9 -0.1
comp=Z,8.5nm,0.6s,baz=138,slow=4.4,SNR=237
YKA pP pP 01 10 30.1 -0.5
comp=Z,14nm,0.7s,baz=142,slow=4.3,SNR=38
YKB5 Yellowknife Ar 91.70 341 eP P 01 10 18.9 -1.1
EPF Esparros 91.91 44 eP P 01 10 19.5 -2.1
EPF Esparros 91.91 44 eP P 01 10 19.5 -2.1
EPF Esparros 91.91 44 eP P 01 10 19.5 -2.1
LFF La Frestale 93.09 42 eP P 01 10 26.3 -0.6

	comp=Z,44nm,0.9s								
LFF	**La Frestale**	**93.09**	**42**	*e*P	**P**	**01 10 26.3**	**-0.6**		
LFF				pmax	pmax				
	comp=Z,44nm,0.9s								
LFF	**La Frestale**	**93.09**	**42**	*e*P	**P**	**01 10 26.3**	**-0.6**		
	comp=Z,44nm,0.9s								
MTLF	**Montolieu**	**93.27**	**44**	*e*P	**P**	**01 10 27.0**	**-0.7**		
	comp=Z,11nm,0.9s								
MTLF	**Montolieu**	**93.27**	**44**	*e*P	**P**	**01 10 27.0**	**-0.7**		
MTLF				pmax	pmax				
	comp=Z,11nm,0.9s								
MTLF	**Montolieu**	**93.27**	**44**	*e*P	**P**	**01 10 27.0**	**-0.7**		
	comp=Z,11nm,0.9s								
MFF	**Saint Martin d**	**93.36**	**41**	*e*P	**P**	**01 10 27.3**	**-0.8**		
MFF	**Saint Martin d**	**93.36**	**41**	*e*P	**P**	**01 10 27.3**	**-0.8**		
MFF	**Saint Martin d**	**93.36**	**41**	*e*P	**P**	**01 10 27.3**	**-0.8**		
RJF	**Les Rejaudoux**	**93.75**	**42**	*e*P	**P**	**01 10 29.1**	**-0.8**		
RJF				*e*R					
	comp=Z,308nm,21.8s								
RJF	**Les Rejaudoux**	**93.75**	**42**	*e*P	**P**	**01 10 29.1**	**-0.8**		
RJF	**Les Rejaudoux**	**93.75**	**42**	*e*P	**P**	**01 10 29.1**	**-0.8**		
CAF	**Calviac**	**93.91**	**43**	*e*P	**P**	**01 10 30.1**	**-0.6**		
	comp=Z,21nm,1.1s								
CAF	**Calviac**	**93.91**	**43**	*e*P	**P**	**01 10 30.1**	**-0.6**		
CAF				pmax	pmax				
	comp=Z,21nm,1.1s								
CAF	**Calviac**	**93.91**	**43**	*e*P	**P**	**01 10 30.1**	**-0.6**		
	comp=Z,21nm,1.1s								
LDF	**La Druitiere**	**94.35**	**39**	*e*P	**P**	**01 10 31.3**	**-1.3**		
LDF	**La Druitiere**	**94.35**	**39**	*e*P	**P**	**01 10 31.3**	**-1.3**		
LDF	**La Druitiere**	**94.35**	**39**	*e*P	**P**	**01 10 31.3**	**-1.3**		
DLBC	**Dease Lake**	**94.50**	**333**	*e*P	**P**	**01 10 32.5**	**-0.6**		
TCF	**Toulx Ste Croi**	**94.64**	**42**	*e*P	**P**	**01 10 32.9**	**-1.1**		
TCF	**Toulx Ste Croi**	**94.64**	**42**	*e*P	**P**	**01 10 32.9**	**-1.1**		
TCF	**Toulx Ste Croi**	**94.64**	**42**	*e*P	**P**	**01 10 32.9**	**-1.1**		
KEST	**Kesra**	**94.90**	**53**	P	**P**	**01 10 36.6**	**+1.0**		
KEST	**Kesra**	**94.90**	**53**	P	**P**	**01 10 36.6**	**+1.0**		
	comp=Z,5.2nm,1.0s,baz=341,slow=4.4,SNR=4.8								
KEST				LR	LR	01 54 16.8			
	comp=Z,113nm,18.5s,baz=205,slow=36								
BGF	**Bois d'Agland**	**95.15**	**42**	*e*P	**P**	**01 10 35.5**	**-0.8**		
	comp=Z,30nm,1.0s								
BGF	**Bois d'Agland**	**95.15**	**42**	*e*P	**P**	**01 10 35.5**	**-0.8**		
BGF				pmax	pmax				
	comp=Z,30nm,1.0s								
BGF	**Bois d'Agland**	**95.15**	**42**	*e*P	**P**	**01 10 35.5**	**-0.8**		
	comp=Z,30nm,1.0s								
HYF	**Humbligny**	**95.35**	**41**	*e*P	**P**	**01 10 36.3**	**-0.9**		
HYF	**Humbligny**	**95.35**	**41**	*e*P	**P**	**01 10 36.3**	**-0.9**		
AVF	**Avril sur Loir**	**95.57**	**41**	*e*P	**P**	**01 10 37.0**	**-1.2**		
AVF	**Avril sur Loir**	**95.57**	**41**	*e*P	**P**	**01 10 37.0**	**-1.2**		
AVF	**Avril sur Loir**	**95.57**	**41**	*e*P	**P**	**01 10 37.0**	**-1.2**		
SSF	**Saint Saulge**	**95.79**	**41**	*e*P	**P**	**01 10 37.9**	**-1.3**		
	comp=Z,13nm,1.0s								
SSF	**Saint Saulge**	**95.79**	**41**	*e*P	**P**	**01 10 37.9**	**-1.3**		
SSF				pmax	pmax				
	comp=Z,13nm,1.0s								
SSF	**Saint Saulge**	**95.79**	**41**	*e*P	**P**	**01 10 37.9**	**-1.3**		
	comp=Z,13nm,1.0s								
SMF	**Signal de Mont**	**95.80**	**42**	*e*P	**P**	**01 10 38.5**	**-0.8**		
SMF	**Signal de Mont**	**95.80**	**42**	*e*P	**P**	**01 10 38.5**	**-0.8**		
SMF	**Signal de Mont**	**95.80**	**42**	*e*P	**P**	**01 10 38.5**	**-0.8**		
LMR	**La Mourre**	**96.06**	**46**	*e*P	**P**	**01 10 40.1**	**-0.4**		
	comp=Z,60nm,1.2s								
LMR	**La Mourre**	**96.06**	**46**	*e*P	**P**	**01 10 40.1**	**-0.4**		
LMR				pmax	pmax				
	comp=Z,60nm,1.3s								
LMR	**La Mourre**	**96.06**	**46**	*e*P	**P**	**01 10 40.1**	**-0.4**		
	comp=Z,60nm,1.3s								
LOR	**Lormes**	**96.09**	**41**	*e*P	**P**	**01 10 39.3**	**-1.3**		
	comp=Z,18nm,0.9s								
LOR				*e*R					
	comp=Z,278nm,23.0s								
LOR	**Lormes**	**96.09**	**41**	*e*P	**P**	**01 10 39.3**	**-1.3**		
	comp=Z,18nm,0.9s								
LPG	**La Plagne**	**97.13**	**44**	*e*P	**P**	**01 10 45.8**	**+0.1**		
LPG	**La Plagne**	**97.13**	**44**	*e*P	**P**	**01 10 45.8**	**+0.1**		
LPG	**La Plagne**	**97.13**	**44**	*e*P	**P**	**01 10 45.8**	**+0.1**		
SFTF	**Sexfontaines**	**97.22**	**41**	*e*P	**P**	**01 10 44.6**	**-1.1**		
SFTF	**Sexfontaines**	**97.22**	**41**	*e*P	**P**	**01 10 44.6**	**-1.1**		
SUMG	**Summit**	**97.23**	**9**	*e*P	**P**	**01 10 45.6**	**-0.1**		
SUMG				pmax	pmax				
	comp=Z,13nm,1.1s								
SUMG	**Summit**	**97.23**	**9**	*e*P	**P**	**01 10 45.6**	**-0.1**		
	comp=Z,14nm,1.1s								
MEZF	**Maizieres J'vi**	**97.36**	**40**	*e*P	**P**	**01 10 45.3**	**-1.0**		
	comp=Z,23nm,0.9s								
MEZF	**Maizieres J'vi**	**97.36**	**40**	*e*P	**P**	**01 10 45.3**	**-1.0**		
	comp=Z,23nm,0.9s								
GIVF	**Givet**	**97.91**	**39**	*e*P	**P**	**01 10 47.9**	**-0.8**		
GIVF	**Givet**	**97.91**	**39**	*e*P	**P**	**01 10 47.9**	**-0.8**		
GIVF	**Givet**	**97.91**	**39**	*e*P	**P**	**01 10 47.9**	**-0.8**		
HAU	**Haudompre**	**97.93**	**41**	*e*P	**P**	**01 10 47.9**	**-1.0**		
HAU				*e*R					
	comp=Z,229nm,21.0s								
HAU	**Haudompre**	**97.93**	**41**	*e*P	**P**	**01 10 47.9**	**-1.0**		
HAU	**Haudompre**	**97.93**	**41**	*e*P	**P**	**01 10 47.9**	**-1.0**		
HINF	**Hinteralfeld**	**98.16**	**42**	*e*P	**P**	**01 10 48.6**	**-1.4**		
	comp=Z,6.0nm,0.9s								
HINF	**Hinteralfeld**	**98.16**	**42**	*e*P	**P**	**01 10 48.6**	**-1.4**		
HINF				pmax	pmax				
	comp=Z,6.0nm,0.9s								
HINF	**Hinteralfeld**	**98.16**	**42**	*e*P	**P**	**01 10 48.6**	**-1.4**		
	comp=Z,6.0nm,0.9s								
RES	**Resolute Bay**	**98.23**	**354**	*e*P	Pdif	01 10 49.7	0.0		
	comp=Z,111nm,3.0s								
WLF	**Walferdange**	**98.51**	**40**	P	Pdif	01 10 52.0	+0.6		
	comp=Z,16nm,1.4s								
CDF	**Champ du Feu**	**98.66**	**41**	*e*P	**P**	**01 10 51.2**	**-1.1**		
CDF	**Champ du Feu**	**98.66**	**41**	*e*P	**P**	**01 10 51.2**	**-1.1**		
CDF	**Champ du Feu**	**98.66**	**41**	*e*P	**P**	**01 10 51.2**	**-1.1**		
GERES	**GERESS Array B**	**102.78**	**42**	P	**Pdif**	**01 11 10.0**	**-0.6**		
GERES	**GERESS Array B**	**102.78**	**42**	P	**Pdif**	**01 11 10.0**	**-0.6**		
	comp=Z,0.5nm,0.6s,baz=219,slow=12,SNR=2.7								
SOKA	**Soboth**	**102.92**	**45**	⇓ *i* Pdiff	**Pdif**	**01 11 10.0**	**-1.3**		
	comp=Z,3.5nm,1.3s								
ILAR	**Eielson Array**	**104.59**	**334**	Pdif	**Pdif**	**01 11 17.8**	**-0.4**		
ILAR				PP	**PP**	**01 15 39.9**	**+2.0**		
ILAR	**Eielson Array**	**104.59**	**334**	Pdiff	**Pdif**	**01 11 17.8**	**-0.4**		
	comp=Z,0.3nm,0.8s,baz=153,slow=3.8,SNR=4.2								
ILAR				PP	**PP**	**01 15 39.9**	**+2.0**		
	comp=Z,1.3nm,0.9s,baz=99,slow=6.2,SNR=4.5								
DZM	**Mont Dzumac**	**109.20**	**235**	*e*SS	SS	01 31 38.8	+8.2		
	comp=Z,150nm,25.8s								
DZM	**Mont Dzumac**	**109.20**	**235**	*e*LR	LR	01 48 02.2			
	comp=Z,557nm,26.7s								
AK11	**Malin Array Si**	**112.94**	**43**	*e*PKiKP	**PKiKP**	**01 15 48.4**	**-1.4**		
BR231	**Keskin MP Arra**	**113.79**	**55**	*e*PKiKP	**PKiKP**	**01 15 53.1**	**+1.2**		
BRTR	**Keskin Array B**	**114.42**	**55**	PKP	PKPdf	01 15 53.4	+0.1		
BRTR				pPKP	PKiKP	01 16 03.5	+10		
BRTR	**Keskin Array B**	**114.42**	**55**	PKP	PKPdf	01 15 53.4	+0.1		
	comp=Z,2.2nm,1.0s,baz=141,slow=4.3,SNR=8.3								
BRTR				pPKP	PKiKP	01 16 03.5	+10		
	comp=Z,1.6nm,0.9s,baz=186,slow=4.5,SNR=6.2								
OBN	**Obninsk**	**117.72**	**38**	⇓ *i* PKIKP	**PKPdf**	**01 15 58.4**	**-0.4**		
OBN				pmax	pmax				
	comp=Z,37nm,2.5s								
ANN	**Anapa**	**117.85**	**50**	*i* PKIKP	**PKPdf**	**01 16 02.8**	**+3.4**		
ANN				*e*SS	SS	01 33 36.5	+11		
ANN				pmax	pmax				
	comp=Z,94nm,1.6s								
STKA	**Stephens Creek**	**117.93**	**211**	PKP	**PKPdf**	**01 16 00.0**	**-0.2**		
STKA	**Stephens Creek**	**117.93**	**211**	PKP	**PKPdf**	**01 16 00.0**	**-0.2**		
	comp=Z,1.3nm,0.8s,baz=76,slow=7.6,SNR=3.3								
MOS	**Moscow**	**118.31**	**38**	*e*PKIKP	PKPpre	01 15 45.0			
MOS				pmax	pmax				
	comp=Z,30nm,0.9s								
RAYN	**Ar Rayn**	**121.33**	**75**	*e*PKPdf	**PKPdf**	**01 16 07.1**	**+0.2**		
KIV	**Kislovodsk**	**121.57**	**51**	*i* PKIKP	**PKPdf**	**01 16 08.1**	**+1.3**		
KIV				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,62nm,20.0s								
KBZ	**Khabaz**	**121.71**	**52**	PKIKP	**PKPdf**	**01 16 07.3**	**+0.4**		
KBZ	**Khabaz**	**121.71**	**52**	PKP	**PKPdf**	**01 16 07.3**	**+0.4**		
KBZ	**Khabaz**	**121.71**	**52**	PKP	**PKPdf**	**01 16 07.3**	**+0.4**		
	comp=Z,7.6nm,0.9s,baz=67,slow=1.8,SNR=12								
GOF	**Gofitskoye**	**121.84**	**50**	*e*PKIKP	**PKPdf**	**01 16 07.9**	**+0.7**		
ZEI	**Tsey**	**122.42**	**53**	*i* PKIKP	**PKPdf**	**01 16 08.9**	**+0.3**		
ZEI				pmax	pmax				
	comp=Z,5.0nm,1.0s								
IMRD	**Marand**	**123.62**	**58**	*e*P	**PKPdf**	**01 16 11.2**	**+0.2**		
ITBZ	**Tabriz**	**123.94**	**58**	*e*P	**PKPdf**	**01 16 11.2**	**-0.4**		
IBST	**Bostanabad**	**124.50**	**59**	*e*P	**PKPdf**	**01 16 12.3**	**-0.5**		
IHRS	**Heris**	**124.65**	**58**	*e*P	**PKPdf**	**01 16 13.2**	**+0.1**		

H11S2	**WAKE ISLAND Hyd**	**126.75**	**277**	T	T	03 35 38.1			
	baz=107,slow=73,SNR=756								
H11S1	**WAKE ISLAND Hyd**	**126.76**	**277**	T	T	03 35 53.6			
	baz=107,slow=73,SNR=1011								
H11S3	**WAKE ISLAND Hyd**	**126.77**	**277**	T	T	03 35 55.6			
	baz=107,slow=73,SNR=818								
H11N3	**WAKE ISLAND Hyd**	**126.86**	**278**	T	T	03 36 04.1			
	baz=107,slow=75,SNR=976								
H11N2	**WAKE ISLAND Hyd**	**126.88**	**278**	T	T	03 36 05.3			
	baz=107,slow=75,SNR=885								
H11N1	**WAKE ISLAND Hyd**	**126.88**	**278**	T	T	03 36 00.6			
	baz=107,slow=75,SNR=639								
AS01	**Alice Springs**	**128.43**	**209**	*e*PKPdf	**PKPdf**	**01 16 20.5**	**-0.1**		
ASAR	**Alice Springs**	**128.45**	**209**	PKP	**PKPdf**	**01 16 20.6**	**-0.1**		
ASAR				pPKP	**pPKPdf**	**01 16 30.9**	**-0.6**		
ASAR	**Alice Springs**	**128.45**	**209**	PKP	**PKPdf**	**01 16 20.6**	**-0.1**		
	comp=Z,9.3nm,0.9s,baz=147,slow=2.2,SNR=43								
ASAR				pPKP	**pPKPdf**	**01 16 30.9**	**-0.6**		
	comp=Z,9.4nm,0.8s,baz=146,slow=2.3,SNR=19								
IZEF	**Zefreh**	**128.66**	**65**	*e*P	**PKPdf**	**01 16 20.4**	**-0.6**		
IPAR	**Pars**	**129.02**	**69**	*e*P	**PKPdf**	**01 16 22.5**	**+0.7**		
ILAS	**Lasjerd**	**129.29**	**62**	*e*P	PKPdf	01 16 12.8	-9.3		
TIXI	**Tiksi**	**129.61**	**352**	⇓ *i* PKIKP	**PKPdf**	**01 16 21.1**	**-0.1**		
TIXI				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ARU	**Arti**	**129.67**	**34**	*i* PKIKP	**PKPdf**	**01 16 22.2**	**+0.4**		
ARU						01 18 31.4			
ARU				SS	SS	01 35 53.6	+0.1		
SEY	**Seymchan**	**130.50**	**336**	PKIKP	**PKPdf**	**01 16 23.9**	**+0.8**		
SEY	**Seymchan**	**130.50**	**336**	PKP	**PKPdf**	**01 16 23.9**	**+0.8**		
SEY	**Seymchan**	**130.50**	**336**	PKP	**PKPdf**	**01 16 23.9**	**+0.8**		
	comp=Z,19nm,1.0s,baz=24,slow=2.4,SNR=18								
SVE	**Sverdlovsk**	**130.59**	**33**	*e*PKIKP	**PKPdf**	**01 16 24.7**	**+1.2**		
SVE				pmax	pmax				
	comp=Z,18nm,1.5s								
AKTO	**Aktyubinsk**	**131.21**	**42**	PKIKP	**PKPdf**	**01 16 24.6**	**-0.3**		
AKTO				pmax	pmax				
	comp=Z,12nm,1.2s								
WRA	**Warramunga Arr**	**131.46**	**212**	PKP	**PKPdf**	**01 16 26.6**	**+0.2**		
WRA				pPKP	**pPKPdf**	**01 16 37.0**	**-0.3**		
WRA				SKPbc	**SKPbc**	**01 19 49.2**	**0.0**		
WRA	**Warramunga Arr**	**131.46**	**212**	PKP	**PKPdf**	**01 16 26.6**	**+0.2**		
	comp=Z,8.1nm,0.9s,baz=153,slow=1.6,SNR=15								
WRA				pPKP	**pPKPdf**	**01 16 37.0**	**-0.3**		
	comp=Z,7.9nm,0.9s,baz=155,slow=1.8,SNR=8.7								
WRA				SKPbc	**SKPbc**	**01 19 49.2**	**0.0**		
	comp=Z,4.6nm,1.2s,baz=152,slow=3.6,SNR=8.1								
WRAB	**Tennant Creek**	**131.47**	**212**	*e*PKIKP	**PKPdf**	**01 16 26.7**	**+0.3**		
WRAB	**Tennant Creek**	**131.47**	**212**	*e*PKPdf	**PKPdf**	**01 16 26.7**	**+0.3**		
PMG	**Port Moresby**	**131.53**	**233**	*e*PKPdf	**PKPdf**	**01 16 25.6**	**-1.0**		
PMG	**Port Moresby**	**131.53**	**233**	PKP	**PKPdf**	**01 16 25.6**	**-1.0**		
	comp=Z,2.7nm,0.2s,baz=195,slow=19,SNR=5.3								
PEA0	**Petropavlovsk-**	**132.59**	**323**	*e*PKPdf	**PKPdf**	**01 16 26.8**	**-0.6**		
PETK	**Petropavlovsk-**	**132.59**	**323**	PKIKP	**PKPdf**	**01 16 25.7**	**-1.8**		
PETK						01 16 37.9			
PETK	**Petropavlovsk-**	**132.59**	**323**	PKP	**PKPdf**	**01 16 25.6**	**-1.8**		
PETK				pPKP	**pPKPdf**	**01 16 37.9**	**-0.4**		
PETK	**Petropavlovsk-**	**132.59**	**323**	PKP	**PKPdf**	**01 16 25.6**	**-1.8**		
	comp=Z,10.0nm,1.0s,baz=72,slow=4.8,SNR=7.0								
PETK				pPKP	**pPKPdf**	**01 16 37.9**	**-0.4**		
	comp=Z,11nm,0.9s,baz=96,slow=7.6,SNR=6.0								
AB31	**Akbulak array**	**132.72**	**43**	*i* PKIKP	**PKPdf**	**01 16 28.4**	**+0.6**		
AB31				pmax	pmax				
	comp=Z,21nm,1.3s								
IKRD	**Kardeh**	**133.77**	**60**	*e*P	**PKPdf**	**01 16 33.9**	**+3.4**		
ITEG	**Tejag**	**134.06**	**65**	*e*P	**PKPdf**	**01 16 31.6**	**+0.5**		
IKOO	**Kooshah**	**134.27**	**66**	*e*P	**PKPdf**	**01 16 32.0**	**+0.4**		
FITZ	**Fitzroy Crossi**	**136.76**	**202**	*e*PKPdf	**PKPdf**	**01 16 36.8**	**+0.5**		
FITZ	**Fitzroy Crossi**	**136.76**	**202**	PKP	**PKPdf**	**01 16 36.5**	**+0.2**		
	comp=Z,7.1nm,0.9s,baz=178,slow=4.2,SNR=7.2								
BRVK	**Borovoye**	**137.24**	**34**	*e*PKIKP	**PKPdf**	**01 16 36.1**	**0.0**		
BRVK	**Borovoye**	**137.24**	**34**	*e*PKPdf	**PKPdf**	**01 16 36.0**	**0.0**		
BVA0	**Borovoye Array**	**137.32**	**34**	*i* PKIKP	**PKPdf**	**01 16 36.2**	**-0.1**		
BVA0				pmax	pmax				
	comp=Z,7.0nm,0.8s								
YAK	**Yakutsk**	**138.18**	**346**	*e*PKIKP	**PKPdf**	**01 16 37.0**	**-0.5**		
YAK				*e*		01 16 46.2			
YAK				pmax	pmax				
	comp=Z,23nm,1.1s								
KK31	**Karatay Array**	**141.60**	**48**	*i* PKIKP	**PKPdf**	**01 16 41.1**	**-3.3**		
NVS	**Novosibirsk**	**142.09**	**25**	*e*PKHKP	PKPpre	01 16 39.4			
NVS				pmax	pmax				
	comp=Z,33nm,1.8s								
NVS				pmax	pmax				
	comp=N,1.0nm,0.4s								
NVS				pmax	pmax				
	comp=E,5.0nm,0.5s								
KURK	**Kurchatov**	**142.84**	**33**	PKIKP	PKPpre	01 16 42.6			
KURK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KURK	**Kurchatov**	**142.84**	**33**	*e*PKPpre	PKPpre	01 16 42.9			
KURBB	**Kurchatov Arra**	**142.85**	**33**	PKhKP	PKPpre	01 16 42.9			
	comp=Z,2.4nm,0.6s,baz=305,slow=3.1,SNR=28								
ZAA0	**Zalesovo Array**	**143.38**	**25**	*e*PKPpre	PKPpre	01 16 43.9			
ZAA0				*e*PKPdf	**PKPdf**	**01 16 48.0**	**+0.8**		
ZALV	**Zalesovo Beam**	**143.38**	**25**	PKPpre	PKPpre	01 16 44.2			
ZALV				PKP	**PKPdf**	**01 16 47.4**	**+0.3**		
ZALV	**Zalesovo Beam**	**143.38**	**25**	PKhKP	PKPpre	01 16 44.2			
	comp=Z,24nm,0.9s,baz=300,slow=2.7,SNR=37								
ZALV				PKP	**PKPdf**	**01 16 47.4**	**+0.3**		
	comp=Z,24nm,0.9s,baz=315,slow=2.7,SNR=55								
YSS	**Yuzh-Sakhalins**	**143.93**	**321**	*e*PKIKP	PKPbc	01 16 46.0	-0.2		
YSS				*e*		01 16 56.2			
EKS2	**Erkin-Say**	**144.00**	**47**	*e*PKIKP	PKPbc	01 16 47.4	+0.6		
EKS2	**Erkin-Say**	**144.00**	**47**	P	**PKPdf**	**01 16 48.0**	**-0.9**		
	SNR=8.4								
EKS2	**Erkin-Say**	**144.00**	**47**	*e*PKPdf	PKPbc	01 16 47.4	+0.7		
AML	**Almayashu**	**144.14**	**48**	P	**PKPdf**	**01 16 49.0**	**-0.5**		
	SNR=28								
USP	**Ospenovka**	**144.25**	**46**	P	PKPbc	01 16 48.2	+0.8		
	SNR=7.4								
AAK	**Ala-Archa**	**144.50**	**47**	*e*PKIKP	PKPbc	01 16 48.8	+0.4		
AAK	**Ala-Archa**	**144.50**	**47**	P	**PKPdf**	**01 16 50.1**	**+0.3**		
	SNR=38								
AAK	**Ala-Archa**	**144.50**	**47**	*e*PKPdf	PKPbc	01 16 48.8	+0.4		
AAK	**Ala-Archa**	**144.50**	**47**	PKP	**PKPdf**	**01 16 49.9**	**+0.2**		
	comp=Z,45nm,1.0s,baz=215,slow=2.0,SNR=56								
FRU	**Bishkek**	**144.50**	**47**	*e*PKIKP	**PKPab**	**01 16 48.0**	**0.0**		
FRU				pmax	pmax				
	comp=Z,152nm,1.8s								
CHMS	**Chumysh**	**144.52**	**46**	P	**PKPdf**	**01 16 49.6**	**0.0**		
	SNR=16								
UCH	**Uchtor**	**144.67**	**48**	P	**PKPdf**	**01 16 51.2**	**+0.8**		
	SNR=37								
KBK	**Karagaybulak**	**144.79**	**47**	P	**PKPdf**	**01 16 51.0**	**+0.7**		
	SNR=27								
TKM2	**Tokmak 2**	**145.12**	**46**	*e*PKIKP	**PKPdf**	**01 16 50.9**	**0.0**		
TKM2	**Tokmak 2**	**145.12**	**46**	P	**PKPdf**	**01 16 51.7**	**+0.8**		
	SNR=27								
TKM2	**Tokmak 2**	**145.12**	**46**	*e*PKPdf	**PKPdf**	**01 16 50.9**	**0.0**		
KZA	**Kyzart**	**145.23**	**48**	P	**PKPdf**	**01 16 52.9**	**+1.6**		
	SNR=17								
ASAJ	**Asahikawa**	**145.43**	**316**	*e*PKPdf	**PKPbc**	**01 16 51.0**	**0.0**		
ASAJ	**Asahikawa**	**145.43**	**316**	PKPbc	**PKPab**	**01 16 51.8**	**+0.5**		
	comp=Z,63nm,0.9s,baz=259,slow=5.3,SNR=21								
ERM	**Erimo**	**145.98**	**313**	*e*PKP2	**PKPab**	**01 16 54.3**	**+0.9**		
ERM	**Erimo**	**145.98**	**313**	*e*PKPdf	**PKPab**	**01 16 54.3**	**+0.9**		
POO	**Poona**	**146.21**	**90**	⇓ *i* P	**PKPbc**	**01 16 54.0**	**-0.3**		
	comp=Z,50nm,1.0s								
KSH	**Kashi**	**146.69**	**52**	PKPbc	**PKPbc**	**01 16 54.5**	**-0.7**		
KSH				SKS	**SKSdf**	**01 23 56.0**	**-4.1**		
KSH				SKKS	**SKKSac**	**01 27 06.0**	**-2.8**		
KSH				SS	**SS**	**01 39 11.0**	**-5.1**		
KSH				AMB	AMB				
	comp=Z,120nm,4.9s								
KSH				LR	LR				
	comp=Z,400nm,4.9s								
KSH				LR	LR				
	comp=Z,680nm,9.4s								
KSH				LR	LR				
	comp=Z,810nm,12.4s								
MMRI	**Maumere**	**146.73**	**203**	*e*PKPdf	**PKPdf**	**01 16 54.7**	**+0.5**		
MK31	**Makanchi Array**	**147.17**	**36**	*i* PKP2	**PKPdf**	**01 16 54.7**	**+0.7**		
MK31				pmax	pmax				
	comp=Z,36nm,0.8s								
MKAR	**Makanchi Array**	**147.17**	**36**	PKP2	**PKPdf**	**01 16 54.6**	**+0.6**		
MKAR	**Makanchi Array**	**147.17**	**36**	PKPbc	**PKPdf**	**01 16 54.6**	**+0.6**		
MKAR				pPKPbc	**pPKPbc**	**01 17 06.0**	**-1.0**		
MKAR	**Makanchi Array**	**147.17**	**36**	PKPbc	**PKPdf**	**01 16 54.6**	**+0.6**		
	comp=Z,41nm,0.9s,baz=318,slow=1.3,SNR=80								
MKAR				pPKPbc	**pPKPbc**	**01 17 06.0**	**-1.0**		
	comp=Z,35nm,0.8s,baz=336,slow=2.7,SNR=19								
MK01	**Makanchi Array**	**147.19**	**36**	*e*PKPdf	**PKPdf**	**01 16 54.3**	**+0.3**		
KLR	**Kul'dur**	**148.13**	**332**	*e*PKHKP	PKPpre	01 16 52.8			
PALK	**Pallekele**	**148.21**	**114**	*e*PKPdf	**PKPdf**	**01 16 57.5**	**+0.8**		

JAGI	**Jajag, Banyuwa**	**148.93**	**188**	*e*PKPbc	**PKPbc**	**01 17 01.0**	**-0.8**		
CISI	**Cisompet, Garu**	**150.08**	**176**	*e*PKPbc	**PKPbc**	**01 17 03.9**	**-0.8**		
MOY	**Mondy**	**150.10**	**11**	*e*PKP2	**PKPbc**	**01 17 04.8**	**+1.1**		
MOY				pmax	pmax				
	comp=Z,64nm,1.6s								
HYB	**Hyderabad**	**150.29**	**94**	*i* PKP	**PKPbc**	**01 17 05.0**	**-0.1**		
HYB				*e*		01 17 10.0			
TLY	**Talaya**	**150.48**	**8**	*i* PKIKP	**PKPdf**	**01 17 00.9**	**+1.7**		
TLY				*e*		01 17 06.4			
TLY				*e*SS	SS	01 39 54.5	-1.5		
TLY				pmax	pmax				
	comp=Z,31nm,0.8s								
KAPI	**Kappang**	**150.96**	**201**	*e*PKPbc	**PKPbc**	**01 17 05.3**	**-1.5**		
USRK	**Ussuriysk Arra**	**151.63**	**325**	PKPbc	**PKPbc**	**01 17 07.1**	**-0.3**		
	comp=Z,20nm,0.9s,baz=37,slow=0.4,SNR=20								
USRK				PKPab	**PKPab**	**01 17 17.9**	**+1.8**		
	comp=Z,22nm,0.7s,baz=356,slow=0.6,SNR=25								
USRK				pPKPab	**pPKPab**	**01 17 26.5**	**-0.2**		
	comp=Z,13nm,0.8s,baz=61,slow=2.5,SNR=4.4								
MJAR	**Matsushiro Arr**	**151.67**	**306**	PKPbc	**PKPbc**	**01 17 08.4**	**+0.6**		
MJAR				PKPab	**PKPab**	**01 17 17.2**	**+0.7**		
MJAR	**Matsushiro Arr**	**151.67**	**306**	PKPbc	**PKPbc**	**01 17 08.4**	**+0.6**		
	comp=Z,14nm,0.9s,baz=92,slow=1.3,SNR=18								
MJAR				PKPab	**PKPab**	**01 17 17.2**	**+0.7**		
	comp=Z,15nm,0.7s,baz=86,slow=2.3,SNR=5.1						

comp=Z,130nm,4.8s

*ISCJB **28** 01:06:01.7±0.9,2.°52S±0.°10×139.°41E±0.°05,h27km,Error ellipse: s-maj=14.2km s-min=6.6km az=163.3*
*DJA **28** 01:06:01.8±0.6,3.°3S±4.°×13.°9E±.°,h10km,M4.3/2,MLv4.3/2*
*AUST **28** 01:06:02.0±1.0,2.°88S×139.°61E,h1km,Error ellipse: s-maj=1.6km s-min=1.0km az=330.0*

ISC 28 01:06:02.8±1.1,2.6S±0.1°×139.49E±0.06,h27km,n10, σ1§31/11,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GENI	**Genyem**	**0.68**	**88**	P		**Pb**	**01 06 16.4**	**+0.3**
GENI				S		**Sn**	**01 06 27.2**	**+0.8**
JAY	**Jayapura**	**1.22**	**86**	P		**Pn**	**01 06 22.4**	**-1.8**
	baz=1.2,SNR=31							
WAMI	**Wamena**	**1.48**	**212**	P		**Pb**	**01 06 29.6**	**-0.2**
WAMI				S		**Sn**	**01 06 46.0**	**-0.3**
BAKI	**Biak**	**3.66**	**293**	P		**Pn**	**01 06 56.8**	**-1.0**
FAKI	**Fak Fak**	**7.24**	**267**	P		Pn	01 07 55.3	+8.4
	baz=7.3,SNR=4.4							
KDU	**Kakadu**	**12.18**	**214**	P		**Pn**	**01 08 53.6**	**-1.1**
	baz=12,SNR=16							
MTN	**Manton Dam**	**13.11**	**219**	P		**Pn**	**01 09 07.8**	**+0.5**
	baz=13,SNR=3.3							
KNRA	**Kununurra**	**16.74**	**218**	P		**P**	**01 09 57.2**	**-0.5**
	baz=17,SNR=7.0							
FITZ	**Fitzroy Crossi**	**20.53**	**220**	P		**P**	**01 10 40.3**	**+1.0**
	baz=20,SNR=7.4							
WRKA	**Warakurna**	**24.77**	**205**	P		**P**	**01 11 25.0**	**+2.5**
	baz=25,SNR=4.9							

MEX 28 01:52:43.8±0.6,16.°84N×98.°68W,h23km±18km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.69**	**130**	*e*P		Pb	01 52 54.8	-2.5
PNIG				*i* S		Sb	01 53 04.3	-2.2
TLIG	**Tlapa**	**0.72**	**8**	*e*P		Pb	01 52 55.5	-2.5
TLIG				*e*S		Sb	01 53 04.2	-3.5
PLIG	**Platanillo**	**1.73**	**333**	*e*P		Pn	01 53 09.9	-2.7
PLIG				*i* S		Sn	01 53 31.0	-3.0
VHO	**Vista Hermosa**	**1.88**	**83**	*i* P		Pn	01 53 11.9	-2.8
VHO				*i* S		Sn	01 53 34.0	-3.9
ARIG	**Puente Sto Nin**	**2.14**	**312**	*e*P		Pn	01 53 15.9	-2.3
ARIG				*i* S		Sn	01 53 41.5	-2.6
HUIG	**Huatulco**	**2.69**	**113**	*i* P		Pn	01 53 23.7	-1.9
HUIG				*i* S		Sn	01 53 53.6	-3.9

MEX 28 01:58:10.4±0.6,16.°06N×94.°56W,h114km±13km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PCIG		**1.33**	**105**	*i* P		Pn	01 58 34.3	-1.2
PCIG				*e*S		Sn	01 58 52.9	-1.7
HUIG	**Huatulco**	**1.52**	**259**	*e*P		Pn	01 58 36.1	-1.6
HUIG				*e*S		Sn	01 58 57.2	-1.3
TUIG	**Tuzandepetl**	**1.97**	**4**	*i* P		Pn	01 58 37.5	-5.8
TUIG				*i* S		Sn	01 58 59.0	-9.3
VHO	**Vista Hermosa**	**2.32**	**296**	*e*P		Pn	01 58 47.0	-0.9
VHO				*e*S		Sn	01 59 14.3	-2.3
PNIG	**Pinotepa**	**3.45**	**276**	*e*P		Pn	01 59 01.3	-1.2
PNIG				*i* S		Sn	01 59 41.0	-1.7
TLIG	**Tlapa**	**4.12**	**292**	*e*P		Pn	01 59 10.2	-1.5
TLIG				*i* S		Sn	01 59 56.9	-2.3

*IDC **28** 02:13:43.6±1.8,38.°87N×71.°71E,h0km,mb3.5/2, mb1 3.6/7,mb1mx3.6/7,mbtmp3.5/7,ML3.4/5,MS3.2/1, Ms1 3.2/1,ms1mx2.5/28,Error ellipse: s-maj=26.3km s-min=16.3km az=148.0*
*NNC **28** 02:13:45.1±2.0,38.°63N×71.°44E,h105km±27km,mb3.2, mpv3.8,Error ellipse: s-maj=20.1km s-min=13.6km az=40.0*

ISC 28 02:13:46.3±2.2,38.°8N±0.°2×71.°3E±0.°1,h34km,n21, σ1§47/22,3C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AML	**Almayashu**	**3.85**	**28**	P		**Pn**	**02 14 44.2**	**+0.7**
	SNR=71							
UCH	**Uchtor**	**4.26**	**34**	P		**Pn**	**02 14 49.6**	**+0.4**
	SNR=34							
EKS2	**Erkin-Say**	**4.35**	**25**	P		**Pn**	**02 14 51.6**	**+1.5**
	SNR=12							
KK31	**Karatay Array**	**4.39**	**353**	⇑P		**Pn**	**02 14 51.3**	**+0.8**
	6.6nm,0.3s,baz=168,slow=11,SNR=275							
KK31				⇓S		**Sn**	**02 15 43.6**	**+3.1**
	15nm,0.4s,baz=167,slow=31,SNR=4.5							
KZA	**Kyzart**	**4.50**	**41**	P		**Pn**	**02 14 52.7**	**+0.2**
	SNR=30							
AAK	**Ala-Archa**	**4.59**	**31**	P		**Pn**	**02 14 53.7**	**+0.3**
	SNR=23							
AAK	**Ala-Archa**	**4.59**	**31**	Pn		**Pn**	**02 14 54.3**	**+0.9**
	5.7nm,0.3s,baz=201,slow=3.0,SNR=77							
AAK				Sn		**Sn**	**02 15 46.2**	**+0.6**
	baz=144,slow=18,SNR=3.3							
KBK	**Karagaybulak**	**4.80**	**34**	P		**Pn**	**02 14 57.4**	**+1.1**
	SNR=29							
CHMS	**Chumysh**	**5.00**	**31**	P		**Pn**	**02 14 59.8**	**+0.9**
	SNR=17							
USP	**Ospenovka**	**5.13**	**27**	P		**Pn**	**02 15 01.0**	**+0.2**
	SNR=22							
TKM2	**Tokmak 2**	**5.30**	**37**	P		**Pn**	**02 15 03.9**	**+0.6**
	SNR=9.9							
MK31	**Makanchi Array**	**11.40**	**42**	⇑P		**Pn**	**02 16 24.9**	**-1.7**
	0.5nm,0.8s,baz=232,slow=12,SNR=6.8							
MKAR	**Makanchi Array**	**11.40**	**42**	Pn		**Pn**	**02 16 26.8**	**+0.1**
	0.0nm,0.3s,baz=232,slow=13,SNR=8.9							
AB31	**Akbulak array**	**13.28**	**326**	⇓P		**Pn**	**02 16 51.0**	**-1.3**
	0.3nm,0.3s,baz=139,slow=12,SNR=22							
BVA0	**Borovoye Array**	**14.29**	**358**	⇓P		**Pn**	**02 17 03.2**	**-2.8**
	1.4nm,0.8s,baz=159,slow=10,SNR=4.5							
BVAR	**Borovoye Array**	**14.29**	**358**	Pn		Pn	02 17 02.4	-3.7
	0.2nm,0.3s,baz=160,slow=10.0,SNR=5.4							
AKTO	**Aktyubinsk**	**14.99**	**325**	Pn		**Pn**	**02 17 16.0**	**+0.4**
	0.2nm,0.3s,baz=131,slow=12,SNR=3.9							
AKTO				Sn		**Sn**	**02 19 57.5**	**-2.9**
	0.2nm,0.3s,baz=162,slow=18,SNR=4.8							
AKTO	**Aktyubinsk**	**14.99**	**325**	⇑P		**Pn**	**02 17 14.6**	**-1.0**
	1.9nm,0.7s							
ZALV	**Zalesovo Beam**	**17.80**	**27**	P		**Pn**	**02 17 50.1**	**-1.0**
	0.2nm,0.3s,baz=208,slow=11,SNR=5.9							
ZALV				LR		LR	02 24 47.2	
	comp=Z,86nm,19.6s,baz=224,slow=38							
TORD	**Torodi Ar. Bea**	**66.00**	**268**	P		P	02 24 34.2	+4.5
	0.2nm,0.5s,baz=54,slow=6.5,SNR=5.2							
YKA	**Yellowknife Ar**	**78.99**	**3**	P		**P**	**02 25 47.2**	**+1.0**
	0.2nm,0.5s,baz=352,slow=5.6,SNR=4.5							

IDC 28 02:14:20.4±3.6,49.°66S×112.°79E,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.9/2,mbtmp3.6/2,MS3.6/6,Ms1 3.6/6, ms1mx3.5/11,Error ellipse: s-maj=309.0km s-min=71.2km az=126.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.79**	**4**	T		T	02 33 15.0	
	baz=187,slow=74,SNR=19							
H01W1	**Cape Leeuwin H**	**14.79**	**4**	T		T	02 33 14.1	
	baz=187,slow=74,SNR=22							
H01W3	**Cape Leeuwin H**	**14.80**	**4**	T		T	02 33 20.2	
	baz=187,slow=74,SNR=19							
STKA	**Stephens Creek**	**27.88**	**61**	LR		LR	02 29 51.3	
	comp=Z,97nm,18.2s,baz=204,slow=33							
MAW	**Mawson**	**30.41**	**215**	LR		LR	02 29 41.2	
	comp=Z,97nm,20.2s,baz=97,slow=30							
ASAR	**Alice Springs**	**30.77**	**40**	P		P	02 20 37.6	0.0
	0.3nm,0.6s,baz=209,slow=7.3,SNR=4.8							
ASAR				LR		LR	02 32 00.9	
	comp=Z,120nm,18.5s,baz=133,slow=34							
VNDA	**Vanda**	**33.44**	**163**	LR		LR	02 33 36.9	
	comp=Z,79nm,19.1s,baz=326,slow=35							
WRA	**Warramunga Arr**	**34.28**	**38**	P		P	02 21 08.1	-0.1
	1.3nm,0.8s,baz=205,slow=8.4,SNR=7.0							
WRA				LR		LR	02 33 33.8	
	comp=Z,92nm,21.6s,baz=185,slow=34							
BOSA	**Boshof**	**67.25**	**252**	LR		LR	02 48 06.1	
	comp=Z,78nm,18.5s,baz=279,slow=30							

YKA	**Yellowknife Ar**	**151.33**	**45**	PKPbc		PKPbc	02 34 14.4	-0.2
	0.1nm,0.5s,baz=266,slow=3.5,SNR=3.9							

*IDC **28** 02:15:02.5±0.6,30.°60N×83.°86E,h0km,mb4.1/22, mb1 4.2/25,mb1mx4.2/25,mbtmp4.1/25,ML4.0/3,MS3.6/11, Ms1 3.6/11,ms1mx3.4/37,Error ellipse: s-maj=16.6km s-min=13.0km az=46.0*
*DMN **28** 02:15:03.1±0.4,30.°90N×83.°58E,h2km,Ml4.6/6,Error ellipse: s-maj=8.4km s-min=6.2km az=161.0*
*BJI **28** 02:15:04.1,30.°63N×83.°89E,h8km,mB4.7/13,mb4.6/21, Ms4.3/13,Ms7 4.0/11*
*NEIC **28** 02:15:04.9±0.3,30.°69N×83.°77E,h10km,mb4.4/9,Error ellipse: s-maj=7.7km s-min=3.9km az=62.0*
*MOS **28** 02:15:06.3±1.3,30.°60N×83.°77E,h33km,mb4.4/29,Error ellipse: s-maj=10.9km s-min=5.6km az=113.0*
*NDI **28** 02:15:11.4±2.7,30.°19N×83.°77E,h10km,ML4.3, mb4.4(NEIC)*

ISC 28 02:15:05.7±0.6,30.°67N±0.°04×83.°81E±0.°03,h17km±3km, n144,σ1§63/164,mb4.2/37,MS3.7/13,4C-3D,Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DANN	**Dangsing**	**2.31**	**181**	*e*Pn		**Pn**	**02 15 43.2**	**-0.1**
DANN				*e*Sn		**Sn**	**02 16 13.4**	**+2.0**
	4μm,0.9s							
DANN	**Dangsing**	**2.31**	**181**	*e*Pn		**Pn**	**02 15 43.2**	**-0.1**
DANN				*e*Sn		**Sn**	**02 16 13.4**	**+2.0**
PYUN	**Piuthan**	**2.65**	**196**	*e*Pn		**Pn**	**02 15 48.2**	**+0.3**
PYUN	**Piuthan**	**2.65**	**196**	*e*Pn		**Pn**	**02 15 48.2**	**+0.3**
GKN	**Gorkha**	**2.75**	**165**	*e*Pn		**Pn**	**02 15 50.4**	**+1.2**
GKN				*e*Sn		**Sn**	**02 16 24.5**	**+2.3**
	999nm,0.8s							
GKN	**Gorkha**	**2.75**	**165**	*e*Pn		**Pn**	**02 15 50.4**	**+1.2**
GKN				*e*Sn		**Sn**	**02 16 24.5**	**+2.3**
KOLN	**Koldanda**	**2.89**	**184**	*e*Pn		**Pn**	**02 15 51.9**	**+0.7**
KOLN				*e*Sn		**Sn**	**02 16 27.7**	**+2.0**
	1μm,0.8s							
KOLN	**Koldanda**	**2.89**	**184**	*e*Pn		**Pn**	**02 15 51.9**	**+0.7**
KOLN				*e*Sn		**Sn**	**02 16 27.7**	**+2.0**
KKN	**Kakani**	**3.14**	**155**	*e*Pn		**Pn**	**02 15 55.7**	**+1.0**
KKN	**Kakani**	**3.14**	**155**	*e*P		**Pn**	**02 15 55.7**	**+1.0**
KKN	**Kakani**	**3.14**	**155**	*e*Pn		**Pn**	**02 15 55.7**	**+1.0**
DMN	**Daman**	**3.25**	**159**	*e*Pn		**Pn**	**02 15 57.2**	**+1.0**
DMN	**Daman**	**3.25**	**159**	*e*Pn		**Pn**	**02 15 57.2**	**+1.0**
GUN	**Gumba**	**3.29**	**146**	*e*Pn		**Pn**	**02 15 58.6**	**+1.8**
GUN	**Gumba**	**3.29**	**146**	*e*Pn		**Pn**	**02 15 58.6**	**+1.8**
LGTI	**Lohaghat**	**3.31**	**249**	*e*P		**Pb**	**02 16 04.3**	**+0.3**
LGTI				*e*		**Sg**	**02 16 53.9**	**+1.7**
PKIN	**Phulchoki**	**3.38**	**155**	*e*Pn		**Pn**	**02 15 59.0**	**+1.1**
PKI	**Pulchoki**	**3.39**	**155**	*e*Pn		**Pn**	**02 15 59.2**	**+1.1**
PKI				*e*Sn		**Sn**	**02 16 41.5**	**+3.4**
	811nm,1.1s							
PKI	**Pulchoki**	**3.39**	**155**	*e*P		**Pn**	**02 15 59.2**	**+1.1**
PKI				*e*			02 16 41.5	
PKI	**Pulchoki**	**3.39**	**155**	*e*Pn		**Pn**	**02 15 59.2**	**+1.1**
PKI				*e*Sn		**Sn**	**02 16 41.5**	**+3.4**
JIRN	**Jiri**	**3.65**	**145**	*e*Pn		**Pn**	**02 16 03.3**	**+1.5**
JIRN	**Jiri**	**3.65**	**145**	*e*Pn		**Pn**	**02 16 03.3**	**+1.5**
RAMN	**Ramite**	**4.44**	**146**	*e*Pn		**Pn**	**02 16 13.1**	**+0.6**
RAMN				*e*Sn		**Sn**	**02 17 06.0**	**+2.0**
	596nm,1.0s							
RAMN	**Ramite**	**4.44**	**146**	*e*Pn		**Pn**	**02 16 13.1**	**+0.6**
RAMN				*e*Sn		**Sn**	**02 17 06.0**	**+2.0**
TAPN	**Taplejung**	**4.75**	**133**	*e*Pn		**Pn**	**02 16 18.4**	**+1.5**
TAPN				*e*Sn		**Sn**	**02 17 13.7**	**+1.9**
	662nm,1.2s							
TAPN	**Taplejung**	**4.75**	**133**	*e*Pn		**Pn**	**02 16 18.4**	**+1.5**
TAPN				*e*Sn		**Sn**	**02 17 13.7**	**+1.9**
ODAN	**Odare**	**4.93**	**139**	*e*Pn		**Pn**	**02 16 20.4**	**+1.2**
ODAN	**Odare**	**4.93**	**139**	*e*Pn		**Pn**	**02 16 20.4**	**+1.2**
DDI	**Dehra Dun**	**4.97**	**268**	*e*P		Pn	02 16 25.1	+5.4
DDI				*e*S		**Sn**	**02 17 21.0**	**+4.1**
DDI				AML		AML	02 17 45.0	
	comp=N,620nm,0.7s							
DDI				AML		AML	02 17 48.3	
	comp=E,650nm,0.7s							
SMLA	**Simla**	**5.72**	**276**	*e*P		Pn	02 16 37.0	+7.0
SMLA				*e*S		**Sn**	**02 17 38.8**	**+3.5**
NDI	**New Delhi**	**6.06**	**253**	*ex*		**Pb**	**02 16 51.2**	**+0.3**
LSA	**Lhasa**	**6.43**	**97**	*e*P		**Pn**	**02 16 43.3**	**+3.2**
LSA	**Lhasa**	**6.43**	**97**	*e*Pn		**Pn**	**02 16 43.3**	**+3.2**
DHRM	**DHARAMSHALA**	**6.60**	**286**	*e*		**Pn**	**02 16 41.8**	**-0.5**
DHRM				*ex*		x	02 17 17.1	
BOK	**Bokaro**	**7.09**	**164**	*e*P		**Pn**	**02 16 47.7**	**-1.0**
BOK				*e*S		Sn	02 18 00.5	-8.5
SHL	**Shillong**	**8.75**	**124**	*ex*		**Pn**	**02 17 10.4**	**-1.4**
SHL				*e*S		Sn	02 18 44.3	-5.8
BHPL	**Bhopal**	**9.33**	**219**	*e*		**Pn**	**02 17 17.1**	**-2.4**
NGP	**Nagpur**	**10.40**	**205**	*e*P		**Pn**	**02 17 33.2**	**-0.9**
KSH	**Kashi**	**10.91**	**326**	P		**Pn**	**02 17 40.5**	**-0.7**
KSH				pP			02 17 47.0	
KSH				pmax	pmax			
	comp=E,14nm,0.5s							
KSH				LR	LR			
	comp=E,430nm,6.1s							
KSH				LR	LR			
	comp=E,600nm,8.6s							
KSH				LR	LR			
	comp=E,810nm,12.5s							
KBL	**Kabul**	**13.03**	**291**	*e*P		**Pn**	**02 18 09.5**	**-0.8**
KBL				*e*S		**Sn**	**02 20 33.2**	**-1.8**
KBL	**Kabul**	**13.03**	**291**	*e*Pn		**Pn**	**02 18 09.5**	**-0.8**
KBL				*e*S		**Sn**	**02 20 33.2**	**-1.8**
WMQ	**Urumqi**	**13.49**	**12**	P		P	02 18 30.3	+4.8
WMQ				pmax	pmax			
	comp=Z,12nm,1.0s							
TKM2	**Tokmak 2**	**13.88**	**334**	*e*P		**Pn**	**02 18 21.4**	**-0.4**
TKM2	**Tokmak 2**	**13.88**	**334**	*e*Pn		**Pn**	**02 18 21.4**	**-0.4**
HYB	**Hyderabad**	**14.03**	**201**	*e*P		Pn	02 18 17.0	-6.9
HYB				*e*S		**Sn**	**02 21 00.0**	**+0.7**
AAK	**Ala-Archa**	**14.08**	**331**	*i* P		**Pn**	**02 18 26.8**	**+2.3**
AAK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
AAK	**Ala-Archa**	**14.08**	**331**	*e*Pn		**Pn**	**02 18 25.5**	**+1.0**
AAK	**Ala-Archa**	**14.08**	**331**	Pn		**Pn**	**02 18 24.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=192,slow=19,SNR=2.0							
AAK				LR		LR	02 24 54.6	
	comp=Z,215nm,21.6s,baz=127,slow=42							
EKS2	**Erkin-Say**	**14.41**	**329**	*e*P		P	02 18 32.6	-3.3
EKS2	**Erkin-Say**	**14.41**	**329**	*e*Pn		P	02 18 32.6	-3.3
BHJ	**Bhuj**	**14.61**	**343**	*ex*		Pn	02 18 27.3	-4.4
POO	**Poona**	**15.09**	**219**	*ex*		**Pn**	**02 18 35.3**	**-2.9**
GTA	**Gaotai**	**15.73**	**52**	*e*P		**Pn**	**02 18 46.0**	**-0.6**
GTA				pP		**P**	**02 18 51.5**	**+0.9**
GTA				sP		**sP**	**02 18 54.8**	**-2.6**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MK31	**Makanchi Array**	**16.15**	**356**	*e*P		**Pn**	**02 18 52.2**	**+0.4**
MK31	**Makanchi Array**	**16.15**	**356**	*e*Pn		**Pn**	**02 18 52.2**	**+0.4**
MKAR	**Makanchi Array**	**16.15**	**356**	*ce*P		**P**	**02 18 54.9**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**16.15**	**356**	Pn		**Pn**	**02 18 51.8**	**0.0**
MKAR	**Makanchi Array**	**16.15**	**356**	Pn		**Pn**	**02 18 51.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=173,slow=12,SNR=31							
KK31	**Karatay Array**	**16.32**	**323**	P		**Pn**	**02 18 51.5**	**-2.6**
KK31				pmax	pmax			
	comp=Z,5.0nm,0.5s							
LZH	**Lanzhou**	**17.58**	**67**	*e*P		**P**	**02 19 11.3**	**+0.2**
LZH				pP		**pP**	**02 19 14.5**	**-1.3**
LZH				sP		**sP**	**02 19 16.5**	**-1.4**
LZH				PP		**PnPn**	**02 19 26.8**	**+6.3**
LZH				*e*S		**Sn**	**02 22 20.0**	**-5.6**
LZH				SS		**SnSn**	**02 22 42.5**	**+3.5**
LZH				pmax	pmax			
	comp=Z,33nm,1.2s							
LZH				pmax	pmax			
	comp=Z,170nm,4.6s							
LZH				LR	LR			
	comp=Z,380nm,13.3s							
LZH				LR	LR			
	comp=Z,490nm,10.2s							
LZH				LR	LR			
	comp=Z,430nm,13.8s							
KMI	**Kunming**	**17.62**	**104**	P		**Pn**	**02 19 08.5**	**-2.2**
KMI				pP		**pP**	**02 19 20.8**	**+4.5**
KMI				pmax	pmax			
	comp=Z,35nm,0.9s							
CHTO	**Chiang Mai**	**18.09**	**127**	*e*P		**Pn**	**02 19 15.3**	**-1.1**
CHTO				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CHTO	**Chiang Mai**	**18.09**	**127**	*e*Pn		**Pn**	**02 19 15.3**	**-1.1**
	comp=Z,2.6nm,1.0s							
CM31	**Chiang Mai Arr**	**18.34**	**128**	*e*Pn		**P**	**02 19 19.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.34**	**128**	P		**Pn**	**02 19 17.3**	**-2.1**
CMAR	**Chiang Mai Arr**	**18.34**	**128**	P		**Pn**	**02 19 17.3**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=306,slow=11,SNR=12							
CMAR				LR		LR	02 27 59.1	
	comp=Z,170nm,21.4s,baz=229,slow=42							
SLVN	**Son La**	**20.29**	**112**	*e*P		**P**	**02 19 41.1**	**+0.3**
KURBB	**Kurchatov Arra**	**20.32**	**350**	P		**P**	**02 19 41.0**	**+0.1**
	comp=Z,17nm,0.9s,baz=173,slow=10,SNR=87							
KURK	**Kurchatov**	**20.40**	**351**	P		**P**	**02 19 41.0**	**-0.7**
KURK				pmax	pmax			
	comp=Z,17nm,0.9s							
KURK	**Kurchatov**	**20.40**	**351**	*e*P		**P**	**02 19 41.6**	**-0.1**
	comp=Z,17nm,1.0s							
GYA	**Guiyang**	**20.50**	**96**	⇓*i*P		**P**	**02 19 42.5**	**-0.6**
GYA				pmax	pmax			
	comp=Z,20nm,0.9s							
XAN	**Xi'an**	**21.47**	**74**	P		**P**	**02 19 52.0**	**-1.4**
XAN				pP		**pP**	**02 19 59.5**	**+1.3**
XAN				pmax	pmax			
	comp=Z,9.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,30nm,5.8s							
ENH	**Enshi**	**22.13**	**84**	*e*P		**P**	**02 20 00.5**	**-0.1**
	comp=Z,14nm,0.9s							
ZALV	**Zalesovo Beam**	**23.28**	**2**	*i* P		**P**	**02 20 13.1**	**+0.8**
ZALV				pmax	pmax			
	comp=Z,6.0nm,0.7s							
ZALV	**Zalesovo Beam**	**23.28**	**2**	P		**P**	**02 20 12.3**	**-0.1**
ZALV	**Zalesovo Beam**	**23.28**	**2**	P		**P**	**02 20 12.3**	**-0.1**
	comp=Z,6.2nm,0.7s,baz=187,slow=10,SNR=21							
NVS	**Novosibirsk**	**24.16**	**359**	*e*P		**P**	**02 20 21.5**	**+0.6**
SONM	**Songino Array**	**24.35**	**39**	P		**P**	**02 20 24.3**	**+1.4**
SONM				PcP		**PcP**	**02 24 01.5**	**-0.6**
SONM	**Songino Array**	**24.35**	**39**	P		**P**	**02 20 24.3**	**+1.4**
	comp=Z,6.6nm,0.6s,baz=227,slow=10,SNR=79							
SONM				PcP		**PcP**	**02 24 01.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=236,slow=4.1,SNR=4.0							
BVAR	**Borovoye Array**	**24.39**	**340**	P		**P**	**02 20 23.2**	**+0.2**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BVAR				MLR	MLR			
	comp=Z,86nm,21.4s							
BVAR	**Borovoye Array**	**24.39**	**340**	P		**P**	**02 20 23.2**	**+0.2**
BVAR	**Borovoye Array**	**24.39**	**340**	P		**P**	**02 20 23.2**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=152,slow=13,SNR=10							
BVAR				LR		LR	02 31 51.9	
	comp=Z,86nm,21.4s,baz=235,slow=41							
BRVK	**Borovoye**	**24.45**	**340**	⇓*i*P		**P**	**02 20 23.7**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
BRVK	**Borovoye**	**24.45**	**340**	*e*P		**P**	**02 20 24.2**	**+0.7**
	comp=Z,6.9nm,0.9s							
ZAK	**Zakamensk**	**24.50**	**31**	*e*P		**P**	**02 20 24.8**	**+0.6**
ZAK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ULN	**Ulaanbaatar**	**24.73**	**39**	*e*P		**P**	**02 20 27.3**	**+1.0**
	comp=Z,8.2nm,0.7s							
TLY	**Talaya**	**25.61**	**29**	*e*P		**P**	**02 20 35.8**	**+1.7**
TLY				pmax	pmax			
	comp=Z,4.0nm,0.8s							
TLY				MLR	MLR			
	comp=Z,109nm,18.0s							
AB31	**Akbulak array**	**25.88**	**323**	P		**P**	**02 20 37.4**	**+0.9**
AB31				pmax	pmax			
	comp=Z,3.0nm,0.5s							
AKTO	**Aktyubinsk**	**27.59**	**323**	P		**P**	**02 20 52.5**	**+0.6**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKTO				MLR	MLR			
	comp=Z,240nm,20.5s							
AKTO	**Aktyubinsk**	**27.59**	**323**	P		**P**	**02 20 52.5**	**+0.6**
AKTO	**Aktyubinsk**	**27.59**	**323**	P		**P**	**02 20 52.5**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=107,slow=10,SNR=4.3							
AKTO				LR		LR	02 33 12.0	
	comp=Z,240nm,20.5s,baz=253,slow=39							
ARU	**Arti**	**31.25**	**333**	*c* *i*P		**P**	**02 21 25.0**	**+0.7**
ARU							02 22 27.0	
ARU				S		**S**	**02 26 32.9**	**+3.0**
ARU				SS		**SnSn**	**02 28 18.6**	**+5.9**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARU	**Arti**	**31.25**	**333**	*e*P		**P**	**02 21 24.9**	**+0.7**
	comp=Z,3.6nm,0.6s							
MAK	**Makhachkala**	**31.31**	**303**	*e*P		P	02 21 33.0	+8.1
MAK				MLR	MLR			
	comp=Z,358nm,15.0s							
GNI	**Garni**	**32.99**	**297**	LR		LR	02 36 34.7	
	comp=Z,72nm,20.9s,baz=263,slow=39							
ZEI	**Tsey**	**33.89**	**302**	*e*P		**P**	**02 21 48.3**	**+0.4**
ZEI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KBZ	**Khabaz

PETK	**Petropavlovsk-**	**56.70**	**44**	P		**P**	**02 24 47.5**	**-0.7**
PETK	**Petropavlovsk-**	**56.70**	**44**	P		**P**	**02 24 47.5**	**-0.7**
	comp=Z,3.9nm,0.9s,baz=222,slow=2.0,SNR=5.3							
WRA	**Warramunga Arr**	**69.93**	**129**	P		**P**	**02 26 14.6**	**-1.6**
WRA	**Warramunga Arr**	**69.93**	**129**	P		**P**	**02 26 14.6**	**-1.6**
	comp=Z,3.0nm,0.9s,baz=325,slow=6.1,SNR=15							
WRAB	**Tennant Creek**	**69.93**	**129**	*ceP*		**P**	**02 26 14.7**	**-1.6**
WRAB				pmax	pmax			
	comp=Z,17nm,1.2s							
WRAB	**Tennant Creek**	**69.93**	**129**	*eP*		**P**	**02 26 14.6**	**-1.6**
	comp=Z,4.6nm,0.8s							
ASAR	**Alice Springs**	**72.29**	**132**	P		**P**	**02 26 28.9**	**-1.6**
ASAR	**Alice Springs**	**72.29**	**132**	P		**P**	**02 26 28.9**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=315,slow=5.8,SNR=16							
COLD	**Coldfoot**	**74.32**	**19**	*eP*		**P**	**02 26 42.2**	**+0.4**
	comp=Z,3.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**76.71**	**277**	P		**P**	**02 26 55.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**76.71**	**277**	P		**P**	**02 26 55.5**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=59,slow=4.7,SNR=7.8							
ILAR	**Eielson Array**	**77.02**	**20**	P		**P**	**02 26 57.1**	**-0.2**
ILAR	**Eielson Array**	**77.02**	**20**	P		**P**	**02 26 57.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=307,slow=5.9,SNR=9.9							
BOSA	**Boshof**	**81.17**	**229**	P		**P**	**02 27 21.7**	**+1.0**
BOSA	**Boshof**	**81.17**	**229**	P		**P**	**02 27 21.7**	**+1.0**
	comp=Z,3.4nm,1.0s,baz=123,slow=5.0,SNR=4.3							
STKA	**Stephens Creek**	**82.88**	**133**	P		**P**	**02 27 29.2**	**-0.2**
STKA	**Stephens Creek**	**82.88**	**133**	P		**P**	**02 27 29.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=253,slow=9.0,SNR=4.4							
DBIC	**Dimbokro**	**85.50**	**275**	P		**P**	**02 27 43.0**	**-0.2**
DBIC	**Dimbokro**	**85.50**	**275**	P		**P**	**02 27 43.0**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=3,slow=4.8,SNR=4.0							
YKA	**Yellowknife Ar**	**85.99**	**8**	P		**P**	**02 27 44.1**	**-0.7**
YKA	**Yellowknife Ar**	**85.99**	**8**	P		**P**	**02 27 44.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=338,slow=5.2,SNR=12							

*ISCJB **28** 02:17:29.6±0.4, 18°.84S±0°.03×68°.72W±0°.07, h156km±6km, mb4.0/2, Error ellipse: s-maj=10.2km s-min=5.4km az=178.9*

*IDC **28** 02:17:29.4±1.7, 18°.99S×68°.50W, h133km±13km, mb3.9/2, mb1 3.8/7, mb1mx3.8/7, mbtmp4.2/7, Error ellipse: s-maj=20.9km s-min=14.7km az=65.0*

*NEIC **28** 02:17:30.6±0.5, 18°.745S×68°.61W, h142km±7km, mb4.2/2, Error ellipse: s-maj=10.4km s-min=7.7km az=88.0*

*GUC **28** 02:17:31.0±0.3, 18°.95S×68°.94W, h162km±2km*

ISC 28 02:17:30.0±0.7, 18°.84S±0°.04×68°.60W±0°.06, h138km±7km, n46, σ1°.45/60, 2C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.98**	**252**	*iP*	**Pn**	**02 17 55.2**	**+1.4**
MNMC				*i* S	**Sn**	**02 18 13.7**	**+1.8**
MNMC	**Minimini**	**0.98**	**252**	P	**Pn**	**02 17 54.5**	**+0.7**
PB11	**Plate Boundary**	**1.35**	**227**	*iP*	**Pn**	**02 17 58.4**	**+1.1**
PB11				*i* S	**Sn**	**02 18 19.0**	**+0.9**
PB11	**Plate Boundary**	**1.35**	**227**	P	**Pn**	**02 17 58.0**	**+0.7**
PSGC	**Pisagua**	**1.62**	**242**	*i* P	**Pn**	**02 18 00.2**	**0.0**
PSGC				*i* S	**Sn**	**02 18 22.4**	**-0.7**
PSGC	**Pisagua**	**1.62**	**242**	P	**Pn**	**02 18 01.0**	**+0.9**
ARCH	**Arica**	**1.64**	**282**	*i* P	**Pn**	**02 18 00.7**	**+0.5**
ARCH				*i* S	**Sn**	**02 18 23.3**	**0.0**
HMBC	**Humberstone**	**1.88**	**220**	*iP*	**Pn**	**02 18 03.4**	**+0.3**
HMBC				*i* S	**Sn**	**02 18 27.9**	**-0.5**
HMBC	**Humberstone**	**1.88**	**220**	P	**Pn**	**02 18 03.3**	**+0.3**
PB01	**Plate Boundary**	**2.35**	**201**	*i* P	**Pn**	**02 18 09.8**	**+1.1**
PB01				*i* S	**Sn**	**02 18 39.0**	**+0.4**
PB01	**Plate Boundary**	**2.35**	**201**	P	**Pn**	**02 18 09.5**	**+0.8**
PATCX	**Punta Patache**	**2.46**	**216**	*i* P	**Pn**	**02 18 10.3**	**+0.2**
PATCX				*i* S	**Sn**	**02 18 40.0**	**-1.0**
LPAZ	**La Paz**	**2.57**	**10**	*ePn*	**Pn**	**02 18 14.1**	**+2.0**
LPAZ				*eS*	**Sn**	**02 18 47.4**	**+3.0**
LPAZ	**La Paz**	**2.57**	**10**	P	**Pn**	**02 18 14.1**	**+2.0**
	20nm,0.3s,baz=191,slow=5.5,SNR=694						
LPAZ				S	**Sn**	**02 18 46.8**	**+2.4**
	11nm,0.3s,baz=317,slow=22,SNR=8.2						
PB09	**Plate Boundary**	**3.01**	**191**	*iP*	**Pn**	**02 18 18.6**	**+1.5**
PB09				*i* S	**Sn**	**02 18 54.8**	**+1.2**
PB09	**Plate Boundary**	**3.01**	**191**	P	Pn	02 18 20.6	+3.5
PB07	**Plate Boundary**	**3.12**	**202**	*iP*	**Pn**	**02 18 19.4**	**+0.8**
PB07	**Plate Boundary**	**3.12**	**202**	P	**Pn**	**02 18 19.8**	**+1.2**
PB04	**Plate Boundary**	**3.51**	**193**	P	Pn	02 18 27.7	+4.2
ARE	**Arequipa**	**3.63**	**310**	*iP*	**Pn**	**02 18 25.3**	**0.0**
ARE				*eS*	**Sn**	**02 19 07.0**	**-1.2**
LVC	**Limon Verde**	**3.77**	**184**	*ePn*	**Pn**	**02 18 29.2**	**+2.1**
LVC				*eS*	**Sn**	**02 19 08.9**	**-2.5**
PB06	**Plate Boundary**	**3.96**	**193**	P	**Pn**	**02 18 32.2**	**+2.7**
SIV	**San Ignacio**	**7.73**	**70**	P	**Pn**	**02 19 19.1**	**-0.7**
SIV				S	**Sn**	**02 20 42.3**	**-3.7**
SIV	**San Ignacio**	**7.73**	**70**	P	**Pn**	**02 19 19.1**	**-0.7**
	3.1nm,0.3s,baz=276,slow=11,SNR=41						
SIV				S	**Sn**	**02 20 42.3**	**-3.7**
	0.4nm,0.3s,baz=345,slow=19,SNR=3.6						
NNA	**Nana**	**10.46**	**309**	*ePn*	**Pn**	**02 19 54.0**	**-2.5**
	16nm,0.3s						
SAML	**Samuel**	**11.15**	**29**	*ePn*	**Pn**	**02 20 03.7**	**-1.8**
	2.2nm,0.4s						
SAML				*eS*	Sn	02 22 01.8	-6.7
CFAA	**Coronel Fontan**	**12.72**	**179**	P	**Pn**	**02 20 23.6**	**-2.4**
CFAA				S	Sn	02 22 37.0	-9.3
CFAA	**Coronel Fontan**	**12.72**	**179**	P	**Pn**	**02 20 23.6**	**-2.4**
	0.0nm,0.3s,baz=352,slow=14,SNR=5.0						
CFAA				S	Sn	02 22 37.0	-9.3
	0.1nm,0.3s,baz=216,slow=12,SNR=6.6						
CPUP	**Villa Florida**	**12.80**	**128**	*ePn*	**Pn**	**02 20 28.0**	**+1.0**
CPUP	**Villa Florida**	**12.80**	**128**	P	**Pn**	**02 20 26.4**	**-0.6**
	0.8nm,0.3s,baz=275,slow=12,SNR=5.5						
ATAH	**Atahualpa**	**15.03**	**319**	P	**P**	**02 20 58.9**	**+1.0**
ATAH	**Atahualpa**	**15.03**	**319**	P	**P**	**02 20 58.9**	**+1.0**
	0.6nm,0.3s,baz=139,slow=4.7,SNR=5.0						
BDFB	**Brasilia**	**19.92**	**84**	P	**P**	**02 21 51.9**	**+0.8**
BDFB	**Brasilia**	**19.92**	**84**	P	**P**	**02 21 51.9**	**+0.8**
	0.8nm,0.3s,baz=258,slow=8.7,SNR=10.0						
TRQA	**Tornquist**	**20.00**	**165**	*eP*	**P**	**02 21 52.9**	**+1.1**
	19nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.20**	**71**	P	**P**	**02 29 02.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**76.20**	**71**	P	**P**	**02 29 02.9**	**-0.6**
	1.9nm,0.4s,baz=253,slow=5.3,SNR=100						
YKA	**Yellowknife Ar**	**88.78**	**340**	P	**P**	**02 30 07.9**	**+0.3**
YKA	**Yellowknife Ar**	**88.78**	**340**	P	**P**	**02 30 07.9**	**+0.3**
	0.7nm,0.6s,baz=132,slow=4.8,SNR=19						
ASAR	**Alice Springs**	**132.39**	**208**	PKP	**PKPdf**	**02 36 28.8**	**+0.1**
ASAR	**Alice Springs**	**132.39**	**208**	PKP	**PKPdf**	**02 36 28.8**	**+0.1**
	0.2nm,0.5s,baz=138,slow=1.6,SNR=10						
WRA	**Warramunga Arr**	**135.37**	**211**	PKP	**PKPdf**	**02 36 34.1**	**-0.2**
WRA	**Warramunga Arr**	**135.37**	**211**	PKP	**PKPdf**	**02 36 34.1**	**-0.2**
	0.5nm,0.6s,baz=148,slow=1.9,SNR=6.9						
USRK	**Ussuriysk Arra**	**149.39**	**330**	PKPbc	**PKPbc**	**02 37 02.7**	**-0.1**
	1.8nm,0.9s,baz=65,slow=5.7,SNR=3.2						
SONM	**Songino Array**	**150.79**	**7**	PKPbc	**PKPbc**	**02 37 06.8**	**+0.6**
SONM				PKPab	**PKPab**	**02 37 13.6**	**-0.1**
SONM	**Songino Array**	**150.79**	**7**	PKPbc	**PKPbc**	**02 37 06.8**	**+0.6**
	1.2nm,0.7s,baz=341,slow=0.9,SNR=8.0						
SONM				PKPab	**PKPab**	**02 37 13.6**	**-0.1**
	0.4nm,0.7s,baz=5.2,slow=2.2,SNR=2.7						

IDC 28 02:38:04.9±22.0, 5°.54N×73°.25W, h289km±79km, mb2.7/1, mb1 3.1/1, mb1mx3.1/1, mbtmp3.3/1, Error ellipse: s-maj=890.5km s-min=39.2km az=91.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**1.27**	**238**	P	Pn	02 38 46.0	-0.1
	1.5nm,0.3s,baz=102,slow=13,SNR=7.4						
ROSC				S	S	02 39 26.2	+7.5
	0.5nm,0.3s,baz=90,slow=20,SNR=2.4						
YKA	**Yellowknife Ar**	**64.42**	**340**	P	P	02 48 10.3	0.0
	0.2nm,0.8s,baz=130,slow=7.3,SNR=5.9						
ASAR	**Alice Springs**	**148.25**	**233**	PKPbc	PKPbc	02 57 17.1	-0.7
	0.4nm,0.8s,baz=117,slow=2.6,SNR=4.2						
WRA	**Warramunga Arr**	**149.60**	**239**	PKPbc	PKPbc	02 57 20.9	-0.4
	0.2nm,0.6s,baz=113,slow=2.7,SNR=3.3						

*ISCJB **28** 02:54:24.2±0.9, 49°.9S±0°.1×111°.5E±0°.4, h10km, mb4.0/7, MS3.6/7, Error ellipse: s-maj=35.1km s-min=14.7km az=20.6*

*IDC **28** 02:54:24.7±0.9, 49°.89S×111°.49E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.2/7, mbtmp4.0/7, MS3.6/8, Ms1 3.5/8, ms1mx3.4/19, Error ellipse: s-maj=41.9km s-min=17.8km az=109.0*

ISC 28 02:54:26.1±1.0, 49°.9S±0°.1×111°.5E±0°.3, h10km, n18, σ0°.68/12, mb4.1/7, MS3.5/7, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.12**	**8**	T	T	03 13 39.9	
	baz=183,slow=76,SNR=7.0						
H01W1	**Cape Leeuwin H**	**15.12**	**8**	T	T	03 13 40.6	
	baz=183,slow=76,SNR=4.3						
H01W3	**Cape Leeuwin H**	**15.13**	**8**	T	T	03 13 42.3	
	baz=183,slow=76,SNR=6.0						
NWAO	**Narrogin (SRO)**	**17.49**	**16**	LR	LR	03 03 28.4	
	comp=Z,111nm,20.1s,baz=249,slow=31						
STKA	**Stephens Creek**	**28.74**	**63**	P	**P**	**03 00 24.1**	**+0.4**
	1.1nm,0.7s,baz=204,slow=8.2,SNR=4.2						
STKA				LR	LR	03 10 18.3	
	comp=Z,80nm,18.0s,baz=205,slow=33						
MAW	**Mawson**	**29.73**	**215**	LR	LR	03 10 00.5	
	comp=Z,132nm,18.3s,baz=227,slow=32						
ASAR	**Alice Springs**	**31.50**	**42**	P	**P**	**03 00 48.0**	**-0.2**
	0.7nm,0.7s,baz=208,slow=7.7,SNR=10						
VNDA	**Vanda**	**33.46**	**162**	P	**P**	**03 01 05.1**	**+0.3**
	1.6nm,0.6s,baz=3.9,slow=2.9,SNR=5.8						
VNDA				LR	LR	03 13 36.3	
	comp=Z,70nm,21.1s,baz=70,slow=34						
FITZ	**Fitzroy Crossi**	**33.70**	**25**	LR	LR	03 13 07.7	
	comp=Z,90nm,20.2s,baz=3.3,slow=33						
WRA	**Warramunga Arr**	**34.99**	**40**	P	**P**	**03 01 18.3**	**-0.3**
	2.4nm,0.7s,baz=206,slow=8.5,SNR=13						
WRA				LR	LR	03 14 45.9	
	comp=Z,64nm,18.3s,baz=155,slow=35						
QSPA	**South Pole Qui**	**40.23**	**180**	P	**P**	**03 02 02.6**	**-0.1**
	3.6nm,0.5s,baz=325,slow=5.1,SNR=9.5						
PMG	**Port Moresby**	**50.04**	**49**	LR	LR	03 22 04.7	
	comp=Z,95nm,19.2s,baz=205,slow=33						
SNAA	**Sanae**	**50.26**	**202**	P	**P**	**03 03 22.0**	**0.0**
	0.7nm,0.9s,baz=112,slow=8.4,SNR=6.9						
BOSA	**Boshof**	**66.38**	**253**	LR	LR	03 28 23.1	
	comp=Z,74nm,18.8s,baz=87,slow=31						
CMAR	**Chiang Mai Arr**	**68.96**	**347**	P	**P**	**03 05 31.5**	**+0.2**
	1.1nm,0.4s,baz=185,slow=6.1,SNR=5.2						
TXAR	**Lajitas Array**	**146.45**	**115**	PKPbc	**PKPbc**	**03 14 07.5**	**+0.1**
	0.4nm,0.8s,baz=177,slow=5.0,SNR=3.9						
PDAR	**Pinedale Array**	**151.06**	**88**	PKPbc	**PKPbc**	**03 14 19.0**	**0.0**
	0.4nm,0.8s,baz=204,slow=3.3,SNR=3.7						
PDAR				PKPab	**PKPab**	**03 14 25.3**	**-1.4**
	0.4nm,0.7s,baz=215,slow=6.5,SNR=3.9						
YKA	**Yellowknife Ar**	**152.10**	**46**	PKPbc	**PKPbc**	**03 14 19.7**	**-0.6**
	0.4nm,0.7s,baz=288,slow=1.7,SNR=6.3						
YKA				PKPab	**PKPab**	**03 14 31.2**	**+1.1**
	0.4nm,0.6s,baz=278,slow=2.1,SNR=7.3						

*IDC **28** 02:58:36.8±1.6, 0°.51N×124°.24E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.7/5, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=137.1km s-min=22.0km az=65.0*

*DJA **28** 02:58:43.0±1.5, 1°.5±11°×12°.4E±°, h220km±12km, M3.6/5, MLv3.6/5*

*ISCJB **28** 02:58:52.1±0.7, 0°.06N±0°.10×123°.6E±0°.1, h157km, mb3.4/4, Error ellipse: s-maj=19.1km s-min=13.5km az=163.4*

ISC 28 02:58:53.2±0.9, 0°.03S±0°.10×123°.73E±0°.09, h157km, n9, σ2°.52/10, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.65**	**23**	P	**Pn**	**02 59 16.0**	**-0.2**
KMSI				S	**Sn**	**02 59 31.1**	**-2.7**
LUWI	**Luwuk**	**1.39**	**224**	P	**Pn**	**02 59 19.8**	**-2.4**
LUWI				Sn		02 59 38.4	-6.0
MRSI	**Marisa**	**1.86**	**286**	P	**Pn**	**02 59 25.6**	**-1.5**
LBMI	**Labuha**	**3.82**	**99**	S	**Sn**	**03 00 32.9**	**-3.7**
FITZ	**Fitzroy Crossi**	**18.06**	**174**	P	**Pn**	**03 02 54.2**	**-0.2**
	0.2nm,0.3s,baz=1.2,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**22.36**	**153**	P	**P**	**03 03 39.0**	**+0.5**
	0.9nm,0.6s,baz=335,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**25.49**	**158**	P	**P**	**03 04 10.4**	**+3.3**
	0.4nm,0.4s,baz=331,slow=7.4,SNR=14						
STKA	**Stephens Creek**	**35.90**	**154**	P	**P**	**03 05 40.3**	**+1.9**
	0.4nm,0.4s,baz=333,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**59.02**	**328**	P	**P**	**03 08 37.6**	**+1.0**
	0.2nm,0.3s,baz=124,slow=8.4,SNR=9.0						

*IDC **28** 03:12:33.2±1.1, 55°.68N×160°.15E, h0km, mb3.4/6, mb1 3.8/8, mb1mx3.8/8, mbtmp3.4/8, ML3.3/2, Error ellipse: s-maj=25.1km s-min=18.4km az=171.0*

*KRSC **28** 03:12:41.3±4.8, 54°.72N×160°.68E, h111km±110km, ML3.6*

*ISCJB **28** 03:12:43.0±0.3, 54°.74N±0°.03×160°.62E±0°.09, h117km±4km, mb3.3/6, Error ellipse: s-maj=9.0km s-min=3.0km az=26.6*

ISC 28 03:12:43.6±0.8, 54°.75N±0°.04×160°.57E±0°.05, h112km±7km, n43, σ0°.97/56, mb3.4/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.40**	**337**	*i* P	**Pn**	**03 13 00.3**	**-0.1**
KZV				*eS*	**Sn**	**03 13 12.5**	**-0.4**
TUMR	**Tumrok**	**0.59**	**336**	*i* P	**Pn**	**03 13 01.6**	**+0.1**
TUMR				*eS*	**Sn**	**03 13 16.8**	**-0.2**
KMNR	**Kamenistaya**	**1.03**	**349**	*i* P	**Pn**	**03 13 05.7**	**+0.3**
KMNR				*eS*	**Sn**	**03 13 22.1**	**+0.2**
BZMR	**Bezymyannaya**	**1.19**	**358**	*eP*	**Pn**	**03 13 07.5**	**+0.3**
BZMR				*eS*	**Sn**	**03 13 24.6**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.22**	**358**	*eP*	**Pn**	**03 13 08.0**	**+0.5**
BZWR				*eS*	**Sn**	**03 13 25.7**	**0.0**
KPT	**Kopyto**	**1.24**	**351**	*eP*	**Pn**	**03 13 07.5**	**-0.1**
KOZ	**Kozyrevsk**	**1.38**	**343**	*eP*	**Pn**	**03 13 09.0**	**-0.1**
KLY	**Klyuchi**	**1.57**	**2**	S	**Sn**	**03 13 34.5**	**+2.0**
ESO	**Esso**	**1.59**	**319**	*eP*	**Pn**	**03 13 11.3**	**-0.4**
SRDR	**Sredinnyy**	**1.65**	**343**	*eP*	**Pn**	**03 13 11.8**	**-0.6**
NLC	**Nalytchevo**	**1.74**	**205**	*eP*	**Pn**	**03 13 13.4**	**0.0**
NLC				*eS*	**Sn**	**03 13 35.6**	**-0.4**
SDLR	**Sedlovina**	**1.78**	**215**	*eP*	**Pn**	**03 13 14.4**	**+0.4**
SDLR				*eS*	**Sn**	**03 13 37.1**	**-0.1**
KRX	**Arik**	**1.79**	**220**	*eP*	**Pn**	**03 13 15.0**	**+0.7**
KRX				*eS*	**Sn**	**03 13 37.9**	**+0.3**
KRER	**Koryakskii**	**1.80**	**217**	*eP*	**Pn**	**03 13 15.7**	**+1.3**
KRER				*eS*	**Sn**	**03 13 39.0**	**+1.2**
SMAR	**Somma**	**1.82**	**216**	P	**Pn**	**03 13 15.1**	**+0.5**
AVH	**Avacha**	**1.84**	**217**	*i* P	**Pn**	**03 13 15.6**	**+0.9**
AVH				*eS*	**Sn**	**03 13 39.1**	**+0.7**
KOK	**Koryaka**	**1.85**	**219**	*eP*	**Pn**	**03 13 15.8**	**+0.9**
UGLR	**Uglovaya**	**1.85**	**215**	P	**Pn**	**03 13 15.4**	**+0.4**
BDR	**Baidarnaya**	**1.86**	**11**	*eP*	**Pn**	**03 13 16.0**	**+1.0**
BDR				*eS*	**Sn**	**03 13 39.5**	**+0.5**
GNL	**Ganaly**	**1.87**	**237**	*i* P	**Pn**	**03 13 15.1**	**-0.1**
GNL				*eS*	**Sn**	**03 13 38.0**	**-1.2**
SMKR	**Semkarok**	**1.91**	**15**	*eP*	**Pn**	**03 13 16.2**	**+0.6**
SMKR				*eS*	**Sn**	**03 13 40.3**	**+0.3**
SRKR	**Sorokina**	**1.94**	**10**	*eP*	**Pn**	**03 13 17.0**	**+1.0**
SRKR				*eS*	**Sn**	**03 13 41.2**	**+0.4**
KBTR	**Krutoberegovo**	**1.94**	**40**	P	**Pn**	**03 13 17.5**	**+1.5**
KBTR				*eS*	**Sn**	**03 13 41.6**	**+0.9**
PET	**Petropavlovsk**	**2.06**	**214**	*eS*	**Sn**	**03 13 42.7**	**-0.7**
PETK	**Petropavlovsk-**	**2.36**	**227**	Pn	**Pn**	**03 13 21.3**	**0.0**
	1.4nm,0.3s,baz=69,slow=14,SNR=21						
PETK				Sn	Sn	03 14 00.0	+10
	2.1nm,0.3s,baz=91,slow=22,SNR=6.0						
RUS	**Russkaya**	**2.62**	**209**	P	**Pn**	**03 13 24.9**	**+0.2**
RUS				*eS*	**Sn**	**03 13 55.5**	**-0.7**
MTVR	**Mutnovka**	**2.68**	**213**	*eP*	**Pn**	**03 13 26.3**	**+0.8**
MTVR				*eS*	**Sn**	**03 13 58.8**	**+1.1**
APC	**Apacha**	**2.72**	**229**	P	**Pn**	**03 13 26.7**	**+0.7**
ASAK	**Asacha**	**2.85**	**215**	S	**Sn**	**03 14 04.1**	**+2.3**
BKI	**Bering**	**3.15**	**79**	*eP*	**Pn**	**03 13 31.8**	**+0.3**
BKI				*eS*	**Sn**	**03 14 06.1**	**-2.4**
FX1	**Attu Island--F**	**7.69**	**99**	Pn	**Pn**	**03 14 33.4**	**+0.7**
	2.2nm,0.3s,baz=72,slow=15,SNR=7.1						
FX1				Sn	**Sn**	**03 15 55.5**	**-2.6**
	3.2nm,0.3s,baz=231,slow=20,SNR=8.5						
ILAR	**Eielson Array**	**27.47**	**48**	P	**P**	**03 18 18.0**	**-0.7**
	0.3nm,0.6s,baz=261,slow=6.9,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**35.29**	**170**	T	T	03 56 57.6	
	baz=357,slow=76,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**35.30**	**170**	T	T	03 57 02.9	
	baz=357,slow=76,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**35.30**	**170**	T	T	03 57 00.5	
	baz=357,slow=76,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**36.48**	**170**	T	T	03 59 23.2	
	baz=350,slow=75						
H11S3	**WAKE ISLAND Hy**	**36.49**	**170**	T	T	03 59 19.4	
	baz=350,slow=75						
H11S2	**WAKE ISLAND Hy**	**36.49**	**170**	T	T	03 59 25.8	
	baz=350						
YKA	**Yellowknife Ar**	**41.76**	**44**	P	**P**	**03 20 20.6**	**-0.6**
	0.3nm,0.5s,baz=300,slow=8.1,SNR=5.6						
MKAR	**Makanchi Array**	**47.71**	**295**	P	**P**	**03 21 06.7**	**-1.9**
	0.1nm,0.5s,baz=44,slow=7.8,SNR=2.6						
NVAR	**Mina Array Bea**	**54.93**	**71**	P	**P**	**03 22 03.9**	**+1.1**
	0.7nm,0.8s,baz=308,slow=7.2,SNR=4.0						
PDAR	**Pinedale Array**	**56.48**	**62**	P	**P**	**03 22 15.1**	**+1.2**
	0.3nm,0.6s,baz=340,slow=1.1,SNR=3.5						
TXAR	**Lajitas Array**	**69.74**	**68**	P	**P**	**03 23 42.3**	**+0.9**
	0.4nm,0.6s,baz=298,slow=5.5,SNR=6.3						

KRSC 28 03:18:38.5±6.1, 49°.78N×156°.66E, h11km±11km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.97**	**339**	P	Pb	03 18 57.4	+0.1
SKR				S	Sb	03 19 10.2	+0.1
PAU	**Pauzhetka**	**1.69**	**3**	P	Pb	03 19 08.9	-0.7
PAU				S	Sb	03 19 30.5	-0.4
ASAK	**Asacha**	**2.72**	**16**	P	Pb	03 19 25.0	-2.3
MTVR	**Mutnovka**	**2.87**	**19**	P	Pn	03 19 26.2	+1.8
MTVR				S	Sn	03 20 00.7	+1.6
RUS	**Russkaya**	**2.90**	**23**	P	Pn	03 19 25.9	+1.3
RUS				S	Sn	03 20 00.1	+0.7
PET	**Petropavlovsk**	**3.48**	**20**	S	Sn	03 20 14.6	+0.9
UGLR	**Uglovaya**	**3.69**	**21**	P	Pn	03 19 39.4	+3.8
AVH	**Avacha**	**3.72**	**20**	P	Pn	03 19 39.5	+3.5
KOK	**Koryaka**	**3.73**	**19**	P	Pn	03 19 39.9	+3.8
KRER	**Koryakskii**	**3.76**	**19**	P	Pn	03 19 39.7	+3.0
SDLR	**Sedlovina**	**3.77**	**21**	P	Pn	03 19 39.3	+2.6
KRX	**Arik**	**3.79**	**18**	P	Pn	03 19 40.8	+3.8
GNL	**Ganaly**	**4.00**	**11**	P	Pn	03 19 43.4	+3.5
TUMR	**Tumrok**	**5.91**	**20**	P	Pn	03 20 09.5	+3.5
KBTR	**Krutoberegovo**	**7.43**	**28**	P	Pn	03 20 30.1	+3.3

*AUST **28** 03:19:28.3±2.1, 3°.26S×138°.50E, h43km, Error ellipse: s-maj=1.7km s-min=1.3km az=249.0*

*IDC **28** 03:19:31.9±2.6, 3°.38S×137°.23E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.8/4, mbtmp3.6/4, ML3.9/2, Error ellipse: s-maj=84.1km s-min=27.9km az=87.0*

ISC 28 03:19:38.1±4.6, 3°.6S±0°.3×137°.6E±0°.4, h35km, n11, σ1°.32/9, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.36**	**278**	P	**Pn**	**03 20 55.7**	**+0.1**
	baz=6.2,SNR=9.3						
KDU	**Kakadu**	**10.30**	**209**	P	**Pn**	**03 22 03.1**	**-0.4**
	baz=11,SNR=6.6						
MTN	**Manton Dam**	**11.14**	**214**	P	**Pn**	**03 22 17.1**	**+2.2**
	baz=12,SNR=5.8						
KNRA	**Kununurra**	**14.77**	**215**	P	**Pn**	**03 23 03.0**	**-1.5**
	baz=16,SNR=6.1						
LUWI	**Luwuk**	**15.01**	**280**	P	**P**	**03 23 12.7**	**0.0**
	baz=16,SNR=3.4						
WRA	**Warramunga Arr**	**16.51**	**191**	Pn	**Pn**	**03 23 28.3**	**+1.2**
	0.7nm,0.3s,baz=11,slow=12,SNR=26						
FITZ	**

TOA0	Torodi Ar. Sit	57.10	21	eP	P	P	04 21 14.0	-0.6
TORD	Torodi Ar. Bea	57.10	21	P	P	P	04 21 14.0	-0.6
TORD	Torodi Ar. Bea	57.10	21	P	P	P	04 21 14.0	-0.6
	4.2nm,1.0s,baz=196,slow=4.9,SNR=15							
TORD				LR	LR	LR	04 39 54.3	
	comp=Z,138nm,21.1s,baz=210,slow=30							
VNDA	Vanda	60.99	180	P	P	P	04 21 41.4	+0.4
VNDA	Vanda	60.99	180	P	P	P	04 21 41.4	+0.4
	4.7nm,1.2s,baz=188,slow=7.9,SNR=4.9							
TAM	Tamanrasset	67.33	22	eP	P	P	04 22 24.6	+1.3
	12nm,1.5s							
ROSC	El Rosal	70.18	296	LR	LR	LR	04 51 46.5	
	comp=Z,184nm,19.4s,baz=265,slow=34							
KEST	Kesra	80.62	21	LR	LR	LR	04 53 30.6	
	comp=Z,51nm,18.6s,baz=4.8,slow=31							
ESDC	Sonseca Array	81.82	10	P	P	P	04 23 48.1	+1.1
ESDC	Sonseca Array	81.82	10	P	P	P	04 23 48.1	+1.1
	3.2nm,0.8s,baz=180,slow=5.7,SNR=12							
BR131	Keskin Array S	92.93	36	P	P	P	04 24 42.3	+1.1
	2.6nm,0.9s							
BRTR	Keskin Array B	92.93	36	P	P	P	04 24 42.9	+1.7
BRTR	Keskin Array B	92.93	36	P	P	P	04 24 42.9	+1.7
	2.3nm,0.9s,baz=180,slow=4.8,SNR=12							
MKAR	Makanchi Array	123.98	55	PKP	PKPdf	PKPdf	04 30 24.6	-1.4
MKAR	Makanchi Array	123.98	55	PKP	PKPdf	PKPdf	04 30 24.6	-1.4
	0.6nm,0.8s,baz=276,slow=3.5,SNR=4.6							
ZALV	Zalesovo Beam	128.35	48	PKP	PKPdf	PKPdf	04 30 32.8	-1.3
ZALV	Zalesovo Beam	128.35	48	PKP	PKPdf	PKPdf	04 30 32.7	-1.3
	0.5nm,0.5s,baz=256,slow=4.3,SNR=4.3							
YKA	Yellowknife Ar	129.62	323	PKP	PKPdf	PKPdf	04 30 35.8	-0.4
YKA	Yellowknife Ar	129.62	323	PKP	PKPdf	PKPdf	04 30 35.7	-0.4
	1.2nm,0.9s,baz=106,slow=2.3,SNR=15							
INK	Inuvik	138.00	330	ePKPdf	PKPdf	PKPdf	04 30 52.0	+0.3
SONM	Songino Array	139.70	61	PKP	PKPdf	PKPdf	04 30 54.9	-0.8
SONM	Songino Array	139.70	61	PKP	PKPdf	PKPdf	04 30 54.9	-0.8
	0.9nm,0.8s,baz=214,slow=2.9,SNR=6.6							
ILAR	Eielson Array	143.90	326	PKP	PKPbc		04 31 00.4	+0.1
ILAR	Eielson Array	143.90	326	PKP	PKPbc		04 31 00.4	+0.1
	1.4nm,0.8s,baz=123,slow=2.3,SNR=16							
COLA	College	144.27	327	ePKPdf	PKPab		04 31 01.2	+0.1
TRF	Thorofare Moun	145.71	325	ePKPdf	PKPdf		04 31 05.7	-0.2
KTH	Kantishna Hill	145.95	325	ePKPbc	PKPdf		04 31 06.2	0.0
TNA	Tin City	151.30	336	ePKPbc	PKPbc		04 31 20.7	+0.1

NIED **28** *04:13:00,28˚.10N×128˚.50E,h77km,Mw4.6 Best double couple: M₀1.03000×10¹⁶ NP1:φs11.00000°,δ78.00000°, λ-29.00000°. NP2:φs108.00000°,δ62.00000°, λ-166.00000°.*

BJI **28** *04:13:23.8,27˚.73N×128˚.76E,h92km,mB4.6/25,mb4.7/37*

ISCJB **28** *04:13:26.9±0.2,28˚.04N±0˚.02×128˚.43E±0˚.02,h88km±2km, mb4.7/138, Error ellipse: s-maj=4.6km s-min=2.6km az=146.2*

MOS **28** *04:13:26.1±1.1,28˚.08N×128˚.47E,h85km,mb4.8/53, Error ellipse: s-maj=7.6km s-min=4.7km az=108.7*

JMA **28** *04:13:27.9±0.1,28˚.04N×128˚.47E,h81km±2km,M4.6*

JMA Felt I J1.

SZGRF **28** *04:13:27.6,29˚.16N×127˚.97E,h33km,mb5.3,Northwest of Ryukyu Islands, Japan*

NEIC **28** *04:13:28.2±0.4,28˚.00N×128˚.42E,h92km±4km,mb4.9/71, MW4.6(NIED), Error ellipse: s-maj=6.0km s-min=3.7km az=155.0*

NEIC Felt at Chatan and Naha, Okinawa. Recorded [1 JMA] on Amami-oshima, Okino-erabu-shima, Tokuno-shima and Yoron-jima.

IDC **28** *04:13:28.6±1.6,28˚.04N×128˚.45E,h98km±13km,mb4.3/21, mb1 4.4/26,mb1mx4.4/26,mbtmp4.6/26,MS3.5/8, Ms1 3.5/8,ms1mx3.2/41,Error ellipse: s-maj=14.5km s-min=12.4km az=92.0*

ISC 28 04:13:27.8±0.4,27˚.95N±0˚.03×128˚.55E±0˚.03,h95km±2km, n502,σ1♀32/569,mb4.8/148,90C-62D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.39	114	Op P	ISC Pn	Pn	04 13 41.7	-0.6
JTK				S		Sn	04 13 52.0	-1.2
JAMN	Amaminishikomi	0.63	62	P		Pn	04 13 43.1	-1.0
JAMN				S		Sn	04 13 54.5	-1.8
JIH	Iheya	1.04	210	P		Pn	04 13 48.6	+0.3
JIH				S		Sn	04 14 03.3	-0.5
JAM	Amami Oshima	1.04	63	P		Pn	04 13 47.7	-0.6
JAM				S		Sn	04 14 02.2	-1.6
JOW	Kunigami	1.14	192	P		Pn	04 13 49.5	+0.1
JOW				S		Sn	04 14 05.2	-0.5
JOW	Kunigami	1.14	192	ePn		Pn	04 13 49.9	+0.5
JOW				eSn		Sn	04 14 05.5	-0.2
JZK	Kikaishima	1.31	73	P		Pn	04 13 52.1	+0.6
JZK				S		Sn	04 14 09.4	0.0
JAGN	Aguni-jima	1.78	221	P		Pn	04 13 57.6	+0.3
JAGN				S		Sn	04 14 20.0	+0.2
JJT2	Tamagusuku 2	1.94	202	P		Pn	04 14 00.1	+0.8
JJT2				S		Sn	04 14 24.7	+1.3
JNN	Nakanoshima	2.22	31	P		Pn	04 14 02.9	-0.1
JNN				eS		Sn	04 14 29.9	-0.1
JKE	Kume jima 2	2.25	225	P		Pn	04 14 03.6	+0.2
JKE				S		Sn	04 14 30.4	-0.3
JKC	Kuchinoerabu	2.89	30	P		Pn	04 14 12.0	+0.1
JKC				eS		Sn	04 14 45.5	-0.4
JMZ	Minamidaito 2	3.19	131	P		Pn	04 14 15.4	-0.6
JMZ				eS		Sn	04 14 50.0	-3.2
JTN	Tanegashima 3	3.44	38	P		Pn	04 14 19.3	0.0
JTN				eS		Sn	04 14 58.4	-0.6
JNU	Nakatsue	5.54	21	ePn		Pn	04 14 49.2	+1.5
JNU				S		Sn	04 15 52.5	+2.4
JNU				eS		Sn	04 15 53.0	+2.9
JNU	Nakatsue	5.54	21	P		Pn	04 14 49.2	+1.5
	28nm,0.3s,baz=196,slow=4.9,SNR=78							
JNU				S		Sn	04 15 52.5	+2.4
	baz=336,slow=20,SNR=2.1							
YOJ	Yonaguni jima	6.06	236	eP		Pn	04 14 53.9	-1.0
YOJ				pmax		pmax		
	comp=Z,108nm,0.4s							
YOJ	Yonaguni jima	6.06	236	ePn		Pn	04 14 53.9	-1.0
	comp=Z,108nm,0.4s							
TATO	Taipei	6.98	247	ePn		Pn	04 15 08.5	+1.1
YHNB	Yeheng	7.21	245	ePn		Pn	04 15 11.3	+0.7
NACB	Ninganchiao	7.29	241	ePn		Pn	04 15 09.2	-2.5
YULB	Yu-li	7.96	237	ePn		Pn	04 15 16.6	-4.1
YULB				eS		Sn	04 16 39.7	-9.4
SSLB	Suanglung	7.99	240	ePn		Pn	04 15 18.8	-2.4
SSLB				eS		Sn	04 16 44.8	-5.2
TJN	Taejon	8.47	354	eP		Pn	04 15 23.3	-4.2
TWG	Pinlang	8.47	235	ePn		Pn	04 15 22.5	-5.1
TWG				eS		Sn	04 16 52.7	-8.9
TPUB	Ta-pu	8.51	239	ePn		Pn	04 15 26.3	-2.0
NJ2	Nanjing	9.35	298	eP		Pn	04 15 41.0	+1.5
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KSAR	Wonju Array Be	9.49	357	P		Pn	04 15 42.4	+1.0
KSRS	Korea Array	9.50	357	P		Pn	04 15 42.4	+0.9
	comp=Z,0.7nm,0.3s,baz=177,slow=13,SNR=18							
MAJO	Matsushiro	11.84	41	eP		Pn	04 16 11.1	-2.3
MAJO	Matsushiro	11.84	41	ePn		Pn	04 16 15.4	+2.0
MAT	Matsushiro	11.84	41	P		Pn	04 16 14.6	+1.2
MAT				S		Sn	04 18 23.0	-0.5
MJAR	Matsushiro Arr	11.84	41	P		Pn	04 16 12.6	-0.8
MJAR	Matsushiro Arr	11.84	41	P		Pn	04 16 12.6	-0.8
	comp=Z,0.8nm,0.3s,baz=235,slow=13,SNR=4.8							
CBIJ	Chichi jima	12.14	91	P		Pn	04 16 18.5	+1.1
JCJ	Chichijima	12.14	91	P		Pn	04 16 18.5	+1.1
	comp=Z,37nm,0.3s,baz=316,slow=3.4,SNR=19							
JCJ				LR		LR	04 20 37.0	
	comp=Z,97nm,21.1s,baz=263,slow=35							
WHN	Wuhan	12.66	285	P		P	04 16 29.5	-2.3
BJT	Baijiatuau	15.80	323	ePn		P	04 17 07.5	+0.9
	comp=Z,87nm,0.8s							
BJI	Beijing	15.81	323	P		P	04 17 08.0	+1.2
BJI				S		Sn	04 19 59.5	-0.2
BJI				pmax		pmax		
	comp=Z,97nm,0.7s							
BJI				pmax		pmax		
	comp=Z,450nm,3.4s							
BJI				LR		LR		
	comp=Z,130nm,32.8s							
CN2	Changchun	16.02	352	eP		P	04 17 09.3	+0.3
USRK	Ussuriysk Arra	16.45	9	P		Pn	04 17 13.1	+0.4
	comp=Z,0.2nm,0.3s,baz=187,slow=10.0,SNR=4.2							
USRK				LR		LR	04 24 33.7	
	comp=Z,63nm,19.1s,baz=3.6,slow=41							
ENH	Enshi	16.82	282	ePn		P	04 17 18.1	+0.1
	comp=Z,10.0nm,0.6s							
XAN	Xi'an	17.88	295	P		Pn	04 17 30.5	+0.2
XAN				pP		pP	04 17 45.8	-1.9
XAN				PP		PP	04 17 49.3	
XAN				sP		sP	04 18 00.0	+0.2
XAN				S		Sn	04 20 46.3	-3.3
XAN				SS		SnSn	04 21 15.8	+11
XAN				pmax		pmax		
	comp=Z,15nm,0.8s							
XAN				LR		LR		
	comp=Z,190nm,10.7s							
XAN				LR		LR		
	comp=Z,33nm,9.6s							
XAN				LR		LR		
	comp=Z,51nm,12.0s							
ERM	Erimo	18.41	37	eP		P	04 17 32.2	-3.1
ERM				pmax		pmax		
	comp=Z,75nm,1.3s							
HHC	Hu-ho-hao-te	18.98	317	eP		Pn	04 17 43.8	+0.3
HHC				pP		pP	04 18 00.5	+0.5
HHC				sP		sP	04 18 13.5	+1.5
HHC				S		S	04 21 07.5	-4.8
HHC				SS		SnSn	04 21 37.0	+4.9
HHC				pmax		pmax		
	comp=Z,43nm,0.7s							
HHC				pmax		pmax		
	comp=Z,260nm,4.8s							
HHC				LR		LR		
	comp=Z,220nm,11.9s							
HHC				LR		LR		
	comp=Z,270nm,11.3s							
HHC				LR		LR		
	comp=Z,160nm,11.9s							
QIZ	Qiongzhong	19.30	247	P		P	04 17 45.5	+0.3
QIZ				pP		pP	04 18 02.8	-0.6
QIZ				sP		sP	04 18 13.5	-1.9
QIZ				S		S	04 21 17.0	-1.7
QIZ				pmax		pmax		
	comp=Z,150nm,4.6s							
GYA	Guiyang	19.52	271	P		P	04 17 48.8	+1.0
GYA				pP		pP	04 18 06.3	+0.3
GYA				S		S	04 21 17.0	-6.3
GYA				sS		sS	04 21 48.5	-4.8
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.8s							
GYA				LR		LR		
	comp=Z,470nm,14.8s							
GYA				LR		LR		
	comp=Z,440nm,15.0s							
GYA				LR		LR		
	comp=Z,480nm,15.3s							
HABR	Khabarovsk	21.11	12	eP		P	04 18 01.4	-3.1
HABR				eS		S	04 21 49.0	-4.9
HABR				pmax		pmax		
	comp=Z,64nm,1.6s							
YUK	Yuzh-Kuril'sk	21.24	36	*c iP*		P	04 18 01.4	-4.5
YUK				*i* S		S	04 21 52.4	-4.2
YUK				MLR		MLR		
	comp=N,644nm,17.0s							
YUK				MLR		MLR		
	comp=Z,260nm,17.0s							
CD2	Chengdu	21.78	284	eP		P	04 18 10.0	-1.9
CD2				pP		pP	04 18 30.8	+0.2
CD2				PP		PnPn	04 18 39.5	+1.5
CD2				S		S	04 21 58.5	-8.9
CD2				pmax		pmax		
	comp=Z,40nm,1.2s							
CD2				pmax		pmax		
	comp=Z,150nm,6.0s							
CD2				LR		LR		
	comp=Z,600nm,9.4s							
CD2				LR		LR		
	comp=Z,500nm,9.4s							
CD2				LR		LR		
	comp=Z,260nm,9.2s							
YSS	Yuzh-Sakhalins	22.01	27	eP		P	04 18 15.0	+0.9
LZH	Lanzhou	22.42	297	eP		P	04 18 18.3	-0.5
LZH				pP		pP	04 18 38.8	+1.2
LZH				sP		sP	04 18 48.5	-1.0
LZH				PP		PnPn	04 18 50.0	+3.3
LZH				eS		S	04 22 10.0	-8.6
LZH				SS		SnSn	04 23 01.3	+5.0
LZH				pmax		pmax		
	comp=Z,24nm,1.0s							
LZH				pmax		pmax		
	comp=Z,100nm,4.4s							
KMI	Kunming	23.25	269	P		P	04 18 26.0	-1.2
KMI				pP		pP	04 18 47.0	+0.4
KMI				sP		sP	04 18 57.5	-0.9
KMI				S		S	04 22 27.0	-5.1
KMI				sS		Sn	04 23 00.8	+2.1
KMI				SS		SnSn	04 23 18.8	+2.2
KMI				pmax		pmax		
	comp=Z,11nm,1.1s							
KMI				pmax		pmax		
	comp=Z,86nm,3.9s							
KMI				LR		LR		
	comp=Z,170nm,10.0s							
KMI				LR		LR		
	comp=Z,150nm,9.5s							
KMI				LR		LR		
	comp=Z,120nm,11.0s							
ULN	Ulaanbaatar	25.98	326	eP		P	04 18 51.4	-0.2
	comp=Z,7.6nm,0.8s							
SONM	Songino Array	26.29	325	P		P	04 18 54.7	+0.3
SONM				PcP		PcP	04 22 19.1	+0.8
SONM				ScP		ScP	04 25 51.0	+1.5
SONM	Songino Array	26.29	325	P		P	04 18 54.7	+0.3
	comp=Z,3.2nm,0.6s,baz=136,slow=10,SNR=31							
SONM				PcP		PcP	04 22 19.1	+0.8
	comp=Z,0.9nm,0.6s,baz=140,slow=3.6,SNR=4.4							
SONM				ScP		ScP	04 25 51.0	+1.5
	comp=Z,0.5nm,0.9s,baz=126,slow=2.5,SNR=4.4							
GTA	Gaotai	26.39	303	eP		P	04 18 54.3	-1.1
GTA				pP		pP	04 19 15.8	-0.9
GTA				sP		sP	04 19 27.8	-0.1
GTA				S		S	04 23 17.8	-4.1
GTA				pmax		pmax		
	comp=Z,13nm,1.1s							
GTA				pmax		pmax		
	comp=Z,66nm,7.1s							
GTA				LR		LR		
	comp=Z,120nm,13.5s							
GTA				LR		LR		
	comp=Z,98nm,11.2s							
GTA				LR		LR		
	comp=Z,84nm,10.7s							
CHAI	Chaiyaphum	27.33	250	P		P	04 19 06.1	+2.2
	comp=Z,4.7nm,0.7s							
PBKT	Sadao Pong	27.85	252	P		P	04 19 11.0	+2.5
	comp=Z,13nm,0.7s							
LAMP	Lampang	28.12	257	P		P	04 19 13.0	+2.1
	comp=Z,4.5nm,0.6s,comp=Z,81nm							
CMMT	Chiang Mai	28.59	258	P		P	04 19 16.6	+1.5
	comp=Z,9.7nm,0.6s							
CHTO	Chiang Mai	28.59	258	eP		P	04 19 15.7	+0.6
CHTO				pmax		pmax		
	comp=Z,2.0nm,0.6s							
CHTO	Chiang Mai	28.59	258	eP		P	04 19 15.7	+0.6
	comp=Z,1.9nm,0.6s							
CHTO	Chiang Mai	28.59	258	P		P	04 19 16.7	+1.6
	comp=Z,41nm,0.7s							
CMAR	Chiang Mai Arr	28.74	257	P		P	04 19 16.9	+0.6
CMAR				PcP		PcP	04 22 26.6	+2.0
CMAR	Chiang Mai Arr	28.74	257	P		P	04 19 16.9	+0.6
	comp=Z,1.5nm,0.4s,baz=56,slow=7.8,SNR=7.8							
CMAR				PcP		PcP	04 22 26.6	+2.0
	comp=Z,1.5nm,0.3s,baz=57,slow=1.2,SNR=7.3							
CMAR				LR		LR	04 32 02.5	
	comp=Z,42nm,18.1s,baz=292,slow=39							
CHBT	CHBT	28.76	244	P		P	04 19 19.6	+3.0
	comp=Z,18nm,0.9s							
TLY	Talaya	30.18	329	eP		P	04 19 30.6	+1.7
TLY				eS		S	04 24 28.6	+7.6
TLY				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TLY				MLR		MLR		
	comp=Z,37nm,12.0s							
PETK	Petropavlovsk-	33.10	33	P		P	04 19 53.9	-0.4
PETK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
PETK				MLR		MLR		
	comp=Z,29nm,18.6s							
PETK	Petropavlovsk-	33.10	33	P		P	04 19 53.9	-0.4
PETK	Petropavlovsk-	33.10	33	P		P	04 19 53.9	-0.4
	comp=Z,1.3nm,0.6s,baz=206,slow=4.5,SNR=5.0							
PETK				LR		LR	04 35 15.0	
	comp=Z,29nm,18.6s,baz=63,slow=40							
PET	Petropavlovsk	33.51	33	eP		P	04 19 55.8	-2.1
YAK	Yakutsk	34.09	1	eP		P	04 20 00.8	-2.0
HVS	Khovu-Aksy	34.97	321	eP		P	04 20 11.2	+0.5
HVS				pmax		pmax		
	comp=Z,27nm,1.2s							
H11N2	WAKE ISLAND Hy	35.90	95	T		T	04 58 04.8	
	baz=293,slow=76,SNR=8.8							
H11N1	WAKE ISLAND Hy	35.90	95	T		T	04 58 08.2	
	baz=293,slow=76,SNR=9.4							
H11N3	WAKE ISLAND Hy	35.92	95	T		T	04 58 02.8	
	baz=293,slow=76,SNR=10							
TAPN	Taplejung	36.06	279	eP		P	04 20 20.7	+0.1
	comp=Z,9.9nm,0.7s							
TAPN	Taplejung	36.06	279	eP		P	04 20 20.7	+0.1
	comp=Z,9.9nm,0.7s							
WMQ	Urumqi	36.29	307	P		P	04 20 22.0	-0.1
WMQ				pP		pP	04 20 45.0	+1.0
WMQ				sP		sP	04 20 56.0	+1.0
WMQ				PP		PnPn	04 21 47.0	+0.1
WMQ				PcP		PcP	04 22 47.0	+2.0
WMQ				S		S	04 25 53.0	-2.8
WMQ				ScP		ScP	04 26 23.0	+0.1
WMQ				ScS		ScS	04 30 27.0	-2.1
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,56nm,3.0s							
WMQ				LR		LR		
	comp=Z,110nm,13.0s							
WMQ				LR		LR		
	comp=Z,79nm,12.0s							
WMQ				LR		LR		
	comp=Z,78nm,12.0s							
ODAN	Odare	36.43	278	eP		P	04 20 24.4	+0.7
	comp=Z,22nm,0.3s							
ODAN	Odare	36.43	278	eP		P	04 20 24.4	+0.7
	comp=Z,22nm,0.3s							
RAMN	Ramite	37.11	279	eP		P	04 20 29.5	+0.1
	comp=Z,6.6nm,0.4s							
RAMN	Ramite	37.11	279	eP		P	04 20 29.5	+0.1
	comp=Z,6.6nm,0.4s							
JIRN	Jiri	37.33	280	eP		P	04 20 32.4	+1.0
	comp=Z,7.6nm,0.3s							
JIRN	Jiri	37.33	280	eP		P	04 20 32.4	+1.0
	comp=Z,7.6nm,0.3s							
GUN	Gumba	37.55	280	eP		P	04 20 34.6	+1.3
	comp=Z,25nm,0.5s							
GUN	Gumba	37.55	280	eP		P	04 20 34.6	+1.3
	comp=Z,25nm,0.5s							
PKI	Pulchoki	38.03	280	eP		P	04 20 37.6	+0.3
	comp=Z,11nm,0.3s							
PKI	Pulchoki	38.03	280	eP		P	04 20 37.6	+0.3
PKI				pmax		pmax		
	comp=Z,11nm,0.3s							
PKI	Pulchoki	38.03	280	eP		P	04 20 37.6	+0.3
	comp=Z,11nm,0.3s							
PKIN	Phulchoki	38.04	280	eP		P	04 20 37.6	+0.3
	comp=Z,9.1nm,0.3s							
KKN	Kakani	38.10	280	eP		P	04 20 38.5	+0.8
	comp=Z,11nm,0.3s							
KKN	Kakani	38.10	280	eP		P	04 20 38.5	+0.8
KKN				pmax		pmax		
	comp=Z,11nm,0.3s							
KKN	Kakani	38.10	280	eP		P	04 20 38.5	+0.8
	comp=Z,11nm,0.3s							
DMN	Daman	38.28	280	eP		P	04 20 40.7	+1.3
DMN	Daman	38.28	280	eP		P	04 20 40.7	+1.3
GKN	Gorkha	38.62	281	eP		P	04 20 42.8	+0.8
	comp=Z,20nm,0.4s							
GKN	Gorkha	38.62	281	eP		P	04 20 42.8	+0.8
	comp=Z,20nm,0.4s							
DANN	Dangsing	39.32	281	eP		P	04 20 49.0	+1.0
	comp=Z,30nm,0.4s							
DANN	Dangsing	39.32	281	eP		P	04 20 49.0	+1.0
	comp=Z,30nm,0.4s							
KOLN	Koldanda	39.56	281	eP		P	04 20 50.6	+0.6
	comp=Z,6.1nm,0.3s							
KOLN	Koldanda	39.56	281	eP		P	04 20 50.6	+0.6
	comp=Z,6.1nm,0.3s							
PYUN	Piuthan	40.03	281	eP		P	04 20 54.4	+0.6
PYUN	Piuthan	40.03	281	eP		P	04 20 54.4	+0.6
MK31	Makanchi Array	40.62	310	*i* P		P	04 20 58.1	-0.2
MK31				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MK31	Makanchi Array	40.62	310	eP		P	04 20 57.3	-0.9
MK31				ePcP		PcP	04 22 58.9	+0.4
MKAR	Makanchi Array	40.62	310	P		P	04 20 57.4	-0.9
MKAR							04 22 58.6	
MKAR				pmax		pmax		
	comp=Z,7.0nm,0.6s							
MKAR	Makanchi Array	40.62	310	P		P	04 20 57.4	-0.9
MKAR				PcP		PcP	04 22 58.6	+0.1
MKAR				ScP		ScP	04 26 39.8	+0.5
MKAR	Makanchi Array	40.62	310	P		P	04 20 57.4	-0.9
	comp=Z,6.9nm,0.6s,baz=94,slow=10,SNR=55							
MKAR				PcP		PcP	04 22 58.6	+0.1
	comp=Z,3.0nm,0.6s,baz=75,slow=3.0,SNR=14							
MKAR				ScP		ScP	04 26 39.8	+0.5
	comp=Z,0.7nm,0.8s,baz=81,slow=7.5,SNR=3.5							
ZAA0	Zalesovo Array	41.07	322	eP		P	04 21 01.6	-0.2
ZALV	Zalesovo Beam	41.07	322	*i* P		P	04 21 01.7	-0.1
ZALV				pmax		pmax		
	comp=Z,11nm,0.6s							
ZALV	Zalesovo Beam	41.07	322	P		P	04 21 01.4	-0.4
ZALV				PcP		PcP	04 22 59.1	-0.6
ZALV				ScP		ScP	04 26 40.6	-0.2
ZALV	Zalesovo Beam	41.07	322	P		P	04 21 01.4	-0.4
	comp=Z,11nm,0.6s,baz=113,slow=9.2,SNR=40							
ZALV				PcP		PcP	04 22 59.1	-0.6
	comp=Z,2.2nm,0.5s,baz=128,slow=2.4,SNR=6.5							
ZALV				ScP		ScP	04 26 40.6	-0.2
	comp=Z,1.8nm,0.8s,baz=133,slow=3.5,SNR=7.1							
FX1	Attu Island--F	41.20	40	eP		P	04 21 04.0	+1.2
NVS	Novosibirsk	42.26	322	*i* P		P	04 21 10.4	-1.0
KURK	Kurchatov	43.79	315	eP		P	04 21 23.1	-0.7
KURK				pmax		pmax		
	comp=Z,12nm,0.6s							
KURK	Kurchatov	43.79	315	eP		P	04 21 23.1	-0.7
	comp=Z,12nm,0.6s							
KSH	Kashi	44.66	299	P		P	04 21 35.0	+3.9
KSH				pP		pP	04 21 57.0	+3.3
KSH				sP		sP	04 22 07.0	+2.5
KSH				PP		PP	04 23 21.0	+4.0
KSH				PcS		PcS	04 27 08.0	+2.1
KSH				S		S	04 28 04.0	+3.6
KSH				SS		ScS	04 31 18.0	-1.4
KSH				pmax		pmax		
	comp=Z,7.0nm,0.7s							
KSH				pmax		pmax		
	comp=Z,98nm,4.2s			

KKAR Karatay Array 48.67 304 *e*P P 04 22 01.0 -1.2
comp=Z,4.5nm,0.6s
KKAR *e*PcP **PcP** 04 23 26.5 +0.3
BVA0 Borovoye Array 49.20 317 *i* P P 04 22 06.4 +0.3
BVA0 pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 49.26 317 *d i*P P 04 22 06.7 +0.1
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK Borovoye 49.26 317 *e*P P 04 22 06.9 +0.3
comp=Z,24nm,0.8s
BRVK *e*PcP **PcP** 04 23 28.1 0.0
KBL Kabul 50.67 293 *e*P P 04 22 18.1 +0.3
KBL *e* 04 23 34.0
KBL pmax pmax
comp=Z,10.0nm,0.6s
KBL Kabul 50.67 293 *e*P P 04 22 18.1 +0.3
comp=Z,10nm,0.6s
KBL *e*PcP **PcP** 04 23 34.0 0.0
AS31 Alice Springs 51.57 174 *e*P P 04 22 25.9 +1.6
ASAR Alice Springs 51.57 174 P P 04 22 25.9 +1.6
ASAR Alice Springs 51.57 174 P P 04 22 25.9 +1.6
comp=Z,1.1nm,0.7s,baz=1.7,slow=9.3,SNR=16
TNA Tin City 53.99 27 *e*P P 04 22 41.4 -0.1
comp=Z,7.4nm,1.0s
SVE Sverdlovsk 55.09 322 *e*P P 04 22 50.1 +0.5
SVE pmax pmax
comp=Z,22nm,1.3s
AB31 Akbulak array 55.69 312 *i* P P 04 22 54.1 0.0
AB31 pmax pmax
comp=Z,16nm,0.6s
ABKAR Akbulak array 55.69 312 *e*P P 04 22 53.7 -0.4
comp=Z,13nm,0.6s
ABKAR *e*PcP **PcP** 04 23 52.5 +0.1
ARU Arti 56.23 321 *d i*P P 04 22 57.5 -0.3
ARU 04 23 51.9
ARU 04 25 01.1
ARU S **S** 04 30 41.5 +1.5
ARU SS SS 04 34 19.9 -7.6
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 56.23 321 *e*P P 04 22 57.6 -0.2
comp=Z,11nm,0.8s
IDAH Dahanechah 58.53 293 *e*P P 04 23 15.2 +0.5
IKRD Kardeh 58.64 298 *e*P P 04 23 09.9 -5.5
IKOO Kooshah 59.32 293 *e*P P 04 23 20.4 +0.2
ITEG Tejag 59.40 293 *e*P P 04 23 21.0 +0.3
IM04 Indian Mountai 59.82 28 *e*P P 04 23 23.4 +0.6
PPLA Purkeypile 60.67 31 *e*P P 04 23 30.0 +1.2
comp=Z,17nm,0.6s
CAST Castle Rocks 60.68 30 *e*P P 04 23 30.4 +1.7
comp=Z,14nm,0.9s
KDAK Kodiak Island 60.98 37 *e*P P 04 23 30.8 +0.1
comp=Z,43nm,1.0s
KTH Kantishna Hill 61.18 30 *e*P P 04 23 33.0 +0.9
comp=Z,89nm,1.2s
COLD Coldfoot 61.20 26 *e*P P 04 23 32.6 +0.5
comp=Z,38nm,2.0s
MCK McKinley 62.05 30 *e*P P 04 23 38.4 +0.5
MCK pmax pmax
comp=Z,27nm,1.1s
MCK McKinley 62.05 30 *e*P P 04 23 38.4 +0.5
comp=Z,27nm,1.1s
PMR Palmer 62.23 32 *e*P P 04 23 39.9 +0.9
PMR pmax pmax
comp=Z,22nm,1.1s
PMR Palmer 62.23 32 *e*P P 04 23 39.9 +0.9
comp=Z,22nm,1.1s
COLA College 62.38 29 *c i*P P 04 23 39.0 -1.0
COLA pmax pmax
comp=Z,28nm,0.7s
COLA College 62.38 29 *e*P P 04 23 41.2 +1.2
comp=Z,3.8nm,0.6s
PRGR Permogore 62.50 328 P P 04 23 35.6 -5.3
PRGR *e* 04 24 18.4
PRGR pmax pmax
comp=Z,18nm,0.4s
ILAR Eielson Array 62.80 29 P P 04 23 42.4 -0.5
ILAR Eielson Array 62.80 29 P P 04 23 42.4 -0.5
comp=Z,3.7nm,0.7s,baz=272,slow=5.6,SNR=102
PAX Paxson 63.70 31 *e*P P 04 23 49.7 +0.7
PAX pmax pmax
comp=Z,8.0nm,0.9s
PAX Paxson 63.70 31 *e*P P 04 23 49.7 +0.7
comp=Z,8.0nm,0.9s
DIV Divide 63.90 33 *e*P P 04 23 51.5 +1.3
comp=Z,21nm,0.9s
IDMV Damavand 64.01 298 *e*P P 04 23 51.1 -0.6
DOT Dot Lake 64.20 30 *e*P P 04 23 52.2 +0.1
comp=Z,18nm,0.9s
DOT *e*PP **PP** 04 26 13.9 -0.2
BMRM Bremner River 64.49 33 *e*P P 04 23 55.2 +1.1
comp=Z,33nm,1.2s
MENT Mentasta 64.50 30 *e*P P 04 23 55.2 +1.1
IPAR Pars 64.96 292 *e*P P 04 23 58.6 +0.6
EGAK Eagle 65.21 28 *e*P P 04 23 59.1 +0.5
comp=Z,7.5nm,0.8s
TMCR Tamitsa 65.44 331 *e*P P 04 23 57.9 -2.2
TMCR *e* 04 26 22.3
TMCR pmax pmax
comp=Z,16nm,0.4s
APA Apatity 66.42 335⇑ *i*P P 04 24 06.4 +0.1
APA MLR MLR
comp=Z,500nm,13.0s
INK Inuvik 67.21 24 *e*P P 04 24 11.6 +0.3
comp=Z,5.1nm,0.6s
HYT Haines Junctio 67.88 32 *e*P P 04 24 17.7 +1.8
ZEI Tsey 67.89 308 *e*P P 04 24 13.9 -2.5
ZEI pmax pmax
comp=Z,13nm,0.9s
KEV Kevo 67.95 338 *e*P P 04 24 14.9 -1.0
KEV pmax pmax
comp=Z,6.0nm,0.6s
KEV Kevo 67.95 338 *ep* P 04 24 14.9 -1.0
comp=Z,6.4nm,0.6s
KBZ Khabaz 68.30 309 P P 04 24 18.6 0.0
KBZ pmax pmax
comp=Z,12nm,0.8s
KBZ Khabaz 68.30 309 P P 04 24 18.6 0.0
KBZ Khabaz 68.30 309 P P 04 24 18.6 0.0
comp=Z,12nm,0.8s,baz=93,slow=4.2,SNR=20
KIV Kislovodsk 68.37 309 *e*P P 04 24 20.3 +1.1
KIV pmax pmax
comp=Z,23nm,0.9s
KIV Kislovodsk 68.37 309 *e*P P 04 24 19.7 +0.5
comp=Z,18nm,0.8s
ARCES ARCESS Array B 68.52 338 P P 04 24 18.1 -1.4
ARCES ARCESS Array B 68.52 338 P P 04 24 18.1 -1.4
comp=Z,2.6nm,0.7s,baz=77,slow=8.4,SNR=11
OBN Obninsk 68.65 322 *e*P P 04 24 20.3 -0.3
OBN pmax pmax
comp=Z,15nm,1.7s
JOF Joensuu 68.68 331 *e*P P 04 24 19.2 -1.4
JOF pmax pmax
comp=Z,10.0nm,0.6s
JOF Joensuu 68.68 331 *ep* P 04 24 19.2 -1.4
comp=Z,10.0nm,0.6s
KAF Kangasniemi 71.14 331 *e*P P 04 24 34.2 -1.5
KAF pmax pmax
comp=Z,9.0nm,0.7s
KAF Kangasniemi 71.14 331 *ep* P 04 24 34.2 -1.5
comp=Z,9.3nm,0.7s
FINES FINESS Array B 71.52 330 P P 04 24 36.6 -1.4
FINES FINESS Array B 71.52 330 P P 04 24 36.6 -1.4
comp=Z,10nm,0.5s,baz=66,slow=5.7,SNR=100
ANN Anapa 71.63 311 *e*P P 04 24 39.9 +0.9
VSU Vasula 72.46 327 *e*P P 04 24 42.9 -0.7
VSU pmax pmax
comp=Z,68nm,1.0s
MALT Malatya 73.36 305⇑ *i*P P 04 24 49.8 +0.3
SIM Simferopol' 73.76 312 *e*P **PcP** 04 25 07.0 +0.2
SIM pmax pmax
comp=Z,17nm,1.0s
RES Resolute Bay 73.81 11 *e*P P 04 24 50.9 -0.5
comp=Z,9.8nm,0.7s
AKASG Malin Array Be 74.42 319 P P 04 24 54.5 -0.8
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG MLR MLR
comp=Z,45nm,18.2s
AKASG Malin Array Be 74.42 319 P P 04 24 54.5 -0.8
AKASG Malin Array Be 74.42 319 P P 04 24 54.5 -0.8
comp=Z,4.7nm,0.5s,baz=59,slow=6.1,SNR=24
AKASG LR LR 05 00 18.3
comp=Z,45nm,18.2s,baz=270,slow=38

AK01 Malin Array Si 74.43 319 *e*P P 04 24 54.7 -0.6
KIEV Kiev 74.43 319 *e*P P 04 24 54.2 -1.1
KIEV Kiev 74.43 319 *e*P P 04 24 54.7 -0.7
comp=Z,5.8nm,0.5s
AK02 Malin Array Si 74.44 319 *e*P P 04 24 54.8 -0.6
BR131 Keskin Array S 76.21 308 *e*P P 04 25 06.4 +0.5
comp=Z,6.1nm,0.6s
BRTR Keskin Array B 76.21 308 P P 04 25 06.3 +0.3
BRTR Keskin Array B 76.21 308 P P 04 25 06.3 +0.3
comp=Z,7.3nm,0.6s,baz=98,slow=3.6,SNR=38
SUW Suwalki 76.23 324 *e*P P 04 25 05.9 +0.3
SUW Suwalki 76.23 324 *e*P P 04 25 05.9 +0.3
SUW Suwalki 76.23 324 *e*P P 04 25 05.6 0.0
comp=Z,33nm,0.8s
ANTO Ankara 76.74 308⇑ P P 04 25 09.4 +0.5
ANTO Ankara 76.74 308⇑ *i*P P 04 25 09.4 +0.5
YKW3 Yellowknife Ar 76.81 25 *e*P P 04 25 09.2 +0.5
comp=Z,0.4nm,1.0s
YKA Yellowknife Ar 76.86 25 P P 04 25 09.7 +0.7
YKA Yellowknife Ar 76.86 25 P P 04 25 09.6 +0.7
comp=Z,8.3nm,0.8s,baz=298,slow=5.7,SNR=110
CFR Carcaliu 77.50 315⇓ P P 04 25 13.4 +0.5
CFR Carcaliu 77.50 315⇓ *i*P P 04 25 13.4 +0.5
MMAI Mount Meron Ar 77.76 301 LR LR 05 02 23.3
comp=Z,87nm,18.7s,baz=150,slow=38
LVV L'vov 77.79 320 *e*P P 04 25 09.7 -4.7
TESR Tescani 77.81 316⇑ *i*P P 04 25 16.2 +1.6
NB2 NORSAR Subarra 77.90 334 P P 04 25 14.2 -0.7
comp=Z,6.1nm,0.7s,baz=52,slow=5.6
NOA NORSAR Array B 77.90 334 P P 04 25 14.2 -0.7
NOA NORSAR Array B 77.90 334 P P 04 25 14.2 -0.7
comp=Z,6.9nm,0.8s,baz=52,slow=5.6,SNR=21
NOA LR LR 05 03 13.0
comp=Z,28nm,18.1s,baz=60,slow=38
VRI Vrincioaia 78.06 316⇓ P P 04 25 17.6 +1.5
VRI Vrincioaia 78.06 316⇓ *i*P P 04 25 17.6 +1.5
PLOR Plostina 78.11 316⇓ P P 04 25 17.5 +1.1
PLOR Plostina 78.11 316⇓ *i*P P 04 25 17.5 +1.1
BUR08 Bucovina Ar. S 78.15 318 *e*P P 04 25 17.0 +0.4
BURAR Bucovina Array 78.15 318⇑ P P 04 25 16.4 -0.3
BURAR Bucovina Array 78.15 318⇑ *i*P P 04 25 16.4 -0.3
CSS Prodhromos 78.47 303 *e*P P 04 25 19.0 +0.5
comp=Z,12nm,0.7s
BEL Belsk 78.57 323 *e*P P 04 25 19.2 +0.5
BEL Belsk 78.57 323 *e*P P 04 25 19.1 +0.4
KWP Kalwaria Pacla 78.63 320⇑ P P 04 25 19.8 +0.7
KWP Kalwaria Pacla 78.63 320 *e*P P 04 25 19.7 +0.7
KWP Kalwaria Pacla 78.63 320⇑ *i*P P 04 25 19.8 +0.7
KWP Kalwaria Pacla 78.63 320 *e*P P 04 25 19.1 0.0
comp=Z,22nm,1.0s
MLR Muntele Rosu 78.72 316⇑ *i*P P 04 25 20.3 +0.4
DOPR Dopca 78.84 316⇑ *i*P P 04 25 21.3 +1.0
KOLS Kolonicke sedl 79.22 320 *e*P P 04 25 22.5 +0.1
KOLS pmax pmax
comp=Z,5.0nm,1.2s
KOLS Kolonicke sedl 79.22 320 *e*P P 04 25 22.5 +0.1
SUMG Summit 79.35 356 *e*P P 04 25 22.7 -0.4
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 79.35 356 *e*P P 04 25 22.7 -0.4
comp=Z,11nm,1.0s
STHS Stebnicka Huta 79.56 321 *e*P P 04 25 25.5 +1.3
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 79.56 321 *e*P P 04 25 25.5 +1.3
ARR Arges 79.59 316⇑ *i*P P 04 25 25.5 +1.0
CRVS Cervenica-Dubn 79.70 320 *e*P P 04 25 25.0 0.0
CRVS pmax pmax
comp=Z,19nm,1.9s
CRVS Cervenica-Dubn 79.70 320 *e*P P 04 25 25.0 0.0
HUMR Humele 79.78 315⇑ *i*P P 04 25 25.3 -0.2
OJC Ojcow 79.94 322 *e*P P 04 25 27.1 +0.9
OJC Ojcow 79.94 322 *e*P P 04 25 27.1 +0.9
URZ Urewera 80.01 143 LR LR 04 59 39.1
comp=Z,89nm,18.4s,baz=185,slow=35
DRGR 80.05 318⇑ P P 04 25 27.0 0.0
DRGR 80.05 318⇑ *i*P P 04 25 27.0 0.0
NIE Niedzica 80.08 321 *e*P P 04 25 29.4 +2.4
NIE Niedzica 80.08 321 *e*P P 04 25 29.4 +2.4
GZR Gura Zlata 80.71 317⇑ P P 04 25 31.0 +0.5
GZR Gura Zlata 80.71 317⇑ *i*P P 04 25 31.0 +0.5
OKC Ostrava-Krasne 81.05 322 *e*P P 04 25 32.4 +0.3
OKC Ostrava-Krasne 81.05 322 *e*P P 04 25 32.4 +0.3
PSZ Piszkesteto 81.10 320⇑ P P 04 25 32.9 +0.3
PSZ Piszkesteto 81.10 320⇑ *i*P P 04 25 32.9 +0.3
BZS Buzias 81.30 317⇑ P P 04 25 31.9 -1.7
BZS Buzias 81.30 317⇑ *i*P P 04 25 31.9 -1.7
MORC Moravsky Berou 81.41 322⇑ P P 04 25 34.9 +0.8
MORC Moravsky Berou 81.41 322⇑ *i*P P 04 25 34.9 +0.8
MORC Moravsky Berou 81.41 322 *e*P P 04 25 34.7 +0.6
comp=Z,17nm,1.3s
KSP Ksiaz 81.48 324⇑ *e*P P 04 25 35.4 +1.0
KSP Ksiaz 81.48 324 *e*P P 04 25 33.3 -1.1
KRLC Kraliky 81.65 323 *e*P P 04 25 35.6 +0.2
KRLC Kraliky 81.65 323 *e*P P 04 25 35.6 +0.2
DPC Dobruska-Polom 81.74 323 *e*P P 04 25 37.1 +1.2
DPC Dobruska-Polom 81.74 323 *e*P P 04 25 37.0 +1.2
DPC *ex* x 04 25 45.8
DPC Dobruska-Polom 81.74 323 *e*P P 04 25 37.1 +1.2
UPC Upice 81.82 323 *e*P P 04 25 37.0 +0.8
UPC Upice 81.82 323 *e*P P 04 25 37.0 +0.8
RUE Ruedersdorf 81.83 326 *e*P P 04 25 37.3 +1.1
comp=Z,22nm,0.6s
VTS Vitosha 81.86 314⇑ P P 04 25 37.9 +1.1
VTS Vitosha 81.86 314⇑ *i*P P 04 25 37.8 +1.0
MMB Musomiste 82.03 313⇑ P P 04 25 37.8 +0.2
MMB Musomiste 82.03 313⇑ *i*P P 04 25 37.8 +0.2
VRAC Vranov 82.18 322⇑ *i*P P 04 25 39.3 +1.1
BSEG Bad Segeberg 82.61 328 *e*P P 04 25 41.2 +1.0
comp=Z,20nm,0.9s
BRG Berggiesshubel 82.69 324⇑ *i*P P 04 25 41.2 +0.5
comp=Z,7.9nm,0.8s
BRG Berggiesshubel 82.69 324⇑ *i*P P 04 25 41.2 +0.5
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 82.69 324 *e*P P 04 25 41.4 +0.7
comp=Z,8.0nm,0.8s
PKSM Moragy 82.74 319⇑ P P 04 25 41.4 +0.3
PKSM Moragy 82.74 319⇑ *i*P P 04 25 41.4 +0.3
TREC Trest 82.79 323 *e*P P 04 25 42.0 +0.7
TREC Trest 82.79 323 *e*P P 04 25 42.0 +0.7
B08A Colville Reser 82.81 39 *e*P P 04 25 43.0 +1.5
comp=Z,6.0nm,1.1s
PRU Pruhonice 82.89 324 *e*P P 04 25 42.4 +0.6
PRU Pruhonice 82.89 324 *e*P P 04 25 42.4 +0.6
CLL Collm 82.91 325⇓ *i*P P 04 25 42.2 +0.4
CLL pmax pmax
comp=Z,21nm,0.7s
CLL Collm 82.91 325 *e*P P 04 25 42.5 +0.7
comp=Z,20nm,0.7s
CLL Collm 82.91 325⇓ *i*P P 04 25 42.2 +0.4
comp=Z,21nm,0.7s
VAY Valandovo 82.92 313 *i* P P 04 25 42.6 +0.5
FBE Freiberg 82.96 325 *e*P P 04 25 43.3 +1.2
comp=Z,23nm,1.0s
EDM Edmonton 83.00 32 *e*P P 04 25 43.5 +1.1
EDM Edmonton 83.00 32 *e*P P 04 25 43.5 +1.1
SKO Skopje 83.31 314 *i* P P 04 25 44.6 +0.4
CONA Conrad Observa 83.36 321⇑ *i*PcP P 04 25 45.8 +1.4
comp=Z,21nm,0.9s,SNR=8.4
E07A Sunnyside 83.53 40 *e*P P 04 25 47.1 +1.9
comp=Z,5.8nm,1.0s
NEUB Neuenburg 83.58 326 *e*P P 04 25 46.3 +1.0
comp=Z,52nm,0.9s
TANN Tannenbergstha 83.72 325 *e*P P 04 25 46.8 +0.7
comp=Z,19nm,1.2s
D08A Wollman Farm, 83.78 39 *e*P P 04 25 47.8 +1.4
comp=Z,153nm,3.0s
WERD Werda 83.78 325 *e*P P 04 25 47.1 +0.7
comp=Z,15nm,1.1s
GUNZ Gunzen 83.81 325 *e*P P 04 25 47.5 +0.9
comp=Z,26nm,0.9s
NKC Novy Kostel 83.83 325 *e*P P 04 25 47.5 +0.8
NKC Novy Kostel 83.83 325 *e*P P 04 25 47.5 +0.8
WERN Wernitzgruen 83.84 325 *e*P P 04 25 47.7 +1.0
comp=Z,26nm,1.0s
BIA Bitola 83.88 313 *e*P P 04 25 47.4 +0.3
CLZ Clausthal 83.89 327 *e*P P 04 25 48.2 +1.3
comp=Z,61nm,0.9s
KHC Kasperske Hory 83.90 323 *e*P P 04 25 47.7 +0.6
KHC pmax pmax
comp=Z,16nm,1.1s
KHC Kasperske Hory 83.90 323 *e*P P 04 25 47.3 +0.2

KHC Kasperske Hory 83.90 323 *e*P P 04 25 47.7 +0.6
comp=Z,16nm,1.1s
ARSA Arzberg 83.94 321⇑ *i*P P 04 25 48.2 +0.9
comp=Z,14nm,1.6s
GERES GERESS Array B 84.00 323 P P 04 25 47.9 +0.3
GERES GERESS Array B 84.00 323 P P 04 25 47.9 +0.3
comp=Z,7.8nm,0.9s,baz=103,slow=4.2,SNR=16
NEW Newport 84.07 38 *e*P P 04 25 49.5 +1.6
comp=Z,4.2nm,0.9s
NEW Newport 84.07 38⇓ P P 04 25 48.9 +0.9
baz=84
MANZ Manzenberg 84.16 324 *e*P P 04 25 49.3 +1.0
comp=Z,20nm,1.0s
ROTZ Rotzenmuhle 84.24 324 *e*P P 04 25 50.0 +1.3
comp=Z,33nm,1.0s
MOA Molln 84.29 322 *i* PcP P 04 25 50.1 +1.1
comp=Z,18nm,1.2s,SNR=6.5
E09A Wood Farm, Sta 84.53 40 *e*P P 04 25 51.7 +1.5
comp=Z,5.7nm,1.0s
J05D Fort Rock, OR 84.54 44⇓ P P 04 25 52.1 +1.6
baz=84
SOKA Soboth 84.55 321 *i* PcP P 04 25 51.2 +0.7
comp=Z,18nm,1.4s,SNR=6.5
M04C Macdoel 84.99 45⇓ P P 04 25 54.3 +1.5
baz=85
RJOB Jochberg 85.15 322 *e*P P 04 25 54.6 +1.2
comp=Z,22nm,1.0s
LJU Ljubljana 85.20 320 *e*P P 04 25 54.1 +0.5
KBA Koelnbreinsper 85.25 322⇑ *i*PcP P 04 25 54.5 +0.5
comp=Z,12nm,1.1s
WALA Waterton Lakes 85.29 36 *e*P P 04 25 56.0 +1.8
CRNS Crni Vrh 85.33 320 *i* P P 04 25 54.5 +0.2
CADS Cadrg 85.53 321 *i* P P 04 25 55.1 -0.2
JAVS Javornik 85.55 320 *e*P P 04 25 55.5 0.0
BSMT Bassoo Peak 85.58 37 *e*P P 04 25 57.7 +2.0
ABTA Abfaltersbach 85.90 322⇑ *i*P P 04 25 57.2 0.0
comp=Z,12nm,0.8s,SNR=5.6
WATA Walderalm 86.05 323⇑ *i*PcP P 04 25 58.4 +0.4
comp=Z,6.3nm,0.6s
SWMT Swartz Lake 86.20 37 *e*P P 04 26 00.1 +1.4
MOTA Moosalm 86.30 323⇑ *i*PcP P 04 25 59.3 +0.1
comp=Z,12nm,0.7s,SNR=14
RETA Reutte 86.39 323⇑ *i*P P 04 25 59.5 0.0
comp=Z,6.5nm,1.0s
FCC Fort Churchill 86.64 21 *e*P P 04 26 00.5 +0.1
FCC Fort Churchill 86.64 21 *e*P P 04 26 00.5 +0.1
comp=Z,0.3nm,0.7s
SLMT Seeley Lake 86.64 37 *e*P P 04 26 02.0 +1.0
MSO Missoula 86.66 38 *e*P P 04 26 01.8 +0.9
comp=Z,3.9nm,1.1s
MSO Missoula 86.66 38⇑ P P 04 26 02.2 +1.3
baz=86
FETA Feichten 86.70 323⇓ *i*PcP P 04 26 01.8 +0.6
comp=Z,10nm,0.9s
FFC Flin Flon 86.94 27 *e*P P 04 26 02.2 +0.3
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 86.94 27 *e*P P 04 26 02.2 +0.3
comp=Z,9.7nm,1.0s
DAVA Damuels 86.99 323 *i* PcP P 04 26 02.6 0.0
comp=Z,23nm,1.0s,SNR=5.6
BFO Black Forest 87.13 325 *i* P P 04 26 04.3 +1.2
WLF Walferdange 87.34 327 P P 04 26 04.5 +0.5
comp=Z,29nm,2.9s
CDF Champ du Feu 87.61 325 *e*P P 04 26 04.4 -1.1
comp=Z,19nm,1.1s
CDF Champ du Feu 87.61 325 *e*P P 04 26 04.4 -1.1
CDF pmax pmax
comp=Z,19nm,1.1s
CDF Champ du Feu 87.61 325 *e*P P 04 26 04.4 -1.1
comp=Z,19nm,1.1s
MFID Camas Ranch 87.68 41 *e*P P 04 26 08.0 +2.1
comp=Z,3.3nm,0.9s
PAHR Pah Rah Range 87.69 46 *e*P P 04 26 08.9 +2.8
comp=Z,4.4nm,0.9s
TUE Stuetta 87.78 323 *e*P P 04 26 06.3 -0.1
comp=Z,15nm,0.7s
DOU Dourbes 87.80 328 P P 04 26 06.5 +0.3
comp=Z,25nm,3.3s
A19A Klindworth Far 87.99 34⇓ P P 04 26 07.9 +0.6
baz=88,SNR=7.5
EGMT Eagleton 88.08 35 *e*P P 04 26 08.9 +1.2
comp=Z,10nm,0.9s
EGMT Eagleton 88.08 35⇓ P P 04 26 08.7 +1.0
baz=88
B19A Brinkman Farms 88.20 34⇓ P P 04 26 09.3 +1.0
baz=88,SNR=8.5
HINF Hinteralfeld 88.22 325 *e*P P 04 26 07.9 -0.4
comp=Z,4.1nm,0.6s
HINF Hinteralfeld 88.22 325 *e*P P 04 26 07.9 -0.4
HINF pmax pmax
comp=Z,4.0nm,0.6s
HINF Hinteralfeld 88.22 325 *e*P P 04 26 07.9 -0.4
comp=Z,4.1nm,0.6s
DLMT Dillon 88.30 38 *e*P P 04 26 10.6 +1.7
HAU Haudompre 88.35 325 *e*P P 04 26 08.8 -0.1
comp=Z,5.6nm,0.8s
HAU Haudompre 88.35 325 *e*P P 04 26 08.8 -0.1
HAU pmax pmax
comp=Z,6.0nm,0.8s
HAU Haudompre 88.35 325 *e*P P 04 26 08.8 -0.1
comp=Z,5.6nm,0.8s
HLID Hailey 88.41 40 *e*P P 04 26 11.6 +2.1
comp=Z,4.4nm,1.0s
HLID Hailey 88.41 40⇑ P P 04 26 11.1 +1.7
baz=88,SNR=8.0
A20A Cobblestone Ra 88.42 33⇑ P P 04 26 10.0 +0.8
baz=88
C19A Slack Wire Ran 88.63 35⇑ P P 04 26 11.4 +1.1
baz=88
MEZF Maizieres J'vi 88.66 326 *e*P P 04 26 09.5 -0.8
MEZF Maizieres J'vi 88.66 326 *e*P P 04 26 09.5 -0.8
B20A Solberg Farm, 88.67 34⇓ P P 04 26 11.1 +0.6
baz=88
D19A Cripps Ranch, 89.09 35⇑ P P 04 26 13.8 +1.4
baz=89,SNR=8.1
NVAR Mina Array Bea 89.12 46 P P 04 26 14.2 +1.2
NVAR Mina Array Bea 89.12 46 P P 04 26 14.2 +1.2
comp=Z,0.4nm,0.4s,baz=288,slow=5.4,SNR=3.6
C20A Veseth Ranch, 89.17 34⇓ P P 04 26 14.3 +1.5
baz=89,SNR=6.8
B21A Ellsworth Farm 89.17 33⇑ P P 04 26 13.6 +0.9
baz=89
A22A Carney Farms, 89.31 32⇓ P P 04 26 14.3 +0.9
baz=89,SNR=12
CABF La Chapelle 89.41 324 *e*P P 04 26 13.6 -0.4
CABF La Chapelle 89.41 324 *e*P P 04 26 13.6 -0.4
CABF La Chapelle 89.41 324 *e*P P 04 26 13.6 -0.4
D20A Manuel Ranch, 89.52 35⇓ P P 04 26 16.0 +1.5
baz=89,SNR=6.9
E19A Rath Farm, Rou 89.61 36⇑ P P 04 26 16.0 +1.1
baz=89,SNR=5.6
B22A Reddig Ranch S 89.75 33⇓ P P 04 26 16.6 +1.1
baz=90
LPL La Plagne 89.79 323 *e*P P 04 26 14.9 -1.1
LPL La Plagne 89.79 323 *e*P P 04 26 14.9 -1.1
LPL La Plagne 89.79 323 *e*P P 04 26 14.9 -1.1
LPG La Plagne 89.80 323 *e*P P 04 26 14.9 -1.2
comp=Z,11nm,0.9s
LPG La Plagne 89.80 323 *e*P P 04 26 14.9 -1.2
LPG pmax pmax
comp=Z,11nm,0.9s
LPG La Plagne 89.80 323 *e*P P 04 26 14.9 -1.2
comp=Z,11nm,0.9s
E20A Meyer Farm, Mu 89.92 35⇓ P P 04 26 17.7 +1.3
baz=90
F19A Roth Farm, Mol 89.94 36⇓ P P 04 26 17.4 +0.9
baz=90
D21A La Casta Ranch 90.11 34⇓ P P 04 26 18.6 +1.3
baz=90,SNR=11
B23A Brockton 90.12 32⇓ P P 04 26 18.3 +1.1
baz=90,SNR=8.3
IMW Indian Meadow 90.15 39 *e*P P 04 26 20.4 +2.6
FLWY Flagg Ranch 90.16 38 *e*P P 04 26 20.7 +3.0
C22A Vida 90.19 33⇓ P P 04 26 18.4 +0.9
baz=90
A24A Westby 90.25 32⇑ P P 04 26 18.8 +1.0
baz=90
MBDF Montbardon 90.29 323 *e*P P 04 26 17.6 -0.6
comp=Z,12nm,0.9s
MBDF Montbardon 90.29 323 *e*P P 04 26 17.6 -0.6
MBDF pmax pmax
comp=Z,12nm,0.9s
MBDF Montbardon 90.29 323 *e*P P 04 26 17.6 -0.6
comp=Z,12nm,0.9s
H18A Shoshone NF, C 90.33 37⇓ P P 04 26 20.2 +1.6
baz=90

D22A	**Cohagen**	**90.46**	**34**	⇑P		**P**	**04 26 20.3**	**+1.5**
	baz=90							
HVU	**Hansel Valley**	**90.46**	**41**	*e*P		**P**	**04 26 21.5**	**+2.4**
HVU					pmax	pmax		
	comp=Z,4.0nm,1.1s							
HVU	**Hansel Valley**	**90.46**	**41**	*e*P		**P**	**04 26 21.5**	**+2.4**
	comp=Z,4.3nm,1.1s							
DGMT	**Dagmar**	**90.49**	**32**	*e*P		**P**	**04 26 20.4**	**+1.5**
	comp=Z,20nm,1.1s							
DGMT	**Dagmar**	**90.49**	**32**	⇑P		**P**	**04 26 20.2**	**+1.3**
	baz=90							
C23A	**Lambert**	**90.49**	**33**	⇓P		**P**	**04 26 20.1**	**+1.2**
	baz=90							
SMF	**Signal de Mont**	**90.52**	**326**	*e*P		**P**	**04 26 19.5**	**+0.4**
	comp=Z,11nm,1.0s							
SMF	**Signal de Mont**	**90.52**	**326**	*e*P		**P**	**04 26 19.5**	**+0.4**
SMF					pmax	pmax		
	comp=Z,11nm,1.0s							
SMF	**Signal de Mont**	**90.52**	**326**	*e*P		**P**	**04 26 19.5**	**+0.4**
	comp=Z,11nm,1.0s							
H19A	**Powell**	**90.70**	**37**	⇑P		**P**	**04 26 21.9**	**+1.8**
	baz=90							
LAO	**LASA Array**	**90.76**	**34**	*e*P		**P**	**04 26 21.9**	**+1.7**
	comp=Z,9.3nm,1.0s							
R11A	**Troy Canyon, C**	**90.89**	**45**	⇓P		**P**	**04 26 22.6**	**+1.4**
	baz=91							
D23A	**Lindsay**	**90.92**	**33**	⇑P		**P**	**04 26 22.3**	**+1.3**
	baz=91							
MPMC	**Manual Prospec**	**91.03**	**48**	⇑P		**P**	**04 26 22.8**	**+1.0**
	baz=91							
E22A	**Miles City**	**91.06**	**34**	⇑P		**P**	**04 26 23.0**	**+1.3**
	baz=91							
B25A	**Knox Farm, Ray**	**91.11**	**32**	⇓P		**P**	**04 26 23.2**	**+1.4**
	baz=91							
I19A	**Meeteetse**	**91.12**	**37**	⇓P		**P**	**04 26 23.8**	**+1.7**
	baz=91							
TPNV	**Topopah Spring**	**91.31**	**46**	⇑P		**P**	**04 26 24.8**	**+1.7**
	baz=91							
E23A	**Ismay**	**91.34**	**34**	⇓P		**P**	**04 26 24.4**	**+1.4**
	baz=91							
H20A	**Greybull**	**91.35**	**37**	⇓P		**P**	**04 26 24.6**	**+1.5**
	baz=91							
F22A	**Rosebud**	**91.37**	**35**	⇑P		**P**	**04 26 24.3**	**+1.2**
	baz=91							
D24A	**Glendive**	**91.39**	**33**	⇑P		**P**	**04 26 24.8**	**+1.7**
	baz=91							
DUG	**Dugway**	**91.44**	**42**	*e*P		**P**	**04 26 26.0**	**+2.3**
DUG					pmax	pmax		
	comp=Z,49nm,2.6s							
DUG	**Dugway**	**91.44**	**42**	*e*P		**P**	**04 26 26.0**	**+2.3**
	comp=Z,49nm,2.6s							
DUG	**Dugway**	**91.44**	**42**	⇓P		**P**	**04 26 25.3**	**+1.7**
	baz=91							
B26A	**Jensen Ranch,**	**91.46**	**31**	⇑P		**P**	**04 26 25.1**	**+1.7**
	baz=91							
C25A	**Freed Ranch, W**	**91.47**	**32**	⇓P		**P**	**04 26 25.3**	**+1.8**
	baz=91							
J19A	**Crowheart**	**91.60**	**38**	⇓P		**P**	**04 26 25.8**	**+1.4**
	baz=91							
I20A	**Worland**	**91.64**	**37**	⇑P		**P**	**04 26 26.2**	**+1.8**
	baz=91							
PDAR	**Pinedale Array**	**91.65**	**39**	P		**P**	**04 26 25.9**	**+1.2**
PDAR	**Pinedale Array**	**91.65**	**39**	P		**P**	**04 26 25.9**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=322,slow=0.8,SNR=11							
KMBO	**Kilima Mbogo**	**91.67**	**270**	*e*P		**P**	**04 26 26.4**	**+1.2**
KMBO	**Kilima Mbogo**	**91.67**	**270**	P		**P**	**04 26 26.3**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=49,slow=5.2,SNR=7.8							
G22A	**Birney**	**91.74**	**35**	⇓P		**P**	**04 26 25.4**	**+0.5**
	baz=92							
E24A	**Baker**	**91.79**	**33**	⇑P		**P**	**04 26 26.3**	**+1.3**
	baz=92							
F23A	**Volborg**	**91.84**	**35**	⇑P		**P**	**04 26 26.0**	**+0.8**
	baz=92							
D25A	**Fairfield**	**91.84**	**32**	⇓P		**P**	**04 26 26.1**	**+0.9**
	baz=92							
GSC	**Goldstone**	**91.92**	**48**	⇓P		**P**	**04 26 26.9**	**+0.9**
	baz=92							
A28A	**Rude Farm, Bot**	**91.95**	**30**	⇑P		**P**	**04 26 27.1**	**+1.4**
	baz=92							
J20A	**Shoshoni**	**92.07**	**38**	⇑P		**P**	**04 26 27.7**	**+1.2**
	baz=92							
G23A	**Biddle**	**92.21**	**35**	⇓P		**P**	**04 26 28.3**	**+1.3**
	baz=92							
B28A	**Dugan Ranch, T**	**92.25**	**30**	⇓P		**P**	**04 26 28.2**	**+1.2**
	baz=92							
E25A	**Miller Ranch,**	**92.27**	**33**	⇑P		**P**	**04 26 28.4**	**+1.1**
	baz=92							
D26A	**Manning**	**92.35**	**32**	⇓P		**P**	**04 26 28.5**	**+0.9**
	baz=92							
A29A	**Manning Farm,**	**92.39**	**29**	⇓P		**P**	**04 26 28.5**	**+0.8**
	baz=92							
J21A	**Lysite**	**92.41**	**37**	⇓P		**P**	**04 26 29.4**	**+1.3**
	baz=92							
HEC	**Hector,Ludlow**	**92.52**	**48**	⇓P		**P**	**04 26 30.2**	**+1.5**
	baz=92							
I22A	**9 Mile Ranch,**	**92.55**	**36**	⇓P		**P**	**04 26 29.4**	**+0.7**
	baz=92							
F25A	**Bowman**	**92.65**	**33**	⇑P		**P**	**04 26 30.7**	**+1.6**
	baz=92							
E26A	**Carlson Angus**	**92.74**	**33**	⇑P		**P**	**04 26 30.4**	**+1.0**
	baz=92							
ULM	**Lac du Bonnet**	**92.76**	**27**	*e*P		**P**	**04 26 29.6**	**+0.3**
	comp=Z,9.1nm,0.8s							
ULM	**Lac du Bonnet**	**92.76**	**27**	P		**P**	**04 26 29.5**	**+0.2**
	comp=Z,11nm,0.8s,baz=319,slow=4.6,SNR=23							
A30A	**Hoffart Farm,**	**92.78**	**29**	⇑P		**P**	**04 26 30.6**	**+1.1**
	baz=92							
J22A	**Midwest**	**92.88**	**37**	⇓P		**P**	**04 26 31.2**	**+0.9**
	baz=93							
H24A	**Dirks Ranch, A**	**92.95**	**35**	⇓P		**P**	**04 26 30.8**	**+0.3**
	baz=93							
GMRC	**Granite Mounta**	**92.99**	**48**	⇑P		**P**	**04 26 32.0**	**+1.1**
	baz=93							
K21A	**Alcova**	**93.00**	**38**	⇑P		**P**	**04 26 32.0**	**+1.1**
	baz=93							
B30A	**Myrvik Farm, E**	**93.14**	**29**	⇑P		**P**	**04 26 31.9**	**+0.8**
	baz=93							
PFO	**Pinyon Flat Ob**	**93.16**	**49**	⇓P		**P**	**04 26 32.9**	**+1.2**
	baz=93							
E27A	**Carson**	**93.20**	**32**	⇑P		**P**	**04 26 32.6**	**+1.1**
	baz=93							
G25A	**Newell**	**93.20**	**34**	⇑P		**P**	**04 26 32.3**	**+0.7**
	baz=93							
F27A	**Lemmon**	**93.39**	**33**	⇑P		**P**	**04 26 33.2**	**+0.9**
	baz=93							
H25A	**Fruitdale**	**93.52**	**34**	⇑P		**P**	**04 26 34.3**	**+1.2**
	baz=93							
G26A	**Maurine**	**93.53**	**33**	⇑P		**P**	**04 26 34.3**	**+1.2**
	baz=93							
MONP	**Monument Peak**	**93.61**	**50**	⇑P		**P**	**04 26 35.3**	**+1.4**
	baz=94							
RSSD	**Black Hills**	**93.65**	**35**	*e*P		**P**	**04 26 35.3**	**+1.4**
RSSD	**Black Hills**	**93.65**	**35**	*e*P		**P**	**04 26 35.3**	**+1.4**
	comp=Z,85nm,3.0s							
N20A	**Spence Gulch,**	**93.66**	**40**	⇓P		**P**	**04 26 34.9**	**+0.9**
	baz=93							
IRM	**Iron Mountain**	**93.70**	**48**	⇑P		**P**	**04 26 35.6**	**+1.6**
	baz=94							
G27A	**Dupree**	**93.79**	**33**	⇓P		**P**	**04 26 35.2**	**+1.0**
	baz=94							
I25A	**Rochford**	**93.88**	**35**	⇓P		**P**	**04 26 35.7**	**+0.8**
	baz=94							
D30A	**Buchanan**	**93.97**	**30**	⇑P		**P**	**04 26 35.9**	**+0.9**
	baz=94							
F28A	**McLaughlin**	**93.98**	**32**	⇓P		**P**	**04 26 36.3**	**+1.2**
	baz=94							
U15A	**North Rim**	**94.13**	**45**	⇑P		**P**	**04 26 38.5**	**+2.2**
	baz=94							
L23A	**Garrett**	**94.19**	**37**	⇓P		**P**	**04 26 37.3**	**+0.9**
	baz=94							
M22A	**Cedar Creek Ra**	**94.20**	**38**	⇓P		**P**	**04 26 37.9**	**+1.4**
	baz=94							
H27A	**Howes**	**94.26**	**34**	⇑P		**P**	**04 26 37.5**	**+1.1**
	baz=94							
AGMN	**Agassiz Nation**	**94.30**	**28**	⇓P		**P**	**04 26 36.9**	**+0.5**
	baz=94							
KEST	**Kesra**	**94.59**	**315**	P		**P**	**04 26 38.1**	**-0.1**
KEST	**Kesra**	**94.59**	**315**	P		**P**	**04 26 38.1**	**-0.1**
	comp=Z,3.5nm,1.1s,baz=336,slow=10,SNR=5.7							
M23A	**Laramie**	**94.63**	**38**	⇑P		**P**	**04 26 39.6**	**+1.1**
	baz=94							
I27A	**Quinn**	**94.69**	**34**	⇓P		**P**	**04 26 39.5**	**+1.1**
	baz=94							
J26A	**Sides Ranch, S**	**94.72**	**35**	⇑P		**P**	**04 26 39.9**	**+1.3**
	baz=94							
N23A	**Red Feather La**	**94.91**	**38**	⇓P		**P**	**04 26 41.0**	**+1.2**
	baz=95							
O22A	**Kremmling**	**95.08**	**39**	⇓P		**P**	**04 26 41.5**	**+0.9**
	baz=95							
P22A	**Eagle**	**95.34**	**40**	⇓P		**P**	**04 26 43.1**	**+1.4**
	baz=95							
Y23A	**Lovelace Mesa,**	**99.62**	**43**	⇑Pdiff		**Pdif**	**04 27 01.0**	**-0.1**
	baz=99							
V26A	**Tequesquite Ra**	**99.67**	**41**	⇑Pdiff		**Pdif**	**04 27 01.6**	**+0.5**
	baz=100							
W25A	**X Bar L Ranch,**	**99.69**	**42**	⇓Pdiff		**Pdif**	**04 27 01.3**	**+0.1**
	baz=100							
Q31A	**Ellis**	**99.76**	**36**	⇑Pdiff		**Pdif**	**04 27 01.6**	**+0.3**
	baz=100							
Z25A	**Roswell**	**100.88**	**43**	⇑Pdiff		**Pdif**	**04 27 06.3**	**-0.2**
	baz=101							
Y27A	**Causey**	**101.38**	**42**	⇑Pdiff		**Pdif**	**04 27 08.2**	**-0.5**
	baz=101							
TORD	**Torodi Ar. Bea**	**114.30**	**301**	PKP		PKPdf	04 31 56.6	-0.4
TORD	**Torodi Ar. Bea**	**114.30**	**301**	PKP		PKPdf	04 31 56.6	-0.4
	comp=Z,0.7nm,0.6s,baz=19,slow=2.5,SNR=11							
PTGA	**Pitinga**	**151.74**	**18**	*e*PKPbc		**PKPbc**	**04 33 11.4**	**-0.6**
PTGA				*e*PKPab		**PKPab**	**04 33 20.4**	**-0.6**

*ISCJB **28** 04:32:57.5±0.8,49.˚9S±0.˚1×111.˚5E±0.˚3,h10km,mb4.2/11, MS3.9/10,Error ellipse: s-maj=28.0km s-min=12.8km az=23.8*

*IDC **28** 04:32:57.5±0.8,49.˚88S×111.˚47E,h0km,mb4.1/9, mb1 4.2/9,mb1mx4.2/9,mbtmp4.1/9,MS3.9/11,Ms1 3.9/11, ms1mx3.8/24,Error ellipse: s-maj=35.6km s-min=16.3km az=110.0*

*NEIC **28** 04:32:59.1±0.6,49.˚86S×111.˚45E,h10km,mb4.6/2,Error ellipse: s-maj=23.9km s-min=10.8km az=113.0*

ISC 28 04:32:59.0±0.8,49.˚9S±0.˚1×111.˚5E±0.˚2,h10km,n39, σ0s87/32,mb4.1/11,MS3.9/10,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.09**	**8**	T	T	04 51 57.3	
	baz=187,slow=75,SNR=85						
H01W1	**Cape Leeuwin H**	**15.10**	**8**	T	T	04 52 07.6	
	baz=187,slow=75,SNR=77						
H01W3	**Cape Leeuwin H**	**15.11**	**8**	T	T	04 52 09.3	
	baz=187,slow=75,SNR=68						
NWAO	**Narrogin (SRO)**	**17.46**	**16**	LR	LR	04 42 12.5	
	comp=Z,394nm,18.1s,baz=279,slow=32						
BBOO	**Buckleboo**	**24.95**	**56**	*e*Pn	**P**	**04 38 22.6**	**+0.1**
	237nm,1.1s						
STKA	**Stephens Creek**	**28.73**	**63**	P	**P**	**04 38 56.3**	**-0.2**
STKA	**Stephens Creek**	**28.73**	**63**	P	**P**	**04 38 56.3**	**-0.2**
	1.5nm,0.8s,baz=273,slow=9.1,SNR=4.0						
MAW	**Mawson**	**29.75**	**215**	LR	LR	04 48 44.6	
	comp=Z,312nm,18.7s,baz=230,slow=32						
ASAR	**Alice Springs**	**31.49**	**42**	P	**P**	**04 39 20.7**	**-0.3**
ASAR	**Alice Springs**	**31.49**	**42**	P	**P**	**04 39 20.7**	**-0.3**
	1.0nm,0.7s,baz=207,slow=8.2,SNR=23						
ASAR				LR	LR	04 50 54.3	
	comp=Z,225nm,18.7s,baz=173,slow=34						
VNDA	**Vanda**	**33.49**	**162**	P	**P**	**04 39 38.8**	**+0.8**
VNDA	**Vanda**	**33.49**	**162**	P	**P**	**04 39 38.8**	**+0.8**
	1.8nm,0.7s,baz=304,slow=6.5,SNR=6.8						
VNDA				LR	LR	04 51 10.9	
	comp=Z,92nm,20.4s,baz=296,slow=33						
WRA	**Warramunga Arr**	**34.98**	**40**	P	**P**	**04 39 51.6**	**+0.3**
WRA	**Warramunga Arr**	**34.98**	**40**	P	**P**	**04 39 51.6**	**+0.3**
	3.7nm,0.7s,baz=205,slow=8.8,SNR=29						
WRA				LR	LR	04 52 17.2	
	comp=Z,197nm,21.1s,baz=210,slow=33						
WRAB	**Tennant Creek**	**34.99**	**40**	*e*P	**P**	**04 39 51.6**	**+0.2**
	12nm,1.0s						
QSPA	**South Pole Qui**	**40.26**	**180**	*e*P	**P**	**04 40 36.6**	**+0.9**
	11nm,0.8s						
QSPA	**South Pole Qui**	**40.26**	**180**	P	**P**	**04 40 36.2**	**+0.5**
	5.5nm,0.6s,baz=310,slow=3.2,SNR=17						
CTA	**Charters Tower**	**40.55**	**56**	P	**P**	**04 40 39.1**	**+0.6**
CTA	**Charters Tower**	**40.55**	**56**	P	**P**	**04 40 39.1**	**+0.6**
	2.8nm,0.9s,baz=176,slow=13,SNR=2.8						
PMG	**Port Moresby**	**50.03**	**49**	LR	LR	05 01 14.0	
	comp=Z,174nm,19.6s,baz=214,slow=34						
SNAA	**Sanae**	**50.28**	**202**	P	**P**	**04 41 54.2**	**-0.8**
SNAA	**Sanae**	**50.28**	**202**	P	**P**	**04 41 54.2**	**-0.8**
	0.4nm,0.5s,baz=150,slow=12,SNR=14						
JAY	**Jayapura**	**53.32**	**37**	LR	LR	05 03 48.0	
	comp=Z,232nm,21.2s,baz=223,slow=35						
HNR	**Honiara**	**56.81**	**62**	LR	LR	05 04 22.9	
	comp=Z,96nm,19.2s,baz=193,slow=33						
BOSA	**Boshof**	**66.38**	**253**	LR	LR	05 07 32.8	
	comp=Z,130nm,18.2s,baz=157,slow=31						
CMAR	**Chiang Mai Arr**	**68.93**	**347**	P	**P**	**04 44 04.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**68.93**	**347**	P	**P**	**04 44 04.8**	**+0.8**
	0.9nm,0.4s,baz=189,slow=5.3,SNR=7.5						
CMAR				LR	LR	05 14 16.0	
	comp=Z,45nm,19.1s,baz=189,slow=36						
LSZ	**Lusaka**	**74.18**	**265**	LR	LR	05 12 13.4	
	comp=Z,67nm,18.6s,baz=293,slow=32						
SONM	**Songino Array**	**97.42**	**357**	P	**P**	**04 46 32.4**	**+0.1**
SONM	**Songino Array**	**97.42**	**357**	P	**P**	**04 46 32.4**	**+0.1**
	0.3nm,0.7s,baz=82,slow=3.1,SNR=3.5						
NVAR	**Mina Array Bea**	**143.14**	**89**	PKPpre	PKPpre	04 52 29.5	
NVAR	**Mina Array Bea**	**143.14**	**89**	PKhKP	PKPpre	04 52 29.5	
	1.5nm,0.8s,baz=232,slow=4.4,SNR=2.2						
TXAR	**Lajitas Array**	**146.47**	**114**	PKPbc	**PKPbc**	**04 52 40.5**	**+0.2**
TXAR	**Lajitas Array**	**146.47**	**114**	PKPbc	**PKPbc**	**04 52 40.5**	**+0.2**
	1.6nm,0.8s,baz=190,slow=6.2,SNR=8.2						
MSTX	**Muleshoe**	**150.29**	**109**	*e*PKPbc	**PKPbc**	**04 52 51.4**	**+1.2**
MSTX				*e*PKPab	**PKPab**	**04 52 57.0**	**+0.5**
PDAR	**Pinedale Array**	**151.07**	**88**	PKPbc	**PKPbc**	**04 52 49.8**	**-2.1**
PDAR				PKPab	**PKPab**	**04 52 58.1**	**-1.5**
PDAR	**Pinedale Array**	**151.07**	**88**	PKPbc	**PKPbc**	**04 52 49.8**	**-2.1**
	0.9nm,0.8s,baz=194,slow=3.1,SNR=6.7						
PDAR				PKPab	**PKPab**	**04 52 58.1**	**-1.5**
	1.2nm,0.8s,baz=188,slow=3.0,SNR=3.7						
YKA	**Yellowknife Ar**	**152.09**	**46**	PKPbc	**PKPbc**	**04 52 53.0**	**-0.2**
YKA				PKPab	**PKPab**	**04 53 02.5**	**-0.4**
YKA	**Yellowknife Ar**	**152.09**	**46**	PKPbc	**PKPbc**	**04 52 53.0**	**-0.2**
	0.8nm,0.7s,baz=283,slow=1.9,SNR=21						
YKA				PKPab	**PKPab**	**04 53 02.5**	**-0.4**
	0.6nm,0.7s,baz=287,slow=1.9,SNR=12						

NNC 28 05:08:39.8±3.0,44.˚25N×83.˚09E,h0km,mb3.7,mpv3.3, 7C-7D,Error ellipse: s-maj=27.2km s-min=12.5km az=112.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**2.61**	**348**	⇑Pn	Pn	05 09 23.2	-0.1
	4.1nm,0.3s,baz=163,slow=17,SNR=11						
MK31				⇓Lg	Lg	05 10 05.0	
	5.5nm,0.2s,baz=161,slow=29,SNR=6.0						
TKM2	**Tokmak 2**	**5.60**	**259**	⇑Pn	Pn	05 10 05.3	+0.7
	0.8nm,0.5s						
TKM2				⇓Pg	Pg	05 10 23.4	-4.0
	5.0nm,0.8s						
TKM2				⇓Lg	Lg	05 11 36.7	
	8.6nm,0.5s						
AAK	**Ala-Archa**	**6.46**	**259**	⇑Pg	Pb	05 10 35.5	+2.2
	2.4nm,0.6s						
AAK				⇓Lg	Lg	05 12 07.9	
	4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**7.09**	**336**	⇑Sn	Sn	05 11 47.2	+1.3
	2.0nm,0.6s						
KURBB				⇑Lg	Lg	05 12 31.1	
	6.1nm,0.6s						
KURK	**Kurchatov**	**7.14**	**337**	⇑Sn	Sn	05 11 47.1	-0.2
	1.5nm,0.9s						
KURK				⇓Lg	Lg	05 12 31.1	
	2.7nm,0.5s						
KK31	**Karatay Array**	**9.19**	**267**	⇓Lg	Lg	05 13 31.3	
	0.9nm,0.5s,baz=69,slow=31,SNR=4.5						
VOSK	**Vostochnaya**	**11.67**	**321**	⇓Sn	Sn	05 13 34.4	-4.0
	1.2nm,0.7s						
VOSK				⇑Lg	Lg	05 14 46.2	
	2.9nm,1.1s						

MEX 28 05:12:00.6±0.7,15.˚90N×96.˚90W,h11km±8km,MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.77**	**100**	*e*P	Pg	05 12 13.5	-2.0
HUIG				*i* S	Sg	05 12 23.4	-2.2
VHO	**Vista Hermosa**	**1.17**	**8**	*e*P	Pb	05 12 19.0	-4.2
VHO				*e*S	Sb	05 12 34.0	-4.7
PNIG	**Pinotepa**	**1.28**	**293**	*e*P	Pn	05 12 20.4	-4.1
PNIG				*i* S	Sb	05 12 36.2	-5.1
TLIG	**Tlapa**	**2.30**	**316**	*i* P	Pn	05 12 35.3	-3.3
TLIG				*i* S	Sn	05 13 02.5	-4.6
PCIG		**3.54**	**93**	*e*P	Pn	05 12 52.3	-3.3
PCIG				*i* S	Sn	05 13 33.2	-4.4

*CSEM **28** 05:51:14.2,35.˚28N×22.˚37E,h24km,MD3.7,After ATH*

ATH 28 05:51:14.2,35.˚28N×22.˚37E,h24km±1km,MD3.7/25, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.96**	**52**	*e*PN	Pn	05 51 32.8	+0.6
ANKY	**Antikythira Is**	**0.96**	**52**	*e*Pn	Pn	05 51 32.8	+0.6
KYTH	**Kithira**	**1.14**	**28**	*e*PN	Pb	05 51 35.6	+0.4
KYTH	**Kithira**	**1.14**	**28**	*e*Pn	Pb	05 51 35.6	+0.4
KARN	**Karanos**	**1.27**	**84**	*e*PN	Pb	05 51 38.4	+0.9
KARN				*e*SN	Sb	05 51 56.1	+2.6
KARN	**Karanos**	**1.27**	**84**	*e*Pn	Pb	05 51 38.4	+0.9
KARN				*e*Sn	Sb	05 51 56.1	+2.6
VAM	**Vamos**	**1.50**	**85**	*e*PN	Pb	05 51 41.7	+0.3
VAM	**Vamos**	**1.50**	**85**	*e*Pn	Pb	05 51 41.7	+0.3
PYL	**PYLOS**	**1.69**	**343**	*e*PB	Pb	05 51 44.0	-0.6
PYL	**PYLOS**	**1.69**	**343**	*e*Pb	Pb	05 51 44.0	-0.6
ITM	**Ithomi**	**1.93**	**349**	*e*PN	Pb	05 51 48.2	-0.5
ITM	**Ithomi**	**1.93**	**349**	*e*Pn	Pb	05 51 48.2	-0.5
IDI	**Anoyia**	**2.06**	**89**	*e*PB	Pb	05 51 49.6	-1.4
IDI	**Anoyia**	**2.06**	**89**	*e*Pb	Pb	05 51 49.6	-1.4
AMT	**Artemida-Makis**	**2.31**	**347**	*e*PB	Pb	05 51 53.7	-1.5
AMT	**Artemida-Makis**	**2.31**	**347**	*e*Pb	Pb	05 51 53.7	-1.5
DID	**Didima**	**2.33**	**17**	*e*PN	Pn	05 51 52.6	+1.5
DID	**Didima**	**2.33**	**17**	*e*Pn	Pn	05 51 52.6	+1.5
NAIG	**Nisos Aigina**	**2.63**	**20**	*e*PN	Pn	05 51 56.8	+1.6
NAIG	**Nisos Aigina**	**2.63**	**20**	*e*Pn	Pn	05 51 56.8	+1.6
GUR	**Goura**	**2.65**	**360**	*e*PB	Pb	05 51 58.7	-2.5
GUR	**Goura**	**2.65**	**360**	*e*Pb	Pb	05 51 58.7	-2.5
DRO	**Drossia**	**2.72**	**349**	*e*PB	Pb	05 51 59.7	-2.5
DRO	**Drossia**	**2.72**	**349**	*e*Pb	Pb	05 51 59.7	-2.5
KLV	**Kalavryta, Ach**	**2.76**	**356**	*e*PN	Pb	05 52 00.1	-2.9
KLV	**Kalavryta, Ach**	**2.76**	**356**	*e*Pn	Pb	05 52 00.1	-2.9
LTK	**Loutraki**	**2.78**	**10**	*e*PN	Pn	05 52 00.0	+2.7
LTK	**Loutraki**	**2.78**	**10**	*e*Pn	Pn	05 52 00.0	+2.7
RLS	**Riolos of Patr**	**2.87**	**346**	*e*PN	Pn	05 52 01.2	+2.8
RLS	**Riolos of Patr**	**2.87**	**346**	*e*Pn	Pn	05 52 01.2	+2.8
LAKA	**Lakka**	**2.97**	**354**	*e*PN	Pn	05 52 02.4	+2.5
LAKA	**Lakka**	**2.97**	**354**	*e*Pn	Pn	05 52 02.4	+2.5
KALE	**Kalithea**	**3.11**	**357**	*e*PN	Pn	05 52 03.7	+1.8
KALE	**Kalithea**	**3.11**	**357**	*e*Pn	Pn	05 52 03.7	+1.8
DSF	**Desfina**	**3.13**	**2**	*e*PN	Pn	05 52 04.3	+2.2
DSF	**Desfina**	**3.13**	**2**	*e*Pn	Pn	05 52 04.3	+2.2
EFP	**Efpalio**	**3.16**	**353**	*e*PN	Pb	05 52 06.1	-3.6
EFP	**Efpalio**	**3.16**	**353**	*e*Pn	Pb	05 52 06.1	-3.6
LKR	**Lokris**	**3.40**	**8**	*e*PN	Pn	05 52 07.5	+1.7
LKR	**Lokris**	**3.40**	**8**	*e*Pn	Pn	05 52 07.5	+1.7
PDO	**Prodromos**	**3.45**	**344**	*e*PN	Pn	05 52 09.4	+3.0
PDO	**Prodromos**	**3.45**	**344**	*e*Pn	Pn	05 52 09.4	+3.0
EVR	**Evrytania**	**3.66**	**353**	*e*PN	Pn	05 52 13.0	+3.6
EVR	**Evrytania**	**3.66**	**353**	*e*Pn	Pn	05 52 13.0	+3.6
AGG	**Agios Georgios**	**3.73**	**360**	*e*PN	Pn	05 52 12.8	+2.4
AGG	**Agios Georgios**	**3.73**	**360**	*e*Pn	Pn	05 52 12.8	+2.4
XOR	**Xorichti**	**4.13**	**9**	*e*PN	Pn	05 52 17.7	+1.9
XOR	**Xorichti**	**4.13**	**9**	*e*Pn	Pn	05 52 17.7	+1.9
THL	**Klokotos Trika**	**4.29**	**356**	*e*PN	Pn	05 52 20.4	+2.5
THL	**Klokotos Trika**	**4.29**	**356**	*e*Pn	Pn	05 52 20.4	+2.5

IDC 28 05:56:07.0±1.9,3.˚73N×127.˚17E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.8/4,mbtmp3.6/4,Error ellipse: s-maj=147.6km s-min=24.0km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.55**	**164**	P	P	06 01 28.1	-0.6
	3.0nm,0.7s,baz=344,slow=11,SNR=15						
ASAR	**Alice Springs**	**28.01**	**167**	P	P	06 02 00.6	+0.7
	0.2nm,0.3s,baz=339,slow=11,SN

CTBH	Cotabato--PC H	4.87 334	⇑	*i*P	Pn	06 24 54.6	-1.5
MRSI	Marisa	5.03 242		P	Pn	06 24 56.3	-2.0
	581nm,0.8s,9µm2.4nm						
BUKP	Musuan	5.20 345		*e*P	Pn	06 25 00.0	-0.7
BUKP				*e*S	Sn	06 25 58.5	-0.9
LUWI	Luwuk	5.28 223		P	Pn	06 25 01.5	-0.2
	774nm,1.1s,6µm5.1nm						
LUWI	Luwuk	5.28 223		P	Pn	06 25 02.8	+1.1
	baz=5.2,SNR=12						
PAGZ	Pagadian	5.83 329		*e*P	Pn	06 25 06.5	-2.7
PAGZ				*e*S	Sn	06 26 10.3	-4.4
TOLI	Toli-Toli	5.85 253		P	Pn	06 25 05.4	-4.1
	838nm,0.7s,23µm4.5nm						
APSI	Ampana	6.02 232		P	Pn	06 25 11.2	-0.6
	1µm,1.1s,10µm3.7nm						
NLAI	Namlea	6.06 173		P	Pn	06 25 09.4	-3.0
	180nm,0.7s,12µm1.6nm						
NLAI				S	Sn	06 26 13.6	-6.8
	180nm,0.7s,12µm1.6nm						
SWI	Sorong	6.08 127		P	Pn	06 25 26.1	+13
IPIL	Ipil	6.23 322		*e*P	Pn	06 25 12.5	-2.2
FAKI	Fak Fak	8.17 134		P	Pn	06 25 44.0	+2.9
FAKI	Fak Fak	8.17 134		P	Pn	06 25 42.2	+1.2
	baz=8.1,SNR=6.9						
MYLDM	Lahad Datu	8.22 287		P	Pn	06 25 41.8	+0.1
MYLDM	Lahad Datu	8.22 287		P	Pn	06 25 41.9	+0.1
	79nm,1.0s,961nm						
MYLDM	Lahad Datu	8.22 287		*e*Pn	Pn	06 25 41.3	-0.4
TSM	Tawau	8.63 280		P	Pn	06 25 43.9	-3.4
TTSI	Tana Toraja	8.79 229		P	Pn	06 25 48.7	-0.8
	157nm,0.9s,2µm						
PALU	Palau	9.21 61		P	Pn	06 25 56.0	+0.7
	baz=9.3,SNR=5.8						
SPSI	Sidrap Palu	9.45 225		P	Pn	06 25 59.1	+0.6
	99nm,0.8s,764nm						
BNSI	Bone	9.54 221		P	Pn	06 26 00.5	+0.8
	83nm,1.2s,832nm						
SDKM	Sandakan	9.59 287		P	Pn	06 25 59.1	-1.4
BKSI	Bulukumba	10.23 218		P	Pn	06 26 17.3	+8.1
BAKI	Biak	10.49 112		P	Pn	06 26 20.7	+8.0
KBKI	Kotabaru	11.90 239		P	Pn	06 26 34.6	+3.0
	41nm,1.2s,4µm						
MTKI	Muara Teweh, K	12.09 252		P	Pn	06 26 31.4	-2.8
	138nm,0.6s						
LBFI	Labuhan Bajo,	12.97 210		P	P	06 26 58.2	+5.7
BBKI	Banjar Baru	13.13 242		P	Pn	06 26 48.4	+0.5
	55nm,1.2s,5µm						
SBUM	Sibu	14.17 269		P	Pn	06 27 02.7	+1.3
SBUM	Sibu	14.17 269		P	Pn	06 27 01.9	+0.5
	26nm,1.4s						
SBUM	Sibu	14.17 269		*e*Pn	Pn	06 27 02.1	+0.7
STKI	Sintang	15.16 260		P	P	06 27 19.6	+2.7
MTNI	Mataram	15.28 222		P	Pn	06 27 15.9	+0.3
	49nm,0.7s,1µm						
KHKI	Kahang-Kahang	15.47 224		P	Pn	06 27 17.0	-1.0
	42nm,1.2s,785nm						
SRBI	Singaraja	15.55 226		P	P	06 27 22.5	+1.3
	68nm,1.2s						
KSM	Kuching	16.13 266		P	P	06 27 29.6	+1.9
KSM	Kuching	16.13 266		P	P	06 27 28.3	+0.6
	34nm,1.2s						
KSM	Kuching	16.13 266		*e*P	Pn	06 27 26.5	+0.2
	38nm,1.1s						
KSM	Kuching	16.13 266		P	Pn	06 27 26.5	+0.2
	baz=16,SNR=4.5						
MTN	Manton Dam	16.26 163		P	Pn	06 27 26.0	-1.8
	baz=16,SNR=9.8						
KDU	Kakadu	16.55 159		P	Pn	06 27 28.2	-3.2
	baz=16,SNR=14						
JAGI	Jajag, Banyuwa	16.58 227		*e*P	P	06 27 33.6	+0.9
	39nm,0.9s						
PWJI	Pagerwojo	18.11 233		P	P	06 27 49.3	-0.1
	23nm,1.0s						
KNRA	Kununurra	18.53 173		P	P	06 27 53.5	-0.5
	baz=18,SNR=14						
FITZ	Fitzroy Crossi	20.80 182		*e*P	P	06 28 17.8	-0.9
FITZ				S	S	06 31 60.0	-5.4
FITZ	Fitzroy Crossi	20.80 182		P	P	06 28 17.5	-1.2
	2.1nm,0.4s,baz=8.1,slow=11,SNR=28						
FITZ				S	S	06 31 60.0	-5.4
	3.4nm,1.0s,baz=167,slow=19,SNR=3.4						
FITZ	Fitzroy Crossi	20.80 182		P	P	06 28 17.6	-1.1
	baz=21,SNR=20						
TPUB	Ta-pu	21.11 345		*e*P	P	06 28 19.1	-2.9
	82nm,1.2s						
QIZ	Qiongzhong	22.84 316		P	P	06 28 40.3	+0.1
QIZ				pP	pP	06 28 57.8	-2.1
QIZ				sP	sP	06 29 07.8	-4.5
QIZ				S	S	06 32 44.5	+2.3
QIZ				pmax	pmax		
	comp=Z,43nm,2.3s						
KLSI		22.90 251		P	P	06 28 41.1	+0.3
	50nm,0.8s						
KGM	Kluang	23.07 269		P	pP	06 29 08.5	+6.1
MDSI	Maura Dua	23.36 252		P	P	06 28 45.6	+0.5
COEN	Coen	23.55 135		P	P	06 28 47.2	+0.3
	baz=24,SNR=8.9						
WRAB	Tennant Creek	23.92 161		*e*P	P	06 28 50.0	-0.1
	26nm,1.0s						
WRA	Warramunga Arr	23.93 161		P	P	06 28 50.1	0.0
WRA				S	S	06 32 59.8	+0.1
WRA	Warramunga Arr	23.93 161		P	P	06 28 50.1	0.0
	14nm,1.0s,baz=338,slow=11,SNR=49						
WRA				S	S	06 32 59.8	+0.1
	2.8nm,1.0s,baz=338,slow=16,SNR=5.8						
MBWA	Marble Bar	24.71 195		*e*P	P	06 28 57.5	+0.3
	12nm,0.6s						
QIS	Mount Isa	26.60 151		P	P	06 29 17.1	+2.7
	baz=27,SNR=6.3						
AS31	Alice Springs	27.32 165		*e*P	P	06 29 20.9	+0.1
ASAR	Alice Springs	27.32 165		P	P	06 29 21.1	+0.2
ASAR				S	S	06 33 54.6	+1.1
ASAR	Alice Springs	27.32 165		P	P	06 29 21.1	+0.2
	1.6nm,0.3s,baz=347,slow=7.7,SNR=61						
ASAR				S	S	06 33 54.6	+1.1
	2.2nm,0.9s,baz=345,slow=22,SNR=11						
WRKA	Warakurna	27.75 176		P	P	06 29 25.9	+1.3
	baz=28,SNR=6.3						
NJ2	Nanjing	29.93 347		*e*P	P	06 29 46.5	+2.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
UMPA	Umpang Tak	30.18 298		P	P	06 29 55.5	+9.2
GYA	Guiyang	30.18 323		*e*P	P	06 29 47.8	+1.5
GYA				pP	pP	06 30 09.3	+0.6
GYA				sP	sP	06 30 20.5	+0.2
GYA				PP	PnPn	06 30 51.0	+2.7
GYA				PcP	PcP	06 32 46.5	+1.2
GYA				S	S	06 34 41.8	+3.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MEEK	Meekatharra	30.24 194		P	P	06 29 46.6	0.0
	baz=30,SNR=17						
CMAR	Chiang Mai Arr	31.05 302		P	P	06 29 52.0	-2.0
CMAR	Chiang Mai Arr	31.05 302		P	P	06 29 52.0	-2.0
	1.1nm,0.5s,baz=117,slow=7.0,SNR=7.5						
CMAR				LR	LR	06 43 44.4	
	comp=Z,48nm,18.7s,baz=178,slow=39						
KMI	Kunming	31.79 316		P	P	06 30 02.3	+1.6
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
MORW	Morawa	33.23 197		P	P	06 30 13.2	+0.4
	baz=33,SNR=4.1						
KMBL	Kambalda	34.27 187		P	P	06 30 23.6	+1.8
	baz=34,SNR=4.7						
KSAR	Wonju Array Be	34.48 2		P	P	06 30 26.3	+2.7
KSRS	Korea Array	34.49 2		P	P	06 30 26.3	+2.6
	6.5nm,0.5s,baz=183,slow=10,SNR=20						
BLDU	Ballidu	34.51 195		P	P	06 30 23.9	0.0
	baz=35,SNR=6.9						
KLBR	Kellerberrin	35.20 193		P	P	06 30 30.6	+0.7
	baz=35,SNR=6.5						
MJAR	Matsushiro Arr	35.28 17		P	P	06 30 31.3	+0.7
MJAR	Matsushiro Arr	35.28 17		P	P	06 30 31.3	+0.7
	4.5nm,0.9s,baz=200,slow=9.5,SNR=7.6						
NWAO	Narrogin (SRO)	36.60 193		P	P	06 30 37.5	-4.3
NWAO	Narrogin (SRO)	36.60 193		P	P	06 30 37.5	-4.3
	4.7nm,0.8s,baz=59,slow=12,SNR=2.6						
BBOO	Buckleboo	36.60 166		*e*P	P	06 30 42.2	+0.3
	257nm,1.1s						
BBOO	Buckleboo	36.60 166		P	P	06 30 42.3	+0.5
	baz=37,SNR=11						
STKA	Stephens Creek	37.41 158		*e*P	P	06 30 49.5	+0.8
	2.5nm,0.9s						
STKA	Stephens Creek	37.41 158		P	P	06 30 49.5	+0.8
	10nm,0.8s,baz=329,slow=7.9,SNR=24						
STKA	Stephens Creek	37.41 158		P	P	06 30 49.7	+1.0
	baz=38,SNR=18						
HTT	Hallett	37.95 163		P	P	06 30 54.5	+1.2
	baz=38,SNR=5.4						
RKGY	Rocky Gully	38.27 193		P	P	06 30 57.7	+1.8
	baz=38,SNR=5.8						
SNY	Shenyang	38.92 357		⇓P	P	06 31 02.5	+1.3
SNY				pmax	pmax		
	comp=Z,45nm,1.0s						
LZH	Lanzhou	39.12 331		*e*P	P	06 31 03.5	+0.3
LZH				pP	pP	06 31 25.0	-1.2
LZH				sP	sP	06 31 36.5	-1.1
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	Hu-ho-hao-te	40.16 342		*e*P	P	06 31 12.8	+1.1
HHC				pP	pP	06 31 36.3	+1.6
HHC				sP	sP	06 31 49.0	+2.9
HHC				PP	PnPn	06 32 51.8	+1.3
HHC				S	S	06 37 13.3	+2.3
HHC				sS	sS	06 37 54.0	+3.2
HHC				pmax	pmax		
	comp=Z,50nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,5.5s						
HHC				LR	LR		
	comp=N,200nm,14.0s						
HHC				LR	LR		
	comp=E,190nm,14.8s						
HHC				LR	LR		
	comp=Z,150nm,14.5s						
ARMA	Armidale	40.90 146		P	P	06 31 20.4	+2.5
	baz=41,SNR=4.7						
USRK	Ussuriysk Arra	41.50 6		P	P	06 31 23.9	+1.4
	3.9nm,0.8s,baz=186,slow=6.1,SNR=7.6						
ARPS	Mount Arapiles	41.93 161		P	P	06 31 27.6	+1.5
	baz=42,SNR=5.2						
LSA	Lhasa	42.79 312		*e*P	P	06 31 34.0	+0.1
	7.0nm,0.8s						
GTA	Gaotai	43.71 330		*e*P	P	06 31 40.0	-0.6
GTA				pP	pP	06 31 58.0	-6.0
GTA				PcP	PcP	06 33 25.3	-0.7
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TAPN	Taplejung	44.29 307		*e*P	P	06 31 44.5	-1.2
	23nm,1.0s						
TAPN	Taplejung	44.29 307		*e*P	P	06 31 44.5	-1.2
	23nm,1.0s						
ODAN	Odare	44.33 306		*e*P	P	06 31 44.7	-1.2
	30nm,0.8s						
ODAN	Odare	44.33 306		*e*P	P	06 31 44.7	-1.2
	30nm,0.8s						
RAMN	Ramite	45.01 306		*e*P	P	06 31 50.5	-0.8
	25nm,0.9s						
RAMN	Ramite	45.01 306		*e*P	P	06 31 50.5	-0.8
	25nm,0.9s						
JIRN	Jiri	45.64 307		*e*P	P	06 31 54.3	-2.2
	21nm,0.7s						
JIRN	Jiri	45.64 307		*e*P	P	06 31 54.3	-2.2
	21nm,0.7s						
GUN	Gumba	45.99 307		*e*P	P	06 31 57.8	-1.4
	44nm,0.7s						
GUN	Gumba	45.99 307		*e*P	P	06 31 57.8	-1.4
	44nm,0.7s						
PKI	Pulchoki	46.23 306		*e*P	P	06 31 59.4	-1.6
	7.2nm,0.5s						
PKI	Pulchoki	46.23 306		*e*P	P	06 31 59.4	-1.6
	7.2nm,0.5s						
PKIN	Phulchoki	46.24 306		*e*P	P	06 31 59.3	-1.8
	7.7nm,0.5s						
KKN	Kakani	46.42 306		*e*P	P	06 32 00.7	-1.7
	35nm,0.9s						
KKN	Kakani	46.42 306		*e*P	P	06 32 00.7	-1.7
	35nm,0.9s						
DMN	Daman	46.49 306		*e*P	P	06 32 01.7	-1.3
	29nm,1.0s						
DMN	Daman	46.49 306		*e*P	P	06 32 01.7	-1.3
	29nm,1.0s						
HIA	Hailar	46.62 354		*e*P	P	06 32 04.7	+1.3
	22nm,1.2s						
GKN	Gorkha	47.03 306		*e*P	P	06 32 05.4	-1.7
	34nm,1.1s						
GKN	Gorkha	47.03 306		*e*P	P	06 32 05.4	-1.7
	34nm,1.1s						
KOLN	Koldanda	47.77 306		*e*P	P	06 32 11.6	-1.3
	39nm,0.7s						
KOLN	Koldanda	47.77 306		*e*P	P	06 32 11.6	-1.3
	39nm,0.7s						
DANN	Dangsing	47.88 306		*e*P	P	06 32 12.2	-1.6
	44nm,0.7s						
DANN	Dangsing	47.88 306		*e*P	P	06 32 12.2	-1.6
	44nm,0.7s						
ULN	Ulaanbaatar	47.88 342		*e*P	P	06 32 13.3	0.0
	7.1nm,1.1s						
SONM	Songino Array	48.05 342		P	P	06 32 14.0	-0.6
SONM	Songino Array	48.05 342		P	P	06 32 14.0	-0.6
	3.3nm,0.9s,baz=159,slow=8.6,SNR=17						
SONM				LR	LR	06 55 10.7	
	comp=Z,31nm,20.1s,baz=187,slow=39						
PYUN	Piuthan	48.40 306		*e*P	P	06 32 16.3	-1.4
	48nm,0.9s						
PYUN	Piuthan	48.40 306		*e*P	P	06 32 16.3	-1.4
	48nm,0.9s						
TLY	Talaya	52.29 342		*e*P	P	06 32 46.9	+0.5
	6.4nm,1.1s						
WMQ	Urumqi	53.28 326		P	P	06 32 55.0	+1.1
WMQ				sP	sP	06 33 30.0	+0.8
WMQ				PP	PP	06 34 58.0	+2.9
WMQ				PcS	PcS	06 37 58.0	-1.4
WMQ				S	S	06 40 17.0	-0.9
WMQ				sS	sS	06 41 00.0	+0.7
WMQ				ScS	ScS	06 42 31.0	-2.9
WMQ				SS	SS	06 43 59.0	0.0
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,41nm,4.0s						
WMQ				LR	LR		
	comp=N,72nm,17.0s						
WMQ				LR	LR		
	comp=E,100nm,16.0s						
PETK	Petropavlovsk-	56.39 22		P	P	06 33 20.3	+4.2
PETK	Petropavlovsk-	56.39 22		P	P	06 33 20.3	+4.2
	3.5nm,0.8s,baz=208,slow=5.9,SNR=4.2						
MK31	Makanchi Array	58.11 326		*e*P	P	06 33 27.0	-1.4
MKAR	Makanchi Array	58.11 326		P	P	06 33 27.1	-1.2
MKAR	Makanchi Array	58.11 326		P	P	06 33 27.1	-1.2
	0.9nm,0.3s,baz=118,slow=7.8,SNR=26						
KSH	Kashi	58.45 316		P	P	06 33 32.0	+1.0
KSH				sP	sP	06 34 08.0	+1.4
KSH				PP	PP	06 35 44.0	+2.6
KSH				PcS	PcS	06 38 22.0	-0.5
KSH				S	S	06 41 25.0	-1.8
KSH				SS	SS	06 45 24.3	+3.5
KSH				pmax	pmax		
	comp=Z,28nm,4.1s						
KSH				LR	LR		
	comp=N,100nm,4.6s						
KSH				LR	LR		
	comp=E,120nm,5.0s						
KSH				LR	LR		
	comp=Z,110nm,6.2s						
AAK	Ala-Archa	60.81 318		LR	LR	07 01 32.2	
	comp=Z,39nm,18.9s,baz=258,slow=37						
ZALV	Zalesovo Beam	61.24 333		P	P	06 33 47.4	-2.3
ZALV	Zalesovo Beam	61.24 333		P	P	06 33 47.4	-2.3
	0.8nm,0.4s,baz=116,slow=6.8,SNR=5.4						
KURK	Kurchatov	62.33 328		*e*P	P	06 33 55.8	-1.2
	3.9nm,0.9s						
KKAR	Karatay Array	63.67 317		*e*P	P	06 34 05.2	-0.9
	1.6nm,0.6s						
BRVK	Borovoye	67.97 327		*e*P	P	06 34 32.5	-0.9
	4.5nm,0.9s						
TIXI	Tiksi	68.75 1		*e*P	P	06 34 38.6	+0.6
	12nm,1.1s						
ABKAR	Akbulak array	72.64 321		*e*P	P	06 35 00.4	-1.6
	0.8nm,0.4s						
ILAR	Eielson Array	86.06 25		P	P	06 36 16.7	+2.1
ILAR	Eielson Array	86.06 25		P	P	06 36 16.7	+2.1
	0.2nm,0.8s,baz=243,slow=5.6,SNR=3.4						
BRTR	Keskin Array B	90.34 310		P	P	06 36 34.4	-1.3
BRTR	Keskin Array B	90.34 310		P	P	06 36 34.4	-1.3
	0.8nm,0.8s,baz=132,slow=7.3,SNR=5.1						
ARCES	ARCESS Array B	91.18 340		P	P	06 36 38.5	-0.2
ARCES	ARCESS Array B	91.18 340		P	P	06 36 38.5	-0.2
	2.7nm,0.8s,baz=94,slow=4.0,SNR=12						
AKASG	Malin Array Be	92.38 321		P	P	06 36 43.6	-1.0
AKASG	Malin Array Be	92.38 321		P	P	06 36 43.6	-1.0
	0.9nm,0.4s,baz=68,slow=5.0,SNR=8.6						
FINES	FINESS Array B	92.47 332		P	P	06 36 44.1	-0.7
FINES	FINESS Array B	92.47 332		P	P	06 36 44.1	-0.7
	2.3nm,0.7s,baz=30,slow=4.6,SNR=6.7						
BUR08	Bucovina Ar. S	95.46 318		*e*P	P	06 36 59.1	+0.1
CRVS	Cervenica-Dubn	97.65 320		*e*P	P	06 37 08.0	-0.8
STHS	Stebnicka Huta	97.67 321		*e*P	P	06 37 08.4	-0.5
NOA	NORSAR Array B	99.45 333		P	Pdif	06 37 16.4	-0.2
NOA	NORSAR Array B	99.45 333		P	Pdif	06 37 16.4	-0.2
	0.7nm,0.8s,baz=76,slow=4.2,SNR=3.3						
TORD	Torodi Ar. Bea	122.88 288		PKP	PKPdf	06 42 29.5	-1.3
TORD	Torodi Ar. Bea	122.88 288		PKP	PKPdf	06 42 29.5	-1.3
	0.6nm,0.7s,baz=67,slow=1.9,SNR=3.1						

*ISCJB **28** 06:34:27.9±0.5, 14°.38N±0°.06×120°.5E±0°.1, h195km±4km, mb3.3/6, Error ellipse: s-maj=23.4km s-min=7.3km az=165.7*
*IDC **28** 06:34:28.9±0.6, 14°.20N×120°.40E, h192km±6km, mb3.1/6, mb1 3.3/6, mb1mx3.3/6, mbtmp3.6/6, Error ellipse: s-maj=40.5km s-min=13.2km az=61.0*
*MAN **28** 06:34:29, 14°.41N×120°.71E, h170km, mb4.3, ML3.1, MS2.9*

ISC 28 06:34:28.8±0.8, 14°.40N±0°.05×120°.5E±0°.1, h190km±7km, n14, σ1s22/19, mb3.3/6, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.48 127		P		P	Pn	06 34 55.6	+0.8
	120nm,0.3s,baz=75,slow=16,SNR=7.8								
TGY				S			Sn	06 35 16.6	+1.8
	239nm,0.3s,baz=123,slow=16,SNR=16								
LUBP	Lubang	0.72 203		*e*P		P	Pn	06 34 56.4	+0.6
LUBP				*e*S			Sn	06 35 16.0	-0.6
SCZP	Santa Cruz	1.50 336		*e*P		P	Pn	06 35 01.1	-0.5
SCZP				*e*S			Sn	06 35 25.1	-2.1
SJMP	San Jose	2.00 164		*e*P		P	Pn	06 35 05.5	-1.1
SJMP				*e*S			Sn	06 35 35.3	-0.8
BOLP	Bolinao	2.06 343		*e*P		P	Pn	06 35 07.9	+0.7
BOLP				*e*S			Sn	06 35 37.2	-0.1
ENPP	El Nido	3.35 199		*e*P		P	Pn	06 35 23.8	+1.6
APYP	Conner	3.51 11		*e*P		P	Pn	06 35 24.7	+0.6
CUYO	Cuyo Island	3.56 172		*e*P		P	Pn	06 35 25.3	+0.6
CMAR	Chiang Mai Arr	21.10 284		P		P	P	06 38 57.6	-1.1
	1.2nm,0.4s,baz=98,slow=10,SNR=5.8								
SONM	Songino Array	35.35 343		P		P	P	06 41 07.3	+1.2
	0.7nm,0.5s,baz=158,slow=10.0,SNR=5.1								
WRA	Warramunga Arr	36.72 158		P		P	P	06 41 16.4	-1.6
	0.4nm,0.6s,baz=340,slow=9.2,SNR=9.7								
ASAR	Alice Springs	40.02 161		P		P	P	06 41 44.6	-0.8
	0.3nm,0.5s,baz=337,slow=7.4,SNR=12								
MKAR	Makanchi Array	45.38 323		P		P	P	06 42 29.6	+1.2
	0.2nm,0.3s,baz=103,slow=8.5,SNR=8.9								
ZALV	Zalesovo Beam	48.37 333		P		P	P	06 42 51.3	0.0
	0.5nm,0.4s,baz=125,slow=6.6,SNR=2.7								

*IDC **28** 06:37:30.9±2.2, 1°.54N×127°.59E, h168km±21km, mb3.7/11, mb1 3.8/12, mb1mx3.8/12, mbtmp4.1/12, MS2.7/1, Ms1 2.7/1, ms1mx2.4/33, Error ellipse: s-maj=33.8km s-min=10.3km az=85.0*
*DJA **28** 06:37:35.3±1.4, 1°.1N±13°.×12°.7E±°, h126km±11km, M4.7/8, mb4.5/4, mB5.4/2, MLv4.8/8, Mw(mB)4.8/2*

ISC 28 06:37:28.0±0.7, 1°.66N±0°.07×127°.70E±0°.07, h128km, n38, σ1s79/32, mb4.2/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.94 201		P		P	Pn	06 37 56.9	+6.8
LBMI	Labuha	2.29 185		P		P	Pn	06 38 10.7	+5.3
KMSI	Cibinong	3.87 254		P		P	Pn	06 38 28.5	+2.6
KMSI				S			Sn	06 39 10.8	-0.1
GTOI	Gorontalo	4.79 258		P		P	Pn	06 38 41.1	+2.8
NLAI	Namlea	4.90 187		P		P	Pn	06 38 42.5	+2.8
NLAI				S			Sn	06 39 34.3	-1.2
LUWI	Luwuk	5.61 241		P		P	Pn	06 38 53.9	+4.7
	76nm,1.1s,10µm3.3nm								
LUWI	Luwuk	5.61 241		P		P	Pn	06 38 51.6	+2.4
	baz=3.7,SNR=6.5								
MRSI	Marisa	5.87 259		P		P	Pn	06 38 54.2	+1.4
	36nm,0.6s,0.3nm								
MRSI				S			Sn	06 39 56.0	-3.0
	36nm,0.6s,0.3nm								
APSI	Ampana	6.56 247		P		P	Pn	06 39 03.4	+1.3
	84nm,0.7s,2µm1.2nm								
TTSI	Tana Toraja	9.16 239		P		P	Pn	06 39 37.6	+0.6
SPSI	Sidrap Palu	9.69 235		P		P	Pn	06 39 46.8	+2.5
TGY	Tagaytay City	14.06 332		LR		LR		06 47 20.9	
	comp=Z,32nm,19.7s,baz=246,slow=42								
MTN	Manton Dam	14.80 167		P		P	P	06 40 55.0	+1.4
	baz=13,SNR=3.2								
MTNI	Mataram	15.38 228		P		P	P	06 40 59.7	-0.3
STKI	Sintang	16.29 265		P		P	Pn	06 40 59.7	-10
JAGI	Jajag, Banyuwa	16.84 233		P		P	P	06 41 18.1	+1.9
	baz=14,SNR=3.6								
KNRA	Kununurra	17.25 177		P		P	Pn	06 41 23.0	+1.8
	baz=15,SNR=3.5								
NGJI	Ngawi	18.51 241		P		P	Pn	06 41 42.6	+6.3
PWJI	Pagerwojo	18.54 239		P		P	P	06 41 34.9	+0.1
PCJI	Pacitan	19.16 239		P		P	Pn	06 41 45.8	+1.9
FITZ	Fitzroy Crossi	19.74 186		P		P	P	06 41 45.4	-2.5
	0.2nm,0.3s,baz=25,slow=7.8,SNR=7.1								
FITZ	Fitzroy Crossi	19.74 186		P		P	P	06 41 46.1	-1.8
	baz=17,SNR=9.1								
WRA	Warramunga Arr	22.43 163		P		P	P	06 42 15.5	-0.9
	2.1nm,0.5s,baz=341,slow=10,SNR=23								
WRA				ScP		ScP	ScP	06 49 25.2	-7.2
	0.5nm,0.8s,baz=340,slow=3.8,SNR=4.5								
ASAR	Alice Springs	25.88 167		P		P	P	06 42 47.1	-1.0
	0.5nm,0.3s,baz=343,slow=8.3,SNR=25								
ASAR				ScP		ScP	ScP	06 49 35.5	-6.4
	0.3nm,0.6s,baz=346,slow=2.8,SNR=5.2								
WRKA	Warakurna	26.54 179		P		P	P	06 42 52.7	-1.3
	baz=24,SNR=6.0								
MEEK	Meekatharra	29.46 197		P		P	P	06 43 17.8	-2.1
	baz=27,SNR=8.6								
MORW	Morawa	32.53 199		P		P	P	06 43 44.8	-2.0
	baz=30,SNR=4.1								
BLDU	Ballidu	33.76 197		P		P	P	06 43 55.4	-2.1
	baz=31,SNR=5.5		

LSZ **Lusaka** **8.38 193** *e*Pn **Pn** **06 50 16.8 -0.2**
63nm,0.8s
LSZ Sn **Sn** **06 51 48.7 -3.2**
LSZ Lg Lg 06 52 36.2
LSZ Lusaka **8.38 193** Pn **Pn** **06 50 17.7 +0.7**
4.0nm,0.3s,baz=3.5,slow=12,SNR=20
LSZ Sn **Sn** **06 51 48.7 -3.2**
24nm,0.3s,baz=97,slow=21,SNR=10
LSZ Lg Lg 06 52 36.2
27nm,0.3s,baz=120,slow=20,SNR=17
LSZ LR LR 06 53 15.5
comp=Z,494nm,19.4s,baz=26,slow=35
KMBO Kilima Mbogo **9.23 51** *e*Pn Pn 06 50 24.9 -3.8
113nm,0.4s
KMBO *e*Sn Sn 06 52 03.5 -9.4
KMBO Sn Sn 06 52 03.7 -9.4
KMBO Lg Lg 06 52 56.5
KMBO Kilima Mbogo **9.23 51** Pn Pn 06 50 25.5 -3.2
44nm,0.3s,baz=227,slow=18,SNR=268
KMBO Sn Sn 06 52 03.7 -9.2
25nm,0.3s,baz=211,slow=20,SNR=5.1
KMBO Lg Lg 06 52 56.5
49nm,0.3s,baz=262,slow=6.5,SNR=18
KMBO LR LR 06 54 20.3
comp=Z,689nm,18.2s,baz=184,slow=40
TSUM Tsumeb **17.15 224** *e*Pn **Pn** **06 52 13.1 -2.2**
TSUM *e*Sn Sn 06 55 15.4 -11
TSUM S Sn 06 55 15.6 -11
TSUM Lg Lg 06 57 18.8
TSUM Tsumeb **17.15 224** P **Pn** **06 52 12.9 -2.4**
1.4nm,0.3s,baz=24,slow=10,SNR=35
TSUM S Sn 06 55 15.6 -11
1.6nm,0.3s,baz=256,slow=6.6,SNR=4.7
TSUM Lg Lg 06 57 18.8
0.8nm,0.3s,baz=127,slow=20,SNR=3.1
TSUM LR LR 06 59 27.3
comp=Z,535nm,19.1s,baz=42,slow=39
MSKU Masuku **17.31 287** P **Pn** **06 52 13.8 -3.4**
MSKU Masuku **17.31 287** P **Pn** **06 52 13.8 -3.4**
14nm,0.3s,baz=114,slow=19,SNR=17
LBTB Lobatse **18.37 193** *e*P **P** **06 52 29.9 -0.5**
0.2nm,0.5s
LBTB *e*S **Sn** **06 55 59.3 +3.5**
OPO Ambohidratompo **20.17 126** P Pn 06 52 53.6 +1.5
OPO S Sn 06 56 45.1 +5.7
OPO Ambohidratompo **20.17 126** P Pn 06 52 53.6 +1.5
1.4nm,0.4s,baz=289,slow=17,SNR=2.4
OPO S Sn 06 56 45.1 +5.7
1.6nm,0.6s,baz=298,slow=19,SNR=2.4
OPO LR LR 07 00 07.7
comp=Z,254nm,19.1s,baz=129,slow=35
BOSA Boshof **21.93 192** P **P** **06 53 11.4 +2.4**
BOSA S S 06 57 05.2 -6.2
BOSA Lg Lg 06 59 42.0
BOSA Boshof **21.93 192** P **P** **06 53 11.4 +2.4**
8.3nm,0.8s,baz=24,slow=9.8,SNR=17
BOSA S S 06 57 05.2 -6.2
11nm,0.9s,baz=90,slow=12,SNR=3.5
BOSA Lg Lg 06 59 42.0
32nm,0.9s,baz=99,slow=22,SNR=4.0
BOSA LR LR 07 01 39.4
comp=Z,164nm,18.6s,baz=198,slow=36
SUR Sutherland **26.64 198** LR LR 07 04 38.7
comp=Z,216nm,18.8s,baz=25,slow=37
TOA0 Torodi Ar. Sit **34.65 305** *e*P **P** **06 55 05.8 +0.7**
TORD Torodi Ar. Bea **34.65 305** P **P** **06 55 05.2 +0.2**
TORD Torodi Ar. Bea **34.65 305** P **P** **06 55 05.3 +0.2**
7.9nm,0.7s,baz=113,slow=7.8,SNR=56
TORD LR LR 07 08 49.8
comp=Z,152nm,19.3s,baz=120,slow=36
KIC Kosan Boka **37.25 290** *e*P **P** **06 55 26.6 -0.9**
15nm,1.0s
DBIC Dimbokro **37.47 291** *e*P **P** **06 55 29.6 +0.3**
DBIC Dimbokro **37.47 291** P **P** **06 55 29.4 +0.1**
2.5nm,0.7s,baz=81,slow=9.3,SNR=7.5
DBIC LR LR 07 10 55.3
comp=Z,88nm,18.8s,baz=267,slow=36
LIC Lamto **37.47 290** *e*P **P** **06 55 29.8 +0.5**
36nm,1.2s
TIC Toumodi **37.61 290** *e*P **P** **06 55 30.5 0.0**
17nm,0.5s
BRTR Keskin Array B **46.66 4** P **P** **06 56 44.4 +0.3**
BRTR Keskin Array B **46.66 4** P **P** **06 56 44.4 +0.3**
2.3nm,0.8s,baz=177,slow=8.3,SNR=7.0
BR131 Keskin Array S **46.66 4** P **P** **06 56 43.8 -0.3**
2.9nm,0.8s
KEST Kesra **46.84 337** LR LR 07 16 43.8
comp=Z,80nm,19.1s,baz=308,slow=37
KBZ Khabaz **51.86 12** LR LR 07 19 19.4
comp=Z,73nm,20.6s,baz=296,slow=36
ESDC Sonseca Array **56.17 329** P P 06 57 56.5 +1.1
ESDC Sonseca Array **56.17 329** P P 06 57 56.5 +1.1
0.3nm,0.5s,baz=148,slow=5.1,SNR=3.8
MOA Molln **56.44 347** ⇓ *i*P **P** **06 57 57.7 +0.7**
5.8nm,0.8s
MOTA Moosalm **56.73 345** ⇓ *i*P **P** **06 57 59.8 +0.5**
2.5nm,0.7s
DAVA Damuels **57.01 344** ⇑ *i*P **P** **06 58 01.3 +0.1**
7.4nm,0.9s
GERES GERESS Array B **57.50 347** P **P** **06 58 05.1 +0.4**
GERES GERESS Array B **57.50 347** P **P** **06 58 05.1 +0.4**
2.0nm,0.8s,baz=166,slow=6.9,SNR=6.0
GERES LR LR 07 22 46.2
comp=Z,51nm,18.8s,baz=276,slow=36
AKASG Malin Array Be **57.53 359** P **P** **06 58 04.1 -0.5**
AKASG Malin Array Be **57.53 359** P **P** **06 58 04.1 -0.5**
0.6nm,0.5s,baz=178,slow=6.1,SNR=7.5
KHC Kasperske Hory **57.80 347** *e*P **P** **06 58 07.1 +0.4**
4.5nm,0.8s
ABKAR Akbulak array **61.84 22** *e*P **P** **06 58 35.4 +1.0**
0.2nm,0.4s
AKTO Aktyubinsk **62.15 20** P **P** **06 58 35.5 -1.0**
AKTO Aktyubinsk **62.15 20** P **P** **06 58 35.5 -1.0**
1.0nm,0.7s,baz=162,slow=13,SNR=3.3
AKTO LR LR 07 25 53.3
comp=Z,61nm,18.8s,baz=18,slow=36
AAK Ala-Archa **63.82 35** LR LR 07 26 15.7
comp=Z,61nm,19.1s,baz=74,slow=36
MAW Mawson **64.36 167** LR LR 07 21 52.3
comp=Z,59nm,20.2s,baz=103,slow=31
ARU Arti **67.46 17** *e*P **P** **06 59 11.2 +0.2**
6.1nm,0.8s
FINES FINESS Array B **68.37 358** P **P** **06 59 17.1 +0.5**
FINES FINESS Array B **68.37 358** P **P** **06 59 17.1 +0.5**
2.4nm,0.7s,baz=165,slow=7.9,SNR=5.2
BVAR Borovoye Array **68.89 25** P **P** **06 59 20.7 +0.7**
BVAR Borovoye Array **68.89 25** P **P** **06 59 20.7 +0.7**
0.9nm,0.7s,baz=198,slow=8.9,SNR=3.7
NB2 NORSAR Subarra **69.49 350** P **P** **06 59 23.8 +0.1**
comp=Z,7.4nm,1.2s,baz=160,slow=6.2
NOA NORSAR Array B **69.49 350** P **P** **06 59 24.1 +0.4**
NOA NORSAR Array B **69.49 350** P **P** **06 59 24.1 +0.4**
comp=Z,1.7nm,0.9s,baz=162,slow=5.8,SNR=4.2
NOA LR LR 07 30 55.4
comp=Z,27nm,19.1s,baz=270,slow=37
MK31 Makanchi Array **70.76 35** *e*P **P** **06 59 31.5 -0.3**
MKAR Makanchi Array **70.76 35** P **P** **06 59 31.5 -0.2**
MKAR Makanchi Array **70.76 35** P **P** **06 59 31.5 -0.2**
comp=Z,2.3nm,0.9s,baz=238,slow=6.6,SNR=9.9
MKAR LR LR 07 31 54.9
comp=Z,64nm,19.9s,baz=32,slow=37
KURBB Kurchatov Arra **71.00 30** P **P** **06 59 32.9 -0.2**
comp=Z,1.2nm,0.7s,baz=238,slow=6.6,SNR=5.4
KURK Kurchatov **71.10 30** P **P** **06 59 32.9 -0.8**
CMAR Chiang Mai Arr **72.42 68** P **P** **06 59 43.9 +1.5**
CMAR Chiang Mai Arr **72.42 68** P **P** **06 59 43.9 +1.5**
comp=Z,1.6nm,0.5s,baz=273,slow=7.8,SNR=4.5
CMAR LR LR 07 30 29.8
comp=Z,31nm,18.2s,baz=253,slow=35
ZALV Zalesovo Beam **76.08 30** P **P** **07 00 02.8 -0.1**
ZALV Zalesovo Beam **76.08 30** P **P** **07 00 02.8 -0.1**
comp=Z,1.7nm,0.7s,baz=256,slow=5.7,SNR=5.2
ZALV LR LR 07 34 13.4
comp=Z,55nm,19.4s,baz=338,slow=36
ARCES ARCESS Array B **76.49 358** P **P** **07 00 06.1 +1.2**
ARCES ARCESS Array B **76.49 358** P **P** **07 00 06.1 +1.2**
comp=Z,2.2nm,0.9s,baz=189,slow=4.5,SNR=4.8
SONM Songino Array **86.07 41** P P 07 00 58.8 +2.3
SONM Songino Array **86.07 41** P P 07 00 58.8 +2.3
comp=Z,0.4nm,0.6s,baz=240,slow=5.2,SNR=2.3
VNDA Vanda **91.41 171** LR LR 07 41 44.3
comp=Z,53nm,19.0s,baz=112,slow=35
FITZ Fitzroy Crossi **93.04 109** LR LR 07 38 20.8
comp=Z,48nm,20.2s,baz=289,slow=32
PLCA Paso Flores **93.46 228** LR LR 07 41 15.8
comp=Z,84nm,18.2s,baz=101,slow=34

LPAZ La Paz **95.90 253** LR LR 07 44 37.1
comp=Z,69nm,20.5s,baz=223,slow=35
ASAR Alice Springs **99.67 115** P **Pdif** **07 02 04.2 +4.3**
ASAR Alice Springs **99.67 115** P **Pdif** **07 02 04.2 +4.3**
comp=Z,0.2nm,0.8s,baz=270,slow=4.6,SNR=3.1
WRA Warramunga Arr **100.83 112** P **Pdif** **07 02 07.9 +2.8**
WRA Warramunga Arr **100.83 112** P **Pdif** **07 02 07.9 +2.8**
comp=Z,0.3nm,1.0s,baz=252,slow=3.1,SNR=4.9
YKA Yellowknife Ar **118.97 342** PKP **PKPdf** **07 07 04.0 +0.1**
YKA Yellowknife Ar **118.97 342** PKP **PKPdf** **07 07 03.9 +0.1**
comp=Z,0.1nm,0.7s,baz=31,slow=1.9,SNR=2.5
ILAR Eielson Array **122.35 358** PKP **PKPdf** **07 07 11.0 +0.7**
ILAR Eielson Array **122.35 358** PKP **PKPdf** **07 07 11.0 +0.7**
comp=Z,0.3nm,0.9s,baz=336,slow=2.0,SNR=2.8
PDAR Pinedale Array **129.78 322** PKP **PKPdf** **07 07 26.0 +0.6**
PDAR Pinedale Array **129.78 322** PKP **PKPdf** **07 07 26.0 +0.6**
comp=Z,0.5nm,1.0s,baz=84,slow=2.8,SNR=3.0
TXAR Lajitas Array **131.24 303** PKP **PKPdf** **07 07 28.6 +0.1**
TXAR Lajitas Array **131.24 303** PKP **PKPdf** **07 07 28.6 +0.1**
comp=Z,0.3nm,0.7s,baz=98,slow=3.9,SNR=2.8
NVAR Mina Array Bea **137.71 322** PKP **PKPdf** **07 07 41.3 +0.8**
NVAR Mina Array Bea **137.71 322** PKP **PKPdf** **07 07 41.3 +0.8**
comp=Z,0.3nm,0.5s,baz=60,slow=5.3,SNR=2.4

ISCJB ***28*** *06:52:20.1±0.5,27.˚43N±0.˚07×139.˚89E±0.˚09, h450km, mb3.6/15, Error ellipse: s-maj=12.3km s-min=7.4km az=148.9*
IDC ***28*** *06:52:21.5±1.1,27.˚37N×140.˚33E, h473km±13km, mb3.2/12, mb1 3.3/14, mb1mx3.3/14, mbtmp4.0/14, Error ellipse: s-maj=25.1km s-min=16.3km az=68.0*
JMA ***28*** *06:52:23.5±0.1,27.˚73N×140.˚93E, h465km, M3.8*
ISC 28 06:52:20.8±0.8, 27.˚44N±0.˚10×140.˚0E±0.˚1, h450km, n23, σ1§58/29, mb3.7/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.96**	**100**	P	**P**	**06 53 22.4**	**+1.3**
CBIJ				*e*S	**S**	**06 54 09.0**	**-0.9**
JCJ	**Chichijima**	**1.96**	**100**	P	**P**	**06 53 22.5**	**+1.4**
	16nm,0.3s,baz=241,slow=19,SNR=12						
JCJ				S	**S**	**06 54 09.0**	**-1.0**
	34nm,0.3s,baz=294,slow=22,SNR=12						
JHHJ	**Haha-jima-NKT**	**2.09**	**112**	P	**P**	**06 53 23.7**	**+1.9**
JHHJ				*e*S	**S**	**06 54 12.1**	**+0.9**
JRY	**Ryogami san**	**8.61**	**354**	P	**P**	**06 54 25.3**	**+2.7**
JAG	**Ashikaga**	**8.97**	**357**	P	**P**	**06 54 28.0**	**+1.5**
JAG				S	**S**	**06 56 07.5**	**-2.5**
JHO	**Hitachi**	**9.16**	**3**	P	**P**	**06 54 30.5**	**+1.9**
JHO				*e*S	**S**	**06 56 11.3**	**-2.4**
MJAR	**Matsushiro Arr**	**9.21**	**351**	P	**P**	**06 54 29.9**	**+0.9**
	0.9nm,0.3s,baz=169,slow=11,SNR=4.5						
USRK	**Ussuriysk Arra**	**17.93**	**341**	P	**P**	**06 56 04.3**	**+1.8**
	0.3nm,0.3s,baz=149,slow=7.9,SNR=6.0						
SONM	**Songino Array**	**33.14**	**317**	P	**P**	**06 58 19.0**	**+0.8**
	0.6nm,0.5s,baz=126,slow=9.6,SNR=5.3						
WRA	**Warramunga Arr**	**47.42**	**187**	P	**P**	**07 00 11.8**	**-1.4**
	0.2nm,0.3s,baz=3.3,slow=7.7,SNR=9.2						
ZALV	**Zalesovo Beam**	**47.97**	**319**	P	**P**	**07 00 17.0**	**+0.1**
	1.1nm,0.5s,baz=101,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**48.77**	**309**	P	**P**	**07 00 24.1**	**+0.9**
	1.2nm,0.4s,baz=87,slow=10,SNR=24						
MKAR				ScP	**ScP**	**07 04 48.2**	**-3.0**
	0.2nm,0.4s,baz=87,slow=4.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**51.42**	**314**	P	**P**	**07 00 43.2**	**+0.7**
	5.3nm,0.5s,baz=93,slow=8.7,SNR=30						
AAK	**Ala-Archa**	**54.47**	**304**	P	**P**	**07 01 05.8**	**+1.0**
	0.9nm,0.4s,baz=163,slow=11,SNR=2.9						
BVAR	**Borovoye Array**	**56.48**	**317**	P	**P**	**07 01 19.2**	**+0.7**
	4.2nm,0.4s,baz=87,slow=7.0,SNR=19						
KEV	**Kevo**	**72.02**	**340**	*ep*	**P**	**07 02 59.2**	**+1.9**
	5.0nm,0.9s						
ARCES	**ARCESS Array B**	**72.58**	**340**	P	**P**	**07 03 00.2**	**-0.5**
	2.7nm,0.8s,baz=72,slow=7.8,SNR=5.2						
YKA	**Yellowknife Ar**	**72.75**	**28**	P	**P**	**07 03 00.5**	**-1.3**
	0.1nm,0.6s,baz=299,slow=6.3,SNR=3.0						
JOF	**Joensuu**	**73.91**	**333**	*ep*	**P**	**07 03 07.3**	**-1.1**
	1.4nm,0.5s						
KAF	**Kangasniemi**	**76.32**	**334**	*ep*	**P**	**07 03 20.4**	**-1.6**
	2.4nm,0.5s						
FINES	**FINESS Array B**	**76.78**	**333**	P	**P**	**07 03 24.0**	**-0.5**
	2.6nm,0.4s,baz=72,slow=5.4,SNR=27						
AKASG	**Malin Array Be**	**81.19**	**323**	P	**P**	**07 03 47.3**	**-1.0**
	0.6nm,0.4s,baz=46,slow=5.5,SNR=7.3						
NOA	**NORSAR Array B**	**82.57**	**338**	P	**P**	**07 03 54.1**	**-1.1**
	0.7nm,0.5s,baz=45,slow=5.0,SNR=3.2						

IDC 28 07:28:09.4±38.0, 19.˚02S×168.˚81E, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.3/4, mbtmp4.1/4, Error ellipse: s-maj=651.7km s-min=108.4km az=78.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.62**	**237**	P	P	07 33 59.1	+0.3
	1.1nm,0.6s,baz=73,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**32.48**	**263**	P	P	07 34 41.4	-0.6
	0.7nm,0.5s,baz=94,slow=8.8,SNR=8.3						
ASAR	**Alice Springs**	**32.79**	**256**	P	P	07 34 44.6	0.0
	5.0nm,0.6s,baz=84,slow=9.1,SNR=99						
FITZ	**Fitzroy Crossi**	**40.86**	**264**	P	P	07 35 53.5	+0.1
	1.2nm,0.4s,baz=95,slow=8.6,SNR=6.8						

NIED ***28*** *08:05:00,46.˚40N×153.˚50E, h98km, Mw5.1 Best double couple: M0=4.89000×10^16 NP1:φs=265.00000°, δ85.00000°, λ-105.00000°. NP2:φs155.00000°, δ15.00000°, λ-21.00000°.*
ISCJB ***28*** *08:05:39.3±0.4,47.˚64N±0.˚03×153.˚20E±0.˚02, h101km±3km, mb5.1/244, Error ellipse: s-maj=4.3km s-min=2.0km az=165.7*
MOS ***28*** *08:05:39.5±1.2,47.˚71N×153.˚08E, h100km, mb5.1/85, Error ellipse: s-maj=6.2km s-min=4.1km az=96.4*
BJI ***28*** *08:05:40.7,47.˚79N×153.˚16E, h123km, mB5.1/35, mb5.2/52*
SKHL ***28*** *08:05:41.4±0.7,47.˚70N×153.˚53E, h121km±8km, mb6.3/4, mbh6.3/2, Ms4.4/4, msh5.8/5*
SKHL Felt (II-III) at Yushno-Kurilsk.
NEIC ***28*** *08:05:43.7±0.1,47.˚74N×153.˚09E, mb5.1/109, Error ellipse: s-maj=4.9km s-min=2.4km az=161.0*
GCMT ***28*** *08:05:43.5±0.2,47.˚60N×153.˚51E, h114km±2km, MW5.1, Moment Tensor Solution. s68,c91; s99,c177; Moment tensor: Scale 10^16Nm; Mrr-1.98±.15; Mθφ1.30±.17; Mφφ0.68±.17; Mrθ2.99±.11; Mrφ-2.60±.15; Mθφ4.60±.09; Best double couple: M0.5.70000×10^16 NP1:φs188.00000°, δ82.00000°, λ-62.00000°. NP2:φs294.00000°, δ29.00000°, λ-163.00000°. Principal axes: T 4.2000, Plg31.0000°, Azm256.0000°; N 3.0600, Plg28.0000°, Azm4.0000°; P -7.2700, Plg46.0000°, Azm127.0000°; Data Used: II IU IC G CN CU. Surface waves from 104 sta.*
IDC ***28*** *08:05:43.0±0.5,47.˚76N×153.˚08E, h119km±4km, mb4.5/30, mb1 4.6/35, mb1mx4.6/37, mbtmp4.5/35, MS3.9/18, Ms1 3.9/18, ms1mx3.7/34 Error ellipse: s-maj=12.0km s-min=8.3km az=151.0*
DJA ***28*** *08:05:44.2±6.5,48.˚1N±10.˚×15.˚3E±1.˚8, h120km±58km, M4.9/11, mb5.0/11, mB5.3/4, Mw(mB)4.8/4*
JMA ***28*** *08:05:45.2±0.6,46.˚41N×153.˚48E, h132km, M4.7*
SZGRF ***28*** *08:05:46.5,49.˚79N×151.˚27E, h33km, mb5.4, MS4.1, Northwest of Kuril Islands, Russia*
BGS ***28*** *08:05:53.6±1.5,49.˚52N×151.˚45E, h122km, mb5.1*
ISC 28 08:05:42.9±0.3, 47.˚71N±0.˚04×153.˚12E±0.˚03, h121km±1km, h120km: pP-P, n1123, σ1§13/1224, mb5.1/244, 243C-189D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.57**	**32**	*e*P	Pn	08 06 32.0	-4.6
SKR				*e*S	Sn	08 07 11.6	-6.5
SKR				pmax	pmax		
	comp=N,650nm,0.4s						
SKR				pmax	pmax		
	comp=E,440nm,0.4s						
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				pmax	pmax		
	comp=N,5μm,2.0s						
SKR				pmax	pmax		
	comp=E,4μm,2.0s						
SKR				pmax	pmax		
	comp=Z,9μm,2.0s						
SKR				smax	smax		
	comp=N,3μm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.3s						
SKR				smax	smax		
	comp=N,3μm,2.0s						
SKR				MLR	MLR		
	comp=N,2μm,10.0s						
SKR				MLR	MLR		
	comp=Z,2μm,10.0s						
SKR				MLR	MLR		
	comp=E,3μm,12.0s						
SKR	**Severo-Kuril's**	**3.57**	**32**	*e*P	Pn	08 06 33.0	-3.6
SKR				AMB	AMB	08 06 35.0	
	comp=E,5μm,2.0s						
SKR				AMB	AMB	08 06 35.0	
	comp=E,4μm,2.0s						
SKR				AMB	AMB	08 06 35.0	
	comp=E,9μm,2.0s						
SKR				AMB	AMB	08 06 45.0	
	comp=E,650nm,0.4s						
SKR				AMB	AMB	08 06 45.0	
	comp=E,440nm,0.4s						
SKR				AMB	AMB	08 06 45.0	
	comp=E,2μm,0.4s						
SKR				*e*S	Sn	08 07 11.6	-6.5
SKR				A	A	08 07 14.0	
	comp=E,2μm,0.3s						
SKR				A	A	08 07 14.0	
	comp=E,3μm,0.3s						
SKR				A	A	08 07 15.0	
	comp=E,3μm,2.0s						
SKR				AMS	AMS	08 08 38.0	
	comp=E,2μm,10.0s						
SKR				AMS	AMS	08 08 38.0	
	comp=E,3μm,10.0s						
SKR				AMS	AMS	08 08 38.0	
	comp=E,2μm,10.0s						
KUR	**Kuril'sk**	**4.39**	**238** ⇑ *i*	PN	**Pn**	**08 06 48.7**	**+1.1**
KUR				pmax	pmax		
	comp=Z,8μm,1.8s						
KUR				pmax	pmax		
	comp=N,6μm,3.0s						
KUR				pmax	pmax		
	comp=E,8μm,3.0s						
KUR				pmax	pmax		
	comp=N,300nm,0.5s						
KUR				pmax	pmax		
	comp=Z,990nm,0.5s						
KUR				pmax	pmax		
	comp=E,270nm,0.6s						
KUR	**Kuril'sk**	**4.39**	**238**	*e*P	**Pn**	**08 06 48.7**	**+1.1**
KUR				AMB	AMB	08 06 49.8	
	comp=E,6μm,1.8s						
KUR				AMB	AMB	08 06 49.8	
	comp=E,8μm,1.8s						
KUR				AMB	AMB	08 06 49.8	
	comp=E,8μm,1.8s						
KUR				AMB	AMB	08 06 50.5	
	comp=E,300nm,0.5s						
KUR				AMB	AMB	08 06 50.5	
	comp=E,270nm,0.5s						
KUR				AMB	AMB	08 06 50.5	
	comp=E,990nm,0.5s						
KUR				*e*S	**Sn**	**08 07 40.0**	**+2.1**
KUR				A	A	08 07 43.0	
	comp=E,1μm,0.5s						
KUR				A	A	08 07 43.0	
	comp=E,2μm,0.5s						
KUR				A	A	08 07 44.0	
	comp=E,18μm,2.2s						
KUR				A	A	08 07 44.0	
	comp=E,11μm,2.2s						
SHO	**Shikotan**	**5.84**	**231**	*e*P	**Pn**	**08 07 04.2**	**-2.8**
SHO				AMB	AMB	08 07 08.6	
	comp=E,328nm,0.3s						
SHO				*e*S	Sn	08 08 06.0	-6.7
SHO				A	A	08 08 13.2	
	comp=E,117nm,0.5s						
RUS	**Russkaya**	**5.87**	**34**	*e*P	Pn	08 07 16.7	+9.3
PEA0B	**Petropavlovsk-**	**6.15**	**27**	*e*Pn	**Pn**	**08 07 10.0**	**-1.2**
PEA0B				*e*Sn	**Sn**	**08 08 19.9**	**-0.2**
PETK	**Petropavlovsk-**	**6.15**	**27**	PN	**Pn**	**08 07 10.0**	**-1.2**
PETK				pmax	pmax		
	comp=Z,15nm,0.3s						
PETK	**Petropavlovsk-**	**6.15**	**27**	P	**Pn**	**08 07 10.0**	**-1.2**
PETK	**Petropavlovsk-**	**6.15**	**27**	P	**Pn**	**08 07 10.0**	**-1.2**
	comp=Z,15nm,0.3s,baz=184,slow=13,SNR=135						
YUK	**Yuzh-Kuril'sk**	**6.26**	**237**	*d* iPN	**Pn**	**08 07 12.0**	**-0.7**
YUK				*i* S	**Sn**	**08 08 23.0**	**+0.1**
YUK				pmax	pmax		
	comp=N,218nm,0.3s						
YUK				pmax	pmax		
	comp=E,313nm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,2.1s						
YUK				smax	smax		
	comp=N,3μm,2.9s						
YUK				smax	smax		
	comp=E,3μm,2.9s						
YUK				MLR	MLR		
	comp=N,3μm,14.0s						
YUK				MLR	MLR		
	comp=E,2μm,14.0s						
YUK				MLR	MLR		
	comp=Z,2μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**6.26**	**237**	*e*P	**Pn**	**08 07 12.0**	**-0.7**
YUK				AMB	AMB	08 07 12.9	
	comp=Z,218nm,0.3s						
YUK				AMB	AMB	08 07 12.9	
	comp=Z,313nm,0.3s						
YUK				AMB	AMB	08 07 12.9	
	comp=Z,3μm,0.3s						
YUK				AMB	AMB	08 07 17.8	
	comp=Z,3μm,2.1s						
YUK				*e*rx	rx	08 08 08.2	
YUK				A	A	08 08 33.5	
	comp=Z,3μm,2.9s						
YUK				A	A	08 08 33.5	
	comp=Z,3μm,2.9s						
YUK				AMS	AMS	08 09 50.2	
	comp=Z,3μm,14.0s						
YUK				AMS	AMS	08 09 50.2	
	comp=Z,2μm,14.0s						
YUK				AMS	AMS	08 09 50.2	
	comp=Z,2μm,14.0s						
PET	**Petropavlovsk**	**6.39**	**32** *c*	*i* PN	**Pn**	**08 07 11.8**	**-2.6**
PET				*e*S	**Sn**	**08 08 20.8**	**-5.1**
PET				pmax	pmax		
	comp=Z,600nm,4.0s						
PET				pmax	pmax		
	comp=Z,131nm,0.7s						
PET				smax	smax		
	comp=N,316nm,0.5s						
PET				smax	smax		
	comp=E,402nm,0.6s						
PET				MLR	MLR		
	comp=Z,1μm,20.0s						
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET	**Petropavlovsk**	**6.39**	**32**	*e*P	**Pn**	**08 07 13.1**	**-1.3**
PET				AMB	AMB	08 07 28.3	
	comp=Z,102nm,0.7s						
PET				*e*S	**Sn**	**08 08 21.5**	**-4.4**
PET				A	A	08 08 27.8	
	comp=Z,354nm,0.6s						
PET				A	A	08 08 27.8	
	comp=Z,416nm,0.6s						
PET	**Petropavlovsk**	**6.39**	**32**	*e*Pn	**Pn**	**08 07 12.8**	**-1.6**
PET				*e*Sn	Sn	08 08 18.4	-7.5
JRA	**Rausu**	**6.74**	**239**	P	**Pn**	**08 07 18.7**	**-0.5**
NEM2	**Nemuro 2**	**6.76**	**233**	P	Pn	08 07 16.3	-3.2
NEM2				*e*S	Sn	08 08 27.3	-7.7
YSS	**Yuzh-Sakhalins**	**7.09**	**268** α *i*	PN	**Pn**	**08 07 26.6**	**+2.7**
YSS				*e*S	**Sn**	**08 08 47.6**	**+4.7**
YSS				pmax	pmax		
	comp=N,140nm,1.2s						
YSS				pmax	pmax		
	comp=E,340nm,1.2s						
YSS				pmax	pmax		
	comp=Z,270nm,1.2s						
YSS				smax	smax		
	comp=N,1μm,5.0s						
YSS				smax	smax		

YSS comp=E,560nm,1.5s MLR MLR
YSS comp=N,1µm,15.0s MLR MLR
YSS comp=E,1µm,15.0s MLR MLR
YSS comp=Z,1µm,15.0s
YSS Yuzh-Sakhalins 7.09 268 *e*P **Pn 08 07 26.6 +2.7**
YSS AMB AMB 08 07 28.0
YSS comp=Z,140nm,1.2s AMB AMB 08 07 28.0
YSS comp=Z,340nm,1.2s AMB AMB 08 07 28.0
YSS comp=Z,270nm,1.2s
YSS *e*S **Sn 08 08 47.6 +4.7**
YSS A A 08 08 55.0
YSS comp=Z,1µm,5.0s A A 08 08 56.0
YSS comp=Z,1µm,1.5s A A 08 08 56.0
YSS comp=Z,560nm,1.5s
YSS AMS AMS 08 10 16.0
YSS comp=Z,1µm,15.0s AMS AMS 08 10 16.0
YSS comp=Z,1µm,15.0s
YSS Yuzh-Sakhalins 7.09 268 *e*Pn **Pn 08 07 27.0 +3.1**
YSS *e*Sn Sn 08 08 32.4 -10
JNK Nakash 7.19 238 P **Pn 08 07 24.0 -1.3**
JTKR Abashiri--Toko 7.44 243 P **Pn 08 07 28.7 0.0**
UGL Uglegorsk 7.49 285 *e*PN Pn 08 07 33.0 +3.7
UGL pmax pmax
UGL comp=Z,1µm,2.0s pmax pmax
UGL comp=Z,690nm,1.3s MLR MLR
UGL comp=N,1µm,16.0s MLR MLR
UGL comp=E,1µm,16.0s MLR MLR
UGL comp=Z,500nm,16.0s
UGL Uglegorsk 7.49 285 *e*P Pn 08 07 33.0 +3.7
UGL AMB AMB 08 07 34.0
UGL comp=Z,1µm,2.0s AMB AMB 08 07 38.0
UGL comp=Z,690nm,1.3s
UGL *e*rx rx 08 09 02.5
UGL A A 08 09 22.0
UGL comp=Z,2µm,6.0s A A 08 09 22.0
UGL comp=Z,2µm,6.0s A A 08 09 22.0
UGL comp=Z,2µm,6.0s
UGL AMS AMS 08 11 02.0
UGL comp=Z,1µm,16.0s AMS AMS 08 11 02.0
UGL comp=Z,500nm,16.0s
JAK Akkeshi 7.58 235 P **Pn 08 07 27.4 -3.1**
JAK *e*S Sn 08 08 48.2 -6.5
JMP Maruseppu 7.75 245 P **Pn 08 07 33.3 +0.3**
JAR Ashorobuto 7.91 240 P **Pn 08 07 34.1 -1.0**
JWK2 Keihoku 8.10 257 P Pn 08 07 41.4 +3.8
JOB Onbets 8.12 237 P **Pn 08 07 35.7 -2.1**
JOB *e*S Sn 08 09 01.5 -6.4
ASAJ Asahikawa 8.17 248 P **Pn 08 07 40.2 +1.6**
ASAJ Asahikawa 8.17 248 *e*Pn **Pn 08 07 39.8 +1.2**
ASAJ *e*Sn **Sn 08 09 10.9 +1.7**
ASAJ Asahikawa 8.17 248 P **Pn 08 07 40.3 +1.8**
comp=Z,25nm,0.3s,baz=78,slow=13,SNR=97
ASAJ LR LR 08 10 52.1
comp=Z,398nm,21.0s,baz=48,slow=38
HRK Horoka 8.19 242 *e*P **Pn 08 07 38.6 -0.3**
JKK2 Kamakawa 2 8.20 246 P **Pn 08 07 39.4 +0.4**
JSS Shosan 8.51 251 P Pn 08 07 46.4 +3.3
JCH Churui 8.57 237 P **Pn 08 07 41.1 -2.9**
JCH *e*S Sn 08 09 10.0 -8.9
JFR Furan 8.68 242 P **Pn 08 07 45.1 -0.4**
JAB Ashibetsu 8.72 245 P **Pn 08 07 46.9 +0.9**
OKH Okha 8.72 316 ⇑ *i*PN **Pn 08 07 48.0 +2.1**
OKH pmax pmax
comp=Z,2µm,4.0s
OKH Okha 8.72 316 *e*P **Pn 08 07 48.0 +2.1**
OKH AMB AMB 08 07 49.8
comp=Z,2µm,4.0s
MYR Moyori 8.82 236 *e*P Pn 08 07 43.9 -3.5
JBT2 Biratori 2 9.05 241 P **Pn 08 07 48.3 -2.1**
JEM Erimo 9.08 235 P **Pn 08 07 48.0 -2.8**
ERM Erimo 9.08 235 *i* PN **Pn 08 07 48.4 -2.4**
ERM Erimo 9.08 235 *e*P **Pn 08 07 48.4 -2.4**
ERM Erimo 9.08 235 *e*Pn **Pn 08 07 48.4 -2.4**
ERM Erimo 9.08 235 Pn **Pn 08 07 48.4 -2.4**
comp=Z,1µm,0.4s,SNR=27
JNBK Urakawa-nobuka 9.13 237 P Pn 08 07 47.3 -4.2
JNB Noboribetsu 10.02 243 P **Pn 08 08 01.7 -1.8**
JNB *e*S Sn 08 09 47.8 -6.2
JKB Kayabe 10.37 240 P Pn 08 08 04.2 -4.0
JKB *e*S Sn 08 09 52.7 -10
JSH Shimam 10.53 246 P **Pn 08 08 09.1 -1.2**
JYM2 Yakumo 2 10.63 243 P **Pn 08 08 08.9 -2.8**
JTM Tenmabayashi 11.06 236 P Pn 08 08 12.0 -5.6
JTM *e*S Sn 08 10 06.0 -13
JANG Nango 11.11 233 P Pn 08 08 11.8 -6.3
JANG *e*S Sn 08 10 06.6 -14
JOSM Okushiri--Mats 11.19 245 P **Pn 08 08 16.7 -2.5**
OFUJ Ofunato 11.98 228 *e*S Sn 08 10 28.8 -13
HABR Khabarovsk 12.11 280 *ce*PN **Pn 08 08 30.9 -0.4**
HABR *e*S **Sn 08 10 44.3 -0.2**
HABR pmax pmax
comp=E,55nm,2.4s
HABR pmax pmax
comp=Z,36nm,2.4s
HABR pmax pmax
comp=N,36nm,2.4s
HABR MLR MLR
comp=Z,897nm,18.0s
JRG Rokugo 12.28 232 P Pn 08 08 28.3 -5.3
JIO Ouri 12.62 227 P Pn 08 08 32.0 -6.0
JIO *e*S Sn 08 10 43.8 -13
FX1 Attu Island--F 13.80 61 *e*Pn **Pn 08 08 52.6 -0.7**
FX1 S Sn 08 11 13.9 -11
FX1 Attu Island--F 13.80 61 P **Pn 08 08 52.5 -0.7**
comp=Z,13nm,0.3s,baz=326,slow=3.2,SNR=81
FX1 S Sn 08 11 13.9 -11
comp=Z,57nm,0.3s,baz=158,slow=20,SNR=19
KLR Kul'dur 14.26 284 *e*P **Pn 08 08 57.8 -1.3**
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,160nm,1.8s
KLR pmax pmax
comp=E,600nm,10.5s
KLR pmax pmax
comp=Z,1µm,10.5s
KLR MLR MLR
comp=Z,2µm,11.0s
SMY Shemya 14.32 62 *e*P **Pn 08 09 00.1 +0.3**
SMY Shemya 14.32 62 *e*Pn **Pn 08 09 00.1 +0.3**
USRK Ussuriysk Arra 15.10 264 P **Pn 08 09 09.4 -0.4**
comp=Z,4.4nm,0.3s,baz=68,slow=13,SNR=57
SEY Seymchan 15.27 359 P **Pn 08 09 10.6 -1.0**
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 15.27 359 *e*P **Pn 08 09 11.6 -0.1**
SEY Seymchan 15.27 359 P **Pn 08 09 10.6 -1.0**
SEY Seymchan 15.27 359 P **Pn 08 09 10.6 -1.0**
comp=Z,0.8nm,0.3s,baz=158,slow=9.9,SNR=24
VLA Vladivostok 15.59 261 ⇓ *e*P **Pn 08 09 13.8 -2.0**
VLA *e*S **Sn 08 12 03.4 -5.1**
MAJO Matsushiro 15.68 230 *i* P **Pn 08 09 14.4 -2.7**
MAJO Matsushiro 15.68 230 *e*Pn **Pn 08 09 15.0 -2.1**
comp=Z,298nm,1.8s
MAJO *e*Sn **Sn 08 12 10.2 -0.7**
MAT Matsushiro 15.68 230 P **Pn 08 09 14.0 -3.1**
MAT S **Sn 08 12 09.4 -1.5**
MJAR Matsushiro Arr 15.68 230 P **Pn 08 09 13.9 -3.1**
MJAR Matsushiro Arr 15.68 230 P **Pn 08 09 13.9 -3.1**
comp=Z,1.6nm,0.3s,baz=27,slow=13,SNR=25
MJAR LR LR 08 15 23.3
comp=Z,93nm,19.2s,baz=55,slow=37
MDJ Mudanjiang 16.58 268 P **Pn 08 09 27.0 -1.0**
MDJ sP **sP 08 10 04.5 -0.7**
MDJ S **Sn 08 12 29.8 -2.4**
MDJ PcP **PcP 08 14 11.0 +0.1**
MDJ ScP **ScP 08 17 32.8 -1.4**
MDJ PcS **PcS 08 17 45.0 -1.7**

MDJ comp=Z,43nm,0.8s pmax pmax
MDJ pmax pmax
MDJ comp=Z,170nm,4.4s LR LR
MDJ comp=Z,270nm,4.5s LR LR
MDJ comp=Z,250nm,4.5s LR LR
MDJ comp=Z,290nm,6.6s LR LR
MDJ Mudanjiang 16.58 268 *e*Pn **Pn 08 09 27.0 -1.0**
comp=Z,40nm,0.8s
CLNS Chul'man 19.41 309 *e*P **Pn 08 10 01.7 -0.1**
CLNS pmax pmax
comp=E,30nm,1.2s
CLNS pmax pmax
comp=N,34nm,1.0s
CLNS pmax pmax
comp=Z,46nm,1.0s
YAK Yakutsk 19.52 326 *e*P **P 08 10 00.2 -0.3**
YAK *e*S **S 08 13 32.5 -1.7**
YAK pmax pmax
comp=Z,64nm,1.1s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,28nm,1.3s
YAK smax smax
comp=N,133nm,2.7s
YAK smax smax
comp=E,204nm,3.0s
YAK Yakutsk 19.52 326 *e*P **P 08 10 00.0 -0.5**
YAK Yakutsk 19.52 326 *e*P **P 08 10 00.1 -0.3**
comp=E,82nm,1.0s
CN2 Changchun 19.66 269 *e*P **P 08 10 00.3 -1.8**
CN2 *ep*P **pP 08 10 22.3 -1.7**
CN2 *e*S S 08 13 27.0 -10
CN2 pmax pmax
comp=E,50nm,0.6s
CN2 pmax pmax
comp=E,200nm,4.0s
KSRS Korea Array 21.11 250 P **P 08 10 18.8 +1.1**
comp=E,74nm,0.8s,baz=54,slow=10,SNR=178
KSAR Wonju Array Be 21.14 250 P **P 08 10 18.8 +0.7**
SNY Shenyang 21.70 265 ⇑ P **P 08 10 22.8 -1.2**
SNY pP **pP 08 10 47.8 +1.4**
SNY sP **sP 08 11 01.5 0.0**
SNY pmax pmax
comp=E,63nm,0.6s
SNY pmax pmax
comp=E,190nm,6.7s
SNY LR LR
comp=E,730nm,18.8s
SNY LR LR
comp=E,470nm,14.3s
INCN Inchon 21.91 252 *e*P **P 08 10 27.1 +0.8**
comp=E,164nm,1.1s
HIA Hailar 22.08 287 *e*P **P 08 10 26.7 -1.3**
comp=E,12nm,0.6s
TJN Taejon 22.12 249 ⇓ *e*P **P 08 10 29.6 +1.1**
JNU Nakatsue 22.23 237 *e*P **P 08 10 31.0 +1.3**
comp=E,22nm,0.9s
JNU Nakatsue 22.23 237 P **P 08 10 30.9 +1.3**
comp=E,28nm,0.6s,baz=59,slow=5.7,SNR=12
GAMB Gambell 25.05 37 *e*P **P 08 10 55.7 +0.3**
comp=E,105nm,1.4s
TIXI Tiksi 26.55 343 ⇓ *i*P **P 08 11 07.5 -1.4**
TIXI pmax pmax
comp=Z,30nm,2.5s
TIXI Tiksi 26.55 343 *e*P **P 08 11 07.7 -1.3**
comp=Z,45nm,1.4s
TIXI *ep*P **pP 08 11 34.0 -0.9**
TNA Tin City 27.24 35 *e*P **P 08 11 16.1 +1.0**
comp=Z,29nm,0.9s
BJI Beijing 27.51 268 P **P 08 11 18.5 +0.7**
BJI S **S 08 15 49.8 +0.1**
BJI sS **sS 08 16 34.3 -1.1**
BJI pmax pmax
comp=Z,20nm,2.3s
BJI pmax pmax
comp=Z,170nm,4.0s
BJI LR LR
comp=Z,630nm,20.9s
BJI LR LR
comp=Z,400nm,17.8s
BJI LR LR
comp=Z,210nm,33.6s
H11N2 WAKE ISLAND Hy 30.07 153 T T 08 43 54.9
baz=344,slow=76,SNR=7113
H11N1 WAKE ISLAND Hy 30.08 153 T T 08 43 57.9
baz=344,slow=76,SNR=6648
H11N3 WAKE ISLAND Hy 30.09 153 T T 08 43 39.6
baz=344,slow=76,SNR=3770
HHC Hu-ho-hao-te 30.25 272 *e*P **P 08 11 42.3 +0.1**
HHC pP **pP 08 12 09.5 +1.0**
HHC sP **sP 08 12 24.8 +2.4**
HHC S **S 08 16 29.8 -3.1**
HHC sS **sS 08 17 17.5 -1.3**
HHC SS **SnSn 08 18 20.5 -0.2**
HHC pmax pmax
comp=Z,88nm,0.9s
HHC pmax pmax
comp=Z,270nm,5.4s
HHC LR LR
comp=Z,620nm,11.1s
HHC LR LR
comp=Z,440nm,11.1s
HHC LR LR
comp=Z,450nm,11.2s
NJ2 Nanjing 30.30 251 *e*P **P 08 11 42.0 -0.6**
NJ2 pP **pP 08 12 07.5 -1.3**
NJ2 sP **sP 08 12 22.8 +0.1**
NJ2 S **S 08 16 33.5 -0.1**
NJ2 sS **sS 08 17 20.0 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,290nm,6.0s
NJ2 LR LR
comp=Z,3µm,21.2s
NJ2 LR LR
comp=Z,5µm,27.2s
NJ2 LR LR
comp=Z,140nm,21.8s
ULN Ulaanbaatar 30.60 288 *e*P **P 08 11 44.6 -0.7**
ULN Ulaanbaatar 30.60 288 *e*P **P 08 11 44.4 -0.9**
comp=Z,13nm,0.6s
SONM Songino Array 31.03 288 P **P 08 11 47.9 -1.2**
SONM ScP **ScP 08 18 13.0 -0.3**
SONM Songino Array 31.03 288 P **P 08 11 47.9 -1.2**
comp=Z,9.7nm,0.6s,baz=59,slow=9.3,SNR=94
SONM ScP **ScP 08 18 13.0 -0.3**
comp=Z,0.8nm,0.7s,baz=94,slow=1.9,SNR=3.8
SONM LR LR 08 24 49.6
comp=Z,235nm,19.4s,baz=99,slow=37
H11S1 WAKE ISLAND Hy 31.17 155 T T 08 46 03.0
SNR=4712
H11S3 WAKE ISLAND Hy 31.18 155 T T 08 45 14.5
baz=344,slow=75,SNR=3626
H11S2 WAKE ISLAND Hy 31.18 155 T T 08 45 18.1
baz=227,slow=75,SNR=4125
TLY Talaya 31.75 296 *e*P **P 08 11 55.2 -0.1**
TLY *e*SS SS 08 19 27.7 +11
TLY pmax pmax
comp=Z,12nm,0.6s
TLY MLR MLR
comp=Z,217nm,13.0s
TLY Talaya 31.75 296 *e*P **P 08 11 55.8 +0.5**
TLY Talaya 31.75 296 *e*P **P 08 11 55.5 +0.2**
comp=Z,14nm,0.7s
IM04 Indian Mountai 32.98 37 *e*P **P 08 12 06.5 +0.8**
MOY Mondy 33.36 297 *e*P **P 08 12 09.1 -0.3**
PPLA Purkeypile 33.45 43 *e*P **P 08 12 11.4 +1.3**
comp=Z,48nm,1.4s
CAST Castle Rocks 33.51 42 *e*P **P 08 12 11.8 +1.3**
comp=Z,11nm,0.9s
KTH Kantishna Hill 34.03 42 *e*P **P 08 12 16.0 +1.0**
comp=Z,182nm,0.9s
WHN Wuhan 34.19 254 P **P 08 12 17.0 +0.4**
TRF Thorofare Moun 34.32 42 *e*P **P 08 12 18.0 +0.4**
comp=Z,13nm,0.8s
COLD Coldfoot 34.54 35 *e*P **P 08 12 20.2 +0.9**
comp=Z,24nm,0.7s
MCK McKinley 34.92 41 *e*P **P 08 12 23.0 +0.4**
MCK pmax pmax
comp=Z,21nm,0.8s

MCK McKinley 34.92 41 *e*P **P 08 12 23.0 +0.4**
comp=Z,21nm,0.8s
YULB Yu-li 35.08 237 *e*P P 08 12 19.1 -5.2
comp=Z,26nm,0.4s
COLA College 35.39 39 *d i*P **P 08 12 27.3 +0.8**
COLA College 35.39 39 *e*P **P 08 12 27.3 +0.8**
COLA College 35.39 39 *e*P **P 08 12 27.2 +0.8**
comp=Z,13nm,0.8s
QZH Quanzhou 35.47 242 ⇓ *i*P **P 08 12 25.5 -2.2**
QZH pmax pmax
comp=Z,120nm,0.8s
XAN Xi'an 35.61 264 P P **08 12 29.0 +0.1**
XAN pP **pP 08 12 53.5 -2.1**
XAN sP **sP 08 13 06.8 -2.6**
XAN pmax pmax
comp=Z,14nm,0.7s
XAN pmax pmax
comp=Z,30nm,7.0s
TWG Pinlang 35.65 237 *e*P **P 08 12 29.2 0.0**
comp=Z,135nm,0.8s
ILAR Eielson Array 35.80 39 P P **08 12 29.9 -0.1**
ILAR Eielson Array 35.80 39 P P **08 12 29.9 -0.1**
comp=Z,10nm,0.9s,baz=261,slow=6.2,SNR=65
PAX Paxson 36.52 42 *e*P **P 08 12 37.6 +1.3**
PAX pmax pmax
comp=Z,11nm,1.0s
PAX Paxson 36.52 42 *e*P **P 08 12 37.6 +1.3**
comp=Z,10nm,1.0s
DIV Divide 36.57 45 *e*P **P 08 12 36.8 +0.1**
comp=Z,47nm,1.6s
DOT Dot Lake 37.09 41 *e*P **P 08 12 41.0 -0.1**
comp=Z,14nm,0.9s
DOT *ep*P pP 08 12 59.2 -8.7
BMRM Bremner River 37.15 46 *e*P **P 08 12 42.5 +0.9**
comp=Z,24nm,1.2s
MENT Mentasta 37.32 42 *e*P **P 08 12 44.1 +1.1**
ENH Enshi 37.55 258 *e*P **P 08 12 45.3 -0.1**
comp=Z,27nm,0.6s
LZH Lanzhou 37.87 271 *e*P **P 08 12 49.3 +1.1**
LZH pP **pP 08 13 16.0 +1.0**
LZH sP **sP 08 13 32.3 +3.5**
LZH PP **PnPn 08 14 21.5 +1.9**
LZH *e*S **S 08 18 29.0 -1.6**
LZH sS **sS 08 19 15.0 -2.3**
LZH pmax pmax
comp=Z,97nm,1.2s
LZH pmax pmax
comp=Z,380nm,5.1s
LZH LR LR
comp=Z,1µm,16.0s
LZH LR LR
comp=Z,1µm,14.4s
LZH LR LR
comp=Z,2µm,19.8s
HVS Khovu-Aksy 37.89 298 *d i*P **P 08 12 48.3 +0.3**
EGAK Eagle 38.25 39 *e*P **P 08 12 50.9 +0.1**
comp=Z,28nm,0.8s
EGAK *ep*P **pP 08 13 19.1 +1.5**
GTA Gaotai 38.84 278 *e*P **P 08 12 56.5 +0.4**
GTA pP **pP 08 13 25.0 +1.9**
GTA sP **sP 08 13 39.3 +2.5**
GTA PcP **PcP 08 15 06.5 +1.7**
GTA S **S 08 18 45.0 +0.1**
GTA sS **sS 08 19 33.8 +2.0**
GTA SS **SS 08 21 33.8 -6.8**
GTA pmax pmax
comp=Z,17nm,1.3s
GTA pmax pmax
comp=Z,64nm,8.3s
GTA LR LR
comp=Z,140nm,14.0s
GTA LR LR
comp=Z,170nm,12.1s
GTA LR LR
comp=Z,230nm,15.4s
DAWY Dawson 39.10 40 *e*P **P 08 12 58.5 +0.6**
HYT Haines Junctio 40.59 45 *e*P **P 08 13 12.1 +1.7**
INK Inuvik 40.84 33 *e*P **P 08 13 13.5 +1.3**
comp=Z,12nm,0.6s
CD2 Chengdu 40.98 264 P **P 08 13 14.3 +0.5**
CD2 pP **pP 08 13 41.8 +0.8**
CD2 sP **sP 08 13 55.8 +1.1**
CD2 PP **PnPn 08 14 53.5 -2.4**
CD2 PcP **PcP 08 15 13.5 +1.8**
CD2 S **S 08 19 16.0 -0.8**
CD2 sS **sS 08 20 03.8 -0.2**
CD2 SS **SS 08 22 17.0 -6.2**
CD2 ScS **ScS 08 23 04.3 -1.4**
CD2 pmax pmax
comp=Z,210nm,0.8s
CD2 pmax pmax
comp=Z,210nm,7.2s
CD2 LR LR
comp=Z,270nm,20.2s
CD2 LR LR
comp=Z,230nm,23.8s
GYA Guiyang 41.94 256 ⇑ *i*P **P 08 13 22.0 +0.2**
GYA pP **pP 08 13 50.5 +1.4**
GYA sP **sP 08 14 03.8 +1.1**
GYA PP **PP 08 15 03.0 +2.0**
GYA PcP **PcP 08 15 16.5 +1.5**
GYA ScP **ScP 08 18 54.3 +0.4**
GYA PcS **PcS 08 19 06.8 -0.2**
GYA S **S 08 19 30.0 -1.2**
GYA sS **sS 08 20 18.8 +0.3**
GYA ScS **ScS 08 23 10.5 -1.3**
GYA pmax pmax
comp=Z,60nm,0.7s
GYA pmax pmax
comp=Z,140nm,4.9s
ZAA0 Zalesovo Array 42.06 305 *e*P **P 08 13 21.3 -1.0**
ZALV Zalesovo Beam 42.06 305 *i* P **P 08 13 21.3 -1.0**
ZALV pmax pmax
comp=Z,39nm,0.6s
ZALV Zalesovo Beam 42.06 305 P **P 08 13 21.4 -1.0**
ZALV PcP **PcP 08 15 14.7 0.0**
ZALV Zalesovo Beam 42.06 305 P **P 08 13 21.4 -1.0**
comp=Z,39nm,0.6s,baz=66,slow=7.1,SNR=194
ZALV PcP **PcP 08 15 14.7 0.0**
comp=Z,2.4nm,0.3s,baz=65,slow=5.1,SNR=4.9
ZALV LR LR 08 32 53.4
comp=Z,180nm,18.2s,baz=70,slow=39
NVS Novosibirsk 42.62 307 ⇑ *i*P **P 08 13 24.9 -1.9**
NVS *i* 08 13 57.0
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=Z,35nm,0.7s
NVS pmax pmax
comp=E,21nm,0.5s
WMQ Urumqi 44.59 290 P **P 08 13 43.0 +0.2**
WMQ pP **pP 08 14 11.0 +0.6**
WMQ sP **sP 08 14 27.0 +3.0**
WMQ PP **PP 08 15 30.0 +1.0**
WMQ ScP **ScP 08 19 03.0 -1.4**
WMQ S **S 08 20 08.0 -1.5**
WMQ sS **sS 08 20 58.0 +0.8**
WMQ SS **ScS 08 23 22.0 -5.9**
WMQ pmax pmax
comp=E,14nm,1.0s
WMQ pmax pmax
comp=E,150nm,4.0s
WMQ LR LR
comp=E,450nm,16.0s
WMQ LR LR
comp=E,260nm,16.0s
WMQ LR LR
comp=E,340nm,16.0s
QIZ Qiongzhong 45.24 246 P **P 08 13 48.0 -0.1**
QIZ pP **pP 08 14 14.5 -1.3**
QIZ sP **sP 08 14 28.8 -0.5**
QIZ S **S 08 20 19.0 -0.1**
QIZ pmax pmax
comp=E,41nm,2.1s
KMI Kunming 45.43 259 P **P 08 13 50.5 +0.6**
KMI pP **pP 08 14 17.3 -0.2**
KMI sP **sP 08 14 30.8 -0.3**
KMI PP **PP 08 15 38.5 +0.1**
KMI S **S 08 20 20.0 -2.3**
KMI sS **sS 08 21 09.3 -0.8**
KMI pmax pmax
comp=E,36nm,1.3s
KMI pmax pmax
comp=E,160nm,3.1s

KMI LR LR
comp=E,250nm,17.8s
KMI LR LR
comp=E,230nm,17.8s
KMI LR LR
comp=E,200nm,41.9s
MK31 Makanchi Array 46.51 297 *i* P **P 08 13 57.1 -0.7**
MK31 pmax pmax
comp=Z,7.0nm,0.3s
MK31 Makanchi Array 46.51 297 *eP* **P 08 13 57.2 -0.7**
MK31 *ep*P **pP 08 14 24.9 -0.8**
MKAR Makanchi Array 46.51 297 P **P 08 13 57.2 -0.7**
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR MLR MLR
comp=Z,142nm,18.5s
MKAR Makanchi Array 46.51 297 P **P 08 13 57.2 -0.7**
MKAR ScP **ScP 08 19 11.8 -0.4**
MKAR Makanchi Array 46.51 297 P **P 08 13 57.2 -0.7**
comp=Z,17nm,0.7s,baz=68,slow=8.0,SNR=98
MKAR ScP **ScP 08 19 11.8 -0.4**
comp=Z,0.4nm,0.6s,baz=76,slow=6.1,SNR=3.4
MKAR LR LR 08 36 29.0
comp=Z,142nm,18.5s,baz=44,slow=40
KURK Kurchatov 46.84 303 P **P 08 14 00.4 +0.1**
KURK pmax pmax
comp=Z,44nm,0.8s
KURK Kurchatov 46.84 303 *eP* **P 08 13 59.5 -0.8**
KURK Kurchatov 46.84 303 *eP* **P 08 13 59.2 -1.1**
comp=Z,41nm,0.7s
KURK Kurchatov 46.84 303 P **P 08 13 59.7 -0.6**
comp=Z,639nm,0.9s,SNR=53
KURBB Kurchatov Arra 46.94 303 P **P 08 14 00.4 -0.6**
comp=Z,44nm,0.8s,baz=69,slow=8.5,SNR=211
KIP Kipapa 47.02 106⇑ *eP* **P 08 14 03.2 +1.2**
KIP pmax pmax
comp=Z,123nm,2.5s
SLVN Son La 47.31 254 *eP* **P 08 14 05.4 +1.0**
RES Resolute Bay 49.93 19 *eP* **P 08 14 24.3 +0.7**
comp=Z,24nm,1.0s
RES Resolute Bay 49.93 19 P **P 08 14 24.4 +0.8**
comp=Z,23nm,1.0s,baz=320,slow=7.8,SNR=35
VOSK Vostochnaya 50.09 308 *i* P **P 08 14 24.2 -1.0**
VOSK pmax pmax
comp=Z,30nm,0.5s
YKW3 Yellowknife Ar 50.12 37 *eP* **P 08 14 25.2 0.0**
comp=Z,0.3nm,1.0s
YKA Yellowknife Ar 50.16 37 P **P 08 14 26.2 +0.7**
YKA Yellowknife Ar 50.16 37 P **P 08 14 26.2 +0.7**
comp=Z,7.5nm,0.8s,baz=298,slow=7.4,SNR=84
LSA Lhasa 50.23 272 *eP* P 08 14 21.0 -6.1
LSA Lhasa 50.23 272 *eP* **P 08 14 28.8 +1.7**
LSA pmax pmax
comp=Z,56nm,0.6s
LSA Lhasa 50.23 272 *eP* **P 08 14 28.8 +1.7**
comp=Z,56nm,0.6s
BVA0 Borovoye Array 50.26 309 *i* P **P 08 14 25.8 -0.6**
BVA0 pmax pmax
comp=Z,17nm,0.5s
BRVK Borovoye 50.30 309 P **P 08 14 26.3 -0.4**
comp=Z,398nm,0.5s,SNR=20
BRVK Borovoye 50.30 309*c i*P **P 08 14 26.1 -0.6**
BRVK pmax pmax
comp=Z,29nm,0.6s
BRVK Borovoye 50.30 309 *eP* **P 08 14 26.2 -0.4**
comp=Z,32nm,0.6s
LAMP Lampang 52.11 255 P **P 08 14 41.9 +1.2**
comp=Z,13nm,0.9s,comp=Z,107nm
CHTO Chiang Mai 52.35 256 *eP* **P 08 14 43.6 +1.1**
CHTO Chiang Mai 52.35 256 *eP* **P 08 14 43.6 +1.1**
CHTO Chiang Mai 52.35 256 P **P 08 14 43.5 +1.1**
comp=Z,251nm,0.9s,comp=Z,2nm
SHL Shillong 52.41 268 *eP* **P 08 14 43.5 +0.5**
CHAI Chaiyaphum 52.51 251 P **P 08 14 44.4 +0.7**
comp=Z,23nm,0.7s,comp=Z,167nm
TKM2 Tokmak 2 52.59 295 *i* P **P 08 14 44.2 0.0**
TKM2 Tokmak 2 52.59 295 P **P 08 14 44.2 0.0**
SNR=7.3
TKM2 Tokmak 2 52.59 295 *eP* **P 08 14 44.2 0.0**
CM31 Chiang Mai Arr 52.61 256 *eP* **P 08 14 46.0 +1.7**
comp=Z,7.8nm,0.4s
CMAR Chiang Mai Arr 52.61 256 P **P 08 14 45.4 +1.0**
CMAR ScP **ScP 08 19 38.2 -0.4**
CMAR Chiang Mai Arr 52.61 256 P **P 08 14 45.4 +1.0**
comp=Z,17nm,0.7s,baz=31,slow=7.6,SNR=78
CMAR ScP **ScP 08 19 38.2 -0.4**
comp=Z,1.1nm,0.3s,baz=39,slow=5.8,SNR=7.2
CMAR LR LR 08 38 24.2
comp=Z,64nm,18.7s,baz=157,slow=37
PBKT Sadao Pong 52.67 252 P **P 08 14 45.7 +0.9**
comp=Z,37nm,0.6s,comp=Z,1µm
CHMS Chumysh 53.06 296 *i* P **P 08 14 47.4 0.0**
CHMS Chumysh 53.06 296 P **P 08 14 47.4 0.0**
SNR=6.1
USP Ospenovka 53.06 296 *i* P **P 08 14 47.6 +0.2**
USP Ospenovka 53.06 296 P **P 08 14 47.6 +0.2**
SNR=24
SVE Sverdlovsk 53.13 317 *eP* **P 08 14 47.7 0.0**
SVE pmax pmax
comp=Z,62nm,1.4s
KZA Kyzart 53.27 295 *i* P **P 08 14 50.2 +0.7**
KZA Kyzart 53.27 295 P **P 08 14 50.2 +0.7**
SNR=8.3
SOKR Solikamsk 53.34 321*d i*P **P 08 14 49.2 +0.1**
SOKR pmax pmax
comp=Z,40nm,1.3s
AAK Ala-Archa 53.42 296 P **P 08 14 50.0 -0.3**
comp=Z,111nm,0.8s,SNR=8.8
AAK Ala-Archa 53.42 296*c i*P **P 08 14 50.0 -0.3**
AAK pmax pmax
comp=Z,62nm,1.4s
AAK Ala-Archa 53.42 296 P **P 08 14 50.2 -0.1**
SNR=11
AAK Ala-Archa 53.42 296 *eP* **P 08 14 50.0 -0.3**
AAK Ala-Archa 53.42 296 *eP* **P 08 14 49.7 -0.5**
MHMT Maesarieng 53.47 256 P **P 08 14 52.2 +1.5**
comp=Z,23nm,0.9s
EKS2 Erkin-Say 53.84 296 *i* P **P 08 14 53.2 0.0**
EKS2 Erkin-Say 53.84 296 P **P 08 14 53.3 0.0**
SNR=10.0
EKS2 Erkin-Say 53.84 296 *eP* **P 08 14 53.2 0.0**
TAPN Taplejung 54.06 273 *eP* **P 08 14 56.0 +0.8**
comp=Z,125nm,0.7s
TAPN Taplejung 54.06 273 *eP* **P 08 14 56.0 +0.8**
comp=Z,125nm,0.7s
AML Almayashu 54.19 296 *i* P **P 08 14 56.5 +0.3**
AML Almayashu 54.19 296 P **P 08 14 56.5 +0.3**
SNR=5.5
MRSI Marisa 54.27 220 P **P 08 14 56.5 0.0**
KSH Kashi 54.30 292 P P 08 15 00.5 +3.9
KSH sP sP 08 15 44.0 +5.5
KSH PP PP 08 17 05.0 +5.6
KSH PcS **PcS 08 20 00.0 +1.1**
KSH S **S 08 22 29.0 +4.0**
KSH SS **SS 08 26 12.0 +3.8**
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH LR LR
comp=Z,170nm,7.4s
KSH LR LR
comp=Z,180nm,5.8s
KSH LR LR
comp=Z,170nm,7.2s
ARU Arti 54.31 317 P **P 08 14 55.7 -0.6**
comp=Z,503nm,0.6s,SNR=7.6
ARU Arti 54.31 317*c i*P **P 08 14 55.5 -0.8**
ARU 08 16 57.0
ARU S **S 08 22 26.8 +2.3**
ARU SS **SS 08 26 08.4 +1.0**
ARU pmax pmax
comp=Z,113nm,1.2s
ARU Arti 54.31 317 *eP* **P 08 14 55.7 -0.6**
ARU Arti 54.31 317 *eP* **P 08 14 55.6 -0.8**
comp=Z,154nm,1.3s
UTHA Uthaitani 54.40 253 P **P 08 14 58.9 +1.5**
comp=Z,7.5nm,0.8s,comp=Z,86nm
ODAN Odare 54.59 272 *eP* **P 08 14 59.7 +0.7**
comp=Z,53nm,0.6s
ODAN Odare 54.59 272 *eP* **P 08 14 59.7 +0.7**
comp=Z,53nm,0.6s
CHBT CHBT 54.67 248 P **P 08 15 00.8 +1.4**
comp=Z,57nm,0.8s,comp=Z,2µm
JIRN Jiri 54.88 274 *eP* **P 08 15 02.3 +1.0**
comp=Z,215nm,0.7s
JIRN Jiri 54.88 274 *eP* **P 08 15 02.3 +1.0**
comp=Z,215nm,0.7s

G03D McMinnville, O 54.92 59⇑ P **P 08 15 01.7 +0.9**
baz=55
GUN Gumba 54.93 274 *eP* **P 08 15 02.2 +0.6**
comp=Z,80nm,0.6s
GUN Gumba 54.93 274 *eP* **P 08 15 02.2 +0.6**
comp=Z,80nm,0.6s
RAMN Ramite 55.07 273 *eP* **P 08 15 03.1 +0.6**
comp=Z,369nm,0.7s
RAMN Ramite 55.07 273 *eP* **P 08 15 03.1 +0.6**
comp=Z,369nm,0.7s
LTY Liberty 55.23 56 *eP* **P 08 15 03.5 +0.4**
comp=Z,29nm,1.7s
B08A Colville Reser 55.34 54 *eP* **P 08 15 04.0 +0.2**
comp=Z,20nm,1.4s
KKN Kakani 55.41 275 *eP* **P 08 15 05.6 +0.7**
comp=Z,98nm,0.6s
KKN Kakani 55.41 275 *eP* **P 08 15 05.6 +0.7**
KKN Kakani 55.41 275 *eP* **P 08 15 05.6 +0.7**
comp=Z,98nm,0.6s
PKI Pulchoki 55.47 274 *eP* **P 08 15 06.0 +0.6**
comp=Z,72nm,0.7s
PKI Pulchoki 55.47 274 *eP* **P**
PKI pmax pmax
comp=Z,59nm,0.7s
PKI Pulchoki 55.47 274 *eP* **P 08 15 06.0 +0.6**
comp=Z,58nm,0.7s
PKIN Phulchoki 55.47 274 *eP* **P 08 15 06.0 +0.6**
comp=Z,58nm,0.7s
SRDT SRDT 55.50 252 P **P 08 15 07.1 +1.7**
comp=Z,100nm,0.8s
KHLT Khaolaem Dam 55.51 253 P **P 08 15 07.0 +1.6**
comp=Z,11nm,0.8s
KK31 Karatay Array 55.55 298 *i* P **P 08 15 04.7 -0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KKAR Karatay Array 55.55 298 *eP* **P 08 15 04.9 -0.5**
KKAR pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 55.55 298 *eP* **P 08 15 04.9 -0.5**
comp=Z,5.3nm,0.5s
DMN Daman 55.64 275 *eP* **P 08 15 07.7 +1.1**
comp=Z,229nm,0.8s
DMN Daman 55.64 275 *eP* **P 08 15 07.7 +1.1**
comp=Z,229nm,0.8s
EDM Edmonton 55.65 47 *eP* **P 08 15 06.6 +0.6**
EDM Edmonton 55.65 47 *eP* **P 08 15 06.6 +0.6**
GKN Gorkha 55.70 275 *eP* **P 08 15 07.7 +0.8**
comp=Z,142nm,0.7s
GKN Gorkha 55.70 275 *eP* **P 08 15 07.7 +0.8**
comp=Z,142nm,0.7s
I03D Drain, OR 55.74 61⇑ P **P 08 15 07.8 +1.0**
baz=56
LVZ Lovozero 55.89 336 P **P 08 15 06.7 -0.8**
LVZ pmax pmax
comp=Z,39nm,1.3s
DANN Dangsing 56.07 276 *eP* **P 08 15 10.7 +1.0**
comp=Z,163nm,0.5s
DANN Dangsing 56.07 276 *eP* **P 08 15 10.7 +1.0**
comp=Z,163nm,0.5s
E07A Sunnyside 56.09 56 *eP* **P 08 15 10.1 +0.9**
comp=Z,20nm,1.4s
C09A Chrisman Ranch 56.24 54 *eP* **P 08 15 10.4 +0.2**
comp=Z,70nm,2.2s
I04A Tendick Farm, 56.24 60⇓ P **P 08 15 11.2 +0.8**
baz=56
D08A Wollman Farm, 56.31 55 *eP* **P 08 15 11.2 +0.3**
comp=Z,76nm,2.5s
HAWA Hanford 56.36 56 *eP* **P 08 15 11.6 +0.5**
comp=Z,27nm,1.8s
KEV Kevo 56.44 340 *eP* **P 08 15 09.9 -1.4**
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 56.44 340 *ep* **P 08 15 09.9 -1.4**
comp=Z,6.5nm,0.7s
L02D Cave Junction, 56.50 62⇑ P **P 08 15 13.5 +1.3**
baz=56
I05D Terrebonne, OR 56.54 59⇓ P **P 08 15 13.6 +1.0**
baz=56
KOLN Koldanda 56.55 276 *eP* **P 08 15 13.9 +0.9**
comp=Z,190nm,0.9s
KOLN Koldanda 56.55 276 *eP* **P 08 15 13.9 +0.9**
comp=Z,190nm,0.9s
PRGR Permogore 56.57 327⇓ *i*P **P 08 15 10.8 -1.5**
PRGR *e*PP **pP 08 15 39.6 -1.4**
PRGR *e* 08 16 08.4
PRGR pmax pmax
comp=Z,17nm,0.6s
NEW Newport 56.59 53 *eP* **P 08 15 13.0 +0.2**
comp=Z,7.2nm,1.1s
NEW *ep*P **pP 08 15 42.2 +0.7**
NEW Newport 56.59 53⇓ P **P 08 15 12.8 0.0**
baz=56,SNR=5.8
J04D Umpqua Nationa 56.74 60⇑ P **P 08 15 14.9 +0.7**
baz=56
PYUN Piuthan 56.75 277 *eP* **P 08 15 15.2 +0.8**
comp=Z,87nm,0.5s
PYUN Piuthan 56.75 277 *eP* **P 08 15 15.2 +0.8**
comp=Z,87nm,0.5s
ARCES ARCESS Array B 56.95 341 P **P 08 15 14.5 -0.4**
ARCES ARCESS Array B 56.95 341 P **P 08 15 14.5 -0.4**
comp=Z,2.6nm,0.3s,baz=28,slow=7.4,SNR=77
ARCES LR LR 08 43 41.9
comp=Z,123nm,19.3s,baz=184,slow=40
ARE0 ARCESS Array S 56.95 341 *eP* **P 08 15 14.7 -0.3**
E09A Wood Farm, Sta 57.07 55 *eP* **P 08 15 16.9 +0.7**
comp=Z,18nm,1.3s
PMG Port Moresby 57.11 187 P **P 08 15 17.2 +0.6**
comp=Z,12nm,1.7s
PMG Port Moresby 57.11 187 *eP* **P 08 15 17.4 +0.8**
comp=Z,16nm,1.2s
PINOR Pine Mountain 57.13 59 *eP* **P 08 15 18.2 +1.6**
SBUM Sibu 57.23 231 P **P 08 15 19.3 +1.7**
comp=Z,12nm,0.8s
J05D Fort Rock, OR 57.23 60⇓ P **P 08 15 18.4 +0.9**
baz=57
YBH Yreka Blue Hor 57.29 62 P **P 08 15 19.4 +1.5**
YBH Yreka Blue Hor 57.29 62 P **P 08 15 19.4 +1.5**
comp=Z,4.4nm,0.6s,baz=17,slow=6.4,SNR=23
K04D Chiloquin, OR 57.32 61⇑ P **P 08 15 18.7 +0.6**
baz=57
G08A Pilot Rock 57.34 57 *eP* **P 08 15 19.0 +0.8**
comp=Z,15nm,1.5s
M02C Callahan 57.41 63⇓ P **P 08 15 19.4 +0.7**
baz=57
TMCR Tamitsa 57.49 332 *eP* **P 08 15 17.8 -1.0**
TMCR *e* 08 16 10.1
TMCR pmax pmax
comp=Z,31nm,1.1s
LGTI Lohaghat 57.71 280 *ex* P 08 15 25.1 +4.3
N02D Trinity Center 57.75 63⇑ P **P 08 15 22.0 +0.9**
baz=58
I07A Izee 57.75 58 *eP* **P 08 15 22.0 +0.8**
comp=Z,79nm,2.5s
K05A Summer Lake 57.77 60 *eP* **P 08 15 23.0 +1.7**
comp=Z,121nm,2.0s
M04C Macdoel 57.78 62⇓ P **P 08 15 22.2 +0.9**
baz=58
AB31 Akbulak array 57.82 309 *i* P **P 08 15 20.7 -0.6**
AB31 pmax pmax
comp=Z,27nm,0.6s
ABKAR Akbulak array 57.82 309 *eP* **P 08 15 20.8 -0.5**
comp=Z,15nm,0.5s
KTK1 Kautokeino 57.87 341 *eP* **P 08 15 22.2 +0.8**
WDC Whiskeytown Da 58.09 63 *eP* **P 08 15 24.4 +1.1**
WDC pmax pmax
comp=Z,32nm,1.7s
WDC Whiskeytown Da 58.09 63 *eP* **P 08 15 24.4 +1.1**
comp=Z,32nm,1.7s
BSMT Bassoo Peak 58.10 52 *eP* **P 08 15 24.3 +0.7**
BLMT Blacktail Moun 58.23 52 *eP* **P 08 15 25.7 +1.3**
TRO Tromso 58.27 343 *eP* **P 08 15 25.7 +1.6**
JTMT Jette 58.43 52 *eP* **P 08 15 26.5 +0.7**
MOD Modoc 58.61 61 *eP* **P 08 15 27.6 +0.4**
SWMT Swartz Lake 58.73 52 *eP* **P 08 15 28.7 +0.9**
J08A Circle Bar Ran 58.79 58 *eP* **P 08 15 29.4 +1.1**
comp=Z,151nm,2.9s
KSM Kuching 59.06 232 P **P 08 15 31.9 +1.5**
comp=Z,37nm,0.8s
KSM Kuching 59.06 232 *eP* **P 08 15 31.7 +1.4**
SLMT Seeley Lake 59.16 52 *eP* **P 08 15 31.4 +0.5**
SLMT *ep*P **pP 08 16 00.7 +0.9**
MSO Missoula 59.18 53 *eP* **P 08 15 31.8 +0.8**
comp=Z,62nm,1.8s
MSO *ep*P **pP 08 16 00.7 +0.8**
MSO Missoula 59.18 53⇓ P **P 08 15 31.4 +0.5**
baz=59,SNR=13
WVOR Wild Horse Val 59.26 59 *eP* **P 08 15 32.3 +0.7**

WVOR *e**SP **sP 08 16 13.2 -0.7**
WVOR pmax pmax
comp=Z,5.0nm,0.6s
WVOR Wild Horse Val 59.26 59 *eP* **P 08 15 32.3 +0.7**
comp=Z,4.9nm,0.6s
WVOR *ep*P **pP 08 16 02.4 +1.8**
WVOR *es*P **sP 08 16 13.2 -0.7**
OHCM Honcut 59.49 64 *eP* **P 08 15 33.2 +0.1**
CHMT Chamberlain Mo 59.49 53 *eP* **P 08 15 33.6 +0.4**
SUMG Summit 59.74 4 *eP* **P 08 15 35.5 +0.7**
SUMG Summit 59.74 4 *eP* **P 08 15 35.5 +0.7**
FFC Flin Flon 60.00 40 P **P 08 15 36.9 +0.6**
comp=Z,56nm,1.0s,SNR=5.2
FFC Flin Flon 60.00 40 *eP* **P 08 15 37.1 +0.8**
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 60.00 40 *eP* **P 08 15 37.1 +0.8**
comp=Z,7.1nm,0.8s
NDI New Delhi 60.22 281 *ex* **P 08 15 36.5 -1.7**
MFID Camas Ranch 60.26 57 *eP* **P 08 15 39.3 +0.9**
comp=Z,101nm,2.8s
HRY Holter Researc 60.38 52 *eP* **P 08 15 40.1 +0.9**
FCC Fort Churchill 60.46 34 *eP* **P 08 15 39.6 +0.3**
FCC *e**PP **pP 08 16 08.7 +0.3**
FCC *e**SP **sP 08 16 18.6 -3.0**
FCC Fort Churchill 60.46 34 *eP* **P 08 15 39.6 +0.3**
comp=Z,0.5nm,0.8s
FCC *ep*P **pP 08 16 08.7 +0.3**
FCC *es*P **sP 08 16 18.6 -3.0**
JOF Joensuu 60.48 333 *eP* **P 08 15 37.5 -1.9**
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF Joensuu 60.48 333 *ep* **P 08 15 37.5 -1.9**
comp=Z,6.0nm,0.5s
PAHR Pah Rah Range 60.52 62 *eP* **P 08 15 40.9 +0.6**
PAHR *ep*P **pP 08 16 10.9 +1.5**
A19A Klindworth Far 60.57 49⇑ P **P 08 15 40.8 +0.3**
baz=60
LOF Lofoten 60.59 344 *eP* **P 08 15 39.5 -0.6**
LRM Limekiln Ridge 60.61 53 *eP* **P 08 15 41.5 +0.6**
LRM *ep*P **pP 08 16 11.7 +1.6**
LRM *es*P **sP 08 16 23.2 -0.1**
EGMT Eagleton 60.63 50 *eP* **P 08 15 41.3 +0.5**
comp=Z,29nm,1.4s
EGMT *ep*P **pP 08 16 10.6 +0.6**
EGMT Eagleton 60.63 50⇑ P **P 08 15 40.8 0.0**
baz=60,SNR=5.6
B19A Brinkman Farms 60.77 49⇓ P **P 08 15 42.1 +0.4**
baz=60,SNR=8.8
DLMT Dillon 60.83 54 *eP* **P 08 15 43.2 +0.9**
HLID Hailey 60.97 56 *eP* **P 08 15 44.0 +0.7**
HLID Hailey 60.97 56⇑ P **P 08 15 43.8 +0.5**
baz=61,SNR=7.5
CMB Columbia Colle 60.98 64 *eP* **P 08 15 44.0 +0.7**
CMB Columbia Colle 60.98 64 *eP* **P 08 15 44.0 +0.7**
A20A Cobblestone Ra 61.02 48⇑ P **P 08 15 43.9 +0.5**
baz=61,SNR=11
MCMT McKenzie Canyo 61.03 54 *eP* **P 08 15 44.3 +0.5**
comp=Z,1.8nm,0.8s
MCMT *ep*P **pP 08 16 14.2 +1.3**
MCMT *es*P **sP 08 16 25.6 -0.5**
BOZ Bozeman (W) 61.17 53 *eP* **P 08 15 45.5 +0.9**
BOZ pmax pmax
comp=Z,65nm,1.8s
BOZ Bozeman (W) 61.17 53 *eP* **P 08 15 45.5 +0.9**
comp=Z,65nm,1.8s
C19A Slack Wire Ran 61.19 50⇓ P **P 08 15 45.2 +0.6**
baz=61,SNR=11
B20A Solberg Farm, 61.26 49⇓ P **P 08 15 45.0 0.0**
baz=61,SNR=5.3
WAKR Walker 61.26 63 *eP* **P 08 15 46.2 +0.8**
BMN Battle Mountai 61.35 60 *eP* **P 08 15 46.7 +0.8**
BMN Battle Mountai 61.35 60 *eP* **P 08 15 46.7 +0.8**
KULM Kulim 61.50 244 P **P 08 15 48.6 +1.7**
comp=Z,30nm,0.9s,comp=Z,413nm
D19A Cripps Ranch, 61.64 50⇓ P **P 08 15 48.1 +0.5**
baz=61,SNR=5.2
KBL Kabul 61.72 291 *eP* **P 08 15 47.7 -0.9**
KBL pmax pmax
comp=Z,18nm,0.7s
KBL Kabul 61.72 291 *eP* **P 08 15 47.7 -0.9**
comp=Z,18nm,0.7s
C20A Veseth Ranch, 61.74 49⇑ P **P 08 15 49.0 +0.8**
baz=62,SNR=13
B21A Ellsworth Farm 61.77 48⇑ P **P 08 15 48.7 +0.3**
baz=62
QLMT Earthquake Lak 61.80 53 *eP* **P 08 15 50.1 +1.2**
A22A Carney Farms, 61.95 47⇑ P **P 08 15 50.2 +0.6**
baz=62,SNR=7.7
NVAR Mina Array Bea 61.99 63 P **P 08 15 50.4 +0.1**
NVAR *ep*P **pP 08 16 20.5 +1.0**
NVAR Mina Array Bea 61.99 63 P **P 08 15 50.4 +0.1**
comp=Z,8.9nm,0.7s,baz=302,slow=7.7,SNR=68
NVAR *ep*P **pP 08 16 20.5 +1.0**
comp=Z,3.1nm,0.8s,baz=292,slow=8.4,SNR=3.4
COEN Coen 62.02 191 *eP* **P 08 15 50.8 +0.5**
SCO Scoresbysund 62.07 358⇑ *i*P **P 08 15 50.4 +0.4**
SCO Scoresbysund 62.07 358⇑ *i*P **P 08 15 50.4 +0.4**
comp=Z,20nm,0.9s
D20A Manuel Ranch, 62.08 50⇑ P **P 08 15 51.4 +0.9**
baz=62,SNR=10
MOR8 Moi Rana 62.11 342 *eP* **P 08 15 48.7 -1.7**
MOR8 AMB AMB 08 15 52.4
comp=Z,21nm,1.5s
E19A Rath Farm, Rou 62.15 51⇓ P **P 08 15 51.8 +0.7**
baz=62,SNR=7.7
YMR Madison River 62.16 53 *eP* **P 08 15 52.8 +1.4**
MLAC Mammoth Lakes 62.18 64⇑ P **P 08 15 51.9 +0.3**
baz=62
ELK Elko 62.30 59 *eP* **P 08 15 53.4 +1.1**
B22A Reddig Ranch S 62.36 48⇓ P **P 08 15 52.9 +0.5**
baz=62
E20A Meyer Farm, Mu 62.46 50⇓ P **P 08 15 53.9 +0.7**
baz=62,SNR=7.9
F19A Roth Farm, Mol 62.47 51⇑ P **P 08 15 54.2 +1.0**
baz=62,SNR=11
A23A Redstone 62.48 47⇑ P **P 08 15 53.7 +0.5**
baz=62
MTUM Tungsten Hills 62.52 64 *eP* **P 08 15 54.3 +0.5**
H17A Grant Village 62.55 53 *eP* **P 08 15 56.6 +2.6**
H17A *ep*P **pP 08 16 26.2 +3.0**
H17A Grant Village 62.55 53⇓ P **P 08 15 55.7 +1.7**
baz=62,SNR=10
KAF Kangasniemi 62.58 335 *eP* **P 08 15 52.4 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.4s
KAF Kangasniemi 62.58 335 *ep* **P 08 15 52.4 -1.1**
comp=Z,4.9nm,0.4s
IMW Indian Meadow 62.68 54 *eP* **P 08 15 56.5 +1.6**
D21A La Casta Ranch 62.68 49⇑ P **P 08 15 55.2 +0.6**
baz=62,SNR=5.2
FLWY Flagg Ranch 62.69 54 *eP* **P 08 15 56.7 +1.9**
B23A Brockton 62.76 47⇓ P **P 08 15 55.3 +0.2**
baz=62
C22A Vida 62.79 48⇑ P **P 08 15 55.4 +0.1**
baz=62
FXWY Fox Creek 62.80 54 *eP* **P 08 15 56.8 +1.2**
H18A Shoshone NF, C 62.85 53⇓ P **P 08 15 56.4 +0.5**
baz=63,SNR=6.6
I17A Pilgrim Ck. 62.86 54⇑ P **P 08 15 57.2 +1.2**
baz=63
TPH Tonopah 62.87 62 *eP* **P 08 15 56.5 +0.4**
TPH *e**PP **pP 08 16 27.0 +1.6**
TPH Tonopah 62.87 62 *eP* **P 08 15 56.5 +0.4**
TPH *ep*P **pP 08 16 27.0 +1.6**
MOOW Moose Ponds 62.88 54 *eP* **P 08 15 57.2 +1.1**
F20A Billings 62.92 51⇓ P **P 08 15 56.7 +0.5**
baz=63
A24A Westby 62.93 46⇓ P **P 08 15 56.4 +0.2**
baz=63
SMMC Simmler 62.97 66⇑ P **P 08 15 57.7 +1.1**
baz=63
E21A Keefer Ranch, 62.98 50⇑ P **P 08 15 57.6 +1.0**
baz=63,SNR=6.2
D22A Cohagen 63.04 49⇓ P **P 08 15 57.3 +0.4**
baz=63
LOHW Long Hollow 63.05 54 *eP* **P 08 15 58.8 +1.5**
REDW Red Top Meadow 63.07 54 *eP* **P 08 15 58.6 +1.1**
C23A Lambert 63.10 48⇑ P **P 08 15 57.8 +0.5**
baz=63
DGMT Dagmar 63.14 47 *eP* **P 08 15 58.5 +0.9**
DGMT *ep*P **pP 08 16 27.8 +1.0**
DGMT Dagmar 63.14 47⇑ P **P 08 15 57.8 +0.2**
baz=63
FINES FINESS Array B 63.18 335 P **P 08 15 57.0 -0.5**

FINES **FINESS Array B** 63.18 335 P P 08 15 57.0 -0.5
comp=Z,17nm,0.3s,baz=35,slow=6.9,SNR=266
FINES LR LR 08 50 13.6
comp=Z,122nm,18.0s,baz=54,slow=42
VES **Vestal, Richgr** 63.19 65 ⇓P P 08 15 57.5 -0.5
baz=63,SNR=5.7
H19A **Powell** 63.22 52 ⇓P P 08 15 58.4 +0.1
baz=63
G20A **Bridger** 63.27 51 ⇓P P 08 15 58.5 -0.1
baz=63,SNR=5.3
A25A **Svangstu Ranch** 63.35 46 ⇑P P 08 15 59.2 +0.2
baz=63
PKM **Peak Mountain** 63.35 67 ⇓P P 08 15 60.0 +0.6
baz=63,SNR=6.2
BGU **Big Grassy Mou** 63.46 58 *e*P P 08 16 00.8 +0.9
GRAC **Grapevine Rang** 63.48 63 ⇓P P 08 16 00.5 +0.6
baz=63,SNR=7.2
D23A **Lindsay** 63.52 48 ⇓P P 08 15 59.9 -0.1
baz=63
I19A **Meeteetse** 63.64 53 ⇑P P 08 16 01.6 +0.5
baz=63,SNR=6.0
R11A **Troy Canyon, C** 63.66 61 ⇓P P 08 16 01.5 +0.2
baz=63,SNR=19
C24A **Savage** 63.67 48 ⇑P P 08 16 01.0 0.0
baz=63
ISA **Isabella** 63.68 65 *e*P P 08 16 00.8 -0.6
ISA **Isabella** 63.68 65 *e*P P 08 16 00.8 -0.6
ISA **Isabella** 63.68 65 ⇑P P 08 16 00.9 -0.5
baz=64,SNR=6.0
B25A **Knox Farm, Ray** 63.78 46 ⇑P P 08 16 02.4 +0.6
baz=64
ARVC **Arvin** 63.81 66 ⇑P P 08 16 02.5 +0.4
baz=64
H20A **Greybull** 63.87 52 ⇑P P 08 16 02.5 0.0
baz=64
A26A **Wade Farm, Ken** 63.90 45 ⇑P P 08 16 02.6 +0.1
baz=64
F22A **Rosebud** 63.92 50 ⇑P P 08 16 02.9 +0.1
baz=64
E23A **Ismay** 63.92 49 ⇑P P 08 16 03.5 +0.8
baz=64,SNR=6.0
D24A **Glendive** 64.00 48 ⇑P P 08 16 04.0 +0.7
baz=64,SNR=8.1
MPMC **Manual Prospec** 64.02 64 ⇓P P 08 16 03.9 +0.1
baz=64,SNR=9.1
NSS **Namsos** 64.06 342 *e*P P 08 16 03.6 +0.4
NSS AMB AMB 08 16 05.1
comp=Z,50nm,1.6s
DUG **Dugway** 64.06 58 *e*P P 08 16 04.5 +0.6
DUG **Dugway** 64.06 58 *e*P P 08 16 04.5 +0.6
DUG **Dugway** 64.06 58 ⇓P P 08 16 04.4 +0.6
baz=64,SNR=13
BSC **Santa Cruz Isl** 64.06 67 ⇓P P 08 16 04.7 +0.9
baz=64
C25A **Freed Ranch, W** 64.12 47 ⇓P P 08 16 04.4 +0.4
baz=64
J19A **Crowheart** 64.12 54 ⇓P P 08 16 04.9 +0.7
baz=64,SNR=6.4
FURC **Furnace Creek,** 64.13 64 ⇓P P 08 16 04.6 +0.4
baz=64,SNR=12
FRB **Frobisher Bay** 64.14 19 P P 08 16 03.6 -0.2
FRB **Frobisher Bay** 64.14 19 P P 08 16 03.6 -0.2
comp=Z,12nm,0.8s,baz=341,slow=9.6,SNR=17
I20A **Worland** 64.16 52 ⇓P P 08 16 04.5 +0.1
baz=64,SNR=5.2
BW06 **Boulder Array** 64.18 54 *e*P P 08 16 05.0 +0.3
PDAR **Pinedale Array** 64.18 54 P P 08 16 05.0 +0.3
PDAR pP pP 08 16 35.1 +1.0
PDAR **Pinedale Array** 64.18 54 P P 08 16 05.0 +0.3
comp=Z,2.6nm,0.7s,baz=253,slow=1.2,SNR=30
PDAR pP pP 08 16 35.1 +1.0
comp=Z,5.0nm,0.9s,baz=300,slow=2.7,SNR=6.2
TPNV **Topopah Spring** 64.19 63 *e*P P 08 16 05.2 +0.4
TPNV **Topopah Spring** 64.19 63 *e*P P 08 16 05.2 +0.4
TPNV **Topopah Spring** 64.19 63 ⇑P P 08 16 05.0 +0.2
baz=64,SNR=12
SFJD **Kangerlussuaq** 64.21 10 P P 08 16 03.9 -0.2
SFJD **Kangerlussuaq** 64.21 10 P P 08 16 03.9 -0.2
comp=Z,11nm,0.9s,baz=30,slow=1.6,SNR=7.0
OSI **Osito Adit** 64.22 66 ⇑P P 08 16 05.6 +0.7
baz=64
G22A **Birney** 64.28 50 ⇑P P 08 16 05.1 0.0
baz=64,SNR=5.2
H21A **Big Horn, Sher** 64.28 51 ⇑P P 08 16 06.0 +0.8
baz=64,SNR=11
LRMC **Laurel Mountai** 64.28 65 ⇓P P 08 16 05.1 -0.3
baz=64,SNR=5.7
F23A **Volborg** 64.40 50 ⇓P P 08 16 06.2 +0.4
baz=64,SNR=7.2
D25A **Fairfield** 64.47 47 ⇑P P 08 16 06.7 +0.4
baz=64
EDW2 **Edwards Air Fo** 64.50 66 ⇓P P 08 16 07.0 +0.3
baz=64,SNR=15
PSI **Prapat** 64.50 244 P P 08 16 07.8 +0.8
comp=Z,22nm,0.8s
OBN **Obninsk** 64.52 325 *e*P P 08 16 05.7 -0.7
OBN *e* 08 16 28.3
OBN *e* 08 16 40.6
OBN *e* 08 18 27.4
OBN pmax pmax
comp=Z,20nm,0.6s
OBN **Obninsk** 64.52 325 *e*P P 08 16 06.4 0.0
J20A **Shoshoni** 64.59 53 ⇑P P 08 16 07.8 +0.6
baz=64,SNR=5.5
C26A **Wahner Farm, P** 64.61 46 ⇓P P 08 16 07.6 +0.4
baz=64
H22A **Clearmont** 64.67 51 ⇓P P 08 16 07.9 +0.2
baz=64
I21A **Big Trails, Te** 64.70 52 ⇑P P 08 16 08.2 +0.2
baz=64,SNR=11
A28A **Rude Farm, Bot** 64.73 44 ⇑P P 08 16 07.8 -0.2
baz=64
G23A **Biddle** 64.76 50 ⇓P P 08 16 08.2 0.0
baz=64,SNR=5.1
F24A **Ekalaka** 64.80 49 ⇑P P 08 16 08.7 +0.2
baz=64
MPU **Maple Canyon** 64.86 58 *e*P P 08 16 10.1 +0.9
SHOC **Shoshone** 64.86 64 ⇓P P 08 16 09.5 +0.5
baz=65
E25A **Miller Ranch,** 64.88 48 ⇓P P 08 16 09.3 +0.4
baz=65
MWC **Mount Wilson** 64.89 66 *e*P P 08 16 09.4 0.0
MWC **Mount Wilson** 64.89 66 *e*P P 08 16 09.4 0.0
J21A **Lysite** 64.94 53 ⇑P P 08 16 09.6 0.0
baz=65
GSC **Goldstone** 64.94 65 *e*P P 08 16 09.8 +0.2
GSC **Goldstone** 64.94 65 *e*P P 08 16 09.8 +0.2
GSC **Goldstone** 64.94 65 ⇓P P 08 16 09.6 0.0
baz=65,SNR=6.4
B28A **Dugan Ranch, T** 65.01 45 ⇑P P 08 16 10.0 +0.3
baz=65
I22A **9 Mile Ranch,** 65.08 52 ⇓P P 08 16 10.7 +0.3
baz=65
BFSC **Mount Baldy Ra** 65.12 66 ⇑P P 08 16 11.1 +0.2
baz=65
SHPR **Sheep Range** 65.13 63 *e*P P 08 16 11.4 +0.5
SHPR *e*pP PcP 08 16 41.7 -0.9
A29A **Manning Farm,** 65.21 44 ⇑P P 08 16 11.3 +0.2
baz=65,SNR=5.8
CIS **Catalina Islan** 65.22 67 ⇑P P 08 16 11.8 +0.5
baz=65
ARUT **Antelope Range** 65.30 61 *e*P P 08 16 12.4 +0.4
ARUT *e**PP PcP 08 16 42.7 -0.6
ARUT pmax pmax
comp=Z,118nm,1.0s
ARUT **Antelope Range** 65.30 61 *e*P P 08 16 12.4 +0.4
comp=Z,118nm,1.0s
ARUT *e*pP PcP 08 16 42.7 -0.6
VSU **Vasula** 65.37 332 *i*P P 08 16 12.2 +0.4
VSU pmax pmax
comp=Z,84nm,1.3s
E26A **Carlson Angus** 65.37 47 ⇑P P 08 16 12.1 0.0
baz=65
TUQ **Turquoise Moun** 65.39 64 ⇑P P 08 16 12.5 -0.1
baz=65,SNR=5.5
VRHR **Novokhopersk** 65.40 320 *e*P P 08 16 09.4 -2.7
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.2s
VRHR pmax pmax
comp=E,10.0nm,1.3s
J22A **Midwest** 65.41 52 ⇓P P 08 16 13.0 +0.4
baz=65,SNR=8.2
H24A **Dirks Ranch, A** 65.50 50 ⇑P P 08 16 12.9 -0.2
baz=65,SNR=9.3
CCUT **Cedar City** 65.50 61 *e*P P 08 16 14.3 +0.9

K21A **Alcova** 65.52 53 ⇑P P 08 16 13.2 -0.2
baz=65,SNR=9.7
MVU **Marysvale** 65.54 59 *e*P P 08 16 14.4 +0.8
HEC **Hector,Ludlow** 65.55 65 ⇓P P 08 16 13.6 +0.1
baz=65,SNR=9.6
BBRC **Big Bear Solar** 65.56 65 ⇓P P 08 16 13.8 0.0
baz=65
TMUT **Trail Mountain** 65.58 58 *e*P P 08 16 14.7 +0.7
comp=E,3.3nm,0.6s
A30A **Hoffart Farm,** 65.63 43 ⇑P P 08 16 14.5 +0.7
baz=65
F26A **Lodgepole** 65.70 48 ⇓P P 08 16 14.1 -0.1
baz=65,SNR=5.1
ULM **Lac du Bonnet** 65.79 41 P P 08 16 14.6 -0.1
ULM pP pP 08 16 43.9 -0.3
ULM **Lac du Bonnet** 65.79 41 P P 08 16 14.6 -0.1
comp=E,2.5nm,0.9s,baz=289,slow=7.3,SNR=3.0
ULM pP pP 08 16 43.9 -0.3
comp=E,6.0nm,0.8s,baz=303,slow=7.7,SNR=6.5
MDND **Maddock** 65.80 45 ⇓P P 08 16 14.9 +0.1
baz=66
MURC **Murrieta** 65.83 66 ⇑P P 08 16 15.6 +0.3
baz=66,SNR=6.5
E27A **Carson** 65.84 47 ⇓P P 08 16 15.3 +0.1
baz=66
K22A **Casper** 65.90 53 ⇑P P 08 16 15.7 -0.1
baz=66
B30A **Myrvik Farm, E** 65.97 44 ⇓P P 08 16 15.9 0.0
baz=66,SNR=5.3
GMRC **Granite Mounta** 65.99 64 ⇑P P 08 16 16.6 +0.2
baz=66,SNR=11
F27A **Lemmon** 66.01 48 ⇑P P 08 16 16.6 +0.4
baz=66,SNR=5.1
H25A **Fruitdale** 66.08 49 ⇑P P 08 16 16.6 -0.1
baz=66
SRU **San Rafael** 66.10 58 *e*P P 08 16 17.8 +0.7
SRU *e**PP pP 08 16 48.0 +1.4
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU **San Rafael** 66.10 58 *e*P P 08 16 17.8 +0.7
comp=Z,9.3nm,0.8s
SRU *e*pP pP 08 16 48.0 +1.4
G26A **Maurine** 66.12 48 ⇑P P 08 16 17.1 +0.1
baz=66,SNR=8.9
N20A **Spence Gulch,** 66.20 55 ⇑P P 08 16 18.4 +0.6
baz=66,SNR=7.5
RSSD **Black Hills** 66.20 50 *e*P P 08 16 18.2 +0.5
RSSD **Black Hills** 66.20 50 *e*P P 08 16 18.2 +0.5
VSR **Storozhevoye** 66.37 321 *e*P P 08 16 16.8 -1.5
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,30nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
109C **Camp Elliot, M** 66.37 67 ⇑P P 08 16 18.1 -0.5
baz=66
L22A **Ellis Ranch, M** 66.38 53 ⇑P P 08 16 19.0 +0.1
baz=66,SNR=5.2
G27A **Dupree** 66.40 48 ⇑P P 08 16 18.4 -0.4
baz=66
I25A **Rochford** 66.43 50 ⇑P P 08 16 19.0 -0.1
baz=66,SNR=5.0
C30A **Mose, Pekin** 66.43 44 ⇑P P 08 16 19.2 +0.4
baz=66
VORD **Divnogorie** 66.50 321 *e*P P 08 16 17.7 -1.5
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
F28A **McLaughlin** 66.63 47 ⇓P P 08 16 19.6 -0.6
baz=66
O20A **White River Ci** 66.69 56 ⇓P P 08 16 21.2 +0.3
baz=66
L23A **Garrett** 66.72 53 ⇓P P 08 16 20.8 -0.3
baz=66
IRM **Iron Mountain** 66.72 64 ⇓P P 08 16 21.0 +0.1
baz=66,SNR=11
M22A **Cedar Creek Ra** 66.72 54 ⇑P P 08 16 21.7 +0.6
baz=66
D30A **Buchanan** 66.73 45 ⇑P P 08 16 21.1 +0.4
baz=66
MONP **Monument Peak** 66.80 66 ⇓P P 08 16 22.2 +0.5
baz=67
J25A **Sunshine Ranch** 66.83 51 ⇑P P 08 16 21.0 -0.7
baz=67
W13A **Hualapai Mount** 66.84 63 ⇓P P 08 16 21.9 0.0
baz=67,SNR=8.3
H27A **Howes** 66.85 49 ⇓P P 08 16 21.5 -0.1
baz=67
I26A **New Underwood** 66.87 50 ⇑P P 08 16 21.7 -0.1
baz=67
U15A **North Rim** 66.89 61 ⇑P P 08 16 22.8 +0.4
baz=67,SNR=8.6
HYB **Hyderabad** 66.99 271 *i*P P 08 16 21.0 -1.8
G28A **Parade** 67.12 48 ⇓P P 08 16 23.2 -0.1
baz=67
SWSC **Sam W. Stewart** 67.15 66 ⇓P P 08 16 23.8 +0.2
baz=67
DVTC **Desert V Tower** 67.15 66 ⇓P P 08 16 23.9 +0.2
baz=67
N22A **Wattenberg Ran** 67.22 54 ⇓P P 08 16 24.5 +0.2
baz=67
AGMN **Agassiz Nation** 67.22 43 ⇑P P 08 16 23.9 +0.1
baz=67
PDMCI **Parker Dam,Lak** 67.23 64 ⇑P P 08 16 24.4 +0.3
baz=67
I27A **Quinn** 67.26 49 ⇑P P 08 16 24.5 +0.3
baz=67
J26A **Sides Ranch, S** 67.27 50 ⇓P P 08 16 23.9 -0.4
baz=67
NB2 **NORSAR Subarra** 67.32 341 P P 08 16 24.4 +0.1
comp=Z,193nm,1.7s,baz=26,slow=6.5
NB2 **NORSAR Subarra** 67.32 341 P P 08 16 24.4 +0.1
baz=26,slow=6.5
NOA **NORSAR Array B** 67.32 341 P P 08 16 24.3 0.0
NOA **NORSAR Array B** 67.32 341 P P 08 16 24.3 0.0
comp=Z,22nm,0.8s,baz=26,slow=6.3,SNR=67
NOA LR LR 08 50 07.1
comp=Z,63nm,18.1s,baz=20,slow=40
H28A **Mission Ridge** 67.35 48 ⇑P P 08 16 24.9 +0.1
baz=67
Y12C **Blythe** 67.38 64 ⇓P P 08 16 25.1 0.0
baz=67,SNR=8.1
N23A **Red Feather La** 67.43 54 ⇓P P 08 16 25.3 -0.3
baz=67
PV04 **Paradox Valley** 67.51 57 *e*P P 08 16 26.3 +0.3
PV04 *e*pP pP 08 16 56.5 +0.8
NC602 **NORSAR Array S** 67.52 341 *e*P P 08 16 25.6 +0.1
NAO01 **NORSAR Array S** 67.57 341 *e*P P 08 16 25.9 +0.1
comp=Z,49nm,1.1s
O22A **Kremmling** 67.61 55 ⇑P P 08 16 26.5 -0.3
baz=67
M24A **Cheyenne** 67.64 53 ⇓P P 08 16 27.0 +0.2
baz=67
K26A **Motz Farm, Whi** 67.64 51 ⇓P P 08 16 26.8 +0.1
baz=67
GLA **Glamis** 67.67 65 *e*P P 08 16 27.2 +0.2
GLA pmax pmax
comp=Z,8.0nm,1.4s
GLA **Glamis** 67.67 65 *e*P P 08 16 27.2 +0.2
comp=Z,8.1nm,1.4s
GLA **Glamis** 67.67 65 ⇑P P 08 16 27.0 +0.1
baz=68
I28A **Midland** 67.76 49 ⇓P P 08 16 27.2 -0.1
baz=68
BORG **Borgarnes** 67.80 357 P P 08 16 27.9 +0.7
BORG **Borgarnes** 67.80 357 P P 08 16 27.9 +0.7
comp=Z,52nm,1.1s,baz=282,slow=4.1,SNR=5.4
PV01 **Paradox Valley** 67.88 57 *e*P P 08 16 28.7 +0.3
comp=Z,2µm,1.6s
P22A **Eagle** 67.89 55 ⇑P P 08 16 28.5 0.0
baz=68
O23A **Lake Granby, G** 67.92 54 ⇑P P 08 16 28.8 +0.1
baz=68
G30A **Faulkton** 67.96 47 ⇓P P 08 16 28.7 +0.2
baz=68
N24A **Carr** 68.05 53 ⇓P P 08 16 29.8 +0.4
baz=68
WUAZ **Wupatki** 68.06 61 *e*P P 08 16 30.5 +1.0
WUAZ **Wupatki** 68.06 61 ⇓P P 08 16 29.9 +0.4
baz=68
M25A **Palm-Egli Farm** 68.07 52 ⇑P P 08 16 29.8 +0.3
baz=68
J28A **Allard Ranch,** 68.13 49 ⇓P P 08 16 29.9 +0.1
baz=68
Y14A **Wickenburg** 68.17 63 ⇑P P 08 16 30.1 +0.1
baz=68,SNR=9.3
HYA **Hoyanger** 68.25 343 *e*P P 08 16 30.4 +0.4
ISCO **Idaho Springs** 68.38 54 *e*P P 08 16 32.2 +0.6
ISCO pmax pmax
comp=Z,15nm,1.3s
ISCO **Idaho Springs** 68.38 54 *e*P P 08 16 32.2 +0.6
comp=Z,15nm,1.3s
ISCO **Idaho Springs** 68.38 54 ⇑P P 08 16 32.3 +0.6
baz=68,SNR=9.3
O24A **Longmont** 68.44 54 ⇑P P 08 16 32.3 +0.5
baz=68
113A **Mohawk Valley,** 68.51 65 ⇓P P 08 16 32.3 +0.2
baz=68
MVCO **Mesa Verde** 68.56 58 ⇑P P 08 16 33.0 +0.3
baz=68,SNR=6.9
J29A **Okreek** 68.61 49 ⇑P P 08 16 32.4 -0.2
baz=68
X16A **Lo Mia Camp, P** 68.78 62 ⇓P P 08 16 35.0 +1.0
baz=69,SNR=10.0
KONO **Kongsberg** 68.93 341 *e*P P 08 16 35.0 +0.8
KONO AMB AMB 08 16 36.2
comp=Z,83nm,2.5s
KONO **Kongsberg** 68.93 341 *e*P P 08 16 35.1 +0.8
KONO pmax pmax
comp=Z,96nm,1.3s
KONO **Kongsberg** 68.93 341 *e*P P 08 16 35.1 +0.8
comp=Z,96nm,1.3s
P24A **Kohler Place,** 68.96 54 ⇑P P 08 16 35.3 +0.2
baz=69
ASK **Askoy** 69.07 344 *e*P P 08 16 36.0 +1.0
K29A **Lazy Trails An** 69.08 49 ⇓P P 08 16 35.7 +0.1
baz=69
J30A **Dallas** 69.09 48 ⇑P P 08 16 35.5 -0.1
baz=69
RUND **Rundenannen** 69.10 344 *e*P P 08 16 35.3 0.0
S22A **4UR Ranch, Cre** 69.14 57 ⇓P P 08 16 36.9 +0.6
baz=69,SNR=7.8
O26A **Horse Wrangler** 69.31 53 ⇓P P 08 16 37.8 +0.6
baz=69
ODD1 **Odda** 69.31 343 *e*P P 08 16 37.5 +0.8
N27A **Anderson Farm,** 69.32 52 ⇑P P 08 16 37.5 +0.2
baz=69
IKOO **Kooshah** 69.36 296 *e*P P 08 16 37.8 +0.1
P25A **Willow Gulch B** 69.37 54 ⇓P P 08 16 37.9 +0.3
baz=69
R23A **Moffat** 69.39 56 ⇓P P 08 16 38.2 +0.3
baz=69
WRAB **Tennant Creek** 69.41 199 *d*P P 08 16 36.8 -0.9
WRAB pmax pmax
comp=Z,55nm,1.5s
WRAB **Tennant Creek** 69.41 199 *e*P P 08 16 37.4 -0.2
comp=Z,19nm,1.4s
WRAB **Tennant Creek** 69.41 199 P P 08 16 37.0 -0.7
comp=Z,62nm,1.1s,SNR=7.0
WRA **Warramunga Arr** 69.42 199 P P 08 16 37.2 -0.5
WRA **Warramunga Arr** 69.42 199 P P 08 16 37.2 -0.5
comp=Z,5.9nm,1.0s,baz=18,slow=6.5,SNR=20
WRA LR LR 08 47 16.2
comp=Z,68nm,20.3s,baz=150,slow=36
K30A **Basset** 69.50 49 ⇑P P 08 16 38.1 -0.1
baz=69
IGLO **Ghaloghah** 69.58 302 *e*P P 08 16 40.0 +1.0
X18A **Snowflake** 69.58 61 ⇑P P 08 16 39.2 +0.2
baz=69,SNR=6.4
S23A **Nye Farm, Mont** 69.63 56 ⇑P P 08 16 39.6 +0.3
baz=69
214A **Organ Pipe Nat** 69.65 65 ⇑P P 08 16 40.0 +0.7
baz=70
Q25A **Bedland, Calha** 69.75 54 ⇑P P 08 16 40.3 +0.3
baz=70
R24A **Sanders Place,** 69.76 55 ⇑P P 08 16 40.4 +0.3
baz=70
O27A **Beecher Island** 69.80 52 ⇑P P 08 16 40.5 +0.4
baz=70
BLS5 **Blasjo** 69.80 343 *e*P P 08 16 40.9 +1.2
FITZ **Fitzroy Crossi** 69.99 208 *e*P P 08 16 41.4 +0.2
comp=Z,4.4nm,0.7s
T23A **Casias Ranch,** 70.08 57 ⇓P P 08 16 42.3 +0.1
baz=70
U22A **Llaves** 70.09 58 ⇓P P 08 16 42.4 +0.3
baz=70
S24A **Houchin Ranch,** 70.12 56 ⇓P P 08 16 42.7 +0.3
baz=70
KIV **Kislovodsk** 70.14 314 *e*P P 08 16 42.6 +0.5
KIV *e*S S 08 25 44.3 +0.8
KIV pmax pmax
comp=Z,21nm,0.6s
KIV MLR MLR
comp=Z,193nm,18.0s
KIV **Kislovodsk** 70.14 314 *e*P P 08 16 42.9 +0.8
comp=Z,23nm,0.7s
Q26A **Hugo** 70.14 54 ⇓P P 08 16 42.3 0.0
baz=70
SUW **Suwalki** 70.16 331 *e*P P 08 16 41.3 -0.6
SUW **Suwalki** 70.16 331 *e*P P 08 16 41.3 -0.6
P27A **Ficken Ranch,** 70.20 53 ⇓P P 08 16 42.6 0.0
baz=70
KBZ **Khabaz** 70.20 314 P P 08 16 43.1 +0.8
KBZ pmax pmax
comp=Z,12nm,0.6s
KBZ MLR MLR
comp=Z,143nm,18.5s
KBZ **Khabaz** 70.20 314 P P 08 16 43.1 +0.8
KBZ **Khabaz** 70.20 314 P P 08 16 43.1 +0.8
comp=Z,12nm,0.6s,baz=70,slow=3.6,SNR=49
KBZ LR LR 08 52 51.0
comp=Z,143nm,18.5s,baz=221,slow=40
ECSD **EROS Data Cent** 70.22 46 *e*P P 08 16 42.3 -0.1
comp=Z,24nm,1.3s
ECSD **EROS Data Cent** 70.22 46 ⇑P P 08 16 42.4 -0.1
baz=70,SNR=9.2
L31A **Butterfield Fa** 70.25 49 ⇑P P 08 16 43.1 +0.3
baz=70
IANJ **Anjillo** 70.26 301 *e*P P 08 16 44.2 +1.0
R25A **Fountain Ranch** 70.28 55 ⇓P P 08 16 43.0 -0.1
baz=70
ISHM **Shahmirzad** 70.38 302 *e*P P 08 16 45.7 +1.7
V22A **San Miguel Ran** 70.38 58 ⇑P P 08 16 44.5 +0.6
baz=70
ZEI **Tsey** 70.40 312 *e*P P 08 16 42.4 -1.5
ZEI pmax pmax
comp=Z,11nm,0.7s
T24B **San Luis** 70.44 56 ⇑P P 08 16 45.3 +1.0
baz=70
IALA **Alasht** 70.46 302 *e*P P 08 16 45.1 +0.6
U23A **El Rito** 70.50 57 ⇑P P 08 16 45.1 +0.5
baz=70,SNR=7.8
S25A **Robets Cordova** 70.54 55 ⇑P P 08 16 45.3 +0.5
baz=70
KSCO **Kaye Shedlock'** 70.56 53 ⇑P P 08 16 45.3 +0.5
baz=70
R26A **Arlington** 70.62 54 ⇑P P 08 16 45.5 +0.3
baz=70
SNART **Snartemo** 70.64 342 *e*P P 08 16 45.9 +1.2
AKASG **Malin Array Be** 70.75 326 P P 08 16 44.9 -0.7
AKASG 08 19 22.0
AKASG pmax pmax
comp=Z,12nm,0.4s
AKASG MLR MLR
comp=Z,111nm,18.5s
AKASG **Malin Array Be** 70.75 326 P P 08 16 44.9 -0.7
AKASG PP PP 08 19 21.9 -1.2
AKASG **Malin Array Be** 70.75 326 P P 08 16 44.9 -0.7
comp=Z,12nm,0.4s,baz=34,slow=6.0,SNR=53
AKASG PP PP 08 19 21.9 -1.2
comp=Z,0.4nm,0.4s,baz=34,slow=8.8,SNR=4.6
AKASG LR LR 08 50 03.3
comp=Z,110nm,18.5s,baz=45,slow=38
AKBB **Malin Array Si** 70.75 326 *e*P P 08 16 45.0 -0.6
AKBB **Malin Array Si** 70.75 326 *e*P P 08 16 45.0 -0.6
KIEV **Kiev** 70.77 326 *d*P P 08 16 45.3 -0.4
KIEV **Kiev** 70.77 326 *e*P P 08 16 44.5 -1.1
comp=Z,14nm,0.6s
AK01 **Malin Array Si** 70.77 326 *e*P P 08 16 44.9 -0.8
AK02 **Malin Array Si** 70.80 326 *e*P P 08 16 45.1 -0.7
SPMN **St. Paul** 70.91 43 ⇑P P 08 16 46.8 +0.1
baz=71
V23A **Ortiz Mt. (NFS** 70.92 58 ⇓P P 08 16 47.9 +0.7
baz=71
T25A **Trinidad** 70.92 56 ⇓P P 08 16 47.5 +0.3
baz=71
U24A **Moreno Valley** 70.96 57 ⇑P P 08 16 47.6 +0.1
baz=71
R27A **Eads** 70.99 54 ⇑P P 08 16 47.0 -0.5
baz=71

O30A MW Ranch, Wils 71.08 51 ⇓P P 08 16 47.6 -0.3
baz=71
S26A Kim 71.10 55 ⇓P P 08 16 47.5 -0.6
baz=71
BGNE Belgrade 71.17 49 ⇓P P 08 16 48.3 -0.1
baz=71
W23A Werner Place, 71.35 58 ⇓P P 08 16 49.4 -0.4
baz=71
T26A Comanche Natio 71.35 55 ⇑P P 08 16 49.3 -0.4
baz=71
S27A Las Animas 71.37 54 ⇓P P 08 16 49.4 -0.4
baz=71
P30A Selden 71.45 51 ⇓P P 08 16 49.9 -0.2
baz=71
V24A Rampart Ranch, 71.45 57 ⇓P P 08 16 50.6 +0.2
baz=71
U25A Circle Dot Ran 71.45 56 ⇑P P 08 16 50.3 0.0
baz=71
O31A Woolen Ranch, 71.48 50 ⇑P P 08 16 50.0 -0.3
baz=71
R28A Tribune 71.49 53 ⇓P P 08 16 50.3 -0.1
baz=71
BSD Bornholm Skovb 71.68 336 *i* P P 08 16 50.9 -0.2
BSD Bornholm Skovb 71.68 336 *i* P P 08 16 50.9 -0.2
comp=Z,34nm,1.1s
V25A Rancho No Teng 71.74 57 ⇓P P 08 16 51.9 -0.1
baz=72
W24A Lazy 6 Ranch, 71.74 58 ⇑P P 08 16 52.4 +0.3
baz=72,SNR=5.4
R29A Marienthal 71.79 53 ⇓P P 08 16 51.9 -0.3
baz=72
COP Copenhagen 71.83 338 *eP* P 08 16 51.9 0.0
COP Copenhagen 71.83 338 *i* P P 08 16 51.9 0.0
comp=Z,30nm,0.8s
U26A Atchley Ranch, 71.83 56 ⇑P P 08 16 52.3 -0.3
baz=72
IVRN Varamin 71.85 302 *eP* P 08 16 53.3 +0.7
Q30A Quinter 71.88 52 ⇓P P 08 16 52.5 -0.2
baz=72
T27A Campo 71.92 55 ⇑P P 08 16 52.9 -0.1
baz=72
GNI Garni 71.92 310 *eP* P 08 16 54.5 +1.5
comp=Z,6.9nm,0.6s
P31A Stockton 71.92 51 ⇑P P 08 16 52.7 -0.2
baz=72
MUD Monsted U'grnd 71.93 340 *i* P P 08 16 53.5 +1.0
MUD Monsted U'grnd 71.93 340 *i* P P 08 16 53.5 +1.0
comp=Z,23nm,0.9s
ANN Anapa 71.97 318 *eP* P 08 16 51.5 -1.5
S28A Manter 71.98 54 ⇓P P 08 16 53.1 -0.3
baz=72
319A Douglas 72.20 63 ⇓P P 08 16 55.1 +0.4
baz=72,SNR=8.7
LLD Lille Linde 72.20 338 *i* P P 08 16 54.7 +0.6
LLD Lille Linde 72.20 338 *i* P P 08 16 54.7 +0.6
T28A Walsh 72.21 54 ⇓P P 08 16 54.4 -0.3
baz=72
V26A Tequesquite Ra 72.24 56 ⇓P P 08 16 54.8 -0.2
baz=72
Z22A Elephant Butte 72.24 60 ⇓P P 08 16 55.6 +0.6
baz=72
ICHK Chekchek 72.25 298 *eP* P 08 16 56.2 +1.0
P32A Huiting Farm, 72.25 50 ⇑P P 08 16 54.4 -0.4
baz=72
121A Cookes Peak, D 72.27 61 ⇓P P 08 16 56.0 +0.8
baz=72,SNR=6.3
W25A X Bar L Ranch, 72.27 57 ⇑P P 08 16 55.4 +0.2
baz=72,SNR=5.4
Y23A Lovelace Mesa, 72.28 59 ⇓P P 08 16 55.5 +0.2
baz=72
U27A Thompson Grove 72.32 55 ⇑P P 08 16 55.1 -0.3
baz=72
R30A Dighton 72.35 52 ⇑P P 08 16 55.0 -0.5
baz=72
S29A Ulysses 72.39 53 ⇓P P 08 16 54.7 -1.0
baz=72
SCHQ Schefferville 72.42 23 P P 08 16 54.8 -0.8
SCHQ pP pP 08 17 24.8 -0.8
SCHQ Schefferville 72.42 23 P P 08 16 54.8 -0.8
comp=Z,5.6nm,0.9s,baz=350,slow=10,SNR=5.4
SCHQ pP pP 08 17 24.8 -0.8
comp=Z,7.7nm,0.6s,baz=311,slow=4.2,SNR=4.5
SCHQ LR LR 08 49 11.6
comp=Z,103nm,19.2s,baz=18,slow=36
BIGH Upper Bighouse 72.48 348 *eP* P 08 16 56.6 +0.8
IRAZ Razeghan 72.58 304 *eP* P 08 16 57.7 +0.6
GKP Gorka Klasztor 72.64 334 *eP* P 08 16 57.1 +0.3
GKP Gorka Klasztor 72.64 334 *eP* P 08 16 57.1 +0.3
Y24A Capitan 72.65 59 ⇓P P 08 16 57.9 +0.4
baz=72
221A Mesquite Ranch 72.65 62 ⇓P P 08 16 58.4 +0.9
baz=72
Z23A Rita Site, Whi 72.66 60 ⇑P P 08 16 58.2 +0.7
baz=72
320A Kipp Ranch, An 72.68 62 ⇑P P 08 16 58.2 +0.6
baz=72
S30A Montezuma 72.72 53 ⇓P P 08 16 57.1 -0.7
baz=72
R31A Burdett 72.75 52 ⇓P P 08 16 57.8 0.0
baz=72
W26A Owens Ranch, T 72.76 57 ⇑P P 08 16 57.8 -0.3
baz=72
BEL Belsk 72.77 331 *eP* P 08 16 58.3 +0.6
BEL Belsk 72.77 331 *eP* P 08 16 58.2 +0.6
ISAD Sadrabad 72.92 299 *eP* P 08 16 59.5 +0.3
IZEF Zefreh 73.01 300 *eP* P 08 17 00.7 +1.0
MVH1 Achvaich 73.07 348 *eP* P 08 16 59.9 +0.6
Y25A Mesa, Roswell 73.08 58 ⇑P P 08 16 59.6 -0.4
baz=73
Q33A Connelly Farm, 73.11 50 ⇓P P 08 16 58.9 -1.0
baz=73
Z24A Sheeppen Canyo 73.12 59 ⇑P P 08 17 00.3 +0.1
baz=73
AS31 Alice Springs 73.12 198 *eP* P 08 17 00.4 +0.4
ASAR Alice Springs 73.12 198 P P 08 17 00.5 +0.5
ASAR Alice Springs 73.12 198 P P 08 17 00.5 +0.5
comp=Z,15nm,1.0s,baz=9.4,slow=5.2,SNR=89
X26A CR and CF Fran 73.12 57 ⇓P P 08 17 00.4 +0.2
baz=73
IKLH Kolahrood 73.14 301 *eP* P 08 17 01.6 +1.1
W27A Bowe Ranch, En 73.17 56 ⇑P P 08 17 01.1 +0.6
baz=73
LVV L'vov 73.38 328 *eP* P 08 17 00.9 -0.4
TUTA Tutak 73.47 311 *i* P P 08 17 04.0 +1.8
124A Stringfield Ra 73.52 60 ⇑P P 08 17 02.6 -0.1
baz=73
Z25A Roswell 73.53 59 ⇑P P 08 17 02.7 +0.2
baz=73
T31A Randall Ranch, 73.55 53 ⇓P P 08 17 02.3 -0.2
baz=73
MDO Dochfour 73.56 348 ⇓*eP* P 08 17 03.1 +0.9
Y26A Elida 73.57 58 ⇑P P 08 17 03.3 +0.5
baz=73
KAC Achnashellach 73.64 348 *eP* P 08 17 03.5 +0.8
DRUM Mains of Drumt 73.78 346 *eP* P 08 17 04.2 +0.8
DRUM AMB AMB 08 17 05.7
comp=Z,92nm,1.9s
KPL Plockton 73.84 348 *eP* P 08 17 04.7 +0.9
224A Cornudas Mount 73.93 60 ⇑P P 08 17 05.1 +0.1
baz=74
BSEG Bad Segeberg 73.94 338 *eP* P 08 17 05.1 +0.7
comp=Z,34nm,1.1s
Z26A Caprock 73.96 58 ⇑P P 08 17 05.2 +0.2
baz=74
EKAR Karacoban 73.96 311 *i* P P 08 17 07.1 +2.0
Y27A Causey 73.98 57 ⇑P P 08 17 05.1 -0.1
baz=74,SNR=6.2
KWP Kalwaria Pacla 74.00 329 *eP* P 08 17 05.6 +0.6
KWP Kalwaria Pacla 74.00 329 *eP* P 08 17 05.5 +0.6
125A Gardner Draw, 74.01 59 ⇑P P 08 17 05.2 -0.2
baz=74
AMTX Amarillo 74.08 56 ⇑P P 08 17 05.6 -0.1
baz=74
MSTX Muleshoe 74.14 57 ⇓P P 08 17 05.9 -0.2
baz=74
225A Deer Hill, Car 74.31 60 ⇓P P 08 17 06.6 -0.6
baz=74
T33A Patterson Ranc 74.33 52 ⇑P P 08 17 06.4 -0.6
baz=74
RUE Ruedersdorf 74.33 336 *eP* P 08 17 07.2 +0.5
comp=Z,53nm,0.8s
RUE Ruedersdorf 74.33 336 *eP* P 08 17 07.5 +0.8
comp=Z,19nm,0.4s
Z27A Tatum 74.36 58 ⇑P P 08 17 07.3 -0.1
baz=74,SNR=6.1
HAKT HAKKARI 74.38 309 *i* P P 08 17 04.5 -3.2
126A Clayton Basin, 74.39 59 ⇓P P 08 17 07.4 -0.2
baz=74
X29A Tulia 74.39 56 ⇑P P 08 17 07.8 +0.3
baz=74,SNR=8.1
324A Moseley Ranch, 74.41 60 ⇑P P 08 17 06.8 -1.0
baz=74
V31A Spring Creek L 74.44 54 ⇑P P 08 17 07.6 -0.1
baz=74
Y28A McKinney Farm, 74.48 57 ⇑P P 08 17 07.7 -0.4
baz=74
OJC Ojcow 74.48 331 *eP* P 08 17 07.9 +0.2
OJC Ojcow 74.48 331 *eP* P 08 17 07.9 +0.2
GDL2 Guadalupe Moun 74.51 59 *eP* P 08 17 08.4 +0.1
comp=Z,0.8nm,0.2s
KELT Kelkit 74.68 313 *i* P P 08 17 10.5 +1.2
STHS Stebnicka Huta 74.69 330 *eP* P 08 17 10.0 +1.1
STHS pmax pmax
comp=Z,9.0nm,0.5s
STHS Stebnicka Huta 74.69 330 *eP* P 08 17 10.0 +1.1
226B Tecolote Peak, 74.72 59 ⇑P P 08 17 09.3 -0.2
baz=74,SNR=7.6
KOLS Kolonicke sedl 74.75 329 *eP* P 08 17 09.4 +0.1
KOLS pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 74.75 329 *eP* P 08 17 09.4 +0.1
ESY Stoneypath 74.76 346 ⇓*eP* P 08 17 10.0 +0.8
325A Bean Ranch, Si 74.76 60 ⇓P P 08 17 09.2 -0.6
baz=74
EAB Aberfoyle 74.77 347 ⇓*eP* P 08 17 10.1 +0.9
BUR08 Bucovina Ar. S 74.78 326 *eP* P 08 17 09.6 0.0
IPAR Pars 74.78 298 *eP* P 08 17 11.1 +0.9
BURAR Bucovina Array 74.79 326 ⇑*iP* P 08 17 10.1 +0.4
W31A Holland Ranch, 74.82 54 ⇑P P 08 17 09.9 -0.1
baz=75
Y29A Porterfield Fa 74.84 56 ⇓P P 08 17 09.9 -0.2
baz=75
Z28A Tucker Farm, M 74.85 57 ⇑P P 08 17 10.2 -0.1
baz=75
NIE Niedzica 75.00 330 *eP* P 08 17 11.6 +0.9
NIE Niedzica 75.00 330 *eP* P 08 17 11.6 +0.9
KSP Ksiaz 75.05 333 ⇑*eP* P 08 17 11.3 +0.4
KSP Ksiaz 75.05 333 *eP* P 08 17 11.4 +0.5
CRVS Cervenica-Dubn 75.06 329 *eP* P 08 17 11.4 +0.4
CRVS pmax pmax
comp=Z,9.0nm,0.8s
CRVS Cervenica-Dubn 75.06 329 *eP* P 08 17 11.4 +0.4
ISRV Sarvestan 75.08 297 *eP* P 08 17 12.8 +0.9
PGBU Glenifferbraes 75.15 347 *eP* P 08 17 12.2 +0.8
PGBU AMB AMB 08 17 14.3
comp=Z,180nm,1.9s
TESR Tescani 75.16 325 ⇑*iP* P 08 17 11.9 +0.2
425A Indio Mountain 75.18 61 ⇑P P 08 17 12.3 +0.1
baz=75,SNR=6.1
U34A Anderson Ranch 75.19 52 ⇑P P 08 17 11.5 -0.4
baz=75
X31A McDonald Ranch 75.21 55 ⇑P P 08 17 11.6 -0.5
baz=75
V33A Lossen Ranch, 75.25 53 ⇑P P 08 17 11.8 -0.6
baz=75
Y30A Stafford Cattl 75.26 56 ⇑P P 08 17 12.2 -0.3
baz=75
Z29A Hungry Hill Ra 75.26 57 ⇓P P 08 17 12.7 +0.2
baz=75,SNR=5.7
227A Bennet, Jal 75.27 59 ⇑P P 08 17 12.6 0.0
baz=75
128A Castleberry Fa 75.29 58 ⇑P P 08 17 12.6 -0.2
baz=75
OKC Ostrava-Krasne 75.35 332 *eP* P 08 17 13.2 +0.5
OKC Ostrava-Krasne 75.35 332 ⇑*eP* P 08 17 13.2 +0.5
TLCR 75.39 323 ⇓*iP* P 08 17 13.7 +0.7
UPC Upice 75.43 333 ⇑*iP* P 08 17 13.6 +0.5
UPC Upice 75.43 333 ⇑*iP* P 08 17 13.6 +0.5
ESK Eskdalemuir 75.43 346 *eP* P 08 17 14.1 +1.1
ESK Eskdalemuir 75.43 346 P P 08 17 14.6 +1.6
comp=Z,159nm,1.0s,SNR=6.7
DPC Dobruska-Polom 75.47 333 ⇑*iP* P 08 17 14.2 +0.8
DPC Dobruska-Polom 75.47 333 ⇑*iP* P 08 17 14.2 +0.8
Y31A ReUeta Farm, 75.55 55 ⇓P P 08 17 14.0 -0.2
baz=75
Z30A Sanderson Ranc 75.57 56 ⇓P P 08 17 14.4 +0.1
baz=75,SNR=5.1
KRLC Kraliky 75.57 333 *eP* P 08 17 14.2 +0.2
KRLC Kraliky 75.57 333 ⇑*eP* P 08 17 14.2 +0.2
PETR Petresti 75.59 324 ⇑*iP* P 08 17 14.8 +0.7
228A UT Block 9, Go 75.59 58 ⇓P P 08 17 14.3 -0.2
baz=75
MORC Moravsky Berou 75.59 332 *eP* P 08 17 14.6 +0.5
MORC pmax pmax
comp=Z,31nm,0.9s
MORC Moravsky Berou 75.59 332 ⇓*iP* P 08 17 14.8 +0.7
MORC Moravsky Berou 75.59 332 *eP* P 08 17 14.6 +0.5
comp=Z,31nm,0.9s
CLL Collm 75.60 335 ⇑*iP* P 08 17 14.0 0.0
CLL pmax pmax
comp=Z,68nm,1.1s
CLL Collm 75.60 335 *eP* P 08 17 14.1 0.0
comp=Z,68nm,1.1s
CLL Collm 75.60 335 ⇑*iP* P 08 17 14.0 0.0
comp=Z,68nm,1.1s
CLL LmV 11 20 00.0
comp=Z,300nm,19.8s
V34A Guthrie 75.65 52 ⇑P P 08 17 14.6 -0.1
baz=75
W33A Caddo, Fort Co 75.65 53 ⇑P P 08 17 14.6 -0.1
baz=75
VRI Vrincioaia 75.67 325 ⇑*iP* P 08 17 15.2 +0.6
CFR Carcaliu 75.67 323 ⇑*iP* P 08 17 14.9 +0.3
PLOR Plostina 75.71 325 ⇑*iP* P 08 17 15.5 +0.6
BRG Berggiesshubel 75.72 335 *eP* P 08 17 14.7 0.0
comp=Z,23nm,1.0s
KEMA Kemaliye 75.73 313 *i* P P 08 17 16.7 +1.5
X32A Elmer 75.75 54 ⇑P P 08 17 15.1 -0.2
baz=76
WMOK Wichita Mounta 75.79 54 *eP* P 08 17 16.0 +0.5
WMOK pmax pmax
comp=Z,13nm,1.3s
WMOK Wichita Mounta 75.79 54 *eP* P 08 17 16.0 +0.5
comp=Z,14nm,1.3s
426A McDonald Obser 75.83 60 ⇓P P 08 17 15.7 -0.3
baz=76,SNR=5.7
CLZ Clausthal 75.83 337 *eP* P 08 17 16.3 +0.9
comp=Z,64nm,1.1s
PVCC Panska Ves 75.84 334 *eP* P 08 17 16.3 +0.8
PVCC Panska Ves 75.84 334 ⇑*eP* P 08 17 16.3 +0.8
FBE Freiberg 75.84 335 *eP* P 08 17 16.0 +0.6
comp=Z,30nm,0.9s
W34A Bridge Creek, 75.96 53 ⇑P P 08 17 16.1 -0.3
baz=76
Y32A R-V Farms, Ver 75.97 55 ⇓P P 08 17 16.3 -0.3
baz=76
GRER 75.97 324 ⇑*iP* P 08 17 16.7 +0.4
328A Wristen Ranch, 76.01 59 ⇑P P 08 17 16.7 -0.1
baz=76,SNR=10.0
NEUB Neuenburg 76.03 336 *eP* P 08 17 16.8 +0.3
comp=Z,45nm,0.9s
427A Hayter Ranch, 76.06 60 ⇑P P 08 17 17.0 -0.1
baz=76
ELZG Elazig 76.09 312 *i* P P 08 17 19.2 +1.9
X33A Lawton 76.09 54 ⇑P P 08 17 17.2 +0.1
baz=76
Z31A Sharp Cattle R 76.09 56 ⇓P P 08 17 17.1 -0.1
baz=76,SNR=5.4
GAL1 Galloway 76.10 347 AMB AMB 08 17 17.6
comp=Z,83nm,3.4s
GAL1 *eP* P 08 17 17.6 +0.8
DOPR Dopca 76.10 325 ⇓*iP* P 08 17 18.2 +1.1
KESW Keswick, Cumbr 76.12 346 *eP* P 08 17 18.0 +1.0
CJR Cluj-Napoca 76.15 327 ⇑*iP* P 08 17 18.3 +0.9
229A Bryant Ranch, 76.15 58 ⇓P P 08 17 17.4 -0.3
baz=76
HARR Harsova 76.16 323 ⇑*iP* P 08 17 17.7 +0.4
130A Snyder 76.17 57 ⇓P P 08 17 17.3 -0.4
baz=76
526A Mary Lane Ranc 76.23 61 ⇓P P 08 17 18.7 +0.4
baz=76,SNR=8.3
MLR Muntele Rosu 76.28 325 ⇓*iP* P 08 17 19.2 +1.0
VRAC Vranov 76.31 332 ⇑*iP* P 08 17 19.1 +1.0
PRU Pruhonice 76.33 334 ⇑*iP* P 08 17 18.7 +0.5
PRU Pruhonice 76.33 334 ⇑*iP* P 08 17 18.7 +0.5
ISR Istrita 76.36 324 ⇓*iP* P 08 17 19.7 +1.1
UOSS Wadi Hilu 76.38 292 P P 08 17 19.2 +0.2
comp=Z,318nm,0.6s,SNR=7.0
X34A Smith Ranch, M 76.41 53 ⇑P P 08 17 18.7 -0.3
baz=76
329A Wagon Wheel Ra 76.41 58 ⇓P P 08 17 19.2 +0.1
baz=76,SNR=5.5
Y33A Hilltop Ranch, 76.42 54 ⇓P P 08 17 18.3 -0.8
baz=76
131A Roby 76.44 56 ⇑P P 08 17 18.8 -0.4
baz=76
PSZ Piszkesteto 76.44 330 *eP* P 08 17 20.1 +1.1
PSZ pmax pmax
comp=Z,31nm,1.1s
PSZ Piszkesteto 76.44 330 ⇓*iP* P 08 17 19.5 +0.5
PSZ Piszkesteto 76.44 330 *eP* P 08 17 20.1 +1.1
comp=Z,31nm,1.1s
PSZ Piszkesteto 76.44 330 ⇑*eP* P 08 17 20.1 +1.1
527A Woodward Ranch 76.45 60 ⇑P P 08 17 19.2 -0.3
baz=76
HPK Haverah Park 76.47 345 ⇓*eP* P 08 17 20.1 +1.1
HPK AMB AMB 08 17 22.4
comp=Z,78nm,1.2s
Z32A Haskell 76.47 55 ⇑P P 08 17 18.9 -0.5
baz=76
TUL1 Tulsa 76.50 51 ⇑P P 08 17 18.9 -0.6
baz=76
MALT Malatya 76.51 313 ⇑*iP* P 08 17 21.1 +1.5
WERD Werda 76.56 335 *eP* P 08 17 20.1 +0.5
comp=Z,35nm,1.1s
428A Kincaid Ranch, 76.57 59 ⇓P P 08 17 20.3 +0.2
baz=76,SNR=9.9
PLN Plauen 76.57 336 *eP* P 08 17 20.2 +0.6
comp=Z,50nm,1.3s
626A Big Bend Ranch 76.58 61 ⇑P P 08 17 20.0 -0.1
baz=76,SNR=6.6
WTSB Winterswijk 76.61 339 *eP* P 08 17 20.5 +0.8
comp=Z,31nm,0.8s
230A Sterling City 76.61 57 ⇓P P 08 17 19.7 -0.5
baz=76
GUNZ Gunzen 76.63 335 *eP* P 08 17 20.5 +0.5
comp=Z,24nm,0.9s
WERN Wernitzgruen 76.69 335 *eP* P 08 17 20.9 +0.6
comp=Z,27nm,0.8s
NKC Novy Kostel 76.72 335 *eP* P 08 17 21.2 +0.8
NKC Novy Kostel 76.72 335 ⇑*eP* P 08 17 21.2 +0.8
AKCD Akcadag 76.77 313 *i* P P 08 17 22.2 +1.1
SULR 76.84 324 ⇑*iP* P 08 17 21.2 0.0
Z33A Whitaker Ranch 76.88 55 ⇑P P 08 17 20.9 -0.8
baz=77
ABTX Abilene, Hawle 76.89 56 ⇑P P 08 17 21.9 +0.1
baz=77
ARR Arges 76.89 325 ⇑*iP* P 08 17 21.5 -0.1
GMM Mts of Mourne 76.89 348 *eP* P 08 17 22.8 +1.5
Y34A Reagan Ranch, 76.93 54 ⇓P P 08 17 21.8 -0.1
baz=77
330A Mertzon 76.93 58 ⇑P P 08 17 21.5 -0.5
baz=77
TXAR Lajitas Array 77.02 61 P P 08 17 22.2 -0.4
TXAR pP pP 08 17 52.8 -0.1
TXAR Lajitas Array 77.02 61 P P 08 17 22.2 -0.4
comp=Z,5.3nm,0.7s,baz=300,slow=4.1,SNR=53
TXAR pP pP 08 17 52.8 -0.1
comp=Z,4.7nm,0.7s,baz=303,slow=3.9,SNR=6.2
231A Bronte 77.03 57 ⇑P P 08 17 22.0 -0.5
baz=77
MANZ Manzenberg 77.03 335 *eP* P 08 17 22.5 +0.3
comp=Z,25nm,1.1s
627A Terlingua Ranc 77.09 60 ⇓P P 08 17 23.3 +0.2
baz=77,SNR=7.1
429A Davenport Ranc 77.10 59 ⇓P P 08 17 23.1 +0.1
baz=77,SNR=5.7
BUD Budapest 77.11 330 ⇑*e* P 08 17 23.8 +1.2
SFNV Sufian 77.12 310 *eP* P 08 17 23.8 +0.8
KBI1 Birley Grange 77.13 345 ⇓*eP* P 08 17 24.0 +1.3
ROTZ Rotzenmuhle 77.20 335 *eP* P 08 17 24.0 +0.8
comp=Z,57nm,1.4s
529A Stev Forest Ra 77.28 59 ⇓P P 08 17 24.8 +0.8
baz=77,SNR=10
Z34A Collier Ranch, 77.28 54 ⇓P P 08 17 23.2 -0.8
baz=77
133A Hamilton Ranch 77.31 55 ⇑P P 08 17 22.7 -1.4
baz=77
PKSN Nyarlorinc 77.33 329 ⇓*eP* P 08 17 25.5 +1.6
430A Baggett Ranch, 77.36 58 ⇓P P 08 17 24.3 -0.1
baz=77,SNR=7.0
628A Black Gap, Mar 77.36 60 ⇓P P 08 17 24.1 -0.3
baz=77
KHC Kasperske Hory 77.38 334 *eP* P 08 17 24.7 +0.5
KHC pmax pmax
comp=Z,51nm,1.2s
KHC Kasperske Hory 77.38 334 *eP* P 08 17 24.7 +0.5
comp=Z,51nm,1.2s
PKSG 77.40 330 ⇓*eP* P 08 17 25.4 +1.1
331A San Angelo 77.43 57 ⇑P P 08 17 24.3 -0.5
baz=77
CDAG Cicekdag 77.44 316 *i* P P 08 17 25.7 +0.9
232A Coleman 77.44 56 ⇓P P 08 17 24.7 -0.1
baz=77,SNR=5.8
GRF Grafenberg Arr 77.55 336 *eP* P 08 17 26.0 +0.9
comp=Z,47nm,0.8s
GRF *eL* L 08 48 06.3
comp=Z,98nm,21.0s
WET Wettzell 77.57 335 *eP* P 08 17 26.7 +1.4
comp=Z,61nm,1.3s
GZR Gura Zlata 77.57 327 ⇓*iP* P 08 17 25.9 +0.5
GERES GERESS Array B 77.60 334 P P 08 17 25.7 +0.2
GERES GERESS Array B 77.60 334 P P 08 17 25.7 +0.2
comp=Z,2.7nm,0.4s,baz=39,slow=5.4,SNR=24
GERES LR LR 08 56 09.1
comp=Z,134nm,18.6s,baz=318,slow=39
PKST T"'s 77.64 331 ⇓*e* P 08 17 26.5 +0.9
PKS6 Bocsa 77.69 329 ⇓*e* P 08 17 27.0 +1.1
BR131 Keskin Array S 77.70 317 *eP* P 08 17 26.7 +0.4
comp=Z,10nm,0.7s
BRTR Keskin Array B 77.70 317 P P 08 17 26.9 +0.7
BRTR PP PP 08 20 23.3 +0.9
BRTR Keskin Array B 77.70 317 P P 08 17 26.9 +0.7
comp=Z,17nm,0.7s,baz=71,slow=3.3,SNR=51
BRTR PP PP 08 20 23.3 +0.9
comp=Z,0.8nm,0.8s,baz=93,slow=2.5,SNR=4.1
BRTR LR LR 08 59 43.8
comp=Z,68nm,18.2s,baz=289,slow=42
SOP Sopron 77.75 332 ⇓*eP* P 08 17 28.4 +2.2
CONA Conrad Observa 77.75 332 ⇑*iP* P 08 17 27.3 +0.9
comp=Z,26nm,0.8s,SNR=11
233A Rising Star 77.76 56 ⇓P P 08 17 26.5 -0.1
baz=78
332A Millersview 77.76 57 ⇑P P 08 17 26.5 -0.1
baz=78
FOEL Foel Wylfa 77.77 346 *eP* P 08 17 28.5 +2.2
FOEL AMB AMB 08 17 34.9
comp=Z,72nm,4.8s
530A J-C Ranch, Com 77.77 59 ⇑P P 08 17 26.6 -0.1
baz=78
431A Sonora 77.79 58 ⇓P P 08 17 26.5 -0.4
baz=78
TNS Taunus Mts 77.81 338 *eP* P 08 17 27.3 +0.7
comp=Z,16nm,0.8s
BZS Buzias 77.81 327 ⇓*iP* P 08 17 26.4 -0.2
PKS2 Kecel 77.90 329 ⇑*eP* P 08 17 28.7 +1.6
HGN Heimansgroeve 77.93 339 *eP* P 08 17 27.8 +0.7
comp=Z,43nm,0.8s
BEBN Eben Emael 77.96 340 P P 08 17 28.6 +1.3
ANTO Ankara 77.97 317 *eP* P 08 17 28.7 +1.0
ANTO pmax pmax
comp=Z,36nm,0.8s
ANTO Ankara 77.97 317 ⇑*iP* P 08 17 29.1 +1.4
ANTO Ankara 77.97 317 *eP* P 08 17 28.7 +1.0
comp=Z,36nm,0.8s
MEM Membach 78.05 339 P P 08 17 28.9 +1.1
comp=Z,30nm,1.4s
HLM1 Long Mynd 78.07 345 *eP* P 08 17 29.4 +1.5
HLM1 AMB AMB 08 17 43.3
comp=Z,85nm,3.8s
ANDN Andirin 78.11 314 *i* P P 08 17 30.0 +1.4
432A Menard 78.11 57 ⇑P P 08 17 28.1 -0.5
baz=78
PKS9 Tamasi 78.14 330 ⇓*e* P 08 17 28.8 +0.4
SZH Strazhica 78.14 324 *eP* P 08 17 28.6 +0.1
MIB Mutribah 78.17 301 *eP* P 08 17 29.5 +0.7
MIB AMb AMB 08 17 30.5
comp=Z,2.2nm,0.5s
531A Rocksprings 78.22 58 ⇑P P 08 17 28.6 -0.6
baz=78,SNR=5.3
333A Richland Sprin 78.23 56 ⇑P P 08 17 28.6 -0.6
baz=78
MOA Molln 78.32 333 ⇓*iP* P 08 17 29.7 +0.3
comp=Z,14nm,1.0s
PKSM Moragy 78.34 330 ⇑*iP* P 08 17 29.3 -0.2
BCLA Clavier 78.40 340 P P 08 17 30.7 +1.0
comp=Z,37nm,1.8s
JCT Junction City 78.41 57 *eP* P 08 17 30.1 -0.1

JCT pmax pmax
comp=Z,6.0nm,0.6s
JCT Junction City 78.41 57 *e*P **P** 08 17 30.1 -0.1
comp=Z,5.6nm,0.6s
JCT Junction City 78.41 57 ⇑P **P** 08 17 29.6 -0.6
baz=78
SIUC Southern Illin 78.43 46 *e*P **P** 08 17 30.6 +0.5
comp=Z,23nm,1.3s
ARSA Arzberg 78.46 332⇑*i*P **P** 08 17 31.4 +1.2
comp=Z,24nm,1.2s,SNR=8.4
SNF Seneffe 78.55 340 P **P** 08 17 31.6 +1.1
JHLN Al Jahlan 78.55 311 *e*P P 08 17 34.3 +3.5
WHTX Lake Whitney 78.58 55 ⇑P **P** 08 17 30.9 -0.2
baz=78
MCH1 Michaelchurch 78.59 345 *e*P **P** 08 17 31.3 +0.6
MCH1 AMB AMB 08 17 37.4
comp=Z,100nm,2.5s
RST Umm Al-Ruwaisa 78.59 301 *e*P **P** 08 17 31.4 +0.2
RST AMb AMB 08 17 32.5
comp=Z,2µm,0.7s
433A Art 78.60 57 ⇑P **P** 08 17 30.7 -0.6
baz=78
532A Rocksprings 78.61 58 ⇓P **P** 08 17 31.0 -0.4
baz=78,SNR=8.3
NAY Al-Naaiem 78.64 301 *e*P **P** 08 17 31.7 +0.3
NAY AMb AMB 08 17 32.5
comp=Z,92nm,0.8s
334A Lometa 78.64 56 ⇑P **P** 08 17 31.4 -0.1
baz=78
MONM Monmouth 78.71 345 *e*P **P** 08 17 32.9 +1.5
MONM AMB AMB 08 17 45.1
comp=Z,149nm,3.3s
631A Perdido Creek 78.76 59 ⇓P **P** 08 17 32.5 +0.3
baz=78,SNR=6.1
GIVF Givet 78.80 340 *e*P **P** 08 17 32.9 +0.9
GIVF Givet 78.80 340 *e*P **P** 08 17 32.9 +0.9
GIVF Givet 78.80 340 *e*P **P** 08 17 32.9 +0.9
RJOB Jochberg 78.86 334 *e*P **P** 08 17 33.4 +1.0
comp=Z,26nm,1.4s
DOU Dourbes 78.86 340 P **P** 08 17 33.2 +0.9
comp=Z,25nm,1.9s
WLF Walferdange 78.89 339 P **P** 08 17 33.8 +1.3
comp=Z,19nm,2.0s
FUR Furstenfeldbru 78.92 335 *e*P **P** 08 17 33.7 +1.0
comp=Z,70nm,1.2s
WOL Wolverton 78.93 344 *e*P **P** 08 17 33.8 +1.2
MPEP Malo Peshtene 78.94 325 *e*P **P** 08 17 33.4 +0.6
STU Stuttgart 78.94 337 *e*P **P** 08 17 33.6 +0.9
comp=Z,57nm,1.5s
MENF Mencas 78.97 342 *e*P **P** 08 17 34.5 +1.7
BAIF Baives 78.99 340 *e*P **P** 08 17 34.0 +1.0
BAIF Baives 78.99 340 *e*P **P** 08 17 34.0 +1.0
BAIF Baives 78.99 340 *e*P **P** 08 17 34.0 +1.0
434A Burnet 79.02 56 ⇑P **P** 08 17 33.4 -0.1
baz=79
YURE YUREGIR 79.05 314 *i*P **P** 08 17 35.7 +2.1
GULE Gulek 79.10 314 *i*P **P** 08 17 35.7 +1.7
LANF Langenberg 79.11 338 *e*P **P** 08 17 34.7 +1.0
SOKA Soboth 79.12 332⇑*i*P **P** 08 17 34.9 +1.0
comp=Z,48nm,1.4s,SNR=18
PERS Pernice 79.13 332 *e*P **P** 08 17 34.4 +0.5
632A Uvalde 79.14 58 ⇓P **P** 08 17 34.2 -0.1
baz=79
533A Kerrville 79.15 57 ⇓P **P** 08 17 34.2 -0.1
baz=79
KBA Koelnbreinsper 79.29 333⇑*i*P **P** 08 17 36.4 +1.5
comp=Z,53nm,1.0s,SNR=15
DIM Dimitrovgrad 79.32 323 *e*P **P** 08 17 35.9 +1.0
OBKA Obir 79.42 332⇑*i*P **P** 08 17 36.2 +0.7
comp=Z,13nm,0.8s,SNR=5.4
534A Blanco 79.50 57 ⇑P **P** 08 17 35.9 -0.2
baz=79
633A Seathoff Ranch 79.53 58 ⇓P **P** 08 17 36.2 -0.1
baz=79
BFO Black Forest 79.57 337 P **P** 08 17 37.6 +1.4
comp=Z,109nm,0.9s,SNR=6.8
BFO Black Forest 79.57 337 *e*P **P** 08 17 37.2 +1.0
BFO pmax pmax
comp=Z,36nm,1.3s
BFO Black Forest 79.57 337 *e*P **P** 08 17 37.2 +1.0
comp=Z,36nm,1.3s
WATA Walderalm 79.58 335⇑*i*P **P** 08 17 37.6 +1.2
comp=Z,15nm,0.6s,SNR=13
732A Laxson Ranch, 79.62 59 ⇓P **P** 08 17 36.9 +0.1
baz=79,SNR=6.3
HEX Exmoor 79.63 345⇓*e*P **P** 08 17 38.1 +1.7
RETA Reutte 79.68 335⇑*i*P **P** 08 17 38.1 +1.2
comp=Z,32nm,1.6s,SNR=6.4
WRDH Warideh 79.70 312 *e*P **P** 08 17 38.3 +1.1
KDZ Kurdzhali 79.71 323⇑*i*P **P** 08 17 38.8 +1.7
MOTA Moosalm 79.71 335⇓*i*P **P** 08 17 38.0 +0.8
comp=Z,30nm,1.0s,SNR=18
VAL Valentia 79.78 350⇑*i*P P 08 17 40.2 +3.4
CRES Cresnjev 79.74 331 *e*P **P** 08 17 36.8 -0.3
CDF Champ du Feu 79.77 338 *e*P **P** 08 17 38.3 +0.9
CDF Champ du Feu 79.77 338 *e*P **P** 08 17 38.3 +0.9
CDF Champ du Feu 79.77 338 *e*P **P** 08 17 38.3 +0.9
VTS Vitosha 79.79 325 *i*P **P** 08 17 37.8 +0.1
VTS Vitosha 79.79 325⇑*i*P **P** 08 17 39.1 +1.4
ABTA Abfaltersbach 79.83 334⇑*i*P **P** 08 17 38.9 +1.1
comp=Z,19nm,1.4s
STKA Stephens Creek 79.89 190 P **P** 08 17 38.2 +0.4
STKA Stephens Creek 79.89 190 P **P** 08 17 38.2 +0.4
comp=Z,1.6nm,0.6s,baz=2.5,slow=5.9,SNR=3.6
STKA LR LR 08 50 03.7
comp=Z,79nm,19.8s,baz=204,slow=33
832A Faith Ranch, C 79.95 59 ⇓P **P** 08 17 38.5 -0.1
baz=80
ECH Echery 79.98 338 *e*P **P** 08 17 38.7 +0.2
733A Divot King Ran 80.02 58 ⇓P **P** 08 17 39.5 +0.6
baz=80
PAGF Fort de Pagny 80.03 339 *e*P **P** 08 17 40.1 +1.4
comp=Z,15nm,0.6s
PAGF Fort de Pagny 80.03 339 *e*P **P** 08 17 40.1 +1.4
comp=Z,15nm,0.6s
634A China Grove, S 80.06 57 ⇓P **P** 08 17 39.3 +0.2
baz=80
BOJS Bojanci 80.09 331 *e*P **P** 08 17 39.4 +0.4
DAVA Damuels 80.11 336⇑*i*P **P** 08 17 40.5 +1.2
comp=Z,22nm,1.1s,SNR=6.7
FETA Feichten 80.11 335⇓*i*P **P** 08 17 40.6 +1.2
comp=Z,31nm,1.5s,SNR=7.1
BIDA Albida 80.14 312 *e*P **P** 08 17 40.0 +0.5
MEZF Maizieres J'vi 80.24 339 *e*P **P** 08 17 41.2 +1.4
comp=Z,37nm,0.7s
MEZF Maizieres J'vi 80.24 339 *e*P **P** 08 17 41.2 +1.4
comp=Z,37nm,0.7s
833A Chaparral WMA, 80.26 59 ⇓P **P** 08 17 40.9 +0.6
baz=80
THEF They Montfort 80.27 338⇑*e*P **P** 08 17 41.0 +1.0
MOF Molkenrain 80.33 338⇑*e*P **P** 08 17 41.2 +0.8
734A JLa Parita Cre 80.34 58 ⇓P **P** 08 17 41.3 +0.6
baz=80
HAU Haudompre 80.39 338 *e*P **P** 08 17 41.4 +0.8
comp=Z,17nm,0.7s
HAU *e*R
comp=Z,118nm,22.8s
HAU Haudompre 80.39 338 *e*P **P** 08 17 41.4 +0.8
HAU pmax pmax
comp=Z,17nm,0.7s
HAU Haudompre 80.39 338 *e*P **P** 08 17 41.4 +0.8
comp=Z,17nm,0.7s
HINF Hinteralfeld 80.43 338 *e*P **P** 08 17 41.6 +0.7
HINF Hinteralfeld 80.43 338 *e*P **P** 08 17 41.6 +0.7
HINF Hinteralfeld 80.43 338 *e*P **P** 08 17 41.6 +0.7
MMB Musomiste 80.44 324 *e*P **P** 08 17 41.4 +0.4
MMB Musomiste 80.44 324⇑*i*P **P** 08 17 41.8 +0.8
HAWK Haweek 80.48 312 *e*P **P** 08 17 43.5 +2.0
SFTF Sexfontaines 80.52 339 *e*P **P** 08 17 42.5 +1.2
comp=Z,59nm,0.7s
SFTF Sexfontaines 80.52 339 *e*P **P** 08 17 42.5 +1.2
comp=Z,59nm,0.7s
735A Kenedy 80.76 57 ⇓P **P** 08 17 43.4 +0.5
baz=80
MARH Ras Al Marh 80.84 311 *e*P **P** 08 17 44.2 +0.5
LOMF Lomont 80.87 338⇑*e*P **P** 08 17 44.4 +1.1
834A Tilden 80.89 58 ⇑P **P** 08 17 44.6 +1.0
baz=81
SKO Skopje 81.00 326 *i*P **P** 08 17 44.5 +0.6
VAY Valandovo 81.12 325 *i*P **P** 08 17 44.7 +0.1
835A Beeville 81.18 58 ⇑P **P** 08 17 46.4 +1.2
baz=81
FLN La Foliniere 81.22 343 *e*P **P** 08 17 47.6 +2.6
FLN *e*R
comp=Z,81nm,18.2s
FLN La Foliniere 81.22 343 *e*P **P** 08 17 47.6 +2.6
ZALF Zalf 81.27 310 *e*P **P** 08 17 46.1 +0.5
LDF La Druitiere 81.31 342 *e*P **P** 08 17 48.0 +2.5
LDF La Druitiere 81.31 342 *e*P **P** 08 17 48.0 +2.5
LDF La Druitiere 81.31 342 *e*P **P** 08 17 48.0 +2.5
TOTH TOTAH 81.39 311 *e*P **P** 08 17 46.5 +0.2
PMOR Pomariorio Ree 81.57 123 *e*T T 09 47 53.0
comp=Z,23nm,0.2s
GRR Gorron 81.65 343 *e*P **P** 08 17 50.0 +2.7
comp=Z,97nm,1.2s
GRR Gorron 81.65 343 *e*P **P** 08 17 50.0 +2.7
GRR pmax pmax
comp=Z,97nm,1.2s
GRR Gorron 81.65 343 *e*P **P** 08 17 50.0 +2.7
comp=Z,97nm,1.2s
CSS Prodhromos 81.66 314 *e*P **P** 08 17 48.3 +0.7
comp=Z,8.3nm,0.7s
LOR Lormes 81.68 339 *e*P **P** 08 17 48.6 +1.1
comp=Z,30nm,0.6s
LOR *e*R
comp=Z,115nm,20.5s
LOR Lormes 81.68 339 *e*P **P** 08 17 48.6 +1.1
comp=Z,30nm,0.6s
CABF La Chapelle 81.75 338 *e*P **P** 08 17 49.2 +1.3
CABF La Chapelle 81.75 338 *e*P **P** 08 17 49.2 +1.3
CABF La Chapelle 81.75 338 *e*P **P** 08 17 49.2 +1.3
SALA Sala 81.75 310 *e*P **P** 08 17 49.0 +0.7
SSF Saint Saulge 81.96 340 *e*P **P** 08 17 50.2 +1.3
comp=Z,22nm,0.8s
SSF Saint Saulge 81.96 340 *e*P **P** 08 17 50.2 +1.3
SSF pmax pmax
comp=Z,22nm,0.8s
SSF Saint Saulge 81.96 340 *e*P **P** 08 17 50.2 +1.3
comp=Z,22nm,0.8s
SGMF Saint Gilles 82.11 344 *e*P **P** 08 17 50.7 +1.0
comp=Z,27nm,0.7s
SGMF Saint Gilles 82.11 344 *e*P **P** 08 17 50.7 +1.0
SGMF pmax pmax
comp=Z,27nm,0.7s
SGMF Saint Gilles 82.11 344 *e*P **P** 08 17 50.7 +1.0
comp=Z,27nm,0.7s
ROSF Rostrenen 82.16 344 *e*P **P** 08 17 52.0 +2.1
comp=Z,39nm,0.8s
ROSF Rostrenen 82.16 344 *e*P **P** 08 17 52.0 +2.1
ROSF pmax pmax
comp=Z,39nm,0.8s
ROSF Rostrenen 82.16 344 *e*P **P** 08 17 52.0 +2.1
comp=Z,39nm,0.8s
TCHB Talchebab 82.17 311 *e*P P 08 17 46.0 -4.4
AVF Avril sur Loir 82.25 340 *e*P **P** 08 17 51.8 +1.4
comp=Z,62nm,1.0s
AVF Avril sur Loir 82.25 340 *e*P **P** 08 17 51.8 +1.4
AVF pmax pmax
comp=Z,62nm,1.0s
AVF Avril sur Loir 82.25 340 *e*P **P** 08 17 51.8 +1.4
comp=Z,62nm,1.0s
SMF Signal de Mont 82.27 339 *e*P **P** 08 17 51.9 +1.3
comp=Z,126nm,1.2s
SMF Signal de Mont 82.27 339 *e*P **P** 08 17 51.9 +1.3
SMF pmax pmax
comp=Z,126nm,1.2s
SMF Signal de Mont 82.27 339 *e*P **P** 08 17 51.9 +1.3
comp=Z,126nm,1.2s
QUIF Quistinic 82.55 344 *e*P **P** 08 17 53.6 +1.7
QUIF Quistinic 82.55 344 *e*P **P** 08 17 53.6 +1.7
QUIF Quistinic 82.55 344 *e*P **P** 08 17 53.6 +1.7
BGF Bois d'Agland 82.59 340 *e*P **P** 08 17 53.6 +1.4
comp=Z,20nm,0.6s
BGF Bois d'Agland 82.59 340 *e*P **P** 08 17 53.6 +1.4
BGF pmax pmax
comp=Z,20nm,0.6s
BGF Bois d'Agland 82.59 340 *e*P **P** 08 17 53.6 +1.4
comp=Z,20nm,0.6s
LPL La Plagne 82.59 337 *e*P **P** 08 17 54.3 +1.8
comp=Z,18nm,0.7s
LPL La Plagne 82.59 337 *e*P **P** 08 17 54.3 +1.8
LPL pmax pmax
comp=Z,18nm,0.7s
LPL La Plagne 82.59 337 *e*P **P** 08 17 54.3 +1.8
comp=Z,18nm,0.7s
LPG La Plagne 82.61 337 *e*P **P** 08 17 53.6 +0.9
comp=Z,33nm,0.8s
LPG La Plagne 82.61 337 *e*P **P** 08 17 53.6 +0.9
LPG pmax pmax
comp=Z,33nm,0.8s
LPG La Plagne 82.61 337 *e*P **P** 08 17 53.6 +0.9
comp=Z,33nm,0.8s
PPT Papeete 82.72 126 LR LR 08 52 41.9
comp=Z,156nm,18.2s,baz=249,slow=34
PPT2 Papeete2 82.73 126 *e*LR LR 08 43 38.0
comp=Z,270nm,25.2s
TCF Toulx Ste Croi 82.99 340 *e*P **P** 08 17 55.4 +1.1
comp=Z,26nm,0.9s
TCF Toulx Ste Croi 82.99 340 *e*P **P** 08 17 55.4 +1.1
TCF pmax pmax
comp=Z,27nm,0.9s
TCF Toulx Ste Croi 82.99 340 *e*P **P** 08 17 55.4 +1.1
comp=Z,26nm,0.9s
AGO Saint Agoulin 83.00 339⇑*e*P **P** 08 17 57.2 +2.9
MFF Saint Martin d 83.21 342 *e*P **P** 08 17 56.5 +1.1
MFF Saint Martin d 83.21 342 *e*P **P** 08 17 56.5 +1.1
MFF Saint Martin d 83.21 342 *e*P **P** 08 17 56.5 +1.1
PYM Petit Puy Mans 83.31 339 *e*P **P** 08 17 57.9 +1.9
MBDF Montbardon 83.31 337 *e*P **P** 08 17 57.8 +1.6
comp=Z,22nm,0.8s
MBDF Montbardon 83.31 337 *e*P **P** 08 17 57.8 +1.6
MBDF pmax pmax
comp=Z,22nm,0.8s
MBDF Montbardon 83.31 337 *e*P **P** 08 17 57.8 +1.6
comp=Z,22nm,0.8s
ORIF Oris-en-Rattie 83.37 337 *e*P **P** 08 17 58.2 +1.8
comp=Z,22nm,0.7s
ORIF *e*R
comp=Z,87nm,21.5s
ORIF Oris-en-Rattie 83.37 337 *e*P **P** 08 17 58.2 +1.8
ORIF pmax pmax
comp=Z,22nm,0.7s
ORIF Oris-en-Rattie 83.37 337 *e*P **P** 08 17 58.2 +1.8
comp=Z,22nm,0.7s
LBL Lubilhac 83.74 339 *e*P **P** 08 18 00.7 +2.5
VIVF Saint-Julien-l 83.74 338 *e*P **P** 08 17 59.7 +1.5
comp=Z,28nm,1.0s
VIVF Saint-Julien-l 83.74 338 *e*P **P** 08 17 59.7 +1.5
VIVF pmax pmax
comp=Z,28nm,1.0s
VIVF Saint-Julien-l 83.74 338 *e*P **P** 08 17 59.7 +1.5
comp=Z,28nm,1.0s
SBF Sospel 83.93 336 *e*P **P** 08 18 00.4 +1.2
comp=Z,38nm,0.7s
SBF Sospel 83.93 336 *e*P **P** 08 18 00.4 +1.2
SBF pmax pmax
comp=Z,38nm,0.7s
SBF Sospel 83.93 336 *e*P **P** 08 18 00.4 +1.2
comp=Z,38nm,0.7s
RJF Les Rejaudoux 84.08 340 *e*P **P** 08 18 01.8 +1.9
RJF *e*R
comp=Z,97nm,19.0s
RJF Les Rejaudoux 84.08 340 *e*P **P** 08 18 01.8 +1.9
RJF Les Rejaudoux 84.08 340 *e*P **P** 08 18 01.8 +1.9
KMSC Kings Mountain 84.22 42 ⇑P **P** 08 18 00.4 -0.3
baz=84
CAF Calviac 84.31 340 *e*P **P** 08 18 03.4 +2.3
CAF Calviac 84.31 340 *e*P **P** 08 18 03.4 +2.3
CAF Calviac 84.31 340 *e*P **P** 08 18 03.4 +2.3
SMRF Simiane la Rot 84.33 337 *e*P **P** 08 18 03.2 +2.0
SMRF Simiane la Rot 84.33 337 *e*P **P** 08 18 03.2 +2.0
FRF La Foret Royal 84.43 336 *e*P **P** 08 18 02.9 +1.2
FRF La Foret Royal 84.43 336 *e*P **P** 08 18 02.9 +1.2
FRF La Foret Royal 84.43 336 *e*P **P** 08 18 02.9 +1.2
LFF La Frestale 84.60 341 *e*P **P** 08 18 04.7 +2.2
LFF La Frestale 84.60 341 *e*P **P** 08 18 04.7 +2.2
LFF La Frestale 84.60 341 *e*P **P** 08 18 04.7 +2.2
LMR La Mourre 84.67 336 *e*P **P** 08 18 04.1 +1.2
LMR La Mourre 84.67 336 *e*P **P** 08 18 04.1 +1.2
LMR La Mourre 84.67 336 *e*P **P** 08 18 04.1 +1.2
TIGA Tifton 86.22 46 ⇓P **P** 08 18 10.8 0.0
baz=86
ETSF Etsaut 86.83 341 *e*P **P** 08 18 16.2 +2.6
comp=Z,5.7nm,0.5s
ETSF Etsaut 86.83 341 *e*P **P** 08 18 16.2 +2.6
ETSF pmax pmax
comp=Z,6.0nm,0.5s
ETSF Etsaut 86.83 341 *e*P **P** 08 18 16.2 +2.6
comp=Z,5.7nm,0.5s
TBI Tubuai 87.50 129 *e*LR LR 08 45 45.8
comp=Z,308nm,34.0s
KEST Kesra 90.83 331 P **P** 08 18 34.2 +1.6
KEST Kesra 90.83 331 P **P** 08 18 34.2 +1.6
comp=Z,1.6nm,0.6s,baz=254,slow=7.9,SNR=5.5
KEST LR LR 09 03 55.5
comp=Z,32nm,18.1s,baz=287,slow=38
RKT Rikitea 95.44 118 *e*LR LR 08 49 19.8
comp=Z,294nm,36.2s
TORD Torodi Ar. Bea 114.28 329 PP **PP** 08 25 00.4 -4.1
TORD Torodi Ar. Bea 114.28 329 PP **PP** 08 25 00.4 -4.1
comp=Z,0.7nm,0.8s,baz=9.0,slow=7.9,SNR=4.4
H03N2 Juan Fernandez 138.74 89 T T 11 00 00.6
baz=306,slow=75,SNR=156
H03N1 Juan Fernandez 138.76 89 T T 11 00 05.3
baz=306,slow=75,SNR=174
H03N3 Juan Fernandez 138.76 89 T T 11 00 01.7
baz=306,slow=75,SNR=193
CPUP Villa Florida 147.98 59 PKPbc **PKPbc** 08 25 13.3 -0.6
CPUP pPKPbc **pPKPbc** 08 25 44.1 -2.1
CPUP Villa Florida 147.98 59 PKPbc **PKPbc** 08 25 13.3 -0.6
comp=Z,0.4nm,0.3s,baz=348,slow=8.5,SNR=3.4
CPUP pPKPbc **pPKPbc** 08 25 44.1 -2.1
comp=Z,6.7nm,0.9s,baz=298,slow=4.0,SNR=3.3
PLCA Paso Flores 148.28 94 PKPbc **PKPbc** 08 25 14.2 -0.2
PLCA pPKPbc **pPKPbc** 08 25 46.2 -0.5
PLCA Paso Flores 148.28 94 PKPbc **PKPbc** 08 25 14.2 -0.2
comp=Z,5.9nm,0.8s,baz=301,slow=3.9,SNR=10
PLCA pPKPbc **pPKPbc** 08 25 46.2 -0.5
comp=Z,10nm,1.1s,baz=268,slow=5.5,SNR=3.2

SKO 28 08:15:11.1, 41°39N×22°77E, h15km, M0.3, ML0.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.17**	**245**	*i* Pg		Pg	08 15 15.3	+0.1
VAY				*i* Sg		Sg	08 15 17.7	-0.3
VAY				*i* Lg		Lg	08 15 17.9	
	comp=E,10.0nm,0.5s							
VAY				*i* Lg		Lg	08 15 17.9	
	comp=N,20nm,0.6s							

*IDC **28** 08:21:05.3±1.9, 51°.54N×178°.32W, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/30, mbtmp3.7/10, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/40, Error ellipse: s-maj=52.7km s-min=15.3km az=177.0*

*ISCJB **28** 08:21:09.8±0.9, 51°.3N±0°.1×178°.53W±0°.05, h53km±6km, mb4.5/21, Error ellipse: s-maj=18.3km s-min=5.0km az=175.7*

*NEIC **28** 08:21:09.7, 51°.18N×178°.51W, h17km, ML3.6(AEIC), After AEIC.*

ISC 28 08:21:10.9±2.0, 51°.4N±0°.2×178°.54W±0°.04, h50km±13km, n63, σ0°.79/64, mb4.8/21, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.44**	**341**	P		**Pn**	**08 21 21.1**	**-0.4**
GAEA	**Gareloi East**	**0.46**	**343**	P		**Pn**	**08 21 21.3**	**-0.4**
GANE	**Gareloi Northe**	**0.50**	**343**	P		**Pn**	**08 21 21.7**	**-0.4**
TAFL	**Tanaga Flats**	**0.57**	**44**	P		**Pn**	**08 21 21.9**	**-1.1**
TAFL				S		**Sn**	**08 21 31.4**	**-0.4**
TASE	**Tanaga Southea**	**0.58**	**32**	P		**Pn**	**08 21 22.6**	**-0.7**
TANO	**Tanaga North**	**0.63**	**24**	P		**Pn**	**08 21 23.6**	**-0.2**
TANO				S		**Sn**	**08 21 34.5**	**+1.6**
TAFP	**Tanaga Falls P**	**0.65**	**32**	P		**Pn**	**08 21 23.4**	**-0.7**
TAFP				S		**Sn**	**08 21 34.5**	**+0.8**
KIRH	**Kanaga Island**	**1.06**	**58**	P		**Pn**	**08 21 28.8**	**-0.6**
CERAA	**Semis' Rag'd T**	**1.24**	**298**	P		**Pn**	**08 21 31.3**	**-0.6**
CERAA				S		**Sn**	**08 21 48.9**	**+1.4**
ADAG	**Mount Adagdak**	**1.36**	**61**	P		**Pn**	**08 21 33.1**	**-0.4**
CETU	**Semis' Tuman**	**1.37**	**298**	P		**Pn**	**08 21 33.3**	**-0.5**
ETKA	**Kagalaska Isla**	**1.43**	**68**	P		**Pn**	**08 21 32.9**	**-1.5**
ETKA				S		**Sn**	**08 21 53.6**	**+1.6**
GSCK	**Great Sitkin C**	**1.62**	**65**	P		**Pn**	**08 21 36.5**	**-0.6**
GSTD	**Great Sitkin T**	**1.65**	**64**	P		**Pn**	**08 21 38.2**	**+0.7**
GSMY	**Great Sitkin M**	**1.69**	**65**	P		**Pn**	**08 21 37.5**	**-0.6**
GSTR	**Great Sitkin T**	**1.71**	**63**	*e*Pn		**Pn**	**08 21 39.2**	**+0.8**
GSTR				*e*Sn		**Sn**	**08 22 00.8**	**+1.7**
LSPA	**Little Sitkin**	**1.90**	**290**	P		**Pn**	**08 21 40.4**	**-0.5**
LSSA	**Little Sitkin**	**1.93**	**289**	P		**Pn**	**08 21 41.2**	**-0.2**
LSNW	**Little Sitkin**	**1.94**	**290**	P		**Pn**	**08 21 40.7**	**-0.7**
FX1	**Attu Island--F**	**5.34**	**290**	Pn		**Pn**	**08 22 27.4**	**-0.6**
	2.3nm,0.3s,baz=352,slow=14,SNR=2.3							
UNV	**Unalaska Valle**	**7.75**	**66**	P		**Pn**	**08 23 01.3**	**+0.4**
PETK	**Petropavlovsk-**	**14.65**	**286**	LR		LR	08 29 58.0	
	comp=Z,44nm,18.5s,baz=259,slow=36							
ILAR	**Eielson Array**	**21.17**	**39**	P		**P**	**08 25 51.0**	**-0.6**
	0.4nm,0.9s,baz=230,slow=8.3,SNR=4.4							
EGAK	**Eagle**	**23.46**	**41**	*e*P		**P**	**08 26 14.8**	**-0.8**
	1.3nm,0.5s							
INK	**Inuvik**	**27.39**	**35**	P		**P**	**08 26 50.6**	**-0.5**
	0.5nm,0.4s,baz=209,slow=9.1,SNR=9.5							
INK				PcP		**PcP**	**08 30 08.8**	**+0.2**
	0.9nm,0.7s,baz=247,slow=5.0,SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**33.57**	**205**	T		T	09 03 35.0	
	baz=14,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**33.58**	**205**	T		T	09 03 28.9	
	baz=14,SNR=6.2							
H11N1	**WAKE ISLAND Hy**	**33.59**	**205**	T		T	09 03 26.6	
	baz=14,SNR=5.2							
H11S1	**WAKE ISLAND Hy**	**34.79**	**205**	T		T	09 04 59.1	
	baz=21,slow=75,SNR=9.4							
H11S2	**WAKE ISLAND Hy**	**34.81**	**205**	T		T	09 05 08.2	
	baz=21,slow=75,SNR=3.7							
H11S3	**WAKE ISLAND Hy**	**34.81**	**205**	T		T	09 05 02.3	
	baz=21							
YKA	**Yellowknife Ar**	**35.13**	**46**	P		**P**	**08 27 58.6**	**-0.6**
	0.2nm,0.6s,baz=281,slow=7.8,SNR=7.1							
YKA				PcP		**PcP**	**08 30 30.0**	**+0.5**
	0.2nm,0.7s,baz=289,slow=3.3,SNR=5.0							
PDAR	**Pinedale Array**	**46.16**	**72**	P		**P**	**08 29 30.8**	**+0.2**
	0.9nm,0.5s,baz=314,slow=2.5,SNR=15							
SONM	**Songino Array**	**46.81**	**297**	P		**P**	**08 29 36.2**	**+0.7**
	0.5nm,0.5s,baz=65,slow=8.4,SNR=4.9							
ARCES	**ARCESS Array B**	**58.15**	**350**	P		**P**	**08 30 57.5**	**-1.4**
	3.1nm,0.9s,baz=323,slow=5.2,SNR=7.0							
MKAR	**Makanchi Array**	**60.18**	**309**	P		**P**	**08 31 13.4**	**0.0**
	0.2nm,0.4s,baz=46,slow=6.1,SNR=4.1							
FINES	**FINESS Array B**	**65.85**	**347**	P		**P**	**08 31 49.7**	**-0.9**
	1.1nm,0.6s,baz=66,slow=4.6,SNR=3.9							
TAPN	**Taplejung**	**71.37**	**291**	*e*P		**P**	**08 32 26.7**	**+0.7**
	12nm,0.8s							
TAPN	**Taplejung**	**71.37**	**291**	*e*P		**P**	**08 32 26.7**	**+0.7**
	12nm,0.8s							
ODAN	**Odare**	**71.93**	**290**	*e*P		**P**	**08 32 29.9**	**+0.7**
ODAN	**Odare**	**71.93**	**290**	*e*P		**P**	**08 32 29.9**	**+0.7**
GUN	**Gumba**	**72.02**	**292**	*e*P		**P**	**08 32 30.9**	**+1.0**
	48nm,0.4s							
GUN	**Gumba**	**72.02**	**292**	*e*P		**P**	**08 32 30.9**	**+1.0**
	48nm,0.4s							
JIRN	**Jiri**	**72.03**	**292**	*e*P		**P**	**08 32 31.0**	**+1.0**
	24nm,0.5s							
JIRN	**Jiri**	**72.03**	**292**	*e*P		**P**	**08 32 31.0**	**+1.0**
	24nm,0.5s							
RAMN	**Ramite**	**72.32**	**291**	*e*P		**P**	**08 32 32.3**	**+0.7**
	24nm,0.7s							
RAMN	**Ramite**	**72.32**	**291**	*e*P		**P**	**08 32 32.3**	**+0.7**
	24nm,0.7s							
KKN	**Kakani**	**72.46**	**293**	*e*P		**P**	**08 32 33.3**	**+0.9**
	22nm,0.6s							
KKN	**Kakani**	**72.46**	**293**	*e*P		**P**	**08 32 33.3**	**+0.9**
	22nm,0.6s							
PKI	**Pulchoki**	**72.55**	**292**	*e*P		**P**	**08 32 33.6**	**+0.5**
	16nm,0.6s							
PKI	**Pulchoki**	**72.55**	**292**	*e*P		**P**	**08 32 33.7**	**+0.6**
	10nm,0.5s							
PKIN	**Phulchoki**	**72.55**	**292**	*e*P		**P**	**08 32 33.7**	**+0.7**
	10nm,0.5s							
GKN	**Gorkha**	**72.67**	**293**	*e*P		**P**	**08 32 34.3**	**+0.7**
	10nm,0.5s							
GKN	**Gorkha**	**72.67**	**293**	*e*P		**P**	**08 32 34.3**	**+0.7**
	10nm,0.5s							
DMN	**Daman**	**72.70**	**293**	*e*P		**P**	**08 32 33.9**	**+0.1**
	6.8nm,0.3s							
DMN	**Daman**	**72.70**	**293**	*e*P		**P**	**08 32 33.9**	**+0.1**
	6.8nm,0.3s							
DANN	**Dangsing**	**72.91**	**294**	*e*P		**P**	**08 32 35.7**	**+0.5**
	22nm,0.8s							
DANN	**Dangsing**	**72.91**	**294**	*e*P		**P**	**08 32 35.7**	**+0.5**
	22nm,0.8s							
KOLN	**Koldanda**	**73.44**	**294**	*e*P		**P**	**08 32 38.5**	**+0.3**
	12nm,0.9s							
KOLN	**Koldanda**	**73.44**	**294**	*e*P		**P**	**08 32 38.5**	**+0.3**

	12nm,0.9s							
PYUN	**Piuthan**	**73.54**	**294**	*e*P	**P**	**08 32 39.2**	**+0.4**
	25nm,0.9s							
PYUN	**Piuthan**	**73.54**	**294**	*e*P	**P**	**08 32 39.2**	**+0.4**
	25nm,0.9s							
BRTR	**Keskin Array B**	**85.04**	**336**	P	**P**	**08 33 41.0**	**-0.2**
	0.9nm,0.6s,baz=64,slow=2.9,SNR=4.4							

IDC ***28*** *08:29:21.8±2.1,9.°12S×124.°27E,h0km, mb3.3/1, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=212.7km s-min=32.7km az=56.0*
AUST ***28*** *08:29:23.0±4.9, 8.°78S×123.°92E,h34km, Error ellipse: s-maj=1.7km s-min=0.9km az=258.0*

ISC 28 08:29:33.1±8.2, 9.°6S±0.°7×124.°4E±0.°2, h35km, n11, σ2§36/7, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.21**	**221**	P			**Sn**	**08 29 44.4**	**-0.6**
	baz=1.0,SNR=305								
MTN	**Manton Dam**	**7.35**	**117**	P			Pn	08 31 21.8	+3.9
	baz=8.2,SNR=5.8								
KNRA	**Kununurra**	**7.39**	**145**	P			**Pn**	**08 31 19.8**	**+1.3**
	baz=8.4,SNR=14								
KDU	**Kakadu**	**8.49**	**112**	P			Pn	08 31 35.9	+2.2
	baz=9.3,SNR=17								
FITZ	**Fitzroy Crossi**	**8.54**	**172**	P			**Pn**	**08 31 34.4**	**0.0**
	baz=9.5,SNR=5.1								
WRA	**Warramunga Arr**	**14.07**	**138**	Pn			**Pn**	**08 32 47.6**	**-2.4**
	0.4nm,0.3s,baz=320,slow=14,SNR=20								
WRA				Sn			Sn	08 35 18.2	-6.7
	0.6nm,0.3s,baz=313,slow=23,SNR=10								
WRKA	**Warakurna**	**15.80**	**167**	P			**Pn**	**08 33 11.0**	**-2.1**
	baz=17,SNR=5.3								
ASAR	**Alice Springs**	**16.68**	**148**	P			**P**	**08 33 23.8**	**-2.5**
	0.6nm,0.3s,baz=319,slow=12,SNR=84								
ASAR				S			Sn	08 36 21.6	-6.9
	0.2nm,0.3s,baz=318,slow=22,SNR=13								
MEEK	**Meekatharra**	**17.81**	**197**	P			P	08 33 41.1	+2.3
	baz=19,SNR=3.3								
QIS	**Mount Isa**	**18.26**	**128**	P			**Pn**	**08 33 45.8**	**+1.9**
	baz=19,SNR=4.5								
MKAR	**Makanchi Array**	**67.52**	**330**	P			P	08 40 16.9	-8.9
	0.2nm,0.4s,baz=134,slow=7.6,SNR=4.1								

IDC 28 08:32:56.2±9.2, 28.°45N×101.°73E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/25, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=403.9km s-min=34.6km az=82.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**19.69**	**9**	P			P	08 37 27.0	-0.1
	0.1nm,0.3s,baz=185,slow=9.7,SNR=4.0								
WRA	**Warramunga Arr**	**57.51**	**143**	P			P	08 42 47.1	-0.4
	0.5nm,0.6s,baz=334,slow=7.9,SNR=7.2								
ASAR	**Alice Springs**	**60.38**	**146**	P			P	08 43 07.8	+0.3
	0.3nm,0.4s,baz=325,slow=7.2,SNR=8.7								

JMA 28 09:05:47.1±0.2, 28.°01N×127.°93E, h110km±4km, M3.5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.93**	**104**	P			Pn	09 06 07.8	+0.2
JTK				eS			Sn	09 06 23.3	+0.3
JIH	**Iheya**	**0.97**	**178**	P			Pn	09 06 08.5	+0.5
JIH				eS			Sn	09 06 23.8	+0.1
JAMN	**Amaminishikomi**	**1.12**	**78**	P			Pn	09 06 09.7	+0.1
JAMN				eS			Sn	09 06 26.6	0.0
JOW	**Kunigami**	**1.21**	**165**	P			Pn	09 06 10.7	+0.1
JOW				eS			Sn	09 06 27.5	-0.9
JAM	**Amami Oshima**	**1.53**	**74**	P			Pn	09 06 14.1	-0.1
JAM				eS			Sn	09 06 34.9	0.0
JAGN	**Aguni-jima**	**1.54**	**204**	P			Pn	09 06 14.6	+0.2
JAGN				eS			Sn	09 06 34.8	-0.3
JZK	**Kikaishima**	**1.83**	**80**	P			Pn	09 06 18.4	+0.5
JZK				eS			Sn	09 06 42.2	+0.8
JJT2	**Tamagusuku 2**	**1.87**	**185**	P			Pn	09 06 19.0	+0.5
JJT2				eS			Sn	09 06 42.3	-0.1
JKE	**Kume jima 2**	**1.96**	**212**	P			Pn	09 06 19.5	-0.1
JKE				eS			Sn	09 06 44.7	+0.3
JNN	**Nakanoshima**	**2.50**	**43**	P			Pn	09 06 27.0	+0.5

ISCJB ***28*** *09:19:46.5±0.7, 23.°06N±0.°05×141.°5E±0.°2, h200km, mb3.5/12, Error ellipse: s-maj=19.8km s-min=6.6km az=11.6*
IDC ***28*** *09:19:49.4±1.5, 23.°15N×141.°71E, h217km±14km, mb3.4/12, mb1 3.5/15, mb1mx3.3/29, mbtmp3.4/15, Error ellipse: s-maj=24.1km s-min=11.7km az=80.0*

ISC 28 09:19:48.0±0.9, 23.°11N±0.°08×141.°5E±0.°2, h200km, n25, σ1§40/28, mb3.7/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.56**	**9**	P			**Pn**	**09 20 47.1**	**+2.8**
JHHJ				S			**Sn**	**09 21 29.7**	**+1.1**
CBIJ	**Chichi jima**	**4.02**	**8**	P			**Pn**	**09 20 52.3**	**+2.3**
CBIJ				S			**Sn**	**09 21 38.8**	**0.0**
JCJ	**Chichijima**	**4.02**	**8**	P			**Pn**	**09 20 52.3**	**+2.3**
	24nm,0.3s,baz=274,slow=22,SNR=22								
JCJ				S			**Sn**	**09 21 39.5**	**+0.7**
	33nm,0.3s,baz=243,slow=23,SNR=15								
BSO1	**Boso 1**	**11.52**	**358**	P			**Pn**	**09 22 25.3**	**-0.9**
BSO1				S			Sn	09 24 25.8	-8.5
BSO3	**Boso 3**	**11.69**	**356**	P			**Pn**	**09 22 27.7**	**-0.9**
JKN2	**Miekihoku**	**12.01**	**339**	P			**P**	**09 22 36.3**	**-1.4**
JOD2	**Odawara 2**	**12.30**	**351**	P			**Pn**	**09 22 36.2**	**-0.5**
JHU	**Hanno**	**12.85**	**352**	P			**Pn**	**09 22 41.8**	**-1.8**
JRY	**Ryogami san**	**13.07**	**351**	P			**Pn**	**09 22 44.1**	**-2.2**
JAG	**Ashikaga**	**13.40**	**353**	P			**Pn**	**09 22 48.3**	**-2.1**
JHO	**Hitachi**	**13.49**	**357**	P			**Pn**	**09 22 49.2**	**-2.3**
JHO				eS			S	09 25 09.8	-12
MJAR	**Matsushiro Arr**	**13.70**	**349**	P			**P**	**09 22 56.1**	**-0.3**
	0.5nm,0.3s,baz=176,slow=14,SNR=4.2								
KSRS	**Korea Array**	**18.48**	**324**	P			**P**	**09 23 50.6**	**+1.6**
	0.2nm,0.3s,baz=143,slow=9.8,SNR=4.7								
SONM	**Songino Array**	**37.29**	**320**	P			**P**	**09 26 41.7**	**+0.8**
	0.5nm,0.4s,baz=127,slow=6.0,SNR=4.3								
CMAR	**Chiang Mai Arr**	**39.99**	**272**	P			**P**	**09 27 04.0**	**+0.4**
	0.8nm,0.3s,baz=86,slow=14,SNR=4.7								
WRA	**Warramunga Arr**	**43.36**	**190**	P			**P**	**09 27 31.0**	**+0.3**
	0.4nm,0.4s,baz=7.6,slow=8.0,SNR=14								
ASAR	**Alice Springs**	**47.08**	**190**	P			**P**	**09 28 00.2**	**+0.3**
	0.2nm,0.8s,baz=8.8,slow=6.0,SNR=6.2								
ZALV	**Zalesovo Beam**	**52.16**	**321**	P			**P**	**09 28 38.0**	**+0.1**
	1.6nm,0.3s,baz=104,slow=7.4,SNR=7.2								
MKAR	**Makanchi Array**	**52.63**	**312**	P			**P**	**09 28 41.4**	**-0.2**
	0.6nm,0.5s,baz=92,slow=9.3,SNR=11								
STKA	**Stephens Creek**	**54.67**	**180**	P			**P**	**09 28 56.1**	**-0.2**
	0.6nm,0.4s,baz=0.0,slow=13,SNR=3.5								
KURBB	**Kurchatov Arra**	**55.46**	**316**	P			**P**	**09 29 02.3**	**+0.4**
	1.5nm,0.3s,baz=95,slow=7.6,SNR=34								
BVAR	**Borovoye Array**	**60.61**	**319**	P			**P**	**09 29 38.1**	**+0.5**
	3.6nm,0.4s,baz=96,slow=7.8,SNR=29								
YKA	**Yellowknife Ar**	**75.92**	**28**	P			**P**	**09 31 11.5**	**-0.9**
	0.1nm,0.4s,baz=294,slow=5.9,SNR=3.6								
ARCES	**ARCESS Array B**	**77.11**	**341**	P			**P**	**09 31 19.0**	**+0.1**
	3.1nm,0.9s,baz=78,slow=8.8,SNR=5.9								
FINES	**FINESS Array B**	**81.25**	**334**	P			**P**	**09 31 40.0**	**-1.5**
	1.4nm,0.4s,baz=73,slow=5.6,SNR=16								

AUST ***28*** *09:23:57.3, 23.°58S×179.°08W, h450km*
ISCJB ***28*** *09:24:05.5±0.7, 24.°26S±0.°09×180.°0W±0.°1, h505km, mb3.9/10, Error ellipse: s-maj=13.6km s-min=11.1km az=29.1*
IDC ***28*** *09:24:05.5±2.0, 24.°24S×179.°96W, h493km±21km, mb3.5/11, mb1 3.7/12, mb1mx3.5/22, mbtmp3.5/12, Error ellipse: s-maj=21.4km s-min=16.0km az=161.0*

ISC 28 09:24:06.2±0.8, 24.°4S±0.°1×179.°9W±0.°1, h505km, n26, σ0§81/27, mb4.0/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.74**	**278**	P			**P**	**09 26 52.8**	**0.0**
	0.5nm,0.3s,baz=90,slow=20,SNR=6.7								
URZ	**Urewera**	**14.08**	**190**	S			**S**	**09 29 34.0**	**-1.2**
	1.3nm,0.3s,baz=85,slow=23,SNR=11								
RPZ	**Rata Peaks**	**20.68**	**199**	P			**P**	**09 28 11.5**	**+1.0**
	7.2nm,0.5s,baz=357,slow=1.7,SNR=12								
RMQ	**Roma**	**28.33**	**259**	P			**P**	**09 29 20.6**	**+1.8**
	baz=29,SNR=5.5								
CMSA	**Cobar Meteorol**	**31.11**	**249**	P			**P**	**09 29 43.5**	**+0.6**
	baz=32,SNR=13								
CTA	**Charters Tower**	**31.55**	**271**	P			**P**	**09 29 46.5**	**-0.3**
	13nm,0.5s,baz=98,slow=11,SNR=31								
QLP	**Quilpie**	**32.37**	**258**	P			**P**	**09 29 54.2**	**+0.5**
	baz=33,SNR=3.3								
STKA	**Stephens Creek**	**34.62**	**249**	P			**P**	**09 30 13.1**	**+0.4**
	2.6nm,0.6s,baz=92,slow=8.7,SNR=16								
STKA	**Stephens Creek**	**34.62**	**249**	P			**P**	**09 30 13.3**	**+0.7**
	baz=36,SNR=9.9								
PMG	**Port Moresby**	**34.71**	**290**	P			**P**	**09 30 13.6**	**-0.1**
	8.4nm,0.8s,baz=84,slow=6.3,SNR=5.0								
HTT	**Hallett**	**36.95**	**246**	P			**P**	**09 30 32.4**	**+0.4**
	baz=38,SNR=6.4								
BBOO	**Buckleboo**	**39.33**	**247**	P			**P**	**09 30 51.1**	**-0.3**
	baz=40,SNR=11								
ASAR	**Alice Springs**	**42.03**	**261**	P			**P**	**09 31 12.8**	**-0.3**
	2.0nm,0.6s,baz=94,slow=7.0,SNR=57								
ASAR				ScP			**ScP**	**09 35 59.9**	**+1.1**
	0.9nm,0.9s,baz=102,slow=3.6,SNR=5.9								
WRA	**Warramunga Arr**	**42.45**	**267**	P			**P**	**09 31 15.6**	**-0.9**
	5.3nm,0.5s,baz=104,slow=8.1,SNR=91								
WRA				ScP			**ScP**	**09 36 02.4**	**+1.8**
	2.5nm,0.9s,baz=99,slow=4.1,SNR=13								
WRKA	**Warakurna**	**46.80**	**258**	P			**P**	**09 31 49.6**	**-0.4**
	baz=48,SNR=14								
MTN	**Manton Dam**	**47.56**	**275**	P			**P**	**09 31 54.9**	**-0.9**
	baz=48,SNR=3.7								
KNRA	**Kununurra**	**48.76**	**270**	P			**P**	**09 32 04.6**	**-0.1**
	baz=50,SNR=8.9								
FITZ	**Fitzroy Crossi**	**50.86**	**266**	P			**P**	**09 32 19.9**	**-0.4**
	4.0nm,0.6s,baz=125,slow=7.4,SNR=17								
FITZ	**Fitzroy Crossi**	**50.86**	**266**	P			**P**	**09 32 20.3**	**+0.1**
	baz=52,SNR=6.5								
PALU	**Palau**	**54.49**	**299**	P			P	09 32 51.0	+4.7
	baz=55,SNR=9.2								
NVAR	**Mina Array Bea**	**85.04**	**44**	P			**P**	**09 35 48.6**	**+0.1**
	0.8nm,0.8s,baz=214,slow=6.8,SNR=5.6								
TXAR	**Lajitas Array**	**90.62**	**58**	P			**P**	**09 36 15.3**	**+0.6**
	1.4nm,0.7s,baz=227,slow=6.3,SNR=15								
ILAR	**Eielson Array**	**92.47**	**14**	P			**P**	**09 36 21.2**	**-1.0**
	0.3nm,0.6s,baz=207,slow=6.7,SNR=4.2								
PDAR	**Pinedale Array**	**92.98**	**44**	P			**P**	**09 36 24.9**	**-0.5**
	0.5nm,0.7s,baz=187,slow=3.1,SNR=5.0								
AKASG	**Malin Array Be**	**145.40**	**327**	PKPbc			**PKPdf**	**09 42 46.2**	**+0.2**
	1.2nm,0.6s,baz=47,slow=4.3,SNR=7.0								
TORD	**Torodi Ar. Bea**	**168.74**	**188**	PKPab			**PKPab**	**09 44 29.3**	**+0.1**
	0.4nm,0.7s,baz=182,slow=2.7,SNR=2.8								

IDC 28 09:27:16.4±50.0, 17.°74S×179.°13W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=908.4km s-min=164.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.11**	**241**	P			P	09 34 37.7	+0.5
	1.0nm,0.8s,baz=90,slow=7.8,SNR=2.9								
WRA	**Warramunga Arr**	**43.99**	**259**	P			P	09 35 25.6	-0.2
	0.1nm,0.2s,baz=96,slow=7.9,SNR=5.5								
ASAR	**Alice Springs**	**44.18**	**254**	P			P	09 35 26.9	-0.4
	1.3nm,0.6s,baz=87,slow=8.3,SNR=20								

WEL 28 09:40:21.6±0.8, 45.°69S×166.°24E, h5km, ML3.8/9, 1C-2D, Error ellipse: s-maj=10.2km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.68**	**72**		AML		AML	09 40 44.2	
DCZ					AML		AML	09 40 51.5	
MLZ	**Mavora Lakes**	**1.40**	**76**	||P		Pn	09 40 46.4	-1.6
MLZ					S*		Sb	09 41 04.0	-2.5
MLZ					AML		AML	09 41 06.8	
MSZ	**Milford Sound**	**1.57**	**50**	||P		Pn	09 40 49.3	-0.9
MSZ					AML		AML	09 41 15.2	
MSZ					AML		AML	09 41 15.3	
MSZ					AML		AML	09 41 17.7	
MSZ					AML		AML	09 41 17.7	
APZ	**The Paps**	**1.67**	**134**		PN		Pn	09 40 50.1	-1.4
APZ					SN		Sn	09 41 12.2	-1.1
APZ					AML		AML	09 41 13.4	
APZ					AML		AML	09 41 20.0	
WKZ	**Wanaka**	**2.14**	**67**		PN		Pn	09 40 58.6	+0.5
WKZ					AML		AML	09 41 30.5	
WKZ					AML		AML	09 41 32.6	
SYZ	**Scrubby Hill**	**2.19**	**114**		PN		Pn	09 40 58.1	-0.5
SYZ					AML		AML	09 41 33.5	
EAZ	**Earnscleugh**	**2.21**	**79**		PN		Pn	09 40 59.1	+0.2
EAZ					AML		AML	09 41 31.6	
EAZ					AML		AML	09 41 33.6	
EAZ					AML		AML	09 41 33.6	
TUZ	**Tuapeka**	**2.38**	**98**		PN		Pn	09 41 01.4	0.0
TUZ					AML		AML	09 41 33.4	
TUZ					AML		AML	09 41 33.7	
JCZ	**Jackson Bay**	**2.41**	**49**		PN		Pn	09 41 02.9	+1.0
JCZ					AML		AML	09 41 45.5	
JCZ					AML		AML	09 41 48.2	
HHSZ	**Highcliff Hill**	**3.05**	**95**		PN		Pn	09 41 10.2	-0.4
LBZ	**Lake Benmore**	**3.08**	**66**		PN		Pn	09 41 10.6	-0.5
ODZ	**Otahua Downs**	**3.17**	**80**	⇑	PN		Pn	09 41 11.0	-1.1
FOZ	**Fox Glacier**	**3.25**	**50**		PN		Pb	09 41 20.7	+0.9
OXZ	**Oxford**	**4.77**	**62**		PN		Pn	09 41 32.4	-1.8
DSZ	**Denniston Nort**	**5.64**	**48**		PN		Pn	09 41 46.5	+0.3

IGIL ***28*** *10:12:09.8, 39.°32N×10.°96W, h10km, ML2.4*
MDD ***28*** *10:12:09.7±1.6, 39.°26N×11.°21W, h50km, mb3.9/14, Error ellipse: s-maj=16.3km s-min=8.3km az=83.0, PRXIMO*
INMG ***28*** *10:12:10.4±1.0, 39.°29N×11.°36W, h0km, ML2.2, Error ellipse: s-maj=4.9km s-min=2.1km az=88.0*
CSEM ***28*** *10:12:10.1±0.3, 39.°28N×10.°93W, h20km, ML3.0/18, Error ellipse: s-maj=7.0km s-min=3.7km az=84.0*

ISC 28 10:12:04.5±1.9, 39.°28N±0.°03×11.°23W±0.°09, h10km, n73, σ2§06/131, 2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**1.55**	**102**	P			**Pn**	**10 12 34.4**	**+2.2**
	4.0nm,0.1s,SNR=7.9								
PMAFR				S			**Sn**	**10 12 52.6**	**+0.3**
	74nm,0.2s,SNR=15								
PMAFR	**Mafra**	**1.55**	**102**	*e*Pn			**Pn**	**10 12 34.6**	**+2.4**
PMAFR				*e*Sn			**Sn**	**10 12 52.7**	**+0.3**
PMAFR				A			A	10 12 53.9	
	47nm,0.2s								
PMAFR	**Mafra**	**1.55**	**102**	P			**Pn**	**10 12 34.4**	**+2.2**
	4.0nm,0.1s,SNR=7.9								
PMAFR				S			**Sn**	**10 12 52.6**	**+0.3**
	74nm,0.2s,SNR=15								
PACT	**Alcochete**	**1.93**	**105**	*e*Pn			**Pn**	**10 12 39.3**	**+1.8**
PACT				*e*Sn			**Sn**	**10 13 02.3**	**+0.5**
PACT				A			A	10 13 07.4	
	23nm,0.2s								
PACT	**Alcochete**	**1.93**	**105**	*e*Pn			**Pn**	**10 12 39.3**	**+1.8**
PACT				*e*Sn			**Sn**	**10 13 02.3**	**+0.5**
	23nm,0.2s								
PTOM	**Tomar**	**2.21**	**80**	*e*Pn			**Pn**	**10 12 43.3**	**+2.1**
PTOM				*e*Sn			**Sn**	**10 13 07.9**	**-0.6**
PTOM				A			A	10 13 10.6	
	9.2nm,0.2s								
PTOM	**Tomar**	**2.21**	**80**	*e*Pn			**Pn**	**10 12 43.3**	**+2.1**
PTOM				*e*Sn			**Sn**	**10 13 07.9**	**-0.6**
	9.2nm,0.2s								
PCAS	**Casmilo, Conde**	**2.24**	**69**	*e*Pn			**Pn**	**10 12 43.6**	**+1.9**
PCAS				*e*Sn			**Sn**	**10 13 08.9**	**-0.5**
PCAS				A			A	10 13 10.7	
	2.6nm,0.1s								
PCAS	**Casmilo, Conde**	**2.24**	**69**	*e*Pn			**Pn**	**10 12 43.6**	**+1.9**
PCAS				*e*Sn			**Sn**	**10 13 08.9**	**-0.5**
	2.6nm,0.1s								
PNCL	**Nicolau / Gran**	**2.41**	**118**	*e*Pn			**Pn**	**10 12 45.5**	**+1.4**
PNCL				*e*Sn			**Sn**	**10 13 12.5**	**-1.2**
PNCL				A			A	10 13 14.3	
	6.2nm,0.1s								
PNCL	**Nicolau / Gran**	**2.41**	**118**	*e*Pn			**Pn**	**10 12 45.5**	**+1.4**
PNCL				*e*Sn			**Sn**	**10 13 12.5**	**-1.2**
	6.2nm,0.1s								
PTEO	**Sao Teotonio**	**2.62**	**131**	*e*Pn			**Pn**	**10 12 48.6**	**+1.7**
PTEO				*e*Sn			**Sn**	**10 13 17.6**	**-1.2**
PTEO				A			A	10 13 22.1	
	8.6nm,0.5s								
PTEO	**Sao Teotonio**	**2.62**	**131**	*e*Pn			**Pn**	**10 12 48.6**	**+1.7**
PTEO				*e*Sn			**Sn**	**10 13 17.6**	**-1.2**
	8.6nm,0.5s								
MESJ	**Messejana**	**2.76**	**121**	*e*P			**Pn**	**10 12 50.2**	**+1.3**
MESJ				*e*S			**Sn**	**10 13 19.6**	**-2.6**
MESJ					AML		AML	10 13 22.2	
	comp=N,12nm,0.1s								
MESJ	**Messejana**	**2.76**	**121**	P			**Pn**	**10 12 50.2**	**+1.3**
	SNR=7.9								
MESJ				S			**Sn**	**10 13 19.7**	**-2.6**
	SNR=7.9								
MESJ	**Messejana**	**2.76**	**121**	P			**Pn**	**10 12 50.2**	**+1.3**
	SNR=7.9								
MESJ				S			**Sn**	**10 13 19.7**	**-2.6**
	SNR=7.9								
MORF	**Marmelete**	**2.83**	**133**	P			**Pn**	**10 12 51.3**	**+1.5**
	SNR=7.9								
MORF				S			**Sn**	**10 13 22.1**	**-1.9**
	SNR=7.9								
MORF	**Marmelete**	**2.83**	**133**	*e*Pn			**Pn**	**10 12 51.7**	**+1.9**
MORF				*e*Sn			**Sn**	**10 13 22.5**	**-1.5**
MORF				A			A	10 13 24.0	
	comp=N,11nm,0.1s								
MORF	**Marmelete**	**2.83**	**133**	P			**Pn**	**10 12 51.3**	**+1.5**
	SNR=7.9								
MORF	**Marmelete**	**2.83**	**133**	*e*Pn			**Pn**	**10 12 51.7**	**+1.9**
MORF				S			**Sn**	**10 13 22.1**	**-1.9**
	SNR=7.9								
MORF				*e*Sn			**Sn**	**10 13 22.5**	**-1.5**
	comp=N,11nm,0.1s								
PESTR	**Estremoz**	**2.86**	**97**	*e*Sn			**Sn**	**10 13 23.4**	**-1.3**
PESTR				A			A	10 13 26.1	
	comp=N,3.7nm,0.2s								
PESTR	**Estremoz**	**2.86**	**97**	*e*Sn			**Sn**	**10 13 23.4**	**-1.3**
	comp=N,3.7nm,0.2s								
PFVI	**Vila Bisbo**	**2.86**	**138**	P			**Pn**	**10 12 51.9**	**+1.7**
	comp=N,5.9nm,0.1s,SNR=7.9								
PFVI				S			**Sn**	**10 13 21.4**	**-3.2**
	comp=N,3.4nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**2.86**	**138**	*e*Pn			**Pn**	**10 12 52.3**	**+2.1**
PFVI				*e*Sn			**Sn**	**10 13 21.5**	**-3.2**
PFVI				A			A	10 13 24.5	
	comp=N,13nm,0.5s								
PFVI	**Vila Bisbo**	**2.86**	**138**	P			**Pn**	**10 12 51.9**	**+1.7**
	comp=N,5.9nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**2.86**	**138**	*e*Pn			**Pn**	**10 12 52.3**	**+2.1**
PFVI				*e*Sn			**Sn**	**10 13 21.5**	**-3.2**
	comp=N,13nm,0.5s								
PBEJ	**Beja**	**2.92**	**114**	*e*Sn			**Sn**	**10 13 24.9**	**-1.2**
PBEJ				A			A	10 13 25.9	
	comp=N,4.5nm,0.2s								
PBEJ	**Beja**	**2.92**	**114**	*e*Sn			**Sn**	**10 13 24.9**	**-1.2**
	comp=N,4.5nm,0.2s								
PCBR	**Castelo Branco**	**2.95**	**78**	*e*Pn			**Pn**	**10 12 53.1**	**+1.7**
PCBR				*e*Sn			**Sn**	**10 13 25.8**	**-1.1**
PCBR				A			A	10 13 31.2	
	comp=N,2.7nm,0.2s								
PCBR	**Castelo Branco**	**2.95**	**78**	*e*Pn			**Pn**	**10 12 53.1**	**+1.7**
PCBR				*e*Sn			**Sn**	**10 13 25.8**	**-1.1**
	comp=N,2.7nm,0.2s								
PMRV	**Marv??o**	**2.98**	**86** ||*e*Pn			**Pn**	**10 12 53.4**	**+1.6**
PMRV				*e*Sn			**Sn**	**10 13 25.5**	**-2.1**
PMRV				A			A	10 13 28.9	
	comp=N,8.8nm,0.3s								
PMRV	**Marv??o**	**2.98**	**86** ||*e*Pn			**Pn**	**10 12 53.4**	**+1.6**
PMRV				*e*Sn			**Sn**	**10 13 25.5**	**-2.1**
	comp=N,8.8nm,0.3s								
PCVE	**Castro Verde**	**3.00**	**122**	*e*Pn			**Pn**	**10 12 54.1**	**+2.0**
PCVE				*e*Sn			**Sn**	**10 13 27.0**	**-1.1**
PCVE				A			A	10 13 28.1	
	comp=N,2.2nm,0.2s								
PCVE	**Castro Verde**	**3.00**	**122**	*e*Pn			**Pn**	**10 12 54.1**	**+2.0**
PCVE				*e*Sn			**Sn**	**10 13 27.0**	**-1.1**
	comp=N,2.2nm,0.2s								
PBDV	**Barranco-do-Ve**	**3.30**	**127**	*e*Pn			**Pn**	**10 12 58.5**	**+2.2**
PBDV				*e*Sn			**Sn**	**10 13 34.2**	**-1.4**
PBDV				A			A	10 13 39.2	
	comp=N,6.2nm,0.6s								
PBDV	**Barranco-do-Ve**	**3.30**	**127**	*e*Pn			**Pn**	**10 12 58.5**	**+2.2**
PBDV				*e*Sn			**Sn**	**10 13 34.2**	**-1.4**
	comp=N,6.2nm,0.6s								
EBAD	**Badajoz**	**3.32**	**98**	P			**Pn**	**10 12 58.6**	**+2.0**
	comp=N,0.5nm,0.1s,SNR=7.9								
EBAD				S			**Sn**	**10 13 33.9**	**-2.3**

EPLA				S		**Sn**	**10 13 50.9**	**-3.1**
	comp=N,1.7nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**4.24**	**52**	*e*Pn		**Pn**	**10 13 11.5**	**+2.2**
PBRG	**Braganca**	**4.24**	**52**	*e*Pn		**Pn**	**10 13 11.5**	**+2.2**
ECAL	**Calabor**	**4.33**	**51**	P		**Pn**	**10 13 12.9**	**+2.5**
	comp=N,1.0nm,0.1s,SNR=7.9							
ECAL				S		**Sn**	**10 13 58.0**	**-2.9**
	comp=N,2.4nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**4.33**	**51**	P		**Pn**	**10 13 12.9**	**+2.5**
	comp=N,1.0nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**4.70**	**103**	P		**Pn**	**10 13 17.7**	**+2.1**
	comp=N,0.3nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**10 14 07.4**	**-2.8**
	comp=N,1.3nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**4.70**	**103**	P		**Pn**	**10 13 17.7**	**+2.1**
	comp=N,0.3nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**10 14 07.4**	**-2.8**
	comp=N,1.3nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.32**	**100**	P		**Pn**	**10 13 25.7**	**+1.7**
	comp=N,1.0nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**10 14 22.2**	**-3.2**
	comp=N,2.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.32**	**100**	P		**Pn**	**10 13 25.7**	**+1.7**
	comp=N,1.0nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**10 14 22.2**	**-3.2**
	comp=N,2.1nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.60**	**74**	S		Sn	10 14 28.5	-4.0
	comp=N,0.2nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**5.60**	**74**	S		Sn	10 14 28.5	-4.0
	comp=N,0.2nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**5.63**	**84**	P		**Pn**	**10 13 30.1**	**+1.7**
	comp=N,0.6nm,0.1s,baz=269,slow=13,SNR=3.9							
ESDC				S		**Sn**	**10 14 29.9**	**-3.3**
	comp=N,0.3nm,0.1s,baz=266,slow=23,SNR=9.0							
ESDC	**Sonseca Array**	**5.63**	**84**	P		**Pn**	**10 13 30.1**	**+1.7**
	comp=N,0.6nm,0.1s,SNR=3.9							
ESDC				S		**Sn**	**10 14 29.9**	**-3.3**
	comp=N,0.3nm,0.1s,SNR=9.0							
EARI	**Arriondas**	**6.05**	**47**	P		**Pn**	**10 13 36.5**	**+2.4**
	comp=N,0.5nm,0.2s,SNR=4.0							
EARI	**Arriondas**	**6.05**	**47**	P		**Pn**	**10 13 36.5**	**+2.4**
	comp=N,0.5nm,0.2s,SNR=4.0							

IDC ***28*** *10:18:03.2±0.3, 3.87N×126.73E, h0km, mb4.9/38, mb1 5.0/38, mb1mx5.0/40, mbtmp4.9/38, MS4.5/28, Ms1 4.5/28, ms1mx4.4/43, Error ellipse: s-maj=14.0km s-min=7.3km az=76.0*

BJI ***28*** *10:18:04.8, 3.41N×127.02E, h56km, mB5.2/44, mb5.0/63, Ms4.9/66, Ms7 4.8/62*

NEIC ***28*** *10:18:05.2±0.1, 3.93N×126.76E, h10km, mb5.4/62, Error ellipse: s-maj=4.3km s-min=2.9km az=69.0*

MOS ***28*** *10:18:07.0±1.1, 3.92N×126.72E, h33km, mb5.3/45, MS4.7/11, Error ellipse: s-maj=10.4km s-min=4.7km az=116.3*

ISCJB ***28*** *10:18:09.8±0.4, 3.91N±0.02×126.83E±0.03, h60km±3km, mb5.2/177, Error ellipse: s-maj=4.2km s-min=3.0km az=177.7*

GCMT ***28*** *10:18:10.4±0.2, 3.96N×126.85E, h22km, MW5.2, Moment Tensor Solution. s79,c106; s91,c141; Moment tensor: Scale 10¹⁶Nm; Mrr7.75±.23; Mθθ1.40±.15; Mϕϕ-9.15±.17; Mrθ-0.85±.31; Mrϕ0.01±.12; Mθϕ-1.53±.26; Best double couple: Mo8.60000×10¹⁶ NP1:ϕ187.00000°, δ51.00000°, λ99.00000°. NP2:ϕ352.00000°, δ40.00000°, λ79.00000°. Principal axes: T 8.0000, Plg81.0000°, Azm145.0000°; N 1.2900, Plg7.0000°, Azm1.0000°; P -9.2900, Plg5.0000°, Azm270.0000°; Data Used: II IU CU IC G CN.*

DJA ***28*** *10:18:13.0±0.6, 4.7N±5.5×12.7E±.7, h55km±4km, M5.1/70, mb5.3/70, mB5.5/48, MLv5.6/9, Mw(mB)5.0/48, Mwp5.6/2*

ISC 28 10:18:11.6±0.3, 3.88N±0.03×126.74E±0.04, h57km±1km, h57km:pP-P, n830, σ1%49/905, mb5.2/175, MS4.6/57, 26C-18D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.23**	**261**	P		**Pn**	**10 18 31.2**	**-1.3**
SGSI				S		**Sn**	**10 18 51.0**	**+2.8**
GSPH	**General Santos**	**2.83**	**321**	*e*P		**Pn**	**10 18 52.0**	**-2.5**
MATI	**Mati**	**3.08**	**351**	*e*P		**Pn**	**10 18 57.8**	**-0.1**
TNTI	**Ternate**	**3.15**	**169**	P		**Pn**	**10 18 56.7**	**-2.1**
TNTI	**Ternate**	**3.15**	**169**	*e*Pn		**Pn**	**10 18 56.5**	**-2.3**
DAV	**Davao City (W)**	**3.38**	**340**	*e*Pn		**Pn**	**10 19 03.3**	**+1.4**
DMPH	**Davao City--Mi**	**3.41**	**339**	*e*P		Pn	10 19 05.9	+3.5
DMPH				*e*S		Sn	10 19 48.1	+6.5
KCP	**Kidapawan**	**3.52**	**332**	*e*P		**Pn**	**10 19 02.9**	**-1.0**
KCP				*e*S		Sn	10 19 52.0	+7.7
CTBH	**Cotabato--PC H**	**4.15**	**323**	*i*P		**Pn**	**10 19 11.7**	**-0.8**
KMSI	**Cibinong**	**4.29**	**220**	P		**Pn**	**10 19 14.2**	**-0.2**
BUKP	**Musuan**	**4.31**	**337**	*e*P		**Pn**	**10 19 14.0**	**-0.7**
LBMI	**Labuha**	**4.55**	**170**	P		**Pn**	**10 19 17.2**	**-0.8**
GTOI	**Gorontalo**	**4.93**	**229**	P		**Pn**	**10 19 22.5**	**-0.6**
CGP	**Cagayan de Oro**	**4.98**	**336**	*e*P		Pn	10 19 30.9	+7.1
CGP				*e*S		Sn	10 20 33.0	+13
PAGZ	**Pagadian**	**5.17**	**320**	*e*P		**Pn**	**10 19 26.2**	**-0.3**
BUTP	**Butuan**	**5.18**	**348**	*e*P		**Pn**	**10 19 28.4**	**+1.8**
IPIL	**Ipil**	**5.68**	**313**	*e*P		**Pn**	**10 19 32.9**	**-0.6**
IPIL				*e*S		**Sn**	**10 20 36.8**	**-0.6**
MRSI	**Marisa**	**5.87**	**235**	P		**Pn**	**10 19 36.8**	**+0.8**
	1μm,0.6s,11μm3.6nm							
MRSI				S		**Sn**	**10 20 44.7**	**+2.7**
	1μm,0.6s,11μm3.6nm							
SCPH	**Surigao**	**6.00**	**348**	*e*P		**Pn**	**10 19 39.8**	**+2.0**
LUWI	**Luwuk**	**6.30**	**219**	P		**Pn**	**10 19 44.4**	**+2.5**
	2μm,1.1s,19μm7.2nm							
MSLP	**Maasin**	**6.49**	**343**	*e*P		**Pn**	**10 19 46.2**	**+1.7**
MSLP				*e*S		Sn	10 21 32.3	+35
SWI	**Sorong**	**6.53**	**136**	P		**Pn**	**10 19 43.1**	**-1.9**
	204nm,0.8s,6μm0.8nm							
TOLI	**Toli-Toli**	**6.54**	**245**	P		Pn	10 19 58.9	+14
APSI	**Ampana**	**6.97**	**227**	P		**Pn**	**10 19 53.4**	**+2.3**
	2μm,1.0s,17μm5.9nm							
NLAI	**Namlea**	**7.08**	**177**	P		**Pn**	**10 19 50.0**	**-2.7**
	288nm,0.5s,5μm2.1nm							
OCLP	**Ormoc**	**7.43**	**344**	*e*P		Pn	10 20 01.6	+4.1
MSAI	**Masohi**	**7.50**	**163**	P		Pn	10 20 05.7	+7.2
BESP	**Borongan**	**7.78**	**351**	*e*P		Pn	10 20 09.1	+6.9
GUIM	**Jordan**	**7.87**	**329**	*e*P		**Pn**	**10 20 05.4**	**+1.9**
MYLDM	**Lahad Datu**	**8.32**	**279**	P		**Pn**	**10 20 11.6**	**+2.0**
MYLDM	**Lahad Datu**	**8.32**	**279**	P		**Pn**	**10 20 12.1**	**+2.5**
	440nm,1.1s,5μm37μm							
MYLDM	**Lahad Datu**	**8.32**	**279**	*e*Pn		**Pn**	**10 20 11.2**	**+1.6**
RCP	**Roxas**	**8.60**	**333**	*e*P		**Pn**	**10 20 14.4**	**+1.0**
FAKI	**Fak Fak**	**8.71**	**141**	P		**Pn**	**10 20 12.8**	**-2.2**
	137nm,1.0s,1μm9μm							
MWPI	**Manokwari, Pap**	**8.72**	**123**	P		Pn	10 20 23.6	+8.5
TSM	**Tawau**	**8.86**	**273**	P		**Pn**	**10 20 17.5**	**+0.5**
CUYO	**Cuyo Island**	**8.95**	**321**	*e*P		**Pn**	**10 20 18.8**	**+0.5**
KKSI	**Kolaka, Sulawe**	**9.48**	**213**	P		Pn	10 20 28.7	+3.2
	108nm,1.5s,2μm							
OTRP	**Odiongan**	**9.64**	**331**	*e*P		Pn	10 20 34.2	+6.5
SDKM	**Sandakan**	**9.67**	**281**	P		**Pn**	**10 20 28.1**	**-0.2**
TTSI	**Tana Toraja**	**9.76**	**225**	P		**Pn**	**10 20 30.7**	**+1.4**
	228nm,1.1s,3μm							
PVCP	**Virac**	**9.99**	**345**	*e*P		**Pn**	**10 20 34.8**	**+2.3**
SJMP	**San Jose**	**10.18**	**327**	*e*P		**Pn**	**10 20 36.5**	**+1.4**
MMSI	**Mamuju**	**10.19**	**230**	P		**Pn**	**10 20 36.1**	**+0.8**
	172nm,1.2s,3μm							
BUSP	**Coron**	**10.35**	**322**	*e*P		Pn	10 20 40.9	+3.5
SPSI	**Sidrap Palu**	**10.45**	**222**	P		Pn	10 20 42.4	+3.6
	118nm,1.2s,2μm							
BNSI	**Bone**	**10.56**	**219**	P		Pn	10 20 44.3	+3.9
	163nm,1.7s,2μm							
BAKI	**Biak**	**10.63**	**118**	P		**Pn**	**10 20 44.1**	**+2.8**
BKB	**Balikpapan**	**11.09**	**243**	P		Pn	10 20 54.2	+6.7
KAPI	**Kappang**	**11.26**	**218**	*e*Pn		**Pn**	**10 20 47.7**	**-2.2**
	498nm,1.1s							
BKSI	**Bulukumba**	**11.28**	**216**	P		Pn	10 20 58.8	+8.6
TGY	**Tagaytay City**	**11.66**	**331**	LR		LR	10 26 04.4	
	comp=Z,215nm,18.1s,baz=121,slow=41							
MTKI	**Muara Teweh, K**	**12.77**	**248**	P		**Pn**	**10 21 12.7**	**+2.2**
	205nm,1.2s							
BALP	**Baler**	**12.84**	**337**	*e*P		**P**	**10 21 17.9**	**-2.5**
MMRI	**Maumere**	**13.22**	**200**	P		P	10 21 31.3	+6.5
BTM	**Bintulu**	**13.65**	**268**	P		**Pn**	**10 21 24.1**	**+1.6**
SOEI	**Soe**	**13.77**	**190**	P		**P**	**10 21 29.1**	**-1.9**
CAUP	**Cauayan**	**13.85**	**340**	*e*P		**Pn**	**10 21 27.7**	**+2.5**
BBKI	**Banjar Baru**	**13.95**	**239**	P		**P**	**10 21 31.2**	**-1.7**
LBFI	**Labuhan Bajo,**	**14.05**	**209**	P		**P**	**10 21 32.2**	**-1.8**
SBUM	**Sibu**	**14.57**	**265**	P		**P**	**10 21 37.3**	**-2.5**
SBUM	**Sibu**	**14.57**	**265**	P		**P**	**10 21 37.4**	**-2.5**
	153nm,1.5s,2μm							
SBUM	**Sibu**	**14.57**	**265**	*e*Pn		**P**	**10 21 37.5**	**-2.3**
GENI	**Genyem**	**14.88**	**115**	P		**P**	**10 21 42.3**	**-0.9**
APYP	**Conner**	**14.90**	**339**	*e*P		**P**	**10 21 42.9**	**-0.6**
ABRA	**Dolores**	**14.91**	**337**	*e*P		P	10 21 56.8	+13
STKI	**Sintang**	**15.72**	**256**	P		**P**	**10 21 52.8**	**+0.2**
	134nm,1.4s,13μm							
MTNI	**Mataram**	**16.30**	**220**	P		**Pn**	**10 21 57.7**	**+0.8**
	159nm,1.0s,2μm							
KHKI	**Kahang-Kahang**	**16.47**	**222**	P		**P**	**10 22 01.1**	**+0.2**
	159nm,1.5s,2μm							
SRBI	**Singaraja**	**16.54**	**224**	P		**P**	**10 22 02.0**	**+0.3**
	219nm,1.4s,2μm							
KSM	**Kuching**	**16.59**	**262**	P		**P**	**10 22 02.6**	**+0.4**
KSM	**Kuching**	**16.59**	**262**	P		**P**	**10 22 03.7**	**+1.5**
	171nm,1.1s,2μm							
KSM	**Kuching**	**16.59**	**262**	*e*P		**P**	**10 22 03.9**	**+1.6**
	191nm,1.1s							
KMMI	**Kalianget**	**16.75**	**230**	P		**P**	**10 22 04.6**	**+0.6**
	114nm,1.1s,2μm							
DNP	**Denpasar**	**16.96**	**223**	P		P	10 22 14.7	+8.3
ABJI	**Asem Bagus**	**17.04**	**227**	P		P	10 22 16.5	+9.3
IGBI	**Denpasar**	**17.11**	**222**	P		**P**	**10 22 08.5**	**+0.5**
	221nm,0.8s,3μm							
NBBI	**Negara**	**17.15**	**225**	P		**Pn**	**10 22 08.0**	**+0.4**
	203nm,1.1s,2μm							
BYJI	**Banyuwangi**	**17.23**	**226**	P		P	10 22 15.6	+6.3
BLJI	**Banyuglugur**	**17.48**	**229**	P		P	10 22 18.0	+6.0
JAGI	**Jajag, Banyuwa**	**17.55**	**226**	*e*Pn		**P**	**10 22 13.0**	**+0.1**
	413nm,1.6s							
GMJI	**Gumukmas**	**17.93**	**228**	P		**Pn**	**10 22 18.5**	**+1.3**
	135nm,1.1s,1μm							
KRKI	**Kangkates**	**18.61**	**230**	P		**Pn**	**10 22 28.3**	**+3.0**
	284nm,0.9s							
NGJI	**Ngawi**	**18.90**	**234**	P		**Pn**	**10 22 28.5**	**-0.4**
	151nm,1.0s							
PWJI	**Pagerwojo**	**19.02**	**232**	P		**P**	**10 22 28.0**	**-1.1**
	73nm,0.7s							
SMRI	**Semarang**	**19.56**	**236**	P		Pn	10 22 43.7	+7.0
TWG	**Pinlang**	**19.61**	**344**	*e*P		**P**	**10 22 33.0**	**-2.5**
	122nm,0.6s							
PCJI	**Pacitan**	**19.62**	**232**	P		**P**	**10 22 34.3**	**-1.3**
	126nm,0.6s,1μm							
DLV	**T Lat**	**19.76**	**295**	*e*P		**P**	**10 22 36.8**	**-0.6**
YULB	**Yu-li**	**20.10**	**345**	*e*P		**P**	**10 22 37.0**	**-3.8**
	23nm,0.6s							
TPI	**Tanjungpandan**	**20.18**	**251**	P		Pn	10 22 45.6	+1.5
	91nm,1.1s,1μm							
TPUB	**Ta-pu**	**20.19**	**344**	*e*P		**P**	**10 22 38.9**	**-2.9**
	64nm,0.6s							
BJII	**Banjamegara**	**20.32**	**237**	P		**P**	**10 22 42.6**	**-0.7**
	122nm,1.8s,2μm							
SSLB	**Suanglung**	**20.57**	**345**	*e*P		**P**	**10 22 43.6**	**-2.2**
	34nm,0.7s							
TGJI	**Tegal**	**20.58**	**239**	P		**P**	**10 22 46.1**	**+0.1**
	89nm,1.0s							
KPJI	**Karang Pucung**	**20.98**	**238**	P		**P**	**10 22 48.7**	**-1.6**
	111nm,1.0s,2μm							
YHNB	**Yeheng**	**21.31**	**346**	*e*P		**P**	**10 22 52.7**	**-1.1**
	60nm,0.8s							
LEM	**Lembang**	**21.85**	**241**	P		**P**	**10 23 02.6**	**+2.7**
	146nm,0.9s,2μm							
FITZ	**Fitzroy Crossi**	**21.87**	**183**	*e*P		**P**	**10 22 57.1**	**-2.6**
FITZ				S		**S**	**10 26 53.7**	**-4.7**
FITZ	**Fitzroy Crossi**	**21.87**	**183**	P		**P**	**10 22 57.0**	**-2.7**
	45nm,0.4s,baz=20,slow=9.2,SNR=105							
FITZ				S		**S**	**10 26 53.7**	**-4.7**
	14nm,0.8s,baz=182,slow=19,SNR=8.8							
CISI	**Cisompet, Garu**	**22.04**	**239**	P		P	10 23 10.2	+8.4
CBJI	**Citeko**	**22.34**	**243**	P		**P**	**10 23 06.7**	**+1.7**
	546nm,1.0s							
QIZ	**Qiongzhong**	**22.35**	**314**	P		**P**	**10 23 06.0**	**+1.0**
QIZ				pP		**pP**	**10 23 17.5**	**-0.2**
QIZ				sP		**sP**	**10 23 24.0**	**-0.8**
QIZ				S		**S**	**10 27 09.5**	**+2.3**
QIZ				sS		**sS**	**10 27 31.3**	**+2.5**
QIZ				pmax		pmax		
	comp=Z,20nm,1.4s							
QIZ				pmax		pmax		
	comp=Z,140nm,3.7s							
QIZ				LR		LR		
	comp=N,1μm,13.6s							
QIZ				LR		LR		
	comp=Z,2μm,17.4s							
QZH	**Quanzhou**	**22.36**	**340**	P		**P**	**10 23 04.0**	**-1.1**
QZH				S		**S**	**10 27 00.5**	**-6.8**
QZH				LR		LR		
	comp=N,2μm,12.2s							
QZH				LR		LR		
	comp=E,1μm,16.5s							
QZH				LR		LR		
	comp=Z,4μm,18.2s							
TPRI	**Tanjung Pinang**	**22.39**	**263**	P		P	10 23 10.4	+4.9
	171nm,0.3s,15μm							
DBJI	**Dramaga**	**22.49**	**243**	P		**P**	**10 23 06.9**	**+0.3**
	104nm,1.3s,2μm							
MYKOM	**Kota Tinggi**	**22.96**	**265**	P		**P**	**10 23 11.0**	**-0.4**
MYKOM	**Kota Tinggi**	**22.96**	**265**	P		**P**	**10 23 13.6**	**+2.1**
	72nm,1.3s,1μm							
MYKOM	**Kota Tinggi**	**22.96**	**265**	*e*P		**P**	**10 23 11.2**	**-0.2**
	106nm,1.3s							
BLSI	**Bandar Lampung**	**23.35**	**247**	P		**P**	**10 23 18.7**	**+3.4**
	133nm,0.4s							
CGJI	**Cibinong**	**23.46**	**244**	P		**P**	**10 23 15.2**	**-1.1**
	206nm,0.9s,2μm							
KGM	**Kluang**	**23.46**	**266**	P		**P**	**10 23 17.1**	**+0.7**
KTGM	**Kuala Trenggan**	**23.57**	**274**	P		**P**	**10 23 18.3**	**+0.9**
KLSI		**23.58**	**249**	P		**P**	**10 23 17.7**	**+0.2**
	169nm,1.7s,2μm							
JMBI	**JAMBI**	**23.73**	**257**	P		**P**	**10 23 20.5**	**+1.7**
	361nm,1.2s							
UBPT	**Khong Chiam**	**23.81**	**300**	P		P	10 23 33.8	+14
MDSI	**Mara Dua**	**24.03**	**250**	P		**P**	**10 23 21.1**	**-0.4**
	66nm,0.8s,833nm							
KASI	**Kota Agung**	**24.10**	**247**	P		**P**	**10 23 21.7**	**-0.5**
	110nm,1.0s,1μm							
PMG	**Port Moresby**	**24.25**	**123**	P		**P**	**10 23 22.9**	**-0.7**
	26nm,1.3s,642nm							
PMG	**Port Moresby**	**24.25**	**123**	*e*P		**P**	**10 23 21.1**	**-2.5**
PMG	**Port Moresby**	**24.25**	**123**	P		**P**	**10 23 20.6**	**-3.0**
	6.8nm,0.8s,baz=303,slow=11,SNR=5.8							
PMG				LR		LR	10 34 04.8	
	comp=Z,609nm,18.4s,baz=310,slow=40							
LWLI	**Liwa**	**24.32**	**249**	P		**P**	**10 23 28.6**	**+4.2**
	138nm,1.2s							
LHSI	**Lahat**	**24.43**	**252**	P		**P**	**10 23 28.4**	**+3.2**
	78nm,0.9s,2μm							
WRAB	**Tennant Creek**	**24.82**	**163**	*c i*P		**P**	**10 23 26.3**	**-2.3**
WRAB				MLR		MLR		
	comp=Z,1μm,18.0s							
WRAB	**Tennant Creek**	**24.82**	**163**	*e*P		**P**	**10 23 26.9**	**-1.8**
	comp=Z,296nm,0.7s							
WRAB	**Tennant Creek**	**24.82**	**163**	P		**P**	**10 23 26.0**	**-2.6**
	comp=Z,2μm,1.2s							
WRA	**Warramunga Arr**	**24.82**	**163**	P		**P**	**10 23 26.3**	**-2.4**
WRA				S		**S**	**10 27 51.2**	**+3.6**
WRA				ScP		**ScP**	**10 30 42.2**	**+3.9**
WRA	**Warramunga Arr**	**24.82**	**163**	P		**P**	**10 23 26.3**	**-2.4**
	comp=Z,269nm,0.9s,baz=343,slow=11,SNR=442							
WRA				S		**S**	**10 27 51.2**	**+3.6**
	comp=Z,13nm,0.8s,baz=342,slow=18,SNR=6.6							
WRA				ScP		**ScP**	**10 30 42.2**	**+3.9**
	comp=Z,5.1nm,0.9s,baz=340,slow=3.2,SNR=6.7							
FRIM	**Kepong**	**25.08**	**269**	P		**P**	**10 23 31.6**	**+0.5**
XMIS	**Christmas Isla**	**25.39**	**236**	*e*P		**P**	**10 23 33.6**	**-0.3**
	comp=Z,375nm,0.8s							
MASI	**Maura Aman, Be**	**25.46**	**254**	P		P	10 23 45.6	+11
IPM	**Ipoh**	**25.66**	**272**	P		**P**	**10 23 36.4**	**0.0**
IPM	**Ipoh**	**25.66**	**272**	P		**P**	**10 23 37.4**	**+1.0**
	comp=Z,86nm,1.1s,comp=Z,1μm							
IPM	**Ipoh**	**25.66**	**272**	*e*P		**P**	**10 23 35.3**	**-1.1**
CHBT	**CHBT**	**25.69**	**292**	P		**P**	**10 23 37.5**	**+0.9**
	comp=Z,58nm,1.3s							
BKNI	**Bangkinang**	**25.92**	**263**	P		**P**	**10 23 41.4**	**+2.6**
	comp=Z,226nm,1.6s,comp=Z,3μm							
KULM	**Kulim**	**26.05**	**274**	P		**P**	**10 23 41.8**	**+1.9**
KULM	**Kulim**	**26.05**	**274**	P		**P**	**10 23 42.8**	**+2.9**
	comp=Z,68nm,1.5s,comp=Z,951nm							
KULM	**Kulim**	**26.05**	**274**	*e*P		**P**	**10 23 42.0**	**+2.2**
PPI	**Padang Panjang**	**26.68**	**261**	P		**P**	**10 23 46.6**	**+1.0**
	comp=Z,52nm,1.1s,comp=Z,898nm							
PDSI	**Padang**	**26.69**	**260**	P		P	10 23 55.3	+10
CHAI	**Chaiyaphum**	**27.11**	**298**	P		**P**	**10 23 49.5**	**0.0**
	comp=Z,80nm,0.9s,comp=Z,178nm							
MNSI	**Mandailing Nat**	**27.31**	**264**	P		**P**	**10 23 52.0**	**+0.7**
	comp=Z,122nm,1.1s							
JCJ	**Chichijima**	**27.40**	**31**	P		**P**	**10 23 51.2**	**-0.7**
	comp=Z,102nm,0.8s,baz=204,slow=8.3,SNR=3.6							
JCJ				LR		LR	10 33 34.7	
	comp=Z,1μm,19.5s,baz=352,slow=34							
CBIJ	**Chichi jima**	**27.40**	**31**	P		**P**	**10 23 51.2**	**-0.7**
SSE	**Sheshan**	**27.57**	**350**	P		**P**	**10 23 53.8**	**+0.4**
SSE				sP		**sP**	**10 24 15.8**	**+1.5**
SSE				S		**S**	**10 28 32.3**	**+1.4**
SSE				pmax		pmax		
	comp=Z,36nm,1.0s							
SSE				pmax		pmax		
	comp=Z,150nm,6.0s							
SSE				LR		LR		
	comp=Z,720nm,17.8s							
SSE				LR		LR		
	comp=Z,750nm,17.8s							
SSE				LR		LR		
	comp=Z,1μm,19.1s							
PSI	**Prapat**	**27.79**	**269**	P		**P**	**10 23 54.7**	**-1.0**
PSI				ScP		**ScP**	**10 30 50.3**	**+2.9**
PSI	**Prapat**	**27.79**	**269**	P		**P**	**10 23 54.7**	**-1.0**
	comp=Z,21nm,0.9s,baz=93,slow=1.5,SNR=7.6							
PSI				ScP		**ScP**	**10 30 50.3**	**+2.9**
	comp=Z,16nm,0.8s,baz=144,slow=1.8,SNR=7.9							
PSI				LR		LR	10 37 22.8	
	comp=Z,1μm,18.2s,baz=346,slow=42							
SLVN	**Son La**	**28.17**	**310**	*e*P		**P**	**10 23 59.9**	**+1.0**
SURT	**Suratani**	**28.22**	**282**	P		P	10 24 03.7	+4.3
	comp=Z,17nm,1.6s,comp=Z,292nm							
AS31	**Alice Springs**	**28.25**	**166**	*e*P		**P**	**10 23 57.6**	**-2.0**
ASAR	**Alice Springs**	**28.25**	**166**	P		**P**	**10 23 57.5**	**-2.1**
ASAR				PcP		**PcP**	**10 27 12.4**	**+0.4**
ASAR				S		**S**	**10 28 45.8**	**+4.0**
ASAR				ScP		**ScP**	**10 30 53.4**	**+5.0**
ASAR	**Alice Springs**	**28.25**	**166**	P		**P**	**10 23 57.5**	**-2.1**
	comp=Z,7.1nm,0.5s,baz=352,slow=7.8,SNR=223							
ASAR				PcP		**PcP**	**10 27 12.4**	**+0.4**
	comp=Z,7.3nm,0.9s,baz=341,slow=2.8,SNR=4.9							
ASAR				S		**S**	**10 28 45.8**	**+4.0**
	comp=Z,7.1nm,1.0s,baz=346,slow=21,SNR=6.4							
ASAR				ScP		**ScP**	**10 30 53.4**	**+5.0**
	comp=Z,3.1nm,0.8s,baz=357,slow=1.6,SNR=5.4							
PBKT	**Sadao Pong**	**28.27**	**298**	P		**P**	**10 23 59.6**	**-0.2**
	comp=Z,41nm,1.5s,comp=Z,970nm							
PKDT	**Phuket**	**28.53**	**279**	P		P	10 24 08.1	+5.9
	comp=Z,44nm,0.9s,comp=Z,8μm							
KCSI	**Kotacane, Aceh**	**28.91**	**270**	P		**P**	**10 24 04.6**	**-1.0**
	comp=Z,35nm,1.0s,comp=Z,521nm							
NJ2	**Nanjing**	**28.99**	**346**	*e*P		**P**	**10 24 06.5**	**+0.5**
NJ2				pP		**pP**	**10 24 20.0**	**-0.2**
NJ2				sP		**sP**	**10 24 26.3**	**-0.6**
NJ2				S		**S**	**10 28 56.0**	**+2.9**
NJ2				sS		**sS**	**10 29 18.0**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
NJ2				pmax		pmax		
	comp=Z,260nm,4.8s							
NJ2				LR		LR		
	comp=Z,3μm,27.0s							
NJ2				LR		LR		
	comp=Z,10μm,20.7s							
NJ2				LR		LR		
	comp=Z,430nm,25.8s							
WHN	**Wuhan**	**28.99**	**338**	P		**P**	**10 24 05.8**	**-0.2**
WHN				S		**S**	**10 28 51.5**	**-1.7**
WHN				LR		LR		
	comp=Z,8μm,27.1s							
WHN				LR		LR		
	comp=Z,4μm,19.0s							
WHN				LR		LR		
	comp=Z,5μm,22.1s							
SRDT	**SRDT**	**29.15**	**293**	P		**P**	**10 24 09.7**	**+2.1**
	comp=Z,52nm,1.2s							
GSI	**Gunungsitoli**	**29.25**	**266**	P		**P**	**10 24 07.7**	**-0.9**
	comp=Z,68nm,1.0s,comp=Z,3μm							
GSI	**Gunungsitoli**	**

MJAR PcP **PcP** **10 27 29.3 +1.8**
comp=Z,2.9nm,0.8s,baz=177,slow=2.5,SNR=4.4
MJAR LR LR 10 39 22.6
comp=Z,757nm,18.4s,baz=200,slow=37
XAN Xi'an 34.29 333 P **P** **10 24 50.8 -1.8**
XAN pP **pP** **10 25 03.0 -4.0**
XAN sP **sP** **10 25 10.0 -3.7**
XAN pmax pmax
comp=Z,22nm,0.9s
XAN pmax pmax
comp=Z,23nm,4.6s
XAN LR LR
comp=Z,930nm,16.6s
XAN LR LR
comp=Z,200nm,19.2s
XAN LR LR
comp=Z,430nm,19.8s
FORT Forrest 34.49 178 *eP* **P** **10 24 53.2 -1.1**
comp=Z,120nm,0.7s
CD2 Chengdu 34.53 324 ⇑*iP* **P** **10 24 53.5 -1.3**
CD2 pP **pP** **10 25 07.8 -1.3**
CD2 sP **sP** **10 25 14.5 -1.3**
CD2 PP **PnPn** **10 26 11.5 -0.1**
CD2 PcP **PcP** **10 27 26.3 -2.4**
CD2 S **S** **10 30 17.8 -2.0**
CD2 sS **sS** **10 30 42.8 -1.3**
CD2 ScS **ScS** **10 35 07.3 -5.1**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,110nm,8.2s
CD2 LR LR
comp=Z,1μm,17.8s
CD2 LR LR
comp=Z,2μm,16.6s
CD2 LR LR
comp=Z,2μm,17.8s
DL2 Dalian 35.17 353 P P 10 24 56.8 -3.3
DL2 S **S** **10 30 26.0 -3.3**
DL2 pmax pmax
comp=Z,93nm,0.8s
DL2 LR LR
comp=Z,690nm,13.7s
DL2 LR LR
comp=Z,470nm,20.3s
HNR Honiara 35.63 112 LR LR 10 38 36.0
comp=Z,376nm,20.0s,baz=289,slow=35
BJT Baijiatuan 37.23 347 *eP* **P** **10 25 16.8 -0.9**
comp=Z,142nm,1.1s
BJI Beijing 37.24 347 P **P** **10 25 17.5 -0.3**
BJI sP **sP** **10 25 37.8 -1.1**
BJI S S 10 30 54.0 -6.9
BJI sS **sS** **10 31 24.5 -0.9**
BJI pmax pmax
comp=Z,100nm,1.2s
BJI LR LR
comp=Z,340nm,22.5s
BJI LR LR
comp=Z,670nm,20.8s
BJI LR LR
comp=Z,340nm,21.8s
EIDS Eidsvold 37.46 142 *eP* **P** **10 25 19.0 -0.8**
comp=Z,53nm,1.0s
BBOO Buckleboo 37.54 167 *eP* **P** **10 25 19.1 -1.3**
comp=Z,1μm,1.0s
NWAO Narrogin (SRO) 37.70 193 P **P** **10 25 21.2 -0.5**
NWAO Narrogin (SRO) 37.70 193 *P* **P** **10 25 21.2 -0.5**
comp=Z,34nm,0.7s,baz=25,slow=8.7,SNR=43
SNY Shenyang 37.89 356 ⇑P **P** **10 25 22.8 -0.4**
SNY S **S** **10 31 13.5 +2.9**
SNY pmax pmax
comp=Z,18nm,1.1s
SNY pmax pmax
comp=Z,420nm,4.5s
SNY LR LR
comp=Z,630nm,15.7s
SNY LR LR
comp=Z,800nm,15.7s
STKA Stephens Creek 38.26 159 *eP* **P** **10 25 25.5 -1.0**
STKA Stephens Creek 38.26 159 P **P** **10 25 25.5 -1.0**
comp=Z,90nm,0.7s,baz=334,slow=8.0,SNR=286
LZH Lanzhou 38.38 329 *eP* **P** **10 25 27.8 +0.1**
LZH pP **pP** **10 25 41.5 -0.7**
LZH sP **sP** **10 25 47.8 -1.0**
LZH PP **PnPn** **10 26 58.5 -0.2**
LZH *eS* **S** **10 31 18.3 -0.3**
LZH sS **sS** **10 31 45.0 +1.8**
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.6s
LZH LR LR
comp=Z,1μm,18.7s
LZH LR LR
comp=Z,1μm,17.7s
LZH LR LR
comp=Z,2μm,18.8s
HHC Hu-ho-hao-te 39.26 342 *eP* **P** **10 25 34.5 -0.4**
HHC pP **pP** **10 25 50.3 +0.9**
HHC sP **sP** **10 25 57.3 +1.2**
HHC PP **PnPn** **10 27 09.8 +0.8**
HHC S **S** **10 31 29.8 -1.8**
HHC sS **sS** **10 31 58.3 +2.1**
HHC SS **SS** **10 34 21.3 -5.6**
HHC pmax pmax
comp=Z,46nm,0.9s
HHC pmax pmax
comp=Z,340nm,6.6s
HHC LR LR
comp=Z,2μm,14.2s
HHC LR LR
comp=Z,960nm,14.0s
HHC LR LR
comp=Z,1μm,14.3s
CN2 Changchun 39.77 359 *eP* **P** **10 25 39.5 +0.6**
CN2 *eS* S 10 31 48.5 +10
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
SHL Shillong 39.80 306 *eP* **P** **10 25 39.0 -0.7**
SHL *eS* **S** **10 31 36.0 -4.3**
USRK Ussuriysk Arra 40.42 6 P **P** **10 25 43.3 -1.0**
comp=Z,7.0nm,0.8s,baz=180,slow=6.1,SNR=16
MDJ Mudanjiang 40.65 3 P **P** **10 25 46.5 +0.3**
MDJ pP **pP** **10 25 57.3 -3.5**
MDJ sP **sP** **10 26 03.3 -4.1**
MDJ PP **PP** **10 27 21.3 +0.5**
MDJ ScP **ScP** **10 31 32.0 0.0**
MDJ PcS **PcS** **10 31 37.5 -0.3**
MDJ S **S** **10 31 57.3 +5.3**
MDJ sS **sS** **10 32 20.0 +3.3**
MDJ pmax pmax
comp=Z,32nm,1.4s
MDJ LR LR
comp=Z,390nm,10.2s
MDJ LR LR
comp=Z,200nm,5.7s
MDJ LR LR
comp=Z,320nm,6.4s
MDJ Mudanjiang 40.65 3 *eP* **P** **10 25 45.7 -0.5**
comp=Z,33nm,1.0s
ARMA Armidale 41.58 147 *eP* **P** **10 25 54.6 +0.4**
comp=Z,196nm,1.8s
LSA Lhasa 42.35 311 *eP* **P** **10 26 00.9 0.0**
LSA pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 42.35 311 *eP* **P** **10 26 00.9 0.0**
comp=Z,20nm,0.6s
ASAJ Asahikawa 42.45 17 P **P** **10 26 00.6 -0.3**
ASAJ Asahikawa 42.45 17 *P* **P** **10 26 00.6 -0.3**
comp=Z,9.6nm,0.7s,baz=239,slow=2.3,SNR=5.7
ASAJ LR LR 10 44 24.4
comp=Z,814nm,19.9s,baz=160,slow=37
GTA Gaotai 42.98 329 *eP* **P** **10 26 04.5 -1.0**
GTA pP **pP** **10 26 19.5 -0.7**
GTA sP **sP** **10 26 26.8 0.0**
GTA PcP **PcP** **10 27 56.3 +1.2**
GTA S **S** **10 32 24.5 -2.4**
GTA sS **sS** **10 32 51.5 -0.2**
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,1μm,18.8s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,2μm,17.8s
YUK Yuzh-Kuril'sk 43.41 20 *diP* **P** **10 26 06.0 -2.7**
YUK *i* 10 27 49.2
YUK *i* PPP PPP 10 28 20.3
YUK *i* S **S** **10 32 30.7 -2.0**
TAPN Taplejung 43.94 306 *eP* **P** **10 26 12.3 -1.3**
comp=Z,25nm,0.6s
TAPN Taplejung 43.94 306 *eP* **P** **10 26 12.3 -1.3**
comp=Z,25nm,0.6s
ODAN Odare 43.99 305 *eP* **P** **10 26 12.3 -1.7**
comp=Z,51nm,0.6s
ODAN Odare 43.99 305 *eP* **P** **10 26 12.3 -1.7**
comp=Z,51nm,0.6s
CAN Canberra 44.24 154 *eP* **P** **10 26 15.8 +0.3**
CAN pmax pmax
comp=Z,135nm,1.2s
CAN Canberra 44.24 154 *eP* **P** **10 26 15.8 +0.3**
comp=Z,135nm,1.2s
RAMN Ramite 44.67 305 *eP* **P** **10 26 17.6 -1.8**
comp=Z,56nm,0.9s
RAMN Ramite 44.67 305 *eP* **P** **10 26 17.6 -1.8**
comp=Z,56nm,0.9s
HABR Khabarovsk 45.00 8 *eP* **P** **10 26 19.0 -2.3**
HABR *e**PP **pP** **10 26 32.2 -3.9**
HABR *e* 10 27 58.7
HABR *e* 10 28 04.9
HABR *eS* **S** **10 32 55.5 -0.2**
HABR *e**SS **sS** **10 33 17.8 -2.8**
HABR 10 36 10.7
HABR *eSS* **SS** **10 36 19.8 +0.6**
HABR *e*SSS SSS 10 37 06.8
HABR pmax pmax
comp=Z,46nm,2.0s
HABR MLR MLR
comp=Z,518nm,18.0s
JIRN Jiri 45.30 306 *eP* **P** **10 26 23.6 -0.9**
comp=Z,37nm,0.6s
JIRN Jiri 45.30 306 *eP* **P** **10 26 23.6 -0.9**
comp=Z,37nm,0.6s
KLR Kul'dur 45.39 5 *eP* P 10 26 19.9 -4.5
HIA Hailar 45.62 354 *eP* **P** **10 26 26.4 +0.1**
comp=Z,45nm,1.0s
GUN Gumba 45.65 306 *eP* **P** **10 26 25.9 -1.4**
comp=Z,71nm,0.7s
GUN Gumba 45.65 306 *eP* **P** **10 26 25.9 -1.4**
comp=Z,71nm,0.7s
PKI Pulchoki 45.89 305 *eP* **P** **10 26 27.9 -1.3**
comp=Z,74nm,1.4s
PKI Pulchoki 45.89 305 *eP* **P** **10 26 27.9 -1.3**
PKI pmax pmax
comp=Z,74nm,1.4s
PKI Pulchoki 45.89 305 *eP* **P** **10 26 27.9 -1.3**
comp=Z,74nm,1.4s
PKIN Phulchoki 45.91 305 *eP* **P** **10 26 27.9 -1.3**
comp=Z,19nm,0.7s
KKN Kakani 46.09 305 *eP* **P** **10 26 29.4 -1.2**
comp=Z,19nm,0.5s
KKN Kakani 46.09 305 *eP* **P** **10 26 29.4 -1.2**
KKN pmax pmax
comp=Z,19nm,0.5s
KKN Kakani 46.09 305 *eP* **P** **10 26 29.4 -1.2**
comp=Z,19nm,0.5s
DMN Daman 46.16 305 *eP* **P** **10 26 29.8 -1.4**
comp=Z,45nm,1.0s
DMN Daman 46.16 305 *eP* **P** **10 26 29.8 -1.4**
comp=Z,45nm,1.0s
DZM Mont Dzumac 46.61 125 *eP* **P** **10 26 34.7 +0.1**
comp=Z,119nm,1.4s
DZM *eS* **S** **10 33 22.8 +2.9**
comp=Z,532nm,29.4s
DZM Mont Dzumac 46.61 125 P **P** **10 26 33.0 -1.6**
DZM Mont Dzumac 46.61 125 *P* **P** **10 26 33.0 -1.6**
comp=Z,26nm,1.0s,baz=5.4,slow=2.5,SNR=11
GKN Gorkha 46.69 305 *eP* **P** **10 26 33.7 -1.5**
comp=Z,27nm,0.6s
GKN Gorkha 46.69 305 *eP* **P** **10 26 33.7 -1.5**
comp=Z,27nm,0.6s
ULN Ulaanbaatar 46.98 342 *eP* **P** **10 26 36.2 -0.9**
comp=Z,39nm,1.1s
SONM Songino Array 47.16 341 P **P** **10 26 38.2 -0.3**
SONM PcP **PcP** **10 28 10.5 +1.1**
SONM Songino Array 47.16 341 *P* **P** **10 26 38.2 -0.3**
comp=Z,5.8nm,0.6s,baz=153,slow=9.7,SNR=26
SONM PcP **PcP** **10 28 10.5 +1.1**
comp=Z,6.3nm,0.9s,baz=165,slow=3.1,SNR=4.9
SONM LR LR 10 48 02.1
comp=Z,649nm,20.0s,baz=3.1,slow=38
KOLN Koldanda 47.45 305 *eP* **P** **10 26 40.0 -1.2**
comp=Z,55nm,0.6s
KOLN Koldanda 47.45 305 *eP* **P** **10 26 40.0 -1.2**
comp=Z,55nm,0.6s
DANN Dangsing 47.54 305 *eP* **P** **10 26 40.5 -1.5**
comp=Z,68nm,0.6s
DANN Dangsing 47.54 305 *eP* **P** **10 26 40.5 -1.5**
comp=Z,68nm,0.6s
PYUN Piuthan 48.07 305 *eP* **P** **10 26 44.9 -1.1**
comp=Z,86nm,0.8s
PYUN Piuthan 48.07 305 *eP* **P** **10 26 44.9 -1.1**
comp=Z,86nm,0.8s
HYB Hyderabad 49.08 290 *iP* **P** **10 26 53.0 -0.7**
CIT Chita 49.22 349 *eP* **P** **10 26 55.0 +0.7**
CIT *e* 10 27 05.3
CIT pmax pmax
comp=Z,136nm,1.6s
TAU Tasmania Unive 50.16 160 *eP* **P** **10 27 02.2 +0.8**
TAU pmax pmax
comp=Z,62nm,1.0s
TAU Tasmania Unive 50.16 160 *eP* **P** **10 27 02.2 +0.8**
comp=Z,62nm,1.0s
ZAK Zakamensk 50.39 341 *eP* **P** **10 27 02.4 -0.8**
ZAK *e* 10 28 19.8
ZAK pmax pmax
comp=Z,6.0nm,1.2s
TLY Talaya 51.39 342 P **P** **10 27 11.8 +1.1**
comp=Z,146nm,0.8s,SNR=7.7
TLY Talaya 51.39 342 *eP* **P** **10 27 11.7 +1.1**
TLY *eSS* SS 10 37 54.2 -8.3
TLY pmax pmax
comp=Z,18nm,0.7s
TLY MLR MLR
comp=Z,774nm,27.0s
TLY Talaya 51.39 342 *eP* **P** **10 27 10.8 +0.2**
IRK Irkutsk 51.69 343 *eP* **P** **10 27 13.1 +0.3**
IRK pmax pmax
comp=Z,76nm,2.1s
MOY Mondy 52.25 340 *eP* **P** **10 27 17.0 -0.1**
MOY pmax pmax
comp=Z,39nm,2.1s
WMQ Urumqi 52.61 325 P **P** **10 27 20.0 +0.1**
WMQ pP **pP** **10 27 36.0 +1.0**
WMQ sP **sP** **10 27 43.0 +1.5**
WMQ PcP **PcP** **10 28 28.0 -1.4**
WMQ PP **PP** **10 29 20.0 +0.5**
WMQ ScP **ScP** **10 32 20.0 -2.0**
WMQ S **S** **10 34 41.0 -2.1**
WMQ ScS **ScS** **10 37 01.0 -3.8**
WMQ SS **SS** **10 38 20.0 -2.2**
WMQ pmax pmax
comp=Z,19nm,1.0s
WMQ pmax pmax
comp=Z,130nm,4.0s
WMQ LR LR
comp=Z,2μm,18.0s
WMQ LR LR
comp=Z,1μm,18.0s
WMQ LR LR
comp=Z,2μm,18.0s
CLNS Chul'man 52.83 359 *eP* **P** **10 27 20.0 -1.2**
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=Z,15nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,1.2s
NDI New Delhi 53.05 303 *ex* P 10 27 19.0 -4.3
POO Poona 53.68 290 ⇓*ix* **P** **10 27 26.0 -2.1**
HVS Khovu-Aksy 54.61 335 ⇓*iP* **P** **10 27 34.4 0.0**
HVS pmax pmax
comp=Z,74nm,1.0s
PEA0B Petropavlovsk- 55.29 22 *eP* **P** **10 27 38.7 -0.5**
PETK Petropavlovsk- 55.29 22 P **P** **10 27 38.4 -0.8**
PETK Petropavlovsk- 55.29 22 P **P** **10 27 38.4 -0.8**
PETK Petropavlovsk- 55.29 22 P **P** **10 27 38.4 -0.8**
comp=Z,12nm,0.8s,baz=198,slow=6.2,SNR=19
PETK LR LR 10 53 31.9
comp=Z,358nm,18.4s,baz=217,slow=38
PET Petropavlovsk 55.59 23 *eP* **P** **10 27 42.1 +0.8**
PET *eS* **S** **10 35 26.3 +3.6**
PET *eSS* **SS** **10 39 09.8 +1.2**
PET pmax pmax
comp=Z,14nm,0.7s
PET pmax pmax
comp=Z,100nm,15.6s
PET MLR MLR
comp=Z,600nm,17.0s
MK31 Makanchi Array 57.44 325 *eP* **P** **10 27 53.8 -0.9**
MK31 pmax pmax
comp=Z,9.0nm,0.4s
MKAR Makanchi Array 57.44 325 P **P** **10 27 53.9 -0.8**
MKAR S **S** **10 35 48.7 +1.0**
MKAR Makanchi Array 57.44 325 P **P** **10 27 53.9 -0.8**
MKAR ScP **ScP** **10 32 47.1 +4.0**
MKAR S **S** **10 35 48.7 +1.0**
MKAR Makanchi Array 57.44 325 P **P** **10 27 53.9 -0.8**
comp=Z,5.4nm,0.4s,baz=120,slow=8.5,SNR=109
MKAR ScP **ScP** **10 32 47.1 +4.0**
comp=Z,3.1nm,0.8s,baz=118,slow=4.7,SNR=5.0
MKAR S **S** **10 35 48.7 +1.0**
comp=Z,2.2nm,1.0s,baz=127,slow=14,SNR=7.3
MKAR LR LR 10 54 39.9
comp=Z,1μm,18.7s,baz=270,slow=38
KSH Kashi 57.95 315 P **P** **10 28 00.5 +2.0**
KSH sP **sP** **10 28 23.0 +2.8**
KSH PP **PP** **10 30 12.0 +4.6**
KSH PcS **PcS** **10 32 52.3 +0.6**
KSH S **S** **10 35 54.5 -0.2**
KSH SS **SS** **10 39 51.0 +4.4**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=Z,170nm,5.1s
KSH LR LR
comp=Z,120nm,6.6s
KSH LR LR
comp=Z,700nm,20.0s
YAK Yakutsk 58.06 2 *ciP* **P** **10 27 58.2 -0.4**
YAK *e* 10 28 46.5
YAK *e* 10 30 05.6
YAK *e*PPP PPP 10 31 27.7
YAK *e*S **S** **10 35 54.2 -0.9**
YAK *e* 10 37 43.8
YAK *e*SS **SS** **10 39 50.0 +2.8**
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=N,40nm,1.3s
YAK pmax pmax
comp=Z,94nm,3.3s
YAK smax smax
comp=N,196nm,4.3s
YAK smax smax
comp=E,125nm,3.9s
YAK MLR MLR
comp=Z,530nm,19.0s
YAK Yakutsk 58.06 2 *eP* **P** **10 27 58.6 0.0**
OUZ Omahuta 58.66 136 *eP* **P** **10 28 04.7 +1.4**
KZA Kyzart 59.51 317 *iP* **P** **10 28 09.2 -0.4**
KZA Kyzart 59.51 317 P **P** **10 28 09.3 -0.4**
SNR=14
TKM2 Tokmak 2 59.64 318 *iP* **P** **10 28 09.3 -1.0**
TKM2 Tokmak 2 59.64 318 P **P** **10 28 09.4 -1.0**
SNR=14
TKM2 Tokmak 2 59.64 318 *eP* **P** **10 28 09.8 -0.5**
comp=Z,30nm,1.3s
UCH Uchtor 60.07 317 *iP* **P** **10 28 14.6 +1.0**
UCH Uchtor 60.07 317 P **P** **10 28 14.6 +1.0**
SNR=18
AAK Ala-Archa 60.26 318 P **P** **10 28 14.2 -0.3**
comp=Z,57nm,1.5s,SNR=5.9
AAK Ala-Archa 60.26 318 *deP* **P** **10 28 14.7 +0.2**
AAK pmax pmax
comp=Z,49nm,1.7s
AAK Ala-Archa 60.26 318 *eP* **P** **10 28 13.7 -0.8**
AAK Ala-Archa 60.26 318 P **P** **10 28 13.6 -0.8**
comp=Z,2.0nm,0.6s,baz=145,slow=8.7,SNR=9.4
AAK LR LR 10 56 17.8
comp=Z,1μm,21.6s,baz=89,slow=38
FRU Bishkek 60.26 318 *eP* **P** **10 28 12.0 -2.3**
ZALV Zalesovo Beam 60.46 333 *iP* **P** **10 28 14.1 -1.3**
ZALV pmax pmax
comp=Z,9.0nm,0.6s
ZALV Zalesovo Beam 60.46 333 P **P** **10 28 14.1 -1.3**
ZALV S **S** **10 36 24.4 -2.0**
ZALV ⇑*e* 10 57 45.2
ZALV Zalesovo Beam 60.46 333 P **P** **10 28 14.1 -1.3**
comp=Z,9.3nm,0.6s,baz=132,slow=6.5,SNR=16
ZALV S **S** **10 36 24.4 -2.0**
comp=Z,1.7nm,0.8s,baz=142,slow=13,SNR=5.8
ZALV LR LR 10 56 19.9
comp=Z,515nm,18.4s,baz=247,slow=38
ZALV PKP2bc 10 57 45.2
comp=Z,1.0nm,0.5s,baz=299,slow=3.1,SNR=7.0
USP Ospenovka 60.52 318 *iP* **P** **10 28 14.8 -1.3**
USP Ospenovka 60.52 318 P **P** **10 28 14.8 -1.3**
SNR=16
AML Almayashu 60.59 317 P **P** **10 28 17.9 +0.9**
SNR=20
EKS2 Erkin-Say 60.75 318 *iP* **P** **10 28 17.2 -0.6**
EKS2 Erkin-Say 60.75 318 P **P** **10 28 17.2 -0.6**
SNR=11
EKS2 Erkin-Say 60.75 318 *eP* **P** **10 28 17.7 -0.1**
comp=Z,13nm,0.8s
DCZ Deep Cove 60.87 149 *eP* **P** **10 28 18.9 +0.6**
KBL Kabul 61.44 307 *eP* **P** **10 28 21.9 -0.8**
KBL pmax pmax
comp=Z,23nm,1.0s
KBL Kabul 61.44 307 *eP* **P** **10 28 21.9 -0.8**
comp=Z,24nm,1.0s
WHZ Wether Hill Ro 61.57 148 *eP* **P** **10 28 22.9 -0.1**
KURBB Kurchatov Arra 61.62 327 P **P** **10 28 22.4 -0.9**
comp=Z,24nm,1.0s,baz=128,slow=6.3,SNR=60
KURBB S S 10 36 34.3 -7.0
comp=Z,0.4nm,0.7s,baz=124,slow=15,SNR=5.2
KURK Kurchatov 61.62 327 P **P** **10 28 22.3 -1.0**
KURK pmax pmax
comp=Z,17nm,0.5s
KURK Kurchatov 61.62 327 P **P** **10 28 22.4 -0.9**
KURK S S 10 36 34.3 -7.0
KURK Kurchatov 61.62 327 P **P** **10 28 22.9 -0.4**
comp=Z,524nm,0.5s,SNR=32
NVS Novosibirsk 61.74 333 *eP* **P** **10 28 21.3 -2.8**
NVS *eS* S 10 36 36.6 -6.1
NVS pmax pmax
comp=Z,29nm,1.4s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS smax smax
comp=N,8.0nm,0.9s
NVS smax smax
comp=E,23nm,1.2s
RPZ Rata Peaks 61.88 145 *eP* **P** **10 28 25.4 +0.2**
SEY Seymchan 61.88 13 P **P** **10 28 24.2 -0.7**
SEY Seymchan 61.88 13 P **P** **10 28 24.1 -0.7**
SEY Seymchan 61.88 13 P **P** **10 28 24.1 -0.7**
comp=E,14nm,1.1s,baz=349,slow=23,SNR=13
FX1 Attu Island--F 61.95 30 *eP* **P** **10 28 24.3 -1.2**
FX1 Attu Island--F 61.95 30 P **P** **10 28 24.4 -1.1**
comp=E,31nm,0.9s,baz=141,slow=4.1,SNR=6.2
ODZ Otahua Downs 62.47 146 *eP* **P** **10 28 29.2 +0.1**
BKZ Black Stump Fm 62.69 138 *eP* **P** **10 28 30.5 -0.2**
KK31 Karatay Array 63.13 317 *iP* **P** **10 28 33.6 0.0**
KK31 pmax pmax
comp=Z,18nm,0.9s
KKAR Karatay Array 63.13 317 *eP* **P** **10 28 33.5 -0.1**
KKAR pmax pmax
comp=Z,14nm,0.9s

KKAR Karatay Array 63.13 317 *e*P **P 10 28 33.5 -0.1**
comp=Z,14nm,0.9s
AFI Afiamalu 63.48 108 LR LR 10 51 33.4
comp=Z,247nm,20.4s,baz=287,slow=32
BVA0 Borovoye Array 67.20 327 P **P 10 28 59.8 0.0**
BVA0 pmax pmax
comp=Z,25nm,1.0s
BVAR Borovoye Array 67.20 327 P **P 10 28 58.8 -1.0**
BVAR Borovoye Array 67.20 327 P **P 10 28 58.8 -1.0**
BVAR Borovoye Array 67.20 327 P **P 10 28 58.8 -1.0**
comp=Z,19nm,1.0s,baz=139,slow=7.5,SNR=39
BRVK Borovoye 67.27 327 P **P 10 29 00.6 +0.4**
comp=Z,194nm,0.8s,SNR=11
BRVK Borovoye 67.27 327 *de*P **P 10 29 00.1 -0.1**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 67.27 327 *e*P **P 10 28 59.6 -0.6**
comp=Z,58nm,1.2s
TIXI Tiksi 67.69 1⇓ *e*P **P 10 29 01.6 -0.9**
TIXI pmax pmax
comp=Z,30nm,1.2s
TIXI Tiksi 67.69 1 *e*P **P 10 29 01.6 -0.9**
comp=Z,34nm,1.2s
IDAH Dahanechah 68.50 304 *e*P **P 10 29 08.5 -0.2**
IMYA Miami 68.96 307 *e*P **P 10 29 10.2 -1.2**
IKOO Kooshah 69.17 303 *e*Pn **P 10 29 11.8 -1.1**
ISRO Mashad 69.45 307 *e*P **P 10 29 14.6 +0.3**
IPAY Payeh 69.85 307 *e*P **P 10 29 15.9 -1.1**
IKRD Kardeh 70.29 308 *e*P P 10 29 13.3 -6.4
IBAF Bafgh 71.95 302 *e*P **P 10 29 28.2 -1.5**
AB31 Akbulak array 72.04 321 P **P 10 29 28.4 -1.3**
AB31 pmax pmax
comp=Z,14nm,0.8s
ABKAR Akbulak array 72.04 321 *e*P **P 10 29 28.8 -0.8**
comp=Z,6.7nm,0.6s
AKTO Aktyubinsk 73.55 322 P **P 10 29 37.1 -1.5**
AKTO Aktyubinsk 73.55 322 P **P 10 29 37.1 -1.5**
AKTO Aktyubinsk 73.55 322 P **P 10 29 37.1 -1.5**
comp=Z,16nm,1.1s,baz=103,slow=8.4,SNR=26
SVE Sverdlovsk 73.84 328 *e*P **P 10 29 40.8 +0.7**
SVE pmax pmax
comp=Z,35nm,1.1s
ISRV Sarvestan 73.84 299 *e*P **P 10 29 40.0 -1.2**
IPAR Pars 73.94 300 *e*P **P 10 29 39.5 -2.2**
GAMB Gambell 74.26 24 *e*P **P 10 29 42.3 -0.1**
comp=Z,44nm,1.2s
ARU Arti 74.82 328 *d i*P **P 10 29 45.5 -0.3**
ARU 10 32 30.3
ARU S **S 10 39 19.0 +0.8**
ARU SS **SS 10 44 06.0 -1.0**
ARU pmax pmax
comp=Z,11nm,0.8s
ARU MLR MLR
comp=Z,366nm,20.0s
ARU Arti 74.82 328 *e*P **P 10 29 45.2 -0.6**
comp=Z,14nm,0.6s
TNA Tin City 76.45 23 *e*P **P 10 29 54.9 0.0**
comp=Z,8.4nm,1.1s
SOKR Solikamsk 76.59 331 *e*P **P 10 29 58.4 +2.6**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,570nm,23.0s
RDF Al-Radifah 78.68 299 *e*P **P 10 30 06.7 -1.5**
RDF AMb AMB 10 30 11.9
comp=Z,48nm,1.0s
NAY Al-Naaiem 78.96 299 *e*P **P 10 30 08.2 -1.5**
NAY AMb AMB 10 30 13.3
comp=Z,24nm,0.9s
RST Umm Al-Ruwaisa 79.18 299 *e*P **P 10 30 09.8 -1.1**
RST AMb AMB 10 30 14.8
comp=Z,450nm,0.9s
MAK Makhachkala 79.49 313 *e*P P 10 30 15.9 +3.6
MAK MLR MLR
comp=Z,436nm,19.0s
RAYN Ar Rayn 80.44 293 P **P 10 30 17.7 -0.2**
comp=Z,92nm,1.0s,SNR=6.4
OPO Ambohidratompo 81.36 251 P **P 10 30 22.2 -0.8**
OPO Ambohidratompo 81.36 251 P **P 10 30 22.2 -0.8**
comp=Z,7.5nm,0.4s,baz=81,slow=4.2,SNR=15
ABPO Ambohimpanom 81.37 250 *e*P **P 10 30 22.6 -0.5**
ABPO pmax pmax
comp=Z,9.0nm,0.8s
ABPO Ambohimpanom 81.37 250 *e*P **P 10 30 22.6 -0.5**
comp=Z,9.2nm,0.8s
RSO Redoubt South 81.96 30 *e*P **P 10 30 24.1 -1.3**
comp=Z,37nm,0.6s
ZEI Tsey 82.12 312 *e*P **P 10 30 25.4 -1.3**
ZEI pmax pmax
comp=Z,14nm,1.0s
IM04 Indian Mountai 82.19 24 *e*P **P 10 30 26.3 0.0**
PRGR Permogore 82.38 332 *e*P **P 10 30 26.0 -1.3**
PRGR pmax pmax
comp=Z,23nm,0.7s
PPLA Purkeypile 82.49 27 *e*P **P 10 30 27.9 -0.2**
comp=Z,80nm,1.5s
KBZ Khabaz 82.89 313 LR LR 11 13 23.9
comp=Z,414nm,20.1s,baz=281,slow=40
KIV Kislovodsk 83.04 314 *e*P **P 10 30 30.8 -0.5**
KIV *e*S **S 10 40 47.8 +1.2**
KIV pmax pmax
comp=Z,9.0nm,0.8s
KTH Kantishna Hill 83.13 27 *e*P **P 10 30 31.3 0.0**
comp=Z,79nm,1.3s
TRF Thorofare Moun 83.40 27 *e*P **P 10 30 32.3 -0.6**
comp=Z,64nm,1.3s
RC01 Rabbit Creek A 83.49 29 *e*P **P 10 30 32.4 -0.7**
comp=Z,55nm,1.2s
SEW Seward 83.57 30 *e*P **P 10 30 32.7 -0.7**
comp=Z,79nm,1.3s
VNDA Vanda 83.57 173 *e*P **P 10 30 33.3 +0.1**
VNDA Vanda 83.57 173 P **P 10 30 33.0 -0.1**
comp=Z,7.8nm,0.8s,baz=313,slow=6.5,SNR=15
VNDA LR LR 11 10 35.2
comp=Z,154nm,18.1s,baz=340,slow=38
COLD Coldfoot 83.75 23 *e*P **P 10 30 35.3 +1.0**
comp=Z,56nm,1.1s
MAW Mawson 83.90 200 P **P 10 30 34.4 -0.5**
MAW Mawson 83.90 200 P **P 10 30 34.4 -0.5**
comp=Z,9.5nm,1.0s,baz=54,slow=6.8,SNR=8.2
MAW LR LR 11 08 28.6
comp=Z,128nm,19.3s,baz=223,slow=36
VRHR Novokhopersk 83.93 321 *e*P **P 10 30 34.9 -0.6**
VRHR pmax pmax
comp=Z,40nm,1.7s
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,1.2s
MCK McKinley 84.03 26 *e*P **P 10 30 35.3 -0.5**
MCK pmax pmax
comp=Z,128nm,1.5s
MCK McKinley 84.03 26 *e*P **P 10 30 35.3 -0.5**
comp=Z,128nm,1.5s
SBA Scott Base 84.48 172 *e*P **P 10 30 38.2 +0.5**
SBA Scott Base 84.48 172 *e*P **P 10 30 38.2 +0.5**
COLA College 84.56 25 *e*P **P 10 30 37.6 -0.8**
COLA pmax pmax
comp=Z,11nm,1.0s
COLA College 84.56 25 *e*P **P 10 30 37.6 -0.8**
comp=Z,11nm,1.0s
ILAR Eielson Array 84.96 25 P **P 10 30 39.4 -1.1**
ILAR Eielson Array 84.96 25 P **P 10 30 39.4 -1.1**
comp=Z,8.1nm,1.1s,baz=263,slow=4.1,SNR=31
ILAR LR LR 11 08 23.8
comp=Z,171nm,18.9s,baz=276,slow=36
PPT2 Papeete2 85.15 108 *e*LR LR 10 57 31.0
comp=Z,262nm,26.0s
DIV Divide 85.41 29 *e*P **P 10 30 43.7 +0.8**
comp=Z,118nm,1.2s
VSR Storozhevoye 85.48 321 *e*P **P 10 30 41.2 -2.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.3s
VSR pmax pmax
comp=E,5.0nm,0.4s
PAX Paxson 85.56 27 *e*P **P 10 30 44.1 +0.5**
PAX pmax pmax
comp=Z,40nm,1.4s
PAX Paxson 85.56 27 *e*P **P 10 30 44.1 +0.5**
comp=Z,40nm,1.4s
TBI Tubuai 85.84 114 *e*LR LR 10 57 49.7
comp=Z,246nm,31.0s
TMCR Tamitsa 85.97 334 *e*P **P 10 30 45.7 +0.2**
TMCR *e* 10 34 06.1
TMCR pmax pmax
comp=Z,55nm,1.0s
BMRM Bremner River 85.98 29 *e*P **P 10 30 46.3 +0.6**
comp=Z,320nm,0.9s
DOT Dot Lake 86.19 27 *e*P **P 10 30 46.4 -0.3**
comp=Z,17nm,1.3s
MOS Moscow 86.32 325 *e*P **P 10 30 45.8 -1.6**
MOS pmax pmax
comp=Z,72nm,0.9s
MOS MLR MLR
comp=Z,800nm,20.0s
OBN Obninsk 86.95 325 *ce*P **P 10 30 49.8 -0.6**
OBN pmax pmax
comp=Z,116nm,1.7s
EGAK Eagle 87.42 25 *e*P **P 10 30 52.2 -0.4**
comp=Z,6.9nm,1.0s
APA Apatity 87.72 337⇓ *i*P **P 10 30 52.2 -1.7**
APA *i*S **S 10 41 26.0 -5.5**
APA *i*SS **SS 10 47 22.0 +3.5**
DAWY Dawson 88.24 26 *e*P **P 10 30 56.4 -0.2**
JOF Joensuu 89.05 333 *e*P **P 10 30 59.9 -0.4**
JOF pmax pmax
comp=Z,17nm,0.7s
JOF Joensuu 89.05 333 *ep* **P 10 30 59.9 -0.4**
comp=Z,17nm,0.7s
KMBO Kilima Mbogo 89.57 269 P **P 10 31 04.3 +0.2**
KMBO Kilima Mbogo 89.57 269 P **P 10 31 04.3 +0.2**
comp=Z,11nm,1.0s,baz=58,slow=6.8,SNR=20
KEV Kevo 89.75 340 *e*P **P 10 31 02.1 -1.4**
KEV Kevo 89.75 340 *ep* **P 10 31 02.1 -1.4**
comp=Z,0.4nm,0.4s
BRTR Keskin Array B 89.94 310 P **P 10 31 04.7 -0.5**
BRTR Keskin Array B 89.94 310 P **P 10 31 04.7 -0.5**
comp=Z,3.3nm,0.8s,baz=125,slow=4.6,SNR=18
BRTR LR LR 11 19 52.1
comp=Z,112nm,19.0s,baz=199,slow=41
INK Inuvik 90.02 21 P **P 10 31 04.2 -0.5**
INK Inuvik 90.02 21 P **P 10 31 04.2 -0.5**
comp=Z,9.8nm,1.2s,baz=274,slow=6.0,SNR=11
INK LR LR 11 14 11.7
comp=Z,182nm,19.8s,baz=148,slow=37
ARCES ARCESS Array B 90.31 340 P **P 10 31 05.3 -0.8**
ARCES ARCESS Array B 90.31 340 P **P 10 31 05.3 -0.8**
comp=Z,6.3nm,0.7s,baz=84,slow=6.1,SNR=24
ARCES LR LR 11 14 47.6
comp=Z,440nm,21.9s,baz=83,slow=38
KAF Kangasniemi 91.47 332 *e*P **P 10 31 11.9 +0.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 91.47 332 *ep* **P 10 31 11.9 +0.3**
comp=Z,3.7nm,0.6s
FINES FINESS Array B 91.71 332 P **P 10 31 12.1 -0.6**
FINES FINESS Array B 91.71 332 P **P 10 31 12.1 -0.6**
comp=Z,6.2nm,0.7s,baz=70,slow=5.7,SNR=9.7
FINES LR LR 11 15 28.3
comp=Z,327nm,19.6s,baz=219,slow=38
AKASG Malin Array Be 91.78 321 *i*P **P 10 31 12.0 -1.3**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 91.78 321 P **P 10 31 12.0 -1.3**
AKASG Malin Array Be 91.78 321 P **P 10 31 12.0 -1.3**
comp=Z,3.9nm,0.6s,baz=70,slow=4.4,SNR=30
AKASG LR LR 11 14 57.0
comp=Z,265nm,20.4s,baz=60,slow=37
AK01 Malin Array Si 91.79 321 *e*P **P 10 31 12.2 -1.2**
KIEV Kiev 91.80 321⇓ *e*P **P 10 31 12.2 -1.2**
KIEV Kiev 91.80 321 *e*P **P 10 31 11.9 -1.5**
comp=Z,10nm,1.0s
AK02 Malin Array Si 91.80 321 *e*P **P 10 31 12.4 -1.0**
VSU Vasula 91.95 329 P **P 10 31 13.2 -0.7**
MICGM Minsk 92.01 325 *e* **P 10 31 12.0 -2.3**
MNK Minsk 92.04 325 *e*P **P 10 31 12.0 -2.4**
SYO Syowa Base 92.57 201⇑ *e*P **P 10 31 15.4 -1.1**
DLBC Dease Lake 93.61 31 P **P 10 31 20.5 -1.2**
DLBC Dease Lake 93.61 31 P **P 10 31 20.5 -1.2**
comp=Z,4.7nm,1.0s,baz=257,slow=3.7,SNR=6.2
DLBC LR LR 11 10 31.9
comp=Z,314nm,18.7s,baz=148,slow=34
TESR Tescani 94.14 317⇑ *i*P **P 10 31 23.9 -0.4**
VRI Vrincioaia 94.20 316⇑ *i*P **P 10 31 25.3 +0.7**
VRI Vrincioaia 94.20 316⇑ *i*P **P 10 31 25.3 +0.7**
PLOR Plostina 94.25 316⇑ *i*P **P 10 31 22.7 -2.2**
PLOR Plostina 94.25 316⇑ *i*P **P 10 31 22.7 -2.2**
MLR Muntele Rosu 94.80 316⇓ *i*P **P 10 31 26.8 -0.7**
SUW Suwalki 94.81 325 *e*P **P 10 31 26.8 -0.4**
SUW Suwalki 94.81 325 *e*P **P 10 31 26.8 -0.4**
BURAR Bucovina Array 94.90 318⇑ *i*P **P 10 31 26.3 -1.6**
BURAR Bucovina Array 94.90 318⇑ *i*P **P 10 31 26.3 -1.6**
BUR08 Bucovina Ar. S 94.90 318 *e*P **P 10 31 27.5 -0.5**
LVV L'vov 95.22 321 *e*P P 10 31 41.3 +12
ARR Arges 95.73 316⇑ *i*P **P 10 31 32.4 +0.7**
CJR Cluj-Napoca 96.16 318⇓ *i*P **P 10 31 34.4 +0.8**
CJR Cluj-Napoca 96.16 318⇓ *i*P **P 10 31 34.3 +0.7**
KOLS Kolonicke sedl 96.54 320 *e*P **P 10 31 35.8 +0.6**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 96.54 320 *e*P **P 10 31 35.8 +0.6**
DRGR 96.74 318⇓ *i*P **P 10 31 35.1 -1.2**
DRGR 96.74 318⇓ *i*P **P 10 31 35.1 -1.2**
GZR Gura Zlata 97.01 316⇑ *i*P Pdif 10 31 37.7 +0.1
GZR Gura Zlata 97.01 316⇑ *i*P Pdif 10 31 37.7 +0.1
CRVS Cervenica-Dubn 97.07 320 *e*P **P 10 31 37.6 0.0**
CRVS pmax pmax
comp=Z,22nm,1.4s
CRVS Cervenica-Dubn 97.07 320 *e*P **P 10 31 37.6 0.0**
STHS Stebnicka Huta 97.08 321 *e*P Pdif 10 31 38.0 +0.3
STHS pmax pmax
comp=Z,7.0nm,1.5s
STHS Stebnicka Huta 97.08 321 *e*P Pdif 10 31 38.0 +0.3
MMB Musomiste 97.13 313⇑ *i*P **P 10 31 36.4 -1.7**
MMB Musomiste 97.13 313⇑ *i*P **P 10 31 36.3 -1.8**
SIRR Siria 97.57 317⇓ *i*P P 10 31 30.4 -10
BZS Buzias 97.75 317⇑ *i*P **P 10 31 38.8 -1.9**
BZS Buzias 97.75 317⇑ *i*P **P 10 31 38.8 -1.9**
NB2 NORSAR Subarra 98.66 334 P **P 10 31 43.3 -1.2**
comp=Z,4.6nm,0.8s,baz=67,slow=4.6
NB2 NORSAR Subarra 98.66 334 P **P 10 31 43.3 -1.2**
baz=67,slow=4.6
NOA NORSAR Array B 98.66 334 P **P 10 31 43.8 -0.7**
NOA NORSAR Array B 98.66 334 P **P 10 31 43.8 -0.7**
comp=Z,1.3nm,0.6s,baz=66,slow=4.5,SNR=5.0
NOA LR LR 11 21 57.2
comp=Z,480nm,18.7s,baz=60,slow=39
OKC Ostrava-Krasne 98.91 322 *e*P Pdif 10 31 46.3 +0.5
OKC Ostrava-Krasne 98.91 322 *e*PDIFF Pdif 10 31 46.3 +0.5
YKA Yellowknife Ar 99.36 24 P **Pdif 10 31 46.9 -0.6**
YKA PKiKP **PKiKP 10 36 17.8 +0.9**
YKA PKKPbc **PKKPbc 10 48 09.7 -3.8**
YKA Yellowknife Ar 99.36 24 P **Pdif 10 31 46.9 -0.6**
comp=Z,0.9nm,0.9s,baz=298,slow=4.7,SNR=8.8
YKA PKiKP **PKiKP 10 36 17.7 +0.9**
comp=Z,0.5nm,0.6s,baz=299,slow=1.7,SNR=14
YKA PKKPbc **PKKPbc 10 48 09.7 -3.8**
comp=Z,0.1nm,0.6s,baz=118,slow=3.0,SNR=4.7
JMIC Jan Mayen 99.71 346 LR LR 11 20 57.4
comp=Z,224nm,18.6s,baz=73,slow=38
KSP Ksiaz 99.73 323 *e*P **Pdif 10 31 49.4 -0.1**
DPC Dobruska-Polom 99.87 322 *e*P **Pdif 10 31 50.5 +0.3**
DPC Dobruska-Polom 99.87 322 *e*PDIFF **Pdif 10 31 50.5 +0.3**
DPC AMS AMS 11 20 20.0
PVCC Panska Ves 100.87 323 *e*P **Pdif 10 31 54.5 -0.1**
PVCC MLR MLR
comp=Z,500nm,19.0s
PVCC Panska Ves 100.87 323 *e*PDIFF **Pdif 10 31 54.5 -0.1**
PVCC AMS AMS 11 20 30.0
comp=Z,500nm,19.0s
PRU Pruhonice 101.07 322 *e*P **Pdif 10 31 52.9 -2.5**
PRU MLR MLR
comp=Z,400nm,19.8s
PRU Pruhonice 101.07 322 *e*PDIFF **Pdif 10 31 52.9 -2.5**
PRU AMS AMS 11 20 50.0
comp=Z,400nm,19.8s
BRG Berggiesshubel 101.13 323 *e*P **Pdif 10 31 56.0 +0.3**
comp=Z,17nm,1.5s
BRG Berggiesshubel 101.13 323 *e*P **Pdif 10 31 56.0 +0.3**
BRG pmax pmax
comp=Z,17nm,1.5s
KHC Kasperske Hory 101.95 322 *e*P **Pdif 10 32 00.3 +0.8**
KHC Kasperske Hory 101.95 322 *e*PDIFF **Pdif 10 32 00.3 +0.8**
KHC *ex* x 10 32 13.2
MOA Molln 101.96 320⇓ *i*Pdiff **Pdif 10 31 59.6 +0.1**
comp=Z,9.4nm,1.6s
GERES GERESS Array B 101.98 322 P **Pdif 10 31 59.0 -0.6**
GERES GERESS Array B 101.98 322 P **Pdif 10 31 59.0 -0.6**
comp=Z,0.7nm,0.7s,baz=49,slow=2.5,SNR=7.0
MSO Missoula 106.65 39 P **PKiKP 10 36 31.7 +0.9**
baz=106
NVAR Mina Array Bea 106.80 48 PKiKP **PKiKP 10 36 32.4 +0.9**
NVAR PKKP **PKKPab 10 48 05.5 -0.7**
NVAR Mina Array Bea 106.80 48 PKiKP **PKiKP 10 36 32.4 +0.9**
comp=Z,0.7nm,0.7s,baz=286,slow=1.2,SNR=5.5
NVAR PKKP **PKKPab 10 48 05.5 -0.7**
comp=Z,0.9nm,0.6s,baz=127,slow=4.3,SNR=7.1
HLID Hailey 107.68 42 P **PKiKP 10 36 34.4 +1.5**
baz=108
EDW2 Edwards Air Fo 108.17 51 P **PKiKP 10 36 35.5 +1.5**
baz=108
MPMC Manual Prospec 108.18 50 P **PKiKP 10 36 35.3 +1.1**
baz=108
EGMT Eagleton 108.66 36 P **PKiKP 10 36 34.8 +0.3**
baz=108
R11A Troy Canyon, C 108.83 47 P **PKiKP 10 36 35.5 +0.2**
baz=109
GSC Goldstone 108.96 51 P **PKiKP 10 36 37.1 +1.6**
baz=109
C19A Slack Wire Ran 109.21 36 P **PKiKP 10 36 36.0 +0.5**
baz=109
D19A Cripps Ranch, 109.59 37 P **PKiKP 10 36 36.6 +0.3**
baz=109
C20A Veseth Ranch, 109.84 36 P **PKiKP 10 36 37.4 +0.7**
baz=110
E19A Rath Farm, Rou 109.99 37 P **PKiKP 10 36 37.8 +0.8**
baz=110
GMRC Granite Mounta 110.02 51 P **PKiKP 10 36 38.0 +0.5**
baz=110
D20A Manuel Ranch, 110.07 37 P **PKiKP 10 36 37.9 +0.7**
baz=110
DUG Dugway 110.12 45 P **PKiKP 10 36 39.3 +1.8**
baz=110
E20A Meyer Farm, Mu 110.36 37 P **PKiKP 10 36 38.0 +0.3**
baz=110
A22A Carney Farms, 110.37 34 P **PKiKP 10 36 38.0 +0.4**
baz=110
D21A La Casta Ranch 110.76 36 P **PKiKP 10 36 39.3 +0.8**
baz=111
G20A Bridger 110.94 38 P **PKiKP 10 36 39.4 +0.4**
baz=111
C22A Vida 111.05 35 P **PKiKP 10 36 39.3 +0.4**
baz=111
B23A Brockton 111.17 34 P **PKiKP 10 36 39.9 +0.8**
baz=111
D22A Cohagen 111.19 36 P **PKiKP 10 36 40.3 +1.1**
baz=111
PDAR Pinedale Array 111.23 41 PKiKP **PKiKP 10 36 40.4 +0.7**
PDAR PKKPbc **PKKPbc 10 47 36.7 -0.4**
PDAR Pinedale Array 111.23 41 PKiKP **PKiKP 10 36 40.4 +0.7**
comp=Z,0.8nm,0.9s,baz=90,slow=1.5,SNR=6.6
PDAR PKKPbc **PKKPbc 10 47 36.7 -0.4**
comp=Z,0.5nm,0.6s,baz=124,slow=2.1,SNR=4.8
J19A Crowheart 111.33 40 P **PKiKP 10 36 40.1 +0.3**
baz=111
C23A Lambert 111.42 35 P **PKiKP 10 36 40.3 +0.6**
baz=111
H20A Greybull 111.43 39 P **PKiKP 10 36 40.4 +0.6**
baz=111
A24A Westby 111.46 33 P **PKiKP 10 36 40.0 +0.3**
baz=111
I20A Worland 111.61 39 P **PKiKP 10 36 40.8 +0.5**
baz=111
E22A Miles City 111.69 36 P **PKiKP 10 36 40.8 +0.6**
baz=112
F22A Rosebud 111.85 37 P **PKiKP 10 36 41.3 +0.8**
baz=112
J20A Shoshoni 111.92 40 P **PKiKP 10 36 41.5 +0.6**
baz=112
A25A Svangstu Ranch 111.94 33 P **PKiKP 10 36 41.4 +0.8**
baz=112
H21A Big Horn, Sher 111.95 38 P **PKiKP 10 36 41.4 +0.5**
baz=112
U15A North Rim 111.98 48 P **PKiKP 10 36 42.8 +1.4**
baz=112
C24A Savage 112.00 35 P **PKiKP 10 36 41.7 +1.0**
baz=112
I21A Big Trails, Te 112.20 39 P **PKiKP 10 36 41.4 0.0**
baz=112
J21A Lysite 112.33 40 P **PKiKP 10 36 41.7 -0.1**
baz=112
F23A Volborg 112.39 37 P **PKiKP 10 36 41.9 +0.3**
baz=112
H22A Clearmont 112.40 38 P **PKiKP 10 36 42.0 +0.3**
baz=112
I22A 9 Mile Ranch, 112.67 39 P **PKiKP 10 36 42.4 +0.1**
baz=112
G23A Biddle 112.67 37 P **PKiKP 10 36 42.3 +0.1**
baz=112
K21A Alcova 112.80 40 P **PKiKP 10 36 43.0 +0.4**
baz=113
J22A Midwest 112.91 39 P **PKiKP 10 36 42.8 0.0**
baz=113
WUAZ Wupatki 113.02 49 P **PKiKP 10 36 43.5 +0.3**
baz=113
C26A Wahner Farm, P 113.13 33 P **PKiKP 10 36 43.9 +1.0**
baz=113
E25A Miller Ranch, 113.15 35 P **PKiKP 10 36 44.3 +1.3**
baz=113
G24A Alzada 113.19 37 P **PKiKP 10 36 43.9 +0.7**
baz=113
K22A Casper 113.26 40 P **PKiKP 10 36 43.9 +0.4**
baz=113
O20A White River Ci 113.31 43 P **PKiKP 10 36 44.8 +1.1**
baz=113
X16A Lo Mia Camp, P 113.39 50 P **PKiKP 10 36 45.6 +1.6**
baz=113
H24A Dirks Ranch, A 113.42 37 P **PKiKP 10 36 44.4 +0.8**
baz=113
F25A Bowman 113.43 36 P **PKiKP 10 36 44.6 +1.0**
baz=113
E26A Carlson Angus 113.70 35 P **PKiKP 10 36 45.1 +1.0**
baz=114
B28A Dugan Ranch, T 113.70 32 P **PKiKP 10 36 45.1 +1.1**
baz=114
G25A Newell 113.86 36 P **PKiKP 10 36 44.8 +0.4**
baz=114
F26A Lodgepole 113.93 35 P **PKiKP 10 36 45.2 +0.6**
baz=114
PV01 Paradox Valley 113.98 45 *e*PKPdf **PKiKP 10 36 45.9 +0.8**
A29A Manning Farm, 114.01 31 P **PKiKP 10 36 45.3 +0.8**
baz=114
N22A Wattenberg Ran 114.20 42 P PKPdf 10 36 45.9 +0.4
baz=114
G26A Maurine 114.28 36 P PKPdf 10 36 45.4 +0.1
baz=114
F27A Lemmon 114.29 35 P PKPdf 10 36 45.6 +0.4
baz=114
I25A Rochford 114.30 38 P PKPdf 10 36 45.5 +0.1
baz=114
D28A Regan 114.34 33 P PKPdf 10 36 45.7 +0.5
baz=114
M23A Laramie 114.36 41 P PKPdf 10 36 46.8 +1.0
baz=114
MVCO Mesa Verde 114.44 46 P PKPdf 10 36 47.4 +1.4
baz=114
P22A Eagle 114.58 43 P PKPdf 10 36 46.6 +0.4
baz=114
J25A Sunshine Ranch 114.59 38 P PKPdf 10 36 46.3 +0.4
baz=114
G27A Dupree 114.63 36 P PKPdf 10 36 46.3 +0.4
baz=114
E28A Huff 114.64 34 P PKPdf 10 36 46.3 +0.5
baz=114
ULM Lac du Bonnet 114.82 29 PKP PKPdf 10 36 44.9 -1.1
ULM Lac du Bonnet 114.82 29 PKP PKPdf 10 36 44.9 -1.1
comp=Z,2.9nm,0.7s,baz=351,slow=1.6,SNR=4.1
I26A New Underwood 114.83 37 P PKPdf 10 36 46.9 +0.6
baz=115
O23A Lake Granby, G 114.85 42 P PKPdf 10 36 47.3 +0.6
baz=115
H27A Howes 114.96 36 P PKPdf 10 36 46.7 +0.1
baz=115
F28A McLaughlin 115.00 35 P **PKPdf 10 36 47.1 +0.5**
baz=115
J26A Sides Ranch, S 115.08 38 P **PKPdf 10 36 47.3 +0.4**
baz=115
ISCO Idaho Springs 115.25 42 P **PKPdf 10 36 48.2 +0.6**
baz=115
I27A Quinn 115.29 37 P **PKPdf 10 36 47.8 +0.6**
baz=115
K26A Motz Farm, Whi 115.35 39 P **PKPdf 10 36 47.4 0.0**
baz=115
D30A Buchanan 115.38 33 P **PKPdf 10 36 47.4 +0.2**
baz=115
S22A 4UR Ranch, Cre 115.39 45 P **PKPdf 10 36 48.5 +0.6**

	baz=115						
G28A	Parade	115.39	35	P	PKPdf	10 36 47.5	+0.1
	baz=115						
F29A	Eureka	115.56	34	P	PKPdf	10 36 48.2	+0.5
	baz=115						
E30A	Jud	115.67	33	P	PKPdf	10 36 48.4	+0.6
	baz=116						
J27A	Elkhorn Farm,	115.77	38	P	PKPdf	10 36 49.6	+1.4
	baz=116						
I28A	Midland	115.86	37	P	PKPdf	10 36 48.9	+0.6
	baz=116						
R23A	Moffat	115.88	44	P	PKPdf	10 36 50.0	+1.2
	baz=116						
O25A	Wiggins	116.09	41	P	PKPdf	10 36 49.8	+0.9
	baz=116						
J28A	Allard Ranch,	116.14	37	P	PKPdf	10 36 49.3	+0.4
	baz=116						
V22A	San Miguel Ran	116.16	47	P	PKPdf	10 36 51.1	+1.7
	baz=116						
319A	Douglas	116.24	52	P	PKPdf	10 36 51.0	+1.6
	baz=116						
T23A	Casias Ranch,	116.27	45	P	PKPdf	10 36 50.9	+1.3
	baz=116						
R24A	Sanders Place,	116.36	44	P	PKPdf	10 36 50.3	+0.7
	baz=116						
P25A	Willow Gulch B	116.36	42	P	PKPdf	10 36 50.5	+0.9
	baz=116						
G30A	Faulkton	116.37	35	P	PKPdf	10 36 50.4	+1.3
	baz=116						
K28A	Ten Mile Ranch	116.46	38	P	PKPdf	10 36 49.8	+0.3
	baz=116						
U23A	El Rito	116.49	46	P	PKPdf	10 36 51.6	+1.6
	baz=116						
S24A	Houchin Ranch,	116.57	44	P	PKPdf	10 36 51.5	+1.3
	baz=116						
Q25A	Bedland, Calha	116.61	43	P	PKPdf	10 36 50.7	+0.6
	baz=116						
J29A	Okreek	116.70	37	P	PKPdf	10 36 50.6	+0.7
	baz=116						
T24B	San Luis	116.72	45	P	PKPdf	10 36 52.3	+1.8
	baz=117						
V23A	Ortiz Mt. (NFS	116.76	47	P	PKPdf	10 36 52.5	+2.0
	baz=117						
320A	Kipp Ranch, An	116.85	52	P	PKPdf	10 36 52.8	+2.1
	baz=117						
P26A	Davis Ranch, A	116.89	42	P	PKPdf	10 36 51.6	+1.1
	baz=117						
121A	Cookes Peak, D	116.94	51	P	PKPdf	10 36 52.2	+1.4
	baz=117						
W23A	Werner Place,	117.05	47	P	PKPdf	10 36 51.7	+0.6
	baz=117						
K29A	Lazy Trails An	117.07	37	P	PKPdf	10 36 50.9	+0.3
	baz=117						
Q26A	Hugo	117.10	42	P	PKPdf	10 36 51.9	+0.9
	baz=117						
S25A	Robets Cordova	117.10	44	P	PKPdf	10 36 51.2	+0.1
	baz=117						
O27A	Beecher Island	117.13	41	P	PKPdf	10 36 51.8	+0.9
	baz=117						
BNM	Barren Site	117.14	48	*e*PKPdf	PKPdf	10 36 52.7	+1.4
J30A	Dallas	117.24	36	P	PKPdf	10 36 51.0	+0.1
	baz=117						
Z22A	Elephant Butte	117.27	49	P	PKPdf	10 36 52.9	+1.4
	baz=117						
X23A	Hourglass Bar	117.28	48	P	PKPdf	10 36 52.9	+1.4
	baz=117						
T25A	Trinidad	117.37	44	P	PKPdf	10 36 52.3	+0.7
	baz=117						
L29A	Maesberg Ranch	117.37	38	P	PKPdf	10 36 51.8	+0.5
	baz=117						
P27A	Ficken Ranch,	117.40	41	P	PKPdf	10 36 52.3	+0.8
	baz=117						
V24A	Rampart Ranch,	117.42	46	P	PKPdf	10 36 53.6	+1.8
	baz=117						
R26A	Arlington	117.46	43	P	PKPdf	10 36 52.0	+0.3
	baz=117						
N28A	Pribbeno Ranch	117.47	40	P	PKPdf	10 36 52.2	+0.7
	baz=117						
K30A	Basset	117.55	37	P	PKPdf	10 36 52.2	+0.6
	baz=117						
W24A	Lazy 6 Ranch,	117.56	47	P	PKPdf	10 36 53.4	+1.4
	baz=117						
222A	Williams Famil	117.65	51	P	PKPdf	10 36 53.4	+1.2
	baz=118						
KSCO	Kaye Shedlock'	117.65	42	P	PKPdf	10 36 52.6	+0.6
	baz=118						
Y23A	Lovelace Mesa,	117.66	48	P	PKPdf	10 36 52.6	+0.4
	baz=118						
U25A	Circle Dot Ran	117.72	45	P	PKPdf	10 36 53.5	+1.2
	baz=118						
S26A	Kim	117.78	44	P	PKPdf	10 36 52.5	+0.2
	baz=118						
Z23A	Rita Site, Whi	117.82	49	P	PKPdf	10 36 54.0	+1.6
	baz=118						
X24A	Lazy VL Ranch,	117.84	47	P	PKPdf	10 36 53.7	+1.1
	baz=118						
V25A	Rancho No Teng	117.84	46	P	PKPdf	10 36 53.9	+1.4
	baz=118						
R27A	Eads	117.91	43	P	PKPdf	10 36 53.2	+0.7
	baz=118						
T26A	Comanche Natio	117.92	44	P	PKPdf	10 36 53.2	+0.6
	baz=118						
P28A	Saint Francis	117.93	41	P	PKPdf	10 36 53.1	+0.6
	baz=118						
Y24A	Capitan	118.12	48	P	PKPdf	10 36 54.5	+1.4
	baz=118						
S27A	Las Animas	118.14	43	P	PKPdf	10 36 54.2	+1.3
	baz=118						
Q28A	Sharon Springs	118.15	41	P	PKPdf	10 36 54.0	+1.1
	baz=118						
U26A	Atchley Ranch,	118.20	45	P	PKPdf	10 36 54.4	+1.2
	baz=118						
223A	Chaparral, Ant	118.21	51	P	PKPdf	10 36 55.0	+1.8
	baz=118						
W25A	X Bar L Ranch,	118.25	46	P	PKPdf	10 36 54.0	+0.7
	baz=118						
O29A	4D Ranch, Culb	118.25	40	P	PKPdf	10 36 53.6	+0.6
	baz=118						
L31A	Butterfield Fa	118.30	37	P	PKPdf	10 36 53.5	+0.5
	baz=118						
N30A	Hueftle Ranch,	118.32	39	P	PKPdf	10 36 54.2	+1.1
	baz=118						
X25A	Clemmons Ranch	118.42	47	P	PKPdf	10 36 54.6	+0.9
	baz=118						
Z24A	Sheeppen Canyo	118.44	49	P	PKPdf	10 36 54.7	+1.0
	baz=118						
P29A	Atwood	118.45	41	P	PKPdf	10 36 54.0	+0.5
	baz=118						
V26A	Tequesquite Ra	118.46	46	P	PKPdf	10 36 54.2	+0.6
	baz=118						
R28A	Tribune	118.54	42	P	PKPdf	10 36 54.4	+0.7
	baz=118						
T27A	Campo	118.58	44	P	PKPdf	10 36 54.6	+0.8
	baz=118						
124A	Stringfield Ra	118.65	49	P	PKPdf	10 36 54.8	+0.5
	baz=118						
ECSD	EROS Data Cent	118.66	35	*e*PKPdf	PKPdf	10 36 53.8	+0.2
ECSD	EROS Data Cent	118.66	35	P	PKPdf	10 36 53.9	+0.3
	baz=118						
Y25A	Mesa, Roswell	118.68	48	P	PKPdf	10 36 55.3	+1.2
	baz=118						
O30A	MW Ranch, Wils	118.69	40	P	PKPdf	10 36 54.5	+0.7
	baz=118						
M31A	Lambtecht Ranc	118.70	38	P	PKPdf	10 36 54.3	+0.5
	baz=118						
Q29A	Oakley	118.80	41	P	PKPdf	10 36 55.0	+0.9
	baz=119						
W26A	Owens Ranch, T	118.81	46	P	PKPdf	10 36 55.1	+0.7
	baz=119						
U27A	Thompson Grove	118.83	44	P	PKPdf	10 36 55.6	+1.2
	baz=119						
224A	Cornudas Mount	118.87	50	P	PKPdf	10 36 54.8	+0.3
	baz=119						
S28A	Manter	118.88	43	P	PKPdf	10 36 55.0	+0.7
	baz=119						
P30A	Selden	118.92	40	P	PKPdf	10 36 54.9	+0.5
	baz=119						
R29A	Marienthal	118.95	42	P	PKPdf	10 36 55.3	+0.8
	baz=119						
Z25A	Roswell	118.95	48	P	PKPdf	10 36 55.5	+0.8
	baz=119						
T28A	Walsh	118.97	43	P	PKPdf	10 36 55.6	+1.0
	baz=119						
X26A	CR and CF Fran	119.03	47	P	PKPdf	10 36 55.6	+0.8
	baz=119						
MNTX	Cornudas Mount	119.14	50	*e*PKPdf	PKPdf	10 36 56.0	+1.1
V27A	Dan Oppiter Fa	119.15	45	P	PKPdf	10 36 56.4	+1.5
	baz=119						
BGNE	Belgrade	119.17	37	*e*PKPdf	PKPdf	10 36 54.5	-0.2
BGNE	Belgrade	119.17	37	P	PKPdf	10 36 54.8	+0.1
	baz=119						
O31A	Woolen Ranch,	119.17	39	P	PKPdf	10 36 54.8	+0.1
	baz=119						
324A	Moseley Ranch,	119.18	51	P	PKPdf	10 36 56.4	+1.2
	baz=119						
Q30A	Quinter	119.25	41	P	PKPdf	10 36 55.9	+0.9
	baz=119						
U28A	Mallet	119.27	44	P	PKPdf	10 36 55.8	+0.6
	baz=119						
125A	Gardner Draw,	119.27	49	P	PKPdf	10 36 56.1	+0.8
	baz=119						
Y26A	Elida	119.32	47	P	PKPdf	10 36 56.0	+0.7
	baz=119						
W27A	Bowe Ranch, En	119.33	46	P	PKPdf	10 36 56.2	+0.8
	baz=119						
S29A	Ulysses	119.39	43	P	PKPdf	10 36 56.6	+1.3
	baz=119						
225A	Deer Hill, Car	119.39	50	P	PKPdf	10 36 57.3	+1.7
	baz=119						
P31A	Stockton	119.49	40	P	PKPdf	10 36 56.4	+1.0
	baz=119						
Z26A	Caprock	119.50	48	P	PKPdf	10 36 56.0	+0.3
	baz=119						
V28A	Channing	119.58	45	P	PKPdf	10 36 57.3	+1.5
	baz=119						
R30A	Dighton	119.59	41	P	PKPdf	10 36 56.1	+0.5
	baz=119						
325A	Bean Ranch, Si	119.60	51	P	PKPdf	10 36 57.1	+1.1
	baz=120						
SPMN	St. Paul	119.75	31	P	PKPdf	10 36 55.9	+0.2
	baz=120						
126A	Clayton Basin,	119.76	49	P	PKPdf	10 36 57.0	+0.8
	baz=120						
O32A	Brockman Farm,	119.77	39	P	PKPdf	10 36 56.1	+0.2
	baz=120						
S30A	Montezuma	119.82	42	P	PKPdf	10 36 56.5	+0.3
	baz=120						
Y27A	Causey	119.82	47	P	PKPdf	10 36 56.6	+0.3
	baz=120						
425A	Indio Mountain	119.84	51	P	PKPdf	10 36 57.8	+1.3
	baz=120						
W28A	Vega	119.84	45	P	PKPdf	10 36 57.4	+1.1
	baz=120						
226B	Tecolote Peak,	119.91	49	P	PKPdf	10 36 57.2	+0.7
	baz=120						
P32A	Huiting Farm,	119.93	39	P	PKPdf	10 36 57.0	+0.8
	baz=120						
V29A	Stinnett	120.02	44	P	PKPdf	10 36 57.6	+1.0
	baz=120						
Z27A	Tatum	120.05	48	P	PKPdf	10 36 56.9	+0.2
	baz=120						
MSTX	Muleshoe	120.06	47	*e*PKPdf	PKPdf	10 36 57.7	+0.9
MSTX	Muleshoe	120.06	47	P	PKPdf	10 36 57.7	+0.9
	baz=120						
R31A	Burdett	120.08	41	P	PKPdf	10 36 57.0	+0.4
	baz=120						
T30A	Plains	120.09	43	P	PKPdf	10 36 57.6	+1.0
	baz=120						
X28A	Dimmitt	120.22	46	P	PKPdf	10 36 57.9	+0.8
	baz=120						
127A	Arkansas Junct	120.24	48	P	PKPdf	10 36 57.9	+0.8
	baz=120						
U30A	WK&E Inc. Balk	120.28	43	P	PKPdf	10 36 58.1	+1.0
	baz=120						
Q32A	Meitler Ranch,	120.32	40	P	PKPdf	10 36 58.1	+1.2
	baz=120						
326A	Caldwell Ranch	120.39	50	P	PKPdf	10 36 57.7	+0.3
	baz=120						
AMTX	Amarillo	120.40	45	P	PKPdf	10 36 58.6	+1.2
	baz=120						
SCHQ	Schefferville	120.42	9	PKP	PKPdf	10 36 57.0	+0.4
SCHQ	Schefferville	120.42	9	PKP	PKPdf	10 36 57.0	+0.4
	comp=Z,3.7nm,0.5s,baz=359,slow=4.9,SNR=9.5						
Y28A	McKinney Farm,	120.48	47	P	PKPdf	10 36 58.6	+1.1
	baz=120						
S31A	Mullinville	120.48	42	P	PKPdf	10 36 58.2	+0.8
	baz=120						
R32A	Long Quarter,	120.54	41	P	PKPdf	10 36 58.3	+0.9
	baz=120						
X29A	Tulia	120.61	46	P	PKPdf	10 36 58.4	+0.6
	baz=120						
426A	McDonald Obser	120.64	51	P	PKPdf	10 36 58.7	+0.6
	baz=120						
Q33A	Connelly Farm,	120.78	40	P	PKPdf	10 36 58.5	+0.7
	baz=121						
526A	Mary Lane Ranc	120.85	52	P	PKPdf	10 36 58.6	+0.2
	baz=121						
U31A	Nine Bar Ranch	120.91	43	P	PKPdf	10 36 59.5	+1.3
	baz=121						
128A	Castleberry Fa	120.92	48	P	PKPdf	10 36 59.2	+0.8
	baz=121						
Y29A	Porterfield Fa	120.92	47	P	PKPdf	10 36 59.6	+1.2
	baz=121						
626A	Big Bend Ranch	121.04	52	P	PKPdf	10 36 59.5	+0.8
	baz=121						
427A	Hayter Ranch,	121.04	50	P	PKPdf	10 36 59.5	+0.8
	baz=121						
R33A	Olander Ranch,	121.08	40	P	PKPdf	10 36 59.2	+0.8
	baz=121						
T32A	Huddler Ranch,	121.09	42	P	PKPdf	10 36 59.5	+1.0
	baz=121						
Z29A	Hungry Hill Ra	121.19	47	P	PKPdf	10 36 59.6	+0.7
	baz=121						
527A	Woodward Ranch	121.19	51	P	PKPdf	10 36 59.6	+0.6
	baz=121						
X30A	Coker Ranch, T	121.20	46	P	PKPdf	10 36 59.6	+0.8
	baz=121						
V31A	Spring Creek L	121.23	44	P	PKPdf	10 37 00.1	+1.3
	baz=121						
328A	Wristen Ranch,	121.25	50	P	PKPdf	10 37 00.1	+1.1
	baz=121						
129A	Stewart Farms,	121.37	48	P	PKPdf	10 36 60.0	+0.7
	baz=121						
Y30A	Stafford Cattl	121.47	46	P	PKPdf	10 37 00.1	+0.7
	baz=121						
W31A	Holland Ranch,	121.47	44	P	PKPdf	10 37 00.2	+0.9
	baz=121						
U32A	Water Ranch,	121.48	43	P	PKPdf	10 37 00.0	+0.7
	baz=121						
KSU1	Kansas State U	121.49	39	*e*PKPdf	PKPdf	10 36 59.7	+0.5
KSU1	Kansas State U	121.49	39	P	PKPdf	10 36 59.9	+0.7
	baz=121						
TXAR	Lajitas Array	121.50	52	PKP	PKPdf	10 37 00.2	+0.6
TXAR				PKKPbc	PKKPab	10 47 03.8	+2.5
TXAR	Lajitas Array	121.50	52	PKP	PKPdf	10 37 00.2	+0.6
	comp=Z,2.2nm,0.8s,baz=263,slow=0.7,SNR=15						
TXAR				PKKPbc	PKKPab	10 47 03.8	+2.5
	comp=Z,0.3nm,0.8s,baz=152,slow=5.7,SNR=3.8						
Z30A	Sanderson Ranc	121.59	47	P	PKPdf	10 37 00.3	+0.6
	baz=121						
T33A	Patterson Ranc	121.60	42	P	PKPdf	10 37 00.2	+0.7
	baz=121						
428A	Kincaid Ranch,	121.64	50	P	PKPdf	10 37 01.0	+1.1
	baz=122						
627A	Terlingua Ranc	121.67	52	P	PKPdf	10 37 00.9	+1.0
	baz=122						
229A	Bryant Ranch,	121.73	49	P	PKPdf	10 37 00.8	+0.8
	baz=122						
X31A	McDonald Ranch	121.74	45	P	PKPdf	10 37 00.8	+0.9
	baz=122						
V32A	Arapaho	121.81	43	P	PKPdf	10 37 01.4	+1.4
	baz=122						
329A	Wagon Wheel Ra	121.83	49	P	PKPdf	10 37 01.0	+0.8
	baz=122						
Y31A	Rekieta Farm,	121.88	46	P	PKPdf	10 37 00.9	+0.8
	baz=122						
628A	Black Gap, Mar	122.04	52	P	PKPdf	10 37 01.3	+0.7
	baz=122						
U33A	Lingo Farm, Me	122.05	42	P	PKPdf	10 37 01.1	+0.7
	baz=122						
130A	Snyder	122.05	47	P	PKPdf	10 37 01.1	+0.6
	baz=122						
V33A	Lossen Ranch,	122.27	43	P	PKPdf	10 37 01.5	+0.7
	baz=122						
529A	Stev Forest Ra	122.28	51	P	PKPdf	10 37 01.9	+0.9
	baz=122						
230A	Sterling City	122.29	48	P	PKPdf	10 37 01.3	+0.3
	baz=122						
Z31A	Sharp Cattle R	122.29	46	P	PKPdf	10 37 01.1	+0.1
	baz=122						
429A	Davenport Ranc	122.30	50	P	PKPdf	10 37 01.7	+0.7
	baz=122						
X32A	Elmer	122.33	45	P	PKPdf	10 37 01.4	+0.4
	baz=122						
U34A	Anderson Ranch	122.43	42	P	PKPdf	10 37 01.7	+0.6
	baz=122						
131A	Roby	122.44	47	P	PKPdf	10 37 01.9	+0.6
	baz=122						
Y32A	R-V Farms, Ver	122.44	45	P	PKPdf	10 37 01.7	+0.5
	baz=122						
330A	Mertzon	122.47	49	P	PKPdf	10 37 01.8	+0.4
	baz=122						
W33A	Caddo, Fort Co	122.51	44	P	PKPdf	10 37 02.5	+1.2
	baz=122						
WMOK	Wichita Mounta	122.52	44	*e*PKIKP	PKPdf	10 37 02.0	+0.7
WMOK	Wichita Mounta	122.52	44	*e*PKPdf	PKPdf	10 37 02.0	+0.7
430A	Baggett Ranch,	122.72	49	P	PKPdf	10 37 03.0	+1.1
	baz=123						
Z32A	Haskell	122.78	46	P	PKPdf	10 37 03.0	+1.1
	baz=123						
V34A	Guthrie	122.78	42	P	PKPdf	10 37 02.5	+0.7
	baz=123						
X33A	Lawton	122.82	44	P	PKPdf	10 37 03.3	+1.4
	baz=123						
231A	Bronte	122.86	48	P	PKPdf	10 37 03.3	+1.2
	baz=123						
TOA0	Torodi Ar. Sit	122.88	288	*e*PKPdf	PKPdf	10 37 01.9	-0.5
TORD	Torodi Ar. Bea	122.88	288	PKP	PKPdf	10 37 02.6	+0.2
TORD				SKP		10 40 37.5	
TORD				PKKPbc	PKKPab	10 46 58.2	+3.1
TORD	Torodi Ar. Bea	122.88	288	PKP	PKPdf	10 37 02.6	+0.2
	comp=Z,4.4nm,0.8s,baz=79,slow=1.5,SNR=27						
TORD				SKP		10 40 37.5	
	comp=Z,2.1nm,1.0s,baz=6.4,slow=2.2,SNR=4.4						
TORD				PKKPbc	PKKPab	10 46 58.2	+3.1
	comp=Z,0.4nm,0.5s,baz=261,slow=3.0,SNR=4.6						
530A	J-C Ranch, Com	122.94	50	P	PKPdf	10 37 03.7	+1.4
	baz=123						
W34A	Bridge Creek,	122.94	43	P	PKPdf	10 37 03.4	+1.3
	baz=123						
ABTX	Abilene, Hawle	123.01	47	P	PKPdf	10 37 03.6	+1.2
	baz=123						
331A	San Angelo	123.08	49	P	PKPdf	10 37 02.9	+0.3
	baz=123						
431A	Sonora	123.25	49	P	PKPdf	10 37 03.8	+0.9
	baz=123						
X34A	Smith Ranch, M	123.25	44	P	PKPdf	10 37 03.8	+1.0
	baz=123						
Z33A	Whitaker Ranch	123.30	46	P	PKPdf	10 37 03.7	+0.9
	baz=123						
531A	Rocksprings	123.54	50	P	PKPdf	10 37 04.3	+0.9
	baz=123						
133A	Hamilton Ranch	123.54	46	P	PKPdf	10 37 04.0	+0.6
	baz=123						
332A	Millersview	123.55	48	P	PKPdf	10 37 04.5	+1.1
	baz=123						
Y34A	Reagan Ranch,	123.65	44	P	PKPdf	10 37 04.5	+1.0
	baz=124						
432A	Menard	123.77	49	P	PKPdf	10 37 04.3	+0.4
	baz=124						
233A	Rising Star	123.86	47	P	PKPdf	10 37 04.9	+0.9
	baz=124						
Z34A	Collier Ranch,	123.86	45	P	PKPdf	10 37 05.0	+1.1
	baz=124						
TUL1	Tulsa	123.89	41	*e*PKPdf	PKPdf	10 37 04.6	+0.7
TUL1	Tulsa	123.89	41	P	PKPdf	10 37 04.8	+0.9
	baz=124						
JCT	Junction City	123.95	49	*e*PKIKP	PKPdf	10 37 04.6	+0.4
JCT	Junction City	123.95	49	*e*PKPdf	PKPdf	10 37 04.6	+0.4
JCT	Junction City	123.95	49	P	PKPdf	10 37 04.3	+0.1
	baz=124						
532A	Rocksprings	124.05	49	P	PKPdf	10 37 04.5	0.0
	baz=124						
333A	Richland Sprin	124.14	48	P	PKPdf	10 37 04.8	+0.2
	baz=124						
134A	White-Moore Ra	124.16	46	P	PKPdf	10 37 05.5	+1.0
	baz=124						
433A	Art	124.35	48	P	PKPdf	10 37 05.3	+0.3
	baz=124						
234A	Clairette	124.42	47	P	PKPdf	10 37 05.8	+0.7
	baz=124						
632A	Uvalde	124.43	50	P	PKPdf	10 37 05.8	+0.7
	baz=124						
135A	Vickery Place,	124.65	46	P	PKPdf	10 37 07.2	+1.7
	baz=124						
732A	Laxson Ranch,	124.66	51	P	PKPdf	10 37 06.6	+1.1
	baz=124						
334A	Lometa	124.69	47	P	PKPdf	10 37 06.3	+0.7
	baz=124						
533A	Kerrville	124.73	49	P	PKPdf	10 37 06.4	+0.6
	baz=125						
832A	Faith Ranch, C	124.86	51	P	PKPdf	10 37 06.9	+0.9
	baz=125						
WHTX	Lake Whitney	124.92	46	P	PKPdf	10 37 06.9	+1.0
	baz=125						
633A	Saathoff Ranch	124.92	50	P	PKPdf	10 37 07.1	+1.0
	baz=125						
434A	Burnet	124.93	48	P	PKPdf	10 37 06.4	+0.3
	baz=125						
534A	Blanco	125.17	49	P	PKPdf	10 37 06.8	+0.3
	baz=125						
733A	Divot King Ran	125.19	51	P	PKPdf	10 37 07.7	+1.2
	baz=125						
833A	Chaparral WMA,	125.30	51	P	PKPdf	10 37 08.3	+1.5
	baz=125						
335A	Moody	125.31	47	P	PKPdf	10 37 07.7	+1.0
	baz=125						
634A	China Grove, S	125.59	49	P	PKPdf	10 37 09.0	+1.7
	baz=125						
734A	JLa Parita Cre	125.69	50	P	PKPdf	10 37 09.5	+2.0
	baz=126						
535A	Dale	125.85	48	P	PKPdf	10 37 09.5	+1.7
	baz=126						
834A	Tilden	126.04	51	P	PKPdf	10 37 10.1	+1.9
	baz=126						
MIAR	Mount Ida	126.16	41	*e*PKIKP	PKPdf	10 37 09.0	+0.7
MIAR	Mount Ida	126.16	41	*e*PKPdf	PKPdf	10 37 09.0	+0.7
735A	Kenedy	126.26	50	P	PKPdf	10 37 10.1	+1.5
	baz=126						
934A	Benavides	126.32	51	P	PKPdf	10 37 11.1	+2.4
	baz=126						
GNAR	Gosnell	127.53	38	*e*PKPdf	PKPdf	10 37 12.2	+1.3
WCI	Wyandotte Cave	128.12	33	*e*PKIKP	PKPdf	10 37 12.3	+0.3
WCI	Wyandotte Cave	128.12	33	*e*PKPdf	PKPdf	10 37 12.3	+0.3
ACSO	Alum Creek Sta	128.32	29	*e*PKPdf	PKPdf	10 37 12.8	+0.6
WVT	Waverly	128.73	36	*e*PKIKP	PKPdf	10 37 13.5	+0.3
WVT	Waverly	128.73	36	*e*PKPdf	PKPdf	10 37 13.4	+0.3
KIC	Kosan Boka	130.50	282	*e*P	PKPdf	10 37 17.2	+0.1
	comp=Z,92nm,1.7s						
DBIC	Dimbokro	130.56	282	PKP	PKPdf	10 37 17.7	+0.5
DBIC				SKPbc	SKPab	10 40 40.2	+4.0
DBIC	Dimbokro	130.56	282	PKP	PKPdf	10 37 17.7	+0.5
	comp=Z,3.0nm,0.6s,baz=75,slow=1.9,SNR=6.1						
DBIC				SKPbc	SKPab	10 40 40.2	+4.0
	comp=Z,21nm,0.7s,baz=74,slow=3.6,SNR=33						
TIC	Toumodi	130.72	282	*e*P	PKPdf	10 37 16.7	-0.8
	comp=Z,4.4nm,0.2s						
LIC	Lamto	130.81	282	*e*P	PKPdf	10 37 18.8	+1.1
	comp=Z,22nm,0.9s						
LRAL	Lakeview Retre	131.34	38	*e*PKPdf	PKPdf	10 37 18.7	+0.5
TKL	Tuckaleechee C	131.37	33	*e*PKPdf	PKPdf	10 37 18.9	+0.7
GOGA	Godfrey	133.19	35	*e*PKIKP	PKPdf	10 37 22.6	+0.9
GOGA	Godfrey	133.19	35	*e*PKPdf	PKPdf	10 37 22.6	+0.9
PLCA	Paso Flores	140.14	159	PKP	PKPdf	10 37 35.2	+0.8
PLCA	Paso Flores	140.14	159	PKP	PKPdf	10 37 35.2	+0.8
	comp=Z,13nm,1

SDV	**Santo Domingo**	**158.53**	**54**	*e*PKPdf	**PKPdf**	**10 38 04.7**	**+0.6**
LPAZ	**La Paz**	**160.88**	**131**	PKP	**PKPdf**	**10 38 07.8**	**+0.5**
LPAZ				PKPab	**PKPab**	**10 38 51.5**	**+1.8**
LPAZ	**La Paz**	**160.88**	**131**	PKP	**PKPdf**	**10 38 07.8**	**+0.5**
	comp=Z,13nm,1.2s,baz=18,slow=2.1,SNR=20						
LPAZ				PKPab	**PKPab**	**10 38 51.5**	**+1.8**
	comp=Z,2.4nm,0.6s,baz=81,slow=1.7,SNR=5.3						
BDFB	**Brasilia**	**167.22**	**203**	PKPab	**PKPab**	**10 39 17.8**	**+0.9**
BDFB	**Brasilia**	**167.22**	**203**	PKPab	**PKPab**	**10 39 17.8**	**+0.9**
	comp=Z,5.5nm,1.0s,baz=281,slow=1.2,SNR=4.2						
SAML	**Samuel**	**168.93**	**118**	*e*PKPdf	**PKPdf**	**10 38 13.7**	**+0.2**

IDC 28 10:28:58.4±1.7, 4.02°N×126.78°E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=98.7km s-min=24.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P	P	10 33 53.9	-0.6
	0.7nm,0.4s,baz=22,slow=9.3,SNR=5.0						
WRA	**Warramunga Arr**	**24.95**	**163**	P	P	10 34 22.3	-1.4
	1.4nm,0.8s,baz=343,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**28.38**	**166**	P	P	10 34 56.5	+1.8
	0.3nm,0.8s,baz=340,slow=7.6,SNR=3.0						
STKA	**Stephens Creek**	**38.38**	**159**	P	P	10 36 21.2	-0.4
	1.7nm,0.8s,baz=349,slow=5.2,SNR=2.9						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	10 38 48.4	-0.1
	0.3nm,0.5s,baz=118,slow=7.8,SNR=6.4						

IDC 28 10:39:49.9±2.1, 3.58°N×126.86°E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=184.0km s-min=24.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.51**	**163**	P	P	10 45 10.2	-1.1
	1.8nm,0.6s,baz=342,slow=11,SNR=13						
ASAR	**Alice Springs**	**27.94**	**166**	P	P	10 45 43.5	+1.3
	0.2nm,0.7s,baz=341,slow=9.6,SNR=7.0						
STKA	**Stephens Creek**	**37.95**	**159**	P	P	10 47 09.4	0.0
	1.0nm,0.7s,baz=329,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	10 49 42.5	-0.3
	0.1nm,0.5s,baz=125,slow=7.6,SNR=3.1						

*IDC **28** 10:48:16.5±27.0, 5.81°N×125.56°E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/25, mbtmp4.0/4, Error ellipse: s-maj=460.7km s-min=110.1km az=152.0*
*AUST **28** 10:48:37.7±10.0, 4.82°N×125.89°E, h114km±1km, Error ellipse: s-maj=5.6km s-min=2.3km az=286.0*
*ISCJB **28** 10:48:38.3±0.4, 4.60°N±0.04°×126.10°E±0.08, h100km, mb3.9/4, Error ellipse: s-maj=11.9km s-min=4.4km az=159.0*
*MAN **28** 10:48:38, 4.70°N×126.19°E, h123km, mb5.0, ML4.0, MS4.1*

ISC 28 10:48:39.8±0.7, 4.64°N±0.07°×126.09°E±0.10, h100km, n20, σ0§84/24, mb3.9/4, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.83**	**322**	*i*P	**Pn**	**10 49 09.8**	**-0.5**
GSPH				*e*S	**Sn**	**10 49 33.1**	**-0.5**
MATI	**Mati**	**2.30**	**4**	*e*P	**Pn**	**10 49 16.0**	**-0.3**
MATI				*e*S	**Sn**	**10 49 43.5**	**-0.8**
CTBH	**Cotabato--PC H**	**3.15**	**325**	*i*P	**Pn**	**10 49 27.7**	**+0.1**
BUKP	**Musuan**	**3.38**	**342**	*e*P	**Pn**	**10 49 30.8**	**+0.1**
BUKP				*e*S	**Sn**	**10 50 11.0**	**+1.1**
PAGZ	**Pagadian**	**4.17**	**320**	*e*P	**Pn**	**10 49 41.6**	**+0.3**
PAGZ				*e*S	**Sn**	**10 50 30.1**	**+1.1**
PALU	**Palau**	**8.76**	**72**	P	**Pn**	**10 50 43.5**	**-0.2**
	baz=8.9,SNR=4.3						
FAKI	**Fak Fak**	**9.71**	**141**	P	**Pn**	**10 50 58.5**	**+1.9**
	baz=10.0,SNR=4.1						
MTN	**Manton Dam**	**18.08**	**164**	P	**Pn**	**10 52 44.1**	**-0.4**
	baz=18,SNR=4.3						
KDU	**Kakadu**	**18.34**	**160**	P	**P**	**10 52 47.0**	**+0.4**
	baz=19,SNR=4.3						
KNRA	**Kununurra**	**20.36**	**173**	P	**P**	**10 53 08.8**	**+0.3**
	baz=21,SNR=24						
FITZ	**Fitzroy Crossi**	**22.60**	**181**	P	**P**	**10 53 31.0**	**-1.3**
	2.3nm,0.4s,baz=358,slow=10,SNR=18						
FITZ	**Fitzroy Crossi**	**22.60**	**181**	P	**P**	**10 53 32.2**	**0.0**
	baz=23,SNR=5.9						
WRA	**Warramunga Arr**	**25.74**	**162**	P	**P**	**10 54 00.5**	**-0.7**
	1.9nm,0.4s,baz=340,slow=10,SNR=34						
ASAR	**Alice Springs**	**29.15**	**165**	P	**P**	**10 54 30.8**	**-0.9**
	0.8nm,0.6s,baz=345,slow=7.2,SNR=21						
WRKA	**Warakurna**	**29.57**	**176**	P	**P**	**10 54 35.1**	**-0.3**
	baz=30,SNR=7.6						
MEEK	**Meekatharra**	**31.92**	**193**	P	**P**	**10 54 55.3**	**-0.8**
	baz=32,SNR=9.5						
BBOO	**Buckleboo**	**38.43**	**166**	P	**P**	**10 55 51.5**	**-0.3**
	baz=39,SNR=9.4						
STKA	**Stephens Creek**	**39.20**	**159**	P	**P**	**10 55 56.5**	**-1.8**
	4.0nm,0.7s,baz=328,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**39.20**	**159**	P	**P**	**10 55 58.0**	**-0.3**
	baz=40,SNR=6.1						
HTT	**Hallett**	**39.76**	**163**	P	**P**	**10 56 03.2**	**+0.3**
	baz=40,SNR=5.2						

*IDC **28** 10:48:43.5±1.2, 6.59°S×155.19°E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.6/2, Error ellipse: s-maj=40.3km s-min=22.0km az=130.0*
*ISCJB **28** 10:48:49.9±0.9, 6.6S±0.2°×155.1E±0.1°, h56km, mb3.8/7, Error ellipse: s-maj=25.9km s-min=10.5km az=142.3*

ISC 28 10:48:51.2±1.1, 6.7S±0.2°×155.1E±0.2°, h56km, n14, σ1§00/13, mb3.6/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.36**	**250**	Pn	**Pn**	**10 50 48.9**	**-0.8**
	3.5nm,0.3s,baz=59,slow=8.5,SNR=13						
PMG				Sn	**Sn**	**10 52 24.0**	**+1.3**
	1.1nm,0.3s,baz=356,slow=16,SNR=4.8						
CTA	**Charters Tower**	**15.89**	**212**	Pn	**Pn**	**10 52 31.2**	**-0.1**
	0.2nm,0.3s,baz=36,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**24.12**	**235**	PcP	**PcP**	**10 57 42.4**	**+0.2**
	0.7nm,0.5s,baz=59,slow=2.3,SNR=8.4						
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**10 54 23.4**	**-0.1**
	0.8nm,0.6s,baz=58,slow=9.2,SNR=24						
ASAR				PcP	**PcP**	**10 57 48.0**	**+0.5**
	0.6nm,0.8s,baz=59,slow=2.6,SNR=5.4						
H11S3	**WAKE ISLAND Hy 27.47**		**24**	T	T	11 23 08.7	
	baz=203,slow=77,SNR=16						
H11S2	**WAKE ISLAND Hy 27.47**		**24**	T	T	11 23 10.9	
	baz=203,slow=77,SNR=15						
H11S1	**WAKE ISLAND Hy 27.49**		**24**	T	T	11 23 08.4	
	baz=203,slow=77,SNR=7.4						
CMAR	**Chiang Mai Arr**	**60.77**	**295**	P	**P**	**10 58 58.1**	**+0.4**
	3.0nm,0.7s,baz=122,slow=5.2,SNR=18						
SONM	**Songino Array**	**69.14**	**327**	P	**P**	**10 59 50.3**	**-1.4**
	0.4nm,0.7s,baz=127,slow=5.0,SNR=4.2						
ILAR	**Eielson Array**	**83.01**	**21**	P	**P**	**11 01 11.0**	**+0.8**
	0.4nm,0.8s,baz=220,slow=6.7,SNR=3.0						
MKAR	**Makanchi Array**	**83.25**	**319**	P	**P**	**11 01 11.0**	**-0.8**
	0.6nm,0.8s,baz=101,slow=5.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**83.98**	**326**	P	**P**	**11 01 17.1**	**+1.7**
	0.3nm,0.3s,baz=126,slow=7.3,SNR=3.2						
YKA	**Yellowknife Ar**	**95.98**	**28**	P	**P**	**11 02 12.0**	**+0.1**
	0.5nm,0.8s,baz=266,slow=4.3,SNR=8.7						
TORD	**Torodi Ar. Bea**	**153.07**	**286**	PKPbc	**PKPbc**	**11 08 42.6**	**-1.0**
	0.9nm,0.6s,baz=72,slow=2.0,SNR=7.3						

MEX 28 10:58:46.1±0.5, 18.08°N×99.02°W, h51km±7km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLIG	**Platanillo**	**0.55**	**305**	*e*P	Pn	10 58 56.4	-1.8
PLIG				*e*S	Sn	10 59 05.4	-1.5
TLIG	**Tlapa**	**0.67**	**140**	*e*P	Pn	10 58 58.1	-1.7
TLIG				*e*S	Sn	10 59 08.0	-1.6
YAIG	**Yautepec**	**0.78**	**357**	*e*P	Pn	10 58 59.1	-2.0
YAIG				*e*S	Sn	10 59 09.9	-2.3
MAVM	**Malinalco, Edo**	**0.98**	**333**	*e*P	Pn	10 59 02.3	-1.6
MAVM				*i*S	Sn	10 59 15.6	-1.5
PPM	**Popocatepetl**	**1.05**	**21**	*i*P	Pn	10 59 03.0	-2.2
PPM				*i*P	Pn	10 59 03.6	-1.6
PPM				*i*S	Sn	10 59 16.8	-2.6
PPM				*i*S	Sn	10 59 17.1	-2.2
AMVM	**AMECAMECA**	**1.07**	**12**	*i*P	Pn	10 59 03.5	-1.7
AMVM				*i*S	Sn	10 59 17.4	-1.9
MZVM		**1.12**	**350**	*e*P	Pn	10 59 04.9	-0.6
MZVM				*i*S	Sn	10 59 18.1	-1.8
ARIG	**Puente Sto Nin**	**1.27**	**279**	*e*P	Pn	10 59 06.2	-1.4
ARIG				*i*S	Sn	10 59 20.9	-2.8
TOVM	**TOLUCA**	**1.35**	**333**	*e*P	Pn	10 59 08.2	-0.8
TOVM				*i*S	Sn	10 59 23.8	-2.3
PNIG	**Pinotepa**	**1.88**	**153**	*e*P	Pn	10 59 14.1	-1.8
PNIG				*i*S	Sn	10 59 36.3	-2.3
ZIIG	**Zihuatanejo**	**2.37**	**259**	*i*P	Pn	10 59 20.2	-2.3
ZIIG				*i*S	Sn	10 59 49.1	-1.3
VHO	**Vista Hermosa**	**2.40**	**114**	*i*P	Pn	10 59 21.5	-1.8
VHO				*i*S	Sn	10 59 49.5	-2.3
MOIG	**Morelia**	**2.59**	**308**	*i*P	Pn	10 59 25.1	-0.9
MOIG				*i*S	Sn	10 59 54.7	-1.8
MMIG	**Aquila**	**4.11**	**274**	*e*P	Pn	10 59 44.6	-1.9
MMIG				*i*S	Sn	11 00 32.4	-0.9

IDC 28 11:21:14.2±2.0, 6.26°S×129.61°E, h0km, mb3.1/1, mb1 3.3/4, mb1mx3.2/20, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=83.0km s-min=27.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.39**	**198**	Pn	Pn	11 24 13.5	+1.5
	0.1nm,0.3s,baz=12,slow=9.3,SNR=3.0						
FITZ				Sn	Sn	11 26 15.4	-16
	0.1nm,0.3s,baz=328,slow=15,SNR=2.1						
WRA	**Warramunga Arr**	**14.36**	**162**	Pn	Pn	11 24 40.0	+1.0
	0.1nm,0.3s,baz=340,slow=13,SNR=4.3						
WRA				Sn		11 27 04.8	-14
	0.1nm,0.3s,baz=336,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**17.79**	**167**	P	Pn	11 25 21.8	-1.8
	0.1nm,0.3s,baz=343,slow=9.2,SNR=10						
MKAR	**Makanchi Array**	**67.40**	**327**	P	P	11 32 11.6	0.0
	0.1nm,0.3s,baz=116,slow=6.6,SNR=3.2						

*IDC **28** 11:24:13.2±1.1, 3.65°N×126.31°E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/26, mbtmp3.8/8, MS3.6/1, Ms1 3.6/1, ms1mx2.5/40, Error ellipse: s-maj=104.2km s-min=14.7km az=69.0*

ISC 28 11:24:20.1±1.1, 3.8N±0.2°×126.7E±0.5, h53km, n13, σ1§30/12, mb3.8/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNRA	**Kununurra**	**19.41**	**174**	P	**Pn**	**11 28 42.5**	**-1.1**
	baz=1.5,SNR=6.9						
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	**P**	**11 29 06.6**	**-0.6**
	1.9nm,0.4s,baz=13,slow=8.4,SNR=13						
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	**P**	**11 29 09.7**	**+2.5**
	baz=3.7,SNR=4.3						
WRA	**Warramunga Arr**	**24.71**	**163**	P	**P**	**11 29 35.8**	**-0.8**
	4.4nm,0.7s,baz=344,slow=11,SNR=60						
PSI	**Prapat**	**27.76**	**269**	LR	LR	11 41 11.8	
	comp=Z,119nm,18.6s,baz=174,slow=37						
ASAR	**Alice Springs**	**28.14**	**166**	P	**P**	**11 30 06.8**	**-0.7**
	0.4nm,0.3s,baz=345,slow=12,SNR=13						
WRKA	**Warakurna**	**28.66**	**177**	P	**P**	**11 30 12.9**	**+0.8**
	baz=8.0,SNR=5.2						
STKA	**Stephens Creek**	**38.16**	**159**	P	**P**	**11 31 35.2**	**+0.7**
	3.6nm,0.6s,baz=333,slow=8.4,SNR=19						
SONM	**Songino Array**	**47.27**	**341**	P	**P**	**11 32 49.4**	**+1.2**
	0.3nm,0.4s,baz=158,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**57.52**	**325**	P	**P**	**11 34 02.4**	**-1.8**
	0.3nm,0.4s,baz=118,slow=7.5,SNR=12						
KURBB	**Kurchatov Arra**	**61.71**	**327**	P	**P**	**11 34 32.1**	**-0.7**
	0.3nm,0.4s,baz=130,slow=6.4,SNR=2.6						
BVAR	**Borovoye Array**	**67.29**	**327**	P	**P**	**11 35 09.3**	**0.0**
	0.3nm,0.4s,baz=125,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**11 43 11.6**	**+0.1**
	0.3nm,0.7s,baz=80,slow=0.9,SNR=2.4						

*ISCJB **28** 11:29:14.3±0.8, 21.1S±0.2°×178.7W±0.2°, h579km, mb3.1/6, Error ellipse: s-maj=31.6km s-min=17.8km az=137.6*
*IDC **28** 11:29:18.7±5.2, 21.28S×178.67W, h626km±68km, mb2.6/6, mb1 3.1/7, mb1mx2.9/19, mbtmp2.7/7, Error ellipse: s-maj=48.7km s-min=24.8km az=169.0*

ISC 28 11:29:15.0±0.9, 21.1S±0.2°×178.7W±0.2°, h579km, n9, σ0§79/9, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.50**	**191**	P	**P**	**11 32 46.4**	**-0.4**
	0.7nm,0.3s,baz=55,slow=9.0,SNR=8.4						
ASAR	**Alice Springs**	**43.77**	**257**	P	**P**	**11 36 31.6**	**+1.0**
	0.4nm,0.8s,baz=92,slow=7.4,SNR=6.0						
ASAR				PcP	**PcP**	**11 38 03.8**	**-0.5**
	0.3nm,0.6s,baz=103,slow=4.2,SNR=6.8						
WRA	**Warramunga Arr**	**43.90**	**263**	P	**P**	**11 36 31.6**	**0.0**
	0.1nm,0.3s,baz=98,slow=7.1,SNR=4.8						
NVAR	**Mina Array Bea**	**81.88**	**44**	P	**P**	**11 40 35.9**	**+0.9**
	0.5nm,0.5s,baz=224,slow=7.2,SNR=4.8						
TXAR	**Lajitas Array**	**87.90**	**58**	P	**P**	**11 41 04.4**	**+0.2**
	0.5nm,0.9s,baz=220,slow=9.3,SNR=4.0						
ILAR	**Eielson Array**	**89.02**	**13**	P	**P**	**11 41 07.5**	**-0.9**
	0.3nm,0.9s,baz=220,slow=5.1,SNR=4.3						
PDAR	**Pinedale Array**	**89.82**	**43**	P	**P**	**11 41 13.4**	**+0.5**
	0.3nm,0.6s,baz=235,slow=3.4,SNR=4.1						
AKASG	**Malin Array Be**	**143.21**	**330**	PKP	PKPab	11 47 40.9	-0.9
	1.0nm,0.4s,baz=39,slow=4.1,SNR=9.8						
GERES	**GERESS Array B**	**150.58**	**343**	PKPbc	**PKPbc**	**11 48 01.6**	**-0.5**
	0.5nm,0.8s,baz=49,slow=9.4,SNR=3.6						

*ISCJB **28** 11:39:33.8±1.1, 11.8N±0.2°×87.0W±0.2°, h49km, mb3.6/5, Error ellipse: s-maj=40.6km s-min=5.0km az=135.7*
*IDC **28** 11:39:33.7±3.4, 11.76N×86.94W, h43km±43km, mb3.5/5, mb1 3.7/6, mb1mx3.5/24, mbtmp3.4/6, ML2.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=49.3km s-min=24.9km az=41.0*
*CASC **28** 11:39:33.3±2.8, 11.69N×87.21W, h46km±362km, MD4.0*

ISC 28 11:39:34.0±1.6, 11.7N±0.2°×87.2W±0.2°, h49km, n17, σ1§36/20, mb3.5/5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.68**	**337**	*e*P	**Pn**	**11 40 00.8**	**-0.3**
GBS2	**Las Lilas**	**1.89**	**118**	*i*P	**Pn**	**11 40 05.1**	**+1.3**
NY14	**Universidad de**	**1.92**	**124**	*i*P	**Pn**	**11 40 03.6**	**-0.5**
NY14				*i*S	**Sn**	**11 40 27.2**	**+0.1**
LAPC	**Finca la Perla**	**1.94**	**119**	*i*P	**Pn**	**11 40 04.7**	**+0.2**
VSM	**San Miguel**	**2.02**	**327**	*e*P	**Pn**	**11 40 05.9**	**0.0**
AMAS	**Alto Masis**	**2.39**	**117**	*i*P	**Pn**	**11 40 11.0**	**+0.2**
JTS	**JuntasAbangare**	**2.59**	**123**	P	**Pn**	**11 40 12.4**	**-1.0**
	1.5nm,0.3s,baz=316,slow=19,SNR=12						
JTS				S	**Sn**	**11 40 39.8**	**-3.9**
	11nm,0.3s,baz=297,slow=21,SNR=11						
CGA2	**Cerro Gallo 2**	**3.14**	**122**	*e*P	**Pn**	**11 40 22.8**	**+1.7**
CGA2				*e*S	**Sn**	**11 40 56.1**	**-1.3**
URSC	**Urasca**	**3.81**	**119**	*e*P	**Pn**	**11 40 32.6**	**+2.2**
BUS	**Buena Vista**	**3.97**	**122**	*e*P	**Pn**	**11 40 33.4**	**+0.6**
BUS				*e*S	**Sn**	**11 41 17.6**	**-0.8**
TEIG	**Tepich**	**8.53**	**353**	LR	LR	11 45 54.0	
	comp=Z,233nm,18.2s,baz=209,slow=45						
TXAR	**Lajitas Array**	**23.32**	**321**	P	**P**	**11 44 38.5**	**+0.6**
	1.1nm,0.7s,baz=135,slow=9.9,SNR=12						
TKL	**Tuckaleechee C**	**24.03**	**7**	P	**P**	**11 44 45.8**	**+1.3**
	3.1nm,0.6s,baz=212,slow=11,SNR=4.9						
PDAR	**Pinedale Array**	**36.55**	**332**	P	**P**	**11 46 35.5**	**+0.2**
	0.4nm,0.7s,baz=127,slow=12,SNR=3.3						
SCHQ	**Schefferville**	**45.89**	**16**	P	**P**	**11 47 50.9**	**-0.6**
	3.9nm,0.8s,baz=222,slow=15,SNR=2.0						
YKA	**Yellowknife Ar**	**54.39**	**345**	P	**P**	**11 48 55.5**	**-0.1**
	0.2nm,0.7s,baz=138,slow=7.9,SNR=6.8						
CMAR	**Chiang Mai Arr**	**149.42**	**349**	PKPbc	**PKPbc**	**11 59 18.8**	**+0.2**
	1.1nm,0.7s,baz=355,slow=2.9,SNR=5.6						

*DJA **28** 11:47:53.8±1.8, 3.7°N±10.1°×12.8°E±1.4, h10km, M4.8/6, mb4.9/4, mB5.1/3, MLv4.7/6, Mw(mB)4.5/3*
*IDC **28** 11:47:55.4±1.0, 2.37°N×127.55°E, h73km±9km, mb3.3/6, mb1 3.5/6, mb1mx3.3/20, mbtmp3.3/6, Error ellipse: s-maj=73.8km s-min=13.4km az=71.0*
*AUST **28** 11:47:58.4±0.0, 3.12°N×127.33°E, h201km, Error ellipse: s-maj=2.2km s-min=1.2km az=318.0*

ISC 28 11:47:55.2±0.7, 2.50N±0.07°×127.77E±0.08, h51km, n26, σ2§19/24, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.76**	**193**	P	**Pn**	**11 48 23.8**	**+0.4**
SGSI	**Sangihe**	**2.53**	**298**	P	**Pn**	**11 48 33.1**	**-0.8**
SGSI				S	**Sn**	**11 49 03.9**	**+0.4**
LBMI	**Labuha**	**3.13**	**185**	P	Pn	11 48 46.8	+4.7
KMSI	**Cibinong**	**4.24**	**243**	P	Pn	11 49 15.5	+18
GTOI	**Gorontalo**	**5.11**	**249**	P	**Pn**	**11 49 10.8**	**+1.6**
	123nm,0.6s,2µm0.4nm						
LUWI	**Luwuk**	**6.11**	**235**	P	Pn	11 49 27.6	+4.5
	baz=6.2,SNR=4.6						
MRSI	**Marisa**	**6.16**	**251**	P	**Pn**	**11 49 26.1**	**+2.3**
	320nm,0.6s,3µm1.1nm						
APSI	**Ampana**	**7.00**	**241**	P	**Pn**	**11 49 38.3**	**+3.1**
	36nm,0.9s,0.6nm						
FAKI	**Fak Fak**	**7.00**	**140**	P	**Pn**	**11 49 36.4**	**+1.2**
	baz=7.8,SNR=4.4						
PALU	**Palau**	**8.23**	**54**	P	**Pn**	**11 49 55.1**	**+3.0**
	baz=8.3,SNR=3.5						
TTSI	**Tana Toraja**	**9.67**	**235**	P	**Pn**	**11 50 13.2**	**+1.4**
SBUM	**Sibu**	**15.54**	**270**	P	**P**	**11 51 36.1**	**+1.5**
MTN	**Manton Dam**	**15.60**	**168**	P	**Pn**	**11 51 31.6**	**-0.3**
	baz=16,SNR=6.2						
KNRA	**Kununurra**	**18.09**	**177**	P	**P**	**11 52 02.0**	**-0.8**
	baz=19,SNR=5.2						
FITZ	**Fitzroy Crossi**	**20.58**	**186**	P	**P**	**11 52 26.7**	**-3.3**
	0.7nm,0.5s,baz=22,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**23.21**	**164**	P	**P**	**11 52 55.3**	**-2.8**
	2.0nm,0.6s,baz=342,slow=10,SNR=33						
WRA				pP	**pP**	**11 53 13.3**	**+3.1**
	1.1nm,0.5s,baz=341,slow=11,SNR=2.5						
QIS	**Mount Isa**	**25.68**	**154**	P	**P**	**11 53 20.1**	**-0.6**
	baz=27,SNR=5.3						
ASAR	**Alice Springs**	**26.68**	**167**	P	**P**	**11 53 27.8**	**-2.0**
	0.3nm,0.5s,baz=352,slow=7.9,SNR=13						
WRKA	**Warakurna**	**27.38**	**179**	P	**P**	**11 53 33.3**	**-2.7**
	baz=28,SNR=6.9						
MEEK	**Meekatharra**	**30.29**	**196**	P	**P**	**11 53 59.1**	**-2.7**
	baz=31,SNR=3.9						
CMAR	**Chiang Mai Arr**	**32.39**	**301**	pP	pP	11 54 35.4	+1.8
	0.3nm,0.3s,baz=105,slow=7.0,SNR=2.2						
STKA	**Stephens Creek**	**36.62**	**160**	P	P	11 54 54.0	-2.8
	2.4nm,0.7s,baz=326,slow=10.0,SNR=9.7						
STKA	**Stephens Creek**	**36.62**	**160**	P	**P**	**11 54 54.8**	**-2.0**
	baz=38,SNR=5.8						
SONM	**Songino Array**	**48.79**	**341**	P	**P**	**11 56 33.6**	**-1.8**
	0.1nm,0.4s,baz=148,slow=8.5,SNR=2.0						
SONM				pP	**pP**	**11 56 50.0**	**+0.9**
	0.5nm,0.6s,baz=154,slow=7.2,SNR=4.5						
PETK	**Petropavlovsk-**	**56.18**	**21**	pP	pP	11 57 45.8	+1.9
	1.6nm,0.6s,baz=171,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**59.15**	**325**	P	**P**	**11 57 48.8**	**-2.0**
	0.5nm,0.5s,baz=108,slow=6.9,SNR=16						
MKAR				pP	**pP**	**11 58 07.8**	**+2.8**
	1.9nm,0.5s,baz=115,slow=7.8,SNR=13						

*IDC **28** 11:48:56.8±3.0, 12.58N×86.18W, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.3/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/16, Error ellipse: s-maj=124.9km s-min=52.7km az=44.0*
*CASC **28** 11:49:00.1±4.2, 11.78N×87.06W, h35km±42km, MD4.2*
*ISCJB **28** 11:49:01.1±0.6, 12.3N±0.2°×86.6W±0.2°, h49km, mb3.3/4, MS3.1/1, Error ellipse: s-maj=37.9km s-min=5.8km az=136.6*

ISC 28 11:49:02.1±0.9, 12.1N±0.2°×86.7W±0.2°, h49km, n14, σ2§00/13, mb3.4/4, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.58**	**316**	*e*P	**Pn**	**11 49 27.3**	**-0.5**
VSM	**San Miguel**	**2.00**	**310**	*e*P	**Pn**	**11 49 32.6**	**-1.1**
VCR	**Vista de Mar**	**2.26**	**152**	*e*P	**Pn**	**11 49 38.0**	**+1.0**
JCR	**Jicaral**	**2.76**	**145**	*e*P	Pn	11 49 39.7	-4.2
JCR				*e*S	**Sn**	**11 50 11.1**	**-4.9**
CGA2	**Cerro Gallo 2**	**3.04**	**134**	*e*S	**Sn**	**11 50 22.8**	**-0.4**
URSC	**Urasca**	**3.67**	**128**	*e*P	Pn	11 49 59.2	+2.6
BUS	**Buena Vista**	**3.87**	**131**	*e*P	**Pn**	**11 49 58.5**	**-0.9**
BUS				*e*S	**Sn**	**11 50 45.1**	**+1.2**
ATAH	**Atahualpa**	**20.85**	**156**	LR	LR	12 00 35.7	
	comp=Z,90nm,21.6s,baz=216,slow=33						
TXAR	**Lajitas Array**	**23.28**	**320**	P	**P**	**11 54 05.1**	**-0.7**
	0.7nm,0.7s,baz=134,slow=10,SNR=6.3	

PALU **Palau** 8.09 83 P Pn 11 53 13.8 -4.7
baz=7.9,SNR=10.0
LUWI **Luwuk** 8.28 206 P Pn **11 53 22.8 +1.7**
280nm,1.0s,2µm
LUWI **Luwuk** 8.28 206 P Pn **11 53 22.9 +1.8**
baz=8.5,SNR=7.5
APSI **Ampana** 8.71 213 P Pn **11 53 28.8 +1.7**
150nm,1.3s,2µm
TSM **Tawau** 8.74 256 P Pn **11 53 29.0 +1.5**
SDKM **Sandakan** 9.17 265 P Pn **11 53 35.1 +1.7**
NLAI **Namlea** 9.67 176 P Pn 11 53 52.1 +12
86nm,0.8s,1µm0.4nm
TTSI **Tana Toraja** 11.49 215 P Pn **11 54 04.9 -0.2**
42nm,0.9s,2µm
BAKI **Biak** 12.34 128 P Pn 11 54 19.5 +2.9
BNSI **Bone** 12.48 210 P P 11 54 24.6 -3.7
SBUM **Sibu** 14.66 255 P P **11 54 50.4 -2.3**
SBUM **Sibu** 14.66 255 P Pn **11 54 49.8 +1.9**
SBUM **Sibu** 14.66 255 *e*Pn Pn **11 54 48.4 +0.5**
BBKI **Banjar Baru** 15.16 230 P P **11 54 59.6 +1.4**
SOEI **Soe** 16.25 187 P P **11 55 13.7 +3.4**
baz=16,SNR=4.7
KSM **Kuching** 16.78 253 P P **11 55 18.2 +2.1**
KSM **Kuching** 16.78 253 *e*Pn P **11 55 15.9 -0.2**
22nm,1.0s
KSM **Kuching** 16.78 253 P Pn 11 55 08.5 -6.2
baz=17,SNR=8.0
JAY **Jayapura** 16.86 122 LR LR 12 01 41.0
comp=Z,421nm,18.7s,baz=341,slow=37
JAGI **Jajag, Banyuwa** 19.20 220 P Pn **11 55 47.3 +3.0**
baz=20,SNR=4.5
MTN **Manton Dam** 19.76 166 P Pn **11 55 49.9 -0.9**
baz=20,SNR=12
KDU **Kakadu** 19.97 162 P P **11 55 50.9 -0.3**
baz=20,SNR=8.5
QIZ **Qiongzhong** 20.37 309 P Pn 11 55 55.8 -2.3
QIZ S **S** **11 59 41.5 +1.0**
QIZ pmax pmax
comp=Z,190nm,4.5s
KNRA **Kununurra** 22.12 174 P P **11 56 13.2 -1.1**
baz=22,SNR=24
UBPT **Khong Chiam** 22.30 295 P P **11 56 18.1 +1.8**
55nm,1.3s
MYKOM **Kota Tinggi** 22.94 259 P P **11 56 24.0 +1.0**
MYKOM **Kota Tinggi** 22.94 259 *e*P P **11 56 23.3 +0.3**
49nm,1.1s
KTGM **Kuala Trenggan** 23.15 268 P P **11 56 25.3 +0.2**
KGM **Kluang** 23.41 260 P P **11 56 28.4 +0.7**
FITZ **Fitzroy Crossi** 24.42 182 *e*P P **11 56 38.1 +1.4**
FITZ **Fitzroy Crossi** 24.42 182 P P **11 56 36.9 +0.2**
5.9nm,0.4s,baz=18,slow=7.9,SNR=28
FITZ **Fitzroy Crossi** 24.42 182 P P **11 56 36.5 -0.2**
baz=25,SNR=36
CHBT **CHBT** 24.51 287 P P **11 56 37.9 +0.3**
28nm,1.2s
IPM **Ipoh** 25.31 267 P P **11 56 45.8 +0.8**
IPM **Ipoh** 25.31 267 *e*P P **11 56 44.2 -0.8**
70nm,1.5s
KULM **Kulim** 25.62 269 P P **11 56 48.2 +0.4**
KULM **Kulim** 25.62 269 *e*P P **11 56 47.3 -0.4**
55nm,1.3s
CHAI **Chaiyaphum** 25.67 293 P P **11 56 49.1 +0.9**
9.6nm,1.1s
PMG **Port Moresby** 26.03 127 LR LR 12 07 04.9
comp=Z,118nm,20.3s,baz=281,slow=36
SLVN **Son La** 26.29 306 *e*P P **11 56 54.7 +0.9**
NJ2 **Nanjing** 26.41 346 *e*P P **11 56 55.3 +0.7**
NJ2 S **S** **12 01 26.0 +2.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,80nm,6.4s
NJ2 LR LR
comp=N,1µm,27.4s
NJ2 LR LR
comp=E,8µm,29.9s
WHN **Wuhan** 26.48 336 ⇓P P 11 56 59.0 +3.7
PBKT **Sadao Pong** 26.81 294 P P **11 56 59.2 +0.8**
21nm,1.0s
JNU **Nakatsue** 26.85 8 LR LR 12 06 52.1
comp=Z,72nm,20.5s,baz=29,slow=35
GYA **Guiyang** 27.36 319 *e*P P **11 57 03.3 -0.1**
GYA pP **pP** **11 57 19.0 +0.7**
GYA PP **PnPn** **11 57 52.8 +2.4**
GYA S **S** **12 01 38.5 -0.7**
GYA ScP **ScP** **12 03 55.0 -2.0**
GYA ScS **ScS** **12 07 46.5 -2.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=N,420nm,15.2s
GYA LR LR
comp=E,340nm,16.0s
WRAB **Tennant Creek** 27.38 164⇓*e*P P **11 57 03.6 +0.1**
WRAB **Tennant Creek** 27.38 164 *e*P P **11 57 05.5 +2.1**
22nm,1.2s
WRA **Warramunga Arr** 27.39 164 P P **11 57 03.8 +0.2**
WRA S **S** **12 01 37.9 -1.7**
WRA ScP **ScP** **12 03 58.5 +1.6**
WRA **Warramunga Arr** 27.39 164 P P **11 57 03.8 +0.2**
1.5nm,0.4s,baz=340,slow=10,SNR=18
WRA S **S** **12 01 37.9 -1.7**
1.9nm,1.0s,baz=333,slow=16,SNR=6.4
WRA ScP **ScP** **12 03 58.5 +1.6**
1.1nm,0.8s,baz=341,slow=3.2,SNR=5.1
PSI **Prapat** 27.60 264 P P **11 57 06.5 +0.8**
baz=28,SNR=4.3
NANT **Nan** 27.84 298 P P **11 57 08.8 +1.1**
28nm,0.8s
KHLT **Khaolaem Dam** 28.51 289 P P **11 57 15.2 +1.5**
6.5nm,1.4s
ENH **Enshi** 28.51 328 *e*P P **11 57 13.6 0.0**
LAMP **Lampang** 28.68 297 P P **11 57 17.0 +1.9**
4.3nm,1.0s
GSI **Gunungsitoli** 29.18 261 *e*P P **11 57 18.1 -1.6**
37nm,1.0s
KMI **Kunming** 29.26 312 P P **11 57 21.8 +1.3**
KMI S **S** **12 02 11.5 +2.1**
KMI pmax pmax
comp=Z,7.0nm,1.0s
KMI pmax pmax
comp=Z,62nm,4.0s
KMI LR LR
comp=N,180nm,19.1s
KMI LR LR
comp=E,190nm,19.1s
CM31 **Chiang Mai Arr** 29.27 297 *e*P P **11 57 20.3 -0.1**
CMAR **Chiang Mai Arr** 29.27 297 P P **11 57 21.2 +0.8**
CMAR PcP **PcP** **12 00 26.6 +0.3**
CMAR ScP **ScP** **12 04 05.0 +2.1**
CMAR **Chiang Mai Arr** 29.27 297 P P **11 57 21.2 +0.8**
7.8nm,1.0s,baz=120,slow=7.4,SNR=43
CMAR PcP **PcP** **12 00 26.6 +0.3**
1.9nm,1.0s,baz=185,slow=0.7,SNR=7.5
CMAR ScP **ScP** **12 04 05.0 +2.1**
0.4nm,0.3s,baz=144,slow=1.8,SNR=5.0
CMMT **Chiang Mai** 29.39 297 P P **11 57 22.3 +0.8**
11nm,1.2s,328nm
CHTO **Chiang Mai** 29.39 297 *e*P P **11 57 22.0 +0.5**
CHTO pmax pmax
comp=Z,3.0nm,1.0s
CHTO **Chiang Mai** 29.39 297 *e*P P **11 57 22.0 +0.5**
comp=Z,2.8nm,1.0s
CHTO **Chiang Mai** 29.39 297 P P **11 57 22.3 +0.8**
comp=Z,50nm,1.2s
CMAI **Chiengmai2** 29.72 299 P P **11 57 25.9 +1.3**
comp=Z,47nm,1.9s,comp=Z,7µm
QIS **Mount Isa** 29.84 154 P P **11 57 24.8 -0.5**
baz=30,SNR=6.7
MHMT **Maesarieng** 30.08 295 P P **11 57 28.8 +1.3**
comp=Z,19nm,1.1s
AS31 **Alice Springs** 30.84 166 *e*P P **11 57 32.9 -1.2**
ASAR **Alice Springs** 30.84 166 P P **11 57 33.1 -1.0**
ASAR PcP **PcP** **12 00 30.0 -0.2**
ASAR S **S** **12 02 32.4 -1.4**
ASAR ScP **ScP** **12 04 10.6 +2.7**
ASAR **Alice Springs** 30.84 166 P P **11 57 33.1 -1.0**
comp=Z,1.8nm,0.5s,baz=342,slow=7.3,SNR=23
ASAR PcP **PcP** **12 00 30.0 -0.2**
comp=Z,1.3nm,0.8s,baz=327,slow=2.4,SNR=4.4
ASAR S **S** **12 02 32.4 -1.4**
comp=Z,1.9nm,1.1s,baz=350,slow=22,SNR=7.6
ASAR ScP **ScP** **12 04 10.6 +2.7**
comp=Z,1.3nm,1.1s,baz=345,slow=4.0,SNR=5.4

KSRS **Korea Array** 30.88 2 LR LR 12 10 42.4
comp=Z,80nm,18.4s,baz=354,slow=38
WRKA **Warakurna** 31.37 177 P P **11 57 38.3 -0.5**
baz=32,SNR=18
XAN **Xi'an** 31.84 332 P P **11 57 43.8 +0.8**
XAN pmax pmax
comp=Z,7.0nm,1.0s
CD2 **Chengdu** 32.27 322 *e*P P **11 57 46.5 -0.2**
CD2 PP **PnPn** **11 58 55.5 +0.5**
CD2 S **S** **12 02 54.5 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,150nm,8.2s
CD2 LR LR
comp=Z,290nm,16.6s
CD2 LR LR
comp=Z,200nm,14.2s
CTA **Charters Tower** 32.84 144 P P **11 57 52.7 +0.9**
CTA **Charters Tower** 32.84 144 P P **11 57 52.7 +0.9**
comp=Z,1.1nm,0.3s,baz=276,slow=9.2,SNR=2.5
BJT **Baijiatuau** 34.65 346 P P **11 58 07.5 +0.2**
comp=Z,16nm,0.4s
BJI **Beijing** 34.66 346 P P **11 58 08.0 +0.6**
BJI S **S** **12 03 34.8 +2.0**
BJI pmax pmax
comp=Z,27nm,1.1s
BJI pmax pmax
comp=Z,140nm,3.7s
SNY **Shenyang** 35.30 356 ⇑P P 11 58 17.5 +4.7
SNY pmax pmax
comp=Z,22nm,1.2s
LZH **Lanzhou** 36.00 328 *e*P P 11 58 22.0 +2.9
LZH pP pP 11 58 35.8 +1.5
LZH PP PP 11 59 48.5 +6.6
LZH *e*S **S** **12 03 56.3 +2.5**
LZH sS **ScP** **12 04 25.5 -0.4**
LZH SS **SnSn** **12 06 21.3 -1.9**
LZH pmax pmax
comp=Z,50nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.6s
LZH LR LR
comp=Z,1µm,15.0s
LZH LR LR
comp=Z,1µm,15.8s
LZH LR LR
comp=Z,1µm,18.9s
MORW **Morawa** 36.70 195 P P **11 58 24.1 -0.9**
baz=37,SNR=5.1
HHC **Hu-ho-hao-te** 36.71 341 *e*P P **11 58 26.5 +1.4**
HHC PP **PnPn** **11 59 54.0 +3.8**
HHC S **S** **12 04 06.5 +2.1**
HHC pmax pmax
comp=Z,46nm,0.9s
HHC pmax pmax
comp=Z,240nm,5.6s
HHC LR LR
comp=Z,310nm,14.6s
HHC LR LR
comp=Z,370nm,14.3s
HNR **Honiara** 36.99 115 LR LR 12 12 16.0
comp=Z,139nm,18.8s,baz=302,slow=34
QLP **Quilpie** 37.13 153 P P **11 58 28.1 -0.6**
baz=37,SNR=3.4
CN2 **Changchun** 37.20 359 *e*P P **11 58 29.0 0.0**
KMBL **Kambalda** 37.86 186 P P **11 58 35.1 +0.3**
baz=38,SNR=4.4
USRK **Ussuriysk Arra** 37.91 7 P P **11 58 34.0 -1.0**
comp=Z,1.8nm,0.8s,baz=188,slow=9.9,SNR=3.7
ASAJ **Asahikawa** 40.11 18 LR LR 12 14 51.9
comp=Z,101nm,19.9s,baz=74,slow=35
NWAO **Narrogin (SRO)** 40.13 192 P P **11 58 53.2 -0.4**
NWAO **Narrogin (SRO)** 40.13 192 P P **11 58 53.2 -0.4**
comp=Z,6.5nm,0.5s,baz=24,slow=11,SNR=9.0
BBOO **Buckleboo** 40.13 167 *e*P P **11 58 53.4 -0.3**
comp=Z,394nm,1.1s
GTA **Gaotai** 40.60 328 *e*P P 11 59 00.0 +2.3
GTA pP pP 11 59 15.3 +2.2
GTA S **S** **12 05 06.5 +3.4**
GTA SS **SS** **12 08 06.0 +0.8**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,92nm,4.8s
GTA LR LR
comp=Z,170nm,13.5s
GTA LR LR
comp=Z,210nm,16.4s
STKA **Stephens Creek** 40.80 160 *e*P P **11 58 59.0 -0.2**
STKA **Stephens Creek** 40.80 160 P P **11 58 58.7 -0.5**
comp=Z,8.3nm,0.8s,baz=337,slow=7.3,SNR=12
STKA **Stephens Creek** 40.80 160 P P **11 58 59.2 0.0**
baz=41,SNR=7.8
HTT **Hallett** 41.42 164 P P **11 59 05.4 +1.0**
baz=42,SNR=9.1
RKGY **Rocky Gully** 41.81 192 P P **11 59 08.4 +1.0**
baz=42,SNR=5.0
TAPN **Taplejung** 42.16 304 *e*P P **11 59 10.6 -0.3**
comp=Z,11nm,0.5s
TAPN **Taplejung** 42.16 304 *e*P P **11 59 10.6 -0.3**
comp=Z,11nm,0.5s
ODAN **Odare** 42.24 303 *e*P P **11 59 10.7 -0.8**
comp=Z,32nm,0.9s
ODAN **Odare** 42.24 303 *e*P P **11 59 10.7 -0.8**
comp=Z,32nm,0.9s
RAMN **Ramite** 42.94 303 *e*P P **11 59 16.6 -0.5**
comp=Z,42nm,1.1s
RAMN **Ramite** 42.94 303 *e*P P **11 59 16.6 -0.5**
comp=Z,42nm,1.1s
JIRN **Jiri** 43.53 304 *e*P P **11 59 21.1 -1.0**
comp=Z,27nm,0.8s
JIRN **Jiri** 43.53 304 *e*P P **11 59 21.1 -1.0**
comp=Z,27nm,0.8s
GUN **Gumba** 43.88 304 *e*P P **11 59 24.4 -0.4**
comp=Z,52nm,0.9s
GUN **Gumba** 43.88 304 *e*P P **11 59 24.4 -0.4**
comp=Z,52nm,0.9s
PKI **Pulchoki** 44.15 303 *e*P P **11 59 26.5 -0.5**
comp=Z,12nm,0.7s
PKI **Pulchoki** 44.15 303 *e*P P **11 59 27.1 +0.1**
PKI pmax pmax
comp=Z,7.0nm,0.6s
PKI **Pulchoki** 44.15 303 *e*P P **11 59 27.1 +0.1**
comp=Z,7.3nm,0.6s
PKIN **Phulchoki** 44.16 303 *e*P P **11 59 27.1 +0.1**
comp=Z,7.3nm,0.6s
KKN **Kakani** 44.33 304 *e*P P **11 59 28.3 0.0**
comp=Z,14nm,0.6s
KKN **Kakani** 44.33 304 *e*P P **11 59 28.3 0.0**
KKN pmax pmax
comp=Z,14nm,0.6s
KKN **Kakani** 44.33 304 *e*P P **11 59 28.3 0.0**
comp=Z,14nm,0.6s
DMN **Daman** 44.41 303 *e*P P **11 59 28.8 -0.2**
comp=Z,25nm,0.9s
DMN **Daman** 44.41 303 *e*P P **11 59 28.8 -0.2**
comp=Z,25nm,0.9s
ULN **Ulaanbaatar** 44.43 341 *e*P P **11 59 29.8 +1.1**
comp=Z,11nm,1.1s
SONM **Songino Array** 44.61 341 P P **11 59 30.3 +0.2**
SONM PcP **PP** **12 01 12.9 -2.3**
SONM **Songino Array** 44.61 341 P P **11 59 30.3 +0.2**
comp=Z,3.2nm,0.9s,baz=158,slow=8.3,SNR=20
SONM PcP **PP** **12 01 12.9 -2.3**
comp=Z,2.1nm,0.9s,baz=154,slow=5.4,SNR=4.4
GKN **Gorkha** 44.94 304 *e*P P **11 59 32.9 -0.2**
GKN **Gorkha** 44.94 304 *e*P P **11 59 32.9 -0.2**
KOLN **Koldanda** 45.72 303 *e*P P **11 59 38.3 -1.0**
comp=Z,45nm,0.9s
KOLN **Koldanda** 45.72 303 *e*P P **11 59 38.3 -1.0**
comp=Z,45nm,0.9s
DANN **Dangsing** 45.78 304 *e*P P **11 59 39.1 -0.8**
comp=Z,33nm,0.8s
DANN **Dangsing** 45.78 304 *e*P P **11 59 39.1 -0.8**
comp=Z,33nm,0.8s
PYUN **Piuthan** 46.34 303 *e*P P **11 59 44.4 +0.2**
comp=Z,38nm,0.9s
PYUN **Piuthan** 46.34 303 *e*P P **11 59 44.4 +0.2**
comp=Z,38nm,0.9s
ZAK **Zakamensk** 47.85 340 *e*P P **11 59 55.5 0.0**
ZAK *e* 12 01 19.4
ZAK pmax pmax
comp=Z,3.0nm,1.4s
WMQ **Urumqi** 50.31 324 P P **12 00 14.0 -0.4**
WMQ PcP **PcP** **12 01 32.0 -0.4**

WMQ PP **PP** **12 02 11.0 +0.7**
WMQ ScP **ScP** **12 05 22.0 -1.3**
WMQ S **S** **12 07 20.0 -2.8**
WMQ ScS **ScS** **12 09 56.0 -4.1**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,55nm,4.0s
WMQ LR LR
comp=Z,140nm,18.0s
WMQ LR LR
comp=Z,130nm,18.0s
WMQ LR LR
comp=Z,170nm,18.0s
PETK **Petropavlovsk-** 53.06 23 P P **12 00 34.9 +0.3**
PETK **Petropavlovsk-** 53.06 23 P P **12 00 34.9 +0.3**
PETK **Petropavlovsk-** 53.06 23 P P **12 00 34.9 +0.3**
comp=Z,1.8nm,0.8s,baz=196,slow=2.3,SNR=7.9
MK31 **Makanchi Array** 55.13 324 *e*P P **12 00 48.9 -1.0**
MK31 **Makanchi Array** 55.13 324 *e*P P **12 00 48.9 -1.0**
MKAR **Makanchi Array** 55.13 324 P P **12 00 48.7 -1.2**
MKAR **Makanchi Array** 55.13 324 P P **12 00 48.7 -1.2**
MKAR ScP **ScP** **12 05 46.3 +2.1**
MKAR **Makanchi Array** 55.13 324 P P **12 00 48.7 -1.2**
comp=Z,5.8nm,0.6s,baz=120,slow=7.2,SNR=34
MKAR ScP **ScP** **12 05 46.3 +2.1**
comp=Z,0.5nm,0.8s,baz=145,slow=4.9,SNR=4.0
YAK **Yakutsk** 55.50 2 *e*P P 12 00 55.9 +3.7
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.0s
KSH **Kashi** 55.89 314 P P **12 00 57.3 +1.7**
KSH PP **PP** **12 03 04.0 +3.2**
KSH PcS **PcS** **12 05 52.0 -2.2**
KSH S **S** **12 08 38.5 -0.4**
KSH SS **SS** **12 12 24.3 -1.2**
KSH pmax pmax
comp=N,130nm,5.3s
KSH LR LR
comp=N,120nm,5.5s
KSH LR LR
comp=N,77nm,4.9s
KSH LR LR
comp=N,220nm,6.0s
KZA **Kyzart** 57.39 317 *i*P P **12 01 04.3 -2.2**
KZA **Kyzart** 57.39 317 P P **12 01 04.3 -2.2**
SNR=5.3
TKM2 **Tokmak 2** 57.49 318 *e*P P **12 01 06.4 -0.6**
TKM2 pmax pmax
comp=Z,5.0nm,1.0s
TKM2 **Tokmak 2** 57.49 318 *e*P P **12 01 06.4 -0.6**
comp=Z,5.0nm,1.0s
UCH **Uchtor** 57.95 316 *i*P P **12 01 09.5 -1.0**
UCH **Uchtor** 57.95 316 P P **12 01 09.6 -1.0**
SNR=11
ZALV **Zalesovo Beam** 58.01 332 *i*P P **12 01 10.1 0.0**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV **Zalesovo Beam** 58.01 332 P P **12 01 08.5 -1.6**
ZALV **Zalesovo Beam** 58.01 332 P P **12 01 08.5 -1.6**
comp=Z,1.0nm,0.3s,baz=114,slow=7.2,SNR=9.1
ZALV LR LR 12 27 25.4
comp=Z,73nm,19.4s,baz=249,slow=37
AAK **Ala-Archa** 58.12 317 *e*P P **12 01 11.4 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.5s
AAK **Ala-Archa** 58.12 317 P P **12 01 10.3 -1.0**
AAK **Ala-Archa** 58.12 317 P P **12 01 10.3 -1.0**
comp=Z,1.0nm,0.5s,baz=166,slow=17,SNR=2.8
AAK LR LR 12 29 32.6
comp=Z,50nm,18.3s,baz=71,slow=39
USP **Ospenovka** 58.37 318 *i*P P **12 01 11.3 -1.6**
USP **Ospenovka** 58.37 318 P P **12 01 11.3 -1.6**
SNR=8.1
AML **Almayashu** 58.48 316 *i*P P **12 01 13.3 -0.8**
AML **Almayashu** 58.48 316 P P **12 01 13.3 -0.8**
SNR=8.7
EKS2 **Erkin-Say** 58.62 317 *i*P P **12 01 14.0 -0.7**
EKS2 **Erkin-Say** 58.62 317 P P **12 01 14.1 -0.7**
SNR=5.5
EKS2 **Erkin-Say** 58.62 317 *e*P P **12 01 14.1 -0.7**
comp=Z,5.5nm,0.8s
KURK **Kurchatov** 59.27 327 *e*P P **12 01 16.2 -2.7**
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK **Kurchatov** 59.27 327 *e*P P **12 01 16.2 -2.7**
comp=Z,6.9nm,0.9s
NVS **Novosibirsk** 59.29 333 *e*P P **12 01 16.6 -2.4**
KKAR **Karatay Array** 61.02 316 *e*P P **12 01 30.0 -1.1**
KKAR **Karatay Array** 61.02 316 *e*P P **12 01 30.0 -1.1**
BRVK **Borovoye** 64.93 326⇓*i*P P **12 01 55.6 -1.3**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK MLR MLR
comp=Z,82nm,16.0s
BRVK **Borovoye** 64.93 326 *e*P P **12 01 55.5 -1.3**
comp=Z,7.7nm,0.9s
TIXI **Tiksi** 65.13 1⇑*i*P P **12 01 56.4 -1.4**
TIXI pmax pmax
comp=Z,19nm,1.7s
TIXI **Tiksi** 65.13 1 *e*P P **12 01 56.6 -1.2**
comp=Z,14nm,1.1s
ABKAR **Akbulak array** 69.83 320 *e*P P **12 02 26.6 -1.3**
ARU **Arti** 72.46 327 *d i*P P **12 02 43.3 -0.3**
ARU 12 05 21.1
ARU S **S** **12 12 05.0 +2.1**
ARU SS **SS** **12 16 40.8 -1.6**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU **Arti** 72.46 327 *e*P P **12 02 43.1 -0.5**
comp=Z,9.2nm,0.5s
PRGR **Permogore** 79.95 331 *e*P P **12 03 24.1 -1.9**
PRGR *e* 12 03 32.1
PRGR *e**PP PcP **12 03 34.3 +1.0**
PRGR pmax pmax
comp=Z,8.0nm,0.7s
ZEI **Tsey** 80.13 312 *e*P P **12 03 26.4 -1.3**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
COLD **Coldfoot** 81.53 23 *e*P P 12 03 38.2 +3.9
comp=Z,34nm,2.3s
ILAR **Eielson Array** 82.80 26 P P **12 03 40.8 -0.3**
ILAR **Eielson Array** 82.80 26 P P **12 03 40.8 -0.3**
comp=Z,0.3nm,0.5s,baz=238,slow=5.1,SNR=7.8
VSR **Storozhevoye** 83.26 321 *e*P P **12 03 44.0 +0.3**
VSR pmax pmax
comp=Z,7.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,5.0nm,0.4s
BMRM **Bremner River** 83.92 29 *e*P P **12 03 47.4 +0.4**
OBN **Obninsk** 84.64 325⇓*e*P P **12 03 51.7 +1.1**
OBN pmax pmax
comp=Z,10.0nm,0.4s
SPITS **Spitsbergen Ar** 87.75 349 P P **12 04 05.4 -0.2**
SPITS **Spitsbergen Ar** 87.75 349 P P **12 04 05.4 -0.2**
comp=Z,9.0nm,0.9s,baz=268,slow=4.3,SNR=8.0
INK **Inuvik** 87.76 21 P P **12 04 04.5 -1.2**
INK **Inuvik** 87.76 21 P P **12 04 04.5 -1.2**
comp=Z,0.5nm,0.4s,baz=87,slow=3.9,SNR=4.3
ARCES **ARCESS Array B** 87.78 340 P P **12 04 04.7 -1.1**
ARCES **ARCESS Array B** 87.78 340 P P **12 04 04.7 -1.1**
comp=Z,3.0nm,0.7s,baz=84,slow=4.6,SNR=17
BRTR **Keskin Array B** 88.02 310 P P **12 04 06.8 -1.0**
BRTR **Keskin Array B** 88.02 310 P P **12 04 06.8 -1.0**
comp=Z,0.9nm,0.7s,baz=96,slow=5.0,SNR=4.4
BRTR LR LR 12 51 24.2
comp=Z,29nm,19.0s,baz=107,slow=41
FINES **FINESS Array B** 89.27 332 P P **12 04 12.4 -0.6**
FINES **FINESS Array B** 89.27 332 P P **12 04 12.4 -0.6**
comp=Z,1.4nm,0.6s,baz=70,slow=4.4,SNR=9.2
FINES LR LR 12 46 10.8
comp=Z,64nm,19.7s,baz=185,slow=37
AKASG **Malin Array Be** 89.56 321 P P **12 04 13.9 -0.7**
AKASG **Malin Array Be** 89.56 321 P P **12 04 13.9 -0.7**
AKASG **Malin Array Be** 89.56 321 P P **12 04 13.9 -0.7**
comp=Z,0.5nm,0.3s,baz=65,slow=5.4,SNR=7.0
AKASG LR LR 12 49 15.8
comp=Z,60nm,21.6s,baz=255,slow=39
AK01 **Malin Array Si** 89.57 321 *e*P P **12 04 15.8 +1.1**
AK02 **Malin Array Si** 89.58 321 *e*P P **12 04 15.3 +0.6**

SYO	**Syowa Base**	**94.83**	**201**↑	*eP*		**P**		**12 04 37.6**	**-0.9**
RES	**Resolute Bay**	**95.20**	**10**	P		**P**		**12 04 40.5**	**+0.3**
RES	**Resolute Bay**	**95.20**	**10**	P		**P**		**12 04 40.5**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=45,slow=5.7,SNR=3.4								
NB2	**NORSAR Subarra**	**96.20**	**334**	P		**P**		**12 04 43.7**	**-1.3**
	comp=Z,5.3nm,1.2s,baz=64,slow=4.6								
NB2	**NORSAR Subarra**	**96.20**	**334**	P		**P**		**12 04 44.3**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=64,slow=4.6								
NB2	**NORSAR Subarra**	**96.20**	**334**	P		**P**		**12 04 43.7**	**-1.3**
	baz=64,slow=4.6								
NOA	**NORSAR Array B**	**96.20**	**334**	P		**P**		**12 04 44.0**	**-1.0**
NOA	**NORSAR Array B**	**96.20**	**334**	P		**P**		**12 04 44.0**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=42,slow=1.9,SNR=3.7								
NOA				LR		LR		12 49 26.9	
	comp=Z,74nm,19.9s,baz=85,slow=36								
YKA	**Yellowknife Ar**	**97.17**	**24**	P		Pdif		12 04 49.3	-0.1
YKA	**Yellowknife Ar**	**97.17**	**24**	P		Pdif		12 04 49.3	-0.1
	comp=Z,0.3nm,0.7s,baz=297,slow=4.2,SNR=7.4								
BRG	**Berggiesshubel**	**98.84**	**324**	*e*(P)		Pdif		12 05 02.2	+5.0
	comp=Z,1.3nm,0.6s								
BRG	**Berggiesshubel**	**98.84**	**324**	*eP*		Pdif		12 05 02.2	+5.1
BRG				pmax		pmax			
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**99.74**	**322**	LR		LR		12 57 31.1	
	comp=Z,54nm,19.2s,baz=280,slow=40								
TXAR	**Lajitas Array**	**120.18**	**51**	PKP		**PKPdf**		**12 10 08.8**	**+0.2**
TXAR	**Lajitas Array**	**120.18**	**51**	PKP		**PKPdf**		**12 10 08.8**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=5.7,slow=0.9,SNR=3.1								
TOA0	**Torodi Ar. Sit**	**121.71**	**290**	*e*PKPdf		**PKPdf**		**12 10 10.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**121.71**	**290**	PKP		**PKPdf**		**12 10 10.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**121.71**	**290**	PKP		**PKPdf**		**12 10 10.9**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=37,slow=1.8,SNR=15								
DBIC	**Dimbokro**	**129.62**	**284**	PKP		**PKPdf**		**12 10 26.1**	**-0.9**
DBIC	**Dimbokro**	**129.62**	**284**	PKP		**PKPdf**		**12 10 26.1**	**-0.9**
	comp=Z,5.4nm,1.2s,baz=294,slow=2.2,SNR=4.6								
LPAZ	**La Paz**	**162.76**	**126**	PKP		**PKPdf**		**12 11 20.0**	**-0.7**
LPAZ	**La Paz**	**162.76**	**126**	PKP		**PKPdf**		**12 11 20.0**	**-0.7**
	comp=Z,2.1nm,1.1s,baz=92,slow=4.7,SNR=3.8								

DDA 28 12:00:12.0, 36.77N×37.08E, h5km, MD2.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.00**	**27**	*i* P		Pg	12 00 10.9	-2.1
KUZU				*i* S		Sg	12 00 12.8	-0.9

*IDC **28** 12:03:07.3±1.1, 13.12N×120.18E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/26, mbtmp3.3/4, Error ellipse: s-maj=24.1km s-min=13.2km az=114.0*

*ISCJB **28** 12:03:13.1±0.5, 13.19N±0.04×120.41E±0.07, h59km±6km, mb3.3/4, Error ellipse: s-maj=11.4km s-min=5.9km az=175.3*

*MAN **28** 12:03:13, 13.19N×120.44E, h23km, mb4.3, ML3.1, MS2.9*

ISC 28 12:03:13.7±1.1, 13.19N±0.04×120.47E±0.06, h44km±14km, n15, σ1s58/18, mb3.2/4, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.58**	**338**	*eP*		**Pn**	**12 03 25.0**	**-0.7**
LUBP				*eS*		**Sn**	**12 03 34.5**	**+0.3**
SJMP	**San Jose**	**0.96**	**139**	*eP*		**Pn**	**12 03 30.5**	**-0.4**
SJMP				*eS*		**Sn**	**12 03 44.1**	**+0.7**
TGY	**Tagaytay City**	**1.01**	**27**	Pg		**Pn**	**12 03 31.8**	**+0.2**
	213nm,0.3s,baz=210,slow=4.3,SNR=17							
TGY				Lg		Lg	12 03 46.0	
	611nm,0.3s,baz=121,slow=21,SNR=23							
BUSP	**Coron**	**1.21**	**193**	*eP*		**Pn**	**12 03 34.1**	**-0.1**
BUSP				*eS*		**Sn**	**12 03 50.1**	**+0.7**
LQP	**Lukban**	**1.39**	**49**↑	*eP*		**Pn**	**12 03 36.7**	**-0.1**
OTRP	**Odiongan**	**1.72**	**118**	*eP*		**Pn**	**12 03 43.9**	**+2.7**
OTRP				*eS*		**Sn**	**12 03 58.5**	**-3.6**
GQP	**Guinayangan**	**2.05**	**69**	*eP*		**Pn**	**12 03 47.2**	**+1.5**
ENPP	**El Nido**	**2.22**	**207**	*eP*		**Pn**	**12 03 49.4**	**+1.3**
CUYO	**Cuyo Island**	**2.39**	**167**	*eP*		Pn	12 03 59.0	+8.7
CUYO				*eS*		**Sn**	**12 04 18.3**	**-0.1**
PCPH	**Palayan**	**2.44**	**14**↑	*eP*		**Pn**	**12 03 53.4**	**+2.3**
BALP	**Baler**	**2.75**	**23**	*eP*		**Pn**	**12 03 56.6**	**+1.3**
WRA	**Warramunga Arr**	**35.64**	**157**	P		**P**	**12 10 06.5**	**-1.2**
	0.1nm,0.4s,baz=332,slow=10,SNR=3.3							
ASAR	**Alice Springs**	**38.92**	**160**	P		**P**	**12 10 36.0**	**+0.5**
	0.2nm,0.6s,baz=330,slow=6.9,SNR=12							
MKAR	**Makanchi Array**	**46.31**	**324**	P		P	12 11 33.4	-1.9
	0.3nm,0.7s,baz=109,slow=12,SNR=3.4							
KURBB	**Kurchatov Arra**	**50.49**	**327**	P		**P**	**12 12 06.7**	**-0.6**
	0.7nm,0.7s,baz=131,slow=7.4,SNR=9.0							

*ISCJB **28** 12:19:53.5±0.4, 54.85N±0.05×158.7E±0.1, h10km, mb4.8/14, MS3.8/11, Error ellipse: s-maj=10.8km s-min=5.6km az=29.0*

*IDC **28** 12:19:53.5±0.7, 54.86S×158.51E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.4/17, mbtmp4.4/10, ML4.3/1, MS3.8/12, Ms1 3.8/12, ms1mx3.7/22, Error ellipse: s-maj=28.2km s-min=17.1km az=76.0*

*NEIC **28** 12:19:55.1±0.4, 54.81S×158.56E, h10km, mb4.8/5, Error ellipse: s-maj=9.3km s-min=6.1km az=128.0*

*BJI **28** 12:19:55.3, 54.46S×159.43E, h15km, mB5.4/3, mb4.5/7*

ISC 28 12:19:55.0±0.5, 54.87S±0.06×158.7E±0.1, h10km, n73, σ1s18/60, mb4.7/14, MS3.9/11, 1D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**0.40**	**22**	*e*Pg		**Pg**	**12 20 01.9**	**-1.1**
MCQ				*e*Sg		**Sg**	**12 20 06.2**	**-2.0**
WHZ	**Wether Hill Ro**	**10.74**	**37**	*e*Pn		**Pn**	**12 22 27.2**	**-1.6**
DCZ	**Deep Cove**	**10.85**	**33**	*e*Pn		**Pn**	**12 22 31.2**	**+1.0**
ODZ	**Otahua Downs**	**12.47**	**43**	*e*Pn		**Pn**	**12 22 52.4**	**0.0**
RPZ	**Rata Peaks**	**13.75**	**41**	Pn		**Pn**	**12 23 10.1**	**+0.3**
RPZ	**Rata Peaks**	**13.75**	**41**	Pn		**Pn**	**12 23 10.1**	**+0.3**
	1.6nm,0.3s,baz=179,slow=7.3,SNR=6.7							
RPZ				LR		LR	12 27 36.5	
	comp=Z,504nm,18.1s,baz=139,slow=34							
DRV	**Dumont d'Urvil**	**14.85**	**210**	P		**Pn**	**12 23 23.0**	**-1.7**
DRV				S		Sn	12 25 56.0	-13
DRV				R			12 26 00.0	
MILA	**Mila**	**18.98**	**336**	P		**Pn**	**12 24 20.2**	**+3.0**
	baz=6.9,SNR=21							
TOO	**Toolangi**	**19.51**	**327**	P		**Pn**	**12 24 23.6**	**+0.1**
	baz=7.2,SNR=6.0							
BKZ	**Black Stump Fm**	**19.76**	**45**	*e*Pn		**Pn**	**12 24 27.1**	**+0.6**
	76nm,1.6s							
CAN	**Canberra**	**20.68**	**337**	*e*Pn		**P**	**12 24 35.1**	**+0.2**
	22nm,1.0s							
URZ	**Urewera**	**20.78**	**45**	P		**P**	**12 24 36.5**	**+0.5**
URZ				*e*Pn		Pn	12 24 37.4	-1.0
URZ	**Urewera**	**20.78**	**45**	P		**P**	**12 24 36.5**	**+0.5**
	14nm,0.9s,baz=250,slow=8.7,SNR=4.7							
URZ				LR		LR	12 32 25.4	
	comp=Z,329nm,19.4s,baz=221,slow=36							
OUZ	**Omahuta**	**22.20**	**34**	*eP*		**P**	**12 24 52.2**	**+0.9**
	26nm,1.1s							
VNDA	**Vanda**	**22.77**	**178**	*eP*		**P**	**12 24 58.4**	**+1.3**
VNDA	**Vanda**	**22.77**	**178**	P		**P**	**12 24 57.3**	**+0.2**
	5.2nm,1.0s,baz=358,slow=11,SNR=13							
VNDA				LR		LR	12 32 22.3	
	comp=Z,303nm,19.7s,baz=354,slow=33							
STKA	**Stephens Creek**	**25.99**	**325**	P		**P**	**12 25 27.5**	**-0.3**
STKA	**Stephens Creek**	**25.99**	**325**	P		**P**	**12 25 27.5**	**-0.3**
	2.0nm,0.7s,baz=168,slow=8.2,SNR=8.6							
STKA				LR		LR	12 34 33.7	
	comp=Z,52nm,21.7s,baz=203,slow=34							
RAO	**Raoul Island**	**30.65**	**43**	LR		LR	12 35 44.2	
	comp=Z,127nm,21.7s,baz=83,slow=31							
DZM	**Mont Dzumac**	**33.27**	**13**	*e*LR		LR	12 35 23.2	
	145nm,22.9s							
QSPA	**South Pole Qui**	**35.24**	**180**	*eP*		**P**	**12 26 50.2**	**+0.9**
QSPA	**South Pole Qui**	**35.24**	**180**	P		**P**	**12 26 49.7**	**+0.3**
	2.3nm,0.3s,baz=354,slow=3.0,SNR=13							
ASAR	**Alice Springs**	**36.21**	**319**	P		**P**	**12 26 57.6**	**-0.3**
ASAR				PcP		**PcP**	**12 29 22.1**	**-1.1**
ASAR	**Alice Springs**	**36.21**	**319**	P		**P**	**12 26 57.6**	**-0.3**
	10nm,0.7s,baz=158,slow=8.6,SNR=179							
ASAR				PcP		**PcP**	**12 29 22.1**	**-1.1**
	0.8nm,0.7s,baz=143,slow=3.7,SNR=5.0							
ASAR				LR		LR	12 40 45.2	
	comp=Z,129nm,18.2s,baz=257,slow=35							
AS31	**Alice Springs**	**36.21**	**319**	*eP*		**P**	**12 26 57.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**36.31**	**290**	P		**P**	**12 26 57.1**	**-1.6**
NWAO	**Narrogin (SRO)**	**36.31**	**290**	P		**P**	**12 26 57.1**	**-1.6**
	4.0nm,0.5s,baz=140,slow=8.2,SNR=6.7							
H01W1	**Cape Leeuwin H**	**36.55**	**284**	T		T	13 05 37.8	
	baz=137,slow=76,SNR=7641							
H01W2	**Cape Leeuwin H**	**36.55**	**284**	T		T	13 05 38.4	
	baz=137,slow=76,SNR=9080							
H01W3	**Cape Leeuwin H**	**36.56**	**284**	T		T	13 05 39.1	
	baz=137,slow=76,SNR=7485							
WRA	**Warramunga Arr**	**39.46**	**322**	P		**P**	**12 27 24.2**	**-1.2**
WRA				PcP		**PcP**	**12 29 32.2**	**-0.9**
WRA	**Warramunga Arr**	**39.46**	**322**	P		**P**	**12 27 24.2**	**-1.2**
	11nm,1.0s,baz=156,slow=7.2,SNR=32							
WRA				PcP		**PcP**	**12 29 32.2**	**-0.9**
	1.1nm,0.8s,baz=176,slow=2.8,SNR=4.8							
WRA				LR		LR	12 42 32.1	
	comp=Z,307nm,19.5s,baz=155,slow=34							
WRAB	**Tennant Creek**	**39.47**	**322**	*eP*		**P**	**12 27 24.4**	**-1.0**
COEN	**Coen**	**42.58**	**337**	*eP*		**P**	**12 27 51.9**	**+0.8**
	49nm,0.9s							
FITZ	**Fitzroy Crossi**	**44.54**	**312**	*eP*		**P**	**12 28 06.6**	**-0.2**
SYO	**Syowa Base**	**48.70**	**205**‖	*eP*		**P**	**12 28 38.2**	**-0.7**
TBI	**Tubuai**	**49.48**	**72**	*e*LR		LR	12 42 52.4	
	295nm,29.5s							
SNAA	**Sanae**	**53.08**	**187**	*eP*		**P**	**12 29 12.0**	**+0.1**
	23nm,1.4s							
PPT2	**Papeete2**	**54.09**	**68**	*e*LR		LR	12 44 58.1	
	215nm,21.0s							
PPT	**Papeete**	**54.10**	**68**	LR		LR	12 47 44.8	
	comp=Z,246nm,18.5s,baz=244,slow=31							
PLCA	**Paso Flores**	**75.30**	**144**	LR		LR	12 56 32.1	
	comp=Z,77nm,20.7s,baz=157,slow=29							
H03N3	**Juan Fernandez**	**79.11**	**134**	T		T	13 59 36.5	
	baz=202,slow=74,SNR=364							
H03N2	**Juan Fernandez**	**79.12**	**134**	T		T	13 59 34.1	
	baz=202,slow=74,SNR=702							
H03N1	**Juan Fernandez**	**79.12**	**134**	T		T	13 59 28.4	
	baz=202,slow=74,SNR=254							
H08S2	**Diego Garcia H**	**81.61**	**269**	T		T	14 01 59.1	
	baz=144,slow=75,SNR=488							
H08S1	**Diego Garcia H**	**81.62**	**269**	T		T	14 01 58.3	
	baz=144,slow=75,SNR=206							
H08S3	**Diego Garcia H**	**81.63**	**269**	T		T	14 02 02.9	
	baz=144,slow=75,SNR=372							
H08N1	**Diego Garcia H**	**83.52**	**268**	T		T	14 04 22.9	
	baz=138,slow=76,SNR=224							
H08N3	**Diego Garcia H**	**83.53**	**268**	T		T	14 04 23.7	
	baz=138,slow=76,SNR=263							
H08N2	**Diego Garcia H**	**83.54**	**268**	T		T	14 04 24.9	
	baz=138,slow=76,SNR=401							
BOSA	**Boshof**	**87.74**	**220**	P		**P**	**12 32 44.2**	**0.0**
BOSA	**Boshof**	**87.74**	**220**	P		**P**	**12 32 44.2**	**0.0**
	2.3nm,0.4s,baz=264,slow=0.5,SNR=11							
CMAR	**Chiang Mai Arr**	**88.88**	**305**	P		**P**	**12 32 50.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**88.88**	**305**	P		**P**	**12 32 50.5**	**+1.1**
	0.6nm,0.3s,baz=181,slow=4.0,SNR=4.7							
CMAR				LR		LR	13 08 58.0	
	comp=Z,44nm,20.6s,baz=149,slow=33							
JNU	**Nakatsue**	**90.85**	**337**	LR		LR	13 14 02.8	
	comp=Z,40nm,19.0s,baz=234,slow=36							
KMI	**Kunming**	**92.94**	**311**	P		**P**	**12 33 10.3**	**+2.0**
KMI				pP		**pP**	**12 33 14.3**	**+2.6**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.5s							
KMI				pmax		pmax		
	comp=Z,83nm,3.7s							
NJ2	**Nanjing**	**93.10**	**327**	*eP*		**P**	**12 33 10.8**	**+2.2**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
KSRS	**Korea Array**	**95.68**	**336**	LR		LR	13 10 26.1	
	comp=Z,50nm,21.3s,baz=37,slow=32							
CD2	**Chengdu**	**97.57**	**315**	*eP*		Pdif	12 33 31.5	+2.3
CD2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CN2	**Changchun**	**102.29**	**336**	*eP*		**Pdif**	**12 33 50.3**	**+0.5**
WMQ	**Urumqi**	**115.27**	**311**	*eP*		**PKPdf**	**12 38 38.5**	**+2.6**
MKAR	**Makanchi Array**	**119.97**	**310**	PKP		**PKPdf**	**12 38 44.0**	**-0.8**
MKAR	**Makanchi Array**	**119.97**	**310**	PKP		**PKPdf**	**12 38 44.0**	**-0.8**
	0.4nm,0.6s,baz=236,slow=2.3,SNR=4.0							
ILAR	**Eielson Array**	**126.30**	**26**	PKP		**PKPdf**	**12 38 57.8**	**+1.3**
ILAR	**Eielson Array**	**126.38**	**26**	PKP		**PKPdf**	**12 38 57.8**	**+1.3**
	0.8nm,1.0s,baz=311,slow=4.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**134.65**	**212**	PKP		**PKPdf**	**12 39 12.1**	**-1.6**
TORD	**Torodi Ar. Bea**	**134.65**	**212**	PKP		**PKPdf**	**12 39 12.1**	**-1.6**
	0.6nm,0.5s,baz=137,slow=1.7,SNR=7.1							
YKA	**Yellowknife Ar**	**135.02**	**41**	PKP		**PKPdf**	**12 39 12.3**	**-0.6**
YKA	**Yellowknife Ar**	**135.02**	**41**	PKP		**PKPdf**	**12 39 12.3**	**-0.6**
	0.2nm,0.6s,baz=248,slow=2.1,SNR=8.9							
AKASG	**Malin Array Be**	**149.70**	**283**	PKPbc		**PKPbc**	**12 39 43.4**	**-0.5**
AKASG	**Malin Array Be**	**149.70**	**283**	PKPbc		**PKPbc**	**12 39 43.4**	**-0.5**
	0.6nm,0.4s,baz=88,slow=2.2,SNR=6.6							
FINES	**FINESS Array B**	**154.65**	**304**	PKPbc		**PKPbc**	**12 39 53.9**	**-0.8**
FINES				PKPab		**PKPab**	**12 40 09.1**	**-0.5**
FINES	**FINESS Array B**	**154.65**	**304**	PKPbc		**PKPbc**	**12 39 53.9**	**-0.8**
	2.5nm,0.9s,baz=107,slow=4.6,SNR=5.2							
FINES				PKPab		**PKPab**	**12 40 09.1**	**-0.5**
	2.1nm,0.8s,baz=172,slow=3.9,SNR=4.9							

*IDC **28** 12:47:25.4±2.4, 14.77S×70.28W, h169km±32km, mb3.7/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.6/5, Error ellipse: s-maj=89.6km s-min=30.0km az=25.0*

ISC 28 12:47:24.8±2.5, 15.4S±0.5×70.6W±0.3, h193km, n6, σ0s70/7, mb3.9/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.48**	**110**	P		**Pn**	**12 48 08.3**	**-0.3**
	12nm,0.3s,baz=294,slow=9.9,SNR=458							
LPAZ				S		**Sn**	**12 48 42.9**	**+0.2**
	1.1nm,0.3s,baz=187,slow=23,SNR=13							
SIV	**San Ignacio**	**9.14**	**95**	P		**Pn**	**12 49 32.9**	**-0.1**
	0.8nm,0.3s,baz=286,slow=12,SNR=7.7							
ULM	**Lac du Bonnet**	**69.10**	**343**	P		**P**	**12 58 08.9**	**-0.8**
	2.0nm,0.4s,baz=158,slow=6.0,SNR=4.5							
TORD	**Torodi Ar. Bea**	**76.90**	**72**	P		**P**	**12 58 56.5**	**+0.2**
	1.1nm,0.5s,baz=271,slow=4.6,SNR=17							
YKA	**Yellowknife Ar**	**84.98**	**341**	P		**P**	**12 59 38.9**	**+1.0**
	0.4nm,0.6s,baz=133,slow=5.3,SNR=14							
SONM	**Songino Array**	**147.60**	**4**	PKPbc		**PKPab**	**13 06 48.7**	**-0.4**
	0.5nm,0.5s,baz=8.7,slow=3.2,SNR=3.3							

*MOS **28** 12:56:23.8±1.2, 52.15N×174.96E, h49km, mb4.5/16, Error ellipse: s-maj=15.3km s-min=9.9km az=106.3*

*ISCJB **28** 12:56:24.5±0.6, 52.10N±0.08×175.00E±0.05, h58km±4km, mb4.1/28, Error ellipse: s-maj=13.4km s-min=4.1km az=17.4*

*IDC **28** 12:56:24.8±2.5, 52.09N×175.15E, h45km±20km, mb3.7/20, mb1 3.8/21, mb1mx3.7/33, mbtmp3.7/21, ML3.7/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/55, Error ellipse: s-maj=20.1km s-min=12.2km az=166.0*

*NEIC **28** 12:56:25.9, 52.11N×175.06E, h23km, ML4.0(AEIC), After AEIC.*

*BJI **28** 12:56:25.4, 52.50N×174.60E, h33km, mB4.7/1, mb4.3/6, Ms4.6/1*

ISC 28 12:56:25.6±1.0, 52.14N±0.09×175.01E±0.04, h49km±8km, n62, σ0s83/70, mb4.2/28, 3C-1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**0.81**	**317**	P		**Pn**	**12 56 40.4**	**-0.3**
SMY				S		**Sn**	**12 56 52.6**	**+0.8**
SMY	**Shemya**	**0.81**	**317**	P		**Pn**	**12 56 40.4**	**-0.3**
SMY				S		**Sn**	**12 56 52.5**	**+0.8**
FX1	**Attu Island--F**	**1.35**	**304**	P		**Pn**	**12 56 48.0**	**0.0**
FX1				S		**Sn**	**12 57 05.9**	**+1.1**
FX1	**Attu Island--F**	**1.35**	**304**	P		**Pn**	**12 56 47.7**	**-0.3**
	389nm,0.3s,baz=165,slow=8.8,SNR=641							
FX1				S		**Sn**	**12 57 06.3**	**+1.5**
	639nm,0.3s,baz=229,slow=23,SNR=31							
LSNW	**Little Sitkin**	**2.17**	**93**	P		**Pn**	**12 56 59.2**	**0.0**
LSNW				S		**Sn**	**12 57 23.8**	**-1.1**
LSSA	**Little Sitkin**	**2.17**	**94**	P		**Pn**	**12 56 59.3**	**0.0**
LSPA	**Little Sitkin**	**2.21**	**93**	P		**Pn**	**12 57 00.0**	**+0.3**
LSPA				S		**Sn**	**12 57 25.2**	**-0.6**
AMKA	**Amchitka**	**2.77**	**104**	P		**Pn**	**12 57 07.6**	**+0.1**
AMKA				S		**Sn**	**12 57 40.4**	**+0.7**
CETU	**Semis' Tuman**	**2.77**	**92**	P		**Pn**	**12 57 07.3**	**-0.1**
CETU				S		**Sn**	**12 57 40.7**	**+1.0**
CESW	**Semis' Southwe**	**2.82**	**93**	P		**Pn**	**12 57 07.5**	**-0.6**
CERAA	**Semis' Rag'd T**	**2.90**	**93**	P		**Pn**	**12 57 09.1**	**0.0**
CERAA				S		**Sn**	**12 57 44.0**	**+1.3**
GANE	**Gareloi Northe**	**3.85**	**92**	P		**Pn**	**12 57 21.8**	**-0.5**
GALAA	**Gareloi Lava P**	**3.87**	**93**	P		**Pn**	**12 57 23.6**	**+1.1**
TAPA	**Tanaga Point A**	**4.45**	**91**	P		**Pn**	**12 57 31.2**	**+0.7**
KIKV	**Kanaga Island**	**4.84**	**90**	P		**Pn**	**12 57 37.1**	**+1.3**
GSCK	**Great Sitkin C**	**5.45**	**88**	P		**Pn**	**12 57 45.1**	**+1.0**
PETK	**Petropavlovsk-**	**10.57**	**282**	P		**Pn**	**12 58 54.3**	**0.0**
PETK				S		**Sn**	**13 00 49.7**	**-1.4**
PETK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PETK				smax		smax		
	comp=N,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**10.57**	**282**	P		**Pn**	**12 58 54.3**	**0.0**
	comp=N,0.6nm,0.3s,baz=100,slow=18,SNR=12							
PETK				S		**Sn**	**13 00 49.7**	**-1.4**
	comp=N,0.5nm,0.3s,baz=272,slow=33,SNR=6.5							
PETK				LR		LR	13 02 42.8	
	comp=N,29nm,20.5s,baz=52,slow=35							
TNA	**Tin City**	**16.01**	**26**	*e*Pn		**P**	**13 00 10.7**	**+1.0**
	comp=N,28nm,1.6s							
IM04	**Indian Mountai**	**20.89**	**37**	*eP*		**P**	**13 01 04.3**	**+1.0**
COLA	**College**	**22.80**	**42**	*eP*		**P**	**13 01 25.4**	**+1.7**
COLA				pmax		pmax		
	comp=Z,11nm,0.8s							
ILAR	**Eielson Array**	**23.17**	**42**	P		**P**	**13 01 26.5**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=250,slow=7.4,SNR=16							
YAK	**Yakutsk**	**26.00**	**310**	*eP*		**P**	**13 01 52.3**	**-1.1**
YAK				pmax		pmax		
	comp=Z,15nm,0.9s							
INK	**Inuvik**	**29.10**	**37**	P		**P**	**13 02 19.7**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=271,slow=4.2,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**32.96**	**194**	T		T	13 37 43.2	
	SNR=97							
H11N3	**WAKE ISLAND Hy**	**32.97**	**194**	T		T	13 38 15.4	
	baz=12,slow=75,SNR=78							
H11N1	**WAKE ISLAND Hy**	**32.98**	**194**	T		T	13 37 44.5	
	baz=145,slow=75,SNR=108							
H11S1	**WAKE ISLAND Hy**	**34.19**	**194**	T		T	13 39 18.1	
	baz=11,slow=78,SNR=69							
H11S3	**WAKE ISLAND Hy**	**34.20**	**194**	T		T	13 39 28.8	
	baz=11,slow=78,SNR=52							
H11S2	**WAKE ISLAND Hy**	**34.21**	**194**	T		T	13 39 19.4	
	baz=11,slow=78,SNR=37							
KSRS	**Korea Array**	**35.82**	**265**	P		**P**	**13 03 20.3**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=51,slow=9.6,SNR=4.8							
YKA	**Yellowknife Ar**	**37.48**	**46**	P		**P**	**13 03 33.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=288,slow=7.7,SNR=8.1							
YKA				PcP		**PcP**	**13 05 50.9**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=294,slow=3.5,SNR=4.3							
RES	**Resolute Bay**	**40.63**	**24**	P		**P**	**13 03 59.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=326,slow=11,SNR=4.1							
RES				PcP		**PcP**	**13 06 00.4**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=203,slow=2.9,SNR=4.6							
SONM	**Songino Array**	**42.83**	**293**	P		**P**	**13 04 19.5**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=57,slow=7.9,SNR=11							
HVS	**Khovu-Aksy**	**47.92**	**303**↑	*eP*		**P**	**13 04 58.7**	**0.0**
HVS				pmax		pmax		
	comp=Z,26nm,1.6s							
SPITS	**Spitsbergen Ar**	**49.29**	**354**	P		**P**	**13 05 08.4**	**-0.4**
	comp=Z,4.4nm,0.4s,baz=40,slow=7.6,SNR=43							
PDAR	**Pinedale Array**	**49.69**	**69**	P		**P**	**13 05 12.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=303,slow=5.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**50.66**	**310**	P		**P**	**13 05 18.6**	**-0.8**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**50.66**	**310**	P		**P**	**13 05 18.6**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=44,slow=7.7,SNR=5.2							
NVS

CMAR	**Chiang Mai Arr**	**30.61**	**301**	P		**P**	**13 02 51.6**	**+1.0**
	0.5nm,0.6s,baz=126,slow=7.3,SNR=4.6							
KSAR	**Wonju Array Be**	**33.92**	**2**	PcP		**PcP**	**13 05 56.1**	**-0.7**
KSRS	**Korea Array**	**33.94**	**2**	PcP		**PcP**	**13 05 56.1**	**-0.7**
	0.5nm,0.6s,baz=179,slow=2.4,SNR=4.1							
STKA	**Stephens Creek**	**38.00**	**159**	*eP*		**P**	**13 03 54.1**	**-0.2**
	0.5nm,0.6s							
STKA	**Stephens Creek**	**38.00**	**159**	P		**P**	**13 03 55.0**	**+0.7**
	3.4nm,0.7s,baz=325,slow=8.0,SNR=15							
PETK	**Petropavlovsk-**	**55.93**	**22**	P		P	13 06 09.6	-4.3
PETK	**Petropavlovsk-**	**55.93**	**22**	P		P	13 06 09.6	-4.3
	2.0nm,0.9s,baz=182,slow=4.5,SNR=5.2							
MKAR	**Makanchi Array**	**57.55**	**326**	P		**P**	**13 06 24.3**	**-1.2**
MKAR	**Makanchi Array**	**57.55**	**326**	P		**P**	**13 06 24.3**	**-1.2**
	0.9nm,0.5s,baz=123,slow=7.7,SNR=10.0							
TKM2	**Tokmak 2**	**59.67**	**319**	*eP*		P	13 06 42.7	+2.1
	1.5nm,0.9s							
ZALV	**Zalesovo Beam**	**60.66**	**333**	P		P	13 06 43.1	-3.7
ZALV	**Zalesovo Beam**	**60.66**	**333**	P		P	13 06 43.1	-3.7
	0.6nm,0.5s,baz=127,slow=7.8,SNR=4.0							
EKS2	**Erkin-Say**	**60.76**	**318**	*eP*		**P**	**13 06 47.8**	**-0.1**
	2.0nm,0.9s							
AKTO	**Aktyubinsk**	**73.61**	**322**	P		**P**	**13 08 08.6**	**-0.4**
AKTO	**Aktyubinsk**	**73.61**	**322**	P		**P**	**13 08 08.6**	**-0.4**
	1.6nm,0.6s,baz=91,slow=6.4,SNR=4.0							
ARCES	**ARCESS Array B**	**90.59**	**340**	P		**P**	**13 09 34.7**	**-2.8**
ARCES	**ARCESS Array B**	**90.59**	**340**	P		**P**	**13 09 34.7**	**-2.8**
	3.2nm,1.0s,baz=76,slow=6.4,SNR=4.5							
FINES	**FINESS Array B**	**91.89**	**332**	LR		LR	13 56 03.8	
	comp=Z,46nm,18.9s,baz=8.2,slow=39							
TORD	**Torodi Ar. Bea**	**122.55**	**288**	PKP		**PKPdf**	**13 15 32.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**122.55**	**288**	PKP		**PKPdf**	**13 15 32.6**	**+0.7**
	0.4nm,0.8s,baz=75,slow=1.0,SNR=3.6							

*IDC **28** 13:01:52.9±9.7, 13°.93N×93°.94W, h0km, mb3.6/4, mb1 1.4/0.5, mb1mx3.7/24, mbtmp3.8/5, ML4.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/39, Error ellipse: s-maj=191.4km s-min=39.7km az=157.0*

*ISCJB **28** 13:01:59.9±1.2, 14°.8N±0°.1×94°.53W±0°.04, h23km, mb3.7/4, Error ellipse: s-maj=16.8km s-min=5.0km az=7.2*

*MEX **28** 13:02:02.4±0.7, 14°.61N×94°.56W, h19km±22km, MD4.0*

ISC 28 13:02:01.4±1.6, 14.7N±0.1×94.52W±0.05, h23km, n10, σ1§46/15, mb3.8/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PCIG		**1.60**	**52**	*eP*		**Pn**	**13 02 27.9**	**-0.4**
PCIG				*i*	S	**Sn**	**13 02 47.7**	**-0.4**
HUIG	**Huatulco**	**1.86**	**305**	*eP*		**Pn**	**13 02 31.1**	**-0.7**
HUIG				*i*	S	**Sn**	**13 02 52.1**	**-2.6**
THIG		**2.19**	**85**	*i*	P	**Pn**	**13 02 35.6**	**-0.8**
THIG				*i*	S	**Sn**	**13 03 01.4**	**-1.4**
VHO	**Vista Hermosa**	**3.17**	**318**	*i*	P	**Pn**	**13 02 50.4**	**+0.3**
VHO				*i*	S	**Sn**	**13 03 26.9**	**-0.4**
PNIG	**Pinotepa**	**3.86**	**296**	*eP*		**Pn**	**13 02 58.1**	**-1.2**
PNIG				*i*	S	**Sn**	**13 03 42.3**	**-1.7**
TEIG	**Tepich**	**8.10**	**46**	Pn		**Pn**	**13 03 55.8**	**-1.8**
	4.8nm,0.3s,baz=245,slow=3.2,SNR=22							
TEIG					Sn	**Sn**	**13 05 27.3**	**-1.2**
	2.7nm,0.3s,baz=68,slow=21,SNR=5.9							
TEIG					LR	LR	13 06 36.9	
	comp=Z,88nm,21.8s,baz=190,slow=34							
NVAR	**Mina Array Bea**	**31.61**	**323**	P		P	13 08 26.7	+3.9
	0.9nm,0.8s,baz=142,slow=7.8,SNR=4.9							
YKA	**Yellowknife Ar**	**49.80**	**348**	P		**P**	**13 10 54.0**	**+1.9**
	0.4nm,0.7s,baz=153,slow=7.1,SNR=8.5							
INK	**Inuvik**	**59.08**	**344**	P		**P**	**13 11 59.9**	**+0.5**
	1.1nm,0.8s,baz=161,slow=5.6,SNR=5.3							
ILAR	**Eielson Array**	**61.24**	**337**	P		**P**	**13 12 15.8**	**+1.5**
	0.8nm,1.0s,baz=148,slow=5.3,SNR=7.2							

*ISCJB **28** 13:18:05.2±0.5, 5°.53S±0°.06×154°.64E±0°.10, h118km, mb3.9/17, Error ellipse: s-maj=14.5km s-min=8.1km az=19.0*

*IDC **28** 13:18:14.8±2.0, 5°.78S×154°.69E, h200km±19km, mb3.6/17, mb1 3.7/19, mb1mx3.6/26, mbtmp3.6/19, MS3.6/2, Ms1 3.6/2, ms1mx2.8/23, Error ellipse: s-maj=16.6km s-min=9.0km az=117.0*

*AUST **28** 13:18:14.4±5.3, 5°.53S×154°.60E, h202km, Error ellipse: s-maj=4.7km s-min=1.2km az=33.0*

ISC 28 13:18:06.9±0.7, 5°.60S±0°.09×154°.6E±0°.1, h118km, n35, σ1§57/31, mb3.9/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**16.52**	**209**	P		**P**	**13 21 54.1**	**+1.8**
	0.8nm,0.3s,baz=34,slow=11,SNR=9.9							
DZM	**Mont Dzumac**	**20.00**	**146**	P		P	**13 22 30.1**	**-0.4**
	0.3nm,0.3s,baz=148,slow=20,SNR=3.9							
RMQ	**Roma**	**21.50**	**194**	P		**P**	**13 22 48.6**	**+2.2**
	baz=22,SNR=24							
KDU	**Kakadu**	**22.91**	**251**	P		**P**	**13 23 02.0**	**+1.1**
	baz=23,SNR=7.1							
QLP	**Quilpie**	**23.08**	**204**	P		**P**	**13 23 02.9**	**+0.5**
	baz=23,SNR=17							
MTN	**Manton Dam**	**24.21**	**251**	P		**P**	**13 23 14.1**	**+1.3**
	baz=24,SNR=8.4							
WRA	**Warramunga Arr**	**24.30**	**232**	P		**P**	**13 23 14.7**	**+1.1**
	1.0nm,0.6s,baz=57,slow=9.3,SNR=16							
WRA					S	**S**	**13 27 19.2**	**-5.0**
	0.5nm,0.8s,baz=58,slow=15,SNR=4.8							
ARMA	**Armidale**	**24.84**	**186**	P		**P**	**13 23 20.0**	**+1.5**
	baz=25,SNR=7.5							
H11S3	**WAKE ISLAND Hy**	**26.76**	**26**	T		T	13 52 41.2	
	baz=205							
H11S2	**WAKE ISLAND Hy**	**26.76**	**26**	T		T	13 52 32.0	
	baz=205,slow=75,SNR=6.8							
H11S1	**WAKE ISLAND Hy**	**26.77**	**26**	T		T	13 52 33.0	
	baz=205,slow=75,SNR=4.0							
ASAR	**Alice Springs**	**26.81**	**226**	P		**P**	**13 23 36.5**	**+0.2**
	0.3nm,0.3s,baz=57,slow=9.3,SNR=17							
ASAR					S	S	13 27 57.8	-6.2
	0.5nm,0.6s,baz=55,slow=15,SNR=6.8							
ASAR					ScP	ScP	13 30 17.1	-8.7
	0.3nm,0.8s,baz=60,slow=2.2,SNR=4.2							
KNRA	**Kununurra**	**27.23**	**246**	P		**P**	**13 23 40.9**	**+0.8**
	baz=27,SNR=3.8							
STKA	**Stephens Creek**	**28.83**	**203**	P		**P**	**13 23 53.2**	**-0.9**
	2.0nm,0.5s,baz=31,slow=13,SNR=11							
STKA	**Stephens Creek**	**28.83**	**203**	P		**P**	**13 23 54.4**	**+0.3**
	baz=29,SNR=6.0							
FITZ	**Fitzroy Crossi**	**30.86**	**244**	P		**P**	**13 24 12.1**	**-0.1**
	0.7nm,0.3s,baz=37,slow=5.9,SNR=7.8							
FITZ	**Fitzroy Crossi**	**30.86**	**244**	P		**P**	**13 24 12.3**	**+0.1**
	baz=31,SNR=3.8							
HTT	**Hallett**	**31.28**	**206**	P		**P**	**13 24 16.3**	**+0.5**
	baz=32,SNR=5.8							
WRKA	**Warakurna**	**31.75**	**230**	P		**P**	**13 24 19.7**	**-0.3**
	baz=32,SNR=5.9							
ARPS	**Mount Arapiles**	**33.14**	**199**	P		**P**	**13 24 32.7**	**+0.7**
	baz=33,SNR=8.6							
AFI	**Afiamalu**	**34.14**	**107**	LR		LR	13 34 36.9	
	comp=Z,105nm,22.0s,baz=69,slow=29							
KSRS	**Korea Array**	**49.51**	**332**	P		**P**	**13 26 45.6**	**+0.1**
	1.5nm,0.8s,baz=141,slow=8.1,SNR=6.2							
PETK	**Petropavlovsk-**	**58.55**	**2**	P		**P**	**13 27 52.4**	**+1.5**
	2.3nm,0.7s,baz=168,slow=7.6,SNR=3.6							
CMAR	**Chiang Mai Arr**	**59.81**	**295**	P		**P**	**13 28 01.7**	**+1.4**
	1.9nm,0.8s,baz=118,slow=5.0,SNR=20							
FX1	**Attu Island--F**	**60.36**	**13**	P		**P**	**13 28 04.8**	**+1.5**
	6.8nm,0.6s,baz=262,slow=4.4,SNR=7.2							
SONM	**Songino Array**	**67.94**	**327**	P		**P**	**13 28 54.1**	**+1.0**
	0.9nm,0.4s,baz=139,slow=5.3,SNR=11							
MKAR	**Makanchi Array**	**82.08**	**319**	P		**P**	**13 30 14.1**	**-0.3**
	0.8nm,0.6s,baz=90,slow=8.6,SNR=19							
ILAR	**Eielson Array**	**82.24**	**22**	P		**P**	**13 30 13.8**	**-0.9**
	0.7nm,0.6s,baz=245,slow=4.5,SNR=15							
ZALV	**Zalesovo Beam**	**82.79**	**326**	P		**P**	**13 30 15.7**	**-2.1**
	0.7nm,0.4s,baz=96,slow=4.3,SNR=3.8							
KURBB	**Kurchatov Arra**	**85.51**	**322**	P		**P**	**13 30 29.9**	**-1.8**
	0.5nm,0.5s,baz=100,slow=4.8,SNR=13							
AAK	**Ala-Archa**	**86.49**	**313**	LR		LR	14 11 29.8	
	comp=Z,31nm,18.2s,baz=228,slow=37							
DLBC	**Dease Lake**	**87.16**	**21**	P		**P**	**13 30 38.0**	**-1.6**
	1.9nm,0.3s,baz=293,slow=13,SNR=19							
INK	**Inuvik**	**88.57**	**21**	P		**P**	**13 30 43.9**	**-2.1**
	0.7nm,0.8s,baz=278,slow=5.5,SNR=3.5							
BVAR	**Borovoye Array**	**90.93**	**323**	P		**P**	**13 30 55.6**	**-1.8**
	0.5nm,0.5s,baz=94,slow=9.1,SNR=3.6							
YKA	**Yellowknife Ar**	**95.31**	**28**	P		**P**	**13 31 16.8**	**-0.5**
	0.1nm,0.7s,baz=268,slow=4.6,SNR=3.5							

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**6.75**	**43**	P		Pn	13 49 36.3	-8.3
AFI	**Afiamalu**	**6.75**	**43**	LR		LR	13 51 31.9	
	comp=Z,494nm,20.8s,baz=209,slow=31							
RAO	**Raoul Island**	**10.33**	**187**	LR		LR	13 54 05.1	
	comp=Z,3μm,19.5s,baz=346,slow=34							
RAR	**Rarotonga**	**15.85**	**101**	Pn		**Pn**	**13 51 47.0**	**-1.6**
RAR	**Rarotonga**	**15.85**	**101**	Pn		**Pn**	**13 51 47.0**	**-1.6**
	1.8nm,0.3s,baz=313,slow=0.0,SNR=3.8							
RAR					LR	LR	13 56 30.8	
	comp=Z,377nm,18.1s,baz=135,slow=32							
DZM	**Mont Dzumac**	**16.30**	**256**	*eP*		**P**	**13 51 59.0**	**+1.7**
	175nm,1.6s							
DZM					*e*LR	LR	13 55 43.2	
	708nm,25.4s							
DZM	**Mont Dzumac**	**16.30**	**256**	Pn		**Pn**	**13 51 55.1**	**+0.6**
DZM	**Mont Dzumac**	**16.30**	**256**	Pn		**Pn**	**13 51 55.1**	**+0.6**
	0.3nm,0.3s,baz=73,slow=16,SNR=7.4							
DZM					LR	LR	13 56 06.7	
	comp=Z,163nm,21.2s,baz=125,slow=30							
DZM	**Mont Dzumac**	**16.30**	**256**	*eP*		**P**	**13 51 56.6**	**-0.7**
URZ	**Urewera**	**20.03**	**195**	P		Pn	13 52 41.5	+1.5
URZ	**Urewera**	**20.03**	**195**	P		Pn	13 52 41.5	+1.5
	10nm,0.9s,baz=333,slow=9.0,SNR=3.2							
URZ					LR	LR	13 59 26.6	
	comp=Z,1μm,19.9s,baz=47,slow=34							
HNR	**Honiara**	**24.71**	**289**	LR		LR	14 00 48.1	
	comp=Z,164nm,19.6s,baz=312,slow=31							
TBI	**Tubuai**	**25.55**	**105**	*e*LR		LR	13 59 56.4	
	433nm,26.8s							
PAE	**Paea**	**25.56**	**91**	*eT*		T	14 19 52.8	
	2.4nm,0.3s							
PPT2	**Papeete2**	**25.57**	**91**	*e*LR		LR	13 59 50.7	
	382nm,27.5s							
TVO	**Taravao**	**25.86**	**92**	*eT*		T	14 20 05.0	
	1.7nm,0.3s							
RPZ	**Rata Peaks**	**26.82**	**200**	LR		LR	14 03 43.1	
	comp=Z,821nm,20.4s,baz=133,slow=35							
VAH	**Vaihoa**	**27.81**	**87**	*eT*		T	14 22 51.9	
	5.4nm,0.3s							
CNB	**Canberra Magne**	**34.28**	**235**	P		**P**	**13 54 53.6**	**+2.1**
	baz=33,SNR=7.2							
CAN	**Canberra**	**34.56**	**235**	*eP*		**P**	**13 54 55.5**	**+1.5**
	14nm,0.8s							
CTA	**Charters Tower**	**35.10**	**262**	P		**P**	**13 54 56.9**	**-1.9**
CTA	**Charters Tower**	**35.10**	**262**	P		**P**	**13 54 56.9**	**-1.9**
	5.7nm,0.7s,baz=96,slow=11,SNR=9.2							
CTAO	**Charters Tower**	**35.10**	**262**	*eP*		**P**	**13 54 57.3**	**-1.5**
	9.5nm,0.8s							
CMSA	**Cobar Meteorol**	**36.26**	**242**	P		**P**	**13 55 08.5**	**0.0**
	baz=35,SNR=11							
PMG	**Port Moresby**	**36.44**	**280**	P		**P**	**13 55 09.5**	**-0.8**
PMG	**Port Moresby**	**36.44**	**280**	P		**P**	**13 55 09.5**	**-0.8**
	9.8nm,0.8s,baz=15,slow=3.1,SNR=5.6							
PMG					LR	LR	14 08 11.4	
	comp=Z,162nm,18.8s,baz=102,slow=33							
TOO	**Toolangi**	**37.96**	**233**	P		**P**	**13 55 23.9**	**+0.8**
	baz=37,SNR=4.2							
RKT	**Rikitea**	**38.87**	**104**	*e*LR		LR	14 06 21.6	
	285nm,25.5s							
COEN	**Coen**	**38.95**	**271**	*eP*		**P**	**13 55 29.6**	**-1.9**
	56nm,0.8s							
COEN	**Coen**	**38.95**	**271**	P		**P**	**13 55 30.7**	**-0.8**
	baz=37,SNR=4.0							
STKA	**Stephens Creek**	**39.76**	**243**	*eP*		**P**	**13 55 37.6**	**-0.5**
	7.2nm,1.4s							
STKA	**Stephens Creek**	**39.76**	**243**	P		**P**	**13 55 38.2**	**+0.1**
	6.0nm,0.7s,baz=85,slow=9.8,SNR=15							
STKA					LR	LR	14 08 58.0	
	comp=Z,271nm,21.6s,baz=28,slow=32							
STKA	**Stephens Creek**	**39.76**	**243**	P		**P**	**13 55 38.2**	**+0.1**
	baz=38,SNR=9.0							
HTT	**Hallett**	**42.22**	**241**	P		**P**	**13 55 58.1**	**-0.3**
	baz=41,SNR=9.5							
WRA	**Warramunga Arr**	**46.25**	**260**	P		**P**	**13 56 28.0**	**-2.9**
WRA	**Warramunga Arr**	**46.25**	**260**	P		**P**	**13 56 28.0**	**-2.9**
	1.1nm,0.7s,baz=96,slow=8.7,SNR=21							
WRA					LR	LR	14 15 28.2	
	comp=Z,211nm,19.9s,baz=115,slow=36							
AS31	**Alice Springs**	**46.28**	**255**	*eP*		**P**	**13 56 29.2**	**-1.9**
ASAR	**Alice Springs**	**46.28**	**255**	P		**P**	**13 56 29.1**	**-2.0**
ASAR	**Alice Springs**	**46.28**	**255**	P		**P**	**13 56 29.1**	**-2.0**
	6.1nm,0.8s,baz=95,slow=7.7,SNR=28							
ASAR					LR	LR	14 15 08.7	
	comp=Z,186nm,19.0s,baz=104,slow=35							
WRKA	**Warakurna**	**51.28**	**253**	P		**P**	**13 57 08.8**	**-0.7**
	baz=50,SNR=7.9							
SOEI	**Soe**	**57.91**	**270**	P		**P**	**13 57 57.7**	**-0.1**
	baz=56,SNR=6.2							
VNDA	**Vanda**	**59.57**	**185**	P		**P**	**13 58 09.2**	**+0.9**
VNDA	**Vanda**	**59.57**	**185**	P		**P**	**13 58 09.2**	**+0.9**
	2.1nm,1.1s,baz=18,slow=11,SNR=4.0							
VNDA					LR	LR	14 16 40.5	
	comp=Z,90nm,21.3s,baz=22,slow=29							
NWAO	**Narrogin (SRO)**	**60.34**	**242**	LR		LR	14 20 36.4	
	comp=Z,168nm,19.1s,baz=206,slow=32							
WSI	**Waingapu**	**61.69**	**269**	P		P	13 58 27.4	+3.6
	baz=60,SNR=4.1							
MJAR	**Matsushiro Arr**	**69.84**	**322**	P		**P**	**13 59 14.4**	**-1.5**
MJAR	**Matsushiro Arr**	**69.84**	**322**	P		**P**	**13 59 14.4**	**-1.5**
	5.6nm,0.8s,baz=160,slow=6.0,SNR=14							
KSM	**Kuching**	**74.63**	**277**	P		**P**	**13 59 45.0**	**0.0**
	baz=73,SNR=3.8							
PETK	**Petropavlovsk-**	**75.17**	**344**	P		**P**	**13 59 46.0**	**-1.2**
PETK	**Petropavlovsk-**	**75.17**	**344**	P		**P**	**13 59 46.0**	**-1.2**
	1.0nm,0.7s,baz=155,slow=8.9,SNR=7.2							
PETK					LR	LR	14 30 20.9	
	comp=Z,64nm,18.1s,baz=238,slow=34							
KSRS	**Korea Array**	**76.70**	**318**	P		**P**	**13 59 55.3**	**-1.0**
	2.1nm,0.9s,baz=146,slow=6.9,SNR=6.7							
KSAR	**Wonju Array Be**	**76.72**	**318**	P		**P**	**13 59 55.3**	**-1.1**
PFO	**Pinyon Flat Ob**	**77.48**	**48**	LR		LR	14 25 56.9	
	comp=Z,280nm,21.0s,baz=216,slow=29							
KBO	**Bosley Butte**	**77.63**	**37**	*eP*		**P**	**14 00 03.4**	**+1.9**
YBH	**Yreka Blue Hor**	**78.20**	**38**	LR		LR	14 26 33.6	
	comp=Z,289nm,18.8s,baz=284,slow=30							
USRK	**Ussuriysk Arra**	**78.52**	**325**	LR		LR	14 28 12.1	
	comp=Z,48nm,19.9s,baz=170,slow=31							
NVAR	**Mina Array Bea**	**78.92**	**43**	P		**P**	**14 00 09.8**	**+0.8**
NVAR	**Mina Array Bea**	**78.92**	**43**	P		**P**	**14 00 09.8**	**+0.8**
	2.1nm,0.8s,baz=231,slow=8.9,SNR=16							
WVOR	**Wild Horse Val**	**81.03**	**39**	*eP*		**P**	**14 00 20.3**	**+0.1**
	5.6nm,1.0s							
CN2	**Changchun**	**81.97**	**322**	*eP*		**P**	**14 00 25.3**	**+0.4**
MAW	**Mawson**	**83.49**	**199**	LR		LR	14 35 42.0	
	comp=Z,323nm,18.1s,baz=103,slow=34							
TXAR	**Lajitas Array**	**85.02**	**57**	P		**P**	**14 00 42.6**	**+1.6**
TXAR	**Lajitas Array**	**85.02**	**57**	P		**P**	**14 00 42.6**	**+1.6**
	1.8nm,1.0s,baz=207,slow=5.2,SNR=11							
MCK	**McKinley**	**85.17**	**12**	*eP*		**P**	**14 00 39.2**	**-1.8**
	9.7nm,1.0s							
ANMO	**Albuquerque**	**85.32**	**51**	LR		LR	14 29 12.5	
	comp=Z,144nm,21.8s,baz=232,slow=29							
MCMT	**McKenzie Canyo**	**85.86**	**40**	*eP*		**P**	**14 00 45.2**	**+0.1**
	1.7nm,1.1s							
COLA	**College**	**86.41**	**12**	*eP*		**P**	**14 00 44.9**	**-2.1**
	7.8nm,0.9s							
ILAR	**Eielson Array**	**86.51**	**12**	P		**P**	**14 00 46.2**	**-1.2**
ILAR	**Eielson Array**	**86.51**	**12**	P		**P**	**14 00 46.2**	**-1.2**
	3.1nm,1.0s,baz=225,slow=5.3,SNR=16							
ILAR					LR	LR	14 34 24.9	
	comp=Z,83nm,18.6s,baz=208,slow=32							
CHMT	**Chamberlain Mo**	**86.72**	**38**	*eP*		**P**	**14 00 49.0**	**-0.3**
	3.8nm,1.3s							
PDAR	**Pinedale Array**	**86.86**	**43**	P		**P**	**14 00 49.7**	**-0.4**
PDAR	**Pinedale Array**	**86.86**	**43**	P		**P**	**14 00 49.7**	**-0.4**
	0.6nm,0.8s,baz=233,slow=6.4,SNR=5.1							

PDAR					LR	LR	14 33 34.2	
	comp=Z,198nm,19.5s,baz=245,slow=31							
GYA	**Guiyang**	**87.15**	**299**	*eP*		**P**	**14 00 51.0**	**-0.7**
GYA					pP	**pP**	**14 01 02.8**	**+4.1**
GYA					PP	**PP**	**14 04 15.5**	**-0.2**
GYA					SKS	**SKSac**	**14 11 12.0**	**-6.3**
GYA					S	**SKKSac**	**14 11 23.3**	**-3.9**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
GYA					pmax	pmax		
	comp=Z,90nm,5.4s							
HRY	**Holter Researc**	**87.45**	**38**	*eP*		**P**	**14 00 52.9**	**+0.3**
	3.7nm,0.9s							
PLCA	**Paso Flores**	**89.28**	**133**	LR		LR	14 31 59.2	
	comp=Z,71nm,19.4s,baz=134,slow=29							
HHC	**Hu-ho-hao-te**	**89.31**	**314**	*eP*		**P**	**14 01 02.3**	**+0.7**
HHC					pP	**pP**	**14 01 12.5**	**+3.9**
HHC					PP	**PP**	**14 04 35.0**	**+2.2**
HHC					SKS	**SKSac**	**14 11 27.0**	**-3.7**
HHC					S	**SKKSac**	**14 11 46.3**	**+3.5**
HHC					sS	**sS**	**14 12 06.0**	**+4.0**
HHC					pmax	pmax		
	comp=Z,35nm,1.2s							
HHC					pmax	pmax		
	comp=Z,190nm,8.5s							
HHC					LR	LR		
	comp=N,180nm,17.2s							
HHC					LR	LR		
	comp=E,320nm,17.4s							
HHC					LR	LR		
	comp=Z,130nm,17.5s							
KSCO	**Kaye Shedlock'**	**89.85**	**48**	*eP*		**P**	**14 01 04.3**	**+0.1**
KMI	**Kunming**	**89.94**	**297**	P		**P**	**14 01 06.5**	**+1.4**
KMI					pP	**pP**	**14 01 12.5**	**+0.4**
KMI					sP	**sP**	**14 01 15.5**	**+0.9**
KMI					pmax	pmax		
	comp=Z,7.0nm,1.3s							
KMI					pmax	pmax		
	comp=Z,48nm,4.5s							
CMAR	**Chiang Mai Arr**	**90.96**	**289**	P		**P**	**14 01 08.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**90.96**	**289**	P		**P**	**14 01 08.5**	**-1.2**
	1.7nm,0.8s,baz=105,slow=2.6,SNR=12							
CMAR					LR	LR	14 36 29.0	
	comp=Z,16nm,21.2s,baz=140,slow=32							
CHTO	**Chiang Mai**	**91.08**	**289**	P		**P**	**14 01 08.1**	**-2.1**
	22nm,1.8s							
CD2	**Chengdu**	**91.18**	**302**	*eP*		**P**	**14 01 09.5**	**-1.0**
CD2					pmax	pmax		
	comp=Z,10.0nm,1.4s							
LZH	**Lanzhou**	**92.98**	**307**	*eP*		**P**	**14 01 20.3**	**+1.4**
LZH					pP	**pP**	**14 01 31.0**	**+5.1**
LZH					sP	sP	14 01 35.5	+7.1
LZH					pmax	pmax		
	comp=Z,25nm,1.1s							
LZH					pmax	pmax		
	comp=Z,140nm,4.9s							
YKA	**Yellowknife Ar**	**94.52**	**24**	P		**P**	**14 01 24.2**	**-0.8**
YKA	**Yellowknife Ar**	**94.52**	**24**	P		**P**	**14 01 24.2**	**-0.8**
	0.7nm,0.9s,baz=243,slow=4.4,SNR=8.7							
ULM	**Lac du Bonnet**	**98.53**	**40**	LR		LR	14 39 31.9	
	comp=Z,182nm,18.3s,baz=250,slow=31							
ARCES	**ARCESS Array B**	**127.66**	**350**	PKP		**PKPdf**	**14 07 08.0**	**-1.7**
ARCES	**ARCESS Array B**	**127.66**	**350**	PKP		**PKPdf**	**14 07 08.0**	**-1.7**
	1.5nm,0.7s,baz=324,slow=5.6,SNR=3.7							
MALT	**Malatya**		**144.09 310**	*i*	P	**PKPdf**	**14 07 44.8**	**+3.6**
KWP	**Kalwaria Pacla**		**145.75 338**	*i*	P	**PKPdf**	**14 07 43.5**	**-0.1**
OJC	**Ojcow**		**146.21 341**	*e*	PKP	**PKPdf**	**14 07 44.6**	**+0.3**
BUR08	**Bucovina Ar. S**		**146.37 333**	*e*	PKPdf	**PKPdf**	**14 07 43.6**	**-1.2**
BURAR	**Bucovina Array**		**146.38 333**	*i*	P	**PKPbc**	**14 07 46.2**	**+0.1**
STHS	**Stebnicka Huta**		**146.44 339**	*e*	PKP	**PKPbc**	**14 07 45.9**	**-0.2**
KOLS	**Kolonicke sedl**		**146.49 337**	*e*	PKP	**PKPbc**	**14 07 46.0**	**-0.2**
TESR	**Tescani**		**146.58 330**	*i*	P	**PKPbc**	**14 07 46.3**	**-0.3**
KSP	**Ksiaz**		**146.61 345**	*e*	PKP	**PKPbc**	**14 07 46.4**	**-0.1**
CLZ	**Clausthal**		**146.75 352**	*e*	PKPbc	**PKPbc**	**14 07 46.5**	**-0.4**
NIE	**Niedzica**		**146.75 340**	*e*	PKP	**PKPbc**	**14 07 46.8**	**-0.2**
CRVS	**Cervenica-Dubn**		**146.80 338**	*e*	PKP	**PKPbc**	**14 07 46.9**	**-0.3**
BRTR	**Keskin Array B**		**146.82 315**	PKPbc		**PKPdf**	**14 07 46.5**	**+0.7**
BRTR	**Keskin Array B**		**146.82 315**	PKPbc		**PKPdf**	**14 07 46.5**	**+0.7**

MEX 28 14:06:25.4±0.6, 17°.32N×100°.73W, h5km±8km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.75**	**292**	*eP*	Pg	14 06 38.3	-1.5
ZIIG				*i* S	Sg	14 06 49.0	-0.6
ARIG	**Puente Sto Nin**	**1.02**	**21**	*eP*	Pg	14 06 42.1	-3.0
ARIG				*eS*	Sg	14 06 55.9	-2.5
PLIG	**Platanillo**	**1.58**	**48**	*i* P	Pn	14 06 51.0	-3.2
PLIG				*i* S	Sn	14 07 09.9	-5.4
TLIG	**Tlapa**	**2.08**	**83**	*i* P	Pn	14 06 58.4	-2.8
TLIG				*i* S	Sn	14 07 23.1	-4.5
YAIG	**Yautepec**	**2.20**	**46**	*eP*	Pn	14 06 59.1	-3.8
YAIG				*i* S	Sn	14 07 26.5	-4.2
MOIG	**Morelia**	**2.38**	**350**	*i* P	Pn	14 07 03.0	-2.5
MOIG				*i* S	Sn	14 07 31.2	-4.1
PPM	**Popocatepetl**	**2.65**	**49**	*eP*	Pn	14 07 06.5	-3.0
PPM				*eS*	Sn	14 07 37.9	-4.6
PNIG	**Pinotepa**	**2.66**	**110**	*eP*	Pn	14 07 06.7	-2.3
PNIG				*i* S	Sn	14 07 37.2	-4.5
MMIG	**Aquila**	**2.67**	**291**	*i* P	Pn	14 07 06.6	-2.5
MMIG				*i* S	Sn	14 07 37.7	-4.0
VHO	**Vista Hermosa**	**3.83**	**93**	*i* P	Pn	14 07 26.2	+0.8

GUC 28 14:35:35.6±0.4, 22°.67S×69°.07W, h114km±3km, ML3.9, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**Plate Boundary**	**0.47**	**266**	*i*P	Pn	14 35 53.1	+0.3
PB06				*i* S	Sn	14 36 06.5	+0.7
PB06				AML	AML	14 36 07.8	
	comp=E,3μm,0.5s						
PB04	**Plate Boundary**	**0.56**	**316**	*i*P	Pn	14 35 59.1	+5.9
PB04				*i* S	Sn	14 36 16.5	+10
PB04				AML	AML	14 36 21.3	
	comp=N,2μm,0.4s						
PB09	**Plate Boundary**	**0.89**	**349**	*i*P	Pn	14 35 56.9	+0.7
PB09				*i* S	Sn	14 36 12.7	+0.9
PB09				AML	AML	14 36 14.5	
	comp=N,9μm,0.3s						
PB07	**Plate Boundary**	**1.21**	**321**	*i*P	Pn	14 36 00.8	+1.2
PB07				*i* S	Sn	14 36 19.4	+1.8
PB07				AML	AML	14 36 20.8	
	comp=N,4μm,0.3s						
PB10	**Plate Boundary**	**1.61**	**238**	*i*P	Pn	14 36 04.5	+0.6
PB10				*i* S	Sn	14 36 26.4	+1.0
PB10				AML	AML	14 36 28.5	
	comp=E,2μm,0.2s						
PB01	**Plate Boundary**	**1.67**	**346**	*i*P	Pn	14 36 05.3	+0.5
PB01				*i* S	Sn	14 36 28.1	+1.1
PB01				AML	AML	14 36 29.4	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**2.10**	**331**	AML	AML	14 36 43.7	
	comp=N,450nm,0.4s						
HMBC	**Humberstone**	**2.50**	**342**	*i*P	Pn	14 36 15.0	-0.4
HMBC				*i* S	Sn	14 36 45.9	0.0
HMBC				AML	AML	14 37 16.8	
	comp=E,411nm,0.4s						
MNMC	**Minimini**	**3.56**	**352**	AML	AML	14 37 35.9	
	comp=N,324nm,0.2s						

*CSEM **28** 14:41:12.8, 36°.82N×27°.29E, h7km, ML3.5, After DDA*

DDA 28 14:41:12.8, 36°.82N×27°.29E, h7km, ML3.5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.28**	**27**	*i* P	Pg	14 41 18.4	0.0
BDRM				*i* S	Sg	14 41 23.1	+1.1
BDRM	**Kayabasi**	**0.28**	**27**	*i* P	Pg	14 41 18.4	+0.1
BDRM				*i* S	Sg	14 41 23.1	+1.1
GCAM	**G?zelcaml?**	**0.88**	**357**	*i* P	Pg	14 41 29.8	+0.1
GCAM				*i* S	Sb	14 41 42.9	+0.5
GCAM	**G?zelcaml?**	**0.88**	**357**	*i* P	Pg	14 41 29.8	0.0
GCAM				*i* S	Sb	14 41 42.9	+0.5
AYDN	**Tasoluk**	**0.96**	**29**	*i* P	Pg	14 41 29.3	-2.1
AYDN				*i* S	Sg	14 41 42.4	-1.7
AYDN	**Tasoluk**	**0.96**	**29**	*i* P	Pg	14 41 29.3	-2.1
AYDN				*i* S	Sg	14 41 42.4	-1.6
TURN	**Turunc**	**1.06**	**87**	*i* P	Pg	14 41 28.0	-5.1
TURN				*i* S	Sg	14 41 39.1	-7.7
TURN	**Turunc**	**1.06**	**87**	*i* P	Pg	14 41 28.0	-5.1
TURN				*i* S	Sg	14 41 39.1	-7.7
DNZL	**Cakiroluk**	**1.65**	**58**	*i* P	Pb	14 41 43.6	-0.2
DNZL				*i* S	Sg	14 42 07.2	+0.8
DNZL	**Cakiroluk**	**1.65**	**58**	*i* P	Pb	14 41 43.6	-0.2
DNZL				*i* S	Sg	14 42 07.2	+0.9
GOLH	**Golhisar**	**1.87**	**76**	*i* P	Pb	14 41 47.9	+0.5
GOLH				*i* S	Sg	14 42 12.4	-0.7
GOLH	**Golhisar**	**1.87**	**76**	*i* P	Pb	14 41 47.9	+0.5
GOLH				*i* S	Sg	14 42 12.4	-0.7
MANT	**Manisa**	**1.95**	**31**	*i* S	Sn	14 42 10.5	-1.1
MANT	**Manisa**	**1.95**	**31**	*i* S	Sn	14 42 10.5	-1.1

MAN 28 14:47:13, 6°.57N×126°.40E, h22km, mb4.1, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.40**	**339**	*eP*	Pn	14 47 22.8	-0.6
MATI				*eS*	Sn	14 47 31.9	+1.6
DMPH	**Davao City--Mi**	**1.02**	**300**	*eP*	Pb	14 47 31.1	-1.0
DMPH				*eS*	Sn	14 47 46.6	+0.8
BUKP	**Musuan**	**1.86**	**314**	*eP*	Pn	14 47 44.9	+1.3
BUKP				*eS*	Sb	14 48 11.8	+2.5

*IDC **28** 14:50:03.5±13.0, 20°.83S×177°.36W, h438km±128km, mb3.1/7, mb1 3.4/7, mb1mx3.1/19, mbtmp3.1/7, Error ellipse: s-maj=87.3km s-min=36.5km az=119.0*

ISC 28 14:49:47.1±2.7, 21°.0S±0°.5×176°.9W±0°.4, h289km, n9, σ0 92/9, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.38**	**257**	P	**P**	**14 57 39.0**	**+1.3**
	2.5nm,0.8s,baz=97,slow=7.7,SNR=46						
ASAR				PcP	**PcP**	14 59 10.3	-1.5
	0.3nm,0.5s,baz=105,slow=4.2,SNR=5.5						
WRA	**Warramunga Arr**	**45.52**	**262**	P	**P**	**14 57 39.1**	**+0.3**
	0.7nm,0.3s,baz=96,slow=7.7,SNR=61						
FITZ	**Fitzroy Crossi**	**53.95**	**262**	P	**P**	**14 58 42.1**	**+0.2**
	0.8nm,0.5s,baz=90,slow=6.1,SNR=5.2						
MJAR	**Matsushiro Arr**	**71.16**	**323**	P	**P**	**15 00 34.2**	**-0.6**
	0.9nm,0.6s,baz=172,slow=0.1,SNR=5.3						
KSRS	**Korea Array**	**77.88**	**318**	P	**P**	**15 01 13.1**	**-0.1**
	0.5nm,0.5s,baz=125,slow=7.2,SNR=4.2						
ILAR	**Eielson Array**	**88.53**	**12**	P	**P**	**15 02 07.6**	**+0.9**
	0.2nm,0.4s,baz=215,slow=5.6,SNR=7.5						
CMAR	**Chiang Mai Arr**	**91.20**	**289**	P	**P**	**15 02 19.9**	**-0.3**
	0.5nm,0.8s,baz=109,slow=2.2,SNR=5.9						
AKASG	**Malin Array Be**	**143.88**	**332**	PKP	PKPab	15 08 44.6	-1.2
	0.4nm,0.5s,baz=41,slow=3.9,SNR=9.5						
GERES	**GERESS Array B**	**150.89**	**345**	PKPbc	**PKPbc**	**15 09 05.6**	**-0.1**
	0.2nm,0.3s,baz=35,slow=3.6,SNR=2.9						

*BJI **28** 15:00:16.3, 10°.68S×125°.10E, h10km, mB5.2/29, mb5.1/53, Ms4.8/20, Ms7 4.7/12*

*IDC **28** 15:00:22.4±0.5, 10°.07S×124°.62E, h0km, mb4.7/22, mb1 4.7/22, mb1mx4.6/27, mbtmp4.7/22, MS3.8/13, Ms1 3.9/13, ms1mx3.5/34, Error ellipse: s-maj=20.9km s-min=12.2km az=68.0*

*ISCJB **28** 15:00:23.9±0.2, 10°.25S±0°.03×124°.93E±0°.03, h33km, mb5.0/86, MS4.0/16, Error ellipse: s-maj=5.3km s-min=3.3km az=144.5*

*NEIC **28** 15:00:23.5±0.2, 10°.13S×124°.64E, h10km, mb5.2/39, Error ellipse: s-maj=8.1km s-min=4.5km az=54.0*

*AUST **28** 15:00:24.9±0.3, 10°.39S×124°.72E, h10km, Error ellipse: s-maj=0.9km s-min=0.5km az=40.0*

*MOS **28** 15:00:25.8±1.1, 9°.99S×124°.70E, h33km, mb5.2/27, Error ellipse: s-maj=15.6km s-min=6.9km az=118.6*

*DJA **28** 15:00:28.2±0.2, 10°.S±2°×12°.5E±°, h10km, M4.9/42, mB5.4/19, mb4.9/42, MLv5.0/10, Mw(mB)4.8/19, Mwp6.0/1*

ISC 28 15:00:26.2±0.3, 10°.35S±0°.03×124°.73E±0°.04, h35km, n282, σ1 8°47/248, mb5.0/84, MS3.9/16, 6C-4D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.75**	**322**	P	**Pn**	**15 00 40.0**	**-0.4**
SOEI				S	Sn	15 00 53.6	+3.1
SOEI	**Soe**	**0.75**	**322**	P	**Pn**	**15 00 38.8**	**-1.6**
	baz=0.8,SNR=1000						
MMRI	**Maumere**	**2.99**	**304**	P	Pn	15 01 13.8	+2.7
WSI	**Waingapu**	**4.42**	**278**	P	**Pn**	**15 01 32.4**	**+1.6**
LBFI	**Labuhan Bajo,**	**5.12**	**291**	P	**Pn**	**15 01 41.8**	**+1.3**
	380nm,1.2s,5μm1.3nm						
KNRA	**Kununurra**	**6.59**	**144**	P	**Pn**	**15 02 01.2**	**+0.6**
	baz=6.6,SNR=53						
MTN	**Manton Dam**	**6.74**	**112**	P	**Pn**	**15 02 03.4**	**+0.7**
	baz=6.7,SNR=36						
BKSI	**Bulukumba**	**6.77**	**317**	P	Pn	15 02 04.6	+1.5
	83nm,0.8s,802nm0.3nm						
NLAI	**Namlea**	**7.45**	**19**	P	Pn	15 02 19.0	+6.6
	50nm,1.0s,0.2nm						
BNSI	**Bone**	**7.48**	**322**	P	Pn	15 02 17.2	+4.3
	110nm,1.2s,1μm0.3nm						
FITZ	**Fitzroy Crossi**	**7.76**	**174**	*e*Pn	**Pn**	**15 02 17.6**	**+0.9**
	0.9nm,0.6s						
FITZ				Sn	**Sn**	**15 03 41.9**	**-1.4**
FITZ				*e*Sn	**Sn**	**15 03 43.4**	**+0.1**
FITZ				Lg	Lg	15 04 31.9	
FITZ	**Fitzroy Crossi**	**7.76**	**174**	Pn	**Pn**	**15 02 17.7**	**+1.1**
	7.5nm,0.3s,baz=9.0,slow=8.9,SNR=78						
FITZ				Sn	**Sn**	**15 03 41.9**	**-1.4**
	12nm,0.3s,baz=101,slow=19,SNR=9.3						
FITZ				Lg	Lg	15 04 31.9	
	17nm,0.3s,baz=86,slow=19,SNR=4.2						
FITZ				LR	LR	15 05 49.6	
	comp=Z,766nm,18.8s,baz=353,slow=41						
FITZ	**Fitzroy Crossi**	**7.76**	**174**	P	**Pn**	**15 02 17.9**	**+1.2**
	baz=7.8,SNR=61						
KDU	**Kakadu**	**7.93**	**108**	P	**Pn**	**15 02 20.3**	**+1.2**
	baz=7.9,SNR=17						
SPSI	**Sidrap Palu**	**8.03**	**322**	P	Pn	15 02 26.0	+5.6
	38nm,1.2s,1μm						
TTSI	**Tana Toraja**	**8.74**	**326**	P	Pn	15 02 38.2	+8.0
	52nm,1.1s						
LUWI	**Luwuk**	**9.45**	**348**	P	Pn	15 02 44.6	+4.7
	154nm,1.1s,2μm						
LUWI	**Luwuk**	**9.45**	**348**	P	Pn	15 02 49.1	+9.2
	baz=9.6,SNR=5.1						
MMSI	**Mamuju**	**9.56**	**322**	P	Pn	15 02 45.0	+3.6
	42nm,1.4s						
APSI	**Ampana**	**9.87**	**342**	P	Pn	15 02 50.7	+5.1
	61nm,0.9s,819nm						
LBMI	**Labuha**	**10.03**	**16**	P	Pn	15 02 52.5	+4.6
	61nm,1.2s,2μm						
FAKI	**Fak Fak**	**10.50**	**46**	P	**Pn**	**15 02 53.4**	**-0.8**
	baz=11,SNR=6.5						
JAGI	**Jajag, Banyuwa**	**10.60**	**279**	P	**Pn**	**15 02 55.5**	**-0.3**
	baz=11,SNR=6.9						
MRSI	**Marisa**	**11.11**	**345**	P	Pn	15 03 15.5	+13
SWI	**Sorong**	**11.44**	**35**	P	Pn	15 03 16.7	+9.5
	24nm,1.0s,983nm						
PWJI	**Pagerwojo**	**12.97**	**279**	P	**P**	**15 03 36.5**	**-1.6**
WRA	**Warramunga Arr**	**13.30**	**137**	Pn	Pn	15 03 30.1	-2.4
WRA				Sn	Sn	15 05 50.0	-9.3
WRA				Lg	Lg	15 07 36.6	
WRA	**Warramunga Arr**	**13.30**	**137**	Pn	Pn	15 03 30.1	-2.4
	2.3nm,0.3s,baz=320,slow=14,SNR=68						
WRA				Sn	Sn	15 05 50.0	-9.3
	2.5nm,0.3s,baz=309,slow=24,SNR=6.8						
WRA				Lg	Lg	15 07 36.6	
	baz=301,slow=29,SNR=2.9						
WRA				LR	LR	15 09 24.8	
	comp=Z,753nm,18.6s,baz=310,slow=40						
WRAB	**Tennant Creek**	**13.30**	**137**	*d iP*	**Pn**	**15 03 31.5**	**-1.1**
WRAB	**Tennant Creek**	**13.30**	**137**	*e*Pn	Pn	15 03 30.4	-2.2
	56nm,0.8s						
WRAB				*e*Sn	Sn	15 05 46.0	-13
WRAB	**Tennant Creek**	**13.30**	**137**	Pn	Pn	15 03 30.0	-2.6
	143nm,0.9s,SNR=46						
PCJI	**Pacitan**	**13.55**	**278**	P	**P**	**15 03 42.3**	**-2.3**
	75nm,1.1s						
UGM	**Wanagama**	**14.24**	**279**	P	**Pn**	**15 03 46.4**	**+0.9**
	baz=14,SNR=7.1						
SMRI	**Semarang**	**14.50**	**282**	P	P	15 03 57.1	+1.9
	166nm,1.0s						
SMRI	**Semarang**	**14.50**	**282**	P	P	15 03 56.8	+1.6
	baz=14,SNR=3.2						
BAKI	**Biak**	**14.51**	**52**	P	P	15 04 06.3	+11
WRKA	**Warakurna**	**14.99**	**167**	P	**Pn**	**15 03 54.2**	**-1.5**
	baz=15,SNR=98						
BJII	**Banjamegara**	**15.14**	**280**	P	**P**	**15 03 59.8**	**-2.6**
	72nm,1.4s,43μm						
WAMI	**Wamena**	**15.28**	**66**	P	P	15 04 15.0	+11
TGJI	**Tegal**	**15.82**	**281**	P	**P**	**15 04 09.8**	**0.0**
	66nm,0.9s						
AS31	**Alice Springs**	**15.87**	**148**	*e*Pn	**Pn**	**15 04 05.4**	**-1.7**
AS31				*e*Sn	**Sn**	**15 06 58.5**	**-3.5**
ASAR	**Alice Springs**	**15.87**	**148**	Pn	**Pn**	**15 04 05.5**	**-1.5**
ASAR				Sn	Sn	15 06 54.4	-7.7
ASAR				Lg	Lg	15 08 54.2	
ASAR	**Alice Springs**	**15.87**	**148**	Pn	**Pn**	**15 04 05.5**	**-1.5**
	1.7nm,0.3s,baz=320,slow=13,SNR=134						
ASAR				Sn	Sn	15 06 54.4	-7.7
	1.3nm,0.3s,baz=323,slow=23,SNR=4.4						
ASAR				Lg	Lg	15 08 54.2	
	baz=329,slow=32,SNR=2.7						
ASAR				LR	LR	15 10 23.6	
	comp=Z,510nm,20.4s,baz=254,slow=37						
KPJI	**Karang Pucung**	**15.90**	**280**	P	**P**	**15 04 08.3**	**-2.4**
	74nm,0.8s						
TSM	**Tawau**	**16.07**	**335**	P	**P**	**15 04 10.8**	**-1.8**
CMJI	**Cimerak**	**16.28**	**278**	P	**P**	**15 04 16.4**	**+1.4**
	102nm,1.0s						
MYLDM	**Lahad Datu**	**16.63**	**338**	P	**P**	**15 04 19.9**	**+1.1**
STKI	**Sintang**	**16.76**	**307**	P	**P**	**15 04 22.9**	**+2.6**
	27nm,1.1s,6μm						
CISI	**Cisompet, Garu**	**16.94**	**278**	P	**P**	**15 04 22.2**	**-0.1**
	116nm,1.5s,1μm						
CISI	**Cisompet, Garu**	**16.94**	**278**	P	**P**	**15 04 23.7**	**+1.3**
	baz=17,SNR=5.4						
GENI	**Genyem**	**17.16**	**64**	P	P	15 04 36.1	+11
MEEK	**Meekatharra**	**17.20**	**199**	P	**P**	**15 04 25.0**	**-0.2**
	baz=17,SNR=6.4						
LEM	**Lembang**	**17.28**	**280**	P	**P**	**15 04 28.5**	**+2.3**
	391nm,0.9s,4μm						
LEM	**Lembang**	**17.28**	**280**	P	**P**	**15 04 28.9**	**+2.6**
	baz=17,SNR=14						
QIS	**Mount Isa**	**17.55**	**127**	P	**Pn**	**15 04 26.8**	**-1.4**
	baz=18,SNR=19						
SDKM	**Sandakan**	**17.57**	**334**	P	**P**	**15 04 28.7**	**-0.6**
BTM	**Bintulu**	**17.77**	**319**	P	**P**	**15 04 33.0**	**+1.5**
SBUM	**Sibu**	**17.80**	**315**	P	**P**	**15 04 33.1**	**+1.2**
SBUM	**Sibu**	**17.80**	**315**	P	**P**	**15 04 33.0**	**+1.2**
	56nm,1.1s,490nm						
CBJI	**Citeko**	**18.11**	**281**	P	**P**	**15 04 34.7**	**-0.6**
	475nm,1.0s						
DBJI	**Dramaga**	**18.18**	**281**	P	**P**	**15 04 36.4**	**+0.4**
	115nm,1.1s,2μm						
SKJI	**Sukabumi**	**18.27**	**279**	P	Pn	15 04 45.5	+8.4
COEN	**Coen**	**18.38**	**103**	*e*P	**Pn**	**15 04 38.2**	**-0.2**
	89nm,0.8s						
COEN	**Coen**	**18.38**	**103**	P	**Pn**	**15 04 38.5**	**0.0**
	baz=18,SNR=10						
KSM	**Kuching**	**18.55**	**308**	P	**Pn**	**15 04 42.8**	**+2.4**
KSM	**Kuching**	**18.55**	**308**	P	**Pn**	**15 04 42.6**	**+2.1**
	39nm,1.0s						
KSM	**Kuching**	**18.55**	**308**	*e*P	**Pn**	**15 04 39.6**	**-0.8**
	40nm,1.0s						
KSM	**Kuching**	**18.55**	**308**	P	**Pn**	**15 04 41.8**	**+1.4**
	baz=19,SNR=7.1						
XMIS	**Christmas Isla**	**18.77**	**268**	P	**P**	**15 04 40.5**	**-2.0**
KDM	**Kudat**	**18.87**	**335**	P	**Pn**	**15 04 46.1**	**+1.8**
CGJI	**Cibinong**	**19.19**	**280**	P	**Pn**	**15 04 47.8**	**-0.4**
	156nm,0.8s,2μm						
PALU	**Palu**	**20.08**	**29**	P	**Pn**	**15 04 55.6**	**-3.2**
	baz=20,SNR=4.1						
MORW	**Morawa**	**20.32**	**202**	P	Pn	15 05 02.3	+0.7
	baz=20,SNR=6.3						
KLI	**Kotabumi**	**20.43**	**284**	P	Pn	15 05 06.6	+3.7
	74nm,0.9s,2μm						
FORT	**Forrest**	**20.56**	**172**	*e*P	Pn	15 05 04.9	+0.6
	63nm,0.8s						
FORT	**Forrest**	**20.56**	**172**	P	Pn	15 05 05.2	+0.9
	baz=21,SNR=6.8						
KASI	**Kota Agung**	**20.60**	**282**	P	Pn	15 05 02.8	-2.1
	381nm,1.0s,3μm						
KLSI		**20.60**	**284**	P	Pn	15 05 06.9	+2.0
	47nm,1.5s						
LWLI	**Liwa**	**21.15**	**283**	P	P	15 05 15.4	+6.8
	86nm,1.1s						
MDSI	**Maura Dua**	**21.19**	**284**	P	P	15 05 13.1	+4.3
	19nm,1.0s						
BLDU	**Ballidu**	**21.50**	**199**	P	**P**	**15 05 15.0**	**+2.9**
	baz=22,SNR=11						
KLBR	**Kellerberrin**	**22.11**	**196**	P	**P**	**15 05 21.6**	**+3.0**
	baz=22,SNR=6.4						
PMG	**Port Moresby**	**22.11**	**90**	P	P	15 05 27.6	+8.8
	36nm,1.3s						
PMG	**Port Moresby**	**22.11**	**90**	*e*P	**P**	**15 05 20.4**	**+1.6**
	48nm,1.1s						
PMG	**Port Moresby**	**22.11**	**90**	P	P	15 05 22.1	+3.3
	4.0nm,0.5s,baz=319,slow=2.7,SNR=8.2						
PMG				LR	LR	15 14 41.8	
	comp=Z,200nm,20.9s,baz=96,slow=39						
CTA	**Charters Tower**	**22.89**	**118**	P	**P**	**15 05 29.6**	**+2.6**
CTA	**Charters Tower**	**22.89**	**118**	P	**P**	**15 05 29.6**	**+2.6**
	18nm,1.0s,baz=292,slow=12,SNR=12						
CTAO	**Charters Tower**	**22.89**	**118**	*e*P	**P**	**15 05 30.3**	**+3.3**
CTAO				pmax	pmax		
	comp=Z,53nm,1.3s						
CTAO	**Charters Tower**	**22.89**	**118**	*e*P	**P**	**15 05 30.3**	**+3.3**
	comp=Z,53nm,1.3s						
NWAO	**Narrogin (SRO)**	**23.51**	**196**	P	**P**	**15 05 34.8**	**+1.8**
NWAO	**Narrogin (SRO)**	**23.51**	**196**	P	**P**	**15 05 34.8**	**+1.8**
	comp=Z,13nm,0.9s,baz=49,slow=10,SNR=4.2						
NWAO				LR	LR	15 16 20.5	
	comp=Z,200nm,20.1s,baz=227,slow=40						
MYKOM	**Kota Tinggi**	**24.03**	**299**	P	**P**	**15 05 39.9**	**+1.8**
QLP	**Quilpie**	**24.50**	**134**	P	P	15 05 46.0	+3.7
	baz=24,SNR=4.9						
KGM	**Kluang**	**24.60**	**299**	P	**P**	**15 05 43.3**	**-0.1**
BBOO	**Buckleboo**	**24.67**	**157**	*e*P	**P**	**15 05 46.0**	**+2.2**
	comp=Z,968nm,1.0s						
BBOO	**Buckleboo**	**24.67**	**157**	P	**P**	**15 05 46.6**	**+2.8**
	baz=25,SNR=6.7						
HTT	**Hallett**	**26.42**	**153**	P	P	15 06 03.9	+4.2
	baz=26,SNR=4.2						
STKA	**Stephens Creek**	**26.50**	**146**	*e*P	**P**	**15 06 03.3**	**+2.9**
	comp=Z,7.4nm,1.0s						
STKA	**Stephens Creek**	**26.50**	**146**	P	**P**	**15 06 03.6**	**+3.2**
	comp=Z,13nm,1.1s,baz=319,slow=10,SNR=15						
STKA				LR	LR	15 17 31.3	
	comp=Z,399nm,19.2s,baz=127,slow=38						
STKA	**Stephens Creek**	**26.50**	**146**	P	**P**	**15 06 03.9**	**+3.5**
	baz=26,SNR=6.2						
KTGM	**Kuala Trenggan**	**26.56**	**305**	P	**P**	**15 06 02.4**	**+1.4**
CMSA	**Cobar Meteorol**	**28.66**	**140**	P	P	15 06 23.4	+3.7
	baz=29,SNR=9.2						
PSI	**Prapat**	**28.82**	**296**	LR	LR	15 19 35.9	
	comp=Z,274nm,18.1s,baz=57,slow=40						
ARPS	**Mount Arapiles**	**30.51**	**152**	P	P	15 06 40.3	+4.2
	baz=31,SNR=7.2						
UBPT	**Khong Chiam**	**31.82**	**323**	P	P	15 07 01.1	+13
YNG	**Young**	**32.20**	**141**	P	P	15 06 56.2	+5.2
	baz=32,SNR=5.6						
QIZ	**Qiongzhong**	**32.68**	**333**	P	**P**	**15 06 56.0**	**+0.7**
QIZ				S	**S**	**15 12 11.8**	**+2.4**
QIZ				LR	LR		
	comp=Z,260nm,3.9s						
SSLB	**Suanglung**	**34.13**	**354**	P	**P**	**15 07 05.5**	**-2.5**
	comp=Z,23nm,0.9s						
SRDT	**SRDT**	**35.31**	**314**	P	P	15 07 20.2	+1.9
	comp=Z,48nm,1.5s,comp=Z,17μm						
PBKT	**Sadao Pong**	**35.61**	**318**	P	**P**	**15 07 20.7**	**0.0**
	comp=Z,12nm,0.8s						
KHLT	**Khaolaem Dam**	**35.99**	**314**	P	**P**	**15 07 24.8**	**+0.7**
	comp=Z,6.5nm,1.3s						
SLVN	**Son La**	**37.55**	**327**	*e*P	**P**	**15 07 36.5**	**-0.9**
LAMP	**Lampang**	**37.90**	**319**	P	**P**	**15 07 40.7**	**+0.4**
	comp=Z,6.3nm,0.9s						
CM31	**Chiang Mai Arr**	**38.30**	**318**	*e*P	**P**	**15 07 43.1**	**-0.5**
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.30**	**318**	P	**P**	**15 07 43.0**	**-0.6**
CMAR				PcP	**PcP**	**15 09 59.9**	**+2.6**
CMAR	**Chiang Mai Arr**	**38.30**	**318**	LR	**P**	**15 07 43.0**	**-0.6**
	comp=Z,7.8nm,0.9s,baz=142,slow=6.6,SNR=65						
CMAR				PcP	**PcP**	**15 09 59.9**	**+2.6**
	comp=Z,3.9nm,0.7s,baz=172,slow=2.9,SNR=16						
CMAR				LR	LR	15 25 03.0	
	comp=Z,73nm,18.1s,baz=272,slow=39						
CMMT	**Chiang Mai**	**38.55**	**319**	P	**P**	**15 07 45.2**	**-0.6**
	comp=Z,16nm,1.1s						
CHTO	**Chiang Mai**	**38.56**	**319**	*e*P	**P**	**15 07 45.4**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**38.56**	**319**	*e*P	**P**	**15 07 45.4**	**-0.5**
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**38.56**	**319**	P	**P**	**15 07 45.3**	**-0.5**
	comp=Z,74nm,1.1s						
MHMT	**Maesarieng**	**38.77**	**317**	P	P	15 07 49.1	+1.5
	comp=Z,4.5nm,1.4s						
GYA	**Guiyang**	**40.58**	**335**	*i*P	**P**	**15 08 01.3**	**-1.4**
GYA				PP	**PnPn**	**15 09 41.8**	**+1.0**
GYA				ScP	**ScP**	**15 13 55.0**	**+3.5**
GYA				S	S	15 14 14.8	+4.7
GYA				SS	**SS**	**15 17 06.5**	**-4.6**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,720nm,17.8s						
GYA				LR

BJI pmax pmax
comp=Z,51nm,1.2s
LSA Lhasa 51.30 322 *eP* **P 15 09 27.8 +0.2**
LSA pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 51.30 322 *eP* **P 15 09 27.8 +0.2**
comp=Z,25nm,1.1s
ODAN Odare 51.78 316 *eP* **P 15 09 30.2 -0.8**
comp=Z,40nm,0.7s
ODAN Odare 51.78 316 *eP* **P 15 09 30.2 -0.8**
comp=Z,40nm,0.7s
TAPN Taplejung 51.89 317 *eP* **P 15 09 31.0 -0.9**
comp=Z,42nm,0.7s
TAPN Taplejung 51.89 317 *eP* **P 15 09 31.0 -0.9**
comp=Z,42nm,0.7s
SNY Shenyang 51.93 359 ⇓P **P 15 09 30.0 -1.5**
SNY pmax pmax
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 52.38 347 *eP* **P 15 09 34.0 -1.0**
HHC sP sP 15 09 40.3 -9.3
HHC ScP **ScP 15 14 40.8 +0.5**
HHC S **S 15 16 58.8 +0.3**
HHC pmax pmax
comp=Z,51nm,1.1s
HHC pmax pmax
comp=Z,250nm,6.6s
HHC LR LR
comp=Z,320nm,16.4s
HHC LR LR
comp=Z,490nm,16.4s
RAMN Ramite 52.38 316 *eP* **P 15 09 34.9 -0.6**
comp=Z,84nm,0.6s
RAMN Ramite 52.38 316 *eP* **P 15 09 34.9 -0.6**
comp=Z,84nm,0.6s
JIRN Jiri 53.12 316 *eP* **P 15 09 40.2 -0.8**
comp=Z,37nm,0.6s
JIRN Jiri 53.12 316 *eP* **P 15 09 40.2 -0.8**
comp=Z,37nm,0.6s
HYB Hyderabad 53.32 301 *i* P **P 15 09 43.5 +1.2**
GUN Gumba 53.49 316 *eP* **P 15 09 43.0 -0.7**
comp=Z,92nm,0.9s
GUN Gumba 53.49 316 *eP* **P 15 09 43.0 -0.7**
comp=Z,92nm,0.9s
PKI Pulchoki 53.59 316 *eP* **P 15 09 43.2 -1.3**
comp=Z,36nm,0.7s
PKI Pulchoki 53.59 316 *eP* **P 15 09 43.4 -1.1**
PKI pmax pmax
comp=Z,26nm,0.6s
PKI Pulchoki 53.59 316 *eP* **P 15 09 43.4 -1.1**
comp=Z,26nm,0.6s
PKIN Phulchoki 53.60 316 *eP* **P 15 09 43.4 -1.1**
comp=Z,26nm,0.6s
KKN Kakani 53.82 316 *eP* **P 15 09 45.0 -1.0**
comp=Z,43nm,0.9s
KKN Kakani 53.82 316 *eP* **P 15 09 45.0 -1.0**
KKN pmax pmax
comp=Z,43nm,0.9s
KKN Kakani 53.82 316 *eP* **P 15 09 45.0 -1.0**
comp=Z,43nm,0.9s
DMN Daman 53.83 315 *eP* **P 15 09 45.2 -0.9**
comp=Z,69nm,1.0s
DMN Daman 53.83 315 *eP* **P 15 09 45.2 -0.9**
comp=Z,69nm,1.0s
CN2 Changchun 53.90 1 *eP* **P 15 09 42.8 -3.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,500nm,21.0s
GKN Gorkha 54.40 316 *eP* **P 15 09 49.3 -0.9**
comp=Z,57nm,0.9s
GKN Gorkha 54.40 316 *eP* **P 15 09 49.3 -0.9**
comp=Z,57nm,0.9s
GTA Gaotai 54.66 336 *eP* **P 15 09 51.8 0.0**
GTA pP pP 15 09 56.5 -5.9
GTA sP sP 15 09 59.5 -7.0
GTA pmax pmax
comp=Z,20nm,1.1s
USRK Ussuriysk Arra 54.69 6 P **P 15 09 51.5 -0.3**
comp=Z,13nm,0.8s,baz=185,slow=7.6,SNR=25
MDJ Mudanjiang 54.88 4 P **P 15 09 52.5 -0.7**
MDJ pmax pmax
comp=Z,32nm,1.0s
MDJ pmax pmax
comp=Z,130nm,4.4s
MDJ Mudanjiang 54.88 4 *eP* **P 15 09 50.9 -2.2**
comp=Z,26nm,0.8s
KOLN Koldanda 54.97 315 *eP* **P 15 09 53.3 -1.1**
comp=Z,54nm,0.8s
KOLN Koldanda 54.97 315 *eP* **P 15 09 53.3 -1.1**
comp=Z,54nm,0.8s
DANN Dangsing 55.22 315 *eP* **P 15 09 55.3 -1.0**
comp=Z,97nm,0.7s
DANN Dangsing 55.22 315 *eP* **P 15 09 55.3 -1.0**
comp=Z,97nm,0.7s
PYUN Piuthan 55.60 315 *eP* **P 15 09 57.8 -1.1**
comp=Z,102nm,0.9s
PYUN Piuthan 55.60 315 *eP* **P 15 09 57.8 -1.1**
comp=Z,102nm,0.9s
HIA Hailar 59.52 356 *eP* **P 15 10 25.6 -0.3**
comp=Z,20nm,1.0s
ULN Ulaanbaatar 60.05 346 *eP* **P 15 10 29.6 -0.1**
comp=Z,30nm,1.0s
SONM Songino Array 60.17 346 P **P 15 10 30.4 -0.2**
SONM Songino Array 60.17 346 P **P 15 10 30.4 -0.2**
comp=Z,19nm,1.1s,baz=165,slow=7.4,SNR=61
ZAK Zakamensk 63.31 345 *eP* **P 15 10 49.4 -2.2**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
WMQ Urumqi 63.55 331 P **P 15 10 54.0 +0.7**
WMQ sP sP 15 11 01.0 -7.1
WMQ PcP **PcP 15 11 31.0 +1.4**
WMQ PP **PP 15 13 15.0 +1.5**
WMQ ScP 15 15 30.0
WMQ S **S 15 19 24.0 -0.6**
WMQ ScS **ScS 15 20 42.0 -2.1**
WMQ SS **SS 15 23 33.0 +0.4**
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,69nm,5.0s
WMQ LR LR
comp=Z,48nm,18.0s
WMQ LR LR
comp=Z,40nm,18.0s
TLY Talaya 64.41 346 *eP* **P 15 10 59.2 +0.5**
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY Talaya 64.41 346 *eP* **P 15 10 58.9 +0.2**
comp=Z,8.9nm,0.9s
MOY Mondy 65.08 344 *eP* **P 15 11 02.8 -0.4**
HVS Khovu-Aksy 66.88 339⇑*eP* **P 15 11 13.8 -1.0**
HVS pmax pmax
comp=Z,60nm,1.6s
KSH Kashi 67.13 321 P **P 15 11 16.5 -0.1**
KSH sP sP 15 11 23.3 -8.2
KSH PP **PP 15 13 45.0 0.0**
KSH S **S 15 20 05.5 -3.2**
KSH SS **SS 15 24 30.0 +1.4**
KSH pmax pmax
comp=Z,11nm,0.7s
KSH pmax pmax
comp=Z,100nm,3.7s
KSH LR LR
comp=Z,130nm,4.8s
KSH LR LR
comp=Z,120nm,6.4s
MK31 Makanchi Array 68.33 330 *i* P **P 15 11 23.5 -0.4**
MK31 pmax pmax
comp=Z,45nm,1.0s
MK31 Makanchi Array 68.33 330 *eP* **P 15 11 23.8 -0.1**
MKAR Makanchi Array 68.33 330 P **P 15 11 23.6 -0.3**
MKAR Makanchi Array 68.33 330 P **P 15 11 23.6 -0.3**
MKAR Makanchi Array 68.33 330 P **P 15 11 23.6 -0.3**
comp=Z,26nm,0.9s,baz=135,slow=7.7,SNR=158
KBL Kabul 69.08 313 *eP* **P 15 11 28.9 -0.2**
KBL pmax pmax
comp=Z,3.0nm,0.6s
KBL Kabul 69.08 313 *eP* **P 15 11 28.9 -0.2**
comp=Z,3.5nm,0.6s
KZA Kyzart 69.10 323 *i* P **P 15 11 29.9 +0.6**
KZA Kyzart 69.10 323 P **P 15 11 30.0 +0.6**
SNR=10
TKM2 Tokmak 2 69.40 324 *i* P **P 15 11 30.8 -0.1**
TKM2 Tokmak 2 69.40 324 P **P 15 11 30.8 -0.1**
SNR=16
TKM2 Tokmak 2 69.40 324 *eP* **P 15 11 30.6 -0.3**
comp=Z,21nm,1.1s
KBK Karagaybulak 69.62 323 P **P 15 11 32.9 +0.6**
SNR=13
UCH Uchtor 69.63 322 *i* P **P 15 11 33.0 +0.4**
UCH Uchtor 69.63 322 P **P 15 11 33.0 +0.4**
SNR=13
VNDA Vanda 69.83 172 P P 15 11 35.8 +3.0
VNDA Vanda 69.83 172 P P 15 11 35.8 +3.0
comp=Z,3.9nm,1.1s,baz=316,slow=7.8,SNR=3.3
VNDA LR LR 15 41 47.3
comp=Z,135nm,18.3s,baz=8.6,slow=35
AAK Ala-Archa 69.88 323 P **P 15 11 34.0 +0.3**
comp=Z,127nm,0.7s,SNR=18
AAK Ala-Archa 69.88 323*c i*P **P 15 11 34.1 +0.3**
AAK pmax pmax
comp=Z,70nm,1.2s
AAK Ala-Archa 69.88 323 P **P 15 11 34.4 +0.6**
SNR=25
AAK Ala-Archa 69.88 323 *eP* **P 15 11 33.8 0.0**
comp=Z,21nm,0.9s
AAK Ala-Archa 69.88 323 P **P 15 11 34.1 +0.3**
comp=Z,18nm,0.8s,baz=120,slow=5.1,SNR=61
MAW Mawson 69.96 201 LR LR 15 36 26.2
comp=Z,91nm,19.3s,baz=327,slow=31
MAW Mawson 69.96 201 P **P 15 11 35.5 +1.9**
baz=70,SNR=35
AML Almayashu 70.07 322 P **P 15 11 35.4 +0.1**
SNR=26
USP Ospenovka 70.25 323 *i* P **P 15 11 36.0 +0.1**
USP Ospenovka 70.25 323 P **P 15 11 36.1 +0.1**
SNR=18
EKS2 Erkin-Say 70.33 323 *i* P **P 15 11 37.1 +0.6**
EKS2 Erkin-Say 70.33 323 P **P 15 11 37.1 +0.6**
SNR=24
EKS2 Erkin-Say 70.33 323 *eP* **P 15 11 36.5 0.0**
comp=Z,17nm,1.0s
YAK Yakutsk 72.26 2 *eP* **P 15 11 46.6 -0.9**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.2s
ZAA0 Zalesovo Array 72.41 337 *eP* **P 15 11 46.9 -1.7**
ZALV Zalesovo Beam 72.41 337 P **P 15 11 47.3 -1.3**
ZALV Zalesovo Beam 72.41 337 P **P 15 11 47.3 -1.3**
ZALV Zalesovo Beam 72.41 337 P **P 15 11 47.3 -1.3**
comp=N,15nm,0.8s,baz=128,slow=4.3,SNR=58
KKAR Karatay Array 72.55 321 *eP* **P 15 11 50.5 +0.7**
KKAR pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 72.55 321 *eP* **P 15 11 50.5 +0.7**
comp=Z,4.0nm,1.0s
KURBB Kurchatov Arra 72.77 331 P **P 15 11 50.5 -0.4**
comp=Z,9.5nm,0.9s,baz=136,slow=5.1,SNR=67
KURK Kurchatov 72.79 331 P **P 15 11 50.1 -0.8**
KURK pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 72.79 331 *eP* **P 15 11 50.1 -0.8**
comp=Z,15nm,1.0s
KURK Kurchatov 72.79 331 P **P 15 11 50.5 -0.5**
comp=Z,160nm,1.0s,SNR=20
NVS Novosibirsk 73.70 336 *eP* **P 15 11 53.8 -2.4**
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.1s
NVS pmax pmax
comp=Z,14nm,1.1s
SEY Seymchan 76.11 13 P **P 15 12 10.5 +0.5**
SEY Seymchan 76.11 13 P **P 15 12 10.5 +0.5**
SEY Seymchan 76.11 13 P **P 15 12 10.5 +0.5**
comp=Z,2.4nm,0.6s,baz=197,slow=9.6,SNR=18
BVA0 Borovoye Array 78.22 330 *i* P **P 15 12 21.6 -0.5**
BVA0 pmax pmax
comp=Z,19nm,1.3s
BVAR Borovoye Array 78.22 330 P **P 15 12 21.7 -0.4**
BVAR Borovoye Array 78.22 330 P **P 15 12 21.7 -0.4**
BVAR Borovoye Array 78.22 330 P **P 15 12 21.7 -0.4**
comp=Z,9.1nm,1.0s,baz=123,slow=5.3,SNR=41
BRVK Borovoye 78.29 330 P **P 15 12 22.6 +0.2**
comp=Z,89nm,1.2s,SNR=84
BRVK Borovoye 78.29 330*c i*P **P 15 12 22.1 -0.3**
BRVK pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 78.29 330 *eP* **P 15 12 22.1 -0.3**
comp=Z,22nm,1.1s
QSPA South Pole Qui 79.65 180 *eP* P 15 12 33.3 +3.3
comp=Z,6.9nm,0.9s
QSPA South Pole Qui 79.65 180 P P 15 12 33.2 +3.3
comp=Z,7.4nm,0.9s,baz=340,slow=4.0,SNR=10
TIXI Tiksi 81.86 1 *eP* **P 15 12 40.5 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
AB31 Akbulak array 81.97 323 *i* P **P 15 12 42.0 -0.4**
AB31 pmax pmax
comp=Z,16nm,1.3s
ABKAR Akbulak array 81.97 323 *eP* **P 15 12 41.7 -0.6**
comp=Z,7.2nm,0.9s
AKTO Aktyubinsk 83.60 324 P **P 15 12 50.8 -0.1**
AKTO Aktyubinsk 83.60 324 P **P 15 12 50.8 -0.1**
AKTO Aktyubinsk 83.60 324 P **P 15 12 50.8 -0.1**
comp=Z,11nm,0.9s,baz=114,slow=6.0,SNR=30
AKTO LR LR 15 53 21.5
comp=Z,41nm,19.4s,baz=264,slow=38
RAYN Ar Rayn 84.38 295 P P 15 12 57.5 +2.0
comp=Z,118nm,0.7s,SNR=15
SVE Sverdlovsk 85.00 330⇓*eP* **P 15 12 58.7 +0.9**
SVE pmax pmax
comp=Z,14nm,1.4s
ARU Arti 85.85 329*d i*P **P 15 13 02.2 +0.2**
ARU 15 16 17.6
ARU S S 15 23 26.4 -6.2
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 85.85 329 *eP* **P 15 13 02.1 +0.2**
comp=Z,11nm,1.2s
KMBO Kilima Mbogo 87.32 269 P P 15 13 13.3 +2.8
KMBO Kilima Mbogo 87.32 269 P P 15 13 13.3 +2.8
comp=Z,1.1nm,0.3s,baz=201,slow=23,SNR=5.4
SNAA Sanae 91.17 195 *eP* P 15 13 30.3 +3.0
comp=Z,3.8nm,0.9s
SNAA Sanae 91.17 195 P P 15 13 31.0 +3.7
comp=Z,1.7nm,0.9s,baz=139,slow=4.7,SNR=9.6
KIV Kislovodsk 91.44 314 *eP* **P 15 13 29.5 +0.5**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,38nm,20.0s
ANN Anapa 95.30 314 *eP* P 15 13 48.5 +1.9
OBN Obninsk 97.35 325⇑*eP* Pdif 15 13 55.2 -0.6
OBN pmax pmax
comp=Z,10.0nm,0.9s
BRTR Keskin Array B 97.36 309 P Pdif 15 13 56.4 -0.1
BRTR Keskin Array B 97.36 309 P Pdif 15 13 56.4 -0.1
comp=Z,0.7nm,0.8s,baz=348,slow=4.0,SNR=3.6
ILAR Eielson Array 98.59 26 P Pdif 15 14 00.4 -0.7
ILAR Eielson Array 98.59 26 P Pdif 15 14 00.4 -0.7
comp=Z,0.4nm,0.9s,baz=268,slow=4.8,SNR=4.2
AKASG Malin Array Be 101.41 320 P **Pdif 15 14 13.5 -0.4**
AKASG Malin Array Be 101.41 320 P **Pdif 15 14 13.5 -0.4**
AKASG Malin Array Be 101.41 320 P **Pdif 15 14 13.5 -0.4**
comp=Z,0.2nm,0.4s,baz=78,slow=4.0,SNR=4.0
NVAR Mina Array Bea 117.45 52 PKP **PKPdf 15 19 12.2 +3.3**
NVAR Mina Array Bea 117.45 52 PKP **PKPdf 15 19 12.2 +3.3**
comp=Z,0.4nm,0.6s,baz=286,slow=6.0,SNR=4.2
PDAR Pinedale Array 122.94 45 PKP **PKPdf 15 19 21.2 +1.9**
PDAR Pinedale Array 122.94 45 PKP **PKPdf 15 19 21.2 +1.9**
comp=Z,1.7nm,1.1s,baz=172,slow=0.6,SNR=7.9
TORD Torodi Ar. Bea 124.25 279 PKP **PKPdf 15 19 24.4 +2.1**
TORD Torodi Ar. Bea 124.25 279 PKP **PKPdf 15 19 24.4 +2.1**
comp=Z,1.5nm,0.8s,baz=79,slow=1.7,SNR=7.9
TXAR Lajitas Array 131.10 60 PKP **PKPdf 15 19 37.3 +2.2**
TXAR Lajitas Array 131.10 60 PKP **PKPdf 15 19 37.3 +2.2**
comp=Z,0.4nm,0.8s,baz=329,slow=3.4,SNR=4.5
LVC Limon Verde 144.62 158 *e*PKPdf **PKPdf 15 20 02.7 +2.4**
BLA Blacksburg 144.94 36 *e*PKIKP **PKPdf 15 20 00.7 +0.5**
BLA Blacksburg 144.94 36 *e*PKP **PKPdf 15 20 00.7 +0.5**
BRNJ Basking Ridge 145.30 26 PKPbc **PKPdf 15 20 01.6 +1.0**
PAL Palisades 145.31 25 *e*PKIKP **PKPdf 15 20 02.0 +1.4**
PAL Palisades 145.31 25 *e*PKP **PKPdf 15 20 02.0 +1.4**
GOGA Godfrey 145.40 44 *e*PKIKP **PKPdf 15 20 03.0 +2.0**
GOGA Godfrey 145.40 44 *e*PKP **PKPdf 15 20 03.0 +2.0**
KMSC Kings Mountain 145.76 40 *e*PKP **PKPab 15 20 04.0 +1.6**
JSRW J. Sargeant Re 146.02 33 *e*PKPbc **PKPab 15 20 04.4 +1.2**
LPAZ La Paz 150.63 154 *e*PKPbc **PKPab 15 20 19.7 -3.3**
LPAZ La Paz 150.63 154 PKPbc **PKPab 15 20 19.2 -3.8**
comp=Z,10nm,1.2s,baz=167,slow=3.1,SNR=16

IDC 28 15:11:50.5±5.4, 61.77S×155.23W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.9/14, mbtmp3.9/4, MS3.5/4, Ms1 3.5/4, ms1mx3.2/28, Error ellipse: s-maj=132.6km s-min=32.6km az=64.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.86**	**205**	P	P		15 16 33.5	0.0
	1.0nm,0.5s,baz=65,slow=14,SNR=16							
VNDA				LR	LR		15 21 59.6	
	comp=Z,86nm,20.5s,baz=65,slow=29							
QSPA	**South Pole Qui**	**28.35**	**180**	P	P		15 17 46.0	+0.1
	1.1nm,0.3s,baz=57,slow=4.5,SNR=4.4							
QSPA				LR	LR		15 27 04.7	
	comp=Z,77nm,18.7s,baz=240,slow=32							
STKA	**Stephens Creek**	**49.84**	**277**	LR	LR		15 36 48.5	
	comp=Z,72nm,20.4s,baz=186,slow=30							
ASAR	**Alice Springs**	**60.39**	**275**	P	P		15 22 01.0	-0.4
	1.1nm,0.9s,baz=146,slow=6.6,SNR=12							
WRA	**Warramunga Arr**	**63.38**	**277**	P	P		15 22 21.9	+0.4
	0.9nm,0.8s,baz=155,slow=5.7,SNR=6.5							
TEIG	**Tepich**	**97.33**	**61**	LR	LR		15 59 51.7	
	comp=Z,32nm,19.9s,slow=30							

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*BJI **28** 15:14:02.6, 56.50N×152.60W, h10km, mB5.0/3, mb4.7/7*
*IDC **28** 15:14:04.5±0.8, 56.54N×152.78W, h0km, mb4.1/19, mb1 4.3/21, mb1mx4.2/31, mbtmp4.1/21, ML3.3/2, MS3.7/5, Ms1 3.7/5, ms1mx3.2/47, Error ellipse: s-maj=22.6km s-min=12.8km az=25.0*
*ISCJB **28** 15:14:06.9±1.0, 56.56N±0.04×152.46W±0.05, h26km±6km, mb4.5/45, MS3.7/6, Error ellipse: s-maj=6.6km s-min=4.6km az=171.7*
*MOS **28** 15:14:08.5±1.0, 56.65N×152.57W, h33km, mb4.8/20, Error ellipse: s-maj=17.5km s-min=5.4km az=85.9*
*NEIC **28** 15:14:08.8, 56.47N×152.57W, h29km, mb4.4/5, ML3.7(AEIC), After AEIC.*

ISC 28 15:14:07.8±1.6, 56.54N±0.06×152.62W±0.04, h23km±10km, n193, σ1°05/195, mb4.6/45, MS3.7/6, 2C-1D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.78**	**332**	P	P	**Pb**	**15 14 22.8**	**+0.1**
OHAK				S	S	**Sb**	**15 14 33.5**	**+0.7**
KDAK	**Kodiak Island**	**1.25**	**1**	P	P	**Pb**	**15 14 31.0**	**+0.3**
KDAK				S	S	**Sn**	**15 14 46.0**	**+0.1**
KABR	**Katmai Barrier**	**2.04**	**322**	P	P	**Pn**	**15 14 40.8**	**-0.1**
KAWH	**Katmai**	**2.19**	**328**	P	P	**Pn**	**15 14 44.2**	**+1.3**
KAKN	**Katmai Knife C**	**2.20**	**324**	P	P	**Pn**	**15 14 44.1**	**+1.1**
KAKN				S	S	**Sn**	**15 15 09.1**	**-0.6**
KAPH	**Katmai Pasha**	**2.27**	**336**	P	P	**Pn**	**15 14 45.3**	**+1.4**
PLK4	**Peulik 4**	**2.32**	**300**	P	P	**Pn**	**15 14 44.2**	**-0.4**
KAHC	**Katmai Hardscr**	**2.48**	**330**	P	P	**Pn**	**15 14 48.1**	**+1.2**
PLK1	**Peulik 1**	**2.52**	**302**	P	P	**Pn**	**15 14 46.0**	**-1.3**
KELA	**Mount Kelaz**	**2.55**	**320**	P	P	**Pn**	**15 14 48.8**	**+1.0**
MCNL	**McNeil River**	**2.81**	**342**	P	P	**Pn**	**15 14 53.0**	**+1.7**
AUP	**Augustine Pinn**	**2.87**	**352**	P	P	**Pn**	**15 14 54.2**	**+2.1**
AUP	**Augustine Pinn**	**2.87**	**352**	P	P	**Pn**	**15 14 54.2**	**+2.1**
AUH	**Augustine H**	**2.87**	**352**	P	P	**Pn**	**15 14 53.9**	**+1.7**
ANPB	**Aniakchak Plen**	**3.14**	**277**	P	P	**Pn**	**15 14 54.8**	**-1.1**
OPT	**Oil Point**	**3.14**	**354**	P	P	**Pn**	**15 14 57.7**	**+1.8**
HOM	**Homer**	**3.17**	**9**	P	P	**Pn**	**15 14 57.4**	**+1.1**
BRLK	**Bradley Lake**	**3.36**	**15**	P	P	**Pn**	**15 14 58.7**	**-0.2**
BRLK				S	S	**Sn**	**15 15 36.5**	**-1.7**
ILW	**Iliamna West**	**3.54**	**356**	P	P	**Pn**	**15 15 02.9**	**+1.3**
VNHG	**Veniaminof 1**	**3.65**	**268**	P	P	**Pn**	**15 15 02.3**	**-0.7**
RSO	**Redoubt South**	**3.94**	**359**	*e*Pn	P	**Pn**	**15 15 07.8**	**+0.8**
SEW	**Seward**	**3.95**	**24**	P	P	**Pn**	**15 15 06.3**	**-0.6**
SEW				S	S	**Sn**	**15 15 50.8**	**-1.7**
RDN	**Redoubt North**	**3.99**	**359**	P	P	**Pn**	**15 15 09.1**	**+1.5**
NCT	**North Crescent**	**4.04**	**358**	P	P	**Pn**	**15 15 09.4**	**+1.1**
DFR	**Drift River**	**4.07**	**360**	P	P	**Pn**	**15 15 09.9**	**+1.2**
SLKM	**Skilak Lake**	**4.17**	**17**	P	P	**Pn**	**15 15 09.9**	**-0.2**
SLKM	**Skilak Lake**	**4.17**	**17**	P	P	**Pn**	**15 15 09.9**	**-0.2**
SDPT	**Sand Point**	**4.58**	**258**	P	P	**Pn**	**15 15 14.4**	**-1.2**
CKL	**Chakachamna La**	**4.67**	**2**	P	P	**Pn**	**15 15 17.9**	**+0.9**
SPBG	**Spurr Blockage**	**4.74**	**1**	P	P	**Pn**	**15 15 18.9**	**+1.0**
BGL	**Barrier Glacie**	**4.74**	**1**	P	P	**Pn**	**15 15 19.0**	**+1.1**
RC01	**Rabbit Creek A**	**4.80**	**17**	*e*Pn	P	**Pn**	**15 15 19.8**	**+1.1**
SVW2	**Sparrevohn**	**4.83**	**343**	P	P	**Pn**	**15 15 20.2**	**+1.2**
PWL	**Port Wells**	**4.88**	**25**	P	P	**Pn**	**15 15 19.1**	**-0.6**
STLK	**Strandline Lak**	**4.99**	**4**	P	P	**Pn**	**15 15 22.3**	**+0.9**
HIN	**Hinchinbrook I**	**5.03**	**37**	P	P	**Pn**	**15 15 20.7**	**-1.1**
SUA	**Susitna One**	**5.04**	**10**	P	P	**Pn**	**15 15 21.8**	**-0.2**
GLI	**Glacier Island**	**5.22**	**31**	P	P	**Pn**	**15 15 24.0**	**-0.4**
PMR	**Palmer**	**5.38**	**18**	*e*P	P	**Pn**	**15 15 27.4**	**+0.9**
PMR				pmax	pmax			
	comp=Z,12nm,0.9s							
PMR	**Palmer**	**5.38**	**18**	*e*P	P	**Pn**	**15 15 27.4**	**+0.9**
	comp=Z,12nm,0.9s							
EYAK	**Cordova Ski Ar**	**5.39**	**39**	P	P	**Pn**	**15 15 26.0**	**-0.8**
EYAK				S	S	**Sn**	**15 16 26.6**	**-1.5**
SKT	**Skwentna**	**5.49**	**5**	P	P	**Pn**	**15 15 28.5**	**+0.4**
GOAT	**Goat Mountain**	**5.79**	**42**	P	P	**Pn**	**15 15 31.8**	**-0.4**
DIV	**Divide**	**5.81**	**35**	*e*P	P	**Pn**	**15 15 31.9**	**-0.7**
	comp=Z,22nm,0.8s							
SCM	**Sheep Creek Mo**	**5.96**	**25**	P	P	**Pn**	**15 15 34.9**	**+0.2**
SCM	**Sheep Creek Mo**	**5.96**	**25**	P	P	**Pn**	**15 15 34.9**	**+0.2**
BMRM	**Bremner River**	**6.09**	**40**	P	P	**Pn**	**15 15 35.4**	**-1.0**
GRIN	**Grindle Hills**	**6.16**	**49**	P	P	**Pn**	**15 15 37.5**	**+0.2**
KHIT	**Khitrov Hills**	**6.28**	**48**	P	P	**Pn**	**15 15 39.4**	**+0.4**
PPLA	**Purkeypile**	**6.38**	**2**	*e*P	P	**Pn**	**15 15 41.2**	**+0.7**
	comp=Z,47nm,1.0s							
BARK	**Barkley Ridge**	**6.57**	**50**	P	P	**Pn**	**15 15 42.4**	**-0.7**
VRDI	**Verde Repeater**	**6.68**	**41**	P	P	**Pn**	**15 15 43.8**	**-0.9**
GLB	**Gilahina Butte**	**6.70**	**39**	P	P	**Pn**	**15 15 44.3**	**-0.5**
KIAG	**Kiagna River**	**6.91**	**46**	P	P	**Pn**	**15 15 47.4**	**-0.5**
BALM	**Baldy**	**6.99**	**46**	P	P	**Pn**	**15 15 48.5**	**-0.2**
BALM	**Baldy**	**6.99**	**46**	P	P	**Pn**	**15 15 48.5**	**-0.2**
TRF	**Thorofare Moun**	**7.03**	**9**	*e*P	P	**Pn**	**15 15 49.6**	**+0.2**
	comp=Z,67nm,1.1s							
KTH	**Kantishna Hill**	**7.09**	**6**	*e*P	P	**Pn**	**15 15 50.5**	**+0.4**
	comp=Z,74nm,1.2s							
PAX	**Paxson**	**7.39**	**26**	*e*P	P	**Pn**	**15 15 53.8**	**-0.5**
PAX				pmax	pmax			
	comp=Z,25nm,1.0s							
PAX	**Paxson**	**7.39**	**26**	*e*P	P	**Pn**	**15 15 53.8**	**-0.5**
	comp=Z,25nm,1.0s							
MCK	**McKinley**	**7.45**	**13**	*e*P	P	**Pn**	**15 15 54.2**	**-0.8**
MCK				pmax	pmax			
	comp=Z,30nm,1.0s							
MCK	**McKinley**	**7.45**	**13**	*e*P	P	**Pn**	**15 15 54.2**	**-0.8**
	comp=Z,30nm,1.0s							
COLA	**College**	**8.68**	**14**	*e*P	P	**Pn**	**15 16 11.7**	**-0.1**
COLA	**College**	**8.68**	**14**	*e*P	P	**Pn**	**15 16 11.3**	**-0.6**
	comp=Z,20nm,0.9s							
ILAR	**Eielson Array**	**8.72**	**16**	Pn	P	**Pn**	**15 16 11.4**	**-1.0**
ILAR				Sn	Sn	**Sn**	**15 17 44.9**	**-5.0**
ILAR	**Eielson Array**	**8.72**	**16**	Pn	P	**Pn**	**15 16 11.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=208,slow=13,SNR=36							
ILAR				Sn	Sn	**Sn**	**15 17 44.9**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=202,slow=20,SNR=2.9							
ILAR				LR	LR		15 20 19.8	
	comp=Z,583nm,20.3s,baz=8.6,slow=43							
IM04	**Indian Mountai**	**9.49**	**357**	*e*P	P	**Pn**	**15 16 22.4**	**-0.5**
COLD	**Coldfoot**	**10.79**	**5**	*e*P	P	**Pn**	**15 16 39.9**	**-0.8**
	comp=Z,6.5nm,1.0s							
TNA	**Tin City**	**11.66**	**327**	*e*P	P	**Pn**	**15 16 53.9**	**+1.4**
	comp=Z,12nm,1.1s							
DLBC	**Dease Lake**	**12.29**	**72**	Pn	P	**Pn**	**15 17 02.0**	**+0.7**
DLBC	**Dease Lake**	**12.29**	**72**	Pn	P	**Pn**	**15 17 02.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=267,slow=12,SNR=3.7							
INK	**Inuvik**	**14.65**	**29**	*e*P	P	**Pn**	**15 17 33.1**	**-0.2**
	comp=Z,14nm,1.2s							
INK	**Inuvik**	**14.65**	**29**	Pn	P	**Pn**	**15 17 33.7**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=216,slow=18,SNR=5.7							
YKA	**Yellowknife Ar**	**19.95**	**57**	P	P	**Pn**	**15 18 38.8**	**-0.9**
YKA	**Yellowknife Ar**	**19.95**	**57**	P	P	**Pn**	**15 18 38.7**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=269,slow=9.5,SNR=17							
EDM	**Edmonton**	**22.62**	**82**	*e*P	P	**P**	**15 19 06.2**	**-0.5**
YBH	**Yreka Blue Hor**	**24.28**	**115**	P	P	**P**	**15 19 24.4**	**+1.1**
YBH	**Yreka Blue Hor**	**24.28**	**115**	P	P	**P**	**15 19 24.4**	**+1.1**
	comp=Z,5.8nm,0.9s,baz=325,slow=7.4,SNR=11							
RES	**Resolute Bay**	**28.21**	**28**	P	P	**P**	**15 19 58.3**	**0.0**
RES	**Resolute Bay**	**28.21**	**28**	P	P	**P**	**15 19 58.3**	**0.0**
	comp=Z,1.1nm,0.8s,baz=266,slow=10,SNR=3.9							
PETK	**Petropavlovsk-**	**28.32**	**284**	P	P	**P**	**15 19 57.5**	**-2.0**
PETK	**Petropavlovsk-**	**28.32**	**284**	P	P	**P**	**15 19 57.5**	**-2.0**
PETK	**Petropavlovsk-**	**28.32**	**284**	P	P	**P**	**15 19 57.5**	**-2.0**
	comp=Z,2.7nm,0.9s,baz=80,slow=11,SNR=5.1							

NVAR	**Mina Array Bea**	**28.99**	**114**	P		**P**		**15 20 07.3**	**+1.4**
NVAR	**Mina Array Bea**	**28.99**	**114**	P		**P**		**15 20 07.3**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=309,slow=9.2,SNR=9.5								
PDAR	**Pinedale Array**	**30.54**	**98**	P		**P**		**15 20 20.3**	**+0.8**
PDAR	**Pinedale Array**	**30.54**	**98**	P		**P**		**15 20 20.3**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=330,slow=5.2,SNR=9.2								
ULM	**Lac du Bonnet**	**33.55**	**76**	P		**P**		**15 20 46.1**	**+0.5**
ULM	**Lac du Bonnet**	**33.55**	**76**	P		**P**		**15 20 46.1**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=325,slow=8.7,SNR=2.6								
ULM				LR		LR		15 34 27.1	
	comp=Z,144nm,20.0s,baz=256,slow=36								
TIXI	**Tiksi**	**34.45**	**327**	*eP*		**P**		**15 20 53.0**	**-0.1**
TIXI				pmax		pmax			
	comp=Z,3.0nm,1.1s								
TIXI				MLR		MLR			
	comp=Z,104nm,13.0s								
YAK	**Yakutsk**	**37.83**	**311**	*eP*		**P**		**15 21 20.4**	**-1.7**
YAK				pmax		pmax			
	comp=Z,12nm,0.9s								
YAK	**Yakutsk**	**37.83**	**311**	*eP*		**P**		**15 21 20.7**	**-1.4**
	comp=Z,16nm,0.8s								
TXAR	**Lajitas Array**	**43.66**	**107**	P		**P**		**15 22 11.8**	**+1.1**
TXAR	**Lajitas Array**	**43.66**	**107**	P		**P**		**15 22 11.8**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=317,slow=6.1,SNR=10.0								
H11N2	**WAKE ISLAND Hy**	**47.45**	**236**	T		T		16 13 33.9	
	baz=31,slow=76,SNR=8.2								
H11N3	**WAKE ISLAND Hy**	**47.45**	**236**	T		T		16 13 39.2	
	baz=31,slow=76,SNR=9.0								
H11N1	**WAKE ISLAND Hy**	**47.46**	**236**	T		T		16 13 42.5	
	baz=31,slow=76,SNR=6.6								
H11S1	**WAKE ISLAND Hy**	**48.60**	**236**	T		T		16 15 06.3	
	baz=29,slow=77,SNR=14								
H11S2	**WAKE ISLAND Hy**	**48.61**	**236**	T		T		16 15 01.0	
	baz=29,slow=77,SNR=12								
H11S3	**WAKE ISLAND Hy**	**48.62**	**236**	T		T		16 15 07.3	
	baz=29,slow=77,SNR=12								
CN2	**Changchun**	**50.91**	**293**	*eP*		**P**		**15 23 06.5**	**-0.4**
CN2				pmax		pmax			
	comp=Z,20nm,0.7s								
KSRS	**Korea Array**	**54.21**	**285**	LR		LR		15 46 16.8	
	comp=Z,30nm,19.0s,baz=20,slow=36								
ARCES	**ARCESS Array B**	**54.22**	**1**	P		**P**		**15 23 31.3**	**+0.2**
ARCES	**ARCESS Array B**	**54.22**	**1**	P		**P**		**15 23 31.3**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=357,slow=7.7,SNR=5.2								
TLY	**Talaya**	**55.28**	**313**	*eP*		**P**		**15 23 40.7**	**+1.7**
TLY				pmax		pmax			
	comp=Z,7.0nm,1.1s								
TLY				MLR		MLR			
	comp=Z,89nm,15.0s								
ZAK	**Zakamensk**	**56.42**	**312**	*eP*		**P**		**15 23 44.9**	**-2.3**
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ULN	**Ulaanbaatar**	**56.73**	**308**	*eP*		**P**		**15 23 49.0**	**-0.5**
	comp=Z,2.3nm,0.8s								
SONM	**Songino Array**	**57.04**	**308**	P		**P**		**15 23 52.4**	**+0.7**
SONM	**Songino Array**	**57.04**	**308**	P		**P**		**15 23 52.4**	**+0.7**
	comp=Z,7.8nm,0.8s,baz=44,slow=7.2,SNR=42								
ZAA0	**Zalesovo Array**	**60.31**	**325**	*eP*		**P**		**15 24 14.4**	**+0.2**
ZALV	**Zalesovo Beam**	**60.31**	**325**	*iP*		**P**		**15 24 14.8**	**+0.6**
ZALV				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ZALV	**Zalesovo Beam**	**60.31**	**325**	P		**P**		**15 24 14.6**	**+0.4**
ZALV	**Zalesovo Beam**	**60.31**	**325**	P		**P**		**15 24 14.6**	**+0.4**
	comp=Z,4.1nm,0.8s,baz=29,slow=7.0,SNR=20								
JOF	**Joensuu**	**60.84**	**358**	*eP*		**P**		**15 24 18.1**	**+0.5**
JOF				pmax		pmax			
	comp=Z,3.0nm,0.7s								
JOF	**Joensuu**	**60.84**	**358**	*ep*		**P**		**15 24 18.1**	**+0.5**
	comp=Z,2.7nm,0.7s								
NB2	**NORSAR Subarra**	**62.07**	**9**	P		**P**		**15 24 26.6**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=350,slow=6.9								
NOA	**NORSAR Array B**	**62.07**	**9**	P		**P**		**15 24 27.0**	**+0.9**
NOA	**NORSAR Array B**	**62.07**	**9**	P		**P**		**15 24 27.0**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=350,slow=6.8,SNR=15								
FINES	**FINESS Array B**	**62.35**	**1**	P		**P**		**15 24 28.3**	**+0.4**
FINES	**FINESS Array B**	**62.35**	**1**	P		**P**		**15 24 28.3**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=15,slow=7.9,SNR=8.2								
SVE	**Sverdlovsk**	**63.85**	**340**	*eP*		**P**		**15 24 38.1**	**+0.2**
SVE				pmax		pmax			
	comp=Z,7.0nm,0.9s								
ARU	**Arti**	**64.60**	**341**	*c iP*		**P**		**15 24 42.6**	**-0.2**
ARU				S		**S**		**15 33 21.6**	**+0.9**
ARU				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ARU	**Arti**	**64.60**	**341**	*eP*		**P**		**15 24 42.9**	**+0.1**
	comp=Z,3.7nm,0.8s								
BRVK	**Borovoye**	**65.24**	**333**	⇑ *iP*		**P**		**15 24 47.0**	**0.0**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BRVK	**Borovoye**	**65.24**	**333**	*eP*		**P**		**15 24 46.9**	**0.0**
	comp=Z,4.3nm,0.8s								
MK31	**Makanchi Array**	**67.29**	**322**	*eP*		**P**		**15 25 00.1**	**-0.2**
MK31	**Makanchi Array**	**67.29**	**322**	*eP*		**P**		**15 25 00.1**	**-0.2**
MKAR	**Makanchi Array**	**67.29**	**322**	*iP*		**P**		**15 25 00.4**	**+0.1**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**67.29**	**322**	P		**P**		**15 25 00.1**	**-0.2**
MKAR	**Makanchi Array**	**67.29**	**322**	P		**P**		**15 25 00.1**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=47,slow=7.1,SNR=18								
MKAR				LR		LR		15 59 15.9	
	comp=Z,42nm,20.3s,baz=197,slow=40								
OBN	**Obninsk**	**68.45**	**354**	*eP*		**P**		**15 25 06.9**	**-0.5**
OBN				*e*				15 25 34.1	
OBN				pmax		pmax			
	comp=Z,4.0nm,1.0s								
AKTO	**Aktyubinsk**	**70.41**	**340**	P		**P**		**15 25 19.7**	**0.0**
AKTO	**Aktyubinsk**	**70.41**	**340**	P		**P**		**15 25 19.7**	**0.0**
AKTO	**Aktyubinsk**	**70.41**	**340**	P		**P**		**15 25 19.7**	**0.0**
	comp=Z,3.5nm,0.8s,baz=11,slow=4.1,SNR=11								
ABKAR	**Akbulak array**	**71.15**	**338**	*eP*		**P**		**15 25 24.3**	**+0.2**
	comp=Z,2.9nm,0.8s								
CLL	**Collm**	**71.86**	**9**	*eP*		**P**		**15 25 27.0**	**-1.4**
CLL	**Collm**	**71.86**	**9**	*eP*		**P**		**15 25 27.0**	**-1.4**
GIVF	**Givet**	**72.09**	**15**	*eP*		**P**		**15 25 31.4**	**+1.6**
GIVF	**Givet**	**72.09**	**15**	*eP*		**P**		**15 25 31.4**	**+1.6**
GIVF	**Givet**	**72.09**	**15**	*eP*		**P**		**15 25 31.4**	**+1.6**
TKM2	**Tokmak 2**	**72.92**	**325**	*eP*		**P**		**15 25 35.6**	**+0.5**
TKM2				pmax		pmax			
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**72.92**	**325**	*eP*		**P**		**15 25 35.6**	**+0.5**
	comp=Z,2.6nm,0.8s								
AKASG	**Malin Array Be**	**73.12**	**359**	*i* P		**P**		**15 25 36.0**	**+0.2**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.7s								
AKASG	**Malin Array Be**	**73.12**	**359**	P		**P**		**15 25 35.7**	**-0.2**
AKASG	**Malin Array Be**	**73.12**	**359**	P		**P**		**15 25 35.7**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=2.5,slow=6.0,SNR=21								
CDF	**Champ du Feu**	**74.08**	**14**	*eP*		**P**		**15 25 43.4**	**+1.7**
CDF	**Champ du Feu**	**74.08**	**14**	*eP*		**P**		**15 25 43.4**	**+1.7**
CDF	**Champ du Feu**	**74.08**	**14**	*eP*		**P**		**15 25 43.4**	**+1.7**
HAU	**Haudompre**	**74.36**	**14**	*eP*		**P**		**15 25 44.0**	**+0.8**
HAU	**Haudompre**	**74.36**	**14**	*eP*		**P**		**15 25 44.0**	**+0.8**
HAU	**Haudompre**	**74.36**	**14**	*eP*		**P**		**15 25 44.0**	**+0.8**
GERES	**GERESS Array B**	**74.37**	**9**	P		**P**		**15 25 44.3**	**+0.9**
GERES	**GERESS Array B**	**74.37**	**9**	P		**P**		**15 25 44.3**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=350,slow=7.2,SNR=6.3								
LOR	**Lormes**	**74.71**	**16**	*eP*		**P**		**15 25 46.1**	**+0.8**
	comp=Z,9.6nm,0.9s								
LOR	**Lormes**	**74.71**	**16**	*eP*		**P**		**15 25 46.1**	**+0.8**
	comp=Z,9.6nm,0.9s								
SSF	**Saint Saulge**	**74.85**	**17**	*eP*		**P**		**15 25 47.8**	**+1.7**
	comp=Z,7.4nm,0.9s								
SSF	**Saint Saulge**	**74.85**	**17**	*eP*		**P**		**15 25 47.8**	**+1.7**
SSF				pmax		pmax			
	comp=Z,7.0nm,0.9s								
SSF	**Saint Saulge**	**74.85**	**17**	*eP*		**P**		**15 25 47.8**	**+1.7**
	comp=Z,7.4nm,0.9s								
AVF	**Avril sur Loir**	**75.09**	**17**	*eP*		**P**		**15 25 48.0**	**+0.5**
	comp=Z,22nm,1.3s								
AVF	**Avril sur Loir**	**75.09**	**17**	*eP*		**P**		**15 25 48.0**	**+0.5**
AVF				pmax		pmax			
	comp=Z,22nm,1.3s								
AVF	**Avril sur Loir**	**75.09**	**17**	*eP*		**P**		**15 25 48.0**	**+0.5**
	comp=Z,22nm,1.3s								
CABF	**La Chapelle**	**75.68**	**15**	*eP*		**P**		**15 25 52.8**	**+1.8**
	comp=Z,13nm,1.0s								
CABF	**La Chapelle**	**75.68**	**15**	*eP*		**P**		**15 25 52.8**	**+1.8**
CABF				pmax		pmax			
	comp=Z,13nm,1.0s								
CABF	**La Chapelle**	**75.68**	**15**	*eP*		**P**		**15 25 52.8**	**+1.8**
	comp=Z,13nm,1.0s								
TAPN	**Taplejung**	**82.15**	**309**	*eP*		**P**		**15 26 27.2**	**+0.2**
	comp=Z,7.7nm,0.8s								
TAPN	**Taplejung**	**82.15**	**309**	*eP*		**P**		**15 26 27.2**	**+0.2**
	comp=Z,7.7nm,0.8s								
GUN	**Gumba**	**82.44**	**310**	*eP*		**P**		**15 26 29.0**	**+0.4**
	comp=Z,28nm,1.2s								
GUN	**Gumba**	**82.44**	**310**	*eP*		**P**		**15 26 29.0**	**+0.4**
	comp=Z,28nm,1.2s								
JIRN	**Jiri**	**82.53**	**310**	*eP*		**P**		**15 26 29.5**	**+0.4**
	comp=Z,12nm,0.7s								
JIRN	**Jiri**	**82.53**	**310**	*eP*		**P**		**15 26 29.5**	**+0.4**
	comp=Z,12nm,0.7s								
ODAN	**Odare**	**82.72**	**309**	*eP*		**P**		**15 26 29.9**	**0.0**
	comp=Z,5.7nm,0.7s								
ODAN	**Odare**	**82.72**	**309**	*eP*		**P**		**15 26 29.9**	**0.0**
	comp=Z,5.7nm,0.7s								
KKN	**Kakani**	**82.80**	**311**	*eP*		**P**		**15 26 30.5**	**+0.2**
	comp=Z,4.3nm,0.4s								
KKN	**Kakani**	**82.80**	**311**	*eP*		**P**		**15 26 30.5**	**+0.2**
KKN				pmax		pmax			
	comp=Z,4.0nm,0.4s								
KKN	**Kakani**	**82.80**	**311**	*eP*		**P**		**15 26 30.5**	**+0.2**
	comp=Z,4.3nm,0.4s								
GKN	**Gorkha**	**82.88**	**311**	*eP*		**P**		**15 26 30.6**	**-0.1**
	comp=Z,7.6nm,0.9s								
GKN	**Gorkha**	**82.88**	**311**	*eP*		**P**		**15 26 30.6**	**-0.1**
	comp=Z,7.6nm,0.9s								
DANN	**Dangsing**	**82.94**	**312**	*eP*		**P**		**15 26 31.6**	**+0.5**
	comp=Z,23nm,0.8s								
DANN	**Dangsing**	**82.94**	**312**	*eP*		**P**		**15 26 31.6**	**+0.5**
	comp=Z,23nm,0.8s								
PKI	**Pulchoki**	**82.94**	**311**	*eP*		**P**		**15 26 31.2**	**0.0**
	comp=Z,7.9nm,0.8s								
PKI	**Pulchoki**	**82.94**	**311**	*eP*		**P**		**15 26 31.2**	**0.0**
PKI				pmax		pmax			
	comp=Z,8.0nm,0.8s								
PKI	**Pulchoki**	**82.94**	**311**	*eP*		**P**		**15 26 31.2**	**0.0**
	comp=Z,7.9nm,0.8s								
PKIN	**Phulchoki**	**82.94**	**311**	*eP*		**P**		**15 26 31.0**	**-0.1**
	comp=Z,4.3nm,0.6s								
RAMN	**Ramite**	**82.98**	**309**	*eP*		**P**		**15 26 31.2**	**-0.1**
	comp=Z,12nm,0.7s								
RAMN	**Ramite**	**82.98**	**309**	*eP*		**P**		**15 26 31.2**	**-0.1**
	comp=Z,12nm,0.7s								
KOLN	**Koldanda**	**83.52**	**312**	*eP*		**P**		**15 26 34.1**	**+0.1**
	comp=Z,6.1nm,0.8s								
KOLN	**Koldanda**	**83.52**	**312**	*eP*		**P**		**15 26 34.1**	**+0.1**
	comp=Z,6.1nm,0.8s								
BRTR	**Keskin Array B**	**83.96**	**355**	P		**P**		**15 26 36.0**	**0.0**
BRTR	**Keskin Array B**	**83.96**	**355**	P		**P**		**15 26 36.0**	**0.0**
	comp=Z,0.8nm,0.8s,baz=15,slow=6.0,SNR=4.2								
CMAR	**Chiang Mai Arr**	**84.51**	**295**	P		**P**		**15 26 38.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**84.51**	**295**	P		**P**		**15 26 38.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=6.2,slow=5.6,SNR=8.6								
CMAR				LR		LR		16 10 14.9	
	comp=Z,49nm,18.2s,baz=155,slow=40								
QSPA	**South Pole Qui**	**146.33**	**180**	*e*PKPdf		**PKPbc**		**15 33 44.8**	**-0.3**
QSPA	**South Pole Qui**	**146.33**	**180**	PKPbc		**PKPdf**		**15 33 44.0**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=63,slow=0.6,SNR=7.3								

AUST ***28*** *15:21:13.8±2.1, 5.°47S×128.°08E, h431km, Error ellipse: s-maj=2.9km s-min=1.2km az=315.0*
ISCJB ***28*** *15:21:16.6±0.6, 5.°86S±0.°06×128.°1E±0.°1, h400km, mb3.4/5, Error ellipse: s-maj=15.2km s-min=7.9km az=169.5*
IDC ***28*** *15:21:19.4±2.9, 5.°99S×128.°09E, h420km±34km, mb3.1/5, mb1 3.2/8, mb1mx3.0/23, mbtmp3.1/8, Error ellipse: s-maj=39.2km s-min=11.5km az=74.0*
ISC 28 15:21:18.0±0.8,**5.°93S**±0.°08×**128.°2E**±0.°2,**h400**km,**n16,** σ1°**01**/17,**mb3.6**/5,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.03**	**54**	P	**Pn**	**15 22 39.9**	**-0.5**
	baz=4.9,SNR=42						
SOEI	**Soe**	**5.44**	**225**	P	Pn	15 22 43.6	-1.2
	baz=5.7,SNR=26						
MTN	**Manton Dam**	**7.46**	**157**	P	**Pn**	**15 23 07.3**	**+0.4**
	baz=8.0,SNR=22						
KDU	**Kakadu**	**7.94**	**148**	P	**Pn**	**15 23 12.8**	**+0.5**
	baz=8.4,SNR=33						
KNRA	**Kununurra**	**9.71**	**177**	P	**P**	**15 23 33.4**	**+1.0**
	baz=10,SNR=4.0						
FITZ	**Fitzroy Crossi**	**12.36**	**191**	P	**P**	**15 24 01.6**	**-0.1**
	0.1nm,0.3s,baz=12,slow=13,SNR=2.7						
FITZ				S	S	15 26 30.1	+13
	0.1nm,0.3s,baz=248,slow=16,SNR=2.1						
WRA	**Warramunga Arr**	**15.16**	**157**	P	**P**	**15 24 32.6**	**+0.3**
	1.6nm,0.3s,baz=336,slow=11,SNR=148						
WRA				S	**S**	**15 27 10.1**	**-3.1**
	0.2nm,0.3s,baz=341,slow=20,SNR=6.4						
COEN	**Coen**	**16.77**	**120**	P	**P**	**15 24 50.4**	**+0.8**
	baz=17,SNR=9.7						
QIS	**Mount Isa**	**18.29**	**144**	P	**P**	**15 25 06.4**	**+0.8**
	baz=19,SNR=3.3						
ASAR	**Alice Springs**	**18.48**	**163**	P	**P**	**15 25 07.8**	**+0.1**
	0.3nm,0.3s,baz=341,slow=11,SNR=44						
ASAR				S	**S**	**15 28 16.5**	**-0.6**
	0.2nm,0.3s,baz=349,slow=22,SNR=11						
WRKA	**Warakurna**	**19.00**	**180**	P	**P**	**15 25 13.4**	**+0.3**
	baz=20,SNR=3.7						
SONM	**Songino Array**	**56.87**	**343**	P	**P**	**15 30 23.0**	**+0.1**
	0.3nm,0.5s,baz=164,slow=7.2,SNR=2.4						
PETK	**Petropavlovsk-**	**63.89**	**19**	P	**P**	**15 31 10.0**	**+0.5**
	0.8nm,0.5s,baz=166,slow=3.2,SNR=6.8						
MKAR	**Makanchi Array**	**66.35**	**327**	P	**P**	**15 31 24.7**	**-0.7**
	0.4nm,0.4s,baz=117,slow=8.3,SNR=6.9						
KURBB	**Kurchatov Arra**	**70.66**	**329**	P	**P**	**15 31 50.9**	**-0.7**
	0.7nm,0.3s,baz=123,slow=2.5,SNR=7.3						
SEY	**Seymchan**	**71.10**	**11**	P	**P**	**15 31 53.9**	**0.0**
	0.7nm,0.4s,baz=23,slow=23,SNR=6.9						

IDC ***28*** *15:32:37.1±1.1, 12.°36N×88.°17W, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.0/26, mbtmp4.1/12, ML3.3/2, MS3.8/12, Ms1 3.8/12, ms1mx3.5/34, Error ellipse: s-maj=44.0km s-min=14.6km az=50.0*
ISCJB ***28*** *15:32:42.1±0.8, 12.°20N±0.°08×88.°37W±0.°08, h55km±7km, mb4.1/11, MS3.8/10, Error ellipse: s-maj=17.6km s-min=4.5km az=44.3*
CASC ***28*** *15:32:42.4±2.3, 12.°17N×88.°43W, h35km±999km, MD4.1*
ISC 28 15:32:43.0±1.4,**12.°18N**±0.°08×**88.°40W**±0.°08,**h46**km±13km, **n37,**σ1°**71**/37,**mb4.3**/11,**MS3.9**/10,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.22**	**27**	*eP*	**Pn**	**15 33 03.1**	**-0.7**
VSM	**San Miguel**	**1.25**	**6**	*eP*	**Pn**	**15 33 03.9**	**-0.4**
SNVI	**San Vicente**	**1.48**	**343**	*eP*	**Pn**	**15 33 06.5**	**-0.9**
LFRS	**El Faro**	**1.57**	**336**	*eP*	**Pn**	**15 33 07.1**	**-1.4**
CAHU	**Cacacuatique**	**1.59**	**7**	*eP*	**Pn**	**15 33 09.0**	**+0.1**
BOQS	**Boqueron**	**1.76**	**331**	*eP*	**Pn**	**15 33 10.4**	**-0.9**
SBLS	**San Blas**	**2.03**	**324**	*eP*	**Pn**	**15 33 14.2**	**-0.8**
SNJE	**San Jose**	**2.04**	**325**	*eP*	**Pn**	**15 33 14.2**	**-0.9**
SNJE				*eS*	**Sn**	**15 33 41.2**	**+1.6**
RTR	**El Retiro**	**2.09**	**325**	*eP*	**Pn**	**15 33 15.0**	**-0.7**
TGUH	**Tegucigalpa,Un**	**2.17**	**30**	*eP*	**Pn**	**15 33 17.1**	**+0.5**
RBDL	**Robledal**	**2.29**	**327**	*eP*	**Pn**	**15 33 17.8**	**-0.7**
APG	**El Apazote**	**3.45**	**325**	Pn	**Pn**	**15 33 31.6**	**-2.8**
	1.3nm,0.3s,baz=139,slow=15,SNR=5.0						
APG				Sn	**Sn**	**15 34 18.6**	**+4.4**
	2.0nm,0.3s,baz=102,slow=20,SNR=3.6						
JTS	**JuntasAbangare**	**3.87**	**119**	Pn	**Pn**	**15 33 37.0**	**-3.0**
	4.3nm,0.3s,baz=302,slow=18,SNR=12						
JTS				Sn	**Sn**	**15 34 24.3**	**-0.1**
	4.9nm,0.3s,baz=270,slow=20,SNR=5.5						
JCR	**Jicaral**	**3.98**	**125**	*eP*	**Pn**	**15 33 42.6**	**+1.1**
JCR				*eS*	**Sn**	**15 34 23.3**	**-3.7**
CGA2	**Cerro Gallo 2**	**4.42**	**119**	*eP*	**Pn**	**15 33 50.8**	**+3.0**
CGA2				*eS*	**Sn**	**15 34 36.8**	**-1.3**
QCR	**Quepos**	**4.99**	**123**	*eP*	**Pn**	**15 33 55.8**	**+0.5**
URSC	**Urasca**	**5.11**	**117**	*eP*	**Pn**	**15 33 59.1**	**+2.0**
BUS	**Buena Vista**	**5.26**	**119**	*eP*	**Pn**	**15 34 00.6**	**+1.1**
BUS				*eS*	**Sn**	**15 35 00.1**	**+1.0**
TEIG	**Tepich**	**8.00**	**1**	LR	LR	15 37 59.6	
	comp=Z,581nm,18.5s,baz=135,slow=41						
ROSC	**El Rosal**	**15.70**	**116**	LR	LR	15 43 09.6	
	comp=Z,121nm,18.9s,baz=25,slow=41						
ATAH	**Atahualpa**	**21.62**	**152**	LR	LR	15 45 07.6	
	comp=Z,83nm,20.9s,baz=165,slow=35						
TXAR	**Lajitas Array**	**22.20**	**323**	P	**P**	**15 37 36.9**	**+1.2**
	2.9nm,0.8s,baz=131,slow=11,SNR=32						
TKL	**Tuckaleechee C**	**23.75**	**9**	P	**P**	**15 37 50.6**	**-0.5**
	14nm,1.1s,baz=193,slow=14,SNR=4.6						
TKL				LR	LR	15 49 01.1	
	comp=Z,168nm,18.4s,baz=330,slow=42						
PDAR	**Pinedale Array**	**35.58**	**333**	P	**P**	**15 39 37.7**	**+1.5**
	0.5nm,1.0s,baz=125,slow=7.8,SNR=3.5						
NVAR	**Mina Array Bea**	**37.30**	**320**	P	**P**	**15 39 52.6**	**+1.7**
	0.6nm,0.8s,baz=133,slow=11,SNR=4.2						
NVAR				LR	LR	15 55 54.6	
	comp=Z,154nm,19.2s,baz=15,slow=38						
ULM	**Lac du Bonnet**	**38.45**	**352**	P	**P**	**15 39 58.6**	**-1.6**
	6.9nm,0.7s,baz=173,slow=8.4,SNR=12						
ULM				LR	LR	15 56 12.0	
	comp=Z,77nm,20.4s,baz=251,slow=37						
SIV	**San Ignacio**	**38.92**	**135**	P	**P**	**15 40 04.7**	**+0.1**
	4.0nm,0.7s,baz=318,slow=8.9,SNR=10						
SCHQ	**Schefferville**	**45.80**	**17**	P	**P**	**15 40 58.5**	**-1.6**
	5.7nm,0.9s,baz=234,slow=11,SNR=5.5						
SCHQ				LR	LR	16 01 13.0	
	comp=Z,186nm,18.0s,baz=58,slow=38						
BDFB	**Brasilia**	**48.60**	**124**	P	**P**	**15 41 23.0**	**+0.5**
	2.1nm,0.4s,baz=278,slow=7.1,SNR=3.5						
YKA	**Yellowknife Ar**	**53.63**	**345**	P	**P**	**15 41 58.9**	**-0.5**
	2.0nm,0.9s,baz=140,slow=7.4,SNR=26						
YKA				PcP	**PcP**	**15 43 05.4**	**0.0**
	0.3nm,0.7s,baz=147,slow=3.8,SNR=4.4						
RES	**Resolute Bay**	**62.59**	**358**	P	**P**	**15 43 00.8**	**-1.1**
	1.6nm,0.7s,baz=197,slow=7.1,SNR=6.5						
ILAR	**Eielson Array**	**65.89**	**336**	P	**P**	**15 43 23.4**	**-0.3**
	1.4nm,1.0s,baz=139,slow=4.9,SNR=9.1						
ILAR				LR	LR	16 14 59.3	
	comp=Z,102nm,19.6s,baz=348,slow=39						
SPITS	**Spitsbergen Ar**	**81.16**	**12**	LR	LR	16 23 59.7	
	comp=Z,71nm,19.0s,baz=255,slow=38						
NOA	**NORSAR Array B**	**84.05**	**29**	LR	LR	16 18 22.7	
	comp=Z,44nm,20.4s,baz=290,slow=33						
DAVOX	**Davos/Dischmat**	**86.82**	**43**	LR	LR	16 18 30.3	
	comp=Z,81nm,18.8s,baz=264,slow=32						
GERES	**GERESS Array B**	**88.74**	**40**	LR	LR	16 20 31.6	
	comp=Z,64nm,18.5s,baz=302,slow=32						
CMAR	**Chiang Mai Arr**	**148.70**	**346**	PKPbc	**PKPdf**	**15 52 24.7**	**+2.3**
	1.9nm,0.7s,baz=341,slow=3.6,SNR=17						

ISCJB ***28*** *15:39:08.8±0.4, 43.°82N±0.°02×19.°06E±0.°03, h18km±4km, Error ellipse: s-maj=3.3km s-min=2.7km az=19.3*
BEO ***28*** *15:39:08.8±0.3, 43.°75N×19.°10E, h13km±2km, ML3.0/1 ML2.9/11, Error ellipse: s-maj=0.4km s-min=0.8km az=0.0*
PDG ***28*** *15:39:08.4±0.4, 43.°76N×19.°04E, h15km, MD2.8/2, ML2.9/11, Error ellipse: s-maj=0.4km s-min=0.8km az=0.0*
CSEM ***28*** *15:39:08.0±0.1, 43.°76N×19.°08E, h5km, ML3.0, Ms3.5, Error ellipse: s-maj=2.5km s-min=2.1km az=85.0*
VIE ***28*** *15:39:13.5±0.3, 44.°15N×18.°91E, h10km, mb2.6/6, ML2.7/5, Ms3.5/1, Error ellipse: s-maj=4.1km s-min=2.6km az=45.0*
53 km NE of Sarajevo
ISC 28 15:39:08.8±1.0,**43.°77N**±0.°02×**19.°12E**±0.°02,**h18**km±3km, **n89,**σ1°**22**/151,**27C-24D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazi?i**	**0.23**	**65**	*eP*g	**Pg**	**15 39 14.3**	**0.0**
BBLS				*i* Sg	**Sg**	**15 39 18.3**	**+0.2**
BBLS	**Lazi?i**	**0.23**	**65**	*eP*g	**Pg**	**15 39 14.3**	**0.0**
BBLS				*i* Sg	**Sg**	**15 39 18.3**	**+0.2**
PLE	**Pljevlja**	**0.48**	**155**	⇑ *i*Pg	**Pg**	**15 39 18.1**	**-0.5**
PLE				*e*Sg	**Sg**	**15 39 24.8**	**-0.3**
PLE	**Pljevlja**	**0.48**	**155**	⇑ *i*Pg	**Pg**	**15 39 18.1**	**-0.5**
PLE			

NVLJ				Sn	Sn	15 40 36.6	+2.0
NVLJ	**Novalja**	**3.16**	**286**	*e*Pn	Pn	15 39 58.8	+1.3
NVLJ				Sn	Sn	15 40 36.6	+2.0
BEHE	**Becsehely**	**3.17**	**329**	⇓epn	Pn	15 39 58.8	+1.1
BEHE				*e*sn	Sg	15 40 56.2	+5.6
VTS	**Vitosha**	**3.21**	**110**	⇑*i*P	Pg	15 40 08.9	-1.5
CRES	**Cresnjev**	**3.32**	**310**	*e*Pn	Pn	15 40 00.8	+1.0
CRES	**Cresnjev**	**3.32**	**310**	*e*Pn	Pn	15 40 00.8	+1.0
DOBS	**Dobrina**	**3.52**	**314**	*i* Pn	Pn	15 40 03.3	+0.8
DOBS	**Dobrina**	**3.52**	**314**	*i* Pn	Pn	15 40 03.3	+0.8
PKST	**T"s**	**3.57**	**348**	⇑epn	Pn	15 40 04.0	+0.7
PKST				esn	Sn	15 40 44.4	-0.6
PKSG		**3.66**	**352**	epn	Pn	15 40 04.6	+0.1
PKSG				esn	Sn	15 40 43.7	-3.4
SOKA	**Soboth** SNR=8.2	**4.10**	**317**	⇑*i*Pn	Pn	15 40 10.8	+0.3
SOKA				⇑*i*Sn	Sn	15 40 55.8	-2.3
SOKA	**Soboth** SNR=8.2	**4.10**	**317**	Pn	Pn	15 40 10.8	+0.3
SOKA				Sn	Sn	15 40 55.8	-2.3
PSZ	**Piszkesteto**	**4.19**	**7**	⇓*i*P	Pn	15 40 11.9	+0.1
PSZ	**Piszkesteto**	**4.19**	**7**	⇓*i*P	Pn	15 40 11.9	+0.1
PSZ	**Piszkesteto**	**4.19**	**7**	⇓epn	Pn	15 40 11.8	0.0
OBKA	**Obir** SNR=5.3	**4.24**	**312**	⇑*i*Pn	Pn	15 40 13.4	+0.9
OBKA				⇑*i*Sn	Sn	15 40 59.4	-2.1
OBKA	**Obir** SNR=5.3	**4.24**	**312**	Pn	Pn	15 40 13.4	+0.9
OBKA				Sn	Sn	15 40 59.4	-2.1
ARSA	**Arzberg** SNR=11	**4.30**	**325**	⇑*i*Pn	Pn	15 40 13.8	+0.5
ARSA				⇓*i*Sn	Sn	15 41 00.2	-2.8
ARSA	**Arzberg** SNR=11	**4.30**	**325**	Pn	Pn	15 40 13.8	+0.5
ARSA				Sn	Sn	15 41 00.2	-2.8
VOY	**Vojsko**	**4.35**	**303**	*e*Pn	Pn	15 40 14.7	+0.7
VOY				*e*		15 40 28.8	
VOY				*e*(Sn)	Sn	15 41 03.6	-0.6
VOY				*e*		15 41 27.9	
VOY	**Vojsko**	**4.35**	**303**	*e*Pn	Pn	15 40 14.7	+0.7
CSNA	**Conrad Observa**	**4.74**	**332**	⇑*i*Pn	Pn	15 40 19.6	+0.2
CSNA				⇑*i*Sn	Sn	15 41 08.3	-5.7
CSNA	**Conrad Observa**	**4.74**	**332**	Pn	Pn	15 40 19.6	+0.2
MOA	**Molln** SNR=4.9	**5.31**	**322**	⇓*i*Pn	Pn	15 40 27.5	+0.4
MOA				⇑*i*Sn	Sn	15 41 25.3	-2.4
MOA	**Molln** SNR=4.9	**5.31**	**322**	Pn	Pn	15 40 27.5	+0.4
MOA				Sn	Sn	15 41 25.3	-2.4
ABTA	**Abfaltersbach**	**5.53**	**305**	⇓*i*Pn	Pn	15 40 31.3	+1.0
ABTA	**Abfaltersbach**	**5.53**	**305**	Pn	Pn	15 40 31.3	+1.0
WATA	**Walderalm** SNR=4.7	**6.38**	**307**	⇓*i*Pn	Pn	15 40 42.9	+0.9
WATA	**Walderalm** SNR=4.7	**6.38**	**307**	Pn	Pn	15 40 42.9	+0.9
MOTA	**Moosalm** SNR=5.5	**6.67**	**305**	⇑*i*Pn	Pn	15 40 47.2	+1.3
MOTA	**Moosalm** SNR=5.5	**6.67**	**305**	Pn	Pn	15 40 47.2	+1.3

*IDC **28** 15:54:21.5±1.9, 10°.15S×124°.93E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML3.2/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/23, Error ellipse: s-maj=102.7km s-min=28.3km az=65.0*

*AUST **28** 15:54:24.2±3.5, 10°.51S×124°.58E, h0km, Error ellipse: s-maj=1.9km s-min=1.1km az=22.0*

ISC 28 15:54:24.7±1.3, 10°.3S±0°.1×125°.0E±0°.1, h35km, n12, σ2s33/11, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe** baz=0.8,SNR=20	**0.85**	**307**	P		P	Pn	15 54 39.8	-0.6
WSI	**Waingapu** baz=4.3,SNR=3.0	**4.63**	**277**	P		P	Pn	15 55 30.2	-2.0
KNRA	**Kununurra** baz=6.6,SNR=19	**6.52**	**146**	P		P	Pn	15 56 02.1	+3.9
MTN	**Manton Dam** baz=6.8,SNR=4.2	**6.57**	**113**	P		P	Pn	15 56 05.0	+6.2
KDU	**Kakadu** baz=8.0,SNR=4.1	**7.75**	**109**	P		P	Pn	15 56 22.8	+7.7
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=358,slow=11,SNR=11	**7.81**	**175**	Pn		P	Pn	15 56 18.3	+2.5
FITZ	0.8nm,0.3s,baz=120,slow=20,SNR=8.9			Sn		S	Sn	15 57 42.8	-0.3
FITZ	**Fitzroy Crossi** baz=7.7,SNR=16	**7.81**	**175**	P		P	Pn	15 56 18.8	+3.0
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=314,slow=14,SNR=8.4	**13.20**	**138**	Pn		P	Pn	15 57 31.3	+1.5
WRA	0.2nm,0.3s,baz=318,slow=25,SNR=4.9			Sn		S	Sn	15 59 52.5	-2.9
WRKA	**Warakurna** baz=15,SNR=9.8	**15.02**	**168**	P		P	Pn	15 57 56.2	+1.8
ASAR	**Alice Springs** 0.1nm,0.3s,baz=322,slow=12,SNR=16	**15.82**	**148**	Pn		P	P	15 58 07.7	-0.6
ASAR	0.1nm,0.3s,baz=320,slow=23,SNR=4.4			Sn		S	Sn	16 00 56.4	-2.8
PMG	**Port Moresby** comp=Z,265nm,20.6s,baz=91,slow=34	**21.89**	**90**	LR		LR	LR	16 06 46.5	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=126,slow=7.3,SNR=4.0	**68.38**	**330**	P		P	P	16 05 24.2	+1.5

*ISCJB **28** 15:58:10.4±0.5, 10°.32S±0°.06×161°.73E±0°.07, h61km, mb4.2/16, Error ellipse: s-maj=10.2km s-min=6.8km az=147.2*

*IDC **28** 15:58:12.2±0.7, 10°.32S×161°.72E, h62km±5km, mb3.9/16, mb1 4.1/19, mb1mx4.0/25, mbtmp4.0/19, MS3.6/9, Ms1 3.6/9, ms1mx3.3/28, Error ellipse: s-maj=13.0km s-min=9.0km az=40.0*

*AUST **28** 15:58:15.0, 10°.29S×161°.98E, h100km*

ISC 28 15:58:12.4±0.6, 10°.25S±0°.07×161°.73E±0°.08, h61km, n38, σ1s36/40, mb4.2/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 635nm,0.3s,baz=153,slow=3.4,SNR=235	**1.94**	**295**	P		P	Pn	15 58 43.2	+0.2
HNR				S		S	Sn	15 59 07.8	+1.5
DZM	**Mont Dzumac** 2.2nm,0.3s,baz=336,slow=17,SNR=39	**12.59**	**160**	P		P	Pn	16 01 09.8	+0.9
DZM	0.5nm,0.3s,baz=17,slow=20,SNR=4.9			S		S	Sn	16 03 25.1	-2.4
DZM	comp=Z,162nm,21.9s,baz=203,slow=33			LR		LR	LR	16 05 08.2	
PMG	**Port Moresby** 0.4nm,0.3s,baz=110,slow=10,SNR=4.8	**14.38**	**272**	P		P	Pn	16 01 33.1	+0.1
CTA	**Charters Tower** 0.9nm,0.3s,baz=60,slow=14,SNR=18	**17.84**	**235**	P		P	P	16 02 15.8	-0.7
COEN	**Coen** baz=19,SNR=11	**18.51**	**257**	P		P	Pn	16 02 25.9	+1.2
RMQ	**Roma** baz=20,SNR=12	**20.28**	**215**	P		P	Pn	16 02 46.5	+1.0
ARMA	**Armidale** baz=22,SNR=5.4	**22.16**	**204**	P		P	P	16 03 06.5	+3.0
QLP	**Quilpie** baz=23,SNR=3.2	**23.18**	**223**	P		P	P	16 03 17.8	+3.9
CMSA	**Cobar Meteorol** baz=26,SNR=12	**25.88**	**213**	P		P	P	16 03 39.8	+1.2
AFI	**Afiamalu** comp=Z,219nm,21.6s,baz=341,slow=31	**26.15**	**101**	LR		LR	LR	16 11 42.3	
WRA	**Warramunga Arr** 2.8nm,0.6s,baz=76,slow=9.3,SNR=28	**28.11**	**247**	P		P	P	16 03 57.2	-1.6
WRA	4.9nm,0.6s,baz=74,slow=8.9,SNR=10			pP		pP	P	16 04 13.5	-0.2
WRA	comp=Z,133nm,20.9s,baz=55,slow=34			LR		LR	LR	16 14 17.1	
STKA	**Stephens Creek** 0.8nm,0.4s,baz=60,slow=8.1,SNR=5.5	**28.46**	**218**	P		P	P	16 04 00.8	-0.9
STKA	comp=Z,224nm,21.6s,baz=33,slow=33			LR		LR	LR	16 13 56.9	
STKA	**Stephens Creek** baz=29,SNR=4.1	**28.46**	**218**	P		P	P	16 04 03.0	+1.3
KDU	**Kakadu** baz=29,SNR=5.0	**28.77**	**262**	P		P	P	16 04 03.0	-1.6
ASAR	**Alice Springs** 0.6nm,0.5s,baz=65,slow=10,SNR=7.8	**29.70**	**240**	P		P	P	16 04 10.7	-2.2
ASAR	0.6nm,0.5s,baz=68,slow=10,SNR=3.7			pP		pP	P	16 04 29.0	+1.1
ASAR	comp=Z,170nm,18.6s,baz=17,slow=36			LR		LR	LR	16 16 01.5	
MTN	**Manton Dam**	**30.08**	**262**	P		P	P	16 04 15.0	-1.2
	baz=30,SNR=3.9								
TOO	**Toolangi** baz=31,SNR=19	**30.88**	**206**	P		P	P	16 04 23.8	+0.6
URZ	**Urewera** 9.5nm,0.7s,baz=214,slow=1.5,SNR=12	**31.12**	**156**	P		P	P	16 04 25.3	+0.2
KNRA	**Kununurra** baz=33,SNR=3.5	**32.55**	**257**	P		P	P	16 04 36.9	-1.1
BBOO	**Buckleboo** baz=33,SNR=4.8	**32.61**	**223**	P		P	P	16 04 38.0	-0.3
WRKA	**Warakurna** baz=35,SNR=11	**34.97**	**241**	P		P	P	16 04 57.0	-1.9
FITZ	**Fitzroy Crossi** 2.2nm,0.5s,baz=101,slow=9.3,SNR=9.5	**35.80**	**253**	P		P	P	16 05 04.2	-1.9
FITZ	comp=Z,72nm,20.0s,baz=78,slow=32			LR		LR		16 17 20.1	
FITZ	**Fitzroy Crossi** baz=36,SNR=3.2	**35.80**	**253**	P		P	P	16 05 05.6	-0.5
MEEK	**Meekatharra** baz=44,SNR=8.5	**43.79**	**242**	P		P	P	16 06 11.7	-0.8
MJAR	**Matsushiro Arr** 1.7nm,0.7s,baz=172,slow=8.8,SNR=5.7	**51.54**	**336**	P		P	P	16 07 11.3	-1.0
JNU	**Nakatsue** 4.5nm,0.9s,baz=139,slow=11,SNR=3.2	**52.20**	**327**	P		P	P	16 07 16.6	-0.6
KSRS	**Korea Array** 2.1nm,0.9s,baz=132,slow=6.9,SNR=4.4	**57.06**	**328**	P		P	P	16 07 52.4	+0.1
KSRS	0.8nm,0.5s,baz=141,slow=6.5,SNR=2.5			pP		pP	P	16 08 08.0	-0.5
KSRS	comp=Z,18nm,18.5s,baz=95,slow=33			LR		LR	LR	16 29 41.5	
USRK	**Ussuriysk Arra** 6.5nm,0.9s,baz=153,slow=7.8,SNR=11	**60.54**	**336**	P		P	P	16 08 16.9	+0.6
PETK	**Petropavlovsk-** comp=Z,29nm,20.6s,baz=108,slow=31	**63.20**	**357**	LR		LR	LR	16 30 38.2	
VNDA	**Vanda** 1.5nm,0.7s,baz=350,slow=6.8,SNR=11	**67.25**	**180**	P		P	P	16 08 59.8	-0.1
CMAR	**Chiang Mai Arr** 0.8nm,0.6s,baz=127,slow=5.3,SNR=10	**68.19**	**295**	P		P	P	16 09 06.8	0.0
SONM	**Songino Array** 3.2nm,0.6s,baz=142,slow=5.8,SNR=19	**75.73**	**325**	P		P	P	16 09 51.7	0.0
SONM	4.8nm,0.6s,baz=141,slow=5.5,SNR=13			pP		pP	P	16 10 07.3	-1.2
MAW	**Mawson** comp=Z,48nm,18.2s,baz=87,slow=33	**83.96**	**202**	LR		LR	LR	16 43 56.4	
ILAR	**Eielson Array** 1.8nm,1.0s,baz=234,slow=5.2,SNR=7.6	**84.06**	**20**	P		P	P	16 10 35.8	-0.3
ILAR	0.5nm,0.6s,baz=248,slow=5.0,SNR=2.4			pP		pP	P	16 10 53.5	+0.3
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=246,slow=6.8,SNR=2.5	**88.55**	**51**	P		P	P	16 11 00.5	+1.5
MKAR	**Makanchi Array** 0.8nm,0.5s,baz=93,slow=6.3,SNR=11	**90.26**	**318**	P		P	P	16 11 05.4	-1.2
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=262,slow=4.6,SNR=9.7	**96.09**	**28**	P		P	P	16 11 33.7	+0.7
ARCES	**ARCESS Array B** 2.7nm,0.9s,baz=48,slow=1.3,SNR=5.3	**114.55**	**344**	PKP		PKPdf	PKPdf	16 16 43.5	-1.6

IDC 28 16:16:12.2±4.5, 15°.07S×164°.37E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.7/21, mbtmp3.9/5, ML4.5/2, Error ellipse: s-maj=82.5km s-min=31.9km az=63.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 21nm,0.3s,baz=186,slow=6.5,SNR=17	**7.07**	**322**	Pn		Pn	Pn	16 17 58.0	+0.9
HNR	4.5nm,0.3s,baz=194,slow=18,SNR=2.2			Sn		Sn	Sn	16 19 23.5	+5.2
DZM	**Mont Dzumac** 3.2nm,0.3s,baz=193,slow=19,SNR=23	**7.24**	**165**	Pn		Pn	Pn	16 17 58.6	-0.9
DZM	0.7nm,0.3s,baz=319,slow=20,SNR=1.9			Sn		Sn	Sn	16 19 29.9	+7.3
DZM	**Mont Dzumac**	**7.24**	**165**	*e*P		Pn	Pn	16 17 58.8	-0.7
DZM				*e*S		Sn	Sn	16 19 31.5	+8.9
STKA	**Stephens Creek** 0.8nm,0.6s,baz=54,slow=8.7,SNR=3.3	**26.68**	**227**	P		P	P	16 21 54.3	+1.2
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=85,slow=9.6,SNR=8.2	**29.03**	**256**	P		P	P	16 22 13.6	-0.7
ASAR	**Alice Springs** 0.3nm,0.5s,baz=73,slow=9.5,SNR=21	**29.94**	**249**	P		P	P	16 22 22.1	-0.3

*ISCJB **28** 16:42:24.3±0.5, 24°.14S±0°.04×66°.86W±0°.05, h180km±6km, mb4.0/15, Error ellipse: s-maj=8.1km s-min=6.2km az=4.7*

*IDC **28** 16:42:25.5±1.7, 24°.15S×66°.82W, h178km±15km, mb3.8/12, mb1 4.0/17, mb1mx4.0/21, mbtmp4.4/17, Error ellipse: s-maj=15.8km s-min=12.1km az=84.0*

*NEIC **28** 16:42:25.1±0.4, 24°.15S×66°.82W, h174km±4km, mb4.6/8, Error ellipse: s-maj=7.0km s-min=4.9km az=81.0*

*GUC **28** 16:42:28.5±0.3, 23°.87S×67°.60W, h243km±8km, ML5.2*

ISC 28 16:42:24.3±0.7, 24°.17S±0°.05×66°.84W±0°.06, h167km±7km, n74, σ1s38/85, mb4.2/15, 6C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.46**	**309**	*e*Pn		Pn	Pn	16 43 08.8	+2.7
LVC				*e*Sn		Sn	Sn	16 43 40.4	+2.1
PB06	**Plate Boundary**	**2.90**	**300**	⇑*i*P		Pn	Pn	16 43 13.5	+2.2
PB06				*i* S		Sn	Sn	16 43 48.0	+0.2
PB06	comp=N,4μm,0.3s			AML		AML	AML	16 43 49.5	
PB06	**Plate Boundary**	**2.90**	**300**	P		Pn	Pn	16 43 12.9	+1.5
PB04	**Plate Boundary**	**3.09**	**307**	⇑*i*P		Pn	Pn	16 43 20.7	+7.2
PB04				*i* S		Sn	Sn	16 44 00.5	+8.9
PB04	comp=N,3μm,0.4s			AML		AML	AML	16 44 05.5	
PB04	**Plate Boundary**	**3.09**	**307**	P		Pn	Pn	16 43 20.4	+6.9
CEN1	**Los Morros**	**3.17**	**284**	⇓*i*P		Pn	Pn	16 43 17.4	+2.7
CEN1				*i* S		Sn	Sn	16 43 54.3	+0.6
CEN1	comp=E,1μm,0.9s			AML		AML	AML	16 43 57.4	
PB09	**Plate Boundary**	**3.24**	**316**	⇑*i*P		Pn	Pn	16 43 18.1	+2.5
PB09				*i* S		Sn	Sn	16 43 55.7	+0.3
PB09	comp=N,10μm,0.5s			AML		AML	AML	16 43 58.2	
PB09	**Plate Boundary**	**3.24**	**316**	P		Pn	Pn	16 43 17.6	+2.0
MACH	**Maria Elena**	**3.33**	**306**	⇓*i*P		Pn	Pn	16 43 18.6	+1.9
MACH				*i* S		Sn	Sn	16 43 56.6	-0.9
PB10	**Plate Boundary**	**3.46**	**280**	⇑*i*P		Pn	Pn	16 43 19.6	+1.4
PB10				*i* S		Sn	Sn	16 43 58.4	-1.7
PB10	comp=E,3μm,0.2s			AML		AML	AML	16 44 02.7	
PB07	**Plate Boundary**	**3.71**	**310**	⇑*i*P		Pn	Pn	16 43 22.9	+1.3
PB07				*i* S		Sn	Sn	16 44 04.3	-1.9
PB07	**Plate Boundary**	**3.71**	**310**	P		Pn	Pn	16 43 22.3	+0.7
PB01	**Plate Boundary**	**3.96**	**321**	⇑*i*P		Pn	Pn	16 43 25.7	+1.1
PB01				*i* S		Sn	Sn	16 44 10.0	-1.7
PB01	**Plate Boundary**	**3.96**	**321**	P		Pn	Pn	16 43 25.4	+0.7
PATCX	**Punta Patache**	**4.53**	**317**	*e*P		Pn	Pn	16 43 32.1	+0.1
PATCX				*e*S		Sn	Sn	16 44 21.1	-3.8
HMBC	**Humberstone**	**4.79**	**323**	P		Pn	Pn	16 43 34.9	-0.6
PB11	**Plate Boundary**	**5.11**	**329**	P		Pn	Pn	16 43 39.2	-0.5
PSGC	**Pisagua**	**5.48**	**326**	P		Pn	Pn	16 43 45.7	+1.2
MNMC	**Minimini**	**5.63**	**332**	P		Pn	Pn	16 43 46.9	+0.2
LCO	**Las Campanas**	**5.93**	**315**	P		Pn	Pn	16 43 51.2	+0.7
CFAA	**Coronel Fontan**	**7.51**	**189**	P		Pn	Pn	16 44 11.8	+0.7
CFAA				S		Sn	Sn	16 45 30.7	-4.6
CFAA	**Coronel Fontan** comp=E,0.5nm,0.3s,baz=9.8,slow=11,SNR=39	**7.51**	**189**	P		Pn	Pn	16 44 11.8	+0.7
CFAA	comp=E,2.0nm,0.3s,baz=264,slow=19,SNR=16			S		Sn	Sn	16 45 30.7	-4.6
LPAZ	**La Paz** comp=E,11nm,0.4s	**7.94**	**351**	*e*Pn		Pn	Pn	16 44 18.6	+1.1
LPAZ				S		Sn	Sn	16 45 44.8	-1.9
LPAZ				*e*Sn		Sn	Sn	16 45 46.7	-0.4
LPAZ	**La Paz** comp=E,5.1nm,0.3s,baz=153,slow=6.3,SNR=18	**7.94**	**351**	P		Pn	Pn	16 44 18.7	+1.2
LPAZ	comp=E,1.2nm,0.3s,baz=29,slow=19,SNR=2.8			S		Sn	Sn	16 45 44.8	-1.9
CPUP	**Villa Florida** comp=E,0.3nm,0.4s	**8.88**	**106**	*e*Pn		Pn	Pn	16 44 30.3	+1.0
CPUP	**Villa Florida** comp=E,1.1nm,0.3s,baz=283,slow=12,SNR=9.7	**8.88**	**106**	P		Pn	Pn	16 44 30.1	+0.8
SIV	**San Ignacio**	**9.78**	**35**	P		Pn	Pn	16 44 41.5	+0.2
SIV				S		Sn	Sn	16 46 28.1	-1.9
SIV	**San Ignacio** comp=E,8.3nm,0.3s,baz=231,slow=13,SNR=51	**9.78**	**35**	P		Pn	Pn	16 44 41.5	+0.2
SIV	baz=207,slow=18,SNR=3.4			S		Sn	Sn	16 46 28.1	-1.9
TRQA	**Tornquist** comp=E,13nm,0.6s	**14.45**	**164**	*e*Pn		Pn	Pn	16 45 40.9	-0.2
SAML	**Samuel** comp=E,2.4nm,0.5s	**15.54**	**14**	*e*P		Pn	Pn	16 45 54.2	-0.5
PLCA	**Paso Flores**	**16.80**	**190**	P		Pn	Pn	16 46 10.2	+0.2
PLCA	**Paso Flores**	**16.80**	**190**	P		Pn	Pn	16 46 10.2	+0.2
	comp=E,0.5nm,0.3s,baz=9.1,slow=13,SNR=2.6								
BDFB	**Brasilia**	**19.61**	**68**	P		P	P	16 46 41.3	+1.1
BDFB	**Brasilia** comp=E,6.2nm,0.3s,baz=239,slow=10,SNR=81	**19.61**	**68**	P		P	P	16 46 41.3	+1.1
USHA	**Ushuaia**	**30.64**	**182**	P		P	P	16 48 23.0	+0.3
USHA	**Ushuaia** comp=E,4.2nm,0.7s,baz=352,slow=9.7,SNR=4.6	**30.64**	**182**	P		P	P	16 48 23.0	+0.3
RCBR	**Riachuelo** comp=E,1.1nm,0.8s	**34.87**	**63**	P		P	P	16 49 00.4	+0.4
TXAR	**Lajitas Array**	**63.90**	**324**	P		P	P	16 52 39.6	0.0
TXAR	**Lajitas Array** comp=E,0.7nm,0.7s,baz=153,slow=8.0,SNR=8.5	**63.90**	**324**	P		P	P	16 52 39.6	0.0
QSPA	**South Pole Qui** comp=E,9.9nm,0.6s	**66.03**	**180**	*e*P		P	P	16 52 53.8	+0.9
DBIC	**Dimbokro** comp=E,2.1nm,0.6s	**67.72**	**71**	*e*P		P	P	16 53 03.3	-0.9
DBIC	**Dimbokro** comp=E,1.8nm,0.5s,baz=201,slow=6.6,SNR=5.5	**67.72**	**71**	P		P	P	16 53 03.4	-0.8
VNDA	**Vanda**	**74.56**	**190**	P		P	P	16 53 45.5	+1.2
VNDA	**Vanda** comp=E,1.3nm,0.8s,baz=116,slow=4.1,SNR=3.8	**74.56**	**190**	P		P	P	16 53 45.5	+1.2
TOA0	**Torodi Ar. Sit**	**76.50**	**69**	*e*P		P	P	16 53 55.5	-0.8
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P		P	P	16 53 55.8	-0.6
TORD	**Torodi Ar. Bea** comp=E,2.9nm,0.5s,baz=258,slow=5.6,SNR=31	**76.50**	**69**	P		P	P	16 53 55.8	-0.6
ISA	**Isabella** comp=E,1.0nm,1.0s	**76.98**	**319**	*e*P		P	P	16 53 59.7	+1.0
PDAR	**Pinedale Array**	**77.37**	**329**	P		P	P	16 54 01.1	+0.2
PDAR	**Pinedale Array** comp=E,0.5nm,0.4s,baz=133,slow=7.9,SNR=7.0	**77.37**	**329**	P		P	P	16 54 01.1	+0.2
ULM	**Lac du Bonnet**	**78.44**	**341**	P		P	P	16 54 05.5	-0.7
ULM	**Lac du Bonnet** comp=E,3.7nm,0.6s,baz=147,slow=7.5,SNR=6.0	**78.44**	**341**	P		P	P	16 54 05.5	-0.7
NVAR	**Mina Array Bea**	**78.76**	**321**	P		P	P	16 54 08.8	+0.2
NVAR	**Mina Array Bea** comp=E,1.0nm,0.8s,baz=152,slow=4.1,SNR=5.8	**78.76**	**321**	P		P	P	16 54 08.8	+0.2
BOSA	**Boshof**	**80.53**	**117**	P		P	P	16 54 18.0	-0.5
BOSA	**Boshof** comp=E,2.9nm,0.6s,baz=269,slow=5.0,SNR=7.7	**80.53**	**117**	P		P	P	16 54 18.0	-0.5
MAW	**Mawson**	**81.23**	**163**	P		P	P	16 54 21.4	+0.2
MAW	**Mawson** comp=E,3.8nm,0.6s,baz=229,slow=6.7,SNR=6.7	**81.23**	**163**	P		P	P	16 54 21.4	+0.2
ESDC	**Sonseca Array**	**86.42**	**43**	P		P	P	16 54 49.2	+1.2
ESDC	**Sonseca Array** comp=E,0.4nm,0.5s,baz=243,slow=5.5,SNR=3.5	**86.42**	**43**	P		P	P	16 54 49.2	+1.2
YKA	**Yellowknife Ar**	**94.33**	**340**	P		P	P	16 55 23.9	-0.4
YKA	**Yellowknife Ar** comp=E,0.9nm,0.5s,baz=133,slow=4.6,SNR=22	**94.33**	**340**	P		P	P	16 55 23.9	-0.4
ASAR	**Alice Springs**	**128.36**	**204**	PKP		PKPdf	PKPdf	17 01 11.1	-0.7
ASAR	**Alice Springs** comp=E,1.8nm,0.7s,baz=153,slow=2.5,SNR=29	**128.36**	**204**	PKP		PKPdf	PKPdf	17 01 11.1	-0.7
WRA	**Warramunga Arr**	**131.54**	**207**	PKP		PKPdf	PKPdf	17 01 17.5	-0.4
WRA	**Warramunga Arr** comp=E,1.1nm,0.4s,baz=156,slow=1.7,SNR=35	**131.54**	**207**	PKP		PKPdf	PKPdf	17 01 17.5	-0.4
ZAA0	**Zalesovo Array**	**143.48**	**28**	*e*PKPpre		PKPpre	PKPpre	17 01 36.5	
ZALV	**Zalesovo Beam**	**143.48**	**28**	PKP		PKPbc	PKPbc	17 01 36.1	-0.3
ZALV	**Zalesovo Beam** comp=E,1.5nm,0.5s,baz=312,slow=3.9,SNR=9.3	**143.48**	**28**	PKP		PKPbc	PKPbc	17 01 36.1	-0.3
MK31	**Makanchi Array**	**146.56**	**40**	*e*PKPdf		PKPdf	PKPdf	17 01 44.6	+0.4
MK31				*e*PKPbc		PKPbc	PKPbc	17 01 46.3	+0.2
MKAR	**Makanchi Array**	**146.56**	**40**	PKPbc		PKPdf	PKPdf	17 01 44.4	+0.1
MKAR	**Makanchi Array** comp=E,1.9nm,0.5s,baz=304,slow=3.1,SNR=33	**146.56**	**40**	PKPbc		PKPdf	PKPdf	17 01 44.4	+0.1
CMAR	**Chiang Mai Arr**	**165.59**	**111**	PKPab		PKPab	PKPab	17 03 09.2	-0.2
CMAR	**Chiang Mai Arr** comp=E,1.1nm,0.9s,baz=252,slow=4.6,SNR=8.0	**165.59**	**111**	PKPab		PKPab	PKPab	17 03 09.2	-0.2

*IDC **28** 16:45:02.0±2.0, 6°.47S×130°.28E, h0km, mb3.7/1, mb1 4.2/4, mb1mx3.7/20, mbtmp4.0/4, ML4.3/3, Error ellipse: s-maj=75.4km s-min=27.2km az=78.0*

*AUST **28** 16:45:13.2, 6°.98S×129°.54E, h60km*

*ISCJB **28** 16:45:16.2±0.8, 7°.04S±0°.07×129°.8E±0°.1, h139km, mb3.5/1, Error ellipse: s-maj=14.8km s-min=9.5km az=175.0*

ISC 28 16:45:17.7±1.0, 6°.99S±0°.10×129°.8E±0°.1, h139km, n14, σ1s86/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak** baz=4.9,SNR=17	**4.75**	**32**	P		P	Pn	16 46 26.6	-1.1
MTN	**Manton Dam** baz=6.1,SNR=62	**5.98**	**167**	P		P	Pn	16 46 43.7	-0.3
SOEI	**Soe** baz=5.9,SNR=31	**6.08**	**243**	P		P	Pn	16 46 45.5	-0.1
KDU	**Kakadu** baz=6.4,SNR=356	**6.27**	**155**	P		P	Pn	16 46 47.4	-0.5
KNRA	**Kununurra** baz=8.7,SNR=105	**8.69**	**186**	P		P	Pn	16 47 18.5	-2.0
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=22,slow=12,SNR=42	**11.75**	**200**	Pn		P	P

H03N3	**Juan Fernandez**	**17.00**	**208**	T	T		17 32 21.2	
	baz=27,slow=75,SNR=3.3							
PLCA	**Paso Flores**	**21.98**	**182**	P	**P**		**17 15 21.3**	**+0.7**
	comp=N,3.2nm,0.9s,baz=9.1,slow=9.7,SNR=4.9							
QSPA	**South Pole Qui**	**71.47**	**180**	P	**P**		**17 21 44.8**	**+0.9**
	comp=N,0.8nm,0.4s,baz=163,slow=4.2,SNR=9.5							
TORD	**Torodi Ar. Bea**	**76.84**	**71**	P	**P**		**17 22 14.1**	**-1.7**
	comp=N,0.7nm,0.7s,baz=250,slow=6.5,SNR=3.7							
YKA	**Yellowknife Ar**	**88.42**	**341**	P	**P**		**17 23 14.6**	**0.0**
	comp=N,0.7nm,0.6s,baz=133,slow=4.9,SNR=16							
H11S2	**WAKE ISLAND Hy**	**127.05**	**279**	T	T		19 48 56.7	
	baz=103,slow=73,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**127.06**	**281**	T	T		19 49 11.1	
	baz=104							
H11S1	**WAKE ISLAND Hy**	**127.06**	**279**	T	T		19 48 53.8	
	baz=103,slow=73,SNR=3.7							
H11S3	**WAKE ISLAND Hy**	**127.07**	**279**	T	T		19 48 54.0	
	baz=103,slow=73,SNR=2.9							
H11N2	**WAKE ISLAND Hy**	**127.07**	**281**	T	T		19 49 01.5	
	baz=104							
H11N1	**WAKE ISLAND Hy**	**127.07**	**281**	T	T		19 49 08.5	
	baz=104							
ASAR	**Alice Springs**	**132.15**	**209**	PKP	**PKPdf**		**17 29 36.8**	**-0.4**
	comp=N,0.2nm,0.6s,baz=136,slow=1.3,SNR=5.1							
WRA	**Warramunga Arr**	**135.10**	**212**	PKP	**PKPdf**		**17 29 42.4**	**-0.3**
	comp=N,0.2nm,0.4s,baz=138,slow=1.8,SNR=4.0							
ZALV	**Zalesovo Beam**	**139.59**	**23**	PKP	**PKPdf**		**17 29 49.9**	**0.0**
	comp=N,0.5nm,0.4s,baz=321,slow=1.8,SNR=3.5							
MKAR	**Makanchi Array**	**143.59**	**33**	PKP	**PKPdf**		**17 29 57.0**	**-0.3**
	comp=N,0.1nm,0.4s,baz=302,slow=3.2,SNR=2.3							
SONM	**Songino Array**	**150.74**	**6**	PKPbc	**PKPbc**		**17 30 15.4**	**+0.4**
	comp=N,0.6nm,0.5s,baz=337,slow=2.2,SNR=4.3							

*IDC **28** 17:12:41.0±1.1,53°.14N×166°.99W,h0km,mb3.7/13, mb1 3.9/15,mb1mx3.7/32,mbtmp3.7/15,ML3.1/2,MS3.8/1, Ms1 3.8/1,ms1mx2.6/43,Error ellipse: s-maj=27.8km s-min=14.6km az=179.0*

*ISCJB **28** 17:12:42.9±2.0,52°.53N±0°.05×167°.08W±0°.08, h33km±15km,mb3.6/13,MS3.8/1,Error ellipse: s-maj=9.5km s-min=7.1km az=147.3*

*NEIC **28** 17:12:42.4,52°.59N×167°.09W,h5km,mb3.7/1, ML3.2(AEIC),After AEIC.*

ISC 28 17:12:46.0±1.7,52°.7N±0°.1×167°.14W±0°.07,h53km±13km, n49,σ1§40/44,mb3.6/13,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.83**	**326**	P	**Pn**	**17 13 00.2**	**-1.4**
OKFG				S	**Sn**	**17 13 12.6**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**0.86**	**321**	P	**Pn**	**17 13 01.3**	**-0.6**
NIKH	**Nikolski High**	**1.07**	**284**	P	**Pn**	**17 13 03.2**	**-1.5**
NIKH				S	**Sn**	**17 13 18.4**	**-0.1**
MGOD	**Makushin Gods**	**1.08**	**8**	P	**Pn**	**17 13 04.0**	**-0.9**
MGOD				S	**Sn**	**17 13 20.3**	**+1.3**
MSOM	**Makushin Julie**	**1.10**	**6**	P	**Pn**	**17 13 03.8**	**-1.3**
MREP	**Makushin Rep't**	**1.11**	**12**	P	**Pn**	**17 13 04.2**	**-1.2**
UNV	**Unalaska Valle**	**1.19**	**18**	P	**Pn**	**17 13 04.3**	**-2.0**
UNV				S	**Sn**	**17 13 23.8**	**+2.4**
MSW	**Makushin Switc**	**1.21**	**10**	P	**Pn**	**17 13 05.3**	**-1.4**
MCIR	**Makushin Cirqu**	**1.24**	**7**	P	**Pn**	**17 13 06.5**	**-0.6**
AKRB	**Akutan Reef Bi**	**1.55**	**24**	P	**Pn**	**17 13 10.4**	**-0.8**
AKRB				S	**Sn**	**17 13 32.4**	**+2.2**
AKUT	**Akutan**	**1.63**	**29**	P	**Pn**	**17 13 11.7**	**-0.6**
AKUT				S	**Sn**	**17 13 32.8**	**+0.6**
FX1	**Attu Island--F**	**11.92**	**279**	Pn	**Pn**	**17 15 34.5**	**+1.4**
FX1	**Attu Island--F**	**11.92**	**279**	Pn	**Pn**	**17 15 34.5**	**+1.4**
	0.4nm,0.3s,baz=232,slow=12,SNR=4.1						
ILAR	**Eielson Array**	**15.90**	**33**	Pn	Pn	17 16 17.6	-8.4
ILAR	**Eielson Array**	**15.90**	**33**	Pn	Pn	17 16 17.6	-8.4
	0.0nm,0.3s,baz=225,slow=9.6,SNR=2.9						
COLD	**Coldfoot**	**16.73**	**23**	Pn	**P**	**17 16 37.8**	**-0.3**
PETK	**Petropavlovsk-**	**21.08**	**285**	P	**P**	**17 17 27.4**	**+1.8**
PETK	**Petropavlovsk-**	**21.08**	**285**	P	**P**	**17 17 27.4**	**+1.8**
	2.7nm,0.5s,baz=80,slow=10,SNR=4.2						
INK	**Inuvik**	**22.30**	**33**	*e*P	**P**	**17 17 35.8**	**-2.8**
	1.8nm,0.7s						
INK	**Inuvik**	**22.30**	**33**	P	**P**	**17 17 36.2**	**-2.4**
	2.0nm,0.6s,baz=249,slow=6.8,SNR=11						
SEY	**Seymchan**	**23.44**	**312**	P	**P**	**17 17 49.4**	**-0.9**
SEY	**Seymchan**	**23.44**	**312**	P	**P**	**17 17 49.4**	**-0.9**
	1.4nm,0.7s,baz=126,slow=8.7,SNR=5.3						
YKA	**Yellowknife Ar**	**28.98**	**50**	P	**P**	**17 18 37.5**	**-2.7**
YKA	**Yellowknife Ar**	**28.98**	**50**	P	**P**	**17 18 37.5**	**-2.7**
	0.1nm,0.5s,baz=274,slow=8.0,SNR=3.1						
NVAR	**Mina Array Bea**	**36.31**	**93**	P	**P**	**17 19 46.5**	**+1.8**
NVAR	**Mina Array Bea**	**36.31**	**93**	P	**P**	**17 19 46.5**	**+1.8**
	0.6nm,0.8s,baz=299,slow=11,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**38.60**	**221**	T	T	18 01 37.2	
	baz=27,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**38.61**	**221**	T	T	18 01 37.0	
	baz=27,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**38.62**	**221**	T	T	18 01 38.2	
	baz=27,slow=75,SNR=9.8						
PDAR	**Pinedale Array**	**39.00**	**81**	P	**P**	**17 20 07.4**	**0.0**
PDAR	**Pinedale Array**	**39.00**	**81**	P	**P**	**17 20 07.4**	**0.0**
	0.3nm,0.6s,baz=302,slow=5.2,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**39.78**	**221**	T	T	18 02 56.7	
	baz=25,slow=77,SNR=15						
H11S2	**WAKE ISLAND Hy**	**39.80**	**221**	T	T	18 03 03.4	
	baz=25,slow=77,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.80**	**221**	T	T	18 03 12.2	
	baz=25,slow=77,SNR=9.4						
PFO	**Pinyon Flat Ob**	**40.63**	**97**	LR	LR	17 33 22.1	
	comp=Z,147nm,20.8s,baz=180,slow=31						
TXAR	**Lajitas Array**	**51.38**	**91**	P	**P**	**17 21 45.5**	**+0.1**
TXAR	**Lajitas Array**	**51.38**	**91**	P	**P**	**17 21 45.5**	**+0.1**
	0.5nm,0.6s,baz=304,slow=5.8,SNR=5.5						
ARCES	**ARCESS Array B**	**57.70**	**355**	P	**P**	**17 22 31.2**	**+0.6**
ARCES	**ARCESS Array B**	**57.70**	**355**	P	**P**	**17 22 31.2**	**+0.6**
	1.5nm,0.7s,baz=24,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**64.54**	**315**	P	**P**	**17 23 17.1**	**-0.1**
MKAR	**Makanchi Array**	**64.54**	**315**	P	**P**	**17 23 17.1**	**-0.1**
	0.7nm,0.7s,baz=47,slow=6.0,SNR=11						
FINES	**FINESS Array B**	**65.69**	**353**	P	**P**	**17 23 24.5**	**+0.1**
FINES	**FINESS Array B**	**65.69**	**353**	P	**P**	**17 23 24.5**	**+0.1**
	3.5nm,0.8s,baz=25,slow=7.6,SNR=11						
AKASG	**Malin Array Be**	**76.03**	**349**	P	**P**	**17 24 27.0**	**-0.2**
AKASG	**Malin Array Be**	**76.03**	**349**	P	**P**	**17 24 27.0**	**-0.2**
	1.3nm,0.6s,baz=11,slow=5.6,SNR=5.0						
GERES	**GERESS Array B**	**78.80**	**359**	P	**P**	**17 24 44.1**	**+1.2**
GERES	**GERESS Array B**	**78.80**	**359**	P	**P**	**17 24 44.1**	**+1.2**
	0.3nm,0.7s,baz=358,slow=4.9,SNR=3.1						
ASAR	**Alice Springs**	**91.68**	**232**	P	P	17 25 53.3	+5.9
ASAR	**Alice Springs**	**91.68**	**232**	P	P	17 25 53.3	+5.9
	0.1nm,0.7s,baz=25,slow=3.1,SNR=2.6						

*IDC **28** 17:43:06.8±0.9,42°.06N×79°.74E,h0km,mb3.3/4, mb1 3.6/11,mb1mx3.4/34,mbtmp3.5/11,ML3.9/7,Error ellipse: s-maj=14.1km s-min=12.1km az=179.0*

*MOS **28** 17:43:07.9±1.4,42°.26N×79°.87E,h10km,mb4.3/1,Error ellipse: s-maj=9.7km s-min=8.2km az=122.2*

*BJI **28** 17:43:08.5,42°.26N×79°.63E,h12km,mb3.8/1,ML3.8/9*

*NNC **28** 17:43:09.2±4.5,41°.71N×79°.42E,h0km,mb4.1,mpv4.0, Error ellipse: s-maj=39.4km s-min=21.6km az=154.0*

ISC 28 17:43:11.4±0.7,42°.36N±0°.05×79°.68E±0°.05,h10km,n56, σ1§65/58,mb3.2/5,12C-7D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**2.18**	**294**	⇑P	**Pn**	**17 43 49.0**	**+1.3**
KNDC				⇑Sn	**Sb**	**17 44 19.3**	**+1.3**
AAA	**Alma-Ata**	**2.21**	**295**	*e*Pn	**Pn**	**17 43 49.9**	**+1.7**
AAA				*e*S	**Sb**	**17 44 20.1**	**+1.2**
AAA				pmax	pmax		
	comp=Z,1μm,0.3s						
AAA				smax	smax		
	comp=N,973nm,0.2s						
ULHL	**Ulahol**	**2.56**	**269**	*i* PN	**Pn**	**17 43 53.3**	**+0.2**
ULHL	**Ulahol**	**2.56**	**269**	P	**Pn**	**17 43 53.3**	**+0.2**
	SNR=751						
TKM2	**Tokmak 2**	**3.07**	**282**	*i* PN	**Pn**	**17 44 01.1**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,68nm,0.4s						
TKM2	**Tokmak 2**	**3.07**	**282**	P	**Pn**	**17 44 01.2**	**+1.0**
	SNR=232						
TKM2	**Tokmak 2**	**3.07**	**282**	⇑Pn	**Pn**	**17 44 01.2**	**+1.0**
	comp=Z,42nm,0.3s						
TKM2				⇑Lg	Lg	17 44 44.2	
	comp=Z,287nm,0.4s						
KZA	**Kyzart**	**3.31**	**267**	*i* PN	**Pn**	**17 44 04.4**	**+0.8**
KZA	**Kyzart**	**3.31**	**267**	P	**Pn**	**17 44 04.5**	**+0.8**
	SNR=56						
KBK	**Karagaybulak**	**3.51**	**276**	P	**Pn**	**17 44 07.3**	**+1.1**
	SNR=157						
CHMS	**Chumysh**	**3.69**	**282**	*i* PN	**Pn**	**17 44 09.4**	**+0.9**
CHMS	**Chumysh**	**3.69**	**282**	P	**Pn**	**17 44 09.5**	**+0.9**
	SNR=8.5						
UCH	**Uchtor**	**3.84**	**270**	*i* PN	**Pn**	**17 44 12.0**	**+1.1**
UCH	**Uchtor**	**3.84**	**270**	P	**Pn**	**17 44 12.0**	**+1.1**
	SNR=23						
AAK	**Ala-Archa**	**3.85**	**276**	*c* iPN	**Pn**	**17 44 11.3**	**+0.5**
AAK	**Ala-Archa**	**3.85**	**276**	P	**Pn**	**17 44 11.6**	**+0.8**
	SNR=27						
AAK	**Ala-Archa**	**3.85**	**276**	Pn	**Pn**	**17 44 11.6**	**+0.8**
	comp=Z,5.1nm,0.3s,baz=106,slow=7.3,SNR=64						
AAK				Pg	**Pb**	**17 44 19.1**	**-0.4**
	comp=Z,45nm,0.3s,baz=106,slow=10,SNR=82						
AAK				Lg	Lg	17 45 06.3	
	comp=Z,17nm,0.3s,baz=12,slow=20,SNR=8.1						
AAK	**Ala-Archa**	**3.85**	**276**	⇑Pn	**Pn**	**17 44 11.6**	**+0.8**
	comp=Z,96nm,0.5s						
AAK				⇑Lg	Lg	17 45 08.1	
	comp=Z,145nm,0.7s						
USP	**Ospenovka**	**3.92**	**285**	*i* PN	**Pn**	**17 44 12.3**	**+0.6**
USP	**Ospenovka**	**3.92**	**285**	P	**Pn**	**17 44 12.3**	**+0.6**
	SNR=29						
KSH	**Kashi**	**4.00**	**226**	Pn	**Pb**	**17 44 20.0**	**-2.0**
KSH				Sn	**Sb**	**17 45 12.5**	**+2.1**
KSH				smax	smax		
	comp=Z,170nm,1.0s						
KSH				smax	smax		
	comp=Z,100nm,0.7s						
EKS2	**Erkin-Say**	**4.38**	**276**	P	**Pb**	**17 44 30.5**	**+2.0**
	SNR=34						
AML	**Almayashu**	**4.45**	**269**	P	**Pb**	**17 44 31.2**	**+1.3**
	SNR=21						
MK31	**Makanchi Array**	**4.81**	**22**	*e*PN	**Pn**	**17 44 25.2**	**+1.4**
MK31				pmax	pmax		
	comp=Z,17nm,0.3s						
MK31	**Makanchi Array**	**4.81**	**22**	Pn	**Pn**	**17 44 25.2**	**+1.4**
	comp=Z,5.5nm,0.3s,baz=203,slow=13,SNR=1130						
MK31				⇓Sn	**Sg**	**17 45 42.5**	**-3.2**
	comp=Z,9.3nm,0.3s,baz=206,slow=29,SNR=5.7						
MKAR	**Makanchi Array**	**4.81**	**22**	*i* PN	**Pn**	**17 44 25.2**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,20nm,0.3s						
MKAR	**Makanchi Array**	**4.81**	**22**	Pn	**Pn**	**17 44 25.3**	**+1.4**
	comp=Z,21nm,0.3s,baz=214,slow=15,SNR=1126						
MKAR				Pg	**Pb**	**17 44 36.9**	**+1.2**
	comp=Z,7.9nm,0.3s,baz=194,slow=16,SNR=16						
MKAR				Sn	**Sn**	**17 45 21.1**	**+1.5**
	comp=Z,4.7nm,0.3s,baz=197,slow=23,SNR=3.8						
MKAR				Lg	Lg	17 45 42.5	
	comp=Z,11nm,0.3s,baz=202,slow=30,SNR=7.6						
WMQ	**Urumqi**	**6.04**	**73**	Pn	**Pn**	**17 44 43.0**	**+2.1**
WMQ				Sn	**Sn**	**17 45 55.0**	**+4.8**
KK31	**Karatay Array**	**6.79**	**279**	*e*PN	Pb	17 45 13.3	+3.7
KK31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KK31	**Karatay Array**	**6.79**	**279**	⇑Pg	**Pb**	**17 45 12.4**	**+2.8**
	comp=Z,5.4nm,0.4s,baz=85,slow=16,SNR=40						
KK31				⇑Lg	Lg	17 46 44.9	
	comp=Z,12nm,0.5s,baz=94,slow=31						
KURBB	**Kurchatov Arra**	**8.30**	**355**	Pn	**Pn**	**17 45 12.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=180,slow=12,SNR=9.6						
KURBB	**Kurchatov Arra**	**8.30**	**355**	⇓Pn	Pn	17 45 17.0	+5.3
	comp=Z,0.3nm,0.3s						
KURBB				⇑Sn	Sb	17 47 06.2	-7.7
	comp=Z,4.7nm,0.4s						
KURK	**Kurchatov**	**8.39**	**355**	P	**Pn**	**17 45 12.9**	**-0.1**
KURK	**Kurchatov**	**8.39**	**355**	⇓Pn	Pn	17 45 16.6	+3.6
	comp=Z,0.2nm,0.4s						
KURK				⇓Sn	Sb	17 47 06.0	-10
	comp=Z,2.9nm,0.4s						
CEP	**Cherat**	**10.49**	**218**	P	**Pn**	**17 45 41.6**	**-0.4**
THW	**Thamme Wali**	**11.44**	**216**	P	**Pn**	**17 45 54.8**	**0.0**
ZALV	**Zalesovo Beam**	**12.09**	**15**	*i* P	**Pn**	**17 46 04.6**	**+1.1**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ZALV	**Zalesovo Beam**	**12.09**	**15**	Pn	**Pn**	**17 46 03.2**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=200,slow=13,SNR=28						
ZALV				Sn	Sn	17 48 13.2	-5.1
	comp=Z,1.5nm,0.3s,baz=204,slow=22,SNR=7.9						
BVA0	**Borovoye Array**	**12.36**	**333**	⇑Pn	**Pn**	**17 46 09.4**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=150,slow=14,SNR=5.7						
BVA0				⇑Sn	Sn	17 48 37.8	+13
	comp=Z,2.1nm,0.6s,baz=147,slow=25,SNR=4.5						
BVAR	**Borovoye Array**	**12.36**	**333**	P	**Pn**	**17 46 06.1**	**-1.2**
BVAR						17 48 22.2	
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR	**Borovoye Array**	**12.36**	**333**	Pn	**Pn**	**17 46 06.1**	**-1.2**
	comp=N,0.4nm,0.3s,baz=143,slow=14,SNR=9.7						
BVAR				Sn	**Sn**	**17 48 22.2**	**-2.7**
	comp=N,0.5nm,0.3s,baz=142,slow=22,SNR=4.4						
BVAR				Lg	Lg	17 49 34.5	
	comp=N,0.6nm,0.3s,baz=150,slow=26,SNR=3.0						
BRVK	**Borovoye**	**12.42**	**333**	*i* P	**Pn**	**17 46 08.4**	**+0.3**
NVS	**Novosibirsk**	**12.71**	**9**	*e*P	Pn	17 46 20.4	+8.4
NVS				*e*		17 48 28.9	
HVS	**Khovu-Aksy**	**13.00**	**43**	*e*P	**Pn**	**17 46 14.5**	**-1.6**
HVS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AB31	**Akbulak array**	**15.37**	**303**	P	**Pn**	**17 46 46.5**	**-1.8**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AB31	**Akbulak array**	**15.37**	**303**	⇓Pn	**Pn**	**17 46 47.1**	**-1.1**
	comp=Z,1.5nm,0.6s						
AKTO	**Aktyubinsk**	**16.94**	**306**	P	**Pn**	**17 47 06.6**	**-1.8**
AKTO	**Aktyubinsk**	**16.94**	**306**	Pn	**Pn**	**17 47 06.6**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=119,slow=10,SNR=2.3						
AKTO	**Aktyubinsk**	**16.94**	**306**	⇓Pn	**Pn**	**17 47 05.5**	**-2.9**
	comp=Z,1.0nm,0.7s						
ARU	**Arti**	**19.56**	**323**	P	**Pn**	**17 47 44.4**	**+4.0**
SONM	**Songino Array**	**19.58**	**65**	P	**P**	**17 47 37.8**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=267,slow=11,SNR=6.4						
OBN	**Obninsk**	**30.65**	**310**	*e*P	**P**	**17 49 26.3**	**+0.7**
OBN				*e*		17 50 26.1	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.42**	**272**	P	P	17 54 34.7	-3.5
	comp=Z,0.4nm,0.6s,baz=50,slow=6.3,SNR=3.1						
YKA	**Yellowknife Ar**	**74.86**	**7**	P	**P**	**17 54 50.9**	**-0.8**
	comp=Z,0.1nm,0.7s,baz=343,slow=6.1,SNR=2.7						
WRA	**Warramunga Arr**	**79.88**	**129**	P	P	17 55 16.8	-3.6
	comp=Z,0.2nm,0.9s,baz=331,slow=5.1,SNR=2.7						
ASAR	**Alice Springs**	**82.57**	**131**	P	P	17 55 30.5	-4.1
	comp=Z,0.2nm,0.9s,baz=327,slow=5.2,SNR=2.6						

*ISCJB **28** 17:55:06.0±1.3,52°.49N±0°.08×166°.90W±0°.08, h40km±12km,mb3.4/4,Error ellipse: s-maj=14.3km s-min=7.3km az=161.4*

*NEIC **28** 17:55:06.7,52°.50N×166°.88W,h15km,ML2.9(AEIC),After AEIC.*

*IDC **28** 17:55:14.6±7.0,52°.95N×166°.82W,h85km±64km,mb3.2/4, mb1 3.3/5,mb1mx3.0/29,mbtmp3.4/5,ML3.2/1,Error ellipse: s-maj=46.2km s-min=23.2km az=3.0*

ISC 28 17:55:06.6±3.5,52°.6N±0°.1×166°.96W±0°.06,h24km±23km, n26,σ1§00/28,mb3.3/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.03**	**326**	P	**Pn**	**17 55 25.3**	**-0.2**
OKFG				S	**Sn**	**17 55 39.4**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.05**	**322**	P	**Pn**	**17 55 25.6**	**-0.2**
OKTU				S	**Sn**	**17 55 42.3**	**+2.5**
NIKH	**Nikolski High**	**1.22**	**290**	P	**Pn**	**17 55 27.6**	**-0.6**
NIKH				S	**Sn**	**17 55 43.4**	**-0.5**
MGOD	**Makushin Gods**	**1.24**	**2**	P	**Pn**	**17 55 27.7**	**-0.7**
MGOD				S	**Sb**	**17 55 45.0**	**+0.2**
MSOM	**Makushin Julie**	**1.26**	**0**	P	**Pn**	**17 55 28.1**	**-0.5**
MREP	**Makushin Rep't**	**1.26**	**6**	P	**Pn**	**17 55 28.5**	**-0.2**
UNV	**Unalaska Valle**	**1.32**	**12**	P	**Pn**	**17 55 28.4**	**-1.0**
MSW	**Makushin Switc**	**1.36**	**4**	P	**Pn**	**17 55 29.6**	**-0.4**
MSW				S	**Sb**	**17 55 48.0**	**-0.3**
MCIR	**Makushin Cirqu**	**1.39**	**2**	P	**Pn**	**17 55 30.4**	**-0.1**
ZRO	**Akutan Zero**	**1.64**	**21**	P	**Pn**	**17 55 33.7**	**-0.2**
AKRB	**Akutan Reef Bi**	**1.66**	**18**	P	**Pn**	**17 55 34.5**	**+0.3**
AKRB				S	**Sn**	**17 55 54.7**	**0.0**
AKUT	**Akutan**	**1.73**	**24**	P	**Pn**	**17 55 35.7**	**+0.6**
AKUT				S	**Sn**	**17 55 56.8**	**+0.4**
AKGG	**Akutan Green G**	**1.74**	**19**	P	**Pn**	**17 55 35.4**	**+0.2**
WESE	**West Dahl East**	**2.38**	**36**	P	**Pn**	**17 55 44.6**	**+0.4**
WESE				S	**Sn**	**17 56 13.3**	**+0.7**
ILAR	**Eielson Array**	**15.98**	**32**	P	**Pn**	**17 58 49.0**	**-0.5**
	0.0nm,0.3s,baz=230,slow=11,SNR=3.2						
PETK	**Petropavlovsk-**	**21.23**	**286**	P	**P**	**17 59 53.5**	**+3.1**
	0.9nm,0.5s,baz=85,slow=12,SNR=6.5						
INK	**Inuvik**	**22.38**	**33**	P	**P**	**18 00 01.4**	**-1.3**
	baz=231,slow=8.8						
H11N2	**WAKE ISLAND Hy**	**38.55**	**222**	T	T	18 44 02.8	
	baz=27,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**38.56**	**222**	T	T	18 44 06.5	
	baz=27,slow=75,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**38.57**	**222**	T	T	18 44 01.9	
	baz=27,slow=75,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**39.73**	**221**	T	T	18 45 20.7	
	baz=25,slow=77,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**39.74**	**221**	T	T	18 45 23.0	
	baz=25,slow=77,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**39.75**	**221**	T	T	18 45 21.8	
	baz=25,slow=77,SNR=4.3						
TXAR	**Lajitas Array**	**51.27**	**91**	P	**P**	**18 04 09.2**	**+0.7**
	0.1nm,0.5s,baz=257,slow=3.6,SNR=2.9						
MKAR	**Makanchi Array**	**64.73**	**315**	P	**P**	**18 05 41.4**	**-1.1**
	0.1nm,0.4s,baz=56,slow=7.7,SNR=4.0						
FINES	**FINESS Array B**	**65.87**	**353**	P	**P**	**18 05 48.6**	**-0.9**
	1.4nm,0.7s,baz=18,slow=6.6,SNR=7.1						

IDC 28 18:12:12.1±4.4,18°.86S×176°.62W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/19,mbtmp3.6/3,MS3.3/1,Ms1 3.3/1, ms1mx2.7/28,Error ellipse: s-maj=204.9km s-min=48.7km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**26.86**	**200**	LR	LR	18 28 04.1	
	comp=Z,54nm,19.1s,baz=10,slow=35						
STKA	**Stephens Creek**	**39.68**	**243**	P	P	18 19 46.5	+0.3
	0.6nm,0.6s,baz=90,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**46.13**	**260**	P	P	18 20 39.6	+0.9
	0.2nm,0.7s,baz=95,slow=8.2,SNR=3.7						
ASAR	**Alice Springs**	**46.17**	**255**	P	P	18 20 37.7	-1.3
	1.0nm,0.7s,baz=89,slow=8.3,SNR=15						
H03N2	**Juan Fernandez**	**85.97**	**124**	T	T	20 00 09.7	
	baz=241,slow=74,SNR=11						
H03N3	**Juan Fernandez**	**85.97**	**124**	T	T	20 00 10.3	
	baz=241,slow=74,SNR=25						
H03N1	**Juan Fernandez**	**85.98**	**124**	T	T	20 00 09.9	
	baz=241,slow=74,SNR=15						
GERES	**GERESS Array B**	**148.95**	**347**	PKPbc	**PKPbc**	18 32 01.6	-0.6
	0.3nm,0.6s,baz=32,slow=3.9,SNR=4.5						

*ISCJB **28** 18:18:16.9±0.9,40°.14N±0°.03×142°.45E±0°.09,h49km±7km, mb3.3/5,MS3.0/1,Error ellipse: s-maj=11.9km s-min=5.7km az=4.1*

*JMA **28** 18:18:17.1±0.1,40°.13N×142°.47E,h35km±1km,M3.9*

JMA Felt I J1.

*IDC **28** 18:18:19.1±2.7,40°.18N×142°.58E,h59km±22km,mb3.1/5, mb1 3.2/8,mb1mx3.1/27,mbtmp3.2/8,ML3.2/2,MS2.8/2, Ms1 2.9/2,ms1mx2.4/13,Error ellipse: s-maj=37.2km s-min=16.7km az=96.0*

ISC 28 18:18:17.9±1.5,40°.12N±0°.04×142°.42E±0°.09,h40km±14km, n25,σ0§88/28,mb3.3/5,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.46**	**247**	⇓P	**Pn**	**18 18 27.6**	**-0.6**
JTH				*e*S	**Sn**	**18 18 35.3**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.71**	**221**	⇓P	**Pn**	**18 18 30.8**	**-0.7**
MIYJ				*e*S	**Sn**	**18 18 40.4**	**-0.9**
JANG	**Nango**	**0.74**	**290**	⇓P	**Pn**	**18 18 31.4**	**-0.5**
JANG				*e*S	**Sn**	**18 18 41.2**	**-0.7**
JKZ	**Kuzumaki**

MKAR Makanchi Array 57.29 325 P **P 18 58 30.2 +1.7**
0.3nm,0.5s,baz=122,slow=6.9,SNR=8.3

*IDC **28** 19:19:19.5±3.8,3˚.04S×140˚.11E,h0km,mb3.3/4, mb1 3.7/5,mb1mx3.5/18,mbtmp3.5/5,ML3.8/1,MS3.2/1, Ms1 3.1/1,ms1mx2.4/15,Error ellipse: s-maj=101.0km s-min=27.5km az=87.0*
*AUST **28** 19:19:22.4±2.8,3˚.16S×139˚.89E,h0km,Error ellipse: s-maj=2.0km s-min=1.3km az=350.0*
*ISCJB **28** 19:19:24.1±0.8,3˚.145±0˚.09×139˚.84E±0˚.09,h37km, mb3.3/3,MS3.1/1,Error ellipse: s-maj=14.9km s-min=10.8km az=37.9*
ISC 28 19:19:25.7±0.9,**3˚.1S**±0˚.1×**139˚.93E**±0˚.09,**h37**km,**n15**, σ0§**84**/**11**,**mb3.4**/**3**,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.97**	**53**	P		**Pn**	**19 19 42.7**	**-0.2**
	baz=1.0,SNR=52							
FAKI	**Fak Fak**	**7.67**	**271**	P		**Pn**	**19 21 15.3**	**+0.3**
	baz=7.6,SNR=4.1							
KDU	**Kakadu**	**12.05**	**217**	P		**Pn**	**19 22 14.4**	**-0.6**
	baz=12,SNR=12							
MTN	**Manton Dam**	**13.02**	**221**	P		**Pn**	**19 22 27.2**	**-1.0**
	baz=13,SNR=7.8							
KNRA	**Kununurra**	**16.65**	**221**	P		**Pn**	**19 23 16.0**	**-0.3**
	baz=17,SNR=7.5							
QIS	**Mount Isa**	**17.36**	**181**	P		**P**	**19 23 27.7**	**+1.4**
	baz=17,SNR=4.4							
WRA	**Warramunga Arr**	**17.61**	**198**	P		**Pn**	**19 23 27.0**	**-1.3**
	0.4nm,0.3s,baz=21,slow=12,SNR=16							
WRA				S		Sn	19 26 35.0	-8.6
	0.1nm,0.3s,baz=12,slow=22,SNR=2.4							
FITZ	**Fitzroy Crossi**	**20.45**	**222**	P		Pn	19 24 01.1	-1.5
	1.3nm,0.5s,baz=44,slow=14,SNR=8.1							
FITZ	**Fitzroy Crossi**	**20.45**	**222**	P		Pn	19 24 01.1	-1.4
	baz=20,SNR=6.7							
ASAR	**Alice Springs**	**21.26**	**195**	P		**P**	**19 24 08.8**	**-0.2**
	1.1nm,0.6s,baz=24,slow=9.6,SNR=10							
WRKA	**Warakurna**	**24.52**	**206**	P		P	19 24 50.1	+8.1
	baz=25,SNR=4.0							
STKA	**Stephens Creek**	**28.67**	**177**	LR		LR	19 39 05.8	
	comp=Z,45nn,19.3s,baz=26,slow=41							
LHI	**Lord Howe Isla**	**33.53**	**150**	P		**P**	**19 26 02.5**	**+0.5**
	baz=34,SNR=3.6							
CMAR	**Chiang Mai Arr**	**45.68**	**300**	P		**P**	**19 27 43.2**	**-0.1**
	0.3nm,0.6s,baz=118,slow=7.7,SNR=3.3							
MKAR	**Makanchi Array**	**70.84**	**322**	P		**P**	**19 30 38.9**	**+0.1**
	0.1nm,0.5s,baz=103,slow=6.4,SNR=3.1							

NNC 28 19:35:42.3±17.0,**37˚.02N**×**70˚.62E**,**h0**km,**mb3.6**,**mpv3.2**, **3C-2D**,**Error ellipse: s-maj=141.9km s-min=104.6km az=163.0**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.08**	**359**	⇑P		Pn	19 37 15.9	+2.4
	1.1nm,0.3s,baz=178,slow=13,SNR=22							
KK31				⇑S		Sn	19 38 27.0	+3.2
	0.9nm,0.5s,baz=186,slow=28,SNR=6.5							
AAK	**Ala-Archa**	**6.36**	**27**	⇑P		Pn	19 37 15.9	-1.5
	0.6nm,0.3s							
AAK				⇓S		Sn	19 38 28.8	-2.1
	0.8nm,0.5s							
AB31	**Akbulak array**	**14.48**	**331**	⇓P		Pn	19 39 08.5	0.0
	0.3nm,0.3s,baz=137,slow=15,SNR=20							

IDC 28 19:41:12.3±3.6,**7˚.03S**×**154˚.03E**,**h0**km,**mb3.3**/3, **mb1 3.6**/4,**mb1mx3.4**/19,**mbtmp3.4**/4,**ML2.7**/1,**MS2.8**/1, **Ms1 2.8**/1,**ms1mx2.3**/18,**Error ellipse: s-maj=69.3km s-min=43.0km az=114.0**,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.20**	**250**	Pn		Pn	19 43 00.6	+1.7
	0.8nm,0.3s,baz=69,slow=8.6,SNR=3.7							
PMG				Sn		Sn	19 44 21.7	+0.2
	0.7nm,0.3s,baz=274,slow=23,SNR=2.9							
PMG				LR		LR	19 45 46.0	
	comp=Z,68nm,18.4s,baz=310,slow=38							
WRA	**Warramunga Arr**	**23.02**	**234**	P		P	19 46 18.7	-0.5
	0.5nm,0.8s,baz=56,slow=9.8,SNR=5.7							
ASAR	**Alice Springs**	**25.44**	**227**	P		P	19 46 41.6	-0.5
	0.6nm,0.6s,baz=59,slow=9.4,SNR=15							
CMAR	**Chiang Mai Arr**	**59.94**	**296**	P		P	19 51 21.3	+0.5
	0.4nm,0.9s,baz=122,slow=4.7,SNR=4.3							

*IDC **28** 19:46:22.0±1.5,10˚.79S×120˚.01E,h0km,mb3.6/6, mb1 3.7/9,mb1mx3.6/21,mbtmp3.6/9,ML3.5/3,MS3.5/1, Ms1 3.5/1,ms1mx2.5/25,Error ellipse: s-maj=75.5km s-min=21.1km az=53.0*
*ISCJB **28** 19:46:24.4±0.6,10˚.91S±0˚.05×119˚.97E±0˚.06,h33km, mb3.6/6,MS3.5/1,Error ellipse: s-maj=9.9km s-min=6.3km az=149.4*
*DJA **28** 19:46:26.1±2.3,11˚S±15˚×12˚0E±1˚7,h94km±48km, M4.1/4,MLv4.1/4*
*AUST **28** 19:46:26.2,10˚.99S×119˚.96E,h30km*
ISC 28 19:46:26.9±0.7,**10˚.86S**±0˚.07×**119˚.94E**±0˚.08,**h35**km,**n24**, σ1§**12**/**24**,**mb3.9**/**6**,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.23**	**17**	P		**Pn**	**19 46 47.8**	**+0.1**
WSI				S		Sn	19 47 11.2	+8.1
WSI	**Waingapu**	**1.23**	**17**	P		**Pn**	**19 46 47.7**	**+0.1**
	baz=1.4,SNR=22							
LBFI	**Labuhan Bajo,**	**2.37**	**359**	P		**Pn**	**19 47 01.8**	**-1.4**
LBFI				S		**Sn**	**19 47 30.4**	**-0.7**
MMRI	**Maumere**	**3.16**	**46**	P		**Pn**	**19 47 13.1**	**-1.1**
SOEI	**Soe**	**4.40**	**76**	P		**Pn**	**19 47 30.2**	**-1.1**
SOEI	**Soe**	**4.40**	**76**	P		**Pn**	**19 47 32.1**	**+0.8**
	baz=4.4,SNR=8.3							
JAGI	**Jajag, Banyuwa**	**6.18**	**292**	P		**Pn**	**19 47 55.9**	**+0.1**
	baz=6.3,SNR=4.7							
FITZ	**Fitzroy Crossi**	**9.07**	**143**	Pn		**Pn**	**19 48 34.6**	**-0.8**
	0.6nm,0.3s,baz=334,slow=9.2,SNR=29							
FITZ				Sn		Sn	19 50 08.4	-7.9
	2.9nm,0.3s,baz=164,slow=23,SNR=16							
FITZ	**Fitzroy Crossi**	**9.07**	**143**	P		**Pn**	**19 48 34.7**	**-0.6**
	baz=9.0,SNR=17							
KNRA	**Kununurra**	**9.83**	**120**	P		**Pn**	**19 48 45.5**	**-0.3**
	baz=9.8,SNR=3.5							
MTN	**Manton Dam**	**11.13**	**101**	P		**Pn**	**19 49 02.1**	**-1.5**
	baz=11,SNR=12							
KDU	**Kakadu**	**12.40**	**100**	P		**Pn**	**19 49 21.4**	**+0.4**
	baz=12,SNR=3.2							
FAKI	**Fak Fak**	**14.54**	**58**	P		**Pn**	**19 49 52.1**	**+1.9**
	baz=15,SNR=3.3							
MEEK	**Meekatharra**	**15.74**	**184**	P		**P**	**19 50 08.2**	**-1.5**
	baz=16,SNR=5.1							
WRA	**Warramunga Arr**	**16.55**	**125**	Pn		**Pn**	**19 50 13.4**	**-3.0**
	0.2nm,0.3s,baz=295,slow=15,SNR=5.9							
WRA				Sn		Sn	19 53 04.5	-15
	0.2nm,0.3s,baz=106,slow=32,SNR=5.2							
ASAR	**Alice Springs**	**18.42**	**136**	P		**Pn**	**19 50 39.5**	**-0.1**
	0.2nm,0.3s,baz=320,slow=14,SNR=14							
ASAR				S		Sn	19 53 52.3	-12
	0.2nm,0.3s,baz=317,slow=25,SNR=6.7							
MORW	**Morawa**	**18.48**	**191**	P		**Pn**	**19 50 41.3**	**+1.1**
	baz=18,SNR=4.0							
CMAR	**Chiang Mai Arr**	**35.75**	**324**	P		**P**	**19 53 22.0**	**-0.7**
	0.2nm,0.5s,baz=158,slow=7.4,SNR=4.7							
MJAR	**Matsushiro Arr**	**50.19**	**19**	LR		LR	20 16 52.7	
	comp=Z,48nn,20.7s,baz=340,slow=36							
USRK	**Ussuriysk Arra**	**55.88**	**10**	P		**P**	**19 56 00.8**	**-0.2**
	0.6nm,0.4s,baz=195,slow=6.7,SNR=2.9							
SONM	**Songino Array**	**59.66**	**349**	P		**P**	**19 56 28.1**	**+0.4**
	0.6nm,0.7s,baz=155,slow=7.2,SNR=4.2							
MKAR	**Makanchi Array**	**66.53**	**333**	P		**P**	**19 57 13.9**	**+0.7**
	0.8nm,0.7s,baz=142,slow=8.1,SNR=6.9							
KURBB	**Kurchatov Arra**	**71.04**	**334**	P		**P**	**19 57 41.7**	**+0.6**
	0.2nm,0.7s,baz=148,slow=4.9,SNR=5.1							
ZALV	**Zalesovo Beam**	**71.10**	**339**	P		**P**	**19 57 41.3**	**-0.1**
	0.5nm,0.4s,baz=118,slow=5.9,SNR=5.3							

*BJI **28** 19:56:05.9,6˚.50N×126˚.40E,h35km,mB4.8/5,mb4.4/18, Ms4.8/1,Ms7 4.7/1*
*IDC **28** 19:56:06.5±2.3,6˚.47N×126˚.40E,h31km±15km,mb4.0/15, mb1 4.2/15,mb1mx4.0/26,mbtmp4.0/15,MS3.3/6, Ms1 3.3/6,ms1mx3.1/32,Error ellipse: s-maj=30.8km s-min=11.8km az=75.0*
*MAN **28** 19:56:06,6˚.43N×126˚.31E,h44km,mb5.2,ML4.2,MS4.4*
*ISCJB **28** 19:56:07.2±0.5,6˚.59N±0˚.03×126˚.54E±0˚.04,h56km±4km, mb4.6/68,MS3.2/5,Error ellipse: s-maj=7.0km s-min=4.2km az=161.8*
*NEIC **28** 19:56:08.8±1.1,6˚.50N×126˚.40E,h57km±10km,mb4.6/31, Error ellipse: s-maj=10.1km s-min=5.2km az=65.0*
*AUST **28** 19:56:08.9±0.2,6˚.56N×126˚.53E,h64km,Error ellipse: s-maj=1.0km s-min=0.7km az=229.0*
*DJA **28** 19:56:14.1±1.3,6˚N±7˚×12˚7E±˚,h109km±9km,M4.9/22, mB5.3/8,mb4.9/22,MLv5.1/1,Mw(mB)4.7/8,Mwp5.9/1*
ISC 28 19:56:08.8±0.6,**6˚.52N**±0˚.04×**126˚.42E**±0˚.06,**h50**km±5km, **n164**,σ1§**50**/**170**,**mb4.6**/**67**,**MS3.2**/**5**,**1C-4D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.45**	**339**	*e*P		**Pn**	**19 56 18.4**	**-1.1**
MATI				*e*S		**Sn**	**19 56 29.0**	**+1.8**
DAV	**Davao City (W)**	**1.00**	**303**	*e*Pn		**Pn**	**19 56 25.8**	**-0.7**
DAV				*e*Sn		**Sn**	**19 56 38.6**	**-1.0**
DMPH	**Davao City--Mi**	**1.06**	**302**	⇓*e*P		Pn	19 56 36.5	+9.2
DMPH				*e*S		**Sn**	**19 56 41.3**	**+0.1**
KCP	**Kidapawan**	**1.41**	**290**	⇓*i*P		**Pn**	**19 56 29.8**	**-2.3**
KCP				*i* S		**Sn**	**19 56 46.9**	**-2.7**
GSPH	**General Santos**	**1.52**	**254**	⇓*i*P		Pn	19 56 28.1	-5.7
GSPH				*i* S		Sn	19 56 44.7	-7.9
BUKP	**Musuan**	**1.91**	**315**	*e*P		**Pn**	**19 56 38.4**	**-0.6**
BUKP				*e*S		**Sn**	**19 57 05.2**	**+3.4**
CTBH	**Cotabato--PC H**	**2.27**	**288**	⇑*i*P		**Pn**	**19 56 42.0**	**-1.8**
BUTP	**Butuan**	**2.56**	**342**	*e*P		**Pn**	**19 56 50.3**	**+2.5**
PAGZ	**Pagadian**	**3.29**	**294**	*e*P		**Pn**	**19 56 56.2**	**-1.6**
MSLP	**Maasin**	**3.91**	**337**	*e*P		**Pn**	**19 57 08.7**	**+2.3**
MSLP				*e*S		Sn	19 57 57.7	+6.8
LLP	**Lapu-Lapu**	**4.48**	**327**	*e*P		Pn	19 57 17.7	+3.4
LLP				*e*S		**Sn**	**19 57 59.4**	**-5.8**
PLP	**Palo**	**4.83**	**343**	⇓*e*P		**Pn**	**19 57 21.2**	**+2.2**
PLP				*e*S		**Sn**	**19 58 08.5**	**-5.2**
OCLP	**Ormoc**	**4.84**	**338**	*e*P		**Pn**	**19 57 19.7**	**+0.5**
GUIM	**Jordan**	**5.56**	**317**	*e*P		**Pn**	**19 57 27.9**	**-1.2**
KMSI	**Cibinong**	**6.39**	**202**	P		Pn	19 57 44.3	+3.9
	246nm,0.7s,2μm0.9nm							
PALU	**Palau**	**8.04**	**84**	P		**Pn**	**19 58 01.8**	**-1.2**
	baz=7.9,SNR=7.5							
BUSP	**Coron**	**8.21**	**312**	*e*P		**Pn**	**19 58 05.8**	**+0.5**
ENPP	**El Nido**	**8.33**	**304**	*e*P		**Pn**	**19 58 06.8**	**-0.2**
LUWI	**Luwuk**	**8.35**	**206**	P		**Pn**	**19 58 09.1**	**+1.8**
	176nm,1.0s,2μm							
LUWI				S		Sn	19 59 46.9	+6.6
	176nm,1.0s,2μm							
LUWI	**Luwuk**	**8.35**	**206**	P		**Pn**	**19 58 09.0**	**+1.8**
	baz=8.5,SNR=7.3							
APSI	**Ampana**	**8.79**	**213**	P		**Pn**	**19 58 15.4**	**+2.1**
	61nm,0.8s,821nm							
NLAI	**Namlea**	**9.72**	**176**	P		**Pn**	**19 58 26.9**	**+0.8**
	60nm,0.8s,1μm39μm							
NLAI				S		**Sn**	**20 00 09.2**	**-4.7**
	60nm,0.8s,1μm39μm							
FAKI	**Fak Fak**	**11.04**	**148**	P		Pn	19 58 47.4	+3.3
	baz=11,SNR=3.7							
TTSI	**Tana Toraja**	**11.56**	**215**	P		Pn	19 58 57.5	+6.2
	21nm,0.7s							
SBUM	**Sibu**	**14.72**	**255**	P		**P**	**19 59 40.9**	**+1.7**
	116nm,0.8s,988nm							
BBKI	**Banjar Baru**	**15.23**	**230**	P		**P**	**19 59 47.9**	**+3.1**
	59nm,1.2s							
STKI	**Sintang**	**16.23**	**247**	P		**P**	**19 59 58.7**	**+2.7**
	64nm,0.9s							
SOEI	**Soe**	**16.31**	**188**	P		pP	20 00 10.2	+1.9
SOEI	**Soe**	**16.31**	**188**	P		**P**	**19 59 56.9**	**-0.1**
	baz=16,SNR=5.2							
KSM	**Kuching**	**16.83**	**253**	P		**P**	**20 00 03.5**	**+0.9**
	17nm,0.9s							
KSM	**Kuching**	**16.83**	**253**	*e*Pn		**P**	**20 00 02.7**	**+0.1**
	15nm,0.9s							
KSM	**Kuching**	**16.83**	**253**	P		**P**	**20 00 04.1**	**+1.5**
	baz=17,SNR=4.2							
JAY	**Jayapura**	**16.85**	**122**	LR		LR	20 06 28.3	
	comp=Z,98nn,20.4s,baz=283,slow=37							
JAGI	**Jajag, Banyuwa**	**19.27**	**220**	P		**Pn**	**20 00 32.2**	**+1.3**
	baz=19,SNR=9.5							
MTN	**Manton Dam**	**19.80**	**166**	P		**Pn**	**20 00 36.2**	**-0.9**
	baz=20,SNR=18							
KDU	**Kakadu**	**20.01**	**162**	P		**P**	**20 00 37.8**	**+0.3**
	baz=20,SNR=9.3							
BJII	**Banjamegara**	**21.62**	**231**	P		**P**	**20 00 58.2**	**+3.3**
	49nm,1.2s							
KNRA	**Kununurra**	**22.18**	**174**	P		**P**	**20 00 59.9**	**-0.9**
	baz=22,SNR=31							
KPJI	**Karang Pucung**	**22.22**	**232**	P		**P**	**20 01 04.4**	**+3.1**
	26nm,0.9s							
UBPT	**Khong Chiam**	**22.32**	**295**	P		**P**	**20 01 05.7**	**+3.3**
	22nm,1.0s							
LEM	**Lembang**	**22.97**	**235**	P		**P**	**20 01 12.0**	**+2.5**
	38nm,1.0s							
LEM	**Lembang**	**22.97**	**235**	P		**P**	**20 01 11.4**	**+1.9**
	baz=23,SNR=3.5							
CBJI	**Citeko**	**23.38**	**237**	P		**P**	**20 01 15.0**	**+1.7**
	89nm,0.9s,5μm							
DBJI	**Dramaga**	**23.54**	**237**	P		**P**	**20 01 16.0**	**+1.2**
	42nm,1.2s							
JMBI	**JAMBI**	**24.14**	**251**	P		P	20 01 26.0	+5.7
	128nm,1.2s							
BLSI	**Bandar Lampung**	**24.21**	**241**	P		**P**	**20 01 23.8**	**+2.8**
	100nm,0.8s							
KLSI		**24.35**	**243**	P		**P**	**20 01 23.6**	**+1.3**
	85nm,1.0s							
CGJI	**Cibinong**	**24.45**	**238**	P		**P**	**20 01 23.7**	**+0.5**
	38nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.48**	**182**	*e*P		**P**	**20 01 22.1**	**-1.3**
	4.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.48**	**182**	P		**P**	**20 01 22.4**	**-1.0**
	3.5nm,0.4s,baz=31,slow=5.5,SNR=25							
FITZ	**Fitzroy Crossi**	**24.48**	**182**	P		**P**	**20 01 22.3**	**-1.0**
	baz=25,SNR=22							
MDSI	**Mamu Dua**	**24.75**	**244**	P		**P**	**20 01 26.5**	**+0.6**
	26nm,0.9s							
KASI	**Kota Agung**	**24.94**	**242**	P		**P**	**20 01 29.3**	**+1.7**
	65nm,0.9s							
LHSI	**Lahat**	**25.06**	**246**	P		**P**	**20 01 30.4**	**+1.6**
LWLI	**Liwa**	**25.09**	**243**	P		**P**	**20 01 30.9**	**+1.7**
	48nm,1.0s,2μm							
JCJ	**Chichijima**	**25.36**	**34**	LR		LR	20 09 46.2	
	comp=Z,64nn,19.8s,baz=14,slow=32							
CHAI	**Chaiyaphum**	**25.69**	**293**	P		**P**	**20 01 35.6**	**+1.2**
	5.5nm,1.3s							
COEN	**Coen**	**26.28**	**141**	P		**P**	**20 01 39.5**	**-0.3**
	baz=26,SNR=4.5							
JNU	**Nakatsue**	**26.79**	**8**	P		P	20 01 35.6	-8.6
JNU	**Nakatsue**	**26.79**	**8**	P		P	20 01 35.6	-8.6
	7.0nm,0.8s,baz=158,slow=11,SNR=5.9							
JNU				LR		LR	20 11 58.0	
	comp=Z,64nm,20.5s,baz=75,slow=35							
PBKT	**Sadao Pong**	**26.82**	**294**	P		**P**	**20 01 45.8**	**+1.1**
	14nm,1.0s							
WRAB	**Tenaru Creek**	**27.42**	**164**	*e*P		**P**	**20 01 49.0**	**-1.0**
	7.4nm,0.8s							
WRA	**Warramunga Arr**	**27.43**	**164**	P		**P**	**20 01 48.9**	**-1.2**
WRA					ScP	**ScP**	**20 08 46.5**	**+1.9**
WRA	**Warramunga Arr**	**27.43**	**164**	P		**P**	**20 01 48.9**	**-1.2**
	0.8nm,0.4s,baz=344,slow=10,SNR=18							
WRA					ScP	**ScP**	**20 08 46.5**	**+1.9**
	0.4nm,0.5s,baz=339,slow=3.2,SNR=4.1							
PHIT	**Phitsanulok**	**27.53**	**295**	P		**P**	**20 01 54.8**	**+3.8**
	19nm,0.7s							
NANT	**Nan**	**27.85**	**298**	P		**P**	**20 01 55.2**	**+1.3**
	20nm,0.7s							
SRDT	**SRDT**	**27.93**	**288**	P		**P**	**20 01 56.4**	**+1.8**
	54nm,1.8s,11μm							
ENH	**Enshi**	**28.49**	**328**	*e*P		**P**	**20 01 59.9**	**+0.5**
	5.2nm,0.8s							
CM31	**Chiang Mai Arr**	**29.28**	**296**	P		**P**	**20 02 05.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**29.28**	**296**	P		**P**	**20 02 07.4**	**+0.8**
CMAR					PcP	**PcP**	**20 05 13.1**	**+0.5**
CMAR					ScP	**ScP**	**20 08 51.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**29.28**	**296**	P		**P**	**20 02 07.4**	**+0.8**
	3.1nm,0.8s,baz=118,slow=7.2,SNR=26							
CMAR					PcP	**PcP**	**20 05 13.1**	**+0.5**
	1.3nm,0.9s,baz=173,slow=0.9,SNR=8.6							
CMAR					ScP	**ScP**	**20 08 51.1**	**+0.7**
	0.6nm,0.7s,baz=116,slow=1.1,SNR=5.0							
CMAR					LR	LR	20 13 44.2	
	comp=Z,75nm,18.4s,baz=122,slow=36							
CMMT	**Chiang Mai**	**29.40**	**297**	P		**P**	**20 02 09.2**	**+1.5**
	5.4nm,1.3s							
CHTO	**Chiang Mai**	**29.40**	**297**	*e*P		**P**	**20 02 07.6**	**-0.1**
	8.1nm,1.2s							
CHTO	**Chiang Mai**	**29.40**	**297**	P		**P**	**20 02 09.2**	**+1.5**
	27nm,0.8s							
QIS	**Mount Isa**	**29.87**	**155**	P		**P**	**20 02 11.6**	**-0.1**
	baz=30,SNR=7.3							
MHMT	**Maesarieng**	**30.09**	**295**	P		**P**	**20 02 15.6**	**+1.8**
	12nm,0.9s							
KSRS	**Korea Array**	**30.82**	**2**	LR		LR	20 13 40.1	
	comp=Z,24nm,19.9s,baz=135,slow=34							
AS31	**Alice Springs**	**30.88**	**167**	*e*P		**P**	**20 02 19.5**	**-1.2**
ASAR	**Alice Springs**	**30.88**	**167**	P		**P**	**20 02 19.8**	**-0.9**
ASAR					PcP	**PcP**	**20 05 16.6**	**-0.1**
ASAR					ScP	**ScP**	**20 08 56.8**	**+1.3**
ASAR	**Alice Springs**	**30.88**	**167**	P		**P**	**20 02 19.8**	**-0.9**
	2.1nm,0.6s,baz=343,slow=7.0,SNR=50							
ASAR					PcP	**PcP**	**20 05 16.6**	**-0.1**
	1.0nm,0.6s,baz=353,slow=2.5,SNR=5.5							
ASAR					ScP	**ScP**	**20 08 56.8**	**+1.3**
	0.6nm,0.8s,baz=341,slow=3.1,SNR=5.5							
WRKA	**Warakurna**	**31.42**	**177**	P		**P**	**20 02 24.8**	**-0.6**
	baz=32,SNR=19							
MAJO	**Matsushiro**	**31.77**	**18**	*e*P		**P**	**20 02 27.2**	**-1.2**
	21nm,1.3s							
XAN	**Xi'an**	**31.81**	**332**	P		**P**	**20 02 29.8**	**+1.0**
XAN					pP	pP	20 02 36.0	-5.8
XAN					pmax	pmax		
	comp=Z,4.0nm,0.7s							
MEEK	**Meekatharra**	**33.82**	**193**	P		**P**	**20 02 45.5**	**-0.9**
	baz=34,SNR=10							
LZH	**Lanzhou**	**35.97**	**328**	*e*P		**P**	**20 03 07.3**	**+2.3**
LZH					pP	**pP**	**20 03 18.8**	**+0.6**
LZH					sP	**sP**	**20 03 24.5**	**+0.4**
LZH					pmax	pmax		
	comp=Z,16nm,1.1s							
MORW	**Morawa**	**36.77**	**195**	P		**P**	**20 03 11.4**	**-0.3**
	baz=37,SNR=8.5							
BLDU	**Ballidu**	**38.08**	**194**	P		**P**	**20 03 22.1**	**-0.6**
	baz=38,SNR=12							
KLBR	**Kellerberrin**	**38.79**	**192**	P		**P**	**20 03 27.4**	**-1.4**
	baz=39,SNR=11							
BBOO	**Buckleboo**	**40.17**	**167**	*e*P		**P**	**20 03 39.7**	**-0.6**
	132nm,0.6s							
BBOO	**Buckleboo**	**40.17**	**167**	P		**P**	**20 03 40.0**	**-0.3**
	baz=40,SNR=23							
NWAO	**Narrogin (SRO)**	**40.19**	**192**	P		**P**	**20 03 39.0**	**-1.4**
NWAO	**Narrogin (SRO)**	**40.19**	**192**	P		**P**	**20 03 39.0**	**-1.4**
	6.0nm,0.5s,baz=24,slow=9.7,SNR=10							
LSA	**Lhasa**	**40.41**	**309**	*e*P		**P**	**20 03 43.3**	**+0.5**
	3.2nm,0.8s							
GTA	**Gaotai**	**40.57**	**328**	*e*P		P	20 03 47.0	+3.4
GTA					pP	pP	20 03 51.3	-5.7
GTA					sP	sP	20 03 54.5	-8.3
GTA					pmax	pmax		
	comp=Z,5.0nm,0.9s							
STKA	**Stephens Creek**	**40.84**	**160**	*e*P		**P**	**20 03 45.3**	**-0.4**
	1.7nm,0.8s							
STKA	**Stephens Creek**	**40.84**	**160**	P		**P**	**20 03 45.4**	**-0.4**
	3.6nm,0.6s,baz=335,slow=8.6,SNR=14							
STKA	**Stephens Creek**	**40.84**	**160**	P		**P**	**20 03 45.6**	**-0.1**
	baz=41,SNR=9.7							
H11S3	**WAKE ISLAND Hy**	**40.97**	**69**	T		T	20 47 40.7	
	baz=253,slow=50,SNR=16							
H11S1	**WAKE ISLAND Hy**	**40.98**	**69**	T		T	20 47 41.8	
	baz=253,slow=50,SNR=16							
H11S2	**WAKE ISLAND Hy**	**40.98**	**69**	T		T	20 47 41.9	
	baz=253,slow=50,SNR=19							
H11N1	**WAKE ISLAND Hy**	**41.41**	**68**	T		T	20 48 41.9	
	baz=268,slow=75,SNR=19							
H11N2	**WAKE ISLAND Hy**	**41.42**	**68**	T		T	20 48 41.9	
	baz=268,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**41.43**	**68**	T		T	20 48 43.3	
	baz=268,slow=75,SNR=17							
HTT	**Hallett**	**41.47**	**164**	P		**P**	**20 03 51.8**	**+0.8**
	baz=42,SNR=6.0							
RKGY	**Rocky Gully**	**41.87**	**192**	P		**P**	**20 03 54.2**	**0.0**
	baz=42,SNR=6.5							
TAPN	**Taplejung**	**42.16**	**304**	*e*P		**P**	**20 03 56.8**	**-0.3**
	7.9nm,0.6s							
TAPN	**Taplejung**	**42.16**	**304**	*e*P		**P**	**20 03 56.8**	**-0.3**
	7.9nm,0.6s							
ODAN	**Odare**	**42.25**	**303**	*e*P		**P**	**20 03 57.3**	**-0.4**
	16nm,0.7s							
ODAN	**Odare**	**42.25**	**303**	*e*P		**P**	**20 03 57.3**	**-0.4**
	16nm,0.7s							
RAMN	**Ramite**	**42.94**	**

BRVK	**Borovoye**	**64.90**	**326**	*e*P		**P**	**20 06 41.7**	**-1.2**
	6.6nm,0.9s							
TIXI	**Tiksi**	**65.07**	**1**	*e*P		**P**	**20 06 42.8**	**-0.9**
	4.0nm,0.8s							
ABKAR	**Akbulak array**	**69.81**	**320**	*e*P		**P**	**20 07 11.8**	**-2.2**
	1.5nm,0.6s							
ARU	**Arti**	**72.43**	**327**	*e*P		**P**	**20 07 27.5**	**-2.2**
	5.6nm,0.6s							
MCK	**McKinley**	**81.82**	**27**	P		**P**	**20 08 22.5**	**+0.2**
ILAR	**Eielson Array**	**82.73**	**26**	P		**P**	**20 08 26.9**	**-0.1**
ILAR	**Eielson Array**	**82.73**	**26**	P		**P**	**20 08 26.9**	**-0.1**
	0.3nm,0.6s,baz=244,slow=5.1,SNR=4.6							
VNDA	**Vanda**	**86.22**	**173**	P		**P**	**20 08 44.2**	**-0.1**
VNDA	**Vanda**	**86.22**	**173**	P		**P**	**20 08 44.2**	**-0.1**
	0.3nm,0.4s,baz=318,slow=10.0,SNR=3.8							
ARCES	**ARCESS Array B**	**87.74**	**340**	P		**P**	**20 08 51.8**	**-0.2**
ARCES	**ARCESS Array B**	**87.74**	**340**	P		**P**	**20 08 51.7**	**-0.2**
	2.7nm,0.7s,baz=82,slow=5.0,SNR=12							
FINES	**FINESS Array B**	**89.24**	**332**	P		**P**	**20 08 58.1**	**-1.0**
FINES	**FINESS Array B**	**89.24**	**332**	P		**P**	**20 08 58.2**	**-1.0**
	3.9nm,1.0s,baz=69,slow=4.6,SNR=7.8							
YKA	**Yellowknife Ar**	**97.10**	**24**	P		Pdif	20 09 35.6	+0.2
YKA	**Yellowknife Ar**	**97.10**	**24**	P		Pdif	20 09 35.6	+0.2
	0.3nm,0.8s,baz=299,slow=4.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	**121.72**	**290**	PKP		**PKPdf**	**20 14 57.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**121.72**	**290**	PKP		**PKPdf**	**20 14 57.2**	**-1.0**
	2.5nm,0.8s,baz=62,slow=1.4,SNR=22							
DBIC	**Dimbokro**	**129.65**	**284**	PKP		**PKPdf**	**20 15 13.3**	**-0.1**
DBIC	**Dimbokro**	**129.65**	**284**	PKP		**PKPdf**	**20 15 13.3**	**-0.1**
	1.9nm,0.7s,baz=32,slow=3.7,SNR=3.5							

GUC 28 20:06:31.1±0.4, 22°.37S×68°.77W, *h*115km±3km, ML3.6, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**0.67**	**279**	⇑*i*P		Pn	20 06 56.4	+6.8
PB04				*i* S		Sn	20 07 15.7	+12
PB04				AML	AML		20 07 20.9	
	comp=N,829nm,0.4s							
PB09	**Plate Boundary**	**0.72**	**323**	⇑*i*P		Pn	20 06 50.7	+0.4
PB09				*i* S		Sn	20 07 05.7	+0.9
PB09				AML	AML		20 07 06.8	
	comp=N,4μm,0.3s							
PB06	**Plate Boundary**	**0.81**	**246**	⇑*i*P		Pn	20 06 51.4	+0.3
PB06				*i* S		Sn	20 07 07.1	+0.9
PB06				AML	AML		20 07 11.5	
	comp=E,982nm,0.4s							
MACH	**Maria Elena**	**0.93**	**281**	⇑*i*P		Pn	20 06 52.7	+0.5
MACH				*i* S		Sn	20 07 09.5	+1.2
PB07	**Plate Boundary**	**1.22**	**302**	⇑*i*P		Pn	20 06 55.8	+0.6
PB07				*i* S		Sn	20 07 14.5	+1.1
PB07				AML	AML		20 07 14.9	
	comp=N,2μm,0.4s							
PB01	**Plate Boundary**	**1.48**	**333**	⇑*i*P		Pn	20 06 58.0	-0.1
PB01				*i* S		Sn	20 07 18.9	+0.3
PB01				AML	AML		20 07 19.4	
	comp=E,566nm,0.3s							
CEN1	**Los Morros**	**1.66**	**232**	⇑*i*P		Pn	20 07 03.8	+3.5
CEN1				*i* S		Sn	20 07 28.0	+5.5
CEN1				AML	AML		20 07 36.4	
	comp=N,239nm,0.7s							
ANCH	**Antofagasta**	**2.00**	**229**	⇓*i*P		Pn	20 07 04.2	0.0
ANCH				*i* S		Sn	20 07 29.9	+0.3
PATCX	**Punta Patache**	**2.01**	**320**	⇑*i*P		Pn	20 07 04.2	-0.3
PATCX				*i* S		Sn	20 07 30.1	0.0
PATCX				AML	AML		20 07 32.4	
	comp=E,396nm,0.4s							
HMBC	**Humberstone**	**2.33**	**333**	*i* P		Pn	20 07 07.6	-1.1
HMBC				*i* S		Sn	20 07 36.7	-0.7
HMBC				AML	AML		20 07 40.4	
	comp=N,268nm,0.3s							
MNMC	**Minimini**	**3.31**	**346**	AML		AML	20 08 01.2	
	comp=N,198nm,0.8s							

FUNV 28 20:38:45.2, 6°.72N×73°.17W, *h*164km, MW3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.42**	**37**	⇑*i*P		Pn	20 39 14.8	-0.5
CAPV				*e*S		Sn	20 39 36.0	-2.5
SOCV	**Socops**	**2.77**	**56**	*e*P		Pn	20 39 28.9	-1.4
ELOV	**Elorza**	**3.67**	**85**	*e*P		Pn	20 39 40.8	-0.8
VIRV	**Villa del Rosa**	**3.83**	**11**	*e*P		Pn	20 39 41.5	-2.1
QARV	**Quebrada Arrib**	**4.34**	**37**	*e*P		Pn	20 39 49.1	-1.2
SANV	**Sanarito**	**4.53**	**52**	*e*P		Pn	20 39 51.1	-1.8
CURV	**Curarigua**	**4.55**	**44**	*e*P		Pn	20 39 51.4	-1.7
CURV				*e*S		Sn	20 40 39.9	-6.4
DABV	**Dabajuro**	**4.86**	**31**	*e*P		Pn	20 39 55.8	-1.3
DABV				*e*S		Sn	20 40 48.3	-5.1
TEPV	**Terepaima**	**5.08**	**50**	*e*P		Pn	20 39 58.4	-1.6
SIQV	**Siquisique**	**5.12**	**40**	*e*P		Pn	20 39 58.5	-2.0
BAUV	**El Baul**	**5.54**	**66**	*e*P		Pn	20 40 03.1	-2.8
MAPV	**Macapo**	**5.59**	**56**	*e*P		Pn	20 40 04.8	-1.9
CUPV	**Cœpira**	**8.02**	**65**	*e*P		Pn	20 40 36.7	-2.2

BJI 28 20:45:10.0, 44°.47N×114°.51E, *h*9km, ML3.7/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**4.22**	**212**	*e*Pg		Pb	20 46 27.0	+2.4
HHC				Sg		Sg	20 47 21.3	-4.5
HHC				smax	smax			
	comp=N,630nm,0.4s							
HHC				smax	smax			
	comp=E,600nm,0.4s							
BTO	**Baotou**	**5.09**	**222**	*e*Pg		Pb	20 46 41.8	+2.4
BTO				smax	smax			
	comp=N,32nm,0.7s							
BTO				smax	smax			
	comp=E,22nm,0.7s							

MAN 28 20:52:07, 11°.42N×124°.52E, *h*23km, mb4.3, ML3.2, MS3.0, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.38**	**166**	*e*P		Pb	20 52 16.0	+0.9
OCLP				*e*S		Sn	20 52 24.8	+1.2
PLP	**Palo**	**0.52**	**119**	⇓*e*P		Pb	20 52 18.2	+0.7
PLP				*e*S		Sn	20 52 26.5	-0.7
LLP	**Lapu-Lapu**	**1.22**	**206**	⇑*e*P		Pn	20 52 28.0	-0.7
LLP				*e*S		Sb	20 52 45.9	+1.1
MSLP	**Maasin**	**1.32**	**165**	*e*P		Pb	20 52 33.0	+1.8
RCP	**Roxas**	**1.74**	**275**	⇑*e*P		Pn	20 52 35.4	-0.5
GUIM	**Jordan**	**2.05**	**248**	*e*P		Pn	20 52 41.5	+1.5
GUIM				*e*S		Sn	20 53 06.8	+1.8
PVCP	**Virac**	**2.19**	**351**	*e*P		Pn	20 52 42.1	0.0

WEL 28 20:53:43.5±0.5, 46°.05S×165°.91E, *h*12km, ML3.3/8, Error ellipse: s-maj=4.4km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.55**	**103**	P*		Pg	20 53 54.0	-0.3
PYZ				S*		Sg	20 54 02.1	+0.4
DCZ	**Deep Cove**	**1.04**	**57**	P*		Pb	20 54 02.5	-1.0
DCZ				S*		Sb	20 54 16.7	-0.4
DCZ				AML	AML		20 54 18.9	
WHZ	**Wether Hill Ro**	**1.43**	**85**	PN		Pn	20 54 08.4	-0.9
WHZ				SN		Sn	20 54 27.3	-0.8
WHZ				AML	AML		20 54 30.9	
APZ	**The Paps**	**1.64**	**119**	PN		Pn	20 54 09.4	-2.8
MLZ	**Mavora Lakes**	**1.74**	**67**	PN		Pn	20 54 14.0	+0.5
MLZ				AML	AML		20 54 41.5	
MLZ				AML	AML		20 54 43.5	
SYZ	**Scrubby Hill**	**2.29**	**103**	PN		Pn	20 54 20.6	-0.5
WKZ	**Wanaka**	**2.51**	**62**	PN		Pn	20 54 26.2	+2.1
EAZ	**Earnscleugh**	**2.52**	**72**	PN		Pn	20 54 25.5	+1.2
JCZ	**Jackson Bay**	**2.83**	**47**	PN		Pn	20 54 30.5	+2.0
ODZ	**Otahua Downs**	**3.48**	**75**	PN		Pn	20 54 36.8	-0.6

*NIED **28** 21:10:00, 24°.70N×122°.30E, *h*86km, Mw4.1 Best double couple: M₀1.73000×10¹⁵ NP1:φ₅126.00000°,δ51.00000°, λ116.00000°. NP2:φ₅268.00000°,δ46.00000°,λ61.00000°.*

*BJI **28** 21:10:38.8, 24°.77N×122°.28E, *h*6km, mb3.7/1, ML3.9/5*
*ISCJB **28** 21:10:42.9±0.2, 24°.76N±0°.02×122°.38E±0°.02, h111km±1km, mb4.1/26, Error ellipse: s-maj=3.1km s-min=2.0km az=150.4*
*IDC **28** 21:10:44.8±0.8, 24°.80N×122°.38E, h113km±6km, mb3.8/18, mb1 3.9/22, mb1mx3.8/33, mbtmp4.1/22, MS3.4/2, Ms1 3.4/2, ms1mx2.6/45, Error ellipse: s-maj=15.7km s-min=10.3km az=69.0*
*JMA **28** 21:10:44.0±0.3, 24°.72N×122°.32E, h100km±4km, M3.5*
*TAP **28** 21:10:44.5, 24°.74N×122°.36E, h98km, ML4.9, B*
*NEIC **28** 21:10:44.5, 24°.74N×122°.36E, h98km, mb4.3/10, After TAP.*
NEIC Recorded [3 TAP] in I-lan, [2 TAP] in Hua-lien and [1 TAP] in Miao-li, Nan-t'ou and T'ao-yuan.

ISC 28 21:10:44.1±0.5, 24°.73N±0°.03×122°.37E±0°.02, h109km±3km, n158, σ1s09/270, mb4.1/26, 19C-27D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EGS		**0.42**	**286**	⇓*i*P		**Pn**	**21 10 59.6**	**-0.6**
	baz=279							
TWB1	**Santiao Chiao**	**0.44**	**308**	⇓*i*P		**Pn**	**21 11 00.0**	**-0.4**
TWB1	baz=301			*i* S		**Sn**	**21 11 10.9**	**-1.8**
	baz=301							
TWC	**Suao**	**0.49**	**256**	⇓*i*P		**Pn**	**21 11 00.1**	**-0.6**
TWC	baz=251			S		**Sn**	**21 11 10.8**	**-2.4**
	baz=251							
ILA	**Ilan**	**0.57**	**273**	⇓*i*P		**Pn**	**21 11 01.1**	**-0.2**
ILA	baz=267			S		**Sn**	**21 11 13.0**	**-1.1**
	baz=267							
NWF	**Wu-fen Shan**	**0.63**	**302**	⇓*i*P		**Pn**	**21 11 01.6**	**-0.3**
NWF	baz=296			*i* S		**Sn**	**21 11 13.9**	**-1.3**
	baz=296							
YOJ	**Yonaguni jima**	**0.64**	**115**	P		**Pn**	**21 11 01.4**	**-0.4**
YOJ				S		**Sn**	**21 11 13.9**	**-1.2**
YOJ	**Yonaguni jima**	**0.64**	**115**	⇑*i*P		**Pn**	**21 11 01.6**	**-0.2**
YOJ	baz=122			*e*S		**Sn**	**21 11 13.9**	**-1.2**
	baz=122							
YOJ	**Yonaguni jima**	**0.64**	**115**	*e*P		**Pn**	**21 11 01.4**	**-0.4**
YOJ				*e*S		**Sn**	**21 11 12.8**	**-2.3**
ENA	**Nanau**	**0.65**	**242**	⇓*i*P		**Pn**	**21 11 01.8**	**-0.1**
ENA	baz=241			*e*S		**Sn**	**21 11 14.2**	**-1.1**
	baz=241							
EHP	**Heping Village**	**0.71**	**234**	P		**Pn**	**21 11 02.4**	**-0.1**
EHP	baz=225			*e*S		**Sn**	**21 11 15.6**	**-0.6**
	baz=225							
ENTT	**Nioudou**	**0.74**	**263**	⇓*i*P		**Pn**	**21 11 02.8**	**+0.1**
ENTT	baz=266			*e*S		**Sn**	**21 11 15.5**	**-1.2**
	baz=266							
TWA	**Mucha**	**0.76**	**289**	⇓*i*P		**Pn**	**21 11 02.4**	**-0.4**
TWA	baz=282			S		**Sn**	**21 11 15.1**	**-1.8**
	baz=282							
TAP1	**Taipei**	**0.83**	**292**	⇓*i*P		**Pn**	**21 11 03.0**	**-0.4**
TAP1	baz=291			*e*S		**Sn**	**21 11 15.8**	**-2.2**
	baz=291							
TATO	**Taipei**	**0.84**	**287**	*e*P		**Pn**	**21 11 02.8**	**-0.8**
TATO				*e*S		**Sn**	**21 11 16.2**	**-1.9**
TWY	**Chenhua**	**0.89**	**308**	⇓*i*P		**Pn**	**21 11 03.9**	**-0.1**
TWY	baz=300			*i* S		**Sn**	**21 11 18.1**	**-0.9**
	baz=300							
NACB	**Ninganchiao**	**0.90**	**232**	*e*P		**Pn**	**21 11 03.4**	**-0.7**
NACB				*e*S		**Sn**	**21 11 16.7**	**-2.6**
YHNB	**Yeheng**	**0.91**	**266**	*e*P		**Pn**	**21 11 04.2**	**-0.1**
YHNB				*e*S		**Sn**	**21 11 18.8**	**-0.8**
NSK	**Sanguang**	**0.93**	**267**	⇓P		**Pn**	**21 11 04.3**	**-0.1**
NSK	baz=273			*i* S		**Sn**	**21 11 18.8**	**-1.0**
	baz=273							
PCYT	**Pengchaiyu**	**0.93**	**343**	⇓*i*P		**Pn**	**21 11 04.9**	**+0.4**
PCYT	baz=335			*i* S		**Sn**	**21 11 19.2**	**-0.6**
	baz=335							
TWS1	**Kuangyinshan**	**0.94**	**293**	⇓*i*P		**Pn**	**21 11 04.4**	**-0.1**
TWS1	baz=293			*i* S		**Sn**	**21 11 18.9**	**-1.1**
	baz=293							
NNS	**Nan Shan**	**0.96**	**252**	⇓*i*P		**Pn**	**21 11 04.9**	**+0.1**
NNS	baz=245			*e*S		**Sn**	**21 11 19.2**	**-1.3**
	baz=245							
TWD	**Chiawan**	**0.96**	**228**	⇓*i*P		**Pn**	**21 11 04.2**	**-0.6**
TWD	baz=222			S		**Sn**	**21 11 19.1**	**-1.2**
	baz=222							
HWA	**Hwalien**	**1.03**	**223**	⇓*e*P		**Pn**	**21 11 05.2**	**-0.2**
HWA	baz=215			S		**Sn**	**21 11 20.9**	**-0.6**
	baz=215							
NCU	**National Centr**	**1.10**	**283**	⇓*e*P		**Pn**	**21 11 06.2**	**-0.1**
NCU	baz=289			*e*S		**Sn**	**21 11 22.6**	**-0.4**
	baz=289							
ESF	**Shoufeng Towns**	**1.17**	**223**	*e*P		**Pn**	**21 11 06.6**	**-0.3**
ESF	baz=231			*e*S		**Sn**	**21 11 23.1**	**-1.1**
	baz=231							
WHF	**Hehuan Shan**	**1.17**	**240**	⇓*i*P		**Pn**	**21 11 07.4**	**0.0**
WHF	baz=239			S		**Sn**	**21 11 23.7**	**-1.3**
	baz=239							
TWT	**Tachien**	**1.19**	**247**	⇓*i*P		**Pn**	**21 11 08.2**	**+0.7**
TWT	baz=239			*i* S		**Sn**	**21 11 24.6**	**-0.4**
	baz=239							
NSTT	**Nanjuang**	**1.25**	**266**	⇓*i*P		**Pn**	**21 11 07.9**	**0.0**
NSTT	baz=265			S		**Sn**	**21 11 25.1**	**-0.8**
	baz=265							
ESL	**Shilin**	**1.25**	**223**	⇓*e*P		**Pn**	**21 11 07.2**	**-0.7**
ESL	baz=230			*e*S		**Sn**	**21 11 23.7**	**-2.3**
	baz=230							
TEGC	**Jichi Village**	**1.27**	**217**	*e*P		**Pn**	**21 11 08.8**	**+0.7**
TEGC	baz=208			*e*S		**Sn**	**21 11 26.3**	**0.0**
	baz=208							
HSN	**Hsinchu**	**1.28**	**273**	⇓*i*P		**Pn**	**21 11 08.1**	**-0.1**
HSN	baz=274			*i* S		**Sn**	**21 11 25.3**	**-1.1**
	baz=274							
IRIF	**Iriomote-Funau**	**1.30**	**107**	P		**Pn**	**21 11 08.3**	**-0.1**
IRIF				S		**Sn**	**21 11 26.7**	**-0.1**
HATJ	**Hateruma jima**	**1.47**	**117**	P		**Pn**	**21 11 10.8**	**+0.4**
HATJ				S		**Sn**	**21 11 30.8**	**+0.4**
NSY	**Sanyi**	**1.50**	**258**	⇓P		**Pn**	**21 11 11.5**	**+0.6**
NSY	baz=257			S		**Sn**	**21 11 31.0**	**-0.2**
	baz=257							
TWQ1	**Liyutan**	**1.51**	**256**	⇓*i*P		**Pn**	**21 11 11.3**	**+0.4**
TWQ1	baz=254			*e*S		**Sn**	**21 11 30.9**	**-0.4**
	baz=254							
EHY	**Hungye**	**1.55**	**218**	⇑*e*P		**Pn**	**21 11 10.5**	**-1.0**
JKRS	baz=225 **Kuro-shima**	**1.57**	**108**	P		**Pn**	**21 11 12.2**	**+0.6**
JKRS				S		**Sn**	**21 11 32.7**	**+0.1**
SMLT	**Sun Moon Lake**	**1.59**	**238**	⇓P		**Pn**	**21 11 12.8**	**+0.8**
SMLT	baz=232			*e*S		**Sn**	**21 11 33.1**	**-0.1**
	baz=232							
SSLB	**Suanglung**	**1.60**	**234**	*e*Pn		**Pn**	**21 11 12.1**	**0.0**
SSLB				*e*Sn		**Sn**	**21 11 32.3**	**-1.0**
TYC	**Yuchr**	**1.61**	**239**	⇓*i*P		**Pn**	**21 11 13.1**	**+0.9**
TYC	baz=238			*e*S		**Sn**	**21 11 33.5**	**0.0**
	baz=238							
JIJ	**Ishigaki jima**	**1.65**	**102**	P		**Pn**	**21 11 12.7**	**0.0**
JIJ				S		**Sn**	**21 11 33.4**	**-1.0**
TCU	**Taichung**	**1.65**	**250**	⇓P		**Pn**	**21 11 13.3**	**+0.6**
TCU	baz=257			*e*S		**Sn**	**21 11 34.0**	**-0.4**
	baz=257							
YULB	**Yu-li**	**1.66**	**217**	*e*Pn		**Pn**	**21 11 11.7**	**-1.1**
YULB				*e*Sn		**Sn**	**21 11 32.0**	**-2.6**
TWF1	**Yuli**	**1.69**	**216**	⇑*e*P		**Pn**	**21 11 12.2**	**-0.9**
TWF1	baz=222			*e*S		**Sn**	**21 11 32.9**	**-2.4**
	baz=222							
WNT	**Mingjian**	**1.76**	**241**	P		**Pn**	**21 11 14.8**	**+0.9**
WNT	baz=240			*e*S		**Sn**	**21 11 36.7**	**-0.1**
	baz=240							
YUS	**Yu-Shan**	**1.79**	**227**	P		**Pn**	**21 11 15.4**	**+0.5**
YUS	baz=218			S		**Sn**	**21 11 37.6**	**-0.7**
	baz=218							
CHKT	**Chengkung**	**1.87**	**210**	⇑P		**Pn**	**21 11 14.7**	**-0.7**
CHKT	baz=202			*e*S		**Sn**	**21 11 36.7**	**-2.5**
	baz=202							
ALS	**Alishan**	**1.88**	**230**	⇑*i*P		**Pn**	**21 11 16.9**	**+1.1**
ALS	baz=222			*e*S		**Sn**	**21 11 39.9**	**0.0**
	baz=222							
CHN5	**Tsauling**	**1.92**	**234**	⇑P		**Pn**	**21 11 17.0**	**+0.9**
CHN5	baz=243			*e*S		**Sn**	**21 11 40.6**	**+0.1**
	baz=243							
WGK	**Gukeng**	**1.95**	**238**	*e*P		**Pn**	**21 11 17.5**	**+1.1**
WGK	baz=246			*e*S		**Sn**	**21 11 41.7**	**+0.6**
	baz=246							
ELDTW	**Lidau**	**1.98**	**219**	⇑*e*P		**Pn**	**21 11 16.2**	**-0.6**
ELDTW	baz=212			*e*S		**Sn**	**21 11 40.0**	**-1.7**
	baz=212							
WTCT	**Ta-ch'eng**	**2.10**	**246**	*e*P		**Pn**	**21 11 18.4**	**+0.2**
WTCT	baz=251			*e*S		**Sn**	**21 11 43.7**	**-0.6**
	baz=251							
JTJ	**Tarama**	**2.12**	**92**	P		**Pn**	**21 11 19.5**	**+1.0**
JTJ				S		**Sn**	**21 11 45.0**	**+0.1**
CHN4	**Tsaushan**	**2.13**	**230**	⇑*i*P		**Pn**	**21 11 19.9**	**+1.2**
CHN4	baz=229			*e*S		**Sn**	**21 11 45.3**	**+0.1**
	baz=229							
TPUB	**Ta-pu**	**2.14**	**229**	*e*Pn		**Pn**	**21 11 19.5**	**+0.6**
TPUB				*e*Sn		**Sn**	**21 11 43.8**	**-1.6**
STYT	**Tauyuan**	**2.15**	**224**	⇑P		**Pn**	**21 11 20.1**	**+1.0**
STYT	baz=215			*e*S		**Sn**	**21 11 46.0**	**+0.3**
	baz=215							
CHY	**Chiayi**	**2.16**	**236**	⇑P		**Pn**	**21 11 20.0**	**+0.9**
CHY	baz=244			*e*S		**Sn**	**21 11 46.1**	**+0.2**
	baz=244							
TWG	**Pinlang**	**2.25**	**212**	*e*P		**Pn**	**21 11 19.3**	**-1.0**
TWG	baz=211			*e*S		**Sn**	**21 11 45.6**	**-2.2**
	baz=211							
TWG	**Pinlang**	**2.25**	**212**	*e*Pn		**Pn**	**21 11 19.2**	**-1.0**
TWG				*e*Sn		**Sn**	**21 11 44.8**	**-3.0**
WSF	**Szhu**	**2.25**	**241**	*e*P		**Pn**	**21 11 20.6**	**+0.4**
WSF	baz=240			S		**Sn**	**21 11 47.6**	**-0.2**
	baz=240							
TWK	**Hsinying**	**2.26**	**230**	⇑P		**Pn**	**21 11 21.2**	**+0.8**
TWK	baz=229			*e*S		**Sn**	**21 11 47.6**	**-0.6**
	baz=229							
TTN	**Taitung**	**2.27**	**210**	P		**Pn**	**21 11 20.0**	**-0.5**
TTN	baz=215			*e*S		**Sn**	**21 11 48.1**	**-0.2**
	baz=215							
CHN1	**Nanshi**	**2.29**	**228**	⇑P		**Pn**	**21 11 21.6**	**+0.9**
CHN1	baz=227			*e*S		**Sn**	**21 11 48.6**	**-0.2**
	baz=227							
SGST	**Jiashian**	**2.32**	**225**	⇑*i*P		**Pn**	**21 11 22.3**	**+1.1**
SGST	baz=224			*e*S		**Sn**	**21 11 50.0**	**+0.5**
	baz=224							
CHN8	**Yiju**	**2.41**	**236**	*e*P		**Pn**	**21 11 22.8**	**+0.5**
CHN8	baz=234			*e*S		**Sn**	**21 11 51.6**	**0.0**
	baz=234							
CHN3	**Shinhua**	**2.47**	**228**	*e*P		**Pn**	**21 11 24.4**	**+1.4**
CHN3	baz=227			*e*S		**Sn**	**21 11 54.3**	**+1.4**
	baz=227							
ECL	**Taimali**	**2.49**	**212**	⇑P		**Pn**	**21 11 22.3**	**-1.1**
ECL	baz=205			*e*S		**Sn**	**21 11 51.0**	**-2.5**
	baz=205							
SCLT	**Jiali**	**2.52**	**233**	P		**Pn**	**21 11 24.7**	**+0.9**
SCLT	baz=240			*e*S		**Sn**	**21 11 54.4**	**+0.1**
	baz=240							
TAI1	**Yung-k'ang**	**2.59**	**230**	⇑*e*P		**Pn**	**21 11 25.7**	**+1.2**
TAI1	baz=239			*e*S		**Sn**	**21 11 55.5**	**-0.2**
	baz=239							
TWM1	**Shoushan**	**2.61**	**224**	*e*P		**Pn**	**21 11 26.4**	**+1.5**
TWM1	baz=222			*e*S		**Sn**	**21 11 57.7**	**+1.4**
	baz=222							
SGLT	**Jiouru**	**2.64**	**221**	*e*P		**Pn**	**21 11 26.9**	**+1.6**
SGLT	baz=208			*e*S		**Sn**	**21 11 59.6**	**+2.6**
	baz=208							
JMJ	**Miyako jima 2**	**2.66**	**88**	P		**Pn**	**21 11 27.6**	**+2.1**
JMJ				S		**Sn**	**21 11 57.5**	**+0.2**
JMJ	**Miyako jima 2**	**2.66**	**88**	*e*P		**Pn**	**21 11 27.4**	**+2.0**
	baz=89							
TAW	**Tawu**	**2.73**	**210**	*e*P		**Pn**	**21 11 25.8**	**-0.6**
TAW	baz=205			*e*S		**Sn**	**21 11 56.7**	**-2.3**
	baz=205							
EAST	**Anshuo**	**2.73**	**211**	⇑P		**Pn**	**21 11 25.9**	**-0.6**
EAST	baz=205			*e*S		**Sn**	**21 11 57.2**	**-1.8**
	baz=205							
JOGS	**Gusukube**	**2.76**	**89**	P		**Pn**	**21 11 29.1**	**+2.3**
JOGS				S		**Sn**	**21 12 00.7**	**+1.0**
LAY	**Lan-yu**	**2.79**	**196**	⇑P		**Pn**	**21 11 26.6**	**-0.7**
LAY	baz=194			*e*S		**Sn**	**21 11 57.2**	**-3.3**
	baz=194							
SCZT	**Fangliau**	**2.85**	**215**	⇑P		**Pn**	**21 11 28.9**	**+0.8**
SCZT	baz=213			*e*S		**Sn**	**21 12 02.9**	**+1.0**
	baz=213							
WDGT	**Dungji**	**2.88**	**240**	*e*P		**Pn**	**21 11 29.2**	**+0.8**
WDGT	baz=230			*e*S		**Sn**	**21 12 01.1**	**-1.6**
	baz=230							
TWP	**Hsiaoliuchiu**	**3.01**	**218**	*e*P		**Pn**	**21 11 31.2**	**+1.0**
TWP	baz=217			*e*S		**Sn**	**21 12 04.6**	**-1.1**
	baz=217							
HEN	**Hengchun**	**3.10**	**209**	*e*P		**Pn**	**21 11 32.6**	**+1.1**
HEN	baz=218			*e*S		**Sn**	**21 12 07.1**	**-0.8**
	baz=218							
TSEB	**Hengchuen, Pin**	**3.13**	**206**	*e*P		**Pn**	**21 11 31.9**	**+0.2**
TSEB	baz=199			*e*S		**Sn**	**21 12 08.6**	**+0.1**
	baz=199							
TWK1	**Hengchun**	**3.13**	**208**	*e*P		**Pn**	**21 11 31.8**	**+0.1**
TWK1	baz=215			*e*S		**Sn**	**21 12 08.0**	**-0.5**
	baz=215							
QZH	**Quanzhou**	**3.44**	**274**	⇑*i*Pn		**Pn**	21 11 31.5	-4.4
QZH				Sn		**Sn**	21 12 08.3	-7.7
QZH				smax	smax			
	comp=N,530nm,0.6s							
QZ

JOW eS Sn 21 13 07.6 -3.3
JOW Kunigami 5.72 67 eP Pn 21 12 06.0 -0.6
baz=71
JOW Kunigami 5.72 67 ePn Pn 21 12 05.6 -0.9
14nm,0.3s
JOW eSn Sn 21 13 07.0 -3.9
JOKE Okinoerabujima 6.16 64 P Pn 21 12 11.3 -1.3
JOKE eS Sn 21 13 18.5 -3.1
JTK Tokunoshima 6.64 61 P Pn 21 12 17.7 -1.4
JTK eS Sn 21 13 30.4 -3.0
JAMN Amaminishikomi 7.03 59 P Pn 21 12 22.6 -1.7
JAMN eS Sn 21 13 41.4 -1.3
JAM Amami Oshima 7.44 59 P Pn 21 12 28.3 -1.6
JZK Kikaishima 7.68 61 P Pn 21 12 32.0 -1.3
NJ2 Nanjing 7.92 338 eP Pn 21 12 36.8 +0.3
NJ2 S Sn 21 14 02.5 -1.9
NJ2 smax smax
comp=N,250nm,1.0s
NJ2 smax smax
comp=E,40nm,0.8s
JMZ Minamidaito 2 8.08 80 P Pn 21 12 34.8 -3.9
JMZ eS Sn 21 13 59.5 -8.9
JNU Nakatsue 11.19 40 P Pn 21 13 22.6 +1.7
JNU Nakatsue 11.19 40 P Pn 21 13 22.6 +1.7
0.2nm,0.3s,baz=222,slow=21,SNR=2.9
KSAR Wonju Array Be 13.52 19 P Pn 21 13 52.7 +1.4
KSRS Korea Array 13.54 19 P Pn 21 13 52.7 +1.1
1.3nm,0.3s,baz=197,slow=11,SNR=35
CBIJ Chichi jima 17.98 78 P P 21 14 46.3 +0.2
JCJ Chichijima 17.98 78 P P 21 14 46.3 +0.2
6.5nm,0.3s,baz=270,slow=14,SNR=4.1
MJAR Matsushiro Arr 17.98 45 P P 21 14 45.2 -0.8
MJAR Matsushiro Arr 17.98 45 P P 21 14 45.2 -0.8
0.2nm,0.3s,baz=222,slow=9.5,SNR=7.0
USRK Ussuriysk Arra 20.95 20 P P 21 15 18.9 +0.8
1.6nm,0.4s,baz=204,slow=9.1,SNR=9.6
CMAR Chiang Mai Arr 22.65 259 PcP PcP 21 19 26.5 +1.1
CMAR Chiang Mai Arr 22.65 259 PcP PcP 21 19 26.5 +1.1
1.2nm,0.6s,baz=46,slow=0.4,SNR=13
CMAR LR LR 21 25 10.7
comp=Z,14nm,28.6s,baz=100,slow=38
ASAJ Asahikawa 25.42 35 P P 21 16 00.6 -0.9
ASAJ Asahikawa 25.42 35 P P 21 16 00.6 -0.9
7.5nm,0.8s,baz=248,slow=10,SNR=12
ULN Ulaanbaatar 26.08 336 eP P 21 16 07.8 +0.2
2.1nm,0.6s
SONM Songino Array 26.30 335 P P 21 16 09.8 +0.2
SONM PcP PcP 21 19 33.6 +0.6
SONM Songino Array 26.30 335 P P 21 16 09.8 +0.2
7.8nm,0.8s,baz=152,slow=10,SNR=37
SONM PcP PcP 21 19 33.6 +0.6
0.4nm,0.3s,baz=166,slow=5.1,SNR=4.5
MK31 Makanchi Array 38.71 315 eP P 21 17 56.9 -0.5
MKAR Makanchi Array 38.71 315 P P 21 17 57.6 +0.1
MKAR pP pP 21 18 22.9 +0.8
MKAR PcP PcP 21 20 06.8 -0.3
MKAR ScP ScP 21 23 44.8 -0.6
MKAR Makanchi Array 38.71 315 P P 21 17 57.6 +0.1
0.9nm,0.5s,baz=100,slow=8.4,SNR=31
MKAR pP pP 21 18 22.9 +0.8
0.6nm,0.5s,baz=102,slow=11,SNR=3.6
MKAR PcP PcP 21 20 06.8 -0.3
0.5nm,0.6s,baz=86,slow=5.6,SNR=4.7
MKAR ScP ScP 21 23 44.8 -0.6
0.4nm,1.1s,baz=99,slow=4.7,SNR=3.5
ZAA0 Zalesovo Array 40.38 326 eP P 21 18 09.9 -1.3
ZALV Zalesovo Beam 40.38 326 P P 21 18 10.2 -1.0
ZALV PcP PcP 21 20 11.2 -1.1
ZALV Zalesovo Beam 40.38 326 P P 21 18 10.2 -1.0
2.2nm,0.6s,baz=109,slow=7.6,SNR=13
ZALV PcP PcP 21 20 11.2 -1.1
1.0nm,0.4s,baz=115,slow=4.4,SNR=5.6
TKM2 Tokmak 2 42.29 307 eP P 21 18 26.1 -1.1
3.4nm,0.7s
TKM2 epP pP 21 18 52.1 0.0
KURK Kurchatov 42.38 319 eP P 21 18 27.1 -0.4
1.3nm,0.4s
KURBB Kurchatov Arra 42.40 319 P P 21 18 27.5 -0.2
0.4nm,0.3s,baz=107,slow=9.8,SNR=14
KURBB PcP PcP 21 20 17.5 -1.4
0.4nm,0.6s,baz=114,slow=3.4,SNR=4.7
AAK Ala-Archa 43.04 307 P P 21 18 34.0 +0.8
AAK Ala-Archa 43.04 307 P P 21 18 34.0 +0.8
0.5nm,0.3s,baz=101,slow=7.4,SNR=3.7
COEN Coen 43.48 150 eP P 21 18 37.1 +0.3
32nm,0.7s
EKS2 Erkin-Say 43.57 307 eP P 21 18 36.3 -1.1
WRAB Tennant Creek 45.90 164 eP P 21 18 56.0 +0.1
10nm,0.8s
WRA Warramunga Arr 45.91 164 P P 21 18 56.5 +0.5
WRA PcP PcP 21 20 31.5 +0.2
WRA Warramunga Arr 45.91 164 P P 21 18 56.5 +0.5
8.3nm,0.7s,baz=346,slow=8.3,SNR=80
WRA PcP PcP 21 20 31.5 +0.2
2.0nm,0.6s,baz=347,slow=3.7,SNR=12
KBL Kabul 46.91 295 eP P 21 19 03.5 -0.6
4.7nm,0.6s
BVAR Borovoye Array 47.94 320 P P 21 19 11.3 -0.2
BVAR pP pP 21 19 36.8 -0.1
BVAR PcP PcP 21 20 37.6 -0.6
BVAR Borovoye Array 47.94 320 P P 21 19 11.3 -0.2
0.5nm,0.4s,baz=107,slow=8.4,SNR=7.8
BVAR pP pP 21 19 36.8 -0.1
0.5nm,0.6s,baz=109,slow=7.7,SNR=2.5
BVAR PcP PcP 21 20 37.6 -0.6
1.2nm,0.6s,baz=116,slow=4.2,SNR=6.9
BRVK Borovoye 48.01 320 eP P 21 19 11.5 -0.6
3.0nm,0.8s
AS31 Alice Springs 49.39 166 eP P 21 19 22.5 -0.4
ASAR Alice Springs 49.40 166 P P 21 19 24.1 +1.1
ASAR pP pP 21 19 49.6 +1.1
ASAR PcP PcP 21 20 43.9 +0.1
ASAR Alice Springs 49.40 166 P P 21 19 24.1 +1.1
3.9nm,0.8s,baz=344,slow=6.9,SNR=50
ASAR pP pP 21 19 49.6 +1.1
0.7nm,0.7s,baz=338,slow=6.7,SNR=2.8
ASAR PcP PcP 21 20 43.9 +0.1
1.5nm,0.6s,baz=340,slow=3.1,SNR=11
CTAO Charters Tower 50.25 150 eP P 21 19 29.3 -0.1
6.1nm,1.0s
ARU Arti 55.33 323 eP P 21 20 05.1 -1.3
1.8nm,0.4s
STKA Stephens Creek 59.21 161 eP P 21 20 33.4 -0.4
0.3nm,0.6s
STKA Stephens Creek 59.21 161 P P 21 20 34.2 +0.3
0.9nm,0.4s,baz=351,slow=3.8,SNR=6.2
CAN Canberra 64.83 156 eP P 21 21 11.2 -0.3
ILAR Eielson Array 68.23 27 P P 21 21 32.5 -0.2
ILAR Eielson Array 68.23 27 P P 21 21 32.5 -0.2
0.3nm,0.6s,baz=294,slow=8.2,SNR=5.1
SPITS Spitsbergen Ar 69.18 348 P P 21 21 38.0 -0.5
SPITS Spitsbergen Ar 69.18 348 P P 21 21 38.0 -0.5
12nm,1.1s,baz=97,slow=12,SNR=9.1
ARCES ARCESS Array B 69.44 338 P P 21 21 39.5 -0.7
ARCES ARCESS Array B 69.44 338 P P 21 21 39.5 -0.7
3.2nm,0.8s,baz=68,slow=4.9,SNR=7.6
BRTR Keskin Array B 73.72 307 P P 21 22 07.0 +0.4
BRTR Keskin Array B 73.72 307 P P 21 22 07.0 +0.4
0.6nm,0.6s,baz=90,slow=6.2,SNR=3.6
NOA NORSAR Array B 78.25 332 P P 21 22 31.1 -0.6
NOA NORSAR Array B 78.25 332 P P 21 22 31.1 -0.6
0.9nm,0.8s,baz=55,slow=7.2,SNR=2.6
YKA Yellowknife Ar 82.04 23 P P 21 22 51.2 -0.7
YKA pP pP 21 23 21.2 +1.3
YKA Yellowknife Ar 82.04 23 P P 21 22 51.2 -0.7
0.6nm,0.5s,baz=307,slow=5.1,SNR=22
YKA pP pP 21 23 21.2 +1.3
0.4nm,0.7s,baz=310,slow=5.6,SNR=3.7
NVAR Mina Array Bea 95.29 43 P P 21 23 56.7 +0.4
NVAR Mina Array Bea 95.29 43 P P 21 23 56.7 +0.4
0.4nm,0.6s,baz=316,slow=4.1,SNR=4.8
PFO Pinyon Flat Ob 99.41 46 LR LR 22 05 23.0
comp=Z,116nm,21.0s,baz=180,slow=33

*CSEM **28** 21:13:06.7±0.1, 43.15N×0.83W, h12km, ML2.9/30, Error ellipse: s-maj=2.0km s-min=1.5km az=143.0*
*STR **28** 21:13:07.2±0.1, 43.06N×0.88W, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **28** 21:13:07.6±0.1, 43.08N×0.88W, h10km, Md2.8/3, Ml2.8/30, Error ellipse: s-maj=1.1km s-min=0.9km az=150.0*
*MDD **28** 21:13:07.7±0.2, 43.12N×0.86W, h7km±2km, mbLg2.5/31, Error ellipse: s-maj=2.5km s-min=1.3km az=169.0, PRXIMO*

*INMG **28** 21:13:08.3±1.5, 42.92N×0.77W, h4km±4km, ML2.3, Error ellipse: s-maj=8.3km s-min=4.9km az=170.0*
ISC 28 21:13:06.9±0.6, **43.13N**±0.02×**0.85W**±0.01, **h13**km±3km, **n192**,σ1**s25**/287, **2C-1D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.10**	**323**	Pg	**Pg**	**21 13 10.7**	**+0.7**
ORDF				Sg	**Sg**	**21 13 13.6**	**+1.4**
ORDF	**Ordiarp**	**0.10**	**323**	Pg	**Pg**	**21 13 10.7**	**+0.7**
ORDF				Sg	**Sg**	**21 13 13.6**	**+1.4**
ATE	**Arette**	**0.12**	**112**	Pg	**Pg**	**21 13 10.3**	**+0.1**
ATE				Sg	**Sg**	**21 13 12.3**	**-0.1**
ATE	**Arette**	**0.12**	**112**	Pg	**Pg**	**21 13 10.3**	**+0.1**
990nm,0.1s,SNR=18							
ATE				Sg	**Sg**	**21 13 12.3**	**-0.1**
LARF	**Larrau**	**0.14**	**228**	Pg	**Pg**	**21 13 09.4**	**-1.0**
LARF				Sg	**Sg**	**21 13 11.0**	**-1.9**
LARF	**Larrau**	**0.14**	**228**	Pg	**Pg**	**21 13 09.4**	**-1.0**
LARF				Sg	**Sg**	**21 13 11.0**	**-1.9**
SJPF	**Ste Jean**	**0.28**	**267**	ePg	**Pg**	**21 13 12.6**	**-0.1**
SNR=1.0							
SJPF				eSg	**Sg**	**21 13 16.5**	**-0.1**
1μm,0.4s							
SJPF	**Ste Jean**	**0.28**	**267**	Pg	**Pg**	**21 13 12.6**	**-0.1**
SJPF				eSg	**Sg**	**21 13 16.5**	**-0.1**
744nm,0.4s							
ETSF	**Etsaut**	**0.31**	**137**	ePg	**Pg**	**21 13 13.2**	**-0.1**
SNR=1.0							
ETSF				eSg	**Sg**	**21 13 17.4**	**-0.3**
560nm,0.2s							
ETSF	**Etsaut**	**0.31**	**137**	Pg	**Pg**	**21 13 13.2**	**-0.1**
ETSF				eSg	**Sg**	**21 13 17.4**	**-0.3**
280nm,0.2s							
OSSF	**Osses**	**0.33**	**293**	Pg	**Pg**	**21 13 14.1**	**+0.5**
OSSF				Sg	**Sg**	**21 13 18.7**	**+0.6**
OSSF	**Osses**	**0.33**	**293**	Pg	**Pg**	**21 13 14.1**	**+0.5**
OSSF				Sg	**Sg**	**21 13 18.7**	**+0.6**
REYF	**Montagne du Re**	**0.34**	**100**	Pg	**Pg**	**21 13 14.1**	**+0.3**
REYF	**Montagne du Re**	**0.34**	**100**	Pg	**Pg**	**21 13 14.1**	**+0.3**
IELO	**Elcoad**	**0.40**	**225**	⇑Pg	**Pg**	**21 13 14.6**	**-0.4**
7.5nm,0.1s,SNR=18							
IELO				Lg	Lg	21 13 19.8	
357nm,0.1s,SNR=7.9							
IELO	**Elcoad**	**0.40**	**225**	Pg	**Pg**	**21 13 14.6**	**-0.4**
7.5nm,0.1s,SNR=18							
IELO				Lg	Lg	21 13 19.8	
357nm,0.1s,SNR=7.9							
IEPA	**Eparoz**	**0.47**	**221**	⇑Pg	**Pg**	**21 13 15.9**	**-0.2**
7.0nm,0.1s,SNR=18							
IEPA				Lg	Lg	21 13 21.7	
99nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**0.47**	**221**	Pg	**Pg**	**21 13 15.9**	**-0.2**
7.0nm,0.1s,SNR=18							
IEPA				Lg	Lg	21 13 21.7	
99nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**0.49**	**281**	Pg	**Pg**	**21 13 16.9**	**+0.4**
8.6nm,0.1s,SNR=7.9							
EALK				Lg	Lg	21 13 23.5	
519nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	**0.49**	**281**	Pg	**Pg**	**21 13 16.9**	**+0.4**
8.6nm,0.1s,SNR=7.9							
EALK				Lg	Lg	21 13 23.5	
519nm,0.3s,SNR=7.9							
IPRE	**Itoiz**	**0.49**	**229**	Pg	**Pg**	**21 13 16.3**	**-0.3**
8.6nm,0.2s,SNR=7.9							
IPRE				Lg	Lg	21 13 21.9	
48nm,0.2s,SNR=7.9							
IPRE	**Itoiz**	**0.49**	**229**	Pg	**Pg**	**21 13 16.3**	**-0.3**
8.6nm,0.2s,SNR=7.9							
IPRE				Lg	Lg	21 13 21.9	
48nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**0.50**	**274**	⇓Pg	**Pg**	**21 13 16.8**	**+0.1**
57nm,0.2s,SNR=18							
ELIZ				Lg	Lg	21 13 23.7	
140nm,0.2s,SNR=35							
ELIZ	**Elizondo**	**0.50**	**274**	Pg	**Pg**	**21 13 16.8**	**+0.1**
57nm,0.2s,SNR=18							
ELIZ				Lg	Lg	21 13 23.7	
140nm,0.2s,SNR=35							
IUSE	**Utxeti**	**0.55**	**251**	Pg	**Pg**	**21 13 17.3**	**-0.3**
4.5nm,0.1s,SNR=7.9							
IUSE				Lg	Lg	21 13 24.4	
96nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.55**	**251**	Pg	**Pg**	**21 13 17.3**	**-0.3**
4.5nm,0.1s,SNR=7.9							
IUSE				Lg	Lg	21 13 24.4	
96nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**0.61**	**232**	Pg	**Pg**	**21 13 18.9**	**+0.2**
5.4nm,0.1s,SNR=7.9							
IUNC				Lg	Lg	21 13 27.3	
18nm,0.1s,SNR=7.9							
IUNC	**Unciti**	**0.61**	**232**	Pg	**Pg**	**21 13 19.0**	**+0.2**
5.4nm,0.1s,SNR=7.9							
IUNC				Lg	Lg	21 13 27.3	
18nm,0.1s,SNR=7.9							
EARA	**Aranguren**	**0.65**	**237**	Pg	**Pg**	**21 13 19.5**	**+0.1**
3.1nm,0.1s,SNR=18							
EARA				Lg	Lg	21 13 27.9	
14nm,0.1s,SNR=14							
EARA	**Aranguren**	**0.65**	**237**	Pg	**Pg**	**21 13 19.5**	**+0.1**
3.1nm,0.1s,SNR=18							
EARA				Lg	Lg	21 13 27.9	
14nm,0.1s,SNR=14							
LABF	**Labassere**	**0.68**	**97**	Pg	**Pg**	**21 13 20.9**	**+0.8**
LABF				Sg	**Sg**	**21 13 30.6**	**+1.5**
LABF	**Labassere**	**0.68**	**97**	Pg	**Pg**	**21 13 20.9**	**+0.8**
LABF				Sg	**Sg**	**21 13 30.6**	**+1.5**
VIEF	**Viey**	**0.69**	**111**	Pg	**Pg**	**21 13 20.4**	**+0.2**
VIEF				Sg	**Sg**	**21 13 29.5**	**+0.2**
VIEF	**Viey**	**0.69**	**111**	Pg	**Pg**	**21 13 20.4**	**+0.2**
VIEF				Sg	**Sg**	**21 13 29.5**	**+0.2**
EBIE	**Bielsa**	**0.85**	**121**	Pg	**Pg**	**21 13 23.1**	**-0.3**
3.4nm,0.1s,SNR=85							
EBIE				Lg	Lg	21 13 34.7	
20nm,0.1s,SNR=20							
EBIE	**Bielsa**	**0.85**	**121**	Pg	**Pg**	**21 13 23.1**	**-0.3**
3.4nm,0.1s,SNR=85							
EBIE				Lg	Lg	21 13 34.7	
20nm,0.1s,SNR=20							
EPF	**Esparros**	**0.88**	**96**	ePg	**Pg**	**21 13 24.5**	**+0.7**
EPF	**Esparros**	**0.88**	**96**	eP	**Pb**	**21 13 25.6**	**+1.7**
SNR=1.0							
EPF				eSg	**Sg**	**21 13 35.7**	**+0.4**
EPF				eSn	**Sb**	**21 13 36.7**	**+1.2**
46nm,0.2s							
EPF	**Esparros**	**0.88**	**96**	Pg	**Pg**	**21 13 24.5**	**+0.7**
EPF	**Esparros**	**0.88**	**96**	eP	**Pb**	**21 13 25.6**	**+1.7**
SNR=1.0							
EPF				eSg	**Sg**	**21 13 35.7**	**+0.4**
EPF				eSn	**Sb**	**21 13 36.7**	**+1.2**
23nm,0.2s							
RESF	**Ens**	**0.93**	**110**	Pg	**Pg**	**21 13 24.8**	**0.0**
RESF				Sg	**Sg**	**21 13 37.6**	**+0.6**
RESF	**Ens**	**0.93**	**110**	Pg	**Pg**	**21 13 24.8**	**0.0**
RESF				Sg	**Sg**	**21 13 37.6**	**+0.6**
MELF	**Melles**	**1.21**	**102**	Pg	**Pb**	**21 13 30.6**	**+1.0**
MELF	**Melles**	**1.21**	**102**	Pg	**Pb**	**21 13 30.6**	**+1.0**
CSOR	**Sort**	**1.64**	**117**	Pg	**Pb**	**21 13 37.8**	**+0.8**
2.4nm,0.2s,SNR=34							
CSOR				Lg	Lg	21 14 00.8	
6.4nm,0.2s,SNR=5.0							
CSOR	**Sort**	**1.64**	**117**	Pg	**Pb**	**21 13 37.8**	**+0.8**
2.4nm,0.2s,SNR=34							
CSOR				Lg	Lg	21 14 00.8	
6.4nm,0.2s,SNR=5.0							
ELAN	**Lanestosa**	**1.89**	**274**	Pg	**Pb**	**21 13 41.3**	**+0.1**
0.6nm,0.1s,SNR=22							
ELAN				Lg	Lg	21 14 07.7	
3.7nm,0.2s							
ELAN	**Lanestosa**	**1.89**	**274**	Pg	**Pb**	**21 13 41.3**	**+0.1**
0.6nm,0.1s,SNR=22							
ELAN				Lg	Lg	21 14 07.7	
3.7nm,0.2s							
EMIR	**Miracle**	**2.13**	**124**	Pg	**Pg**	**21 13 47.5**	**-0.3**
0.8nm,0.1s,SNR=17							
EMIR				Lg	Lg	21 14 16.0	
37nm,0.4s,SNR=11							
EMIR	**Miracle**	**2.13**	**124**	Pg	**Pg**	**21 13 47.5**	**-0.3**
0.8nm,0.1s,SNR=17							
EMIR				Lg	Lg	21 14 16.0	
37nm,0.4s,SNR=11							
LFF	**La Frestale**	**2.14**	**32**	ePn	**Pn**	**21 13 42.8**	**+0.6**
SNR=1.0							
LFF	**La Frestale**	**2.14**	**32**	ePg	**Pb**	**21 13 48.0**	**+2.6**
LFF				eSn	**Sn**	**21 14 07.5**	**-1.1**
SNR=1.0							
LFF				eSg	**Sg**	**21 14 17.1**	**+1.4**
44nm,0.4s,SNR=1.0							
LFF	**La Frestale**	**2.14**	**32**	Pn	**Pn**	**21 13 42.8**	**+0.6**
LFF	**La Frestale**	**2.14**	**32**	Pg	**Pb**	**21 13 48.0**	**+2.6**
LFF				Sn	**Sn**	**21 14 07.5**	**-1.1**
LFF				eSg	**Sg**	**21 14 17.1**	**+1.4**
22nm,0.4s,SNR=1.0							
CLLI	**Llivia**	**2.18**	**106**	Pg	**Pg**	**21 13 48.5**	**-0.1**
0.5nm,0.2s,SNR=35							
CLLI				Lg	Lg	21 14 17.8	
1.7nm,0.1s,SNR=16							
CLLI	**Llivia**	**2.18**	**106**	Pg	**Pg**	**21 13 48.5**	**-0.1**
0.5nm,0.2s,SNR=35							
CLLI				Lg	Lg	21 14 17.8	
1.7nm,0.1s,SNR=16							
VALF	**Valcebollere**	**2.23**	**108**	Pg	**Pg**	**21 13 50.3**	**+0.6**
VALF	**Valcebollere**	**2.23**	**108**	Pg	**Pg**	**21 13 50.3**	**+0.6**
MTLF	**Montolieu**	**2.25**	**84**	ePn	**Pn**	**21 13 43.4**	**-0.3**
MTLF	**Montolieu**	**2.25**	**84**	ePg	**Pb**	**21 13 49.5**	**+2.2**
MTLF				eSg	**Sg**	**21 14 18.9**	**-0.3**
9.0nm,0.2s,SNR=1.0							
MTLF	**Montolieu**	**2.25**	**84**	Pn	**Pn**	**21 13 43.4**	**-0.3**
MTLF	**Montolieu**	**2.25**	**84**	Pg	**Pb**	**21 13 49.5**	**+2.2**
MTLF				eSg	**Sg**	**21 14 18.9**	**-0.3**
4.5nm,0.2s,SNR=1.0							
ERTA	**Horta de San J**	**2.34**	**158**	Pn	**Pn**	**21 13 46.3**	**+1.2**
0.6nm,0.1s,SNR=16							
ERTA				Pg	**Pb**	**21 13 50.1**	**+1.2**
1.8nm,0.2s,SNR=7.9							
ERTA				Sn	**Sn**	**21 14 13.9**	**+0.3**
4.7nm,0.1s,SNR=7.9							
ERTA				Lg	Lg	21 14 21.0	
9.0nm,0.1s,SNR=5.0							
ERTA	**Horta de San J**	**2.34**	**158**	Pn	**Pn**	**21 13 46.3**	**+1.2**
0.6nm,0.1s,SNR=16							
ETOR	**Torete**	**2.48**	**202**	Pn	**Pn**	**21 13 48.5**	**+1.6**
10nm,0.1s,SNR=13							
ETOR				Pg	**Pg**	**21 13 53.4**	**-1.0**
11nm,0.0s,SNR=9.2							
ETOR				Sn	**Sn**	**21 14 16.3**	**-0.8**
16nm,0.1s,SNR=7.9							
ETOR				Lg	Lg	21 14 25.4	
16nm,0.2s,SNR=5.0							
ETOR	**Torete**	**2.48**	**202**	Pn	**Pn**	**21 13 48.5**	**+1.6**
10nm,0.1s,SNR=13							
RJF	**Les Rejaudoux**	**2.76**	**37**	ePn	**Pn**	**21 13 50.3**	**-0.4**
SNR=1.0							
RJF	**Les Rejaudoux**	**2.76**	**37**	ePg	Pb	21 13 59.4	+3.4
RJF				eSn	**Sn**	**21 14 23.0**	**-0.9**
SNR=1.0							
RJF				eSg	**Sg**	**21 14 35.9**	**+0.4**
16nm,0.2s,SNR=1.0							
RJF	**Les Rejaudoux**	**2.76**	**37**	Pn	**Pn**	**21 13 50.3**	**-0.4**
RJF	**Les Rejaudoux**	**2.76**	**37**	Pg	Pb	21 13 59.4	+3.4
RJF				Sn	**Sn**	**21 14 23.0**	**-0.9**
RJF				eSg	**Sg**	**21 14 35.9**	**+0.4**
8.1nm,0.2s,SNR=1.0							
CAF	**Calviac**	**2.76**	**48**	ePn	**Pn**	**21 13 50.6**	**-0.2**
SNR=1.0							
CAF	**Calviac**	**2.76**	**48**	eP	**Pn**	**21 13 53.6**	**+2.8**
CAF	**Calviac**	**2.76**	**48**	ePg	Pb	21 13 59.3	+3.2
CAF				eSn	**Sn**	**21 14 22.6**	**-1.4**
SNR=1.0							
CAF				eSg	**Sg**	**21 14 36.1**	**+0.5**
9.9nm,0.2s							
CAF	**Calviac**	**2.76**	**48**	Pn	**Pn**	**21 13 50.6**	**-0.2**
CAF	**Calviac**	**2.76**	**48**	eP	**Pn**	**21 13 53.6**	**+2.8**
CAF	**Calviac**	**2.76**	**48**	Pg	Pb	21 13 59.3	+3.2
CAF				Sn	**Sn**	**21 14 22.6**	**-1.4**
CAF				eSg	**Sg**	**21 14 36.1**	**+0.5**
4.9nm,0.2s							
EMOS	**Mosqueruela**	**2.78**	**174**	Pn	**Pn**	**21 13 51.9**	**+0.7**
0.2nm,0.2s,SNR=7.9							
EMOS				Pg	**Pg**	**21 13 58.7**	**-1.4**
4.8nm,0.3s,SNR=8.7							
EMOS				Sn	**Sn**	**21 14 24.9**	**+0.3**
2.5nm,0.2s,SNR=7.9							
EMOS				Lg	Lg	21 14 35.3	
2.4nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**2.78**	**174**	Pn	**Pn**	**21 13 51.9**	**+0.7**
0.2nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**2.79**	**118**	Pn	**Pn**	**21 13 53.6**	**+2.4**
1.0nm,0.2s,SNR=21							
CFON				Pg	**Pb**	**21 13 58.3**	**+1.8**
2.3nm,0.1s,SNR=7.6							
CFON				Lg	Lg	21 14 36.8	
18nm,0.2s							
CFON	**Fontmartina**	**2.79**	**118**	Pn	**Pn**	**21 13 53.6**	**+2.4**
1.0nm,0.2s,SNR=21							
SJAF	**Saint Jean de**	**2.82**	**102**	Pn	**Pn**	**21 13 52.3**	**+0.7**
SNR=7.9							
EJON	**La Jonquera**	**2.83**	**103**	Pg	**Pb**	**21 13 57.0**	**-0.3**
0.6nm,0.2s,SNR=9.8							
EJON				Lg	Lg	21 14 38.4	
1.6nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**2.83**	**103**	Pg	**Pb**	**21 13 57.0**	**-0.3**
0.6nm,0.2s,SNR=9.8							
EJON				Lg	Lg	21 14 38.4	
1.6nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**3.19**	**275**	Pn	**Pn**	**21 13 59.3**	**+2.6**
0.0nm,0.2s,SNR=33							
EARI				Sn	**Sn**	**21 14 35.9**	**+1.3**
2.2nm,0.2s,SNR=5.0							
EARI	**Arriondas**	**3.19**	**275**	Pn	**Pn**	**21 13 59.3**	**+2.6**
SNR=33							
EARI				Sn	**Sn**	**21 14 35.9**	**+1.3**
2.2nm,0.2s,SNR=5.0							
GUD	**Guadarrama**	**3.50**	**226**	Pn	**Pn**	**21 14 02.6**	**+1.6**
2.1nm,0.2s,SNR=7.9							
GUD				Sn	**Sn**	**21 14 41.4**	**-1.0**
3.4nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**3.50**	**226**	Pn	**Pn**	**21 14 02.6**	**+1.6**
2.1nm,0.2s,SNR=7.9							
GUD				Sn	**Sn**	**21 14 41.4**	**-1.0**
3.4nm,0.3s,SNR=7.9							
MFF	**Saint Martin d**	**3.51**	**8**	ePn	**Pn**	**21 14 00.8**	**-0.2**
SNR=1.0							
MFF	**Saint Martin d**	**3.51**	**8**	ePg	**Pg**	**21 14 13.7**	**-0.3**
MFF				eSn	**Sn**	**21 14 40.6**	**-1.7**
MFF				eSg	**Sg**	**21 14 59.6**	**+0.1**
7.1nm,0.3s							
MFF	**Saint Martin d**	**3.51**	**8**	Pn	**Pn**	**21 14 00.8**	**-0.2**
MFF	**Saint Martin d**	**3.51**	**8**	Pg	**Pg**	**21 14 13.7**	**-0.3**
MFF				Sn	**Sn**	**21 14 40.6**	**-1.7**
MFF				eSg	**Sg**	**21 14 59.6**	**+0.1**
3.5nm,0.3s							
LASF	**Ste Croix**	**3.55**	**73**	ePn	**Pn**	**21 14 01.9**	**+0.3**
SNR=1.0							
LASF	**Ste Croix**	**3.55**	**73**	ePg	Pb	21 14 13.5	+4.1
LASF				eSg	**Sg**	**21 14 59.8**	**-0.9**
3.4nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**3.55**	**73**	Pn	**Pn**	**21 14 01.9**	**+0.3**
LASF	**Ste Croix**	**3.55**	**73**	Pg	Pb	21 14 13.5	+4.1
LASF				eSg	**Sg**	**21 14 59.8**	**-0.9**
1.7nm,0.2s,SNR=1.0							

BGF					*e*Sg	**Sg**	21 15 24.6	-0.8
	14nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**4.34**	**65**	*e*Pn	**Pn**	21 14 12.8	+0.3	
VIVF	**Saint-Julien-l**	**4.34**	**65**	*e*Pg	**Pg**	21 14 28.6	-1.4	
VIVF					*e*Sg	**Sg**	21 15 24.6	-1.6
	7.3nm,0.5s								
VIVF	**Saint-Julien-l**	**4.34**	**65**	Pn	**Pn**	21 14 12.8	+0.3	
VIVF	**Saint-Julien-l**	**4.34**	**65**	Pg	**Pg**	21 14 28.6	-1.4	
VIVF					*e*Sg	**Sg**	21 15 24.6	-1.6
	3.7nm,0.5s								
EIBI	**Ibiza**	**4.42**	**157**	Pn	**Pn**	21 14 14.1	+0.6	
	0.6nm,0.2s,SNR=7.9								
EIBI					Sn	**Sn**	21 15 02.2	-2.7
	1.2nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**4.42**	**157**	Pn	**Pn**	21 14 14.1	+0.6	
	0.6nm,0.2s,SNR=7.9								
EIBI					Sn	**Sn**	21 15 02.2	-2.7
	1.2nm,0.2s,SNR=7.9								
EBEN	**Beniarda**	**4.45**	**174**	Pn	**Pn**	21 14 15.4	+1.4	
	0.2nm,0.2s,SNR=7.9								
EBEN	**Beniarda**	**4.45**	**174**	Pn	**Pn**	21 14 15.4	+1.4	
	0.2nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**4.51**	**257**	Pn	**Pn**	21 14 16.1	+1.2	
	2.0nm,0.1s,SNR=6.2								
ECAL					Sn	**Sn**	21 15 04.9	-2.3	
	1.5nm,0.2s,SNR=7.9								
ECAL					Lg	Lg	21 15 29.1		
	2.8nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**4.51**	**257**	Pn	**Pn**	21 14 16.1	+1.2	
	2.0nm,0.1s,SNR=6.2								
ECAL					Sn	**Sn**	21 15 04.9	-2.3	
	1.5nm,0.2s,SNR=7.9								
ECAL					Lg	Lg	21 15 29.1		
	2.8nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**4.51**	**187**	Pn	**Pn**	21 14 15.9	+1.0	
	0.2nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**4.51**	**187**	Pn	**Pn**	21 14 15.9	+1.0	
	0.2nm,0.1s,SNR=7.9								
PBRG	**Braganca**	**4.56**	**255**	*e*Pn	**Pn**	21 14 17.0	+1.5	
PBRG					*e*Sn	**Sn**	21 15 09.4	+1.1
PBRG					A	A	21 15 12.2		
	1.8nm,0.1s								
PBRG	**Braganca**	**4.56**	**255**	*e*Pn	**Pn**	21 14 17.0	+1.5	
PBRG					*e*Sn	**Sn**	21 15 09.4	+1.1
	1.8nm,0.1s								
EPON	**Pontenova**	**4.61**	**275**	Pn	**Pn**	21 14 16.9	+0.8	
	0.2nm,0.1s,SNR=4.0								
EPON					Sn	**Sn**	21 15 10.1	+0.6	
	0.4nm,0.2s,SNR=7.9								
EPON	**Pontenova**	**4.61**	**275**	Pn	**Pn**	21 14 16.9	+0.8	
	0.2nm,0.1s,SNR=4.0								
EPON					Sn	**Sn**	21 15 10.1	+0.6	
	0.4nm,0.2s,SNR=7.9								
EVIA	**Vianos**	**4.66**	**196**	Pn	**Pn**	21 14 18.0	+1.1	
	0.6nm,0.1s,SNR=7.9								
EVIA					Lg	Lg	21 15 35.4		
	0.7nm,0.1s,SNR=7.9								
EVIA	**Vianos**	**4.66**	**196**	Pn	**Pn**	21 14 18.0	+1.1	
	0.6nm,0.1s,SNR=7.9								
EVIA					Lg	Lg	21 15 35.4		
	0.7nm,0.1s,SNR=7.9								
AVF	**Avril sur Loir**	**4.72**	**38**	*e*Pn	**Pn**	21 14 17.7	0.0	
	SNR=1.0								
AVF	**Avril sur Loir**	**4.72**	**38**	*e*Pg	**Pg**	21 14 35.8	-1.4	
AVF					*e*Sn	**Sn**	21 15 09.8	-2.4
	SNR=1.0								
AVF					*e*Sg	**Sg**	21 15 36.5	-1.8
	5.8nm,0.4s,SNR=1.0								
AVF	**Avril sur Loir**	**4.72**	**38**	Pn	**Pn**	21 14 17.7	0.0	
AVF	**Avril sur Loir**	**4.72**	**38**	Pg	**Pg**	21 14 35.8	-1.4	
AVF					Sn	**Sn**	21 15 09.8	-2.4
AVF					*e*Sg	**Sg**	21 15 36.5	-1.8
	2.9nm,0.4s,SNR=1.0								
SMRF	**Simiane la Rot**	**4.75**	**78**	*e*Pn	**Pn**	21 14 17.7	-0.3	
	SNR=1.0								
SMRF					*e*Sn	**Sn**	21 15 09.4	-3.5	
	1.8nm,0.4s								
SMRF	**Simiane la Rot**	**4.75**	**78**	Pn	**Pn**	21 14 17.7	-0.3	
SMRF					Sn	**Sn**	21 15 09.4	-3.5	
	1.8nm,0.4s								
HYF	**Humbligny**	**4.82**	**30**	*e*Pn	**Pn**	21 14 19.2	+0.2	
HYF	**Humbligny**	**4.82**	**30**	*e*Pg	Pg	21 14 37.3	-1.8	
HYF					*e*Sg	**Sg**	21 15 40.3	-1.1
HYF	**Humbligny**	**4.82**	**30**	Pn	**Pn**	21 14 19.2	+0.2	
HYF	**Humbligny**	**4.82**	**30**	Pg	Pg	21 14 37.3	-1.8	
HYF					*e*Sg	**Sg**	21 15 40.3	-1.1
SMF	**Signal de Mont**	**4.84**	**42**	*e*Pn	**Pn**	21 14 18.8	-0.6	
	SNR=1.0								
SMF	**Signal de Mont**	**4.84**	**42**	*e*Pg	Pg	21 14 37.5	-2.1	
SMF					*e*Sn	**Sn**	21 15 12.9	-2.4
SMF					*e*Sg	**Sg**	21 15 40.9	-1.4
	4.3nm,0.4s								
SMF	**Signal de Mont**	**4.84**	**42**	Pn	**Pn**	21 14 18.8	-0.6	
SMF	**Signal de Mont**	**4.84**	**42**	Pg	Pg	21 14 37.5	-2.1	
SMF					Sn	**Sn**	21 15 12.9	-2.4
SMF					*e*Sg	**Sg**	21 15 40.9	-1.4
	2.2nm,0.4s								
SSF	**Saint Saulge**	**5.00**	**37**	*e*Pn	**Pn**	21 14 21.1	-0.3	
	SNR=1.0								
SSF	**Saint Saulge**	**5.00**	**37**	*e*Pg	Pg	21 14 40.6	-1.9	
SSF					*e*Sn	**Sn**	21 15 16.6	-2.4
	SNR=1.0								
SSF					*e*Sg	**Sg**	21 15 45.9	-1.2
	2.5nm,0.3s								
SSF	**Saint Saulge**	**5.00**	**37**	Pn	**Pn**	21 14 21.1	-0.3	
SSF	**Saint Saulge**	**5.00**	**37**	Pg	Pg	21 14 40.6	-1.9	
SSF					Sn	**Sn**	21 15 16.6	-2.4
SSF					*e*Sg	**Sg**	21 15 45.9	-1.2
	1.2nm,0.3s								
MVO	**Moncorvo**	**5.00**	**249**	Pn	**Pn**	21 14 23.1	+1.6	
	3.4nm,0.3s,SNR=7.1								
MVO					Sn	**Sn**	21 15 17.4	-1.8
	2.6nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**5.00**	**249**	*e*Pn	**Pn**	21 14 23.1	+1.6	
MVO					*e*Sn	**Sn**	21 15 18.0	-1.2
MVO					A	A	21 15 25.4		
	3.6nm,0.2s								
MVO	**Moncorvo**	**5.00**	**249**	Pn	**Pn**	21 14 23.1	+1.6	
	3.4nm,0.3s,SNR=7.1								
MVO					*e*Sn	**Sn**	21 15 18.0	-1.2	
	3.6nm,0.2s								
QUIF	**Quistinic**	**5.06**	**342**	*e*Pn	**Pn**	21 14 22.0	-0.2	
	SNR=1.0								
QUIF					*e*Sn	**Sn**	21 15 17.9	-2.5	
	1.6nm,0.3s,SNR=1.0								
QUIF	**Quistinic**	**5.06**	**342**	Pn	**Pn**	21 14 22.0	-0.2	
QUIF					Sn	**Sn**	21 15 17.9	-2.5	
	0.8nm,0.3s								
ORIF	**Oris-en-Rattie**	**5.17**	**67**	*e*Pn	**Pn**	21 14 24.1	+0.2	
	SNR=1.0								
ORIF					*e*Sg	**Sg**	21 15 50.6	-2.2	
	2.4nm,0.5s								
ORIF	**Oris-en-Rattie**	**5.17**	**67**	Pn	**Pn**	21 14 24.1	+0.2	
ORIF					*e*Sg	**Sg**	21 15 50.6	-2.2	
	1.2nm,0.5s								
GRR	**Gorron**	**5.26**	**360**	*e*Pn	**Pn**	21 14 25.2	+0.2	
GRR					*e*Sn	Sn	21 15 22.7	-2.8
	2.8nm,0.3s								
GRR	**Gorron**	**5.26**	**360**	Pn	**Pn**	21 14 25.2	+0.2	
GRR					Sn	Sn	21 15 22.7	-2.8
	1.4nm,0.3s								
SGMF	**Saint Gilles**	**5.26**	**347**	*e*Pn	**Pn**	21 14 25.5	+0.4	
	SNR=1.0								
SGMF					*e*Sn	**Sn**	21 15 22.9	-2.6	
	0.6nm,0.2s,SNR=1.0								
SGMF	**Saint Gilles**	**5.26**	**347**	Pn	**Pn**	21 14 25.5	+0.4	
SGMF					Sn	**Sn**	21 15 22.9	-2.6	
	0.3nm,0.2s								
LOR	**Lormes**	**5.31**	**37**	*e*Pn	**Pn**	21 14 25.6	-0.2	
	baz=230								
LOR	**Lormes**	**5.31**	**37**	*e*Pg	Pg	21 14 46.7	-1.8	
LOR					*e*Sn	**Sn**	21 15 24.0	-2.7
	SNR=1.0								
LOR					*e*Sg	**Sg**	21 15 55.5	-1.7
	2.0nm,0.3s								
LOR	**Lormes**	**5.31**	**37**	Pn	**Pn**	21 14 25.6	-0.2	
LOR	**Lormes**	**5.31**	**37**	Pg	Pg	21 14 46.7	-1.8	
LOR					Sn	**Sn**	21 15 24.0	-2.7
LOR					*e*Sg	**Sg**	21 15 55.5	-1.7
	1.0nm,0.3s								
LMR	**La Mourre**	**5.38**	**85**	*e*Pn	**Pn**	21 14 26.1	-0.6	
LMR					*e*Sn	Sn	21 15 24.5	-4.0
	0.2nm,0.2s								
LMR	**La Mourre**	**5.38**	**85**	Pn	**Pn**	21 14 26.1	-0.6	
LMR					Sn	Sn	21 15 24.5	-4.0
	0.1nm,0.2s								

POLO	**Lamas de Olo**	**5.45**	**254**	*e*Pn	**Pn**	21 14 28.8	+1.1		
POLO				*e*Sn	**Sn**	21 15 30.1	-0.2		
POLO				A	A	21 15 36.5			
	1.7nm,0.4s								
POLO	**Lamas de Olo**	**5.45**	**254**	*e*Pn	**Pn**	21 14 28.8	+1.1		
POLO				*e*Sn	**Sn**	21 15 30.1	-0.2		
	1.7nm,0.4s								
ROSF	**Rostrenen**	**5.48**	**343**	*e*Pn	**Pn**	21 14 28.5	+0.5		
	SNR=1.0								
ROSF				*e*Sn	**Sn**	21 15 28.0	-2.8		
	1.4nm,0.2s,SNR=1.0								
ROSF	**Rostrenen**	**5.48**	**343**	Pn	**Pn**	21 14 28.5	+0.5		
ELOB	**Lobios**	**5.48**	**259**	Pn	**Pn**	21 14 29.1	+0.9		
	1.6nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**5.48**	**259**	Pn	**Pn**	21 14 29.1	+0.9		
	1.6nm,0.1s,SNR=7.9								
FRF	**La Foret Royal**	**5.48**	**83**	*e*Pn	**Pn**	21 14 27.7	-0.4		
	SNR=1.0								
FRF				*e*Sn	Sn	21 15 27.0	-4.0		
	0.4nm,0.3s								
FRF	**La Foret Royal**	**5.48**	**83**	Pn	**Pn**	21 14 27.7	-0.4		
LDF	**La Druitiere**	**5.49**	**5**	*e*Pn	**Pn**	21 14 28.2	0.0		
LDF				*e*Sn	Sn	21 15 27.9	-3.2		
	1.7nm,0.3s								
LDF	**La Druitiere**	**5.49**	**5**	*e*Pn	**Pn**	21 14 28.2	0.0		
EQES	**Quesada**	**5.58**	**198**	Pn	**Pn**	21 14 31.3	+1.6		
	0.5nm,0.3s,SNR=7.9								
EQES					Sn	**Sn**	21 15 31.5	-2.2	
	0.2nm,0.3s,SNR=4.0								
EQES					Lg	Lg	21 16 04.9		
	0.3nm,0.2s,SNR=4.0								
EQES	**Quesada**	**5.58**	**198**	Pn	**Pn**	21 14 31.3	+1.6		
	0.5nm,0.3s,SNR=7.9								
EQES					Lg	Lg	21 16 04.9		
	0.3nm,0.2s,SNR=4.0								
FLN	**La Foliniere**	**5.64**	**2**	*e*Pn	**Pn**	21 14 30.2	-0.1		
FLN				*e*Sn	Sn	21 15 31.9	-2.9		
	0.7nm,0.3s,SNR=1.0								
FLN	**La Foliniere**	**5.64**	**2**	Pn	**Pn**	21 14 30.2	-0.1		
EADA	**Adamuz**	**5.71**	**211**	Pn	**Pn**	21 14 32.1	+0.8		
	0.1nm,0.2s,SNR=7.9								
EADA					Sn	**Sn**	21 15 33.4	-3.3	
	0.2nm,0.2s,SNR=7.9								
EADA					Lg	Lg	21 16 08.2		
	0.2nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**5.71**	**211**	Pn	**Pn**	21 14 32.1	+0.8		
	0.1nm,0.2s,SNR=7.9								
EADA					Lg	Lg	21 16 08.2		
	0.2nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**6.13**	**216**	Pn	**Pn**	21 14 37.2	+0.1		
	0.1nm,0.1s,SNR=7.9								
ECAB					Sn	**Sn**	21 15 43.1	-3.9	
	0.1nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**6.13**	**216**	Pn	**Pn**	21 14 37.2	+0.1		
	0.1nm,0.1s,SNR=7.9								
PMRV	**Marv??o**	**6.16**	**235**	*e*Pn	**Pn**	21 14 37.9	+0.4		
PMRV				*e*Sn	**Sn**	21 15 45.9	-1.9		
PMRV				A	A	21 15 58.6			
	2.5nm,0.6s								
PMRV	**Marv??o**	**6.16**	**235**	*e*Pn	**Pn**	21 14 37.9	+0.4		
SFTF	**Sexfontaines**	**6.54**	**37**	*e*Pn	**Pn**	21 14 42.5	-0.1		
	baz=221								
SFTF				*e*Sn	Sn	21 15 53.4	-3.6		
	3.2nm,0.5s								
SFTF	**Sexfontaines**	**6.54**	**37**	Pn	**Pn**	21 14 42.5	-0.1		
MEZF	**Maizieres J'vi**	**6.77**	**35**	*e*Pn	**Pn**	21 14 45.7	-0.1		
MEZF				*e*Sn	Sn	21 15 58.9	-3.8		
	2.2nm,0.5s								
MEZF	**Maizieres J'vi**	**6.77**	**35**	Pn	**Pn**	21 14 45.7	-0.1		
PBAR	**Barrancos**	**6.83**	**226**	*e*Pn	**Pn**	21 14 47.5	+0.9		
PBAR	**Barrancos**	**6.83**	**226**	*e*Pn	**Pn**	21 14 47.5	+0.9		
CDF	**Champ du Feu**	**7.75**	**44**	*e*Pn	**Pn**	21 14 59.2	-0.2		
CDF				*e*Sn	Sn	21 16 22.5	-4.5		
	0.6nm,0.3s								
CDF	**Champ du Feu**	**7.75**	**44**	Pn	**Pn**	21 14 59.2	-0.2		
BAIF	**Baives**	**7.75**	**25**	*e*Pn	**Pn**	21 14 59.1	-0.2		
	SNR=1.0								
BAIF				*e*Sn	Sn	21 16 22.3	-4.6		
	1.0nm,0.4s								
BAIF	**Baives**	**7.75**	**25**	Pn	**Pn**	21 14 59.1	-0.2		
PCVE	**Castro Verde**	**7.76**	**227**	*e*Pn	**Pn**	21 14 59.9	+0.5		
PCVE	**Castro Verde**	**7.76**	**227**	*e*Pn	**Pn**	21 14 59.9	+0.5		
PVAQ	**Vaqueiros**	**7.76**	**225**	*e*Pn	**Pn**	21 14 59.6	+0.1		
PVAQ	**Vaqueiros**	**7.76**	**225**	*e*Pn	**Pn**	21 14 59.6	+0.1		

*ISCJB **28** 21:18:51.1±0.6,29.°75S±0.°03×71.°69W±0.°06,h43km±10km, mb3.6/4, Error ellipse: s-maj=8.9km s-min=5.2km az=16.7*
*GUC **28** 21:18:53.0±0.6,29.°78S×71.°28W,h55km±12km,ML4.5*
*IDC **28** 21:18:53.4±0.9,29.°73S×71.°55W,h46km±6km, mb3.5/4, mb1 3.8/9,mb1mx3.7/20,mbtmp3.6/9,ML4.0/5,MS3.3/2, Ms1 3.3/2,ms1mx2.8/22, Error ellipse: s-maj=26.9km s-min=11.9km az=41.0*
ISC 28 21:18:53.1±0.7,29.74S±0.°04×71.59W±0.°08,h45km±7km, n30,σ0s94/32,mb3.6/4,1C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.81**	**122**	*i*P	Pn	21 19 00.0	-8.3
TLL				*e*S	Sn	21 19 10.7	-8.7
LCO	**Las Campanas**	**1.06**	**47**	*i*P	**Pn**	21 19 10.9	-1.0
LCO				*e*S	**Sn**	21 19 24.2	-1.4
LCO				AML	AML	21 19 26.7	
	comp=E,6μm,0.2s						
VACH	**Vallenar**	**1.37**	**32**	*e*P	**Pn**	21 19 15.2	-0.7
VACH				*e*S	**Sn**	21 19 32.1	-0.7
CMCH	**Combarbala**	**1.52**	**161**	*i*P	**Pn**	21 19 17.1	-0.8
CMCH				*e*S	**Sn**	21 19 35.7	-0.9
CPCH	**Copiapo**	**2.61**	**25**	*e*P	**Pn**	21 19 33.5	+0.7
ROCH	**El Roble**	**3.26**	**171**	*i*P	**Pn**	21 19 42.0	0.0
ROCH				*e*S	**Sn**	21 20 19.3	-0.3
ROCH				AML	AML	21 20 37.9	
	comp=N,1μm,0.5s						
CFAA	**Coronel Fontan**	**3.44**	**124**	P	**Pn**	21 19 44.6	+0.5
	comp=N,6.3nm,0.3s,baz=322,slow=12,SNR=144						
CFAA				S	**Sn**	21 20 24.9	+1.2
	comp=N,4.8nm,0.3s,baz=71,slow=18,SNR=6.5						
PEL	**Peldehue**	**3.48**	**167**	*e*P	**Pn**	21 19 45.4	+0.5
PEL				AML	AML	21 20 45.2	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**3.75**	**166**	*e*P	**Pn**	21 19 49.3	+0.7
H03N1	**Juan Fernandez**	**7.25**	**238**	P	**Pn**	21 20 35.4	-0.9
	baz=230,slow=18,SNR=205						
H03N1				S	Sn	21 21 48.3	-8.9
H03N1				T	T	21 28 15.9	
	baz=61,slow=74,SNR=1292						
H03N2	**Juan Fernandez**	**7.27**	**238**	P	**Pn**	21 20 35.2	-1.2
	baz=230,slow=18,SNR=222						
H03N2				S	Sn	21 21 48.5	-9.0
H03N2				T	T	21 28 15.1	
	baz=61,slow=74,SNR=1398						
H03N3	**Juan Fernandez**	**7.27**	**237**	P	Pn	21 20 34.8	-1.7
	baz=230,slow=18,SNR=88						
H03N3				S	Sn	21 21 48.5	-9.1
H03N3				T	T	21 28 17.1	
	baz=61,slow=74,SNR=1858						
PLCA	**Paso Flores**	**11.00**	**176**	P	**Pn**	21 21 27.6	-0.3
	comp=E,0.2nm,0.3s,baz=326,slow=9.5,SNR=3.6						
CPUP	**Villa Florida**	**13.05**	**78**	P	**Pn**	21 21 56.1	+0.3
	comp=E,0.9nm,0.3s,baz=219,slow=10,SNR=4.1						
CPUP				LR	LR	21 27 21.6	
	comp=E,124nm,18.7s,baz=71,slow=39						
LPAZ	**La Paz**	**13.76**	**14**	P	**Pn**	21 22 07.4	+1.2
	comp=E,0.1nm,0.3s,baz=192,slow=9.3,SNR=2.5						
SIV	**San Ignacio**	**16.75**	**38**	P	**Pn**	21 22 45.5	+0.8
	comp=E,0.4nm,0.3s,baz=216,slow=15,SNR=4.7						
SIV				LR	LR	21 30 15.0	
	comp=E,99nm,18.1s,slow=41						
BDFB	**Brasilia**	**25.81**	**62**	P	**P**	21 24 18.5	-1.9
	comp=E,3.1nm,0.7s,baz=212,slow=8.6,SNR=3.8						
H06S1	**SOCORRO T**	**61.34**	**317**	T	T	22 35 14.0	
	SNR=19						
TXAR	**Lajitas Array**	**66.24**	**330**	P	**P**	21 29 37.8	+1.2
	comp=E,0.4nm,0.7s,baz=149,slow=7.2,SNR=4.6						
TXAR				pP	**pP**	21 29 51.0	+1.3
	comp=E,0.3nm,0.8s,baz=156,slow=6.8,SNR=2.2						
NVAR	**Mina Array Bea**	**80.63**	**325**	P	**P**	21 31 02.3	+1.1
	comp=E,0.2nm,0.3s,baz=146,slow=5.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**82.41**	**70**	P	**P**	21 31 10.4	-0.4
	comp=E,0.4nm,0.6s,baz=280,slow=3.7,SNR=7.0						
TORD				pP	**pP**	21 31 23.1	-1.2
	comp=E,0.8nm,0.7s,baz=281,slow=4.6,SNR=4.0						
WRA	**Warramunga Arr**	**124.64**	**210**	PKP	**PKPdf**	21 37 47.2	-1.1
	comp=E,0.6nm,0.8s,baz=166,slow=1.5,SNR=3.6						

H11S2	**WAKE ISLAND Hyl**	**26.11**	**272**	T	T	23 56 52.9			
	baz=118,slow=73,SNR=35								
H11S1	**WAKE ISLAND Hyl**	**26.12**	**272**	T	T	23 56 53.8			
	baz=118,slow=73,SNR=28								
H11S3	**WAKE ISLAND Hyl**	**26.13**	**272**	T	T	23 56 54.2			
	baz=118,slow=73,SNR=26								
H11N3	**WAKE ISLAND Hyl**	**26.42**	**273**	T	T	23 57 14.7			
	baz=156,slow=75,SNR=4.1								
H11N1	**WAKE ISLAND Hyl**	**26.43**	**273**	T	T	23 57 21.5			
H11N2	**WAKE ISLAND Hyl**	**26.43**	**273**	T	T	23 57 19.7			
	baz=123,slow=75,SNR=4.2								
ZALV	**Zalesovo Beam**	**150.37**	**29**	PKPbc	**PKPbc**	21 38 38.9	-0.1		
	comp=E,5.5nm,0.7s,baz=302,slow=3.1,SNR=29								
ZALV				PKPab	**PKPab**	21 38 45.1	-0.4		
	comp=E,2.4nm,0.5s,baz=305,slow=3.5,SNR=3.6								
ZALV				pPKPbc	**pPKPbc**	21 38 52.8	-0.2		
	comp=E,4.2nm,0.7s,baz=305,slow=2.8,SNR=10								
MKAR	**Makanchi Array**	**153.53**	**43**	PKPbc	**PKPbc**	21 38 45.6	-0.9		
	comp=E,0.4nm,0.8s,baz=349,slow=1.2,SNR=3.9								
MKAR				PKPab	**PKPab**	21 38 59.1	+0.1		
	comp=E,0.4nm,0.7s,baz=304,slow=2.2,SNR=5.4								
MKAR				pPKPab	**pPKPab**	21 39 12.6	-0.1		
	comp=E,0.4nm,0.7s,baz=282,slow=1.1,SNR=4.2								

IDC 28 21:26:49.8±10.0,24.°67S×178.°66W,h526km±131km, mb3.5/4,mb1 3.6/5,mb1mx3.1/19,mbtmp3.5/5,Error ellipse: s-maj=220.0km s-min=65.1km az=79.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.02**	**194**	P	P	21 29 50.1	+0.9
	1.2nm,0.3s,baz=293,slow=4.6,SNR=7.2						
URZ				S	S	21 32 12.5	-4.5
	0.3nm,0.3s,baz=113,slow=20,SNR=5.4						
CTA	**Charters Tower**	**32.70**	**271**	P	P	21 32 38.9	-0.1
	8.3nm,0.6s,baz=105,slow=10.0,SNR=12						
STKA	**Stephens Creek**	**35.58**	**249**	P	P	21 33 03.0	0.0
	1.6nm,0.4s,baz=93,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**43.12**	**261**	P	P	21 34 03.8	-0.1
	1.5nm,0.4s,baz=93,slow=7.5,SNR=49						
WRA	**Warramunga Arr**	**43.57**	**266**	P	P	21 34 07.2	-0.3
	4.1nm,0.5s,baz=100,slow=7.1,SNR=33						

*AUST **28** 21:43:32.2±0.0,8.°46S×120.°60E,h124km,Error ellipse: s-maj=1.1km s-min=1.0km az=1.0*
*ISCJB **28** 21:43:33.8±0.5,8.°79S±0.°07×120.°61E±0.°06,h150km, mb3.7/5,Error ellipse: s-maj=10.9km s-min=5.8km az=36.9*
*IDC **28** 21:43:42.1±4.0,8.°67S×120.°85E,h219km±42km,mb3.3/5, mb1 3.4/7,mb1mx3.2/22,mbtmp3.2/7, Error ellipse: s-maj=83.2km s-min=9.8km az=54.0*
*DJA **28** 21:43:43.2±0.4,8°S±4°×12°1E±°,h13km,M3.7/5,MLv3.7/5*
ISC 28 21:43:34.6±0.7,8.°86S±0.°07×120.°62E±0.°06,h150km,n24, σ1s83/24,mb3.9/5,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.81**	**298**	P	**Pn**	21 43 58.5	+0.6
LBFI				S	**Sn**	21 44 15.4	-0.2
WSI	**Waingapu**	**0.86**	**201**	P	**Sn**	21 44 15.3	-1.1
MMRI	**Maumere**	**1.62**	**82**	P	**Pn**	21 44 06.2	+0.8
MMRI				S	**Sn**	21 44 28.7	-0.3
BKSI	**Bulukumba**	**3.55**	**352**	P	**Pn**	21 44 29.2	+0.2
SOEI	**Soe**	**3.71**	**104**	P	Pn	21 44 33.5	+2.3
SOEI	**Soe**	**3.71**	**104**	P	Pn	21 44 33.9	+2.7
	baz=3.8,SNR=11						
BNSI	**Bone**	**4.46**	**353**	P	**Pn**	21 44 40.6	-0.3
JAGI	**Jajag, Banyuwa**	**6.40**	**273**	P	**Pn**	21 45 05.5	-1.2
	baz=6.4,SNR=11						
LUWI	**Luwuk**	**8.06**	**16**	P	Pn	21 45 23.4	-5.4
	baz=7.7,SNR=3.1						
KNRA	**Kununurra**	**10.45**	**131**	P	**Pn**	21 46

DRO				S	Sb	21 53 51.7	+1.4	
UPR	**University Cam**	**1.19**	**87**	P	Pg	21 53 34.2	-1.1	
UPR	**University Cam**	**1.19**	**87**	P	Pg	21 53 34.2	-1.1	
IGT	**Igoumenitsa**	**1.29**	**2**	P	Pn	21 53 37.5	+0.6	
IGT				S	Sn	21 53 56.9	+2.4	
IGT	**Igoumenitsa**	**1.29**	**2**	*e*PN	Pn	21 53 38.3	+1.4	
IGT				*e*SN	Sn	21 53 56.2	+1.7	
IGT	**Igoumenitsa**	**1.29**	**2**	P	Pn	21 53 37.5	+0.6	
IGT	**Igoumenitsa**	**1.29**	**2**	*e*Pn	Pn	21 53 38.3	+1.4	
IGT				*e*Sn	Sn	21 53 56.2	+1.7	
EFP	**Efpalio**	**1.30**	**81**	*e*PN	Pg	21 53 35.7	-1.6	
EFP	**Efpalio**	**1.30**	**81**	*e*Pn	Pg	21 53 35.7	-1.6	
AMT	**Artemida-Makis**	**1.34**	**121**	P	Pn	21 53 37.1	-0.4	
AMT				S	Sn	21 53 56.9	+1.4	
AMT	**Artemida-Makis**	**1.34**	**121**	*e*PN	Pn	21 53 37.9	+0.4	
AMT	**Artemida-Makis**	**1.34**	**121**	P	Pn	21 53 37.1	-0.4	
AMT	**Artemida-Makis**	**1.34**	**121**	*e*Pn	Pn	21 53 37.9	+0.4	
AMT				S	Sn	21 53 56.9	+1.4	
LAKA	**Lakka**	**1.34**	**89**	P	Pn	21 53 36.5	-1.1	
LAKA	**Lakka**	**1.34**	**89**	*e*PN	Pn	21 53 36.6	-1.1	
LAKA	**Lakka**	**1.34**	**89**	P	Pn	21 53 36.5	-1.1	
EVR	**Evrytania**	**1.38**	**60**	P	Pn	21 53 37.9	-0.3	
EVR				S	Sn	21 53 59.0	+2.2	
EVR	**Evrytania**	**1.38**	**60**	*e*PN	Pn	21 53 37.5	-0.7	
EVR	**Evrytania**	**1.38**	**60**	*e*Pn	Pn	21 53 37.5	-0.7	
EVR	**Evrytania**	**1.38**	**60**	P	Pn	21 53 37.9	-0.3	
EVR				S	Sn	21 53 59.0	+2.2	
KALE	**Kalithea**	**1.48**	**83**	P	Pn	21 53 38.6	-0.9	
KALE				S	Sn	21 54 01.2	+2.1	
KALE	**Kalithea**	**1.48**	**83**	*e*PN	Pn	21 53 38.8	-0.7	
KALE				*e*SN	Sb	21 53 58.2	-1.0	
KALE	**Kalithea**	**1.48**	**83**	*e*Pn	Pn	21 53 38.8	-0.7	
KALE				S	Sn	21 54 01.2	+2.1	
JAN	**Janina**	**1.49**	**17**	P	Pn	21 53 39.9	+0.3	
JAN				S	Sn	21 54 01.4	+2.1	
JAN	**Janina**	**1.49**	**17**	*e*PN	Pg	21 53 41.2	+0.2	
JAN	**Janina**	**1.49**	**17**	P	Pn	21 53 39.9	+0.3	
JAN	**Janina**	**1.49**	**17**	*e*Pn	Pg	21 53 41.2	+0.2	
JAN				S	Sn	21 54 01.4	+2.1	
KLV	**Kalavryta, Ach**	**1.49**	**97**	P	Pn	21 53 39.1	-0.6	
KLV				S	Sb	21 54 00.4	+0.7	
KLV	**Kalavryta, Ach**	**1.49**	**97**	*e*PN	Pn	21 53 39.3	-0.4	
KLV	**Kalavryta, Ach**	**1.49**	**97**	*e*Pn	Pn	21 53 39.3	-0.4	
KLV				S	Sb	21 54 00.4	+0.7	
KEK	**Kerkira**	**1.52**	**346**	P	Pb	21 53 40.8	-0.1	
KEK				S	Sg	21 54 02.7	+1.4	
KEK	**Kerkira**	**1.52**	**346**	*e*PB	Pg	21 53 41.0	-0.6	
KEK	**Kerkira**	**1.52**	**346**	P	Pb	21 53 40.8	-0.1	
KEK				S	Sg	21 54 02.7	+1.4	
MAKR	**Makrakomi, Fth**	**1.65**	**61**	*e*PN	Pn	21 53 42.8	+1.0	
MAKR	**Makrakomi, Fth**	**1.65**	**61**	*e*Pn	Pn	21 53 42.8	+1.0	
GUR	**Goura**	**1.66**	**100**	P	Pn	21 53 41.8	-0.2	
GUR				S	Sn	21 54 04.5	+0.9	
GUR	**Goura**	**1.66**	**100**	*e*PN	Pn	21 53 42.0	0.0	
GUR				*e*SN	Sn	21 54 03.6	0.0	
GUR	**Goura**	**1.66**	**100**	*e*Pn	Pn	21 53 42.0	0.0	
GUR				*e*Sn	Sn	21 54 03.6	0.0	
GUR				S	Sn	21 54 04.5	+0.9	
ITM	**Ithomi**	**1.68**	**128**	*e*PN	Pb	21 53 43.9	+0.2	
ITM	**Ithomi**	**1.68**	**128**	*e*Pn	Pb	21 53 43.9	+0.2	
PYL	**PYLOS**	**1.78**	**138**	*e*PN	Pb	21 53 45.2	-0.1	
PYL	**PYLOS**	**1.78**	**138**	*e*Pn	Pb	21 53 45.2	-0.1	
DSF	**Desfina**	**1.78**	**84**	P	Pn	21 53 43.4	-0.3	
DSF	**Desfina**	**1.78**	**84**	*e*PN	Pn	21 53 43.9	+0.2	
DSF	**Desfina**	**1.78**	**84**	P	Pn	21 53 43.4	-0.3	
DSF	**Desfina**	**1.78**	**84**	*e*Pn	Pn	21 53 43.9	+0.2	
AGG	**Agios Georgios**	**1.79**	**63**	*e*PN	Pb	21 53 45.9	+0.3	
AGG	**Agios Georgios**	**1.79**	**63**	*e*Pn	Pb	21 53 45.9	+0.3	
THL	**Klokotos Trika**	**1.90**	**45**	*e*PN	Pb	21 53 47.6	+0.2	
THL	**Klokotos Trika**	**1.90**	**45**	*e*Pn	Pb	21 53 47.6	+0.2	
LTK	**Loutraki**	**2.13**	**95**	*e*PN	Pn	21 53 50.0	+1.5	
LTK	**Loutraki**	**2.13**	**95**	*e*Pn	Pn	21 53 50.0	+1.5	
LKR	**Lokris**	**2.18**	**78**	*e*PN	Pn	21 53 50.7	+1.6	
LKR	**Lokris**	**2.18**	**78**	*e*Pn	Pn	21 53 50.7	+1.6	
SMIA	**Simia**	**2.39**	**74**	*e*PN	Pn	21 53 53.6	+1.6	
SMIA	**Simia**	**2.39**	**74**	*e*Pn	Pn	21 53 53.6	+1.6	
DID	**Didima**	**2.46**	**106**	*e*PN	Pn	21 53 55.2	+2.3	
DID	**Didima**	**2.46**	**106**	*e*Pn	Pn	21 53 55.2	+2.3	
LIT	**Litokhoron**	**2.54**	**42**	*e*PN	Pn	21 53 56.1	+2.1	
LIT	**Litokhoron**	**2.54**	**42**	*e*Pn	Pn	21 53 56.1	+2.1	
NEO	**Neokhori**	**2.54**	**64**	*e*PN	Pn	21 53 55.5	+1.4	
NEO	**Neokhori**	**2.54**	**64**	*e*Pn	Pn	21 53 55.5	+1.4	
XOR	**Xorichti**	**2.54**	**63**	*e*PN	Pn	21 53 55.7	+1.6	
XOR	**Xorichti**	**2.54**	**63**	*e*Pn	Pn	21 53 55.7	+1.6	
NAIG	**Nisos Aigina**	**2.58**	**100**	*e*PN	Pn	21 53 56.9	+2.2	
NAIG	**Nisos Aigina**	**2.58**	**100**	*e*Pn	Pn	21 53 56.9	+2.2	
VLI	**Veliai**	**2.61**	**125**	*e*PN	Pn	21 53 56.6	+1.7	
MRKA	**Markates**	**2.64**	**79**	*e*PN	Pn	21 53 57.0	+1.5	
MRKA	**Markates**	**2.64**	**79**	*e*Pn	Pn	21 53 57.0	+1.5	
SKIA	**Skiathos**	**2.67**	**69**	*e*PN	Pn	21 53 56.9	+1.1	
SKIA	**Skiathos**	**2.67**	**69**	*e*Pn	Pn	21 53 56.9	+1.1	
FNA	**Florina**	**2.68**	**18**	*e*PN	Pn	21 53 57.8	+1.7	
FNA	**Florina**	**2.68**	**18**	*e*Pn	Pn	21 53 57.8	+1.7	
ATH	**Athens Observa**	**2.73**	**94**	*e*PN	Pn	21 53 57.0	+0.4	
ATH	**Athens Observa**	**2.73**	**94**	*e*Pn	Pn	21 53 57.0	+0.4	
PTL	**Penteli**	**2.84**	**93**	*e*PN	Pn	21 53 59.3	+1.1	
PTL	**Penteli**	**2.84**	**93**	*e*Pn	Pn	21 53 59.3	+1.1	
BIA	**Bitola**	**2.90**	**16**	*e*PN	Pn	21 53 56.9	-2.1	
BIA	**Bitola**	**2.90**	**16**	*e*Pn	Pn	21 53 56.8	-2.1	
KYTH	**Kithira**	**2.94**	**131**	*e*PB	Pb	21 54 03.1	-2.1	
PAIG	**Paliouri**	**3.14**	**56**	*e*PN	Pn	21 54 02.9	+0.6	
PAIG	**Paliouri**	**3.14**	**56**	*e*Pn	Pn	21 54 02.9	+0.6	
HORT	**Hortiatis**	**3.22**	**42**	*e*PN	Pn	21 54 04.8	+1.4	
HORT	**Hortiatis**	**3.22**	**42**	*e*Pn	Pn	21 54 04.8	+1.4	
TAR1	**Taranto**	**3.25**	**316**	*e*Pn	Pn	21 54 05.6	+1.8	
TAR1				*e*Sn	Sn	21 54 41.4	-1.4	
PLG	**Polygyros**	**3.26**	**48**	*e*PN	Pn	21 54 04.8	+0.9	
PLG	**Polygyros**	**3.26**	**48**	*e*Pn	Pn	21 54 04.8	+0.9	
PE1	**Pezze di Greco**	**3.38**	**320**	*e*Pn	Pn	21 54 06.8	+1.2	
SOH	**Sokhos**	**3.51**	**42**	*e*PN	Pn	21 54 08.7	+1.2	
SOH	**Sokhos**	**3.51**	**42**	*e*Pn	Pn	21 54 08.7	+1.2	
VAY	**Valandovo**	**3.55**	**29**	*e*Pn	Pn	21 54 06.9	-1.1	
VAY				*e*Sg	Sn	21 54 49.0	-1.2	
OUR	**Ouranopolis**	**3.56**	**53**	*e*PN	Pn	21 54 08.4	+0.4	
OUR	**Ouranopolis**	**3.56**	**53**	*e*Pn	Pn	21 54 08.4	+0.4	
SKO	**Skopje**	**3.84**	**13**	*e*Pn	Pn	21 54 12.1	+0.3	
SKO	**Skopje**	**3.84**	**13**	*e*Pn	Pn	21 54 12.6	+0.7	
SRS	**Serrai**	**3.85**	**41**	*e*PN	Pn	21 54 12.9	+0.8	
SRS	**Serrai**	**3.85**	**41**	*e*Pn	Pn	21 54 12.9	+0.8	
BAI	**Bari**	**3.88**	**319**	*e*Pn	Pn	21 54 09.9	+1.4	
BAI				*e*Sn	Sn	21 54 58.3	-0.0	
CDT	**Castel del Mon**	**4.20**	**314**	*e*Pn	Pn	21 54 18.4	+1.6	
CDT				*e*Sn	Sn	21 55 05.9	-0.2	
IDI	**Anoyia**	**4.73**	**127**	Pn	Pn	21 54 26.7	+2.5	
	0.4nm,0.3s,baz=328,slow=13,SNR=3.6							
IDI				Sn	Sn	21 55 21.7	+2.3	
	1.8nm,0.3s,baz=169,slow=22,SNR=9.7							
SJES	**Sjenica**	**5.02**	**358**	*e*Pn	Pn	21 54 27.8	-0.5	
STON	**Ston**	**5.03**	**338**	*e*Pn	Pn	21 54 28.2	0.0	
STON				Sn	Sn	21 55 23.0	-3.5	
STON	**Ston**	**5.03**	**338**	*e*Pn	Pn	21 54 28.2	0.0	
STON				Sn	Sn	21 55 22.9	-3.5	
GRUS	**Gruza**	**5.66**	**3**	*e*Pn	Pn	21 54 36.7	-0.2	
NVLJ	**Novalja**	**7.51**	**329**	*i* Pn	Pn	21 55 02.5	+0.2	
NVLJ				Sn	Sn	21 55 26.1	-3.5	
NVLJ	**Novalja**	**7.51**	**329**	*i* Pn	Pn	21 55 02.4	+0.2	
SOKA	**Soboth**	**9.28**	**337**	⇑ *i* Pn	Pn	21 55 26.2	-0.5	
	SNR=7.5							
SOKA				⇓ *i* Sn	Sn	21 57 05.5	-5.7	
SOKA	**Soboth**	**9.28**	**337**	Pn	Pn	21 55 26.2	-0.5	
	SNR=7.5							
BRTR	**Keskin Array B**	**10.51**	**78**	Pn	Pn	21 55 42.2	-1.4	
	0.0nm,0.3s,baz=285,slow=11,SNR=2.3							
MOA	**Molln**	**10.56**	**337**	⇑ *i* Pn	Pn	21 55 44.4	+0.2	
	SNR=5.6							
MOA	**Molln**	**10.56**	**337**	Pn	Pn	21 55 44.4	+0.2	
	SNR=5.6							
GERES	**GERESS Array B**	**11.62**	**338**	Pn	Pn	21 55 58.1	-0.6	
	0.2nm,0.3s,baz=161,slow=14,SNR=6.4							
EKA	**Eskdalemuir Ar**	**23.27**	**325**	P	P	21 58 21.8	+1.4	
	1.9nm,1.0s,baz=116,slow=11,SNR=4.1							
FINES	**FINESS Array B**	**23.51**	**7**	P	P	21 58 21.2	-1.5	
	4.1nm,0.9s,baz=172,slow=10,SNR=6.7							
NOA	**NORSAR Array B**	**25.58**	**349**	P	P	21 58 23.0	+0.2	
	0.7nm,0.7s,baz=175,slow=10,SNR=2.8							
TORD	**Torodi Ar. Bea**	**29.95**	**218**	P	P	21 59 23.2	+1.9	
	0.5nm,0.9s,baz=32,slow=9.0,SNR=3.2							
ARCES	**ARCESS Array B**	**31.48**	**4**	P	P	21 59 34.5	+0.1	
	5.6nm,1.1s,baz=190,slow=8.0,SNR=3.1							
MKAR	**Makanchi Array**	**45.44**	**58**	P	P	22 01 30.4	-1.4	
	0.3nm,0.5s,baz=274,slow=7.5,SNR=7.9							
ZALV	**Zalesovo Beam**	**45.80**	**48**	P	P	22 01 33.1	-1.4	
	0.9nm,0.5s,baz=268,slow=8.6,SNR=4.9							

SKHL 28 22:00:28.9±0.5, 54.10N×121.97E, h10km, mb3.5/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TUP	**Tupik**	**1.23**	**286**	*e*Pg	Pn	22 00 51.5	-0.7
TUP				*e*Sg	Sb	22 01 07.7	-0.5
YKLR	**Yuktali**	**2.50**	**356**	*e*Pn	Pn	22 01 10.7	+1.0
YKLR				*e*Pg	Pb	22 01 14.5	+0.5
YKLR				*e*Sg	Sg	22 01 47.2	-2.2
KROS	**Kirovskiy**	**2.95**	**81**	*e*Pn	Pn	22 01 15.7	-0.1
KROS				*e*Pg	Pb	22 01 22.4	+0.8
KROS				AMB	AMB	22 01 23.7	
	5.0nm,0.3s						
KROS				*e*Sn	Sn	22 01 50.2	-1.1
KROS				*e*Sg	Sg	22 02 00.8	-3.0
KROS				A	A	22 02 05.5	
	34nm,0.4s						
KHN	**Khani**	**3.09**	**337**	*e*Pg	Pb	22 01 23.6	-0.4
KHN				*e*Sg	Sb	22 02 04.0	+2.3
ZEA	**Zeya**	**3.14**	**94**	*e*Sg	Sg	22 02 06.9	-2.9
ZEA				A	A	22 02 09.0	
	49nm,0.5s						
CLNS	**Chul'man**	**3.21**	**30**	*e*Pg	Pb	22 01 28.0	+2.0
CLNS				AMB	AMB	22 01 30.2	
	2.0nm,0.2s						
CLNS				*e*Sn	Sn	22 01 59.0	+1.3
CLNS				A	A	22 02 14.8	
	46nm,0.4s						
CLNS				A	A	22 02 14.8	
	43nm,0.4s						
CRS	**Chara**	**3.51**	**325**	*e*Pg	Pb	22 01 32.6	+1.5
CRS				*e*Sg	Sg	22 02 18.0	-3.6
BMKR	**Bomnak**	**4.06**	**79**	*e*Pg	Pb	22 01 43.0	+2.5
BMKR				AMB	AMB	22 01 44.7	
	7.0nm,0.4s						
BMKR				*e*Sg	Sg	22 02 35.3	-4.0
BMKR				A	A	22 02 38.7	
	11nm,0.5s						
NLYR	**Nelyaty**	**4.31**	**306**	*e*Pg	Pb	22 01 46.1	+1.4
NLYR				*e*Sg	Sg	22 02 43.7	-3.6
UKT	**Uakit**	**5.02**	**289**	*e*Pn	Pn	22 01 45.3	+0.9
UKT				*e*Pg	Pb	22 01 59.2	+2.2
UKT				*e*Sg	Sg	22 03 05.0	-5.4
BOD	**Bodaibo**	**5.82**	**313**	*e*Pg	Pb	22 02 14.6	+4.2
BOD				*e*Sg	Sg	22 03 30.6	-5.1
EKMR	**Ekimchan**	**6.62**	**95**	*e*Sg	Sg	22 03 53.9	-7.5
EKMR				A	A	22 04 03.5	
	3.0nm,0.5s						
EKMR				A	A	22 04 03.5	
	7.0nm,0.8s						

ISCJB 28 22:31:17.9±0.6, 20.82S±0.04×69.07W±0.09, h115km±6km, mb3.4/3, Error ellipse: s-maj=14.7km s-min=7.0km az=174.4
GUC 28 22:31:18.9±0.4, 20.81S×69.15W, h108km±2km, ML4.1
IDC 28 22:31:35.1±7.0, 19.56S×68.25W, h210km±46km, mb3.0/3, mb1 3.2/6, mb1mx3.1/20, mbtmp3.0/6, Error ellipse: s-maj=89.8km s-min=18.3km az=25.0

ISC 28 22:31:18.9±0.8, 20.81S±0.05×69.07W±0.08, h107km±6km, n22, σ1s06/25, mb3.5/3, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PB01	**Plate Boundary**	**0.46**	**239**	⇑ *i* P	Pn	**22 31 35.3**	**0.0**
PB01				*e*S	Sn	**22 31 47.6**	**0.0**
PB01				AML	AML	22 31 48.3	
	comp=N,53μm,0.3s						
HMBC	**Humberstone**	**0.93**	**304**	⇑ *i* P	Pn	**22 31 39.2**	**-0.1**
HMBC				*i* S	Sn	**22 31 54.7**	**0.0**
PB09	**Plate Boundary**	**1.00**	**189**	⇑ *i* P	Pn	**22 31 40.6**	**+0.5**
PB09				*i* S	Sn	**22 31 56.8**	**+0.7**
PB09				AML	AML	22 31 58.2	
	comp=E,8μm,0.5s						
PATCX	**Punta Patache**	**1.01**	**269**	⇑ *i* P	Pn	**22 31 40.0**	**-0.1**
PATCX				*i* S	Sn	**22 31 55.6**	**-0.5**
PATCX				AML	AML	22 31 57.1	
	comp=N,2μm,0.2s						
PB11	**Plate Boundary**	**1.18**	**332**	*i* P	Pn	**22 31 42.2**	**+0.2**
PB11				*i* S	Sn	**22 31 59.9**	**+0.5**
PB11				AML	AML	22 32 00.8	
	comp=E,32μm,0.2s						
PB07	**Plate Boundary**	**1.19**	**220**	⇑ *i* P	Pn	**22 31 42.1**	**-0.1**
PB07				AML	AML	22 31 59.7	
	comp=N,2μm,0.5s						
PB07				*i* S	Sn	**22 31 59.8**	**0.0**
PSGC	**Pisagua**	**1.56**	**320**	⇑ *i* P	Pn	**22 31 45.8**	**-0.6**
PSGC				*i* S	Sn	**22 32 06.9**	**-0.4**
PSGC				AML	AML	22 32 08.1	
	comp=E,2μm,0.3s						
MNMC	**Minimini**	**1.74**	**343**	⇑ *i* P	Pn	**22 31 49.3**	**+0.5**
MNMC				*i* S	Sn	**22 32 12.6**	**+1.1**
MNMC				AML	AML	22 32 14.3	
	comp=N,4μm,0.3s						
PB06	**Plate Boundary**	**1.95**	**194**	AML	AML	22 32 18.8	
	comp=E,516nm,0.4s						
LPAZ	**La Paz**	**4.58**	**11**	P	Pn	**22 32 28.9**	**+2.3**
	comp=E,0.7nm,0.3s,baz=204,slow=5.3,SNR=14						
LPAZ				S	Sn	22 33 11.8	-7.3
	comp=E,1.1nm,0.3s,baz=228,slow=15,SNR=4.0						
SIV	**San Ignacio**	**8.97**	**59**	P	Pn	**22 33 23.2**	**-2.5**
	comp=E,0.9nm,0.3s,baz=258,slow=10.0,SNR=11						
BDFB	**Brasilia**	**20.64**	**79**	P	P	**22 35 49.8**	**-0.4**
	comp=E,0.8nm,0.3s,baz=254,slow=8.3,SNR=5.4						
TXAR	**Lajitas Array**	**59.98**	**325**	P	P	**22 41 16.4**	**+2.1**
	comp=E,0.2nm,0.5s,baz=147,slow=11,SNR=2.4						
TORD	**Torodi Ar. Bea**	**77.27**	**71**	P	P	**22 43 00.2**	**-1.7**
	comp=E,0.4nm,0.3s,baz=260,slow=5.0,SNR=14						
TORD				pP	pP	**22 43 30.0**	**+0.7**
	comp=E,0.6nm,0.5s,baz=257,slow=5.1,SNR=3.2						
TORD				sP	sP	**22 43 40.5**	**-0.4**
	comp=E,0.5nm,0.8s,baz=250,slow=5.2,SNR=3.8						
YKA	**Yellowknife Ar**	**90.49**	**341**	P	P	**22 44 07.3**	**-0.7**
	comp=E,0.1nm,0.5s,baz=126,slow=5.0,SNR=4.9						
H11S2	**WAKE ISLAND Hyd**	**27.64**	**278**	T	T	01 10 09.1	
	baz=104,slow=73,SNR=4.4						
H11S1	**WAKE ISLAND Hyd**	**27.65**	**278**	T	T	01 10 12.3	
	baz=104,slow=73,SNR=5.1						
H11S3	**WAKE ISLAND Hyd**	**27.66**	**278**	T	T	01 09 58.9	
	baz=104,slow=73,SNR=3.9						
H11N3	**WAKE ISLAND Hyd**	**27.70**	**279**	T	T	01 10 14.1	
	baz=104,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hyd**	**27.72**	**279**	T	T	01 10 00.5	
	baz=104,slow=75,SNR=5.4						
H11N1	**WAKE ISLAND Hyd**	**27.72**	**279**	T	T	01 10 03.0	
	baz=104,slow=75,SNR=4.6						
MKAR	**Makanchi Array**	**145.16**	**35**	PKP	**PKPab**	**22 50 44.1**	**+0.3**
	comp=E,0.2nm,0.2s,baz=294,slow=1.4,SNR=3.6						

BJI 28 22:44:12.6, 3.83S×140.12E, h10km, mB4.6/1, mb4.4/4
IDC 28 22:44:17.9±0.6, 3.18S×139.76E, h0km, mb4.1/13, mb1 4.4/14, mb1mx4.4/18, mbtmp4.2/14, ML4.8/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/28, Error ellipse: s-maj=14.9km s-min=8.8km az=120.0
ISCJB 28 22:44:22.4±0.3, 3.11S±0.03×139.79E±0.04, h46km, mb4.5/26, MS3.6/4, Error ellipse: s-maj=6.2km s-min=4.6km az=169.6
NEIC 28 22:44:23.9±1.6, 3.10S×139.63E, h38km±16km, mb4.1/8, Error ellipse: s-maj=11.9km s-min=7.7km az=66.0
DJA 28 22:44:25.0±0.3, 3°S±3°×14°E±°, h10km, M4.9/7, mb4.7/7, MLv5.0/5
AUST 28 22:44:28.7, 3.42S×139.53E, h60km

ISC 28 22:44:25.2±0.5, 3.17S±0.05×139.63E±0.07, h46km, n100, σ1s80/92, mb4.6/26, MS3.7/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GENI	**Genyem**	**0.79**	**43**	P	Pn	22 44 34.5	-5.5
GENI				S	Sn	22 44 43.9	-6.8
WAMI	**Wamena**	**1.16**	**232**	P	Pn	**22 44 46.0**	**+0.9**
JAY	**Jayapura**	**1.25**	**59**	Pg	Pn	22 44 40.2	-6.2
JAY				Lg	Lg	22 44 53.7	
JAY	**Jayapura**	**1.25**	**59**	Pg	Pn	22 44 40.2	-6.2
	244nm,0.3s,baz=230,slow=9.4,SNR=531						
JAY				Lg	Lg	22 44 53.7	
	923nm,0.3s,baz=40,slow=21,SNR=31						
JAY	**Jayapura**	**1.25**	**59**	P	Pn	22 44 40.2	-6.2
	baz=1.5,SNR=368						
SRPI	**Serui, Papua**	**3.63**	**291**	P	Pn	**22 45 21.4**	**+2.5**
BAKI	**Biak**	**4.03**	**299**	P	Pn	22 45 29.6	+5.1
FAKI	**Fak Fak**	**7.38**	**272**	P	Pn	**22 46 13.2**	**+2.8**
	34nm,0.7s,0.1nm						
FAKI	**Fak Fak**	**7.38**	**272**	P	Pn	**22 46 12.3**	**+1.9**
	baz=7.3,SNR=20						
SWI	**Sorong**	**8.68**	**285**	P	Pn	22 46 33.0	+4.8
	30nm,0.9s						
PMG	**Port Moresby**	**9.71**	**130**	P	Pn	22 46 48.1	+5.7
	56nm,0.8s						
PMG	**Port Moresby**	**9.71**	**130**	*e*Pn	Pn	**22 46 43.3**	**+0.9**
	37nm,0.8s						
PMG				Sn	**Sn**	**22 48 29.5**	**-0.7**
PMG	**Port Moresby**	**9.71**	**130**	Pn	Pn	22 46 46.0	+3.6
	2.3nm,0.3s,baz=316,slow=9.2,SNR=21						
PMG				Sn	**Sn**	**22 48 29.5**	**-0.7**
	0.3nm,0.3s,baz=234,slow=14,SNR=2.1						
PMG	**Port Moresby**	**9.71**	**130**	P	Pn	22 46 46.5	+4.1
	baz=9.7,SNR=9.2						
PMG				P	Pn	22 46 46.5	+4.1
	baz=9.7,SNR=9.2						
PMG				P	Pn	22 46 46.5	+4.1
	baz=9.7,SNR=9.2						
COEN	**Coen**	**11.28**	**162**	*e*Pn	**Pn**	**22 47 03.4**	**-0.4**
	136nm,0.9s						
COEN				*e*Sn	**Sn**	**22 49 11.0**	**+2.5**
COEN	**Coen**	**11.28**	**162**	P	**Pn**	**22 47 04.5**	**+0.6**
	baz=11,SNR=30						
KDU	**Kakadu**	**11.81**	**216**	P	**Pn**	**22 47 09.5**	**-1.7**
	baz=12,SNR=53						
LBMI	**Labuha**	**12.38**	**281**	P	**P**	**22 47 31.9**	**+2.0**
MTN	**Manton Dam**	**12.77**	**221**	P	**Pn**	**22 47 22.2**	**-2.0**
	baz=13,SNR=39						
KNRA	**Kununurra**	**16.40**	**220**	P	**Pn**	**22 48 11.5**	**-0.8**
	baz=16,SNR=37						
SOEI	**Soe**	**16.60**	**246**	P	**P**	**22 48 21.4**	**+4.5**
	74nm,0.9s						
SOEI	**Soe**	**16.60**	**246**	P	**P**	**22 48 20.4**	**+3.4**
	baz=16,SNR=5.7						
QIS	**Mount Isa**	**17.28**	**180**	P	**Pn**	**22 48 21.7**	**-1.7**
	baz=17,SNR=10						
WRAB	**Tennant Creek**	**17.44**	**197**	*e*Pn	**Pn**	**22 48 22.8**	**-2.5**
	16nm,0.6s						
WRAB				*e*Sn	**Sn**	**22 51 33.2**	**-5.4**
WRA	**Warramunga Arr**	**17.45**	**197**	P	**Pn**	**22 48 23.6**	**-1.8**
WRA				S	**Sn**	**22 51 33.1**	**-5.8**
WRA				Lg	Lg	22 53 34.6	
WRA	**Warramunga Arr**	**17.45**	**197**	P	**Pn**	**22 48 23.6**	**-1.8**
	3.3nm,0.3s,baz=17,slow=13,SNR=19						
WRA				S	**Sn**	**22 51 33.1**	**-5.8**
	0.8nm,0.3s,baz=11,slow=22,SNR=6.4						
WRA				Lg	Lg	22 53 34.6	
	baz=10,slow=28,SNR=3.5						
WRA				LR	LR	22 55 28.0	
	comp=Z,201nm,20.3s,baz=20,slow=38						
CTA	**Charters Tower**	**18.01**	**159**	P	**P**	**22 48 34.6**	**+2.3**
CTA				S	**S**	**22 52 01.9**	**+5.1**
CTA				Lg	Lg	22 53 52.9	
CTA	**Charters Tower**	**18.01**	**159**	P	**P**	**22 48 34.6**	**+2.3**
	0.4nm,0.3s,baz=331,slow=9.6,SNR=8.0						
CTA				S	**S**	**22 52 01.9**	**+5.1**
	0.2nm,0.3s,baz=244,slow=22,SNR=2.1						
CTA				Lg	Lg	22 53 52.9	
	0.3nm,0.3s,baz=71,slow=23,SNR=4.4						
CTAO	**Charters Tower**	**18.01**	**159**	*e*Pn	**P**	**22 48 33.7**	**+1.3**

	19nm,0.9s							
KOLN	**Koldanda**	**62.04**	**304**	*e*P	**P**		**22 54 41.4**	**-0.2**
	19nm,0.9s							
DANN	**Dangsing**	**62.11**	**304**	*e*P	**P**		**22 54 41.6**	**-0.6**
	13nm,0.7s							
DANN	**Dangsing**	**62.11**	**304**	*e*P	**P**		**22 54 41.6**	**-0.6**
	13nm,0.7s							
MK31	**Makanchi Array**	**70.71**	**322**	P	**P**		**22 55 35.0**	**-1.5**
MKAR	**Makanchi Array**	**70.71**	**322**	P	**P**		**22 55 36.2**	**-0.4**
MKAR	**Makanchi Array**	**70.71**	**322**	P	**P**		**22 55 36.2**	**-0.4**
	1.0nm,0.6s,baz=93,slow=9.0,SNR=20							
ZALV	**Zalesovo Beam**	**72.80**	**330**	P	**P**		**22 55 47.8**	**-1.1**
ZALV	**Zalesovo Beam**	**72.80**	**330**	P	**P**		**22 55 47.8**	**-1.1**
	0.5nm,0.5s,baz=129,slow=5.9,SNR=3.5							
KURK	**Kurchatov**	**74.62**	**325**	*e*P	**P**		**22 55 58.2**	**-1.4**
	0.9nm,0.8s							
VNDA	**Vanda**	**75.24**	**175**	*e*P	**P**		**22 56 03.0**	**+0.2**
	2.7nm,0.7s							
VNDA	**Vanda**	**75.24**	**175**	P	**P**		**22 56 03.4**	**+0.7**
	2.7nm,0.7s,baz=307,slow=6.2,SNR=14							
BRVK	**Borovoye**	**80.28**	**325**	*e*P	**P**		**22 56 30.1**	**-1.1**
MAW	**Mawson**	**82.05**	**202**	P	P		22 56 37.6	-2.7
	baz=82,SNR=15							
ABKAR	**Akbulak array**	**85.67**	**320**	*e*P	**P**		**22 56 57.9**	**-1.2**
	0.5nm,0.5s							
ILAR	**Eielson Array**	**85.87**	**24**	P	**P**		**22 56 57.6**	**-2.2**
ILAR	**Eielson Array**	**85.87**	**24**	P	**P**		**22 56 57.6**	**-2.2**
	0.8nm,0.7s,baz=261,slow=4.3,SNR=9.6							
DBIC	**Dimbokro**	**144.46**	**277**	*e*PKPdf	**PKPab**		**23 03 55.5**	**-0.4**
DBIC				PKP	PKPbc		23 03 56.2	0.0
DBIC	**Dimbokro**	**144.46**	**277**	PKP	**PKPab**		**23 03 56.2**	**+0.2**
	5.8nm,0.5s,baz=53,slow=3.9,SNR=16							
LPAZ	**La Paz**	**146.43**	**126**	PKPbc	**PKPdf**		**23 04 02.9**	**+1.2**
LPAZ	**La Paz**	**146.43**	**126**	PKPbc	**PKPdf**		**23 04 02.9**	**+1.2**
	1.1nm,0.7s,baz=90,slow=1.2,SNR=5.0							

*ISCJB **28** 23:07:37.0±1.4, 24.8°S±0.5×179.8°E±0.2, h517km, mb3.7/7, Error ellipse: s-maj=63.8km s-min=18.6km az=163.3*
*IDC **28** 23:07:40.7±7.6, 24.74°S×179.75°E, h551km±85km, mb3.1/7, mb1 3.3/7, mb1mx3.1/19, mbtmp3.1/7, Error ellipse: s-maj=57.5km s-min=36.6km az=156.0*

ISC 28 23:07:37.8±1.4, **24.7°S**±0.5×**179.9°E**±0.2, **h517**km, **n10, s49/10, mb3.6/7, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.35**	**272**	P	**P**	**23 13 16.3**	**+0.3**
	3.4nm,0.3s,baz=98,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**34.29**	**249**	P	**P**	**23 13 40.8**	**0.0**
	0.7nm,0.4s,baz=88,slow=8.7,SNR=4.6						
PMG	**Port Moresby**	**34.64**	**290**	P	**P**	**23 13 44.0**	**+0.1**
	3.3nm,0.4s,baz=1.8,slow=21,SNR=2.3						
ASAR	**Alice Springs**	**41.77**	**262**	P	**P**	**23 14 41.8**	**-0.1**
	0.3nm,0.3s,baz=101,slow=8.4,SNR=8.4						
WRA	**Warramunga Arr**	**42.22**	**267**	P	**P**	**23 14 44.8**	**-0.6**
	1.5nm,0.4s,baz=99,slow=7.0,SNR=9.5						
NVAR	**Mina Array Bea**	**85.45**	**44**	P	**P**	**23 19 20.7**	**-0.3**
	0.1nm,0.3s,baz=272,slow=10,SNR=5.7						
TXAR	**Lajitas Array**	**90.99**	**58**	P	**P**	**23 19 47.2**	**+0.2**
	0.3nm,0.5s,baz=258,slow=4.4,SNR=3.0						
ARCES	**ARCESS Array B**	**132.68**	**348**	PKP	**PKPdf**	**23 25 52.3**	**-0.5**
	2.3nm,0.9s,baz=46,slow=2.6,SNR=3.0						
FINES	**FINESS Array B**	**139.19**	**341**	PKP	**PKPdf**	**23 26 06.0**	**+0.9**
	1.7nm,0.8s,baz=46,slow=6.0,SNR=3.2						
AKASG	**Malin Array Be**	**145.59**	**326**	PKPbc	**PKPdf**	**23 26 16.6**	**-0.1**
	0.4nm,0.4s,baz=10,slow=4.1,SNR=3.4						

*ISCJB **28** 23:07:46.1±0.7, 24.8°S±0.1×179.9°E±0.1, h517km, mb4.0/9, Error ellipse: s-maj=16.7km s-min=12.1km az=158.8*
*IDC **28** 23:07:47.3±1.5, 24.72°S×179.81°E, h518km±15km, mb3.5/10, mb1 3.7/12, mb1mx3.5/22, mbtmp3.5/12, Error ellipse: s-maj=19.6km s-min=11.7km az=166.0*

ISC 28 23:07:46.9±0.7, **24.7°S**±0.1×**179.88°E**±0.10, **h517**km, **n25, s22/31, mb3.9/9, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.61**	**279**	P	**P**	**23 10 33.2**	**+1.2**
	0.7nm,0.3s,baz=95,slow=18,SNR=4.9						
URZ	**Urewera**	**13.73**	**189**	P	**P**	**23 10 41.8**	**-1.6**
	3.9nm,0.3s,baz=28,slow=5.1,SNR=12						
URZ				S	**S**	**23 13 10.2**	**+1.2**
	0.3nm,0.3s,baz=61,slow=21,SNR=7.1						
RPZ	**Rata Peaks**	**20.31**	**199**	P	**P**	**23 11 46.2**	**-1.1**
	6.9nm,0.5s,baz=33,slow=10,SNR=7.6						
CMSA	**Cobar Meteorol**	**30.83**	**249**	P	**P**	**23 13 21.3**	**+0.9**
	baz=22,SNR=7.3						
CTA	**Charters Tower**	**31.38**	**272**	P	**P**	**23 13 26.4**	**+1.0**
	15nm,0.5s,baz=94,slow=8.8,SNR=40						
STKA	**Stephens Creek**	**34.34**	**249**	P	**P**	**23 13 50.9**	**+0.7**
	2.3nm,0.7s,baz=99,slow=9.7,SNR=10						
STKA	**Stephens Creek**	**34.34**	**249**	P	**P**	**23 13 51.3**	**+1.1**
	baz=25,SNR=5.5						
PMG	**Port Moresby**	**34.66**	**290**	P	**P**	**23 13 52.0**	**-1.1**
	17nm,0.9s,baz=136,slow=6.9,SNR=5.6						
HTT	**Hallett**	**36.66**	**247**	P	**P**	**23 14 10.2**	**+0.6**
	baz=28,SNR=3.9						
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**23 14 51.6**	**+0.3**
	2.7nm,0.7s,baz=99,slow=8.1,SNR=26						
ASAR				S	**S**	**23 20 30.3**	**-1.1**
	0.3nm,0.5s,baz=111,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**42.25**	**267**	P	**P**	**23 14 54.2**	**-0.6**
	6.5nm,0.5s,baz=103,slow=8.1,SNR=28						
WRA				ScP	**ScP**	**23 19 40.0**	**+1.8**
	2.8nm,0.8s,baz=100,slow=4.3,SNR=9.9						
WRA				S	**S**	**23 20 34.9**	**-2.9**
	0.7nm,0.7s,baz=99,slow=15,SNR=2.9						
KDU	**Kakadu**	**46.26**	**276**	P	**P**	**23 15 25.4**	**-0.3**
	baz=36,SNR=5.7						
MTN	**Manton Dam**	**47.41**	**275**	P	**P**	**23 15 36.4**	**+1.9**
	baz=37,SNR=3.4						
KNRA	**Kununurra**	**48.58**	**271**	P	**P**	**23 15 43.9**	**+0.6**
	baz=38,SNR=5.9						
NVAR	**Mina Array Bea**	**85.39**	**44**	P	**P**	**23 19 30.4**	**+0.7**
	1.0nm,0.7s,baz=224,slow=7.7,SNR=7.0						
TXAR	**Lajitas Array**	**90.94**	**58**	P	**P**	**23 19 56.8**	**+1.0**
	1.2nm,0.8s,baz=224,slow=7.0,SNR=7.6						
ILAR	**Eielson Array**	**92.82**	**14**	P	**P**	**23 20 02.4**	**-1.0**
	0.3nm,0.7s,baz=223,slow=5.6,SNR=4.7						
PDAR	**Pinedale Array**	**93.33**	**44**	P	**P**	**23 20 06.2**	**-0.5**
	0.4nm,0.7s,baz=207,slow=3.0,SNR=4.7						
ARCES	**ARCESS Array B**	**132.63**	**348**	PKP	**PKPdf**	**23 26 02.1**	**+0.3**
	3.2nm,1.0s,baz=86,slow=2.8,SNR=6.8						
FINES	**FINESS Array B**	**139.15**	**341**	PKP	**PKPdf**	**23 26 15.5**	**+1.4**
	2.6nm,0.9s,baz=45,slow=2.2,SNR=4.1						
FINES				SKPbc	**SKPbc**	**23 29 01.9**	**+1.4**
	4.6nm,1.1s,baz=328,slow=4.9,SNR=3.5						
NOA	**NORSAR Array B**	**142.84**	**351**	PKP	**PKPdf**	**23 26 18.7**	**-2.1**
	0.7nm,0.9s,baz=17,slow=2.3,SNR=3.4						
AKASG	**Malin Array Be**	**145.57**	**327**	PKPbc	**PKPbc**	**23 26 26.6**	**-0.6**
	0.5nm,0.3s,baz=47,slow=3.6,SNR=7.3						
BRTR	**Keskin Array B**	**147.96**	**306**	PKPbc	**PKPbc**	**23 26 34.4**	**+0.2**
	0.9nm,0.6s,baz=146,slow=5.2,SNR=5.5						
EKA	**Eskdalemuir Ar**	**149.31**	**3**	PKPbc	**PKPbc**	**23 26 36.0**	**-0.7**
	0.6nm,0.5s,baz=352,slow=3.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**168.39**	**189**	PKP	**PKPdf**	**23 26 54.5**	**-0.4**
	0.4nm,0.8s,baz=99,slow=0.5,SNR=3.5						
TORD				PKPab	**PKPab**	**23 28 07.4**	**+0.1**
	0.5nm,0.6s,baz=188,slow=3.4,SNR=8.4						

*IGQ **28** 23:25:57.2, 1.75°S×82.09°W, h12km±2km, Mb4.6, Ms4.4, Error ellipse: s-maj=17.6km s-min=4.8km az=18.0*
*IDC **28** 23:26:03.5±1.2, 1.87°S×81.86°W, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.9/24, mbtmp3.9/11, ML3.9/2, MS3.7/7, Ms1 3.7/7, ms1mx3.4/27, Error ellipse: s-maj=50.6km s-min=15.4km az=47.0*
*ISCJB **28** 23:26:06.6±0.6, 1.81°S±0.04×81.64W±0.05, h33km, mb3.8/9, MS3.6/5, Error ellipse: s-maj=6.5km s-min=5.7km az=179.0*
*NEIC **28** 23:26:08.3±0.7, 1.92°S×81.78W, h35km, mb4.3/5, Error ellipse: s-maj=19.8km s-min=10.0km az=52.0*

ISC 28 23:26:09.0±0.7, **1.75°S**±0.05×**81.60W**±0.08, **h35**km, **n68, s139/61, mb3.6/9, MS3.6/5, 3C-4D, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**1.83**	**58**	S	**Sn**	**23 26 57.2**	**-2.7**
PECV	**Mancha de Ca P**	**1.83**	**58**	P	Pn	23 26 30.9	-7.0
ARNL	**Arenillas**	**2.35**	**139**	⇑S	**Sn**	**23 27 09.4**	**-3.3**
ARNL	**Arenillas**	**2.35**	**139**	⇑P	**Pn**	**23 26 42.5**	**-2.6**
MAG1	**Magdalena**	**2.47**	**48**	P	**Pn**	**23 26 44.4**	**-2.4**
RIOE	**Riobamba**	**2.97**	**90**	P	**Pn**	**23 26 52.4**	**-1.5**
IGUA	**Igualata**	**2.97**	**85**	P	**Pn**	**23 26 53.1**	**-1.0**
BMAS	**Trigal station**	**3.13**	**86**	P	**Pn**	**23 26 54.8**	**-1.3**
JUI6	**Juive**	**3.15**	**84**	P	**Pn**	**23 26 56.0**	**-0.4**
ARRY	**Arrayan**	**3.15**	**86**	⇓S	**Sn**	**23 27 33.9**	**+0.8**
ARRY	**Arrayan**	**3.15**	**86**	⇓P	**Pn**	**23 26 54.7**	**-1.8**
RETU	**Refugio**	**3.17**	**85**	P	**Pn**	**23 26 56.6**	**-0.2**
PAT1	**Patacocha**	**3.17**	**86**	P	**Pn**	**23 26 55.4**	**-1.4**
BPAT	**Tungurahua Vol**	**3.17**	**86**	P	**Pn**	**23 26 55.6**	**-1.3**
BULB	**Ulba Tungurahu**	**3.20**	**84**	P	**Pn**	**23 26 55.5**	**-1.7**
ULBA	**Ulba**	**3.21**	**85**	P	**Pn**	**23 26 56.4**	**-0.8**
PISA	**Pisayambo**	**3.29**	**78**	P	**Pn**	**23 26 58.0**	**-0.5**
BNAS	**Cotopaxi Volca**	**3.30**	**71**	⇓P	**Pn**	**23 26 59.5**	**+0.9**
BMOR	**Cotopaxi Volca**	**3.30**	**72**	P	**Pn**	**23 26 59.0**	**+0.3**
MOV1	**Cotopaxi Vol s**	**3.32**	**72**	P	**Pn**	**23 26 59.8**	**+0.7**
JUA2	**San Juan 2**	**3.36**	**63**	P	**Pn**	**23 26 57.3**	**-2.2**
BVC2	**Cotopaxi Volca**	**3.37**	**71**	⇑P	**Pn**	**23 26 59.7**	**+0.1**
BTAM	**Cotopaxi Volca**	**3.38**	**72**	P	**Pn**	**23 26 59.5**	**-0.2**
TERV	**Terraza Guagua**	**3.38**	**62**	P	**Pn**	**23 26 59.2**	**-0.6**
VC1	**Cotopaxi 1**	**3.38**	**71**	P	**Pn**	**23 27 00.0**	**+0.2**
PINO	**Pino**	**3.38**	**62**	P	**Pn**	**23 26 57.4**	**-2.4**
GGP	**Refugio Guagua**	**3.39**	**62**	P	**Pn**	**23 26 58.3**	**-1.6**
TAMB	**Tambo**	**3.40**	**72**	P	**Pn**	**23 27 00.1**	**+0.1**
COV1	**Cotopaxi Volc**	**3.43**	**72**	P	**Pn**	**23 27 00.1**	**-0.5**
MACE	**Macas**	**3.44**	**98**	P	**Pn**	**23 26 59.4**	**-0.8**
ANTI	**Antisana**	**3.67**	**69**	P	**Pn**	**23 27 03.6**	**-0.3**
OTAV	**Otavalo**	**3.72**	**58**	⇓P	Pn	23 27 00.9	-3.4
OTAV	**Otavalo**	**3.72**	**58**	*e*Pn	**Pn**	**23 27 02.1**	**-2.2**
OTAV				*e*Sn	**Sn**	**23 27 48.2**	**+1.0**
CAYR	**Refugio Cayamb**	**4.00**	**64**	P	**Pn**	**23 27 08.4**	**0.0**
CAYA	**Cayambe**	**4.04**	**63**	P	**Pn**	**23 27 08.9**	**+0.1**
ATAH	**Atahualpa**	**6.23**	**149**	Pn	**Pn**	**23 27 39.6**	**+0.8**
ATAH				Sn	**Sn**	**23 28 48.6**	**-0.5**
ATAH	**Atahualpa**	**6.23**	**149**	Pn	**Pn**	**23 27 39.6**	**+0.8**
	1.8nm,0.3s,baz=307,slow=10,SNR=9.0						
ATAH				Sn	**Sn**	**23 28 48.6**	**-0.5**
	0.8nm,0.3s,baz=125,slow=18,SNR=2.5						
JTS	**JuntasAbangare**	**12.42**	**344**	LR	LR	23 32 37.1	
	comp=Z,186nm,20.7s,baz=153,slow=32						
SDV	**Santo Domingo**	**15.20**	**46**	*e*Pn	**P**	**23 29 43.9**	**-2.1**
	9.9nm,1.5s						
APG	**El Apazote**	**18.82**	**333**	LR	LR	23 36 09.3	
	comp=Z,179nm,18.1s,baz=209,slow=32						
LPAZ	**La Paz**	**19.61**	**138**	*e*P	**P**	**23 30 35.6**	**+0.4**
	7.5nm,1.1s						
LPAZ	**La Paz**	**19.61**	**138**	P	**P**	**23 30 35.5**	**+0.3**
	0.3nm,0.3s,baz=328,slow=11,SNR=12						
SAML	**Samuel**	**19.67**	**112**	*e*P	**P**	**23 30 33.9**	**-1.2**
	11nm,1.1s						
PTGA	**Pitinga**	**21.65**	**88**	P	**P**	**23 30 60.0**	**+3.4**
PTGA	**Pitinga**	**21.65**	**88**	P	**P**	**23 30 60.0**	**+3.4**
	7.1nm,0.8s,baz=269,slow=8.5,SNR=9.6						
PTGA				LR	LR	23 38 18.9	
	comp=Z,126nm,20.8s,baz=270,slow=34						
SIV	**San Ignacio**	**24.68**	**126**	P	**P**	**23 31 26.9**	**-0.1**
SIV	**San Ignacio**	**24.68**	**126**	P	**P**	**23 31 26.9**	**-0.1**
	1.5nm,0.8s,baz=310,slow=12,SNR=3.9						
SIV				LR	LR	23 42 22.3	
	comp=Z,203nm,19.0s,slow=39						
H03N2	**Juan Fernandez**	**31.62**	**176**	T	T	00 06 27.7	
	baz=354,slow=75,SNR=42						
H03N1	**Juan Fernandez**	**31.62**	**176**	T	T	00 06 39.4	
	baz=354,slow=75,SNR=48						
H03N3	**Juan Fernandez**	**31.64**	**176**	T	T	00 06 52.5	
	baz=354,slow=75,SNR=39						
CPUP	**Villa Florida**	**33.78**	**138**	LR	LR	23 47 17.4	
	comp=Z,69nm,21.3s,baz=295,slow=38						
BDFB	**Brasilia**	**35.87**	**115**	LR	LR	23 49 38.2	
	comp=Z,286nm,19.8s,baz=20,slow=39						
TRQA	**Tornquist**	**40.37**	**156**	P	**P**	**23 33 41.4**	**-2.1**
ANMO	**Albuquerque**	**43.30**	**330**	*e*P	**P**	**23 34 07.6**	**-0.2**
	4.5nm,0.6s						
ANMO	**Albuquerque**	**43.30**	**330**	P	**P**	**23 34 07.5**	**-0.3**
	3.5nm,0.8s,baz=145,slow=9.8,SNR=6.6						
PDAR	**Pinedale Array**	**50.98**	**334**	P	**P**	**23 35 06.9**	**-0.7**
PDAR	**Pinedale Array**	**50.98**	**334**	P	**P**	**23 35 06.9**	**-0.7**
	0.5nm,0.9s,baz=116,slow=10,SNR=3.2						
NVAR	**Mina Array Bea**	**52.37**	**324**	P	**P**	**23 35 18.2**	**+0.1**
NVAR	**Mina Array Bea**	**52.37**	**324**	P	**P**	**23 35 18.2**	**+0.1**
	0.5nm,0.7s,baz=152,slow=10,SNR=3.0						
ULM	**Lac du Bonnet**	**53.23**	**349**	P	**P**	**23 35 23.6**	**-0.3**
ULM	**Lac du Bonnet**	**53.23**	**349**	P	**P**	**23 35 23.6**	**-0.3**
	4.5nm,0.9s,baz=172,slow=7.7,SNR=3.3						
YKA	**Yellowknife Ar**	**68.76**	**344**	P	**P**	**23 37 09.0**	**-0.1**
YKA	**Yellowknife Ar**	**68.76**	**344**	P	**P**	**23 37 09.0**	**-0.1**
	0.3nm,0.7s,baz=120,slow=9.4,SNR=3.8						
DBIC	**Dimbokro**	**77.05**	**83**	*e*P	**P**	**23 38 00.5**	**+1.2**
	2.1nm,0.7s						
DBIC	**Dimbokro**	**77.05**	**83**	P	**P**	**23 38 00.1**	**+0.9**
	2.1nm,0.9s,baz=217,slow=6.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**83.87**	**77**	P	**P**	**23 38 37.3**	**+1.5**
TORD	**Torodi Ar. Bea**	**83.87**	**77**	P	**P**	**23 38 37.3**	**+1.5**
	0.3nm,0.8s,baz=285,slow=4.3,SNR=2.7						
QSPA	**South Pole Qui**	**88.31**	**180**	LR	LR	00 13 44.9	
	comp=Z,44nm,19.7s,baz=75,slow=32						

*IDC **28** 23:30:15.8±1.5, 1.85°S×82.23°W, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.9/23, mbtmp3.9/11, ML3.3/1, Error ellipse: s-maj=74.8km s-min=17.0km az=49.0*
*ISCJB **28** 23:30:18.8±0.7, 1.69°S±0.08×81.81W±0.07, h33km, mb3.8/10, Error ellipse: s-maj=11.1km s-min=9.9km az=16.7*
*NEIC **28** 23:30:21.2±0.8, 1.58°S×81.78W, h35km, mb4.7/3, Error ellipse: s-maj=18.7km s-min=12.3km az=47.0*

ISC 28 23:30:21.1±0.7, **1.68°S**±0.06×**81.78W**±0.09, **h35**km, **n29, s81/28, mb3.8/10, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**3.84**	**60**	*e*Pn	**Pn**	**23 31 15.1**	**-3.0**
OTAV				*e*Sn	**Sn**	**23 32 02.3**	**+0.1**
ATAH	**Atahualpa**	**6.38**	**148**	Pn	**Pn**	**23 31 53.1**	**0.0**
ATAH				Sn	**Sn**	**23 33 01.6**	**-3.4**
ATAH	**Atahualpa**	**6.38**	**148**	Pn	**Pn**	**23 31 53.1**	**0.0**
	0.6nm,0.3s,baz=337,slow=8.0,SNR=5.3						
ATAH				Sn	**Sn**	**23 33 01.6**	**-3.4**
	1.3nm,0.3s,baz=94,slow=15,SNR=3.6						
SDV	**Santo Domingo**	**15.29**	**46**	*e*Pn	**Pn**	**23 33 54.9**	**+0.3**
	2.8nm,0.8s						
LPAZ	**La Paz**	**19.79**	**138**	*e*P	**P**	**23 34 48.9**	**-0.3**
LPAZ	**La Paz**	**19.79**	**138**	P	**P**	**23 34 49.3**	**+0.1**
	0.1nm,0.3s,baz=332,slow=13,SNR=6.4						
SAML	**Samuel**	**19.86**	**112**	*e*P	**P**	**23 34 47.0**	**-2.4**
	14nm,1.1s						
PTGA	**Pitinga**	**21.83**	**88**	*e*P	**P**	**23 35 11.8**	**+1.2**
	10.0nm,0.9s						
SIV	**San Ignacio**	**24.87**	**126**	P	**P**	**23 35 43.7**	**+2.9**
SIV	**San Ignacio**	**24.87**	**126**	P	**P**	**23 35 43.7**	**+2.9**
	1.5nm,0.8s,baz=305,slow=10,SNR=3.7						
H03N2	**Juan Fernandez**	**31.70**	**175**	T	T	00 11 10.2	
	baz=354,slow=75,SNR=93						
H03N1	**Juan Fernandez**	**31.71**	**175**	T	T	00 11 09.2	
	baz=354,slow=75,SNR=105						
H03N3	**Juan Fernandez**	**31.72**	**175**	T	T	00 11 09.2	
	baz=354,slow=75,SNR=69						
ANMO	**Albuquerque**	**43.15**	**330**	P	**P**	**23 38 16.9**	**-1.8**
ANMO	**Albuquerque**	**43.15**	**330**	P	**P**	**23 38 19.8**	**+1.1**
	1.2nm,0.7s,baz=166,slow=10.0,SNR=5.6						
PDAR	**Pinedale Array**	**50.84**	**334**	P	**P**	**23 39 18.6**	**-0.1**
PDAR	**Pinedale Array**	**50.84**	**334**	P	**P**	**23 39 18.6**	**-0.1**
	0.8nm,1.0s,baz=116,slow=6.8,SNR=3.9						
NVAR	**Mina Array Bea**	**52.20**	**324**	P	**P**	**23 39 27.4**	**-1.5**
NVAR	**Mina Array Bea**	**52.20**	**324**	P	**P**	**23 39 27.4**	**-1.5**
	1.0nm,0.8s,baz=130,slow=8.3,SNR=4.9						
ULM	**Lac du Bonnet**	**53.13**	**349**	P	**P**	**23 39 35.5**	**+0.3**
ULM	**Lac du Bonnet**	**53.13**	**349**	P	**P**	**23 39 35.5**	**+0.3**
	1.7nm,0.5s,baz=148,slow=8.6,SNR=3.7						
YKA	**Yellowknife Ar**	**68.64**	**344**	P	**P**	**23 41 19.2**	**-1.2**
YKA	**Yellowknife Ar**	**68.64**	**344**	P	**P**	**23 41 19.2**	**-1.2**
	0.3nm,0.9s,baz=132,slow=6.3,SNR=5.7						
DBIC	**Dimbokro**	**77.22**	**83**	P	**P**	**23 42 15.1**	**+2.8**
DBIC	**Dimbokro**	**77.22**	**83**	P	P	23 42 17.1	+4.8
	4.0nm,1.0s,baz=264,slow=12,SNR=3.1						
ILAR	**Eielson Array**	**81.14**	**337**	P	**P**	**23 42 33.1**	**+0.4**
ILAR	**Eielson Array**	**81.14**	**337**	P	**P**	**23 42 33.1**	**+0.4**
	0.6nm,0.9s,baz=112,slow=2.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**84.03**	**77**	P	**P**	**23 42 50.2**	**+1.5**
TORD	**Torodi Ar. Bea**	**84.03**	**77**	P	**P**	**23 42 50.2**	**+1.5**
	1.5nm,1.2s,baz=260,slow=6.7,SNR=3.4						

*CSEM **28** 23:31:00.9±0.2, 48.90°N×2.10°W, h5km, ML2.5/12, Error ellipse: s-maj=3.8km s-min=3.0km az=170.0*

*LDG **28** 23:31:01.7±0.1, 48.94°N×2.18°W, h3km, Md2.2/3, Ml2.5/14, Error ellipse: s-maj=1.1km s-min=0.5km az=163.0*
*BGS **28** 23:31:03.4±0.9, 49.01°N×2.09°W, h5km, ML1.8*

ISC 28 23:31:01.5±0.9, **48.91N**±0.02×**2.08W**±0.02, **h10**km±8km, **n53, σ1§10/90, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JDC	**Jersey Dam (Cr**	**0.28**	**5**	*e*P	**Pg**	**23 31 07.0**	**-0.1**
JDC				*e*S	**Sg**	**23 31 10.6**	**-0.4**
JDC	**Jersey Dam (Cr**	**0.28**	**5**	*e*P	**Pg**	**23 31 07.0**	**-0.1**
JDC				*e*S	**Sg**	**23 31 10.6**	**-0.4**
JDC	**Jersey Dam (Cr**	**0.28**	**5**	*e*P	**Pg**	**23 31 07.0**	**-0.1**
JDC				*e*S	**Sg**	**23 31 10.6**	**-0.4**
JDG	**Jersey Dam (Ga**	**0.29**	**4**	*e*P	**Pg**	**23 31 07.0**	**-0.4**
JDG				*e*S	**Sg**	**23 31 10.6**	**-0.7**
JDG	**Jersey Dam (Ga**	**0.29**	**4**	*e*P	**Pg**	**23 31 07.0**	**-0.4**
JDG				*e*S	**Sg**	**23 31 10.6**	**-0.7**
JDG	**Jersey Dam (Ga**	**0.29**	**4**	*e*P	**Pg**	**23 31 07.0**	**-0.4**
JDG				*e*S	**Sg**	**23 31 10.6**	**-0.7**
SGMF	**Saint Gilles**	**0.72**	**206**	*e*Pg	**Pg**	**23 31 15.5**	**0.0**
SGMF	**Saint Gilles**	**0.72**	**206**	*e*Pn	**Pb**	**23 31 17.4**	**+1.2**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**23 31 24.7**	**-0.3**
SGMF				*e*Sn	**Sb**	**23 31 28.2**	**+2.0**
	19nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**0.72**	**206**	*e*Pg	**Pg**	**23 31 15.5**	**0.0**
SGMF	**Saint Gilles**	**0.72**	**206**	*e*Pn	**Pb**	**23 31 17.4**	**+1.2**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**23 31 24.7**	**-0.3**
SGMF				*e*Sn	**Sb**	**23 31 28.2**	**+2.0**
	9.4nm,0.3s,SNR=1.0						
GRR	**Gorron**	**0.96**	**122**	*e*Pn	**Pb**	**23 31 21.5**	**+1.2**
	SNR=1.0						
GRR				*e*Sg	**Sb**	**23 31 34.5**	**+1.4**
	28nm,0.2s,SNR=1.0						
GRR	**Gorron**	**0.96**	**122**	*e*Pn	**Pb**	**23 31 21.5**	**+1.2**
	SNR=1.0						
GRR				*e*Sg	**Sb**	**23 31 34.5**	**+1.4**
	14nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**0.98**	**235**	*e*Pg	**Pg**	**23 31 19.4**	**-0.9**
ROSF	**Rostrenen**	**0.98**	**235**	*e*Pn	**Pg**	**23 31 20.2**	**-0.1**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**23 31 31.6**	**-1.3**
	14nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**0.98**	**235**	*e*Pg	**Pg**	**23 31 19.4**	**-0.9**
ROSF	**Rostrenen**	**0.98**	**235**	*e*Pn	**Pg**	**23 31 20.2**	**-0.1**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**23 31 31.6**	**-1.3**
	6.8nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**1.07**	**97**	*e*Pn	**Pb**	**23 31 22.9**	**+0.8**
	baz=287,SNR=1.0						
FLN	**La Foliniere**	**1.07**

MSZ				S*	Sg	23 36 47.6	-1.4	
MSZ				S*	Sb	23 36 47.6	-2.3	
MSZ				AML	AML	23 36 48.7		
MSZ				AML	AML	23 36 48.9		
DCZ	**Deep Cove**	**1.05**	**175**	⇑P*	Pb	23 36 44.8	-1.6	
DCZ				S*	Sb	23 36 57.8	-2.4	
DCZ				AML	AML	23 37 04.5		
DCZ				AML	AML	23 37 04.5		
DCZ				AML	AML	23 37 11.3		
MLZ	**Mavora Lakes**	**1.23**	**139**	⇑P*	Pn	23 36 48.7	-0.8	
MLZ				AML	AML	23 37 07.1		
MLZ				AML	AML	23 37 08.5		
JCZ	**Jackson Bay**	**1.30**	**75**	PN	Pn	23 36 48.8	-1.7	
JCZ				AML	AML	23 37 06.9		
JCZ				AML	AML	23 37 07.5		
WKZ	**Wanaka**	**1.48**	**106**	PN	Pn	23 36 52.4	-0.5	
WKZ				SN	Sn	23 37 12.2	0.0	
WKZ				AML	AML	23 37 13.0		
WKZ				AML	AML	23 37 13.0		
WKZ				AML	AML	23 37 13.8		
PYZ	**Puysegur Point**	**1.75**	**188**	PN	Pn	23 36 56.4	-0.2	
EAZ	**Earnscleugh**	**1.82**	**117**	PN	Pn	23 36 57.6	+0.1	
EAZ				SN	Sn	23 37 19.7	-0.7	
EAZ				AML	AML	23 37 24.1		
EAZ				AML	AML	23 37 24.1		
EAZ				AML	AML	23 37 24.7		
FOZ	**Fox Glacier**	**2.11**	**67**	PN	Pb	23 37 03.1	-1.4	
FOZ				AML	AML	23 37 33.7		
FOZ				AML	AML	23 37 33.8		
FOZ				AML	AML	23 37 40.0		
FOZ				AML	AML	23 37 40.0		
LBZ	**Lake Benmore**	**2.27**	**90**	PN	Pn	23 37 03.8	+0.1	
LBZ				AML	AML	23 37 36.3		
LBZ				AML	AML	23 37 42.1		
TUZ	**Tuapeka**	**2.40**	**130**	PN	Pn	23 37 05.2	-0.2	
TUZ				AML	AML	23 37 39.8		
TUZ				AML	AML	23 37 40.1		
SYZ	**Scrubby Hill**	**2.58**	**145**	PN	Pn	23 37 07.9	-0.1	
ODZ	**Otahua Downs**	**2.66**	**105**	PN	Pn	23 37 08.1	-0.9	
HHSZ	**Highcliff Hill**	**2.92**	**121**	PN	Pn	23 37 12.3	-0.3	
RPZ	**Rata Peaks**	**3.00**	**78**	PN	Pn	23 37 11.1	-2.5	
RPZ				AML	AML	23 38 01.5		
RPZ				AML	AML	23 38 01.9		
WVZ	**Waitaha Valley**	**3.02**	**65**	AML	AML	23 38 09.3		
LTZ	**Lake Taylor**	**4.16**	**68**	AML	AML	23 39 57.2		

*IDC **28** 23:39:13.6±3.3, 10°.93S×119°.74E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.5/19, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=257.6km s-min=30.0km az=49.0*
*ISCJB **28** 23:39:16.7±1.2, 11°.00S±0°.06×119°.83E±0°.09, h33km, mb3.7/1, Error ellipse: s-maj=13.7km s-min=8.3km az=159.9*
*DJA **28** 23:39:19.0±1.4, 11°S±9°×12°0E±°, h72km±19km, M4.2/4, MLv4.2/4*
ISC 28 23:39:18.6±1.6, 11°.0S±0°.1×119°.8E±0°.1, h35km, n7, σ0⁰98/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.35**	**20**	P	**Pn**	**23 39 41.2**	**+0.2**
WSI				S	**Sn**	**23 39 58.5**	**+0.8**
LBFI	**Labuhan Bajo,**	**2.45**	**1**	P	**Pn**	**23 39 55.5**	**-0.6**
LBFI				S	**Sn**	**23 40 25.5**	**+0.6**
MMRI	**Maumere**	**3.30**	**46**	P	**Pn**	**23 40 06.0**	**-1.8**
SOEI	**Soe**	**4.53**	**75**	P	**Pn**	**23 40 25.1**	**+0.3**
SOEI				S	**Sn**	**23 41 16.8**	**+0.5**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=295,slow=14,SNR=2.4	**16.59**	**124**	Pn	**Pn**	**23 43 07.8**	**-0.8**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=316,slow=12,SNR=12	**18.43**	**135**	P	**Pn**	**23 43 32.3**	**+0.8**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=148,slow=7.1,SNR=6.5	**66.55**	**333**	P	**P**	**23 50 05.1**	**0.0**

*IDC **28** 23:41:12.6±1.1, 10°.64S×120°.21E, h0km, mb4.1/7, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=49.2km s-min=19.7km az=56.0*
*ISCJB **28** 23:41:14.7±0.3, 10°.86S±0°.03×120°.08E±0°.04, h33km, mb4.5/19, MS3.1/1, Error ellipse: s-maj=5.3km s-min=4.6km az=138.9*
*AUST **28** 23:41:16.8±0.0, 10°.59S×119°.95E, h104km, Error ellipse: s-maj=1.6km s-min=1.0km az=335.0*
*NEIC **28** 23:41:16.6±3.5, 10°.66S×120°.29E, h30km±25km, mb4.3/7, Error ellipse: s-maj=19.9km s-min=6.9km az=57.0*
*DJA **28** 23:41:19.9±0.6, 11°S±6°×12°0E±°, h67km±10km, M4.7/8, mb5.0/3, mB4.6/1, MLv4.6/8, Mw(mB)3.8/1*
ISC 28 23:41:17.3±0.5, 10°.78S±0°.05×120°.07E±0°.05, h35km, n73, σ1⁰17/77, mb4.6/19, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.13**	**12**	P	**Pn**	**23 41 37.1**	**+0.6**
WSI				S	**Sn**	**23 41 52.4**	**+1.6**
WSI	**Waingapu** baz=1.0,SNR=5.2	**1.13**	**12**	P	**Pn**	**23 41 38.7**	**+2.2**
LBFI	**Labuhan Bajo,**	**2.29**	**356**	P	**Pn**	**23 41 52.4**	**-0.2**
LBFI				S	**Sn**	**23 42 19.0**	**-0.6**
MMRI	**Maumere**	**3.02**	**45**	P	**Pn**	**23 42 03.2**	**+0.6**
MMRI				S	**Sn**	**23 42 37.9**	**+0.3**
TWSI	**Taliwang, Sumb**	**3.74**	**303**	P	**Pn**	**23 42 14.1**	**+1.6**
SOEI	**Soe**	**4.26**	**77**	P	Pn	23 42 22.3	+2.6
DNP	**Denpasar** 300nm,0.5s,2.9nm	**5.22**	**293**	P	**Pn**	**23 42 35.2**	**+2.3**
DNP				S	**Sn**	**23 43 34.0**	**+2.0**
IGBI	**Denpasar** 300nm,0.5s,2.9nm	**5.23**	**291**	P	**Pn**	**23 42 33.1**	**+0.1**
IGBI				S	**Sn**	**23 43 31.5**	**-0.6**
BKSI	**Bulukumba** 115nm,1.0s,0.6nm	**5.42**	**1**	P	**Pn**	**23 42 36.7**	**+1.0**
KAPI	**Kappang** 98nm,0.7s	**5.74**	**357**	*e*Pn	**Pn**	**23 42 39.4**	**-0.6**
KAPI				*e*Sn	**Sn**	**23 43 43.0**	**-1.6**
JAGI	**Jajag, Banyuwa** baz=6.1,SNR=3.3	**6.27**	**291**	P	**Pn**	**23 42 45.7**	**-1.6**
MTN	**Manton Dam** baz=11,SNR=6.7	**11.03**	**102**	P	**Pn**	**23 43 52.1**	**-0.5**
GIRL	**Giralia** baz=13,SNR=5.7	**13.05**	**205**	P	**Pn**	**23 44 18.7**	**-1.6**
FAKI	**Fak Fak** baz=14,SNR=3.2	**14.39**	**58**	P	**Pn**	**23 44 37.7**	**-0.8**
MEEK	**Meekatharra** baz=16,SNR=6.9	**15.84**	**185**	P	**Pn**	**23 44 55.8**	**-1.9**
WRKA	**Warakurna** baz=16,SNR=3.5	**16.19**	**152**	P	**P**	**23 45 07.7**	**+2.7**
WRA	**Warramunga Arr**	**16.49**	**125**	Pn	**Pn**	**23 45 03.1**	**-2.9**
WRA				Sn	Sn	23 47 54.9	-13
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=298,slow=13,SNR=5.5	**16.49**	**125**	Pn	**Pn**	**23 45 03.1**	**-2.9**
WRA	baz=298,slow=25,SNR=3.3			Sn	Sn	23 47 54.8	-13
WRAB	**Tennant Creek** 2.1nm,0.6s	**16.50**	**125**	*e*Pn	**Pn**	**23 45 03.2**	**-2.9**
AS31	**Alice Springs**	**18.39**	**136**	*e*Pn	**Pn**	**23 45 29.1**	**-0.5**
ASAR	**Alice Springs**	**18.39**	**136**	P	**Pn**	**23 45 30.4**	**+0.8**
ASAR				S	Sn	23 48 43.0	-11
ASAR	**Alice Springs** 0.3nm,0.3s,baz=319,slow=13,SNR=16	**18.39**	**136**	P	**Pn**	**23 45 30.4**	**+0.8**
ASAR	baz=318,slow=23,SNR=4.1			S	Sn	23 48 43.0	-11
MORW	**Morawa** baz=19,SNR=5.5	**18.58**	**191**	P	**P**	**23 45 31.0**	**-0.5**
NWAO	**Narrogin (SRO)** comp=Z,75nm,18.2s,baz=360,slow=38	**22.20**	**186**	LR	LR	23 55 30.7	
STKA	**Stephens Creek** 0.5nm,0.4s	**28.92**	**140**	*e*P	**P**	**23 47 13.3**	**+0.1**
STKA	**Stephens Creek** 0.6nm,0.6s,baz=315,slow=12,SNR=2.9	**28.92**	**140**	P	**P**	**23 47 13.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**35.76**	**324**	P	**P**	**23 48 13.2**	**+0.1**
CMAR	**Chiang Mai Arr** 0.8nm,0.5s,baz=157,slow=7.6,SNR=4.0	**35.76**	**324**	P	**P**	**23 48 13.2**	**+0.1**
ODAN	**Odare** 2.9nm,0.2s	**49.05**	**320**	*e*P	**P**	**23 50 03.1**	**+1.6**
ODAN	**Odare** 2.9nm,0.2s	**49.05**	**320**	*e*P	**P**	**23 50 03.1**	**+1.6**
TAPN	**Taplejung** 3.7nm,0.5s	**49.20**	**321**	*e*P	**P**	**23 50 03.3**	**+0.6**
TAPN	**Taplejung** 3.7nm,0.5s	**49.20**	**321**	*e*P	**P**	**23 50 03.3**	**+0.6**
RAMN	**Ramite** 5.3nm,0.4s	**49.62**	**320**	*e*P	**P**	**23 50 06.6**	**+0.8**
RAMN	**Ramite** 5.3nm,0.4s	**49.62**	**320**	*e*P	**P**	**23 50 06.6**	**+0.8**
MJAR	**Matsushiro Arr**	**50.07**	**19**	P	**P**	**23 50 07.5**	**-1.2**
MJAR	**Matsushiro Arr** 2.7nm,0.8s,baz=192,slow=8.4,SNR=6.0	**50.07**	**19**	P	**P**	**23 50 07.5**	**-1.2**
JIRN	**Jiri** 7.4nm,0.5s	**50.37**	**320**	*e*P	**P**	**23 50 12.1**	**+0.5**
JIRN	**Jiri** 7.4nm,0.5s	**50.37**	**320**	*e*P	**P**	**23 50 12.1**	**+0.5**
GUN	**Gumba** 11nm,0.6s	**50.74**	**320**	*e*P	**P**	**23 50 15.3**	**+0.9**
GUN	**Gumba** 11nm,0.6s	**50.74**	**320**	*e*P	**P**	**23 50 15.3**	**+0.9**
PKI	**Pulchoki** 6.3nm,0.7s	**50.81**	**319**	*e*P	**P**	**23 50 14.6**	**-0.3**
PKI	**Pulchoki** 4.4nm,0.6s	**50.81**	**319**	*e*P	**P**	**23 50 14.8**	**-0.1**
PKIN	**Phulchoki** 4.4nm,0.6s	**50.82**	**319**	*e*P	**P**	**23 50 14.8**	**-0.1**
DMN	**Daman** 19nm,0.8s	**51.03**	**319**	*e*P	**P**	**23 50 16.7**	**+0.2**
DMN	**Daman** 19nm,0.8s	**51.03**	**319**	*e*P	**P**	**23 50 16.7**	**+0.2**
KKN	**Kakani** 2.8nm,0.2s	**51.04**	**319**	*e*P	**P**	**23 50 17.3**	**+0.8**
KKN	**Kakani** 2.8nm,0.2s	**51.04**	**319**	*e*P	**P**	**23 50 17.3**	**+0.8**
GKN	**Gorkha** 4.8nm,0.5s	**51.60**	**319**	*e*P	**P**	**23 50 20.8**	**+0.2**
GKN	**Gorkha** 4.8nm,0.5s	**51.60**	**319**	*e*P	**P**	**23 50 20.8**	**+0.2**
KOLN	**Koldanda**	**52.12**	**318**	*e*P	**P**	**23 50 25.0**	**+0.5**
KOLN	**Koldanda**	**52.12**	**318**	*e*P	**P**	**23 50 25.0**	**+0.5**
DANN	**Dangsing** 12nm,0.6s	**52.40**	**319**	*e*P	**P**	**23 50 27.1**	**+0.4**
DANN	**Dangsing** 12nm,0.6s	**52.40**	**319**	*e*P	**P**	**23 50 27.1**	**+0.4**
USRK	**Ussuriysk Arra** 1.7nm,0.6s,baz=202,slow=9.0,SNR=6.7	**55.78**	**10**	P	**P**	**23 50 50.5**	**-0.1**
ASAJ	**Asahikawa**	**58.34**	**19**	P	**P**	**23 51 07.6**	**-1.3**
ULN	**Ulaanbaatar** 1.0nm,0.4s	**59.52**	**350**	*e*P	**P**	**23 51 16.1**	**-1.1**
SONM	**Songino Array**	**59.61**	**349**	P	**P**	**23 51 17.9**	**+0.2**
SONM	**Songino Array** 1.5nm,0.7s,baz=167,slow=8.5,SNR=10	**59.61**	**349**	P	**P**	**23 51 17.9**	**+0.2**
KBL	**Kabul**	**66.09**	**315**	*e*P	**P**	**23 51 59.8**	**-1.4**
MK31	**Makanchi Array**	**66.51**	**333**	*e*P	**P**	**23 52 03.0**	**-0.5**
MKAR	**Makanchi Array**	**66.51**	**333**	P	**P**	**23 52 03.7**	**+0.2**
MKAR	**Makanchi Array** 1.8nm,0.7s,baz=138,slow=7.7,SNR=22	**66.51**	**333**	P	**P**	**23 52 03.7**	**+0.2**
AAK	**Ala-Archa**	**67.53**	**325**	*e*P	**P**	**23 52 10.1**	**-0.1**
KURK	**Kurchatov**	**71.05**	**334**	*e*P	**P**	**23 52 30.6**	**-1.0**
ZAA0	**Zalesovo Array**	**71.07**	**339**	*e*P	**P**	**23 52 29.6**	**-2.0**
ZALV	**Zalesovo Beam**	**71.07**	**339**	P	**P**	**23 52 31.1**	**-0.5**
ZALV	**Zalesovo Beam** 1.8nm,0.6s,baz=146,slow=5.2,SNR=12	**71.07**	**339**	P	**P**	**23 52 31.1**	**-0.5**
ABKAR	**Akbulak array** 1.1nm,0.9s	**79.61**	**325**	*e*P	**P**	**23 53 21.2**	**+0.3**
BOSA	**Boshof**	**89.08**	**241**	P	**P**	**23 54 10.5**	**+0.9**
YKA	**Yellowknife Ar**	**115.36**	**25**	PKP	**PKPdf**	**23 59 56.1**	**+1.2**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=294,slow=1.6,SNR=5.3	**115.36**	**25**	PKP	**PKPdf**	**23 59 56.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**119.79**	**279**	PKP	**PKPdf**	**00 00 06.2**	**+1.4**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=56,slow=2.3,SNR=3.2	**119.79**	**279**	PKP	**PKPdf**	**00 00 06.2**	**+1.4**

*ISCJB **28** 23:41:59.6±0.8, 5°.90S±0°.06×147°.4E±0°.1, h78km, mb3.8/6, Error ellipse: s-maj=16.5km s-min=8.0km az=170.9*
*IDC **28** 23:42:00.0±3.0, 5°.93S×147°.48E, h74km±26km, mb3.7/6, mb1 4.0/10, mb1mx3.8/20, mbtmp3.8/10, MS2.9/3, Ms1 2.9/3, ms1mx2.7/25, Error ellipse: s-maj=36.9km s-min=16.9km az=78.0*
*AUST **28** 23:42:11.6±0.0, 6°.77S×147°.03E, h92km, Error ellipse: s-maj=1.5km s-min=1.1km az=289.0*
ISC 28 23:42:00.8±0.9, 5°.91S±0°.08×147°.3E±0°.2, h78km, n26, σ0⁰96/25, mb3.9/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 52nm,0.3s,baz=18,slow=5.7,SNR=93	**3.48**	**182**	P	**Pn**	**23 42 52.8**	**+0.1**
PMG	22nm,0.3s,baz=342,slow=4.2,SNR=5.0			S	**Sn**	**23 43 31.2**	**-1.6**
PMG	comp=Z,123nm,19.2s,baz=255,slow=36			LR	LR	23 44 04.5	
PMG	**Port Moresby** baz=2.6,SNR=17	**3.48**	**182**	P	**Pn**	**23 42 52.8**	**+0.1**
PMG	baz=2.6,SNR=17			P	**Pn**	**23 42 52.8**	**+0.1**
PMG	baz=2.6,SNR=17			P	**Pn**	**23 42 52.8**	**+0.1**
JAY	**Jayapura** 0.6nm,0.3s,baz=127,slow=10,SNR=3.4	**7.40**	**297**	P	Pn	23 43 49.4	+3.1
JAY	comp=Z,71nm,18.4s,baz=124,slow=41			LR	LR	23 47 13.0	
COEN	**Coen** baz=8.1,SNR=23	**8.97**	**207**	P	**Pn**	**23 44 08.0**	**+0.3**
CTA	**Charters Tower** 0.5nm,0.3s,baz=357,slow=12,SNR=4.4	**14.13**	**184**	P	**Pn**	**23 45 18.6**	**+1.2**
KDU	**Kakadu** baz=16,SNR=3.1	**16.11**	**244**	P	**P**	**23 45 44.8**	**+0.1**
QIS	**Mount Isa** baz=16,SNR=5.1	**16.37**	**206**	P	**P**	**23 45 46.4**	**-1.1**
WRA	**Warramunga Arr** 1.8nm,0.3s,baz=41,slow=12,SNR=44	**18.80**	**221**	P	**Pn**	**23 46 14.8**	**-0.8**
WRA	comp=Z,73nm,18.6s,baz=10.0,slow=40			LR	LR	23 54 31.7	
EIDS	**Eidsvold** baz=19,SNR=5.2	**19.68**	**170**	P	**Pn**	**23 46 25.6**	**-0.4**
RMQ	**Roma** baz=20,SNR=4.8	**20.51**	**176**	P	Pn	23 46 35.2	-0.5
QLP	**Quilpie** baz=20,SNR=20	**20.77**	**188**	P	**P**	**23 46 36.7**	**+1.2**
ASAR	**Alice Springs** 6.1nm,0.5s,baz=56,slow=8.7,SNR=42	**21.87**	**215**	P	**P**	**23 46 48.0**	**+0.5**
ARMA	**Armidale** baz=24,SNR=10	**24.72**	**171**	P	**P**	**23 47 16.4**	**+1.4**
CMSA	**Cobar Meteorol** baz=25,SNR=8.4	**25.54**	**183**	P	**P**	**23 47 24.1**	**+1.7**
WRKA	**Warakurna** baz=26,SNR=8.2	**26.34**	**222**	P	**P**	**23 47 30.4**	**+0.6**
STKA	**Stephens Creek** 2.8nm,0.5s,baz=357,slow=8.5,SNR=9.1	**26.38**	**191**	P	**P**	**23 47 30.0**	**0.0**
STKA	**Stephens Creek** baz=26,SNR=5.8	**26.38**	**191**	P	**P**	**23 47 30.6**	**+0.7**
HTT	**Hallett** baz=28,SNR=4.8	**28.47**	**195**	P	P	23 47 53.3	+4.6
NIUE	**Niue** baz=44,SNR=5.7	**43.62**	**111**	P	P	23 50 03.3	+5.5
SONM	**Songino Array** 0.6nm,0.6s,baz=145,slow=6.6,SNR=2.9	**64.48**	**331**	P	**P**	**23 52 30.7**	**+1.4**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=130,slow=6.6,SNR=3.2	**77.63**	**320**	P	**P**	**23 53 47.5**	**-1.3**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=112,slow=6.9,SNR=2.7	**79.10**	**328**	P	**P**	**23 53 55.6**	**-1.1**
ILAR	**Eielson Array** 1.3nm,0.7s,baz=251,slow=4.7,SNR=23	**85.28**	**23**	P	**P**	**23 54 27.6**	**-1.1**
GERES	**GERESS Array B** 0.2nm,0.5s,baz=107,slow=3.2,SNR=5.5	**122.01**	**326**	PKP	**PKPdf**	**00 00 46.8**	**+0.2**
TORD	**Torodi Ar. Bea** 0.8nm,0.7s,baz=82,slow=3.6,SNR=9.3	**145.37**	**285**	PKPbc	**PKPdf**	**00 01 30.8**	**0.0**
BDFB	**Brasilia** 1.3nm,0.4s,baz=240,slow=3.7,SNR=4.2	**153.75**	**145**	PKPbc	**PKPbc**	**00 01 53.2**	**+1.0**

MEX 28 23:59:04.8±0.9, 14°.98N×93°.03W, h104km±22km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.74**	**95**	*e*P	Pn	23 59 21.5	-1.4
THIG				*i* S	Sn	23 59 35.2	-1.4
PCIG		**0.75**	**346**	*e*P	Pn	23 59 21.5	-1.5
PCIG				*i* S	Sn	23 59 35.3	-1.4
HUIG	**Huatulco**	**3.07**	**285**	*i* P	Pn	23 59 51.5	-0.2
HUIG				*i* S	Sn	00 00 25.7	-2.1
VHO	**Vista Hermosa**	**4.13**	**301**	*i* P	Pn	00 00 04.2	-1.9
VHO				*i* S	Sn	00 00 52.3	-1.3

*IDC **29** 00:02:38.0±0.7, 3°.90N×126°.78E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.2/23, mbtmp4.2/12, MS3.7/7,*
Ms1 3.7/7, ms1mx3.4/32, Error ellipse: s-maj=46.1km s-min=14.2km az=69.0
*NEIC **29** 00:02:39.1±0.3, 3°.90N×126°.78E, h10km, mb4.3/11, Error ellipse: s-maj=11.1km s-min=4.7km az=67.0*
*ISCJB **29** 00:02:41.7±0.3, 4°.03N±0°.03×127°.01E±0°.04, h36km, mb4.2/20, MS3.7/6, Error ellipse: s-maj=6.6km s-min=4.0km az=153.9*
*DJA **29** 00:02:50.8±0.6, 4°N±6°×12°7E±°, h10km, M4.7/10, mb4.8/9, mB5.2/5, MLv4.7/10, Mw(mB)4.5/5*
*AUST **29** 00:03:05.3±1.5, 2°.17N×127°.12E, h113km, Error ellipse: s-maj=2.8km s-min=1.2km az=6.0*
ISC 29 00:02:43.5±0.4, 4°.01N±0°.05×126°.93E±0°.06, h36km, n84, σ1⁹48/72, mb4.2/20, MS3.7/6, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.44**	**257**	P	**Pn**	**00 03 06.3**	**-0.8**
SGSI				S	**Sn**	**00 03 24.4**	**-0.3**
GSPH	**General Santos**	**2.85**	**316**	⇑*i*P	**Pn**	**00 03 27.6**	**+0.9**
MATI	**Mati**	**2.99**	**347**	*e*P	Pn	00 03 32.6	+4.1
TNTI	**Ternate**	**3.25**	**172**	P	**Pn**	**00 03 32.1**	**+0.1**
DAV	**Davao City (W)**	**3.32**	**336**	*e*Pn	**Pn**	**00 03 30.9**	**-2.1**
DAV				*e*Pg		00 03 42.1	
DAV				*e*Sn	**Sn**	**00 04 12.7**	**+1.5**
CTBH	**Cotabato--PC H**	**4.16**	**320**	⇑*i*P	**Pn**	**00 03 46.9**	**+2.4**
BUKP	**Musuan**	**4.27**	**334**	*e*P	Pn	00 03 49.6	+3.6
BUKP				*e*S	Sn	00 04 50.7	+16
KMSI	**Cibinong**	**4.51**	**221**	P	**Pn**	**00 03 51.5**	**+2.1**
LBMI	**Labuha**	**4.66**	**173**	P	Pn	00 03 55.4	+4.0
GTOI	**Gorontalo**	**5.16**	**230**	P	**Pn**	**00 04 01.1**	**+2.8**
PAGZ	**Pagadian**	**5.19**	**317**	*e*P	**Pn**	**00 04 01.4**	**+2.7**
MRSI	**Marisa** 107nm,0.9s,1µm0.5nm	**6.10**	**235**	P	**Pn**	**00 04 13.9**	**+2.7**
MRSI	107nm,0.9s,1µm0.5nm			S	**Sn**	**00 05 19.9**	**+0.1**
MSLP	**Maasin**	**6.42**	**341**	*e*P	Pn	00 04 25.6	+10
SWI	**Sorong** 45nm,0.5s,1µm0.2nm	**6.49**	**138**	P	Pn	00 04 24.1	+7.5
SWI	45nm,0.5s,1µm0.2nm			S	**Sn**	**00 05 31.2**	**+1.7**
LUWI	**Luwuk** 163nm,1.2s,7µm0.9nm	**6.52**	**220**	P	Pn	00 04 22.3	+5.3
LUWI	**Luwuk** baz=5.4,SNR=4.4	**6.52**	**220**	P	Pn	00 04 23.1	+6.1
APSI	**Ampana** 200nm,1.1s,2µm0.6nm	**7.20**	**227**	P	Pn	00 04 30.8	+4.5
NLAI	**Namlea** 42nm,0.5s,0.3nm	**7.21**	**179**	P	**Pn**	**00 04 28.1**	**+1.7**
NLAI	42nm,0.5s,0.3nm			S	**Sn**	**00 05 44.4**	**-2.7**
FAKI	**Fak Fak** baz=7.2,SNR=10	**8.70**	**142**	P	**Pn**	**00 04 48.1**	**+1.2**
TTSI	**Tana Toraja** 27nm,1.2s,658nm	**9.98**	**225**	P	Pn	00 05 09.0	+4.5
SOEI	**Soe** 27nm,1.6s	**13.93**	**191**	P	**Pn**	**00 06 01.4**	**+2.7**
LBFI	**Labuhan Bajo,**	**14.26**	**209**	P	P	00 06 21.0	+11
GENI	**Genyem** 104nm,0.8s	**14.77**	**116**	P	P	00 06 22.8	+7.4
JAY	**Jayapura**	**15.21**	**115**	Pn	**P**	**00 06 21.1**	**+0.6**
JAY	**Jayapura** 1.2nm,0.3s,baz=291,slow=8.9,SNR=5.4	**15.21**	**115**	Pn	**P**	**00 06 21.1**	**+0.6**
JAY	comp=Z,166nm,21.6s,baz=343,slow=32			LR	LR	00 10 51.5	
JAY	**Jayapura** baz=14,SNR=4.3	**15.21**	**115**	P	**P**	**00 06 22.2**	**+1.7**
KSM	**Kuching**	**16.80**	**262**	P	**P**	**00 06 40.2**	**+2.2**
KSM	**Kuching** 12nm,0.8s	**16.80**	**262**	*e*Pn	**Pn**	**00 06 32.0**	**-4.1**
MTN	**Manton Dam** baz=16,SNR=8.5	**17.26**	**166**	P	Pn	00 06 34.3	-7.6
KDU	**Kakadu** baz=16,SNR=4.7	**17.48**	**162**	P	**Pn**	**00 06 44.7**	**+0.1**
KNRA	**Kununurra** baz=18,SNR=9.7	**19.65**	**175**	P	**P**	**00 07 08.4**	**-0.9**
SSLB	**Suanglung** 9.5nm,0.6s	**20.49**	**344**	*e*P	**P**	**00 07 17.7**	**-0.8**
FITZ	**Fitzroy Crossi** 9.0nm,0.9s	**22.01**	**183**	*e*P	**P**	**00 07 32.1**	**-2.8**
FITZ	**Fitzroy Crossi** 3.8nm,0.4s	**22.01**	**183**	P	**P**	**00 07 32.1**	**-2.8**
COEN	**Coen**	**24.05**	**138**	*e*P	**P**	**00 07 54.0**	**-1.5**
WRAB	**Tennant Creek** 46nm,0.9s	**24.89**	**163**	*e*P	**P**	**00 08 01.8**	**-1.3**
WRAB				*e*S	**S**	**00 12 23.7**	**-0.4**
WRA	**Warramunga Arr**	**24.89**	**163**	P	**P**	**00 08 01.9**	**-1.3**
WRA	**Warramunga Arr** 39nm,0.9s,baz=343,slow=10,SNR=80	**24.89**	**163**	P	**P**	**00 08 01.9**	**-1.3**
JCJ	**Chichijima** comp=Z,147nm,20.4s,baz=249,slow=35	**27.19**	**31**	LR	LR	00 18 26.2	
QIS	**Mount Isa** baz=26,SNR=6.3	**27.41**	**153**	P	**P**	**00 08 26.6**	**+0.7**
AS31	**Alice Springs**	**28.34**	**166**	*e*P	**P**	**00 08 32.8**	**-1.4**
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**00 08 32.8**	**-1.5**
ASAR	**Alice Springs** 0.6nm,0.3s,baz=348,slow=7.0,SNR=16	**28.34**	**166**	P	**P**	**00 08 32.8**	**-1.5**
WRKA	**Warakurna** baz=27,SNR=19	**28.91**	**177**	P	**P**	**00 08 38.5**	**-0.8**
JNU	**Nakatsue** comp=Z,135nm,18.6s,baz=319,slow=34	**29.19**	**7**	LR	LR	00 19 10.2	
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**00 08 55.7**	**-1.4**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=121,slow=8.1,SNR=7.4	**30.91**	**300**	P	**P**	**00 08 55.7**	**-1.4**
CMAR	0.6nm,0.6s,baz=84,slow=1.8,SNR=5.9			ScP	**ScP**	**00 15 36.5**	**+3.0**
CHTO	**Chiang Mai** 7.1nm,1.4s	**31.05**	**300**	*e*P	**P**	**00 08 56.9**	**-1.5**
MEEK	**Meekatharra** baz=30,SNR=4.4	**31.52**	**194**	P	**P**	**00 09 01.6**	**-0.7**
KSAR	**Wonju Array Be**	**33.28**	**1**	P	P	00 09 25.9	+8.2
KSRS	**Korea Array** 2.1nm,0.8s,baz=192,slow=9.0,SNR=4.6	**33.29**	**1**	P	P	00 09 25.9	+8.1
BJT	**Baijiatuao**	**37.14**	**346**	*e*P	**P**	**00 09 50.1**	**-0.7**
BBOO	**Buckleboo** baz=36,SNR=8.0	**37.63**	**167**	P	**P**	**00 09 55.0**	**-0.1**
STKA	**Stephens Creek** 1.6nm,0.6s	**38.32**	**160**	*e*P	**P**	**00 09 59.7**	**-1.2**
STKA	**Stephens Creek** 9.6nm,0.6s,baz=331,slow=8.2,SNR=39	**38.32**	**160**	P	**P**	**00 10 01.1**	**+0.2**
STKA	**Stephens Creek** baz=37,SNR=18	**38.32**	**160**	P	**P**	**00 10 00.9**	**0.0**
CMSA	**Cobar Meteorol** baz=38,SNR=5.8	**39.62**	**154**	P	**P

comp=Z,56nm,21.1s,baz=0.0,slow=37

TORD	**Torodi Ar. Bea**	**123.02**	**288**	PKP	**PKPdf**	**00 21 37.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**123.02**	**288**	PKP	**PKPdf**	**00 21 37.8**	**+0.6**

0.2nm,0.6s,baz=34,slow=1.4,SNR=5.0

IDC ***29*** *00:27:27.2±5.0, 39˚.15N×67˚.49E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.1/28, mbtmp3.3/3, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/30, Error ellipse: s-maj=224.7km s-min=23.7km az=150.0*

ISCJB ***29*** *00:27:31.7±1.5, 36˚.6N±0˚.1×70˚.9E±0˚.2, h188km, mb3.3/1, Error ellipse: s-maj=23.9km s-min=12.6km az=29.2*

NNC ***29*** *00:27:36.3±15.0, 37˚.06N×70˚.74E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=124.2km s-min=102.5km az=169.0*

ISC 29 00:27:32.8±1.9, 36˚.6N±0˚.2×71˚.0E±0˚.2, h188km, n7, σ1§88/9, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.55**	**357**	⇑Pn	**Pn**	**00 29 09.5**	**+2.5**
	0.6nm,0.5s,baz=179,slow=12,SNR=23						
KK31				S	**Sn**	**00 30 20.0**	**-1.5**
	3.9nm,0.7s,baz=188,slow=25,SNR=14						
AAK	**Ala-Archa**	**6.63**	**23**	⇓Pn	**Pn**	**00 29 09.6**	**+1.4**
	0.8nm,0.7s						
AAK				⇓S	**Sn**	**00 30 23.2**	**-0.5**
	7.8nm,0.7s						
TKM2	**Tokmak 2**	**7.27**	**28**	⇓Pn	**Pn**	**00 29 18.7**	**+2.1**
	2.1nm,0.8s						
TKM2				⇓S	**Sn**	**00 30 36.5**	**-2.2**
	3.3nm,0.9s						
MKAR	**Makanchi Array**	**13.23**	**36**	Pn	**Pn**	**00 30 33.2**	**-0.2**
	0.0nm,0.3s,baz=220,slow=13,SNR=3.2						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**00 31 49.4**	**+0.2**
	0.1nm,0.3s,baz=207,slow=9.3,SNR=2.9						
SONM	**Songino Array**	**28.29**	**55**	LR	LR	00 45 58.0	
	comp=Z,80nm,20.6s,baz=78,slow=38						
TORD	**Torodi Ar. Bea**	**65.74**	**269**	P	**P**	**00 37 56.7**	**-1.0**
	0.3nm,0.5s,baz=49,slow=6.4,SNR=4.8						

JMA ***29*** *00:53:06.6±0.2, 24˚.76N×122˚.46E, h16km*
TAP ***29*** *00:53:06.8, 24˚.83N×122˚.41E, h16km±1km, ML2.8, C*

ISC 29 00:53:06.1±1.2, 24˚.78N±0˚.06×122˚.46E±0˚.04, h12km±12km, n10, σ0§36/19, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.48**	**278**	*e*P	**Pg**	**00 53 15.9**	**+0.2**
	baz=262						
EGS				*e*S	**Sb**	**00 53 23.1**	**-0.4**
	baz=262						
TWB1	**Santiao Chiao**	**0.48**	**298**	*i* P	**Pg**	**00 53 15.8**	**+0.1**
	baz=295						
TWB1				S	**Sg**	**00 53 21.9**	**-0.2**
	baz=295						
TWC	**Suao**	**0.58**	**253**	P	**Pg**	**00 53 17.4**	**0.0**
	baz=253						
TWC				*e*S	**Sg**	**00 53 24.4**	**-0.7**
	baz=253						
YOJ	**Yonaguni jima**	**0.59**	**122**	P	**Pg**	**00 53 17.8**	**+0.1**
YOJ				S	**Sg**	**00 53 25.4**	**-0.2**
NWF	**Wu-fen Shan**	**0.68**	**295**	*e*P	**Pb**	**00 53 19.9**	**0.0**
	baz=292						
NWF				*e*S	**Sb**	**00 53 29.1**	**-0.3**
	baz=292						
ENA	**Nanau**	**0.74**	**242**	P	**Pg**	**00 53 20.8**	**+0.3**
	baz=236						
ENA				*e*S	**Sg**	**00 53 30.0**	**-0.3**
	baz=236						
ENTT	**Nioudou**	**0.82**	**260**	*e*P	**Pg**	**00 53 22.7**	**+0.7**
	baz=255						
ENTT				*e*S	**Sg**	**00 53 33.1**	**+0.2**
	baz=255						
NSK	**Sanguang**	**1.01**	**264**	*e*P	**Pb**	**00 53 25.6**	**+0.1**
	baz=260						
NSK				*e*S	**Sb**	**00 53 38.5**	**-0.2**
	baz=260						
NNS	**Nan Shan**	**1.04**	**251**	*e*P	**Pb**	**00 53 26.2**	**0.0**
	baz=236						
NNS				*e*S	**Sb**	**00 53 39.4**	**-0.5**
	baz=236						
WHF	**Hehuan Shan**	**1.26**	**240**	P	**Pn**	**00 53 30.2**	**+0.3**
	baz=236						

CSEM ***29*** *00:55:06.8, 37˚.67N×38˚.70E, h7km, MD2.6, After DDA*

DDA 29 00:55:06.8, 37˚.67N×38˚.70E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.38**	**238**	*i* P	Pg	00 55 13.6	-0.7
ATAB				*i* S	Sb	00 55 20.7	-1.4
ATAB	**Bozova**	**0.38**	**238**	*i* P	Pg	00 55 13.6	-0.7
ATAB				*i* S	Sg	00 55 20.7	+1.3
AKCD	**Akcadag**	**0.88**	**316**	*i* P	Pb	00 55 24.3	-0.3
AKCD				*i* S	Sb	00 55 36.3	-0.4
AKCD	**Akcadag**	**0.88**	**316**	*i* P	Pb	00 55 24.3	-0.3
AKCD				*i* S	Sb	00 55 36.3	-0.4
GZT	**Gaziantep**	**0.96**	**251**	*i* P	Pb	00 55 26.4	+0.5
GZT				*i* S	Sb	00 55 38.6	-0.4
DIYA	**Diyarbakir**	**1.15**	**77**	*i* P	Pn	00 55 29.8	+0.3
DIYA				*i* S	Sg	00 55 44.2	+0.1
DIYA	**Diyarbakir**	**1.15**	**77**	*i* P	Pn	00 55 29.8	+0.3
DIYA				*i* S	Sg	00 55 44.2	+0.1
KUZU	**Kuzuini**	**1.58**	**236**	*i* P	Pg	00 55 38.8	+1.7
KUZU				*i* S	Sg	00 55 58.3	+0.6
KUZU	**Kuzuini**	**1.58**	**236**	*i* P	Pg	00 55 38.8	+1.6
KUZU				*i* S	Sg	00 55 58.3	+0.6

ISCJB ***29*** *02:03:19.9±1.0, 21˚.38S±0˚.09×66˚.4W±0˚.1, h219km, mb3.5/5, Error ellipse: s-maj=13.4km s-min=12.8km az=151.0*

IDC ***29*** *02:03:19.0±1.9, 21˚.60S×66˚.60W, h208km±17km, mb3.5/5, mb1 3.7/8, mb1mx3.5/19, mbtmp3.5/8, Error ellipse: s-maj=24.6km s-min=19.4km az=60.0*

ISC 29 02:03:20.5±0.9, 21˚.4S±0˚.1×66˚.4W±0˚.1, h219km, n12, σ1§42/13, mb3.6/5, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.31**	**342**	P	**Pn**	**02 04 40.4**	**+0.4**
	7.8nm,0.3s,baz=158,slow=8.7,SNR=148						
LPAZ				S	**S**	**02 05 40.8**	**-1.9**
	baz=226,slow=18,SNR=1.0						
SIV	**San Ignacio**	**7.38**	**44**	P	**Pn**	**02 05 08.1**	**+2.2**
	3.9nm,0.3s,baz=253,slow=12,SNR=47						
SIV				S	**S**	**02 06 27.7**	**-2.2**
	baz=221,slow=18,SNR=2.7						
CPUP	**Villa Florida**	**9.68**	**122**	P	**P**	**02 05 40.9**	**-2.0**
	0.5nm,0.3s,baz=315,slow=10.0,SNR=3.8						
CFAA	**Coronel Fontan**	**10.31**	**189**	P	Pn	02 05 38.8	-4.6
	0.4nm,0.3s,baz=25,slow=12,SNR=47						
TORD	**Torodi Ar. Bea**	**75.15**	**69**	P	**P**	**02 14 40.1**	**+1.0**
	1.7nm,0.5s,baz=256,slow=5.2,SNR=21						
PDAR	**Pinedale Array**	**75.18**	**329**	P	**P**	**02 14 39.2**	**+0.1**
	0.3nm,0.5s,baz=134,slow=6.4,SNR=3.4						
NVAR	**Mina Array Bea**	**76.84**	**321**	P	**P**	**02 14 49.4**	**+0.8**
	0.5nm,0.7s,baz=152,slow=4.1,SNR=4.1						
BOSA	**Boshof**	**81.46**	**117**	P	**P**	**02 15 14.0**	**+0.3**
	2.4nm,1.0s,baz=292,slow=5.4,SNR=2.8						
YKA	**Yellowknife Ar**	**91.86**	**340**	P	**P**	**02 16 03.3**	**+0.2**
	0.4nm,0.7s,baz=129,slow=4.7,SNR=11						
ASAR	**Alice Springs**	**131.04**	**205**	PKP	**PKPdf**	**02 22 06.1**	**-0.8**
	0.2nm,0.4s,baz=127,slow=1.6,SNR=4.6						
MKAR	**Makanchi Array**	**144.16**	**38**	PKP	**PKPdf**	**02 22 30.1**	**0.0**
	1.8nm,0.7s,baz=318,slow=3.8,SNR=23						
SONM	**Songino Array**	**152.98**	**11**	PKPbc	**PKPbc**	**02 22 52.4**	**+0.5**
	0.5nm,0.4s,baz=262,slow=1.3,SNR=4.9						

IDC 29 02:55:31.7±5.0, 29˚.46S×177˚.14W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.8/2, Error ellipse: s-maj=240.8km s-min=74.3km az=159.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.43**	**255**	P	P	03 02 29.7	0.0
	1.4nm,0.5s,baz=93,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**44.82**	**271**	P	P	03 03 47.5	-0.3
	0.5nm,0.3s,baz=115,slow=6.4,SNR=9.7						
FINES	**FINESS Array B**	**144.51**	**341**	PKP	PKPdf	03 15 08.9	-0.4
	1.8nm,0.9s,baz=27,slow=3.4,SNR=4.3						

IDC ***29*** *02:56:27.7±3.8, 18˚.20S×176˚.48W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.8/6, MS3.4/5, Ms1 3.4/5, ms1mx3.2/32, Error ellipse: s-maj=201.8km s-min=24.0km az=150.0*

ISCJB ***29*** *02:56:31.8±3.0, 18˚.S±1˚.×176˚.6W±0˚.6, h33km, mb3.8/6, MS3.4/2, Error ellipse: s-maj=166.2km s-min=20.3km az=150.2*

ISC 29 02:56:33.6±3.3, 18˚.S±1˚.×176˚.6W±0˚.6, h35km, n15, σ1§13/7, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**11.23**	**186**	LR	LR	03 02 46.8	
	comp=Z,346nm,18.8s,baz=353,slow=34						
RAR	**Rarotonga**	**16.16**	**104**	LR	LR	03 05 18.1	
	comp=Z,50nm,20.4s,baz=257,slow=33						
DZM	**Mont Dzumac**	**16.43**	**253**	*e*LR	LR	03 04 26.1	
	284nm,24.2s						
DZM	**Mont Dzumac**	**16.43**	**253**	LR	LR	03 05 19.3	
	comp=Z,263nm,19.3s,baz=214,slow=32						
HNR	**Honiara**	**24.31**	**287**	LR	LR	03 10 05.4	
	comp=Z,54nm,20.1s,baz=96,slow=33						
PPT2	**Papeete2**	**25.72**	**93**	*e*LR	LR	03 08 06.7	
	220nm,25.2s						
TBI	**Tubuai**	**25.91**	**106**	*e*LR	LR	03 08 20.6	
	107nm,29.0s						
CTA	**Charters Tower**	**35.13**	**261**	P	**P**	**03 03 25.4**	**+1.3**
	1.7nm,0.6s,baz=90,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**46.30**	**259**	P	**P**	**03 04 54.9**	**-1.4**
	0.6nm,0.8s,baz=93,slow=7.0,SNR=4.5						
ASAR	**Alice Springs**	**46.42**	**254**	P	**P**	**03 04 56.8**	**-0.5**
	0.5nm,0.6s,baz=88,slow=8.2,SNR=9.0						
FITZ	**Fitzroy Crossi**	**54.71**	**260**	LR	LR	03 26 51.0	
	comp=Z,65nm,18.5s,baz=257,slow=33						
ILAR	**Eielson Array**	**85.63**	**12**	P	**P**	**03 09 08.4**	**+0.3**
	1.0nm,1.0s,baz=220,slow=6.4,SNR=5.4						
PDAR	**Pinedale Array**	**86.26**	**43**	P	**P**	**03 09 12.7**	**+0.6**
	0.9nm,1.1s,baz=208,slow=2.9,SNR=3.7						
YKA	**Yellowknife Ar**	**93.73**	**24**	P	**P**	**03 09 45.6**	**-0.7**
	0.2nm,0.7s,baz=246,slow=4.7,SNR=3.3						
GERES	**GERESS Array B**	**148.15**	**347**	PKPbc	**PKPbc**	**03 16 15.6**	**-0.3**
	0.3nm,0.8s,baz=328,slow=3.5,SNR=3.0						

NIED ***29*** *03:04:00, 36˚.00N×139˚.50E, h59km, Mw3.7 Best double couple: M0=4.68000×10^14 NP1:ϕs=29.00000°, δ87.00000°, λ=-25.00000°. NP2:ϕs=121.00000°, δ65.00000°, λ=-177.00000°.*

IDC ***29*** *03:04:10.7±4.7, 35˚.89N×139˚.79E, h68km±32km, mb3.2/5, mb1 3.4/7, mb1mx3.2/26, mbtmp3.3/7, ML3.2/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/16, Error ellipse: s-maj=66.8km s-min=23.1km az=79.0*

ISCJB ***29*** *03:04:11.1±0.7, 35˚.97N±0˚.04×139˚.55E±0˚.08, h72km±4km, mb3.3/5, Error ellipse: s-maj=10.9km s-min=6.8km az=0.1*

JMA ***29*** *03:04:12.9±0.1, 36˚.02N×139˚.53E, h57km±2km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs=123.00000°, δ83.00000°, λ-156.00000°. NP2: ϕs=30.00000°, δ66.00000°, λ-8.00000°. Principal axes: T Plg11.0000°, Azm254.0000°; N Plg65.0000°, Azm139.0000°; P Plg22.0000°, Azm349.0000°;*

JMA Felt I J1.

ISC 29 03:04:11.7±0.9, 35˚.96N±0˚.04×139˚.58E±0˚.07, h69km±6km, n27, σ0§82/27, mb3.5/5, 3C-5D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHU	**Hanno**	**0.26**	**245**	⇑P	**Pn**	**03 04 22.6**	**+0.1**
JHU				S	**Sn**	**03 04 29.6**	**-0.8**
TOK	**Tokyo**	**0.31**	**152**	⇓P	**Pn**	**03 04 24.4**	**+1.6**
JAG	**Ashikaga**	**0.47**	**348**	⇓P	**Pn**	**03 04 24.0**	**-0.1**
JAG				S	**Sn**	**03 04 32.1**	**-1.1**
JRY	**Ryogami san**	**0.55**	**276**	⇑P	**Pn**	**03 04 24.9**	**0.0**
JRY				S	**Sn**	**03 04 34.0**	**-0.6**
JOD2	**Odawara 2**	**0.80**	**210**	⇓P	**Pn**	**03 04 27.7**	**0.0**
JOD2				S	**Sn**	**03 04 39.0**	**-0.6**
JKT	**Katashina**	**0.84**	**342**	⇓P	**Pn**	**03 04 28.2**	**-0.1**
JKT				S	**Sn**	**03 04 39.7**	**-0.9**
JYN	**Shimodate**	**0.96**	**241**	⇑P	**Pn**	**03 04 29.9**	**+0.2**
JYN				S	**Sn**	**03 04 42.8**	**-0.2**
MJAR	**Matsushiro Arr**	**1.25**	**298**	P	**Pn**	**03 04 33.8**	**+0.5**
	37nm,0.3s,baz=31,slow=14,SNR=72						
MJAR				S	**Sn**	**03 04 48.5**	**-1.0**
	65nm,0.3s,baz=53,slow=48,SNR=9.8						
MAT	**Matsushiro**	**1.25**	**298**	P	**Pn**	**03 04 33.7**	**+0.4**
MAT				S	**Sn**	**03 04 49.3**	**-0.2**
MAT	**Matsushiro**	**1.25**	**298**	P	**Pn**	**03 04 33.8**	**+0.4**
JIM2	**Oshima 3**	**1.25**	**185**	P	**Pn**	**03 04 33.2**	**-0.2**
JHK	**Hiroka**	**1.36**	**341**	⇓P	**Pn**	**03 04 35.2**	**+0.4**
JNU	**Nakatsue**	**7.71**	**251**	P	**Pn**	**03 06 02.2**	**+0.8**
	0.9nm,0.3s,baz=26,slow=4.8,SNR=14						
KSRS	**Korea Array**	**9.47**	**282**	LR	LR	03 09 49.3	
	comp=Z,32nm,18.2s,baz=180,slow=35						
USRK	**Ussuriysk Arra**	**10.07**	**327**	P	**Pn**	**03 06 35.4**	**+2.0**
	0.2nm,0.3s,baz=163,slow=13,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**28.93**	**117**	T	T	03 40 13.8	
	baz=311,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.94**	**117**	T	T	03 39 47.3	
	baz=311,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.95**	**117**	T	T	03 40 01.3	
	baz=311,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**29.58**	**119**	T	T	03 41 15.0	
	baz=317,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.58**	**119**	T	T	03 40 46.7	
	baz=317,slow=76,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**29.60**	**119**	T	T	03 41 17.1	
	baz=317,slow=76,SNR=7.5						
ZALV	**Zalesovo Beam**	**41.55**	**313**	P	**P**	**03 11 52.6**	**+0.3**
	0.5nm,0.3s,baz=79,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**43.44**	**303**	P	**P**	**03 12 08.3**	**+0.5**
	0.1nm,0.4s,baz=87,slow=7.8,SNR=3.5						
PSI	**Prapat**	**49.97**	**238**	LR	LR	03 33 18.7	
	comp=Z,118nm,21.8s,baz=233,slow=35						
WRA	**Warramunga Arr**	**55.82**	**186**	P	**P**	**03 13 40.6**	**-1.4**
	0.2nm,0.6s,baz=360,slow=7.3,SNR=4.0						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**03 15 41.3**	**+0.3**
	0.2nm,0.3s,baz=48,slow=5.4,SNR=3.9						
NOA	**NORSAR Array B**	**74.59**	**337**	P	**P**	**03 15 42.5**	**-0.5**
	0.5nm,0.7s,baz=43,slow=2.5,SNR=2.8						

ISCJB ***29*** *03:07:42.6±0.8, 6˚.98N±0˚.07×73˚.2W±0˚.1, h167km±9km, mb3.1/2, Error ellipse: s-maj=19.2km s-min=8.1km az=31.7*

IDC ***29*** *03:07:42.4±1.4, 4˚.70N×73˚.09W, h284km±16km, mb2.7/2, mb1 2.9/2, mb1mx2.6/23, mbtmp3.3/2, Error ellipse: s-maj=54.1km s-min=33.7km az=67.0*

FUNV ***29*** *03:07:46.8, 6˚.96N×72˚.95W, h161km, MW3.2*

ISC 29 03:07:43.3±1.3, 6˚.94N±0˚.08×73˚.0W±0˚.1, h167km±11km, n16, σ1§97/18, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.15**	**37**	*i* P	**Pn**	**03 08 12.7**	**+1.6**
CAPV				*e*S	**Sn**	**03 08 32.9**	**+0.2**
ROSC	**El Rosal**	**2.45**	**212**	P	Pn	03 08 24.5	-0.6
	19nm,0.3s,baz=97,slow=23,SNR=31						
ROSC				S	**Sn**	**03 08 54.8**	**-2.6**
	22nm,0.3s,baz=80,slow=17,SNR=18						
SOCV	**Socops**	**2.52**	**58**	*e*P	**Pn**	**03 08 26.8**	**+1.3**
ELOV	**Elorza**	**3.51**	**89**	*e*P	**Pn**	**03 08 38.8**	**+1.1**
VIRV	**Villa del Rosa**	**3.59**	**10**	*e*P	**Pn**	**03 08 39.6**	**+0.8**
VIRV				*e*S	**Sn**	**03 09 20.0**	**-2.0**
QARV	**Quebrada Arrib**	**4.07**	**37**	*e*P	**Pn**	**03 08 46.7**	**+1.7**
QARV				*e*S	**Sn**	**03 09 30.1**	**-3.1**
SANV	**Sanarito**	**4.28**	**53**	*e*P	**Pn**	**03 08 48.9**	**+1.1**
CURV	**Curarigua**	**4.29**	**45**	*e*P	**Pn**	**03 08 49.3**	**+1.4**
DABV	**Dabajuro**	**4.60**	**31**	*e*P	**Pn**	**03 08 53.7**	**+2.0**
TEPV	**Terepaima**	**4.83**	**51**	*e*P	**Pn**	**03 08 56.3**	**+1.5**
SIQV	**Siquisique**	**4.86**	**41**	*e*P	**Pn**	**03 08 56.5**	**+1.3**
SIQV				*e*S	**Sn**	**03 09 48.1**	**-3.4**
BAUV	**El Baul**	**5.31**	**68**	*e*S	Sn	03 09 57.0	-5.1
MAPV	**Macapo**	**5.34**	**57**	*e*P	**Pn**	**03 09 02.8**	**+1.2**
MONV	**Montecano**	**5.81**	**31**	*e*P	**Pn**	**03 09 08.8**	**+1.1**
YKA	**Yellowknife Ar**	**63.18**	**340**	P	**P**	**03 17 53.7**	**+0.4**
	0.1nm,0.5s,baz=134,slow=6.5,SNR=6.4						
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P	P	03 18 48.4	-11
	0.5nm,0.9s,baz=289,slow=4.4,SNR=3.2						

NNC 29 03:58:37.6±7.0, 37.76N×68.90E, h0km, mb3.8, mpv3.4, 5C-2D, Error ellipse: s-maj=68.7km s-min=37.1km az=7.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.48**	**12**	Pn	Pn	04 00 02.2	+1.7
	0.4nm,0.3s,baz=197,slow=15,SNR=6.9						
KK31				⇓Lg	Lg	04 01 36.0	
	19nm,0.7s,baz=197,slow=29,SNR=13						
AAK	**Ala-Archa**	**6.48**	**40**	⇑Pn	Pn	04 00 13.2	-1.3
	3.2nm,0.5s						
AAK				⇑Lg	Lg	04 02 01.3	
	5.0nm,0.6s						
TKM2	**Tokmak 2**	**7.26**	**43**	⇓Pn	Pn	04 00 22.5	-2.7
	1.8nm,0.5s						
TKM2				⇑Lg	Lg	04 02 24.3	
	4.7nm,0.9s						
AB31	**Akbulak array**	**13.19**	**333**	Pn	Pn	04 01 47.6	+1.6
	0.3nm,0.3s,baz=145,slow=15,SNR=29						
AB31				⇑Sn	Sn	04 04 12.7	-0.7
	0.5nm,0.6s,baz=204,slow=6.8,SNR=3.7						
AKTO	**Aktyubinsk**	**14.87**	**332**	⇑Pn	P	04 02 12.4	-2.6
	4.0nm,1.6s						

ISCJB ***29*** *04:23:32.9±0.7, 21˚.64N±0˚.07×143˚.0E±0˚.2, h311km, mb3.4/9, Error ellipse: s-maj=30.5km s-min=10.1km az=0.5*

IDC ***29*** *04:23:33.4±1.9, 21˚.67N×143˚.09E, h302km±17km, mb3.2/9, mb1 3.4/10, mb1mx3.1/28, mbtmp3.2/10, Error ellipse: s-maj=29.5km s-min=12.5km az=98.0*

ISC 29 04:23:34.3±0.9, 21˚.70N±0˚.10×143˚.0E±0˚.2, h311km, n10, σ0§61/12, mb3.4/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.43**	**352**	P	**Pn**	**04 24 57.0**	**-0.1**
	9.5nm,0.3s,baz=336,slow=19,SNR=7.2						
JCJ				S	**S**	**04 26 03.2**	**-0.7**
	11nm,0.3s,baz=289,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**42.25**	**192**	P	**P**	**04 30 57.3**	**-0.7**
	0.9nm,0.6s,baz=17,slow=8.7,SNR=9.4						
FITZ	**Fitzroy Crossi**	**43.06**	**205**	P	**P**	**04 31 04.2**	**-0.2**
	2.5nm,1.0s,baz=11,slow=5.2,SNR=4.2						
ASAR	**Alice Springs**	**45.96**	**192**	P	**P**	**04 31 27.0**	**-0.1**
	0.3nm,0.3s,baz=17,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**54.58**	**313**	P	**P**	**04 32 31.9**	**+0.8**
	0.2nm,0.5s,baz=94,slow=8.0,SNR=2.8						
MKAR				PcP	**PcP**	**04 33 29.8**	**-0.1**
	0.2nm,0.8s,baz=84,slow=3.6,SNR=4.1						
ILAR	**Eielson Array**	**62.11**	**27**	P	**P**	**04 33 21.6**	**-0.9**
	0.4nm,0.9s,baz=270,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**76.53**	**28**	P	**P**	**04 34 50.5**	**+0.3**
	0.5nm,0.6s,baz=293,slow=5.7,SNR=6.9						
ARCES	**ARCESS Array B**	**78.87**	**341**	P	**P**	**04 35 03.5**	**+0.5**
	4.1nm,1.0s,baz=62,slow=7.4,SNR=9.5						
FINES	**FINESS Array B**	**83.11**	**334**	P	**P**	**04 35 25.1**	**-0.2**
	1.2nm,0.6s,baz=74,slow=5.4,SNR=10.0						
NVAR	**Mina Array Bea**	**83.26**	**51**	P	**P**	**04 35 27.7**	**+0.8**
	0.6nm,0.7s,baz=273,slow=5.6,SNR=5.1						

IDC ***29*** *04:29:49.7±0.4, 33˚.76S×56˚.42E, h0km, mb4.5/25, mb1 4.5/26, mb1mx4.5/35, mbtmp4.5/26, ML3.4/1, MS4.2/24, Ms1 4.2/24, ms1mx4.1/38, Error ellipse: s-maj=17.1km s-min=13.3km az=34.0*

MOS ***29*** *04:29:49.9±0.8, 33˚.78S×56˚.47E, h10km, mb5.1/30, Error ellipse: s-maj=15.0km s-min=7.5km az=96.2*

ISCJB ***29*** *04:29:49.8±0.3, 33.80S±0˚.06×56˚.39E±0˚.07, h10km, mb4.8/76, MS4.3/30, Error ellipse: s-maj=8.8km s-min=7.7km az=43.8*

BJI ***29*** *04:29:49.4, 33˚.80S×56˚.40E, h10km, mB5.2/15, mb4.9/29, Ms5.1/11, Ms7 4.6/12*

NEIC ***29*** *04:29:51.2±0.2, 33˚.82S×56˚.39E, h10km, mb5.0/28, Error ellipse: s-maj=6.7km s-min=5.8km az=205.0*

GCMT ***29*** *04:29:53.8±0.3, 33˚.75S×56˚.26E, h12km, MW4.9, Moment Tensor Solution. s25,c29; s72,c96; Moment tensor: Scale 10^16 Nm; Mrr=3.33±.09; Mθθ=2.97±.08; Mϕϕ=0.36±.11; Mrθ=0.11±.35; Mθϕ=-0.03±.09; Mϕr=0.34±.60; Best double couple: M0=3.20000×10^16 NP1:ϕs=276.00000°, δ46.00000°, λ=-83.00000°. NP2:ϕs=86.00000°, δ44.00000°, λ=-97.00000°. Principal axes: T 2.9700, Plg1.0000°, Azm1.0000°; N 0.3900, Plg5.0000°, Azm91.0000°; P -3.3600, Plg85.0000°, Azm259.0000°; Data Used: II IU CN G IC CU.*

ISC 29 04:29:51.8±0.4, 33˚.83S±0˚.06×56˚.17E±0˚.07, h10km, n229, σ1§37/236, mb4.9/76, MS4.3/30, 28C-7D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABPO	**Ambohimpanom**	**16.77**	**329**	*e*P	**P**	**04 33 48.8**	**-0.4**
ABPO				*e*S	**Sn**	**04 36 50.4**	**-3.0**
ABPO				pmax	pmax		
	comp=Z,11nm,0.8s						
ABPO	**Ambohimpanom**	**16.77**	**329**	*e*Pn	**P**	**04 33 48.8**	**-0.4**
	comp=Z,11nm,0.8s						
ABPO				*e*S	**Sn**	**04 36 50.4**	**-3.0**
OPO	**Ambohidratompo**	**17.18**	**330**	P	**Pn**	**04 33 52.3**	**+0.2**
OPO				S	Sn	04 36 52.3	-11
OPO	**Ambohidratompo**	**17.18**	**330**	P	**Pn**	**04 33 52.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=

CMAR	**Chiang Mai Arr**	**66.07**	**45**	P		**P**		**04 40 38.4**	**-0.7**
	comp=Z,3.2nm,0.3s,baz=231,slow=6.6,SNR=33								
CMAR				LR		LR		05 06 07.7	
	comp=Z,122nm,18.4s,baz=47,slow=33								
KOLN	**Koldanda**	**66.56**	**26**	*e*P		**P**		**04 40 40.8**	**-1.4**
	comp=Z,44nm,1.1s								
KOLN	**Koldanda**	**66.56**	**26**	*e*P		**P**		**04 40 40.8**	**-1.4**
	comp=Z,44nm,1.1s								
DMN	**Daman**	**66.98**	**28**	*e*P		**P**		**04 40 43.6**	**-1.4**
	comp=Z,55nm,1.3s								
DMN	**Daman**	**66.98**	**28**	*e*P		**P**		**04 40 43.6**	**-1.4**
	comp=Z,55nm,1.3s								
RAMN	**Ramite**	**66.99**	**29**	*e*P		**P**		**04 40 43.9**	**-1.2**
	comp=Z,63nm,1.2s								
RAMN	**Ramite**	**66.99**	**29**	*e*P		**P**		**04 40 43.9**	**-1.2**
	comp=Z,63nm,1.2s								
PKI	**Pulchoki**	**67.07**	**28**	*e*P		**P**		**04 40 43.7**	**-1.9**
	comp=Z,43nm,1.3s								
PKI	**Pulchoki**	**67.07**	**28**	*e*P		**P**		**04 40 44.6**	**-1.0**
PKI				pmax	pmax				
	comp=Z,16nm,1.0s								
PKI	**Pulchoki**	**67.07**	**28**	*e*P		**P**		**04 40 44.6**	**-1.0**
	comp=Z,16nm,1.0s								
PKIN	**Phulchoki**	**67.07**	**28**	*e*P		**P**		**04 40 44.6**	**-1.0**
	comp=Z,16nm,1.0s								
DANN	**Dangsing**	**67.14**	**26**	*e*P		**P**		**04 40 44.3**	**-1.7**
	comp=Z,21nm,0.7s								
DANN	**Dangsing**	**67.14**	**26**	*e*P		**P**		**04 40 44.3**	**-1.7**
	comp=Z,21nm,0.7s								
GKN	**Gorkha**	**67.16**	**27**	*e*P		**P**		**04 40 44.3**	**-1.7**
	comp=Z,22nm,0.8s								
GKN	**Gorkha**	**67.16**	**27**	*e*P		**P**		**04 40 44.3**	**-1.7**
	comp=Z,22nm,0.8s								
KKN	**Kakani**	**67.21**	**28**	*e*P		**P**		**04 40 44.9**	**-1.5**
	comp=Z,49nm,1.2s								
KKN	**Kakani**	**67.21**	**28**	*e*P		**P**		**04 40 44.9**	**-1.5**
KKN				pmax	pmax				
	comp=Z,49nm,1.2s								
KKN	**Kakani**	**67.21**	**28**	*e*P		**P**		**04 40 44.9**	**-1.5**
	comp=Z,49nm,1.2s								
ODAN	**Odare**	**67.24**	**30**	*e*P		**P**		**04 40 45.4**	**-1.2**
	comp=Z,84nm,1.2s								
ODAN	**Odare**	**67.24**	**30**	*e*P		**P**		**04 40 45.4**	**-1.2**
	comp=Z,84nm,1.2s								
JIRN	**Jiri**	**67.45**	**29**	*e*P		**P**		**04 40 46.4**	**-1.7**
JIRN	**Jiri**	**67.45**	**29**	*e*P		**P**		**04 40 46.4**	**-1.7**
ASAR	**Alice Springs**	**67.46**	**104**	P		**P**		**04 40 46.4**	**-1.8**
ASAR	**Alice Springs**	**67.46**	**104**	P		**P**		**04 40 46.4**	**-1.8**
	comp=Z,4.0nm,1.1s,baz=236,slow=6.1,SNR=20								
GUN	**Gumba**	**67.55**	**28**	*e*P		**P**		**04 40 47.4**	**-1.3**
	comp=Z,23nm,0.8s								
GUN	**Gumba**	**67.55**	**28**	*e*P		**P**		**04 40 47.4**	**-1.3**
	comp=Z,23nm,0.8s								
TAPN	**Taplejung**	**67.80**	**30**	*e*P		**P**		**04 40 49.1**	**-1.2**
	comp=Z,62nm,1.2s								
TAPN	**Taplejung**	**67.80**	**30**	*e*P		**P**		**04 40 49.1**	**-1.2**
	comp=Z,62nm,1.2s								
KBL	**Kabul**	**69.08**	**11**	*e*P		**P**		**04 40 57.9**	**0.0**
KBL				pmax	pmax				
	comp=Z,7.0nm,0.8s								
KBL	**Kabul**	**69.08**	**11**	*e*P		**P**		**04 40 57.9**	**0.0**
	comp=Z,7.4nm,0.8s								
WRA	**Warramunga Arr**	**69.61**	**101**	P		**P**		**04 40 59.9**	**-1.7**
WRA	**Warramunga Arr**	**69.61**	**101**	P		**P**		**04 40 59.9**	**-1.7**
	comp=Z,6.7nm,0.9s,baz=239,slow=5.1,SNR=28								
WRAB	**Tennant Creek**	**69.62**	**101**	*d*iP		**P**		**04 41 00.1**	**-1.5**
WRAB				pmax	pmax				
	comp=Z,29nm,1.2s								
WRAB	**Tennant Creek**	**69.62**	**101**	*e*P		**P**		**04 40 59.7**	**-1.9**
	comp=Z,12nm,1.0s								
STKA	**Stephens Creek**	**69.66**	**115**	*e*P		**P**		**04 41 01.1**	**-0.6**
STKA	**Stephens Creek**	**69.66**	**115**	P		**P**		**04 41 00.2**	**-1.4**
	comp=Z,4.2nm,1.0s,baz=273,slow=3.7,SNR=4.5								
TOA0	**Torodi Ar. Sit**	**69.76**	**302**	*e*P		**P**		**04 41 02.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**69.76**	**302**	P		**P**		**04 41 02.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**69.76**	**302**	P		**P**		**04 41 02.9**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=124,slow=5.9,SNR=17								
DBIC	**Dimbokro**	**70.33**	**293**	*e*P		**P**		**04 41 06.8**	**+0.9**
	comp=Z,4.7nm,0.7s								
DBIC	**Dimbokro**	**70.33**	**293**	P		**P**		**04 41 07.1**	**+1.2**
	comp=Z,7.1nm,1.0s,baz=103,slow=7.3,SNR=6.8								
DBIC				LR		LR		05 10 36.2	
	comp=Z,150nm,18.3s,baz=114,slow=35								
LSA	**Lhasa**	**71.32**	**32**	*e*P		**P**		**04 41 11.4**	**-0.8**
LSA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
LSA	**Lhasa**	**71.32**	**32**	*e*P		**P**		**04 41 11.3**	**-0.8**
	comp=Z,9.9nm,0.8s								
KMI	**Kunming**	**73.46**	**43**	P		P		04 41 28.5	+3.8
KMI				pP		pP		04 41 31.3	+3.3
KMI				sP		sP		04 41 32.5	+3.3
KMI				pmax	pmax				
	comp=Z,7.0nm,0.6s								
KMI				pmax	pmax				
	comp=Z,59nm,4.1s								
KMI				LR		LR			
	comp=Z,140nm,28.4s								
KMI				LR		LR			
	comp=Z,200nm,33.7s								
KMI				LR		LR			
	comp=Z,170nm,24.1s								
TAM	**Tamanrasset**	**74.11**	**312**	*e*P		**P**		**04 41 29.5**	**+0.9**
TAM				pmax	pmax				
	comp=Z,4.0nm,1.1s								
TAM	**Tamanrasset**	**74.11**	**312**	*e*P		**P**		**04 41 29.5**	**+0.9**
	comp=Z,4.1nm,1.1s								
IDI	**Anoyia**	**74.73**	**334**	LR		LR		05 13 42.1	
	comp=Z,104nm,18.3s,baz=80,slow=35								
KSH	**Kashi**	**75.25**	**16**	P		P		04 41 31.5	-3.2
KSH				PP		**PP**		**04 44 25.0**	**+1.3**
KSH				S		SKiKP		04 51 05.8	+7.8
KSH				SKS		SKSac		04 51 34.0	-10
KSH				SS		SS		04 55 55.3	-9.0
KSH				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KSH				pmax	pmax				
	comp=Z,130nm,4.6s								
KSH				LR		LR			
	comp=Z,150nm,5.5s								
KSH				LR		LR			
	comp=Z,140nm,5.8s								
KSH				LR		LR			
	comp=Z,200nm,7.0s								
BRTR	**Keskin Array B**	**76.10**	**342**	P		**P**		**04 41 38.9**	**-0.7**
BRTR	**Keskin Array B**	**76.10**	**342**	P		**P**		**04 41 38.9**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=170,slow=9.3,SNR=12								
BRTR				LR		LR		05 14 51.2	
	comp=Z,79nm,18.4s,baz=134,slow=36								
GYA	**Guiyang**	**76.75**	**45**	*e*P		**P**		**04 41 45.0**	**+1.4**
GYA				PP		**PP**		**04 44 39.8**	**+3.2**
GYA				S		**S**		**04 51 31.3**	**+0.4**
GYA				SKS		**SKSac**		**04 51 52.0**	**-3.8**
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,110nm,5.2s								
GYA				LR		LR			
	comp=Z,460nm,19.8s								
GYA				LR		LR			
	comp=Z,390nm,20.2s								
GYA				LR		LR			
	comp=Z,440nm,18.9s								
ZEI	**Tsey**	**77.07**	**351**	*e*P		**P**		**04 41 43.4**	**-1.7**
ZEI				pmax	pmax				
	comp=Z,10.0nm,1.3s								
AML	**Almayashu**	**77.28**	**13**	P		**P**		**04 41 46.7**	**+0.2**
	SNR=7.2								
UCH	**Uchtor**	**77.54**	**14**	P		**P**		**04 41 49.1**	**+1.0**
	SNR=8.4								
KKAR	**Karatay Array**	**77.68**	**11**	*e*P		**P**		**04 41 48.1**	**-0.1**
KKAR				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KKAR	**Karatay Array**	**77.68**	**11**	*e*P		**P**		**04 41 48.1**	**-0.1**
	comp=Z,6.4nm,1.0s								
EKS2	**Erkin-Say**	**77.81**	**13**	*e*P		**P**		**04 41 49.0**	**-0.1**
EKS2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
EKS2	**Erkin-Say**	**77.81**	**13**	P		**P**		**04 41 49.5**	**+0.4**
	SNR=11								
EKS2	**Erkin-Say**	**77.81**	**13**	*e*P		**P**		**04 41 49.0**	**-0.1**
	comp=Z,9.8nm,1.0s								
AAK	**Ala-Archa**	**77.92**	**14**	*c* *i*P		**P**		**04 41 49.9**	**+0.1**
AAK				pmax	pmax				
	comp=Z,34nm,1.1s								
AAK	**Ala-Archa**	**77.92**	**14**	P		**P**		**04 41 49.9**	**+0.1**
	SNR=9.8								
AAK	**Ala-Archa**	**77.92**	**14**	*e*P		**P**		**04 41 49.8**	**-0.1**
	comp=Z,11nm,1.1s								
KBK	**Karagaybulak**	**78.04**	**14**	P		**P**		**04 41 51.2**	**+0.7**
	SNR=6.5								
KBZ	**Khabaz**	**78.13**	**350**	LR		LR		05 13 59.9	
	comp=Z,158nm,21.1s,baz=187,slow=34								
KIV	**Kislovodsk**	**78.38**	**350**	*e*P		**P**		**04 41 51.5**	**-0.7**
KIV				pmax	pmax				
	comp=Z,12nm,1.1s								
TKM2	**Tokmak 2**	**78.42**	**14**	*e*P		**P**		**04 41 52.0**	**-0.7**
TKM2				pmax	pmax				
	comp=Z,7.0nm,1.1s								
TKM2	**Tokmak 2**	**78.42**	**14**	P		P		04 41 48.7	-3.9
	SNR=6.8								
TKM2	**Tokmak 2**	**78.42**	**14**	*e*P		**P**		**04 41 52.0**	**-0.7**
	comp=Z,7.3nm,1.1s								
CD2	**Chengdu**	**78.50**	**40**	*e*P		**P**		**04 41 55.0**	**+1.8**
CD2				pP		**PcP**		**04 42 00.0**	**-2.3**
CD2				sP		**sP**		**04 42 02.3**	**+4.6**
CD2				PP		**PP**		**04 44 54.8**	**+3.6**
CD2				S		**S**		**04 51 50.3**	**+0.7**
CD2				sS		**sS**		**04 51 57.5**	**+2.5**
CD2				pmax	pmax				
	comp=Z,10.0nm,1.1s								
CD2				pmax	pmax				
	comp=Z,140nm,4.8s								
CD2				LR		LR			
	comp=Z,150nm,19.0s								
CD2				LR		LR			
	comp=Z,270nm,16.6s								
CD2				LR		LR			
	comp=Z,170nm,17.8s								
CTA	**Charters Tower**	**79.16**	**107**	P		**P**		**04 41 54.8**	**-2.4**
CTA	**Charters Tower**	**79.16**	**107**	P		**P**		**04 41 54.8**	**-2.4**
	comp=Z,1.1nm,0.4s,baz=288,slow=9.6,SNR=2.6								
KDZ	**Kurdzhali**	**80.25**	**337**	⇓P		**P**		**04 42 02.2**	**-0.2**
KDZ	**Kurdzhali**	**80.25**	**337**	⇓*i*P		**P**		**04 42 02.2**	**-0.2**
MMB	**Musomiste**	**80.76**	**336**	⇑P		**P**		**04 42 04.3**	**-0.9**
MMB	**Musomiste**	**80.76**	**336**	⇑*i*P		**P**		**04 42 04.3**	**-0.9**
KEST	**Kesra**	**81.88**	**323**	LR		LR		05 16 46.3	
	comp=Z,96nm,21.6s,baz=32,slow=34								
HARR	**Harsova**	**82.26**	**340**	⇑P		P		04 42 17.2	+4.3
HARR	**Harsova**	**82.26**	**340**	⇑*i*P		P		04 42 17.2	+4.3
WMQ	**Urumqi**	**82.46**	**22**	P		**P**		**04 42 16.0**	**+1.9**
WMQ				sP		**sP**		**04 42 23.0**	**+4.4**
WMQ				PP		**PP**		**04 45 27.0**	**+3.2**
WMQ				S		**S**		**04 52 30.0**	**-0.5**
WMQ				sS		**SKKSac**		**04 52 39.0**	**+0.4**
WMQ				SS		**SS**		**04 57 54.0**	**+1.6**
WMQ				pmax	pmax				
	comp=Z,12nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,69nm,6.0s								
WMQ				LR		LR			
	comp=Z,170nm,22.0s								
WMQ				LR		LR			
	comp=Z,120nm,21.0s								
WMQ				LR		LR			
	comp=Z,190nm,22.0s								
LZH	**Lanzhou**	**82.59**	**37**	*e*P		**P**		**04 42 14.0**	**-1.1**
LZH				pP		**PcP**		**04 42 21.5**	**+1.4**
LZH				sP		sP		04 42 25.0	+5.4
LZH				pmax	pmax				
	comp=Z,15nm,1.1s								
CFR	**Carcaliu**	**82.65**	**340**	⇑P		**P**		**04 42 14.4**	**-0.5**
CFR	**Carcaliu**	**82.65**	**340**	⇑*i*P		**P**		**04 42 14.4**	**-0.5**
ABKAR	**Akbulak array**	**82.78**	**2**	*e*P		**P**		**04 42 14.9**	**-0.7**
	comp=Z,4.9nm,0.9s								
GTA	**Gaotai**	**83.32**	**33**	*e*P		**P**		**04 42 18.5**	**-0.3**
GTA				pP		**pP**		**04 42 22.5**	**+0.3**
GTA				sP		**sP**		**04 42 26.0**	**+2.7**
GTA				pmax	pmax				
	comp=Z,19nm,0.9s								
MLR	**Muntele Rosu**	**83.56**	**339**	⇑*i*P		**P**		**04 42 19.3**	**-0.6**
MLR	**Muntele Rosu**	**83.56**	**339**	P		**P**		**04 42 18.8**	**-1.1**
MLR	**Muntele Rosu**	**83.56**	**339**	P		**P**		**04 42 18.8**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=160,slow=12,SNR=4.0								
MLR				LR		LR		05 16 46.0	
	comp=Z,37nm,21.7s,baz=91,slow=34								
MK31	**Makanchi Array**	**83.63**	**18**	*e*P		**P**		**04 42 19.4**	**-0.7**
MK31	**Makanchi Array**	**83.63**	**18**	*e*P		**P**		**04 42 19.4**	**-0.7**
MKAR	**Makanchi Array**	**83.63**	**18**	*e*P		**P**		**04 42 19.7**	**-0.4**
MKAR	**Makanchi Array**	**83.63**	**18**	*e*P		**P**		**04 42 19.7**	**-0.4**
MKAR	**Makanchi Array**	**83.63**	**18**	P		**P**		**04 42 19.6**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=212,slow=4.3,SNR=20								
MKAR				LR		LR		05 16 10.3	
	comp=Z,76nm,21.3s,baz=76,slow=33								
VRI	**Vrincioaia**	**83.68**	**340**	⇑P		**P**		**04 42 20.0**	**-0.3**
VRI	**Vrincioaia**	**83.68**	**340**	⇑*i*P		**P**		**04 42 20.0**	**-0.3**
XAN	**Xi'an**	**83.71**	**42**	P		**P**		**04 42 19.5**	**-1.3**
XAN				pmax	pmax				
	comp=Z,3.0nm,1.2s								
ARR	**Arges**	**83.85**	**338**	⇑*i*P		**P**		**04 42 20.0**	**-1.3**
AKTO	**Aktyubinsk**	**83.91**	**1**	P		**P**		**04 42 20.7**	**-0.7**
AKTO	**Aktyubinsk**	**83.91**	**1**	P		**P**		**04 42 20.7**	**-0.7**
AKTO	**Aktyubinsk**	**83.91**	**1**	P		**P**		**04 42 20.7**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=192,slow=4.3,SNR=15								
AKTO				LR		LR		05 19 27.5	
	comp=Z,140nm,18.3s,baz=16,slow=36								
BZS	**Buzias**	**85.04**	**336**	⇑P		**P**		**04 42 27.1**	**-0.1**
BZS	**Buzias**	**85.04**	**336**	⇑*i*P		**P**		**04 42 27.1**	**-0.1**
VRHR	**Novokhopersk**	**85.53**	**351**	*e*P		**P**		**04 42 28.4**	**-1.1**
VRHR				pmax	pmax				
	comp=N,9.0nm,0.7s								
VRHR				pmax	pmax				
	comp=E,6.0nm,0.7s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.8s								
SIRR	**Siria**	**85.60**	**337**	⇓*i*P		P		04 42 23.3	-6.7
BURAR	**Bucovina Array**	**85.70**	**340**	⇑P		**P**		**04 42 31.4**	**+0.8**
BURAR	**Bucovina Array**	**85.70**	**340**	⇑*i*P		**P**		**04 42 31.4**	**+0.8**
DRGR		**85.72**	**338**	⇑P		**P**		**04 42 30.5**	**-0.2**
DRGR		**85.72**	**338**	⇑*i*P		**P**		**04 42 30.5**	**-0.2**
VSR	**Storozhevoye**	**85.99**	**349**	*e*P		**P**		**04 42 29.8**	**-2.0**
VSR				pmax	pmax				
	comp=E,3.0nm,0.8s								
VSR				pmax	pmax				
	comp=Z,8.0nm,0.8s								
VSR				pmax	pmax				
	comp=N,9.0nm,0.9s								
KURBB	**Kurchatov Arra**	**86.38**	**14**	P		**P**		**04 42 32.9**	**-0.8**
	comp=N,5.4nm,1.1s,baz=210,slow=5.4,SNR=38								
KURK	**Kurchatov**	**86.48**	**14**	*e*P		**P**		**04 42 33.3**	**-0.9**
KURK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KURK	**Kurchatov**	**86.48**	**14**	*e*P		**P**		**04 42 33.3**	**-0.9**
	comp=Z,4.9nm,1.2s								
PKSM	**Moragy**	**86.58**	**335**	⇑P		**P**		**04 42 33.6**	**-1.2**
PKSM	**Moragy**	**86.58**	**335**	⇑*i*P		**P**		**04 42 33.6**	**-1.2**
BVAR	**Borovoye Array**	**87.37**	**9**	P		**P**		**04 42 38.1**	**-0.5**
BVAR	**Borovoye Array**	**87.37**	**9**	P		**P**		**04 42 38.1**	**-0.5**
BVAR	**Borovoye Array**	**87.37**	**9**	P		**P**		**04 42 38.1**	**-0.5**
	comp=Z,6.6nm,0.8s,baz=179,slow=5.9,SNR=28								
BRVK	**Borovoye**	**87.39**	**8**	⇑*i*P		**P**		**04 42 38.1**	**-0.5**
BRVK				pmax	pmax				
	comp=Z,9.0nm,1.2s								
BRVK	**Borovoye**	**87.39**	**8**	*e*P		**P**		**04 42 38.2**	**-0.4**
	comp=Z,4.0nm,0.7s								
AK01	**Malin Array Si**	**87.46**	**343**	*e*P		**P**		**04 42 38.2**	**-0.7**
KIEV	**Kiev**	**87.46**	**343**	⇑*e*P		**P**		**04 42 38.0**	**-1.0**
KIEV	**Kiev**	**87.46**	**343**	*e*P		**P**		**04 42 38.4**	**-0.6**
	comp=Z,6.6nm,0.8s								
AKASG	**Malin Array Be**	**87.46**	**343**	*ce*P		**P**		**04 42 37.9**	**-1.1**
AKASG				pmax	pmax				
	comp=Z,4.0nm,0.8s								
AKASG	**Malin Array Be**	**87.46**	**343**	P		**P**		**04 42 38.2**	**-0.8**
AKASG	**Malin Array Be**	**87.46**	**343**	P		**P**		**04 42 38.2**	**-0.8**
	comp=Z,4.0nm,0.9s,baz=168,slow=4.3,SNR=13								
AKASG				LR		LR		05 23 38.9	
	comp=Z,60nm,18.9s,baz=255,slow=37								
PSZ	**Piszkesteto**	**87.63**	**337**	*e*P		**P**		**04 42 39.4**	**-0.6**
PSZ				pmax	pmax				
	comp=Z,11nm,1.2s								
PSZ	**Piszkesteto**	**87.63**	**337**	⇑*i*P		**P**		**04 42 38.3**	**-1.7**
PSZ	**Piszkesteto**	**87.63**	**337**	*e*P		**P**		**04 42 39.4**	**-0.6**
	comp=Z,11nm,1.2s								
NJ2	**Nanjing**	**88.18**	**49**	*e*P		**P**		**04 42 41.5**	**-1.4**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
SOKA	**Soboth**	**88.29**	**333**	⇑*i*P		**P**		**04 42 43.5**	**+0.3**
	comp=Z,7.7nm,1.0s								
OBKA	**Obir**	**88.33**	**333**	⇑*i*P		**P**		**04 42 43.9**	**+0.5**
	comp=Z,17nm,1.2s								
CONA	**Conrad Observa**	**89.03**	**334**	⇑*i*P		**P**		**04 42 46.7**	**0.0**
	comp=Z,7.9nm,1.1s								
MOA	**Molln**	**89.56**	**333**	⇑*i*P		**P**		**04 42 49.3**	**+0.2**
	comp=Z,13nm,1.3s								
URZ	**Urewera**	**89.73**	**138**	LR		LR		05 17 19.6	
	comp=Z,87nm,18.2s,baz=185,slow=32								
OKC	**Ostrava-Krasne**	**89.87**	**336**	*e*P		**P**		**04 42 49.8**	**-0.6**
OKC	**Ostrava-Krasne**	**89.87**	**336**	*e*P		**P**		**04 42 49.8**	**-0.6**
ARU	**Arti**	**89.92**	**1**	*d*iP		**P**		**04 42 49.9**	**-0.6**
ARU								04 46 20.8	
ARU				S		**SKSac**		**04 53 19.2**	**-1.6**
ARU				SS		**SS**		**04 59 37.8**	**-3.6**
ARU				pmax	pmax				
	comp=Z,14nm,1.2s								
ARU	**Arti**	**89.92**	**1**	*e*P		**P**		**04 42 50.0**	**-0.6**
	comp=Z,13nm,1.1s								
HHC	**Hu-ho-hao-te**	**90.14**	**39**	*e*P		**P**		**04 42 52.0**	**-0.1**
HHC				sP		**sP**		**04 43 00.0**	**+3.4**
HHC				PP		**PP**		**04 46 28.0**	**+1.9**
HHC				SKS		**SKSac**		**04 53 20.8**	**-2.3**
HHC				S		**S**		**04 53 43.8**	**-1.8**
HHC				sS		**sS**		**04 53 51.0**	**-0.1**
HHC				SS		**SS**		**04 59 46.0**	**+0.6**
HHC				pmax	pmax				
	comp=Z,26nm,1.4s								
HHC				pmax	pmax				
	comp=Z,190nm,9.3s								
HHC				LR		LR			
	comp=Z,310nm,17.9s								
HHC				LR		LR			
	comp=Z,700nm,18.7s								
HHC				LR		LR			
	comp=Z,190nm,17.8s								
MBDF	**Montbardon**	**90.14**	**327**	*e*P		**P**		**04 42 53.3**	**+1.3**
	comp=Z,22nm,1.2s								
MBDF	**Montbardon**	**90.14**	**327**	*e*P		**P**		**04 42 53.3**	**+1.3**
MBDF				pmax	pmax				
	comp=Z,22nm,1.2s								
MBDF	**Montbardon**	**90.14**	**327**	*e*P		**P**		**04 42 53.3**	**+1.3**
	comp=Z,22nm,1.2s								
OBN	**Obninsk**	**90.17**	**349**	⇓*e*P		**P**		**04 42 50.3**	**-1.3**
OBN				*e*PS		**PS**		**04 54 50.9**	**-1.9**
OBN				pmax	pmax				
	comp=Z,13nm,1.2s								
OBN				MLR		MLR			
	comp=Z,100nm,19.0s								
SVE	**Sverdlovsk**	**90.38**	**2**	*e*P		**P**		**04 42 52.4**	**-0.2**
SVE				pmax	pmax				
	comp=Z,14nm,1.0s								
DAVOX	**Davos/Dischmat**	**90.41**	**330**	P		**P**		**04 42 53.2**	**-0.1**
DAVOX	**Davos/Dischmat**	**90.41**	**330**	P		**P**		**04 42 53.2**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=94,slow=16,SNR=3.7								
GERES	**GERESS Array B**	**90.59**	**334**	P		**P**		**04 42 53.8**	**-0.1**
GERES	**GERESS Array B**	**90.59**	**334**	P		**P**		**04 42 53.8**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=134,slow=4.2,SNR=6.0								
GERES				LR		LR		05 27 37.6	
	comp=Z,94nm,18.0s,baz=256,slow=38								
ORIF	**Oris-en-Rattie**	**90.69**	**327**	*e*P		**P**		**04 42 54.7**	**+0.2**
	comp=Z,38nm,1.4s								
ORIF	**Oris-en-Rattie**	**90.69**	**327**	*e*P		**P**		**04 42 54.7**	**+0.2**
ORIF				pmax	pmax				
	comp=Z,39nm,1.4s								
ORIF	**Oris-en-Rattie**	**90.69**	**327**	*e*P		**P**		**04 42 54.7**	**+0.2**
	comp=Z,38nm,1.4s								
HVS	**Khovu-Aksy**	**90.83**	**23**	*e*P		**P**		**04 42 53.5**	**-1.5**
HVS				pmax	pmax				
	comp=Z,17nm,1.2s								
ZALV	**Zalesovo Beam**	**90.87**	**16**	*i* P		**P**		**04 42 52.5**	**-2.5**
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ZALV	**Zalesovo Beam**	**90.87**	**16**	P		**P**		**04 42 53.0**	**-2.0**
ZALV	**Zalesovo Beam**	**90.87**	**16**	P		**P**		**04 42 53.0**	**-2.0**
	comp=Z,1.2nm,0.7s,baz=195,slow=4.1,SNR=6.4								
ZALV				LR		LR		05 20 37.7	
	comp=Z,80nm,18.3s,baz=247,slow=34								
KHC	**Kasperske Hory**	**90.88**	**334**	*e*P		**P**		**04 42 56.2**	**+1.0**
KHC	**Kasperske Hory**	**90.88**	**334**	*e*P		**P**		**04 42 56.2**	**+1.0**
PLCA	**Paso Flores**	**91.03**	**218**	LR		LR		05 14 57.1	
	comp=Z,130nm,19.9s,baz=100,slow=30								
PRU	**Pruhonice**	**91.24**	**335**	*e*P		**P**		**04 42 57.5**	**+0.7**
PRU	**Pruhonice**	**91.24**	**335**	*e*P		**P**		**04 42 57.5**	**+0.7**
PVCC	**Panska Ves**	**91.68**	**335**	*e*P		**P**		**04 43 00.8**	**+2.0**
PVCC	**Panska Ves**	**91.68**	**335**	*e*P		**P**		**04 43 00.8**	**+2.0**
ESDC	**Sonseca Array**	**91.86**	**318**	LR		LR		05 25 25.9	
	comp=Z,178nm,18.6s,baz=190,slow=36								
BRG	**Berggiesshubel**	**92.19**	**335**	*e*(P)		**P**		**04 43 01.5**	**+0.4**
	comp=Z,8.1nm,1.4s								
BRG	**Berggiesshubel**	**92.19**	**335**	*e*P		**P**		**04 43 01.5**	**+0.4**
BRG				pmax	pmax				
	comp=Z,8.0nm,1.4s								
BDFB	**Brasilia

BJII				S		Sn	04 43 41.1	-0.9
KPJI	**Karang Pucung**	**0.74**	**320**	P		Pn	04 43 29.2	+0.1
KPJI				S		Sn	04 43 44.3	+1.0
CMJI	**Cimerak**	**0.96**	**277**	P		Pn	04 43 31.4	+0.3
CMJI				S		Sn	04 43 47.8	+0.8
UGM	**Wanagama**	**1.10**	**91**	P		Pn	04 43 32.9	+0.3
UGM				S		Sn	04 43 50.2	+0.6
UGM	**Wanagama** baz=1.2,SNR=61	**1.10**	**91**	P		Pn	04 43 33.0	+0.3
SMRI	**Semarang**	**1.32**	**50**	P		Pn	04 43 34.7	-0.4
SMRI				S		Sn	04 43 54.5	+0.5
SMRI	**Semarang** baz=1.7,SNR=19	**1.32**	**50**	P		Pn	04 43 34.6	-0.4
CISI	**Cisompet, Garu**	**1.62**	**282**	P		Pn	04 43 38.7	+0.1
CISI				S		Sn	04 44 00.5	+0.3
CISI	**Cisompet, Garu** baz=1.8,SNR=24	**1.62**	**282**	P		Pn	04 43 38.6	+0.1
PCJI	**Pacitan**	**1.77**	**100**	P		Pn	04 43 40.5	+0.1
PCJI				S		Sn	04 44 03.6	+0.1
LEM	**Lembang**	**2.07**	**301**	P		Pn	04 43 45.8	+1.4
LEM	**Lembang** baz=2.4,SNR=5.9	**2.07**	**301**	P		Pn	04 43 45.6	+1.2
UWJI	**Ujung Watu**	**2.12**	**46**	P		Pn	04 43 43.8	-1.0
PWJI	**Pagerwojo**	**2.37**	**93**	P		Pn	04 43 48.4	+0.4
PWJI				S		Sn	04 44 17.6	+0.5
DBJI	**Dramaga**	**2.96**	**297**	P		Pn	04 43 56.5	+0.8
KRKI	**Karangkates**	**3.02**	**95**	P		Pn	04 44 01.2	+4.7
GRJI	**Gresik**	**3.19**	**72**	P		Pn	04 43 59.0	+0.2
CGJI	**Cibinong**	**3.90**	**289**	P		Pn	04 44 09.3	+1.0
GMJI	**Gumukmas**	**4.01**	**96**	P		Pn	04 44 09.9	+0.2
BLJI	**Banyuglugur**	**4.15**	**88**	P		Pn	04 44 04.7	-6.8
XMI	**Christmas Isla** baz=4.2,SNR=11	**4.46**	**235**	P		Pn	04 44 14.8	-1.0
XMIS	**Christmas Isla** baz=4.2,SNR=5.6	**4.51**	**235**	P		Pn	04 44 15.4	-1.1
KMMI	**Kalianget**	**4.59**	**80**	P		Pn	04 44 17.9	+0.3
JAGI	**Jajag, Banyuwa** baz=4.7,SNR=10	**4.73**	**97**	P		Pn	04 44 20.1	+0.8
ABJI	**Asem Bagus**	**4.78**	**89**	P		Pn	04 44 21.7	+1.6
KASI	**Kota Agung**	**5.42**	**295**	P		Pn	04 44 29.9	+1.2
SOEI	**Soe** baz=15,SNR=3.1	**14.80**	**98**	P		Pn	04 46 26.0	-8.0
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=310,slow=7.0,SNR=7.5	**18.77**	**124**	P		**P**	04 47 21.0	+0.3
FITZ	**Fitzroy Crossi** baz=18,SNR=4.6	**18.77**	**124**	P		**Pn**	04 47 22.3	-0.1
KNRA	**Kununurra** baz=20,SNR=4.9	**20.45**	**114**	P		Pn	04 47 41.7	-0.3
MEEK	**Meekatharra** baz=20,SNR=3.1	**20.59**	**156**	P		Pn	04 47 48.4	+4.8
MTN	**Manton Dam** baz=22,SNR=5.6	**21.92**	**105**	P		**P**	04 47 58.6	+4.0
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=298,slow=10,SNR=3.2	**26.95**	**119**	P		**P**	04 48 40.9	-0.4
ASAR	**Alice Springs** 0.3nm,0.4s,baz=303,slow=8.4,SNR=6.0	**28.23**	**127**	P		**P**	04 48 52.1	-0.6
STKA	**Stephens Creek** 3.1nm,0.7s,baz=316,slow=6.7,SNR=7.5	**38.27**	**133**	P		**P**	04 50 19.6	-0.2
STKA	comp=Z,92nm,19.3s,baz=206,slow=36			LR		LR	05 06 26.4	
STKA	**Stephens Creek** baz=38,SNR=4.7	**38.27**	**133**	P		**P**	04 50 20.3	+0.6
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=139,slow=9.5,SNR=3.2	**59.56**	**339**	P		**P**	04 52 59.2	-2.7

*JMA **29** 04:47:20.8±0.1,23°.40N×121°.43E, h43km±2km, M3.5*
*ISCJB **29** 04:47:22.2±0.2,23°.41N±0°.01×121°.50E±0°.02, h39km±5km,*
Error ellipse: s-maj=2.9km s-min=2.0km az=37.4
*TAP **29** 04:47:22.3,23°.42N×121°.42E, h40km, ML3.7, B*
ISC 29 04:47:22.4±1.7, 23°.41N±0°.02×121°.48E±0°.02, h37km±1km, n66, σ1§03/123, 8C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye** baz=312	**0.17**	**305**	⇑*i*P	Pn	04 47 29.1	-3.4
EHY				S	Sn	04 47 33.6	-8.9
TWF1	**Yuli** baz=248	**0.17**	**251**	⇑*i*P	Pn	04 47 29.1	-3.3
TWF1				*i* S	Sn	04 47 33.8	-8.5
TEGC	**Jichi Village** baz=15	**0.30**	**11**	*e*P	**Pn**	**04 47 31.8**	**+1.3**
TEGC				*e*S	**Sn**	**04 47 38.4**	**+0.8**
CHKT	**Chengkung** baz=179	**0.32**	**198**	⇓*i*P	**Pn**	**04 47 31.1**	**+0.5**
CHKT				*e*S	**Sn**	**04 47 37.4**	**0.0**
ESL	**Shilin** baz=6.0	**0.41**	**354**	⇓*i*P	**Pn**	**04 47 31.2**	**-0.3**
ESL				*i* S	**Sn**	**04 47 37.2**	**-1.0**
ESF	**Shoufeng Towns** baz=6.0	**0.46**	**4**	*e*P	**Pn**	**04 47 32.0**	**-0.3**
ESF				*e*S	**Sn**	**04 47 39.2**	**-0.3**
ELDTW	**Lidau** baz=234	**0.47**	**243**	⇓*i*P	**Pn**	**04 47 32.2**	**-0.4**
ELDTW				*e*S	**Sn**	**04 47 39.1**	**-0.8**
YUS	**Yu-Shan** baz=278	**0.49**	**280**	⇑*i*P	**Pn**	**04 47 33.5**	**+0.3**
YUS				S	**Sn**	**04 47 40.7**	**-0.1**
HWA	**Hwalien** baz=7.0	**0.58**	**12**	P	**Pn**	**04 47 34.1**	**-0.2**
HWA				S	**Sn**	**04 47 42.6**	**+0.2**
ALS	**Alishan** baz=285	**0.62**	**280**	⇑*i*P	**Pn**	**04 47 35.3**	**+0.2**
ALS				*e*S	**Sn**	**04 47 43.8**	**-0.1**
TWD	**Chiawan** baz=15	**0.68**	**9**	⇓*i*P	**Pn**	**04 47 34.9**	**-0.6**
TWD				*e*S	**Sn**	**04 47 43.4**	**-1.4**
TWG	**Pinlang** baz=198	**0.69**	**213**	⇓P	**Pn**	**04 47 34.4**	**-1.3**
TWG				*e*S	**Sn**	**04 47 43.4**	**-1.7**
STYT	**Tauyuan** baz=244	**0.70**	**250**	*i* P	**Pn**	**04 47 35.9**	**0.0**
STYT				S	**Sn**	**04 47 45.9**	**+0.3**
SMLT	**Sun Moon Lake** baz=318	**0.71**	**312**	⇑*i*P	**Pn**	**04 47 36.3**	**+0.3**
SMLT				*i* S	**Sn**	**04 47 46.2**	**+0.5**
TTN	**Taitung** baz=200	**0.72**	**205**	*e*P	**Pn**	**04 47 35.6**	**-0.4**
TTN				*e*S	**Sn**	**04 47 46.2**	**+0.5**
TYC	**Yuchr** baz=317	**0.75**	**311**	⇑*i*P	**Pn**	**04 47 36.9**	**+0.4**
TYC				*i* S	**Sn**	**04 47 47.0**	**+0.4**
CHN5	**Tsauling** baz=284	**0.76**	**285**	⇑*i*P	**Pn**	**04 47 37.0**	**+0.5**
CHN5				*e*S	**Sn**	**04 47 47.8**	**+1.0**
WHF	**Hehuan Shan** baz=357	**0.76**	**345**	⇓*i*P	**Pn**	**04 47 36.6**	**-0.4**
WHF				S	**Sn**	**04 47 46.3**	**-1.1**
CHN4	**Tsaushan** baz=260	**0.81**	**266**	⇑*i*P	**Pn**	**04 47 37.9**	**+0.6**
CHN4				*e*S	**Sn**	**04 47 49.2**	**+1.0**
WNT	**Mingjian** baz=291	**0.86**	**303**	*e*P	**Pn**	**04 47 38.5**	**+0.5**
WNT				*e*S	**Sn**	**04 47 50.1**	**+0.7**
SGST	**Jiashian** baz=239	**0.88**	**249**	*e*P	**Pn**	**04 47 38.9**	**+0.6**
SGST				*e*S	**Sn**	**04 47 51.2**	**+1.3**
WGK	**Gukeng** baz=288	**0.88**	**288**	*e*P	**Pn**	**04 47 38.9**	**+0.7**
WGK				*e*S	**Sn**	**04 47 51.5**	**+1.6**
TWT	**Tachien** baz=344	**0.89**	**342**	*e*P	**Pn**	**04 47 38.8**	**+0.4**
TWT				S	**Sn**	**04 47 49.5**	**-0.8**
CHN1	**Nanshi** baz=253	**0.90**	**256**	*e*P	**Pn**	**04 47 39.5**	**+0.9**
CHN1				*e*S	**Sn**	**04 47 51.7**	**+1.4**
TWK	**Hsinying** baz=259	**0.92**	**261**	*e*P	**Pn**	**04 47 39.2**	**+0.4**
TWK				*e*S	**Sn**	**04 47 51.7**	**+0.8**
ECL	**Taimali** baz=201	**0.94**	**211**	*e*P	**Pn**	**04 47 37.5**	**-1.5**
ECL				*e*S	**Sn**	**04 47 48.4**	**-2.8**
CHY	**Chiayi** baz=274	**0.97**	**275**	*e*P	**Pn**	**04 47 39.3**	**-0.1**
CHY				*e*S	**Sn**	**04 47 53.0**	**+1.0**
SSD	**Sandimen** baz=226	**1.02**	**230**	*e*P	**Pn**	**04 47 40.0**	**-0.1**
SSD				*e*S	**Sn**	**04 47 54.4**	**+1.2**
NNS	**Nan Shan** baz=8.0	**1.03**	**355**	*e*P	**Pn**	**04 47 40.2**	**-0.2**
NNS				*e*S	**Sn**	**04 47 52.6**	**-1.0**
TCU	**Taichung** baz=304	**1.04**	**315**	*e*P	**Pn**	**04 47 41.4**	**+1.1**
TCU				*e*S	**Sn**	**04 47 54.9**	**+1.3**
ENA	**Nanau** baz=7.0	**1.04**	**13**	⇓*i*P	**Pn**	**04 47 39.9**	**-0.6**
ENA				*e*S	**Sn**	**04 47 52.4**	**-1.4**
CHN3	**Shinhua** baz=263	**1.07**	**252**	*e*P	**Pn**	**04 47 41.7**	**+0.9**
TWM1	**Shoushan** baz=236	**1.13**	**239**	*e*P	**Pn**	**04 47 43.6**	**+1.9**
TWM1				*e*S	**Sn**	**04 48 00.2**	**+4.2**
SGLT	**Jiouru** baz=230	**1.13**	**233**	*e*P	**Pn**	**04 47 43.4**	**+1.7**
TWQ1	**Liyutan** baz=327	**1.14**	**326**	*e*P	**Pn**	**04 47 43.0**	**+1.3**
TWQ1				*e*S	**Sn**	**04 47 57.4**	**+1.3**
CHN8	**Yiju** baz=265	**1.16**	**267**	*e*P	**Pn**	**04 47 42.4**	**+0.3**
CHN8				*e*S	**Sn**	**04 47 57.8**	**+1.1**
EAST	**Anshuo** baz=203	**1.17**	**210**	⇓*e*P	**Pn**	**04 47 41.2**	**-1.1**
EAST				*e*S	**Sn**	**04 47 58.5**	**+1.5**
WSF	**Szhu** baz=280	**1.17**	**281**	*e*P	**Pn**	**04 47 42.6**	**+0.4**
WSF				*e*S	**Sn**	**04 47 57.4**	**+0.5**
WTCT	**Ta-ch'eng** baz=281	**1.19**	**293**	*e*P	**Pn**	**04 47 42.8**	**+0.4**
WTCT				*e*S	**Sn**	**04 47 58.1**	**+0.8**
NSY	**Sanyi** baz=328	**1.20**	**327**	*e*P	**Pn**	**04 47 43.4**	**+0.8**
NSY				*e*S	**Sn**	**04 47 59.8**	**+2.2**
SCLT	**Jiali** baz=256	**1.20**	**259**	*e*P	**Pn**	**04 47 42.6**	**0.0**
SCLT				*e*S	**Sn**	**04 47 59.2**	**+1.5**
ENTT	**Nioudou** baz=16	**1.23**	**4**	*e*P	**Pn**	**04 47 43.0**	**0.0**
ENTT				*e*S	**Sn**	**04 47 57.5**	**-0.9**
TWC	**Suao** baz=10.0	**1.24**	**16**	*e*P	**Pn**	**04 47 43.2**	**0.0**
TWC				*e*S	**Sn**	**04 47 58.5**	**-0.2**
NSK	**Sanguang** baz=10.0	**1.27**	**355**	⇓*i*P	**Pn**	**04 47 44.1**	**+0.6**
NSK				*e*S	**Sn**	**04 47 58.9**	**-0.5**
NSTT	**Nanjuang** baz=342	**1.29**	**340**	*e*P	**Pn**	**04 47 44.6**	**+0.7**
NSTT				*e*S	**Sn**	**04 48 00.5**	**+0.6**
TWE	**Neicheng** baz=11	**1.32**	**8**	*e*P	**Pn**	**04 47 44.1**	**-0.1**
TWE				*e*S	**Sn**	**04 47 59.9**	**-0.6**
LAY	**Lan-yu** baz=175	**1.36**	**177**	*e*P	**Pn**	**04 47 44.4**	**-0.5**
LAY				*e*S	**Sn**	**04 48 01.9**	**+0.2**
EGS	**Hengchun** baz=11	**1.49**	**16**	*e*P	**Pn**	**04 47 47.4**	**+0.9**
EGS				*e*S	**Sn**	**04 48 05.6**	**+0.8**
HEN	**Hengchun** baz=192	**1.55**	**206**	*e*P	**Pn**	**04 47 49.0**	**+1.6**
TWA	**Mucha** baz=16	**1.57**	**4**	*e*P	**Pn**	**04 47 48.0**	**+0.4**
TWA				*e*S	**Sn**	**04 48 06.7**	**-0.1**
NCU	**National Centr** baz=353	**1.58**	**350**	*e*P	**Pn**	**04 47 47.9**	**+0.1**
TWK1	**Hengchun** baz=196	**1.58**	**203**	*e*P	**Pn**	**04 47 48.0**	**+0.1**
TWK1				*e*S	**Sn**	**04 48 06.8**	**-0.3**
TSEB	**Hengchuen, Pin** baz=190	**1.59**	**200**	*e*P	**Pn**	**04 47 49.4**	**+1.5**
TSEB				*e*S	**Sn**	**04 48 07.8**	**+0.5**
TWB1	**Santiao Chiao** baz=11	**1.66**	**16**	*e*P	**Pn**	**04 47 49.8**	**+0.8**
TWB1				*e*S	**Sn**	**04 48 09.6**	**+0.7**
WDGT	**Dungji** baz=262	**1.68**	**265**	*e*P	**Pn**	**04 47 49.7**	**+0.6**
WDGT				*e*S	**Sn**	**04 48 07.9**	**-1.5**
NWF	**Wu-fen Shan** baz=13	**1.68**	**9**	*e*P	**Pn**	**04 47 49.5**	**+0.2**
NWF				*e*S	**Sn**	**04 48 10.0**	**+0.4**
TWS1	**Kuangyinshan** baz=16	**1.69**	**358**	*e*P	**Pn**	**04 47 49.6**	**+0.3**
TWS1				*e*S	**Sn**	**04 48 11.1**	**+1.4**
YOJ	**Yonaguni jima** baz=55	**1.75**	**53**	P	**Pn**	**04 47 51.3**	**+1.1**
YOJ				*e*S	**Sn**	**04 48 12.9**	**+1.7**
YOJ	**Yonaguni jima** baz=55	**1.75**	**53**	*e*P	**Pn**	**04 47 51.4**	**+1.1**
YOJ				*e*S	**Sn**	**04 48 13.0**	**+1.7**
TWY	**Chenhua** baz=19	**1.86**	**3**	*e*P	**Pn**	**04 47 53.0**	**+1.3**
HATJ	**Hateruma jima**	**2.23**	**73**	P	**Pn**	**04 47 57.7**	**+1.0**
HATJ				S	**Sn**	**04 48 24.1**	**+1.1**
IRIF	**Iriomote-Funau**	**2.26**	**65**	P	**Pn**	**04 47 58.4**	**+1.2**
IRIF				S	**Sn**	**04 48 25.3**	**+1.5**
JKRS	**Kuro-shima**	**2.46**	**70**	P	**Pn**	**04 48 01.3**	**+1.4**
JKRS				S	**Sn**	**04 48 30.3**	**+1.5**
JIJ	**Ishigaki jima**	**2.62**	**68**	P	**Pn**	**04 48 02.6**	**+0.5**
JIJ				S	**Sn**	**04 48 32.6**	**-0.1**
KNM	**Kinmen** baz=288	**2.96**	**290**	*e*P	**Pn**	**04 48 07.0**	**+0.2**
KNM				*e*S	**Sn**	**04 48 40.7**	**-0.3**
JTJ	**Tarama**	**3.19**	**67**	P	**Pn**	**04 48 10.9**	**+0.9**
JTJ				*e*S	**Sn**	**04 48 47.4**	**+0.5**

NNC 29 05:01:44.0±5.7, 37°.06N×70°.63E, h0km, mb3.6, mpv3.3, 3C-4D, Error ellipse: s-maj=45.1km s-min=35.0km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 1.8nm,0.3s,baz=176,slow=12,SNR=42	**6.04**	**359**	Pn	Pn	05 03 17.4	+2.8
KK31				⇑Sn	Sn	05 04 25.7	+1.2
AAK	**Ala-Archa** 4.0nm,1.4s	**6.31**	**27**	⇓Pn	Pn	05 03 17.8	-0.8
AAK				⇑Sn	Sn	05 04 30.6	-1.0
TKM2	**Tokmak 2**	**6.99**	**32**	⇓Pn	Pn	05 03 26.4	-1.5
TKM2	0.5nm,0.5s			⇑Sn	Sn	05 04 51.8	+3.5
AB31	**Akbulak array** 0.5nm,0.5s	**14.45**	**331**	⇓Pn	Pn	05 05 08.1	-1.7
AB31	0.8nm,0.8s,baz=157,slow=12,SNR=9.9			⇓Sn	Sn	05 07 49.7	-0.9
	0.5nm,0.7s,baz=157,slow=12,SNR=7.9						

*IDC **29** 05:12:27.8±1.4,5°.15S×152°.31E, h45km±11km, mb4.6/19, mb1 4.8/23, mb1mx4.8/24, mbtmp4.9/23, ML4.3/4, MS4.2/21, Ms1 4.3/21, ms1mx4.2/26, Error ellipse: s-maj=13.5km s-min=9.8km az=117.0*
*MOS **29** 05:12:28.1±0.9,5°.14S×152°.24E, h57km, mb5.6/22, MS4.6/5, Error ellipse: s-maj=9.0km s-min=7.2km az=77.6*
*AUST **29** 05:12:28.2±0.5,5°.17S×152°.51E, h62km±4km, Error ellipse: s-maj=5.6km s-min=3.4km az=90.0*
*ISCJB **29** 05:12:28.2±0.7,5°.17S±0°.03×152°.21E±0°.03, h60km±6km, mb5.2/132, Error ellipse: s-maj=4.9km s-min=4.2km az=139.4*
*NEIC **29** 05:12:29.6±0.7,5°.17S×152°.27E, h62km±6km, mb5.5/78, Error ellipse: s-maj=4.8km s-min=4.1km az=162.0*
*GCMT **29** 05:12:30.3±0.2,5°.34S×152°.36E, h56km±2km, MW5.3, Moment Tensor Solution. s71,c110; s79,c103; Moment tensor: Scale 10^17 Nm; Mrr 0.25±.03; Mθθ -1.14±.02; Mφφ 0.90±.03; Mrθ 0.06±.03; Mθφ 0.19±.02; Mφr 0.14±.03; Best double couple: Mo 1.10000×10^17 NP1: φs 51.00000°, δ 83.00000°, λ 10.00000°. NP2: φs 320.00000°, δ 80.00000°, λ 173.00000°. Principal axes: T 0.9500, Plg 12.0000°, Azm 275.0000°; N 0.2200, Plg 78.0000°, Azm 86.0000°; P -1.1600, Plg 2.0000°, Azm 185.0000°; Data Used: II IU IC G CN CU.*
*DJA **29** 05:12:31.0±0.7,5°.S±4°×15°.2E±°, h78km±8km, M5.4/20, mb5.2/20, mB5.5/10, MLv6.0/1, Mw(mB) 5.0/10*
*BJI **29** 05:12:33.4,5°.35S×151°.57E, h79km, mB5.1/36, mb4.9/44, Ms5.0/30, Ms7 4.5/31*
ISC 29 05:12:31.5±0.3, 5°.18S±0°.04×152°.30E±0°.05, h78km±2km, h78km:pP-P, n449, σ1§26/505, mb5.3/133, 26C-24D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul** baz=1.0,SNR=532	**0.99**	**352**	⇑P	Pn	05 12 46.4	-4.1
PMG	**Port Moresby** 366nm,0.9s,20µm5.5nm	**6.60**	**230**	P	**Pn**	**05 14 05.3**	**-0.7**
PMG	**Port Moresby**	**6.60**	**230**	*e*Pn	**Pn**	**05 14 06.2**	**+0.3**
PMG				S	**Sn**	**05 15 16.4**	**-3.4**
PMG				*e*Sn	Sn	05 15 19.4	-0.4
PMG	**Port Moresby** 43nm,0.3s,baz=66,slow=7.1,SNR=76	**6.60**	**230**	P	**Pn**	**05 14 03.6**	**-2.3**
PMG	67nm,0.3s,baz=157,slow=7.7,SNR=3.5			S	**Sn**	**05 15 16.4**	**-3.4**
PMG	**Port Moresby** baz=6.8,SNR=56	**6.60**	**230**	⇓P	**Pn**	**05 14 05.9**	**-0.1**
PMG	baz=6.8,SNR=56			⇓P	**Pn**	**05 14 05.9**	**-0.1**
PMG	baz=6.8,SNR=56			⇓P	**Pn**	**05 14 05.9**	**-0.1**
HNR	**Honiara**	**8.68**	**120**	P	Pn	05 14 30.1	-4.3
HNR	**Honiara** 16nm,0.3s,baz=236,slow=3.0,SNR=15	**8.68**	**120**	P	Pn	05 14 30.0	-4.3
JAY	**Jayapura**	**11.87**	**282**	P	**Pn**	**05 15 16.4**	**-1.4**
JAY	**Jayapura** 0.2nm,0.3s,baz=110,slow=12,SNR=3.2	**11.87**	**282**	P	**Pn**	**05 15 16.4**	**-1.4**
GENI	**Genyem** 291nm,1.6s,7µm	**12.37**	**282**	P	**Pn**	**05 15 27.1**	**+2.4**
COEN	**Coen**	**12.52**	**225**	*e*Pn	**Pn**	**05 15 26.5**	**-0.3**
COEN	**Coen** baz=13,SNR=15	**12.52**	**225**	P	**Pn**	**05 15 26.4**	**-0.3**
PATS	**Pohnpei** baz=13	**13.37**	**27**	⇑P	Pn	05 15 34.0	-4.0
CTA	**Charters Tower**	**15.94**	**201**	P	**Pn**	**05 16 08.7**	**-2.5**
CTA	**Charters Tower** 0.9nm,0.3s,baz=25,slow=14,SNR=22	**15.94**	**201**	P	**Pn**	**05 16 08.7**	**-2.5**
CTA	comp=Z,1µm,19.9s,baz=10,slow=35			LR	LR	05 21 40.1	
CTA	**Charters Tower** baz=16	**15.94**	**201**	⇓P	**Pn**	**05 16 11.2**	**-0.1**
CTAO	**Charters Tower**	**15.94**	**201**	*e*P	**Pn**	**05 16 10.8**	**-0.4**
CTAO	comp=Z,55nm,1.0s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,55nm,1.0s	**15.94**	**201**	*e*Pn	**Pn**	**05 16 10.8**	**-0.4**
BAKI	**Biak**	**16.64**	**283**	P	P	05 16 33.5	+12
QIS	**Mount Isa** baz=20,SNR=54	**19.64**	**218**	⇑P	**Pn**	**05 16 55.2**	**-1.0**
EIDS	**Eidsvold** comp=Z,140nm,1.4s	**20.11**	**183**	*e*P	**P**	**05 16 59.1**	**+0.1**
EIDS	**Eidsvold** baz=20,SNR=6.9	**20.11**	**183**	P	**P**	**05 16 58.8**	**-0.2**
FAKI	**Fak Fak** comp=Z,63nm,1.0s,comp=Z,1µm	**20.12**	**276**	P	**P**	**05 17 00.5**	**+1.1**
FAKI	**Fak Fak** baz=20,SNR=4.2	**20.12**	**276**	P	**P**	**05 17 00.4**	**+1.1**
KDU	**Kakadu** baz=21,SNR=163	**20.94**	**248**	P	**P**	**05 17 07.4**	**-0.8**
SWI	**Sorong** comp=Z,111nm,1.0s,comp=Z,1µm	**21.44**	**281**	P	**P**	**05 17 15.0**	**+1.4**
SWI	**Sorong** baz=22	**21.44**	**281**	⇑P	**P**	**05 17 14.9**	**+1.4**
RMQ	**Roma** baz=22,SNR=27	**21.45**	**189**	⇑P	**P**	**05 17 13.6**	**0.0**
NOUC	**Port Laguerre**	**21.60**	**142**	*e*P	**P**	**05 17 13.6**	**-1.5**
DZM	**Mont Dzumac** comp=Z,195nm,1.4s	**21.66**	**142**	*e*P	**P**	**05 17 15.6**	**-0.3**
DZM	comp=Z,782nm,24.2s			*e*S	**S**	**05 21 09.5**	**-2.2**
DZM	comp=Z,2µm,26.8s			*e*LR	LR	05 22 32.4	
DZM	**Mont Dzumac**	**21.66**	**142**	P	**P**	**05 17 15.7**	**-0.2**
DZM	**Mont Dzumac** comp=Z,46nm,1.0s,baz=296,slow=7.6,SNR=31	**21.66**	**142**	P	**P**	**05 17 15.7**	**-0.2**
DZM	comp=Z,956nm,19.1s,baz=358,slow=33			LR	LR	05 24 31.9	
MTN	**Manton Dam** baz=22,SNR=10	**22.23**	**249**	⇓P	**P**	**05 17 20.8**	**-1.2**
QLP	**Quilpie** baz=23,SNR=54	**22.63**	**199**	P	**P**	**05 17 25.8**	**-0.3**
WRAB	**Tennant Creek**	**22.80**	**228**	*c* *i*P	**P**	**05 17 27.2**	**-0.8**
WRAB	comp=Z,973nm,1.7s			pmax	pmax		
WRAB	comp=Z,2µm,16.0s			MLR	MLR		
WRAB	**Tennant Creek** comp=Z,448nm,1.4s	**22.80**	**228**	*e*P	**P**	**05 17 27.3**	**-0.8**
WRAB	**Tennant Creek** comp=Z,1µm,0.9s	**22.80**	**228**	P	**P**	**05 17 27.0**	**-1.0**
WRA	**Warramunga Arr**	**22.82**	**228**	P	**P**	**05 17 27.2**	**-1.0**
WRA				S	**S**	**05 21 34.1**	**+2.5**
WRA				ScP	**ScP**	**05 24 52.1**	**+4.1**
WRA	**Warramunga Arr** comp=Z,144nm,0.9s,baz=53,slow=8.5,SNR=91	**22.82**	**228**	P	**P**	**05 17 27.2**	**-1.0**
WRA	comp=Z,30nm,1.1s,baz=53,slow=19,SNR=16			S	**S**	**05 21 34.1**	**+2.5**
WRA	comp=Z,5.5nm,1.0s,baz=54,slow=3.1,SNR=5.7			ScP	**ScP**	**05 24 52.1**	**+4.1**
WRA	comp=Z,626nm,19.7s,baz=60,slow=38			LR	LR	05 27 00.5	
ARMA	**Armidale** comp=Z,596nm,3.0s	**25.11**	**181**	*e*P	**P**	**05 17 49.7**	**+0.4**
ARMA	**Armidale** baz=25,SNR=7.0	**25.11**	**181**	⇑P	**P**	**05 17 49.7**	**+0.4**
KNRA	**Kununurra** baz=26,SNR=209	**25.35**	**244**	⇑P	**P**	**05 17 51.4**	**-0.1**
AS16	**Alice Springs** baz=26	**25.49**	**222**	⇑P	**P**	**05 17 53.0**	**+0.2**
AS14	**Alice Springs** baz=26	**25.52**	**222**	⇑P	**P**	**05 17 53.0**	**0.0**
AS02	**Alice Springs** baz=26	**25.52**	**222**	⇑P	**P**	**05 17 53.2**	**+0.2**
AS31	**Alice Springs**	**25.53**	**222**	*e*P	**P**	**05 17 53.0**	**0.0**
ASAR	**Alice Springs**	**25.53**	**222**	P	**P**	**05 17 53.0**	**0.0**
ASAR				ScP	**ScP**	**05 25 00.8**	**+5.4**
ASAR	**Alice Springs** comp=Z,46nm,0.5s,baz=58,slow=8.9,SNR=128	**25.53**	**222**	P	**P**	**05 17 53.0**	**0.0**
ASAR	comp=Z,2.6nm,0.9s,baz=58,slow=3.6,SNR=5.0			ScP	**ScP**	**05 25 00.8**	**+5.4**
AS10	**Alice Springs** baz=26	**25.55**	**222**	⇑P	**P**	**05 17 53.3**	**+0.1**
CMSA	**Cobar Meteorol** baz=27,SNR=53	**26.94**	**193**	P	**P**	**05 18 04.9**	**-0.7**
SOEI	**Soe**	**28.15**	**259**	P	**P**	**05 18 17.4**	**+0.6**

comp=Z,98nm,1.1s,comp=Z,2µm
SOEI Soe 28.15 259 ⇓P P 05 18 17.0 +0.2
baz=28,SNR=8.7
STKA Stephens Creek 28.39 199 *e*P P 05 18 17.9 -0.6
STKA Stephens Creek 28.39 199 P P 05 18 17.9 -0.7
comp=Z,6.1nm,0.5s,baz=7.0,slow=8.0,SNR=16
STKA LR LR 05 29 22.8
comp=Z,808nm,21.6s,baz=19,slow=36
STKA Stephens Creek 28.39 199 ⇑P P 05 18 17.6 -1.0
baz=29,SNR=14
FITZ Fitzroy Crossi 29.04 242 *e*P P 05 18 24.0 -0.6
comp=Z,138nm,0.8s
FITZ Fitzroy Crossi 29.04 242 P P 05 18 23.9 -0.6
comp=Z,147nm,0.8s,baz=75,slow=7.2,SNR=289
FITZ LR LR 05 31 44.0
comp=Z,563nm,19.4s,baz=67,slow=40
FITZ Fitzroy Crossi 29.04 242 P P 05 18 24.0 -0.6
baz=29,SNR=178
YNG Young 29.20 187 ⇓P P 05 18 24.8 -0.9
baz=29
LUWI Luwuk 29.76 277 ⇓P P 05 18 29.9 -1.1
baz=30,SNR=3.4
WRKA Warakurna 30.33 227 P P 05 18 35.3 -0.6
baz=31,SNR=54
HTT Hallett 30.74 202 ⇓P P 05 18 39.1 -0.3
baz=31,SNR=11
APSI Ampana 30.89 277 P P 05 18 41.1 +0.1
comp=Z,122nm,1.2s,comp=Z,1µm
BBOO Buckleboo 31.39 207 *e*P P 05 18 44.6 -0.5
comp=Z,773nm,1.3s
BBOO Buckleboo 31.39 207 ⇑P P 05 18 44.9 -0.2
baz=32,SNR=15
KAPI Kappang 32.42 269 *e*P P 05 18 53.7 -0.6
comp=Z,53nm,0.8s
SPSI Sidrap Palu 32.45 271 P P 05 18 53.5 -1.1
comp=Z,20nm,1.1s
TTSI Tana Toraja 32.46 272 P P 05 18 55.0 +0.2
comp=Z,17nm,1.3s
ARPS Mount Arapiles 32.87 196 ⇓P P 05 18 57.7 -0.3
baz=33,SNR=9.6
JCJ Chichijima 33.55 344 LR LR 05 30 47.5
comp=Z,400nm,19.6s,baz=177,slow=33
FORT Forrest 34.18 219 *e*P P 05 19 09.5 0.0
comp=Z,92nm,0.7s
FORT Forrest 34.18 219 P P 05 19 09.4 0.0
baz=34,SNR=35
MYLDM Lahad Datu 35.29 286 P P 05 19 21.7 +2.4
MYLDM Lahad Datu 35.29 286 P P 05 19 19.9 +0.6
comp=Z,77nm,1.4s
MYLDM Lahad Datu 35.29 286 *e*P P 05 19 20.0 +0.8
comp=Z,147nm,1.4s
MBWA Marble Bar 35.35 240 *e*P P 05 19 18.8 -0.9
SDKM Sandakan 36.66 287 P P 05 19 30.2 -0.9
BBKI Banjar Baru 37.38 271 P P 05 19 37.3 +0.1
comp=Z,53nm,1.3s
BYJI Banyuwangi 37.79 263 P P 05 19 39.4 -1.2
JAGI Jajag, Banyuwa 38.00 263 *e*P P 05 19 39.7 -2.7
comp=Z,46nm,1.0s
MEEK Meekatharra 38.57 233 ⇑P P 05 19 46.8 -0.3
baz=39,SNR=41
KMBL Kambalda 38.63 224 ⇑P P 05 19 46.9 -0.6
baz=39,SNR=14
URZ Urewera 39.91 149 P P 05 19 58.2 +0.2
URZ Urewera 39.91 149 P P 05 19 58.2 +0.2
comp=Z,6.6nm,0.7s,baz=288,slow=7.4,SNR=6.8
BTM Bintulu 40.05 281 P P 05 20 00.9 +1.4
GIRL Giralia 40.64 241 P P 05 20 04.8 +0.5
baz=41,SNR=14
SBUM Sibu 40.75 280 *e*P P 05 20 02.2 -3.0
comp=Z,123nm,2.1s
UGM Wanagama 41.58 264 ⇑P P 05 20 11.3 -0.8
baz=42,SNR=3.5
KLBR Kellerberrin 41.68 227 ⇑P P 05 20 11.7 -1.0
baz=42,SNR=18
MORW Morawa 41.72 231 ⇓P P 05 20 12.5 -0.5
baz=42,SNR=15
BLDU Ballidu 41.95 229 ⇓P P 05 20 13.8 -1.1
baz=42,SNR=16
YHNB Yeheng 42.26 316 *e*P P 05 20 17.5 -0.1
KSM Kuching 42.46 278 P P 05 20 18.6 -0.7
KSM Kuching 42.46 278 *e*P P 05 20 19.0 -0.2
comp=Z,43nm,0.9s
KSM Kuching 42.46 278 ⇑P P 05 20 19.0 -0.2
baz=43
NWAO Narrogin (SRO) 42.76 225 P P 05 20 21.0 -0.5
NWAO Narrogin (SRO) 42.76 225 P P 05 20 21.0 -0.5
comp=Z,16nm,0.9s,baz=74,slow=7.6,SNR=6.5
JNU Nakatsue 43.17 333 P P 05 20 24.1 -0.6
JNU Nakatsue 43.17 333 P P 05 20 24.1 -0.6
comp=Z,7.8nm,0.8s,baz=161,slow=13,SNR=3.5
JNU LR LR 05 36 48.7
comp=Z,139nm,18.8s,baz=337,slow=34
MJAR Matsushiro Arr 43.55 343 ScP ScP 05 26 01.9 +2.9
MJAR Matsushiro Arr 43.55 343 ScP ScP 05 26 01.9 +2.9
comp=Z,10nm,1.0s,baz=169,slow=5.0,SNR=13
MJAR LR LR 05 37 09.8
comp=Z,170nm,21.1s,baz=175,slow=34
MAJO Matsushiro 43.55 343 *e*P P 05 20 28.3 +0.6
MAJO pmax pmax
comp=Z,72nm,1.2s
MAJO MLR MLR
comp=Z,668nm,17.0s
RKGY Rocky Gully 43.86 223 ⇑P P 05 20 30.1 -0.2
baz=44,SNR=8.0
CISI Cisompet, Garu 44.26 265 *e*P P 05 20 31.6 -2.2
comp=Z,122nm,0.8s
CISI Cisompet, Garu 44.26 265 P P 05 20 32.0 -1.8
baz=44,SNR=8.5
LEM Lembang 44.45 266 ⇑P P 05 20 35.1 -0.4
baz=45
XMIS Christmas Isla 46.47 261 ⇓P P 05 20 50.8 -0.4
baz=47
DLV T Lat 46.77 292 *e*P P 05 20 53.1 -0.6
KSRS Korea Array 48.12 334 P P 05 21 05.8 +2.2
comp=Z,1.6nm,0.8s,baz=135,slow=6.8,SNR=3.3
KSAR Wonju Array Be 48.12 334 P P 05 21 05.8 +2.1
QIZ Qiongzhong 48.23 301 P P 05 21 05.0 +0.2
QIZ pP pP 05 21 23.5 -0.7
QIZ sP sP 05 21 33.0 0.0
QIZ S S 05 27 57.0 -1.9
QIZ pmax pmax
comp=Z,22nm,1.5s
QIZ pmax pmax
comp=Z,120nm,3.7s
NJ2 Nanjing 48.83 322 *e*P P 05 21 08.0 -1.2
NJ2 S S 05 28 08.0 +1.2
NJ2 pmax pmax
comp=Z,50nm,1.0s
NJ2 LR LR
comp=Z,3µm,30.5s
NJ2 LR LR
comp=Z,3µm,28.0s
NJ2 LR LR
comp=Z,340nm,21.4s
MYKOM Kota Tinggi 48.89 277 P P 05 21 10.8 +0.8
MYKOM Kota Tinggi 48.89 277 *e*P P 05 21 09.8 -0.2
comp=Z,88nm,1.1s
KGM Kluang 49.45 277 P P 05 21 14.7 +0.5
ASAJ Asahikawa 49.85 351 LR LR 05 38 13.7
comp=Z,221nm,21.7s,baz=37,slow=31
KTGM Kuala Trenggan 50.19 281 P P 05 21 20.4 +0.5
WHN Wuhan 50.79 317 P P 05 21 25.5 +1.4
WHN S S 05 28 34.3 +0.1
WHN LR LR
comp=Z,660nm,18.0s
FRIM Kepong 51.31 278 P P 05 21 26.6 -1.7
BKNI Bangkinang 51.48 275 ⇑P P 05 21 29.0 -0.6
baz=52
VLA Vladivostok 51.51 341 P P 05 21 27.3 -1.9
VLA S S 05 28 42.2 -1.5
VLA pmax pmax
comp=Z,26nm,0.7s
PPI Padang Panjang 52.03 273 ⇓P P 05 21 32.5 -1.2
baz=52
IPM Ipoh 52.10 280 P P 05 21 31.5 -2.7
IPM Ipoh 52.10 280 *e*P P 05 21 32.8 -1.4
comp=Z,69nm,0.9s
USRK Ussuriysk Arra 52.45 342 P P 05 21 36.5 +0.3
comp=Z,1.8nm,0.7s,baz=171,slow=12,SNR=5.3
USRK ScP ScP 05 26 38.9 +2.6
comp=Z,6.3nm,1.0s,baz=180,slow=4.4,SNR=5.2
USRK LR LR 05 41 48.3
comp=Z,117nm,19.9s,baz=157,slow=34
KULM Kulim 52.61 281 P P 05 21 38.0 0.0
KULM Kulim 52.61 281 *e*P P 05 21 36.5 -1.5
MDJ Mudanjiang 53.60 340 P P 05 21 45.8 +1.1
MDJ pP pP 05 22 05.8 +1.5
MDJ sP sP 05 22 14.8 +1.7
MDJ PcP PcP 05 22 50.0 -0.3
MDJ PP PP 05 23 47.8 +1.5
MDJ ScP ScP 05 26 40.8 -0.6
MDJ PcS PcS 05 26 49.5 +0.2
MDJ S S 05 29 15.0 +2.7
MDJ ScS ScS 05 31 28.5 +1.7
MDJ pmax pmax
comp=Z,12nm,2.2s
MDJ pmax pmax
comp=Z,96nm,3.5s
MDJ LR LR
comp=Z,260nm,33.3s
MDJ LR LR
comp=Z,540nm,31.4s
MDJ LR LR
comp=Z,190nm,27.4s
PSI Prapat 53.91 277 P P 05 21 45.9 -1.7
baz=54,SNR=22
CHAI Chaiyaphum 54.02 294 P P 05 21 48.3 +0.1
comp=Z,4.1nm,0.9s,comp=Z,462nm
ENH Enshi 54.05 313 *e*P P 05 21 47.6 -0.6
comp=Z,23nm,1.0s
GYA Guiyang 54.23 308 P P 05 21 51.0 +1.2
GYA pP pP 05 22 11.8 +2.4
GYA sP sP 05 22 22.5 +4.3
GYA PcP PcP 05 22 54.5 +1.2
GYA PP PP 05 23 55.0 +2.6
GYA ScP ScP 05 26 42.0 -2.7
GYA PcS PcS 05 26 52.8 -0.3
GYA S S 05 29 20.5 -1.1
GYA sS sS 05 29 55.5 +0.4
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,780nm,20.4s
GYA LR LR
comp=Z,660nm,21.0s
GYA LR LR
comp=Z,720nm,20.6s
SLVN Son La 54.26 301 *e*P P 05 21 50.6 +0.6
CN2 Changchun 54.44 336 *e*P P 05 21 55.0 +4.2
CN2 *e*pP pP 05 22 16.0 +5.5
CN2 *e*S S 05 29 27.0 +3.4
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
GSI Gunungsitoli 55.04 275 ⇓P P 05 21 54.2 -1.5
baz=55
PBKT Sadao Pong 55.15 294 P P 05 21 57.2 +0.8
comp=Z,19nm,1.0s
SURT Suratani 55.15 285 P P 05 21 55.9 -0.6
comp=Z,12nm,1.3s
HABR Khabarovsk 55.53 346 P P 05 21 56.9 -1.6
HABR *e*PP pP 05 22 14.7 -3.6
HABR *e*SP sP 05 22 23.0 -4.1
HABR *e* 05 22 56.3
HABR *e* 05 24 01.0
HABR S S 05 29 36.6 -1.3
HABR *e* 05 31 39.2
HABR *e*SS SS 05 33 23.4 -0.8
HABR pmax pmax
comp=Z,171nm,2.5s
HABR MLR MLR
comp=Z,78nm,17.0s
BJI Beijing 55.94 327 P P 05 22 02.3 +0.7
BJI S S 05 29 45.0 +1.3
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI pmax pmax
comp=Z,200nm,4.3s
BJI LR LR
comp=Z,370nm,23.8s
BJI LR LR
comp=Z,360nm,23.4s
BJI LR LR
comp=Z,180nm,24.5s
NANT Nan 56.13 297 P P 05 22 03.4 0.0
comp=Z,150nm,0.9s,comp=Z,2µm
UTHA Uthaitani 56.24 292 P P 05 22 04.7 +0.5
comp=Z,5.3nm,0.9s
XAN Xi'an 56.55 317 P P 05 22 05.8 -0.4
XAN pP pP 05 22 24.3 -1.8
XAN pmax pmax
comp=Z,5.0nm,0.9s
KMI Kunming 56.79 304 P P 05 22 09.3 +1.0
KMI pP pP 05 22 26.0 -2.1
KMI sP sP 05 22 37.3 +0.5
KMI S S 05 29 54.0 -2.0
KMI sS sS 05 30 30.0 +0.3
KMI pmax pmax
comp=Z,18nm,1.1s
KMI pmax pmax
comp=Z,83nm,5.4s
KMI LR LR
comp=Z,220nm,18.5s
KMI LR LR
comp=Z,200nm,21.8s
KMI LR LR
comp=Z,180nm,23.2s
KHLT Khaolaem Dam 56.81 291 P P 05 22 10.2 +1.9
comp=Z,8.2nm,1.4s
LAMP Lampang 56.99 296 P P 05 22 10.3 +0.8
comp=Z,14nm,0.9s,comp=Z,112nm
KLR Kul'dur 57.07 344 *e*P pP 05 22 25.6 -3.8
KLR pmax pmax
comp=Z,110nm,1.8s
CM31 Chiang Mai Arr 57.59 296 *e*P P 05 22 14.2 +0.5
comp=Z,26nm,0.9s
CMAR Chiang Mai Arr 57.59 296 P P 05 22 14.3 +0.6
CMAR ScP ScP 05 27 02.2 +2.7
CMAR Chiang Mai Arr 57.59 296 P P 05 22 14.3 +0.6
comp=Z,19nm,0.9s,baz=111,slow=5.5,SNR=88
CMAR ScP ScP 05 27 02.2 +2.7
comp=Z,0.7nm,0.3s,baz=118,slow=2.8,SNR=4.1
CMAR LR LR 05 46 59.0
comp=Z,92nm,19.4s,baz=284,slow=36
CHTO Chiang Mai 57.70 296 *e*P P 05 22 14.3 -0.2
CHTO pmax pmax
comp=Z,35nm,1.2s
CHTO Chiang Mai 57.70 296 *e*P P 05 22 14.3 -0.2
comp=Z,35nm,1.2s
CMAI Chiengmai2 57.98 297 P P 05 22 17.4 +0.7
comp=Z,17nm,1.1s
PPT Papeete 58.09 107 LR LR 05 42 26.3
comp=Z,142nm,19.2s,baz=262,slow=31
PPT2 Papeete2 58.09 107 *e*LR LR 05 39 31.9
comp=Z,187nm,24.5s
PET Petropavlovsk 58.24 5 *e*P P 05 22 15.7 -1.9
PET *e*S S 05 30 09.4 -4.0
PET *e*SS SS 05 34 02.3 -4.3
PEA0B Petropavlovsk- 58.25 4 P P 05 22 17.4 -0.3
PETK Petropavlovsk- 58.25 4 P P 05 22 17.1 -0.6
PETK Petropavlovsk- 58.25 4 P P 05 22 17.1 -0.6
PETK Petropavlovsk- 58.25 4 P P 05 22 17.1 -0.6
comp=Z,5.2nm,0.9s,baz=163,slow=7.5,SNR=9.8
PETK LR LR 05 43 46.1
comp=Z,160nm,20.2s,baz=170,slow=32
MHMT Maesarieng 58.41 295 P P 05 22 20.3 +0.8
comp=Z,9.5nm,1.1s,comp=Z,288nm
CD2 Chengdu 58.61 311 P P 05 22 21.0 +0.3
CD2 pP pP 05 22 42.3 +1.7
CD2 sP sP 05 22 52.0 +2.6
CD2 PcP PcP 05 23 10.5 +0.3
CD2 PP PP 05 24 33.8 +2.5
CD2 S S 05 30 17.3 -1.9
CD2 sS sS 05 30 53.3 +0.1
CD2 ScS ScS 05 31 59.3 -4.4
CD2 SS SS 05 34 13.0 -0.4
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,130nm,7.2s
CD2 LR LR
comp=Z,400nm,19.0s
CD2 LR LR
comp=Z,240nm,15.5s
CD2 LR LR
comp=Z,270nm,20.2s
TBI Tubuai 58.86 114 *e*LR LR 05 39 53.9
comp=Z,548nm,33.0s
HHC Hu-ho-hao-te 59.07 325 *e*P P 05 22 24.5 +0.7
HHC pP pP 05 22 45.0 +1.3
HHC sP sP 05 22 54.8 +2.3
HHC PP PP 05 24 38.0 +2.8
HHC S S 05 30 22.3 -2.7
HHC SS SS 05 34 22.0 +1.6
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,280nm,7.4s
HHC LR LR
comp=Z,470nm,16.1s
HHC LR LR
comp=Z,520nm,16.5s
HHC LR LR
comp=Z,520nm,16.8s
FX1 Attu Island--F 60.49 14 *e*P P 05 22 32.6 -0.5
LZH Lanzhou 61.16 316 *e*P P 05 22 39.8 +1.6
LZH pP pP 05 22 58.8 +0.5
LZH sP sP 05 23 07.0 0.0
LZH PcP PcP 05 23 22.3 +1.9
LZH *e*S S 05 30 55.3 +3.2
LZH sS sS 05 31 26.5 +0.3
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,91nm,4.8s
LZH LR LR
comp=Z,170nm,16.2s
LZH LR LR
comp=Z,280nm,16.7s
LZH LR LR
comp=Z,1µm,18.9s
DRV Dumont d'Urvil 61.97 186 PP PP 05 24 30.0 -30
DRV S S 05 31 02.0 +1.1
DRV SS SS 05 35 08.0 +3.5
DRV R 05 41 00.0
GTA Gaotai 65.60 318 *e*P P 05 23 08.3 +0.8
GTA pP pP 05 23 28.0 +0.2
GTA sP sP 05 23 37.0 +0.6
GTA ScP 05 27 38.0
GTA S S 05 31 46.3 -0.9
GTA sS sS 05 32 19.3 -2.4
GTA SS SS 05 36 01.8 -0.9
GTA pmax pmax
comp=Z,11nm,0.8s
GTA pmax pmax
comp=Z,82nm,5.7s
GTA LR LR
comp=Z,130nm,12.1s
GTA LR LR
comp=Z,120nm,14.0s
GTA LR LR
comp=Z,160nm,16.9s
ULN Ulaanbaatar 66.06 328 *e*P P 05 23 11.1 +0.8
comp=Z,42nm,2.0s
SONM Songino Array 66.38 328 P P 05 23 12.6 +0.3
SONM Songino Array 66.38 328 P P 05 23 12.6 +0.3
comp=Z,3.7nm,0.9s,baz=137,slow=4.8,SNR=20
SONM LR LR 05 50 39.1
comp=Z,181nm,19.1s,baz=53,slow=34
LSA Lhasa 68.04 305 *e*P P 05 23 23.4 -0.2
LSA pmax pmax
comp=Z,22nm,1.0s
LSA Lhasa 68.04 305 *e*P P 05 23 23.4 -0.2
comp=Z,22nm,1.0s
UNV Unalaska Valle 68.18 25 *e*P P 05 23 21.9 -1.4
ZAK Zakamensk 69.56 329 *e*P P 05 23 31.6 -0.6
ZAK pmax pmax
comp=Z,11nm,1.1s
TAPN Taplejung 70.17 301 *e*P P 05 23 36.5 -0.2
comp=Z,61nm,1.0s
TAPN Taplejung 70.17 301 *e*P P 05 23 36.5 -0.2
comp=Z,61nm,1.0s
ODAN Odare 70.31 301 *e*P P 05 23 37.2 -0.2
comp=Z,76nm,0.8s
ODAN Odare 70.31 301 *e*P P 05 23 37.2 -0.2
comp=Z,76nm,0.8s
RAMN Ramite 71.01 301 *e*P P 05 23 41.2 -0.5
comp=Z,23nm,0.9s
RAMN Ramite 71.01 301 *e*P P 05 23 41.2 -0.5
comp=Z,23nm,0.9s
JIRN Jiri 71.56 301 *e*P P 05 23 44.9 -0.2
comp=Z,22nm,0.7s
JIRN Jiri 71.56 301 *e*P P 05 23 44.9 -0.2
comp=Z,22nm,0.7s
GUN Gumba 71.89 301 *e*P P 05 23 46.8 -0.3
comp=Z,86nm,0.9s
GUN Gumba 71.89 301 *e*P P 05 23 46.8 -0.3
comp=Z,86nm,0.9s
RKT Rikitea 72.11 113 *e*LR LR 05 46 00.8
comp=Z,591nm,30.8s
PKI Pulchoki 72.20 301 *e*P P 05 23 48.2 -0.7
comp=Z,72nm,1.1s
PKI Pulchoki 72.20 301 *e*P P 05 23 48.3 -0.7
PKI pmax pmax
comp=Z,53nm,1.1s
PKI Pulchoki 72.20 301 *e*P P 05 23 48.3 -0.7
comp=Z,53nm,1.1s
PKIN Phulchoki 72.21 301 *e*P P 05 23 48.3 -0.6
comp=Z,53nm,1.1s
KKN Kakani 72.37 301 *e*P P 05 23 49.4 -0.4
comp=Z,40nm,0.7s
KKN Kakani 72.37 301 *e*P P 05 23 49.4 -0.4
KKN pmax pmax
comp=Z,40nm,0.7s
KKN Kakani 72.37 301 *e*P P 05 23 49.4 -0.4
comp=Z,40nm,0.7s
VNDA Vanda 72.47 178 *e*P P 05 23 49.4 +0.2
comp=Z,14nm,1.4s
VNDA Vanda 72.47 178 P P 05 23 49.9 +0.7
comp=Z,4.3nm,0.7s,baz=324,slow=6.8,SNR=26
VNDA LR LR 05 54 20.5
comp=Z,137nm,18.3s,baz=6.0,slow=35
DMN Daman 72.47 301 *e*P P 05 23 50.2 -0.3
comp=Z,131nm,1.0s
DMN Daman 72.47 301 *e*P P 05 23 50.2 -0.3
comp=Z,131nm,1.0s
GKN Gorkha 72.97 301 *e*P P 05 23 53.0 -0.3
comp=Z,108nm,1.1s
GKN Gorkha 72.97 301 *e*P P 05 23 53.0 -0.3
comp=Z,108nm,1.1s
KOLN Koldanda 73.80 301 *e*P P 05 23 57.7 -0.5
comp=Z,85nm,1.0s
KOLN Koldanda 73.80 301 *e*P P 05 23 57.7 -0.5
comp=Z,85nm,1.0s
DANN Dangsing 73.81 301 *e*P P 05 23 57.7 -0.7
comp=Z,40nm,0.8s
DANN Dangsing 73.81 301 *e*P P 05 23 57.7 -0.7
comp=Z,40nm,0.8s
GAMB Gambell 73.89 16 *e*P P 05 23 58.0 +0.4
comp=Z,29nm,1.1s
PYUN Piuthan 74.40 301 *e*P P 05 24 01.0 -0.8
comp=Z,116nm,0.9s
PYUN Piuthan 74.40 301 *e*P P 05 24 01.0 -0.8
comp=Z,116nm,0.9s
HVS Khovu-Aksy 75.09 326 *d*P P 05 24 05.7 +0.6
HVS pmax pmax
comp=Z,89nm,1.2s
WMQ Urumqi 75.68 318 P P 05 24 08.0 -0.6
WMQ PcP PcP 05 24 20.0 -1.1
WMQ pP pP 05 24 30.0 +0.6
WMQ sP sP 05 24 40.0 +2.1
WMQ PP PP 05 27 00.0 +0.6
WMQ S S 05 33 41.0 -3.1
WMQ ScS SKSac 05 34 10.0 -2.0
WMQ SS SS 05 38 36.0 -1.3
WMQ pmax pmax
comp=Z,15nm,1.0s
WMQ pmax pmax
comp=Z,140nm,6.0s
WMQ LR LR
comp=Z,150nm,20.0s
WMQ LR LR
comp=Z,110nm,19.0s
WMQ LR LR
comp=Z,120nm,19.0s
TNA Tin City 76.30 16 *e*P P 05 24 11.7 +0.1
comp=Z,12nm,0.9s
SVW2 Sparrevohn 77.37 23 *e*P P 05 24 18.3 +0.7
comp=Z,31nm,0.8s
RSO Redoubt South 78.14 24 *e*P P 05 24 21.3 -0.9
TIXI Tiksi 78.21 353 *e*P P 05 24 23.2 +1.1
SEW Seward 79.35 26 *e*P P 05 24 28.7 +0.2
comp=Z,93nm,0.9s
PPLA Purkeypile 79.72 23 *e*P P 05 24 30.8 +0.1
RC01 Rabbit Creek A 79.73 25 *e*P P 05 24 30.3 -0.4

comp=Z,119nm,1.0s
CAST Castle Rocks 80.05 22 *e*P **P 05 24 32.1 -0.2**
comp=Z,53nm,0.8s
PMR Palmer 80.24 24 *e*P **P 05 24 32.6 -0.7**
PMR pmax pmax
comp=Z,59nm,0.9s
PMR Palmer 80.24 24 *e*P **P 05 24 32.6 -0.7**
comp=Z,59nm,0.9s
MK31 Makanchi Array 80.28 319 *e*P **P 05 24 33.8 -0.2**
MK31 Makanchi Array 80.28 319 *e*P **P 05 24 33.8 -0.2**
MKAR Makanchi Array 80.28 319 P **P 05 24 34.1 +0.1**
MKAR Makanchi Array 80.28 319 P **P 05 24 34.1 +0.1**
MKAR Makanchi Array 80.28 319 P **P 05 24 34.1 +0.1**
comp=Z,6.5nm,0.9s,baz=103,slow=5.8,SNR=47
MKAR LR LR 05 58 19.5
comp=Z,98nm,20.9s,baz=309,slow=34
MKAR Makanchi Array 80.28 319 ⇑P **P 05 24 34.4 +0.4**
baz=80
KTH Kantishna Hill 80.56 22 *e*P **P 05 24 34.1 -1.0**
TRF Thorofare Moun 80.74 23 *e*P **P 05 24 35.0 -1.3**
comp=Z,40nm,0.8s
IM04 Indian Mountai 80.89 20 *e*P **P 05 24 36.8 0.0**
ZAA0 Zalesovo Array 81.19 326 *e*P **P 05 24 37.6 -1.0**
ZALV Zalesovo Beam 81.19 326 *i*P **P 05 24 37.7 -0.9**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 81.19 326 P **P 05 24 37.7 -0.9**
ZALV Zalesovo Beam 81.19 326 P **P 05 24 37.7 -0.9**
comp=Z,4.5nm,0.6s,baz=112,slow=6.2,SNR=20
ZALV LR LR 06 00 02.6
comp=Z,160nm,20.6s,baz=77,slow=35
MCK McKinley 81.41 23 *e*P **P 05 24 38.7 -0.9**
MCK pmax pmax
comp=Z,166nm,0.9s
MCK McKinley 81.41 23 *e*P **P 05 24 38.7 -0.9**
comp=Z,166nm,0.9s
DIV Divide 81.43 26 *e*P **P 05 24 40.0 +0.2**
comp=Z,95nm,1.0s
RAGM Ragged Mountai 81.58 27 *e*P **P 05 24 41.2 +0.6**
comp=Z,140nm,1.2s
BMRM Bremner River 81.87 26 *e*P **P 05 24 42.5 +0.3**
comp=Z,98nm,1.2s
NVS Novosibirsk 82.38 327 *e*P P 05 24 41.5 -3.3
COLA College 82.39 22 *d i*P **P 05 24 43.4 -1.3**
COLA pmax pmax
comp=Z,459nm,1.0s
COLA MLR MLR
comp=Z,613nm,20.0s
COLA College 82.39 22 *e*P **P 05 24 43.3 -1.3**
comp=Z,28nm,0.9s
PAX Paxson 82.41 24 *e*P **P 05 24 44.8 -0.1**
PAX pmax pmax
comp=Z,23nm,0.9s
PAX Paxson 82.41 24 *e*P **P 05 24 44.8 -0.1**
comp=Z,23nm,0.9s
ILAR Eielson Array 82.70 22 P **P 05 24 44.8 -1.6**
ILAR Eielson Array 82.70 22 P **P 05 24 44.8 -1.6**
comp=Z,48nm,0.8s,baz=247,slow=5.5,SNR=447
ILAR LR LR 05 57 12.1
comp=Z,312nm,19.4s,baz=48,slow=32
COLD Coldfoot 82.78 19 *e*P **P 05 24 47.2 +0.6**
comp=Z,34nm,1.1s
KSH Kashi 82.80 311 P **P 05 24 49.3 +1.7**
KSH sP **sP 05 25 18.0 +0.9**
KSH PP **PP 05 28 03.0 +4.2**
KSH SKS **S 05 35 00.0 +0.1**
KSH S **SKSac 05 35 01.5 -1.0**
KSH sS **sS 05 35 36.0 +0.3**
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH pmax pmax
comp=Z,110nm,4.9s
KSH LR LR
comp=Z,130nm,5.2s
KSH LR LR
comp=Z,120nm,5.4s
KSH LR LR
comp=Z,170nm,4.6s
DOT Dot Lake 83.28 24 *e*P **P 05 24 49.2 -0.2**
comp=Z,86nm,0.9s
KURK Kurchatov 83.76 322 *e*P **P 05 24 51.7 -0.4**
KURK pmax pmax
comp=Z,6.0nm,1.2s
KURK Kurchatov 83.76 322 *e*P **P 05 24 51.7 -0.4**
comp=Z,6.0nm,1.2s
KURK Kurchatov 83.76 322 P **P 05 24 51.2 -0.9**
comp=Z,46nm,1.3s,SNR=6.3
TKM2 Tokmak 2 83.83 314 *i*P **P 05 24 53.4 +0.5**
TKM2 Tokmak 2 83.83 314 P **P 05 24 53.4 +0.5**
SNR=6.8
TKM2 Tokmak 2 83.83 314 *e*P **P 05 24 53.1 +0.2**
KZA Kyzart 83.90 313 *i*P **P 05 24 55.0 +1.5**
KZA Kyzart 83.90 313 P **P 05 24 55.1 +1.5**
SNR=15
KBK Karagaybulak 84.24 314 P **P 05 24 55.6 +0.6**
SNR=6.0
CHMS Chumysh 84.46 314 *i*P **P 05 24 55.9 +0.1**
CHMS Chumysh 84.46 314 P **P 05 24 55.9 +0.1**
SNR=5.8
UCH Uchtor 84.47 313 *i*P **P 05 24 57.2 +0.7**
UCH Uchtor 84.47 313 P **P 05 24 57.2 +0.7**
SNR=16
FRU Bishkek 84.52 314 *e*P **P 05 24 55.5 -0.7**
FRU *e* 05 25 16.0
AAK Ala-Archa 84.56 314 P **P 05 24 57.0 +0.4**
comp=Z,75nm,0.9s,SNR=9.6
AAK Ala-Archa 84.56 314 *c i*P **P 05 24 56.7 +0.1**
AAK pmax pmax
comp=Z,31nm,0.8s
AAK MLR MLR
comp=Z,225nm,19.0s
AAK Ala-Archa 84.56 314 P **P 05 24 57.4 +0.8**
SNR=12
AAK Ala-Archa 84.56 314 *e*P **P 05 24 57.3 +0.7**
USP Ospenovka 84.69 314 *i*P **P 05 24 57.6 +0.6**
USP Ospenovka 84.69 314 P **P 05 24 57.7 +0.6**
SNR=12
QSPA South Pole Qui 84.78 180 *e*P **P 05 24 57.3 +0.1**
comp=Z,22nm,1.1s
SIT Sitka 84.86 32 *e*P **P 05 24 58.5 +1.1**
SIT pmax pmax
comp=Z,39nm,0.9s
SIT Sitka 84.86 32 *e*P **P 05 24 58.5 +1.1**
comp=Z,39nm,0.9s
EGAK Eagle 84.91 23 *e*P **P 05 24 57.5 0.0**
comp=Z,59nm,0.9s
HYT Haines Junctio 85.00 28 *e*P **P 05 24 59.0 +0.7**
MAW Mawson 85.03 203 P **P 05 24 58.6 +0.5**
MAW Mawson 85.03 203 P **P 05 24 58.6 +0.5**
comp=Z,5.6nm,0.7s,baz=113,slow=9.9,SNR=5.6
MAW LR LR 05 59 23.0
comp=Z,263nm,21.8s,baz=94,slow=33
MAW Mawson 85.03 203 ⇓P **P 05 24 58.8 +0.7**
baz=85,SNR=4.8
AML Almayashu 85.04 313 P **P 05 25 00.1 +0.8**
SNR=20
EKS2 Erkin-Say 85.09 313 *i*P **P 05 24 59.6 +0.5**
EKS2 Erkin-Say 85.09 313 P **P 05 24 59.7 +0.5**
SNR=12
EKS2 Erkin-Say 85.09 313 *e*P **P 05 25 00.1 +0.9**
comp=Z,16nm,1.0s
DAWY Dawson 85.34 24 *e*P **P 05 25 00.2 +0.4**
H02S1 DAWSON INLET T 85.35 36 T T 06 58 27.9
SNR=18
KK31 Karatay Array 87.53 313 *i*P **P 05 25 11.0 0.0**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 87.53 313 *e*P **P 05 25 11.3 +0.3**
KKAR Karatay Array 87.53 313 *e*P **P 05 25 11.3 +0.3**
DLBC Dease Lake 87.97 31 *e*P **P 05 25 13.3 +0.6**
INK Inuvik 88.99 21 *e*P **P 05 25 16.6 -0.6**
comp=Z,32nm,1.1s
BVA0 Borovoye Array 89.25 323 *i*P **P 05 25 17.6 -1.2**
BVA0 pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 89.31 323 P **P 05 25 18.9 -0.2**
comp=Z,76nm,0.9s,SNR=7.1
BRVK Borovoye 89.31 323 *d i*P **P 05 25 18.6 -0.5**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK MLR MLR
comp=Z,103nm,17.0s
BRVK Borovoye 89.31 323 *e*P **P 05 25 19.1 0.0**
comp=Z,11nm,0.9s
M02C Callahan 89.53 49 P **P 05 25 21.4 +0.9**
baz=90
N02D Trinity Center 89.59 49 P **P 05 25 21.8 +1.0**
baz=90
HUMO Hull Mountain 89.61 47 *e*P **P 05 25 22.7 +1.9**
comp=Z,10nm,1.0s
I04A Tendick Farm, 90.15 46 P **P 05 25 23.7 +0.4**
baz=90
J04D Umpqua Nationa 90.31 47 P **P 05 25 24.6 +0.4**
baz=90
M04C Macdoel 90.33 48 P **P 05 25 26.9 +2.6**
baz=90
J05D Fort Rock, OR 90.95 47 P **P 05 25 27.6 +0.4**
baz=91
I05D Terrebonne, OR 90.98 46 P **P 05 25 27.3 +0.1**
baz=91
K05A Summer Lake 91.14 47 *e*P **P 05 25 29.0 +0.8**
comp=Z,32nm,1.4s
PKM Peak Mountain 91.20 55 P **P 05 25 29.6 +1.0**
baz=91
PINOR Pine Mountain 91.26 46 *e*P **P 05 25 29.8 +1.4**
MOD Modoc 91.49 48 *e*P **P 05 25 30.8 +1.0**
comp=Z,144nm,3.0s
E07A Sunnyside 92.24 44 *e*P **P 05 25 33.3 +0.4**
comp=Z,37nm,1.8s
I07A Izee 92.27 46 *e*P **P 05 25 33.9 +0.6**
comp=Z,15nm,1.2s
ISA Isabella 92.36 55 *e*P **P 05 25 35.0 +1.2**
ISA Isabella 92.36 55 *e*P **P 05 25 35.0 +1.2**
ISA Isabella 92.36 55 P **P 05 25 33.9 +0.1**
baz=92
HAWA Hanford 92.45 44 *e*P **P 05 25 33.7 -0.1**
comp=Z,19nm,1.5s
MWC Mount Wilson 92.59 56 *e*P **P 05 25 36.0 +1.0**
MWC Mount Wilson 92.59 56 *e*P **P 05 25 36.0 +1.0**
NVAR Mina Array Bea 92.71 52 P **P 05 25 36.0 +0.5**
NVAR Mina Array Bea 92.71 52 P **P 05 25 36.0 +0.5**
comp=Z,2.9nm,0.8s,baz=265,slow=6.8,SNR=20
NVAR LR LR 06 00 52.8
comp=Z,456nm,18.4s,baz=94,slow=31
G08A Pilot Rock 92.76 45 *e*P **P 05 25 35.8 +0.3**
comp=Z,9.9nm,1.0s
WVOR Wild Horse Val 92.77 48 *e*P **P 05 25 36.2 +0.6**
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR Wild Horse Val 92.77 48 *e*P **P 05 25 36.2 +0.6**
comp=Z,9.9nm,1.1s
D08A Wollman Farm, 92.92 43 *e*P **P 05 25 36.9 +0.8**
comp=Z,114nm,3.0s
J08A Circle Bar Ran 92.96 47 *e*P **P 05 25 37.0 +0.6**
comp=Z,15nm,1.1s
LRMC Laurel Mountai 92.98 55 P **P 05 25 37.0 +0.2**
baz=93
SYO Syowa Base 93.14 199 ⇑*e*P **P 05 25 35.1 -1.5**
MPMC Manual Prospec 93.19 54 P **P 05 25 38.0 +0.2**
baz=93
GRAC Grapevine Rang 93.35 53 P **P 05 25 38.4 0.0**
baz=93
C09A Chrisman Ranch 93.42 42 *e*P **P 05 25 38.4 +0.1**
comp=Z,41nm,2.2s
E09A Wood Farm, Sta 93.42 44 *e*P **P 05 25 38.7 +0.4**
comp=Z,20nm,1.3s
GSC Goldstone 93.69 55 P **P 05 25 40.7 +0.8**
baz=94
FURC Furnace Creek, 93.72 54 P **P 05 25 40.9 +0.9**
baz=94
MONP Monument Peak 93.86 57 P **P 05 25 41.5 +0.5**
baz=94
PFO Pinyon Flat Ob 93.87 57 P **P 05 25 40.9 0.0**
baz=94
F10A Beach Ranch, E 94.02 44 *e*P **P 05 25 41.2 0.0**
comp=Z,8.4nm,0.9s
SHOC Shoshone 94.16 54 P **P 05 25 42.5 +0.4**
baz=94
NEW Newport 94.22 42 *e*P **P 05 25 42.1 0.0**
comp=Z,7.1nm,1.1s
NEW Newport 94.22 42 P **P 05 25 41.9 -0.1**
baz=94
TPNV Topopah Spring 94.24 53 *e*P **P 05 25 43.3 +0.7**
TPNV pmax pmax
comp=Z,9.0nm,1.2s
TPNV Topopah Spring 94.24 53 *e*P **P 05 25 43.3 +0.7**
comp=Z,9.3nm,1.2s
TPNV Topopah Spring 94.24 53 P **P 05 25 42.8 +0.3**
baz=94
GMRC Granite Mounta 94.60 56 P **P 05 25 44.7 +0.5**
baz=95
R11A Troy Canyon, C 94.84 52 P **P 05 25 45.8 +0.5**
baz=95
MFID Camas Ranch 94.89 47 *e*P **P 05 25 46.3 +1.0**
comp=Z,10nm,1.4s
IRM Iron Mountain 94.99 56 P **P 05 25 46.6 +0.8**
baz=95
AB31 Akbulak array 95.43 319 *i*P P 05 25 41.7 -5.8
ABKAR Akbulak array 95.43 319 ⇓P **P 05 25 46.4 -1.1**
baz=96
HLID Hailey 95.92 47 *e*P **P 05 25 50.5 +0.4**
comp=Z,64nm,3.0s
HLID Hailey 95.92 47 P **P 05 25 50.0 -0.1**
baz=96
YKW3 Yellowknife Ar 95.99 28 *e*P **P 05 25 49.3 -0.4**
comp=Z,0.4nm,1.4s
YKA Yellowknife Ar 96.00 28 P **P 05 25 49.7 0.0**
YKA PKKP **PKKPbc 05 42 36.4 -3.9**
YKA Yellowknife Ar 96.00 28 P **P 05 25 49.7 0.0**
comp=Z,4.6nm,0.9s,baz=272,slow=4.9,SNR=40
YKA PKKP **PKKPbc 05 42 36.3 -3.9**
comp=Z,0.4nm,0.8s,baz=94,slow=3.3,SNR=5.5
ARU Arti 96.35 326 *d i*P **P 05 25 50.3 -1.2**
ARU 05 29 43.5
ARU S **SKSac 05 36 20.1 -1.0**
ARU pmax pmax
comp=Z,10.0nm,1.7s
WALA Waterton Lakes 96.37 41 *e*P **P 05 25 52.2 +0.3**
comp=Z,0.5nm,1.4s
CCUT Cedar City 96.57 53 *e*P **P 05 25 54.9 +1.7**
comp=Z,34nm,2.3s
EDM Edmonton 96.73 37 *e*P **P 05 25 52.8 -0.6**
EDM Edmonton 96.73 37 *e*P **P 05 25 52.8 -0.6**
HVU Hansel Valley 97.10 49 *e*P Pdif 05 25 56.3 +0.7
HVU pmax pmax
comp=Z,9.0nm,1.2s
HVU Hansel Valley 97.10 49 *e*P Pdif 05 25 56.3 +0.8
comp=Z,8.8nm,1.2s
U15A North Rim 97.40 54 P Pdif 05 25 57.8 +0.6
baz=97
BOZ Bozeman (W) 97.92 45 *e*P **P 05 25 59.0 -0.1**
BOZ pmax pmax
comp=Z,58nm,2.8s
BOZ Bozeman (W) 97.92 45 *e*P **P 05 25 59.0 -0.1**
comp=Z,58nm,2.8s
WUAZ Wupatki 98.13 55 *e*P Pdif 05 26 02.1 +1.8
comp=Z,51nm,2.6s
WUAZ Wupatki 98.13 55 P Pdif 05 26 01.8 +1.5
baz=98
FXWY Fox Creek 98.38 47 *e*P Pdif 05 26 02.0 +0.6
comp=Z,47nm,2.9s
PDAR Pinedale Array 99.47 48 P **Pdif 05 26 05.3 -0.9**
PDAR Pinedale Array 99.47 48 P **Pdif 05 26 05.3 -0.9**
comp=Z,1.1nm,0.8s,baz=255,slow=3.7,SNR=10
PDAR LR LR 06 03 38.1
comp=Z,260nm,20.6s,baz=81,slow=31
D19A Cripps Ranch, 99.78 43 P **Pdif 05 26 07.6 +0.3**
baz=100
J19A Crowheart 99.83 47 P **Pdif 05 26 08.5 +0.8**
baz=100
A20A Cobblestone Ra 100.31 41 P **Pdif 05 26 09.7 +0.1**
baz=100
C20A Veseth Ranch, 100.34 43 P **Pdif 05 26 09.9 +0.2**
baz=100
J21A Lysite 101.00 47 P **Pdif 05 26 12.3 -0.6**
baz=101
D22A Cohagen 101.62 43 P **Pdif 05 26 15.6 +0.2**
baz=102
A22A Carney Farms, 101.63 41 P **Pdif 05 26 15.7 +0.4**
baz=102
I22A 9 Mile Ranch, 101.66 46 P **Pdif 05 26 15.2 -0.5**
baz=102
J22A Midwest 101.70 47 P **Pdif 05 26 16.1 +0.1**
baz=102
G22A Birney 101.70 45 P **Pdif 05 26 16.3 +0.5**
baz=102
H22A Clearmont 101.70 46 P **Pdif 05 26 16.1 +0.2**
baz=102
P22A Eagle 101.72 51 P **Pdif 05 26 17.1 +0.9**
baz=102
S22A 4UR Ranch, Cre 101.75 53 P **Pdif 05 26 16.5 0.0**
baz=102
D23A Lindsay 102.28 43 P **Pdif 05 26 18.9 +0.6**
baz=102
F23A Volborg 102.28 44 P **Pdif 05 26 18.4 0.0**
baz=102
B23A Brockton 102.29 42 P **Pdif 05 26 18.3 -0.1**
baz=102
G23A Biddle 102.33 45 P **Pdif 05 26 18.9 +0.2**
baz=102
TXAR Lajitas Array 104.75 61 PKKPbc PKKPbc 05 42 14.4 +0.3
TXAR Lajitas Array 104.75 61 PKKPbc PKKPbc 05 42 14.4 +0.3
comp=Z,0.5nm,0.8s,baz=108,slow=4.1,SNR=6.2
ARCES ARCESS Array B 107.09 343 PKiKP **PKiKP 05 30 48.5 +0.5**
ARCES ARCESS Array B 107.09 343 PKiKP **PKiKP 05 30 48.5 +0.5**
comp=Z,0.9nm,0.6s,baz=97,slow=2.1,SNR=5.1
OBN Obninsk 108.78 327 ⇓*e*P **Pdif 05 26 45.9 -1.0**
OBN pmax pmax
comp=Z,20nm,1.4s
OBN MLR MLR
comp=Z,100nm,17.0s
FINES FINESS Array B 111.19 335 PKiKP **PKiKP 05 30 56.1 +0.2**
FINES FINESS Array B 111.19 335 PKiKP **PKiKP 05 30 56.1 +0.2**
comp=Z,3.5nm,0.9s,baz=158,slow=4.1,SNR=4.0
AKASG Malin Array Be 114.51 324 *i* PKiKP PKPdf 05 31 03.0 +0.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 114.51 324 PKP PKPdf 05 31 00.7 -1.9
AKASG Malin Array Be 114.51 324 PKP PKPdf 05 31 00.7 -1.9
comp=Z,0.4nm,0.4s,baz=49,slow=2.9,SNR=5.0
KIEV Kiev 114.52 324 *i* PKiKP PKPdf 05 31 02.3 -0.3
BRTR Keskin Array B 115.18 312 PKP **PKPdf 05 31 04.0 -0.4**
BRTR Keskin Array B 115.18 312 PKP **PKPdf 05 31 04.0 -0.4**
comp=Z,0.9nm,0.9s,baz=28,slow=6.5,SNR=3.0
NB2 NORSAR Subarra 117.10 340 PKPdf **PKPdf 05 31 06.6 -0.8**
comp=Z,3.8nm,1.2s,baz=44,slow=1.9
NOA NORSAR Array B 117.10 340 PKP **PKPdf 05 31 07.2 -0.2**
NOA NORSAR Array B 117.10 340 PKP **PKPdf 05 31 07.2 -0.2**
comp=Z,2.2nm,0.8s,baz=47,slow=1.8,SNR=9.4
PLCA Paso Flores 119.77 143 PKP **PKPdf 05 31 13.6 +0.3**
PLCA Paso Flores 119.77 143 PKP **PKPdf 05 31 13.6 +0.3**
comp=Z,1.4nm,0.7s,baz=225,slow=2.9,SNR=3.8
CRVS Cervenica-Dubn 119.81 325 *e*PKiKP **PKPdf 05 31 13.0 +0.1**
CRVS Cervenica-Dubn 119.81 325 *e*PKiKP **PKPdf 05 31 13.0 +0.1**
BRG Berggiesshubel 122.75 330 *e*PKP **PKPdf 05 31 18.6 +0.1**
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 122.75 330 *e*PKiKP **PKPdf 05 31 18.6 +0.1**
BRG pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 122.94 331 *i* PKiKP **PKPdf 05 31 19.1 +0.3**
CLL *e* 05 31 39.0
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 122.94 331 LmV 05 28 00.0
comp=Z,100nm,18.4s
CLL Collm 122.94 331 *i* PKPdf **PKPdf 05 31 19.1 +0.3**
comp=Z,5.0nm,0.8s
CLL *e*PKPdf **pPKPdf 05 31 39.0 -1.9**
CLL LmV 06 24 00.0
comp=Z,100nm,21.5s
KHC Kasperske Hory 124.01 328 *e*PKiKP **PKPdf 05 31 21.0 0.0**
KHC Kasperske Hory 124.01 328 *e*PKPdf **PKPdf 05 31 21.0 0.0**
GERES GERESS Array B 124.12 328 PKP **PKPdf 05 31 21.4 +0.1**
GERES GERESS Array B 124.12 328 PKP **PKPdf 05 31 21.4 +0.1**
comp=Z,2.2nm,0.7s,baz=82,slow=1.6,SNR=26
MOTA Moosalm 126.41 326 ⇓ *i* PKiKP **PKPdf 05 31 25.8 0.0**
comp=Z,5.5nm,0.8s
FETA Feichten 126.82 328 ⇑ *i* PKiKP **PKiKP 05 31 27.2 +0.1**
comp=Z,6.3nm,0.9s
DAVA Damuels 127.09 329 ⇓ *i* PKiKP **PKiKP 05 31 30.5 +2.9**
comp=Z,4.0nm,1.0s
CDF Champ du Feu 127.64 331 *e*PKiKP **PKPdf 05 31 27.7 -0.3**
CDF Champ du Feu 127.64 331 *e*PKiKP **PKPdf 05 31 27.7 -0.3**
CDF Champ du Feu 127.64 331 *e*PKPdf **PKPdf 05 31 27.7 -0.3**
HINF Hinteralfeld 128.25 331 *e*PKiKP **PKPdf 05 31 28.9 -0.3**
HINF Hinteralfeld 128.25 331 *e*PKiKP **PKPdf 05 31 28.9 -0.3**
HINF Hinteralfeld 128.25 331 *e*PKPdf **PKPdf 05 31 28.9 -0.3**
HAU Haudompre 128.36 331 *e*PKiKP **PKPdf 05 31 29.4 0.0**
comp=Z,22nm,1.1s
HAU Haudompre 128.36 331 *e*PKiKP **PKPdf 05 31 29.4 0.0**
HAU Haudompre 128.36 331 *e*PKPdf **PKPdf 05 31 29.4 0.0**
MEZF Maizieres J'vi 128.62 333 *e*PKiKP **PKPdf 05 31 30.2 +0.4**
MEZF Maizieres J'vi 128.62 333 *e*PKPdf **PKPdf 05 31 30.2 +0.4**
LOR Lormes 130.06 332 *e*PKiKP **PKPdf 05 31 31.2 -1.4**
LOR Lormes 130.06 332 *e*PKPdf **PKPdf 05 31 31.2 -1.4**
SSF Saint Saulge 130.38 332 *e*PKiKP **PKPdf 05 31 33.9 +0.7**
comp=Z,10.0nm,0.9s
SSF Saint Saulge 130.38 332 *e*PKiKP **PKPdf 05 31 33.9 +0.7**
SSF Saint Saulge 130.38 332 *e*PKPdf **PKPdf 05 31 33.9 +0.7**
BGF Bois d'Agland 131.06 332 *e*PKiKP **PKPdf 05 31 33.3 -1.2**
comp=Z,49nm,1.4s
BGF Bois d'Agland 131.06 332 *e*PKiKP **PKPdf 05 31 33.3 -1.2**
BGF Bois d'Agland 131.06 332 *e*PKPdf **PKPdf 05 31 33.3 -1.2**
TCF Toulx Ste Croi 131.55 332 *e*PKiKP **PKPdf 05 31 36.1 +0.6**
comp=Z,19nm,1.0s
TCF Toulx Ste Croi 131.55 332 *e*PKiKP **PKPdf 05 31 36.1 +0.6**
TCF Toulx Ste Croi 131.55 332 *e*PKPdf **PKPdf 05 31 36.1 +0.6**
ROSC El Rosal 133.56 88 *e*PKPdf **PKPdf 05 31 41.2 +0.6**
LPAZ La Paz 134.68 119 PKP **PKPdf 05 31 42.9 0.0**
LPAZ La Paz 134.68 119 PKP **PKPdf 05 31 42.9 0.0**
comp=Z,2.1nm,0.8s,baz=358,slow=3.8,SNR=5.7
SDV Santo Domingo 137.25 83 *e*PKPdf **PKPdf 05 31 47.6 +0.4**
CPUP Villa Florida 137.51 139 PKP **PKPdf 05 31 47.1 -0.1**
CPUP Villa Florida 137.51 139 PKP **PKPdf 05 31 47.1 -0.1**
comp=Z,1.6nm,0.7s,baz=329,slow=5.9,SNR=3.2
TAM Tamanrasset 143.46 302 *e*PKiKP PKPbc 05 31 56.1 +0.5
TAM Tamanrasset 143.46 302 *e*PKPdf PKPbc 05 31 56.1 +0.5
PTGA Pitinga 147.24 99 *e*PKPdf **PKPdf 05 32 05.4 +0.6**
TOA0 Torodi Ar. Sit 149.95 287 *e*PKPbc **PKPbc 05 32 13.5 -0.6**
TORD Torodi Ar. Bea 149.95 287 PKPbc **PKPbc 05 32 13.8 -0.2**
TORD Torodi Ar. Bea 149.95 287 PKPbc **PKPbc 05 32 13.8 -0.2**
comp=Z,23nm,0.8s,baz=33,slow=1.2,SNR=57
BDFB Brasilia 151.14 136 PKPbc **PKPbc 05 32 17.0 +0.1**
BDFB Brasilia 151.14 136 PKPbc **PKPbc 05 32 17.0 +0.1**
comp=Z,11nm,0.7s,baz=247,slow=1.5,SNR=16
KIC Kesan Boka 157.13 274 *e*P PKPdf 05 32 34.6 +15
comp=Z,54nm,1.0s
DBIC Dimbokro 157.23 275 PKPab **PKPab 05 32 51.0 +0.3**
DBIC Dimbokro 157.23 275 PKPab **PKPab 05 32 51.0 +0.3**
comp=Z,15nm,0.9s,baz=84,slow=5.7,SNR=13
TIC Toumodi 157.39 275 *e*P PKPdf 05 32 33.4 +14
comp=Z,45nm,1.0s
LIC Lamto 157.41 274 *e*PKP2 **PKPab 05 32 51.8 +0.2**
comp=Z,41nm,1.0s
LIC Lamto 157.41 274 *e*P PKPdf 05 32 33.0 +13
comp=Z,54nm,1.0s

JMA ***29*** *05:27:30.6±0.2,23°.77N×122°.49E,h17km,M3.4*
TAP ***29*** *05:27:32.0,23.80N×122°.49E,h23km,ML4.0,D*
ISCJB ***29*** *05:27:32.0±0.3,23°.72N±0°.02×122°.55E±0°.02,h44km±7km, mb3.4/6, Error ellipse: s-maj=4.0km s-min=2.8km az=137.0*
IDC ***29*** *05:27:39.8±1.4,24°.95N×122°.76E,h42km±10km,mb3.3/6, mb1 3.5/6,mb1mx3.3/25,mbtmp3.3/6, Error ellipse: s-maj=42.5km s-min=23.0km az=64.0*

ISC 29 05:27:31.8±0.8,23.74N±0°.03×122.51E±0°.03,h33km±2km, n62,σ1°13/104,mb3.6/5,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.86**	**32**	P	**Pn**	**05 27 46.4**	**-1.1**
YOJ				S	**Sn**	**05 27 56.1**	**-2.8**
HWA	**Hwalien**	**0.86**	**286**	*e*P	**Pn**	**05 27 47.3**	**-0.3**
	baz=267						
HWA				*e*S	**Sn**	**05 27 58.7**	**-0.3**
	baz=267						
TWD	**Chiawan**	**0.90**	**293**	⇓*i*P	**Pn**	**05 27 47.6**	**-0.6**
	baz=275						
TWD				*i* S	**Sn**	**05 27 58.8**	**-1.2**
	baz=275						
ENA	**Nanau**	**0.98**	**315**	*i* P	**Pn**	**05 27 49.3**	**0.0**
	baz=312						
ESL	**Shilin**	**0.99**	**275**	⇓*i*P	**Pn**	**05 27 48.7**	**-0.7**
	baz=269						
ESL				*e*S	**Sn**	**05 28 00.9**	**-1.3**
	baz=269						
TWC	**Suao**	**1.06**	**325**	⇓*i*P	**Pn**	**05 27 49.9**	**-0.4**
	baz=323						
TWC				S	**Sb**	**05 28 04.6**	**-0.7**
	baz=323						
EHY	**Hungye**	**1.11**	**258**	*i* P	**Pn**	**05 27 51.1**	**0.0**
	baz=253						
EHY				*e*S	**Sn**	**05 28 05.6**	**+0.3**
	baz=253						
TWF1	**Yuli**	**1.18**	**251**	*i* P	**Pn**	**05 27 52.2**	**+0.3**
	baz=246						

TWF1				S		Sn	05 28 07.6	+0.8
	baz=246							
WHF	**Hehuan Shan**	**1.21**	**290**	P		Pn	05 27 52.5	-0.3
	baz=273							
WHF				*e*S		Sn	05 28 07.7	-0.5
	baz=273							
EGS		**1.22**	**335**	*i* P		Pn	05 27 53.0	+0.4
	baz=321							
EGS				*e*S		Sb	05 28 09.6	-0.4
	baz=321							
CHKT	**Chengkung**	**1.23**	**239**	P		Pn	05 27 52.4	-0.2
	baz=222							
CHKT				S		Sn	05 28 07.4	-0.6
	baz=222							
HATJ	**Hateruma jima**	**1.23**	**75**	S		Sn	05 28 08.8	+0.7
ILA	**Ilan**	**1.24**	**326**	*e*P		Pb	05 27 53.9	-0.8
	baz=324							
ILA				*e*S		Sb	05 28 10.3	-0.1
	baz=324							
ENTT	**Nioudou**	**1.25**	**316**	P		Pn	05 27 53.4	+0.5
	baz=299							
ENTT				*e*S		Sb	05 28 11.0	+0.4
	baz=299							
TWE	**Neicheng**	**1.25**	**322**	P		Pn	05 27 53.5	+0.6
	baz=321							
NNS	**Nan Shan**	**1.25**	**304**	*e*P		Pn	05 27 53.4	+0.2
	baz=302							
IRIF	**Iriomote-Funau**	**1.27**	**62**	P		Pn	05 27 53.9	+0.7
IRIF				S		Sn	05 28 09.6	+0.6
TWT	**Tachien**	**1.32**	**293**	P		Pn	05 27 54.8	+0.7
	baz=277							
TWT				*e*S		Sn	05 28 11.9	+1.2
	baz=277							
TWB1	**Santiao Chiao**	**1.35**	**340**	P		Pn	05 27 54.4	0.0
	baz=337							
TWB1				*e*S		Sb	05 28 13.5	-0.2
	baz=337							
NSK	**Sanguang**	**1.41**	**312**	P		Pn	05 27 55.7	+0.5
	baz=310							
YUS	**Yu-Shan**	**1.45**	**261**	P		Pn	05 27 57.0	+0.9
	baz=255							
YUS				*e*S		Sn	05 28 14.9	+0.7
	baz=255							
JKRS	**Kuro-shima**	**1.46**	**70**	P		Pn	05 27 57.1	+1.3
ELDTW	**Lidau**	**1.47**	**249**	P		Pn	05 27 56.4	+0.2
	baz=243							
ELDTW				S		Sn	05 28 14.2	-0.1
	baz=243							
SMLT	**Sun Moon Lake**	**1.48**	**276**	P		Pn	05 27 57.0	+0.8
	baz=271							
SMLT				S		Sn	05 28 15.6	+1.0
	baz=271							
NWF	**Wu-fen Shan**	**1.49**	**334**	P		Pn	05 27 56.7	+0.4
	baz=331							
NWF				*e*S		Sb	05 28 17.1	-0.4
	baz=331							
TWA	**Mucha**	**1.50**	**326**	*e*P		Pb	05 27 58.0	-1.1
	baz=323							
TWA				*e*S		Sb	05 28 17.7	-0.1
	baz=323							
TYC	**Yuchr**	**1.52**	**277**	P		Pn	05 27 57.5	+0.8
	baz=272							
TYC				*e*S		Sb	05 28 17.2	-1.3
	baz=272							
ALS	**Alishan**	**1.58**	**262**	*e*P		Pn	05 27 59.1	+1.4
	baz=257							
ALS				*e*S		Sn	05 28 18.5	+1.4
	baz=257							
TAP1	**Taipei**	**1.58**	**326**	*e*P		Pb	05 27 59.1	-1.4
	baz=323							
TTN	**Taitung**	**1.59**	**232**	*e*P		Pn	05 27 57.6	0.0
	baz=228							
TTN				*e*S		Sn	05 28 18.1	+1.2
	baz=228							
TWG	**Pinlang**	**1.60**	**236**	*e*P		Pn	05 27 58.2	+0.4
	baz=220							
TWG				*e*S		Sn	05 28 17.9	+0.6
	baz=220							
JIJ	**Ishigaki jima**	**1.62**	**67**	P		Pn	05 27 58.5	+0.5
JIJ				S		Sn	05 28 18.7	+0.9
NSTT	**Nanjuang**	**1.64**	**303**	*e*P		Pb	05 28 00.2	-1.3
	baz=287							
NSTT				*e*S		Sb	05 28 20.4	-1.5
	baz=287							
WNT	**Mingjian**	**1.68**	**275**	*e*P		Pb	05 28 01.0	-1.1
	baz=271							
CHN5	**Tsauling**	**1.68**	**266**	*e*P		Pb	05 28 00.9	-1.4
	baz=260							
CHN5				*e*S		Sb	05 28 22.3	-0.9
	baz=260							
TWS1	**Kuangyinshan**	**1.69**	**324**	*e*P		Pn	05 28 00.2	+1.2
	baz=321							
TWS1				*e*S		Sb	05 28 22.2	-0.9
	baz=321							
TWQ1	**Liyutan**	**1.70**	**291**	*e*P		Pb	05 28 01.4	-1.1
	baz=288							
STYT	**Tauyuan**	**1.71**	**251**	*e*P		Pn	05 28 00.7	+1.4
	baz=246							
STYT				*e*S		Sn	05 28 21.9	+1.9
	baz=246							
NCU	**National Centr**	**1.72**	**316**	*e*P		Pn	05 28 01.0	+1.5
	baz=311							
NCU				*e*S		Sb	05 28 23.2	-0.9
	baz=311							
TCU	**Taichung**	**1.73**	**284**	*e*P		Pb	05 28 02.1	-0.9
	baz=281							
NSY	**Sanyi**	**1.73**	**293**	*e*P		Pb	05 28 02.0	-1.1
	baz=290							
TWY	**Chenhua**	**1.74**	**332**	*e*P		Pn	05 28 01.0	+1.2
	baz=331							
WGK	**Gukeng**	**1.79**	**269**	*e*P		Pb	05 28 03.1	-0.8
	baz=263							
WGK				*e*S		Sb	05 28 24.4	-1.5
	baz=263							
ECL	**Taimali**	**1.82**	**232**	*e*P		Pn	05 28 00.7	-0.1
	baz=240							
ECL				*e*S		Sn	05 28 22.4	-0.4
	baz=240							
SGST	**Jiashian**	**1.89**	**250**	*e*P		Pb	05 28 04.2	-1.4
	baz=245							
SGST				*e*S		Sb	05 28 27.6	-1.3
	baz=245							
CHN1	**Nanshi**	**1.90**	**254**	*e*P		Pb	05 28 04.4	-1.5
	baz=248							
CHN1				*e*S		Sb	05 28 28.1	-1.1
	baz=248							
LAY	**Lan-yu**	**1.91**	**208**	*e*P		Pn	05 28 01.4	-0.6
	baz=204							
LAY				*e*S		Sn	05 28 24.2	-0.6
	baz=204							
TWK	**Hsinying**	**1.91**	**256**	*e*P		Pb	05 28 04.6	-1.6
	baz=250							
TWK				*e*S		Sb	05 28 28.7	-1.0
	baz=250							
CHY	**Chiayi**	**1.93**	**263**	*e*P		Pb	05 28 05.4	-0.9
	baz=258							
CHY				*e*S		Sn	05 28 27.6	+2.2
	baz=258							
PCYT	**Pengchaiyu**	**1.93**	**348**	*e*P		Pn	05 28 02.8	+0.5
	baz=333							
EAST	**Anshuo**	**2.04**	**229**	*e*P		Pn	05 28 04.2	+0.4
	baz=235							
WTCT	**Ta-ch'eng**	**2.04**	**274**	*e*P		Pb	05 28 06.2	-2.1
	baz=256							
WTCT				*e*S		Sb	05 28 32.7	-0.7
	baz=256							
TSEB	**Hengchuen, Pin**	**2.35**	**219**	*e*P		Pn	05 28 09.9	+1.7
	baz=225							
TSEB				*e*S		Sb	05 28 39.4	-2.9
	baz=225							
TWK1	**Hengchun**	**2.38**	**222**	*e*P		Pn	05 28 10.9	+2.5
	baz=217							
TWK1				*e*S		Sn	05 28 38.9	+2.4
	baz=217							
WDGT	**Dungji**	**2.66**	**260**	*e*P		Pn	05 28 14.2	+1.9
	baz=256							
KNM	**Kinmen**	**3.79**	**281**	*e*P		Pn	05 28 30.2	+2.4
	baz=277							
SONM	**Songino Array**	**27.26**	**336**	P		P	05 33 12.8	-0.3
	0.7nm,0.7s,baz=156,slow=10.0,SNR=4.7							
SONM				pP		pP	05 33 23.9	+1.2
	1.5nm,1.0s,baz=144,slow=13,SNR=5.1							
MKAR	**Makanchi Array**	**39.50**	**316**	P		P	05 34 59.9	+0.6
	0.9nm,0.5s,baz=96,slow=10,SNR=16							
MKAR				pP		pP	05 35 11.6	+2.4
	0.7nm,0.5s,baz=106,slow=11,SNR=6.7							
ZALV	**Zalesovo Beam**	**41.28**	**327**	P		P	05 35 13.4	-0.4
	0.6nm,0.5s,baz=108,slow=9.3,SNR=3.0							
ZALV				pP		pP	05 35 24.1	+0.5
	1.5nm,0.8s,baz=109,slow=7.6,SNR=3.2							
WRA	**Warramunga Arr**	**44.92**	**164**	P		sP	05 35 59.6	+2.0
	0.4nm,0.7s,baz=345,slow=8.6,SNR=2.9							
ILAR	**Eielson Array**	**69.05**	**27**	P		P	05 38 33.2	-0.8
	0.1nm,0.5s,baz=269,slow=6.0,SNR=4.1							
YKA	**Yellowknife Ar**	**82.91**	**23**	P		P	05 39 53.3	+0.4
	0.3nm,0.5s,baz=307,slow=5.1,SNR=12							

BER ***29*** *05:35:00.9±2.5, 57.47N×7.45E, h13km±8km, MD2.6, ML2.2, ML2.0(NAO)*
NAO ***29*** *05:35:04.7±4.3, 57.81N×7.45E, h11km±20km, ML2.0*
CSEM 29 05:35:01.9±0.8, 57.53N×7.78E, h15km, ML2.2, Error ellipse: s-maj=20.0km s-min=5.0km az=83.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOMB	**Homborsund**	**0.84**	**27**		*e*P	Pn		05 35 18.8	-0.3
HOMB					*e*S	Sn		05 35 31.6	+0.4
HOMB					AML	AML		05 35 33.9	
	comp=Z,158nm,0.4s								
HOMB	**Homborsund**	**0.84**	**27**		*e*P	Pn		05 35 18.8	-0.3
	SNR=90								
HOMB					*e*S	Sn		05 35 31.5	+0.3
	comp=Z,158nm,0.4s,SNR=90								
SNART	**Snartemo**	**0.87**	**340**		*e*P	Pb		05 35 16.8	-1.9
SNART					*e*S	Sb		05 35 27.7	-2.5
SNART					AML	AML		05 35 28.0	
	comp=Z,297nm,0.2s								
MUD	**Monsted U'grnd**	**1.32**	**144**		*i* P	Pn		05 35 25.8	+0.1
MUD					*i* S	Sg		05 35 45.4	+1.1
MUD	**Monsted U'grnd**	**1.32**	**144**		*i* P	Pn		05 35 25.8	+0.1
MUD	**Monsted U'grnd**	**1.32**	**144**		*i* Pg	Pb		05 35 26.5	+0.2
	SNR=94								
MUD					*i* S	Sg		05 35 45.4	+1.1
BLS5	**Blasjo**	**2.02**	**340**		*e*P	Pn		05 35 33.5	-2.0
BLS5					*e*Sg	Sn		05 36 01.7	+1.1
BLS5					AML	AML		05 36 09.3	
	comp=Z,47nm,0.4s								
KMY	**Karmoy**	**2.15**	**323**		*e*P	Pn		05 35 33.7	-3.5
KMY					*e*S	Sn		05 35 58.4	-5.2
KMY					AML	AML		05 36 04.5	
	comp=Z,12nm,0.6s								
KONO	**Kongsberg**	**2.33**	**23**		*e*P	Pn		05 35 39.7	+0.1
KONO					*e*S	Sn		05 36 07.5	-0.5
KONO					AML	AML		05 36 21.5	
	comp=Z,20nm,0.7s								
KONO	**Kongsberg**	**2.33**	**23**		*e*P	Pn		05 35 39.7	+0.1
	SNR=55								
KONO					*e*S	Sn		05 36 07.5	-0.5
	comp=Z,13nm,0.6s,SNR=55								
ODD1	**Odda**	**2.47**	**346**		*e*P	Pn		05 35 39.7	-1.9
ODD1					*e*S	Sn		05 36 08.4	-3.1
ODD1					IAML			05 36 20.8	
	comp=Z,23nm,0.3s								
EGD	**Espegrend**	**3.06**	**335**		*e*P	Pn		05 35 45.8	-3.8
EGD					AML	AML		05 36 41.4	
	comp=Z,20nm,0.3s								
RUND	**Rundenannen**	**3.15**	**338**		*e*P	Pn		05 35 47.6	-3.4
RUND					AML	AML		05 36 45.6	
	comp=Z,26nm,0.4s								
ASK	**Askoy**	**3.25**	**337**		*e*P	Pn		05 35 49.4	-2.9
ASK					*e*S	Sn		05 36 25.0	-5.7
ASK					IAML			05 36 47.9	
	comp=Z,11nm,0.2s								
HYA	**Hoyanger**	**3.74**	**348**		*e*P	Pn		05 35 57.4	-1.6
HYA					*e*S	Sn		05 36 39.2	-3.4
HYA					AML	AML		05 37 00.3	
	comp=Z,13nm,0.6s								
NC602	**NORSAR Array S**	**3.75**	**29**		*e*P	Pn		05 35 58.4	-0.9
NC602					*e*S	Sn		05 36 41.6	-1.5
NC602	**NORSAR Array S**	**3.75**	**29**		*e*P	Pn		05 35 58.3	-0.9
	SNR=53								
NC602					*e*S	Sn		05 36 41.6	-1.5
	SNR=53								
NB2	**NORSAR Subarra**	**3.94**	**25**		Pn	Pn		05 36 01.8	-0.1
	baz=210,slow=14								
NB2					Sn	Sn		05 36 45.6	-2.1
	baz=199,slow=28								
NB2					Lg	Lg		05 37 05.9	
	baz=215,slow=37								
NB2	**NORSAR Subarra**	**3.94**	**25**		Pn	Pn		05 36 01.8	-0.1
	baz=210,slow=14								
NB2					Sn	Sn		05 36 45.6	-2.1
	baz=199,slow=28								
NB2					Lg	Lg		05 37 05.9	
	baz=215,slow=37								
NB2	**NORSAR Subarra**	**3.94**	**25**		Pn	Pn		05 36 01.8	0.0
	SNR=55								
NB2					Sn	Sn		05 36 45.6	-2.1
	SNR=55								
NB2					Lg	Lg		05 37 05.9	
	SNR=3.9								
HFS	**Hagfors**	**4.03**	**47**		Pn	Pn		05 36 03.3	+0.2
	baz=236,slow=14								
HFS					Sn	Sn		05 36 49.4	-0.6
	baz=235,slow=28								
HFS					Lg	Lg		05 37 09.5	
	baz=234,slow=28								
HFS	**Hagfors**	**4.03**	**47**		Pn	Pn		05 36 03.3	+0.2
	baz=236,slow=14								
HFS					Sn	Sn		05 36 49.4	-0.6
	baz=235,slow=28								
HFS					Lg	Lg		05 37 09.5	
	baz=234,slow=28								
HFS	**Hagfors**	**4.03**	**47**		Pn	Pn		05 36 03.3	+0.3
	SNR=55								
HFS					Sn	Sn		05 36 49.4	-0.6
	SNR=55								
HFS					Lg	Lg		05 37 09.5	
	SNR=9.4								
BSD	**Bornholm Skovb**	**4.65**	**118**		*i* P	Pn		05 36 11.6	+0.1
BSD					*i*			05 36 15.0	
BSD					*i* S	Sn		05 37 02.8	-2.3
BSD	**Bornholm Skovb**	**4.65**	**118**		*i* P	Pn		05 36 11.6	+0.1
BSD					*i* S	Sn		05 37 02.9	-2.2
	comp=Z,8.5nm,0.6s,SNR=49								
FIA0	**FINESS Array S**	**10.08**	**59**		Pn	Pn		05 37 27.3	+1.4
	baz=252,slow=12								
FIA0					Sn	Sn		05 39 14.3	-4.4
	baz=270,slow=22								
FIA0	**FINESS Array S**	**10.08**	**59**		Pn	Pn		05 37 27.3	+1.4
	baz=252,slow=12								
FIA0					Sn	Sn		05 39 14.3	-4.4
	baz=270,slow=22								
FIA0	**FINESS Array S**	**10.08**	**59**		Pn	Pn		05 37 27.3	+1.3
	SNR=55								
ARA0	**ARCESS Array S**	**14.32**	**26**		Pn	Pn		05 38 20.0	-3.8
ARA0	**ARCESS Array S**	**14.32**	**26**		Pn	Pn		05 38 20.0	-3.8

IPEC ***29*** *05:38:50.9±0.2, 49.85N×18.53E, h2km±2km, ML2.1/4, Error ellipse: s-maj=2.3km s-min=1.1km az=161.0*
PRU ***29*** *05:38:51.7, 49.87N×18.42E, h0km*
CSEM 29 05:38:50.6±0.3, 49.88N×18.42E, h2km, ML2.8/8, Error ellipse: s-maj=7.3km s-min=4.5km az=177.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.18**	**258**		*e*PG	Pg		05 38 55.9	+1.7
OKC					*e*SG	Sg		05 38 57.6	+1.0
	101nm,0.3s								
OKC	**Ostrava-Krasne**	**0.18**	**258**		Pg	Pg		05 38 55.9	+1.7
OKC					Sg	Sg		05 38 57.6	+1.0
	101nm,0.3s								
RAC	**Raciborz**	**0.26**	**325**		*e*Sg	Sb		05 39 02.8	-0.1
CHZP	**Chorzow**	**0.55**	**41**		*e*Pg	Pg		05 39 01.6	+0.3
CHZP					*e*Sg	Sg		05 39 09.8	+1.3
MORC	**Moravsky Berou**	**0.58**	**261**		*e*Pg	Pb		05 39 03.4	-0.2
MORC					*e*Sg	Sb		05 39 11.2	-1.1
	35nm,0.4s,baz=83								
OJC	**Ojcow**	**0.95**	**68**		*e*Pg	Pg		05 39 08.2	-0.7
OJC					*e*Sg	Sg		05 39 21.0	-0.2
OJC	**Ojcow**	**0.95**	**68**		*e*Sg	Sg		05 39 21.0	-0.2
OJC	**Ojcow**	**0.95**	**68**		*e*Pg	Pg		05 39 08.2	-0.7
KRLC	**Kraliky**	**1.08**	**281**		*e*PG	Pg		05 39 11.4	0.0
KRLC					*e*SG	Sb		05 39 26.1	-0.6
KRLC	**Kraliky**	**1.08**	**281**		Pg	Pg		05 39 11.4	0.0
KRLC					Sg	Sb		05 39 26.1	-0.6
JAVC	**Velka Javorina**	**1.13**	**206**		*e*Sg	Sn		05 39 29.8	+0.1
	20nm,0.5s								
VRAC	**Vranov**	**1.32**	**245**		*e*Pg	Pb		05 39 16.2	+0.1
	baz=66								
VRAC					*e*Sg	Sn		05 39 33.9	-0.4
	36nm,0.4s,baz=66								
DPC	**Dobruska-Polom**	**1.43**	**290**		*e*PG	Pg		05 39 18.4	+0.2
DPC					*e*SG	Sn		05 39 37.5	+0.3
DPC	**Dobruska-Polom**	**1.43**	**290**		Pg	Pg		05 39 18.4	+0.2
DPC					Sg	Sn		05 39 37.5	+0.3
SMOL	**Smolenice**	**1.51**	**206**		*e*PG	Pn		05 39 18.7	0.0
SMOL					*e*SG	Sb		05 39 39.0	0.0
SMOL	**Smolenice**	**1.51**	**206**		*e*Pg	Pn		05 39 18.7	0.0
SMOL					*e*Sg	Sb		05 39 39.0	0.0
KRUC	**Moravsky**	**1.55**	**239**		*e*Pn	Pb		05 39 20.1	0.0
	baz=60								
KRUC					*e*Sg	Sg		05 39 41.0	+0.4
	19nm,0.4s,baz=60								
KSP	**Ksiaz**	**1.67**	**306**		*e*Pg	Pb		05 39 22.2	+0.1
KSP					*e*Sg	Sg		05 39 44.8	+0.4
UPC	**Upice**	**1.67**	**293**		*e*PG	Pb		05 39 22.2	0.0
UPC					*e*SG	Sg		05 39 45.0	+0.5
UPC	**Upice**	**1.67**	**293**		Pg	Pb		05 39 22.2	0.0
UPC					Sg	Sg		05 39 45.0	+0.5
STHS	**Stebnicka Huta**	**1.89**	**103**		*e*PN	Pb		05 39 24.9	-1.0
STHS	**Stebnicka Huta**	**1.89**	**103**		*e*Pn	Pb		05 39 24.9	-1.0
TREC	**Trest**	**2.00**	**254**		*e*PG	Pb		05 39 26.8	-0.9
TREC					*e*SG	Sg		05 39 54.1	-0.8
	9.9nm,0.4s								
TREC	**Trest**	**2.00**	**254**		Pg	Pb		05 39 26.8	-0.9
TREC					Sg	Sg		05 39 54.1	-0.8
	9.9nm,0.4s								
PRU	**Pruhonice**	**2.51**	**274**		*e*PG	Pg		05 39 38.4	-0.3
PRU					*e*SG	Sg		05 40 09.9	-1.4
	12nm,0.8s								
PRU	**Pruhonice**	**2.51**	**274**		Pg	Pg		05 39 38.4	-0.3
PRU					Sg	Sg		05 40 09.9	-1.4
	12nm,0.8s								
PVCC	**Panska Ves**	**2.56**	**286**		*e*SG	Sg		05 40 12.4	-0.5
	18nm,0.4s								
PVCC	**Panska Ves**	**2.56**	**286**		Sg	Sg		05 40 12.4	-0.5
	18nm,0.4s								
BRG	**Berggiesshubel**	**3.04**	**291**		PG	Pg		05 39 48.2	-0.6
BRG					SG	Sg		05 40 27.5	-0.7
	6.0nm,0.4s								
KHC	**Kasperske Hory**	**3.25**	**259**		*e*PN	Pn		05 39 43.6	+1.0
KHC					*e*PG	Pg		05 39 51.5	-1.4
KHC					*e*SN	Sn		05 40 21.0	-0.8
KHC					*e*SG	Sg		05 40 33.4	-1.6
	5.3nm,0.4s								
KHC	**Kasperske Hory**	**3.25**	**259**		Pn	Pn		05 39 43.6	+1.0
CLL	**Collm**	**3.74**	**295**		*e*Sg	Sg		05 40 50.0	-0.7

DDA ***29*** *06:02:35.4, 34.30N×27.36E, h11km, MD3.4*
IDC ***29*** *06:02:38.3±1.2, 34.77N×27.44E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.9/4, ML2.8/1, Error ellipse: s-maj=46.3km s-min=22.2km az=121.0*
ISCJB ***29*** *06:02:43.1±0.5, 34.46N±0.03×28.08E±0.04, h48km, mb3.9/4, Error ellipse: s-maj=4.7km s-min=3.6km az=175.0*
HLW ***29*** *06:02:45.3, 34.35N×27.92E, h33km±46km, Md0.0, Ml3.5*
CSEM ***29*** *06:02:46.8±0.5, 34.26N×28.02E, h30km, ML3.5, Error ellipse: s-maj=12.2km s-min=5.3km az=163.0*
ISC 29 06:02:43.1±0.9, 34.52N±0.04×27.87E±0.05, h48km, n50, σ1°77/67, mb3.9/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**2.22**	**39**		*i* P	Pn		06 03 18.7	+1.1
AKAS					*i* S	Sn		06 03 41.7	-2.2
GOLH	**Golhisar**	**3.04**	**26**		*i* P	Pn		06 03 30.1	+1.2
GOLH					*i* S	Sn		06 04 04.4	+0.4
AYDN	**Tasoluk**	**3.13**	**0**		*i* P	Pn		06 03 27.3	-2.8
AYDN					*i* S	Sn		06 04 00.0	-6.2
KORT	**Korkueli**	**3.19**	**38**		*i* P	Pn		06 03 32.4	+1.4
KORT					*i* S	Sn		06 04 08.5	+0.6
DNZL	**Cakiroluk**	**3.30**	**16**		*i* P	Pn		06 03 31.5	-1.0
DNZL					*i* S	Sn		06 04 07.4	-3.2
HMAT	**Matruh**	**3.48**	**191**		P	Pn		06 03 35.9	+1.1
HMAT					S	Sn		06 04 12.0	-2.7
SLUM		**3.76**	**217**		P	Pn		06 03 38.8	+0.2
	baz=220								
SLUM		**3.76**	**217**		P	Pn		06 03 38.8	+0.2
GAZI	**Gazipasa**	**4.01**	**64**		*i* P	Pn		06 03 42.5	+0.4
GAZI					*i* S	Sn		06 04 23.9	-4.1
HBRG	**Burj al 'Arab**	**4.27**	**157**		P	Pn		06 03 45.8	+0.1
	baz=156								
CSS	**Prodhromos**	**4.52**	**83**		Pn	Pn		06 03 51.4	+2.4
CSS					Sn	Sn		06 04 40.6	+0.3
SWA2		**5.65**	**202**		P	Pn		06 04 05.3	+0.7
	baz=204								
SWA2					S	Sn		06 05 04.3	-3.8
	baz=204								
SWA2		**5.65**	**202**		P	Pn		06 04 05.3	+0.7
SWA2					S	Sn		06 05 04.3	-3.8
KOT	**Kottamia**	**5.68**	**143**		P	Pn		06 04 05.7	+0.7
	baz=142								
KOT	**Kottamia**	**5.68**	**143**		P	Pn		06 04 05.7	+0.7
HHAG	**Hagoal**	**5.79**	**141**		P	Pn		06 04 07.5	+1.0
	baz=139								
HHAG	**Hagoal**	**5.79**	**141**		P	Pn		06 04 07.6	+1.0
HSAF	**As Saff**	**5.80**	**146**		P	Pn		06 04 06.6	-0.1
	baz=145								
HSAF	**As Saff**	**5.80**	**146**		P	Pn		06 04 06.6	-0.1
GLL	**Jalalah**	**5.91**	**145**		P	Pn		06 04 08.4	+0.2
	baz=144								
GLL	**Jalalah**	**5.91**	**145**		P	Pn		06 04 08.4	+0.2
AMAG	**Maghara**	**5.94**	**129**		P	Pn		06 04 08.6	0.0
	baz=128								
AMAG	**Maghara**	**5.94**	**129**		P	Pn		06 04 08.6	0.0
RSH		**6.08**	**124**		P	Pn		06 04 11.6	+1.2
	baz=123								
RSH		**6.08**	**124**		P	Pn		06 04 11.6	+1.2
SUZ		**6.28**	**137**		P	Pn		06 04 14.1	+0.9
	baz=135								
SUZ		**6.28**	**137**		P	Pn		06 04 14.1	+0.9
SLTI	**Sal'it**	**6.42**	**109**		Sn	Sn		06 05 25.8	-1.2
MMA0	**Mount Meron ar**	**6.45**	**101**		Sn	Sn		06 05 26.3	-1.7
KZIT	**Kziot**	**6.58**	**121**		Pn	Pn		06 04 18.4	+1.1
KZIT					Sn	Sn		06 05 29.0	-2.0
KSDI	**Kefar Szold**	**6.62**	**99**		Sn	Sn		06 05 30.8	-1.1
MMLI	**Mount Malkishu**	**6.64**	**106**		Sn	Sn		06 05 30.7	-1.9
HMDT	**Nahal Hemdat**	**6.79**	**107**		Pn	Pn		06 04 22.0	+1.8

Error ellipse: s-maj=3.1km s-min=2.8km az=162.2
*CSEM **29** 06:13:25.0±0.1, 38°.82N×26°.87E, h15km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.4km az=62.0*

ISC 29 06:13:25.0±1.0, **38°.84N**±0°.02×**26°.88E**±0°.02, **h10**km±8km, **n115**, σ0**s67**/152, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.50**	**342**	*i* P	**Pg**	**06 13 34.3**	**-0.4**
AYVA				*i* S	**Sg**	**06 13 41.6**	**+0.3**
AYVA	**Ayvalik**	**0.50**	**342**	*i* P	**Pg**	**06 13 34.3**	**-0.4**
AYVA				*i* S	**Sg**	**06 13 41.6**	**+0.3**
IZM	**Izmir**	**0.53**	**146**	*e*PG	**Pg**	**06 13 35.1**	**-0.2**
IZM				*e*SG	**Sg**	**06 13 43.6**	**+1.3**
IZM	**Izmir**	**0.53**	**146**	*e*Pg	**Pg**	**06 13 35.1**	**-0.2**
IZM				*e*Sg	**Sg**	**06 13 43.6**	**+1.3**
PRK	**Paraskevi**	**0.63**	**311**	P	**Pg**	**06 13 37.0**	**-0.2**
PRK				S	**Sb**	**06 13 47.0**	**0.0**
PRK	**Paraskevi**	**0.63**	**311**	*e*PB	**Pg**	**06 13 35.9**	**-1.3**
PRK				*e*SN	**Sg**	**06 13 44.9**	**-0.6**
PRK	**Paraskevi**	**0.63**	**311**	*e*Pb	**Pg**	**06 13 35.9**	**-1.3**
PRK	**Paraskevi**	**0.63**	**311**	P	**Pg**	**06 13 37.0**	**-0.2**
PRK				*e*Sn	**Sg**	**06 13 44.9**	**-0.6**
PRK				S	**Sb**	**06 13 47.0**	**0.0**
AKHS	**Akhisar**	**0.73**	**86**	*i* P	**Pg**	**06 13 38.9**	**-0.2**
AKHS				*i* S	**Sg**	**06 13 48.9**	**+0.3**
AKHS	**Akhisar**	**0.73**	**86**	*i* P	**Pg**	**06 13 38.9**	**-0.2**
AKHS				*i* S	**Sg**	**06 13 48.9**	**+0.3**
AKS	**Akhisar**	**0.73**	**86**	*e*PG	**Pg**	**06 13 38.7**	**-0.4**
AKS	**Akhisar**	**0.73**	**86**	*e*Pg	**Pg**	**06 13 38.7**	**-0.4**
CHOS	**Chios island**	**0.79**	**236**	*e*PG	**Pg**	**06 13 40.2**	**0.0**
CHOS				*e*SG	**Sb**	**06 13 52.4**	**+0.8**
CHOS	**Chios island**	**0.79**	**236**	P	**Pg**	**06 13 39.9**	**-0.4**
CHOS				S	**Sb**	**06 13 51.6**	**0.0**
CHOS	**Chios island**	**0.79**	**236**	*e*PN	**Pg**	**06 13 39.8**	**-0.5**
CHOS				*e*SN	**Sg**	**06 13 50.6**	**0.0**
CHOS	**Chios island**	**0.79**	**236**	P	**Pg**	**06 13 39.9**	**-0.4**
CHOS	**Chios island**	**0.79**	**236**	*e*Pg	**Pg**	**06 13 40.3**	**0.0**
CHOS				*e*Sn	**Sg**	**06 13 50.6**	**0.0**
CHOS				S	**Sb**	**06 13 51.6**	**0.0**
CHOS				*e*Sg	**Sb**	**06 13 52.4**	**+0.8**
SIGR	**SIGRI**	**0.89**	**295**	P	**Pg**	**06 13 42.0**	**-0.1**
SIGR				S	**Sb**	**06 13 55.6**	**+1.3**
SIGR	**SIGRI**	**0.89**	**295**	P	**Pg**	**06 13 42.0**	**-0.1**
SIGR				S	**Sb**	**06 13 55.6**	**+1.3**
BALY	**Balya**	**1.07**	**32**	*i* P	**Pg**	**06 13 45.1**	**-0.5**
BALY	**Balya**	**1.07**	**32**	*i* P	**Pg**	**06 13 45.1**	**-0.5**
BALB	**Balikesir**	**1.12**	**44**	*e*PN	**Pg**	**06 13 45.9**	**-0.6**
BALB				*e*SN	**Sb**	**06 14 01.4**	**+0.5**
BALB	**Balikesir**	**1.12**	**44**	*e*Pn	**Pg**	**06 13 45.9**	**-0.6**
BALB				*e*Sn	**Sb**	**06 14 01.5**	**+0.5**
SMG	**Samos**	**1.12**	**182**	P	**Pg**	**06 13 45.3**	**-1.3**
SMG				S	**Sg**	**06 14 00.8**	**-0.5**
SMG	**Samos**	**1.12**	**182**	*e*PN	**Pg**	**06 13 45.5**	**-1.1**
SMG	**Samos**	**1.12**	**182**	P	**Pg**	**06 13 45.3**	**-1.3**
SMG				S	**Sg**	**06 14 00.8**	**-0.5**
GCAM	**G?zelcaml?**	**1.17**	**166**	*i* P	**Pg**	**06 13 46.6**	**-0.8**
GCAM				*i* S	**Sg**	**06 14 02.9**	**+0.4**
GCAM	**G?zelcaml?**	**1.17**	**166**	*i* P	**Pg**	**06 13 46.6**	**-0.8**
GCAM				*i* S	**Sg**	**06 14 02.9**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**138**	*e*PN	**Pg**	**06 13 46.5**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**138**	*e*Pn	**Pg**	**06 13 46.5**	**-1.4**
MANT	**Manisa**	**1.35**	**104**	*i* P	**Pn**	**06 13 49.4**	**-0.8**
MANT				*i* S	**Sb**	**06 14 08.0**	**0.0**
MANT	**Manisa**	**1.35**	**104**	*i* P	**Pn**	**06 13 49.4**	**-0.8**
MANT				*i* S	**Sb**	**06 14 08.0**	**0.0**
GONE	**Gonen-Balikesi**	**1.36**	**27**	*e*PN	**Pn**	**06 13 49.0**	**-1.0**
GONE	**Gonen-Balikesi**	**1.36**	**27**	*e*Pn	**Pn**	**06 13 49.0**	**-1.0**
AYDN	**Tasoluk**	**1.41**	**146**	*i* P	Pn	06 13 48.2	-2.6
AYDN				*i* S	**Sb**	**06 14 09.0**	**-0.5**
AYDN	**Tasoluk**	**1.41**	**146**	*i* P	Pn	06 13 48.2	-2.6
AYDN				*i* S	**Sb**	**06 14 09.0**	**-0.5**
KULA	**Kula-Manisa**	**1.43**	**102**	*e*PN	**Pn**	**06 13 50.1**	**-0.9**
KULA	**Kula-Manisa**	**1.43**	**102**	*e*Pn	**Pn**	**06 13 50.1**	**-0.9**
DEMI	**Demirci**	**1.44**	**81**	*i* P	**Pn**	**06 13 51.6**	**+0.3**
DEMI				*i* S	**Sb**	**06 14 10.2**	**-0.3**
DEMI	**Demirci**	**1.44**	**81**	*i* P	**Pn**	**06 13 51.6**	**+0.3**
DEMI				*i* S	**Sb**	**06 14 10.2**	**-0.3**
DURS	**Dursunbey**	**1.45**	**58**	*i* P	**Pn**	**06 13 50.5**	**-0.9**
DURS				*i* S	**Sn**	**06 14 09.6**	**-1.0**
DURS	**Dursunbey**	**1.45**	**58**	*i* P	**Pn**	**06 13 50.5**	**-0.9**
DURS				*i* S	**Sn**	**06 14 09.6**	**-1.0**
LPK	**Lapseki**	**1.54**	**356**	*e*PN	**Pn**	**06 13 51.8**	**-0.7**
LPK	**Lapseki**	**1.54**	**356**	*e*Pn	**Pn**	**06 13 51.8**	**-0.7**
KRBG	**Karabiga-Canak**	**1.59**	**11**	*e*PN	**Pn**	**06 13 52.0**	**-1.2**
KRBG	**Karabiga-Canak**	**1.59**	**11**	*e*Pn	**Pn**	**06 13 52.0**	**-1.2**
GELI	**Tayfur-Gelibol**	**1.59**	**349**	*e*PN	**Pn**	**06 13 52.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.59**	**349**	*e*Pn	**Pn**	**06 13 52.8**	**-0.5**
EDC	**Edincik**	**1.69**	**26**	*e*PN	**Pn**	**06 13 53.4**	**-1.2**
EDC	**Edincik**	**1.69**	**26**	*e*Pn	**Pn**	**06 13 53.4**	**-1.2**
LIA	**Limnos Island**	**1.69**	**309**	P	**Pn**	**06 13 54.1**	**-0.5**
LIA	**Limnos Island**	**1.69**	**309**	*e*PN	**Pn**	**06 13 54.5**	**-0.1**
LIA	**Limnos Island**	**1.69**	**309**	P	**Pn**	**06 13 54.1**	**-0.5**
LIA	**Limnos Island**	**1.69**	**309**	*e*Pn	**Pn**	**06 13 54.5**	**-0.1**
BNT	**Bandirma**	**1.72**	**27**	*e*PN	**Pn**	**06 13 54.1**	**-0.9**
BNT	**Bandirma**	**1.72**	**27**	*e*Pn	**Pn**	**06 13 54.0**	**-0.9**
BODT	**Bodrum**	**1.80**	**169**	*e*PN	**Pn**	**06 13 56.6**	**+0.5**
BODT	**Bodrum**	**1.80**	**169**	*e*Pn	**Pn**	**06 13 56.6**	**+0.5**
KCTX	**Karacabey (Bur**	**1.83**	**38**	*e*PN	**Pn**	**06 13 55.7**	**-0.8**
KCTX	**Karacabey (Bur**	**1.83**	**38**	*e*Pn	**Pn**	**06 13 55.7**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.86**	**7**	*e*PN	**Pn**	**06 13 56.5**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.86**	**7**	*e*Pn	**Pn**	**06 13 56.5**	**-0.6**
SART	**Tekirdag**	**1.87**	**7**	*i* P	**Pn**	**06 13 56.4**	**-0.7**
SART				*i* S	**Sn**	**06 14 20.5**	**-0.2**
SART	**Tekirdag**	**1.87**	**7**	*i* P	**Pn**	**06 13 56.4**	**-0.7**
SART				*i* S	**Sn**	**06 14 20.5**	**-0.2**
SMTH	**Samothraki Isl**	**1.94**	**328**	P	**Pn**	**06 13 57.3**	**-0.7**
SMTH				S	**Sn**	**06 14 22.8**	**+0.4**
SMTH	**Samothraki Isl**	**1.94**	**328**	*e*PN	**Pn**	**06 13 57.7**	**-0.3**
SMTH	**Samothraki Isl**	**1.94**	**328**	P	**Pn**	**06 13 57.3**	**-0.7**
SMTH	**Samothraki Isl**	**1.94**	**328**	*e*Pn	**Pn**	**06 13 57.7**	**-0.3**
SMTH				S	**Sn**	**06 14 22.8**	**+0.4**
ORLT	**Orhaneli**	**1.97**	**52**	*e*PN	**Pn**	**06 13 58.0**	**-0.5**
ORLT	**Orhaneli**	**1.97**	**52**	*e*Pn	**Pn**	**06 13 58.0**	**-0.5**
ENEZ	**Enez**	**1.98**	**344**	*e*PN	**Pn**	**06 13 58.4**	**-0.2**
ENEZ	**Enez**	**1.98**	**344**	*e*Pn	**Pn**	**06 13 58.4**	**-0.2**
GDZ	**Gediz**	**2.04**	**82**	*i* P	**Pb**	**06 14 02.9**	**+0.6**
GDZ				*i* S	**Sb**	**06 14 29.2**	**+1.5**
APE	**Apeiranthos**	**2.06**	**212**	*e*PN	**Pn**	**06 14 00.5**	**+0.8**
APE	**Apeiranthos**	**2.06**	**212**	P	**Pn**	**06 13 58.0**	**-1.7**
APE	**Apeiranthos**	**2.06**	**212**	*e*PB	**Pn**	**06 13 59.4**	**-0.3**
APE	**Apeiranthos**	**2.06**	**212**	P	**Pn**	**06 13 58.0**	**-1.7**
APE	**Apeiranthos**	**2.06**	**212**	*e*Pb	**Pn**	**06 13 59.4**	**-0.3**
APE	**Apeiranthos**	**2.06**	**212**	*e*Pn	**Pn**	**06 14 00.5**	**+0.8**
TVSB	**Tavsanli**	**2.10**	**72**	*e*PN	**Pn**	**06 14 00.6**	**+0.3**
TVSB	**Tavsanli**	**2.10**	**72**	*e*Pn	**Pn**	**06 14 00.6**	**+0.3**
KHL	**Karahalli**	**2.13**	**103**	*e*PN	**Pn**	**06 14 01.4**	**+0.7**
KHL	**Karahalli**	**2.13**	**103**	*e*Pn	**Pn**	**06 14 01.4**	**+0.7**
ALN	**Alexandroupoli**	**2.16**	**343**	*e*PN	**Pn**	**06 14 01.6**	**+0.6**
ALN	**Alexandroupoli**	**2.16**	**343**	P	**Sn**	**06 14 00.5**	**+0.5**
ALN				S	**Sn**	**06 14 27.9**	**+0.1**
ALN	**Alexandroupoli**	**2.16**	**343**	*e*PN	**Pn**	**06 14 00.7**	**-0.3**
ALN	**Alexandroupoli**	**2.16**	**343**	*e*Pn	**Pn**	**06 14 00.7**	**-0.3**
ALN				S	**Sn**	**06 14 27.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.18**	**45**	*e*PN	**Pn**	**06 14 01.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**2.18**	**45**	*e*Pn	**Pn**	**06 14 01.1**	**-0.1**
ARMT	**Armutlu**	**2.31**	**41**	*e*PN	**Pn**	**06 14 03.0**	**-0.1**
ARMT	**Armutlu**	**2.31**	**41**	*e*Pn	**Pn**	**06 14 03.0**	**-0.1**
RDO	**Rodhopi**	**2.53**	**336**	*e*PN	**Pn**	**06 14 06.0**	**-0.1**
RDO	**Rodhopi**	**2.53**	**336**	*e*Pn	**Pn**	**06 14 06.0**	**-0.1**
CAVI	**Cavuskoy**	**2.67**	**58**	*e*PN	**Pn**	**06 14 08.1**	**+0.1**
CAVI	**Cavuskoy**	**2.67**	**58**	*e*Pn	**Pn**	**06 14 08.1**	**+0.1**
CTKS	**Kestanelik-??a**	**2.70**	**27**	*e*PN	**Pn**	**06 14 09.2**	**+0.7**
CTKS	**Kestanelik-??a**	**2.70**	**27**	*e*Pn	**Pn**	**06 14 09.2**	**+0.7**
BGKT	**Bogazkoy**	**2.76**	**31**	*e*PN	**Pn**	**06 14 09.6**	**+0.4**
BGKT	**Bogazkoy**	**2.76**	**31**	*e*Pn	**Pn**	**06 14 09.6**	**+0.4**
ISK	**Istanbul-Kandi**	**2.79**	**36**	*e*PN	**Pn**	**06 14 09.8**	**+0.2**
ISK	**Istanbul-Kandi**	**2.79**	**36**	*e*Pn	**Pn**	**06 14 09.8**	**+0.2**
KAVA	**Kavala**	**2.83**	**321**	*e*PN	**Pn**	**06 14 09.6**	**-0.6**
KAVA	**Kavala**	**2.83**	**321**	*e*Pn	**Pn**	**06 14 09.6**	**-0.6**
CTYL	**Yal??k??y-??at**	**2.85**	**22**	*e*PN	**Pn**	**06 14 10.6**	**+0.1**
CTYL	**Yal??k??y-??at**	**2.85**	**22**	*e*Pn	**Pn**	**06 14 10.6**	**+0.1**
KLYT	**Kilyos**	**2.93**	**34**	*e*PN	**Pn**	**06 14 11.7**	**+0.1**
KLYT	**Kilyos**	**2.93**	**34**	*e*Pn	**Pn**	**06 14 11.7**	**+0.1**
EDRB	**Edirne**	**3.01**	**358**	*e*PN	**Pn**	**06 14 13.1**	**+0.3**
EDRB	**Edirne**	**3.01**	**358**	*e*Pn	**Pn**	**06 14 13.1**	**+0.3**
ELL	**Elmali**	**3.17**	**130**	*e*PN	**Pn**	**06 14 15.6**	**+0.5**
ELL	**Elmali**	**3.17**	**130**	*e*Pn	**Pn**	**06 14 15.6**	**+0.5**
GULT	**Gulveren**	**3.23**	**59**	*e*PN	**Pn**	**06 14 16.1**	**+0.3**
GULT	**Gulveren**	**3.23**	**59**	*e*Pn	**Pn**	**06 14 16.1**	**+0.3**
NVR	**Nevrokopi**	**3.42**	**318**	*e*PN	**Pn**	**06 14 18.4**	**0.0**
NVR	**Nevrokopi**	**3.42**	**318**	*e*Pn	**Pn**	**06 14 18.4**	**0.0**

NEIC 29 06:14:19.2, 52°.44N×173°.95W, h149km, MG3.5(AEIC), **After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSTR	**Great Sitkin T**	**1.34**	**256**	P	Pn	06 14 46.4	-0.7
GSMY	**Great Sitkin M**	**1.35**	**254**	P	Pn	06 14 46.2	-1.0
GSTD	**Great Sitkin T**	**1.40**	**255**	P	Pn	06 14 46.7	-1.1
GSTD				S	Sn	06 15 08.6	-0.9
GSCK	**Great Sitkin C**	**1.43**	**253**	P	Pn	06 14 47.0	-0.9
ETKA	**Kagalaska Isla**	**1.62**	**250**	P	Pn	06 14 49.3	-0.7
ETKA				S	Sn	06 15 13.1	-0.4
ADAG	**Mount Adagdak**	**1.69**	**255**	P	Pn	06 14 50.2	-0.6
KIKV	**Kanaga Island**	**2.06**	**255**	P	Pn	06 14 54.3	-0.7
TAPA	**Tanaga Point A**	**2.46**	**257**	P	Pn	06 14 58.7	-1.1
TASE	**Tanaga Southea**	**2.59**	**258**	P	Pn	06 15 00.5	-0.9
GANE	**Gareloi Northe**	**3.04**	**260**	P	Pn	06 15 06.0	-1.0
NIKH	**Nikolski High**	**3.15**	**78**	P	Pn	06 15 07.1	-1.2
NIKH				S	Sn	06 15 44.3	-2.1
CERB	**Semis' Cerberu**	**3.98**	**265**	P	Pn	06 15 18.4	-0.8
AMKA	**Amchitka**	**4.31**	**258**	P	Pn	06 15 21.8	-1.6
MREP	**Makushin Rep't**	**4.55**	**70**	P	Pn	06 15 24.5	-2.2
UNV	**Unalaska Valle**	**4.70**	**70**	P	Pn	06 15 27.8	-0.7
SPIA	**Saint Paul Isl**	**5.21**	**23**	P	Pn	06 15 33.0	-2.2
SMY	**Shemya**	**7.29**	**277**	P	Pn	06 15 59.6	-3.3
DTNA	**Dutton South F**	**7.44**	**64**	P	Pn	06 16 02.7	-2.3
FX1	**Attu Island--F**	**7.85**	**278**	P	Pn	06 16 09.3	-1.2

*CSEM **29** 06:28:42.7±0.5, 28°.74N×34°.67E, h2km, ML3.2, Mw3.0, Error ellipse: s-maj=12.4km s-min=9.0km az=95.0*
*GII **29** 06:28:42.8±0.6, 28°.83N×34°.64E, h1km±1km, mb4.1/5, MD3.9/6, Mm3.0/4*
*SGS **29** 06:28:44.5, 28°.75N×34°.79E, h20km*

ISC 29 06:28:42.8±1.6, **28°.74N**±0°.04×**34°.71E**±0°.08, **h0**km±12km, **n28**, σ0**s64**/42, **Egypt**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAQS	**Haql**	**0.36**	**31**	P	**Pb**	**06 28 51.6**	**-0.4**
RSHS		**0.45**	**170**	P	**Pb**	**06 28 53.6**	**0.0**
BDAS	**Al Bad'**	**0.46**	**132**	S	**Sb**	**06 29 00.9**	**-0.3**
BDAS	**Al Bad'**	**0.46**	**132**	P	**Pb**	**06 28 53.9**	**0.0**
JLOS		**0.68**	**90**	S	**Sb**	**06 29 07.2**	**-0.6**
JLOS		**0.68**	**90**	P	**Pg**	**06 28 56.3**	**+0.4**
EIL	**Elat**	**0.95**	**13**	Pg	**Pg**	**06 29 01.0**	**0.0**
EIL				Sg	**Sg**	**06 29 13.9**	**+0.6**
EIL	**Elat**	**0.95**	**13**	Pg	**Pg**	**06 29 01.0**	**0.0**
EIL				Sg	**Sg**	**06 29 13.9**	**+0.6**
MBRI	**Mt Berech**	**1.06**	**9**	Pg	**Pg**	**06 29 02.9**	**-0.3**
MBRI				Sg	**Sb**	**06 29 18.6**	**0.0**
MBRI	**Mt Berech**	**1.06**	**9**	Pg	**Pg**	**06 29 02.9**	**-0.3**
MBRI				Sg	**Sb**	**06 29 18.6**	**0.0**
HRFI	**Mount Harif**	**1.32**	**12**	Pg	**Pg**	**06 29 07.8**	**-0.7**
HRFI				Sg	**Sb**	**06 29 26.3**	**+0.3**
HRFI	**Mount Harif**	**1.32**	**12**	Pg	**Pn**	**06 29 07.8**	**-0.7**
HRFI				Sg	**Sb**	**06 29 26.3**	**+0.3**
KRMI	**Paran Flat**	**1.37**	**0**	Pg	**Pn**	**06 29 08.1**	**-1.1**
KRMI				Sg	**Sg**	**06 29 27.0**	**+0.1**
KRMI	**Paran Flat**	**1.37**	**0**	Pg	**Pn**	**06 29 08.1**	**-1.1**
KRMI				Sg	**Sg**	**06 29 27.0**	**+0.1**
PRNI	**Paran**	**1.62**	**9**	Pn	**Pn**	**06 29 11.6**	**-1.1**
PRNI				Sn	**Sb**	**06 29 34.8**	**+0.1**
PRNI	**Paran**	**1.62**	**9**	Pn	**Pn**	**06 29 11.6**	**-1.1**
PRNI				Sn	**Sb**	**06 29 34.8**	**+0.1**
RMNI	**Mount Ramon**	**1.85**	**1**	Pn	**Pn**	**06 29 15.7**	**-0.1**
RMNI	**Mount Ramon**	**1.85**	**1**	Pn	**Pn**	**06 29 15.7**	**-0.1**
ZFRI	**Zfri**	**1.85**	**13**	Pn	**Pn**	**06 29 14.1**	**-1.7**
ZFRI				Sn	**Sn**	**06 29 40.4**	**+0.5**
ZFRI	**Zfri**	**1.85**	**13**	Pn	**Pn**	**06 29 14.1**	**-1.7**
ZFRI				Sn	**Sn**	**06 29 40.4**	**+0.5**
KZIT	**Kziot**	**2.17**	**353**	Pn	**Pn**	**06 29 19.9**	**-0.4**
KZIT	**Kziot**	**2.17**	**353**	Pn	**Pn**	**06 29 19.9**	**-0.4**
MZDA	**Masada**	**2.62**	**12**	Pn	**Pn**	**06 29 26.7**	**+0.4**
MZDA	**Masada**	**2.62**	**12**	Pn	**Pn**	**06 29 26.7**	**+0.4**
SLTI	**Sal'it**	**3.50**	**5**	Pn	**Pn**	**06 29 38.8**	**+0.3**
SLTI				Sn	**Sn**	**06 30 21.1**	**+0.5**
SLTI	**Sal'it**	**3.50**	**5**	Pn	**Pn**	**06 29 38.8**	**+0.3**
SLTI				Sn	**Sn**	**06 30 21.1**	**+0.5**
HMDT	**Nahal Hemdat**	**3.57**	**11**	Pn	**Pn**	**06 29 39.3**	**-0.1**
HMDT	**Nahal Hemdat**	**3.57**	**11**	Pn	**Pn**	**06 29 39.3**	**-0.1**

*ROM **29** 07:19:14.7±0.1, 41°.49N×15°.64E, h3km±2km, Ml2.9/24, Error ellipse: s-maj=1.4km s-min=1.1km az=175.0*
*CSEM **29** 07:19:14.9±0.2, 41°.52N×15°.67E, h10km, ML3.6/13, Error ellipse: s-maj=3.5km s-min=2.8km az=35.0*
*ISCJB **29** 07:19:15.5±0.3, 41°.55N±0°.02×15°.66E±0°.02, h26km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=135.8*

ISC 29 07:19:15.4±0.9, **41°.52N**±0°.02×**15°.65E**±0°.02, **h18**km±3km, **n75**, σ0**s72**/118, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGRT	**San Giovanni R**	**0.25**	**17**	Pg	**Pb**	**07 19 21.1**	**-0.2**
SGRT				Sg	**Sg**	**07 19 25.4**	**+0.3**
	1μm,0.3s						
SGRT	**San Giovanni R**	**0.25**	**17**	Pg	**Pb**	**07 19 21.1**	**-0.2**
SGRT				Sg	**Sg**	**07 19 25.4**	**+0.3**
	1μm,0.3s						
MSAG	**Monte S. Angel**	**0.28**	**45**	Pg	**Pg**	**07 19 21.8**	**+0.2**
MSAG				Sg	**Sb**	**07 19 26.8**	**+0.7**
	1μm,0.3s						
MSAG	**Monte S. Angel**	**0.28**	**45**	Pg	**Pg**	**07 19 21.8**	**+0.2**
MSAG				Sg	**Sb**	**07 19 26.8**	**+0.7**
	1μm,0.3s						
MS1	**Monte Sant'Ang**	**0.29**	**49**	*e*Pg	**Pb**	**07 19 22.4**	**+0.4**
MS1				*e*Sg	**Sb**	**07 19 27.5**	**+1.0**
MOCO	**Biccari - m.te**	**0.40**	**248**	Pg	**Pg**	**07 19 23.7**	**+0.1**
MOCO				Sg	**Sg**	**07 19 29.6**	**+0.4**
	338nm,0.4s						
MELA	**Melanico ??? S**	**0.43**	**296**	Pg	**Pg**	**07 19 23.9**	**-0.3**
MELA				Sg	**Sb**	**07 19 31.1**	**+0.4**
	1μm,0.5s						
MELA	**Melanico ??? S**	**0.43**	**296**	Pg	**Pg**	**07 19 23.9**	**-0.3**
MELA				Sg	**Sb**	**07 19 31.1**	**+0.4**
	1μm,0.5s						
SGTA	**Sant Agata di**	**0.44**	**209**	Pg	**Pg**	**07 19 24.2**	**-0.1**
	751nm,0.4s						
SGTA	**Sant Agata di**	**0.44**	**209**	Pg	**Pg**	**07 19 24.2**	**-0.1**
	751nm,0.4s						
GATE	**Gambatesa**	**0.55**	**270**	Pg	**Pg**	**07 19 27.2**	**+0.7**
	183nm,0.6s						
GATE	**Gambatesa**	**0.55**	**270**	Pg	**Pg**	**07 19 27.2**	**+0.7**
	183nm,0.6s						
VULT	**Monte Vulture**	**0.56**	**182**	Pg	**Pg**	**07 19 26.6**	**-0.1**
VULT				Sg	**Sg**	**07 19 35.3**	**+1.1**
	2μm,0.3s						
VULT	**Monte Vulture**	**0.56**	**182**	Pg	**Pb**	**07 19 26.6**	**-0.1**
VULT				Sg	**Sg**	**07 19 35.3**	**+1.1**
	2μm,0.3s						
CIGN	**Sant'Elia a Pi**	**0.57**	**284**	Pg	**Pb**	**07 19 26.7**	**-0.2**
CIGN				Sg	**Sn**	**07 19 36.4**	**-1.2**
	187nm,0.3s						
CIGN	**Sant'Elia a Pi**	**0.57**	**284**	Pg	**Pb**	**07 19 26.7**	**-0.2**
CIGN				Sg	**Sn**	**07 19 36.4**	**-1.2**
	187nm,0.3s						
CAFE	**Carife**	**0.58**	**213**	Pg	**Pb**	**07 19 26.8**	**-0.2**
CAFE				Sg	**Sg**	**07 19 36.1**	**+1.4**
	345nm,0.4s						
CAFE	**Carife**	**0.58**	**213**	Pg	**Pb**	**07 19 26.8**	**-0.2**
CAFE				Sg	**Sg**	**07 19 36.1**	**+1.4**
	345nm,0.4s						
MRVN	**Minervino Murg**	**0.61**	**138**	Pg	**Pb**	**07 19 26.9**	**-0.7**
MRVN				Sg	**Sg**	**07 19 37.3**	**+1.5**
	552nm,0.2s						
MRVN	**Minervino Murg**	**0.61**	**138**	Pg	**Pg**	**07 19 26.9**	**-0.7**
MRVN				Sg	**Sg**	**07 19 37.3**	**+1.5**
	552nm,0.2s						
PALZ	**Palazzo San Ge**	**0.62**	**158**	Pg	**Pb**	**07 19 27.0**	**-0.6**
PALZ				Sg	**Sn**	**07 19 37.5**	**-1.2**
	593nm,0.6s						
PALZ	**Palazzo San Ge**	**0.62**	**158**	Pg	**Pb**	**07 19 27.0**	**-0.6**
PALZ				Sg	**Sn**	**07 19 37.5**	**-1.2**
	593nm,0.6s						
CDT	**Castel del Mon**	**0.64**	**132**	*e*Pg	**Pb**	**07 19 27.3**	**-0.7**
CDT				*e*Sg	**Sg**	**07 19 37.2**	**+0.6**
MRB1	**Monte Rocchett**	**0.64**	**233**	Pg	**Pg**	**07 19 28.9**	**+0.8**
MRB1	**Monte Rocchett**	**0.64**	**233**	Pg	**Pg**	**07 19 28.9**	**+0.8**
SNAL	**S. Angelo Dei**	**0.68**	**209**	Pg	**Pb**	**07 19 28.1**	**-0.6**
SNAL				Sg	**Sg**	**07 19 38.2**	**+0.4**
SNAL	**S. Angelo Dei**	**0.68**	**209**	Pg	**Pb**	**07 19 28.1**	**-0.6**
SNAL				Sg	**Sg**	**07 19 38.2**	**+0.4**
PSB1	**Pescosannita**	**0.69**	**245**	Pg	**Pb**	**07 19 28.3**	**-0.6**
PSB1				Sg	**Sg**	**07 19 39.5**	**+1.2**
	130nm,0.9s						
PSB1	**Pescosannita**	**0.69**	**245**	Pg	**Pb**	**07 19 28.3**	**-0.6**
PSB1				Sg	**Sg**	**07 19 39.5**	**+1.2**
	130nm,0.9s						
ACER	**Acerenza**	**0.76**	**163**	Pg	**Pb**	**07 19 30.1**	**0.0**
ACER				Sg	**Sg**	**07 19 41.5**	**+1.1**
ACER	**Acerenza**	**0.76**	**163**	Pg	**Pb**	**07 19 30.1**	**0.0**
ACER				Sg	**Sg**	**07 19 41.5**	**+1.1**
MRLC	**Muro Lucano**	**0.77**	**189**	Pg	**Pb**	**07 19 30.0**	**-0.2**
MRLC				Sg	**Sn**	**07 19 41.9**	**-0.6**
	424nm,0.4s						
MRLC	**Muro Lucano**	**0.77**	**189**	Pg	**Pb**	**07 19 30.0**	**-0.2**
MRLC				Sg	**Sn**	**07 19 41.9**	**-0.6**
	424nm,0.4s						
BSSO	**Busso**	**0.79**	**272**	Pg	**Pb**	**07 19 30.6**	**-0.1**
BSSO	**Busso**	**0.79**	**272**	Pg	**Pb**	**07 19 30.6**	**-0.1**
MCRV	**Calabrutti - M**	**0.82**	**206**	Pg	**Pb**	**07 19 30.0**	**-1.1**
	291nm,0.2s						
MCRV	**Calabrutti - M**	**0.82**	**206**	Pg	**Pb**	**07 19 30.0**	**-1.1**
	291nm,0.2s						
PTRJ	**Pietraroja**	**0.85**	**260**	Pg	**Pb**	**07 19 31.7**	**0.0**
	393nm,0.3s						
PTRJ	**Pietraroja**	**0.85**	**260**	Pg	**Pb**	**07 19 31.7**	**0.0**
	393nm,0.3s						
TRIV	**Trivento**	**0.86**	**287**	Pg	**Pb**	**07 19 32.1**	**+0.3**
TRIV	**Trivento**	**0.86**	**287**	Pg	**Pb**	**07 19 32.1**	**+0.3**
AMUR	**Altamura**	**0.94**	**130**	Pg	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.89**	**153**	*eP*	Pn	07 31 51.2	+1.0
ROCH				*eS*	Sn	07 32 03.9	+1.6
CMCH	**Combarbala**	**1.09**	**23**⇑	*iP*	Pn	07 31 53.5	+0.7
CMCH				*i* S	Sn	07 32 08.1	+1.2
CMCH				AML	AML	07 32 09.8	
	comp=E,362nm,0.3s						
PEL	**Peldehue**	**1.18**	**145**⇑	*iP*	Pn	07 31 55.0	+1.0
PEL				*i* S	Sn	07 32 10.2	+1.3
PEL				AML	AML	07 32 10.8	
	comp=N,200nm,0.2s						
CLCH	**Cerro Calan**	**1.45**	**147**⇑	*iP*	Pn	07 31 59.1	+1.3
CLCH				*i* S	Sn	07 32 17.2	+1.5
CLCH				AML	AML	07 32 19.0	
	comp=N,87nm,0.2s						
ANTU	**Antumapu**	**1.56**	**153**	*eP*	Pn	07 32 00.3	+1.1
ANTU				*i* S	Sn	07 32 19.8	+1.5
ANTU				AML	AML	07 32 20.7	
	comp=N,95nm,0.3s						
LNV	**Longovilo**	**1.77**	**178**⇑	*iP*	Pn	07 32 02.4	+0.4
LNV				*i* S	Sn	07 32 24.1	+0.9
LMEL	**Las Melosas**	**1.98**	**147**⇑	*iP*	Pn	07 32 06.7	+1.5
LMEL				*i* S	Sn	07 32 31.2	+2.2
LMEL				AML	AML	07 32 33.4	
	comp=N,96nm,0.1s						
CACH	**El Canelo**	**2.07**	**159**	*i* S	Sn	07 32 33.1	+2.1

NEIC ***29*** *07:39:16.4,35.°03S×178.°29E,h266km,MG4.1(WEL), After WEL.*

WEL 29 07:39:17.0±0.6,35.°15S×178.°69E,h272km±8km,ML4.1/5, 1D,Error ellipse: s-maj=8.9km s-min=8.7km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.43**	**187**	PN	Pn	07 40 05.3	+0.3
MXZ				SN	S	07 40 42.8	-0.5
MXZ	**Matakaoa Point**	**2.43**	**187**	Pn	Pn	07 40 05.3	+0.3
MXZ				Sn	S	07 40 42.8	-0.5
PUZ	**Puketiti**	**2.94**	**187**	⇓PN	Pn	07 40 10.3	+0.1
PUZ				SN	S	07 40 52.1	-0.4
PUZ				AML	AML	07 41 04.7	
PUZ	**Puketiti**	**2.94**	**187**	Pn	Pn	07 40 10.3	+0.1
PUZ				Sn	S	07 40 52.0	-0.4
MWZ	**Matawai**	**3.31**	**196**	PN	Pn	07 40 14.2	0.0
MWZ				AML	AML	07 41 03.5	
MWZ				AML	AML	07 41 03.9	
MWZ	**Matawai**	**3.31**	**196**	Pn	Pn	07 40 14.2	0.0
CNGZ	**Carnagh Statio**	**3.35**	**186**	PN	Pn	07 40 15.2	+0.7
CNGZ	**Carnagh Statio**	**3.35**	**186**	Pn	Pn	07 40 15.2	+0.7
URZ	**Urewera**	**3.35**	**202**	PN	Pn	07 40 14.0	-0.5
URZ				SN	S	07 40 58.8	-1.5
URZ				AML	AML	07 41 01.6	
URZ	**Urewera**	**3.35**	**202**	Pn	Pn	07 40 14.0	-0.5
RIGZ	**Rimuhau**	**3.62**	**192**	PN	Pn	07 40 17.4	-0.2
RIGZ				SN	S	07 41 05.5	-0.4
TOZ	**Tahuroa Road**	**3.64**	**224**	PN	Pn	07 40 18.6	+0.9
SNGZ	**Shannon Statio**	**3.78**	**196**	PN	Pn	07 40 19.3	0.0
PRGZ	**Paritu Road**	**3.82**	**189**	PN	Pn	07 40 20.5	+0.8
PRGZ	**Paritu Road**	**3.82**	**189**	Pn	Pn	07 40 20.5	+0.8
KNZ	**Kokohu**	**3.95**	**192**	PN	Pn	07 40 20.6	-0.4
KNZ	**Kokohu**	**3.95**	**192**	Pn	Pn	07 40 20.7	-0.4
RAHZ	**Arahi**	**3.97**	**198**	PN	Pn	07 40 21.2	-0.3
RAHZ	**Arahi**	**3.97**	**198**	Pn	Pn	07 40 21.2	-0.3
MHGZ	**Mahia Peninsul**	**4.04**	**189**	PN	Pn	07 40 22.5	+0.3
MHGZ	**Mahia Peninsul**	**4.04**	**189**	Pn	Pn	07 40 22.6	+0.3
WHHZ	**Waihua**	**4.09**	**196**	PN	Pn	07 40 22.7	0.0
BKZ	**Black Stump Fm**	**4.38**	**203**	PN	Pn	07 40 25.2	-0.9
BKZ	**Black Stump Fm**	**4.38**	**203**	Pn	Pn	07 40 25.2	-0.9
MCHZ	**McNeill Hill**	**4.57**	**200**	PN	Pn	07 40 28.4	+0.1
MCHZ	**McNeill Hill**	**4.57**	**200**	Pn	Pn	07 40 28.4	+0.1
CKHZ	**Cape Kidnapper**	**4.68**	**195**	PN	Pn	07 40 29.6	-0.1
CKHZ	**Cape Kidnapper**	**4.68**	**195**	Pn	Pn	07 40 29.6	-0.1
BHHZ	**Black Hill Sta**	**4.81**	**205**	PN	Pn	07 40 30.0	-1.3
BHHZ	**Black Hill Sta**	**4.81**	**205**	Pn	Pn	07 40 30.0	-1.3
PXZ	**Pawanui**	**5.08**	**196**	PN	Pn	07 40 33.4	-1.0
PXZ				AML	AML	07 41 37.9	
PXZ	**Pawanui**	**5.08**	**196**	Pn	Pn	07 40 33.6	-0.8
PNHZ	**Pukenui**	**5.15**	**202**	PN	Pn	07 40 33.5	-1.8
PNHZ	**Pukenui**	**5.15**	**202**	Pn	Pn	07 40 33.6	-1.7
TSZ	**Takapari Road**	**5.36**	**203**	PN	Pn	07 40 35.7	-2.1
TSZ	**Takapari Road**	**5.36**	**203**	Pn	Pn	07 40 35.7	-2.1
MRZ	**Mangatainoka R**	**6.03**	**203**	PN	Pn	07 40 43.6	-2.2
MRZ				AML	AML	07 41 55.0	
MRZ	**Mangatainoka R**	**6.03**	**203**	Pn	Pn	07 40 43.6	-2.2
HOWZ	**Holdsworth Sta**	**6.26**	**203**	PN	Pn	07 40 46.0	-2.8
HOWZ	**Holdsworth Sta**	**6.26**	**203**	Pn	Pn	07 40 46.0	-2.8
OGWZ	**Otaki Gorge**	**6.30**	**205**	PN	Pn	07 40 46.3	-2.9
OGWZ	**Otaki Gorge**	**6.30**	**205**	Pn	Pn	07 40 46.3	-2.9
KIW	**Kapiti Island**	**6.43**	**206**	PN	Pn	07 40 47.9	-2.9
KIW	**Kapiti Island**	**6.43**	**206**	Pn	Pn	07 40 48.0	-2.9
MTW	**Mount Morrison**	**6.50**	**202**	PN	Pn	07 40 48.9	-2.8
MTW	**Mount Morrison**	**6.50**	**202**	Pn	Pn	07 40 48.9	-2.8
CAW	**Cannon Point**	**6.59**	**205**	PN	Pn	07 40 49.6	-3.2
CAW	**Cannon Point**	**6.59**	**205**	Pn	Pn	07 40 49.6	-3.2
TCW	**Tory Channel**	**6.98**	**209**	PN	Pn	07 40 54.2	-3.4
TCW	**Tory Channel**	**6.98**	**209**	Pn	Pn	07 40 54.2	-3.4
TUWZ	**Tuamarina**	**7.29**	**209**	PN	Pn	07 40 58.0	-3.5
TUWZ	**Tuamarina**	**7.29**	**209**	Pn	Pn	07 40 58.0	-3.5
NNZ	**Nelson**	**7.36**	**213**	PN	Pn	07 41 00.2	-2.1
NNZ	**Nelson**	**7.36**	**213**	Pn	Pn	07 41 00.2	-2.1
QRZ	**Quartz Range**	**7.46**	**219**	Pn	Pn	07 41 00.1	-3.6
THZ	**Tophouse**	**8.01**	**213**	PN	Pn	07 41 07.9	-2.6
THZ	**Tophouse**	**8.01**	**213**	Pn	Pn	07 41 07.9	-2.6
MQZ	**McQueen's Vall**	**9.73**	**207**	PN	Pn	07 41 27.9	-4.0
MQZ	**McQueen's Vall**	**9.73**	**207**	Pn	Pn	07 41 27.9	-4.0
ODZ	**Otahua Downs**	**11.64**	**209**	Pn	Pn	07 41 53.1	-2.4

BJI ***29*** *08:06:09.3,3.°71N×128.°13E,h128km,mB5.1/27,mb5.0/46*
ISCJB ***29*** *08:06:14.9±0.4,4.°22N±0.°02×127.°88E±0.°04,h140km±3km, mb4.7/68,Error ellipse: s-maj=6.5km s-min=3.1km az=164.7*
NEIC ***29*** *08:06:14.5±0.6,4.°23N×127.°90E,h122km±5km,mb4.8/34, Error ellipse: s-maj=7.2km s-min=4.3km az=75.0*
IDC ***29*** *08:06:16.8±1.4,4.°16N×127.°90E,h146km±11km,mb4.5/24, mb1 4.5/24,mb1mx4.4/29,mbtmp4.9/24,MS3.3/6, Ms1 3.3/6,ms1mx3.0/33,Error ellipse: s-maj=17.9km s-min=6.7km az=84.0*
DJA ***29*** *08:06:19.8±1.1,4.°1N±11.°1×12.°8E±.°1,h111km±11km,M5.2/16, mb5.4/16,mB5.5/14,MLv5.5/8,Mw(mB)5.0/14*
AUST ***29*** *08:06:22.3,4.°00N×128.°01E,h200km*

ISC 29 08:06:16.2±0.4,4.°22N±0.°04×127.°86E±0.°05,h139km±2km, h139km:pP-P,n207,σ1s49/268,mb4.8/68,4C-3D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.38**	**257**	P	**Pn**	**08 06 54.5**	**-0.9**
MATI	**Mati**	**3.15**	**330**	*eP*	**Pn**	**08 07 06.0**	**+0.9**
GSPH	**General Santos**	**3.44**	**303**	⇓*iP*	**Pn**	**08 07 07.1**	**-2.0**
GSPH				*eS*	**Sn**	**08 07 46.2**	**-3.7**
TNTI	**Ternate**	**3.46**	**188**	P	**Pn**	**08 07 09.7**	**+0.6**
TNTI	**Ternate**	**3.46**	**188**	*ePn*	**Pn**	**08 07 09.3**	**+0.2**
DMPH	**Davao City--Mi**	**3.69**	**321**⇑	*eP*	**Pn**	**08 07 12.6**	**+0.5**
DMPH				*eS*	**Sn**	**08 07 55.9**	**+0.5**
BIPH	**Bislig**	**4.21**	**339**⇓	*eP*	**Pn**	**08 07 17.6**	**-1.4**
BIPH				*i* S	Sn	08 08 01.1	-6.8
BUKP	**Musuan**	**4.58**	**323**	*eP*	**Pn**	**08 07 23.6**	**-0.4**
BUKP				*eS*	**Sn**	**08 08 17.4**	**+0.7**
CTBH	**Cotabato--PC H**	**4.67**	**310**⇑	*iP*	**Pn**	**08 07 23.7**	**-1.5**
LBMI	**Labuha**	**4.83**	**184**	P	**Pn**	**08 07 28.1**	**+0.8**
CGP	**Cagayan de Oro**	**5.26**	**323**⇓	*eP*	**Pn**	**08 07 35.1**	**+2.2**
CGP				*eS*	**Sn**	**08 08 32.5**	**-0.2**
KMSI	**Cibinong**	**5.30**	**227**	P	**Pn**	**08 07 33.2**	**-0.3**
	2μm,0.8s,19μm7.1nm						
PAGZ	**Pagadian**	**5.73**	**309**	*eP*	**Pn**	**08 07 37.6**	**-1.7**
GTOI	**Gorontalo**	**6.01**	**234**	P	**Pn**	**08 07 42.6**	**-0.4**
	728nm,0.6s,12μm3.3nm						
SCPH	**Surigao**	**6.01**	**337**⇑	*eP*	**Pn**	**08 07 42.8**	**-0.2**
SCPH				*eS*	Sn	08 08 41.8	-9.0
SWI	**Sorong**	**6.08**	**146**	P	**Pn**	**08 07 45.2**	**+1.2**
	528nm,0.7s,6μm1.8nm						
MSLP	**Maasin**	**6.59**	**333**	*eP*	**Pn**	**08 07 49.8**	**-1.0**
MRSI	**Marisa**	**6.98**	**238**	P	**Pn**	**08 07 56.1**	**+0.1**
	690nm,0.8s,6μm2.5nm						
PALU	**Palau**	**7.28**	**64**	P	Pn	08 08 10.4	+10
	baz=7.3,SNR=3.5						
LUWI	**Luwuk**	**7.29**	**224**	P	**Pn**	**08 07 59.4**	**-0.7**
	284nm,1.1s,5μm1.0nm						
LUWI	**Luwuk**	**7.29**	**224**	P	**Pn**	**08 08 01.4**	**+1.2**
	baz=7.3,SNR=21						
NLAI	**Namlea**	**7.44**	**186**	P	**Pn**	**08 08 01.5**	**-0.7**
	95nm,1.0s,3μm						
OCLP	**Ormoc**	**7.51**	**335**	*eP*	**Pn**	**08 08 04.0**	**+0.8**
MSAI	**Masohi**	**7.59**	**172**	P	Pn	08 08 09.6	+5.4
TOLI	**Toli-Toli**	**7.70**	**247**	P	**Pn**	**08 08 04.8**	**-0.8**
	534nm,0.6s,6μm						
MWPI	**Manokwari, Pap**	**8.02**	**129**	P	Pn	08 08 14.9	+4.9
	311nm,1.0s,3μm						
APSI	**Ampana**	**8.03**	**231**	P	**Pn**	**08 08 09.7**	**-0.4**
	595nm,0.6s,5μm						
GUIM	**Jordan**	**8.24**	**321**	*eP*	**Pn**	**08 08 11.8**	**-1.0**
FAKI	**Fak Fak**	**8.34**	**148**	P	**Pn**	**08 08 16.3**	**+2.1**
	130nm,1.0s,1μm						
FAKI	**Fak Fak**	**8.34**	**148**	P	**Pn**	**08 08 16.1**	**+1.8**
	baz=8.1,SNR=13						
MYLDM	**Lahad Datu**	**9.38**	**276**	P	Pn	08 08 32.1	+3.9
TSM	**Tawau**	**9.96**	**271**	P	**Pn**	**08 08 35.4**	**-0.5**
KKSI	**Kolaka, Sulawe**	**10.39**	**217**	P	**Pn**	**08 08 40.4**	**-1.2**
	439nm,0.3s,15μm						
TTSI	**Tana Toraja**	**10.80**	**228**	P	**Pn**	**08 08 45.7**	**-1.4**
	91nm,0.9s						
BBSI	**Bau Bau**	**10.99**	**209**	P	**Pn**	**08 08 50.4**	**+0.7**
	292nm,0.8s,2μm						
MMSI	**Mamuju**	**11.27**	**233**	P	**Pn**	**08 08 52.0**	**-1.4**
	82nm,0.7s						
SPSI	**Sidrap Palu**	**11.46**	**225**	P	**Pn**	**08 08 54.6**	**-1.3**
	80nm,0.7s,2μm						
BNSI	**Bone**	**11.54**	**222**	P	**Pn**	**08 08 57.7**	**+0.8**
BKSI	**Bulukumba**	**12.22**	**219**	P	P	08 09 17.5	+5.0
MTKI	**Muara Teweh, K**	**13.93**	**249**	P	**P**	**08 09 32.9**	**+1.5**
MMRI	**Maumere**	**13.94**	**204**	P	P	08 09 34.9	+3.3
BTM	**Bintulu**	**14.78**	**267**	P	**P**	**08 09 42.0**	**+1.1**
LBFI	**Labuhan Bajo,**	**14.91**	**212**	P	**P**	**08 09 44.7**	**+2.4**
SBUM	**Sibu**	**15.71**	**264**	P	**P**	**08 09 51.1**	**-0.1**
SBUM	**Sibu**	**15.71**	**264**	*eP*	**Pn**	**08 09 50.5**	**+0.4**
	93nm,0.9s						
MTN	**Manton Dam**	**17.26**	**169**	P	**P**	**08 10 07.6**	**-0.6**
	baz=17,SNR=24						
KDU	**Kakadu**	**17.41**	**165**	P	**P**	**08 10 09.7**	**-0.2**
	baz=17,SNR=4.6						
KSM	**Kuching**	**17.74**	**262**	P	**Pn**	**08 10 15.0**	**+0.3**
KSM	**Kuching**	**17.74**	**262**	*eP*	**P**	**08 10 13.7**	**+0.2**
	42nm,0.8s						
KSM				*e*		08 10 44.4	
KSM	**Kuching**	**17.74**	**262**	P	**Pn**	**08 10 16.0**	**+1.3**
	baz=18,SNR=3.8						
JAGI	**Jajag, Banyuwa**	**18.59**	**227**	*ePn*	**Pn**	**08 10 24.0**	**-0.8**
	166nm,0.9s						
JAGI	**Jajag, Banyuwa**	**18.59**	**227**	P	**Pn**	**08 10 25.0**	**+0.2**
	baz=19,SNR=11						
KNRA	**Kununurra**	**19.79**	**177**	P	**P**	**08 10 36.2**	**+0.4**
	baz=20,SNR=98						
NACB	**Ninganchiao**	**20.74**	**344**	*eP*	**P**	**08 10 45.0**	**-1.0**
	20nm,0.4s						
NACB				*e*		08 11 12.4	
UGM	**Wanagama**	**21.08**	**235**	P	**P**	**08 10 52.7**	**+2.9**
	baz=21,SNR=4.1						
YHNB	**Yeheng**	**21.27**	**344**	*eP*	**P**	**08 10 52.9**	**+1.2**
	38nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.28**	**186**	P	**P**	**08 11 00.9**	**-1.3**
FITZ				S	**S**	**08 14 56.6**	**-0.9**
FITZ				ScP	**ScP**	**08 18 16.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**22.28**	**186**	P	**P**	**08 11 00.9**	**-1.3**
	22nm,0.7s,baz=12,slow=9.6,SNR=46						
FITZ				S	**S**	**08 14 56.6**	**-0.9**
	2.3nm,0.7s,baz=336,slow=12,SNR=3.6						
FITZ				ScP	**ScP**	**08 18 16.7**	**-1.1**
	0.9nm,0.6s,baz=35,slow=3.9,SNR=3.5						
QZH	**Quanzhou**	**22.45**	**337**	P	**P**	**08 11 01.5**	**-2.4**
QZH				S	**S**	**08 14 54.5**	**-5.7**
QZH				pmax	pmax		
	comp=Z,270nm,3.6s						
JOW	**Kunigami**	**22.49**	**1**	*eP*	**P**	**08 11 03.3**	**-0.9**
	17nm,0.8s						
QIZ	**Qiongzhong**	**22.94**	**311**	P	**P**	**08 11 07.5**	**-1.1**
QIZ				pP	**pP**	**08 11 33.8**	**-1.2**
QIZ				sP	**sP**	**08 11 50.0**	**-2.2**
QIZ				S	**S**	**08 15 10.0**	**+1.8**
QIZ				pmax	pmax		
	comp=Z,45nm,1.7s						
COEN	**Coen**	**23.60**	**140**	*eP*	**P**	**08 11 14.7**	**+0.1**
	43nm,0.7s						
COEN	**Coen**	**23.60**	**140**	P	**P**	**08 11 14.7**	**+0.1**
	baz=23,SNR=9.6						
MYKOM	**Kota Tinggi**	**24.09**	**265**	P	**P**	**08 11 20.3**	**+1.1**
MYKOM	**Kota Tinggi**	**24.09**	**265**	*eP*	**P**	**08 11 20.1**	**+0.9**
	23nm,0.8s						
KGM	**Kluang**	**24.60**	**266**	P	**P**	**08 11 26.7**	**+2.9**
KTGM	**Kuala Trenggan**	**24.66**	**274**	P	**P**	**08 11 26.6**	**+2.2**
WRAB	**Tennant Creek**	**24.83**	**165**	*eP*	**P**	**08 11 25.6**	**-0.1**
	53nm,0.6s						
WRA	**Warramunga Arr**	**24.84**	**165**	P	**P**	**08 11 24.7**	**-1.1**
WRA				S	**S**	**08 15 35.6**	**-2.9**
WRA				ScP	**ScP**	**08 18 23.5**	**-1.3**
WRA	**Warramunga Arr**	**24.84**	**165**	P	**P**	**08 11 24.7**	**-1.1**
	38nm,0.5s,baz=342,slow=10,SNR=87						
WRA				S	**S**	**08 15 35.6**	**-2.9**
	2.4nm,0.9s,baz=342,slow=14,SNR=4.6						
WRA				ScP	**ScP**	**08 18 23.5**	**-1.3**
	1.1nm,0.8s,baz=333,slow=3.2,SNR=5.1						
MBWA	**Marble Bar**	**26.45**	**197**	*eP*	**P**	**08 11 39.3**	**-1.1**
	30nm,1.0s						
IPM	**Ipoh**	**26.76**	**272**	P	**P**	**08 11 44.6**	**+1.3**
KULM	**Kulim**	**27.14**	**273**	P	**P**	**08 11 47.4**	**+0.8**
QIS	**Mount Isa**	**27.19**	**155**	P	**P**	**08 11 47.0**	**0.0**
	baz=27,SNR=49						
ASAR	**Alice Springs**	**28.33**	**168**	P	**P**	**08 11 56.9**	**-0.3**
ASAR				PcP	**PcP**	**08 15 06.3**	**-0.4**
ASAR				S	**S**	**08 16 31.6**	**-2.0**
ASAR				ScP	**ScP**	**08 18 33.8**	**-1.3**
ASAR	**Alice Springs**	**28.33**	**168**	P	**P**	**08 11 56.9**	**-0.3**
	12nm,0.7s,baz=1.3,slow=10.0,SNR=240						
ASAR				PcP	**PcP**	**08 15 06.3**	**-0.4**
	3.1nm,0.6s,baz=348,slow=2.3,SNR=6.5						
ASAR				S	**S**	**08 16 31.6**	**-2.0**
	1.2nm,0.8s,baz=350,slow=20,SNR=4.6						
ASAR				ScP	**ScP**	**08 18 33.8**	**-1.3**
	1.3nm,0.8s,baz=359,slow=3.2,SNR=5.5						
JNU	**Nakatsue**	**28.90**	**5**	*eP*	**P**	**08 12 02.1**	**0.0**
	15nm,0.9s						
JNU	**Nakatsue**	**28.90**	**5**	P	**P**	**08 12 01.7**	**-0.4**
	37nm,0.9s,baz=192,slow=12,SNR=17						
JNU				LR	LR	08 23 31.4	
	comp=Z,16nm,28.6s,baz=200,slow=36						
NJ2	**Nanjing**	**28.95**	**344**	*eP*	**P**	**08 12 04.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,70nm,0.7s						
WRKA	**Warakurna**	**29.08**	**179**	P	**P**	**08 12 03.7**	**-0.1**
	baz=29,SNR=107						
PBKT	**Sadao Pong**	**29.11**	**297**	P	**P**	**08 12 05.5**	**+1.4**
	10nm,1.1s						
WHN	**Wuhan**	**29.13**	**336**	P	**P**	**08 12 06.3**	**+2.2**
GYA	**Guiyang**	**30.01**	**320**	P	**P**	**08 12 14.3**	**+2.2**
GYA				pP	**pP**	**08 12 42.5**	**+0.6**
GYA				sP	**sP**	**08 12 58.8**	**+0.9**
GYA				PP	**PnPn**	**08 13 16.3**	**+0.7**
GYA				PcP	**PcP**	**08 15 13.0**	**+1.9**
GYA				S	**S**	**08 17 01.5**	**+1.3**
GYA				sS	**sS**	**08 17 52.8**	**+0.4**
GYA				ScP	**ScP**	**08 18 41.5**	**+0.9**
GYA				PcS	**PcS**	**08 18 55.0**	**+0.1**
GYA				ScS	**ScS**	**08 22 34.3**	**-2.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
CTA	**Charters Tower**	**30.17**	**144**	P	**P**	**08 12 12.5**	**-0.9**
CTA	**Charters Tower**	**30.17**	**144**	P	**P**	**08 12 12.5**	**-0.9**
	3.0nm,0.5s,baz=293,slow=7.7,SNR=7.0						
CTAO	**Charters Tower**	**30.17**	**144**	*eP*	**P**	**08 12 14.8**	**+1.3**
	5.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.61**	**299**	P	**P**	**08 12 26.8**	**+0.6**
CMAR				ScP	**ScP**	**08 18 46.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**31.61**	**299**	P	**P**	**08 12 26.8**	**+0.6**
	1.7nm,0.4s,baz=110,slow=7.0,SNR=9.9						
CMAR				ScP	**ScP**	**08 18 46.5**	**+0.6**
	1.2nm,0.4s,baz=122,slow=1.2,SNR=6.6						
CMAR				LR	LR	08 25 03.2	
	comp=Z,15nm,28.6s,baz=130,slow=36						
KMI	**Kunming**	**31.85**	**313**	P	P	08 12 33.0	+4.5
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI				LR	LR		
	comp=E,110nm,14.6s						
KMI				LR	LR		
	comp=Z,95nm,17.4s						
MEEK	**Meekatharra**	**31.95**	**196**	P	**P**	**08 12 28.5**	**-0.6**
	baz=32,SNR=23						
MHMT	**Maesarieng**	**32.39**	**298**	P	**P**	**08 12 35.4**	**+2.4**
	8.7nm,0.9s,394nm						
KSAR	**Wonju Array Be**	**33.07**	**0**	P	**P**	**08 12 39.1**	**+0.4**
KSRS	**Korea Array**	**33.08**	**0**	P	**P**	**08 12 39.1**	**+0.4**
	38nm,0.8s,baz=176,slow=9.7,SNR=90						
KSRS				LR	LR	08 31 46.3	
	comp=Z,22nm,18.2s,baz=206,slow=46						
MJAR	**Matsushiro Arr**	**33.55**	**15**	P	**P**	**08 12 42.1**	**-0.8**
MJAR	**Matsushiro Arr**	**33.55**	**15**	P	**P**	**08 12 42.1**	**-0.8**
	20nm,0.7s,baz=191,slow=8.1,SNR=52						
MAJO	**Matsushiro**	**33.55**	**15**	*eP*	**P**	**08 12 41.9**	**-1.0**
	20nm,0.5s						
MAT	**Matsushiro**	**33.55**	**15**	P	**P**	**08 12 41.9**	**-1.0**
QLP	**Quilpie**	**34.48**	**154**	P	**P**	**08 12 51.1**	**+0.1**
	baz=34,SNR=23						
XAN	**Xi'an**	**34.51**	**332**	P	**P**	**08 12 51.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
FORT	**Forrest**	**34.80**	**180**	*eP*	**P**	**08 12 53.5**	**-0.2**
	144nm,0.7s						
FORT	**Forrest**	**34.80**	**180**	P	**P**	**08 12 53.7**	**0.0**
	baz=35,SNR=60						
CD2	**Chengdu**	**34.94**	**322**	*eP*	**P**	**08 12 55.5**	**+0.6**
CD2				pP	**pP**	**08 13 25.3**	**+0.2**
CD2				sP	**sP**	**08 13 41.0**	**-0.1**
CD2				PP	**PP**	**08 14 18.5**	**+1.4**
CD2				S	**S**	**08 16 16.8**	**+0.4**
CD2				sS	**sS**	**08 19 08.3**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,40nm,5.2s						
MORW	**Morawa**	**34.99**	**198**	P	**P**	**08 12 54.9**	**-0.4**
	baz=35,SNR=8.1						
KMBL	**Kambalda**	**35.84**	**189**	P	**P**	**08 13 02.5**	**-0.1**
	baz=36,SNR=13						
BLDU	**Ballidu**	**36.24**	**196**	P	**P**	**08 13 05.6**	**-0.4**
	baz=36,SNR=31						
RMQ	**Roma**	**36.62**	**148**	P	**P**	**08 13 09.7**	**+0.4**
	baz=36,SNR=4.5						
KLBR	**Kellerberrin**	**36.89**	**194**	P	**P**	**08 13 11.2**	**-0.3**
	baz=37,SNR=20						
EIDS	**Eidsvold**	**37.06**	**144**	*eP*	**P**	**08 13 13.2**	**+0.2**
	31nm,1.5s						
BBOO	**Buckleboo**	**37.64**	**169**	*eP*	**P**	**08 13 17.8**	**+0.1**
	469nm,0.9s						
BBOO	**Buckleboo**	**37.64**	**169**	P	**P**	**08 13 17.9**	**+0.1**
	baz=38,SNR=14						
STKA	**Stephens Creek**	**38.20**	**161**	*eP*	**P**	**08 13 22.9**	**+0.3**
	14nm,0.7s						
STKA	**Stephens Creek**	**38.20**	**161**	P	**P**	**08 13 22.5**	**0.0**
	76nm,0.7s,baz=336,slow=8.1,SNR=252						
STKA	**Stephens Creek**	**38.20**	**161**	P	**P**	**08 13 23.0**	**+0.4**
	baz=38,SNR=135						
NWAO	**Narrogin (SRO)**	**38.29**	**194**	P	**P**	**08 13 23.3**	**+0.1**
NWAO	**Narrogin (SRO)**	**38.29**	**194**	P	**P**	**08 13 23.3**	**+0.1**
	16nm,0.5s,baz=18,slow=9.2,SNR=13						
LZH	**Lanzhou**	**38.67**	**328**	*eP*	**P**	**08 13 28.3**	**+1.7**
LZH				pP	**pP**	**08 13 58.0**	**+0.7**
LZH				sP	**sP**	**08 14 15.3**	**+2.2**
LZH				*eS*	**S**	**08 19 18.5**	**+5.3**
LZH				sS	**sS**	**08 20 10.5**	**+4.0**
LZH				SS	**SS**	**08 22 03.5**	**-6.0**
LZH				pmax	pmax		
	comp=Z,62nm,1.0s						
LZH				pmax	pmax		
	comp=Z,220nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,15.0s						
LZH				LR	LR		
	comp=E,1μm,18.7s						
HTT	**Hallett**	**38.88**	**165**	P	**P**	**08 13 29.0**	**+0.8**
	baz=39,SNR=15						
HHC	**Hu-ho-hao-te**	**39.31**	**340**	*eP*	**P**	**08 13 33.0**	**+1.2**
HHC				pP	**pP**	**08 14 00.0**	**-2.5**
HHC				PP	**Pn

KOLN	Koldanda	48.18 304	*e*P		P		08 14 43.5	+0.4
	19nm,0.8s							
DANN	Dangsing	48.26 305	*e*P		P		08 14 43.5	-0.3
	16nm,0.5s							
DANN	Dangsing	48.26 305	*e*P		P		08 14 43.5	-0.3
	16nm,0.5s							
WMQ	Urumqi	52.98 324	P		P		08 15 19.0	+0.3
WMQ			pP		pP		08 15 51.0	0.0
WMQ			sP		sP		08 16 07.0	+0.7
WMQ			PcP		PcP		08 16 26.0	+0.4
WMQ			PP		PP		08 17 22.0	+2.2
WMQ			ScP		ScP		08 20 09.0	-1.3
WMQ			S		S		08 22 36.0	-1.6
WMQ			sS		sS		08 23 33.0	-0.5
WMQ			ScS		ScS		08 24 50.0	-4.5
WMQ			SS		SS		08 26 16.0	-2.7
WMQ			pmax		pmax			
	comp=Z,17nm,1.0s							
WMQ			pmax		pmax			
	comp=Z,160nm,4.5s							
WMQ			LR		LR			
	comp=N,83nm,16.0s							
WMQ			LR		LR			
	comp=E,52nm,16.0s							
WMQ			LR		LR			
	comp=Z,38nm,16.0s							
PETK	Petropavlovsk-	54.56 22	P		P		08 15 30.1	+0.2
PETK	Petropavlovsk-	54.56 22	P		P		08 15 30.1	+0.2
	27nm,0.7s,baz=188,slow=6.3,SNR=38							
MKAR	Makanchi Array	57.81 325	P		P		08 15 53.5	+0.5
MKAR			pP		pP		08 16 22.6	-3.3
MKAR	Makanchi Array	57.81 325	P		P		08 15 53.5	+0.5
	12nm,0.6s,baz=118,slow=8.5,SNR=216							
MKAR			pP		pP		08 16 22.6	-3.3
	4.5nm,0.7s,baz=123,slow=7.9,SNR=7.2							
MKAR			LR		LR		08 41 45.2	
	comp=Z,35nm,19.4s,baz=354,slow=37							
KSH	Kashi	58.50 314	P		P		08 16 00.0	+1.8
KSH			sP		sP		08 16 48.0	+1.7
KSH			PP		PP		08 18 13.0	+3.8
KSH			S		S		08 23 50.0	-1.1
KSH			SS		SS		08 27 48.3	+2.4
KSH			pmax		pmax			
	comp=Z,6.0nm,0.5s							
KSH			pmax		pmax			
	comp=Z,120nm,6.3s							
KSH			LR		LR			
	comp=N,130nm,5.0s							
KSH			LR		LR			
	comp=E,140nm,4.8s							
KSH			LR		LR			
	comp=Z,120nm,4.7s							
TKM2	Tokmak 2	60.14 318	*e*P		P		08 16 10.1	+0.6
	5.4nm,0.6s							
TKM2			*e*				08 16 43.9	
ZALV	Zalesovo Beam	60.67 332	P		P		08 16 11.8	-0.8
ZALV			pP		pP		08 16 41.8	-4.0
ZALV	Zalesovo Beam	60.67 332	P		P		08 16 11.8	-0.8
	3.0nm,0.7s,baz=133,slow=6.5,SNR=13							
ZALV			pP		pP		08 16 41.8	-4.0
	1.6nm,0.5s,baz=130,slow=6.5,SNR=4.4							
AAK	Ala-Archa	60.76 317	*e*P		P		08 16 14.5	+0.8
	2.6nm,0.7s							
FX1	Attu Island--F	61.11 29	P		P		08 16 15.1	-0.5
FX1	Attu Island--F	61.11 29	P		P		08 16 15.1	-0.5
	13nm,0.8s,baz=225,slow=4.3,SNR=4.2							
SEY	Seymchan	61.31 12	P		P		08 16 16.7	0.0
SEY	Seymchan	61.31 12	P		P		08 16 16.7	0.0
	3.5nm,0.8s,baz=210,slow=8.1,SNR=6.8							
KURK	Kurchatov	61.94 327	*e*P		P		08 16 21.3	+0.1
	9.3nm,0.6s							
KKAR	Karatay Array	63.65 317	*e*P		P		08 16 32.8	+0.1
	2.5nm,0.6s							
BRVK	Borovoye	67.61 327	*e*P		P		08 16 57.8	-0.1
	12nm,1.1s							
ABKAR	Akbulak array	72.49 320	*e*P		P		08 17 27.1	-0.7
	2.6nm,0.7s							
MSEY	Mahe Island	72.84 264	*e*P		P		08 17 31.6	+1.1
	113nm,1.2s							
AKTO	Aktyubinsk	73.98 321	LR		LR		08 51 34.2	
	comp=Z,34nm,19.5s,baz=278,slow=37							
NAY	Al-Naaiem	79.77 299	*e*P		P		08 18 08.2	-1.2
NAY			AMb		AMB		08 18 10.4	
	comp=Z,8.6nm,0.9s							
RST	Umm Al-Ruwaisa	79.99 299	*e*P		P		08 18 08.9	-1.6
RST			AMb		AMB		08 18 10.6	
	comp=Z,103nm,0.8s							
ABPO	Ambohimpanom	82.53 250	*e*P		P		08 18 23.0	-1.4
	comp=Z,2.8nm,0.6s							
VNDA	Vanda	83.77 173	*e*P		P		08 18 29.0	-0.3
	comp=Z,9.8nm,0.8s							
VNDA	Vanda	83.77 173	P		P		08 18 29.3	0.0
	comp=Z,9.7nm,0.8s,baz=330,slow=6.2,SNR=37							
ILAR	Eielson Array	84.18 25	P		P		08 18 31.5	-0.2
ILAR			pP		pP		08 19 00.8	-6.0
ILAR			PKKPbc		PKKPbc		08 36 43.0	-4.3
ILAR	Eielson Array	84.18 25	P		P		08 18 31.5	-0.2
	comp=Z,0.9nm,0.8s,baz=253,slow=5.8,SNR=10							
ILAR			pP		pP		08 19 00.8	-6.0
	comp=Z,0.9nm,0.8s,baz=236,slow=4.7,SNR=5.2							
ILAR			PKKPbc		PKKPbc		08 36 43.0	-4.3
	comp=Z,0.3nm,0.6s,baz=90,slow=1.5,SNR=4.6							
MAW	Mawson	84.60 200	P		P		08 18 33.6	0.0
MAW	Mawson	84.60 200	P		P		08 18 33.6	0.0
	comp=Z,6.3nm,0.7s,baz=76,slow=7.1,SNR=9.0							
SBA	Scott Base	84.66 172	*e*P		P		08 18 34.5	+0.8
	comp=Z,2.9nm,0.5s							
INK	Inuvik	89.30 22	P		P		08 18 55.7	-0.7
INK	Inuvik	89.30 22	P		P		08 18 55.7	-0.7
	comp=Z,1.2nm,1.0s,baz=284,slow=4.2,SNR=3.1							
ARCES	ARCESS Array B	90.38 340	P		P		08 19 00.1	-1.4
ARCES	ARCESS Array B	90.38 340	P		P		08 19 00.1	-1.4
	comp=Z,1.9nm,0.7s,baz=87,slow=5.5,SNR=7.8							
FINES	FINESS Array B	91.94 332	P		P		08 19 07.1	-1.7
FINES	FINESS Array B	91.94 332	P		P		08 19 07.1	-1.7
	comp=Z,3.2nm,0.9s,baz=64,slow=3.2,SNR=4.5							
AKASG	Malin Array Be	92.23 321	pP		pP		08 19 40.3	-5.6
AKASG	Malin Array Be	92.23 321	pP		pP		08 19 40.3	-5.6
	comp=Z,0.2nm,0.3s,baz=67,slow=5.3,SNR=2.8							
SYO	Syowa Base	93.28 201	i*P*		P		08 19 13.8	-1.0
YKA	Yellowknife Ar	98.59 25	PKKPbc		PKKPbc		08 36 04.7	-5.7
YKA	Yellowknife Ar	98.59 25	PKKPbc		PKKPbc		08 36 04.6	-5.7
	comp=Z,0.2nm,0.5s,baz=121,slow=3.3,SNR=7.2							
NVAR	Mina Array Bea	105.75 48	PKKPbc		PKKPbc		08 35 47.7	-1.3
NVAR	Mina Array Bea	105.75 48	PKKPbc		PKKPbc		08 35 47.7	-1.3
	comp=Z,0.3nm,0.5s,baz=132,slow=4.2,SNR=3.9							
TXAR	Lajitas Array	120.41 52	PKP		PKPdf		08 24 51.9	-0.1
TXAR	Lajitas Array	120.41 52	PKP		PKPdf		08 24 51.9	-0.1
	comp=Z,0.2nm,0.8s,baz=322,slow=2.6,SNR=2.3							
TORD	Torodi Ar. Bea	123.83 289	PKP		PKPdf		08 24 58.1	-0.7
TORD	Torodi Ar. Bea	123.83 289	PKP		PKPdf		08 24 58.1	-0.7
	comp=Z,2.1nm,0.7s,baz=67,slow=1.2,SNR=14							
DBIC	Dimbokro	131.57 283	*e*PKPdf		PKPdf		08 25 13.5	-0.1
DBIC			SKPbc		SKPbc		08 28 25.0	-1.4
DBIC	Dimbokro	131.57 283	PKP		PKPdf		08 25 12.8	-0.8
	comp=Z,2.6nm,0.6s,baz=68,slow=3.5,SNR=4.9							
DBIC			SKPbc		SKPbc		08 28 25.0	-1.4
	comp=Z,4.6nm,0.7s,baz=50,slow=4.7,SNR=8.8							
PLCA	Paso Flores	140.05 158	PKP		PKPdf		08 25 28.8	0.0
PLCA	Paso Flores	140.05 158	PKP		PKPdf		08 25 28.8	0.0
	comp=Z,2.0nm,0.8s,baz=106,slow=2.2,SNR=2.9							
CPUP	Villa Florida	157.46 168	PKPab		PKPab		08 26 29.4	+0.8
CPUP	Villa Florida	157.46 168	PKPab		PKPab		08 26 29.4	+0.8
	comp=Z,0.7nm,0.5s,baz=90,slow=2.0,SNR=5.3							
LPAZ	La Paz	160.24 129	PKPab		PKPab		08 26 42.8	+0.9
LPAZ	La Paz	160.24 129	PKPab		PKPab		08 26 42.8	+0.9
	comp=Z,1.2nm,0.7s,baz=277,slow=1.3,SNR=4.7							

KRSC 29 08:28:41.2±3.0, 55°.61N×166°.05E, h16km±16km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BKI	Bering	0.41	186	P		Pb	08 28 50.3	+0.3
BKI				*i* S		Sb	08 28 56.4	+0.4
KBTR	Krutoberegovo	1.92	290	P		Pn	08 29 12.3	-0.8
KBTR				*i* S		Sn	08 29 35.4	-1.5
KBG	Krutoberegovo	1.99	290	P		Pn	08 29 13.0	-1.1
KBG				*i* S		Sn	08 29 37.1	-1.6
MKZ	Mys Kozlova	2.70	249	P		Pn	08 29 24.7	+0.8
MKZ				*i* S		Sn	08 29 57.1	+1.0
SMKR	Semkarok	2.75	293	P		Pn	08 29 25.7	+1.0
SMKR				*i* S		Sn	08 29 59.1	+1.5
BDR	Baidarnaya	2.88	291	P		Pn	08 29 27.8	+1.3
BDR				*i* S		Sn	08 30 01.9	+1.1
SRKR	Sorokina	2.93	293	P		Pn	08 29 27.9	+0.8
SRKR				*i* S		Sn	08 30 02.7	+0.7
KMNR	Kamenistaya	3.29	275	P		Pn	08 29 34.3	+2.1
KMNR				*i* S		Sn	08 30 13.1	+2.0
KZV	Kizimen	3.32	264	P		Pn	08 29 33.9	+1.2
KZV				*i* S		Sn	08 30 10.8	-1.2
TUMR	Tumrok	3.38	267	P		Pn	08 29 35.2	+1.8
TUMR				*i* S		Sn	08 30 14.7	+1.4
KOZ	Kozyrevsk	3.51	280	P		Pn	08 29 37.9	+2.8
KOZ				*i* S		Sn	08 30 19.3	+3.0
SRDR	Sredinnyy	3.63	284	P		Pn	08 29 38.7	+1.9
SRDR				*i* S		Sn	08 30 21.8	+2.5
ESO	Esso	4.16	277	P		Pn	08 29 46.2	+2.1
NLC	Nalytchevo	4.62	241	P		Pn	08 29 51.8	+1.6
NLC				*i* S		Sn	08 30 43.7	+0.3
SDLR	Sedlovina	4.79	244	P		Pn	08 29 54.7	+1.9
SDLR				*i* S		Sn	08 30 49.1	+1.0
SMAR	Somma	4.84	244	P		Pn	08 29 55.4	+1.8
SMAR				*i* S		Sn	08 30 50.5	+1.0
KRER	Koryakskii	4.85	245	P		Pn	08 29 55.9	+2.2
KRER				*i* S		Sn	08 30 52.0	+0.6
UGLR	Uglovaya	4.86	243	P		Pn	08 29 55.2	+1.5
UGLR				*i* S		Sn	08 30 50.4	+0.7
KRX	Arik	4.87	245	P		Pn	08 29 55.3	+1.4
KRX				*i* S		Sn	08 30 50.0	0.0
AVH	Avacha	4.87	244	P		Pn	08 29 55.9	+2.0
AVH				*i* S		Sn	08 30 51.0	+1.0
KOK	Koryaka	4.91	245	P		Pn	08 29 56.2	+1.8
KOK				*i* S		Sn	08 30 52.3	+1.4
GNL	Ganaly	5.08	251	P		Pn	08 29 56.7	-0.1
RUS	Russkaya	5.46	237	P		Pn	08 30 03.7	+1.8
RUS				*i* S		Sn	08 31 03.3	-1.0
MTVR	Mutnovka	5.59	239	P		Pn	08 30 06.5	+2.6
MTVR				*i* S		Sn	08 31 08.0	+0.1
ASAK	Asacha	5.79	239	P		Pn	08 30 09.0	+2.5
ASAK				*i* S		Sn	08 31 14.5	+1.9

*IDC **29** 08:39:26.3±13.0, 25°.28N×126°.16E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=749.1km s-min=28.3km az=61.0*
*ISCJB **29** 08:39:34.6±0.6, 24°.76N±0°.09×125°.27E±0°.07, h52km±4km, mb3.3/3, Error ellipse: s-maj=17.8km s-min=5.3km az=147.6*
*JMA **29** 08:39:35.1±0.2, 24°.68N×125°.27E, h46km±2km, M2.8*
ISC 29 08:39:35.3±1.0, 24°.8N±0°.1×125°.24E±0°.07, h44km±7km, n13, σ0s70/20, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JMJ	Miyako jima 2	0.06	60	P		Pn	08 39 42.3	0.0
JMJ				S		Sn	08 39 47.8	+0.6
JOGS	Gusukube	0.15	100	P		Pn	08 39 42.7	0.0
JOGS				S		Sn	08 39 48.6	+0.6
JTJ	Tarama	0.51	254	P		Pn	08 39 46.3	-0.1
JTJ				*e*S		Sn	08 39 54.3	+0.1
JIJ	Ishigaki jima	1.08	247	P		Pn	08 39 54.3	+0.2
JIJ				*e*S		Sn	08 40 07.9	0.0
JKRS	Kuro-shima	1.25	244	P		Pn	08 39 57.5	+1.2
JKRS				*e*S		Sn	08 40 12.3	+0.4
IRIF	Iriomote-Funau	1.45	252	P		Pn	08 39 59.4	+0.4
HATJ	Hateruma jima	1.50	241	P		Pn	08 40 01.1	+1.4
YOJ	Yonaguni jima	2.05	261	P		Pn	08 40 08.1	+0.7
JKE	Kume jima 2	2.07	42	P		Pn	08 40 08.1	+0.5
JKE				*e*S		Sn	08 40 32.2	-0.1
JAGN	Aguni-jima	2.55	45	P		Pn	08 40 15.3	+1.2
JAGN				*e*S		Sn	08 40 44.3	+0.4
MKAR	Makanchi Array	40.53	314	P		P	08 47 09.3	-0.9
	0.3nm,0.5s,baz=96,slow=11,SNR=5.8							
WRA	Warramunga Arr	45.33	168	P		P	08 47 48.7	-0.5
	0.6nm,0.8s,baz=347,slow=7.9,SNR=3.9							
ASAR	Alice Springs	48.89	169	P		P	08 48 16.6	-0.3
	0.1nm,0.5s,baz=1.6,slow=8.7,SNR=4.8							

*IDC **29** 08:53:52.9±2.0, 0°.19N×125°.07E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx3.2/19, Error ellipse: s-maj=203.4km s-min=26.7km az=64.0*
*ISCJB **29** 08:53:53.5±1.2, 0°.8N±0°.1×125°.37E±0°.05, h10km, mb3.3/3, Error ellipse: s-maj=16.6km s-min=7.2km az=7.0*
*DJA **29** 08:53:55.9±0.7, 1°.1N±8°×12°.5E±°, h10km, M4.0/6, MLv4.0/6*
ISC 29 08:53:54.0±1.2, 0°.7N±0°.1×125°.41E±0°.05, h10km, n10, σ2s12/13, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KMSI	Cibinong	1.43	265	P		Pn	08 54 18.9	-1.2
KMSI				S		Sb	08 54 36.4	-2.7
GTOI	Gorontalo	2.40	268	P		Pb	08 54 38.0	+0.7
GTOI				S		Sb	08 55 06.9	0.0
LBMI	Labuha	2.48	122	P		Pb	08 54 39.2	+0.4
LBMI				S		Sn	08 55 06.5	+1.5
LUWI	Luwuk	3.15	237	P		Pn	08 54 44.6	+0.8
LUWI				S		Sn	08 55 23.7	+2.2
MRSI	Marisa	3.47	266	P		Pn	08 54 47.1	-1.1
APSI	Ampana	4.08	247	P		Pn	08 54 58.2	+1.6
TGY	Tagaytay City	14.03	342	LR		LR	09 02 21.7	
	comp=Z,284nm,21.4s,baz=245,slow=35							
WRA	Warramunga Arr	22.31	157	P		P	08 58 48.6	-3.4
	1.3nm,0.8s,baz=334,slow=10,SNR=6.6							
ASAR	Alice Springs	25.59	162	P		P	08 59 20.7	-3.0
	0.5nm,0.5s,baz=342,slow=7.7,SNR=14							
MKAR	Makanchi Array	59.31	327	P		P	09 03 58.2	+2.1
	0.1nm,0.3s,baz=120,slow=7.5,SNR=4.1							

*IDC **29** 08:58:45.2±2.3, 51°.28N×177°.80W, h0km, mb3.1/4, mb1 3.5/5, mb1mx3.4/29, mbtmp3.2/5, ML2.7/1, Error ellipse: s-maj=68.1km s-min=13.7km az=6.0*
*ISCJB **29** 08:58:49.9±0.8, 51°.32N±0°.08×178°.03W±0°.05, h45km, mb3.3/3, Error ellipse: s-maj=11.7km s-min=4.5km az=169.9*
*NEIC **29** 08:58:52.2, 51°.39N×178°.03W, h36km, ML3.1(AEIC), After AEIC.*
ISC 29 08:58:50.9±1.1, 51°.4N±0°.1×178°.03W±0°.04, h45km, n28, σ0s65/27, mb3.3/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TASE	Tanaga Southea	0.44	359	P		Pn	08 59 01.7	+0.5
TAFP	Tanaga Falls P	0.50	3	P		Pn	08 59 02.0	+0.1
TAFP				S		Sn	08 59 10.0	+0.2
TANO	Tanaga North	0.52	354	P		Pn	08 59 02.5	+0.3
GAEA	Gareloi East	0.59	311	P		Pn	08 59 03.8	+0.7
KIKV	Kanaga Island	0.72	48	P		Pn	08 59 04.9	+0.1
KIKV				S		Sn	08 59 14.6	-0.2
KIRH	Kanaga Island	0.77	49	P		Pn	08 59 05.6	+0.2
KINC	Kanaga Island	0.78	46	P		Pn	08 59 05.7	+0.2
ADAG	Mount Adagdak	1.06	56	P		Pn	08 59 10.3	+0.9
ETKA	Kagalaska Isla	1.11	65	P		Pn	08 59 10.5	+0.4
ETKA				S		Sn	08 59 24.2	0.0
GSCK	Great Sitkin C	1.31	61	P		Pn	08 59 13.5	+0.7
GSTD	Great Sitkin T	1.34	60	P		Pn	08 59 14.4	+1.2
GSTD				S		Sn	08 59 31.2	+1.2
GSMY	Great Sitkin M	1.39	61	P		Pn	08 59 14.2	+0.4
CERA	Semis' Rag'd T	1.51	291	P		Pn	08 59 16.1	+0.5
CESW	Semis' Southwe	1.58	290	P		Pn	08 59 16.9	+0.4
AMKA	Amchitka	1.67	270	P		Pn	08 59 18.1	+0.4
LSPA	Little Sitkin	2.19	286	P		Pn	08 59 26.4	+1.6
LSNW	Little Sitkin	2.23	286	P		Pn	08 59 25.9	+0.6
FX1	Attu Island--F	5.62	289	Pn		Pn	09 00 11.6	-0.3
	0.7nm,0.3s,baz=69,slow=17,SNR=5.7							
FX1					Sn	Sn	09 01 15.2	0.0
	0.4nm,0.3s,baz=281,slow=16,SNR=2.1							
ILAR	Eielson Array	20.93	38	P		P	09 03 29.4	-0.1
	0.1nm,0.5s,baz=238,slow=10,SNR=4.4							
H11N2	WAKE ISLAND Hy	33.76	206	T		T	09 41 48.9	
	baz=20,slow=75,SNR=30							
H11N3	WAKE ISLAND Hy	33.77	206	T		T	09 41 49.6	
	baz=20,slow=75,SNR=25							
H11N1	WAKE ISLAND Hy	33.77	206	T		T	09 41 50.2	
	baz=20,slow=75,SNR=25							
YKA	Yellowknife Ar	34.87	47	P		P	09 05 37.6	+0.2
	0.1nm,0.6s,baz=289,slow=9.2,SNR=4.4							
H11S1	WAKE ISLAND Hy	34.97	206	T		T	09 43 09.7	
	baz=18,slow=78,SNR=45							
H11S2	WAKE ISLAND Hy	34.99	206	T		T	09 43 13.8	
	baz=18,slow=78,SNR=22							
H11S3	WAKE ISLAND Hy	34.99	206	T		T	09 43 13.3	
	baz=18,slow=78,SNR=20							
PDAR	Pinedale Array	45.84	73	P		P	09 07 08.2	-0.4
	0.8nm,0.6s,baz=319,slow=3.3,SNR=7.8							
TXAR	Lajitas Array	58.17	82	P		P	09 08 39.4	-0.9
	0.2nm,0.8s,baz=300,slow=3.8,SNR=2.7							

*SZGRF **29** 09:01:49.4, 23°.63N×95°.28E, h100km, mb5.0, Myanmar*
*ISCJB **29** 09:01:50.9±0.3, 24°.42N±0°.02×94°.75E±0°.02, h94km±3km, mb5.3/293, Error ellipse: s-maj=3.2km s-min=1.9km az=38.6*
*BJI **29** 09:01:52.7, 24°.45N×94°.79E, h116km, mB5.6/49, mb5.1/59*
*MOS **29** 09:01:53.2±1.0, 24°.37N×94°.88E, h120km, mb5.2/74, MS4.8/12, Error ellipse: s-maj=7.4km s-min=3.5km az=121.2*
*IDC **29** 09:01:53.7±0.4, 24°.38N×94°.93E, h113km±3km, mb4.7/33, mb1 4.8/34, mb1mx4.8/34, mbtmp5.0/34, MS4.5/36, Ms1 4.5/36, ms1mx4.3/52, Error ellipse: s-maj=7.8km s-min=6.1km az=48.0*
*NEIC **29** 09:01:55.3±0.1, 24°.36N×94°.81E, mb5.3/103, MW5.6, Error ellipse: s-maj=4.0km s-min=2.3km az=224.0, Moment Tensor Solution. s32 Moment tensor: Scale 10¹⁷Nm; Mrr1.94; Mθθ-1.53; Mϕϕ-0.41; Mrθ-1.72; Mrϕ-0.14; Mθr-1.12; Best double couple: M₀2.70000×10¹⁷ NP1:ϕs244.00000°, δ70.00000°, λ81.00000°. NP2: ϕs89.00000°, δ22.00000°, λ114.00000°. Principal axes: T 2.9400, Plg63.0000°, Azm139.0000°; N -0.5300, Plg8.0000°, Azm247.0000°; P -2.4100, Plg24.0000°, Azm341.0000°;*
NEIC Felt [III] at Dhaka, Bangladesh. Felt at Dispur, Nagaon, Shillong, Tezpur and Tura, India.
*GCMT **29** 09:01:55.3±0.1, 24°.31N×94°.84E, h125km, MW5.6, Moment Tensor Solution. s110,c195; s29,c32; Moment tensor: Scale 10¹⁷Nm; Mrr2.17±.04; Mθθ-3.25±.04; Mϕϕ 1.08±.05; Mrθ-1.44±.04; Mϕϕ 0.27±.05; Mϕr-1.62±.03; Best double couple: M₀3.60000×10¹⁷ NP1:ϕs244.00000°, δ66.00000°, λ55.00000°. NP2:ϕs124.00000°, δ41.00000°, λ143.00000°. Principal axes: T 3.6000, Plg55.0000°, Azm109.0000°; N 0.0200, Plg31.0000°, Azm235.0000°; P -3.6100, Plg14.0000°, Azm358.0000°; Data Used: II IU CU CN IC G. Surface waves: sta=118, comp=247, per=50.*
*LDG **29** 09:01:56.6±0.4, 24°.43N×94°.21E, h126km, Mb4.9/36, Ms4.5/12 Error ellipse: s-maj=21.7km s-min=19.1km az=171.0*
*BKK **29** 09:01:56.1±0.5, 24°N±4°×9°5E±°, h119km±5km, M5.5/46, mb5.5/46, mB5.8/39, MLv6.1/5, Mw(mB)5.4/39*
*DJA **29** 09:02:02.5±2.8, 25°N±17°×9°4E±17°, h245km±23km, M5.5/77, mb5.6/77, mB5.9/64, Mw(mB)5.5/64*
ISC 29 09:01:53.9±0.2, 24°.40N±0°.02×94°.84E±0°.02, h116km±1km, h115km:pP-P, n1118, σ1s49/1386, mb5.3/293, 229C-144D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SHL	Shillong	2.92	294	*i* P		Pn	09 02 35.0	-4.3
SHL				*i* S		Sn	09 03 06.5	-7.7
CMAI	Chiengmai2	5.91	138	P		Pn	09 03 18.9	-0.4
	748nm,0.9s,18µm6.1nm							
LSA	Lhasa	6.22	329	P		Pn	09 03 23.8	+0.1
LSA				S		Sn	09 04 29.0	-4.8
LSA				LR		LR		
	comp=N,5µm,4.0s							
LSA				LR		LR		
	comp=E,15µm,4.0s							
LSA				LR		LR		
	comp=Z,18µm,6.0s							
LSA	Lhasa	6.22	329	*e*P		Pn	09 03 22.8	-1.0
LSA				*e*			09 04 30.6	
LSA				pmax		pmax		
	comp=Z,2µm,0.5s							
LSA	Lhasa	6.22	329	*e*Pn		Pn	09 03 22.8	-1.0
	comp=Z,2µm,0.5s							
LSA				*e*Sn		Sn	09 04 30.6	-3.2
CHTO	Chiang Mai	6.74	145	*e*P		Pn	09 03 29.5	-0.9
CHTO				*e*			09 04 51.1	
CHTO				pmax		pmax		
	comp=Z,359nm,0.6s							
CHTO	Chiang Mai	6.74	145	*e*Pn		Pn	09 03 29.5	-0.9
	comp=Z,359nm,0.6s							
CHTO				*e*Sn		Sn	09 04 51.1	+5.3
MHMT	Maesarieng	6.83	154	P		Pn	09 03 31.2	-0.4
	comp=Z,525nm,0.8s,comp=Z,6µm							
PAYA	Payao	6.85	136	P		Pn	09 03 35.5	+3.6
	comp=Z,277nm,0.7s,comp=Z,5.8nm							
CM31	Chiang Mai Arr	7.04	146	*e*Pn		Pn	09 03 34.6	+0.2
	comp=Z,346nm,0.6s							
CM31				*e*Sn		Sn	09 04 54.3	+1.3
CMAR	Chiang Mai Arr	7.04	146	P		Pn	09 03 33.8	-0.6
CMAR				S		Sn	09 04 51.0	-2.0
CMAR				ScP		ScP	09 13 33.6	-0.1
CMAR	Chiang Mai Arr	7.04	146	P		Pn	09 03 33.8	-0.6
	comp=Z,16nm,0.3s,baz=316,slow=12,SNR=402							
CMAR				S		Sn	09 04 51.0	-2.0
	baz=313,slow=17,SNR=2.3							
CMAR				LR		LR	09 06 54.2	
	comp=Z,17nm,28.6s,baz=318,slow=43							
CMAR				ScP		ScP	09 13 33.6	-0.1
	comp=Z,1.2nm,0.3s,baz=286,slow=1.6,SNR=11							
TAPN	Taplejung	7.06	296	*e*Pn		Pn	09 03 31.7	-3.3
TAPN				*e*Sn		Sn	09 04 41.9	-12
	comp=Z,17µm,0.7s							
TAPN	Taplejung	7.06	296

DMN	**Daman**	**9.32**	**292**	*e*Pn		Pn	09 04 00.9	-4.6	
DMN				*e*Sn		Sn	09 05 33.7	-15	
	comp=Z,6μm,0.5s								
DMN	**Daman**	**9.32**	**292**	*e*Pn		Pn	09 04 00.9	-4.6	
DMN				*e*Sn		Sn	09 05 33.7	-15	
	comp=Z,656nm,1.1s,comp=Z,6μm								
PBKT	**Sadao Pong**	**9.68**	**142**	P		**Pn**	**09 04 10.7**	**+0.6**	
	comp=Z,77nm,0.9s,comp=Z,809nm								
UTHA	**Uthaitani**	**9.80**	**153**	P		**Pn**	**09 04 12.2**	**+0.4**	
	comp=Z,77nm,0.9s,comp=Z,809nm								
GKN	**Gorkha**	**9.84**	**294**	*e*Pn		Pn	09 04 07.6	-4.9	
GKN				*e*Sn		Sn	09 05 46.8	-15	
	comp=Z,5μm,0.3s								
GKN	**Gorkha**	**9.84**	**294**	*e*Pn		Pn	09 04 07.6	-4.9	
GKN				*e*Sn		Sn	09 05 46.8	-15	
KHLT	**Khaolaem Dam**	**10.18**	**159**	P		**Pn**	**09 04 17.8**	**+0.8**	
	comp=Z,103nm,1.0s,comp=Z,1μm								
CD2	**Chengdu**	**10.22**	**49** ⇑	*i*P		**Pn**	**09 04 18.0**	**+0.5**	
CD2				sP			09 04 47.3		
CD2				S		**Sn**	**09 06 08.0**	**-2.2**	
CD2				pmax	pmax				
	comp=Z,50nm,1.4s								
CD2				pmax	pmax				
	comp=Z,700nm,4.6s								
CD2				LR	LR				
	comp=Z,11μm,7.7s								
CD2				LR	LR				
	comp=Z,10μm,6.5s								
CD2				LR	LR				
	comp=Z,8μm,9.6s								
KOLN	**Koldanda**	**10.65**	**291**	*e*Pn		Pn	09 04 18.3	-5.1	
KOLN				*e*Sn		Sn	09 06 04.9	-16	
	comp=Z,7μm,0.5s								
KOLN	**Koldanda**	**10.65**	**291**	*e*Pn		Pn	09 04 18.3	-5.1	
KOLN				*e*Sn		Sn	09 06 04.9	-16	
DANN	**Dangsing**	**10.69**	**294**	*e*Pn		Pn	09 04 18.5	-5.5	
DANN				*e*Sn		Sn	09 06 06.5	-16	
	comp=Z,4μm,0.5s								
DANN	**Dangsing**	**10.69**	**294**	*e*Pn		Pn	09 04 18.5	-5.5	
DANN				*e*Sn		Sn	09 06 06.5	-16	
SRDT	**SRDT**	**10.78**	**157**	P		**Pn**	**09 04 25.6**	**+0.5**	
	comp=Z,501nm,0.7s,comp=Z,11μm								
CHAI	**Chaiyaphum**	**10.79**	**140**	P		**Pn**	**09 04 27.9**	**+2.7**	
	comp=Z,45nm,1.0s,comp=Z,446nm								
GYA	**Guiyang**	**10.88**	**77** ⇑	*i*P		**Pn**	**09 04 26.3**	**-0.2**	
GYA				sP			09 04 57.8		
GYA				ScS		**ScS**	**09 17 12.8**	**-0.7**	
GYA				pmax	pmax				
	comp=Z,150nm,1.1s								
GYA				pmax	pmax				
	comp=Z,920nm,6.5s								
GYA				LR	LR				
	comp=Z,4μm,11.2s								
GYA				LR	LR				
	comp=Z,4μm,12.7s								
GYA				LR	LR				
	comp=Z,4μm,12.1s								
PYUN	**Piuthan**	**11.26**	**292**	*e*Pn		Pn	09 04 25.4	-6.2	
PYUN	**Piuthan**	**11.26**	**292**	*e*Pn		Pn	09 04 25.4	-6.2	
DGPR	**DIGLIPUR**	**11.31**	**190**	*e*P		**Pn**	**09 04 29.1**	**-3.0**	
DGPR				AMB	AMB	AMB	09 04 30.9		
	comp=Z,516nm,0.8s								
VIS	**Vishakhapatnam**	**12.63**	**240**	*e*P		**Pn**	**09 04 46.6**	**-2.9**	
VIS				AMB	AMB	AMB	09 04 49.2		
	comp=Z,125nm,2.8s								
PATY	**Pattaya**	**12.76**	**152**	P		**P**	**09 04 55.2**	**-2.5**	
	comp=Z,41nm,0.9s								
PBA	**Port Blair**	**12.83**	**189**	*e*P		**Pn**	**09 04 49.4**	**-2.7**	
PBA				AMB	AMB	AMB	09 04 53.8		
	comp=Z,297nm,0.4s								
UBPT	**Khong Chiam**	**13.49**	**130**	P		**Pn**	**09 04 59.8**	**-1.0**	
	comp=Z,271nm,1.7s								
LZH	**Lanzhou**	**14.00**	**32**	*e*P		**Pn**	**09 05 06.3**	**-1.1**	
LZH				sP			09 05 40.3		
LZH				*e*S		**Sn**	**09 07 38.0**	**-3.8**	
LZH				pmax	pmax				
	comp=Z,250nm,1.0s								
LZH				pmax	pmax				
	comp=Z,1μm,4.4s								
LZH				LR	LR				
	comp=Z,2μm,8.3s								
LZH				LR	LR				
	comp=Z,5μm,6.8s								
LZH				LR	LR				
	comp=Z,4μm,9.6s								
NGP	**Nagpur**	**14.92**	**261**	*e*P		Pn	09 05 15.4	-3.6	
NGP				*ex*		x	09 05 19.1		
	comp=Z,91nm,0.3s								
NGP				*ex*		x	09 07 46.7		
QIZ	**Qiongzhong**	**14.93**	**108**	P		**Pn**	**09 05 19.0**	**-0.1**	
QIZ				S		**Sn**	**09 08 04.0**	**-0.2**	
QIZ				PcP		**PcP**	**09 10 20.8**	**-0.1**	
QIZ				ScP		**ScP**	**09 13 45.0**	**+0.7**	
QIZ				pmax	pmax				
	comp=Z,480nm,1.5s								
QIZ				pmax	pmax				
	comp=Z,1μm,5.2s								
QIZ				LR	LR				
	comp=Z,3μm,17.1s								
QIZ	**Qiongzhong**	**14.93**	**108**	*e*Pn		**P**	**09 05 21.6**	**-0.2**	
	comp=Z,929nm,1.4s								
GTA	**Gaotai**	**15.55**	**15** ⇓	P		**Pn**	**09 05 24.5**	**-2.4**	
GTA				sP		sP	09 05 55.8	-8.4	
GTA				S		Sn	09 08 10.0	-9.1	
GTA				pmax	pmax				
	comp=Z,2μm,5.9s								
GTA				LR	LR				
	comp=Z,2μm,16.2s								
GTA				LR	LR				
	comp=Z,4μm,12.4s								
GTA				LR	LR				
	comp=Z,3μm,17.6s								
XAN	**Xi'an**	**15.59**	**49**	P		**Pn**	**09 05 27.8**	**+0.5**	
XAN				pP		pP	09 05 41.8	-8.1	
XAN				S		Sn	09 08 07.0	-13	
XAN				pmax	pmax				
	comp=Z,11nm,0.6s								
XAN				LR	LR				
	comp=Z,2μm,13.8s								
XAN				LR	LR				
	comp=Z,770nm,13.2s								
XAN				LR	LR				
	comp=Z,830nm,18.3s								
SURT	**Suratani**	**15.81**	**166**	P		**P**	**09 05 30.9**	**-0.7**	
	comp=Z,60nm,1.2s,comp=Z,1μm								
BHPL	**Bhopal**	**15.98**	**269**	*e*P		**Pn**	**09 05 28.4**	**-3.9**	
BHPL				AMB	AMB	AMB	09 05 29.8		
	comp=Z,113nm,0.2s								
DDI	**Dehra Dun**	**16.03**	**295**	*e*P		**Pn**	**09 05 29.9**	**-2.9**	
DDI				AMB	AMB	AMB	09 05 35.7		
	comp=Z,367nm,1.5s								
NDI	**New Delhi**	**16.34**	**289**	*e*P		**Pn**	**09 05 33.2**	**-3.4**	
NDI				AMB	AMB	AMB	09 05 39.6		
	comp=Z,213nm,1.3s								
HYB	**Hyderabad**	**16.72**	**249**	*e*P		**Pn**	**09 05 38.0**	**-3.4**	
HYB				*e*S		**Sn**	**09 08 46.0**	**-1.4**	
HYB	**Hyderabad**	**16.72**	**249**	*i* P		**Pn**	**09 05 38.0**	**-3.4**	
	comp=Z,320nm,1.0s								
HYB	**Hyderabad**	**16.72**	**249**	*e*P		**Pn**	**09 05 38.0**	**-3.4**	
HYB				*e*S		**Sn**	**09 08 46.0**	**-1.4**	
HYB	**Hyderabad**	**16.72**	**249**	*e*P		**Pn**	**09 05 39.4**	**-1.9**	
HYB				AMB	AMB	AMB	09 06 11.1		
	comp=Z,71nm,0.1s								
GZH	**Guangzhou**	**16.99**	**91**	P		**P**	**09 05 47.8**	**+3.2**	
GZH				S		**S**	**09 08 56.0**	**+0.1**	
GZH				pmax	pmax				
	comp=Z,7μm,4.0s								
GZH				LR	LR				
	comp=Z,4μm,8.6s								
GZH				LR	LR				
	comp=Z,5μm,8.1s								
GZH				LR	LR				
	comp=Z,7μm,13.3s								
SMLA	**Simla**	**17.01**	**297** ⇓	*i*P		**P**	**09 05 41.5**	**-3.2**	
SMLA				AMB	AMB	AMB	09 05 46.7		
	comp=Z,152nm,0.9s								
SMLA				*i* x		x	09 08 40.8		
SDNR	**Sundarnagar**	**17.29**	**298**	*e*P		**P**	**09 05 46.0**	**-1.9**	
SDNR				*ex*		x	09 08 48.0		
CMBY	**CAMPBELL BAY**	**17.31**	**183**	*e*P		**P**	**09 05 47.3**	**-0.8**	
CMBY				AMB	AMB	AMB	09 05 48.8		
	comp=Z,179nm,1.4s								
BHK	**Bhakra**	**17.71**	**297**	*e*P		**P**	**09 05 50.8**	**-1.7**	
BHK				*ex*		x	09 08 57.6		
HKC	**Hong Kong Obse**	**17.88**	**93** ⇑	*i*P		**Pn**	**09 05 58.0**	**+2.7**	
DLV	**T Lat**	**17.91**	**131**	*e*P		**Pn**	**09 05 56.6**	**+0.7**	
	comp=Z,441nm,1.3s								
DHRM	**DHARAMSHALA**	**18.09**	**300**	*e*P		**P**	**09 05 56.0**	**-0.8**	
DHRM				AMB	AMB	AMB	09 05 59.4		
	comp=Z,274nm,1.3s								
WHN	**Wuhan**	**18.35**	**66**	P		**Pn**	**09 06 01.5**	**+0.6**	
WHN				sP		**sP**	**09 06 34.0**	**-1.2**	
WHN				S		S	09 09 15.5	-7.9	
WHN				pmax	pmax				
	comp=Z,5μm,6.3s								
WHN				LR	LR				
	comp=Z,6μm,14.1s								
LHMI	**Lhok Sumawe**	**19.17**	**174**	P		**Pn**	**09 06 11.3**	**+0.7**	
	comp=Z,460nm,0.8s,comp=Z,7μm								
KULM	**Kulim**	**19.80**	**163**	P		**Pn**	**09 06 16.8**	**-1.3**	
KULM	**Kulim**	**19.80**	**163**	*e*P		**P**	**09 06 16.1**	**+0.6**	
	comp=Z,229nm,1.0s								
KULM				*e*ScP		**ScP**	**09 13 55.2**	**+0.8**	
TIY	**Taiyuan**	**20.04**	**44**	*e*P		**P**	**09 06 18.5**	**+0.6**	
TIY				S		**S**	**09 09 51.0**	**-5.8**	
TIY				pmax	pmax				
	comp=Z,1μm,9.8s								
TIY				LR	LR				
	comp=Z,2μm,5.8s								
TIY				LR	LR				
	comp=Z,1μm,4.9s								
TIY				LR	LR				
	comp=Z,2μm,13.3s								
WMQ	**Urumqi**	**20.24**	**345**	P		**P**	**09 06 21.0**	**+1.0**	
WMQ				pP		**pP**	**09 06 44.0**	**+2.6**	
WMQ				sP		**sP**	**09 07 01.0**	**+5.0**	
WMQ				S		**S**	**09 06 56.0**	**-4.7**	
WMQ				PcP		**PcP**	**09 10 30.0**	**+0.7**	
WMQ				sS		sS	09 10 31.0	-5.3	
WMQ				ScP		**ScP**	**09 13 53.0**	**-2.1**	
WMQ				pmax	pmax				
	comp=Z,290nm,1.0s								
WMQ				LR	LR				
	comp=Z,4μm,10.0s								
WMQ				LR	LR				
	comp=Z,3μm,10.0s								
WMQ				LR	LR				
	comp=Z,5μm,11.0s								
POO	**Poona**	**20.38**	**257**	*e*P		**P**	**09 06 22.5**	**+0.8**	
BTO	**Baotou**	**20.57**	**35**	*e*P		P	09 06 18.3	-5.3	
KTGM	**Kuala Trenggan**	**20.57**	**156**	P		Pn	09 06 26.3	-0.6	
IPM	**Ipoh**	**20.68**	**162**	P		**P**	**09 06 25.9**	**+1.1**	
IPM	**Ipoh**	**20.68**	**162**	P		**P**	**09 06 24.7**	**-0.2**	
	comp=Z,247nm,0.8s,comp=Z,3μm								
IPM	**Ipoh**	**20.68**	**162**	*e*P		**P**	**09 06 24.7**	**-0.2**	
	comp=Z,177nm,0.6s								
IPM				*e*ScP		**ScP**	**09 13 56.8**	**+0.2**	
SARP	**Sargodha**	**20.91**	**296**	P		**P**	**09 06 25.8**	**-1.4**	
KCSI	**Kotacane, Aceh**	**20.95**	**172**	P		**P**	**09 06 26.9**	**-0.8**	
	comp=Z,168nm,0.7s,comp=Z,3μm								
CHCP	**Chirah Chowk**	**20.97**	**301**	P		**P**	**09 06 28.0**	**+0.1**	
TSI	**Tuntungan**	**21.08**	**170**	P		**P**	**09 06 31.0**	**+1.8**	
	comp=Z,539nm,0.9s,comp=Z,7μm								
TPTI		**21.14**	**174**	P		**P**	**09 06 33.5**	**+3.8**	
	comp=Z,452nm,1.0s								
HHC	**Hu-ho-hao-te**	**21.56**	**36**	*e*P		**P**	**09 06 35.8**	**+1.6**	
HHC				pP		**pP**	**09 06 56.8**	**+0.9**	
HHC				sP		**sP**	**09 07 11.8**	**+1.4**	
HHC				S		**S**	**09 10 21.0**	**-5.4**	
HHC				sS		**sS**	**09 10 59.0**	**-3.9**	
HHC				SS		**SnSn**	**09 11 10.5**	**+9.0**	
HHC				pmax	pmax				
	comp=Z,38nm,0.6s								
HHC				pmax	pmax				
	comp=Z,490nm,4.8s								
QZH	**Quanzhou**	**21.59**	**84** ⇑	*i*P		**P**	**09 06 31.3**	**-3.2**	
QZH				pP		**pP**	**09 06 56.0**	**-0.2**	
QZH				S		**S**	**09 10 25.0**	**-1.9**	
QZH				sS		**sS**	**09 11 03.0**	**-0.5**	
QZH				pmax	pmax				
	comp=Z,390nm,1.1s								
QZH				pmax	pmax				
	comp=Z,3μm,5.0s								
QZH				LR	LR				
	comp=Z,5μm,6.7s								
QZH				LR	LR				
	comp=Z,2μm,5.4s								
QZH				LR	LR				
	comp=Z,5μm,11.7s								
GOA	**Goa**	**21.63**	**250**	*e*P		**P**	**09 06 34.9**	**-0.1**	
GOA				AMB	AMB	AMB	09 06 59.0		
	comp=Z,96nm,3.4s								
PALK	**Pallekele**	**21.76**	**221**	P		**P**	**09 06 39.0**	**+2.6**	
	comp=Z,679nm,1.0s,SNR=10.0								
PALK	**Pallekele**	**21.76**	**221**	*e*P		**P**	**09 06 36.7**	**+0.3**	
	comp=Z,696nm,1.1s								
PSI	**Prapat**	**21.83**	**169**	P		**P**	**09 06 38.4**	**+1.1**	
	comp=Z,235nm,0.9s,comp=Z,2μm								
PSI	**Prapat**	**21.83**	**169**	P		**P**	**09 06 38.2**	**+1.0**	
PSI				PcP		**PcP**	**09 10 32.8**	**-0.1**	
PSI				ScP		**ScP**	**09 13 59.4**	**-0.1**	
PSI	**Prapat**	**21.83**	**169**	P		**P**	**09 06 38.2**	**+1.0**	
	comp=Z,127nm,0.8s,baz=348,slow=10,SNR=62								
PSI				PcP		**PcP**	**09 10 32.8**	**-0.1**	
	comp=Z,12nm,0.6s,baz=346,slow=4.2,SNR=4.8								
PSI				ScP		**ScP**	**09 13 59.4**	**-0.1**	
	comp=Z,20nm,0.8s,baz=293,slow=5.1,SNR=6.9								
THW	**Thamme Wali**	**21.91**	**298**	P		**P**	**09 06 37.1**	**-0.8**	
SNSI	**Sinabang, Aceh**	**21.91**	**176**	P		**P**	**09 06 42.3**	**+4.4**	
	comp=Z,259nm,0.7s								
KSH	**Kashi**	**21.92**	**318**	P		**P**	**09 06 38.0**	**-0.1**	
KSH				pP		**pP**	**09 06 59.5**	**-0.3**	
KSH				sP		**sP**	**09 07 12.0**	**-2.3**	
KSH				S		**S**	**09 10 27.8**	**-5.2**	
KSH				sS		**sS**	**09 11 06.0**	**-4.1**	
KSH				SS		**SnSn**	**09 11 18.0**	**+7.7**	
KSH				pmax	pmax				
	comp=Z,160nm,1.1s								
KSH				pmax	pmax				
	comp=Z,900nm,3.8s								
KSH				LR	LR				
	comp=Z,2μm,11.6s								
KSH				LR	LR				
	comp=Z,2μm,10.9s								
KSH				LR	LR				
	comp=Z,2μm,11.7s								
FRIM	**Kepong**	**22.03**	**162**	P		**P**	**09 06 41.3**	**+2.0**	
CEP	**Cherat**	**22.09**	**300**	P		**P**	**09 06 38.6**	**-1.3**	
CEP				S		**S**	**09 10 36.0**	**0.0**	
NJ2	**Nanjing**	**22.46**	**65**	*e*P		**P**	**09 06 43.5**	**0.0**	
NJ2				S		**S**	**09 10 40.0**	**-1.8**	
NJ2				pmax	pmax				
	comp=Z,50nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,12μm,6.5s								
NJ2				LR	LR				
	comp=Z,2μm,13.2s								
NJ2				LR	LR				
	comp=Z,18μm,22.8s								
NJ2				LR	LR				
	comp=Z,41μm,12.6s								
TIA	**Tai'an**	**22.50**	**53**	P		**P**	**09 06 44.0**	**+0.1**	
TIA				S		**S**	**09 10 39.3**	**-3.1**	
TIA				pmax	pmax				
	comp=Z,40nm,0.8s								
TIA				pmax	pmax				
	comp=Z,820nm,3.6s								
TIA				LR	LR				
	comp=Z,2μm,9.2s								
TIA				LR	LR				
	comp=Z,2μm,7.7s								
TIA				LR	LR				
	comp=Z,2μm,18.4s								
BHJ	**Bhuj**	**23.06**	**272**	*e*P		**P**	**09 06 51.0**	**+1.5**	
BHJ				AMB	AMB	AMB	09 07 15.2		
	comp=Z,170nm,1.5s								
GSI	**Gunungsitoli**	**23.11**	**173**	*e*P		**P**	**09 06 49.9**	**-0.1**	
	comp=Z,191nm,0.7s								
TRD	**Trivandrum**	**23.27**	**230**	*e*P		**P**	**09 06 51.1**	**-0.4**	
ULHL	**Ulahol**	**23.54**	**324**	*i* P		**P**	**09 06 55.7**	**+1.8**	
ULHL	**Ulahol**	**23.54**	**324**	P		**P**	**09 06 55.8**	**+1.8**	
	SNR=15								
TPUB	**Ta-pu**	**23.61**	**87**	*e*P		**P**	**09 06 55.9**	**+1.4**	
	comp=Z,446nm,1.6s								
KGM	**Kluang**	**23.71**	**159**	P		**P**	**09 06 57.3**	**+1.9**	
BJI	**Beijing**	**23.77**	**44**	P		**P**	**09 06 56.3**	**+0.6**	
BJI				sP		**sP**	**09 07 33.0**	**-0.8**	
BJI				S		**S**	**09 11 01.5**	**-1.1**	
BJI				pmax	pmax				
	comp=Z,11nm,0.4s								
BJI				pmax	pmax				
	comp=Z,380nm,8.7s								
BJI				LR	LR				
	comp=Z,1μm,10.3s								
BJI				LR	LR				
	comp=Z,1μm,11.2s								
BJI				LR	LR				
	comp=Z,1μm,20.9s								
SSLB	**Suanglung**	**23.84**	**86**	*e*P		**P**	**09 06 58.9**	**+2.2**	
	comp=Z,193nm,1.4s								
AAA	**Alma-Ata**	**23.89**	**326**	*e*P		**P**	**09 06 58.3**	**+1.3**	
AAA				*e*S		**S**	**09 11 07.5**	**+2.7**	
AAA				pmax	pmax				
	comp=Z,3μm,2.9s								
AAA				smax	smax				
	comp=N,5μm,3.4s								
AAA				MLR	MLR				
	comp=Z,3μm,13.0s								
MNSI	**Mandailing Nat**	**23.91**	**168**	P		**P**	**09 06 56.3**	**-0.9**	
	comp=Z,191nm,0.9s,comp=Z,4μm								
KZA	**Kyzart**	**23.98**	**322**	*i* P		**P**	**09 06 59.6**	**+1.5**	
KZA	**Kyzart**	**23.98**	**322**	P		**P**	**09 06 59.6**	**+1.5**	
	SNR=45								
TWG	**Pinlang**	**24.08**	**88**	*e*P		**P**	**09 07 01.1**	**+2.3**	
	comp=Z,1μm,1.4s								
MYKOM	**Kota Tinggi**	**24.10**	**157**	P		**P**	**09 07 00.9**	**+1.9**	
MYKOM	**Kota Tinggi**	**24.10**	**157**	P		**P**	**09 07 00.3**	**+1.3**	
	comp=Z,179nm,1.6s,comp=Z,4μm								
MYKOM	**Kota Tinggi**	**24.10**	**157**	*e*P		**P**	**09 06 59.4**	**+0.4**	
	comp=Z,525nm,1.6s								
YHNB	**Yeheng**	**24.13**	**84**	*e*P		**P**	**09 07 01.0**	**+1.7**	
	comp=Z,61nm,0.8s								
YULB	**Yu-li**	**24.20**	**87**	*e*P		**P**	**09 07 02.1**	**+2.2**	
	comp=Z,196nm,1.2s								
TATO	**Taipei**	**24.21**	**83**	P		**P**	**09 07 01.4**	**+1.6**	
SSE	**Sheshan**	**24.22**	**68** ⇑	P		**P**	**09 07 00.0**	**+0.1**	
SSE				sP		**sP**	**09 07 39.3**	**+0.9**	
SSE				S		**S**	**09 11 10.0**	**-0.1**	
SSE				pmax	pmax				
	comp=Z,55nm,0.7s								
SSE				pmax	pmax				
	comp=Z,660nm,5.8s								
SSE				LR	LR				
	comp=Z,590nm,23.4s								
SSE				LR	LR				
	comp=Z,1μm,23.4s								
SSE				LR	LR				
	comp=Z,2μm,16.8s								
TKM2	**Tokmak 2**	**24.35**	**324**	*e*P		**P**	**09 07 02.9**	**+1.6**	
TKM2				*e*			09 10 39.4		
TKM2				*e*S		**S**	**09 11 09.9**	**-2.5**	
TKM2				pmax	pmax				
	comp=Z,257nm,0.8s								
TKM2	**Tokmak 2**	**24.35**	**324**	P		**P**	**09 07 03.1**	**+1.9**	
	SNR=346								
TKM2	**Tokmak 2**	**24.35**	**324**	*e*P		**P**	**09 07 02.9**	**+1.6**	
	comp=Z,257nm,0.8s								
TKM2				*e*PcP		**PcP**	**09 10 39.4**	**+1.6**	
TKM2				*e*S		**S**	**09 11 09.9**	**-2.5**	
TKM2				*e*ScP		**ScP**	**09 14 07.4**	**+1.5**	
NACB	**Ninganchiao**	**24.38**	**85**	*e*P		**P**	**09 07 04.3**	**+2.8**	
	comp=Z,533nm,1.3s								
UCH	**Uchtor**	**24.49**	**322**	*i* P		**P**	**09 07 04.5**	**+1.7**	
UCH	**Uchtor**	**24.49**	**322**	P		**P**	**09 07 04.5**	**+1.7**	
	SNR=126								
MK31	**Makanchi Array**	**24.51**	**339**	*e*P		**P**	**09 07 03.4**	**+1.0**	
MK31				pmax	pmax				
	comp=Z,46nm,0.4s								
MK31	**Makanchi Array**	**24.51**	**339**	*e*P		**P**	**09 07 03.6**	**+1.2**	
MK31				*e*PcP		**PcP**	**09 10 40.1**	**+2.3**	
MK31				*e*ScP		**ScP**	**09 14 07.0**	**+1.0**	
MKAR	**Makanchi Array**	**24.51**	**339**	*e*P		**P**	**09 07 03.7**	**+1.3**	
MKAR							09 10 38.6		
MKAR				S		**S**	**09 11 16.4**	**+1.9**	
MKAR	**Makanchi Array**	**24.51**	**339**	*e*P		**P**	**09 07 03.6**	**+1.3**	
MKAR				PcP		**PcP**	**09 10 38.6**	**+0.8**	
MKAR				S		**S**	**09 11 16.4**	**+1.9**	
MKAR				ScP		**ScP**	**09 14 06.0**	**0.0**	
MKAR				*e*			09 40 06.6		
MKAR	**Makanchi Array**	**24.51**	**339**	P		**P**	**09 07 03.2**	**+0.8**	
	comp=Z,87nm,0.5s,baz=150,slow=9.8,SNR=645								
MKAR				PcP		**PcP**	**09 10 38.6**	**+0.8**	
	comp=Z,7.1nm,0.6s,baz=168,slow=3.7,SNR=8.6								
MKAR				S		**S**	**09 11 16.4**	**+1.9**	
	comp=Z,8.8nm,1.1s,baz=153,slow=33,SNR=1.9								
MKAR				ScP		**ScP**	**09 14 06.0**	**0.0**	
	comp=Z,8.2nm,0.9s,baz=131,slow=4.0,SNR=10.0								
MKAR				P3KPbc			09 40 06.6		
	comp=Z,0.2nm,0.6s,baz=349,slow=1.5,SNR=2.2								
KBK	**Karagaybulak**	**24.52**	**323**	*i* P		**P**	**09 07 04.5**	**+1.7**	
KBK	**Karagaybulak**	**24.52**	**323**	P		**P**	**09 07 04.5**	**+1.7**	
	SNR=131								
KBL	**Kabul**	**24.57**	**300**	*e*P		**P**	**09 07 04.4**	**+1.0**	
KBL				*e*			09 10 39.1		
KBL				pmax	pmax				
	comp=Z,178nm,0.8s								
KBL	**Kabul**	**24.57**	**300**	*e*P		**P**	**09 07 04.4**	**+1.0**	
	comp=Z,178nm,0.8s								
KBL				*e*PcP		**PcP**	**09 10 39.0**	**+0.6**	
BKNI	**Bangkinang**	**24.67**	**165**	P		**P**	**09 07 05.3**	**+1.2**	
	comp=Z,370nm,1.2s,comp=Z,6μm								
AAK	**Ala-Archa**	**24.76**	**322**	P		**P**	**09 07 06.5**	**+1.5**	
	comp=Z,875nm,0.9s,SNR=62								
AAK	**Ala-Archa**	**24.76**	**322** *c*	*e*P		**P**	**09 07 06.9**	**+1.9**	
AAK				pmax	pmax				
	comp=Z,350nm,1.0s								
AAK	**Ala-Archa**	**24.76**	**322**	P		**P**	**09 07 06.7**	**+1.7**	
	SNR=138								
AAK	**Ala-Archa**	**24.76**	**322**	*e*P		**P**	**09 07 06.7**	**+1.7**	
AAK				S		**S**	**09 11 20.5**	**+1.7**	
AAK				ScP		**ScP**	**09 14 07.6**	**+0.6**	
AAK				*e*ScP		ScP	09 14 09.0	+2.0	
AAK	**Ala-Archa**	**24.76**	**322**	P		**P**	**09 07 06.5**	**+1.5**	
	comp=Z,74nm,0.6s,baz=128,slow=9.9,SNR=134								
AAK				S		**S**	**09 11 20.5**	**+1.7**	
	comp=Z,7.4nm,0.7s,baz=177,slow=19,SNR=2.2								
AAK				ScP		**ScP**	**09 14 07.6**	**+0.6**	
	comp=Z,6.1nm,0.5s,baz=139,slow=3.6,SNR=9.3								
AAK				LR	LR		09 17 52.3		
	comp=Z,2μm,20.7s,baz=105,slow=39

EKS2 Erkin-Say 25.18 321 *e*P P 09 07 10.9 +2.2
comp=E,121nm,0.8s
EKS2 *e*ScP **ScP 09 14 10.0 +1.9**
PPI Padang Panjang 25.29 167 P P **09 07 09.0 -0.7**
comp=E,111nm,1.2s,comp=E,1µm
ULN Ulaanbaatar 25.35 19 *e*P P 09 07 11.4 +1.2
comp=E,64nm,1.0s
ULN *e*S **S 09 11 31.2 +3.2**
ULN *e*ScP **ScP 09 14 09.8 +1.3**
YOJ Yonaguni jima 25.63 84 *e*P P 09 07 14.3 +1.5
YOJ pmax pmax
comp=Z,99nm,1.2s
YOJ Yonaguni jima 25.63 84 *e*P P 09 07 14.3 +1.5
comp=Z,99nm,1.2s
PDSI Padang 25.74 167 P P **09 07 12.7 -1.2**
comp=Z,143nm,0.8s
HVS Khovu-Aksy 26.71 358 *d i*P P 09 07 23.9 +1.6
HVS pmax pmax
comp=Z,31nm,5.0s
ZAK Zakamensk 26.76 12 *e*P P 09 07 24.7 +1.9
ZAK pmax pmax
comp=Z,63nm,1.3s
JMBI JAMBI 27.25 160 P P **09 07 29.9 +2.5**
comp=Z,1µm,0.8s,comp=Z,44µm
KSM Kuching 27.26 144 P P **09 07 29.0 +1.5**
KSM Kuching 27.26 144 P P **09 07 28.8 +1.3**
comp=Z,110nm,1.3s,comp=Z,3µm
KSM Kuching 27.26 144 *e*P P 09 07 29.1 +1.5
comp=Z,707nm,1.9s
KDM Kudat 27.32 126 P P **09 07 30.8 +2.8**
KK31 Karatay Array 27.36 319 *i*P P 09 07 28.5 +0.3
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KKAR Karatay Array 27.36 319 *e*P P 09 07 29.3 +1.1
KKAR Karatay Array 27.36 319 *e*P P 09 07 29.2 +1.1
BTM Bintulu 27.46 137 P P **09 07 31.0 +1.7**
SBUM Sibu 27.53 140 P P **09 07 32.9 +3.0**
SBUM Sibu 27.53 140 P P **09 07 31.3 +1.4**
comp=Z,43nm,2.1s,comp=Z,2µm
SBUM Sibu 27.53 140 *e*P P 09 07 31.0 +1.1
comp=Z,97nm,1.1s
MOY Mondy 27.63 8 *e*P P 09 07 32.5 +1.9
MOY pmax pmax
comp=Z,81nm,2.3s
TLY Talaya 28.07 12 *e*P P 09 07 37.5 +3.1
TLY *e* 09 08 12.7
TLY *e*S S 09 12 16.7 +6.2
TLY pmax pmax
comp=Z,18nm,1.1s
TLY MLR MLR
comp=Z,922nm,13.0s
TLY Talaya 28.07 12 *e*P P 09 07 37.5 +3.1
comp=Z,21nm,0.9s
TLY *e*S S 09 12 16.8 +6.2
TLY *e*ScP **ScP 09 14 18.4 +2.0**
SDKM Sandakan 28.44 127 P P **09 07 39.8 +1.7**
IRK Irkutsk 28.72 12 *e*P P 09 07 42.8 +2.7
IRK *e* 09 08 09.3
IRK *e*S **S 09 12 23.2 +2.4**
IRK pmax pmax
comp=Z,71nm,1.7s
STKI Sintang 29.07 144 P P **09 07 45.6 +2.0**
comp=Z,112nm,1.5s
KURBB Kurchatov Arra 29.07 338 P P **09 07 44.1 +0.9**
comp=Z,22nm,0.8s,baz=155,slow=8.1,SNR=98
KURBB pP **pP 09 08 10.1 +1.6**
comp=Z,25nm,0.7s,baz=146,slow=8.7,SNR=5.1
KURBB PcP **PcP 09 10 48.9 +0.4**
comp=Z,15nm,0.6s,baz=166,slow=2.1,SNR=5.5
KURBB S **S 09 12 21.4 -4.8**
comp=Z,1.3nm,0.5s,baz=182,slow=8.2,SNR=2.5
KURBB ScP **ScP 09 14 19.5 +0.1**
comp=Z,25nm,1.0s,baz=162,slow=2.5,SNR=14
KURK Kurchatov 29.12 339 *e*P P 09 07 44.3 +0.6
KURK **PP* **pP 09 08 10.1 +1.2**
KURK 09 10 48.9
KURK S **S 09 12 21.4 -5.6**
KURK Kurchatov 29.12 339 *e*P P 09 07 44.2 +0.6
KURK pP **pP 09 08 10.1 +1.2**
KURK PcP **PcP 09 10 48.9 +0.3**
KURK S **S 09 12 21.4 -5.6**
KURK ScP **ScP 09 14 19.5 -0.1**
KURK *e*ScP **ScP 09 14 20.8 +1.2**
KURK Kurchatov 29.12 339 P P **09 07 44.4 +0.8**
comp=Z,343nm,0.6s,SNR=34
LHSI Lahat 29.30 162 P P **09 07 45.5 -0.1**
comp=Z,120nm,1.4s
SNY Shenyang 29.50 47 ⇑P P 09 07 51.8 +4.7
SNY sP sP 09 08 29.8 +4.0
SNY S **S 09 12 32.3 -0.8**
SNY pmax pmax
comp=Z,21nm,2.4s
SNY pmax pmax
comp=Z,270nm,5.4s
SNY LR LR
comp=Z,1µm,31.4s
SNY LR LR
comp=Z,1µm,21.4s
SNY LR LR
comp=Z,1µm,18.2s
MYLDM Lahad Datu 29.71 126 P P 09 07 53.1 +3.9
MYLDM Lahad Datu 29.71 126 P P **09 07 52.0 +2.8**
comp=Z,92nm,1.5s,comp=Z,2µm
MYLDM Lahad Datu 29.71 126 *e*P P 09 07 49.2 -0.1
MYLDM *e*pP **pP 09 08 19.6 +5.0**
TPI Tanjungpandan 29.73 153 P P **09 07 51.0 +1.6**
comp=Z,219nm,1.2s,comp=Z,2µm
TSM Tawau 29.86 128 P P **09 07 52.1 +1.5**
MDSI Maura Dua 30.11 161 P P **09 07 51.3 -1.5**
comp=Z,189nm,0.9s,comp=Z,2µm
JOW Kunigami 30.20 78 *e*P P 09 07 53.6 +0.1
ZAA0 Zalesovo Array 30.45 348 *e*P P 09 07 56.5 +1.1
ZAA0 *e*PcP **PcP 09 10 51.6 -0.4**
ZAA0 *e*ScP **ScP 09 14 23.7 -0.2**
ZALV Zalesovo Beam 30.45 348 *i*P P 09 07 56.7 +1.3
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 30.45 348 P P **09 07 56.5 +1.1**
ZALV PcP **PcP 09 10 52.0 0.0**
ZALV S **S 09 12 46.5 -1.3**
ZALV ScP **ScP 09 14 23.6 -0.3**
ZALV *e* 09 39 41.6
ZALV Zalesovo Beam 30.45 348 *e*P P 09 07 56.5 +1.1
comp=Z,12nm,0.7s,baz=170,slow=8.8,SNR=42
ZALV PcP **PcP 09 10 52.0 0.0**
comp=Z,4.9nm,0.4s,baz=179,slow=4.2,SNR=3.7
ZALV S **S 09 12 46.5 -1.3**
comp=Z,5.5nm,1.0s,baz=185,slow=24,SNR=2.4
ZALV ScP **ScP 09 14 23.6 -0.3**
comp=Z,6.2nm,0.6s,baz=167,slow=2.5,SNR=6.8
ZALV LR LR 09 21 28.3
comp=Z,2µm,22.0s,baz=171,slow=38
ZALV P3KPbc 09 39 41.6
comp=Z,1.8nm,0.7s,baz=358,slow=4.5,SNR=7.2
KLSI 30.47 160 P P **09 07 55.5 -0.5**
comp=Z,201nm,0.9s,comp=Z,2µm
LWLI Liwa 30.59 162 P P **09 07 55.7 -1.4**
comp=Z,422nm,0.8s,comp=Z,7µm
KSAR Wonju Array Be 31.02 57 P P **09 07 59.9 -0.8**
KSAR S **S 09 12 56.2 -0.9**
KSAR ScP **ScP 09 14 25.6 -0.5**
KSRS Korea Array 31.05 57 P P **09 07 59.8 -1.0**
comp=Z,1.6nm,0.6s,baz=246,slow=8.8,SNR=6.7
KSRS S **S 09 12 56.2 -1.4**
comp=Z,4.4nm,1.0s,baz=245,slow=17,SNR=3.7
KSRS ScP **ScP 09 14 25.6 -0.6**
comp=Z,20nm,1.0s,baz=252,slow=3.4,SNR=24
KSRS LR LR 09 21 35.3
comp=Z,1µm,18.7s,baz=252,slow=38
KASI Kota Agung 31.19 161 P P **09 08 00.6 -1.7**
comp=Z,177nm,0.8s,comp=Z,2µm
BLSI Bandar Lampung 31.27 160 P P **09 08 02.4 -0.6**
comp=Z,271nm,0.5s,comp=Z,6µm
PBKI Pangkalan Bun 31.52 146 P P **09 08 08.2 +3.0**
comp=Z,179nm,1.3s,comp=Z,4µm
HIA Hailar 31.56 32 P P 09 08 09.4 +4.2
comp=Z,29nm,1.0s
NVS Novosibirsk 31.61 347 ⇓*i*P P 09 08 05.5 0.0
NVS *e* 09 10 54.3
NVS pmax pmax
comp=Z,65nm,1.5s
NVS pmax pmax
comp=N,27nm,1.1s
NVS pmax pmax
comp=E,32nm,1.3s
CN2 Changchun 31.62 45 *e*P P 09 08 08.5 +2.6
CN2 *e*sP **sP 09 08 49.3 +4.6**
CN2 *e*S **S 09 13 08.0 +1.6**
CN2 pmax pmax
comp=E,10.0nm,0.7s
MTKI Muara Teweh, K 31.83 139 P P **09 08 10.0 +2.1**
comp=E,111nm,1.2s,comp=E,18µm
IMYA Miami 32.08 300 *e*P P 09 08 12.5 +2.3
SBJI Serang 32.27 159 P P 09 08 15.9 +4.2
comp=E,206nm,0.8s
ISRO Mashad 32.58 300 *e*P P 09 08 15.8 +1.4
CGJI Cibinong 32.59 160 P P 09 08 11.3 -3.2
comp=E,97nm,0.6s,comp=E,10µm
JNU Nakatsue 32.64 66 P P **09 08 14.6 -0.4**
JNU *e*pP **pP 09 08 40.4 0.0**
JNU S **S 09 13 22.7 +0.2**
JNU Nakatsue 32.64 66 P P **09 08 14.6 -0.4**
comp=E,16nm,0.8s,baz=259,slow=7.8,SNR=12
JNU S **S 09 13 22.7 +0.2**
comp=E,4.7nm,0.9s,baz=309,slow=13,SNR=2.0
DBJI Dramaga 32.88 158 P P **09 08 16.2 -0.9**
comp=E,486nm,0.6s,comp=E,6µm
SKJI Sukabumi 33.24 158 P P **09 08 18.8 -1.4**
comp=E,486nm,0.6s,comp=E,4µm
LEM Lembang 33.44 157 P P **09 08 25.0 +2.9**
comp=E,105nm,1.0s,comp=E,1µm
BBKI Banjar Baru 33.84 142 P P **09 08 27.5 +2.0**
comp=E,371nm,1.3s,comp=E,4µm
ABKT Ailbek 33.97 302 P P **09 08 28.4 +1.9**
comp=E,221nm,1.3s,SNR=7.7
BVA0 Borovoye Array 34.03 333 *e*P P 09 08 27.0 +0.3
BVA0 pmax pmax
comp=Z,40nm,1.0s
BVAR Borovoye Array 34.03 333 P P **09 08 27.7 +0.9**
BVAR **PP* **pP 09 08 56.1 +3.7**
BVAR 09 11 01.7
BVAR S **S 09 13 44.6 +1.0**
BVAR Borovoye Array 34.03 333 P P **09 08 27.7 +0.9**
BVAR pP **pP 09 08 56.1 +3.7**
BVAR PcP **PcP 09 11 01.7 -0.2**
BVAR pPcP 09 11 32.2
BVAR S **S 09 13 44.6 +1.0**
BVAR ScP **ScP 09 14 36.8 +0.6**
BVAR Borovoye Array 34.03 333 P P **09 08 27.7 +0.9**
comp=Z,7.6nm,0.3s,baz=128,slow=9.7,SNR=77
BVAR pP **pP 09 08 56.1 +3.7**
comp=Z,28nm,0.7s,baz=140,slow=10,SNR=6.4
BVAR PcP **PcP 09 11 01.7 -0.2**
comp=Z,7.6nm,0.3s,baz=145,slow=4.4,SNR=16
BVAR pPcP 09 11 32.2
comp=Z,13nm,0.8s,baz=145,slow=3.5,SNR=4.6
BVAR S **S 09 13 44.6 +1.0**
comp=Z,11nm,1.0s,baz=132,slow=18,SNR=6.7
BVAR ScP **ScP 09 14 36.8 +0.6**
comp=Z,17nm,0.7s,baz=150,slow=4.1,SNR=17
BRVK Borovoye 34.10 333 P P **09 08 28.2 +0.9**
comp=Z,177nm,1.1s,SNR=22
BRVK Borovoye 34.10 333 *d i*P P 09 08 28.2 +0.9
BRVK pmax pmax
comp=Z,35nm,1.1s
BRVK Borovoye 34.10 333 *e*P P 09 08 27.9 +0.6
BRVK *e*PcP **PcP 09 11 03.1 +1.1**
CISI Cisompet, Garu 34.19 157 P P **09 08 27.2 -1.3**
comp=Z,125nm,0.6s,comp=Z,5µm
CISI Cisompet, Garu 34.19 157 *e*P P 09 08 25.8 -2.7
KPJI Karang Pucung 34.40 155 P P **09 08 31.4 +1.1**
comp=Z,755nm,0.9s,comp=Z,6µm
UWJI Ujung Watu 34.42 151 P P 09 08 34.3 +3.9
comp=Z,376nm,1.4s,comp=Z,5µm
KBKI Kotabaru 34.47 140 P P **09 08 33.2 +2.3**
comp=Z,117nm,1.4s,comp=Z,3µm
CMJI Cimerak 34.63 156 P P **09 08 31.9 -0.3**
comp=Z,81nm,1.0s
MDJ Mudanjiang 34.66 46 P P **09 08 32.5 +0.2**
MDJ pP **pP 09 08 56.0 -1.9**
MDJ sP **sP 09 09 10.0 -1.3**
MDJ PP **PP 09 09 53.0 0.0**
MDJ PcP **PcP 09 11 04.0 +0.2**
MDJ S **S 09 13 53.5 +0.1**
MDJ ScP **ScP 09 14 39.0 +0.4**
MDJ PcS **PcS 09 14 51.0 +0.6**
MDJ ScS **ScS 09 18 43.3 +1.5**
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,180nm,4.9s
MDJ LR LR
comp=Z,710nm,13.1s
MDJ LR LR
comp=Z,560nm,12.8s
MDJ LR LR
comp=Z,790nm,11.6s
BJII Banjamegara 34.71 153 P P **09 08 35.0 +2.0**
comp=Z,285nm,0.8s,comp=Z,4µm
SMRI Semarang 34.76 152 P P **09 08 36.3 +2.9**
comp=Z,692nm,0.8s,comp=Z,8µm
SMRI Semarang 34.76 152 *e*P P 09 08 35.9 +2.5
PCI Palu 34.94 132 P P **09 08 36.3 +1.4**
comp=Z,6µm,0.8s,comp=Z,135µm
MRSI Marisa 35.41 128 P P **09 08 41.8 +2.8**
comp=Z,84nm,1.1s,comp=Z,2µm
NGJI Ngawi 35.49 151 P P 09 08 43.1 +3.5
comp=Z,149nm,1.5s,comp=Z,3µm
MMSI Mamuju 35.67 136 P P **09 08 43.6 +2.4**
comp=Z,172nm,1.5s,comp=Z,3µm
USRK Ussuriysk Arra 36.09 48 P P **09 08 44.2 -0.3**
comp=Z,2.6nm,0.5s,baz=255,slow=8.4,SNR=11
USRK S **S 09 14 12.2 -3.1**
comp=Z,2.2nm,1.1s,baz=225,slow=14,SNR=2.2
USRK ScP **ScP 09 14 42.0 -1.8**
comp=Z,4.5nm,0.7s,baz=250,slow=3.5,SNR=9.6
USRK LR LR 09 24 25.7
comp=Z,16nm,28.6s,baz=239,slow=38
APSI Ampana 36.18 130 P P **09 08 48.0 +2.4**
comp=Z,121nm,1.4s,comp=Z,2µm
XMIS Christmas Isla 36.24 162 *e*P P 09 08 46.3 +0.3
comp=Z,765nm,0.8s
MJSI Majene 36.37 137 P P 09 08 51.1 +3.9
comp=Z,232nm,1.1s,comp=Z,5µm
KMMI Kalianget 36.40 147 P P **09 08 50.3 +2.9**
comp=Z,522nm,1.5s,comp=Z,6µm
TTSI Tana Toraja 36.52 135 P P **09 08 50.4 +2.0**
comp=Z,201nm,1.5s,comp=Z,3µm
KRKI Karangkates 36.64 150 P P **09 08 51.1 +1.7**
comp=Z,320nm,0.6s,comp=Z,16µm
BLJI Banyuglugur 36.82 148 P P 09 08 54.5 +3.6
comp=Z,150nm,1.0s
KMSI Cibinong 36.83 126 P P 09 08 55.9 +4.8
comp=Z,382nm,1.2s
AB31 Akbulak array 36.84 321 P P **09 08 51.8 +1.0**
AB31 pmax pmax
comp=Z,15nm,0.4s
ABKAR Akbulak array 36.84 321 *e*P P 09 08 51.2 +0.4
comp=Z,16nm,0.4s
ABKAR *e*PcP **PcP 09 11 10.9 +0.6**
ABKAR *e*ScP **ScP 09 14 48.4 +1.9**
IANJ Anjilo 36.91 297 *e*P P 09 08 53.5 +1.6
LUWI Luwuk 37.06 129 P P **09 08 54.3 +1.3**
comp=Z,274nm,1.2s,comp=Z,3µm
IGLO Ghaloghah 37.10 299 *e*P P 09 08 56.6 +3.2
SPSI Sidrap Palu 37.19 136 P P **09 08 55.7 +1.6**
comp=Z,208nm,1.7s,comp=Z,4µm
GMJI Gumukmas 37.20 149 P P **09 08 56.0 +1.8**
comp=Z,90nm,1.6s,comp=Z,2µm
ISRV Sarvestan 37.44 287 *e*P P 09 08 57.0 +0.8
IPAR Pars 37.44 288 *e*P P 09 08 58.4 +1.9
ISHM Shahmirzad 37.45 298 *e*P P 09 08 58.0 +1.5
BYJI Banyuwangi 37.59 147 P P **09 09 00.4 +2.9**
comp=Z,329nm,1.3s
JAGI Jajag, Banyuwa 37.71 148 *e*P P 09 08 58.9 +0.3
comp=Z,473nm,1.8s
BNSI Bone 37.74 136 P P **09 09 00.3 +1.6**
comp=Z,118nm,1.3s,comp=Z,2µm
IALA Alasht 37.87 298 *e*P P 09 09 02.0 +2.0
IFIR Firoozkooh 37.87 297 *e*P P 09 09 01.9 +1.9
SRBI Singaraja 37.91 146 P P **09 09 02.6 +2.4**
comp=Z,193nm,1.5s,comp=Z,3µm
KAPI Kappang 37.99 137 P P **09 09 01.0 +0.2**
comp=Z,214nm,0.8s,SNR=8.1
KAPI Kappang 37.99 137 *e*P P 09 09 01.9 +1.1
comp=Z,472nm,1.4s
KAPI *e*PcP **PcP 09 11 14.7 +0.4**
KLR Kul'dur 37.99 40 *e*P P 09 09 14.2 +14
KLR *e*S **S 09 14 40.5 -3.5**
KLR *e* 09 15 23.5
KLR *e*SSS SSS 09 17 31.5
KLR smax smax
comp=N,1µm,10.5s
KLR smax smax
comp=E,1µm,10.5s
KLR MLR MLR
comp=E,1µm,12.0s
KLR MLR MLR
comp=Z,2µm,12.0s
IZEF Zefreh 38.05 293 *e*P P 09 09 03.1 +1.5
IPRN Peran 38.26 298 *e*P P 09 09 04.9 +1.8
KHKI Kahang-Kahang 38.35 146 P P **09 09 05.4 +1.5**
comp=Z,159nm,1.4s,comp=Z,3µm
BKSI Bulukumba 38.46 137 P P **09 09 06.1 +1.3**
comp=Z,81nm,1.4s,comp=Z,1µm
IKAZ Kazeroun 38.49 288 *e*P P 09 09 06.5 +1.1
AKTO Aktyubinsk 38.51 322 P P **09 09 05.5 +0.7**
AKTO pmax pmax
comp=Z,11nm,0.5s
KKSI Kolaka, Sulawe 38.56 134 P P **09 09 07.7 +2.0**
comp=Z,146nm,1.4s,comp=Z,3µm
IVRN Varamin 38.65 296 *e*P P 09 09 08.0 +1.7
IKLH Kolahrood 38.69 293 *e*P P 09 09 09.8 +2.9
MAJO Matsushiro 38.99 62 ⇓*i*P P 09 09 09.0 0.0
MAJO pmax pmax
comp=Z,202nm,1.5s
MAJO Matsushiro 38.99 62 *e*P P 09 09 08.8 -0.3
comp=Z,61nm,1.2s
MAT Matsushiro 38.99 62 P P **09 09 08.5 -0.5**
MAT S **S 09 14 59.6 +0.2**
MJAR Matsushiro Arr 38.99 62 P P **09 09 08.8 -0.2**
MJAR pP **pP 09 09 34.5 -0.6**
MJAR ScP **ScP 09 14 54.4 -0.5**
MJAR Matsushiro Arr 38.99 62 P P **09 09 08.8 -0.2**
comp=Z,20nm,1.0s,baz=271,slow=9.1,SNR=36
MJAR pP **pP 09 09 34.5 -0.6**
comp=Z,30nm,1.0s,baz=266,slow=8.2,SNR=6.3
MJAR ScP **ScP 09 14 54.4 -0.5**
comp=Z,14nm,0.9s,baz=256,slow=3.9,SNR=20
MJAR LR LR 09 26 16.5
comp=Z,661nm,21.0s,baz=250,slow=38
CLNS Chul'man 39.02 26 *e*P P 09 09 12.7 +3.6
CLNS pmax pmax
comp=E,14nm,1.2s
CLNS pmax pmax
comp=Z,26nm,1.6s
CLNS pmax pmax
comp=N,13nm,1.2s
IR5 Iran Long-Peri 39.60 296 *e*P P 09 09 15.2 +0.9
HABR Khabarovsk 39.65 42 *e*P P 09 09 12.7 -1.6
HABR *e**PP **pP 09 09 39.7 -0.8**
HABR *e**SP **sP 09 09 53.6 -0.1**
HABR *e* 09 10 46.3
HABR *e*S **S 09 15 07.4 -1.5**
HABR *e**SS **sS 09 15 54.8 +0.6**
HABR *e*SS **SS 09 18 08.6 0.0**
HABR *e* 09 19 07.4
HABR pmax pmax
comp=Z,36nm,1.0s
HABR MLR MLR
comp=Z,349nm,16.0s
IRAZ Razeghan 40.15 297 *e*P P 09 09 20.1 +1.2
SVE Sverdlovsk 40.74 332 *d i*P P 09 09 24.8 +1.6
SVE *e*S **S 09 15 23.2 -1.7**
SVE *e*SS **SS 09 18 26.4 -3.6**
SVE pmax pmax
comp=Z,133nm,0.9s
SVE MLR MLR
comp=Z,3µm,19.0s
LBFI Labuhan Bajo, 40.81 140 P P **09 09 24.6 +0.4**
comp=Z,397nm,0.9s,comp=Z,6µm
ARU Arti 41.42 330 P P **09 09 29.9 +1.1**
comp=Z,401nm,0.3s,SNR=7.0
ARU Arti 41.42 330 *d i*P P 09 09 29.8 +1.0
ARU **PP* **pP 09 09 53.1 -2.0**
ARU **SP* **sP 09 10 09.4 +1.1**
ARU 09 11 07.1
ARU 09 11 24.7
ARU PPP PPP
ARU S **S 09 15 35.5 +0.5**
ARU **SS* **sS 09 16 19.5 -1.0**
ARU SS **SS 09 18 38.5 -4.9**
ARU 09 19 19.2
ARU pmax pmax
comp=Z,101nm,1.7s
ARU MLR MLR
comp=Z,3µm,18.0s
NLAI Namlea 41.69 127 P P **09 09 34.5 +3.0**
comp=Z,116nm,1.1s,comp=Z,2µm
WSI Waingapu 42.00 141 P P **09 09 33.1 -0.9**
comp=Z,470nm,0.8s
KBD Kabd 42.14 287 *e*P P 09 09 35.9 +0.8
KBD AMb AMB 09 09 38.1
comp=Z,38nm,0.4s
RDF Al-Radifah 42.29 287 *e*P P 09 09 36.8 +0.5
RDF AMb AMB 09 09 43.2
comp=Z,109nm,1.0s
MMRI Maumere 42.34 138 P P **09 09 36.4 -0.3**
comp=Z,217nm,0.8s,comp=Z,3µm
NAY Al-Naaiem 42.53 287 *e*P P 09 09 38.8 +0.6
NAY AMb AMB 09 09 45.3
comp=Z,102nm,1.1s
JCJ Chichijima 42.54 76 LR LR 09 29 29.4
comp=Z,17nm,28.6s,baz=266,slow=39
RST Umm Al-Ruwaisa 42.72 288 *e*P P 09 09 40.3 +0.6
RST AMb AMB 09 09 45.5
comp=Z,832nm,0.7s
MSAI Masohi 43.11 125 P P **09 09 45.2 +2.2**
comp=Z,73nm,0.9s,comp=Z,736nm
SWI Sorong 43.33 120 P P **09 09 45.6 +0.8**
comp=Z,149nm,1.2s,comp=Z,2µm
ASAJ Asahikawa 43.41 51 LR LR 09 28 35.2
comp=Z,16nm,28.6s,baz=272,slow=37
SOKR Solikamsk 44.04 333 *d i*P P 09 09 49.9 +0.1
SOKR **PP* **pP 09 10 15.8 -0.6**
SOKR 09 11 29.5
SOKR S **S 09 16 15.2 +2.0**
SOKR SS **SS 09 19 33.9 -0.4**
SOKR pmax pmax
comp=Z,100nm,1.5s
SOKR MLR MLR
comp=Z,2µm,22.0s
YSS Yuzh-Sakhalins 44.12 47 *e*P P 09 09 53.7 +3.0
DGRG David-gareji 44.25 305 P P 09 09 56.0 +4.1
DGRG S **S 09 16 19.3 +2.4**
YAK Yakutsk 44.35 23 *e*P P 09 09 53.3 +1.0
SOEI Soe 44.47 136 P P **09 09 53.2 -0.8**
comp=Z,582nm,1.0s,comp=Z,6µm
GNI Garni 44.59 303 LR LR 09 33 32.0
comp=Z,273nm,20.0s,baz=79,slow=42
SEAG Tbilisi Sea 44.71 305 P P **09 09 52.5 -3.1**
TBLG Delisi 44.76 305 P P 09 09 50.1 -5.8
DUS Dusheti 44.82 306 P P 09 10 00.3 +3.8
RAYN Ar Rayn 44.90 279 P P **09 09 58.0 +0.7**
comp=Z,276nm,0.4s,SNR=18
KZR Kazreti 44.96 305 P P **09 09 59.5 +1.9**
GUDG Gudauri 45.03 306 P P **09 10 01.1 +2.8**
CLDR Caldiran 45.16 302 *e*P P 09 09 59.7 +0.4
FAKI Fak Fak 45.37 122 P P **09 10 01.1 +0.1**
comp=Z,304nm,1.2s,comp=Z,3µm
ZEI Tsey 45.50 307 *e*P P 09 10 02.7 +0.7
ZEI pmax pmax
comp=Z,94nm,1.4s
MWPI Manokwari, Pap 45.59 118 P P **09 10 04.5 +1.8**
comp=Z,430nm,1.4s,comp=Z,5µm
AKH Akhalkalaki 45.65 305 P P **09 10 02.3 -0.9**
AKH S **S 09 16 41.7 +4.2**
ONI Oni 45.80 306 P P **09 10 07.2 +3.0**
ONI S S 09 16 46.8 +7.4
AGRB Hanur-Agry 45.90 302 *e*P P 09 10 05.6 +0.5
KBZ Khabaz 46.34 308 P P **09 10 10.4 +2.1**
KBZ S **S 09 16 47.0 +0.2**
KBZ Khabaz 46.34 308 P P **09 10 10.3 +2.1**
KBZ S **S 09 16 47.0 +0.2**
KBZ Khabaz 46.34 308 P P **09 10 10.3 +2.1**
comp=Z,4.2nm,0.5s,baz=128,slow=9.5,SNR=9.1
KBZ S **S 09 16 47.0 +0.2**
comp=Z,5.1nm,1.1s,baz=122,slow=9.5,SNR=3.3
KBZ LR LR 09 32 41.4
comp=Z,16nm,28.6s,baz=92,slow=40
KIV Kislovodsk 46.52 308 *e*P P 09 10 12.2 +2.4
KIV *e**PP **pP 09 10 36.3 -0.3**
KIV *e*S **S 09 16 52.4 +2.8**
KIV pmax pmax
comp=Z,43nm,1.0s

KIV MLR MLR
comp=Z,635nm,16.0s
BCA Borcka 47.06 305 *e*P **P** **09 10 15.6 +1.7**
BAKI Biak 47.41 116 P **P** **09 10 18.5 +1.5**
comp=Z,218nm,1.2s,comp=Z,3µm
MAZI Mazidag 47.84 299 *e*P **P** **09 10 22.1 +1.9**
GUMO Guam 48.28 93 *e*P **P** **09 10 23.9 +0.2**
comp=Z,49nm,1.4s
ERZN Erzincan 48.42 302 *e*P **P** **09 10 24.5 -0.2**
VRHR Novokhopersk 48.47 318 *e*P **P** **09 10 23.7 -0.9**
VRHR *e*S **S** **09 17 14.4 -2.3**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.1s
VRHR smax smax
comp=E,330nm,1.6s
VRHR smax smax
comp=Z,70nm,1.7s
VRHR smax smax
comp=N,260nm,1.2s
SOC Sochi 48.62 307 *e*P **P** **09 10 24.4 -1.5**
SOC *e**PP **pP** **09 10 49.2 -3.8**
SOC *e**SP **sP** **09 11 07.5 +1.6**
SOC *e* 09 12 16.1
SOC *e*S **S** **09 17 19.1 -0.1**
SOC *e*SSS SSS 09 22 11.5
SOC pmax pmax
comp=Z,84nm,1.1s
GUMT Gumushane 48.63 303 *e*P **P** **09 10 23.3 -2.9**
PTK Pertek 48.67 301 *e*P **P** **09 10 25.7 -1.0**
EZC Erzincan 48.71 302 *e*P **P** **09 10 25.1 -1.8**
KELT Kelkit 48.79 303 *i* P **P** **09 10 29.3 +1.7**
ILIC ilic-Erzincan 49.31 302 *e*P **P** **09 10 33.3 +1.9**
KEMA Kemaliye 49.37 302 *i* P **P** **09 10 33.6 +1.8**
MALT Malatya 49.43 300 *e*P **P** **09 10 33.8 +1.4**
MALT Malatya 49.43 300⇓ *i*P **P** **09 10 34.2 +1.8**
PRGR Permogore 49.81 332⇑ *i*P **P** **09 10 35.6 +0.9**
PRGR *e**PP **pP** **09 11 04.1 +2.3**
PRGR *e*S **S** **09 17 35.8 +0.6**
PRGR pmax pmax
comp=Z,42nm,0.6s
VORD Divnogorie 49.88 317 *e*P **P** **09 10 36.9 +1.5**
VORD *e*S **S** **09 17 33.7 -2.8**
VORD pmax pmax
comp=Z,30nm,1.4s
VORD pmax pmax
comp=N,90nm,0.7s
VORD pmax pmax
comp=E,90nm,0.6s
VORD smax smax
comp=N,320nm,2.0s
VORD smax smax
comp=Z,160nm,1.9s
VORD smax smax
comp=E,80nm,1.6s
VSR Storozhevoye 50.01 317 *e*P **P** **09 10 35.4 -0.9**
VSR *e*S **S** **09 17 36.3 -1.9**
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR smax smax
comp=N,260nm,1.3s
VSR smax smax
comp=Z,60nm,2.0s
VSR smax smax
comp=E,60nm,1.6s
RSDY Resadiye-TOKAT 50.27 303 *e*P **P** **09 10 41.6 +3.0**
SVSK Karacayir 50.52 302 *e*P **P** **09 10 41.6 +1.2**
KMRS Kahramanmaras 50.66 299 *e*P P 09 10 37.5 -4.1
TIXI Tiksi 51.03 13 *ce*P **P** **09 10 43.9 +0.2**
TIXI pmax pmax
comp=Z,156nm,1.7s
TIXI MLR MLR
comp=Z,227nm,13.0s
MBWA Marble Bar 51.35 150 *e*P **P** **09 10 46.6 -0.1**
comp=Z,108nm,0.8s
MBWA *e*PcP **PcP** **09 11 59.7 -0.2**
GENI Genyem 51.55 115 P **P** **09 10 49.5 +1.1**
YOZ Yozgat 51.82 302 *e*P **P** **09 10 49.9 -0.5**
FITZ Fitzroy Crossi 51.83 142 ScP **ScP** **09 15 46.5 -1.5**
comp=Z,6.3nm,0.8s,baz=15,slow=3.2,SNR=4.1
FITZ S **S** **09 18 02.1 -1.9**
comp=Z,2.4nm,1.2s,baz=360,slow=19,SNR=2.2
FITZ LR LR 09 36 14.5
comp=Z,423nm,19.6s,baz=331,slow=40
MOS Moscow 51.83 323 *e*P **P** **09 10 48.7 -1.2**
MOS *e**PP **pP** **09 11 14.1 -3.1**
MOS *i*S **S** **09 18 00.0 -3.3**
MOS *i*S S 09 18 00.1 -3.2
MOS *e* 09 20 28.0
MOS pmax pmax
comp=Z,84nm,0.7s
MOS MLR MLR
comp=Z,800nm,16.0s
MMAI Mount Meron Ar 52.25 294 LR LR 09 38 31.9
comp=Z,698nm,18.3s,baz=90,slow=42
OBN Obninsk 52.29 322⇑ *i*P **P** **09 10 53.9 +0.6**
OBN *i* *PP **pP** **09 11 20.1 -0.6**
OBN *e* 09 12 51.3
OBN *i*S **S** **09 18 08.4 -1.1**
OBN pmax pmax
comp=Z,18nm,1.5s
OBN MLR MLR
comp=Z,900nm,19.0s
CORM Corum 52.34 303 *e*P **P** **09 10 55.1 +1.0**
GULE Gulek 52.36 299 *i* P **P** **09 10 56.0 +1.6**
MERS Mersin 52.59 299 *e*P **P** **09 10 57.5 +1.5**
ILGA Ilgaz 53.01 304 *i* P **P** **09 11 00.0 +0.9**
KAMT Kaman 53.08 302 *e*P P 09 10 55.7 -3.8
EIL Elat 53.10 290 LR LR 09 38 15.0
comp=Z,16nm,28.6s,baz=102,slow=41
BR131 Keskin Array S 53.12 302 *e*P **P** **09 11 00.1 +0.3**
comp=Z,8.0nm,0.4s
BRTR Keskin Array B 53.12 302 P **P** **09 11 00.5 +0.7**
BRTR PcP **PcP** **09 12 06.8 0.0**
BRTR ScP **ScP** **09 15 53.2 -0.5**
BRTR S **S** **09 18 22.2 +0.6**
BRTR Keskin Array B 53.12 302 P **P** **09 11 00.5 +0.7**
comp=Z,5.9nm,0.5s,baz=128,slow=8.8,SNR=51
BRTR PcP **PcP** **09 12 06.8 0.0**
comp=Z,12nm,0.9s,baz=48,slow=4.3,SNR=4.6
BRTR ScP **ScP** **09 15 53.2 -0.5**
comp=Z,3.8nm,0.9s,baz=91,slow=4.7,SNR=4.6
BRTR S **S** **09 18 22.2 +0.6**
comp=Z,2.2nm,1.0s,baz=97,slow=10,SNR=4.5
ELDT Eldivan 53.24 303 *i* P **P** **09 11 02.1 +1.3**
SULT Sultanhani-AKS 53.30 300 *e*P **P** **09 11 00.5 -0.7**
CSS Prodhromos 53.73 296 *e*P P 09 10 56.3 -8.0
ANTO Ankara 53.76 303 *e*P **P** **09 11 02.0 -2.5**
ANTO Ankara 53.76 303 *e*P **P** **09 11 05.5 +1.0**
ANTO *e**PP **pP** **09 11 30.5 -1.5**
ANTO *e* 09 12 06.1
ANTO pmax pmax
comp=Z,33nm,0.9s
ANTO Ankara 53.76 303⇑ *i*P **P** **09 11 05.4 +1.0**
ANTO Ankara 53.76 303 *e*P **P** **09 11 05.5 +1.0**
comp=Z,33nm,0.9s
ANTO *e*pP **pP** **09 11 30.5 -1.5**
ANTO *e*PcP **PcP** **09 12 06.0 -3.0**
LOD Lodumlu 53.78 303 *e*P **P** **09 11 02.8 -1.8**
SEY Seymchan 53.91 29 P **P** **09 11 04.7 -0.3**
SEY S **S** **09 18 30.4 -0.9**
SEY Seymchan 53.91 29 P **P** **09 11 04.7 -0.3**
SEY ScP **ScP** **09 15 55.5 -0.8**
SEY S **S** **09 18 30.4 -0.9**
SEY Seymchan 53.91 29 P **P** **09 11 04.7 -0.3**
comp=Z,2.1nm,0.4s,baz=258,slow=9.5,SNR=16
SEY ScP **ScP** **09 15 55.5 -0.8**
comp=Z,7.6nm,0.7s,baz=256,slow=4.3,SNR=8.8
SEY S **S** **09 18 30.3 -0.9**
comp=Z,0.8nm,0.5s,baz=163,slow=19,SNR=2.5
TMCR Tamitsa 53.99 333 *e*P **P** **09 11 06.1 +0.5**
TMCR pmax pmax
comp=Z,139nm,1.4s
LEF Lefka 54.08 297 *e*P **P** **09 11 08.7 +2.0**
LADK Ladik-KONYA 54.20 301 *e*P **P** **09 11 07.0 -0.8**
KONT Konya--Tatoy 54.23 300 *e*P P 09 10 59.9 -8.0
BCAM Yenicaga 54.27 304 *i* P **P** **09 11 08.9 +0.6**

PETK Petropavlovsk- 54.66 41 P **P** **09 11 10.5 -0.2**
PETK S **S** **09 18 42.3 +0.6**
PETK Petropavlovsk- 54.66 41 P **P** **09 11 10.4 -0.2**
PETK ScP **ScP** **09 15 57.3 -2.6**
PETK S **S** **09 18 42.3 +0.6**
PETK Petropavlovsk- 54.66 41 P **P** **09 11 10.4 -0.2**
comp=Z,3.4nm,0.6s,baz=232,slow=7.1,SNR=5.2
PETK ScP **ScP** **09 15 57.3 -2.6**
comp=Z,2.2nm,0.5s,baz=214,slow=5.0,SNR=4.0
PETK S **S** **09 18 42.3 +0.6**
comp=Z,0.7nm,0.5s,baz=276,slow=5.7,SNR=2.1
PETK LR LR 09 35 58.4
comp=Z,314nm,20.2s,baz=264,slow=37
MDUB Mudurnu 54.94 303 *e*P P 09 11 09.9 -3.2
PET Petropavlovsk 55.22 41 *e*P **P** **09 11 14.8 +0.1**
PET *e* 09 13 19.8
PET *i*S **S** **09 18 46.9 -2.2**
PET pmax pmax
comp=Z,200nm,12.9s
PET pmax pmax
comp=Z,100nm,19.1s
SUTC Sutluce-Ispart 55.34 300 *e*P P 09 11 09.3 -6.8
GULT Gulveren 55.47 303 *e*P **P** **09 11 19.3 +2.5**
ISP Isparta 55.69 300⇑ *i*P **P** **09 11 19.4 +0.9**
SILT Sile 56.08 304 *e*P P 09 11 15.2 -5.8
HRT Hereke 56.08 304 *e*P **P** **09 11 19.3 -1.8**
AKASG Malin Array Be 56.19 316 P **P** **09 11 21.3 -0.4**
AKASG S **S** **09 18 59.1 -3.1**
AKASG Malin Array Be 56.19 316 P **P** **09 11 21.2 -0.4**
AKASG ScP **ScP** **09 16 06.5 -0.2**
AKASG S **S** **09 18 59.1 -3.1**
AKASG Malin Array Be 56.19 316 P **P** **09 11 21.2 -0.4**
comp=Z,10nm,0.3s,baz=82,slow=7.2,SNR=70
AKASG ScP **ScP** **09 16 06.5 -0.2**
comp=Z,3.5nm,0.7s,baz=75,slow=4.8,SNR=6.0
AKASG S **S** **09 18 59.1 -3.1**
comp=Z,5.0nm,0.8s,baz=86,slow=13,SNR=12
AKASG LR LR 09 39 25.8
comp=Z,17nm,28.6s,baz=95,slow=40
AKBB Malin Array Si 56.19 316 *e*P **P** **09 11 21.0 -0.7**
AKBB Malin Array Si 56.19 316 *e*P **P** **09 11 21.0 -0.7**
AKBB *e*ScP **ScP** **09 16 08.2 +1.5**
AK01 Malin Array Si 56.20 316 *e*P **P** **09 11 20.9 -0.8**
AK01 *e*ScP **ScP** **09 16 08.1 +1.3**
KIEV Kiev 56.20 316 *e*P **P** **09 11 21.3 -0.5**
KIEV Kiev 56.20 316 *e*P **P** **09 11 21.2 -0.5**
comp=Z,47nm,0.8s
KIEV *e*ScP **ScP** **09 16 08.0 +1.3**
AK02 Malin Array Si 56.20 316 *e*P **P** **09 11 21.0 -0.8**
AK02 *e*ScP **ScP** **09 16 07.6 +0.9**
ELL Elmali 56.29 299 *e*P **P** **09 11 21.7 -1.1**
TVSB Tavsanli 56.35 302 *e*P **P** **09 11 22.3 -0.9**
GDZ Gediz 56.37 302 *i* P **P** **09 11 23.4 0.0**
KHL Karahalli 56.42 301 *e*P **P** **09 11 20.5 -3.1**
KHAL Karahalli 56.44 301 *i* P **P** **09 11 23.4 -0.4**
GOLH Golhisar 56.51 300 *i* P **P** **09 11 24.2 -0.1**
JOF Joensuu 56.55 331 *e*P **P** **09 11 24.7 +0.7**
JOF pmax pmax
comp=Z,14nm,0.4s
JOF Joensuu 56.55 331 *ep* **P** **09 11 24.7 +0.7**
comp=Z,14nm,0.4s
GLHS Gilhisar (BURDU 56.57 300 *e*P P 09 11 21.1 -3.7
ARMT Armutlu 56.71 304 *e*P **P** **09 11 24.1 -1.6**
TIRR Tirgusor 56.78 308⇑ *i*P **P** **09 11 27.9 +1.9**
APA Apatity 56.87 336⇓ *i*P **P** **09 11 27.6 +1.4**
APA *i* *PP **pP** **09 11 52.6 -1.3**
APA *i*S **S** **09 19 10.0 -0.5**
APA MLR MLR
comp=Z,1µm,23.0s
CFR Carcaliu 56.95 309⇑ *i*P **P** **09 11 27.6 +0.5**
MICGM Minsk 57.20 320⇓ *e*P **P** **09 11 27.0 -1.7**
MNK Minsk 57.22 320⇓ *e*P **P** **09 11 27.0 -1.9**
MNK *e**PP **pP** **09 11 54.0 -2.7**
MNK *e**SP **sP** **09 12 07.0 -2.5**
MNK *e* 09 12 21.0
MNK *e*S **S** **09 19 12.0 -3.6**
MNK *e**SS sS 09 19 35.0 -28
MNK pmax pmax
comp=Z,80nm,1.5s
MNK smax smax
comp=N,390nm,1.5s
DALY Dalyan (Mu¨la 57.28 299 *e*P **P** **09 11 27.6 -2.0**
TURN Turunc 57.31 299 *i* P **P** **09 11 32.2 +2.3**
GONE Gonen-Balikesi 57.66 303 *e*P **P** **09 11 31.7 -0.5**
BALY Balya 57.74 303 *i* P **P** **09 11 32.7 -0.2**
NACGM Naroch 57.85 321 *e*P **P** **09 11 31.0 -2.3**
IDID Didziasalis 57.90 321 *e*P **P** **09 11 34.8 +1.2**
IDID AMB AMB 09 11 41.0
comp=Z,25nm,1.3s
VRI Vrinciouaia 57.90 310⇑ *i*P **P** **09 11 35.2 +1.3**
KRBG Karabiga-Canak 57.92 304 *e*P P 09 11 28.8 -5.2
TESR Tescani 57.93 311⇑ *i*P **P** **09 11 34.5 +0.5**
PLOR Plostina 57.96 310⇑ *i*P **P** **09 11 35.8 +1.5**
RKY Sarkoy-Tekirda 57.98 304 *e*P **P** **09 11 32.9 -1.6**
ISR Istrita 58.08 309⇑ *i*P **P** **09 11 36.9 +1.7**
IIGN Ignalina 58.20 321 *e*P **P** **09 11 36.3 +0.6**
IIGN AMB AMB 09 11 38.5
comp=Z,17nm,0.6s
ISAL Salakas 58.26 322 *e*P **P** **09 11 36.7 +0.6**
ISAL AMB AMB 09 11 38.7
comp=Z,8.6nm,0.7s
LPK Lapseki 58.33 304 *e*P **P** **09 11 34.1 -2.8**
MLR Muntele Rosu 58.47 310⇑ *i*P **P** **09 11 39.3 +1.3**
MLR Muntele Rosu 58.47 310 LR LR 09 41 04.0
comp=Z,16nm,28.6s,baz=62,slow=40
WRA Warramunga Arr 58.49 135 P **P** **09 11 37.9 -0.3**
WRA pP **pP** **09 12 04.9 -1.3**
WRA ScP **ScP** **09 16 15.4 -1.9**
WRA S **S** **09 19 28.8 -4.2**
WRA P'P' 09 41 11.9
WRA Warramunga Arr 58.49 135 P **P** **09 11 37.9 -0.3**
comp=Z,51nm,0.6s,baz=326,slow=7.4,SNR=311
WRA pP **pP** **09 12 04.9 -1.3**
comp=Z,40nm,0.8s,baz=324,slow=7.5,SNR=6.2
WRA ScP **ScP** **09 16 15.4 -1.9**
comp=Z,5.3nm,0.9s,baz=320,slow=4.3,SNR=6.3
WRA S **S** **09 19 28.8 -4.2**
comp=Z,0.3nm,0.8s,baz=324,slow=8.2,SNR=2.8
WRA LR LR 09 40 58.3
comp=Z,17nm,28.6s,baz=310,slow=40
WRA PKPPKP **P'P'df** **09 41 11.9 -2.8**
comp=Z,1.2nm,0.9s,baz=152,slow=1.9,SNR=5.6
WRAB Tennant Creek 58.49 135 *c i*P **P** **09 11 38.4 +0.1**
WRAB Tennant Creek 58.49 135 *e*P **P** **09 11 37.9 -0.3**
comp=Z,425nm,1.6s
WRAB *e*ScP **ScP** **09 16 16.7 -0.5**
WRAB Tennant Creek 58.49 135 P **P** **09 11 38.0 -0.3**
comp=Z,765nm,0.8s,SNR=58
KAF Kangasniemi 58.71 329 *e*P **P** **09 11 40.4 +1.3**
KAF pmax pmax
comp=Z,4.0nm,0.3s
KAF Kangasniemi 58.71 329 *ep* **P** **09 11 40.4 +1.3**
comp=Z,3.9nm,0.3s
FIA1 FINESS Array S 58.74 328 *e*P **P** **09 11 40.3 +0.9**
FINES FINESS Array B 58.74 328 P **P** **09 11 40.0 +0.7**
FINES PKiKP **PKiKP** **09 18 49.6 -0.1**
FINES S **S** **09 19 36.6 +1.5**
FINES FINESS Array B 58.74 328 P **P** **09 11 40.0 +0.7**
comp=Z,6.8nm,0.3s,baz=107,slow=8.0,SNR=84
FINES PKiKP **PKiKP** **09 18 49.6 -0.1**
comp=Z,6.1nm,1.1s,baz=120,slow=5.0,SNR=5.0
FINES S **S** **09 19 36.6 +1.5**
comp=Z,3.5nm,0.9s,baz=88,slow=13,SNR=3.5
FINES LR LR 09 39 15.3
comp=Z,2µm,18.5s,baz=96,slow=38
ALN Alexandroupoli 58.81 304 *e*P **P** **09 11 38.6 -1.6**
DOPR Dopca 58.83 310⇑ *i*P **P** **09 11 40.7 +0.4**
BURAR Bucovina Array 58.85 312⇑ *i*P **P** **09 11 40.9 +0.3**
BUR08 Bucovina Ar. S 58.86 312 *e*P **P** **09 11 40.9 +0.2**
BUR08 *e*ScP **ScP** **09 16 20.5 +1.8**
ARR Arges 59.40 310⇑ *i*P **P** **09 11 44.6 +0.2**
KEV Kevo 59.68 338 *e*P **P** **09 11 46.6 +0.9**
KEV Kevo 59.68 338 *ep* **P** **09 11 46.7 +1.0**
comp=Z,4.9nm,0.3s
KEV Kevo 59.68 338 *e*P **P** **09 11 46.6 +1.0**
APE Apeiranthos 59.72 300 *e*P P 09 11 39.7 -6.9
APE Apeiranthos 59.72 300⇓ *i*P **P** **09 11 45.9 -0.8**
SANT Santorini 59.89 299 *e*P **P** **09 11 46.1 -1.7**
SANT Santorini 59.89 299 *e*P **P** **09 11 47.1 -0.7**
SANT *e*pP **pP** **09 12 12.9 -2.9**
SUW Suwalki 59.94 320 *e*P **P** **09 11 47.6 -0.1**
SUW Suwalki 59.94 320 *e*P **P** **09 11 47.6 -0.1**
CJR Cluj-Napoca 60.01 311⇑ *i*P **P** **09 11 50.2 +1.7**

ARCES ARCESS Array B 60.15 338 P **P** **09 11 50.0 +1.0**
ARCES ScP **ScP** **09 16 25.7 +1.8**
ARCES S **S** **09 19 54.5 +1.4**
ARCES ARCESS Array B 60.15 338 P **P** **09 11 50.0 +1.0**
comp=Z,16nm,0.5s,baz=99,slow=7.8,SNR=154
ARCES ScP **ScP** **09 16 25.7 +1.8**
comp=Z,1.7nm,0.5s,baz=105,slow=5.7,SNR=5.1
ARCES S **S** **09 19 54.5 +1.4**
comp=Z,2.6nm,0.9s,baz=69,slow=27,SNR=2.1
ARCES LR LR 09 41 04.5
comp=Z,17nm,28.6s,baz=106,slow=39
ARE0 ARCESS Array S 60.15 338 *e*P **P** **09 11 50.0 +1.0**
ARE0 ARCESS Array S 60.15 338 *e*P **P** **09 11 50.4 +1.4**
MPEP Malo Peshtene 60.24 307 P P 09 11 53.6 +3.6
KWP Kalwaria Pacla 60.40 315 *e*P **P** **09 11 51.9 +0.9**
KWP Kalwaria Pacla 60.40 315 *e*P **P** **09 11 51.8 +0.8**
OUR Ouranopolis 60.44 304 *e*P P 09 11 45.6 -5.8
MMB Musomiste 60.46 305⇑ *i*P P 09 11 46.7 -4.9
IDI Anoyia 60.53 298 *e*P **P** **09 11 51.4 -0.9**
IDI Anoyia 60.53 298 *e*P **P** **09 11 51.8 -0.5**
comp=Z,16nm,0.3s
IDI Anoyia 60.53 298 LR LR 09 44 45.8
comp=Z,123nm,20.1s,baz=76,slow=42
COEN Coen 60.66 124 *e*P **P** **09 11 53.1 -0.1**
comp=Z,48nm,0.5s
AOS Alonnisos 60.69 303 *e*P P 09 11 46.7 -6.4
GZR Gura Zlata 60.70 310⇑ *i*P **P** **09 11 53.6 +0.4**
VTS Vitosha 60.72 307 *e*P **P** **09 11 51.9 -1.6**
VTS Vitosha 60.72 307 P **P** **09 11 54.0 +0.5**
VTS Vitosha 60.72 307⇑ *i*P **P** **09 11 53.8 +0.3**
KOLS Kolonicke sedl 60.73 314 *e*P P 09 11 57.6 +4.3
KOLS pmax pmax
comp=Z,13nm,1.4s
KOLS Kolonicke sedl 60.73 314 *e* P 09 11 57.6 +4.3
KTK1 Kautokeino 60.87 337 *e*P **P** **09 11 55.0 +1.1**
AS31 Alice Springs 60.98 139 *e*P **P** **09 11 55.3 +0.1**
ASAR Alice Springs 60.98 139 P **P** **09 11 55.1 -0.1**
ASAR pP **pP** **09 12 22.1 -1.3**
ASAR ScP **ScP** **09 16 26.9 -1.4**
ASAR S **S** **09 20 03.1 -1.7**
ASAR P'P' 09 41 07.3
ASAR P'P'ab P'P'ab 09 41 36.7 +6.8
ASAR *e* 09 48 50.9
ASAR Alice Springs 60.98 139 P **P** **09 11 55.1 -0.1**
comp=Z,58nm,0.8s,baz=320,slow=6.7,SNR=364
ASAR pP **pP** **09 12 22.1 -1.3**
comp=Z,23nm,0.7s,baz=323,slow=6.2,SNR=4.9
ASAR ScP **ScP** **09 16 26.9 -1.4**
comp=Z,4.3nm,0.9s,baz=316,slow=4.7,SNR=5.3
ASAR S **S** **09 20 03.1 -1.7**
comp=Z,0.2nm,0.2s,baz=293,slow=4.7,SNR=2.6
ASAR PKPPKP **P'P'df** **09 41 07.3 -3.3**
comp=Z,1.1nm,0.9s,baz=137,slow=2.8,SNR=6.4
ASAR PKP2ab 09 41 36.7
comp=Z,2.6nm,1.1s,baz=131,slow=2.2,SNR=4.1
ASAR LR LR 09 42 51.6
comp=Z,269nm,19.6s,baz=307,slow=40
ASAR P4KPbc 09 48 50.9
comp=Z,0.2nm,0.9s,baz=311,slow=3.5,SNR=3.7
PMG Port Moresby 61.10 117 *e*P **P** **09 11 56.7 +0.5**
comp=Z,60nm,0.7s
CRVS Cervenica-Dubn 61.27 314 *e*P **P** **09 11 58.0 +1.1**
CRVS pmax pmax
comp=Z,11nm,1.5s
CRVS Cervenica-Dubn 61.27 314 *e*P **P** **09 11 58.0 +1.1**
KMBO Kilima Mbogo 61.28 254 *e*P **P** **09 11 58.5 +0.8**
comp=Z,30nm,1.1s
KMBO *e*ScP **ScP** **09 16 30.5 +0.3**
KMBO Kilima Mbogo 61.28 254 P **P** **09 11 58.7 +1.0**
comp=Z,19nm,0.9s,baz=62,slow=11,SNR=34
KMBO LR LR 09 39 50.2
comp=Z,16nm,28.6s,baz=104,slow=37
VAY Valandovo 61.36 305 *e*P **P** **09 11 57.4 -0.3**
STHS Stebnicka Huta 61.37 314 *e*P **P** **09 11 57.6 0.0**
STHS Stebnicka Huta 61.37 314 *e*P **P** **09 11 57.6 0.0**
BZS Buzias 61.49 310⇑ *i*P **P** **09 11 59.7 +1.3**
KIF Kilpisjarvi 61.74 337 *e* **P** **09 12 00.4 +0.8**
NIE Niedzica 61.97 315 *e*P **P** **09 12 02.9 +1.3**
NIE Niedzica 61.97 315 *e*P **P** **09 12 02.9 +1.3**
SKO Skopje 62.10 306 *e*P **P** **09 12 01.8 -0.8**
comp=Z,44nm,1.0s
OJC Ojcow 62.23 315 *e*P **P** **09 12 04.4 +1.1**
OJC Ojcow 62.23 315 *e*P **P** **09 12 04.4 +1.1**
BIA Bitola 62.34 305 *e*P **P** **09 12 03.9 -0.4**
PSZ Piszkesteto 62.40 313 *e*P **P** **09 12 04.8 +0.2**
PSZ pmax pmax
comp=Z,27nm,1.5s
PSZ Piszkesteto 62.40 313⇑ *i*P **P** **09 12 06.2 +1.6**
PSZ Piszkesteto 62.40 313 *e*P **P** **09 12 04.8 +0.2**
comp=Z,27nm,1.5s
PSZ Piszkesteto 62.40 313⇓ *e* pP 09 12 32.3 -0.5
TRO Tromso 62.45 337 *e*P P 09 12 07.8 +3.4
TRO *e*S **S** **09 20 23.3 +1.2**
TRO *e*SS **SS** **09 24 30.0 +2.6**
PKS6 Bocsa 62.79 311 *e* pP 09 12 34.6 -0.7
OPO Ambohidratompo 63.09 232 LR LR 09 38 56.5
comp=Z,228nm,18.4s,baz=59,slow=35
OKC Ostrava-Krasne 63.33 315 *e*P **P** **09 12 11.2 +0.6**
OKC Ostrava-Krasne 63.33 315 *e*P **P** **09 12 11.2 +0.6**
ABPO Ambohimpanom 63.36 231 P **P** **09 12 11.5 +0.1**
comp=Z,230nm,0.6s,SNR=7.1
ABPO Ambohimpanom 63.36 231 *e*P **P** **09 12 11.4 +0.1**
ABPO pmax pmax
comp=Z,63nm,0.6s
ABPO Ambohimpanom 63.36 231 *e*P **P** **09 12 11.4 0.0**
comp=Z,63nm,0.6s
FORT Forrest 63.43 148 *e*P **P** **09 12 11.6 +0.3**
comp=Z,42nm,0.9s
PKSM Moragy 63.47 311⇑ *i*P **P** **09 12 11.9 +0.3**
PKSM Moragy 63.47 311⇓ *e* pP 09 12 37.2 -2.7
PKSG 63.48 312 *e*P pP 09 12 37.8 -2.1
PKS9 Tamasi 63.67 312 *e*P pP 09 12 35.6 -5.6
MORC Moravsky Berou 63.72 315 *e*P **P** **09 12 13.9 +0.7**
MORC pmax pmax
comp=Z,19nm,0.9s
MORC Moravsky Berou 63.72 315⇑ *i*P **P** **09 12 14.0 +0.7**
MORC Moravsky Berou 63.72 315 *e*P **P** **09 12 13.9 +0.7**
comp=Z,19nm,0.9s
STEI Steigen 63.74 336 *e*P **P** **09 12 13.8 +0.9**
PKST T"'s 63.74 312⇓ *e*P pP 09 12 40.7 -1.0
SPA0 Spitsbergen Ar 63.93 347 *e*P P 09 12 18.9 +4.8
SPA0 *e*S **S** **09 20 42.1 +1.8**
FX1 Attu Island--F 63.99 41 P **P** **09 12 15.0 +0.2**
FX1 Attu Island--F 63.99 41 P **P** **09 12 15.0 +0.2**
comp=Z,3.3nm,0.5s,baz=194,slow=8.3,SNR=5.8
FX1 LR LR 09 42 04.7
comp=Z,165nm,20.6s,baz=292,slow=38
MOR8 Moi Rana 64.08 334 *e*P **P** **09 12 15.0 -0.3**
MOR8 AMB AMB 09 12 19.4
comp=Z,108nm,1.7s
MOR8 *e*pP **pP** **09 12 43.7 +0.1**
KRLC Kraliky 64.17 316 *e*P **P** **09 12 16.9 +0.7**
KRLC Kraliky 64.17 316 *e*P **P** **09 12 16.9 +0.7**
KRLC *e*x x 09 12 40.3
KSP Ksiaz 64.38 316⇓ *e*P **P** **09 12 18.1 +0.6**
KSP *e**PP **pP** **09 12 43.6 -2.2**
KSP *e*S **S** **09 20 45.5 -1.2**
KSP Ksiaz 64.38 316 *e*P **P** **09 12 18.5 +1.0**
VRAC Vranov 64.40 315⇑ *i*P **P** **09 12 18.7 +1.1**
VRAC Vranov 64.40 315 LR LR 09 44 28.9
comp=Z,577nm,21.9s,baz=79,slow=40
DPC Dobruska-Polom 64.43 316 *e*P **P** **09 12 18.8 +0.9**
DPC *e**PP **pP** **09 12 43.9 -2.3**
DPC *e*S **S** **09 20 46.7 -0.7**
DPC Dobruska-Polom 64.43 316 *e*P **P** **09 12 18.8 +0.9**
DPC *e*x x 09 12 43.9
DPC *e*S **S** **09 20 46.7 -0.7**
FLOS Flostrand 64.51 334 *e*P **P** **09 12 19.2 +1.2**
KONS Konsvik 64.60 334 *e*P **P** **09 12 19.9 +1.3**
UPC Upice 64.60 316 *e*P **P** **09 12 19.8 +0.9**
UPC *e**PP **pP** **09 12 46.9 -0.4**
UPC Upice 64.60 316 *e*P **P** **09 12 19.8 +0.9**
UPC *e*pP **pP** **09 12 46.9 -0.4**
STOK Stokkvaagen 64.65 334 *e*P **P** **09 12 20.7 +1.8**
BSD Bornholm Skovb 64.67 321 *i* P pP 09 12 46.0 -1.6
comp=Z,22nm,0.9s
KBS Kingsbay 64.86 348 *e*pP **pP** **09 12 49.6 +1.1**
KBS *e*S **S** **09 20 53.2 +1.5**
CONA Conrad Observa 65.09 313⇑ *i*P **P** **09 12 22.5 +0.3**
comp=Z,19nm,1.4s
NSS Namsos 65.21 332 *e*P **P** **09 12 23.4 +0.8**
ARSA Arzberg 65.43 313⇑ *i*P **P** **09 12 24.7 +0.3**
comp=Z,3.4nm,0.6s

PVCC Panska Ves 65.51 316 *e*P P 09 12 18.8 -6.0
PRU Pruhonice 65.61 316 *e*P **P** **09 12 26.3 +0.8**
PRU *e**PP **pP** **09 12 51.1 -2.8**
PRU Pruhonice 65.61 316 *e*P **P** **09 12 26.3 +0.8**
PRU *ex* x 09 12 51.1
PRU AMS AMS 09 38 40.0
PRA Prague 65.67 316 P **P** **09 12 27.0 +1.2**
CRES Cresnjev 65.73 311 *i* P **P** **09 12 26.9 +0.6**
NC602 NORSAR Array S 65.79 328 *e*P **P** **09 12 26.1 -0.3**
NC602 *e*S **S** **09 21 05.4 +1.8**
PERS Pernice 65.81 312 *i* P **P** **09 12 27.2 +0.3**
PERS *i* pP **pP** **09 12 54.0 -1.4**
BRG Berggiesshubel 65.85 317 *e*P **P** **09 12 27.8 +0.9**
comp=Z,6.4nm,0.4s
BRG *e* 09 12 52.7
comp=Z,56nm,1.5s
BRG Berggiesshubel 65.85 317 *e*P **P** **09 12 27.8 +0.9**
BRG *e* 09 12 52.7
BRG pmax pmax
comp=Z,6.0nm,0.4s
BRG Berggiesshubel 65.85 317 *e*P **P** **09 12 27.3 +0.4**
comp=Z,6.0nm,0.8s
BRG *e*pP **pP** **09 12 53.0 -2.4**
SOKA Soboth 65.86 312 *i* P **P** **09 12 27.6 +0.4**
comp=Z,5.3nm,0.6s,SNR=5.6
NB2 NORSAR Subarra 65.91 328 P **P** **09 12 27.1 -0.2**
comp=Z,10nm,0.6s,baz=84,slow=6.5
NB2 NORSAR Subarra 65.91 328 P **P** **09 12 27.1 -0.2**
baz=84,slow=6.5
NOA NORSAR Array B 65.91 328 P **P** **09 12 27.3 0.0**
NOA S **S** **09 21 05.5 +0.3**
NOA NORSAR Array B 65.91 328 P **P** **09 12 27.3 0.0**
comp=Z,13nm,0.8s,baz=84,slow=6.3,SNR=38
NOA S **S** **09 21 05.5 +0.3**
comp=Z,1.1nm,1.0s,baz=66,slow=8.8,SNR=2.6
NOA LR LR 09 43 37.5
comp=Z,17nm,28.6s,baz=90,slow=38
NAO01 NORSAR Array S 66.10 328 *e*P **P** **09 12 28.4 0.0**
comp=Z,7.4nm,0.5s
MOA Molln 66.16 313 *i* P **P** **09 12 29.3 +0.2**
comp=Z,7.0nm,0.6s,SNR=8.7
OBKA Obir 66.22 312⇑ *i* P **P** **09 12 30.4 +0.9**
comp=Z,3.5nm,0.5s
OSL Oslo 66.30 327 *e*P **P** **09 12 31.1 +1.5**
GEC2 GERESS Array S 66.35 315 *e*P **P** **09 12 30.9 +0.6**
comp=Z,7.0nm,0.8s
GERES GERESS Array B 66.35 315 P **P** **09 12 30.8 +0.5**
GERES pP **pP** **09 12 57.8 -1.1**
GERES GERESS Array B 66.35 315 P **P** **09 12 30.8 +0.5**
comp=Z,5.4nm,0.3s,baz=69,slow=6.8,SNR=69
GERES pP **pP** **09 12 57.8 -1.1**
comp=Z,17nm,0.7s,baz=76,slow=5.6,SNR=8.1
GERES LR LR 09 45 48.9
comp=Z,539nm,21.6s,baz=78,slow=40
CLL Collm 66.36 317 *e*P **P** **09 12 31.0 +0.8**
CLL *e* 09 12 56.0
CLL *e*S **S** **09 21 10.0 -0.8**
CLL Collm 66.36 317 *e*P **P** **09 12 30.9 +0.8**
comp=Z,4.0nm,0.7s
CLL Collm 66.36 317 *e*P **P** **09 12 31.0 +0.8**
CLL *e*(PcP) **pP** **09 12 56.0 -2.7**
CLL *e*pP **PcP** **09 13 00.0 +0.8**
CLL *e* 09 13 08.0
CLL *e*PP **PP** **09 15 00.0 +2.6**
CLL *e*PPPP 09 17 18.0
CLL *e*S **S** **09 21 10.0 -0.8**
CLL *e*PS **PnS** **09 21 50.0 +1.3**
CLL *e*SS **SS** **09 25 30.0 +1.1**
CLL *e*SSS SSS 09 28 48.0
CLL LmV 09 45 00.0
comp=Z,700nm,20.0s
KHC Kasperske Hory 66.38 315 *e*P **P** **09 12 30.9 +0.5**
KHC *e**PP **pP** **09 12 56.2 -2.8**
KHC *e*S **S** **09 21 10.7 -0.5**
KHC Kasperske Hory 66.38 315 *e*P **P** **09 12 30.9 +0.5**
KHC *ex* x 09 12 56.2
KHC *ex* x 09 13 08.5
KHC *e*S **S** **09 21 10.7 -0.5**
KHC Kasperske Hory 66.38 315 *e*P **P** **09 12 31.1 +0.6**
comp=Z,63nm,1.6s
VOY Vojsko 66.76 312 *e*P **P** **09 12 32.6 -0.4**
VOY *e* 09 13 00.2
VOY *e* 09 13 01.7
VOY *e* 09 13 10.4
CTAO Charters Tower 66.78 127 *e*P **P** **09 12 33.8 +0.5**
CTAO *e* 09 13 03.0
CTAO pmax pmax
comp=Z,95nm,1.1s
CTAO Charters Tower 66.78 127 *e*P **P** **09 12 33.8 +0.5**
comp=Z,95nm,1.1s
CTAO *e*PcP **pP** **09 13 03.0 +1.1**
MBAR Mbarara 66.80 258 P **P** **09 12 34.1 +0.3**
comp=Z,100nm,0.6s,SNR=10
CADS Cadrg 66.83 312 *i* P **P** **09 12 33.2 -0.2**
CADS *e*pP **PcP** **09 12 59.8 -1.5**
TANN Tannenbergstha 66.86 316 *e*P **P** **09 12 33.6 +0.1**
comp=Z,5.0nm,0.8s
TANN *e*pP **PcP** **09 12 59.5 -1.9**
NKC Novy Kostel 66.90 316 *e*P **P** **09 12 34.6 +0.9**
NKC *e**PP **PcP** **09 13 00.3 -1.2**
NKC Novy Kostel 66.90 316 *e*P **P** **09 12 34.6 +0.9**
NKC *e*PCP **PcP** **09 13 00.3 -1.2**
KONO Kongsberg 66.91 327 *e*P **P** **09 12 32.4 -1.1**
KONO *e*S **S** **09 21 18.1 +1.0**
KONO Kongsberg 66.91 327 *e*P **P** **09 12 34.3 +0.8**
KONO Kongsberg 66.91 327 *e*P **P** **09 12 34.3 +0.8**
TRI Trieste 66.91 311 *e*P **P** **09 12 33.8 0.0**
TRI pmax pmax
comp=Z,35nm,0.8s
TRI Trieste 66.91 311 *e*P **P** **09 12 33.8 0.0**
comp=Z,35nm,0.8s
KBA Koelnbreinsper 66.92 313⇑ *i*P **P** **09 12 33.8 -0.3**
comp=Z,8.1nm,0.5s,SNR=10
CEL Celeste 66.99 303 *e*P **P** **09 12 34.9 +0.3**
comp=Z,22nm,1.0s
ROTZ Rotzenmuhle 67.14 316 *e*P **P** **09 12 36.7 +1.5**
comp=Z,13nm,0.8s
RJOB Jochberg 67.16 313 *e*P **P** **09 12 37.4 +2.0**
comp=Z,7.0nm,0.8s
BSEG Bad Segeberg 67.50 320 *e*P **P** **09 12 38.8 +1.5**
comp=Z,20nm,0.9s
BSEG *e*pP **PcP** **09 13 03.9 +0.1**
ABTA Abfaltersbach 67.55 312⇑ *i*P **P** **09 12 37.3 -0.7**
comp=Z,8.6nm,0.9s
MUD Monsted U'grnd 67.67 323 *e*P P 09 12 43.0 +4.6
MUD pmax pmax
comp=Z,10.0nm,0.8s
MUD Monsted U'grnd 67.67 323 *i* P P 09 12 43.0 +4.6
comp=Z,10nm,0.8s
GRF Grafenberg Arr 67.78 316 *e*P **P** **09 12 40.7 +1.4**
comp=Z,7.0nm,0.7s
CLZ Clausthal 67.87 318 *e*P **P** **09 12 40.8 +1.0**
comp=Z,14nm,0.7s
CLZ *e*pP **PcP** **09 13 05.0 -0.6**
NRDL Niedersach Rie 67.90 319 *e*P **P** **09 12 41.0 +1.2**
comp=Z,12nm,1.0s
WATA Walderalm 68.05 313⇑ *i*P **P** **09 12 40.6 -0.6**
comp=Z,6.5nm,0.6s
HYA Hoyanger 68.31 329 *e*P **P** **09 12 44.6 +2.4**
ODD1 Odda 68.34 327 *e*P **P** **09 12 43.5 +1.0**
SNART Snartemo 68.36 325 *e*P **P** **09 12 44.1 +1.5**
MOTA Moosalm 68.36 313⇑ *i*P **P** **09 12 42.5 -0.6**
comp=Z,12nm,0.8s,SNR=7.5
BLS5 Blasjo 68.52 327 *e*P **P** **09 12 45.3 +1.6**
RETA Reutte 68.55 314⇑ *i*P **P** **09 12 44.3 +0.1**
comp=Z,11nm,0.8s,SNR=5.7
FETA Feichten 68.68 313⇑ *i*P **P** **09 12 44.8 -0.3**
comp=Z,6.6nm,0.6s
RUND Rundenannen 68.85 328 *e*P **P** **09 12 45.4 -0.4**
BER Bergen 68.87 328 *e*S **S** **09 21 40.0 -0.5**
OBER Oberstdorf 68.88 314 *e*P **P** **09 12 46.2 0.0**
comp=Z,13nm,0.8s
OBER *e*pP **PcP** **09 13 10.8 +0.9**
ASK Askoy 68.92 328 *e*P **P** **09 12 47.6 +1.5**
BBOO Buckleboo 69.14 144 *e*P **P** **09 12 47.3 -0.5**
comp=Z,693nm,0.8s
BBOO *e*PcP **pP** **09 13 14.5 -2.0**
KMY Karmoy 69.17 327 *e*P **P** **09 12 49.2 +1.5**
DAVA Damuels 69.18 313⇑ *i*P **P** **09 12 48.4 +0.2**
comp=Z,12nm,0.6s
STU Stuttgart 69.28 315 *e*P **P** **09 12 49.6 +1.0**
comp=Z,16nm,0.9s
TNS Taunus Mts 69.41 317 *e*P **P** **09 12 50.6 +1.2**
comp=Z,15nm,0.8s
TUE Stuetta 69.73 313 *e*P **P** **09 12 51.6 -0.1**
comp=Z,15nm,0.7s
BUG Bochum--Univer 69.85 318 *e*P **P** **09 12 52.8 +0.8**
comp=Z,12nm,0.9s
BUG *e*pP **pP** **09 13 18.2 -2.5**
GAMB Gambell 69.91 28 *e*P **P** **09 12 52.2 +0.1**
comp=Z,12nm,0.9s
BFO Black Forest 69.94 315 *e*P **P** **09 12 53.2 +0.5**
comp=Z,3.0nm,0.8s
LANF Langenberg 70.12 316 *e*P **P** **09 12 56.1 +2.4**
CDF Champ du Feu 70.60 315⇑ *i*P **P** **09 12 57.1 +0.3**
comp=Z,14nm,0.5s
CDF *e*pP **pP** **09 13 28.8 +3.2**
CDF Champ du Feu 70.60 315⇑ *i*P **P** **09 12 57.1 +0.3**
CDF *e**PP **pP** **09 13 28.8 +3.2**
CDF pmax pmax
comp=Z,14nm,0.5s
CDF Champ du Feu 70.60 315⇑ *i*P **P** **09 12 57.1 +0.3**
comp=Z,14nm,0.5s
CDF *e*pP **pP** **09 13 28.8 +3.2**
MEM Membach 70.83 318 P **P** **09 12 59.0 +1.0**
MOF Molkenrain 70.84 315 *e*P **P** **09 12 58.3 0.0**
WLF Walferdange 70.99 317 P **P** **09 13 00.2 +1.3**
comp=Z,3.6nm,1.3s
WLF Walferdange 70.99 317 *e*P **P** **09 13 00.3 +1.3**
WLF pmax pmax
comp=Z,52nm,0.8s
WLF Walferdange 70.99 317 *e*P **P** **09 13 00.3 +1.3**
comp=Z,38nm,0.9s
WLF Walferdange 70.99 317 *e*P **P** **09 13 00.3 +1.4**
comp=Z,52nm,0.8s
TNA Tin City 70.99 26 *e*P **P** **09 12 59.4 +0.7**
comp=Z,12nm,1.1s
PGF Pioggiola 71.00 309⇑ *i*P **P** **09 12 59.5 +0.2**
PGF Pioggiola 71.00 309⇑ *i*P **P** **09 12 59.5 +0.2**
PGF Pioggiola 71.00 309⇑ *i*P **P** **09 12 59.5 +0.2**
HINF Hinteralfeld 71.03 315⇑ *i*P **P** **09 12 59.4 0.0**
HINF Hinteralfeld 71.03 315⇑ *i*P **P** **09 12 59.4 0.0**
HINF Hinteralfeld 71.03 315⇑ *i*P **P** **09 12 59.4 0.0**
HAU Haudompre 71.31 315 *e*P **P** **09 13 01.4 +0.4**
comp=Z,22nm,0.8s
HAU *e*R
comp=Z,427nm,21.8s
HAU Haudompre 71.31 315 *e*P **P** **09 13 01.4 +0.4**
HAU pmax pmax
comp=Z,23nm,0.8s
HAU Haudompre 71.31 315 *e*P **P** **09 13 01.4 +0.4**
comp=Z,22nm,0.8s
BCLA Clavier 71.31 318 P **P** **09 13 02.5 +1.6**
PAGF Fort de Pagny 71.56 316⇑ *i*P **P** **09 13 03.4 +1.0**
comp=Z,8.0nm,0.6s
PAGF Fort de Pagny 71.56 316⇑ *i*P **P** **09 13 03.4 +1.0**
comp=Z,8.0nm,0.6s
STKA Stephens Creek 71.61 139 *e*P **P** **09 13 02.6 -0.2**
STKA *e*pP **pP** **09 13 32.0 +0.3**
STKA Stephens Creek 71.61 139 P **P** **09 13 02.0 -0.8**
comp=Z,30nm,0.9s,baz=324,slow=6.2,SNR=46
STKA LR LR 09 48 01.2
comp=Z,17nm,28.6s,baz=314,slow=39
GIVF Givet 71.69 317⇑ *i*P **P** **09 13 04.0 +0.8**
GIVF Givet 71.69 317⇑ *i*P **P** **09 13 04.0 +0.8**
GIVF Givet 71.69 317⇑ *i*P **P** **09 13 04.0 +0.8**
SBF Sospel 71.73 310 *e*P **P** **09 13 04.0 +0.3**
comp=Z,48nm,0.8s
SBF Sospel 71.73 310 *e*P **P** **09 13 04.0 +0.3**
SBF pmax pmax
comp=Z,48nm,0.8s
SBF Sospel 71.73 310 *e*P **P** **09 13 04.0 +0.3**
comp=Z,48nm,0.8s
LPG La Plagne 71.74 312⇑ *i*P **P** **09 13 04.5 +0.6**
comp=Z,29nm,0.7s
LPG La Plagne 71.74 312⇑ *i*P **P** **09 13 04.5 +0.6**
LPG pmax pmax
comp=Z,29nm,0.7s
LPG La Plagne 71.74 312⇑ *i*P **P** **09 13 04.5 +0.6**
comp=Z,29nm,0.7s
LPL La Plagne 71.74 312⇑ *i*P **P** **09 13 04.6 +0.7**
comp=Z,41nm,0.6s
LPL La Plagne 71.74 312⇑ *i*P **P** **09 13 04.6 +0.7**
LPL pmax pmax
comp=Z,41nm,0.6s
LPL La Plagne 71.74 312⇑ *i*P **P** **09 13 04.6 +0.7**
comp=Z,41nm,0.6s
DOU Dourbes 71.84 317 P **P** **09 13 05.1 +1.0**
CABF La Chapelle 71.87 314 *e*P **P** **09 13 04.9 +0.5**
comp=Z,22nm,0.6s
CABF La Chapelle 71.87 314 *e*P **P** **09 13 04.9 +0.5**
CABF pmax pmax
comp=Z,22nm,0.6s
CABF La Chapelle 71.87 314 *e*P **P** **09 13 04.9 +0.5**
comp=Z,22nm,0.6s
BNI Bardonecchia 71.91 312 *e*P **P** **09 13 04.6 -0.2**
BNI pmax pmax
comp=Z,38nm,1.2s
BNI Bardonecchia 71.91 312 *e*P **P** **09 13 04.6 -0.2**
comp=Z,38nm,1.2s
MBDF Montbardon 71.94 311 *e*P **P** **09 13 04.5 -0.5**
comp=Z,27nm,0.8s
MBDF Montbardon 71.94 311 *e*P **P** **09 13 04.5 -0.5**
MBDF pmax pmax
comp=Z,27nm,0.8s
MBDF Montbardon 71.94 311 *e*P **P** **09 13 04.5 -0.5**
comp=Z,27nm,0.8s
MEZF Maizieres J'vi 72.00 316⇑ *i*P **P** **09 13 05.8 +0.7**
comp=Z,35nm,0.5s
MEZF Maizieres J'vi 72.00 316⇑ *i*P **P** **09 13 05.8 +0.7**
comp=Z,35nm,0.5s
BAIF Baives 72.09 317 *e*P **P** **09 13 06.4 +0.8**
comp=Z,36nm,1.0s
BAIF *e*pP **pP** **09 13 38.0 +3.5**
BAIF Baives 72.09 317 *e*P **P** **09 13 06.4 +0.8**
BAIF *e**PP **pP** **09 13 38.0 +3.5**
BAIF pmax pmax
comp=Z,36nm,1.0s
BAIF Baives 72.09 317 *e*P **P** **09 13 06.4 +0.8**
comp=Z,36nm,1.0s
BAIF *e*pP **pP** **09 13 38.0 +3.5**
SFTF Sexfontaines 72.10 315⇑ *i*P **P** **09 13 06.0 +0.3**
comp=Z,20nm,0.4s
SFTF Sexfontaines 72.10 315⇑ *i*P **P** **09 13 06.0 +0.3**
comp=Z,20nm,0.4s
FRF La Foret Royal 72.36 310⇑ *i*P **P** **09 13 07.5 +0.1**
FRF *e*pP **pP** **09 13 39.5 +3.2**
FRF La Foret Royal 72.36 310⇑ *i*P **P** **09 13 07.5 +0.1**
FRF *e**PP **pP** **09 13 39.5 +3.2**
FRF La Foret Royal 72.36 310⇑ *i*P **P** **09 13 07.5 +0.1**
FRF *e*pP **pP** **09 13 39.5 +3.2**
ORIF Oris-en-Rattie 72.49 312⇑ *i*P **P** **09 13 08.9 +0.7**
comp=Z,13nm,0.5s
ORIF *e*R
comp=Z,917nm,23.0s
ORIF Oris-en-Rattie 72.49 312⇑ *i*P **P** **09 13 08.9 +0.7**
ORIF pmax pmax
comp=Z,13nm,0.5s
ORIF Oris-en-Rattie 72.49 312⇑ *i*P **P** **09 13 08.9 +0.7**
comp=Z,13nm,0.5s
LMR La Mourre 72.53 310 *e*P **P** **09 13 08.4 +0.1**
comp=Z,71nm,1.1s
LMR La Mourre 72.53 310 *e*P **P** **09 13 08.4 +0.1**
LMR pmax pmax
comp=Z,71nm,1.1s
LMR La Mourre 72.53 310 *e*P **P** **09 13 08.4 +0.1**
comp=Z,71nm,1.1s
KEST Kesra 72.72 302 *e*P **P** **09 13 10.6 +0.9**
KEST Kesra 72.72 302 P **P** **09 13 10.4 +0.7**
comp=Z,9.3nm,1.0s,baz=90,slow=5.1,SNR=14
ALE Alert 72.73 357 P **P** **09 13 10.0 +1.1**
comp=Z,146nm,0.5s,SNR=8.6
SMRF Simiane la Rot 72.98 311 *e*P **P** **09 13 11.7 +0.6**
comp=Z,23nm,0.9s
SMRF Simiane la Rot 72.98 311 *e*P **P** **09 13 11.7 +0.6**
comp=Z,23nm,0.9s
LOR Lormes 73.13 315⇑ *i*P **P** **09 13 11.9 0.0**
comp=Z,18nm,0.7s
LOR *e*pP **pP** **09 13 43.6 +2.8**
LOR *e*R
comp=Z,451nm,22.5s
LOR Lormes 73.13 315⇑ *i*P **P** **09 13 11.9 0.0**
comp=Z,18nm,0.7s
LOR *e*pP **pP** **09 13 43.6 +2.8**
SSB Saint Sauveur 73.29 313 *e*P **P** **09 13 13.1 +0.3**
SSB pmax pmax
comp=Z,30nm,1.2s
SSB Saint Sauveur 73.29 313 *e*P **P** **09 13 13.1 +0.3**
comp=Z,30nm,1.2s
VIVF Saint-Julien-l 73.33 312⇑ *i*P **P** **09 13 13.4 +0.3**
VIVF *e*pP **pP** **09 13 45.3 +3.2**
VIVF Saint-Julien-l 73.33 312⇑ *i*P **P** **09 13 13.4 +0.3**
VIVF *e**PP **pP** **09 13 45.3 +3.2**
VIVF Saint-Julien-l 73.33 312⇑ *i*P **P** **09 13 13.4 +0.3**
VIVF *e*pP **pP** **09 13 45.3 +3.2**
SMF Signal de Mont 73.33 314⇑ *i*P **P** **09 13 13.3 +0.3**
comp=Z,34nm,0.7s
SMF *e*pP **pP** **09 13 45.0 +3.0**
SMF Signal de Mont 73.33 314⇑ *i*P **P** **09 13 13.3 +0.3**
SMF *e**PP **pP** **09 13 45.0 +3.0**
SMF pmax pmax
comp=Z,34nm,0.7s
SMF Signal de Mont 73.33 314⇑ *i*P **P** **09 13 13.3 +0.3**
comp=Z,34nm,0.7s
SMF *e*pP **pP** **09 13 45.0 +3.0**
SSF Saint Saulge 73.43 315⇑ *i*P **P** **09 13 13.9 +0.3**
comp=Z,56nm,0.9s
SSF *e*pP **pP** **09 13 45.7 +3.1**
SSF Saint Saulge 73.43 315⇑ *i*P **P** **09 13 13.9 +0.3**
SSF *e**PP **pP** **09 13 45.7 +3.1**
SSF pmax pmax
comp=Z,56nm,0.9s
SSF Saint Saulge 73.43 315⇑ *i*P **P** **09 13 13.9 +0.3**
comp=Z,56nm,0.9s
SSF *e*pP **pP** **09 13 45.7 +3.1**
EIDS Eidsvold 73.54 128 *e*P **P** **09 13 15.5 +1.0**
comp=Z,12nm,0.7s
EIDS *e*pP **pP** **09 13 44.3 +0.8**
AVF Avril sur Loir 73.61 314⇑ *i*P **P** **09 13 14.9 +0.3**
comp=Z,41nm,0.9s
AVF *e*pP **pP** **09 13 46.7 +3.1**
AVF Avril sur Loir 73.61 314⇑ *i*P **P** **09 13 14.9 +0.3**
AVF *e**PP **pP** **09 13 46.7 +3.1**
AVF pmax pmax
comp=Z,41nm,0.9s
AVF Avril sur Loir 73.61 314⇑ *i*P **P** **09 13 14.9 +0.3**
comp=Z,41nm,0.9s
AVF *e*pP **pP** **09 13 46.7 +3.1**
HYF Humbligny 73.92 315 *e*P **P** **09 13 17.5 +1.0**
HYF Humbligny 73.92 315 *e*P **P** **09 13 17.5 +1.0**
AGO Saint Agoulin 73.99 314 *e*P **P** **09 13 18.6 +1.7**
BGF Bois d'Agland 74.01 314⇑ *i*P **P** **09 13 17.4 +0.4**
comp=Z,15nm,0.6s
BGF Bois d'Agland 74.01 314⇑ *i*P **P** **09 13 17.4 +0.4**
BGF pmax pmax
comp=Z,15nm,0.6s
BGF Bois d'Agland 74.01 314⇑ *i*P **P** **09 13 17.4 +0.4**
comp=Z,15nm,0.6s
LASF Ste Croix 74.13 311⇑ *i*P **P** **09 13 18.4 +0.7**
LASF *e*pP **pP** **09 13 50.4 +3.6**
LASF Ste Croix 74.13 311⇑ *i*P **P** **09 13 18.4 +0.7**
LASF *e*pP **pP** **09 13 50.4 +3.6**
PYM Petit Puy Mans 74.17 313 *e*P **P** **09 13 19.6 +1.6**
LBL Lubilhac 74.17 313 *e*P **P** **09 13 19.6 +1.6**
TCF Toulx Ste Croi 74.52 314⇑ *i*P **P** **09 13 20.8 +0.8**
comp=Z,37nm,0.7s
TCF *e*pP **pP** **09 13 52.4 +3.4**
TCF Toulx Ste Croi 74.52 314⇑ *i*P **P** **09 13 20.8 +0.8**
TCF *e**PP **pP** **09 13 52.4 +3.4**
TCF pmax pmax
comp=Z,37nm,0.7s
TCF Toulx Ste Croi 74.52 314⇑ *i*P **P** **09 13 20.8 +0.8**
comp=Z,37nm,0.7s
TCF *e*pP **pP** **09 13 52.4 +3.4**
ESK Eskdalemuir 74.69 324 *i* P **P** **09 13 22.6 +1.9**
CAF Calviac 75.06 313⇑ *i*P **P** **09 13 24.0 +0.9**
comp=Z,20nm,0.8s
CAF *e*pP **pP** **09 13 55.7 +3.4**
CAF Calviac 75.06 313⇑ *i*P **P** **09 13 24.0 +0.9**
CAF *e**PP **pP** **09 13 55.7 +3.4**
CAF pmax pmax
comp=Z,20nm,0.8s
CAF Calviac 75.06 313⇑ *i*P **P** **09 13 24.0 +0.9**
comp=Z,20nm,0.8s
CAF *e*pP **pP** **09 13 55.7 +3.4**
LDF La Druitiere 75.24 317⇑ *i*P **P** **09 13 24.5 +0.5**
comp=Z,36nm,0.7s
LDF La Druitiere 75.24 317⇑ *i*P **P** **09 13 24.5 +0.5**
LDF pmax pmax
comp=Z,36nm,0.7s
LDF La Druitiere 75.24 317⇑ *i*P **P** **09 13 24.5 +0.5**
comp=Z,36nm,0.7s
RJF Les Rejaudoux 75.30 313⇑ *i*P **P** **09 13 25.6 +1.1**
comp=Z,36nm,0.7s
RJF *e*pP **pP** **09 13 57.3 +3.7**
RJF *e*R
comp=Z,492nm,19.2s
RJF Les Rejaudoux 75.30 313⇑ *i*P **P** **09 13 25.6 +1.1**
RJF *e**PP **pP** **09 13 57.3 +3.7**
RJF pmax pmax
comp=Z,36nm,0.7s
RJF Les Rejaudoux 75.30 313⇑ *i*P **P** **09 13 25.6 +1.1**
comp=Z,36nm,0.7s
RJF *e*pP **pP** **09 13 57.3 +3.7**
FLN La Foliniere 75.40 317 *e*P **P** **09 13 25.6 +0.7**
FLN *e*R
comp=Z,656nm,22.0s
FLN La Foliniere 75.40 317 *e*P **P** **09 13 25.6 +0.7**
FLN La Foliniere 75.40 317 *e*P **P** **09 13 25.6 +0.7**
MTLF Montolieu 75.49 311⇑ *i*P **P** **09 13 26.2 +0.6**
MTLF *e*pP **pP** **09 13 57.9 +3.2**
MTLF Montolieu 75.49 311⇑ *i*P **P** **09 13 26.2 +0.6**
MTLF *e**PP **pP** **09 13 57.9 +3.2**
MTLF Montolieu 75.49 311⇑ *i*P **P** **09 13 26.2 +0.6**
MTLF *e*pP **pP** **09 13 57.9 +3.2**
SCO Scoresbysund 75.60 342 *i* P **P** **09 13 28.4 +2.8**
SCO pmax pmax
comp=Z,14nm,1.0s
SCO Scoresbysund 75.60 342 *i* P **P** **09 13 28.4 +2.8**
comp=Z,14nm,1.0s
GRR Gorron 75.77 317 *e*P **P** **09 13 27.6 +0.6**
comp=Z,16nm,0.5s
GRR Gorron 75.77 317 *e*P **P** **09 13 27.6 +0.6**
GRR pmax pmax
comp=Z,16nm,0.4s
GRR Gorron 75.77 317 *e*P **P** **09 13 27.6 +0.6**
comp=Z,16nm,0.4s
LFF La Frestale 75.94 313⇑ *i*P **P** **09 13 29.1 +1.0**
comp=Z,29nm,0.6s
LFF La Frestale 75.94 313⇑ *i*P **P** **09 13 29.1 +1.0**
LFF pmax pmax
comp=Z,29nm,0.6s
LFF La Frestale 75.94 313⇑ *i*P **P** **09 13 29.1 +1.0**
comp=Z,29nm,0.6s
MFF Saint Martin d 75.94 315 *e*P **P** **09 13 28.4 +0.3**
MFF Saint Martin d 75.94 315 *e*P **P** **09 13 28.4 +0.3**
MFF Saint Martin d 75.94 315 *e*P **P** **09 13 28.4 +0.3**
LSZ Lusaka 76.05 246 *e*P **P** **09 13 29.8 +0.6**
comp=Z,200nm,0.8s
LSZ Lusaka 76.05 246 LR LR 09 47 33.3
comp=Z,326nm,18.4s,baz=142,slow=36
IM04 Indian Mountai 76.19 23 *e*P **P** **09 13 29.2 0.0**
COLD Coldfoot 76.78 21 *e*P **P** **09 13 32.4 -0.1**
comp=Z,18nm,1.2s
SGMF Saint Gilles 76.87 317⇑ *i*P **P** **09 13 34.2 +0.9**
comp=Z,46nm,0.6s
SGMF Saint Gilles 76.87 317⇑ *i*P **P** **09 13 34.2 +0.9**
SGMF pmax pmax
comp=Z,46nm,0.6s
SGMF Saint Gilles 76.87 317⇑ *i*P **P** **09 13 34.2 +0.9**
comp=Z,46nm,0.6s
EPF Esparros 76.89 311 *e*P **P** **09 13 34.0 +0.4**
EPF Esparros 76.89 311 *e*P **P** **09 13 34.0 +0.4**
EPF Esparros 76.89 311 *e*P **P** **09 13 34.0 +0.4**
ROSF Rostrenen 77.29 317⇑ *i*P **P** **09 13 36.5 +0.9**
comp=Z,46nm,0.6s
ROSF Rostrenen 77.29 317⇑ *i*P **P** **09 13 36.5 +0.9**
ROSF pmax pmax
comp=Z,46nm,0.6s
ROSF Rostrenen 77.29 317⇑ *i*P **P** **09 13 36.5 +0.9**
comp=Z,46nm,0.6s
QUIF Quistinic 77.38 317 *e*P **P** **09 13 36.6 +0.5**
QUIF Quistinic 77.38 317 *e*P **P** **09 13 36.6 +0.5**
QUIF Quistinic 77.38 317 *e*P **P** **09 13 36.6 +0.5**
ETSF Etsaut 77.55 311⇑ *i*P **P** **09 13 38.3 +1.0**
comp=Z,19nm,0.4s
ETSF Etsaut 77.55 311⇑ *i*P **P** **09 13 38.3 +1.0**
ETSF pmax pmax
comp=Z,19nm,0.4s
ETSF Etsaut 77.55 311⇑ *i*P **P** **09 13 38.3 +1.0**
comp=Z,19nm,0.4s
SJPF Ste Jean 77.93 312⇑ *i*P **P** **09 13 40.5 +1.2**
comp=Z,18nm,0.6s
SJPF Ste Jean 77.93 312⇑ *i*P **P** **09 13 40.5 +1.2**

SJPF pmax pmax
comp=Z,18nm,0.6s
SJPF Ste Jean 77.93 312 ⇑*i*P **P 09 13 40.5 +1.2**
comp=Z,18nm,0.6s
SUMG Summit 78.27 347 *e*P **P 09 13 42.2 +1.1**
SUMG *e**PP **pP 09 14 11.8 +1.4**
SUMG pmax pmax
comp=Z,140nm,1.1s
SUMG Summit 78.27 347 *e*P **P 09 13 42.2 +1.1**
comp=Z,140nm,1.1s
SUMG *e*pP **pP 09 14 11.8 +1.4**
PPLA Purkeypile 78.34 26 *e*P **P 09 13 42.6 +1.3**
comp=Z,62nm,1.3s
CAN Canberra 78.45 137 *e*P **P 09 13 42.3 +0.1**
CAN pmax pmax
comp=Z,48nm,1.3s
CAN Canberra 78.45 137 *e*P **P 09 13 42.3 +0.1**
comp=Z,48nm,1.3s
COLA College 78.88 23*d i*P **P 09 13 44.7 +0.7**
COLA pmax pmax
comp=Z,79nm,1.7s
COLA College 78.88 23 *e*P **P 09 13 44.1 +0.1**
comp=Z,28nm,1.0s
MCK McKinley 79.13 24 *e*P **P 09 13 45.6 +0.1**
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 79.13 24 *e*P **P 09 13 45.5 +0.1**
comp=Z,13nm,0.8s
ILAR Eielson Array 79.28 23 P **P 09 13 45.8 -0.5**
ILAR pP **pP 09 14 13.8 -1.8**
ILAR PKKPbc **PKKPbc 09 32 35.0 -2.1**
ILAR P'P' 09 40 37.7
ILAR Eielson Array 79.28 23 P **P 09 13 45.7 -0.5**
comp=Z,4.7nm,0.8s,baz=304,slow=4.3,SNR=42
ILAR pP **pP 09 14 13.8 -1.8**
comp=Z,11nm,0.8s,baz=298,slow=4.6,SNR=8.8
ILAR PKKPbc **PKKPbc 09 32 35.0 -2.1**
comp=Z,0.7nm,0.4s,baz=139,slow=1.6,SNR=14
ILAR PKPPKP **P'P'df 09 40 37.7 -3.1**
comp=Z,2.1nm,1.1s,baz=128,slow=1.5,SNR=7.8
ILAR LR LR 09 51 36.9
comp=Z,16nm,28.6s,baz=328,slow=38
PMR Palmer 80.25 26 *e*P **P 09 13 51.3 -0.2**
PMR Palmer 80.25 26 *e*P **P 09 13 51.3 -0.2**
TAM Tamanrasset 80.31 291 *e*P **P 09 13 53.7 +0.9**
TAM pmax pmax
comp=Z,7.0nm,0.8s
TAM Tamanrasset 80.31 291 *e*P **P 09 13 53.7 +0.9**
comp=Z,6.7nm,0.8s
PAX Paxson 80.85 24 *e*P **P 09 13 54.9 0.0**
PAX pmax pmax
comp=Z,6.0nm,0.9s
PAX Paxson 80.85 24 *e*P **P 09 13 54.9 0.0**
comp=Z,6.3nm,0.9s
DOT Dot Lake 80.94 23 *e*P **P 09 13 56.8 +1.5**
comp=Z,16nm,1.1s
RES Resolute Bay 80.96 3 PKKPbc PKKPbc 09 32 30.6 -3.0
comp=Z,0.7nm,0.4s,baz=190,slow=7.3,SNR=3.8
INK Inuvik 81.02 16 P **P 09 13 55.9 +0.4**
INK PKKPbc **PKKPbc 09 32 30.3 -3.0**
INK Inuvik 81.02 16 P **P 09 13 55.9 +0.4**
comp=Z,28nm,0.7s,baz=325,slow=6.0,SNR=118
INK PKKPbc **PKKPbc 09 32 30.3 -3.0**
comp=Z,0.5nm,0.4s,baz=134,slow=3.6,SNR=7.1
ESDC Sonseca Array 81.17 309 P **P 09 13 57.3 +0.3**
ESDC Sonseca Array 81.17 309 P **P 09 13 57.3 +0.3**
comp=Z,3.3nm,0.6s,baz=48,slow=4.2,SNR=17
ESDC LR LR 09 56 52.3
comp=Z,271nm,18.2s,baz=235,slow=41
ESLA Sonseca Array 81.17 309 *e*P **P 09 13 57.8 +0.8**
comp=Z,10nm,1.3s
EGAK Eagle 81.22 21 *e*P **P 09 13 57.0 +0.4**
comp=Z,37nm,1.0s
MENT Mentasta 81.50 23 *e*P **P 09 13 59.9 +1.6**
DAWY Dawson 82.27 21 *e*P **P 09 14 02.7 +0.5**
BMRM Bremner River 82.39 25 *e*P **P 09 14 03.5 +0.6**
comp=Z,50nm,1.0s
TAU Tasmania Unive 82.57 144 *e*P **P 09 14 04.8 +0.9**
TAU Tasmania Unive 82.57 144 *e*P **P 09 14 04.8 +0.9**
LBTB Lobatse 83.08 239 *e*P **P 09 14 07.7 +0.6**
comp=Z,145nm,0.6s
MTE Manteigas 83.35 311 *e*P **P 09 14 10.2 +1.9**
comp=Z,74nm,1.4s
DZM Mont Dzumac 83.49 118 *e*P **P 09 14 09.6 +0.4**
comp=Z,72nm,1.4s
DZM Mont Dzumac 83.49 118 *e*S **S 09 24 16.9 -4.8**
comp=Z,274nm,31.9s
DZM Mont Dzumac 83.49 118 *e*LR LR 09 40 32.9
comp=Z,1µm,35.7s
PCBR Castelo Branco 83.55 311 *e*P **P 09 14 10.7 +1.4**
comp=Z,53nm,1.7s
PMRV Marv??o 83.67 310 *e*P **P 09 14 10.8 +0.9**
comp=Z,45nm,2.0s
PTOM Tomar 84.29 311 *e*P **P 09 14 15.6 +2.6**
comp=Z,116nm,1.6s
EVO Evora 84.50 310 *e*P **P 09 14 14.2 +0.1**
comp=Z,36nm,1.0s
EVO *e*R
comp=Z,262nm,22.0s
EVOP Sao Brissos 84.58 310 *e*P **P 09 14 14.2 -0.3**
EVOP pmax pmax
comp=Z,37nm,1.0s
EVOP Sao Brissos 84.58 310 *e*P **P 09 14 14.2 -0.3**
comp=Z,36nm,1.0s
PBEJ Beja 84.63 309 *e*P **P 09 14 16.2 +1.4**
comp=Z,40nm,1.7s
PVAQ Vaqueiros 84.80 309 *e*P **P 09 14 16.8 +1.1**
comp=Z,82nm,1.8s
PNCL Nicolau / Gran 85.06 310 *e*P **P 09 14 18.6 +1.7**
comp=Z,100nm,1.8s
HYT Haines Junctio 85.11 23 *e*P **P 09 14 17.9 +1.0**
BOSA Boshof 85.19 236 P **P 09 14 18.2 +0.5**
BOSA Boshof 85.19 236 P **P 09 14 18.2 +0.5**
comp=Z,104nm,0.8s,baz=65,slow=4.3,SNR=114
BOSA LR LR 09 53 31.6
comp=Z,311nm,18.2s,baz=54,slow=36
TSUM Tsumeb 86.80 247 *e*P **P 09 14 26.9 +1.0**
comp=Z,12nm,0.4s
TOA0 Torodi Ar. Sit 87.47 283 *e*P **P 09 14 29.5 +0.4**
TORD Torodi Ar. Bea 87.47 283 P **P 09 14 29.6 +0.5**
TORD pP **pP 09 14 58.5 -0.6**
TORD PKKPbc **PKKPbc 09 32 16.9 0.0**
TORD Torodi Ar. Bea 87.47 283 P **P 09 14 29.6 +0.5**
comp=Z,9.6nm,0.6s,baz=58,slow=4.3,SNR=63
TORD pP **pP 09 14 58.5 -0.6**
comp=Z,17nm,0.8s,baz=59,slow=4.2,SNR=8.8
TORD PKKPbc **PKKPbc 09 32 16.9 0.0**
comp=Z,0.5nm,0.5s,baz=272,slow=1.1,SNR=7.4
TORD LR LR 09 58 18.8
comp=Z,425nm,18.1s,baz=315,slow=39
DLBC Dease Lake 89.46 22 P **P 09 14 38.5 +0.8**
DLBC Dease Lake 89.46 22 P **P 09 14 38.5 +0.8**
comp=Z,1.3nm,0.5s,baz=0.8,slow=5.7,SNR=4.3
YKA Yellowknife Ar 90.28 13 P **P 09 14 41.4 0.0**
YKA pP **pP 09 15 10.3 -1.1**
YKA PP **PP 09 18 16.5 +0.5**
YKA PKKPbc **PKKPdf 09 32 08.2 +2.4**
YKA P'P' 09 40 13.2
YKA Yellowknife Ar 90.28 13 P **P 09 14 41.4 0.0**
comp=Z,0.9nm,0.4s,baz=334,slow=5.4,SNR=46
YKA pP **pP 09 15 10.3 -1.1**
comp=Z,3.4nm,0.9s,baz=331,slow=4.7,SNR=6.7
YKA PP **PP 09 18 16.5 +0.5**
comp=Z,1.9nm,0.7s,baz=337,slow=8.1,SNR=8.4
YKA PKKPbc **PKKPdf 09 32 08.2 +2.4**
comp=Z,1.6nm,0.5s,baz=161,slow=2.3,SNR=45
YKA PKPPKP P'P'df 09 40 13.1 -7.1
comp=Z,0.1nm,0.5s,baz=149,slow=1.6,SNR=4.3
SUR Sutherland 90.38 234 *e*P **P 09 14 43.2 +0.6**
SUR Sutherland 90.38 234 P **P 09 14 43.2 +0.6**
comp=Z,194nm,1.0s,SNR=5.0
CASY Casey 91.18 174 *e*P **P 09 14 45.2 0.0**
comp=Z,29nm,1.3s
FRB Frobisher Bay 91.18 353 PKKPbc PKKPbc 09 32 06.7 -2.4
comp=Z,6.9nm,1.1s,baz=146,slow=3.6,SNR=4.1
FRB LR LR 10 02 28.9
comp=Z,414nm,18.4s,baz=112,slow=40
MAW Mawson 94.76 192 *e*P **P 09 15 02.3 +0.6**
MAW Mawson 94.76 192 P **P 09 15 02.3 +0.6**
comp=Z,26nm,1.1s,baz=14,slow=5.1,SNR=13
MAW LR LR 09 51 14.5
comp=Z,53nm,18.1s,baz=20,slow=31
DBIC Dimbokro 96.04 280 *e*P **P 09 15 09.4 +0.6**
DBIC Dimbokro 96.04 280 P **P 09 15 09.4 +0.6**
comp=Z,6.1nm,0.6s,baz=50,slow=4.5,SNR=9.7
DBIC LR LR 10 01 05.6
comp=Z,17nm,28.6s,baz=50,slow=37
KIC Kosan Boka 96.06 280 *e*PKP2 **P 09 15 09.2 +0.2**
comp=Z,22nm,1.0s
TIC Toumodi 96.19 280 *e*PKP2 **P 09 15 09.6 0.0**
comp=Z,5.9nm,0.2s
LIC Lamto 96.38 280 *e*P **P 09 15 09.2 -1.2**
comp=Z,15nm,0.9s
LIC *e*R
comp=Z,730nm,22.5s
LIC Lamto 96.38 280 *e*PKP2 **P 09 15 10.5 +0.1**
comp=Z,22nm,0.9s
LIC Lamto 96.38 280 *e*P **P 09 15 09.2 -1.2**
comp=Z,15nm,0.9s
SCHQ Schefferville 99.54 349 PKKPbc PKKPbc 09 31 44.0 -2.9
comp=Z,3.8nm,0.5s,baz=215,slow=3.6,SNR=9.3
ULM Lac du Bonnet 105.08 7 PKKPbc PKKPbc 09 31 27.7 -2.9
comp=Z,3.5nm,0.4s,baz=192,slow=1.6,SNR=6.2
YBH Yreka Blue Hor 105.58 28 PKKPbc PKKPbc 09 31 26.7 -2.3
comp=Z,1.5nm,0.8s,baz=167,slow=3.8,SNR=3.8
A29A Manning Farm, 105.94 10 ⇓PKiKP **PKiKP 09 20 04.7 +0.5**
baz=106
D22A Cohagen 106.30 15 ⇓PKiKP **PKiKP 09 20 05.4 +0.4**
baz=106
C24A Savage 106.33 13 ⇓PKiKP **PKiKP 09 20 05.3 +0.3**
baz=106
C25A Freed Ranch, W 106.40 13 ⇓PKiKP **PKiKP 09 20 05.9 +0.8**
baz=106
E20A Meyer Farm, Mu 106.43 16 ⇑PKiKP **PKiKP 09 20 05.5 +0.3**
baz=106
C26A Wahner Farm, P 106.51 12 ⇑PKiKP **PKiKP 09 20 05.6 +0.4**
baz=106
G22A Birney 108.09 16 ⇑PKiKP **PKiKP 09 20 08.1 -0.3**
baz=108
G23A Biddle 108.32 15 ⇑PKiKP **PKiKP 09 20 08.9 +0.1**
baz=108
F28A McLaughlin 108.66 11 ⇑PKiKP **PKiKP 09 20 09.4 0.0**
baz=108
G26A Maurine 108.84 13 ⇑PKiKP **PKiKP 09 20 09.4 -0.4**
baz=109
VNDA Vanda 108.87 168 PKKPbc PKKPbc 09 31 18.0 -1.8
VNDA Vanda 108.87 168 PKKPbc PKKPbc 09 31 18.0 -1.8
comp=Z,2.2nm,0.9s,baz=101,slow=3.2,SNR=4.4
H24A Dirks Ranch, A 108.94 14 ⇓PKiKP **PKiKP 09 20 09.8 -0.2**
baz=109
I21A Big Tails, Te 109.15 17 ⇑PKiKP **PKiKP 09 20 09.7 -0.8**
baz=109
I22A 9 Mile Ranch, 109.28 16 ⇓PKiKP **PKiKP 09 20 10.3 -0.4**
baz=109
J20A Shoshoni 109.36 18 ⇑PKiKP **PKiKP 09 20 10.9 0.0**
baz=109
ELK Elko 109.41 24 PKKPbc PKKPbc 09 31 12.5 -4.8
comp=Z,0.9nm,0.5s,baz=116,slow=7.6,SNR=6.2
PDAR Pinedale Array 109.48 19 PKiKP **PKiKP 09 20 11.2 -0.1**
PDAR SKP 09 23 35.2
PDAR PKKPbc **PKKPbc 09 31 14.8 -2.3**
PDAR PKKP **PKKPdf 09 31 26.9 -4.6**
PDAR Pinedale Array 109.48 19 PKiKP **PKiKP 09 20 11.2 -0.1**
comp=Z,1.0nm,0.8s,baz=84,slow=2.5,SNR=8.7
PDAR SKP 09 23 35.2
comp=Z,1.0nm,0.9s,baz=54,slow=2.6,SNR=3.5
PDAR PKKPbc **PKKPbc 09 31 14.8 -2.3**
comp=Z,0.7nm,0.6s,baz=131,slow=4.2,SNR=5.9
PDAR PKKP **PKKPdf 09 31 26.9 -4.6**
comp=Z,1.8nm,0.7s,baz=137,slow=5.5,SNR=10
I24A Kuemmerle Ranc 109.77 15 ⇓PKiKP **PKiKP 09 20 11.2 -0.4**
baz=110
I25A Rochford 109.82 14 ⇑PKiKP **PKiKP 09 20 11.1 -0.7**
baz=110
I26A New Underwood 110.00 13 ⇓PKiKP **PKiKP 09 20 11.4 -0.6**
baz=110
I27A Quinn 110.13 13 ⇓PKiKP **PKiKP 09 20 11.7 -0.5**
baz=110
NVAR Mina Array Bea 110.20 27 PKiKP **PKiKP 09 20 12.4 -0.3**
NVAR PKKPbc **PKKPbc 09 31 13.4 -1.2**
NVAR Mina Array Bea 110.20 27 PKiKP **PKiKP 09 20 12.4 -0.3**
comp=Z,0.4nm,0.6s,baz=325,slow=1.4,SNR=4.3
NVAR PKKPbc **PKKPbc 09 31 13.4 -1.2**
comp=Z,0.9nm,0.7s,baz=166,slow=3.8,SNR=7.2
K21A Alcova 110.26 17 ⇑PKiKP **PKiKP 09 20 11.9 -0.8**
baz=110
J24A Dixon Ranch, L 110.26 15 ⇓PKiKP **PKiKP 09 20 11.8 -0.8**
baz=110
I28A Midland 110.37 12 ⇑PKiKP **PKiKP 09 20 12.4 -0.3**
baz=110
J25A Sunshine Ranch 110.40 14 ⇓PKiKP **PKiKP 09 20 12.6 -0.3**
baz=110
K22A Casper 110.43 17 ⇑PKiKP **PKiKP 09 20 12.9 -0.1**
baz=110
K23A Bowen Ranch, D 110.57 16 ⇓PKiKP **PKiKP 09 20 13.2 0.0**
baz=110
J26A Sides Ranch, S 110.64 14 ⇑PKiKP **PKiKP 09 20 13.6 +0.4**
baz=110
J28A Allard Ranch, 110.91 12 ⇓PKiKP **PKiKP 09 20 13.4 -0.3**
baz=111
J27A Elkhorn Farm, 110.92 13 ⇓PKiKP **PKiKP 09 20 13.7 -0.1**
baz=111
J29A Okreek 111.10 12 ⇑PKiKP **PKiKP 09 20 13.9 -0.2**
baz=111
L23A Garrett 111.15 16 ⇓PKiKP **PKiKP 09 20 13.7 -0.7**
baz=111
K26A Motz Farm, Whi 111.20 14 ⇓PKiKP **PKiKP 09 20 14.1 -0.3**
baz=111
J30A Dallas 111.33 11 ⇑PKiKP **PKiKP 09 20 14.3 -0.2**
baz=111
ECSD EROS Data Cent 111.39 9 *e*PKPdf **PKiKP 09 20 14.7 +0.1**
ECSD EROS Data Cent 111.39 9 ⇑PKiKP **PKiKP 09 20 14.4 -0.1**
baz=111
K28A Ten Mile Ranch 111.57 13 ⇑PKiKP **PKiKP 09 20 14.6 -0.4**
baz=111
N20A Spence Gulch, 111.64 19 ⇑PKiKP **PKiKP 09 20 14.9 -0.5**
baz=111
K30A Basset 111.94 11 ⇓PKiKP **PKiKP 09 20 16.6 +0.9**
baz=112
M24A Cheyenne 111.98 16 ⇑PKiKP **PKiKP 09 20 15.0 -0.9**
baz=112
O20A White River Ci 112.29 19 ⇓PKiKP **PKiKP 09 20 15.7 -1.0**
baz=112
O23A Lake Granby, G 112.88 17 ⇓PKiKP **PKiKP 09 20 17.6 -0.2**
baz=113
OGNE Ogallala 113.13 14 ⇓PKiKP **PKiKP 09 20 17.0 -1.0**
baz=113
BGNE Belgrade 113.43 11 ⇑PKiKP **PKiKP 09 20 18.3 -0.2**
baz=113
N28A Pribbeno Ranch 113.48 14 ⇓PKiKP **PKiKP 09 20 18.4 -0.3**
baz=113
BLG Laguna Peak 113.49 30 ⇓PKiKP **PKiKP 09 20 18.3 -0.6**
baz=113
O26A Horse Wrangler 113.50 15 ⇑PKiKP **PKiKP 09 20 18.5 -0.4**
baz=113
O27A Beecher Island 113.75 14 ⇓PKiKP **PKiKP 09 20 19.2 -0.1**
baz=114
O28A Krutsinger Ran 113.97 14 ⇓PKiKP **PKiKP 09 20 20.0 +0.3**
baz=114
P25A Willow Gulch B 113.99 16 ⇓PKiKP **PKiKP 09 20 19.8 -0.1**
baz=114
N32A Stulken Farm, 114.03 11 ⇓PKiKP **PKiKP 09 20 19.1 -0.6**
baz=114
P26A Davis Ranch, A 114.14 15 ⇑PKiKP **PKiKP 09 20 19.8 -0.3**
baz=114
QSPA South Pole Qui 114.21 180 *e*PKPdf PKPdf 09 20 18.7 -0.4
U15A North Rim 114.30 24 ⇓PKiKP **PKiKP 09 20 20.1 -0.5**
baz=114
P27A Ficken Ranch, 114.33 15 ⇓PKiKP **PKiKP 09 20 20.0 -0.4**
baz=114
O31A Woolen Ranch, 114.44 12 ⇓PKiKP **PKiKP 09 20 19.9 -0.6**
baz=114
P28A Saint Francis 114.50 14 ⇑PKiKP **PKiKP 09 20 20.1 -0.6**
baz=114
O32A Brockman Farm, 114.52 11 ⇓PKiKP **PKiKP 09 20 20.1 -0.5**
baz=114
Q25A Bedland, Calha 114.53 16 ⇓PKiKP **PKiKP 09 20 20.7 -0.3**
baz=114
Q26A Hugo 114.71 16 ⇑PKiKP **PKiKP 09 20 21.1 -0.1**
baz=114
MURC Murrieta 114.76 29 ⇑PKiKP **PKiKP 09 20 21.2 -0.1**
baz=114
R23A Moffat 114.79 18 ⇑PKiKP **PKiKP 09 20 21.3 -0.3**
baz=114
KSCO Kaye Shedlock' 114.84 15 ⇓PKiKP **PKiKP 09 20 21.4 0.0**
baz=115
W13A Hualapai Mount 114.86 26 ⇑PKiKP PKPdf 09 20 21.9 +0.2
baz=115
MVCO Mesa Verde 114.90 20 ⇓PKiKP **PKiKP 09 20 21.5 -0.2**
baz=115
S22A 4UR Ranch, Cre 114.92 19 ⇑PKiKP **PKiKP 09 20 20.8 -1.0**
baz=115
R24A Sanders Place, 114.95 17 ⇓PKiKP **PKiKP 09 20 21.5 -0.3**
baz=115
P31A Stockton 115.04 12 ⇑PKiKP **PKiKP 09 20 21.0 -0.7**
baz=115
P32A Huiting Farm, 115.09 11 ⇑PKiKP **PKiKP 09 20 21.1 -0.6**
baz=115
R25A Fountain Ranch 115.25 17 ⇑PKiKP **PKiKP 09 20 21.7 -0.6**
baz=115
R26A Arlington 115.31 16 ⇑PKiKP **PKiKP 09 20 22.2 -0.2**
baz=115
Q29A Oakley 115.32 14 ⇑PKiKP **PKiKP 09 20 21.9 -0.3**
baz=115
SNAA Sanae 115.35 200 *e*PKPdf **PKPdf 09 20 21.0 -0.2**
P33A Williams Farm, 115.43 11 ⇓PKiKP **PKiKP 09 20 21.8 -0.6**
baz=115
WUAZ Wupatki 115.45 24 ⇓PKiKP **PKiKP 09 20 22.7 0.0**
baz=115
S24A Houchin Ranch, 115.47 18 ⇓PKiKP **PKiKP 09 20 22.5 -0.4**
baz=115
R27A Eads 115.49 15 ⇑PKiKP **PKiKP 09 20 22.3 -0.4**
baz=115
Q31A Ellis 115.54 12 ⇓PKiKP **PKiKP 09 20 22.3 -0.3**
baz=115
S25A Robets Cordova 115.66 17 ⇑PKiKP **PKiKP 09 20 22.4 -0.8**
baz=115
R28A Tribune 115.67 14 ⇓PKiKP **PKiKP 09 20 22.6 -0.4**
baz=115
Q32A Meitler Ranch, 115.71 12 ⇑PKiKP **PKiKP 09 20 22.5 -0.4**
baz=115
T23A Casias Ranch, 115.81 18 ⇑PKiKP **PKiKP 09 20 22.6 -0.9**
baz=116
Q33A Connelly Farm, 115.83 11 ⇑PKiKP **PKiKP 09 20 22.8 -0.4**
baz=116
KSU1 Kansas State U 115.93 10 ⇓PKiKP **PKiKP 09 20 23.0 -0.4**
baz=116
S26A Kim 115.95 16 ⇓PKiKP **PKiKP 09 20 23.1 -0.5**
baz=116
T24B San Luis 115.97 18 ⇓PKiKP **PKiKP 09 20 23.8 -0.1**
baz=116
T25A Trinidad 116.16 17 ⇓PKiKP **PKPdf 09 20 23.4 -0.7**
baz=116
R31A Burdett 116.20 13 ⇑PKiKP **PKPdf 09 20 23.4 -0.6**
baz=116
Y14A Wickenburg 116.23 26 ⇑PKiKP **PKPdf 09 20 23.6 -0.5**
baz=116
R32A Long Quarter, 116.23 12 ⇓PKiKP **PKPdf 09 20 23.4 -0.6**
baz=116
T26A Comanche Natio 116.34 16 ⇑PKiKP **PKPdf 09 20 23.8 -0.7**
baz=116
S28A Manter 116.36 15 ⇑PKiKP **PKPdf 09 20 23.7 -0.7**
baz=116
W18A Petrified Fore 116.39 22 ⇓PKiKP **PKiKP 09 20 24.6 0.0**
baz=116
R33A Olander Ranch, 116.47 11 ⇓PKiKP **PKPdf 09 20 24.1 -0.3**
baz=116
V22A San Miguel Ran 116.59 20 ⇑PKiKP **PKiKP 09 20 25.1 +0.1**
baz=116
S30A Montezuma 116.64 14 ⇑PKiKP **PKPdf 09 20 24.7 -0.1**
baz=116
T27A Campo 116.67 16 ⇓PKiKP **PKPdf 09 20 24.6 -0.4**
baz=116
T28A Walsh 116.76 15 ⇑PKiKP **PKPdf 09 20 24.4 -0.7**
baz=116
U25A Circle Dot Ran 116.86 17 ⇓PKiKP **PKiKP 09 20 25.8 +0.3**
baz=117
T29A Hugoton 116.92 14 ⇑PKiKP **PKPdf 09 20 25.1 -0.3**
baz=117
V23A Ortiz Mt. (NFS 116.96 19 ⇑PKiKP **PKiKP 09 20 26.6 +0.9**
baz=117
T30A Plains 117.19 14 ⇓PKiKP **PKPdf 09 20 25.8 -0.1**
baz=117
V24A Rampart Ranch, 117.25 18 ⇓PKiKP **PKPdf 09 20 26.0 -0.3**
baz=117
U27A Thompson Grove 117.25 16 ⇓PKiKP **PKPdf 09 20 26.0 -0.1**
baz=117
V25A Rancho No Teng 117.33 18 ⇓PKiKP **PKPdf 09 20 26.0 -0.4**
baz=117
W23A Werner Place, 117.52 19 ⇑PKiKP **PKPdf 09 20 26.5 -0.3**
baz=117
T33A Patterson Ranc 117.62 12 ⇓PKiKP **PKiKP 09 20 26.7 0.0**
baz=117
ANMO Albuquerque 117.62 20 PKKPbc PKKPbc 09 30 48.6 -0.9
comp=Z,1.9nm,0.8s,baz=177,slow=7.4,SNR=8.2
U30A WK&E Inc. Balk 117.66 14 ⇑PKiKP **PKPdf 09 20 26.7 -0.2**
baz=117
W24A Lazy 6 Ranch, 117.69 19 ⇓PKiKP **PKPdf 09 20 26.7 -0.4**
baz=117
LAZ Ladron 117.91 20 *e*PKPdf **PKPdf 09 20 28.3 +0.8**
W25A X Bar L Ranch, 117.95 18 ⇓PKiKP **PKPdf 09 20 27.2 -0.3**
baz=118
U31A Nine Bar Ranch 117.99 13 ⇑PKiKP **PKPdf 09 20 27.4 0.0**
baz=118
V28A Channing 118.04 16 ⇑PKiKP **PKPdf 09 20 27.3 -0.4**
baz=118
X23A Hourglass Bar 118.04 20 ⇓PKiKP **PKPdf 09 20 27.8 0.0**
baz=118
U32A Winter Ranch, 118.15 13 ⇓PKiKP **PKPdf 09 20 27.4 -0.4**
baz=118
U33A Lingo Farm, Me 118.27 12 ⇑PKiKP **PKPdf 09 20 27.6 -0.4**
baz=118
U34A Anderson Ranch 118.38 11 ⇓PKiKP **PKPdf 09 20 28.0 -0.1**
baz=118
W27A Bowe Ranch, En 118.47 17 ⇑PKiKP **PKPdf 09 20 28.0 -0.5**
baz=118
X25A Clemmons Ranch 118.54 18 ⇑PKiKP **PKPdf 09 20 28.5 -0.2**
baz=118
V31A Spring Creek L 118.56 14 ⇓PKiKP **PKPdf 09 20 28.5 -0.1**
baz=118
Y23A Lovelace Mesa, 118.68 20 ⇑PKiKP **PKPdf 09 20 28.8 -0.3**
baz=118
X26A CR and CF Fran 118.76 18 ⇑PKiKP **PKPdf 09 20 28.8 -0.3**
baz=118
W29A Amraillo 118.78 15 ⇓PKiKP **PKPdf 09 20 28.9 -0.1**
baz=118
V32A Arapaho 118.78 13 ⇑PKiKP **PKPdf 09 20 28.8 -0.2**
baz=118
V33A Lossen Ranch, 118.83 12 ⇓PKiKP **PKPdf 09 20 28.8 -0.3**
baz=119
Y24A Capitan 118.88 19 ⇓PKiKP **PKPdf 09 20 29.0 -0.4**
baz=119
V34A Guthrie 118.96 11 ⇓PKiKP **PKiKP 09 20 29.4 +0.1**
baz=119
AMTX Amarillo 119.00 16 ⇓PKiKP **PKPdf 09 20 28.9 -0.6**
baz=119
Z22A Elephant Butte 119.02 21 ⇓PKiKP **PKPdf 09 20 29.7 0.0**
baz=119
Y25A Mesa, Roswell 119.10 19 ⇓PKiKP **PKPdf 09 20 29.7 -0.1**
baz=119
W31A Holland Ranch, 119.11 14 ⇓PKiKP **PKPdf 09 20 29.2 -0.4**
baz=119
TUL1 Tulsa 119.18 10 ⇑PKiKP **PKPdf 09 20 29.3 -0.4**
baz=119
X28A Dimmitt 119.22 16 ⇓PKiKP **PKPdf 09 20 28.9 -1.0**
baz=119
Z23A Rita Site, Whi 119.25 20 ⇓PKiKP **PKPdf 09 20 29.5 -0.6**
baz=119
X29A Tulia 119.41 16 ⇑PKiKP **PKPdf 09 20 29.8 -0.5**
baz=119
121A Cookes Peak, D 119.41 22 ⇑PKiKP **PKPdf 09 20 30.4 0.0**
baz=119
W33A Caddo, Fort Co 119.45 13 ⇓PKiKP **PKPdf 09 20 29.8 -0.4**
baz=119
Z24A Sheeppen Canyo 119.45 19 ⇓PKiKP **PKPdf 09 20 30.4 -0.2**
baz=119
W34A Bridge Creek, 119.50 12 ⇑PKiKP **PKPdf 09 20 30.3 0.0**
baz=119
Y27A Causey 119.56 17 ⇑PKiKP **PKPdf 09 20 30.0 -0.7**
baz=119
MSTX Muleshoe 119.59 17 ⇓PKiKP **PKPdf 09 20 30.0 -0.7**
baz=119
X30A Coker Ranch, T 119.61 15 ⇓PKiKP **PKPdf 09 20 29.7 -1.0**
baz=119
X31A McDonald Ranch 119.63 14 ⇑PKiKP **PKPdf 09 20 29.9 -0.7**
baz=119
Z25A Roswell 119.69 19 ⇓PKiKP **PKPdf 09 20 31.0 0.0**
baz=119
WVT Waverly 119.75 2 *e*PKiKP **PKPdf 09 20 30.7 -0.1**
WVT Waverly 119.75 2 *e*PKPdf **PKPdf 09 20 30.6 -0.1**
Y28A McKinney Farm, 119.78 16 ⇑PKiKP **PKPdf 09 20 30.6 -0.4**
baz=120
Z26A Caprock 119.91 18 ⇑PKiKP **PKPdf 09 20 31.0 -0.3**
baz=120
PPT2 Papeete2 119.93 97 *e*SP SP 09 31 34.7 -0.5
comp=Z,188nm,24.2s
PPT2 Papeete2 119.93 97 *e*LR LR 09 57 24.9
comp=Z,571nm,32.5s
319A Douglas 119.93 24 ⇓PKiKP **PKPdf 09 20 31.1 -0.4**
baz=120
Y29A Porterfield Fa 119.97 16 ⇑PKiKP **PKiKP 09 20 31.5 0.0**
baz=120

X32A	Elmer	119.98	13	⇓PKiKP	PKPdf	09 20 30.6	-0.7	
	baz=120							
124A	Stringfield Ra	120.01	20	⇑PKiKP	PKPdf	09 20 31.7	0.0	
	baz=120							
222A	Williams Famil	120.03	21	⇓PKiKP	PKPdf	09 20 31.2	-0.4	
	baz=120							
X33A	Lawton	120.03	13	⇓PKiKP	PKPdf	09 20 30.7	-0.7	
	baz=120							
Z27A	Tatum	120.09	17	⇑PKiKP	PKPdf	09 20 31.5	-0.2	
	baz=120							
X34A	Smith Ranch, M	120.10	12	⇓PKiKP	PKPdf	09 20 31.2	-0.3	
	baz=120							
Y30A	Stafford Cattl	120.14	15	⇓PKiKP	PKPdf	09 20 30.8	-0.9	
	baz=120							
Y31A	Rekieta Farm,	120.21	15	⇑PKiKP	PKPdf	09 20 31.4	-0.3	
	baz=120							
320A	Kipp Ranch, An	120.24	23	⇓PKiKP	PKPdf	09 20 31.3	-0.8	
	baz=120							
TKL	Tuckaleechee C	120.26	359	ePKPdf	PKPdf	09 20 31.7	-0.1	
125A	Gardner Draw,	120.29	19	⇓PKiKP	PKPdf	09 20 31.7	-0.3	
	baz=120							
Z28A	Tucker Farm, M	120.33	17	⇓PKiKP	PKPdf	09 20 31.5	-0.6	
	baz=120							
Y32A	R-V Farms, Ver	120.35	14	⇑PKiKP	PKPdf	09 20 31.5	-0.6	
	baz=120							
126A	Clayton Basin,	120.49	18	⇓PKiKP	PKPdf	09 20 32.0	-0.4	
	baz=120							
Y33A	Hilltop Ranch,	120.52	13	⇑PKiKP	PKPdf	09 20 32.0	-0.3	
	baz=120							
Z29A	Hungry Hill Ra	120.53	16	⇑PKiKP	PKPdf	09 20 31.9	-0.5	
	baz=120							
224A	Cornudas Mount	120.57	20	⇓PKiKP	PKPdf	09 20 32.6	0.0	
	baz=120							
127A	Arkansas Junct	120.65	18	⇑PKiKP	PKPdf	09 20 32.5	-0.2	
	baz=120							
Z30A	Sanderson Ranc	120.65	16	⇑PKiKP	PKPdf	09 20 32.4	-0.3	
	baz=120							
KMSC	Kings Mountain	120.67	356	⇓PKiKP	PKPdf	09 20 32.2	-0.4	
	baz=120							
Y34A	Reagan Ranch,	120.74	12	⇓PKiKP	PKPdf	09 20 32.4	-0.3	
	baz=120							
MIAR	Mount Ida	120.84	8	ePKIKP	PKPdf	09 20 33.1	+0.2	
MIAR	Mount Ida	120.84	8	ePKPdf	PKPdf	09 20 33.1	+0.2	
Z31A	Sharp Cattle R	120.86	15	⇓PKiKP	PKPdf	09 20 32.4	-0.6	
	baz=121							
128A	Castleberry Fa	120.94	17	⇑PKiKP	PKPdf	09 20 33.1	-0.2	
	baz=121							
226B	Tecolote Peak,	120.98	19	⇓PKiKP	PKPdf	09 20 33.2	-0.2	
	baz=121							
Z32A	Haskell	121.02	14	⇑PKiKP	PKPdf	09 20 33.2	-0.1	
	baz=121							
129A	Stewart Farms,	121.09	16	⇓PKiKP	PKPdf	09 20 33.2	-0.3	
	baz=121							
324A	Moseley Ranch,	121.17	20	⇓PKiKP	PKPdf	09 20 33.5	-0.3	
	baz=121							
Z33A	Whitaker Ranch	121.19	13	⇓PKiKP	PKPdf	09 20 33.4	-0.2	
	baz=121							
Z34A	Collier Ranch,	121.28	12	⇓PKiKP	PKPdf	09 20 33.7	-0.1	
	baz=121							
227A	Bennet, Jal	121.29	18	⇑PKiKP	PKPdf	09 20 33.8	-0.2	
	baz=121							
130A	Snyder	121.35	16	⇓PKiKP	PKiKP	09 20 34.1	0.0	
	baz=121							
228A	UT Block 9, Go	121.39	17	⇑PKiKP	PKPdf	09 20 33.9	-0.2	
	baz=121							
325A	Bean Ranch, Si	121.39	20	⇓PKiKP	PKPdf	09 20 34.1	-0.2	
	baz=121							
131A	Roby	121.42	15	⇑PKiKP	PKPdf	09 20 34.1	0.0	
	baz=121							
Z35A	Perchaven, San	121.45	12	⇑PKiKP	PKPdf	09 20 33.8	-0.3	
	baz=121							
ABTX	Abilene, Hawle	121.64	14	⇓PKiKP	PKPdf	09 20 34.3	-0.3	
	baz=121							
TBI	Tubuai	121.69	103	eLR	LR	09 58 15.5		
	comp=Z,542nm,35.5s							
229A	Bryant Ranch,	121.74	17	⇓PKiKP	PKPdf	09 20 34.4	-0.4	
	baz=122							
326A	Caldwell Ranch	121.75	19	⇓PKiKP	PKPdf	09 20 34.5	-0.4	
	baz=122							
133A	Hamilton Ranch	121.81	14	⇑PKiKP	PKPdf	09 20 34.9	0.0	
	baz=122							
425A	Indio Mountain	121.93	20	⇑PKiKP	PKPdf	09 20 35.0	-0.3	
	baz=122							
230A	Sterling City	121.99	16	⇑PKiKP	PKPdf	09 20 35.1	-0.2	
	baz=122							
328A	Wristen Ranch,	122.02	18	⇓PKiKP	PKPdf	09 20 35.2	-0.2	
	baz=122							
134A	White-Moore Ra	122.02	13	⇓PKiKP	PKPdf	09 20 35.0	-0.2	
	baz=122							
231A	Bronte	122.14	15	⇑PKiKP	PKPdf	09 20 35.4	-0.2	
	baz=122							
329A	Wagon Wheel Ra	122.15	17	⇓PKiKP	PKPdf	09 20 35.3	-0.3	
	baz=122							
135A	Vickery Place,	122.17	12	⇑PKiKP	PKPdf	09 20 35.5	0.0	
	baz=122							
426A	McDonald Obser	122.33	19	⇓PKiKP	PKPdf	09 20 35.5	-0.7	
	baz=122							
232A	Coleman	122.34	15	⇓PKiKP	PKPdf	09 20 35.9	-0.1	
	baz=122							
427A	Hayter Ranch,	122.35	19	⇑PKiKP	PKPdf	09 20 35.9	-0.1	
	baz=122							
233A	Rising Star	122.39	14	⇓PKiKP	PKPdf	09 20 35.7	-0.3	
	baz=122							
330A	Mertzon	122.43	16	⇑PKiKP	PKPdf	09 20 35.9	-0.2	
	baz=122							
234A	Clairette	122.56	13	⇓PKiKP	PKPdf	09 20 36.4	+0.1	
	baz=122							
428A	Kincaid Ranch,	122.67	18	⇑PKiKP	PKPdf	09 20 36.8	+0.1	
	baz=122							
WHTX	Lake Witney	122.71	12	⇓PKiKP	PKPdf	09 20 36.1	-0.5	
	baz=122							
331A	San Angelo	122.71	16	⇓PKiKP	PKPdf	09 20 36.5	-0.2	
	baz=122							
332A	Millersview	122.81	15	⇓PKiKP	PKPdf	09 20 36.6	-0.2	
	baz=122							
LRAL	Lakeview Retre	122.86	2	ePKPdf	PKPdf	09 20 36.7	-0.1	
526A	Mary Lane Ranc	122.89	20	⇑PKiKP	PKPdf	09 20 37.1	-0.1	
	baz=123							
527A	Woodward Ranch	122.95	19	⇓PKiKP	PKPdf	09 20 37.3	0.0	
	baz=123							
429A	Davenport Ranc	122.99	17	⇓PKiKP	PKPdf	09 20 37.0	-0.2	
	baz=123							
430A	Baggett Ranch,	123.01	17	⇓PKiKP	PKPdf	09 20 37.3	0.0	
	baz=123							
333A	Richland Sprin	123.03	14	⇑PKiKP	PKPdf	09 20 36.8	-0.4	
	baz=123							
334A	Lometa	123.19	13	⇑PKiKP	PKPdf	09 20 37.1	-0.4	
	baz=123							
431A	Sonora	123.27	16	⇑PKiKP	PKPdf	09 20 37.4	-0.3	
	baz=123							
432A	Menard	123.28	15	⇓PKiKP	PKPdf	09 20 37.4	-0.3	
	baz=123							
626A	Big Bend Ranch	123.34	20	⇑PKiKP	PKPdf	09 20 37.7	-0.3	
	baz=123							
529A	Stev Forest Ra	123.37	18	⇑PKiKP	PKPdf	09 20 37.9	-0.1	
	baz=123							
335A	Moody	123.40	13	⇑PKiKP	PKPdf	09 20 37.8	-0.1	
	baz=123							
433A	Art	123.56	14	⇓PKiKP	PKPdf	09 20 37.8	-0.4	
	baz=123							
530A	J-C Ranch, Com	123.59	17	⇓PKiKP	PKPdf	09 20 38.3	-0.1	
	baz=123							
627A	Terlingua Ranc	123.67	19	⇓PKiKP	PKPdf	09 20 38.4	-0.2	
	baz=123							
434A	Burnet	123.68	14	⇑PKiKP	PKPdf	09 20 38.1	-0.4	
	baz=123							
TXAR	Lajitas Array	123.69	19	PKP	PKPdf	09 20 38.7	0.0	
TXAR				pPKP	pPKPdf	09 21 07.8	-2.2	
TXAR				PKKPbc	PKKPbc	09 30 26.2	-0.5	
TXAR	Lajitas Array	123.69	19	PKP	PKPdf	09 20 38.7	0.0	
	comp=Z,3.5nm,0.8s,baz=254,slow=1.7,SNR=36							
TXAR				pPKP	pPKPdf	09 21 07.8	-2.2	
	comp=Z,3.8nm,1.0s,baz=79,slow=0.9,SNR=5.3							
TXAR				PKKPbc	PKKPbc	09 30 26.2	-0.5	
	comp=Z,0.5nm,0.6s,baz=152,slow=6.9,SNR=11							
531A	Rocksprings	123.78	16	⇑PKiKP	PKPdf	09 20 38.5	-0.2	
	baz=124							
628A	Black Gap, Mar	123.78	19	⇓PKiKP	PKPdf	09 20 38.5	-0.2	
	baz=124							
532A	Rocksprings	123.97	15	⇑PKiKP	PKPdf	09 20 38.8	-0.4	
	baz=124							
533A	Kerrville	124.23	15	⇑PKiKP	PKPdf	09 20 39.0	-0.6	
	baz=124							
534A	Blanco	124.39	14	⇓PKiKP	PKPdf	09 20 39.4	-0.5	
	baz=124							
TIGA	Tifton	124.46	358	⇑PKiKP	PKPdf	09 20 39.9	0.0	
	baz=124							
631A	Perdido Creek	124.48	16	⇓PKiKP	PKPdf	09 20 39.9	-0.2	
	baz=124							
535A	Dale	124.59	13	⇑PKiKP	PKPdf	09 20 40.0	-0.2	
	baz=124							
632A	Uvalde	124.59	16	⇓PKiKP	PKPdf	09 20 40.3	0.0	
	baz=124							
633A	Saathoff Ranch	124.78	15	⇑PKiKP	PKPdf	09 20 40.8	+0.2	
	baz=124							
634A	China Grove, S	125.05	14	⇓PKiKP	PKPdf	09 20 41.3	+0.2	
	baz=125							
635A	Leesville	125.17	13	⇑PKiKP	PKiKP	09 20 41.6	0.0	
	baz=125							
732A	Laxson Ranch,	125.29	16	⇓PKiKP	PKPdf	09 20 41.5	-0.1	
	baz=125							
733A	Divot King Ran	125.47	15	⇑PKiKP	PKPdf	09 20 42.1	+0.2	
	baz=125							
734A	JLa Parita Cre	125.51	14	⇑PKiKP	PKiKP	09 20 42.3	-0.1	
	baz=125							
735A	Kenedy	125.67	14	⇓PKiKP	PKiKP	09 20 42.6	-0.1	
	baz=125							
832A	Faith Ranch, C	125.71	16	⇓PKiKP	PKiKP	09 20 42.7	-0.1	
	baz=126							
833A	Chaparral WMA,	125.82	16	⇑PKiKP	PKiKP	09 20 43.2	+0.1	
	baz=126							
834A	Tilden	126.21	15	⇑PKiKP	PKiKP	09 20 43.9	+0.1	
	baz=126							
835A	Beeville	126.22	14	⇓PKiKP	PKiKP	09 20 44.5	+0.7	
	baz=126							
934A	Benavides	126.72	15	⇓PKiKP	PKPdf	09 20 44.6	+0.3	
	baz=126							
RCBR	Riachuelo	129.31	283	SKPbc	SKPab	09 23 59.9	0.0	
	comp=Z,17nm,1.0s,baz=18,slow=3.2,SNR=5.3							
CELP	Cerrillos	134.06	335	ePKPdf	PKPdf	09 20 58.9	+0.4	
OBIP	Obispado Ponce	134.10	335	ePKPdf	PKPdf	09 20 59.2	+0.7	
OBIP				eSKPbc	SKPbc	09 24 18.6	+1.2	
SDDR	Presa de Saban	134.81	341	ePKPdf	PKPdf	09 21 01.2	+1.3	
SDDR				eSKPbc	SKPbc	09 24 21.4	+1.7	
TGUH	Tegucigalpa,Un	141.72	3	ePKPdf	PKPdf	09 21 14.4	+1.8	
TGUH				eSKPbc	SKiKP	09 24 41.1	0.0	
SDV	Santo Domingo	144.01	335	ePKPdf	PKPbc	09 21 15.0	-0.1	
BDFB	Brasilia	144.12	277	PKP	PKPbc	09 21 16.0	+0.7	
BDFB	Brasilia	144.12	277	PKP	PKPbc	09 21 16.0	+0.7	
	comp=Z,71nm,0.9s,baz=54,slow=3.3,SNR=65							
EFI	East Falkland	145.78	210	ePKP2	PKPdf	09 21 18.5	0.0	
EFI	East Falkland	145.78	210	ePKPbc	PKPdf	09 21 18.5	0.0	
PTGA	Pitinga	146.12	310	ePKPbc	PKPdf	09 21 20.8	+0.4	
BCIP	Isla Barro Col	146.24	351	ePKPbc	PKPbc	09 21 21.6	-0.1	
ROSC	El Rosal	149.07	339	PKP	PKPdf	09 21 26.2	+0.5	
ROSC				ePKPdf	PKPbc	09 21 27.8	-2.1	
ROSC				PKPbc	PKiKP	09 21 30.6	-0.5	
ROSC				ePKPbc	PKPab	09 21 31.9	-2.4	
ROSC				ePKPab	PKPab	09 21 35.5	+1.1	
ROSC				pPKPbc	pPKPbc	09 22 00.6	-0.5	
ROSC	El Rosal	149.07	339	PKP	PKPdf	09 21 26.2	+0.5	
	comp=Z,33nm,0.9s,baz=90,slow=20,SNR=23							
ROSC				PKPbc	PKiKP	09 21 30.6	-0.5	
	comp=Z,126nm,0.5s,baz=306,slow=2.2,SNR=24							
ROSC				pPKPbc	pPKPbc	09 22 00.6	-0.5	
	comp=Z,68nm,0.6s,baz=123,slow=4.8,SNR=4.1							
SAML	Samuel	154.00	302	ePKPdf	PKPdf	09 21 33.5	+0.9	
SAML				ePKPbc	PKiKP	09 21 41.5	+0.7	
SAML				ePKPab	PKPab	09 21 55.0	+0.5	
OTAV	Otavalo	154.66	344	ePKPdf	PKPdf	09 21 36.1	+1.9	
OTAV				ePKPbc	PKiKP	09 21 44.3	+1.5	
OTAV				ePKPab	PKPab	09 21 59.5	+1.8	
CPUP	Villa Florida	154.80	260	PKP	PKPdf	09 21 33.4	0.0	
CPUP				PKPbc	PKPbc	09 21 41.8	-0.3	
CPUP				PKPab	PKPab	09 21 57.7	0.0	
CPUP	Villa Florida	154.80	260	PKP	PKPdf	09 21 33.4	0.0	
	comp=Z,12nm,1.0s,baz=60,slow=4.1,SNR=6.9							
CPUP				PKPbc	PKPbc	09 21 41.8	-0.3	
	comp=Z,3.4nm,0.5s,baz=75,slow=3.6,SNR=13							
CPUP				PKPab	PKPab	09 21 57.7	0.0	
	comp=Z,7.1nm,0.5s,baz=76,slow=4.1,SNR=9.1							
TRQA	Tornquist	156.03	230	ePKPab	PKPab	09 22 02.4	-0.3	
PLCA	Paso Flores	159.63	213	PKP	PKPdf	09 21 39.1	-0.1	
PLCA				ePKPdf	PKPdf	09 21 40.5	+1.3	
PLCA				ePKPab	PKPab	09 22 17.6	-0.4	
PLCA				PKPab	PKPab	09 22 17.7	-0.4	
PLCA	Paso Flores	159.63	213	PKP	PKPdf	09 21 39.1	-0.1	
	comp=Z,15nm,1.0s,baz=117,slow=2.3,SNR=11							
PLCA				PKPab	PKPab	09 22 17.7	-0.4	
	comp=Z,6.9nm,0.4s,baz=142,slow=5.1,SNR=18							
LPAZ	La Paz	162.12	294	PKP	PKPdf	09 21 42.9	-0.3	
LPAZ				ePKPdf	PKPdf	09 21 43.9	+0.7	
LPAZ				PKPab	PKPab	09 22 30.0	-0.4	
LPAZ				pPKPab	pPKPab	09 22 58.4	-2.2	
LPAZ	La Paz	162.12	294	PKP	PKPdf	09 21 42.9	-0.3	
	comp=Z,12nm,0.9s,baz=47,slow=2.5,SNR=33							
LPAZ				PKPab	PKPab	09 22 30.0	-0.4	
	comp=Z,9.8nm,1.0s,baz=340,slow=4.0,SNR=5.3							
LPAZ				pPKPab	pPKPab	09 22 58.4	-2.2	
	comp=Z,6.8nm,0.9s,baz=105,slow=5.3,SNR=2.8							

CSEM ***29*** *09:10:05.2,60°.13N×23°.92E,h0km,ML1.1,Mining explosion. After HEL*

HEL 29 09:10:05.2±0.1,60°.13N×23°.92E,h0km,ML1.1, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	Metsahovi	0.25	70	eP	Pg	09 10 09.5	-0.5
MEF				eS	Sg	09 10 13.1	-0.1
MEF	Metsahovi	0.25	70	P	Pg	09 10 09.4	-0.6
MEF				S	Sg	09 10 13.1	-0.1
PVF	Pernaja	1.05	66	eP	Pg	09 10 24.1	-1.2
PVF				eS	Sg	09 10 37.8	-1.0
PVF	Pernaja	1.05	66	P	Pg	09 10 24.1	-1.2
PVF				S	Sg	09 10 37.8	-1.1
RAF	Rauma	1.39	311	eP	Pn	09 10 30.0	-1.8
RAF				eS	Sg	09 10 48.1	-1.8
RAF				MSG		09 10 55.6	
	comp=Z,1.4nm,0.1s						
RAF	Rauma	1.39	311	P	Pn	09 10 29.9	-1.9
RAF				S	Sg	09 10 48.0	-1.9
MTSE	Matsula	1.42	182	eP	Pn	09 10 31.1	-1.2
MTSE				eS	Sg	09 10 48.8	-2.0
MTSE	Matsula	1.42	182	P	Pn	09 10 31.0	-1.2
MTSE				S	Sg	09 10 48.8	-2.0
FIA0	FINESS Array S	1.69	38	eP	Pn	09 10 35.6	-0.3
FIA0				eS	Sn	09 10 56.5	-1.7
FIA0				MSG		09 11 01.0	
	comp=Z,1.2nm,0.1s						
FIA0	FINESS Array S	1.69	38	P	Pn	09 10 35.5	-0.4
FIA0				S	Sn	09 10 56.5	-1.7
VJF	Virojoki	1.85	76	eP	Pn	09 10 37.0	-1.1
VJF				eS	Sn	09 11 01.4	-0.8
VJF	Virojoki	1.85	76	P	Pn	09 10 37.0	-1.1
VJF				S	Sn	09 11 01.3	-0.9

JMA ***29*** *09:25:11.5±0.2,32°.86N×140°.71E,h54km,M3.3*
ISCJB ***29*** *09:25:12.4±1.5,32°.92N±0°.07×140°.71E±0°.08,h48km, mb3.7/2,Error ellipse: s-maj=11.2km s-min=8.0km az=42.4*
IDC ***29*** *09:25:14.4±8.5,32°.96N×140°.77E,h111km±127km, mb3.2/2,mb1 3.3/3,mb1mx2.9/25,mbtmp3.4/3,ML3.1/1, Error ellipse: s-maj=206.5km s-min=77.1km az=57.0*

ISC 29 09:25:09.6±1.5,32.77N±0°.08×140°.89E±0°.09,h48km,n21,
σ1s57/24,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	0.96	291	P	Pn	09 25 26.9	+0.2
JHJ2				S	Sn	09 25 37.5	-1.9
JHCJ	Hachijojimakas	0.96	289	S	Sn	09 25 37.2	-2.2
JKO	Kozu shima	2.04	315	P	Pn	09 25 42.5	+1.1
JKO				S	Sn	09 26 04.1	-1.5
BSO3	Boso 3	2.05	351	P	Pn	09 25 42.2	+0.8
BSO3				S	Sn	09 26 05.2	-0.5
JIM2	Oshima 3	2.29	328	P	Pn	09 25 45.3	+0.4
JIM2				S	Sn	09 26 09.9	-2.1
JIZS	Izushimoda	2.57	320	P	Pn	09 25 49.6	+0.9
JIZS				S	Sn	09 26 17.3	-1.4
JOD2	Odawara 2	2.90	330	P	Pn	09 25 53.9	+0.6
JOD2				S	Sn	09 26 24.0	-3.0
TK04	Tokai 4	2.99	304	S	Sn	09 26 28.8	0.0
SHZ3	Shizuoka 3	3.19	317	P	Pn	09 25 59.1	+1.7
JYN	Shimob	3.35	325	P	Pn	09 26 01.5	+2.1
JYN				S	Sn	09 26 39.4	+1.5
TTO2	TONANKAI O.B.S	3.37	288	P	Pn	09 26 01.7	+2.2
TTO2				S	Sn	09 26 38.1	0.0
TTO1	TONANKAI O.B.S	3.54	285	P	Pn	09 26 03.6	+1.8
MJAR	Matsushiro Arr	4.37	330	P	Pn	09 26 15.3	+2.0
	1.2nm,0.3s,baz=148,slow=12,SNR=16						
MJAR				S	Sn	09 27 03.2	+0.3
	0.8nm,0.3s,baz=278,slow=26,SNR=4.7						
H11N2	WAKE ISLAND Hy 26.61	113		T	T	09 59 40.9	
	baz=308,slow=75,SNR=4.7						
H11N1	WAKE ISLAND Hy 26.62	113		T	T	09 59 42.8	
	baz=308,slow=75,SNR=5.2						
H11N3	WAKE ISLAND Hy 26.63	113		T	T	09 59 43.7	
	baz=308,slow=75,SNR=8.8						
H11S3	WAKE ISLAND Hy 27.17	115		T	T	10 00 18.5	
	baz=327						
H11S1	WAKE ISLAND Hy 27.17	115		T	T	10 00 18.8	
	baz=327						
H11S2	WAKE ISLAND Hy 27.18	115		T	T	10 00 19.8	
	baz=327						
WRA	Warramunga Arr	52.78	188	P	P	09 34 19.4	-0.6
	0.4nm,0.3s,baz=10,slow=7.9,SNR=6.2						
ASAR	Alice Springs	56.51	188	P	P	09 34 46.4	-0.6
	0.2nm,0.3s,baz=3.6,slow=6.1,SNR=7.7						

ISCJB ***29*** *09:28:32.3±1.2,36°.3N±0°.1×70°.9E±0°.2,h188km,mb3.4/6, Error ellipse: s-maj=20.2km s-min=16.0km az=41.5*
IDC ***29*** *09:28:35.1±4.8,36°.41N×71°.14E,h196km±36km,mb3.2/6, mb1 3.3/11,mb1mx3.1/32,mbtmp3.2/11,Error ellipse: s-maj=44.9km s-min=23.0km az=40.0*

ISC 29 09:28:34.1±1.5,36.4N±0°.2×71.1E±0°.2,h188km,n17,
σ0s47/17,mb3.5/6,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	6.11	19	P	Pn	09 30 02.8	-0.1
	SNR=35						
UCH	Uchtor	6.44	23	P	Pn	09 30 07.3	+0.1
	SNR=30						
EKS2	Erkin-Say	6.63	17	P	Pn	09 30 10.1	+0.6
	SNR=5.4						
AAK	Ala-Archa	6.80	22	P	Pn	09 30 12.1	+0.4
	SNR=6.8						
AAK	Ala-Archa	6.80	22	P	Pn	09 30 12.0	+0.4
	1.8nm,0.3s,baz=182,slow=9.3,SNR=15						
KBK	Karagaybulak	6.96	24	P	Pn	09 30 14.5	+0.7
	SNR=6.2						
TKM2	Tokmak 2	7.42	27	P	Pn	09 30 19.6	-0.3
	SNR=18						
MKAR	Makanchi Array	13.37	35	P	Pn	09 31 36.9	+0.5
	0.1nm,0.3s,baz=218,slow=8.9,SNR=9.0						
BVAR	Borovoye Array	16.67	359	P	P	09 32 16.0	+0.1
	0.4nm,0.3s,baz=155,slow=10,SNR=6.5						
AKTO	Aktyubinsk	16.94	330	P	P	09 32 18.8	0.0
	0.3nm,0.3s,baz=143,slow=11,SNR=5.4						
ZALV	Zalesovo Beam	20.02	24	P	P	09 32 51.6	-0.6
	0.5nm,0.3s,baz=218,slow=9.4,SNR=5.0						
FINES	FINESS Array B	37.64	326	P	P	09 35 30.6	+0.1
	2.7nm,1.0s,baz=141,slow=9.0,SNR=2.7						
ARCES	ARCESS Array B	41.30	338	P	P	09 36 00.5	-0.2
	3.6nm,0.8s,baz=113,slow=9.1,SNR=3.9						
INK	Inuvik	74.03	9	P	P	09 39 48.9	+0.3
	0.8nm,0.5s,baz=342,slow=6.6,SNR=10						
ILAR	Eielson Array	74.90	16	P	P	09 39 52.8	-0.9
	0.1nm,0.4s,baz=310,slow=4.6,SNR=4.1						
YKA	Yellowknife Ar	81.38	3	P	P	09 40 29.6	+0.2
	0.2nm,0.4s,baz=349,slow=5.6,SNR=6.3						
WRA	Warramunga Arr	81.86	122	P	P	09 40 32.6	+0.1
	0.2nm,0.7s,baz=318,slow=4.8,SNR=2.8						

IDC ***29*** *09:30:11.8±1.0,39°.31N×73°.05E,h0km,mb3.8/11, mb1 3.9/17,mb1mx3.8/34,mbtmp3.7/17,ML3.6/5,Error ellipse: s-maj=18.0km s-min=13.9km az=144.0*
NEIC ***29*** *09:30:13.2±1.0,39°.27N×72°.97E,h10km,mb4.4/1,Error ellipse: s-maj=15.9km s-min=11.9km az=162.0*
MOS ***29*** *09:30:18.7±0.7,39°.47N×72°.95E,h40km,mb4.4/5,Error ellipse: s-maj=14.6km s-min=5.5km az=79.1*
NNC ***29*** *09:30:23.5±4.3,39°.99N×73°.37E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=36.4km s-min=21.6km az=177.0*

ISC 29 09:30:19.1±0.7,39.63N±0°.05×72.77E±0°.06,h33km,n81,
σ1s94/83,mb3.7/12,8C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	2.59	15	*i* PN	Pn	09 31 01.5	+2.4
AML	Almayashu	2.59	15	P	Pn	09 31 01.5	+2.4
	SNR=26						
UCH	Uchtor	2.91	26	*i* PN	Pn	09 31 05.1	+1.6
UCH	Uchtor	2.91	26	P	Pn	09 31 05.1	+1.6
	SNR=21						
KZA	Kyzart	3.08	37	*i* PN	Pn	09 31 06.8	+1.0
KZA	Kyzart	3.08	37	P	Pn	09 31 06.8	+1.0
	SNR=13						
EKS2	Erkin-Say	3.12	14

	comp=N,0.1nm,0.3s,baz=224,slow=12,SNR=4.3								
MKAR					Lg		Lg	09 35 33.0	
	comp=N,0.1nm,0.3s,baz=230,slow=28,SNR=4.0								
KURBB	**Kurchatov Arra**	**11.71**	**18**		Pn		**Pn**	**09 33 03.2**	**-0.6**
	baz=209,slow=13,SNR=2.7								
KURBB					Lg		Lg	09 36 31.2	
	comp=N,0.4nm,0.3s,baz=204,slow=26,SNR=4.3								
KURK	**Kurchatov**	**11.82**	**18**		P		**Pn**	**09 33 03.2**	**-2.0**
KURK	**Kurchatov**	**11.82**	**18**		Pn		**Pn**	**09 33 03.2**	**-2.0**
KURK					Lg		Lg	09 36 31.2	
ABKAR	**Akbulak array**	**13.27**	**321**		*e*Pn		**Pn**	**09 33 24.9**	**-0.2**
	comp=N,1.6nm,0.4s								
BVA0	**Borovoye Array**	**13.49**	**354**		⇑Pn		**P**	**09 33 34.9**	**-2.1**
	comp=N,2.5nm,0.5s,baz=156,slow=9.7,SNR=14								
BVAR	**Borovoye Array**	**13.49**	**354**		P		**Pn**	**09 33 28.0**	**-0.1**
BVAR	**Borovoye Array**	**13.49**	**354**		Pn		**Pn**	**09 33 28.0**	**-0.1**
BVAR	**Borovoye Array**	**13.49**	**354**		Pn		**Pn**	**09 33 28.0**	**-0.1**
	comp=N,0.2nm,0.3s,baz=150,slow=9.9,SNR=2.4								
BRVK	**Borovoye**	**13.54**	**354**		*e*P		**Pn**	**09 33 31.2**	**+2.5**
BRVK	**Borovoye**	**13.54**	**354**		*e*Pn		**Pn**	**09 33 31.2**	**+2.5**
BRVK	**Borovoye**	**13.54**	**354**		⇓Pn		**P**	**09 33 35.1**	**-2.2**
	comp=N,4.4nm,0.6s								
AKTO	**Aktyubinsk**	**14.98**	**321**		P		**Pn**	**09 33 49.1**	**+0.8**
AKTO								09 36 31.3	
AKTO	**Aktyubinsk**	**14.98**	**321**		Pn		**Pn**	**09 33 49.1**	**+0.8**
AKTO					Sn		**Sn**	**09 36 31.3**	**-1.8**
AKTO	**Aktyubinsk**	**14.98**	**321**		Pn		**Pn**	**09 33 49.1**	**+0.8**
	comp=N,0.2nm,0.3s,baz=135,slow=13,SNR=4.1								
AKTO					Sn		**Sn**	**09 36 31.3**	**-1.8**
	comp=N,0.2nm,0.3s,baz=20,slow=17,SNR=4.2								
ZALV	**Zalesovo Beam**	**16.49**	**26**		P		**Pn**	**09 34 07.6**	**-0.1**
ZALV					pmax		pmax		
	comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**16.49**	**26**		Pn		**Pn**	**09 34 07.6**	**-0.1**
ZALV	**Zalesovo Beam**	**16.49**	**26**		Pn		**Pn**	**09 34 07.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=218,slow=11,SNR=4.3								
NVS	**Novosibirsk**	**16.76**	**21**		*e*P		**Pn**	**09 34 11.3**	**+0.2**
ARU	**Arti**	**19.24**	**336**		*d*iP		**Pn**	**09 34 44.3**	**+2.8**
ARU					S		**Sn**	**09 38 21.2**	**+5.2**
ARU					pmax		pmax		
	comp=Z,12nm,2.5s								
SONM	**Songino Array**	**25.48**	**60**		P		**P**	**09 35 42.2**	**-2.0**
SONM	**Songino Array**	**25.48**	**60**		P		**P**	**09 35 42.2**	**-2.0**
	comp=Z,1.0nm,0.7s,baz=261,slow=9.2,SNR=8.0								
AKASG	**Malin Array Be**	**32.19**	**305**		*e*P		**P**	**09 36 44.8**	**+1.0**
AKASG	**Malin Array Be**	**32.19**	**305**		P		**P**	**09 36 44.2**	**+0.4**
AKASG	**Malin Array Be**	**32.19**	**305**		P		**P**	**09 36 44.2**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=80,slow=7.4,SNR=5.4								
FINES	**FINESS Array B**	**35.74**	**323**		P		**P**	**09 37 15.3**	**+0.9**
FINES	**FINESS Array B**	**35.74**	**323**		P		**P**	**09 37 15.3**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=112,slow=8.6,SNR=15								
ARCES	**ARCESS Array B**	**38.83**	**336**		P		**P**	**09 37 41.2**	**+0.7**
ARCES	**ARCESS Array B**	**38.83**	**336**		P		**P**	**09 37 41.2**	**+0.7**
	comp=Z,4.1nm,0.9s,baz=106,slow=9.3,SNR=6.5								
GERES	**GERESS Array B**	**42.34**	**303**		P		**P**	**09 38 11.2**	**+1.3**
GERES	**GERESS Array B**	**42.34**	**303**		P		**P**	**09 38 11.2**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=72,slow=6.3,SNR=4.5								
TIXI	**Tiksi**	**42.35**	**23**		*e*P		**P**	**09 38 07.9**	**-1.6**
TIXI					pmax		pmax		
	comp=Z,1.0nm,0.8s								
NB2	**NORSAR Subarra**	**42.78**	**321**		P		**P**	**09 38 13.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=93,slow=8.6								
NOA	**NORSAR Array B**	**42.78**	**321**		P		**P**	**09 38 13.5**	**+0.3**
NOA	**NORSAR Array B**	**42.78**	**321**		P		**P**	**09 38 13.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=91,slow=7.9,SNR=3.4								
TORD	**Torodi Ar. Bea**	**67.20**	**268**		P		**P**	**09 41 08.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**67.20**	**268**		P		**P**	**09 41 08.6**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=47,slow=5.9,SNR=5.1								
INK	**Inuvik**	**70.58**	**10**		*e*P		**P**	**09 41 30.1**	**-0.3**
	comp=Z,1.5nm,0.4s								
INK	**Inuvik**	**70.58**	**10**		P		**P**	**09 41 29.9**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=342,slow=5.6,SNR=22								
ILAR	**Eielson Array**	**71.38**	**17**		P		**P**	**09 41 33.7**	**-1.7**
ILAR	**Eielson Array**	**71.38**	**17**		P		**P**	**09 41 33.7**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=319,slow=5.5,SNR=3.8								
YKA	**Yellowknife Ar**	**78.05**	**3**		P		**P**	**09 42 13.4**	**-0.5**
YKA	**Yellowknife Ar**	**78.05**	**3**		P		**P**	**09 42 13.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=349,slow=5.5,SNR=17								
WRA	**Warramunga Arr**	**82.50**	**123**		P		P	09 42 34.8	-3.8
WRA	**Warramunga Arr**	**82.50**	**123**		P		P	09 42 34.8	-3.8
	comp=Z,0.3nm,0.7s,baz=319,slow=4.5,SNR=2.8								

ISCJB ***29*** *09:46:24.2±0.8, 9.2S±0.2×74.1W±0.2, h10km, mb3.9/7, Error ellipse: s-maj=35.9km s-min=10.7km az=39.9*
IDC ***29*** *09:46:26.4±1.2, 9.26S×74.24W, h16km±4km, mb3.7/7, mb1 3.9/10, mb1mx3.8/24, mbtmp3.8/10, ML3.5/3, Error ellipse: s-maj=50.8km s-min=18.6km az=39.0*
ISC 29 09:46:25.8±0.8, 9.3S±0.2×74.1W±0.1, h10km, n11, σ1§49/16, mb3.8/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**4.71**	**296**	Pn	**Pn**	**09 47 37.9**	**+0.5**
	2.6nm,0.3s,baz=20,slow=10,SNR=13						
ATAH				Pg	**Pb**	**09 47 49.9**	**+1.0**
	11nm,0.3s,baz=127,slow=20,SNR=37						
ATAH				Lg	Lg	09 48 46.4	
	12nm,0.3s,baz=310,slow=17,SNR=4.2						
LPAZ	**La Paz**	**9.12**	**141**	Pn	**Pn**	**09 48 38.7**	**+0.6**
	0.1nm,0.3s,baz=322,slow=9.5,SNR=5.6						
LPAZ				Pg		09 49 15.4	
	0.5nm,0.3s,baz=348,slow=10,SNR=8.3						
LPAZ				Lg	Lg	09 51 06.2	
	0.4nm,0.3s,baz=201,slow=19,SNR=5.4						
SIV	**San Ignacio**	**14.39**	**119**	Pn	**Pn**	**09 49 51.0**	**+1.2**
	0.2nm,0.3s,baz=288,slow=16,SNR=2.7						
SIV				Lg	Lg	09 53 55.7	
	0.4nm,0.3s,baz=75,slow=20,SNR=3.7						
TXAR	**Lajitas Array**	**47.77**	**324**	P	**P**	**09 55 03.1**	**-0.4**
	0.4nm,0.5s,baz=151,slow=8.0,SNR=14						
TXAR				sP	**sP**	**09 55 10.9**	**+3.0**
	0.4nm,0.5s,baz=152,slow=8.4,SNR=5.1						
TXAR				PcP	**PcP**	**09 56 31.8**	**-0.8**
	0.1nm,0.5s,baz=145,slow=5.5,SNR=3.4						
PDAR	**Pinedale Array**	**61.03**	**331**	P	**P**	**09 56 38.8**	**-1.2**
	0.7nm,0.8s,baz=104,slow=6.3,SNR=4.2						
ULM	**Lac du Bonnet**	**62.21**	**344**	P	**P**	**09 56 47.0**	**-0.5**
	2.1nm,0.5s,baz=111,slow=5.1,SNR=5.1						
YKA	**Yellowknife Ar**	**78.04**	**342**	P	**P**	**09 58 23.8**	**-0.4**
	0.4nm,0.7s,baz=138,slow=6.1,SNR=6.8						
YKA				pP	**pP**	**09 58 27.9**	**+0.3**
	0.2nm,0.5s,baz=141,slow=5.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**78.50**	**75**	P	**P**	**09 58 28.6**	**+0.8**
	1.2nm,0.8s,baz=277,slow=6.9,SNR=6.0						
INK	**Inuvik**	**87.78**	**341**	P	**P**	**09 59 14.4**	**-0.2**
	0.9nm,0.6s,baz=134,slow=2.9						
ILAR	**Eielson Array**	**91.08**	**336**	P	**P**	**09 59 29.5**	**-0.8**
	0.3nm,0.8s,baz=104,slow=2.1,SNR=3.9						
WRA	**Warramunga Arr**	**139.67**	**224**	PKP	**PKPdf**	**10 05 51.4**	**-3.5**
	0.3nm,0.5s,baz=169,slow=7.5,SNR=10						
WRA				pPKP	**pPKPdf**	**10 05 59.0**	**+0.6**
	0.6nm,0.9s,baz=132,slow=1.6,SNR=2.9						

ISCJB ***29*** *10:07:56.8±1.3, 12.51S±0.04×166.46E±0.04, h52km±11km, mb5.0/73, MS3.5/23, Error ellipse: s-maj=6.8km s-min=6.3km az=158.5*
IDC ***29*** *10:07:56.3±0.6, 12.50S×166.67E, h44km±4km, mb4.4/26, mb1 4.5/29, mb1mx4.5/31, mbtmp4.6/29, ML3.8/2, MS3.8/23, Ms1 3.8/23, ms1mx3.7/35, Error ellipse: s-maj=14.2km s-min=11.3km az=120.0*
NEIC ***29*** *10:07:56.9±0.2, 12.46S×166.66E, mb5.1/23, Error ellipse: s-maj=5.8km s-min=5.0km az=111.0*
BJI ***29*** *10:07:59.6, 12.22S×166.66E, h75km, mB5.2/28, mb5.0/45, Ms5.2/12, Ms7 4.8/11*
AUST ***29*** *10:08:12.3, 12.46S×166.45E, h200km*
ISC 29 10:07:56.9±0.4, 12.46S±0.05×166.60E±0.06, h47km±3km, h47km:pP-P, n215, σ1§25/248, mb5.0/73, MS3.6/23, 3C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.19**	**294**	P	**Pn**	**10 09 40.6**	**+1.0**
HNR				S	**Sn**	**10 10 58.0**	**-1.9**
HNR	**Honiara**	**7.19**	**294**	P	**Pn**	**10 09 40.6**	**+1.0**
	88nm,0.3s,baz=188,slow=14,SNR=21						
HNR				S	**Sn**	**10 10 58.0**	**-1.9**
	96nm,0.3s,baz=174,slow=19,SNR=4.3						
HNR				LR	LR	10 12 41.3	
	comp=Z,865nm,21.6s,baz=126,slow=39						
DZM	**Mont Dzumac**	**9.56**	**181**	*e*Pn	**Pn**	**10 10 13.9**	**+1.8**
	23nm,0.2s						
DZM				*e*Sn	**Sn**	**10 11 54.6**	**-3.7**
	12nm,0.3s						
DZM				*e*LR	LR	10 12 28.9	
	2μm,25.7s						
DZM	**Mont Dzumac**	**9.56**	**181**	*e*Pn	**Pn**	**10 10 13.4**	**+1.2**
DZM				*e*Sn	**Sn**	**10 11 59.5**	**+1.2**
DZM	**Mont Dzumac**	**9.56**	**181**	P	**Pn**	**10 10 11.8**	**-0.3**
	3.0nm,0.3s,baz=18,slow=18,SNR=38						
DZM				S	**Sn**	**10 11 55.8**	**-2.5**
	baz=90,slow=20,SNR=2.1						
DZM				LR	LR	10 12 29.0	
	comp=Z,97nm,21.4s,baz=26,slow=29						
TARA	**Tarawa**	**15.09**	**25**	*e*Pn	**P**	**10 11 31.7**	**+0.1**
PMG	**Port Moresby**	**19.32**	**277**	*e*P	**Pn**	**10 12 20.9**	**+1.1**
PMG	**Port Moresby**	**19.32**	**277**	P	**Pn**	**10 12 19.6**	**-0.2**
	0.4nm,0.3s,baz=95,slow=4.7,SNR=4.2						
PMG				LR	LR	10 19 12.9	
	comp=Z,345nm,20.3s,baz=120,slow=35						
EIDS	**Eidsvold**	**19.48**	**227**	*e*P	**Pn**	**10 12 21.8**	**+0.2**
	39nm,0.8s						
EIDS	**Eidsvold**	**19.48**	**227**	P	**Pn**	**10 12 22.4**	**+0.8**
	baz=19,SNR=15						
CTA	**Charters Tower**	**20.93**	**246**	P	**P**	**10 12 36.4**	**+0.5**
CTA	**Charters Tower**	**20.93**	**246**	P	**P**	**10 12 36.4**	**+0.5**
	9.5nm,0.7s,baz=76,slow=14,SNR=14						
CTA				LR	LR	10 20 05.7	
	comp=Z,355nm,18.4s,baz=56,slow=35						
CTAO	**Charters Tower**	**20.93**	**246**	*e*P	**P**	**10 12 37.3**	**+1.4**
	51nm,1.5s						
CTAO				*e*S	**S**	**10 16 25.8**	**-1.0**
AFI	**Afiamalu**	**21.11**	**96**	LR	LR	10 18 27.6	
	comp=Z,16nm,28.6s,baz=264,slow=30						
RMQ	**Roma**	**21.81**	**228**	P	**P**	**10 12 47.2**	**+2.0**
	baz=22,SNR=11						
RAO	**Raoul Island**	**22.06**	**142**	LR	LR	10 19 30.0	
	comp=Z,16nm,28.6s,baz=258,slow=32						
ARMA	**Armidale**	**22.61**	**215**	*e*P	**P**	**10 12 54.2**	**+0.2**
	177nm,2.0s						
ARMA	**Armidale**	**22.61**	**215**	P	**P**	**10 12 54.8**	**+0.9**
	baz=23,SNR=9.3						
COEN	**Coen**	**22.85**	**264**	*e*P	**P**	**10 12 57.0**	**+0.6**
	103nm,0.8s						
COEN	**Coen**	**22.85**	**264**	P	**P**	**10 12 58.0**	**+1.6**
	baz=23,SNR=16						
OUZ	**Omahuta**	**23.54**	**166**	*e*P	**P**	**10 13 03.2**	**+0.3**
	9.2nm,0.8s						
QLP	**Quilpie**	**25.27**	**233**	P	**P**	**10 13 19.5**	**+0.6**
	baz=25,SNR=12						
CMSA	**Cobar Meteorol**	**27.04**	**222**	P	**P**	**10 13 37.1**	**+2.2**
	baz=27,SNR=12						
URZ	**Urewera**	**27.35**	**162**	P	**P**	**10 13 36.8**	**-0.8**
URZ	**Urewera**	**27.35**	**162**	P	**P**	**10 13 36.8**	**-0.8**
	5.6nm,0.8s,baz=190,slow=6.1,SNR=2.7						
URZ				LR	LR	10 22 41.2	
	comp=Z,303nm,21.3s,baz=320,slow=32						
CNB	**Canberra Magne**	**27.59**	**212**	P	**P**	**10 13 40.9**	**+1.0**
	baz=28,SNR=8.9						
BFZ	**Birch Farm**	**29.37**	**165**	*e*P	P	10 13 49.2	-6.3
	115nm,0.8s						
STKA	**Stephens Creek**	**30.03**	**226**	*e*P	**P**	**10 14 02.2**	**+0.6**
STKA	**Stephens Creek**	**30.03**	**226**	P	**P**	**10 14 02.1**	**+0.6**
	9.4nm,0.7s,baz=53,slow=9.8,SNR=29						
STKA				LR	LR	10 25 14.1	
	comp=Z,410nm,21.1s,baz=45,slow=34						
STKA	**Stephens Creek**	**30.03**	**226**	P	**P**	**10 14 02.3**	**+0.8**
	baz=30,SNR=15						
H11S2	**WAKE ISLAND Hy**	**30.75**	**0**	T	T	10 44 46.6	
	baz=183,slow=78,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.76**	**0**	T	T	10 44 46.9	
	baz=183,slow=78,SNR=11						
H11S1	**WAKE ISLAND Hy**	**30.77**	**0**	T	T	10 44 47.8	
	baz=183,slow=78,SNR=2.7						
TOO	**Toolangi**	**31.33**	**213**	P	**P**	**10 14 13.9**	**+0.9**
	baz=31,SNR=3.7						
RPZ	**Rata Peaks**	**31.38**	**174**	*e*P	**P**	**10 14 13.3**	**0.0**
RPZ	**Rata Peaks**	**31.38**	**174**	P	**P**	**10 14 12.6**	**-0.7**
	20nm,0.7s,baz=307,slow=5.1,SNR=4.9						
RPZ				LR	LR	10 25 35.4	
	comp=Z,212nm,20.9s,baz=344,slow=34						
WRAB	**Tennant Creek**	**31.80**	**252**	*e*P	**P**	**10 14 16.6**	**-0.7**
	88nm,2.7s						
WRAB	**Tennant Creek**	**31.80**	**252**	P	**P**	**10 14 16.9**	**-0.4**
	31nm,0.7s,SNR=5.7						
WRA	**Warramunga Arr**	**31.82**	**252**	P	**P**	**10 14 16.4**	**-1.0**
WRA				ScP	**ScP**	**10 20 46.8**	**-0.7**
WRA	**Warramunga Arr**	**31.82**	**252**	P	**P**	**10 14 16.4**	**-1.0**
	3.7nm,0.7s,baz=78,slow=9.3,SNR=33						
WRA				ScP	**ScP**	**10 20 46.8**	**-0.7**
	0.8nm,0.9s,baz=83,slow=3.8,SNR=4.1						
WRA				LR	LR	10 25 59.9	
	comp=Z,16nm,28.6s,baz=80,slow=34						
H11N1	**WAKE ISLAND Hy**	**31.97**	**1**	T	T	10 46 18.9	
	baz=187,SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**31.97**	**1**	T	T	10 46 19.8	
	baz=187						
H11N2	**WAKE ISLAND Hy**	**31.99**	**1**	T	T	10 46 20.2	
	baz=187						
HTT	**Hallett**	**32.76**	**226**	P	**P**	**10 14 26.2**	**+0.6**
	baz=33,SNR=9.2						
AS31	**Alice Springs**	**32.94**	**246**	*e*P	**P**	**10 14 26.3**	**-0.9**
ASAR	**Alice Springs**	**32.94**	**246**	P	**P**	**10 14 26.0**	**-1.3**
ASAR				ScP	**ScP**	**10 20 51.1**	**-0.2**
ASAR	**Alice Springs**	**32.94**	**246**	P	**P**	**10 14 26.0**	**-1.3**
	7.0nm,0.7s,baz=68,slow=9.6,SNR=126						
ASAR				ScP	**ScP**	**10 20 51.1**	**-0.2**
	0.8nm,0.9s,baz=79,slow=4.8,SNR=2.7						
ASAR				LR	LR	10 26 55.3	
	comp=Z,16nm,28.6s,baz=81,slow=34						
RAR	**Rarotonga**	**33.29**	**110**	LR	LR	10 25 22.2	
	comp=Z,16nm,28.6s,baz=276,slow=32						
BBOO	**Buckleboo**	**34.51**	**229**	*e*P	**P**	**10 14 41.0**	**+0.2**
	424nm,1.0s						
BBOO				*e*pP	**pP**	**10 14 55.2**	**+1.9**
BBOO	**Buckleboo**	**34.51**	**229**	P	**P**	**10 14 41.0**	**+0.2**
	baz=34,SNR=16						
KNRA	**Kununurra**	**36.81**	**260**	P	**P**	**10 15 00.5**	**-0.1**
	baz=37,SNR=6.0						
WRKA	**Warakurna**	**38.23**	**245**	P	**P**	**10 15 12.2**	**-0.5**
	baz=38,SNR=17						
FITZ	**Fitzroy Crossi**	**39.84**	**257**	*e*P	**P**	**10 15 25.8**	**-0.4**
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.84**	**257**	P	**P**	**10 15 25.9**	**-0.3**
	11nm,0.7s,baz=99,slow=7.9,SNR=27						
FITZ				LR	LR	10 31 14.5	
	comp=Z,172nm,20.9s,baz=93,slow=35						
FITZ	**Fitzroy Crossi**	**39.84**	**257**	P	**P**	**10 15 25.9**	**-0.3**
	baz=40,SNR=15						
FORT	**Forrest**	**39.94**	**237**	*e*P	**P**	**10 15 27.0**	**+0.2**
FORT	**Forrest**	**39.94**	**237**	P	**P**	**10 15 27.0**	**+0.2**
	baz=40,SNR=9.8						
PPT	**Papeete**	**42.57**	**102**	LR	LR	10 31 03.0	
	comp=Z,105nm,18.5s,baz=242,slow=33						
PPT2	**Papeete2**	**42.57**	**102**	*e*LR	LR	10 27 50.0	
	573nm,26.8s						
TBI	**Tubuai**	**43.04**	**111**	*e*LR	LR	10 28 01.9	
	339nm,31.5s						
KMBL	**Kambalda**	**45.19**	**238**	P	**P**	**10 16 09.6**	**+0.1**
	baz=45,SNR=14						
MEEK	**Meekatharra**	**47.10**	**245**	P	**P**	**10 16 25.0**	**+0.4**
	baz=47,SNR=22						
KLBR	**Kellerberrin**	**48.68**	**239**	P	**P**	**10 16 36.5**	**-0.2**
	baz=48,SNR=8.8						
NWAO	**Narrogin (SRO)**	**49.39**	**237**	P	**P**	**10 16 42.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**49.39**	**237**	P	**P**	**10 16 42.0**	**-0.1**
	9.1nm,0.7s,baz=87,slow=6.5,SNR=11						
NWAO				LR	LR	10 37 26.2	
	comp=Z,16nm,28.6s,baz=42,slow=36						
MORW	**Morawa**	**49.70**	**242**	P	**P**	**10 16 44.7**	**+0.1**
	baz=50,SNR=5.8						
JAGI	**Jajag, Banyuwa**	**51.66**	**269**	*e*P	**P**	**10 16 58.9**	**-0.6**
JAGI	**Jajag, Banyuwa**	**51.66**	**269**	P	**P**	**10 16 59.0**	**-0.6**
	baz=52,SNR=4.9						
JOW	**Kunigami**	**53.95**	**317**	*e*P	**P**	**10 17 17.6**	**+1.4**
	16nm,0.8s						
JOW				*e*pP	**pP**	**10 17 31.9**	**+2.6**
MJAR	**Matsushiro Arr**	**55.60**	**332**	P	**P**	**10 17 27.6**	**-0.4**
MJAR	**Matsushiro Arr**	**55.60**	**332**	P	**P**	**10 17 27.6**	**-0.4**
	1.5nm,0.7s,baz=171,slow=8.1,SNR=8.9						
MJAR				LR	LR	10 41 14.3	
	comp=Z,16nm,28.6s,baz=165,slow=36						
SBUM	**Sibu**	**55.99**	**282**	*e*P	**P**	**10 17 32.4**	**+1.2**
	9.1nm,0.9s						
JNU	**Nakatsue**	**56.70**	**324**	*e*P	**P**	**10 17 36.7**	**+0.8**
JNU	**Nakatsue**	**56.70**	**324**	P	**P**	**10 17 36.5**	**+0.5**
	22nm,0.9s,baz=145,slow=3.2,SNR=12						
YULB	**Yu-li**	**56.86**	**309**	*e*P	**P**	**10 17 38.3**	**+1.1**
	8.8nm,0.8s						
YULB				*e*pP	**pP**	**10 17 50.9**	**+0.4**

TPUB	**Ta-pu**	**57.32**	**308**	*e*P		**P**	**10 17 40.5**	**0.0**
	27nm,0.8s							
TPUB				*e*pP		**pP**	**10 17 55.4**	**+1.6**
KSM	**Kuching**	**57.56**	**280**	*e*P		**P**	**10 17 42.9**	**+0.6**
KSRS	**Korea Array**	**61.51**	**326**	P		**P**	**10 18 09.3**	**+0.3**
	3.0nm,0.8s,baz=138,slow=6.9,SNR=8.3							
KSRS				pP		**pP**	**10 18 21.5**	**-0.9**
	2.8nm,0.7s,baz=134,slow=7.6,SNR=5.6							
KSRS				LR		LR	10 42 48.1	
	comp=Z,16nm,28.6s,baz=166,slow=34							
KSAR	**Wonju Array Be**	**61.52**	**326**	P		**P**	**10 18 09.3**	**+0.2**
KSAR				pP		**pP**	**10 18 21.5**	**-1.0**
NJ2	**Nanjing**	**63.60**	**315**	*e*P		**P**	**10 18 24.0**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,50nm,0.5s							
QIZ	**Qiongzhong**	**64.08**	**298**	P		**P**	**10 18 28.0**	**+1.5**
QIZ				pP		pP	10 18 48.0	+8.0
QIZ				sP		sP	10 18 57.5	+12
QIZ				S		**S**	**10 26 58.0**	**-2.2**
QIZ				pmax		pmax		
	comp=Z,12nm,0.8s							
USRK	**Ussuriysk Arra**	**64.58**	**333**	P		**P**	**10 18 30.3**	**+1.0**
	5.6nm,0.9s,baz=142,slow=8.2,SNR=13							
USRK				pP		**pP**	**10 18 43.3**	**+0.6**
	8.6nm,0.9s,baz=121,slow=6.2,SNR=10							
USRK				LR		LR	10 43 34.6	
	comp=Z,16nm,28.6s,baz=108,slow=33							
VNDA	**Vanda**	**65.11**	**181**	*e*P		**P**	**10 18 32.4**	**+0.1**
VNDA	**Vanda**	**65.11**	**181**	P		**P**	**10 18 31.9**	**-0.4**
	2.8nm,0.9s,baz=11,slow=5.9,SNR=6.6							
FX1	**Attu Island--F**	**65.32**	**4**	LR		LR	10 44 49.7	
	comp=Z,16nm,28.6s,baz=184,slow=34							
SBA	**Scott Base**	**65.39**	**180**	*e*P		**P**	**10 18 35.2**	**+1.1**
PETK	**Petropavlovsk-**	**65.75**	**354**	LR		LR	10 42 16.2	
	comp=Z,46nm,22.0s,baz=141,slow=31							
WHN	**Wuhan**	**65.95**	**312**	P		**P**	**10 18 39.3**	**+0.9**
IPM	**Ipoh**	**67.29**	**280**	*e*P		**P**	**10 18 47.9**	**+0.5**
	42nm,1.1s							
CN2	**Changchun**	**67.37**	**329**	⇓P		**P**	**10 18 48.3**	**+1.0**
CN2				*e*sP		sP	10 19 20.0	+14
CN2				*e*S		**S**	**10 27 37.8**	**-1.7**
CN2				pmax		pmax		
	comp=Z,20nm,0.8s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
PSI	**Prapat**	**68.89**	**278**	P		**P**	**10 18 57.5**	**0.0**
PSI	**Prapat**	**68.89**	**278**	P		**P**	**10 18 57.5**	**0.0**
	13nm,0.7s,baz=122,slow=1.6,SNR=6.5							
PSI	**Prapat**	**68.89**	**278**	P		**P**	**10 18 57.4**	**-0.2**
	baz=69,SNR=8.3							
ENH	**Enshi**	**69.43**	**309**	*e*P		**P**	**10 19 00.9**	**+0.5**
	36nm,0.8s							
GSI	**Gunungsitoli**	**69.83**	**276**	*e*P		**P**	**10 19 04.0**	**+0.7**
CHAI	**Chaiyaphum**	**69.84**	**292**	P		**P**	**10 19 04.0**	**+0.8**
	5.2nm,0.8s,71nm							
GYA	**Guiyang**	**69.90**	**304**	⇑*i*P		**P**	**10 19 04.3**	**+0.8**
GYA				pP		**PcP**	**10 19 27.5**	**+1.7**
GYA				sP		sP	10 19 37.0	+14
GYA				PP		PP	10 21 44.3	+5.5
GYA				S		**S**	**10 28 08.8**	**-1.6**
GYA				SKS		**SKSac**	**10 28 55.5**	**-5.6**
GYA				SS		**SS**	**10 32 40.8**	**+0.4**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.0s							
GYA				LR		LR		
	comp=N,640nm,19.2s							
GYA		

3.0nm,0.7s,baz=242,slow=4.9,SNR=34
ILAR pP **pP** 10 20 37.5 -1.3
2.2nm,0.8s,baz=227,slow=6.0,SNR=7.0
ILAR LR LR 10 52 16.4
comp=Z,93nm,20.1s,baz=175,slow=31
CIS Catalina Islan 84.61 54 P **P** 10 20 27.6 +1.9
baz=85
M04C Macdoel 84.91 45 P **P** 10 20 28.4 +1.2
baz=85
ISA Isabella 85.27 52 P **P** 10 20 30.1 +1.0
baz=85
EDW2 Edwards Air Fo 85.40 53 P **P** 10 20 31.2 +1.5
baz=86
LRMC Laurel Mountai 85.82 52 P **P** 10 20 32.4 +0.6
baz=86
CWC Cottonwood Cre 85.83 51 P **P** 10 20 33.5 +1.5
baz=86
J05D Fort Rock, OR 85.87 44 P **P** 10 20 34.0 +2.0
baz=86
TAPN Taplejung 86.01 299 *e*P **P** 10 20 33.6 +0.4
24nm,0.8s
TAPN Taplejung 86.01 299 *e*P **P** 10 20 33.6 +0.4
24nm,0.8s
MONP Monument Peak 86.03 55 P **P** 10 20 34.5 +1.5
baz=86
ODAN Odare 86.15 298 *e*P **P** 10 20 34.2 +0.3
61nm,0.8s
ODAN Odare 86.15 298 *e*P **P** 10 20 34.2 +0.3
61nm,0.8s
MPMC Manual Prospec 86.16 52 P **P** 10 20 34.1 +0.4
baz=86
I05D Terrebonne, OR 86.18 43 P **P** 10 20 35.4 +2.0
baz=86
NVAR Mina Array Bea 86.30 50 P **P** 10 20 33.9 -0.4
NVAR Mina Array Bea 86.30 50 P **P** 10 20 33.9 -0.4
2.4nm,0.7s,baz=241,slow=7.1,SNR=22
NVAR LR LR 10 50 00.5
comp=Z,135nm,22.0s,baz=114,slow=29
EGAK Eagle 86.41 20 *e*P **P** 10 20 34.8 +0.9
4.1nm,0.7s
FURC Furnace Creek, 86.77 52 P **P** 10 20 37.2 +0.9
baz=87
RAMN Ramite 86.86 298 *e*P **P** 10 20 37.6 +0.3
18nm,0.6s
RAMN Ramite 86.86 298 *e*P **P** 10 20 37.6 +0.3
18nm,0.6s
TUQ Turquoise Moun 87.18 53 P **P** 10 20 39.2 +0.6
baz=87
GMRC Granite Mounta 87.19 54 P **P** 10 20 39.8 +1.2
baz=87
GLA Glamis 87.36 55 P **P** 10 20 41.3 +1.9
baz=87
TPNV Topopah Spring 87.38 51 P **P** 10 20 40.9 +1.3
baz=87
JIRN Jiri 87.40 299 *e*P **P** 10 20 40.3 +0.2
41nm,0.9s
JIRN Jiri 87.40 299 *e*P **P** 10 20 40.3 +0.2
41nm,0.9s
IRM Iron Mountain 87.42 54 P **P** 10 20 40.6 +1.0
baz=88
GUN Gumba 87.73 299 *e*P **P** 10 20 41.8 +0.2
40nm,0.8s
GUN Gumba 87.73 299 *e*P **P** 10 20 41.8 +0.2
40nm,0.8s
Y12C Blythe 87.80 55 P **P** 10 20 43.7 +2.3
baz=88
PKI Pulchoki 88.04 299 *e*P **P** 10 20 43.1 0.0
46nm,0.7s
PKI Pulchoki 88.04 299 *e*P **P** 10 20 43.1 0.0
37nm,0.8s
PKIN Phulchoki 88.05 299 *e*P **P** 10 20 43.1 0.0
37nm,0.8s
KKN Kakani 88.21 299 *e*P **P** 10 20 44.0 +0.2
49nm,0.7s
KKN Kakani 88.21 299 *e*P **P** 10 20 44.0 +0.2
49nm,0.7s
PDMCI Parker Dam,Lak 88.26 54 P **P** 10 20 44.8 +1.3
baz=88
R11A Troy Canyon, C 88.30 50 P **P** 10 20 45.9 +1.9
baz=88
DMN Daman 88.31 299 *e*P **P** 10 20 44.6 +0.3
100nm,0.7s
DMN Daman 88.31 299 *e*P **P** 10 20 44.6 +0.3
100nm,0.7s
W13A Hualapai Mount 88.68 54 P **P** 10 20 47.9 +2.0
baz=89
GKN Gorkha 88.81 299 *e*P **P** 10 20 46.2 -0.3
68nm,0.8s
GKN Gorkha 88.81 299 *e*P **P** 10 20 46.2 -0.3
68nm,0.8s
ELK Elko 89.26 48 P **P** 10 20 47.0 -1.4
ELK Elko 89.26 48 P **P** 10 20 47.0 -1.4
2.1nm,0.8s,baz=183,slow=11,SNR=14
KOLN Koldanda 89.64 298 *e*P **P** 10 20 49.9 -0.6
31nm,0.8s
KOLN Koldanda 89.64 298 *e*P **P** 10 20 49.9 -0.6
31nm,0.8s
DANN Dangsing 89.65 299 *e*P **P** 10 20 50.0 -0.6
48nm,0.7s
DANN Dangsing 89.65 299 *e*P **P** 10 20 50.0 -0.6
48nm,0.7s
ARUT Antelope Range 89.77 51 *e*P **P** 10 20 52.0 +1.2
35nm,0.8s
PYUN Piuthan 90.25 299 *e*P **P** 10 20 52.6 -0.7
47nm,0.9s
PYUN Piuthan 90.25 299 *e*P **P** 10 20 52.6 -0.7
47nm,0.9s
U15A North Rim 90.29 53 P **P** 10 20 54.8 +1.4
baz=90
X16A Lo Mia Camp, P 90.44 55 P **P** 10 20 55.5 +1.4
baz=90
HLID Hailey 90.66 46 P **P** 10 20 55.6 +0.7
baz=91
WMQ Urumqi 90.67 315 P **P** 10 20 55.3 +0.5
WMQ pmax pmax
comp=Z,10.0nm,1.0s
SYO Syowa Base 90.68 197⇧ *e*P **P** 10 20 52.0 -2.2
SYO Syowa Base 90.68 197⇧ *e*PcP **P** 10 20 54.1 -0.1
WUAZ Wupatki 90.77 54 P **P** 10 20 56.6 +1.0
baz=91
DUG Dugway 90.89 49 P **P** 10 20 57.2 +1.2
baz=91
319A Douglas 91.46 58 P **P** 10 21 00.3 +1.5
baz=92
320A Kipp Ranch, An 92.08 59 P **P** 10 21 03.6 +1.9
baz=92
Z22A Elephant Butte 93.79 57 P **P** 10 21 10.7 +1.2
baz=94
PDAR Pinedale Array 93.89 47 P **P** 10 21 10.7 +0.8
PDAR Pinedale Array 93.89 47 P **P** 10 21 10.7 +0.8
0.5nm,0.8s,baz=253,slow=1.5,SNR=3.7
MK31 Makanchi Array 95.11 317 *e*P **P** 10 21 15.4 +0.2
MKAR Makanchi Array 95.11 317 P **P** 10 21 15.0 -0.1
MKAR pP **pP** 10 21 27.1 -2.0
MKAR Makanchi Array 95.11 317 P **P** 10 21 15.0 -0.1
11nm,0.7s,baz=100,slow=6.2,SNR=50
MKAR pP **pP** 10 21 27.1 -2.0
6.7nm,0.6s,baz=101,slow=6.4,SNR=12
ZALV Zalesovo Beam 95.18 324 P **P** 10 21 14.6 -0.6
ZALV Zalesovo Beam 95.18 324 P **P** 10 21 14.6 -0.6
2.3nm,0.7s,baz=119,slow=3.4,SNR=12
TXAR Lajitas Array 95.77 61 P **P** 10 21 18.0 -0.6
TXAR Lajitas Array 95.77 61 P **P** 10 21 18.0 -0.6
4.7nm,0.3s,baz=233,slow=6.1,SNR=3.8
TXAR LR LR 10 57 10.6
comp=Z,16nm,28.6s,baz=0.0,slow=31
YKA Yellowknife Ar 95.84 27 P **P** 10 21 17.0 -1.0
YKA Yellowknife Ar 95.84 27 P **P** 10 21 17.0 -1.0
0.4nm,0.7s,baz=258,slow=4.9,SNR=9.0
KSH Kashi 98.28 309 P Pdif 10 21 34.0 +4.2
KSH sP sP 10 22 02.0 +13
KSH PP PP 10 25 38.3 +8.2
KSH SKS **SKSac** 10 32 04.0 -0.1
KSH S **S** 10 32 51.0 -3.3
KSH sS sS 10 33 29.3 +11
KSH SS **SS** 10 39 43.0 +4.1
KSH pmax pmax
comp=Z,150nm,5.5s
KSH LR LR
comp=N,110nm,5.0s
KSH LR LR
comp=E,94nm,4.6s
KSH LR LR
comp=Z,120nm,6.6s
ARCES ARCESS Array B 117.90 346 PKP **PKPdf** 10 26 36.5 -1.3
ARCES ARCESS Array B 117.90 346 PKP **PKPdf** 10 26 36.5 -1.3
3.6nm,0.9s,baz=80,slow=2.2,SNR=14
NOA NORSAR Array B 128.27 345 PKP **PKPdf** 10 26 57.7 -0.2
NOA pPKP **pPKPdf** 10 27 12.3 -0.2
NOA NORSAR Array B 128.27 345 PKP **PKPdf** 10 26 57.7 -0.2
0.5nm,0.7s,baz=20,slow=5.2,SNR=2.9
NOA pPKP **pPKPdf** 10 27 12.3 -0.2
1.2nm,0.8s,baz=31,slow=1.9,SNR=3.6
AKASG Malin Array Be 128.49 327 PKP **PKPdf** 10 26 58.3 -0.3
AKASG pPKP **pPKPdf** 10 27 12.0 -1.1
AKASG Malin Array Be 128.49 327 PKP **PKPdf** 10 26 58.3 -0.3
0.1nm,0.3s,baz=66,slow=2.3,SNR=3.9
AKASG pPKP **pPKPdf** 10 27 12.0 -1.1
0.1nm,0.3s,baz=68,slow=1.7,SNR=4.0
GERES GERESS Array B 137.33 334 PKP **PKPdf** 10 27 14.6 -0.8
GERES GERESS Array B 137.33 334 PKP **PKPdf** 10 27 14.6 -0.8
0.5nm,0.8s,baz=36,slow=4.1,SNR=3.2
KEST Kesra 149.04 322 PKPbc **PKPbc** 10 27 40.3 -0.2
KEST pPKPbc **pPKPbc** 10 27 52.7 -2.2
KEST Kesra 149.04 322 PKPbc **PKPbc** 10 27 40.3 -0.2
4.0nm,0.7s,baz=292,slow=3.2,SNR=9.8
KEST pPKPbc **pPKPbc** 10 27 52.7 -2.2
3.4nm,0.7s,baz=297,slow=2.3,SNR=4.1
ESDC Sonseca Array 151.63 345 PKPbc **PKPbc** 10 27 45.9 -0.6
ESDC PKPab **PKPab** 10 27 55.5 +0.4
ESDC Sonseca Array 151.63 345 PKPbc **PKPbc** 10 27 45.9 -0.6
1.8nm,0.7s,baz=26,slow=1.9,SNR=6.5
ESDC PKPab **PKPab** 10 27 55.5 +0.4
1.0nm,0.6s,baz=9.4,slow=4.0,SNR=4.7
TORD Torodi Ar. Bea 165.26 274 PKPab **PKPab** 10 28 54.6 -0.2
TORD pPKPab **pPKPab** 10 29 07.0 -1.9
TORD Torodi Ar. Bea 165.26 274 PKPab **PKPab** 10 28 54.7 -0.2
6.4nm,0.9s,baz=76,slow=4.5,SNR=39
TORD pPKPab **pPKPab** 10 29 07.0 -1.9
5.9nm,1.0s,baz=77,slow=3.5,SNR=8.0

*ISCJB **29** 10:15:43.7±0.6, 59.°31N±0.°03×27.°25E±0.°07, h0km, Error ellipse: s-maj=5.6km s-min=3.5km az=18.4*
*HEL **29** 10:15:45.4±0.6, 59.°27N×27.°17E, h0km, ML1.9, Explosion*
*CSEM **29** 10:15:45.7±0.5, 59.°33N×27.°14E, h2km, ML2.5, Error ellipse: s-maj=10.6km s-min=6.2km az=103.0, Mining explosion.*
*IDC **29** 10:15:47.3±1.1, 59.°43N×27.°06E, h0km, mb1 3.3/4, mb1mx3.1/28, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=15.6km s-min=8.1km az=80.0*

ISC 29 10:15:44.7±0.9, 59.°32N±0.°03×27.°22E±0.°05, h0km, n30, σ1§17/53, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.90**	**197**	*e*P		**Pg**		**10 16 01.4**	**-0.4**
VSU				*e*S		**Sg**		**10 16 12.8**	**-0.6**
VSU	**Vasula**	**0.90**	**197**	*e*P		**Pg**		**10 16 01.9**	**0.0**
	SNR=90								
VSU				*e*S		**Sg**		**10 16 12.6**	**-0.8**
	692nm,0.8s,SNR=90								
VJF	**Virojoki**	**1.23**	**8**	*e*P		**Pg**		**10 16 08.0**	**-0.4**
VJF				*e*SB		**Sg**		**10 16 24.9**	**+0.5**
VJF				MSG				10 16 25.3	
	comp=Z,8.6nm,0.2s								
VJF	**Virojoki**	**1.23**	**8**	Pg		**Pg**		**10 16 07.9**	**-0.4**
VJF				Sg		**Sg**		**10 16 24.6**	**+0.2**
PVF	**Pernaja**	**1.41**	**331**	*e*P		**Pg**		**10 16 10.7**	**-0.9**
PVF				*e*S		**Sg**		**10 16 29.0**	**-0.9**
PVF				MSG				10 16 29.2	
	comp=Z,11nm,0.3s								
PVF	**Pernaja**	**1.41**	**331**	Pg		**Pg**		**10 16 10.8**	**-0.9**
PVF				Sg		**Sg**		**10 16 29.0**	**-0.9**
SRPE	**Suurupi**	**1.46**	**277**	*e*P		**Pn**		**10 16 11.4**	**-1.0**
SRPE				*e*SN		**Sn**		**10 16 32.4**	**+0.3**
SRPE	**Suurupi**	**1.46**	**277**	*e*P		**Pn**		**10 16 11.6**	**-0.7**
	SNR=50								
MEF	**Metsahovi**	**1.69**	**303**	*e*PG		**Pn**		**10 16 15.6**	**+0.2**
MEF				*e*SG		**Sn**		**10 16 37.2**	**-0.6**
MEF				MSG				10 16 37.4	
	comp=Z,7.9nm,0.3s								
MEF	**Metsahovi**	**1.69**	**303**	Pg		**Pn**		**10 16 15.7**	**+0.2**
MEF	**Metsahovi**	**1.69**	**303**	*e*P		**Pn**		**10 16 16.0**	**+0.5**
	SNR=50								
MEF				*e*S		**Sn**		**10 16 37.5**	**-0.3**
	comp=Z,22nm,0.4s,SNR=50								
MEF				Sg		**Sg**		**10 16 39.2**	**+0.2**
MTSE	**Matsula**	**1.86**	**252**	*e*P		**Pn**		**10 16 18.1**	**+0.2**
MTSE				*e*SN		**Sn**		**10 16 42.3**	**+0.3**
MTSE	**Matsula**	**1.86**	**252**	Pn		**Pn**		**10 16 17.7**	**-0.1**
MTSE	**Matsula**	**1.86**	**252**	*e*P		**Pn**		**10 16 18.7**	**+0.9**
	SNR=50								
MTSE				*e*S		**Sn**		**10 16 42.1**	**0.0**
	SNR=50								
FIA0	**FINESS Array S**	**2.21**	**346**	*e*P		**Pn**		**10 16 23.3**	**+0.7**
FIA0				*e*PB		**Pb**		**10 16 24.6**	**-0.8**
FIA0				*e*SB		**Sb**		**10 16 52.9**	**-0.4**
FIA0				*e*SG		**Sg**		**10 16 54.4**	**-1.2**
FIA0				MSG				10 16 54.5	
	comp=Z,3.4nm,0.2s								
FIA0	**FINESS Array S**	**2.21**	**346**	Pn		**Pn**		**10 16 23.3**	**+0.7**
FIA0				Sg		**Sb**		**10 16 53.1**	**-0.2**
FINES	**FINESS Array B**	**2.21**	**346**	Pn		**Pn**		**10 16 23.0**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=164,slow=15,SNR=47								
FINES				Lg		Lg		10 16 53.0	
	comp=Z,3.5nm,0.3s,baz=167,slow=26,SNR=23								
KAF	**Kangasniemi**	**2.84**	**351**	*e*P		**Pn**		**10 16 32.3**	**+1.1**
KAF				*e*PB		**Pb**		**10 16 35.4**	**-0.9**
KAF				MSG		**Sb**		**10 17 13.6**	**+2.1**
	comp=Z,3.3nm,0.2s								
KAF				*e*SG		**Sb**		**10 17 13.6**	**+2.1**
KAF	**Kangasniemi**	**2.84**	**351**	Pn		**Pn**		**10 16 32.7**	**+1.4**
KAF				Sg		**Sb**		**10 17 13.6**	**+2.1**
KEF	**Keuruu**	**3.08**	**339**	Sg		**Sb**		**10 17 20.1**	**+1.6**
RAF	**Rauma**	**3.22**	**304**	*e*P		**Pn**		**10 16 38.3**	**+1.8**
RAF	**Rauma**	**3.22**	**304**	*e*P		**Pn**		**10 16 38.1**	**+1.6**
	SNR=50								
RAF	**Rauma**	**3.22**	**304**	Pn		**Pn**		**10 16 38.4**	**+1.9**
RAF				*e*S		**Sn**		**10 17 16.6**	**+1.1**
	comp=Z,7.5nm,0.4s,SNR=50								
SUF	**Sumiainen**	**3.45**	**352**	*e*P		**Pn**		**10 16 41.3**	**+1.6**
SUF	**Sumiainen**	**3.45**	**352**	Pn		**Pn**		**10 16 41.8**	**+2.1**
JOF	**Joensuu**	**4.12**	**27**	*e*P		**Pn**		**10 16 49.8**	**+1.0**
JOF				*e*S		**Sn**		**10 17 37.9**	**+0.2**
JOF	**Joensuu**	**4.12**	**27**	Pn		**Pn**		**10 16 50.3**	**+1.5**
JOF				Sg		**Sg**		**10 17 54.2**	**-2.7**
NOA	**NORSAR Array B**	**8.16**	**289**	Pn		**Pn**		**10 17 42.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=92,slow=12,SNR=4.2								
NOA				Sn		Sn		10 19 09.7	-7.5
	comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=3.1								
NOA				Lg		Lg		10 19 59.1	
	comp=Z,0.4nm,0.3s,baz=78,slow=16,SNR=5.1								
AKASG	**Malin Array Be**	**8.71**	**172**	Pn		**Pn**		**10 17 51.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=353,slow=13,SNR=3.6								
ARCES	**ARCESS Array B**	**10.29**	**357**	Pn		**Pn**		**10 18 11.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=6.7								

*ISCJB **29** 10:26:08.0±0.3, 6.°77S±0.°05×125.°26E±0.°07, h511km, mb3.8/10, Error ellipse: s-maj=11.1km s-min=4.6km az=149.4*
*IDC **29** 10:26:10.1±1.6, 6.°95S×125.°21E, h535km±21km, mb3.4/10, mb1 3.5/13, mb1mx3.4/25, mbtmp3.4/13, Error ellipse: s-maj=25.6km s-min=8.8km az=66.0*
*AUST **29** 10:26:10.4±0.0, 6.°89S×125.°30E, h528km, Error ellipse: s-maj=1.6km s-min=1.1km az=227.0*
*DJA **29** 10:26:57.5±1.3, 4.°5S×12.°3E±, h271km±21km, M4.2/7, mb5.1/1, mB5.1/1, MLv3.7/7, Mw(mB)4.5/1*

ISC 29 10:26:09.1±0.5, 6.°79S±0.°05×125.°26E±0.°04, h511km, n57, σ1§59/50, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.10**	**198**	P		**P**		**10 28 21.4**	**+0.5**
SOEI	**Soe**	**3.10**	**198**	P		**P**		**10 27 24.5**	**+2.7**
	baz=3.0,SNR=49								
MMRI	**Maumere**	**3.51**	**238**	P		S		10 28 33.8	+7.9
NLAI	**Namlea**	**3.98**	**28**	P		**S**		**10 28 36.2**	**+3.8**
KKSI	**Kolaka, Sulawe**	**4.44**	**306**	P		P		10 27 36.7	+4.8
BKSI	**Bulukumba**	**5.32**	**286**	P		P		10 27 43.9	+4.4
LBFI	**Labuhan Bajo,**	**5.58**	**252**	P		**S**		**10 29 00.6**	**+2.8**
BNSI	**Bone**	**5.65**	**295**	P		P		10 27 47.0	+4.3
WSI	**Waingapu**	**5.68**	**239**	P		**S**		**10 28 57.5**	**-2.1**
SPSI	**Sidrap Palu**	**6.15**	**297**	P		P		10 27 51.5	+4.2
LUWI	**Luwuk**	**6.23**	**336**	P		P		10 27 52.5	+4.4
LUWI	**Luwuk**	**6.23**	**336**	P		P		10 27 52.5	+4.4
	baz=6.4,SNR=5.4								
TTSI	**Tana Toraja**	**6.58**	**304**	P		P		10 27 55.9	+4.4
APSI	**Ampana**	**6.86**	**328**	P		P		10 27 58.7	+4.3
MMSI	**Mamuju**	**7.53**	**302**	P		P		10 28 05.4	+4.4
FAKI	**Fak Fak**	**7.96**	**61**	P		**S**		**10 29 41.9**	**+1.2**
FAKI	**Fak Fak**	**7.96**	**61**	P		**P**		**10 28 06.3**	**+0.9**
	baz=8.0,SNR=16								
MTN	**Manton Dam**	**8.34**	**137**	P		**P**		**10 28 10.1**	**+0.8**
	baz=8.3,SNR=16								
KDU	**Kakadu**	**9.21**	**130**	P		**P**		**10 28 18.6**	**+0.3**
	baz=9.1,SNR=6.6								
KNRA	**Kununurra**	**9.47**	**159**	P		**P**		**10 28 22.0**	**+1.0**
	baz=9.4,SNR=17								
FITZ	**Fitzroy Crossi**	**11.25**	**178**	P		**P**		**10 28 38.4**	**-1.3**
	2.2nm,0.3s,baz=19,slow=9.1,SNR=58								
FITZ				S		**S**		**10 30 40.5**	**-3.2**
	0.5nm,0.3s,baz=6.3,slow=22,SNR=3.7								
FITZ	**Fitzroy Crossi**	**11.25**	**178**	P		**P**		**10 28 40.1**	**+0.4**
	baz=11,SNR=31								
WRA	**Warramunga Arr**	**15.77**	**147**	P		**P**		**10 29 25.6**	**-1.5**
	3.2nm,0.3s,baz=326,slow=10,SNR=117								
WRA				S		**S**		**10 32 06.3**	**-4.0**
	baz=321,slow=17,SNR=7.0								
WRKA	**Warakurna**	**18.37**	**171**	P		**P**		**10 29 52.5**	**+0.1**
	baz=18,SNR=58								
ASAR	**Alice Springs**	**18.72**	**155**	P		**P**		**10 29 55.2**	**-0.4**
	4.8nm,0.3s,baz=336,slow=9.2,SNR=279								
ASAR				S		**S**		**10 32 55.9**	**-4.2**
	0.1nm,0.3s,baz=338,slow=20,SNR=14								
ASAR				ScP		**ScP**		**10 36 40.2**	**-4.4**
	0.1nm,0.3s,baz=348,slow=2.2,SNR=7.2								
COEN	**Coen**	**19.00**	**113**	P		**P**		**10 29 57.3**	**-0.8**
	baz=19,SNR=68								
QIS	**Mount Isa**	**19.51**	**136**	P		**P**		**10 30 02.1**	**-0.6**
	baz=20,SNR=37								
MEEK	**Meekatharra**	**20.73**	**197**	P		**P**		**10 30 15.5**	**+1.7**
	baz=21,SNR=4.7								
PMBI	**Palembang**	**20.77**	**280**	P		**P**		**10 30 12.4**	**-1.9**
	baz=21,SNR=5.8								
MANU	**Manus Island**	**22.53**	**79**	P		P		10 30 39.6	+9.4
	baz=22,SNR=18								
CTA	**Charters Tower**	**24.28**	**125**	P		**P**		**10 30 45.5**	**-0.3**
	4.8nm,0.8s,baz=298,slow=11,SNR=5.1								
QLP	**Quilpie**	**26.71**	**140**	P		**P**		**10 31 07.1**	**0.0**
	baz=27,SNR=4.4								
STKA	**Stephens Creek**	**29.25**	**151**	P		**P**		**10 31 28.9**	**-0.4**
	5.2nm,0.5s,baz=310,slow=8.0,SNR=9.0								
STKA	**Stephens Creek**	**29.25**	**151**	P		**P**		**10 31 29.2**	**-0.1**
	baz=29,SNR=6.7								
HTT	**Hallett**	**29.38**	**156**	P		**P**		**10 31 30.6**	**+0.2**
	baz=29,SNR=8.0								
CMSA	**Cobar Meteorol**	**31.16**	**145**	P		**P**		**10 31 45.9**	**+0.2**
	baz=31,SNR=13								
ARPS	**Mount Arapiles**	**33.46**	**155**	P		**P**		**10 32 05.5**	**+0.2**
	baz=34,SNR=11								
ARMA	**Armidale**	**34.13**	**137**	P		**P**		**10 32 12.2**	**+1.0**
	baz=34,SNR=9.0								
TOO	**Toolangi**	**35.73**	**152**	P		**P**		**10 32 25.5**	**+1.1**
	baz=36,SNR=5.6								
CMAR	**Chiang Mai Arr**	**36.10**	**314**	P		**P**		**10 32 26.8**	**-0.9**
	0.8nm,0.3s,baz=138,slow=8.3,SNR=5.4								
MJAR	**Matsushiro Arr**	**44.78**	**15**	P		**P**		**10 33 36.1**	**-0.7**
	1.9nm,0.7s,baz=190,slow=8.8,SNR=7.6								
TAPN	**Taplejung**	**49.71**	**315**	*e*P		**P**		**10 34 15.1**	**+0.6**
	13nm,0.4s								
RAMN	**Ramite**	**50.27**	**314**	*e*P		**P**		**10 34 19.4**	**+0.9**
	24nm,0.6s								
JIRN	**Jiri**	**50.98**	**314**	*e*P		**P**		**10 34 24.4**	**+0.5**
	9.1nm,0.5s								
USRK	**Ussuriysk Arra**	**51.12**	**6**	P		**P**		**10 34 24.1**	**0.0**
	1.9nm,0.6s,baz=191,slow=6.8,SNR=11								
GUN	**Gumba**	**51.35**	**314**	*e*P		**P**		**10 34 27.0**	**+0.5**
	20nm,0.7s								
PKI	**Pulchoki**	**51.49**	**313**	*e*P		**P**		**10 34 27.4**	**-0.1**
	7.6nm,0.5s								
PKIN	**Phulchoki**	**51.50**	**313**	*e*P		**P**		**10 34 27.6**	**+0.1**
	10.0nm,0.5s								
GKN	**Gorkha**	**52.30**	**313**	*e*P		**P**		**10 34 33.5**	**+0.4**
	12nm,0.5s								
KOLN	**Koldanda**	**52.92**	**312**	*e*P		**P**		**10 34 38.2**	**+0.5**
	16nm,0.7s								
DANN	**Dangsing**	**53.13**	**313**	*e*P		**P**		**10 34 39.6**	**+0.3**
	9.5nm,0.7s								
PYUN	**Piuthan**	**53.55**	**312**	*e*P		**P**		**10 34 42.5**	**+0.3**
	20nm,0.8s								
SONM	**Songino Array**	**56.89**	**345**	P		**P**		**10 35 04.7**	**-0.2**
	1.2nm,0.6s,baz=156,slow=8.7,SNR=10								
MKAR	**Makanchi Array**	**65.55**	**329**	P		**P**		**10 36 01.6**	**-0.3**
	1.4nm,0.5s,baz=125,slow=7.0,SNR=14								
AAK	**Ala-Archa**	**67.40**	**322**	P		**P**		**10 36 14.0**	**+0.4**
	0.8nm,0.4s,baz=124,slow=14,SNR=3.5								
ZALV	**Zalesovo Beam**	**69.39**	**336**	P		**P**		**10 36 24.6**	**-0.6**
	3.1nm,0.5s,baz=134,slow=4.6,SNR=13								
SEY	**Seymchan**	**72.55**	**13**	P		**P**		**10 36 43.8**	**+0.2**
	3.1nm,0.6s,baz=214,slow=11,SNR=18								

MEX 29 10:30:28.6±0.6, 15.°36N×92.°82W, h164km±6km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.51**	**312**	*e*P		Pn		10 30 50.0	-1.5
PCIG				*i* S		Sn		10 31 07.2	-2.0
THIG		**0.70**	**130**	*e*P		Pn		10 30 51.0	-1.6
THIG				*i* S		Sn		10 31 09.1	-1.9
HUIG	**Huatulco**	**3.19**	**278**	*i* P		Pn		10 31 18.4	-0.6
HUIG				*e*S		Sn		10 31 55.5	-2.6
VHO	**Vista Hermosa**	**4.12**	**295**	*i* P		Pn		10 31 30.6	-0.5
VHO				*i* S		Sn		10 32 18.3	-1.5
PNIG	**Pinotepa**	**5.21**	**282**	*e*P		Pn		10 31 45.0	-0.1
PNIG				*i* S		Sn		10 32 43.1	-1.7

*IDC **29** 10:43:55.7±2.8, 10.°71S×113.°09E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/22, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=139.8km s-min=24.0km az=45.0*
*ISCJB **29** 10:43:59.2±0.8, 10.°46S±0.°06×113.°44E±0.°05, h23km, mb3.2/3, Error ellipse: s-maj=8.4km s-min=7.7km az=9.3*
*DJA **29** 10:44:05.2±0.8, 10.°5S±11.°3E±, h54km±42km, M4.0/11, mb4.2/1, MLv3.8/11*

ISC 29 10:43:60.0±1.1, 10.°45S±0.°09×113.°39E±0.°07, h23km, n18, σ1§32/18, mb3.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.16**	**1**	P		**Pn**		**10 44 34.3**	**-0.3**
IGBI	**Denpasar**	**2.37**	**47**	P		**Pn**		**10 44 38.0**	**+0.6**
IGBI				S		**Sn**		**10 45 03.1**	**-2.7**
NBBI	**Negara**	**2.39**	**31**	P		**Pn**		**10 44 39.8**	**+2.0**
NBBI				S		**Sn**		**10 45 06.7**	**+0.3**
KRKI	**Karangkates**	**2.45**	**338**	P		**Pn**		**10 44 39.8**	**+1.2**
BLJI	**Banyuglugur**	**2.69**	**4**	P		**Pn**		**10 44 43.0**	**+1.1**
PWJI	**Pagerwojo**	**2.87**	**327**	P		**Pn**		**10 44 44.1**	**-0.3**
SRBI	**Singaraja**	**2.96**	**38**	P		**Pn**		**10 44 46.4**	**+0.9**
SRBI				S		**Sn**		**10 45 18.8**	**-1.5**
KHKI	**Kahang-Kahang**	**3.01**	**47**	P		**Pn**		**10 44 47.5**	**+1.2**
PCJI	**Pacitan**	**3.13**	**315**	P		**Pn**		**10 44 48.6**	**+0.7**
UGM	**Wanagama**	**3.79**	**311**	P		**Pn**		**10 44 58.2**	**+1.2**
LBFI	**Labuhan Bajo,**	**6.70**	**74**	P		**Pn**		**10 45 39.0**	**+1.9**
FITZ	**Fitzroy Crossi**	**14.10**	**124**	Pn		**Pn**		**10 47 17.4**	**-1.0**
	0.1nm,0.3s,baz=302,slow=11,SNR=9.1								
FITZ				Sn		Sn		10 49 39.6	-15
	0.1nm,0

az=174.0
*AUST **29** 10:59:55.8, 13.99S× 167.96E, h450km*
ISC 29 10:59:42.1±0.6, 14.89S±0.06× 167.13E±0.08, h170km, n67, σ1s86/74, mb4.2/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.17**	**185**	*e*Pn	**Pn**	**11 01 22.9**	**-1.6**
DZM				S	**Sn**	**11 02 42.6**	**-2.6**
DZM	**Mont Dzumac**	**7.17**	**185**	P	Pn	11 01 21.7	-2.8
DZM	5.2nm,0.3s,baz=38,slow=17,SNR=102			S	**Sn**	**11 02 42.6**	**-2.6**
HNR	**Honiara**	**8.88**	**307**	*e*Pn	Pn	11 01 42.9	-4.2
HNR				*e*Sn	**Sn**	**11 03 23.8**	**-2.2**
HNR				S	**Sn**	**11 03 25.2**	**-0.8**
HNR	**Honiara**	**8.88**	**307**	P	Pn	11 01 43.3	-3.7
HNR	5.3nm,0.3s,baz=135,slow=5.7,SNR=2.3			S	**Sn**	**11 03 25.2**	**-0.8**
EIDS	**Eidsvold**	**18.30**	**233**	*e*Pn	**Pn**	**11 03 46.5**	**+1.2**
EIDS	38nm,0.3s,baz=198,slow=20,SNR=10 8.9nm,0.7s			*e*S	**S**	**11 07 01.3**	**-2.4**
CTA	**Charters Tower**	**20.56**	**252**	P	**P**	**11 04 09.0**	**+1.3**
CTA	**Charters Tower**	**20.56**	**252**	P	**P**	**11 04 09.0**	**+1.3**
CTAO	8.7nm,0.7s,baz=85,slow=12,SNR=13 **Charters Tower**	**20.56**	**252**	*e*P	**P**	**11 04 09.7**	**+1.9**
RMQ	9.1nm,0.7s **Roma**	**20.67**	**233**	P	Pn	11 04 13.0	-0.5
OUZ	baz=22,SNR=10 **Omahuta**	**21.06**	**165**	*e*P	**P**	**11 04 13.4**	**+0.6**
COEN	28nm,0.9s **Coen**	**23.22**	**269**	P	**P**	**11 04 35.8**	**+1.6**
MGCD	baz=24,SNR=3.8 **Mangrove Creek**	**23.32**	**216**	P	**P**	**11 04 37.4**	**+2.5**
QLP	baz=25,SNR=10 **Quilpie**	**24.32**	**238**	P	**P**	**11 04 46.0**	**+1.9**
URZ	baz=26,SNR=5.8 **Urewera**	**24.89**	**161**	P	**P**	**11 04 48.3**	**-0.8**
URZ	**Urewera**	**24.89**	**161**	P	**P**	**11 04 48.3**	**-0.8**
CMSA	3.9nm,0.4s,baz=345,slow=3.1,SNR=10 **Cobar Meteorol**	**25.66**	**226**	P	**P**	**11 04 57.7**	**+1.5**
CNB	baz=27,SNR=6.9 **Canberra Magne**	**25.85**	**215**	P	**P**	**11 04 59.7**	**+1.8**
STKA	baz=27,SNR=12 **Stephens Creek**	**28.78**	**230**	*e*P	**P**	**11 05 25.8**	**+1.7**
STKA				PcP	**PcP**	**11 08 30.2**	**+0.4**
STKA	**Stephens Creek**	**28.78**	**230**	P	**P**	**11 05 25.5**	**+1.4**
STKA	7.5nm,0.5s,baz=48,slow=8.5,SNR=34			PcP	**PcP**	**11 08 30.2**	**+0.4**
STKA	4.2nm,0.8s,baz=88,slow=4.8,SNR=7.1 **Stephens Creek**	**28.78**	**230**	P	**P**	**11 05 26.1**	**+2.0**
RPZ	baz=30,SNR=20 **Rata Peaks**	**28.92**	**174**	P	**P**	**11 05 24.9**	**-0.2**
RPZ	**Rata Peaks**	**28.92**	**174**	P	**P**	**11 05 24.9**	**-0.2**
TOO	17nm,0.7s,baz=355,slow=4.6,SNR=7.9 **Toolangi**	**29.64**	**216**	P	**P**	**11 05 32.9**	**+1.3**
HTT	baz=31,SNR=4.6 **Hallett**	**31.51**	**229**	P	**P**	**11 05 49.7**	**+1.6**
WRAB	baz=33,SNR=4.6 **Tennant Creek**	**31.64**	**256**	*e*P	**P**	**11 05 49.7**	**+0.3**
WRA	0.7nm,0.5s **Warramunga Arr**	**31.66**	**256**	P	**P**	**11 05 49.2**	**-0.4**
WRA				pP	**pP**	**11 06 20.1**	**-5.0**
WRA				PcP	**PcP**	**11 08 37.8**	**+0.2**
WRA				ScP	**ScP**	**11 12 09.9**	**+4.9**
WRA	**Warramunga Arr**	**31.66**	**256**	P	**P**	**11 05 49.2**	**-0.4**
WRA	1.0nm,0.6s,baz=86,slow=9.1,SNR=12			pP	**pP**	**11 06 20.1**	**-5.0**
WRA	0.8nm,0.8s,baz=77,slow=6.3,SNR=3.7			PcP	**PcP**	**11 08 37.8**	**+0.2**
WRA	1.2nm,0.9s,baz=77,slow=2.7,SNR=6.4			ScP	**ScP**	**11 12 09.9**	**+4.9**
ASAR	0.6nm,0.9s,baz=84,slow=3.6,SNR=4.8 **Alice Springs**	**32.49**	**249**	P	**P**	**11 05 57.0**	**+0.1**
ASAR				PcP	**PcP**	**11 08 39.8**	**-0.1**
ASAR				ScP	**ScP**	**11 12 12.4**	**+4.7**
ASAR	**Alice Springs**	**32.49**	**249**	P	**P**	**11 05 57.0**	**+0.1**
ASAR	2.5nm,0.7s,baz=78,slow=9.2,SNR=27			PcP	**PcP**	**11 08 39.8**	**-0.1**
ASAR	1.4nm,0.9s,baz=96,slow=2.9,SNR=8.1			ScP	**ScP**	**11 12 12.4**	**+4.7**
BBOO	0.6nm,0.7s,baz=89,slow=3.5,SNR=7.5 **Buckleboo**	**33.37**	**232**	*e*P	**P**	**11 06 06.0**	**+1.7**
BBOO	321nm,1.0s **Buckleboo**	**33.37**	**232**	P	**P**	**11 06 06.0**	**+1.7**
WRKA	baz=35,SNR=14 **Warakurna**	**37.75**	**248**	P	**P**	**11 06 42.3**	**+0.4**
FITZ	baz=39,SNR=20 **Fitzroy Crossi**	**39.85**	**260**	*e*P	**P**	**11 07 00.7**	**+1.3**
FITZ	**Fitzroy Crossi**	**39.85**	**260**	P	**P**	**11 07 00.6**	**+1.3**
MEEK	baz=41,SNR=3.4 **Meekatharra**	**46.60**	**247**	P	**P**	**11 07 54.1**	**+0.8**
JCJ	baz=48,SNR=10 **Chichijima**	**48.26**	**330**	LR	LR	11 25 42.3	
MJAR	comp=Z,16nm,28.6s,baz=102,slow=32 **Matsushiro Arr**	**57.99**	**333**	P	**P**	**11 09 16.0**	**-1.0**
MJAR				pP	pP	11 09 46.7	-10
MJAR	**Matsushiro Arr**	**57.99**	**333**	P	**P**	**11 09 16.0**	**-1.0**
MJAR	1.3nm,0.9s,baz=163,slow=8.1,SNR=3.1			pP	pP	11 09 46.7	-10
VNDA	1.6nm,0.9s,baz=186,slow=3.5,SNR=4.3 **Vanda**	**62.69**	**181**	P	**P**	**11 09 48.6**	**+0.3**
VNDA	**Vanda**	**62.69**	**181**	P	**P**	**11 09 48.6**	**+0.3**
PETK	5.5nm,0.7s,baz=360,slow=6.8,SNR=32 **Petropavlovsk-**	**68.21**	**354**	P	**P**	**11 10 23.3**	**-0.7**
PETK	**Petropavlovsk-**	**68.21**	**354**	P	**P**	**11 10 23.3**	**-0.7**
PSI	3.3nm,0.9s,baz=148,slow=8.5,SNR=5.4 **Prapat**	**69.75**	**279**	P	**P**	**11 10 34.9**	**+0.4**
PSI	**Prapat**	**69.75**	**279**	P	**P**	**11 10 34.9**	**+0.4**
CMAR	5.9nm,0.5s,baz=72,slow=9.6,SNR=3.2 **Chiang Mai Arr**	**74.89**	**294**	P	**P**	**11 11 05.8**	**+1.2**
CMAR				pP	pP	11 11 39.5	-6.4
CMAR	**Chiang Mai Arr**	**74.89**	**294**	P	**P**	**11 11 05.8**	**+1.2**
CMAR	0.8nm,0.7s,baz=137,slow=5.3,SNR=5.3			pP	pP	11 11 39.5	-6.4
QSPA	1.1nm,0.7s,baz=132,slow=4.1,SNR=2.5 **South Pole Qui**	**75.13**	**180**	*e*P	**P**	**11 11 05.2**	**-0.1**
SONM	10nm,0.8s **Songino Array**	**82.55**	**324**	P	**P**	**11 11 46.7**	**+0.7**
SONM	**Songino Array**	**82.55**	**324**	P	**P**	**11 11 46.7**	**+0.7**
ILAR	0.8nm,0.8s,baz=137,slow=4.9,SNR=6.8 **Eielson Array**	**86.72**	**18**	P	**P**	**11 12 03.8**	**-2.6**
ILAR	**Eielson Array**	**86.72**	**18**	P	**P**	**11 12 03.8**	**-2.6**
NVAR	0.8nm,0.7s,baz=244,slow=4.9,SNR=13 **Mina Array Bea**	**87.48**	**49**	P	**P**	**11 12 09.8**	**-1.1**
NVAR	**Mina Array Bea**	**87.48**	**49**	P	**P**	**11 12 09.8**	**-1.1**
SNAA	0.6nm,1.0s,baz=275,slow=5.2,SNR=3.5 **Sanae**	**93.38**	**183**	*e*P	**P**	**11 12 36.9**	**-0.7**
H17A	4.3nm,0.9s **Grant Village**	**94.88**	**45**	*e*P	**P**	**11 12 45.4**	**+0.2**
MKAR	**Makanchi Array**	**97.23**	**316**	P	Pdif	11 12 55.5	0.0
MKAR	**Makanchi Array**	**97.23**	**316**	P	Pdif	11 12 55.5	0.0
ZALV	0.5nm,0.6s,baz=91,slow=6.0,SNR=2.0 **Zalesovo Beam**	**97.44**	**324**	P	Pdif	11 12 54.9	-1.3
ZALV	**Zalesovo Beam**	**97.44**	**324**	P	Pdif	11 12 54.9	-1.3
YKA	0.5nm,0.4s,baz=110,slow=3.8,SNR=3.2 **Yellowknife Ar**	**97.75**	**27**	P	Pdif	11 12 55.6	-1.8
YKA	**Yellowknife Ar**	**97.75**	**27**	P	Pdif	11 12 55.6	-1.8
ARCES	0.2nm,0.7s,baz=262,slow=4.2,SNR=3.7 **ARCESS Array B**	**120.38**	**345**	PKP	**PKPdf**	**11 18 12.2**	**-0.4**
ARCES	**ARCESS Array B**	**120.38**	**345**	PKP	**PKPdf**	**11 18 12.2**	**-0.4**
FINES	3.3nm,0.6s,baz=70,slow=2.3,SNR=12 **FINESS Array B**	**125.83**	**338**	PKP	**PKPdf**	**11 18 23.2**	**0.0**
FINES	**FINESS Array B**	**125.83**	**338**	PKP	**PKPdf**	**11 18 23.2**	**0.0**
DAVOX	1.2nm,0.7s,baz=5.7,slow=1.4,SNR=3.3 **Davos/Dischmat**	**142.97**	**334**	PKP	**PKPdf**	**11 18 55.3**	**-0.6**
DAVOX	**Davos/Dischmat**	**142.97**	**334**	PKP	**PKPdf**	**11 18 55.3**	**-0.6**
	1.9nm,0.5s,baz=239,slow=5.9,SNR=5.5						

*BJI **29** 11:08:49.5, 32.46N× 14.51E, h10km, mB5.0/17, mb4.8/34, Ms4.7/13, Ms7 4.4/13*
*SZGRF **29** 11:08:51.6, 32.19N× 15.82E, h10km, mb4.0, Near coast of Libya*
*ISCJB **29** 11:08:52.1±0.6, 32.64N±0.02× 15.15E±0.02, h2km±4km, mb4.7/76, MS3.8/32, Error ellipse: s-maj=3.3km s-min=2.9km az=147.0*
*CSEM **29** 11:08:53.7±0.1, 32.69N× 14.94E, h2km, mb4.9/25, Ms4.1, Mw4.8, Error ellipse: s-maj=3.5km s-min=3.3km az=20.0*
*NEIC **29** 11:08:54.7±0.3, 32.57N× 15.06E, h10km, mb4.7/49, Error ellipse: s-maj=4.6km s-min=4.0km az=192.0*
*MOS **29** 11:08:55.0±1.5, 32.61N× 15.05E, h22km, mb4.7/40, Error ellipse: s-maj=6.2km s-min=3.0km az=85.8*

*IDC **29** 11:08:56.0±5.8, 32.63N× 14.90E, h20km±37km, mb4.3/24, mb1 4.4/34, mb1mx4.3/41, mbtmp4.4/34, ML4.1/10, MS4.1/29, Ms1 4.1/29, ms1mx4.0/49, Error ellipse: s-maj=12.4km s-min=11.8km az=126.0*
*CRAAG **29** 11:08:55.1, 32.63N× 14.93E, Mb4.8*
*PDG **29** 11:08:56.5±0.9, 32.94N× 15.14E, h7km±13km, ML4.8/12, Error ellipse: s-maj=12.7km s-min=7.0km az=90.0*
*GCMT **29** 11:08:56.3±0.3, 32.56N× 15.04E, h12km, MW5.0, Moment Tensor Solution. s23,c25; s75,c108; Moment tensor: Scale 10^16 Nm; Mrr~3.23±.09; Mθθ2.57±.09; Mϕϕ0.66±.11; Mrθ0.94±.31; Mθϕ~1.25±.07; Mϕr~1.66±.45; Best double couple: M≈3.70000×10^16 NP1:ϕs312.00000°, δ60.00000°, λ-74.00000°. NP2:ϕs103.00000°, δ34.00000°, λ-115.00000°. Principal axes: T 3.5700, Plg14.0000°, Azm31.0000°; N 0.3000, Plg14.0000°, Azm124.0000°; P -3.8800, Plg71.0000°, Azm257.0000°; Data Used: II IU IC G CN CU.*
ISC 29 11:08:55.5±0.4, 32.61N±0.03× 15.00E±0.03, h15km±1km, h15km:pP-P, n720, σ1s43/750, mb4.8/76, MS4.0/32, 34C-37D, Near coast of Libya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMSR	**Misrath**	**0.29**	**178**	*i* P	**Pg**	**11 09 01.7**	**0.0**
LMSR	SNR=94 15nm,4.0s,SNR=94			*e*S	**Sg**	**11 09 06.4**	**+0.5**
GHAR	**Gharyan**	**1.69**	**254**	*i* P	**Pn**	**11 09 25.0**	**+0.5**
GHAR	SNR=44 22µm,0.6s,SNR=44			*e*S	**Sn**	**11 09 45.8**	**-0.1**
LSRT	**Sirt**	**2.08**	**137**	*i* P	**Pn**	**11 09 30.8**	**+1.0**
LSRT	SNR=44 9µm,0.7s,SNR=44			*e*S	**Sb**	**11 09 57.7**	**-0.8**
LSHF	**Shwairf**	**2.69**	**194**	*i* P	**Pn**	**11 09 38.2**	**0.0**
ALAS	SNR=44 **Alassa**	**2.86**	**276**	*i* P	**Pn**	**11 09 38.8**	**-1.8**
WDD	SNR=44 **Wield Dalam**	**3.28**	**353**	*e*Pn	**Pn**	**11 09 45.5**	**-0.8**
WDD				*e*Sn	**Sn**	**11 10 25.9**	**+0.9**
WDD	**Wield Dalam**	**3.28**	**353**	*e*Pn	**Pn**	**11 09 45.5**	**-0.8**
WDD				*e*Sn	**Sn**	**11 10 25.9**	**+0.9**
LJFR	**Jufra** SNR=43	**3.56**	**168**	*i* P	**Pn**	**11 09 50.3**	**0.0**
MARJ	**Al Marj** SNR=43	**4.96**	**89**	*i* P	**Pn**	**11 10 10.1**	**+0.6**
CLTB	**Caltabellotta**	**5.17**	**344**	*e*Pn	**Pn**	**11 10 11.9**	**-0.5**
CLTB				*e*Sn	**Sn**	**11 11 12.8**	**+0.9**
CLTB	**Caltabellotta**	**5.17**	**344**	*e*Pn	**Pn**	**11 10 11.9**	**-0.5**
CLTB				*e*Sn	**Sn**	**11 11 12.8**	**+0.9**
LGHD	**Ghdames** SNR=43	**5.41**	**243**	*i* P	**Pn**	**11 10 16.3**	**+0.6**
KEST	**Kesra**	**5.63**	**305**	*e*Pn	**Pn**	**11 10 18.1**	**-0.6**
KEST				Sn	**Sn**	**11 11 20.8**	**-2.3**
KEST				*e*Sn	**Sn**	**11 11 26.9**	**+3.8**
KEST	**Kesra**	**5.63**	**305**	*e*Pn	**Pn**	**11 10 18.1**	**-0.6**
KEST				Sn	**Sn**	**11 11 20.8**	**-2.3**
KEST	**Kesra** 1.6nm,0.3s,baz=86,slow=6.8,SNR=22	**5.63**	**305**	Pn	**Pn**	**11 10 17.9**	**-0.8**
KEST	5.3nm,0.3s,baz=292,slow=23,SNR=6.5			Sn	**Sn**	**11 11 20.8**	**-2.3**
CEL	**Celeste**	**5.69**	**7**	*e*Pn	**Pn**	**11 10 18.7**	**-0.8**
CEL				*e*Sn	**Sn**	**11 11 28.6**	**+4.0**
CEL	**Celeste**	**5.69**	**7**	*e*Pn	**Pn**	**11 10 18.7**	**-0.8**
CEL				*e*Sn	**Sn**	**11 11 28.6**	**+4.0**
LUMB	**Murzuk** SNR=41	**6.45**	**182**	*i* P	**Pn**	**11 10 29.7**	**-0.3**
TIP	**Timpagrande**	**6.71**	**12**	*e*Pn	**Pn**	**11 10 31.9**	**-1.7**
TIP				*e*Sn	Sn	11 11 56.8	+7.0
TIP	**Timpagrande**	**6.71**	**12**	*e*Pn	**Pn**	**11 10 31.9**	**-1.7**
TIP				*e*Sn	Sn	11 11 56.8	+7.0
PYL	**PYLOS**	**7.01**	**51**	*e*PN	**Pn**	**11 10 35.6**	**-2.0**
VLS	**Valsamata**	**7.19**	**38**	*e*PN	**Pn**	**11 10 38.2**	**-1.9**
ABSA	**Djebel Ababsia**	**7.21**	**303**	P	**Pn**	**11 10 40.0**	**-0.4**
ABSA	**Djebel Ababsia**	**7.21**	**303**	P	**Pn**	**11 10 40.0**	**-0.4**
ITM	**Ithomi**	**7.30**	**49**	*e*PN	**Pn**	**11 10 39.7**	**-1.8**
AMT	**Artemida-Makis**	**7.38**	**46**	P	**Pn**	**11 10 42.6**	**-0.1**
AMT	**Artemida-Makis**	**7.38**	**46**	*e*PN	**Pn**	**11 10 42.5**	**-0.1**
CUC	**Castrocucco**	**7.40**	**5**	*e*Pn	**Pn**	**11 10 44.0**	**+1.0**
CUC	**Castrocucco**	**7.40**	**5**	*e*Pn	**Pn**	**11 10 44.0**	**+1.0**
RLS	**Riolos of Patr**	**7.58**	**42**	*e*PN	**Pn**	**11 10 45.7**	**+0.2**
KYTH	**Kithira**	**7.58**	**59**	*e*PN	**Pn**	**11 10 45.1**	**-0.4**
ANKY	**Antikythira Is**	**7.61**	**62**	*e*PN	**Pn**	**11 10 45.2**	**-0.6**
DRO	**Drossia**	**7.65**	**44**	P	**Pn**	**11 10 45.4**	**-1.1**
DRO	**Drossia**	**7.65**	**44**	*e*PN	**Pn**	**11 10 45.8**	**-0.7**
LKD2	**Lefkada island**	**7.70**	**35**	*e*PN	**Pn**	**11 10 45.2**	**-1.9**
VLX	**Vlachokerasia**	**7.70**	**50**	*e*PN	**Pn**	**11 10 46.8**	**-0.4**
VLI	**Veliai**	**7.72**	**56**	P	**Pn**	**11 10 46.2**	**-1.2**
VLI	**Veliai**	**7.72**	**56**	*e*PN	**Pn**	**11 10 47.1**	**-0.3**
VLI	**Veliai**	**7.72**	**56**	P	**Pn**	**11 10 46.2**	**-1.2**
VLI	**Veliai**	**7.72**	**56**	P	**Pn**	**11 10 46.2**	**-1.2**
CKFL	**Kef-Lekhel**	**7.81**	**301**	P	**Pn**	**11 10 47.0**	**-1.7**
CKFL	**Kef-Lekhel**	**7.81**	**301**	P	**Pn**	**11 10 47.0**	**-1.7**
PDO	**Prodromos**	**7.82**	**38**	P	**Pn**	**11 10 47.8**	**-0.9**
PDO	**Prodromos**	**7.82**	**38**	*e*PN	**Pn**	**11 10 47.9**	**-0.8**
CAEH	**'Ain El Ouahch**	**7.89**	**304**	P	**Pn**	**11 10 47.2**	**-2.6**
CAEH	**'Ain El Ouahch**	**7.89**	**304**	P	**Pn**	**11 10 47.2**	**-2.6**
CTEI	**Djebel Teioual**	**7.90**	**298**	P	**Pn**	**11 10 51.1**	**+1.2**
CASM	**Ain Smara**	**7.92**	**300**	P	**Pn**	**11 10 47.9**	**-2.2**
CASM	**Ain Smara**	**7.92**	**300**	P	**Pn**	**11 10 47.9**	**-2.2**
KARN	**Karanos**	**7.92**	**67**	*e*PN	**Pn**	**11 10 49.1**	**-1.0**
KLV	**Kalavryta, Ach**	**7.97**	**45**	*e*PN	**Pn**	**11 10 49.7**	**-1.2**
LAKA	**Lakka**	**8.00**	**43**	*e*PN	**Pn**	**11 10 51.3**	**0.0**
GUR	**Goura**	**8.02**	**46**	*e*PN	**Pn**	**11 10 51.3**	**-0.3**
KEK	**Kerkira**	**8.09**	**27**	*e*PN	**Pn**	**11 10 50.4**	**-1.9**
EFP	**Efpalio**	**8.09**	**42**	P	**Pn**	**11 10 52.6**	**+0.2**
EFP	**Efpalio**	**8.09**	**42**	*e*PN	**Pn**	**11 10 52.6**	**+0.2**
VAM	**Vamos**	**8.14**	**67**	*e*PN	**Pn**	**11 10 52.1**	**-1.0**
IGT	**Igoumenitsa**	**8.15**	**30**	P	**Pn**	**11 10 51.3**	**-1.9**
IGT	**Igoumenitsa**	**8.15**	**30**	P	**Pn**	**11 10 51.3**	**-1.9**
IGT	**Igoumenitsa**	**8.15**	**30**	P	**Pn**	**11 10 51.3**	**-1.9**
IGT	**Igoumenitsa**	**8.15**	**30**	P	**Pn**	**11 10 51.3**	**-1.9**
KALE	**Kalithea**	**8.20**	**43**	P	**Pn**	**11 10 53.8**	**-0.2**
KALE	**Kalithea**	**8.20**	**43**	*e*PN	**Pn**	**11 10 54.0**	**0.0**
KALE	**Kalithea**	**8.20**	**43**	P	**Pn**	**11 10 53.8**	**-0.2**
KALE	**Kalithea**	**8.20**	**43**	P	**Pn**	**11 10 53.8**	**-0.2**
VSL	**Villasalto**	**8.24**	**328**	*e*PN	**Pn**	**11 10 55.9**	**+1.4**
VSL	**Villasalto**	**8.24**	**328**	*e*Pn	**Pn**	**11 10 55.9**	**+1.4**
DID	**Didima**	**8.34**	**52**	P	**Pn**	**11 10 54.4**	**-1.5**
DID	**Didima**	**8.34**	**52**	*e*PN	**Pn**	**11 10 54.7**	**-1.2**
DID	**Didima**	**8.34**	**52**	P	**Pn**	**11 10 54.4**	**-1.5**
DID	**Didima**	**8.34**	**52**	P	**Pn**	**11 10 54.4**	**-1.5**
EVR	**Evrytania**	**8.38**	**39**	P	**Pn**	**11 10 55.9**	**-0.6**
EVR	**Evrytania**	**8.38**	**39**	*e*PN	**Pn**	**11 10 55.7**	**-0.8**
EVR	**Evrytania**	**8.38**	**39**	P	**Pn**	**11 10 55.9**	**-0.6**
EVR	**Evrytania**	**8.38**	**39**	P	**Pn**	**11 10 55.9**	**-0.6**
DSF	**Desfina**	**8.44**	**45**	P	**Pn**	**11 10 57.4**	**+0.1**
DSF	**Desfina**	**8.44**	**45**	*e*PN	**Pn**	**11 10 57.3**	**0.0**
DSF	**Desfina**	**8.44**	**45**	P	**Pn**	**11 10 57.4**	**+0.1**
DSF	**Desfina**	**8.44**	**45**	P	**Pn**	**11 10 57.4**	**+0.1**
LTK	**Loutraki**	**8.46**	**48**	*e*PN	**Pn**	**11 10 56.2**	**-1.3**
JAN	**Janina**	**8.48**	**32**	*e*PN	**Pn**	**11 10 55.3**	**-2.5**
DFRA	**Djebel Bou Aff**	**8.48**	**300**	P	**Pn**	**11 10 57.0**	**-0.9**
DFRA	**Djebel Bou Aff**	**8.48**	**300**	P	**Pn**	**11 10 57.0**	**-0.9**
CKHR	**Kef el Ahmar**	**8.55**	**296**	P	**Pn**	**11 10 57.6**	**-1.3**
CKHR	**Kef el Ahmar**	**8.55**	**296**	P	**Pn**	**11 10 57.6**	**-1.3**
MAKR	**Makrakomi, Fth**	**8.63**	**40**	P	**Pn**	**11 10 59.9**	**+0.1**
MAKR	**Makrakomi, Fth**	**8.63**	**40**	*e*PN	**Pn**	**11 11 00.1**	**+0.3**
MAKR	**Makrakomi, Fth**	**8.63**	**40**	P	**Pn**	**11 10 59.9**	**+0.1**
MAKR	**Makrakomi, Fth**	**8.63**	**40**	P	**Pn**	**11 10 59.9**	**+0.1**
IDI	**Anoyia**	**8.64**	**69**	P	**Pn**	**11 10 58.7**	**-1.4**
IDI	**Anoyia**	**8.64**	**69**	*e*PN	**Pn**	**11 10 59.0**	**-1.1**
IDI	**Anoyia**	**8.64**	**69**	*e*Pn	**Pn**	**11 10 59.7**	**-0.4**
IDI				*e*Sn	**Sn**	**11 12 36.0**	**-1.4**
IDI	**Anoyia**	**8.64**	**69**	*e*Pn	**Pn**	**11 10 59.7**	**-0.4**
IDI				*e*Sn	**Sn**	**11 12 36.0**	**-1.4**
IDI	**Anoyia**	**8.64**	**69**	Pn	**Pn**	**11 10 59.9**	**-0.2**
IDI	3.9nm,0.3s,baz=252,slow=13,SNR=18			Sn	Sn	11 12 28.7	-8.6
IDI	2.3nm,0.3s,baz=304,slow=23,SNR=2.3			LR	LR	11 15 01.5	
AGG	comp=Z,16nm,28.6s,baz=278,slow=42 **Agios Georgios**	**8.74**	**41**	*e*PN	**Pn**	**11 11 00.9**	**-0.5**
AXAR	**Agios Charalam**	**8.75**	**43**	P	**Pn**	**11 11 01.8**	**+0.3**
AXAR	**Agios Charalam**	**8.75**	**43**	P	**Pn**	**11 11 01.8**	**+0.3**
AXAR	**Agios Charalam**	**8.75**	**43**	P	**Pn**	**11 11 01.8**	**+0.3**
MEV	**Metsovon**	**8.76**	**33**	P	**Pn**	**11 11 00.7**	**-1.0**
MEV	**Metsovon**	**8.76**	**33**	P	**Pn**	**11 11 00.7**	**-1.0**
MEV	**Metsovon**	**8.76**	**33**	P	**Pn**	**11 11 00.7**	**-1.0**
LKR	**Lokris**	**8.88**	**45**	P	**Pn**	**11 11 02.0**	**-1.2**
LKR	**Lokris**	**8.88**	**45**	*e*PN	**Pn**	**11 11 02.1**	**-1.2**
LKR	**Lokris**	**8.88**	**45**	P	**Pn**	**11 11 02.0**	**-1.2**
LKR	**Lokris**	**8.88**	**45**	P	**Pn**	**11 11 02.0**	**-1.2**
THL	**Klokotos Trika**	**8.97**	**37**	*e*PN	**Pn**	**11 11 03.2**	**-1.2**
LAST	**Lasithi**	**9.08**	**71**	*e*PN	**Pn**	**11 11 04.8**	**-1.3**
SMIA	**Simia**	**9.15**	**45**	P	**Pn**	**11 11 06.3**	**-0.7**
SMIA	**Simia**	**9.15**	**45**	*e*PN	**Pn**	**11 11 06.6**	**-0.4**
NEST	**Nestorio**	**9.19**	**30**	P	**Pn**	**11 11 06.0**	**-1.6**
NPS	**Neapolis**	**9.21**	**70**	*e*PN	**Pn**	**11 11 08.3**	**+0.5**
ERET	**Eretria**	**9.24**	**48**	P	**Pn**	**11 11 06.0**	**-2.3**
MRKA	**Markates**	**9.27**	**47**	P	**Pn**	**11 11 06.4**	**-2.2**
MRKA	**Markates**	**9.27**	**47**	*e*PN	**Pn**	**11 11 06.9**	**-1.7**
SANT	**Santorini**	**9.42**	**64**	*e*Pn	**Pn**	**11 11 09.1**	**-1.6**
SANT				*e*Sn	**Sn**	**11 12 51.3**	**-5.0**
SANT	**Santorini**	**9.42**	**64**	*e*Pn	**Pn**	**11 11 09.1**	**-1.6**
SANT				*e*Sn	**Sn**	**11 12 51.3**	**-5.0**
KZN	**Kozani**	**9.42**	**33**	*e*PN	**Pn**	**11 11 12.2**	**+1.4**
NEO	**Neokhori**	**9.44**	**43**	*e*PN	**Pn**	**11 11 09.6**	**-1.4**
XOR	**Xorichti**	**9.46**	**42**	P	**Pn**	**11 11 10.1**	**-1.2**
XOR	**Xorichti**	**9.46**	**42**	*e*PN	**Pn**	**11 11 11.3**	**0.0**
XOR	**Xorichti**	**9.46**	**42**	P	**Pn**	**11 11 10.1**	**-1.2**
XOR	**Xorichti**	**9.46**	**42**	P	**Pn**	**11 11 10.1**	**-1.2**
SKIA	**Skiathos**	**9.49**	**44**	*e*PN	**Pn**	**11 11 10.6**	**-1.0**
LIT	**Litokhoron**	**9.61**	**37**	*e*PN	**Pn**	**11 11 12.7**	**-0.6**
APE	**Apeiranthos**	**9.73**	**60**	*e*P	**Pn**	**11 11 15.8**	**+0.8**
APE	**Apeiranthos**	**9.73**	**60**	*e*PN	**Pn**	**11 11 12.7**	**-2.3**
APE	**Apeiranthos**	**9.73**	**60**	*i*P	**Pn**	**11 11 14.0**	**-1.0**
APE	**Apeiranthos**	**9.73**	**60**	*e*P	**Pn**	**11 11 15.8**	**+0.8**
AOS	**Alonnisos**	**9.73**	**45**	P	**Pn**	**11 11 12.6**	**-2.4**
AOS	**Alonnisos**	**9.73**	**45**	*e*PN	**Pn**	**11 11 12.6**	**-2.4**
AOS	**Alonnisos**	**9.73**	**45**	P	**Pn**	**11 11 12.6**	**-2.4**
AOS	**Alonnisos**	**9.73**	**45**	P	**Pn**	**11 11 12.6**	**-2.4**
BIA	**Bitola**	**9.81**	**29**	*e*Pn	Pn	11 11 12.6	-3.4
BIA	**Bitola**	**9.81**	**29**	*e*Pn	Pn	11 11 12.6	-3.4
ULC	**Ulcinj**	**9.93**	**19**	*e*Pn	**Pn**	**11 11 16.0**	**-1.7**
ULC				*e*Sn	Sn	11 13 02.1	-6.8
ULC	**Ulcinj**	**9.93**	**19**	*e*Pn	**Pn**	**11 11 16.0**	**-1.7**
PAIG	**Paliouri**	**10.12**	**41**	*e*PN	**Pn**	**11 11 18.1**	**-2.1**
DRME	**Dracevica, Mon**	**10.12**	**18⇑**	*i*Pn	**Pn**	**11 11 18.8**	**-1.5**
DRME				*e*Sn	Sn	11 13 06.2	-7.4
DRME	**Dracevica, Mon**	**10.12**	**18⇑**	*i*Pn	**Pn**	**11 11 18.8**	**-1.5**
BUM	**Brajici-Budva**	**10.16**	**17⇑**	*i*Pn	**Pn**	**11 11 20.1**	**-0.7**
BUM				*e*Sn	Sn	11 13 07.0	-7.5
BUM	**Brajici-Budva**	**10.16**	**17⇑**	*i*Pn	**Pn**	**11 11 20.1**	**-0.7**
HCY	**Herceg Novi**	**10.21**	**15⇓**	*i*Pn	**Pn**	**11 11 18.4**	**-3.0**
HCY				*e*Sn	Sn	11 13 09.1	-6.5
HCY	**Herceg Novi**	**10.21**	**15⇓**	*i*Pn	**Pn**	**11 11 18.4**	**-3.0**
GRG	**Griva**	**10.23**	**33**	P	**Pn**	**11 11 20.5**	**-1.3**
GRG	**Griva**	**10.23**	**33**	P	**Pn**	**11 11 20

TAM	**Tamanrasset**	**12.88**	**223**	*e*P		**Pn**		**11 11 58.2**	**0.0**
TAM					pmax	pmax			
	comp=Z,25nm,0.6s								
TAM	**Tamanrasset**	**12.88**	**223**	*e*Pn		**Pn**		**11 11 58.2**	**0.0**
	comp=Z,25nm,0.6s								
TAM	**Tamanrasset**	**12.88**	**223**	*e*P		**Pn**		**11 11 58.2**	**0.0**
	comp=Z,25nm,0.6s								
VISS	**Visnje**	**13.18**	**360**	*e*Pn		**Pn**		**11 12 05.1**	**+3.0**
VOY	**Vojsko**	**13.44**	**357**	*e*Pn		**Pn**		**11 12 07.3**	**+1.7**
VOY				*e*				11 12 10.0	
VOY				*e*				11 12 13.5	
PDKS	**Podkum**	**13.44**	**0**	*e*Pn		**Pn**		**11 12 08.0**	**+2.4**
JMB	**Yambol**	**13.46**	**40**	⇓*i*P		**Pn**		**11 12 05.1**	**-0.7**
JMB	**Yambol**	**13.46**	**40**	⇓*i*P		**Pn**		**11 12 05.1**	**-0.7**
JMB	**Yambol**	**13.46**	**40**	P		**Pn**		**11 12 05.1**	**-0.7**
SMRF	**Simiane la Rot**	**13.54**	**330**	*e*P		**Pn**		**11 12 10.0**	**+3.0**
SMRF	**Simiane la Rot**	**13.54**	**330**	*e*P		**Pn**		**11 12 10.0**	**+3.0**
MBDF	**Montbardon**	**13.69**	**334**	*e*P		Pn		11 12 13.5	+4.3
	comp=Z,38nm,0.9s								
MBDF	**Montbardon**	**13.69**	**334**	*e*P		Pn		11 12 13.5	+4.3
MBDF					pmax	pmax			
	comp=Z,38nm,0.9s								
MBDF	**Montbardon**	**13.69**	**334**	*e*P		Pn		11 12 13.5	+4.3
	comp=Z,38nm,0.9s								
PKSM	**Moragy**	**13.88**	**11**	⇓*i*P		**Pn**		**11 12 09.9**	**-1.6**
OBKA	**Obir**	**13.89**	**359**	⇑*i*Pn		**Pn**		**11 12 10.7**	**-1.2**
	comp=Z,18nm,0.8s								
BZS	**Buzias**	**13.96**	**20**	⇑P		**Pn**		**11 12 15.3**	**+2.5**
BZS	**Buzias**	**13.96**	**20**	⇑*i*P		**Pn**		**11 12 15.3**	**+2.5**
BNI	**Bardonecchia**	**14.01**	**335**	P		**Pn**		**11 12 12.1**	**-1.4**
BNI					pmax	pmax			
	comp=Z,23nm,1.1s								
BNI	**Bardonecchia**	**14.01**	**335**	Pn		**Pn**		**11 12 12.1**	**-1.4**
	comp=Z,23nm,1.1s								
BNI	**Bardonecchia**	**14.01**	**335**	P		**Pn**		**11 12 12.1**	**-1.4**
	comp=Z,23nm,1.1s								
SOKA	**Soboth**	**14.05**	**0**	⇓*i*Pn		**Pn**		**11 12 13.6**	**-0.4**
	comp=Z,8.0nm,0.8s								
GZR	**Gura Zlata**	**14.12**	**23**	⇓P		Pn		11 12 11.3	-3.7
GZR	**Gura Zlata**	**14.12**	**23**	⇓*i*P		Pn		11 12 11.3	-3.7
ORIF	**Oris-en-Rattie**	**14.19**	**333**	*e*P		**Pn**		**11 12 17.6**	**+1.7**
	comp=Z,29nm,1.2s								
ORIF				*e*R					
	comp=Z,1μm,21.2s								
ORIF	**Oris-en-Rattie**	**14.19**	**333**	*e*P		**Pn**		**11 12 17.6**	**+1.7**
ORIF					pmax	pmax			
	comp=Z,29nm,1.2s								
ORIF	**Oris-en-Rattie**	**14.19**	**333**	*e*P		**Pn**		**11 12 17.6**	**+1.7**
	comp=Z,29nm,1.2s								
ORIF	**Oris-en-Rattie**	**14.19**	**333**	*e*P		**Pn**		**11 12 17.6**	**+1.7**
	comp=Z,14nm,1.2s								
PKS2	**Kecel**	**14.24**	**12**	*e*Pn		**Pn**		**11 12 15.2**	**-1.3**
ABTA	**Abfaltersbach**	**14.25**	**353**	⇓*i*Pn		**Pn**		**11 12 15.1**	**-1.7**
	comp=Z,5.6nm,0.8s								
LPG	**La Plagne**	**14.37**	**336**	*e*P		**Pn**		**11 12 20.7**	**+2.1**
	comp=Z,92nm,1.2s								
LPG	**La Plagne**	**14.37**	**336**	*e*P		**Pn**		**11 12 20.7**	**+2.1**
LPG					pmax	pmax			
	comp=Z,92nm,1.2s								
LPG	**La Plagne**	**14.37**	**336**	*e*P		**Pn**		**11 12 20.7**	**+2.1**
	comp=Z,92nm,1.2s								
LPG	**La Plagne**	**14.37**	**336**	*e*P		**Pn**		**11 12 20.7**	**+2.1**
	comp=Z,46nm,1.2s								
LASF	**Ste Croix**	**14.39**	**326**	*e*P		**Pn**		**11 12 20.3**	**+1.7**
LASF	**Ste Croix**	**14.39**	**326**	*e*P		**Pn**		**11 12 20.3**	**+1.7**
LASF	**Ste Croix**	**14.39**	**326**	*e*P		**Pn**		**11 12 20.3**	**+1.7**
LPL	**La Plagne**	**14.39**	**336**	*e*P		**Pn**		**11 12 21.3**	**+2.5**
	comp=Z,78nm,1.1s								
LPL	**La Plagne**	**14.39**	**336**	*e*P		**Pn**		**11 12 21.3**	**+2.5**
LPL					pmax	pmax			
	comp=Z,79nm,1.1s								
LPL	**La Plagne**	**14.39**	**336**	*e*P		**Pn**		**11 12 21.3**	**+2.5**
	comp=Z,78nm,1.1s								
LPL	**La Plagne**	**14.39**	**336**	*e*P		**Pn**		**11 12 21.3**	**+2.5**
	comp=Z,39nm,1.1s								
LOT	**Lotru**	**14.51**	**25**	⇑*i*P		**Pn**		**11 12 23.4**	**+3.0**
TUE	**Stuetta**	**14.51**	**344**	*e*Pn		**Pn**		**11 12 22.1**	**+1.6**
TUE	**Stuetta**	**14.51**	**344**	*e*Pn		**Pn**		**11 12 22.1**	**+1.6**
SIRR	**Siria**	**14.57**	**19**	⇑*i*P		**Pn**		**11 12 23.9**	**+2.8**
DAVOX	**Davos/Dischmat**	**14.69**	**346**	Pn		**P**		**11 12 27.5**	**-1.5**
DAVOX	**Davos/Dischmat**	**14.69**	**346**	P		**P**		**11 12 27.5**	**-1.5**
DAVOX	**Davos/Dischmat**	**14.69**	**346**	Pn		**P**		**11 12 27.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=172,slow=8.6,SNR=25								
PKSN	**Nyarlorinc**	**14.75**	**13**	*e*Pn		**Pn**		**11 12 25.7**	**+2.2**
FETA	**Feichten**	**14.76**	**348**	⇓*i*P		**P**		**11 12 27.9**	**-1.9**
	comp=Z,13nm,0.8s								
FETA	**Feichten**	**14.76**	**348**	P		**P**		**11 12 27.9**	**-1.9**
	comp=Z,13nm,0.8s								
ARR	**Arges**	**14.77**	**28**	⇓*i*P		**Pn**		**11 12 22.1**	**-1.7**
PKST	**T"s**	**14.82**	**8**	*e*Pn		**Pn**		**11 12 24.4**	**0.0**
WATA	**Walderalm**	**14.94**	**351**	⇑*i*Pn		**Pn**		**11 12 27.8**	**+1.6**
	comp=Z,17nm,0.8s								
SENIN	**Lac Senin/Sane**	**14.96**	**339**	*e*P		**P**		**11 12 32.3**	**+0.3**
SENIN	**Lac Senin/Sane**	**14.96**	**339**	*e*P		**P**		**11 12 32.3**	**+0.3**
VOIR		**14.99**	**28**	⇓*i*P		**Pn**		**11 12 28.3**	**+1.5**
PKSG		**14.99**	**9**	*e*Pn		**Pn**		**11 12 26.7**	**-0.1**
MOTA	**Moosalm**	**15.02**	**350**	⇓*i*P		**P**		**11 12 31.1**	**-1.5**
	comp=Z,6.6nm,0.7s								
MOTA	**Moosalm**	**15.02**	**350**	P		**P**		**11 12 31.1**	**-1.5**
	comp=Z,6.6nm,0.7s								
PSN	**Preselentsi**	**15.14**	**39**	⇓*i*P		**Pn**		**11 12 27.6**	**-1.2**
RJOB	**Jochberg**	**15.21**	**354**	*e*P		**P**		**11 12 32.5**	**-2.1**
	comp=Z,10.0nm,0.9s								
MSAB	**Monastry St. A**	**15.24**	**38**	⇑*i*P		**Pn**		**11 12 32.3**	**+2.3**
MOA	**Molln**	**15.24**	**358**	⇓*i*Pn		**Pn**		**11 12 30.5**	**+0.5**
	comp=Z,8.5nm,0.8s								
CONA	**Conrad Observa**	**15.32**	**2**	⇑*i*Pn		**Pn**		**11 12 29.1**	**-2.1**
	comp=Z,2.6nm,0.7s								
ISR	**Istrita**	**15.37**	**32**	⇓P		**Pn**		**11 12 29.7**	**-2.2**
ISR	**Istrita**	**15.37**	**32**	⇓*i*P		**Pn**		**11 12 29.7**	**-2.2**
MLR	**Muntele Rosu**	**15.40**	**30**	⇓*i*P		**P**		**11 12 35.0**	**-1.9**
MLR	**Muntele Rosu**	**15.40**	**30**	Pn		**P**		**11 12 36.9**	**0.0**
MLR	**Muntele Rosu**	**15.40**	**30**	P		**P**		**11 12 36.9**	**0.0**
	comp=Z,427nm,19.3s								
MLR	**Muntele Rosu**	**15.40**	**30**	Pn		**P**		**11 12 36.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=268,slow=14,SNR=13								
MLR					LR	LR		11 19 51.1	
	comp=Z,427nm,19.3s,baz=226,slow=42								
CJR	**Cluj-Napoca**	**15.55**	**23**	⇓P		**Pn**		**11 12 32.7**	**-1.5**
CJR	**Cluj-Napoca**	**15.55**	**23**	⇓*i*P		**Pn**		**11 12 32.7**	**-1.5**
CABF	**La Chapelle**	**15.56**	**337**	*e*P		**Pn**		**11 12 35.3**	**+0.9**
	comp=Z,113nm,1.4s								
CABF	**La Chapelle**	**15.56**	**337**	*e*P		**Pn**		**11 12 35.3**	**+0.9**
CABF					pmax	pmax			
	comp=Z,113nm,1.4s								
CABF	**La Chapelle**	**15.56**	**337**	*e*P		**Pn**		**11 12 35.3**	**+0.9**
	comp=Z,113nm,1.4s								
CABF	**La Chapelle**	**15.56**	**337**	*e*P		**Pn**		**11 12 35.3**	**+0.9**
	comp=Z,57nm,1.4s								
PSZ	**Piszkesteto**	**15.74**	**12**	*e*P		**Pn**		**11 12 37.0**	**+0.4**
PSZ					pmax	pmax			
	comp=Z,66nm,1.3s								
PSZ	**Piszkesteto**	**15.74**	**12**	⇑*i*P		**Pn**		**11 12 38.0**	**+1.4**
PSZ	**Piszkesteto**	**15.74**	**12**	*e*Pn		**Pn**		**11 12 37.0**	**+0.4**
	comp=Z,66nm,1.3s								
PSZ	**Piszkesteto**	**15.74**	**12**	*e*Pn		**Pn**		**11 12 37.0**	**+0.4**
	comp=Z,66nm,1.3s								
PSZ	**Piszkesteto**	**15.74**	**12**	⇑*i*P		**Pn**		**11 12 38.0**	**+1.4**
PSZ	**Piszkesteto**	**15.74**	**12**	*e*Pn		**Pn**		**11 12 37.6**	**+1.0**
TIRR	**Tirgusor**	**15.79**	**38**	*e*P		**P**		**11 12 42.2**	**+1.1**
TIRR					pmax	pmax			
	comp=Z,33nm,1.1s								
TIRR	**Tirgusor**	**15.79**	**38**	⇑*i*P		**P**		**11 12 39.8**	**-1.3**
TIRR	**Tirgusor**	**15.79**	**38**	*e*P		**P**		**11 12 42.2**	**+1.1**
	comp=Z,33nm,1.1s								
TIRR	**Tirgusor**	**15.79**	**38**	*e*P		**P**		**11 12 42.2**	**+1.1**
	comp=Z,33nm,1.1s								
CAF	**Calviac**	**15.88**	**324**	*e*P		**Pn**		**11 12 39.4**	**+0.9**
	comp=Z,91nm,1.8s								
CAF	**Calviac**	**15.88**	**324**	*e*P		**Pn**		**11 12 39.4**	**+0.9**
CAF					pmax	pmax			
	comp=Z,91nm,1.8s								
CAF	**Calviac**	**15.88**	**324**	*e*P		**Pn**		**11 12 39.4**	**+0.9**
	comp=Z,91nm,1.8s								
CAF	**Calviac**	**15.88**	**324**	*e*P		**Pn**		**11 12 39.4**	**+0.9**
	comp=Z,45nm,1.8s								
PLOR	**Plostina**	**15.99**	**31**	⇑*i*P		**P**		**11 12 42.4**	**-0.9**
VRI	**Vrincioaia**	**16.04**	**31**	⇓*i*P		**P**		**11 12 43.0**	**-0.8**
ANTO	**Ankara**	**16.07**	**58**	*e*P		**Pn**		**11 12 41.6**	**+0.6**
ANTO					pmax	pmax			
	comp=Z,60nm,1.3s								
ANTO	**Ankara**	**16.07**	**58**	*e*Pn		**Pn**		**11 12 41.6**	**+0.6**
	comp=Z,60nm,1.3s								
ANTO	**Ankara**	**16.07**	**58**	*e*P		**Pn**		**11 12 41.6**	**+0.6**
	comp=Z,60nm,1.3s								
CFR	**Carcaliu**	**16.17**	**35**	⇓P		**Pn**		**11 12 40.1**	**-1.9**
CFR	**Carcaliu**	**16.17**	**35**	⇓*i*P		**Pn**		**11 12 40.1**	**-1.9**
GEC2	**GERESS Array S**	**16.25**	**357**	*e*P		**Pn**		**11 12 44.5**	**+1.3**
GEC2	**GERESS Array S**	**16.25**	**357**	*e*P		**Pn**		**11 12 42.8**	**-0.4**
	comp=Z,9.0nm,1.0s								
GEC2	**GERESS Array S**	**16.25**	**357**	*e*Pn		**Pn**		**11 12 44.5**	**+1.3**
GEC2	**GERESS Array S**	**16.25**	**357**	*e*P		**Pn**		**11 12 44.5**	**+1.3**
GERES	**GERESS Array B**	**16.25**	**357**	Pn		**Pn**		**11 12 43.5**	**+0.2**
GERES	**GERESS Array B**	**16.25**	**357**	P		**Pn**		**11 12 43.5**	**+0.2**
	comp=Z,610nm,19.2s								
GERES	**GERESS Array B**	**16.25**	**357**	Pn		**Pn**		**11 12 43.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=17								
GERES					LR	LR		11 20 59.8	
	comp=Z,610nm,19.2s,baz=172,slow=45								
HINF	**Hinteralfeld**	**16.40**	**340**	*e*P		**Pn**		**11 12 43.4**	**-1.7**
	comp=Z,55nm,1.2s								
HINF	**Hinteralfeld**	**16.40**	**340**	*e*P		**Pn**		**11 12 43.4**	**-1.7**
HINF					pmax	pmax			
	comp=Z,55nm,1.2s								
HINF	**Hinteralfeld**	**16.40**	**340**	*e*P		**Pn**		**11 12 43.4**	**-1.7**
	comp=Z,55nm,1.2s								
SMF	**Signal de Mont**	**16.42**	**332**	*e*P		**P**		**11 12 47.1**	**-0.9**
	comp=Z,41nm,1.2s								
SMF	**Signal de Mont**	**16.42**	**332**	*e*P		**P**		**11 12 47.1**	**-0.9**
SMF					pmax	pmax			
	comp=Z,41nm,1.2s								
SMF	**Signal de Mont**	**16.42**	**332**	*e*P		**P**		**11 12 47.1**	**-0.9**
	comp=Z,41nm,1.2s								
SMF	**Signal de Mont**	**16.42**	**332**	*e*P		**P**		**11 12 47.1**	**-0.9**
	comp=Z,20nm,1.2s								
RJF	**Les Rejaudoux**	**16.42**	**324**	*e*P		**P**		**11 12 50.2**	**+2.1**
	comp=Z,176nm,1.7s								
RJF				*e*R					
	comp=Z,498nm,23.0s								
RJF	**Les Rejaudoux**	**16.42**	**324**	*e*P		**P**		**11 12 50.2**	**+2.1**
RJF					pmax	pmax			
	comp=Z,177nm,1.7s								
RJF	**Les Rejaudoux**	**16.42**	**324**	*e*P		**P**		**11 12 50.2**	**+2.1**
	comp=Z,176nm,1.7s								
BFO	**Black Forest**	**16.49**	**344**	*i* P		**P**		**11 12 47.9**	**-1.0**
BFO	**Black Forest**	**16.49**	**344**	*e*P		**Pn**		**11 12 47.4**	**+1.1**
	comp=Z,8.0nm,0.8s								
BFO	**Black Forest**	**16.49**	**344**	*e*Pn		**Pn**		**11 12 46.8**	**+0.5**
	comp=Z,23nm,1.0s								
BFO	**Black Forest**	**16.49**	**344**	*e*Pn		**Pn**		**11 12 46.8**	**+0.5**
	comp=Z,23nm,1.0s								
BFO	**Black Forest**	**16.49**	**344**	*i* P		**P**		**11 12 47.9**	**-1.0**
MDT	**Midelt**	**16.51**	**276**	Pn		**Pn**		**11 12 47.0**	**+0.3**
MDT	**Midelt**	**16.51**	**276**	Pn		**Pn**		**11 12 47.0**	**+0.3**
MDT	**Midelt**	**16.51**	**276**	Pn		**Pn**		**11 12 47.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=80,slow=11,SNR=8.3								
MDT					LR	LR		11 18 55.1	
	comp=Z,328nm,22.0s,baz=210,slow=36								
TRPA	**Tarpa**	**16.52**	**18**	*e*Pn		**P**		**11 12 50.3**	**+1.2**
KHC	**Kasperske Hory**	**16.54**	**357**	*e*P		**Pn**		**11 12 47.3**	**+0.4**
KHC					MLR	MLR			
	comp=Z,1μm,16.1s								
KHC	**Kasperske Hory**	**16.54**	**357**	*e*P		**Pn**		**11 12 47.3**	**+0.4**
KHC				*ex*		x		11 12 57.1	
KHC					AMS	AMS		11 20 30.0	
	comp=Z,1μm,16.1s								
KHC	**Kasperske Hory**	**16.54**	**357**	*e*Pn		**Pn**		**11 12 48.1**	**+1.2**
	comp=Z,26nm,1.5s								
KHC	**Kasperske Hory**	**16.54**	**357**	*e*P		**Pn**		**11 12 47.3**	**+0.4**
	comp=Z,1μm,16.1s								
KHC	**Kasperske Hory**	**16.54**	**357**	*e*Pn		**Pn**		**11 12 48.1**	**+1.2**
	comp=Z,26nm,1.5s								
BR131	**Keskin Array S**	**16.63**	**59**	*e*P		**P**		**11 12 50.2**	**-0.4**
	comp=Z,7.4nm,0.7s								
BR131	**Keskin Array S**	**16.63**	**59**	*e*P		**P**		**11 12 50.2**	**-0.4**
	comp=Z,7.4nm,0.7s								
BRTR	**Keskin Array B**	**16.63**	**59**	Pn		**P**		**11 12 50.3**	**-0.3**
BRTR	**Keskin Array B**	**16.63**	**59**	Pn		**P**		**11 12 50.3**	**-0.3**
BRTR	**Keskin Array B**	**16.63**	**59**	*i* P		**P**		**11 12 51.7**	**+1.1**
	comp=Z,5.0nm,0.8s								
BRTR	**Keskin Array B**	**16.63**	**59**	Pn		**P**		**11 12 50.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=246,slow=14,SNR=15								
BRTR					LR	LR		11 20 38.9	
	comp=Z,16nm,28.6s,baz=255,slow=42								
TREC	**Trest**	**16.68**	**1**		AMS	AMS		11 22 10.0	
	comp=Z,1μm,15.4s								
HAU	**Haudompre**	**16.72**	**339**	*e*P		**Pn**		**11 12 50.1**	**+1.0**
	comp=Z,94nm,1.3s								
HAU				*e*R					
	comp=Z,809nm,21.0s								
HAU	**Haudompre**	**16.72**	**339**	*e*P		**Pn**		**11 12 50.1**	**+1.0**
HAU					pmax	pmax			
	comp=Z,94nm,1.3s								
HAU	**Haudompre**	**16.72**	**339**	*e*P		**Pn**		**11 12 50.1**	**+1.0**
	comp=Z,94nm,1.3s								
HAU	**Haudompre**	**16.72**	**339**	*e*P		**Pn**		**11 12 50.1**	**+1.0**
	comp=Z,47nm,1.3s								
VRAC	**Vranov**	**16.73**	**4**	⇓*i*P		**Pn**		**11 12 50.1**	**+0.9**
VRAC	**Vranov**	**16.73**	**4**	Pn		**Pn**		**11 12 49.7**	**+0.5**
VRAC	**Vranov**	**16.73**	**4**	P		**Pn**		**11 12 49.7**	**+0.5**
	comp=Z,1μm,18.4s								
VRAC	**Vranov**	**16.73**	**4**	Pn		**Pn**		**11 12 49.7**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=134,slow=13,SNR=4.4								
VRAC					LR	LR		11 21 06.9	
	comp=Z,1μm,18.4s,baz=199,slow=44								
AVF	**Avril sur Loir**	**16.73**	**331**	*e*P		**Pn**		**11 12 50.1**	**+0.8**
	comp=Z,40nm,1.2s								
AVF	**Avril sur Loir**	**16.73**	**331**	*e*P		**Pn**		**11 12 50.1**	**+0.8**
AVF					pmax	pmax			
	comp=Z,40nm,1.2s								
AVF	**Avril sur Loir**	**16.73**	**331**	*e*P		**Pn**		**11 12 50.1**	**+0.8**
	comp=Z,40nm,1.2s								
AVF	**Avril sur Loir**	**16.73**	**331**	*e*P		**Pn**		**11 12 50.1**	**+0.8**
	comp=Z,20nm,1.2s								
CDF	**Champ du Feu**	**16.83**	**342**	*e*P		**P**		**11 12 51.7**	**-1.0**
	comp=Z,52nm,1.3s								
CDF	**Champ du Feu**	**16.83**	**342**	*e*P		**P**		**11 12 51.7**	**-1.0**
CDF					pmax	pmax			
	comp=Z,52nm,1.3s								
CDF	**Champ du Feu**	**16.83**	**342**	*e*P		**P**		**11 12 51.7**	**-1.0**
	comp=Z,52nm,1.3s								
CDF	**Champ du Feu**	**16.83**	**342**	*e*P		**P**		**11 12 51.7**	**-1.0**
	comp=Z,26nm,1.3s								
ESDC	**Sonseca Array**	**16.84**	**300**	Pn		**Pn**		**11 12 50.5**	**-0.3**
ESDC	**Sonseca Array**	**16.84**	**300**	Pn		**Pn**		**11 12 50.5**	**-0.3**
ESDC	**Sonseca Array**	**16.84**	**300**	Pn		**Pn**		**11 12 50.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=106,slow=11,SNR=15								
ESDC					LR	LR		11 19 47.1	
	comp=Z,15nm,28.6s,baz=110,slow=39								
ESLA	**Sonseca Array**	**16.84**	**300**	*e*Pn		**Pn**		**11 12 50.5**	**-0.3**
	comp=Z,7.6nm,1.1s								
ESLA	**Sonseca Array**	**16.84**	**300**	*e*Pn		**Pn**		**11 12 50.5**	**-0.3**
	comp=Z,7.6nm,1.1s								
BURAR	**Bucovina Array**	**16.88**	**24**	⇓P		**Pn**		**11 12 50.9**	**-0.4**
BURAR	**Bucovina Array**	**16.88**	**24**	⇓*i*P		**Pn**		**11 12 50.9**	**-0.4**
SSF	**Saint Saulge**	**16.89**	**332**	*e*P		**P**		**11 12 55.4**	**+2.1**
	comp=Z,30nm,1.1s								
SSF	**Saint Saulge**	**16.89**	**332**	*e*P		**P**		**11 12 55.4**	**+2.1**
SSF					pmax	pmax			
	comp=Z,30nm,1.1s								
SSF	**Saint Saulge**	**16.89**	**332**	*e*P		**P**		**11 12 55.4**	**+2.1**
	comp=Z,30nm,1.1s								
BUR08	**Bucovina Ar. S**	**16.90**	**24**	*e*P		**P**		**11 12 54.5**	**+1.0**
BUR08	**Bucovina Ar. S**	**16.90**	**24**	*e*P		**P**		**11 12 54.5**	**+1.0**
LOR	**Lormes**	**16.93**	**333**	*e*P		**P**		**11 12 54.0**	**+0.3**
	comp=Z,27nm,1.0s,baz=135								
LOR				*e*R					
	comp=Z,1μm,18.5s								
LOR	**Lormes**	**16.93**	**333**	*e*P		**P**		**11 12 54.0**	**+0.3**
	comp=Z,27nm,1.0s								
LOR	**Lormes**	**16.93**	**333**	*e*P		**P**		**11 12 54.0**	**+0.3**
	comp=Z,13nm,1.0s								
CRVS	**Cervenica-Dubn**	**16.99**	**15**	*e*P		**P**		**11 12 56.8**	**+2.5**
CRVS	**Cervenica-Dubn**	**16.99**	**15**	*e*P		**P**		**11 12 56.8**	**+2.5**
MMAI	**Mount Meron Ar**	**17.16**	**83**	P		**Pn**		**11 12 54.4**	**-0.4**
MMAI	**Mount Meron Ar**	**17.16**	**83**	P		**Pn**		**11 12 54.4**	**-0.4**
MMAI	**Mount Meron Ar**	**17.16**	**83**	P		**Pn**		**11 12 54.4**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=270,slow=10,SNR=7.7								
KOLS	**Kolonicke sedl**	**17.20**	**16**	*e*P		**P**		**11 12 56.4**	**-0.3**
KOLS	**Kolonicke sedl**	**17.20**	**16**	*e*P		**P**		**11 12 56.4**	**-0.3**
KOLS	**Kolonicke sedl**	**17.20**	**16**	*e*P		**P**		**11 12 56.4**	**-0.3**
MORC	**Moravsky Berou**	**17.26**	**6**	*e*P		**Pn**		**11 12 55.9**	**0.0**
MORC					pmax	pmax			
	comp=Z,32nm,1.5s								
MORC	**Moravsky Berou**	**17.26**	**6**	⇑*i*P		**Pn**		**11 12 56.2**	**+0.3**
MORC	**Moravsky Berou**	**17.26**	**6**	*e*Pn		**Pn**		**11 12 55.9**	**0.0**
	comp=Z,32nm,1.5s								
MORC	**Moravsky Berou**	**17.26**	**6**	*e*P		**Pn**		**11 12 55.9**	**0.0**
	comp=Z,32nm,1.5s								
ROTZ	**Rotzenmuhle**	**17.27**	**354**	*e*P		**P**		**11 12 57.6**	**+0.2**
	comp=Z,5.0nm,0.8s								
SFTF	**Sexfontaines**	**17.30**	**337**	*e*P		**Pn**		**11 12 56.8**	**+0.4**
	comp=Z,74nm,1.1s,baz=144								
SFTF	**Sexfontaines**	**17.30**	**337**	*e*P		**Pn**		**11 12 56.8**	**+0.4**
	comp=Z,74nm,1.1s								
SFTF	**Sexfontaines**	**17.30**	**337**	*e*P		**Pn**		**11 12 56.8**	**+0.4**
	comp=Z,37nm,1.1s								
EIL	**Elat**	**17.33**	**94**	P		**P**		**11 12 58.3**	**0.0**
EIL	**Elat**	**17.33**	**94**	P		**P**		**11 12 58.3**	**0.0**
EIL	**Elat**	**17.33**	**94**	P		**P**		**11 12 58.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=306,slow=9.8,SNR=10								
EIL					LR	LR		11 20 37.6	
	comp=Z,374nm,20.2s,baz=302,slow=40								
PRU	**Pruhonice**	**17.37**	**359**	*e*P		**Pn**		**11 12 56.4**	**-0.8**
PRU					MLR	MLR			
	comp=Z,1μm,16.0s								
PRU	**Pruhonice**	**17.37**	**359**	*e*P		**Pn**		**11 12 56.4**	**-0.8**
PRU				*ep*		**pP**		**11 13 01.4**	**-1.4**
PRU					AMS	AMS		11 21 10.0	
	comp=Z,1μm,16.0s								
PRU	**Pruhonice**	**17.37**	**359**	*e*P		**Pn**		**11 12 56.4**	**-0.8**
	comp=Z,1μm,16.0s								
OKC	**Ostrava-Krasne**	**17.38**	**7**	*e*P		**P**		**11 12 59.8**	**+1.2**
OKC					MLR	MLR			
	comp=Z,500nm,16.1s								
OKC	**Ostrava-Krasne**	**17.38**	**7**	*e*P		**P**		**11 12 59.8**	**+1.2**
OKC					AMS	AMS		11 22 00.0	
	comp=Z,500nm,16.1s								
OKC	**Ostrava-Krasne**	**17.38**	**7**	*e*P		**P**		**11 12 59.8**	**+1.2**
	comp=Z,500nm,16.1s								
STHS	**Stebnicka Huta**	**17.43**	**14**	*e*P		**P**		**11 13 00.1**	**+0.9**
STHS	**Stebnicka Huta**	**17.43**	**14**	*e*P		**P**		**11 13 00.1**	**+0.9**
STHS	**Stebnicka Huta**	**17.43**	**14**	*e*P		**P**		**11 13 00.1**	**+0.9**
MANZ	**Manzenberg**	**17.50**	**354**	*e*P		**P**		**11 13 00.1**	**+0.1**
	comp=Z,8.0nm,0.9s								
KRLC	**Kraliky**	**17

ANN pmax pmax
comp=Z,171nm,1.5s
BSEG Bad Segeberg 21.58 352 *e*P **P 11 13 44.6 +0.2**
comp=Z,12nm,0.9s
SOC Sochi 22.25 53 *e*P **P 11 13 47.7 -4.0**
SOC *e*PPP PPP 11 14 21.5
SOC *e*S **S 11 17 49.6 -6.4**
SOC *e*SSS SSS 11 18 43.4
TOA0 Torodi Ar. Sit 22.88 215 *e*P **P 11 13 56.9 -1.7**
TOA0 Torodi Ar. Sit 22.88 215 *e*P **P 11 13 56.9 -1.7**
TORD Torodi Ar. Bea 22.88 215 P **P 11 13 57.3 -1.3**
TORD Torodi Ar. Bea 22.88 215 P **P 11 13 57.3 -1.3**
TORD Torodi Ar. Bea 22.88 215 P **P 11 13 57.3 -1.3**
comp=Z,16nm,0.9s,baz=27,slow=7.0,SNR=42
TORD LR LR 11 24 05.8
comp=Z,636nm,21.9s,baz=25,slow=40
MNK Minsk 23.71 19⇓ *e*P **P 11 14 03.0 -3.6**
MNK pmax pmax
comp=Z,120nm,1.0s
MICGM Minsk 23.72 19⇓ *e*P **P 11 14 03.0 -3.7**
NACGM Naroch 23.79 17 *e*P **P 11 14 04.0 -3.4**
IIGN Ignalina 24.07 16 *e*P **P 11 14 08.1 -1.9**
IIGN AMB AMB 11 14 10.2
comp=Z,22nm,1.2s
IIGN Ignalina 24.07 16 *e*P **P 11 14 08.1 -1.9**
ISAL Salakas 24.25 15 *e*P **P 11 14 10.7 -1.0**
ISAL AMB AMB 11 14 27.1
comp=Z,19nm,1.3s
KIV Kislovodsk 24.40 54 *e*P **P 11 14 15.3 +2.0**
KIV *e*S **S 11 18 34.9 +2.4**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,181nm,14.0s
KBZ Khabaz 24.48 55 P **P 11 14 15.6 +1.7**
KBZ pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 24.48 55 P **P 11 14 15.6 +1.7**
KBZ Khabaz 24.48 55 P **P 11 14 15.6 +1.7**
KBZ Khabaz 24.48 55 P **P 11 14 15.6 +1.7**
comp=Z,13nm,0.9s,baz=263,slow=4.6,SNR=12
KBZ LR LR 11 25 50.5
comp=Z,16nm,28.6s,baz=260,slow=41
ZEI Tsey 24.92 58 *e*P **P 11 14 20.0 +1.8**
ZEI pmax pmax
comp=Z,34nm,1.7s
GOF Gofitskoye 25.00 52 *e*P P 11 14 27.3 +8.6
GNI Garni 25.02 64 P **P 11 14 20.1 +1.0**
GNI Garni 25.02 64 P **P 11 14 20.1 +1.0**
GNI Garni 25.02 64 P **P 11 14 20.1 +1.0**
comp=Z,4.7nm,0.3s,baz=52,slow=9.6,SNR=3.2
GNI LR LR 11 25 57.9
comp=Z,16nm,28.6s,baz=270,slow=41
IMRD Marand 25.61 68 *e*P **P 11 14 27.9 +3.5**
IMRD Marand 25.61 68 *e*P **P 11 14 27.9 +3.5**
ITBZ Tabriz 25.93 69 *e*P **P 11 14 29.0 +1.7**
ITBZ Tabriz 25.93 69 *e*P **P 11 14 29.0 +1.7**
EKA Eskdalemuir Ar 26.05 336 P **P 11 14 27.1 -1.0**
EKA Eskdalemuir Ar 26.05 336 P **P 11 14 27.1 -1.0**
EKA Eskdalemuir Ar 26.05 336 P **P 11 14 27.1 -1.0**
comp=Z,1.1nm,0.5s,baz=147,slow=12,SNR=6.8
IGHG Ghaleghazi 26.34 78 *e*P **P 11 14 34.2 +3.0**
IGHG Ghaleghazi 26.34 78 *e*P **P 11 14 34.2 +3.0**
IHRS Heris 26.63 69 *e*P **P 11 14 36.6 +2.8**
IHRS Heris 26.63 69 *e*P **P 11 14 36.6 +2.8**
VRHR Novokhopersk 26.87 39 *e*P **P 11 14 36.1 +0.6**
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VSU Vasula 27.05 14 *e*P **P 11 14 38.6 +1.6**
VSU pmax pmax
comp=Z,69nm,1.0s
OBN Obninsk 27.14 28⇑ *e*P **P 11 14 38.0 +0.2**
OBN *e* 11 15 19.4
OBN *i*S **S 11 19 20.8 +5.3**
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,900nm,20.0s
MOS Moscow 28.01 28 *e*P **P 11 14 44.3 -1.3**
NB2 NORSAR Subarra 28.55 356 P **P 11 14 50.4 -0.1**
comp=Z,5.7nm,0.8s,baz=173,slow=9.3
NB2 NORSAR Subarra 28.55 356 P **P 11 14 50.4 -0.1**
comp=Z,5.7nm,0.8s,baz=173,slow=8.9,SNR=1.0
NOA NORSAR Array B 28.55 356 P **P 11 14 50.1 -0.4**
NOA NORSAR Array B 28.55 356 P **P 11 14 50.1 -0.4**
NOA NORSAR Array B 28.55 356 P **P 11 14 50.1 -0.4**
comp=Z,6.2nm,1.0s,baz=169,slow=8.8,SNR=9.9
NOA LR LR 11 28 46.9
comp=Z,330nm,18.3s,baz=175,slow=42
FINES FINESS Array B 29.74 11 P **P 11 14 59.4 -1.5**
FINES FINESS Array B 29.74 11 P **P 11 14 59.4 -1.5**
FINES FINESS Array B 29.74 11 P **P 11 14 59.4 -1.5**
comp=Z,2.8nm,0.5s,baz=186,slow=5.7,SNR=14
FINES LR LR 11 29 22.6
comp=Z,370nm,18.8s,baz=196,slow=41
DBIC Dimbokro 31.74 220 *e*P **P 11 15 18.8 -0.2**
DBIC Dimbokro 31.74 220 *e*P **P 11 15 18.8 -0.2**
DBIC Dimbokro 31.74 220 P **P 11 15 18.1 -0.9**
comp=Z,23nm,0.8s,baz=9.2,slow=10.0,SNR=15
DBIC LR LR 11 28 54.9
comp=Z,16nm,28.6s,baz=14,slow=38
TIC Toumodi 31.85 220 *e*P **P 11 15 19.2 -0.8**
comp=Z,24nm,0.7s
KIC Kosan Boka 31.93 219 *e*P **P 11 15 20.1 -0.7**
comp=Z,26nm,0.7s
LIC Lamto 32.20 220 *e*P **P 11 15 22.5 -0.6**
comp=Z,58nm,0.9s
LIC *e*R
comp=Z,2μm,17.8s
LIC Lamto 32.20 220 *e*P **P 11 15 22.4 -0.6**
comp=Z,86nm,0.9s
LIC Lamto 32.20 220 *e*P **P 11 15 22.5 -0.6**
comp=Z,58nm,0.9s
PRGR Permogore 35.11 25 P **P 11 15 48.5 +0.5**
PRGR pmax pmax
comp=Z,11nm,0.6s
PRGR pmax pmax
comp=Z,14nm,0.9s
APA Apatity 36.62 12⇑ *i*P **P 11 16 02.0 +1.2**
APA MLR MLR
comp=Z,700nm,17.0s
ABKAR Akbulak array 37.20 50 *e*P **P 11 16 06.4 +0.4**
comp=Z,1.9nm,0.6s
ABKAR Akbulak array 37.20 50 *e*P **P 11 16 06.4 +0.4**
comp=Z,1.9nm,0.6s
ARCES ARCESS Array B 37.45 6 P **P 11 16 07.4 -0.5**
ARCES ARCESS Array B 37.45 6 P **P 11 16 07.4 -0.5**
ARCES ARCESS Array B 37.45 6 P **P 11 16 07.4 -0.5**
comp=Z,2.3nm,0.6s,baz=191,slow=9.1,SNR=25
ARCES LR LR 11 33 42.9
comp=Z,350nm,20.2s,baz=190,slow=40
ARU Arti 38.22 38*c i*P **P 11 16 14.8 +0.3**
ARU 11 17 40.9
ARU S **S 11 22 08.3 +0.9**
ARU SS **SnSn 11 24 47.6 -4.0**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU MLR MLR
comp=Z,459nm,19.0s
SVE Sverdlovsk 39.43 38 *e*P **P 11 16 25.3 +0.6**
KMBO Kilima Mbogo 39.60 144 *e*P **P 11 16 28.3 +1.5**
KMBO Kilima Mbogo 39.60 144 *e*P **P 11 16 28.3 +1.5**
KMBO Kilima Mbogo 39.60 144 P **P 11 16 27.3 +0.5**
comp=Z,2.0nm,0.6s,baz=43,slow=20,SNR=6.4
KMBO LR LR 11 32 30.9
comp=Z,275nm,22.0s,baz=312,slow=36
BRVK Borovoye 44.14 45 *e*P **P 11 17 05.7 +2.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 44.34 60 *e*P **P 11 17 05.8 +0.7**
KKAR Karatay Array 44.34 60 *e*P **P 11 17 05.8 +0.7**
KKAR Karatay Array 44.34 60 *e*P **P 11 17 05.8 +0.7**
SPITS Spitsbergen Ar 45.67 0 P **P 11 17 13.4 -1.7**
SPITS Spitsbergen Ar 45.67 0 P **P 11 17 13.4 -1.7**
SPITS Spitsbergen Ar 45.67 0 P **P 11 17 13.4 -1.7**
comp=Z,3.8nm,0.7s,baz=186,slow=10,SNR=4.5
EKS2 Erkin-Say 46.78 60 *e*P **P 11 17 25.8 +1.3**
EKS2 pmax pmax
comp=Z,9.0nm,0.6s
EKS2 Erkin-Say 46.78 60 *e*P **P 11 17 25.8 +1.3**
comp=Z,9.4nm,0.6s
EKS2 Erkin-Say 46.78 60 *e*P **P 11 17 25.8 +1.3**
comp=Z,9.4nm,0.6s
AAK Ala-Archa 47.31 60 *e*P **P 11 17 30.3 +1.6**
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 47.31 60 *e*P **P 11 17 30.1 +1.4**
comp=Z,36nm,1.9s
AAK Ala-Archa 47.31 60 *e*P **P 11 17 30.1 +1.4**
comp=Z,36nm,1.9s
FRU Bishkek 47.37 60 *e*P **P 11 17 29.0 0.0**
FRU pmax pmax
comp=Z,50nm,2.1s
TKM2 Tokmak 2 48.07 59 *e*P **P 11 17 35.0 +0.4**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 48.07 59 *e*P **P 11 17 35.0 +0.4**
comp=Z,5.3nm,0.8s
TKM2 Tokmak 2 48.07 59 *e*P **P 11 17 35.0 +0.4**
comp=Z,5.3nm,0.8s
KSH Kashi 48.96 64 P **P 11 17 41.0 -0.4**
KSH pP **pP 11 17 46.0 -0.2**
KSH sP **sP 11 17 48.3 +0.3**
KSH PP **PP 11 19 34.0 -0.7**
KSH PcS **PcS 11 23 01.3 -0.6**
KSH S **S 11 24 41.0 -4.1**
KSH SS SS 11 28 07.0 -8.7
KSH LR LR
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,97nm,5.4s
KSH LR LR
comp=Z,120nm,6.3s
LSZ Lusaka 49.26 163 *e*P **P 11 17 44.3 +0.5**
comp=Z,9.9nm,0.9s
LSZ Lusaka 49.26 163 *e*P **P 11 17 44.3 +0.5**
comp=Z,9.9nm,0.9s
KURK Kurchatov 49.28 49 *e*P **P 11 17 43.0 -0.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 49.28 49 *e*P **P 11 17 43.0 -0.5**
comp=Z,5.4nm,1.0s
KURK Kurchatov 49.28 49 *e*P **P 11 17 43.0 -0.5**
comp=Z,5.3nm,1.0s
NVS Novosibirsk 51.80 43 *e*P **P 11 18 01.7 -0.8**
NVS *e*S **S 11 25 23.5 -0.4**
NVS pmax pmax
comp=Z,19nm,1.6s
NVS pmax pmax
comp=E,6.0nm,1.5s
NVS smax smax
comp=N,29nm,2.4s
MK31 Makanchi Array 52.16 53 *e*P **P 11 18 05.2 -0.2**
MK31 Makanchi Array 52.16 53 *e*P **P 11 18 05.2 -0.2**
MK31 Makanchi Array 52.16 53 *e*P **P 11 18 05.2 -0.2**
MKAR Makanchi Array 52.16 53 P **P 11 18 05.5 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,172nm,21.5s
MKAR Makanchi Array 52.16 53 *e*P **P 11 18 05.6 +0.2**
MKAR Makanchi Array 52.16 53 *e*P **P 11 18 05.6 +0.2**
MKAR Makanchi Array 52.16 53 P **P 11 18 05.5 +0.2**
comp=Z,2.1nm,0.5s,baz=267,slow=6.8,SNR=24
MKAR LR LR 11 42 42.3
comp=Z,172nm,21.5s,baz=280,slow=39
ZAA0 Zalesovo Array 52.80 44 *e*P **P 11 18 09.8 -0.1**
ZAA0 Zalesovo Array 52.80 44 *e*P **P 11 18 09.8 -0.1**
ZALV Zalesovo Beam 52.80 44 P **P 11 18 09.8 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV MLR MLR
comp=Z,231nm,18.5s
ZALV Zalesovo Beam 52.80 44 P **P 11 18 09.8 -0.1**
ZALV Zalesovo Beam 52.80 44 P **P 11 18 09.8 -0.1**
ZALV Zalesovo Beam 52.80 44 P **P 11 18 09.8 -0.1**
comp=Z,3.0nm,0.5s,baz=280,slow=8.9,SNR=17
ZALV LR LR 11 45 43.9
comp=Z,231nm,18.5s,baz=254,slow=42
WMQ Urumqi 56.52 56 P **P 11 18 38.0 +0.8**
WMQ sP **sP 11 18 45.0 +1.2**
WMQ PcP **PcP 11 19 35.0 +1.2**
WMQ PP **PP 11 20 45.0 +2.2**
WMQ ScP **ScP 11 23 32.0 -0.7**
WMQ S **S 11 26 27.0 -1.1**
WMQ ScS **ScS 11 28 23.0 -3.1**
WMQ SS **SS 11 30 14.0 -1.1**
WMQ pmax pmax
comp=Z,13nm,1.0s
WMQ pmax pmax
comp=Z,84nm,4.0s
WMQ LR LR
comp=Z,160nm,18.0s
WMQ LR LR
comp=Z,140nm,17.0s
WMQ LR LR
comp=Z,140nm,16.0s
PYUN Piuthan 57.95 75 *e*P **P 11 18 47.5 -0.2**
comp=Z,26nm,0.8s
PYUN Piuthan 57.95 75 *e*P **P 11 18 47.5 -0.2**
comp=Z,26nm,0.8s
PYUN Piuthan 57.95 75 *e*P **P 11 18 47.5 -0.2**
comp=Z,26nm,0.8s
LBTB Lobatse 58.18 169 *e*P **P 11 18 50.2 +1.2**
comp=Z,37nm,1.4s
LBTB Lobatse 58.18 169 *e*P **P 11 18 50.2 +1.2**
comp=Z,37nm,1.4s
DANN Dangsing 58.48 75 *e*P **P 11 18 51.3 -0.2**
comp=Z,19nm,0.8s
DANN Dangsing 58.48 75 *e*P **P 11 18 51.3 -0.2**
comp=Z,19nm,0.8s
DANN Dangsing 58.48 75 *e*P **P 11 18 51.3 -0.2**
comp=Z,19nm,0.8s
KOLN Koldanda 58.57 75 *e*P **P 11 18 51.4 -0.7**
KOLN Koldanda 58.57 75 *e*P **P 11 18 51.4 -0.7**
KOLN Koldanda 58.57 75 *e*P **P 11 18 51.4 -0.7**
GKN Gorkha 59.33 75 *e*P **P 11 18 56.7 -0.6**
GKN Gorkha 59.33 75 *e*P **P 11 18 56.7 -0.6**
GKN Gorkha 59.33 75 *e*P **P 11 18 56.7 -0.6**
SCHQ Schefferville 59.55 318 P **P 11 18 57.3 -0.9**
SCHQ Schefferville 59.55 318 P **P 11 18 57.3 -0.9**
SCHQ Schefferville 59.55 318 P **P 11 18 57.3 -0.9**
comp=Z,9.1nm,0.8s,baz=87,slow=8.1,SNR=9.7
DMN Daman 59.87 75 *e*P **P 11 19 00.8 -0.3**
comp=Z,17nm,0.8s
DMN Daman 59.87 75 *e*P **P 11 19 00.8 -0.3**
comp=Z,17nm,0.8s
DMN Daman 59.87 75 *e*P **P 11 19 00.8 -0.3**
comp=Z,17nm,0.8s
KKN Kakani 59.94 75 *e*P **P 11 19 00.5 -1.0**
KKN Kakani 59.94 75 *e*P **P 11 19 00.5 -1.0**
KKN Kakani 59.94 75 *e*P **P 11 19 00.5 -1.0**
KKN Kakani 59.94 75 *e*P **P 11 19 00.5 -1.0**
PKIN Phulchoki 60.11 75 *e*P **P 11 19 02.1 -0.7**
comp=Z,7.8nm,0.5s
PKI Pulchoki 60.13 75 *e*P **P 11 19 02.3 -0.7**
comp=Z,12nm,0.8s
PKI Pulchoki 60.13 75 *e*P **P 11 19 02.3 -0.7**
PKI pmax pmax
comp=Z,13nm,0.8s
PKI Pulchoki 60.13 75 *e*P **P 11 19 02.3 -0.7**
comp=Z,12nm,0.8s
PKI Pulchoki 60.13 75 *e*P **P 11 19 02.3 -0.7**
comp=Z,12nm,0.8s
GUN Gumba 60.37 74 *e*P **P 11 19 03.9 -0.8**
comp=Z,34nm,1.1s
GUN Gumba 60.37 74 *e*P **P 11 19 03.9 -0.8**
comp=Z,34nm,1.1s
GUN Gumba 60.37 74 *e*P **P 11 19 03.9 -0.8**
comp=Z,34nm,1.1s
JIRN Jiri 60.73 74 *e*P **P 11 19 06.5 -0.6**
JIRN Jiri 60.73 74 *e*P **P 11 19 06.5 -0.6**
JIRN Jiri 60.73 74 *e*P **P 11 19 06.5 -0.6**
RAMN Ramite 61.35 75 *e*P **P 11 19 10.0 -1.2**
RAMN Ramite 61.35 75 *e*P **P 11 19 10.0 -1.2**
RAMN Ramite 61.35 75 *e*P **P 11 19 10.0 -1.2**
BOSA Boshof 61.66 170 *e*P **P 11 19 12.4 -0.5**
comp=Z,6.6nm,0.6s
BOSA Boshof 61.66 170 *e*P **P 11 19 12.4 -0.5**
comp=Z,6.6nm,0.6s
BOSA Boshof 61.66 170 P **P 11 19 12.4 -0.5**
comp=Z,6.6nm,0.6s,baz=355,slow=7.7,SNR=13
BOSA LR LR 11 48 55.4
comp=Z,438nm,19.7s,baz=354,slow=39
ZAK Zakamensk 64.65 45 *e*P P 11 19 27.7 -4.9
ZAK pmax pmax
comp=Z,4.0nm,1.7s
TIXI Tiksi 66.39 18 *e*P **P 11 19 43.6 +0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI MLR MLR
comp=Z,266nm,23.0s
GTA Gaotai 66.54 57 *e*P **P 11 19 45.5 +0.5**
GTA pP **pP 11 19 49.5 -0.4**
GTA sP **sP 11 19 53.0 +1.2**
GTA pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 67.52 47 P **P 11 19 51.1 0.0**
SONM Songino Array 67.52 47 P **P 11 19 51.1 0.0**
SONM Songino Array 67.52 47 P **P 11 19 51.1 0.0**
comp=Z,3.6nm,0.9s,baz=287,slow=7.2,SNR=23
SONM LR LR 11 53 37.4
comp=Z,16nm,28.6s,baz=321,slow=40
ULN Ulaanbaatar 67.91 47 *e*P **P 11 19 54.3 +0.7**
comp=Z,5.7nm,1.2s
ULN Ulaanbaatar 67.91 47 *e*P **P 11 19 54.3 +0.7**
comp=Z,5.7nm,1.2s
CD2 Chengdu 73.15 64 *e*P **P 11 20 26.5 +0.7**
CD2 pP **pP 11 20 31.5 +0.8**
CD2 sP **sP 11 20 33.5 +0.9**
CD2 PP **PP 11 23 11.3 +2.8**
CD2 S **S 11 29 52.5 -0.8**
CD2 SS **SS 11 34 35.0 +0.8**
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,140nm,10.6s
CD2 LR LR
comp=Z,120nm,22.6s
CD2 LR LR
comp=Z,150nm,23.8s
HHC Hu-ho-hao-te 73.97 52 *e*P **P 11 20 31.5 +1.0**
HHC sP **sP 11 20 37.5 +0.2**
HHC S **SKiKP 11 29 56.5 -2.1**
HHC SS **SS 11 34 47.0 +0.8**
HHC pmax pmax
comp=Z,37nm,1.1s
HHC pmax pmax
comp=Z,210nm,7.5s
HHC LR LR
comp=Z,180nm,17.1s
HHC LR LR
comp=Z,710nm,17.3s
HHC LR LR
comp=Z,270nm,17.7s
KMI Kunming 75.13 70 P **P 11 20 39.3 +1.6**
KMI pP **pP 11 20 42.5 -0.1**
KMI sP **sP 11 20 44.0 -0.4**
KMI PcP **PcP 11 20 53.0 +1.8**
KMI S **S 11 30 16.0 -0.1**
KMI sS **sS 11 30 22.5 -1.8**
KMI pmax pmax
comp=Z,8.0nm,0.9s
KMI pmax pmax
comp=Z,110nm,4.3s
KMI LR LR
comp=Z,68nm,19.3s
KMI LR LR
comp=Z,110nm,21.6s
KMI LR LR
comp=Z,100nm,25.7s
CMAR Chiang Mai Arr 75.33 77 P **P 11 20 38.2 -0.4**
CMAR Chiang Mai Arr 75.33 77 P **P 11 20 38.2 -0.4**
CMAR Chiang Mai Arr 75.33 77 P **P 11 20 38.2 -0.4**
comp=Z,2.1nm,0.9s,baz=301,slow=7.4,SNR=15
CMAR LR LR 12 00 16.4
comp=Z,38nm,20.7s,baz=316,slow=41
XAN Xi'an 75.47 59 P **P 11 20 39.5 +0.2**
XAN pmax pmax
comp=Z,2.0nm,0.6s
YKW3 Yellowknife Ar 76.94 339 *e*P **P 11 20 47.1 +0.1**
YKW3 Yellowknife Ar 76.94 339 *e*P **P 11 20 47.1 +0.1**
BDFB Brasilia 76.98 242 P **P 11 20 48.2 +0.2**
BDFB Brasilia 76.98 242 P **P 11 20 48.2 +0.2**
BDFB Brasilia 76.98 242 P **P 11 20 48.2 +0.2**
comp=Z,3.6nm,0.7s,baz=47,slow=9.1,SNR=4.4
YKA Yellowknife Ar 76.99 338 P **P 11 20 47.2 0.0**
YKA Yellowknife Ar 76.99 338 P **P 11 20 47.2 0.0**
YKA Yellowknife Ar 76.99 338 P **P 11 20 47.2 0.0**
comp=Z,3.1nm,0.9s,baz=41,slow=5.7,SNR=26
ULM Lac du Bonnet 77.40 322 P **P 11 20 47.9 -2.0**
ULM Lac du Bonnet 77.40 322 P **P 11 20 47.8 -2.0**
ULM Lac du Bonnet 77.40 322 P **P 11 20 47.9 -2.0**
comp=Z,5.2nm,1.0s,baz=110,slow=5.4,SNR=4.6
BJI Beijing 77.41 51 P **P 11 20 50.0 0.0**
BJI S **S 11 30 40.3 +0.2**
BJI SS **SS 11 35 39.5 +1.5**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI pmax pmax
comp=Z,130nm,3.5s
BJI LR LR
comp=Z,200nm,34.6s
BJI LR LR
comp=Z,260nm,35.8s
BJI LR LR
comp=Z,130nm,38.8s
GYA Guiyang 77.55 67 *e*P **P 11 20 52.0 +0.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 77.60 328 *e*P **P 11 20 51.3 +0.5**
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 77.60 328 *e*P **P 11 20 51.3 +0.5**
comp=Z,5.0nm,0.9s
FFC Flin Flon 77.60 328 *e*P **P 11 20 51.3 +0.5**
comp=Z,5.0nm,0.9s
USIN University of 79.50 308 *e*P **P 11 21 01.4 -0.1**
comp=Z,20nm,0.8s
USIN University of 79.50 308 *e*P **P 11 21 01.5 -0.1**
comp=Z,20nm,0.8s
COLD Coldfoot 79.84 354 *e*P **P 11 21 04.1 +1.1**
COLD Coldfoot 79.84 354 *e*P **P 11 21 04.1 +1.1**
CN2 Changchun 81.00 43 *e*P **P 11 21 10.5 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ECSD EROS Data Cent 81.71 317 *e*P **P 11 21 13.4 0.0**
comp=Z,6.8nm,0.9s
ECSD EROS Data Cent 81.71 317 *e*P **P 11 21 13.4 0.0**
comp=Z,6.8nm,0.9s
ILAR Eielson Array 81.91 352 P **P 11 21 14.2 +0.2**
ILAR Eielson Array 81.91 352 P **P 11 21 14.2 +0.2**
ILAR Eielson Array 81.91 352 P **P 11 21 14.2 +0.2**
comp=Z,1.9nm,1.1s,baz=352,slow=4.1,SNR=8.1
ILAR LR LR 12 01 04.2
comp=Z,69nm,18.2s,baz=68,slow=38
TNA Tin City 82.13 1 *e*P **P 11 21 16.2 +1.1**
TNA Tin City 82.13 1 *e*P **P 11 21 16.2 +1.1**
NJ2 Nanjing 83.59 56 *e*P **P 11 21 22.0 -1.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
USRK Ussuriysk Arra 84.43 40 P **P 11 21 26.8 -0.6**
comp=Z,5.0nm,0.8s,baz=282,slow=4.9,SNR=11
USRK LR LR 12 02 48.1
comp=Z,204nm,21.2s,baz=318,slow=38
SAML Samuel 84.95 256 *e*P **P 11 21 30.8 +0.3**
comp=Z,11nm,1.6s
SAML Samuel 84.95 256 *e*P **P 11 21 30.8 +0.3**
comp=Z,11nm,1.6s
MIAR Mount Ida 85.36 308 *e*P **P 11 21 32.9 +0.6**
MIAR pmax pmax
comp=Z,12nm,1.2s
MIAR Mount Ida 85.36 308 *e*P **P 11 21 32.9 +0.6**
comp=Z,12nm,1.2s
MIAR Mount Ida 85.36 308 *e*P **P 11 21 32.9 +0.6**
comp=Z,12nm,1.2s
KSAR Wonju Array Be 86.37 47 P **P 11 21 36.0 -1.2**
KSAR Wonju Array Be 86.37 47 P **P 11 21 36.0 -1.2**
KSRS Korea Array 86.38 47 P **P 11 21 36.0 -1.2**
comp=Z,1.8nm,0.9s,baz=316,slow=4.8,SNR=4.4
KSRS LR LR 12 04 54.5
comp=Z,16nm,28.6s,baz=319,slow=39
JTMT Jette 87.99 328 *e*P **P 11 21 45.6 +0.5**
JTMT Jette 87.99 328 *e*P **P 11 21 45.6 +0.5**
BOZ Bozeman (W) 88.34 326 *e*P **P 11 21 47.9 +1.0**
BOZ pmax pmax
comp=Z,11nm,1.3s
BOZ Bozeman (W) 88.34 326 *e*P **P 11 21 47.9 +1.0**
comp=Z,11nm,1.3s
BOZ Bozeman (W) 88.34 326 *e*P **P 11 21 47.8 +1.0**
comp=Z,11nm,1.3s

PETK	**Petropavlovsk-** comp=Z,146nm,20.8s,baz=316,slow=38	**88.68**	**21**	LR	LR	12 05 50.8			
DLMT	**Dillon** comp=Z,5.8nm,1.2s	**89.01**	**326**	*eP*	**P**	**11 21 51.4**	**+1.4**		
DLMT	**Dillon** comp=Z,5.8nm,1.2s	**89.01**	**326**	*eP*	**P**	**11 21 51.4**	**+1.4**		
PDAR	**Pinedale Array**	**89.41**	**323**	P	**P**	**11 21 53.0**	**+1.0**		
PDAR	**Pinedale Array**	**89.41**	**323**	P	**P**	**11 21 53.0**	**+1.0**		
PDAR	**Pinedale Array** comp=Z,0.5nm,0.8s,baz=60,slow=5.3,SNR=3.6	**89.41**	**323**	P	**P**	**11 21 53.0**	**+1.0**		
MCMT	**McKenzie Canyo** comp=Z,2.5nm,1.2s	**89.52**	**326**	*eP*	**P**	**11 21 53.0**	**+0.4**		
MCMT	**McKenzie Canyo** comp=Z,2.5nm,1.2s	**89.52**	**326**	*eP*	**P**	**11 21 53.0**	**+0.4**		
SDCO	**Great Sand Dun** comp=Z,64nm,2.9s	**90.72**	**317**	*eP*	**P**	**11 21 58.8**	**+0.5**		
SDCO	**Great Sand Dun** comp=Z,64nm,2.9s	**90.72**	**317**	*eP*	**P**	**11 21 58.8**	**+0.5**		
JTS	**JuntasAbangare** comp=Z,67nm,18.0s,baz=52,slow=35	**92.77**	**284**	LR	LR	12 02 44.8			
OTAV	**Otavalo** comp=Z,5.1nm,1.1s	**92.78**	**272**	*eP*	**P**	**11 22 07.6**	**-0.8**		
OTAV	**Otavalo** comp=Z,5.1nm,1.1s	**92.78**	**272**	*eP*	**P**	**11 22 07.6**	**-0.8**		
LPAZ	**La Paz** comp=Z,17nm,28.6s,baz=146,slow=34	**93.01**	**253**	LR	LR	12 02 15.1			
MJAR	**Matsushiro Arr** comp=Z,16nm,28.6s,baz=270,slow=38	**93.12**	**42**	LR	LR	12 08 20.6			
ATAH	**Atahualpa** comp=Z,16nm,28.6s,baz=134,slow=36	**96.64**	**266**	LR	LR	12 07 28.1			
WRA	**Warramunga Arr**	**124.82**	**93**	PKP	**PKPdf**	**11 27 54.1**	**-1.2**		
WRA	**Warramunga Arr**	**124.82**	**93**	PKIKP	**PKPdf**	**11 27 54.1**	**-1.2**		
WRA	**Warramunga Arr** comp=Z,1.7nm,0.8s,baz=309,slow=1.6,SNR=18	**124.82**	**93**	PKP	**PKPdf**	**11 27 54.1**	**-1.2**		
ASAR	**Alice Springs**	**126.03**	**97**	PKP	**PKPdf**	**11 27 57.0**	**-0.5**		
ASAR	**Alice Springs**	**126.03**	**97**	PKIKP	**PKPdf**	**11 27 57.0**	**-0.5**		
ASAR	**Alice Springs** comp=Z,1.5nm,0.8s,baz=290,slow=1.4,SNR=25	**126.03**	**97**	PKP	**PKPdf**	**11 27 57.0**	**-0.5**		

*IDC **29** 11:22:50.2±1.5, 44.57S×167.19E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.6/15, mbtmp3.6/5, ML3.8/2, MS3.4/2, Ms1 3.3/2, ms1mx3.0/16, Error ellipse: s-maj=55.5km s-min=16.3km az=173.0*

*WEL **29** 11:22:51.4±0.5, 44.46S×167.04E, h5km, ML4.6/19, Error ellipse: s-maj=4.0km s-min=3.2km az=90.0*

*NEIC **29** 11:22:52.9, 44.46S×167.07E, h12km, ML4.6(WEL), After WEL.*

ISC 29 11:22:50.7±1.7, 44°31S±0.1'×167°14E±0.1', h5km±11km, n78, σ1§29/81, mb3.4/3, 2C-1D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.68**	**123**	P*		**Pb**	**11 23 04.5**	**-0.5**
MSZ				SG		**Sb**	**11 23 13.6**	**-1.1**
MSZ				AML		AML	11 23 14.5	
MSZ				AML		AML	11 23 14.5	
MSZ				AML		AML	11 23 14.7	
MSZ	**Milford Sound**	**0.68**	**123**	P*		**Pb**	**11 23 04.5**	**-0.5**
MSZ				S*		**Sb**	**11 23 13.6**	**-1.1**
DCZ	**Deep Cove**	**1.17**	**179**	⇑P*		**Pb**	**11 23 10.9**	**-2.6**
DCZ					AML	AML	11 23 30.4	
DCZ					AML	AML	11 23 30.4	
DCZ					AML	AML	11 23 33.5	
DCZ					AML	AML	11 23 33.5	
DCZ	**Deep Cove**	**1.17**	**179**	P*		**Pb**	**11 23 10.9**	**-2.6**
JCZ	**Jackson Bay**	**1.19**	**79**	P*		**Pg**	**11 23 14.7**	**+1.1**
JCZ				S*		**Sn**	**11 23 32.2**	**+1.5**
JCZ					AML	AML	11 23 33.0	
JCZ	**Jackson Bay**	**1.19**	**79**	Pn		**Pn**	**11 23 13.2**	**-0.9**
JCZ				Sn		**Sn**	**11 23 32.2**	**+1.5**
MLZ	**Mavora Lakes**	**1.28**	**145**	P*		**Pb**	**11 23 14.7**	**-0.6**
MLZ				S*		**Sb**	**11 23 30.5**	**-1.6**
MLZ				AML		AML	11 23 38.9	
MLZ	**Mavora Lakes**	**1.28**	**145**	P*		**Pb**	**11 23 14.7**	**-0.6**
WKZ	**Wanaka**	**1.44**	**112**	PN		**Pg**	**11 23 18.3**	**-0.1**
WKZ				SN		**Sg**	**11 23 38.1**	**+1.0**
WKZ				AML		AML	11 23 39.1	
WKZ				AML		AML	11 23 39.8	
WKZ				AML		AML	11 23 39.8	
WKZ	**Wanaka**	**1.44**	**112**	Pn		**Pg**	**11 23 18.4**	**-0.1**
WHZ	**Wether Hill Ro**	**1.69**	**160**	⇑PN		**Pn**	**11 23 20.3**	**-0.6**
WHZ				SN		**Sn**	**11 23 41.1**	**-1.9**
WHZ				AML		AML	11 23 51.9	
WHZ	**Wether Hill Ro**	**1.69**	**160**	*e*Pn		**Pn**	**11 23 20.4**	**-0.6**
WHZ				*e*Sn		**Sn**	**11 23 42.2**	**-0.8**
EAZ	**Earnscleugh**	**1.81**	**122**	PN		**Pb**	**11 23 23.5**	**-0.7**
EAZ				SN		**Sb**	**11 23 45.9**	**-1.3**
EAZ				AML		AML	11 23 50.2	
EAZ				AML		AML	11 23 50.2	
EAZ				AML		AML	11 23 51.1	
EAZ	**Earnscleugh**	**1.81**	**122**	Pn		**Pb**	**11 23 23.5**	**-0.7**
EAZ				Sn		**Sb**	**11 23 45.9**	**-1.3**
PYZ	**Puysegur Point**	**1.89**	**190**	PN		**Pn**	**11 23 22.8**	**-0.9**
PYZ	**Puysegur Point**	**1.89**	**190**	Pn		**Pn**	**11 23 22.8**	**-0.9**
FOZ	**Fox Glacier**	**1.99**	**69**	PN		**Pn**	**11 23 24.8**	**-0.1**
FOZ					AML	AML	11 24 00.9	
FOZ					AML	AML	11 24 00.9	
FOZ					AML	AML	11 24 06.0	
FOZ					AML	AML	11 24 06.1	
FOZ	**Fox Glacier**	**1.99**	**69**	Pn		**Pn**	**11 23 24.8**	**-0.1**
LBZ	**Lake Benmore**	**2.19**	**93**	PN		**Pb**	**11 23 29.0**	**-1.8**
LBZ					AML	AML	11 24 01.9	
LBZ					AML	AML	11 24 07.5	
LBZ					AML	AML	11 24 08.2	
LBZ					AML	AML	11 24 08.2	
LBZ	**Lake Benmore**	**2.19**	**93**	Pn		**Pb**	**11 23 29.2**	**-1.6**
TUZ	**Tuapeka**	**2.42**	**134**	PN		**Pn**	**11 23 31.2**	**+0.3**
TUZ					AML	AML	11 24 05.5	
TUZ					AML	AML	11 24 05.8	
TUZ	**Tuapeka**	**2.42**	**134**	Pn		**Pn**	**11 23 31.2**	**+0.3**
APZ	**The Paps**	**2.60**	**167**	PN		**Pn**	**11 23 33.2**	**-0.2**
APZ					AML	AML	11 24 13.9	
APZ					AML	AML	11 24 18.6	
APZ	**The Paps**	**2.60**	**167**	Pn		**Pn**	**11 23 33.2**	**-0.2**
ODZ	**Otahua Downs**	**2.61**	**108**	PN		**Pn**	**11 23 33.9**	**+0.3**
ODZ	**Otahua Downs**	**2.61**	**108**	*e*Pn		**Pn**	**11 23 34.7**	**+1.2**
ODZ				*e*Sn		**Sn**	**11 24 06.8**	**+1.1**
SYZ	**Scrubby Hill**	**2.64**	**148**	PN		**Pn**	**11 23 33.8**	**-0.2**
SYZ					AML	AML	11 24 17.0	
SYZ					AML	AML	11 24 25.1	
SYZ					AML	AML	11 24 25.1	
SYZ					AML	AML	11 24 27.4	
SYZ	**Scrubby Hill**	**2.64**	**148**	Pn		**Pn**	**11 23 32.8**	**-1.2**
WVZ	**Waitaha Valley**	**2.89**	**66**	PN		**Pn**	**11 23 35.7**	**-1.6**
WVZ					AML	AML	11 24 35.7	
WVZ	**Waitaha Valley**	**2.89**	**66**	Pn		**Pn**	**11 23 35.7**	**-1.6**
RPZ	**Rata Peaks**	**2.89**	**80**	PN		**Pn**	**11 23 36.8**	**-0.6**
RPZ					AML	AML	11 24 27.3	
RPZ					AML	AML	11 24 28.0	
RPZ	**Rata Peaks**	**2.89**	**80**	*e*Pn		**Pn**	**11 23 37.6**	**+0.2**
RPZ				*e*Sn		**Sb**	**11 24 15.8**	**-2.6**
RPZ				Lg		Lg	11 24 22.6	
RPZ	**Rata Peaks** 32nm,0.3s,baz=216,slow=3.5,SNR=113	**2.89**	**80**	Pn		**Pn**	**11 23 37.1**	**-0.3**
RPZ	43nm,0.3s,baz=270,slow=8.2,SNR=15			Pg		**Pg**	**11 23 46.5**	**+0.4**
RPZ	61nm,0.3s,baz=238,slow=17,SNR=3.8			Sn		**Sn**	**11 24 11.8**	**-0.8**
RPZ	48nm,0.3s,baz=178,slow=19,SNR=6.4			Lg		Lg	11 24 22.6	
HHSZ	**Highcliff Hill**	**2.92**	**124**	PN		**Pn**	**11 23 38.5**	**+0.7**
MQZ	**McQueen's Vall**	**4.03**	**83**	PN		**Pn**	**11 23 51.0**	**-2.0**
MQZ	**McQueen's Vall**	**4.03**	**83**	Pn		**Pn**	**11 23 51.1**	**-1.9**
CRLZ	**Canterbury Las**	**4.03**	**82**	PN		**Pn**	**11 23 51.2**	**-1.9**
CRLZ					AML	AML	11 25 15.6	
CRLZ					AML	AML	11 25 16.2	
CRLZ	**Canterbury Las**	**4.03**	**82**	Pn		**Pn**	**11 23 51.2**	**-1.9**
LTZ	**Lake Taylor**	**4.03**	**70**	PN		**Pn**	**11 23 51.9**	**-1.3**
LTZ					AML	AML	11 25 02.6	
LTZ					AML	AML	11 25 26.4	
LTZ	**Lake Taylor**	**4.03**	**70**	Pn		**Pn**	**11 23 51.9**	**-1.3**
DSZ	**Denniston Nort**	**4.27**	**55**	⇓PN		**Pn**	**11 23 55.0**	**-1.5**
DSZ	**Denniston Nort**	**4.27**	**55**	Pn		**Pn**	**11 23 55.0**	**-1.5**
THZ	**Tophouse**	**4.93**	**61**	PN		**Pn**	**11 24 03.1**	**-2.4**
THZ					AML	AML	11 25 18.9	
THZ					AML	AML	11 25 53.8	
THZ	**Tophouse**	**4.93**	**61**	Pn		**Pn**	**11 24 03.9**	**-1.6**
QRZ	**Quartz Range**	**5.29**	**51**	PN		**Pn**	**11 24 09.0**	**-1.3**
QRZ	**Quartz Range**	**5.29**	**51**	Pn		**Pn**	**11 24 09.0**	**-1.3**
NNZ	**Nelson**	**5.54**	**58**	PN		**Pn**	**11 24 13.5**	**-0.2**
NNZ					AML	AML	11 25 25.7	
NNZ					AML	AML	11 26 20.1	
NNZ	**Nelson**	**5.54**	**58**	Pn		**Pn**	**11 24 13.5**	**-0.2**
TUWZ	**Tuamarina**	**5.77**	**62**	PN		**Pn**	**11 24 18.1**	**+1.2**
TUWZ	**Tuamarina**	**5.77**	**62**	Pn		**Pn**	**11 24 15.1**	**-1.8**
TCW	**Tory Channel**	**6.10**	**62**	PN		**Pn**	**11 24 22.4**	**+0.9**
TCW					AML	AML	11 25 41.6	
TCW					AML	AML	11 25 49.1	
TCW	**Tory Channel**	**6.10**	**62**	Pn		**Pn**	**11 24 22.4**	**+0.9**
NWEZ	**Newall Road**	**7.11**	**47**	PN		**Pn**	**11 24 34.5**	**-0.9**
KHEZ	**Kahui Hut**	**7.17**	**48**	PN		**Pn**	**11 24 36.0**	**-0.3**
VRZ	**Vera Road**	**7.70**	**50**	Pn		**Pn**	**11 24 43.1**	**-0.4**
URZ	**Urewera**	**9.63**	**55**	Pn		**Pn**	**11 25 11.8**	**+1.8**
URZ				Sn		Sn	11 26 50.8	-7.7
URZ	**Urewera** 0.3nm,0.3s,baz=353,slow=6.3,SNR=2.4	**9.63**	**55**	Pn		**Pn**	**11 25 11.8**	**+1.8**
URZ	0.8nm,0.3s,baz=139,slow=24,SNR=1.4			Sn		Sn	11 26 50.8	-7.7
STKA	**Stephens Creek**	**23.52**	**293**	P		**P**	**11 28 02.4**	**+0.8**
STKA	**Stephens Creek** 1.5nm,0.8s,baz=17,slow=14,SNR=3.0	**23.52**	**293**	P		**P**	**11 28 02.4**	**+0.8**
STKA				LR		LR	11 35 17.0	
ASAR	**Alice Springs** comp=Z,15nm,28.6s,baz=200,slow=32	**34.06**	**296**	P		**P**	**11 29 36.9**	**+0.9**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=139,slow=7.2,SNR=3.2	**34.06**	**296**	P		**P**	**11 29 36.9**	**+0.9**
WRA	**Warramunga Arr**	**36.51**	**301**	P		P	11 29 59.0	+1.9
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=137,slow=8.1,SNR=3.7	**36.51**	**301**	P		P	11 29 59.0	+1.9
WRA	comp=Z,63nm,18.6s,baz=90,slow=35			LR		LR	11 44 28.3	
H01W1	**Cape Leeuwin H**	**41.26**	**264**	T		T	12 14 35.7	
H01W2	**Cape Leeuwin H** baz=120,slow=75,SNR=19	**41.27**	**264**	T		T	12 14 36.4	
H01W3	**Cape Leeuwin H** baz=120,slow=75,SNR=17	**41.28**	**264**	T		T	12 14 37.9	
H08S2	**Diego Garcia H** baz=135,slow=76,SNR=24	**88.03**	**261**	T		T	13 13 09.4	
H08S1	**Diego Garcia H** baz=135,slow=76,SNR=21	**88.04**	**261**	T		T	13 13 10.5	
H08S3	**Diego Garcia H** baz=135,slow=76,SNR=22	**88.05**	**261**	T		T	13 13 10.9	
H08N1	**Diego Garcia H** baz=140,SNR=2.9	**89.98**	**261**	T		T	13 15 57.7	
H08N3	**Diego Garcia H** baz=140,SNR=4.4	**90.00**	**261**	T		T	13 15 48.5	
H08N2	**Diego Garcia H** baz=140,SNR=2.7	**90.00**	**261**	T		T	13 15 55.8	
BRTR	**Keskin Array B**	**145.51**	**279**	PKPbc		**PKPab**	**11 42 30.2**	**+0.1**
BRTR	**Keskin Array B** 0.6nm,0.7s,baz=184,slow=4.3,SNR=2.4	**145.51**	**279**	PKPbc		**PKPab**	**11 42 30.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**146.54**	**206**	PKPbc		**PKPbc**	**11 42 31.5**	**-1.9**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=151,slow=6.3,SNR=3.1	**146.54**	**206**	PKPbc		**PKPbc**	**11 42 31.5**	**-1.9**
FINES	**FINESS Array B**	**151.50**	**321**	PKPbc		**PKPbc**	**11 42 46.6**	**+1.9**
FINES	**FINESS Array B** 3.1nm,1.0s,baz=134,slow=4.0,SNR=2.6	**151.50**	**321**	PKPbc		**PKPbc**	**11 42 46.6**	**+1.9**

WEL 29 11:23:46.3±0.6, 44°41S×167°14E, h5km, ML3.8/9, Error ellipse: s-maj=4.8km s-min=3.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.62**	**116**	P*		Pg	11 23 58.8	+0.5
MSZ				SG		Sg	11 24 06.7	+0.2
MSZ				AML		AML	11 24 08.3	
MSZ				AML		AML	11 24 08.6	
MSZ				AML		AML	11 24 08.6	
DCZ	**Deep Cove**	**1.07**	**179**	P*		Pg	11 24 05.5	-1.4
DCZ				AML		AML	11 24 18.9	
DCZ				AML		AML	11 24 18.9	
DCZ				AML		AML	11 24 20.9	
DCZ				AML		AML	11 24 23.2	
MLZ	**Mavora Lakes**	**1.20**	**142**	P*		Pg	11 24 09.1	-0.2
MLZ				AML		AML	11 24 27.4	
MLZ				AML		AML	11 24 27.6	
JCZ	**Jackson Bay**	**1.21**	**75**	P*		Pg	11 24 09.0	-0.7
JCZ				S*		Sg	11 24 25.1	-0.4
JCZ				AML		AML	11 24 28.4	
WKZ	**Wanaka**	**1.41**	**108**	PN		Pg	11 24 13.2	-0.1
WKZ				SN		Sb	11 24 31.4	0.0
WKZ				SN		Sg	11 24 31.8	+0.1
WKZ				AML		AML	11 24 33.4	
WKZ				AML		AML	11 24 33.4	
WHZ	**Wether Hill Ro**	**1.59**	**159**	PN		Pn	11 24 14.7	-0.5
WHZ				SN		Sn	11 24 36.0	-0.2
WHZ				AML		AML	11 24 36.4	
EAZ	**Earnscleugh**	**1.75**	**119**	AML		AML	11 24 42.4	
EAZ				AML		AML	11 24 42.4	
EAZ				AML		AML	11 24 43.0	
EAZ				AML		AML	11 24 43.6	
FOZ	**Fox Glacier**	**2.02**	**66**	AML		AML	11 24 53.0	
FOZ				AML		AML	11 24 53.1	
FOZ				AML		AML	11 24 54.2	
FOZ				AML		AML	11 24 54.2	
LBZ	**Lake Benmore**	**2.18**	**91**	AML		AML	11 24 54.0	
LBZ				AML		AML	11 24 55.9	
LBZ				AML		AML	11 24 56.3	
LBZ				AML		AML	11 24 57.3	

*IDC **29** 11:39:16.4±0.9, 22.30S×169.46E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, ML3.7/1, MS3.5/4, Ms1 3.6/4, ms1mx3.2/31, Error ellipse: s-maj=34.6km s-min=19.2km az=160.0*

*NEIC **29** 11:39:17.7±0.5, 22.36S×169.52E, h10km, mb4.6/3, Error ellipse: s-maj=15.7km s-min=11.5km az=185.0*

*ISCJB **29** 11:39:18.4±0.6, 22.36S±0.09'×169.46E±0.07', h23km, mb4.1/14, MS4.2/1, Error ellipse: s-maj=13.0km s-min=8.9km az=14.4*

ISC 29 11:39:19.7±0.6, 22°30S±0.1'×169°48E±0.1', h23km, n51, σ0§92/53, mb4.2/13, 3C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.83**	**274**	Pn		**Pn**	**11 40 03.4**	**-0.2**
DZM				Sn		**Sn**	**11 40 35.6**	**-1.4**
DZM	**Mont Dzumac** 13nm,0.3s,baz=197,slow=19,SNR=519	**2.83**	**274**	Pn		**Pn**	**11 40 03.4**	**-0.2**
DZM	29nm,0.3s,baz=294,slow=20,SNR=5.3			Sn		**Sn**	**11 40 35.6**	**-1.4**
DZM	comp=Z,235nm,19.2s,baz=37,slow=29			LR		LR	11 40 37.5	
NFK	**Norfolk Island** baz=10,SNR=10	**6.85**	**191**	P		**Pn**	**11 40 59.3**	**+0.4**
HNR	**Honiara** comp=Z,124nm,18.3s,baz=174,slow=33	**15.73**	**323**	LR		LR	11 47 55.8	
URZ	**Urewera**	**17.20**	**159**	*e*Pn		**Pn**	**11 43 16.5**	**-2.0**
URZ	**Urewera** comp=Z,125nm,18.1s,baz=324,slow=34	**17.20**	**159**	LR		LR	11 48 55.1	
CTA	**Charters Tower**	**21.77**	**272**	P		**P**	**11 44 10.8**	**+0.8**
CTA	**Charters Tower** 1.8nm,0.7s,baz=82,slow=14,SNR=3.1	**21.77**	**272**	P		**P**	**11 44 10.8**	**+0.8**
CMSA	**Cobar Meteorol** baz=28,SNR=14	**23.08**	**241**	P		**P**	**11 44 25.8**	**+1.9**
QLP	**Quilpie** baz=29,SNR=5.1	**23.36**	**254**	P		**P**	**11 44 28.4**	**+1.7**
COEN	**Coen** 38nm,0.8s	**26.31**	**284**	*e*P		**P**	**11 44 55.5**	**+1.6**
COEN	**Coen** baz=32,SNR=16	**26.31**	**284**	P		**P**	**11 44 55.8**	**+1.8**
STKA	**Stephens Creek**	**26.53**	**243**	*e*P		**P**	**11 44 57.0**	**+1.2**
STKA	**Stephens Creek** 1.2nm,0.6s,baz=133,slow=20,SNR=3.8	**26.53**	**243**	P		**P**	**11 44 56.6**	**+0.8**
ASAR	**Alice Springs**	**32.73**	**261**	P		**P**	**11 45 50.6**	**-0.3**
ASAR				PcP		**PcP**	**11 48 36.0**	**-0.4**
ASAR	**Alice Springs** 2.3nm,0.7s,baz=81,slow=9.0,SNR=34	**32.73**	**261**	P		**P**	**11 45 50.6**	**-0.3**
ASAR	0.7nm,0.9s,baz=151,slow=3.0,SNR=4.3			PcP		**PcP**	**11 48 36.0**	**-0.4**
WRAB	**Tennant Creek** 3.1nm,0.9s	**32.81**	**268**	*e*P		**P**	**11 45 50.8**	**-0.9**
WRA	**Warramunga Arr**	**32.82**	**267**	P		**P**	**11 45 50.6**	**-1.2**
WRA				PcP		**PcP**	**11 48 36.5**	**-0.1**
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=97,slow=8.5,SNR=14	**32.82**	**267**	P		**P**	**11 45 50.6**	**-1.2**
WRA	0.7nm,0.8s,baz=96,slow=3.3,SNR=6.2			PcP		**PcP**	**11 48 36.5**	**-0.1**
KDU	**Kakadu** baz=42,SNR=4.0	**36.48**	**279**	P		**P**	**11 46 23.6**	**+0.2**
MTN	**Manton Dam** baz=43,SNR=6.9	**37.66**	**278**	P		**P**	**11 46 33.5**	**0.0**
WRKA	**Warakurna** baz=43,SNR=10	**37.72**	**258**	P		**P**	**11 46 34.1**	**+0.2**
KNRA	**Kununurra** baz=44,SNR=3.6	**38.97**	**272**	P		**P**	**11 46 44.6**	**+0.2**
FITZ	**Fitzroy Crossi** 5.9nm,0.6s	**41.25**	**268**	*e*P		**P**	**11 47 04.1**	**+0.7**
FITZ	**Fitzroy Crossi** baz=47,SNR=11	**41.25**	**268**	P		**P**	**11 47 04.1**	**+0.7**
MEEK	**Meekatharra** baz=52,SNR=8.9	**46.26**	**254**	P		**P**	**11 47 43.6**	**0.0**
MJAR	**Matsushiro Arr**	**65.56**	**333**	P		**P**	**11 50 01.0**	**-0.6**
MJAR	**Matsushiro Arr** 2.0nm,0.9s,baz=167,slow=6.1,SNR=5.5	**65.56**	**333**	P		**P**	**11 50 01.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**79.97**	**295**	P		**P**	**11 51 28.2**	**+0.6**
CMAR	**Chiang Mai Arr** 1.6nm,0.8s,baz=132,slow=3.7,SNR=13	**79.97**	**295**	P		**P**	**11 51 28.2**	**+0.6**
CMAR	comp=Z,99nm,19.1s,baz=11,slow=36			LR		LR	12 27 01.8	
SNAA	**Sanae**	**86.12**	**182**	*e*P		**P**	**11 51 58.4**	**-0.2**
SNAA	**Sanae** 0.6nm,0.8s,baz=198,slow=3.2,SNR=5.0	**86.12**	**182**	P		**P**	**11 51 58.1**	**-0.5**
SONM	**Songino Array**	**89.80**	**323**	P		**P**	**11 52 16.9**	**+0.5**
SONM	**Songino Array** 1.8nm,0.9s,baz=135,slow=4.2,SNR=12	**89.80**	**323**	P		**P**	**11 52 16.9**	**+0.5**
NVAR	**Mina Array Bea**	**90.65**	**48**	P		**P**	**11 52 21.6**	**+0.8**
NVAR	**Mina Array Bea** 1.4nm,0.7s,baz=232,slow=7.9,SNR=15	**90.65**	**48**	P		**P**	**11 52 21.6**	**+0.8**
ILAR	**Eielson Array**	**93.08**	**17**	P		**P**	**11 52 29.6**	**-1.6**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=258,slow=4.6,SNR=7.6	**93.08**	**17**	P		**P**	**11 52 29.6**	**-1.6**
TXAR	**Lajitas Array**	**98.02**	**62**	P		Pdif	11 52 56.8	+2.1
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=165,slow=3.7,SNR=3.4	**98.02**	**62**	P		Pdif	11 52 56.8	+2.1
BRG	**Berggiesshubel** 6.1nm,1.0s	**145.69**	**332**	*e*P		**PKPab**	**11 58 58.0**	**+1.2**
CLL	**Collm**	**145.76**	**334**	*e*PKPbc		**PKPab**	**11 58 57.0**	**-0.1**
EKA	**Eskdalemuir Ar**	**146.56**	**352**	PKPbc		**PKPbc**	**11 58 58.3**	**-0.6**
EKA	**Eskdalemuir Ar** 1.5nm,0.6s,baz=8.0,slow=2.7,SNR=6.2	**146.56**	**352**	PKPbc		**PKPbc**	**11 58 58.3**	**-0.6**
GERES	**GERESS Array B**	**147.27**	**330**	PKPbc		**PKPbc**	**11 59 01.9**	**+0.5**
GERES	**GERESS Array B** 2.3nm,0.6s,baz=34,slow=2.5,SNR=18	**147.27**	**330**	PKPbc		**PKPbc**	**11 59 01.9**	**+0.5**
ABTA	**Abfaltersbach** 3.1nm,0.7s	**149.32**	**328**	⇑*i*PKPbc		**PKPbc**	**11 59 07.1**	**+0.3**
WTTA	**Wattenberg** 12nm,1.2s	**149.37**	**330**	⇑*i*PKiKP		**PKiKP**	**11 59 08.0**	**-0.2**
FETA	**Feichten** 6.7nm,1.0s	**149.97**	**330**	⇑*i*PKiKP		**PKiKP**	**11 59 09.7**	**+0.3**
DAVOX	**Davos/Dischmat**	**150.53**	**331**	PKPbc		**PKPbc**	**11 59 10.7**	**+0.9**
DAVOX	**Davos/Dischmat** 6.9nm,0.8s,baz=299,slow=1.3,SNR=15	**150.53**	**331**	PKPbc		**PKPbc**	**11 59 10.7**	**+0.9**

*IDC **29** 11:47:30.3±0.5, 36.68S×72.89W, h0km, mb4.8/13, mb1 4.8/15, mb1mx4.8/17, mbtmp4.7/15, ML4.1/3, MS4.4/15, Ms1 4.4/15, ms1mx4.3/25, Error ellipse: s-maj=21.7km s-min=14.3km az=86.0*

*ISCJB **29** 11:47:33.8±0.5, 36.67S±0.02'×72.94W±0.04', h31km±3km, mb5.0/97, MS3.7/13, Error ellipse: s-maj=5.6km s-min=3.9km az=14.8*

*GUC **29** 11:47:33.8±0.5, 36.72S×72.97W, h30km±2km, ML5.3*

*MOS **29** 11:47:34.4±1.1, 36.61S×72.83W, h33km, mb5.3/25, Error ellipse: s-maj=16.4km s-min=7.8km az=96.2*

*NEIC **29** 11:47:35.0±0.2, 36.68S×72.92W, mb5.1/78, ML5.3(GUC), Error ellipse: s-maj=5.5km s-min=3.6km az=101.0*

NEIC Felt [VI] at Concepcion; [V] at Chillan, Penco and Tome; [IV] at Los Angeles; [III] at Cauquenes, Lebu and Linares; [II] at Angol, Constitucion, Talca and Temuco. Also felt at Chiguayante and Talcahuano.

*GCMT **29** 11:47:36.8±0.3, 36.78S×73.39W, h43km±2km, MW5.1, Moment Tensor Solution. s34,c44; s67,c83; Moment tensor: Scale 10^{16}Nm; M_{rr}3.37±.24; $M_{\theta\theta}$0.19±.18; $M_{\phi\phi}$-3.55±.17; $M_{r\theta}$0.36±.13; $M_{\theta\phi}$0.13±.12; $M_{\phi r}$-3.76±.21; Best double couple: $M_0$5.10000×10^{16} NP1:φ_s175.00000°, δ69.00000°, λ88.00000°. NP2:φ_s1.00000°, δ21.00000°, λ95.00000°. Principal axes: T 5.0400, Plg66.0000°, Azm82.0000°; N 0.1800, Plg2.0000°, Azm176.0000°; P -5.2100, Plg24.0000°, Azm267.0000°; Data Used: II IU IC G CU CN.*

*BJI **29** 11:47:38.1, 36.40S×72.60W, h25km, mB5.2/10, Ms5.2/11, Ms7 4.9/11*

ISC 29 11:47:34.5±0.4, 36°65S±0.03'×73°04W±0.04', h29km±2km, h28km:pP-P, n635, σ1§18/688, mb5.1/97, MS3.4/13, 167C-170D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.21**	**197**	*e*P		**Pb**	**11 47 39.8**	**-0.9**
CCSP				*e*S		**Sb**	**11 47 43.7**	**-1.2**
COCH	**Cobquecura**	**0.55**	**21**	⇑*e*P		**Pb**	**11 47 45.8**	**0.0**
COCH				*e*S		**Sn**	**11 47 54.4**	**-0.3**
COCH	**Cobquecura**

TLL	Tololo Astrono	6.73	17	P		Pn	11 49 10.9	-0.7
TLL	Tololo Astrono	6.73	17	*e*P		Pn	11 49 10.9	-0.7
TLL	Tololo Astrono	6.73	17	P		Pn	11 49 10.9	-0.7
LCO	Las Campanas	7.86	15	*e*P		Pn	11 49 26.0	-1.3
LCO				P		Pn	11 49 26.1	-1.2
LCO	Las Campanas	7.86	15	*e*Pn		Pn	11 49 25.9	-1.3
LCO				*e*Sn		Sn	11 50 53.9	-1.5
TRQA	Tornquist	8.92	102	*e*Pn		Pn	11 49 43.0	+1.6
TRQA				*e*Sn		Sn	11 51 19.0	-1.9
CHRN	Cochrane	10.49	179	*e*P		Pn	11 50 04.4	+1.4
LPA	La Plata	12.39	86	*ce*P		Pn	11 50 31.0	+2.1
LPA				sP			11 50 43.0	
LPA				PCP		PcP	11 56 06.0	-2.8
LPA				PKIKP		PKiKP	12 04 05.0	-1.3
PB06	Plate Boundary	14.21	13	P		Pn	11 50 55.1	+1.0
PB06	Plate Boundary	14.21	13	P		Pn	11 50 55.1	+1.0
LVC	Limon Verde	14.44	15	*e*Pn		Pn	11 50 57.0	-0.2
LVC				*e*Sn		Sn	11 53 34.9	-1.6
PB07	Plate Boundary	15.12	11	P		Pn	11 51 06.2	-0.1
PB07	Plate Boundary	15.12	11	P		Pn	11 51 06.2	-0.1
PB09	Plate Boundary	15.16	14	P		Pn	11 51 08.4	+1.5
PB09	Plate Boundary	15.16	14	P		Pn	11 51 08.4	+1.5
PB01	Plate Boundary	15.85	12	P		Pn	11 51 15.2	-0.6
PB01	Plate Boundary	15.85	12	P		Pn	11 51 15.2	-0.6
PATCX	Punta Patache	15.97	10	P		P	11 51 23.1	+2.5
HMBC	Humberstone	16.54	10	P		P	11 51 29.1	+2.1
HMBC	Humberstone	16.54	10	P		P	11 51 29.1	+2.1
CPUP	Villa Florida	16.87	57	*e*Pn		Pn	11 51 27.9	-0.6
CPUP				*e*Sn		Sn	11 54 30.3	-4.8
CPUP	Villa Florida	16.87	57	Pn		Pn	11 51 27.1	-1.4
	comp=N,0.7nm,0.3s,baz=218,slow=11,SNR=12							
CPUP				LR		LR	11 58 36.1	
	comp=N,3µm,19.5s,baz=212,slow=40							
PSGC	Pisagua	17.18	9	P		P	11 51 37.1	+3.1
PSGC	Pisagua	17.18	9	P		P	11 51 37.1	+3.1
MNMC	Minimini	17.71	11	P		Pn	11 51 39.7	+0.3
MNMC	Minimini	17.71	11	P		Pn	11 51 39.7	+0.3
EFI	East Falkland	18.41	149	*e*P		Pn	11 51 47.4	0.0
EFI				pmax		pmax		
	comp=Z,12nm,0.5s							
EFI	East Falkland	18.41	149	*e*Pn		Pn	11 51 48.1	+0.6
EFI				*e*Sn		Sn	11 55 08.6	-3.5
USHA	Ushuaia	18.46	172	P		Pn	11 51 48.3	+0.2
USHA	Ushuaia	18.46	172	P		Pn	11 51 48.3	+0.2
	comp=Z,0.3nm,0.3s,baz=330,slow=12,SNR=2.9							
USHA				LR		LR	11 59 15.1	
	comp=Z,1µm,19.0s,baz=329,slow=38							
LPAZ	La Paz	20.74	13	*e*Pn		Pn	11 52 15.0	-1.2
	comp=Z,69nm,1.1s							
LPAZ	La Paz	20.74	13	P		P	11 52 14.2	+0.6
	comp=Z,26nm,0.8s,baz=184,slow=7.8,SNR=37							
SIV	San Ignacio	23.16	30	P		P	11 52 38.5	-0.3
SIV	San Ignacio	23.16	30	P		P	11 52 38.5	-0.3
	comp=Z,66nm,1.0s,baz=228,slow=10,SNR=79							
SIV				LR		LR	12 03 23.0	
	comp=Z,16nm,28.6s,baz=190,slow=41							
NNA	Nana	24.79	351	*e*P		P	11 52 53.9	-0.3
SAML	Samuel	28.99	20	*e*P		P	11 53 31.4	-0.4
	comp=Z,10nm,1.4s							
BDFB	Brasilia	30.53	53	*e*P		P	11 53 44.9	-0.7
BDFB	Brasilia	30.53	53	P		P	11 53 43.4	-2.2
	comp=Z,5.8nm,0.9s,baz=232,slow=8.9,SNR=5.1							
BDFB				LR		LR	12 07 19.8	
	comp=Z,17nm,28.6s,baz=220,slow=39							
OTAV	Otavalo	37.04	351	*e*P		P	11 54 44.0	+1.4
	comp=Z,19nm,1.2s							
PTGA	Pitinga	37.73	22	*e*P		P	11 54 47.3	-0.6
	comp=Z,22nm,1.1s							
ROSC	El Rosal	41.30	358	P		P	11 55 19.3	+1.2
ROSC	El Rosal	41.30	358	P		P	11 55 19.3	+1.2
	comp=Z,5.2nm,0.3s,baz=93,slow=22,SNR=4.5							
SDV	Santo Domingo	45.35	3	*e*P		P	11 55 49.8	-0.6
	comp=Z,4.4nm,0.9s							
SNAA	Sanae	49.46	157	*e*P		P	11 56 21.9	+0.2
	comp=Z,22nm,1.0s							
SNAA	Sanae	49.46	157	P		P	11 56 21.7	0.0
	comp=Z,5.1nm,1.1s,baz=286,slow=6.2,SNR=12							
QSPA	South Pole Qui	53.59	180	*e*P		P	11 56 53.1	+0.3
	comp=Z,45nm,1.2s							
APG	El Apazote	53.94	339	P		P	11 56 53.6	-2.3
APG	El Apazote	53.94	339	P		P	11 56 53.6	-2.3
	comp=Z,7.4nm,0.8s,baz=163,slow=10,SNR=5.1							
APG				LR		LR	12 14 45.8	
	comp=Z,16nm,28.6s,baz=137,slow=30							
RKT	Rikitea	54.52	266	*e*LR		LR	12 12 58.7	
	comp=Z,768nm,27.2s,baz=128							
RKT	Rikitea	54.52	266	*e*T		T	12 55 09.5	
	comp=Z,1.7nm,0.2s							
CRPR	Cabo Rojo, PR	54.64	7	*e*P		P	11 57 00.4	-0.3
	comp=Z,37nm,1.1s							
CELP	Cerrillos	54.77	8	*e*P		P	11 57 01.9	+0.3
TEIG	Tepich	58.37	343	*e*P		P	11 57 27.1	-0.2
TEIG	Tepich	58.37	343	P		P	11 57 27.0	-0.2
	comp=Z,18nm,0.9s,baz=22,slow=15,SNR=4.7							
VNDA	Vanda	61.35	192	P		P	11 57 54.2	+7.2
VNDA	Vanda	61.35	192	P		P	11 57 54.2	+7.2
	comp=Z,4.0nm,1.1s,baz=152,slow=6.2,SNR=5.8							
SYO	Syowa Base	63.71	158	⇓*e*P		P	11 58 02.0	-0.9
SYO	Syowa Base	63.71	158	⇑*e*pP		pP	11 58 15.3	+3.4
DWPF	Disney	64.90	352	*e*P		P	11 58 10.4	-0.7
TBI	Tubuai	65.94	258	*e*S		S	12 07 06.9	+3.0
	comp=Z,174nm,27.2s							
TBI	Tubuai	65.94	258	*e*LR		LR	12 18 13.3	
	comp=Z,927nm,26.8s,baz=141							
MEH	Mehetia	67.72	264	*e*T		T	13 11 39.0	
	comp=Z,59nm,0.2s							
934A	Benavides	68.26	336	⇑P		P	11 58 35.3	+2.7
	baz=69							
835A	Beeville	68.67	337	⇓P		P	11 58 37.5	+2.3
	baz=69							
TVO	Taravao	68.72	263	*e*T		T	13 12 54.1	
	comp=Z,1.4nm,0.2s							
834A	Tilden	68.75	336	⇓P		P	11 58 37.8	+2.1
	baz=69							
TIAR	Tiarei	68.91	263	*e*T		T	13 13 08.6	
	comp=Z,6.5nm,0.2s							
PPT2	Papeete2	69.08	263	*e*S		S	12 07 44.9	+3.0
	comp=Z,268nm,24.2s							
PPT2	Papeete2	69.08	263	*e*LR		LR	12 19 47.5	
	comp=Z,1µm,24.0s,baz=125							
PPT	Papeete	69.09	263	P		P	11 58 44.5	+6.3
PPT	Papeete	69.09	263	P		P	11 58 44.5	+6.3
	comp=Z,31nm,0.6s,baz=93,slow=9.2,SNR=3.8							
735A	Kenedy	69.19	337	⇓P		P	11 58 40.5	+2.1
	baz=70							
833A	Chaparral WMA,	69.22	335	⇓P		P	11 58 40.4	+1.8
	baz=70							
832A	Faith Ranch, C	69.38	335	⇑P		P	11 58 40.5	+1.0
	baz=70,SNR=6.4							
734A	JLa Parita Cre	69.42	336	⇓P		P	11 58 41.6	+1.7
	baz=70							
635A	Leesville	69.68	337	⇑P		P	11 58 42.5	+1.1
	baz=70							
732A	Laxson Ranch,	69.79	335	⇑P		P	11 58 42.9	+0.8
	baz=70,SNR=12							
633A	Saathoff Ranch	70.19	336	⇓P		P	11 58 46.0	+1.5
	baz=71							
535A	Dale	70.21	337	⇓P		P	11 58 46.0	+1.3
	baz=71							
632A	Uvalde	70.44	335	⇓P		P	11 58 47.2	+1.1
	baz=71,SNR=8.2							
534A	Blanco	70.49	337	⇑P		P	11 58 47.4	+0.9
	baz=71							
631A	Perdido Creek	70.62	335	⇑P		P	11 58 48.4	+1.2
	baz=71							
533A	Kerrville	70.71	336	⇑P		P	11 58 48.8	+1.0
	baz=71,SNR=8.0							
MAW	Mawson	70.88	164	*e*P		P	11 58 48.7	+0.4
MAW	Mawson	70.88	164	P		P	11 58 48.4	+0.1
	comp=Z,12nm,1.0s,baz=232,slow=7.3,SNR=7.3							
MAW				LR		LR	12 29 24.6	
	comp=Z,361nm,20.9s,baz=224,slow=36							
532A	Rocksprings	71.05	336	⇑P		P	11 58 50.8	+0.9
	baz=71,SNR=12							
434A	Burnet	71.16	337	⇑P		P	11 58 51.0	+0.6
	baz=72,SNR=8.1							
531A	Rocksprings	71.30	335	⇓P		P	11 58 52.1	+0.8
	baz=72							
335A	Moody	71.33	338	⇑P		P	11 58 52.3	+0.9
	baz=72							
JCT	Junction City	71.34	336	*e*P		P	11 58 52.7	+1.1
JCT				pmax		pmax		
	comp=Z,18nm,1.0s							
JCT	Junction City	71.34	336	*e*P		P	11 58 52.7	+1.1
	comp=Z,18nm,1.0s							
433A	Art	71.36	336	⇓P		P	11 58 52.1	+0.5
	baz=72,SNR=9.4							
628A	Black Gap, Mar	71.51	333	⇓P		P	11 58 53.7	+1.0
	baz=72,SNR=7.6							
530A	J-C Ranch, Com	71.56	334	⇓P		P	11 58 54.1	+1.2
	baz=72,SNR=15							
334A	Lometa	71.63	337	⇓P		P	11 58 53.9	+0.6
	baz=72,SNR=18							
TXAR	Lajitas Array	71.66	332	P		P	11 58 54.5	+0.9
TXAR	Lajitas Array	71.66	332	P		P	11 58 54.5	+0.9
	comp=Z,4.3nm,0.8s,baz=152,slow=7.7,SNR=46							
TXAR				LR		LR	12 24 56.7	
	comp=Z,346nm,20.5s,baz=0.0,slow=31							
627A	Terlingua Ranc	71.67	332	⇓P		P	11 58 54.5	+0.8
	baz=72							
432A	Menard	71.70	336	⇓P		P	11 58 54.3	+0.6
	baz=72							
431A	Sonora	71.80	335	⇓P		P	11 58 54.6	+0.3
	baz=72							
KMSC	Kings Mountain	71.84	353	⇓P		P	11 58 54.5	+0.1
	baz=72							
529A	Stev Forest Ra	71.85	334	⇑P		P	11 58 55.1	+0.4
	baz=72							
333A	Richland Sprin	71.86	337	⇓P		P	11 58 54.9	+0.2
	baz=72,SNR=8.0							
WHTX	Lake Whitney	72.01	338	*e*P		P	11 58 56.0	+0.5
WHTX	Lake Whitney	72.01	338	⇓P		P	11 58 56.0	+0.5
	baz=72,SNR=7.8							
626A	Big Bend Ranch	72.04	332	⇓P		P	11 58 57.5	+1.6
	baz=72,SNR=8.8							
430A	Baggett Ranch,	72.11	335	⇓P		P	11 58 56.9	+0.7
	baz=72,SNR=14							
332A	Millersview	72.15	336	⇑P		P	11 58 57.0	+0.6
	baz=72,SNR=7.2							
429A	Davenport Ranc	72.19	334	⇓P		P	11 58 57.6	+0.9
	baz=73,SNR=7.5							
234A	Clairlte	72.22	338	⇑P		P	11 58 57.3	+0.5
	baz=73							
331A	San Angelo	72.31	336	⇑P		P	11 58 57.8	+0.4
	baz=73,SNR=11							
527A	Woodward Ranch	72.37	332	⇑P		P	11 58 58.6	+0.7
	baz=73,SNR=11							
233A	Rising Star	72.47	337	⇑P		P	11 58 58.9	+0.6
	baz=73,SNR=9.0							
526A	Mary Lane Ranc	72.48	332	⇑P		P	11 58 59.3	+0.8
	baz=73,SNR=13							
SWET	Sewanee	72.50	349	*e*P		P	11 58 58.3	-0.1
	comp=Z,26nm,0.8s							
135A	Vickery Place,	72.52	339	⇓P		P	11 58 59.2	+0.6
	baz=73							
CPCT	Cooper Cave	72.52	350	*e*P		P	11 58 59.0	+0.5
CPCT				*e*pP		pP	11 59 07.6	0.0
428A	Kincaid Ranch,	72.56	333	⇓P		P	11 58 59.5	+0.5
	baz=73							
232A	Coleman	72.59	336	⇓P		P	11 58 59.7	+0.7
	baz=73							
330A	Mertzon	72.65	335	⇑P		P	11 59 00.1	+0.7
	baz=73							
134A	White-Moore Ra	72.74	338	⇓P		P	11 59 00.2	+0.4
	baz=73							
231A	Bronte	72.85	336	⇓P		P	11 59 00.9	+0.3
	baz=73,SNR=9.9							
427A	Hayter Ranch,	72.93	333	⇓P		P	11 59 01.8	+0.6
	baz=73							
426A	McDald Obser	73.00	332	⇓P		P	11 59 02.4	+0.7
	baz=73,SNR=16							
329A	Wagon Wheel Ra	73.00	334	⇓P		P	11 59 02.1	+0.5
	baz=73,SNR=9.8							
133A	Hamilton Ranch	73.02	337	⇓P		P	11 59 01.9	+0.4
	baz=73,SNR=7.7							
230A	Sterling City	73.07	335	⇑P		P	11 59 02.3	+0.4
	baz=74							
328A	Wristen Ranch,	73.20	334	⇓P		P	11 59 03.0	+0.3
	baz=74							
Z35A	Perchaven, San	73.20	339	⇑P		P	11 59 03.3	+0.8
	baz=74							
ABTX	Abilene, Hawle	73.27	337	*e*P		P	11 59 03.5	+0.5
ABTX				*e*pP		pP	11 59 12.2	+0.1
ABTX	Abilene, Hawle	73.27	337	⇓P		P	11 59 03.5	+0.5
	baz=74,SNR=5.5							
MIAR	Mount Ida	73.37	342	*e*P		P	11 59 04.5	+0.9
MIAR				*e**PP		pP	11 59 12.4	-0.2
MIAR	Mount Ida	73.37	342	*e*P		P	11 59 04.5	+0.9
	comp=Z,1.2nm,0.7s							
MIAR				*e*pP		pP	11 59 12.4	-0.2
229A	Bryant Ranch,	73.38	335	⇓P		P	11 59 04.3	+0.5
	baz=74							
Z34A	Collier Ranch,	73.43	338	⇓P		P	11 59 04.2	+0.2
	baz=74							
425A	Indio Mountain	73.47	332	⇓P		P	11 59 04.8	+0.4
	baz=74							
131A	Roby	73.55	336	⇑P		P	11 59 05.2	+0.5
	baz=74							
326A	Caldwell Ranch	73.56	333	⇓P		P	11 59 05.3	+0.4
	baz=74							
Z33A	Whitaker Ranch	73.61	338	⇓P		P	11 59 05.5	+0.5
	baz=74,SNR=5.3							
130A	Snyder	73.67	336	⇑P		P	11 59 05.7	+0.3
	baz=74							
WVT	Waverly	73.70	348	*e*P		P	11 59 04.7	-0.7
WVT				*e**PP		pP	11 59 14.0	-0.5
WVT				pmax		pmax		
	comp=Z,47nm,1.3s							
WVT	Waverly	73.70	348	*e*P		P	11 59 04.7	-0.7
	comp=Z,46nm,1.3s							
WVT				*e*pP		pP	11 59 14.0	-0.5
228A	UT Block 9, Go	73.79	334	⇓P		P	11 59 06.6	+0.4
	baz=74,SNR=6.3							
Z32A	Haskell	73.85	337	⇓P		P	11 59 06.6	+0.2
	baz=74,SNR=6.9							
Y34A	Reagan Ranch,	73.93	339	⇓P		P	11 59 06.9	0.0
	baz=74							
227A	Bennet, Jal	73.94	334	⇑P		P	11 59 07.7	+0.7
	baz=74							
DRV	Dumont d'Urvil	73.94	193	S		S	12 08 41.0	+4.6
DRV				SS		SS	12 12 46.0	-34
DRV				L		L	12 18 00.0	
DRV				R			12 23 00.0	
325A	Bean Ranch, Si	73.98	332	⇑P		P	11 59 07.9	+0.4
	baz=74							
129A	Stewart Farms,	74.00	335	⇑P		P	11 59 07.7	+0.3
	baz=74							
Z31A	Sharp Cattle R	74.07	337	⇓P		P	11 59 07.9	+0.2
	baz=74,SNR=5.5							
128A	Castleberry Fa	74.21	334	⇑P		P	11 59 08.9	+0.3
	baz=75							
Y33A	Hilltop Ranch,	74.24	338	⇓P		P	11 59 08.9	+0.3
	baz=75							
324A	Moseley Ranch,	74.24	332	⇓P		P	11 59 09.0	+0.1
	baz=75,SNR=6.7							
226B	Tecolote Peak,	74.32	333	⇓P		P	11 59 10.3	+1.0
	baz=75,SNR=5.0							
Z30A	Sanderson Ranc	74.36	336	⇓P		P	11 59 09.8	+0.3
	baz=75,SNR=6.6							
MNTX	Cornudas Mount	74.43	332	*e*P		P	11 59 09.5	-0.3
	comp=Z,5.8nm,1.0s							
Y32A	R-V Farms, Ver	74.48	337	⇓P		P	11 59 10.4	+0.4
	baz=75							
Z29A	Hungry Hill Ra	74.52	335	⇑P		P	11 59 10.5	0.0
	baz=75,SNR=8.2							
X34A	Smith Ranch, M	74.56	339	⇓P		P	11 59 11.1	+0.6
	baz=75							
X33A	Lawton	74.69	338	⇓P		P	11 59 11.6	+0.3
	baz=75							
Y31A	Rekieta Farm,	74.70	337	⇑P		P	11 59 11.8	+0.5
	baz=75							
126A	Clayton Basin,	74.78	333	⇓P		P	11 59 12.4	+0.5
	baz=75							
Z28A	Tucker Farm, M	74.78	335	⇓P		P	11 59 12.2	+0.3
	baz=75							
PBMO	Poplar Bluff	74.82	346	*e*P		P	11 59 11.8	-0.1
	comp=Z,9.3nm,0.8s							
X32A	Elmer	74.82	338	⇑P		P	11 59 12.4	+0.4
	baz=75							
224A	Cornudas Mount	74.82	332	⇑P		P	11 59 12.3	+0.1
	baz=75,SNR=7.3							
Y30A	Stafford Cattl	74.82	336	⇑P		P	11 59 12.4	+0.3
	baz=75							
WMOK	Wichita Mounta	74.96	338	*e*P		P	11 59 12.6	-0.3
WMOK				*e**PP		pP	11 59 21.6	-0.4
WMOK				pmax		pmax		
	comp=Z,9.0nm,1.5s							
WMOK	Wichita Mounta	74.96	338	*e*P		P	11 59 12.6	-0.3
	comp=Z,9.1nm,1.5s							
WMOK				*e*pP		pP	11 59 21.6	-0.4
125A	Gardner Draw,	75.02	333	⇓P		P	11 59 13.4	0.0
	baz=75							
Y29A	Porterfield Fa	75.06	336	⇑P		P	11 59 13.7	+0.2
	baz=76							
Z27A	Tatum	75.09	334	⇓P		P	11 59 14.4	+0.6
	baz=76							
W34A	Bridge Creek,	75.13	339	⇓P		P	11 59 14.3	+0.5
	baz=76							
TUL1	Tulsa	75.22	341	*e*P		P	11 59 14.3	0.0
TUL1				*e*pP		pP	11 59 22.8	-0.6
TUL1	Tulsa	75.22	341	⇑P		P	11 59 15.0	+0.6
	baz=76							
X31A	McDonald Ranch	75.23	337	⇑P		P	11 59 14.9	+0.5
	baz=76,SNR=5.8							
W33A	Caddo, Fort Co	75.25	339	⇓P		P	11 59 15.5	+1.0
	baz=76,SNR=9.7							
Y28A	McKinney Farm,	75.30	335	⇑P		P	11 59 15.6	+0.6
	baz=76							
Z26A	Caprock	75.32	334	⇑P		P	11 59 15.7	+0.6
	baz=76,SNR=14							
X30A	Coker Ranch, T	75.34	336	⇓P		P	11 59 15.4	+0.3
	baz=76							
124A	Stringfield Ra	75.35	332	⇑P		P	11 59 16.3	+0.8
	baz=76,SNR=7.5							
320A	Kipp Ranch, An	75.36	329	⇓P		P	11 59 17.0	+1.6
	baz=76,SNR=5.5							
222A	Williams Famil	75.46	331	⇓P		P	11 59 17.0	+1.1
	baz=76							
SIUC	Southern Illin	75.49	347	*e*P		P	11 59 15.7	-0.1
SIUC				*e*pP		pP	11 59 24.5	-0.4
MSTX	Muleshoe	75.53	335	*e*P		P	11 59 16.4	+0.1
	comp=Z,37nm,1.6s							
MSTX	Muleshoe	75.53	335	⇑P		P	11 59 16.7	+0.4
	baz=76							
Y27A	Causey	75.59	334	⇓P		P	11 59 17.2	+0.6
	baz=76							
Z25A	Roswell	75.60	333	⇓P		P	11 59 17.2	+0.5
	baz=76							
X29A	Tulia	75.61	336	⇓P		P	11 59 17.2	+0.5
	baz=76							
221A	Mesquite Ranch	75.64	330	⇑P		P	11 59 18.3	+1.3
	baz=76							
319A	Douglas	75.71	329	⇑P		P	11 59 19.2	+1.8
	baz=76,SNR=6.4							
W31A	Holland Ranch,	75.73	338	⇑P		P	11 59 17.4	+0.1
	baz=76							
V33A	Lossen Ranch,	75.83	339	⇑P		P	11 59 18.2	+0.4
	baz=76							
X28A	Dimmitt	75.84	335	⇓P		P	11 59 18.5	+0.5
	baz=76							
Y26A	Elida	75.86	334	⇑P		P	11 59 18.6	+0.5
	baz=76							
Z24A	Sheeppen Canyo	75.88	333	⇓P		P	11 59 19.2	+0.8
	baz=76							
V32A	Arapaho	75.95	338	⇑P		P	11 59 19.4	+0.9
	baz=76							
AMTX	Amarillo	76.00	336	*e*P		P	11 59 19.7	+0.8
	comp=Z,31nm,1.3s							
AMTX	Amarillo	76.00	336	⇑P		P	11 59 19.8	+0.9
	baz=76							
121A	Cookes Peak, D	76.11	330	*e*P		P	11 59 21.8	+2.1
121A	Cookes Peak, D	76.11	330	⇑P		P	11 59 21.3	+1.7
	baz=76,SNR=6.6							
Z23A	Rita Site, Whi	76.15	332	⇑P		P	11 59 21.4	+1.6
	baz=76							
Y25A	Mesa, Roswell	76.17	333	⇑P		P	11 59 21.0	+1.1
	baz=77							
U34A	Anderson Ranch	76.19	340	⇓P		P	11 59 20.7	+0.9
	baz=77							
W29A	Amraillo	76.21	336	⇑P		P	11 59 20.6	+0.5
	baz=77,SNR=5.8							
V31A	Spring Creek L	76.24	338	⇑P		P	11 59 21.3	+1.1
	baz=77							
X27A	F and S Farms,	76.26	335	⇑P		P	11 59 20.7	+0.2
	baz=77							
MVL	Millersville	76.33	357	*e*P		P	11 59 15.1	-5.4
	comp=Z,38nm,0.9s							
U33A	Lingo Farm, Me	76.35	339	⇓P		P	11 59 21.4	+0.6
	baz=77							
LIC	Lamto	76.38	72	*e*P		P	11 59 21.3	-0.2
	comp=Z,75nm,1.1s							
X26A	CR and CF Fran	76.42	334	⇓P		P	11 59 22.0	+0.6
	baz=77,SNR=5.2							
Z22A	Elephant Butte	76.42	331	⇓P		P	11 59 22.5	+1.1
	baz=77							
Y24A	Capitan	76.44	333	⇓P		P	11 59 22.5	+0.9
	baz=77,SNR=6.1							
V30A	Spur Ranch, Mi	76.49	337	⇑P		P	11 59 22.6	+0.9
	baz=77							
U32A	Winter Ranch,	76.55	339	⇓P		P	11 59 22.8	+0.9
	baz=77							
W27A	Bowe Ranch, En	76.63	335	⇑P		P	11 59 23.0	+0.5
	baz=77,SNR=6.6							
TIC	Toumodi	76.66	71	*e*P		P	11 59 22.8	-0.3
	comp=Z,35nm,0.9s							
Y23A	Lovelace Mesa,	76.67	332	⇑P		P	11 59 23.8	+0.9
	baz=77							
KIC	Kosan Boka	76.69	72	*e*P		P	11 59 23.1	-0.1
	comp=Z,77nm,1.1s							
X25A	Clemmons Ranch	76.70	334	⇓P		P	11 59 23.2	+0.2
	baz=77,SNR=5.2							
U31A	Nine Bar Ranch	76.80	338	⇑P		P	11 59 23.9	+0.6
	baz=77							
DBIC	Dimbokro	76.80	71	P		P	11 59 23.9	0.0
	comp=Z,15nm,0.9s,baz=203,slow=6.4,SNR=21							
DBIC				LR		LR	12 29 29.2	
	comp=Z,16nm,28.6s,baz=210,slow=33							
W26A	Owens Ranch, T	76

	baz=79							
T27A	**Campo**	78.33	336	⇓P		P	11 59	32.7 +0.7
	baz=79							
S29A	**Ulysses**	78.33	338	⇑P		P	11 59	32.6 +0.7
	baz=79							
R32A	**Long Quarter,**	78.37	340	⇓P		P	11 59	32.6 +0.5
	baz=79							
KSU1	**Kansas State U**	78.45	341	*e*P		P	11 59	33.0 +0.5
	comp=Z,9.5nm,0.9s							
KSU1	**Kansas State U**	78.45	341	⇓P		P	11 59	32.6 +0.1
	baz=79							
R31A	**Burdett**	78.48	339	⇓P		P	11 59	33.0 +0.3
	baz=79							
S28A	**Manter**	78.55	337	⇓P		P	11 59	33.6 +0.4
	baz=79							
Q33A	**Connelly Farm,**	78.67	341	⇑P		P	11 59	33.9 +0.3
	baz=79							
R30A	**Dighton**	78.69	338	⇑P		P	11 59	34.0 +0.1
	baz=79							
T26A	**Comanche Natio**	78.72	336	⇓P		P	11 59	34.6 +0.4
	baz=79							
X18A	**Snowflake**	78.72	330	⇓P		P	11 59	35.8 +1.5
	baz=79,SNR=5.7							
V22A	**San Miguel Ran**	78.76	333	⇓P		P	11 59	36.5 +2.0
	baz=79,SNR=12							
Q32A	**Meitler Ranch,**	78.86	340	⇓P		P	11 59	35.4 +0.6
	baz=79							
U23A	**El Rito**	78.86	333	⇑P		P	11 59	35.8 +0.7
	baz=79							
T25A	**Trinidad**	78.96	335	⇓P		P	11 59	37.0 +1.4
	baz=79,SNR=5.9							
S26A	**Kim**	79.09	336	⇑P		P	11 59	37.4 +1.2
	baz=80,SNR=7.1							
Q31A	**Ellis**	79.11	339	⇑P		P	11 59	36.8 +0.7
	baz=80							
U22A	**Llaves**	79.15	333	⇑P		P	11 59	37.5 +0.8
	baz=80							
W18A	**Petrified Fore**	79.15	330	*e*P		P	11 59	38.5 +1.9
W18A	**Petrified Fore**	79.15	330	⇑P		P	11 59	38.4 +1.8
	baz=80,SNR=8.0							
R28A	**Tribune**	79.21	337	⇑P		P	11 59	37.8 +1.0
	baz=80							
T24B	**San Luis**	79.23	334	⇑P		P	11 59	38.7 +1.5
	baz=80							
X16A	**Lo Mia Camp, P**	79.24	328	⇓P		P	11 59	38.5 +1.4
	baz=80,SNR=5.8							
TSUM	**Tsumeb**	79.28	106	*e*P		P	11 59	37.8 +0.1
	comp=Z,11nm,1.0s							
Q30A	**Quinter**	79.32	339	⇓P		P	11 59	37.9 +0.6
	baz=80,SNR=5.8							
T23A	**Casias Ranch,**	79.44	334	⇑P		P	11 59	39.4 +1.2
	baz=80							
S25A	**Robets Cordova**	79.44	335	⇓P		P	11 59	39.6 +1.4
	baz=80							
P32A	**Huiting Farm,**	79.46	340	⇑P		P	11 59	39.0 +1.0
	baz=80							
Q29A	**Oakley**	79.46	338	⇓P		P	11 59	39.1 +1.0
	baz=80							
R27A	**Eads**	79.47	337	⇓P		P	11 59	38.8 +0.6
	baz=80,SNR=6.0							
BOSA	**Boshof**	79.56	118	*e*P		P	11 59	38.4 -0.9
	comp=Z,35nm,1.1s							
BOSA	**Boshof**	79.56	118	P		P	11 59	38.9 -0.3
	comp=Z,22nm,1.0s,baz=230,slow=5.9,SNR=13							
P31A	**Stockton**	79.58	340	⇓P		P	11 59	39.4 +0.7
	baz=80							
S24A	**Houchin Ranch,**	79.69	335	⇓P		P	11 59	41.3 +1.6
	baz=80,SNR=6.1							
R26A	**Arlington**	79.69	336	⇓P		P	11 59	41.2 +1.7
	baz=80							
R25A	**Fountain Ranch**	79.83	335	⇑P		P	11 59	41.2 +1.0
	baz=80							
P30A	**Selden**	79.85	339	⇑P		P	11 59	41.4 +1.2
	baz=80							
Q28A	**Sharon Springs**	79.88	338	⇑P		P	11 59	41.8 +1.4
	baz=80							
SDCO	**Great Sand Dun**	79.89	334	*e*P		P	11 59	42.2 +1.5
	comp=Z,8.3nm,1.2s							
Y12C	**Blythe**	80.02	326	⇑P		P	11 59	43.1 +2.0
	baz=80							
KSCO	**Kaye Shedlock'**	80.08	337	*e*P		P	11 59	42.8 +1.3
	comp=Z,24nm,1.3s							
KSCO	**Kaye Shedlock'**	80.08	337	⇓P		P	11 59	42.9 +1.3
	baz=80							
P29A	**Atwood**	80.11	338	⇓P		P	11 59	42.5 +0.9
	baz=80,SNR=5.5							
O31A	**Woolen Ranch,**	80.16	340	⇑P		P	11 59	42.6 +0.8
	baz=81							
WUAZ	**Wupatki**	80.16	329	*e*P		P	11 59	43.4 +1.3
	comp=Z,22nm,1.4s							
WUAZ	**Wupatki**	80.16	329	⇓P		P	11 59	43.8 +1.8
	baz=80,SNR=8.7							
MONP	**Monument Peak**	80.18	324	⇑P		P	11 59	43.7 +1.4
	baz=81							
R24A	**Sanders Place,**	80.19	335	⇑P		P	11 59	43.8 +1.6
	baz=81,SNR=6.5							
Q26A	**Hugo**	80.28	336	⇑P		P	11 59	44.0 +1.3
	baz=81							
P28A	**Saint Francis**	80.33	338	⇑P		P	11 59	44.3 +1.5
	baz=81							
S22A	**4UR Ranch, Cre**	80.36	333	⇑P		P	11 59	44.0 +0.8
	baz=81							
O30A	**MW Ranch, Wils**	80.39	339	⇓P		P	11 59	43.7 +0.7
	baz=81							
R23A	**Moffat**	80.40	334	⇑P		P	11 59	44.0 +0.5
	baz=81							
N32A	**Stulken Farm,**	80.45	341	⇑P		P	11 59	44.0 +0.7
	baz=81							
MVCO	**Mesa Verde**	80.50	332	*e*P		P	11 59	45.3 +1.3
	comp=Z,13nm,1.1s							
MVCO	**Mesa Verde**	80.50	332	⇑P		P	11 59	44.5 +0.6
	baz=81							
Q25A	**Bedland, Calha**	80.51	336	⇓P		P	11 59	44.6 +0.6
	baz=81							
P27A	**Ficken Ranch,**	80.56	337	⇑P		P	11 59	45.1 +1.0
	baz=81							
IRM	**Iron Mountain**	80.65	326	⇑P		P	11 59	46.1 +1.5
	baz=81							
N31A	**Bailey Ranch,**	80.68	340	⇑P		P	11 59	45.7 +1.1
	baz=81							
PFO	**Pinyon Flat Ob**	80.79	324	*e*P		P	11 59	46.7 +1.3
	comp=Z,18nm,1.4s							
PFO	**Pinyon Flat Ob**	80.79	324	⇑P		P	11 59	47.1 +1.7
	baz=81							
P26A	**Davis Ranch, A**	80.81	337	⇓P		P	11 59	46.9 +1.4
	baz=81							
Q24A	**Divide**	80.86	335	⇑P		P	11 59	46.9 +1.0
	baz=81							
W13A	**Hualapai Mount**	80.87	327	⇑P		P	11 59	47.3 +1.3
	baz=81							
LONY	**Lake Ozonia**	80.90	359	*e*P		P	11 59	42.6 -3.0
	comp=Z,58nm,1.2s							
BGNE	**Belgrade**	81.02	341	*e*P		P	11 59	47.5 +1.1
	comp=Z,40nm,1.4s							
P25A	**Willow Gulch B**	81.03	336	⇑P		P	11 59	47.9 +1.3
	baz=81,SNR=8.3							
RPZ	**Rata Peaks**	81.11	221	P		P	11 59	53.8 +6.6
RPZ	**Rata Peaks**	81.11	221	P		P	11 59	53.8 +6.6
	comp=Z,30nm,1.2s,baz=344,slow=3.3,SNR=3.8							
MURC	**Murrieta**	81.13	324	⇓P		P	11 59	48.8 +1.6
	baz=82							
N29A	**Votaw Ranch, W**	81.14	339	⇓P		P	11 59	48.2 +1.2
	baz=82							
M31A	**Lambtecht Ranc**	81.17	341	⇓P		P	11 59	48.5 +1.3
	baz=82							
N28A	**Pribbeno Ranch**	81.29	338	⇑P		P	11 59	49.4 +1.5
	baz=82							
U15A	**North Rim**	81.32	329	⇑P		P	11 59	50.3 +1.9
	baz=82,SNR=8.8							
PV01	**Paradox Valley**	81.34	332	*e*P		P	11 59	49.7 +1.3
	comp=Z,578nm,1.0s							
GMRC	**Granite Mounta**	81.39	326	⇓P		P	11 59	50.2 +1.5
	baz=82							
O26A	**Horse Wrangler**	81.42	337	⇑P		P	11 59	50.1 +1.4
	baz=82							
P23A	**Jefferson**	81.46	335	⇑P		P	11 59	50.2 +1.1
	baz=82							
O25A	**Wiggins**	81.56	336	⇓P		P	11 59	51.1 +1.7
	baz=82							
SMCO	**Snowmass**	81.68	334	*e*P		P	11 59	52.1 +1.7
	comp=Z,25nm,1.3s							
PV04	**Paradox Valley**	81.69	332	*e*P		P	11 59	51.9 +1.7
N27A	**Anderson Farm,**	81.69	338	⇓P		P	11 59	51.4 +1.4
	baz=82							
PV10	**Paradox Valley**	81.72	332	*e*P		P	11 59	51.4 +1.0
	comp=Z,174nm,0.9s							
ISCO	**Idaho Springs**	81.77	335	*e*P		P	11 59	52.3 +1.6
ISCO				pmax		pmax		
	comp=Z,17nm,1.6s							
ISCO	**Idaho Springs**	81.77	335	*e*P		P	11 59	52.3 +1.6
	comp=Z,17nm,1.6s							
ISCO	**Idaho Springs**	81.77	335	⇑P		P	11 59	52.2 +1.5
	baz=82							
BFSC	**Mount Baldy Ra**	81.87	324	⇓P		P	11 59	52.3 +1.1
	baz=82							
L31A	**Butterfield Fa**	81.91	341	⇑P		P	11 59	52.0 +0.9
	baz=82							
LBTB	**Lobatse**	81.93	115	*e*P		P	11 59	51.8 -0.1
	comp=Z,73nm,1.4s							
L30A	**Spencer Herefo**	81.94	340	⇑P		P	11 59	52.8 +1.5
	baz=82							
P22A	**Eagle**	81.98	334	⇑P		P	11 59	53.2 +1.4
	baz=82							
MWC	**Mount Wilson**	82.05	324	*e*P		P	11 59	54.8 +2.6
MWC				pmax		pmax		
	comp=Z,34nm,1.7s							
MWC	**Mount Wilson**	82.05	324	*e*P		P	11 59	54.8 +2.6
	comp=Z,34nm,1.7s							
TUQ	**Turquoise Moun**	82.06	326	⇑P		P	11 59	54.0 +1.9
	baz=82,SNR=10							
O23A	**Lake Granby, G**	82.24	335	⇑P		P	11 59	54.3 +1.1
	baz=83,SNR=5.4							
L29A	**Maesberg Ranch**	82.25	340	⇓P		P	11 59	54.3 +1.4
	baz=83							
GSC	**Goldstone**	82.35	325	*e*P		P	11 59	55.7 +2.1
GSC				pmax		pmax		
	comp=Z,77nm,1.5s							
GSC	**Goldstone**	82.35	325	*e*P		P	11 59	55.7 +2.1
	comp=Z,77nm,1.5s							
GSC	**Goldstone**	82.35	325	⇓P		P	11 59	55.4 +1.8
	baz=83							
O22A	**Kremmling**	82.41	335	⇑P		P	11 59	55.0 +1.0
	baz=83,SNR=5.4							
N24A	**Carr**	82.45	336	⇓P		P	11 59	55.2 +1.1
	baz=83							
K30A	**Basset**	82.58	341	⇓P		P	11 59	55.6 +1.1
	baz=83,SNR=5.8							
SHPR	**Sheep Range**	82.61	327	*e*P		P	11 59	57.1 +2.0
ECSD	**EROS Data Cent**	82.83	343	*e*P		P	11 59	56.0 +0.2
	comp=Z,22nm,1.1s							
ECSD	**EROS Data Cent**	82.83	343	⇓P		P	11 59	56.2 +0.5
	baz=83,SNR=11							
K29A	**Lazy Trails An**	82.86	340	⇑P		P	11 59	56.7 +0.7
	baz=83							
N23A	**Red Feather La**	82.86	335	⇓P		P	11 59	57.5 +1.1
	baz=83							
SRU	**San Rafael**	82.93	332	*e*P		P	11 59	57.6 +0.9
SRU				pmax		pmax		
	comp=Z,17nm,1.2s							
SRU	**San Rafael**	82.93	332	*e*P		P	11 59	57.6 +0.9
	comp=Z,17nm,1.2s							
N22A	**Wattenberg Ran**	82.95	335	⇓P		P	11 59	58.2 +1.4
	baz=83							
ARUT	**Antelope Range**	82.96	329	*e*P		P	11 59	56.6 -0.2
ARUT				*e**PP		pP	12 00	07.2 +1.2
ARUT	**Antelope Range**	82.96	329	*e*P		P	11 59	56.6 -0.2
	comp=Z,228nm,1.1s							
ARUT				*e*pP		pP	12 00	07.2 +1.2
O20A	**White River Ci**	82.98	334	*e*P		P	11 59	58.5 +1.6
	comp=Z,42nm,1.8s							
O20A	**White River Ci**	82.98	334	⇓P		P	11 59	58.1 +1.2
	baz=83							
L26A	**Underwood Farm**	82.98	338	⇑P		P	11 59	58.2 +1.5
	baz=83							
M24A	**Cheyenne**	83.01	336	⇑P		P	11 59	58.1 +1.1
	baz=83							
PHWY	**Pilot Hill**	83.07	336	*e*P		P	11 59	58.8 +1.3
	comp=Z,15nm,1.3s							
MVU	**Marysvale**	83.07	330	*e*P		P	11 59	59.3 +1.8
	comp=Z,24nm,1.4s							
K28A	**Ten Mile Ranch**	83.10	339	⇓P		P	11 59	58.5 +1.1
	baz=84,SNR=5.1							
J30A	**Dallas**	83.16	341	⇓P		P	11 59	58.1 +0.6
	baz=84							
MPMC	**Manual Prospec**	83.29	325	⇑P		P	12 00	00.1 +1.5
	baz=84							
M23A	**Laramie**	83.30	336	⇓P		P	12 00	00.0 +1.4
	baz=84							
FURC	**Furnace Creek,**	83.34	326	⇓P		P	12 00	00.3 +1.7
	baz=84							
K27A	**Flueckinger Fa**	83.34	339	⇓P		P	11 59	59.8 +1.2
	baz=84							
TMUT	**Trail Mountain**	83.35	331	*e*P		P	11 59	59.1 +0.1
TMUT				*e*pP		pP	12 00	09.1 +0.9
ISA	**Isabella**	83.42	324	*e*P		P	11 59	58.8 -0.3
ISA				pmax		pmax		
	comp=Z,3.0nm,1.4s							
ISA	**Isabella**	83.42	324	*e*P		P	11 59	58.8 -0.3
	comp=Z,3.3nm,1.4s							
ISA	**Isabella**	83.42	324	⇑P		P	12 00	00.9 +1.8
	baz=84,SNR=5.7							
PKM	**Peak Mountain**	83.44	323	⇓P		P	12 00	00.5 +1.1
	baz=84							
J29A	**Okreek**	83.46	340	⇓P		P	11 59	59.6 +0.6
	baz=84,SNR=7.9							
TPNV	**Topopah Spring**	83.46	326	*e*P		P	12 00	02.0 +2.6
TPNV				pmax		pmax		
	comp=Z,22nm,1.4s							
TPNV	**Topopah Spring**	83.46	326	*e*P		P	12 00	02.0 +2.6
	comp=Z,22nm,1.4s							
TPNV	**Topopah Spring**	83.46	326	⇑P		P	12 00	01.1 +1.7
	baz=84,SNR=7.6							
L24A	**Wheatland**	83.56	337	⇓P		P	12 00	00.7 +0.9
	baz=84							
N20A	**Spence Gulch,**	83.61	334	⇓P		P	12 00	01.1 +0.9
	baz=84							
J28A	**Allard Ranch,**	83.72	340	⇑P		P	12 00	01.5 +1.0
	baz=84							
GRAC	**Grapevine Rang**	84.01	326	⇑P		P	12 00	04.0 +1.9
	baz=84							
L22A	**Ellis Ranch, M**	84.04	336	⇑P		P	12 00	03.8 +1.4
	baz=84							
J26A	**Sides Ranch, S**	84.15	338	⇓P		P	12 00	04.2 +1.5
	baz=85							
NLU	**North Lily Min**	84.26	331	*e*P		P	12 00	05.6 +2.1
	comp=Z,19nm,1.3s							
DAU	**Daniels Canyon**	84.34	332	*e*P		P	12 00	05.2 +1.2
DAU				*e**PP		pP	12 00	13.5 +0.3
DAU	**Daniels Canyon**	84.34	332	*e*P		P	12 00	05.2 +1.2
DAU				*e*pP		pP	12 00	13.5 +0.3
R11A	**Troy Canyon, C**	84.34	328	*e*P		P	12 00	04.3 +0.4
R11A	**Troy Canyon, C**	84.34	328	⇑P		P	12 00	05.5 +1.6
	baz=85,SNR=13							
K23A	**Bowen Ranch, D**	84.43	337	⇑P		P	12 00	05.1 +0.9
	baz=85,SNR=5.1							
J25A	**Sunshine Ranch**	84.44	338	⇑P		P	12 00	05.0 +0.8
	baz=85							
I27A	**Quinn**	84.55	339	⇓P		P	12 00	05.9 +1.2
	baz=85							
H29A	**Onida**	84.56	341	⇑P		P	12 00	05.8 +1.2
	baz=85							
K22A	**Casper**	84.63	336	*e*P		P	12 00	06.1 +0.9
K22A	**Casper**	84.63	336	⇓P		P	12 00	06.0 +0.7
	baz=85,SNR=6.5							
J24A	**Dixon Ranch, L**	84.64	337	⇑P		P	12 00	06.2 +0.9
	baz=85							
I26A	**New Underwood**	84.74	339	⇓P		P	12 00	06.3 +0.6
	baz=85							
DUG	**Dugway**	84.76	331	*e*P		P	12 00	06.5 +0.6
DUG				*e**PP		pP	12 00	16.2 +1.0
DUG				pmax		pmax		
	comp=Z,21nm,1.1s							
DUG	**Dugway**	84.76	331	*e*P		P	12 00	06.5 +0.6
	comp=Z,21nm,1.1s							
DUG				*e*pP		pP	12 00	16.1 +1.0
DUG	**Dugway**	84.76	331	⇑P		P	12 00	06.7 +0.7
	baz=85,SNR=20							
TPH	**Tonopah**	84.83	326	*e*P		P	12 00	07.6 +1.2
TPH				pmax		pmax		
	comp=Z,26nm,1.3s							
TPH	**Tonopah**	84.83	326	*e*P		P	12 00	07.6 +1.2
	comp=Z,26nm,1.3s							
MTUM	**Tungsten Hills**	84.84	325	*e*P		P	12 00	08.3 +1.8
K21A	**Alcova**	84.85	335	⇑P		P	12 00	07.0 +0.6
	baz=85,SNR=10							
I24A	**Kuemmerle Ranc**	85.11	338	⇓P		P	12 00	07.6 0.0
	baz=86							
G28A	**Parade**	85.16	341	⇑P		P	12 00	08.2 +0.5
	baz=86							
RSSD	**Black Hills**	85.17	338	*e*P		P	12 00	08.3 +0.3
RSSD				pmax		pmax		
	comp=Z,2.0nm,0.9s							
RSSD	**Black Hills**	85.17	338	*e*P		P	12 00	08.3 +0.3
	comp=Z,2.0nm,0.9s							
J22A	**Midwest**	85.29	336	⇑P		P	12 00	08.9 +0.4
	baz=86							
BGU	**Big Grassy Mou**	85.47	331	*e*P		P	12 00	12.2 +2.7
	comp=Z,11nm,1.6s							
H25A	**Fruitdale**	85.50	339	⇓P		P	12 00	09.8 +0.4
	baz=86							
J21A	**Lysite**	85.55	336	⇑P		P	12 00	10.3 +0.4
	baz=86							
SPUT	**South Promonto**	85.57	331	*e*P		P	12 00	11.3 +1.3
	comp=Z,40nm,1.4s							
SPUT				*e*pP		pP	12 00	19.7 +0.5
NVAR	**Mina Array Bea**	85.60	326	P		P	12 00	11.8 +1.5
NVAR	**Mina Array Bea**	85.60	326	P		P	12 00	11.8 +1.5
	comp=Z,4.0nm,0.8s,baz=158,slow=5.3,SNR=30							
NVAR				LR		LR	12 31	28.7
	comp=Z,16nm,28.6s,baz=218,slow=31							
G27A	**Dupree**	85.72	340	⇓P		P	12 00	10.5 0.0
	baz=86							
I22A	**9 Mile Ranch,**	85.72	336	⇑P		P	12 00	11.2 +0.5
	baz=86,SNR=7.4							
BW06	**Boulder Array**	85.76	334	*e*P		P	12 00	11.9 +0.9
	comp=Z,26nm,1.6s							
PDAR	**Pinedale Array**	85.76	334	P		P	12 00	11.2 +0.2
PDAR	**Pinedale Array**	85.76	334	P		P	12 00	11.2 +0.2
	comp=Z,2.4nm,0.8s,baz=143,slow=5.2,SNR=18							
PDAR				LR		LR	12 34	52.3
	comp=Z,16nm,28.6s,baz=154,slow=33							
J20A	**Shoshoni**	85.77	335	⇑P		P	12 00	11.5 +0.6
	baz=86,SNR=10.0							
G26A	**Maurine**	85.83	340	⇑P		P	12 00	11.0 0.0
	baz=86							
F28A	**McLaughlin**	85.85	341	⇑P		P	12 00	11.5 +0.4
	baz=86							
TOA0	**Torodi Ar. Sit**	85.87	70	*e*P		P	12 00	11.9 0.0
TORD	**Torodi Ar. Bea**	85.87	70	P		P	12 00	11.3 -0.6
TORD	**Torodi Ar. Bea**	85.87	70	P		P	12 00	11.3 -0.6
	comp=Z,8.2nm,1.0s,baz=238,slow=4.7,SNR=27							
TORD				LR		LR	12 37	27.5
	comp=Z,314nm,18.3s,baz=245,slow=35							
H24A	**Dirks Ranch, A**	85.89	338	⇓P		P	12 00	11.6 +0.2
	baz=86,SNR=6.8							
I21A	**Big Trails, Te**	85.92	336	⇑P		P	12 00	11.7 +0.1
	baz=86,SNR=6.5							
G25A	**Newell**	85.97	339	⇑P		P	12 00	12.1 +0.4
	baz=86,SNR=13							
J19A	**Crowheart**	86.03	334	⇑P		P	12 00	12.7 +0.4
	baz=86,SNR=8.0							
HVU	**Hansel Valley**	86.10	331	*e*P		P	12 00	12.8 +0.2
HVU				*e**PP		pP	12 00	21.5 -0.3
HVU				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HVU	**Hansel Valley**	86.10	331	*e*P		P	12 00	12.8 +0.2
	comp=Z,9.6nm,0.8s							
HVU				*e*pP		pP	12 00	21.5 -0.3
WAKR	**Walker**	86.18	325	P		P	12 00	11.9 -1.3
F27A	**Lemmon**	86.20	340	⇓P		P	12 00	13.2 +0.4
	baz=87,SNR=8.2							
ELK	**Elko**	86.20	329	*e*P		P	12 00	14.9 +1.7
	comp=Z,12nm,1.4s							
CMB	**Columbia Colle**	86.24	324	*e*P		P	12 00	14.8 +1.6
CMB				pmax		pmax		
	comp=Z,27nm,1.7s							
CMB	**Columbia Colle**	86.24	324	*e*P		P	12 00	14.8 +1.6
	comp=Z,27nm,1.7s							
H22A	**Clearmont**	86.31	337	⇓P		P	12 00	13.7 +0.2
	baz=87,SNR=5.5							
I20A	**Worland**	86.31	335	⇓P		P	12 00	14.1 +0.5
	baz=87,SNR=7.7							
F26A	**Lodgepole**	86.36	340	⇓P		P	12 00	13.5 -0.1
	baz=87							
G24A	**Alzada**	86.38	338	⇓P		P	12 00	14.0 +0.2
	baz=87							
E28A	**Huff**	86.49	341	⇓P		P	12 00	14.6 +0.4
	baz=87							
D30A	**Buchanan**	86.51	343	⇓P		P	12 00	14.6 +0.3
	baz=87							
G23A	**Biddle**	86.56	338	⇑P		P	12 00	14.6 -0.1
	baz=87,SNR=5.8							
H21A	**Big Horn, Sher**	86.56	336	⇓P		P	12 00	14.6 -0.1
	baz=87							
E27A	**Carson**	86.59	341	⇓P		P	12 00	15.0 +0.2
	baz=87							
F25A	**Bowman**	86.65	339	⇓P		P	12 00	15.4 +0.3
	baz=87							
I19A	**Meeteetse**	86.68	335	⇓P		P	12 00	16.0 +0.5
	baz=87							
REDW	**Red Top Meadow**	86.75	333	*e*P		P	12 00	16.3 +0.5
	comp=Z,16nm,1.3s							
H20A	**Greybull**	86.75	336	⇑P		P	12 00	15.7 0.0
	baz=87							
F24A	**Ekalaka**	86.86	339	⇓P		P	12 00	16.4 +0.3
	baz=87							
E26A	**Carlson Angus**	86.87	340	⇑P		P	12 00	16.5 +0.4
	baz=87,SNR=6.2							
LOHW	**Long Hollow**	86.88	334	*e*P		P	12 00	17.0 +0.5
	comp=Z,8.1nm,1.2s							
TPAW	**Teton Pass**	86.89	333	*e*P		P	12 00	17.4 +0.8
	comp=Z,15nm,1.2s							
AGMN	**Agassiz Nation**	86.99	345	⇑P		P	12 00	16.5 -0.1
	baz=87							
C30A	**Mose, Pekin**	87.00	343	⇓P		P	12 00	17.2 +0.5
	baz=87							
F23A	**Volborg**	87.03	338	⇓P		P	12 00	17.0 +0.1
	baz=87,SNR=6.9							
MOOW	**Moose Ponds**	87.04	334	*e*P		P	12 00	17.7 +0.4
	comp=Z,30nm,2.0s							
FXWY	**Fox Creek**	87.05	333	*e*P		P	12 00	18.3 +1.0
	comp=Z,7.8nm,1.2s

baz=89
D22A Cohagen 88.55 338 ⇑P P 12 00 24.6 +0.4
baz=89
E20A Meyer Farm, Mu 88.58 337 ⇓P P 12 00 25.0 +0.7
baz=89
MFID Camas Ranch 88.68 330 *e*P P 12 00 27.2 +2.3
comp=Z,14nm,1.3s
B25A Knox Farm, Ray 88.71 340 ⇑P P 12 00 25.5 +0.7
baz=89
D21A La Casta Ranch 88.72 338 ⇑P P 12 00 25.3 +0.3
baz=89
MCMT McKenzie Canyo 88.74 333 *e*P P 12 00 25.5 +0.1
comp=Z,6.8nm,1.3s
MCMT *e*pP **pP** 12 00 35.1 +0.5
E19A Rath Farm, Rou 88.75 336 ⇓P P 12 00 25.7 +0.5
baz=89
ULM Lac du Bonnet 88.84 346 *e*P P 12 00 25.1 -0.3
comp=Z,29nm,1.5s
ULM Lac du Bonnet 88.84 346 P P 12 00 23.4 -2.0
comp=Z,4.4nm,0.9s,baz=100,slow=2.0,SNR=5.5
C23A Lambert 88.85 339 ⇓P P 12 00 26.3 +0.8
baz=89
A26A Wade Farm, Ken 88.99 341 ⇓P P 12 00 26.6 +0.5
baz=89
C22A Vida 89.00 339 ⇑P P 12 00 26.8 +0.6
baz=89
BOZ Bozeman (W) 89.00 334 *e*P P 12 00 29.2 +2.8
BOZ pmax pmax
comp=Z,79nm,2.9s
BOZ Bozeman (W) 89.00 334 *e*P P 12 00 29.2 +2.8
comp=Z,78nm,2.9s
WVOR Wild Horse Val 89.02 328 *e*P P 12 00 27.5 +0.9
WVOR *e**PP **pP** 12 00 36.3 +0.4
WVOR pmax pmax
comp=Z,22nm,1.6s
WVOR Wild Horse Val 89.02 328 *e*P P 12 00 27.5 +0.9
comp=Z,22nm,1.6s
WVOR *e*pP **pP** 12 00 36.2 +0.4
D20A Manuel Ranch, 89.10 337 ⇑P P 12 00 27.1 +0.3
baz=90
DGMT Dagmar 89.17 340 ⇑P P 12 00 27.6 +0.6
baz=90
A25A Svangstu Ranch 89.31 341 ⇑P P 12 00 29.3 +1.7
baz=90
LRM Limekiln Ridge 89.45 334 *e*P P 12 00 30.0 +1.4
N02D Trinity Center 89.66 325 ⇑P P 12 00 32.0 +2.4
baz=90
J08A Circle Bar Ran 89.71 329 *e*P P 12 00 31.6 +1.9
comp=Z,27nm,1.3s
LSZ Lusaka 89.74 109 *e*P P 12 00 31.1 +0.4
comp=Z,17nm,1.2s
EGMT Eagleton 90.44 336 *e*P P 12 00 32.3 -0.7
comp=Z,14nm,0.8s
EGMT *e*pP **pP** 12 00 41.6 -0.6
I07A Izee 90.73 328 *e*P P 12 00 37.0 +2.5
comp=Z,14nm,1.3s
SCHQ Schefferville 91.27 4 LR LR 12 42 19.1
comp=Z,81nm,19.4s,baz=136,slow=36
G08A Pilot Rock 91.49 330 *e*P P 12 00 39.1 +1.1
comp=Z,9.7nm,1.4s
D08A Wollman Farm, 92.92 331 *e*P P 12 00 45.8 +1.3
comp=Z,79nm,2.8s
ESDC Sonseca Array 98.99 47 LR LR 12 44 43.9
comp=Z,92nm,19.5s,baz=225,slow=35
DZM Mont Dzumac 99.02 234 *e*LR LR 12 33 35.0
comp=Z,72nm,25.9s
DZM Mont Dzumac 99.02 234 LR LR 12 35 44.8
comp=Z,17nm,28.6s,baz=186,slow=29
YKA Yellowknife Ar 104.30 341 Pdif **Pdif** 12 01 36.2 +0.9
YKA Yellowknife Ar 104.30 341 Pdiff **Pdif** 12 01 36.2 +0.9
comp=Z,0.2nm,0.7s,baz=139,slow=5.4,SNR=5.8
GERES GERESS Array B 114.58 46 PKP PKPdf 12 06 10.7 -0.8
GERES GERESS Array B 114.58 46 PKP PKPdf 12 06 10.7 -0.8
comp=Z,1.3nm,0.7s,baz=207,slow=1.2,SNR=8.4
ASAR Alice Springs 114.84 207 PKP PKPdf 12 06 12.8 -0.1
ASAR PKKPbc **PKKPbc** 12 16 49.3 +0.4
ASAR Alice Springs 114.84 207 PKP PKPdf 12 06 12.8 -0.1
comp=Z,0.2nm,0.7s,baz=150,slow=2.0,SNR=2.5
ASAR PKKPbc **PKKPbc** 12 16 49.3 +0.4
comp=Z,0.3nm,0.5s,baz=336,slow=3.1,SNR=5.2
COLA College 116.58 333 *i* PKIKP **PKPdf** 12 06 13.2 -1.5
WRA Warramunga Arr 118.06 209 PKPpre PKPpre 12 06 17.2
WRA Warramunga Arr 118.06 209 PKhKP PKPpre 12 06 17.2
comp=Z,0.2nm,0.4s,baz=161,slow=1.8,SNR=4.8
BRTR Keskin Array B 123.80 63 PKP **PKPdf** 12 06 28.6 -1.0
BRTR Keskin Array B 123.80 63 PKP **PKPdf** 12 06 28.6 -1.0
comp=Z,2.4nm,0.9s,baz=193,slow=4.8,SNR=8.8
KIEV Kiev 124.55 49 *e*PKIKP **PKPdf** 12 06 29.3 -1.2
AKASG Malin Array Be 124.56 49*c* *i*PKIKP **PKPdf** 12 06 29.2 -1.2
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 124.56 49 PKP **PKPdf** 12 06 29.3 -1.2
AKASG Malin Array Be 124.56 49 PKP **PKPdf** 12 06 29.3 -1.2
comp=Z,1.5nm,0.6s,baz=263,slow=2.8,SNR=9.3
H11S2 WAKE ISLAND Hyl 124.89 268 T T 14 24 03.0
baz=126
H11S1 WAKE ISLAND Hyl 124.90 268 T T 14 23 48.7
baz=126
H11S3 WAKE ISLAND Hyl 124.90 268 T T 14 23 48.3
baz=126
H11N3 WAKE ISLAND Hyl 125.36 269 T T 14 24 17.6
baz=132,SNR=4.0
H11N1 WAKE ISLAND Hyl 125.38 269 T T 14 24 18.3
baz=132,SNR=5.9
H11N2 WAKE ISLAND Hyl 125.38 269 T T 14 24 18.2
baz=132,SNR=5.9
OBN Obninsk 129.90 45⇓ *e*PKIKP PKPdf 12 06 49.4 +8.9
OBN *e* 12 08 54.1
OBN *e* 12 13 44.0
OBN pmax pmax
comp=Z,31nm,1.5s
OBN MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 131.54 60 *i* PKIKP **PKPdf** 12 06 42.7 -1.5
KIV pmax pmax
comp=Z,9.0nm,1.0s
SEY Seymchan 141.88 328 PKIKP **PKPdf** 12 07 04.0 +1.5
SEY Seymchan 141.88 328 PKP **PKPdf** 12 07 04.0 +1.5
SEY Seymchan 141.88 328 PKP **PKPdf** 12 07 04.0 +1.5
comp=Z,4.1nm,1.1s,baz=207,slow=23,SNR=3.7
TIXI Tiksi 143.13 349 *e*PKIKP PKPbc 12 07 02.2 +0.7
KSM Kuching 144.86 186 *e*PKPdf **PKPab** 12 07 08.2 -0.2
KSM *ep*PKPdf **pPKPdf** 12 07 17.3 -1.7
PSI Prapat 145.51 166 PKPbc **PKPdf** 12 07 09.9 -0.8
PSI Prapat 145.51 166 PKPbc **PKPdf** 12 07 09.9 -0.8
comp=Z,24nm,0.9s,baz=303,slow=3.4,SNR=13
IPM Ipoh 147.53 169 *e*PKPbc **PKPbc** 12 07 15.8 -0.7
KULM Kulim 148.26 168 *e*PKPbc **PKPbc** 12 07 17.9 -0.5
HYB Hyderabad 148.45 120 *i* PKP **PKPdf** 12 07 17.0 +1.7
BRVK Borovoye 149.67 46 *i* PKHKP PKPpre 12 07 17.9
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 149.67 46 *e*PKPbc **PKPbc** 12 07 21.1 +0.3
BRVK *e*PKPab **PKPab** 12 07 24.7 -1.4
BVAR Borovoye Array 149.74 46 PKP **PKPdf** 12 07 16.9 +0.6
BVAR PKPbc **PKPbc** 12 07 21.3 +0.3
BVAR Borovoye Array 149.74 46 PKP **PKPdf** 12 07 16.9 +0.6
comp=Z,4.9nm,0.9s,baz=338,slow=1.6,SNR=5.8
BVAR PKPbc **PKPbc** 12 07 21.3 +0.3
comp=Z,8.9nm,0.9s,baz=291,slow=4.1,SNR=31
KKAR Karatay Array 151.45 66 *e*PKIKP **PKPbc** 12 07 25.3 -0.1
KKAR Karatay Array 151.45 66 *e*PKPbc **PKPbc** 12 07 25.3 -0.1
AAK Ala-Archa 154.39 66 *e*PKIKP **PKPdf** 12 07 20.4 -3.4
AAK 12 07 32.3
AAK *e* 12 07 32.6
AAK 12 07 46.3
AAK Ala-Archa 154.39 66 *e*PKPdf **PKPdf** 12 07 20.4 -3.4
AAK PKPbc **PKiKP** 12 07 32.3 +0.1
AAK *e*PKPbc **PKPbc** 12 07 32.6 +0.5
AAK PKPab **PKPab** 12 07 46.3 -0.2
AAK *e*PKPab PKPab 12 07 47.1 +0.6
AAK Ala-Archa 154.39 66 PKP **PKPdf** 12 07 23.4 -0.4
comp=Z,1.6nm,0.9s,baz=18,slow=2.9,SNR=5.0
AAK PKPbc **PKiKP** 12 07 32.3 +0.1
comp=Z,4.1nm,0.9s,baz=184,slow=2.2,SNR=9.6
AAK PKPab **PKPab** 12 07 46.3 -0.2
comp=Z,9.5nm,1.1s,baz=239,slow=4.7,SNR=10
TKM2 Tokmak 2 155.19 66 *e*PKIKP **PKPdf** 12 07 24.6 -0.3
TKM2 *e* 12 07 34.4
TKM2 *e* 12 07 49.5
TKM2 Tokmak 2 155.19 66 *e*PKPdf **PKPdf** 12 07 24.6 -0.3
TKM2 *e*PKPbc PKPbc 12 07 34.4
TKM2 *e*PKPab **PKPab** 12 07 49.5 -0.5
KURBB Kurchatov Arra 155.31 47 PKP **PKPdf** 12 07 23.6 -0.9
comp=Z,1.3nm,0.8s,baz=290,slow=2.2,SNR=13
KURBB PKPab **PKPab** 12 07 50.0 +0.2
comp=Z,6.4nm,0.9s,baz=287,slow=4.9,SNR=25
KURK Kurchatov 155.33 46 PKIKP **PKPdf** 12 07 23.6 -0.9
KURK 12 07 50.1
KURK Kurchatov 155.33 46 PKP **PKPdf** 12 07 23.6 -0.9
KURK PKPab **PKPab** 12 07 50.0 +0.1
KSH Kashi 155.50 74 PKPbc PKPdf 12 07 34.0 +8.7
KSH AMB AMB
comp=Z,110nm,4.8s
KSH LR LR
comp=Z,130nm,4.8s
KSH LR LR
comp=Z,170nm,4.8s
KSH LR LR
comp=Z,170nm,5.9s
NVS Novosibirsk 155.60 34 *e*PKIKP **PKPdf** 12 07 22.6 -2.2
NVS pmax pmax
comp=Z,14nm,1.0s
ZAA0 Zalesovo Array 156.88 35 *e*PKPdf **PKPdf** 12 07 25.8 -0.7
ZAA0 *ep*PKPdf **pPKPdf** 12 07 34.7 -1.3
ZALV Zalesovo Beam 156.88 35 PKIKP **PKPdf** 12 07 25.8 -0.7
ZALV Zalesovo Beam 156.88 35 PKP **PKPdf** 12 07 25.8 -0.7
ZALV PKPab **PKPab** 12 07 56.7 +0.2
ZALV Zalesovo Beam 156.88 35 PKP **PKPdf** 12 07 25.8 -0.7
comp=Z,3.6nm,0.8s,baz=282,slow=2.7,SNR=12
ZALV PKPab **PKPab** 12 07 56.7 +0.2
comp=Z,8.0nm,0.8s,baz=305,slow=5.2,SNR=8.6
MK31 Makanchi Array 159.06 53 *e*PKIKP **PKPdf** 12 07 29.1 -0.4
MK31 *e* 12 07 38.3
MK31 Makanchi Array 159.06 53 *e*PKPdf **PKPdf** 12 07 29.1 -0.4
MK31 *ep*PKPdf **pPKPdf** 12 07 38.3 -0.7
MKAR Makanchi Array 159.06 53 PKIKP **PKPdf** 12 07 29.3 -0.2
MKAR 12 08 05.9
MKAR Makanchi Array 159.06 53 PKP **PKPdf** 12 07 29.3 -0.2
MKAR PKPab **PKPab** 12 08 05.8 -0.4
MKAR Makanchi Array 159.06 53 PKP **PKPdf** 12 07 29.3 -0.2
comp=Z,3.2nm,1.0s,baz=304,slow=2.2,SNR=17
MKAR PKPab **PKPab** 12 08 05.8 -0.4
comp=Z,5.8nm,0.9s,baz=291,slow=3.8,SNR=14
CMAR Chiang Mai Arr 160.55 157 PKP **PKPdf** 12 07 31.8 -0.2
CMAR PKPab **PKPab** 12 08 13.0 -0.2
CMAR Chiang Mai Arr 160.55 157 PKP **PKPdf** 12 07 31.8 -0.2
comp=Z,0.4nm,0.3s,baz=202,slow=2.2,SNR=7.2
CMAR PKPab **PKPab** 12 08 13.0 -0.2
comp=Z,1.5nm,0.9s,baz=216,slow=5.1,SNR=6.5
WMQ Urumqi 163.65 58 PKP **PKPdf** 12 07 34.0 -0.5
WMQ PKS **PKSdf** 12 11 06.0 -1.4
WMQ PP **PP** 12 12 14.0 +1.7
WMQ SKS **SKSdf** 12 14 34.0 -2.9
WMQ SKKS **SKKSac** 12 18 56.0 -1.9
WMQ SS **SS** 12 32 34.0 -4.5
WMQ AMB AMB
comp=Z,84nm,12.0s
WMQ LR LR
comp=Z,200nm,26.0s
WMQ LR LR
comp=Z,140nm,25.0s
WMQ LR LR
comp=Z,130nm,25.0s
CN2 Changchun 164.19 303 *e*PKP **PKPdf** 12 07 33.5 -1.3
CN2 *e*PP **PP** 12 12 17.8 +2.7
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,300nm,22.0s
ZAK Zakamensk 166.02 10 *e*PKP2 **PKPab** 12 08 36.1 -0.5
ZAK pmax pmax
comp=Z,5.0nm,1.6s
KMI Kunming 167.96 161 PKP **PKPdf** 12 07 40.0 +1.3
KMI pPKP **pPKPdf** 12 07 49.3 +1.0
KMI sPKP 12 07 52.3
SONM Songino Array 168.81 2 PKP **PKPdf** 12 07 39.2 +0.8
SONM PKPab **PKPab** 12 08 49.5 +0.5
SONM Songino Array 168.81 2 PKP **PKPdf** 12 07 39.2 +0.8
comp=Z,0.4nm,1.0s,baz=170,slow=0.9,SNR=2.6
SONM PKPab **PKPab** 12 08 49.5 +0.5
comp=Z,2.7nm,1.0s,baz=349,slow=3.9,SNR=14
GYA Guiyang 169.84 178 PKP **PKPdf** 12 07 40.3 +0.5
GYA sPKP 12 07 52.8
GYA PKPab **PKPab** 12 08 56.5 +2.4
GYA PKS **PKSdf** 12 11 11.0 -1.4
GYA PP **PP** 12 12 47.5 +4.5
GYA SKKS 12 19 30.3
GYA SS **SS** 12 33 42.8 +3.9
GYA AMB AMB
comp=Z,130nm,7.9s
GYA LR LR
comp=Z,160nm,22.0s
GYA LR LR
comp=Z,150nm,23.4s
GYA LR LR
comp=Z,120nm,21.7s
CD2 Chengdu 173.69 154 *e*PKP **PKPdf** 12 07 41.5 +0.1
CD2 sPKP 12 07 56.0
CD2 PKPab **PKPab** 12 09 13.3 +2.3
CD2 PP **PP** 12 13 06.0 +3.7
CD2 SKS **SKSdf** 12 14 40.0 -2.6
CD2 SKKS **SKKSac** 12 19 47.8 +0.4
CD2 SS **SS** 12 34 17.3 +0.2
CD2 AMB AMB
comp=Z,230nm,10.8s
CD2 LR LR
comp=Z,140nm,19.0s
CD2 LR LR
comp=Z,190nm,24.2s
GTA Gaotai 173.72 62 PKP PKPdf 12 07 50.3 +9.1
HHC Hu-ho-hao-te 174.47 321 *e*PKP **PKPdf** 12 07 40.5 -0.9
HHC pPKP **pPKPdf** 12 07 50.8 -0.2
HHC PKS **PKSdf** 12 11 12.5 -1.1
HHC PP PP 12 13 12.3 +5.7
HHC SS SS 12 34 25.3 -0.2
HHC AMB AMB
comp=Z,77nm,9.4s
HHC LR LR
comp=Z,260nm,21.3s
HHC LR LR
comp=Z,280nm,21.2s
HHC LR LR
comp=Z,250nm,21.8s
XAN Xi'an 176.95 212 PKP PKPdf 12 07 51.3 +9.2
LZH Lanzhou 177.42 102 *e*PKP **PKPdf** 12 07 44.3 +2.0
LZH pPKP **pPKPdf** 12 07 56.8 +4.9
LZH sPKP 12 08 01.8
LZH LR LR
comp=Z,290nm,18.2s
LZH LR LR
comp=Z,280nm,19.0s
LZH LR LR
comp=Z,240nm,19.8s

*ISCJB **29** 11:48:02.8±0.3, 39.77N±0.01×20.64E±0.02, h26km±2km, mb3.9/14, MS2.8/2, Error ellipse: s-maj=2.6km s-min=2.0km az=41.7*
*PDG **29** 11:48:02.6±0.7, 39.80N×20.76E, h13km±1km, ML3.8/11, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
*ATH **29** 11:48:02.3, 39.79N×20.77E, h20km±1km, ML3.6*
*SKO **29** 11:48:03.1, 39.70N×20.75E, h15km, M3.2, ML3.8*
*THE **29** 11:48:03.3, 39.78N×20.73E, h8km±1km, ML4.1/7, Error ellipse: s-maj=1.2km s-min=0.6km az=283.0*
*CSEM **29** 11:48:03.3±0.1, 39.75N×20.66E, h20km, mb4.0/9, Error ellipse: s-maj=3.6km s-min=2.5km az=47.0*
*BEO **29** 11:48:04.3±0.8, 39.93N×20.65E, h0km, ML3.6/9*
*IDC **29** 11:48:04.4±2.1, 39.84N×20.74E, h42km±20km, mb3.7/12, mb1 3.8/18, mb1mx3.7/34, mbtmp3.8/18, ML3.8/6, MS3.1/6, Ms1 3.1/6, ms1mx2.8/51, Error ellipse: s-maj=17.3km s-min=14.8km az=37.0*
*MOS **29** 11:48:04.3±1.3, 39.91N×20.77E, h47km, mb4.1/8, Error ellipse: s-maj=13.7km s-min=8.1km az=85.7*
*PRU **29** 11:48:05.7, 39.96N×20.71E, h0km*
*SOF **29** 11:48:19.7, 40.73N×21.84E, h2km, MD3.3*
ISC 29 11:48:01.5±0.5, 39.78N±0.01×20.68E±0.01, h14km±3km, n318, σ1°60/371, mb4.0/14, 34C-21D, Greece-Albania border region

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

JAN Janina 0.18 133 P Pg 11 48 06.7 +1.0
JAN S Sg 11 48 09.9 +1.2
JAN Janina 0.18 133 *e*PB Pg 11 48 06.8 +1.0
JAN *e*SB Sg 11 48 10.0 +1.2
JAN Janina 0.18 133 *e*Pb Pg 11 48 06.8 +1.0
JAN S Sg 11 48 09.9 +1.2
IGT Igoumenitsa 0.36 227 P Pb 11 48 10.3 +0.6
IGT S Sb 11 48 17.3 +2.0
IGT Igoumenitsa 0.36 227 *e*PB Pb 11 48 10.4 +0.7
IGT *e*SB Sb 11 48 17.2 +2.0
IGT Igoumenitsa 0.36 227 P Pb 11 48 10.3 +0.6
IGT S Sb 11 48 16.9 +1.7
IGT *e*Sb Sb 11 48 17.2 +2.0
MEV Metsovon 0.42 89 P Pg 11 48 10.7 +0.7
MEV Metsovon 0.42 89 P Pg 11 48 10.7 +0.7
SRN Sarande 0.53 281 P Pn 11 48 13.9 -0.6
SRN S Sn 11 48 23.0 -0.3
SRN Sarande 0.53 281 P Pn 11 48 13.9 -0.6
SRN S Sn 11 48 23.0 -0.3
KEK Kerkira 0.68 265 P Pg 11 48 16.0 +1.2
KEK Kerkira 0.68 265 *e*PN Pn 11 48 17.2 +0.6
KEK *e*SN Sn 11 48 27.2 +0.2
KEK Kerkira 0.68 265 P Pg 11 48 16.0 +1.2
KEK Kerkira 0.68 265 *e*Pn Pn 11 48 17.2 +0.6
KEK *e*Sn Sn 11 48 27.2 +0.2
NEST Nestorio 0.69 24 P Pg 11 48 16.2 +1.2
NEST S Sn 11 48 26.3 -1.2
NEST Nestorio 0.69 24 P Pg 11 48 16.2 +1.2
NEST S Sn 11 48 26.3 -1.2
KBN Korca 0.84 6 P Pn 11 48 19.4 +0.4
KBN S Sn 11 48 31.2 0.0
KBN Korca 0.84 6 P Pn 11 48 19.4 +0.4
KBN S Sn 11 48 31.2 +0.0
KZN Kozani 0.99 58 P Pb 11 48 20.4 0.0
KZN S Sn 11 48 35.2 +0.4
KZN Kozani 0.99 58 *e*PN Pb 11 48 20.2 -0.2
KZN Kozani 0.99 58 P Pb 11 48 20.4 0.0
KZN S Sn 11 48 35.2 +0.4
LKD2 Lefkada island 0.99 181 P Pn 11 48 21.0 +0.1
LKD2 S Sn 11 48 36.5 +1.8
LKD2 Lefkada island 0.99 181 *e*PB Pb 11 48 20.8 +0.4
LKD2 *e*SN Sn 11 48 36.3 +1.6
LKD2 Lefkada island 0.99 181 P Pb 11 48 20.8 +0.4
LKD2 *e*Sn Sn 11 48 36.3 +1.6
THL Klokotos Trika 1.05 101 *e*PN Pb 11 48 20.9 -0.5
THL *e*SN Sb 11 48 34.6 -0.4
THL Klokotos Trika 1.05 101 *e*Pn Pb 11 48 20.9 -0.5
THL *e*Sn Sb 11 48 34.6 -0.4
FNA Florina 1.14 28 P Pg 11 48 24.1 +0.7
FNA S Sg 11 48 41.0 +2.8
FNA Florina 1.14 28 *e*PN Pb 11 48 23.5 +0.6
FNA Florina 1.14 28 *e*Pn Pb 11 48 23.5 +0.6
FNA Florina 1.14 28 P Pg 11 48 24.1 +0.7
FNA S Sg 11 48 40.3 +2.1
EVR Evrytania 1.23 134 *e*PB Pn 11 48 24.1 -0.2
EVR Evrytania 1.23 134 *e*Pb Pn 11 48 24.1 -0.2
EVR S Sb 11 48 39.5 -0.8
PDO Prodromos 1.25 161 P Pb 11 48 25.1 +0.4
PDO Prodromos 1.25 161 *e*PB Pb 11 48 24.9 +0.2
PDO Prodromos 1.25 161 *e*Pb Pb 11 48 24.9 +0.2
BIA Bitola 1.33 22 P Pb 11 48 26.9 +0.7
BIA Bitola 1.33 22 *i* Pg Pg 11 48 27.4 +0.3
BIA *i* Sg Sg 11 48 47.8 +3.3
BIA Bitola 1.33 22 P Pb 11 48 26.9 +0.7
BIA Bitola 1.33 22 *i* Pg Pg 11 48 27.4 +0.3
BIA *i* Sg Sg 11 48 47.7 +3.3
PVO Paravola 1.34 150 P Pb 11 48 27.0 +0.7
PVO Paravola 1.34 150 P Pb 11 48 26.9 +0.7
MAKR Makrakomi, Fth 1.36 124 P Pb 11 48 27.1 +0.4
MAKR Makrakomi, Fth 1.36 124 *e*PN Pb 11 48 26.7 0.0
MAKR Makrakomi, Fth 1.36 124 *e*Pn Pb 11 48 26.7 0.0
MAKR Makrakomi, Fth 1.36 124 P Pb 11 48 27.1 +0.4
LIT Litokhoron 1.43 77 P Pb 11 48 27.9 0.0
LIT S Sg 11 48 47.1 -0.4
LIT Litokhoron 1.43 77 *e*PN Pb 11 48 28.2 +0.3
LIT Litokhoron 1.43 77 P Pb 11 48 27.9 0.0
LIT Litokhoron 1.43 77 *e*Pn Pb 11 48 28.2 +0.3
LIT S Sg 11 48 47.1 -0.4
AGG Agios Georgios 1.49 120 P Pb 11 48 28.8 -0.1
AGG Agios Georgios 1.49 120 *e*PN Pb 11 48 28.8 -0.1
AGG Agios Georgios 1.49 120 P Pb 11 48 28.7 -0.1
EFP Efpalio 1.66 144 P Pb 11 48 32.4 +0.7
EFP Efpalio 1.66 144 *e*PN Pb 11 48 32.2 +0.5
EFP Efpalio 1.66 144 *e*Pn Pb 11 48 32.2 +0.5
KFL Anninata 1.67 177 P Pb 11 48 31.9 -0.1
KFL Anninata 1.67 177 P Pb 11 48 31.9 -0.1
GRG Griva 1.76 48 P Pb 11 48 33.0 -0.6
GRG S Sb 11 48 56.8 +1.2
GRG Griva 1.76 48 *e*PN Pb 11 48 33.3 -0.3
GRG Griva 1.76 48 P Pb 11 48 33.0 -0.6
GRG Griva 1.76 48 *e*Pn Pb 11 48 33.3 -0.3
GRG S Sb 11 48 56.8 +1.2
KALE Kalithea 1.79 140 *e*PN Pb 11 48 34.6 +0.5
KALE Kalithea 1.79 140 *e*Pn Pb 11 48 34.6 +0.5
RLS Riolos of Patr 1.83 160 *e*PN Pb 11 48 34.3 -0.3
RLS Riolos of Patr 1.83 160 *e*Pn Pb 11 48 34.3 -0.3
LAKA Lakka 1.84 146 *e*PN Pb 11 48 34.8 -0.1
LAKA Lakka 1.84 146 *e*Pn Pb 11 48 34.8 -0.1
THE Thessaloniki 1.95 63 *e*PN Pn 11 48 34.8 +0.8
THE Thessaloniki 1.95 63 *e*Pb Pn 11 48 34.8 +0.8
DSF Desfina 1.98 133 *e*PN Pb 11 48 36.5 -0.9
DSF Desfina 1.98 133 *e*Pn Pb 11 48 36.5 -0.9
DSF Desfina 1.98 133 P Pb 11 48 37.4 0.0
DSF S Sb 11 49 01.8 -0.1
XOR Xorichti 1.99 101 *e*PB Pn 11 48 35.6 +1.0
XOR *e*SN Sb 11 49 01.5 -0.5
XOR Xorichti 1.99 101 *e*Pb Pn 11 48 35.6 +1.0
XOR *e*Sn Sb 11 49 01.5 -0.5
DRO Drossia 2.00 156 P Pb 11 48 36.3 -1.2
NEO Neokhori 2.02 103 *e*PN Pn 11 48 36.4 +1.3
NEO Neokhori 2.02 103 *e*Pn Pn 11 48 36.4 +1.3
HORT Hortiatis 2.03 65 *e*PB Pn 11 48 36.1 +0.9
HORT Hortiatis 2.03 65 *e*Pb Pn 11 48 36.1 +0.9
KLV Kalavryta, Ach 2.08 146 *e*PN Pb 11 48 38.4 -0.6
KLV Kalavryta, Ach 2.08 146 *e*Pn Pb 11 48 38.4 -0.6
VAY Valandovo 2.11 43 *e*Pn Pn 11 48 37.9 +1.6
VAY Valandovo 2.11 43 *i* Pn Pn 11 48 37.9 +1.6
VAY *i* Sn Sb 11 49 04.2 -1.2
VAY *e*Lg Lg 11 49 13.5
comp=E,474nm,0.9s
VAY *e*Lg Lg 11 49 14.7
comp=N,377nm,0.8s
VAY Valandovo 2.11 43 *e*Pn Pn 11 48 37.9 +1.6
VAY *i* Sn Sn 11 49 01.6 -0.6
VAY *e*Lg Lg 11 49 14.0
comp=N,474nm,0.9s
LKR Lokris 2.13 121 *e*PN Pb 11 48 39.1 -0.6
LKR Lokris 2.13 121 *e*Pn Pb 11 48 39.1 -0.6
SMIA Simia 2.16 114 *e*PN Pb 11 48 38.9 -1.4
SMIA Simia 2.16 114 *e*Pn Pb 11 48 38.9 -1.4
KNT Kendrikon 2.18 50 *e*PN Pn 11 48 38.9 +1.6
KNT Kendrikon 2.18 50 *e*Pb Pn 11 48 38.9 +1.6
PLG Polygyros 2.20 74 *e*PB Pn 11 48 39.4 +1.8
PLG Polygyros 2.20 74 *e*Pb Pn 11 48 39.4 +1.8
SKIA Skiathos 2.24 105 *e*PN Pn 11 48 39.6 +1.5
SKIA Skiathos 2.24 105 *e*Pn Pn 11 48 39.6 +1.5
GUR Goura 2.25 144 *e*PN Pb 11 48 40.7 -1.3
GUR Goura 2.25 144 *e*Pn Pb 11 48 40.7 -1.3
SKO Skopje 2.26 15 *e*Pn Pb 11 48 42.0 -0.1
SKO *e*Sn Sn 11 49 07.7 +1.6
SKO Skopje 2.26 15 *i* Pn Pb 11 48 41.9 -0.2
SKO *i* Sn Sb 11 49 09.7 -0.2
SKO *e*Lg Lg 11 49 16.3
comp=N,478nm,0.8s
SKO *e*Lg Lg 11 49 18.1
comp=E,782nm,1.0s
SKO Skopje 2.26 15 *e*Pn Pb 11 48 42.0 -0.1
SKO *e*Sn Sn 11 49 07.7 +1.6
SKO *e*Lg Lg 11 49 16.7
comp=E,478nm,0.8s
SOH Sokhos 2.29 62 *e*PB Pn 11 48 40.4 +1.5
SOH Sokhos 2.29 62 *e*Pb Pn 11 48 40.4 +1.5
PAIG Paliouri 2.31 85 *e*PB Pn 11 48 40.5 +1.4
PAIG *e*SN Sn 11 49 09.1 +1.8
PAIG Paliouri 2.31 85 *e*Pb Pn 11 48 40.5 +1.4
PAIG *e*Sn Sn 11 49 09.1 +1.8
AMT Artemida-Makis 2.39 160 *e*PB Pb 11 48 42.8 -1.4
AMT Artemida-Makis 2.39 160 *e*Pb Pb 11 48 42.8 -1.4
ULC Ulcinj 2.44 334⇑ *i*Pn Pb 11 48 43.1 -1.9
ULC *e*Sn Sb 11 49 15.0 +0.1

ULC	**Ulcinj**	**2.44**	**334**	⇑*i*Pn	**Pb**	**11 48 43.1 -1.9**
ULC				*e*Sn	**Sb**	**11 49 15.0 +0.1**
MRKA	**Markates**	**2.50**	**115**	*e*Pn	**Pn**	**11 48 43.6 +1.9**
MRKA	**Markates**	**2.50**	**115**	*e*Pn	**Pn**	**11 48 43.6 +1.9**
LTK	**Loutraki**	**2.50**	**134**	*e*PN	**Pn**	**11 48 43.5 +1.8**
LTK	**Loutraki**	**2.50**	**134**	*e*Pn	**Pn**	**11 48 43.5 +1.8**
AOS	**Alonnisos**	**2.55**	**103**	*e*PN	**Pn**	**11 48 43.2 +0.8**
AOS	**Alonnisos**	**2.55**	**103**	*e*Pn	**Pn**	**11 48 43.2 +0.8**
SRS	**Serrai**	**2.59**	**58**	*e*PN	**Pn**	**11 48 44.3 +1.4**
SRS	**Serrai**	**2.59**	**58**	*e*Pn	**Pn**	**11 48 44.3 +1.4**
OUR	**Ouranopolis**	**2.59**	**77**	*e*PN	**Pn**	**11 48 43.9 +1.0**
OUR				*e*SN	**Sn**	**11 49 15.0 +0.8**
OUR	**Ouranopolis**	**2.59**	**77**	*e*Pn	**Pn**	**11 48 43.9 +1.0**
OUR				*e*Sn	**Sn**	**11 49 15.0 +0.8**
DRME	**Dracevica, Mon**	**2.66**	**335**	⇑*i*Pn	**Pb**	**11 48 46.9 -1.9**
DRME				*e*Sn	**Sb**	**11 49 19.5 -1.7**
DRME	**Dracevica, Mon**	**2.66**	**335**	⇑*i*Pn	**Pb**	**11 48 46.9 -1.9**
DRME				*e*Sn	**Sb**	**11 49 19.5 -1.7**
PE1	**Pezze di Greco**	**2.69**	**293**	*e*Pn	**Pn**	**11 48 45.6 +1.3**
PE1				*e*Sn	**Sn**	**11 49 17.1 +0.5**
TAR1	**Taranto**	**2.71**	**287**	*e*Pn	**Pn**	**11 48 45.9 +1.5**
TAR1				*e*Sn	**Sn**	**11 49 17.9 +1.0**
KKB	**Krupnik**	**2.77**	**40**	P	**Pn**	**11 48 48.1 +2.7**
KKB				Pg	**Pb**	**11 48 48.9 -1.8**
KKB	**Krupnik**	**2.77**	**40**	P	**Pn**	**11 48 48.1 +2.7**
KKB	**Krupnik**	**2.77**	**40**	Pg	**Pb**	**11 48 48.9 -1.8**
ITM	**Ithomi**	**2.78**	**159**	*e*PN	**Pn**	**11 48 47.7 +2.2**
ITM	**Ithomi**	**2.78**	**159**	*e*Pn	**Pn**	**11 48 47.7 +2.2**
BUM	**Brajici-Budva**	**2.86**	**332**	⇓*i*Pn	**Pn**	**11 48 48.4 +1.8**
BUM				*e*Sn	**Sb**	**11 49 24.4 -2.6**
BUM	**Brajici-Budva**	**2.86**	**332**	⇓*i*Pn	**Pn**	**11 48 48.4 +1.8**
BUM				*e*Sn	**Sb**	**11 49 24.4 -2.6**
PDG	**Podgorica**	**2.86**	**338**	*e*PN	**Pn**	**11 48 48.2 +2.7**
PDG	**Podgorica**	**2.86**	**338**	⇑*i*Pn	**Pn**	**11 48 48.9 +2.4**
PDG				*e*Sn	**Sb**	**11 49 25.2 -1.7**
TTG	**Podgorica**	**2.86**	**338**	⇑*i*Pn	**Pn**	**11 48 48.9 +2.4**
TTG				*e*Sn	**Sb**	**11 49 25.2 -1.7**
PVY	**Plav**	**2.86**	**349**	⇓*i*Pn	**Pb**	**11 48 50.2 -2.2**
PVY				*e*Sn	**Sb**	**11 49 25.0 -2.3**
PVY	**Plav**	**2.86**	**349**	⇓*i*Pn	**Pb**	**11 48 50.2 -2.2**
PVY				*e*Sn	**Sb**	**11 49 25.0 -2.3**
NVR	**Nevrokopi**	**2.89**	**56**	*e*PN	**Pn**	**11 48 48.5 +1.5**
NVR	**Nevrokopi**	**2.89**	**56**	*e*Pn	**Pn**	**11 48 48.5 +1.5**
MMB	**Musomiste**	**2.94**	**51**	P	**Pn**	**11 48 50.3 +2.6**
MMB	**Musomiste**	**2.94**	**51**	⇓*i*P	Pn	11 48 50.6 +2.9
MMB	**Musomiste**	**2.94**	**51**	P	**Pn**	**11 48 50.3 +2.6**
ATH	**Athens Observa**	**2.98**	**126**	*e*PN	**Pn**	**11 48 50.5 +2.3**
ATH	**Athens Observa**	**2.98**	**126**	*e*Pn	**Pn**	**11 48 50.5 +2.3**
NAIG	**Nisos Aigina**	**2.98**	**132**	*e*PB	**Pb**	**11 48 51.8 -2.5**
NAIG	**Nisos Aigina**	**2.98**	**132**	*e*Pb	**Pb**	**11 48 51.8 -2.5**
DID	**Didima**	**3.03**	**138**	*e*PN	**Pn**	**11 48 50.7 +1.8**
DID	**Didima**	**3.03**	**138**	*e*Pn	**Pn**	**11 48 50.7 +1.8**
HCY	**Herceg Novi**	**3.13**	**329**	⇑*i*Pn	**Pn**	**11 48 52.1 +1.7**
HCY				*e*Sn	**Sb**	**11 49 31.2 -3.7**
HCY	**Herceg Novi**	**3.13**	**329**	⇑*i*Pn	**Pn**	**11 48 52.1 +1.7**
HCY				*e*Sn	**Sb**	**11 49 31.2 -3.7**
BEY	**Berane**	**3.14**	**349**	⇑*i*Pn	**Pb**	**11 48 54.2 -2.9**
BEY				*e*Sn	**Sb**	**11 49 31.7 -3.6**
IVA	**Berane**	**3.14**	**349**	⇑*i*Pn	**Pb**	**11 48 54.2 -2.9**
IVA				*e*Sn	**Sb**	**11 49 31.7 -3.6**
BAI	**Bari**	**3.19**	**296**	*e*Pn	**Pn**	**11 48 52.7 +1.6**
BAI				*e*Sn	**Sn**	**11 49 29.6 +0.8**
NKME	**Niksic**	**3.25**	**337**	⇓*i*Pn	**Pn**	**11 48 53.9 +1.8**
NKME				*e*Sn	**Sb**	**11 49 35.2 -3.2**
NKME	**Niksic**	**3.25**	**337**	⇓*i*Pn	**Pn**	**11 48 53.9 +1.8**
NKME				*e*Sn	**Sb**	**11 49 35.2 -3.2**
NKY	**Niksic**	**3.28**	**338**	⇓*i*Pn	Pn	11 48 55.6 +3.1
NKY				*e*Sn	**Sn**	**11 49 34.5 +3.1**
NKY	**Niksic**	**3.28**	**338**	⇓*i*Pn	Pn	11 48 55.6 +3.1
NKY				*e*Sn	**Sn**	**11 49 34.5 +3.1**
VTS	**Vitosha**	**3.40**	**33**	P	Pn	11 48 56.9 +2.8
VTS	**Vitosha**	**3.40**	**33**	*e*Pn	Pn	11 48 57.0 +2.8
VTS				*e*Sn	**Sn**	**11 49 36.5 +2.3**
VTS	**Vitosha**	**3.40**	**33**	⇑*i*P	Pn	11 48 57.3 +3.2
VTS	**Vitosha**	**3.40**	**33**	P	Pn	11 48 56.9 +2.8
VTS				*e*Sn	**Sn**	**11 49 36.5 +2.3**
SELS	**Selova**	**3.45**	**5**	*e*Pn	Pn	11 48 57.8 +3.1
BRY	**Bratogost**	**3.51**	**333**	*e*Pn	**Pn**	**11 48 57.5 +1.9**
BRY				*e*Sn	**Sn**	**11 49 40.3 +3.3**
BRY	**Bratogost**	**3.51**	**333**	*e*Pn	**Pn**	**11 48 57.5 +1.9**
BRY				*e*Sn	**Sn**	**11 49 40.3 +3.3**
SJES	**Sjenica**	**3.52**	**352**	*e*Pn	**Pn**	**11 48 57.9 +2.2**
SJES	**Sjenica**	**3.52**	**352**	*e*Pn	**Pn**	**11 48 57.9 +2.2**
CDT	**Castel del Mon**	**3.60**	**293**	*e*Pn	Pn	11 48 58.1 +1.3
CDT				*e*Sn	**Sn**	**11 49 38.5 +0.6**
RZN	**Rozhen**	**3.61**	**57**	P	Pn	11 49 00.5 +3.4
RZN	**Rozhen**	**3.61**	**57**	P	Pn	11 49 00.5 +3.4
UPM	**Unac-Piva**	**3.67**	**339**	⇑*i*Pn	Pn	11 49 01.2 +3.3
UPM				*e*Sn	**Sn**	**11 49 44.9 +3.9**
UPM	**Unac-Piva**	**3.67**	**339**	⇑*i*Pn	Pn	11 49 01.2 +3.3
UPM				*e*Sn	**Sn**	**11 49 44.9 +3.9**
PLE	**Pljevlja**	**3.67**	**345**	*e*Pn	Pn	11 49 00.8 +2.9
PLE				*e*Sn	**Sn**	**11 49 44.4 +3.3**
PLE	**Pljevlja**	**3.67**	**345**	*e*Pn	Pn	11 49 00.8 +2.9
PLE				*e*Sn	**Sn**	**11 49 44.4 +3.3**
SMTH	**Samothraki Isl**	**3.78**	**78**	*e*PN	**Pn**	**11 49 01.1 +1.8**
SMTH	**Samothraki Isl**	**3.78**	**78**	*e*Pn	**Pn**	**11 49 01.1 +1.8**
ZAPS	**Zavoj**	**3.79**	**22**	*e*Pn	Pn	11 49 02.4 +3.0
IVAS	**Ivanjica**	**3.81**	**354**	*e*Pn	Pn	11 49 02.5 +2.8
IVAS	**Ivanjica**	**3.81**	**354**	*e*Pn	Pn	11 49 02.5 +2.8
STON	**Ston**	**3.82**	**325**	*i*Pn	**Pn**	**11 49 01.0 +1.2**
STON				Sn	**Sn**	**11 49 44.5 +0.1**
STON	**Ston**	**3.82**	**325**	*i*Pn	**Pn**	**11 49 01.0 +1.2**
STON				Sn	**Sn**	**11 49 44.4 +0.1**
PGB	**Panagyurishte**	**3.82**	**42**	P	Pn	11 49 03.1 +3.3
PGB	**Panagyurishte**	**3.82**	**42**	P	Pn	11 49 03.1 +3.3
PLD	**Plovdiv**	**3.83**	**51**	*e*Pn	**Pn**	**11 49 02.7 +2.8**
PLD				*e*Sn	**Sn**	**11 49 47.9 +3.2**
PLD	**Plovdiv**	**3.83**	**51**	*e*Pn	**Pn**	**11 49 02.7 +2.8**
PLD				*e*Sn	**Sn**	**11 49 47.9 +3.2**
RDO	**Rodhopi**	**3.95**	**68**	*e*PN	**Pn**	**11 49 02.8 +1.3**
RDO	**Rodhopi**	**3.95**	**68**	*e*Pn	**Pn**	**11 49 02.8 +1.3**
KYTH	**Kithira**	**3.96**	**151**	*e*PN	Pn	11 49 05.3 +3.6
KYTH	**Kithira**	**3.96**	**151**	*e*Pn	Pn	11 49 05.3 +3.6
KDZ	**Kurdzhali**	**4.06**	**61**	⇑*i*P	**Pn**	**11 49 04.9 +1.9**
KDZ	**Kurdzhali**	**4.06**	**61**	⇑*i*P	**Pn**	**11 49 04.9 +1.9**
MS1	**Monte Sant'Ang**	**4.08**	**300**	*e*Pn	**Pn**	**11 49 05.0 +1.6**
MS1				*e*Sn	**Sn**	**11 49 50.4 -0.5**
GRUS	**Gruza**	**4.10**	**0**	*e*Pn	**Pn**	**11 49 06.3 +2.6**
GRUS	**Gruza**	**4.10**	**0**	*e*Pn	**Pn**	**11 49 06.3 +2.6**
BOLS	**Boljevac**	**4.16**	**13**	*e*Pn	**Pn**	**11 49 05.9 +1.5**
BOLS	**Boljevac**	**4.16**	**13**	*e*Pn	**Pn**	**11 49 05.9 +1.5**
BBLS	**Lazići**	**4.19**	**347**	*e*Pn	**Pn**	**11 49 07.1 +2.1**
BBLS	**Lazići**	**4.19**	**347**	*e*Pn	**Pn**	**11 49 07.1 +2.1**
MPEP	**Malo Peshtene**	**4.25**	**32**	P	Pn	11 49 09.4 +3.8
DIVS	**Divibare**	**4.34**	**353**	*e*Pn	**Pn**	**11 49 09.3 +2.2**
DIVS				*e*Sn	**Sn**	**11 49 57.9 +0.4**
DIVS	**Divibare**	**4.34**	**353**	*e*Pn	**Pn**	**11 49 09.3 +2.2**
DIVS				*e*Sn	**Sn**	**11 49 57.9 +0.4**
TRUS	**Trudelj**	**4.44**	**357**	*e*Pn	**Pn**	**11 49 10.5 +2.1**
TRUS				*e*Sn	**Sn**	**11 49 59.2 -0.6**
TRUS	**Trudelj**	**4.44**	**357**	*e*Pn	**Pn**	**11 49 10.5 +2.1**
TRUS				*e*Sn	**Sn**	**11 49 59.2 -0.6**
SVIS	**Svilajnac**	**4.50**	**5**	*e*Pn	**Pn**	**11 49 10.1 +1.0**
APE	**Apeiranthos**	**4.67**	**124**	*e*P	**Pn**	**11 49 14.4 +2.8**
APE	**Apeiranthos**	**4.67**	**124**	⇓*i*P	**Pn**	**11 49 13.3 +1.7**
APE	**Apeiranthos**	**4.67**	**124**	*e*P	**Pn**	**11 49 14.4 +2.8**
TEKS	**Tekeris**	**4.84**	**350**	⇑*i*Pn	**Pn**	**11 49 15.9 +2.1**
TEKS	**Tekeris**	**4.84**	**350**	⇑*i*Pn	**Pn**	**11 49 15.9 +2.1**
FGSL	**Fruska Gora**	**5.41**	**353**	*e*Pn	**Pn**	**11 49 23.3 +1.6**
FGSL				*e*Sn	**Sn**	**11 50 23.4 -0.3**
FRGS	**Fruska Gora**	**5.41**	**353**	*e*Pn	**Pn**	**11 49 23.3 +1.6**
FRGS				*e*Sn	**Sn**	**11 50 23.4 -0.3**
IDI	**Anoyia**	**5.60**	**142**	P	**Pn**	**11 49 24.4 +0.1**
	comp=E,0.8nm,0.3s,baz=320,slow=7.9,SNR=4.2					
IDI				S	**Sn**	**11 50 25.5 -2.9**
	comp=E,4.2nm,0.3s,baz=104,slow=21,SNR=6.7					
GZR	**Gura Zlata**	**5.82**	**15**	⇑*i*P	Pn	11 49 30.6 +3.3
BZS	**Buzias**	**5.87**	**6**	⇑*i*P	**Pn**	**11 49 30.3 +2.3**
UDBI	**Udbina**	**5.99**	**324**	*e*Pn	Pn	11 49 32.3 +2.7
UDBI				Sn	**Sn**	**11 50 38.3 +0.4**
UDBI	**Udbina**	**5.99**	**324**	*e*Pn	Pn	11 49 32.3 +2.7
UDBI				Sn	**Sn**	**11 50 38.3 +0.4**
ARR	**Arges**	**6.30**	**26**	⇓*i*P	Pn	11 49 37.5 +3.6
NVLJ	**Novalja**	**6.44**	**320**	*e*Pn	**Pn**	**11 49 37.1 +1.4**
NVLJ				Sn	**Sn**	**11 50 46.8 -2.1**
NVLJ	**Novalja**	**6.44**	**320**	*e*Pn	**Pn**	**11 49 37.1 +1.4**
VOIR		**6.51**	**28**	⇓*i*P	Pn	11 49 40.9 +4.1
PKSM	**Moragy**	**6.60**	**348**	⇑*i*P	**Pn**	**11 49 39.5 +1.6**
PKSM	**Moragy**	**6.60**	**348**	⇓*i*e	**Pn**	**11 49 39.1 +1.2**
ISR	**Istrita**	**6.87**	**37**	⇑*i*P	Pn	11 49 46.9 +5.1
MLR	**Muntele Rosu**	**6.90**	**33**	⇑*i*P	Pn	11 49 47.2 +5.0
MLR	**Muntele Rosu**	**6.90**	**33**	P	Pn	11 49 45.3 +3.1
	comp=E,1.0nm,0.3s					
MLR	**Muntele Rosu**	**6.90**	**33**	P	Pn	11 49 45.3 +3.1
	comp=E,0.5nm,0.3s,baz=164,slow=5.9,SNR=13					
MLR				LR	LR	11 53 01.4
	comp=E,94nm,19.2s,baz=237,slow=44					
DRGR		**7.16**	**11**	⇑*i*P	Pn	11 49 51.3 +5.6
PLOR	**Plostina**	**7.49**	**34**	⇑*i*P	Pn	11 49 53.4 +3.2
VRI	**Vrincioaia**	**7.53**	**34**	⇑*i*P	Pn	11 49 54.9 +4.1
CFR	**Carcaliu**	**7.71**	**43**	⇑*i*P	**Pn**	**11 49 54.9 +1.7**
VOJS	**Vojsko**	**7.99**	**324**	*i*Pn	**Pn**	**11 49 58.3 +1.2**
SOKA	**Soboth**	**8.03**	**331**	⇑*i*Pn	**Pn**	**11 49 58.8 +1.2**
	SNR=7.0					
SOKA				⇑*i*Sn	**Sn**	**11 51 26.4 -1.8**
SOKA	**Soboth**	**8.03**	**331**	Pn	**Pn**	**11 49 58.8 +1.2**
	SNR=7.0					
OBKA	**Obir**	**8.08**	**328**	⇓*i*Pn	**Pn**	**11 49 59.9 +1.6**
OBKA				⇓*i*Sn	**Sn**	**11 51 26.2 -3.3**
OBKA	**Obir**	**8.08**	**328**	Pn	**Pn**	**11 49 59.9 +1.6**
PSZ	**Piszkesteto**	**8.15**	**356**	⇑*i*P	**Pn**	**11 50 01.9 +2.5**
PSZ	**Piszkesteto**	**8.15**	**356**	⇓*i*e	Pn	11 50 02.1 +2.7
ARSA	**Arzberg**	**8.35**	**335**	⇓*i*Pn	**Pn**	**11 50 03.2 +1.2**
ARSA	**Arzberg**	**8.35**	**335**	Pn	**Pn**	**11 50 03.2 +1.2**
CONA	**Conrad Observa**	**8.85**	**338**	⇓*i*Pn	**Pn**	**11 50 10.9 +1.9**
CONA	**Conrad Observa**	**8.85**	**338**	Pn	**Pn**	**11 50 10.9 +1.9**
KBA	**Koelnbreinsper**	**9.03**	**326**	⇑*i*Pn	**Pn**	**11 50 13.0 +1.5**
KBA				⇑*i*Sn	**Sn**	**11 51 50.5 -2.5**
KBA	**Koelnbreinsper**	**9.03**	**326**	Pn	**Pn**	**11 50 13.0 +1.5**
CRVS	**Cervenica-Dubn**	**9.14**	**3**	*e*P	Pn	11 50 22.5 +10
CRVS	**Cervenica-Dubn**	**9.14**	**3**	*e*PN	Pn	11 50 22.5 +10
CRVS	**Cervenica-Dubn**	**9.14**	**3**	*e*P	Pn	11 50 22.5 +10
ABTA	**Abfaltersbach**	**9.16**	**322**	⇑*i*Pn	**Pn**	**11 50 13.8 +0.7**
ABTA				⇓*i*Sn	**Sn**	**11 51 53.4 -2.5**
ABTA	**Abfaltersbach**	**9.16**	**322**	Pn	**Pn**	**11 50 13.8 +0.7**
MOA	**Molln**	**9.30**	**332**	⇑*i*Pn	**Pn**	**11 50 16.3 +1.3**
MOA	**Molln**	**9.30**	**332**		**Sn**	**11 51 59.7 +0.4**
MOA	**Molln**	**9.30**	**332**	Pn	**Pn**	**11 50 16.3 +1.3**
KEST	**Kesra**	**9.84**	**249**	LR	LR	11 55 01.9
	comp=E,42nm,18.8s,baz=350,slow=42					
VRAC	**Vranov**	**9.96**	**344**	LR	LR	11 54 24.2
	comp=E,15nm,28.6s,baz=178,slow=38					
BRTR	**Keskin Array B**	**9.98**	**86**	*e*P	Pn	11 50 32.0 +7.5
BRTR	**Keskin Array B**	**9.98**	**86**	P	**Pn**	**11 50 25.3 +0.8**
	comp=E,0.1nm,0.3s,baz=258,slow=11,SNR=3.5					
WATA	**Walderalm**	**10.03**	**322**	⇓*i*Pn	**Pn**	**11 50 25.8 +0.7**
WATA	**Walderalm**	**10.03**	**322**	Pn	**Pn**	**11 50 25.8 +0.7**
MOTA	**Moosalm**	**10.26**	**321**	⇑*i*Pn	**Pn**	**11 50 29.2 +0.9**
MOTA	**Moosalm**	**10.26**	**321**	Pn	**Pn**	**11 50 29.2 +0.9**
GERES	**GERESS Array B**	**10.34**	**333**	*e*P	Pn	11 50 32.1 +2.7
GERES	**GERESS Array B**	**10.34**	**333**	P	**Pn**	**11 50 30.7 +1.3**
	comp=E,0.4nm,0.3s,baz=157,slow=14,SNR=8.6					
GERES				S	**Sn**	**11 52 25.6 +0.6**
	comp=E,0.4nm,0.3s,baz=153,slow=26,SNR=4.1					
GERES				LR	LR	11 55 49.4
	comp=E,148nm,19.0s,baz=116,slow=45					
DAVOX	**Davos/Dischmat**	**10.53**	**315**	P	**Pn**	**11 50 33.2 +1.2**
	comp=E,1.0nm,0.3s					
DAVOX				S	**Sn**	**11 52 26.2 -3.4**
DAVOX	**Davos/Dischmat**	**10.53**	**315**	P	**Pn**	**11 50 33.2 +1.2**
	comp=E,0.7nm,0.3s,baz=163,slow=16,SNR=7.3					
DAVOX				S	**Sn**	**11 52 26.2 -3.4**
	comp=E,0.2nm,0.3s,baz=330,slow=20,SNR=3.2					
KHC	**Kasperske Hory**	**10.63**	**334**	*e*P	Pn	11 50 36.6 +3.4
KHC				*e*		11 52 29.2
KHC	**Kasperske Hory**	**10.63**	**334**	*e*PN	Pn	11 50 36.6 +3.4
KHC				*ex*	x	11 50 54.4
KHC				*e*SN	**Sn**	**11 52 29.2 -2.8**
KHC	**Kasperske Hory**	**10.63**	**334**	Pn	Pn	11 50 36.6 +3.4
MBDF	**Montbardon**	**11.43**	**300**	*e*P	**Pn**	**11 50 44.3 0.0**
	comp=E,10nm,0.8s					
MBDF	**Montbardon**	**11.43**	**300**	*e*P	**Pn**	**11 50 44.3 0.0**
	comp=E,10.0nm,0.8s					
LPG	**La Plagne**	**11.73**	**304**	*e*P	**Pn**	**11 50 50.1 +1.5**
LPG	**La Plagne**	**11.73**	**304**	*e*P	**Pn**	**11 50 50.1 +1.5**
AKASG	**Malin Array Be**	**12.46**	**26**	P	**Pn**	**11 50 59.5 +1.3**
AKASG	**Malin Array Be**	**12.46**	**26**	P	**Pn**	**11 50 59.5 +1.3**
AKASG	**Malin Array Be**	**12.46**	**26**	P	**Pn**	**11 50 59.5 +1.3**
	comp=E,0.2nm,0.3s,baz=211,slow=12,SNR=3.1					
CABF	**La Chapelle**	**12.64**	**307**	*e*P	**Pn**	**11 51 00.7 0.0**
CABF	**La Chapelle**	**12.64**	**307**	*e*P	**Pn**	**11 51 00.7 0.0**
HINF	**Hinteralfeld**	**12.80**	**313**	*e*P	**Pn**	**11 51 02.4 -0.5**
	comp=E,8.6nm,0.7s					
HINF	**Hinteralfeld**	**12.80**	**313**	*e*P	**Pn**	**11 51 02.4 -0.5**
	comp=E,8.0nm,0.7s					
CDF	**Champ du Feu**	**12.92**	**316**	*e*P	**Pn**	**11 51 03.4 -1.1**
CDF	**Champ du Feu**	**12.92**	**316**	*e*P	**Pn**	**11 51 03.4 -1.1**
HAU	**Haudompre**	**13.19**	**313**	*e*P	**Pn**	**11 51 07.4 -0.8**
	comp=E,5.1nm,0.4s					
HAU	**Haudompre**	**13.19**	**313**	*e*P	**Pn**	**11 51 07.4 -0.8**
	comp=E,5.0nm,0.4s					
ANN	**Anapa**	**13.37**	**63**	*e*P	**Pn**	**11 51 08.3 -2.4**
ANN				*e*S	**Sn**	**11 53 39.6 +0.6**
ANN				pmax	pmax	
	comp=Z,109nm,1.1s					
ANN				MLR	MLR	
	comp=Z,182nm,4.0s					
ANN	**Anapa**	**13.37**	**63**	*e*P	**Pn**	**11 51 08.3 -2.4**
	comp=Z,109nm,1.1s					
ANN				*e*S	**Sn**	**11 53 39.6 +0.6**
	comp=Z,182nm,4.0s					
SMF	**Signal de Mont**	**14.05**	**305**	*e*P	**Pn**	**11 51 18.2 -1.8**
	comp=Z,5.1nm,0.6s					
LOR	**Lormes**	**14.30**	**307**	*e*P	Pn	11 51 19.6 -3.7
BGF	**Bois d'Agland**	**14.65**	**303**	*e*P	**Pn**	**11 51 26.2 -2.0**
KIV	**Kislovodsk**	**16.90**	**69**	*e*P	**P**	**11 51 59.0 -0.5**
KIV				pmax	pmax	
	comp=Z,9.0nm,1.0s					
KIV	**Kislovodsk**	**16.90**	**69**	*e*P	**P**	**11 51 59.0 -0.5**
	comp=Z,9.0nm,1.0s					
OBN	**Obninsk**	**18.66**	**29**	⇓*i*eP	**P**	**11 52 17.9 -0.7**
OBN				*e*S	**Sn**	**11 55 42.1 -5.1**
OBN				pmax	pmax	
	comp=Z,11nm,1.2s					
OBN				MLR	MLR	
	comp=Z,100nm,18.0s					
OBN	**Obninsk**	**18.66**	**29**	*e*P	**P**	**11 52 17.9 -0.7**
	comp=Z,11nm,1.2s					
ESDC	**Sonseca Array**	**18.94**	**278**	P	**Pn**	**11 52 22.7 0.0**
	comp=Z,0.3nm,0.3s,baz=76,slow=11,SNR=3.3					
VSU	**Vasula**	**19.10**	**10**	*e*P	**Pn**	**11 52 23.9 -0.4**
VSU				pmax	pmax	
	comp=Z,54nm,1.2s					
VSU	**Vasula**	**19.10**	**10**	*e*P	**Pn**	**11 52 23.9 -0.4**
	comp=Z,54nm,1.2s					
FINES	**FINESS Array B**	**21.94**	**7**	P	**P**	**11 52 51.8 -2.5**
	comp=Z,3.9nm,0.6s,baz=177,slow=12,SNR=18					
NB2	**NORSAR Subarra**	**22.08**	**348**	P	**P**	**11 52 55.5 -0.2**
	comp=Z,9.7nm,0.8s,baz=164,slow=11					
NB2	**NORSAR Subarra**	**22.08**	**348**	P	**P**	**11 52 55.5 -0.2**
	comp=Z,9.7nm,0.8s,SNR=2.1					
NOA	**NORSAR Array B**	**22.08**	**348**	*e*P	**P**	**11 52 55.7 0.0**
	comp=Z,9.0nm,0.7s					
NOA	**NORSAR Array B**	**22.08**	**348**	P	**P**	**11 52 55.2 -0.5**
	comp=Z,8.9nm,0.7s,baz=164,slow=10,SNR=21					
NOA				LR	LR	12 01 39.0
	comp=Z,44nm,18.9s,baz=200,slow=37					
EKA	**Eskdalemuir Ar**	**22.21**	**322**	P	**P**	**11 52 57.0 -0.2**
	comp=Z,1.0nm,0.5s					
EKA	**Eskdalemuir Ar**	**22.21**	**322**	P	**P**	**11 52 57.0 -0.2**
	comp=Z,1.3nm,0.5s,baz=121,slow=9.7,SNR=8.8					
AKTK	**Aktyubinsk**	**28.14**	**55**	P	**P**	**11 53 52.0 -0.9**
	comp=Z,1.0nm,0.7s					
AKTO	**Aktyubinsk**	**28.14**	**55**	P	**P**	**11 53 52.0 -0.9**
AKTO				pmax	pmax	
	comp=Z,1.0nm,0.7s					
AKTO	**Aktyubinsk**	**28.14**	**55**	P	**P**	**11 53 52.0 -0.9**
	comp=Z,0.7nm,0.7s,baz=263,slow=16,SNR=2.9					
ARCES	**ARCESS Array B**	**29.93**	**3**	P	**P**	**11 54 06.5 -2.0**
	comp=Z,3.2nm,0.8s,baz=187,slow=9.7,SNR=14					
TORD	**Torodi Ar. Bea**	**31.36**	**218**	P	**P**	**11 54 21.7 0.0**
	comp=Z,2.1nm,0.6s,baz=32,slow=9.1,SNR=15					
AAK	**Ala-Archa**	**40.02**	**68**	LR	LR	12 16 12.2
	comp=Z,15nm,28.6s,baz=312,slow=42					
MKAR	**Makanchi Array**	**44.37**	**60**	P	**P**	**11 56 10.2 -1.0**
MKAR				pmax	pmax	
	comp=Z,2.0nm,0.5s					
MKAR	**Makanchi Array**	**44.37**	**60**	P	**P**	**11 56 10.2 -1.0**
	comp=Z,2.0nm,0.5s					
MKAR	**Makanchi Array**	**44.37**	**60**	P	**P**	**11 56 10.2 -1.0**
	comp=Z,2.0nm,0.5s,baz=279,slow=7.0,SNR=33					
ZALV	**Zalesovo Beam**	**44.54**	**49**	*e*P	**P**	**11 56 11.5 -0.9**
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.4s					
ZALV	**Zalesovo Beam**	**44.54**	**49**	*e*P	**P**	**11 56 11.5 -0.9**
	comp=Z,1.0nm,0.4s					
ZALV	**Zalesovo Beam**	**44.54**	**49**	P	**P**	**11 56 10.8 -1.6**
	comp=Z,0.9nm,0.4s,baz=276,slow=7.9,SNR=5.4					
SONM	**Songino Array**	**59.35**	**51**	*e*P	**P**	**11 58 02.5 -0.6**
	comp=Z,1.0nm,0.9s					
SONM	**Songino Array**	**59.35**	**51**	P	**P**	**11 58 01.6 -1.5**
	comp=Z,1.3nm,0.8s,baz=287,slow=9.0,SNR=9.8					
YKA	**Yellowknife Ar**	**71.93**	**340**	P	**P**	**11 59 23.0 -0.8**
YKA	**Yellowknife Ar**	**71.93**	**340**	P	**P**	**11 59 23.0 -0.8**
	comp=Z,0.4nm,0.8s,baz=38,slow=5.3,SNR=5.9					
ILAR	**Eielson Array**	**75.33**	**355**	*e*P	**P**	**11 59 44.4 +0.7**
ILAR	**Eielson Array**	**75.33**	**355**	P	**P**	**11 59 43.8 +0.1**
	comp=Z,0.3nm,0.6s,baz=3.1,slow=3.1,SNR=7.5					
MJAR	**Matsushiro Arr**	**84.78**	**46**	P	**P**	**12 00 33.7 -1.6**
	comp=Z,1.0nm,0.8s					
MJAR	**Matsushiro Arr**	**84.78**	**46**	P	**P**	**12 00 33.7 -1.6**
	comp=Z,1.2nm,0.8s,baz=314,slow=4.8,SNR=5.2					
MJA0	**Matsu Arr-Jizo**	**84.80**	**46**	*e*P	**P**	**12 00 35.1 -0.4**
MJA0				pmax	pmax	
	comp=Z,1.0nm,0.8s					
MJA0	**Matsu Arr-Jizo**	**84.80**	**46**	*e*P	**P**	**12 00 35.1 -0.4**
	comp=Z,1.0nm,0.8s					
ASAR	**Alice Springs**	**122.21**	**95**	PKP	**PKPdf**	**12 06 54.3 -1.7**
	comp=Z,0.3nm,0.6s,baz=313,slow=0.8,SNR=4.9					

ISK ***29*** *11:49

VSU	**Vasula**	**0.95**	**214**	*e*P	**Pg**	**12 02 45.4**	**-0.6**
VSU				*e*S	**Sg**	**12 02 57.9**	**-0.3**
VSU	**Vasula**	**0.95**	**214**	Pg	**Pg**	**12 02 45.5**	**-0.4**
VSU				Lg	Lg	12 02 56.8	
VSU				*e*S	**Sg**	**12 02 57.2**	**-1.0**
	312nm,0.6s,SNR=90						
VJF	**Virojoki**	**1.29**	**356**	*e*P	**Pg**	**12 02 51.1**	**-1.5**
VJF				*e*SB	**Sg**	**12 03 09.3**	**-0.1**
VJF				MSG		12 03 09.3	
	comp=Z,3.0nm,0.1s						
VJF	**Virojoki**	**1.29**	**356**	Pg	**Pg**	**12 02 51.1**	**-1.5**
VJF				Sg	**Sg**	**12 03 09.3**	**-0.1**
PVF	**Pernaja**	**1.60**	**325**	*e*P	**Pn**	**12 02 57.3**	**-0.1**
PVF				*e*S	**Sn**	**12 03 18.4**	**-0.4**
PVF				MSG		12 03 18.7	
	comp=Z,7.0nm,0.3s						
PVF	**Pernaja**	**1.60**	**325**	Pg	**Pn**	**12 02 57.3**	**-0.1**
PVF				Sg	**Sg**	**12 03 21.0**	**+1.7**
SRPE	**Suurupi**	**1.73**	**279**	*e*P	**Pn**	**12 02 59.7**	**+0.5**
SRPE				*e*SG	**Sb**	**12 03 23.0**	**+0.4**
SRPE	**Suurupi**	**1.73**	**279**	*e*S	**Sb**	**12 03 22.7**	**0.0**
	comp=Z,248nm,0.6s,SNR=50						
MEF	**Metsahovi**	**1.95**	**301**	*e*PB	**Pb**	**12 03 03.4**	**-0.8**
MEF				MSG	**Sb**	**12 03 28.8**	**-0.2**
	comp=Z,2.4nm,0.1s						
MEF				*e*SB	**Sb**	**12 03 28.8**	**-0.2**
MEF	**Metsahovi**	**1.95**	**301**	Pn	**Pb**	**12 03 03.5**	**-0.6**
MEF				*e*S	**Sb**	**12 03 28.5**	**-0.5**
	comp=Z,21nm,0.6s,SNR=50						
MEF				Sg	**Sb**	**12 03 28.8**	**-0.2**
MTSE	**Matsula**	**2.10**	**257**	*e*P	**Pn**	**12 03 05.2**	**+1.0**
MTSE				*e*S	**Sn**	**12 03 31.8**	**+0.9**
MTSE	**Matsula**	**2.10**	**257**	Pn	**Pn**	**12 03 04.5**	**+0.3**
MTSE				*e*S	**Sb**	**12 03 33.5**	**+0.2**
	SNR=50						
FIA0	**FINESS Array S**	**2.35**	**340**	Pn	**Pn**	**12 03 07.5**	**-0.1**
	baz=156,slow=18						
FIA0				Sn	**Sn**	**12 03 37.3**	**+0.2**
	baz=166,slow=37						
FIA0				Lg	Lg	12 03 41.6	
	baz=164,slow=28						
FIA0				Rg	Rg	12 03 53.2	
	baz=162,slow=28						
FIA0	**FINESS Array S**	**2.35**	**340**	Pn	**Pn**	**12 03 07.5**	**-0.1**
	baz=156,slow=18						
FIA0				Sn	**Sn**	**12 03 37.3**	**+0.2**
	baz=166,slow=37						
FIA0				Lg	Lg	12 03 41.6	
	baz=164,slow=28						
FIA0				Rg	Rg	12 03 53.2	
	baz=162,slow=28						
FIA0	**FINESS Array S**	**2.35**	**340**	*e*P	**Pn**	**12 03 08.1**	**+0.5**
FIA0				*e*PB	**Pb**	**12 03 09.6**	**-1.4**
FIA0				*e*SB	**Sb**	**12 03 39.5**	**-1.0**
FIA0				*e*SG	**Sg**	**12 03 41.7**	**-1.5**
FIA0				MSG		12 03 42.2	
	comp=Z,6.2nm,0.3s						
FIA0	**FINESS Array S**	**2.35**	**340**	Pn	**Pn**	**12 03 07.5**	**-0.1**
	baz=156,slow=16,SNR=9.9						
FIA0				Sn	**Sn**	**12 03 37.3**	**+0.2**
	baz=166,slow=28,SNR=1.5						
FIA0				Lg	Lg	12 03 41.6	
	baz=164,slow=26						
FINES	**FINESS Array B**	**2.35**	**340**	Pn	**Pn**	**12 03 07.2**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=153,slow=15,SNR=35						
FINES				Lg	Lg	12 03 38.0	
	comp=Z,1.5nm,0.3s,baz=167,slow=28,SNR=13						
KAF	**Kangasniemi**	**2.96**	**347**	*e*PB	**Pb**	**12 03 19.3**	**-2.0**
KAF				MSG	**Sb**	**12 03 59.6**	**+1.6**
	comp=Z,1.8nm,0.2s						
KAF				*e*SG	**Sb**	**12 03 59.6**	**+1.6**
KAF	**Kangasniemi**	**2.96**	**347**	Pn	**Pb**	**12 03 19.3**	**-2.0**
KAF				Sg	**Sb**	**12 03 59.5**	**+1.6**
KEF	**Keuruu**	**3.25**	**336**	MSG	**Sb**	**12 04 08.6**	**+2.3**
	comp=Z,4.3nm,0.4s						
KEF				*e*SG	**Sb**	**12 04 08.6**	**+2.3**
SLIT	**Slitere, Latvi**	**3.29**	**243**	*e*SB	**Sb**	**12 04 08.0**	**+0.4**
RAF	**Rauma**	**3.48**	**303**	*e*P	**Pn**	**12 03 24.9**	**+1.8**
RAF	**Rauma**	**3.48**	**303**	*e*P	**Pn**	**12 03 24.9**	**+1.8**
	SNR=50						
RAF				*e*S	**Sn**	**12 04 07.6**	**+2.8**
	SNR=50						
RAF				Sg	**Sg**	**12 04 21.4**	**+2.1**
SUF	**Sumiainen**	**3.56**	**348**	*e*SG	**Sb**	**12 04 18.5**	**+3.1**
SUF				MSG		12 04 19.1	
	comp=Z,3.8nm,0.5s						
JOF	**Joensuu**	**4.07**	**24**	*e*P	**Pn**	**12 03 31.9**	**+0.7**
JOF				MSG	**Sb**	**12 04 32.8**	**+2.9**
	comp=Z,4.3nm,0.4s						
JOF				*e*SG	**Sb**	**12 04 32.8**	**+2.9**
HFS	**Hagfors**	**7.16**	**283**	Lg	Lg	12 06 07.6	
	baz=98,slow=28						
HFS	**Hagfors**	**7.16**	**283**	Lg	Lg	12 06 07.6	
	baz=98,slow=28						
HFS	**Hagfors**	**7.16**	**283**	Lg	Lg	12 06 07.6	
	SNR=6.9						
NB2	**NORSAR Subarra**	**8.43**	**289**	Pn	Pn	12 04 26.3	-4.9
NB2				Lg	Lg	12 06 44.9	
NB2	**NORSAR Subarra**	**8.43**	**289**	Pn	Pn	12 04 26.3	-4.9
NB2				Lg	Lg	12 06 44.9	
NOA	**NORSAR Array B**	**8.43**	**289**	Pn	**Pn**	**12 04 29.7**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=98,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**10.37**	**356**	Pn	**Pn**	**12 04 55.7**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=3.4						

*IDC **29** 12:02:52.2≤1.1, 16˚.65S×177˚.20W, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.2/20, mbtmp4.1/12, MS4.2/3, Ms1 4.2/3, ms1mx3.5/23, Error ellipse: s-maj=54.3km s-min=18.3km az=149.0*

*NEIC **29** 12:02:53.9≤0.9, 16˚.68S×177˚.12W, h10km, mb4.2/3, Error ellipse: s-maj=45.7km s-min=12.0km az=147.0*

*ISCJB **29** 12:02:55.9≤1.0, 16˚.7S≤0˚.3×177˚.2W≤0˚.2, h33km, mb4.1/16, MS3.5/3, Error ellipse: s-maj=44.4km s-min=11.6km az=146.5*

*GCMT **29** 12:02:59.7±0.4, 16˚.93S×176˚.87W, h12km, MW4.9, Moment Tensor Solution. s8,c10; s67,c84; Moment tensor: Scale 10¹⁶Nm; Mrr-0.41±.15; Mθθ-2.00±.14; Mφφ2.41±.10; Mrθ0.26±.49; Mθφ-1.03±.12; Mφr1.26±.34; Best double couple: M₀2.70000×10¹⁶ NP1:φ32.00000°, δ89.00000°, λ26.00000°. NP2:φ301.00000°, δ64.00000°, λ179.00000°. Principal axes: T 3.0400, Plg19.0000°, Azm259.0000°; N -0.6600, Plg64.0000°, Azm34.0000°; P -2.3900, Plg17.0000°, Azm163.0000°; Data Used: IU G IC II CU CN.*

ISC 29 12:02:57.5±1.1, 16˚.7S±0˚.3×177˚.2W±0˚.2, h35km, n48, σ1§02/40, mb4.1/16, MS3.9/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.30**	**248**	*e*LR	LR	12 10 46.0	
	2µm,25.7s						
DZM	**Mont Dzumac**	**16.30**	**248**	Pn	**P**	**12 06 46.2**	**-0.4**
DZM	**Mont Dzumac**	**16.30**	**248**	Pn	**P**	**12 06 46.2**	**-0.4**
	0.3nm,0.3s,baz=57,slow=17,SNR=4.0						
URZ	**Urewera**	**22.02**	**192**	LR	LR	12 15 39.1	
	comp=Z,441nm,18.8s,baz=26,slow=35						
HNR	**Honiara**	**23.38**	**285**	LR	LR	12 16 00.5	
	comp=Z,16nm,28.6s,baz=112,slow=34						
PPT2	**Papeete2**	**26.41**	**96**	*e*LR	LR	12 14 57.3	
	1µm,26.8s						
TBI	**Tubuai**	**26.86**	**109**	*e*LQ	LQ	12 14 04.8	
	805nm,25.0s						
TBI				*e*LR	LR	12 15 13.7	
	971nm,28.2s						
CTA	**Charters Tower**	**34.78**	**259**	P	**P**	**12 09 45.5**	**+0.5**
CTA	**Charters Tower**	**34.78**	**259**	P	**P**	**12 09 45.5**	**+0.5**
	5.1nm,0.8s,baz=94,slow=14,SNR=2.8						
RKT	**Rikitea**	**40.11**	**106**	*e*LR	LR	12 21 19.9	
	667nm,27.5s						
STKA	**Stephens Creek**	**40.20**	**240**	*e*P	**P**	**12 10 31.1**	**+0.4**
STKA	**Stephens Creek**	**40.20**	**240**	P	**P**	**12 10 30.7**	**0.0**
	8.6nm,0.9s,baz=59,slow=5.6,SNR=7.8						
WRAB	**Tennant Creek**	**45.97**	**258**	*e*P	P	12 11 20.7	+3.1
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**45.98**	**258**	P	**P**	**12 11 16.1**	**-1.6**
WRA	**Warramunga Arr**	**45.98**	**258**	P	**P**	**12 11 16.1**	**-1.6**
	1.4nm,1.0s,baz=89,slow=7.4,SNR=4.0						
WRA				LR	LR	12 29 10.3	
	comp=Z,368nm,20.7s,baz=95,slow=34						
AS31	**Alice Springs**	**46.21**	**253**	*e*P	**P**	**12 11 19.4**	**-0.2**
ASAR	**Alice Springs**	**46.21**	**253**	P	**P**	**12 11 19.1**	**-0.4**
ASAR	**Alice Springs**	**46.21**	**253**	P	**P**	**12 11 19.1**	**-0.4**
	5.4nm,0.8s,baz=84,slow=8.0,SNR=21						
MJAR	**Matsushiro Arr**	**67.67**	**322**	P	**P**	**12 13 49.7**	**-1.5**
MJAR	**Matsushiro Arr**	**67.67**	**322**	P	**P**	**12 13 49.7**	**-1.5**
	1.6nm,0.8s,baz=158,slow=6.6,SNR=4.8						
NVAR	**Mina Array Bea**	**77.79**	**43**	P	**P**	**12 14 51.5**	**-0.1**
NVAR	**Mina Array Bea**	**77.79**	**43**	P	**P**	**12 14 51.5**	**-0.1**
	0.9nm,1.0s,baz=240,slow=8.9,SNR=5.8						
TNA	**Tin City**	**82.35**	**4**	*e*P	**P**	**12 15 16.7**	**+1.5**
	0.2nm,0.4s						
SEY	**Seymchan**	**82.90**	**347**	P	**P**	**12 15 18.3**	**+0.1**
SEY	**Seymchan**	**82.90**	**347**	P	**P**	**12 15 18.3**	**+0.1**
	3.1nm,0.8s,baz=86,slow=21,SNR=5.4						
SRU	**San Rafael**	**83.39**	**46**	*e*P	P	12 15 25.8	+4.3
	0.3nm,0.2s						
COLA	**College**	**84.39**	**12**	*e*P	**P**	**12 15 25.7**	**0.0**
	1.2nm,0.4s						
TXAR	**Lajitas Array**	**84.41**	**57**	P	**P**	**12 15 26.5**	**-0.3**
TXAR	**Lajitas Array**	**84.41**	**57**	P	**P**	**12 15 26.5**	**-0.3**
	0.7nm,1.0s,baz=224,slow=3.8,SNR=7.8						
ILAR	**Eielson Array**	**84.50**	**13**	P	**P**	**12 15 24.7**	**-1.7**
ILAR	**Eielson Array**	**84.50**	**13**	P	**P**	**12 15 24.7**	**-1.7**
	4.5nm,1.2s,baz=225,slow=6.6,SNR=8.2						
PDAR	**Pinedale Array**	**85.72**	**43**	P	**P**	**12 15 31.4**	**-2.0**
PDAR	**Pinedale Array**	**85.72**	**43**	P	**P**	**12 15 31.4**	**-2.0**
	0.4nm,0.8s,baz=207,slow=5.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**89.57**	**289**	P	**P**	**12 15 53.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**89.57**	**289**	P	**P**	**12 15 53.1**	**+1.1**
	0.3nm,0.3s,baz=80,slow=5.0,SNR=1.9						
YKA	**Yellowknife Ar**	**92.80**	**24**	P	**P**	**12 16 07.1**	**+1.2**
YKA	**Yellowknife Ar**	**92.80**	**24**	P	**P**	**12 16 07.1**	**+1.2**
	0.2nm,0.9s,baz=245,slow=4.8,SNR=3.6						
BR131	**Keskin Array S**	**144.74**	**317**	*e*PKPdf	**PKPdf**	**12 22 31.5**	**+0.3**
BRTR	**Keskin Array B**	**144.74**	**317**	PKP	**PKPdf**	**12 22 30.9**	**-0.2**
BRTR	**Keskin Array B**	**144.74**	**317**	PKP	**PKPdf**	**12 22 30.9**	**-0.2**
	3.9nm,0.8s,baz=104,slow=3.0,SNR=13						
MLR	**Muntele Rosu**	**145.40**	**331**	PKPbc	**PKPab**	**12 22 33.3**	**+1.1**
MLR	**Muntele Rosu**	**145.40**	**331**	PKPbc	**PKPab**	**12 22 33.3**	**+1.1**
	0.6nm,0.6s,baz=148,slow=9.5,SNR=2.1						
MMAI	**Mount Meron Ar**	**146.44**	**305**	PKPbc	**PKPab**	**12 22 36.8**	**+0.4**
MMAI	**Mount Meron Ar**	**146.44**	**305**	PKPbc	**PKPab**	**12 22 36.8**	**+0.4**
	2.1nm,0.4s,baz=159,slow=5.6,SNR=3.2						
GERES	**GERESS Array B**	**146.76**	**347**	PKPbc	**PKPbc**	**12 22 36.4**	**+0.5**
GERES	**GERESS Array B**	**146.76**	**347**	PKPbc	**PKPbc**	**12 22 36.4**	**+0.5**
	0.2nm,0.3s,baz=24,slow=5.4,SNR=3.3						
DAVOX	**Davos/Dischmat**	**149.47**	**350**	PKPbc	**PKPbc**	**12 22 44.5**	**+1.2**
DAVOX	**Davos/Dischmat**	**149.47**	**350**	PKPbc	**PKPbc**	**12 22 44.5**	**+1.2**
	4.4nm,1.1s,baz=325,slow=8.0,SNR=4.1						

*AUST **29** 12:03:02.4±2.7, 3˚.76S×123˚.39E, h0km, Error ellipse: s-maj=1.1km s-min=0.8km az=250.0*

*IDC **29** 12:03:02.5±0.7, 3˚.72S×123˚.47E, h0km, mb4.4/14, mb1 4.4/16, mb1mx4.3/29, mbtmp4.4/16, ML3.7/2, MS3.8/5, Ms1 3.8/5, ms1mx3.3/39, Error ellipse: s-maj=29.1km s-min=13.9km az=57.0*

*ISCJB **29** 12:03:05.9≤0.3, 3˚.74S≤0˚.03×123˚.47E≤0˚.03, h33km, mb4.5/19, MS3.9/3, Error ellipse: s-maj=4.5km s-min=4.2km az=13.1*

*DJA **29** 12:03:06.4≤0.2, 4˚.S≤2˚×12˚.3E≤˚, h10km, M4.6/19, mb4.9/11, mB5.0/6, MLv4.6/19, Mw(mB)4.4/6*

*NEIC **29** 12:03:07.7≤0.3, 3˚.795S×123˚.44E, h35km, mb4.7/6, Error ellipse: s-maj=11.1km s-min=5.8km az=55.0*

ISC 29 12:03:07.8±0.5, 3.75S±0˚.04×123˚.48E±0˚.05, h35km, n93, σ1§05/82, mb4.5/19, MS3.9/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.87**	**257**	P	**Pn**	**12 03 35.5**	**-1.9**
KKSI				S	Sn	12 04 06.6	+6.8
BBSI	**Bau Bau**	**1.95**	**208**	P	**Pn**	**12 03 39.1**	**+0.6**
LUWI	**Luwuk**	**2.78**	**345**	P	**Pn**	**12 03 48.6**	**-1.2**
LUWI				S	**Sn**	**12 04 22.9**	**+0.8**
LUWI	**Luwuk**	**2.78**	**345**	P	**Pn**	**12 03 48.4**	**-1.4**
	baz=2.8,SNR=24						
APSI	**Ampana**	**3.36**	**327**	P	**Pn**	**12 03 56.7**	**-1.1**
BNSI	**Bone**	**3.43**	**259**	P	**Pn**	**12 03 57.4**	**-1.4**
NLAI	**Namlea**	**3.65**	**82**	P	**Pn**	**12 04 02.8**	**+1.0**
BKSI	**Bulukumba**	**3.69**	**245**	P	**Pn**	**12 04 02.6**	**+0.2**
SPSI	**Sidrap Palu**	**3.71**	**267**	P	**Pn**	**12 04 02.7**	**+0.1**
TTSI	**Tana Toraja**	**3.72**	**281**	P	**Pn**	**12 04 02.9**	**+0.1**
KAPI	**Kappang**	**3.92**	**251**	*e*Pn	**Pn**	**12 04 04.3**	**-1.3**
KAPI				*e*Sn	**Sn**	**12 04 49.8**	**-0.7**
KMSI	**Cibinong**	**4.32**	**7**	P	**Pn**	**12 04 11.0**	**-0.1**
GTOI	**Gorontalo**	**4.38**	**354**	P	**Pn**	**12 04 12.9**	**+1.1**
MRSI	**Marisa**	**4.47**	**340**	P	**Pn**	**12 04 11.6**	**-1.5**
MJSI	**Majene**	**4.50**	**272**	P	**Pn**	**12 04 14.8**	**+1.3**
MMSI	**Mamuju**	**4.68**	**283**	P	**Pn**	**12 04 16.9**	**+0.9**
MMRI	**Maumere**	**5.01**	**194**	P	Pn	12 04 29.3	+8.7
LBMI	**Labuha**	**5.07**	**53**	P	**Pn**	**12 04 21.2**	**-0.1**
	110nm,1.1s,1µm0.4nm						
MSAI	**Masohi**	**5.45**	**86**	P	Pn	12 04 31.7	+5.1
	40nm,0.7s,358nm0.1nm						
LBFI	**Labuhan Bajo,**	**5.90**	**217**	P	**Pn**	**12 04 32.4**	**-0.4**
	111nm,0.6s,1µm0.4nm						
TNTI	**Ternate**	**5.94**	**41**	P	**Pn**	**12 04 32.9**	**-0.4**
	458nm,0.6s,4µm1.4nm						
SOEI	**Soe**	**6.02**	**173**	P	Pn	12 04 38.1	+3.5
	111nm,1.2s,986nm0.4nm						
SOEI	**Soe**	**6.02**	**173**	P	Pn	12 04 37.9	+3.4
	baz=6.1,SNR=17						
SWI	**Sorong**	**8.28**	**70**	P	**Pn**	**12 05 06.7**	**+1.2**
	224nm,0.9s						
FAKI	**Fak Fak**	**8.79**	**85**	P	**Pn**	**12 05 12.3**	**-0.2**
	73nm,0.9s						
FAKI	**Fak Fak**	**8.79**	**85**	P	**Pn**	**12 05 12.3**	**-0.2**
	baz=8.9,SNR=17						
MYLDM	**Lahad Datu**	**10.17**	**331**	P	Pn	12 05 39.5	+8.1
MWPI	**Manokwari, Pap**	**10.91**	**75**	P	Pn	12 05 54.7	+13
MTN	**Manton Dam**	**11.79**	**141**	P	**Pn**	**12 05 53.5**	**0.0**
	baz=12,SNR=14						
KDU	**Kakadu**	**12.57**	**135**	P	**Pn**	**12 06 03.6**	**-0.6**
	baz=13,SNR=3.2						
KNRA	**Kununurra**	**12.95**	**157**	P	**Pn**	**12 06 07.7**	**-1.7**
	baz=13,SNR=13						
KSM	**Kuching**	**14.15**	**291**	P	**P**	**12 06 35.2**	**+2.3**
BJII	**Banjamegara**	**14.16**	**255**	P	P	12 06 36.5	+3.4
FITZ	**Fitzroy Crossi**	**14.42**	**172**	*e*Pn	**Pn**	**12 06 28.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**14.42**	**172**	Pn	**Pn**	**12 06 28.0**	**-1.5**
	0.1nm,0.3s,baz=216,slow=3.0,SNR=5.0						
FITZ				LR	LR	12 12 49.1	
	comp=Z,114nm,19.6s,baz=349,slow=41						
FITZ	**Fitzroy Crossi**	**14.42**	**172**	P	**Pn**	**12 06 28.6**	**-1.0**
	baz=14,SNR=4.7						
KPJI	**Karang Pucung**	**14.91**	**256**	P	P	12 06 45.2	+3.8
GENI	**Genyem**	**16.70**	**87**	P	**P**	**12 07 00.5**	**-0.8**
	51nm,1.1s,2µm						
JAY	**Jayapura**	**17.24**	**86**	P	**P**	**12 07 08.0**	**+0.7**
	baz=17,SNR=3.4						
MDSI	**Maura Dua**	**19.27**	**267**	P	**Pn**	**12 07 31.6**	**+0.8**
	31nm,1.0s						
WRAB	**Tennant Creek**	**19.27**	**147**	*e*P	**P**	**12 07 28.1**	**-1.5**
	18nm,0.8s						
WRAB				*e*S	**Sn**	**12 11 08.3**	**+2.4**
WRA	**Warramunga Arr**	**19.27**	**148**	P	**P**	**12 07 27.5**	**-2.1**
WRA	**Warramunga Arr**	**19.27**	**148**	P	**P**	**12 07 27.5**	**-2.1**
	0.3nm,0.3s,baz=320,slow=12,SNR=52						
WRA				LR	LR	12 14 59.4	
	comp=Z,169nm,20.4s,baz=355,slow=37						
LHSI	**Lahat**	**19.91**	**269**	P	**Pn**	**12 07 41.1**	**+2.6**
WRKA	**Warakurna**	**21.67**	**168**	P	**P**	**12 07 56.3**	**+0.7**
	baz=22,SNR=18						
COEN	**Coen**	**21.92**	**119**	*e*P	**P**	**12 07 59.0**	**+0.6**
	214nm,0.9s						
COEN	**Coen**	**21.92**	**119**	P	**P**	**12 07 59.0**	**+0.6**
	baz=22,SNR=13						
AS31	**Alice Springs**	**22.22**	**154**	*e*P	**P**	**12 08 01.9**	**+0.4**
ASAR	**Alice Springs**	**22.22**	**154**	P	**P**	**12 08 02.4**	**+0.9**
ASAR	**Alice Springs**	**22.22**	**154**	P	**P**	**12 08 02.4**	**+0.9**
	20nm,0.9s,baz=340,slow=13,SNR=72						
ASAR				LR	LR	12 17 18.0	
	comp=Z,218nm,21.2s,baz=57,slow=38						
QIS	**Mount Isa**	**22.93**	**138**	P	**P**	**12 08 09.3**	**+0.2**
	baz=23,SNR=9.8						
MEEK	**Meekatharra**	**23.23**	**191**	P	**P**	**12 08 10.9**	**-1.2**
	baz=23,SNR=5.2						
IPM	**Ipoh**	**23.88**	**290**	*e*P	**P**	**12 08 18.9**	**+0.5**
	17nm,1.0s						
PMG	**Port Moresby**	**24.18**	**105**	P	P	12 08 31.5	+10
PMG	**Port Moresby**	**24.18**	**105**	*e*P	**P**	**12 08 21.6**	**+0.5**
PMG	**Port Moresby**	**24.18**	**105**	P	**P**	**12 08 21.6**	**+0.5**
	22nm,1.0s,baz=196,slow=2.3,SNR=4.4						
PMG	**Port Moresby**	**24.18**	**105**	P	P	12 08 31.1	+10
	baz=24,SNR=3.8						
PMG				P	P	12 08 31.1	+10
	baz=24,SNR=3.8						
PSI	**Prapat**	**25.39**	**285**	P	**P**	**12 08 31.8**	**-0.5**
PSI	**Prapat**	**25.39**	**285**	P	**P**	**12 08 31.8**	**-0.5**
	14nm,0.8s,baz=168,slow=1.5,SNR=5.8						
PSI				LR	LR	12 18 50.4	
	comp=Z,339nm,19.8s,baz=53,slow=37						
PSI	**Prapat**	**25.39**	**285**	P	**P**	**12 08 32.6**	**+0.3**
	baz=25,SNR=4.6						
QLP	**Quilpie**	**30.17**	**141**	P	P	12 09 23.5	+8.6
	baz=30,SNR=5.1						
CMAR	**Chiang Mai Arr**	**32.73**	**313**	P	**P**	**12 09 37.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**32.73**	**313**	P	**P**	**12 09 37.8**	**+0.3**
	1.4nm,0.8s,baz=141,slow=6.9,SNR=8.6						
STKA	**Stephens Creek**	**32.75**	**151**	*e*P	**P**	**12 09 39.1**	**+1.6**
STKA	**Stephens Creek**	**32.75**	**151**	P	**P**	**12 09 37.5**	**0.0**
	4.2nm,1.0s,baz=313,slow=9.8,SNR=5.3						
STKA	**Stephens Creek**	**32.75**	**151**	P	**P**	**12 09 39.4**	**+1.9**
	baz=33,SNR=4.2						
HTT	**Hallett**	**32.87**	**156**	P	P	12 09 46.7	+8.1
	baz=33,SNR=4.9						
ARPS	**Mount Arapiles**	**36.95**	**155**	P	P	12 10 22.6	+8.9
	baz=37,SNR=6.5						
MJAR	**Matsushiro Arr**	**42.38**	**18**	P	**P**	**12 10 58.1**	**-0.7**
MJAR	**Matsushiro Arr**	**42.38**	**18**	P	**P**	**12 10 58.1**	**-0.7**
	1.1nm,0.8s,baz=202,slow=42,SNR=2.8						
USRK	**Ussuriysk Arra**	**48.34**	**8**	P	**P**	**12 11 45.2**	**-0.7**
	1.4nm,0.7s,baz=204,slow=8.2,SNR=4.2						
ULN	**Ulaanbaatar**	**53.38**	**346**	*e*P	**P**	**12 12 24.6**	**+0.6**
	12nm,1.4s						
SONM	**Songino Array**	**53.51**	**346**	P	**P**	**12 12 25.5**	**+0.5**
SONM	**Songino Array**	**53.51**	**346**	P	**P**	**12 12 25.5**	**+0.5**
	1.7nm,0.6s,baz=165,slow=8.2,SNR=14						
MCQ	**Macquarie Isla**	**58.22**	**157**	P	**P**	**12 12 55.5**	**-2.8**
	baz=58,SNR=3.0						
MK31	**Makanchi Array**	**62.04**	**329**	*e*P	**P**	**12 13 24.4**	**-0.4**
MKAR	**Makanchi Array**	**62.04**	**329**	P	**P**	**12 13 25.2**	**+0.4**
MKAR	**Makanchi Array**	**62.04**	**329**	P	**P**	**12 13 25.2**	**+0.4**
	3.4nm,0.7s,baz=130,slow=8.0,SNR=26						
AAK	**Ala-Archa**	**63.93**	**322**	*e*P	**P**	**12 13 38.3**	**+0.7**
AAK	**Ala-Archa**	**63.93**	**322**	P	**P**	**12 13 37.0**	**-0.6**
	1.1nm,0.5s,baz=145,slow=5.1,SNR=3.8						
ZAA0	**Zalesovo Array**	**65.91**	**336**	*e*P	**P**	**12 13 49.5**	**-0.5**
ZALV	**Zalesovo Beam**	**65.91**	**336**	P	**P**	**12 13 49.1**	**-0.9**
ZALV	**Zalesovo Beam**	**65.91**	**336**	P	**P**	**12 13 49.1**	**-0.9**
	13nm,0.8s,baz=121,slow=5.3,SNR=34						
KURBB	**Kurchatov Arra**	**66.43**	**331**	P	**P**	**12 13 53.6**	**+0.1**
	8.9nm,0.8s,baz=138,slow=5.8,SNR=75						
KURK	**Kurchatov**	**66.45**	**331**	*e*P	**P**	**12 13 53.6**	**0.0**
	12nm,0.8s						
BVAR	**Borovoye Array**	**71.92**	**329**	P	**P**	**12 14 27.0**	**-0.5**
BVAR	**Borovoye Array**	**71.92**	**329**	P	**P**	**12 14 27.0**	**-0.5**
	3.7nm,0.8s,baz=134,slow=8.5,SNR=21						
ABKAR	**Akbulak array**	**75.98**	**323**	*e*P	**P**	**12 14 51.4**	**+0.2**
	1.8nm,0.6s						
AKTO	**Aktyubinsk**	**77.58**	**323**	P	**P**	**12 15 00.0**	**-0.3**
AKTO	**Aktyubinsk**	**77.58**	**323**	P	**P**	**12 15 00.0**	**-0.3**
	4.1nm,0.7s,baz=133,slow=2.9,SNR=12						
BRTR	**Keskin Array B**	**92.25**	**309**	LR	LR	13 04 27.1	
	comp=Z,113nm,19.8s,baz=266,slow=40						
TORD	**Torodi Ar. Bea**	**121.78**	**283**	PKP	**PKPdf**	**12 21 59.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**121.78**	**283**	PKP	**PKPdf**	**12 21 59.0**	**-0.2**
	0.4nm,0.7s,baz=128,slow=1.4,SNR=2.8						

IDC 29 12:04:21.8±1.8, 17˚.34S×176˚.89W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/18, mbtmp3.9/7, Error ellipse: s-maj=77.3km s-min=27.5km az=154.0, Fiji Islands region

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

7.8nm,0.9s,baz=49,slow=9.3,SNR=2.8

CTA	**Charters Tower**	**34.77**	**259**	P	**P**	**12 16 44.0**	**+1.0**
CTA	**Charters Tower**	**34.77**	**259**	P	**P**	**12 16 44.0**	**+1.0**
	6.6nm,0.8s,baz=52,slow=12,SNR=4.9						
CTAO	**Charters Tower**	**34.77**	**259**	*eP*	**P**	**12 16 43.0**	**0.0**
	8.8nm,0.9s						
STKA	**Stephens Creek**	**40.16**	**240**	*eP*	**P**	**12 17 29.2**	**+0.7**
STKA	**Stephens Creek**	**40.16**	**240**	P	**P**	**12 17 28.0**	**-0.5**
	3.7nm,0.8s,baz=85,slow=9.0,SNR=6.2						
WRAB	**Tennant Creek**	**45.96**	**258**	*eP*	**P**	**12 18 14.9**	**-0.7**
	9.2nm,1.5s						
WRA	**Warramunga Arr**	**45.97**	**258**	P	**P**	**12 18 15.1**	**-0.6**
WRA				PcP	**PcP**	**12 19 53.5**	**+1.3**
WRA	**Warramunga Arr**	**45.97**	**258**	P	**P**	**12 18 15.1**	**-0.6**
	0.7nm,0.8s,baz=92,slow=6.6,SNR=6.6						
WRA				PcP	**PcP**	**12 19 53.5**	**+1.3**
	0.4nm,0.9s,baz=83,slow=3.6,SNR=3.0						
AS31	**Alice Springs**	**46.20**	**253**	*eP*	**P**	**12 18 17.1**	**-0.4**
ASAR	**Alice Springs**	**46.20**	**253**	P	**P**	**12 18 17.1**	**-0.4**
ASAR	**Alice Springs**	**46.20**	**253**	P	**P**	**12 18 17.1**	**-0.4**
	4.8nm,0.8s,baz=86,slow=8.4,SNR=37						
FITZ	**Fitzroy Crossi**	**54.35**	**260**	*eP*	**P**	**12 19 17.3**	**-1.9**
	2.7nm,1.0s						
MJAR	**Matsushiro Arr**	**67.75**	**322**	P	**P**	**12 20 49.1**	**-0.7**
MJAR	**Matsushiro Arr**	**67.75**	**322**	P	**P**	**12 20 49.1**	**-0.7**
	2.1nm,0.8s,baz=146,slow=6.0,SNR=7.2						
YBH	**Yreka Blue Hor**	**76.96**	**39**	LR	LR	12 50 30.1	
	comp=Z,16nm,28.6s,baz=178,slow=32						
NVAR	**Mina Array Bea**	**77.85**	**43**	P	**P**	**12 21 49.9**	**-0.1**
NVAR	**Mina Array Bea**	**77.85**	**43**	P	**P**	**12 21 49.9**	**-0.1**
	1.6nm,1.0s,baz=234,slow=7.2,SNR=9.3						
TNA	**Tin City**	**82.44**	**4**	*eP*	**P**	**12 22 14.6**	**+0.9**
	25nm,1.6s						
SEY	**Seymchan**	**82.99**	**347**	P	**P**	**12 22 15.8**	**-0.9**
SEY	**Seymchan**	**82.99**	**347**	P	**P**	**12 22 15.8**	**-0.9**
	1.8nm,0.8s,baz=30,slow=22,SNR=4.8						
TXAR	**Lajitas Array**	**84.44**	**57**	P	**P**	**12 22 25.5**	**+0.5**
TXAR	**Lajitas Array**	**84.44**	**57**	P	**P**	**12 22 25.5**	**+0.5**
	1.2nm,1.0s,baz=214,slow=4.4,SNR=7.3						
ILAR	**Eielson Array**	**84.58**	**13**	P	**P**	**12 22 23.8**	**-1.0**
ILAR	**Eielson Array**	**84.58**	**13**	P	**P**	**12 22 23.8**	**-1.0**
	1.8nm,1.0s,baz=224,slow=6.4,SNR=8.4						
PDAR	**Pinedale Array**	**85.78**	**43**	P	**P**	**12 22 31.1**	**-0.5**
PDAR	**Pinedale Array**	**85.78**	**43**	P	**P**	**12 22 31.1**	**-0.5**
	0.4nm,0.8s,baz=205,slow=4.0,SNR=2.6						
CMAR	**Chiang Mai Arr**	**89.61**	**289**	P	**P**	**12 22 52.5**	**+2.2**
CMAR	**Chiang Mai Arr**	**89.61**	**289**	P	**P**	**12 22 52.5**	**+2.2**
	0.2nm,0.3s,baz=116,slow=4.1,SNR=2.7						
YKA	**Yellowknife Ar**	**92.87**	**24**	P	**P**	**12 23 04.1**	**-0.3**
YKA	**Yellowknife Ar**	**92.87**	**24**	P	**P**	**12 23 04.1**	**-0.3**
	0.3nm,0.9s,baz=241,slow=4.9,SNR=4.0						
BRTR	**Keskin Array B**	**144.82**	**317**	PKP	PKPbc	12 29 28.1	-0.3
BRTR	**Keskin Array B**	**144.82**	**317**	PKP	PKPbc	12 29 28.1	-0.3
	7.1nm,1.0s,baz=64,slow=2.9,SNR=13						
MMAI	**Mount Meron Ar**	**146.50**	**305**	PKPbc	**PKPbc**	**12 29 33.3**	**-0.4**
MMAI	**Mount Meron Ar**	**146.50**	**305**	PKPbc	**PKPbc**	**12 29 33.3**	**-0.4**
	0.9nm,0.3s,baz=44,slow=6.4,SNR=2.6						
GERES	**GERESS Array B**	**146.85**	**347**	PKPbc	**PKPdf**	**12 29 32.6**	**+0.2**
GERES	**GERESS Array B**	**146.85**	**347**	PKPbc	**PKPdf**	**12 29 32.6**	**+0.2**
	0.2nm,0.2s,baz=349,slow=3.0,SNR=3.0						

*NEIC **29** 12:23:45.9, 44.20S×166.67E, h33km, mb4.4/1, ML4.3(WEL), After WEL.*

WEL 29 12:23:47.2±0.6, 44.43S×167.04E, h5km, ML4.1/15, 1C, Error ellipse: s-maj=4.2km s-min=3.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.68**	**112**	P*	Pg	12 24 00.5	+0.1
MSZ				SG	Sg	12 24 09.5	+0.3
MSZ				AML	AML	12 24 10.4	
MSZ				AML	AML	12 24 10.5	
MSZ				AML	AML	12 24 10.5	
DCZ	**Deep Cove**	**1.05**	**176**	P*	Pg	12 24 06.5	-0.9
DCZ				S*	Sg	12 24 20.1	-1.1
DCZ				AML	AML	12 24 23.0	
DCZ				AML	AML	12 24 23.0	
DCZ				AML	AML	12 24 30.0	
DCZ	**Deep Cove**	**1.05**	**176**	Pn	Pg	12 24 06.5	-0.9
DCZ				Sn	Sg	12 24 20.1	-1.1
MLZ	**Mavora Lakes**	**1.22**	**139**	P*	Pg	12 24 10.3	-0.5
MLZ				S*	Sn	12 24 27.7	-0.4
MLZ				AML	AML	12 24 28.8	
MLZ	**Mavora Lakes**	**1.22**	**139**	Pn	Pg	12 24 10.3	-0.5
MLZ				Sn	Sn	12 24 27.7	-0.4
JCZ	**Jackson Bay**	**1.28**	**75**	P*	Pn	12 24 10.7	-1.3
JCZ				AML	AML	12 24 28.7	
JCZ				AML	AML	12 24 29.0	
JCZ	**Jackson Bay**	**1.28**	**75**	Pn	Pn	12 24 09.2	-2.8
WKZ	**Wanaka**	**1.47**	**107**	PN	Pn	12 24 13.9	-0.5
WKZ				AML	AML	12 24 34.7	
WKZ				AML	AML	12 24 34.8	
WKZ				AML	AML	12 24 35.5	
WKZ				AML	AML	12 24 35.5	
WKZ	**Wanaka**	**1.47**	**107**	Pn	Pn	12 24 13.9	-0.5
WHZ	**Wether Hill Ro**	**1.60**	**157**	PN	Pn	12 24 15.9	-0.3
WHZ				AML	AML	12 24 40.5	
WHZ				AML	AML	12 24 40.7	
WHZ	**Wether Hill Ro**	**1.60**	**157**	*e*Pn	Pn	12 24 16.5	+0.2
WHZ				*e*Sn	Sb	12 24 37.7	-0.2
EAZ	**Earnscleugh**	**1.80**	**117**	PN	Pn	12 24 19.3	+0.3
EAZ				SN	Sb	12 24 43.1	-0.6
EAZ				AML	AML	12 24 46.1	
EAZ				AML	AML	12 24 47.4	
EAZ				AML	AML	12 24 47.5	
EAZ	**Earnscleugh**	**1.80**	**117**	Pn	Pn	12 24 19.4	+0.4
EAZ				Sn	Sb	12 24 43.1	-0.6
FOZ	**Fox Glacier**	**2.10**	**67**	PN	Pn	12 24 20.4	-2.6
FOZ				AML	AML	12 25 00.5	
FOZ				AML	AML	12 25 00.6	
FOZ				AML	AML	12 25 01.8	
FOZ				AML	AML	12 25 01.8	
FOZ	**Fox Glacier**	**2.10**	**67**	Pn	Pn	12 24 20.6	-2.4
LBZ	**Lake Benmore**	**2.25**	**90**	PN	Pn	12 24 24.9	-0.3
LBZ				AML	AML	12 24 58.0	
LBZ				AML	AML	12 24 58.0	
LBZ				AML	AML	12 25 01.0	
LBZ				AML	AML	12 25 01.0	
LBZ	**Lake Benmore**	**2.25**	**90**	Pn	Pn	12 24 24.9	-0.3
TUZ	**Tuapeka**	**2.39**	**131**	PN	Pn	12 24 27.0	0.0
TUZ				AML	AML	12 25 01.5	
TUZ				AML	AML	12 25 01.8	
TUZ	**Tuapeka**	**2.39**	**131**	Pn	Pn	12 24 27.0	0.0
APZ	**The Paps**	**2.50**	**165**	PN	Pn	12 24 28.8	+0.2
APZ				AML	AML	12 25 02.8	
APZ	**The Paps**	**2.50**	**165**	Pn	Pn	12 24 28.8	+0.2
SYZ	**Scrubby Hill**	**2.58**	**146**	PN	Pn	12 25 08.5	-0.1
SYZ				AML	AML	12 25 08.5	
SYZ				AML	AML	12 25 08.5	
SYZ				AML	AML	12 25 12.6	
SYZ				AML	AML	12 25 12.7	
SYZ	**Scrubby Hill**	**2.58**	**146**	Pn	Pn	12 24 29.5	-0.1
ODZ	**Otahua Downs**	**2.64**	**105**	PN	Pn	12 24 29.7	-0.8
ODZ	**Otahua Downs**	**2.64**	**105**	*e*Pn	Pn	12 24 30.6	+0.1
ODZ				*e*Sn	Sn	12 25 02.5	-0.5
HHSZ	**Highcliff Hill**	**2.91**	**121**	PN	Pn	12 24 33.9	-0.4
RPZ	**Rata Peaks**	**2.98**	**78**	PN	Pn	12 24 32.4	-2.8
RPZ				AML	AML	12 25 23.3	
RPZ				AML	AML	12 25 23.7	
RPZ	**Rata Peaks**	**2.98**	**78**	*e*Pn	Pn	12 24 32.4	-2.8
WVZ	**Waitaha Valley**	**3.00**	**65**	PN	Pn	12 24 31.3	-4.1
WVZ				AML	AML	12 25 26.3	
WVZ	**Waitaha Valley**	**3.00**	**65**	Pn	Pn	12 24 31.3	-4.1
MQZ	**McQueen's Vall**	**4.11**	**82**	⇑Pn	Pn	12 24 46.6	-4.0
MQZ	**McQueen's Vall**	**4.11**	**82**	Pn	Pn	12 24 46.6	-4.0
CRLZ	**Canterbury Las**	**4.12**	**80**	PN	Pn	12 24 46.8	-3.9
CRLZ	**Canterbury Las**	**4.12**	**80**	Pn	Pn	12 24 46.8	-3.9
DSZ	**Denniston Nort**	**4.40**	**54**	PN	Pn	12 24 50.9	-3.8
DSZ	**Denniston Nort**	**4.40**	**54**	Pn	Pn	12 24 50.9	-3.8
THZ	**Tophouse**	**5.05**	**60**	PN	Pn	12 25 01.3	-2.5
THZ				AML	AML	12 26 02.8	
THZ				AML	AML	12 26 13.4	
THZ	**Tophouse**	**5.05**	**60**	Pn	Pn	12 25 01.3	-2.5
QRZ	**Quartz Range**	**5.42**	**50**	PN	Pn	12 25 04.6	-4.1
QRZ	**Quartz Range**	**5.42**	**50**	Pn	Pn	12 25 04.6	-4.1
NNZ	**Nelson**	**5.66**	**58**	PN	Pn	12 25 09.4	-2.5
NNZ	**Nelson**	**5.66**	**58**	Pn	Pn	12 25 09.4	-2.5
PNHZ	**Pukenui**	**8.16**	**60**	Pn	Pn	12 25 37.5	-8.9
WRAB	**Tennant Creek**	**36.51**	**301**	*eP*	P	12 30 47.2	-6.4
	8.7nm,1.6s						

MEX 29 12:32:50.0±0.3, 15.97N×95.07W, h84km±7km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.02**	**259**	*eP*	Pn	12 33 08.1	-1.4
HUIG				*i* S	Sn	12 33 22.5	-1.6
PCIG		**1.80**	**98**	*i* P	Pn	12 33 18.2	-1.2
PCIG				*i* S	Sn	12 33 40.0	-1.7
VHO	**Vista Hermosa**	**1.94**	**305**	*i* P	Pn	12 33 19.9	-1.6
VHO				*i* S	Sn	12 33 43.7	-1.7
PNIG	**Pinotepa**	**2.97**	**279**	*i* P	Pn	12 33 33.9	-1.1
PNIG				*i* S	Sn	12 34 08.7	-1.0

IDC 29 12:58:00.4±2.4, 11.62N×87.39W, h0km, mb3.1/3, mb1 3.6/4, mb1mx3.4/22, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=91.7km s-min=27.5km az=42.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.73**	**119**	Pn	Pn	12 58 46.5	+0.8
	4.5nm,0.3s,baz=293,slow=22,SNR=11						
JTS				Sn	Sb	12 59 25.7	+1.3
	5.6nm,0.3s,baz=218,slow=18,SNR=6.7						
TXAR	**Lajitas Array**	**23.25**	**322**	P	P	13 03 11.6	+1.8
	0.3nm,0.7s,baz=133,slow=10.0,SNR=3.7						
PDAR	**Pinedale Array**	**36.53**	**332**	P	P	13 05 07.9	-0.2
	0.5nm,0.9s,baz=123,slow=11,SNR=2.6						
YKA	**Yellowknife Ar**	**54.43**	**345**	P	P	13 07 27.8	-1.4
	0.2nm,0.7s,baz=139,slow=7.1,SNR=5.5						
WRA	**Warramunga Arr**	**139.09**	**253**	PKP	PKPdf	13 17 29.0	-1.2
	0.5nm,1.0s,baz=94,slow=2.3,SNR=3.2						

*BJI **29** 13:33:11.4, 34.79N×72.58E, h18km, mB4.3/2, mb4.1/7, ML4.0/3*

*IDC **29** 13:33:14.3±0.5, 34.89N×72.97E, h0km, mb4.0/21, mb1 4.2/26, mb1mx4.1/32, mbtmp4.1/26, ML4.3/5, MS3.4/2, Ms1 3.4/2, ms1mx2.7/49, Error ellipse: s-maj=13.6km s-min=12.5km az=22.0*

*ISCJB **29** 13:33:16.6±0.2, 34.91N±0.02×73.03E±0.04, h24km, mb4.0/33, MS3.9/1, Error ellipse: s-maj=5.3km s-min=2.8km az=157.0*

*MOS **29** 13:33:19.6±1.0, 34.93N×72.96E, h46km, mb4.3/24, Error ellipse: s-maj=9.3km s-min=4.8km az=89.9*

*NEIC **29** 13:33:22.9±0.9, 35.02N×73.01E, h64km±8km, mb4.0/7, Error ellipse: s-maj=8.0km s-min=6.3km az=186.0*

*NNC **29** 13:33:24.3±3.8, 35.13N×72.81E, h63km±38km, mb4.0, mpv4.2, Error ellipse: s-maj=28.0km s-min=24.7km az=51.0*

ISC 29 13:33:17.9±0.3, 34.81N±0.03×72.96E±0.04, h24km, n171, σ1.963/179, mb4.1/33, 9C-9D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.18**	**168**	P	**Pb**	**13 33 40.0**	**+0.4**
CEP	**Cherat**	**1.32**	**222**	P	**Pb**	**13 33 42.6**	**+0.6**
THW	**Thamme Wali**	**2.26**	**207**	P	**Pb**	**13 33 57.5**	**-0.4**
JMU	**Jammu**	**2.64**	**142**	*e*P3	**Pn**	**13 33 59.0**	**0.0**
JMU				*ex*	**Sn**	**13 34 27.0**	**-3.3**
KBL	**Kabul**	**3.24**	**266**	*e*P	**Pb**	**13 34 12.4**	**-2.4**
KBL				*e*		13 34 55.7	
KBL	**Kabul**	**3.24**	**266**	*e*Pn	**Pb**	**13 34 12.4**	**-2.4**
KBL				*e*Sg	**Sb**	**13 34 55.7**	**+1.8**
DHRM	**DHARAMSHALA**	**3.78**	**132**	*e*P	Pn	13 34 18.7	+3.8
DHRM				*e*S	**Sn**	**13 35 02.9**	**+4.2**
BHK	**Bhakra**	**4.46**	**138**	*e*P	**Pn**	**13 34 26.0**	**+2.0**
BHK				*e*S	**Sn**	**13 35 19.0**	**+3.8**
SDNR	**Sundarnagar**	**4.71**	**133**	*e*P	**Pn**	**13 34 29.0**	**+1.5**
SDNR				*e*S	**Sn**	**13 35 22.6**	**+1.1**
SMLA	**Simla**	**5.10**	**135**	⇑*i* P	**Pn**	**13 34 35.6**	**+2.8**
SMLA				*i* P	**Pn**	**13 34 35.6**	**+2.8**
SMLA				*i* S	**Sn**	**13 35 33.5**	**+2.7**
SMLA				*i* S	**Sn**	**13 35 34.3**	**+3.5**
SMLA				AML	AML	13 35 57.1	
	comp=E,668nm,0.7s						
SMLA				AML	AML	13 35 58.2	
	comp=N,877nm,0.4s						
KSH	**Kashi**	**5.27**	**26**	Pn	**Pn**	**13 34 33.0**	**-2.3**
KSH				Sn	Sn	13 35 24.0	-11
KSH				smax	smax		
	comp=N,230nm,0.4s						
KSH				smax	smax		
	comp=E,230nm,0.3s						
NDI	**New Delhi**	**7.11**	**148**	*e*P	**Pn**	**13 35 02.6**	**+2.3**
NDI				*e*S	**Sn**	**13 36 22.2**	**+1.9**
NDI				AML	AML	13 37 13.4	
	comp=E,88nm,1.3s						
NDI				AML	AML	13 37 13.8	
	comp=N,68nm,0.9s						
AML	**Almayashu**	**7.33**	**4**	*i* P	**Pn**	**13 35 05.7**	**+1.9**
AML	**Almayashu**	**7.33**	**4**	P	**Pn**	**13 35 05.7**	**+1.9**
SNR=48							
KZA	**Kyzart**	**7.47**	**13**	*i* P	**Pn**	**13 35 07.6**	**+1.9**
KZA	**Kyzart**	**7.47**	**13**	P	**Pn**	**13 35 07.6**	**+1.9**
SNR=12							
UCH	**Uchtor**	**7.50**	**9**	*i* P	**Pn**	**13 35 08.0**	**+1.9**
UCH	**Uchtor**	**7.50**	**9**	P	**Pn**	**13 35 08.0**	**+1.9**
SNR=34							
ULHL	**Ulahol**	**7.85**	**18**	*i* P	**Pn**	**13 35 13.2**	**+2.5**
ULHL	**Ulahol**	**7.85**	**18**	P	**Pn**	**13 35 13.3**	**+2.5**
SNR=9.0							
EKS2	**Erkin-Say**	**7.86**	**4**	*i* P	**Pn**	**13 35 13.0**	**+2.2**
EKS2	**Erkin-Say**	**7.86**	**4**	P	**Pn**	**13 35 13.0**	**+2.2**
SNR=14							
EKS2	**Erkin-Say**	**7.86**	**4**	*e*P	**Pn**	**13 35 12.7**	**+1.9**
	comp=N,12nm,0.5s						
EKS2				*e*S	**Sn**	**13 36 34.6**	**-4.5**
AAK	**Ala-Archa**	**7.90**	**8**	*e*P	**Pn**	**13 35 13.3**	**+2.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AAK	**Ala-Archa**	**7.90**	**8**	P	Pn	13 35 16.1	+4.8
SNR=5.5							
AAK	**Ala-Archa**	**7.90**	**8**	*e*Pn	**Pn**	**13 35 12.4**	**+1.1**
	comp=Z,7.0nm,0.3s						
AAK				Sn	**Sn**	**13 36 39.5**	**-0.6**
AAK	**Ala-Archa**	**7.90**	**8**	Pn	**Pn**	**13 35 12.9**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=163,slow=7.7,SNR=22						
AAK				Sn	**Sn**	**13 36 39.5**	**-0.6**
	comp=Z,2.5nm,0.3s,baz=49,slow=15,SNR=7.8						
AAK	**Ala-Archa**	**7.90**	**8**	⇓P	**Pn**	**13 35 12.7**	**+1.4**
	comp=Z,3.3nm,0.4s						
AAK				⇑S	**Sn**	**13 36 39.3**	**-0.8**
	comp=Z,27nm,1.1s						
FRU	**Bishkek**	**8.11**	**9**	*e*P	Pb	13 35 31.0	-6.6
FRU				*e*		13 36 46.0	
FRU				pmax	pmax		
	comp=E,100nm,2.1s						
LGTI	**Lohaghat**	**8.17**	**129**	*e*P	**Pn**	**13 35 16.3**	**+1.4**
LGTI				*e*		13 36 50.4	
TKM2	**Tokmak 2**	**8.35**	**13**	*i* P	**Pn**	**13 35 19.5**	**+1.9**
TKM2	**Tokmak 2**	**8.35**	**13**	P	**Pn**	**13 35 19.5**	**+1.9**
SNR=13							
TKM2	**Tokmak 2**	**8.35**	**13**	*e*P	**Pn**	**13 35 18.6**	**+1.1**
	comp=E,6.9nm,0.4s						
TKM2	**Tokmak 2**	**8.35**	**13**	⇓P	**Pn**	**13 35 18.9**	**+1.3**
	comp=E,7.5nm,0.7s						
TKM2				⇓S	**Sn**	**13 36 48.7**	**-2.5**
	comp=E,9.4nm,0.6s						
KK31	**Karatay Array**	**8.49**	**348**	*i* P	**Pn**	**13 35 21.1**	**+1.7**
KK31				S	**Sn**	**13 36 53.1**	**-1.4**
KK31				pmax	pmax		
	comp=Z,30nm,0.3s						
KK31				smax	smax		
	comp=N,10.0nm,0.3s						
KK31	**Karatay Array**	**8.49**	**348**	⇓P	**Pn**	**13 35 20.8**	**+1.4**
	comp=N,10.0nm,0.3s,baz=168,slow=14,SNR=105						
KK31				⇓S	**Sn**	**13 36 53.0**	**-1.4**
	comp=N,5.3nm,0.3s,baz=167,slow=24,SNR=6.4						
KKAR	**Karatay Array**	**8.49**	**348**	*e*P	**Pn**	**13 35 20.4**	**+1.0**
KKAR				pmax	pmax		
	comp=Z,29nm,0.3s						
KKAR	**Karatay Array**	**8.49**	**348**	*e*P	**Pn**	**13 35 20.4**	**+1.0**
	comp=Z,29nm,0.3s						
PYUN	**Piuthan**	**10.86**	**125**	*e*P	**Pn**	**13 35 51.0**	**-1.1**
	comp=Z,54nm,0.4s						
PYUN	**Piuthan**	**10.86**	**125**	*e*P	**Pn**	**13 35 51.0**	**-1.1**
	comp=Z,54nm,0.4s						
DANN	**Dangsing**	**11.23**	**122**	*e*P	**Pn**	**13 35 55.8**	**-1.4**
	comp=Z,78nm,0.5s						
DANN	**Dangsing**	**11.23**	**122**	*e*P	**Pn**	**13 35 55.8**	**-1.4**
	comp=Z,78nm,0.5s						
KOLN	**Koldanda**	**11.49**	**125**	*e*P	**Pn**	**13 35 59.5**	**-1.1**
	comp=Z,44nm,0.4s						
KOLN	**Koldanda**	**11.49**	**125**	*e*P	**Pn**	**13 35 59.5**	**-1.1**
	comp=Z,44nm,0.4s						
BHJ	**Bhuj**	**11.88**	**195**	*e*P	Pn	13 36 10.2	+4.5
BHJ				*e*S	**Sn**	**13 38 17.2**	**-0.2**
GKN	**Gorkha**	**12.06**	**121**	*e*P	**Pn**	**13 36 06.3**	**-2.1**
	comp=Z,57nm,0.4s						
GKN	**Gorkha**	**12.06**	**121**	*e*P	**Pn**	**13 36 06.3**	**-2.1**
	comp=Z,57nm,0.4s						
BHPL	**Bhopal**	**12.17**	**160**	*ex*	**Pn**	**13 36 09.6**	**-0.3**
BHPL				*e*S	**Sn**	**13 38 22.4**	**-2.5**
DMN	**Daman**	**12.63**	**121**	*e*P	**Pn**	**13 36 14.2**	**-2.1**
	comp=Z,58nm,0.6s						
DMN	**Daman**	**12.63**	**121**	*e*P	**Pn**	**13 36 14.2**	**-2.1**
	comp=Z,58nm,0.6s						
KKN	**Kakani**	**12.64**	**120**	*e*P	**Pn**	**13 36 14.1**	**-2.3**
	comp=Z,23nm,0.4s						
KKN	**Kakani**	**12.64**	**120**	*e*P	**Pn**	**13 36 14.1**	**-2.3**
KKN				pmax	pmax		
	comp=Z,23nm,0.4s						
KKN	**Kakani**	**12.64**	**120**	*e*P	**Pn**	**13 36 14.1**	**-2.3**
	comp=Z,23nm,0.4s						
PKIN	**Phulchoki**	**12.85**	**121**	*e*P	**Pn**	**13 36 16.9**	**-2.4**
	comp=Z,36nm,0.4s						
PKI	**Pulchoki**	**12.87**	**121**	*e*P	Pn	13 36 16.8	-2.8
	comp=Z,32nm,0.4s						
PKI	**Pulchoki**	**12.87**	**121**	*e*P	Pn	13 36 16.9	-2.7
PKI				pmax	pmax		
	comp=Z,36nm,0.4s						
PKI	**Pulchoki**	**12.87**	**121**	*e*P	Pn	13 36 16.9	-2.7
	comp=Z,36nm,0.4s						
GUN	**Gumba**	**13.00**	**118**	*e*P	Pn	13 36 18.5	-2.9
	comp=Z,26nm,0.4s						
GUN	**Gumba**	**13.00**	**118**	*e*P	Pn	13 36 18.5	-2.9
	comp=Z,26nm,0.4s						
JIRN	**Jiri**	**13.37**	**119**	*e*P	Pn	13 36 23.1	-3.4
	comp=Z,60nm,0.3s						
JIRN	**Jiri**	**13.37**	**119**	*e*P	Pn	13 36 23.1	-3.4
	comp=Z,60nm,0.3s						
MK31	**Makanchi Array**	**13.88**	**28**	*e*P	**Pn**	**13 36 33.3**	**+0.2**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**13.88**	**28**	*e*P	**Pn**	**13 36 32.4**	**-0.7**
MK31	**Makanchi Array**	**13.88**	**28**	⇓P	**Pn**	**13 36 32.4**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=195,slow=13,SNR=9.7						
MKAR	**Makanchi Array**	**13.88**	**28**	*i* P	**Pn**	**13 36 32.7**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**13.88**	**28**	Pn	**Pn**	**13 36 32.8**	**-0.2**
MKAR	**Makanchi Array**	**13.88**	**28**	Pn	**Pn**	**13 36 32.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=196,slow=14,SNR=11						
MKAR				LR	LR	13 41 20.2	
	comp=Z,15nm,28.6s,baz=226,slow=35						
RAMN	**Ramite**	**14.08**	**120**	*e*P	Pn	13 36 32.5	-3.6
	comp=Z,31nm,0.4s						
RAMN	**Ramite**	**14.08**	**120**	*e*P	Pn	13 36 32.5	-3.6
	comp=Z,31nm,0.4s						
WMQ	**Urumqi**	**14.51**	**47**	P	P	13 36 52.5	+4.4
WMQ				pmax	pmax		
	comp=Z,12nm,1.0s						
NGP	**Nagpur**	**14.63**	**157**	*e*P9	Pn	13 36 38.8	-4.6
NGP				*e*S	Sn	13 39 13.0	-12
TAPN	**Taplejung**	**14.65**	**116**	*e*P	Pn	13 36 40.0	-4.0
	comp=Z,29nm,0.4s						
TAPN	**Taplejung**	**14.65**	**116**	*e*P	Pn	13 36 40.0	-4.0
	comp=Z,29nm,0.4s						
ODAN	**Odare**	**14.70**	**119**	*e*P	Pn	13 36 40.7	-3.9
	comp=Z,28nm,0.5s						
ODAN	**Odare**	**14.70**	**119**	*e*P	Pn	13 36 40.7	-3.9
	comp=Z,28nm,0.5s						
LSA	**Lhasa**	**16.20**	**103**	*e*P	**P**	**13 37 06.9**	**-0.5**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**16.20**	**103**	*e*P	**P**	**13 37 06.9**	**-0.5**
	comp=Z,5.9nm,0.7s						
KURBB	**Kurchatov Arra**	**16.31**	**13**	Pn	**Pn**	**13 37 02.5**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=199,slow=11,SNR=14						
KURBB				PcP	**PcP**	**13 41 58.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=201,slow=1.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**16.31**	**13**	⇑P	**Pn**	**13 37 03.8**	**-1.4**
	comp=Z,3.7nm,0.8s						
KURK	**Kurchatov**	**16.42**	**13**	P	**Pn**	**13 37 06.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**16.42**	**13**	*e*P	**Pn**	**13 37 06.0**	**-0.5**
	comp=Z,

KBZ	Khabaz	24.81	300	P		P	13 38 39.2	+1.3
KBZ	Khabaz	24.81	300	P		P	13 38 39.2	+1.3
	comp=Z,4.1nm,0.9s,baz=180,slow=6.7,SNR=3.4							
ZAK	Zakamensk	26.96	45	*e*P		P	13 38 58.4	+0.9
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.6s							
SONM	Songino Array	28.04	52	P		P	13 39 07.6	+0.3
SONM	Songino Array	28.04	52	P		P	13 39 07.6	+0.3
	comp=Z,1.1nm,0.8s,baz=255,slow=10.0,SNR=7.7							
CMAR	Chiang Mai Arr	28.25	119	P		P	13 39 10.4	+1.2
CMAR	Chiang Mai Arr	28.25	119	P		P	13 39 10.4	+1.2
	comp=Z,1.6nm,0.9s,baz=316,slow=12,SNR=11							
BRTR	Keskin Array B	31.50	291	P		P	13 39 37.4	-0.6
BRTR	Keskin Array B	31.50	291	P		P	13 39 37.4	-0.6
	comp=Z,0.6nm,0.6s,baz=95,slow=11,SNR=2.9							
OBN	Obninsk	32.25	320⇑	*e*P		P	13 39 44.9	+0.7
OBN				*e**PP		pP	13 40 02.0	+11
OBN				*e*			13 40 48.9	
OBN				*e*S		S	13 44 55.0	-1.0
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AKASG	Malin Array Be	35.25	310	*ce*P		P	13 40 10.1	-0.2
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AKASG	Malin Array Be	35.25	310	P		P	13 40 09.3	-1.0
AKASG	Malin Array Be	35.25	310	P		P	13 40 09.3	-1.0
	comp=Z,1.6nm,0.5s,baz=81,slow=7.3,SNR=9.7							
JOF	Joensuu	38.12	330	*e*P		P	13 40 35.0	+0.4
JOF	Joensuu	38.12	330	*e*p		P	13 40 35.0	+0.4
	comp=Z,11nm,0.3s							
FINES	FINESS Array B	39.77	327	P		P	13 40 48.6	+0.2
FINES	FINESS Array B	39.77	327	P		P	13 40 48.6	+0.2
	comp=Z,3.3nm,0.7s,baz=116,slow=9.9,SNR=18							
KAF	Kangasniemi	39.90	328	*e*P		P	13 40 48.2	-1.4
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KAF	Kangasniemi	39.90	328	*e*p		P	13 40 48.2	-1.4
	comp=Z,0.5nm,0.4s							
KEV	Kevo	42.95	338	*e*P		P	13 41 15.3	+0.8
KEV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KEV	Kevo	42.95	338	*e*p		P	13 41 15.3	+0.8
	comp=Z,0.7nm,0.3s							
ARCES	ARCESS Array B	43.31	338	P		P	13 41 17.2	-0.1
ARCES	ARCESS Array B	43.31	338	P		P	13 41 17.2	-0.1
	comp=Z,4.3nm,0.6s,baz=115,slow=8.0,SNR=57							
ARE0	ARCESS Array S	43.31	338	*e*P		P	13 41 17.5	+0.1
KSAR	Wonju Array Be	43.91	70	P		P	13 41 23.8	+1.1
KSRS	Korea Array	43.94	70	P		P	13 41 23.8	+0.9
	comp=Z,1.8nm,0.8s,baz=278,slow=7.6,SNR=4.5							
YAK	Yakutsk	44.43	34	*e*P		P	13 41 27.6	+1.1
GERES	GERESS Array B	45.21	307	P		P	13 41 32.1	-0.9
GERES	GERESS Array B	45.21	307	P		P	13 41 32.1	-0.9
	comp=Z,0.3nm,0.6s,baz=91,slow=9.8,SNR=2.5							
NB2	NORSAR Subarra	46.68	324	P		P	13 41 43.9	-0.5
	comp=Z,0.8nm,0.4s,baz=95,slow=7.9							
NOA	NORSAR Array B	46.68	324	P		P	13 41 43.9	-0.5
NOA	NORSAR Array B	46.68	324	P		P	13 41 43.9	-0.5
	comp=Z,0.9nm,0.5s,baz=96,slow=7.7,SNR=12							
TIXI	Tiksi	46.75	21	*e*P		P	13 41 46.0	+1.3
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TGY	Tagaytay City	47.78	103	LR		LR	14 04 16.5	
	comp=Z,125nm,20.7s,baz=272,slow=39							
KMBO	Kilima Mbogo	48.94	231	P		P	13 42 04.3	+1.7
	comp=Z,3.2nm,0.7s							
KMBO	Kilima Mbogo	48.94	231	P		P	13 42 04.5	+1.9
	comp=Z,3.8nm,0.6s,baz=37,slow=13,SNR=12							
KEST	Kesra	51.10	291	P		P	13 42 17.0	-1.7
KEST	Kesra	51.10	291	P		P	13 42 17.0	-1.7
	comp=Z,0.6nm,0.4s,baz=56,slow=11,SNR=3.4							
MAJO	Matsushiro	52.09	68	*e*P		P	13 42 25.8	-0.2
MAJO				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MAJO	Matsushiro	52.09	68	*e*P		P	13 42 25.8	-0.2
	comp=Z,6.1nm,0.7s							
MJAR	Matsushiro Arr	52.09	68	P		P	13 42 25.5	-0.6
MJAR	Matsushiro Arr	52.09	68	P		P	13 42 25.5	-0.6
	comp=Z,2.0nm,0.7s,baz=292,slow=9.7,SNR=13							
ESDC	Sonseca Array	59.66	299	P		P	13 43 20.0	-0.2
ESDC	Sonseca Array	59.66	299	P		P	13 43 20.0	-0.2
	comp=Z,0.1nm,0.3s,baz=64,slow=8.2,SNR=3.2							
TORD	Torodi Ar. Bea	67.30	271	P		P	13 44 10.9	-0.1
TORD	Torodi Ar. Bea	67.30	271	P		P	13 44 10.9	-0.1
	comp=Z,1.8nm,0.6s,baz=46,slow=5.8,SNR=25							
INK	Inuvik	75.30	10	*e*P		P	13 44 59.0	+0.5
	comp=Z,1.3nm,0.6s							
DBIC	Dimbokro	76.23	269	P		P	13 45 05.0	+0.3
DBIC	Dimbokro	76.23	269	P		P	13 45 05.0	+0.3
	comp=Z,1.7nm,0.7s,baz=40,slow=8.3,SNR=3.1							
BOSA	Boshof	77.52	222	P		P	13 45 12.3	+0.5
BOSA	Boshof	77.52	222	P		P	13 45 12.3	+0.5
	comp=Z,5.0nm,0.7s,baz=86,slow=5.7,SNR=9.4							
WRA	Warramunga Arr	79.74	123	P		P	13 45 23.7	-0.3
WRA	Warramunga Arr	79.74	123	P		P	13 45 23.7	-0.3
	comp=Z,0.4nm,0.3s,baz=322,slow=4.9,SNR=21							
WRAB	Tennant Creek	79.74	123	*e*P		P	13 45 24.3	+0.3
WRAB				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRAB	Tennant Creek	79.74	123	*e*P		P	13 45 24.3	+0.3
	comp=Z,1.2nm,0.6s							
AS31	Alice Springs	81.98	126	*e*P		P	13 45 37.2	+1.3
ASAR	Alice Springs	81.98	126	P		P	13 45 36.0	+0.1
ASAR	Alice Springs	81.98	126	P		P	13 45 36.0	+0.1
	comp=Z,0.6nm,0.7s,baz=312,slow=5.1,SNR=21							
YKA	Yellowknife Ar	82.84	4	P		P	13 45 38.7	-1.1
YKA	Yellowknife Ar	82.84	4	P		P	13 45 38.7	-1.1
	comp=Z,0.5nm,0.6s,baz=347,slow=5.5,SNR=12							
CFAA	Coronel Fontan	147.51	265	PKPbc		PKPbc	13 53 01.2	+1.1
CFAA	Coronel Fontan	147.51	265	PKPbc		PKPbc	13 53 01.2	+1.1
	comp=Z,0.4nm,0.6s,baz=49,slow=2.3,SNR=3.7							

IDC 29 13:33:23.9±7.9, 4.79°S×151.62°E, h92km±56km, mb3.2/3, mb1 3.4/4, mb1mx3.1/20, mbtmp3.2/4, ML2.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/11, Error ellipse: s-maj=103.4km s-min=51.3km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.38**	**224**	P	Pn	13 34 55.2	-0.2
	0.2nm,0.3s,baz=32,slow=19,SNR=3.2						
PMG				S	Sn	13 36 08.0	+1.3
	2.2nm,0.3s,baz=97,slow=8.1,SNR=7.7						
WRA	**Warramunga Arr**	**22.59**	**227**	P	P	13 38 16.7	-0.3
	0.4nm,0.3s,baz=52,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**25.38**	**221**	P	P	13 38 43.1	+0.3
	0.3nm,0.5s,baz=52,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**28.64**	**240**	P	P	13 39 11.7	-0.4
	0.7nm,0.5s,baz=54,slow=9.7,SNR=5.3						
JNU	**Nakatsue**	**42.53**	**334**	LR	LR	13 56 17.0	
	comp=Z,40nm,20.0s,baz=65,slow=32						
TORD	**Torodi Ar. Bea**	**149.19**	**288**	PKPbc	PKPbc	13 53 02.6	-0.3
	0.2nm,0.4s,baz=93,slow=1.8,SNR=4.9						

ISCJB 29 13:43:51.4±0.4, 22.04°S±0.04°×68.31°W±0.07, h109km±6km, mb4.3/15, Error ellipse: s-maj=10.3km s-min=5.9km az=176.7

IDC 29 13:43:51.0±2.8, 22.04°S×68.33°W, h88km±24km, mb4.0/10, mb1 4.1/14, mb1mx4.0/21, mbtmp4.3/14, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=23.7km s-min=15.8km az=119.0

NEIC 29 13:43:53.4, 22.04°S×68.60°W, h121km, mb4.7/6, After GUC.

GUC 29 13:43:53.4±0.7, 22.04°S×68.60°W, h121km±6km, ML4.6

ISC 29 13:43:53.0±0.6, 22.01°S±0.04°×68.34°W±0.06, h110km±5km, n75, σ1°37/82, mb4.5/15, 11C-8D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.80**	**221**	*e*P	**Pn**	**13 44 12.1**	**-0.5**
LVC				*e*S	**Sn**	**13 44 25.6**	**-1.6**
PB09	**Plate Boundary**	**0.86**	**284**⇑	*i*P	**Pn**	**13 44 13.1**	**+0.1**
PB09				*i* S	**Sn**	**13 44 27.4**	**-0.6**
PB09				AML	AML	13 44 28.6	
	comp=N,40μm,0.5s						
PB09	**Plate Boundary**	**0.86**	**284**⇑	*i*P	**Pn**	**13 44 13.1**	**+0.1**
PB09				*i* S	**Sn**	**13 44 27.4**	**-0.6**
SPCH	**San Pedro de A**	**0.90**	**172**	AML	AML	13 44 46.2	
	comp=E,9μm,0.7s						
PB04	**Plate Boundary**	**1.09**	**256**⇑	*i*P	Pn	13 44 21.0	+5.9
PB04				*i* S	Sn	13 44 42.5	+11
PB04				AML	AML	13 44 45.8	
	comp=E,5μm,0.5s						
PB04	**Plate Boundary**	**1.09**	**256**⇑	*i*P	Pn	13 44 21.0	+5.9
PB04				*i* S	Sn	13 44 42.5	+11
PB06	**Plate Boundary**	**1.33**	**238**⇑	*i*P	**Pn**	**13 44 17.2**	**-0.8**
PB06				*i* S	**Sn**	**13 44 35.4**	**-1.6**
PB06				AML	AML	13 44 37.4	
	comp=E,8μm,0.6s						
PB06	**Plate Boundary**	**1.33**	**238**⇑	*i*P	**Pn**	**13 44 17.2**	**-0.8**
PB06				*i* S	**Sn**	**13 44 35.4**	**-1.6**
PB01	**Plate Boundary**	**1.44**	**312**⇓	*i*P	**Pn**	**13 44 18.9**	**-0.2**
PB01				*i* S	**Sn**	**13 44 38.5**	**-0.5**
PB01				AML	AML	13 44 41.4	
	comp=N,5μm,0.5s						
PB01	**Plate Boundary**	**1.44**	**312**⇓	*i*P	**Pn**	**13 44 18.9**	**-0.2**
PB01				*i* S	**Sn**	**13 44 38.5**	**-0.5**
PB07	**Plate Boundary**	**1.46**	**281**⇑	*i*P	**Pn**	**13 44 18.7**	**-0.8**
PB07				*i* S	**Sn**	**13 44 37.5**	**-2.2**
PB07				AML	AML	13 44 38.7	
	comp=E,15μm,0.3s						
PB07	**Plate Boundary**	**1.46**	**281**⇑	*i*P	**Pn**	**13 44 18.7**	**-0.8**
PB07				*i* S	**Sn**	**13 44 37.5**	**-2.2**
PATCX	**Punta Patache**	**2.06**	**305**⇑	*i*P	**Pn**	**13 44 25.9**	**-0.9**
PATCX				*i* S	**Sn**	**13 44 50.5**	**-2.2**
PATCX				AML	AML	13 44 58.0	
	comp=E,5μm,0.4s						
CEN1	**Los Morros**	**2.20**	**231**⇓	*i*P	**Pn**	**13 44 30.5**	**+1.9**
CEN1				*i* S	**Sn**	**13 44 58.2**	**+2.3**
CEN1				AML	AML	13 45 07.0	
	comp=N,3μm,0.8s						
CEN1	**Los Morros**	**2.20**	**231**⇓	*i*P	**Pn**	**13 44 30.5**	**+1.9**
CEN1				*i* S	**Sn**	**13 44 58.2**	**+2.3**
HMBC	**Humberstone**	**2.25**	**320**⇑	*i*P	**Pn**	**13 44 28.7**	**-0.6**
HMBC				*e*S	**Sn**	**13 44 56.4**	**-0.7**
HMBC				AML	AML	13 44 58.5	
	comp=N,5μm,0.7s						
HMBC	**Humberstone**	**2.25**	**320**⇑	*i*P	**Pn**	**13 44 28.7**	**-0.6**
HMBC				*e*S	**Sn**	**13 44 56.4**	**-0.7**
ANCH	**Antofagasta**	**2.53**	**228**⇓	*i*P	**Pn**	**13 44 31.7**	**-1.1**
ANCH	**Antofagasta**	**2.53**	**228**⇓	*i*P	**Pn**	**13 44 31.7**	**-1.1**
PB10	**Plate Boundary**	**2.53**	**233**	*e*P	**Pn**	**13 44 31.4**	**-1.5**
PB10				*i* S	**Sn**	**13 44 59.1**	**-4.4**
PB10				AML	AML	13 45 09.9	
	comp=E,7μm,0.6s						
MNMC	**Minimini**	**3.10**	**337**⇓	*i*P	**Pn**	**13 44 40.9**	**+0.3**
MNMC				*e*S	**Sn**	**13 45 18.0**	**+0.8**
MNMC				AML	AML	13 45 32.6	
	comp=N,3μm,0.5s						
MNMC	**Minimini**	**3.10**	**337**⇓	*i*P	**Pn**	**13 44 40.9**	**+0.3**
MNMC				*e*S	**Sn**	**13 45 18.0**	**+0.8**
LPAZ	**La Paz**	**5.70**	**2**	*e*P	Pn	13 45 19.3	+3.5
LPAZ				S	Sn	13 46 08.2	-13
LPAZ	**La Paz**	**5.70**	**2**	P	**Pn**	**13 45 18.9**	**+3.1**
	comp=N,5.7nm,0.3s,baz=186,slow=4.9,SNR=28						
LPAZ				S	Sn	13 46 08.2	-13
	comp=N,1.1nm,0.3s,baz=38,slow=4.0,SNR=1.5						
LCO	**Las Campanas**	**7.29**	**197**	*e*P	Pn	13 45 31.6	-5.4
	comp=N,30nm,0.6s						
SIV	**San Ignacio**	**9.12**	**50**	P	**Pn**	**13 46 00.7**	**-1.0**
SIV	**San Ignacio**	**9.12**	**50**	P	**Pn**	**13 46 00.7**	**-1.0**
	comp=N,16nm,0.3s,baz=247,slow=12,SNR=209						
CFAA	**Coronel Fontan**	**9.56**	**179**	P	Pn	13 46 03.6	-4.0
CFAA				S	Sn	13 47 44.1	-9.1
CFAA	**Coronel Fontan**	**9.56**	**179**	P	Pn	13 46 03.6	-4.0
	comp=N,0.6nm,0.3s,baz=356,slow=13,SNR=39						
CFAA				S	Sn	13 47 44.1	-9.1
	comp=N,0.2nm,0.3s,baz=258,slow=14,SNR=4.3						
CPUP	**Villa Florida**	**10.93**	**115**	P	**Pn**	**13 46 26.8**	**+0.5**
CPUP	**Villa Florida**	**10.93**	**115**	P	**Pn**	**13 46 25.8**	**-0.4**
	comp=N,0.7nm,0.3s,baz=262,slow=13,SNR=3.2						
SAML	**Samuel**	**13.90**	**22**	*e*P	**Pn**	**13 47 02.9**	**-2.5**
	comp=N,4.8nm,0.7s						
TRQA	**Torquist**	**16.91**	**162**	*e*P	**Pn**	**13 47 40.5**	**-2.3**
	comp=N,40nm,1.0s						
PLCA	**Paso Flores**	**18.76**	**185**	P	**P**	**13 48 02.9**	**-0.6**
PLCA	**Paso Flores**	**18.76**	**185**	P	**P**	**13 48 02.9**	**-0.6**
	comp=N,0.6nm,0.3s,baz=13,slow=14,SNR=10						
PLCA				LR	LR	13 56 52.0	
	comp=N,15nm,28.6s,baz=41,slow=42						
BDFB	**Brasilia**	**20.25**	**75**	P	**P**	**13 48 19.1**	**-0.7**
BDFB	**Brasilia**	**20.25**	**75**	P	**P**	**13 48 19.1**	**-0.7**
	comp=N,7.4nm,0.4s,baz=249,slow=8.4,SNR=11						
PTGA	**Pitinga**	**22.67**	**22**	*e*P	**P**	**13 48 41.4**	**-3.9**
	comp=N,5.8nm,0.6s						
USHA	**Ushuaia**	**32.77**	**180**	P	**P**	**13 50 15.1**	**-0.2**
USHA	**Ushuaia**	**32.77**	**180**	P	**P**	**13 50 15.1**	**-0.2**
	comp=N,6.2nm,0.8s,baz=353,slow=8.5,SNR=3.5						
RCBR	**Riachuelo**	**35.24**	**68**	*e*P	**P**	**13 50 37.5**	**+0.3**
RCBR	**Riachuelo**	**35.24**	**68**	P	**P**	**13 50 37.3**	**+0.1**
	comp=N,13nm,0.8s,baz=223,slow=9.9,SNR=6.3						
TXAR	**Lajitas Array**	**61.35**	**325**	P	**P**	**13 53 57.8**	**+0.4**
TXAR	**Lajitas Array**	**61.35**	**325**	P	**P**	**13 53 57.8**	**+0.4**
	comp=N,0.1nm,0.5s,baz=157,slow=7.7,SNR=3.1						
SNAA	**Sanae**	**61.63**	**161**	*e*P	**P**	**13 53 59.1**	**+0.4**
	comp=N,3.8nm,0.6s						
LIC	**Lamto**	**68.03**	**73**	*e*P	**P**	**13 54 41.1**	**+0.1**
	comp=N,22nm,0.6s						
TIC	**Toumodi**	**68.22**	**73**	*e*P	**P**	**13 54 42.4**	**+0.1**
	comp=N,5.2nm,0.2s						
KIC	**Kosan Boka**	**68.34**	**73**	*e*P	**P**	**13 54 43.3**	**+0.3**
	comp=N,24nm,0.5s						
DBIC	**Dimbokro**	**68.38**	**73**	*e*P	**P**	**13 54 43.7**	**+0.5**
	comp=N,15nm,0.9s						
DBIC	**Dimbokro**	**68.38**	**73**	P	**P**	**13 54 43.7**	**+0.5**
	comp=N,14nm,0.6s,baz=221,slow=7.0,SNR=28						
PDAR	**Pinedale Array**	**74.81**	**330**	P	**P**	**13 55 22.7**	**+1.2**
PDAR	**Pinedale Array**	**74.81**	**330**	P	**P**	**13 55 22.7**	**+1.2**
	comp=N,0.3nm,0.6s,baz=118,slow=7.3,SNR=4.1						
VNDA	**Vanda**	**76.44**	**190**	P	**P**	**13 55 31.5**	**+1.4**
VNDA	**Vanda**	**76.44**	**190**	P	**P**	**13 55 31.5**	**+1.4**
	comp=N,1.6nm,0.8s,baz=24,slow=4.1,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**77.03**	**70**	*e*P	**P**	**13 55 34.4**	**0.0**
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P	**P**	**13 55 34.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P	**P**	**13 55 34.5**	**+0.1**
	comp=N,3.8nm,0.4s,baz=255,slow=5.6,SNR=82						
MAW	**Mawson**	**83.69**	**163**	P	**P**	**13 56 09.8**	**+0.7**
MAW	**Mawson**	**83.69**	**163**	P	**P**	**13 56 09.8**	**+0.7**
	comp=N,2.6nm,0.5s,baz=254,slow=7.4,SNR=2.9						
ESDC	**Sonseca Array**	**85.83**	**44**	P	**P**	**13 56 20.9**	**+0.5**
ESDC	**Sonseca Array**	**85.83**	**44**	P	**P**	**13 56 20.9**	**+0.5**
	comp=N,0.2nm,0.4s,baz=261,slow=4.6,SNR=2.7						
YKA	**Yellowknife Ar**	**91.84**	**340**	P	**P**	**13 56 48.6**	**+0.5**
YKA				pP	**pP**	**13 57 20.2**	**+3.4**
YKA	**Yellowknife Ar**	**91.84**	**340**	P	**P**	**13 56 48.6**	**+0.5**
	comp=N,0.5nm,0.6s,baz=134,slow=4.8,SNR=13						
YKA				pP	**pP**	**13 57 20.2**	**+3.4**
	comp=N,0.7nm,0.6s,baz=134,slow=4.4,SNR=8.9						
H11S2	**WAKE ISLAND Hyd**	**28.46**	**277**	T	T	16 23 17.9	
	baz=110,slow=73,SNR=15						
H11S1	**WAKE ISLAND Hyd**	**28.47**	**277**	T	T	16 22 54.9	
	baz=110,slow=73,SNR=8.8						
H11S3	**WAKE ISLAND Hyd**	**28.48**	**277**	T	T	16 23 07.0	
	baz=110,slow=73,SNR=7.9						
H11N3	**WAKE ISLAND Hyd**	**28.55**	**278**	T	T	16 22 58.0	
	baz=172,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hyd**	**28.57**	**278**	T	T	16 23 21.4	
	baz=107,slow=75,SNR=4.7						
ASAR	**Alice Springs**	**129.70**	**207**	PKP	**PKPdf**	**14 02 49.8**	**-0.2**
ASAR	**Alice Springs**	**129.70**	**207**	PKP	**PKPdf**	**14 02 49.8**	**-0.2**
	comp=N,0.6nm,0.4s,baz=122,slow=1.6,SNR=16						
WRA	**Warramunga Arr**	**132.78**	**210**	PKP	**PKPdf**	**14 02 55.8**	**-0.1**
WRA	**Warramunga Arr**	**132.78**	**210**	PKP	**PKPdf**	**14 02 55.8**	**-0.1**
	comp=N,1.1nm,0.7s,baz=160,slow=1.8,SNR=17						
MK31	**Makanchi Array**	**145.73**	**37**	*e*PKPdf	**PKPdf**	**14 03 17.4**	**-1.1**
MKAR	**Makanchi Array**	**145.73**	**37**	PKPbc	**PKPab**	**14 03 19.7**	**0.0**
MKAR				pPKPbc	pPKPbc	14 03 52.5	+3.8
MKAR	**Makanchi Array**	**145.73**	**37**	PKPbc	**PKPab**	**14 03 19.7**	**0.0**
	comp=N,1.6nm,0.7s,baz=320,slow=3.5,SNR=13						
MKAR				pPKPbc	pPKPbc	14 03 52.5	+3.8
	comp=N,1.8nm,0.8s,baz=306,slow=4.3,SNR=5.4						

DDA 29 13:55:38.1, 37.97°N×38.00°E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.33**	**349**	*i* P	Pg	13 55 44.7	-0.1
AKCD				*i* S	Sg	13 55 50.3	+1.0

THE 29 13:56:51.7, 38.81°N×27.00°E, h0km, ML3.0/6, Error ellipse: s-maj=1.7km s-min=0.7km az=89.0

DDA 29 13:56:52.1, 38.86°N×26.91°E, h28km, MD3.2

ISK 29 13:56:52.0, 38.87°N×26.91°E, h7km, MD3.3

ISCJB 29 13:56:52.6±0.4, 38.87°N±0.01°×26.83°E±0.02, h13km±3km,

Error ellipse: s-maj=2.5km s-min=2.3km az=137.7

CSEM 29 13:56:53.2±0.1, 38.85°N×26.87°E, h12km, MD3.2, Error ellipse: s-maj=2.2km s-min=2.2km az=154.0

ATH 29 13:56:54.2, 38.88°N×26.69°E, h30km, MD3.4/22

SKO 29 13:56:56.3, 38.98°N×26.78°E, h18km

ISC 29 13:56:53.0±0.9, 38.85°N±0.01°×26.88°E±0.01, h15km±8km, n186, σ0°99/269, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.48**	**343**	*i* P	**Pg**	**13 57 02.3**	**-0.2**
AYVA				*i* S	**Sb**	**13 57 09.8**	**-0.2**
AYVA	**Ayvalik**	**0.48**	**343**	*i* P	**Pg**	**13 57 02.3**	**-0.2**
AYVA				*i* S	**Sb**	**13 57 09.8**	**-0.2**
BLCB	**Balcova**	**0.48**	**164**	*e*PG	**Pg**	**13 57 02.2**	**-0.3**
BLCB				*e*SG	**Sg**	**13 57 08.7**	**-0.3**
BLCB	**Balcova**	**0.48**	**164**	*e*Pg	**Pg**	**13 57 02.3**	**-0.3**
BLCB				*e*Sg	**Sg**	**13 57 08.7**	**-0.3**
URLA	**Izmir**	**0.54**	**204**	*i* P	**Pg**	**13 57 03.4**	**-0.2**
URLA				*i* S	**Sb**	**13 57 12.7**	**+1.1**
URLA	**Izmir**	**0.54**	**204**	*i* P	**Pg**	**13 57 03.4**	**-0.2**
URLA				*i* S	**Sb**	**13 57 12.7**	**+1.1**
IZM	**Izmir**	**0.54**	**146**	*e*PG	**Pg**	**13 57 03.4**	**-0.3**
IZM				*e*SG	**Sg**	**13 57 11.1**	**+0.1**
IZM	**Izmir**	**0.54**	**146**	*e*Pg	**Pg**	**13 57 03.4**	**-0.3**
IZM				*e*Sg	**Sg**	**13 57 11.1**	**+0.1**
PRK	**Paraskevi**	**0.61**	**310**	P	**Pb**	**13 57 06.2**	**+0.8**
PRK				S	**Sn**	**13 57 16.5**	**-0.2**
PRK	**Paraskevi**	**0.61**	**310**	*e*PB	**Pg**	**13 57 04.5**	**-0.6**
PRK				*e*SB	**Sg**	**13 57 12.5**	**-0.7**
PRK	**Paraskevi**	**0.61**	**310**	*e*Pb	**Pg**	**13 57 04.5**	**-0.6**
PRK	**Paraskevi**	**0.61**	**310**	P	**Pb**	**13 57 06.2**	**+0.8**
PRK				*e*Sb	**Sg**	**13 57 12.5**	**-0.7**
PRK				S	**Sn**	**13 57 16.5**	**-0.2**
AKHS	**Akhisar**	**0.73**	**87**	*i* P	**Pb**	**13 57 07.0**	**-0.4**
AKHS				*i* S	**Sg**	**13 57 17.5**	**+0.5**
AKHS	**Akhisar**	**0.73**	**87**	*i* P	**Pb**	**13 57 07.0**	**-0.4**
AKHS				*i* S	**Sg**	**13 57 17.5**	**+0.5**
AKS	**Akhisar**	**0.73**	**87**	*e*PG	**Pb**	**13 57 06.2**	**-1.2**
AKS				*e*SG	**Sb**	**13 57 16.4**	**-0.9**
AKS	**Akhisar**	**0.73**	**87**	*e*Pg	**Pb**	**13 57 06.2**	**-1.2**
AKS				*e*Sg	**Sb**	**13 57 16.4**	**-0.9**
CHOS	**Chios island**	**0.79**	**235**	*e*PG	**Pb**	**13 57 08.3**	**-0.2**
CHOS				*e*SG	**Sg**	**13 57 20.3**	**+1.5**
CHOS	**Chios island**	**0.79**	**235**	P	**Pb**	**13 57 08.4**	**-0.1**
CHOS				S	**Sn**	**13 57 21.3**	**+0.1**
CHOS	**Chios island**	**0.79**	**235**	*e*PN	**Pb**	**13 57 08.2**	**-0.2**
CHOS				*e*SN	**Sb**	**13 57 18.6**	**-0.4**
CHOS	**Chios island**	**0.79**	**235**	*e*Pg	**Pb**	**13 57 08.3**	**-0.2**
CHOS				*e*Sn	**Sb**	**13 57 18.6**	**-0.4**
CHOS				*e*Sg	**Sg**	**13 57 20.3**	**+1.5**
CHOS				S	**Sn**	**13 57 21.3**	**+0.1**
SIGR	**SIGRI**	**0.87**	**295**	P	**Pg**	**13 57 10.3**	**+0.4**
SIGR				S	**Sn**	**13 57 24.8**	**+1.7**
SIGR	**SIGRI**	**0.87**	**295**	*e*PN	**Pb**	**13 57 09.6**	**-0.2**
SIGR				*e*SN	**Sb**	**13 57 19.6**	**-1.7**
SIGR	**SIGRI**	**0.87**	**295**	*e*Pn	**Pb**	**13 57 09.6**	**-0.2**
SIGR	**SIGRI**	**0.87**	**295**	P	**Pg**	**13 57 10.3**	**+0.4**
SIGR				*e*Sn	**Sb**	**13 57 19.6**	**-1.7**
SIGR				S	**Sn**	**13 57 24.8**	**+1.7**
BALY	**Balya**	**1.06**	**33**	*i* P	**Pg**	**13 57 13.3**	**-0.2**
BALY				*i* S	**Sn**	**13 57 29.0**	**+1.1**
BALY	**Balya**	**1.06**	**33**	*i* P	**Pg**	**13 57 13.3**	**-0.2**
BALY				*i* S	**Sn**	**13

AOS	**Alonnisos**	**2.35 279**	*e*PN	**Pb**	**13 57 33.6**	**-1.5**
AOS	**Alonnisos**	**2.35 279**	P	**Pn**	**13 57 32.1**	**+1.0**
AOS			S	**Sb**	**13 58 04.2**	**+0.2**
AOS	**Alonnisos**	**2.35 279**	*e*PN	**Pn**	**13 57 31.5**	**+0.4**
AOS			*e*SN	**Sn**	**13 57 57.5**	**-2.2**
AOS	**Alonnisos**	**2.35 279**	*e*Pn	**Pn**	**13 57 31.5**	**+0.4**
AOS	**Alonnisos**	**2.35 279**	P	**Pn**	**13 57 32.1**	**+1.0**
AOS			*e*Sn	**Sn**	**13 57 57.5**	**-2.2**
AOS			S	**Sb**	**13 58 04.2**	**+0.2**
ERET	**Eretria**	**2.44 261**	P	**Pn**	**13 57 33.1**	**+0.8**
ERET	**Eretria**	**2.44 261**	P	**Pn**	**13 57 33.1**	**+0.8**
RDO	**Rodhopi**	**2.51 336**	P	**Pn**	**13 57 34.2**	**+1.0**
RDO	**Rodhopi**	**2.51 336**	*e*PN	**Pn**	**13 57 33.9**	**+0.7**
RDO			*e*SN	**Sn**	**13 58 02.9**	**-0.7**
RDO	**Rodhopi**	**2.51 336**	*e*Pn	**Pn**	**13 57 33.9**	**+0.7**
RDO	**Rodhopi**	**2.51 336**	P	**Pn**	**13 57 34.2**	**+1.0**
RDO			*e*Sn	**Sn**	**13 58 02.9**	**-0.7**
MRKA	**Markates**	**2.57 268**	P	**Pn**	**13 57 35.8**	**+1.7**
MRKA	**Markates**	**2.57 268**	*e*PN	**Pn**	**13 57 33.5**	**-0.6**
MRKA			*e*SN	**Sn**	**13 58 03.1**	**-2.0**
MRKA	**Markates**	**2.57 268**	*e*Pn	**Pn**	**13 57 33.5**	**-0.6**
MRKA	**Markates**	**2.57 268**	P	**Pn**	**13 57 35.8**	**+1.7**
MRKA			*e*Sn	**Sn**	**13 58 03.1**	**-2.0**
SLVT	**Silivri**	**2.59 23**	*e*PN	**Pn**	**13 57 35.2**	**+0.9**
SLVT	**Silivri**	**2.59 23**	*e*Pn	**Pn**	**13 57 35.2**	**+0.9**
CAVI	**Cavuskoy**	**2.66 59**	*e*PN	**Pn**	**13 57 36.4**	**+1.1**
CAVI	**Cavuskoy**	**2.66 59**	*e*Pn	**Pn**	**13 57 36.4**	**+1.1**
SKIA	**Skiathos**	**2.67 278**	P	**Pn**	**13 57 36.0**	**+0.5**
SKIA	**Skiathos**	**2.67 278**	*e*PN	**Pn**	**13 57 36.0**	**+0.5**
SKIA			*e*SN	**Sn**	**13 58 05.7**	**-1.9**
SKIA	**Skiathos**	**2.67 278**	P	**Pn**	**13 57 36.0**	**+0.5**
SKIA			*e*Sn	**Sn**	**13 58 05.7**	**-1.9**
OUR	**Ouranopolis**	**2.68 304**	*e*PN	**Pn**	**13 57 37.6**	**+1.1**
OUR	**Ouranopolis**	**2.68 304**	P	**Pn**	**13 57 37.0**	**+1.4**
OUR	**Ouranopolis**	**2.68 304**	*e*Pn	**Pn**	**13 57 35.5**	**-0.1**
OUR			*e*SN	**Sn**	**13 58 06.1**	**-1.7**
OUR	**Ouranopolis**	**2.68 304**	*e*Pn	**Pn**	**13 57 35.5**	**-0.1**
OUR	**Ouranopolis**	**2.68 304**	P	**Pn**	**13 57 37.0**	**+1.4**
OUR			*e*Sn	**Sn**	**13 58 06.1**	**-1.7**
CTKS	**Kestanelik-??a**	**2.69 27**	*e*PN	**Pn**	**13 57 36.7**	**+1.0**
CTKS	**Kestanelik-??a**	**2.69 27**	*e*Pn	**Pn**	**13 57 36.7**	**+1.0**
PAIG	**Paliouri**	**2.70 295**	P	**Pn**	**13 57 36.4**	**+0.6**
PAIG	**Paliouri**	**2.70 295**	*e*PN	**Pn**	**13 57 36.4**	**+0.6**
PAIG	**Paliouri**	**2.70 295**	P	**Pn**	**13 57 36.4**	**+0.6**
SANT	**Santorini**	**2.72 205**	*e*PN	**Pn**	**13 57 38.6**	**+2.5**
SANT	**Santorini**	**2.72 205**	*e*PN	**Pn**	**13 57 37.7**	**+1.6**
SANT			*e*SN	**Sn**	**13 58 09.5**	**+0.8**
SANT	**Santorini**	**2.72 205**	*e*Pn	**Pn**	**13 57 37.7**	**+1.6**
SANT			*e*Sn	**Sn**	**13 58 09.5**	**+0.8**
ADVT	**Abdulvahap**	**2.72 54**	*e*PN	**Pn**	**13 57 36.9**	**+0.8**
ADVT	**Abdulvahap**	**2.72 54**	*e*Pn	**Pn**	**13 57 36.9**	**+0.8**
BGKT	**Bogazkoy**	**2.75 31**	*e*PN	**Pn**	**13 57 37.9**	**+1.5**
BGKT	**Bogazkoy**	**2.75 31**	*e*Pn	**Pn**	**13 57 37.9**	**+1.5**
ISK	**Istanbul-Kandi**	**2.78 36**	*e*PN	**Pn**	**13 57 37.9**	**+1.0**
ISK	**Istanbul-Kandi**	**2.78 36**	*e*Pn	**Pn**	**13 57 37.9**	**+1.0**
ARG	**Arkhangelos**	**2.81 159**	*e*PN	**Pb**	**13 57 41.4**	**-1.4**
ARG			*e*SN	**Sb**	**13 58 14.3**	**-2.7**
ARG	**Arkhangelos**	**2.81 159**	*e*Pn	**Pb**	**13 57 41.4**	**-1.4**
ARG			*e*Sn	**Sb**	**13 58 14.3**	**-2.7**
KAVA	**Kavala**	**2.81 320**	P	**Pn**	**13 57 37.9**	**+0.6**
KAVA	**Kavala**	**2.81 320**	*e*PN	**Pn**	**13 57 37.9**	**+0.6**
KAVA			*e*SN	**Sn**	**13 58 09.4**	**-1.5**
KAVA	**Kavala**	**2.81 320**	P	**Pn**	**13 57 37.9**	**+0.6**
KAVA			*e*Sn	**Sn**	**13 58 09.4**	**-1.5**
PHSR	**Pinarhisar**	**2.82 10**	*e*PN	**Pn**	**13 57 38.7**	**+1.2**
PHSR	**Pinarhisar**	**2.82 10**	*e*Pn	**Pn**	**13 57 38.7**	**+1.2**
CTYL	**Yal??k??y-??at**	**2.84 22**	*e*PN	**Pn**	**13 57 39.2**	**+1.5**
CTYL	**Yal??k??y-??at**	**2.84 22**	*e*Pn	**Pn**	**13 57 39.2**	**+1.5**
NAIG	**Nisos Aigina**	**2.88 249**	*e*PN	**Pn**	**13 57 38.6**	**+0.3**
NAIG	**Nisos Aigina**	**2.88 249**	*e*Pn	**Pn**	**13 57 38.6**	**+0.3**
HRT	**Hereke**	**2.92 47**	*e*PN	**Pn**	**13 57 39.8**	**+0.9**
HRT	**Hereke**	**2.92 47**	*e*Pn	**Pn**	**13 57 39.8**	**+0.9**
KLYT	**Kilyos**	**2.92 34**	*e*PN	**Pn**	**13 57 39.9**	**+1.1**
KLYT	**Kilyos**	**2.92 34**	*e*Pn	**Pn**	**13 57 39.9**	**+1.1**
EDRB	**Edirne**	**3.00 358**	*e*PN	**Pn**	**13 57 41.2**	**+1.3**
EDRB	**Edirne**	**3.00 358**	*e*Pn	**Pn**	**13 57 41.2**	**+1.3**
PLG	**Polygyros**	**3.06 301**	*e*PN	**Pn**	**13 57 40.4**	**-0.3**
PLG	**Polygyros**	**3.06 301**	*e*Pn	**Pn**	**13 57 40.4**	**-0.3**
SILT	**Sile**	**3.13 42**	*e*PN	**Pn**	**13 57 43.1**	**+1.4**
SILT	**Sile**	**3.13 42**	*e*Pn	**Pn**	**13 57 43.1**	**+1.4**
DID	**Didima**	**3.17 246**	*e*PN	**Pn**	**13 57 43.1**	**+0.9**
DID			*e*SN	**Sn**	**13 58 18.5**	**-1.2**
DID	**Didima**	**3.17 246**	*e*Pn	**Pn**	**13 57 43.1**	**+0.9**
DID			*e*Sn	**Sn**	**13 58 18.5**	**-1.2**
LTK	**Loutraki**	**3.18 256**	*e*PN	**Pn**	**13 57 43.2**	**+0.8**
LTK	**Loutraki**	**3.18 256**	*e*Pn	**Pn**	**13 57 43.2**	**+0.8**
GULT	**Gulveren**	**3.22 59**	*e*PN	**Pn**	**13 57 44.1**	**+1.0**
GULT	**Gulveren**	**3.22 59**	*e*Pn	**Pn**	**13 57 44.1**	**+1.0**
SRS	**Serrai**	**3.39 313**	P	**Pn**	**13 57 46.1**	**+0.8**
SRS	**Serrai**	**3.39 313**	*e*PN	**Pn**	**13 57 45.9**	**+0.6**
SRS			*e*SN	**Sn**	**13 58 23.8**	**-1.5**
SRS	**Serrai**	**3.39 313**	P	**Pn**	**13 57 46.1**	**+0.8**
SRS			*e*Sn	**Sn**	**13 58 23.8**	**-1.5**
NVR	**Nevrokopi**	**3.40 318**	P	**Pn**	**13 57 46.4**	**+0.9**
NVR	**Nevrokopi**	**3.40 318**	*e*PN	**Pn**	**13 57 46.4**	**+0.9**
NVR			*e*SN	**Sn**	**13 58 24.4**	**-1.2**
NVR	**Nevrokopi**	**3.40 318**	P	**Pn**	**13 57 46.4**	**+0.9**
NVR			*e*Sn	**Sn**	**13 58 24.4**	**-1.2**
SVRH	**Sivrihisar-ESK**	**3.66 79**	*e*PN	**Pn**	**13 57 50.5**	**+1.4**
SVRH	**Sivrihisar-ESK**	**3.66 79**	*e*Pn	**Pn**	**13 57 50.5**	**+1.4**
GUR	**Goura**	**3.68 257**	*e*PN	**Pn**	**13 57 50.1**	**+0.8**
GUR	**Goura**	**3.68 257**	*e*Pn	**Pn**	**13 57 50.1**	**+0.8**
MDUB	**Mudurnu**	**3.71 63**	*e*PN	**Pn**	**13 57 51.1**	**+1.3**
MDUB	**Mudurnu**	**3.71 63**	*e*Pn	**Pn**	**13 57 51.1**	**+1.3**
ZKR	**Zakros**	**3.76 188**	*e*PN	**Pn**	**13 57 53.0**	**+2.5**
ZKR	**Zakros**	**3.76 188**	*e*Pn	**Pn**	**13 57 53.0**	**+2.5**
KLV	**Kalavryta, Ach**	**3.80 259**	P	**Pn**	**13 57 51.9**	**+1.0**
KLV	**Kalavryta, Ach**	**3.80 259**	*e*PN	**Pn**	**13 57 51.1**	**+0.2**
KLV	**Kalavryta, Ach**	**3.80 259**	*e*Pn	**Pn**	**13 57 51.1**	**+0.2**
KLV	**Kalavryta, Ach**	**3.80 259**	P	**Pn**	**13 57 51.9**	**+1.0**
KNT	**Kendrikon**	**3.83 308**	*e*PN	**Pn**	**13 57 51.9**	**+0.5**
KNT			*e*SN	**Sn**	**13 58 34.2**	**-1.9**
KNT	**Kendrikon**	**3.83 308**	*e*Pn	**Pn**	**13 57 51.9**	**+0.5**
KNT			*e*Sn	**Sn**	**13 58 34.2**	**-1.9**
LAST	**Lasithi**	**3.85 197**	*e*PN	**Pn**	**13 57 54.1**	**+2.4**
LAST	**Lasithi**	**3.85 197**	*e*Pn	**Pn**	**13 57 54.1**	**+2.4**
VAY	**Valandovo**	**4.12 308**	*i* Pn	**Pn**	**13 57 56.1**	**+0.8**
VAY	**Valandovo**	**4.12 308**	*i* Pn	**Pn**	**13 57 56.6**	**+1.2**
VTS	**Vitosha**	**4.66 324**	*e*Pn	**Pn**	**13 58 04.5**	**+1.6**
GRUS	**Gruza**	**6.84 319**	*e*Pn	**Pn**	**13 58 33.9**	**+1.2**

*IDC **29** 14:08:33.6±1.5, 0.°60N×126.°00E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=161.9km s-min=19.5km az=65.0*
*ISCJB **29** 14:08:37.8±0.8, 0.°7N±0.°1×126.°22E±0.°06, h44km, mb3.6/5, Error ellipse: s-maj=16.0km s-min=7.1km az=21.5*
*DJA **29** 14:08:37.1±0.5, 0.°N±8.°×12.°6E±.°, h10km, M3.5/3, MLv3.5/3*
ISC 29 14:08:39.3±1.0, 0.°6N±0.°1×126.°22E±0.°06, h44km, n8, σ0°69/10, mb3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**83**	P	**Pn**	**14 08 59.0**	**0.0**
LBMI	**Labuha**	**1.79**	**134**	P	**Pn**	**14 09 07.5**	**-0.2**
LBMI				S	**Sn**	**14 09 29.0**	**-0.3**
KMSI	**Cibinong**	**2.24**	**269**	P	**Pn**	**14 09 13.9**	**0.0**
KMSI				S	**Sn**	**14 09 40.0**	**-0.4**
WRA	**Warramunga Arr**	**21.93**	**159**	P	**P**	**14 13 28.9**	**-0.3**
	2.0nm,0.6s,baz=336,slow=12,SNR=16						
ASAR	**Alice Springs**	**25.27**	**163**	P	**P**	**14 14 02.8**	**+1.1**
	0.4nm,0.4s,baz=345,slow=12,SNR=20						
STKA	**Stephens Creek**	**35.45**	**157**	P	**P**	**14 15 31.7**	**+0.2**
	0.4nm,0.3s,baz=335,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**59.83**	**327**	P	**P**	**14 18 41.0**	**+0.7**
	0.2nm,0.4s,baz=118,slow=7.0,SNR=8.6						
KURBB	**Kurchatov Arra**	**64.08**	**328**	P	**P**	**14 19 07.7**	**-1.0**
	0.2nm,0.4s,baz=128,slow=6.1,SNR=4.6						

*IDC **29** 14:12:48.7±0.8, 3.°81N×126.°36E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/24, mbtmp3.8/10, Error ellipse: s-maj=38.5km s-min=15.2km az=71.0*
*ISCJB **29** 14:12:53.0±0.6, 3.°8N±0.°1×126.°3E±0.°2, h45km, mb3.9/11, Error ellipse: s-maj=31.1km s-min=12.1km az=164.1*
ISC 29 14:12:54.9±0.8, 3.°8N±0.°1×126.°4E±0.°2, h45km, n12, σ0°66/11, mb4.0/11, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.00**	**328**	*i*P	Pn	14 13 59.9	+6.2
FITZ	**Fitzroy Crossi**	**21.77**	**182**	P	**P**	**14 17 43.1**	**+0.2**
	3.7nm,1.3s,baz=0.0,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**24.86**	**162**	P	**P**	**14 18 12.5**	**-0.9**
	0.3nm,0.3s,baz=340,slow=11,SNR=17						
ASAR	**Alice Springs**	**28.27**	**165**	P	**P**	**14 18 44.0**	**-0.2**
	0.1nm,0.6s,baz=348,slow=7.4,SNR=6.4						
HNR	**Honiara**	**35.96**	**112**	P	**P**	**14 19 52.3**	**+0.6**
	16nm,0.3s,baz=6.2,slow=19,SNR=6.3						
STKA	**Stephens Creek**	**38.32**	**159**	P	**P**	**14 20 11.3**	**-0.1**
	1.0nm,0.4s,baz=336,slow=10.0,SNR=4.6						
SONM	**Songino Array**	**47.12**	**342**	P	**P**	**14 21 23.5**	**+0.7**
	0.3nm,0.4s,baz=162,slow=8.3,SNR=4.6						
PETK	**Petropavlovsk-**	**55.52**	**22**	P	**P**	**14 22 24.8**	**-0.5**
	2.0nm,0.9s,baz=223,slow=5.9,SNR=4.8						
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**14 22 38.9**	**+0.7**
	0.9nm,0.4s,baz=118,slow=7.6,SNR=28						
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**14 22 58.3**	**-1.0**
	0.7nm,0.4s,baz=96,slow=6.6,SNR=4.1						
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**14 25 26.4**	**0.0**
	0.5nm,1.1s,baz=254,slow=6.5,SNR=3.3						
ARCES	**ARCESS Array B**	**90.26**	**340**	P	**P**	**14 25 50.5**	**-0.1**
	3.7nm,1.0s,baz=81,slow=7.6,SNR=2.7						

*IDC **29** 14:25:56.5±0.7, 1.°88N×121.°87E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/25, mbtmp4.0/10, MS3.2/6, Ms1 3.2/6, ms1mx2.9/31, Error ellipse: s-maj=40.8km s-min=14.1km az=60.0*
*DJA **29** 14:25:58.3±0.4, 2.°N±3.°×12.°2E±.°, h10km, M4.4/14, mb4.4/6, mB4.8/4, MLv4.5/14, Mw(mB)4.1/4, Mwp5.5/1*
*ISCJB **29** 14:26:00.3±0.3, 1.°87N±0.°03×121.°82E±0.°04, h33km, mb4.4/27, MS2.9/6, Error ellipse: s-maj=6.0km s-min=4.3km az=169.4*
*NEIC **29** 14:26:02.1±0.3, 1.°80N×121.°78E, h35km, mb4.6/15, Error ellipse: s-maj=10.3km s-min=5.8km az=57.0*
*AUST **29** 14:26:07.4±2.8, 1.°82N×121.°91E, h92km, Error ellipse: s-maj=3.3km s-min=1.2km az=45.0*
ISC 29 14:26:02.2±0.5, 1.°91N±0.°05×121.°68E±0.°06, h35km, n92, σ1°29/93, mb4.4/27, MS2.9/6, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**1.19**	**229**	P	**Pn**	**14 26 20.0**	**-2.3**
TOLI				S	**Sn**	**14 26 38.4**	**+1.2**
MRSI	**Marisa**	**1.45**	**170**	P	**Pn**	**14 26 24.2**	**-1.8**
MRSI				S	**Sn**	**14 26 46.2**	**+2.5**
KMSI	**Cibinong**	**2.65**	**120**	P	**Pn**	**14 26 41.7**	**-0.9**
APSI	**Ampana**	**2.80**	**181**	P	**Pn**	**14 26 43.8**	**-0.8**
LUWI	**Luwuk**	**3.13**	**160**	P	**Pn**	**14 26 50.5**	**+1.4**
LUWI	**Luwuk**	**3.13**	**160**	P	**Pn**	**14 26 50.5**	**+1.4**
	baz=3.0,SNR=40						
SGSI	**Sangihe**	**4.23**	**65**	P	Pn	14 27 00.3	-3.9
MYLDM	**Lahad Datu**	**4.54**	**316**	P	**Pn**	**14 27 07.3**	**-1.2**
TTSI	**Tana Toraja**	**5.26**	**201**	P	**Pn**	**14 27 19.3**	**+0.8**
	129nm,0.8s,927nm16µm0.4nm						
MMSI	**Mamuju**	**5.34**	**211**	P	**Pn**	**14 27 19.1**	**-0.5**
	50nm,0.7s,899nm0.3nm						
CTBH	**Cotabato--PC H**	**5.86**	**26**	*i*P	**Pn**	**14 27 26.0**	**-0.7**
PAGZ	**Pagadian**	**6.14**	**16**	*e*P	**Pn**	**14 27 29.8**	**-0.6**
SPSI	**Sidrap Palu**	**6.14**	**198**	P	**Pn**	**14 27 29.9**	**-0.6**
	48nm,1.0s,638nm0.2nm						
LBMI	**Labuha**	**6.34**	**113**	P	**Pn**	**14 27 32.6**	**-0.8**
	22nm,1.7s,0.1nm						
DAV	**Davao City (W)**	**6.43**	**37**	P	**Pn**	**14 27 35.1**	**+0.6**
BNSI	**Bone**	**6.46**	**194**	P	**Pn**	**14 27 35.0**	**0.0**
	61nm,1.7s,888nm0.2nm						
MATI	**Mati**	**6.77**	**42**	*e*P	Pn	14 27 35.4	-3.7
BKSI	**Bulukumba**	**7.35**	**192**	P	**Pn**	**14 27 46.6**	**-0.6**
WSI	**Waingapu**	**11.59**	**187**	P	Pn	14 28 52.0	+6.7
	baz=12,SNR=3.6						
MTN	**Manton Dam**	**17.40**	**148**	P	**P**	**14 30 03.1**	**-0.4**
	baz=17,SNR=8.3						
KNRA	**Kununurra**	**18.83**	**158**	P	**P**	**14 30 18.3**	**-0.8**
	baz=19,SNR=7.9						
FITZ	**Fitzroy Crossi**	**20.27**	**169**	P	**P**	**14 30 33.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**20.27**	**169**	P	**P**	**14 30 33.4**	**-1.5**
	4.6nm,0.5s,baz=3.7,slow=8.8,SNR=23						
FITZ				LR	LR	14 40 16.4	
	comp=Z,75nm,19.9s,baz=343,slow=43						
FITZ	**Fitzroy Crossi**	**20.27**	**169**	P	**P**	**14 30 34.1**	**-0.7**
	baz=20,SNR=8.4						
PSI	**Prapat**	**22.76**	**273**	P	**P**	**14 31 02.5**	**+0.6**
PSI	**Prapat**	**22.76**	**273**	P	**P**	**14 31 02.5**	**+0.6**
	8.7nm,0.7s,baz=103,slow=4.7,SNR=7.2						
PSI	**Prapat**	**22.76**	**273**	P	**P**	**14 31 03.4**	**+1.5**
	baz=23,SNR=6.4						
CHAI	**Chaiyaphum**	**23.87**	**307**	P	**P**	**14 31 13.3**	**+0.6**
	5.2nm,1.0s						
WRA	**Warramunga Arr**	**25.02**	**151**	P	**P**	**14 31 21.4**	**-1.8**
WRA	**Warramunga Arr**	**25.02**	**151**	P	**P**	**14 31 21.4**	**-1.8**
	1.9nm,0.6s,baz=330,slow=10,SNR=26						
PBKT	**Sadao Pong**	**25.05**	**307**	P	**P**	**14 31 24.6**	**+1.1**
	9.7nm,0.9s,687nm						
SLVN	**Son La**	**25.94**	**319**	*e*P	**P**	**14 31 34.1**	**+2.5**
WRKA	**Warakurna**	**27.55**	**167**	P	**P**	**14 31 44.6**	**-1.4**
	baz=28,SNR=15						
CMAR	**Chiang Mai Arr**	**27.70**	**308**	P	**P**	**14 31 48.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.70**	**308**	P	**P**	**14 31 48.0**	**+0.6**
	0.4nm,0.4s,baz=143,slow=8.9,SNR=9.2						
CMAR				LR	LR	14 45 21.4	
	comp=Z,40nm,18.3s,baz=142,slow=42						
ASAR	**Alice Springs**	**28.07**	**156**	P	**P**	**14 31 49.4**	**-1.3**
ASAR				PcP	**PcP**	**14 35 05.0**	**+0.1**
ASAR	**Alice Springs**	**28.07**	**156**	P	**P**	**14 31 49.4**	**-1.3**
	0.5nm,0.7s,baz=336,slow=16,SNR=15						
ASAR				PcP	**PcP**	**14 35 05.0**	**+0.1**
	0.8nm,0.6s,baz=344,slow=2.4,SNR=9.5						
JNU	**Nakatsue**	**32.23**	**15**	LR	LR	14 43 54.3	
	comp=Z,15nm,28.6s,baz=220,slow=34						
KSRS	**Korea Array**	**35.83**	**8**	LR	LR	14 49 51.3	
	comp=Z,16nm,18.1s,baz=15,slow=40						
MJAR	**Matsushiro Arr**	**37.70**	**22**	LR	LR	14 49 31.4	
	comp=Z,15nm,28.6s,baz=0.0,slow=38						
STKA	**Stephens Creek**	**38.55**	**152**	*e*P	**P**	**14 33 20.7**	**-1.0**
	0.3nm,0.6s						
STKA	**Stephens Creek**	**38.55**	**152**	P	**P**	**14 33 18.9**	**-2.8**
	2.1nm,0.8s,baz=323,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**38.55**	**152**	P	**P**	**14 33 21.9**	**+0.2**
	baz=38,SNR=5.4						
HTT	**Hallett**	**38.73**	**157**	P	**P**	**14 33 23.1**	**-0.2**
	baz=39,SNR=3.3						
LSA	**Lhasa**	**40.06**	**317**	*e*P	**P**	**14 33 37.1**	**+2.2**
	3.0nm,0.8s						
ODAN	**Odare**	**41.19**	**310**	*e*P	**P**	**14 33 44.9**	**+0.9**
	11nm,0.8s						
ODAN	**Odare**	**41.19**	**310**	*e*P	**P**	**14 33 44.9**	**+0.9**
	11nm,0.8s						
TAPN	**Taplejung**	**41.20**	**311**	*e*P	**P**	**14 33 45.1**	**+0.9**
TAPN	**Taplejung**	**41.20**	**311**	*e*P	**P**	**14 33 45.1**	**+0.9**
RAMN	**Ramite**	**41.84**	**310**	*e*P	**P**	**14 33 50.7**	**+1.3**
	23nm,1.1s						
RAMN	**Ramite**	**41.84**	**310**	*e*P	**P**	**14 33 50.7**	**+1.3**
	23nm,1.1s						
JIRN	**Jiri**	**42.52**	**310**	*e*P	**P**	**14 33 56.1**	**+1.1**
	7.0nm,0.6s						
JIRN	**Jiri**	**42.52**	**310**	*e*P	**P**	**14 33 56.1**	**+1.1**
	7.0nm,0.6s						
GUN	**Gumba**	**42.88**	**310**	*e*P	**P**	**14 33 59.0**	**+1.1**
	24nm,1.0s						
GUN	**Gumba**	**42.88**	**310**	*e*P	**P**	**14 33 59.0**	**+1.1**
	24nm,1.0s						
PKI	**Pulchoki**	**43.07**	**310**	*e*P	**P**	**14 34 00.1**	**+0.6**
PKI	**Pulchoki**	**43.07**	**310**	*e*P	**P**	**14 34 00.1**	**+0.6**
	6.2nm,0.8s						
PKIN	**Phulchoki**	**43.08**	**310**	*e*P	**P**	**14 34 00.1**	**+0.6**
	6.2nm,0.8s						
KKN	**Kakani**	**43.28**	**310**	*e*P	**P**	**14 34 01.9**	**+0.9**
KKN	**Kakani**	**43.28**	**310**	*e*P	**P**	**14 34 01.9**	**+0.9**
DMN	**Daman**	**43.32**	**310**	*e*P	**P**	**14 34 02.5**	**+1.1**
DMN	**Daman**	**43.32**	**310**	*e*P	**P**	**14 34 02.5**	**+1.1**
GKN	**Gorkha**	**43.88**	**310**	*e*P	**P**	**14 34 06.5**	**+0.7**
	22nm,0.9s						
GKN	**Gorkha**	**43.88**	**310**	*e*P	**P**	**14 34 06.5**	**+0.7**
	22nm,0.9s						
KOLN	**Koldanda**	**44.56**	**309**	*e*P	**P**	**14 34 12.5**	**+1.2**
	43nm,0.8s						
KOLN	**Koldanda**	**44.56**	**309**	*e*P	**P**	**14 34 12.5**	**+1.2**
	43nm,0.8s						
DANN	**Dangsing**	**44.72**	**310**	*e*P	**P**	**14 34 13.7**	**+1.0**
	37nm,0.8s						
DANN	**Dangsing**	**44.72**	**310**	*e*P	**P**	**14 34 13.7**	**+1.0**
	37nm,0.8s						

PYUN	**Piuthan**	**45.20**	**309**	*e*P	**P**	**14 34 17.7**	**+1.3**
	81nm,0.9s						
PYUN	**Piuthan**	**45.20**	**309**	*e*P	**P**	**14 34 17.7**	**+1.3**
	81nm,0.9s						
ASAJ	**Asahikawa**	**45.94**	**21**	LR	LR	14 54 28.7	
	comp=Z,42nm,18.8s,baz=335,slow=37						
SONM	**Songino Array**	**47.62**	**346**	P	**P**	**14 34 34.1**	**-0.8**
SONM				PcP	**PcP**	**14 36 03.7**	**-0.6**
SONM	**Songino Array**	**47.62**	**346**	P	**P**	**14 34 34.1**	**-0.8**
	1.9nm,1.0s,baz=164,slow=8.1,SNR=6.4						
SONM				PcP	**PcP**	**14 36 03.7**	**-0.6**
	0.8nm,0.7s,baz=170,slow=4.5,SNR=3.9						
MKAR	**Makanchi Array**	**56.30**	**328**	P	**P**	**14 35 40.9**	**+1.3**
MKAR				PcP	**PcP**	**14 36 36.2**	**-0.5**
MKAR	**Makanchi Array**	**56.30**	**328**	P	**P**	**14 35 40.9**	**+1.3**
	3.5nm,0.8s,baz=128,slow=8.4,SNR=32						
MKAR				PcP	**PcP**	**14 36 36.2**	**-0.5**
	1.0nm,0.7s,baz=131,slow=4.3,SNR=4.9						
KZA	**Kyzart**	**57.66**	**320**	P	**P**	**14 35 52.2**	**+2.4**
	SNR=5.3						
TKM2	**Tokmak 2**	**57.88**	**321**	P	**P**	**14 35 52.8**	**+1.8**
	SNR=7.3						
TKM2	**Tokmak 2**	**57.88**	**321**	*e*P	**P**	**14 35 52.8**	**+1.8**
	1.8nm,0.6s						
KBK	**Karagaybulak**	**58.15**	**321**	P	**P**	**14 35 54.8**	**+2.0**
	SNR=6.7						
UCH	**Uchtor**	**58.21**	**320**	P	**P**	**14 35 55.9**	**+2.3**
	SNR=5.6						
AAK	**Ala-Archa**	**58.43**	**321**	*e*P	**P**	**14 35 56.7**	**+1.9**
	2.5nm,0.8s						
AML	**Almayashu**	**58.69**	**320**	P	**P**	**14 35 59.1**	**+2.2**
	SNR=7.3						
KBL	**Kabul**	**58.71**	**310**	*e*P	**P**	**14 35 57.9**	**+0.9**
	12nm,1.0s						
USP	**Ospenovka**	**58.75**	**321**	P	**P**	**14 35 58.7**	**+1.8**
	SNR=6.3						
EKS2	**Erkin-Say**	**58.90**	**320**	P	**P**	**14 36 00.3**	**+2.3**
	SNR=5.3						
EKS2	**Erkin-Say**	**58.90**	**320**	P	**P**	**14 35 57.9**	**-0.1**
	2.8nm,1.0s						
ZALV	**Zalesovo Beam**	**60.04**	**336**	P	**P**	**14 36 06.2**	**+0.7**
ZALV	**Zalesovo Beam**	**60.04**	**336**	P	**P**	**14 36 06.2**	**+0.7**
	4.6nm,0.8s,baz=124,slow=7.1,SNR=20						
TIXI	**Tiksi**	**69.79**	**2**	P	**P**	**14 37 05.5**	**-3.0**
	2.5nm,0.5s						
ARU	**Arti**	**73.82**	**329**	*e*P	**P**	**14 37 33.1**	**0.0**
	5.8nm,1.1s						
BRTR	**Keskin Array B**	**87.28**	**309**	P	**P**	**14 38 46.0**	**+0

FITZ	**Fitzroy Crossi**	**27.52**	**181**	P		**P**	**14 46 11.3**	**+0.1**
	0.9nm,0.3s,baz=19,slow=17,SNR=12							
FITZ	**Fitzroy Crossi**	**27.52**	**181**	P		**P**	**14 46 11.8**	**+0.6**
	baz=28,SNR=6.8							
WRA	**Warramunga Arr**	**30.46**	**164**	P		**P**	**14 46 35.8**	**-1.6**
	1.3nm,0.3s,baz=342,slow=9.1,SNR=44							
WRA				PcP		**PcP**	**14 49 35.0**	**-0.4**
	0.4nm,0.5s,baz=342,slow=2.9,SNR=4.5							
QIS	**Mount Isa**	**32.79**	**156**	P		**P**	**14 46 57.1**	**-0.8**
	baz=33,SNR=8.0							
ASAR	**Alice Springs**	**33.93**	**167**	P		**P**	**14 47 06.9**	**-0.9**
	3.1nm,0.4s,baz=352,slow=6.8,SNR=438							
ASAR				PcP		**PcP**	**14 49 44.3**	**-0.6**
	0.4nm,0.4s,baz=353,slow=2.6,SNR=4.3							
WRKA	**Warakurna**	**34.49**	**176**	P		**P**	**14 47 13.4**	**+0.8**
	baz=35,SNR=23							
USRK	**Ussuriysk Arra**	**34.87**	**7**	P		**P**	**14 47 16.4**	**+0.8**
	1.3nm,0.6s,baz=164,slow=7.7,SNR=4.2							
MEEK	**Meekatharra**	**36.73**	**191**	P		**P**	**14 47 32.6**	**+0.8**
	baz=37,SNR=5.1							
ASAJ	**Asahikawa**	**37.28**	**20**	P		**P**	**14 47 36.9**	**+0.7**
	7.1nm,0.8s,baz=219,slow=24,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**40.33**	**73**	T		T	15 31 07.1	
	baz=264,slow=65,SNR=33							
H11S1	**WAKE ISLAND Hy**	**40.34**	**73**	T		T	15 31 08.3	
	baz=264,slow=65,SNR=17							
H11S2	**WAKE ISLAND Hy**	**40.35**	**73**	T		T	15 31 09.0	
	baz=264,slow=65,SNR=30							
H11N1	**WAKE ISLAND Hy**	**40.68**	**71**	T		T	15 31 38.1	
	baz=268,slow=75,SNR=41							
H11N2	**WAKE ISLAND Hy**	**40.69**	**71**	T		T	15 31 32.2	
	baz=268,slow=75,SNR=35							
H11N3	**WAKE ISLAND Hy**	**40.70**	**71**	T		T	15 31 39.5	
	baz=268,slow=75,SNR=29							
BBOO	**Buckleboo**	**43.23**	**168**	P		**P**	**14 48 25.6**	**+0.1**
	baz=43,SNR=76							
STKA	**Stephens Creek**	**43.83**	**161**	P		**P**	**14 48 30.1**	**-0.2**
	1.9nm,0.3s,baz=355,slow=6.2,SNR=22							
STKA	**Stephens Creek**	**43.83**	**161**	P		**P**	**14 48 30.2**	**-0.2**
	baz=44,SNR=17							
HTT	**Hallett**	**44.50**	**165**	P		**P**	**14 48 36.2**	**+0.4**
	baz=45,SNR=7.0							
ARPS	**Mount Arapiles**	**48.44**	**163**	P		**P**	**14 49 06.8**	**+0.3**
	baz=48,SNR=13							
TOO	**Toolangi**	**50.33**	**160**	P		**P**	**14 49 22.0**	**+1.1**
	baz=50,SNR=6.3							
PETK	**Petropavlovsk-**	**50.34**	**24**	P		**P**	**14 49 22.1**	**+1.3**
	2.3nm,0.6s,baz=208,slow=4.4,SNR=9.0							
MKAR	**Makanchi Array**	**52.43**	**323**	P		**P**	**14 49 36.1**	**-0.5**
	0.4nm,0.4s,baz=122,slow=7.9,SNR=7.8							
KURBB	**Kurchatov Arra**	**56.51**	**326**	P		**P**	**14 50 04.6**	**-1.4**
	0.3nm,0.6s,baz=126,slow=6.6,SNR=4.7							
ILAR	**Eielson Array**	**80.14**	**26**	P		**P**	**14 52 31.6**	**-1.9**
	0.3nm,0.6s,baz=249,slow=5.1,SNR=6.4							
ARCES	**ARCESS Array B**	**84.75**	**340**	P		**P**	**14 52 56.3**	**-1.0**
	4.0nm,1.0s,baz=78,slow=7.1,SNR=6.5							
FINES	**FINESS Array B**	**86.38**	**332**	P		**P**	**14 53 03.8**	**-1.7**
	2.3nm,0.9s,baz=50,slow=3.0,SNR=5.7							
VNDA	**Vanda**	**89.29**	**173**	P		**P**	**14 53 19.2**	**+0.2**
	0.5nm,0.8s,baz=309,slow=6.5,SNR=4.7							
YKA	**Yellowknife Ar**	**94.47**	**24**	P		**P**	**14 53 43.1**	**-0.2**
	0.2nm,0.4s,baz=304,slow=4.3,SNR=6.2							

MEX 29 14:45:28.2±0.5, 19°35N×103°95W, h82km±4km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		**0.19**	**189**	*eP*	Pn	14 45 38.9	-1.3
R15V				*e*S	Sn	14 45 47.3	-1.7
EZ5V		**0.35**	**69**	*eP*	Pn	14 45 40.4	-0.9
EZ5V				*e*S	Sn	14 45 48.9	-2.1
MMIG	**Aquila**	**1.21**	**151**	*eP*	Pn	14 45 48.3	-1.5
MMIG				*i* S	Sn	14 46 04.5	-1.6
ANIG	**Ahuacatlan**	**1.77**	**343**	*i* P	Pn	14 45 55.7	-1.6
ANIG				*i* S	Sn	14 46 17.0	-2.4

*ISCJB **29** 15:14:14.2±1.0, 4°.33S×0°.04×143°.90E±0°.05, h117km±9km, mb4.1/23, Error ellipse: s-maj=8.8km s-min=6.8km az=163.0*

*NEIC **29** 15:14:15.9±0.3, 4°.32S×143°.83E, mb4.7/5, Error ellipse: s-maj=9.1km s-min=5.7km az=79.0*

*IDC **29** 15:14:15.9±0.6, 4°.41S×143°.78E, h120km±4km, mb3.9/21, mb1 4.0/26, mb1mx4.0/27, mbtmp4.3/26, MS3.1/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=13.6km s-min=7.6km az=89.0*

*AUST **29** 15:14:17.6±0.5, 4°.76S×143°.56E, h64km, Error ellipse: s-maj=1.0km s-min=0.8km az=358.0*

ISC 29 15:14:15.9±0.5, 4°.36S±0°.05×143°.90E±0°.06, h119km±5km, h119km:pP-P,n97,σ1§47/108, mb4.2/21, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.68**	**300**	P	**Pn**	**15 15 10.0**	**-1.2**
JAY	**Jayapura**	**3.68**	**300**	P	**Pn**	**15 15 10.0**	**-1.2**
	2.9nm,0.3s,baz=192,slow=6.4,SNR=19						
JAY	**Jayapura**	**3.68**	**300**	P	**Pn**	**15 15 11.9**	**+0.7**
	baz=3.6,SNR=6.6						
MANU	**Manus Island**	**4.15**	**56**	P	Pn	15 15 25.6	+8.2
	baz=4.7,SNR=4.6						
PMG	**Port Moresby**	**5.97**	**147**	*eP*	**Pn**	**15 15 42.0**	**+0.1**
PMG				S	**Sn**	**15 16 48.4**	**-0.7**
PMG	**Port Moresby**	**5.97**	**147**	P	**Pn**	**15 15 41.9**	**+0.1**
	2.3nm,0.3s,baz=353,slow=8.1,SNR=11						
PMG				S	**Sn**	**15 16 48.4**	**-0.7**
	3.5nm,0.3s,baz=63,slow=23,SNR=4.3						
COEN	**Coen**	**9.57**	**184**	*eP*	**Pn**	**15 16 32.2**	**+1.6**
	38nm,0.6s						
COEN	**Coen**	**9.57**	**184**	P	**Pn**	**15 16 33.1**	**+2.5**
	baz=9.2,SNR=6.2						
FAKI	**Fak Fak**	**11.72**	**277**	P	**Pn**	**15 16 58.5**	**-1.0**
	baz=11,SNR=5.9						
KDU	**Kakadu**	**14.00**	**233**	P	**Pn**	**15 17 27.6**	**-1.6**
	baz=14,SNR=41						
MTN	**Manton Dam**	**15.18**	**235**	P	**Pn**	**15 17 43.1**	**-1.0**
	baz=15,SNR=62						
CTA	**Charters Tower**	**15.80**	**172**	P	**Pn**	**15 17 49.9**	**-1.9**
CTA	**Charters Tower**	**15.80**	**172**	P	**Pn**	**15 17 49.9**	**-1.9**
	0.1nm,0.3s,baz=15,slow=15,SNR=2.4						
QIS	**Mount Isa**	**16.64**	**194**	P	**Pn**	**15 18 02.0**	**-0.1**
	baz=16,SNR=7.0						
HNR	**Honiara**	**16.70**	**108**	P	**P**	**15 18 05.8**	**+2.6**
HNR	**Honiara**	**16.70**	**108**	P	**P**	**15 18 05.8**	**+2.6**
	4.3nm,0.3s,baz=241,slow=5.9,SNR=4.6						
WRAB	**Tennant Creek**	**18.07**	**210**	*eP*	**P**	**15 18 18.2**	**0.0**
	65nm,0.9s						
WRA	**Warramunga Arr**	**18.08**	**210**	P	**P**	**15 18 18.8**	**+0.4**
WRA				S	**S**	**15 21 33.3**	**-6.4**
WRA	**Warramunga Arr**	**18.08**	**210**	P	**P**	**15 18 18.8**	**+0.4**
	5.4nm,0.3s,baz=29,slow=10,SNR=265						
WRA				S	**S**	**15 21 33.3**	**-6.4**
	0.3nm,0.3s,baz=30,slow=24,SNR=3.3						
KNRA	**Kununurra**	**18.66**	**232**	P	**P**	**15 18 24.3**	**-0.4**
	baz=18,SNR=96						
SOEI	**Soe**	**20.21**	**254**	P	**P**	**15 18 42.9**	**+1.3**
	baz=20,SNR=27						
KMSI	**Cibinong**	**20.50**	**283**	P	Pn	15 18 53.7	+5.7
LUWI	**Luwuk**	**21.36**	**278**	P	P	15 19 00.0	+6.1
GTOI	**Gorontalo**	**21.46**	**283**	P	**P**	**15 18 56.0**	**+1.1**
AS31	**Alice Springs**	**21.49**	**206**	*eP*	**P**	**15 18 54.9**	**-0.3**
ASAR	**Alice Springs**	**21.49**	**206**	P	**P**	**15 18 55.6**	**+0.4**
ASAR				S	**S**	**15 22 45.9**	**-0.8**
ASAR	**Alice Springs**	**21.49**	**206**	P	**P**	**15 18 55.6**	**+0.4**
	15nm,0.6s,baz=28,slow=12,SNR=447						
ASAR				S	**S**	**15 22 45.9**	**-0.8**
	3.8nm,1.1s,baz=21,slow=26,SNR=5.1						
EIDS	**Eidsvold**	**22.00**	**162**	P	**P**	**15 19 03.7**	**+3.1**
	baz=22,SNR=4.5						
QLP	**Quilpie**	**22.10**	**179**	P	**P**	**15 19 03.0**	**+1.4**
	baz=22,SNR=5.1						
MRSI	**Marisa**	**22.46**	**282**	P	**P**	**15 19 05.8**	**+0.4**
RMQ	**Roma**	**22.49**	**169**	P	**P**	**15 19 09.5**	**+3.9**
	baz=22,SNR=4.7						
APSI	**Ampana**	**22.49**	**278**	P	**P**	**15 19 07.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**22.49**	**231**	*eP*	**P**	**15 19 04.0**	**-1.7**
	15nm,0.8s						
FITZ				S	**S**	**15 23 05.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**22.49**	**231**	P	**P**	**15 19 04.1**	**-1.6**
	18nm,0.8s,baz=64,slow=8.6,SNR=50						
FITZ				S	**S**	**15 23 05.6**	**+1.6**
	3.2nm,1.0s,baz=114,slow=18,SNR=1.9						
FITZ				LR	LR	15 28 07.7	
	comp=Z,15nm,28.6s,baz=52,slow=37						

FITZ	**Fitzroy Crossi**	**22.49**	**231**	P		**P**	**15 19 04.1**	**-1.6**
	baz=22,SNR=43							
WRKA	**Warakurna**	**25.45**	**215**	P		**P**	**15 19 33.1**	**+0.2**
	baz=25,SNR=58							
STKA	**Stephens Creek**	**27.46**	**184**	*eP*		**P**	**15 19 51.7**	**+1.0**
	0.4nm,0.7s							
STKA	**Stephens Creek**	**27.46**	**184**	P		**P**	**15 19 51.8**	**+1.0**
	2.5nm,0.9s,baz=331,slow=6.9,SNR=7.0							
STKA				LR		LR	15 31 32.3	
	comp=Z,43nm,18.7s,baz=26,slow=38							
STKA	**Stephens Creek**	**27.46**	**184**	P		**P**	**15 19 52.3**	**+1.5**
	baz=27,SNR=4.5							
DZM	**Mont Dzumac**	**28.06**	**131**	P		**P**	**15 19 57.0**	**+0.6**
DZM	**Mont Dzumac**	**28.06**	**131**	P		**P**	**15 19 57.0**	**+0.6**
	7.7nm,1.0s,baz=47,slow=19,SNR=5.3							
MEEK	**Meekatharra**	**32.80**	**225**	P		**P**	**15 20 38.1**	**+0.1**
	baz=32,SNR=12							
MORW	**Morawa**	**36.08**	**224**	P		**P**	**15 21 07.9**	**+1.7**
	baz=36,SNR=7.2							
PMBI	**Palembang**	**39.08**	**271**	P		P	15 21 40.1	+8.4
	baz=39,SNR=3.1							
JNU	**Nakatsue**	**39.27**	**343**	P		**P**	**15 21 31.5**	**-1.5**
JNU	**Nakatsue**	**39.27**	**343**	P		**P**	**15 21 31.5**	**-1.5**
	3.5nm,0.8s,baz=159,slow=17,SNR=3.0							
MJAR	**Matsushiro Arr**	**41.03**	**353**	P		**P**	**15 21 46.2**	**-1.3**
MJAR	**Matsushiro Arr**	**41.03**	**353**	P		**P**	**15 21 46.2**	**-1.3**
	0.9nm,0.5s,baz=179,slow=6.3,SNR=7.6							
KSRS	**Korea Array**	**44.18**	**342**	P		**P**	**15 22 13.3**	**+0.4**
	5.8nm,0.9s,baz=158,slow=9.5,SNR=11							
KSAR	**Wonju Array Be**	**44.18**	**342**	P		**P**	**15 22 13.3**	**+0.4**
USRK	**Ussuriysk Arra**	**49.51**	**349**	P		**P**	**15 22 54.0**	**-0.2**
	3.8nm,0.8s,baz=165,slow=6.7,SNR=8.1							
CM31	**Chiang Mai Arr**	**49.76**	**299**	*eP*		**P**	**15 22 57.1**	**+0.5**
	1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**49.76**	**299**	P		**P**	**15 22 57.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**49.76**	**299**	P		**P**	**15 22 57.7**	**+1.0**
	1.4nm,0.5s,baz=117,slow=6.2,SNR=17							
PETK	**Petropavlovsk-**	**58.42**	**10**	P		**P**	**15 23 59.5**	**+0.6**
PETK	**Petropavlovsk-**	**58.42**	**10**	P		**P**	**15 23 59.5**	**+0.6**
	6.4nm,0.9s,baz=172,slow=7.3,SNR=12							
SONM	**Songino Array**	**61.50**	**332**	P		**P**	**15 24 20.1**	**-0.1**
SONM				pP		**pP**	**15 24 50.7**	**+1.5**
SONM	**Songino Array**	**61.50**	**332**	P		**P**	**15 24 20.1**	**-0.1**
	0.8nm,0.6s,baz=154,slow=7.8,SNR=8.8							
SONM				pP		**pP**	**15 24 50.7**	**+1.5**
	2.0nm,1.2s,baz=145,slow=8.8,SNR=3.9							
SEY	**Seymchan**	**67.41**	**4**	P		P	**15 24 58.0**	**-0.2**
SEY	**Seymchan**	**67.41**	**4**	P		P	**15 24 58.0**	**-0.2**
	0.7nm,0.5s,baz=253,slow=19,SNR=3.0							
VNDA	**Vanda**	**73.74**	**176**	P		P	**15 25 37.4**	**+1.0**
VNDA	**Vanda**	**73.74**	**176**	P		P	**15 25 37.4**	**+1.0**
	1.5nm,0.8s,baz=3.5,slow=5.7,SNR=3.9							
MK31	**Makanchi Array**	**74.28**	**321**	*eP*		**P**	**15 25 39.8**	**-0.4**
MKAR	**Makanchi Array**	**74.28**	**321**	P		**P**	**15 25 40.0**	**-0.2**
MKAR				pP		**pP**	**15 26 10.7**	**+0.6**
MKAR	**Makanchi Array**	**74.28**	**321**	P		**P**	**15 25 40.0**	**-0.2**
	0.8nm,0.6s,baz=95,slow=9.0,SNR=14							
MKAR				pP		**pP**	**15 26 10.7**	**+0.6**
	0.7nm,0.5s,baz=98,slow=7.8,SNR=4.3							
ZAA0	**Zalesovo Array**	**76.00**	**328**	*eP*		**P**	**15 25 48.9**	**-0.9**
ZALV	**Zalesovo Beam**	**76.00**	**328**	P		**P**	**15 25 48.9**	**-0.9**
ZALV				pP		**pP**	**15 26 19.2**	**-0.6**
ZALV	**Zalesovo Beam**	**76.00**	**328**	P		**P**	**15 25 48.9**	**-0.9**
	2.7nm,0.6s,baz=116,slow=5.3,SNR=11							
ZALV				pP		**pP**	**15 26 19.2**	**-0.6**
	1.7nm,0.8s,baz=91,slow=5.5,SNR=2.3							
KURK	**Kurchatov**	**78.06**	**324**	P		**P**	**15 26 01.1**	**-0.3**
KURK				pP		**pP**	**15 26 30.5**	**-1.1**
KURBB	**Kurchatov Arra**	**78.08**	**324**	P		**P**	**15 26 01.1**	**-0.4**
	0.3nm,0.4s,baz=103,slow=8.9,SNR=9.7							
KURBB				pP		**pP**	**15 26 30.5**	**-1.2**
	0.4nm,0.7s,baz=110,slow=4.8,SNR=3.3							
MAW	**Mawson**	**82.57**	**202**	P		**P**	**15 26 25.8**	**+0.6**
MAW	**Mawson**	**82.57**	**202**	P		**P**	**15 26 25.8**	**+0.6**
	2.8nm,0.6s,baz=105,slow=5.9,SNR=6.2							
BVAR	**Borovoye Array**	**83.64**	**324**	P		**P**	**15 26 30.7**	**-0.3**
BVAR				pP		**pP**	**15 27 00.0**	**-1.6**
BVAR	**Borovoye Array**	**83.64**	**324**	P		**P**	**15 26 30.7**	**-0.3**
	2.5nm,0.6s,baz=110,slow=7.0,SNR=24							
BVAR				pP		**pP**	**15 27 00.0**	**-1.6**
	2.8nm,0.7s,baz=110,slow=6.1,SNR=7.5							
ILAR	**Eielson Array**	**85.21**	**24**	P		P	**15 26 37.1**	**-1.6**
ILAR	**Eielson Array**	**85.21**	**24**	P		P	**15 26 37.1**	**-1.6**
	2.7nm,0.7s,baz=258,slow=4.8,SNR=45							
QSPA	**South Pole Qui**	**85.60**	**180**	*eP*		P	**15 26 41.0**	**+0.2**
	6.2nm,0.7s							
NVAR	**Mina Array Bea**	**98.79**	**52**	P		Pdif	15 27 43.6	+0.8
NVAR	**Mina Array Bea**	**98.79**	**52**	P		Pdif	15 27 43.6	+0.8
	0.2nm,0.4s,baz=242,slow=1.9,SNR=3.0							
YKA	**Yellowknife Ar**	**99.15**	**27**	P		**Pdif**	**15 27 42.5**	**-1.0**
YKA	**Yellowknife Ar**	**99.15**	**27**	P		**Pdif**	**15 27 42.5**	**-1.0**
	0.2nm,0.7s,baz=279,slow=4.9,SNR=3.6							
EKA	**Eskdalemuir Ar**	**122.69**	**338**	PKP		**PKPdf**	**15 32 56.7**	**-0.8**
EKA	**Eskdalemuir Ar**	**122.69**	**338**	PKP		**PKPdf**	**15 32 56.7**	**-0.8**
	1.4nm,0.7s,baz=15,slow=2.9,SNR=3.6							
PLCA	**Paso Flores**	**125.15**	**148**	PKP		**PKPdf**	**15 33 03.9**	**+1.0**
PLCA	**Paso Flores**	**125.15**	**148**	PKP		**PKPdf**	**15 33 03.9**	**+1.0**
	3.2nm,1.0s,baz=84,slow=1.1,SNR=6.0							
TORD	**Torodi Ar. Bea**	**141.69**	**286**	PKPpre		PKPpre	15 33 28.5	
TORD				PKP		**PKPdf**	**15 33 32.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**141.69**	**286**	PKhKP		PKPpre	15 33 28.5	
	0.4nm,0.7s,baz=55,slow=2.9,SNR=2.7							
TORD				PKP		**PKPdf**	**15 33 32.6**	**-1.7**
	1.0nm,0.7s,baz=146,slow=2.2,SNR=3.4							
LPAZ	**La Paz**	**142.26**	**124**	PKPpre		PKPpre	15 33 31.2	
LPAZ	**La Paz**	**142.26**	**124**	PKhKP		PKPpre	15 33 31.2	
	1.4nm,0.5s,baz=215,slow=3.4,SNR=3.6							
CPUP	**Villa Florida**	**143.21**	**147**	PKP		PKPbc	15 33 34.5	+0.5
CPUP	**Villa Florida**	**143.21**	**147**	PKP		PKPbc	15 33 34.5	+0.5
	3.3nm,0.8s,baz=180,slow=3.0,SNR=3.8							
KIC	**Kosan Boka**	**148.72**	**275**	*e*PKP1		**PKPbc**	**15 33 50.0**	**-0.4**
	9.3nm,0.9s							
DBIC	**Dimbokro**	**148.82**	**276**	PKPbc		**PKPbc**	**15 33 50.2**	**-0.4**
DBIC				pPKPbc		**pPKPbc**	**15 34 22.8**	**+0.1**
DBIC	**Dimbokro**	**148.82**	**276**	PKPbc		**PKPbc**	**15 33 50.2**	**-0.4**
	6.5nm,0.9s,baz=70,slow=3.5,SNR=9.1							
DBIC				pPKPbc		**pPKPbc**	**15 34 22.8**	**+0.1**
	3.6nm,0.8s,baz=146,slow=1.9,SNR=4.0							
TIC	**Toumodi**	**148.99**	**276**	*e*PKP1		**PKPbc**	**15 33 50.6**	**-0.5**
	5.8nm,0.2s							
LIC	**Lamto**	**149.01**	**275**	*e*PKP1		**PKPbc**	**15 33 50.8**	**-0.3**
	26nm,0.7s							
SAML	**Samuel**	**149.93**	**116**	*e*PKPbc		**PKPbc**	**15 33 53.3**	**0.0**
SAML				*e*PKPab		**PKPab**	**15 33 59.2**	**-0.1**

*ISCJB **29** 15:18:27.2±0.7, 19°.47N±0°.06×145°.9E±0°.2, h100km, mb4.1/19, Error ellipse: s-maj=25.2km s-min=7.9km az=170.2*

*NEIC **29** 15:18:30.0±2.4, 19°.41N×146°.03E, h117km±21km, mb4.5/4, Error ellipse: s-maj=18.5km s-min=6.9km az=87.0*

*IDC **29** 15:18:29.1±6.4, 19°.42N×146°.09E, h110km±55km, mb3.9/15, mb1 3.9/17, mb1mx3.7/31, mbtmp4.2/17, MS3.4/2, Ms1 3.5/2, ms1mx2.6/38, Error ellipse: s-maj=37.6km s-min=13.6km az=86.0*

ISC 29 15:18:28.7±0.9, 19°49N±0°.09×146°.0E±0°.2, h100km, n51, σ0§89/46, mb4.2/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**8.33**	**336**	S	**Sn**	**15 21 56.8**	**-2.2**
JCJ	**Chichijima**	**8.33**	**336**	S	**Sn**	**15 21 56.8**	**-2.2**
	14nm,0.3s,baz=136,slow=22,SNR=6.3						
MJAR	**Matsushiro Arr**	**18.30**	**340**	P	**P**	**15 22 35.9**	**+1.0**
MJAR	**Matsushiro Arr**	**18.30**	**340**	P	**P**	**15 22 35.9**	**+1.0**
	1.0nm,0.3s,baz=167,slow=11,SNR=16						
MAJO	**Matsushiro**	**18.30**	**340**	*eP*	**Pn**	**15 22 36.3**	**+0.3**
	5.9nm,0.4s						
MAT	**Matsushiro**	**18.30**	**340**	P	**Pn**	**15 22 37.3**	**+1.3**
JNU	**Nakatsue**	**19.13**	**318**	P	**P**	**15 22 44.4**	**+0.4**
JNU	**Nakatsue**	**19.13**	**318**	P	**P**	**15 22 44.4**	**+0.4**
	0.2nm,0.3s,baz=170,slow=2.7,SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**19.63**	**89**	T	T	15 43 57.9	
	baz=277,slow=72,SNR=14						
H11S1	**WAKE ISLAND Hy**	**19.64**	**89**	T	T	15 43 57.5	
	baz=277,slow=72,SNR=24						
H11S2	**WAKE ISLAND Hy**	**19.65**	**89**	T	T	15 43 57.6	
	baz=277,slow=72,SNR=18						
JAY	**Jayapura**	**22.47**	**194**	LR	LR	15 30 31.1	
	comp=Z,15nm,28.6s,baz=228,slow=32						
KSRS	**Korea Array**	**23.84**	**322**	P	**P**	**15 23 33.3**	**+0.7**
	2.1nm,0.5s,baz=137,slow=8.3,SNR=10						
KSAR	**Wonju Array Be**	**23.85**	**322**	P	**P**	**15 23 33.3**	**+0.6**
USRK	**Ussuriysk Arra**	**27.27**	**338**	P	**P**	**15 24 03.8**	**+0.3**
	1.8nm,0.6s,baz=136,slow=11,SNR=5.1						

WRAB	**Tennant Creek**	**40.80**	**197**	*eP*		**P**	**15 25 59.7**	**-0.7**
	1.5nm,0.4s							
WRA	**Warramunga Arr**	**40.81**	**197**	P		**P**	**15 25 59.4**	**-1.1**
WRA	**Warramunga Arr**	**40.81**	**197**	P		**P**	**15 25 59.4**	**-1.1**
	0.8nm,0.3s,baz=14,slow=8.4,SNR=13							
ULN	**Ulaanbaatar**	**42.31**	**321**	*eP*		**P**	**15 26 13.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**42.35**	**209**	P		**P**	**15 26 12.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**42.35**	**209**	P		**P**	**15 26 12.4**	**-0.7**
	2.6nm,0.7s,baz=29,slow=9.3,SNR=8.0							
SONM	**Songino Array**	**42.69**	**321**	P		**P**	**15 26 16.2**	**+0.5**
SONM	**Songino Array**	**42.69**	**321**	P		**P**	**15 26 16.2**	**+0.5**
	0.8nm,0.4s,baz=124,slow=6.4,SNR=16							
YAK	**Yakutsk**	**43.99**	**349**	*eP*		**P**	**15 26 25.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.36**	**277**	P		**P**	**15 26 31.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**44.36**	**277**	P		**P**	**15 26 31.0**	**+1.6**
	0.4nm,0.5s,baz=82,slow=5.1,SNR=7.3							
ASAR	**Alice Springs**	**44.47**	**196**	P		**P**	**15 26 28.9**	**-1.3**
ASAR	**Alice Springs**	**44.47**	**196**	P		**P**	**15 26 28.9**	**-1.3**
	0.5nm,0.8s,baz=14,slow=6.5,SNR=3.4							
ZAA0	**Zalesovo Array**	**57.54**	**322**	*eP*		**P**	**15 28 07.2**	**-0.4**
ZALV	**Zalesovo Beam**	**57.54**	**322**	P		**P**	**15 28 07.5**	**-0.2**
ZALV	**Zalesovo Beam**	**57.54**	**322**	P		**P**	**15 28 07.5**	**-0.2**
	5.9nm,0.7s,baz=108,slow=7.0,SNR=16							
MK31	**Makanchi Array**	**58.09**	**314**	*eP*		**P**	**15 28 12.0**	**+0.3**
MKAR	**Makanchi Array**	**58.09**	**314**	P		**P**	**15 28 12.2**	**+0.5**
MKAR	**Makanchi Array**	**58.09**	**314**	P		**P**	**15 28 12.2**	**+0.5**
	3.1nm,0.7s,baz=87,slow=9.2,SNR=22							
KURK	**Kurchatov**	**60.85**	**318**	*eP*		**P**	**15 28 30.2**	**-0.3**
	2.8nm,0.5s							
KURBB	**Kurchatov Arra**	**60.90**	**318**	P		**P**	**15 28 30.9**	**+0.1**
	9.8nm,0.5s,baz=92,slow=7.6,SNR=250							
BVAR	**Borovoye Array**	**66.03**	**320**	P		**P**	**15 29 04.7**	**+0.1**
BVAR	**Borovoye Array**	**66.03**	**320**	P		**P**	**15 29 04.7**	**+0.1**
	6.3nm,0.4s,baz=98,slow=7.8,SNR=48							
KKAR	**Karatay Array**	**66.46**	**309**	*eP*		**P**	**15 29 07.5**	**0.0**
	3.5nm,0.6s							
AKTO	**Aktyubinsk**	**73.94**	**318**	P		**P**	**15 29 52.8**	**-0.2**
AKTO	**Aktyubinsk**	**73.94**	**318**	P		**P**	**15 29 52.8**	**-0.2**
	2.4nm,0.6s,baz=87,slow=7.9,SNR=10.0							
YKA	**Yellowknife Ar**	**77.18**	**28**	P		**P**	**15 30 11.8**	**+0.5**
YKA	**Yellowknife Ar**	**77.18**	**28**	P		**P**	**15 30 11.8**	**+0.5**
	9.0nm,0.5s,baz=288,slow=5.7,SNR=2.4							
ARCES	**ARCESS Array B**	**81.82**	**342**	P		**P**	**15 30 36.5**	**+0.1**
ARCES	**ARCESS Array B**	**81.82**	**342**	P		**P**	**15 30 36.5**	**+0.1**
	4.1nm,0.9s,baz=74,slow=9.0,SNR=9.1							
JOF	**Joensuu**	**83.41**	**335**	*ep*		**P**	**15 30 44.5**	**-0.2**
	2.4nm,0.3s							
FINES	**FINESS Array B**	**86.27**	**335**	P		**P**	**15 30 57.9**	**-1.2**
FINES	**FINESS Array B**	**86.27**	**335**	P		**P**	**15 30 57.9**	**-1.2**
	1.7nm,0.3s,baz=64,slow=4.4,SNR=30							
TXAR	**Lajitas Array**	**97.19**	**56**	LR		LR	16 10 03.2	
	comp=Z

TGUH Tegucigalpa,Un 3.12 342 eP Pn 15 51 13.9 +0.3
TGUH Tegucigalpa,Un 3.12 342 eP Pn 15 51 13.7 +0.1
SNVI San Vicente 3.56 315 eP Pn 15 51 18.1 -1.7
SNVI eS Sn 15 52 01.2 +0.3
BOQS Boqueron 3.96 312 eP Pn 15 51 25.7 +0.4
BOQS eS Sn 15 52 15.8 +5.1
APG El Apazote 5.66 314 Pn Pn 15 51 46.5 -2.2
APG El Apazote 5.66 314 Pn Pn 15 51 46.5 -2.2
1.6nm,0.3s,baz=132,slow=15,SNR=8.1
TEIG Tepich 9.30 348 eP Pn 15 52 35.2 -3.0
TEIG Tepich 9.30 348 Pn Pn 15 52 33.5 -4.8
0.4nm,0.3s,baz=150,slow=20,SNR=2.1
OTAV Otavalo 13.27 144 P Pn 15 53 36.9 +3.8
ROSC El Rosal 13.33 117 Pn Pn 15 53 33.1 -0.6
ROSC El Rosal 13.33 117 Pn Pn 15 53 33.1 -0.6
1.1nm,0.3s,baz=90,slow=20,SNR=2.4
ROSC LR LR 15 58 12.9
comp=Z,16nm,28.6s,baz=296,slow=35
SDV Santo Domingo 15.54 97 eP Pn 15 54 02.7 +0.1
4.1nm,0.9s
ATAH Atahualpa 19.71 156 P Pn 15 54 53.8 -0.3
ATAH Atahualpa 19.71 156 P Pn 15 54 53.8 -0.3
0.7nm,0.3s,baz=356,slow=18,SNR=2.9
ATAH LR LR 16 01 35.3
comp=Z,16nm,28.6s,baz=312,slow=34
HKT Hockley 20.79 336 eP P 15 55 04.1 +1.0
118nm,1.7s
732A Laxson Ranch, 21.75 326 ⇑P P 15 55 14.0 +0.5
baz=22,SNR=5.1
LRAL Lakeview Retre 21.86 358 eP P 15 55 16.6 +1.9
22nm,0.6s
534A Blanco 22.02 331 ⇓P P 15 55 16.8 +0.3
baz=22,SNR=16
533A Kerrville 22.33 330 ⇓P P 15 55 19.7 -0.1
baz=22
GOGA Godfrey 22.37 6 P P 15 55 21.6 +1.4
12nm,0.6s
434A Burnet 22.58 332 ⇑P P 15 55 22.7 +0.2
baz=23,SNR=8.1
631A Perdido Creek 22.61 326 ⇑P P 15 55 22.7 -0.1
baz=23,SNR=11
532A Rocksprings 22.81 328 ⇓P P 15 55 24.7 -0.3
baz=23,SNR=7.6
433A Art 22.92 331 ⇓P P 15 55 25.8 -0.2
baz=23,SNR=18
334A Lometa 23.00 333 ⇑P P 15 55 26.6 -0.3
baz=23,SNR=10.0
531A Rocksprings 23.18 327 ⇑P P 15 55 28.6 0.0
baz=23
WHTX Lake Whitney 23.24 335 eP P 15 55 29.0 -0.2
34nm,0.6s
WHTX Lake Whitney 23.24 335 ⇓P P 15 55 28.9 -0.2
baz=23,SNR=13
333A Richland Sprin 23.34 332 ⇓P P 15 55 29.5 -0.6
baz=23,SNR=28
432A Menard 23.36 329 ⇓P P 15 55 30.0 -0.3
baz=23
530A J-C Ranch, Com 23.60 326 ⇑P P 15 55 32.4 -0.2
baz=24,SNR=6.3
431A Sonora 23.62 328 ⇓P P 15 55 32.1 -0.7
baz=24,SNR=11
135A Vickery Place, 23.71 336 ⇑P P 15 55 33.2 -0.4
baz=24
332A Millersview 23.75 330 ⇓P P 15 55 33.3 -0.7
baz=24,SNR=38
628A Black Gap, Mar 24.00 322 ⇓P P 15 55 35.4 -0.9
baz=24,SNR=8.4
134A White-Moore Ra 24.00 335 ⇑P P 15 55 36.0 -0.2
baz=24,SNR=6.6
331A San Angelo 24.03 329 ⇓P P 15 55 36.3 -0.2
baz=24,SNR=24
SWET Sewanee 24.03 1 eP P 15 55 36.6 +0.2
12nm,0.5s
430A Baggett Ranch, 24.04 327 ⇑P P 15 55 35.8 -0.8
baz=24
529A Stev Forest Ra 24.08 324 ⇓P P 15 55 36.1 -0.9
baz=24
232A Coleman 24.12 331 ⇑P P 15 55 37.0 -0.3
baz=24,SNR=18
UALR University of 24.23 348 eP P 15 55 37.8 -0.4
50nm,0.6s
429A Davenport Ranc 24.27 326 ⇑P P 15 55 38.6 -0.1
baz=24,SNR=35
627A Terlingua Ranc 24.28 321 ⇑P P 15 55 38.5 -0.4
baz=24,SNR=10
MIAR Mount Ida 24.29 345 eP P 15 55 37.7 -1.1
22nm,0.6s
CPCT Cooper Cave 24.31 3 eP P 15 55 40.5 +1.6
Z35A Perchaven, San 24.34 337 ⇓P P 15 55 39.5 +0.3
baz=24
KMSC Kings Mountain 24.37 10 ⇓P P 15 55 40.3 +0.8
baz=24
TXAR Lajitas Array 24.37 321 P P 15 55 40.1 +0.4
TXAR PcP PcP 15 59 19.4 +1.5
TXAR Lajitas Array 24.37 321 P P 15 55 40.1 +0.4
7.3nm,0.8s,baz=137,slow=8.6,SNR=39
TXAR PcP PcP 15 59 19.4 +1.5
1.1nm,0.8s,baz=159,slow=3.8,SNR=4.8
133A Hamilton Ranch 24.39 333 ⇓P P 15 55 40.2 +0.4
baz=24,SNR=17
231A Bronte 24.48 330 ⇓P P 15 55 40.3 -0.3
baz=24
330A Mertzon 24.49 328 ⇑P P 15 55 40.5 -0.3
baz=24,SNR=6.6
TKL Tuckaleechee C 24.57 5 P P 15 55 42.5 +1.2
TKL Tuckaleechee C 24.57 5 P P 15 55 41.8 +0.5
7.0nm,0.6s,baz=180,slow=13,SNR=11
TKL LR LR 16 05 40.1
comp=Z,293nm,19.7s,baz=170,slow=38
Z34A Collier Ranch, 24.63 336 ⇑P P 15 55 41.8 -0.1
baz=25,SNR=8.1
ABTX Abilene, Hawle 24.73 332 eP P 15 55 43.4 +0.6
17nm,0.8s
ABTX Abilene, Hawle 24.73 332 ⇓P P 15 55 42.9 0.0
baz=25
428A Kincaid Ranch, 24.79 324 ⇓P P 15 55 43.0 -0.5
baz=25
626A Big Bend Ranch 24.81 320 ⇑P P 15 55 43.2 -0.5
baz=25,SNR=9.0
230A Sterling City 24.84 329 ⇑P P 15 55 43.5 -0.4
baz=25,SNR=5.4
Z33A Whitaker Ranch 24.91 334 ⇑P P 15 55 45.0 +0.6
baz=25,SNR=6.7
527A Woodward Ranch 24.91 322 ⇑P P 15 55 44.8 +0.1
baz=25,SNR=5.3
329A Wagon Wheel Ra 24.98 327 ⇑P P 15 55 45.0 -0.2
baz=25,SNR=12
H06E1 SOCORRO T-PHAS 25.01 291 T T 16 21 29.2
SNR=83
H06S1 SOCORRO T 25.03 291 T T 16 21 32.8
SNR=5.2
Y34A Reagan Ranch, 25.09 337 ⇓P P 15 55 46.0 -0.1
baz=25
131A Roby 25.12 331 ⇑P P 15 55 46.3 -0.2
baz=25,SNR=7.9
526A Mary Lane Ranc 25.14 321 ⇑P P 15 55 46.5 -0.3
baz=25
Z32A Haskell 25.23 333 ⇑P P 15 55 48.1 +0.7
baz=25,SNR=29
229A Bryant Ranch, 25.26 328 ⇑P P 15 55 47.8 0.0
baz=25,SNR=10
427A Hayter Ranch, 25.30 324 ⇑P P 15 55 48.2 +0.1
baz=25
130A Snyder 25.34 330 ⇓P P 15 55 48.0 -0.4
baz=25
328A Wristen Ranch, 25.35 325 ⇑P P 15 55 49.3 +0.7
baz=25,SNR=14
426A McDonald Obser 25.54 322 ⇓P P 15 55 50.7 +0.3
baz=26
Z31A Sharp Cattle R 25.54 332 ⇑P P 15 55 50.7 +0.5
baz=26,SNR=24
X34A Smith Ranch, M 25.68 338 ⇑P P 15 55 51.7 +0.2
baz=26
228A UT Block 9, Go 25.80 327 ⇓P P 15 55 52.8 +0.2
baz=26,SNR=7.1
Y32A R-V Farms, Ver 25.81 334 ⇓P P 15 55 52.3 -0.3
baz=26
129A Stewart Farms, 25.82 329 ⇑P P 15 55 52.5 -0.2
baz=26
X33A Lawton 25.89 336 ⇓P P 15 55 53.7 +0.4
baz=26,SNR=15
326A Caldwell Ranch 25.97 323 ⇑P P 15 55 54.5 +0.2
baz=26,SNR=6.6
Z30A Sanderson Ranc 25.98 331 ⇑P P 15 55 53.8 -0.4
baz=26,SNR=9.7
227A Bennet, Jal 26.10 326 ⇓P P 15 55 55.6 +0.3
baz=26
X32A Elmer 26.10 335 ⇑P P 15 55 55.3 0.0
baz=26
128A Castleberry Fa 26.13 328 ⇑P P 15 55 55.0 -0.7
baz=26,SNR=11
Y31A Rekieta Farm, 26.13 333 ⇑P P 15 55 55.6 +0.1
baz=26,SNR=17
WMOK Wichita Mounta 26.17 336 eP P 15 55 56.2 +0.3
42nm,1.0s
TUL1 Tulsa 26.19 342 eP P 15 55 55.3 -0.7
20nm,0.8s
TUL1 Tulsa 26.19 342 ⇑P P 15 55 55.9 -0.1
baz=26,SNR=5.0
425A Indio Mountain 26.20 321 ⇑P P 15 55 56.1 -0.3
baz=26
W34A Bridge Creek, 26.23 338 ⇑P P 15 55 55.8 -0.6
baz=26,SNR=5.3
Z29A Hungry Hill Ra 26.24 330 ⇓P P 15 55 55.9 -0.7
baz=26,SNR=5.4
LPIG La Paz 26.28 303 LR LR 16 05 17.6
comp=Z,16nm,28.6s,baz=109,slow=34
Y30A Stafford Cattl 26.35 332 ⇓P P 15 55 58.0 +0.3
baz=26,SNR=10
W33A Caddo, Fort Co 26.41 337 ⇑P P 15 55 58.0 -0.1
baz=26
X31A McDonald Ranch 26.57 334 ⇓P P 15 55 59.9 +0.3
baz=27,SNR=10
325A Bean Ranch, Si 26.60 322 ⇑P P 15 55 59.4 -0.7
baz=27
Z28A Tucker Farm, M 26.60 329 ⇓P P 15 55 59.8 -0.1
baz=27,SNR=9.8
127A Arkansas Junct 26.64 326 ⇑P P 15 55 59.7 -0.6
baz=27
226B Tecolote Peak, 26.64 324 ⇓P P 15 56 01.2 +1.0
baz=27,SNR=12
SIUC Southern Illin 26.65 355 eP P 15 55 59.7 -0.5
28nm,0.7s
V34A Guthrie 26.68 339 ⇓P P 15 56 00.2 -0.3
baz=27
Y29A Porterfield Fa 26.71 331 ⇑P P 15 56 00.7 -0.1
baz=27
X30A Coker Ranch, T 26.81 332 ⇓P P 15 56 02.4 +0.6
baz=27,SNR=14
V33A Lossen Ranch, 26.94 338 ⇑P P 15 56 02.7 -0.1
baz=27
324A Moseley Ranch, 26.96 322 ⇑P P 15 56 02.9 -0.3
baz=27,SNR=7.6
126A Clayton Basin, 26.98 325 ⇑P P 15 56 03.3 0.0
baz=27
Y28A McKinney Farm, 27.03 330 ⇑P P 15 56 03.7 0.0
baz=27
WCI Wyandotte Cave 27.03 360 eP P 15 56 03.8 +0.2
18nm,0.8s
W31A Holland Ranch, 27.04 335 ⇓P P 15 56 03.8 +0.1
baz=27
225A Deer Hill, Car 27.04 324 ⇓P P 15 56 06.1 +2.1
baz=27,SNR=9.3
Z27A Tatum 27.05 328 ⇑P P 15 56 03.0 -0.9
baz=27,SNR=5.1
MNTX Cornudas Mount 27.08 322 eP P 15 56 03.5 -0.6
11nm,1.4s
V32A Arapaho 27.14 337 ⇑P P 15 56 05.0 +0.4
baz=27
X29A Tulia 27.20 331 ⇑P P 15 56 05.4 +0.2
baz=27
MSTX Muleshoe 27.34 329 eP P 15 56 06.0 -0.5
8.9nm,0.6s
MSTX Muleshoe 27.34 329 ⇓P P 15 56 06.1 -0.4
baz=27
125A Gardner Draw, 27.35 325 ⇓P P 15 56 06.9 +0.2
baz=27,SNR=7.0
Z26A Caprock 27.43 326 ⇓P P 15 56 07.4 0.0
baz=28,SNR=6.1
224A Cornudas Mount 27.43 323 ⇓P P 15 56 07.8 +0.4
baz=28,SNR=12
Y27A Causey 27.47 328 ⇑P P 15 56 07.8 +0.1
baz=28,SNR=10
X28A Dimmitt 27.49 331 ⇓P P 15 56 07.2 -0.7
baz=28
AMTX Amarillo 27.55 332 ⇑P P 15 56 08.0 -0.4
baz=28
124A Stringfield Ra 27.84 324 ⇓P P 15 56 12.1 +0.9
baz=28,SNR=18
Z25A Roswell 27.84 325 ⇑P P 15 56 12.2 +1.1
baz=28,SNR=9.0
Y26A Elida 27.84 327 ⇓P P 15 56 11.1 0.0
baz=28
X27A F and S Farms, 28.04 329 ⇑P P 15 56 12.8 0.0
baz=28
Z24A Sheeppen Canyo 28.24 325 ⇑P P 15 56 16.0 +1.3
baz=28,SNR=6.9
Y25A Mesa, Roswell 28.31 326 ⇑P P 15 56 15.6 +0.4
baz=28
X26A CR and CF Fran 28.32 328 ⇑P P 15 56 15.1 -0.3
baz=28
W27A Bowe Ranch, En 28.35 330 ⇑P P 15 56 16.0 +0.4
baz=28,SNR=9.4
222A Williams Famil 28.41 321 ⇓P P 15 56 16.2 0.0
baz=28
PTGA Pitinga 28.65 113 LR LR 16 08 39.9
comp=Z,16nm,28.6s,baz=286,slow=38
Y24A Capitan 28.72 325 ⇑P P 15 56 19.8 +0.8
baz=29,SNR=12
X25A Clemmons Ranch 28.75 327 ⇑P P 15 56 19.4 +0.3
baz=29,SNR=12
R33A Olander Ranch, 29.07 341 ⇑P P 15 56 21.5 -0.3
baz=29
Y23A Lovelace Mesa, 29.07 325 ⇑P P 15 56 22.6 +0.5
baz=29,SNR=9.1
121A Cookes Peak, D 29.13 320 ⇑P P 15 56 21.3 -1.3
baz=29
W25A X Bar L Ranch, 29.18 328 ⇓P P 15 56 23.1 +0.2
baz=29,SNR=6.4
SFIN Scholer Farm 29.19 359 eP P 15 56 22.5 -0.3
26nm,0.8s
SFIN Scholer Farm 29.19 359 ⇓P P 15 56 22.6 -0.2
baz=29,SNR=5.4
X24A Lazy VL Ranch, 29.20 326 ⇑P P 15 56 23.6 +0.4
baz=29,SNR=6.2
V26A Tesquisite Ra 29.29 330 ⇑P P 15 56 23.7 -0.2
baz=29,SNR=6.5
U27A Thompson Grove 29.34 332 ⇓P P 15 56 24.3 -0.1
baz=29
KSU1 Kansas State U 29.39 343 eP P 15 56 24.4 -0.2
15nm,0.6s
KSU1 Kansas State U 29.39 343 ⇑P P 15 56 24.8 +0.2
baz=29
BNM Barren Site 29.56 324 eP P 15 56 27.5 +1.1
2.2nm,0.6s
T28A Walsh 29.60 334 ⇓P P 15 56 26.1 -0.5
baz=30
Q33A Connelly Farm, 29.66 342 ⇓P P 15 56 26.9 -0.1
baz=30
W24A Lazy 6 Ranch, 29.67 327 ⇑P P 15 56 27.0 -0.4
baz=30
V25A Rancho No Teng 29.74 329 ⇓P P 15 56 27.3 -0.7
baz=30
T27A Campo 29.82 333 ⇓P P 15 56 27.9 -0.7
baz=30
R30A Dighton 29.86 337 ⇑P P 15 56 28.7 -0.1
baz=30
Q32A Meitler Ranch, 29.88 341 ⇓P P 15 56 28.6 -0.3
baz=30
V24A Rampart Ranch, 29.99 328 ⇑P P 15 56 29.7 -0.5
baz=30
P33A Williams Farm, 30.02 342 ⇓P P 15 56 30.8 +0.7
baz=30
W23A Werner Place, 30.03 326 ⇑P P 15 56 31.0 +0.4
baz=30,SNR=8.9
LAZ Ladron 30.04 324 eP P 15 56 32.4 +1.7
1.8nm,0.6s
ANMO Albuquerque 30.04 325 eP P 15 56 31.1 +0.4
3.8nm,0.7s
ANMO Albuquerque 30.04 325 P P 15 56 31.0 +0.4
3.5nm,0.7s,baz=144,slow=5.3,SNR=11
U25A Circle Dot Ran 30.08 330 ⇑P P 15 56 31.1 +0.2
baz=30
SAML Samuel 30.38 130 eP P 15 56 33.0 -0.6
17nm,0.9s
P32A Huiting Farm, 30.47 341 ⇓P P 15 56 34.4 +0.3
baz=30,SNR=6.7
R28A Tribune 30.51 335 ⇑P P 15 56 34.4 -0.2
baz=30
S26A Kim 30.62 333 ⇓P P 15 56 35.2 -0.4
baz=31
P31A Stockton 30.63 340 ⇓P P 15 56 35.6 0.0
baz=31
Q29A Oakley 30.65 337 ⇑P P 15 56 35.4 -0.5
baz=31
R27A Eads 30.87 334 ⇑P P 15 56 36.8 -1.1
baz=31
U23A El Rito 30.93 328 ⇓P P 15 56 39.1 +0.6
baz=31,SNR=18
O32A Brockman Farm, 30.95 342 ⇓P P 15 56 38.7 +0.3
baz=31
V22A San Miguel Ran 31.00 326 ⇑P P 15 56 38.6 -0.6
baz=31
S25A Robets Cordova 31.09 331 ⇓P P 15 56 39.6 -0.3
baz=31
SCIA State Center 31.31 350 eP P 15 56 40.8 -0.7
20nm,0.6s
U22A Llaves 31.32 327 ⇓P P 15 56 43.0 +1.0
baz=31
S24A Houchin Ranch, 31.45 330 ⇓P P 15 56 44.0 +0.8
baz=32
SDCO Great Sand Dun 31.67 330 eP P 15 56 46.2 +1.1
5.0nm,0.7s
JFWS Jewell Farm 31.90 354 eP P 15 56 45.9 -0.8
26nm,0.6s
W18A Petrified Fore 32.07 322 ⇑P P 15 56 49.4 +0.9
baz=32
R23A Moffat 32.18 330 ⇑P P 15 56 49.9 +0.3
baz=32,SNR=5.5
S22A 4UR Ranch, Cre 32.34 329 ⇑P P 15 56 51.8 +0.9
baz=32,SNR=5.4
N28A Pribbeno Ranch 32.43 338 ⇑P P 15 56 52.4 +0.9
baz=32
LPAZ La Paz 32.57 146 P P 15 56 57.4 +3.8
LPAZ La Paz 32.57 146 P P 15 56 57.4 +3.8
2.4nm,0.9s,baz=349,slow=5.2,SNR=1.9
X16A Lo Mia Camp, P 32.67 319 ⇑P P 15 56 53.8 0.0
baz=33
MVCO Mesa Verde 32.82 326 eP P 15 56 56.0 +0.9
4.8nm,0.7s
MVCO Mesa Verde 32.82 326 ⇑P P 15 56 55.9 +0.7
baz=33
P23A Jefferson 33.12 332 ⇑P P 15 56 58.7 +0.8
baz=33
WUAZ Wupatki 33.33 321 eP P 15 57 02.9 +3.4
6.3nm,1.0s
PV01 Paradox Valley 33.54 327 P P 15 57 02.0 +0.6
K30A Basset 33.56 342 ⇓P P 15 57 01.2 -0.1
baz=34
ECSD EROS Data Cent 33.75 346 eP P 15 57 00.5 -2.4
21nm,1.0s
ECSD EROS Data Cent 33.75 346 ⇓P P 15 57 01.4 -1.5
baz=34,SNR=9.8
K29A Lazy Trails An 33.86 341 ⇑P P 15 57 04.1 +0.2
baz=34
N24A Carr 33.88 334 ⇓P P 15 57 04.9 +0.7
baz=34
PV04 Paradox Valley 33.91 327 eP P 15 57 05.0 +0.5
O22A Kremmling 34.08 332 ⇓P P 15 57 05.8 -0.3
baz=34
N23A Red Feather La 34.40 333 ⇓P P 15 57 08.7 -0.1
baz=34
SPMN St. Paul 34.48 352 eP P 15 57 07.2 -2.0
32nm,0.6s
SPMN St. Paul 34.48 352 ⇓P P 15 57 07.7 -1.5
baz=34,SNR=8.9
L25A Engebretsen Ra 34.62 337 ⇑P P 15 57 11.4 +0.9
baz=35
J28A Allard Ranch, 34.75 341 ⇑P P 15 57 12.5 +1.0
baz=35
M22A Cedar Creek Ra 35.10 333 ⇓P P 15 57 15.1 +0.3
baz=35
J26A Sides Ranch, S 35.28 339 ⇓P P 15 57 17.0 +0.9
baz=35
L23A Garrett 35.29 335 ⇑P P 15 57 16.9 +0.5
baz=35
SRU San Rafael 35.30 326 eP P 15 57 17.0 +0.4
9.5nm,0.9s
N20A Spence Gulch, 35.42 331 ⇑P P 15 57 18.2 +0.6
baz=36
L22A Ellis Ranch, M 35.53 334 ⇓P P 15 57 19.5 +1.0
baz=36
I27A Quinn 35.59 340 ⇑P P 15 57 18.9 +0.1
baz=36
J25A Sunshine Ranch 35.61 338 ⇑P P 15 57 19.7 +0.7
baz=36
I26A New Underwood 35.83 339 ⇑P P 15 57 21.8 +0.9
baz=36
K22A Casper 36.08 334 ⇑P P 15 57 24.3 +1.2
baz=36
MURC Murrieta 36.12 313 ⇑P P 15 57 24.8 +1.4
baz=36
HEC Hector,Ludlow 36.16 316 ⇓P P 15 57 25.7 +1.8
baz=36
I24A Kuemmerle Ranc 36.32 337 ⇑P P 15 57 26.2 +1.0
baz=36
RSSD Black Hills 36.33 338 eP P 15 57 26.1 +0.9
4.1nm,0.8s
K21A Alcova 36.38 334 ⇓P P 15 57 26.5 +0.8
baz=36
DAU Daniels Canyon 36.62 327 eP P 15 57 28.8 +0.8
24nm,1.3s
J22A Midwest 36.68 335 ⇓P P 15 57 28.9 +0.7
baz=37
G26A Maurine 36.86 341 ⇓P P 15 57 29.3 -0.3
baz=37
J21A Lysite 37.03 334 ⇓P P 15 57 31.4 +0.1
baz=37,SNR=10
G25A Newell 37.04 340 ⇓P P 15 57 31.6 +0.4
baz=37
H24A Dirks Ranch, A 37.05 338 ⇓P P 15 57 31.5 +0.2
baz=37
I22A 9 Mile Ranch, 37.08 336 ⇓P P 15 57 31.7 +0.1
baz=37
F27A Lemmon 37.19 342 ⇓P P 15 57 32.0 -0.4
baz=37
DUG Dugway 37.31 326 ⇓P P 15 57 34.5 +0.8
baz=37
J20A Shoshoni 37.32 333 ⇓P P 15 57 34.4 +0.8
baz=37
I21A Big Trails, Te 37.35 335 ⇓P P 15 57 34.2 +0.3
baz=37
D30A Buchanan 37.43 346 ⇑P P 15 57 33.4 -1.0
baz=38,SNR=12
PDAR Pinedale Array 37.53 331 P P 15 57 35.3 -0.2
PDAR PcP PcP 15 59 53.9 +1.1
PDAR Pinedale Array 37.53 331 P P 15 57 35.3 -0.2
3.3nm,0.6s,baz=130,slow=9.9,SNR=32
PDAR PcP PcP 15 59 53.9 +1.1
1.5nm,0.7s,baz=138,slow=6.4,SNR=7.3
PDAR LR LR 16 17 00.2
comp=Z,16nm,28.6s,baz=130,slow=43
D29A Pettibone, Tap 37.59 345 ⇓P P 15 57 34.7 -1.0
baz=38
MPMC Manual Prospec 37.63 317 ⇑P P 15 57 37.8 +1.4
baz=38
J19A Crowheart 37.68 332 ⇓P P 15 57 36.3 -0.4
baz=38,SNR=13
R11A Troy Canyon, C 37.73 321 ⇓P P 15 57 39.6 +2.3
baz=38
I20A Worland 37.81 334 ⇓P P 15 57 37.9 +0.1
baz=38
H21A Big Horn, Sher 37.91 336 ⇓P P 15 57 38.6 0.0
baz=38
C30A Mose, Pekin 37.93 347 ⇓P P 15 57 37.4 -1.1
baz=38,SNR=6.6
AGMN Agassiz Nation 37.96 350 eP P 15 57 36.8 -2.0
22nm,0.4s
AGMN Agassiz Nation 37.96 350 ⇑P P 15 57 37.6 -1.2
baz=38,SNR=19
F24A Ekalaka 37.96 339 ⇑P P 15 57 38.9 -0.1
baz=38
D28A Regan 37.97 344 ⇓P P 15 57 38.3 -0.7
baz=38
E25A Miller Ranch, 38.19 341 ⇓P P 15 57 40.6 -0.2
baz=38
H20A Greybull 38.19 335 ⇓P P 15 57 41.2 +0.2
baz=38
F23A Volborg 38.20 338 ⇑P P 15 57 41.2 +0.2
baz=38
MDND Maddock 38.33 345 eP P 15 57 40.8 -1.1
80nm,0.6s
MDND Maddock 38.33 345 ⇑P P 15 57 41.3 -0.7
baz=38,SNR=7.3
D26A Manning 38.36 342 ⇓P P 15 57 41.8 -0.4
baz=38
E24A Baker 38.54 340 ⇓P P 15 57 44.1 +0.3
baz=39
F22A Rosebud 38.56 337 ⇑P P 15 57 43.6 -0.4
baz=39
B30A Myrvik Farm, E 38.60 347 ⇑P P 15 57 42.9 -1.2
baz=39,SNR=5.7
C27A Sayler Ranch, 38.70 343 ⇑P P 15 57 44.5 -0.6
baz=39
B29A Wagenman Farm, 38.84 346 ⇑P P 15 57 45.4 -0.9

baz=39,SNR=7.2
G20A Bridger 38.88 335 ⇓P P 15 57 46.2 -0.5
baz=39
I17A Pilgrim Ck. 38.89 332 ⇓P P 15 57 46.8 -0.1
baz=39,SNR=5.7
C26A Wahner Farm, P 38.97 343 ⇑P P 15 57 47.3 -0.1
baz=39,SNR=5.1
E22A Miles City 39.01 338 ⇓P P 15 57 47.2 -0.5
baz=39
D24A Glendive 39.03 340 ⇓P P 15 57 48.3 +0.4
baz=39
ELK Elko 39.05 324 PcP PcP 15 59 56.4 -1.1
ELK Elko 39.05 324 PcP PcP 15 59 56.4 -1.1
H18A Shoshone NF, C 39.06 333 ⇓P P 15 57 48.4 0.0
baz=39,SNR=8.1
B28A Dugan Ranch, T 39.08 345 ⇑P P 15 57 47.5 -0.7
baz=39,SNR=5.2
A29A Manning Farm, 39.25 346 ⇓P P 15 57 48.5 -1.1
baz=39,SNR=13
H17A Grant Village 39.25 332 ⇓P P 15 57 50.4 +0.3
baz=39
B27A Peters Farms, 39.27 344 ⇑P P 15 57 49.7 -0.1
baz=39
F20A Billings 39.32 336 ⇓P P 15 57 50.3 -0.1
baz=39
D23A Lindsay 39.38 340 ⇓P P 15 57 51.7 +0.9
baz=39
C24A Savage 39.42 341 ⇑P P 15 57 51.2 +0.1
baz=40
A28A Rude Farm, Bot 39.48 345 ⇓P P 15 57 51.0 -0.6
baz=40
NVAR Mina Array Bea 39.50 319 P P 15 57 52.9 +0.8
NVAR PcP PcP 16 00 01.2 +2.3
NVAR Mina Array Bea 39.50 319 P P 15 57 52.9 +0.8
3.2nm,0.7s,baz=129,slow=7.1,SNR=30
NVAR PcP PcP 16 00 01.2 +2.3
5.5nm,0.6s,baz=129,slow=3.8,SNR=26
B26A Jensen Ranch, 39.51 343 ⇑P P 15 57 51.1 -0.7
baz=40
E21A Keefer Ranch, 39.51 337 ⇓P P 15 57 51.6 -0.3
baz=40,SNR=7.6
B25A Knox Farm, Ray 39.69 342 ⇓P P 15 57 52.9 -0.4
baz=40,SNR=5.4
F19A Roth Farm, Mol 39.69 335 ⇑P P 15 57 53.2 -0.3
baz=40,SNR=6.0
D22A Cohagen 39.70 339 ⇓P P 15 57 53.6 +0.1
baz=40,SNR=7.3
ULM Lac du Bonnet 39.85 350 *eP* P 15 57 52.2 -2.3
15nm,0.6s
ULM Lac du Bonnet 39.85 350 P P 15 57 52.5 -2.1
17nm,0.5s,baz=166,slow=9.3,SNR=34
ULM LR LR 16 17 04.4
comp=Z,143nm,19.4s,baz=52,slow=40
E20A Meyer Farm, Mu 39.89 336 ⇓P P 15 57 55.0 -0.1
baz=40,SNR=8.0
C23A Lambert 39.91 340 ⇓P P 15 57 55.0 -0.2
baz=40,SNR=10
A26A Wade Farm, Ken 39.93 344 ⇓P P 15 57 54.6 -0.7
baz=40
C22A Vida 40.10 339 ⇑P P 15 57 56.7 -0.1
baz=40,SNR=12
DGMT Dagmar 40.18 341 P P 15 57 57.1 -0.3
30nm,0.7s
DGMT Dagmar 40.18 341 ⇓P P 15 57 56.9 -0.5
baz=40,SNR=6.4
A25A Svangstu Ranch 40.27 343 ⇓P P 15 57 58.1 0.0
baz=40
B23A Brockton 40.43 341 ⇓P P 15 57 59.5 +0.1
baz=40,SNR=11
HLID Hailey 40.52 328 *eP* P 15 58 01.8 +1.4
4.7nm,0.6s
HLID Hailey 40.52 328 ⇑P P 15 58 01.4 +0.9
baz=40,SNR=14
A24A Westby 40.52 342 ⇑P P 15 58 00.1 -0.1
baz=41,SNR=5.4
B22A Reddig Ranch S 40.62 340 ⇑P P 15 58 01.1 0.0
baz=41
MCMT McKenzie Canyo 40.65 331 *eP* P 15 58 02.9 +1.3
3.1nm,0.6s
MCMT *ep*P pP 15 58 11.1 -5.4
BOZ Bozeman (W) 40.69 333 *eP* P 15 58 02.0 +0.2
6.8nm,0.7s
BOZ *ep*P pP 15 58 10.8 -6.0
C20A Veseth Ranch, 40.84 338 ⇑P P 15 58 03.1 +0.2
baz=41
A22A Carney Farms, 41.19 340 ⇓P P 15 58 06.0 +0.3
baz=41
C19A Slack Wire Ran 41.26 337 ⇑P P 15 58 06.1 -0.2
baz=41,SNR=7.9
B20A Solberg Farm, 41.45 338 ⇑P P 15 58 08.3 +0.4
baz=42,SNR=7.0
HRY Holter Researc 41.60 333 *eP* P 15 58 10.2 +1.0
2.8nm,0.6s
A20A Cobblestone Ra 41.79 339 ⇓P P 15 58 10.6 0.0
baz=42,SNR=13
B19A Brinkman Farms 41.81 337 ⇓P P 15 58 11.2 +0.3
baz=42,SNR=10
WVOR Wild Horse Val 42.09 324 *eP* P 15 58 13.5 +0.2
9.2nm,0.7s
A19A Klindworth Far 42.12 338 ⇓P P 15 58 13.4 0.0
baz=42
MSO Missoula 42.64 332 ⇓P P 15 58 17.9 +0.2
baz=43
J04D Umpqua Nationa 44.62 322 ⇑P P 15 58 35.0 +1.2
baz=45
H03N2 Juan Fernandez 44.82 171 T T 16 46 16.1
baz=348,slow=76,SNR=5.6
H03N1 Juan Fernandez 44.82 171 T T 16 46 17.7
baz=348,slow=76,SNR=4.8
H03N3 Juan Fernandez 44.84 171 T T 16 46 19.5
baz=348,slow=76,SNR=4.8
I04A Tendick Farm, 45.12 323 ⇑P P 15 58 38.2 +0.6
baz=45
BDFB Brasilia 46.24 124 P P 15 58 47.0 +0.1
BDFB Brasilia 46.24 124 P P 15 58 47.0 +0.1
5.3nm,0.9s,baz=292,slow=16,SNR=4.7
SCHQ Schefferville 46.26 15 P P 15 58 44.6 -1.7
SCHQ Schefferville 46.26 15 P P 15 58 44.6 -1.7
3.1nm,0.5s,baz=225,slow=5.7,SNR=10
SCHQ LR LR 16 18 49.8
comp=Z,16nm,28.6s,baz=220,slow=37
EDM Edmonton 47.31 338 *eP* P 15 58 53.2 -1.3
RCBR Riachuelo 52.85 106 LR LR 16 24 15.0
comp=Z,366nm,18.1s,baz=268,slow=38
PLCA Paso Flores 53.56 165 P P 15 59 42.9 +1.0
PLCA Paso Flores 53.56 165 P P 15 59 42.9 +1.0
3.2nm,1.1s,baz=338,slow=11,SNR=2.4
FRB Frobisher Bay 54.06 10 P P 15 59 43.6 -1.5
FRB Frobisher Bay 54.06 10 P P 15 59 43.6 -1.5
1.5nm,0.5s
YKA Yellowknife Ar 55.23 344 P P 15 59 52.1 -1.6
YKA PcP PcP 16 00 53.7 -0.2
YKA Yellowknife Ar 55.23 344 P P 15 59 52.1 -1.6
2.8nm,0.6s,baz=142,slow=6.9,SNR=59
YKA PcP PcP 16 00 53.7 -0.2
0.5nm,0.5s,baz=145,slow=3.9,SNR=7.5
BMRM Bremner River 65.29 333 *eP* P 16 01 02.4 -0.2
7.0nm,0.6s
ILAR Eielson Array 67.74 336 P P 16 01 17.1 -0.9
ILAR PP PP 16 03 46.9 -0.9
ILAR Eielson Array 67.74 336 P P 16 01 17.1 -0.9
4.8nm,0.6s,baz=129,slow=4.2,SNR=130
ILAR PP PP 16 03 46.9 -0.9
0.7nm,0.9s,baz=104,slow=6.0,SNR=5.3
ILAR LR LR 16 34 37.4
comp=Z,143nm,20.9s,baz=118,slow=39
TRF Thorofare Moun 68.67 334 *eP* P 16 01 23.7 -0.3
6.1nm,0.7s
PPT2 Papeete2 68.72 246 *e*LR LR 16 22 13.6
130nm,24.8s
RSO Redoubt South 68.91 331 *eP* P 16 01 25.6 0.0
64nm,0.7s
KTH Kantishna Hill 68.97 334 *eP* P 16 01 24.4 -1.4
10nm,1.1s
TBI Tubuai 70.64 240 *e*S S 16 10 48.6 +2.0
68nm,27.0s
TBI Tubuai 70.64 240 *e*LR LR 16 23 06.6
151nm,26.2s
MDT Midelt 77.11 59 LR LR 16 30 55.6
comp=Z,16nm,28.6s,slow=32
ESDC Sonseca Array 77.11 52 LR LR 16 34 09.8
comp=Z,114nm,18.0s,baz=250,slow=34
NOA NORSAR Array B 83.99 29 LR LR 16 36 49.1
comp=Z,16nm,28.6s,baz=285,slow=33
ARCES ARCESS Array B 87.09 19 LR LR 16 41 56.9
comp=Z,16nm,28.6s,baz=288,slow=36
GERES GERESS Array B 88.21 41 LR LR 16 36 34.2
comp=Z,16nm,28.6s,baz=277,slow=32

AKASG Malin Array Be 96.96 35 LR LR 16 48 22.4
comp=Z,94nm,18.1s,baz=295,slow=36
SNAA Sanae 98.37 161 LR LR 16 42 48.2
comp=Z,15nm,28.6s,baz=214,slow=32
ZALV Zalesovo Beam 114.78 6 PKP PKPdf 16 09 00.5 -0.3
ZALV Zalesovo Beam 114.78 6 PKP PKPdf 16 09 00.5 -0.3
0.7nm,0.4s,baz=291,slow=1.8,SNR=3.9
CN2 Changchun 118.23 334 *e*PKP **PKPdf 16 09 07.5 -0.3**
SONM Songino Array 120.28 350 PKP **PKPdf 16 09 11.3 -0.5**
SONM Songino Array 120.28 350 PKP **PKPdf 16 09 11.3 -0.5**
0.5nm,0.5s,baz=338,slow=1.6,SNR=4.6
MKAR Makanchi Array 121.48 9 PKP **PKPdf 16 09 13.1 -0.9**
MKAR Makanchi Array 121.48 9 PKP **PKPdf 16 09 13.1 -0.9**
0.3nm,0.4s,baz=289,slow=3.4,SNR=10.0
KSRS Korea Array 122.05 328 PKP **PKPdf 16 09 15.5 +0.3**
1.7nm,0.6s,baz=7.3,slow=2.0,SNR=7.4
KSAR Wonju Array Be 122.08 328 PKP **PKPdf 16 09 15.5 +0.2**
WMQ Urumqi 125.08 5 PKP **PKPdf 16 09 20.0 -1.0**
WMQ PP **PP 16 11 13.0 +3.8**
WMQ PKS **PKSdf 16 12 55.0 -2.7**
WMQ SKS **SKSdf 16 16 27.0 -1.2**
WMQ SKKS **SKKSac 16 18 01.0 -2.9**
WMQ SS **SS 16 28 04.0 +3.6**
WMQ AMB AMB
comp=Z,76nm,10.0s
WMQ LR LR
comp=N,92nm,23.0s
WMQ LR LR
comp=E,56nm,22.0s
HHC Hu-ho-hao-te 125.77 343 *e*PKP **PKPdf 16 09 21.0 -1.5**
HHC sPKP 16 09 36.0
HHC PP **PP 16 11 16.3 +2.3**
HHC PKS **PKSdf 16 12 56.3 -2.9**
HHC SKS **SKSdf 16 16 27.8 -1.9**
HHC SKKS **SKKSac 16 18 06.8 -1.6**
HHC AMB AMB
comp=Z,150nm,9.2s
HHC LR LR
comp=N,150nm,19.6s
HHC LR LR
comp=E,260nm,19.6s
STKA Stephens Creek 131.36 237 PKP **PKPdf 16 09 35.5 +2.4**
STKA Stephens Creek 131.36 237 PKP **PKPdf 16 09 35.5 +2.4**
1.1nm,0.7s,baz=84,slow=9.2,SNR=2.6
LZH Lanzhou 132.13 349 *e*PKP **PKPdf 16 09 37.3 +2.5**
LZH sPKP 16 09 52.5
CD2 Chengdu 137.16 347 *e*PKP **PKPdf 16 09 43.3 -0.9**
ASAR Alice Springs 139.82 246 PKPpre PKPpre 16 09 41.5
ASAR PKP **PKPdf 16 09 50.0 +0.8**
ASAR Alice Springs 139.82 246 PKhKP PKPpre 16 09 41.5
0.4nm,0.7s,baz=113,slow=3.6,SNR=6.0
ASAR PKP **PKPdf 16 09 50.0 +0.8**
0.8nm,0.6s,baz=98,slow=2.0,SNR=21
WRA Warramunga Arr 139.99 252 PKPpre PKPpre 16 09 43.0
WRA PKP **PKPdf 16 09 50.6 +1.0**
WRA Warramunga Arr 139.99 252 PKhKP PKPpre 16 09 43.0
0.1nm,0.4s,baz=90,slow=2.9,SNR=4.7
WRA PKP **PKPdf 16 09 50.6 +1.0**
0.8nm,0.5s,baz=94,slow=2.5,SNR=14
KMI Kunming 142.96 346 PKP **PKPdf 16 09 54.3 -0.8**
KMI sPKP 16 10 08.3
FITZ Fitzroy Crossi 148.39 253 PKP **PKPdf 16 10 03.6 -0.6**
FITZ PKPbc **PKiKP 16 10 09.0 -0.3**
FITZ Fitzroy Crossi 148.39 253 PKP **PKPdf 16 10 03.6 -0.6**
1.0nm,0.7s,baz=311,slow=11,SNR=2.1
FITZ PKPbc **PKiKP 16 10 09.0 -0.3**
2.0nm,0.9s,baz=330,slow=8.1,SNR=4.7
CMAR Chiang Mai Arr 150.20 350 PKP **PKPdf 16 10 09.0 +1.9**
CMAR PKPbc **PKiKP 16 10 13.1 0.0**
CMAR Chiang Mai Arr 150.20 350 PKP **PKPdf 16 10 09.0 +1.9**
2.6nm,0.7s,baz=332,slow=3.6,SNR=6.5
CMAR PKPbc **PKiKP 16 10 13.1 0.0**
1.4nm,0.4s,baz=341,slow=3.0,SNR=11

*IDC **29** 16:03:19.3±5.3,22.2°20S×67.2°95W,h0km,mb3.6/1, mb1 3.7/2,mb1mx3.5/15,mbtmp3.6/2,ML3.5/1,Error ellipse: s-maj=159.8km s-min=54.1km az=65.0*
*ISCJB **29** 16:03:31.9±0.8,21.3°33S±0.0°04×68.8°8W±0.0°1,h126km±10km, mb3.3/1,Error ellipse: s-maj=21.5km s-min=6.4km az=176.1*
*GUC **29** 16:03:31.6±0.8,21.3°32S×68.3°83W,h121km±6km,ML3.8*
ISC 29 16:03:32.5±1.2,21°32S±0°05×68°8W±0°2,h113km±12km, n14,σ0s70/22,8C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.66**	**224**	⇑*iP*	**Pn**	**16 03 51.1**	**0.0**
PB09				*i*S	**Sn**	**16 04 05.5**	**+0.4**
PB09				AML	AML	16 04 06.9	
comp=E,3μm,0.2s							
PB01	**Plate Boundary**	**0.74**	**291**	⇑*iP*	**Pn**	**16 03 51.4**	**-0.3**
PB01				*i*S	**Sn**	**16 04 06.1**	**0.0**
PB01				AML	AML	16 04 07.4	
comp=E,3μm,0.2s							
PB07	**Plate Boundary**	**1.14**	**249**	⇑*iP*	**Pn**	**16 03 55.4**	**-0.2**
PB07				*i*S	**Sn**	**16 04 13.1**	**+0.1**
PB07				AML	AML	16 04 14.1	
comp=E,2μm,0.3s							
PB04	**Plate Boundary**	**1.17**	**216**	*eP*	Pn	16 04 00.7	+5.0
PB04				*i*S	Sn	16 04 23.6	+10
PB04				AML	AML	16 04 29.9	
comp=E,459nm,0.1s							
MACH	**Maria Elena**	**1.28**	**227**	*eP*	**Pn**	**16 03 57.1**	**-0.2**
MACH				*i*S	**Sn**	**16 04 16.1**	**0.0**
PATCX	**Punta Patache**	**1.40**	**290**	⇑*iP*	**Pn**	**16 03 58.7**	**+0.3**
PATCX				*i*S	**Sn**	**16 04 18.6**	**+0.4**
PATCX				AML	AML	16 04 20.0	
comp=E,2μm,0.2s							
HMBC	**Humberstone**	**1.49**	**314**	⇑*iP*	**Pn**	**16 03 59.4**	**-0.2**
HMBC				*i*S	**Sn**	**16 04 20.1**	**+0.1**
HMBC				AML	AML	16 04 22.1	
comp=E,3μm,0.3s							
PB06	**Plate Boundary**	**1.58**	**209**	⇑*iP*	**Pn**	**16 04 00.4**	**-0.2**
PB06				*i*S	**Sn**	**16 04 21.9**	**-0.1**
PB06				AML	AML	16 04 22.6	
comp=E,1μm,0.2s							
PB11	**Plate Boundary**	**1.77**	**331**	⇑*iP*	**Pn**	**16 04 03.0**	**0.0**
PB11				*i*S	**Sn**	**16 04 26.1**	**0.0**
PB11				AML	AML	16 04 27.9	
comp=N,7μm,0.2s							
PSGC	**Pisagua**	**2.14**	**323**	⇑*iP*	**Pn**	**16 04 06.7**	**-0.9**
PSGC				*i*S	**Sn**	**16 04 33.1**	**-1.3**
PSGC				AML	AML	16 04 40.1	
comp=E,568nm,0.4s							
MNMC	**Minimini**	**2.32**	**340**	*eP*	**Pn**	**16 04 10.2**	**+0.2**
MNMC				*i*S	**Sn**	**16 04 39.6**	**+0.9**
MNMC				AML	AML	16 04 42.6	
comp=N,783nm,0.2s							
LPAZ	**La Paz**	**5.04**	**7**	Pn	Pn	16 04 48.3	+1.8
comp=N,0.6nm,0.3s,baz=199,slow=7.6,SNR=9.5							
TORD	**Torodi Ar. Bea**	**77.15**	**70**	*P*	**P**	**16 15 13.2**	**-1.1**
comp=N,0.2nm,0.3s,baz=258,slow=5.7,SNR=6.6							
MKAR	**Makanchi Array**	**145.40**	**36**	PKPbc	**PKPdf**	**16 22 59.1**	**+1.9**
comp=N,0.3nm,0.8s,baz=292,slow=4.5,SNR=3.3							

IDC 29 16:08:32.1±2.0,55.2°89S×26.3°37W,h0km,mb3.9/1, mb1 3.9/1,mb1mx3.5/15,mbtmp3.9/1,Error ellipse: s-maj=104.0km s-min=74.8km az=135.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**72.69**	**29**	*P*	*P*	16 20 01.6	0.0
0.8nm,0.7s,baz=200,slow=5.8,SNR=6.6							
SONM	**Songino Array**	**150.25**	**86**	PKPbc	PKPbc	16 28 23.8	-0.4
0.3nm,0.6s,baz=213,slow=3.1,SNR=2.4							
ILAR	**Eielson Array**	**150.35**	**312**	PKPbc	PKPbc	16 28 23.4	-0.4
1.5nm,1.1s,baz=106,slow=3.0,SNR=7.4							

*ISCJB **29** 16:17:55.1±0.4,22.2°60S±0.0°03×68.2°40W±0.0°05,h103km±3km, mb4.3/20,Error ellipse: s-maj=7.8km s-min=5.3km az=166.1*
*NEIC **29** 16:17:57.1,22.2°59S×68.2°58W,h102km,mb4.5/12,After GUC.*
NEIC Felt [III] at Antofagasta, Calama, Maria Elena, Sierra Gorda and Tocopilla; [II] at Mejillones.
*IDC **29** 16:17:57.8±0.5,22.2°51S×68.2°34W,h112km±4km,mb3.9/12, mb1 4.0/16,mb1mx4.0/20,mbtmp3.9/16,MS3.6/2, Ms1 3.6/2,ms1mx3.0/25,Error ellipse: s-maj=15.9km s-min=12.0km az=80.0*
*GUC **29** 16:17:57.1±0.8,22.2°59S×68.2°58W,h102km±4km,ML5.3*
ISC 29 16:17:57.2±0.4,22.2°56S±0.0°04×68.2°47W±0.0°06,h108km±3km, n347,σ1s06/369,mb4.3/20,122C-135D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.41**	**262**	*eP*	**Pn**	**16 18 12.9**	**-0.7**
LVC				*e*S	**Sn**	**16 18 24.2**	**-1.6**
LVC	**Limon Verde**	**0.41**	**262**	*eP*	**Pn**	**16 18 12.9**	**-0.7**
LVC				*e*S	**Sn**	**16 18 24.2**	**-1.6**
PB04	**Plate Boundary**	**0.98**	**287**	⇑*iP*	Pn	16 18 23.8	+5.8
PB04				*e*S	Sn	16 18 44.6	+11
PB04				AML	AML	16 18 47.9	
comp=N,54μm,0.6s							
PB04	**Plate Boundary**	**0.98**	**287**	⇑*iP*	Pn	16 18 23.8	+5.8
PB04				*e*S	Sn	16 18 44.6	+11
PB06	**Plate Boundary**	**1.03**	**261**	⇑*iP*	**Pn**	**16 18 17.8**	**-0.8**
PB06				*e*S	**Sn**	**16 18 33.4**	**-1.5**
PB06				AML	AML	16 18 35.8	
comp=N,67μm,0.2s							
PB06	**Plate Boundary**	**1.03**	**261**	⇑*iP*	**Pn**	**16 18 17.8**	**-0.8**
PB06				*e*S	**Sn**	**16 18 33.4**	**-1.5**
PB09	**Plate Boundary**	**1.04**	**317**	⇓*iP*	**Pn**	**16 18 18.6**	**-0.2**
PB09				*e*S	**Sn**	**16 18 34.6**	**-0.5**
PB09				AML	AML	16 18 36.4	
comp=E,153μm,0.6s							
PB09	**Plate Boundary**	**1.04**	**317**	⇓*iP*	**Pn**	**16 18 18.6**	**-0.2**
PB09				*e*S	**Sn**	**16 18 34.6**	**-0.5**
PB07	**Plate Boundary**	**1.55**	**302**	⇓*iP*	**Pn**	**16 18 24.0**	**-0.7**
PB07				*e*S	**Sn**	**16 18 44.8**	**-0.8**
PB07				AML	AML	16 18 45.8	
comp=N,32μm,0.4s							
PB07	**Plate Boundary**	**1.55**	**302**	⇓*iP*	**Pn**	**16 18 24.0**	**-0.7**
PB07				*e*S	**Sn**	**16 18 44.8**	**-0.8**
PB01	**Plate Boundary**	**1.78**	**328**	⇓*eP*	**Pn**	**16 18 26.9**	**-0.4**
PB01				*e*S	**Sn**	**16 18 50.4**	**0.0**
PB01				AML	AML	16 18 51.9	
comp=N,16μm,0.4s							
PB01	**Plate Boundary**	**1.78**	**328**	⇓*eP*	**Pn**	**16 18 26.9**	**-0.4**
PB01				*e*S	**Sn**	**16 18 50.4**	**0.0**
ANCH	**Antofagasta**	**2.11**	**237**	*eP*	**Pn**	**16 18 30.5**	**-0.9**
ANCH				*e*S	**Sn**	**16 18 55.8**	**-1.9**
ANCH				AML	AML	16 19 04.7	
comp=E,27μm,0.3s							
ANCH	**Antofagasta**	**2.11**	**237**	*eP*	**Pn**	**16 18 30.5**	**-0.9**
ANCH				*e*S	**Sn**	**16 18 55.8**	**-1.9**
PB10	**Plate Boundary**	**2.14**	**243**	⇑*eP*	**Pn**	**16 18 30.1**	**-1.8**
PB10				*i*S	**Sn**	**16 18 55.0**	**-3.4**
PB10				AML	AML	16 19 09.2	
comp=N,41μm,0.6s							
PATCX	**Punta Patache**	**2.33**	**318**	⇑*eP*	**Pn**	**16 18 33.1**	**-1.3**
PATCX				*e*S	**Sn**	**16 19 02.3**	**-0.6**
PATCX				AML	AML	16 19 08.5	
comp=E,16μm,0.4s							
HMBC	**Humberstone**	**2.62**	**330**	⇑*eP*	**Pn**	**16 18 37.0**	**-1.3**
HMBC	**Humberstone**	**2.62**	**330**	P	**Pn**	**16 18 37.0**	**-1.3**
PB11	**Plate Boundary**	**2.99**	**338**	⇑*eP*	**Pn**	**16 18 42.3**	**-1.0**
PB11	**Plate Boundary**	**2.99**	**338**	P	**Pn**	**16 18 42.3**	**-1.0**
PSGC	**Pisagua**	**3.32**	**332**	*eP*	**Pn**	**16 18 45.4**	**-2.1**
PSGC	**Pisagua**	**3.32**	**332**	P	**Pn**	**16 18 45.4**	**-2.1**
MNMC	**Minimini**	**3.57**	**343**	*eP*	**Pn**	**16 18 50.1**	**-0.9**
MNMC	**Minimini**	**3.57**	**343**	P	**Pn**	**16 18 50.1**	**-0.9**
CPCH	**Copiapo**	**5.08**	**199**	*eP*	Pn	16 19 07.0	-4.0
CPCH	**Copiapo**	**5.08**	**199**	P	Pn	16 19 07.0	-4.0
LPAZ	**La Paz**	**6.24**	**3**	*eP*	**Pn**	**16 19 29.0**	**+1.6**
comp=E,37nm,0.7s							
LPAZ	**La Paz**	**6.24**	**3**	P	**Pn**	**16 19 29.2**	**+1.8**
comp=E,1.7nm,0.3s,baz=172,slow=6.2,SNR=20							
LCO	**Las Campanas**	**6.73**	**197**	*eP*	Pn	16 19 29.3	-4.4
comp=E,163nm,0.6s							
CFAA	**Coronel Fontan**	**9.02**	**179**	P	**Pn**	**16 20 01.3**	**-3.1**
CFAA				S	**Sn**	**16 21 48.3**	**+4.1**
CFAA	**Coronel Fontan**	**9.02**	**179**	P	**Pn**	**16 20 01.3**	**-3.1**
comp=E,0.2nm,0.3s,baz=351,slow=13,SNR=22							
CFAA				S	**Sn**	**16 21 48.3**	**+4.1**
comp=E,0.2nm,0.3s,baz=219,slow=6.5,SNR=2.5							
SIV	**San Ignacio**	**9.56**	**48**	P	**Pn**	**16 20 09.3**	**-2.7**
SIV				S	Sn	16 21 43.6	-14
SIV	**San Ignacio**	**9.56**	**48**	P	**Pn**	**16 20 09.3**	**-2.7**
comp=E,3.3nm,0.3s,baz=253,slow=12,SNR=24							
SIV				S	Sn	16 21 43.6	-14
baz=280,slow=18,SNR=2.0							
CPUP	**Villa Florida**	**10.82**	**113**	*eP*	**Pn**	**16 20 27.4**	**-1.6**
comp=E,1.3nm,0.8s							
CPUP	**Villa Florida**	**10.82**	**113**	P	**Pn**	**16 20 28.0**	**-1.0**
comp=E,0.4nm,0.3s,baz=272,slow=12,SNR=5.2							
CPUP				LR	LR	16 25 20.3	
comp=E,159nm,19.2s,baz=76,slow=41							
H03N1	**Juan Fernandez**	**14.22**	**218**	T	T	16 33 38.5	
baz=42,slow=75,SNR=97							
H03N2	**Juan Fernandez**	**14.23**	**218**	T	T	16 34 06.6	
baz=42,slow=75,SNR=114							
H03N3	**Juan Fernandez**	**14.24**	**218**	T	T	16 34 28.1	
baz=42,SNR=94							
TRQA	**Tornquist**	**16.43**	**162**	*eP*	**Pn**	**16 21 40.5**	**-0.8**
comp=E,116nm,1.6s							
PLCA	**Paso Flores**	**18.21**	**185**	*eP*	**P**	**16 22 01.1**	**-0.7**
PLCA	**Paso Flores**	**18.21**	**185**	P	**P**	**16 22 01.0**	**-0.7**
comp=E,0.1nm,0.3s,baz=18,slow=11,SNR=2.9							
BDFB	**Brasilia**	**20.51**	**74**	P	**P**	**16 22 25.4**	**-1.6**
BDFB	**Brasilia**	**20.51**	**74**	P	**P**	**16 22 25.4**	**-1.6**
comp=E,4.6nm,0.8s,baz=245,slow=14,SNR=4.4							
OTAV	**Otavalo**	**24.65**	**335**	*eP*	**P**	**16 23 10.7**	**+2.2**
comp=E,12nm,1.1s							
ROSC	**El Rosal**	**27.84**	**347**	LR	LR	16 36 28.4	
comp=E,203nm,18.9s,baz=8.1,slow=40							
APG	**El Apazote**	**43.10**	**328**	P	**P**	**16 25 45.8**	**-1.4**
APG	**El Apazote**	**43.10**	**328**	P	**P**	**16 25 45.8**	**-1.4**
comp=E,2.1nm,0.3s,baz=12,slow=21,SNR=4.4							
KMSC	**Kings Mountain**	**58.66**	**348**	⇓P	**P**	**16 27 43.5**	**+0.3**
baz=59							
533A	**Kerrville**	**60.01**	**329**	⇓P	**P**	**16 27 52.8**	**+0.1**
baz=60							
631A	**Perdido Creek**	**60.21**	**328**	⇑P	**P**	**16 27 53.9**	**-0.1**
baz=60							
434A	**Burnet**	**60.28**	**331**	⇓P	**P**	**16 27 54.3**	**-0.2**
baz=60							
335A	**Moody**	**60.30**	**332**	⇑P	**P**	**16 27 54.7**	**+0.1**
baz=60							
532A	**Rocksprings**	**60.47**	**329**	⇓P	**P**	**16 27 56.2**	**+0.4**
baz=61							
433A	**Art**	**60.61**	**330**	⇑P	**P**	**16 27 56.1**	**-0.6**
baz=61,SNR=12							
334A	**Lometa**	**60.70**	**331**	⇑P	**P**	**16 27 57.3**	**-0.1**
baz=61							
531A	**Rocksprings**	**60.81**	**328**	⇓P	**P**	**16 27 58.5**	**+0.4**
baz=61,SNR=6.3							
WHTX	**Lake Whitney**	**60.92**	**332**	⇓P	**P**	**16 27 58.6**	**-0.1**
baz=61							
333A	**Richland Sprin**	**61.04**	**330**	⇑P	**P**	**16 27 59.4**	**-0.2**
baz=61,SNR=5.8							
432A	**Menard**	**61.04**	**329**	⇓P	**P**	**16 27 59.6**	**-0.1**
baz=61,SNR=6.9							
SNAA	**Sanae**	**61.15**	**161**	P	**P**	**16 28 00.2**	**+0.3**
SNAA				*p*P	**pP**	**16 28 27.1**	**+0.7**
SNAA	**Sanae**	**61.15**	**161**	P	**P**	**16 28 00.2**	**+0.3**
comp=E,5.6nm,1.1s,baz=318,slow=5.2,SNR=10							
SNAA				*p*P	**pP**	**16 28 27.1**	**+0.7**
comp=E,0.9nm,0.6s,baz=281,slow=7.3,SNR=2.8							
530A	**J-C Ranch, Com**	**61.19**	**328**	⇓P	**P**	**16 28 01.0**	**+0.4**
baz=61,SNR=5.0							
431A	**Sonora**	**61.27**	**328**	⇑P	**P**	**16 28 01.3**	**+0.1**
baz=62							
628A	**Black Gap, Mar**	**61.44**	**326**	⇓P	**P**	**16 28 03.0**	**+0.7**
baz=62,SNR=5.5							
332A	**Millersview**	**61.44**	**330**	⇓P	**P**	**16 28 02.0**	**-0.3**
baz=62,SNR=5.2							
529A	**Stev Forest Ra**	**61.61**	**327**	⇓P	**P**	**16 28 04.0**	**+0.4**
baz=62,SNR=9.7							
430A	**Baggett Ranch,**	**61.66**	**328**	⇑P	**P**	**16 28 04.2**	**+0.3**
baz=62							
627A	**Terlingua Ranc**	**61.67**	**325**	⇓P	**P**	**16 28 04.3**	**+0.3**
baz=62							
134A	**White-Moore Ra**	**61.69**	**332**	⇑P	**P**	**16 28 03.9**	**0.0**
baz=62							
331A	**San Angelo**	**61.70**	**329**	⇓P	**P**	**16 28 04.1**	**0.0**
baz=62							
TXAR	**Lajitas Array**	**61.72**	**325**	P	**P**	**16 28 04.4**	**0.0**
TXAR	**Lajitas Array**	**61.72**	**325**	P	**P**	**16 28

	baz=62					
133A	**Hamilton Ranch**	62.09	331	⇑P	P	16 28 06.5 -0.1
	baz=62					
330A	**Mertzon**	62.14	328	⇑P	P	16 28 07.2 +0.2
	baz=62					
626A	**Big Bend Ranch**	62.15	325	⇑P	P	16 28 07.9 +0.8
	baz=62,SNR=8.0					
Z34A	**Collier Ranch,**	62.30	332	⇑P	P	16 28 08.1 +0.1
	baz=63					
428A	**Kincaid Ranch,**	62.33	327	⇑P	P	16 28 08.8 +0.5
	baz=63					
527A	**Woodward Ranch**	62.34	326	⇓P	P	16 28 08.9 +0.4
	baz=63					
ABTX	**Abilene, Hawle**	62.43	330	⇑P	P	16 28 09.3 +0.4
	baz=63					
526A	**Mary Lane Ranc**	62.52	325	⇑P	P	16 28 10.4 +0.7
	baz=63,SNR=7.2					
329A	**Wagon Wheel Ra**	62.60	328	⇓P	P	16 28 10.4 +0.3
	baz=63					
Z33A	**Whitaker Ranch**	62.60	332	⇑P	P	16 28 10.3 +0.3
	baz=63					
Y34A	**Reagan Ranch,**	62.73	333	⇑P	P	16 28 11.0 +0.1
	baz=63					
427A	**Hayter Ranch,**	62.79	326	⇓P	P	16 28 12.0 +0.5
	baz=63					
131A	**Roby**	62.81	330	⇓P	P	16 28 11.9 +0.4
	baz=63					
229A	**Bryant Ranch,**	62.91	328	⇑P	P	16 28 12.0 -0.1
	baz=63					
Z32A	**Haskell**	62.93	331	⇑P	P	16 28 12.5 +0.2
	baz=63					
426A	**McDonald Obser**	62.97	326	⇓P	P	16 28 13.4 +0.6
	baz=63					
130A	**Snyder**	63.02	329	⇑P	P	16 28 13.1 +0.2
	baz=63					
Y33A	**Hilltop Ranch,**	63.15	332	⇓P	P	16 28 13.6 -0.1
	baz=63					
Z31A	**Sharp Cattle R**	63.24	331	⇓P	P	16 28 14.3 0.0
	baz=64					
X34A	**Smith Ranch, M**	63.32	333	⇓P	P	16 28 15.0 +0.3
	baz=64					
228A	**UT Block 9, Go**	63.41	328	⇓P	P	16 28 15.7 +0.2
	baz=64					
326A	**Caldwell Ranch**	63.46	326	⇑P	P	16 28 16.5 +0.6
	baz=64					
129A	**Stewart Farms,**	63.48	329	⇑P	P	16 28 16.3 +0.4
	baz=64					
Y32A	**R-V Farms, Ver**	63.50	331	⇑P	P	16 28 16.1 +0.1
	baz=64					
425A	**Indio Mountain**	63.57	325	⇑P	P	16 28 17.2 +0.6
	baz=64,SNR=9.0					
TUL1	**Tulsa**	63.64	335	⇓P	P	16 28 16.5 -0.3
	baz=64					
Z30A	**Sanderson Ranc**	63.67	330	⇑P	P	16 28 16.7 -0.4
	baz=64,SNR=5.4					
128A	**Castleberry Fa**	63.77	328	⇑P	P	16 28 17.7 -0.2
	baz=64					
X32A	**Elmer**	63.79	332	⇑P	P	16 28 17.7 -0.1
	baz=64					
Y31A	**Rekieta Farm,**	63.83	331	⇑P	P	16 28 18.5 +0.3
	baz=64					
Z29A	**Hungry Hill Ra**	63.92	329	⇑P	P	16 28 18.8 0.0
	baz=64					
325A	**Bean Ranch, Si**	64.02	326	⇑P	P	16 28 20.1 +0.5
	baz=64,SNR=17					
W33A	**Caddo, Fort Co**	64.06	333	⇓P	P	16 28 19.9 +0.3
	baz=64,SNR=5.3					
226B	**Tecolote Peak,**	64.17	327	⇑P	P	16 28 20.9 +0.4
	baz=64					
127A	**Arkansas Junct**	64.24	328	⇓P	P	16 28 21.2 +0.3
	baz=64					
V34A	**Guthrie**	64.25	334	⇓P	P	16 28 20.8 -0.1
	baz=64					
Z28A	**Tucker Farm, M**	64.27	329	⇑P	P	16 28 21.4 +0.3
	baz=64					
X31A	**McDonald Ranch**	64.27	331	⇑P	P	16 28 21.2 +0.2
	baz=64,SNR=7.2					
324A	**Moseley Ranch,**	64.35	325	⇓P	P	16 28 21.7 0.0
	baz=65					
GDL2	**Guadalupe Moun**	64.36	327	*e*P	P	16 28 22.6 +0.8
	comp=E,0.8nm,0.4s					
X30A	**Coker Ranch, T**	64.52	331	⇑P	P	16 28 22.8 +0.1
	baz=65					
126A	**Clayton Basin,**	64.55	327	⇑P	P	16 28 23.4 +0.5
	baz=65					
V33A	**Lossen Ranch,**	64.56	333	⇑P	P	16 28 23.1 +0.2
	baz=65					
Z27A	**Tatum**	64.69	328	⇑P	P	16 28 23.9 0.0
	baz=65					
W31A	**Holland Ranch,**	64.72	332	⇑P	P	16 28 24.1 +0.2
	baz=65					
U34A	**Anderson Ranch**	64.78	334	⇑P	P	16 28 24.2 -0.1
	baz=65					
224A	**Cornudas Mount**	64.86	326	⇓P	P	16 28 25.2 +0.1
	baz=65,SNR=6.0					
125A	**Gardner Draw,**	64.88	327	⇓P	P	16 28 25.0 -0.1
	baz=65					
MSTX	**Muleshoe**	65.01	329	*e*P	P	16 28 25.9 -0.1
	comp=E,5.6nm,0.4s					
MSTX	**Muleshoe**	65.01	329	⇑P	P	16 28 26.4 +0.5
	baz=65					
Z26A	**Caprock**	65.03	328	⇓P	P	16 28 26.7 +0.6
	baz=65					
Y27A	**Causey**	65.12	329	⇓P	P	16 28 26.7 0.0
	baz=65					
124A	**Stringfield Ra**	65.32	326	⇓P	P	16 28 28.6 +0.5
	baz=66,SNR=5.8					
Z25A	**Roswell**	65.40	327	⇓P	P	16 28 28.7 +0.2
	baz=66					
W29A	**Amraillo**	65.43	330	⇑P	P	16 28 28.6 0.0
	baz=66					
Y26A	**Elida**	65.48	328	⇑P	P	16 28 30.0 +1.0
	baz=66					
V30A	**Spur Ranch, Mi**	65.53	332	⇑P	P	16 28 30.5 +1.2
	baz=66					
T33A	**Patterson Ranc**	65.63	334	⇑P	P	16 28 30.1 +0.4
	baz=66					
Z24A	**Sheeppen Canyo**	65.77	327	⇑P	P	16 28 31.5 +0.5
	baz=66,SNR=8.7					
Y25A	**Mesa, Roswell**	65.91	327	⇓P	P	16 28 31.9 +0.1
	baz=66,SNR=5.6					
320A	**Kipp Ranch, An**	65.92	323	⇑P	P	16 28 33.4 +1.5
	baz=66					
X26A	**CR and CF Fran**	65.98	328	⇓P	P	16 28 32.9 +0.7
	baz=66					
W27A	**Bowe Ranch, En**	66.04	329	⇓P	P	16 28 32.9 +0.4
	baz=66					
Z23A	**Rita Site, Whi**	66.16	326	⇓P	P	16 28 34.6 +1.2
	baz=66					
V28A	**Channing**	66.21	330	⇓P	P	16 28 34.1 +0.5
	baz=66					
T31A	**Randall Ranch,**	66.23	333	⇓P	P	16 28 33.8 +0.2
	baz=66					
319A	**Douglas**	66.37	322	⇓P	P	16 28 36.2 +1.5
	baz=67					
X25A	**Clemmons Ranch**	66.37	328	⇓P	P	16 28 34.9 +0.1
	baz=67					
W26A	**Owens Ranch, T**	66.39	329	⇓P	P	16 28 35.5 +0.7
	baz=67					
121A	**Cookes Peak, D**	66.42	324	⇑P	P	16 28 36.3 +1.2
	baz=67					
Z22A	**Elephant Butte**	66.54	325	⇓P	P	16 28 37.2 +1.4
	baz=67,SNR=18					
S31A	**Mullinville**	66.59	334	⇓P	P	16 28 36.4 +0.5
	baz=67					
Y23A	**Lovelace Mesa,**	66.60	326	⇓P	P	16 28 37.2 +1.0
	baz=67					
U28A	**Mallet**	66.73	331	⇑P	P	16 28 37.4 +0.5
	baz=67					
X24A	**Lazy VL Ranch,**	66.79	327	⇓P	P	16 28 38.0 +0.5
	baz=67					
W25A	**X Bar L Ranch,**	66.83	328	⇓P	P	16 28 37.9 +0.2
	baz=67					
R32A	**Long Quarter,**	66.97	335	⇓P	P	16 28 38.5 +0.2
	baz=67					
V26A	**Tequesquite Ra**	66.97	329	⇓P	P	16 28 39.2 +0.7
	baz=67					
BNM	**Barren Site**	67.06	326	*e*P	P	16 28 40.3 +1.0
	comp=E,3.3nm,1.1s					
Q33A	**Connelly Farm,**	67.12	336	⇑P	P	16 28 39.4 +0.2
	baz=67					
X23A	**Hourglass Bar**	67.18	327	⇓P	P	16 28 41.0 +1.1
	baz=67					
S29A	**Ulysses**	67.28	332	⇑P	P	16 28 41.0 +0.7
	baz=68					
W24A	**Lazy 6 Ranch,**	67.29	328	⇓P	P	16 28 40.9 +0.3
	baz=68					
Q32A	**Meitler Ranch,**	67.40	335	⇑P	P	16 28 41.1 +0.1
	baz=68					
V25A	**Rancho No Teng**	67.40	329	⇑P	P	16 28 42.1 +0.8
	baz=68,SNR=5.2					
U26A	**Atchley Ranch,**	67.44	330	⇓P	P	16 28 42.0 +0.5
	baz=68					
R30A	**Dighton**	67.48	333	⇓P	P	16 28 41.8 +0.2
	baz=68					
T27A	**Campo**	67.52	331	⇑P	P	16 28 42.2 +0.3
	baz=68					
LAZ	**Ladron**	67.52	326	*e*P	P	16 28 43.5 +1.4
	comp=E,3.9nm,1.4s					
S28A	**Manter**	67.59	332	⇑P	P	16 28 43.1 +0.7
	baz=68					
W23A	**Werner Place,**	67.62	327	⇑P	P	16 28 43.6 +1.0
	baz=68					
V24A	**Rampart Ranch,**	67.63	328	⇓P	P	16 28 43.8 +1.0
	baz=68					
QSPA	**South Pole Qui**	67.64	180	*e*P	P	16 28 43.0 +0.6
	comp=E,13nm,0.8s					
QSPA				pP	pP	16 29 10.6 +1.3
QSPA	**South Pole Qui**	67.64	180	P	P	16 28 43.3 +0.9
	comp=E,5.4nm,0.7s,baz=149,slow=2.7,SNR=31					
QSPA				pP	pP	16 29 10.6 +1.3
	comp=E,11nm,0.7s,baz=151,slow=2.7,SNR=10					
U25A	**Circle Dot Ran**	67.76	329	⇑P	P	16 28 44.3 +0.8
	baz=68,SNR=8.3					
T26A	**Comanche Natio**	68.01	330	⇓P	P	16 28 45.8 +0.8
	baz=68					
Q30A	**Quinter**	68.05	334	⇓P	P	16 28 45.8 +0.7
	baz=68					
V23A	**Ortiz Mt. (NFS**	68.09	328	⇓P	P	16 28 46.8 +1.1
	baz=68					
P31A	**Stockton**	68.18	335	⇑P	P	16 28 46.4 +0.6
	baz=68					
R28A	**Tribune**	68.18	332	⇑P	P	16 28 46.5 +0.5
	baz=68					
Q29A	**Oakley**	68.29	333	⇑P	P	16 28 46.8 +0.1
	baz=69					
S26A	**Kim**	68.32	331	⇑P	P	16 28 47.8 +0.8
	baz=69,SNR=7.7					
T25A	**Trinidad**	68.36	330	⇓P	P	16 28 47.7 +0.4
	baz=69					
O32A	**Brockman Farm,**	68.39	336	⇑P	P	16 28 47.2 0.0
	baz=69					
R27A	**Eads**	68.56	332	⇓P	P	16 28 48.9 +0.5
	baz=69					
V22A	**San Miguel Ran**	68.59	327	⇑P	P	16 28 50.0 +1.3
	baz=69,SNR=6.7					
DBIC	**Dimbokro**	68.65	73	P	P	16 28 48.5 -0.8
DBIC				pP	pP	16 29 16.7 +0.4
DBIC	**Dimbokro**	68.65	73	P	P	16 28 48.5 -0.8
	comp=E,3.3nm,0.7s,baz=196,slow=7.5,SNR=7.1					
DBIC				pP	pP	16 29 16.7 +0.4
	comp=E,11nm,1.1s,baz=225,slow=2.1,SNR=7.0					
T24B	**San Luis**	68.75	329	⇓P	P	16 28 50.9 +1.0
	baz=69					
S25A	**Robets Cordova**	68.79	330	⇓P	P	16 28 50.4 +0.5
	baz=69,SNR=5.1					
214A	**Organ Pipe Nat**	68.83	320	⇓P	P	16 28 51.9 +1.7
	baz=69					
R26A	**Arlington**	68.87	331	⇓P	P	16 28 51.2 +0.9
	baz=69					
X18A	**Snowflake**	69.11	324	⇓P	P	16 28 53.0 +1.0
	baz=69					
R25A	**Fountain Ranch**	69.12	330	⇑P	P	16 28 52.6 +0.7
	baz=69					
S24A	**Houchin Ranch,**	69.14	329	⇓P	P	16 28 53.6 +1.4
	baz=69,SNR=6.8					
BGNE	**Belgrade**	69.34	337	⇓P	P	16 28 53.2 +0.2
	baz=70					
Q26A	**Hugo**	69.41	331	⇑P	P	16 28 54.8 +1.1
	baz=70					
R24A	**Sanders Place,**	69.56	330	⇓P	P	16 28 55.8 +1.0
	baz=70					
O28A	**Krutsinger Ran**	69.66	333	⇓P	P	16 28 56.1 +1.0
	baz=70					
X16A	**Lo Mia Camp, P**	69.84	323	⇓P	P	16 28 58.2 +1.7
	baz=70					
P26A	**Davis Ranch, A**	69.86	332	⇓P	P	16 28 57.4 +1.0
	baz=70					
R23A	**Moffat**	69.87	329	⇓P	P	16 28 57.7 +1.0
	baz=70					
S22A	**4UR Ranch, Cre**	69.99	328	⇑P	P	16 28 58.4 +0.9
	baz=70					
Q24A	**Divide**	70.18	330	⇓P	P	16 28 59.5 +0.9
	baz=70					
P25A	**Willow Gulch B**	70.18	331	⇑P	P	16 28 59.7 +1.3
	baz=70					
L31A	**Butterfield Fa**	70.26	336	⇓P	P	16 28 60.0 +1.3
	baz=70					
L30A	**Spencer Herefo**	70.39	336	⇓P	P	16 29 00.6 +1.1
	baz=71					
MVCO	**Mesa Verde**	70.40	327	⇑P	P	16 29 01.2 +1.3
	baz=71					
OGNE	**Ogallala**	70.46	334	⇓P	P	16 29 01.2 +1.3
	baz=71					
N27A	**Anderson Farm,**	70.55	333	⇑P	P	16 29 01.7 +1.1
	baz=71					
WUAZ	**Wupatki**	70.62	324	⇓P	P	16 29 02.9 +1.7
	baz=71					
ECSD	**EROS Data Cent**	70.84	339	⇑P	P	16 29 02.4 +0.3
	baz=71					
N26A	**Koester Ranch,**	70.86	333	⇑P	P	16 29 03.6 +1.2
	baz=71					
ISCO	**Idaho Springs**	71.06	331	⇓P	P	16 29 04.8 +0.9
	baz=71					
Y12C	**Blythe**	71.12	321	⇑P	P	16 29 06.6 +2.6
	baz=71					
P22A	**Eagle**	71.43	330	⇑P	P	16 29 07.5 +1.4
	baz=72					
L27A	**T5 Ranch, Ells**	71.53	334	⇓P	P	16 29 07.7 +1.3
	baz=72					
O23A	**Lake Granby, G**	71.53	331	⇓P	P	16 29 08.0 +1.3
	baz=72					
MONP	**Monument Peak**	71.65	319	⇑P	P	16 29 08.9 +1.4
	baz=72					
IRM	**Iron Mountain**	71.78	321	⇓P	P	16 29 09.9 +1.9
	baz=72					
O22A	**Kremmling**	71.78	330	⇑P	P	16 29 09.2 +1.0
	baz=72,SNR=6.0					
U15A	**North Rim**	71.79	324	⇓P	P	16 29 10.2 +1.8
	baz=72,SNR=6.8					
M24A	**Cheyenne**	72.07	332	⇑P	P	16 29 11.0 +1.3
	baz=72,SNR=5.2					
N23A	**Red Feather La**	72.09	331	⇑P	P	16 29 10.9 +0.8
	baz=72					
J28A	**Allard Ranch,**	72.23	336	⇑P	P	16 29 11.4 +0.9
	baz=72					
N22A	**Wattenberg Ran**	72.25	331	⇓P	P	16 29 12.4 +1.4
	baz=72,SNR=6.1					
J27A	**Elkhorn Farm,**	72.39	335	⇓P	P	16 29 12.8 +1.2
	baz=73					
M23A	**Laramie**	72.46	332	⇓P	P	16 29 13.1 +0.9
	baz=73					
GMRC	**Granite Mounta**	72.51	321	⇓P	P	16 29 14.5 +2.0
	baz=73					
O20A	**White River Ci**	72.55	329	⇓P	P	16 29 14.0 +1.2
	baz=73,SNR=6.8					
K25A	**Mack Ranch, Ha**	72.60	333	⇓P	P	16 29 14.2 +1.3
	baz=73					
H29A	**Onida**	72.88	337	⇑P	P	16 29 15.4 +1.0
	baz=73					
HEC	**Hector,Ludlow**	72.94	320	⇓P	P	16 29 16.9 +1.9
	baz=73					
L23A	**Garrett**	72.97	332	⇓P	P	16 29 16.1 +0.9
	baz=73					
N20A	**Spence Gulch,**	73.11	330	⇓P	P	16 29 17.1 +1.1
	baz=73					
TUQ	**Turquoise Moun**	73.12	321	⇓P	P	16 29 17.6 +1.5
	baz=73					
J25A	**Sunshine Ranch**	73.22	334	⇓P	P	16 29 17.7 +1.2
	baz=74					
MVU	**Marysvale**	73.29	326	*e*P	P	16 29 18.7 +1.5
	comp=E,7.9nm,1.1s					
ARUT	**Antelope Range**	73.41	324	*e*P	P	16 29 19.7 +1.9
	comp=E,218nm,1.3s					
I25A	**Rochford**	73.71	334	⇓P	P	16 29 20.8 +1.4
	baz=74					
EDW2	**Edwards Air Fo**	73.96	319	⇑P	P	16 29 22.4 +1.5
	baz=74					
K21A	**Alcova**	74.07	331	⇓P	P	16 29 22.8 +1.2
	baz=74,SNR=9.0					
J22A	**Midwest**	74.36	332	⇑P	P	16 29 24.2 +1.0
	baz=75,SNR=5.5					
BSC	**Santa Cruz Isl**	74.37	318	⇓P	P	16 29 25.2 +1.9
	baz=75					
TPNV	**Topopah Spring**	74.37	322	⇓P	P	16 29 25.4 +1.9
	baz=75					
MPMC	**Manual Prospec**	74.47	321	⇑P	P	16 29 25.7 +1.7
	baz=75					
D30A	**Buchanan**	74.53	339	⇓P	P	16 29 24.4 +0.5
	baz=75					
H24A	**Dirks Ranch, A**	74.65	334	⇑P	P	16 29 25.6 +0.9
	baz=75					
J21A	**Lysite**	74.73	332	⇑P	P	16 29 25.9 +0.5
	baz=75					
I22A	**9 Mile Ranch,**	74.75	333	⇓P	P	16 29 26.1 +0.7
	baz=75,SNR=5.3					
ISA	**Isabella**	74.78	320	⇓P	P	16 29 27.8 +2.1
	baz=75					
F26A	**Lodgepole**	74.83	336	⇓P	P	16 29 26.5 +0.7
	baz=75					
H23A	**Clabaugh Cattl**	74.84	334	⇑P	P	16 29 26.9 +1.0
	baz=75					
DUG	**Dugway**	74.86	326	⇑P	P	16 29 27.5 +1.4
	baz=75,SNR=5.5					
R11A	**Troy Canyon, C**	74.99	323	*e*P	P	16 29 27.7 +0.7
	comp=E,20nm,2.0s					
R11A	**Troy Canyon, C**	74.99	323	⇓P	P	16 29 28.6 +1.6
	baz=75,SNR=7.3					
J20A	**Shoshoni**	75.02	331	⇓P	P	16 29 28.0 +1.0
	baz=75					
I21A	**Big Trails, Te**	75.03	332	⇓P	P	16 29 27.6 +0.6
	baz=75,SNR=9.3					
G24A	**Alzada**	75.07	335	⇑P	P	16 29 28.1 +0.9
	baz=75					
PKM	**Peak Mountain**	75.08	318	⇑P	P	16 29 29.2 +1.6
	baz=75					
PDAR	**Pinedale Array**	75.22	330	P	P	16 29 28.9 +0.6
PDAR	**Pinedale Array**	75.22	330	P	P	16 29 28.9 +0.6
	comp=E,2.1nm,1.1s,baz=133,slow=6.3,SNR=7.2					
H22A	**Clearmont**	75.26	333	⇓P	P	16 29 29.1 +0.8
	baz=76					
G23A	**Biddle**	75.36	334	⇑P	P	16 29 29.5 +0.7
	baz=76					
SYO	**Syowa Base**	75.38	159	⇓*e*P	P	16 29 28.0 -0.5
J19A	**Crowheart**	75.38	331	⇑P	P	16 29 30.0 +0.9
	baz=76,SNR=7.7					
MDND	**Maddock**	75.46	339	⇑P	P	16 29 29.9 +0.7
	baz=76					
I20A	**Worland**	75.51	332	⇓P	P	16 29 30.8 +1.1
	baz=76					
F24A	**Ekalaka**	75.51	335	⇑P	P	16 29 30.6 +0.9
	baz=76					
D26A	**Manning**	75.74	337	⇓P	P	16 29 31.7 +0.8
	baz=76					
F23A	**Volborg**	75.79	334	⇓P	P	16 29 32.1 +0.9
	baz=76					
H20A	**Greybull**	75.88	332	⇓P	P	16 29 33.0 +1.2
	baz=76					
VNDA	**Vanda**	75.88	190	P	P	16 29 31.5 +0.2
VNDA				pP	pP	16 30 00.8 +2.1
VNDA	**Vanda**	75.88	190	P	P	16 29 31.5 +0.2
	comp=E,2.0nm,1.0s,baz=53,slow=1.8,SNR=3.7					
VNDA				pP	pP	16 30 00.8 +2.1
	comp=E,1.4nm,0.8s,baz=214,slow=2.8,SNR=3.3					
B29A	**Wagenman Farm,**	75.91	339	⇓P	P	16 29 32.4 +0.6
	baz=76					
I19A	**Meeteetse**	75.96	331	⇑P	P	16 29 33.6 +1.1
	baz=76					
C27A	**Sayler Ranch,**	75.99	338	⇑P	P	16 29 33.5 +1.2
	baz=76					
E24A	**Baker**	76.05	335	⇓P	P	16 29 33.4 +0.7
	baz=76					
G21A	**Lodge Grass**	76.13	333	⇑P	P	16 29 33.9 +0.7
	baz=76					
F22A	**Rosebud**	76.18	334	⇓P	P	16 29 34.0 +0.6
	baz=76					
B28A	**Dugan Ranch, T**	76.23	339	⇓P	P	16 29 34.2 +0.6
	baz=76					
A29A	**Manning Farm,**	76.27	340	⇓P	P	16 29 34.4 +0.5
	baz=77					
C26A	**Wahner Farm, P**	76.30	337	⇑P	P	16 29 34.7 +0.7
	baz=77					
ULM	**Lac du Bonnet**	76.44	342	P	P	16 29 33.9 -0.9
ULM	**Lac du Bonnet**	76.44	342	P	P	16 29 33.9 -0.9
	comp=E,2.3nm,0.7s,baz=102,slow=5.1,SNR=4.0					
H19A	**Powell**	76.45	332	⇓P	P	16 29 36.0 +0.9
	baz=77					
G20A	**Bridger**	76.55	332	⇑P	P	16 29 36.5 +0.9
	baz=77					
NVAR	**Mina Array Bea**	76.57	322	P	P	16 29 37.4 +1.4
NVAR	**Mina Array Bea**	76.57	322	P	P	16 29 37.4 +1.4
	comp=E,1.4nm,0.9s,baz=154,slow=6.8,SNR=8.5					
I17A	**Pilgrim Ck.**	76.59	330	⇓P	P	16 29 37.4 +1.4
	baz=77					
H18A	**Shoshone NF, C**	76.76	331	⇑P	P	16 29 37.6 +0.7
	baz=77,SNR=7.4					
C24A	**Savage**	76.90	336	⇓P	P	16 29 38.8 +1.3
	baz=77					
D23A	**Lindsay**	76.90	335	⇑P	P	16 29 38.7 +1.2
	baz=77					
H17A	**Grant Village**	76.95	330	⇓P	P	16 29 40.0 +2.0
	baz=77					
B25A	**Knox Farm, Ray**	77.06	337	⇑P	P	16 29 39.6 +1.3
	baz=77					
E21A	**Keefer Ranch,**	77.13	334	⇓P	P	16 29 39.6 +0.8
	baz=77					
A26A	**Wade Farm, Ken**	77.19	338	⇓P	P	16 29 39.8 +0.8
	baz=78					
D22A	**Cohagen**	77.27	335	⇑P	P	16 29 40.3 +0.8
	baz=78					
TOA0	**Torodi Ar. Sit**	77.33	70	*e*P	P	16 29 39.6 -0.9
TORD	**Torodi Ar. Bea**	77.33	70	P	P	16 29 39.9 -0.7
TORD				pP	pP	16 30 08.3 +0.3
TORD	**Torodi Ar. Bea**	77.33	70	P	P	16 29 39.9 -0.7
	comp=E,3.3nm,0.7s,baz=257,slow=5.4,SNR=18					
TORD				pP	pP	16 30 08.3 +0.3
	comp=E,12nm,0.8s,baz=252,slow=5.2,SNR=15					
F19A	**Roth Farm, Mol**	77.37	332	⇓P	P	16 29 41.0 +0.8
	baz=78,SNR=5.3					
D21A	**La Casta Ranch**	77.52	334	⇓P	P	16 29 42.0 +1.1
	baz=78					
E20A	**Meyer Farm, Mu**	77.54	333	⇓P	P	16 29 42.2 +1.1
	baz=78					
A25A	**Svangstu Ranch**	77.60	337	⇓P	P	16 29 42.4 +1.1
	baz=78					
C22A	**Vida**	77.64	335	⇓P	P	16 29 42.7 +1.2
	baz=78					
E19A	**Rath Farm, Rou**	77.78	333	⇓P	P	16 29 43.7 +1.2
	baz=78					
B23A	**Brockton**	77.89	336	⇓P	P	16 29 44.3 +1.4
	baz=78					
A24A	**Westby**	77.91	337	⇑P	P	16 29 44.4 +1.4
	baz=78					
D20A	**Manuel Ranch,**	78.01	334	⇑P	P	16 29 45.2 +1.5
	baz=78					
HLID	**Hailey**	78.15	328	⇑P	P	16 29 46.3 +1.6
	baz=78,SNR=14					
D19A	**Cripps Ranch,**	78.38	333	⇑P	P	16 29 47.0 +1.3
	baz=79					
B21A	**Ellsworth Farm**	78.63	335	⇓P	P	16 29 48.3 +1.3
	baz=79					
A22A	**Carney Farms,**	78.67	336	⇑P	P	16 29 48.5 +1.2
	baz=79					
C19A	**Slack Wire Ran**	78.90	333	⇓P	P	16 29 49.9 +1.3
	baz=79					
B20A	**Solberg Farm,**	79.04	334	⇑P	P	16 29 50.2 +0.9
	baz=79					
TSUM	**Tsumeb**	79.35	106	*e*P	P	16 29 52.4 +0.5
	comp=E,22nm,1.5s					
TSUM				pP	pP	16 30 17.8 -1.7
A20A	**Cobblestone Ra**	79.36	335	⇑P	P	16 29 51.9 +1.0
	baz=80,SNR=5.2					
B

H11S2	**WAKE ISLAND Hy**	**128.40**	**276**	T	T	18 57 18.4	
	baz=108,slow=73,SNR=162						
H11S1	**WAKE ISLAND Hy**	**128.41**	**276**	T	T	18 57 16.9	
	baz=108,slow=73,SNR=164						
H11S3	**WAKE ISLAND Hy**	**128.42**	**276**	T	T	18 57 17.6	
	baz=108,slow=73,SNR=127						
H11N3	**WAKE ISLAND Hy**	**128.51**	**278**	T	T	18 57 19.1	
	baz=107,slow=75,SNR=68						
H11N2	**WAKE ISLAND Hy**	**128.53**	**278**	T	T	18 57 27.9	
	baz=107,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**128.53**	**278**	T	T	18 57 26.8	
	baz=107,slow=75,SNR=34						
ASAR	**Alice Springs**	**129.16**	**207**	PKP	**PKPdf**	**16 36 53.2**	**-0.2**
ASAR				pPKP	**pPKPdf**	**16 37 23.3**	**+0.4**
ASAR	**Alice Springs**	**129.16**	**207**	PKP	**PKPdf**	**16 36 53.2**	**-0.2**
	comp=E,2.1nm,0.9s,baz=163,slow=2.2,SNR=12						
ASAR				pPKP	**pPKPdf**	**16 37 23.3**	**+0.4**
	comp=E,0.7nm,0.8s,baz=136,slow=2.3,SNR=2.8						
WRA	**Warramunga Arr**	**132.25**	**210**	PKP	**PKPdf**	**16 36 59.4**	**+0.1**
WRA				pPKP	**pPKPdf**	**16 37 28.5**	**-0.2**
WRA	**Warramunga Arr**	**132.25**	**210**	PKP	**PKPdf**	**16 36 59.4**	**+0.1**
	comp=E,2.4nm,1.0s,baz=162,slow=1.4,SNR=9.4						
WRA				pPKP	**pPKPdf**	**16 37 28.5**	**-0.2**
	comp=E,0.7nm,0.7s,baz=148,slow=1.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**142.73**	**26**	PKP	**PKPdf**	**16 37 15.7**	**-1.8**
ZALV				pPKP	**pPKPdf**	**16 37 47.9**	**+0.9**
ZALV	**Zalesovo Beam**	**142.73**	**26**	PKP	**PKPdf**	**16 37 15.7**	**-1.8**
	comp=E,2.2nm,0.8s,baz=320,slow=6.6,SNR=6.7						
ZALV				pPKP	**pPKPdf**	**16 37 47.9**	**+0.9**
	comp=E,2.2nm,0.6s,baz=307,slow=2.3,SNR=5.0						
MK31	**Makanchi Array**	**146.24**	**37**	*e*PKPdf	**PKPdf**	**16 37 24.4**	**+0.5**
MKAR	**Makanchi Array**	**146.24**	**37**	PKPbc	**PKPdf**	**16 37 24.5**	**+0.7**
MKAR				pPKPbc	pPKPbc	16 37 54.7	+0.6
MKAR	**Makanchi Array**	**146.24**	**37**	PKPbc	**PKPdf**	**16 37 24.5**	**+0.7**
	comp=E,4.9nm,0.8s,baz=308,slow=2.7,SNR=42						
MKAR				pPKPbc	pPKPbc	16 37 54.7	+0.5
	comp=E,3.5nm,0.8s,baz=309,slow=3.2,SNR=6.8						
USRK	**Ussuriysk Arra**	**152.61**	**327**	PKPbc	**PKPbc**	**16 37 39.9**	**-1.2**
	comp=E,3.6nm,1.0s,baz=5.0,slow=4.4,SNR=5.2						
MJAR	**Matsushiro Arr**	**153.03**	**307**	PKPbc	**PKPbc**	**16 37 42.2**	**-0.2**
MJAR				PKPab	**PKPab**	**16 37 54.3**	**+0.2**
MJAR	**Matsushiro Arr**	**153.03**	**307**	PKPbc	**PKPbc**	**16 37 42.2**	**-0.2**
	comp=E,3.5nm,1.1s,baz=52,slow=4.1,SNR=6.3						
MJAR				PKPab	**PKPab**	**16 37 54.3**	**+0.2**
	comp=E,3.6nm,1.1s,baz=32,slow=2.3,SNR=5.9						
SONM	**Songino Array**	**154.44**	**8**	PKP	**PKPdf**	**16 37 37.2**	**+0.5**
SONM				PKPbc	**PKiKP**	**16 37 45.5**	**+0.3**
SONM				PKPab	**PKPab**	**16 38 00.3**	**+0.6**
SONM	**Songino Array**	**154.44**	**8**	PKP	**PKPdf**	**16 37 37.2**	**+0.5**
	comp=E,0.8nm,0.9s,baz=324,slow=1.4,SNR=6.3						
SONM				PKPbc	**PKiKP**	**16 37 45.5**	**+0.3**
	comp=E,0.9nm,0.9s,baz=276,slow=1.3,SNR=5.7						
SONM				PKPab	**PKPab**	**16 38 00.3**	**+0.6**
	comp=E,0.5nm,0.7s,baz=319,slow=4.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**167.52**	**107**	PKP	**PKPdf**	**16 37 51.8**	**+0.5**
CMAR				PKPab	**PKPab**	**16 38 57.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**167.52**	**107**	PKP	**PKPdf**	**16 37 51.8**	**+0.5**
	comp=E,0.5nm,0.9s,baz=278,slow=2.2,SNR=4.6						
CMAR				PKPab	**PKPab**	**16 38 57.0**	**-0.7**
	comp=E,0.3nm,0.3s,baz=262,slow=5.2,SNR=4.4						

*IDC **29** 16:24:22.2±1.0,55°.63S×128°.82W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.9/15,mbtmp3.9/4,MS3.8/9,Ms1 3.8/9, ms1mx3.6/21,Error ellipse: s-maj=148.9km s-min=25.7km az=165.0*

ISC 29 16:24:23.6±1.2,56°S±1°×128°.9W±0°.3,h10km,n28,σ0s74/6, mb4.0/4,MS3.9/9,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**32.12**	**202**	LR	LR	16 41 02.0	
	comp=Z,47nm,21.2s,baz=309,slow=31						
USHA	**Ushuaia**	**33.55**	**114**	LR	LR	16 40 47.1	
	comp=Z,112nm,20.9s,baz=38,slow=29						
QSPA	**South Pole Qui**	**34.62**	**180**	LR	LR	16 43 18.0	
	comp=Z,182nm,20.2s,baz=99,slow=33						
TBI	**Tubuai**	**35.60**	**326**	*e*LR	LR	16 40 29.8	
	205nm,28.2s						
TBI	**Tubuai**	**35.60**	**326**	*e*T	T	17 08 17.8	
	43nm,0.4s						
PLCA	**Paso Flores**	**40.39**	**94**	LR	LR	16 44 46.3	
	comp=Z,108nm,19.7s,baz=109,slow=30						
H03N3	**Juan Fernandez**	**40.78**	**78**	T	T	17 15 17.8	
	baz=222,slow=75,SNR=386						
H03N2	**Juan Fernandez**	**40.79**	**78**	T	T	17 15 19.1	
	baz=222,slow=75,SNR=625						
H03N1	**Juan Fernandez**	**40.80**	**78**	T	T	17 15 19.1	
	baz=222,slow=75,SNR=404						
PPT2	**Papeete2**	**41.05**	**329**	*e*LR	LR	16 42 59.0	
	203nm,26.5s						
PPT	**Papeete**	**41.07**	**329**	LR	LR	16 44 14.2	
	comp=Z,178nm,18.9s,baz=136,slow=29						
VAH	**Vaihoa**	**42.76**	**333**	*e*T	T	17 17 12.6	
	58nm,0.3s						
CPUP	**Villa Florida**	**58.37**	**91**	LR	LR	16 56 43.2	
	comp=Z,101nm,18.5s,baz=277,slow=33						
LPAZ	**La Paz**	**60.26**	**75**	P	**P**	**16 34 33.7**	**+0.9**
	0.9nm,0.5s,baz=210,slow=6.5,SNR=4.4						
STKA	**Stephens Creek**	**64.12**	**251**	LR	LR	16 56 58.5	
	comp=Z,66nm,18.9s,baz=42,slow=30						
SIV	**San Ignacio**	**64.42**	**81**	P	**P**	**16 34 59.3**	**-0.7**
	0.5nm,0.4s,baz=226,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**74.75**	**251**	P	**P**	**16 36 04.1**	**+0.4**
	1.3nm,1.0s,baz=141,slow=6.1,SNR=8.2						
H01W1	**Cape Leeuwin H**	**75.12**	**229**	T	T	17 59 47.1	
	baz=147,slow=76,SNR=40						
H01W2	**Cape Leeuwin H**	**75.12**	**229**	T	T	17 59 35.8	
	baz=147,slow=76,SNR=50						
H01W3	**Cape Leeuwin H**	**75.14**	**229**	T	T	17 59 36.7	
	baz=147,slow=76,SNR=37						
WRA	**Warramunga Arr**	**77.53**	**253**	P	**P**	**16 36 19.7**	**+0.1**
	1.1nm,1.0s,baz=135,slow=5.4,SNR=7.0						
FITZ	**Fitzroy Crossi**	**83.69**	**247**	LR	LR	17 11 34.8	
	comp=Z,66nm,18.9s,baz=67,slow=34						
H11S2	**WAKE ISLAND Hy**	**91.52**	**301**	T	T	18 18 43.5	
	baz=147,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**91.54**	**301**	T	T	18 18 47.6	
	baz=147,slow=76,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**91.54**	**301**	T	T	18 18 47.6	
	baz=147,slow=76,SNR=7.1						
PDAR	**Pinedale Array**	**99.32**	**14**	LR	LR	17 12 33.5	
	comp=Z,83nm,21.6s,baz=1.4,slow=29						
ILAR	**Eielson Array**	**120.79**	**351**	PKP	**PKPdf**	**16 43 13.9**	**-0.4**
	0.5nm,0.7s,baz=191,slow=2.4,SNR=4.5						
SONM	**Songino Array**	**145.71**	**281**	PKPbc	**PKPab**	**16 44 01.9**	**-0.3**
	0.8nm,0.6s,baz=130,slow=3.6,SNR=7.8						

WEL 29 16:50:20.8±0.9,44°.25S×166°.90E,h12km,ML3.9/12, 1C-1D,Error ellipse: s-maj=9.1km s-min=5.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.85**	**120**	⇑P*	Pg	16 50 36.1	-1.1
MSZ				S*	Sg	16 50 46.1	-2.2
MSZ				AML	AML	16 50 46.3	
MSZ				AML	AML	16 50 46.3	
MSZ				AML	AML	16 50 46.3	
DCZ	**Deep Cove**	**1.24**	**172**	P*	Pn	16 50 42.3	-1.6
DCZ				AML	AML	16 50 58.4	
DCZ				AML	AML	16 50 58.7	
DCZ				AML	AML	16 50 58.8	
DCZ				AML	AML	16 50 59.2	
JCZ	**Jackson Bay**	**1.35**	**83**	PN	Pn	16 50 44.6	-1.0
JCZ				AML	AML	16 51 04.7	
JCZ				AML	AML	16 51 07.5	
MLZ	**Mavora Lakes**	**1.42**	**141**	PN	Pn	16 50 46.0	-0.5
MLZ				SN	Sn	16 51 04.1	-1.1
MLZ				AML	AML	16 51 05.0	
WKZ	**Wanaka**	**1.62**	**112**	PN	Pn	16 50 49.7	+0.5
WKZ				SN	Sn	16 51 08.9	-1.1
WKZ				AML	AML	16 51 10.0	
WKZ				AML	AML	16 51 10.1	
WKZ				AML	AML	16 51 10.8	
WHZ	**Wether Hill Ro**	**1.81**	**156**	PN	Pn	16 50 51.7	0.0
WHZ				AML	AML	16 51 14.4	
WHZ				AML	AML	16 51 15.5	
EAZ	**Earnscleugh**	**1.98**	**121**	PN	Pn	16 50 55.1	+1.1
EAZ				SN	Sn	16 51 17.2	-1.6
EAZ				AML	AML	16 51 21.5	
EAZ				AML	AML	16 51 22.0	
EAZ				AML	AML	16 51 22.0	
FOZ	**Fox Glacier**	**2.13**	**72**	PN	Pn	16 50 56.2	+0.2
FOZ				AML	AML	16 51 37.3	
FOZ				AML	AML	16 51 37.3	
FOZ				AML	AML	16 51 37.8	
FOZ				AML	AML	16 51 37.9	
LBZ	**Lake Benmore**	**2.36**	**95**	PN	Pn	16 51 00.5	+1.1
LBZ				AML	AML	16 51 33.7	
LBZ				AML	AML	16 51 37.3	
TUZ	**Tuapeka**	**2.58**	**132**	PN	Pb	16 51 05.5	-1.5
TUZ				AML	AML	16 51 37.2	
TUZ				AML	AML	16 51 41.2	
SYZ	**Scrubby Hill**	**2.78**	**146**	PN	Pn	16 51 05.6	+0.6
ODZ	**Otahua Downs**	**2.79**	**108**	PN	Pn	16 51 05.7	+0.5
WVZ	**Waitaha Valley**	**3.02**	**68**	PN	Pn	16 51 07.7	-0.6
WVZ				AML	AML	16 52 17.5	
RPZ	**Rata Peaks**	**3.04**	**81**	PN	Pn	16 51 08.5	-0.2
RPZ				AML	AML	16 51 58.8	
RPZ				AML	AML	16 51 59.2	
HHSZ	**Highcliff Hill**	**3.09**	**123**	⇓PN	Pn	16 51 10.0	+0.6

*IDC **29** 17:01:43.0±1.2,10°.57S×120°.36E,h0km,mb3.9/7, mb1 4.0/10,mb1mx3.8/20,mbtmp3.8/10,ML3.6/3,Error ellipse: s-maj=55.4km s-min=20.4km az=54.0*
*ISCJB **29** 17:01:44.8±0.5,10°.93S±0°.06×119°.99E±0°.06,h33km, mb3.9/7,Error ellipse: s-maj=9.4km s-min=6.0km az=44.4*
*DJA **29** 17:01:46.4±2.0,11°.S±11°×12°.0E±°,h27km±18km,M4.3/5, mb4.4/3,mB4.9/1,MLv4.3/5,Mw(mB)4.2/1*
*AUST **29** 17:01:47.0,10°.99S×119°.96E,h35km*

ISC 29 17:01:46.6±0.7,10°.94S±0°.07×120°.06E±0°.07,h35km,n28, σ1s63/28,mb4.0/7,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.28**	**11**	P	**Pn**	**17 02 07.9**	**-0.1**
WSI	**Waingapu**	**1.28**	**11**	P	**Pn**	**17 02 08.0**	**-0.1**
	baz=1.4,SNR=22						
LBFI	**Labuhan Bajo,**	**2.45**	**356**	P	**Pn**	**17 02 23.8**	**-0.3**
MMRI	**Maumere**	**3.14**	**43**	P	**Pn**	**17 02 33.1**	**-0.5**
SOEI	**Soe**	**4.30**	**75**	P	**Pn**	**17 02 51.9**	**+2.2**
SOEI	**Soe**	**4.30**	**75**	P	**Pn**	**17 02 52.2**	**+2.5**
	baz=4.4,SNR=14						
KHKI	**Kahang-Kahang**	**5.08**	**300**	P	**Pn**	**17 03 00.2**	**-0.1**
IGBI	**Denpasar**	**5.28**	**293**	P	**Pn**	**17 03 01.1**	**-1.9**
	50nm,1.1s,1µm0.4nm						
SRBI	**Singaraja**	**5.56**	**300**	P	**Pn**	**17 03 06.9**	**0.0**
	24nm,1.0s						
BKSI	**Bulukumba**	**5.58**	**1**	P	**Pn**	**17 03 08.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**6.32**	**292**	P	**Pn**	**17 03 15.9**	**-1.5**
	baz=6.3,SNR=6.7						
FITZ	**Fitzroy Crossi**	**8.94**	**143**	Pn	**Pn**	**17 03 54.8**	**+1.5**
	0.7nm,0.3s,baz=327,slow=8.8,SNR=21						
FITZ				Sn	**Sn**	**17 05 28.5**	**-4.2**
	2.6nm,0.3s,baz=167,slow=22,SNR=16						
FITZ	**Fitzroy Crossi**	**8.94**	**143**	P	**Pn**	**17 03 54.7**	**+1.5**
	baz=9.0,SNR=16						
KNRA	**Kununurra**	**9.69**	**120**	P	**Pn**	**17 04 05.6**	**+2.0**
	baz=9.8,SNR=7.1						
MTN	**Manton Dam**	**11.00**	**101**	P	**Pn**	**17 04 22.0**	**+0.5**
	baz=11,SNR=11						
KDU	**Kakadu**	**12.28**	**99**	P	P	17 04 45.9	-4.9
	baz=12,SNR=7.2						
MEEK	**Meekatharra**	**15.68**	**185**	P	**Pn**	**17 05 26.4**	**+1.5**
	baz=16,SNR=5.0						
WRKA	**Warakurna**	**16.05**	**152**	P	**P**	**17 05 31.6**	**-1.3**
	baz=16,SNR=4.4						
WRA	**Warramunga Arr**	**16.41**	**125**	Pn	**Pn**	**17 05 33.2**	**-1.2**
	0.2nm,0.3s,baz=297,slow=13,SNR=12						
WRA				Sn	Sn	17 08 22.5	-13
	0.1nm,0.3s,baz=300,slow=18,SNR=2.6						
ASAR	**Alice Springs**	**18.28**	**136**	P	**Pn**	**17 05 59.8**	**+2.2**
	0.2nm,0.3s,baz=322,slow=14,SNR=21						
ASAR				S	Sn	17 09 09.8	-11
	0.1nm,0.3s,baz=317,slow=24,SNR=5.3						
CMAR	**Chiang Mai Arr**	**35.88**	**324**	P	**P**	**17 08 44.2**	**+0.7**
	0.5nm,0.6s,baz=153,slow=6.8,SNR=8.4						
MJAR	**Matsushiro Arr**	**50.23**	**19**	P	**P**	**17 10 36.7**	**-2.6**
	0.7nm,0.8s,baz=194,slow=6.6,SNR=5.3						
USRK	**Ussuriysk Arra**	**55.94**	**10**	P	**P**	**17 11 20.8**	**-0.4**
	1.3nm,0.6s,baz=205,slow=8.7,SNR=5.1						
SONM	**Songino Array**	**59.76**	**349**	P	**P**	**17 11 48.3**	**+0.1**
	0.8nm,0.7s,baz=166,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**66.65**	**333**	P	**P**	**17 12 34.2**	**+0.6**
	1.3nm,0.7s,baz=140,slow=7.6,SNR=20						
KURBB	**Kurchatov Arra**	**71.16**	**333**	P	**P**	**17 13 02.0**	**+0.5**
	0.5nm,0.8s,baz=148,slow=5.3,SNR=10						
ZALV	**Zalesovo Beam**	**71.21**	**339**	P	**P**	**17 13 01.6**	**-0.2**
	1.5nm,0.5s,baz=141,slow=4.7,SNR=11						
YKA	**Yellowknife Ar**	**115.51**	**25**	PKP	**PKPdf**	**17 20 26.5**	**+2.0**
	0.2nm,0.6s,baz=293,slow=2.3,SNR=3.1						

IDC 29 17:02:13.3±8.5,1°.89N×125°.69E,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.5/22,mbtmp4.1/3,MS3.4/1,Ms1 3.4/1, ms1mx2.7/32,Error ellipse: s-maj=176.2km s-min=133.1km az=71.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.30**	**159**	P	P	17 07 21.5	-1.6
	2.9nm,0.4s,baz=338,slow=10,SNR=14						
ASAR	**Alice Springs**	**26.63**	**163**	P	P	17 07 54.5	+0.6
	1.5nm,0.3s,baz=342,slow=8.8,SNR=15						
STKA	**Stephens Creek**	**36.82**	**157**	P	P	17 09 23.7	+0.4
	0.7nm,0.3s,baz=344,slow=7.4,SNR=7.5						
MKAR	**Makanchi Array**	**58.48**	**326**	LR	LR	17 37 59.4	
	comp=Z,32nm,18.0s,baz=6.9,slow=37						

*IDC **29** 17:05:30.6±1.3,33°.80S×56°.4E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.6/24,mbtmp3.9/4,Error ellipse: s-maj=44.8km s-min=32.4km az=98.0*

ISC 29 17:05:32.3±1.5,33°.85S±0°.3×56°.4E±0°.4,h12km,n13, σ0s25/6,mb4.1/5,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**29.98**	**33**	T	T	17 42 59.8	
	baz=207,slow=75,SNR=25						
H08S2	**Diego Garcia H**	**29.99**	**33**	T	T	17 43 00.1	
	baz=207,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**30.00**	**33**	T	T	17 43 03.5	
	baz=207,slow=75,SNR=27						
H08N3	**Diego Garcia H**	**30.50**	**30**	T	T	17 43 36.0	
	baz=204,slow=76,SNR=16						
H08N1	**Diego Garcia H**	**30.51**	**30**	T	T	17 43 36.6	
	baz=204,slow=76,SNR=19						
H08N2	**Diego Garcia H**	**30.52**	**30**	T	T	17 43 37.4	
	baz=204,slow=76,SNR=16						
SNAA	**Sanae**	**48.69**	**201**	P	P	17 14 20.5	+4.4
	1.1nm,0.9s,baz=76,slow=9.6,SNR=3.5						
QSPA	**South Pole Qui**	**56.38**	**180**	P	**P**	**17 15 13.2**	**0.0**
	1.4nm,0.7s,baz=315,slow=5.7,SNR=7.1						
CMAR	**Chiang Mai Arr**	**65.94**	**45**	P	**P**	**17 16 18.4**	**0.0**
	1.4nm,0.9s,baz=230,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**67.31**	**104**	P	**P**	**17 16 27.3**	**-0.1**
	0.4nm,0.6s,baz=240,slow=5.6,SNR=6.7						
WRA	**Warramunga Arr**	**69.45**	**101**	P	**P**	**17 16 41.0**	**+0.2**
	0.9nm,0.6s,baz=239,slow=5.5,SNR=10						
ILAR	**Eielson Array**	**145.91**	**18**	PKPbc	**PKPdf**	**17 25 09.9**	**-0.3**
	0.5nm,0.6s,baz=316,slow=3.3,SNR=5.8						
YKA	**Yellowknife Ar**	**150.72**	**351**	PKPbc	**PKPbc**	**17 25 23.8**	**+0.2**
	0.8nm,0.6s,baz=15,slow=2.1,SNR=16						

KRSC 29 17:21:10.8±6.7,54°.73N×167°.78E,h10km±10km,ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.15**	**295**	P	Pn	17 21 33.1	+0.3
BKI				S	Sn	17 21 48.6	0.0
KBTR	**Krutoberegovo**	**3.19**	**300**	P	Pn	17 22 02.5	+1.6
KBTR				S	Sn	17 22 40.4	+1.4
KBG	**Krutoberegovo**	**3.27**	**300**	S	Sn	17 22 41.6	+0.7
MKZ	**Mys Kozlova**	**3.52**	**270**	P	Pn	17 22 08.3	+2.8
MKZ				S	Sn	17 22 48.9	+1.8
KZV	**Kizimen**	**4.34**	**278**	P	Pn	17 22 20.2	+3.3
TUMR	**Tumrok**	**4.43**	**280**	P	Pn	17 22 21.4	+3.2
OSSR	**Ossora**	**5.21**	**332**	P	Pn	17 22 32.6	+3.9
SDLR	**Sedlovina**	**5.45**	**258**	P	Pn	17 22 35.2	+3.1
SDLR				S	Sn	17 23 36.1	+1.2
SMAR	**Somma**	**5.50**	**258**	P	Pn	17 22 35.8	+2.9
UGLR	**Uglovaya**	**5.50**	**258**	P	Pn	17 22 35.3	+2.4
KRER	**Koryakskii**	**5.51**	**259**	P	Pn	17 22 35.7	+2.5
KRER				S	Sn	17 23 36.8	+0.1
AVH	**Avacha**	**5.53**	**258**	P	Pn	17 22 36.0	+2.8
KRX	**Arik**	**5.55**	**259**	P	Pn	17 22 36.9	+3.3
KOK	**Koryaka**	**5.58**	**259**	P	Pn	17 22 37.2	+3.2
KOK				S	Sn	17 23 40.6	+2.4
GNL	**Ganaly**	**5.87**	**264**	P	Pn	17 22 41.5	+3.6

WEL 29 17:21:38.8±0.7,44°.40S×167°.04E,h5km,ML4.1/16,4C, Error ellipse: s-maj=4.6km s-min=4.2km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.69**	**114**	⇑P*	Pg	17 21 51.9	-0.2
MSZ				SG	Sg	17 22 00.9	-0.2
MSZ				AML	AML	17 22 02.5	
MSZ				AML	AML	17 22 02.5	
MSZ				AML	AML	17 22 02.7	
DCZ	**Deep Cove**	**1.08**	**176**	⇑P*	Pg	17 21 58.6	-1.0
DCZ				AML	AML	17 22 14.9	
DCZ				AML	AML	17 22 15.0	
DCZ				AML	AML	17 22 21.1	
MLZ	**Mavora Lakes**	**1.24**	**140**	P*	Pg	17 22 01.9	-0.8
MLZ				S*	Sb	17 22 19.6	+0.3
MLZ				AML	AML	17 22 22.7	
JCZ	**Jackson Bay**	**1.28**	**76**	⇑P*	Pn	17 22 00.7	-2.8
JCZ				S*	Sg	17 22 19.3	-0.9
JCZ				AML	AML	17 22 23.1	
WKZ	**Wanaka**	**1.48**	**108**	PN	Pn	17 22 05.7	-0.5
WKZ				SN	Sn	17 22 25.8	-0.1
WKZ				AML	AML	17 22 26.4	
WKZ				AML	AML	17 22 27.5	
WKZ				AML	AML	17 22 27.5	
WHZ	**Wether Hill Ro**	**1.63**	**157**	PN	Pn	17 22 07.6	-0.6
WHZ				SN	Sn	17 22 29.4	-0.1
WHZ				AML	AML	17 22 40.7	
EAZ	**Earnscleugh**	**1.82**	**118**	PN	Pn	17 22 11.1	+0.3
EAZ				AML	AML	17 22 37.8	
EAZ				AML	AML	17 22 37.8	
EAZ				AML	AML	17 22 38.1	
EAZ				AML	AML	17 22 39.9	
FOZ	**Fox Glacier**	**2.09**	**67**	PN	Pn	17 22 12.2	-2.3
FOZ				AML	AML	17 22 53.6	
FOZ				AML	AML	17 22 53.6	
FOZ				AML	AML	17 22 53.6	
FOZ				AML	AML	17 22 53.7	
LBZ	**Lake Benmore**	**2.25**	**91**	PN	Pn	17 22 17.0	+0.2
LBZ				AML	AML	17 22 50.1	
LBZ				AML	AML	17 22 50.1	
LBZ				AML	AML	17 22 53.8	
LBZ				AML	AML	17 22 53.8	
TUZ	**Tuapeka**	**2.41**	**131**	PN	Pb	17 22 21.5	-1.0
TUZ				AML	AML	17 22 53.6	
TUZ				AML	AML	17 22 53.8	
APZ	**The Paps**	**2.52**	**165**	PN	Pn	17 22 20.6	+0.1
APZ				AML	AML	17 23 01.7	
SYZ	**Scrubby Hill**	**2.60**	**146**	PN	Pn	17 22 21.5	0.0
SYZ				AML	AML	17 23 08.4	
SYZ				AML	AML	17 23 08.4	
SYZ				AML	AML	17 23 12.8	
ODZ	**Otahua Downs**	**2.65**	**105**	PN	Pn	17 22 21.8	-0.4
HHSZ	**Highcliff Hill**	**2.92**	**122**	PN	Pn	17 22 26.1	+0.1
RPZ	**Rata Peaks**	**2.97**	**78**	PN	Pn	17 22 24.7	-2.0
RPZ				AML	AML	17 23 15.2	
RPZ				AML	AML	17 23 21.7	
WVZ	**Waitaha Valley**	**2.99**	**65**	PN	Pn	17 22 23.4	-3.4
WVZ				AML	AML	17 23 19.7	
OXZ	**Oxford**	**3.77**	**75**	PN	Pn	17 22 33.8	-3.9
MQZ	**McQueen's Vall**	**4.10**	**82**	⇑PN	Pn	17 22 38.8	-3.4
LTZ	**Lake Taylor**	**4.13**	**69**	PN	Pn	17 22 39.6	-3.0
LTZ				AML	AML	17 23 43.6	
LTZ				AML	AML	17 25 10.2	
DSZ	**Denniston Nort**	**4.38**	**54**	PN	Pn	17 22 42.7	-3.4
THZ	**Tophouse**	**5.04**	**61**	PN	Pn	17 22 52.7	-2.5
THZ				AML	AML	17 24 02.9	
THZ				AML	AML	17 24 27.5	
NNZ	**Nelson**	**5.64**	**58**	PN	Pn	17 23 01.3	-2.0

*IDC **29** 17:27:06.0±0.9,54°.65N×168°.07E,h0km,mb3.4/5, mb1 3.6/7,mb1mx3.4/29,mbtmp3.3/7,ML2.9/2,Error ellipse: s-maj=30.1km s-min=11.6km az=20.0*
*KRSC **29** 17:27:06.1±7.4,54°.65N×167°.75E,h10km±10km,ML3.6*
*ISCJB **29** 17:27:08.8±0.8,54°.69N±0°.07×167°.79E±0°.08,h29km, mb3.1/5,Error ellipse: s-maj=10.1km s-min=6.8km az=1.2*

ISC 29 17:27:10.6±1.0,54°.77N±0°.10×167°.83E±0°.08,h29km,n27, σ1s13/26,mb3.2/5,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.16**	**293**	P	**Pn**	**17 27 28.8**	**-1.9**
BKI				S	**Sn**	**17 27 44.2**	**-1.3**
KBTR

baz=43,slow=74,SNR=32
H03N3 Juan Fernandez 10.39 218 T T 17 42 17.9
baz=43,slow=74,SNR=35
CPUP Villa Florida 12.66 97 Pn **Pn 17 31 28.9 -0.3**
0.5nm,0.3s,baz=262,slow=15,SNR=2.1
SIV San Ignacio 13.41 48 Pn **Pn 17 31 41.1 +1.4**
2.3nm,0.3s,baz=258,slow=10,SNR=20
SIV Sn Sn 17 34 14.0 +6.3
0.2nm,0.3s,baz=307,slow=20,SNR=5.7
PLCA Paso Flores 15.30 178 Pn **P 17 32 09.2 -0.4**
0.1nm,0.3s,baz=9.9,slow=14,SNR=4.1
PLCA Sn **Sn 17 34 55.3 +1.9**
0.1nm,0.3s,baz=105,slow=17,SNR=2.5
BDFB Brasilia 23.88 70 P **P 17 33 42.9 +0.6**
1.9nm,0.6s,baz=234,slow=14,SNR=3.8
TXAR Lajitas Array 62.65 328 P **P 17 38 54.0 +1.0**
0.3nm,0.7s,baz=152,slow=7.9,SNR=4.0
TORD Torodi Ar. Bea 80.76 71 P **P 17 40 41.4 -0.7**
0.9nm,0.5s,baz=272,slow=4.8,SNR=7.2
YKA Yellowknife Ar 94.14 341 P **P 17 41 46.4 +0.3**
0.1nm,0.3s,baz=145,slow=6.8,SNR=4.2
WRA Warramunga Arr 128.47 211 PKP **PKPdf 17 47 35.8 +0.2**
0.4nm,0.7s,baz=150,slow=1.7,SNR=7.6
ZALV Zalesovo Beam 146.43 26 PKPbc **PKPbc 17 48 07.4 -1.3**
0.7nm,0.4s,baz=336,slow=3.3,SNR=6.9
MKAR Makanchi Array 150.09 38 PKPbc **PKPbc 17 48 18.8 +0.1**
1.1nm,0.8s,baz=322,slow=2.5,SNR=12

IDC 29 17:48:43.4±2.1, 5.18°S×152.79°E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/19, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=145.2km s-min=25.8km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.99**	**233**	Pn	Pn	17 50 29.0	+2.0
	1.0nm,0.3s,baz=51,slow=14,SNR=7.0						
PMG				Sn	Sn	17 51 42.6	-4.7
	1.9nm,0.3s,baz=152,slow=20,SNR=7.7						
WRA	**Warramunga Arr**	**23.19**	**229**	P	P	17 53 50.7	-1.3
	0.5nm,0.4s,baz=53,slow=10.0,SNR=9.5						
ASAR	**Alice Springs**	**25.86**	**223**	P	P	17 54 17.2	+0.2
	0.4nm,0.6s,baz=60,slow=8.7,SNR=7.3						
ILAR	**Eielson Array**	**82.52**	**22**	P	P	18 01 08.0	+0.2
	0.5nm,0.7s,baz=246,slow=5.4,SNR=8.3						

*AUST **29** 18:01:04.3, 6.98°S×129.54°E, h100km*
*ISCJB **29** 18:01:05.1±0.3, 6.925°±0.03°×129.54°E±0.04, h150km, mb4.4/19, Error ellipse: s-maj=5.8km s-min=3.9km az=158.5*
*NEIC **29** 18:01:07.6±1.3, 6.95°S×129.47°E, h167km±14km, mb4.4/7, Error ellipse: s-maj=11.0km s-min=7.3km az=53.0*
*IDC **29** 18:01:08.8±0.8, 6.95°S×129.50°E, h174km±8km, mb3.8/8, mb1 3.9/12, mb1mx3.7/21, mbtmp4.4/12, Error ellipse: s-maj=22.2km s-min=10.7km az=56.0*
*DJA **29** 18:01:09.7±0.3, 7°S±3'×13'0E±', h101km±8km, M4.9/22, mb4.8/22, mB5.5/10, MLv5.0/12, Mw(mB)4.9/10*
ISC 29 18:01:06.9±0.4, 7.01°S±0.05×129.50°E±0.05, h150km, n111, σ1s70/106, mb4.5/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.03**	**118**	P	Pn	18 01 46.1	+3.8
SAUI				S	**Sn**	**18 02 10.7**	**+1.2**
BNDI	**Bandanaira**	**2.51**	**9**	P	**Pn**	**18 01 48.9**	**+0.8**
MSAI	**Masohi**	**3.69**	**351**	P	**Pn**	**18 02 05.4**	**+2.3**
MSAI				S	**Sn**	**18 02 48.8**	**+2.0**
NLAI	**Namlea**	**4.45**	**327**	P	Pn	18 02 16.7	+3.7
FAKI	**Fak Fak**	**4.90**	**34**	P	**Pn**	**18 02 15.9**	**-3.1**
FAKI	**Fak Fak**	**4.90**	**34**	P	**Pn**	**18 02 15.9**	**-3.1**
	baz=4.9,SNR=199						
SOEI	**Soe**	**5.85**	**242**	P	Pn	18 02 37.1	+5.3
	521nm,0.7s,4µm1.5nm						
SOEI	**Soe**	**5.85**	**242**	P	Pn	18 02 37.0	+5.3
	baz=5.9,SNR=300						
MTN	**Manton Dam**	**6.01**	**165**	P	**Pn**	**18 02 36.3**	**+2.6**
	baz=6.1,SNR=286						
KDU	**Kakadu**	**6.35**	**153**	P	**Pn**	**18 02 40.0**	**+1.8**
	baz=6.4,SNR=368						
SWI	**Sorong**	**6.36**	**16**	P	Pn	18 02 34.9	-3.5
	44nm,0.4s,14µm3.3nm						
LBMI	**Labuha**	**6.64**	**342**	P	Pn	**18 02 43.7**	**+1.5**
	164nm,0.8s,1µm0.6nm						
MMRI	**Maumere**	**7.38**	**257**	P	Pn	18 02 56.8	+4.8
	87nm,0.8s,1µm0.4nm						
MWPI	**Manokwari, Pap**	**7.55**	**37**	P	**Pn**	**18 02 53.2**	**-1.1**
	547nm,1.0s,6µm3.0nm						
TNTI	**Ternate**	**8.02**	**345**	P	**Pn**	**18 03 01.5**	**+0.9**
	41nm,1.7s,0.2nm						
SRPI	**Serui, Papua**	**8.44**	**53**	P	**Pn**	**18 03 04.5**	**-1.7**
	140nm,1.0s,3µm						
KNRA	**Kununurra**	**8.64**	**185**	P	**Pn**	**18 03 11.3**	**+2.5**
	baz=8.7,SNR=99						
BAKI	**Biak**	**8.76**	**49**	P	**Pn**	**18 03 09.5**	**-1.0**
	575nm,0.9s,4µm						
BKSI	**Bulukumba**	**9.48**	**280**	P	Pn	18 03 25.2	+5.2
	15nm,1.0s						
WSI	**Waingapu**	**9.48**	**253**	P	**Pn**	**18 03 23.2**	**+3.1**
	556nm,0.5s,8µm						
WSI	**Waingapu**	**9.48**	**253**	P	**Pn**	**18 03 22.7**	**+2.6**
	baz=9.5,SNR=19						
LBFI	**Labuhan Bajo,**	**9.64**	**261**	P	Pn	18 03 25.5	+3.4
	81nm,0.6s,1µm						
BNSI	**Bone**	**9.70**	**285**	P	Pn	18 03 29.3	+6.3
	17nm,0.9s						
GTOI	**Gorontalo**	**9.98**	**319**	P	Pn	18 03 33.1	+6.4
	25nm,0.9s						
SPSI	**Sidrap Palu**	**10.15**	**287**	P	Pn	18 03 39.5	+11
	13nm,1.2s						
MRSI	**Marisa**	**10.60**	**314**	P	Pn	18 03 38.8	+4.0
	12nm,0.7s						
MMPI	**Merauke**	**10.88**	**98**	P	**Pn**	**18 03 39.6**	**+1.1**
	131nm,0.7s						
MMSI	**Mamuju**	**11.39**	**292**	P	P	18 03 56.5	+3.4
	56nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.65**	**199**	*e*Pn	**Pn**	**18 03 49.5**	**+0.9**
	9.2nm,0.8s						
FITZ				*e*Sn	Sn	18 05 52.5	-4.8
FITZ				S	**Sn**	**18 05 54.7**	**-2.7**
FITZ	**Fitzroy Crossi**	**11.65**	**199**	P	**Pn**	**18 03 49.7**	**+1.1**
	1.7nm,0.3s,baz=25,slow=9.4,SNR=45						
FITZ				S	**Sn**	**18 05 54.7**	**-2.7**
	2.5nm,0.3s,baz=132,slow=19,SNR=7.1						
FITZ	**Fitzroy Crossi**	**11.65**	**199**	P	**Pn**	**18 03 49.9**	**+1.3**
	baz=12,SNR=12						
JAY	**Jayapura**	**12.02**	**69**	P	**Pn**	**18 03 55.7**	**+2.1**
JAY	**Jayapura**	**12.02**	**69**	P	**Pn**	**18 03 55.7**	**+2.1**
	1.0nm,0.3s,baz=264,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**13.68**	**160**	P	**Pn**	**18 04 13.3**	**-1.6**
WRA				S	Sn	18 06 41.0	-5.4
WRA	**Warramunga Arr**	**13.68**	**160**	P	**Pn**	**18 04 13.3**	**-1.6**
	1.0nm,0.3s,baz=339,slow=13,SNR=76						
WRA				S	Sn	18 06 41.0	-5.4
	4.0nm,0.3s,baz=336,slow=22,SNR=7.3						
BBKI	**Banjar Baru**	**15.02**	**283**	P	P	18 04 38.5	+5.1
	71nm,1.0s						
COEN	**Coen**	**15.11**	**118**	*e*Pn	**Pn**	**18 04 31.6**	**-1.1**
	121nm,0.5s						
COEN				*e*Sn	Sn	18 07 04.7	-16
COEN	**Coen**	**15.11**	**118**	P	**Pn**	**18 04 31.7**	**-1.0**
	baz=15,SNR=71						
JAGI	**Jajag, Banyuwa**	**15.28**	**264**	P	**Pn**	**18 04 34.1**	**-0.8**
	baz=15,SNR=22						
QIS	**Mount Isa**	**16.65**	**145**	P	**P**	**18 04 51.8**	**+0.4**
	baz=17,SNR=40						
AS31	**Alice Springs**	**17.09**	**166**	*e*Pn	**Pn**	**18 04 58.1**	**+1.2**
AS31				*e*Sn	S	18 07 59.8	-7.0
ASAR	**Alice Springs**	**17.09**	**166**	P	**Pn**	**18 04 58.4**	**+1.5**
ASAR				S	**S**	**18 08 04.5**	**-2.4**
ASAR	**Alice Springs**	**17.09**	**166**	P	**Pn**	**18 04 58.4**	**+1.5**
	4.6nm,0.3s,baz=348,slow=10,SNR=283						
ASAR				S	**S**	**18 08 04.5**	**-2.4**
	0.9nm,0.3s,baz=358,slow=25,SNR=6.0						
PWJI	**Pagerwojo**	**17.58**	**266**	P	**Pn**	**18 05 05.3**	**+2.5**
PMG	**Port Moresby**	**17.64**	**99**	P	**Pn**	**18 05 05.0**	**+1.5**
	29nm,1.0s						
PMG	**Port Moresby**	**17.64**	**99**	*e*P	**P**	**18 05 02.4**	**+0.1**
	24nm,0.9s						
PMG				*e*S	S	18 07 51.6	-27
PMG	**Port Moresby**	**17.64**	**99**	P	**P**	**18 05 02.6**	**+0.3**
	0.9nm,0.3s,baz=286,slow=7.9,SNR=10						
PMG	**Port Moresby**	**17.64**	**99**	P	**P**	**18 05 03.2**	**+0.9**
	baz=18,SNR=4.3						
PMG				P	**P**	**18 05 03.2**	**+0.9**
	baz=18,SNR=4.3						
WRKA	**Warakurna**	**17.96**	**184**	P	**Pn**	**18 05 08.5**	**+1.2**
	baz=18,SNR=39						
UGM	**Wanagama**	**18.84**	**266**	P	**Pn**	**18 05 18.5**	**+0.8**
	baz=19,SNR=6.4						
CTA	**Charters Tower**	**20.81**	**130**	P	**P**	**18 05 37.0**	**+0.5**
CTA	**Charters Tower**	**20.81**	**130**	P	**P**	**18 05 37.0**	**+0.5**
	11nm,0.7s,baz=305,slow=12,SNR=15						
CTAO	**Charters Tower**	**20.81**	**130**	*e*P	**P**	**18 05 36.7**	**+0.1**
	20nm,1.0s						
CISI	**Cisompet, Garu**	**21.52**	**267**	P	**P**	**18 05 47.9**	**+3.6**
MEEK	**Meekatharra**	**22.10**	**207**	P	**P**	**18 05 52.2**	**+2.0**
	baz=22,SNR=4.5						
QLP	**Quilpie**	**23.99**	**146**	P	**P**	**18 06 07.8**	**+0.1**
	baz=24,SNR=24						
BBOO	**Buckleboo**	**26.38**	**168**	P	**P**	**18 06 29.8**	**+0.5**
	baz=26,SNR=7.7						
RMQ	**Roma**	**26.66**	**139**	P	**P**	**18 06 31.9**	**0.0**
	baz=27,SNR=8.0						
STKA	**Stephens Creek**	**27.19**	**157**	*e*P	**P**	**18 06 36.5**	**0.0**
	1.6nm,0.5s						
STKA	**Stephens Creek**	**27.19**	**157**	P	**P**	**18 06 36.6**	**+0.1**
	8.5nm,0.4s,baz=336,slow=8.0,SNR=74						
STKA	**Stephens Creek**	**27.19**	**157**	P	**P**	**18 06 36.8**	**+0.3**
	baz=27,SNR=22						
HTT	**Hallett**	**27.70**	**163**	P	**P**	**18 06 41.6**	**+0.5**
	baz=28,SNR=11						
CMSA	**Cobar Meteorol**	**28.71**	**150**	P	**P**	**18 06 50.5**	**+0.5**
	baz=29,SNR=52						
ARMA	**Armidale**	**31.20**	**141**	P	**P**	**18 07 12.9**	**+0.7**
	baz=31,SNR=8.3						
ARPS	**Mount Arapiles**	**31.69**	**161**	P	**P**	**18 07 17.4**	**+1.2**
	baz=32,SNR=36						
YNG	**Young**	**32.27**	**150**	P	**P**	**18 07 22.4**	**+0.9**
	baz=32,SNR=10						
CAN	**Canberra**	**33.38**	**150**	*e*P	**P**	**18 07 31.9**	**+0.8**
	17nm,0.7s						
CNB	**Canberra Magne**	**33.56**	**150**	P	**P**	**18 07 33.8**	**+1.1**
	baz=34,SNR=14						
TOO	**Toolangi**	**33.71**	**157**	P	**P**	**18 07 35.7**	**+1.8**
	baz=34,SNR=5.3						
DZM	**Mont Dzumac**	**38.63**	**117**	P	**P**	**18 08 15.1**	**-0.9**
DZM	**Mont Dzumac**	**38.63**	**117**	P	**P**	**18 08 15.1**	**-0.9**
	6.5nm,0.8s,baz=278,slow=14,SNR=5.6						
CMAR	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**18 08 21.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**18 08 21.3**	**-0.7**
	1.7nm,0.6s,baz=136,slow=7.2,SNR=28						
CHTO	**Chiang Mai**	**39.58**	**311**	*e*P	**P**	**18 08 22.6**	**-1.2**
	3.1nm,0.7s						
NFK	**Norfolk Island**	**42.32**	**126**	P	P	18 08 53.0	+6.9
	baz=42,SNR=7.0						
ODAN	**Odare**	**52.89**	**311**	*e*P	**P**	**18 10 06.3**	**-1.7**
	5.7nm,0.5s						
ODAN	**Odare**	**52.89**	**311**	*e*P	**P**	**18 10 06.3**	**-1.7**
	5.7nm,0.5s						
TAPN	**Taplejung**	**52.93**	**312**	*e*P	**P**	**18 10 06.7**	**-1.6**
	5.0nm,0.4s						
RAMN	**Ramite**	**53.53**	**311**	*e*P	**P**	**18 10 11.4**	**-1.2**
	15nm,0.5s						
RAMN	**Ramite**	**53.53**	**311**	*e*P	**P**	**18 10 11.4**	**-1.2**
	15nm,0.5s						
JIRN	**Jiri**	**54.22**	**311**	*e*P	**P**	**18 10 16.0**	**-1.8**
	5.0nm,0.3s						
GUN	**Gumba**	**54.59**	**311**	*e*P	**P**	**18 10 18.9**	**-1.5**
	11nm,0.4s						
GUN	**Gumba**	**54.59**	**311**	*e*P	**P**	**18 10 18.9**	**-1.5**
	11nm,0.4s						
PKI	**Pulchoki**	**54.76**	**311**	*e*P	**P**	**18 10 19.7**	**-1.9**
	6.7nm,0.4s						
PKI	**Pulchoki**	**54.76**	**311**	*e*P	**P**	**18 10 19.7**	**-1.9**
	6.7nm,0.4s						
PKIN	**Phulchoki**	**54.77**	**311**	*e*P	**P**	**18 10 19.5**	**-2.1**
	6.2nm,0.4s						
KKN	**Kakani**	**54.97**	**311**	*e*P	**P**	**18 10 21.2**	**-1.8**
	5.0nm,0.4s						
KKN	**Kakani**	**54.97**	**311**	*e*P	**P**	**18 10 21.2**	**-1.8**
	5.0nm,0.4s						
GKN	**Gorkha**	**55.57**	**311**	*e*P	**P**	**18 10 25.6**	**-1.6**
	18nm,0.4s						
GKN	**Gorkha**	**55.57**	**311**	*e*P	**P**	**18 10 25.6**	**-1.6**
	18nm,0.4s						
KOLN	**Koldanda**	**56.23**	**310**	*e*P	**P**	**18 10 30.2**	**-1.8**
	11nm,0.5s						
KOLN	**Koldanda**	**56.23**	**310**	*e*P	**P**	**18 10 30.2**	**-1.8**
	11nm,0.5s						
DANN	**Dangsing**	**56.41**	**311**	*e*P	**P**	**18 10 31.6**	**-1.7**
	8.6nm,0.5s						
DANN	**Dangsing**	**56.41**	**311**	*e*P	**P**	**18 10 31.6**	**-1.7**
	8.6nm,0.5s						
SONM	**Songino Array**	**58.30**	**342**	P	**P**	**18 10 45.0**	**-1.0**
SONM				pP	**pP**	**18 11 24.7**	**+3.5**
SONM	**Songino Array**	**58.30**	**342**	P	**P**	**18 10 45.0**	**-1.0**
	0.3nm,0.4s,baz=166,slow=7.5,SNR=7.8						
SONM				pP	**pP**	**18 11 24.7**	**+3.5**
	0.5nm,1.0s,baz=152,slow=5.9,SNR=2.2						
MK31	**Makanchi Array**	**67.97**	**327**	*e*P	**P**	**18 11 48.1**	**-1.5**
MK31				*e*		18 12 34.2	
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**18 11 48.5**	**-1.1**
MKAR				pP	pP	18 12 31.0	+5.1
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**18 11 48.5**	**-1.1**
	1.1nm,0.4s,baz=117,slow=8.1,SNR=50						
MKAR				pP	pP	18 12 31.0	+5.1
	1.3nm,0.7s,baz=132,slow=7.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**71.38**	**334**	P	**P**	**18 12 08.2**	**-2.1**
ZALV				pP	**pP**	**18 12 50.7**	**+3.9**
ZALV	**Zalesovo Beam**	**71.38**	**334**	P	**P**	**18 12 08.2**	**-2.1**
	0.4nm,0.3s,baz=130,slow=5.0,SNR=4.0						
ZALV				pP	**pP**	**18 12 50.7**	**+3.9**
	0.6nm,0.5s,baz=118,slow=5.5,SNR=1.7						
VNDA	**Vanda**	**72.49**	**173**	P	**P**	**18 12 16.4**	**-0.3**
VNDA	**Vanda**	**72.49**	**173**	P	**P**	**18 12 16.4**	**-0.3**
	1.5nm,0.6s,baz=327,slow=6.1,SNR=10						
QSPA	**South Pole Qui**	**82.96**	**180**	*e*P	**P**	**18 13 13.8**	**-1.1**
	11nm,1.5s						
ILAR	**Eielson Array**	**93.57**	**25**	P	P	18 14 01.4	-4.1
ILAR	**Eielson Array**	**93.57**	**25**	P	P	18 14 01.4	-4.1
	0.3nm,0.6s,baz=253,slow=4.9,SNR=5.7						
LVC	**Limon Verde**	**145.47**	**149**	*e*PKPdf	**PKPdf**	**18 20 27.5**	**-0.8**
CPUP	**Villa Florida**	**146.20**	**169**	PKPbc	**PKPdf**	**18 20 29.6**	**+0.4**
CPUP	**Villa Florida**	**146.20**	**169**	PKPbc	**PKPdf**	**18 20 29.6**	**+0.4**
	3.4nm,0.6s,baz=223,slow=2.1,SNR=6.3						
LPAZ	**La Paz**	**151.01**	**143**	PKPbc	**PKPbc**	**18 20 43.1**	**-0.7**
LPAZ	**La Paz**	**151.01**	**143**	PKPbc	**PKPbc**	**18 20 43.1**	**-0.7**
	1.9nm,0.4s,baz=32,slow=2.5,SNR=10						

*ISCJB **29** 18:06:34.4±0.8, 6.0S±0.1°×151.1E±0.2, h43km, mb3.8/12, MS3.0/4, Error ellipse: s-maj=28.8km s-min=8.6km az=37.6*
*IDC **29** 18:06:38.9±2.9, 6.10S×151.01E, h72km±24km, mb3.6/12, mb1 3.8/13, mb1mx3.7/21, mbtmp3.9/13, MS3.2/6, Ms1 3.2/6, ms1mx2.9/33, Error ellipse: s-maj=36.2km s-min=13.5km az=126.0*
ISC 29 18:06:35.7±1.0, 6.0S±0.2×151.1E±0.2, h43km, n17, σ1s29/16, mb3.9/12, MS3.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.17**	**229**	P	**Pn**	**18 07 52.6**	**+2.0**
	1.8nm,0.3s,baz=38,slow=12,SNR=6.9						
PMG				S	**Sn**	**18 08 48.7**	**-0.3**
	4.1nm,0.3s,baz=31,slow=14,SNR=8.2						
PMG				LR	LR	18 09 43.7	
	comp=Z,130nm,18.4s,baz=34,slow=37						
HNR	**Honiara**	**9.37**	**112**	LR	LR	18 12 12.4	
	comp=Z,15nm,28.6s,baz=320,slow=35						
WRA	**Warramunga Arr**	**21.39**	**228**	P	**P**	**18 11 18.6**	**-1.2**
	6.6nm,0.8s,baz=52,slow=11,SNR=8.6						
WRA				S	**S**	**18 15 12.2**	**-2.9**
	1.3nm,1.1s,baz=53,slow=20,SNR=4.7						
DZM	**Mont Dzumac**	**21.76**	**139**	LR	LR	18 18 22.5	
	comp=Z,115nm,19.6s,baz=359,slow=32						
ASAR	**Alice Springs**	**24.13**	**222**	P	**P**	**18 11 47.0**	**-0.7**
	7.3nm,0.7s,baz=52,slow=9.7,SNR=15						
ASAR				LR	LR	18 21 13.4	
	comp=Z,111nm,18.4s,baz=74,slow=36						
STKA	**Stephens Creek**	**27.22**	**198**	P	**P**	**18 12 16.9**	**+1.2**
	2.6nm,0.8s,baz=4.1,slow=14,SNR=3.7						
STKA				LR	LR	18 23 07.3	
	comp=Z,15nm,28.6s,baz=23,slow=36						
FITZ	**Fitzroy Crossi**	**27.61**	**242**	P	**P**	**18 12 19.7**	**+0.4**
	3.0nm,0.7s,baz=90,slow=9.1,SNR=3.0						
MJAR	**Matsushiro Arr**	**44.04**	**345**	LR	LR	18 31 56.5	

comp=Z,15nm,28.6s,baz=170,slow=34
SONM Songino Array 66.49 329 P **P 18 17 22.3 +1.2**
0.5nm,0.4s,baz=116,slow=5.3,SNR=7.9
MKAR Makanchi Array 80.16 319 P **P 18 18 40.8 -0.8**
0.3nm,0.7s,baz=101,slow=6.0,SNR=3.1
ZALV Zalesovo Beam 81.25 327 P **P 18 18 47.8 +0.7**
0.4nm,0.5s,baz=90,slow=7.2,SNR=2.6
KURBB Kurchatov Arra 83.74 322 P **P 18 18 59.9 -0.3**
0.3nm,0.3s,baz=98,slow=3.8,SNR=4.1
ILAR Eielson Array 83.92 22 P **P 18 19 00.1 -0.7**
1.4nm,0.8s,baz=248,slow=5.5,SNR=12
BVAR Borovoye Array 89.22 323 P **P 18 19 26.1 -0.9**
0.1nm,0.4s,baz=134,slow=4.2,SNR=2.3
NVAR Mina Array Bea 94.15 52 P **P 18 19 50.5 0.0**
0.4nm,0.7s,baz=286,slow=6.5,SNR=2.5
YKA Yellowknife Ar 97.28 28 P **P 18 20 03.8 -0.1**
0.2nm,0.7s,baz=262,slow=4.3,SNR=3.6
TORD Torodi Ar. Bea 149.06 285 PKPbc **PKPbc 18 26 19.2 -1.1**
1.4nm,0.7s,baz=68,slow=2.9,SNR=8.6

*ISCJB **29** 18:10:25.8±0.2, 43.97°N±0.01°×105.29°W±0.02, h0km, mb3.6/2, Error ellipse: s-maj=1.9km s-min=1.9km az=172.6*
*NEIC **29** 18:10:25.9±0.4, 43.98°N×105.25°W, h0km, ML3.3, Error ellipse: s-maj=6.3km s-min=5.7km az=159.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] SSE of Gillette.
*IDC **29** 18:10:26.7±1.0, 44.23°N×105.69°W, h0km, mb3.7/2, mb1 3.6/6, mb1mx3.4/31, mbtmp3.4/6, ML3.1/4, Error ellipse: s-maj=26.1km s-min=9.7km az=143.0*
ISC 29 18:10:25.6±0.6, 43.99°N±0.02×105.33°W±0.02, h0km, n102, σ0s93/118, 37C-40D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.10**	**252**	⇓P	**Pg**	**18 10 29.6**	**+2.0**
	baz=0.2,SNR=1000						
I23A				⇑S	**Sg**	**18 10 30.9**	**+2.0**
	baz=0.2						
I24A	**Kuemmerle Ranc**	**0.52**	**104**	P	**Pg**	**18 10 35.9**	**+0.3**
	baz=0.5,SNR=188						
I24A				⇓S	**Sg**	**18 10 42.2**	**-0.2**
	baz=0.5						
H23A	**Clabaugh Cattl**	**0.57**	**355**	⇑P	**Pb**	**18 10 38.0**	**-0.5**
	baz=0.6						
J23A	**Dilts Ranch, B**	**0.61**	**196**	⇑P	**Pg**	**18 10 37.7**	**+0.5**
	baz=0.6,SNR=57						
J23A				⇓S	**Sg**	**18 10 45.0**	**-0.1**
	baz=0.6						
J24A	**Dixon Ranch, L**	**0.82**	**144**	⇑P	**Pg**	**18 10 41.2**	**0.0**
	baz=0.8						
J24A				⇑S	**Sg**	**18 10 52.0**	**+0.1**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.84**	**264**	⇓P	**Pb**	**18 10 42.8**	**-0.3**
	baz=0.9,SNR=350						
I22A				⇑S	**Sb**	**18 10 54.6**	**-0.4**
	baz=0.9						
H24A	**Dirks Ranch, A**	**0.94**	**36**	P	**Pg**	**18 10 43.9**	**+0.3**
	baz=0.9,SNR=181						
H24A				⇓S	**Sb**	**18 10 57.6**	**-0.2**
	baz=0.9						
RSSD	**Black Hills**	**0.94**	**82**	*e*Pg	**Pg**	**18 10 43.4**	**-0.2**
H22A	**Clearmont**	**0.95**	**310**	⇓P	**Pn**	**18 10 45.2**	**-1.1**
	baz=1.0,SNR=38						
J22A	**Midwest**	**1.02**	**236**	⇑P	**Pg**	**18 10 44.8**	**-0.2**
	baz=1.1,SNR=46						
J22A				⇑S	**Sb**	**18 10 59.5**	**-0.6**
	baz=1.1						
I25A	**Rochford**	**1.15**	**88**	⇑P	**Pg**	**18 10 47.4**	**-0.3**
	baz=1.1,SNR=168						
I25A				⇓S	**Sg**	**18 11 03.7**	**+1.2**
	baz=1.1						
G23A	**Biddle**	**1.21**	**358**	⇑P	**Pn**	**18 10 49.4**	**-0.5**
	baz=1.2,SNR=125						
G23A				⇑S	**Sn**	**18 11 07.5**	**+0.5**
	baz=1.2						
K23A	**Bowen Ranch, D**	**1.25**	**190**	⇓P	**Pg**	**18 10 49.5**	**-0.1**
	baz=1.3,SNR=25						
K23A				⇓S	**Sg**	**18 11 06.0**	**+0.1**
	baz=1.3						
J25A	**Sunshine Ranch**	**1.26**	**118**	P	**Pg**	**18 10 49.0**	**-0.7**
	baz=1.2,SNR=213						
J25A				⇓S	**Sg**	**18 11 06.2**	**+0.2**
	baz=1.2						
K24A	**Anderson Ranch**	**1.32**	**163**	⇓P	**Pg**	**18 10 50.3**	**-0.6**
	baz=1.3,SNR=42						
K24A				⇑S	**Sg**	**18 11 08.8**	**+0.8**
	baz=1.3						
H21A	**Big Horn, Sher**	**1.39**	**298**	⇓P	**Pn**	**18 10 52.8**	**+0.5**
	baz=1.4,SNR=171						
H21A				⇑S	**Sn**	**18 11 12.8**	**+1.4**
	baz=1.4						
H25A	**Fruitdale**	**1.39**	**63**	⇑P	**Pn**	**18 10 51.8**	**-0.6**
	baz=1.3,SNR=82						
H25A				⇓S	**Sb**	**18 11 11.8**	**+1.0**
	baz=1.3						
I21A	**Big Trails, Te**	**1.43**	**263**	⇓P	**Pb**	**18 10 52.4**	**-0.8**
	baz=1.5,SNR=279						
I21A				⇓S	**Sn**	**18 11 13.5**	**+0.9**
	baz=1.5						
G24A	**Alzada**	**1.49**	**26**	⇓P	**Pb**	**18 10 54.1**	**-0.1**
	baz=1.5,SNR=36						
G24A				⇓S	**Sn**	**18 11 15.4**	**+1.6**
	baz=1.5						
K22A	**Casper**	**1.60**	**214**	*e*Pn	**Pn**	**18 10 55.0**	**-0.3**
K22A	**Casper**	**1.60**	**214**	⇑P	**Pn**	**18 10 55.2**	**-0.1**
	baz=1.6,SNR=347						
K22A				⇑S	**Sg**	**18 11 17.4**	**+0.4**
	baz=1.6			

	baz=2.3						
G20A	**Bridger**	2.40	302	P	Pn	18 11 07.2	+0.9
	baz=2.4,SNR=249						
E22A	**Miles City**	2.49	350	P	Pn	18 11 08.1	+0.8
	baz=2.5,SNR=25						
M24A	**Cheyenne**	2.55	171	⇑P	Pn	18 11 09.5	+1.1
	baz=2.5,SNR=69						
K27A	**Fleuckinger Fa**	2.60	119	⇑P	Pn	18 11 09.4	+0.5
	baz=2.5,SNR=10.0						
I19A	**Meeteetse**	2.65	272	⇓P	Pn	18 11 11.1	+1.4
	baz=2.7,SNR=50						
E24A	**Baker**	2.67	15	⇓P	Pn	18 11 11.2	+1.3
	baz=2.7,SNR=47						
F20A	**Billings**	2.70	313	P	Pn	18 11 11.1	+0.7
	baz=2.7,SNR=40						
H19A	**Powell**	2.71	286	⇓P	Pn	18 11 11.8	+1.2
	baz=2.8,SNR=22						
LAO	**LASA Array**	2.77	347	*e*Pn	Pn	18 11 11.3	0.0
RLMT	**Red Lodge**	3.04	293	*e*Pn	Pn	18 11 16.2	+1.1
N23A	**Red Feather La**	3.13	189	⇓P	Pn	18 11 17.0	+0.7
	baz=3.1,SNR=29						
F19A	**Roth Farm, Mol**	3.17	307	⇑P	Pn	18 11 18.2	+1.4
	baz=3.2,SNR=186						
H18A	**Shoshone NF, C**	3.19	284	⇑P	Pn	18 11 18.0	+0.9
	baz=3.2,SNR=46						
D24A	**Glendive**	3.20	12	⇓P	Pn	18 11 18.6	+1.4
	baz=3.2,SNR=14						
D22A	**Cohagen**	3.21	350	⇑P	Pn	18 11 18.5	+1.1
	baz=3.2,SNR=15						
PDAR	**Pinedale Array**	3.32	250	Pn	Pn	18 11 20.9	+1.9
PDAR				Lg	Lg	18 12 05.9	
PDAR	**Pinedale Array**	3.32	250	Pn	Pn	18 11 20.9	+1.9
	0.5nm,0.3s,baz=62,slow=15,SNR=22						
PDAR				Lg	Lg	18 12 05.9	
	2.0nm,0.3s,baz=92,slow=21,SNR=4.1						
BW06	**Boulder Array**	3.32	250	*e*Pn	Pn	18 11 16.8	-2.2
GCMT	**Greycliff**	3.57	302	*e*Pn	Pn	18 11 24.1	+1.8
C22A	**Vida**	3.77	354	⇓P	Pn	18 11 26.7	+1.7
	baz=3.8,SNR=26						
N27A	**Anderson Farm,**	3.79	146	⇓P	Pn	18 11 25.7	+0.3
	baz=3.8,SNR=11						
H17A	**Grant Village**	3.80	278	*e*Pn	Pn	18 11 28.2	+2.7
C23A	**Lambert**	3.81	1	⇓P	Pn	18 11 27.3	+1.7
	baz=3.8,SNR=77						
OGNE	**Ogallala**	3.90	140	*e*Pn	Pn	18 11 27.2	+0.4
YFT	**Old Faithful**	3.99	279	Pn	Pb	18 11 33.0	-3.9
YMR	**Madison River**	4.10	281	*e*Pn	Pn	18 11 32.6	+2.9
ISCO	**Idaho Springs**	4.19	183	*e*Pn	Pn	18 11 31.5	+0.4
O20A	**White River Ci**	4.42	210	*e*Pn	Pn	18 11 34.9	+0.8
C26A	**Wahner Farm, P**	4.45	29	⇓P	Pn	18 11 35.5	+1.2
	baz=4.4,SNR=6.5						
QLMT	**Earthquake Lak**	4.45	283	Pn	Pb	18 11 39.4	-5.3
B25A	**Knox Farm, Ray**	4.54	19	⇑P	Pn	18 11 37.1	+1.6
	baz=4.5,SNR=8.7						
DGMT	**Dagmar**	4.55	10	*e*Pn	Pn	18 11 36.7	+1.1
BOZ	**Bozeman (W)**	4.78	292	*e*Pn	Pn	18 11 40.0	+1.0
HRY	**Holter Researc**	5.33	303	*e*Pn	Pn	18 11 47.0	+0.6
	19nm,0.5s						
KSCO	**Kaye Shedlock'**	5.37	157	*e*Pn	Pn	18 11 46.9	-0.3
	30nm,0.6s						
LRM	**Limekiln Ridge**	5.38	292	Pn	Pn	18 11 47.3	0.0
	46nm,0.5s						
MCMT	**McKenzie Canyo**	5.45	281	Pn	Pb	18 11 55.2	-6.6
	2.0nm,0.6s						
DAU	**Daniels Canyon**	5.67	233	*e*Pn	Pn	18 11 55.0	+3.6
	7.9nm,0.5s						
BGNE	**Belgrade**	5.88	114	Pn	Pn	18 12 02.3	+8.2
	32nm,0.4s						
HVU	**Hansel Valley**	5.90	251	*e*Pn	Pn	18 11 59.1	+4.7
	5.1nm,0.7s						
R27A	**Eads**	6.01	161	⇑P	Pn	18 11 56.0	+0.2
	baz=6.0,SNR=5.6						
R28A	**Tribune**	6.24	154	⇓P	Pn	18 11 58.9	0.0
	baz=6.2,SNR=5.2						
SRU	**San Rafael**	6.24	220	*e*Pn	Pn	18 11 57.8	-1.3
CHMT	**Chamberlain Mo**	6.29	300	*e*Pn	Pn	18 12 00.9	+1.1
	2.8nm,0.3s						
ECSD	**EROS Data Cent**	6.30	89	*e*Pn	Pn	18 12 00.2	+0.4
	13nm,0.6s						
TMUT	**Trail Mountain**	6.43	225	*e*Pn	Pn	18 12 03.1	+1.3
	9.3nm,0.6s						
YBMT	**Yellow Bay**	7.19	306	*e*Pn	Pn	18 12 13.3	+1.3
	12nm,0.7s						
MVU	**Marysvale**	7.55	226	Pn	Pn	18 12 16.4	-0.7
	2.9nm,0.6s						
AGMN	**Agassiz Nation**	7.86	53	*e*Pn	Pn	18 12 20.1	-1.0
	10.0nm,0.5s						
ULM	**Lac du Bonnet**	8.98	42	Pn	Pn	18 12 35.7	-0.8
ULM				Pg	Pg	18 13 04.7	-13
ULM				Lg	Lg	18 15 06.9	
ULM	**Lac du Bonnet**	8.98	42	Pn	Pn	18 12 35.7	-0.8
	0.9nm,0.3s,baz=224,slow=12,SNR=6.7						
ULM				Pg	Pg	18 13 04.7	-13
	0.4nm,0.3s,baz=237,slow=16,SNR=2.4						
ULM				Lg	Lg	18 15 06.9	
	0.7nm,0.3s,baz=328,slow=23,SNR=3.5						
TXAR	**Lajitas Array**	14.69	174	Pn	P	18 14 01.0	-0.1
TXAR	**Lajitas Array**	14.69	174	Pn	P	18 14 01.0	-0.1
	0.1nm,0.3s,baz=347,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	19.31	347	P	P	18 14 51.7	-0.2
YKA	**Yellowknife Ar**	19.31	347	P	P	18 14 51.7	-0.2
	0.1nm,0.3s,baz=153,slow=13,SNR=5.1						
KURK	**Kurchatov**	85.61	357	P	P	18 23 05.1	-0.5
KURBB	**Kurchatov Arra**	85.71	358	P	P	18 23 05.1	-1.0
	0.1nm,0.2s,baz=1.4,slow=2.3,SNR=2.8						
MKAR	**Makanchi Array**	89.35	355	P	P	18 23 23.3	-0.5
MKAR	**Makanchi Array**	89.35	355	P	P	18 23 23.3	-0.5
	0.4nm,0.7s,baz=16,slow=3.8,SNR=4.7						

MOS ***29*** *18:20:10.3±1.0,54.°72N×168.°08E,h8km,mb4.1/13,Error ellipse: s-maj=13.3km s-min=11.8km az=44.2*
IDC ***29*** *18:20:11.0±0.5,54.°71N×168.°04E,h0km,mb3.9/18, mb1 4.1/20,mb1mx3.9/34,mbtmp3.9/20,ML3.8/2,Error ellipse: s-maj=15.3km s-min=9.6km az=22.0*
ISCJB ***29*** *18:20:13.0±0.4,54.°72N±0.°05×167.°91E±0.°05,h23km, mb3.8/19,Error ellipse: s-maj=7.4km s-min=4.0km az=5.1*
KRSC ***29*** *18:20:13.1±6.4,54.°57N×167.°54E,h5km±5km,ML4.2*
ISC 29 18:20:14.2±0.6,54°63N±0°06×168°00E±0°05,h23km,n61,
σ1s73/71,mb3.9/19,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	1.31	297	PN	Pn	18 20 34.7	-2.3
BKI				S	Sn	18 20 49.9	-3.8
BKI	**Bering**	1.31	297	*e*P	Pn	18 20 34.7	-2.3
BKI				*e*S	Sn	18 20 49.9	-3.8
KBTR	**Krutoberegovo**	3.35	300	PN	Pn	18 21 04.1	-1.0
KBTR	**Krutoberegovo**	3.35	300	P	Pn	18 21 04.1	-1.0
KBTR				*e*S	Sn	18 21 41.5	-2.7
FX1	**Attu Island--F**	3.53	118	Pn	Pn	18 21 05.7	-1.9
	37nm,0.3s,baz=332,slow=5.4,SNR=31						
FX1				Sn	Sn	18 21 45.4	-3.1
	32nm,0.3s,baz=154,slow=22,SNR=9.5						
MKZ	**Mys Kozlova**	3.65	271	PN	Pn	18 21 09.1	-0.1
MKZ	**Mys Kozlova**	3.65	271	P	Pn	18 21 09.1	-0.1
MKZ				S	Sn	18 21 48.7	-2.8
SMKR	**Semkarok**	4.19	301	P	Pn	18 21 17.5	+0.7
SMKR				S	Sn	18 22 03.5	-1.5
BDR	**Baidarnaya**	4.32	300	P	Pn	18 21 19.7	+1.2
BDR				S	Sn	18 22 07.4	-0.7
SRKR	**Sorokina**	4.37	300	P	Pn	18 21 21.4	+2.2
KZV	**Kizimen**	4.48	279	P	Pn	18 21 21.6	+0.8
KZV				S	Sn	18 22 10.5	-1.7
KLY	**Klyuchi**	4.51	295	S	Sn	18 22 10.5	-2.2
TUMR	**Tumrok**	4.58	281	P	Pn	18 21 23.3	+1.2
TUMR				*e*S	Sn	18 22 12.5	-2.0
KMNR	**Kamenistaya**	4.59	287	P	Pn	18 21 23.7	+1.4
KMNR				S	Sn	18 22 14.2	-0.7
SPN	**Mys Shipunski**	4.96	255	S	Sn	18 22 20.9	-3.0
SRDR	**Sredinnyy**	5.01	293	P	Pn	18 21 30.1	+2.1
SRDR				S	Sn	18 22 25.2	+0.1
NLC	**Nalytchevo**	5.32	258	PN	Pn	18 21 31.8	-0.4
NLC	**Nalytchevo**	5.32	258	P	Pn	18 21 31.8	-0.4
NLC				*e*S	Sn	18 22 27.6	-5.1
ESO	**Esso**	5.47	288	PN	Pn	18 21 36.0	+1.7
ESO	**Esso**	5.47	288	P	Pn	18 21 36.0	+1.7
SDLR	**Sedlovina**	5.55	260	P	Pn	18 21 36.0	+0.5
SDLR				S	Sn	18 22 36.3	-2.3
SMAR	**Somma**	5.60	260	P	Pn	18 21 36.6	+0.3
KRER	**Koryakskii**	5.62	260	P	Pn	18 21 37.2	+0.7
AVH	**Avacha**	5.64	260	P	Pn	18 21 37.0	+0.4
AVH				S	Sn	18 22 37.6	-3.0
KRX	**Arik**	5.66	261	P	Pn	18 21 37.6	+0.6
KOK	**Koryaka**	5.69	260	P	Pn	18 21 38.3	+1.0
GNL	**Ganaly**	5.98	265	P	Pn	18 21 42.8	+1.4
RUS	**Russkaya**	6.07	253	PN	Pn	18 21 44.2	+1.8
RUS	**Russkaya**	6.07	253	P	Pn	18 21 44.2	+1.8
MTVR	**Mutnovka**	6.23	254	P	Pn	18 21 45.6	+0.8
MTVR				S	Sn	18 22 52.4	-3.0
PETK	**Petropavlovsk-**	6.28	260	PN	Pn	18 21 46.9	+1.5
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	6.28	260	Pn	Pn	18 21 46.9	+1.5
	comp=Z,1.0nm,0.3s,baz=97,slow=18,SNR=12						
PETK				Sn	Sn	18 22 58.0	+1.6
	comp=Z,0.7nm,0.3s,baz=203,slow=3.1,SNR=5.4						
ASAK	**Asacha**	6.43	254	S	Sn	18 22 57.3	-2.9
ILAR	**Eielson Array**	24.37	47	P	P	18 25 29.0	-1.2
	comp=Z,2.5nm,1.0s,baz=252,slow=8.5,SNR=15						
INK	**Inuvik**	29.74	40	P	P	18 26 19.1	+0.8
	comp=Z,0.7nm,0.5s,baz=270,slow=9.1,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	34.84	182	T	T	19 03 52.7	
	baz=3.5,slow=76,SNR=363						
H11N3	**WAKE ISLAND Hy**	34.86	182	T	T	19 03 54.8	
	baz=3.5,slow=76,SNR=393						
H11N1	**WAKE ISLAND Hy**	34.86	182	T	T	19 03 55.1	
	baz=3.5,slow=76,SNR=274						
H11S1	**WAKE ISLAND Hy**	36.06	182	T	T	19 05 23.3	
	baz=3.0,slow=78,SNR=77						
H11S3	**WAKE ISLAND Hy**	36.08	182	T	T	19 05 28.3	
	baz=3.0,slow=78,SNR=30						
H11S2	**WAKE ISLAND Hy**	36.08	182	T	T	19 05 28.3	
	baz=3.0,slow=78,SNR=117						
SONM	**Songino Array**	38.05	286	P	P	18 27 31.2	+0.5
	comp=Z,0.7nm,0.7s,baz=56,slow=8.2,SNR=8.0						
YKA	**Yellowknife Ar**	38.79	46	P	P	18 27 36.5	0.0
	comp=Z,0.5nm,0.6s,baz=295,slow=8.2,SNR=6.6						
KURK	**Kurchatov**	50.80	305	P	P	18 29 11.9	-0.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	50.91	305	P	P	18 29 11.9	-1.2
	comp=Z,0.5nm,0.6s,baz=52,slow=7.7,SNR=5.7						
MKAR	**Makanchi Array**	51.61	299	P	P	18 29 17.6	-0.9
MKAR	**Makanchi Array**	51.61	299	P	P	18 29 17.6	-0.9
	comp=Z,0.2nm,0.6s,baz=62,slow=6.6,SNR=5.2						
PDAR	**Pinedale Array**	52.65	67	P	P	18 29 26.1	-0.5
	comp=Z,0.4nm,0.5s,baz=308,slow=3.6,SNR=4.4						
BVAR	**Borovoye Array**	53.00	311	P	P	18 29 28.7	0.0
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	53.00	311	P	P	18 29 28.7	0.0
	comp=Z,1.0nm,0.6s,baz=56,slow=7.5,SNR=11						
FRB	**Frobisher Bay**	54.12	27	P	P	18 29 36.3	-0.4
	comp=Z,0.9nm,0.4s,baz=326,slow=7.3,SNR=3.4						
FINES	**FINESS Array B**	60.43	340	P	P	18 30 20.1	-1.1
	comp=Z,1.2nm,0.8s,baz=40,slow=11,SNR=2.3						
CMAR	**Chiang Mai Arr**	63.05	264	P	P	18 30 40.7	+1.2
	comp=Z,0.9nm,0.7s,baz=25,slow=6.7,SNR=10						
NOA	**NORSAR Array B**	63.22	348	P	P	18 30 40.0	-0.1
	comp=Z,0.9nm,0.8s,baz=18,slow=6.8,SNR=3.2						
TXAR	**Lajitas Array**	65.71	73	P	P	18 30 57.7	+0.7
	comp=Z,1.0nm,0.5s,baz=303,slow=4.5,SNR=21						
AKASG	**Malin Array Be**	69.53	333	P	P	18 31 21.0	+0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	69.53	333	P	P	18 31 21.0	+0.4
	comp=Z,0.5nm,0.5s,baz=27,slow=6.4,SNR=2.6						
GERES	**GERESS Array B**	74.66	343	P	P	18 31 51.7	+0.3
	comp=Z,0.4nm,0.5s,baz=27,slow=6.1,SNR=3.6						
CTA	**Charters Tower**	76.71	201	P	P	18 32 04.4	+1.2
	comp=Z,3.3nm,0.8s,baz=7.5,slow=12,SNR=3.6						
WRA	**Warrumunga Arr**	79.66	212	P	P	18 32 20.4	+0.8
	comp=Z,2.2nm,0.9s,baz=17,slow=5.6,SNR=11						
STKA	**Stephens Creek**	89.11	202	P	P	18 33 08.3	+1.2
	comp=Z,2.6nm,1.0s,baz=2.3,slow=13,SNR=4.0						

AUST ***29*** *18:27:39.8,3.°50S×124.°00E,h0km*
IDC ***29*** *18:27:39.1±0.8,3.°39S×124.°39E,h0km,mb3.8/7, mb1 3.9/9,mb1mx3.8/23,mbtmp3.8/9,ML3.6/2,Error ellipse: s-maj=90.3km s-min=11.4km az=62.0*
ISCJB ***29*** *18:27:43.5±0.4,3.°65S±0.°04×123.°54E±0.°04,h33km, mb3.8/7,Error ellipse: s-maj=6.4km s-min=5.6km az=143.7*
DJA ***29*** *18:27:46.0±0.4,4.°S±4.°×12.°3E±.°,h69km±34km,M4.2/13, mb4.6/3,mbB5.0/1,MLv4.1/13,Mw(mB)4.3/1*
ISC 29 18:27:45.2±0.7,3°69S±0°06×123°63E±0°07,h35km,n32,
σ1s76/30,mb3.8/7,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	2.03	256	P	Pn	18 28 16.7	-0.2
LUWI	**Luwuk**	2.76	342	P	Pn	18 28 25.4	-1.6
LUWI	**Luwuk**	2.76	342	P	Pn	18 28 25.2	-1.8
	baz=2.7,SNR=28						
APSI	**Ampana**	3.40	324	P	Pn	18 28 34.0	-1.7
NLAI	**Namlea**	3.49	83	P	Pn	18 28 40.0	+3.0
BNSI	**Bone**	3.59	258	P	Pn	18 28 36.6	-1.7
BKSI	**Bulukumba**	3.85	245	P	Pn	18 28 40.2	-1.8
TTSI	**Tana Toraja**	3.86	279	P	Pn	18 28 40.0	-2.1
SPSI	**Sidrap Palu**	3.86	266	P	Pn	18 28 40.3	-1.8
KMSI	**Cibinong**	4.25	5	P	Pn	18 28 47.3	-0.1
GTOI	**Gorontalo**	4.34	352	P	Pn	18 28 49.6	+0.9
MRSI	**Marisa**	4.47	338	P	Pn	18 28 48.8	-1.7
TNTI	**Ternate**	5.79	40	P	Pn	18 29 10.2	+1.5
	93nm,0.6s,0.3nm						
SOEI	**Soe**	6.06	174	P	Pn	18 29 14.2	+1.7
	31nm,1.1s						
SOEI	**Soe**	6.06	174	P	Pn	18 29 14.9	+2.4
	baz=6.3,SNR=6.1						
SWI	**Sorong**	8.12	70	P	Pn	18 29 43.7	+3.0
FAKI	**Fak Fak**	8.64	85	P	Pn	18 29 49.0	+1.2
	baz=8.3,SNR=5.4						
MTN	**Manton Dam**	11.74	141	P	Pn	18 30 23.1	-7.1
	baz=12,SNR=5.0						
KNRA	**Kununurra**	12.94	157	P	Pn	18 30 44.8	-1.8
	baz=13,SNR=4.7						
SMRI	**Semarang**	13.55	255	P	Pn	18 30 56.0	+1.0
	baz=14,SNR=3.5						
FITZ	**Fitzroy Crossi**	14.46	172	Pn	Pn	18 31 09.2	+1.8
	0.3nm,0.3s,baz=354,slow=14,SNR=9.5						
WRA	**Warramunga Arr**	19.24	148	P	P	18 32 05.0	-1.7
	0.2nm,0.3s,baz=321,slow=12,SNR=15						
WRA				S	Sn	18 35 39.3	-3.3
	0.0nm,0.3s,baz=303,slow=25,SNR=3.3						
WRKA	**Warakurna**	21.70	168	P	P	18 32 36.2	+2.9
	baz=22,SNR=4.0						
ASAR	**Alice Springs**	22.20	154	P	P	18 32 36.9	-1.9
	3.6nm,0.9s,baz=320,slow=7.8,SNR=17						
ASAR				PcP	PcP	18 36 34.6	-0.1
	0.2nm,0.8s,baz=353,slow=1.9,SNR=4.4						
QIS	**Mount Isa**	22.87	138	P	P	18 32 46.2	+0.3
	baz=23,SNR=4.4						
STKA	**Stephens Creek**	32.73	151	P	P	18 34 13.0	-1.7
	2.5nm,1.0s,baz=340,slow=14,SNR=2.8						
CMAR	**Chiang Mai Arr**	32.80	313	P	P	18 34 18.0	+2.6
	0.2nm,0.5s,baz=134,slow=7.7,SNR=3.1						
SONM	**Songino Array**	53.49	346	P	P	18 37 02.2	0.0
	0.4nm,0.7s,baz=173,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	62.07	329	P	P	18 38 02.4	0.0
	0.7nm,0.8s,baz=133,slow=7.8,SNR=8.8						
ZALV	**Zalesovo Beam**	65.91	336	P	P	18 38 26.5	-0.9
	2.8nm,0.8s,baz=122,slow=4.7,SNR=14						
BVAR	**Borovoye Array**	71.95	329	P	P	18 39 04.0	-1.1
	0.8nm,0.8s,baz=125,slow=7.4,SNR=6.6						
MAW	**Mawson**	75.77	200	P	P	18 39 33.1	+6.0
	baz=76,SNR=8.9						

ISCJB ***29*** *18:27:58.5±0.7,34.°04N±0.°08×137.°5E±0.°2,h329km±5km, mb2.6/3,Error ellipse: s-maj=20.2km s-min=12.7km az=13.8*
JMA ***29*** *18:27:58.6±0.2,34.°07N×137.°41E,h330km±2km,M2.9*
IDC ***29*** *18:27:58.2±1.3,33.°91N×137.°53E,h311km±13km,mb2.5/3, mb1 2.8/6,mb1mx2.7/29,mbtmp3.3/6,Error ellipse: s-maj=25.2km s-min=21.3km az=86.0*
ISC 29 18:27:59.5±1.0,34°05N±0°09×137°5E±0°1,h323km±7km,
n20,σ0s56/24,mb2.6/3,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	0.05	140	P	Pn	18 28 40.4	+0.5
TTO3	**TONANKAI O.B.S**	0.20	204	P	Pn	18 28 40.7	+0.5
TK02	**Tokai 2**	0.24	115	P	Pn	18 28 40.7	+0.7
TK04	**Tokai 4**	0.46	43	P	Pn	18 28 41.1	+0.7
TTO2	**TONANKAI O.B.S**	0.50	231	P	Pn	18 28 40.8	+0.4
TTO1	**TONANKAI O.B.S**	0.73	235	P	Pn	18 28 41.2	+0.2
JIE	**Ise**	0.74	298	P	Pn	18 28 41.3	0.0
JIE				*e*S	S	18 29 14.6	-0.2
JHMK	**Hamakita**	0.80	16	P	Pn	18 28 41.4	0.0
HMMJ	**Hamamatsu 2**	0.83	13	P	Pn	18 28 41.7	+0.1
HMMJ				*e*S	S	18 29 15.2	-0.1
JKN2	**Miekihoku**	1.03	281	P	Pn	18 28 42.1	-0.4
JAO	**Obara**	1.23	351	P	Pn	18 28 43.7	+0.2
JNY	**Yasuok**	1.34	13	P	Pn	18 28 44.1	0.0
JEG	**Eigenji**	1.42	320	P	Pn	18 28 44.6	+0.2
MAT	**Matsushiro**	2.56	13	P	Pn	18 28 52.7	-0.1
MAT				S	S	18 29 34.9	-0.6
MJAR	**Matsushiro Arr**	2.56	13	P	Pn	18 28 52.7	-0.1
	1.7nm,0.3s,baz=189,slow=9.9,SNR=44						
MJAR				S	S	18 29 34.3	-1.2
	baz=148,slow=18,SNR=4.2						
KSRS	**Korea Array**	8.49	296	P	Pn	18 29 59.8	+0.6
	0.3nm,0.3s,baz=110,slow=13,SNR=9.0						
USRK	**Ussuriysk Arra**	11.00	339	P	Pn	18 30 29.7	+0.3
	0.1nm,0.3s,baz=115,slow=16,SNR=3.5						
MKAR	**Makanchi Array**	43.08	304	P	P	18 35 28.7	+0.4
	0.2nm,0.5s,baz=86,slow=10,SNR=3.4						
ILAR	**Eielson Array**	53.70	31	P	P	18 36 49.2	+0.8
	0.4nm,0.9s,baz=259,slow=5.1,SNR=5.7						
WRA	**Warramunga Arr**	53.77	184	P	P	18 36 48.2	-1.3
	0.1nm,0.3s,baz=360,slow=7.7,SNR=3.5						

IDC ***29*** *18:29:49.2±1.2,39.°85N×138.°03E,h0km,mb3.2/3, mb1 3.4/6,mb1mx3.2/28,mbtmp3.1/6,ML2.6/3,Error ellipse: s-maj=36.6km s-min=21.9km az=93.0*
JMA ***29*** *18:29:49.2±0.1,40.°01N×137.°78E,h37km,M3.4*
ISCJB ***29*** *18:29:51.0±0.6,39.°96N±0.°03×137.°89E±0.°05,h33km, mb3.4/3,Error ellipse: s-maj=5.7km s-min=4.3km az=27.5*
ISC 29 18:29:53.4±1.0,39°94N±0°05×137°94E±0°06,h35km,n21,
σ1s25/29,mb3.4/3,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOG2	**Oga 2**	1.43	90	P	Pn	18 30 15.2	-1.5
JOG2				*e*S	Sn	18 30 34.4	+0.2
JTB	**Tobi-shima**	1.45	120	P	Pn	18 30 15.9	-1.2
JIW	**Iwasaki**	1.71	67	P	Pn	18 30 18.9	-1.8
JAW	**Awa shima**	1.79	145	P	Pn	18 30 20.1	-1.7
JAW				*e*S	Sn	18 30 43.3	0.0
JSD	**Sado**	1.91	172	P	Pn	18 30 21.6	-1.8
JSD				*e*S	Sn	18 30 45.3	-1.0
JYK	**Kaneyama**	2.13	118	P	Pn	18 30 25.5	-0.9
JYK				*e*S	Sn	18 30 52.3	+0.6
JHG	**Hegura jima**	2.23	201	P	Pn	18 30 26.0	-1.8
JNS	**Sasagawa**	2.37	153	*e*S	Sn	18 30 57.5	-0.1
JOSM	**Okushiri--Mats**	2.44	28	P	Pn	18 30 27.9	-2.8
JSZ	**Suzu**	2.52	190	*e*S	Sn	18 31 01.1	-0.3
JOM	**Ohasama**	2.63	99	P	Pn	18 30 32.6	-0.7
JOM				*e*S	Sn	18 31 05.1	+1.2
JMK	**Ichinoseki**	2.72	110	P	Pn	18 30 32.7	-1.9
JOT	**Ohata**	2.77	58	P	Pn	18 30 34.2	-1.0
JOT				*e*S	Sn	18 31 06.1	-1.3
JANG	**Nango**	2.77	80	P	Pn	18 30 34.6	-0.7
MAT	**Matsushiro**	3.40	176	P	Pn	18 30 42.9	-0.9
MAT				S	Sn	18 31 22.6	-0.3
MJAR	**Matsushiro Arr**	3.40	176	Pn	Pn	18 30 42.7	-1.2
	1.0nm,0.3s,baz=358,slow=13,SNR=10						
MJAR				Sn	Sn	18 31 22.8	-0.1
	1.0nm,0.3s,baz=348,slow=16,SNR=4.6						
USRK	**Ussuriysk Arra**	6.14	316	Pn	Pn	18 31 22.4	+0.8
	0.2nm,0.3s,baz=126,slow=14,SNR=4.2						
KSRS	**Korea Array**	8.22	256	Pn	Pn	18 31 50.8	+0.7
	0.3nm,0.3s,baz=67,slow=14,SNR=4.8						
ILAR	**Eielson Array**	48.55	34	P	P	18 38 33.8	+1.1
	0.3nm,0.8s,baz=286,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	59.66	184	P	P	18 39 54.5	+0.4
	0.6nm,1.1s,baz=0.2,slow=7.5,SNR=5.3						
ASAR	**Alice Springs**	63.38	184

CLL				*i* Pg		**Pg**	18 52 19.4	+0.2
CLL				*i*			18 52 22.3	
CLL				*i* Sg		**Sg**	18 52 45.5	+0.6
	comp=Z,160nm,0.7s							
CLL	**Collm**	**1.98 264**		Pn		**Pn**	18 52 16.0	0.0
CLL				Sg		**Sg**	18 52 45.6	+0.7
MORC	**Moravsky Berou**	**1.98 153**		*e*Pn		**Pn**	18 52 16.3	+0.2
MORC				*e*Sg		**Sb**	18 52 44.0	+0.5
MORC	**Moravsky Berou**	**1.98 153**	⇑	*i*P		**Pn**	18 52 16.3	+0.2
MORC	**Moravsky Berou**	**1.98 153**	S			**Sb**	18 52 43.9	+0.4
MORC	**Moravsky Berou**	**1.98 153**	⇑	*i*P		**Pn**	18 52 16.3	+0.2
MORC				Sg		**Sb**	18 52 44.0	+0.5
OKC	**Ostrava-Krasne**	**2.13 143**		*e*Pn		**Pn**	18 52 17.8	-0.3
OKC				*e*Sg		**Sg**	18 52 49.6	-0.1
OKC	**Ostrava-Krasne**	**2.13 143**		*e*PG		**Pg**	18 52 22.2	+0.1
OKC				*e*SG		**Sb**	18 52 48.4	+0.7
	comp=Z,80nm,0.4s							
OKC	**Ostrava-Krasne**	**2.13 143**		Pn		**Pn**	18 52 17.8	-0.3
OKC	**Ostrava-Krasne**	**2.13 143**		Pg		**Pg**	18 52 22.2	+0.1
OKC				Sg		**Sg**	18 52 49.6	-0.1
CHZP	**Chorzow**	**2.20 124**		*e*Pg		Pg	18 52 28.0	+4.6
CHZP				*e*Sg		**Sg**	18 52 54.0	+2.2
VRAC	**Vranov**	**2.26 173**	⇑	*i*P		**Pn**	18 52 20.6	+0.7
VRAC	**Vranov**	**2.26 173**	S			**Sg**	18 52 53.8	0.0
VRAC	**Vranov**	**2.26 173**		*e*Pn		**Pn**	18 52 20.5	+0.7
VRAC				*e*Sg		**Sb**	18 52 52.9	+1.5
	comp=Z,90nm,0.6s							
VRAC	**Vranov**	**2.26 173**		Pn		**Pn**	18 52 20.6	+0.7
	comp=Z,3.1nm,0.3s,baz=337,slow=14,SNR=26							
VRAC				Lg		Lg	18 52 52.9	
	comp=Z,13nm,0.3s,baz=68,slow=18,SNR=10							
TREC	**Trest**	**2.29 191**		*e*PN		**Pn**	18 52 21.2	+0.8
TREC				*e*PG		**Pb**	18 52 24.8	+1.3
TREC	**Trest**	**2.29 191**		Pn		**Pn**	18 52 21.2	+0.8
TREC	**Trest**	**2.29 191**		Pg		**Pb**	18 52 24.8	+1.3
KRUC	**Moravsky**	**2.49 176**		*e*Pn		**Pn**	18 52 23.9	+0.8
KRUC				*e*Sg		**Sb**	18 53 00.5	+2.4
	comp=Z,70nm,0.7s							
TANN	**Tannenbergstha**	**2.59 246**		*e*Pn		**Pn**	18 52 25.1	+0.6
TANN				*e*Sg		**Sg**	18 53 04.4	0.0
TANN	**Tannenbergstha**	**2.59 246**		Pn		**Pn**	18 52 25.1	+0.6
TANN				Sg		**Sg**	18 53 04.4	0.0
WERD	**Werda**	**2.66 247**		*e*Pn		**Pn**	18 52 26.0	+0.6
WERD				*e*Sg		**Sg**	18 53 07.7	+0.9
WERD	**Werda**	**2.66 247**		Pn		**Pn**	18 52 26.0	+0.6
WERD				Sg		**Sg**	18 53 07.7	+0.9
OJC	**Ojcow**	**2.67 118**		*e*Pn		**Pn**	18 52 26.4	+0.9
OJC				*e*Sg		**Sg**	18 53 07.1	+0.2
OJC	**Ojcow**	**2.67 118**		*e*Pn		**Pn**	18 52 24.9	-0.6
OJC				*e*Pg		**Pg**	18 52 32.6	+0.2
OJC				*e*Sg		**Sg**	18 53 07.9	+1.0
OJC	**Ojcow**	**2.67 118**		Pn		**Pn**	18 52 26.4	+0.9
NKC	**Novy Kostel**	**2.68 242**		*e*Pn		**Pn**	18 52 26.6	+0.8
NKC				*e*PG		**Pg**	18 52 32.9	+0.2
NKC				*e*SG		**Sg**	18 53 07.7	+0.2
	comp=Z,81nm,0.4s							
NKC	**Novy Kostel**	**2.68 242**		Pn		**Pn**	18 52 26.6	+0.8
JAVC	**Velka Javorina**	**2.86 159**		*e*Sg		**Sg**	18 53 15.0	+1.8
	comp=Z,68nm,0.9s							
KHC	**Kasperske Hory**	**2.92 215**		*e*PN		**Pn**	18 52 29.2	+0.1
KHC				*e*PG		**Pb**	18 52 35.7	+1.4
KHC				*e*SN		**Sn**	18 53 04.3	-0.6
KHC				*e*SG		**Sg**	18 53 14.8	-0.3
	comp=Z,40nm,0.4s							
KHC	**Kasperske Hory**	**2.92 215**		Pn		**Pn**	18 52 29.2	+0.1
MANZ	**Manzenberg**	**3.00 240**		*e*Pn		**Pn**	18 52 30.9	+0.8
MANZ				*e*Pg		**Pg**	18 52 39.6	+0.9
MANZ	**Manzenberg**	**3.00 240**		Pn		**Pn**	18 52 39.9	+0.8
ROTZ	**Rotzenmuhle**	**3.07 236**		*e*Pn		**Pn**	18 52 32.0	+0.9
ROTZ				*e*Sg		**Sg**	18 53 19.1	-0.9
ROTZ	**Rotzenmuhle**	**3.07 236**		Pn		**Pn**	18 52 32.0	+0.9
ROTZ				Sg		**Sg**	18 53 19.1	-0.9
GEC2	**GERESS Array S**	**3.13 211**		*e*Pn		**Pn**	18 52 32.4	+0.5
GEC2				*e*Sg		**Sg**	18 53 20.2	-1.5
GEC2	**GERESS Array S**	**3.13 211**		Pn		**Pn**	18 52 32.4	+0.5
GEC2				Sg		**Sg**	18 53 20.2	-1.5
GERES	**GERESS Array B**	**3.13 211**		Pn		**Pn**	18 52 32.3	+0.5
	comp=Z,3.7nm,0.3s,baz=32,slow=12,SNR=128							
GERES				Pg		**Pb**	18 52 40.0	+2.2
	comp=Z,8.2nm,0.3s,baz=29,slow=17,SNR=57							
GERES				Sn		**Sn**	18 53 08.5	-1.5
	comp=Z,4.0nm,0.3s,baz=50,slow=24,SNR=7.3							
GERES				Lg		Lg	18 53 19.8	
	comp=Z,8.0nm,0.3s,baz=30,slow=27,SNR=5.8							
SMOL	**Smolenice**	**3.15 164**		*e*SG		**Sg**	18 53 23.6	+1.3
SMOL	**Smolenice**	**3.15 164**		*e*Sg		**Sg**	18 53 23.6	+1.3
NIE	**Niedzica**	**3.41 127**		*e*P		**Pg**	18 52 46.5	-0.1
NIE				*e*S		**Sg**	18 53 31.5	+0.8
CLZ	**Clausthal**	**3.60 277**		*e*Pn		**Pn**	18 52 39.6	+1.2
CLZ				*e*Sg		**Sg**	18 53 39.7	+2.7
CLZ	**Clausthal**	**3.60 277**		Pn		**Pn**	18 52 39.6	+1.2
CLZ				Sg		**Sg**	18 53 39.7	+2.7
CONA	**Conrad Observa**	**3.62 183**	⇓	*i*Pn		**Pn**	18 52 39.6	+0.9
CONA			⇓	*i*Sg		**Sg**	18 53 35.3	-2.4
	comp=Z,53nm,0.5s							
CONA	**Conrad Observa**	**3.62 183**		Pn		**Pn**	18 52 39.6	+0.9
CONA				Sg		**Sg**	18 53 35.3	-2.4
	comp=Z,53nm,0.5s							
GRA1	**Grafenberg Arr**	**3.64 241**		Pn		**Pn**	18 52 39.8	+0.9
GRA1	**Grafenberg Arr**	**3.64 241**		Pg		**Pg**	18 52 51.7	+0.6
GRA1				Sg		**Sg**	18 53 38.8	+0.5
GRF	**Grafenberg Arr**	**3.64 241**		*e*Pn		**Pn**	18 52 39.8	+0.9
GRF				*e*Pg		**Pg**	18 52 51.7	+0.6
GRF				*e*Sg		**Sg**	18 53 38.8	+0.5
STHS	**Stebnicka Huta**	**3.89 121**		*e*PN		**Pn**	18 52 43.0	+0.7
STHS	**Stebnicka Huta**	**3.89 121**		*e*Pn		**Pn**	18 52 43.0	+0.7
ARSA	**Arzberg**	**4.32 186**	⇑	*i*Pn		**Pn**	18 52 48.7	+0.5
ARSA			⇓	*i*Sg		**Sg**	18 53 58.2	-1.7
	comp=Z,30nm,0.6s							
ARSA	**Arzberg**	**4.32 186**		Pn		**Pn**	18 52 48.7	+0.5
ARSA				Sg		**Sg**	18 53 58.2	-1.7
	comp=Z,30nm,0.6s							
CRVS	**Cervenica-Dubn**	**4.32 126**		*e*PN		**Pn**	18 52 46.1	-2.1
CRVS				*e*SG		**Sg**	18 54 04.9	+5.0
CRVS	**Cervenica-Dubn**	**4.32 126**		*e*Pn		**Pn**	18 52 46.1	-2.1
CRVS				*e*Sg		**Sg**	18 54 04.9	+5.0
PSZ	**Piszkesteto**	**4.37 145**	⇑	*i*P		**Pn**	18 52 50.7	+1.7
PSZ	**Piszkesteto**	**4.37 145**	⇑	*i*P		**Pn**	18 52 50.7	+1.7
LLD	**Lille Linde**	**4.46 330**		*i* P		**Pn**	18 52 49.4	-0.7
LLD				*i* S		**Sn**	18 53 40.6	-2.1
LLD	**Lille Linde**	**4.46 330**		*i* P		**Pn**	18 52 49.4	-0.7
LLD				*i* S		**Sn**	18 53 40.6	-2.1
KWP	**Kalwaria Pacla**	**4.60 112**		*e*Pn		**Pg**	18 53 07.4	-1.9
KWP	**Kalwaria Pacla**	**4.60 112**	⇑	*i*P		**Pg**	18 53 07.5	-1.9
KOLS	**Kolonicke sedl**	**4.72 121**		*e*PN		**Pn**	18 52 53.8	+0.1
KOLS	**Kolonicke sedl**	**4.72 121**		*e*Pn		**Pn**	18 52 53.8	+0.1
BLEU	**Blekinge**	**4.77 358**		P		**Pn**	18 52 54.8	+0.4
BLEU				S		**Sn**	18 53 47.4	-2.9
KBA	**Koelnbreinsper**	**4.83 203**	⇑	*i*Pn		**Pn**	18 52 56.5	+1.1
KBA			⇑	*i*Sg		**Sg**	18 54 15.9	-0.5
	comp=Z,20nm,0.5s							
KBA	**Koelnbreinsper**	**4.83 203**		Pn		**Pn**	18 52 56.5	+1.1
KBA				Sg		**Sg**	18 54 15.9	-0.5
	comp=Z,20nm,0.5s							
BJUU	**Bjuv**	**4.90 339**		P		**Pn**	18 52 55.2	-0.9
DEL	**Delary**	**5.11 346**		P		**Pn**	18 52 58.8	-0.3
WATA	**Walderalm**	**5.16 217**	⇑	*i*Pn		**Pn**	18 52 59.9	0.0
	SNR=7.1							
WATA			⇑	*i*Sg		**Sg**	18 54 27.0	0.0
	comp=Z,9.2nm,0.4s							
WATA	**Walderalm**	**5.16 217**		Pn		**Pn**	18 52 59.9	0.0
	SNR=7.1							
WATA				Sg		**Sg**	18 54 27.0	0.0
	comp=Z,9.2nm,0.4s							
WTTA	**Wattenberg**	**5.20 216**	⇑	*i*Pn		**Pn**	18 53 00.8	+0.3
	SNR=7.8							
WTTA			⇑	*i*Sg		**Sg**	18 54 28.5	+0.3
	comp=Z,13nm,0.4s							
WTTA	**Wattenberg**	**5.20 216**		Pn		**Pn**	18 53 00.8	+0.3
	SNR=7.8							
WTTA				Sg		**Sg**	18 54 28.5	+0.3
	comp=Z,13nm,0.4s							
MOTA	**Moosalm**	**5.34 220**	⇓	*i*Pn		**Pn**	18 53 02.8	+0.5
	SNR=9.2							
MOTA			⇑	*i*Sg		**Sg**	18 54 32.9	+0.3
	comp=Z,19nm,0.7s							
MOTA	**Moosalm**	**5.34 220**		Pn		**Pn**	18 53 02.8	+0.5
	SNR=9.2							
MOTA				Sg		**Sg**	18 54 32.9	+0.3
	comp=Z,19nm,0.7s							
RETA	**Reutte**	**5.36 223**	⇑	*i*Pn		**Pn**	18 53 03.0	+0.4
RETA	**Reutte**	**5.36 223**		Pn		**Pn**	18 53 03.0	+0.4
VXJU	**Vaexsjoe**	**5.43 353**		P		**Pn**	18 53 03.8	+0.3
OSKU	**Oskarshamn**	**5.66 360**		P		**Pn**	18 53 07.0	+0.4
FETA	**Feichten**	**5.75 220**	⇓	*i*Pn		**Pn**	18 53 08.9	+0.9
FETA	**Feichten**	**5.75 220**		Pn		**Pn**	18 53 08.9	+0.9
BYXU	**Byxelkrok**	**5.78 5**		P		**Pn**	18 53 09.1	+0.9
FABU	**Falkenberg**	**5.82 341**		P		**Pn**	18 53 07.9	-0.9
ASPU	**Aespoe**	**5.89 2**		P		**Pn**	18 53 10.6	+0.9
DAVA	**Damuels**	**5.90 226**	⇑	*i*Pn		**Pn**	18 53 10.2	+0.1
DAVA			⇓	*i*Sg		**Sg**	18 54 52.3	+1.4
	comp=Z,18nm,0.7s							
DAVA	**Damuels**	**5.90 226**		Pn		**Pn**	18 53 10.2	+0.1
DAVA				Sg		**Sg**	18 54 52.3	+1.4
	comp=Z,18nm,0.7s							
GNOU	**Gnosjoe**	**5.92 347**		P		**Pn**	18 53 10.2	0.0
VSTU	**Vaestervik**	**6.13 2**		P		**Pn**	18 53 13.8	+0.8
DAVOX	**Davos/Dischmat**	**6.29 223**		Pn		**Pn**	18 53 16.1	+0.6
	comp=Z,0.8nm,0.3s,baz=35,slow=17,SNR=8.9							
DAVOX				Lg		Lg	18 54 54.4	
	comp=Z,0.4nm,0.3s,baz=251,slow=22,SNR=2.7							
CDF	**Champ du Feu**	**6.52 245**		*e*Pn		**Pn**	18 53 17.7	-0.8
CDF				*e*Sg		Sb	18 55 01.8	+7.7
	comp=Z,1.1nm,0.3s							
CDF	**Champ du Feu**	**6.52 245**		*e*Pn		**Pn**	18 53 17.7	-0.8
FKPU	**Falk**	**6.77 349**		P		**Pn**	18 53 22.6	+0.7
VIKU	**Vikbolandet**	**6.98 2**		P		**Pn**	18 53 25.3	+0.6
BURAR	**Bucovina Array**	**7.09 120**	⇓	*i*P		**Pn**	18 53 27.4	+1.1
BURAR	**Bucovina Array**	**7.09 120**	⇓	*i*P		**Pn**	18 53 27.4	+1.1
HINF	**Hinteralfeld**	**7.09 242**		*e*Pn		**Pn**	18 53 23.6	-2.7
HINF				*e*Sg		Sb	18 55 19.0	+8.7
	comp=Z,37nm,1.0s							
HAU	**Haudompre**	**7.26 245**		*e*Pn		**Pn**	18 53 26.6	-2.1
HAU				*e*Sg		Sb	18 55 24.9	+10
	comp=Z,4.1nm,0.4s							
HAU	**Haudompre**	**7.26 245**		*e*Pn		**Pn**	18 53 26.6	-2.1
GIVF	**Givet**	**7.32 263**		*e*Pn		**Pn**	18 53 28.2	-1.1
GIVF				*e*Sg		Sg	18 55 28.9	-7.2
	comp=Z,2.5nm,0.3s							
GIVF	**Givet**	**7.32 263**		*e*Pn		**Pn**	18 53 28.2	-1.1
AKASG	**Malin Array Be**	**8.28 91**		Pn		**Pn**	18 53 44.0	+1.5
	comp=Z,1.2nm,0.3s,baz=279,slow=12,SNR=7.8							
AKASG				Sn		**Sn**	18 55 12.5	-4.0
	comp=Z,1.0nm,0.3s,baz=283,slow=22,SNR=4.0							
NOA	**NORSAR Array B**	**9.90 346**		Pn		**Pn**	18 54 04.0	-0.7
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=3.1							
NOA				Sn		Sn	18 55 48.7	-7.8
	comp=Z,0.1nm,0.3s,baz=98,slow=16,SNR=2.6							
NOA				Lg		Lg	18 56 53.5	
	comp=Z,0.2nm,0.3s,baz=125,slow=15,SNR=2.2							
FINES	**FINESS Array B**	**11.32 25**		Pn		**Pn**	18 54 23.3	-0.8
	comp=Z,0.2nm,0.3s,baz=209,slow=14,SNR=7.9							
FINES				Sn		Sn	18 56 24.1	-7.1
	comp=Z,0.2nm,0.3s,baz=213,slow=20,SNR=3.3							
EKA	**Eskdalemuir Ar**	**12.11 296**		Pn		**Pn**	18 54 33.0	-1.9
	baz=105,slow=13,SNR=3.7							
ARCES	**ARCESS Array B**	**18.58 10**		Pn		**P**	18 55 57.8	-1.8
	comp=Z,0.1nm,0.3s,baz=200,slow=10,SNR=6.5							
TORD	**Torodi Ar. Bea**	**40.04 202**		P		**P**	18 59 18.9	+0.9
	comp=Z,0.3nm,0.6s,baz=12,slow=7.9,SNR=2.8							
YKA	**Yellowknife Ar**	**59.83 336**		P		**P**	19 01 49.0	+1.1
	comp=Z,0.2nm,0.6s,baz=28,slow=7.1,SNR=4.3							

IDC 29 19:04:35.9±1.2, 3.67S×123.53E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/21, mbtmp3.2/5, ML3.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/12, Error ellipse: s-maj=169.1km s-min=21.0km az=64.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.31**	**148**	P		P	19 09 02.4	-0.4
	0.0nm,0.3s,baz=325,slow=12,SNR=3.6							
ASAR	**Alice Springs**	**22.26**	**154**	P		P	19 09 35.2	+0.5
	0.6nm,0.8s,baz=325,slow=8.9,SNR=10							
MJAR	**Matsushiro Arr**	**42.29**	**18**	LR		LR	19 28 07.2	
	comp=Z,164nm,19.3s,baz=30,slow=33							
SONM	**Songino Array**	**53.45**	**346**	P		P	19 13 58.8	+0.9
	0.1nm,0.6s,baz=158,slow=7.5,SNR=2.7							
MKAR	**Makanchi Array**	**62.00**	**329**	P		P	19 14 58.1	0.0
	0.1nm,0.4s,baz=116,slow=6.6,SNR=3.7							
ZALV	**Zalesovo Beam**	**65.86**	**336**	P		P	19 15 22.2	-1.0
	0.4nm,0.4s,baz=111,slow=8.0,SNR=3.0							

NIED ***29*** *19:23:00, 41.90N×142.20E, h62km, Mw4.8 Best double couple: M○2.08000×10^16 NP1:ϕs18.00000°, δ67.00000°, λ76.00000°. NP2:ϕs231.00000°, δ27.00000°, λ120.00000°.*

MOS ***29*** *19:23:02.9±0.9, 41.96N×142.14E, h62km, mb5.5/86, Error ellipse: s-maj=6.3km s-min=4.1km az=107.8*

JMA ***29*** *19:23:03.4±0.2, 41.84N×142.20E, h72km±3km, M4.8 Broadband fault plane solution: P waves. NP1: ϕs15.00000°, δ63.00000°, λ87.00000°. NP2:ϕs202.00000°, δ27.00000°, λ96.00000°. Principal axes: T Plg72.0000°, Azm277.0000°; N Plg3.0000°, Azm16.0000°; P Plg18.0000°, Azm107.0000°;*

JMA Felt III J1.

ISCJB ***29*** *19:23:03.6±0.2, 41.90N±0.02×142.10E±0.02, h69km±1km, mb5.0/241 Error ellipse: s-maj=3.4km s-min=1.9km az=157.3*

BJI ***29*** *19:23:04.7, 41.99N×142.27E, h89km, mB5.0/36, mb5.1/56, Ms4.3/42, Ms7 3.9/41*

IDC ***29*** *19:23:05.2±0.4, 41.96N×142.17E, h71km±3km, mb4.5/25, mb1 4.7/31, mb1mx4.7/32, mbtmp4.8/31, MS3.8/26, Ms1 3.8/26, ms1mx3.6/42, Error ellipse: s-maj=11.5km s-min=7.3km az=107.0*

SZGRF ***29*** *19:23:05.2, 42.57N×142.51E, h33km, mb5.0, Hokkaido, Japan, region*

NEIC ***29*** *19:23:05.4±0.1, 41.93N×142.08E, mb5.2/121, MW4.8(NIED), Error ellipse: s-maj=4.2km s-min=2.4km az=150.0*

NEIC Felt at Sapporo and Tomakomai. Felt [II] at Misawa, Honshu. Recorded [3 JMA] in southern Hokkaido, [2 JMA] in southwestern Hokkaido and [1 JMA] in eastern Hokkaido. Also recorded [3 JMA] in Aomori, [2 JMA] in Iwate and [1 JMA] in Miyagi, Honshu.

GCMT ***29*** *19:23:06.7±0.5, 41.86N×142.32E, h70km±2km, MW4.9, Moment Tensor Solution. s25,c33; s67,c93; Moment tensor: Scale 10^16Nm; Mrr2.19±.15; Mθθ0.25±.14; Mϕϕ-2.44±.13; Mrθ0.37±.09; Mθϕ-2.43±.13; Mϕr1.11±.09; Best double couple: M○3.30000×10^16 NP1:ϕs16.00000°, δ57.00000°, λ70.00000°. NP2:ϕs230.00000°, δ38.00000°, λ118.00000°. Principal axes: T 2.4700, Plg70.0000°, Azm241.0000°; N 1.6100, Plg17.0000°, Azm27.0000°; P -4.0800, Plg10.0000°, Azm120.0000°; Data Used: II IC G IU CN.*

ISC 29 19:23:05.0±0.3, 41.90N±0.03×142.14E±0.03, h73km±2km, h73km:pP-P, n1074, σ1.05/1217, mb5.1/241, 283C-176D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.59**	**50**	⇑P		**Pn**	**19 23 16.7**	**-2.4**
JNBK				*e*S		**Sn**	**19 23 26.8**	**-2.6**
ERM	**Erimo**	**0.77**	**81**	Pn		**Pn**	**19 23 19.8**	**-1.1**
	141μm,0.4s							
ERM	**Erimo**	**0.77**	**81**	*d* *i*P		**Pn**	**19 23 18.9**	**-2.0**
ERM	**Erimo**	**0.77**	**81**	*e*Pn		**Pn**	**19 23 18.9**	**-2.0**
ERM				*e*Sn		**Sn**	**19 23 31.1**	**-1.6**
JEM	**Erimo**	**0.77**	**81**	⇑P		**Pn**	**19 23 19.0**	**-1.9**
JKB	**Kayabe**	**0.82**	**269**	⇓P		**Pn**	**19 23 20.2**	**-1.4**
JKB				*e*S		**Sn**	**19 23 32.5**	**-1.3**
JBT2	**Biratori 2**	**0.89**	**11**	⇓P		**Pn**	**19 23 21.4**	**-1.0**
JBT2				*e*S		**Sn**	**19 23 35.0**	**-0.2**
JOT	**Ohata**	**0.97**	**238**	⇓P		**Pn**	**19 23 21.9**	**-1.4**
JOT				*e*S		**Sn**	**19 23 35.2**	**-1.7**
JNB	**Noboribetsu**	**0.99**	**305**	⇓P		**Pn**	**19 23 22.3**	**-1.3**
JNB				*e*S		**Sn**	**19 23 36.2**	**-1.2**
JEW	**Eniwo**	**1.06**	**332**	⇓P		**Pn**	**19 23 24.0**	**-0.5**
JEW				*e*S		**Sn**	**19 23 39.5**	**+0.5**
JCH	**Churui**	**1.15**	**52**	⇑P		**Pn**	**19 23 24.5**	**-1.1**
JCH				*e*S		**Sn**	**19 23 40.5**	**-0.5**
JFR	**Furan**	**1.30**	**15**	⇓P		**Pn**	**19 23 26.5**	**-1.1**
JFR				*e*S		**Sn**	**19 23 43.2**	**-1.3**
JYM2	**Yakumo 2**	**1.33**	**280**	⇓P		**Pn**	**19 23 27.0**	**-0.9**
JYM2				*e*S		**Sn**	**19 23 44.9**	**-0.2**
JSR	**Shiriuchi**	**1.34**	**254**	⇓P		**Pn**	**19 23 26.9**	**-1.1**
JSR				*e*S		**Sn**	**19 23 44.7**	**-0.5**
JTM	**Tenmabayashi**	**1.38**	**216**	⇓P		**Pn**	**19 23 27.2**	**-1.3**
JTM				*e*S		**Sn**	**19 23 45.0**	**-1.1**
JANG	**Nango**	**1.60**	**197**	⇓P		**Pn**	**19 23 29.6**	**-1.8**
JANG				*e*S		**Sn**	**19 23 49.2**	**-2.2**
JOB	**Onbets**	**1.61**	**51**	⇓P		**Pn**	**19 23 31.3**	**-0.2**
JOB				*e*S		**Sn**	**19 23 52.0**	**+0.5**
JAR	**Ashorobuto**	**1.84**	**40**	⇑P		**Pn**	**19 23 33.7**	**-0.9**
JAR				*e*S		**Sn**	**19 23 56.9**	**-0.2**
JHR	**Hokuryu**	**1.86**	**351**	⇓P		**Pn**	**19 23 35.3**	**+0.4**
ASAJ	**Asahikawa**	**2.24**	**9**	⇓*e*Pn		**Pn**	**19 23 39.9**	**0.0**
ASAJ				P		**Pn**	**19 23 40.1**	**+0.2**
ASAJ				S		**Sn**	**19 24 04.6**	**-2.0**
ASAJ	**Asahikawa**	**2.24**	**9**	P		**Pn**	**19 23 40.1**	**+0.2**
	220nm,0.3s,baz=229,slow=10,SNR=817							
ASAJ				S		**Sn**	**19 24 04.6**	**-2.0**
	255nm,0.3s,baz=4.3,slow=18,SNR=6.7							
YUK	**Yuzh-Kuril'sk**	**3.46**	**51**	*d* *i*P		**Pn**	**19 23 55.6**	**-0.9**
YUK				*i* S		**Sn**	**19 24 33.2**	**-3.2**
YUK				pmax		pmax		
	comp=N,666nm,0.3s							
YUK				pmax		pmax		
	comp=E,516nm,0.3s							
YUK				pmax		pmax		
	comp=Z,8μm,0.3s							
YUK				smax		smax		
	comp=N,115nm,0.6s							
YUK				smax		smax		
	comp=E,6μm,0.6s							
YSS	**Yuzh-Sakhalins**	**5.07**	**5**	*e*P		**Pn**	**19 24 19.6**	**+1.2**
YSS				*e*S		**Sn**	**19 25 20.0**	**+4.4**
YSS				pmax		pmax		
	comp=Z,220nm,0.9s							
YSS				smax		smax		
	comp=N,2μm,1.0s							
YSS				MLR		MLR		
	comp=N,1μm,20.0s							
YSS				MLR		MLR		
	comp=Z,1μm,18.0s							
YSS	**Yuzh-Sakhalins**	**5.07**	**5**	*e*Pn		**Pn**	**19 24 19.6**	**+1.2**
KUR	**Kuril'sk**	**5.33**	**49**	⇑*i*P		**Pn**	**19 24 22.0**	**0.0**
KUR				*i* S		**Sn**	**19 25 22.0**	**+0.1**
KUR				pmax		pmax		
	comp=Z,1μm,0.7s							
KUR				pmax		pmax		
	comp=N,296nm,0.5s							
KUR				pmax		pmax		
	comp=E,175nm,0.5s							
KUR				smax		smax		
	comp=N,2μm,0.9s							
KUR				smax		smax		
	comp=E,2μm,0.8s							
MAJO	**Matsushiro**	**6.16**	**211**	*e*P		**Pn**	**19 24 34.1**	**+0.6**
MAJO	**Matsushiro**	**6.16**	**211**	*e*Pn		**Pn**	**19 24 34.0**	**+0.6**
MAT	**Matsushiro**	**6.16**	**211**	P		**Pn**	**19 24 33.9**	**+0.5**
MAT				S		**Sn**	**19 25 43.7**	**+1.2**
MJAR	**Matsushiro Arr**	**6.16**	**211**	P		**Pn**	**19 24 34.3**	**+0.8**
MJAR	**Matsushiro Arr**	**6.16**	**211**	P		**Pn**	**19 24 34.3**	**+0.8**
	comp=E,6.0nm,0.3s,baz=23,slow=15,SNR=86							
VLA	**Vladivostok**	**7.67**	**283**	⇓*e*P		**Pn**	**19 24 55.7**	**+1.7**
VLA				S		**Sn**	**19 26 22.8**	**+3.5**
USRK	**Ussuriysk Arra**	**7.78**	**291**	P		**Pn**	**19 24 56.6**	**+1.2**
	comp=E,3.5nm,0.3s,baz=92,slow=14,SNR=65							
USRK				LR		LR	19 28 01.3	
	comp=E,16nm,28.6s,baz=112,slow=38							
HABR	**Khabarovsk**	**8.25**	**325**	*e*P		**Pn**	**19 25 01.4**	**-0.5**
HABR				*e*S		**Sn**	**19 26 31.1**	**-2.4**
HABR				pmax		pmax	

BJI LR LR
comp=Z,530nm,28.8s
BJT Baijiatuau 19.68 273 *e*P **P** **19 27 25.3 -2.8**
comp=Z,97nm,1.0s
NJ2 Nanjing 20.98 250 *e*P **P** **19 27 40.3 -1.9**
NJ2 S **S** **19 31 32.0 +0.2**
NJ2 pmax pmax
comp=Z,210nm,1.0s
NJ2 LR LR
comp=Z,2µm,22.0s
YAK Yakutsk 21.49 344 *e*P **P** **19 27 43.7 -3.7**
YAK *e* 19 28 03.9
YAK *e*S **S** **19 31 34.8 -6.7**
YAK pmax pmax
comp=E,70nm,1.0s
YAK pmax pmax
comp=N,20nm,0.9s
YAK pmax pmax
comp=Z,65nm,0.8s
YAK Yakutsk 21.49 344 *e*P **P** **19 27 43.5 -3.9**
comp=Z,94nm,0.6s
YAK *e*S **S** **19 31 39.4 -2.1**
SEY Seymchan 21.92 13 P **P** **19 27 49.7 -2.2**
SEY pmax pmax
comp=Z,12nm,0.6s
SEY Seymchan 21.92 13 P **P** **19 27 49.6 -2.2**
SEY Seymchan 21.92 13 P **P** **19 27 49.6 -2.2**
comp=Z,12nm,0.6s,baz=191,slow=8.8,SNR=29
HHC Hu-ho-hao-te 22.91 278 *e*P **P** **19 28 00.3 -2.6**
HHC pP **pP** **19 28 18.0 -0.2**
HHC PP **PnPn** **19 28 31.8 +1.3**
HHC S **S** **19 32 01.3 -5.8**
HHC pmax pmax
comp=Z,44nm,0.7s
HHC pmax pmax
comp=Z,170nm,4.2s
HHC LR LR
comp=Z,430nm,11.4s
HHC LR LR
comp=Z,520nm,11.5s
HHC LR LR
comp=Z,370nm,12.2s
FX1 Attu Island--F 23.52 52 *e*P **P** **19 28 06.0 -2.3**
FX1 Attu Island--F 23.52 52 LR LR 19 36 50.9
comp=Z,16nm,28.6s,baz=256,slow=35
TATO Taipei 24.02 232 *e*P **P** **19 28 12.5 -0.6**
comp=Z,23nm,0.8s
YHNB Yeheng 24.32 232 *e*P **P** **19 28 11.9 -4.0**
comp=Z,36nm,0.8s
NACB Ninganchiao 24.58 230 *e*P **P** **19 28 15.3 -2.8**
YULB Yu-li 25.35 230 *e*P **P** **19 28 21.8 -3.4**
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 25.41 296 *e*P **P** **19 28 25.6 -0.1**
comp=Z,40nm,1.1s
QZH Quanzhou 25.80 236 P **P** **19 28 27.0 -2.2**
QZH S **S** **19 32 47.0 -6.3**
QZH pmax pmax
comp=Z,110nm,0.8s
TPUB Ta-pu 25.81 231 *e*P **P** **19 28 27.0 -2.4**
comp=Z,16nm,0.7s
SONM Songino Array 25.85 296 P **P** **19 28 29.5 -0.2**
SONM PcP **PcP** **19 31 57.7 +0.7**
SONM ScP **ScP** **19 35 31.7 +1.7**
SONM Songino Array 25.85 296 P **P** **19 28 29.5 -0.2**
comp=Z,27nm,0.9s,baz=86,slow=8.3,SNR=147
SONM PcP **PcP** **19 31 57.7 +0.7**
comp=Z,2.7nm,0.7s,baz=132,slow=2.4,SNR=6.0
SONM ScP **ScP** **19 35 31.7 +1.7**
comp=Z,1.8nm,0.9s,baz=63,slow=1.3,SNR=7.0
SONM LR LR 19 39 19.3
comp=Z,320nm,20.5s,baz=66,slow=38
TWG Pinlang 25.93 229 *e*P **P** **19 28 30.6 +0.2**
comp=Z,85nm,0.7s
XAN Xi'an 27.21 264 P **P** **19 28 40.3 -1.6**
XAN pmax pmax
comp=Z,11nm,1.1s
IRK Irkutsk 27.49 305 *e*P **P** **19 28 43.8 -0.4**
IRK *e* 19 28 59.8
IRK pmax pmax
comp=Z,45nm,0.8s
TLY Talaya 27.81 304 P **P** **19 28 47.2 0.0**
comp=Z,108nm,1.0s,SNR=8.8
TLY Talaya 27.81 304 *e*P **P** **19 28 47.4 +0.3**
TLY pmax pmax
comp=Z,21nm,0.9s
TLY MLR MLR
comp=Z,268nm,18.0s
TLY Talaya 27.81 304 *e*P **P** **19 28 47.1 0.0**
comp=Z,17nm,0.9s
TLY *e*PcP **PcP** **19 32 01.9 +0.4**
ZAK Zakamensk 27.95 301⇑ *i*P **P** **19 28 48.3 -0.2**
ZAK *e* 19 32 02.8
ZAK pmax pmax
comp=Z,10.0nm,1.4s
ENH Enshi 28.66 257 *e*P **P** **19 28 53.0 -1.9**
comp=Z,31nm,0.7s
ENH *e*PcP **PcP** **19 32 04.4 +0.5**
MOY Mondy 29.46 304 *e*P **P** **19 29 02.2 +0.3**
MOY pmax pmax
comp=Z,36nm,1.5s
LZH Lanzhou 30.14 272 *e*P **P** **19 29 08.3 +0.2**
LZH pP **pP** **19 29 26.3 +0.9**
LZH PcP **PcP** **19 32 10.0 +2.2**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.5s
LZH LR LR
comp=Z,210nm,17.1s
LZH LR LR
comp=Z,200nm,18.2s
LZH LR LR
comp=Z,270nm,15.0s
H11N2 WAKE ISLAND Hy 30.47 129 T T 20 00 57.7
baz=321,slow=75,SNR=280
H11N3 WAKE ISLAND Hy 30.49 129 T T 20 01 00.4
baz=318,slow=75,SNR=1001
TIXI Tiksi 30.54 352⇓ *i*P **P** **19 29 07.9 -3.1**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 30.54 352 *e*P P 19 29 07.2 -3.8
comp=Z,4.2nm,0.6s
SZP Santa 30.55 224 P **P** **19 29 13.0 +1.5**
comp=Z,52nm,0.8s
H11S1 WAKE ISLAND Hy 31.33 131 T T 20 01 41.1
baz=328,slow=76,SNR=813
H11S3 WAKE ISLAND Hy 31.33 131 T T 20 01 43.2
baz=328,slow=76,SNR=990
H11S2 WAKE ISLAND Hy 31.34 131 T T 20 01 55.1
baz=328,slow=76,SNR=1683
GTA Gaotai 31.97 280 *e*P **P** **19 29 23.8 -0.3**
GTA PcP **PcP** **19 32 14.0 +1.4**
GTA S **S** **19 34 26.3 -4.0**
GTA PcS **PcS** **19 35 58.5 +1.1**
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,54nm,5.2s
GTA LR LR
comp=Z,160nm,15.2s
GTA LR LR
comp=Z,200nm,16.2s
GTA LR LR
comp=Z,290nm,22.8s
CD2 Chengdu 32.53 263 P **P** **19 29 28.0 -1.0**
CD2 pP **pP** **19 29 46.0 -0.4**
CD2 PP **PnPn** **19 30 38.5 -0.3**
CD2 S **S** **19 34 36.3 -2.7**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,170nm,14.2s
CD2 LR LR
comp=Z,200nm,19.0s
CD2 LR LR
comp=Z,250nm,19.0s
GYA Guiyang 32.88 253⇑ *i*P **P** **19 29 30.5 -1.6**
GYA pP **pP** **19 29 51.0 +1.4**
GYA PP **PP** **19 30 45.8 -1.8**
GYA S **S** **19 34 44.0 -0.6**
GYA ScP **ScP** **19 35 54.5 +1.8**
GYA SS **SnSn** **19 36 46.8 -1.3**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,660nm,17.6s
GYA LR LR
comp=Z,550nm,18.0s
GYA LR LR
comp=Z,620nm,17.7s
QIZ Qiongzhong 35.65 240 P **P** **19 29 56.3 +0.3**
QIZ pP **pP** **19 30 13.5 -0.1**
QIZ S **S** **19 35 28.0 +0.9**
QIZ pmax pmax
comp=Z,16nm,1.5s
QIZ Qiongzhong 35.65 240 P **P** **19 29 54.3 -1.7**
TNA Tin City 36.39 32 *e*P **P** **19 30 01.3 -0.5**
comp=Z,11nm,1.0s
KMI Kunming 36.50 255 P **P** **19 30 03.0 -0.5**
KMI pP **pP** **19 30 22.0 +0.9**
KMI PP **PnPn** **19 31 31.0 +2.8**
KMI S **S** **19 35 40.5 0.0**
KMI sS **sS** **19 36 12.5 +1.8**
KMI SS **SnSn** **19 38 14.3 -1.6**
KMI pmax pmax
comp=Z,24nm,0.9s
KMI pmax pmax
comp=Z,82nm,7.1s
KMI LR LR
comp=Z,130nm,23.7s
KMI LR LR
comp=Z,91nm,25.2s
KMI LR LR
comp=Z,170nm,27.3s
SLVN Son La 38.06 249 *e*P **P** **19 30 17.2 +0.6**
comp=Z,34nm,1.0s
ZAA0 Zalesovo Array 39.20 308⇑ *i*P **P** **19 30 25.5 -0.1**
ZAA0 *e*PcP **PcP** **19 32 33.8 +0.3**
ZAA0 *e*ScP **ScP** **19 36 16.1 +0.8**
ZALV Zalesovo Beam 39.20 308 P **P** **19 30 25.7 +0.1**
ZALV 19 32 34.1
ZALV 19 36 16.9
ZALV pmax pmax
comp=Z,68nm,0.6s
ZALV Zalesovo Beam 39.20 308 P **P** **19 30 25.7 +0.1**
ZALV PcP **PcP** **19 32 34.1 +0.7**
ZALV pPcP 19 32 55.7
ZALV ScP **ScP** **19 36 16.9 +1.6**
ZALV Zalesovo Beam 39.20 308 P **P** **19 30 25.7 +0.1**
comp=Z,68nm,0.6s,baz=89,slow=7.7,SNR=203
ZALV PcP **PcP** **19 32 34.1 +0.7**
comp=Z,7.1nm,0.6s,baz=93,slow=2.7,SNR=4.8
ZALV pPcP 19 32 55.7
comp=Z,6.4nm,0.6s,baz=84,slow=3.4,SNR=4.0
ZALV ScP **ScP** **19 36 16.9 +1.6**
comp=Z,1.9nm,0.7s,baz=81,slow=3.4,SNR=5.6
ZALV LR LR 19 47 30.0
comp=Z,16nm,28.6s,baz=64,slow=37
WMQ Urumqi 39.35 292 P **P** **19 30 27.3 +0.2**
WMQ pP **pP** **19 30 45.8 +0.9**
WMQ PP **PnPn** **19 32 03.0 +1.1**
WMQ PcP **PcP** **19 32 31.0 -3.2**
WMQ ScP **ScP** **19 36 16.0 -0.2**
WMQ S **S** **19 36 23.0 +0.1**
WMQ pmax pmax
comp=Z,37nm,1.0s
WMQ pmax pmax
comp=Z,170nm,2.0s
WMQ LR LR
comp=Z,140nm,15.0s
WMQ LR LR
comp=Z,170nm,16.0s
WMQ LR LR
comp=Z,150nm,15.0s
NVS Novosibirsk 40.02 310⇑ *i*P **P** **19 30 31.6 -0.9**
NVS *e**PP **pP** **19 30 48.5 -1.8**
NVS pmax pmax
comp=Z,29nm,0.9s
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS pmax pmax
comp=E,19nm,0.8s
UBPT Khong Chiam 41.22 241 P **P** **19 30 44.0 +1.2**
comp=E,29nm,1.2s,comp=E,1µm
DLV T Lat 41.84 234 *e*P **P** **19 30 48.8 +0.7**
comp=E,25nm,1.0s
MK31 Makanchi Array 42.17 298⇑ *i*P **P** **19 30 50.2 -0.1**
MK31 Makanchi Array 42.17 298⇑ *i*P **P** **19 30 50.2 -0.1**
MKAR Makanchi Array 42.17 298 P **P** **19 30 50.5 +0.2**
MKAR 19 32 43.5
MKAR pmax pmax
comp=Z,25nm,0.8s
MKAR MLR MLR
comp=Z,84nm,20.6s
MKAR Makanchi Array 42.17 298 *e*P **P** **19 30 50.0 -0.3**
MKAR P **P** **19 30 50.5 +0.2**
MKAR PcP **PcP** **19 32 43.5 +0.2**
MKAR ScP **ScP** **19 36 28.5 +1.3**
MKAR Makanchi Array 42.17 298 P **P** **19 30 50.5 +0.2**
comp=Z,25nm,0.8s,baz=82,slow=9.2,SNR=233
MKAR PcP **PcP** **19 32 43.5 +0.2**
comp=Z,4.8nm,0.8s,baz=69,slow=1.8,SNR=3.1
MKAR ScP **ScP** **19 36 28.5 +1.3**
comp=Z,2.0nm,1.1s,baz=72,slow=4.0,SNR=3.9
MKAR LR LR 19 49 43.4
comp=Z,84nm,20.6s,baz=102,slow=38
IM04 Indian Mountai 42.21 33 *e*P **P** **19 30 49.7 -0.6**
IM04 *e*PcP **PcP** **19 32 43.7 +0.6**
SDKM Sandakan 42.39 219 P **P** **19 30 53.6 +1.3**
CMAI Chiengmai2 42.41 252 P **P** **19 30 53.5 +0.9**
comp=Z,78nm,0.8s
LSA Lhasa 42.53 270 *e*P **P** **19 30 56.0 +2.0**
LSA Lhasa 42.53 270 *e*P **P** **19 30 55.0 +1.0**
LSA pmax pmax
comp=Z,41nm,1.1s
LSA Lhasa 42.53 270 *e*P **P** **19 30 55.0 +1.0**
comp=Z,41nm,1.1s
RSO Redoubt South 42.81 41 *e*P **P** **19 30 56.1 +0.6**
PPLA Purkeypile 42.92 38 *e*P **P** **19 30 57.2 +1.0**
comp=Z,14nm,0.8s
LAMP Lampang 42.92 250 P **P** **19 30 57.7 +1.1**
comp=Z,14nm,0.7s,comp=Z,102nm
KDAK Kodiak Island 43.19 45 P **P** **19 30 58.9 +0.6**
comp=Z,186nm,0.7s,SNR=7.4
TSM Tawau 43.27 217 P **P** **19 31 00.6 +1.2**
PHIT Phitsanulok 43.28 248 P **P** **19 31 00.8 +1.3**
comp=Z,25nm,0.9s
CM31 Chiang Mai Arr 43.45 251 *e*P **P** **19 31 01.4 +0.5**
comp=Z,7.9nm,0.6s
CMAR Chiang Mai Arr 43.45 251 P **P** **19 31 01.7 +0.8**
CMAR PcP **PcP** **19 32 49.1 +1.2**
CMAR pPcP 19 33 10.1
CMAR Chiang Mai Arr 43.45 251 P **P** **19 31 01.7 +0.8**
comp=Z,8.4nm,0.7s,baz=44,slow=7.3,SNR=50
CMAR PcP **PcP** **19 32 49.1 +1.2**
comp=Z,3.1nm,0.8s,baz=28,slow=2.3,SNR=6.2
CMAR pPcP 19 33 10.1
comp=Z,1.7nm,0.7s,baz=38,slow=0.6,SNR=4.6
CMAR LR LR 19 50 37.9
comp=Z,90nm,19.1s,baz=37,slow=38
KTH Kantishna Hill 43.46 37⇑ *e*P **P** **19 31 01.3 +0.8**
comp=Z,186nm,0.8s
KURK Kurchatov 43.51 304 P **P** **19 31 01.5 +0.5**
comp=Z,263nm,0.9s,SNR=66
KURK Kurchatov 43.51 304⇑ *i*P **P** **19 31 00.6 -0.4**
KURK pmax pmax
comp=Z,41nm,0.9s
KURK Kurchatov 43.51 304⇑ *i*P **P** **19 31 00.6 -0.4**
comp=Z,41nm,0.9s
COLD Coldfoot 43.67 31 *e*P **P** **19 31 01.5 -0.6**
comp=Z,5.4nm,0.9s
TRF Thorofare Moun 43.75 37 *e*P **P** **19 31 03.1 +0.2**
comp=Z,21nm,0.7s
RC01 Rabbit Creek A 44.22 40 *e*P **P** **19 31 06.2 -0.4**
comp=Z,16nm,0.7s
SHL Shillong 44.22 265 *e*P **P** **19 31 07.0 -0.2**
MCK McKinley 44.33 36 *e*P **P** **19 31 07.3 -0.1**
MCK pmax pmax
comp=Z,19nm,0.8s
MCK McKinley 44.33 36 *e*P **P** **19 31 07.3 -0.1**
comp=Z,19nm,0.8s
MHMT Maesarieng 44.35 251 P **P** **19 31 09.1 +1.0**
comp=Z,15nm,0.9s,comp=Z,181nm
PMR Palmer 44.45 40 *e*P **P** **19 31 07.9 -0.4**
PMR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 44.45 40 *e*P **P** **19 31 07.9 -0.4**
comp=Z,20nm,0.8s
COLA College 44.71 35*c i*P **P** **19 31 10.9 +0.5**
COLA pmax pmax
comp=Z,118nm,0.8s
COLA College 44.71 35 *e*P **P** **19 31 10.5 +0.1**
comp=Z,8.9nm,0.8s
ILAR Eielson Array 45.13 35 P **P** **19 31 13.7 -0.1**
ILAR Eielson Array 45.13 35 P **P** **19 31 13.7 -0.1**
comp=Z,16nm,0.8s,baz=267,slow=6.0,SNR=19
ILAR LR LR 19 51 03.2
comp=Z,16nm,28.6s,baz=288,slow=37
CHBT CHBT 45.13 242 P **P** **19 31 15.4 +1.1**
comp=Z,48nm,0.9s
PAX Paxson 45.97 37 *e*P **P** **19 31 20.6 +0.1**
PAX pmax pmax
comp=Z,7.0nm,0.9s
PAX Paxson 45.97 37 *e*P **P** **19 31 20.6 +0.1**
comp=Z,7.3nm,0.9s
DIV Divide 46.12 40 *e*P **P** **19 31 22.3 +0.6**
comp=Z,22nm,0.7s
SRDT SRDT 46.14 246 P **P** **19 31 24.4 +2.1**
comp=Z,43nm,1.0s,comp=Z,11µm
KHLT Khaolaem Dam 46.19 247 P **P** **19 31 24.5 +1.8**
comp=Z,8.7nm,1.3s
TAPN Taplejung 46.34 270 *e*P **P** **19 31 25.0 +0.9**
comp=Z,132nm,0.9s
TAPN Taplejung 46.34 270 *e*P **P** **19 31 25.0 +0.9**
comp=Z,132nm,0.9s
BTM Bintulu 46.49 222 P **P** **19 31 25.6 +0.6**
DOT Dot Lake 46.50 36 *e*P **P** **19 31 24.0 -0.5**
BMRM Bremner River 46.71 40 *e*P **P** **19 31 26.7 +0.5**
comp=Z,15nm,0.8s
BMRM *e*PP **PP** **19 33 20.5 +3.9**
MENT Mentasta 46.76 37 *e*P **P** **19 31 27.6 +0.9**
ODAN Odare 46.85 269 *e*P **P** **19 31 28.8 +0.8**
comp=Z,99nm,0.8s
ODAN Odare 46.85 269 *e*P **P** **19 31 28.8 +0.8**
comp=Z,99nm,0.8s
JIRN Jiri 47.31 271 *e*P **P** **19 31 32.5 +0.7**
comp=Z,61nm,0.8s
JIRN Jiri 47.31 271 *e*P **P** **19 31 32.5 +0.7**
comp=Z,61nm,0.8s
RAMN Ramite 47.39 270 *e*P **P** **19 31 32.8 +0.6**
comp=Z,204nm,0.9s
RAMN Ramite 47.39 270 *e*P **P** **19 31 32.8 +0.6**
comp=Z,204nm,0.9s
GUN Gumba 47.41 272 *e*P **P** **19 31 33.1 +0.6**
comp=Z,234nm,0.7s
GUN Gumba 47.41 272 *e*P **P** **19 31 33.1 +0.6**
comp=Z,234nm,0.7s
EGAK Eagle 47.56 34 *e*P **P** **19 31 32.4 -0.4**
comp=Z,14nm,0.8s
SBUM Sibu 47.57 222 P **P** **19 31 35.1 +1.7**
SBUM Sibu 47.57 222 *e*P **P** **19 31 34.3 +0.9**
comp=Z,11nm,0.8s
BRVK Borovoye 47.87 309 P **P** **19 31 36.0 +0.7**
comp=Z,174nm,0.5s,SNR=9.1
BRVK Borovoye 47.87 309*c i*P **P** **19 31 35.9 +0.7**
BRVK pmax pmax
comp=Z,25nm,1.0s
BRVK Borovoye 47.87 309⇑ *e*P **P** **19 31 35.6 +0.3**
comp=Z,17nm,0.6s
KKN Kakani 47.92 272 *e*P **P** **19 31 36.8 +0.5**
comp=Z,124nm,0.8s
KKN Kakani 47.92 272 *e*P **P** **19 31 36.8 +0.5**
KKN pmax pmax
comp=Z,124nm,0.8s
KKN Kakani 47.92 272 *e*P **P** **19 31 36.8 +0.5**
comp=Z,124nm,0.8s
PKI Pulchoki 47.94 272 *e*P **P** **19 31 36.9 +0.3**
comp=Z,112nm,1.0s
PKI Pulchoki 47.94 272 *e*P **P** **19 31 36.9 +0.3**
PKI pmax pmax
comp=Z,112nm,1.0s
PKI Pulchoki 47.94 272 *e*P **P** **19 31 36.9 +0.3**
comp=Z,112nm,1.0s
PKIN Phulchoki 47.95 272 *e*P **P** **19 31 36.8 +0.2**
comp=Z,58nm,0.8s
TKM2 Tokmak 2 47.95 295 *i*P **P** **19 31 37.0 +0.6**
TKM2 Tokmak 2 47.95 295 P **P** **19 31 37.0 +0.6**
SNR=87
TKM2 Tokmak 2 47.95 295⇑ *i*P **P** **19 31 36.9 +0.6**
comp=Z,48nm,0.8s
DMN Daman 48.15 272 *e*P **P** **19 31 38.6 +0.5**
comp=Z,100nm,0.8s
DMN Daman 48.15 272 *e*P **P** **19 31 38.6 +0.5**
comp=Z,100nm,0.8s
GKN Gorkha 48.28 272 *e*P **P** **19 31 39.5 +0.5**
comp=Z,76nm,0.7s
GKN Gorkha 48.28 272 *e*P **P** **19 31 39.5 +0.5**
comp=Z,76nm,0.7s
DAWY Dawson 48.45 35 *e*P **P** **19 31 40.2 +0.5**
CHMS Chumysh 48.49 295 *i*P **P** **19 31 40.6 +0.3**
CHMS Chumysh 48.49 295 P **P** **19 31 40.6 +0.3**
SNR=7.3
KBK Karagaybulak 48.49 295 P **P** **19 31 41.3 +0.8**
SNR=51
KZA Kyzart 48.52 294 *i*P **P** **19 31 42.3 +1.4**
KZA Kyzart 48.52 294 P **P** **19 31 42.4 +1.4**
SNR=15
USP Ospenovka 48.55 296 *i*P **P** **19 31 41.1 +0.3**
USP Ospenovka 48.55 296 P **P** **19 31 41.1 +0.3**
SNR=20
FRU Bishkek 48.65 295 *e*P **P** **19 31 40.0 -1.5**
DANN Dangsing 48.75 273 *e*P **P** **19 31 43.9 +1.1**
comp=Z,310nm,0.6s
DANN Dangsing 48.75 273 *e*P **P** **19 31 43.9 +1.1**
comp=Z,310nm,0.6s
AAK Ala-Archa 48.81 295 P **P** **19 31 43.9 +1.0**
comp=Z,76nm,0.8s,SNR=12
AAK Ala-Archa 48.81 295 *e*P **P** **19 31 43.3 +0.4**
AAK pmax pmax
comp=Z,45nm,1.2s
AAK Ala-Archa 48.81 295 P **P** **19 31 43.3 +0.4**
SNR=17
AAK Ala-Archa 48.81 295⇑ *i*P **P** **19 31 42.6 -0.3**
comp=Z,5.6nm,0.5s
UCH Uchtor 48.96 294 *i*P **P** **19 31 45.4 +1.0**
UCH Uchtor 48.96 294 P **P** **19 31 45.4 +1.0**
SNR=9.1
KSH Kashi 49.08 291 P P 19 31 49.0 +4.1
KSH PP PP 19 33 45.0 +6.1
KSH PcS **PcS** **19 37 06.0 +1.8**
KSH S **S** **19 38 47.0 +2.6**
KSH pmax pmax
comp=Z,18nm,1.1s
KSH LR LR
comp=Z,110nm,4.8s
KSH LR LR
comp=Z,130nm,4.6s
KSH LR LR
comp=Z,180nm,5.8s
KOLN Koldanda 49.18 273 *e*P **P** **19 31 46.7 +0.7**
comp=Z,115nm,0.9s
KOLN Koldanda 49.18 273 *e*P **P** **19 31 46.7 +0.7**
comp=Z,115nm,0.9s
EKS2 Erkin-Say 49.28 295 *i*P **P** **19 31 46.9 +0.5**
EKS2 Erkin-Say 49.28 295 P **P** **19 31 47.0 +0.5**
SNR=12
EKS2 Erkin-Say 49.28 295⇑ *i*P **P** **19 31 46.4 -0.1**
KSM Kuching 49.38 224 P **P** **19 31 49.4 +2.1**
KSM Kuching 49.38 224⇑ *i*P **P** **19 31 48.2 +0.9**
comp=Z,49nm,0.8s
PYUN Piuthan 49.46 274 *e*P **P** **19 31 48.8 +0.7**
comp=Z,243nm,1.1s
PYUN Piuthan 49.46 274 *e*P **P** **19 31 48.8 +0.7**
comp=Z,243nm,1.1s
AML Almayashu 49.55 295 *i*P **P** **19 31 49.8 +0.9**
AML Almayashu 49.55 295 P **P** **19 31 49.8 +0.9**
SNR=21
INK Inuvik 49.83 29 *e*P **P** **19 31 49.8 -0.3**
comp=Z,10nm,0.7s
HYT Haines Junctio 50.11 39 *e*P **P** **19 31 54.1 +1.7**
SURT Suratani 50.26 242 P **P** **19 31 55.8 +1.8**
comp=Z,13nm,1.1s
KTGM Kuala Trenggan 50.28 235 P **P** **19 31 56.3 +2.2**
JOSI Joshimath 50.72 278 *ex* pP 19 32 21.4 +5.4
LGTI Lohaghat 50.78 277 *ex* P 19 32 02.3 +4.5
KAPI Kappang 50.96 209 *e*P **P** **19 32 00.3 +1.2**
comp=Z,106nm,0.8s
KKAR Karatay Array 51.29 297 *e*P **P** **19 32 01.1 -0.4**
KKAR pmax pmax
comp=Z,15nm,0.6s
KKAR Karatay Array 51.29 297 *e*P **P** **19 32 01.1 -0.4**
comp=Z,14nm,0.6s
PKDT Phuket 51.35 241 P **P** **19 32 04.0 +1.8**
comp=Z,92nm,1.0s
KULM Kulim 51.84 237 P **P** **19 32 07.2 +1.4**

KULM Kulim 51.84 237 *e*P **P 19 32 07.0 +1.1**
comp=Z,46nm,0.8s
SVE Sverdlovsk 51.94 316 ⇓*i*P **P 19 32 07.0 +0.9**
SVE pmax pmax
comp=Z,64nm,0.9s
SMLA Simla 52.18 280 *i* P **P 19 32 08.7 +0.4**
IPM Ipoh 52.24 236 P P **19 32 09.2 +0.3**
IPM Ipoh 52.24 236 *e*P **P 19 32 09.1 +0.2**
comp=Z,19nm,0.8s
MYKOM Kota Tinggi 52.68 231 P **P 19 32 14.1 +2.1**
KGM Kluang 52.81 232 P **P 19 32 13.7 +0.7**
FRIM Kepong 52.84 234 P **P 19 32 14.6 +1.3**
SOKR Solikamsk 52.86 321*c i*P **P 19 32 13.3 +0.5**
SOKR pmax pmax
comp=Z,30nm,0.8s
KKR Kurukshetra 53.05 279 *e*P **P 19 32 14.6 -0.1**
KKR AMB AMB 19 32 17.1
comp=Z,51nm,0.9s
ARU Arti 53.15 316 P **P 19 32 15.8 +0.8**
comp=Z,274nm,0.9s,SNR=15
ARU Arti 53.15 316*c i*P **P 19 32 15.2 +0.1**
ARU *PP **pP 19 32 31.2 -2.4**
ARU 19 33 22.0
ARU 19 34 15.0
ARU PPP PPP 19 35 22.2
ARU S **S 19 39 41.8 +1.9**
ARU *SS **sS 19 40 14.6 +3.2**
ARU 19 41 55.1
ARU SS **SS 19 43 18.8 -0.8**
ARU pmax pmax
comp=Z,58nm,1.2s
ARU Arti 53.15 316 *e*P **P 19 32 15.1 +0.1**
BISR Bishrakh 53.33 278 *e*P **P 19 32 14.2 -2.6**
BISR AMB AMB 19 32 15.1
comp=Z,48nm,1.0s
NDI New Delhi 53.43 278 *e*P **P 19 32 16.5 -1.0**
BHGR Bahadurgarh 53.64 278 *ex* P 19 32 11.8 -7.2
AGRA Agra 53.69 276 *e*P **P 19 32 17.9 -1.5**
AGRA AMB AMB 19 32 19.7
comp=Z,40nm,0.3s
KUDL Kundal 54.26 278 *e*P **P 19 32 23.6 +0.1**
KUDL AMB AMB 19 32 26.2
comp=Z,16nm,1.3s
DLBC Dease Lake 54.50 40 *e*P **P 19 32 26.4 +1.4**
KHET Khetri 54.81 278 *e*P **P 19 32 26.4 -1.1**
KHET AMB AMB 19 32 28.6
comp=Z,14nm,1.3s
ABKAR Akbulak array 55.31 308 *e*P **P 19 32 31.0 +0.1**
COEN Coen 55.59 179 *e*P **P 19 32 33.5 +0.4**
COEN pP **pP 19 32 54.3 +2.6**
KBL Kabul 56.31 288 *e*P **P 19 32 37.6 -0.9**
KBL pmax pmax
comp=Z,23nm,0.8s
KBL Kabul 56.31 288 *e*P **P 19 32 37.6 -0.9**
comp=Z,23nm,0.8s
SMRI Semarang 56.68 219 *e*P **P 19 32 41.4 +0.4**
comp=Z,73nm,0.9s
GSI Gunungsitoli 56.85 237 *e*P **P 19 32 41.3 -1.0**
comp=Z,58nm,1.2s
PRGR Permogore 57.03 326⇑*i*P **P 19 32 43.0 +0.2**
PRGR pmax pmax
comp=Z,53nm,1.0s
RES Resolute Bay 57.76 15 P **P 19 32 47.3 -0.5**
RES Resolute Bay 57.76 15 P **P 19 32 47.3 -0.5**
comp=Z,12nm,0.6s,baz=307,slow=6.5,SNR=20
CISI Cisompet, Garu 58.38 221 *e*P **P 19 32 51.3 -1.6**
TMCR Tamitsa 58.77 330 *e*P **P 19 32 54.7 -0.3**
TMCR *e* 19 35 06.3
TMCR pmax pmax
comp=Z,63nm,1.3s
HYB Hyderabad 59.00 266 *i* P **P 19 32 56.0 -1.3**
comp=Z,38nm,0.8s
JASL Jaisalmer 59.06 280 *e*P **P 19 32 56.8 -0.8**
JASL AMB AMB 19 32 58.8
comp=Z,74nm,0.6s
KEV Kevo 59.11 338 *e*P **P 19 32 57.2 0.0**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 59.11 338 *ep* **P 19 32 57.2 0.0**
comp=Z,1.6nm,0.4s
YKW3 Yellowknife Ar 59.31 32 *e*P **P 19 32 58.4 -0.3**
comp=Z,0.1nm,0.8s
YKW3 *ep*P **pP 19 33 16.6 -1.0**
YKA Yellowknife Ar 59.35 32 P **P 19 32 59.1 +0.1**
YKA pP **pP 19 33 17.6 -0.3**
YKA Yellowknife Ar 59.35 32 P **P 19 32 59.1 +0.1**
comp=Z,5.4nm,0.7s,baz=305,slow=6.2,SNR=110
YKA pP **pP 19 33 17.6 -0.3**
comp=Z,2.0nm,0.5s,baz=304,slow=6.6,SNR=4.5
ARCES ARCESS Array B 59.66 339 P **P 19 33 01.1 0.0**
ARCES ARCESS Array B 59.66 339 P **P 19 33 01.1 0.0**
comp=Z,2.8nm,0.7s,baz=43,slow=8.4,SNR=12
ARCES LR LR 20 01 11.6
comp=Z,112nm,20.4s,baz=38,slow=38
POO Poona 61.82 270⇑*i*P **P 19 33 16.0 -0.6**
comp=Z,50nm,1.0s
WRAB Tennant Creek 61.94 188 P **P 19 33 16.6 -0.5**
comp=Z,72nm,1.0s,SNR=9.2
WRAB Tennant Creek 61.94 188 *e*P **P 19 33 16.9 -0.2**
WRAB pmax pmax
comp=Z,47nm,1.7s
WRAB Tennant Creek 61.94 188 *e*P **P 19 33 16.2 -0.9**
comp=Z,16nm,0.8s
WRAB *ep*P **pP 19 33 37.7 +1.6**
WRA Warramunga Arr 61.95 188 P **P 19 33 16.3 -0.9**
WRA PcP **PcP 19 33 57.9 +0.7**
WRA ⇑*e* 20 02 33.9
WRA Warramunga Arr 61.95 188 P **P 19 33 16.3 -0.9**
comp=Z,5.8nm,0.6s,baz=6.6,slow=6.9,SNR=104
WRA PcP **PcP 19 33 57.9 +0.7**
comp=Z,5.3nm,0.7s,baz=6.5,slow=6.9,SNR=5.3
WRA PKP2bc 20 02 33.9
comp=Z,0.9nm,0.8s,baz=194,slow=2.4,SNR=6.1
JOF Joensuu 61.96 331 *e*P **P 19 33 17.4 +0.7**
JOF pmax pmax
comp=Z,14nm,0.5s
JOF Joensuu 61.96 331 *ep* **P 19 33 17.4 +0.7**
comp=Z,14nm,0.5s
ABKT Ailbek 62.04 297 P **P 19 33 18.5 +0.7**
comp=Z,108nm,1.1s,SNR=11
KAD Karad 62.33 269 *i* P **P 19 33 19.9 -0.1**
IMON Monand 63.60 292 *e*P **P 19 33 28.8 +0.3**
IMON *e*P **P 19 33 29.3 +0.8**
MOS Moscow 63.71 322 *e*P **P 19 33 25.8 -2.6**
MOS *e* 19 33 51.6
MOS pmax pmax
comp=Z,50nm,0.9s
IDAH Dahanechah 63.72 291 *e*P **P 19 33 29.4 +0.1**
KAF Kangasniemi 64.26 332 *e*P **P 19 33 31.9 -0.1**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 64.26 332 *ep* **P 19 33 31.9 -0.1**
comp=Z,3.8nm,0.5s
IKOO Kooshah 64.50 292 *e*P **P 19 33 34.6 +0.2**
VRHR Novokhopersk 64.50 317 *e*P **P 19 33 31.9 -1.8**
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.1s
OBN Obninsk 64.56 322⇑*i*P **P 19 33 34.2 +0.2**
OBN *i* *PP **pP 19 33 55.3 +2.1**
OBN *e* 19 35 52.7
OBN *eS* S 19 42 14.0 +6.5
OBN pmax pmax
comp=Z,50nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 64.56 322 *e*P **P 19 33 33.4 -0.7**
comp=Z,43nm,1.1s
FIA1 FINESS Array S 64.79 332 *e*P **P 19 33 35.1 -0.3**
FIA1 *ep*P **pP 19 33 55.8 +1.2**
FINES FINESS Array B 64.79 332 P **P 19 33 35.3 -0.1**
FINES FINESS Array B 64.79 332 P **P 19 33 35.3 -0.1**
comp=Z,28nm,0.7s,baz=52,slow=6.7,SNR=106
FINES LR LR 20 04 11.8
comp=Z,229nm,20.2s,baz=40,slow=38
B08A Colville Reser 65.04 47 *e*P **P 19 33 38.4 +1.0**
comp=Z,10nm,1.0s
B08A *ep*P **pP 19 33 57.3 +0.7**
EDM Edmonton 65.22 40 *e*P **P 19 33 38.6 +0.1**
EDM Edmonton 65.22 40 *e*P **P 19 33 38.6 +0.1**
VSR Storozhevoye 65.67 318 *e*P **P 19 33 40.8 -0.5**
VSR pmax pmax
comp=Z,30nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,20nm,0.8s
IGLO Ghaloghah 65.68 298 *e*P **P 19 33 41.8 -0.1**
AS31 Alice Springs 65.68 188 *e*P **P 19 33 41.3 -0.3**
AS31 *ep*P **pP 19 34 01.0 +0.2**
ASAR Alice Springs 65.68 188 P **P 19 33 41.5 -0.1**
ASAR pP **pP 19 33 59.8 -1.0**
ASAR ⇑*e* 20 02 25.4
ASAR Alice Springs 65.68 188 P **P 19 33 41.5 -0.1**
comp=E,2.0nm,0.5s,baz=5.2,slow=6.9,SNR=46
ASAR pP **pP 19 33 59.8 -1.0**
comp=E,3.3nm,0.6s,baz=10,slow=6.1,SNR=7.6
ASAR PKP2bc 20 02 25.4
comp=E,0.5nm,0.9s,baz=150,slow=1.8,SNR=4.3
VORD Divnogorie 65.76 317 *e*P **P 19 33 40.6 -1.3**
VORD pmax pmax
comp=Z,30nm,0.9s
VORD pmax pmax
comp=N,40nm,1.0s
VORD pmax pmax
comp=E,30nm,1.0s
E07A Sunnyside 65.81 49 *ep*P pP 19 34 01.5 0.0
SUMG Summit 65.82 0 *e*P **P 19 33 42.9 +0.4**
SUMG pmax pmax
comp=Z,38nm,0.7s
SUMG Summit 65.82 0 P **P 19 33 42.9 +0.4**
comp=Z,38nm,0.7s
IKIA Kiasar 65.94 298 *e*P **P 19 33 43.3 -0.4**
C09A Chrisman Ranch 65.95 47 *e*P **P 19 33 44.1 +0.9**
comp=Z,24nm,1.0s
I04A Tendick Farm, 65.95 52⇑P **P 19 33 44.1 +0.7**
baz=66
D08A Wollman Farm, 66.03 48 *e*P **P 19 33 44.4 +0.7**
comp=Z,9.8nm,0.9s
HAWA Hanford 66.08 49 *e*P **P 19 33 44.7 +0.7**
HAWA *ep*P **pP 19 34 03.6 +0.3**
L02D Cave Junction, 66.19 54⇑P **P 19 33 45.4 +0.6**
baz=66
IANJ Anjilo 66.22 297 *e*P **P 19 33 45.9 +0.5**
NEW Newport 66.29 46 *e*P **P 19 33 45.8 +0.4**
comp=Z,14nm,0.9s
NEW *ep*P **pP 19 34 05.4 +0.8**
NEW Newport 66.29 46⇑P **P 19 33 46.4 +0.9**
baz=66
ISHM Shahmirzad 66.43 298 *e*P **P 19 33 47.8 +0.9**
E09A Wood Farm, Sta 66.78 48 *e*P **P 19 33 49.5 +1.0**
IFIR Firoozkooh 66.89 298 *e*P **P 19 33 51.3 +1.6**
ILAS Lasjerd 66.90 297 *e*P **P 19 33 49.7 -0.1**
J05D Fort Rock, OR 66.94 52⇓P **P 19 33 50.7 +0.9**
baz=67
G08A Pilot Rock 67.06 49 *ep*P pP 19 34 11.2 +1.5
M02C Callahan 67.09 54⇓P **P 19 33 51.9 +1.2**
baz=67
GOF Gofitskoye 67.31 311⇑*i*P **P 19 33 52.9 +1.0**
GOF pmax pmax
comp=Z,80nm,1.3s
SCO Scoresbysund 67.33 354 *i* P **P 19 33 51.1 -0.5**
SCO pmax pmax
comp=Z,7.0nm,0.9s
SCO Scoresbysund 67.33 354 *i* P **P 19 33 51.1 -0.5**
comp=Z,6.6nm,0.9s
IBAF Bafgh 67.36 293 *e*P **P 19 33 52.3 -0.3**
N02D Trinity Center 67.43 55⇑P **P 19 33 54.2 +1.4**
baz=67
M04C Macdoel 67.47 54⇓P **P 19 33 54.4 +1.3**
baz=67
K05A Summer Lake 67.48 52 *ep*P pP 19 34 14.1 +1.6
DZM Mont Dzumac 67.51 156 *e*LR LR 19 54 18.5
comp=Z,169nm,23.6s
F10A Beach Ranch, E 67.62 48 *ep*P pP 19 34 15.0 +1.8
ICHK Chekchek 67.77 294 *e*P **P 19 33 54.3 +1.0**
BLMT Blacktail Moun 67.91 45 *e*P **P 19 33 56.9 +1.0**
IVRN Varamin 67.94 298 *e*P **P 19 33 56.2 0.0**
GUDG Gudauri 68.04 308 P **P 19 33 58.3 +1.5**
DGRG David-gareji 68.12 306 P **P 19 33 58.2 +1.1**
JTMT Jette 68.12 45 *e*P **P 19 33 57.5 +0.4**
IMEH Mehriz 68.13 293 *e*P **P 19 33 56.5 -1.1**
KIV Kislovodsk 68.18 310 P **P 19 33 59.2 +1.7**
comp=Z,651nm,0.9s,SNR=16
KIV Kislovodsk 68.18 310 *e*P **P 19 33 58.4 +0.9**
KIV pmax pmax
comp=Z,111nm,1.0s
KIV MLR MLR
comp=Z,97nm,17.0s
KIV Kislovodsk 68.18 310 *e*P **P 19 33 58.3 +0.8**
comp=Z,102nm,0.8s
ZEI Tsey 68.18 308 *e*P **P 19 33 56.9 -0.8**
ZEI pmax pmax
comp=Z,34nm,1.0s
YBMT Yellow Bay 68.19 45 *ep*P pP 19 34 19.1 +2.3
KBZ Khabaz 68.19 310 P **P 19 33 58.5 +1.1**
KBZ pmax pmax
comp=Z,28nm,0.8s
KBZ MLR MLR
comp=Z,61nm,18.0s
KBZ Khabaz 68.19 310 P **P 19 33 58.5 +1.1**
KBZ Khabaz 68.19 310 P **P 19 33 58.5 +1.1**
comp=Z,28nm,0.8s,baz=41,slow=7.6,SNR=52
KBZ LR LR 20 05 31.2
comp=Z,61nm,18.0s,baz=33,slow=37
SEAG Tbilisi Sea 68.27 307 P **P 19 33 58.6 +0.5**
TBLG Delisi 68.33 307 P **P 19 33 59.6 +1.2**
SWMT Swartz Lake 68.42 45 *e*P **P 19 34 00.0 +1.1**
ISAD Sadrabad 68.46 294 *e*P **P 19 33 59.1 -0.6**
J08A Circle Bar Ran 68.51 51 *ep*P pP 19 34 20.1 +1.3
ONI Oni 68.57 308 P **P 19 34 01.7 +1.8**
IDID Didziasalis 68.72 326 *e*P **P 19 34 01.0 +0.5**
IDID AMB AMB 19 34 02.5
comp=Z,17nm,0.9s
KZR Kazreti 68.73 307 P **P 19 34 02.3 +1.4**
IZEF Zefreh 68.79 296 *e*P **P 19 34 01.7 0.0**
ISAL Salakas 68.79 327 *e*P **P 19 34 01.6 +0.6**
ISAL AMB AMB 19 34 03.0
comp=Z,19nm,0.8s
SLMT Seeley Lake 68.85 45 *e*P **P 19 34 02.7 +0.9**
SLMT *ep*P **pP 19 34 22.1 +1.1**
MSO Missoula 68.87 46⇑P **P 19 34 02.5 +0.7**
baz=69
IRAZ Razeghan 68.88 299 *e*P **P 19 34 02.0 -0.2**
IIGN Ignalina 68.91 327 *e*P **P 19 34 01.8 +0.1**
IIGN AMB AMB 19 34 03.2
comp=Z,19nm,0.9s
WVOR Wild Horse Val 68.98 52 *ep*P pP 19 34 23.1 +1.2
NACGM Naroch 68.99 326 *e* **P 19 34 01.0 -1.2**
IKLH Kolahrood 69.04 296 *e*P **P 19 34 03.0 -0.3**
OHCM Honcut 69.16 56 *ep*P pP 19 34 24.7 +1.9
CHMT Chamberlain Mo 69.19 45 P **P 19 34 03.6 -0.3**
comp=Z,3.6nm,1.0s
AKH Akhalkalaki 69.26 307 P **P 19 34 06.0 +1.6**
GNI Garni 69.29 306 *e*P **P 19 34 05.8 +1.2**
comp=Z,38nm,1.3s
GNI Garni 69.29 306 LR LR 20 07 34.9
comp=Z,48nm,19.0s,baz=56,slow=38
FFC Flin Flon 69.33 34 P **P 19 34 04.3 -0.1**
comp=Z,202nm,0.9s,SNR=11
FCC Fort Churchill 69.41 28 *e*P **P 19 34 04.3 -0.5**
FCC Fort Churchill 69.41 28 *e*P **P 19 34 04.3 -0.5**
comp=Z,0.5nm,0.9s
BEKR Beckworth 69.53 55 *e*P **P 19 34 06.5 +0.4**
comp=Z,4.2nm,0.8s
BEKR *ep*P **pP 19 34 24.7 -0.6**
NB2 NORSAR Subarra 69.92 337 P **P 19 34 07.8 -0.1**
comp=Z,24nm,0.8s,baz=37,slow=6.2
NB2 NORSAR Subarra 69.92 337 P **P 19 34 07.8 -0.1**
baz=37,slow=6.2
NOA NORSAR Array B 69.92 337 P **P 19 34 07.8 -0.1**
NOA NORSAR Array B 69.92 337 P **P 19 34 07.8 -0.1**
comp=Z,20nm,0.8s,baz=36,slow=6.1,SNR=73
NOA LR LR 20 08 14.9
comp=Z,75nm,21.8s,baz=40,slow=39
DIGO Kars 69.95 307 *i* P **P 19 34 10.2 +1.4**
HRY Holter Researc 70.06 45 *e*P **P 19 34 10.3 +1.1**
IPAR Pars 70.14 293 *e*P **P 19 34 11.1 +1.0**
A19A Klindworth Far 70.19 41⇓P **P 19 34 10.4 +0.5**
baz=70,SNR=8.8
PAHR Pah Rah Range 70.22 54 *ep*P pP 19 34 30.6 +1.0
BANOM Banah 70.24 287 P **P 19 34 11.1 +0.6**
SNR=5.4
WCN Washoe City 70.24 55 *e*P pP 19 34 23.6 -6.2
WCN Washoe City 70.24 55 *ep*P pP 19 34 23.6 -6.2
EGMT Eagleton 70.24 43 *e*P **P 19 34 10.6 +0.2**
comp=Z,17nm,0.9s
EGMT Eagleton 70.28 43⇑P **P 19 34 11.1 +0.7**
baz=70
LRM Limekiln Ridge 70.31 46 *e*P **P 19 34 11.9 +1.1**
LRM *ep*P **pP 19 34 31.0 +0.8**
ARTV Artvin 70.33 308 *i* P **P 19 34 12.1 +1.1**
WBK Wadi Bani Khal 70.34 283 P **P 19 34 12.6 +1.5**
SNR=14
ISRV Sarvestan 70.37 292 *e*P **P 19 34 12.2 +0.6**
B19A Brinkman Farms 70.40 42⇓P **P 19 34 11.7 +0.6**
baz=70,SNR=6.6
DAGI Agillar 70.40 308 *i* P **P 19 34 12.5 +1.1**
DLMT Dillon 70.53 46 *e*P **P 19 34 13.3 +1.3**
DBAD Bademkaya 70.57 308 *i* P **P 19 34 13.7 +1.4**
DDEM Demirkent 70.62 308 *i* P **P 19 34 14.0 +1.3**
A20A Cobblestone Ra 70.62 41⇑P **P 19 34 13.1 +0.7**
baz=70
CMB Columbia Colle 70.64 56 *e*P **P 19 34 13.2 +0.5**
CMB *e**PP **PcP 19 34 33.1 -0.2**
CMB Columbia Colle 70.64 56 *e*P **P 19 34 13.2 +0.5**
CMB *ep*P **PcP 19 34 33.1 -0.2**
HLID Hailey 70.69 49 *e*P **P 19 34 14.1 +1.0**
HLID Hailey 70.69 49⇑P **P 19 34 13.8 +0.7**
baz=70
SMDO Samad 70.73 284 P **P 19 34 14.8 +1.2**
SNR=6.9
AKASG Malin Array Be 70.81 322 P **P 19 34 13.4 0.0**
AKASG pmax pmax
comp=Z,12nm,0.5s
AKASG Malin Array Be 70.81 322 P **P 19 34 13.4 0.0**
AKASG Malin Array Be 70.81 322 P **P 19 34 13.4 0.0**
comp=Z,12nm,0.5s,baz=43,slow=6.2,SNR=65
AKBB Malin Array Si 70.81 322 *e*P **P 19 34 13.2 -0.2**
AKBB Malin Array Si 70.81 322 *e*P **P 19 34 13.2 -0.2**
AK01 Malin Array Si 70.82 322 *e*P **P 19 34 13.1 -0.4**
KIEV Kiev 70.82 322 *e*P **P 19 34 11.3 -2.2**
KIEV Kiev 70.82 322 *e*P **P 19 34 13.3 -0.2**
C19A Slack Wire Ran 70.83 43⇑P **P 19 34 14.8 +1.0**
baz=71,SNR=9.8
AK02 Malin Array Si 70.85 322 *e*P **P 19 34 13.3 -0.4**
BOZ Bozeman (W) 70.86 45 *e*P **P 19 34 15.1 +1.0**
BOZ pmax pmax
comp=Z,12nm,0.9s
BOZ Bozeman (W) 70.86 45 *e*P **P 19 34 15.1 +1.0**
comp=Z,12nm,0.9s
UOSS Wadi Hilu 70.90 287 P **P 19 34 14.3 -0.2**
comp=Z,235nm,0.6s,SNR=7.9
WAKR Walker 70.93 55 *e*P **P 19 34 15.2 +0.5**
WAKR *ep*P **PcP 19 34 34.8 0.0**
HOQ Hoqain 70.94 285 P **P 19 34 15.6 +0.8**
SNR=11
IKAZ Kazeroun 71.01 293 *e*P **P 19 34 13.5 -1.9**
SUW Suwalki 71.10 327 *e*P **P 19 34 15.0 -0.2**
SUW Suwalki 71.10 327 *e*P **P 19 34 14.9 -0.2**
SUW Suwalki 71.10 327 P **P 19 34 14.8 -0.4**
JMDO Jabal Madar 71.12 283 P **P 19 34 16.2 +0.4**
SNR=11
ASHO Ashiyiah 71.17 286 P **P 19 34 16.9 +0.8**
SNR=7.7
D19A Cripps Ranch, 71.29 43⇓P **P 19 34 17.6 +1.0**
baz=71
C20A Veseth Ranch, 71.37 42⇑P **P 19 34 17.7 +0.7**
baz=71,SNR=5.9
HAKT HAKKARI 71.52 304 *i* P **P 19 34 18.9 +0.6**
A22A Carney Farms, 71.53 40⇓P **P 19 34 18.4 +0.5**
baz=71
ARQ Araqi 71.67 285 P **P 19 34 19.9 +0.8**
SNR=6.9
NVAR Mina Array Bea 71.67 55 P **P 19 34 20.0 +0.9**
NVAR pP **pP 19 34 38.9 +0.4**
NVAR Mina Array Bea 71.67 55 P **P 19 34 20.0 +0.9**
comp=Z,4.0nm,0.7s,baz=300,slow=6.1,SNR=28
NVAR pP **pP 19 34 38.9 +0.4**
comp=Z,6.9nm,0.8s,baz=305,slow=6.4,SNR=10
D20A Manuel Ranch, 71.72 43⇓P **P 19 34 19.8 +0.7**
baz=72,SNR=6.9
NV11 Mina Array Sit 71.76 55 *e*P **P 19 34 20.3 +0.7**
E19A Rath Farm, Rou 71.81 43⇓P **P 19 34 20.9 +1.2**
baz=72
YMR Madison River 71.86 46 *e*P **P 19 34 21.7 +1.5**
YMR *ep*P **pP 19 34 39.8 +0.2**
B22A Reddig Ranch S 71.96 41⇑P **P 19 34 20.7 +0.2**
baz=72
YFT Old Faithful 72.07 46 *ep*P pP 19 34 42.9 +1.9
E20A Meyer Farm, Mu 72.12 43⇑P **P 19 34 22.2 +0.7**
baz=72
F19A Roth Farm, Mol 72.14 44⇓P **P 19 34 22.5 +0.8**
baz=72,SNR=6.5
H17A Grant Village 72.25 46 *e*P **P 19 34 24.9 +2.3**
comp=Z,15nm,0.9s
H17A Grant Village 72.25 46⇑P **P 19 34 23.1 +0.5**
baz=72
SIM Simferopol' 72.27 315 *e*P **P 19 34 23.0 +0.6**
SIM *e* 19 34 43.0
SIM pmax pmax
comp=Z,27nm,0.8s
D21A La Casta Ranch 72.31 42⇓P **P 19 34 23.3 +0.7**
baz=72
B23A Brockton 72.33 40⇓P **P 19 34 23.5 +0.8**
baz=72
IMW Indian Meadow 72.38 47 *e*P **P 19 34 25.3 +1.9**
FLWY Flagg Ranch 72.39 46 *e*P **P 19 34 25.4 +2.0**
A24A Westby 72.48 39⇓P **P 19 34 24.4 +0.8**
baz=72
FXWY Fox Creek 72.51 47 *e*P **P 19 34 25.9 +1.8**
H18A Shoshone NF, C 72.55 45⇑P **P 19 34 25.2 +0.9**
baz=72
TPH Tonopah 72.55 54 *e*P **P 19 34 25.1 +0.7**
TPH *e**PP **pP 19 34 44.1 +0.2**
TPH Tonopah 72.55 54 *e*P **P 19 34 25.1 +0.7**
TPH *ep*P **pP 19 34 44.1 +0.2**
KELT Kelkit 72.56 308 *i* P **P 19 34 26.1 +1.7**
MOOW Moose Ponds 72.59 47 *e*P **P 19 34 26.0 +1.5**
D22A Cohagen 72.66 42⇓P **P 19 34 25.3 +0.5**
baz=72
C23A Lambert 72.70 41⇓P **P 19 34 25.6 +0.7**
baz=72
DGMT Dagmar 72.71 40⇓P **P 19 34 25.5 +0.5**
baz=72
LOHW Long Hollow 72.75 47 *ep*P pP 19 34 43.9 -1.1
HVU Hansel Valley 72.76 49 *e*P **P 19 34 26.7 +1.2**
HVU Hansel Valley 72.76 49 *e*P **P 19 34 26.7 +1.2**
REDW Red Top Meadow 72.78 47 *e*P **P 19 34 27.4 +1.7**
VES Vestal, Richgr 72.82 57⇑P **P 19 34 26.9 +1.2**
baz=73
A25A Svangstu Ranch 72.89 39⇑P **P 19 34 26.6 +0.5**
baz=73
H19A Powell 72.91 45⇓P **P 19 34 27.0 +0.6**
baz=73
G20A Bridger 72.94 44⇓P **P 19 34 27.0 +0.5**
baz=73
D23A Lindsay 73.12 41⇑P **P 19 34 28.5 +1.0**
baz=73
GRAC Grapevine Rang 73.15 55⇓P **P 19 34 29.5 +1.7**
baz=73
BGU Big Grassy Mou 73.18 50 *e*P **P 19 34 29.4 +1.4**
C24A Savage 73.26 40⇓P **P 19 34 28.6 +0.4**
baz=73
E22A Miles City 73.27 42⇑P **P 19 34 28.7 +0.4**
baz=73
I19A Meeteetse 73.33 45⇓P **P 19 34 29.2 +0.3**
baz=73
B25A Knox Farm, Ray 73.34 39⇓P **P 19 34 28.8 +0.2**
baz=73
R11A Troy Canyon, C 73.36 53⇑P **P 19 34 29.6 +0.4**
baz=73
STKA Stephens Creek 73.42 180 *e*P **P 19 34 29.4 +0.4**
comp=Z,0.6nm,0.8s
STKA P P **P 19 34 29.8 +0.7**
STKA pP **pP 19 34 47.7 -0.9**
STKA Stephens Creek 73.42 180 P **P 19 34 29.8 +0.7**
comp=Z,2.4nm,0.8s,baz=338,slow=8.5,SNR=5.6
STKA pP **pP 19 34 47.7 -0.9**
comp=Z,4.3nm,0.9s,baz=349,slow=6.1,SNR=5.0
STKA LR LR 20 06 22.5
comp=Z,16nm,28.6s,baz=25,slow=35
A26A Wade Farm, Ken 73.42 38⇑P **P 19 34 29.5 +0.4**
baz=73
BSD Bornholm Skovb 73.43 331 *i* P **P 19 34 28.8 -0.2**
BSD pmax pmax
comp=Z,17nm,0.9s
BSD Bornholm Skovb 73.43 331 *i* P **P 19 34 28.8 -0.2**
comp=Z,17nm,0.8s
G21A Lodge Grass 73.46 44⇑P **P 19 34 29.8 +0.3**
baz=73
E23A Ismay 73.54 42⇑P **P 19 34 29.9 -0.1**

H20A Greybull 75.55 45 ⇑P P 19 34 30.5 +0.4
baz=73
F22A Rosebud 75.56 43 ⇑P P 19 34 30.4 +0.3
baz=73
KEMA Kemaliye 73.57 308 *i* P P 19 34 31.9 +1.6
D24A Glendive 73.59 41 ⇓P P 19 34 31.0 +0.8
baz=73
MPMC Manual Prospec 73.68 56 ⇓P P 19 34 32.0 +0.9
baz=74
BEL Belsk 73.69 326 *e*P P 19 34 31.6 +1.0
BEL Belsk 73.69 326 *e*P P 19 34 31.5 +1.0
B26A Jensen Ranch, 73.70 39 ⇑P P 19 34 31.6 +0.8
baz=73
DUG Dugway 73.78 50 *e*P P 19 34 32.2 +0.6
DUG Dugway 73.78 50 *e*P P 19 34 32.2 +0.6
DUG Dugway 73.78 50 ⇓P P 19 34 32.0 +0.4
baz=74
LVV L'vov 73.79 323 *e*P P 19 34 31.4 +0.2
LVV *e* 19 34 50.8
FURC Furnace Creek, 73.80 55 ⇑P P 19 34 32.3 +0.8
baz=74
KBSD Kabsdagh 73.82 305 *e*P P 19 34 31.9 +0.1
J19A Crowheart 73.82 46 ⇑P P 19 34 32.6 +0.8
baz=74,SNR=7.0
COP Copenhagen 73.84 333 *i* P P 19 34 31.4 0.0
COP pmax pmax
comp=Z,19nm,0.8s
COP Copenhagen 73.84 333 *i* P P 19 34 31.4 0.0
comp=Z,19nm,0.8s
I20A Worland 73.85 45 ⇑P P 19 34 32.5 +0.6
baz=74
TPNV Topopah Spring 73.87 55 *e*P P 19 34 33.5 +1.3
TPNV Topopah Spring 73.87 55 *e*P P 19 34 33.5 +1.3
TPNV Topopah Spring 73.87 55 ⇑P P 19 34 32.8 +0.6
baz=74
BW06 Boulder Array 73.89 47 *e*P P 19 34 32.8 +0.6
PDAR Pinedale Array 73.89 47 P P 19 34 32.7 +0.4
PDAR pP pP 19 34 51.6 -0.2
PDAR Pinedale Array 73.89 47 P P 19 34 32.7 +0.4
comp=Z,5.6nm,0.7s,baz=271,slow=2.2,SNR=56
PDAR pP pP 19 34 51.6 -0.2
comp=Z,9.8nm,0.8s,baz=260,slow=0.3,SNR=14
LRMC Laurel Mountai 73.93 57 ⇑P P 19 34 33.0 +0.5
baz=74
H21A Big Horn, Sher 73.96 44 ⇓P P 19 34 33.2 +0.7
baz=74
UMR Umm Al-Rimmam 73.96 295 *e*P P 19 34 31.6 -0.9
UMR AMb AMB 19 34 32.8
comp=Z,34nm,0.6s
E24A Baker 73.99 41 ⇑P P 19 34 33.1 +0.5
baz=74
GKP Gorka Klasztor 74.01 329 *e*P P 19 34 32.9 +0.5
GKP Gorka Klasztor 74.01 329 *e*P P 19 34 32.9 +0.5
F23A Volborg 74.03 42 ⇑P P 19 34 33.4 +0.5
baz=74,SNR=8.3
EDW2 Edwards Air Fo 74.12 57 ⇓P P 19 34 34.3 +0.8
baz=74
C26A Wahner Farm, P 74.16 39 ⇑P P 19 34 33.8 +0.3
baz=74
A28A Rude Farm, Bot 74.22 37 ⇓P P 19 34 34.3 +0.5
baz=74
MALT Malatya 74.24 307 P P 19 34 37.1 +2.9
MALT Malatya 74.24 307⇑*i*P P 19 34 35.9 +1.7
MUD Monsted U'grnd 74.28 335 *i* P P 19 34 33.5 -0.4
MUD pmax pmax
comp=Z,13nm,0.8s
MUD Monsted U'grnd 74.28 335 *i* P P 19 34 33.5 -0.4
comp=Z,13nm,0.7s
J20A Shoshoni 74.28 45 ⇓P P 19 34 34.9 +0.5
baz=74,SNR=7.2
QRN Al-Qurain 74.33 295 *e*P P 19 34 34.3 -0.4
NLU North Lily Min 74.37 50 *e*P P 19 34 35.8 +0.8
NLU epP pP 19 34 54.3 -0.2
I21A Big Trails, Te 74.39 45 ⇓P P 19 34 36.1 +1.1
baz=74,SNR=10
G23A Biddle 74.41 43 ⇓P P 19 34 35.3 +0.3
baz=74
F24A Ekalaka 74.43 42 ⇑P P 19 34 35.8 +0.6
baz=74
SFNV Sufian 74.46 305 *e*P P 19 34 36.1 +0.7
NAY Al-Naaiem 74.47 295 *e*P P 19 34 34.9 -0.7
NAY AMb AMB 19 34 35.7
comp=Z,22nm,0.7s
RST Umm Al-Ruwaisa 74.47 296 *e*P P 19 34 34.7 -0.9
RST AMb AMB 19 34 36.4
comp=Z,355nm,0.9s
E25A Miller Ranch, 74.48 41 ⇓P P 19 34 36.0 +0.6
baz=74
KWP Kalwaria Pacla 74.51 324 P P 19 34 37.1 +1.6
KWP Kalwaria Pacla 74.51 324 *e*P P 19 34 36.5 +1.0
KWP Kalwaria Pacla 74.51 324⇑*i*P P 19 34 36.8 +1.3
KWP Kalwaria Pacla 74.51 324 *e*P P 19 34 36.2 +0.8
comp=Z,80nm,1.3s
B28A Dugan Ranch, T 74.52 38 ⇑P P 19 34 36.0 +0.5
baz=74
MZRK Al-Mazaregh 74.52 304 *e*P P 19 34 36.4 +0.6
C27A Sayler Ranch, 74.52 39 ⇓P P 19 34 36.3 +0.8
baz=74
DAU Daniels Canyon 74.53 49 *e*P P 19 34 36.5 +0.4
DAU *e*PP pP 19 34 57.4 +1.8
DAU Daniels Canyon 74.53 49 *e*P P 19 34 36.5 +0.4
DAU epP pP 19 34 57.4 +1.8
AKCD Akcadag 74.55 308 *i* P P 19 34 37.6 +1.5
MPU Maple Canyon 74.58 50 *e*P P 19 34 37.1 +0.8
MPU epP pP 19 34 56.5 +0.7
GSC Goldstone 74.59 56 epP pP 19 34 58.2 +2.4
GSC Goldstone 74.59 56 ⇑P P 19 34 37.3 +1.0
baz=74
J21A Lysite 74.63 45 ⇑P P 19 34 37.0 +0.5
baz=74
A29A Manning Farm, 74.68 37 ⇑P P 19 34 37.1 +0.7
baz=74
I22A 9 Mile Ranch, 74.75 44 ⇑P P 19 34 37.9 +0.7
baz=74
SHPR Sheep Range 74.82 55 *e*P P 19 34 38.5 +0.9
SHPR epP pP 19 34 58.3 +1.1
BUR08 Bucovina Ar. S 74.84 321 *e*P P 19 34 37.7 +0.2
BURAR Bucovina Array 74.85 321 P P 19 34 38.7 +1.1
BURAR Bucovina Array 74.85 321⇓*i*P P 19 34 38.5 +0.9
GHRR ⇓*i*P P 19 34 39.2 +1.3
D27A Center 74.94 39 ⇑P P 19 34 38.7 +0.7
baz=75
E26A Carlson Angus 74.95 40 ⇑P P 19 34 38.7 +0.5
baz=75
B29A Wagenman Farm, 74.96 37 ⇑P P 19 34 38.6 +0.5
baz=75
TESR Tescani 74.97 320⇓*i*P P 19 34 38.9 +0.8
ARUT Antelope Range 75.01 53 P P 19 34 39.3 +0.5
ARUT pmax pmax
comp=Z,105nm,1.2s
ARUT Antelope Range 75.01 53 P P 19 34 39.2 +0.5
comp=Z,105nm,1.2s
C28A Hausauer Farms 75.04 38 ⇑P P 19 34 39.5 +0.9
baz=75
TUQ Turquoise Moun 75.05 56 ⇑P P 19 34 39.6 +0.6
baz=75
A30A Hoffart Farm, 75.08 36 ⇑P P 19 34 39.3 +0.5
baz=75
J22A Midwest 75.09 45 ⇑P P 19 34 39.2 +0.1
baz=75,SNR=5.5
ILGA Ilgaz 75.11 312 *i* P P 19 34 41.3 +1.9
H24A Dirks Ranch, A 75.15 43 ⇑P P 19 34 39.5 +0.1
baz=75
ULM Lac du Bonnet 75.15 34 P P 19 34 38.8 -0.3
ULM pP pP 19 35 00.1 +1.5
ULM Lac du Bonnet 75.15 34 P P 19 34 38.8 -0.3
comp=Z,4.5nm,0.4s,baz=314,slow=6.4,SNR=8.8
ULM pP pP 19 35 00.1 +1.5
comp=Z,5.3nm,0.5s,baz=319,slow=8.0,SNR=5.6
CFR Carcaliu 75.19 318 P P 19 34 40.9 +1.5
CFR Carcaliu 75.19 318⇓*i*P P 19 34 40.0 +0.6
HEC Hector,Ludlow 75.19 56 ⇓P P 19 34 40.8 +1.0
baz=75
CCUT Cedar City 75.21 53 *e*P P 19 34 41.5 +1.5
K21A Alcova 75.22 46 ⇑P P 19 34 40.1 +0.2
baz=75
KOLS Kolonicke sedl 75.22 324 *e*P P 19 34 39.6 0.0
KOLS pmax pmax
comp=Z,14nm,1.2s
KOLS Kolonicke sedl 75.22 324 *e*P P 19 34 39.6 0.0
F26A Lodgepole 75.30 41 ⇑P P 19 34 40.8 +0.6
baz=75
MDND Maddock 75.30 38 ⇑P P 19 34 40.3 +0.3
baz=75
STHS Stebnicka Huta 75.31 325 *e*P P 19 34 41.7 +1.6
STHS pmax pmax
comp=Z,13nm,1.1s
STHS Stebnicka Huta 75.31 325 *e*P P 19 34 41.7 +1.6
OJC Ojcow 75.32 326 *e*P P 19 34 40.8 +0.7
OJC Ojcow 75.32 326 *e*P P 19 34 40.8 +0.7
D28A Regan 75.33 39 ⇓P P 19 34 40.9 +0.7
baz=75
GZT Gaziantep 75.38 307 *i* P P 19 34 42.5 +1.6
B30A Myrvik Farm, E 75.43 37 ⇓P P 19 34 41.4 +0.7
baz=75
MURC Murrieta 75.45 58 ⇓P P 19 34 41.8 +0.6
baz=75
K22A Casper 75.59 45 ⇑P P 19 34 42.4 +0.3
baz=75
CRVS Cervenica-Dubn 75.60 324 *e*P P 19 34 42.6 +0.9
CRVS pmax pmax
comp=Z,9.0nm,0.9s
CRVS Cervenica-Dubn 75.60 324 *e*P P 19 34 42.6 +0.9
GMRC Granite Mounta 75.64 56 ⇓P P 19 34 43.1 +0.7
baz=75
NIE Niedzica 75.71 325 *e*P P 19 34 43.6 +1.2
NIE Niedzica 75.71 325 *e*P P 19 34 43.6 +1.2
CDAG Cicekdag 75.72 311 *i* P P 19 34 43.5 +0.9
H25A Fruitdale 75.72 42 ⇑P P 19 34 42.6 0.0
baz=75
E28A Huff 75.72 39 ⇑P P 19 34 43.1 +0.5
baz=75
G26A Maurine 75.73 41 ⇓P P 19 34 42.5 -0.1
baz=76
I24A Kuemmerle Ranc 75.74 43 ⇓P P 19 34 43.0 +0.2
baz=76
SRU San Rafael 75.82 50 *e*P P 19 34 43.7 +0.3
SRU *e*PP pP 19 35 03.2 +0.2
SRU San Rafael 75.82 50 *e*P P 19 34 43.7 +0.3
SRU epP pP 19 35 03.2 +0.2
RSSD Black Hills 75.85 43 *e*P P 19 34 43.5 -0.1
RSSD *e*PP pP 19 35 03.8 +0.7
RSSD Black Hills 75.85 43 *e*P P 19 34 43.5 -0.1
RSSD epP pP 19 35 03.8 +0.7
N20A Spence Gulch, 75.91 47 ⇓P P 19 34 44.7 +0.8
baz=76,SNR=8.9
PFO Pinyon Flat Ob 75.91 58 ⇓P P 19 34 44.5 +0.6
baz=76
C30A Mose, Pekin 75.92 37 ⇓P P 19 34 44.2 +0.7
baz=76
RUE Ruedersdorf 75.93 330 *e*P P 19 34 44.6 +1.1
comp=Z,27nm,1.0s
DOPR Dopca 75.97 320⇓*i*P P 19 34 45.0 +1.1
BSEG Bad Segeberg 75.98 333 *e*P P 19 34 44.9 +1.2
comp=Z,21nm,0.8s
K23A Bowen Ranch, D 76.00 45 ⇓P P 19 34 43.9 -0.4
baz=76
MLR Muntele Rosu 76.04 319⇓*i*P P 19 34 45.4 +0.9
MLR Muntele Rosu 76.04 319 LR LR 20 10 16.6
comp=Z,39nm,18.2s,baz=52,slow=37
BR131 Keskin Array S 76.06 311 *e*P P 19 34 45.0 +0.3
BR131 *e*PP PP 19 37 35.3 -0.4
BRTR Keskin Array B 76.06 311 P P 19 34 45.3 +0.6
BRTR pP pP 19 35 06.0 +1.7
BRTR PP PP 19 37 36.1 +0.4
BRTR Keskin Array B 76.06 311 P P 19 34 45.3 +0.6
comp=Z,8.3nm,0.7s,baz=64,slow=4.0,SNR=39
BRTR pP pP 19 35 06.0 +1.7
comp=Z,5.0nm,0.7s,baz=73,slow=3.8,SNR=5.7
BRTR PP PP 19 37 36.1 +0.4
comp=Z,2.0nm,0.9s,baz=46,slow=7.2,SNR=3.9
BRTR LR LR 20 15 50.8
comp=Z,16nm,28.6s,baz=24,slow=42
L22A Ellis Ranch, M 76.08 46 ⇑P P 19 34 45.5 +0.6
baz=76
I25A Rochford 76.08 43 ⇑P P 19 34 45.2 +0.4
baz=76
H26A Fairpoint 76.13 42 ⇓P P 19 34 45.3 +0.4
baz=76
BCAM Yenicaga 76.18 313 *i* P P 19 34 46.6 +1.2
E29A Napoleon 76.22 39 ⇓P P 19 34 45.9 +0.5
baz=76
D30A Buchanan 76.23 38 ⇓P P 19 34 45.8 +0.4
baz=76
CJR Cluj-Napoca 76.27 322 P P 19 34 47.8 +2.2
CJR Cluj-Napoca 76.27 322⇓*i*P P 19 34 47.1 +1.5
KSP Ksiaz 76.27 328⇓*e*P P 19 34 46.3 +0.8
KSP *e*PP pP 19 35 05.7 +0.6
KSP Ksiaz 76.27 328 *e*P P 19 34 46.4 +0.9
OKC Ostrava-Krasne 76.30 326⇑*i*P P 19 34 46.5 +0.8
OKC Ostrava-Krasne 76.30 326⇑*i*P P 19 34 46.5 +0.8
IRM Iron Mountain 76.37 56 ⇑P P 19 34 47.5 +1.1
baz=76
L23A Garrett 76.41 45 ⇑P P 19 34 47.0 +0.2
baz=76
O20A White River Ci 76.41 48 ⇑P P 19 34 47.3 +0.6
baz=76
M22A Cedar Creek Ra 76.43 46 ⇑P P 19 34 47.5 +0.6
baz=76
ANTO Ankara 76.43 312 P P 19 34 48.9 +2.2
ANTO Ankara 76.43 312⇓*i*P P 19 34 48.2 +1.5
ANTO Ankara 76.43 312 *e*P P 19 34 47.8 +1.0
comp=Z,16nm,0.8s
J25A Sunshine Ranch 76.49 43 ⇓P P 19 34 47.1 +0.1
baz=76
VOIR 76.52 320 P P 19 34 49.1 +2.0
VOIR 76.52 320⇓*i*P P 19 34 48.3 +1.2
MORC Moravsky Berou 76.59 327 P P 19 34 49.4 +2.0
MORC Moravsky Berou 76.59 327⇓*i*P P 19 34 48.7 +1.3
MORC Moravsky Berou 76.59 327 *e*P P 19 34 48.1 +0.7
comp=Z,24nm,0.9s
MORC epP pP 19 35 06.9 -0.1
U15A North Rim 76.60 53 ⇑P P 19 34 48.9 +0.9
baz=76
E30A Jud 76.61 38 ⇑P P 19 34 47.8 +0.3
baz=76
AGMN Agassiz Nation 76.64 36 *e*P P 19 34 47.5 -0.1
AGMN Agassiz Nation 76.64 36 ⇑P P 19 34 47.6 0.0
baz=76
DPC Dobruska-Polom 76.64 328⇑*i*P P 19 34 48.7 +1.0
DPC *e*PP pP 19 35 07.5 +0.2
DPC Dobruska-Polom 76.64 328⇑*i*P P 19 34 48.7 +1.0
DPC epP pP 19 35 07.5 +0.2
UPC Upice 76.64 328⇑*i*P P 19 34 48.4 +0.8
UPC *e*PP pP 19 35 08.2 +1.0
UPC Upice 76.64 328⇑*i*P P 19 34 48.4 +0.8
UPC epP pP 19 35 08.2 +1.0
KRLC Kraliky 76.67 327⇑*i*P P 19 34 48.7 +0.9
KRLC *e*PP pP 19 35 07.8 +0.4
KRLC Kraliky 76.67 327⇑*i*P P 19 34 48.7 +0.9
KRLC epP pP 19 35 07.8 +0.4
ARR Arges 76.77 320⇓*i*P P 19 34 50.2 +1.7
M23A Laramie 76.85 46 ⇑P P 19 34 49.7 +0.5
baz=77
I27A Quinn 76.89 42 ⇑P P 19 34 49.6 +0.4
baz=77
PDMCI Parker Dam,Lak 76.90 56 ⇓P P 19 34 50.2 +0.9
baz=77
J26A Sides Ranch, S 76.92 43 ⇓P P 19 34 49.9 +0.5
baz=77
N22A Wattenberg Ran 76.92 47 ⇑P P 19 34 50.5 +0.8
baz=77
BTCH Batrach 76.92 307 *e*P P 19 34 50.6 +1.1
H28A Mission Ridge 76.95 41 ⇓P P 19 34 49.9 +0.4
baz=77
PSZ Piszkesteto 77.03 324 P P 19 34 52.1 +2.2
PSZ Piszkesteto 77.03 324⇓*i*P P 19 34 51.3 +1.4
PSZ Piszkesteto 77.03 324 *e*P P 19 34 50.6 +0.7
comp=Z,26nm,1.3s
Y12C Blythe 77.03 56 ⇓P P 19 34 51.0 +0.9
baz=77
GULE Gulek 77.07 309 *i* P P 19 34 51.9 +1.4
N23A Red Feather La 77.13 46 ⇑P P 19 34 51.7 +0.8
baz=77
BRG Berggiesshubel 77.15 329 *i* P P 19 34 50.9 +0.5
comp=Z,12nm,1.2s
BRG *e* 19 34 51.7
comp=Z,37nm,1.9s
BRG Berggiesshubel 77.15 329 *i* P P 19 34 50.9 +0.5
BRG pmax pmax
comp=Z,12nm,1.2s
BRG Berggiesshubel 77.15 329 *e*P P 19 34 51.2 +0.7
comp=Z,6.0nm,0.8s
CLL Collm 77.16 330⇑*i*P P 19 34 50.7 +0.2
CLL *e*PP pP 19 35 10.0 -0.1
CLL pmax pmax
comp=Z,27nm,0.9s
CLL Collm 77.16 330⇑*i*P P 19 34 50.7 +0.2
comp=Z,18nm,0.8s
CLL *e*pP pP 19 35 10.0 -0.1
CLL *i* sP sP 19 35 16.7 -1.4
CLL *e*PP PP 19 37 46.0 +1.7
CLL *e*PPP PPP 19 39 30.0
CLL Lm MLR 20 09 00.0
comp=Z,200nm,18.8s
PVCC Panska Ves 77.19 329 *e*P P 19 34 51.8 +1.1
PVCC *e*PP pP 19 35 11.4 +1.1
PVCC Panska Ves 77.19 329⇑*e*P P 19 34 51.8 +1.1
PVCC epP pP 19 35 11.4 +1.1
PV04 Paradox Valley 77.23 50 *e*P P 19 34 52.4 +1.0
PV04 epP pP 19 35 11.9 +0.9
NRDL Niedersach Rie 77.23 332 *e*P P 19 34 51.5 +0.7
comp=Z,9.0nm,0.8s
GLA Glamis 77.30 57 ⇓P P 19 34 52.9 +1.2
baz=77
O22A Kremmling 77.32 47 ⇓P P 19 34 52.7 +0.7
baz=77,SNR=5.9
M24A Cheyenne 77.33 45 ⇓P P 19 34 53.0 +1.2
baz=77,SNR=6.5
VRAC Vranov 77.35 327⇑*i*P P 19 34 52.8 +1.2
VRAC Vranov 77.35 327 LR LR 20 11 14.7
comp=Z,16nm,28.6s,baz=34,slow=37
H29A Onida 77.38 40 ⇑P P 19 34 52.2 +0.3
baz=77
J27A Elkhorn Farm, 77.50 42 ⇓P P 19 34 53.2 +0.5
baz=77
G30A Faulkton 77.52 39 ⇓P P 19 34 53.1 +0.4
baz=77
P22A Eagle 77.60 48 ⇑P P 19 34 54.3 +0.8
baz=77,SNR=8.3
PRA Prague 77.61 329 ⇑P P 19 34 54.0 +1.0
PRA pP pP 19 35 14.0 +1.4
GZR Gura Zlata 77.63 321 P P 19 34 54.3 +1.0
GZR Gura Zlata 77.63 321⇑*i*P P 19 34 54.1 +0.8
PRU Pruhonice 77.63 328⇑*i*P P 19 34 53.8 +0.7
PRU *e*PP pP 19 35 13.1 +0.3
PRU Pruhonice 77.63 328⇑*i*P P 19 34 53.8 +0.7
PRU epP pP 19 35 13.1 +0.3
O23A Lake Granby, G 77.63 47 ⇑P P 19 34 54.9 +1.2
baz=77,SNR=6.8
CLZ Clausthal 77.68 332 *e*P P 19 34 54.6 +1.2
comp=Z,20nm,0.8s
NEUB Neuenburg 77.69 331 *e*P P 19 34 54.3 +0.9
comp=Z,22nm,0.8s
N24A Carr 77.75 46 ⇑P P 19 34 54.8 +0.6
baz=78
J28A Allard Ranch, 77.76 42 ⇑P P 19 34 54.9 +0.8
baz=78
WUAZ Wupatki 77.76 53 *e*P P 19 34 56.0 +1.7
WUAZ epP pP 19 35 15.2 +1.2
WUAZ Wupatki 77.76 53 ⇑P P 19 34 55.3 +1.0
baz=78
I29A Vivian Onida 77.78 41 ⇑P P 19 34 54.5 +0.3
baz=78
TREC Trest 77.80 327⇑*i*P P 19 34 55.0 +0.8
TREC Trest 77.80 327⇑*i*P P 19 34 55.0 +0.8
Y14A Wickenburg 77.84 55 ⇑P P 19 34 55.7 +1.0
baz=78
BZS Buzias 78.00 322 P P 19 34 56.8 +1.5
BZS Buzias 78.00 322⇓*i*P P 19 34 55.9 +0.6
TANN Tannenbergstha 78.08 330 *e*P P 19 34 56.3 +0.6
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 78.08 47 *e*P P 19 34 57.6 +1.3
ISCO Idaho Springs 78.08 47 *e*P P 19 34 57.6 +1.3
ISCO Idaho Springs 78.08 47 ⇓P P 19 34 57.0 +0.8
baz=78
BRSD Miller 78.12 40 ⇑P P 19 34 56.9 +0.9
baz=78
113A Mohawk Valley, 78.16 57 ⇑P P 19 34 57.5 +1.2
baz=78
N25A Grover 78.18 45 ⇓P P 19 34 57.3 +0.7
baz=78
IBBN Ibbenburen 78.19 333 *e*P P 19 34 57.0 +0.8
comp=Z,23nm,0.8s
M26A McRoberts Ranc 78.21 44 ⇓P P 19 34 57.5 +0.8
baz=78
K28A Ten Mile Ranch 78.21 42 ⇑P P 19 34 57.4 +0.8
baz=78
NKC Novy Kostel 78.23 330 *e*P P 19 34 57.3 +0.8
NKC Novy Kostel 78.23 330⇑*e*P P 19 34 57.3 +0.8
ULDT Uludag 78.25 314 *i* P P 19 34 57.8 +0.8
P23A Jefferson 78.26 47 ⇑P P 19 34 57.7 +0.4
baz=78
MARH Ras Al Marh 78.27 305 *e*P P 19 34 57.8 +0.4
MVCO Mesa Verde 78.28 50 ⇑P P 19 34 58.1 +0.8
baz=78
X16A Lo Mia Camp, P 78.47 54 ⇑P P 19 34 59.8 +1.4
baz=78
ZALF Zalf 78.49 304 *e*P P 19 34 58.5 +0.2
MANZ Manzenberg 78.56 330 *e*P P 19 34 59.1 +0.7
comp=Z,8.0nm,0.8s
N26A Koester Ranch, 78.63 45 ⇑P P 19 34 59.1 +0.1
baz=78
UBBA Unterbreizbach 78.66 331 *e*P P 19 34 59.0 +0.4
comp=Z,3.0nm,0.7s
O25A Wiggins 78.67 46 ⇓P P 19 34 59.5 +0.2
baz=78
P24A Kohler Place, 78.67 47 ⇑P P 19 34 59.8 +0.4
baz=78
KHC Kasperske Hory 78.69 328⇑*i*P P 19 34 59.7 +0.6
KHC *e*PP pP 19 35 19.1 +0.4
KHC Kasperske Hory 78.69 328⇑*i*P P 19 34 59.7 +0.6
KHC epP pP 19 35 19.1 +0.4
KHC Kasperske Hory 78.69 328 *e*P P 19 34 59.5 +0.4
comp=Z,16nm,0.8s
KHC epP pP 19 35 19.2 +0.4
J30A Dallas 78.69 41 ⇓P P 19 34 59.5 +0.3
baz=78
ROTZ Rotzenmuhle 78.70 330 *e*P P 19 35 00.5 +1.4
comp=Z,9.0nm,0.8s
CONA Conrad Observa 78.73 326 *i* P P 19 35 00.6 +1.3
comp=Z,18nm,1.2s,SNR=5.6
TOTH TOTAH 78.75 305 *e*P P 19 35 00.4 +0.7
EYMN Ely 78.76 34 *e*P P 19 34 58.9 -0.6
S22A 4UR Ranch, Cre 78.86 49 ⇓P P 19 35 01.3 +0.7
baz=79
GEC2 GERESS Array S 78.87 328 *e*P P 19 35 00.6 +0.4
comp=Z,5.0nm,0.8s
GERES GERESS Array B 78.87 328 P P 19 35 00.5 +0.3
GERES pP pP 19 35 19.5 -0.3
GERES GERESS Array B 78.87 328 P P 19 35 00.5 +0.3
comp=Z,4.6nm,0.7s,baz=32,slow=5.3,SNR=37
GERES pP pP 19 35 19.5 -0.3
comp=Z,1.1nm,0.5s,baz=38,slow=5.2,SNR=2.8
GERES LR LR 20 15 37.5
comp=Z,16nm,28.6s,baz=6.5,slow=40
PKSM Moragy 78.89 324 P P 19 35 01.4 +1.3
PKSM Moragy 78.89 324⇓*i*P P 19 35 00.5 +0.4
Q24A Divide 78.93 47 ⇓P P 19 35 01.3 +0.4
baz=79
N27A Anderson Farm, 79.00 44 ⇓P P 19 35 01.4 +0.4
baz=79
O26A Horse Wrangler 79.00 45 ⇓P P 19 35 01.4 +0.4
baz=79
SALA Sala 79.01 304 *e*P P 19 35 01.7 +0.4
P25A Willow Gulch B 79.07 46 ⇑P P 19 35 02.1 +0.6
baz=79
BUG Bochum--Univer 79.08 333 *e*P P 19 35 01.7 +0.6
comp=Z,20nm,0.8s
R23A Moffat 79.11 48 ⇓P P 19 35 02.8 +1.0
baz=79,SNR=6.0
K30A Basset 79.12 41 ⇑P P 19 35 02.2 +0.7
baz=79
GRF Grafenberg Arr 79.14 330 *e*P P 19 35 02.8 +1.3
comp=Z,27nm,0.8s
L29A Maesberg Ranch 79.14 42 ⇑P P 19 35 02.1 +0.4
baz=79
OGNE Ogallala 79.16 44 P P 19 35 02.4 +0.5
comp=Z,12nm,0.8s
OGNE epP pP 19 35 21.2 -0.3
OGNE Ogallala 79.16 44 ⇑P P 19 35 02.0 +0.1
baz=79
M28A Bar X Bar Ranc 79.17 43 ⇓P P 19 35 01.6 -0.4
baz=79
X18A Snowflake 79.29 53 ⇓P P 19 35 03.5 +0.7
baz=79
214A Organ Pipe Nat 79.30 57 ⇑P P 19 35 03.0 +0.3
baz=79
KHAL Karahalli 79.31 312 *i* P P 19 35 03.0 +0.2
RAYN Ar Rayn 79.34 292 P P 19 35 03.4 +0.3
comp=Z,88nm,0.6s,SNR=15
BALY Balya 79.35 314 *i* P P 19 35 03.8 +1.0

ARSA Arzberg 79.41 326⇑*i*P P 19 35 03.8 +0.8
comp=Z,10.0nm,1.0s
R24A Sanders Place, 79.47 48 ⇓P P 19 35 04.7 +0.9
baz=79,SNR=8.2
P26A Davis Ranch, A 79.48 46 ⇑P P 19 35 04.2 +0.5
baz=79
O27A Beecher Island 79.48 45 ⇓P P 19 35 03.9 +0.3
baz=79
TCHB Talchebab 79.50 305 *e*P P 19 34 58.9 -4.9
VTS Vitosha 79.51 319 P P 19 35 05.8 +2.0
VTS Vitosha 79.51 319⇑*i*P P 19 35 04.9 +1.1
MMAI Mount Meron Ar 79.61 305 LR LR 20 14 17.7
comp=Z,16nm,28.6s,baz=310,slow=39
TNS Taunus Mts 79.70 332 *e*P P 19 35 05.3 +0.7
comp=Z,6.0nm,0.8s
MANT Manisa 79.74 313 *i* P P 19 35 06.0 +0.7
ECSD EROS Data Cent 79.77 39 *e*P P 19 35 04.7 -0.3
comp=Z,7.4nm,0.8s
ECSD *e*pP pP 19 35 23.9 -0.8
ECSD EROS Data Cent 79.77 39 ⇑P P 19 35 05.2 +0.2
baz=80
T23A Casias Ranch, 79.81 49 ⇓P P 19 35 06.4 +0.7
baz=80
S24A Houchin Ranch, 79.84 48 ⇑P P 19 35 06.4 +0.6
baz=80
Q26A Hugo 79.84 46 ⇓P P 19 35 06.3 +0.6
baz=80,SNR=5.2
L31A Butterfield Fa 79.87 41 ⇑P P 19 35 05.9 +0.3
baz=80
P27A Ficken Ranch, 79.89 45 ⇓P P 19 35 06.3 +0.4
baz=80
N29A Votaw Ranch, W 79.98 43 ⇑P P 19 35 06.6 +0.3
baz=80
R25A Fountain Ranch 79.99 47 ⇓P P 19 35 06.9 +0.4
baz=80
PERS Pernice 80.07 326 *i* P P 19 35 07.2 +0.6
SOKA Soboth 80.07 326⇑*i*P P 19 35 07.4 +0.7
comp=Z,33nm,1.1s,SNR=6.8
V22A San Miguel Ran 80.10 50 ⇑P P 19 35 08.4 +1.2
baz=80
RJOB Jochberg 80.12 328 *e*P P 19 35 08.2 +1.3
comp=Z,16nm,0.8s
T24B San Luis 80.16 49 ⇑P P 19 35 09.0 +1.4
baz=80
MEM Membach 80.22 333 P P 19 35 07.5 +0.3
U23A El Rito 80.22 50 ⇓P P 19 35 09.4 +1.5
baz=80
S25A Robets Cordova 80.25 48 ⇑P P 19 35 08.7 +0.7
baz=80
N30A Hueftle Ranch, 80.27 43 ⇑P P 19 35 07.7 -0.1
baz=80
R26A Arlington 80.33 47 ⇑P P 19 35 08.7 +0.4
baz=80,SNR=6.9
SPMN St. Paul 80.34 36 ⇑P P 19 35 08.1 0.0
baz=80
GOLS Golise 80.35 325 *i* P P 19 35 08.5 +0.3
FUR Furstenfeldbru 80.37 329 *e*P P 19 35 09.4 +1.2
comp=Z,26nm,0.8s
OBKA Obir 80.40 326⇑*i*P P 19 35 09.1 +0.6
comp=Z,12nm,0.7s
KBA Koelnbreinsper 80.44 327 *i* P P 19 35 09.9 +1.1
comp=Z,18nm,0.7s,SNR=7.8
SCHQ Schefferville 80.51 17 P P 19 35 08.7 -0.1
SCHQ Schefferville 80.51 17 P P 19 35 08.7 -0.1
comp=Z,8.4nm,0.7s,baz=357,slow=7.9,SNR=11
LEGS Legarje 80.53 326 *i* P P 19 35 09.2 +0.1
BCLA Clavier 80.61 334 P P 19 35 09.3 -0.1
V23A Ortiz Mt. (NFS 80.64 50 ⇑P P 19 35 11.4 +1.3
baz=80
T25A Trinidad 80.64 48 ⇓P P 19 35 10.8 +0.7
baz=80
Q28A Sharon Springs 80.64 45 ⇑P P 19 35 10.2 +0.3
baz=80
STU Stuttgart 80.65 331 *e*P P 19 35 10.1 +0.5
STU pmax pmax
comp=Z,16nm,0.8s
STU Stuttgart 80.65 331 *e*P P 19 35 10.4 +0.8
comp=Z,20nm,0.8s
STU Stuttgart 80.65 331 *e*P P 19 35 10.1 +0.5
comp=Z,16nm,0.8s
MYKA Terra Mystica 80.68 327⇑*i*P P 19 35 10.0 +0.1
comp=Z,7.0nm,0.6s
R27A Eads 80.69 46 ⇑P P 19 35 10.6 +0.4
baz=80
AYDN Tasoluk 80.71 313 *i* P P 19 35 09.7 -0.5
O30A MW Ranch, Wils 80.75 43 ⇑P P 19 35 10.6 +0.2
baz=80
VAY Valandovo 80.78 318 *i* P P 19 35 10.5 0.0
LJU Ljubljana 80.78 326 *i* P P 19 35 10.5 +0.1
BGNE Belgrade 80.79 41 ⇓P P 19 35 11.0 +0.4
baz=80
S26A Kim 80.81 47 ⇓P P 19 35 11.1 +0.2
baz=81
SKO Skopje 80.84 319 *i* P P 19 35 11.3 +0.5
VISS Visnje 80.85 326 *e*P P 19 35 10.7 0.0
SNF Seneffe 80.87 334 P P 19 35 11.0 +0.3
WATA Walderalm 80.93 328 *i* P P 19 35 12.0 +0.6
comp=Z,7.4nm,0.5s,SNR=8.3
WTTA Wattenberg 80.97 328⇑*i*P P 19 35 12.3 +0.7
comp=Z,16nm,0.7s
WLF Walferdange 80.97 333 P P 19 35 11.1 -0.2
GIVF Givet 81.04 334 *e*P P 19 35 11.6 -0.1
GIVF Givet 81.04 334 *e*P P 19 35 11.6 -0.1
GIVF Givet 81.04 334 *e*P P 19 35 11.6 -0.1
T26A Comanche Natio 81.07 47 ⇓P P 19 35 12.7 +0.3
baz=81
W23A Werner Place, 81.07 50 ⇑P P 19 35 13.8 +1.3
baz=81
MOTA Moosalm 81.11 329⇓*i*P P 19 35 12.8 +0.5
comp=Z,22nm,0.7s,SNR=18
P30A Selden 81.12 44 ⇑P P 19 35 12.6 +0.2
baz=81
DOU Dourbes 81.12 334 P P 19 35 12.1 0.0
RETA Reutte 81.12 329 *i* P P 19 35 13.0 +0.7
comp=Z,19nm,0.9s,SNR=7.7
V24A Rampart Ranch, 81.17 49 ⇓P P 19 35 14.6 +1.6
baz=81
U25A Circle Dot Ran 81.17 49 ⇓P P 19 35 13.4 +0.4
baz=81
Q29A Oakley 81.22 45 ⇓P P 19 35 13.3 +0.3
baz=81
BAIF Baives 81.28 334 *e*P P 19 35 12.9 0.0
comp=Z,17nm,0.9s
BAIF Baives 81.28 334 *e*P P 19 35 12.9 0.0
BAIF pmax pmax
comp=Z,17nm,0.9s
BAIF Baives 81.28 334 *e*P P 19 35 12.9 0.0
comp=Z,17nm,0.9s
BFO Black Forest 81.33 331*ce*P P 19 35 14.2 +0.9
BFO Black Forest 81.33 331 *e*P P 19 35 14.0 +0.7
comp=Z,9.0nm,0.8s
BFO Black Forest 81.33 331 *e*P P 19 35 13.4 +0.1
comp=Z,14nm,0.9s
BDRM Kayabasi 81.38 313 *i* P P 19 35 14.3 +0.5
V25A Rancho No Teng 81.46 49 ⇑P P 19 35 15.4 +0.9
baz=81
W24A Lazy 6 Ranch, 81.46 50 ⇑P P 19 35 15.8 +1.3
baz=81,SNR=6.8
R29A Marienthal 81.48 45 ⇑P P 19 35 14.5 +0.2
baz=81
BNM Barren Site 81.51 51 *e*P P 19 35 15.7 +0.9
comp=Z,2.4nm,0.7s
BNM *e*pP pP 19 35 35.6 +1.0
FETA Feichten 81.52 329⇑*i*P P 19 35 15.1 +0.6
comp=Z,16nm,1.0s
Q30A Quinter 81.55 44 ⇑P P 19 35 14.8 0.0
baz=81
P31A Stockton 81.58 43 ⇓P P 19 35 14.9 +0.1
baz=81,SNR=6.2
BIA Bitola 81.62 319 *e*P P 19 35 13.8 -1.2
DAVA Damuels 81.62 329⇑*i*P P 19 35 15.6 +0.5
comp=Z,29nm,0.9s,SNR=5.5
CDF Champ du Feu 81.64 331⇑*i*P P 19 35 15.2 +0.2
comp=Z,38nm,1.1s
CDF Champ du Feu 81.64 331⇑*i*P P 19 35 15.2 +0.2
CDF pmax pmax
comp=Z,38nm,1.1s
CDF Champ du Feu 81.64 331⇑*i*P P 19 35 15.2 +0.2
comp=Z,38nm,1.1s
319A Douglas 81.88 55 ⇑P P 19 35 17.7 +1.0
baz=82
P32A Huiting Farm, 81.91 43 ⇑P P 19 35 16.4 -0.1
baz=82
X24A Lazy VL Ranch, 81.91 50 ⇓P P 19 35 17.8 +1.0
baz=82
Z22A Elephant Butte 81.95 52 ⇑P P 19 35 17.8 +0.8
baz=82

V26A Tequesquite Ra 81.96 49 ⇓P P 19 35 18.3 +1.3
baz=82
121A Cookes Peak, D 81.97 53 *e*P P 19 35 18.5 +1.3
comp=Z,5.1nm,0.8s
121A *e*pP pP 19 35 38.5 +1.5
121A Cookes Peak, D 81.97 53 ⇑P P 19 35 18.5 +1.3
baz=82,SNR=5.3
W25A X Bar L Ranch, 82.00 49 ⇓P P 19 35 18.1 +0.9
baz=82,SNR=5.9
Y23A Lovelace Mesa, 82.00 51 ⇓P P 19 35 18.3 +1.0
baz=82,SNR=8.1
U27A Thompson Grove 82.04 48 ⇑P P 19 35 17.2 -0.2
baz=82
R30A Dighton 82.04 45 ⇑P P 19 35 17.4 +0.2
baz=82
PAGF Fort de Pagny 82.06 332⇑*i*P P 19 35 17.5 +0.4
comp=Z,13nm,0.8s
PAGF *e*pP pP 19 35 38.1 +1.2
PAGF Fort de Pagny 82.06 332⇑*i*P P 19 35 17.5 +0.4
comp=Z,13nm,0.8s
PAGF *e*pP pP 19 35 38.1 +1.2
EIL Elat 82.20 303 LR LR 20 15 14.9
comp=Z,16nm,28.6s,baz=45,slow=38
HINF Hinteralfeld 82.30 331⇑*i*P P 19 35 18.0 -0.4
comp=Z,12nm,0.8s
HINF Hinteralfeld 82.30 331⇑*i*P P 19 35 18.0 -0.4
HINF pmax pmax
comp=Z,12nm,0.8s
HINF Hinteralfeld 82.30 331⇑*i*P P 19 35 18.0 -0.4
comp=Z,12nm,0.8s
HAU Haudompre 82.31 332 *e*P P 19 35 18.3 -0.2
comp=Z,26nm,0.9s
HAU *e*R
comp=Z,198nm,20.8s
HAU Haudompre 82.31 332 *e*P P 19 35 18.3 -0.2
HAU pmax pmax
comp=Z,26nm,0.9s
HAU Haudompre 82.31 332 *e*P P 19 35 18.3 -0.2
comp=Z,26nm,0.9s
MEZF Maizieres J'vi 82.34 333 *e*P P 19 35 19.0 +0.4
MEZF Maizieres J'vi 82.34 333 *e*P P 19 35 19.0 +0.4
Y24A Capitan 82.37 51 ⇓P P 19 35 20.5 +1.2
baz=82
Z23A Rita Site, Whi 82.38 52 ⇓P P 19 35 20.1 +0.8
baz=82
X25A Clemmons Ranch 82.38 50 ⇑P P 19 35 20.3 +1.0
baz=82,SNR=9.2
U28A Mallet 82.40 47 ⇑P P 19 35 20.0 +0.8
baz=82
Q32A Meitler Ranch, 82.40 43 ⇓P P 19 35 19.4 +0.3
baz=82
APE Apeiranthos 82.42 314 *e*P P 19 35 17.4 -1.8
APE pmax pmax
comp=Z,12nm,1.2s
W26A Owens Ranch, T 82.48 49 ⇓P P 19 35 20.6 +0.9
baz=82
TUE Stuetta 82.51 329 *e*P P 19 35 19.8 +0.1
comp=Z,11nm,0.8s
TUE *e*pP pP 19 35 41.8 +2.2
SFTF Sexfontaines 82.60 333⇑*i*P P 19 35 20.0 +0.1
comp=Z,49nm,0.9s
SFTF *e*pP pP 19 35 40.5 +0.7
SFTF Sexfontaines 82.60 333⇑*i*P P 19 35 20.0 +0.1
comp=Z,49nm,0.9s
SFTF *e*pP pP 19 35 40.5 +0.7
222A Williams Famil 82.68 53 ⇓P P 19 35 22.1 +1.2
baz=82
SCIA State Center 82.76 38 *e*P P 19 35 20.9 0.0
comp=Z,8.0nm,0.5s
Q33A Connelly Farm, 82.77 43 ⇑P P 19 35 21.3 +0.3
baz=82
Y25A Mesa, Roswell 82.80 50 ⇑P P 19 35 22.4 +1.0
baz=83
Z24A Sheeppen Canyo 82.83 51 ⇑P P 19 35 22.7 +1.0
baz=83
X26A CR and CF Fran 82.85 49 ⇓P P 19 35 22.1 +0.4
baz=83
W27A Bowe Ranch, En 82.90 49 ⇑P P 19 35 22.5 +0.7
baz=83
S31A Mullinville 82.95 45 ⇑P P 19 35 22.5 +0.4
baz=83
U30A WK&E Inc. Balk 83.14 46 ⇓P P 19 35 23.9 +0.8
baz=83
124A Stringfield Ra 83.23 52 ⇓P P 19 35 23.9 +0.1
baz=83
T31A Randall Ranch, 83.24 45 ⇓P P 19 35 23.8 +0.3
baz=83
Z25A Roswell 83.25 51 ⇓P P 19 35 24.5 +0.8
baz=83
Y26A Elida 83.29 50 ⇑P P 19 35 23.6 -0.3
baz=83
KSU1 Kansas State U 83.30 42 ⇓P P 19 35 23.1 -0.7
comp=Z,9.8nm,0.6s
KSU1 *e*pP pP 19 35 42.8 -0.8
KSU1 Kansas State U 83.30 42 ⇓P P 19 35 23.6 -0.2
baz=83
T32A Hudler Ranch, 83.58 45 ⇓P P 19 35 25.8 +0.6
baz=83
CABF La Chapelle 83.60 331 *e*P P 19 35 25.2 0.0
CABF La Chapelle 83.60 331 *e*P P 19 35 25.2 0.0
CABF La Chapelle 83.60 331 *e*P P 19 35 25.2 0.0
224A Cornudas Mount 83.64 52 ⇓P P 19 35 26.9 +1.1
baz=83,SNR=6.1
Z26A Caprock 83.68 50 ⇓P P 19 35 26.7 +0.8
baz=83
Y27A Causey 83.70 49 ⇑P P 19 35 26.8 +0.8
baz=84
125A Gardner Draw, 83.73 51 ⇓P P 19 35 26.9 +0.7
baz=84
AMTX Amarillo 83.80 48 ⇑P P 19 35 26.3 -0.2
baz=84
LOR Lormes 83.81 333⇑*i*P P 19 35 26.2 0.0
comp=Z,50nm,0.9s
LOR *e*R
comp=Z,298nm,19.8s
LOR Lormes 83.81 333⇑*i*P P 19 35 26.2 0.0
comp=Z,50nm,0.9s
FLN La Foliniere 83.89 336 *e*P P 19 35 26.5 0.0
comp=Z,26nm,0.8s
FLN *e*R
comp=Z,256nm,20.2s
FLN La Foliniere 83.89 336 *e*P P 19 35 26.5 0.0
FLN pmax pmax
comp=Z,26nm,0.8s
FLN La Foliniere 83.89 336 *e*P P 19 35 26.5 0.0
comp=Z,26nm,0.8s
LDF La Druitiere 83.93 336 *e*P P 19 35 26.5 -0.3
comp=Z,28nm,0.8s
LDF *e*P P 19 35 26.5 -0.3
LDF La Druitiere 83.93 336 *e*P P 19 35 26.5 -0.3
LDF pmax pmax
comp=Z,28nm,0.8s
LDF La Druitiere 83.93 336 *e*P P 19 35 26.5 -0.3
comp=Z,28nm,0.8s
T33A Patterson Ranc 84.00 44 ⇓P P 19 35 27.2 -0.2
baz=84
Z27A Tatum 84.08 50 ⇓P P 19 35 28.7 +0.7
baz=84,SNR=6.1
126A Clayton Basin, 84.11 51 ⇓P P 19 35 28.4 +0.4
baz=84
X29A Tulia 84.11 48 ⇓P P 19 35 28.9 +0.8
baz=84
SSF Saint Saulge 84.11 333⇑*i*P P 19 35 27.8 +0.1
comp=Z,22nm,0.8s
SSF Saint Saulge 84.11 333⇑*i*P P 19 35 27.8 +0.1
SSF pmax pmax
comp=Z,23nm,0.8s
SSF Saint Saulge 84.11 333⇑*i*P P 19 35 27.8 +0.1
comp=Z,22nm,0.8s
Y28A McKinney Farm, 84.20 49 ⇑P P 19 35 28.5 -0.1
baz=84
HYF Humbligny 84.22 334 *e*P P 19 35 28.8 +0.5
HYF Humbligny 84.22 334 *e*P P 19 35 28.8 +0.5
GDL2 Guadalupe Moun 84.23 51 *e*P P 19 35 29.5 +0.7
comp=Z,10nm,0.8s
GDL2 *e*pP pP 19 35 50.0 +1.4
LPL La Plagne 84.29 330⇑*i*P P 19 35 29.4 +0.4
comp=Z,28nm,0.9s
LPL La Plagne 84.29 330⇑*i*P P 19 35 29.4 +0.4
LPL pmax pmax
comp=Z,28nm,0.9s
LPL La Plagne 84.29 330⇑*i*P P 19 35 29.4 +0.4
comp=Z,28nm,0.9s
LPG La Plagne 84.30 330⇑*i*P P 19 35 29.6 +0.5
comp=Z,25nm,0.6s
LPG La Plagne 84.30 330⇑*i*P P 19 35 29.6 +0.5
LPG pmax pmax
comp=Z,25nm,0.6s

LPG La Plagne 84.30 330⇑*i*P P 19 35 29.6 +0.5
comp=Z,25nm,0.6s
GRR Gorron 84.34 336⇑*i*P P 19 35 29.0 +0.2
comp=Z,44nm,0.9s
GRR Gorron 84.34 336⇑*i*P P 19 35 29.0 +0.2
GRR pmax pmax
comp=Z,44nm,0.9s
GRR Gorron 84.34 336⇑*i*P P 19 35 29.0 +0.2
comp=Z,44nm,0.9s
SMF Signal de Mont 84.36 333⇑*i*P P 19 35 29.2 +0.2
comp=Z,39nm,0.9s
SMF *e*pP pP 19 35 49.7 +0.8
SMF Signal de Mont 84.36 333⇑*i*P P 19 35 29.2 +0.2
SMF *e**PP pP 19 35 49.7 +0.8
SMF pmax pmax
comp=Z,39nm,0.9s
SMF Signal de Mont 84.36 333⇑*i*P P 19 35 29.2 +0.2
comp=Z,39nm,0.9s
SMF *e*pP pP 19 35 49.7 +0.8
AVF Avril sur Loir 84.40 333⇑*i*P P 19 35 29.4 +0.2
comp=Z,51nm,0.7s
AVF Avril sur Loir 84.40 333⇑*i*P P 19 35 29.4 +0.2
AVF pmax pmax
comp=Z,51nm,0.7s
AVF Avril sur Loir 84.40 333⇑*i*P P 19 35 29.4 +0.2
comp=Z,51nm,0.7s
226B Tecolote Peak, 84.44 51 ⇓P P 19 35 30.6 +0.9
baz=84
127A Arkansas Junct 84.47 50 ⇑P P 19 35 30.3 +0.3
baz=84
325A Bean Ranch, Si 84.47 52 ⇑P P 19 35 30.3 +0.3
baz=84
W31A Holland Ranch, 84.53 47 ⇓P P 19 35 30.4 +0.3
baz=84
U33A Lingo Farm, Me 84.56 45 ⇓P P 19 35 30.4 +0.2
baz=84
X30A Coker Ranch, T 84.57 48 ⇓P P 19 35 30.9 +0.6
baz=84
Z28A Hacker Farm, M 84.58 49 ⇑P P 19 35 31.0 +0.6
baz=84
V32A Arapaho 84.61 46 ⇑P P 19 35 31.3 +0.8
baz=84
BNI Bardonecchia 84.71 330 *e*P P 19 35 30.9 -0.1
BNI pmax pmax
comp=Z,18nm,1.0s
BNI Bardonecchia 84.71 330 *e*P P 19 35 30.9 -0.1
comp=Z,18nm,1.0s
BGF Bois d'Agland 84.77 333 *e*P P 19 35 31.3 +0.2
comp=Z,21nm,0.9s
BGF Bois d'Agland 84.77 333 *e*P P 19 35 31.3 +0.2
BGF pmax pmax
comp=Z,21nm,0.9s
BGF Bois d'Agland 84.77 333 *e*P P 19 35 31.3 +0.2
comp=Z,21nm,0.9s
U34A Anderson Ranch 84.86 44 ⇓P P 19 35 32.2 +0.5
baz=85
425A Indio Mountain 84.89 53 ⇑P P 19 35 32.8 +0.7
baz=85
X31A McDonald Ranch 84.92 47 ⇑P P 19 35 32.8 +0.7
baz=85
V33A Lossen Ranch, 84.94 45 ⇑P P 19 35 32.6 +0.5
baz=85
MBDF Montbardon 84.95 330⇑*i*P P 19 35 32.0 -0.2
comp=Z,25nm,0.7s
MBDF Montbardon 84.95 330⇑*i*P P 19 35 32.0 -0.2
MBDF pmax pmax
comp=Z,25nm,0.7s
MBDF Montbardon 84.95 330⇑*i*P P 19 35 32.0 -0.2
comp=Z,25nm,0.7s
SGMF Saint Gilles 84.96 337 *e*P P 19 35 32.4 +0.5
SGMF Saint Gilles 84.96 337 *e*P P 19 35 32.4 +0.5
SGMF Saint Gilles 84.96 337 *e*P P 19 35 32.4 +0.5
Z29A Hungry Hill Ra 84.98 49 ⇑P P 19 35 33.4 +1.0
baz=85,SNR=6.2
128A Castleberry Fa 85.01 50 ⇑P P 19 35 33.3 +0.7
baz=85,SNR=5.3
ROSF Rostrenen 85.09 338⇑*i*P P 19 35 33.2 +0.6
comp=Z,50nm,1.0s
ROSF Rostrenen 85.09 338⇑*i*P P 19 35 33.2 +0.6
ROSF pmax pmax
comp=Z,50nm,1.0s
ROSF Rostrenen 85.09 338⇑*i*P P 19 35 33.2 +0.6
comp=Z,50nm,1.0s
326A Caldwell Ranch 85.10 52 ⇑P P 19 35 33.6 +0.5
baz=85
ORIF Oris-en-Rattie 85.12 330⇑*i*P P 19 35 33.3 +0.3
comp=Z,27nm,0.8s
ORIF *e*R
comp=Z,196nm,17.8s
ORIF Oris-en-Rattie 85.12 330⇑*i*P P 19 35 33.3 +0.3
ORIF pmax pmax
comp=Z,27nm,0.8s
ORIF Oris-en-Rattie 85.12 330⇑*i*P P 19 35 33.3 +0.3
comp=Z,27nm,0.8s
TCF Toulx Ste Croi 85.22 333⇑*i*P P 19 35 35.0 +1.6
comp=Z,20nm,0.8s
TCF Toulx Ste Croi 85.22 333⇑*i*P P 19 35 35.0 +1.6
TCF pmax pmax
comp=Z,20nm,0.8s
TCF Toulx Ste Croi 85.22 333⇑*i*P P 19 35 35.0 +1.6
comp=Z,20nm,0.8s
Y31A Rekieta Farm, 85.27 48 ⇓P P 19 35 34.2 +0.4
baz=85
Z30A Sanderson Ranc 85.29 49 ⇓P P 19 35 34.3 +0.4
baz=85
228A UT Block 9, Go 85.32 50 ⇓P P 19 35 34.6 +0.5
baz=85
V34A Guthrie 85.33 45 ⇑P P 19 35 34.4 +0.4
baz=85
W33A Caddo, Fort Co 85.35 46 ⇓P P 19 35 35.1 +1.0
baz=85
SBF Sospel 85.43 329⇑*i*P P 19 35 34.0 -0.5
comp=Z,42nm,0.8s
SBF Sospel 85.43 329⇑*i*P P 19 35 34.0 -0.5
SBF pmax pmax
comp=Z,42nm,0.8s
SBF Sospel 85.43 329⇑*i*P P 19 35 34.0 -0.5
comp=Z,42nm,0.8s
QUIF Quistinic 85.44 337⇑*i*P P 19 35 34.6 +0.3
comp=Z,43nm,0.9s
QUIF Quistinic 85.44 337⇑*i*P P 19 35 34.6 +0.3
QUIF pmax pmax
comp=Z,43nm,0.9s
QUIF Quistinic 85.44 337⇑*i*P P 19 35 34.6 +0.3
comp=Z,43nm,0.9s
X32A Elmer 85.46 47 ⇓P P 19 35 35.4 +0.6
baz=85
WMOK Wichita Mounta 85.49 46 *e*P P 19 35 34.9 0.0
WMOK *e**PP pP 19 35 54.5 -0.3
WMOK pmax pmax
comp=Z,11nm,1.0s
WMOK Wichita Mounta 85.49 46 *e*P P 19 35 34.9 0.0
comp=Z,11nm,1.0s
WMOK *e*pP pP 19 35 54.5 -0.3
426A McDonald Obser 85.54 52 ⇑P P 19 35 35.9 +0.5
baz=85
VIVF Saint-Julien-I 85.61 331⇑*i*P P 19 35 35.8 +0.5
comp=Z,34nm,0.9s
VIVF Saint-Julien-I 85.61 331⇑*i*P P 19 35 35.8 +0.5
VIVF pmax pmax
comp=Z,34nm,0.9s
VIVF Saint-Julien-I 85.61 331⇑*i*P P 19 35 35.8 +0.5
comp=Z,34nm,0.9s
PMOR Pomariorio Ree 85.65 114 *e*T T 21 09 08.6
comp=Z,32nm,0.2s
Y32A R-V Farms, Ver 85.69 47 ⇑P P 19 35 36.4 +0.5
baz=85
MFF Saint Martin d 85.71 335⇑*i*P P 19 35 36.4 +0.7
comp=Z,62nm,1.0s
MFF Saint Martin d 85.71 335⇑*i*P P 19 35 36.4 +0.7
MFF pmax pmax
comp=Z,63nm,1.0s
MFF Saint Martin d 85.71 335⇑*i*P P 19 35 36.4 +0.7
comp=Z,62nm,1.0s
328A Wristen Ranch, 85.73 51 ⇓P P 19 35 37.0 +0.8
baz=86,SNR=5.2
427A Hayter Ranch, 85.78 52 ⇑P P 19 35 37.7 +1.2
baz=86
Z31A Sharp Cattle R 85.81 48 ⇓P P 19 35 37.0 +0.5
baz=86
229A Bryant Ranch, 85.88 50 ⇑P P 19 35 37.4 +0.5
baz=86
130A Snyder 85.89 49 ⇑P P 19 35 37.5 +0.5
baz=86
526A Mary Lane Ranc 85.94 53 ⇑P P 19 35 38.2 +0.8
baz=86,SNR=5.7
FRF La Foret Royal 85.99 329 *e*P P 19 35 37.9 +0.7

FRF	**La Foret Royal**	**85.99**	**329**	*e*P		**P**	**19 35 37.9**	**+0.7**
FRF	**La Foret Royal**	**85.99**	**329**	*e*P		**P**	**19 35 37.9**	**+0.7**
SMRF	**Simiane la Rot**	**86.04**	**330**	*e*P		**P**	**19 35 37.8**	**+0.3**
SMRF	**Simiane la Rot**	**86.04**	**330**	*e*P		**P**	**19 35 37.8**	**+0.3**
X34A	**Smith Ranch, M**	**86.10**	**46**	⇑P		**P**	**19 35 38.8**	**+0.9**
	baz=86							
Y33A	**Hilltop Ranch,**	**86.13**	**47**	⇓P		**P**	**19 35 38.3**	**+0.3**
	baz=86							
329A	**Wagon Wheel Ra**	**86.13**	**50**	⇓P		**P**	**19 35 39.1**	**+0.9**
	baz=86,SNR=5.1							
131A	**Roby**	**86.16**	**49**	⇓P		**P**	**19 35 39.1**	**+0.9**
	baz=86							
527A	**Woodward Ranch**	**86.17**	**52**	⇑P		**P**	**19 35 39.0**	**+0.6**
	baz=86							
TUL1	**Tulsa**	**86.17**	**44**	⇓P		**P**	**19 35 37.9**	**-0.3**
	baz=86							
Z32A	**Haskell**	**86.19**	**48**	⇑P		**P**	**19 35 39.0**	**+0.6**
	baz=86							
LMR	**La Mourre**	**86.24**	**329**	*e*P		**P**	**19 35 38.2**	**-0.2**
	comp=Z,32nm,0.9s							
LMR	**La Mourre**	**86.24**	**329**	*e*P		**P**	**19 35 38.2**	**-0.2**
LMR					pmax	pmax		
	comp=Z,32nm,0.9s							
LMR	**La Mourre**	**86.24**	**329**	*e*P		**P**	**19 35 38.2**	**-0.2**
	comp=Z,32nm,0.9s							
428A	**Kincaid Ranch,**	**86.28**	**51**	⇓P		**P**	**19 35 40.5**	**+1.5**
	baz=86,SNR=5.0							
626A	**Big Bend Ranch**	**86.28**	**53**	⇑P		**P**	**19 35 40.2**	**+1.1**
	baz=86							
RJF	**Les Rejaudoux**	**86.32**	**333**	⇑*i*P		**P**	**19 35 39.4**	**+0.6**
	comp=Z,36nm,1.0s							
RJF				*e*R				
	comp=Z,241nm,19.2s							
RJF	**Les Rejaudoux**	**86.32**	**333**	⇑*i*P		**P**	**19 35 39.4**	**+0.6**
RJF					pmax	pmax		
	comp=Z,36nm,1.0s							
RJF	**Les Rejaudoux**	**86.32**	**333**	⇑*i*P		**P**	**19 35 39.4**	**+0.6**
	comp=Z,36nm,1.0s							
230A	**Sterling City**	**86.33**	**50**	⇑P		**P**	**19 35 40.3**	**+1.1**
	baz=86							
PPT	**Papeete**	**86.34**	**117**	LR		LR	20 10 54.0	
	comp=Z,75nm,18.8s,baz=319,slow=33							
PPT2	**Papeete2**	**86.36**	**117**	*e*LR		LR	20 02 50.8	
	comp=Z,198nm,24.2s							
CAF	**Calviac**	**86.47**	**333**	⇑*i*P		**P**	**19 35 40.6**	**+1.1**
	comp=Z,53nm,0.8s							
CAF				*e*pP		**pP**	**19 36 01.2**	**+1.7**
CAF	**Calviac**	**86.47**	**333**	⇑*i*P		**P**	**19 35 40.6**	**+1.1**
CAF				*e**PP		**pP**	**19 36 01.2**	**+1.7**
CAF					pmax	pmax		
	comp=Z,53nm,0.8s							
CAF	**Calviac**	**86.47**	**333**	⇑*i*P		**P**	**19 35 40.6**	**+1.1**
	comp=Z,53nm,0.8s							
CAF				*e*pP		**pP**	**19 36 01.2**	**+1.7**
LASF	**Ste Croix**	**86.58**	**331**	*e*P		**P**	**19 35 40.8**	**+0.7**
	comp=Z,18nm,1.0s							
LASF	**Ste Croix**	**86.58**	**331**	*e*P		**P**	**19 35 40.8**	**+0.7**
	comp=Z,18nm,1.0s							
Y34A	**Reagan Ranch,**	**86.63**	**46**	⇓P		**P**	**19 35 41.4**	**+0.9**
	baz=86							
330A	**Mertzon**	**86.65**	**50**	⇓P		**P**	**19 35 41.1**	**+0.4**
	baz=86							
TXAR	**Lajitas Array**	**86.72**	**53**	P		**P**	**19 35 42.1**	**+1.0**
TXAR				pP		**pP**	**19 36 01.0**	**-0.2**
TXAR	**Lajitas Array**	**86.72**	**53**	P		**P**	**19 35 42.2**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=301,slow=4.9,SNR=19							
TXAR				pP		**pP**	**19 36 01.0**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=296,slow=3.0,SNR=14							
TXAR				LR		LR	20 15 37.8	
	comp=Z,44nm,18.0s,baz=0.0,slow=36							
SFIN	**Scholer Farm**	**86.73**	**35**	⇑P		**P**	**19 35 41.0**	**+0.1**
	baz=86							
231A	**Bronte**	**86.75**	**49**	⇓P		**P**	**19 35 41.4**	**+0.3**
	baz=86							
627A	**Terlingua Ranc**	**86.80**	**53**	⇓P		**P**	**19 35 42.1**	**+0.5**
	baz=87							
429A	**Davenport Ranc**	**86.82**	**51**	⇓P		**P**	**19 35 42.2**	**+0.6**
	baz=87							
LFF	**La Frestale**	**86.90**	**334**	⇑*i*P		**P**	**19 35 42.6**	**+1.0**
	comp=Z,44nm,0.8s							
LFF	**La Frestale**	**86.90**	**334**	⇑*i*P		**P**	**19 35 42.6**	**+1.0**
LFF					pmax	pmax		
	comp=Z,44nm,0.8s							
LFF	**La Frestale**	**86.90**	**334**	⇑*i*P		**P**	**19 35 42.6**	**+1.0**
	comp=Z,44nm,0.8s							
Z34A	**Collier Ranch,**	**86.99**	**47**	⇓P		**P**	**19 35 42.5**	**+0.3**
	baz=87							
529A	**Stev Forest Ra**	**87.00**	**51**	⇓P		**P**	**19 35 43.6**	**+1.1**
	baz=87,SNR=6.1							
430A	**Baggett Ranch,**	**87.08**	**50**	⇓P		**P**	**19 35 42.6**	**-0.2**
	baz=87							
331A	**San Angelo**	**87.15**	**50**	⇑P		**P**	**19 35 43.3**	**+0.1**
	baz=87							
232A	**Coleman**	**87.16**	**49**	⇓P		**P**	**19 35 43.9**	**+0.7**
	baz=87							
Z35A	**Perchaven, San**	**87.38**	**46**	⇓P		**P**	**19 35 44.3**	**+0.1**
	baz=87							
233A	**Rising Star**	**87.48**	**48**	⇑P		**P**	**19 35 45.2**	**+0.5**
	baz=87							
332A	**Millersview**	**87.48**	**49**	⇓P		**P**	**19 35 45.2**	**+0.5**
	baz=87,SNR=6.2							
530A	**J-C Ranch, Com**	**87.49**	**51**	⇑P		**P**	**19 35 45.3**	**+0.5**
	baz=87							
MTLF	**Montolieu**	**87.80**	**332**	*e*P		**P**	**19 35 46.7**	**+0.7**
	comp=Z,20nm,1.2s							
MTLF	**Montolieu**	**87.80**	**332**	*e*P		**P**	**19 35 46.7**	**+0.7**
MTLF					pmax	pmax		
	comp=Z,20nm,1.2s							
MTLF	**Montolieu**	**87.80**	**332**	*e*P		**P**	**19 35 46.7**	**+0.7**
	comp=Z,20nm,1.2s							
432A	**Menard**	**87.84**	**49**	⇓P		**P**	**19 35 47.2**	**+0.7**
	baz=88							
531A	**Rocksprings**	**87.94**	**50**	⇓P		**P**	**19 35 47.9**	**+1.0**
	baz=88							
333A	**Richland Sprin**	**87.95**	**49**	⇓P		**P**	**19 35 47.5**	**+0.5**
	baz=88							
WHTX	**Lake Whitney**	**88.29**	**47**	⇑P		**P**	**19 35 48.9**	**+0.4**
	baz=88							
433A	**Art**	**88.32**	**49**	⇓P		**P**	**19 35 49.0**	**+0.3**
	baz=88							
532A	**Rocksprings**	**88.33**	**50**	⇓P		**P**	**19 35 49.2**	**+0.4**
	baz=88							
334A	**Lometa**	**88.36**	**48**	⇑P		**P**	**19 35 49.1**	**+0.3**
	baz=88							
MIAR	**Mount Ida**	**88.37**	**43**	*e*P		**P**	**19 35 49.1**	**+0.3**
MIAR				*e**PP		**pP**	**19 36 09.0**	**+0.1**
MIAR					pmax	pmax		
	comp=Z,13nm,0.9s							
MIAR	**Mount Ida**	**88.37**	**43**	*e*P		**P**	**19 35 49.1**	**+0.3**
	comp=Z,13nm,0.9s							
MIAR				*e*pP		**pP**	**19 36 09.0**	**+0.1**
631A	**Perdido Creek**	**88.48**	**51**	⇑P		**P**	**19 35 50.0**	**+0.6**
	baz=88							
EPF	**Esparros**	**88.72**	**333**	*e*P		**P**	**19 35 50.7**	**+0.3**
EPF	**Esparros**	**88.72**	**333**	*e*P		**P**	**19 35 50.7**	**+0.3**
EPF	**Esparros**	**88.72**	**333**	*e*P		**P**	**19 35 50.7**	**+0.3**
ETSF	**Etsaut**	**89.14**	**334**	⇑*i*P		**P**	**19 35 53.5**	**+1.1**
	comp=Z,35nm,1.0s							
ETSF	**Etsaut**	**89.14**	**334**	⇑*i*P		**P**	**19 35 53.5**	**+1.1**
ETSF					pmax	pmax		
	comp=Z,35nm,1.0s							
ETSF	**Etsaut**	**89.14**	**334**	⇑*i*P		**P**	**19 35 53.5**	**+1.1**
	comp=Z,35nm,1.0s							
SJPF	**Ste Jean**	**89.17**	**334**	*e*P		**P**	**19 35 54.1**	**+1.6**
SJPF	**Ste Jean**	**89.17**	**334**	*e*P		**P**	**19 35 54.1**	**+1.6**
SJPF	**Ste Jean**	**89.17**	**334**	*e*P		**P**	**19 35 54.1**	**+1.6**
832A	**Faith Ranch, C**	**89.67**	**51**	⇓P		**P**	**19 35 55.9**	**+0.8**
	baz=90							
733A	**Divot King Ran**	**89.74**	**50**	⇓P		**P**	**19 35 56.2**	**+0.8**
	baz=90							
TBI	**Tubuai**	**90.56**	**121**	*e*LR		LR	20 04 30.4	
	comp=Z,144nm,33.2s							
TBI	**Tubuai**	**90.56**	**121**	*e*T		T	21 15 13.1	
	comp=Z,26nm,0.3s							
KEST	**Kesra**	**91.47**	**323**	P		**P**	**19 36 03.0**	**-0.4**
KEST	**Kesra**	**91.47**	**323**	P		**P**	**19 36 03.0**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=215,slow=9.1,SNR=7.6							
KEST				LR		LR	20 21 15.9	
	comp=Z,16nm,28.6s,baz=286,slow=38							
ESDC	**Sonseca Array**	**93.16**	**334**	P		**P**	**19 36 11.4**	**+0.3**
ESDC				pP		**pP**	**19 36 30.3**	**-0.8**
ESDC	**Sonseca Array**	**93.16**	**334**	P		**P**	**19 36 11.4**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=18,slow=4.0,SNR=9.4							
ESDC				pP		**pP**	**19 36 30.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=18,slow=4.1,SNR=5.1							
KMBO	**Kilima Mbogo**	**101.81**	**279**	*e*Pdif		**Pdif**	**19 36 51.3**	**+0.5**
	comp=Z,2.6nm,0.9s							
KMBO	**Kilima Mbogo**	**101.81**	**279**	P		**Pdif**	**19 36 51.4**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=32,slow=9.7,SNR=8.5							
TORD	**Torodi Ar. Bea**	**114.22**	**317**	PKP	PKPdf		19 41 35.9	-0.6
TORD				PP		**PP**	**19 42 29.4**	**-2.3**
TORD	**Torodi Ar. Bea**	**114.22**	**317**	PKP	PKPdf		19 41 35.9	-0.6
	comp=Z,1.6nm,0.8s,baz=15,slow=2.2,SNR=17							
TORD				PP		**PP**	**19 42 29.4**	**-2.3**
	comp=Z,6.1nm,1.0s,baz=15,slow=6.4,SNR=15							
DBIC	**Dimbokro**	**123.03**	**320**	PKP		**PKPdf**	**19 41 53.2**	**-0.2**
DBIC	**Dimbokro**	**123.03**	**320**	PKP		**PKPdf**	**19 41 53.2**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=36,slow=4.3,SNR=8.6							
TIC	**Toumodi**	**123.13**	**320**	*e*PKP1		**PKPdf**	**19 41 53.1**	**-0.6**
	comp=Z,7.1nm,0.5s							
KIC	**Kosan Boka**	**123.24**	**320**	*e*PKP1		**PKPdf**	**19 41 52.9**	**-1.0**
	comp=Z,9.1nm,0.8s							
LIC	**Lamto**	**123.50**	**320**	*e*PKP1		**PKPdf**	**19 41 53.8**	**-0.5**
	comp=Z,10nm,0.2s							
LPAZ	**La Paz**	**143.58**	**55**	PKP		**PKPdf**	**19 42 32.9**	**+0.5**
LPAZ	**La Paz**	**143.58**	**55**	PKP		**PKPdf**	**19 42 32.9**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=56,slow=3.2,SNR=2.9							
SNAA	**Sanae**	**145.55**	**199**	*e*PKPdf		**PKPdf**	**19 42 33.0**	**-0.5**
H03N2	**Juan Fernandez**	**146.67**	**89**	T		T	22 26 03.6	
	baz=297,slow=75,SNR=114							
H03N3	**Juan Fernandez**	**146.69**	**89**	T		T	22 26 05.4	
	baz=297,slow=75,SNR=97							
H03N1	**Juan Fernandez**	**146.69**	**89**	T		T	22 26 04.6	
	baz=297,slow=75,SNR=99							
LCO	**Las Campanas**	**150.51**	**75**	*e*PKPbc		**PKPbc**	**19 42 48.6**	**0.0**
LCO				*ep*PKPbc		**pPKPbc**	**19 43 07.1**	**-2.3**
BDFB	**Brasilia**	**152.40**	**22**	PKPbc		**PKPbc**	**19 42 53.5**	**+0.4**
BDFB	**Brasilia**	**152.40**	**22**	PKPbc		**PKPbc**	**19 42 53.5**	**+0.4**
	comp=Z,9.2nm,0.7s,baz=310,slow=1.6,SNR=16							

*IDC **29** 19:44:55.5±8.6,5°.14S×145°.71E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, ML3.7/2, MS3.2/2, Ms1 3.3/2, ms1mx2.8/22, Error ellipse: s-maj=127.2km s-min=46.4km az=25.0*

ISC 29 19:45:07.4±4.9, 5°.7S±0°.4×145°.9E±0°.3, h69km, n11, σ1°95/12, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.91**	**162**	Pn		**Pn**	**19 46 04.4**	**-0.6**
	4.5nm,0.3s,baz=344,slow=15,SNR=19							
PMG				Sn		**Sn**	**19 46 49.9**	**+0.2**
	3.9nm,0.3s,baz=338,slow=5.7,SNR=9.4							
PMG	**Port Moresby**	**3.91**	**162**	P		**Pn**	**19 46 05.3**	**+0.3**
	baz=5.8,SNR=9.4							
PMG				P		**Pn**	**19 46 05.3**	**+0.3**
	baz=5.8,SNR=9.4							
PMG				P		**Pn**	**19 46 05.3**	**+0.3**
	baz=5.8,SNR=9.4							
KDU	**Kakadu**	**14.97**	**241**	P		**P**	**19 48 41.0**	**+1.9**
	baz=18,SNR=3.6							
WRA	**Warramunga Arr**	**18.10**	**217**	P		**P**	**19 49 12.5**	**-1.3**
	0.7nm,0.3s,baz=38,slow=12,SNR=24							
KNRA	**Kununurra**	**19.54**	**238**	P		**Pn**	**19 49 32.0**	**+0.6**
	baz=23,SNR=3.9							
ASAR	**Alice Springs**	**21.29**	**212**	P		**P**	**19 49 46.6**	**-1.9**
	1.2nm,0.6s,baz=47,slow=9.0,SNR=20							
FITZ	**Fitzroy Crossi**	**23.32**	**236**	P		**P**	**19 50 07.1**	**-2.7**
	1.4nm,0.7s,baz=51,slow=10,SNR=7.3							
WRKA	**Warakurna**	**25.61**	**219**	P		**P**	**19 50 26.7**	**-3.8**
	baz=29,SNR=3.1							
STKA	**Stephens Creek**	**26.38**	**188**	P		**P**	**19 50 39.0**	**+1.7**
	1.6nm,0.8s,baz=15,slow=14,SNR=3.8							
MJAR	**Matsushiro Arr**	**42.61**	**351**	LR		LR	20 08 48.6	
	comp=Z,12nm,20.9s,baz=70,slow=34							
VNDA	**Vanda**	**72.30**	**176**	LR		LR	20 26 12.3	
	comp=Z,48nm,18.8s,baz=318,slow=34							

IDC 29 19:36:07.2±1.9, 5°.76S×150°.85E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=123.1km s-min=27.8km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.37**	**227**	P		P	19 40 56.4	0.0
	0.7nm,0.6s,baz=52,slow=11,SNR=9.2							
ASAR	**Alice Springs**	**24.15**	**221**	P		P	19 41 24.9	-0.5
	1.0nm,0.7s,baz=57,slow=8.6,SNR=22							
ILAR	**Eielson Array**	**83.78**	**22**	P		P	19 48 37.9	-0.2
	0.4nm,0.8s,baz=236,slow=6.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**148.73**	**286**	PKPbc		PKPbc	19 55 57.7	0.0
	0.3nm,0.7s,baz=83,slow=3.6,SNR=3.3							

MEX 29 19:39:56.4±0.8, 15°.84N×97°.16W, h8km±9km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.02**	**94**	*e*P		Pg	19 40 13.3	-2.8
HUIG				*i* S		Sg	19 40 25.9	-3.4
PNIG	**Pinotepa**	**1.07**	**301**	*e*P		Pg	19 40 13.5	-3.6
PNIG				*i* S		Sg	19 40 27.6	-3.5
VHO	**Vista Hermosa**	**1.29**	**19**	*i* P		Pn	19 40 17.0	-4.0
VHO				*i* S		Sb	19 40 32.7	-5.4
TLIG	**Tlapa**	**2.17**	**322**	*i* P		Pn	19 40 30.0	-3.1
TLIG				*i* S		Sn	19 40 55.1	-5.2

IDC 29 19:40:34.7±2.2, 6°.54S×129°.78E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.2/19, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=95.5km s-min=28.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.19**	**199**	Pn		Pn	19 43 30.9	+1.3
	0.1nm,0.3s,baz=14,slow=14,SNR=12							
FITZ				Sn		Sn	19 45 32.3	-14
	0.4nm,0.3s,baz=202,slow=11,SNR=6.7							
WRA	**Warramunga Arr**	**14.04**	**162**	Pn		Pn	19 43 53.5	-1.6
	0.2nm,0.3s,baz=342,slow=13,SNR=14							
WRA				Sn		Sn	19 46 20.2	-12
	0.4nm,0.3s,baz=334,slow=22,SNR=7.1							
ASAR	**Alice Springs**	**17.49**	**167**	P		Pn	19 44 40.2	0.0
	0.1nm,0.3s,baz=340,slow=9.1,SNR=8.2							
ASAR				S		Sn	19 47 43.1	-13
	0.1nm,0.3s,baz=186,slow=32,SNR=4.6							
MKAR	**Makanchi Array**	**67.72**	**327**	P		P	19 51 34.0	0.0
	0.1nm,0.4s,baz=116,slow=8.2,SNR=6.6							

MEX 29 19:44:03.5±0.7, 16°.95N×99°.80W, h7km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.33**	**62**	*i* P		Pn	19 44 25.1	-3.7
TLIG				*i* S		Sb	19 44 41.6	-4.8
ARIG	**Puente Sto Nin**	**1.43**	**339**	*e*P		Pn	19 44 25.7	-4.3
ARIG				*i* S		Sb	19 44 44.1	-4.8
PLIG	**Platanillo**	**1.47**	**11**	*e*P		Pn	19 44 27.4	-3.2
PLIG				*i* S		Sn	19 44 44.6	-5.6
PNIG	**Pinotepa**	**1.70**	**109**	*e*P		Pn	19 44 30.2	-3.5
PNIG				*i* S		Sn	19 44 50.4	-5.3
ZIIG	**Zihuatanejo**	**1.72**	**293**	*i* P		Pn	19 44 30.4	-3.5
ZIIG				*i* S		Sn	19 44 51.6	-4.5
YAIG	**Yautepec**	**2.03**	**20**	*i* P		Pn	19 44 34.8	-3.6
YAIG				*i* S		Sn	19 44 59.4	-4.8
PPM	**Popocatepetl**	**2.39**	**28**	*e*P		Pn	19 44 44.3	+0.5
VHO	**Vista Hermosa**	**2.94**	**87**	*i* P		Pn	19 44 53.4	+2.4

*IDC **29** 21:01:24.8±1.8, 2°.00N×127°.71E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.8/4, Error ellipse: s-maj=116.6km s-min=20.3km az=69.0*
*DJA **29** 21:01:34.5±1.6, 2°.N±13°×12°.7E±1°.4, h38km±16km, M4.2/3, mb4.4/2, mB4.5/2, MLv4.2/3, Mw(mB)3.7/2*
*ISCJB **29** 21:01:35.7±1.2, 1°.6N±0°.1×127°.1E±0°.1, h103km, mb3.3/4, Error ellipse: s-maj=18.9km s-min=9.6km az=43.5*

ISC 29 21:01:37.0±1.5, 1°.5N±0°.1×127°.1E±0°.1, h103km, n10, σ2°.8/14/11, mb3.3/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.77**	**160**	P		Pn	21 01 50.9	-4.5
TNTI				S		**Sn**	**21 02 04.2**	**-4.9**
LBMI	**Labuha**	**2.16**	**169**	P		**Pn**	**21 02 11.2**	**-0.6**
LBMI				S		**Sn**	**21 02 39.1**	**+0.6**
KMSI	**Cibinong**	**3.26**	**254**	P		**Pn**	**21 02 24.2**	**-2.0**
GTOI	**Gorontalo**	**4.18**	**258**	P		**Pn**	**21 02 38.6**	**-0.1**
LUWI	**Luwuk**	**5.01**	**240**	P		**Pn**	**21 02 51.5**	**+1.5**
	57nm,0.8s,553nm							
MRSI	**Marisa**	**5.26**	**259**	P		**Pn**	**21 02 52.0**	**-1.3**
WRA	**Warramunga Arr**	**22.46**	**162**	P		**P**	**21 06 28.3**	**+0.4**
	0.4nm,0.5s,baz=343,slow=10,SNR=8.0							
ASAR	**Alice Springs**	**25.88**	**166**	P		**P**	**21 07 00.7**	**+1.4**
	0.4nm,0.7s,baz=347,slow=10,SNR=8.4							
ASAR				S		S	21 11 36.9	+15
	1.2nm,1.1s,baz=343,slow=18,SNR=7.6							
STKA	**Stephens Creek**	**35.93**	**159**	P		**P**	**21 08 28.6**	**+1.0**
	1.6nm,1.0s,baz=336,slow=10.0,SNR=5.3							
MKAR	**Makanchi Array**	**59.59**	**326**	P		**P**	**21 11 30.7**	**+0.7**
	0.3nm,0.6s,baz=130,slow=7.0,SNR=4.8							

IDC 29 21:11:32.3±18.0, 25°.67S×178°.26E, h651km±198km, mb2.8/4, mb1 3.0/4, mb1mx2.7/19, mbtmp4.0/4, Error ellipse: s-maj=141.6km s-min=70.6km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**29.96**	**274**	P		P	21 16 52.1	+0.8
	3.0nm,0.3s,baz=99,slow=11,SNR=7.4							
ASAR	**Alice Springs**	**40.22**	**263**	P		P	21 18 15.5	-0.2
	0.4nm,0.4s,baz=92,slow=7.4,SNR=11							
WRA	**Warramunga Arr**	**40.75**	**269**	P		P	21 18 19.3	-0.6
	0.5nm,0.3s,baz=104,slow=8.0,SNR=10							
FITZ	**Fitzroy Crossi**	**49.15**	**268**	P		P	21 19 24.1	+0.5
	1.3nm,0.7s,baz=121,slow=5.9,SNR=5.8							
FINES	**FINESS Array B**	**139.59**	**340**	PKP		PKPdf	21 29 50.0	+3.0
	3.0nm,1.0s,baz=98,slow=3.1,SNR=3.5							
NB2	**NORSAR Subarra**	**143.55**	**349**	PKP		PKPab	21 29 53.8	+0.3
	comp=Z,0.6nm,0.5s,baz=8.6,slow=3.7							
NOA	**NORSAR Array B**	**143.55**	**349**	PKP		PKPdf	21 29 54.1	-0.1
	comp=Z,0.7nm,0.5s,baz=21,slow=3.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**167.13**	**195**	PKPab		PKPab	21 31 34.4	-0.6
	comp=Z,0.8nm,0.9s,baz=166,slow=3.5,SNR=4.0							

*IDC **29** 21:17:03.4±0.8, 2°.58N×128°.95E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/23, mbtmp3.9/10, Error ellipse: s-maj=42.8km s-min=14.3km az=74.0*
*ISCJB **29** 21:17:07.0±0.3, 2°.56N±0°.04×128°.92E±0°.05, h35km, mb4.4/24, Error ellipse: s-maj=6.9km s-min=5.2km az=4.2*
*NEIC **29** 21:17:09.3±2.1, 2°.52N×129°.01E, h47km±18km, mb4.2/11, Error ellipse: s-maj=19.7km s-min=6.2km az=59.0*
*AUST **29** 21:17:10.8±0.5, 2°.53N×128°.95E, h62km, Error ellipse: s-maj=1.2km s-min=1.1km az=275.0*
*DJA **29** 21:17:13.9±1.3, 2°.N±5°×12°.9E±1°.1, h10km, M4.5/7, mb4.8/7, mB4.8/4, MLv4.5/4, Mw(mB)4.0/4*

ISC 29 21:17:09.2±0.5, 2°.55N±0°.06×128°.87E±0°.08, h35km, n85, σ1°.17/79, mb4.5/24, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.32**	**220**	P		**Pn**	**21 17 44.0**	**-1.0**
TNTI				S		**Sn**	**21 18 11.0**	**-1.3**
TNTI	**Ternate**	**2.32**	**220**	*e*Pn		**Pn**	**21 17 43.8**	**-1.2**
LBMI	**Labuha**	**3.45**	**203**	P		**Pn**	**21 18 01.8**	**+1.3**
SGSI	**Sangihe**	**3.53**	**289**	P		Pn	21 18 10.4	+8.9
KMSI	**Cibinong**	**5.27**	**248**	P		**Pn**	**21 18 27.1**	**+1.6**
GTOI	**Gorontalo**	**6.16**	**252**	P		**Pn**	**21 18 39.4**	**+1.6**
	73nm,0.5s,888nm							
FAKI	**Fak Fak**	**6.39**	**148**	P		**Pn**	**21 18 41.4**	**+0.4**
	baz=6.4,SNR=4.0							
LUWI	**Luwuk**	**7.07**	**240**	P		**Pn**	**21 18 52.5**	**+2.3**
	39nm,0.6s							
LUWI	**Luwuk**	**7.07**	**240**	P		**Pn**	**21 18 52.8**	**+2.6**
	baz=7.1,SNR=4.7							
MRSI	**Marisa**	**7.23**	**254**	P		**Pn**	**21 18 53.1**	**+0.6**
	43nm,0.5s,446nm							
PALU	**Palau**	**7.33**	**49**	P		**Pn**	**21 18 56.1**	**+2.2**
	baz=7.3,SNR=5.4							
APSI	**Ampana**	**8.00**	**245**	P		**Pn**	**21 19 03.4**	**+0.4**
	49nm,0.6s,497nm							
TTSI	**Tana Toraja**	**10.62**	**239**	P		**Pn**	**21 19 37.0**	**-2.0**
	22nm,0.8s							
OKC	**Ostrava-Krasne**	**0.73**	**229**	*e*SG		Sg	20 10 58.0	+1.0
NIE	**Niedzica**	**1.24**	**136**	*e*Pg		Pg	20 10 56.9	-0.6
NIE				*e*Sg		Sg	20 11 13.0	-0.7
**

MYLDM	**Lahad Datu**	**10.67**	**284**	*e*Pn	**Pn**	**21 19 42.8**	**+3.1**
SPSI	**Sidrap Palu**	**11.17**	**235**	P	**Pn**	**21 19 46.5**	**0.0**
	19nm,0.8s						
BKSI	**Bulukumba**	**11.73**	**228**	P	**Pn**	**21 19 56.6**	**+2.4**
SBUM	**Sibu**	**16.64**	**270**	*e*Pn	**P**	**21 21 03.2**	**+1.1**
	21nm,1.3s						
KNRA	**Kununurra**	**18.11**	**180**	P	**P**	**21 21 20.5**	**+2.3**
	baz=18,SNR=4.5						
JAGI	**Jajag, Banyuwa**	**18.31**	**233**	*e*Pn	**Pn**	**21 21 21.2**	**+0.5**
	27nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.77**	**189**	*e*P	**P**	**21 21 45.5**	**-1.8**
	9.7nm,1.5s						
FITZ	**Fitzroy Crossi**	**20.77**	**189**	P	**P**	**21 21 47.0**	**-0.2**
	1.2nm,0.7s,baz=5.7,slow=10,SNR=3.1						
UGM	**Wanagama**	**21.05**	**240**	P	**P**	**21 21 51.9**	**+1.4**
	baz=21,SNR=3.3						
WRAB	**Tennant Creek**	**22.98**	**167**	*e*P	**P**	**21 22 09.6**	**-1.4**
	5.3nm,0.7s						
WRA	**Warramunga Arr**	**22.99**	**167**	P	**P**	**21 22 09.9**	**-1.1**
WRA	**Warramunga Arr**	**22.99**	**167**	P	**P**	**21 22 09.9**	**-1.1**
	2.6nm,0.6s,baz=341,slow=10,SNR=19						
QIS	**Mount Isa**	**25.26**	**156**	P	**P**	**21 22 33.0**	**+0.7**
	baz=25,SNR=6.8						
AS31	**Alice Springs**	**26.51**	**170**	*e*P	**P**	**21 22 42.2**	**-1.5**
ASAR	**Alice Springs**	**26.52**	**170**	P	**P**	**21 22 42.9**	**-0.8**
ASAR	**Alice Springs**	**26.52**	**170**	P	**P**	**21 22 42.9**	**-0.8**
	1.1nm,0.6s,baz=352,slow=8.3,SNR=17						
WRKA	**Warakurna**	**27.43**	**181**	P	**P**	**21 22 51.1**	**-0.8**
	baz=28,SNR=3.9						
CMAR	**Chiang Mai Arr**	**33.31**	**300**	P	**P**	**21 23 43.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**33.31**	**300**	P	**P**	**21 23 43.5**	**-0.5**
	0.7nm,0.7s,baz=124,slow=8.2,SNR=7.0						
BBOO	**Buckleboo**	**35.82**	**170**	P	**P**	**21 24 05.3**	**-0.2**
	baz=36,SNR=5.0						
STKA	**Stephens Creek**	**36.31**	**162**	*e*P	**P**	**21 24 09.6**	**0.0**
	0.4nm,0.6s						
STKA	**Stephens Creek**	**36.31**	**162**	P	**P**	**21 24 09.4**	**-0.2**
	2.5nm,0.7s,baz=358,slow=7.6,SNR=9.7						
STKA	**Stephens Creek**	**36.31**	**162**	P	**P**	**21 24 10.0**	**+0.3**
	baz=36,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**40.28**	**64**	T	T	22 07 58.6	
	baz=251,slow=73,SNR=73						
H11S2	**WAKE ISLAND Hy**	**40.29**	**64**	T	T	22 07 59.0	
	baz=251,slow=73,SNR=63						
H11S1	**WAKE ISLAND Hy**	**40.29**	**64**	T	T	22 07 51.2	
	baz=251,slow=73,SNR=28						
H11N1	**WAKE ISLAND Hy**	**40.86**	**62**	T	T	22 08 36.3	
	baz=253,slow=75,SNR=74						
H11N2	**WAKE ISLAND Hy**	**40.87**	**62**	T	T	22 08 37.2	
	baz=253,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**40.88**	**62**	T	T	22 08 37.7	
	baz=253,slow=75,SNR=64						
USRK	**Ussuriysk Arra**	**41.57**	**3**	P	**P**	**21 24 54.2**	**+0.7**
	2.3nm,0.8s,baz=188,slow=8.2,SNR=4.6						
LSA	**Lhasa**	**44.82**	**311**	*e*P	**P**	**21 25 21.4**	**+0.7**
	3.4nm,0.7s						
TAPN	**Taplejung**	**46.44**	**306**	*e*P	**P**	**21 25 32.9**	**-0.4**
	6.6nm,0.8s						
TAPN	**Taplejung**	**46.44**	**306**	*e*P	**P**	**21 25 32.9**	**-0.4**
	6.6nm,0.8s						
ODAN	**Odare**	**46.49**	**305**	*e*P	**P**	**21 25 33.5**	**-0.1**
	8.2nm,0.7s						
ODAN	**Odare**	**46.49**	**305**	*e*P	**P**	**21 25 33.5**	**-0.1**
	8.2nm,0.7s						
RAMN	**Ramite**	**47.17**	**305**	*e*P	**P**	**21 25 39.3**	**+0.3**
	6.9nm,0.6s						
RAMN	**Ramite**	**47.17**	**305**	*e*P	**P**	**21 25 39.3**	**+0.3**
	6.9nm,0.6s						
JIRN	**Jiri**	**47.79**	**306**	*e*P	**P**	**21 25 43.9**	**0.0**
	4.4nm,0.4s						
GUN	**Gumba**	**48.15**	**306**	*e*P	**P**	**21 25 46.6**	**0.0**
	14nm,0.8s						
GUN	**Gumba**	**48.15**	**306**	*e*P	**P**	**21 25 46.6**	**0.0**
	14nm,0.8s						
PKI	**Pulchoki**	**48.39**	**305**	*e*P	**P**	**21 25 47.8**	**-0.7**
PKI	**Pulchoki**	**48.39**	**305**	*e*P	**P**	**21 25 47.8**	**-0.7**
KKN	**Kakani**	**48.59**	**305**	*e*P	**P**	**21 25 49.4**	**-0.5**
	7.4nm,0.9s						
KKN	**Kakani**	**48.59**	**305**	*e*P	**P**	**21 25 49.4**	**-0.5**
	7.4nm,0.9s						
DMN	**Daman**	**48.66**	**305**	*e*P	**P**	**21 25 49.8**	**-0.7**
DMN	**Daman**	**48.66**	**305**	*e*P	**P**	**21 25 49.8**	**-0.7**
ULN	**Ulaanbaatar**	**48.91**	**341**	*e*P	**P**	**21 25 52.2**	**+0.2**
	401nm,1.8s						
SONM	**Songino Array**	**49.11**	**340**	P	**P**	**21 25 53.6**	**+0.2**
SONM	**Songino Array**	**49.11**	**340**	P	**P**	**21 25 53.6**	**+0.2**
	1.3nm,0.7s,baz=152,slow=8.8,SNR=15						
GKN	**Gorkha**	**49.19**	**305**	*e*P	**P**	**21 25 53.9**	**-0.5**
GKN	**Gorkha**	**49.19**	**305**	*e*P	**P**	**21 25 53.9**	**-0.5**
KOLN	**Koldanda**	**49.95**	**305**	*e*P	**P**	**21 26 00.3**	**0.0**
KOLN	**Koldanda**	**49.95**	**305**	*e*P	**P**	**21 26 00.3**	**0.0**
DANN	**Dangsing**	**50.04**	**305**	*e*P	**P**	**21 26 00.9**	**-0.2**
	15nm,0.6s						
DANN	**Dangsing**	**50.04**	**305**	*e*P	**P**	**21 26 00.9**	**-0.2**
	15nm,0.6s						
PYUN	**Piuthan**	**50.57**	**305**	*e*P	**P**	**21 26 05.1**	**+0.1**
	9.8nm,0.6s						
PYUN	**Piuthan**	**50.57**	**305**	*e*P	**P**	**21 26 05.1**	**+0.1**
	9.8nm,0.6s						
MK31	**Makanchi Array**	**59.74**	**325**	*e*P	**P**	**21 27 10.4**	**-0.2**
MKAR	**Makanchi Array**	**59.74**	**325**	*e*P	**P**	**21 27 10.6**	**-0.1**
MKAR	**Makanchi Array**	**59.74**	**325**	P	**P**	**21 27 10.4**	**-0.2**
	3.8nm,0.5s,baz=118,slow=8.4,SNR=75						
ZALV	**Zalesovo Beam**	**62.61**	**332**	P	**P**	**21 27 28.4**	**-1.4**
ZALV	**Zalesovo Beam**	**62.61**	**332**	P	**P**	**21 27 28.4**	**-1.4**
	0.7nm,0.4s,baz=123,slow=5.5,SNR=7.5						
EKS2	**Erkin-Say**	**63.16**	**317**	*e*P	**P**	**21 27 33.1**	**-0.9**
	2.1nm,0.7s						
KURK	**Kurchatov**	**63.88**	**327**	*e*P	**P**	**21 27 37.4**	**-0.9**
	4.4nm,0.7s						
BRVK	**Borovoye**	**69.54**	**327**	*e*P	**P**	**21 28 13.8**	**-0.6**
	4.5nm,0.8s						
ABKAR	**Akbulak array**	**74.41**	**321**	*e*P	**P**	**21 28 42.3**	**-1.4**
	1.6nm,0.6s						
ARU	**Arti**	**77.07**	**328**	*e*P	**P**	**21 28 57.0**	**-1.8**
	4.3nm,0.7s						
MAW	**Mawson**	**83.40**	**201**	P	**P**	**21 29 29.8**	**-2.7**
	baz=84,SNR=5.5						
ILAR	**Eielson Array**	**85.24**	**25**	P	**P**	**21 29 39.8**	**-2.3**
ILAR	**Eielson Array**	**85.24**	**25**	P	**P**	**21 29 39.8**	**-2.3**
	0.2nm,0.6s,baz=265,slow=5.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**125.32**	**288**	PKP	**PKPdf**	**21 36 06.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**125.32**	**288**	PKP	**PKPdf**	**21 36 06.6**	**-0.8**
	0.3nm,0.6s,baz=56,slow=1.9,SNR=3.3						

IDC 29 21:23:44.1±1.5, 5.83S×146.47E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML2.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/13, Error ellipse: s-maj=52.4km s-min=24.2km az=100.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.62**	**169**	Pn	Pn	21 24 42.1	+0.6
	2.0nm,0.3s,baz=0.6,slow=8.9,SNR=10						
PMG				Pg	Pb	21 24 50.3	+1.3
	11nm,0.3s,baz=5.2,slow=11,SNR=32						
PMG				Sn	Sb	21 25 32.8	-0.7
	7.4nm,0.3s,baz=202,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**18.32**	**219**	P	Pn	21 27 58.8	-1.2
	0.1nm,0.3s,baz=38,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**21.46**	**213**	P	P	21 28 34.1	-0.3
	0.2nm,0.5s,baz=56,slow=8.6,SNR=5.1						
MJAR	**Matsushiro Arr**	**42.85**	**350**	LR	LR	21 45 21.2	
	comp=Z,27nm,20.8s,baz=210,slow=30						
ILAR	**Eielson Array**	**85.53**	**23**	P	P	21 36 23.9	0.0
	0.4nm,0.6s,baz=258,slow=4.8,SNR=8.6						
TORD	**Torodi Ar. Bea**	**144.53**	**284**	PKP	PKPdf	21 43 23.9	+0.1
	0.5nm,0.7s,baz=74,slow=3.1,SNR=5.3						

IDC 29 21:36:53.1±2.0, 4.87S×152.74E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.2/4, Error ellipse: s-maj=86.6km s-min=27.2km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.35**	**229**	P	P	21 42 03.0	-0.4
	0.4nm,0.7s,baz=52,slow=9.7,SNR=2.8						
ASAR	**Alice Springs**	**26.06**	**222**	P	P	21 42 29.1	+0.7
	0.2nm,0.6s,baz=61,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**80.34**	**319**	P	P	21 49 06.6	+0.3
	0.1nm,0.6s,baz=111,slow=6.1,SNR=2.5						
ILAR	**Eielson Array**	**82.25**	**22**	P	P	21 49 16.1	0.0
	0.5nm,0.7s,baz=242,slow=5.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**150.27**	**288**	PKPbc	PKPbc	21 56 46.2	-1.2
	0.8nm,0.9s,baz=77,slow=4.3,SNR=3.7						

JMA ***29*** *21:45:41.8±0.1, 24.00N×122.24E, h34km±3km*
TAP ***29*** *21:45:42.0, 24.05N×122.18E, h14km, ML2.7, D*
ISC 29 21:45:42.0±1.2, 24.03N±0.03×122.23E±0.03, h25km±13km, n26, σ0.57/45, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.58**	**275**	*e*P	**Pn**	**21 45 53.9**	**-0.7**
	baz=273						
TWD				*e*S	**Sn**	**21 46 02.5**	**-0.8**
	baz=273						
ENA	**Nanau**	**0.60**	**312**	P	**Pb**	**21 45 53.5**	**-0.5**
	baz=328						
ENA				*e*S	**Sn**	**21 46 03.1**	**-0.7**
	baz=328						
TWC	**Suao**	**0.68**	**329**	P	**Pb**	**21 45 54.4**	**-0.8**
	baz=344						
TWC				*e*S	**Sb**	**21 46 03.8**	**-0.4**
	baz=344						
YOJ	**Yonaguni jima**	**0.83**	**59**	P	**Pb**	**21 45 57.2**	**-0.7**
YOJ				*e*S	**Sb**	**21 46 09.0**	**+0.3**
EGS		**0.86**	**342**	*e*P	**Pn**	**21 45 58.7**	**+0.3**
	baz=345						
EGS				*e*S	**Sn**	**21 46 09.9**	**-0.3**
	baz=345						
ENTT	**Nioudou**	**0.86**	**315**	P	**Pn**	**21 45 58.5**	**0.0**
	baz=328						
ENTT				*e*S	**Sn**	**21 46 09.9**	**-0.4**
	baz=328						
NNS	**Nan Shan**	**0.88**	**298**	P	**Pn**	**21 45 59.0**	**+0.1**
	baz=282						
NNS				S	**Sn**	**21 46 11.5**	**+0.5**
	baz=282						
WHF	**Hehuan Shan**	**0.89**	**278**	P	**Pb**	**21 45 58.9**	**-0.2**
	baz=276						
WHF				*e*S	**Sn**	**21 46 11.2**	**-0.4**
	baz=276						
EHY	**Hungye**	**0.98**	**238**	*e*P	**Pn**	**21 46 00.3**	**+0.2**
	baz=221						
EHY				*e*S	**Sn**	**21 46 13.5**	**+0.3**
	baz=221						
TWB1	**Santiao Chiao**	**1.00**	**347**	*e*P	**Pn**	**21 46 00.3**	**-0.2**
	baz=358						
NSK	**Sanguang**	**1.02**	**309**	*e*P	**Pb**	**21 46 01.9**	**+0.8**
	baz=310						
NSK				*e*S	**Sn**	**21 46 14.2**	**-0.2**
	baz=310						
TWF1	**Yuli**	**1.09**	**232**	*e*P	**Pn**	**21 46 00.8**	**-0.8**
	baz=211						
TWF1				*e*S	**Sn**	**21 46 16.4**	**+0.5**
	baz=211						
NWF	**Wu-fen Shan**	**1.12**	**339**	*e*P	**Pb**	**21 46 02.8**	**0.0**
	baz=348						
NWF				*e*S	**Sn**	**21 46 16.9**	**+0.2**
	baz=348						
SMLT	**Sun Moon Lake**	**1.22**	**264**	P	**Pb**	**21 46 04.2**	**-0.4**
	baz=260						
SMLT				*e*S	**Sb**	**21 46 20.3**	**+0.3**
	baz=260						
TYC	**Yuchr**	**1.26**	**265**	*e*P	**Pb**	**21 46 04.5**	**-0.6**
	baz=262						
NSTT	**Nanjuang**	**1.27**	**298**	*e*P	**Pb**	**21 46 04.8**	**-0.5**
	baz=298						
NSTT				*e*S	**Sb**	**21 46 22.7**	**+1.5**
	baz=298						
YUS	**Yu-Shan**	**1.29**	**246**	*e*P	**Pb**	**21 46 05.6**	**-0.2**
	baz=229						
ELDTW	**Lidau**	**1.39**	**233**	P	**Pn**	**21 46 05.8**	**-0.1**
	baz=213						
ELDTW				*e*S	**Sn**	**21 46 22.9**	**-0.6**
	baz=213						
ALS	**Alishan**	**1.40**	**249**	P	**Pb**	**21 46 07.2**	**-0.5**
	baz=245						
ALS				*e*S	**Sb**	**21 46 25.3**	**0.0**
	baz=245						
IRIF	**Iriomote-Funau**	**1.41**	**77**	P	**Pn**	**21 46 06.4**	**+0.4**
CHN5	**Tsauling**	**1.48**	**254**	P	**Pb**	**21 46 08.7**	**-0.2**
	baz=250						
CHN5				*e*S	**Sb**	**21 46 28.8**	**+1.3**
	baz=250						
STYT	**Tauyuan**	**1.60**	**238**	*e*P	**Pb**	**21 46 10.7**	**-0.3**
	baz=219						
CHN4	**Tsaushan**	**1.64**	**246**	*e*P	**Pb**	**21 46 11.7**	**0.0**
	baz=243						
CHN1	**Nanshi**	**1.77**	**242**	*e*P	**Pb**	**21 46 13.9**	**+0.1**
	baz=238						
CHN1				*e*S	**Sb**	**21 46 36.8**	**+1.1**
	baz=238						
JIJ	**Ishigaki jima**	**1.78**	**79**	P	**Pn**	**21 46 11.3**	**+0.1**
JIJ				*e*S	**Sn**	**21 46 33.2**	**+0.2**
LAY	**Lan-yu**	**2.08**	**198**	*e*P	**Pn**	**21 46 14.8**	**-0.5**
	baz=195						

WEL 29 21:49:45.7±0.5, 44.29S×167.01E, h5km, ML3.7/10, 1C, Error ellipse: s-maj=4.9km s-min=2.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.76**	**121**	⇑P*	Pb	21 50 01.2	-0.3
MSZ				S*	Sg	21 50 10.0	-0.2
MSZ				AML	AML	21 50 10.9	
MSZ				AML	AML	21 50 11.2	
MSZ				AML	AML	21 50 11.2	
DCZ	**Deep Cove**	**1.19**	**175**	P*	Pg	21 50 07.2	-1.4
DCZ				AML	AML	21 50 23.6	
DCZ				AML	AML	21 50 23.6	
DCZ				AML	AML	21 50 23.9	
DCZ				AML	AML	21 50 24.0	
JCZ	**Jackson Bay**	**1.28**	**81**	P*	Pn	21 50 09.7	-0.7
JCZ				AML	AML	21 50 29.2	
JCZ				AML	AML	21 50 29.5	
MLZ	**Mavora Lakes**	**1.34**	**142**	P*	Pn	21 50 10.9	-0.3
MLZ				S*	Sb	21 50 28.4	-0.7
MLZ				AML	AML	21 50 29.2	
WKZ	**Wanaka**	**1.53**	**111**	PN	Pb	21 50 14.9	+0.2
WKZ				AML	AML	21 50 35.3	
WKZ				AML	AML	21 50 35.3	
WKZ				AML	AML	21 50 36.0	
WKZ				AML	AML	21 50 36.1	
WHZ	**Wether Hill Ro**	**1.74**	**158**	PN	Pn	21 50 16.6	0.0
WHZ				AML	AML	21 50 38.1	
WHZ				SN	Sn	21 50 38.5	-0.7
EAZ	**Earnscleugh**	**1.89**	**121**	PN	Pb	21 50 19.9	-0.9
EAZ				AML	AML	21 50 46.6	
EAZ				AML	AML	21 50 46.6	
EAZ				AML	AML	21 50 48.0	
EAZ				AML	AML	21 50 48.0	
FOZ	**Fox Glacier**	**2.07**	**70**	PN	Pn	21 50 21.2	+0.2
FOZ				AML	AML	21 50 55.0	
FOZ				AML	AML	21 51 02.5	
LBZ	**Lake Benmore**	**2.28**	**94**	PN	Pb	21 50 25.7	-1.7
LBZ				AML	AML	21 50 58.8	
LBZ				AML	AML	21 51 00.1	
TUZ	**Tuapeka**	**2.50**	**133**	PN	Pb	21 50 30.5	-0.5
TUZ				AML	AML	21 51 01.6	
TUZ				AML	AML	21 51 02.3	
ODZ	**Otahua Downs**	**2.70**	**108**	PN	Pn	21 50 30.8	+1.0
SYZ	**Scrubby Hill**	**2.70**	**147**	PN	Pn	21 50 30.5	+0.7
WVZ	**Waitaha Valley**	**2.96**	**67**	PN	Pn	21 50 32.0	-1.4

IDC ***29*** *21:53:55.8±2.6, 0.64S×134.04E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/18, Error ellipse: s-maj=100.7km s-min=25.6km az=80.0*
DJA ***29*** *21:53:58.1±3.3, 0.0S±20.1×13.4E±4.4, h17km±28km, M3.9/3, MLv3.9/3*
ISCJB ***29*** *21:53:59.3±1.5, 0.6S±0.1×133.8E±0.1, h32km, mb3.3/2, Error ellipse: s-maj=22.9km s-min=10.4km az=36.7*
ISC 29 21:54:00.5±1.7, 0.6S±0.1×133.9E±0.2, h32km, n8, σ0.80/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWPI	**Manokwari, Pap**	**0.34**	**151**	P	**Pb**	**21 54 07.9**	**-0.8**
MWPI				S	**Sn**	**21 54 15.6**	**+0.5**
SWI	**Sorong**	**2.62**	**265**	P	**Pn**	**21 54 40.1**	**-0.6**
FAKI	**Fak Fak**	**2.79**	**216**	P	**Pn**	**21 54 43.7**	**+0.6**
JAY	**Jayapura**	**7.08**	**105**	LR	LR	21 57 37.1	

	comp=Z,58nm,19.8s,baz=281,slow=32						
FITZ	**Fitzroy Crossi**	**19.16**	**205**	P	**P**	**21 58 21.4**	**0.0**
	0.2nm,0.3s,baz=22,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**19.20**	**179**	P	**P**	**21 58 21.1**	**-0.8**
	0.1nm,0.3s,baz=359,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**22.90**	**180**	P	**P**	**21 59 01.7**	**-0.1**
	0.6nm,0.4s,baz=1.7,slow=12,SNR=10						
MKAR	**Makanchi Array**	**65.23**	**324**	P	**P**	**22 04 39.9**	**+0.9**
	0.1nm,0.4s,baz=115,slow=7.9,SNR=6.2						

WEL 29 21:54:53.9±0.7, 44.37S×167.00E, h12km, ML3.7/11, 2D, Error ellipse: s-maj=6.6km s-min=3.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.73**	**115**	P*	Pg	21 55 06.8	-1.1
MSZ				S*	Sg	21 55 16.0	-1.5
MSZ				AML	AML	21 55 16.9	
MSZ				AML	AML	21 55 17.0	
MSZ				AML	AML	21 55 17.0	
DCZ	**Deep Cove**	**1.11**	**175**	P*	Pb	21 55 13.5	-1.5
DCZ				S*	Sb	21 55 29.0	-0.5
DCZ				AML	AML	21 55 29.5	
DCZ				AML	AML	21 55 33.6	
MLZ	**Mavora Lakes**	**1.28**	**140**	⇓PN	Pn	21 55 16.8	-0.9
MLZ				S*	Sb	21 55 33.9	-0.6
MLZ				AML	AML	21 55 34.8	
JCZ	**Jackson Bay**	**1.29**	**77**	PN	Pn	21 55 16.9	-1.0
JCZ				AML	AML	21 55 35.2	
JCZ				AML	AML	21 55 35.5	
WKZ	**Wanaka**	**1.51**	**108**	⇓PN	Pn	21 55 20.8	0.0
WKZ				AML	AML	21 55 41.0	
WKZ				AML	AML	21 55 41.0	
WKZ				AML	AML	21 55 42.0	
WKZ				AML	AML	21 55 42.0	
WHZ	**Wether Hill Ro**	**1.67**	**157**	PN	Pn	21 55 22.4	-0.5
WHZ				AML	AML	21 55 49.8	
WHZ				AML	AML	21 55 55.9	
EAZ	**Earnscleugh**	**1.85**	**119**	PN	Pb	21 55 26.8	-0.9
EAZ				AML	AML	21 55 52.6	
EAZ				AML	AML	21 55 52.6	
EAZ				AML	AML	21 55 53.9	
FOZ	**Fox Glacier**	**2.10**	**68**	PN	Pg	21 55 33.4	-0.7
FOZ				AML	AML	21 56 08.2	
FOZ				AML	AML	21 56 08.3	
FOZ				AML	AML	21 56 08.6	
FOZ				AML	AML	21 56 08.6	
LBZ	**Lake Benmore**	**2.28**	**92**	PN	Pb	21 55 34.7	-0.3
LBZ				AML	AML	21 56 07.5	
LBZ				AML	AML	21 56 10.2	
TUZ	**Tuapeka**	**2.44**	**131**	PN	Pb	21 55 36.3	-1.5
TUZ				AML	AML	21 56 07.6	
TUZ				AML	AML	21 56 07.6	
SYZ	**Scrubby Hill**	**2.64**	**146**	PN	Pn	21 55 38.4	+2.2
RPZ	**Rata Peaks**	**2.99**	**79**	PN	Pn	21 55 38.7	-2.5
RPZ				AML	AML	21 56 28.8	
RPZ				AML	AML	21 56 29.8	
WVZ	**Waitaha Valley**	**3.00**	**66**	PN	Pb	21 55 47.2	0.0
DSZ	**Denniston Nort**	**4.39**	**55**	PN	Pn	21 55 59.2	-1.2

IDC ***29*** *21:59:17.7±7.6, 14.99S×167.27E, h110km±67km, mb3.4/4, mb1 3.5/5, mb1mx3.3/19, mbtmp3.4/5, Error ellipse: s-maj=56.3km s-min=39.4km az=172.0*
ISCJB ***29*** *21:59:18.9±2.5, 15.1S±0.1×167.1E±0.4, h129km, mb3.5/4, Error ellipse: s-maj=50.3km s-min=13.2km az=169.2*
ISC 29 21:59:19.1±2.0, 15.1S±0.1×167.4E±0.3, h129km, n7, σ0.69/7, mb3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.03**	**187**	P	**Pn**	**22 00 58.7**	**-0.8**
	2.5nm,0.3s,baz=27,slow=14,SNR=18						
DZM				S	**Sn**	**22 02 18.9**	**+0.8**
	3.2nm,0.3s,baz=108,slow=20,SNR=9.2						
STKA	**Stephens Creek**	**28.84**	**230**	P	**P**	**22 05 05.6**	**+0.2**
	1.6nm,0.6s,baz=63,slow=10,SNR=6.1						
WRA	**Warramunga Arr**	**31.82**	**256**	P	**P**	**22 05 31.3**	**-0.5**
	0.3nm,0.8s,baz=85,slow=9.1,SNR=2.1						
ASAR	**Alice Springs**	**32.63**	**250**	P	**P**	**22 05 39.2**	**+0.3**
	0.5nm,0.5s,baz=81,slow=9.2,SNR=10						
MKAR	**Makanchi Array**	**97.49**	**316**	P	Pdif	22 12 39.4	+0.9
	0.1nm,0.5s,baz=92,slow=5.7,SNR=4.3						
ARCES	**ARCESS Array B**	**120.59**	**345**	PKP	**PKPdf**	**22 17 55.1**	**+0.1**
	3.5nm,0.9s,baz=64,slow=2.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**165.95**	**264**	PKP	**PKPdf**	**22 19 10.1**	**+0.4**
	0.3nm,0.7s,baz=80,slow=1.6,SNR=3.7						

AUST ***29*** *22:14:24.8±17.0, 10.17N×126.65E, h0km, Error ellipse: s-maj=2.3km s-min=1.1km az=40.0*
MAN ***29*** *22:14:28, 10.12N×126.72E, h84km, mb5.7, ML4.7, MS5.1*
MAN Intensity II - Surigao City.
MOS ***29*** *22:14:28.7±1.1, 10.05N×126.42E, h33km, mb5.3/73, Error ellipse: s-maj=9.4km s-min=4.4km az=118.2*
ISCJB ***29*** *22:14:31.0±0.4, 10.08N±0.02×126.50E±0.03, h54km±3km, mb5.1/175, MS4.6/45, Error ellipse: s-maj=4.6km s-min=2.9km az=159.8*
IDC ***29*** *22:14:31.5±0.5, 10.06N×126.47E, h41km±4km, mb4.7/38, mb1 4.8/39, mb1mx4.8/41, mbtmp4.7/39, ML5.3/1, MS4.4/23, Ms1 4.4/23, ms1mx4.3/47, Error ellipse: s-maj=12.5km s-min=7.6km az=74.0*
BJI ***29*** *22:14:31.9, 9.82N×126.46E, h76km, mB5.1/52, mb4.8/59, Ms5.0/63, Ms7 4.7/57*
GCMT ***29*** *22:14:32.5±0.3, 10.08N×126.79E, h22km±1km, MW5.0, Moment Tensor Solution. s25,c28; s57,c85; Moment tensor: Scale 10¹⁶Nm; Mrr2.45±.23; Mθθ-0.11±.11; Mϕϕ-2.34±.15; Mrθ0.32±.16; Mrϕ-0.57±.07; Mθϕ3.08±.29; Best double couple: M₀4.00000×10¹⁶ NP1:φs8.00000°, δ71.00000°, λ86.00000°. NP2:φs199.00000°, δ20.00000°, λ101.00000°. Principal axes: T 3.9600, Plg64.0000°, Azm271.0000°; N 0.0000, Plg4.0000°, Azm9.0000°; P -3.9600, Plg26.0000°, Azm101.0000°; Data Used: ll IU IC G C

GUIM Jordan 3.94 278 *e*P P 22 15 30.1 -0.4
GUIM *e*S Sn 22 16 23.0 +7.5
RCP Roxas 4.03 292 ⇑*i*P **P** 22 15 31.5 -0.1
PVCP Virac 4.22 326 ⇑*e*P **P** 22 15 32.0 -2.2
PVCP *i* S Sn 22 16 35.6 +13
PVCP Virac 4.22 326 *e*P **P** 22 15 32.1 -2.1
PVCP *e*S Sn 22 16 48.0 +26
OTRP Odiongan 5.00 297 *e*P **P** 22 15 44.1 -0.8
SJMP San Jose 5.84 294 *e*P **P** 22 15 56.8 +0.3
SGSI Sangihe 6.43 189 P Pn 22 16 15.0 +10
POLP Polilio Island 6.46 316 *e*P Pn 22 16 11.6 +6.6
BUSP Coron 6.53 288 *e*P **P** 22 16 06.4 +0.4
TGY Tagaytay City 6.80 307 P **P** 22 16 09.8 +0.1
TGY Tagaytay City 6.80 307 P **P** 22 16 09.8 +0.1
54nm,0.3s,baz=143,slow=3.0,SNR=6.1
ENPP El Nido 7.10 280 *e*P **P** 22 16 13.4 -0.4
LUBP Lubang 7.17 301 *e*P **P** 22 16 16.4 +1.7
BALP Baler 7.44 320 *e*P Pn 22 16 25.8 +7.4
PCPH Palayan 7.63 316 ⇑*e*P **P** 22 16 20.4 -0.5
PALP Palanan 8.03 330 *e*P Pn 22 16 34.2 +7.8
CAUP Cauayan 8.24 327 *e*P **P** 22 16 26.4 -2.9
PALU Palau 8.28 108 P Pn 22 16 21.4 -8.5
baz=8.2,SNR=7.2
TNTI Ternate 9.27 175 P **P** 22 16 43.1 -0.5
546nm,1.2s,5μm
TNTI Ternate 9.27 175 *e*Pn **P** 22 16 42.7 -0.9
MYLDM Lahad Datu 9.35 239 P Pn 22 16 50.0 +5.5
MYLDM Lahad Datu 9.35 239 P Pn 22 16 53.7 +9.1
MYLDM Lahad Datu 9.35 239 *e*Pn Pn 22 16 52.4 +7.8
ABRA Dolores 9.43 324 *e*P **P** 22 16 42.6 -3.1
SZP Santa 9.51 322 *e*Pn Pn 22 16 52.0 +5.2
SZP *e*S Sn 22 18 49.9 +18
KMSI Cibinong 9.78 195 P Pn 22 16 56.9 +6.5
GTOI Gorontalo 10.02 201 P **P** 22 16 53.1 -0.6
303nm,0.9s,2μm
SDKM Sandakan 10.27 245 P Pn 22 17 02.8 +5.6
TSM Tawau 10.35 237 P Pn 22 17 05.0 +6.6
MRSI Marisa 10.58 206 P **P** 22 17 03.6 +2.2
127nm,1.1s,1μm
LBMI Labuha 10.68 175 P **P** 22 17 02.4 -0.4
192nm,0.9s,3μm
LUWI Luwuk 11.67 199 P Pn 22 17 23.3 +7.0
314nm,1.1s,5μm
LUWI Luwuk 11.67 199 P Pn 22 17 24.8 +8.5
baz=12,SNR=6.2
SWI Sorong 11.83 156 P **P** 22 17 16.7 -1.8
91nm,1.0s,1μm
APSI Ampana 11.96 204 P Pn 22 17 27.6 +7.4
180nm,1.1s,2μm
MWPI Manokwari, Pap 13.22 145 P **P** 22 17 37.8 +0.2
313nm,1.0s,5μm
NLAI Namlea 13.23 178 P Pn 22 17 33.1 -4.6
MSAI Masohi 13.54 170 P **P** 22 17 41.7 -0.2
49nm,1.1s,488nm
TWG Pinlang 13.72 338 *e*Pn P 22 17 48.0 -3.5
244nm,1.3s
FAKI Fak Fak 14.10 156 P **P** 22 17 49.7 +0.3
208nm,1.6s,3μm
FAKI Fak Fak 14.10 156 P **P** 22 17 50.7 +1.3
baz=14,SNR=14
FAKI Fak Fak 14.10 156 P **P** 22 17 49.6 +0.2
baz=4.6,SNR=13
YULB Yu-li 14.17 340 *e*Pn **P** 22 17 50.8 +0.5
17nm,1.0s
TPUB Ta-pu 14.32 337 *e*Pn **P** 22 17 55.9 -2.3
SSLB Suanglung 14.65 339 *e*Pn **P** 22 17 58.1 +1.4
TTSI Tana Toraja 14.66 208 P **P** 22 18 01.4 -0.5
201nm,1.6s,3μm
BAKI Biak 14.68 139 P **P** 22 17 58.6 +1.5
138nm,1.1s,3μm
MMSI Mamuju 14.79 211 P P 22 18 11.8 +8.4
NACB Ninganchiao 14.80 342 *e*Pn **P** 22 18 00.1 +1.4
BKB Balikpapan 14.81 221 P **P** 22 18 04.3 +0.7
224nm,1.3s,3μm
BTM Bintulu 15.02 244 P **P** 22 18 05.4 -0.6
YHNB Yeheng 15.33 342 *e*Pn **P** 22 18 04.7 -0.9
150nm,1.3s
MJSI Majene 15.50 210 P P 22 18 21.8 +11
SPSI Sidrap Palu 15.50 206 P **P** 22 18 11.1 -0.2
100nm,1.0s,2μm
BNSI Bone 15.75 204 P **P** 22 18 14.0 0.0
169nm,1.5s,4μm
MTKI Muara Teweh, K 15.95 227 P P 22 18 24.8 +8.5
83nm,1.5s,3μm
SBUM Sibu 16.13 243 P **P** 22 18 18.4 +0.1
SBUM Sibu 16.13 243 *e*Pn **P** 22 18 18.6 +0.2
107nm,0.8s
KAPI Kappang 16.45 205 *e*Pn **P** 22 18 22.2 +0.3
340nm,1.1s
BKSI Bulukumba 16.58 203 P **P** 22 18 26.6 +3.3
QZH Quanzhou 16.62 334 ⇑*i*P Pn 22 18 15.0 -6.9
QZH S **Sn** 22 21 24.5 -1.0
QZH LR LR
comp=N,2μm,11.6s
QZH LR LR
comp=E,2μm,12.2s
QZH LR LR
comp=Z,3μm,16.5s
JOW Kunigami 16.75 5 *e*Pn **P** 22 18 24.5 -0.6
comp=Z,44nm,1.1s
HKC Hong Kong Obse 16.99 317 P **P** 22 18 32.0 +4.2
DLV T Lat 17.84 278 *e*Pn **P** 22 18 37.9 +0.5
comp=Z,153nm,1.4s
KSM Kuching 18.27 243 P **Pn** 22 18 43.5 +1.2
KSM Kuching 18.27 243 *e*Pn **Pn** 22 18 42.4 0.0
comp=Z,64nm,0.8s
KSM Kuching 18.27 243 P **Pn** 22 18 43.4 +1.0
baz=18,SNR=4.0
QIZ Qiongzhong 18.45 301 P **P** 22 18 44.0 0.0
QIZ pP **pP** 22 18 58.8 +3.1
QIZ sP sP 22 19 07.5 +5.3
QIZ S **Sn** 22 22 09.5 -0.6
QIZ pmax pmax
comp=Z,1μm,11.2s
QIZ LR LR
comp=Z,2μm,19.8s
JAY Jayapura 18.84 131 LR LR 22 25 31.9
comp=Z,3μm,18.0s,baz=297,slow=35
JAY Jayapura 18.84 131 P **Pn** 22 18 48.9 -0.3
baz=19,SNR=35
JAY Jayapura 18.84 131 P **P** 22 18 48.2 0.0
baz=8.6,SNR=14
MMRI Maumere 19.08 193 *e*Pn **Pn** 22 18 54.9 +2.9
comp=Z,226nm,0.7s
SOEI Soe 19.83 187 P **Pn** 22 19 02.2 +1.1
baz=20,SNR=6.3
SOEI Soe 19.83 187 P **Pn** 22 19 01.2 +0.2
baz=9.5,SNR=7.9
UBPT Khong Chiam 21.21 286 P **P** 22 19 13.2 -0.8
comp=Z,69nm,2.2s
SSE Sheshan 21.51 347 ⇑P **P** 22 19 17.8 +0.8
SSE S **S** 22 23 14.3 +1.6
SSE pmax pmax
comp=Z,63nm,0.7s
SSE pmax pmax
comp=Z,160nm,3.5s
SSE LR LR
comp=Z,830nm,17.0s
SSE LR LR
comp=Z,770nm,16.9s
SSE LR LR
comp=Z,930nm,19.1s
JAGI Jajag, Banyuwa 22.18 214 *e*P **P** 22 19 24.1 -0.2
CBIJ Chichi jima 22.45 39 *e*P **P** 22 19 25.6 -1.6
comp=Z,734nm,2.3s
JCJ Chichijima 22.45 39 P **P** 22 19 25.9 -1.3
comp=Z,122nm,1.0s,baz=236,slow=11,SNR=3.4
JCJ LR LR 22 27 22.4
comp=Z,763nm,20.9s,baz=140,slow=34
NJ2 Nanjing 23.01 343 *e*P **P** 22 19 32.8 -0.1
NJ2 pP **pP** 22 19 45.5 +0.5
NJ2 sP sP 22 19 57.0 +5.5
NJ2 S **S** 22 23 42.0 +2.4
NJ2 pmax pmax
comp=Z,40nm,0.9s
NJ2 pmax pmax
comp=Z,460nm,10.2s
NJ2 LR LR
comp=Z,3μm,22.1s
NJ2 LR LR
comp=Z,440nm,13.4s
NJ2 LR LR
comp=Z,840nm,15.1s
MTN Manton Dam 23.21 169 P P 22 19 40.6 +5.5
baz=23,SNR=6.2

JNU Nakatsue 23.28 9 *e*P **P** 22 19 35.7 +0.1
comp=Z,32nm,1.0s
JNU Nakatsue 23.28 9 P **P** 22 19 35.2 -0.4
comp=Z,65nm,0.9s,baz=175,slow=4.8,SNR=13
WHN Wuhan 23.33 333 P **P** 22 19 35.3 -0.8
WHN sP sP 22 20 01.5 +6.6
WHN LR LR
comp=Z,2μm,12.8s
WHN LR LR
comp=Z,3μm,14.0s
WHN LR LR
comp=Z,3μm,13.3s
SMRI Semarang 23.39 224 *e*P **P** 22 19 37.9 +1.0
comp=Z,198nm,1.1s
KTGM Kuala Trenggan 23.68 260 P **P** 22 19 39.7 +0.1
CHBT CHBT 23.90 279 P **P** 22 19 39.9 -1.6
comp=Z,66nm,1.2s,comp=Z,1μm
MYKOM Kota Tinggi 24.02 251 P **P** 22 19 43.7 +0.9
MYKOM Kota Tinggi 24.02 251 *e*P **P** 22 19 43.1 +0.4
comp=Z,128nm,0.8s
BTDF Bukit Timah Da 24.25 251 P **P** 22 19 45.8 +1.0
baz=24,SNR=5.5
BTDF P **P** 22 19 45.8 +1.0
baz=24,SNR=5.5
KGM Kluang 24.44 252 P **P** 22 19 47.8 +1.2
SLVN Son La 24.48 300 *e*P **P** 22 19 46.7 -0.2
comp=Z,28nm,1.4s
CHAI Chaiyaphum 24.62 286 P **P** 22 19 46.8 -1.4
comp=Z,28nm,0.8s,comp=Z,208nm
GYA Guiyang 24.89 314 ⇓*i*P **P** 22 19 49.0 -1.7
GYA pP pP 22 20 08.5 +4.7
GYA sP sP 22 20 18.5 +8.5
GYA PP **PnPn** 22 20 31.3 +5.7
GYA PcP **PcP** 22 23 27.0 +1.4
GYA S **S** 22 24 07.8 -2.7
GYA sS sS 22 24 37.5 +4.8
GYA SS **SnSn** 22 25 09.0 +6.7
GYA ScP **ScP** 22 26 57.5 -2.9
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=Z,680nm,15.8s
GYA LR LR
comp=Z,550nm,16.3s
GYA LR LR
comp=Z,690nm,15.9s
CISI Cisompet, Garu 25.59 228 *e*P **P** 22 19 55.8 -1.3
comp=Z,77nm,0.9s
ENH Enshi 25.64 324 *e*P **P** 22 19 56.0 -1.3
comp=Z,19nm,0.8s
FRIM Kepong 25.66 256 P **P** 22 19 58.3 +0.6
KNRA Kununurra 25.68 175 P **P** 22 19 57.1 -0.6
baz=26,SNR=41
PBKT Sadao Pong 25.71 287 P **P** 22 19 57.1 -0.9
comp=Z,82nm,1.5s,comp=Z,1μm
IPM Ipoh 25.92 259 P **P** 22 20 00.6 +0.6
IPM Ipoh 25.92 259 *e*P **P** 22 19 59.0 -1.0
comp=Z,30nm,0.7s
KULM Kulim 26.10 261 P **P** 22 20 00.6 -1.1
KULM Kulim 26.10 261 *e*P **P** 22 20 01.1 -0.6
comp=Z,74nm,1.4s
PHIT Phitsanulok 26.35 288 P **P** 22 20 07.0 +3.1
comp=Z,43nm,0.9s
KMI Kunming 27.12 307 P **P** 22 20 08.8 -2.2
KMI pP pP 22 20 30.5 +6.3
KMI sP sP 22 20 42.5 +12
KMI S **S** 22 24 44.5 -1.6
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI pmax pmax
comp=Z,180nm,7.7s
KMI LR LR
comp=Z,330nm,11.1s
KMI LR LR
comp=Z,1μm,16.1s
KMI LR LR
comp=Z,1μm,15.0s
SRDT SRDT 27.14 282 P **P** 22 20 10.4 -0.6
comp=Z,130nm,1.0s,comp=Z,3μm
KSAR Wonju Array Be 27.28 2 P **P** 22 20 11.8 -0.2
KSRS Korea Array 27.29 2 P **P** 22 20 11.8 -0.3
comp=Z,26nm,1.0s,baz=178,slow=10,SNR=26
KSRS LR LR 22 30 24.3
comp=Z,886nm,20.0s,baz=149,slow=35
LAMP Lampang 27.38 291 P **P** 22 20 12.6 -0.5
comp=Z,10nm,1.0s,comp=Z,81nm
TIA Tai'an 27.40 343 P **P** 22 20 13.0 0.0
TIA S **S** 22 24 49.0 -0.7
TIA pmax pmax
comp=Z,30nm,0.7s
TIA pmax pmax
comp=Z,290nm,4.2s
TIA LR LR
comp=Z,670nm,15.5s
TIA LR LR
comp=Z,2μm,10.7s
TIA LR LR
comp=Z,780nm,17.8s
SURT Suratani 27.40 270 P **P** 22 20 13.5 +0.2
comp=Z,10nm,1.6s,comp=Z,280nm
KHLT Khholaem Dam 27.70 283 P **P** 22 20 15.9 -0.1
comp=Z,18nm,1.3s,comp=Z,326nm
CM31 Chiang Mai Arr 28.00 290 *e*P **P** 22 20 17.7 -1.0
comp=Z,5.6nm,0.4s
CMAR Chiang Mai Arr 28.00 290 P **P** 22 20 17.6 -1.1
CMAR pP **pP** 22 20 29.7 -2.2
CMAR Chiang Mai Arr 28.00 290 P **P** 22 20 17.6 -1.1
comp=Z,6.7nm,0.8s,baz=104,slow=7.1,SNR=62
CMAR pP **pP** 22 20 29.7 -2.2
comp=Z,22nm,1.0s,baz=90,slow=6.2,SNR=15
FITZ Fitzroy Crossi 28.01 182 P **P** 22 20 17.8 -0.8
FITZ Fitzroy Crossi 28.01 182 P **P** 22 20 17.8 -0.8
comp=Z,18nm,0.6s,baz=176,slow=2.6
PMG Port Moresby 28.19 133 *e*P **P** 22 20 19.3 -1.0
comp=Z,42nm,0.9s
PMG Port Moresby 28.19 133 P **P** 22 20 19.4 -1.0
comp=Z,40nm,0.9s,baz=319,slow=6.2,SNR=16
CMAI Chiengmai2 28.28 293 P **P** 22 20 20.3 -1.1
comp=Z,209nm,0.8s,comp=Z,19μm
PSI Prapat 28.38 257 P **P** 22 20 21.6 -0.6
PSI Prapat 28.38 257 P **P** 22 20 21.6 -0.6
comp=Z,18nm,0.9s,baz=43,slow=4.0,SNR=9.7
PSI Prapat 28.38 257 P **P** 22 20 21.8 -0.4
baz=28,SNR=9.0
MAT Matsushiro 28.39 20 P **P** 22 20 20.6 -1.3
MAT S **S** 22 25 03.6 -1.7
MJAR Matsushiro Arr 28.39 20 P **P** 22 20 20.5 -1.4
MJAR Matsushiro Arr 28.39 20 P **P** 22 20 20.5 -1.4
comp=Z,2.7nm,0.8s,baz=190,slow=9.7,SNR=11
XAN Xi'an 28.82 329 P **P** 22 20 24.5 -1.3
XAN S **S** 22 25 10.5 -1.8
XAN pmax pmax
comp=Z,17nm,0.8s
XAN pmax pmax
comp=Z,41nm,5.7s
XAN LR LR
comp=Z,760nm,15.5s
XAN LR LR
comp=Z,120nm,16.2s
XAN LR LR
comp=Z,300nm,20.1s
MHMT Maesarieng 28.88 289 P **P** 22 20 25.7 -0.7
comp=Z,23nm,1.0s,comp=Z,226nm
COEN Coen 29.01 145 *e*P **P** 22 20 27.0 -0.6
comp=Z,270nm,0.8s
COEN Coen 29.01 145 P **P** 22 20 27.8 +0.1
baz=29,SNR=8.6
CD2 Chengdu 29.65 318 P **P** 22 20 31.5 -1.7
CD2 pP pP 22 20 51.8 +5.3
CD2 sP sP 22 21 01.3 +8.6
CD2 PP **PnPn** 22 21 31.0 +0.9
CD2 PcP **PcP** 22 22 34.3 -2.5
CD2 sS sS 22 25 54.0 +6.2
CD2 SS **SnSn** 22 27 00.0 +1.8
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,240nm,9.6s
CD2 LR LR
comp=Z,2μm,15.6s
CD2 LR LR
comp=Z,1μm,15.5s
CD2 LR LR
comp=Z,2μm,19.0s

GSI Gunungsitoli 30.10 255 *e*P **P** 22 20 36.2 -1.1
WRAB Tennant Creek 30.79 166 P **P** 22 20 41.5 -1.8
comp=Z,99nm,0.7s,SNR=9.6
WRAB Tennant Creek 30.79 166 *e*P **P** 22 20 42.1 -1.2
WRAB pmax pmax
comp=Z,39nm,1.0s
WRAB Tennant Creek 30.79 166 *e*P **P** 22 20 41.0 -2.3
comp=Z,9.5nm,0.7s
WRA Warramunga Arr 30.79 166 P **P** 22 20 41.9 -1.5
WRA pP **pP** 22 20 55.3 -1.4
WRA PcP **PcP** 22 23 41.5 +1.6
WRA S **S** 22 25 38.9 -4.4
WRA ScP **ScP** 22 27 19.5 +1.1
WRA Warramunga Arr 30.79 166 P **P** 22 20 41.9 -1.5
comp=Z,7.7nm,0.6s,baz=343,slow=9.7,SNR=54
WRA pP **pP** 22 20 55.3 -1.4
comp=Z,11nm,0.7s,baz=345,slow=10.0,SNR=7.0
WRA PcP **PcP** 22 23 41.5 +1.6
comp=Z,4.1nm,0.8s,baz=328,slow=3.0,SNR=4.9
WRA S **S** 22 25 38.9 -4.4
comp=Z,2.2nm,0.9s,baz=348,slow=16,SNR=3.6
WRA ScP **ScP** 22 27 19.5 +1.1
comp=Z,4.3nm,1.0s,baz=341,slow=3.6,SNR=5.2
BJI Beijing 31.24 345 P **P** 22 20 49.0 +1.9
BJI S **S** 22 25 51.5 +1.6
BJI pmax pmax
comp=Z,11nm,1.6s
BJI pmax pmax
comp=Z,110nm,3.6s
BJI LR LR
comp=Z,720nm,16.8s
BJI LR LR
comp=Z,720nm,14.7s
BJI LR LR
comp=Z,320nm,20.5s
SNY Shenyang 31.74 356 ⇑P P 22 20 58.0 +6.6
SNY pP pP 22 21 16.5 +12
SNY S S 22 26 06.3 +8.7
SNY pmax pmax
comp=Z,17nm,2.5s
SNY pmax pmax
comp=Z,220nm,3.5s
SNY LR LR
comp=Z,720nm,17.4s
SNY LR LR
comp=Z,690nm,17.9s
SNY LR LR
comp=Z,920nm,17.9s
QIS Mount Isa 33.03 157 P **P** 22 21 03.7 +0.6
baz=33,SNR=19
LZH Lanzhou 33.10 325 *e*P **P** 22 21 04.0 +0.3
LZH pP pP 22 21 23.3 +6.2
LZH sP sP 22 21 30.0 +6.8
LZH PP **PnPn** 22 22 16.3 +1.5
LZH *e*S **S** 22 26 22.0 +2.6
LZH sS sS 22 26 51.5 +10
LZH PcS **PcS** 22 27 31.0 -0.8
LZH SS **SnSn** 22 28 26.3 +4.1
LZH pmax pmax
comp=Z,62nm,1.0s
LZH pmax pmax
comp=Z,200nm,5.2s
LZH LR LR
comp=Z,910nm,14.1s
LZH LR LR
comp=Z,1μm,12.6s
LZH LR LR
comp=Z,2μm,14.6s
HHC Hu-ho-hao-te 33.40 339 *e*P **P** 22 21 06.0 -0.2
HHC pP pP 22 21 29.5 +10
HHC S **S** 22 26 25.3 +1.5
HHC sS sS 22 27 00.0 +14
HHC pmax pmax
comp=Z,61nm,1.0s
HHC pmax pmax
comp=Z,280nm,5.0s
HHC LR LR
comp=Z,930nm,12.9s
HHC LR LR
comp=Z,2μm,12.7s
HHC LR LR
comp=Z,710nm,12.9s
CN2 Changchun 33.62 359 *e*P **P** 22 21 10.0 +2.1
CN2 *e*sP sP 22 21 40.0 +13
CN2 *e*S **S** 22 26 25.0 -1.8
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
AS31 Alice Springs 34.29 168 *e*P **P** 22 21 13.0 -1.0
ASAR Alice Springs 34.29 168 P **P** 22 21 12.8 -1.1
ASAR PcP **PcP** 22 23 50.6 +1.1
ASAR ScP **ScP** 22 27 32.5 +2.1
ASAR Alice Springs 34.29 168 P **P** 22 21 12.8 -1.1
comp=Z,5.9nm,0.5s,baz=355,slow=6.8,SNR=114
ASAR PcP **PcP** 22 23 50.6 +1.1
comp=Z,4.0nm,0.7s,baz=348,slow=2.7,SNR=9.8
ASAR ScP **ScP** 22 27 32.5 +2.1
comp=Z,5.2nm,1.0s,baz=354,slow=3.5,SNR=8.5
USRK Ussuriysk Arra 34.33 7 P **P** 22 21 14.6 +0.6
comp=Z,20nm,0.9s,baz=192,slow=7.3,SNR=19
USRK PcP **PcP** 22 23 50.0 +0.9
comp=Z,1.8nm,0.8s,baz=204,slow=1.5,SNR=4.6
MDJ Mudanjiang 34.52 4 P **P** 22 21 17.0 +1.3
MDJ pP pP 22 21 34.0 +4.9
MDJ sP sP 22 21 42.5 +7.3
MDJ PP **PP** 22 22 35.8 +1.1
MDJ PcP **PcP** 22 23 50.0 +0.3
MDJ S **S** 22 26 43.0 +2.3
MDJ ScP **ScP** 22 27 28.8 -2.0
MDJ PcS **PcS** 22 27 36.5 +0.4
MDJ ScS **ScS** 22 31 29.3 -4.2
MDJ pmax pmax
comp=Z,26nm,1.2s
MDJ LR LR
comp=Z,400nm,18.9s
MDJ LR LR
comp=Z,420nm,14.1s
MDJ LR LR
comp=Z,490nm,17.9s
MDJ Mudanjiang 34.52 4 *e*P **P** 22 21 16.6 +1.0
comp=Z,40nm,1.2s
WRKA Warakurna 34.94 177 P **P** 22 21 19.3 -0.3
baz=35,SNR=55
CTA Charters Tower 35.70 147 P **P** 22 21 26.6 +0.5
CTA PcP **PcP** 22 23 56.7 +3.1
CTA Charters Tower 35.70 147 P **P** 22 21 26.6 +0.5
comp=Z,34nm,0.8s,baz=322,slow=12,SNR=27
CTA PcP **PcP** 22 23 56.7 +3.1
comp=Z,8.9nm,0.7s,baz=358,slow=5.4,SNR=3.1
CTAO Charters Tower 35.70 147 *e*P **P** 22 21 26.2 +0.1
CTAO pmax pmax
comp=Z,52nm,1.0s
CTAO Charters Tower 35.70 147 *e*P **P** 22 21 26.2 +0.1
comp=Z,52nm,1.0s
ASAJ Asahikawa 36.66 19 P **P** 22 21 34.7 +0.7
ASAJ Asahikawa 36.66 19 P **P** 22 21 34.7 +0.7
comp=Z,12nm,0.8s,baz=278,slow=14,SNR=2.6
ASAJ LR LR 22 37 35.5
comp=Z,888nm,18.2s,baz=160,slow=38
MEEK Meekatharra 37.30 192 P **P** 22 21 39.4 -0.2
baz=38,SNR=41
GTA Gaotai 37.70 325 ⇑P **P** 22 21 43.0 -0.2
GTA pP **pP** 22 22 01.3 +4.6
GTA sP sP 22 22 10.0 +7.2
GTA S **S** 22 27 30.5 +0.6
GTA sS sS 22 28 00.0 +7.3
GTA SS **SnSn** 22 30 11.3 -2.2
GTA pmax pmax
comp=Z,32nm,1.1s
GTA pmax pmax
comp=Z,130nm,5.9s
GTA LR LR
comp=Z,970nm,17.6s
GTA LR LR
comp=Z,1μm,15.0s
GTA LR LR
comp=Z,2μm,17.8s
LSA Lhasa 38.37 306 *e*P **P** 22 21 48.2 -1.1
LSA pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 38.37 306 *e*P **P** 22 21 48.1 -1.1
comp=Z,25nm,1.1s
HNR Honiara 38.46 119 LR LR 22 35 54.6
comp=Z,357nm,20.7s,baz=95,slow=33

HABR Khabarovsk 38.94 9 *e*P **P** **22 21 52.0 -1.2**
HABR *e**PP **pP** **22 22 07.2 +0.5**
HABR *e* 22 23 22.9
HABR 22 24 01.0
HABR *e*S **S** **22 27 47.7 -0.2**
HABR 22 31 54.9
HABR pmax pmax
comp=Z,22nm,1.4s
HABR MLR MLR
comp=Z,304nm,16.0s
YSS Yuzh-Sakhalins 39.25 18 *e*P **P** **22 21 57.3 +1.5**
KLR Kul'dur 39.27 5 *e*P **P** **22 21 54.2 -1.8**
KLR *e* 22 28 04.5
KLR *e* 22 31 10.5
HIA Hailar 39.48 353 *e*P **P** **22 21 56.2 -1.6**
comp=Z,12nm,0.9s
MORW Morawa 40.21 194 P **P** **22 22 04.3 +0.3**
baz=41,SNR=11
QLP Quilpie 40.28 155 P **P** **22 22 04.5 -0.1**
baz=40,SNR=8.0
TAPN Taplejung 40.40 301 *e*P **P** **22 22 04.4 -1.6**
comp=Z,69nm,1.0s
TAPN Taplejung 40.40 301 *e*P **P** **22 22 04.4 -1.6**
comp=Z,69nm,1.0s
ODAN Odare 40.52 300 *e*P **P** **22 22 05.3 -1.7**
comp=Z,102nm,0.9s
ODAN Odare 40.52 300 *e*P **P** **22 22 05.3 -1.7**
comp=Z,102nm,0.9s
FORT Forrest 40.64 178 *e*P **P** **22 22 07.7 +0.2**
comp=Z,184nm,0.7s
FORT Forrest 40.64 178 P **P** **22 22 08.0 +0.5**
baz=41,SNR=21
ULN Ulaanbaatar 41.10 340 *e*P **P** **22 22 12.0 +0.6**
comp=Z,43nm,0.8s
RAMN Ramite 41.23 300 *e*P **P** **22 22 11.3 -1.5**
comp=Z,74nm,1.1s
RAMN Ramite 41.23 300 *e*P **P** **22 22 11.3 -1.5**
comp=Z,74nm,1.1s
SONM Songino Array 41.30 339 P **P** **22 22 13.3 +0.3**
SONM pP **pP** **22 22 25.7 -1.0**
SONM PcP **PcP** **22 24 12.4 +1.6**
SONM ScP **ScP** **22 28 00.7 +4.1**
SONM Songino Array 41.30 339 P **P** **22 22 13.3 +0.3**
comp=Z,24nm,0.8s,baz=156,slow=9.5,SNR=156
SONM pP **pP** **22 22 25.7 -1.0**
comp=Z,34nm,1.1s,baz=156,slow=7.9,SNR=14
SONM PcP **PcP** **22 24 12.4 +1.6**
comp=Z,2.9nm,0.7s,baz=132,slow=2.1,SNR=4.0
SONM ScP **ScP** **22 28 00.7 +4.1**
comp=Z,5.1nm,1.1s,baz=180,slow=1.5,SNR=9.5
KMBL Kambalda 41.45 186 P **P** **22 22 14.7 +0.5**
baz=42,SNR=34
BLDU Ballidu 41.55 193 P **P** **22 22 15.1 +0.1**
baz=42,SNR=19
JIRN Jiri 41.78 300 *e*P **P** **22 22 15.8 -1.7**
comp=Z,35nm,0.6s
JIRN Jiri 41.78 300 *e*P **P** **22 22 15.8 -1.7**
comp=Z,35nm,0.6s
GUN Gumba 42.11 301 *e*P **P** **22 22 18.4 -1.8**
comp=Z,80nm,0.9s
GUN Gumba 42.11 301 *e*P **P** **22 22 18.4 -1.8**
comp=Z,80nm,0.9s
RMQ Roma 42.26 150 P **P** **22 22 21.7 +0.8**
baz=42,SNR=5.4
KLBR Kellerberrin 42.28 191 P **P** **22 22 21.5 +0.6**
baz=43,SNR=19
PKI Pulchoki 42.42 300 *e*P **P** **22 22 20.2 -2.4**
comp=Z,18nm,0.7s
PKI Pulchoki 42.42 300 *e*P **P** **22 22 20.3 -2.4**
PKI pmax pmax
comp=Z,14nm,0.6s
PKI Pulchoki 42.42 300 *e*P **P** **22 22 20.3 -2.4**
comp=Z,14nm,0.6s
PKIN Phulchoki 42.43 300 *e*P **P** **22 22 20.3 -2.4**
comp=Z,14nm,0.6s
EIDS Eidsvold 42.56 146 *e*P **P** **22 22 23.0 -0.4**
comp=Z,23nm,0.9s
EIDS Eidsvold 42.56 146 P **P** **22 22 26.0 +2.7**
baz=43,SNR=5.6
KKN Kakani 42.59 300 *e*P **P** **22 22 21.7 -2.2**
comp=Z,16nm,0.8s
KKN Kakani 42.59 300 *e*P **P** **22 22 21.7 -2.2**
KKN pmax pmax
comp=Z,17nm,0.8s
KKN Kakani 42.59 300 *e*P **P** **22 22 21.7 -2.2**
comp=Z,16nm,0.8s
DMN Daman 42.69 300 *e*P **P** **22 22 22.5 -2.2**
comp=Z,27nm,0.8s
DMN Daman 42.69 300 *e*P **P** **22 22 22.5 -2.2**
comp=Z,27nm,0.8s
GKN Gorkha 43.19 300 *e*P **P** **22 22 26.3 -2.4**
comp=Z,16nm,0.7s
GKN Gorkha 43.19 300 *e*P **P** **22 22 26.3 -2.4**
comp=Z,16nm,0.7s
BBOO Buckleboo 43.59 168 *e*P **P** **22 22 31.6 0.0**
comp=Z,1μm,0.6s
BBOO Buckleboo 43.59 168 P **P** **22 22 31.8 +0.2**
baz=44,SNR=20
NWAO Narrogin (SRO) 43.67 191 P **P** **22 22 32.1 -0.1**
NWAO Narrogin (SRO) 43.67 191 P **P** **22 22 32.1 -0.1**
comp=Z,60nm,0.7s,baz=18,slow=6.2,SNR=52
NWAO LR LR 22 41 27.8
comp=Z,214nm,18.3s,baz=192,slow=37
KOLN Koldanda 44.02 300 *e*P **P** **22 22 33.5 -1.9**
comp=Z,45nm,0.8s
KOLN Koldanda 44.02 300 *e*P **P** **22 22 33.5 -1.9**
comp=Z,45nm,0.8s
DANN Dangsing 44.03 301 *e*P **P** **22 22 33.5 -2.1**
comp=Z,37nm,0.7s
DANN Dangsing 44.03 301 *e*P **P** **22 22 33.5 -2.1**
comp=Z,37nm,0.7s
STKA Stephens Creek 44.12 162 *e*P **P** **22 22 35.8 -0.1**
comp=Z,6.7nm,0.9s
STKA *e*PP **PP** **22 24 18.9 -0.7**
STKA Stephens Creek 44.12 162 P **P** **22 22 35.6 -0.2**
comp=Z,18nm,0.6s,baz=337,slow=7.9,SNR=75
STKA PcP **PP** **22 24 19.1 -0.5**
comp=Z,7.7nm,0.6s,baz=18,slow=3.5,SNR=3.0
STKA LR LR 22 43 58.6
comp=Z,296nm,18.2s,baz=230,slow=40
STKA Stephens Creek 44.12 162 P **P** **22 22 35.8 -0.1**
baz=44,SNR=48
ZAK Zakamensk 44.55 339 *e*P **P** **22 22 39.3 +0.1**
ZAK *e* 22 22 50.0
ZAK *e* 22 24 22.4
ZAK pmax pmax
comp=Z,13nm,1.0s
PYUN Piuthan 44.62 300 *e*P **P** **22 22 38.4 -1.8**
comp=Z,74nm,0.9s
PYUN Piuthan 44.62 300 *e*P **P** **22 22 38.4 -1.8**
comp=Z,74nm,0.9s
HTT Hallett 44.83 165 P **P** **22 22 42.2 +0.7**
baz=45,SNR=12
MDRS Chennai 45.42 278 *ex* **pP** **22 23 00.2 -0.1**
MDRS *ex* x 22 24 49.2
MDRS *ex* x 22 26 32.2
MDRS *ex* x 22 28 36.2
TLY Talaya 45.52 340 P **P** **22 22 47.3 +0.6**
comp=Z,340nm,0.8s,SNR=6.6
TLY Talaya 45.52 340 *e*P **P** **22 22 47.6 +0.9**
TLY *e* 22 23 00.5
TLY *e* 22 24 39.3
TLY pmax pmax
comp=Z,53nm,0.9s
TLY MLR MLR
comp=Z,397nm,16.0s
TLY Talaya 45.52 340 *e*P **P** **22 22 47.8 +1.1**
comp=Z,47nm,0.8s
IRK Irkutsk 45.79 341 *e*P **P** **22 22 49.3 +0.4**
IRK pmax pmax
comp=Z,97nm,2.2s
MOY Mondy 46.43 338 *e*P **P** **22 22 54.8 +0.7**
MOY pmax pmax
comp=Z,85nm,2.6s
CLNS Chul'man 46.67 359 *e*P **P** **22 22 55.9 +0.1**
CLNS pmax pmax
comp=Z,33nm,1.5s
CLNS pmax pmax
comp=E,19nm,2.3s
CLNS pmax pmax
comp=N,43nm,1.4s
ARMA Armidale 46.92 150 *e*P **P** **22 22 59.5 +1.3**
HYB Hyderabad 47.10 284 *i* P **P** **22 22 58.0 -1.7**
comp=N,60nm,1.0s
WMQ Urumqi 47.55 322 P **P** **22 23 03.0 +0.1**
WMQ pP pP 22 23 24.0 +7.2
WMQ sP sP 22 23 34.0 +11
WMQ PcP **PcP** **22 24 32.0 -0.2**
WMQ PP **PP** **22 24 55.0 +0.2**
WMQ ScP **ScP** **22 28 17.0 -5.2**
WMQ S **S** **22 29 51.0 -3.4**
WMQ sS sS 22 30 27.0 +9.2
WMQ ScS ScS 22 32 45.0 -7.2
WMQ SS SS 22 33 14.0 -8.9
WMQ pmax pmax
comp=N,14nm,1.0s
WMQ pmax pmax
comp=N,73nm,4.0s
WMQ LR LR
comp=N,1μm,17.0s
WMQ LR LR
comp=N,2μm,16.0s
WMQ LR LR
comp=N,2μm,16.0s
ARPS Mount Arapiles 48.76 164 P **P** **22 23 12.9 +0.8**
baz=49,SNR=19
HVS Khovu-Aksy 48.99 333 *e*P **P** **22 23 14.6 +0.7**
HVS pmax pmax
comp=Z,162nm,1.2s
PETK Petropavlovsk- 49.70 24 P **P** **22 23 20.7 +1.6**
PETK pmax pmax
comp=Z,10.0nm,0.8s
PETK MLR MLR
comp=Z,494nm,18.5s
PETK Petropavlovsk- 49.70 24 P **P** **22 23 20.7 +1.6**
PETK Petropavlovsk- 49.70 24 P **P** **22 23 20.7 +1.6**
comp=Z,10nm,0.8s,baz=191,slow=6.0,SNR=4.5
PETK LR LR 22 44 17.8
comp=Z,494nm,18.5s,baz=210,slow=36
CAN Canberra 49.88 156 *e*P **P** **22 23 21.7 +0.9**
CAN *e* 22 25 16.5
CAN pmax pmax
comp=Z,68nm,1.3s
CAN Canberra 49.88 156 *e*P **P** **22 23 21.6 +0.9**
comp=Z,68nm,1.3s
CAN *e*PP **PP** **22 25 16.5 +0.3**
CNB Canberra Magne 50.03 156 P **P** **22 23 23.5 +1.6**
baz=50,SNR=13
DZM Mont Dzumac 50.50 130 P **P** **22 23 26.4 +0.6**
DZM Mont Dzumac 50.50 130 P **P** **22 23 26.4 +0.6**
comp=Z,23nm,0.8s,baz=332,slow=8.0,SNR=10
DZM LR LR 22 44 49.8
comp=Z,231nm,18.7s,baz=205,slow=36
TOO Toolangi 50.60 161 P **P** **22 23 28.6 +2.4**
baz=51,SNR=11
KAD Karad 51.27 284 *i* P **P** **22 23 29.1 -2.5**
YAK Yakutsk 51.92 2 *e*P **P** **22 23 36.3 +0.7**
YAK pmax pmax
comp=Z,43nm,0.9s
YAK Yakutsk 51.92 2 *e*P **P** **22 23 36.3 +0.7**
comp=Z,43nm,0.9s
MK31 Makanchi Array 52.36 323 *e*P **P** **22 23 38.6 -0.6**
MK31 Makanchi Array 52.36 323 *e*P **P** **22 23 38.6 -0.6**
MKAR Makanchi Array 52.36 323 P **P** **22 23 38.7 -0.5**
MKAR *PP **pP** **22 23 51.1 -2.2**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR MLR MLR
comp=Z,498nm,19.3s
MKAR Makanchi Array 52.36 323 P **P** **22 23 38.7 -0.5**
MKAR pP **pP** **22 23 51.1 -2.2**
MKAR Makanchi Array 52.36 323 P **P** **22 23 38.7 -0.5**
comp=Z,15nm,0.7s,baz=121,slow=8.2,SNR=196
MKAR pP **pP** **22 23 51.1 -2.2**
comp=Z,25nm,0.9s,baz=111,slow=6.5,SNR=12
MKAR LR LR 22 48 07.0
comp=Z,498nm,19.3s,baz=259,slow=38
KSH Kashi 53.58 312 P **P** **22 23 49.0 +0.5**
KSH sP sP 22 24 18.0 +9.5
KSH PP **PP** **22 25 54.0 +4.5**
KSH PcS **PcS** **22 28 50.0 -3.8**
KSH S **S** **22 31 15.3 -2.9**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,77nm,4.9s
KSH LR LR
comp=Z,560nm,15.7s
KSH LR LR
comp=Z,620nm,14.3s
KSH LR LR
comp=Z,850nm,16.9s
ZAA0 Zalesovo Array 54.94 331 *e*P **P** **22 23 57.0 -0.9**
ZALV Zalesovo Beam 54.94 331 P **P** **22 23 57.1 -0.9**
ZALV pmax pmax
comp=Z,11nm,0.7s
ZALV MLR MLR
comp=Z,453nm,18.2s
ZALV Zalesovo Beam 54.94 331 P **P** **22 23 57.0 -0.9**
ZALV Zalesovo Beam 54.94 331 P **P** **22 23 57.0 -0.9**
comp=Z,11nm,0.7s,baz=117,slow=6.9,SNR=55
ZALV LR LR 22 49 58.7
comp=Z,453nm,18.2s,baz=249,slow=39
KZA Kyzart 54.95 315 *i* P **P** **22 23 58.7 -0.1**
KZA Kyzart 54.95 315 P **P** **22 23 58.8 -0.1**
SNR=8.3
TKM2 Tokmak 2 55.01 316 *i* P **P** **22 23 58.2 -0.7**
TKM2 Tokmak 2 55.01 316 P **P** **22 23 58.2 -0.7**
SNR=6.1
TKM2 Tokmak 2 55.01 316 *e*P **P** **22 23 58.2 -0.7**
KBK Karagaybulak 55.36 315 P **P** **22 24 01.2 -0.2**
SNR=8.0
UCH Uchtor 55.52 315 *i* P **P** **22 24 02.8 -0.1**
UCH Uchtor 55.52 315 P **P** **22 24 02.8 -0.1**
SNR=22
CHMS Chumysh 55.61 316 *i* P **P** **22 24 02.2 -0.9**
CHMS Chumysh 55.61 316 P **P** **22 24 02.2 -0.9**
SNR=7.2
FRU Bishkek 55.65 315 *e*P pP 22 24 18.0 +0.5
AAK Ala-Archa 55.66 315 *ce*P **P** **22 24 02.8 -0.8**
AAK pmax pmax
comp=Z,27nm,2.5s
AAK Ala-Archa 55.66 315 *e*P **P** **22 24 02.5 -1.2**
comp=Z,11nm,1.3s
AAK Ala-Archa 55.66 315 P **P** **22 24 03.0 -0.6**
comp=Z,2.6nm,0.7s,baz=147,slow=11,SNR=11
USP Ospenovka 55.88 316 *i* P **P** **22 24 04.1 -0.9**
USP Ospenovka 55.88 316 P **P** **22 24 04.2 -0.9**
SNR=7.2
SEY Seymchan 55.94 14 P **P** **22 24 06.0 +1.0**
SEY pmax pmax
comp=Z,6.0nm,0.9s
SEY Seymchan 55.94 14 P **P** **22 24 06.0 +1.0**
SEY Seymchan 55.94 14 P **P** **22 24 06.0 +1.0**
comp=Z,6.1nm,0.9s,baz=344,slow=24,SNR=11
AML Almayashu 56.06 314 *i* P **P** **22 24 06.4 -0.3**
AML Almayashu 56.06 314 P **P** **22 24 06.4 -0.3**
SNR=15
EKS2 Erkin-Say 56.17 315 *i* P **P** **22 24 06.9 -0.3**
EKS2 Erkin-Say 56.17 315 P **P** **22 24 06.9 -0.3**
SNR=9.8
EKS2 Erkin-Say 56.17 315 *e*P **P** **22 24 06.7 -0.5**
comp=Z,8.0nm,0.8s
NVS Novosibirsk 56.21 331 *e*P **P** **22 24 04.6 -2.4**
NVS *e*S **S** **22 31 51.7 -1.1**
NVS *e* 22 33 45.0
NVS pmax pmax
comp=N,27nm,1.6s
NVS pmax pmax
comp=Z,39nm,1.6s
NVS pmax pmax
comp=E,27nm,1.7s
NVS smax smax
comp=E,33nm,2.1s
NVS smax smax
comp=N,31nm,2.2s
KURK Kurchatov 56.39 325 P **P** **22 24 07.4 -1.0**
comp=N,87nm,0.9s,SNR=35
KURK Kurchatov 56.39 325 P **P** **22 24 07.9 -0.5**
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 56.39 325 *e*P **P** **22 24 07.8 -0.6**
comp=Z,48nm,1.3s
KURBB Kurchatov Arra 56.40 325 P **P** **22 24 07.8 -0.6**
comp=Z,6.9nm,0.6s,baz=125,slow=7.0,SNR=123
FX1 Attu Island--F 56.75 32 *e*P **P** **22 24 12.1 +1.2**
FX1 Attu Island--F 56.75 32 P **P** **22 24 11.6 +0.6**
comp=Z,59nm,1.0s,baz=252,slow=6.4,SNR=3.9
FX1 LR LR 22 48 21.9
comp=Z,149nm,18.3s,baz=29,slow=36
KBL Kabul 57.68 305 *e*P **P** **22 24 16.4 -1.7**
KBL pmax pmax
comp=Z,7.0nm,0.6s
KBL Kabul 57.68 305 *e*P **P** **22 24 16.4 -1.7**
comp=Z,6.6nm,0.6s
KBL Kabul 57.68 305 P **P** **22 24 16.9 -1.2**
baz=58,SNR=3.5
KK31 Karatay Array 58.59 315 *i* P **P** **22 24 22.5 -1.6**
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 58.59 315 *e*P **P** **22 24 22.8 -1.3**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 58.59 315 *e*P **P** **22 24 22.8 -1.3**
comp=Z,5.7nm,0.6s
TIXI Tiksi 61.54 1 *ce*P **P** **22 24 44.0 +0.3**
TIXI pmax pmax
comp=Z,26nm,1.0s
TIXI Tiksi 61.54 1 *e*P **P** **22 24 44.1 +0.3**
comp=Z,22nm,0.9s
BVA0 Borovoye Array 61.99 325 *i* P **P** **22 24 45.5 -1.6**
BVA0 pmax pmax
comp=Z,31nm,1.2s
BVAR Borovoye Array 61.99 325 P **P** **22 24 46.4 -0.7**
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR MLR MLR
comp=Z,285nm,20.8s
BVAR Borovoye Array 61.99 325 P **P** **22 24 46.4 -0.7**
BVAR Borovoye Array 61.99 325 P **P** **22 24 46.4 -0.7**
comp=Z,5.0nm,0.7s,baz=133,slow=6.7,SNR=40
BVAR LR LR 22 51 00.0
comp=Z,285nm,20.8s,baz=1.3,slow=35
BRVK Borovoye 62.06 325 P **P** **22 24 47.2 -0.3**
comp=Z,112nm,1.1s,SNR=16
BRVK Borovoye 62.06 325 *ce*P **P** **22 24 47.3 -0.3**
BRVK pmax pmax
comp=Z,29nm,1.2s
BRVK Borovoye 62.06 325 *e*P **P** **22 24 46.8 -0.8**
comp=Z,49nm,1.2s
IDAH Dahanechah 65.04 301 *e*P **P** **22 25 07.6 -0.4**
IKOO Kooshah 65.75 301 *e*P **P** **22 25 11.7 -0.9**
RPZ Rata Peaks 67.06 147 *e*P **P** **22 25 21.6 +1.2**
comp=Z,90nm,0.8s
RPZ Rata Peaks 67.06 147 LR LR 22 54 23.2
comp=Z,369nm,19.1s,baz=355,slow=36
AB31 Akbulak array 67.21 319 *i* P **P** **22 25 19.6 -1.6**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 67.21 319 *e*P **P** **22 25 20.2 -1.1**
comp=Z,4.2nm,0.6s
URZ Urewera 67.33 139 LR LR 22 51 02.5
comp=Z,246nm,20.7s,baz=295,slow=32
KHZ Kahutara 67.62 144 *e*P **P** **22 25 24.6 +0.7**
comp=Z,59nm,0.8s
IBND Bandar-abas 67.75 296 *e*P **P** **22 25 24.4 -0.6**
UOSS Wadi Hilu 68.07 293 P **P** **22 25 25.9 -1.3**
comp=Z,92nm,0.6s,SNR=5.5
SVE Sverdlovsk 68.53 327 ||*e*P **P** **22 25 28.8 -0.6**
SVE pmax pmax
comp=Z,33nm,1.1s
IBAF Bafgh 68.64 300 *e*P **P** **22 25 29.1 -1.7**
AKTO Aktyubinsk 68.66 320 P **P** **22 25 28.3 -2.0**
AKTO pmax pmax
comp=Z,7.0nm,0.9s
GAMB Gambell 68.73 25 *e*P **P** **22 25 32.1 +1.7**
comp=Z,21nm,1.1s
IMEH Mehriz 69.45 300 *e*P P 22 25 32.6 -3.3
ARU Arti 69.55 327 P **P** **22 25 34.4 -1.2**
comp=Z,130nm,0.7s,SNR=9.6
ARU Arti 69.55 327 *c i*P **P** **22 25 34.5 -1.2**
ARU 22 25 57.0
ARU 22 28 07.0
ARU PPP PPP 22 29 50.4
ARU S **S** **22 34 38.6 -1.1**
ARU *SS **sS** **22 35 03.9 -0.3**
ARU pmax pmax
comp=Z,14nm,0.7s
ARU Arti 69.55 327 *e*P **P** **22 25 34.7 -1.0**
comp=Z,17nm,0.7s
ICHK Chekchek 69.63 301 *e*P **P** **22 25 36.0 -1.0**
IANJ Anjilo 70.11 304 *e*P **P** **22 25 38.1 -1.8**
ISAD Sadrabad 70.24 300 *e*P **P** **22 25 39.1 -1.7**
ISHM Shahmirzad 70.63 304 *e*P **P** **22 25 41.9 -1.2**
TNA Tin City 70.86 24 *e*P **P** **22 25 44.6 +1.0**
comp=Z,18nm,1.2s
ILAS Lasjerd 70.89 304 *e*P **P** **22 25 43.2 -1.5**
IFIR Firoozkooh 71.06 304 *e*P **P** **22 25 44.8 -1.0**
IVRN Varamin 71.90 304 *e*P **P** **22 25 49.7 -0.8**
IMHD Mahdasht 72.76 304 *e*P **P** **22 25 54.8 -0.9**
IRAZ Razeghan 73.37 304 *e*P **P** **22 25 58.0 -1.4**
ISRB Sarab 75.15 306 *e*P **P** **22 26 09.8 0.0**
MAK Makhachkala 75.21 312 *e*P **P** **22 26 07.3 -2.4**
MAK *e* 22 29 04.6
MAK *e*PPP PPP 22 30 47.9
MAK *e*S **S** **22 35 47.3 +2.4**
MAK *e**SS **sS** **22 36 11.1 +1.4**
MAK *e* 22 36 19.2
MAK *e*SS **SS** **22 40 36.9 +1.8**
MAK *e*SSS SSS 22 43 47.5
MAK pmax pmax
comp=Z,34nm,0.8s
MAK MLR MLR
comp=Z,640nm,20.0s
UMR Umm Al-Rimmam 75.45 298 *e*P **P** **22 26 09.6 -1.8**
UMR AMb AMB 22 26 10.7
comp=Z,53nm,0.7s
UMR Umm Al-Rimmam 75.45 298 *e*P **P** **22 26 09.5 -1.9**
UMR AMb AMB 22 26 22.8
comp=Z,51nm,1.2s
NAY Al-Naaiem 75.88 298 *e*P **P** **22 26 12.0 -1.9**
NAY AMb AMB 22 26 13.5
comp=Z,35nm,0.9s
NAY Al-Naaiem 75.88 298 *e*P **P** **22 26 11.9 -1.9**
NAY AMb AMB 22 26 13.5
comp=Z,35nm,0.9s
RST Umm Al-Ruwaisa 76.07 298 *e*P **P** **22 26 13.0 -2.0**
RST AMb AMB 22 26 20.1
comp=Z,477nm,1.0s
RST Umm Al-Ruwaisa 76.07 298 *e*P **P** **22 26 12.9 -2.1**
RST AMb AMB 22 26 20.1
comp=Z,477nm,1.0s
IGHG Ghaleghazi 76.16 303 *e*P **P** **22 26 13.9 -1.8**
IM04 Indian Mountai 76.65 24 *e*P **P** **22 26 18.4 +0.9**
DGRG David-gareji 76.82 310 P **P** **22 26 19.5 +0.5**
PRGR Permogore 76.89 331 *e*P **P** **22 26 17.2 -1.7**
PRGR *eS **S** **22 35 59.8 -2.8**
PRGR pmax pmax
comp=Z,20nm,0.9s
TBLG Delisi 77.29 311 P **P** **22 26 21.5 -0.1**
GUDG Gudauri 77.45 311 P **P** **22 26 23.1 +0.4**
KZR Kazreti 77.54 310 P **P** **22 26 23.3 +0.2**
ZEI Tsey 77.86 312 *e*P P 22 26 21.7 -3.3
ZEI pmax pmax
comp=Z,38nm,1.3s
RAYN Ar Rayn 77.91 292 P **P** **22 26 24.1 -1.3**
comp=Z,113nm,1.1s,SNR=17
TRF Thorofare Moun 78.00 27 *e*P **P** **22 26 26.0 +0.7**
comp=Z,38nm,1.3s
COLD Coldfoot 78.16 23 *e*P **P** **22 26 27.9 +2.0**
comp=Z,17nm,1.1s
ONI Oni 78.20 312 P **P** **22 26 27.3 +0.6**
AKH Akhalkalaki 78.23 310 P **P** **22 26 27.6 +0.5**
PMR Palmer 78.50 29 *e*P **P** **22 26 28.6 +0.7**
PMR pmax pmax
comp=Z,25nm,1.1s
PMR Palmer 78.50 29 *e*P **P** **22 26 28.6 +0.7**
comp=Z,26nm,1.1s
KBZ Khabaz 78.55 313 P **P** **22 26 27.7 -0.8**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KBZ MLR MLR
comp=Z,285nm,18.2s
KBZ Khabaz 78.55 313 P **P** **22 26 27.7 -0.8**
KBZ Khabaz 78.55 313 P **P** **22 26 27.7 -0.8**
comp=Z,7.3nm,1.0s,baz=36,slow=3.3,SNR=7.4
KBZ LR LR 23 06 17.9
comp=Z,285nm,18.1s,baz=238,slow=40
MCK McKinley 78.61 27 *e*P **P** **22 26 29.2 +0.7**
MCK pmax pmax
comp=Z,35nm,0.9s
MCK McKinley 78.61 27 *e*P **P** **22 26 29.2 +0.7**
comp=Z,35nm,0.9s
KIV Kislovodsk 78.69 313 *e*P **P** **22 26 29.4 -0.1**
KIV *eS **S** **22 36 22.9 -0.1**
KIV pmax pmax
comp=Z,19nm,1.0s

KIV MLR MLR
comp=Z,403nm,18.0s
KIV Kislovodsk 78.69 313 *e*P **P** **22 26 29.4 -0.1**
comp=Z,31nm,1.1s
VRHR Novokhopersk 79.07 320 *e*P **P** **22 26 28.9 -2.3**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
COLA College 79.08 26 *i*P **P** **22 26 31.6 +0.7**
COLA pmax pmax
comp=Z,12nm,1.0s
COLA College 79.08 26 *e*P **P** **22 26 32.2 +1.3**
comp=Z,7.0nm,0.8s
ILAR Eielson Array 79.49 26 P **P** **22 26 32.9 -0.4**
ILAR pP **pP** **22 26 45.9 -2.2**
ILAR Eielson Array 79.49 26 P **P** **22 26 32.9 -0.4**
comp=Z,3.3nm,0.8s,baz=240,slow=5.1,SNR=47
ILAR pP **pP** **22 26 45.9 -2.2**
comp=Z,2.2nm,0.7s,baz=282,slow=4.5,SNR=7.1
DIV Divide 80.13 29 *e*P **P** **22 26 38.7 +1.8**
comp=Z,29nm,1.1s
PAX Paxson 80.18 28 *e*P **P** **22 26 38.5 +1.3**
PAX pmax pmax
comp=Z,19nm,1.1s
PAX Paxson 80.18 28 *e*P **P** **22 26 38.5 +1.3**
comp=Z,19nm,1.1s
TMCR Tamitsa 80.37 334 *e*P **P** **22 26 37.9 0.0**
TMCR *e* 22 26 44.1
TMCR *e* 22 29 42.6
TMCR pmax pmax
comp=Z,18nm,0.8s
VSR Storozhevoye 80.60 320 *e*P **P** **22 26 36.7 -2.8**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,30nm,1.5s
BMRM Bremner River 80.71 30 *e*P **P** **22 26 41.4 +1.4**
comp=E,74nm,1.5s
SOC Sochi 80.86 313 *e*P P 22 26 34.8 -6.3
SOC *e*S S 22 36 35.9 -10
SOC MLR MLR
comp=Z,439nm,16.0s
MOS Moscow 81.16 325 *e*P **P** **22 26 44.8 +2.4**
MOS pmax pmax
comp=Z,36nm,1.1s
OBN Obninsk 81.82 325⇑ *i*P **P** **22 26 45.1 -0.7**
OBN *e* 22 29 54.4
OBN *i*S **S** **22 36 50.6 -4.5**
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,200nm,20.0s
EGAK Eagle 81.94 26 *e*P **P** **22 26 47.3 +1.0**
comp=Z,13nm,1.0s
APA Apatity 81.97 337⇑ *i*P **P** **22 26 47.0 +0.6**
APA *i*S **S** **22 36 52.0 -4.3**
APA pmax pmax
comp=Z,39nm,1.0s
APA MLR MLR
comp=Z,500nm,21.0s
MALT Malatya 82.38 308⇓ P P 22 26 39.9 -9.5
MALT Malatya 82.38 308⇓ *i*P P 22 26 39.9 -9.5
DAWY Dawson 82.79 26 *e*P **P** **22 26 52.4 +1.6**
ABPO Ambohimpanom 83.33 249 *e*P **P** **22 26 53.6 -1.1**
ABPO pmax pmax
comp=Z,13nm,0.8s
ABPO Ambohimpanom 83.33 249 *e*P **P** **22 26 53.5 -1.1**
comp=Z,13nm,0.8s
JOF Joensuu 83.50 333 *e*P **P** **22 26 55.2 +0.8**
JOF pmax pmax
comp=Z,8.0nm,0.5s
JOF Joensuu 83.50 333 *e*p **P** **22 26 55.2 +0.8**
comp=Z,8.2nm,0.5s
KEV Kevo 83.92 340 *e*P **P** **22 26 57.0 +0.5**
KEV pmax pmax
comp=Z,15nm,0.7s
KEV Kevo 83.92 340 *e*p **P** **22 26 57.0 +0.5**
comp=Z,15nm,0.7s
KEV Kevo 83.92 340 *e*P **P** **22 26 56.9 +0.5**
comp=Z,19nm,0.7s
HYT Haines Junctio 84.17 29 *e*P **P** **22 27 00.0 +1.9**
INK Inuvik 84.36 22 *e*P **P** **22 27 00.0 +1.3**
comp=Z,21nm,1.4s
INK Inuvik 84.36 22 P **P** **22 26 59.6 +0.9**
comp=Z,9.3nm,1.1s,baz=291,slow=7.7,SNR=6.1
ARCES ARCESS Array B 84.48 340 P **P** **22 26 59.7 +0.4**
ARCES pP **pP** **22 27 12.0 -2.3**
ARCES ARCESS Array B 84.48 340 P **P** **22 26 59.7 +0.4**
comp=Z,27nm,0.8s,baz=82,slow=6.3,SNR=48
ARCES pP **pP** **22 27 12.0 -2.3**
comp=Z,19nm,0.7s,baz=96,slow=4.9,SNR=7.8
ARCES LR LR 23 11 02.6
comp=Z,393nm,18.1s,baz=76,slow=40
SIM Simferopol' 84.69 315 *e*P **P** **22 27 00.0 -0.9**
SIM *e*S **S** **22 37 24.0 -0.7**
SIM pmax pmax
comp=Z,27nm,0.9s
BRTR Keskin Array B 85.88 309 P **P** **22 27 06.0 -1.1**
BRTR Keskin Array B 85.88 309 P **P** **22 27 06.0 -1.1**
comp=Z,4.6nm,0.7s,baz=99,slow=4.2,SNR=4.2
BRTR LR LR 23 10 22.9
comp=Z,98nm,19.7s,baz=193,slow=39
KAF Kangasniemi 85.93 332 *e*P **P** **22 27 07.0 +0.3**
KAF pmax pmax
comp=Z,21nm,0.7s
KAF Kangasniemi 85.93 332 *e*p **P** **22 27 07.0 +0.3**
comp=Z,21nm,0.7s
FIA1 FINESS Array S 86.20 332 *e*P **P** **22 27 07.7 -0.4**
FINES FINESS Array B 86.20 332 P **P** **22 27 07.9 -0.2**
FINES FINESS Array B 86.20 332 P **P** **22 27 07.9 -0.2**
comp=Z,22nm,0.8s,baz=99,slow=6.0,SNR=31
EIL Elat 86.47 299 P **P** **22 27 10.4 +0.4**
baz=86,SNR=3.3
MICGM Minsk 86.88 325⇓ *e*P **P** **22 27 10.0 -1.5**
AKASG Malin Array Be 86.90 321 P **P** **22 27 10.8 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 86.90 321 P **P** **22 27 10.8 -0.9**
AKASG Malin Array Be 86.90 321 P **P** **22 27 10.8 -0.9**
comp=Z,4.3nm,0.7s,baz=65,slow=4.4,SNR=34
AKBB Malin Array Si 86.90 321 *e*P **P** **22 27 11.1 -0.6**
AKBB Malin Array Si 86.90 321 *e*P **P** **22 27 11.1 -0.6**
MNK Minsk 86.91 325⇓ *e*P **P** **22 27 10.0 -1.6**
MNK pmax pmax
comp=Z,60nm,1.0s
AK01 Malin Array Si 86.91 321 *e*P **P** **22 27 11.1 -0.6**
KIEV Kiev 86.91 321 *e*P **P** **22 27 08.8 -2.9**
KIEV Kiev 86.91 321 *e*P **P** **22 27 10.2 -1.5**
comp=Z,23nm,1.1s
AK02 Malin Array Si 86.92 321 *e*P **P** **22 27 10.8 -1.0**
CSS Prodhromos 86.93 305 *e*P **P** **22 27 12.1 -0.1**
comp=Z,10.0nm,0.9s
PPT Papeete 87.23 108 LR LR 23 01 09.0
comp=Z,288nm,18.0s,baz=344,slow=32
PPT2 Papeete2 87.24 108 *e*S **S** **22 37 55.1 +4.5**
comp=Z,114nm,24.5s
PPT2 Papeete2 87.24 108 *e*LR LR 22 55 04.5
comp=Z,309nm,21.8s
TLCR 88.34 315⇑ P **P** **22 27 18.6 -0.1**
TLCR 88.34 315⇑ *i*P **P** **22 27 18.6 -0.1**
TBI Tubuai 88.48 114 *e*S S 22 38 09.4 +7.3
comp=Z,117nm,30.8s
TBI Tubuai 88.48 114 *e*LR LR 22 55 35.5
comp=Z,398nm,23.2s
TIRR Tirgusor 88.78 315⇑ P **P** **22 27 20.0 -0.8**
TIRR Tirgusor 88.78 315⇑ *i*P **P** **22 27 20.0 -0.8**
TIRR Tirgusor 88.78 315⇑ *i*P **P** **22 27 20.0 -0.8**
CFR Carcaliu 88.81 316⇑ P **P** **22 27 20.8 -0.1**
CFR Carcaliu 88.81 316⇑ *i*P **P** **22 27 20.8 -0.1**
HARR Harsova 89.06 315⇓ P **P** **22 27 22.0 -0.1**
HARR Harsova 89.06 315⇓ *i*P **P** **22 27 22.0 -0.1**
MSAB Monastry St. A 89.27 315⇑ *i*P **P** **22 27 23.0 -0.1**
MSAB Monastry St. A 89.27 315⇑ *i*P **P** **22 27 23.0 -0.1**
TESR Tescani 89.51 317⇑ *i*P **P** **22 27 23.9 -0.3**
KMBO Kilima Mbogo 89.51 269 *e*P **P** **22 27 24.9 -0.3**
comp=Z,17nm,1.5s
KMBO Kilima Mbogo 89.51 269 P **P** **22 27 24.9 -0.3**
comp=Z,3.4nm,0.9s,baz=53,slow=7.4,SNR=8.9
VRI Vrincioaia 89.61 316⇑ P **P** **22 27 24.6 -0.1**
VRI Vrincioaia 89.61 316⇑ *i*P **P** **22 27 24.6 -0.1**

MAW Mawson 89.61 200 LR LR 23 07 18.2
comp=Z,130nm,18.2s,baz=216,slow=35
PLOR Plostina 89.67 316⇑ P **P** **22 27 24.8 -0.2**
PLOR Plostina 89.67 316⇑ *i*P **P** **22 27 24.8 -0.2**
SUW Suwalki 89.67 325 *e*P **P** **22 27 23.9 -0.9**
SUW pmax pmax
comp=Z,42nm,1.0s
SUW Suwalki 89.67 325 *e*P **P** **22 27 23.9 -0.9**
comp=Z,42nm,1.0s
VNDA Vanda 89.70 173 *e*P **P** **22 27 25.8 +1.5**
comp=Z,9.8nm,1.1s
VNDA Vanda 89.70 173 P **P** **22 27 25.4 +1.1**
comp=Z,3.5nm,0.6s,baz=318,slow=4.6,SNR=17
VNDA LR LR 23 08 47.3
comp=Z,349nm,18.9s,baz=336,slow=36
BURAR Bucovina Array 90.18 318⇓ P **P** **22 27 27.5 +0.1**
BURAR Bucovina Array 90.18 318⇓ *i*P **P** **22 27 27.5 +0.1**
BUR08 Bucovina Ar. S 90.18 318 *e*P **P** **22 27 27.3 -0.2**
MLR Muntele Rosu 90.23 316⇓ *i*P **P** **22 27 27.8 0.0**
LVV L'vov 90.34 321 *e*P **P** **22 27 28.0 0.0**
DOPR Dopca 90.49 317⇑ *i*P **P** **22 27 28.1 -0.7**
KWP Kalwaria Pacla 91.22 321⇓ P **P** **22 27 32.7 +0.6**
KWP Kalwaria Pacla 91.22 321⇓ *i*P **P** **22 27 32.7 +0.6**
KWP Kalwaria Pacla 91.22 321 *e*P **P** **22 27 31.9 -0.3**
comp=Z,51nm,1.0s
RES Resolute Bay 91.64 10 *e*P **P** **22 27 34.5 +1.0**
comp=Z,12nm,0.9s
RES Resolute Bay 91.64 10 P **P** **22 27 34.4 +0.8**
comp=Z,6.4nm,0.8s,baz=288,slow=5.4,SNR=10
KOLS Kolonicke sedl 91.70 320 *e*P **P** **22 27 34.0 -0.4**
KOLS pmax pmax
comp=Z,5.0nm,1.3s
KOLS Kolonicke sedl 91.70 320 *e*P **P** **22 27 34.0 -0.4**
DRGR 92.05 318⇑ P **P** **22 27 36.0 -0.1**
DRGR 92.05 318⇑ *i*P **P** **22 27 36.0 -0.1**
STHS Stebnicka Huta 92.19 321 *e*P **P** **22 27 37.4 +0.7**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 92.19 321 *e*P **P** **22 27 37.4 +0.7**
CRVS Cervenica-Dubn 92.22 320 *e*P **P** **22 27 37.1 +0.3**
CRVS pmax pmax
comp=Z,17nm,1.0s
CRVS Cervenica-Dubn 92.22 320 *e*P **P** **22 27 37.0 +0.3**
VTS Vitosha 92.91 314⇑ P **P** **22 27 39.6 -0.7**
VTS Vitosha 92.91 314⇑ *i*P **P** **22 27 39.6 -0.7**
NB2 NORSAR Subarra 93.06 334 P **P** **22 27 39.3 -1.1**
comp=Z,8.5nm,0.8s,baz=65,slow=4.6
NB2 NORSAR Subarra 93.06 334 P **P** **22 27 39.3 -1.1**
baz=65,slow=4.6
NOA NORSAR Array B 93.06 334 P **P** **22 27 39.7 -0.7**
NOA NORSAR Array B 93.06 334 P **P** **22 27 39.7 -0.7**
comp=Z,6.5nm,0.8s,baz=62,slow=4.6,SNR=21
NOA LR LR 23 16 42.6
comp=Z,222nm,18.1s,baz=20,slow=40
BZS Buzias 93.12 317⇓ P **P** **22 27 40.2 -0.8**
BZS Buzias 93.12 317⇓ *i*P **P** **22 27 40.2 -0.8**
YKA Yellowknife Ar 93.82 24 P **P** **22 27 44.6 +0.8**
YKA pP **pP** **22 27 57.0 -1.9**
YKA PKKPbc **PKKPdf** **22 44 47.2 -0.4**
YKA Yellowknife Ar 93.82 24 P **P** **22 27 44.6 +0.8**
comp=Z,3.0nm,0.8s,baz=299,slow=4.5,SNR=32
YKA pP **pP** **22 27 57.0 -1.9**
comp=Z,5.9nm,0.7s,baz=300,slow=4.6,SNR=20
YKA PKKPbc **PKKPdf** **22 44 47.2 -0.4**
comp=Z,0.2nm,0.5s,baz=124,slow=2.9,SNR=4.5
OKC Ostrava-Krasne 93.96 322 *e*P **P** **22 27 44.6 -0.1**
OKC Ostrava-Krasne 93.96 322 *e*P **P** **22 27 44.6 -0.1**
OKC *ex* x 22 28 17.0
KSP Ksiaz 94.70 323 *e*P **P** **22 27 48.4 +0.3**
DPC Dobruska-Polom 94.86 323 *e*P **P** **22 27 49.3 +0.3**
DPC Dobruska-Polom 94.86 323 *e*P **P** **22 27 49.3 +0.3**
DPC *es*P sP 22 28 18.4 +8.6
UPC Upice 94.99 323 *e*P **P** **22 27 50.2 +0.7**
UPC Upice 94.99 323 *e*P **P** **22 27 50.2 +0.7**
VRAC Vranov 95.09 322⇓ *i*P **P** **22 27 50.8 +0.8**
RUE Ruedersdorf 95.49 325 *e*P **P** **22 27 51.8 +0.1**
comp=Z,20nm,1.1s
PVCC Panska Ves 95.83 323 *e*P **P** **22 27 53.9 +0.6**
PVCC Panska Ves 95.83 323 *e*P **P** **22 27 53.9 +0.6**
CONA Conrad Observa 96.06 321⇑ *i*PcP **PcP** **22 27 54.6 0.0**
comp=Z,10nm,1.6s
BRG Berggiesshubel 96.06 324 *e*P **P** **22 27 54.3 0.0**
comp=Z,7.4nm,1.1s
BRG *e* 22 28 15.4
comp=Z,27nm,1.7s
BRG Berggiesshubel 96.06 324 *e*P **P** **22 27 54.3 0.0**
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 96.06 324 *e*P **P** **22 27 54.6 +0.3**
comp=Z,4.0nm,0.9s
PRU Pruhonice 96.06 323 *e*P **P** **22 27 54.8 +0.4**
PRU *e* 22 28 05.2
PRU Pruhonice 96.06 323 *e*P **P** **22 27 54.8 +0.4**
PRU *ex* x 22 28 05.2
PRU *ex* x 22 28 26.7
CLL Collm 96.42 325 *e*P **P** **22 27 55.0 -0.9**
CLL *e**PP **pP** **22 28 11.0 -0.1**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL MLR MLR
comp=Z,300nm,19.4s
CLL Collm 96.42 325 *e*P **P** **22 27 56.1 +0.2**
comp=Z,3.0nm,0.8s
CLL Collm 96.42 325 *e*P **P** **22 27 55.0 -0.9**
comp=Z,8.0nm,1.2s
CLL *e* 22 28 11.0
CLL *ep*P **pP** **22 28 15.0 +3.9**
CLL *e* 22 28 27.0
CLL LmH 23 17 00.0
comp=N,200nm,18.9s
CLL LmH 23 17 00.0
comp=E,200nm,18.7s
CLL LmV 23 19 00.0
comp=Z,300nm,19.4s
BSEG Bad Segeberg 96.74 328 *e*P **P** **22 27 57.9 +0.6**
comp=Z,7.0nm,0.9s
SCO Scoresbysund 96.81 350 *i*P pP 22 28 10.9 -1.5
comp=Z,7.5nm,0.9s
KHC Kasperske Hory 96.98 322 *e*P **P** **22 27 58.7 +0.1**
KHC *e* 22 28 10.9
KHC Kasperske Hory 96.98 322 *e*P **P** **22 27 58.7 +0.1**
KHC *ex* x 22 28 10.9
KHC *ex* x 22 28 31.2
GEC2 GERESS Array S 97.02 322 *e*P Pdif 22 27 59.3 +0.3
comp=Z,3.0nm,0.8s
GERES GERESS Array B 97.02 322 P **P** **22 27 58.8 -0.1**
GERES GERESS Array B 97.02 322 P **P** **22 27 58.8 -0.1**
comp=Z,2.9nm,0.8s,baz=64,slow=4.5,SNR=19
GERES LR LR 23 20 10.6
comp=Z,282nm,19.2s,baz=268,slow=41
TANN Tannenbergstha 97.11 324 *e*P Pdif 22 27 59.3 0.0
comp=Z,2.0nm,1.0s
NKC Novy Kostel 97.19 324 *e*P Pdif 22 27 59.6 0.0
NKC Novy Kostel 97.19 324 *e*P Pdif 22 27 59.6 0.0
NRDL Niedersach Rie 97.51 326 *e*P Pdif 22 28 01.6 +0.8
comp=Z,4.0nm,0.9s
CLZ Clausthal 97.66 326 *e*P Pdif 22 28 01.9 +0.2
comp=Z,8.0nm,0.9s
RJOB Jochberg 98.03 321 *e*P Pdif 22 28 03.5 +0.1
comp=Z,6.0nm,1.0s
SYO Syowa Base 98.24 201⇓ *e*Pdiff Pdif 22 28 03.9 +0.3
UBBA Unterbreizbach 98.34 325 *e*P Pdif 22 28 04.6 +0.1
comp=Z,8.0nm,1.3s
WTTA Wattenberg 98.94 321⇑ *i*Pdiff **P** **22 28 07.2 -0.5**
comp=Z,10nm,1.1s
WATA Walderalm 98.95 321⇑ *i*Pdiff Pdif 22 28 07.9 +0.2
comp=Z,5.4nm,0.9s
MOTA Moosalm 99.23 322⇓ *i*Pdiff **Pdif** **22 28 08.5 -0.4**
comp=Z,4.7nm,0.9s
TNS Taunus Mts 99.49 325 *e*P **Pdif** **22 28 10.3 +0.4**
comp=Z,3.0nm,0.8s
BUG Bochum--Univer 99.56 326 *e*P **Pdif** **22 28 10.5 +0.5**
comp=Z,8.0nm,0.9s
FETA Feichten 99.61 321⇑ *i*Pdiff **Pdif** **22 28 10.5 -0.1**
comp=Z,6.5nm,1.0s
WLF Walferdange 101.06 325 *e*P **Pdif** **22 28 17.4 +0.6**
comp=Z,9.0nm,0.9s
LPG La Plagne 102.75 321 *e*P **Pdif** **22 28 24.9 +0.1**
comp=Z,37nm,1.5s
LPG La Plagne 102.75 321 *e*P **Pdif** **22 28 24.9 +0.1**
LPG pmax pmax
comp=Z,37nm,1.5s
LPG La Plagne 102.75 321 *e*P **Pdif** **22 28 24.9 +0.1**
comp=Z,37nm,1.5s
LPL La Plagne 102.76 321 *e*P **Pdif** **22 28 24.1 -0.6**

LPL La Plagne 102.76 321 *e*P **Pdif** **22 28 24.1 -0.6**
MDT Midelt 116.89 315 PKP **PKPdf** **22 33 12.1 +0.1**
MDT Midelt 116.89 315 PKP **PKPdf** **22 33 12.1 +0.1**
comp=Z,1.3nm,0.7s,baz=272,slow=4.4,SNR=2.8
TXAR Lajitas Array 117.74 49 PKP **PKPdf** **22 33 14.9 +1.2**
TXAR PKKPab **PKKPab** **22 43 39.4 -0.1**
TXAR Lajitas Array 117.74 49 PKP **PKPdf** **22 33 14.9 +1.2**
comp=Z,0.9nm,0.6s,baz=244,slow=1.1,SNR=8.4
TXAR PKKPab **PKKPab** **22 43 39.4 -0.1**
comp=Z,0.5nm,0.8s,baz=151,slow=5.4,SNR=3.8
TOA0 Torodi Ar. Sit 120.60 292 *e*PKPdf **PKPdf** **22 33 19.2 -0.2**
TORD Torodi Ar. Bea 120.60 292 PKP **PKPdf** **22 33 18.9 -0.6**
TORD Torodi Ar. Bea 120.60 292 PKP **PKPdf** **22 33 18.9 -0.6**
comp=Z,2.7nm,1.0s,baz=73,slow=2.2,SNR=9.0
MIAR Mount Ida 121.56 39 *e*PKIKP **PKPdf** **22 33 21.9 +1.1**
MIAR Mount Ida 121.56 39 *e*PKPdf **PKPdf** **22 33 21.9 +1.1**
WVT Waverly 123.77 33 *e*PKIKP **PKPdf** **22 33 25.4 +0.4**
WVT Waverly 123.77 33 *e*PKPdf **PKPdf** **22 33 25.4 +0.4**
OXF Oxford 124.07 36 *e*PKIKP **PKPdf** **22 33 26.6 +1.0**
OXF Oxford 124.07 36 *e*PKPdf **PKPdf** **22 33 26.6 +1.0**
TKL Tuckaleechee C 126.25 31 PKP **PKPdf** **22 33 30.9 +1.1**
TKL Tuckaleechee C 126.25 31 PKP **PKPdf** **22 33 30.9 +1.1**
comp=Z,5.0nm,0.6s,baz=187,slow=3.7,SNR=7.3
KIC Kosan Boka 128.82 287 *e*P **PKPdf** **22 33 36.4 +1.1**
comp=Z,21nm,1.1s
DBIC Dimbokro 128.83 287 PKP **PKPdf** **22 33 35.8 +0.6**
DBIC Dimbokro 128.83 287 PKP **PKPdf** **22 33 35.8 +0.6**
comp=Z,3.3nm,0.8s,baz=58,slow=5.5,SNR=3.6
TIC Toumodi 129.00 287 *e*P **PKPdf** **22 33 34.8 -0.8**
comp=Z,2.6nm,0.3s
LIC Lamto 129.13 287 *e*PKIKP **PKPdf** **22 33 32.5 -3.3**
comp=Z,8.8nm,0.6s
LIC Lamto 129.13 287 *e*P **PKPdf** **22 33 36.8 +1.0**
comp=Z,15nm,0.6s
LIC Lamto 129.13 287 *e*PKPdf **PKPdf** **22 33 32.5 -3.3**
PLCA Paso Flores 145.91 156 PKPbc **PKPab** **22 34 08.4 +1.3**
PLCA Paso Flores 145.91 156 PKPbc **PKPab** **22 34 08.4 +1.3**
comp=Z,31nm,1.0s,baz=214,slow=3.4,SNR=37
CRPR Cabo Rojo, PR 149.01 26 *e*PKPbc **PKPbc** **22 34 16.6 +1.0**
TRQA Tornquist 151.10 166 *e*PKPbc **PKPbc** **22 34 21.4 +1.2**
SDV Santo Domingo 154.55 43 *e*PKPbc **PKPbc** **22 34 29.3 +0.6**
CFAA Coronel Fontan 154.56 150 PKP **PKPdf** **22 34 20.6 +1.0**
CFAA PKPbc **PKiKP** **22 34 28.4 +0.3**
CFAA PKPab **PKPab** **22 34 41.2 -1.5**
CFAA Coronel Fontan 154.56 150 PKP **PKPdf** **22 34 20.6 +1.0**
comp=Z,0.1nm,0.4s,baz=306,slow=3.7,SNR=4.7
CFAA PKPbc **PKiKP** **22 34 28.4 +0.3**
comp=Z,0.8nm,0.8s,baz=226,slow=2.6,SNR=14
CFAA PKPab **PKPab** **22 34 41.2 -1.5**
comp=Z,1.2nm,0.9s,baz=244,slow=3.1,SNR=6.1
LPAZ La Paz 164.42 115 PKP **PKPdf** **22 34 33.6 +1.5**
LPAZ PKPab **PKPab** **22 35 28.6 +1.9**
LPAZ La Paz 164.42 115 PKP **PKPdf** **22 34 33.6 +1.5**
comp=Z,3.2nm,1.0s,baz=37,slow=3.6,SNR=8.4
LPAZ PKPab **PKPab** **22 35 28.6 +1.9**
comp=Z,3.9nm,1.0s,baz=24,slow=5.9,SNR=3.6
SAML Samuel 170.33 84 *e*PKPdf **PKPdf** **22 34 37.6 +2.0**
SIV San Ignacio 170.52 129 PKP **PKPdf** **22 34 36.9 +1.2**
SIV San Ignacio 170.52 129 PKP **PKPdf** **22 34 36.9 +1.2**
comp=Z,2.4nm,0.8s,baz=221,slow=0.3,SNR=5.4

*ISCJB **29** 22:18:54.1±0.3, 17.66N±0.04×145.68E±0.07, h200km, mb4.3/34, Error ellipse: s-maj=9.5km s-min=6.2km az=2.9*
*NEIC **29** 22:18:55.8±1.3, 17.62N×145.67E, h201km±13km, mb4.8/13, Error ellipse: s-maj=10.0km s-min=8.0km az=71.0*
*IDC **29** 22:18:59.6±2.5, 17.67N×145.43E, h241km±25km, mb3.9/22, mb1 4.0/23, mb1mx3.9/34, mbtmp3.9/23, Error ellipse: s-maj=14.7km s-min=7.7km az=91.0*

ISC 29 22:18:55.9±0.5, 17.59N±0.06×145.6E±0.1, h200km, n69, σ1°19/63, mb4.5/34, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.04**	**190**	*e*Pn	**Pn**	**22 19 57.6**	**-0.7**
GUMO				*e*S	**Sn**	**22 20 48.0**	**+0.8**
JOW	**Kunigami**	**18.47**	**303**	*e*P	**P**	**22 22 59.3**	**+2.4**
	44nm,0.7s						
MJAR	**Matsushiro Arr**	**19.98**	**342**	P	**P**	**22 23 12.4**	**-0.6**
MJAR	**Matsushiro Arr**	**19.98**	**342**	P	**P**	**22 23 12.4**	**-0.6**
	0.7nm,0.3s,baz=166,slow=10,SNR=9.9						
NACB	**Ninganchiao**	**23.34**	**290**	*e*P	**P**	**22 23 47.5**	**+1.0**
	14nm,0.5s						
YULB	**Yu-li**	**23.46**	**288**	*e*P	**P**	**22 23 48.2**	**+0.6**
	46nm,1.7s						
YHNB	**Yeheng**	**23.64**	**291**	*e*P	**P**	**22 23 50.5**	**+1.1**
	44nm,0.9s						
SSLB	**Suanglung**	**23.84**	**289**	*e*P	**P**	**22 23 51.9**	**+0.8**
	30nm,0.7s						
TPUB	**Ta-pu**	**24.06**	**288**	*e*P	**P**	**22 23 53.7**	**+0.7**
	291nm,2.7s						
KSRS	**Korea Array**	**25.16**	**325**	P	**P**	**22 24 01.3**	**-1.5**
	1.5nm,0.5s,baz=148,slow=9.1,SNR=6.8						
KSAR	**Wonju Array Be**	**25.17**	**325**	P	**P**	**22 24 01.3**	**-1.6**
ASAJ	**Asahikawa**	**26.57**	**355**	P	**P**	**22 24 15.3**	**-0.1**
ASAJ	**Asahikawa**	**26.57**	**355**	P	**P**	**22 24 15.3**	**-0.1**
	11nm,0.9s,baz=199,slow=19,SNR=5.6						
PMG	**Port Moresby**	**26.87**	**177**	P	**P**	**22 24 19.5**	**+1.1**
PMG	**Port Moresby**	**26.87**	**177**	P	**P**	**22 24 19.5**	**+1.1**
	6.3nm,0.4s,baz=146,slow=11,SNR=5.8						
ENH	**Enshi**	**35.18**	**298**	*e*P	**P**	**22 25 31.7**	**+0.6**
WRA	**Warramunga Arr**	**38.90**	**197**	P	**P**	**22 26 02.2**	**-0.2**
WRA				S	**S**	**22 31 42.6**	**-3.0**
WRA	**Warramunga Arr**	**38.90**	**197**	P	**P**	**22 26 02.2**	**-0.2**
	4.5nm,0.6s,baz=21,slow=8.3,SNR=15						
WRA				S	**S**	**22 31 42.6**	**-3.0**
	0.1nm,0.3s,baz=17,slow=16,SNR=5.2						
FX1	**Attu Island--F**	**41.30**	**25**	P	**P**	**22 26 21.6**	**-0.1**
FX1	**Attu Island--F**	**41.30**	**25**	P	**P**	**22 26 21.6**	**-0.1**
	8.5nm,0.6s,baz=190,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**42.56**	**196**	P	**P**	**22 26 32.0**	**-0.2**
ASAR	**Alice Springs**	**42.56**	**196**	P	**P**	**22 26 32.0**	**-0.2**
	1.8nm,0.6s,baz=20,slow=6.0,SNR=14						
SONM	**Songino Array**	**43.95**	**322**	P	**P**	**22 26 41.8**	**-1.5**
SONM	**Songino Array**	**43.95**	**322**	P	**P**	**22 26 41.8**	**-1.5**
	0.8nm,0.5s,baz=134,slow=6.1,SNR=5.7						
CMAR	**Chiang Mai Arr**	**44.27**	**279**	P	**P**	**22 26 47.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**44.27**	**279**	P	**P**	**22 26 47.3**	**+1.2**
	3.6nm,0.9s,baz=69,slow=6.8,SNR=11						
DZM	**Mont Dzumac**	**44.39**	**152**	*e*P	**P**	**22 26 47.5**	**+0.6**
	14nm,0.6s						
DZM	**Mont Dzumac**	**44.39**	**152**	P	**P**	**22 26 47.5**	**+0.6**
	26nm,0.6s,baz=348,slow=9.0,SNR=26						
SEY	**Seymchan**	**45.54**	**4**	P	**P**	**22 26 54.5**	**-0.8**
SEY	**Seymchan**	**45.54**	**4**	P	**P**	**22 26 54.5**	**-0.8**
	2.4nm,0.6s,baz=217,slow=20,SNR=4.9						
STKA	**Stephens Creek**	**49.33**	**184**	*e*P	**P**	**22 27 24.1**	**-0.9**
STKA	**Stephens Creek**	**49.33**	**184**	P	**P**	**22 27 24.0**	**-0.9**
	2.5nm,0.5s,baz=24,slow=13,SNR=4.3						
LSA	**Lhasa**	**50.90**	**294**	*e*P	**P**	**22 27 39.4**	**+1.8**
NWAO	**Narrogin (SRO)**	**57.08**	**208**	P	**P**	**22 28 21.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**57.08**	**208**	P	**P**	**22 28 21.8**	**+0.3**
	13nm,0.8s,baz=63,slow=9.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**58.83**	**323**	P	P	22 28 31.4	-1.9
ZALV	**Zalesovo Beam**	**58.83**	**323**	P	P	22 28 31.4	-1.9
	1.1nm,0.5s,baz=114,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**59.16**	**314**	*e*P	**P**	**22 28 36.2**	**+0.4**
MKAR	**Makanchi Array**	**59.16**	**314**	P	**P**	**22 28 34.8**	**-1.0**
	2.8nm,0.7s,baz=87,slow=8.2,SNR=14						
KURK	**Kurchatov**	**62.03**	**319**	*e*P	**P**	**22 28 53.8**	**-1.3**
	3.5nm,0.8s						
KURBB	**Kurchatov Arra**	**62.08**	**318**	P	P	22 28 53.6	-1.7
	8.9nm,0.7s,baz=92,slow=7.3,SNR=56						
CAST	**Castle Rocks**	**62.12**	**27**	*e*P	**P**	**22 28 55.8**	**+0.3**
	9.8nm,0.8s						
TKM2	**Tokmak 2**	**63.67**	**310**	*e*P	**P**	**22 29 06.8**	**+0.5**
	3.2nm,0.8s						
COLD	**Coldfoot**	**64.01**	**23**	*e*P	**P**	**22 29 07.9**	**+0.1**
	6.2nm,0.8s						
COLA	**College**	**64.30**	**26**	P	**P**	**22 29 09.3**	**-0.4**
	24nm,2.6s						
ILAR	**Eielson Array**	**64.68**	**26**	P	P	22 29 10.3	-1.9
ILAR	**Eielson Array**	**64.68**	**26**	P	P	22 29 10.3	-1.9
	6.1nm,0.8s,baz=250,slow=6.0,SNR=35						
DOT	**Dot Lake**	**65.67**	**27**	*e*P	**P**	**22 29 18.1**	**-0.6**
	9.1nm,0.7s						
BVAR	**Borovoye Array**	**67.26**	**321**	P	**P**	**22 29 27.5**	**-1.4**
BVAR	**Borovoye Array**	**67.26**	**321**	P	**P**	**22 29 27.5**	**-1.4**
	7.7nm,0.6s,baz=98,slow=7.2,SNR=28						
DAWY	**Dawson**	**67.78**	**27**	*e*P	**P**	**22 29 32.0**	**0.0**
HYT	**Haines Junctio**	**68.42**	**31**	*e*P	**P**	**22 29 36.7**	**+0.6**
INK	**Inuvik**	**70.43**	**23**	P	**P**	**22 29 47.3**	**-0.7**

INK	**Inuvik**	**70.43**	**23**	P		**P**	**22 29 47.3**	**-0.7**
	8.6nm,0.7s,baz=279,slow=7.5,SNR=11							
DLBC	**Dease Lake**	**72.27**	**33**	P		**P**	**22 29 59.4**	**+0.1**
DLBC	**Dease Lake**	**72.27**	**33**	P		**P**	**22 29 59.4**	**+0.1**
	3.4nm,0.6s,baz=280,slow=3.8,SNR=6.6							
ABKAR	**Akbulak array**	**74.08**	**317**	*e*P		**P**	**22 30 08.6**	**-1.5**
YKA	**Yellowknife Ar**	**79.01**	**28**	P		**P**	**22 30 36.7**	**-0.7**
YKA	**Yellowknife Ar**	**79.01**	**28**	P		**P**	**22 30 36.7**	**-0.7**
	1.7nm,0.7s,baz=288,slow=5.5,SNR=11							
ARCES	**ARCESS Array B**	**83.51**	**342**	P		P	22 30 58.6	-2.4
ARCES	**ARCESS Array B**	**83.51**	**342**	P		P	22 30 58.6	-2.4
	7.5nm,1.1s,baz=72,slow=5.8,SNR=5.0							
NVAR	**Mina Array Bea**	**83.90**	**52**	P		**P**	**22 31 04.4**	**+0.5**
NVAR	**Mina Array Bea**	**83.90**	**52**	P		**P**	**22 31 04.4**	**+0.5**
	2.2nm,0.7s,baz=268,slow=6.1,SNR=11							
FINES	**FINESS Array B**	**87.84**	**335**	P		P	22 31 19.9	-2.5
FINES	**FINESS Array B**	**87.84**	**335**	P		P	22 31 19.9	-2.5
	1.6nm,0.8s,baz=49,slow=6.0,SNR=5.3							
CFAA	**Coronel Fontan**	**146.38**	**121**	PKPbc		**PKPdf**	**22 38 12.7**	**+0.5**
CFAA	**Coronel Fontan**	**146.38**	**121**	PKPbc		**PKPdf**	**22 38 12.7**	**+0.5**
	0.3nm,0.5s,baz=227,slow=5.3,SNR=5.1							
LPAZ	**La Paz**	**147.74**	**93**	PKPbc		**PKPdf**	**22 38 18.8**	**+3.2**
LPAZ	**La Paz**	**147.74**	**93**	PKPbc		**PKPdf**	**22 38 18.8**	**+3.2**
	1.5nm,0.4s,baz=35,slow=12,SNR=5.0							

KRSC 29 22:20:49.7±5.0, 50.98N×158.30E, h33km±33km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.06**	**298**	*i* P		Pb	22 21 10.1	+0.6
PAU				*e*S		Sb	22 21 23.4	+0.4
SKR	**Severo-Kuril's**	**1.42**	**259**	*i* P		Pb	22 21 14.3	-1.2
SKR				*i* S		Sn	22 21 30.8	+0.2
ASAK	**Asacha**	**1.43**	**350**	P		Pb	22 21 15.0	-0.8
ASAK				*e*S		Sn	22 21 31.9	+0.8
RUS	**Russkaya**	**1.46**	**5**	*i* P		Pb	22 21 16.4	+0.1
RUS				*e*S		Sb	22 21 34.0	-0.5
MTVR	**Mutnovka**	**1.51**	**357**	*e*P		Pb	22 21 17.1	-0.2
MTVR				*e*S		Sb	22 21 35.0	-1.2
GRL	**Gorelyy**	**1.58**	**355**	*e*P		Pb	22 21 18.4	-0.1
GRL				*e*S		Sb	22 21 37.3	-0.9
MIPR	**Malaya Ipel'ka**	**1.61**	**324**	*i* P		Pn	22 21 16.9	+1.0
MIPR				*e*S		Sn	22 21 34.6	-1.0
PET	**Petropavlovsk**	**2.06**	**6**	S		Sn	22 21 47.2	+0.8
APC	**Apacha**	**2.07**	**341**	*i* P		Pn	22 21 23.4	+1.3
APC				S		Sn	22 21 45.6	-1.2
UGLR	**Uglovaya**	**2.26**	**8**	*i* P		Pb	22 21 27.7	-2.2
NLC	**Nalytchevo**	**2.29**	**16**	P		Pn	22 21 26.7	+1.6
NLC				*e*S		Sn	22 21 51.1	-1.0
AVH	**Avacha**	**2.31**	**7**	*e*P		Pb	22 21 28.7	-2.0
AVH				*e*S		Sn	22 21 55.4	+2.7
SMAR	**Somma**	**2.31**	**7**	*e*P		Pn	22 21 28.2	+2.5
KOK	**Koryaka**	**2.33**	**5**	*e*P		Pb	22 21 29.0	-2.1
SDLR	**Sedlovina**	**2.33**	**9**	*i* P		Pn	22 21 28.1	+2.2
KRER	**Koryakskii**	**2.34**	**7**	*e*P		Pb	22 21 29.1	-2.4
KRER				*e*S		Sn	22 21 55.6	+1.6
SPN	**Mys Shipunski**	**2.37**	**26**	*e*S		Sn	22 21 56.1	+1.9
KRX	**Arik**	**2.39**	**5**	*e*P		Pb	22 21 29.6	-2.7
GNL	**Ganaly**	**2.73**	**356**	*e*P		Pn	22 21 33.2	+1.9
GNL				*e*S		Sn	22 22 02.5	-0.8
MKZ	**Mys Kozlova**	**4.14**	**29**	P		Pn	22 21 53.1	+2.6
MKZ				*e*S		Sn	22 22 37.0	-0.8

*ISK **29** 22:25:49.8, 39.50N×33.08E, h5km, MD3.1*
*DDA **29** 22:25:49.7, 39.43N×33.08E, h3km, MD3.0*
*CSEM **29** 22:25:51.1±0.2, 39.50N×33.09E, h2km, MD3.1, Error ellipse: s-maj=5.6km s-min=4.2km az=42.0*

ISC 29 22:25:49.4±0.8, 39.48N±0.02×33.08E±0.02, h5km±5km, n49, σ1°31/65, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFSR	**Afar-Bala (A**	**0.03**	**196**	*e*PG		**Pg**	**22 25 50.3**	**-0.4**
AFSR				*e*SG		**Sg**	**22 25 51.8**	**+0.2**
AFSR	**Afar-Bala (A**	**0.03**	**196**	*e*Pg		**Pg**	**22 25 50.3**	**-0.4**
AFSR				*e*Sg		**Sg**	**22 25 51.8**	**+0.2**
BBAL	**Bala**	**0.07**	**26**	*i* P		**Pg**	**22 25 52.6**	**+1.3**
BBAL				*i* S		**Sg**	**22 25 54.7**	**+2.1**
BBAL	**Bala**	**0.07**	**26**	*i* P		**Pg**	**22 25 52.6**	**+1.3**
BBAL				*i* S		**Sg**	**22 25 54.7**	**+2.1**
ANTO	**Ankara**	**0.45**	**331**	*e*PG		**Pb**	**22 25 59.1**	**-0.8**
ANTO				*e*SG		**Sb**	**22 26 06.8**	**-0.2**
ANTO	**Ankara**	**0.45**	**331**	⇓*i*P		**Pb**	**22 25 59.5**	**-0.4**
ANTO	**Ankara**	**0.45**	**331**	*e*Pg		**Pb**	**22 25 59.1**	**-0.8**
ANTO	**Ankara**	**0.45**	**331**	⇓*i*P		**Pb**	**22 25 59.5**	**-0.4**
ANTO				*e*Sg		**Sb**	**22 26 06.8**	**-0.2**
LOD	**Lodumlu**	**0.48**	**329**	*e*PG		**Pb**	**22 25 59.6**	**-0.8**
LOD				*e*SG		**Sb**	**22 26 07.5**	**-0.3**
LOD	**Lodumlu**	**0.48**	**329**	*e*Pg		**Pb**	**22 25 59.6**	**-0.8**
LOD				*e*Sg		**Sb**	**22 26 07.5**	**-0.3**
KAMT	**Kaman**	**0.50**	**102**	*e*PG		**Pb**	**22 26 00.0**	**-0.8**
KAMT	**Kaman**	**0.50**	**102**	*e*Pg		**Pb**	**22 26 00.0**	**-0.8**
CDAG	**Cicekdag**	**1.01**	**81**	*i* P		**Pb**	**22 26 09.4**	**0.0**
CDAG				*i* S		**Sn**	**22 26 24.1**	**-0.8**
CDAG	**Cicekdag**	**1.01**	**81**	*i* P		**Pb**	**22 26 09.4**	**0.0**
CDAG				*i* S		**Sn**	**22 26 24.1**	**-0.8**
ELDT	**Eldivan**	**1.05**	**15**	*i* P		**Pn**	**22 26 10.6**	**-0.3**
ELDT				*i* S		**Sn**	**22 26 26.2**	**+0.2**
ELDT	**Eldivan**	**1.05**	**15**	*i* P		**Pn**	**22 26 10.6**	**-0.3**
ELDT				*i* S		**Sn**	**22 26 26.2**	**+0.2**
CANT	**Cankiri**	**1.20**	**20**	*e*PN		**Pn**	**22 26 14.0**	**+1.1**
SVRH	**Sivrihisar-ESK**	**1.21**	**269**	*e*PN		**Pn**	**22 26 13.2**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.21**	**269**	*e*Pn		**Pn**	**22 26 13.2**	**+0.2**
SULT	**Sultanhani-AKS**	**1.32**	**165**	*e*PN		**Pg**	**22 26 17.4**	**+2.6**
SULT	**Sultanhani-AKS**	**1.32**	**165**	*e*Pn		**Pg**	**22 26 17.4**	**+2.6**
CORM	**Corum**	**1.38**	**59**	*e*PN		**Pg**	**22 26 16.6**	**+0.6**
CORM	**Corum**	**1.38**	**59**	*e*Pn		**Pg**	**22 26 16.6**	**+0.6**
LADK	**Ladik-KONYA**	**1.39**	**204**	*e*PN		**Pg**	**22 26 18.3**	**+2.2**
LADK	**Ladik-KONYA**	**1.39**	**204**	*e*Pn		**Pg**	**22 26 18.3**	**+2.2**
KONT	**Konya--Tatoy**	**1.63**	**200**	*e*PN		**Pg**	**22 26 20.4**	**-0.2**
KONT	**Konya--Tatoy**	**1.63**	**200**	*e*Pn		**Pg**	**22 26 20.4**	**-0.2**
SEYT	**Eskypehyr**	**1.73**	**272**	*i* P		**Pg**	**22 26 22.2**	**-0.3**
SEYT				*i* S		**Sg**	**22 26 46.8**	**+1.8**
SEYT	**Eskypehyr**	**1.73**	**272**	*i* P		**Pg**	**22 26 22.2**	**-0.3**
SEYT				*i* S		**Sg**	**22 26 46.8**	**+1.8**
YOZ	**Yozgat**	**1.74**	**84**	*e*PN		**Pg**	**22 26 22.6**	**-0.2**
YOZ	**Yozgat**	**1.74**	**84**	*e*Pn		**Pg**	**22 26 22.6**	**-0.2**
MDUB	**Mudurnu**	**1.76**	**305**	*e*PN		**Pg**	**22 26 22.6**	**-0.4**
MDUB	**Mudurnu**	**1.76**	**305**	*e*Pn		**Pg**	**22 26 22.7**	**-0.4**
SAFT	**Safranbolu**	**1.79**	**350**	*e*PN		**Pg**	**22 26 23.1**	**-0.6**
SAFT	**Safranbolu**	**1.79**	**350**	*e*Pn		**Pg**	**22 26 23.1**	**-0.6**
BORA	**Eskisehir**	**2.07**	**282**	*i* P		**Pg**	**22 26 28.8**	**-0.3**
BORA				*i* S		**Sg**	**22 26 58.0**	**+2.1**
BORA	**Eskisehir**	**2.07**	**282**	*i* P		**Pg**	**22 26 28.8**	**-0.3**
BORA				*i* S		**Sg**	**22 26 58.0**	**+2.1**
GULT	**Gulveren**	**2.19**	**297**	*e*PN		**Pb**	**22 26 28.7**	**-0.9**
GULT	**Gulveren**	**2.19**	**297**	*e*Pn		**Pb**	**22 26 28.7**	**-0.9**
BNN	**Bunyan**	**2.24**	**105**	*e*PN		**Pb**	**22 26 29.6**	**-0.8**
BNN	**Bunyan**	**2.24**	**105**	*e*Pn		**Pb**	**22 26 29.6**	**-0.8**
KARA	**Karaisali**	**2.70**	**144**	*e*PN		**Pb**	**22 26 36.9**	**-1.3**
KARA	**Karaisali**	**2.70**	**144**	*e*Pn		**Pb**	**22 26 36.9**	**-1.3**
MERS	**Mersin**	**2.84**	**156**	*e*PN		**Pb**	**22 26 39.0**	**-1.6**
MERS	**Mersin**	**2.84**	**156**	*e*Pn		**Pb**	**22 26 39.0**	**-1.6**
KOZT	**Kozan**	**2.94**	**132**	*e*PN		**Pb**	**22 26 39.8**	**-2.4**
KOZT	**Kozan**	**2.94**	**132**	*e*Pn		**Pb**	**22 26 39.8**	**-2.4**
SVSK	**Karacayir**	**3.05**	**80**	*e*PN		**Pb**	**22 26 41.1**	**-3.1**
SVSK	**Karacayir**	**3.05**	**80**	*e*Pn		**Pb**	**22 26 41.1**	**-3.1**

IDC 29 22:28:39.1±1.6, 2.87S×139.95E, h0km, mb3.2/4, mb1 3.5/5, mb1mx3.4/17, mbtmp3.3/5, Error ellipse: s-maj=66.4km s-min=25.0km az=95.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.83**	**197**	P		P	22 32 49.3	-0.3
	0.3nm,0.3s,baz=17,slow=13,SNR=11							
ASAR	**Alice Springs**	**21.48**	**195**	P		P	22 33 29.4	-0.1
	0.8nm,0.8s,baz=27,slow=11,SNR=5.9							
SONM	**Songino Array**	**58.40**	**334**	P		P	22 38 37.7	+1.1
	0.1nm,0.5s,baz=159,slow=6.9,SNR=2.6							
MKAR	**Makanchi Array**	**70.68**	**322**	P		P	22 39 56.0	-0.9
	0.1nm,0.5s,baz=110,slow=7.9,SNR=2.8							
ILAR	**Eielson Array**	**85.47**	**24**	P		P	22 41 18.3	-0.2
	0.4nm,0.8s,baz=266,slow=4.8,SNR=6.1							

IDC 29 22:31:42.8±2.7, 30.87N×41.56W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/28, mbtmp3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/49, Error ellipse: s-maj=153.9km s-min=29.4km az=28.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**43.49**	**104**	P		P	22 39 48.1	-0.1
	1.0nm,1.1s,baz=301,slow=9.0,SNR=3.0							
H10N2	**ASCENSION HYDR**	**46.41**	**141**	T		T	23 29 39.1	
	baz=327,slow=75,SNR=23							
H10N3	**ASCENSION HYDR**	**46.41**	**142**	T		T	23 29 32.8	
	baz=327,slow=75,SNR=9.0							
H10N1	**ASCENSION HYDR**	**46.43**	**142**	T		T	23 29 38.7	
	baz=327,slow=75,SNR=33							
H10S1	**ASCENSION HYDR**	**47.26**	**142**	T		T	23 30 38.6	
	baz=328,slow=75,SNR=8.3							
H10S3	**ASCENSION HYDR**	**47.26**	**143**	T		T	23 30 37.5	
	baz=328,slow=75,SNR=8.2							
H10S2	**ASCENSION HYDR**	**47.27**	**143**	T		T	23 30 38.2	
	baz=328,slow=75,SNR=19							
SPITS	**Spitsbergen Ar**	**53.58**	**13**	LR		LR	22 57 46.0	
	comp=Z,54nm,20.1s,baz=70,slow=29							
PDAR	**Pinedale Array**	**54.36**	**303**	P		P	22 41 11.6	-0.1
	0.9nm,0.9s,baz=82,slow=8.8,SNR=4.2							
ELK	**Elko**	**58.97**	**302**	LR		LR	23 03 13.4	
	comp=Z,74nm,19.9s,baz=180,slow=32							
ILAR	**Eielson Array**	**68.66**	**334**	P		P	22 42 47.7	0.0
	1.3nm,1.2s,baz=50,slow=5.0,SNR=6.6							
RKT	**Rikitea**	**104.27**	**251**	*e*LR		LR	23 01 45.2	
	290nm,24.2s							

*MOS **29** 22:35:24.7±1.1, 10.05N×126.41E, h33km, mb5.2/45, Error ellipse: s-maj=11.3km s-min=5.0km az=120.1*
*IDC **29** 22:35:25.0±2.1, 10.07N×126.40E, h21km±13km, mb4.6/37, mb1 4.7/37, mb1mx4.7/39, mbtmp4.6/37, MS4.3/9, Ms1 4.3/9, ms1mx3.9/44, Error ellipse: s-maj=15.5km s-min=8.8km az=72.0*
*MAN **29** 22:35:24, 10.16N×126.70E, h56km, mb5.5, ML4.5, MS4.9*
MAN Intensity II - Surigao City.
*DJA **29** 22:35:25.5±1.3, 11.1N×12.7E, h50km±8km, M5.0/60, mb5.2/60, mB5.5/25, Mw(mB)5.0/25, Mwp7.4/1*
*ISCJB **29** 22:35:27.5±0.5, 10.15N±0.02×126.50E±0.03, h57km±3km, mb5.0/152, MS4.4/20, Error ellipse: s-maj=4.9km s-min=3.2km az=165.4*
*BJI **29** 22:35:29.3, 9.97N×126.41E, h86km, mB5.2/32, mb4.8/53, Ms4.8/40, Ms7 4.5/38*
*NEIC **29** 22:35:30.7±0.8, 10.08N×126.42E, h72km±7km, mb4.9/54, Error ellipse: s-maj=6.5km s-min=4.2km az=75.0*
NEIC Felt [II PIVS] at Surigao, Mindanao.
*BKK **29** 22:35:31.3±0.3, 10.1N×12.7E, h79km, M5.2/34, mB5.4/12, mb5.0/34, MLv5.7/1, Mw(mB)4.9/12*

ISC 29 22:35:31.7±0.3, 10.08N±0.03×126.43E±0.04, h77km±2km, n445, σ1°73/481, mb4.9/152, 25C-15D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.97**	**253**	⇑*i*P		Pn	22 35 45.0	-5.3
SCPH				*i* S		**Sn**	**22 35 59.6**	**-4.4**
BUTP	**Butuan**	**1.36**	**216**	*e*P		Pn	22 35 50.8	-4.3
MSLP	**Maasin**	**1.55**	**272**	*e*P		Pn	22 35 54.2	-3.4
MSLP				*e*S		**Sn**	**22 36 20.4**	**+3.3**
PLP	**Palo**	**1.79**	**307**	⇑*i*P		Pn	22 35 56.3	-4.5
BIPH	**Bislig**	**1.88**	**182**	⇓*e*P		Pn	22 35 55.6	-6.3
BIPH				*e*S		Sn	22 36 15.2	-10
OCLP	**Ormoc**	**2.04**	**299**	*e*P		**Pn**	**22 36 01.8**	**-2.3**
CGP	**Cagayan de Oro**	**2.35**	**227**	⇑*i*P		Pn	22 36 04.9	-3.3
CGP				*i* S		**Sn**	**22 36 35.0**	**-1.3**
LLP	**Lapu-Lapu**	**2.44**	**276**	⇑*i*P		**Pn**	**22 36 07.2**	**-2.2**
LLP				*e*S		**Sn**	**22 36 39.0**	**+0.7**
TBP	**Tagbilaran**	**2.56**	**262**	*e*P		**Pn**	**22 36 09.1**	**-2.0**
TBP				*e*S		**Sn**	**22 36 41.5**	**+0.2**
BUKP	**Musuan**	**2.57**	**212**	*e*P		**Pn**	**22 36 08.3**	**-2.9**
BUKP				*e*S		Sn	22 36 49.0	+7.5
DAV	**Davao City (W)**	**3.10**	**196**	*e*Pn		**Pn**	**22 36 18.7**	**+0.2**
DAV				*e*S		Sn	22 36 44.1	-10
DMPH	**Davao City--Mi**	**3.11**	**197**	⇑*e*P		Pn	22 36 22.6	+4.0
DMPH				*e*S		**Sn**	**22 36 55.4**	**+0.8**
MATI	**Mati**	**3.11**	**183**	*e*P		Pn	22 36 14.6	-4.0
KCP	**Kidapawan**	**3.32**	**204**	*e*P		Pn	22 36 16.2	-5.3
KCP				*e*S		**Sn**	**22 36 58.7**	**-1.2**
CTBH	**Cotabato--PC H**	**3.56**	**217**	⇑*e*P		**Pn**	**22 36 21.8**	**-2.9**
PAGZ	**Pagadian**	**3.74**	**234**	*e*P		**Pn**	**22 36 24.5**	**-2.6**
GUIM	**Jordan**	**3.82**	**279**	*e*P		**Pn**	**22 36 26.1**	**-2.1**
RCP	**Roxas**	**3.91**	**293**	⇑*i*P		**Pn**	**22 36 27.6**	**-1.9**
PVCP	**Virac**	**4.15**	**328**	⇓*e*P		Pn	22 36 27.1	-5.5
PVCP				*e*S		**Sn**	**22 37 15.5**	**-4.5**
PVCP	**Virac**	**4.15**	**328**	*e*P		Pn	22 36 27.6	-5.0
OTRP	**Odiongan**	**4.89**	**298**	*e*P		**Pn**	**22 36 39.8**	**-2.9**
CUYO	**Cuyo Island**	**5.38**	**279**	*e*P		Pn	22 36 55.4	+6.0
SJMP	**San Jose**	**5.72**	**295**	*e*P		**Pn**	**22 36 53.5**	**-0.7**
BUSP	**Coron**	**6.41**	**288**	*e*P		**Pn**	**22 37 02.0**	**-1.5**
SGSI	**Sangihe**	**6.41**	**188**	P		Pn	22 37 10.8	+7.2
TGY	**Tagaytay City**	**6.70**	**307**	Pn		**Pn**	**22 37 05.2**	**-2.4**
TGY	**Tagaytay City**	**6.70**	**307**	Pn		**Pn**	**22 37 05.2**	**-2.4**
	27nm,0.3s,baz=140,slow=12,SNR=4.0							
ENPP	**El Nido**	**6.98**	**280**	*e*P		**Pn**	**22 37 09.7**	**-1.6**
LUBP	**Lubang**	**7.06**	**302**	*e*P		**Pn**	**22 37 13.6**	**+1.2**
CAUP	**Cauayan**	**8.17**	**327**	*e*P		Pn	22 37 23.0	-4.6
SCZP	**Santa Cruz**	**8.51**	**312**	*e*P		Pn	22 37 37.1	+4.8
BATP	**Bataraza**	**8.61**	**262**	*e*P		Pn	22 37 37.2	+3.6
APYP	**Conner**	**9.23**	**328**	*e*P		Pn	22 37 46.4	+4.3
MYLDM	**Lahad Datu**	**9.24**	**239**	P		Pn	22 37 47.2	+4.9
MYLDM	**Lahad Datu**	**9.24**	**239**	P		Pn	22 37 47.7	+5.4
	114nm,1.2s							
MYLDM	**Lahad Datu**	**9.24**	**239**	*e*Pn		Pn	22 37 49.0	+6.8
TNTI	**Ternate**	**9.29**	**174**	P		Pn	22 37 38.6	-4.3
TNTI	**Ternate**	**9.29**	**174**	*e*Pn		Pn	22 37 39.6	-3.3
KMSI	**Cibinong**	**9.75**	**195**	P		Pn	22 37 52.3	+3.1
	258nm,1.2s,6μm							
GTOI	**Gorontalo**	**9.97**	**200**	P		**Pn**	**22 37 50.5**	**-1.8**
	142nm,0.9s,2μm							
SDKM	**Sandakan**	**10.15**	**245**	P		Pn	22 37 57.9	+3.2
TSM	**Tawau**	**10.25**	**237**	P		Pn	22 37 59.0	+3.0
MRSI	**Marisa**	**10.53**	**205**	P		**Pn**	**22 38 01.9**	**+2.1**
	76nm,0.9s,2μm							
LBMI	**Labuha**	**10.70**	**174**	P		**Pn**	**22 37 59.6**	**-2.5**
	82nm,0.9s,2μm							
LUWI	**Luwuk**	**11.63**	**198**	P		Pn	22 38 18.6	+3.8
	160nm,1.2s							
SWI	**Sorong**	**11.88**	**156**	P		Pn	22 38 12.9	-5.4
	44nm,1.0s							
APSI	**Ampana**	**11.91**	**204**	P		Pn	22 38 22.8	+4.2
	74nm,1.2s,1μm							
PCI	**Palu**	**12.73**	**211**	P		Pn	22 38 32.8	+3.0
	1μm,1.0s							
NLAI	**Namlea**	**13.24**	**177**	P		Pn	22 38 31.5	-5.2
MWPI	**Manokwari, Pap**	**13.30**	**145**	P		**Pn**	**22 38 35.5**	**-1.9**
	165nm,1.2s							
MSAI	**Masohi**	**13.56**	**169**	P		**Pn**	**22 38 41.9**	**+1.0**
	30nm,0.8s							
TWG	**Pinlang**	**13.67**	**339**	*e*Pn		**Pn**	**22 38 43.6**	**+1.3**
	58nm,0.8s							
YULB	**Yu-li**	**14.12**	**340**	*e*Pn		**Pn**	**22 38 48.1**	**0.0**
	37nm,1.1s							
YULB				*e*S		**Sn**	**22 41 21.3**	**-2.2**
FAKI	**Fak Fak**	**14.15**	**156**	P		**Pn**	**22 38 46.0**	**-2.6**
	97nm,1.8s							
TPUB	**Ta-pu**	**14.27**	**338**	*e*Pn		**Pn**	**22 38 51.6**	**+1.4**
	71nm,0.8s							
TTSI	**Tan Toraja**	**14.60**	**207**	P		**P**	**22 38 58.0**	**-0.8**
	122nm,1.4s,2μm							
SSLB	**Suanglung**	**14.60**	**340**	*e*Pn		**Pn**	**22 38 54.7**	**+0.2**
BKB	**Balikpapan**	**14.73**	**221**	P		P	22 39 12.8	+13
MMSI	**Mamuju**	**14.73**	**211**	P		P	22 39 07.9	+7.7
BAKI	**Biak**	**14.77**	**139**	P		Pn	22 38 46.1	-10
YHNB	**Yeheng**	**15.29**	**342**	*e*P		**Pn**	**22 38 59.9**	**-3.4**
	56nm,0.8s							
MJSI	**Majene**	**15.44**	**209**	P		pP	22 39 21.7	-1.6
SPSI	**Sidrap Palu**	**15.45**	**206**	P		**P**	**22 39 07.3**	**-0.9**
	57nm,1.0s,1μm							
BNSI	**Bone**	**15.70**	**204**	P		**P**	**22 39 12.5**	**+1.5**
	106nm,1.4s,2μm							
SBUM	**Sibu**	**16.02**	**243**	P		**P**	**22 39 15.4**	**+0.8**
SBUM	**Sibu**	**16.02**	**243**	P		**P**	**22 39 14.9**	**+0.3**
	94nm,1.2s,930nm							
SBUM	**Sibu**	**16.02**	**243**	*e*Pn		**P**	**22 39 14.2**	**-0.4**
	125nm,1.2s							
KAPI	**Kappang**	**16.40**	**204**	*e*P		**Pn**	**22 39 17.6**	**+0.3**
	164nm,1.1s							
BKSI	**Bulukumba**	**16.54**	**203**	P		**P**	**22 39 24.2**	**+3.9**
	40nm,1.5s,713nm							
QZH	**Quanzhou**	**16.56**	**334**	⇑*i*P		**Pn**	**22 39 16.5**	**-2.7**
QZH				S		**Sn**	**22 42 18.0**	**-4.5**
QZH				pmax	pmax			
	comp=Z,100nm,0.8s							
QZH				LR	LR			
	comp=N,1μm,11.2s							
QZH				LR	LR			
	comp=E,1μm,10.9s							
QZH				LR	LR			
	comp=Z,3μm,16.2s							
JOW	**Kunigami**	**16.76**	**6**	*e*Pn		**Pn**	**22 39 20.6**	**-1.0**
	92nm,1.6s							
KBKI	**Kotabaru**	**16.76**	**218**	P		P	22 39 29.5	+6.7
DLV	**T Lat**	**17.71**	**278**	*e*P		**Pn**	**22 39 34.0**	**+0.4**
	55nm,1.1s							
BBKI	**Banjar Baru**	**17.72**	**221**	P		Pn	22 39 39.5	+5.9
	82nm,1.1s,2μm							
STKI	**Sintang**	**17.89**	**237**	P		**Pn**	**22 39 39.4**	**+3.8**
	65nm,1.3s,21μm							
KSM	**Kuching**	**18.16**	**243**	P		**Pn**	**22 39 40.0**	**+1.2**
KSM	**Kuching**	**18.16**	**243**	P		**Pn**	**22 39 41.5**	**+2.6**
	48nm,1.3s,814nm							
KSM	**Kuching**	**18.16**	**243**	*e*Pn		**Pn**	**22 39 40.3**	**+1.4**
	69nm,1.3s							
KSM				*e*S		**Sn**	**22 43 00.5**	**-0.9**
QIZ	**Qiongzhong**	**18.34**	**301**	P		**Pn**	**22 39 40.8**	**-0.3**
QIZ				pP		**pP**	**22 39 56.5**	**+0.9**
QIZ				sP		**sP**	**22 40 07.0**	**+1.7**
QIZ				S		**Sn**	**22 43 06.0**	**+0.3**
QIZ				pmax	pmax			
	comp=Z,25nm,1.7s							
QIZ				pmax	pmax			
	comp=Z,730nm,11.7s							
QIZ				LR	LR			
	comp=Z,1μm,18.5s							
SAUI	**Saumlaki**	**18.58**	**165**	P		pP	22 39 59.4	+1.2
GENI	**Genyem**	**18.59**	**132**	P		**Pn**	**22 39 43.3**	**-0.7**
JAY	**Jayapura**	**18.93**	**131**	LR		LR	22 46 28.4	
	comp=Z,2μm,18.2s,baz=46,slow=35							
MMRI	**Maumere**	**19.05**	**193**	P		**Pn**	**22 39 51.9**	**+2.4**
	166nm,0.7s,4μm							
LBFI	**Labuhan Bajo,**	**19.55**	**200**	P		**Pn**	**22 39 59.3**	**+3.9**
	181nm,0.7s,1μm							
SOEI	**Soe**	**19.82**	**186**	P		**Pn**	**22 39 57.2**	**-1.4**
	224nm,0.9s,3μm							
KMMI	**Kalianget**	**21.06**	**217**	P		pP	22 40 24.0	-1.4
UBPT	**Khong Chiam**	**21.09**	**286**	P		**P**	**22 40 09.3**	**-0.7**
	43nm,2.0s,2μm							
SRBI	**Singaraja**	**21.22**	**212**	P		P	22 40 16.6	+5.2
	44nm,1.4s							
KHKI	**Kahang-Kahang**	**21.25**	**211**	P		**P**	**22 40 15.2**	**+3.4**
	29nm,1.0s							
SSE	**Sheshan**	**21.48**	**348**	*e*P		**P**	**22 40 13.8**	**-0.2**
SSE				S		**S**	**22 44 09.8**	**+1.7**
SSE				pmax	pmax			
	comp

KMI pP **pP** **22 41 27.3 +2.4**
KMI sP **sP** **22 41 36.0 +2.0**
KMI S **S** **22 45 43.3 +3.8**
KMI pmax pmax
comp=Z,6.0nm,1.4s
KMI LR LR
comp=N,250nm,13.7s
KMI LR LR
comp=E,820nm,15.4s
KMI LR LR
comp=Z,990nm,15.4s
BKNI Bangkinang 27.05 251 P **P** **22 41 09.1 +2.0**
108nm,1.3s
LAMP Lampang 27.26 291 P **P** **22 41 13.4 +4.4**
SURT Suratani 27.27 270 P **P** **22 41 10.8 +1.6**
7.1nm,1.4s
KSAR Wonju Array Be 27.28 3 P **P** **22 41 08.6 -0.3**
KSRS Korea Array 27.29 3 P **P** **22 41 08.6 -0.4**
21nm,1.0s,baz=176,slow=10,SNR=27
KHLT Khaolaem Dam 27.58 283 P **P** **22 41 12.0 +0.1**
13nm,1.2s,320nm
CM31 Chiang Mai Arr 27.88 290 *e*P **P** **22 41 13.9 -0.7**
24nm,0.9s
CMAR Chiang Mai Arr 27.88 290 P **P** **22 41 13.6 -1.0**
CMAR PcP **PcP** **22 44 30.2 +1.4**
CMAR ScP **ScP** **22 48 09.1 +6.1**
CMAR Chiang Mai Arr 27.88 290 P **P** **22 41 13.6 -1.0**
5.4nm,0.8s,baz=103,slow=7.1,SNR=43
CMAR PcP **PcP** **22 44 30.2 +1.4**
2.2nm,0.8s,baz=82,slow=1.1,SNR=5.1
CMAR ScP **ScP** **22 48 09.1 +6.1**
0.4nm,0.3s,baz=15,slow=1.2,SNR=5.5
PPI Padang Panjang 27.94 250 P **P** **22 41 15.5 +0.4**
88nm,1.5s,883nm
PDSI Padang 28.05 249 P **P** **22 41 16.2 0.0**
84nm,0.7s,936nm
CMAI Chiengmai2 28.17 294 P **P** **22 41 18.0 +0.7**
317nm,0.8s,25µm
MNSI Mandailing Nat 28.25 253 P **P** **22 41 18.0 +0.2**
65nm,0.8s,850nm
PSI Prapat 28.25 257 P **P** **22 41 20.1 +2.1**
19nm,1.6s
PSI Prapat 28.25 257 P **P** **22 41 17.2 -0.8**
PSI Prapat 28.25 257 P **P** **22 41 17.2 -0.8**
4.9nm,0.5s,baz=129,slow=5.4,SNR=4.7
PMG Port Moresby 28.29 133 P **P** **22 41 16.1 -2.1**
26nm,1.3s
PMG Port Moresby 28.29 133 *e*P **P** **22 41 16.0 -2.1**
37nm,1.2s
PMG Port Moresby 28.29 133 P **P** **22 41 16.0 -2.1**
18nm,1.0s,baz=45,slow=9.1,SNR=7.4
MJAR Matsushiro Arr 28.43 20 P **P** **22 41 16.6 -2.7**
MJAR Matsushiro Arr 28.43 20 P **P** **22 41 16.6 -2.7**
1.9nm,0.7s,baz=190,slow=8.9,SNR=6.2
MJAR LR LR 22 52 18.0
comp=Z,830nm,18.1s,baz=215,slow=36
XAN Xi'an 28.75 329 P **P** **22 41 20.5 -1.7**
XAN pmax pmax
comp=Z,13nm,0.8s
MHMT Maesarieng 28.75 289 P **P** **22 41 22.0 -0.3**
15nm,1.0s
COEN Coen 29.09 145 *e*P **P** **22 41 23.4 -1.8**
105nm,0.8s
KCSI Kotacane, Aceh 29.18 259 P **P** **22 41 25.2 -0.9**
19nm,1.4s
CD2 Chengdu 29.56 318 P **P** **22 41 27.3 -2.1**
CD2 sP **sP** **22 41 55.8 -0.6**
CD2 PP **PnPn** **22 42 26.8 -0.6**
CD2 S **S** **22 46 15.3 -3.7**
CD2 SS **SnSn** **22 47 55.0 +0.4**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,540nm,10.6s
CD2 LR LR
comp=N,1µm,17.8s
GSI Gunungsitoli 29.98 255 *e*P **P** **22 41 31.0 -2.2**
32nm,0.8s
WRAB Tennant Creek 30.82 165 P **P** **22 41 39.0 -1.5**
51nm,0.7s,SNR=8.3
WRAB Tennant Creek 30.82 165 *e*P **P** **22 41 39.3 -1.2**
WRAB pmax pmax
comp=Z,65nm,2.5s
WRAB Tennant Creek 30.82 165 *e*P **P** **22 41 38.0 -2.5**
comp=Z,12nm,1.0s
WRA Warramunga Arr 30.83 165 P **P** **22 41 37.7 -2.9**
WRA PcP **PcP** **22 44 37.0 +0.8**
WRA ScP **ScP** **22 48 16.5 +4.2**
WRA Warramunga Arr 30.83 165 P **P** **22 41 37.7 -2.9**
comp=Z,5.2nm,0.7s,baz=343,slow=9.6,SNR=35
WRA PcP **PcP** **22 44 37.0 +0.8**
comp=Z,2.0nm,0.8s,baz=341,slow=3.4,SNR=4.2
WRA ScP **ScP** **22 48 16.5 +4.2**
comp=Z,2.6nm,1.0s,baz=345,slow=3.3,SNR=5.0
LZH Lanzhou 33.03 325 *e*P **P** **22 41 59.8 -0.1**
LZH pP **pP** **22 42 15.5 -2.6**
LZH PP **PP** **22 43 17.5 +1.5**
LZH *e*S **S** **22 47 12.5 -0.7**
LZH sS **sS** **22 47 42.0 -2.4**
LZH SS **SnSn** **22 49 17.0 -1.8**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,160nm,4.8s
LZH LR LR
comp=Z,510nm,12.2s
LZH LR LR
comp=Z,1µm,15.2s
LZH LR LR
comp=Z,1µm,15.3s
HHC Hu-ho-hao-te 33.35 339 *e*P **P** **22 42 03.0 +0.3**
HHC pP **pP** **22 42 23.5 +2.7**
HHC S **S** **22 47 21.8 +3.7**
HHC sS sS 22 47 54.5 +5.2
HHC pmax pmax
comp=Z,51nm,0.9s
HHC pmax pmax
comp=Z,290nm,4.2s
HHC LR LR
comp=Z,940nm,12.3s
HHC LR LR
comp=Z,990nm,13.2s
HHC LR LR
comp=Z,540nm,12.6s
CN2 Changchun 33.61 359 *e*P **P** **22 42 06.8 +2.1**
CN2 *es*P **sP** **22 42 35.5 +3.6**
CN2 *e*S **S** **22 47 22.5 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
AS31 Alice Springs 34.32 168 *e*P **P** **22 42 09.1 -2.0**
ASAR Alice Springs 34.32 168 P **P** **22 42 09.0 -2.1**
ASAR PcP **PcP** **22 44 46.6 +0.8**
ASAR ScP **ScP** **22 48 29.1 +4.9**
ASAR Alice Springs 34.32 168 P **P** **22 42 09.0 -2.1**
comp=Z,2.9nm,0.5s,baz=357,slow=6.9,SNR=48
ASAR PcP **PcP** **22 44 46.6 +0.8**
comp=Z,2.5nm,0.8s,baz=350,slow=2.0,SNR=4.3
ASAR ScP **ScP** **22 48 29.1 +4.9**
comp=Z,3.4nm,1.1s,baz=355,slow=4.0,SNR=8.1
USRK Ussuriysk Arra 34.34 7 P **P** **22 42 10.6 -0.4**
comp=Z,18nm,1.0s,baz=189,slow=7.2,SNR=22
USRK PcP **PcP** **22 44 45.7 +0.3**
comp=Z,2.5nm,0.9s,baz=165,slow=2.0,SNR=4.1
USRK LR LR 22 54 58.4
comp=Z,547nm,18.9s,baz=349,slow=34
MDJ Mudanjiang 34.52 4 P **P** **22 42 13.3 +0.7**
MDJ pP **pP** **22 42 32.0 +1.2**
MDJ sP **sP** **22 42 41.8 +2.0**
MDJ PP **PP** **22 43 32.5 +0.3**
MDJ PcP **PcP** **22 44 42.3 -3.7**
MDJ S **S** **22 47 38.0 +2.2**
MDJ ScP **ScP** **22 48 23.8 -0.8**
MDJ PcS **PcS** **22 48 31.8 -0.6**
MDJ pmax pmax
comp=Z,29nm,1.2s
MDJ pmax pmax
comp=Z,210nm,8.2s
MDJ LR LR
comp=Z,150nm,24.3s
MDJ LR LR
comp=Z,82nm,22.4s
MDJ LR LR
comp=Z,220nm,18.7s
MDJ Mudanjiang 34.52 4 *e*P **P** **22 42 12.0 -0.6**
comp=Z,36nm,1.1s
CTA Charters Tower 35.77 147 P **P** **22 42 22.6 -1.0**
CTA Charters Tower 35.77 147 P **P** **22 42 22.6 -1.0**
comp=Z,21nm,0.9s,baz=324,slow=12,SNR=16
CTAO Charters Tower 35.77 147 *e*P **P** **22 42 22.8 -0.8**
CTAO *e* 22 44 53.1
CTAO pmax pmax
comp=Z,54nm,1.4s
CTAO Charters Tower 35.77 147 *e*P **P** **22 42 22.8 -0.8**
comp=Z,54nm,1.4s
CTAO *e*PcP **PcP** **22 44 53.1 +3.0**
SHL Shillong 36.17 300 *e*P **P** **22 42 26.0 -1.3**
GTA Gaotai 37.63 325 P **P** **22 42 38.8 -0.6**
GTA pP **pP** **22 42 57.3 -0.5**
GTA sP **sP** **22 43 06.0 -0.7**
GTA S **S** **22 48 22.3 -1.4**
GTA sS **sS** **22 48 55.5 +0.2**
GTA SS SnSn 22 50 59.0 -11
GTA pmax pmax
comp=Z,26nm,1.0s
GTA pmax pmax
comp=Z,370nm,8.5s
GTA LR LR
comp=Z,370nm,15.9s
GTA LR LR
comp=Z,360nm,15.9s
GTA LR LR
comp=Z,320nm,15.2s
LSA Lhasa 38.27 306 *e*P **P** **22 42 44.2 -1.1**
LSA pmax pmax
comp=Z,20nm,1.1s
LSA Lhasa 38.27 306 *e*P **P** **22 42 44.2 -1.1**
comp=Z,20nm,1.1s
HNR Honiara 38.58 119 LR LR 22 56 18.1
comp=Z,380nm,18.9s,baz=150,slow=32
KLR Kul'dur 39.28 6 *e*P P 22 42 49.3 -3.6
KLR pmax pmax
comp=Z,64nm,1.8s
H11N1 WAKE ISLAND Hy 40.17 71 T T 23 26 23.8
baz=268,slow=74
H11N2 WAKE ISLAND Hy 40.17 71 T T 23 26 31.9
baz=268,slow=74
H11N3 WAKE ISLAND Hy 40.19 71 T T 23 26 32.6
baz=268,slow=74
TAPN Taplejung 40.28 301 *e*P **P** **22 43 00.3 -1.6**
comp=Z,62nm,1.1s
TAPN Taplejung 40.28 301 *e*P **P** **22 43 00.3 -1.6**
comp=Z,62nm,1.1s
ODAN Odare 40.41 300 *e*P **P** **22 43 01.2 -1.7**
comp=Z,47nm,0.7s
ODAN Odare 40.41 300 *e*P **P** **22 43 01.2 -1.7**
comp=Z,47nm,0.7s
FORT Forrest 40.65 178 *e*P **P** **22 43 03.7 -0.7**
comp=Z,84nm,0.7s
ULN Ulaanbaatar 41.06 340 *e*P **P** **22 43 07.9 +0.1**
comp=Z,26nm,0.7s
RAMN Ramite 41.11 300 *e*P **P** **22 43 07.1 -1.6**
comp=Z,44nm,0.9s
RAMN Ramite 41.11 300 *e*P **P** **22 43 07.1 -1.6**
comp=Z,44nm,0.9s
SONM Songino Array 41.26 340 P **P** **22 43 09.9 +0.5**
SONM ScP **ScP** **22 48 56.3 +6.1**
SONM Songino Array 41.26 340 P **P** **22 43 09.9 +0.5**
comp=Z,18nm,0.9s,baz=156,slow=9.3,SNR=145
SONM ScP **ScP** **22 48 56.3 +6.1**
comp=Z,4.1nm,1.2s,baz=165,slow=1.7,SNR=10
JIRN Jiri 41.67 300 *e*P **P** **22 43 11.6 -1.8**
comp=Z,28nm,0.6s
JIRN Jiri 41.67 300 *e*P **P** **22 43 11.6 -1.8**
comp=Z,28nm,0.6s
GUN Gumba 42.00 301 *e*P **P** **22 43 14.4 -1.7**
comp=Z,25nm,0.7s
GUN Gumba 42.00 301 *e*P **P** **22 43 14.4 -1.7**
comp=Z,25nm,0.7s
PKI Pulchoki 42.30 300 *e*P **P** **22 43 16.2 -2.3**
comp=Z,12nm,0.6s
PKI Pulchoki 42.30 300 *e*P **P** **22 43 16.2 -2.3**
PKI pmax pmax
comp=Z,9.0nm,0.6s
PKI Pulchoki 42.30 300 *e*P **P** **22 43 16.2 -2.3**
comp=Z,8.6nm,0.6s
PKIN Phulchoki 42.32 300 *e*P **P** **22 43 16.2 -2.4**
comp=Z,8.6nm,0.6s
KKN Kakani 42.48 300 *e*P **P** **22 43 17.7 -2.1**
KKN Kakani 42.48 300 *e*P **P** **22 43 17.7 -2.1**
KKN Kakani 42.48 300 *e*P **P** **22 43 17.7 -2.1**
DMN Daman 42.57 300 *e*P **P** **22 43 18.5 -2.1**
comp=Z,38nm,1.2s
DMN Daman 42.57 300 *e*P **P** **22 43 18.5 -2.1**
comp=Z,38nm,1.2s
EIDS Eidsvold 42.64 146 *e*P **P** **22 43 18.9 -1.8**
comp=Z,24nm,1.2s
GKN Gorkha 43.08 300 *e*P **P** **22 43 22.3 -2.3**
comp=Z,11nm,0.7s
GKN Gorkha 43.08 300 *e*P **P** **22 43 22.3 -2.3**
comp=Z,11nm,0.7s
BBOO Buckleboo 43.62 168 *e*P **P** **22 43 27.9 -0.7**
comp=Z,775nm,0.7s
NWAO Narrogin (SRO) 43.65 191 P **P** **22 43 29.5 +0.7**
NWAO Narrogin (SRO) 43.65 191 P **P** **22 43 29.5 +0.7**
comp=Z,36nm,0.7s,baz=14,slow=9.1,SNR=25
KOLN Koldanda 43.90 300 *e*P **P** **22 43 29.5 -1.8**
comp=Z,27nm,0.7s
KOLN Koldanda 43.90 300 *e*P **P** **22 43 29.5 -1.8**
comp=Z,27nm,0.7s
DANN Dangsing 43.92 301 *e*P **P** **22 43 29.4 -2.1**
comp=Z,24nm,0.6s
DANN Dangsing 43.92 301 *e*P **P** **22 43 29.4 -2.1**
comp=Z,24nm,0.6s
STKA Stephens Creek 44.17 161 *e*P **P** **22 43 32.0 -1.0**
comp=Z,4.1nm,0.8s
STKA *e* 22 45 15.4
STKA Stephens Creek 44.17 161 P **P** **22 43 32.3 -0.7**
comp=Z,9.1nm,0.7s,baz=336,slow=7.6,SNR=34
STKA LR LR 23 02 46.0
comp=Z,297nm,18.2s,baz=218,slow=37
ZAK Zakamensk 44.50 339 *i*P **P** **22 43 35.4 -0.2**
ZAK *e* 22 45 18.9
ZAK pmax pmax
comp=Z,11nm,1.1s
PYUN Piuthan 44.51 300 *e*P **P** **22 43 34.3 -1.8**
comp=Z,36nm,0.7s
PYUN Piuthan 44.51 300 *e*P **P** **22 43 34.3 -1.8**
comp=Z,36nm,0.7s
TLY Talaya 45.47 340 P **P** **22 43 44.1 +1.0**
comp=Z,270nm,0.8s,SNR=10.0
TLY Talaya 45.47 340 *e*P **P** **22 43 43.2 +0.1**
TLY *e* 22 43 56.6
TLY pmax pmax
comp=Z,26nm,0.6s
TLY MLR MLR
comp=Z,251nm,18.0s
TLY Talaya 45.47 340 *e*P **P** **22 43 43.4 +0.3**
comp=Z,29nm,0.7s
IRK Irkutsk 45.74 341 *e*P **P** **22 43 44.4 -0.9**
IRK pmax pmax
comp=Z,60nm,2.2s
MOY Mondy 46.38 338 *e*P **P** **22 43 51.0 +0.6**
HYB Hyderabad 46.98 284 *i*P **P** **22 43 54.0 -1.5**
WMQ Urumqi 47.47 322 P **P** **22 44 00.0 +1.0**
WMQ pP **pP** **22 44 20.0 +2.0**
WMQ sP **sP** **22 44 30.0 +3.2**
WMQ PP **PP** **22 45 51.0 0.0**
WMQ S **S** **22 50 47.0 -1.0**
WMQ sS **sS** **22 51 23.0 +2.5**
WMQ ScS **ScS** **22 53 41.0 -4.6**
WMQ SS SS 22 54 10.0 -6.8
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,52nm,4.0s
WMQ LR LR
comp=Z,780nm,16.0s
WMQ LR LR
comp=Z,960nm,16.0s
WMQ LR LR
comp=Z,1µm,16.0s
HVS Khovu-Aksy 48.94 333 *e*P **P** **22 44 10.4 +0.2**
PETK Petropavlovsk- 49.75 24 P **P** **22 44 16.9 +0.7**
PETK Petropavlovsk- 49.75 24 P **P** **22 44 16.9 +0.7**
PETK Petropavlovsk- 49.75 24 P **P** **22 44 16.9 +0.7**
comp=Z,5.2nm,0.7s,baz=190,slow=7.3,SNR=4.7
CAN Canberra 49.94 156 *e*P **P** **22 44 18.3 +0.3**
CAN pmax pmax
comp=Z,34nm,1.2s
CAN Canberra 49.94 156 *e*P **P** **22 44 18.3 +0.3**
comp=Z,34nm,1.2s
DZM Mont Dzumac 50.60 129 P **P** **22 44 23.1 -0.1**
DZM Mont Dzumac 50.60 129 P **P** **22 44 23.1 -0.1**
comp=Z,9.1nm,0.8s,baz=296,slow=6.4,SNR=4.3
POO Poona 51.49 286 *i*P **P** **22 44 28.5 -1.5**
comp=Z,50nm,1.0s
YAK Yakutsk 51.92 2 *e*P **P** **22 44 31.7 -0.6**
YAK pmax pmax
comp=Z,45nm,1.1s
YAK Yakutsk 51.92 2 *e*P **P** **22 44 31.7 -0.6**
comp=Z,45nm,1.1s
MK31 Makanchi Array 52.28 323 *e*P **P** **22 44 34.6 -0.8**
MK31 Makanchi Array 52.28 323 *e*P **P** **22 44 34.6 -0.8**
MKAR Makanchi Array 52.28 323 P **P** **22 44 34.7 -0.7**
MKAR Makanchi Array 52.28 323 P **P** **22 44 34.6 -0.7**
MKAR ScP **ScP** **22 49 41.3 +5.1**
MKAR Makanchi Array 52.28 323 P **P** **22 44 34.6 -0.7**
comp=Z,12nm,0.7s,baz=121,slow=8.3,SNR=167
MKAR ScP **ScP** **22 49 41.3 +5.1**
comp=Z,2.8nm,0.9s,baz=126,slow=6.2,SNR=6.9
MKAR LR LR 23 09 12.7
comp=Z,280nm,19.5s,baz=263,slow=39
KSH Kashi 53.48 312 P **P** **22 44 45.0 +0.5**
KSH sP **sP** **22 45 12.0 -0.5**
KSH PP **PP** **22 46 48.0 +2.4**
KSH PcS **PcS** **22 49 47.0 -2.8**
KSH S **S** **22 52 09.0 -2.6**
KSH SS **SS** **22 55 53.0 +0.3**
KSH pmax pmax
comp=Z,180nm,5.0s
KSH LR LR
comp=Z,150nm,6.2s
KSH LR LR
comp=Z,120nm,4.5s
KSH LR LR
comp=Z,170nm,6.3s
KZA Kyzart 54.86 315 *i*P **P** **22 44 54.7 -0.1**
KZA Kyzart 54.86 315 P **P** **22 44 54.8 -0.1**
SNR=6.9
ZAA0 Zalesovo Array 54.87 331 *e*P **P** **22 44 52.7 -1.4**
ZAA0 *e*PcP **PcP** **22 45 54.9 -0.5**
ZALV Zalesovo Beam 54.87 331 P **P** **22 44 53.1 -1.1**
ZALV 22 45 54.8
ZALV Zalesovo Beam 54.87 331 P **P** **22 44 53.0 -1.1**
ZALV PcP **PcP** **22 45 54.8 -0.6**
ZALV Zalesovo Beam 54.87 331 P **P** **22 44 53.0 -1.1**
comp=Z,12nm,0.7s,baz=117,slow=6.9,SNR=49
ZALV PcP **PcP** **22 45 54.8 -0.6**
comp=Z,9.0nm,0.8s,baz=114,slow=3.7,SNR=4.9
ZALV LR LR 23 11 14.1
comp=Z,239nm,18.0s,baz=82,slow=39
TKM2 Tokmak 2 54.91 316 *i*P **P** **22 44 53.9 -1.0**
TKM2 Tokmak 2 54.91 316 P **P** **22 44 53.9 -1.0**
SNR=6.0
TKM2 Tokmak 2 54.91 316 *e*P **P** **22 44 54.5 -0.5**
KBK Karagaybulak 55.27 315 P **P** **22 44 57.0 -0.5**
SNR=6.6
UCH Uchtor 55.42 315 *i*P **P** **22 44 58.1 -0.8**
UCH Uchtor 55.42 315 P **P** **22 44 58.2 -0.8**
SNR=16
AAK Ala-Archa 55.57 315 *e*P **P** **22 44 59.7 +0.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 55.57 315 *e*P **P** **22 44 59.0 -0.6**
comp=Z,2.8nm,0.8s
AAK Ala-Archa 55.57 315 P **P** **22 44 58.6 -1.0**
comp=Z,2.7nm,0.8s,baz=150,slow=13,SNR=7.4
USP Ospenovka 55.79 316 *i*P **P** **22 45 00.1 -0.9**
USP Ospenovka 55.79 316 P **P** **22 45 00.2 -0.9**
SNR=6.5
AML Almayashu 55.97 314 *i*P **P** **22 45 02.4 -0.3**
AML Almayashu 55.97 314 P **P** **22 45 02.4 -0.3**
SNR=12
SEY Seymchan 55.97 14 P **P** **22 45 01.5 -0.3**
SEY Seymchan 55.97 14 P **P** **22 45 01.5 -0.3**
SEY Seymchan 55.97 14 P **P** **22 45 01.5 -0.3**
comp=Z,4.0nm,0.8s,baz=0.6,slow=24,SNR=4.8
EKS2 Erkin-Say 56.08 315 *i*P **P** **22 45 02.8 -0.4**
EKS2 Erkin-Say 56.08 315 P **P** **22 45 02.9 -0.4**
SNR=7.0
EKS2 Erkin-Say 56.08 315 *e*P **P** **22 45 02.7 -0.5**
comp=Z,9.1nm,0.8s
NVS Novosibirsk 56.15 332 *e*P **P** **22 45 00.8 -2.5**
NVS *e*S **S** **22 52 47.3 +0.8**
NVS *e* 22 54 42.7
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
NVS pmax pmax
comp=Z,15nm,0.9s
NVS smax smax
comp=E,13nm,1.6s
NVS smax smax
comp=N,20nm,2.0s
KURK Kurchatov 56.32 326 *e*P **P** **22 45 03.7 -0.9**
KURK pmax pmax
comp=Z,22nm,0.9s
KURK Kurchatov 56.32 326 *e*P **P** **22 45 03.7 -0.9**
comp=Z,22nm,0.9s
KBL Kabul 57.57 305 *e*P **P** **22 45 12.4 -1.6**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 57.57 305 *e*P **P** **22 45 12.4 -1.6**
comp=Z,4.7nm,0.6s
KKAR Karatay Array 58.50 315 *e*P **P** **22 45 18.7 -1.4**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 58.50 315 *e*P **P** **22 45 18.7 -1.4**
comp=Z,5.2nm,0.7s
TIXI Tiksi 61.54 1 *e*P **P** **22 45 39.9 -0.5**
TIXI pmax pmax
comp=Z,23nm,1.0s
TIXI Tiksi 61.54 1 *e*P **P** **22 45 39.8 -0.5**
comp=Z,23nm,0.9s
BVAR Borovoye Array 61.91 325 P **P** **22 45 42.9 -0.3**
BVAR Borovoye Array 61.91 325 P **P** **22 45 42.9 -0.3**
BVAR Borovoye Array 61.91 325 P **P** **22 45 42.9 -0.3**
comp=Z,6.8nm,0.9s,baz=118,slow=8.3,SNR=31
BVAR LR LR 23 12 53.7
comp=Z,173nm,18.7s,baz=121,slow=36
BRVK Borovoye 61.99 325 *ce*P **P** **22 45 43.2 -0.5**
BRVK pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 61.99 325 *e*P **P** **22 45 43.1 -0.5**
comp=Z,26nm,0.9s
ABKAR Akbulak array 67.12 319 *e*P **P** **22 46 16.2 -1.0**
comp=Z,3.0nm,0.6s
RPZ Rata Peaks 67.14 146 *e*P **P** **22 46 17.5 +0.1**
comp=Z,54nm,1.0s
RPZ Rata Peaks 67.14 146 P **P** **22 46 17.7 +0.3**
comp=Z,24nm,0.6s,baz=263,slow=5.1,SNR=13
SVE Sverdlovsk 68.46 327 *i*P **P** **22 46 25.2 -0.3**
SVE pmax pmax
comp=Z,31nm,1.0s
IMEH Mehriz 69.34 300 *e*P **P** **22 46 30.1 -1.7**
ARU Arti 69.47 327 P **P** **22 46 30.0 -1.8**
comp=Z,87nm,0.6s,SNR=5.2
ARU Arti 69.47 327 *c i*P **P** **22 46 30.6 -1.2**
ARU *PP pP 22 46 42.8 -9.1
ARU PPP PPP 22 50 41.4
ARU S **S** **22 55 35.4 +2.2**
ARU SS **SS** **23 00 06.0 +4.2**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 69.47 327 *e*P **P** **22 46 30.5 -1.2**
comp=Z,16nm,0.9s
IANJ Anjilo 70.01 304 *e*P **P** **22 46 34.6 -1.2**
IGLO Ghaloghah 70.11 305 *e*P **P** **22 46 35.8 -0.6**
ISHM Shahmirzad 70.52 304 *e*Pn **P** **22 46 38.7 -0.3**
IPAR Pars 70.69 298 *e*P **P** **22 46 39.6 -0.5**
TNA Tin City 70.91 24 *e*P **P** **22 46 41.0 +0.6**
comp=Z,22nm,1.5s
IKAZ Kazeroun 71.74 298 *e*P **P** **22 46 46.2 -0.3**
IMHD Mahdasht 72.66 304 *e*P **P** **22 46 51.3 -0.3**
MAK Makhachkala 75.11 312 *e*P **P** **22 47 03.8 -1.8**
MAK *e* 22 49 54.9
MAK *e*S **S** **22 56 37.3 -0.8**
MAK *e* 22 57 15.0
MAK pmax pmax
comp=Z,33nm,1.1s
UMR Umm Al-Rimmam 75.33 298 *e*P **P** **22 47 05.8 -1.4**
NAY Al-Naaiem 75.76 298 *e*P **P** **22 47 08.0 -1.7**
NAY AMb AMB 22 47 09.4
comp=Z,30nm,0.9s

RST	**Umm Al-Ruwaisa**	**75.96**	**298**	*e*P		**P**		**22 47 08.8**	**-2.0**
RST				AMb		AMB		22 47 10.8	
	comp=Z,315nm,1.0s								
IGHG	**Ghaleghazi**	**76.05**	**303**	*e*P		**P**		**22 47 09.4**	**-2.1**
IM04	**Indian Mountai**	**76.70**	**24**	*e*P		**P**		**22 47 14.6**	**+0.4**
PRGR	**Permogore**	**76.83**	**331**	*e*P		**P**		**22 47 14.1**	**-0.9**
PRGR				pmax		pmax			
	comp=Z,12nm,0.7s								
ZEI	**Tsey**	**77.77**	**312**	*e*P		**P**		**22 47 19.3**	**-1.7**
ZEI				pmax		pmax			
	comp=Z,26nm,1.3s								
RAYN	**Ar Rayn**	**77.79**	**292**	P		**P**		**22 47 20.0**	**-1.2**
	comp=Z,87nm,1.1s,SNR=13								
TRF	**Thorofare Moun**	**78.05**	**27**	*e*P		**P**		**22 47 21.4**	**-0.6**
	comp=Z,22nm,1.2s								
COLD	**Coldfoot**	**78.21**	**23**	*e*P		**P**		**22 47 22.8**	**+0.2**
	comp=Z,10nm,0.9s								
KBZ	**Khabaz**	**78.45**	**313**	P		**P**		**22 47 23.8**	**-0.6**
KBZ	**Khabaz**	**78.45**	**313**	P		**P**		**22 47 23.8**	**-0.6**
KBZ	**Khabaz**	**78.45**	**313**	P		**P**		**22 47 23.8**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=45,slow=4.3,SNR=4.0								
PMR	**Palmer**	**78.56**	**29**	*e*P		**P**		**22 47 24.4**	**-0.3**
PMR				pmax		pmax			
	comp=Z,16nm,1.0s								
PMR	**Palmer**	**78.56**	**29**	*e*P		**P**		**22 47 24.4**	**-0.3**
	comp=Z,16nm,1.0s								
KIV	**Kislovodsk**	**78.60**	**313**	*e*P		**P**		**22 47 25.1**	**-0.3**
KIV				*e*S		**S**		**22 57 20.8**	**+4.5**
KIV				pmax		pmax			
	comp=Z,11nm,0.9s								
KIV	**Kislovodsk**	**78.60**	**313**	*e*P		**P**		**22 47 24.7**	**-0.7**
	comp=Z,6.9nm,0.8s								
MCK	**McKinley**	**78.66**	**27**	*e*P		**P**		**22 47 25.0**	**-0.2**
MCK				pmax		pmax			
	comp=Z,29nm,1.0s								
MCK	**McKinley**	**78.66**	**27**	*e*P		**P**		**22 47 25.0**	**-0.2**
	comp=Z,29nm,1.0s								
VRHR	**Novokhopersk**	**78.98**	**320**	*e*P		**P**		**22 47 25.1**	**-2.1**
VRHR				pmax		pmax			
	comp=Z,7.0nm,0.6s								
VRHR				pmax		pmax			
	comp=N,20nm,0.9s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.5s								
COLA	**College**	**79.13**	**26**	*e*P		**P**		**22 47 27.2**	**-0.5**
COLA				pmax		pmax			
	comp=Z,24nm,1.0s								
ILAR	**Eielson Array**	**79.55**	**26**	P		**P**		**22 47 28.9**	**-1.1**
ILAR	**Eielson Array**	**79.55**	**26**	P		**P**		**22 47 28.9**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=239,slow=5.2,SNR=35								
PAX	**Paxson**	**80.24**	**28**	*e*P		**P**		**22 47 33.4**	**-0.5**
PAX				pmax		pmax			
	comp=Z,12nm,1.1s								
PAX	**Paxson**	**80.24**	**28**	*e*P		**P**		**22 47 33.4**	**-0.5**
	comp=Z,12nm,1.1s								
TMCR	**Tamitsa**	**80.31**	**334**	*e*P		**P**		**22 47 34.2**	**+0.1**
TMCR				*e*				22 50 37.6	
TMCR				pmax		pmax			
	comp=Z,36nm,1.4s								
OBN	**Obninsk**	**81.74**	**325**	⇓*e*P		**P**		**22 47 39.5**	**-2.4**
OBN				*e*				22 50 46.4	
OBN				*e*S		**S**		**22 57 48.8**	**+0.3**
OBN				pmax		pmax			
	comp=Z,8.0nm,1.2s								
OBN				MLR		MLR			
	comp=Z,200nm,20.0s								
APA	**Apatity**	**81.92**	**337**	⇑*i*P		**P**		**22 47 42.8**	**+0.2**
APA				MLR		MLR			
	comp=Z,600nm,22.0s								
EGAK	**Eagle**	**81.99**	**26**	*e*P		**P**		**22 47 43.1**	**+0.1**
	comp=Z,6.7nm,0.9s								
DAWY	**Dawson**	**82.85**	**26**	*e*P		**P**		**22 47 47.5**	**-0.1**
OPO	**Ambohidratompo**	**83.14**	**250**	P		**P**		**22 47 49.6**	**-0.5**
OPO	**Ambohidratompo**	**83.14**	**250**	P		**P**		**22 47 49.6**	**-0.5**
	comp=Z,6.0nm,0.7s,baz=46,slow=3.1,SNR=8.9								
ABPO	**Ambohimpanom**	**83.21**	**249**	*e*P		**P**		**22 47 49.5**	**-1.0**
ABPO				pmax		pmax			
	comp=Z,17nm,1.0s								
ABPO	**Ambohimpanom**	**83.21**	**249**	*e*P		**P**		**22 47 49.5**	**-1.0**
	comp=Z,17nm,1.0s								
JOF	**Joensuu**	**83.44**	**333**	*e*P		**P**		**22 47 51.1**	**+0.6**
JOF				pmax		pmax			
	comp=Z,47nm,3.9s								
JOF	**Joensuu**	**83.44**	**333**	*e*p		**P**		**22 47 51.1**	**+0.6**
	comp=Z,47nm,3.9s								
KEV	**Kevo**	**83.87**	**340**	*e*P		**P**		**22 47 52.9**	**+0.3**
KEV				pmax		pmax			
	comp=Z,2.0nm,0.5s								
KEV	**Kevo**	**83.87**	**340**	*e*p		**P**		**22 47 52.9**	**+0.3**
	comp=Z,1.7nm,0.5s								
SPITS	**Spitsbergen Ar**	**84.24**	**349**	P		**P**		**22 47 54.5**	**+0.1**
SPITS	**Spitsbergen Ar**	**84.24**	**349**	P		**P**		**22 47 54.5**	**+0.1**
	comp=Z,17nm,0.8s,baz=43,slow=6.5,SNR=7.3								
INK	**Inuvik**	**84.41**	**22**	*e*P		**P**		**22 47 52.8**	**-2.6**
	comp=Z,34nm,1.6s								
INK	**Inuvik**	**84.41**	**22**	P		**P**		**22 47 55.6**	**+0.2**
	comp=Z,8.0nm,1.1s,baz=259,slow=6.2,SNR=7.3								
ARCES	**ARCESS Array B**	**84.43**	**340**	P		**P**		**22 47 55.4**	**-0.1**
ARCES	**ARCESS Array B**	**84.43**	**340**	P		**P**		**22 47 55.4**	**-0.1**
	comp=Z,33nm,1.0s,baz=79,slow=7.0,SNR=29								
SIM	**Simferopol'**	**84.60**	**315**	*e*P		P		22 47 53.0	-3.9
SIM				pmax		pmax			
	comp=Z,14nm,1.0s								
BR131	**Keskin Array S**	**85.78**	**309**	*e*P		**P**		**22 48 01.8**	**-1.3**
	comp=Z,2.9nm,0.7s								
BRTR	**Keskin Array B**	**85.78**	**309**	P		**P**		**22 48 01.9**	**-1.1**
BRTR	**Keskin Array B**	**85.78**	**309**	P		**P**		**22 48 01.9**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=106,slow=4.2,SNR=18								
KAF	**Kangasniemi**	**85.87**	**332**	*e*P		**P**		**22 48 02.5**	**-0.3**
KAF				pmax		pmax			
	comp=Z,18nm,0.8s								
KAF	**Kangasniemi**	**85.87**	**332**	*e*p		**P**		**22 48 02.5**	**-0.3**
	comp=Z,18nm,0.8s								
FINES	**FINESS Array B**	**86.14**	**332**	P		**P**		**22 48 03.9**	**-0.2**
FINES	**FINESS Array B**	**86.14**	**332**	P		**P**		**22 48 03.9**	**-0.2**
	comp=Z,15nm,0.8s,baz=76,slow=4.4,SNR=43								
AKASG	**Malin Array Be**	**86.81**	**321**	P		**P**		**22 48 06.3**	**-1.4**
AKASG	**Malin Array Be**	**86.81**	**321**	P		**P**		**22 48 06.3**	**-1.4**
AKASG	**Malin Array Be**	**86.81**	**321**	P		**P**		**22 48 06.3**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=67,slow=4.6,SNR=23								
AK01	**Malin Array Si**	**86.82**	**321**	*e*P		**P**		**22 48 06.4**	**-1.3**
KIEV	**Kiev**	**86.83**	**321**	*e*P		**P**		**22 48 04.9**	**-2.8**
KIEV	**Kiev**	**86.83**	**321**	*e*P		**P**		**22 48 06.9**	**-0.8**
	comp=Z,17nm,1.3s								
PPT2	**Papeete2**	**87.36**	**108**	*e*LR		LR		23 15 59.4	
	comp=Z,227nm,22.0s								
TBI	**Tubuai**	**88.60**	**114**	*e*LR		LR		23 16 33.4	
	comp=Z,270nm,22.8s								
TIRR	**Tirgusor**	**88.69**	**315**	⇑P		**P**		**22 48 16.4**	**-0.3**
TIRR	**Tirgusor**	**88.69**	**315**	⇑*i*P		**P**		**22 48 16.4**	**-0.3**
CFR	**Carcaliu**	**88.72**	**316**	⇓P		**P**		**22 48 18.0**	**+1.1**
CFR	**Carcaliu**	**88.72**	**316**	⇓*i*P		**P**		**22 48 18.0**	**+1.1**
TLB	**Topalu**	**88.92**	**315**	⇑P		**P**		**22 48 17.5**	**-0.3**
TLB	**Topalu**	**88.92**	**315**	⇑*i*P		**P**		**22 48 17.5**	**-0.3**
KMBO	**Kilima Mbogo**	**89.39**	**269**	*e*P		**P**		**22 48 21.9**	**+0.9**
	comp=Z,3.7nm,1.1s								
KMBO	**Kilima Mbogo**	**89.39**	**269**	P		**P**		**22 48 21.2**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=22,slow=5.0,SNR=6.8								
TESR	**Tescani**	**89.42**	**317**	⇑*i*P		**P**		**22 48 20.0**	**-0.2**
VRI	**Vrincioaia**	**89.52**	**316**	⇓P		**P**		**22 48 20.8**	**+0.1**
VRI	**Vrincioaia**	**89.52**	**316**	⇓*i*P		**P**		**22 48 20.8**	**+0.1**
PLOR	**Plostina**	**89.58**	**316**	⇓P		**P**		**22 48 21.0**	**0.0**
PLOR	**Plostina**	**89.58**	**316**	⇓*i*P		**P**		**22 48 21.0**	**0.0**
SUW	**Suwalki**	**89.59**	**325**	*e*P		**P**		**22 48 20.4**	**-0.4**
SUW	**Suwalki**	**89.59**	**325**	*e*P		**P**		**22 48 20.4**	**-0.4**
	comp=Z,55nm,1.3s								
VNDA	**Vanda**	**89.72**	**173**	P		**P**		**22 48 20.6**	**-0.2**
	comp=Z,4.4nm,0.8s								
VNDA	**Vanda**	**89.72**	**173**	P		**P**		**22 48 21.6**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=319,slow=5.0,SNR=6.2								
BURAR	**Bucovina Array**	**90.09**	**318**	⇑P		**P**		**22 48 23.6**	**+0.2**
BURAR	**Bucovina Array**	**90.09**	**318**	⇑*i*P		**P**		**22 48 23.6**	**+0.2**
BUR08	**Bucovina Ar. S**	**90.09**	**318**	*e*P		**P**		**22 48 23.2**	**-0.3**
MLR	**Muntele Rosu**	**90.14**	**316**	⇓*i*P		P		22 48 31.3	+7.5
VOIR		**90.77**	**316**	⇑P		P		22 48 22.7	-3.9
VOIR		**90.77**	**316**	⇑*i*P		P		22 48 22.6	-4.0
KWP	**Kalwaria Pacla**	**91.14**	**321**	*e*P		**P**		**22 48 28.2**	**0.0**
KWP				pmax		pmax			
	comp=Z,20nm,0.9s								
KWP	**Kalwaria Pacla**	**91.14**	**321**	⇓*i*P		**P**		**22 48 27.9**	**-0.2**
KWP	**Kalwaria Pacla**	**91.14**	**321**	*e*P		**P**		**22 48 28.2**	**0.0**
	comp=Z,20nm,0.9s								
KOLS	**Kolonicke sedl**	**91.61**	**320**	*e*P		**P**		**22 48 30.5**	**+0.1**
KOLS				pmax		pmax			
	comp=Z,8.0nm,1.6s								
KOLS	**Kolonicke sedl**	**91.61**	**320**	*e*P		**P**		**22 48 30.5**	**+0.1**
RES	**Resolute Bay**	**91.66**	**10**	P		**P**		**22 48 30.3**	**+0.3**
RES	**Resolute Bay**	**91.66**	**10**	P		**P**		**22 48 30.3**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=308,slow=6.2,SNR=5.4								
DRGR		**91.96**	**318**	⇑P		**P**		**22 48 30.8**	**-1.3**
DRGR		**91.96**	**318**	⇑*i*P		**P**		**22 48 30.8**	**-1.3**
STHS	**Stebnicka Huta**	**92.11**	**321**	*e*P		**P**		**22 48 34.0**	**+1.3**
STHS				pmax		pmax			
	comp=Z,3.0nm,0.8s								
STHS	**Stebnicka Huta**	**92.11**	**321**	*e*P		**P**		**22 48 34.0**	**+1.3**
CRVS	**Cervenica-Dubn**	**92.14**	**320**	*e*P		**P**		**22 48 33.0**	**+0.2**
CRVS				pmax		pmax			
	comp=Z,14nm,1.1s								
CRVS	**Cervenica-Dubn**	**92.14**	**320**	*e*P		**P**		**22 48 33.0**	**+0.2**
NB2	**NORSAR Subarra**	**93.00**	**334**	P		**P**		**22 48 35.3**	**-1.2**
	comp=Z,4.0nm,0.8s,baz=66,slow=5.3								
NOA	**NORSAR Array B**	**93.00**	**334**	P		**P**		**22 48 35.1**	**-1.4**
NOA	**NORSAR Array B**	**93.00**	**334**	P		**P**		**22 48 35.1**	**-1.4**
	comp=Z,5.5nm,0.8s,baz=62,slow=4.6,SNR=22								
YKA	**Yellowknife Ar**	**93.87**	**24**	P		**P**		**22 48 40.6**	**+0.2**
YKA	**Yellowknife Ar**	**93.87**	**24**	P		**P**		**22 48 40.6**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=297,slow=4.7,SNR=21								
VRAC	**Vranov**	**95.01**	**322**	P		**P**		**22 48 46.5**	**+0.6**
VRAC	**Vranov**	**95.01**	**322**	P		**P**		**22 48 46.5**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=116,slow=4.0,SNR=6.3								
BRG	**Berggiesshubel**	**95.98**	**324**	*e*P		**P**		**22 48 50.7**	**+0.4**
	comp=Z,5.5nm,1.3s								
BRG	**Berggiesshubel**	**95.98**	**324**	*e*P		**P**		**22 48 50.7**	**+0.4**
BRG				pmax		pmax			
	comp=Z,6.0nm,1.3s								
PRU	**Pruhonice**	**95.98**	**323**	*e*P		**P**		**22 48 50.7**	**+0.3**
PRU	**Pruhonice**	**95.98**	**323**	*e*P		**P**		**22 48 50.7**	**+0.3**
CLL	**Collm**	**96.34**	**325**	*e*P		**P**		**22 48 52.0**	**0.0**
CLL	**Collm**	**96.34**	**325**	*e*P		**P**		**22 48 52.0**	**0.0**
CLL				*e*				22 49 05.0	
KHC	**Kasperske Hory**	**96.90**	**322**	*e*P		**P**		**22 48 54.8**	**+0.2**
KHC	**Kasperske Hory**	**96.90**	**322**	*e*P		**P**		**22 48 54.8**	**+0.2**
GERES	**GERESS Array B**	**96.94**	**322**	P		**P**		**22 48 54.9**	**0.0**
GERES	**GERESS Array B**	**96.94**	**322**	P		**P**		**22 48 54.9**	**0.0**
	comp=Z,2.0nm,0.8s,baz=69,slow=4.4,SNR=16								
KBA	**Koelnbreinsper**	**97.88**	**321**	⇓*i*PcP		**P**		**22 48 58.5**	**-0.7**
	comp=Z,5.5nm,1.3s								
WTTA	**Wattenberg**	**98.86**	**321**	⇓*i*Pdiff		**P**		**22 49 03.1**	**-0.5**
	comp=Z,8.1nm,1.0s								
FETA	**Feichten**	**99.52**	**321**	⇓*i*Pdiff		**Pdif**		**22 49 06.5**	**-0.1**
	comp=Z,13nm,1.5s								
RKT	**Rikitea**	**101.73**	**112**	*e*LR		LR		23 22 39.6	
	comp=Z,178nm,25.2s								
NVAR	**Mina Array Bea**	**102.86**	**47**	P		**Pdif**		**22 49 22.0**	**+0.3**
NVAR	**Mina Array Bea**	**102.86**	**47**	P		**Pdif**		**22 49 22.0**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=272,slow=6.2,SNR=3.8								
TXAR	**Lajitas Array**	**117.83**	**49**	PKP		**PKPdf**		**22 54 10.8**	**+0.7**
TXAR	**Lajitas Array**	**117.83**	**49**	PKP		**PKPdf**		**22 54 10.8**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=139,slow=0.9,SNR=6.5								
TOA0	**Torodi Ar. Sit**	**120.48**	**292**	*e*PKPdf		**PKPdf**		**22 54 15.5**	**0.0**
TORD	**Torodi Ar. Bea**	**120.48**	**292**	PKP		**PKPdf**		**22 54 14.8**	**-0.6**
TORD				PKKPbc		**PKKPab**		**23 04 23.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**120.48**	**292**	PKP		**PKPdf**		**22 54 14.8**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=81,slow=2.0,SNR=8.9								
TORD				PKKPbc		**PKKPab**		**23 04 23.1**	**-0.3**
	comp=Z,1.4nm,1.1s,baz=280,slow=3.7,SNR=3.5								
WVT	**Waverly**	**123.84**	**33**	*e*PKIKP		**PKPdf**		**22 54 21.7**	**+0.3**
WVT	**Waverly**	**123.84**	**33**	*e*PKPdf		**PKPdf**		**22 54 21.7**	**+0.3**
TKL	**Tuckaleechee C**	**126.31**	**31**	PKP		**PKPdf**		**22 54 26.7**	**+0.5**
TKL	**Tuckaleechee C**	**126.31**	**31**	PKP		**PKPdf**		**22 54 26.7**	**+0.5**
	comp=Z,12nm,1.1s,baz=243,slow=4.5,SNR=3.9								
KIC	**Kosan Boka**	**128.70**	**287**	*e*P		**PKPdf**		**22 54 32.2**	**+0.9**
	comp=Z,12nm,1.0s								
DBIC	**Dimbokro**	**128.71**	**287**	PKP		**PKPdf**		**22 54 32.3**	**+1.0**
DBIC	**Dimbokro**	**128.71**	**287**	PKP		**PKPdf**		**22 54 32.3**	**+1.0**
	comp=Z,3.4nm,1.0s,baz=26,slow=4.8,SNR=3.7								
TIC	**Toumodi**	**128.87**	**287**	*e*P		**PKPdf**		**22 54 32.0**	**+0.4**
	comp=Z,2.5nm,0.2s								
LIC	**Lamto**	**129.01**	**286**	*e*P		**PKPdf**		**22 54 30.1**	**-1.7**
	comp=Z,19nm,1.1s								
PLCA	**Paso Flores**	**145.97**	**157**	PKPbc		**PKPab**		**22 55 04.3**	**+0.7**
PLCA	**Paso Flores**	**145.97**	**157**	PKPbc		**PKPab**		**22 55 04.3**	**+0.7**
	comp=Z,21nm,0.9s,baz=192,slow=4.9,SNR=26								
TRQA	**Tornquist**	**151.13**	**166**	*e*PKPbc		**PKPbc**		**22 55 17.0**	**+0.4**
SDV	**Santo Domingo**	**154.64**	**43**	*e*PKPdf		**PKPdf**		**22 55 18.6**	**+1.9**
SDV				*e*PKPbc		**PKiKP**		**22 55 26.0**	**+0.8**
LPAZ	**La Paz**	**164.54**	**115**	PKP		**PKPdf**		**22 55 30.2**	**+1.9**
LPAZ	**La Paz**	**164.54**	**115**	PKP		**PKPdf**		**22 55 30.2**	**+1.9**
	comp=Z,2.7nm,1.0s,baz=20,slow=4.8,SNR=7.3								
SIV	**San Ignacio**	**170.62**	**130**	PKP		**PKPdf**		**22 55 33.8**	**+1.9**
SIV	**San Ignacio**	**170.62**	**130**	PKP		**PKPdf**		**22 55 33.8**	**+1.9**
	comp=Z,2.2nm,0.8s,baz=181,slow=3.4,SNR=5.0								

*ISCJB **29** 22:37:28.7±0.8, 30.9°N±0.2×41.5°W±0.1, h13km, mb3.8/9, MS3.9/6, Error ellipse: s-maj=25.9km s-min=17.8km az=11.8*
*IDC **29** 22:37:28.5±0.9, 30.89°N×41.50°W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.8/29, mbtmp3.8/9, MS3.9/6, Ms1 3.9/6, ms1mx3.5/44, Error ellipse: s-maj=30.9km s-min=21.2km az=9.0*

ISC 29 22:37:30.5±0.9, 30.9°N±0.2×41.5°W±0.1, h13km, n20, σ1°3/9, mb3.8/9, MS3.8/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BBTS	**Babate**	**28.01**	**120**	LR	LR		22 52 42.8	
	comp=Z,184nm,21.4s,baz=289,slow=33							
MDT	**Midelt**	**31.28**	**77**	LR	LR		22 53 33.4	
	comp=Z,174nm,18.1s,baz=97,slow=31							
SADO	**Sadowa**	**32.51**	**306**	LR	LR		22 56 25.8	
	comp=Z,191nm,18.5s,baz=2.1,slow=35							
TKL	**Tuckaleechee C**	**35.48**	**289**	LR	LR		22 56 09.0	
	comp=Z,207nm,19.3s,baz=117,slow=32							
DBIC	**Dimbokro**	**41.90**	**117**	LR	LR		23 01 14.6	
	comp=Z,110nm,18.2s,baz=270,slow=34							
TORD	**Torodi Ar. Bea**	**43.44**	**104**	P		**P**	**22 45 32.5**	**-0.9**
	1.6nm,1.1s,baz=301,slow=6.8,SNR=5.3							
H10N2	**ASCENSION HYDR**	**46.38**	**142**	T		T	23 35 22.3	
	baz=327,slow=75,SNR=60							
H10N3	**ASCENSION HYDR**	**46.38**	**142**	T		T	23 35 22.0	
	baz=327,slow=75,SNR=59							
H10N1	**ASCENSION HYDR**	**46.40**	**142**	T		T	23 35 23.0	
	baz=327,slow=75,SNR=68							
H10S1	**ASCENSION HYDR**	**47.23**	**143**	T		T	23 36 21.4	
	baz=328,slow=75,SNR=42							
H10S3	**ASCENSION HYDR**	**47.23**	**143**	T		T	23 36 21.7	
	baz=328,slow=75,SNR=48							
H10S2	**ASCENSION HYDR**	**47.25**	**143**	T		T	23 36 21.9	
	baz=328,slow=75,SNR=55							
TXAR	**Lajitas Array**	**53.18**	**285**	P		**P**	**22 46 48.7**	**+0.1**
	0.1nm,0.3s,baz=74,slow=6.7,SNR=3.4							
LPAZ	**La Paz**	**53.45**	**212**	P		**P**	**22 46 51.5**	**+0.4**
	1.3nm,0.8s,baz=317,slow=5.7,SNR=4.9							
PDAR	**Pinedale Array**	**54.41**	**303**	P		**P**	**22 46 57.4**	**-0.2**
	2.4nm,0.9s,baz=83,slow=7.8,SNR=13							
PDAR				LR		LR	23 09 28.3	
	comp=Z,297nm,19.3s,baz=354,slow=35							
YKA	**Yellowknife Ar**	**55.37**	**327**	P		**P**	**22 47 02.5**	**-1.4**
	0.8nm,1.0s,baz=82,slow=7.5,SNR=7.3							
BRTR	**Keskin Array B**	**60.31**	**59**	P		**P**	**22 47 38.9**	**-0.3**
	0.6nm,0.9s,baz=253,slow=3.8,SNR=4.1							
NVAR	**Mina Array Bea**	**61.96**	**300**	P		**P**	**22 47 50.4**	**0.0**
	0.5nm,0.6s,baz=75,slow=5.5,SNR=4.6							
ILAR	**Eielson Array**	**68.68**	**334**	P		**P**	**22 48 33.9**	**+0.6**
	2.0nm,1.1s,baz=62,slow=5.0,SNR=7.6							
BVAR	**Borovoye Array**	**77.67**	**35**	P		**P**	**22 49 28.3**	**+1.7**
	1.0nm,0.9s,baz=310,slow=5.4,SNR=2.9							

*SKO **29** 22:52:29.7, 41.82N×22.87E, h23km, M1.4, ML1.9*
*CSEM **29** 22:52:30.7±0.2, 41.81N×22.91E, h8km, MD3.2, Error ellipse: s-maj=3.7km s-min=2.6km az=114.0*
*ISCJB **29** 22:52:31.3±0.7, 41.81N±0.03×22.86E±0.06, h26km±16km, Error ellipse: s-maj=7.7km s-min=5.3km az=15.5*
*ATH **29** 22:52:31.8, 41.67N×22.91E, h40km±2km, MD3.2/7*
*THE **29** 22:52:31.3, 41.79N×22.93E, h2km±2km, ML1.4/6, Error ellipse: s-maj=2.5km s-min=0.8km az=269.0*

ISC 29 22:52:30.4±1.2, 41.82N±0.03×22.86E±0.04, h19km±3km, n31, σ0°57/50, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
VAY	**Valandovo**	**0.55**	**204**	P	**Pb**		**22 52 41.4**	**+0.1**
VAY				S	**Sg**		**22 52 48.5**	**-0.4**
VAY	**Valandovo**	**0.55**	**204**	*i* Pg	**Pg**		**22 52 41.6**	**+0.1**
VAY				*i* Sg	**Sg**		**22 52 48.5**	**-0.4**
VAY				*e*Lg	Lg		22 52 48.8	
	comp=N,26nm,0.3s							
VAY				*e*Lg	Lg		22 52 48.9	
	comp=E,71nm,0.5s							
VAY	**Valandovo**	**0.55**	**204**	P	**Pb**		**22 52 41.4**	**+0.1**
VAY	**Valandovo**	**0.55**	**204**	*i* Pg	**Pg**		**22 52 42.0**	**+0.6**
VAY				*S*	**Sg**		**22 52 48.5**	**-0.4**
VAY				*e*Lg	Lg		22 52 49.4	
	comp=E,71nm,0.5s							
KNT	**Kendrikon**	**0.66**	**178**	P	**Pb**		**22 52 43.4**	**+0.1**
KNT				S	**Sb**		**22 52 51.6**	**-0.5**
KNT	**Kendrikon**	**0.66**	**178**	*e*P	**Pb**		**22 52 43.3**	**0.0**
KNT	**Kendrikon**	**0.66**	**178**	*e*P	**Pb**		**22 52 43.3**	**0.0**
KNT				S	**Sb**		**22 52 51.6**	**-0.5**
VTS	**Vitosha**	**0.81**	**18**	P	**Pg**		**22 52 46.5**	**+0.2**
VTS				S	**Sn**		**22 52 58.3**	**-0.2**
VTS	**Vitosha**	**0.81**	**18**	P	**Pg**		**22 52 46.5**	**+0.2**
VTS				S	**Sn**		**22 52 58.3**	**-0.2**
NVR	**Nevrokopi**	**0.89**	**122**	P	**Pb**		**22 52 47.4**	**+0.2**
NVR				S	**Sb**		**22 52 58.4**	**-0.3**
NVR	**Nevrokopi**	**0.89**	**122**	*e*P	**Pb**		**22 52 47.2**	**0.0**
NVR	**Nevrokopi**	**0.89**	**122**	*e*P	**Pb**		**22 52 47.2**	**0.0**
NVR				S	**Sb**		**22 52 58.4**	**-0.3**
SRS	**Serrai**	**0.90**	**142**	P	**Pb**		**22 52 47.3**	**0.0**
SRS				S	**Sb**		**22 52 58.7**	**-0.1**
SRS	**Serrai**	**0.90**	**142**	*e*P	**Pb**		**22 52 47.3**	**0.0**
SRS	**Serrai**	**0.90**	**142**	*e*P	**Pb**		**22 52 47.3**	**0.0**
SRS				S	**Sb**		**22 52 58.7**	**-0.1**
GRG	**Griva**	**0.93**	**202**	P	**Pb**		**22 52 48.1**	**+0.1**
GRG				S	**Sn**		**22 53 02.3**	**+1.0**
GRG	**Griva**	**0.93**	**202**	*e*P	**Pb**		**22 52 47.8**	**-0.2**
GRG	**Griva**	**0.93**	**202**	P	**Pb**		**22 52 48.1**	**+0.1**
GRG				S	**Sn**		**22 53 02.3**	**+1.0**
SOH	**Sokhos**	**1.07**	**160**	P	**Pb**		**22 52 50.6**	**+0.3**
SOH				S	**Sn**		**22 53 04.8**	**+0.1**
SOH	**Sokhos**	**1.07**	**160**	*e*P	**Pb**		**22 52 49.6**	**-0.7**
SOH	**Sokhos**	**1.07**	**160**	P	**Pb**		**22 52 50.6**	**+0.3**
SOH				S	**Sn**		**22 53 04.8**	**+0.1**
HORT	**Hortiatis**	**1.24**	**172**	P	**Pg**		**22 52 54.2**	**-0.2**
HORT				*S*	**Sg**		**22 53 11.1**	**+0.5**
HORT	**Hortiatis**	**1.24**	**172**	*e*P	**Pn**		**22 52 52.2**	**-0.6**
HORT	**Hortiatis**	**1.24**	**172**	P

MASU	**Masugnsbyn**	**0.59**	**62**	P		Pg		23 06 29.8	-0.8
MASU				S		Sg		23 06 37.5	-0.7
KUA	**Kurravaara**	**0.78**	**351**	*i* P		Pg		23 06 33.0	-1.3
KUA				*i* S		Sg		23 06 44.2	-0.2
KUA	**Kurravaara**	**0.78**	**351**	P		Pg		23 06 33.0	-1.3
KUA				S		Sg		23 06 44.2	-0.2
SALU	**Saltoluokta**	**0.86**	**284**	*i* P		Pg		23 06 34.8	-0.9
SALU	**Saltoluokta**	**0.86**	**284**	P		Pg		23 06 34.8	-1.0
LANU	**Lannavaara**	**1.00**	**30**	*eP*		Pg		23 06 37.2	-1.4
LANU	**Lannavaara**	**1.00**	**30**	P		Pg		23 06 37.2	-1.4
HARU	**Harads**	**1.04**	**173**	*eP*		Pg		23 06 37.7	-1.4
HARU	**Harads**	**1.04**	**173**	P		Pg		23 06 37.7	-1.4
HEF	**Hetta**	**1.68**	**42**	*eP*		Pn		23 06 48.9	-0.9
HEF				*eSG*		Sn		23 07 10.8	-1.2
HEF				MSG				23 07 10.8	
	comp=Z,1.3nm,0.2s								
HEF	**Hetta**	**1.68**	**42**	Pg		Pn		23 06 48.9	-1.0
HEF				Sg		Sn		23 07 10.8	-1.2
KALU	**Kalix**	**1.72**	**140**	*eP*		Pn		23 06 49.6	-0.8
KALU	**Kalix**	**1.72**	**140**	P		Pn		23 06 49.6	-0.8
KIF	**Kilpisjarvi**	**1.83**	**2**	*eP*		Pn		23 06 52.1	+0.2
KIF				MSG		Sg		23 07 17.0	-0.9
	comp=Z,4.1nm,0.4s								
KIF				*eSG*		Sg		23 07 17.0	-0.9
KIF	**Kilpisjarvi**	**1.83**	**2**	Pn		Pn		23 06 52.1	+0.2
KIF				Sg		Sb		23 07 17.0	+0.1
RNF	**Rovaniemi**	**2.19**	**103**	*ePB*		Pn		23 06 57.7	+0.8
RNF				*eSG*		Sb		23 07 26.6	-0.8
RNF				MSG				23 07 26.6	
	comp=Z,1.0nm,0.2s								
RNF	**Rovaniemi**	**2.19**	**103**	Pn		Pn		23 06 57.7	+0.8
RNF				Sg		Sb		23 07 26.6	-0.8
SGF	**Sodankyl**	**2.29**	**81**	*eSG*		Sb		23 07 29.5	-0.8
SGF				MSG				23 07 29.5	
	comp=Z,0.7nm,0.1s								
SGF	**Sodankyl**	**2.29**	**81**	Sg		Sb		23 07 29.5	-0.8
MSF	**Maaselka**	**3.59**	**107**	*eSG*		Sb		23 08 10.4	+2.8
MSF				MSG				23 08 10.4	
	comp=Z,0.5nm,0.4s								
MSF	**Maaselka**	**3.59**	**107**	Sg		Sb		23 08 10.4	+2.8
KU6	**Riekki**	**3.86**	**103**	*eSG*		Sb		23 08 19.4	+3.9
KU6				MSG				23 08 19.4	
	comp=Z,0.7nm,0.4s								
KU6	**Riekki**	**3.86**	**103**	Sg		Sb		23 08 19.4	+3.9

*BJI **29** 23:12:14.9, 52°.08N×171°.05W, h69^{km}, mB5.1/36, mb5.2/47, Ms4.9/35, Ms7 4.6/40*

*ISCJB **29** 23:12:16.8±0.3, 52°.02N±0°.03×171°.40W±0°.02, h50^{km}±2^{km}, mb4.9/241, MS4.4/45, Error ellipse: s-maj=4.6km s-min=1.9km az=0.1*

*MOS **29** 23:12:16.9±0.9, 52°.12N×171°.44W, h51^{km}, mb5.1/75, MS4.1/20, Error ellipse: s-maj=8.6km s-min=6.9km az=151.3*

*SZGRF **29** 23:12:17.9, 51°.72N×173°.53W, h33^{km}, mb4.6, Andreanof Islands, Aleutian Islands, United States*

*IDC **29** 23:12:17.8±1.3, 52°.10N×171°.43W, h42^{km}±10^{km}, mb4.4/33, mb1 4.5/36, mb1mx4.5/39, mbtmp4.4/36, ML4.5/3, MS4.3/29, Ms1 4.3/29, ms1mx4.2/44, Error ellipse: s-maj=13.3km s-min=7.4km az=156.0*

*NEIC **29** 23:12:18.7±0.2, 52°.06N×171°.42W, h52^{km}±2^{km}, mb5.0/166, ML4.9(AEIC), Error ellipse: s-maj=3.8km s-min=1.6km az=175.0*

*GCMT **29** 23:12:18.2±0.3, 51°.94N×171°.31W, h25^{km}±1^{km}, MW5.1, Moment Tensor Solution. s42,c55; s90,c136; Moment tensor: Scale 10^{16}Nm; M_{rr}1.58±.13; $M_{\theta\theta}$-1.78±.12; $M_{\phi\phi}$0.20±.09; $M_{r\theta}$2.45±.26; $M_{\theta\phi}$-2.06±.07; $M_{\phi r}$4.83±.44; Best double couple: $M_0$6.00000×10^{16} NP1:$\phi_1$28.00000°, δ81.00000°, λ71.00000°. NP2:$\phi_2$274.00000°, δ21.00000°, λ155.00000°. Principal axes: T 5.8100, Plg50.0000°, Azm277.0000°; N 0.4300, Plg19.0000°, Azm31.0000°; P -6.2400, Plg33.0000°, Azm134.0000°; Data Used: II IU IC G CU CN.*

ISC 29 23:12:19.8±0.4, 52°.08N±0°.06×171°.44W±0°.03, h60^{km}±2^{km}, h60^{km}:pP-P, n1009, σ1°01/1100, mb4.9/242, 209C-204D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.81**	**59**	P	Pn	23 12 44.5	-4.1
NIKH				S	Sn	**23 13 09.5**	**-1.1**
OKSP	**Okmok Steeple**	**2.25**	**57**	P	Pn	**23 12 52.1**	**-2.5**
OKFG	**Magazine Ridge**	**2.52**	**57**	P	Pn	**23 12 55.8**	**-2.5**
GSTR	**Great Sitkin T**	**2.85**	**272**	*ePn*	Pn	**23 13 02.6**	**-0.2**
GSTR				*eS*	Sn	**23 13 35.9**	**-0.1**
GSMY	**Great Sitkin M**	**2.85**	**271**	P	Pn	**23 13 00.9**	**-2.0**
GSTD	**Great Sitkin T**	**2.91**	**271**	P	Pn	**23 13 02.1**	**-1.5**
GSCK	**Great Sitkin C**	**2.92**	**271**	P	Pn	**23 13 01.4**	**-2.3**
ETKA	**Kagalaska Isla**	**3.08**	**268**	P	Pn	**23 13 04.5**	**-1.4**
ADAG	**Mount Adagdak**	**3.19**	**270**	P	Pn	**23 13 06.3**	**-1.1**
ADK	**Adak**	**3.25**	**269**	*eP*	Pn	**23 13 06.8**	**-1.4**
ADK				*eS*	Sn	**23 13 45.1**	**-0.6**
ADK	**Adak**	**3.25**	**269**	*ePn*	Pn	**23 13 06.8**	**-1.4**
ADK				*eS*	Sn	**23 13 45.1**	**-0.6**
MCIR	**Makushin Cirqu**	**3.32**	**54**	P	Pn	**23 13 07.5**	**-1.7**
MSW	**Makushin Switc**	**3.36**	**55**	P	Pn	**23 13 08.3**	**-1.4**
UNV	**Unalaska Valle**	**3.47**	**57**	*ePn*	Pn	**23 13 09.9**	**-1.3**
UNV				*eS*	Sn	**23 13 53.9**	**+2.9**
KIRH	**Kanaga Island**	**3.50**	**269**	P	Pn	**23 13 11.0**	**-0.7**
KINC	**Kanaga Island**	**3.52**	**270**	P	Pn	**23 13 11.0**	**-0.9**
KIKV	**Kanaga Island**	**3.55**	**269**	P	Pn	**23 13 11.7**	**-0.7**
ZRO	**Akutan Zero**	**3.86**	**56**	P	Pn	**23 13 15.1**	**-1.4**
TAPA	**Tanaga Point A**	**3.96**	**269**	P	Pn	**23 13 17.6**	**-0.3**
AKUT	**Akutan**	**3.99**	**57**	*ePn*	Pn	**23 13 16.7**	**-1.6**
AKUT				*eS*	Sn	**23 14 07.3**	**+3.7**
TAFP	**Tanaga Falls P**	**4.05**	**270**	P	Pn	**23 13 18.6**	**-0.6**
GANE	**Gareloi Northe**	**4.55**	**270**	P	Pn	**23 13 25.2**	**-0.8**
SPIA	**Saint Paul Isl**	**5.16**	**7**	P	Pn	**23 13 34.7**	**+0.5**
ISNN	**Isanotski Nort**	**5.34**	**56**	P	Pn	**23 13 36.1**	**-0.7**
FALS	**False Pass**	**5.54**	**57**	*ePn*	Pn	**23 13 40.3**	**+0.8**
FALS				*eS*	Sn	23 15 00.5	+19
DRIA	**Deer Island**	**6.19**	**59**	P	Pn	**23 13 46.9**	**-1.5**
DTNA	**Dutton South F**	**6.27**	**57**	P	Pn	**23 13 48.3**	**-1.2**
HAG	**Hague Volcano**	**6.52**	**56**	P	Pn	**23 13 52.1**	**-0.9**
HAG	**Hague Volcano**	**6.52**	**56**	P	Pn	**23 13 52.1**	**-0.9**
PS4A	**Pavlof South-4**	**6.56**	**56**	P	Pn	**23 13 52.2**	**-1.3**
SDPT	**Sand Point**	**7.28**	**59**	*ePn*	Pn	**23 14 01.5**	**-1.8**
SDPT				*eS*	Sn	23 15 41.0	+17
VNHG	**Veniaminof 1**	**8.31**	**55**	P	Pn	**23 14 16.2**	**-1.3**
SMY	**Shemya**	**8.87**	**280**	*eP*	Pn	**23 14 24.6**	**-0.5**
SMY	**Shemya**	**8.87**	**280**	*ePn*	Pn	**23 14 24.6**	**-0.5**
FX1	**Attu Island--F**	**9.44**	**281**	*ePn*	Pn	**23 14 31.9**	**-0.9**
FX1				*eS*	Sn	**23 16 14.1**	**-3.2**
FX1	**Attu Island--F**	**9.44**	**281**	P	Pn	**23 14 32.0**	**-0.8**
	14nm,0.3s,baz=256,slow=4.6,SNR=24						
FX1				S	Sn	**23 16 16.2**	**-1.0**
	2.8nm,0.3s,baz=252,slow=20,SNR=2.1						
FX1				LR	LR	23 18 00.9	
	comp=Z,1µm,20.2s,baz=107,slow=36						
KVTA	**Katmai Vly 10**	**11.15**	**49**	P	Pn	**23 14 56.1**	**-0.1**
OHAK	**Old Harbor**	**11.69**	**57**	*ePn*	Pn	23 14 58.3	-5.2
OHAK				S	Sn	**23 17 08.0**	**-4.2**
GAMB	**Gambell**	**11.73**	**359**	*ePn*	Pn	**23 15 05.1**	**+1.1**
SVW2	**Sparrevohn**	**12.53**	**38**	*ePn*	Pn	**23 15 18.2**	**+3.2**
RSO	**Redoubt South**	**13.31**	**44**	*ePn*	Pn	**23 15 26.0**	**+0.3**
TNA	**Tin City**	**13.64**	**6**	*ePn*	Pn	**23 15 31.3**	**+1.3**
TNA				*eScP*	**ScP**	**23 24 21.4**	**+3.0**
SEW	**Seward**	**14.61**	**48**	*ePn*	Pn	**23 15 40.1**	**-2.6**
SEW				*eS*	Sn	**23 18 21.8**	**-1.3**
RC01	**Rabbit Creek A**	**14.91**	**44**	*ePn*	Pn	**23 15 44.9**	**-1.7**
	106nm,1.6s						
RC01				*eS*	Sn	**23 18 29.1**	**-1.4**
PPLA	**Purkeypile**	**14.91**	**36**	*ePn*	Pn	**23 15 48.7**	**+1.9**
	145nm,1.4s						
CAST	**Castle Rocks**	**15.27**	**34**	*eP*	P	**23 15 56.2**	**+1.1**
	26nm,0.8s						
PMR	**Palmer**	**15.40**	**43**	*eP*	Pn	**23 15 52.6**	**-0.4**
PMR				pmax	pmax		
	comp=Z,52nm,1.4s						
PMR	**Palmer**	**15.40**	**43**	*ePn*	Pn	**23 15 52.6**	**-0.4**
	comp=Z,52nm,1.4s						
PMR				*eS*	S	**23 18 53.0**	**-2.3**
KTH	**Kantishna Hill**	**15.77**	**35**	*ePn*	Pn	**23 15 57.5**	**-0.2**
	comp=Z,316nm,1.1s						
SML	**Sawmill**	**15.84**	**43**	P	Pn	23 15 47.8	-11
SML				*eS*	Sn	**23 18 52.2**	**-0.9**
SML	**Sawmill**	**15.84**	**43**	Pn	Pn	23 15 47.8	-11
SML				*eS*	Sn	**23 18 52.1**	**-0.9**
TRF	**Thorofare Moun**	**15.93**	**36**	*ePn*	P	**23 16 01.4**	**-1.2**
	comp=Z,83nm,1.2s						
IM04	**Indian Mountai**	**16.53**	**26**	*ePn*	P	**23 16 08.7**	**-0.4**
MCK	**McKinley**	**16.59**	**37**	*eP*	Pn	**23 16 08.5**	**+0.4**
MCK				pmax	pmax		
	comp=Z,72nm,1.1s						
MCK	**McKinley**	**16.59**	**37**	*ePn*	Pn	**23 16 08.5**	**+0.4**
	comp=Z,72nm,1.1s						
RAGM	**Ragged Mountai**	**16.94**	**50**	*eP*	P	**23 16 15.8**	**+2.2**
	comp=Z,40nm,0.8s						
BMRM	**Bremner River**	**17.15**	**48**	*ePn*	Pn	**23 16 12.8**	**-2.3**
	comp=Z,44nm,0.9s						
BMRM				*eS*	Sn	**23 19 22.6**	**-2.3**
PAX	**Paxson**	**17.56**	**42**	*eP*	Pn	**23 16 18.1**	**-2.0**
PAX				*eS*	Sn	**23 19 35.2**	**+0.6**
PAX				pmax	pmax		
	comp=Z,32nm,1.1s						
PAX	**Paxson**	**17.56**	**42**	*ePn*	Pn	**23 16 18.1**	**-2.0**
	comp=Z,32nm,1.1s						
PAX				*eS*	Sn	**23 19 35.2**	**+0.6**
COLA	**College**	**17.63**	**34**	*eP*	Pn	**23 16 20.6**	**-0.3**
COLA	**College**	**17.63**	**34**	*ePn*	Pn	**23 16 18.7**	**-2.2**
	comp=Z,17nm,1.3s						
ILAR	**Eielson Array**	**17.92**	**35**	P	P	**23 16 21.5**	**-2.8**
ILAR				S	Sn	**23 19 43.5**	**+0.3**
ILAR				PcP	PcP	**23 20 57.1**	**+0.2**
ILAR				ScP	ScP	**23 24 28.4**	**+1.7**
ILAR	**Eielson Array**	**17.92**	**35**	P	P	**23 16 21.5**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=231,slow=10,SNR=25						
ILAR				S	Sn	**23 19 43.5**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=235,slow=24,SNR=2.6						
ILAR				PcP	PcP	**23 20 57.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=265,slow=3.7,SNR=4.3						
ILAR				ScP	ScP	**23 24 28.4**	**+1.7**
	baz=254,slow=3.5,SNR=8.6						
PET	**Petropavlovsk**	**18.16**	**285**	*eP*	Pn	**23 16 28.2**	**+0.9**
PET				pmax	pmax		
	comp=Z,35nm,0.7s						
PET				pmax	pmax		
	comp=Z,500nm,15.3s						
PET				MLR	MLR		
	comp=Z,700nm,21.0s						
DOT	**Dot Lake**	**18.43**	**40**	*ePn*	Pn	**23 16 32.0**	**+1.4**
	comp=Z,35nm,1.2s						
COLD	**Coldfoot**	**18.43**	**26**	*ePn*	Pn	**23 16 30.6**	**+0.1**
	comp=Z,22nm,1.0s						
PEA0B	**Petropavlovsk-**	**18.71**	**285**	*ePn*	P	**23 16 33.6**	**+0.5**
PETK	**Petropavlovsk-**	**18.71**	**285**	P	Pn	**23 16 34.0**	**-0.1**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,416nm,21.5s						
PETK	**Petropavlovsk-**	**18.71**	**285**	P	Pn	**23 16 34.0**	**-0.1**
PETK	**Petropavlovsk-**	**18.71**	**285**	P	Pn	**23 16 34.0**	**-0.1**
	comp=Z,5.0nm,0.3s,baz=86,slow=11,SNR=34						
PETK				LR	LR	23 22 58.9	
	comp=Z,416nm,21.5s,baz=86,slow=34						
EGAK	**Eagle**	**20.06**	**39**	*eP*	P	**23 16 47.0**	**-0.7**
	comp=Z,26nm,0.8s						
EGAK				LR	LR		
	comp=Z,801nm,18.0s						
HYT	**Haines Junctio**	**20.48**	**51**	*eP*	P	**23 16 52.6**	**+0.3**
DAWY	**Dawson**	**20.49**	**42**	*eP*	P	**23 16 50.9**	**-1.5**
DAWY				*eScP*	**ScP**	**23 24 35.8**	**+3.2**
SIT	**Sitka**	**21.34**	**62**	*eP*	P	**23 17 02.1**	**+0.6**
SIT				pmax	pmax		
	comp=Z,33nm,0.8s						
SIT				MLR	MLR		
	comp=Z,398nm,21.4s						
SIT	**Sitka**	**21.34**	**62**	*eP*	P	**23 17 02.1**	**+0.6**
	comp=Z,33nm,0.8s						
SIT				LR	LR		
	comp=Z,398nm,21.4s						
SEY	**Seymchan**	**21.94**	**314**	P	P	**23 17 08.2**	**+0.3**
SEY				pmax	pmax		
	comp=Z,26nm,0.7s						
SEY	**Seymchan**	**21.94**	**314**	P	P	**23 17 08.2**	**+0.3**
SEY				ScP	**ScP**	**23 24 38.0**	**+1.9**
SEY	**Seymchan**	**21.94**	**314**	P	P	**23 17 08.2**	**+0.3**
	comp=Z,26nm,0.7s,baz=22,slow=23,SNR=19						
SEY				ScP	**ScP**	**23 24 38.0**	**+1.9**
	comp=Z,5.8nm,0.2s,baz=218,slow=19,SNR=3.4						
CRAG	**Craig**	**22.70**	**66**	*eP*	P	**23 17 16.1**	**+0.1**
WRAK	**Wrangell Islan**	**23.02**	**64**	PFAKE		23 17 30.0	+11
WRAK				LR	LR		
	comp=Z,700nm,22.0s						
DLBC	**Dease Lake**	**24.12**	**58**	*eP*	P	**23 17 31.5**	**+1.8**
DLBC	**Dease Lake**	**24.12**	**58**	P	P	**23 17 30.6**	**+0.9**
	comp=Z,24nm,0.9s,baz=286,slow=10.0,SNR=38						
DLBC				LR	LR	23 25 23.9	
	comp=Z,714nm,21.7s,baz=175,slow=33						
INK	**Inuvik**	**24.29**	**34**	*eP*	P	**23 17 29.8**	**-1.2**
	comp=Z,26nm,1.0s						
INK				S	S	**23 21 47.4**	**+2.1**
INK	**Inuvik**	**24.29**	**34**	P	P	**23 17 29.3**	**-1.7**
	comp=Z,9.6nm,0.5s,baz=259,slow=8.2,SNR=47						
INK				S	S	**23 21 47.4**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=343,slow=19,SNR=1.8						
BBB	**Bella Bella**	**26.30**	**72**	P	P	**23 17 48.6**	**-0.7**
BBB	**Bella Bella**	**26.30**	**72**	P	P	**23 17 48.6**	**-0.7**
	comp=Z,20nm,1.0s,baz=219,slow=8.0,SNR=3.5						
BBB				LR	LR	23 26 17.9	
	comp=Z,414nm,19.6s,baz=277,slow=32						
ASAJ	**Asahikawa**	**31.26**	**274**	*eP*	P	**23 18 33.3**	**-0.2**
	comp=Z,64nm,1.7s						
ASAJ	**Asahikawa**	**31.26**	**274**	P	P	**23 18 33.6**	**+0.1**
	comp=Z,28nm,0.8s,baz=35,slow=9.9,SNR=12						
ASAJ				LR	LR	23 29 34.6	
	comp=Z,737nm,21.4s,baz=172,slow=33						
YKA	**Yellowknife Ar**	**31.39**	**48**	P	P	**23 18 34.1**	**-0.3**
YKA				PcP	PcP	**23 21 26.9**	**+0.5**
YKA				ScP	ScP	**23 25 06.5**	**+2.4**
YKA	**Yellowknife Ar**	**31.39**	**48**	P	P	**23 18 34.1**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=269,slow=7.9,SNR=50						
YKA				PcP	PcP	**23 21 26.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=286,slow=3.4,SNR=3.8						
YKA				ScP	ScP	**23 25 06.4**	**+2.4**
	comp=Z,1.3nm,0.9s,baz=272,slow=3.3,SNR=6.8						
D05A	**Enumclaw**	**31.89**	**79**	*eP*	P	**23 18 40.7**	**+1.7**
	comp=Z,46nm,1.0s						
LON	**Longmire**	**32.20**	**79**	*eP*	P	**23 18 42.7**	**+0.9**
LON				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LON	**Longmire**	**32.20**	**79**	*eP*	P	**23 18 42.7**	**+0.9**
	comp=Z,9.8nm,1.1s						
TIXI	**Tiksi**	**32.33**	**329**	*eP*	P	**23 18 42.4**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WPW	**White Pass**	**32.38**	**79**	P	P	**23 18 44.0**	**+0.5**
YAK	**Yakutsk**	**32.41**	**311**	*eP*	P	**23 18 43.2**	**-0.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK	**Yakutsk**	**32.41**	**311**	*eP*	P	**23 18 43.1**	**-0.2**
	comp=Z,12nm,0.8s						
ETW	**Entiat**	**32.70**	**77**	P	P	**23 18 46.7**	**+0.4**
WTV	**Waterville**	**32.88**	**77**	P	P	**23 18 47.8**	**+0.1**
B08A	**Colville Reser**	**32.95**	**75**	*eP*	P	**23 18 48.8**	**+0.4**
	comp=Z,17nm,0.8s						
B08A				*eScP*	**ScP**	**23 25 12.4**	**+2.7**
H04A	**Detroit Lake**	**32.99**	**83**	*eP*	P	**23 18 49.5**	**+0.8**
	comp=Z,50nm,1.4s						
VFP	**Flag Point**	**33.10**	**82**	P	P	**23 18 50.7**	**+0.8**
TRW	**Toppenish Ridg**	**33.19**	**79**	P	P	**23 18 51.2**	**+0.8**
SAW	**Saint Andrews**	**33.21**	**76**	P	P	**23 18 50.7**	**+0.1**
E07A	**Sunnyside**	**33.48**	**79**	*eP*	P	**23 18 53.7**	**+0.8**
	comp=Z,70nm,1.8s						
HABR	**Khabarovsk**	**33.74**	**286**	P	P	**23 18 53.4**	**-1.7**
HABR				*e**SP	**sP**	**23 19 16.2**	**-1.0**
HABR				*e*		23 20 07.5	
HABR				*e*		23 21 30.8	
HABR				*eS*	**S**	**23 24 14.5**	**+0.5**
HABR				*eSS*	**SnSn**	**23 26 25.2**	**+2.0**
HABR				*e*		23 29 11.9	
HABR				pmax	pmax		
	comp=Z,291nm,2.8s						
HABR				MLR	MLR		
	comp=Z,344nm,17.0s						
HAWA	**Hanford**	**33.75**	**79**	*eP*	P	**23 18 54.9**	**-0.3**
	comp=Z,20nm,0.8s						
OD2	**Odessa Site #2**	**33.77**	**77**	P	P	**23 18 55.4**	**-0.1**
D08A	**Wollman Farm,**	**33.80**	**77**	*eP*	P	**23 18 55.8**	**+0.1**
	comp=Z,9.7nm,0.6s						
C09A	**Chrisman Ranch**	**33.84**	**76**	*eP*	P	**23 18 56.2**	**+0.1**
	comp=Z,13nm,0.8s						
C09A				*eScP*	**ScP**	**23 25 15.8**	**+3.0**
YBH	**Yreka Blue Hor**	**34.26**	**88**	LR	LR	23 29 50.2	
	comp=Z,623nm,20.2s,baz=302,slow=31						
J05D	**Fort Rock, OR**	**34.31**	**85**	⇑P	P	**23 19 00.8**	**+0.5**
	baz=34						
NEW	**Newport**	**34.31**	**74**	*eP*	P	**23 19 00.1**	**-0.1**
	comp=Z,33nm,0.8s						
NEW				*eScP*	**ScP**	**23 25 17.4**	**+2.9**
NEW	**Newport**	**34.31**	**74**	⇓P	P	**23 19 00.0**	**-0.1**
	baz=34,SNR=23						
M02C	**Callahan**	**34.36**	**88**	⇓P	P	**23 19 01.8**	**+1.1**
	baz=34						
EDM	**Edmonton**	**34.42**	**65**	*eP*	P	**23 19 01.5**	**+0.4**
EDM	**Edmonton**	**34.42**	**65**	*eP*	P	**23 19 01.5**	**+0.4**
E09A	**Wood Farm, Sta**	**34.53**	**78**	*eP*	P	**23 19 01.9**	**-0.1**
	comp=Z,52nm,1.6s						
E09A				*eScP*	**ScP**	**23 25 18.2**	**+3.0**
G08A	**Pilot Rock**	**34.65**	**80**	*eP*	P	**23 19 03.1**	**-0.1**
	comp=Z,8.4nm,0.9s						
N02D	**Trinity Center**	**34.69**	**89**	⇑P	P	**23 19 04.2**	**+0.6**
	baz=35						
M04C	**Macdoel**	**34.77**	**87**	⇑P	P	**23 19 05.1**	**+0.9**
	baz=35						
K05A	**Summer Lake**	**34.82**	**85**	*eP*	P	**23 19 06.0**	**+1.2**
	comp=Z,28nm,1.0s						
WDC	**Whiskeytown Da**	**35.02**	**89**	*eP*	P	**23 19 06.0**	**-0.4**
WDC				pmax	pmax		
	comp=Z,11nm,0.8s						
WDC	**Whiskeytown Da**	**35.02**	**89**	*eP*	P	**23 19 06.0**	**-0.4**
	comp=Z,11nm,0.8s						
KLR	**Kul'dur**	**35.35**	**289**	*eP*	P	23 19 04.0	-5.0
F10A	**Beach Ranch, E**	**35.35**	**78**	*eP*	P	**23 19 09.2**	**0.0**
	comp=Z,12nm,0.9s						
F10A				*eScP*	**ScP**	**23 25 21.7**	**+3.3**
MOD	**Modoc**	**35.64**	**86**	*eP*	P	**23 19 12.3**	**+0.4**
	comp=Z,17nm,1.6s						
WALA	**Waterton Lakes**	**35.84**	**71**	*eP*	P	**23 19 13.4**	**0.0**
	comp=Z,0.7nm,1.0s						
BSMT	**Bassoo Peak**	**35.89**	**74**	*eP*	P	**23 19 14.1**	**+0.2**
J08A	**Circle Bar Ran**	**35.96**	**83**	*eP*	P	**23 19 15.0**	**+0.5**
	comp=Z,37nm,1.3s						
BLMT	**Blacktail Moun**	**36.07**	**73**	*eP*	P	**23 19 15.6**	**+0.2**
JTMT	**Jette**	**36.24**	**74**	*eP*	P	**23 19 16.8**	**0.0**
JTMT				*eScP*	**ScP**	**23 25 24.1**	**+2.5**
YBMT	**Yellow Bay**	**36.34**	**73**	*eP*	P	**23 19 17.8**	**+0.1**
WVOR	**Wild Horse Val**	**36.37**	**84**	*eP*	P	**23 19 17.9**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,20nm,0.9s						
WVOR	**Wild Horse Val**	**36.37**	**84**	*eP*	P	**23 19 17.9**	**-0.1**
	comp=Z,20nm,0.9s						
OHCM	**Honcut**	**36.42**	**90**	*eP*	P	**23 19 18.2**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**36.45**	**216**	T	T	23 57 51.9	
	baz=23,slow=75,SNR=278						
H11N3	**WAKE ISLAND Hy**	**36.46**	**216**	T	T	23 57 57.8	
	baz=23,slow=75,SNR=342						
H11N1	**WAKE ISLAND Hy**	**36.47**	**216**	T	T	23 58 00.4	
	baz=23,slow=75,SNR=292						
SWMT	**Swartz Lake**	**36.52**	**74**	*eP*	P	**23 19 19.1**	**-0.1**
BEKR	**Beckworth**	**36.79**	**89**	*eP*	P	**23 19 21.9**	**+0.2**
	comp=Z,13nm,1.5s						
MSO	**Missoula**	**36.89**	**75**	*eP*	P	**23 19 22.1**	**-0.3**
	comp=Z,15nm,1.0s						
MSO	**Missoula**	**36.89**	**75**	⇑P	P	**23 19 21.9**	**-0.5**
	baz=37,SNR=6.0						
SLMT	**Seeley Lake**	**36.95**	**74**	*eP*	P	**23 19 22.5**	**-0.5**
RES	**Resolute Bay**	**37.18**	**25**	P	P	**23 19 24.1**	**-0.3**
RES				PcP	PcP	**23 21 43.0**	**+0.1**
RES	**Resolute Bay**	**37.18**	**25**	P	P	**23 19 24.1**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=244,slow=13,SNR=8.3						
RES				PcP	PcP	**23 21 43.0**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=276,slow=6.7,SNR=4.2						
CHMT	**Chamberlain Mo**	**37.26**	**74**	*eP*	P	**23 19 25.0**	**-0.6**
PAHR	**Pah Rah Range**	**37.49**	**88**	*eP*	P	**23 19 27.4**	**-0.1**
	comp=Z,9nm,1.3s						
MFID	**Camas Ranch**	**37.54**	**81**	*eP*	P	**23 19 27.8**	**-0.2**
	comp=Z,12nm,0.9s						
MFID				*ePcP*	**PcP**	**23 21 43.5**	**-1.2**
H11S1	**WAKE ISLAND Hy**	**37.65**	**215**	T	T	00 00 14.5	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**37.66**	**215**	T	T	23 59 48.1	
	baz=18,slow=75						
H11S3	**WAKE ISLAND Hy**	**37.67**	**215**	T	T	23 59 37.6	
	baz=18,slow=75						
USRK	**Ussuriysk Arra**	**37.70**	**281**	P	P	**23 19 28.2**	**-0.9**
	comp=Z,5.2nm,0.8s,baz=59,slow

TIN	Tinemaha	39.84	91	⇓P		P		23 19 47.8	+0.6		
	baz=40										
C20A	Veseth Ranch,	39.94	70	⇓P		P		23 19 48.1	+0.3		
	baz=40,SNR=31										
FFC	Flin Flon	39.95	58	P		P		23 19 47.6	-0.2		
	comp=Z,102nm,0.6s,SNR=6.6										
GCMT	Greyciff	39.97	74	eP		P		23 19 48.4	+0.2		
	comp=Z,5.6nm,0.8s										
YFT	Old Faithful	39.99	76	eP		P		23 19 49.1	+0.6		
	comp=Z,14nm,1.0s										
VES	Vestal, Richgr	40.09	93	⇓P		P		23 19 49.2	0.0		
	baz=40										
E19A	Rath Farm, Rou	40.13	72	⇑P		P		23 19 49.6	+0.1		
	baz=40,SNR=8.2										
B21A	Ellsworth Farm	40.15	69	⇓P		P		23 19 49.6	+0.1		
	baz=40										
H17A	Grant Village	40.18	76	eP		P		23 19 51.3	+1.2		
	comp=Z,46nm,1.5s										
H17A				eScP		ScP		23 25 41.5	+4.6		
H17A	Grant Village	40.18	76	⇓P		P		23 19 50.5	+0.4		
	baz=40,SNR=11										
D20A	Manuel Ranch,	40.18	71	⇓P		P		23 19 50.0	+0.1		
	baz=40,SNR=8.7										
IMW	Indian Meadow	40.24	77	eP		P		23 19 49.5	-1.2		
	comp=Z,13nm,1.0s										
IMW				eScP		ScP		23 25 40.0	+2.8		
PKM	Peak Mountain	40.26	94	⇑P		P		23 19 51.3	+0.5		
	baz=40										
FLWY	Flagg Ranch	40.28	77	eP		P		23 19 46.6	-4.3		
	comp=Z,17nm,1.0s										
CWC	Cottonwood Cre	40.33	91	⇓P		P		23 19 51.3	0.0		
	baz=40,SNR=10										
HVU	Hansel Valley	40.33	81	eP		P		23 19 51.1	-0.1		
HVU				pmax		pmax					
	comp=Z,14nm,0.8s										
HVU	Hansel Valley	40.33	81	eP		P		23 19 51.1	-0.1		
	comp=Z,14nm,0.8s										
HVU				eScP		ScP		23 25 40.2	+2.9		
FXWY	Fox Creek	40.33	77	eP		P		23 19 51.4	+0.1		
	comp=Z,7.9nm,1.2s										
FXWY				eScP		ScP		23 25 40.5	+3.1		
F19A	Roth Farm, Mol	40.36	73	⇓P		P		23 19 51.2	-0.2		
	baz=40										
C21A	Desert Coulee	40.41	70	⇓P		P		23 19 51.9	+0.1		
	baz=40										
MOOW	Moose Ponds	40.44	77	eP		P		23 19 48.7	-3.5		
	comp=Z,7.0nm,1.2s										
TPAW	Teton Pass	40.46	77	eP		P		23 19 52.7	+0.3		
	comp=Z,14nm,1.0s										
TPAW				eScP		ScP		23 25 41.0	+3.0		
A22A	Carney Farms,	40.49	67	⇑P		P		23 19 52.2	-0.2		
	baz=40,SNR=7.3										
E20A	Meyer Farm, Mu	40.49	72	⇑P		P		23 19 52.6	+0.1		
	baz=40,SNR=6.5										
RLMT	Red Lodge	40.56	74	eP		P		23 19 53.0	-0.3		
	comp=Z,32nm,1.0s										
H18A	Shoshone NF, C	40.57	75	⇓P		P		23 19 52.6	-0.7		
	baz=40										
ISA	Isabella	40.59	92	eP		P		23 19 53.2	-0.2		
ISA				pmax		pmax					
	comp=Z,4.0nm,0.9s										
ISA	Isabella	40.59	92	eP		P		23 19 53.1	-0.2		
	comp=Z,4.1nm,0.9s										
ISA	Isabella	40.59	92	⇑P		P		23 19 53.2	-0.2		
	baz=40,SNR=12										
REDW	Red Top Meadow	40.59	78	eP		P		23 19 54.1	+0.6		
	comp=Z,17nm,1.1s										
REDW				eScP		ScP		23 25 41.8	+3.4		
LOHW	Long Hollow	40.60	77	eP		P		23 19 46.8	-6.7		
	comp=Z,6.0nm,1.0s										
R11A	Troy Canyon, C	40.66	87	eP		P		23 19 54.0	-0.1		
	comp=Z,14nm,0.9s										
R11A				eScP		ScP		23 25 41.1	+2.4		
R11A	Troy Canyon, C	40.66	87	⇑P		P		23 19 54.1	-0.1		
	baz=40,SNR=25										
BGU	Big Grassy Mou	40.67	82	eP		P		23 19 53.7	-0.4		
	comp=Z,12nm,1.5s										
BGU				eScP		ScP		23 25 42.0	+3.3		
B22A	Reddig Ranch S	40.80	68	⇓P		P		23 19 54.6	-0.4		
	baz=41										
F20A	Billings	40.86	73	⇑P		P		23 19 55.2	-0.3		
	baz=41										
D21A	La Casta Ranch	40.86	71	⇓P		P		23 19 55.5	0.0		
	baz=41,SNR=5.7										
MPMC	Manual Prospec	40.94	91	⇓P		P		23 19 56.2	-0.1		
	baz=41,SNR=14										
H19A	Powell	40.98	75	⇑P		P		23 19 56.6	0.0		
	baz=41,SNR=6.6										
FURC	Furnace Creek,	41.06	90	⇓P		P		23 19 57.5	+0.4		
	baz=41,SNR=11										
A23A	Redstone	41.10	67	⇓P		P		23 19 57.5	+0.2		
	baz=41										
ALE	Alert	41.10	11	P		P		23 19 57.7	+0.7		
	comp=Z,70nm,0.7s,SNR=6.2										
TPNV	Topopah Spring	41.13	89	eP		P		23 19 58.1	+0.2		
TPNV				pmax		pmax					
	comp=Z,30nm,0.8s										
TPNV	Topopah Spring	41.13	89	eP		P		23 19 58.1	+0.2		
	comp=Z,30nm,0.8s										
TPNV	Topopah Spring	41.13	89	⇓P		P		23 19 57.9	0.0		
	baz=41,SNR=33										
G20A	Bridger	41.13	74	⇓P		P		23 19 57.7	-0.1		
	baz=41										
C22A	Vida	41.15	69	⇑P		P		23 19 57.5	-0.4		
	baz=41										
LRMC	Laurel Mountai	41.19	92	⇓P		P		23 19 58.1	-0.3		
	baz=41,SNR=7.4										
DUG	Dugway	41.24	83	eP		P		23 19 58.9	+0.1		
DUG				pmax		pmax					
	comp=Z,41nm,1.4s										
DUG	Dugway	41.24	83	eP		P		23 19 58.9	+0.1		
	comp=Z,41nm,1.4s										
DUG	Dugway	41.24	83	⇓P		P		23 19 58.8	0.0		
	baz=41,SNR=21										
BLG	Laguna Peak	41.25	95	⇓P		P		23 19 58.7	0.0		
	baz=41										
B23A	Brockton	41.29	68	⇑P		P		23 19 58.8	-0.1		
	baz=41,SNR=17										
D22A	Cohagen	41.29	70	⇓P		P		23 19 59.1	+0.1		
	baz=41,SNR=18										
I19A	Meeteetse	41.33	76	⇑P		P		23 19 58.8	-0.7		
	baz=41										
EDW2	Edwards Air Fo	41.40	93	⇓P		P		23 19 59.9	-0.1		
	baz=41,SNR=6.4										
F21A	Absaloka Mine,	41.45	72	⇓P		P		23 20 00.0	-0.3		
	baz=41										
LAO	LASA Array	41.51	71	eP		P		23 20 00.3	-0.5		
	comp=Z,16nm,0.7s										
C23A	Lambert	41.52	69	⇓P		P		23 20 01.1	+0.3		
	baz=41,SNR=31										
A24A	Westby	41.61	67	⇑P		P		23 20 01.5	-0.1		
	baz=41,SNR=16										
BW06	Boulder Array	41.71	77	eP		P		23 20 01.8	-0.8		
	comp=Z,23nm,1.0s										
BW06				eScP		ScP		23 25 45.3	+2.4		
PDAR	Pinedale Array	41.71	77	P		P		23 20 02.3	-0.4		
PDAR				ScP		ScP		23 25 44.9	+2.0		
PDAR	Pinedale Array	41.71	77	P		P		23 20 02.3	-0.4		
	comp=Z,15nm,0.9s,baz=300,slow=4.1,SNR=67										
PDAR				ScP		ScP		23 25 44.9	+2.0		
	comp=Z,3.0nm,1.0s,baz=329,slow=1.7,SNR=8.9										
PDAR				LR		LR		23 35 06.6			
	comp=Z,426nm,19.4s,baz=318,slow=33										
J19A	Crowheart	41.73	77	⇓P		P		23 20 02.6	-0.2		
	baz=42										
G21A	Lodge Grass	41.73	73	⇑P		P		23 20 02.3	-0.3		
	baz=42										
DGMT	Dagmar	41.74	67	eP		P		23 20 02.5	-0.1		
	comp=Z,109nm,1.6s										
DGMT	Dagmar	41.74	67	⇑P		P		23 20 02.1	-0.5		
	baz=42										
SHOC	Shoshone	41.79	90	⇓P		P		23 20 03.0	-0.2		
	baz=42,SNR=11										
MWC	Mount Wilson	41.79	94	eP		P		23 20 03.6	+0.2		
MWC				pmax		pmax					
	comp=Z,41nm,1.3s										
MWC	Mount Wilson	41.79	94	eP		P		23 20 03.6	+0.2		
	comp=Z,41nm,1.3s										
E22A	Miles City	41.80	71	⇓P		P		23 20 02.9	-0.3		
	baz=42										
NLU	North Lily Min	41.84	83	eP		P		23 20 03.4	-0.3		
	comp=Z,11nm,0.9s										
D23A	Lindsay	41.84	69	⇓P		P		23 20 03.7	+0.2		
	baz=42,SNR=7.6										
GSC	Goldstone	41.85	92	eP		P		23 20 03.8	0.0		
GSC				pmax		pmax					
	comp=Z,43nm,0.9s										
GSC	Goldstone	41.85	92	eP		P		23 20 03.8	0.0		
	comp=Z,43nm,0.9s										
GSC	Goldstone	41.85	92	⇓P		P		23 20 03.7	0.0		
	baz=42,SNR=29										
CN2	Changchun	41.86	285	eP		P		23 20 02.5	-1.1		
CN2				esP		sP		23 20 25.5	-0.4		
CN2				eS		S		23 26 13.5	-3.4		
CN2				pmax		pmax					
	comp=Z,10.0nm,1.3s										
CN2				LR		LR					
	comp=Z,400nm,18.0s										
CN2				LR		LR					
	comp=Z,500nm,18.0s										
CN2				LR		LR					
	comp=Z,300nm,17.0s										
I20A	Worland	41.89	75	⇓P		P		23 20 04.0	0.0		
	baz=42										
F22A	Rosebud	41.98	72	⇑P		P		23 20 04.4	-0.3		
	baz=42										
BFSC	Mount Baldy Ra	42.03	93	⇓P		P		23 20 05.2	-0.1		
	baz=42,SNR=7.7										
DAU	Daniels Canyon	42.06	81	eP		P		23 20 05.8	+0.1		
DAU	Daniels Canyon	42.06	81	eP		P		23 20 05.8	+0.1		
SHPR	Sheep Range	42.09	89	eP		P		23 20 05.6	-0.2		
FCC	Fort Churchill	42.10	49	eP		P		23 20 05.3	0.0		
FCC	Fort Churchill	42.10	49	eP		P		23 20 05.3	0.0		
	comp=Z,1.3nm,1.0s										
C24A	Savage	42.10	69	⇑P		P		23 20 06.0	+0.4		
	baz=42,SNR=10										
A25A	Svanstu Ranch	42.11	66	⇑P		P		23 20 05.4	-0.2		
	baz=42,SNR=8.8										
E23A	Ismay	42.15	70	⇓P		P		23 20 06.2	+0.2		
	baz=42										
HIA	Hailar	42.22	295	eP		P		23 20 05.9	-0.6		
	comp=Z,45nm,0.8s										
J20A	Shoshoni	42.26	76	⇓P		P		23 20 07.3	+0.2		
	baz=42										
TUQ	Turquoise Moun	42.31	91	⇓P		P		23 20 07.4	-0.1		
	baz=42,SNR=12										
ARUT	Antelope Range	42.33	86	eP		P		23 20 07.5	-0.3		
ARUT	Antelope Range	42.33	86	eP		P		23 20 07.5	-0.3		
	comp=Z,199nm,0.9s										
D24A	Glendive	42.38	69	⇑P		P		23 20 08.3	+0.5		
	baz=42,SNR=13										
B25A	Knox Farm, Ray	42.43	67	⇓P		P		23 20 08.8	+0.5		
	baz=42										
HEC	Hector,Ludlow	42.45	92	⇑P		P		23 20 08.5	-0.2		
	baz=42,SNR=14										
I21A	Big Trails, Te	42.47	75	⇓P		P		23 20 08.3	-0.4		
	baz=42										
F23A	Volborg	42.51	71	⇓P		P		23 20 08.8	-0.2		
	baz=42,SNR=8.0										
CCUT	Cedar City	42.53	86	eP		P		23 20 09.5	+0.1		
	comp=Z,56nm,1.8s										
JCJ	Chichijima	42.60	252	LR		LR		23 34 37.5			
	comp=Z,256nm,22.0s,baz=57,slow=31										
MVU	Marysvale	42.64	84	eP		P		23 20 10.7	+0.3		
	comp=Z,7.7nm,0.8s										
MVU				eScP		ScP		23 25 49.8	+3.1		
J21A	Lysite	42.64	75	⇑P		P		23 20 10.1	-0.1		
	baz=42										
C25A	Freed Ranch, W	42.67	68	⇑P		P		23 20 10.2	0.0		
	baz=42										
E24A	Baker	42.69	70	⇓P		P		23 20 10.7	+0.3		
	baz=42,SNR=6.7										
A26A	Wade Farm, Ken	42.73	66	⇑P		P		23 20 10.3	-0.3		
	baz=43,SNR=7.6										
MURC	Murieta	42.74	94	⇓P		P		23 20 10.5	-0.4		
	baz=43										
TMUT	Trail Mountain	42.77	83	eP		P		23 20 11.6	+0.1		
	comp=Z,17nm,0.9s										
B26A	Jensen Ranch,	42.90	66	⇓P		P		23 20 12.2	+0.1		
	baz=43										
I22A	9 Mile Ranch,	42.90	74	⇑P		P		23 20 12.6	+0.4		
	baz=43										
GMRC	Granite Mounta	42.90	91	⇑P		P		23 20 12.2	-0.1		
	baz=43,SNR=22										
D25A	Fairfield	42.94	68	⇑P		P		23 20 12.1	-0.3		
	baz=43										
F24A	Ekalaka	43.00	71	⇑P		P		23 20 12.7	-0.3		
	baz=43,SNR=5.8										
LDFC	Landfair	43.05	90	eP		P		23 20 13.0	-0.4		
	comp=Z,41nm,0.6s										
J22A	Midwest	43.18	75	⇑P		P		23 20 14.0	-0.5		
	baz=43										
PFO	Pinon Flat Ob	43.19	93	eP		P		23 20 14.4	-0.3		
	comp=Z,11nm,0.9s										
PFO	Pinyon Flat Ob	43.19	93	⇑P		P		23 20 14.6	-0.1		
	baz=43										
E25A	Miller Ranch,	43.25	69	⇓P		P		23 20 14.9	0.0		
	baz=43										
C26A	Wahner Farm, P	43.27	67	⇑P		P		23 20 15.1	0.0		
	baz=43,SNR=7.3										
109C	Camp Elliot, M	43.28	94	⇑P		P		23 20 15.3	+0.1		
	baz=43										
SRU	San Rafael	43.30	82	eP		P		23 20 15.6	0.0		
SRU				pmax		pmax					
	comp=Z,21nm,0.8s										
SRU	San Rafael	43.30	82	eP		P		23 20 15.6	0.0		
	comp=Z,21nm,0.8s										
G24A	Alzada	43.31	71	⇓P		P		23 20 15.2	-0.2		
	baz=43										
B27A	Peters Farms,	43.43	66	⇑P		P		23 20 16.4	0.0		
	baz=43										
D26A	Manning	43.51	68	⇓P		P		23 20 16.7	-0.3		
	baz=43										
F25A	Bowman	43.53	70	⇓P		P		23 20 17.0	-0.2		
	baz=43										
K22A	Casper	43.59	76	⇑P		P		23 20 17.2	-0.7		
	baz=43										
N20A	Spence Gulch,	43.63	79	⇑P		P		23 20 18.1	-0.1		
	baz=44,SNR=6.4										
IRM	Iron Mountain	43.63	91	⇑P		P		23 20 17.9	-0.2		
	baz=44,SNR=10										
C27A	Sayler Ranch,	43.67	67	⇑P		P		23 20 18.1	-0.1		
	baz=44										
BAR	Barrett	43.69	94	eP		P		23 20 18.4	-0.2		
	comp=Z,17nm,1.0s										
MONP	Monument Peak	43.70	94	⇓P		P		23 20 18.6	-0.3		
	baz=44,SNR=8.1										
A28A	Rude Farm, Bot	43.72	65	⇑P		P		23 20 18.3	-0.4		
	baz=44,SNR=8.2										
J23A	Dilts Ranch, B	43.74	74	⇑P		P		23 20 18.6	-0.4		
	baz=44										
RWWY	Rawlins	43.75	77	eP		P		23 20 12.9	-6.4		
	comp=Z,18nm,0.9s										
W13A	Hualapai Mount	43.79	89	⇓P		P		23 20 19.2	-0.3		
	baz=44										
E26A	Carlson Angus	43.80	69	⇓P		P		23 20 19.2	-0.2		
	baz=44,SNR=6.4										
U15A	North Rim	43.91	87	⇑P		P		23 20 20.8	+0.2		
	baz=44,SNR=25										
B28A	Dugan Ranch, T	43.91	65	⇑P		P		23 20 20.1	-0.1		
	baz=44,SNR=12										
G25A	Newell	43.97	71	⇑P		P		23 20 20.3	-0.4		
	baz=44										
D27A	Center	43.99	67	⇓P		P		23 20 20.6	-0.3		
	baz=44										
F26A	Lodgepole	44.03	70	⇑P		P		23 20 20.9	-0.3		
	baz=44										
SWSC	Sam W. Stewart	44.05	93	⇑P		P		23 20 21.2	-0.3		
	baz=44										
DVTC	Desert V Tower	44.05	94	⇓P		P		23 20 21.4	-0.1		
	baz=44										
O20A	White River Ci	44.06	80	eP		P		23 20 21.2	-0.5		
O20A	White River Ci	44.06	80	⇓P		P		23 20 21.2	-0.5		
	baz=44,SNR=20										
K23A	Bowen Ranch, D	44.07	75	⇑P		P		23 20 21.0	-0.7		
	baz=44										
PDMCI	Parker Dam,Lak	44.16	90	⇑P		P		23 20 22.2	-0.1		
	baz=44,SNR=15										
KSRS	Korea Array	44.17	275	P		P		23 20 22.8	+0.4		
	comp=Z,14nm,0.9s,baz=55,slow=7.5,SNR=23										
KSRS				LR		LR		23 36 31.5			
	comp=Z,341nm,21.3s,baz=54,slow=33										
H25A	Fruitdale	44.19	72	⇓P		P		23 20 21.8	-0.7		
	baz=44,SNR=5.8										
KSAR	Wonju Array Be	44.20	276	P		P		23 20 22.8	+0.2		
A29A	Manning Farm,	44.29	64	⇑P		P		23 20 22.8	-0.4		
	baz=44,SNR=11										
Y12C	Blythe	44.29	91	⇑P		P		23 20 23.2	-0.2		
	baz=44,SNR=11										
M22A	Cedar Creek Ra	44.29	77	⇓P		P		23 20 23.3	-0.3		
	baz=44										
J24A	Dixon Ranch, L	44.31	74	⇓P		P		23 20 23.0	-0.5		
	baz=44										
F27A	Lemmon	44.39	69	⇓P		P		23 20 23.3	-0.8		
	baz=44										
L23A	Garrett	44.40	76	⇑P		P		23 20 23.7	-0.8		
	baz=44,SNR=5.6										
B29A	Wagenman Farm,	44.47	65	⇑P		P		23 20 24.1	-0.5		
	baz=44										
D28A	Regan	44.48	67	⇑P		P		23 20 24.8	0.0		
	baz=44,SNR=9.0										
GLA	Glamis	44.57	92	eP		P		23 20 25.6	-0.1		
GLA				pmax		pmax					
	comp=Z,8.0nm,1.2s										
GLA	Glamis	44.57	92	eP		P		23 20 25.6	-0.1		
	comp=Z,7.6nm,1.2s										
GLA	Glamis	44.57	92	⇑P		P		23 20 25.3	-0.3		
	baz=44,SNR=8.0										
MDND	Maddock	44.67	66	eP		P		23 20 26.4	+0.2		
	comp=Z,90nm,1.0s										
MDND	Maddock	44.67	66	⇑P		P		23 20 26.1	-0.1		
	baz=44										
G27A	Dupree	44.73	70	⇓P		P		23 20 26.1	-0.7		
	baz=44										
PV04	Paradox Valley	44.74	82	eP		P		23 20 26.6	-0.5		
N22A	Wattenberg Ran	44.74	78	⇑P		P		23 20 26.6	-0.6		
	baz=45,SNR=5.2										
M23A	Laramie	44.78	77	⇓P		P		23 20 26.7	-0.8		
	baz=45										
A30A	Hoffart Farm,	44.79	64	⇓P		P		23 20 26.8	-0.4		
	baz=45										
N23A	Red Feather La	44.99	77	⇑P		P		23 20 28.7	-0.4		
	baz=45										
B30A	Myrvik Farm, E	45.05	64	⇑P		P		23 20 28.8	-0.4		
	baz=45,SNR=5.2										
WUAZ	Wupatki	45.06	87	eP		P		23 20 29.5	-0.2		
	comp=Z,19nm,0.8s										
WUAZ	Wupatki	45.06	87	⇑P		P		23 20 29.6	0.0		
	baz=45,SNR=19										
O22A	Kremmling	45.07	79	⇓P		P		23 20 29.4	-0.5		
	baz=45,SNR=7.6										
Y14A	Wickenburg	45.10	90	⇓P		P		23 20 29.5	-0.4		
	baz=45										
PV01	Paradox Valley	45.10	82	eP		P		23 20 29.6	-0.5		
	comp=Z,2μm,0.7s										
PV01				eScP		ScP		23 25 59.1	+2.3		
F28A	McLaughlin	45.11	69	⇓P		P		23 20 29.4	-0.4		
	baz=45,SNR=5.1										
D29A	Pettibone, Tap	45.11	66	⇓P		P		23 20 29.6	-0.1		
	baz=45										
JNU	Nakatsue	45.19	269	P		P		23 20 31.2	+0.7		
JNU	Nakatsue	45.19	269	P		P		23 20 31.2	+0.7		
	comp=Z,15nm,0.8s,baz=25,slow=4.4,SNR=9.2										
K25A	Mack Ranch, Ha	45.20	74	⇑P		P		23 20 30.2	-0.4		
	baz=45										
P22A	Eagle	45.29	79	⇑P		P		23 20 31.5	0.0		
	baz=45										
E29A	Napoleon	45.36	67	⇓P		P		23 20 31.7	0.0		
	baz=45										
C30A	Mose, Pekin	45.38	65	⇓P		P		23 20 31.5	-0.4		
	baz=45										
ULM	Lac du Bonnet	45.41	61	eP		P		23 20 31.5	-0.6		
	comp=Z,28nm,1.4s										
ULM	Lac du Bonnet	45.41	61	P		P		23 20 31.4	-0.6		
	comp=Z,12nm,0.8s,baz=308,slow=8.3,SNR=12										
ULM				LR		LR		23 41 36.5			
	comp=Z,333nm,18.4s,baz=58,slow=39										
I27A	Quinn	45.41	71	⇑P		P		23 20 31.9	-0.3		
	baz=45										
L25A	Engebretsen Ra	45.41	75	⇓P		P		23 20 32.2	-0.2		
	baz=45										
113A	Mohawk Valley,	45.42	92	⇑P		P		23 20 31.8	-0.5		
	baz=45,SNR=5.8										
SMCO	Snowmass	45.42	80	eP		P		23 20 32.4	-0.4		
	comp=Z,17nm,1.4s										
O23A	Lake Granby, G	45.42	78	⇓P		P		23 20 32.5	-0.1		
	baz=45,SNR=8.2										
G28A	Parade	45.49	70	⇑P		P		23 20 32.7	-0.1		
	baz=45										
Z14A	Wintersburg	45.52	91	⇑P		P		23 20 33.0	-0.2		
	baz=45										
K26A	Motz Farm, Whi	45.56	74	⇓P		P		23 20 32.7	-0.7		
	baz=45										
D30A	Buchanan	45.56	66	⇑P		P		23 20 32.5	-0.8		
	baz=45,SNR=13										
H28A	Mission Ridge	45.66	70	⇓P		P		23 20 34.0	-0.2		
	baz=46										
N24A	Carr	45.67	77	⇓P		P		23 20 34.2	-0.2		
	baz=46										
F29A	Eureka	45.68	68	⇑P		P		23 20 34.0	-0.3		
	baz=46										
MVCO	Mesa Verde	45.73	83	eP		P		23 20 34.4	-0.7		
	comp=Z,58nm,1.8s										
MVCO	Mesa Verde	45.73	83	⇓P		P		23 20 34.5	-0.5		
	baz=46,SNR=7.7										
X16A	Lo Mia Camp, P

	baz=47								
J30A	**Dallas**	47.35	71	⇓P		P	23 20 46.8	-0.6	
	baz=47,SNR=6.7								
T23A	**Casias Ranch,**	47.35	82	⇑P		P	23 20 47.4	-0.3	
	baz=47								
P26A	**Davis Ranch, A**	47.38	77	⇑P		P	23 20 48.0	+0.2	
	baz=47,SNR=12								
M28A	**Bar X Bar Ranc**	47.42	74	⇓P		P	23 20 47.9	-0.1	
	baz=47,SNR=6.3								
S24A	**Houchin Ranch,**	47.47	80	⇑P		P	23 20 48.6	-0.1	
	baz=47,SNR=8.6								
O27A	**Beecher Island**	47.50	76	⇑P		P	23 20 48.8	+0.1	
	baz=47								
L29A	**Maesberg Ranch**	47.53	73	⇑P		P	23 20 48.1	-0.7	
	baz=47								
V22A	**San Miguel Ran**	47.55	83	⇓P		P	23 20 48.9	-0.4	
	baz=47,SNR=8.0								
TUC	**Tucson**	47.57	90	*e*P		P	23 20 49.0	-0.3	
TUC				pmax		pmax			
	comp=Z,13nm,0.9s								
TUC	**Tucson**	47.57	90	*e*P		P	23 20 49.0	-0.3	
	comp=Z,13nm,0.9s								
K30A	**Basset**	47.67	71	⇑P		P	23 20 49.4	-0.5	
	baz=48,SNR=8.7								
Q26A	**Hugo**	47.67	78	⇓P		P	23 20 50.0	-0.1	
	baz=48								
R25A	**Fountain Ranch**	47.71	79	⇓P		P	23 20 50.3	-0.1	
	baz=48,SNR=7.4								
U23A	**El Rito**	47.72	82	⇑P		P	23 20 50.3	-0.3	
	baz=48,SNR=18								
T24B	**San Luis**	47.73	81	⇑P		P	23 20 50.9	+0.1	
	baz=48								
N28A	**Pribbeno Ranch**	47.76	75	⇑P		P	23 20 51.0	+0.4	
	baz=48								
M29A	**Burnside Ranch**	47.79	73	⇑P		P	23 20 50.8	-0.1	
	baz=48								
P27A	**Ficken Ranch,**	47.84	77	⇑P		P	23 20 51.2	-0.2	
	baz=48								
S25A	**Robets Cordova**	47.93	80	⇑P		P	23 20 52.0	-0.1	
	baz=48,SNR=14								
O28A	**Krutsinger Ran**	47.97	75	⇓P		P	23 20 51.9	-0.4	
	baz=48,SNR=5.3								
L30A	**Spencer Herefo**	48.05	72	⇓P		P	23 20 52.5	-0.3	
	baz=48								
V23A	**Ortiz Mt. (NFS**	48.10	83	⇑P		P	23 20 53.4	-0.1	
	baz=48,SNR=8.4								
R26A	**Arlington**	48.11	78	⇑P		P	23 20 53.2	-0.3	
	baz=48,SNR=7.7								
KSCO	**Kaye Shedlock'**	48.16	77	⇑P		P	23 20 53.7	-0.1	
	baz=48								
M30A	**Dale-Ortello V**	48.22	73	⇓P		P	23 20 53.5	-0.6	
	baz=48								
N29A	**Votaw Ranch, W**	48.22	74	⇓P		P	23 20 54.0	-0.1	
	baz=48								
T25A	**Trinidad**	48.28	80	⇑P		P	23 20 54.5	-0.4	
	baz=48,SNR=20								
P28A	**Saint Francis**	48.33	76	⇓P		P	23 20 54.9	-0.1	
	baz=48,SNR=5.8								
LAZ	**Ladron**	48.41	85	*e*P		P	23 20 55.9	0.0	
	comp=Z,7.4nm,0.9s								
L31A	**Butterfield Fa**	48.43	71	⇑P		P	23 20 55.8	0.0	
	baz=48								
ANMO	**Albuquerque**	48.46	84	*e*P		P	23 20 55.8	-0.5	
	comp=Z,21nm,1.5s								
ANMO				*e*ScP		ScP	23 26 13.4	+2.5	
W23A	**Werner Place,**	48.51	84	⇑P		P	23 20 56.5	-0.1	
	baz=48,SNR=6.9								
R27A	**Eads**	48.52	78	⇑P		P	23 20 56.6	+0.1	
	baz=48,SNR=10								
S26A	**Kim**	48.53	79	⇑P		P	23 20 56.1	-0.7	
	baz=48,SNR=15								
N30A	**Hueftle Ranch,**	48.54	74	⇓P		P	23 20 56.6	-0.1	
	baz=48								
O29A	**4D Ranch, Culb**	48.55	75	⇑P		P	23 20 56.6	-0.1	
	baz=48								
Q28A	**Sharon Springs**	48.60	77	⇓P		P	23 20 57.2	0.0	
	baz=48								
LENM	**Lemitar**	48.66	85	*e*P		P	23 20 58.1	+0.3	
V24A	**Rampart Ranch,**	48.67	82	⇑P		P	23 20 58.3	+0.3	
	baz=48,SNR=13								
T26A	**Comanche Natio**	48.75	80	⇓P		P	23 20 57.8	-0.6	
	baz=49,SNR=5.7								
U25A	**Circle Dot Ran**	48.76	81	⇑P		P	23 20 58.4	-0.1	
	baz=49,SNR=12								
Y22D	**IRIS PASSCAL I**	48.76	85	⇑P		P	23 20 58.5	0.0	
	baz=49								
ECSD	**EROS Data Cent**	48.76	68	*e*P		P	23 20 56.7	-1.6	
	comp=Z,16nm,0.6s								
ECSD	**EROS Data Cent**	48.76	68	⇓P		P	23 20 57.8	-0.4	
	baz=49,SNR=12								
LPM	**Los Pinos Moun**	48.78	85	*e*P		P	23 20 58.9	+0.2	
P29A	**Atwood**	48.80	75	⇑P		P	23 20 58.8	+0.1	
	baz=49								
IRK	**Irkutsk**	48.83	306	*e*P		P	23 20 57.8	-0.9	
IRK				pmax		pmax			
	comp=Z,30nm,0.8s								
BNM	**Barren Site**	48.89	85	*e*P		P	23 20 59.8	+0.2	
	comp=Z,8.1nm,0.9s								
W24A	**Lazy 6 Ranch,**	48.93	83	⇑P		P	23 20 59.8	-0.1	
	baz=49,SNR=6.6								
O30A	**MW Ranch, Wils**	48.95	74	⇑P		P	23 20 59.5	-0.3	
	baz=49								
V25A	**Rancho No Teng**	49.00	82	⇑P		P	23 21 00.2	-0.2	
	baz=49,SNR=14								
R28A	**Tribune**	49.08	77	⇓P		P	23 21 00.4	-0.4	
	baz=49								
EYMN	**Ely**	49.08	61	*e*P		P	23 20 59.4	-1.3	
	comp=Z,30nm,1.1s								
319A	**Douglas**	49.14	90	⇓P		P	23 21 01.3	-0.1	
	baz=49								
U26A	**Atchley Ranch,**	49.17	81	⇑P		P	23 21 01.2	-0.5	
	baz=49								
N31A	**Bailey Ranch,**	49.20	73	⇓P		P	23 21 01.4	-0.3	
	baz=49								
Q29A	**Oakley**	49.22	76	⇓P		P	23 21 01.9	0.0	
	baz=49								
P30A	**Selden**	49.24	75	⇓P		P	23 21 01.9	-0.1	
	baz=49,SNR=8.6								
121A	**Cookes Peak, D**	49.27	87	*e*P		P	23 21 02.1	-0.3	
	comp=Z,9.4nm,0.8s								
121A	**Cookes Peak, D**	49.27	87	⇑P		P	23 21 02.3	-0.2	
	baz=49,SNR=8.7								
Z22A	**Elephant Butte**	49.28	86	⇓P		P	23 21 02.4	-0.1	
	baz=49,SNR=6.0								
BGNE	**Belgrade**	49.31	72	*e*P		P	23 21 02.1	-0.3	
BGNE	**Belgrade**	49.31	72	⇑P		P	23 21 01.9	-0.6	
	baz=49								
X24A	**Lazy VL Ranch,**	49.34	84	⇓P		P	23 21 03.2	+0.1	
	baz=49								
Y23A	**Lovelace Mesa,**	49.39	85	⇓P		P	23 21 03.2	-0.2	
	baz=49,SNR=10								
O31A	**Woolen Ranch,**	49.41	74	⇓P		P	23 21 02.9	-0.3	
	baz=49								
R29A	**Marienthal**	49.43	77	⇑P		P	23 21 03.5	0.0	
	baz=49								
TLY	**Talaya**	49.48	305	*e*P		P	23 21 03.2	-0.4	
TLY				*e*S		S	23 28 24.5	+18	
TLY				pmax		pmax			
	comp=Z,14nm,0.9s								
TLY				MLR		MLR			
	comp=Z,320nm,17.0s								
TLY	**Talaya**	49.48	305	*e*P		P	23 21 03.0	-0.5	
	comp=Z,10nm,0.8s								
W25A	**X Bar L Ranch,**	49.51	82	⇑P		P	23 21 04.0	-0.2	
	baz=49,SNR=19								
S28A	**Manter**	49.51	78	⇑P		P	23 21 03.6	-0.5	
	baz=49,SNR=7.1								
V26A	**Tequesquite Ra**	49.53	81	⇑P		P	23 21 04.2	-0.2	
	baz=49,SNR=14								
Q30A	**Quinter**	49.62	76	⇓P		P	23 21 05.0	0.0	
	baz=50								
N32A	**Stulken Farm,**	49.63	73	⇑P		P	23 21 04.6	-0.3	
	baz=49								
320A	**Kipp Ranch, An**	49.63	89	⇓P		P	23 21 05.1	-0.1	
	baz=50,SNR=16								
BJI	**Beijing**	49.64	286	P		P	23 21 04.0	-0.9	
BJI				S		S	23 28 07.5	-1.3	
BJI				SS		SS	23 31 41.0	-0.2	
BJI				pmax		pmax			
	comp=Z,28nm,1.0s								
BJI				pmax		pmax			
	comp=Z,170nm,6.8s								
BJI				LR		LR			
	comp=Z,380nm,18.6s								
BJI				LR		LR			
	comp=Z,270nm,16.9s								
BJI				LR		LR			
	comp=Z,310nm,29.4s								
BJT	**Baijiatuau**	49.66	286	*e*P		P	23 21 05.2	+0.1	
	comp=Z,12nm,0.4s								
T28A	**Walsh**	49.68	79	⇓P		P	23 21 05.5	0.0	
	baz=50								
U27A	**Thompson Grove**	49.71	80	⇑P		P	23 21 05.3	-0.4	
	baz=50,SNR=7.3								
Z23A	**Rita Site, Whi**	49.73	85	⇑P		P	23 21 05.8	-0.1	
	baz=50								
Y24A	**Capitan**	49.77	84	⇓P		P	23 21 06.1	-0.2	
	baz=50,SNR=18								
P31A	**Stockton**	49.78	75	⇓P		P	23 21 05.7	-0.3	
	baz=50,SNR=9.2								
X25A	**Clemmons Ranch**	49.84	83	⇑P		P	23 21 06.6	-0.2	
	baz=50								
O32A	**Brockman Farm,**	49.96	73	⇑P		P	23 21 06.6	-0.8	
	baz=50								
ULN	**Ulaanbaatar**	49.98	300	*e*P		P	23 21 07.4	-0.2	
	comp=Z,16nm,0.9s								
222A	**Williams Famil**	49.98	87	⇑P		P	23 21 07.5	-0.3	
	baz=50								
SPMN	**St. Paul**	50.01	65	*e*P		P	23 21 06.3	-1.4	
SPMN	**St. Paul**	50.01	65	⇑P		P	23 21 06.8	-0.9	
	baz=50								
W26A	**Owens Ranch, T**	50.02	82	⇑P		P	23 21 07.7	-0.4	
	baz=50								
R30A	**Dighton**	50.03	76	⇑P		P	23 21 07.8	-0.2	
	baz=50								
Q31A	**Ellis**	50.10	75	⇑P		P	23 21 08.3	-0.2	
	baz=50								
U28A	**Mallet**	50.10	80	⇑P		P	23 21 07.9	-0.8	
	baz=50,SNR=5.4								
V27A	**Dan Oppiter Fa**	50.14	81	⇓P		P	23 21 08.7	-0.3	
	baz=50								
T29A	**Hugoton**	50.16	78	⇓P		P	23 21 09.2	+0.1	
	baz=50								
P32A	**Huiting Farm,**	50.17	74	⇑P		P	23 21 08.6	-0.4	
	baz=50								
Z24A	**Sheeppen Canyo**	50.22	85	⇓P		P	23 21 09.5	-0.2	
	baz=50,SNR=12								
Y25A	**Mesa, Roswell**	50.23	84	⇑P		P	23 21 08.9	-0.8	
	baz=50,SNR=11								
S30A	**Montezuma**	50.34	77	⇓P		P	23 21 10.2	-0.2	
	baz=50								
X26A	**CR and CF Fran**	50.35	82	⇑P		P	23 21 10.1	-0.5	
	baz=50								
SONM	**Songino Array**	50.35	300	P		P	23 21 10.5	+0.1	
SONM				PcP		PcP	23 22 28.2	0.0	
SONM				ScP		ScP	23 26 20.5	+1.9	
SONM	**Songino Array**	50.35	300	P		P	23 21 10.5	+0.1	
	comp=Z,6.4nm,0.7s,baz=59,slow=6.0,SNR=100								
SONM				PcP		PcP	23 22 28.2	0.0	
	comp=Z,2.9nm,0.8s,baz=86,slow=1.8,SNR=5.2								
SONM				ScP		ScP	23 26 20.5	+1.9	
	comp=Z,1.8nm,0.9s,baz=43,slow=3.8,SNR=7.6								
SONM				LR		LR	23 44 41.2		
	comp=Z,726nm,18.4s,baz=9.4,slow=39								
ZAK	**Zakamensk**	50.44	304	*e*P		P	23 21 11.2	+0.2	
ZAK				*e*			23 22 29.6		
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.2s								
W27A	**Bowe Ranch, En**	50.46	81	⇓P		P	23 21 10.7	-0.8	
	baz=50								
R31A	**Burdett**	50.48	76	⇑P		P	23 21 10.7	-0.7	
	baz=50,SNR=7.5								
124A	**Stringfield Ra**	50.59	85	⇑P		P	23 21 11.9	-0.6	
	baz=50,SNR=6.9								
Q32A	**Meitler Ranch,**	50.60	75	⇑P		P	23 21 11.9	-0.4	
	baz=50,SNR=13								
U29A	**Oasis Ranch, S**	50.63	79	⇑P		P	23 21 12.6	0.0	
	baz=50								
Z25A	**Roswell**	50.65	84	⇑P		P	23 21 12.4	-0.5	
	baz=50,SNR=5.2								
Y26A	**Elida**	50.76	83	⇑P		P	23 21 13.2	-0.5	
	baz=51,SNR=7.0								
MOY	**Mondy**	50.81	307	*e*P		P	23 21 14.3	+0.5	
P33A	**Williams Farm,**	50.83	74	⇓P		P	23 21 13.2	-0.8	
	baz=51								
R32A	**Long Quarter,**	50.88	75	⇓P		P	23 21 14.0	-0.4	
	baz=51								
S31A	**Mullinville**	50.94	76	⇓P		P	23 21 14.6	-0.3	
	baz=51								
U30A	**WK&E Inc. Balk**	50.95	78	⇓P		P	23 21 14.6	-0.5	
	baz=51								
224A	**Cornudas Mount**	50.98	86	⇑P		P	23 21 14.8	-0.5	
	baz=51,SNR=9.9								
Q33A	**Connelly Farm,**	51.03	74	⇑P		P	23 21 14.6	-0.9	
	baz=51,SNR=9.8								
Z26A	**Caprock**	51.11	84	⇓P		P	23 21 16.2	-0.1	
	baz=51,SNR=16								
125A	**Gardner Draw,**	51.11	85	⇑P		P	23 21 16.2	-0.1	
	baz=51,SNR=7.7								
T31A	**Randall Ranch,**	51.17	77	⇓P		P	23 21 15.8	-0.8	
	baz=51,SNR=5.4								
Y27A	**Causey**	51.19	83	⇓P		P	23 21 16.3	-0.6	
	baz=51,SNR=7.0								
MNTX	**Cornudas Mount**	51.32	86	*e*P		P	23 21 17.4	-0.4	
	comp=Z,5.7nm,0.8s								
MSTX	**Muleshoe**	51.37	82	*e*P		P	23 21 17.6	-0.7	
	comp=Z,67nm,1.5s								
MSTX	**Muleshoe**	51.37	82	⇑P		P	23 21 17.4	-0.9	
	baz=51,SNR=7.1								
R33A	**Olander Ranch,**	51.39	75	⇓P		P	23 21 17.7	-0.5	
	baz=51								
AMTX	**Amarillo**	51.42	81	*e*P		P	23 21 18.4	-0.2	
	comp=Z,16nm,1.1s								
AMTX	**Amarillo**	51.42	81	⇑P		P	23 21 18.0	-0.6	
	baz=51								
SUMG	**Summit**	51.42	16	*e*P		P	23 21 19.4	+0.9	
SUMG				pmax		pmax			
	comp=Z,36nm,1.2s								
SUMG	**Summit**	51.42	16	*i* P		P	23 21 19.2	+0.8	
	comp=Z,11nm,0.9s								
SUMG				*i*			23 21 43.2		
SUMG	**Summit**	51.42	16	*e*P		P	23 21 19.4	+0.9	
	comp=Z,36nm,1.2s								
324A	**Moseley Ranch,**	51.44	87	⇑P		P	23 21 18.1	-0.7	
	baz=51								
V30A	**Spur Ranch, Mi**	51.44	79	⇓P		P	23 21 18.1	-0.6	
	baz=51								
126A	**Clayton Basin,**	51.51	84	⇓P		P	23 21 18.9	-0.3	
	baz=51								
U31A	**Nine Bar Ranch**	51.54	78	⇓P		P	23 21 19.2	-0.2	
	baz=51								
Z27A	**Tatum**	51.55	83	⇑P		P	23 21 18.6	-1.0	
	baz=51,SNR=11								
T32A	**Huddler Ranch,**	51.57	77	⇑P		P	23 21 18.9	-0.7	
	baz=51								
KSU1	**Kansas State U**	51.69	73	*e*P		P	23 21 19.1	-1.3	
	comp=Z,16nm,0.7s								
KSU1	**Kansas State U**	51.69	73	⇑P		P	23 21 19.5	-0.9	
	baz=52								
Y28A	**McKinney Farm,**	51.73	82	⇓P		P	23 21 20.3	-0.6	
	baz=52,SNR=7.0								
325A	**Bean Ranch, Si**	51.80	86	⇑P		P	23 21 21.1	-0.4	
	baz=52,SNR=17								
226B	**Tecolote Peak,**	51.81	85	⇓P		P	23 21 20.9	-0.6	
	baz=52,SNR=11								
HHC	**Hu-ho-hao-te**	51.83	290	*e*P		P	23 21 21.5	-0.1	
HHC				pP		pP	23 21 40.0	+2.7	
HHC				sP		sP	23 21 46.8	+2.6	
HHC				PP		PP	23 23 17.0	-2.5	
HHC				S		S	23 28 33.3	-6.0	
HHC				pmax		pmax			
	comp=Z,36nm,1.0s								
HHC				pmax		pmax			
	comp=Z,280nm,7.8s								
HHC				LR		LR			
	comp=Z,680nm,16.2s								
HHC				LR		LR			
	comp=Z,450nm,16.7s								
HHC				LR		LR			
	comp=Z,480nm,16.7s								
S33A	**Kaszmaul Farm,**	51.85	76	⇓P		P	23 21 20.7	-0.9	
	baz=52								
SCIA	**State Center**	51.86	68	*e*P		P	23 21 21.1	-0.5	
	comp=Z,111nm,1.6s								
V31A	**Spring Creek L**	51.95	78	⇑P		P	23 21 22.1	-0.3	
	baz=52								
T33A	**Patterson Ranc**	52.04	76	⇑P		P	23 21 22.3	-0.8	
	baz=52								
U32A	**Winter Ranch,**	52.05	77	⇓P		P	23 21 22.2	-0.9	
	baz=52,SNR=5.5								
Z28A	**Tucker Farm, M**	52.07	83	⇑P		P	23 21 22.2	-1.2	
	baz=52,SNR=7.8								
Y29A	**Porterfield Fa**	52.12	82	⇓P		P	23 21 23.1	-0.7	
	baz=52								
425A	**Indio Mountain**	52.20	87	⇓P		P	23 21 23.9	-0.6	
	baz=52,SNR=13								
X30A	**Coker Ranch, T**	52.21	80	⇓P		P	23 21 23.7	-0.7	
	baz=52								
W31A	**Holland Ranch,**	52.28	79	⇑P		P	23 21 24.7	-0.2	
	baz=52								
326A	**Caldwell Ranch**	52.45	86	⇑P		P	23 21 25.7	-0.5	
	baz=52,SNR=7.7								
V32A	**Arapaho**	52.46	78	⇑P		P	23 21 25.8	-0.4	
	baz=52								
128A	**Castleberry Fa**	52.47	83	⇓P		P	23 21 25.7	-0.7	
	baz=52,SNR=13								
Z29A	**Hungry Hill Ra**	52.51	82	⇑P		P	23 21 26.2	-0.4	
	baz=52,SNR=11								
U33A	**Lingo Farm, Me**	52.55	77	⇓P		P	23 21 25.9	-0.9	
	baz=52								
Y30A	**Stafford Cattl**	52.58	81	⇓P		P	23 21 26.9	-0.3	
	baz=52								
X31A	**McDonald Ranch**	52.63	80	⇑P		P	23 21 27.2	-0.3	
	baz=52								
129A	**Stewart Farms,**	52.84	83	⇓P		P	23 21 28.4	-0.7	
	baz=53								
Z30A	**Sanderson Ranc**	52.84	82	⇑P		P	23 21 28.1	-1.0	
	baz=53,SNR=12								
V33A	**Lossen Ranch,**	52.85	77	⇑P		P	23 21 28.2	-0.9	
	baz=53								
426A	**McDonald Obser**	52.87	86	⇑P		P	23 21 28.7	-0.8	
	baz=53,SNR=7.7								
U34A	**Anderson Ranch**	52.89	76	⇓P		P	23 21 28.2	-1.1	
	baz=53,SNR=5.4								
JFWS	**Jewell Farm**	52.89	66	*e*P		P	23 21 28.0	-1.3	
JFWS				pmax		pmax			
	comp=Z,22nm,1.0s								
JFWS	**Jewell Farm**	52.89	66	*e*P		P	23 21 27.9	-1.3	
	comp=Z,22nm,1.0s								
Y31A	**Rekieta Farm,**	52.91	80	⇓P		P	23 21 28.5	-1.0	
	baz=53								
328A	**Wristen Ranch,**	53.12	85	⇑P		P	23 21 30.2	-1.0	
	baz=53,SNR=9.7								
427A	**Hayter Ranch,**	53.13	86	⇓P		P	23 21 30.4	-0.9	
	baz=53								
X32A	**Elmer**	53.19	79	⇑P		P	23 21 31.1	-0.5	
	baz=53								
W33A	**Caddo, Fort Co**	53.19	78	⇑P		P	23 21 31.3	-0.3	
	baz=53								
526A	**Mary Lane Ranc**	53.26	87	⇑P		P	23 21 31.6	-0.7	
	baz=53,SNR=8.8								
WMOK	**Wichita Mounta**	53.28	79	*e*P		P	23 21 31.2	-1.1	
WMOK				pmax		pmax			
	comp=Z,21nm,1.0s								
WMOK	**Wichita Mounta**	53.28	79	*e*P		P	23 21 31.2	-1.1	
	comp=Z,21nm,1.0s								
V34A	**Guthrie**	53.31	77	⇓P		P	23 21 31.3	-1.1	
	baz=53								
NJ2	**Nanjing**	53.33	277	*e*P		P	23 21 32.3	-0.2	
NJ2				S		S	23 28 59.0	-0.7	
NJ2				pmax		pmax			
	comp=Z,70nm,1.0s								
NJ2				LR		LR			
	comp=Z,710nm,20.0s								
NJ2				LR		LR			
	comp=Z,220nm,24.0s								
NJ2				LR		LR			
	comp=Z,3μm,30.0s								
Y32A	**R-V Farms, Ver**	53.38	80	⇓P		P	23 21 32.4	-0.6	
	baz=53,SNR=6.9								
130A	**Snyder**	53.41	82	⇓P		P	23 21 32.8	-0.5	
	baz=53								
Z31A	**Sharp Cattle R**	53.42	81	⇑P		P	23 21 32.2	-1.1	
	baz=53,SNR=5.7								
527A	**Woodward Ranch**	53.49	86	⇑P		P	23 21 33.3	-0.7	
	baz=53,SNR=10								
W34A	**Bridge Creek,**	53.56	78	⇑P		P	23 21 33.9	-0.4	
	baz=53								
329A	**Wagon Wheel Ra**	53.56	84	⇓P		P	23 21 33.6	-0.8	
	baz=53								
626A	**Big Bend Ranch**	53.59	87	⇑P		P	23 21 33.8	-0.9	
	baz=54,SNR=15								
428A	**Kincaid Ranch,**	53.66	85	⇑P		P	23 21 34.6	-0.5	
	baz=54,SNR=14								
131A	**Roby**	53.71	82	⇑P		P	23 21 34.5	-1.0	
	baz=54,SNR=5.8								
230A	**Sterling City**	53.81	83	⇓P		P	23 21 35.2	-1.0	
	baz=54,SNR=13								
Z32A	**Haskell**	53.83	81	⇓P		P	23 21 35.3	-1.0	
	baz=54,SNR=9.9								
Y33A	**Hilltop Ranch,**	53.87	79	⇓P		P	23 21 36.0	-0.6	
	baz=54								
X34A	**Smith Ranch, M**	53.95	78	⇑P		P	23 21 36.5	-0.6	
	baz=54								
TXAR	**Lajitas Array**	54.03	87	P		P	23 21 37.2	-0.6	
TXAR				ScP		ScP	23 26 35.7	+0.9	
TXAR	**Lajitas Array**	54.03	87	P		P	23 21 37.2	-0.6	
	comp=Z,7.5nm,0.7s,baz=297,slow=5.6,SNR=103								
TXAR				ScP		ScP	23 26 35.7	+0.9	
	comp=Z,0.8nm,0.8s,baz=298,slow=3.7,SNR=3.8								
TXAR				LR		LR	23 42 18.2		
	comp=Z,312nm,19.7s,baz=340,slow=33								
330A	**Mertzon**	54.11	83	⇓P		P	23 21 37.5	-0.9	
	baz=54								
627A	**Terlingua Ranc**	54.12	87	⇓P		P	23 21 38.0	-0.5	
	baz=54,SNR=10								
ABTX	**Abilene, Hawle**	54.20	81	*e*P		P	23 21 38.7	-0.4	
	comp=Z,17nm,1.1s								
ABTX	**Abilene, Hawle**	54.20	81	⇓P		P	23 21 38.2	-0.9	
	baz=54								
429A	**Davenport Ranc**	54.21	85	⇑P		P	23 21 38.4	-0.8	
	baz=54,SNR=5.7								
231A	**Bronte**	54.27	82	⇑P		P	23 21 38.7

baz=56,SNR=16
WHTX Lake Whitney 55.97 80 *e*P P 23 21 51.6 -0.2
comp=Z,58nm,1.4s
WHTX Lake Whitney 55.97 80 ⇑P P 23 21 51.2 -0.6
baz=56,SNR=7.7
434A Burnet 56.30 82 ⇓P P 23 21 53.2 -1.0
baz=56,SNR=13
SFIN Scholer Farm 56.34 66 *e*P P 23 21 53.4 -0.9
comp=Z,26nm,0.8s
SFIN Scholer Farm 56.34 66 ⇓P P 23 21 53.3 -0.9
baz=56,SNR=6.1
533A Kerrville 56.35 83 ⇓P P 23 21 53.8 -0.7
baz=56
335A Moody 56.49 81 ⇑P P 23 21 54.9 -0.6
baz=56
SCHQ Schefferville 56.51 42 P P 23 21 54.8 -0.5
SCHQ Schefferville 56.51 42 P P 23 21 54.8 -0.5
comp=Z,8.5nm,0.7s,baz=320,slow=8.0,SNR=7.9
MIAR Mount Ida 56.55 75 *e*P P 23 21 55.2 -0.6
MIAR pmax pmax
comp=Z,37nm,1.2s
MIAR Mount Ida 56.55 75 *e*P P 23 21 55.2 -0.6
comp=Z,37nm,1.2s
633A Saathoff Ranch 56.70 84 ⇓P P 23 21 56.1 -0.9
baz=57
534A Blanco 56.73 83 ⇓P P 23 21 56.2 -0.9
baz=57
732A Laxson Ranch, 56.73 85 ⇓P P 23 21 56.6 -0.6
baz=57
ZAA0 Zalesovo Array 56.77 317 *e*P P 23 21 56.4 -0.7
ZAA0 *e*PcP PcP 23 22 52.6 +0.3
ZALV Zalesovo Beam 56.77 317 P P 23 21 56.6 -0.5
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV MLR MLR
comp=Z,363nm,20.8s
ZALV Zalesovo Beam 56.77 317 P P 23 21 56.5 -0.5
ZALV ScP ScP 23 26 48.2 +1.9
ZALV Zalesovo Beam 56.77 317 P P 23 21 56.5 -0.5
comp=Z,1.9nm,0.4s,baz=46,slow=6.4,SNR=18
ZALV ScP ScP 23 26 48.2 +1.9
comp=Z,0.9nm,0.7s,baz=70,slow=5.2,SNR=3.8
ZALV LR LR 23 47 19.0
comp=Z,363nm,20.8s,baz=244,slow=37
NVS Novosibirsk 56.81 318⇑ *i*P P 23 21 55.7 -1.6
NVS *e*S S 23 29 45.3 -0.3
NVS *e* 23 31 41.5
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,9.0nm,0.8s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS smax smax
comp=N,12nm,2.0s
PBMO Poplar Bluff 56.87 71 *e*P P 23 21 56.2 -1.9
comp=N,14nm,0.8s
SIUC Southern Illin 56.94 70 *e*P P 23 21 57.2 -1.3
comp=N,22nm,0.6s
832A Faith Ranch, C 57.05 85 ⇑P P 23 21 58.7 -0.8
baz=57,SNR=8.3
WHN Wuhan 57.13 279 P P 23 22 00.3 +0.3
733A Divot King Ran 57.15 84 ⇓P P 23 21 59.4 -0.7
baz=57
535A Dale 57.28 82 ⇓P P 23 22 00.4 -0.7
baz=57
PARMO Parma 57.34 71 *e*P P 23 22 00.4 -1.0
833A Chaparral WMA, 57.38 85 ⇑P P 23 22 00.9 -0.9
baz=57
BLO Bloomington 57.48 67 *e*P P 23 22 01.2 -1.2
BLO Bloomington 57.48 67 *e*P P 23 22 01.2 -1.2
USIN University of 57.66 68 *e*P P 23 22 02.6 -1.0
comp=N,64nm,0.6s
KEV Kevo 57.73 353 *e*P P 23 22 03.0 -0.6
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 57.73 353 *e*p P 23 22 03.0 -0.6
comp=Z,1.1nm,0.3s
SSLB Suanglung 57.93 268 *e*P P 23 22 04.9 -0.8
comp=Z,15nm,0.7s
XAN Xi'an 57.96 285 P P 23 22 05.5 -0.3
XAN pP pP 23 22 19.5 -2.3
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN LR LR
comp=Z,290nm,21.9s
XAN LR LR
comp=Z,130nm,21.3s
XAN LR LR
comp=Z,160nm,22.6s
735A Kenedy 57.97 83 ⇓P P 23 22 05.8 -0.1
baz=58
ARCES ARCESS Array B 58.06 353 P P 23 22 05.2 -0.9
ARCES ARCESS Array B 58.06 353 P P 23 22 05.2 -0.9
comp=Z,1.7nm,0.4s,baz=19,slow=8.4,SNR=34
ARCES LR LR 23 45 28.7
comp=Z,243nm,21.1s,baz=5.4,slow=34
WCI Wyandotte Cave 58.26 67 *e*P P 23 22 06.3 -1.6
WCI pmax pmax
comp=Z,22nm,0.8s
WCI Wyandotte Cave 58.26 67 *e*P P 23 22 06.3 -1.6
comp=Z,22nm,0.8s
HKT Hockley 58.40 81 *e*P P 23 22 09.8 +1.0
HKT pmax pmax
comp=Z,38nm,1.8s
HKT Hockley 58.40 81 *e*P P 23 22 09.8 +1.0
comp=Z,38nm,1.8s
934A Benavides 58.43 85 ⇑P P 23 22 08.8 -0.3
baz=58
WVT Waverly 58.83 70 *e*P P 23 22 10.9 -0.9
WVT pmax pmax
comp=Z,50nm,1.6s
WVT Waverly 58.83 70 *e*P P 23 22 10.9 -0.9
comp=Z,50nm,1.6s
ALLY Alegheny Colle 59.30 61 *e*P P 23 22 14.3 -0.7
comp=Z,64nm,1.0s
GTA Gaotai 59.47 296 *e*P P 23 22 16.0 -0.4
GTA pP pP 23 22 32.0 -0.4
GTA sP sP 23 22 39.3 0.0
GTA S S 23 30 17.0 -4.1
GTA SS SS 23 34 14.0 -2.4
GTA pmax pmax
comp=Z,15nm,0.8s
GTA pmax pmax
comp=Z,120nm,5.0s
GTA LR LR
comp=Z,410nm,15.4s
GTA LR LR
comp=Z,470nm,15.9s
GTA LR LR
comp=Z,760nm,16.6s
LZH Lanzhou 59.51 291 *e*P P 23 22 17.5 +0.8
LZH pP pP 23 22 32.0 -0.8
LZH sP sP 23 22 38.5 -1.1
LZH PcP PcP 23 23 04.8 +1.1
LZH *e*S S 23 30 18.5 -3.2
LZH SS SS 23 34 17.0 -0.1
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,160nm,4.6s
LZH LR LR
comp=Z,160nm,15.4s
LZH LR LR
comp=Z,600nm,16.2s
LZH LR LR
comp=Z,490nm,17.2s
ENH Enshi 60.27 282 *e*P P 23 22 21.2 -0.7
comp=Z,5.5nm,0.4s
TZTN Tazewell 61.00 67 *e*P P 23 22 26.2 -0.5
comp=Z,211nm,2.5s
CPCT Cooper Cave 61.22 68 *e*P P 23 22 27.4 -0.8
LRAL Lakeview Retre 61.50 72 *e*P P 23 22 28.6 -1.5
comp=Z,12nm,0.9s
KURK Kurchatov 61.73 317 P P 23 22 31.0 -0.4
comp=Z,78nm,0.6s,SNR=18
KURK Kurchatov 61.73 317 *e*P P 23 22 31.3 -0.1
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK Kurchatov 61.73 317 *e*P P 23 22 31.3 -0.1
comp=Z,9.1nm,0.7s
BLA Blacksburg 62.28 64 *e*P P 23 22 35.0 -0.4
BLA pmax pmax
comp=Z,30nm,0.9s
BLA Blacksburg 62.28 64 *e*P P 23 22 35.0 -0.4
comp=Z,30nm,0.9s

WMQ Urumqi 62.70 307 P P 23 22 38.0 -0.1
WMQ pP pP 23 22 54.0 -0.3
WMQ sP sP 23 23 01.0 -0.1
WMQ PcP PcP 23 23 16.0 -0.3
WMQ PP PP 23 24 58.0 +1.9
WMQ ScP ScP 23 27 12.0 -0.9
WMQ S S 23 31 00.0 -1.9
WMQ ScS SKKSac 23 32 21.0 -4.0
WMQ SS SS 23 35 08.0 +1.5
WMQ pmax pmax
comp=Z,21nm,1.0s
WMQ pmax pmax
comp=Z,110nm,4.0s
WMQ LR LR
comp=Z,640nm,19.0s
WMQ LR LR
comp=Z,510nm,18.0s
WMQ LR LR
comp=Z,630nm,18.0s
PRGR Permogore 62.86 341 *e*P P 23 22 38.1 -0.6
PRGR pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 63.07 312 *e*P P 23 22 39.8 -0.7
MK31 Makanchi Array 63.07 312 *e*P P 23 22 39.8 -0.7
MKAR Makanchi Array 63.07 312 P P 23 22 39.9 -0.6
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR MLR MLR
comp=Z,205nm,18.5s
MKAR Makanchi Array 63.07 312 *e*P P 23 22 39.9 -0.6
MKAR Makanchi Array 63.07 312 P P 23 22 39.9 -0.6
comp=Z,7.2nm,0.7s,baz=50,slow=6.1,SNR=68
MKAR LR LR 23 51 09.4
comp=Z,205nm,18.5s,baz=41,slow=37
BVAR Borovoye Array 63.19 323 PKP2bc P'P'bc 23 51 46.3 -4.6
comp=Z,1.2nm,1.0s,baz=225,slow=1.0,SNR=4.1
BVAR LR LR 23 52 46.2
comp=Z,371nm,18.7s,baz=44,slow=38
BRVK Borovoye 63.20 323 P P 23 22 41.3 +0.2
comp=Z,57nm,0.4s,SNR=9.2
BRVK Borovoye 63.20 323 *e*P P 23 22 41.9 +0.8
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 63.20 323 *e*P P 23 22 41.2 0.0
comp=Z,6.0nm,0.8s
CD2 Chengdu 63.24 287⇑ *i*P P 23 22 43.0 +1.2
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,270nm,8.2s
KMSC Kings Mountain 63.26 67 *e*P P 23 22 41.1 -0.7
comp=Z,25nm,0.7s
KMSC Kings Mountain 63.26 67 ⇑P P 23 22 40.8 -1.0
baz=63,SNR=7.6
GOGA Godfrey 63.29 69 *e*P P 23 22 40.7 -1.3
GOGA pmax pmax
comp=Z,23nm,1.0s
GOGA Godfrey 63.29 69 *e*P P 23 22 40.7 -1.3
comp=Z,23nm,1.0s
SVE Sverdlovsk 63.34 331 *e*P P 23 22 42.4 +0.4
SVE pmax pmax
comp=Z,8.0nm,0.9s
JSC Jenkinsville 63.92 67 *e*P P 23 22 45.9 -0.3
JSC Jenkinsville 63.92 67 *e*P P 23 22 45.9 -0.3
JOF Joensuu 63.95 349 *e*P P 23 22 45.5 -0.4
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 63.95 349 *ep* P 23 22 45.5 -0.4
comp=Z,2.1nm,0.4s
ARU Arti 64.29 332 P P 23 22 47.4 -0.8
comp=Z,83nm,0.4s,SNR=5.5
ARU Arti 64.29 332 *d i*P P 23 22 47.5 -0.8
ARU 23 23 22.1
ARU 23 25 10.4
ARU S S 23 31 22.9 +1.8
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 64.29 332 *e*P P 23 22 47.5 -0.7
comp=Z,8.1nm,0.7s
TIGA Tifton 64.64 71 ⇑P P 23 22 50.4 -0.5
baz=64
GYA Guiyang 64.75 281⇑ *i*P P 23 22 51.8 0.0
GYA pP pP 23 23 10.8 +2.7
GYA sP sP 23 23 17.0 +2.1
GYA PP PP 23 25 17.0 +2.5
GYA ScP 23 27 20.5
GYA S S 23 31 25.8 -2.0
GYA sS sS 23 31 55.3 0.0
GYA SKS SKSac 23 32 37.0 -4.2
GYA SS SS 23 35 38.8 -0.5
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,540nm,18.4s
GYA LR LR
comp=Z,480nm,19.0s
GYA LR LR
comp=Z,570nm,18.0s
KAF Kangasniemi 65.29 351 *e*P P 23 22 53.8 -0.8
KAF pmax pmax
comp=Z,4.0nm,1.0s
KAF Kangasniemi 65.29 351 *ep* P 23 22 53.8 -0.8
comp=Z,4.2nm,1.0s
FINES FINESS Array B 65.97 351 P P 23 22 58.0 -1.0
FINES FINESS Array B 65.97 351 P P 23 22 58.0 -1.0
comp=Z,2.5nm,0.4s,baz=3.3,slow=8.9,SNR=28
FINES LR LR 23 57 08.3
comp=Z,191nm,18.3s,baz=10,slow=41
NB2 NORSAR Subarra 67.21 359 P P 23 23 06.2 -0.8
comp=Z,4.4nm,0.8s,baz=3.4,slow=6.2
NOA NORSAR Array B 67.21 359 P P 23 23 06.5 -0.5
NOA NORSAR Array B 67.21 359 P P 23 23 06.5 -0.5
comp=Z,1.9nm,0.6s,baz=0.7,slow=6.3,SNR=9.4
NOA LR LR 23 52 54.1
comp=Z,99nm,20.4s,baz=10.0,slow=36
KMI Kunming 68.10 283 P P 23 23 13.8 +0.4
KMI pP pP 23 23 31.8 +2.0
KMI sP sP 23 23 38.5 +2.0
KMI S S 23 32 07.5 -1.2
KMI sS sS 23 32 39.0 +2.6
KMI SS SS 23 36 31.0 -0.6
KMI pmax pmax
comp=Z,19nm,1.1s
KMI pmax pmax
comp=Z,110nm,6.4s
KMI LR LR
comp=Z,240nm,23.8s
KMI LR LR
comp=Z,140nm,28.6s
KMI LR LR
comp=Z,310nm,26.0s
QIZ Qiongzhong 68.33 273 P P 23 23 13.8 -0.8
QIZ pP pP 23 23 30.8 -0.3
QIZ sP sP 23 23 37.8 0.0
QIZ S S 23 32 10.5 -0.6
QIZ pmax pmax
comp=Z,83nm,3.7s
QIZ LR LR
comp=Z,250nm,20.2s
TKM2 Tokmak 2 69.08 314 *i*P P 23 23 19.8 +0.5
TKM2 Tokmak 2 69.08 314 P P 23 23 19.8 +0.5
SNR=9.0
TKM2 Tokmak 2 69.08 314 *e*P P 23 23 19.4 +0.1
comp=Z,10nm,1.0s
USP Ospenovka 69.30 315 *i*P P 23 23 20.6 +0.3
USP Ospenovka 69.30 315 P P 23 23 20.7 +0.3
SNR=14
CHMS Chumysh 69.40 314 *i*P P 23 23 21.6 +0.6
CHMS Chumysh 69.40 314 P P 23 23 21.7 +0.6
SNR=8.7
KBK Karagaybulak 69.58 314 P P 23 23 23.1 +0.8
SNR=5.8
FRU Bishkek 69.59 314 *e*P P 23 23 21.0 -1.2
AKTO Aktyubinsk 69.61 329 LR LR 23 55 23.0
comp=Z,190nm,20.9s,baz=28,slow=37
AAK Ala-Archa 69.80 314 P P 23 23 24.0 +0.3
comp=Z,90nm,0.5s,SNR=16
AAK Ala-Archa 69.80 314 *e*P P 23 23 24.4 +0.7
AAK Ala-Archa 69.80 314 P P 23 23 24.4 +0.7
SNR=5.5
AAK Ala-Archa 69.80 314 *e*P P 23 23 23.9 +0.3
comp=Z,12nm,0.8s
KZA Kyzart 69.91 313 *i*P P 23 23 25.4 +0.8

KZA Kyzart 69.91 313 P P 23 23 25.4 +0.8
SNR=8.5
ABKAR Akbulak array 70.00 327 *e*P P 23 23 24.4 -0.1
comp=Z,3.1nm,0.4s
EKS2 Erkin-Say 70.10 315 *i*P P 23 23 26.3 +0.9
EKS2 Erkin-Say 70.10 315 P P 23 23 26.3 +0.9
SNR=6.7
EKS2 Erkin-Say 70.10 315 *e*P P 23 23 25.9 +0.4
comp=Z,12nm,0.9s
SLVN Son La 70.24 279 *e*P P 23 23 27.1 +0.7
comp=Z,12nm,1.0s
AML Almayashu 70.56 314 P P 23 23 29.6 +1.0
SNR=8.9
OBN Obninsk 70.67 343⇓ *e*P P 23 23 27.8 -0.7
OBN pmax pmax
comp=Z,5.0nm,1.2s
OBN MLR MLR
comp=Z,200nm,17.0s
KKAR Karatay Array 71.14 317 *e*P P 23 23 31.2 -0.4
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 71.14 317 *e*P P 23 23 31.2 -0.4
comp=Z,2.5nm,0.5s
LSA Lhasa 71.42 294 *e*P P 23 23 28.5 -5.6
LSA Lhasa 71.42 294 *e*P P 23 23 35.3 +1.2
LSA pmax pmax
comp=Z,38nm,0.8s
LSA Lhasa 71.42 294 *e*P P 23 23 35.3 +1.2
comp=Z,38nm,0.8s
KSH Kashi 71.62 311 P P 23 23 38.0 +3.3
KSH sP sP 23 24 00.3 +2.4
KSH PP PP 23 26 18.0 +4.3
KSH S S 23 32 52.3 +2.9
KSH SKS SKSac 23 33 31.0 -1.9
KSH SS SS 23 37 30.8 +6.1
KSH pmax pmax
comp=Z,16nm,0.5s
KSH pmax pmax
comp=Z,190nm,5.4s
KSH LR LR
comp=Z,160nm,5.4s
KSH LR LR
comp=Z,120nm,6.8s
KSH LR LR
comp=Z,250nm,6.1s
PPT Papeete 71.92 158 LR LR 23 48 32.8
comp=Z,263nm,19.0s,baz=2.4,slow=30
PPT2 Papeete2 71.94 158 *e*S S 23 32 59.8 +6.7
comp=Z,103nm,27.2s
PPT2 Papeete2 71.94 158 *e*LR LR 23 45 22.4
comp=Z,236nm,22.2s
TIAR Tiarei 71.96 158 *e*T T 00 42 28.7
comp=Z,6.0nm,0.3s
SHL Shillong 74.17 291 *i*P P 23 23 51.0 +1.0
CMAI Chiengmai2 74.25 282 P P 23 23 51.0 +0.5
comp=Z,77nm,0.8s,comp=Z,4μm
LAMP Lampang 74.97 281 P P 23 23 57.8 +3.3
comp=Z,3.9nm,1.0s
TAPN Taplejung 75.15 295 *e*P P 23 23 56.1 +0.2
comp=Z,72nm,0.8s
TAPN Taplejung 75.15 295 *e*P P 23 23 56.1 +0.2
comp=Z,72nm,0.8s
CHTO Chiang Mai 75.16 282 *e*P P 23 23 55.6 -0.1
CHTO pmax pmax
comp=Z,5.0nm,0.5s
CHTO Chiang Mai 75.16 282 *e*P P 23 23 55.6 -0.1
comp=Z,5.2nm,0.5s
CMAR Chiang Mai Arr 75.44 281 P P 23 23 57.7 +0.5
CMAR Chiang Mai Arr 75.44 281 P P 23 23 57.7 +0.5
comp=Z,10nm,0.6s,baz=26,slow=6.8,SNR=71
CMAR LR LR 23 58 50.3
comp=Z,135nm,18.1s,baz=242,slow=37
CHAI Chaiyaphum 75.54 277 P P 23 24 00.0 +2.2
comp=Z,4.1nm,0.9s
PBKT Sadao Pong 75.65 279 P P 23 23 59.5 +1.1
comp=Z,12nm,0.8s
ODAN Odare 75.71 295 *e*P P 23 23 59.0 0.0
comp=Z,24nm,0.7s
ODAN Odare 75.71 295 *e*P P 23 23 59.0 0.0
comp=Z,24nm,0.7s
GUN Gumba 75.73 297 *e*P P 23 23 59.5 +0.3
comp=Z,55nm,0.4s
JIRN Jiri 75.76 297 *e*P P 23 23 59.9 +0.5
comp=Z,51nm,0.4s
IBBN Ibbenburen 75.98 1 *e*P P 23 24 02.1 +2.3
comp=Z,10.0nm,0.7s
RAMN Ramite 76.08 296 *e*P P 23 24 01.3 +0.2
comp=Z,116nm,0.9s
RAMN Ramite 76.08 296 *e*P P 23 24 01.3 +0.2
comp=Z,116nm,0.9s
AKASG Malin Array Be 76.11 347 *i*P P 23 23 59.2 -1.3
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 76.11 347 P P 23 23 58.6 -1.9
AKASG Malin Array Be 76.11 347 P P 23 23 58.6 -1.9
comp=Z,0.8nm,0.3s,baz=14,slow=5.7,SNR=7.9
AKASG LR LR 23 58 57.8
comp=Z,306nm,20.6s,baz=25,slow=37
KIEV Kiev 76.12 347 *e*P P 23 23 57.0 -3.6
KKN Kakani 76.16 297 *e*P P 23 24 01.8 +0.3
comp=Z,30nm,0.7s
KKN Kakani 76.16 297 *e*P P 23 24 01.8 +0.3
KKN pmax pmax
comp=Z,30nm,0.7s
KKN Kakani 76.16 297 *e*P P 23 24 01.8 +0.3
comp=Z,30nm,0.7s
PKI Pulchoki 76.26 297 *e*P P 23 24 02.1 -0.1
comp=Z,60nm,1.0s
PKI Pulchoki 76.26 297 *e*P P 23 24 02.1 -0.1
PKI pmax pmax
comp=Z,60nm,1.0s
PKI Pulchoki 76.26 297 *e*P P 23 24 02.1 -0.1
comp=Z,60nm,1.0s
PKIN Phulchoki 76.26 297 *e*P P 23 24 01.8 -0.3
comp=Z,52nm,1.1s
MHMT Maesarieng 76.26 282 P P 23 24 02.5 +0.6
comp=Z,25nm,0.8s,comp=Z,283nm
DZM Mont Dzumac 76.33 201 *e*LR LR 23 47 34.9
comp=Z,150nm,21.9s
GKN Gorkha 76.34 298 *e*P P 23 24 02.5 0.0
comp=Z,70nm,0.8s
GKN Gorkha 76.34 298 *e*P P 23 24 02.5 0.0
comp=Z,70nm,0.8s
DMN Daman 76.39 297 *e*P P 23 24 03.2 +0.3
DMN Daman 76.39 297 *e*P P 23 24 03.2 +0.3
CLZ Clausthal 76.44 359 *e*P P 23 24 04.1 +1.6
comp=Z,5.0nm,0.9s
DANN Dangsing 76.54 299 *e*P P 23 24 03.9 +0.1
comp=Z,65nm,0.6s
DANN Dangsing 76.54 299 *e*P P 23 24 03.9 +0.1
comp=Z,65nm,0.6s
CLL Collm 76.92 357 *i*P P 23 24 05.4 +0.3
CLL *e* 23 24 16.0
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 76.92 357 *e*P P 23 24 05.7 +0.6
comp=Z,4.0nm,0.9s
CLL Collm 76.92 357 *i*P P 23 24 05.4 +0.3
comp=Z,10.0nm,1.2s
CLL *e*PcP PcP 23 24 16.0 0.0
NEUB Neuenburg 77.05 358 *e*P P 23 24 07.2 +1.3
comp=Z,8.0nm,0.9s
KOLN Koldanda 77.09 299 *e*P P 23 24 06.6 -0.1
comp=Z,66nm,1.0s
KOLN Koldanda 77.09 299 *e*P P 23 24 06.6 -0.1
comp=Z,66nm,1.0s
BRG Berggiesshubel 77.32 357 *e*P P 23 24 07.8 +0.4
comp=Z,11nm,1.2s
BRG *e* 23 24 18.7
comp=Z,8.2nm,1.1s
BRG *e* 23 24 34.5
comp=Z,5.8nm,1.0s
BRG Berggiesshubel 77.32 357 *e*P P 23 24 07.8 +0.4
BRG *e* 23 24 18.7
BRG pmax pmax
comp=Z,11nm,1.2s
BRG Berggiesshubel 77.32 357 *e*P P 23 24 08.2 +0.8
comp=Z,5.0nm,0.9s
TBI Tubuai 77.53 159 *e*LR LR 23 48 04.4
comp=Z,247nm,26.0s
TBI Tubuai 77.53 159 *e*T T 00 49 22.1
comp=Z,9.7nm,0.3s
UPC Upice 77.59 355 *i*P P 23 24 10.0 +1.1
UPC *e* 23 24 18.3
UPC Upice 77.59 355 *i*P P 23 24 10.0 +1.1
UPC *e*PCP PcP 23 24 18.3 -0.7
PVCC Panska Ves 77.64 356 *i*P P 23 24 10.0 +0.8

PVCC	Panska Ves	77.64	356		*i* P		P	23 24 10.0	+0.8
DPC	Dobruska-Polom	77.73	355		*e*P		P	23 24 10.0	+0.3
DPC	Dobruska-Polom	77.73	355		*i* P		P	23 24 10.1	+0.3
DPC					*e*PCP		PcP	23 24 18.3	-1.3
DPC	Dobruska-Polom	77.73	355		*e*P		P	23 24 10.0	+0.3
KWP	Kalwaria Pacla	77.95	351	⇑	P		P	23 24 11.4	+0.4
KWP	Kalwaria Pacla	77.95	351	⇑	*i*P		P	23 24 11.4	+0.4
KWP	Kalwaria Pacla	77.95	351		*e*P		P	23 24 11.2	+0.2
	comp=Z,28nm,1.4s								
KRLC	Kraliky	77.98	355		*i* P		P	23 24 11.6	+0.4
KRLC	Kraliky	77.98	355		*i* P		P	23 24 11.6	+0.4
NKC	Novy Kostel	78.01	357		*i* P		P	23 24 12.0	+0.7
NKC	Novy Kostel	78.01	357		*i* P		P	23 24 12.0	+0.7
TNS	Taunus Mts	78.07	0		*e*P		P	23 24 13.1	+1.4
	comp=Z,5.0nm,1.0s								
OKC	Ostrava-Krasne	78.13	354		*i* P		P	23 24 12.8	+0.9
OKC					*e*			23 24 23.1	
OKC	Ostrava-Krasne	78.13	354		*i* P		P	23 24 12.8	+0.9
OKC					*e*PCP		PcP	23 24 23.1	+1.8
GIVF	Givet	78.14	2		*e*P		P	23 24 12.3	+0.3
GIVF	Givet	78.14	2		*e*P		P	23 24 12.3	+0.3
GIVF	Givet	78.14	2		*e*P		P	23 24 12.3	+0.3
BAIF	Baives	78.17	3		*e*P		P	23 24 12.3	+0.2
	comp=Z,24nm,0.9s								
BAIF	Baives	78.17	3		*e*P		P	23 24 12.3	+0.2
BAIF					pmax		pmax		
	comp=Z,24nm,0.9s								
BAIF	Baives	78.17	3		*e*P		P	23 24 12.3	+0.2
	comp=Z,24nm,0.9s								
PRU	Pruhonice	78.18	356		*i* P		P	23 24 12.8	+0.6
PRU	Pruhonice	78.18	356		*i* P		P	23 24 12.8	+0.6
MORC	Moravsky Berou	78.23	354	⇓	P		P	23 24 12.7	+0.1
MORC	Moravsky Berou	78.23	354	⇓	*i*P		P	23 24 12.7	+0.1
MANZ	Manzenberg	78.27	358		*e*P		P	23 24 14.0	+1.3
	comp=Z,3.0nm,0.8s								
STHS	Stebnicka Huta	78.31	352		*e*P		P	23 24 14.4	+1.5
STHS					pmax		pmax		
	comp=Z,4.0nm,1.2s								
STHS	Stebnicka Huta	78.31	352		*e*P		P	23 24 14.4	+1.5
KHLT	Khaolaem Dam	78.47	279		P		P	23 24 21.3	+7.0
	comp=Z,5.3nm,1.1s								
ROTZ	Rotzenmuhle	78.48	358		*e*P		P	23 24 15.4	+1.5
	comp=Z,2.0nm,0.8s								
SRDT	SRDT	78.49	278		P		P	23 24 15.8	+1.4
	comp=Z,52nm,0.9s								
GRF	Grafenberg Arr	78.58	358		*e*P		P	23 24 16.3	+1.9
	comp=Z,8.0nm,0.8s								
KOLS	Kolonicke sedl	78.69	351		*e*P		P	23 24 15.5	+0.5
KOLS	Kolonicke sedl	78.69	351		*e*P		P	23 24 15.5	+0.5
VRAC	Vranov	78.76	355	⇓	*i*P		P	23 24 15.9	+0.5
GOF	Gofitskoye	78.78	336		*e*P		P	23 24 16.5	+0.9
GOF					pmax		pmax		
	comp=Z,30nm,1.3s								
KBL	Kabul	78.87	313		*e*P		P	23 24 15.4	-1.1
KBL					pmax		pmax		
	comp=Z,14nm,1.1s								
KBL	Kabul	78.87	313		*e*P		P	23 24 15.4	-1.1
	comp=Z,14nm,1.1s								
KHC	Kasperske Hory	79.08	357		*i* P		P	23 24 18.0	+0.8
KHC					*e*			23 24 25.8	
KHC	Kasperske Hory	79.08	357		*i* P		P	23 24 18.0	+0.8
KHC					*e*PCP		PcP	23 24 25.8	+0.3
KHC	Kasperske Hory	79.08	357		*e*P		P	23 24 18.0	+0.8
	comp=Z,8.6nm,1.1s								
GEC2	GERESS Array S	79.36	357		*e*P		P	23 24 19.7	+0.9
	comp=Z,3.0nm,0.9s								
GERES	GERESS Array B	79.36	357		P		P	23 24 19.1	+0.3
GERES	GERESS Array B	79.36	357		P		P	23 24 19.1	+0.3
	comp=Z,2.9nm,0.8s,baz=7.1,slow=4.3,SNR=18								
LDF	La Druitiere	79.43	6		*e*P		P	23 24 18.5	-0.6
LDF	La Druitiere	79.43	6		*e*P		P	23 24 18.5	-0.6
LDF	La Druitiere	79.43	6		*e*P		P	23 24 18.5	-0.6
GRR	Gorron	79.59	6		*e*P		P	23 24 19.7	-0.2
GRR	Gorron	79.59	6		*e*P		P	23 24 19.7	-0.2
GRR	Gorron	79.59	6		*e*P		P	23 24 19.7	-0.2
BUR08	Bucovina Ar. S	79.64	349		*e*P		P	23 24 19.8	-0.5
BURAR	Bucovina Array	79.67	349	⇑	P		P	23 24 20.3	-0.2
BURAR	Bucovina Array	79.67	349	⇑	*i*P		P	23 24 20.3	-0.2
PAGF	Fort de Pagny	79.71	2		*e*P		P	23 24 21.2	+0.6
	comp=Z,4.4nm,0.8s								
PAGF	Fort de Pagny	79.71	2		*e*P		P	23 24 21.2	+0.6
	comp=Z,4.4nm,0.8s								
MEZF	Maizieres J'vi	79.75	2		*e*P		P	23 24 21.2	+0.4
MEZF	Maizieres J'vi	79.75	2		*e*P		P	23 24 21.2	+0.4
CDF	Champ du Feu	79.88	1		*e*P		P	23 24 21.5	-0.1
CDF	Champ du Feu	79.88	1		*e*P		P	23 24 21.5	-0.1
CDF	Champ du Feu	79.88	1		*e*P		P	23 24 21.5	-0.1
KIV	Kislovodsk	79.91	336		*e*P		P	23 24 22.8	+0.9
KIV					pmax		pmax		
	comp=Z,8.0nm,0.9s								
KIV					MLR		MLR		
	comp=Z,150nm,18.0s								
PSZ	Piszkesteto	79.91	352	⇑	P		P	23 24 21.0	-0.8
PSZ	Piszkesteto	79.91	352	⇑	*i*P		P	23 24 21.0	-0.8
BFO	Black Forest	79.97	0		*e*P		P	23 24 22.9	+0.9
	comp=Z,2.0nm,0.9s								
SFTF	Sexfontaines	80.05	2		*e*P		P	23 24 22.5	+0.1
SFTF	Sexfontaines	80.05	2		*e*P		P	23 24 22.5	+0.1
KBZ	Khabaz	80.06	335		P		P	23 24 23.2	+0.6
KBZ					pmax		pmax		
	comp=Z,4.0nm,0.8s								
KBZ					MLR		MLR		
	comp=Z,209nm,20.0s								
KBZ	Khabaz	80.06	335		P		P	23 24 23.2	+0.6
KBZ	Khabaz	80.06	335		P		P	23 24 23.2	+0.6
	comp=Z,4.0nm,0.8s,baz=92,slow=3.8,SNR=5.8								
KBZ					LR		LR	00 04 15.5	
	comp=Z,209nm,19.9s,baz=20,slow=39								
CONA	Conrad Observa	80.17	355	⇑	*i*P		P	23 24 24.1	+0.8
	comp=Z,9.4nm,1.1s								
HAU	Haudompre	80.28	2		*e*P		P	23 24 23.6	-0.1
HAU					*e*R				
	comp=Z,222nm,20.0s								
HAU	Haudompre	80.28	2		*e*P		P	23 24 23.6	-0.1
HAU	Haudompre	80.28	2		*e*P		P	23 24 23.6	-0.1
HINF	Hinteralfeld	80.47	1		*e*P		P	23 24 24.5	-0.3
HINF	Hinteralfeld	80.47	1		*e*P		P	23 24 24.5	-0.3
HINF	Hinteralfeld	80.47	1		*e*P		P	23 24 24.5	-0.3
RJOB	Jochberg	80.50	357		*e*P		P	23 24 25.9	+1.0
	comp=Z,3.0nm,0.8s								
TESR	Tescani	80.57	347	⇓	*i*P		P	23 24 27.2	+2.0
DRGR		80.76	350	⇑	P		P	23 24 25.3	-1.1
DRGR		80.76	350	⇑	*i*P		P	23 24 25.3	-1.1
CTA	Charters Tower	80.78	220		P		P	23 24 27.3	+0.8
CTA	Charters Tower	80.78	220		P		P	23 24 27.3	+0.8
	comp=Z,1.8nm,0.6s,baz=322,slow=12,SNR=2.7								
RETA	Reutte	80.79	358	⇑	*i*P		P	23 24 27.6	+1.0
	comp=Z,6.6nm,1.2s								
MOTA	Moosalm	80.93	358	⇑	*i*P		P	23 24 28.0	+0.7
	comp=Z,8.1nm,0.9s								
LOR	Lormes	80.95	3		*e*P		P	23 24 27.4	+0.1
	comp=Z,33nm,1.1s								
LOR					*e*R				
	comp=Z,347nm,21.2s								
LOR	Lormes	80.95	3		*e*P		P	23 24 27.4	+0.1
	comp=Z,33nm,1.1s								
WTTA	Wattenberg	81.00	358		*i* P		P	23 24 28.8	+1.1
	comp=Z,8.0nm,0.9s,SNR=5.1								
KBA	Koelnbreinsper	81.14	357	⇓	*i*P		P	23 24 28.7	+0.2
	comp=Z,19nm,1.1s,SNR=12								
SSF	Saint Saulge	81.14	3		*e*P		P	23 24 28.4	+0.1
	comp=Z,18nm,0.8s								
SSF	Saint Saulge	81.14	3		*e*P		P	23 24 28.4	+0.1
SSF					pmax		pmax		
	comp=Z,18nm,0.8s								
SSF	Saint Saulge	81.14	3		*e*P		P	23 24 28.4	+0.1
	comp=Z,18nm,0.8s								
FETA	Feichten	81.26	359	⇑	*i*PcP		P	23 24 30.5	+1.3
	comp=Z,12nm,1.0s								
RKT	Rikitea	81.39	146		*e*LR		LR	23 50 01.9	
	comp=Z,416nm,23.2s,baz=337								
AVF	Avril sur Loir	81.41	4		*e*P		P	23 24 29.6	-0.1
	comp=Z,20nm,0.9s								
AVF	Avril sur Loir	81.41	4		*e*P		P	23 24 29.6	-0.1
AVF					pmax		pmax		
	comp=Z,20nm,0.9s								
AVF	Avril sur Loir	81.41	4		*e*P		P	23 24 29.6	-0.1
	comp=Z,20nm,0.9s								
MFF	Saint Martin d	81.41	6		*e*P		P	23 24 29.9	+0.2
MFF	Saint Martin d	81.41	6		*e*P		P	23 24 29.9	+0.2
MFF	Saint Martin d	81.41	6		*e*P		P	23 24 29.9	+0.2
SOKA	Soboth	81.47	356		*i* P		P	23 24 31.1	+1.0
	comp=Z,7.6nm,1.1s,SNR=5.3								
SMF	Signal de Mont	81.57	3		*e*P		P	23 24 30.5	-0.1
	comp=Z,17nm,0.9s								
SMF	Signal de Mont	81.57	3		*e*P		P	23 24 30.5	-0.1
SMF					pmax		pmax		
	comp=Z,17nm,0.9s								
SMF	Signal de Mont	81.57	3		*e*P		P	23 24 30.5	-0.1
	comp=Z,17nm,0.9s								
BGF	Bois d'Agland	81.62	4		*e*P		P	23 24 31.7	+0.9
BGF	Bois d'Agland	81.62	4		*e*P		P	23 24 31.7	+0.9
BGF	Bois d'Agland	81.62	4		*e*P		P	23 24 31.7	+0.9
CFR	Carcaliu	81.66	346	⇓	P		P	23 24 28.1	-3.0
CFR	Carcaliu	81.66	346	⇓	*i*P		P	23 24 28.0	-3.0
CABF	La Chapelle	81.67	2		*e*P		P	23 24 31.6	+0.4
CABF	La Chapelle	81.67	2		*e*P		P	23 24 31.6	+0.4
CABF	La Chapelle	81.67	2		*e*P		P	23 24 31.6	+0.4
FUORN	Ofenpass-Fuorn	81.67	359		*e*P		P	23 24 32.5	+1.0
	comp=Z,200nm,2.9s								
TUE	Stuetta	81.83	359		*e*P		P	23 24 33.4	+1.2
	comp=Z,65nm,2.0s								
VOIR		81.83	348	⇑	P		P	23 24 32.4	+0.3
VOIR		81.83	348	⇑	*i*P		P	23 24 32.4	+0.3
TCF	Toulx Ste Croi	81.86	4		*e*P		P	23 24 32.0	-0.1
TCF	Toulx Ste Croi	81.86	4		*e*P		P	23 24 32.0	-0.1
TCF	Toulx Ste Croi	81.86	4		*e*P		P	23 24 32.0	-0.1
ARR	Arges	81.95	349	⇑	*i*P		P	23 24 33.0	+0.3
BZS	Buzias	82.04	351	⇓	P		P	23 24 32.8	-0.2
BZS	Buzias	82.04	351	⇓	*i*P		P	23 24 32.8	-0.2
GZR	Gura Zlata	82.14	350	⇓	P		P	23 24 34.3	+0.6
GZR	Gura Zlata	82.14	350	⇓	*i*P		P	23 24 34.3	+0.6
TLB	Topalu	82.26	346	⇑	P		P	23 24 34.1	-0.1
TLB	Topalu	82.26	346	⇑	*i*P		P	23 24 34.1	-0.1
TIRR	Tirgusor	82.33	346	⇑	P		P	23 24 34.3	-0.2
TIRR	Tirgusor	82.33	346	⇑	*i*P		P	23 24 34.3	-0.2
LPG	La Plagne	82.79	1		*e*P		P	23 24 37.5	+0.2
LPG	La Plagne	82.79	1		*e*P		P	23 24 37.5	+0.2
LPG	La Plagne	82.79	1		*e*P		P	23 24 37.5	+0.2
RJF	Les Rejaudoux	82.81	5		*e*P		P	23 24 36.7	-0.4
RJF					*e*R				
	comp=Z,346nm,20.2s								
RJF	Les Rejaudoux	82.81	5		*e*P		P	23 24 36.7	-0.4
RJF	Les Rejaudoux	82.81	5		*e*P		P	23 24 36.7	-0.4
SURT	Suratani	82.87	275		P		P	23 24 48.9	+11
LFF	La Frestale	83.12	6		*e*P		P	23 24 38.9	+0.2
LFF	La Frestale	83.12	6		*e*P		P	23 24 38.9	+0.2
LFF	La Frestale	83.12	6		*e*P		P	23 24 38.9	+0.2
CAF	Calviac	83.21	5		*e*P		P	23 24 38.6	-0.6
CAF	Calviac	83.21	5		*e*P		P	23 24 38.6	-0.6
CAF	Calviac	83.21	5		*e*P		P	23 24 38.6	-0.6
VIVF	Saint-Julien-l	83.39	3		*e*P		P	23 24 40.4	+0.3
	comp=Z,13nm,0.9s								
VIVF	Saint-Julien-l	83.39	3		*e*P		P	23 24 40.4	+0.3
VIVF					pmax		pmax		
	comp=Z,13nm,0.9s								
VIVF	Saint-Julien-l	83.39	3		*e*P		P	23 24 40.4	+0.3
	comp=Z,13nm,0.9s								
LASF	Ste Croix	84.14	3		*e*P		P	23 24 43.6	-0.3
LASF	Ste Croix	84.14	3		*e*P		P	23 24 43.6	-0.3
KULM	Kulim	84.58	272		*e*P		P	23 24 48.1	+1.5
	comp=Z,25nm,1.2s								
FRF	La Foret Royal	84.72	1		*e*P		P	23 24 47.1	+0.2
	comp=Z,98nm,1.4s								
FRF	La Foret Royal	84.72	1		*e*P		P	23 24 47.1	+0.2
FRF					pmax		pmax		
	comp=Z,98nm,1.4s								
FRF	La Foret Royal	84.72	1		*e*P		P	23 24 47.1	+0.2
	comp=Z,98nm,1.4s								
MTLF	Montolieu	84.80	5		*e*P		P	23 24 38.6	-8.7
MTLF	Montolieu	84.80	5		*e*P		P	23 24 38.6	-8.7
MTLF	Montolieu	84.80	5		*e*P		P	23 24 38.6	-8.7
IPM	Ipoh	84.98	271		*e*P		P	23 24 49.8	+1.2
	comp=Z,17nm,1.0s								
WRAB	Tennant Creek	85.82	230		*e*P		P	23 24 50.1	-2.4
WRAB					pmax		pmax		
	comp=Z,21nm,1.7s								
WRAB	Tennant Creek	85.82	230		*e*P		P	23 24 51.2	-1.3
	comp=Z,27nm,1.5s								
WRA	Warramunga Arr	85.84	230		P		P	23 24 51.4	-1.2
WRA	Warramunga Arr	85.84	230		P		P	23 24 51.4	-1.2
	comp=Z,2.4nm,0.8s,baz=35,slow=5.6,SNR=14								
WRA					LR		LR	23 59 29.8	
	comp=Z,80nm,20.8s,baz=75,slow=33								
BRTR	Keskin Array B	86.00	341		P		P	23 24 52.0	-1.5
BRTR	Keskin Array B	86.00	341		P		P	23 24 52.0	-1.5
	comp=Z,1.3nm,0.7s,baz=45,slow=1.9,SNR=5.6								
BRTR					LR		LR	00 07 08.6	
	comp=Z,144nm,20.1s,baz=174,slow=38								
ESDC	Sonseca Array	87.97	10		P		P	23 25 03.0	0.0
ESDC	Sonseca Array	87.97	10		P		P	23 25 03.0	0.0
	comp=Z,2.4nm,0.7s,baz=353,slow=4.7,SNR=12								
HYB	Hyderabad	88.14	296		*i* P		P	23 25 02.0	-2.0
FITZ	Fitzroy Crossi	88.62	238		P		P	23 25 06.0	0.0
FITZ	Fitzroy Crossi	88.62	238		P		P	23 25 06.0	0.0
	comp=Z,3.3nm,0.6s,baz=52,slow=3.5,SNR=11								
AS31	Alice Springs	89.24	228		*e*P		P	23 25 08.8	-0.1
ASAR	Alice Springs	89.24	228		P		P	23 25 08.6	-0.3
ASAR	Alice Springs	89.24	228		P		P	23 25 08.6	-0.3
	comp=Z,6.5nm,0.8s,baz=27,slow=4.9,SNR=14								
SDV	Santo Domingo	89.63	76		*e*P		P	23 25 11.1	-0.2
	comp=Z,2.7nm,1.0s								
POO	Poona	89.79	300	⇓	*i*P		P	23 25 12.0	+0.2
	comp=Z,20nm,1.0s								
STKA	Stephens Creek	93.17	219		P		P	23 25 26.4	-0.4
STKA	Stephens Creek	93.17	219		P		P	23 25 26.4	-0.4
	comp=Z,3.4nm,1.1s,baz=20,slow=7.7,SNR=3.1								
STKA					LR		LR	00 02 31.3	
	comp=Z,89nm,21.1s,baz=24,slow=32								
TORD	Torodi Ar. Bea	114.77	7		PKP		PKPdf	23 30 52.7	-0.8
TORD					PKKPbc		**PKKPbc**	**23 41 28.6**	**-0.1**
TORD	Torodi Ar. Bea	114.77	7		PKP		PKPdf	23 30 52.7	-0.8
	comp=Z,0.4nm,0.6s,baz=332,slow=2.5,SNR=5.1								
TORD					PKKPbc		**PKKPbc**	**23 41 28.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=198,slow=2.1,SNR=4.1								
H03N2	Juan Fernandez	117.01	110		T		T	01 38 57.4	
	baz=316,slow=76,SNR=42								
H03N1	Juan Fernandez	117.02	110		T		T	01 39 04.4	
	baz=316,slow=76,SNR=42								
H03N3	Juan Fernandez	117.02	110		T		T	01 39 06.3	
	baz=316,slow=76,SNR=42								
PLCA	Paso Flores	126.87	111		PKP		**PKPdf**	**23 31 15.7**	**-0.3**
PLCA	Paso Flores	126.87	111		PKP		**PKPdf**	**23 31 15.7**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=179,slow=13,SNR=3.7								
TSUM	Tsumeb	146.44	344		*e*PKPdf		**PKPdf**	**23 31 52.9**	**+0.2**
MAW	Mawson	149.86	218		PKPbc		**PKPbc**	**23 32 01.3**	**-0.1**
MAW	Mawson	149.86	218		PKPbc		**PKPbc**	**23 32 01.3**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=112,slow=1.8,SNR=5.2								
LBTB	Lobatse	150.03	328		*e*PKPbc		**PKPbc**	**23 32 04.0**	**+0.6**
SYO	Syowa Base	157.60	209	‖	*e*X		pPKPab	23 32 53.5	-3.7

IDC 29 23:13:43.1±1.9, 7°24S×128°62E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.7/18, mbtmpg3.9/3, ML4.1/2, Error ellipse: s-maj=110.3km s-min=31.3km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.98	240		P	Pb	23 15 14.4	+3.0
	baz=4.8,SNR=5.3							
MTN	Manton Dam	6.09	156		P	Pn	23 15 20.5	+6.1
	baz=5.1,SNR=72							
KDU	Kakadu	6.61	145		P	Pn	23 15 26.2	+4.7
	baz=5.6,SNR=27							
KNRA	Kununurra	8.38	179		P	Pn	23 15 52.1	+6.2
	baz=7.4,SNR=35							
WRA	Warramunga Arr	13.79	157		Pn	Pn	23 16 59.9	-0.1
	1.0nm,0.3s,baz=335,slow=14,SNR=58							
WRA					Sn	Sn	23 19 20.5	-14
	1.1nm,0.3s,baz=343,slow=20,SNR=12							
ASAR	Alice Springs	17.10	163		P	Pn	23 17 43.8	0.0
	0.5nm,0.3s,baz=343,slow=11,SNR=29							
ASAR					S	Sn	23 20 40.8	-14
	0.1nm,0.3s,baz=344,slow=27,SNR=4.0							
WRKA	Warakurna	17.70	181		P	P	23 17 54.7	+2.5
	baz=17,SNR=11							
MKAR	Makanchi Array	67.69	328		P	P	23 24 42.3	0.0
	0.4nm,0.5s,baz=131,slow=6.6,SNR=2.6							

WEL 29 23:19:54.6±0.6, 44°28S×167°05E, h12km, ML3.8/12, Error ellipse: s-maj=5.2km s-min=2.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.74	122		P*	Pg	23 20 09.0	-0.1
MSZ					S*	Sg	23 20 17.8	-1.0
MSZ					S*	Sb	23 20 18.0	-1.6
MSZ					S*	Sb	23 20 18.0	-1.6
MSZ					AML	AML	23 20 19.2	
DCZ	Deep Cove	1.20	176		*e*P*	Pn	23 20 15.1	-2.1
DCZ					AML	AML	23 20 38.4	
DCZ					AML	AML	23 20 44.2	
DCZ					AML	AML	23 20 44.2	
JCZ	Jackson Bay	1.25	81		PN	Pn	23 20 17.4	-0.7
JCZ					AML	AML	23 20 41.1	
JCZ					AML	AML	23 20 44.8	
MLZ	Mavora Lakes	1.34	143		PN	Pn	23 20 18.7	-0.5
MLZ					SN	Sb	23 20 36.0	-0.8
MLZ					AML	AML	23 20 37.3	
WKZ	Wanaka	1.51	112		PN	Pb	23 20 22.2	-0.5
WKZ					AML	AML	23 20 43.0	
WKZ					AML	AML	23 20 43.1	
WKZ					AML	AML	23 20 44.0	
WKZ					AML	AML	23 20 44.0	
WHZ	Wether Hill Ro	1.74	159		PN	Pn	23 20 24.9	+0.2
WHZ					AML	AML	23 20 51.2	
WHZ					AML	AML	23 20 53.9	
EAZ	Earnscleugh	1.87	121		PN	Pb	23 20 28.0	-0.8
EAZ					AML	AML	23 20 54.7	
EAZ					AML	AML	23 20 54.7	
EAZ					AML	AML	23 20 55.3	
EAZ					AML	AML	23 20 55.3	
FOZ	Fox Glacier	2.04	70		*e*PN	Pn	23 20 28.8	+0.1
FOZ					AML	AML	23 21 08.6	
FOZ					AML	AML	23 21 08.6	
FOZ					AML	AML	23 21 10.3	
FOZ					AML	AML	23 21 10.3	
LBZ	Lake Benmore	2.25	94		PN	Pb	23 20 36.3	+0.7
LBZ					AML	AML	23 21 09.5	
LBZ					AML	AML	23 21 12.2	
TUZ	Tuapeka	2.48	133		PN	Pb	23 20 38.1	-1.1
TUZ					AML	AML	23 21 09.6	
TUZ					AML	AML	23 21 09.9	
ODZ	Otahua Downs	2.68	108		PN	Pn	23 20 38.8	+1.2
SYZ	Scrubby Hill	2.70	148		PN	Pb	23 20 40.9	-1.9
WVZ	Waitaha Valley	2.94	67		AML	AML	23 21 37.6	
RPZ	Rata Peaks	2.95	80		PN	Pn	23 20 41.2	0.0
RPZ					AML	AML	23 21 30.8	
RPZ					AML	AML	23 21 31.8	

KRSC 29 23:36:49.5±10.0, 49°06N×156°59E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	2.41	3		P	Pn	23 37 30.4	+0.8
PAU					*i* S	Sn	23 38 00.7	+1.2
MTVR	Mutnovka	3.57	16		P	Pn	23 37 46.4	+0.6
MTVR					*i* S	Sn	23 38 29.0	+0.5
RUS	Russkaya	3.59	19		P	Pn	23 37 46.7	+0.9
RUS					*i* S	Sn	23 38 29.4	+0.9
UGLR	Uglovaya	4.39	18		P	Pn	23 37 58.9	+2.0
AVH	Avacha	4.42	17		P	Pn	23 37 58.8	+1.5
KOK	Koryaka	4.43	16		P	Pn	23 38 00.1	+2.7
SMAR	Somma	4.43	17		P	Pn	23 37 59.3	+1.7
KRER	Koryakskii	4.46	17		P	Pn	23 38 00.2	+2.2
SDLR	Sedlovina	4.46	18		P	Pn	23 37 59.6	+1.7
MKZ	Mys Kozlova	6.36	28		P	Pn	23 38 25.2	+1.5

*IDC **29** 23:37:21.4±1.0, 40°.66N×47°.08E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/27, mbtmp3.6/9, ML3.5/2, MS3.8/1, Ms1 3.9/1, ms1mx2.4/37, Error ellipse: s-maj=16.7km s-min=9.7km az=172.0*

*MOS **29** 23:37:21.9±0.8, 40°.46N×47°.16E, h17km, mb4.2/4, Error ellipse: s-maj=11.0km s-min=4.7km az=105.3*

*TIF **29** 23:37:22.6, 40°.67N×47°.11E, h28km±3km*

*AZER **29** 23:37:23.9±0.0, 40°.71N×46°.89E, h28km, Error ellipse: s-maj=1.6km s-min=0.8km az=346.0*

*ISCJB **29** 23:37:24.5±0.5, 40°.69N±0°.02×46°.98E±0°.02, h4km

GLBA	**Clilabad**	**1.77**	**143**	⇑P		**Pn**	**23 37 55.1**	**+0.4**
GLBA				⇓S		**Sg**	**23 38 21.6**	**+0.4**
GLBA	**Clilabad**	**1.77**	**143**	P		**Pn**	**23 37 55.1**	**+0.4**
GNI	**Garni**	**1.83**	**254**	⇓*i*P		**Pn**	**23 37 56.9**	**+1.2**
GNI				⇑*i*S		**Sb**	**23 38 22.2**	**+1.6**
GNI	**Garni**	**1.83**	**254**	⇓P		**Pn**	**23 37 56.8**	**+1.2**
GNI				S		**Sb**	**23 38 22.2**	**+1.6**
GNI	**Garni**	**1.83**	**254**	Pn		**Pn**	**23 37 56.9**	**+1.2**
comp=Z,13nm,0.3s,baz=294,slow=2.8,SNR=64								
GNI				Lg		Lg	23 38 22.7	
comp=Z,23nm,0.3s,baz=182,slow=23,SNR=7.5								
NAX	**Nakhchivan**	**1.91**	**219**	⇑Pg		**Pn**	**23 37 57.8**	**+1.1**
SEAG	**Tbilisi Sea**	**2.00**	**304**	P		**Pn**	**23 37 57.4**	**-0.6**
SEAG				S		**Sn**	**23 38 23.7**	**+0.8**
ERE	**Yerevan**	**2.02**	**256**	*e*P		**Pn**	**23 37 59.0**	**+0.8**
ERE				*e*S		**Sn**	**23 38 24.0**	**+0.5**
ERE	**Yerevan**	**2.02**	**256**	P		**Pn**	**23 37 59.0**	**+0.8**
ERE				S		**Sn**	**23 38 24.0**	**+0.5**
TBLG	**Delisi**	**2.03**	**302**	P		**Pn**	**23 37 58.5**	**+0.2**
TBLG				S		**Sn**	**23 38 24.6**	**+1.0**
TBLG	**Delisi**	**2.03**	**302**	P		**Pn**	**23 37 58.5**	**+0.2**
TBLG				S		**Sn**	**23 38 24.6**	**+1.0**
BTLR	**Botlikh**	**2.08**	**343**	*e*PN		**Pn**	**23 38 00.0**	**+0.9**
BTLR				pmax	pmax			
comp=Z,93nm,0.4s								
BTLR	**Botlikh**	**2.08**	**343**	*e*Pn		**Pn**	**23 38 00.0**	**+0.9**
comp=Z,93nm,0.4s								
KZR	**Kazreti**	**2.10**	**291**	P		**Pn**	**23 37 59.5**	**+0.2**
KZR				S		**Sn**	**23 38 26.1**	**+0.6**
KZR	**Kazreti**	**2.10**	**291**	P		**Pn**	**23 37 59.5**	**+0.2**
KZR				S		**Sn**	**23 38 26.1**	**+0.6**
BUJR	**Buynaksk**	**2.15**	**1**	*e*PN		**Pb**	**23 38 03.0**	**-0.2**
BUJR				*e*S		**Sb**	**23 38 30.0**	**+0.2**
BUJR				pmax	pmax			
comp=Z,54nm,0.2s								
BUJR	**Buynaksk**	**2.15**	**1**	*e*Pn		**Pb**	**23 38 03.0**	**-0.2**
comp=Z,54nm,0.2s								
BUJR				*e*Sn		**Sb**	**23 38 30.0**	**+0.2**
KRNR	**Karanay**	**2.15**	**358**	*e*PN		**Pb**	**23 38 03.5**	**+0.2**
KRNR				*i* S		**Sb**	**23 38 29.5**	**-0.5**
KRNR				pmax	pmax			
comp=Z,40nm,0.2s								
KRNR	**Karanay**	**2.15**	**358**	*e*Pn		**Pb**	**23 38 03.5**	**+0.2**
comp=Z,40nm,0.2s								
KRNR				*i* Sn		**Sb**	**23 38 29.5**	**-0.5**
DUS	**Dusheti**	**2.25**	**310**	P		**Pn**	**23 38 02.6**	**+1.1**
DUS				S		**Sn**	**23 38 30.5**	**+1.3**
DUS	**Dusheti**	**2.25**	**310**	P		**Pn**	**23 38 02.6**	**+1.1**
DUS				S		**Sn**	**23 38 30.5**	**+1.3**
LRK	**Lerik**	**2.27**	**153**	⇓Pn		**Pn**	**23 38 02.3**	**+0.6**
LRK				⇑S		**Sb**	**23 38 31.6**	**-1.6**
LRK	**Lerik**	**2.27**	**153**	Pn		**Pn**	**23 38 02.3**	**+0.6**
LRK				S		**Sb**	**23 38 31.6**	**-1.6**
MAK	**Makhachkala**	**2.31**	**9**	*e*PN		**Pn**	**23 38 02.3**	**+0.1**
MAK				*e*S		**Sb**	**23 38 33.9**	**-0.5**
MAK				pmax	pmax			
comp=Z,34nm,0.5s								
MAK				smax	smax			
comp=N,214nm,0.5s								
MAK				smax	smax			
comp=E,284nm,0.5s								
MAK	**Makhachkala**	**2.31**	**9**	*e*Pn		**Pn**	**23 38 02.3**	**+0.1**
comp=E,34nm,0.5s								
MAK				*e*Sn		**Sb**	**23 38 33.9**	**-0.5**
comp=E,214nm,0.5s								
DBC	**Dubki**	**2.35**	**356**	*e*PN		**Pn**	**23 38 03.9**	**+1.1**
DBC				*i* S		**Sn**	**23 38 33.2**	**+1.6**
DBC	**Dubki**	**2.35**	**356**	*e*Pn		**Pn**	**23 38 03.9**	**+1.1**
DBC				*i* Sn		**Sn**	**23 38 33.2**	**+1.6**
LKRN	**Lenkeran, Azer**	**2.38**	**145**	⇑Pn		**Pn**	**23 38 03.7**	**+0.6**
LKRN				⇓S		**Sn**	**23 38 34.0**	**+1.8**
LKRN	**Lenkeran, Azer**	**2.38**	**145**	Pn		**Pn**	**23 38 03.7**	**+0.6**
LKRN				S		**Sn**	**23 38 34.0**	**+1.8**
DLMR	**Dylym**	**2.41**	**353**	*e*PN		**Pb**	**23 38 07.5**	**-0.2**
DLMR				*e*S		**Sb**	**23 38 36.0**	**-1.4**
DLMR	**Dylym**	**2.41**	**353**	*e*Pn		**Pb**	**23 38 07.5**	**-0.2**
DLMR				*e*Sn		**Sb**	**23 38 36.0**	**-1.4**
GUDG	**Gudauri**	**2.62**	**314**	P		**Pn**	**23 38 06.7**	**0.0**
GUDG				S		**Sn**	**23 38 38.2**	**-0.3**
GUDG	**Gudauri**	**2.62**	**314**	P		**Pn**	**23 38 06.7**	**0.0**
GUDG				S		**Sn**	**23 38 38.2**	**-0.3**
AKH	**Akhalkalaki**	**2.78**	**287**	P		**Pn**	**23 38 11.5**	**+2.8**
AKH				S		**Sb**	**23 38 46.8**	**-1.2**
AKH	**Akhalkalaki**	**2.78**	**287**	P		**Pn**	**23 38 11.5**	**+2.8**
AKH				S		**Sb**	**23 38 46.8**	**-1.2**
GRO	**Groznyy**	**2.81**	**341**	⇓*i*PN		**Pn**	**23 38 09.5**	**+0.5**
GRO	**Groznyy**	**2.81**	**341**	*i* Pn		**Pn**	**23 38 09.5**	**+0.5**
SNJR	**Sundja**	**2.91**	**326**	*e*PN		Pn	23 38 13.6	+3.1
SNJR				*e*S		**Sn**	**23 38 47.2**	**+1.8**
SNJR	**Sundja**	**2.91**	**326**	*e*Pn		Pn	23 38 13.6	+3.1
SNJR				*e*Sn		**Sn**	**23 38 47.2**	**+1.8**
VLKR	**Vladikavkaz**	**2.95**	**324**	*e*PN		**Pn**	**23 38 13.1**	**+2.1**
VLKR	**Vladikavkaz**	**2.95**	**324**	*e*Pn		**Pn**	**23 38 13.1**	**+2.1**
LACR	**Lac**	**2.97**	**317**	*e*PN		**Pn**	**23 38 12.2**	**+0.9**
LACR				*e*S		**Sn**	**23 38 48.0**	**+1.1**
LACR				pmax	pmax			
comp=Z,69nm,0.3s								
LACR				smax	smax			
comp=E,237nm,0.5s								
LACR	**Lac**	**2.97**	**317**	*e*Pn		**Pn**	**23 38 12.2**	**+0.9**
comp=E,69nm,0.3s								
LACR				*e*Sn		**Sn**	**23 38 48.0**	**+1.1**
ZEI	**Tsey**	**3.15**	**313**	⇓*i*PN		**Pn**	**23 38 14.7**	**+0.7**
ARNR	**Ardon**	**3.24**	**322**	*e*PN		**Pn**	**23 38 16.5**	**+1.6**
KORR	**Kora**	**3.27**	**318**	*e*PN		**Pn**	**23 38 16.2**	**+0.8**
KORR				pmax	pmax			
comp=Z,24nm,0.3s								
KORR	**Kora**	**3.27**	**318**	*e*Pn		**Pn**	**23 38 16.2**	**+0.8**
comp=Z,24nm,0.3s								
BTKR	**Batakoyurt**	**3.27**	**326**	*e*PN		Pn	23 38 19.0	+3.6
BTKR				*e*S		**Sn**	**23 38 56.7**	**+2.4**
BTKR	**Batakoyurt**	**3.27**	**326**	*e*Pn		Pn	23 38 19.0	+3.6
BTKR				*e*Sn		**Sn**	**23 38 56.7**	**+2.4**
ONI	**Oni**	**3.30**	**307**	P		**Pn**	**23 38 17.0**	**+1.2**
ONI	**Oni**	**3.30**	**307**	P		**Pn**	**23 38 17.0**	**+1.2**
DIGR	**Digorskoe uzhe**	**3.41**	**312**	*i* PN		**Pn**	**23 38 18.2**	**+0.8**
DIGR				pmax	pmax			
comp=Z,12nm,0.4s								
DIGR	**Digorskoe uzhe**	**3.41**	**312**	*i* Pn		**Pn**	**23 38 18.2**	**+0.8**
comp=Z,12nm,0.4s								
STDR	**Stavd-Durt**	**3.48**	**322**	⇓*i*PN		**Pn**	**23 38 19.5**	**+1.2**
STDR	**Stavd-Durt**	**3.48**	**322**	*i* Pn		**Pn**	**23 38 19.5**	**+1.2**
TRKR	**Terskaya**	**3.49**	**331**	*e*PN		**Pn**	**23 38 20.2**	**+1.8**
TRKR	**Terskaya**	**3.49**	**331**	*e*Pn		**Pn**	**23 38 20.2**	**+1.8**
LSNR	**Lesken**	**3.53**	**318**	*e*PN		**Pn**	**23 38 20.1**	**+1.1**
LSNR	**Lesken**	**3.53**	**318**	*e*Pn		**Pn**	**23 38 20.1**	**+1.1**
KBZ	**Khabaz**	**4.33**	**316**	PN		**Pn**	**23 38 31.4**	**+1.5**
KBZ							23 39 23.8	
KBZ				pmax	pmax			
comp=Z,1.0nm,0.3s								
KBZ	**Khabaz**	**4.33**	**316**	Pn		**Pn**	**23 38 31.4**	**+1.5**
comp=Z,1.0nm,0.3s								
KBZ				Sn		**Sn**	**23 39 23.8**	**+3.5**
KBZ	**Khabaz**	**4.33**	**316**	Pn		**Pn**	**23 38 31.4**	**+1.5**
comp=Z,0.5nm,0.3s,baz=168,slow=4.2,SNR=6.8								
KBZ				Sn		**Sn**	**23 39 23.8**	**+3.5**
comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=2.4								
KBZ				Lg		Lg	23 39 39.1	
comp=Z,0.7nm,0.3s,baz=294,slow=20,SNR=3.2								
AKTO	**Aktyubinsk**	**12.42**	**35**	⇓Pn		**Pn**	**23 40 17.8**	**-3.0**
comp=Z,3.5nm,1.1s								
AKTO				⇑Sn		Sn	23 42 30.6	-8.4
comp=Z,1.4nm,0.6s								
AB31	**Akbulak array**	**12.52**	**42**	Pn		**Pn**	**23 40 20.3**	**-1.9**
comp=Z,0.3nm,0.5s,SNR=11								
AB31				Sn		Sn	23 42 34.6	-6.9
comp=Z,0.2nm,0.3s,SNR=4.7								
AB31	**Akbulak array**	**12.52**	**42**	Pn		**Pn**	**23 40 20.3**	**-1.9**
comp=Z,0.3nm,0.5s,baz=232,slow=14,SNR=11								
AB31				⇓Sn		Sn	23 42 34.6	-6.9
comp=Z,0.2nm,0.3s,baz=228,slow=18,SNR=4.7								
AKASG	**Malin Array Be**	**15.94**	**315**	P		**Pn**	**23 41 06.0**	**-2.2**
AKASG	**Malin Array Be**	**15.94**	**315**	Pn		**Pn**	**23 41 06.0**	**-2.2**
comp=Z,0.4nm,0.3s,baz=123,slow=12,SNR=2.4								
ARU	**Arti**	**17.48**	**22**	*c i*P		**P**	**23 41 29.0**	**+0.2**
ARU				S		**S**	**23 44 46.5**	**-3.6**
ARU				pmax	pmax			
comp=Z,9.0nm,1.7s								
ARU	**Arti**	**17.48**	**22**	*i* P		**P**	**23 41 29.0**	**+0.2**
comp=Z,9.0nm,1.7s								
BRVK	**Borovoye**	**20.04**	**44**	⇓Pn		**P**	**23 41 54.9**	**-2.1**
comp=Z,2.7nm,0.9s								
BVA0	**Borovoye Array**	**20.08**	**44**	⇑Pn		**P**	**23 41 54.6**	**-2.9**
comp=Z,2.0nm,1.1s,baz=224,slow=47,SNR=11								
BVAR	**Borovoye Array**	**20.08**	**44**	P		**P**	**23 41 56.6**	**-0.9**
BVAR				pmax	pmax			
comp=Z,1.0nm,0.4s								
BVAR	**Borovoye Array**	**20.08**	**44**	P		**P**	**23 41 56.6**	**-0.9**
comp=Z,1.0nm,0.4s								
BVAR	**Borovoye Array**	**20.08**	**44**	P		**P**	**23 41 56.6**	**-0.9**
comp=Z,0.5nm,0.4s,baz=232,slow=13,SNR=9.4								
AAK	**Ala-Archa**	**20.58**	**75**	P		**P**	**23 42 02.2**	**-1.0**
AAK				pmax	pmax			
comp=Z,1.0nm,0.5s								
AAK	**Ala-Archa**	**20.58**	**75**	P		**P**	**23 42 02.2**	**-1.0**
comp=Z,1.0nm,0.5s								
AAK	**Ala-Archa**	**20.58**	**75**	P		**P**	**23 42 02.2**	**-1.0**
comp=Z,0.9nm,0.5s,baz=242,slow=3.9,SNR=5.5								
KURBB	**Kurchatov Arra**	**24.00**	**55**	P		**P**	**23 42 37.8**	**-0.8**
comp=Z,0.8nm,0.7s,baz=262,slow=9.3,SNR=8.8								
KURK	**Kurchatov**	**24.07**	**55**	P		**P**	**23 42 37.8**	**-1.5**
KURK				pmax	pmax			
comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**24.40**	**335**	*e*P		**P**	**23 42 41.9**	**-0.3**
comp=Z,2.0nm,0.8s								
FINES	**FINESS Array B**	**24.40**	**335**	P		**P**	**23 42 40.0**	**-2.3**
comp=Z,1.7nm,0.8s,baz=134,slow=8.2,SNR=4.9								
GERES	**GERESS Array B**	**24.88**	**300**	*e*P		**P**	**23 42 47.0**	**+0.2**
comp=Z,2.0nm,0.7s								
GERES	**GERESS Array B**	**24.88**	**300**	P		**P**	**23 42 45.2**	**-1.6**
comp=Z,1.6nm,0.7s,baz=98,slow=9.6,SNR=12								
MKAR	**Makanchi Array**	**26.05**	**65**	*e*P		**P**	**23 42 59.1**	**+1.8**
MKAR				pmax	pmax			
comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**26.05**	**65**	*e*P		**P**	**23 42 59.1**	**+1.8**
comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**26.05**	**65**	P		**P**	**23 42 56.2**	**-1.1**
comp=Z,1.0nm,0.7s,baz=265,slow=9.2,SNR=13								
ZALV	**Zalesovo Beam**	**28.48**	**49**	P		**P**	**23 43 18.1**	**-1.0**
ZALV	**Zalesovo Beam**	**28.48**	**49**	P		**P**	**23 43 18.1**	**-1.0**
comp=Z,0.3nm,0.4s,baz=256,slow=11,SNR=2.7								
ESDC	**Sonseca Array**	**38.53**	**286**	LR		LR	00 00 17.0	
comp=Z,131nm,19.6s,baz=245,slow=36								

IDC 29 23:54:46.0±2.4, 16.61S×69.18W, h191km±9km, mb3.3/1, mb1 3.3/2, mb1mx3.0/20, mbtmp3.3/2, Error ellipse: s-maj=110.6km s-min=28.0km az=2.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
LPAZ	**La Paz**	**1.05**	**72**	P		Pn	23 55 16.1		0.0
59nm,0.3s,baz=293,slow=6.5,SNR=1037									
LPAZ				S		Sn	23 55 39.2		+0.1
16nm,0.3s,baz=356,slow=25,SNR=15									
SIV	**San Ignacio**	**7.81**	**87**	P		Pn	23 56 38.7		+1.8
1.8nm,0.3s,baz=279,slow=11,SNR=20									
SIV				S		Sn	23 58 04.9		+0.1
0.1nm,0.3s,baz=331,slow=19,SNR=3.2									
TORD	**Torodi Ar. Bea**	**76.00**	**72**	P		P	00 06 12.0		-0.7
0.6nm,0.7s,baz=252,slow=5.6,SNR=6.9									
WRA	**Warramunga Arr**	**136.95**	**213**	PKP		PKPdf	00 13 45.6		-1.4
0.3nm,0.9s,baz=121,slow=2.9,SNR=3.7									
SONM	**Songino Array**	**148.65**	**6**	PKPbc		PKPbc	00 14 10.9		+0.2
0.3nm,0.7s,baz=354,slow=1.4,SNR=3.0									

*CSEM **30** 00:18:11.8±0.6,50.13N×18.48E, h1km, Error ellipse: s-maj=11.0km s-min=7.3km az=74.0*
PRU 30 00:18:13.2,50.10N×18.45E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
OKC	**Ostrava-Krasne**	**0.33**	**217**	*e*PG		Pg	00 18 19.2		-0.3
OKC				*e*SG		Sg	00 18 23.8		0.0
7.3nm,0.5s									
OKC	**Ostrava-Krasne**	**0.33**	**217**	Pg		Pg	00 18 19.2		-0.3
OKC				Sg		Sg	00 18 23.8		0.0
7.3nm,0.5s									
MORC	**Moravsky Berou**	**0.67**	**241**	*e*Sg		Sg	00 18 34.8		-0.1
DPC	**Dobruska-Polom**	**1.39**	**281**	*e*PG		Pn	00 18 39.0		-0.9
DPC				*e*SG		Sg	00 18 57.5		-0.5
DPC	**Dobruska-Polom**	**1.39**	**281**	Pg		Pn	00 18 39.0		-0.9
DPC				Sg		Sg	00 18 57.5		-0.5
VRAC	**Vranov**	**1.44**	**237**	*e*Pn		Pn	00 18 39.2		-1.4
VRAC				*e*Sg		Sg	00 18 58.3		-1.3

*CSEM **30** 00:18:59.3±0.7,50.09N×18.39E, h1km, ML1.8/4, Error ellipse: s-maj=9.1km s-min=5.3km az=62.0*
*IPEC **30** 00:18:59.1±1.7,50.06N×18.50E, h0km±41km, ML1.1/3, Error ellipse: s-maj=20.7km s-min=10.8km az=160.0*
PRU 30 00:19:01.3,50.03N×18.33E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
RAC	**Raciborz**	**0.10**	**301**	*e*Sg		Sg	00 19 07.3		+2.6
OKC	**Ostrava-Krasne**	**0.23**	**212**	*e*PG		Pg	00 19 05.5		-0.2
OKC				*e*SG		Sg	00 19 09.4		+0.8
14nm,0.5s									
OKC	**Ostrava-Krasne**	**0.23**	**212**	Pg		Pg	00 19 05.5		-0.2
OKC				Sg		Sg	00 19 09.4		+0.8
14nm,0.5s									
MORC	**Moravsky Berou**	**0.57**	**244**	*e*Pg		Pg	00 19 11.9		-0.4
MORC				*e*Sg		Sg	00 19 20.4		+0.6
5.1nm,0.2s,baz=65									
OJC	**Ojcow**	**0.96**	**78**	*e*Pg		Pg	00 19 15.6		-4.2
OJC				*e*Sg		Sg	00 19 27.4		-5.0
KRLC	**Kraliky**	**1.00**	**273**	*e*PG		Pg	00 19 19.3		-1.3
KRLC				*e*SG		Sg	00 19 32.5		-1.1
KRLC	**Kraliky**	**1.00**	**273**	Pg		Pg	00 19 19.3		-1.3
KRLC				Sg		Sg	00 19 32.5		-1.1
DPC	**Dobruska-Polom**	**1.33**	**285**	*e*PG		Pg	00 19 25.3		-1.6
DPC				*e*SG		Sg	00 19 43.5		-0.7
DPC	**Dobruska-Polom**	**1.33**	**285**	Pg		Pg	00 19 25.3		-1.6
DPC				Sg		Sg	00 19 43.5		-0.7
VRAC	**Vranov**	**1.34**	**238**	*e*Pg		Pg	00 19 25.7		-1.3
VRAC				*e*Sg		Sg	00 19 44.4		0.0
2.4nm,0.3s,baz=58									
UPC	**Upice**	**1.56**	**289**	*e*SG		Sn	00 19 51.2		-0.1
UPC	**Upice**	**1.56**	**289**	Sg		Sn	00 19 51.2		-0.1
KRUC	**Moravsky**	**1.59**	**233**	*e*Pg		Pn	00 19 29.8		-0.9
baz=53									
KRUC				*e*Sg		Sb	00 19 52.2		0.0
1.2nm,0.2s,baz=53									
PRU	**Pruhonice**	**2.44**	**270**	*e*SG		Sb	00 20 17.3		+0.5
PRU	**Pruhonice**	**2.44**	**270**	Sg		Sb	00 20 17.3		+0.5
KHC	**Kasperske Hory**	**3.22**	**256**	*e*PG		Pb	00 20 00.0		+0.6
KHC				*e*SG		Sg	00 20 44.2		-0.7
KHC	**Kasperske Hory**	**3.22**	**256**	Sg		Sg	00 20 44.2		-0.7

*MOS **30** 00:42:14.7±1.4,54.21N×154.60E, h481km, mb4.5/1, Error ellipse: s-maj=32.8km s-min=19.7km az=73.6*
*IDC **30** 00:42:16.2±1.3,54.19N×154.49E, h485km±16km, mb2.6/6, mb1 2.9/8, mb1mx2.6/28, mbtmp2.6/8, Error ellipse: s-maj=25.1km s-min=17.1km az=130.0*
*ISCJB **30** 00:42:17.2±0.7,54.16N±0.08×155.6E±0.2, h500km, mb2.9/6, Error ellipse: s-maj=14.3km s-min=9.6km az=30.8*
*KRSC **30** 00:42:17.1±10.0,54.02N×155.91E, h522km±122km, ML4.5*
ISC 30 00:42:19.1±1.2, 54.0N±0.1×155.9E±0.2, h500km, n36, σ1s26/39, mb3.0/6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
GNL	**Ganaly**	**1.26**	**105**	*e*P		**P**	**00 43 20.7**		**-0.5**
APC	**Apacha**	**1.34**	**145**	*e*P		**P**	**00 43 20.3**		**-1.1**
PETK	**Petropavlovsk-**	**1.42**	**130**	PN		**P**	**00 43 21.0**		**-0.7**
PETK				pmax	pmax				
comp=Z,3.0nm,0.3s									
PETK	**Petropavlovsk-**	**1.42**	**130**	P		**P**	**00 43 20.9**		**-0.7**
comp=Z,2.7nm,0.3s,baz=62,slow=1.9,SNR=23									
KRX	**Arik**	**1.77**	**111**	*e*P		**P**	**00 43 23.7**		**+0.5**
KOK	**Koryaka**	**1.79**	**113**	*e*P		**P**	**00 43 23.8**		**+0.5**
KRER	**Koryakskii**	**1.85**	**112**	*e*P		**P**	**00 43 24.2**		**+0.6**
AVH	**Avacha**	**1.86**	**113**	*e*P		**P**	**00 43 23.9**		**+0.4**
SMAR	**Somma**	**1.90**	**113**	*e*P		**P**	**00 43 24.4**		**+0.5**
UGLR	**Uglovaya**	**1.93**	**114**	*e*P		**P**	**00 43 23.6**		**-0.3**
SDLR	**Sedlovina**	**1.94**	**112**	*e*P		**P**	**00 43 23.6**		**-0.3**
ASAK	**Asacha**	**2.05**	**143**	*e*P		**P**	**00 43 24.7**		**+0.2**
MTVR	**Mutnovka**	**2.07**	**137**	*e*P		**P**	**00 43 24.7**		**0.0**
MTVR				*e*S		**S**	**00 44 18.3**		**+0.2**
NLC	**Nalytchevo**	**2.23**	**111**	*e*S		**S**	**00 44 18.9**		**-0.3**
RUS	**Russkaya**	**2.25**	**134**	PN		**P**	**00 43 24.4**		**-1.0**
RUS				S		**S**	**00 44 18.8**		**-0.6**
RUS	**Russkaya**	**2.25**	**134**	*e*P		**P**	**00 43 24.4**		**-1.0**
RUS				*e*S		**S**	**00 44 18.8**		**-0.6**
ESO	**Esso**	**2.50**	**39**	PN		**P**	**00 43 25.4**		**-1.3**
ESO	**Esso**	**2.50**	**39**	*e*P		**P**	**00 43 25.4**		**-1.3**
SPN	**Mys Shipunski**	**2.64**	**109**	*e*S		**S**	**00 44 22.7**		**-0.8**
TUMR	**Tumrok**	**2.77**	**61**	*e*P		**P**	**00 43 28.3**		**-0.2**
KZV	**Kizimen**	**2.78**	**65**	*e*P		**P**	**00 43 28.7**		**+0.1**
SRDR	**Sredinnyy**	**3.17**	**42**	*e*P		**P**	**00 43 30.7**		**-0.4**
MKZ	**Mys Kozlova**	**3.46**	**79**	PN		**P**	**00 43 32.2**		**-0.9**
MKZ				S		**S**	**00 44 31.8**		**-1.8**
MKZ	**Mys Kozlova**	**3.46**	**79**	*e*P		**P**	**00 43 32.2**		**-0.9**
MKZ				*e*S		**S**	**00 44 31.8**		**-1.8**
KBG	**Krutoberegovo**	**4.50**	**58**	*e*S		**S**	**00 44 47.7**		**-1.1**
KBTR	**Krutoberegovo**	**4.54**	**58**	PN		**P**	**00 43 40.3**		**-1.4**
KBTR				S		**S**	**00 44 47.2**		**-2.2**
KBTR	**Krutoberegovo**	**4.54**	**58**	*e*P		**P**	**00 43 40.3**		**-1.4**
KBTR				*e*S		**S**	**00 44 47.2**		**-2.2**
SEY	**Seymchan**	**9.11**	**350**	PN		P	00 44 21.6		-5.1
SEY				pmax	pmax				
comp=Z,1.0nm,0.3s									
SEY	**Seymchan**	**9.11**	**350**	P		P	00 44 21.6		-5.1
comp=Z,0.7nm,0.3s,baz=3.5,slow=23,SNR=7.0									
ILAR	**Eielson Array**	**29.96**	**46**	P		**P**	**00 47 47.1**		**+1.6**
comp=Z,0.3nm,0.6s,baz=276,slow=10,SNR=6.2									
YKA	**Yellowknife Ar**	**44.15**	**42**	P		**P**	**00 49 43.6**		**+1.5**
comp=Z,0.3nm,0.7s,baz=302,slow=7.2,SNR=3.3									
MKAR	**Makanchi Array**	**45.48**	**292**	P		P	00 49 44.3		-8.3
MKAR	**Makanchi Array**	**45.48**	**292**	P		P	00 49 44.3		-8.3
comp=Z,0.1nm,0.4s,baz=56,slow=5.7,SNR=6.8									
TXAR	**Lajitas Array**	**72.53**	**64**	P		**P**	**00 52 57.7**		**+2.9**
comp=Z,0.2nm,0.6s,baz=294,slow=4.0,SNR=4.0									
WRA	**Warramunga Arr**	**75.97**	**201**	P		**P**	**00 53 12.0**		**-2.1**
comp=Z,0.4nm,0.7s,baz=15,slow=5.9,SNR=3.6									
ASAR	**Alice Springs**	**79.67**	**200**	P		**P**	**00 53 31.6**		**-2.4**
comp=Z,0.3nm,0.4s,baz=5.7,slow=4.5,SNR=4.4									

*DJA **30** 00:50:17.7±0.5,9°S±4°×11°9E±°, h182km±7km, M4.1/12, mb4.0/4, mB4.5/1, MLv4.1/12, Mw(mB)3.7/1*
*IDC **30** 00:50:17.5±9.6, 8.34S×118.46E, h100km±113km, mb3.0/3, mb1 3.3/5, mb1mx3.1/22, mbtmp3.1/5, ML3.6/2, Error ellipse: s-maj=211.4km s-min=40.7km az=47.0*
*AUST **30** 00:50:21.2±0.0, 8.43S×118.35E, h179km, Error ellipse: s-maj=1.6km s-min=1.1km az=10.0*
ISC 30 00:50:20.3±0.8, 8.97S±0.06×118.48E±0.05, h150km, n24, σ2s12/24, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
LBFI	**Labuhan Bajo,**	**1.48**	**71**	P		**Pn**	**00 50 49.4**		**-0.3**
LBFI				S		**Sn**	**00 51 12.2**		**+0.1**
WSI	**Waingapu**	**1.93**	**111**	P		**Pn**	**00 50 53.2**		**-1.4**
WSI				S		**Sn**	**00 51 23.6**		**+2.6**
KHKI	**Kahang-Kahang**	**2.90**	**282**	P		**Pn**	**00 51 05.4**		**-1.0**
KHKI				S		**Sn**	**00 51 46.5**		**+4.5**
SRBI	**Singaraja**	**3.34**	**285**	P		**Pn**	**00 51 11.6**		**-0.5**
MMRI	**Maumere**	**3.73**	**85**	P		Pn

BOD				*e*Pg		**Pb**	**00 51 20.1**	**+0.1**
BOD				*e*Sn		**Sn**	**00 51 49.3**	**+1.1**
BOD				*e*Sg		**Sb**	**00 51 55.0**	**+1.1**
BOD				Pmax				
	comp=N,73nm,0.8s							
BOD				Smax				
	comp=N,411nm,0.6s							
UKT	**Uakit**	**2.87**	**252**	*e*PN		**Pb**	**00 51 23.1**	**+1.3**
UKT				*e*			00 52 01.7	
UKT				pmax	pmax			
	comp=Z,26nm,0.8s							
UKT				smax	smax			
	comp=N,145nm,0.7s							
UKT	**Uakit**	**2.87**	**252**	*e*Pn		**Pn**	**00 51 19.0**	**+2.6**
UKT				*e*Pg		**Pb**	**00 51 23.6**	**+1.8**
UKT				*e*Sn		**Sb**	**00 51 54.5**	**-2.5**
UKT				*e*Sg		**Sg**	**00 52 02.5**	**-0.1**
UKT				Pmax				
	comp=N,27nm,0.8s							
UKT				Smax				
	comp=N,146nm,0.8s							
IENR	**Iengra**	**3.59**	**91**	*e*Pn		**Pn**	**00 51 26.9**	**+0.7**
IENR				*e*Pg		**Pb**	**00 51 34.1**	**+0.1**
IENR				*e*Sn		**Sn**	**00 52 07.8**	**-0.8**
IENR				*e*Sg		**Sb**	**00 52 19.7**	**+2.1**
IENR				*e*			00 52 28.0	
CLNS	**Chul'man**	**3.59**	**81**	*e*PN		Pn	00 51 29.5	+3.3
CLNS				*e*			00 52 09.4	
CLNS				pmax	pmax			
	comp=N,7.0nm,0.3s							
CLNS				pmax	pmax			
	comp=Z,13nm,0.3s							
CLNS				pmax	pmax			
	comp=E,14nm,0.4s							
CLNS				smax	smax			
	comp=N,160nm,0.4s							
CLNS				smax	smax			
	comp=Z,15nm,0.2s							
CLNS				smax	smax			
	comp=E,63nm,0.4s							
CLNS	**Chul'man**	**3.59**	**81**	*e*Pn		**Pn**	**00 51 27.6**	**+1.4**
CLNS				*e*Pg		**Pb**	**00 51 35.1**	**+1.1**
CLNS				*e*Sn		**Sn**	**00 52 08.4**	**-0.2**
CLNS				*e*Sg		**Sg**	**00 52 22.3**	**-3.3**
YOA	**Uoyan**	**3.75**	**268**	*e*PN		**Pg**	**00 51 41.7**	**-0.6**
YOA				*i*			00 52 31.1	
YOA				pmax	pmax			
	comp=Z,617nm,0.2s							
YOA				smax	smax			
	comp=E,755nm,0.4s							
TNDR	**Tynda**	**3.79**	**108**	*e*Pn		**Pn**	**00 51 30.4**	**+1.5**
TNDR				*e*Pg		**Pg**	**00 51 40.3**	**-2.7**
TNDR				*e*Sn		**Sn**	**00 52 14.4**	**+0.9**
TNDR				*e*Sg		**Sg**	**00 52 30.2**	**-1.9**
KMO	**Kumora**	**4.08**	**265⇑**	*i*Pn		Pn	00 51 35.9	+3.0
KMO				*e*Pg		**Pg**	**00 51 46.0**	**-2.6**
KMO				*e*Sg		**Sg**	**00 52 40.0**	**-1.4**
KMO				Pmax				
	comp=E,32nm,0.6s							
KMO				Smax				
	comp=E,258nm,0.8s							
VTMR	**Vitim**	**4.32**	**316**	*e*Sg		**Sb**	**00 52 41.7**	**+3.1**
ALDR	**Aldan**	**4.33**	**57**	*e*Pn		**Pn**	**00 51 36.8**	**+0.4**
ALDR				*e*Pg		**Pb**	**00 51 47.9**	**+1.2**
ALDR				*e*Sn		**Sn**	**00 52 25.5**	**-1.4**
ALDR				*e*Sg		**Sb**	**00 52 42.6**	**+3.6**
YLYR	**Ulyunkhan**	**4.41**	**252⇓**	*i*Pn		**Pn**	**00 51 40.4**	**+2.9**
YLYR				*e*Pg		**Pg**	**00 51 52.9**	**-2.0**
YLYR				*e*Sn		**Sn**	**00 52 31.1**	**+2.2**
YLYR				*e*Sg		**Sg**	**00 52 49.8**	**-2.2**
YLYR				Pmax				
	comp=E,15nm,0.7s							
YLYR				Smax				
	comp=E,95nm,0.8s							
NIZ	**Nizh Angarsk**	**5.02**	**266**	*e*Pn		**Pg**	**00 52 05.1**	**-1.5**
NIZ				*e*			00 53 09.2	
NIZ				pmax	pmax			
	comp=Z,13nm,1.0s							
NIZ				smax	smax			
	comp=N,81nm,1.0s							
NIZ	**Nizh Angarsk**	**5.02**	**266**	*e*Pn		Pn	00 51 49.0	+3.2
NIZ				*e*			00 52 07.5	
NIZ				*e*Sg		**Sg**	**00 53 08.8**	**-2.8**
NIZ				Smax				
	comp=N,81nm,1.0s							
SYVR	**Suvo**	**5.60**	**243**	*e*Pn		**Pn**	**00 51 56.3**	**+2.5**
SYVR				*e*Pg		Pg	00 52 13.8	-3.9
SYVR				*e*Sg		**Sg**	**00 53 27.3**	**-2.9**
SYVR				Pmax				
	comp=N,10.0nm,1.2s							
SYVR				Smax				
	comp=N,84nm,1.3s							
ZEA	**Zeya**	**5.75**	**115**	*e*Pn		**Pn**	**00 51 57.3**	**+1.4**
ZEA				*e*Pg		Pb	00 52 15.2	+4.3
ZEA				*e*Sn		**Sn**	**00 53 01.6**	**-0.3**
ZEA				*e*Sg		**Sg**	**00 53 31.2**	**-3.9**
ZEA				Pmax				
	comp=N,54nm,0.7s							
ZEA				Smax				
	comp=N,170nm,1.2s							
MXMB	**Maximikha**	**6.45**	**244**	*e*Sg		**Sg**	**00 53 53.8**	**-3.4**
MXMB				Smax				
	comp=N,146nm,1.0s							
KPC	**Khapcheranga**	**7.69**	**211**	*e*Sg		**Sg**	**00 54 33.6**	**-3.5**
KPC				Smax				
	comp=N,65nm,1.2s							
TRG	**Tyrgan**	**7.93**	**247**	*e*Sg		**Sg**	**00 54 39.3**	**-5.6**
TRG				Smax				
	comp=N,33nm,1.5s							
HRMR	**Khuramsha**	**8.31**	**239**	*e*Sg		**Sg**	**00 54 53.4**	**-3.4**
HRMR				Smax				
	comp=N,208nm,1.3s							

MEX 30 01:03:31.5±0.5, 16°07.N×95°34.W, h73km±7km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.40**	**220**	*e*P	Pn	01 03 42.2	-1.5
HUIG				*i* S	Sn	01 03 51.0	-1.7
VHO	**Vista Hermosa**	**1.31**	**319**	*i* P	Pn	01 03 52.6	-1.7
VHO				*i* S	Sn	01 04 09.9	-1.6
PNIG	**Pinotepa**	**2.22**	**279**	*i* P	Pn	01 04 05.6	-0.6
PNIG				*i* S	Sn	01 04 30.7	-2.0
PCIG		**2.55**	**98**	*i* P	Pn	01 04 09.8	-0.8
PCIG				*i* S	Sn	01 04 38.8	-1.9

*IDC **30** 01:11:20.2±0.9, 17°.80S×176°.66W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.1/20, mbtmp4.0/10, MS3.7/7, Ms1 3.7/7, ms1mx3.5/22, Error ellipse: s-maj=43.0km s-min=18.8km az=150.0*
*ISCJB **30** 01:11:23.1±0.6, 18°.1S±0°.2×176°.6W±0°.1, h33km, mb4.1/15, MS3.7/6, Error ellipse: s-maj=29.6km s-min=11.5km az=151.5*
*NEIC **30** 01:11:27.4±6.3, 17°.94S×176°.63W, h54km±54km, mb4.4/6, Error ellipse: s-maj=20.8km s-min=15.1km az=142.0*
ISC 30 01:11:25.1±0.6, 18°.0S±0°.2×176°.6W±0°.1, h35km, n53, σ1§04/46, mb4.2/15, MS3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.31**	**186**	LR	LR	01 17 39.9	
	comp=Z,659nm,21.6s,baz=187,slow=33						
DZM	**Mont Dzumac**	**16.49**	**253**	*e*LR	LR	01 19 41.4	
	532nm,24.7s						
HNR	**Honiara**	**24.33**	**287**	LR	LR	01 24 09.3	
	comp=Z,91nm,20.3s,baz=341,slow=32						
PPT	**Papeete**	**25.69**	**93**	LR	LR	01 23 57.0	
	comp=Z,266nm,20.8s,baz=160,slow=29						
TBI	**Tubuai**	**25.89**	**107**	*e*LR	LR	01 23 11.2	
	113nm,29.8s						
CTA	**Charters Tower**	**35.18**	**260**	P	**P**	**01 18 15.1**	**-1.0**
CTA	**Charters Tower**	**35.18**	**260**	P	**P**	**01 18 15.1**	**-1.0**
	8.4nm,0.8s,baz=98,slow=6.6,SNR=6.1						
CTAO	**Charters Tower**	**35.18**	**260**	*e*P	**P**	**01 18 15.9**	**-0.1**
	14nm,1.0s						
COEN	**Coen**	**38.87**	**270**	*e*P	**P**	**01 18 49.1**	**+1.6**
STKA	**Stephens Creek**	**40.16**	**242**	P	**P**	**01 18 59.8**	**+1.8**
STKA	**Stephens Creek**	**40.16**	**242**	P	**P**	**01 18 59.8**	**+1.8**
	2.5nm,0.9s,baz=56,slow=7.4,SNR=3.7						
WRAB	**Tennant Creek**	**46.35**	**259**	*e*P	**P**	**01 19 47.3**	**-0.9**
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**46.36**	**259**	P	**P**	**01 19 46.7**	**-1.6**
WRA	**Warramunga Ar**	**46.36**	**259**	P	**P**	**01 19 46.7**	**-1.6**
	1.8nm,0.7s,baz=93,slow=6.9,SNR=9.2						
WRA				LR	LR	01 37 56.5	
	comp=Z,107nm,21.6s,baz=90,slow=34						
AS31	**Alice Springs**	**46.48**	**254**	*e*P	**P**	**01 19 48.5**	**-0.7**
ASAR	**Alice Springs**	**46.48**	**254**	P	**P**	**01 19 48.2**	**-1.0**
ASAR	**Alice Springs**	**46.48**	**254**	P	**P**	**01 19 48.2**	**-1.0**
	2.2nm,0.6s,baz=86,slow=8.6,SNR=14						
MJAR	**Matsushiro Arr**	**69.01**	**322**	P	**P**	**01 22 28.2**	**+1.0**
MJAR	**Matsushiro Ar**	**69.01**	**322**	P	**P**	**01 22 28.2**	**+1.0**
	0.6nm,0.5s,baz=115,slow=9.3,SNR=3.1						
QSPA	**South Pole Qui**	**72.10**	**180**	*e*P	**P**	**01 22 44.2**	**-1.5**
	6.4nm,1.1s						
PETK	**Petropavlovsk-**	**74.19**	**344**	LR	LR	01 52 18.4	
	comp=Z,32nm,19.1s,baz=274,slow=33						
KSRS	**Korea Array**	**75.92**	**317**	LR	LR	01 53 58.4	
	comp=Z,29nm,19.7s,baz=70,slow=34						
NVAR	**Mina Array Bea**	**78.24**	**43**	P	**P**	**01 23 22.1**	**+0.4**
NVAR	**Mina Array Bea**	**78.24**	**43**	P	**P**	**01 23 22.1**	**+0.4**
	0.4nm,0.6s,baz=222,slow=9.7,SNR=4.5						
WVOR	**Wild Horse Val**	**80.31**	**40**	*e*P	**P**	**01 23 33.0**	**+0.3**
	28nm,1.9s						
TUC	**Tucson**	**80.34**	**52**	*e*P	**P**	**01 23 33.0**	**0.0**
	2.2nm,0.9s						
HLID	**Hailey**	**83.51**	**40**	*e*P	**P**	**01 23 50.2**	**+0.6**
	2.1nm,1.0s						
MAW	**Mawson**	**84.41**	**199**	LR	LR	02 02 22.5	
	comp=Z,79nm,18.2s,baz=116,slow=36						
TXAR	**Lajitas Array**	**84.53**	**57**	P	**P**	**01 23 56.0**	**+1.0**
TXAR	**Lajitas Array**	**84.53**	**57**	P	**P**	**01 23 56.0**	**+1.0**
	0.7nm,1.0s,baz=215,slow=5.6,SNR=4.4						
COLA	**College**	**85.45**	**12**	*e*P	**P**	**01 23 59.2**	**+0.6**
ILAR	**Eielson Array**	**85.55**	**12**	P	**P**	**01 23 57.9**	**-1.3**
ILAR	**Eielson Array**	**85.55**	**12**	P	**P**	**01 23 57.9**	**-1.3**
	2.2nm,1.1s,baz=229,slow=5.6,SNR=7.5						
PDAR	**Pinedale Array**	**86.18**	**43**	P	**P**	**01 24 03.5**	**+0.4**
PDAR	**Pinedale Array**	**86.18**	**43**	P	**P**	**01 24 03.5**	**+0.4**
	0.4nm,0.9s,baz=214,slow=4.3,SNR=3.7						
YKA	**Yellowknife Ar**	**93.64**	**24**	P	**P**	**01 24 36.5**	**-0.9**
YKA	**Yellowknife Ar**	**93.64**	**24**	P	**P**	**01 24 36.5**	**-0.9**
	0.3nm,0.7s,baz=243,slow=4.2,SNR=4.2						
TKM2	**Tokmak 2**	**114.98**	**310**	*e*PKP	PKPdf	01 30 04.2	+1.4
AAK	**Ala-Archa**	**115.78**	**309**	*e*PKPdf	**PKPdf**	**01 30 04.1**	**-0.2**
NAO01	**NORSAR Array S**	**136.83**	**355**	*e*PKPdf	**PKPdf**	**01 30 44.8**	**+1.2**
BUR08	**Bucovina Ar. S**	**145.44**	**334**	*e*PKPbc	**PKPdf**	**01 31 00.3**	**+0.7**
CLL	**Collm**	**145.87**	**349**	*e*PKPbc	**PKPab**	**01 31 01.0**	**-0.1**
BR131	**Keskin Array S**	**146.06**	**316**	*e*PKPbc	**PKPdf**	**01 30 59.6**	**-1.4**
BRTR	**Keskin Array B**	**146.06**	**316**	PKPbc	**PKPbc**	**01 31 01.2**	**-0.6**
BRTR	**Keskin Array B**	**146.06**	**316**	PKPbc	**PKPbc**	**01 31 01.2**	**-0.6**
	1.8nm,1.0s,baz=90,slow=3.0,SNR=5.0						
PSZ	**Piszkesteto**	**147.23**	**339**	*e*PKPdf	**PKPdf**	**01 31 01.7**	**-0.9**
GERES	**GERESS Array B**	**148.08**	**347**	PKPbc	**PKPbc**	**01 31 07.1**	**-0.1**
GERES	**GERESS Array B**	**148.08**	**347**	PKPbc	**PKPbc**	**01 31 07.1**	**-0.1**
	0.3nm,0.6s,baz=27,slow=2.4,SNR=2.0						
WLF	**Walferdange**	**148.29**	**357**	*e*PKPdf	**PKPdf**	**01 31 03.0**	**-1.2**
WLF				*e*PKPbc	**PKPbc**	**01 31 07.0**	**-0.5**
WLF				*e*PKPab	**PKPab**	**01 31 10.2**	**-0.4**
TIP	**Timpagrande**	**155.89**	**334**	*e*PKPdf	**PKPdf**	**01 31 16.2**	**+0.3**
TOA0	**Torodi Ar. Sit**	**174.93**	**160**	*e*PKPab	**PKPab**	**01 33 07.7**	**+1.0**
TORD	**Torodi Ar. Bea**	**174.93**	**160**	PKPab	**PKPab**	**01 33 08.6**	**+1.8**
TORD	**Torodi Ar. Bea**	**174.93**	**160**	PKPab	**PKPab**	**01 33 08.6**	**+1.8**
	0.8nm,1.0s,baz=210,slow=4.8,SNR=3.5						

*IDC **30** 02:14:01.0±1.9, 51°.28N×158°.02E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.4/28, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=37.1km s-min=18.0km az=11.0*
*MOS **30** 02:14:06.2±0.9, 51°.43N×158°.43E, h18km, mb4.2/1, Error ellipse: s-maj=35.3km s-min=19.5km az=79.7*
*ISCJB **30** 02:14:07.8±0.9, 51°.58N±0°.04×158°.72E±0°.06, h26km±5km, mb3.4/4, Error ellipse: s-maj=6.7km s-min=5.3km az=37.9*
*KRSC **30** 02:14:07.2±3.8, 51°.60N×158°.72E, h11km±10km, ML3.9*
ISC 30 02:14:07.6±2.1, 51°.60N±0°.05×158°.65E±0°.05, h16km±12km, n43, σ1§30/50, mb3.4/4, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.84**	**354**	*e*P	**Pb**	**02 14 24.1**	**+0.4**
RUS				*i* S	**Sg**	**02 14 34.5**	**-0.4**
ASAK	**Asacha**	**0.91**	**330**	*e*P	**Pn**	**02 14 26.0**	**+0.2**
ASAK				*i* S	**Sg**	**02 14 37.2**	**-0.1**
MTVR	**Mutnovka**	**0.93**	**342**	*e*P	**Pb**	**02 14 25.9**	**+0.5**
MTVR				*i* S	**Sg**	**02 14 37.4**	**-0.5**
GRL	**Gorelyy**	**1.02**	**340**	*e*P	**Pb**	**02 14 27.2**	**+0.3**
GRL				*i* S	**Sg**	**02 14 40.1**	**-0.6**
PAU	**Pauzhetka**	**1.16**	**264**	*e*P	**Pn**	**02 14 29.5**	**+0.4**
PAU				*e*S	**Sb**	**02 14 44.3**	**+0.4**
MIPR	**Malaya Ipel'ka**	**1.35**	**301**	*e*P	**Pn**	**02 14 32.1**	**+0.3**
MIPR				*i* S	**Sn**	**02 14 49.4**	**0.0**
PET	**Petropavlovsk**	**1.43**	**0⇓**	*i*PN	**Pn**	**02 14 32.6**	**-0.2**
PET				*e*S	**Sn**	**02 14 49.3**	**-1.8**
PET				pmax	pmax		
	comp=Z,101nm,0.3s						
PET				smax	smax		
	comp=E,757nm,0.4s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET	**Petropavlovsk**	**1.43**	**0**	*e*P	**Pn**	**02 14 32.5**	**-0.2**
PET				*i* S	**Sn**	**02 14 49.4**	**-1.7**
APC	**Apacha**	**1.61**	**326**	*e*P	**Pn**	**02 14 35.6**	**+0.3**
APC				*e*S	**Sn**	**02 14 57.2**	**+1.4**
UGLR	**Uglovaya**	**1.61**	**4**	*e*P	**Pn**	**02 14 35.6**	**+0.1**
UGLR				*e*S	**Sn**	**02 14 55.1**	**-0.9**
PETK	**Petropavlovsk-**	**1.62**	**339**	PN	**Pn**	**02 14 35.7**	**+0.2**
PETK						02 14 57.6	
PETK				pmax	pmax		
	comp=Z,12nm,0.3s						
PETK				smax	smax		
	comp=N,15nm,0.3s						
PETK	**Petropavlovsk-**	**1.62**	**339**	Pn	**Pn**	**02 14 35.7**	**+0.2**
	comp=N,12nm,0.3s,baz=148,slow=17,SNR=233						
PETK				Sn	**Sb**	**02 14 57.6**	**+0.3**
	comp=N,14nm,0.3s,baz=80,slow=17,SNR=7.9						
NLC	**Nalytchevo**	**1.63**	**15**	*e*P	**Pn**	**02 14 34.7**	**-0.8**
NLC				*i* S	**Sn**	**02 14 52.3**	**-3.8**
AVH	**Avacha**	**1.67**	**2**	*e*P	**Pn**	**02 14 36.7**	**+0.5**
AVH				*i* S	**Sn**	**02 14 56.1**	**-1.2**
SMAR	**Somma**	**1.67**	**3**	*e*P	**Pn**	**02 14 36.5**	**+0.2**
SMAR				*i* S	**Sn**	**02 14 56.1**	**-1.4**
SDLR	**Sedlovina**	**1.69**	**5**	*e*P	**Pn**	**02 14 36.1**	**-0.4**
SDLR				*e*S	**Sn**	**02 14 56.1**	**-1.7**
KOK	**Koryaka**	**1.69**	**360**	*e*P	**Pn**	**02 14 37.4**	**+0.8**
KOK				*i* S	**Sn**	**02 14 57.8**	**-0.1**
KRER	**Koryakskii**	**1.71**	**2**	*e*P	**Pn**	**02 14 37.2**	**+0.4**
KRER				*i* S	**Sn**	**02 14 57.6**	**-0.8**
SPN	**Mys Shipunski**	**1.72**	**29**	*e*P	**Pn**	**02 14 36.5**	**-0.3**
KRX	**Arik**	**1.76**	**360**	*e*P	**Pn**	**02 14 37.9**	**+0.4**
KRX				*i* S	**Sn**	**02 14 58.7**	**-1.0**
SKR	**Severo-Kuril's**	**1.84**	**241**	*e*PN	Pn	02 14 34.5	-4.0
SKR				*e*S	Sn	02 14 56.0	-5.4
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax	smax		
	comp=N,460nm,0.5s						
SKR				smax	smax		
	comp=E,370nm,0.4s						
SKR	**Severo-Kuril's**	**1.84**	**241**	*e*P	**Pn**	**02 14 38.9**	**+0.4**
SKR				*i* S	**Sn**	**02 15 00.6**	**-0.8**
GNL	**Ganaly**	**2.14**	**349**	*e*P	**Pn**	**02 14 43.1**	**+0.4**
GNL				*i* S	**Sn**	**02 15 11.0**	**+2.0**
MKZ	**Mys Kozlova**	**3.49**	**31**	*e*P	**Pn**	**02 15 02.1**	**+1.0**
KZV	**Kizimen**	**3.65**	**15**	*e*P	**Pn**	**02 15 05.1**	**+1.6**
KZV				*e*S	**Sn**	**02 15 48.8**	**+2.5**
TUMR	**Tumrok**	**3.80**	**13**	*e*P	**Pn**	**02 15 07.2**	**+1.8**
KBTR	**Krutoberegovo**	**5.23**	**26**	P	Pn	02 15 28.5	+3.5
KBTR				*i* S	**Sn**	**02 16 29.6**	**+4.7**
FX1	**Attu Island--F**	**9.00**	**76**	Pn	**Pn**	**02 16 17.9**	**+1.1**
	comp=E,4.3nm,0.3s,baz=237,slow=17,SNR=20						
MAJO	**Matsushiro**	**20.93**	**232**	*e*P	Pn	02 19 01.4	+9.5
ILAR	**Eielson Array**	**30.50**	**43**	P	**P**	**02 20 18.4**	**-1.1**
	comp=E,0.3nm,0.7s,baz=260,slow=8.1,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**32.46**	**165**	T	T	02 54 37.5	
	baz=353,slow=77,SNR=25						
H11N3	**WAKE ISLAND Hy**	**32.47**	**165**	T	T	02 55 03.9	
	baz=353,slow=77,SNR=23						
H11N1	**WAKE ISLAND Hy**	**32.47**	**165**	T	T	02 55 03.2	
	baz=353,slow=77,SNR=27						
H11S1	**WAKE ISLAND Hy**	**33.63**	**166**	T	T	02 56 36.9	
	baz=354,slow=77,SNR=19						
H11S3	**WAKE ISLAND Hy**	**33.64**	**166**	T	T	02 56 55.5	
	baz=354,slow=77,SNR=24						
H11S2	**WAKE ISLAND Hy**	**33.65**	**166**	T	T	02 56 54.0	
	baz=354,slow=77,SNR=13						
MKAR	**Makanchi Array**	**48.01**	**296**	P	P	02 22 40.5	-5.0
MKAR	**Makanchi Array**	**48.01**	**296**	P	P	02 22 40.5	-5.0
	comp=E,0.1nm,0.4s,baz=58,slow=8.0,SNR=2.8						
PDAR	**Pinedale Array**	**59.04**	**59**	P	**P**	**02 24 06.2**	**-0.5**
	comp=E,0.4nm,0.8s,baz=284,slow=8.3,SNR=3.9						
EKA	**Eskdalemuir Ar**	**72.37**	**349**	P	P	02 25 28.7	-3.5
	comp=E,0.4nm,0.4s,baz=20,slow=5.5,SNR=5.2						
H03N2	**Juan Fernandez**	**135.10**	**89**	T	T	05 03 49.6	
	baz=312,slow=75,SNR=95						
H03N1	**Juan Fernandez**	**135.11**	**89**	T	T	05 03 50.7	
	baz=312,slow=75,SNR=119						
H03N3	**Juan Fernandez**	**135.11**	**89**	T	T	05 03 50.8	
	baz=312,slow=75,SNR=102						

*IDC **30** 02:35:48.6±5.7, 9°.55N×126°.29E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/25, mbtmp3.9/5, Error ellipse: s-maj=186.6km s-min=122.0km az=54.0*
*MAN **30** 02:36:05, 10°.24N×125°.91E, h33km, mb4.4, ML3.3, MS3.1*
ISC 30 02:35:54.7±2.0, 9°.8N±0°.2×126°.7E±0°.1, h42km, n16, σ1§16/12, mb3.6/5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.21**	**270⇑**	*i* P	**Pn**	**02 36 14.6**	**-0.6**
SCPH				*i* S	**Sn**	**02 36 30.5**	**+0.1**
MSLP	**Maasin**	**1.86**	**281**	*e*P	**Pn**	**02 36 23.9**	**-0.3**
MSLP				*e*S	**Sn**	**02 36 48.0**	**+1.5**
PLP	**Palo**	**2.19**	**309⇓**	*e*P	**Pn**	**02 36 25.9**	**-2.7**
PLP				*e*S	Sn	02 36 43.8	-11
BESP	**Borongan**	**2.20**	**325**	*e*P	**Pn**	**02 36 29.5**	**+0.7**
BESP				*e*S	Sn	02 36 59.6	+4.8
RCP	**Roxas**	**4.29**	**295⇓**	*e*P	**Pn**	**02 36 57.2**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**39.64**	**73**	T	T	03 27 06.7	
	baz=251,slow=73,SNR=72						
H11S1	**WAKE ISLAND Hy**	**39.65**	**73**	T	T	03 27 06.7	
	baz=251,slow=73,SNR=33						
H11S2	**WAKE ISLAND Hy**	**39.66**	**73**	T	T	03 27 06.4	
	baz=251,slow=73,SNR=40						
H11N1	**WAKE ISLAND Hy**	**39.99**	**71**	T	T	03 27 47.9	
	baz=252,slow=75,SNR=38						
H11N2	**WAKE ISLAND Hy**	**40.00**	**71**	T	T	03 27 53.5	
	baz=252,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**40.01**	**71**	T	T	03 27 52.7	
	baz=252,slow=75,SNR=32						
SONM	**Songino Array**	**41.63**	**339**	P	**P**	**02 43 39.2**	**+0.3**
	0.6nm,0.7s,baz=153,slow=8.4,SNR=5.1						
MKAR	**Makanchi Array**	**52.68**	**323**	P	**P**	**02 45 04.3**	**-0.6**
	0.4nm,0.6s,baz=121,slow=7.3,SNR=6.3						
KURBB	**Kurchatov Arra**	**56.72**	**325**	P	**P**	**02 45 33.6**	**-0.5**
	0.3nm,0.5s,baz=125,slow=7.1,SNR=5.2						
ARCES	**ARCESS Array B**	**84.80**	**340**	P	P	**02 48 24.9**	**+0.5**
	7.2nm,1.1s,baz=70,slow=5.3,SNR=3.8						
FINES	**FINESS Array B**	**86.53**	**332**	P	**P**	**02 48 33.6**	**+0.5**
	1.7nm,0.8s,baz=64,slow=3.2,SNR=5.1						

*IDC **30** 02:36:12.2±1.7, 2°.36N×128°.66E, h0km, mb3.8/8, mb1 3.8/8, mb1mx3.7/24, mbtmp3.8/8, MS2.9/1, Ms1 2.9/1, ms1mx2.5/35, Error ellipse: s-maj=189.5km s-min=16.3km az=69.0*
ISC 30 02:36:17.0±1.5, 2°.5N±0°.4×12°9E±°, h35km, n9, σ0§85/8, mb4.0/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**12.63**	**113**	LR	LR	02 43 58.9	
	comp=Z,52nm,18.6s,baz=34,slow=36						
WRA	**Warramunga Arr**	**22.88**	**167**	P	**P**	**02 41 18.8**	**+1.1**
	0.3nm,0.4s,baz=344,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**26.41**	**170**	P	**P**	**02 41 49.9**	**-0.7**
	0.2nm,0.4s,baz=355,slow=9.0,SNR=4.7						
STKA	**Stephens Creek**	**36.18**	**162**	P	**P**	**02 43 16.1**	**-0.3**
	0.8nm,0.5s,baz=338,slow=11,SNR=4.0						
SONM	**Songino Array**	**49.25**	**340**	P	**P**	**02 45 03.0**	**+0.7**
	1.0nm,0.6s,baz=150,slow=8.2,SNR=9.5						
MKAR	**Makanchi Array**	**59.92**	**325**	P	**P**	**02 46 19.6**	**-0.1**
	0.9nm,0.6s,baz=110,slow=8.0,SNR=13						
ZALV	**Zalesovo Beam**	**62.77**	**332**	P	**P**	**02 46 37.7**	**-1.0**
	0.4nm,0.4s,baz=115,slow=6.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**64.06**	**327**	P	**P**	**02 46 46.9**	**-0.4**
	1.5nm,0.6s,baz=128,slow=6.0,SNR=20						
BVAR	**Borovoye Array**	**69.65**	**327**	P	**P**	**02 47 22.5**	**-0.4**
	0.8nm,0.5s,baz=117,slow=5.0,SNR=5.6						

*IDC **30** 02:44:52.1±1.1, 15°.87S×172°.51W, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/23, mbtmp3.8/6, ML1.5/1, Error ellipse: s-maj=45.7km s-min=18.2km az=125.0*
*ISCJB **30** 02:44:54.5±1.1, 15°.9S±0°.2×172°.6W±0°.3, h24km, mb3.7/5, Error ellipse: s-maj=48.0km s-min=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.26**	**260**	P	**P**	**03 23 14.9**	**+0.9**
	1.5nm,0.6s,baz=90,slow=9.1,SNR=4.2						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**03 23 57.1**	**-1.1**
	2.0nm,0.5s,baz=90,slow=9.0,SNR=5.3						
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**03 24 44.0**	**-0.4**
	1.6nm,0.7s,baz=95,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**03 24 45.9**	**-0.2**
	7.6nm,0.6s,baz=88,slow=8.5,SNR=121						
FITZ	**Fitzroy Crossi**	**52.84**	**260**	P	**P**	**03 25 47.5**	**+0.8**
	0.7nm,0.5s,baz=135,slow=5.7,SNR=3.2						
NVAR	**Mina Array Bea**	**79.28**	**44**	P	**P**	**03 28 31.4**	**+0.7**
	0.3nm,0.5s,baz=225,slow=8.7,SNR=2.8						
ILAR	**Eielson Array**	**85.50**	**13**	P	**P**	**03 28 60.0**	**-1.3**
	0.1nm,0.4s,baz=219,slow=4.8,SNR=5.1						
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**03 29 04.8**	**+0.4**
	0.3nm,0.7s,baz=214,slow=4.4,SNR=4.2						

*IDC **30** 03:25:58.5±1.7,7°.96S×118°.06E,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.5/21,mbtmp3.4/5,Error ellipse: s-maj=88.9km s-min=13.4km az=49.0*
*DJA **30** 03:26:00.6±0.4,8°.5S×11°.8E±°,h10km,M3.8/5,MLv3.8/5*
*ISCJB **30** 03:26:02.1±0.6,7°.96S±0°.09×117°.85E±0°.04,h33km, mb3.4/4,Error ellipse: s-maj=13.5km s-min=5.9km az=179.7*
ISC 30 03:26:03.5±0.9,8°.08S±0°.10×117°.88E±0°.05,h35km,n11, σ1§25/14,mb3.4/4,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**2.03**	**102**	P	**Pn**	**03 26 35.3**	**+0.1**
LBFI				S	**Sn**	**03 27 01.7**	**+2.3**
KHKI	**Kahang-Kahang**	**2.27**	**263**	P	**Pn**	**03 26 39.6**	**+1.1**
SRBI	**Singaraja**	**2.64**	**270**	P	**Pn**	**03 26 42.1**	**-1.5**
SRBI				S	Sn	03 27 22.2	+7.8
IGBI	**Denpasar**	**2.80**	**255**	P	**Pn**	**03 26 44.4**	**-1.4**
IGBI				S	**Sn**	**03 27 19.7**	**+1.3**
BKSI	**Bulukumba**	**3.53**	**39**	P	**Pn**	**03 26 55.4**	**-0.5**
GMJI	**Gumukmas**	**4.39**	**267**	P	**Pn**	**03 27 09.1**	**+1.4**
WRA	**Warramunga Arr**	**19.83**	**128**	P	**P**	**03 30 30.6**	**-0.9**
	0.2nm,0.3s,baz=302,slow=13,SNR=4.9						
WRA				S	**Sn**	**03 34 14.4**	**-0.9**
	0.1nm,0.3s,baz=312,slow=20,SNR=4.6						
ASAR	**Alice Springs**	**21.82**	**137**	P	**P**	**03 30 53.4**	**+0.4**
	1.2nm,0.8s,baz=309,slow=8.3,SNR=15						
STKA	**Stephens Creek**	**32.37**	**140**	P	**P**	**03 32 29.0**	**-0.9**
	0.7nm,0.4s,baz=0.0,slow=7.1,SNR=3.1						
SONM	**Songino Array**	**56.59**	**351**	P	**P**	**03 35 43.2**	**+0.3**
	0.2nm,0.5s,baz=169,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**63.14**	**333**	P	**P**	**03 36 27.6**	**-0.2**
	0.1nm,0.6s,baz=135,slow=6.3,SNR=2.4						

*ATH **30** 04:44:34.8,37°.59N×21°.74E,h14km,ML3.9*
*ISCJB **30** 04:44:34.8±0.3,37°.58N±0°.01×21°.74E±0°.02,h7km±2km, mb3.7/10,Error ellipse: s-maj=2.4km s-min=1.7km az=152.9*
*THE **30** 04:44:35.4,37°.58N×21°.79E,h3km,ML3.9/15,Error ellipse: s-maj=0.9km s-min=0.5km az=237.0*
*CSEM **30** 04:44:35.4±0.1,37°.59N×21°.74E,h2km,ML3.9,Error ellipse: s-maj=2.4km s-min=1.8km az=56.0*
*IDC **30** 04:44:40.5±2.0,37°.55N×21°.75E,h65km±22km,mb3.5/11, mb1 3.5/15,mb1mx3.4/32,mbtmp3.4/15,Error ellipse: s-maj=18.4km s-min=13.8km az=38.0*
*TIR **30** 04:45:05.3,37°.44N×22°.25E,h0km,ML4.4*
ISC 30 04:44:35.1±0.7,37°.59N±0°.01×21°.74E±0°.01,h12km±4km, n319,σ1§52/464,mb3.7/10,9C-5D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.06**	**201**	P	**Pg**	**04 44 37.5**	**0.0**
AMT				S	**Sg**	**04 44 39.3**	**-0.1**
AMT	**Artemida-Makis**	**0.06**	**201**	*e*PG	**Pg**	**04 44 37.6**	**0.0**
AMT				*e*SG	**Sg**	**04 44 39.7**	**+0.3**
AMT	**Artemida-Makis**	**0.06**	**201**	P	**Pg**	**04 44 37.5**	**0.0**
AMT				S	**Sg**	**04 44 39.0**	**-0.4**
DRO	**Drossia**	**0.36**	**356**	P	**Pg**	**04 44 42.6**	**+0.2**
DRO				S	**Sg**	**04 44 48.7**	**+1.5**
DRO	**Drossia**	**0.36**	**356**	*e*PB	**Pg**	**04 44 42.6**	**+0.2**
DRO				*e*SB	**Sg**	**04 44 47.5**	**+0.3**
DRO	**Drossia**	**0.36**	**356**	P	**Pg**	**04 44 42.6**	**+0.2**
DRO				*e*Sb	**Sg**	**04 44 47.5**	**+0.3**
DRO				S	**Sb**	**04 44 48.3**	**-0.8**
ITM	**Ithomi**	**0.44**	**160**	*e*PB	**Pg**	**04 44 43.5**	**-0.2**
ITM				*e*SB	**Sg**	**04 44 49.8**	**+0.2**
ITM	**Ithomi**	**0.44**	**160**	*e*Pb	**Pg**	**04 44 43.5**	**-0.2**
ITM				*e*Sb	**Sg**	**04 44 49.8**	**+0.2**
RLS	**Riolos of Patr**	**0.51**	**335**	P	**Pg**	**04 44 45.0**	**-0.1**
RLS				S	**Sb**	**04 44 53.7**	**+0.3**
RLS	**Riolos of Patr**	**0.51**	**335**	*e*PB	**Pg**	**04 44 45.0**	**-0.1**
RLS				*e*SB	**Sg**	**04 44 52.9**	**+0.6**
RLS	**Riolos of Patr**	**0.51**	**335**	P	**Pg**	**04 44 45.0**	**-0.1**
RLS				*e*Sb	**Sg**	**04 44 52.6**	**+0.6**
RLS				S	**Sb**	**04 44 53.1**	**-0.3**
VLX	**Vlachokerasia**	**0.56**	**113**	P	**Pg**	**04 44 45.5**	**-0.5**
VLX				S	**Sg**	**04 44 52.6**	**-0.8**
VLX	**Vlachokerasia**	**0.56**	**113**	*e*PB	**Pg**	**04 44 45.7**	**-0.2**
VLX				*e*SB	**Sg**	**04 44 53.4**	**0.0**
VLX	**Vlachokerasia**	**0.56**	**113**	P	**Pg**	**04 44 45.8**	**-0.2**
VLX				*e*Sb	**Sg**	**04 44 53.4**	**0.0**
KLV	**Kalavryta, Ach**	**0.56**	**36**	P	**Pg**	**04 44 45.7**	**-0.3**
KLV				S	**Sg**	**04 44 53.9**	**+0.5**
KLV	**Kalavryta, Ach**	**0.56**	**36**	*e*PB	**Pg**	**04 44 45.7**	**-0.3**
KLV				*e*SB	**Sg**	**04 44 53.8**	**+0.4**
KLV	**Kalavryta, Ach**	**0.56**	**36**	P	**Pg**	**04 44 45.7**	**-0.3**
KLV				*e*Sb	**Sg**	**04 44 53.8**	**+0.4**
GUR	**Goura**	**0.59**	**54**	P	**Pg**	**04 44 46.4**	**-0.2**
GUR				S	**Sg**	**04 44 55.1**	**+0.7**
GUR	**Goura**	**0.59**	**54**	*e*PB	**Pg**	**04 44 46.4**	**-0.2**
GUR				*e*SB	**Sg**	**04 44 54.6**	**+0.2**
GUR	**Goura**	**0.59**	**54**	P	**Pg**	**04 44 46.4**	**-0.2**
GUR				*e*Sb	**Sg**	**04 44 54.6**	**+0.2**
GUR				S	**Sg**	**04 44 55.1**	**+0.7**
SFD	**Strofades**	**0.67**	**240**	P	**Pg**	**04 44 48.9**	**+0.8**
SFD	**Strofades**	**0.67**	**240**	*e*PB	**Pg**	**04 44 48.2**	**+0.1**
SFD				*e*SB	**Sg**	**04 44 57.1**	**+0.3**
SFD	**Strofades**	**0.67**	**240**	*e*Pb	**Pg**	**04 44 48.2**	**+0.1**
SFD	**Strofades**	**0.67**	**240**	P	**Pg**	**04 44 48.9**	**+0.8**
SFD				*e*Sb	**Sg**	**04 44 57.1**	**+0.3**
LAKA	**Lakka**	**0.67**	**16**	P	**Pg**	**04 44 48.1**	**-0.1**
LAKA	**Lakka**	**0.67**	**16**	*e*PB	**Pg**	**04 44 47.7**	**-0.5**
LAKA	**Lakka**	**0.67**	**16**	*e*Pb	**Pg**	**04 44 47.7**	**-0.5**
LAKA	**Lakka**	**0.67**	**16**	P	**Pg**	**04 44 48.1**	**-0.1**
UPR	**University Cam**	**0.69**	**3**	P	**Pg**	**04 44 49.0**	**+0.5**
UPR	**University Cam**	**0.69**	**3**	P	**Pg**	**04 44 48.8**	**+0.3**
PYL	**PYLOS**	**0.69**	**180**	P	**Pg**	**04 44 47.7**	**-0.8**
PYL				S	**Sg**	**04 44 57.9**	**+0.2**
PYL	**PYLOS**	**0.69**	**180**	*e*PG	**Pg**	**04 44 47.8**	**-0.8**
PYL				*e*SB	**Sg**	**04 44 58.0**	**+0.2**
PYL	**PYLOS**	**0.69**	**180**	P	**Pg**	**04 44 47.8**	**-0.8**
PYL				S	**Sg**	**04 44 57.9**	**+0.2**
EFP	**Efpalio**	**0.84**	**9**	P	**Pg**	**04 44 51.1**	**-0.3**
EFP				S	**Sb**	**04 45 03.6**	**+0.6**
EFP	**Efpalio**	**0.84**	**9**	*e*PB	**Pg**	**04 44 51.0**	**-0.3**
EFP				*e*SB	**Sg**	**04 45 02.5**	**0.0**
EFP	**Efpalio**	**0.84**	**9**	P	**Pg**	**04 44 51.1**	**-0.3**
EFP				*e*Sb	**Sg**	**04 45 02.5**	**0.0**
EFP				S	**Sb**	**04 45 03.6**	**+0.6**
KALE	**Kalithea**	**0.86**	**22**	P	**Pg**	**04 44 51.4**	**-0.3**
KALE				S	**Sg**	**04 45 03.7**	**+0.8**
KALE	**Kalithea**	**0.86**	**22**	*e*PB	**Pg**	**04 44 51.0**	**-0.7**
KALE				*e*SB	**Sg**	**04 45 03.1**	**+0.2**
KALE	**Kalithea**	**0.86**	**22**	*e*Pb	**Pg**	**04 44 51.0**	**-0.7**
KALE	**Kalithea**	**0.86**	**22**	P	**Pg**	**04 44 51.4**	**-0.3**
KALE				*e*Sb	**Sg**	**04 45 03.1**	**+0.2**
KFL	**Anninata**	**0.91**	**305**	P	**Pg**	**04 44 52.6**	**-0.1**
KFL				S	**Sn**	**04 45 06.9**	**+0.1**
KFL	**Anninata**	**0.91**	**305**	P	**Pg**	**04 44 52.6**	**-0.1**
KFL				S	**Sn**	**04 45 06.9**	**+0.1**
DSF	**Desfina**	**1.03**	**37**	P	**Pg**	**04 44 53.9**	**-1.0**
DSF				S	**Sn**	**04 45 09.8**	**+0.1**
DSF	**Desfina**	**1.03**	**37**	*e*PB	**Pg**	**04 44 54.2**	**-0.7**
DSF				*e*SB	**Sg**	**04 45 08.3**	**0.0**
DSF	**Desfina**	**1.03**	**37**	*e*Pb	**Pg**	**04 44 54.2**	**-0.7**
DSF				*e*Sb	**Sg**	**04 45 08.3**	**0.0**
DSF				S	**Sn**	**04 45 09.8**	**+0.1**
PVO	**Paravola**	**1.04**	**351**	P	**Pb**	**04 44 54.9**	**-0.1**
PVO	**Paravola**	**1.04**	**351**	P	**Pb**	**04 44 54.9**	**-0.1**
LTK	**Loutraki**	**1.06**	**66**	P	**Pb**	**04 44 55.0**	**-0.4**
LTK				S	**Sb**	**04 45 10.1**	**+0.8**
LTK	**Loutraki**	**1.06**	**66**	*e*PB	**Pb**	**04 44 55.0**	**-0.4**
LTK				*e*SB	**Sg**	**04 45 09.6**	**+0.1**
LTK	**Loutraki**	**1.06**	**66**	*e*Pb	**Pb**	**04 44 55.0**	**-0.4**
LTK	**Loutraki**	**1.06**	**66**	P	**Pb**	**04 44 55.4**	**0.0**
LTK				*e*Sb	**Sg**	**04 45 09.6**	**+0.1**
LTK				S	**Sb**	**04 45 10.1**	**+0.8**
VLS	**Valsamata**	**1.08**	**303**	*e*PG	**Pb**	**04 44 55.2**	**-0.5**
VLS				*e*SB	**Sb**	**04 45 10.1**	**+0.3**
VLS	**Valsamata**	**1.08**	**303**	*e*Pg	**Pb**	**04 44 55.2**	**-0.5**
VLS				*e*Sb	**Sb**	**04 45 10.1**	**+0.3**
PDO	**Prodromos**	**1.10**	**337**	P	**Pb**	**04 44 55.7**	**-0.3**
PDO	**Prodromos**	**1.10**	**337**	*e*PN	**Pb**	**04 44 55.6**	**-0.4**
PDO				*e*SB	**Sb**	**04 45 10.7**	**+0.5**
PDO	**Prodromos**	**1.10**	**337**	P	**Pb**	**04 44 55.7**	**-0.3**
PDO				*e*Sb	**Sb**	**04 45 10.7**	**+0.5**
DID	**Didima**	**1.19**	**94**	P	**Pn**	**04 44 56.9**	**-0.7**
DID				S	**Sb**	**04 45 13.4**	**+0.3**
DID	**Didima**	**1.19**	**94**	*e*PN	**Pn**	**04 44 56.9**	**-0.7**
DID				*e*SB	**Sb**	**04 45 13.8**	**+0.7**
DID	**Didima**	**1.19**	**94**	P	**Pn**	**04 44 57.0**	**-0.7**
DID				S	**Sb**	**04 45 13.4**	**+0.3**
VLI	**Veliai**	**1.29**	**132**	P	**Pn**	**04 44 59.1**	**+0.1**
VLI	**Veliai**	**1.29**	**132**	*e*PB	**Pn**	**04 44 59.5**	**+0.5**
VLI				*e*SB	**Sb**	**04 45 16.8**	**+0.9**
VLI	**Veliai**	**1.29**	**132**	P	**Pn**	**04 44 59.1**	**+0.1**
VLI	**Veliai**	**1.29**	**132**	*e*Pb	**Pn**	**04 44 59.5**	**+0.5**
VLI				*e*Sb	**Sb**	**04 45 16.8**	**+0.9**
EVR	**Evrytania**	**1.32**	**2**	P	**Pn**	**04 44 59.8**	**+0.3**
EVR	**Evrytania**	**1.32**	**2**	*e*PB	**Pn**	**04 44 59.9**	**+0.4**
EVR				*e*SB	**Sn**	**04 45 17.8**	**+0.8**
EVR	**Evrytania**	**1.32**	**2**	P	**Pn**	**04 44 59.9**	**+0.4**
EVR				*e*Sb	**Sn**	**04 45 17.9**	**+0.8**
AXAR	**Agios Charalam**	**1.38**	**31**	P	**Pn**	**04 45 00.3**	**+0.1**
AXAR	**Agios Charalam**	**1.38**	**31**	P	**Pn**	**04 45 00.3**	**+0.1**
NAIG	**Nisos Aigina**	**1.40**	**83**	*e*PB	**Pn**	**04 45 01.1**	**+0.7**
NAIG	**Nisos Aigina**	**1.40**	**83**	*e*Pb	**Pn**	**04 45 01.1**	**+0.7**
LKR	**Lokris**	**1.45**	**43**	P	**Pn**	**04 45 01.5**	**+0.4**
LKR				S	**Sb**	**04 45 21.5**	**+1.1**
LKR	**Lokris**	**1.45**	**43**	*e*PG	**Pn**	**04 45 01.3**	**+0.2**
LKR				*e*SB	**Sg**	**04 45 21.9**	**+0.1**
LKR	**Lokris**	**1.45**	**43**	P	**Pn**	**04 45 01.5**	**+0.4**
LKR				S	**Sb**	**04 45 21.5**	**+1.1**
MAKR	**Makrakomi, Fth**	**1.45**	**12**	P	**Pb**	**04 45 02.3**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.45**	**12**	*e*PB	**Pb**	**04 45 02.3**	**+0.2**
MAKR				*e*SB	**Sb**	**04 45 21.8**	**+1.3**
MAKR	**Makrakomi, Fth**	**1.45**	**12**	P	**Pb**	**04 45 02.3**	**+0.2**
MAKR				*e*Sb	**Sb**	**04 45 21.8**	**+1.3**
LKD2	**Lefkada island**	**1.47**	**325**	P	**Pn**	**04 45 01.8**	**+0.4**
LKD2	**Lefkada island**	**1.47**	**325**	*e*PG	**Pn**	**04 45 01.8**	**+0.4**
LKD2				*e*SB	**Sg**	**04 45 22.5**	**+0.2**
LKD2	**Lefkada island**	**1.47**	**325**	P	**Pn**	**04 45 01.8**	**+0.4**
LKD2				*e*Sb	**Sg**	**04 45 22.5**	**+0.2**
AGG	**Agios Georgios**	**1.50**	**18**	P	**Pn**	**04 45 02.2**	**+0.3**
AGG	**Agios Georgios**	**1.50**	**18**	*e*PG	**Pn**	**04 45 02.4**	**+0.5**
AGG				*e*SB	**Sg**	**04 45 23.9**	**+0.4**
AGG	**Agios Georgios**	**1.50**	**18**	*e*Pg	**Pn**	**04 45 02.4**	**+0.5**
AGG	**Agios Georgios**	**1.50**	**18**	P	**Pn**	**04 45 02.8**	**+0.9**
AGG				*e*Sb	**Sg**	**04 45 23.9**	**+0.4**
ATH	**Athens Observa**	**1.61**	**76**	P	**Pb**	**04 45 05.1**	**+0.3**
ATH	**Athens Observa**	**1.61**	**76**	*e*PG	**Pb**	**04 45 05.4**	**+0.6**
ATH				*e*SB	**Sg**	**04 45 26.9**	**-0.1**
ATH	**Athens Observa**	**1.61**	**76**	P	**Pb**	**04 45 05.1**	**+0.3**
ATH	**Athens Observa**	**1.61**	**76**	*e*Pg	**Pb**	**04 45 05.4**	**+0.6**
ATH				*e*Sb	**Sg**	**04 45 26.9**	**-0.1**
ATHU	**Athens Univers**	**1.66**	**76**	P	**Pn**	**04 45 05.4**	**+1.2**
ATHU	**Athens Univers**	**1.66**	**76**	P	**Pn**	**04 45 05.3**	**+1.2**
KYTH	**Kithira**	**1.67**	**141**	*e*PG	**Pb**	**04 45 06.5**	**+0.7**
KYTH	**Kithira**	**1.67**	**141**	*e*Pg	**Pb**	**04 45 06.5**	**+0.7**
SMIA	**Simia**	**1.73**	**42**	P	**Pn**	**04 45 05.7**	**+0.7**
SMIA				S	**Sb**	**04 45 28.7**	**+0.2**
SMIA	**Simia**	**1.73**	**42**	*e*PN	**Pn**	**04 45 06.3**	**+1.3**
SMIA				*e*SN	**Sb**	**04 45 29.5**	**+1.0**
SMIA	**Simia**	**1.73**	**42**	P	**Pn**	**04 45 05.7**	**+0.7**
SMIA	**Simia**	**1.73**	**42**	*e*Pn	**Pn**	**04 45 06.3**	**+1.3**
SMIA				S	**Sb**	**04 45 28.7**	**+0.2**
SMIA				*e*Sn	**Sb**	**04 45 29.5**	**+1.0**
PTL	**Penteli**	**1.75**	**74**	*e*PN	**Pn**	**04 45 06.5**	**+1.3**
PTL				*e*SN	**Sb**	**04 45 29.5**	**+0.6**
PTL	**Penteli**	**1.75**	**74**	*e*Pn	**Pn**	**04 45 06.5**	**+1.3**
PTL				*e*Sn	**Sb**	**04 45 29.5**	**+0.6**
MRKA	**Markates**	**1.83**	**52**	*e*PN	**Pn**	**04 45 07.9**	**+1.5**
MRKA				*e*SN	**Sb**	**04 45 31.7**	**+0.2**
MRKA	**Markates**	**1.83**	**52**	*e*Pn	**Pn**	**04 45 07.9**	**+1.5**
MRKA				*e*Sn	**Sb**	**04 45 31.7**	**+0.2**
ERET	**Eretria**	**1.84**	**62**	P	**Pn**	**04 45 05.8**	**-0.8**
ERET				S	**Sn**	**04 45 30.3**	**+0.5**
ERET	**Eretria**	**1.84**	**62**	P	**Pn**	**04 45 05.8**	**-0.8**
ERET				S	**Sn**	**04 45 30.3**	**+0.5**
THL	**Klokotos Trika**	**1.98**	**6**	*e*PN	**Pb**	**04 45 10.6**	**-0.5**
THL				*e*SN	**Sb**	**04 45 36.2**	**+0.5**
THL	**Klokotos Trika**	**1.98**	**6**	*e*Pn	**Pb**	**04 45 10.6**	**-0.5**
THL				*e*Sn	**Sb**	**04 45 36.2**	**+0.5**
FYTO	**Fytoko, Volos**	**2.04**	**27**	P	**Pn**	**04 45 10.0**	**+0.7**
FYTO				S	**Sb**	**04 45 37.1**	**-0.4**
FYTO	**Fytoko, Volos**	**2.04**	**27**	P	**Pn**	**04 45 10.0**	**+0.7**
FYTO				S	**Sb**	**04 45 37.1**	**-0.4**
NEO	**Neokhori**	**2.07**	**34**	*e*PB	**Pn**	**04 45 10.6**	**+0.9**
NEO				*e*SN	**Sb**	**04 45 38.6**	**+0.3**
NEO	**Neokhori**	**2.07**	**34**	*e*Pb	**Pn**	**04 45 10.6**	**+0.9**
NEO				*e*Sn	**Sb**	**04 45 38.6**	**+0.3**
SKIA	**Skiathos**	**2.08**	**40**	P	**Pn**	**04 45 10.5**	**+0.7**
SKIA	**Skiathos**	**2.08**	**40**	*e*PB	**Pn**	**04 45 10.8**	**+1.0**
SKIA				*e*SN	**Sb**	**04 45 39.0**	**+0.5**
SKIA	**Skiathos**	**2.08**	**40**	P	**Pn**	**04 45 10.5**	**+0.7**
SKIA	**Skiathos**	**2.08**	**40**	*e*Pb	**Pn**	**04 45 10.8**	**+1.0**
SKIA				*e*Sn	**Sb**	**04 45 39.0**	**+0.5**
XOR	**Xorichti**	**2.11**	**32**	P	**Pn**	**04 45 10.6**	**+0.4**
XOR				S	**Sb**	**04 45 38.9**	**-0.5**
XOR	**Xorichti**	**2.11**	**32**	*e*PB	**Pn**	**04 45 11.0**	**+0.8**
XOR				*e*SN	**Sb**	**04 45 38.8**	**-0.6**
XOR	**Xorichti**	**2.11**	**32**	P	**Pn**	**04 45 10.6**	**+0.4**
XOR	**Xorichti**	**2.11**	**32**	*e*Pb	**Pn**	**04 45 11.0**	**+0.8**
XOR				*e*Sn	**Sb**	**04 45 38.8**	**-0.6**
ANKY	**Antikythira Is**	**2.13**	**143**	P	**Pn**	**04 45 10.6**	**+0.1**
ANKY	**Antikythira Is**	**2.13**	**143**	*e*PN	**Pn**	**04 45 12.3**	**+1.8**
ANKY				*e*SN	**Sn**	**04 45 39.0**	**+2.2**
ANKY	**Antikythira Is**	**2.13**	**143**	P	**Pn**	**04 45 10.6**	**+0.1**
ANKY	**Antikythira Is**	**2.13**	**143**	*e*Pn	**Pn**	**04 45 12.3**	**+1.8**
ANKY				*e*Sn	**Sn**	**04 45 39.0**	**+2.2**
MRMA	**Marmari**	**2.14**	**77**	P	**Pn**	**04 45 11.9**	**+1.3**
MRMA	**Marmari**	**2.14**	**77**	P	**Pn**	**04 45 11.9**	**+1.3**
JAN	**Janina**	**2.17**	**342**	P	**Pb**	**04 45 14.3**	**-0.1**
JAN	**Janina**	**2.17**	**342**	*e*PN	**Pn**	**04 45 13.0**	**+1.9**
JAN				*e*SN	**Sn**	**04 45 40.1**	**+2.1**
JAN	**Janina**	**2.17**	**342**	*e*Pn	**Pn**	**04 45 13.0**	**+1.9**
JAN	**Janina**	**2.17**	**342**	P	**Pb**	**04 45 14.3**	**-0.1**
JAN				*e*Sn	**Sn**	**04 45 40.1**	**+2.1**
MEV	**Metsovon**	**2.23**	**350**	P	**Pb**	**04 45 15.9**	**+0.6**
MEV	**Metsovon**	**2.23**	**350**	P	**Pb**	**04 45 15.9**	**+0.6**
IGT	**Igoumenitsa**	**2.23**	**331**	P	**Pn**	**04 45 13.1**	**+1.3**
IGT	**Igoumenitsa**	**2.23**	**331**	*e*PN	**Pn**	**04 45 13.8**	**+2.0**
IGT				*e*SN	**Sn**	**04 45 41.5**	**+2.2**
IGT	**Igoumenitsa**	**2.23**	**331**	P	**Pn**	**04 45 13.1**	**+1.3**
IGT	**Igoumenitsa**	**2.23**	**331**	*e*Pn	**Pn**	**04 45 13.8**	**+2.0**
IGT				*e*Sn	**Sn**	**04 45 41.5**	**+2.2**
AOS	**Alonnisos**	**2.31**	**46**	*e*PN	**Pn**	**04 45 14.1**	**+1.2**
AOS	**Alonnisos**	**2.31**	**46**	P	**Pn**	**04 45 13.2**	**+0.3**
AOS	**Alonnisos**	**2.31**	**46**	*e*PB	**Pn**	**04 45 13.4**	**+0.5**
AOS				*e*SN	**Sn**	**04 45 43.1**	**+1.9**
AOS	**Alonnisos**	**2.31**	**46**	*e*Pb	**Pn**	**04 45 13.4**	**+0.5**
AOS	**Alonnisos**	**2.31**	**46**	*e*Pn	**Pn**	**04 45 14.1**	**+1.2**
AOS				*e*Sn	**Sn**	**04 45 43.1**	**+1.9**
LIT	**Litokhoron**	**2.57**	**13**	P	**Pb**	**04 45 20.2**	**-1.0**
LIT	**Litokhoron**	**2.57**	**13**	*e*PN	**Pn**	**04 45 19.3**	**+2.7**
LIT				*e*SN	**Sn**	**04 45 50.3**	**+2.5**
LIT	**Litokhoron**	**2.57**	**13**	*e*Pn	**Pn**	**04 45 19.3**	**+2.7**
LIT	**Litokhoron**	**2.57**	**13**	P	**Pb**	**04 45 20.2**	**-1.0**
LIT				*e*Sn	**Sn**	**04 45 50.3**	**+2.5**
KEK	**Kerkira**	**2.61**	**325**	P	**Pn**	**04 45 18.6**	**+1.6**
KEK	**Kerkira**	**2.61**	**325**	*e*PB	**Pn**	**04 45 18.7**	**+1.7**
KEK				*e*SN	**Sn**	**04 45 51.0**	**+2.4**
KEK	**Kerkira**	**2.61**	**325**	P	**Pn**	**04 45 18.6**	**+1.6**
KEK				*e*Sn	**Sn**	**04 45 51.0**	**+2.4**
SRN	**Sarande**	**2.66**	**330**	*i* SG	**Pn**	**04 45 15.2**	**-2.5**
SRN				*i* PG	Pb	04 45 19.4	-3.2
SRN	**Sarande**	**2.66**	**330**	P	**Pn**	**04 45 19.9**	**+2.2**
SRN	**Sarande**	**2.66**	**330**	P	**Pn**	**04 45 19.9**	**+2.2**
KZN	**Kozani**	**2.71**	**1**	P	**Pb**	**04 45 21.8**	**-1.8**
KZN	**Kozani**	**2.71**	**1**	*e*PB	**Pn**	**04 45 20.7**	**+2.2**
KZN				*e*SN	**Sn**	**04 45 53.6**	**+2.3**
KZN	**Kozani**	**2.71**	**1**	*e*Pb	**Pn**	**04 45 20.7**	**+2.2**
KZN	**Kozani**	**2.71**	**1**	P	**Pb**	**04 45 21.8**	**-1.8**
KZN				*e*Sn	**Sn**	**04 45 53.6**	**+2.3**
PAIG	**Paliouri**	**2.78**	**32**	P	**Pn**	**04 45 19.9**	**+0.5**
PAIG	**Paliouri**	**2.78**	**32**	*e*PN	**Pn**	**04 45 20.6**	**+1.2**
PAIG				*e*SN	**Sn**	**04 45 54.9**	**+2.0**
PAIG	**Paliouri**	**2.78**	**32**	P	**Pn**	**04 45 19.9**	**+0.5**
PAIG	**Paliouri**	**2.78**	**32**	*e*Pn	**Pn**	**04 45 20.6**	**+1.2**
PAIG				*e*Sn	**Sn**	**04 45 54.9**	**+2.0**
KARN	**Karanos**	**2.80**	**141**	P	**Pn**	**04 45 22.9**	**+3.1**
KARN	**Karanos**	**2.80**	**141**	*e*PB	**Pn**	**04 45 22.6**	**+2.8**
KARN				*e*SN	**Sn**	**04 45 55.8**	**+2.3**
KARN	**Karanos**	**2.80**	**141**	*e*Pb	**Pn**	**04 45 22.6**	**+2.8**
KARN	**Karanos**	**2.80**	**141**	P	**Pn**	**04 45 22.9**	**+3.1**
KARN				*e*Sn	**Sn**	**04 45 55.8**	**+2.3**
NEST	**Nestorio**	**2.87**	**349**	P	**Pb**	**04 45 24.5**	**-1.8**
NEST	**Nestorio**	**2.87**	**349**	P	**Pb**	**04 45 24.5**	**-1.8**
VAM	**Vamos**	**2.95**	**137**	P	**Pn**	**04 45 24.5**	**+2.8**
VAM	**Vamos**	**2.95**	**137**	*e*PB	**Pn**	**04 45 24.5**	**+2.8**
VAM				*e*SN	**Sn**	**04 45 59.7**	**+2.7**
VAM	**Vamos**	**2.95**	**137**	*e*Pb	**Pn**	**04 45 24.5**	**+2.8**
VAM				*e*Sn	**Sn**	**04 45 59.7**	**+2.7**
APE	**Apeiranthos**	**3.07**	**99**	*e*PN	**Pn**	**04 45 24.8**	**+1.4**
APE	**Apeiranthos**	**3.07**	**99**	*e*PN	**Pn**	**04 45 25.3**	**+1.9**
APE				*e*SN	**Sn**	**04 46 01.7**	**+1.7**
APE	**Apeiranthos**	**3.07**	**99**	*i* P	**Pn**	**04 45 25.3**	**+1.9**
APE	**Apeiranthos**	**3.07**	**99**	*i* P	**Pn**	**04 45 25.3**	**+1.9**
APE				*e*SN	**Sn**	**04 46 01.7**	**+1.7**
THE				*e*SN	**Sn**	**04 46 05.1**	**+2.3**
PLG	**Polygyros**	**3.08**	**25**	*e*PN	**Pn**	**04 45 24.8**	**+1.4**
PLG				*e*SN	**Sn**	**04 46 01.1**	**+0.8**
PLG	**Polygyros**	**3.08**	**25**	*e*Pn

RDO				*e*Sn		**Sn**	04 46 39.5	+1.5
GELI	**Tayfur-Gelibol**	**4.63**	**51**	*e*PN		**Pn**	04 45 46.0	+1.2
GELI	**Tayfur-Gelibol**	**4.63**	**51**	*e*Pn		**Pn**	04 45 46.1	+1.2
PE1	**Pezze di Greco**	**4.64**	**315**	*e*Pn		**Pn**	04 45 46.5	+1.6
ENEZ	**Enez**	**4.65**	**46**	*e*PN		**Pn**	04 45 47.0	+1.9
ENEZ	**Enez**	**4.65**	**46**	*e*Pn		**Pn**	04 45 47.0	+1.9
ALN	**Alexandroupoli**	**4.70**	**44**	*e*PN		**Pn**	04 45 48.8	+3.1
ALN	**Alexandroupoli**	**4.70**	**44**	P		**Pn**	04 45 48.0	+2.3
ALN	**Alexandroupoli**	**4.70**	**44**	*e*PN		**Pn**	04 45 48.0	+2.3
ALN				*e*SN		**Sn**	04 46 40.9	+0.8
ALN	**Alexandroupoli**	**4.70**	**44**	P		**Pn**	04 45 48.0	+2.3
ALN				*e*Sn		**Sn**	04 46 40.9	+0.8
LPK	**Lapseki**	**4.80**	**53**	*e*PN		**Pn**	04 45 49.5	+2.4
LPK	**Lapseki**	**4.80**	**53**	*e*Pn		**Pn**	04 45 49.5	+2.4
KARP	**Karpathos**	**4.82**	**113**	*e*PN		**Pn**	04 45 50.2	+2.7
KARP				*e*SN		**Sn**	04 46 44.9	+1.7
KARP	**Karpathos**	**4.82**	**113**	*e*Pn		**Pn**	04 45 50.2	+2.7
KARP				*e*Sn		**Sn**	04 46 44.9	+1.7
ERIK	**Erikli-Kesan**	**4.82**	**49**	*e*PN		**Pn**	04 45 49.5	+2.1
ERIK	**Erikli-Kesan**	**4.82**	**49**	*e*Pn		**Pn**	04 45 49.5	+2.1
KDZ	**Kurdzhali**	**4.95**	**34**	⇑*i*P		Pn	04 45 53.1	+3.9
KDZ	**Kurdzhali**	**4.95**	**34**	⇑*i*P		Pn	04 45 53.1	+3.9
VTS	**Vitosha**	**5.12**	**12**	*e*PN		Pn	04 45 57.4	+5.7
VTS	**Vitosha**	**5.12**	**12**	⇓*i*P		Pb	04 46 00.4	-4.2
VTS	**Vitosha**	**5.12**	**12**	*e*Pn		Pn	04 45 57.4	+5.7
BAI	**Bari**	**5.15**	**314**	*e*Pn		**Pn**	04 45 49.7	-2.2
KRBG	**Karabiga-Canak**	**5.16**	**55**	*e*PN		**Pn**	04 45 53.9	+1.8
KRBG	**Karabiga-Canak**	**5.16**	**55**	*e*Pn		**Pn**	04 45 53.9	+1.8
GONE	**Gonen-Balikesi**	**5.25**	**60**	*e*PN		**Pn**	04 45 55.3	+1.9
GONE	**Gonen-Balikesi**	**5.25**	**60**	*e*Pn		**Pn**	04 45 55.3	+1.9
ARG	**Arkhangelos**	**5.30**	**103**	*e*PN		**Pn**	04 45 56.7	+2.7
ARG	**Arkhangelos**	**5.30**	**103**	*e*Pn		**Pn**	04 45 56.7	+2.7
CDT	**Castel del Mon**	**5.49**	**311**	*e*Pn		**Pn**	04 45 58.0	+1.4
KULA	**Kula-Manisa**	**5.54**	**78**	*e*PN		**Pn**	04 45 59.2	+1.8
KULA	**Kula-Manisa**	**5.54**	**78**	*e*Pn		**Pn**	04 45 59.2	+1.8
EDRB	**Edirne**	**5.74**	**41**	*e*PN		**Pn**	04 46 03.1	+3.0
EDRB	**Edirne**	**5.74**	**41**	*e*Pn		**Pn**	04 46 03.1	+3.0
SJES	**Sjenica**	**5.82**	**347**	*e*Pn		**Pn**	04 46 01.6	+0.3
IVAS	**Ivanjica**	**6.10**	**349**	*e*Pn		**Pn**	04 46 06.7	+1.6
STON	**Ston**	**6.11**	**331**	*e*Pn		**Pn**	04 46 05.0	-0.2
STON				Sn		**Sn**	04 47 13.2	-1.7
STON	**Ston**	**6.11**	**331**	*e*Pn		**Pn**	04 46 04.9	-0.2
TVSB	**Tavsanli**	**6.33**	**71**	*e*PN		**Pn**	04 46 10.4	+2.1
TVSB	**Tavsanli**	**6.33**	**71**	*e*Pn		**Pn**	04 46 10.4	+2.1
GRUS	**Gruza**	**6.34**	**353**	*e*Pn		**Pn**	04 46 08.5	+0.2
DIVS	**Divibare**	**6.63**	**349**	P		**Pn**	04 46 13.1	+0.7
DIVS	**Divibare**	**6.63**	**349**	*e*Pn		**Pn**	04 46 13.2	+0.8
GULT	**Gulveren**	**7.40**	**65**	*e*P		**Pn**	04 46 24.5	+1.6
GULT	**Gulveren**	**7.40**	**65**	*e*Pn		**Pn**	04 46 24.5	+1.6
VOIR		**8.22**	**17**	⇓*i*P		Pn	04 46 40.0	+5.8
MLR	**Muntele Rosu**	**8.50**	**20**	⇑*i*P		Pn	04 46 46.4	+8.4
MLR	**Muntele Rosu**	**8.50**	**20**	P		Pn	04 46 43.9	+5.9
	0.0nm,0.3s,baz=243,slow=17,SNR=3.4							
TIRR	**Tirgusor**	**8.51**	**34**	⇑*i*P		**Pn**	04 46 40.8	+2.7
TIRR	**Tirgusor**	**8.51**	**34**	⇑*i*P		**Pn**	04 46 40.8	+2.7
NVLJ	**Novalja**	**8.68**	**326**	*e*Pn		**Pn**	04 46 41.2	+0.8
NVLJ						**Sn**	04 48 15.7	-2.5
NVLJ	**Novalja**	**8.68**	**326**	*e*Pn		**Pn**	04 46 41.1	+0.8
PKSM	**Moragy**	**8.92**	**346**	⇓*i*P		**Pn**	04 46 42.1	-1.5
PLOR	**Plostina**	**9.03**	**22**	⇑*i*P		Pn	04 46 51.6	+6.3
VRI	**Vrincioaia**	**9.07**	**23**	⇑*i*P		Pn	04 46 52.7	+7.0
BRTR	**Keskin Array B**	**9.55**	**73**	P		**Pn**	04 46 55.1	+2.6
	0.2nm,0.3s,baz=250,slow=15,SNR=6.2							
OBKA	**Obir**	**10.38**	**331**	⇑*i*Pn		**Pn**	04 47 02.2	-1.7
OBKA				⇑*i*Sn		Sn	04 48 54.5	-5.7
GERES	**GERESS Array B**	**12.67**	**335**	P		Pn	04 47 38.7	+3.5
	0.1nm,0.3s,baz=163,slow=14,SNR=6.0							
AKASG	**Malin Array Be**	**14.15**	**20**	P		**Pn**	04 47 56.2	+0.9
	baz=206,slow=12,SNR=3.1							
ESDC	**Sonseca Array**	**20.17**	**284**	P		**P**	04 49 10.7	+1.4
	0.9nm,0.8s,baz=96,slow=12,SNR=4.1							
FINES	**FINESS Array B**	**24.03**	**5**	P		**P**	04 49 49.7	+0.2
	2.1nm,0.8s,baz=149,slow=14,SNR=3.3							
NOA	**NORSAR Array B**	**24.39**	**348**	P		**P**	04 49 51.7	-1.3
	0.8nm,0.9s,baz=188,slow=12,SNR=2.6							
EKA	**Eskdalemuir Ar**	**24.46**	**324**	P		**P**	04 49 54.3	+0.7
	1.5nm,0.7s,baz=284,slow=8.5,SNR=3.6							
TORD	**Torodi Ar. Bea**	**30.21**	**222**	P		**P**	04 50 43.9	-1.6
	0.7nm,0.7s,baz=29,slow=9.1,SNR=6.1							
ARCES	**ARCESS Array B**	**32.07**	**2**	P		**P**	04 51 01.4	0.0
	2.4nm,1.0s,baz=190,slow=8.8,SNR=4.0							
BVAR	**Borovoye Array**	**36.76**	**49**	P		**P**	04 51 41.0	-1.3
	0.6nm,0.5s,baz=258,slow=9.9,SNR=4.4							
KURBB	**Kurchatov Arra**	**41.81**	**53**	P		**P**	04 52 23.8	-0.5
	1.2nm,0.8s,baz=282,slow=9.0,SNR=9.8							
ZALV	**Zalesovo Beam**	**45.37**	**48**	P		**P**	04 52 52.4	-0.7
	2.2nm,0.6s,baz=273,slow=8.4,SNR=8.6							
SONM	**Songino Array**	**60.08**	**51**	P		**P**	04 54 41.2	-1.0
	0.6nm,1.0s,baz=316,slow=4.1,SNR=4.1							
CMAR	**Chiang Mai Arr**	**69.01**	**82**	P		**P**	04 55 39.4	-1.4
	0.4nm,0.3s,baz=307,slow=7.3,SNR=5.6							

*IDC **30** 05:01:52.5±0.8,23.˚61N×143.˚55E,h0km,mb3.9/13, mb1 4.1/15,mb1mx3.9/28,mbtmp3.9/15,ML3.7/2, Error ellipse: s-maj=27.2km s-min=19.1km az=82.0*
*ISCJB **30** 05:01:55.7±0.7,23.˚7N±0.˚1×143.˚4E±0.˚2,h31km,mb3.9/13, Error ellipse: s-maj=24.2km s-min=14.4km az=168.1*

ISC 30 05:01:57.3±0.9,23.˚7N±0.˚1×143.˚5E±0.˚2,h31km,n16, σ0s89/16,mb3.9/13,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**13.63**	**342**	Pn	**Pn**	**05 05 07.8**	**-0.7**
	0.2nm,0.3s,baz=153,slow=13,SNR=3.4						
KSRS	**Korea Array**	**19.17**	**319**	P	**P**	**05 06 16.7**	**-1.5**
	0.4nm,0.3s,baz=142,slow=12,SNR=3.0						
SONM	**Songino Array**	**38.03**	**319**	P	**P**	**05 09 13.3**	**+0.4**
	0.3nm,0.7s,baz=123,slow=5.3,SNR=2.9						
WRA	**Warramunga Arr**	**44.23**	**192**	P	**P**	**05 10 03.1**	**-0.8**
	0.8nm,0.5s,baz=14,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**47.94**	**192**	P	**P**	**05 10 32.7**	**-0.4**
	0.3nm,0.5s,baz=16,slow=10,SNR=5.5						
KURBB	**Kurchatov Arra**	**56.30**	**316**	P	**P**	**05 11 35.7**	**+0.7**
	2.4nm,0.8s,baz=92,slow=7.8,SNR=14						
ILAR	**Eielson Array**	**60.19**	**28**	P	**P**	**05 12 01.2**	**-0.7**
	0.8nm,1.0s,baz=277,slow=5.9,SNR=6.2						
BVAR	**Borovoye Array**	**61.38**	**319**	P	**P**	**05 12 10.7**	**+0.5**
	2.7nm,0.7s,baz=90,slow=7.6,SNR=8.0						
AKTO	**Aktyubinsk**	**69.33**	**317**	P	**P**	**05 13 03.0**	**+1.3**
	1.1nm,0.7s,baz=54,slow=14,SNR=2.1						
YKA	**Yellowknife Ar**	**74.61**	**28**	P	**P**	**05 13 33.4**	**+0.3**
	0.5nm,0.6s,baz=289,slow=6.0,SNR=6.9						
KBZ	**Khabaz**	**81.22**	**314**	P	**P**	**05 14 11.6**	**+1.4**
	2.4nm,0.8s,baz=77,slow=2.0,SNR=4.3						
FINES	**FINESS Array B**	**81.55**	**334**	P	**P**	**05 14 12.5**	**+0.8**
	0.8nm,0.5s,baz=96,slow=3.8,SNR=6.7						
NVAR	**Mina Array Bea**	**81.72**	**52**	P	**P**	**05 14 13.8**	**+0.5**
	0.3nm,0.7s,baz=273,slow=3.5,SNR=2.6						
NB2	**NORSAR Subarra**	**87.23**	**339**	P	**P**	**05 14 40.0**	**-0.6**
	comp=Z,4.8nm,1.1s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**87.23**	**339**	P	**P**	**05 14 39.9**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=47,slow=4.8,SNR=4.9						
BRTR	**Keskin Array B**	**89.20**	**313**	P	**P**	**05 14 50.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=37,slow=3.5,SNR=3.8						

IDC 30 05:11:07.4±1.1,1.˚64N×124.˚74E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.6/23,mbtmp3.5/6,Error ellipse: s-maj=119.5km s-min=18.6km az=70.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.64**	**177**	P	Pn	05 15 38.5	-0.6
	baz=6.3,slow=9.2						
WRA	**Warramunga Arr**	**23.43**	**157**	P	P	05 16 18.9	+0.5
	1.1nm,0.3s,baz=337,slow=9.8,SNR=23						
ASAR	**Alice Springs**	**26.69**	**161**	P	P	05 16 47.6	-0.8
	0.2nm,0.4s,baz=337,slow=7.4,SNR=3.6						
STKA	**Stephens Creek**	**36.97**	**156**	P	P	05 18 17.6	-1.0
	0.9nm,0.4s,baz=342,slow=9.6,SNR=3.1						
SONM	**Songino Array**	**48.68**	**344**	P	P	05 19 54.4	+0.8
	0.2nm,0.5s,baz=161,slow=6.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**62.45**	**329**	P	P	05 21 32.0	-0.3
	0.2nm,0.6s,baz=137,slow=6.0,SNR=4.1						

*IDC **30** 05:27:52.8±2.1,35.˚88N×140.˚31E,h94km±16km,mb3.5/6, mb1 3.7/8,mb1mx3.4/28,mbtmp3.6/8,MS3.5/1,Ms1 3.5/1, ms1mx2.5/39,Error ellipse: s-maj=24.9km s-min=14.4km az=69.0*
*ISCJB **30** 05:27:55.2±0.5,35.˚71N±0.˚04×139.˚80E±0.˚06, h121km±3km,mb3.8/6,Error ellipse: s-maj=8.8km s-min=6.2km az=151.8*
*JMA **30** 05:27:56.7±0.2,35.˚78N×139.˚84E,h108km±2km,M3.0*

ISC 30 05:27:56.4±0.8,35.˚73N±0.˚05×139.˚78E±0.˚05,h116km±6km, n27,σ0s59/33,mb3.9/6,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.04**	**208**	P	**Pn**	**05 28 12.4**	**+0.2**
TOK				S	**Sn**	05 28 24.3	+0.3
JHU	**Hanno**	**0.43**	**287**	P	**Pn**	05 28 13.6	+0.1
JHU				S	**Sn**	05 28 26.0	-0.3
JCN	**Nagara**	**0.46**	**132**	P	**Pn**	05 28 14.0	+0.4
JCN				S	**Sn**	05 28 27.5	+0.9
JOD2	**Odawara 2**	**0.73**	**231**	P	**Pn**	05 28 15.3	-0.3
JOD2				S	**Sn**	05 28 29.2	-0.9
JAG	**Ashikaga**	**0.75**	**339**	P	**Pn**	05 28 15.3	-0.5
JAG				S	**Sn**	05 28 29.0	-1.4
JRY	**Ryogami san**	**0.77**	**292**	P	**Pn**	05 28 16.4	+0.4
JRY				S	**Sn**	05 28 31.3	+0.5
JYN	**Shimob**	**1.03**	**258**	P	**Pn**	05 28 18.8	+0.3
JYN				*e*S	**Sn**	05 28 36.0	+0.8
JIM2	**Oshima 3**	**1.05**	**196**	P	**Pn**	05 28 18.1	-0.5
JIM2				S	**Sn**	05 28 33.9	-1.5
BSO1	**Boso 1**	**1.45**	**137**	P	**Pn**	05 28 22.1	-0.3
BSO1				*e*S	**Sn**	05 28 42.7	+0.5
MJAR	**Matsushiro Arr**	**1.51**	**303**	P	**Pn**	05 28 23.6	-0.2
	4.8nm,0.3s,baz=99,slow=15,SNR=48						
MJAR				S	**Sn**	**05 28 45.0**	**+0.5**
	11nm,0.3s,baz=101,slow=26,SNR=19						
MAT	**Matsushiro**	**1.51**	**303**	P	**Pn**	05 28 23.6	-0.2
MAT				S	**Sn**	05 28 43.9	-0.7
MAT	**Matsushiro**	**1.51**	**303**	P	**Pn**	05 28 24.0	+0.2
MAT				*e*S	**Sn**	05 28 44.2	-0.4
JFT	**Otama**	**1.84**	**14**	P	**Pn**	05 28 27.5	-0.2
JFT				*e*S	**Sn**	05 28 51.2	-0.4
JNS	**Sasagawa**	**2.12**	**350**	P	**Pn**	05 28 31.4	+0.2
ASAJ	**Asahikawa**	**8.65**	**14**	P	Pn	05 29 53.7	-4.9
	0.8nm,0.3s,baz=191,slow=16,SNR=5.0						
JCJ	**Chichijima**	**8.85**	**166**	P	Pn	05 29 56.8	-4.6
	5.0nm,0.3s,baz=294,slow=18,SNR=3.9						
JCJ				S	Sn	05 31 29.4	-10
	6.0nm,0.3s,baz=26,slow=18,SNR=3.7						
SONM	**Songino Array**	**27.46**	**306**	P	**P**	**05 33 31.6**	**-0.1**
	0.3nm,0.5s,baz=105,slow=8.5,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**28.68**	**117**	T	T	06 03 47.6	
	baz=318,slow=75,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**28.68**	**117**	T	T	06 03 44.5	
H11N3	**WAKE ISLAND Hy**	**28.69**	**117**	T	T	06 03 46.1	
	baz=321,slow=75,SNR=6.3						
PMG	**Port Moresby**	**45.42**	**170**	LR	LR	05 53 14.3	
	comp=Z,54nm,19.4s,baz=64,slow=33						
KURBB	**Kurchatov Arra**	**45.78**	**309**	P	**P**	**05 36 06.8**	**+0.6**
	1.8nm,0.4s,baz=87,slow=8.5,SNR=21						
FITZ	**Fitzroy Crossi**	**55.19**	**196**	P	**P**	**05 37 17.6**	**+0.4**
	0.9nm,0.5s,baz=90,slow=1.0						
WRA	**Warramunga Arr**	**55.60**	**186**	P	**P**	**05 37 19.9**	**-0.3**
	0.5nm,0.5s,baz=0.6,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**59.33**	**186**	P	**P**	**05 37 46.5**	**+0.2**
	0.2nm,0.5s,baz=19,slow=12,SNR=5.7						
FINES	**FINESS Array B**	**69.35**	**332**	P	**P**	**05 38 50.6**	**-0.5**
	4.6nm,1.1s,baz=44,slow=10,SNR=5.1						
H06E1	**SOCORRO T-PHAS**	**93.94**	**64**	T	T	07 24 40.6	
	SNR=24						

IDC 30 05:29:37.3±1.1,2.˚16N×127.˚76E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.6/22,mbtmp3.6/7,Error ellipse: s-maj=97.0km s-min=16.4km az=72.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.24**	**186**	P	P	05 34 14.8	+0.5
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**22.90**	**164**	P	P	05 34 43.0	0.0
	0.5nm,0.6s,baz=341,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**26.36**	**167**	P	P	05 35 15.7	+0.2
	0.4nm,0.8s,baz=346,slow=5.9,SNR=4.7						
STKA	**Stephens Creek**	**36.31**	**160**	P	P	05 36 42.1	-0.8
	1.1nm,0.7s,baz=0.0,slow=13,SNR=2.3						
H11S3	**WAKE ISLAND Hy**	**41.45**	**64**	T	T	06 20 28.9	
	baz=251,slow=73,SNR=23						
H11S2	**WAKE ISLAND Hy**	**41.47**	**64**	T	T	06 20 24.9	
	baz=251,slow=73,SNR=13						
H11S1	**WAKE ISLAND Hy**	**41.47**	**64**	T	T	06 20 27.8	
	baz=251,slow=73,SNR=13						
H11N1	**WAKE ISLAND Hy**	**42.03**	**63**	T	T	06 21 06.7	
	baz=252,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**42.04**	**63**	T	T	06 21 06.9	
	baz=252,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**42.05**	**63**	T	T	06 21 07.8	
	baz=252,slow=75,SNR=15						
SONM	**Songino Array**	**49.10**	**341**	P	P	05 38 26.5	-0.2
	0.4nm,0.7s,baz=157,slow=9.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**62.44**	**333**	P	P	05 40 01.6	-0.6
	0.4nm,0.4s,baz=115,slow=6.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**63.60**	**327**	P	P	05 40 10.7	+0.7
	1.0nm,0.5s,baz=125,slow=6.9,SNR=17						

*IDC **30** 05:33:45.8±0.6,55.˚33N×159.˚58W,h0km,mb4.5/24, mb1 4.6/25,mb1mx4.6/31,mbtmp4.5/25,ML4.5/1,MS3.6/11, Ms1 3.6/11,ms1mx3.4/48,Error ellipse: s-maj=19.8km s-min=12.6km az=11.0*
*BJI **30** 05:33:45.0,55.˚30N×159.˚50W,h20km,mB5.2/14, mb4.8/28,Ms5.0/5,Ms7 4.7/4*
*ISCJB **30** 05:33:49.9±0.3,55.˚22N±0.˚02×159.˚68W±0.˚03,h41km±2km, mb4.7/117,MS3.8/9,Error ellipse: s-maj=4.0km s-min=2.4km az=1.8*
*MOS **30** 05:33:49.5±0.9,55.˚27N×159.˚67W,h40km,mb4.9/47, Error ellipse: s-maj=10.1km s-min=5.6km az=89.9*
*NEIC **30** 05:33:51.6±0.3,55.˚19N×159.˚75W,h44km±2km,mb4.8/61, ML4.5(AEIC),Error ellipse: s-maj=3.7km s-min=2.3km az=168.0*
NEIC Felt at Chignik.

ISC 30 05:33:50.2±0.7,55.˚27N±0.˚05×159.˚67W±0.˚03,h30km±4km, n569,σ1s02/565,mb4.8/117,MS3.7/9,98C-109D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.47**	**281**	P	**Pb**	**05 33 58.6**	**-1.6**
SDPT				S	**Sb**	05 34 07.4	+0.5
VNHG	**Veniaminof 1**	**1.00**	**16**	P	**Pn**	05 34 08.5	+0.2
PVV	**Pavlof Volcano**	**1.22**	**276**	P	**Pn**	05 34 11.2	+0.1
PVV				S	**Sn**	05 34 23.7	-2.9
PS4A	**Pavlof South-4**	**1.25**	**275**	P	**Pn**	05 34 11.6	0.0
DOL	**Dolgoi Island**	**1.26**	**266**	P	**Pn**	05 34 11.0	-0.8
DTNA	**Dutton South F**	**1.48**	**267**	P	**Pn**	05 34 14.6	-0.3
DRIA	**Deer Island**	**1.52**	**260**	P	**Pn**	05 34 14.5	-0.9
DRIA				S	**Sn**	05 34 35.1	+1.0
ANPB	**Aniakchak Plen**	**1.73**	**26**	P	**Pn**	05 34 19.0	+0.8
ANPB				S	**Sb**	05 34 41.9	-0.7
FALS	**False Pass**	**2.19**	**261**	P	**Pn**	05 34 24.6	0.0
FALS				S	**Sn**	05 34 51.2	+0.6
SSLW	**Shishaldin Wes**	**2.61**	**261**	P	**Pn**	05 34 31.9	+1.6
WESN	**West Dahl Nort**	**2.92**	**258**	P	**Pn**	05 34 35.2	+0.6
WESE	**West Dahl East**	**2.95**	**256**	P	**Pn**	05 34 35.7	+0.7
PLK4	**Peulik 4**	**3.00**	**36**	P	**Pn**	05 34 37.4	+1.6
PLK3	**Peulik 3**	**3.08**	**36**	P	**Pn**	05 34 39.0	+2.3
PLK3				S	**Sn**	05 35 15.4	+3.0
AKUT	**Akutan**	**3.72**	**255**	*e*Pn	Pn	05 34 48.9	+3.4
KELA	**Mount Kelaz**	**3.84**	**33**	P	**Pn**	05 34 48.9	+1.6
ZRO	**Akutan Zero**	**3.85**	**255**	P	**Pn**	05 34 46.1	-1.2
KABR	**Katmai Barrier**	**3.87**	**40**	P	**Pn**	05 34 48.8	+1.2
AKRB	**Akutan Reef Bi**	**3.88**	**256**	P	**Pn**	05 34 46.9	-0.9
KVTA	**Katmai Vly 10**	**3.94**	**36**	P	**Pn**	05 34 50.5	+2.0
OHAK	**Old Harbor**	**4.06**	**59**	*e*Pn	**Pn**	05 34 48.9	-1.4
UNV	**Unalaska Valle**	**4.22**	**253**	P	**Pn**	05 34 53.1	+0.7
KAHC	**Katmai Hardscr**	**4.24**	**35**	P	**Pn**	05 34 54.9	+2.0
MREP	**Makushin Rep't**	**4.37**	**253**	P	**Pn**	05 34 54.7	+0.2
MCIR	**Makushin Cirqu**	**4.40**	**256**	P	**Pn**	05 34 55.0	+0.1
KDAK	**Kodiak Island**	**4.66**	**54**	P	**Pn**	05 35 01.2	+2.7
NIKH	**Nikolski High**	**5.87**	**251**	P	**Pn**	05 35 14.8	-0.3
ILW	**Iliamna West**	**5.95**	**33**	P	**Pn**	05 35 18.0	+1.7
SPIA	**Saint Paul Isl**	**6.20**	**292**	P	**Pn**	05 35 20.1	+0.5
SVW2	**Sparrevohn**	**6.23**	**19**	P	**Pn**	05 35 23.2	+3.2
RSO	**Redoubt South**	**6.38**	**32**	*e*Pn	**Pn**	05 35 25.1	+2.8
NCT	**North Crescent**	**6.41**	**31**	P	**Pn**	05 35 24.7	+2.2
DFR	**Drift River**	**6.50**	**32**	P	**Pn**	05 35 26.1	+2.3
SEW	**Seward**	**7.31**	**44**	*e*Pn	Pn	05 35 39.1	+4.3
RC01	**Rabbit Creek A**	**7.84**	**38**	*e*Pn	**Pn**	**05 35 44.6**	**+2.4**
PMR	**Palmer**	**8.41**	**37**	*e*P	**Pn**	**05 35 51.6**	**+1.8**
PMR	**Palmer**	**8.41**	**37**	*e*Pn	**Pn**	**05 35 51.6**	**+1.8**
PPLA	**Purkeypile**	**8.56**	**24**	*e*Pn	Pn	05 35 55.9	+3.8
SML	**Sawmill**	**8.83**	**37**	*e*P	Pn	05 35 47.8	-7.9
SML				pmax	pmax		
	comp=Z,12nm,0.9s						
SML	**Sawmill**	**8.83**	**37**	*e*Pn	Pn	05 35 47.8	-7.9
	comp=Z,12nm,0.9s						
CAST	**Castle Rocks**	**9.04**	**22**	*e*Pn	Pn	05 36 02.2	+3.7
DIV	**Divide**	**9.39**	**46**	*e*Pn	**Pn**	**05 36 05.3**	**+2.0**
KTH	**Kantishna Hill**	**9.42**	**25**	*e*Pn	Pn	05 36 07.4	+3.6
TRF	**Thorofare Moun**	**9.49**	**26**	*e*Pn	**Pn**	**05 36 07.7**	**+2.9**
RAGM	**Ragged Mountai**	**9.49**	**51**	*e*Pn	**Pn**	**05 36 07.9**	**+3.2**
BMRM	**Bremner River**	**9.79**	**48**	*e*Pn	**Pn**	**05 36 10.3**	**+1.4**
MCK	**McKinley**	**10.08**	**28**	*e*P	**Pn**	**05 36 15.7**	**+3.0**
MCK	**McKinley**	**10.08**	**28**	*e*Pn	**Pn**	**05 36 15.7**	**+3.0**
GAMB	**Gambell**	**10.48**	**329**	*e*Pn	Pn	05 36 22.7	+4.6
PAX	**Paxson**	**10.60**	**38**	*e*P	**Pn**	**05 36 20.6**	**+0.6**
PAX	**Paxson**	**10.60**	**38**	*e*Pn	**Pn**	**05 36 20.6**	**+0.6**
ADK	**Adak**	**10.67**	**259**	*e*P	Pn	05 36 26.5	+5.8
ADK	**Adak**	**10.67**	**259**	*e*Pn	Pn	05 36 26.5	+5.8
TNA	**Tin City**	**11.09**	**342**	*e*Pn	**Pn**	**05 36 29.6**	**+3.1**
IM04	**Indian Mountai**	**11.12**	**13**	*e*Pn	**Pn**	**05 36 29.4**	**+2.5**
COLA	**College**	**11.28**	**27**	*e*P	**Pn**	**05 36 32.0**	**+3.0**
COLA	**College**	**11.28**	**27**	*e*Pn	**Pn**	**05 36 31.9**	**+3.0**
IL1	**Eielson Array**	**11.45**	**29**	*e*Pn	**Pn**	**05 36 31.0**	**-0.4**
ILAR	**Eielson Array**	**11.45**	**29**	Pn	Pn	05 36 27.9	-3.5
ILAR				Sn	**Sn**	**05 38 34.6**	**-3.5**
ILAR	**Eielson Array**	**11.45**	**29**	Pn	Pn	05 36 27.9	-3.5
	comp=Z,0.4nm,0.3s,baz=217,slow=13,SNR=29						
ILAR				Sn	**Sn**	**05 38 34.6**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=220,slow=22,SNR=4.1						
ILAR				LR	LR	05 41 21.1	
	comp=Z,79nm,18.1s,baz=105,slow=40						
DOT	**Dot Lake**	**11.53**	**37**	*e*Pn	Pn	05 36 37.6	+5.0
COLD	**Coldfoot**	**12.81**	**17**	*e*Pn	P	05 36 55.7	-4.9
HYT	**Haines Junctio**	**12.96**	**56**	*e*Pn	P	05 36 57.9	-4.5
EGAK	**Eagle**	**13.23**	**36**	*e*P

TPH **Tonopah** 33.19 103 *e*P P 05 40 23.2 -1.0
comp=Z,7.4nm,1.1s
HVU **Hansel Valley** 33.19 94 *e*P P 05 40 24.8 +0.7
HVU pmax pmax
comp=Z,82nm,2.5s
HVU **Hansel Valley** 33.19 94 *e*P P 05 40 24.8 +0.7
comp=Z,82nm,2.5s
D21A **La Casta Ranch** 33.31 82 ⇓P P 05 40 25.5 +0.5
baz=33
TIXI **Tiksi** 33.34 327 *c*eP P 05 40 23.2 -1.7
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI **Tiksi** 33.34 327 *e*P P 05 40 24.2 -0.7
comp=Z,7.3nm,1.0s
RCTC **Rector, Farmer** 33.35 108 ⇑P P 05 40 26.3 +1.0
baz=33
H19A **Powell** 33.56 87 ⇑P P 05 40 28.3 +1.0
baz=34
BGU **Big Grassy Mou** 33.60 96 *e*P P 05 40 30.4 +2.6
comp=Z,2.7nm,1.1s
B23A **Brockton** 33.67 78 ⇑P P 05 40 28.5 +0.4
baz=34
G20A **Bridger** 33.68 85 ⇓P P 05 40 28.6 +0.3
baz=34,SNR=5.2
D22A **Cohagen** 33.72 81 ⇓P P 05 40 29.1 +0.5
baz=34
VES **Vestal, Richgr** 33.78 108 ⇑P P 05 40 29.5 +0.4
baz=34
GRAC **Grapevine Rang** 33.87 105 ⇑P P 05 40 31.1 +1.2
baz=34
CWC **Cottonwood Cre** 33.89 106 ⇑P P 05 40 30.9 +0.7
baz=34
R11A **Troy Canyon, C** 33.91 101 *e*P P 05 40 30.6 +0.2
comp=Z,7.2nm,1.3s
R11A **Troy Canyon, C** 33.91 101 ⇓P P 05 40 30.2 -0.2
baz=34,SNR=8.2
C23A **Lambert** 33.92 80 ⇓P P 05 40 30.6 +0.3
baz=34
I19A **Meeteetse** 33.94 88 ⇑P P 05 40 31.1 +0.4
baz=34
A24A **Westby** 33.98 77 ⇓P P 05 40 30.8 0.0
baz=34
PKM **Peak Mountain** 34.09 110 ⇓P P 05 40 32.8 +0.8
baz=34
DUG **Dugway** 34.21 96 *e*P P 05 40 33.4 +0.4
DUG pmax pmax
comp=Z,87nm,2.8s
DUG **Dugway** 34.21 96 *e*P P 05 40 33.4 +0.4
comp=Z,86nm,2.8s
DUG **Dugway** 34.21 96 ⇑P P 05 40 33.2 +0.2
baz=34,SNR=5.6
H20A **Greybull** 34.24 86 ⇑P P 05 40 33.4 +0.2
baz=34
ISA **Isabella** 34.24 108 *e*P P 05 40 33.4 +0.2
ISA pmax pmax
comp=Z,8.0nm,1.1s
ISA **Isabella** 34.24 108 *e*P P 05 40 33.4 +0.2
comp=Z,7.8nm,1.1s
ISA **Isabella** 34.24 108 ⇑P P 05 40 33.4 +0.2
baz=34
E22A **Miles City** 34.26 82 ⇓P P 05 40 33.6 +0.3
baz=34
D23A **Lindsay** 34.26 80 ⇑P P 05 40 32.9 -0.3
baz=34
J19A **Crowheart** 34.38 89 ⇓P P 05 40 34.9 +0.5
baz=34
BW06 **Boulder Array** 34.40 90 *e*P P 05 40 34.2 -0.6
PDAR **Pinedale Array** 34.40 90 P P 05 40 34.6 -0.2
PDAR **Pinedale Array** 34.40 90 P P 05 40 34.6 -0.2
comp=Z,1.2nm,0.7s,baz=311,slow=4.4,SNR=13
I20A **Worland** 34.49 87 ⇑P P 05 40 36.0 +0.6
baz=34
MPMC **Manual Prospec** 34.49 106 ⇓P P 05 40 35.6 +0.1
baz=34,SNR=10
TPNV **Topopah Spring** 34.53 104 *e*P P 05 40 36.1 +0.3
TPNV **Topopah Spring** 34.53 104 *e*P P 05 40 36.1 +0.3
TPNV **Topopah Spring** 34.53 104 ⇑P P 05 40 36.1 +0.3
baz=34,SNR=8.3
FURC **Furnace Creek,** 34.54 105 ⇓P P 05 40 36.6 +1.0
baz=34
H21A **Big Horn, Sher** 34.70 85 ⇑P P 05 40 37.7 +0.5
baz=35
G22A **Birney** 34.77 84 ⇓P P 05 40 38.1 +0.3
baz=35
D24A **Glendive** 34.79 80 ⇓P P 05 40 38.7 +0.9
baz=35,SNR=6.7
J20A **Shoshoni** 34.88 88 ⇑P P 05 40 39.1 +0.3
baz=35,SNR=6.2
F23A **Volborg** 34.98 83 ⇓P P 05 40 39.8 +0.3
baz=35
I21A **Big Trails, Te** 35.05 87 ⇓P P 05 40 40.2 -0.1
baz=35
C25A **Freed Ranch, W** 35.05 78 ⇑P P 05 40 40.8 +0.7
baz=35
J21A **Lysite** 35.25 88 ⇑P P 05 40 41.9 -0.1
baz=35,SNR=6.4
G23A **Biddle** 35.30 83 ⇑P P 05 40 42.7 +0.4
baz=35
GSC **Goldstone** 35.42 106 *e*P P 05 40 43.9 +0.5
GSC pmax pmax
comp=Z,40nm,1.3s
GSC **Goldstone** 35.42 106 *e*P P 05 40 43.9 +0.5
comp=Z,40nm,1.3s
GSC **Goldstone** 35.42 106 ⇓P P 05 40 44.4 +1.0
baz=35
F24A **Ekalaka** 35.45 82 ⇑P P 05 40 44.1 +0.5
baz=35
I22A **9 Mile Ranch,** 35.46 86 ⇓P P 05 40 44.3 +0.5
baz=35
ARUT **Antelope Range** 35.51 100 *e*P P 05 40 43.3 -0.9
ARUT **Antelope Range** 35.51 100 *e*P P 05 40 43.3 -0.9
comp=Z,112nm,1.1s
C26A **Wahner Farm, P** 35.64 77 ⇑P P 05 40 45.6 +0.5
baz=36
MVU **Marysvale** 35.70 98 *e*P P 05 40 46.7 +0.7
comp=Z,26nm,2.1s
CCUT **Cedar City** 35.72 100 *e*P P 05 40 46.6 +0.5
comp=Z,67nm,2.9s
BFSC **Mount Baldy Ra** 35.75 108 ⇓P P 05 40 46.9 +0.6
baz=36
J22A **Midwest** 35.76 87 ⇑P P 05 40 46.4 0.0
baz=36,SNR=6.3
G24A **Alzada** 35.77 83 ⇓P P 05 40 46.4 0.0
baz=36
K21A **Alcova** 35.81 88 ⇑P P 05 40 46.2 -0.6
baz=36,SNR=7.1
H24A **Dirks Ranch, A** 36.04 83 ⇑P P 05 40 48.6 -0.1
baz=36
SRU **San Rafael** 36.25 96 *e*P P 05 40 51.2 +0.6
SRU pmax pmax
comp=Z,13nm,0.9s
SRU **San Rafael** 36.25 96 *e*P P 05 40 51.2 +0.6
comp=Z,13nm,0.9s
HPO **Honuapo** 36.25 173 *e*ScP ScP 05 46 54.8 -4.2
BBSC **Beaumont Base** 36.36 108 *e*ScP ScP 05 46 57.1 -2.3
N20A **Spence Gulch,** 36.39 91 ⇓P P 05 40 52.7 +0.9
baz=36
KNB **Kanab** 36.40 100 *e*P P 05 40 52.5 +0.6
KNB pmax pmax
comp=Z,5.0nm,1.0s
KNB **Kanab** 36.40 100 *e*P P 05 40 52.5 +0.6
comp=Z,5.0nm,1.0s
GMRC **Granite Mounta** 36.44 106 ⇓P P 05 40 52.4 +0.2
baz=36
DGR **Domenigoni Val** 36.55 108 *e*ScP ScP 05 47 00.6 +0.5
A29A **Manning Farm,** 36.62 74 ⇓P P 05 40 53.6 +0.1
baz=36
L22A **Ellis Ranch, M** 36.66 88 ⇓P P 05 40 54.9 +0.8
baz=37
K23A **Bowen Ranch, D** 36.66 87 ⇓P P 05 40 54.4 +0.4
baz=37
H25A **Fruitdale** 36.66 83 ⇓P P 05 40 54.1 +0.1
baz=37
RSSD **Black Hills** 36.72 84 *e*P P 05 40 54.5 -0.1
RSSD pmax pmax
comp=Z,20nm,2.3s
RSSD **Black Hills** 36.72 84 *e*P P 05 40 54.5 -0.1
comp=Z,20nm,2.3s
O20A **White River Ci** 36.86 92 *e*P P 05 40 55.8 0.0
O20A **White River Ci** 36.86 92 ⇓P P 05 40 55.3 -0.5
baz=37,SNR=5.8
PFO **Pinyon Flat Ob** 36.88 108 *e*P P 05 40 55.5 -0.4
comp=Z,5.8nm,1.0s
PFO **Pinyon Flat Ob** 36.88 108 ⇓P P 05 40 56.1 +0.2
baz=37
I25A **Rochford** 36.95 84 ⇑P P 05 40 55.9 -0.6
baz=37

L23A **Garrett** 37.02 88 ⇓P P 05 40 56.9 -0.3
baz=37
109C **Camp Elliot, M** 37.08 109 ⇓P P 05 40 58.2 +0.8
baz=37
U15A **North Rim** 37.12 100 ⇑P P 05 40 58.2 +0.1
baz=37
G27A **Dupree** 37.15 81 ⇓P P 05 40 58.0 0.0
baz=37
IRM **Iron Mountain** 37.18 106 ⇓P P 05 40 57.8 -0.6
baz=37,SNR=8.2
W13A **Hualapai Mount** 37.19 104 ⇑P P 05 40 58.9 +0.2
baz=37,SNR=6.2
N22A **Wattenberg Ran** 37.44 90 ⇓P P 05 41 01.3 +0.4
baz=37
MONP **Monument Peak** 37.45 109 ⇓P P 05 41 01.1 +0.2
baz=37
PV09 **Paradox Valley** 37.46 95 *e*P P 05 41 01.1 +0.1
F28A **McLaughlin** 37.51 79 ⇑P P 05 41 01.1 +0.1
baz=37
PDMCI **Parker Dam,Lak** 37.63 105 ⇑P P 05 41 02.6 +0.4
baz=38
N23A **Red Feather La** 37.67 89 ⇓P P 05 41 02.8 0.0
baz=38
ULM **Lac du Bonnet** 37.72 70 P P 05 41 01.3 -1.4
ULM **Lac du Bonnet** 37.72 70 P P 05 41 01.3 -1.4
comp=Z,3.3nm,0.7s,baz=314,slow=10,SNR=5.1
K25A **Mack Ranch, Ha** 37.75 86 ⇓P P 05 41 03.4 +0.1
baz=38
O22A **Kremmling** 37.81 91 ⇓P P 05 41 03.7 -0.4
baz=38
Y12C **Blythe** 37.83 106 ⇑P P 05 41 03.7 -0.2
baz=38,SNR=6.2
I27A **Quinn** 37.88 83 ⇑P P 05 41 03.8 -0.4
baz=38
D30A **Buchanan** 37.91 76 ⇓P P 05 41 03.9 -0.5
baz=38
PV01 **Paradox Valley** 38.03 95 *e*P P 05 41 05.9 +0.1
O23A **Lake Granby, G** 38.14 90 ⇓P P 05 41 07.3 +0.5
baz=38
GLA **Glamis** 38.19 107 ⇓P P 05 41 07.5 +0.5
baz=38
WUAZ **Wupatki** 38.29 101 *e*P P 05 41 08.4 +0.5
comp=Z,7.2nm,1.0s
WUAZ **Wupatki** 38.29 101 ⇑P P 05 41 08.3 +0.5
baz=38,SNR=6.0
N24A **Carr** 38.33 89 ⇓P P 05 41 08.2 0.0
baz=38
I28A **Midland** 38.42 82 ⇓P P 05 41 08.9 +0.1
baz=38
Y14A **Wickenburg** 38.53 104 ⇓P P 05 41 10.5 +0.7
baz=38
H29A **Onida** 38.58 80 ⇓P P 05 41 10.2 +0.1
baz=38
O24A **Longmont** 38.68 90 ⇓P P 05 41 12.2 +1.0
baz=39
MVCO **Mesa Verde** 38.71 96 ⇓P P 05 41 11.9 +0.4
baz=39
P23A **Jefferson** 38.75 91 ⇓P P 05 41 12.5 +0.6
baz=39
AGMN **Agassiz Nation** 38.82 73 ⇓P P 05 41 11.7 -0.3
baz=39
G30A **Faulkton** 38.87 79 ⇑P P 05 41 12.6 +0.1
baz=39
113A **Mohawk Valley,** 38.99 106 ⇑P P 05 41 14.4 +0.8
baz=39
X16A **Lo Mia Camp, P** 39.05 102 ⇑P P 05 41 15.0 +0.7
baz=39,SNR=12
K28A **Ten Mile Ranch** 39.12 84 ⇓P P 05 41 15.0 +0.3
baz=39
O25A **Wiggins** 39.23 89 ⇑P P 05 41 16.3 +0.5
baz=39
J29A **Okreek** 39.27 82 ⇓P P 05 41 15.7 -0.1
baz=39
P25A **Willow Gulch B** 39.61 90 ⇓P P 05 41 19.5 +0.6
baz=40
K29A **Lazy Trails An** 39.68 83 ⇑P P 05 41 19.6 +0.2
baz=40
N27A **Anderson Farm,** 39.68 87 ⇑P P 05 41 19.7 +0.2
baz=40
J30A **Dallas** 39.79 82 ⇑P P 05 41 20.1 -0.2
baz=40,SNR=5.7
X18A **Snowflake** 39.81 100 ⇓P P 05 41 21.0 +0.4
baz=40,SNR=6.6
P26A **Davis Ranch, A** 40.05 89 ⇓P P 05 41 23.4 +0.9
baz=40
214A **Organ Pipe Nat** 40.13 106 *e*P P 05 41 22.6 -0.6
214A **Organ Pipe Nat** 40.13 106 ⇑P P 05 41 23.2 +0.1
baz=40,SNR=7.6
K30A **Basset** 40.14 82 ⇑P P 05 41 23.6 +0.5
baz=40
U22A **Llaves** 40.23 96 ⇑P P 05 41 24.7 +0.5
baz=40
S24A **Houghin Ranch,** 40.29 93 ⇑P P 05 41 24.6 -0.1
baz=40
Q26A **Hugo** 40.38 90 ⇓P P 05 41 25.3 0.0
baz=40
R25A **Fountain Ranch** 40.47 91 ⇓P P 05 41 26.4 +0.3
baz=40
V22A **San Miguel Ran** 40.53 96 ⇓P P 05 41 27.0 +0.3
baz=40
O28A **Krutsinger Ran** 40.57 87 ⇓P P 05 41 27.0 +0.3
baz=40
T24B **San Luis** 40.59 93 ⇓P P 05 41 27.3 +0.1
baz=40
U23A **El Rito** 40.65 95 ⇓P P 05 41 28.2 +0.6
baz=41,SNR=8.4
KSCO **Kaye Shedlock'** 40.83 89 ⇓P P 05 41 29.4 +0.4
baz=41
R26A **Arlington** 40.84 90 ⇓P P 05 41 29.2 +0.1
baz=41
TUC **Tucson** 40.98 103 *e*P P 05 41 30.7 +0.4
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC **Tucson** 40.98 103 *e*P P 05 41 30.7 +0.4
comp=Z,4.4nm,0.9s
V23A **Ortiz Mt. (NFS** 41.07 96 ⇑P P 05 41 31.5 +0.5
baz=41
R27A **Eads** 41.23 90 ⇑P P 05 41 32.7 +0.4
baz=41
Q28A **Sharon Springs** 41.25 88 ⇑P P 05 41 32.7 +0.3
baz=41
ANMO **Albuquerque** 41.48 97 *e*PcP PcP 05 43 32.3 +0.6
W23A **Werner Place,** 41.50 96 ⇓P P 05 41 34.8 +0.1
baz=41
V24A **Rampart Ranch,** 41.60 95 ⇑P P 05 41 36.0 +0.5
baz=42
U25A **Circle Dot Ran** 41.62 93 ⇓P P 05 41 35.6 0.0
baz=42
BGNE **Belgrade** 41.79 83 ⇑P P 05 41 36.9 +0.2
baz=42
P30A **Selden** 41.83 87 ⇓P P 05 41 37.2 +0.2
baz=42
W24A **Lazy 6 Ranch,** 41.89 95 ⇑P P 05 41 38.3 +0.5
baz=42
X23A **Hourglass Bar** 41.90 97 ⇓P P 05 41 37.9 0.0
baz=42
BNM **Barren Site** 41.96 98 *e*P P 05 41 38.5 +0.1
comp=Z,3.2nm,0.9s
V26A **Tequesquite Ra** 42.40 93 ⇑P P 05 41 42.2 +0.4
baz=42
W25A **X Bar L Ranch,** 42.42 95 ⇓P P 05 41 42.5 +0.4
baz=42
Z22A **Elephant Butte** 42.43 99 ⇓P P 05 41 42.6 +0.5
baz=42
Y23A **Lovelace Mesa,** 42.45 97 ⇓P P 05 41 42.7 +0.4
baz=42
121A **Cookes Peak, D** 42.50 100 *e*P P 05 41 42.8 0.0
121A **Cookes Peak, D** 42.50 100 ⇓P P 05 41 43.1 +0.4
baz=42,SNR=5.2
319A **Douglas** 42.53 103 ⇓P P 05 41 43.6 +0.7
baz=42
Q31A **Ellis** 42.68 86 ⇓P P 05 41 44.2 +0.2
baz=43
P32A **Huiting Farm,** 42.72 85 ⇓P P 05 41 43.9 -0.3
baz=43
Y24A **Capitan** 42.80 97 ⇓P P 05 41 45.7 +0.5
baz=43
320A **Kipp Ranch, An** 42.98 102 ⇑P P 05 41 47.1 +0.5
baz=43,SNR=7.2
R31A **Burdett** 43.09 87 ⇓P P 05 41 47.2 -0.2
baz=43
Q32A **Meitler Ranch,** 43.17 86 ⇑P P 05 41 47.7 -0.2
baz=43
Y25A **Mesa, Roswell** 43.23 96 ⇑P P 05 41 48.5 -0.1
baz=43
X26A **CR and CF Fran** 43.27 95 ⇑P P 05 41 49.0 0.0
baz=43
Z24A **Sheeppen Canyo** 43.28 97 ⇑P P 05 41 49.5 +0.4
baz=43

H11N2 **WAKE ISLAND Hy** 43.52 229 T T 06 28 10.3
baz=30,slow=76,SNR=12
H11N3 **WAKE ISLAND Hy** 43.53 229 T T 06 28 11.8
baz=30,slow=76,SNR=8.5
H11N1 **WAKE ISLAND Hy** 43.54 229 T T 06 28 23.5
baz=30,slow=76,SNR=8.2
124A **Stringfield Ra** 43.69 98 ⇑P P 05 41 52.3 -0.1
baz=44
USRK **Ussuriysk Arra** 43.81 285 PcP PcP 05 43 40.2 +1.2
comp=Z,1.6nm,0.6s,baz=47,slow=6,9,SNR=4.2
Z26A **Caprock** 44.11 96 ⇑P P 05 41 55.5 -0.1
baz=44
224A **Cornudas Mount** 44.11 99 ⇑P P 05 41 55.6 -0.1
baz=44
Y27A **Causey** 44.13 95 ⇑P P 05 41 55.6 -0.2
baz=44
MNTX **Cornudas Mount** 44.47 99 *e*P P 05 41 58.6 +0.2
comp=Z,44nm,2.3s
126A **Clayton Basin,** 44.54 97 ⇓P P 05 41 59.4 +0.3
baz=44
324A **Moseley Ranch,** 44.61 99 ⇓P P 05 41 60.0 +0.3
baz=44
H11S1 **WAKE ISLAND Hy** 44.69 228 T T 06 29 35.0
baz=305,slow=75,SNR=5.5
H11S2 **WAKE ISLAND Hy** 44.70 228 T T 06 29 35.8
baz=26,slow=75,SNR=5.6
U32A **Winter Ranch,** 44.72 89 ⇑P P 05 42 00.4 0.0
baz=45
MDJ **Mudanjiang** 44.86 287 P P 05 42 02.3 +0.9
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,140nm,3.5s
226B **Tecolote Peak,** 44.88 97 ⇓P P 05 42 02.0 +0.2
baz=45
127A **Arkansas Junct** 44.90 96 ⇑P P 05 42 02.2 +0.2
baz=45
325A **Bean Ranch, Si** 44.95 99 ⇑P P 05 42 02.8 +0.3
baz=45
Y29A **Porterfield Fa** 44.99 94 ⇓P P 05 42 02.9 +0.2
baz=45
U33A **Lingo Farm, Me** 45.19 88 ⇓P P 05 42 04.5 +0.4
baz=45
425A **Indio Mountain** 45.38 99 ⇑P P 05 42 06.0 +0.2
baz=45,SNR=6.1
128A **Castleberry Fa** 45.44 95 ⇓P P 05 42 05.8 -0.4
baz=45
MAJO **Matsushiro** 45.44 272 *e*P P 05 42 05.0 -1.1
MAJO **Matsushiro** 45.44 272 *e*P P 05 42 06.8 +0.6
comp=Z,20nm,0.9s
MAT **Matsushiro** 45.44 272 P P 05 42 08.9 +2.8
MJAR **Matsushiro Arr** 45.44 272 P P 05 42 06.6 +0.4
MJAR **Matsushiro Arr** 45.44 272 P P 05 42 06.6 +0.4
comp=Z,5.6nm,0.8s,baz=33,slow=5.8,SNR=17
MJAR LR LR 05 59 32.6
comp=Z,28nm,18.7s,baz=220,slow=34
SUMG **Summit** 46.17 21 *e*P P 05 42 15.7 +3.8
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG **Summit** 46.17 21 *i* P P 05 42 15.7 +3.8
comp=Z,5.2nm,1.0s
526A **Mary Lane Ranc** 46.44 99 ⇓P P 05 42 14.2 0.0
baz=46
329A **Wagon Wheel Ra** 46.56 96 ⇓P P 05 42 15.1 0.0
baz=46
Z32A **Haskell** 46.65 92 ⇑P P 05 42 15.3 -0.4
baz=47
428A **Kincaid Ranch,** 46.73 97 ⇑P P 05 42 16.1 -0.3
baz=47
626A **Big Bend Ranch** 46.79 100 ⇑P P 05 42 16.6 -0.4
baz=47
TUL1 **Tulsa** 46.89 87 ⇓P P 05 42 17.0 -0.5
baz=47
330A **Mertzon** 47.08 95 ⇑P P 05 42 18.9 -0.2
baz=47
SFJD **Kangerlussuaq** 47.11 30 *i* P P 05 42 23.2 +4.4
comp=Z,13nm,1.0s
TX31 **Lajitas Ar. Si** 47.22 100 *e*P P 05 42 19.6 -0.7
TXAR **Lajitas Array** 47.23 100 P P 05 42 20.0 -0.3
TXAR PcP PcP 05 43 51.3 +0.1
TXAR **Lajitas Array** 47.23 100 P P 05 42 20.0 -0.3
comp=Z,2.5nm,0.8s,baz=307,slow=6.4,SNR=31
TXAR PcP PcP 05 43 51.3 +0.1
comp=Z,0.5nm,0.5s,baz=275,slow=1.3,SNR=5.8
TXAR LR LR 06 00 01.7
comp=Z,87nm,18.7s,baz=15,slow=33
429A **Davenport Ranc** 47.26 97 ⇓P P 05 42 20.1 -0.4
baz=47
627A **Terlingua Ranc** 47.29 99 ⇑P P 05 42 20.8 0.0
baz=47
529A **Stev Forest Ra** 47.45 98 ⇓P P 05 42 21.6 -0.4
baz=47
133A **Hamilton Ranch** 47.48 92 ⇑P P 05 42 21.3 -0.9
baz=47
Z34A **Collier Ranch,** 47.50 91 ⇓P P 05 42 21.4 -0.9
baz=47
430A **Baggett Ranch,** 47.51 96 ⇓P P 05 42 21.6 -0.8
baz=47
628A **Black Gap, Mar** 47.55 99 ⇑P P 05 42 22.4 -0.4
baz=48,SNR=5.3
331A **San Angelo** 47.58 95 ⇓P P 05 42 22.3 -0.7
baz=48
CN2 **Changchun** 47.65 289 *e*P P 05 42 26.8 +3.5
CN2 *e*S S 05 49 17.8 +1.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
233A **Rising Star** 47.93 93 ⇑P P 05 42 24.6 -1.0
baz=48
530A **J-C Ranch, Com** 47.93 97 ⇑P P 05 42 25.0 -0.7
baz=48
431A **Sonora** 47.94 96 ⇑P P 05 42 25.5 -0.3
baz=48
432A **Menard** 48.26 95 ⇑P P 05 42 27.6 -0.7
baz=48
531A **Rocksprings** 48.37 96 ⇑P P 05 42 28.8 -0.3
baz=48
JCT **Junction City** 48.55 95 ⇓P P 05 42 30.1 -0.5
baz=48
SFIN **Scholer Farm** 48.69 76 ⇓P P 05 42 30.4 -0.9
baz=49
433A **Art** 48.76 94 ⇑P P 05 42 31.5 -0.6
baz=49
631A **Perdido Creek** 48.92 97 ⇓P P 05 42 32.2 -1.1
baz=49
434A **Burnet** 49.18 93 ⇑P P 05 42 35.2 -0.1
baz=49
832A **Faith Ranch, C** 50.12 97 ⇓P P 05 42 42.3 -0.1
baz=50
833A **Chaparral WMA,** 50.41 97 ⇓P P 05 42 45.5 +0.8
baz=50
SCO **Scoresbysund** 50.95 17 *i* P P 05 42 52.5 +4.4
SCO pmax pmax
comp=Z,2.0nm,1.1s
SCO **Scoresbysund** 50.95 17 *i* P P 05 42 52.5 +4.4
comp=Z,2.1nm,1.1s
WVT **Waverly** 51.26 80 *e*P P 05 42 49.9 -1.0
WVT pmax pmax
comp=Z,13nm,0.8s
WVT **Waverly** 51.26 80 *e*P P 05 42 49.9 -1.0
comp=Z,13nm,0.8s
OXF **Oxford** 51.53 83 *e*P P 05 42 51.4 -1.6
OXF pmax pmax
comp=Z,32nm,1.1s
OXF **Oxford** 51.53 83 *e*P P 05 42 51.4 -1.6
comp=Z,32nm,1.1s
TLY **Talaya** 53.12 309 *e*P P 05 43 06.1 +1.5
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,52nm,14.0s
ULN **Ulaanbaatar** 54.25 304 *e*P P 05 43 16.9 +3.8
ULN *e*PcP PcP 05 44 21.2 +4.2
SONA1 **Songino Array** 54.57 304 *e*P P 05 43 15.9 +0.5
SONA1 *e*PcP PcP 05 44 18.8 +0.5
SONM **Songino Array** 54.59 304 P P 05 43 15.9 +0.4
SONM PcP PcP 05 44 18.4 +0.1
SONM **Songino Array** 54.59 304 P P 05 43 15.9 +0.4
comp=Z,3.7nm,0.6s,baz=45,slow=6.5,SNR=23
SONM PcP PcP 05 44 18.4 +0.1
comp=Z,4.7nm,0.7s,baz=33,slow=2.9,SNR=4.8
SONM LR LR 06 08 30.2
comp=Z,148nm,19.1s,baz=98,slow=38
KEV **Kevo** 55.19 357 *e*P P 05 43 18.5 -0.8
KEV pmax pmax

	comp=Z,1.0nm,0.4s								
KEV	**Kevo**	**55.19**	**357**	*e*P		**P**	**05 43 18.5**	**-0.8**	
	comp=Z,0.5nm,0.4s								
BJI	**Beijing**	**55.24**	**292**	P		**P**	**05 43 21.0**	**+0.9**	
BJI				S		**S**	**05 51 00.0**	**-1.4**	
BJI				SS		**SS**	**05 54 45.8**	**+0.6**	
BJI				pmax	pmax				
	comp=Z,9.0nm,0.5s								
BJI				pmax	pmax				
	comp=Z,100nm,7.5s								
BJI				LR	LR				
	comp=Z,220nm,25.4s								
BJI				LR	LR				
	comp=Z,160nm,25.7s								
ARCES	**ARCESS Array B**	**55.45**	**358**	P		**P**	**05 43 21.1**	**-0.1**	
ARCES				PcP		**PcP**	**05 44 22.2**	**+1.1**	
ARCES	**ARCESS Array B**	**55.45**	**358**	P		**P**	**05 43 21.1**	**-0.1**	
	comp=Z,4.5nm,0.8s,baz=27,slow=6.2,SNR=6.0								
ARCES				PcP		**PcP**	**05 44 22.2**	**+1.1**	
	comp=Z,4.2nm,0.7s,baz=8.9,slow=8.6,SNR=4.8								
HHC	**Hu-ho-hao-te**	**57.07**	**295**	*e*P		P	05 43 37.8	+4.5	
HHC				S		**S**	**05 51 27.0**	**+1.0**	
HHC				pmax	pmax				
	comp=Z,34nm,1.0s								
HHC				pmax	pmax				
	comp=Z,270nm,7.7s								
NVS	**Novosibirsk**	**58.80**	**323**	*e*P		**P**	**05 43 43.7**	**-1.4**	
ZAA0	**Zalesovo Array**	**58.96**	**321**	*e*P		**P**	**05 43 46.3**	**+0.1**	
ZALV	**Zalesovo Beam**	**58.96**	**321**	P		**P**	**05 43 46.8**	**+0.6**	
ZALV							05 44 36.5		
ZALV	**Zalesovo Beam**	**58.96**	**321**	P		**P**	**05 43 46.8**	**+0.6**	
ZALV				PcP		**PcP**	**05 44 36.5**	**+1.5**	
ZALV	**Zalesovo Beam**	**58.96**	**321**	P		**P**	**05 43 46.8**	**+0.6**	
	comp=Z,1.4nm,0.3s,baz=28,slow=6.7,SNR=6.3								
ZALV				PcP		**PcP**	**05 44 36.5**	**+1.5**	
	comp=Z,1.8nm,0.7s,baz=27,slow=4.0,SNR=4.5								
NJ2	**Nanjing**	**59.66**	**283**	*e*P		**P**	**05 43 53.0**	**+1.6**	
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
TMCR	**Tamitsa**	**60.12**	**351**	*e*P		**P**	**05 43 53.5**	**-0.5**	
TMCR				*e*			05 44 41.0		
TMCR				*e*			05 46 05.1		
TMCR				pmax	pmax				
	comp=Z,17nm,1.1s								
PRGR	**Permogore**	**61.75**	**347**	*e*P		**P**	**05 44 04.1**	**-1.0**	
PRGR				pmax	pmax				
	comp=Z,6.0nm,0.4s								
JOF	**Joensuu**	**61.84**	**354**	*e*P		**P**	**05 44 04.2**	**-1.6**	
JOF				pmax	pmax				
	comp=Z,3.0nm,0.8s								
JOF	**Joensuu**	**61.84**	**354**	*e*p		**P**	**05 44 04.2**	**-1.6**	
	comp=Z,3.0nm,0.8s								
KAF	**Kangasniemi**	**62.87**	**357**	*e*P		**P**	**05 44 11.5**	**-1.1**	
KAF				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KAF	**Kangasniemi**	**62.87**	**357**	*e*p		**P**	**05 44 11.5**	**-1.1**	
	comp=Z,3.8nm,0.7s								
FINES	**FINESS Array B**	**63.54**	**357**	P		**P**	**05 44 16.8**	**-0.4**	
FINES	**FINESS Array B**	**63.54**	**357**	P		**P**	**05 44 16.8**	**-0.4**	
	comp=Z,8.4nm,0.9s,baz=32,slow=5.7,SNR=7.9								
XAN	**Xi'an**	**63.56**	**292**	P		**P**	**05 44 17.5**	**-0.3**	
XAN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KURK	**Kurchatov**	**63.79**	**323**	*e*P		**P**	**05 44 18.6**	**-0.3**	
KURK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KURK	**Kurchatov**	**63.79**	**323**	*e*P		**P**	**05 44 18.6**	**-0.3**	
	comp=Z,3.4nm,0.9s								
NB2	**NORSAR Subarra**	**63.81**	**5**	P		**P**	**05 44 18.9**	**-0.1**	
	comp=Z,2.5nm,0.7s,baz=353,slow=6.9								
NOA	**NORSAR Array B**	**63.81**	**5**	P		**P**	**05 44 18.9**	**-0.1**	
NOA	**NORSAR Array B**	**63.81**	**5**	P		**P**	**05 44 18.9**	**-0.1**	
	comp=Z,4.4nm,0.8s,baz=354,slow=6.6,SNR=10								
GTA	**Gaotai**	**64.05**	**302**	*e*P		**P**	**05 44 20.5**	**-0.5**	
GTA				pP		**pP**	**05 44 29.3**	**-1.1**	
GTA				sP		**sP**	**05 44 34.5**	**+0.6**	
GTA				pmax	pmax				
	comp=Z,6.0nm,1.3s								
ARU	**Arti**	**64.40**	**338**	*d* iP		**P**	**05 44 22.3**	**-0.5**	
ARU				S		**S**	**05 52 59.8**	**+0.9**	
ARU				SS		**SS**	**05 57 03.3**	**-4.7**	
ARU				pmax	pmax				
	comp=Z,21nm,1.7s								
ARU	**Arti**	**64.40**	**338**	*e*P		**P**	**05 44 22.6**	**-0.2**	
	comp=Z,11nm,0.7s								
BRVK	**Borovoye**	**64.44**	**329**	*e*P		**P**	**05 44 23.2**	**+0.1**	
BRVK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
BRVK	**Borovoye**	**64.44**	**329**	*e*P		**P**	**05 44 23.2**	**+0.1**	
	comp=Z,4.8nm,0.9s								
LZH	**Lanzhou**	**64.63**	**297**	*e*P		P	05 44 29.3	+4.4	
LZH				pP		pP	05 44 37.0	+2.8	
LZH				sP		sP	05 44 41.5	+3.7	
LZH				pmax	pmax				
	comp=Z,44nm,1.5s								
LZH				pmax	pmax				
	comp=Z,190nm,4.9s								
MK31	**Makanchi Array**	**65.74**	**318**	*i* P		**P**	**05 44 31.0**	**-0.7**	
MK31				pmax	pmax				
	comp=Z,1.0nm,0.5s								
MK31	**Makanchi Array**	**65.74**	**318**	*e*P		**P**	**05 44 30.7**	**-1.0**	
MKAR	**Makanchi Array**	**65.74**	**318**	*e*P		**P**	**05 44 31.3**	**-0.4**	
MKAR	**Makanchi Array**	**65.74**	**318**	*e*P		**P**	**05 44 31.2**	**-0.4**	
MK01	**Makanchi Array**	**65.75**	**318**	*e*P		**P**	**05 44 30.9**	**-0.9**	
WMQ	**Urumqi**	**66.03**	**313**	P		P	05 44 24.5	-9.2	
WMQ				pmax	pmax				
	comp=Z,14nm,1.0s								
OBN	**Obninsk**	**69.18**	**350**	*e*P		**P**	**05 44 51.7**	**-1.5**	
OBN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
AKTO	**Aktyubinsk**	**70.08**	**335**	P		**P**	**05 44 58.9**	**0.0**	
AKTO	**Aktyubinsk**	**70.08**	**335**	P		**P**	**05 44 58.9**	**0.0**	
AKTO	**Aktyubinsk**	**70.08**	**335**	P		**P**	**05 44 58.9**	**0.0**	
	comp=Z,11nm,0.8s,baz=26,slow=5.9,SNR=29								
AB31	**Akbulak array**	**70.70**	**334**	P		**P**	**05 45 01.8**	**-0.9**	
AB31				pmax	pmax				
	comp=Z,7.0nm,0.6s								
ABKAR	**Akbulak array**	**70.70**	**334**	*e*P		**P**	**05 45 02.7**	**0.0**	
GYA	**Guiyang**	**70.70**	**289**	⇑*i*P		P	05 45 06.5	+3.3	
GYA				pP		pP	05 45 16.0	+3.3	
GYA				PP		**PP**	**05 47 43.5**	**+3.9**	
GYA				S		**S**	**05 54 14.8**	**-0.7**	
GYA				SKS		**SKSac**	**05 54 58.5**	**-4.7**	
GYA				SS		**SS**	**05 58 47.0**	**0.0**	
GYA				pmax	pmax				
	comp=Z,130nm,5.2s								
GYA				LR	LR				
	comp=Z,580nm,20.4s								
GYA				LR	LR				
	comp=Z,510nm,21.2s								
GYA				LR	LR				
	comp=Z,540nm,19.8s								
AAK	**Ala-Archa**	**72.18**	**321**	*e*P		**P**	**05 45 12.9**	**+0.9**	
AAK				pmax	pmax				
	comp=Z,28nm,1.0s								
AAK	**Ala-Archa**	**72.18**	**321**	*e*P		**P**	**05 45 12.8**	**+0.8**	
	comp=Z,9.3nm,0.8s								
EKS2	**Erkin-Say**	**72.41**	**322**	*e*P		**P**	**05 45 14.6**	**+1.3**	
EKS2				pmax	pmax				
	comp=Z,5.0nm,0.8s								
EKS2	**Erkin-Say**	**72.41**	**322**	*e*P		**P**	**05 45 14.6**	**+1.3**	
	comp=Z,4.8nm,0.8s								
KK31	**Karatay Array**	**73.15**	**324**	*i* P		**P**	**05 45 17.4**	**-0.2**	
KK31				pmax	pmax				
	comp=Z,7.0nm,0.7s								
KKAR	**Karatay Array**	**73.15**	**324**	*e*P		**P**	**05 45 17.1**	**-0.5**	
KKAR	**Karatay Array**	**73.15**	**324**	*e*P		**P**	**05 45 17.1**	**-0.5**	
CLL	**Collm**	**73.62**	**5**	*e*P		**P**	**05 45 20.0**	**-0.1**	
CLL	**Collm**	**73.62**	**5**	*e*P		**P**	**05 45 20.0**	**-0.1**	
CLL				*e*P(2)			05 45 24.0		
BRG	**Berggiesshubel**	**74.10**	**4**	*e*P		**P**	**05 45 23.6**	**+0.7**	
	comp=Z,5.5nm,1.0s								
BRG				*e*			05 45 28.7		
	comp=Z,8.6nm,1.1s								
BRG	**Berggiesshubel**	**74.10**	**4**	*e*P		**P**	**05 45 23.6**	**+0.7**	
BRG				pmax	pmax				
	comp=Z,6.0nm,1.0s								
AKASG	**Malin Array Be**	**74.14**	**354**	*c e*P		**P**	**05 45 22.3**	**-0.8**	
AKASG				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AKASG	**Malin Array Be**	**74.14**	**354**	P		**P**	**05 45 22.4**	**-0.8**	
AKASG	**Malin Array Be**	**74.14**	**354**	P		**P**	**05 45 22.4**	**-0.8**	
	comp=Z,4.2nm,0.6s,baz=6.9,slow=5.7,SNR=12								
AKBB	**Malin Array Si**	**74.14**	**354**	P		**P**	**05 45 24.8**	**+1.6**	
AKBB	**Malin Array Si**	**74.14**	**354**	P		**P**	**05 45 24.8**	**+1.6**	
KIEV	**Kiev**	**74.15**	**354**	*e*P		**P**	**05 45 22.7**	**-0.5**	
KIEV	**Kiev**	**74.15**	**354**	*e*P		**P**	**05 45 21.9**	**-1.3**	
	comp=Z,11nm,0.7s								
AK01	**Malin Array Si**	**74.15**	**354**	*e*P		**P**	**05 45 22.5**	**-0.7**	
AK11	**Malin Array Si**	**74.17**	**354**	*e*P		**P**	**05 45 22.6**	**-0.7**	
BAIF	**Baives**	**74.18**	**11**	*e*P		**P**	**05 45 23.2**	**-0.2**	
	comp=Z,21nm,1.0s								
BAIF	**Baives**	**74.18**	**11**	*e*P		**P**	**05 45 23.2**	**-0.2**	
BAIF				pmax	pmax				
	comp=Z,21nm,1.0s								
BAIF	**Baives**	**74.18**	**11**	*e*P		**P**	**05 45 23.2**	**-0.2**	
	comp=Z,21nm,1.0s								
AK02	**Malin Array Si**	**74.19**	**354**	*e*P		**P**	**05 45 22.8**	**-0.7**	
GIVF	**Givet**	**74.20**	**10**	*e*P		**P**	**05 45 23.4**	**-0.2**	
GIVF	**Givet**	**74.20**	**10**	*e*P		**P**	**05 45 23.4**	**-0.2**	
GIVF	**Givet**	**74.20**	**10**	*e*P		**P**	**05 45 23.4**	**-0.2**	
KSH	**Kashi**	**74.35**	**318**	P		P	05 45 28.5	+3.7	
KSH				sP		sP	05 45 43.0	+5.2	
KSH				PP		PP	05 48 17.0	+6.6	
KSH				S		**S**	**05 55 00.3**	**+3.5**	
KSH				SKS		**SKSac**	**05 55 29.0**	**-1.3**	
KSH				SS		**SS**	**05 59 48.0**	**+6.0**	
KSH				pmax	pmax				
	comp=Z,19nm,1.0s								
KSH				pmax	pmax				
	comp=Z,190nm,4.8s								
KSH				LR	LR				
	comp=Z,130nm,5.3s								
KSH				LR	LR				
	comp=Z,100nm,4.7s								
KSH				LR	LR				
	comp=Z,120nm,5.5s								
DPC	**Dobruska-Polom**	**74.70**	**3**	*e*P		**P**	**05 45 27.3**	**+0.8**	
DPC	**Dobruska-Polom**	**74.70**	**3**	*e*P		**P**	**05 45 27.3**	**+0.8**	
	comp=Z,42nm,0.7s								
FLN	**La Foliniere**	**74.88**	**14**	*e*P		**P**	**05 45 27.9**	**+0.4**	
FLN	**La Foliniere**	**74.88**	**14**	*e*P		**P**	**05 45 27.9**	**+0.4**	
FLN	**La Foliniere**	**74.88**	**14**	*e*P		**P**	**05 45 27.9**	**+0.4**	
LDF	**La Druitiere**	**75.10**	**14**	*e*P		**P**	**05 45 28.2**	**-0.6**	
LDF	**La Druitiere**	**75.10**	**14**	*e*P		**P**	**05 45 28.2**	**-0.6**	
LDF	**La Druitiere**	**75.10**	**14**	*e*P		**P**	**05 45 28.2**	**-0.6**	
GRR	**Gorron**	**75.19**	**14**	*e*P		**P**	**05 45 29.0**	**-0.3**	
	comp=Z,19nm,0.8s								
GRR	**Gorron**	**75.19**	**14**	*e*P		**P**	**05 45 29.0**	**-0.3**	
GRR				pmax	pmax				
	comp=Z,19nm,0.8s								
GRR	**Gorron**	**75.19**	**14**	*e*P		**P**	**05 45 29.0**	**-0.3**	
	comp=Z,19nm,0.8s								
KWP	**Kalwaria Pacla**	**75.45**	**358**	⇑P		**P**	**05 45 31.3**	**+0.5**	
KWP	**Kalwaria Pacla**	**75.45**	**358**	⇑*i*P		**P**	**05 45 31.3**	**+0.5**	
MEZF	**Maizieres J'vi**	**75.81**	**10**	*e*P		**P**	**05 45 33.5**	**+0.6**	
MEZF	**Maizieres J'vi**	**75.81**	**10**	*e*P		**P**	**05 45 33.5**	**+0.6**	
KHC	**Kasperske Hory**	**75.82**	**5**	*e*P		**P**	**05 45 32.9**	**0.0**	
KHC				pmax	pmax				
	comp=Z,10.0nm,1.1s								
KHC	**Kasperske Hory**	**75.82**	**5**	*e*P		**P**	**05 45 33.0**	**0.0**	
KHC	**Kasperske Hory**	**75.82**	**5**	*e*P		**P**	**05 45 32.9**	**0.0**	
	comp=Z,10nm,1.1s								
PAGF	**Fort de Pagny**	**75.83**	**10**	*e*P		**P**	**05 45 33.1**	**+0.1**	
PAGF	**Fort de Pagny**	**75.83**	**10**	*e*P		**P**	**05 45 33.1**	**+0.1**	
LSA	**Lhasa**	**76.08**	**302**	*e*P		**P**	**05 45 36.4**	**+1.1**	
LSA				pmax	pmax				
	comp=Z,17nm,0.8s								
LSA	**Lhasa**	**76.08**	**302**	*e*P		**P**	**05 45 36.4**	**+1.1**	
	comp=Z,17nm,0.8s								
SFTF	**Sexfontaines**	**76.10**	**10**	*e*P		**P**	**05 45 34.2**	**-0.4**	
SFTF	**Sexfontaines**	**76.10**	**10**	*e*P		**P**	**05 45 34.2**	**-0.4**	
GERES	**GERESS Array B**	**76.11**	**5**	P		**P**	**05 45 34.4**	**-0.3**	
GERES	**GERESS Array B**	**76.11**	**5**	P		**P**	**05 45 34.4**	**-0.3**	
	comp=Z,1.8nm,0.7s,baz=343,slow=4.2,SNR=12								
CDF	**Champ du Feu**	**76.11**	**9**	*e*P		**P**	**05 45 34.3**	**-0.4**	
	comp=Z,16nm,1.1s								
CDF	**Champ du Feu**	**76.11**	**9**	*e*P		**P**	**05 45 34.3**	**-0.4**	
CDF				pmax	pmax				
	comp=Z,16nm,1.0s								
CDF	**Champ du Feu**	**76.11**	**9**	*e*P		**P**	**05 45 34.3**	**-0.4**	
	comp=Z,16nm,1.0s								
HAU	**Haudompre**	**76.43**	**10**	*e*P		**P**	**05 45 36.1**	**-0.3**	
	comp=Z,10nm,0.8s								
HAU	**Haudompre**	**76.43**	**10**	*e*P		**P**	**05 45 36.1**	**-0.3**	
HAU				pmax	pmax				
	comp=Z,11nm,0.8s								
HAU	**Haudompre**	**76.43**	**10**	*e*P		**P**	**05 45 36.1**	**-0.3**	
	comp=Z,10nm,0.8s								
HINF	**Hinteralfeld**	**76.67**	**9**	*e*P		**P**	**05 45 37.2**	**-0.6**	
HINF	**Hinteralfeld**	**76.67**	**9**	*e*P		**P**	**05 45 37.2**	**-0.6**	
HINF	**Hinteralfeld**	**76.67**	**9**	*e*P		**P**	**05 45 37.2**	**-0.6**	
LOR	**Lormes**	**76.90**	**11**	*e*P		**P**	**05 45 38.7**	**-0.4**	
LOR	**Lormes**	**76.90**	**11**	*e*P		**P**	**05 45 38.7**	**-0.4**	
MFF	**Saint Martin d**	**77.04**	**14**	*e*P		**P**	**05 45 39.8**	**-0.1**	
	comp=Z,22nm,0.8s								
MFF	**Saint Martin d**	**77.04**	**14**	*e*P		**P**	**05 45 39.8**	**-0.1**	
MFF				pmax	pmax				
	comp=Z,22nm,0.8s								
MFF	**Saint Martin d**	**77.04**	**14**	*e*P		**P**	**05 45 39.8**	**-0.1**	
	comp=Z,22nm,0.8s								
SSF	**Saint Saulge**	**77.06**	**12**	*e*P		**P**	**05 45 39.7**	**-0.3**	
	comp=Z,12nm,0.7s								
SSF	**Saint Saulge**	**77.06**	**12**	*e*P		**P**	**05 45 39.7**	**-0.3**	
SSF				pmax	pmax				
	comp=Z,12nm,0.7s								
SSF	**Saint Saulge**	**77.06**	**12**	*e*P		**P**	**05 45 39.7**	**-0.3**	
	comp=Z,12nm,0.7s								
CONA	**Conrad Observa**	**77.11**	**3**	*i* P		**P**	**05 45 41.3**	**+1.0**	
	comp=Z,4.8nm,0.8s,SNR=5.8								
AVF	**Avril sur Loir**	**77.31**	**12**	*e*P		**P**	**05 45 40.9**	**-0.5**	
	comp=Z,7.5nm,0.6s								
AVF	**Avril sur Loir**	**77.31**	**12**	*e*P		**P**	**05 45 40.9**	**-0.5**	
AVF				pmax	pmax				
	comp=Z,8.0nm,0.6s								
AVF	**Avril sur Loir**	**77.31**	**12**	*e*P		**P**	**05 45 40.9**	**-0.5**	
	comp=Z,7.5nm,0.6s								
BUR04	**Bucovina Ar. S**	**77.41**	**357**	*e*P		**P**	**05 45 42.5**	**+0.5**	
BURAR	**Bucovina Array**	**77.41**	**357**	⇑P		**P**	**05 45 42.3**	**+0.2**	
BURAR	**Bucovina Array**	**77.41**	**357**	⇑*i*P		**P**	**05 45 42.3**	**+0.2**	
BGF	**Bois d'Agland**	**77.48**	**12**	*e*P		**P**	**05 45 42.0**	**-0.4**	
BGF	**Bois d'Agland**	**77.48**	**12**	*e*P		**P**	**05 45 42.0**	**-0.4**	
BGF	**Bois d'Agland**	**77.48**	**12**	*e*P		**P**	**05 45 42.0**	**-0.4**	
SMF	**Signal de Mont**	**77.51**	**12**	*e*P		**P**	**05 45 41.9**	**-0.6**	
	comp=Z,27nm,1.2s								
SMF	**Signal de Mont**	**77.51**	**12**	*e*P		**P**	**05 45 41.9**	**-0.6**	
SMF				pmax	pmax				
	comp=Z,27nm,1.2s								
SMF	**Signal de Mont**	**77.51**	**12**	*e*P		**P**	**05 45 41.9**	**-0.6**	
	comp=Z,27nm,1.2s								
WTTA	**Wattenberg**	**77.58**	**6**	⇑*i*P		**P**	**05 45 44.0**	**+0.9**	
	comp=Z,10nm,0.7s								
TCF	**Toulx Ste Croi**	**77.67**	**13**	*e*P		**P**	**05 45 43.0**	**-0.4**	
TCF	**Toulx Ste Croi**	**77.67**	**13**	*e*P		**P**	**05 45 43.0**	**-0.4**	
TCF	**Toulx Ste Croi**	**77.67**	**13**	*e*P		**P**	**05 45 43.0**	**-0.4**	
FETA	**Feichten**	**77.76**	**7**	⇓*i*P		**P**	**05 45 44.9**	**+0.8**	
	comp=Z,9.1nm,0.9s								
KBA	**Koelnbreinsper**	**77.86**	**5**	⇑*i*P		**P**	**05 45 45.7**	**+1.0**	
	comp=Z,13nm,0.9s								
DAVOX	**Davos/Dischmat**	**77.94**	**7**	P		**P**	**05 45 45.6**	**+0.4**	
DAVOX	**Davos/Dischmat**	**77.94**	**7**	P		**P**	**05 45 45.6**	**+0.4**	
	comp=Z,3.0nm,0.6s,baz=345,slow=10,SNR=9.4								
FUORN	**Ofenpass-Fuorn**	**78.13**	**7**	*e*P		**P**	**05 45 47.4**	**+1.1**	
	comp=Z,55nm,2.0s								
GOF	**Gofitskoye**	**78.21**	**344**	*e*P		P	05 45 41.6	-4.8	
GOF				pmax	pmax				
	comp=Z,31nm,0.9s								
SOKA	**Soboth**	**78.33**	**4**	⇑*i*P		**P**	**05 45 47.9**	**+0.8**	
	comp=Z,9.6nm,1.1s,SNR=5.3								
OBKA	**Obir**	**78.48**	**4**	*i* P		**P**	**05 45 48.8**	**+0.8**	
	comp=Z,23nm,0.8s,SNR=12								
LFF	**La Frestale**	**78.80**	**14**	*e*P		**P**	**05 45 49.7**	**+0.1**	
LFF	**La Frestale**	**78.80**	**14**	*e*P		**P**	**05 45 49.7**	**+0.1**	
LFF	**La Frestale**	**78.80**	**14**	*e*P		**P**	**05 45 49.7**	**+0.1**	
KIV	**Kislovodsk**	**79.34**	**344**	*e*P		**P**	**05 45 50.5**	**-2.3**	
KIV				*i*			05 46 00.4		
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
MLR	**Muntele Rosu**	**79.50**	**356**	⇑*i*P		P	05 45 59.2	+5.5	
KBZ	**Khabaz**	**79.53**	**344**	P		**P**	**05 45 53.5**	**-0.2**	
KBZ	**Khabaz**	**79.53**	**344**	P		**P**	**05 45 53.5**	**-0.2**	
KBZ	**Khabaz**	**79.53**	**344**	P		**P**	**05 45 53.5**	**-0.2**	
	comp=Z,4.5nm,0.9s,baz=331,slow=1.4,SNR=7.2								
ARR	**Arges**	**79.67**	**357**	⇑*i*P		**P**	**05 45 55.7**	**+1.2**	
GZR	**Gura Zlata**	**79.69**	**358**	⇓P		**P**	**05 45 54.8**	**+0.2**	
GZR	**Gura Zlata**	**79.69**	**358**	⇓*i*P		**P**	**05 45 54.8**	**+0.2**	
TAPN	**Taplejung**	**79.69**	**303**	*e*P		**P**	**05 45 55.1**	**-0.1**	
	comp=Z,62nm,0.7s								
TAPN	**Taplejung**	**79.69**	**303**	*e*P		**P**	**05 45 55.1**	**-0.1**	
	comp=Z,62nm,0.7s								
MBDF	**Montbardon**	**79.72**	**10**	*e*P		**P**	**05 45 54.8**	**-0.1**	
	comp=Z,40nm,1.3s								
MBDF	**Montbardon**	**79.72**	**10**	*e*P		**P**	**05 45 54.8**	**-0.1**	
MBDF				pmax	pmax				
	comp=Z,40nm,1.3s								
MBDF	**Montbardon**	**79.72**	**10**	*e*P		**P**	**05 45 54.8**	**-0.1**	
	comp=Z,40nm,1.3s								
GUN	**Gumba**	**80.09**	**305**	*e*P		**P**	**05 45 57.4**	**0.0**	
	comp=Z,83nm,1.0s								
JIRN	**Jiri**	**80.15**	**305**	*e*P		**P**	**05 45 58.1**	**+0.3**	
	comp=Z,109nm,0.6s								
ZEI	**Tsey**	**80.28**	**343**	*e*P		P	05 45 53.5	-4.5	
ZEI				pmax	pmax				
	comp=Z,12nm,1.7s								
TIRR	**Tirgusor**	**80.41**	**354**	⇓P		**P**	**05 45 57.0**	**-1.4**	
TIRR	**Tirgusor**	**80.41**	**354**	⇓*i*P		**P**	**05 45 57.0**	**-1.4**	
KKN	**Kakani**	**80.47**	**306**	*e*P		**P**	**05 45 59.7**	**+0.4**	
	comp=Z,30nm,0.9s								
RAMN	**Ramite**	**80.56**	**304**	*e*P		**P**	**05 45 59.5**	**-0.3**	
	comp=Z,122nm,0.8s								
GKN	**Gorkha**	**80.59**	**306**	*e*P		**P**	**05 45 59.6**	**-0.3**	
	comp=Z,54nm,0.8s								
PKI	**Pulchoki**	**80.59**	**305**	*e*P		**P**	**05 45 59.9**	**-0.2**	
	comp=Z,44nm,0.7s								
PKIN	**Phulchoki**	**80.59**	**305**	*e*P		**P**	**05 45 59.7**	**-0.3**	
	comp=Z,24nm,0.6s								
SBF	**Sospel**	**80.64**	**9**	*e*P		**P**	**05 45 59.4**	**-0.4**	
SBF	**Sospel**	**80.64**	**9**	*e*P		**P**	**05 45 59.4**	**-0.4**	
SBF	**Sospel**	**80.64**	**9**	*e*P		**P**	**05 45 59.4**	**-0.4**	
DANN	**Dangsing**	**80.69**	**307**	*e*P		**P**	**05 46 00.8**	**+0.2**	
	comp=Z,162nm,0.8s								
DMN	**Daman**	**80.70**	**306**	*e*P		**P**	**05 46 01.0**	**+0.4**	
	comp=Z,61nm,0.8s								
KOLN	**Koldanda**	**81.26**	**307**	*e*P		**P**	**05 46 03.2**	**-0.3**	
	comp=Z,57nm,1.0s								
CM31	**Chiang Mai Arr**	**81.33**	**290**	*e*P		**P**	**05 46 03.6**	**-0.1**	
	comp=Z,12nm,0.7s								
CMAR	**Chiang Mai Arr**	**81.33**	**290**	P		**P**	**05 46 03.8**	**+0.1**	
CMAR	**Chiang Mai Arr**	**81.33**	**290**	P		**P**	**05 46 03.8**	**+0.1**	
	comp=Z,13nm,0.8s,baz=13,slow=5.6,SNR=33								
CM01	**Chiang Mai Arr**	**81.35**	**290**	*e*P		**P**	**05 46 03.5**	**-0.3**	
ES19	**SONSECA Array**	**83.16**	**19**	*e*P		**P**	**05 46 14.1**	**+1.0**	
ESDC	**Sonseca Array**	**83.18**	**19**	P		**P**	**05 46 13.1**	**-0.1**	
ESDC	**Sonseca Array**	**83.18**	**19**	P		**P**	**05 46 13.1**	**-0.1**	
	comp=Z,5.8nm,0.8s,baz=340,slow=4.1,SNR=12								
MMB	**Musomiste**	**83.47**	**357**	⇓P		**P**	**05 46 14.9**	**+0.3**	
MMB	**Musomiste**	**83.47**	**357**	⇓*i*P		**P**	**05 46 14.9**	**+0.3**	
BR231	**Keskin MP Arra**	**84.67**	**350**	*e*P		**P**	**05 46 22.1**	**+1.2**	
BR131	**Keskin Array S**	**84.70**	**350**	*e*P		**P**	**05 46 20.7**	**-0.4**	
	comp=Z,1.8nm,0.7s								
BRTR	**Keskin Array B**	**84.70**	**350**	P		**P**	**05 46 21.4**	**+0.3**	
BRTR	**Keskin Array B**	**84.70**	**350**	P		**P**	**05 46 21.4**	**+0.3**	
	comp=Z,2.1nm,0.7s,baz=25,slow=3.4,SNR=11								
BRTR				LR		LR	06 29 10.6		
	comp=Z,28nm,20.7s,baz=153,slow=39								
TIP	**Timpagrande**	**85.88**	**3**	*e*P		**P**	**05 46 27.7**	**+0.9**	
	comp=Z,20nm,1.4s								
CTA	**Charters Tower**	**87.96**	**230**	P		**P**	**05 46 39.0**	**+2.0**	
CTA	**Charters Tower**	**87.96**	**230**	P		**P**	**05 46 39.0**	**+2.0**	
	comp=Z,3.8nm,0.6s,baz=34,slow=12,SNR=3.6								
KEST	**Kesra**	**88.88**	**9**	P		**P**	**05 46 41.9**	**+0.5**	
KEST	**Kesra**	**88.88**	**9**	P		**P**	**05 46 41.9**	**+0.5**	
	comp=Z,1.6nm,1.0s,baz=344,slow=18,SNR=3.2								
MDT	**Midelt**	**89.70**	**21**	P		**P**	**05 46 45.1**	**-0

baz=24,SNR=6.8
QLP Quilpie 24.54 140 P **P** 05 45 20.1 +1.3
baz=24,SNR=25
BBOO Buckleboo 25.80 162 *e*P **P** 05 45 30.8 +0.7
129nm,0.8s
BBOO Buckleboo 25.80 162 P **P** 05 45 31.2 +1.2
baz=26,SNR=23
NWAO Narrogin (SRO) 26.00 199 LR LR 05 55 28.4
comp=Z,64nm,18.7s,baz=159,slow=36
STKA Stephens Creek 27.15 152 *e*P **P** 05 45 42.8 +0.6
0.9nm,0.5s
STKA Stephens Creek 27.15 152 P **P** 05 45 43.0 +0.7
2.7nm,0.6s,baz=319,slow=8.3,SNR=15
STKA LR LR 05 57 50.9
comp=Z,41nm,18.8s,baz=29,slow=39
STKA Stephens Creek 27.15 152 P **P** 05 45 43.2 +0.9
baz=27,SNR=8.1
HTT Hallett 27.35 158 P **P** 05 45 45.7 +1.6
baz=27,SNR=5.8
CMSA Cobar Meteorol 29.01 145 P **P** 05 46 00.3 +1.4
baz=29,SNR=7.4
PSI Prapat 29.92 291 LR LR 05 57 34.8
comp=Z,114nm,20.5s,baz=27,slow=35
ARPS Mount Arapiles 31.42 156 P **P** 05 46 22.6 +2.6
baz=31,SNR=5.6
CMAR Chiang Mai Arr 38.28 314 P **P** 05 47 19.5 0.0
CMAR Chiang Mai Arr 38.28 314 P **P** 05 47 19.5 0.0
2.0nm,0.6s,baz=146,slow=6.9,SNR=8.8
KSAR Wonju Array Be 45.57 1 P **P** 05 48 17.6 -1.1
KSRS Korea Array 45.58 1 P **P** 05 48 17.6 -1.2
2.0nm,0.6s,baz=174,slow=11,SNR=6.4
TAPN Taplejung 51.89 315 *e*P **P** 05 49 06.9 -1.0
14nm,0.4s
TAPN Taplejung 51.89 315 *e*P **P** 05 49 06.9 -1.0
14nm,0.4s
RPZ Rata Peaks 52.17 140 P **P** 05 49 10.0 +0.6
RPZ Rata Peaks 52.17 140 P **P** 05 49 10.0 +0.6
14nm,0.6s,baz=45,slow=10.0,SNR=6.2
RAMN Ramite 52.44 313 *e*P **P** 05 49 11.2 -0.7
21nm,0.5s
RAMN Ramite 52.44 313 *e*P **P** 05 49 11.2 -0.7
21nm,0.5s
USRK Ussuriysk Arra 52.52 5 P **P** 05 49 09.6 -2.2
1.9nm,0.7s,baz=168,slow=6.4,SNR=6.2
JIRN Jiri 53.15 314 *e*P **P** 05 49 16.3 -1.0
12nm,0.7s
JIRN Jiri 53.15 314 *e*P **P** 05 49 16.3 -1.0
12nm,0.7s
GUN Gumba 53.52 314 *e*P **P** 05 49 18.7 -1.3
18nm,0.7s
GUN Gumba 53.52 314 *e*P **P** 05 49 18.7 -1.3
18nm,0.7s
PKI Pulchoki 53.66 313 *e*P **P** 05 49 19.8 -1.2
13nm,0.5s
PKI Pulchoki 53.66 313 *e*P **P** 05 49 20.0 -1.0
9.1nm,0.4s
PKIN Phulchoki 53.67 313 *e*P **P** 05 49 20.0 -1.0
9.1nm,0.4s
GKN Gorkha 54.47 313 *e*P **P** 05 49 25.7 -1.0
20nm,0.4s
GKN Gorkha 54.47 313 *e*P **P** 05 49 25.7 -1.0
20nm,0.4s
KOLN Koldanda 55.09 312 *e*P **P** 05 49 31.4 +0.1
KOLN Koldanda 55.09 312 *e*P **P** 05 49 31.4 +0.1
DANN Dangsing 55.30 313 *e*P **P** 05 49 32.6 -0.3
14nm,0.5s
DANN Dangsing 55.30 313 *e*P **P** 05 49 32.6 -0.3
14nm,0.5s
ULN Ulaanbaatar 58.64 345 *e*P **P** 05 49 55.5 -0.6
3.0nm,0.8s
SONM Songino Array 58.79 344 P **P** 05 49 56.7 -0.3
SONM Songino Array 58.79 344 P **P** 05 49 56.7 -0.3
1.2nm,0.4s,baz=162,slow=7.3,SNR=20
PETK Petropavlovsk- 66.63 20 P **P** 05 50 47.6 -1.4
PETK Petropavlovsk- 66.63 20 P **P** 05 50 47.6 -1.4
2.1nm,0.5s,baz=111,slow=2.0,SNR=3.1
MK31 Makanchi Array 67.67 329 *e*P **P** 05 50 54.2 -1.6
ZALV Zalesovo Beam 71.44 335 P **P** 05 51 16.9 -1.9
ZALV Zalesovo Beam 71.44 335 P **P** 05 51 16.9 -1.9
1.9nm,0.5s,baz=121,slow=5.0,SNR=8.0
VNDA Vanda 71.51 172 P **P** 05 51 19.5 +0.5
VNDA Vanda 71.51 172 P **P** 05 51 19.5 +0.5
0.9nm,0.6s,baz=304,slow=6.1,SNR=6.1
KURK Kurchatov 72.06 330 *e*P **P** 05 51 21.1 -1.5
1.9nm,0.9s
QSPA South Pole Qui 81.63 180 P **P** 05 52 17.1 +0.6
QSPA South Pole Qui 81.63 180 P **P** 05 52 17.1 +0.6
2.8nm,0.7s,baz=330,slow=1.8,SNR=11
AKTO Aktyubinsk 83.22 323 P **P** 05 52 23.7 -1.2
AKTO Aktyubinsk 83.22 323 P **P** 05 52 23.7 -1.2
1.3nm,0.6s,baz=87,slow=4.4,SNR=4.8
SNAA Sanae 93.59 194 P **P** 05 53 16.0 +1.5
SNAA Sanae 93.59 194 P **P** 05 53 16.0 +1.5
0.2nm,0.6s,baz=170,slow=6.1,SNR=6.4
LBTB Lobatse 96.52 244 *e*P **P** 05 53 30.3 +1.4
17nm,0.8s
CPUP Villa Florida 145.29 173 PKPbc **PKPdf** 05 59 36.9 -0.2
CPUP Villa Florida 145.29 173 PKPbc **PKPdf** 05 59 36.9 -0.2
1.9nm,0.5s,baz=195,slow=3.3,SNR=5.6
LPAZ La Paz 151.40 149 PKPbc **PKPbc** 05 59 54.6 +0.5
LPAZ La Paz 151.40 149 PKPbc **PKPbc** 05 59 54.6 +0.5
0.9nm,0.4s,baz=343,slow=4.2,SNR=7.6

*ISCJB **30** 06:12:33.5±0.5, 45˚.76N±0˚.03×26˚.70E±0˚.03, h122km±4km, Error ellipse: s-maj=4.4km s-min=3.8km az=156.7*
*SOF **30** 06:12:34.8, 45˚.73N×26˚.58E, h77km, MD3.0*
*CSEM **30** 06:12:34.0±0.2, 45˚.77N×26˚.69E, h120km±2km, MD4.1, Error ellipse: s-maj=3.6km s-min=3.2km az=178.0*
*BUC **30** 06:12:34.4±0.6, 45˚.78N×26˚.70E, h119km±10km, MD4.1/3, Error ellipse: s-maj=8.1km s-min=6.8km az=343.0*
*BEO **30** 06:12:35.9±1.0, 45˚.53N×26˚.26E, h0km, ML3.2/6*
ISC 30 06:12:32.5±1.3, 45˚.79N±0˚.03×26˚.68E±0˚.03, h132km±6km, n138, σ1§16/185, 43C-57D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.07**	**344**	⇓*i*P	**Pn**	**06 12 50.8**	**+0.3**
PLOR	**Plostina**	**0.07**	**344**	⇓*i*P	**Pn**	**06 12 50.8**	**+0.3**
PLOR				*i* S	**Sn**	06 13 02.9	-1.2
PLOR	**Plostina**	**0.07**	**344**	⇓*i*P	**Pn**	**06 12 50.8**	**+0.3**
PLOR				*i* S	**Sn**	06 13 02.9	-1.2
VRI	**Vrincioaia**	**0.09**	**25**	⇓*i*P	**Pn**	**06 12 50.9**	**+0.4**
VRI	**Vrincioaia**	**0.09**	**25**	⇓*i*P	**Pn**	**06 12 50.9**	**+0.4**
VRI				*i* S	**Sn**	06 13 02.5	-1.6
VRI	**Vrincioaia**	**0.09**	**25**	⇓*i*P	**Pn**	**06 12 50.9**	**+0.4**
VRI				*i* S	**Sn**	06 13 02.5	-1.6
PETR	**Petresti**	**0.39**	**99**	⇑*i*P	**Pn**	**06 12 52.0**	**+0.7**
PETR	**Petresti**	**0.39**	**99**	⇑*i*P	**Pn**	**06 12 52.0**	**+0.7**
PETR				*i* S	**Sn**	06 13 05.2	-0.2
PETR	**Petresti**	**0.39**	**99**	⇑*i*P	**Pn**	**06 12 52.0**	**+0.7**
PETR				*i* S	**Sn**	06 13 05.2	-0.2
GRER		**0.46**	**153**	⇑*i*P	**Pn**	**06 12 52.4**	**+0.8**
GRER		**0.46**	**153**	⇑*i*P	**Pn**	**06 12 52.4**	**+0.8**
GRER		**0.46**	**153**	⇑*i*P	**Pn**	**06 12 52.4**	**+0.8**
GHRR		**0.58**	**62**	⇑*i*P	**Pn**	**06 12 53.1**	**+0.8**
GHRR		**0.58**	**62**	⇑*i*P	**Pn**	**06 12 53.1**	**+0.8**
GHRR				*i* S	**Sn**	06 13 07.4	+0.1
GHRR		**0.58**	**62**	⇑*i*P	**Pn**	**06 12 53.1**	**+0.8**
GHRR				*i* S	**Sn**	06 13 07.4	+0.1
MLR	**Muntele Rosu**	**0.59**	**240**	⇓*i*P	**Pn**	**06 12 53.3**	**+0.7**
MLR	**Muntele Rosu**	**0.59**	**240**	⇓*i*P	**Pn**	**06 12 53.3**	**+0.7**
MLR				*i* S	**Sn**	06 13 06.9	-0.8
MLR	**Muntele Rosu**	**0.59**	**240**	⇓*i*P	**Pn**	**06 12 53.3**	**+0.7**
MLR				*i* S	**Sn**	06 13 06.9	-0.8
ISR	**Istrita**	**0.68**	**188**	⇓*i*P	**Pn**	**06 12 53.9**	**+0.9**
ISR	**Istrita**	**0.68**	**188**	⇓*i*P	**Pn**	**06 12 53.9**	**+0.9**
ISR	**Istrita**	**0.68**	**188**	⇓*i*P	**Pn**	**06 12 53.9**	**+0.9**
TESR	**Tescani**	**0.72**	**359**	⇑*i*P	**Pn**	**06 12 53.7**	**+0.4**
TESR	**Tescani**	**0.72**	**359**	⇑*i*P	**Pn**	**06 12 53.7**	**+0.4**
TESR				*i* S	**Sn**	06 13 07.3	-1.8
TESR	**Tescani**	**0.72**	**359**	⇑*i*P	**Pn**	**06 12 53.7**	**+0.4**
TESR				*i* S	**Sn**	06 13 07.3	-1.8
SECR		**0.86**	**210**	⇓*i*P	**Pn**	**06 12 55.7**	**+1.2**
SECR		**0.86**	**210**	⇓*i*P	**Pn**	**06 12 55.7**	**+1.2**
SECR				*i* S	**Sn**	06 13 11.7	+0.6
SECR		**0.86**	**210**	⇓*i*P	**Pn**	**06 12 55.7**	**+1.2**
SECR				*i* S	**Sn**	06 13 11.7	+0.6
PGOR	**Pogoanele**	**0.91**	**166**	⇓*i*P	**Pn**	**06 12 55.7**	**+0.9**
PGOR	**Pogoanele**	**0.91**	**166**	⇓*i*P	**Pn**	**06 12 55.7**	**+0.9**
PGOR	**Pogoanele**	**0.91**	**166**	⇓*i*P	**Pn**	**06 12 55.7**	**+0.9**
DOPR	**Dopca**	**0.92**	**282**	⇓*i*P	**Pn**	**06 12 55.8**	**+0.9**
DOPR	**Dopca**	**0.92**	**282**	⇓*i*P	**Pn**	**06 12 55.8**	**+0.9**
DOPR	**Dopca**	**0.92**	**282**	⇓*i*P	**Pn**	**06 12 55.8**	**+0.9**
PLAR	**PLOIESTI**	**0.98**	**208**	⇓*i*P	**Pn**	**06 12 56.8**	**+1.3**
PLAR	**PLOIESTI**	**0.98**	**208**	⇓*i*P	**Pn**	**06 12 56.8**	**+1.3**
PLAR	**PLOIESTI**	**0.98**	**208**	⇓*i*P	**Pn**	**06 12 56.8**	**+1.3**
SULR		**1.15**	**195**	⇓*i*P	**Pn**	**06 12 58.2**	**+1.2**
SULR		**1.15**	**195**	⇓*i*P	**Pn**	**06 12 58.2**	**+1.2**
SULR				*i* S	**Sn**	06 13 16.2	+0.6
SULR		**1.15**	**195**	⇓*i*P	**Pn**	**06 12 58.2**	**+1.2**
SULR				*i* S	**Sn**	06 13 16.2	+0.6
VOIR		**1.19**	**254**	⇓*i*P	**Pn**	**06 12 58.3**	**+0.7**
VOIR		**1.19**	**254**	⇓*i*P	**Pn**	**06 12 58.3**	**+0.7**
VOIR				*i* S	**Sn**	06 13 15.7	-0.9
VOIR		**1.19**	**254**	⇓*i*P	**Pn**	**06 12 58.3**	**+0.7**
VOIR				*i* S	**Sn**	06 13 15.7	-0.9
CFR	**Carcaliu**	**1.20**	**120**	⇑*i*P	**Pn**	**06 12 57.9**	**+0.4**
CFR	**Carcaliu**	**1.20**	**120**	⇑*i*P	**Pn**	**06 12 57.9**	**+0.4**
CFR				*i* S	**Sn**	06 13 15.1	-1.3
CFR	**Carcaliu**	**1.20**	**120**	⇑*i*P	**Pn**	**06 12 57.9**	**+0.4**
CFR				*i* S	**Sn**	06 13 15.1	-1.3
AMRR	**Amara**	**1.27**	**158**	⇓*i*P	**Pn**	**06 12 59.1**	**+0.9**
AMRR	**Amara**	**1.27**	**158**	⇓*i*P	**Pn**	**06 12 59.1**	**+0.9**
AMRR				*i* S	**Sn**	06 13 17.2	-0.5
AMRR	**Amara**	**1.27**	**158**	⇓*i*P	**Pn**	**06 12 59.1**	**+0.9**
AMRR				*i* S	**Sn**	06 13 17.2	-0.5
LEOM	**Leova**	**1.29**	**57**	⇑*i*P	**Pn**	**06 12 59.6**	**+1.2**
LEOM	**Leova**	**1.29**	**57**	⇑*i*P	**Pn**	**06 12 59.6**	**+1.2**
LEOM				*i* S	**Sn**	06 13 18.1	-0.1
LEOM	**Leova**	**1.29**	**57**	⇑*i*P	**Pn**	**06 12 59.6**	**+1.2**
LEOM				*i* S	**Sn**	06 13 18.1	-0.1
HARR	**Harsova**	**1.41**	**141**	⇑*i*P	**Pn**	**06 13 00.4**	**+0.6**
HARR	**Harsova**	**1.41**	**141**	⇑*i*P	**Pn**	**06 13 00.4**	**+0.6**
HARR	**Harsova**	**1.41**	**141**	⇑*i*P	**Pn**	**06 13 00.4**	**+0.6**
CIOR	**Ciorogarla**	**1.45**	**203**	⇓*i*P	**Pn**	**06 13 01.1**	**+0.9**
CIOR	**Ciorogarla**	**1.45**	**203**	⇓*i*P	**Pn**	**06 13 01.1**	**+0.9**
CIOR				*i* S	**Sn**	06 13 21.0	-0.3
CIOR	**Ciorogarla**	**1.45**	**203**	⇓*i*P	**Pn**	**06 13 01.1**	**+0.9**
CIOR				*i* S	**Sn**	06 13 21.0	-0.3
ARR	**Arges**	**1.49**	**254**	⇑*i*P	**Pn**	**06 13 02.1**	**+1.3**
ARR	**Arges**	**1.49**	**254**	⇑*i*P	**Pn**	**06 13 02.1**	**+1.3**
ARR				*i* S	**Sn**	06 13 22.3	0.0
ARR	**Arges**	**1.49**	**254**	⇑*i*P	**Pn**	**06 13 02.1**	**+1.3**
ARR				*i* S	**Sn**	06 13 22.3	0.0
BUC1	**Bucharest**	**1.51**	**198**	⇑*i*P	**Pn**	**06 13 01.8**	**+0.9**
BUC1	**Bucharest**	**1.51**	**198**	⇑*i*P	**Pn**	**06 13 01.8**	**+0.9**
BUC1				*i* S	**Sn**	06 13 21.7	-0.7
BUC1	**Bucharest**	**1.51**	**198**	⇑*i*P	**Pn**	**06 13 01.8**	**+0.9**
BUC1				*i* S	**Sn**	06 13 21.7	-0.7
IAS	**Iasi**	**1.53**	**23**	⇑*i*P	**Pn**	**06 13 01.8**	**+0.7**
IAS	**Iasi**	**1.53**	**23**	⇑*i*P	**Pn**	**06 13 01.8**	**+0.7**
IAS				*i* S	**Sn**	06 13 22.3	-0.6
IAS	**Iasi**	**1.53**	**23**	⇑*i*P	**Pn**	**06 13 01.8**	**+0.7**
IAS				*i* S	**Sn**	06 13 22.3	-0.6
GOLR		**1.54**	**233**	S	**Sn**	06 13 23.4	+0.4
GOLR		**1.54**	**233**	*i* S	**Sn**	06 13 23.4	+0.4
GOLR		**1.54**	**233**	*i* S	**Sn**	06 13 23.4	+0.4
TLCR		**1.62**	**111**	⇓*i*P	**Pn**	**06 13 02.8**	**+0.7**
TLCR		**1.62**	**111**	⇓*i*P	**Pn**	**06 13 02.8**	**+0.7**
TLCR				*i* S	**Sn**	06 13 23.6	-1.0
TLCR		**1.62**	**111**	⇓*i*P	**Pn**	**06 13 02.8**	**+0.7**
TLCR				*i* S	**Sn**	06 13 23.6	-1.0
HUMR	**Humele**	**1.74**	**224**	⇓*i*P	**Pn**	**06 13 04.3**	**+0.8**
HUMR	**Humele**	**1.74**	**224**	⇓*i*P	**Pn**	**06 13 04.3**	**+0.8**
HUMR				*i* S	**Sn**	06 13 26.5	-0.6
HUMR	**Humele**	**1.74**	**224**	⇓*i*P	**Pn**	**06 13 04.3**	**+0.8**
HUMR				*i* S	**Sn**	06 13 26.5	-0.6
CVD	**Cernavoda**	**1.76**	**146**	⇑*i*P	**Pn**	**06 13 04.2**	**+0.5**
CVD	**Cernavoda**	**1.76**	**146**	⇑*i*P	**Pn**	**06 13 04.2**	**+0.5**
CVD				*i* S	**Sn**	06 13 25.5	-2.0
CVD	**Cernavoda**	**1.76**	**146**	⇑*i*P	**Pn**	**06 13 04.2**	**+0.5**
TIRR	**Tirgusor**	**1.81**	**137**	⇑*i*P	**Pn**	**06 13 05.1**	**+0.8**
TIRR	**Tirgusor**	**1.81**	**137**	⇑*i*P	**Pn**	**06 13 05.1**	**+0.8**
TIRR				*i* S	**Sn**	06 13 26.5	-2.1
TIRR	**Tirgusor**	**1.81**	**137**	⇑*i*P	**Pn**	**06 13 05.1**	**+0.8**
MSAB	**Monastry St. A**	**1.88**	**154**	⇓*i*P	**Pn**	**06 13 06.5**	**+1.3**
MSAB	**Monastry St. A**	**1.88**	**154**	⇓*i*P	**Pn**	**06 13 06.5**	**+1.3**
MSAB				*i* S	**Sn**	06 13 28.6	-1.5
MSAB	**Monastry St. A**	**1.88**	**154**	⇓*i*P	**Pn**	**06 13 06.5**	**+1.3**
MSAB				*i* S	**Sn**	06 13 28.6	-1.5
KIS	**Kishinev**	**1.92**	**50**	⇑*i*P	**Pn**	**06 13 06.5**	**+1.0**
KIS	700nm,0.7s			*i* S	**Sn**	**06 13 30.0**	**-0.8**
	300nm,1.0s						
KIS	**Kishinev**	**1.92**	**50**	⇓*i*P	**Pn**	**06 13 06.8**	**+1.3**
KIS	**Kishinev**	**1.92**	**50**	⇓*i*P	**Pn**	**06 13 06.8**	**+1.3**
KIS	**Kishinev**	**1.92**	**50**	⇓*i*P	**Pn**	**06 13 06.8**	**+1.3**
KIS				*i* S	**Sn**	06 13 30.0	-0.8
	300nm,1.0s						
ARCR	**ARCALIA**	**2.06**	**310**	⇓*i*P	**Pn**	**06 13 09.2**	**+1.8**
ARCR	**ARCALIA**	**2.06**	**310**	⇓*i*P	**Pn**	**06 13 09.2**	**+1.8**
ARCR	**ARCALIA**	**2.06**	**310**	⇓*i*P	**Pn**	**06 13 09.2**	**+1.8**
LOT	**Lotru**	**2.07**	**262**	⇑*i*P	**Pn**	**06 13 09.2**	**+1.7**
LOT	**Lotru**	**2.07**	**262**	⇑*i*P	**Pn**	**06 13 09.2**	**+1.7**
LOT	**Lotru**	**2.07**	**262**	⇑*i*P	**Pn**	**06 13 09.2**	**+1.7**
ZIMR		**2.33**	**204**	S	**Sn**	**06 13 38.4**	**-1.4**
ZIMR		**2.33**	**204**	*i* S	**Sn**	**06 13 38.4**	**-1.4**
PSN	**Preselentsi**	**2.36**	**152**	⇑*i*P	**Pn**	**06 13 12.8**	**+1.7**
PSN				S	**Sn**	**06 13 40.3**	**-0.4**
PSN	**Preselentsi**	**2.36**	**152**	⇑*i*P	**Pn**	**06 13 12.8**	**+1.7**
PSN				*i* S	**Sn**	**06 13 40.3**	**-0.4**
PSN	**Preselentsi**	**2.36**	**152**	⇑*i*P	**Pn**	**06 13 12.8**	**+1.7**
PSN				*i* S	**Sn**	**06 13 40.3**	**-0.4**
MANR	**Mangalia**	**2.40**	**145**	⇓*i*P	**Pn**	**06 13 12.9**	**+1.4**
MANR	**Mangalia**	**2.40**	**145**	⇓*i*P	**Pn**	**06 13 12.9**	**+1.4**
MANR	**Mangalia**	**2.40**	**145**	⇓*i*P	**Pn**	**06 13 12.9**	**+1.4**
SZH	**Strazhica**	**2.58**	**192**	P	**Pn**	**06 13 14.7**	**+0.9**
SZH	**Strazhica**	**2.58**	**192**	P	**Pn**	**06 13 14.7**	**+0.9**
PRD	**Provadia**	**2.64**	**168**	*i* P	**Pn**	**06 13 15.9**	**+1.4**
PRD	**Provadia**	**2.64**	**168**	*i* P	**Pn**	**06 13 15.9**	**+1.4**
SRE	**Strehaia**	**2.70**	**247**	S	**Sn**	**06 13 47.5**	**-0.7**
SRE	**Strehaia**	**2.70**	**247**	*i* S	**Sn**	**06 13 47.5**	**-0.7**
SRE	**Strehaia**	**2.70**	**247**	*i* S	**Sn**	**06 13 47.5**	**-0.7**
PVL	**Pavlikeni**	**2.74**	**201**	*i* P	**Pn**	**06 13 18.5**	**+2.6**
PVL	**Pavlikeni**	**2.74**	**201**	*i* P	**Pn**	**06 13 18.5**	**+2.6**
GZR	**Gura Zlata**	**2.77**	**263**	*e*Pn	**Pn**	**06 13 17.8**	**+1.6**
GZR	**Gura Zlata**	**2.77**	**263**	⇓*i*P	**Pn**	**06 13 18.5**	**+2.3**
GZR	**Gura Zlata**	**2.77**	**263**	⇓*i*P	**Pn**	**06 13 18.5**	**+2.3**
GZR	**Gura Zlata**	**2.77**	**263**	*e*Pn	**Pn**	**06 13 17.8**	**+1.6**
GZR	**Gura Zlata**	**2.77**	**263**	⇓*i*P	**Pn**	**06 13 18.5**	**+2.3**
DRGR		**2.93**	**291**	*e*Pn	Pn	06 13 22.0	+3.7
DRGR		**2.93**	**291**	*e*Pn	Pn	06 13 22.0	+3.7
MPEP	**Malo Peshtene**	**3.21**	**222**	*i* P	**Pn**	**06 13 23.0**	**+1.1**
BZS	**Buzias**	**3.55**	**269**	*e*Pn	**Pn**	**06 13 28.1**	**+1.8**
BZS	**Buzias**	**3.55**	**269**	*e*Pn	**Pn**	**06 13 28.1**	**+1.8**
ZAPS	**Zavoj**	**3.83**	**230**	*e*Pn	**Pn**	**06 13 31.0**	**+0.9**
ZAPS	**Zavoj**	**3.83**	**230**	*e*Pn	**Pn**	**06 13 31.0**	**+0.9**
VTS	**Vitosha**	**4.05**	**219**	P	**Pn**	**06 13 34.1**	**+0.9**
VTS	**Vitosha**	**4.05**	**219**	*e*Pn	**Pn**	**06 13 34.0**	**+0.9**
VTS	**Vitosha**	**4.05**	**219**	P	**Pn**	**06 13 34.1**	**+0.9**
GRUS	**Gruza**	**4.64**	**248**	*e*Pn	**Pn**	**06 13 41.4**	**+0.6**
GRUS				*e*Sn	**Sn**	**06 14 31.8**	**-2.2**
GRUS	**Gruza**	**4.64**	**248**	*e*Pn	**Pn**	**06 13 41.4**	**+0.6**
GRUS				*e*Sn	**Sn**	**06 14 31.8**	**-2.2**
TRUS	**Trudelj**	**4.71**	**253**	*e*Pn	**Pn**	**06 13 42.0**	**+0.2**
TRUS	**Trudelj**	**4.71**	**253**	*e*Pn	**Pn**	**06 13 42.0**	**+0.2**
DIVS	**Divibare**	**5.04**	**253**	*e*Pn	**Pn**	**06 13 46.9**	**+0.7**
DIVS				*e*Sn	**Sn**	**06 14 40.5**	**-3.0**
DIVS	**Divibare**	**5.04**	**253**	*e*Pn	**Pn**	**06 13 46.9**	**+0.7**
DIVS				*e*Sn	**Sn**	**06 14 40.5**	**-3.0**
IVAS	**Ivanjica**	**5.15**	**247**	*e*Pn	**Pn**	**06 13 48.4**	**+0.7**
IVAS				*e*Sn	**Sn**	**06 14 43.9**	**-2.3**
IVAS	**Ivanjica**	**5.15**	**247**	*e*Pn	**Pn**	**06 13 48.4**	**+0.7**
IVAS				*e*Sn	**Sn**	**06 14 43.9**	**-2.3**
VAY	**Valandovo**	**5.37**	**215**	*e*Pn	**Pn**	**06 13 50.0**	**-0.6**
VAY				*i* Sn	Sn	06 14 40.5	-11
VAY	**Valandovo**	**5.37**	**215**	*e*Pn	**Pn**	**06 13 50.4**	**-0.1**
SKO	**Skopje**	**5.37**	**227**	*e*Pn	Pn	06 13 54.3	+3.7
SKO				*i* Sn	Sn	06 14 39.0	-12
SKO	**Skopje**	**5.37**	**227**	*e*Pn	Pn	06 13 54.7	+4.1

*ISCJB **30** 06:20:03.8±0.9, 33˚.2N±0˚.1×138˚.2E±0˚.1, h321km±9km, mb2.5/3, Error ellipse: s-maj=20.7km s-min=14.3km az=170.7*
*IDC **30** 06:20:03.5±2.2, 32˚.96N×138˚.08E, h299km±24km, mb2.5/3, mb1 2.7/5, mb1mx2.6/27, mbtmp2.5/5, Error ellipse: s-maj=31.4km s-min=21.5km az=102.0*
*JMA **30** 06:20:04.4±0.4, 33˚.06N×138˚.23E, h317km, M3.0*
ISC 30 06:20:05.5±1.1, 33˚.3N±0˚.1×138˚.1E±0˚.1, h320km±10km, n14, σ1§46/19, mb2.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.43**	**97**	P	**Pn**	**06 20 52.7**	**+2.5**
JWZ	**Kozaga**	**2.03**	**277**	P	**Pn**	**06 20 54.0**	**-0.3**
JNY	**Yasuok**	**2.07**	**354**	P	**Pn**	**06 20 56.0**	**+1.4**
BSO3	**Boso 3**	**2.49**	**52**	P	**Pn**	**06 20 57.5**	**-0.1**
BSO3				*e*S	**S**	**06 21 38.9**	**-0.5**
BSO4	**Boso 4**	**2.50**	**47**	P	**Pn**	**06 20 57.2**	**-0.7**
BSO4				*e*S	**S**	**06 21 39.9**	**+0.1**
JHU	**Hanno**	**2.72**	**20**	P	**Pn**	**06 20 59.7**	**-0.3**
JHU				*e*S	**S**	**06 21 43.1**	**-0.6**
BSO1	**Boso 1**	**2.73**	**60**	P	**Pn**	**06 20 58.7**	**-0.8**
BSO1				*e*S	**S**	**06 21 41.7**	**-1.1**
JRY	**Ryogami san**	**2.79**	**13**	P	**Pn**	**06 21 01.7**	**+1.1**
MJAR	**Matsushiro Arr**	**3.24**	**1**	P	**Pn**	**06 21 05.0**	**+0.1**
	0.3nm,0.3s,baz=194,slow=8.9,SNR=5.0						
JYT	**Yasato**	**3.38**	**30**	P	**Pn**	**06 21 05.5**	**-0.8**
JYT				*e*S	**S**	**06 21 52.9**	**-2.2**
KSRS	**Korea Array**	**9.30**	**299**	P	**Pn**	**06 22 14.8**	**-0.2**
	0.4nm,0.3s,baz=110,slow=12,SNR=4.6						
SONM	**Songino Array**	**27.91**	**311**	P	**P**	**06 25 28.7**	**+1.8**
	0.5nm,0.8s,baz=129,slow=8.7,SNR=3.7						
WRA	**Warramunga Arr**	**53.06**	**184**	P	**P**	**06 28 48.1**	**-2.6**
	0.1nm,0.6s,baz=0.2,slow=7.7,SNR=2.4						
ILAR	**Eielson Array**	**54.08**	**31**	P	**P**	**06 28 59.5**	**+1.9**
	0.2nm,0.8s,baz=285,slow=7.1,SNR=3.6						

*ISCJB **30** 06:22:20.6±0.5, 39˚.03N±0˚.07×123˚.51E±0˚.06, h10km, mb4.0/9, Error ellipse: s-maj=10.4km s-min=6.5km az=21.2*
*IDC **30** 06:22:20.6±0.8, 38˚.95N×123˚.43E, h0km, mb4.0/9, mb1 4.0/13, mb1mx3.8/31, mbtmp4.0/13, ML3.5/3, Error ellipse: s-maj=30.1km s-min=12.3km az=34.0*
*BJI **30** 06:22:21.9, 39˚.21N×123˚.45E, h8km, mB4.3/4, mb3.8/4, ML4.4/11, Ms4.1/3, Ms7 3.9/3*
ISC 30 06:22:22.0±0.7, 38˚.93N±0˚.06×123˚.39E±0˚.06, h10km, n20, σ1§08/21, mb4.1/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**1.37**	**270**	Pn	**Pg**	**06 22 48.5**	**+0.2**
DL2				smax	smax		
	comp=N,10μm,0.5s						
DL2				smax	smax		
	comp=E,7μm,0.5s						
KSRS	**Korea Array**	**3.86**	**111**	Pn	**Pn**	**06 23 22.2**	**+0.8**
	60nm,0.3s,baz=295,slow=14,SNR=373						
KSRS				Sn	**Sn**	**06 24 05.9**	**-1.0**
	46nm,0.3s,baz=296,slow=24,SNR=10						
KSRS				Lg	Lg	06 24 22.2	
	110nm,0.3s,baz=293,slow=29,SNR=18						
CN2	**Changchun**	**5.11**	**17**	*e*Sg	**Pb**	**06 23 51.5**	**0.0**
CN2				*e*Sg	**Sb**	**06 24 53.3**	**+0.4**
CN2				smax	smax		
	comp=N,100nm,0.6s						
CN2				smax	smax		
	comp=E,100nm,0.6s						
CN2	**Changchun**	**5.11**	**17**	*e*Pn	Pn	06 23 39.8	+1.2
CN2				*e*Sg	**Sb**	**06 24 53.3**	**+0.4**
CN2				smax	smax		
	comp=E,100nm,0.6s						
CN2				smax	smax		
	comp=E,100nm,0.6s						
TIA	**Taiʼan**	**5.66**	**243**	Pn	Pn	06 23 49.5	+3.3
TIA				Pg	**Pg**	**06 24 07.8**	**-2.6**
TIA				Sg	**Sg**

KUR11	**Kurchatov Arra**	**0.60**	**4**	P	Pg	07 12 49.8	0.0		
KUR11				S	Sg	07 12 58.2	+0.6		
KUR06	**Kurchatov Arra**	**0.60**	**354**	P	Pg	07 12 50.4	+0.5		
KUR06				S	Sg	07 12 58.7	+1.0		
KUR12	**Kurchatov Arra**	**0.60**	**2**	P	Pg	07 12 49.9	0.0		
KUR12				S	Sg	07 12 58.1	+0.3		
KUR13	**Kurchatov Arra**	**0.61**	**360**	P	Pg	07 12 49.9	0.0		
KUR13				S	Sg	07 12 58.4	+0.5		
KUR14	**Kurchatov Arra**	**0.61**	**358**	P	Pg	07 12 50.1	+0.1		
KUR14				S	Sg	07 12 58.8	+0.8		
KUR15	**Kurchatov Arra**	**0.62**	**356**	P	Pg	07 12 50.3	+0.2		
KUR15				S	Sg	07 12 58.9	+0.8		
KURBB	**Kurchatov Arra**	**0.62**	**354**	⇑P	Pg	07 12 50.7	+0.4		
	39nm,0.3s								
KURBB				⇑S	Sg	07 12 59.5	+1.1		
	155nm,0.6s								
KUR16	**Kurchatov Arra**	**0.63**	**353**	P	Pg	07 12 50.7	+0.4		
KUR16				S	Sg	07 12 59.7	+1.1		
KUR17	**Kurchatov Arra**	**0.64**	**351**	P	Pg	07 12 51.1	+0.6		
KUR17				S	Sg	07 13 00.1	+1.3		
KUR05	**Kurchatov Arra**	**0.64**	**355**	P	Pg	07 12 50.9	+0.3		
KUR05				S	Sg	07 12 59.4	+0.5		
KUR18	**Kurchatov Arra**	**0.64**	**349**	P	Pg	07 12 51.0	+0.3		
KUR18				S	Sg	07 13 00.2	+1.2		
KUR19	**Kurchatov Arra**	**0.65**	**348**	P	Pg	07 12 51.0	+0.2		
KUR19				S	Sg	07 13 00.0	+0.7		
KUR20	**Kurchatov Arra**	**0.66**	**346**	P	Pg	07 12 51.1	+0.1		
KUR20				S	Sg	07 13 00.1	+0.5		
KUR04	**Kurchatov Arra**	**0.66**	**355**	P	Pg	07 12 51.2	+0.2		
KUR04				S	Sg	07 13 00.2	+0.7		
KUR03	**Kurchatov Arra**	**0.68**	**356**	P	Pg	07 12 51.5	+0.2		
KUR03				S	Sg	07 13 01.0	+0.7		
KUR02	**Kurchatov Arra**	**0.70**	**356**	P	Pg	07 12 51.8	+0.1		
KUR02				S	Sg	07 13 01.5	+0.7		
KURK	**Kurchatov**	**0.71**	**360**	⇑P	Pg	07 12 51.9	-0.1		
	13nm,0.4s								
KURK				⇑S	Sg	07 13 01.9	+0.7		
	26nm,0.9s								
KUR01	**Kurchatov Arra**	**0.72**	**357**	P	Pg	07 12 52.3	+0.2		
KUR01				S	Sg	07 13 02.1	+0.7		
MK31	**Makanchi Array**	**4.03**	**141**	Pn	Pn	07 13 42.8	+1.4		
	0.2nm,0.2s,baz=328,slow=10,SNR=26								
MK31				Pg	Pb	07 13 52.2	+1.9		
	3.2nm,0.5s,baz=326,slow=14,SNR=13								
MK31				⇑Sn	Sn	07 14 30.8	+1.4		
	1.6nm,0.4s								
MK31				⇑Lg	Lg	07 14 44.0			
	6.5nm,0.5s,baz=334,slow=32,SNR=15								
BVA0	**Borovoye Array**	**5.97**	**304**	⇑Pn	Pn	07 14 07.5	-0.3		
	2.5nm,1.1s,baz=95,slow=15,SNR=5.0								
BVA0				⇓Pg	Pb	07 14 26.4	+3.3		
	2.1nm,0.8s,baz=111,slow=15,SNR=7.2								
BVA0				⇑Sn	Sn	07 15 16.8	0.0		
	4.3nm,1.1s,baz=116,slow=22,SNR=3.9								
BVA0				⇓Lg	Lg	07 15 47.3			
	6.3nm,1.1s								
BRVK	**Borovoye**	**6.04**	**304**	⇓Pn	Pn	07 14 08.9	+0.1		
	2.8nm,0.6s								
BRVK				⇑Pg	Pb	07 14 27.8	+3.5		
	3.1nm,0.9s								
BRVK				⇑Sn	Sn	07 15 18.9	+0.3		
	2.6nm,0.7s								
BRVK				⇓Lg	Lg	07 15 48.3			
	3.1nm,0.7s								
KK31	**Karatay Array**	**8.88**	**222**	⇑Pn	Pn	07 14 47.5	-0.4		
	0.2nm,0.5s,baz=35,slow=12,SNR=7.6								
KK31				⇑Sn	Sn	07 16 29.5	+0.9		
	0.8nm,0.7s								
KK31				⇓Lg	Lg	07 17 19.5			
	1.3nm,0.6s,baz=34,slow=26,SNR=4.0								

*SZGRF **30** 07:23:02.3,22°.51S×177°.34W,h33km, South of Fiji Islands*
*BJI **30** 07:23:57.7,21°.44S×177°.70W,h522km,mB5.0/18, mb5.0/35*
*ISCJB **30** 07:24:02.1±0.8,21°.22S±0°.06×178°.66W±0°.03, h527km±10km,mb4.7/67,Error ellipse: s-maj=8.9km s-min=4.4km az=167.7*
*NEIC **30** 07:24:03.7±0.8,21°.20S×178°.57W,h544km±9km,mb4.8/36, Error ellipse: s-maj=8.1km s-min=6.0km az=139.0*
*IDC **30** 07:24:05.0±1.0,21°.19S×178°.66W,h552km±10km, mb4.2/28,mb1 4.3/29,mb1mx4.3/31,mbtmp4.2/29,Error ellipse: s-maj=10.6km s-min=8.4km az=141.0*
*AUST **30** 07:24:05.1±0.0,21°.25S×178°.30W,h577km,Error ellipse: s-maj=1.8km s-min=1.1km az=279.0*

ISC 30 07:24:05.4±0.8,21°.32S±0°.06×178°.65W±0°.06, h562km±7km,n464,σ0991/526,mb4.7/66,116C-115D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.93**	**175**	S	S	07 27 33.7	-5.1
	84nm,0.3s,baz=88,slow=23,SNR=6.8						
NIUE	**Niue**	**8.49**	**76**	P	P	07 26 05.3	-3.1
	baz=8.2,SNR=4.2						
AFI	**Afiamalu**	**9.86**	**43**	*e*P	P	07 26 17.1	-5.2
AFI				S	S	07 28 00.2	-14
AFI	**Afiamalu**	**9.86**	**43**	P	P	07 26 14.8	-7.5
	43nm,0.3s,baz=33,slow=3.5,SNR=34						
AFI				S	S	07 28 00.2	-14
	6.8nm,0.3s,baz=32,slow=23,SNR=5.5						
DZM	**Mont Dzumac**	**13.88**	**264**	*e*P	**P**	**07 27 03.3**	**-0.1**
DZM	**Mont Dzumac**	**13.88**	**264**	P	**P**	**07 27 02.5**	**-1.0**
	3.2nm,0.3s,baz=77,slow=16,SNR=24						
DZM	**Mont Dzumac**	**13.88**	**264**	*e*P	**P**	**07 27 02.8**	**-0.7**
OUZ	**Omahuta**	**15.43**	**205**	*e*P	**P**	**07 27 20.3**	**+1.5**
	52nm,0.7s						
URZ	**Urewera**	**17.28**	**191**	*e*P	**P**	**07 27 34.4**	**-1.5**
URZ				S	**S**	**07 30 22.6**	**-4.8**
URZ	**Urewera**	**17.28**	**191**	P	**P**	**07 27 33.4**	**-2.5**
	21nm,0.3s,baz=3.2,slow=2.9,SNR=74						
URZ				S	**S**	**07 30 22.7**	**-4.8**
	0.8nm,0.3s,baz=22,slow=19,SNR=3.2						
BKZ	**Black Stump Fm**	**18.27**	**192**	*e*P	**P**	**07 27 43.3**	**-1.8**
	55nm,1.1s						
BFZ	**Birch Farm**	**19.78**	**192**	*e*P	**P**	**07 27 58.4**	**-0.4**
	52nm,0.6s						
KHZ	**Kahutara**	**22.04**	**196**	*e*P	**P**	**07 28 18.2**	**-0.8**
	29nm,0.6s						
HNR	**Honiara**	**23.74**	**297**	*e*P	**P**	**07 28 32.8**	**-1.8**
RPZ	**Rata Peaks**	**23.92**	**199**	*e*P	**P**	**07 28 37.6**	**+1.8**
RPZ	**Rata Peaks**	**23.92**	**199**	P	**P**	**07 28 36.0**	**+0.2**
	23nm,0.5s,baz=336,slow=4.4,SNR=14						
EIDS	**Eidsvold**	**28.05**	**256**	*e*P	**P**	**07 29 13.3**	**+0.9**
	16nm,0.6s						
EIDS	**Eidsvold**	**28.05**	**256**	P	**P**	**07 29 13.1**	**+0.7**
	baz=28,SNR=13						
ARMA	**Armidale**	**28.17**	**245**	P	**P**	**07 29 15.3**	**+1.8**
	baz=28,SNR=9.8						
RMQ	**Roma**	**30.19**	**254**	P	**P**	**07 29 32.7**	**+1.8**
	baz=30,SNR=14						
CNB	**Canberra Magne**	**31.27**	**237**	P	**P**	**07 29 41.9**	**+1.8**
	baz=32,SNR=9.1						
CTA	**Charters Tower**	**32.81**	**266**	P	**P**	**07 29 54.0**	**+0.6**
CTA	**Charters Tower**	**32.81**	**266**	P	**P**	**07 29 54.0**	**+0.6**
	31nm,0.4s,baz=90,slow=11,SNR=92						
CTAO	**Charters Tower**	**32.81**	**266**	*e*P	**P**	**07 29 53.2**	**-0.1**
	36nm,0.4s						
CMSA	**Cobar Meteorol**	**33.38**	**245**	P	**P**	**07 29 59.1**	**+1.0**
	baz=34,SNR=24						
QLP	**Quilpie**	**34.24**	**254**	P	**P**	**07 30 05.9**	**+0.6**
	baz=34,SNR=18						
TOO	**Toolangi**	**34.93**	**234**	P	**P**	**07 30 12.1**	**+1.3**
	baz=35,SNR=7.2						
PMG	**Port Moresby**	**34.94**	**285**	*e*P	**P**	**07 30 11.7**	**+0.4**
	130nm,0.8s						
PMG	**Port Moresby**	**34.94**	**285**	P	**P**	**07 30 11.7**	**+0.4**
	133nm,0.8s,baz=90,slow=5.5,SNR=55						
PMG	**Port Moresby**	**34.94**	**285**	P	**P**	**07 30 11.7**	**+0.4**
	baz=35,SNR=23						
PMG				P	**P**	**07 30 11.7**	**+0.4**
	baz=35,SNR=23						
PMG				P	**P**	**07 30 11.7**	**+0.4**
	baz=35,SNR=23						
STKA	**Stephens Creek**	**36.89**	**245**	*e*P	**P**	**07 30 28.2**	**+1.1**
	3.4nm,1.1s						
STKA				ScP	**S**	**07 35 29.6**	**-2.8**
STKA	**Stephens Creek**	**36.89**	**245**	P	**P**	**07 30 28.3**	**+1.1**
	6.0nm,0.5s,baz=94,slow=9.1,SNR=28						
STKA				ScP	**S**	**07 35 29.6**	**-2.8**
	1.4nm,0.9s,baz=94,slow=6.3,SNR=3.3						
STKA	**Stephens Creek**	**36.89**	**245**	P	**P**	**07 30 28.4**	**+1.2**
	baz=37,SNR=19						
COEN	**Coen**	**37.04**	**275**	*e*P	**P**	**07 30 29.4**	**+0.9**
	243nm,0.7s						
COEN	**Coen**	**37.04**	**275**	P	**P**	**07 30 29.4**	**+0.9**
	baz=37,SNR=38						
MANU	**Manus Island**	**38.24**	**296**	P	**P**	**07 30 39.1**	**+0.8**
	baz=38,SNR=4.3						
QIS	**Mount Isa**	**38.91**	**263**	P	**P**	**07 30 43.8**	**+0.1**
	baz=39,SNR=18						
HTT	**Hallett**	**39.31**	**243**	P	**P**	**07 30 47.5**	**+0.7**
	baz=40,SNR=8.4						
BBOO	**Buckleboo**	**41.64**	**244**	*e*P	**P**	**07 31 05.7**	**+0.4**
	188nm,0.8s						
BBOO	**Buckleboo**	**41.64**	**244**	P	**P**	**07 31 05.7**	**+0.4**
	baz=42,SNR=33						
JAY	**Jayapura**	**43.73**	**290**	P	**P**	**07 31 22.3**	**+0.4**
JAY	**Jayapura**	**43.73**	**290**	P	**P**	**07 31 22.3**	**+0.4**
	158nm,0.6s,baz=144,slow=3.4,SNR=107						
JAY	**Jayapura**	**43.73**	**290**	P	**P**	**07 31 22.3**	**+0.4**
	baz=44,SNR=50						
AS31	**Alice Springs**	**43.74**	**258**	*e*P	**P**	**07 31 22.2**	**+0.3**
ASAR	**Alice Springs**	**43.74**	**258**	P	**P**	**07 31 22.3**	**+0.4**
ASAR				PcP	**PcP**	**07 32 56.7**	**+0.5**
ASAR				ScP	**ScP**	**07 35 57.3**	**+2.5**
ASAR				S	**S**	**07 37 10.8**	**-1.4**
ASAR	**Alice Springs**	**43.74**	**258**	P	**P**	**07 31 22.3**	**+0.4**
	55nm,0.8s,baz=96,slow=7.9,SNR=498						
ASAR				PcP	**PcP**	**07 32 56.7**	**+0.5**
	3.9nm,0.6s,baz=118,slow=2.9,SNR=8.8						
ASAR				ScP	**ScP**	**07 35 57.3**	**+2.5**
	0.7nm,0.7s,baz=122,slow=5.4,SNR=3.2						
ASAR				S	**S**	**07 37 10.8**	**-1.4**
	6.4nm,0.9s,baz=95,slow=16,SNR=30						
WRAB	**Tennant Creek**	**43.88**	**263**	*e*P	**P**	**07 31 22.8**	**-0.3**
	34nm,1.0s						
WRA	**Warramunga Arr**	**43.89**	**263**	P	**P**	**07 31 22.7**	**-0.4**
WRA				PcP	**PcP**	**07 32 57.6**	**+0.8**
WRA				ScP	**ScP**	**07 35 57.2**	**+1.8**
WRA				S	**S**	**07 37 12.1**	**-2.2**
WRA	**Warramunga Arr**	**43.89**	**263**	P	**P**	**07 31 22.7**	**-0.4**
	19nm,0.5s,baz=97,slow=7.7,SNR=439						
WRA				PcP	**PcP**	**07 32 57.6**	**+0.8**
	2.1nm,0.6s,baz=95,slow=4.7,SNR=5.8						
WRA				ScP	**ScP**	**07 35 57.2**	**+1.8**
	1.1nm,0.8s,baz=96,slow=4.1,SNR=3.6						
WRA				S	**S**	**07 37 12.1**	**-2.2**
	2.5nm,0.9s,baz=96,slow=13,SNR=6.7						
KDU	**Kakadu**	**47.37**	**272**	P	**P**	**07 31 49.5**	**0.0**
	baz=48,SNR=22						
FORT	**Forrest**	**48.41**	**247**	P	**P**	**07 31 57.2**	**+0.1**
	baz=49,SNR=11						
MTN	**Manton Dam**	**48.57**	**272**	P	**P**	**07 31 58.1**	**-0.4**
	baz=49,SNR=14						
WRKA	**Warakurna**	**48.66**	**255**	P	**P**	**07 31 59.5**	**+0.3**
	baz=49,SNR=19						
KNRA	**Kununurra**	**50.00**	**267**	P	**P**	**07 32 09.2**	**+0.2**
	baz=50,SNR=14						
FAKI	**Fak Fak**	**51.10**	**284**	P	**P**	**07 32 17.1**	**0.0**
	baz=51,SNR=4.1						
FITZ	**Fitzroy Crossi**	**52.32**	**263**	P	**P**	**07 32 26.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.32**	**263**	P	**P**	**07 32 26.3**	**+0.5**
	8.3nm,0.4s,baz=134,slow=4.9,SNR=48						
SOEI	**Soe**	**55.92**	**273**	P	**P**	**07 32 53.0**	**+1.7**
	baz=56,SNR=16						
SBA	**Scott Base**	**57.02**	**184**	*e*P	**P**	**07 33 00.2**	**+2.6**
	22nm,1.0s						
VNDA	**Vanda**	**57.05**	**185**	*e*P	**P**	**07 32 59.6**	**+1.7**
	9.0nm,0.7s						
VNDA				ScP	**ScP**	**07 36 52.8**	**+1.9**
VNDA	**Vanda**	**57.05**	**185**	P	**P**	**07 32 59.9**	**+2.1**
	7.1nm,0.6s,baz=357,slow=7.7,SNR=70						
VNDA				ScP	**ScP**	**07 36 52.8**	**+1.9**
	2.7nm,0.7s,baz=5.2,slow=5.7,SNR=5.8						
MEEK	**Meekatharra**	**57.08**	**251**	P	**P**	**07 32 58.8**	**-0.2**
	baz=57,SNR=7.8						
MBWA	**Marble Bar**	**57.09**	**258**	*e*P	**P**	**07 32 58.4**	**-0.7**
	30nm,0.8s						
KLBR	**Kellerberrin**	**57.16**	**245**	P	**P**	**07 32 59.9**	**+0.4**
	baz=57,SNR=7.7						
BLDU	**Ballidu**	**58.17**	**246**	P	**P**	**07 33 06.7**	**+0.4**
	baz=58,SNR=6.9						
MORW	**Morawa**	**58.96**	**248**	P	**P**	**07 33 12.1**	**+0.5**
	baz=59,SNR=4.1						
GIRL	**Giralia**	**61.75**	**255**	P	**P**	**07 33 31.8**	**+1.7**
	baz=62,SNR=4.1						
TSM	**Tawau**	**67.15**	**284**	P	**P**	**07 34 04.0**	**-0.4**
QSPA	**South Pole Qui**	**68.75**	**180**	P	**P**	**07 34 14.8**	**+1.4**
QSPA	**South Pole Qui**	**68.75**	**180**	P	**P**	**07 34 14.7**	**+1.4**
	28nm,0.7s,baz=22,slow=1.1,SNR=86						
KDM	**Kudat**	**69.20**	**287**	P	**P**	**07 34 16.5**	**-0.4**
MJAR	**Matsushiro Arr**	**70.51**	**324**	P	**P**	**07 34 23.6**	**-0.5**
MJAR	**Matsushiro Arr**	**70.51**	**324**	P	**P**	**07 34 23.6**	**-0.5**
	9.9nm,0.7s,baz=158,slow=6.3,SNR=46						
MAT	**Matsushiro**	**70.51**	**324**	P	**P**	**07 34 23.2**	**-1.0**
BTM	**Bintulu**	**71.05**	**281**	P	**P**	**07 34 26.8**	**-1.0**
SBUM	**Sibu**	**71.55**	**280**	P	**P**	**07 34 30.4**	**-0.3**
JNU	**Nakatsue**	**72.46**	**317**	P	**P**	**07 34 35.7**	**+0.1**
JNU	**Nakatsue**	**72.46**	**317**	P	**P**	**07 34 35.7**	**+0.1**
	12nm,0.6s,baz=70,slow=8.7,SNR=7.3						
KSM	**Kuching**	**72.93**	**278**	P	**P**	**07 34 38.6**	**-0.1**
KSM	**Kuching**	**72.93**	**278**	*e*P	**P**	**07 34 39.1**	**+0.4**
	30nm,0.6s						
TWG	**Pinlang**	**73.31**	**303**	*e*P	**P**	**07 34 39.0**	**-1.7**
	94nm,0.5s						
YULB	**Yu-li**	**73.44**	**304**	*e*P	**P**	**07 34 40.4**	**-1.0**
	12nm,0.6s						
SSLB	**Suanglung**	**73.92**	**304**	*e*P	**P**	**07 34 42.8**	**-1.3**
	36nm,0.7s						
PEA0B	**Petropavlovsk-**	**76.91**	**346**	*e*P	**P**	**07 34 59.1**	**-0.9**
PETK	**Petropavlovsk-**	**76.91**	**346**	P	**P**	**07 34 59.6**	**-0.4**
PETK	**Petropavlovsk-**	**76.91**	**346**	P	**P**	**07 34 59.6**	**-0.4**
	23nm,0.7s,baz=147,slow=8.2,SNR=23						
KSRS	**Korea Array**	**77.10**	**319**	P	**P**	**07 35 01.9**	**+0.5**
	5.1nm,0.8s,baz=130,slow=6.0,SNR=9.0						
KSAR	**Wonju Array Be**	**77.11**	**319**	P	**P**	**07 35 01.9**	**+0.4**
MYKOM	**Kota Tinggi**	**79.02**	**276**	P	**P**	**07 35 12.3**	**+0.1**
USRK	**Ussuriysk Arra**	**79.30**	**326**	P	**P**	**07 35 14.3**	**+1.3**
	21nm,0.7s,baz=124,slow=3.1,SNR=36						
KGM	**Kluang**	**79.59**	**276**	P	**P**	**07 35 16.7**	**+1.4**
ARVC	**Arvin**	**79.80**	**46**	⇑P	**P**	**07 35 15.9**	**0.0**
	baz=80						
NJ2	**Nanjing**	**79.94**	**310**	*e*P	**P**	**07 35 17.5**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s						
VES	**Vestal, Richgr**	**80.03**	**45**	⇑P	**P**	**07 35 17.3**	**+0.2**
	baz=80						
MURC	**Murrieta**	**80.05**	**48**	⇓P	**P**	**07 35 17.4**	**+0.2**
	baz=80						
BFSC	**Mount Baldy Ra**	**80.09**	**47**	⇓P	**P**	**07 35 17.8**	**+0.2**
	baz=80						
MONP	**Monument Peak**	**80.20**	**49**	⇑P	**P**	**07 35 18.7**	**+0.4**
	baz=80						
EDW2	**Edwards Air Fo**	**80.22**	**47**	⇑P	**P**	**07 35 18.8**	**+0.6**
	baz=80						
ISA	**Isabella**	**80.34**	**46**	⇑P	**P**	**07 35 19.0**	**+0.2**
	baz=80						
PFO	**Pinyon Flat Ob**	**80.57**	**48**	⇓P	**P**	**07 35 20.8**	**+0.6**
	baz=81						
MAW	**Mawson**	**80.59**	**200**	P	**P**	**07 35 20.3**	**+0.9**
MAW	**Mawson**	**80.59**	**200**	P	**P**	**07 35 20.3**	**+0.9**
	2.5nm,0.6s,baz=162,slow=3.2,SNR=4.4						
SWSC	**Sam W. Stewart**	**80.67**	**49**	⇑P	**P**	**07 35 21.5**	**+1.1**
	baz=81						
MDJ	**Mudanjiang**	**80.84**	**325**	P	**P**	**07 35 22.3**	**+1.2**
MDJ				pP	pP	07 37 14.0	-6.7
MDJ				sP	sP	07 38 08.0	-10
MDJ				PP	**PP**	**07 38 35.8**	**-0.4**
MDJ				S	**SKKSac**	**07 44 48.8**	**-1.1**
MDJ				sS	sS	07 48 09.0	-7.7
MDJ				pmax	pmax		
	comp=Z,29nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.8s						
MDJ	**Mudanjiang**	**80.84**	**325**	*e*P	**P**	**07 35 21.6**	**+0.6**
	15nm,0.8s						
KTGM	**Kuala Trenggan**	**81.01**	**279**	P	**P**	**07 35 24.4**	**+1.7**
M02C	**Callahan**	**81.01**	**39**	⇑P	**P**	**07 35 22.9**	**+0.7**
	baz=81						
CWC	**Cottonwood Cre**	**81.04**	**45**	⇑P	**P**	**07 35 23.0**	**+0.4**
	baz=81						
MPMC	**Manual Prospec**	**81.22**	**46**	⇓P	**P**	**07 35 23.9**	**+0.4**
	baz=81,SNR=5.9						
GSC	**Goldstone**	**81.26**	**47**	⇓P	**P**	**07 35 23.6**	**0.0**
	baz=81						
TIN	**Tinemaha**	**81.30**	**45**	⇓P	**P**	**07 35 24.5**	**+0.8**
	baz=81						
YBH	**Yreka Blue Hor**	**81.31**	**39**	P	**P**	**07 35 22.9**	**-0.8**
	9.5nm,0.7s,baz=213,slow=0.7,SNR=21						
HEC	**Hector,Ludlow**	**81.33**	**47**	⇓P	**P**	**07 35 24.5**	**+0.6**
	baz=81						
WAKR	**Walker**	**81.35**	**43**	*e*P	**P**	**07 35 24.1**	**0.0**
	18nm,1.3s						
GLA	**Glamis**	**81.42**	**50**	⇑P	**P**	**07 35 25.2**	**+0.8**
	baz=82						
FRIM	**Kepong**	**81.62**	**277**	P	**P**	**07 35 26.0**	**+0.2**
GMRC	**Granite Mounta**	**81.76**	**48**	⇑P	**P**	**07 35 26.6**	**+0.4**
	baz=82						
IRM	**Iron Mountain**	**81.78**	**49**	⇓P	**P**	**07 35 26.7**	**+0.5**
	baz=82,SNR=5.7						
GRAC	**Grapevine Rang**	**81.83**	**45**	⇑P	**P**	**07 35 26.9**	**+0.5**
	baz=82,SNR=5.6						
M04C	**Macdoel**	**81.85**	**39**	⇑P	**P**	**07 35 27.1**	**+0.6**
	baz=82						
FURC	**Furnace Creek,**	**81.87**	**46**	⇓P	**P**	**07 35 27.0**	**+0.4**
	baz=82						
TUQ	**Turquoise Moun**	**81.94**	**47**	⇑P	**P**	**07 35 27.4**	**+0.3**
	baz=82						
SHOC	**Shoshone**	**81.95**	**47**	⇑P	**P**	**07 35 27.2**	**+0.2**
	baz=82						
Y12C	**Blythe**	**82.00**	**49**	⇓P	**P**	**07 35 28.0**	**+0.7**
	baz=82						
113A	**Mohawk Valley,**	**82.03**	**50**	⇓P	**P**	**07 35 28.3**	**+0.9**
	baz=82						
NVAR	**Mina Array Bea**	**82.03**	**44**	P	**P**	**07 35 27.8**	**+0.1**
NVAR	**Mina Array Bea**	**82.03**	**44**	P	**P**	**07 35 27.8**	**+0.1**
	6.0nm,0.7s,baz=228,slow=8.1,SNR=37						
214A	**Organ Pipe Nat**	**82.30**	**52**	⇓P	**P**	**07 35 30.1**	**+1.2**
	baz=82						
LDFC	**Landfair**	**82.30**	**48**	*e*P	**P**	**07 35 28.9**	**0.0**
	29nm,1.3s						
TPH	**Tonopah**	**82.53**	**44**	*e*P	**P**	**07 35 29.8**	**-0.3**
	12nm,1.1s						
TPNV	**Topopah Spring**	**82.55**	**46**	⇓P	**P**	**07 35 30.5**	**+0.3**
	baz=83,SNR=8.6						
PDMCI	**Parker Dam,Lak**	**82.56**	**49**	⇓P	**P**	**07 35 30.8**	**+0.7**
	baz=83						
CN2	**Changchun**	**82.58**	**323**	*e*P	**P**	**07 35 30.0**	**+0.1**
CN2				*es*P	sP	07 38 16.8	-10
CN2				*e*S	**SKKSac**	**07 45 03.5**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
J04D	**Umpqua Nationa**	**82.59**	**38**	⇓P	**P**	**07 35 31.0**	**+0.7**
	baz=83						
IPM	**Ipoh**	**82.63**	**278**	P	**P**	**07 35 32.1**	**+1.2**
IPM	**Ipoh**	**82.63**	**278**	*e*P	**P**	**07 35 31.5**	**+0.6**
	36nm,0.7s						
I04A	**Tendick Farm,**	**82.76**	**37**	⇓P	**P**	**07 35 31.6**	**+0.7**
	baz=83						
MOD	**Modoc**	**82.83**	**40**	*e*P	**P**	**07 35 31.1**	**-0.4**
	11nm,1.1s						
Z14A	**Wintersburg**	**82.92**	**50**	⇓P	**P**	**07 35 32.7**	**+0.8**
	baz=83						
J05D	**Fort Rock, OR**	**83.12**	**38**	⇓P	**P**	**07 35 33.8**	**+0.9**
	baz=83						
W13A	**Hualapai Mount**	**83.16**	**48**	⇓P	**P**	**07 35 33.9**	**+0.5**
	baz=83,SNR=6.2						
Y14A	**Wickenburg**	**83.18**	**50**	⇑P	**P**	**07 35 33.8**	**+0.5**
	baz=83						
G03D	**McMinnville, O**	**83.18**	**36**	⇑P	**P**	**07 35 33.6**	**+0.7**
	baz=83						
KULM	**Kulim**	**83.28**	**278**	P	**P**	**07 35 35.7**	**+1.6**
PINOR	**Pine Mountain**	**83.65**	**38**	*e*P	**P**	**07 35 35.8**	**+0.6**
I05D	**Terrebonne, OR**	**83.71**	**37**	⇓P	**P**	**07 35 36.2**	**+0.6**
	baz=84						
R11A	**Troy Canyon, C**	**83.76**	**45**	⇑P	**P**	**07 35 36.5**	**+0.3**
	baz=84						
PSI	**Prapat**	**83.96**	**275**	P	**P**	**07 35 37.8**	**0.0**
PSI	**Prapat**	**83.96**	**275**	P	**P**	**07 35 37.8**	**0.0**
	13nm,0.6s,baz=129,slow=1.9,SNR=9.9						
PSI	**Prapat**	**83.96**	**275**	P	**P**	**07 35 37.4**	**-0.3**
	baz=84,SNR=9.8						
VIPM	**Ingram Point**	**84.22**	**38**	P	**P**	**07 35 38.6**	**+0.3**
X16A	**Lo Mia Camp, P**	**84.54**	**50**	⇓P	**P**	**07 35 40.8**	**+0.7**
	baz=85,SNR=6.5						
319A	**Douglas**	**84.62**	**54**	⇑P	**P**	**07 35 41.7**	**+1.2**
	baz=85						
U15A	**North Rim**	**84.96**	**48**	⇑P	**P**	**07 35 42.8**	**+0.5**
	baz=85,SNR=13						
WUAZ	**Wupatki**	**85.14**	**49**	⇓P	**P**	**07 35 43.6**	**+0.6**
	baz=85						
320A	**Kipp Ranch, An**	**85.17**	**54**	⇓P	**P**	**07 35 44.4**	**+1.1

527A	Woodward Ranch	88.40	57	⇓P		P	07 35 59.0	+0.4	
	baz=88								
X23A	Hourglass Bar	88.42	52	⇓P		P	07 35 59.1	+0.5	
	baz=88								
Z24A	Sheeppen Canyo	88.46	53	⇓P		P	07 35 59.4	+0.6	
	baz=88								
V22A	San Miguel Ran	88.51	50	⇑P		P	07 35 59.5	+0.5	
	baz=88								
Y24A	Capitan	88.68	53	⇓P		P	07 36 00.1	+0.3	
	baz=89,SNR=11								
628A	Black Gap, Mar	88.69	58	⇑P		P	07 36 00.4	+0.7	
	baz=89								
125A	Gardner Draw,	88.70	54	⇑P		P	07 36 00.3	+0.5	
	baz=89								
226B	Tecolote Peak,	88.81	55	⇑P		P	07 36 00.8	+0.4	
	baz=89								
427A	Hayter Ranch,	88.87	56	⇓P		P	07 36 00.9	+0.3	
	baz=89,SNR=7.1								
DOT	Dot Lake	88.91	15	*e*P		P	07 35 58.8	-1.1	
	18nm,1.2s								
V23A	Ortiz Mt. (NFS	88.95	51	⇑P		P	07 36 01.7	+0.6	
	baz=89								
MCMT	McKenzie Canyo	88.97	40	P		P	07 36 01.5	+0.6	
DLBC	Dease Lake	89.04	23	P		P	07 35 59.6	-1.1	
DLBC	Dease Lake	89.04	23	P		P	07 35 59.6	-1.1	
	3.4nm,0.8s,baz=219,slow=13,SNR=8.6								
IM04	Indian Mountai	89.05	10	*e*P		P	07 35 59.5	-1.0	
COLA	College	89.14	13	*e*P		P	07 35 59.3	-1.5	
	14nm,0.8s								
KMI	Kunming	89.18	297	P		P	07 36 03.8	+1.5	
KMI				pmax	pmax				
	comp=Z,27nm,0.8s								
U23A	El Rito	89.21	50	⇑P		P	07 36 03.1	+0.9	
	baz=89								
Y25A	Mesa, Roswell	89.23	53	⇓P		P	07 36 02.3	0.0	
	baz=89								
ILAR	Eielson Array	89.24	13	P		P	07 36 00.1	-1.4	
ILAR	Eielson Array	89.24	13	P		P	07 36 00.1	-1.4	
	4.1nm,0.5s,baz=217,slow=5.2,SNR=75								
W24A	Lazy 6 Ranch,	89.28	52	⇑P		P	07 36 02.5	0.0	
	baz=89								
428A	Kincaid Ranch,	89.37	57	⇑P		P	07 36 03.3	+0.4	
	baz=89								
S22A	4UR Ranch, Cre	89.41	49	⇑P		P	07 36 03.7	+0.4	
	baz=89								
Z26A	Caprock	89.48	54	⇓P		P	07 36 03.5	+0.1	
	baz=90								
529A	Stev Forest Ra	89.48	57	⇓P		P	07 36 03.5	0.0	
	baz=90								
HHC	Hu-ho-hao-te	89.49	315	*e*P		P	07 36 04.3	+1.0	
HHC				sP		sP	07 38 48.8	-13	
HHC				PP		PP	07 39 47.8	+2.4	
HHC				SKS		SKSac	07 45 44.0	+3.8	
HHC				S		ScS	07 46 08.5	-0.9	
HHC				sS		sS	07 49 32.5	-13	
HHC				pmax	pmax				
	comp=Z,47nm,1.1s								
HHC				pmax	pmax				
	comp=Z,170nm,7.6s								
X25A	Clemmons Ranch	89.52	53	⇓P		P	07 36 03.7	0.0	
	baz=90								
328A	Wristen Ranch,	89.56	56	⇑P		P	07 36 03.4	-0.3	
	baz=90								
O20A	White River Ci	89.56	46	⇓P		P	07 36 03.6	-0.1	
	baz=90								
127A	Arkansas Junct	89.69	55	⇓P		P	07 36 04.7	+0.3	
	baz=90								
CM31	Chiang Mai Arr	89.82	290	*e*P		P	07 36 06.0	+0.9	
	4.7nm,0.5s								
CMAR	Chiang Mai Arr	89.82	290	P		P	07 36 06.7	+1.6	
CMAR				PP		PP	07 39 49.2	+1.1	
CMAR	Chiang Mai Arr	89.82	290	P		P	07 36 06.7	+1.6	
	14nm,0.9s,baz=128,slow=3.0,SNR=68								
CMAR				PP		PP	07 39 49.2	+1.1	
	0.6nm,0.4s,baz=122,slow=6.0,SNR=6.0								
Y26A	Elida	89.88	53	⇓P		P	07 36 05.4	+0.2	
	baz=90								
I17A	Pilgrim Ck.	89.90	42	⇓P		P	07 36 06.2	+1.0	
	baz=90								
429A	Davenport Ranc	89.95	57	⇓P		P	07 36 05.6	0.0	
	baz=90,SNR=5.5								
CHTO	Chiang Mai	89.95	290	*e*P		P	07 36 06.2	+0.4	
	10nm,0.6s								
PDAR	Pinedale Array	89.97	43	P		P	07 36 05.3	-0.3	
PDAR	Pinedale Array	89.97	43	P		P	07 36 05.3	-0.3	
	5.3nm,0.8s,baz=212,slow=3.2,SNR=44								
W25A	X Bar L Ranch,	89.97	52	⇓P		P	07 36 05.7	+0.1	
	baz=90								
228A	UT Block 9, Go	90.04	55	⇓P		P	07 36 06.2	+0.2	
	baz=90								
Z27A	Tatum	90.07	54	⇑P		P	07 36 06.3	+0.2	
	baz=90								
T24B	San Luis	90.13	50	⇓P		P	07 36 07.0	+0.4	
	baz=90								
BOZ	Bozeman (W)	90.13	40	*e*P		P	07 36 06.2	+0.1	
	5.4nm,0.8s								
V25A	Rancho No Teng	90.13	51	⇑P		P	07 36 06.7	+0.3	
	baz=90								
H17A	Grant Village	90.14	42	⇓P		P	07 36 07.8	+1.4	
	baz=90								
530A	J-C Ranch, Com	90.19	58	⇑P		P	07 36 06.7	0.0	
	baz=90								
329A	Wagon Wheel Ra	90.24	56	⇓P		P	07 36 07.0	0.0	
	baz=90								
128A	Castleberry Fa	90.33	55	⇓P		P	07 36 07.5	+0.2	
	baz=90								
Y27A	Causey	90.36	54	⇑P		P	07 36 07.5	0.0	
	baz=90								
DAWY	Dawson	90.41	16	*e*P		P	07 36 06.2	-0.7	
W26A	Owens Ranch, T	90.43	52	⇓P		P	07 36 08.1	+0.3	
	baz=90								
631A	Perdido Creek	90.49	59	⇑P		P	07 36 08.2	+0.2	
	baz=90,SNR=6.6								
S24A	Houchin Ranch,	90.51	50	⇓P		P	07 36 08.6	+0.3	
	baz=90								
832A	Faith Ranch, C	90.51	60	⇓P		P	07 36 08.2	+0.1	
	baz=90								
430A	Baggett Ranch,	90.53	57	⇓P		P	07 36 08.3	0.0	
	baz=90								
U25A	Circle Dot Ran	90.53	51	⇑P		P	07 36 08.4	+0.1	
	baz=91								
J19A	Crowheart	90.54	43	⇑P		P	07 36 08.6	+0.5	
	baz=91								
EGAK	Eagle	90.55	15	*e*P		P	07 36 06.6	-0.8	
	14nm,1.1s								
229A	Bryant Ranch,	90.57	56	⇓P		P	07 36 08.5	+0.1	
	baz=91								
MSTX	Muleshoe	90.69	54	⇓P		P	07 36 08.9	-0.1	
	baz=91								
Z28A	Tucker Farm, M	90.69	54	⇑P		P	07 36 08.7	-0.3	
	baz=91								
732A	Laxson Ranch,	90.69	59	⇓P		P	07 36 09.3	+0.3	
	baz=91								
V26A	Tequesquite Ra	90.72	52	⇓P		P	07 36 09.2	+0.1	
	baz=91								
O22A	Kremmling	90.72	47	⇑P		P	07 36 09.2	0.0	
	baz=91								
COLD	Coldfoot	90.79	11	*e*P		P	07 36 08.2	-0.3	
	3.0nm,0.9s								
129A	Stewart Farms,	90.81	55	⇑P		P	07 36 09.5	-0.1	
	baz=91								
531A	Rocksprings	90.82	58	⇑P		P	07 36 09.6	0.0	
	baz=91								
T25A	Trinidad	90.86	50	⇑P		P	07 36 09.8	0.0	
	baz=91								
I19A	Meeteetse	90.95	43	⇓P		P	07 36 10.4	+0.3	
	baz=91								
833A	Chaparral WMA,	91.00	60	⇑P		P	07 36 10.6	+0.2	
	baz=91								
U26A	Atchley Ranch,	91.01	51	⇑P		P	07 36 10.4	-0.1	
	baz=91								
Y28A	McKinney Farm,	91.06	54	⇑P		P	07 36 10.7	+0.1	
	baz=91								
S25A	Robets Cordova	91.07	50	⇑P		P	07 36 10.9	+0.2	
	baz=91								
N22A	Wattenberg Ran	91.08	46	⇑P		P	07 36 11.0	+0.1	
	baz=91								
J20A	Shoshoni	91.20	43	⇓P		P	07 36 11.5	+0.4	
	baz=91								
M22A	Cedar Creek Ra	91.26	46	⇓P		P	07 36 11.8	+0.2	
	baz=91								
H19A	Powell	91.26	42	⇓P		P	07 36 11.8	+0.4	
	baz=91								
532A	Rocksprings	91.31	58	⇓P		P	07 36 12.2	+0.4	
	baz=91								
331A	San Angelo	91.38	57	⇓P		P	07 36 11.7	-0.4	
	baz=91								
K21A	Alcova	91.40	44	⇑P		P	07 36 12.1	-0.1	
	baz=91								
I20A	Worland	91.46	43	⇓P		P	07 36 12.2	-0.1	
	baz=92								
T26A	Comanche Natio	91.46	51	⇑P		P	07 36 12.5	-0.1	
	baz=92								
N23A	Red Feather La	91.47	46	⇑P		P	07 36 13.0	+0.4	
	baz=92								
Y29A	Porterfield Fa	91.47	54	⇑P		P	07 36 12.4	-0.2	
	baz=92								
J21A	Lysite	91.61	44	⇓P		P	07 36 13.5	+0.4	
	baz=92								
633A	Saathoff Ranch	91.62	59	⇓P		P	07 36 13.6	+0.3	
	baz=92								
L22A	Ellis Ranch, M	91.66	45	⇓P		P	07 36 13.5	+0.1	
	baz=92								
432A	Menard	91.70	58	⇓P		P	07 36 13.2	-0.5	
	baz=92								
231A	Bronte	91.72	56	⇑P		P	07 36 13.1	-0.6	
	baz=92								
S26A	Kim	91.74	50	⇑P		P	07 36 13.5	-0.3	
	baz=92								
F19A	Roth Farm, Mol	91.86	41	⇑P		P	07 36 14.2	+0.1	
	baz=92								
M23A	Laramie	91.88	46	⇓P		P	07 36 15.0	+0.6	
	baz=92								
734A	JLL Parita Cre	91.88	60	⇑P		P	07 36 14.5	+0.1	
	baz=92								
K22A	Casper	91.88	45	⇑P		P	07 36 14.4	+0.1	
	baz=92								
I21A	Big Trails, Te	91.92	43	⇓P		P	07 36 14.6	+0.1	
	baz=92								
332A	Millersview	91.94	57	⇑P		P	07 36 14.7	-0.1	
	baz=92								
131A	Roby	91.96	56	⇓P		P	07 36 14.5	-0.3	
	baz=92								
533A	Kerrville	91.98	59	⇑P		P	07 36 14.9	0.0	
	baz=92								
R26A	Arlington	92.05	50	⇑P		P	07 36 15.2	0.0	
	baz=92								
P25A	Willow Gulch B	92.07	48	⇑P		P	07 36 15.7	+0.4	
	baz=92								
L23A	Garrett	92.18	45	⇑P		P	07 36 16.0	+0.2	
	baz=92								
433A	Art	92.20	58	⇓P		P	07 36 15.6	-0.3	
	baz=92								
232A	Coleman	92.22	57	⇓P		P	07 36 15.5	-0.5	
	baz=92								
J22A	Midwest	92.26	44	⇓P		P	07 36 16.0	0.0	
	baz=92								
534A	Blanco	92.41	59	⇑P		P	07 36 16.8	-0.1	
	baz=92								
Z31A	Sharp Cattle R	92.41	55	⇑P		P	07 36 16.5	-0.3	
	baz=92								
I22A	9 Mile Ranch,	92.48	44	⇓P		P	07 36 17.1	+0.1	
	baz=92								
R27A	Eads	92.50	50	⇑P		P	07 36 17.0	-0.3	
	baz=92								
ABTX	Abilene, Hawle	92.52	56	⇑P		P	07 36 17.3	0.0	
	baz=92								
K23A	Bowen Ranch, D	92.52	45	⇓P		P	07 36 17.6	+0.3	
	baz=93								
D19A	Cripps Ranch,	92.53	40	⇓P		P	07 36 17.4	+0.3	
	baz=93								
E20A	Meyer Farm, Mu	92.67	41	⇑P		P	07 36 18.4	+0.6	
	baz=93								
C19A	Slack Wire Ran	92.71	39	⇑P		P	07 36 18.8	+0.9	
	baz=93								
635A	Leesville	92.72	60	⇓P		P	07 36 18.7	+0.4	
	baz=93								
LZH	Lanzhou	92.78	308	*e*P		P	07 36 20.3	+1.7	
LZH				pP		pP	07 38 21.0	-0.7	
LZH				pmax	pmax				
	comp=Z,18nm,1.0s								
233A	Rising Star	92.85	57	⇓P		P	07 36 18.8	-0.1	
	baz=93								
434A	Burnet	92.88	58	⇓P		P	07 36 18.8	-0.2	
	baz=93								
H22A	Clearmont	92.89	43	⇑P		P	07 36 19.1	+0.3	
	baz=93								
Z32A	Haskell	92.92	55	⇓P		P	07 36 19.1	0.0	
	baz=93								
KSCO	Kaye Shedlock'	92.93	49	⇑P		P	07 36 18.9	-0.3	
	baz=93								
D20A	Manuel Ranch,	92.95	40	⇑P		P	07 36 19.3	+0.3	
	baz=93								
133A	Hamilton Ranch	93.07	56	⇑P		P	07 36 19.6	-0.3	
	baz=93								
334A	Lometa	93.10	58	⇑P		P	07 36 20.4	+0.4	
	baz=93								
Y32A	R-V Farms, Ver	93.22	55	⇓P		P	07 36 20.6	+0.1	
	baz=93								
R28A	Tribune	93.23	50	⇑P		P	07 36 20.5	0.0	
	baz=93								
C20A	Veseth Ranch,	93.32	40	⇓P		P	07 36 21.0	+0.3	
	baz=93								
Z33A	Whitaker Ranch	93.46	56	⇓P		P	07 36 21.4	-0.2	
	baz=94								
A19A	Klindworth Far	93.47	38	⇓P		P	07 36 21.5	+0.2	
	baz=94								
D21A	La Casta Ranch	93.62	41	⇓P		P	07 36 22.5	+0.4	
	baz=94								
P28A	Saint Francis	93.78	49	⇓P		P	07 36 23.2	+0.1	
	baz=94								
C21A	Desert Coulee	93.91	40	⇑P		P	07 36 23.8	+0.4	
	baz=94								
A20A	Cobblestone Ra	93.92	39	⇓P		P	07 36 23.4	+0.1	
	baz=94								
Q29A	Oakley	94.05	50	⇑P		P	07 36 24.1	-0.1	
	baz=94								
H24A	Dirks Ranch, A	94.10	43	⇑P		P	07 36 24.0	-0.4	
	baz=94								
Z34A	Collier Ranch,	94.14	56	⇓P		P	07 36 24.5	-0.2	
	baz=94								
I25A	Rochford	94.32	44	⇓P		P	07 36 25.5	0.0	
	baz=94								
P29A	Atwood	94.37	49	⇓P		P	07 36 26.0	+0.3	
	baz=94								
N28A	Pribbeno Ranch	94.39	48	⇓P		P	07 36 26.0	+0.3	
	baz=94								
Q30A	Quinter	94.63	50	⇑P		P	07 36 26.8	0.0	
	baz=95								
H25A	Fruitdale	94.66	44	⇑P		P	07 36 27.1	+0.3	
	baz=95								
O29A	4D Ranch, Culb	94.68	49	⇑P		P	07 36 27.3	+0.3	
	baz=95								
P30A	Selden	94.83	49	⇓P		P	07 36 28.0	+0.3	
	baz=95								
INK	Inuvik	95.22	15	P		P	07 36 27.1	-1.6	
INK	Inuvik	95.22	15	P		P	07 36 27.1	-1.6	
	1.6nm,0.6s,baz=348,slow=2.1,SNR=3.4								
ULN	Ulaanbaatar	95.58	319	*e*P		P	07 36 30.4	-0.6	
	2.0nm,0.6s								
SONM	Songino Array	95.97	319	P		P	07 36 33.1	+0.4	
SONM				PP		PP	07 40 36.9	+1.7	
SONM	Songino Array	95.97	319	P		P	07 36 33.1	+0.4	
	0.6nm,0.4s,baz=134,slow=2.1,SNR=6.7								
SONM				PP		PP	07 40 36.9	+1.7	
	0.2nm,0.5s,baz=140,slow=5.3,SNR=3.5								
GTA	Gaotai	97.02	309	*e*P		P	07 36 38.0	+0.3	
GTA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
YKA	Yellowknife Ar	97.51	25	P		Pdif	07 36 38.0	-1.1	
YKA	Yellowknife Ar	97.51	25	P		Pdif	07 36 37.9	-1.1	
	0.5nm,0.7s,baz=249,slow=4.7,SNR=8.9								
ZALV	Zalesovo Beam	110.75	321	PKiKP		PKiKP	07 41 33.0	-1.4	
ZALV	Zalesovo Beam	110.75	321	PKiKP		PKiKP	07 41 33.0	-1.4	
	1.6nm,0.6s,baz=168,slow=1.5,SNR=10								
MK31	Makanchi Array	111.31	313	*e*PKPdf		PKiKP	07 41 34.6	-1.2	
KKAR	Karatay Array	119.28	308	*e*PKPdf		PKPdf	07 41 50.3	-0.9	
ARU	Arti	125.52	325	*e*PKPdf		PKPdf	07 42 02.5	-0.3	
ABKAR	Akbulak array	126.26	316	*e*PKPdf		PKPdf	07 42 04.1	-0.3	
KEV	Kevo	129.15	349	*e*pkp		PKPdf	07 42 08.0	-1.3	
ARCES	ARCESS Array B	129.61	349	PKP		PKPdf	07 42 09.2	-1.1	
ARCES	ARCESS Array B	129.61	349	PKhKP		PKPpre	07 41 59.4		
	13nm,1.2s,baz=29,slow=3.9,SNR=7.0								
ARCES				PKP		PKPdf	07 42 09.2	-1.1	
	5.7nm,0.6s,baz=22,slow=1.1,SNR=25								
JOF	Joensuu	133.72	342	*e*pkp		PKPdf	07 42 16.5	-1.6	
KAF	Kangasniemi	135.76	343	*e*pkp		PKPdf	07 42 19.8	-2.2	
FINES	FINESS Array B	136.38	343	PKP		PKPdf	07 42 20.5	-2.6	
FINES				SKPbc		SKiKP	07 45 04.4	-3.7	
FINES	FINESS Array B	136.38	343	PKhKP		PKPpre	07 42 09.3		
	1.7nm,0.5s,baz=63,slow=4.6,SNR=8.4								
FINES				PKP		PKPdf	07 42 20.5	-2.6	
	2.9nm,0.5s,baz=87,slow=3.7,SNR=10								
FINES				SKPbc		SKiKP	07 45 04.4	-3.7	
	8.6nm,0.9s,baz=72,slow=6.2,SNR=7.7								
NB2	NORSAR Subarra	139.71	353	PKP		PKPpre	07 42 21.1		
	comp=Z,2.1nm,0.5s,baz=14,slow=3.2								
NB2	NORSAR Subarra	139.71	353	PKP		SKPbc	07 45 14.5	+2.0	
	comp=Z,0.9nm,0.8s,baz=16,slow=2.9								
NOA	NORSAR Array B	139.71	353	PKPpre		PKPpre	07 42 21.3		
NOA				PKP		PKPdf	07 42 29.4	0.0	
NOA				SKPbc		SKiKP	07 45 13.3	-1.7	
NOA	NORSAR Array B	139.71	353	PKhKP		PKPpre	07 42 21.3		
	comp=Z,2.6nm,0.5s,baz=16,slow=4.7,SNR=20								
NOA				PKP		PKPdf	07 42 29.4	0.0	
	comp=Z,1.9nm,0.6s,baz=14,slow=4.0,SNR=5.2								
NOA				SKPbc		SKiKP	07 45 13.3	-1.7	
	comp=Z,2.1nm,0.9s,baz=16,slow=4.6,SNR=3.6								
SUW	Suwalki	143.38	338	*e*PKP		PKPab	07 42 34.0	-0.3	
AKASG	Malin Array Be	143.42	330	PKP		PKPab	07 42 33.7	-0.9	
AKASG				SKPbc		SKiKP	07 45 23.7	+0.8	
AKASG	Malin Array Be	143.42	330	PKP		PKPab	07 42 33.7	-0.9	
	comp=Z,46nm,0.4s,baz=44,slow=4.2,SNR=319								
AKASG				SKPbc		SKiKP	07 45 23.7	+0.8	
	comp=Z,2.5nm,0.9s,baz=42,slow=2.0,SNR=9.0								
MALT	Malatya	143.93	306	⇑*i*P		PKPdf	07 42 37.7	+0.1	
GKP	Gorka Klasztor	145.85	343	*e*PKP		PKPbc	07 42 41.8	-0.2	
BEL	Belsk	145.99	338	*e*PKP		PKPbc	07 42 42.8	+0.3	
BSEG	Bad Segeberg	146.73	350	*e*PKPbc		PKPbc	07 42 44.5	+0.1	
BR131	Keskin Array S	146.93	311	*e*PKPbc		PKPbc	07 42 45.1	-0.5	
BRTR	Keskin Array B	146.93	311	PKPbc		PKPbc	07 42 45.1	-0.5	
BRTR	Keskin Array B	146.93	311	PKPbc		PKPbc	07 42 45.1	-0.5	
	comp=Z,10nm,0.6s,baz=134,slow=4.3,SNR=49								
KWP	Kalwaria Pacla	147.06	334	*e*PKP		PKPbc	07 42 45.5	0.0	
KWP	Kalwaria Pacla	147.06	334	⇓*i*P		PKPbc	07 42 45.7	+0.2	
TLCR		147.20	323	⇓*i*P		PKPbc	07 42 46.2	+0.2	
RUE	Ruedersdorf	147.44	346	*e*PKPbc		PKPbc	07 42 46.5	+0.2	
RUE				*e*PKPab		PKPab	07 42 50.3	0.0	
BUR08	Bucovina Ar. S	147.45	329	*e*PKPbc		PKPbc	07 42 46.9	+0.1	
ANTO	Ankara	147.46	312	⇑*i*P		PKPbc	07 42 47.3	+0.3	
ANTO	Ankara	147.46	312	*e*PKPbc		PKPbc	07 42 46.7	-0.2	
BURAR	Bucovina Array	147.46	329	⇑*i*P		PKPbc	07 42 47.2	+0.5	
TESR	Tescani	147.52	327	⇓*i*P		PKPbc	07 42 46.6	-0.2	
CFR	Carcaliu	147.59	324	⇓*i*P		PKPbc	07 42 46.7	-0.3	
TIRR	Tirgusor	147.87	322	⇑*i*P		PKPbc	07 42 47.6	-0.1	
VRI	Vrincioaia	147.91	326	⇑*i*P		PKPbc	07 42 47.7	-0.1	
PLOR	Plostina	147.96	326	⇓*i*P		PKPbc	07 42 47.3	-0.7	
HARR	Harsova	148.00	323	⇓*i*P		PKPbc	07 42 48.2	+0.2	
NRDL	Niedersach Rie	148.15	350	*e*PKPbc		PKPbc	07 42 48.0	-0.1	
MANR	Mangalia	148.15	321	⇓*i*P		PKPbc	07 42 49.0	+0.6	
KSP	Ksiaz	148.28	342	*e*PKPdf		PKPbc	07 42 48.8	+0.2	
KSP				*e*PKPab		PKPab	07 42 54.0	+0.2	
MSAB	Monastry St. A	148.43	322	⇑*i*P		PKPbc	07 42 49.3	+0.2	
PSN	Preselentsi	148.47	321	⇑*i*P		PKPbc	07 42 49.6	+0.4	
DOPR	Dopca	148.53	327	⇓*i*P		PKPbc	07 42 49.9	+0.5	
MLR	Muntele Rosu	148.57	326	⇓*i*P		PKPbc	07 42 49.3	-0.3	
OKC	Ostrava-Krasne	148.58	339	⇑*e*PKP		PKPbc	07 42 49.1	-0.2	
OKC				*e*PKPAB		PKPbc	07 42 54.4	-0.7	
UPC	Upice	148.66	342	⇑*e*PKP		PKPbc	07 42 49.8	+0.3	
UPC				*e*PKPAB		PKPab	07 42 55.5	+0.1	
CLL	Collm	148.71	346	*e*PKPbc		PKPbc	07 42 49.6	0.0	
CLL				*e*PKPab		PKPab	07 42 55.1	-0.4	
CLL	Collm	148.71	346	⇓*i*PKPbc		PKPbc	07 42 49.6	0.0	
	comp=Z,41nm,1.2s								
CLL				⇑*i*PKPab		PKPab	07 42 55.1	-0.4	
	comp=Z,17nm,0.7s								
CLL				*i*			07 42 59.0		
DPC	Dobruska-Polom	148.71	341	⇑*e*PKP		PKPbc	07 42 49.8	+0.1	
DPC				*e*PKPAB		PKPab	07 42 56.0	+0.3	
CLZ	Clausthal	148.74	349	*e*PKPbc		PKPbc	07 42 49.9	+0.2	
SEER		148.81	325	⇑*i*P		PKPbc	07 42 50.5	+0.4	
KRLC	Kraliky	148.82	341	⇑*e*PKP		PKPbc	07 42 49.9	-0.1	
KRLC				*e*PKPAB		PKPab	07 42 56.2	+0.1	
MORC	Moravsky Berou	148.84	340	*e*PKPbc		PKPbc	07 42 49.8	-0.2	
BRG	Berggiesshubel	148.89	344	*i* PKP		PKPbc	07 42 50.2	+0.2	
	comp=Z,16nm,0.7s								
BRG				*i*			07 42 56.1		
	comp=Z,15nm,1.0s								
BRG	Berggiesshubel	148.89	344	*e*PKPbc		PKPbc	07 42 50.2	+0.2	
BRG				*e*PKPab		PKPab	07 42 56.2	-0.1	
FBE	Freiberg	148.99	345	*e*PKPbc		PKPbc	07 42 50.7	+0.4	
FBE				*e*PKPab		PKPab	07 42 57.0	+0.3	
PVCC	Panska Ves	149.04	344	⇑*e*PKP		PKPbc	07 42 50.6	+0.2	
PVCC				*e*PKPAB		PKPab	07 42 56.0	-1.0	
VOIR		149.07	327	⇑*i*P		PKPbc	07 42 50.7	-0.1	
NEUB	Neuenburg	149.07	347	*e*PKPbc		PKPbc	07 42 50.6	+0.1	

comp=Z,7.9nm,0.9s
FETA ⇑*i*PKPab **PKPab 07 43 14.8 -0.2**
comp=Z,9.7nm,1.1s
SKO Skopje 153.35 325 *e*PKP **PKPab 07 43 15.3 -0.1**
ESDC Sonseca Array 161.15 13 PKPab **PKPab 07 43 47.9 -1.4**
ESDC Sonseca Array 161.15 13 PKPab **PKPab 07 43 47.9 -1.4**
comp=Z,3.3nm,1.0s,baz=347,slow=4.5,SNR=5.4
KEST Kesra 164.02 336 PKPab **PKPab 07 44 02.0 -0.1**
KEST Kesra 164.02 336 PKPab **PKPab 07 44 02.0 -0.1**
comp=Z,3.1nm,0.9s,baz=299,slow=2.8,SNR=6.2
TORD Torodi Ar. Bea 171.87 182 PKP **PKPdf 07 43 09.3 -1.5**
TORD PKPab **PKPab 07 44 37.0 0.0**
TORD Torodi Ar. Bea 171.87 182 PKP **PKPdf 07 43 09.3 -1.5**
comp=Z,2.1nm,1.0s,baz=304,slow=1.3,SNR=7.9
TORD PKPab **PKPab 07 44 37.0 0.0**
comp=Z,1.5nm,0.8s,baz=180,slow=3.2,SNR=8.0

IDC ***30*** *07:48:54.0±0.4, 10°.62N×125°.27E, h120km±3km, mb4.7/37, mb1 4.8/37, mb1mx4.8/38, mbtmp4.7/37, MS3.9/12, Ms1 4.0/12, ms1mx3.7/38, Error ellipse: s-maj=10.8km s-min=6.5km az=72.0*
MAN ***30*** *07:48:54, 10°.64N×125°.29E, h119km, mb5.9, ML5.0, MS5.5*
MAN Intensity IV - Gen. MacArthur Eastern Samar Intensity III - Tacloban City.
ISCJB ***30*** *07:48:54.3±0.2, 10°.68N±0°.01×125°.38E±0°.02, h135km±1km, mb5.2/193, Error ellipse: s-maj=3.9km s-min=2.4km az=174.1*
MOS ***30*** *07:48:54.1±1.2, 10°.63N×125°.26E, h135km, mb5.2/61, Error ellipse: s-maj=9.0km s-min=4.6km az=116.0*
BJI ***30*** *07:48:55.3, 10°.64N×125°.23E, h144km, mB5.1/42, mb5.0/59*
NEIC ***30*** *07:48:57.5±0.5, 10°.60N×125°.30E, h152km±4km, mb5.3/69, Error ellipse: s-maj=4.0km s-min=2.9km az=79.0*
NEIC Felt [IV PIVS] at General MacArthur; [III PIVS] at Balangiga, Guiuan and Lawa-an; [II PIVS] at Borongan; [I PIVS] at San Policarpio, Samar. Felt [III PIVS] at Tacloban and [II PIVS] at Abuyog, Leyte. Also felt at Palo. Felt [III PIVS] at Loreto and [I PIVS] at Surigao, Mindanao.
GCMT ***30*** *07:48:57.6±0.2, 10°.71N×125°.31E, h130km±1km, MW5.3 Best double couple: NP1:ϕs323.00000°, δ74.00000°, λ-77.00000°. NP2:ϕs103.00000°, δ21.00000°, λ-128.00000°. Principal axes: T 1.0100, Plg27.0000°, Azm42.0000°; N 0.0500, Plg13.0000°, Azm139.0000°; P -1.0600, Plg59.0000°, Azm251.0000°; Data Used: II IU CU IC G CN. Surface waves from 113 sta.*
BKK ***30*** *07:48:58.6±0.7, 11°.N±4°.×12°.5E±°, h155km±7km, M5.2/43, mb5.3/43, mB5.6/33, MLv5.7/2, Mw(mB)5.1/33*
DJA ***30*** *07:49:06.7±1.1, 10°.N±8°.×12°.5E±°, h184km±8km, M5.1/68, mb5.4/68, mB5.6/61, MLv5.4/1, Mw(mB)5.1/61, Mwb5.5/1*
ISC 30 07:48:54.8±0.2,**10°.65N**±0°.02×**125°.37E**±0°.03,**h130**km±1km,
h130km:pP-P,n549,σ1°.**49**/694,**mb5.2**/196,**28C-19D,**
Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.64**	**323**	⇓*i*	*e*P		**Pn**	**07 49 14.4**	**-0.4**
PLP				*i*	S		**Sn**	**07 49 28.1**	**-1.8**
MSLP	**Maasin**	**0.72**	**224**	*e*P			**Pn**	**07 49 15.3**	**-0.1**
MSLP				*e*S			**Sn**	**07 49 30.6**	**-0.3**
OCLP	**Ormoc**	**0.85**	**298**	*e*P			**Pn**	**07 49 16.9**	**+0.6**
SCPH	**Surigao**	**0.87**	**172**	⇑*i*	P		**Pn**	**07 49 16.5**	**-0.1**
SCPH				*i*	S		**Sn**	**07 49 32.0**	**-1.2**
BESP	**Borongan**	**0.94**	**4**	*e*P			**Pn**	**07 49 17.6**	**+0.4**
BESP				*e*S			**Sn**	**07 49 34.0**	**-0.3**
LLP	**Lapu-Lapu**	**1.42**	**257**	⇓*i*	P		**Pn**	**07 49 21.8**	**-0.3**
LLP				*i*	S		**Sn**	**07 49 41.1**	**-1.7**
BUTP	**Butuan**	**1.69**	**172**	*e*P			**Pn**	**07 49 25.5**	**+0.4**
BUTP				*e*S			**Sn**	**07 49 49.8**	**+1.5**
TBP	**Tagbilaran**	**1.77**	**237**	*e*P			**Pn**	**07 49 25.9**	**-0.1**
CGP	**Cagayan de Oro**	**2.29**	**197**	⇑*i*	P		**Pn**	**07 49 32.0**	**-0.4**
CGP				*i*	S		**Sn**	**07 50 00.8**	**-0.3**
MMPH	**Masbate**	**2.41**	**315**	⇑*e*	P		**Pn**	**07 49 34.9**	**+1.1**
MMPH				*i*	S		**Sn**	**07 50 04.7**	**+0.8**
SNPH	**Sibulan**	**2.48**	**238**	*i*	S		**Pn**	**07 50 04.4**	**-1.1**
BIPH	**Bislig**	**2.64**	**158**	⇑*e*	P		**Pn**	**07 49 36.0**	**-0.9**
BIPH				*i*	S		**Sn**	**07 50 08.3**	**-0.9**
RCP	**Roxas**	**2.73**	**289**	⇑*e*	P		**Pn**	**07 49 38.4**	**+0.4**
GUIM	**Jordan**	**2.74**	**270**	*e*P			**Pn**	**07 49 37.5**	**-0.5**
BUKP	**Musuan**	**2.77**	**186**	*e*P			**Pn**	**07 49 39.6**	**+1.0**
BUKP				*e*S			**Sn**	**07 50 16.1**	**+3.8**
PVCP	**Virac**	**3.16**	**338**	⇑*i*	P		**Pn**	**07 49 43.5**	**0.0**
PVCP				*e*S			**Sn**	**07 50 21.1**	**0.0**
PAGZ	**Pagadian**	**3.41**	**215**	*e*P			**Pn**	**07 49 47.1**	**+0.2**
DAV	**Davao City (W)**	**3.57**	**177**	*e*Pn			**Pn**	**07 49 50.4**	**+1.4**
CTBH	**Cotabato--PC H**	**3.59**	**198**	⇑*e*	P		**Pn**	**07 49 49.5**	**+0.4**
OTRP	**Odiongan**	**3.70**	**298**	*e*P			**Pn**	**07 49 51.9**	**+1.3**
AUQP	**San Andres**	**3.74**	**315**	*e*P			**Pn**	**07 49 53.0**	**+1.8**
MATI	**Mati**	**3.79**	**167**	*e*P			**Pn**	**07 49 52.5**	**+0.7**
MATI				*e*S			**Sn**	**07 50 36.4**	**+0.5**
IPIL	**Ipil**	**3.97**	**224**	*e*P			**Pn**	**07 49 54.3**	**+0.1**
CUYO	**Cuyo Island**	**4.28**	**273**	*e*P			**Pn**	**07 49 59.3**	**+0.9**
GQP	**Guinayangan**	**4.32**	**319**	⇓*e*	P		**Pn**	**07 50 00.1**	**+1.3**
SJMP	**San Jose**	**4.54**	**294**	*e*P			**Pn**	**07 50 03.1**	**+1.4**
LQP	**Lukban**	**5.08**	**313**	⇑*e*	P		**Pn**	**07 50 11.1**	**+1.8**
BUSP	**Coron**	**5.25**	**285**	*e*P			**Pn**	**07 50 12.6**	**+1.3**
POLP	**Polilio Island**	**5.26**	**321**	*e*P			**Pn**	**07 50 12.3**	**+0.9**
POLP				*e*S			**Sn**	**07 51 10.7**	**-0.3**
TGY	**Tagaytay City**	**5.53**	**309**	P			**Pn**	**07 50 16.9**	**+1.8**
TGY	**Tagaytay City** 58nm,0.3s,baz=143,slow=12,SNR=24	**5.53**	**309**	P			**Pn**	**07 50 16.9**	**+1.8**
TGY				LR			LR	07 52 17.6	
	comp=Z,121nm,21.5s,baz=240,slow=37								
ENPP	**El Nido**	**5.87**	**276**	*e*P			**Pn**	**07 50 20.3**	**+0.7**
PCPH	**Palayan**	**6.42**	**320**	⇑*e*	P		**Pn**	**07 50 26.1**	**-0.9**
PCPH				*e*S			Sn	07 51 31.1	-7.9
SGSI	**Sangihe**	**6.92**	**179**	P			Pn	07 50 58.4	+25
CAUP	**Cauayan**	**7.14**	**332**	*e*P			**Pn**	**07 50 35.9**	**-0.8**
SZP	**Santa** 110nm,0.7s	**8.35**	**326**	*e*Pn			**Pn**	**07 50 56.0**	**+3.0**
MYLDM	**Lahad Datu**	**8.71**	**232**	P			**Pn**	**07 51 00.8**	**+2.9**
MYLDM	**Lahad Datu** 132nm,1.2s,3µm0.8nm	**8.71**	**232**	P			**Pn**	**07 51 00.9**	**+3.0**
MYLDM	**Lahad Datu**	**8.71**	**232**	*e*Pn			**Pn**	**07 51 00.4**	**+2.4**
KDM	**Kudat**	**9.22**	**247**	P			Pn	07 51 12.2	+7.5
SDKM	**Sandakan**	**9.50**	**239**	P			**Pn**	**07 51 11.0**	**+2.4**
TSM	**Tawau**	**9.76**	**230**	P			**Pn**	**07 51 13.4**	**+1.4**
TNTI	**Ternate**	**10.02**	**168**	P			Pn	07 51 45.0	+30
KMSI	**Cibinong** 472nm,1.0s	**10.11**	**188**	P			**Pn**	**07 51 19.4**	**+2.7**
GTOI	**Gorontalo** 275nm,1.2s,3µm	**10.23**	**193**	P			**Pn**	**07 51 18.3**	**0.0**
MRSI	**Marisa** 200nm,0.8s,2µm	**10.67**	**199**	P			**Pn**	**07 51 25.9**	**+1.7**
LUWI	**Luwuk** 420nm,1.1s,6µm	**11.90**	**193**	P			Pn	07 51 43.8	+3.3
APSI	**Ampana** 239nm,1.2s,2µm	**12.07**	**198**	P			**P**	**07 51 47.5**	**-2.5**
TWG	**Pinlang** 120nm,0.6s	**12.78**	**342**	*e*Pn			**Pn**	**07 51 53.5**	**+1.6**
SWI	**Sorong** 54nm,1.3s,1µm	**12.85**	**153**	P			P	07 52 02.8	+4.1
YULB	**Yu-li** 21nm,0.6s	**13.25**	**343**	*e*Pn			**Pn**	**07 51 59.8**	**+1.8**
TPUB	**Ta-pu** 187nm,1.0s	**13.37**	**341**	*e*Pn			**Pn**	**07 52 00.6**	**+1.0**
SSLB	**Suanglung**	**13.72**	**343**	*e*Pn			**P**	**07 52 07.5**	**-0.8**
NACB	**Ninganchiao**	**13.92**	**346**	*e*Pn			**P**	**07 52 08.9**	**-1.5**
MSAI	**Masohi** 40nm,0.7s,383nm	**14.35**	**166**	P			**P**	**07 52 18.1**	**+2.8**
MWPI	**Manokwari, Pap** 235nm,1.5s	**14.38**	**143**	P			P	07 52 28.3	+13
YHNB	**Yeheng** 65nm,0.9s	**14.45**	**345**	*e*Pn			**P**	**07 52 15.6**	**-0.8**
BKB	**Balikpapan** 393nm,0.9s,4µm	**14.53**	**216**	P			**P**	**07 52 16.9**	**-0.5**
TTSI	**Tana Toraja** 723nm,1.0s,7µm	**14.69**	**202**	P			**P**	**07 52 18.0**	**-1.1**
MMSI	**Mamuju**	**14.73**	**206**	P			P	07 52 27.3	+7.7
FAKI	**Fak Fak**	**15.12**	**153**	P			**P**	**07 52 24.4**	**+0.5**
SBUM	**Sibu**	**15.39**	**239**	P			**Pn**	**07 52 25.6**	**+0.5**
SBUM	**Sibu** 275nm,1.1s,2µm	**15.39**	**239**	P			**P**	**07 52 26.7**	**-0.2**
SBUM	**Sibu** 190nm,0.7s	**15.39**	**239**	*e*Pn			**P**	**07 52 27.1**	**+0.2**
SPSI	**Sidrap Palu** 305nm,0.7s,2µm	**15.56**	**201**	P			**P**	**07 52 30.0**	**+1.3**
QZH	**Quanzhou**	**15.60**	**337**	P			**Pn**	**07 52 25.0**	**-2.7**
QZH				S			**Sn**	**07 55 15.3**	**-5.6**
QZH				pmax			pmax		
	comp=Z,230nm,1.6s								
BNSI	**Bone** 353nm,1.1s,4µm	**15.85**	**200**	P			**P**	**07 52 34.7**	**+2.8**
JOW	**Kunigami** 98nm,1.0s	**16.32**	**9**	*e*P			**P**	**07 52 40.3**	**+3.2**
KAPI	**Kappang** 2µm,0.9s,SNR=25	**16.54**	**200**	Pn			**P**	**07 52 41.1**	**+1.5**
KAPI	**Kappang** 1µm,0.9s	**16.54**	**200**	*e*P			**P**	**07 52 41.0**	**+1.5**
DLV	**T Lat** 144nm,1.0s	**16.61**	**276**	*e*P			**P**	**07 52 43.1**	**+2.5**
KBKI	**Kotabaru** 170nm,1.0s,2µm	**16.62**	**214**	P			**P**	**07 52 42.3**	**+1.9**
BKSI	**Bulukumba** 89nm,1.0s,1µm	**16.71**	**198**	P			**P**	**07 52 43.6**	**+2.2**
QIZ	**Qiongzhong**	**17.16**	**301**	P			**Pn**	**07 52 48.3**	**+1.5**
QIZ				S			**S**	**07 55 59.0**	**+0.3**
QIZ				pmax			pmax		
	comp=Z,99nm,1.5s								
QIZ				pmax			pmax		
	comp=Z,630nm,8.0s								
QIZ	**Qiongzhong** 83nm,1.1s	**17.16**	**301**	*e*P			**Pn**	**07 52 47.9**	**+1.1**
STKI	**Sintang** 131nm,1.6s,13µm5µm	**17.36**	**234**	P			**Pn**	**07 52 51.3**	**+2.0**
BBKI	**Banjar Baru** 126nm,1.4s,6µm	**17.51**	**217**	P			**Pn**	**07 52 51.5**	**+0.4**
KSM	**Kuching**	**17.52**	**240**	P			**Pn**	**07 52 53.1**	**+1.8**
KSM	**Kuching** 92nm,1.6s,2µm	**17.52**	**240**	P			**Pn**	**07 52 52.4**	**+1.1**
KSM	**Kuching** 775nm,2.4s	**17.52**	**240**	*e*Pn			**Pn**	**07 52 51.7**	**+0.4**
PBKI	**Pangkalan Bun** 879nm,0.9s,9µm	**19.03**	**227**	P			**Pn**	**07 53 09.8**	**+0.7**
MMRI	**Maumere** 420nm,0.9s,4µm	**19.41**	**189**	P			**Pn**	**07 53 13.9**	**+0.3**
GENI	**Genyem** 194nm,1.0s,4µm	**19.75**	**131**	P			**Pn**	**07 53 18.9**	**+1.4**
LBFI	**Labuhan Bajo,** 587nm,0.8s,5µm	**19.78**	**196**	P			**P**	**07 53 16.1**	**+1.1**
JAY	**Jayapura**	**20.10**	**130**	P			**P**	**07 53 19.6**	**+1.0**
JAY	**Jayapura** 23nm,0.7s,baz=306,slow=9.0,SNR=9.7	**20.10**	**130**	P			**P**	**07 53 19.6**	**+1.0**
SOEI	**Soe** 201nm,0.9s,2µm	**20.30**	**183**	P			**P**	**07 53 21.1**	**+0.3**
SSE	**Sheshan**	**20.71**	**350**	*e*P			Pn	07 53 27.5	-1.1
SSE				pP			pP	07 53 53.5	+5.0
SSE				sP			sP	07 54 13.0	+8.2
SSE				S			**S**	**07 57 10.0**	**+1.0**
SSE				pmax			pmax		
	comp=Z,30nm,1.2s								
SSE				pmax			pmax		
	comp=Z,69nm,3.7s								
SSE				LR			LR		
	comp=N,100nm,22.9s								
SSE				LR			LR		
	comp=E,86nm,22.9s								
SSE				LR			LR		
	comp=Z,120nm,21.1s								
BWJI	**Bawean** 221nm,1.3s,3µm	**20.71**	**218**	P			Pn	07 53 27.6	-1.2
KMMI	**Kalianget** 519nm,1.2s,4µm	**20.93**	**213**	P			**P**	**07 53 29.1**	**+1.7**
SRBI	**Singaraja** 152nm,1.3s,1µm	**21.18**	**209**	P			**P**	**07 53 30.1**	**0.0**
KHKI	**Kahang-Kahang** 137nm,1.2s,1µm	**21.25**	**208**	P			**P**	**07 53 31.1**	**+0.3**
ABJI	**Asem Bagus** 116nm,2.0s	**21.42**	**212**	P			**P**	**07 53 34.0**	**+1.4**
GRJI	**Gresik** 260nm,1.1s,2µm	**21.66**	**217**	P			**P**	**07 53 37.7**	**+2.4**
DNP	**Denpasar** 840nm,1.1s	**21.70**	**208**	P			**P**	**07 53 39.8**	**+4.1**
BLJI	**Banyuglugur** 306nm,0.8s,5µm	**21.71**	**213**	P			**P**	**07 53 36.2**	**+0.4**
NBBI	**Negara** 301nm,0.9s,2µm	**21.72**	**210**	P			**P**	**07 53 38.1**	**+2.3**
IGBI	**Denpasar** 447nm,1.2s,4µm	**21.86**	**208**	P			**P**	**07 53 37.6**	**+0.3**
JAGI	**Jajag, Banyuwa** 816nm,1.1s	**22.04**	**211**	*e*P			**P**	**07 53 38.3**	**-0.8**
TPI	**Tanjungpandan** 202nm,1.0s,2µm	**22.10**	**234**	P			**P**	**07 53 40.6**	**+0.8**
NJ2	**Nanjing**	**22.13**	**345**	*e*P			**P**	**07 53 41.5**	**+1.6**
NJ2				sP			sP	07 54 29.0	+8.8
NJ2				S			**S**	**07 57 36.5**	**+1.6**
NJ2				sS			sS	07 58 25.0	+8.1
NJ2				pmax			pmax		
	comp=Z,80nm,1.1s								
NJ2				pmax			pmax		
	comp=Z,150nm,4.0s								
NJ2				LR			LR		
	comp=N,430nm,17.2s								
NJ2				LR			LR		
	comp=E,660nm,21.0s								
NJ2				LR			LR		
	comp=Z,200nm,16.9s								
UWJI	**Ujung Watu** 408nm,1.0s,5µm	**22.23**	**221**	P			**P**	**07 53 43.8**	**+2.7**
GMJI	**Gumukmas** 244nm,1.7s,4µm	**22.24**	**213**	P			**P**	**07 53 41.8**	**+0.6**
KTGM	**Kuala Trenggan**	**22.64**	**258**	P			**P**	**07 53 45.5**	**+0.3**
KRKI	**Karangkates** 352nm,1.3s,12µm	**22.68**	**215**	P			**P**	**07 53 48.3**	**+2.7**
CBIJ	**Chichi jima**	**22.77**	**42**	*e*P			**P**	**07 53 47.1**	**+0.8**
JCJ	**Chichijima** 233nm,0.6s,baz=231,slow=2.0,SNR=20	**22.77**	**42**	P			**P**	**07 53 46.8**	**+0.5**
JNU	**Nakatsue**	**22.93**	**12**	*e*P			**P**	**07 53 49.3**	**+1.6**
JNU	**Nakatsue** 38nm,0.9s,baz=152,slow=4.6,SNR=6.9	**22.93**	**12**	P			**P**	**07 53 48.6**	**+0.8**
JNU				LR			LR	08 02 06.0	
	comp=Z,282nm,19.1s,baz=211,slow=34								
PWJI	**Pagerwojo** 144nm,1.4s,2µm	**22.95**	**217**	P			**P**	**07 53 48.5**	**+0.4**
SMRI	**Semarang** 488nm,1.4s,7µm	**23.03**	**221**	P			**P**	**07 53 51.3**	**+2.5**
SMRI	**Semarang** 298nm,0.9s	**23.03**	**221**	*e*P			**P**	**07 53 50.9**	**+2.0**
MYKOM	**Kota Tinggi**	**23.12**	**249**	P			**P**	**07 53 51.5**	**+1.9**
MYKOM	**Kota Tinggi** 223nm,1.1s,3µm	**23.12**	**249**	P			**P**	**07 53 50.5**	**+0.8**
MYKOM	**Kota Tinggi** 229nm,1.1s	**23.12**	**249**	*e*P			**P**	**07 53 50.3**	**+0.6**
SLVN	**Son La** 346nm,2.3s	**23.18**	**300**	*e*P			**P**	**07 53 49.6**	**-0.7**
CHAI	**Chaiyaphum** 85nm,1.1s,877nm	**23.34**	**285**	P			**P**	**07 53 51.2**	**-0.6**
PCJI	**Pacitan** 300nm,1.1s,4µm	**23.46**	**218**	P			**P**	**07 53 54.4**	**+1.6**
KGM	**Kluang**	**23.52**	**250**	P			**P**	**07 53 52.5**	**-0.9**
UGM	**Wanagama** 855nm,1.5s,11µm	**23.64**	**219**	P			**P**	**07 53 57.3**	**+2.9**
GYA	**Guiyang**	**23.65**	**314**	⇓*i*	P		**P**	**07 53 55.0**	**+0.4**
GYA				pP			pP	07 54 27.8	+7.3
GYA				PP			**PnPn**	**07 54 37.0**	**+6.4**
GYA				PcP			**PcP**	**07 57 38.5**	**+2.8**
GYA				S			**S**	**07 57 58.8**	**-1.0**
GYA				sS			**sS**	**07 58 51.5**	**+4.4**
GYA				ScP			**ScP**	**08 01 00.5**	**-1.6**
GYA				PcS			**PcS**	**08 01 16.5**	**+1.0**
GYA				pmax			pmax		
	comp=Z,40nm,1.0s								
GYA				pmax			pmax		
	comp=Z,250nm,7.6s								
GYA				LR			LR		
	comp=N,3µm,16.1s								
GYA				LR			LR		
	comp=E,1µm,15.8s								
GYA				LR			LR		
	comp=Z,2µm,16.7s								
BJI	**Banjamegara** 418nm,1.2s,7µm	**23.71**	**222**	P			**P**	**07 53 57.4**	**+2.2**
JCJI	**Jatiwangi** 948nm,1.1s,9µm	**24.08**	**226**	P			**P**	**07 54 01.9**	**+3.5**
PATY	**Pattaya** 32nm,1.4s,1µm	**24.09**	**278**	P			**P**	**07 54 00.2**	**+1.6**
KPJI	**Karang Pucung** 352nm,1.2s,4µm	**24.23**	**223**	P			**P**	**07 54 01.4**	**+1.6**
PBKT	**Sadao Pong** 209nm,1.0s,4µm	**24.42**	**287**	P			**P**	**07 54 02.2**	**+0.7**
ENH	**Enshi** 35nm,0.8s	**24.49**	**325**	*e*P			**P**	**07 54 02.1**	**+0.1**
FRIM	**Kepong**	**24.68**	**254**	P			**P**	**07 54 02.8**	**-1.1**
LEM	**Lembang** 647nm,0.9s,6µm	**24.78**	**226**	P			**P**	**07 54 07.1**	**+2.1**
JMBI	**JAMBI** 394nm,1.2s,7µm	**24.83**	**242**	P			**P**	**07 54 10.7**	**+5.4**
CMJI	**Cimerak** 102nm,1.0s,1µm	**24.89**	**223**	P			P	07 54 12.6	+6.9
IPM	**Ipoh**	**24.89**	**258**	P			**P**	**07 54 06.0**	**+0.2**
IPM	**Ipoh** 184nm,0.8s,2µm	**24.89**	**258**	P			**P**	**07 54 06.4**	**+0.5**
IPM	**Ipoh** 116nm,0.7s	**24.89**	**258**	*e*P			**P**	**07 54 06.2**	**+0.3**
KULM	**Kulim**	**25.05**	**260**	P			**P**	**07 54 04.7**	**-2.5**
KULM	**Kulim** 194nm,1.5s	**25.05**	**260**	*e*P			**P**	**07 54 07.9**	**+0.6**
CBJI	**Citeko** 2µm,0.9s,23µm	**25.06**	**228**	P			**P**	**07 54 10.1**	**+2.8**
CISI	**Cisompet, Garu** 260nm,1.1s,16µm	**25.15**	**225**	P			**P**	**07 54 11.1**	**+2.9**
CISI	**Cisompet, Garu** 557nm,1.5s	**25.15**	**225**	*e*P			**P**	**07 54 08.2**	**-0.1**
DBJI	**Dramaga** 578nm,1.4s,7µm	**25.22**	**228**	P			**P**	**07 54 10.3**	**+1.5**
SBJI	**Serang** 968nm,1.4s	**25.39**	**230**	P			**P**	**07 54 12.0**	**+1.7**
KLSI	323nm,1.2s,3µm	**25.59**	**234**	P			**P**	**07 54 13.1**	**+1.0**
KLI	**Kotabumi** 165nm,0.8s,8µm	**25.59**	**234**	P			**P**	**07 54 14.0**	**+1.9**
BLSI	**Bandar Lampung** 262nm,1.2s	**25.59**	**232**	P			**P**	**07 54 13.5**	**+1.3**
UTHA	**Uthaitani** 31nm,0.8s,248nm	**25.71**	**284**	P			**P**	**07 54 14.4**	**+1.2**
KMI	**Kunming**	**25.84**	**307**	P			**P**	**07 54 15.5**	**+0.9**
KMI				pP			**pP**	**07 54 45.8**	**+3.5**
KMI				S			**S**	**07 58 32.5**	**-2.5**
KMI				pmax			pmax		
	comp=Z,32nm,1.2s								
KMI				LR			LR		
	comp=N,510nm,16.0s								
KMI				LR			LR		
	comp=E,400nm,17.2s								
KMI				LR			LR		
	comp=Z,390nm,31.9s								
MDSI	**Maura Dua** 63nm,1.5s,893nm	**25.91**	**236**	P			**P**	**07 54 15.2**	**+0.1**
CGJI	**Cibinong** 517nm,1.3s,5µm	**26.04**	**230**	P			**P**	**07 54 15.7**	**-0.5**
LHSI	**Lahat** 147nm,1.1s,2µm	**26.08**	**238**	P			**P**	**07 54 18.4**	**+1.8**
PAYA	**Payao** 95nm,1.3s	**26.08**	**292**	P			**P**	**07 54 18.1**	**+1.5**
LAMP	**Lampang** 44nm,1.0s,386nm	**26.09**	**290**	P			**P**	**07 54 17.3**	**+0.7**
SURT	**Suratani** 31nm,1.7s,506nm	**26.24**	**269**	P			**P**	**07 54 19.3**	**+1.3**
BKNI	**Bangkinang** 174nm,1.4s,2µm	**26.27**	**249**	P			**P**	**07 54 20.3**	**+2.0**
KASI	**Kota Agung** 112nm,1.0s,2µm	**26.27**	**233**	P			**P**	**07 54 18.9**	**+0.6**
LWLI	**Liwa** 269nm,0.8s	**26.32**	**235**	P			**P**	**07 54 19.6**	**+0.7**
KHLT	**Khaolaem Dam** 36nm,1.5s,633nm	**26.44**	**282**	P			**P**	**07 54 20.9**	**+1.1**
CM31	**Chiang Mai Arr** 126nm,0.8s	**26.71**	**290**	*e*P			**P**	**07 54 23.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**26.71**	**290**	P			**P**	**07 54 23.2**	**+1.0**
CMAR				PcP			**PcP**	**07 57 43.8**	**+1.2**
CMAR				ScP			**ScP**	**08 01 09.3**	**-1.5**
CMAR	**Chiang Mai Arr** 86nm,0.8s,baz=103,slow=7.2,SNR=358	**26.71**	**290**	P			**P**	**07 54 23.2**	**+1.0**
CMAR				PcP			**PcP**	**07 57 43.8**	**+1.2**
	5.1nm,0.8s,baz=98,slow=1.0,SNR=8.2								
CMAR				ScP			**ScP**	**08 01 09.3**	**-1.5**
	1.6nm,0.8s,baz=62,slow=1.8,SNR=4.3								
CMAR				LR			LR	08 04 09.9	
	comp=Z,230nm,18.4s,baz=336,slow=34								
KSAR	**Wonju Array Be**	**26.77**	**4**	P			**P**	**07 54 23.1**	**+0.6**
KSAR				PcP			**PcP**	**07 57 42.8**	**+0.4**
KSAR				ScP			**ScP**	**08 01 11.1**	**+0.5**
KSRS	**Korea Array** 8.6nm,1.0s,baz=181,slow=9.9,SNR=12	**26.78**	**5**	P			**P**	**07 54 23.1**	**+0.5**
KSRS				PcP			**PcP**	**07 57 42.8**	**+0.4**
	4.5nm,0.7s,baz=191,slow=2.9,SNR=7.9								
KSRS				ScP			**ScP**	**08 01 11.1**	**+0.5**
	2.5nm,0.8s,baz=180,slow=3.6,SNR=4.2								
KSRS				LR			LR	08 05 11.7	
	comp=Z,227nm,18.4s,baz=179,slow=36								
CHTO	**Chiang Mai**	**26.79**	**291**	*e*P			**P**	**07 54 23.3**	**+0.4**
CHTO				pmax			pmax		
	comp=Z,82nm,1.0s								
CHTO	**Chiang Mai** comp=Z,82nm,1.0s	**26.79**	**291**	*e*P			**P**	**07 54 23.3**	**+0.4**
CMAI	**Chiengmai2** comp=Z,172nm,1.2s,comp=Z,2µm	**26.98**	**293**	P			**P**	**07 54 25.3**	**+0.4**
PPI	**Padang Panjang** comp=Z,52nm,1.6s,comp=Z,882nm	**27.18**	**248**	P			**P**	**07 54 27.1**	**+0.7**
PDSI	**Padang** comp=Z,41nm,0.7s,comp=Z,5µm	**27.31**	**247**	P			**P**	**07 54 29.1**	**+1.4**
PSI	**Prapat**	**27.38**	**255**	P			**P**	**07 54 28.9**	**+0.5**
PSI	**Prapat** comp=Z,32nm,0.8s,baz=68,slow=5.7,SNR=16	**27.38**	**255**	P			**P**	**07 54 28.9**	**+0.5**
MNSI	**Mandailing Nat** comp=Z,134nm,1.0s,comp=Z,9µm	**27.44**	**251**	P			**P**	**07 54 29.1**	**+0.3**
MHMT	**Maesarieng** comp=Z,84nm,1.3s,comp=Z,1µm	**27.58**	**289**	P			P	07 54 35.3	+5.3
XAN	**Xi'an**	**27.73**	**330**	P			**P**	**07 54 31.0**	**-0.2**
XAN				pmax			pmax		
	comp=Z,32nm,0.9s								
XAN				pmax			pmax		
	comp=Z,34nm,4.8s								
MAJO	**Matsushiro**	**28.27**	**22**	*e*P			**P**	**07 54 36.0**	**+0.1**
MAJO				pmax			pmax		
	comp=Z,20nm,1.0s								
MAJO	**Matsushiro** comp=Z,20nm,1.0s	**28.27**	**22**	*e*P			**P**	**07 54 36.0**	**+0.1**
MAT	**Matsushiro**	**28.27**	**22**	P			**P**	**07 54 35.2**	**-0.7**
MAT				*e*S			**S**	**07 59 11.0**	**-1.6**
MJAR	**Matsushiro Arr**	**28.27**	**22**	P			**P**	**07 54 35.9**	**0.0**

BJI pmax pmax
comp=Z,47nm,1.0s
BJI pmax pmax
comp=Z,160nm,3.5s
BJI LR LR
comp=Z,290nm,22.5s
BJI LR LR
comp=Z,510nm,21.4s
BJI LR LR
comp=Z,240nm,30.8s
SNY Shenyang 31.09 357 ⇑P **P** **07 55 02.5 +1.8**
SNY S **S** **07 59 58.3 +1.7**
SNY pmax pmax
comp=Z,20nm,0.7s
SNY LR LR
comp=Z,490nm,18.6s
SNY LR LR
comp=Z,730nm,14.4s
SNY LR LR
comp=Z,310nm,4.2s
WRAB Tennant Creek 31.65 164 P **P** **07 55 04.0 -1.9**
comp=Z,121nm,0.6s,SNR=25
WRAB Tennant Creek 31.65 164 *d* iP **P** **07 55 04.8 -1.1**
WRAB pmax pmax
comp=Z,117nm,1.7s
WRAB Tennant Creek 31.65 164 *e*P **P** **07 55 05.0 -0.9**
comp=Z,17nm,0.7s
WRA Warramunga Arr 31.66 164 P **P** **07 55 04.9 -1.1**
WRA pP **pP** **07 55 32.5 -1.6**
WRA PcP **PcP** **07 57 55.6 +0.5**
WRA ScP **ScP** **08 01 25.8 -0.7**
WRA Warramunga Arr 31.66 164 P **P** **07 55 04.9 -1.1**
comp=Z,8.5nm,0.6s,baz=345,slow=9.4,SNR=70
WRA pP **pP** **07 55 32.5 -1.6**
comp=Z,13nm,0.7s,baz=340,slow=9.4,SNR=6.7
WRA PcP **PcP** **07 57 55.6 +0.5**
comp=Z,6.5nm,0.5s,baz=338,slow=2.7,SNR=7.3
WRA ScP **ScP** **08 01 25.8 -0.7**
comp=Z,1.6nm,0.8s,baz=354,slow=4.1,SNR=5.0
LZH Lanzhou 31.96 326 *e*P **P** **07 55 10.0 +1.3**
LZH pP pP 07 55 42.5 +5.6
LZH sP sP 07 55 57.8 +5.9
LZH PP **PP** **07 56 21.5 -2.0**
LZH PcP **PcP** **07 57 57.5 +1.6**
LZH *e*S **S** **08 00 12.5 +1.8**
LZH pmax pmax
comp=Z,94nm,1.1s
LZH pmax pmax
comp=Z,310nm,4.7s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,1μm,12.4s
LZH LR LR
comp=Z,2μm,17.0s
MBWA Marble Bar 32.10 190 *e*P **P** **07 55 08.6 -1.2**
HHC Hu-ho-hao-te 32.45 340 *e*P **P** **07 55 14.5 +1.6**
HHC sP sP 07 56 06.3 +10
HHC PcP **PcP** **07 57 57.5 +0.4**
HHC S **S** **08 00 18.5 +0.4**
HHC sS sS 08 01 15.5 +8.1
HHC PcS PcS 08 01 36.5 -5.8
HHC ScS **ScS** **08 05 23.3 -5.3**
HHC pmax pmax
comp=Z,110nm,0.9s
HHC pmax pmax
comp=Z,370nm,5.2s
VLA Vladivostok 32.84 9 P **P** **07 55 16.1 +0.1**
VLA *i* 07 56 29.8
VLA S **S** **08 00 24.1 +0.4**
VLA pmax pmax
comp=Z,52nm,0.6s
CN2 Changchun 33.02 0 *e*P **P** **07 55 18.0 +0.4**
CN2 *ep*P **pP** **07 55 48.5 +2.6**
CN2 *es*P **sP** **07 56 05.3 +4.4**
CN2 PcP **PcP** **07 57 59.0 +0.6**
CN2 *e*S **S** **08 00 26.5 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
USRK Ussuriysk Arra 33.91 9 P **P** **07 55 26.0 +0.7**
comp=Z,22nm,0.8s,baz=194,slow=7.9,SNR=38
USRK PcP **PcP** **07 58 01.1 +0.2**
comp=Z,5.2nm,0.5s,baz=193,slow=2.8,SNR=13
MDJ Mudanjiang 34.03 5 P **P** **07 55 28.5 +2.1**
MDJ pP **pP** **07 55 58.3 +3.6**
MDJ sP sP 07 56 18.0 +8.3
MDJ PP **PP** **07 56 48.8 +2.7**
MDJ S **S** **08 00 42.5 +0.3**
MDJ ScS **ScS** **08 05 32.8 -3.6**
MDJ pmax pmax
comp=Z,17nm,1.9s
ERM Erimo 34.91 23⇑ *e*P **P** **07 55 34.9 +0.9**
ERM pmax pmax
comp=Z,54nm,1.7s
SHL Shillong 34.99 300 *i* P **P** **07 55 35.0 -0.1**
AS31 Alice Springs 35.11 166 *e*P **P** **07 55 35.9 -0.1**
ASAR Alice Springs 35.12 166 P **P** **07 55 35.9 -0.1**
ASAR pP **pP** **07 56 03.4 -1.0**
ASAR PcP **PcP** **07 58 04.9 +0.1**
ASAR S **S** **08 00 58.6 -0.7**
ASAR ScP **ScP** **08 01 37.8 -0.8**
ASAR Alice Springs 35.12 166 P **P** **07 55 35.9 -0.1**
comp=Z,35nm,0.5s,baz=347,slow=7.6,SNR=179
ASAR pP **pP** **07 56 03.4 -1.0**
comp=Z,14nm,0.8s,baz=9.9,slow=8.7,SNR=5.0
ASAR PcP **PcP** **07 58 04.9 +0.1**
comp=Z,5.0nm,0.5s,baz=352,slow=3.3,SNR=5.7
ASAR S **S** **08 00 58.6 -0.7**
comp=Z,4.3nm,0.8s,baz=349,slow=15,SNR=8.8
ASAR ScP **ScP** **08 01 37.8 -0.8**
comp=Z,1.9nm,0.5s,baz=346,slow=3.8,SNR=6.4
ASAR LR LR 08 09 48.1
comp=Z,142nm,21.0s,baz=336,slow=36
ASAJ Asahikawa 36.52 21 *e*P **P** **07 55 49.7 +2.1**
ASAJ Asahikawa 36.52 21 P **P** **07 55 48.5 +0.9**
comp=Z,25nm,0.7s,baz=228,slow=11,SNR=35
GTA Gaotai 36.57 326 ⇓P **P** **07 55 49.3 +1.0**
GTA pP **pP** **07 56 19.5 +2.5**
GTA sP **sP** **07 56 36.0 +4.2**
GTA PcP **PcP** **07 58 10.0 +1.0**
GTA S **S** **08 01 20.0 -1.5**
GTA sS **sS** **08 02 14.8 +3.5**
GTA SS **SnSn** **08 03 56.3 -9.4**
GTA ScS **ScS** **08 05 49.3 -1.5**
GTA pmax pmax
comp=Z,76nm,0.9s
GTA pmax pmax
comp=Z,280nm,5.9s
GTA LR LR
comp=Z,150nm,13.5s
GTA LR LR
comp=Z,150nm,16.1s
GTA LR LR
comp=Z,150nm,15.4s
CTAO Charters Tower 36.82 146 *e*P **P** **07 55 51.2 +0.7**
CTAO pmax pmax
comp=Z,34nm,1.0s
CTAO Charters Tower 36.82 146 *e*P **P** **07 55 51.2 +0.7**
comp=Z,34nm,1.0s
LSA Lhasa 37.09 306 *e*P **P** **07 55 54.0 +0.7**
LSA pmax pmax
comp=Z,24nm,0.7s
LSA Lhasa 37.09 306 *e*P **P** **07 55 54.0 +0.7**
comp=Z,24nm,0.7s
HABR Khabarovsk 38.56 10 *e*P **P** **07 56 03.9 -0.9**
HABR *e**PP **pP** **07 56 32.9 -0.7**
HABR *e**SP **sP** **07 56 48.0 -0.4**
HABR *e* 07 57 35.3
HABR *e*S **S** **08 01 51.9 +0.9**
HABR *e**SS **sS** **08 02 42.8 +1.6**
HABR *e* 08 05 59.8
HABR pmax pmax
comp=Z,132nm,2.8s
HABR MLR MLR
comp=Z,146nm,17.0s
HIA Hailar 38.78 354 *e*P **P** **07 56 08.5 +1.8**
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 39.06 19⇑ *e*P **P** **07 56 10.6 +1.6**
YSS *e* 07 56 36.0
YSS Yuzh-Sakhalins 39.06 19 *ep*P pP 07 56 38.3 +0.4
TAPN Taplejung 39.10 300 *e*P **P** **07 56 10.5 +0.5**
comp=Z,69nm,0.5s
TAPN Taplejung 39.10 300 *e*P **P** **07 56 10.5 +0.5**
comp=Z,69nm,0.5s
ODAN Odare 39.22 300 *e*P **P** **07 56 11.5 +0.5**
comp=Z,229nm,0.6s
ODAN Odare 39.22 300 *e*P **P** **07 56 11.5 +0.5**
comp=Z,229nm,0.6s
RAMN Ramite 39.92 299 *e*P **P** **07 56 17.3 +0.5**
comp=Z,143nm,0.7s
RAMN Ramite 39.92 299 *e*P **P** **07 56 17.3 +0.5**
comp=Z,143nm,0.7s
ULN Ulaanbaatar 40.17 341 *e*P **P** **07 56 19.8 +1.4**
comp=Z,62nm,0.6s
SONM Songino Array 40.36 340 P **P** **07 56 20.9 +1.0**
SONM PcP **PcP** **07 58 21.0 +0.3**
SONM ScP **ScP** **08 01 58.0 -0.1**
SONM Songino Array 40.36 340 P **P** **07 56 20.9 +1.0**
comp=Z,16nm,0.6s,baz=155,slow=9.5,SNR=155
SONM PcP **PcP** **07 58 21.0 +0.3**
comp=Z,8.9nm,0.8s,baz=158,slow=3.2,SNR=5.9
SONM ScP **ScP** **08 01 58.0 -0.1**
comp=Z,1.9nm,0.8s,baz=165,slow=5.4,SNR=4.7
JIRN Jiri 40.48 300 *e*P **P** **07 56 21.9 +0.4**
comp=Z,202nm,0.6s
JIRN Jiri 40.48 300 *e*P **P** **07 56 21.9 +0.4**
comp=Z,202nm,0.6s
H11S3 WAKE ISLAND Hy 40.66 74 T T 08 39 53.4
baz=276,slow=72,SNR=63
H11S1 WAKE ISLAND Hy 40.67 74 T T 08 40 23.6
baz=276,slow=72,SNR=45
H11S2 WAKE ISLAND Hy 40.68 74 T T 08 40 20.2
baz=276,slow=72,SNR=47
GUN Gumba 40.81 301 *e*P **P** **07 56 24.4 +0.2**
comp=Z,138nm,0.7s
GUN Gumba 40.81 301 *e*P **P** **07 56 24.4 +0.2**
comp=Z,138nm,0.7s
H11N1 WAKE ISLAND Hy 40.98 72 T T 08 40 13.5
baz=268,slow=75,SNR=118
H11N2 WAKE ISLAND Hy 40.98 72 T T 08 40 17.1
baz=268,slow=75,SNR=122
H11N3 WAKE ISLAND Hy 40.99 72 T T 08 40 20.8
baz=268,slow=75,SNR=111
PKI Pulchoki 41.12 300 *e*P **P** **07 56 26.4 -0.3**
comp=Z,50nm,0.6s
PKI Pulchoki 41.12 300 *e*P **P** **07 56 26.4 -0.3**
PKI pmax pmax
comp=Z,50nm,0.6s
PKI Pulchoki 41.12 300 *e*P **P** **07 56 26.4 -0.3**
comp=Z,50nm,0.6s
PKIN Phulchoki 41.13 300 *e*P **P** **07 56 26.4 -0.3**
comp=Z,39nm,0.5s
FORT Forrest 41.27 176 *e*P **P** **07 56 27.8 +0.4**
KKN Kakani 41.29 300 *e*P **P** **07 56 27.9 0.0**
comp=Z,96nm,1.0s
KKN Kakani 41.29 300 *e*P **P** **07 56 27.9 0.0**
KKN pmax pmax
comp=Z,96nm,1.0s
KKN Kakani 41.29 300 *e*P **P** **07 56 27.9 0.0**
comp=Z,96nm,1.0s
DMN Daman 41.38 300 *e*P **P** **07 56 28.7 -0.1**
comp=Z,91nm,0.9s
DMN Daman 41.38 300 *e*P **P** **07 56 28.7 -0.1**
comp=Z,91nm,0.9s
GKN Gorkha 41.89 300 *e*P **P** **07 56 32.6 -0.2**
GKN Gorkha 41.89 300 *e*P **P** **07 56 32.6 -0.2**
KOLN Koldanda 42.72 300 *e*P **P** **07 56 39.6 +0.1**
comp=Z,145nm,0.9s
KOLN Koldanda 42.72 300 *e*P **P** **07 56 39.6 +0.1**
comp=Z,145nm,0.9s
DANN Dangsing 42.73 300 *e*P **P** **07 56 39.7 -0.1**
comp=Z,154nm,0.7s
DANN Dangsing 42.73 300 *e*P **P** **07 56 39.7 -0.1**
comp=Z,154nm,0.7s
PYUN Piuthan 43.32 300 *e*P **P** **07 56 44.7 +0.3**
comp=Z,465nm,1.2s
PYUN Piuthan 43.32 300 *e*P **P** **07 56 44.7 +0.3**
comp=Z,465nm,1.2s
ZAK Zakamensk 43.60 340⇓ *i*P **P** **07 56 46.7 +0.6**
ZAK *e* 07 57 12.7
ZAK *e* 07 58 31.9
ZAK pmax pmax
comp=Z,12nm,1.1s
EIDS Eidsvold 43.70 145 *e*P **P** **07 56 47.0 -0.1**
comp=Z,16nm,0.9s
BBOO Buckleboo 44.41 167 *e*P **P** **07 56 53.1 +0.4**
comp=Z,2μm,0.7s
TLY Talaya 44.58 341 P **P** **07 56 55.5 +1.7**
comp=Z,443nm,0.8s,SNR=38
TLY Talaya 44.58 341 *e*P **P** **07 56 55.2 +1.4**
TLY *e* 07 57 23.2
TLY pmax pmax
comp=Z,63nm,0.8s
TLY MLR MLR
comp=Z,62nm,15.0s
IRK Irkutsk 44.87 342 *e*P **P** **07 56 55.0 -1.1**
IRK pmax pmax
comp=Z,51nm,1.8s
STKA Stephens Creek 45.05 160 *e*P **P** **07 56 58.6 +0.8**
STKA Stephens Creek 45.05 160 P **P** **07 56 58.5 +0.8**
comp=Z,50nm,0.6s,baz=336,slow=7.7,SNR=279
MOY Mondy 45.47 339 *e*P **P** **07 57 02.0 +1.0**
MOY pmax pmax
comp=Z,47nm,1.7s
HYB Hyderabad 45.83 284 *i* P **P** **07 57 04.0 -0.2**
CLNS Chul'man 46.08 360 *e*P **P** **07 57 07.5 +1.9**
CLNS *e**PP **pP** **07 57 34.5 -0.8**
CLNS *e* 07 58 40.2
CLNS *e* 07 58 58.0
CLNS *e*PPP PPP 07 59 42.1
CLNS *e*S **S** **08 03 42.5 +1.3**
CLNS *e**SS sS 08 04 40.2 +7.6
CLNS *e*SS ScS 08 06 54.8 +7.2
CLNS *e*SSS SSS 08 08 19.4
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,1.1s
CLNS pmax pmax
comp=Z,9.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS smax smax
comp=N,12nm,1.2s
CLNS smax smax
comp=E,9.0nm,0.9s
WMQ Urumqi 46.38 322 P **P** **07 57 09.0 +0.8**
WMQ pP **pP** **07 57 43.0 +5.1**
WMQ sP sP 07 58 00.0 +7.5
WMQ PP **PP** **07 59 00.0 +0.8**
WMQ S **S** **08 03 44.0 -2.0**
WMQ sS sS 08 04 43.0 +5.6
WMQ ScS **ScS** **08 06 45.0 -5.2**
WMQ SS **SS** **08 07 07.0 -6.3**
WMQ pmax pmax
comp=E,35nm,1.1s
WMQ pmax pmax
comp=E,150nm,4.0s
WMQ LR LR
comp=E,320nm,16.0s
WMQ LR LR
comp=E,260nm,16.0s
WMQ LR LR
comp=E,150nm,16.0s
HVS Khovu-Aksy 47.95 334 *d* iP **P** **07 57 21.3 +1.0**
HVS pmax pmax
comp=Z,166nm,1.3s
NDI New Delhi 48.40 299 *ex* **P** **07 57 21.0 -3.0**
PEA0B Petropavlovsk- 49.66 25 *e*P **P** **07 57 34.2 +1.0**
PETK Petropavlovsk- 49.66 25 P P **P** **07 57 34.2 +1.0**
PETK Petropavlovsk- 49.66 25 P P **P** **07 57 34.2 +1.0**
PETK Petropavlovsk- 49.66 25 P P **P** **07 57 34.2 +1.0**
comp=Z,12nm,0.9s,baz=201,slow=5.1,SNR=22
PETK LR LR 08 17 34.9
comp=Z,71nm,19.7s,baz=42,slow=35
KAD Karad 50.00 284 *i* x **P** **07 57 36.5 +0.1**
PET Petropavlovsk 50.00 26 *e*P **P** **07 57 38.3 +2.6**
PET *e*S **S** **08 04 37.0 +0.5**
PET *e**SS **sS** **08 05 29.0 +0.5**
PET pmax pmax
comp=Z,16nm,0.9s
PET MLR MLR
comp=Z,100nm,18.0s
CAN Canberra 50.90 155 *e*P **P** **07 57 43.5 +0.7**
CAN pmax pmax
comp=Z,60nm,1.3s
CAN Canberra 50.90 155 *e*P **P** **07 57 43.5 +0.7**
comp=Z,60nm,1.3s
MK31 Makanchi Array 51.19 323 *e*P **P** **07 57 45.3 +0.4**
MK31 Makanchi Array 51.19 323 *e*P **P** **07 57 45.3 +0.4**
YAK Yakutsk 51.38 3 *ep*P pP 07 58 15.2 -1.0
DZM Mont Dzumac 51.77 129 *e*P **P** **07 57 51.1 +1.5**
comp=Z,58nm,0.9s
DZM *ep*P **pP** **07 58 19.5 -0.4**
comp=Z,124nm,1.1s
DZM Mont Dzumac 51.77 129 *e*LR LR 08 13 08.7
comp=Z,158nm,28.1s
DZM Mont Dzumac 51.77 129 *e*P **P** **07 57 50.8 +1.2**
comp=Z,20nm,0.6s
DZM pP **pP** **07 58 19.1 -0.7**
DZM Mont Dzumac 51.77 129 P **P** **07 57 51.3 +1.7**
comp=Z,19nm,0.5s,baz=299,slow=4.6,SNR=25
DZM pP **pP** **07 58 19.1 -0.7**
comp=Z,54nm,1.0s,baz=324,slow=8.4,SNR=7.4
DZM Mont Dzumac 51.77 129 *e*P **P** **07 57 50.6 +1.0**
DZM *e*S **pP** **07 58 20.5 +0.6**
DZM Mont Dzumac 51.77 129 *e*P **P** **07 57 50.6 +1.0**
DZM *e*S **pP** **07 58 20.5 +0.6**
KSH Kashi 52.32 312 P **P** **07 57 55.0 +1.5**
KSH sP sP 07 58 50.0 +12
KSH PcS **PcS** **08 03 00.0 -1.6**
KSH S **S** **08 05 06.8 -2.4**
KSH sS sS 08 06 12.0 +10
KSH pmax pmax
comp=Z,11nm,0.8s
KSH pmax pmax
comp=Z,110nm,4.3s
KSH LR LR
comp=Z,130nm,5.9s
KSH LR LR
comp=Z,130nm,5.3s
KSH LR LR
comp=Z,130nm,6.2s
ULHL Ulahol 53.09 315 P **P** **07 58 00.0 +0.8**
SNR=7.9
KZA Kyzart 53.71 315 P **P** **07 58 05.1 +1.1**
SNR=20
TKM2 Tokmak 2 53.78 316 *e*P **P** **07 58 04.7 +0.5**
TKM2 Tokmak 2 53.78 316 P **P** **07 58 04.8 +0.5**
SNR=15
TKM2 Tokmak 2 53.78 316 *e*P **P** **07 58 04.7 +0.5**
ZAA0 Zalesovo Array 53.87 332 *e*P **P** **07 58 04.0 -0.4**
ZALV Zalesovo Beam 53.87 332 P **P** **07 58 04.1 -0.3**
ZALV Zalesovo Beam 53.87 332 P **P** **07 58 04.0 -0.3**
ZALV Zalesovo Beam 53.87 332 P **P** **07 58 04.0 -0.3**
comp=Z,9.5nm,0.5s,baz=125,slow=6.6,SNR=66
KBK Karagaybulak 54.13 315 P **P** **07 58 07.2 +0.5**
SNR=8.9
UCH Uchtor 54.28 315 P **P** **07 58 09.3 +1.1**
SNR=52
CHMS Chumysh 54.38 316 P **P** **07 58 08.7 +0.3**
SNR=12
AAK Ala-Archa 54.43 315 P **P** **07 58 09.0 +0.1**
comp=Z,53nm,0.8s,SNR=6.6
AAK Ala-Archa 54.43 315 *d* iP **P** **07 58 09.3 +0.4**
AAK pmax pmax
comp=Z,40nm,1.9s
AAK Ala-Archa 54.43 315 P **P** **07 58 09.6 +0.7**
SNR=8.6
AAK Ala-Archa 54.43 315 *e*P **P** **07 58 09.5 +0.5**
AAK Ala-Archa 54.43 315 P **P** **07 58 09.4 +0.5**
comp=Z,3.6nm,0.6s,baz=149,slow=4.2,SNR=9.5
USP Ospenovka 54.65 316 P **P** **07 58 10.5 +0.2**
SNR=14
AML Almayashu 54.82 314 P **P** **07 58 12.9 +0.9**
SNR=28
EKS2 Erkin-Say 54.94 315 *e*P **P** **07 58 13.2 +0.7**
EKS2 Erkin-Say 54.94 315 P **P** **07 58 13.4 +0.8**
SNR=20
EKS2 Erkin-Say 54.94 315 *e*P **P** **07 58 13.2 +0.7**
NVS Novosibirsk 55.15 332 *e*P **P** **07 58 12.2 -1.4**
NVS *e* 07 58 41.6
NVS pmax pmax
comp=Z,49nm,1.4s
NVS pmax pmax
comp=N,24nm,1.5s
NVS pmax pmax
comp=E,25nm,1.3s
KURK Kurchatov 55.25 326 P **P** **07 58 14.7 +0.3**
comp=E,276nm,0.7s,SNR=52
KURK Kurchatov 55.25 326 *e*P **P** **07 58 14.7 +0.3**
KURK Kurchatov 55.25 326 *e*P **P** **07 58 14.7 +0.3**
KURBB Kurchatov Arra 55.26 326 P **P** **07 58 14.7 +0.2**
comp=E,27nm,0.6s,baz=126,slow=6.9,SNR=357
DGAR Diego Garcia 55.65 253 *d* iP **P** **07 58 17.4 -0.5**
SEY Seymchan 55.67 15 P **P** **07 58 18.9 +1.7**
SEY Seymchan 55.67 15 P **P** **07 58 18.9 +1.7**
SEY ScP **ScP** **08 03 02.6 +0.6**
SEY Seymchan 55.67 15 P **P** **07 58 18.9 +1.7**
comp=E,3.3nm,0.7s,baz=190,slow=23,SNR=6.9
SEY ScP **ScP** **08 03 02.6 +0.6**
comp=E,7.0nm,1.0s,baz=62,slow=23,SNR=5.4
KBL Kabul 56.39 304 *e*P **P** **07 58 23.3 +0.2**
KBL Kabul 56.39 304 *e*P **P** **07 58 23.3 +0.2**
FX1 Attu Island--F 56.88 32 *e*P **P** **07 58 27.9 +1.9**
KK31 Karatay Array 57.35 315 *i* P **P** **07 58 29.0 -0.6**
KK31 pmax pmax
comp=Z,62nm,1.1s
KKAR Karatay Array 57.35 315 *e*P **P** **07 58 29.4 -0.2**
KKAR pmax pmax
comp=Z,64nm,1.1s
KKAR Karatay Array 57.35 315 *e*P **P** **07 58 29.4 -0.2**
comp=Z,64nm,1.1s
BVA0 Borovoye Array 60.85 325 *i* P **P** **07 58 52.5 -0.9**
BVA0 pmax pmax
comp=Z,50nm,1.7s
BVAR Borovoye Array 60.85 325 P **P** **07 58 53.3 -0.1**
BVAR *PP **pP** **07 59 23.5 -1.1**
BVAR Borovoye Array 60.85 325 P **P** **07 58 53.3 -0.1**
BVAR pP **pP** **07 59 23.5 -1.1**
BVAR Borovoye Array 60.85 325 P **P** **07 58 53.3 -0.1**
comp=Z,18nm,0.9s,baz=118,slow=8.9,SNR=79
BVAR pP **pP** **07 59 23.5 -1.1**
comp=Z,44nm,1.1s,baz=111,slow=8.1,SNR=9.3
BRVK Borovoye 60.92 326 P **P** **07 58 54.6 +0.7**
comp=Z,262nm,0.9s,SNR=18
BRVK Borovoye 60.92 326 *d* iP **P** **07 58 53.6 -0.3**
BRVK pmax pmax
comp=Z,51nm,1.0s
BRVK Borovoye 60.92 326 *e*P **P** **07 58 53.7 -0.3**
comp=Z,100nm,1.1s
TIXI Tiksi 60.99 1 *d* iP **P** **07 58 54.2 +0.2**
TIXI *i* *PP **pP** **07 59 23.5 -1.7**
TIXI pmax pmax
comp=Z,50nm,2.0s
TIXI Tiksi 60.99 1 *e*P **P** **07 58 53.9 -0.1**
comp=Z,42nm,1.1s
WBK Wadi Bani Khal 64.29 290 P **P** **07 59 16.8 -0.1**
SNR=8.6
JMDO Jabal Madar 65.10 290 P **P** **07 59 21.9 -0.2**
SNR=7.7
SMDO Samad 65.13 290 P **P** **07 59 21.9 -0.5**
SNR=9.1
SMDO Samad 65.13 290 P **P** **07 59 22.0 -0.4**
SNR=6.5
HOQ Hoqain 65.80 291 P **P** **07 59 26.3 -0.3**
SNR=9.5
HOQ Hoqain 65.80 291 P **P** **07 59 26.2 -0.3**
SNR=12
AB31 Akbulak array 66.01 319 *i* P **P** **07 59 26.7 -0.7**
AB31 pmax pmax
comp=Z,31nm,1.2s
ABKAR Akbulak array 66.01 319 *e*P **P** **07 59 26.9 -0.5**
comp=Z,69nm,1.2s
ARQ Araqi 66.53 291 P **P** **07 59 31.1 -0.2**
SNR=7.1
BANOM Banah 66.67 294 P **P** **07 59 32.9 +0.7**
SNR=13
BANOM Banah 66.67 294 P **P** **07 59 32.8 +0.7**
SNR=7.0
UOSS Wadi Hilu 66.77 293 P **P** **07 59 31.5 -1.3**
comp=Z,141nm,0.6s,SNR=5.7
ASHO Ashiyiah 66.91 292 P **P** **07 59 33.7 0.0**
SNR=12
IBAF Bafgh 67.34 300 *e*P **P** **07 59 35.5 -0.9**
SVE Sverdlovsk 67.41 327⇑ *e*P **P** **07 59 35.9 -0.3**
SVE pmax pmax
comp=Z,65nm,1.0s
AKTO Aktyubinsk 67.47 320 P **P** **07 59 36.3 -0.4**
AKTO Aktyubinsk 67.47 320 P **P** **07 59 36.3 -0.4**
AKTO Aktyubinsk 67.47 320 P **P** **07 59 36.3 -0.4**

comp=Z,5.3nm,0.7s,baz=89,slow=7.6,SNR=22
RPZ Rata Peaks 68.19 146 *e*P P 07 59 41.6 +0.3
comp=Z,79nm,1.0s
ARU Arti 68.42 327 P P 07 59 41.1 -1.4
comp=Z,284nm,0.6s,SNR=11
ARU Arti 68.42 327 *d i*P P 07 59 41.7 -0.8
ARU *e*PP **pP** 08 00 11.8 -2.5
ARU *SP **sP** 08 00 28.6 +0.2
ARU S S 08 08 31.0 -2.6
ARU pmax pmax
comp=Z,32nm,0.7s
ARU Arti 68.42 327 *e*P P 07 59 41.6 -0.9
comp=Z,69nm,1.0s
URZ Urewera 68.53 138 *e*P P 07 59 43.7 +0.2
UNV Unalaska Valle 68.59 36 *e*P P 07 59 45.1 +1.5
IANJ Anjilo 68.82 304 *e*P P 07 59 45.4 -0.3
ISAD Sadrabad 68.94 300 *e*P P 07 59 45.6 -1.0
ISRV Sarvestan 69.45 297 *e*P P 07 59 49.6 -0.2
IPAR Pars 69.50 298 *e*P P 07 59 49.8 -0.3
ILAS Lasjerd 69.60 304 *e*P P 07 59 49.8 -0.7
IKAZ Kazeroun 70.55 298 *e*P P 07 59 56.1 -0.4
TNA Tin City 70.81 24 *e*P P 07 59 58.5 +1.6
comp=Z,2.4nm,0.6s
IR3 Iran Long-Peri 71.18 304 *e*P P 07 59 58.7 -1.3
IR5 Iran Long-Peri 71.54 304 *e*P P 08 00 02.0 -0.2
QRN Al-Qurain 74.02 297 *e*P P 08 00 16.2 -0.5
QRN AMb AMB 08 00 17.6
comp=Z,72nm,0.4s
KBD Kabd 74.19 297 *e*P P 08 00 16.7 -1.0
RDF Al-Radifah 74.33 297 *e*P P 08 00 18.6 +0.1
RDF AMb AMB 08 00 19.4
comp=Z,82nm,1.2s
NAY Al-Naaiem 74.58 297 *e*P P 08 00 19.0 -1.0
NAY AMb AMB 08 00 20.5
comp=Z,52nm,0.9s
PRGR Permogore 75.82 331 ⇓*i*P P 08 00 25.6 -0.8
PRGR *e* 08 00 35.9
PRGR *e*PP **pP** 08 00 55.8 -3.0
PRGR pmax pmax
comp=Z,50nm,0.8s
GNI Garni 76.08 309 *e*P P 08 00 29.2 +0.6
comp=Z,50nm,1.4s
ZEI Tsey 76.61 312 *e*P P 08 00 30.2 -1.4
ZEI pmax pmax
comp=Z,30nm,1.4s
IM04 Indian Mountai 76.61 25 *e*P P 08 00 32.5 +1.7
RAYN Ar Rayn 76.61 292 P P 08 00 31.0 -0.7
comp=Z,654nm,0.7s,SNR=28
PPLA Purkeypile 77.14 28 *e*P P 08 00 36.0 +1.9
comp=Z,55nm,1.5s
KBZ Khabaz 77.30 313 P P 08 00 34.9 -0.2
KBZ Khabaz 77.30 313 P P 08 00 34.9 -0.2
KBZ Khabaz 77.30 313 P P 08 00 34.9 -0.2
comp=Z,10nm,1.0s,baz=47,slow=2.9,SNR=13
KIV Kislovodsk 77.44 313 *d i*P P 08 00 35.8 -0.3
KIV *i* 08 00 48.0
KIV *i* *PP **pP** 08 01 08.4 -0.2
KIV *e* 08 03 31.5
KIV *i* S S 08 10 10.2 -6.2
KIV pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 77.44 313 *e*P P 08 00 36.2 +0.1
comp=Z,21nm,0.9s
KTH Kantishna Hill 77.73 27 *e*P P 08 00 38.0 +0.8
comp=Z,53nm,1.6s
VRHR Novokhopersk 77.87 320 *e*P P 08 00 35.8 -2.4
VRHR *e*PP **pP** 08 01 07.8 -2.9
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
TRF Thorofare Moun 78.02 27 *e*P P 08 00 40.1 +1.2
comp=Z,184nm,1.7s
COLD Coldfoot 78.09 23 *e*P P 08 00 41.1 +2.0
comp=Z,43nm,1.1s
PMR Palmer 78.57 29 *e*P P 08 00 42.6 +0.8
PMR pmax pmax
comp=Z,75nm,1.5s
PMR Palmer 78.57 29 *e*P P 08 00 42.6 +0.8
comp=Z,75nm,1.5s
MCK McKinley 78.62 27 *e*P P 08 00 43.0 +0.9
MCK pmax pmax
comp=Z,190nm,1.5s
MCK McKinley 78.62 27 *e*P P 08 00 43.0 +0.9
comp=Z,190nm,1.5s
COLA College 79.06 26 *e*P P 08 00 44.6 +0.2
COLA pmax pmax
comp=Z,20nm,0.9s
COLA College 79.06 26 *e*P P 08 00 44.6 +0.2
comp=Z,20nm,0.9s
TMCR Tamitsa 79.33 334 *e*P P 08 00 45.3 -0.6
TMCR *e* 08 00 52.2
TMCR *e* 08 03 49.2
TMCR pmax pmax
comp=Z,33nm,0.7s
VORD Divnogorie 79.35 320 *e*P P 08 00 43.8 -2.4
VORD *e*PP **pP** 08 01 15.6 -3.3
VORD pmax pmax
comp=N,70nm,0.7s
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 79.41 320 *e*P P 08 00 44.7 -1.9
VSR *e*PP **pP** 08 01 16.3 -2.9
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
ILAR Eielson Array 79.48 26 P P 08 00 46.9 +0.1
ILAR pP **pP** 08 01 17.5 -1.9
ILAR PKKPbc **PKKPbc** 08 19 33.8 -3.4
ILAR Eielson Array 79.48 26 P P 08 00 46.9 +0.1
comp=Z,3.8nm,0.7s,baz=244,slow=4.6,SNR=64
ILAR pP **pP** 08 01 17.5 -1.9
comp=Z,6.2nm,0.9s,baz=241,slow=6.0,SNR=6.8
ILAR PKKPbc **PKKPbc** 08 19 33.8 -3.4
comp=Z,0.7nm,0.5s,baz=110,slow=2.5,SNR=15
RAR Rarotonga 80.00 114 LR LR 08 33 44.6
comp=Z,153nm,18.4s,baz=301,slow=34
MOS Moscow 80.02 325 *e*P P 08 00 47.3 -2.4
MOS *e* 08 01 20.4
PAX Paxson 80.21 28 *e*P P 08 00 52.1 +1.3
PAX pmax pmax
comp=Z,181nm,1.8s
PAX Paxson 80.21 28 *e*P P 08 00 52.1 +1.3
comp=Z,181nm,1.8s
OBN Obninsk 80.67 324 ⇑*e*P P 08 00 52.3 -0.9
OBN *i* *PP **pP** 08 01 24.5 -1.5
OBN *e* 08 03 55.8
OBN pmax pmax
comp=Z,61nm,1.8s
BMRM Bremner River 80.78 30 *e*P P 08 00 53.9 +0.1
comp=Z,167nm,1.7s
DOT Dot Lake 80.79 27 *e*P P 08 00 54.8 +0.9
comp=Z,36nm,1.2s
APA Apatity 80.99 337 ⇑*i*P P 08 00 54.4 -0.3
APA *i* *PP **pP** 08 01 26.0 -1.5
APA *i* S S 08 10 48.0 -4.8
APA pmax pmax
comp=Z,22nm,0.8s
APA MLR MLR
comp=Z,1μm,15.0s
MALT Malatya 81.11 307 ⇑*i*P P 08 00 55.8 -0.3
EGAK Eagle 81.92 26 *e*P P 08 01 01.3 +1.6
comp=Z,20nm,1.1s
OPO Ambohidratompo 82.37 250 LR LR 08 34 18.9
comp=Z,152nm,19.0s,baz=358,slow=33
ABPO Ambohimpanom 82.44 249 *e*P P 08 01 02.6 -0.9
ABPO pmax pmax
comp=Z,21nm,1.0s
ABPO Ambohimpanom 82.44 249 *e*P P 08 01 02.6 -0.9
comp=Z,20nm,1.0s
JOF Joensuu 82.45 333 *e*P P 08 01 01.0 -1.4
JOF pmax pmax
comp=Z,30nm,0.6s
JOF Joensuu 82.45 333 *e*p P 08 01 01.0 -1.4
comp=Z,30nm,0.6s
KEV Kevo 82.97 340 *e*P P 08 01 03.5 -1.5
KEV pmax pmax
comp=Z,9.0nm,0.6s
KEV Kevo 82.97 340 *e*p P 08 01 03.5 -1.5
comp=Z,8.5nm,0.6s
ASF Jabal al Asfar 83.14 301 P P 08 01 06.6 -0.2
ASF Jabal al Asfar 83.14 301 P P 08 01 06.6 -0.2
comp=Z,13nm,0.9s,baz=122,slow=1.0,SNR=10
ARCES ARCESS Array B 83.53 340 P P 08 01 06.9 -1.1
ARCES pP **pP** 08 01 37.7 -3.1
ARCES ARCESS Array B 83.53 340 P P 08 01 06.9 -1.1
comp=Z,9.4nm,0.5s,baz=77,slow=6.7,SNR=88
ARCES pP **pP** 08 01 37.7 -3.1
comp=Z,15nm,0.8s,baz=81,slow=6.3,SNR=5.8
ARCES LR LR 08 39 21.0
comp=Z,84nm,19.9s,baz=233,slow=36
HYT Haines Junctio 84.24 29 *e*P P 08 01 14.2 +2.3
INK Inuvik 84.25 22 *e*P P 08 01 12.6 +1.0
comp=Z,49nm,1.3s
MMAI Mount Meron Ar 84.26 302 P P 08 01 12.4 0.0
MMAI Mount Meron Ar 84.26 302 P P 08 01 12.4 0.0
comp=Z,12nm,0.9s,baz=122,slow=7.9,SNR=5.9
BR131 Keskin Array S 84.61 309 *e*P P 08 01 13.6 -0.6
comp=Z,6.3nm,0.7s
BRTR Keskin Array B 84.61 309 P P 08 01 13.4 -0.8
BRTR pP **pP** 08 01 43.4 -3.9
BRTR Keskin Array B 84.61 309 P P 08 01 13.4 -0.8
comp=Z,7.3nm,0.7s,baz=114,slow=4.5,SNR=34
BRTR pP **pP** 08 01 43.4 -3.9
comp=Z,2.6nm,0.8s,baz=96,slow=5.1,SNR=3.6
KAF Kangasniemi 84.88 332 *e*P P 08 01 12.9 -1.9
KAF pmax pmax
comp=Z,18nm,0.6s
KAF Kangasniemi 84.88 332 *e*p P 08 01 12.9 -1.9
comp=Z,18nm,0.6s
FIA1 FINESS Array S 85.14 332 *e*P P 08 01 14.9 -1.3
FINES FINESS Array B 85.14 332 P P 08 01 15.9 -0.2
FINES pP **pP** 08 01 46.0 -3.2
FINES FINESS Array B 85.14 332 P P 08 01 15.9 -0.2
comp=Z,18nm,0.6s,baz=67,slow=4.5,SNR=134
FINES pP **pP** 08 01 46.0 -3.2
comp=Z,30nm,0.9s,baz=90,slow=7.6,SNR=7.7
VSU Vasula 85.49 329 *c i*P P 08 01 17.5 -0.4
VSU pmax pmax
comp=Z,101nm,1.2s
CSS Prodhromos 85.64 305 *e*P P 08 01 19.3 +0.1
AKASG Malin Array Be 85.71 321 P P 08 01 18.3 -0.9
AKASG *PP **pP** 08 01 49.0 -3.3
AKASG Malin Array Be 85.71 321 P P 08 01 18.3 -0.9
AKASG pP **pP** 08 01 49.0 -3.3
AKASG Malin Array Be 85.71 321 P P 08 01 18.3 -0.9
comp=Z,8.0nm,0.5s,baz=65,slow=4.6,SNR=69
AKASG pP **pP** 08 01 49.0 -3.3
comp=Z,27nm,1.0s,baz=64,slow=4.7,SNR=7.6
AKBB Malin Array Si 85.71 321 *e*P P 08 01 18.3 -0.9
AKBB Malin Array Si 85.71 321 *e*P P 08 01 18.3 -0.9
AK01 Malin Array Si 85.72 321 *e*P P 08 01 18.0 -1.3
KIEV Kiev 85.72 321 *e*P P 08 01 17.7 -1.6
KIEV pmax pmax
comp=Z,55nm,1.2s
KIEV Kiev 85.72 321 *e*P P 08 01 17.7 -1.6
comp=Z,55nm,1.2s
AK02 Malin Array Si 85.73 321 *e*P P 08 01 18.3 -1.0
MICGM Minsk 85.73 325 *e* P 08 01 14.0 -5.2
MNK Minsk 85.76 325 *e*P P 08 01 14.0 -5.4
TIRR Tirgusor 87.54 315 ⇑*i*P P 08 01 27.9 -0.4
CFR Carcaliu 87.58 315 ⇑*i*P P 08 01 27.9 -0.5
KMBO Kilima Mbogo 88.36 269 P P 08 01 34.0 +0.9
KMBO Kilima Mbogo 88.36 269 P P 08 01 34.0 +0.9
comp=Z,20nm,0.9s,baz=58,slow=6.5,SNR=45
VRI Vrincioaia 88.39 316 ⇓*i*P P 08 01 32.4 +0.1
PPT Papeete 88.52 108 LR LR 08 38 16.2
comp=Z,80nm,20.7s,baz=346,slow=33
PPT2 Papeete2 88.53 108 *e*S S 08 12 07.6 -1.6
comp=Z,98nm,27.2s
PPT2 Papeete2 88.53 108 *e*LR LR 08 30 01.0
comp=Z,162nm,23.5s
BURAR Bucovina Array 88.97 318 ⇑*i*P P 08 01 34.8 -0.3
BUR08 Bucovina Ar. S 88.97 318 *e*P P 08 01 35.0 -0.1
MLR Muntele Rosu 89.01 316 ⇓*i*P P 08 01 35.5 +0.1
MAW Mawson 89.76 200 *e*P P 08 01 37.4 -0.6
comp=Z,2.7nm,1.1s
MAW Mawson 89.76 200 P P 08 01 37.7 -0.3
comp=Z,3.0nm,0.3s,baz=14,slow=4.5,SNR=6.4
KWP Kalwaria Pacla 90.03 321 ⇑*i*P P 08 01 40.0 +0.1
VNDA Vanda 90.42 173 P P 08 01 41.6 +0.7
VNDA Vanda 90.42 173 P P 08 01 41.6 +0.7
comp=Z,23nm,0.9s,baz=319,slow=5.8,SNR=60
VNDA LR LR 08 39 31.4
comp=Z,48nm,19.2s,baz=324,slow=34
KOLS Kolonicke sedl 90.51 320 *e*P P 08 01 42.8 +0.7
KOLS pmax pmax
comp=Z,165nm,4.0s
KOLS Kolonicke sedl 90.51 320 *e*P P 08 01 42.8 +0.7
STHS Stebnicka Huta 91.01 321 *e*P P 08 01 45.0 +0.5
STHS pmax pmax
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 91.01 321 *e*P P 08 01 45.0 +0.5
CRVS Cervenica-Dubn 91.03 320 *e*P P 08 01 44.7 +0.1
CRVS pmax pmax
comp=Z,21nm,1.2s
CRVS Cervenica-Dubn 91.03 320 *e*P P 08 01 44.7 +0.1
SBA Scott Base 91.33 172 *e*P P 08 01 45.8 +0.6
SBA Scott Base 91.33 172 *e*P P 08 01 45.8 +0.6
comp=Z,166nm,2.2s
MMB Musomiste 91.57 313 ⇑*i*P P 08 01 46.2 -1.1
BZS Buzias 91.90 317 ⇑*i*P P 08 01 47.8 -0.9
NB2 NORSAR Subarra 92.03 334 P P 08 01 47.3 -1.6
comp=Z,4.7nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 92.03 334 P P 08 01 47.3 -1.6
baz=65,slow=4.6
NOA NORSAR Array B 92.03 334 P P 08 01 47.7 -1.3
NOA NORSAR Array B 92.03 334 P P 08 01 47.7 -1.3
comp=Z,4.2nm,0.6s,baz=66,slow=4.6,SNR=22
NOA LR LR 08 47 08.9
comp=Z,61nm,19.4s,baz=305,slow=38
MORC Moravsky Berou 93.17 322 ⇓*i*P P 08 01 54.5 0.0
KSP Ksiaz 93.54 323 *e*P P 08 01 56.0 -0.1
PKSM Moragy 93.69 318 ⇓*i*P P 08 01 56.5 -0.4
YKA Yellowknife Ar 93.77 24 P P 08 01 58.0 +1.1
YKA pP **pP** 08 02 28.7 -1.5
YKA PKKPbc **PKKPdf** 08 18 58.7 -1.8
YKA Yellowknife Ar 93.77 24 P P 08 01 57.9 +1.1
comp=Z,4.5nm,0.8s,baz=300,slow=4.6,SNR=60
YKA pP **pP** 08 02 28.7 -1.5
comp=Z,2.1nm,0.5s,baz=304,slow=4.4,SNR=6.1
YKA PKKPbc **PKKPdf** 08 18 58.7 -1.8
comp=Z,1.3nm,0.6s,baz=123,slow=2.6,SNR=25
CONA Conrad Observa 94.87 320 ⇑*i*PcP **PcP** 08 02 02.5 -0.1
comp=Z,16nm,1.4s
BRG Berggiesshubel 94.90 324 *e*P P 08 02 02.4 +0.1
comp=Z,13nm,1.4s
BRG Berggiesshubel 94.90 324 *e*P P 08 02 02.4 +0.1
BRG pmax pmax
comp=Z,13nm,1.4s
CLL Collm 95.27 324 *e*P P 08 02 03.0 -1.0
CLL *e*PP **pP** 08 02 36.0 -1.4
CLL *e*S S 08 13 01.0 -7.5
CLL pmax pmax
comp=Z,16nm,1.6s
CLL Collm 95.27 324 *e*P P 08 02 03.0 -1.0
comp=Z,16nm,1.6s
CLL *e*pP **pP** 08 02 36.0 -1.4
CLL *e*PP **PP** 08 05 52.0 -3.3
CLL *e*S S 08 13 01.0 -7.5
CLL *e*sS **sS** 08 14 05.0 -1.6
CLL *e*SSSS 08 26 42.0
KHC Kasperske Hory 95.81 322 *e*P P 08 02 05.8 -0.8
KHC pmax pmax
comp=Z,13nm,1.7s
KHC Kasperske Hory 95.81 322 *e*P P 08 02 05.8 -0.8
comp=Z,13nm,1.7s
GERES GERESS Array B 95.85 322 P P 08 02 06.8 -0.1
GERES pP **pP** 08 02 37.3 -2.9
GERES GERESS Array B 95.85 322 P P 08 02 06.8 -0.1
comp=Z,2.9nm,0.8s,baz=61,slow=6.3,SNR=12
GERES pP **pP** 08 02 37.3 -2.9
comp=Z,2.4nm,0.9s,baz=59,slow=5.1,SNR=4.3
WTTA Wattenberg 97.76 321 ⇑*i*PcP P 08 02 14.7 -0.9
comp=Z,15nm,1.0s
WATA Walderalm 97.77 321 ⇑*i*PcP P 08 02 14.9 -0.7
comp=Z,3.5nm,0.7s
MOTA Moosalm 98.05 321 ⇑*i*PcP P 08 02 16.1 -0.8
comp=Z,9.2nm,1.1s
FETA Feichten 98.42 321 ⇑*i*Pdiff P 08 02 17.2 -1.3
comp=Z,13nm,1.5s
QSPA South Pole Qui 100.52 180 PKKPbc PKKPbc 08 18 42.8 -2.8
QSPA South Pole Qui 100.52 180 PKKPbc PKKPbc 08 18 42.8 -2.8
comp=Z,1.1nm,0.3s,baz=207,slow=1.2,SNR=8.1
NVAR Mina Array Bea 103.22 46 PKKPbc PKKPbc 08 18 32.5 -3.5
NVAR Mina Array Bea 103.22 46 PKKPbc PKKPbc 08 18 32.5 -3.5
comp=Z,0.6nm,0.6s,baz=157,slow=3.5,SNR=4.4
PDAR Pinedale Array 106.96 39 PKKPbc PKKPbc 08 18 22.3 -2.7
PDAR Pinedale Array 106.96 39 PKKPbc PKKPbc 08 18 22.3 -2.7
comp=Z,0.8nm,0.7s,baz=130,slow=4.3,SNR=6.9
TXAR Lajitas Array 118.24 48 PKP **PKPdf** 08 07 28.6 +1.0
TXAR PKKPbc **PKKPbc** 08 17 47.6 +0.8
TXAR Lajitas Array 118.24 48 PKP **PKPdf** 08 07 28.6 +1.0
comp=Z,3.4nm,0.6s,baz=259,slow=1.0,SNR=48
TXAR PKKPbc **PKKPbc** 08 17 47.6 +0.8
comp=Z,0.7nm,0.9s,baz=134,slow=7.1,SNR=4.7
TOA0 Torodi Ar. Sit 119.31 292 *e*PKPdf **PKPdf** 08 07 28.5 -1.3
TORD Torodi Ar. Bea 119.31 292 PKP **PKPdf** 08 07 28.9 -0.9
TORD PKPbc **PKKPab** 08 17 44.9 -0.6
TORD Torodi Ar. Bea 119.31 292 PKP **PKPdf** 08 07 28.9 -0.9
comp=Z,5.6nm,0.7s,baz=72,slow=2.5,SNR=36
TORD PKPbc **PKKPab** 08 17 44.9 -0.6
comp=Z,1.5nm,0.7s,baz=269,slow=3.0,SNR=8.2
JCT Junction City 120.37 45 *e*PKIKP **PKPdf** 08 07 32.3 +0.8
JCT Junction City 120.37 45 *e*PKPdf **PKPdf** 08 07 32.3 +0.8
WVT Waverly 123.92 32 *e*PKIKP **PKPdf** 08 07 38.4 +0.3
WVT Waverly 123.92 32 *e*PKPdf **PKPdf** 08 07 38.4 +0.3
OXF Oxford 124.27 35 *e*PKIKP **PKPdf** 08 07 39.3 +0.5
OXF Oxford 124.27 35 *e*PKPdf **PKPdf** 08 07 39.3 +0.5
TKL Tuckaleechee C 126.34 29 *e*PKPdf **PKPdf** 08 07 43.1 +0.3
LRAL Lakeview Retre 126.71 34 *e*PKPdf **PKPdf** 08 07 44.0 +0.5
KIC Kosan Boka 127.54 287 *e*PKIKP **PKPdf** 08 07 45.7 +0.1
comp=Z,15nm,0.6s
DBIC Dimbokro 127.55 287 *e*PKPdf **PKPdf** 08 07 45.0 -0.6
DBIC PKP **PKPdf** 08 07 45.7 +0.1
DBIC Dimbokro 127.55 287 PKP **PKPdf** 08 07 45.7 +0.1
comp=Z,5.5nm,0.6s,baz=39,slow=2.1,SNR=16
TIC Toumodi 127.71 287 *e*PKIKP **PKPdf** 08 07 46.0 0.0
comp=Z,5.4nm,0.2s
LIC Lamto 127.85 286 *e*PKIKP **PKPdf** 08 07 46.3 +0.1
comp=Z,27nm,0.6s
GOGA Godfrey 128.28 31 *e*PKIKP **PKPdf** 08 07 43.9 -2.6
GOGA Godfrey 128.28 31 *e*PKPdf **PKPdf** 08 07 43.9 -2.6
USHA Ushuaia 134.60 169 PKP **PKPdf** 08 07 57.9 +0.2
USHA Ushuaia 134.60 169 PKP **PKPdf** 08 07 57.9 +0.2
comp=Z,11nm,0.7s,baz=122,slow=1.6,SNR=8.0
JTS JuntasAbangare 143.36 56 PKP **PKPdf** 08 08 15.3 +0.3
JTS JuntasAbangare 143.36 56 PKP **PKPdf** 08 08 15.3 +0.3
comp=Z,9.4nm,0.7s,baz=295,slow=8.6,SNR=6.6
SDDR Presa de Saban 146.28 29 *e*PKPdf **PKPab** 08 08 22.1 -0.1
PLCA Paso Flores 146.90 158 *e*PKPdf **PKPdf** 08 08 21.4 +1.0
PLCA PKPbc **PKPbc** 08 08 21.6 -0.9
PLCA Paso Flores 146.90 158 PKPbc **PKPbc** 08 08 21.6 -0.9
comp=Z,10nm,0.5s,baz=217,slow=3.3,SNR=55
CRPR Cabo Rojo, PR 148.97 24 *e*PKPbc **PKPbc** 08 08 28.6 +0.2
CELP Cerrillos 149.11 23 *e*PKPbc **PKPbc** 08 08 29.4 +0.6
OBIP Obispado Ponce 149.13 23 *e*PKPbc **PKPbc** 08 08 28.3 -0.5
CDVI St. Croix 150.05 20 *e*PKPbc **PKPbc** 08 08 31.6 +0.5
TRQA Tornquist 151.93 168 *e*PKPbc **PKPbc** 08 08 34.7 -0.3
ECG Echelle 152.58 15 *e*P **PKPbc** 08 08 38.0 +0.8
SCG Saint Claude 152.59 15 *e*P **PKPbc** 08 08 37.7 +0.6
DOG Dongo Capester 152.60 15 *e*P **PKPbc** 08 08 37.7 +0.7
HMG Houelmont 152.62 15 *e*P **PKPbc** 08 08 37.4 +0.3
OTAV Otavalo 153.96 67 *e*PKPdf **PKPdf** 08 08 33.8 +1.2
SDV Santo Domingo 154.89 40 *e*PKPdf **PKPdf** 08 08 34.0 +0.4
ROSC El Rosal 155.06 53 *e*PKPdf **PKPdf** 08 08 35.2 +1.2
ROSC PKP **PKPdf** 08 08 35.4 +1.3
ROSC El Rosal 155.06 53 PKP **PKPdf** 08 08 35.4 +1.3
comp=Z,9.2nm,0.7s,baz=66,slow=22,SNR=8.6
CFAA Coronel Fontan 155.64 151 PKP **PKPdf** 08 08 34.3 +0.4
CFAA PKPab **PKPab** 08 09 01.2 +0.7
CFAA Coronel Fontan 155.64 151 PKP **PKPdf** 08 08 34.3 +0.4
comp=Z,0.6nm,0.8s,baz=245,slow=3.2,SNR=12
CFAA PKPab **PKPab** 08 09 01.2 +0.7
comp=Z,0.6nm,0.8s,baz=262,slow=5.3,SNR=3.1
RCBR Riachuelo 160.86 283 PKPab **PKPab** 08 09 24.0 +0.2
RCBR Riachuelo 160.86 283 PKPab **PKPab** 08 09 24.0 +0.2
comp=Z,3.8nm,0.6s,baz=141,slow=3.4,SNR=4.6
CPUP Villa Florida 164.20 171 PKP **PKPdf** 08 08 44.0 +0.4
CPUP PKPab **PKPab** 08 09 38.6 +1.0
CPUP pPKPab **pPKPab** 08 10 09.9 -1.3
CPUP Villa Florida 164.20 171 PKP **PKPdf** 08 08 44.0 +0.4
comp=Z,2.3nm,0.6s,baz=0.2,slow=2.3,SNR=5.8
CPUP PKPab **PKPab** 08 09 38.6 +1.0
comp=Z,9.6nm,0.8s,baz=169,slow=5.2,SNR=9.6
CPUP pPKPab **pPKPab** 08 10 09.9 -1.3
comp=Z,3.4nm,0.7s,baz=149,slow=3.9,SNR=2.3
LPAZ La Paz 165.73 115 *e*PKPdf **PKPdf** 08 08 46.8 +0.9
LPAZ PKP **PKPdf** 08 08 47.0 +1.1
LPAZ pPKP **pPKPdf** 08 09 19.0 -2.0
LPAZ PKPab **PKPab** 08 09 46.2 +0.5
LPAZ pPKPab **pPKPab** 08 10 17.9 -1.3
LPAZ La Paz 165.73 115 PKP **PKPdf** 08 08 47.0 +1.1
comp=Z,11nm,1.0s,baz=21,slow=2.0,SNR=26
LPAZ pPKP **pPKPdf** 08 09 19.0 -2.0
comp=Z,5.1nm,0.9s,baz=45,slow=4.1,SNR=3.4
LPAZ PKPab **PKPab** 08 09 46.2 +0.5
comp=Z,5.8nm,0.9s,baz=230,slow=2.7,SNR=4.8
LPAZ pPKPab **pPKPab** 08 10 17.9 -1.3
comp=Z,3.9nm,0.9s,baz=276,slow=8.0,SNR=3.1
PTGA Pitinga 168.80 29 PKPab **PKPab** 08 09 58.1 -0.2
PTGA pPKPab **pPKPab** 08 10 29.3 -2.5
PTGA Pitinga 168.80 29 PKPab **PKPab** 08 09 58.1 -0.2
comp=Z,1.3nm,0.4s,baz=352,slow=23,SNR=4.9
PTGA pPKPab **pPKPab** 08 10 29.3 -2.5
comp=Z,14nm,0.8s,baz=344,slow=21,SNR=9.2
SAML Samuel 171.40 79 *e*P **PKPdf** 08 08 48.8 -0.1
SAML *e*PKPdf PKPdf 08 08 49.0 +0.1
SIV San Ignacio 171.79 131 PKP **PKPdf** 08 08 48.9 -0.1
SIV pPKP **pPKPdf** 08 09 21.4 -2.8
SIV San Ignacio 171.79 131 PKP **PKPdf** 08 08 48.9 -0.1
comp=Z,7.1nm,1.0s,baz=176,slow=1.4,SNR=13
SIV pPKP **pPKPdf** 08 09 21.4 -2.8
comp=Z,4.6nm,1.1s,baz=233,slow=1.6,SNR=3.6
BDFB Brasilia 171.87 232 PKPab **PKPab** 08 10 10.4 -1.8
BDFB Brasilia 171.87 232 PKPab **PKPab** 08 10 10.4 -1.8
comp=Z,6.6nm,1.1s,baz=256,slow=4.6,SNR=4.5

NNC 30 08:01:11.1±1.7, 48°.44N×70°.20E, h0^{km}, mb3.7, mpv3.3, 11C-7D, Error ellipse: s-maj=15.2km s-min=6.1km az=44.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**4.60**	**1**	⇓Pn		Pn		08 02 21.4	-0.5
	4.1nm,1.1s,baz=142,slow=10,SNR=5.1								
BVA0				⇓Pg		Pb		08 02 34.4	+1.8
	2.7nm,0.6s,baz=165,slow=14,SNR=7.5								
BVA0				⇑Sn		Sn		08 03 17.0	+1.0
	1.7nm,0.5s,baz=0.0,slow=0.1,SNR=6.0								
BVA0				⇑Lg		Lg		08 03 36.6	
	2.7nm,0.5s,baz=171,slow=27,SNR=4.5								
BRVK	**Borovoye**	**4.63**	**1**	⇑Pn		Pn		08 02 23.0	+0.7
	7.1nm,1.1s								
BRVK				⇓Pg		Pb		08 02 35.0	+1.8
	5.5nm,0.9s								
BRVK				⇓Sn		Sn		08 03 17.9	+1.2
	3.9nm,0.5s								
BRVK				⇑Lg		Lg		08 03 37.7	
	13nm,1.3s								
KURBB	**Kurchatov Arra**	**5.85**	**65**	⇑Pn		Pn		08 02 39.8	+0.8
	3.7nm,1.0s								
KURBB				⇑Pg		Pb		08 02 56.6	+2.6
	5.1nm,1.2s								
KURBB				⇓Sn		Sn		08 03 49.3	+2.6
	3.4nm,0.9s								
KURBB				⇓Lg		Lg		08 04 17.5	
	3.9nm,0.9s								
KURK	**Kurchatov**	**5.93**	**64**	⇑Pn		Pn		08 02 40.4	+0.2
	3.7nm,1.4s								
KURK				⇓Pg		Pb		08 02 57.5	+2.1
	3.7nm,1.2s								
KURK				⇑Lg		Lg		08 04 19.6	
	3.3nm,1.3s								
MK31	**Makanchi Array**	**8.34**	**97**	⇑Pn		Pn		08 03 13.9	+0.6
	1.1nm,0.8s,baz=279,slow=12,SNR=7.0								
MK31				⇑Sn		Sn		08 04 47.8	-0.3
	3.8nm,1.1s								
MK31				⇑Lg		Lg		08 05 31.6	
	1.1nm,0.6s								

*DDA **30** 08:01:36.7, 37°.20N×28°.72E, h4^{km}, MD3.0*
*CSEM **30** 08:01:37.5±0.2, 37°.23N×28°.70E, h10^{km}, MD3.0, Error ellipse: s-maj=4.8km s-min=4.4km az=139.0*
*ISK **30** 08:01:37.2, 37°.18N×28°.64E, h11^{km}, MD3.0*

ATH ***30*** *08:01:45.0, 36.84N×28.12E, h19km±3km, MD3.5/6*
ISC 30 08:01:37.6±0.9, 37°20'N±0'02×28°67'E±0'02, h15km±8km, n51, σ1s59/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.33**	**189**	*i* P	**Pn**	**08 01 47.6**	**-0.4**
TURN				*i* S	Sn	08 01 58.4	+3.9
TURN	**Turunc**	**0.33**	**189**	*i* P	**Pn**	**08 01 47.6**	**-0.4**
TURN				*i* S	Sn	08 01 58.4	+3.9
DALY	**Dalyan (Mu¨la**	**0.39**	**182**	*e*PG	**Pg**	**08 01 45.0**	**-0.4**
DALY				*e*SG	**Sg**	**08 01 50.6**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.39**	**182**	*e*Pg	**Pg**	**08 01 45.0**	**-0.4**
DALY				*e*Sg	**Sg**	**08 01 50.6**	**-0.1**
DNZL	**Cakiroluk**	**0.57**	**32**	*i* P	**Pg**	**08 01 47.6**	**-1.4**
DNZL				*i* S	**Sg**	**08 01 57.0**	**+0.3**
DNZL	**Cakiroluk**	**0.57**	**32**	*i* P	**Pg**	**08 01 47.6**	**-1.4**
DNZL				*i* S	**Sg**	**08 01 57.0**	**+0.3**
GOLH	**Golhisar**	**0.71**	**87**	*i* P	**Pg**	**08 01 49.4**	**-2.2**
GOLH				*i* S	**Sb**	**08 02 02.3**	**+0.7**
GOLH	**Golhisar**	**0.71**	**87**	*i* P	**Pg**	**08 01 49.4**	**-2.2**
GOLH				*i* S	**Sb**	**08 02 02.3**	**+0.7**
AYDN	**Tasoluk**	**0.78**	**306**	*i* P	**Pg**	**08 01 50.8**	**-2.0**
AYDN				*i* S	**Sg**	**08 02 02.3**	**-0.7**
AYDN	**Tasoluk**	**0.78**	**306**	*i* P	**Pg**	**08 01 50.8**	**-2.0**
AYDN				*i* S	**Sg**	**08 02 02.3**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**320**	*e*PG	**Pg**	**08 01 56.3**	**-0.1**
AYDB				*e*SG	**Sn**	**08 02 10.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**320**	*e*Pg	**Pg**	**08 01 56.3**	**-0.1**
AYDB				*e*Sg	**Sn**	**08 02 10.3**	**-0.1**
BDRM	**Kayabasi**	**0.99**	**262**	*i* P	**Pb**	**08 01 56.7**	**+0.2**
BDRM				*i* S	**Sn**	**08 02 11.7**	**+1.0**
BDRM	**Kayabasi**	**0.99**	**262**	*i* P	**Pb**	**08 01 56.7**	**+0.2**
BDRM				*i* S	**Sn**	**08 02 11.7**	**+1.0**
ARG	**Arkhangelos**	**1.08**	**204**	*e*PB	**Pb**	**08 01 57.0**	**-1.0**
ARG				*e*SN	Sb	08 02 06.2	-5.7
ARG	**Arkhangelos**	**1.08**	**204**	*e*Pb	**Pb**	**08 01 57.0**	**-1.0**
ELL	**Elmali**	**1.09**	**114**	*e*PN	**Pb**	**08 01 58.6**	**+0.3**
ELL	**Elmali**	**1.09**	**114**	*e*Pn	**Pb**	**08 01 58.6**	**+0.3**
BODT	**Bodrum**	**1.09**	**263**	*e*PG	**Pb**	**08 01 58.2**	**-0.1**
BODT				*e*SG	**Sg**	**08 02 13.2**	**+0.2**
BODT	**Bodrum**	**1.09**	**263**	*e*Pg	**Pb**	**08 01 58.2**	**-0.1**
BODT				*e*Sg	**Sg**	**08 02 13.2**	**+0.2**
AKAS	**Kas**	**1.23**	**142**	*i* P	**Pn**	**08 02 00.9**	**+0.5**
AKAS				*i* S	**Sg**	**08 02 21.8**	**+4.5**
AKAS	**Kas**	**1.23**	**142**	*i* P	**Pn**	**08 02 00.9**	**+0.5**
AKAS				*i* S	**Sg**	**08 02 21.8**	**+4.5**
GCAM	**G?zelcaml?**	**1.25**	**294**	*i* P	**Pb**	**08 02 00.9**	**0.0**
GCAM				*i* S	**Sg**	**08 02 20.1**	**+2.2**
GCAM	**G?zelcaml?**	**1.25**	**294**	*i* P	**Pb**	**08 02 00.9**	**0.0**
GCAM				*i* S	**Sg**	**08 02 20.0**	**+2.2**
MANT	**Manisa**	**1.29**	**356**	*i* P	**Pn**	**08 02 00.5**	**-0.8**
MANT				*i* S	**Sg**	**08 02 20.1**	**+0.7**
MANT	**Manisa**	**1.29**	**356**	*i* P	**Pn**	**08 02 00.5**	**-0.8**
MANT				*i* S	**Sg**	**08 02 20.0**	**+0.7**
KULA	**Kula-Manisa**	**1.31**	**360**	*e*PN	**Pn**	**08 02 01.4**	**-0.1**
KULA	**Kula-Manisa**	**1.31**	**360**	*e*Pn	**Pn**	**08 02 01.4**	**-0.1**
KHAL	**Karahalli**	**1.34**	**29**	*i* P	**Pn**	**08 02 00.9**	**-1.0**
KHAL				*i* S	**Sn**	**08 02 19.7**	**+0.2**
KHAL	**Karahalli**	**1.34**	**29**	*i* P	**Pn**	**08 02 00.9**	**-1.0**
KHAL				*i* S	**Sn**	**08 02 19.7**	**+0.2**
KORT	**Korkueli**	**1.36**	**98**	*i* P	**Pn**	**08 02 02.3**	**0.0**
KORT				*i* S	**Sg**	**08 02 23.2**	**+1.6**
KORT	**Korkueli**	**1.36**	**98**	*i* P	**Pn**	**08 02 02.3**	**0.0**
KORT				*i* S	**Sg**	**08 02 23.2**	**+1.6**
SUTC	**Sutluce-Ispart**	**1.88**	**81**	*e*PN	**Pn**	**08 02 10.4**	**+1.0**
SUTC	**Sutluce-Ispart**	**1.88**	**81**	*e*Pn	**Pn**	**08 02 10.4**	**+1.0**
GDZ	**Gediz**	**1.99**	**19**	*i* P	**Pn**	**08 02 11.0**	**+0.1**
GDZ				*i* S	**Sg**	**08 02 43.1**	**+1.4**
GDZ	**Gediz**	**1.99**	**19**	*i* P	**Pn**	**08 02 11.0**	**+0.1**
GDZ				*i* S	**Sg**	**08 02 43.1**	**+1.4**
KARP	**Karpathos**	**2.05**	**217**	*e*PN	**Pn**	**08 02 13.5**	**+1.8**
KARP				*e*SN	**Sn**	**08 02 33.3**	**-3.7**
KARP	**Karpathos**	**2.05**	**217**	*e*Pn	**Pn**	**08 02 13.5**	**+1.8**
KARP				*e*Sn	**Sn**	**08 02 33.3**	**-3.7**
TVSB	**Tavsanli**	**2.33**	**15**	*e*PN	**Pn**	**08 02 16.9**	**+1.4**
TVSB	**Tavsanli**	**2.33**	**15**	*e*Pn	**Pn**	**08 02 16.9**	**+1.4**
CHOS	**Chios island**	**2.38**	**301**	*e*PN	**Pg**	**08 02 23.7**	**+0.4**
CHOS				*e*SN	**Sb**	**08 02 51.6**	**+2.0**
ZKR	**Zakros**	**2.88**	**224**	*e*PN	**Pn**	**08 02 24.0**	**+1.0**
ZKR	**Zakros**	**2.88**	**224**	*e*PB	**Pn**	**08 02 24.5**	**+1.5**
ZKR				*e*SN	**Sn**	**08 02 53.0**	**-4.3**
ZKR	**Zakros**	**2.88**	**224**	*e*Pn	**Pn**	**08 02 24.0**	**+1.0**
ZKR	**Zakros**	**2.88**	**224**	*e*Pb	**Pn**	**08 02 24.5**	**+1.5**
ZKR				*e*Sn	**Sn**	**08 02 53.0**	**-4.3**
NPS	**Neapolis**	**3.14**	**233**	*e*PN	**Pn**	**08 02 27.5**	**+0.9**
NPS	**Neapolis**	**3.14**	**233**	*e*Pn	**Pn**	**08 02 27.5**	**+0.9**
LAST	**Lasithi**	**3.29**	**233**	*e*PB	**Pn**	**08 02 30.6**	**+1.9**
LAST	**Lasithi**	**3.29**	**233**	*e*Pb	**Pn**	**08 02 30.6**	**+1.9**
IDI	**Anoyia**	**3.60**	**239**	*e*PN	**Pn**	**08 02 34.8**	**+1.8**
IDI	**Anoyia**	**3.60**	**239**	*e*Pn	**Pn**	**08 02 34.8**	**+1.8**

CSEM ***30*** *08:04:16.8, 41.42N×44.46E, h0km, ML1.7, After TIF*
TIF 30 08:04:16.8, 41°42N×44°46E, h0km±2km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.05**	**223**	P	Pg	08 04 18.6	+0.7
KZR				S	Sg	08 04 19.6	+1.0
KZR	**Kazreti**	**0.05**	**223**	P	Pg	08 04 18.6	+0.7
KZR				S	Sg	08 04 19.6	+1.0
TBLG	**Delisi**	**0.37**	**34**	P	Pb	08 04 26.1	-0.3
TBLG				S	Sb	08 04 32.5	-0.3
TBLG	**Delisi**	**0.37**	**34**	P	Pb	08 04 26.1	-0.3
TBLG				S	Sb	08 04 32.5	-0.3
SEAG	**Tbilisi Sea**	**0.43**	**37**	P	Pn	08 04 33.2	+2.8
DGRG	**David-gareji**	**0.69**	**87**	P	Pb	08 04 32.6	+0.8
DGRG				S	Sb	08 04 43.4	+1.6
DGRG	**David-gareji**	**0.69**	**87**	P	Pb	08 04 32.6	+0.9
DGRG				S	Sb	08 04 43.4	+1.6
DUS	**Dusheti**	**0.69**	**15**	P	Sn	08 04 44.1	-1.5
AKH	**Akhalkalaki**	**0.73**	**270**	P	Pg	08 04 31.6	+0.5
AKH				S	Sb	08 04 42.1	-1.2
AKH	**Akhalkalaki**	**0.73**	**270**	P	Pg	08 04 31.5	+0.5
AKH				S	Sb	08 04 42.1	-1.2
GUDG	**Gudauri**	**1.04**	**1**	P	Pn	08 04 38.6	-0.5
GUDG	**Gudauri**	**1.04**	**1**	P	Pn	08 04 38.6	-0.4
ONI	**Oni**	**1.39**	**328**	P	Pn	08 04 36.7	-6.9

GUC ***30*** *08:12:54.5±0.6, 25.83S×70.64W, h56km±35km, ML4.9*
ISCJB ***30*** *08:12:55.0±0.5, 25.79S±0.02×70.61W±0.07, h34km±5km, mb4.8/37, MS4.2/5, Error ellipse: s-maj=9.9km s-min=3.8km az=3.1*
IDC ***30*** *08:12:57.1±0.5, 25.75S×70.63W, h41km±3km, mb4.4/13, mb1 4.4/16, mb1mx4.3/21, mbtmp4.5/16, ML4.5/2, MS3.8/7, Ms1 3.8/7, ms1mx3.6/24, Error ellipse: s-maj=17.6km s-min=12.9km az=89.0*
NEIC ***30*** *08:12:58.4±0.8, 25.81S×70.53W, h51km±7km, mb5.0/23, Error ellipse: s-maj=10.7km s-min=6.0km az=86.0*
NEIC Felt at Copiapo.
ISC 30 08:12:56.8±0.4, 25°83S±0'04×70°71W±0'09, h41km±3km, h40km:pP-P, n291, σ1s17/313, mb4.9/39, MS4.2/5, 6C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**1.24**	**185**	*e*P	**Pn**	**08 13 16.8**	**-0.9**
CDCH				*e*S	**Sn**	**08 13 32.5**	**-0.7**
CPCH	**Copiapo**	**1.56**	**168**	*e*P	**Pn**	**08 13 22.4**	**+0.3**
CPCH				*e*S	**Sn**	**08 13 42.3**	**+1.2**
ANCH	**Antofagasta**	**2.15**	**7**	*e*P	**Pn**	**08 13 28.8**	**-1.4**
PB10	**Plate Boundary**	**2.31**	**3↑**	*e*P	**Pn**	**08 13 30.9**	**-1.5**
PB10				AML	AML	08 14 00.1	
	comp=N,10μm,0.2s						
CEN1	**Los Morros**	**2.47**	**11↓**	*e*P	Pn	08 13 30.3	-4.5
CEN1				*e*S	Sn	08 13 57.7	-6.0
VACH	**Vallenar**	**2.74**	**181**	*e*P	**Pn**	**08 13 38.1**	**-0.2**
VACH				*e*S	**Sn**	**08 14 09.6**	**-0.6**
LCO	**Las Campanas**	**3.17**	**180↑**	*e*P	**Pn**	**08 13 43.9**	**-0.6**
LCO				*e*S	**Sn**	**08 14 21.2**	**0.0**
LCO				AML	AML	08 14 44.7	
	comp=N,1μm,0.8s						
LCO	**Las Campanas**	**3.17**	**180**	*e*Pn	**Pn**	**08 13 44.0**	**-0.5**
PB06	**Plate Boundary**	**3.28**	**19**	*e*P	**Pn**	**08 13 45.6**	**-0.3**
PB06				*e*S	**Sn**	**08 14 22.9**	**-0.9**
LVC	**Limon Verde**	**3.60**	**27**	*e*Pn	**Pn**	**08 13 51.2**	**+0.9**
PB04	**Plate Boundary**	**3.72**	**18↑**	*e*P	Pn	08 13 47.8	-4.0
PB04				AML	AML	08 15 00.5	
	comp=E,1μm,0.7s						
PB07	**Plate Boundary**	**4.15**	**11↑**	*e*P	**Pn**	**08 13 56.5**	**-1.4**
PB09	**Plate Boundary**	**4.23**	**19↑**	*e*P	**Pn**	**08 13 59.2**	**+0.1**
TLL	**Tololo Astrono**	**4.32**	**181**	*e*P	**Pn**	**08 14 00.4**	**+0.1**
TLL				AML	AML	08 15 21.6	
	comp=N,656nm,0.7s						
PB01	**Plate Boundary**	**4.89**	**13↑**	*e*P	**Pn**	**08 14 06.8**	**-1.2**
CMCH	**Combarbala**	**5.33**	**183**	*e*P	**Pn**	**08 14 12.2**	**-1.8**
CMCH				*e*S	**Sn**	**08 15 10.2**	**-3.9**
CFAA	**Coronel Fontan**	**6.15**	**160**	P	**Pn**	**08 14 26.8**	**+1.6**
CFAA	**Coronel Fontan**	**6.15**	**160**	P	**Pn**	**08 14 26.8**	**+1.6**
	comp=N,0.4nm,0.3s,baz=331,slow=13,SNR=31						
CFAA				LR	LR	08 17 00.6	
	comp=N,111nm,20.3s,baz=335,slow=39						
LPAZ	**La Paz**	**9.79**	**15**	*e*Pn	**Pn**	**08 15 16.0**	**+0.3**
LPAZ	**La Paz**	**9.79**	**15**	P	**Pn**	**08 15 15.1**	**-0.7**
	comp=N,5.1nm,0.3s,baz=205,slow=5.6,SNR=96						
H03N1	**Juan Fernandez**	**10.41**	**221**	T	T	08 25 56.4	
	baz=45,slow=74,SNR=1080						
H03N2	**Juan Fernandez**	**10.42**	**221**	T	T	08 26 04.9	
	baz=45,slow=74,SNR=1093						
H03N3	**Juan Fernandez**	**10.43**	**221**	T	T	08 26 03.7	
	baz=45,slow=74,SNR=955						
CPUP	**Villa Florida**	**12.04**	**95**	LR	LR	08 20 49.9	
	comp=N,661nm,21.7s,baz=241,slow=40						
SIV	**San Ignacio**	**13.29**	**44**	P	Pn	08 15 58.6	-4.5
SIV	**San Ignacio**	**13.29**	**44**	P	Pn	08 15 58.6	-4.5
	comp=N,2.5nm,0.3s,baz=254,slow=12,SNR=46						
TRQA	**Tornquist**	**14.26**	**151**	*e*Pn	**Pn**	**08 16 17.6**	**+1.5**
PLCA	**Paso Flores**	**14.87**	**180**	P	**P**	**08 16 27.3**	**-2.1**
PLCA	**Paso Flores**	**14.87**	**180**	P	**P**	**08 16 27.3**	**-2.1**
	comp=N,0.2nm,0.3s,baz=359,slow=12,SNR=8.3						
PLCA				LR	LR	08 22 24.9	
	comp=N,406nm,20.0s,baz=294,slow=38						
SAML	**Samuel**	**18.25**	**24**	*e*Pn	**Pn**	**08 17 07.5**	**+0.4**
	comp=N,6.3nm,1.0s						
BDFB	**Brasilia**	**23.48**	**69**	P	**P**	**08 18 01.7**	**-1.5**
BDFB	**Brasilia**	**23.48**	**69**	P	**P**	**08 18 01.7**	**-1.5**
	comp=N,36nm,1.1s,baz=240,slow=10,SNR=23						
PTGA	**Pitinga**	**27.02**	**24**	*e*P	**P**	**08 18 35.0**	**-0.3**
PTGA	**Pitinga**	**27.02**	**24**	P	**P**	**08 18 34.6**	**-0.7**
	comp=N,32nm,0.9s,baz=206,slow=10,SNR=12						
PTGA				LR	LR	08 30 09.2	
	comp=N,123nm,21.1s,baz=16,slow=38						
USHA	**Ushuaia**	**29.02**	**177**	LR	LR	08 31 03.5	
	comp=N,354nm,19.0s,baz=9.8,slow=37						
RCBR	**Riachuelo**	**38.75**	**65**	P	**P**	**08 20 16.8**	**-0.7**
RCBR				*e*pP	pP	08 20 34.7	+5.9
RCBR	**Riachuelo**	**38.75**	**65**	P	**P**	**08 20 16.8**	**-0.7**
	comp=N,15nm,1.1s,baz=210,slow=6.7,SNR=3.6						
CRPR	**Cabo Rojo, PR**	**43.71**	**5**	*e*P	**P**	**08 20 57.1**	**-1.0**
TEIG	**Tepich**	**48.86**	**338**	P	**P**	**08 21 37.5**	**-1.1**
TEIG	**Tepich**	**48.86**	**338**	P	**P**	**08 21 37.5**	**-1.1**
	comp=N,13nm,0.9s,baz=303,slow=22,SNR=6.3						
RKT	**Rikitea**	**58.03**	**258**	*e*LR	LR	08 39 57.7	
	comp=N,251nm,25.2s						
H06S1	**SOCORRO T**	**59.10**	**314**	T	T	09 27 02.8	
	SNR=8.3						
H06E1	**SOCORRO T-PHAS**	**59.12**	**315**	T	T	09 26 54.6	
	SNR=13						
833A	**Chaparral WMA,**	**60.49**	**331**	P	**P**	**08 23 04.6**	**+1.8**
	baz=61						
832A	**Faith Ranch, C**	**60.72**	**330**	P	**P**	**08 23 05.8**	**+1.5**
	baz=61						
733A	**Divot King Ran**	**60.79**	**331**	P	**P**	**08 23 06.6**	**+1.8**
	baz=61						
535A	**Dale**	**61.22**	**333**	P	**P**	**08 23 09.2**	**+1.6**
	baz=62						
632A	**Uvalde**	**61.69**	**331**	P	**P**	**08 23 12.2**	**+1.3**
	baz=62						
631A	**Perdido Creek**	**61.95**	**331**	P	**P**	**08 23 13.5**	**+0.8**
	baz=62						
434A	**Burnet**	**62.19**	**333**	P	**P**	**08 23 15.1**	**+0.8**
	baz=62						
532A	**Rocksprings**	**62.28**	**331**	P	**P**	**08 23 16.0**	**+1.2**
	baz=63						
SWET	**Sewanee**	**62.40**	**346**	*e*P	**P**	**08 23 15.3**	**-0.3**
	comp=N,172nm,2.5s						
433A	**Art**	**62.48**	**333**	P	**P**	**08 23 16.9**	**+0.7**
	baz=63						
JCT	**Junction City**	**62.54**	**332**	*e*P	**P**	**08 23 16.9**	**+0.3**
	comp=N,144nm,3.0s						
JCT				*e*pP	**pP**	**08 23 29.4**	**+0.9**
JCT	**Junction City**	**62.54**	**332**	P	**P**	**08 23 17.5**	**+0.9**
	baz=63						
432A	**Menard**	**62.88**	**332**	P	**P**	**08 23 19.8**	**+0.9**
	baz=63						
333A	**Richland Sprin**	**62.93**	**333**	P	**P**	**08 23 19.8**	**+0.6**
	baz=63						
431A	**Sonora**	**63.06**	**331**	P	**P**	**08 23 20.9**	**+0.8**
	baz=63						
628A	**Black Gap, Mar**	**63.07**	**329**	P	**P**	**08 23 22.0**	**+1.8**
	baz=63						
234A	**Clairette**	**63.19**	**334**	P	**P**	**08 23 21.5**	**+0.7**
	baz=64						
332A	**Millersview**	**63.30**	**332**	P	**P**	**08 23 22.4**	**+0.8**
	baz=64						
529A	**Stev Forest Ra**	**63.30**	**330**	P	**P**	**08 23 22.8**	**+1.1**
	baz=64						
TXAR	**Lajitas Array**	**63.31**	**328**	P	**P**	**08 23 22.4**	**+0.5**
TXAR				pP	**pP**	**08 23 33.8**	**0.0**
TXAR	**Lajitas Array**	**63.31**	**328**	P	**P**	**08 23 22.4**	**+0.5**
	comp=N,0.4nm,0.8s,baz=78,slow=16,SNR=6.1						
TXAR				pP	**pP**	**08 23 33.8**	**0.0**
	comp=N,0.5nm,0.7s,baz=146,slow=9.1,SNR=4.8						
430A	**Baggett Ranch,**	**63.42**	**331**	P	**P**	**08 23 23.3**	**+0.8**
	baz=64						
233A	**Rising Star**	**63.51**	**333**	P	**P**	**08 23 24.0**	**+1.0**
	baz=64						
331A	**San Angelo**	**63.52**	**332**	P	**P**	**08 23 23.6**	**+0.5**
	baz=64						
429A	**Davenport Ranc**	**63.58**	**330**	P	**P**	**08 23 24.7**	**+1.1**
	baz=64						
232A	**Coleman**	**63.70**	**333**	P	**P**	**08 23 24.8**	**+0.5**
	baz=64						
626A	**Big Bend Ranch**	**63.72**	**328**	P	**P**	**08 23 26.0**	**+1.4**
	baz=64						
330A	**Mertzon**	**63.93**	**331**	P	**P**	**08 23 27.0**	**+1.2**
	baz=64						
428A	**Kincaid Ranch,**	**64.02**	**330**	P	**P**	**08 23 27.8**	**+1.3**
	baz=64						
Z35A	**Perchaven, San**	**64.02**	**335**	P	**P**	**08 23 27.7**	**+1.4**
	baz=64						
133A	**Hamilton Ranch**	**64.03**	**334**	P	**P**	**08 23 27.0**	**+0.6**
	baz=64						
526A	**Mary Lane Ranc**	**64.12**	**328**	P	**P**	**08 23 28.4**	**+1.2**
	baz=64						
Z34A	**Collier Ranch,**	**64.31**	**335**	P	**P**	**08 23 28.8**	**+0.6**
	baz=65						
ABTX	**Abilene, Hawle**	**64.34**	**333**	P	**P**	**08 23 29.1**	**+0.6**
	baz=65						
329A	**Wagon Wheel Ra**	**64.35**	**331**	P	**P**	**08 23 29.4**	**+0.7**
	baz=65						
QSPA	**South Pole Qui**	**64.38**	**180**	*e*P	**P**	**08 23 28.8**	**+0.3**
	comp=N,16nm,1.3s						
QSPA	**South Pole Qui**	**64.38**	**180**	P	**P**	**08 23 29.5**	**+1.0**
	comp=N,6.4nm,0.6s,baz=178,slow=1.0,SNR=19						
Z33A	**Whitaker Ranch**	**64.57**	**334**	P	**P**	**08 23 30.4**	**+0.5**
	baz=65						
426A	**McDonald Obser**	**64.60**	**328**	P	**P**	**08 23 32.2**	**+1.8**
	baz=65						
328A	**Wristen Ranch,**	**64.63**	**330**	P	**P**	**08 23 31.5**	**+1.0**
	baz=65						
229A	**Bryant Ranch,**	**64.69**	**331**	P	**P**	**08 23 32.1**	**+1.3**
	baz=65						
PBMO	**Poplar Bluff**	**64.99**	**343**	*e*P	**P**	**08 23 32.4**	**-0.2**
	comp=N,38nm,1.5s						
PBMO				*e*pP	**pP**	**08 23 44.2**	**-0.3**
326A	**Caldwell Ranch**	**65.12**	**329**	P	**P**	**08 23 34.6**	**+1.0**
	baz=66						
Z31A	**Sharp Cattle R**	**65.15**	**333**	P	**P**	**08 23 34.4**	**+0.7**
	baz=66						
228A	**UT Block 9, Go**	**65.16**	**330**	P	**P**	**08 23 34.6**	**+0.7**
	baz=66						
129A	**Stewart Farms,**	**65.28**	**331**	P	**P**	**08 23 35.2**	**+0.6**
	baz=66						
X34A	**Smith Ranch, M**	**65.37**	**336**	P	**P**	**08 23 35.9**	**+0.8**
	baz=66						
Y32A	**R-V Farms, Ver**	**65.46**	**334**	P	**P**	**08 23 36.2**	**+0.5**
	baz=66						
Z30A	**Sanderson Ranc**	**65.53**	**332**	P	**P**	**08 23 37.0**	**+0.8**
	baz=66						
128A	**Castleberry Fa**	**65.54**	**331**	P	**P**	**08 23 37.0**	**+0.6**
	baz=66						
SIUC	**Southern Illin**	**65.56**	**344**	*e*P	**P**	**08 23 36.0**	**-0.2**
	comp=N,11nm,0.5s						
325A	**Bean Ranch, Si**	**65.63**	**328**	P	**P**	**08 23 38.1**	**+1.1**
	baz=66						
Z29A	**Hungry Hill Ra**	**65.75**	**332**	P	**P**	**08 23 37.8**	**+0.2**
	baz=66						
Y31A	**Rekieta Farm,**	**65.75**	**333**	P	**P**	**08 23 38.6**	**+0.9**
	baz=66						
TUL1	**Tulsa**	**65.82**	**338**	P	**P**	**08 23 38.1**	**+0.2**
	baz=66						
226B	**Tecolote Peak,**	**65.84**	**329**	P	**P**	**08 23 39.3**	**+1.0**
	baz=66						
Z28A	**Tucker Farm, M**	**66.07**	**331**	P	**P**	**08 23 40.2**	**+0.4**
	baz=66						
X31A	**McDonald Ranch**	**66.22**	**334**	P	**P**	**08 23 41.5**	**+0.9**
	baz=67						
126A	**Clayton Basin,**	**66.25**	**330**	P	**P**	**08 23 41.8**	**+0.9**
	baz=67						
Z27A	**Tatum**	**66.45**	**331**	P	**P**	**08 23 43.0**	**+0.8**
	baz=67						
125A	**Gardner Draw,**	**66.55**	**329**	P	**P**	**08 23 43.2**	**+0.4**
	baz=67						
V33A	**Lossen Ranch,**	**66.63**	**336**	P	**P**	**08 23 43.4**	**+0.2**
	baz=67						
ACSO	**Alum Creek Sta**	**66.71**	**350**	*e*P	**P**	**08 23 43.1**	**-0.4**
	comp=N,11nm,0.9s						
Z26A	**Caprock**	**66.76**	**330**	P	**P**	**08 23 45.0**	**+0.9**
	baz=67						
MSTX	**Muleshoe**	**66.81**	**331**	*e*P	**P**	**08 23 44.9**	**+0.4**
	comp=N,17nm,1.2s						
MSTX	**Muleshoe**	**66.81**	**331**	P	**P**	**08 23 44.9**	**+0.4**
	baz=67						
V32A	**Arapaho**	**66.82**	**335**	P	**P**	**08 23 45.3**	**+0.9**
	baz=67						
Z25A	**Roswell**	**67.10**	**329**	P	**P**	**08 23 47.4**	**+1.1**
	baz=67						
V31A	**Spring Creek L**	**67.17**	**335**	P	**P**	**08 23 47.8**	**+1.1**
	baz=68						
Z24A	**Sheeppen Canyo**	**67.44**	**329**	P	**P**	**08 23 49.7**	**+1.0**
	baz=68						
W26A	**Owens Ranch, T**	**68.19**	**331**	P	**P**	**08 23 55.3**	**+2.1**
	baz=68						
W25A	**X Bar L Ranch,**	**68.61**	**331**	P	**P**	**08 23 57.6**	**+1.7**
	baz=69						
S31A	**Mullinville**	**68.66**	**336**	P	**P**	**08 23 57.7**	**+1.7**
	baz=69						
R32A	**Long Quarter,**	**69.09**	**337**	P	**P**	**08 23 59.6**	**+1.0**
	baz=69						
V25A	**Rancho No Teng**	**69.20**	**331**	P	**P**	**08 24 00.5**	**+1.0**
	baz=70						
R31A	**Burdett**	**69.27**	**336**	P	**P**	**08 24 00.6**	**+0.9**
	baz=70						
U26A	**Atchley Ranch,**	**69.29**	**332**	P	**P**	**08 24 01.1**	**+1.0**
	baz=70						
TUC	**Tucson**	**69.30**	**324**	*e*P	**P**	**08 24 01.7**	**+1.6**
	comp=N,50nm,2.9s						
W23A	**Werner Place,**	**69.32**	**329**	P	**P**	**08 24 02.2**	**+1.8**
	baz=70						
V24A	**Rampart Ranch,**	**69.39**	**330**	P	**P**	**08 24 01.8**	**+1.0**
	baz=70						
Q32A	**Meitler Ranch,**	**69.55**	**337**	P	**P**	**08 24 01.8**	**+0.4**
	baz=70						
S28A	**Manter**	**69.56**	**334**	P	**P**	**08 24 02.6**	**+1.0**
	baz=70						
U25A	**Circle Dot Ran**	**69.58**	**331**	P	**P**	**08 24 03.5**	**+1.6**
	baz=70						
T26A	**Comanche Natio**	**69.89**	**332**	P	**P**	**08 24 05.6**	**+1.8**
	baz=70						
Q30A	**Quinter**	**70.13**	**336**	P	**P**	**08 24 06.0**	**+0.9**
	baz=70						
R28A	**Tribune**	**70.18**	**334**	P	**P**	**08 24 06.1**	**+0.7**
	baz=70						
T25A	**Trinidad**	**70.21**	**332**	P	**P**	**08 24 07.2**	**+1.5**
	baz=70						
S26A	**Kim**	**70.22**	**333**	P	**P**	**08 24 07.3**	**+1.6**
	baz=71						
V22A	**San Miguel Ran**	**70.29**	**329**	P	**P**	**08 24 08.2**	**+1.9**
	baz=71						
P31A	**Stockton**	**70.31**	**337**	P	**P**	**08 24 06.7**	**+0.6**
	baz=71						
Q29A	**Oakley**	**70.34**	**335**	P	**P**	**08 24 07.2**	**+0.8**
	baz=71						
R27A	**Eads**	**70.52**	**334**	P	**P**	**08 24 08.1**	**+0.5**
	baz=71						
S25A	**Robets Cordova**	**70.66**	**332**	P	**P**	**08 24 10.1**	**+1.6**
	baz=71						
R26A	**Arlington**	**70.79**	**333**	P	**P**	**08 24 10.5**	**+1.3**
	baz=71						
S24A	**Houchin Ranch,**	**70.

	baz=76						
I25A	**Rochford**	**75.81**	336	P		**P**	08 24 40.1 +1.3
	baz=76						
K21A	**Alcova**	**76.00**	333	P		**P**	08 24 41.0 +1.1
	baz=76						
J22A	**Midwest**	**76.34**	334	P		**P**	08 24 42.5 +0.7
	baz=77						
R11A	**Troy Canyon, C**	**76.44**	325	*e*P		**P**	08 24 44.6 +2.1
R11A	**Troy Canyon, C**	**76.44**	325	P		**P**	08 24 44.1 +1.6
	baz=77						
DUG	**Dugway**	**76.49**	328	*e*P		**P**	08 24 44.3 +1.6
	comp=N,23nm,1.9s						
DUG	**Dugway**	**76.49**	328	P		**P**	08 24 44.3 +1.6
	baz=77						
G25A	**Newell**	**76.72**	337	P		**P**	08 24 44.8 +1.1
	baz=77						
H24A	**Dirks Ranch, A**	**76.74**	336	P		**P**	08 24 44.6 +0.7
	baz=77						
I22A	**9 Mile Ranch,**	**76.75**	334	P		**P**	08 24 44.5 +0.5
	baz=77						
D30A	**Buchanan**	**76.89**	341	P		**P**	08 24 45.0 +0.4
	baz=77						
I21A	**Big Trails, Te**	**77.00**	334	P		**P**	08 24 46.4 +0.9
	baz=77						
F26A	**Lodgepole**	**77.03**	338	P		**P**	08 24 46.6 +1.2
	baz=77						
PDAR	**Pinedale Array**	**77.07**	332	P		**P**	08 24 46.1 +0.1
PDAR	**Pinedale Array**	**77.07**	332	P		**P**	08 24 46.1 +0.1
	comp=N,0.6nm,0.7s,baz=121,slow=6.8,SNR=4.9						
E27A	**Carson**	**77.16**	339	P		**P**	08 24 46.7 +0.5
	baz=78						
AGMN	**Agassiz Nation**	**77.16**	343	P		**P**	08 24 46.0 -0.1
	baz=78						
BGU	**Big Grassy Mou**	**77.17**	328	*e*P		**P**	08 24 48.5 +2.0
	comp=N,5.7nm,1.6s						
G24A	**Alzada**	**77.19**	336	P		**P**	08 24 47.0 +0.6
	baz=78						
J19A	**Crowheart**	**77.27**	332	P		**P**	08 24 48.1 +1.1
	baz=78						
H22A	**Clearmont**	**77.29**	335	P		**P**	08 24 49.0 +2.0
	baz=78						
C30A	**Mose, Pekin**	**77.34**	341	P		**P**	08 24 48.0 +0.9
	baz=78						
F25A	**Bowman**	**77.36**	337	P		**P**	08 24 48.2 +0.9
	baz=78						
G23A	**Biddle**	**77.44**	336	P		**P**	08 24 48.7 +0.9
	baz=78						
E25A	**Miller Ranch,**	**77.84**	338	P		**P**	08 24 50.7 +0.7
	baz=78						
H20A	**Greybull**	**77.84**	334	P		**P**	08 24 50.9 +0.9
	baz=78						
I19A	**Meeteetse**	**77.88**	333	P		**P**	08 24 51.6 +1.2
	baz=78						
F23A	**Volborg**	**77.89**	336	P		**P**	08 24 51.0 +0.7
	baz=78						
NVAR	**Mina Array Bea**	**77.93**	324	P		**P**	08 24 51.8 +0.9
NVAR	**Mina Array Bea**	**77.93**	324	P		**P**	08 24 51.8 +0.9
	comp=N,0.4nm,0.5s,baz=151,slow=6.6,SNR=3.9						
B30A	**Myrvik Farm, E**	**77.98**	342	P		**P**	08 24 51.2 +0.6
	baz=78						
G21A	**Lodge Grass**	**78.15**	335	P		**P**	08 24 52.0 +0.3
	baz=78						
F22A	**Rosebud**	**78.25**	335	P		**P**	08 24 53.0 +0.7
	baz=79						
B29A	**Wagenman Farm,**	**78.29**	341	P		**P**	08 24 53.2 +0.9
	baz=79						
D25A	**Fairfield**	**78.38**	338	P		**P**	08 24 54.1 +1.2
	baz=79						
H19A	**Powell**	**78.39**	333	P		**P**	08 24 54.2 +1.0
	baz=79						
I17A	**Pilgrim Ck.**	**78.44**	332	P		**P**	08 24 54.8 +1.3
	baz=79						
E23A	**Ismay**	**78.51**	336	P		**P**	08 24 53.8 +0.2
	baz=79						
G20A	**Bridger**	**78.54**	334	P		**P**	08 24 54.4 +0.4
	baz=79						
C26A	**Wahner Farm, P**	**78.56**	339	P		**P**	08 24 54.5 +0.6
	baz=79						
B28A	**Dugan Ranch, T**	**78.57**	340	P		**P**	08 24 54.5 +0.6
	baz=79						
IMW	**Indian Meadow**	**78.58**	332	*e*P		**P**	08 24 55.9 +1.4
	comp=N,110nm,2.8s						
A29A	**Manning Farm,**	**78.66**	341	P		**P**	08 24 54.9 +0.5
	baz=79						
H18A	**Shoshone NF, C**	**78.68**	333	P		**P**	08 24 56.0 +1.2
	baz=79						
ULM	**Lac du Bonnet**	**78.97**	344	P		**P**	08 24 55.2 -0.7
ULM	**Lac du Bonnet**	**78.97**	344	P		**P**	08 24 55.2 -0.7
	comp=N,4.2nm,0.5s,baz=174,slow=6.6,SNR=7.7						
D23A	**Lindsay**	**79.05**	337	P		**P**	08 24 58.0 +1.3
	baz=79						
YMR	**Madison River**	**79.21**	332	*e*P		**P**	08 24 59.4 +1.7
	comp=N,26nm,1.5s						
YMR				*e*pP		**pP**	08 25 12.0 +1.9
F19A	**Roth Farm, Mol**	**79.35**	334	P		**P**	08 24 58.9 +0.5
	baz=80						
E20A	**Meyer Farm, Mu**	**79.57**	335	P		**P**	08 25 00.6 +1.1
	baz=80						
D21A	**La Casta Ranch**	**79.61**	336	P		**P**	08 25 00.5 +0.8
	baz=80						
E19A	**Rath Farm, Rou**	**79.79**	334	P		**P**	08 25 01.7 +1.1
	baz=80						
DGMT	**Dagmar**	**79.82**	338	P		**P**	08 25 01.7 +1.0
	baz=80						
HLID	**Hailey**	**79.86**	329	*e*P		**P**	08 25 02.9 +1.6
	comp=N,25nm,1.9s						
HLID	**Hailey**	**79.86**	329	P		**P**	08 25 02.9 +1.6
	baz=80						
D20A	**Manuel Ranch,**	**80.06**	335	P		**P**	08 25 03.0 +0.9
	baz=80						
MCMT	**McKenzie Canyo**	**80.15**	331	*e*P		**P**	08 25 04.4 +1.5
	comp=N,6.7nm,1.4s						
BOZ	**Bozeman (W)**	**80.28**	332	*e*P		P	08 24 59.3 -4.2
	comp=N,63nm,2.5s						
TOA0	**Torodi Ar. Sit**	**80.36**	70	*e*P		**P**	08 25 03.8 -0.6
TORD	**Torodi Ar. Bea**	**80.36**	70	P		**P**	08 25 04.0 -0.3
TORD				pP		**pP**	08 25 15.2 -1.4
TORD	**Torodi Ar. Bea**	**80.36**	70	P		**P**	08 25 04.0 -0.3
	comp=N,10nm,0.5s,baz=264,slow=5.3,SNR=238						
TORD				pP		**pP**	08 25 15.2 -1.4
	comp=N,3.4nm,0.4s,baz=258,slow=5.3,SNR=7.6						
TSUM	**Tsumeb**	**80.38**	107	*e*P		**P**	08 25 05.5 +0.8
	comp=N,21nm,1.3s						
D19A	**Cripps Ranch,**	**80.41**	335	P		**P**	08 25 04.7 +0.7
	baz=81						
DLMT	**Dillon**	**80.46**	331	*e*P		**P**	08 25 06.2 +1.7
C20A	**Veseth Ranch,**	**80.53**	335	P		**P**	08 25 04.7 +0.1
	baz=81						
MAW	**Mawson**	**80.67**	164	P		**P**	08 25 05.5 +0.3
MAW	**Mawson**	**80.67**	164	P		**P**	08 25 05.5 +0.3
	comp=N,3.0nm,0.5s,baz=201,slow=7.8,SNR=16						
A22A	**Carney Farms,**	**80.85**	337	P		**P**	08 25 07.1 +0.8
	baz=81						
C19A	**Slack Wire Ran**	**80.94**	335	P		**P**	08 25 07.4 +0.6
	baz=81						
HRY	**Holter Researc**	**81.22**	333	*e*P		**P**	08 25 07.9 -0.4
A20A	**Cobblestone Ra**	**81.47**	336	P		**P**	08 25 10.2 +0.6
	baz=82						
B19A	**Brinkman Farms**	**81.50**	335	P		**P**	08 25 10.3 +0.6
	baz=82						
A19A	**Klindworth Far**	**81.81**	336	P		**P**	08 25 11.9 +0.4
	baz=82						
DRV	**Dumont d'Urvil**	**84.91**	192	R			08 26 00.0
RAO	**Raoul Island**	**91.28**	237	LR		LR	08 56 16.9
	comp=N,83nm,19.5s,baz=332,slow=28						
YKA	**Yellowknife Ar**	**94.72**	341	P		**P**	08 26 12.9 -0.4
YKA				pP		**pP**	08 26 25.6 -0.2
YKA	**Yellowknife Ar**	**94.72**	341	P		**P**	08 26 12.9 -0.4
	comp=N,0.4nm,0.5s,baz=141,slow=4.5,SNR=9.3						
YKA				pP		**pP**	08 26 25.5 -0.2
	comp=N,0.8nm,0.8s,baz=138,slow=4.6,SNR=6.4						
ASAR	**Alice Springs**	**125.33**	208	PKP		**PKPdf**	08 31 53.0 -1.1
ASAR				pPKP		**pPKPdf**	08 32 05.8 -1.0
ASAR	**Alice Springs**	**125.33**	208	PKP		**PKPdf**	08 31 53.0 -1.1
	comp=N,0.5nm,0.5s,baz=124,slow=1.6,SNR=10						
ASAR				pPKP		**pPKPdf**	08 32 05.8 -1.0
	comp=N,1.8nm,0.8s,baz=163,slow=2.0,SNR=11						
H11S2	**WAKE ISLAND Hyl**	**126.67**	274	T		T	10 51 38.1
	baz=111,slow=73,SNR=128						
H11S1	**WAKE ISLAND Hyl**	**126.68**	274	T		T	10 51 38.9
	baz=111,slow=73,SNR=73						
H11S3	**WAKE ISLAND Hyl**	**126.69**	274	T		T	10 51 39.3
	baz=111,slow=73,SNR=78						
H11N3	**WAKE ISLAND Hyl**	**126.87**	276	T		T	10 51 38.7
	baz=167,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hyl**	**126.89**	276	T		T	10 51 43.1
	baz=112,slow=75,SNR=8.7						
WRA	**Warramunga Arr**	**128.40**	211	PKP		**PKPdf**	08 31 58.6 -1.3
WRA				pPKP		**pPKPdf**	08 32 11.9 -0.8
WRA	**Warramunga Arr**	**128.40**	211	PKP		**PKPdf**	08 31 58.6 -1.3
	comp=N,0.9nm,0.7s,baz=156,slow=1.7,SNR=14						
WRA				pPKP		**pPKPdf**	08 32 11.9 -0.8
	comp=N,4.1nm,0.9s,baz=162,slow=1.6,SNR=20						
KBL	**Kabul**	**144.33**	66	*e*PKPdf		**PKPdf**	08 32 29.5 +0.4
KURK	**Kurchatov**	**145.82**	35	PKPbc		**PKPdf**	08 32 29.9 -0.9
KURK				pPKPbc		pPKPbc	08 32 44.0 -0.1
KURBB	**Kurchatov Arra**	**145.83**	35	PKPbc		**PKPdf**	08 32 29.9 -0.9
	comp=N,1.5nm,0.6s,baz=307,slow=4.3,SNR=11						
KURBB				pPKPbc		pPKPbc	08 32 44.0 -0.1
	comp=N,2.3nm,0.9s,baz=304,slow=3.7,SNR=3.4						
EKS2	**Erkin-Say**	**146.48**	51	P		**PKPbc**	08 32 34.1 +0.3
	SNR=9.3						
EKS2	**Erkin-Say**	**146.48**	51	*e*PKPdf		**PKPbc**	08 32 33.1 -0.7
ZAA0	**Zalesovo Array**	**146.55**	26	*e*PKPdf		**PKPdf**	08 32 32.2 +0.3
ZALV	**Zalesovo Beam**	**146.55**	26	PKPbc		**PKPdf**	08 32 32.5 +0.5
ZALV				pPKPbc		pPKPbc	08 32 45.8 -0.4
ZALV	**Zalesovo Beam**	**146.55**	26	PKPbc		**PKPdf**	08 32 32.5 +0.5
	comp=N,9.7nm,0.6s,baz=309,slow=3.5,SNR=39						
ZALV				pPKPbc		pPKPbc	08 32 45.8 -0.4
	comp=N,10.0nm,0.8s,baz=306,slow=3.5,SNR=11						
AML	**Almayashu**	**146.59**	52	P		**PKPab**	08 32 35.5 -0.1
	SNR=16						
USP	**Ospenovka**	**146.78**	50	P		**PKPab**	08 32 35.7 -0.2
	SNR=6.5						
AAK	**Ala-Archa**	**146.99**	51	P		**PKPab**	08 32 36.7 -0.2
	SNR=20						
AAK	**Ala-Archa**	**146.99**	51	*e*PKPdf		**PKPbc**	08 32 34.4 -0.9
AAK				PKPbc		**PKPbc**	08 32 34.9 -0.4
AAK				pPKPbc		pPKPbc	08 32 47.8 -0.3
AAK	**Ala-Archa**	**146.99**	51	PKPbc		**PKPbc**	08 32 34.9 -0.4
	comp=N,12nm,0.8s,baz=214,slow=2.7,SNR=22						
AAK				pPKPbc		pPKPbc	08 32 47.8 -0.3
	comp=N,14nm,0.9s,baz=207,slow=6.1,SNR=8.9						
CHMS	**Chumysh**	**147.04**	50	P		**PKPab**	08 32 36.4 -0.5
	SNR=8.0						
UCH	**Uchtor**	**147.13**	51	P		**PKPbc**	08 32 35.3 -0.9
	SNR=26						
KBK	**Karagaybulak**	**147.30**	50	P		**PKPdf**	08 32 33.1 -0.7
	SNR=5.3						
TKM2	**Tokmak 2**	**147.65**	50	P		**PKPab**	08 32 38.4 -1.2
	SNR=6.3						
TKM2	**Tokmak 2**	**147.65**	50	*e*PKPdf		**PKPdf**	08 32 35.1 +0.6
KZA	**Kyzart**	**147.70**	51	P		**PKPbc**	08 32 36.6 -1.1
	SNR=5.9						
ULHL	**Ulahol**	**148.34**	50	P		**PKPab**	08 32 40.8 -1.5
	SNR=7.3						
KSH	**Kashi**	**149.00**	56	PKPbc		**PKPbc**	08 32 41.0 +0.2
KSH				PKS		**PP**	08 36 15.0 +2.8
KSH				LR		LR	
	comp=N,110nm,5.6s						
KSH				LR		LR	
	comp=N,110nm,4.9s						
KSH				LR		LR	
	comp=N,110nm,4.9s						
MK31	**Makanchi Array**	**150.06**	39	*e*PKPbc		**PKPbc**	08 32 42.8 -0.2
HYB	**Hyderabad**	**150.28**	100	*i* PKP		**PKPbc**	08 32 44.0 -0.4
WMQ	**Urumqi**	**154.89**	39	*e*PKPbc		**PKPdf**	08 32 44.5 -0.8
CN2	**Changchun**	**157.77**	328	*e*PKP		**PKPdf**	08 32 52.5 +3.6
CN2				PP		PP	08 37 08.5 +7.8
CN2				LR		LR	
	comp=N,200nm,19.0s						
CN2				LR		LR	
	comp=N,200nm,19.0s						
CN2				LR		LR	
	comp=N,200nm,21.0s						
SONM	**Songino Array**	**157.92**	5	PKP		**PKPdf**	08 32 48.5 -0.7
SONM				pPKP		**pPKPdf**	08 33 02.0 -0.1
SONM				PKPab		**PKPab**	08 33 22.7 +0.5
SONM				pPKPab		**pPKPab**	08 33 35.4 +0.7
SONM	**Songino Array**	**157.92**	5	PKP		**PKPdf**	08 32 48.5 -0.7
	comp=N,0.5nm,0.7s,baz=2.3,slow=3.7,SNR=4.6						
SONM				pPKP		**pPKPdf**	08 33 02.0 -0.1
	comp=N,1.3nm,1.0s,baz=310,slow=1.0,SNR=6.3						
SONM				PKPab		**PKPab**	08 33 22.7 +0.5
	comp=N,0.9nm,0.9s,baz=341,slow=2.3,SNR=4.5						
SONM				pPKPab		**pPKPab**	08 33 35.4 +0.7
	comp=N,0.8nm,0.8s,baz=326,slow=4.6,SNR=3.9						
HHC	**Hu-ho-hao-te**	**164.90**	353	*e*PKP		**PKPdf**	08 32 55.5 -1.2
HHC				pPKP		**pPKPdf**	08 33 06.8 -2.8
HHC				sPKP			08 33 12.3
HHC				PKS		**PKSdf**	08 36 31.5 +1.9
HHC				PP		**PP**	08 37 41.8 +3.4
HHC				SKS		**SKSdf**	08 39 55.0 -2.9
HHC				SKKS		**SKKSac**	08 44 22.5 -1.3
HHC				SS		**SS**	08 58 09.8 +0.9
HHC				AMB		AMB	
	comp=N,55nm,9.6s						
HHC				LR		LR	
	comp=N,180nm,21.5s						
HHC				LR		LR	
	comp=N,160nm,22.2s						
HHC				LR		LR	
	comp=N,150nm,21.9s						
CD2	**Chengdu**	**172.97**	43	*e*PKP		**PKPdf**	08 33 01.0 -1.0
CD2				sPKP			08 33 19.5
CD2				PKPab		**PKPab**	08 34 29.5 +0.6
CD2				PP		**PP**	08 38 22.0 +1.8
CD2				SKKS			08 45 02.8
CD2				SS		**SS**	08 59 28.3 -2.7
CD2				AMB		AMB	
	comp=N,70nm,9.4s						
CD2				LR		LR	
	comp=N,100nm,15.6s						
CD2				LR		LR	
	comp=N,180nm,11.8s						
GYA	**Guiyang**	**177.56**	75	*e*PKP		**PKPdf**	08 33 03.0 -0.5
GYA				sPKP			08 33 22.8
GYA				PKPab		PKPab	08 34 50.5 +0.8
GYA				PKS		**PKSdf**	08 36 33.5 -2.4
GYA				PP		**PP**	08 38 44.0 +0.7
GYA				SS		SS	09 00 11.8 -5.2
GYA				AMB		AMB	
	comp=N,120nm,7.9s						
GYA				LR		LR	
	comp=N,590nm,23.0s						
GYA				LR		LR	
	comp=N,350nm,24.2s						
GYA				LR		LR	
	comp=N,380nm,22.9s						

*IDC **30** 08:25:17.4±1.9, 14°.74S×173°.88W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.6/6, Error ellipse: s-maj=121.5km s-min=22.6km az=150.0*
*ISCJB **30** 08:25:21.0±1.7, 14°.6S±0°.7×174°.0W±0°.4, h33km, mb3.6/6, Error ellipse: s-maj=112.8km s-min=20.5km az=150.8*
ISC 30 08:25:22.9±1.9, 14°.7S±0°.7×174°.0W±0°.4, h35km, n9, σ0s52/7, mb3.7/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.25**	**71**	P		P	Sn	08 26 09.6	-15
	241nm,0.4s								
AFI	**Afiamalu**	**2.25**	**71**	P		Pn	Pn	08 25 50.1	-7.8
	29nm,0.3s,baz=318,slow=16,SNR=41								
AFI						Sn	Sn	08 26 09.8	-15
	116nm,0.3s,baz=186,slow=19,SNR=16								
WRA	**Warramunga Arr**	**49.48**	**256**	P		**P**	**P**	**08 34 10.5**	**+0.2**
	0.3nm,0.3s,baz=98,slow=5.9,SNR=15								
ASAR	**Alice Springs**	**49.82**	**251**	P		**P**	**P**	**08 34 12.5**	**-0.4**
	0.8nm,0.5s,baz=86,slow=8.1,SNR=22								
NVAR	**Mina Array Bea**	**74.15**	**42**	P		**P**	**P**	**08 36 56.5**	**+0.3**
	0.8nm,0.7s,baz=234,slow=9.5,SNR=5.1								
TXAR	**Lajitas Array**	**80.66**	**56**	P		**P**	**P**	**08 37 32.9**	**+0.2**
	0.3nm,0.8s,baz=216,slow=6.2,SNR=3.9								
ILAR	**Eielson Array**	**81.82**	**11**	P		**P**	**P**	**08 37 37.9**	**-0.1**
	0.2nm,0.6s,baz=227,slow=6.6,SNR=4.8								
PDAR	**Pinedale Array**	**82.08**	**42**	P		**P**	**P**	**08 37 39.5**	**-0.7**
	0.5nm,0.9s,baz=264,slow=8.2,SNR=3.5								
BRTR	**Keskin Array B**	**145.23**	321	PKPbc		**PKPdf**	**P**	**08 44 58.0**	**+0.5**
	1.1nm,0.9s,baz=0.0,slow=7.4,SNR=3.9								

IDC 30 08:31:25.6±3.5, 3°.83S×153°.01E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=126.1km s-min=49.9km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.25**	**227**	P		P	P	08 36 45.9	+1.2
	0.9nm,0.5s,baz=52,slow=9.7,SNR=9.2								
ASAR	**Alice Springs**	**27.01**	**221**	P		P	P	08 37 08.9	-0.7
	0.2nm,0.4s,baz=55,slow=9.0,SNR=4.5								
FITZ	**Fitzroy Crossi**	**30.32**	**240**	P		P	P	08 37 39.3	+0.2
	1.7nm,0.7s,baz=51,slow=13,SNR=6.0								
TORD	**Torodi Ar. Bea**	**150.19**	**290**	PKPbc		PKPbc	PKPbc	08 51 18.6	-1.1
	0.2nm,0.3s,baz=69,slow=1.6,SNR=4.5								

IDC 30 08:36:15.5±2.8, 30°.60N×140°.76E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/25, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=137.0km s-min=30.3km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.71**	**160**	Pn		Pn	Pn	08 37 13.8	-0.3
	3.7nm,0.3s,baz=286,slow=20,SNR=4.5								
MJAR	**Matsushiro Arr**	**6.30**	**341**	Pn		Pn	Pn	08 37 49.3	-0.4
	0.4nm,0.3s,baz=179,slow=15,SNR=8.1								
WRA	**Warramunga Arr**	**50.62**	**188**	P		P	P	08 45 15.7	-0.7
	0.3nm,0.3s,baz=6.1,slow=7.7,SNR=8.4								
ASAR	**Alice Springs**	**54.35**	**188**	P		P	P	08 45 44.8	+0.7
	0.2nm,0.4s,baz=359,slow=5.1,SNR=4.5								

*IDC **30** 08:49:51.1±1.2, 12°.65S×165°.68E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/21, mbtmp4.0/9, ML5.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=37.9km s-min=21.0km az=138.0*
*ISCJB **30** 08:49:55.1±0.9, 12°.6S±0°.1×165°.57E±0°.10, h33km, mb3.8/8, MS3.2/1, Error ellipse: s-maj=16.6km s-min=12.7km az=23.6*
ISC 30 08:49:56.6±1.0, 12°.6S±0°.1×165°.6E±0°.1, h35km, n10, σ0s91/11, mb3.8/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.43**	**299**	Pn		**Pn**	**Pn**	**08 51 28.5**	**-0.2**
	40nm,0.3s,baz=161,slow=4.9,SNR=14								
HNR						Sn	**Sn**	**08 52 41.0**	**0.0**
	28nm,0.3s,baz=206,slow=22,SNR=4.4								
HNR						LR	LR	08 53 47.3	
	comp=Z,122nm,20.6s,baz=275,slow=36								
CTA	**Charters Tower**	**20.01**	**246**	P		Pn	Pn	08 54 29.3	+0.9
	2.8nm,0.7s,baz=60,slow=16,SNR=2.5								
STKA	**Stephens Creek**	**29.24**	**225**	P		**P**	**P**	**08 55 56.5**	**+1.2**
	1.1nm,0.8s,baz=32,slow=11,SNR=4.2								
STKA						LR	LR	09 07 49.0	
	comp=Z,57nm,19.5s,baz=204,slow=37								
WRA	**Warramunga Arr**	**30.87**	**252**	P		**P**	**P**	**08 56 09.9**	**-0.1**
	0.7nm,1.0s,baz=84,slow=9.3,SNR=3.0								
ASAR	**Alice Springs**	**32.01**	**245**	P		**P**	**P**	**08 56 19.4**	**-0.7**
	0.6nm,0.9s,baz=66,slow=9.6,SNR=7.2								
ASAR				PcP		**PcP**	**PcP**	**08 59 08.7**	**-0.8**
	0.2nm,0.6s,baz=73,slow=2.7,SNR=4.1								
FITZ	**Fitzroy Crossi**	**38.89**	**257**	P		**P**	**P**	**08 57 18.3**	**-0.8**
	2.0nm,0.7s,baz=113,slow=12,SNR=4.3								
SEY	**Seymchan**	**76.03**	**354**	P		**P**	**P**	**09 01 40.5**	**+0.6**
	2.3nm,0.8s,baz=7.5,slow=23,SNR=5.8								
SONM	**Songino Array**	**79.88**	**324**	P		**P**	**P**	**09 02 03.1**	**+1.3**
	0.5nm,0.7s,baz=141,slow=5.7,SNR=5.7								
ILAR	**Eielson Array**	**85.04**	**18**	P		**P**	**P**	**09 02 28.4**	**+0.2**
	1.8nm,0.8s,baz=235,slow=4.8,SNR=20								
YKA	**Yellowknife Ar**	**96.42**	**27**	P		**P**	**P**	**09 03 20.5**	**-1.2**
	0.3nm,0.5s,baz=262,slow=4.6,SNR=5.5								

IDC 30 08:57:32.7±3.6, 28°.57S×178°.24W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.5/17, mbtmp3.3/2, Error ellipse: s-maj=90.8km s-min=17.5km az=49.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.74**	**157**	Pn		Pn	Pn	08 57 51.0	+0.6
	960nm,0.3s,baz=264,slow=1.4,SNR=37								
RAO						Sn	Sn	08 58 01.4	-0.9
	1µm,0.3s,baz=157,slow=22,SNR=11								
ASAR	**Alice Springs**	**43.02**	**265**	P		P	P	09 05 34.4	+0.1
	0.2nm,0.7s,baz=104,slow=6.5,SNR=4.3								
WRA	**Warramunga Arr**	**43.84**	**270**	P		P	P	09 05 40.4	-0.5
	0.2nm,0.3s,baz=109,slow=7.9,SNR=4.9								
FINES	**FINESS Array B**	**143.36**	**341**	PKP		PKPdf	PKPdf	09 17 07.3	-1.0
	2.9nm,0.8s,baz=48,slow=2.8,SNR=5.6								

IDC 30 09:00:41.8±3.4, 52°.24N×35°.03E, h0km, mb1 3.7/3, mb1mx3.3/24, mbtmp3.6/3, ML3.1/4, Error ellipse: s-maj=40.6km s-min=12.9km az=115.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.95**	**249**	Pn		Pn	Pn	09 01 41.0	-2.6
	0.6nm,0.3s,baz=57,slow=12,SNR=3.4								
AKASG						Pg	Pb	09 01 52.5	+0.2
	1.5nm,0.3s,baz=58,slow=16,SNR=7.9								
AKASG						Lg	Lg	09 02 46.9	
	2.4nm,0.3s,baz=66,slow=30,SNR=5.5								
MICGM	**Minsk**	**4.84**	**301**	*e*		Sg	Sg	09 03 13.0	-4.3
FINES	**FINESS Array B**	**10.43**	**336**	Pn		Pn	Pn	09 03 08.3	-4.2
	0.1nm,0.3s,baz=141,slow=16,SNR=3.5								
FINES						Sn	Sn	09 04 58.8	-11
	0.2nm,0.3s,baz=151,slow=24,SNR=3.3								
NOA	**NORSAR Array B**	**15.70**	**313**	Pn		Pn	Pn	09 04 15.4	-8.8
	0.1nm,0.3s,baz=112,slow=12,SNR=2.8								
ARCES	**ARCESS Array B**	**17.92**	**349**	Pn		Pn	Pn	09 04 47.0	-5.1
	0.2nm,0.3s,baz=158,slow=10,SNR=8.6								

*ISCJB **30** 09:02:07.1±0.9, 4°.13S±0°.09×144°.92E±0°.10, h10km,

*SKO **30** 09:13:16.5,40.30N×21.65E,h13km,M1.6,ML1.9*
*CSEM **30** 09:13:17.7±0.2,40.43N×21.86E,h5km,MD2.9,Error ellipse: s-maj=6.5km s-min=4.7km az=81.0*
*ATH **30** 09:13:17.8,40.44N×21.85E,h8km±4km,MD2.9/9*

ISC 30 09:13:17.6±1.3,40.43N±0.03×21.85E±0.03,h1km±14km, n28,σ0956/31,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.14**	**206**	*e*Pg	**Pg**	**09 13 20.2**	**0.0**
KZN	**Kozani**	**0.14**	**206**	*e*Pg	**Pg**	**09 13 20.2**	**0.0**
FNA	**Florina**	**0.51**	**315**	*e*PB	**Pg**	**09 13 27.6**	**+0.3**
FNA	**Florina**	**0.51**	**315**	*e*Pb	**Pg**	**09 13 27.6**	**+0.3**
LIT	**Litokhoron**	**0.59**	**124**	*e*PB	**Pg**	**09 13 29.2**	**+0.3**
LIT	**Litokhoron**	**0.59**	**124**	*e*Pb	**Pg**	**09 13 29.2**	**+0.3**
GRG	**Griva**	**0.67**	**38**	*e*PG	**Pg**	**09 13 30.3**	**-0.2**
GRG	**Griva**	**0.67**	**38**	*e*Pg	**Pg**	**09 13 30.3**	**-0.2**
BIA	**Bitola**	**0.71**	**326**	*e*Pg	**Pg**	**09 13 31.2**	**0.0**
BIA				*i* Sg	**Sg**	**09 13 41.2**	**+0.7**
BIA	**Bitola**	**0.71**	**326**	*e*Pg	**Pg**	**09 13 31.2**	**0.0**
BIA				*i* Sg	**Sg**	**09 13 41.2**	**+0.7**
THL	**Klokotos Trika**	**0.87**	**172**	*e*PB	**Pg**	**09 13 34.5**	**+0.2**
THL	**Klokotos Trika**	**0.87**	**172**	*e*Pb	**Pg**	**09 13 34.5**	**+0.2**
HORT	**Hortiatis**	**0.97**	**80**	*e*PN	**Pg**	**09 13 36.6**	**+0.5**
HORT	**Hortiatis**	**0.97**	**80**	*e*Pn	**Pg**	**09 13 36.6**	**+0.5**
VAY	**Valandovo**	**1.04**	**31**	*e*Pg	**Pn**	**09 13 38.7**	**-0.7**
VAY				*i* Sg	**Sn**	**09 13 56.1**	**+1.4**
VAY	comp=E,20nm,0.7s			*e*Lg	Lg	09 14 02.9	
VAY	comp=N,24nm,0.6s			*e*Lg	Lg	09 14 04.9	
VAY	**Valandovo**	**1.04**	**31**	*e*Pg	**Pn**	**09 13 39.2**	**-0.2**
VAY	comp=N,24nm,0.6s			*e*Lg	Lg	09 14 01.4	
KNT	**Kendrikon**	**1.08**	**47**	*e*PG	**Pg**	**09 13 37.8**	**-0.5**
KNT	**Kendrikon**	**1.08**	**47**	*e*Pg	**Pg**	**09 13 37.8**	**-0.5**
PLG	**Polygyros**	**1.22**	**92**	*e*PG	**Pg**	**09 13 41.3**	**+0.3**
PLG	**Polygyros**	**1.22**	**92**	*e*Pg	**Pg**	**09 13 41.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.43**	**171**	*e*PB	**Pb**	**09 13 45.0**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.43**	**171**	*e*Pb	**Pb**	**09 13 45.0**	**-0.1**
AGG	**Agios Georgios**	**1.45**	**165**	*e*PB	**Pg**	**09 13 45.7**	**+0.3**
AGG	**Agios Georgios**	**1.45**	**165**	*e*Pb	**Pg**	**09 13 45.7**	**+0.3**
XOR	**Xorichti**	**1.48**	**135**	*e*PB	**Pg**	**09 13 46.0**	**0.0**
XOR	**Xorichti**	**1.48**	**135**	*e*Pb	**Pg**	**09 13 46.0**	**0.0**
KALE	**Kalithea**	**2.05**	**174**	*e*PN	**Pb**	**09 13 54.4**	**-1.2**
KALE	**Kalithea**	**2.05**	**174**	*e*Pn	**Pb**	**09 13 54.4**	**-1.2**

WEL 30 09:23:25.3±0.7,44.40S×167.04E,h5km,ML3.5/10,1C-1D, Error ellipse: s-maj=6.2km s-min=3.7km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.69**	**113**	⇑P*	Pg	09 23 38.7	0.0
MSZ				SG	Sg	09 23 47.6	-0.1
MSZ				AML	AML	09 23 48.4	
MSZ				AML	AML	09 23 48.4	
MSZ				AML	AML	09 23 48.7	
DCZ	**Deep Cove**	**1.08**	**176**	P*	Pg	09 23 45.0	-1.1
DCZ				S*	Sg	09 23 58.7	-1.4
DCZ				AML	AML	09 24 02.0	
DCZ				AML	AML	09 24 10.2	
DCZ				AML	AML	09 24 27.7	
MLZ	**Mavora Lakes**	**1.25**	**140**	⇓P*	Pg	09 23 48.7	-0.6
MLZ				S*	Sg	09 24 05.7	-0.2
MLZ				AML	AML	09 24 08.3	
JCZ	**Jackson Bay**	**1.28**	**76**	P*	Pn	09 23 47.5	-2.5
JCZ				AML	AML	09 24 07.6	
JCZ				AML	AML	09 24 07.6	
WKZ	**Wanaka**	**1.48**	**107**	PN	Pn	09 23 52.3	-0.4
WKZ				SN	Sn	09 24 11.3	-1.1
WKZ				AML	AML	09 24 12.5	
WKZ				AML	AML	09 24 12.5	
WKZ				AML	AML	09 24 13.3	
WHZ	**Wether Hill Ro**	**1.63**	**157**	PN	Pn	09 23 54.4	-0.3
WHZ				SN	Sn	09 24 15.4	-0.7
EAZ	**Earnscleugh**	**1.82**	**118**	PN	Pn	09 23 58.1	+0.8
EAZ				SN	Sn	09 24 19.9	-0.8
EAZ				AML	AML	09 24 23.1	
EAZ				AML	AML	09 24 24.4	
EAZ				AML	AML	09 24 24.4	
FOZ	**Fox Glacier**	**2.09**	**67**	AML	AML	09 24 37.9	
FOZ				AML	AML	09 24 37.9	
FOZ				AML	AML	09 24 40.3	
FOZ				AML	AML	09 24 40.3	
LBZ	**Lake Benmore**	**2.26**	**91**	PN	Pn	09 24 03.4	+0.1
LBZ				AML	AML	09 24 36.2	
LBZ				AML	AML	09 24 37.0	
TUZ	**Tuapeka**	**2.41**	**131**	AML	AML	09 24 39.6	
TUZ				AML	AML	09 24 42.6	
ODZ	**Otahua Downs**	**2.65**	**105**	PN	Pn	09 24 08.5	-0.3
WVZ	**Waitaha Valley**	**2.99**	**65**	AML	AML	09 25 10.9	

CASC 30 09:35:23.0±2.0,15.57N×88.50W,h1km±9km,MD3.8, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.25**	**247**	*e*P	Pg	09 35 45.8	-1.5
MRL				*e*S	Sg	09 36 03.0	-0.6
CAHU	**Cacacuatique**	**1.81**	**171**	*e*P	Pn	09 35 55.4	-0.1
RBDL	**Robledal**	**1.84**	**219**	*e*P	Pn	09 35 55.4	-0.6
RBDL				*e*S	Sn	09 36 20.8	+0.7
LBRS	**Las Brisas**	**1.89**	**196**	*e*P	Pn	09 35 56.1	-0.5
LBRS				*e*S	Sb	09 36 22.2	-0.4
LFU	**La Fuente**	**1.90**	**198**	*e*P	Pn	09 35 56.0	-0.7
LFU				*e*S	Sb	09 36 23.0	+0.1
TGUH	**Tegucigalpa,Un**	**1.91**	**141**	*e*P	Pn	09 35 56.2	-0.6
TGUH				*e*S	Sn	09 36 20.0	+0.5
RTR	**El Retiro**	**1.99**	**214**	*e*P	Pn	09 35 57.8	-0.4
RTR				*e*S	Sb	09 36 25.1	-0.7
SNJE	**San Jose**	**2.00**	**212**	*e*P	Pn	09 35 58.0	-0.2
NBG	**Las Nubes**	**2.03**	**242**	*e*P	Pn	09 35 58.9	+0.2
NBG				*e*S	Sg	09 36 28.2	-0.7
SBLS	**San Blas**	**2.03**	**212**	*e*P	Pn	09 35 58.6	0.0
CNCH	**Conchagua**	**2.37**	**164**	*e*P	Pn	09 36 03.4	+0.3

*NIED **30** 10:07:00,41.70N×142.20E,h41km,Mw3.8 Best double couple: M0:6.16000×10^14 NP1:φ=9.00000°,δ=85.00000°,λ=145.00000°. NP2:φ=102.00000°,δ=55.00000°,λ=6.00000°.*
*ISCJB **30** 10:07:26.8±0.4,41.66N±0.03×142.11E±0.04,h59km, mb3.7/11,MS2.7/1, Error ellipse: s-maj=5.2km s-min=3.5km az=138.7*
*JMA **30** 10:07:26.5±0.1,41.63N×142.15E,h38km±4km,M3.8*
JMA Felt I J1.
*IDC **30** 10:07:33.4±1.0,42.56N×141.74E,h38km±7km,mb3.5/11, mb1 3.7/12,mb1mx3.6/26,mbtmp3.8/12,ML3.6/1,MS2.9/2, Ms1 2.9/2,ms1mx2.4/37,Error ellipse: s-maj=23.3km s-min=17.4km az=83.0*

ISC 30 10:07:28.5±0.7,41.64N±0.04×142.13E±0.04,h59km,n38, σ2906/43,mb3.6/9,3C-6D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.80**	**36**	⇓P	Pn	10 07 40.5	-3.3
JOT	**Ohata**	**0.85**	**253**	⇓P	**Pn**	**10 07 42.2**	**-2.3**
JOT				*e*S	**Sn**	**10 07 53.9**	**-2.4**
JKB	**Kayabe**	**0.86**	**287**	⇑P	**Pn**	**10 07 41.9**	**-2.7**
JKB				*e*S	**Sn**	**10 07 52.8**	**-3.6**
JEM	**Erimo**	**0.86**	**63**	⇓P	**Pn**	**10 07 41.8**	**-2.8**
JEM				*e*S	**Sn**	**10 07 53.2**	**-3.3**
JBT2	**Biratori 2**	**1.16**	**9**	⇓P	**Pn**	**10 07 46.9**	**-1.6**
JBT2				*e*S	**Sn**	**10 08 02.4**	**-1.0**
JNB	**Noboribetsu**	**1.16**	**316**	⇑P	**Pn**	**10 07 46.0**	**-2.6**
JNB				*e*S	**Sn**	**10 08 00.7**	**-2.9**
JTM	**Tenmabayashi**	**1.17**	**224**	⇓P	**Pn**	**10 07 47.5**	**-1.1**
JTM				*e*S	**Sn**	**10 08 03.3**	**-0.3**
JSR	**Shiriuchi**	**1.29**	**266**	P	**Pn**	**10 07 48.8**	**-1.4**
JSR				*e*S	**Sn**	**10 08 05.4**	**-1.1**
JEW	**Eniwo**	**1.30**	**338**	⇑P	**Pn**	**10 07 49.0**	**-1.5**
JEW				*e*S	**Sn**	**10 08 06.0**	**-1.0**
JCH	**Churui**	**1.34**	**43**	P	**Pn**	**10 07 49.4**	**-1.6**
JCH				*e*S	**Sn**	**10 08 06.9**	**-0.9**
JANG	**Nango**	**1.34**	**200**	P	**Pn**	**10 07 48.9**	**-2.1**
JANG				*e*S	**Sn**	**10 08 05.1**	**-2.8**
JYM2	**Yakumo 2**	**1.40**	**291**	P	**Pn**	**10 07 50.3**	**-1.4**
JYM2				*e*S	**Sn**	**10 08 07.9**	**-1.3**
JFR	**Furan**	**1.56**	**13**	⇓P	**Pn**	**10 07 52.3**	**-1.7**
JOB	**Onbets**	**1.79**	**44**	P	**Pn**	**10 07 57.0**	**0.0**
JAH	**Hinai**	**1.83**	**219**	P	**Pn**	**10 07 57.3**	**-0.3**
JSH	**Shimam**	**1.85**	**304**	P	**Pn**	**10 07 56.4**	**-1.4**
JSH				*e*S	**Sn**	**10 08 19.4**	**-0.7**
ASAJ	**Asahikawa**	**2.50**	**8**	Pn	**Pn**	**10 08 06.5**	**-0.2**
	17nm,0.3s,baz=222,slow=9.8,SNR=142						
ASAJ				Sn	**Sn**	**10 08 32.6**	**-3.4**
	9.6nm,0.3s,baz=323,slow=29,SNR=3.1						
MJAR	**Matsushiro Arr**	**5.93**	**212**	Pn	Pn	10 08 56.8	+3.1
	0.6nm,0.3s,baz=26,slow=14,SNR=7.3						
USRK	**Ussuriysk Arra**	**7.87**	**292**	Pn	**Pn**	**10 09 21.8**	**+1.6**
	0.2nm,0.3s,baz=88,slow=14,SNR=8.5						
KSRS	**Korea Array**	**11.73**	**254**	Pn	Pn	10 10 18.1	+5.1
	0.4nm,0.3s,baz=66,slow=14,SNR=5.7						
KSRS				LR	LR	10 14 15.8	
	comp=Z,14nm,28.6s,baz=34,slow=34						
SONM	**Songino Array**	**25.96**	**296**	P	**P**	**10 12 54.8**	**-0.6**
	0.6nm,0.7s,baz=72,slow=8.6,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**30.31**	**129**	T	T	10 46 06.7	
	baz=324,slow=76,SNR=40						
H11N1	**WAKE ISLAND Hy**	**30.32**	**129**	T	T	10 46 05.1	
	baz=324,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**30.33**	**129**	T	T	10 46 07.6	
	baz=324,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**31.16**	**130**	T	T	10 47 06.8	
	baz=324						
H11S3	**WAKE ISLAND Hy**	**31.16**	**130**	T	T	10 47 06.5	
	baz=324,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**31.18**	**130**	T	T	10 47 08.0	
	baz=324,slow=75,SNR=23						
ZALV	**Zalesovo Beam**	**39.36**	**308**	P	**P**	**10 14 53.0**	**+1.2**
	0.8nm,0.4s,baz=86,slow=9.0,SNR=4.5						
ZALV				LR	LR	10 31 57.8	
	comp=Z,15nm,28.6s,baz=211,slow=38						
MKAR	**Makanchi Array**	**42.29**	**298**	PcP	**PcP**	**10 17 11.2**	**+2.3**
	baz=71,slow=5.2						
KURBB	**Kurchatov Arra**	**43.73**	**304**	P	**P**	**10 15 28.6**	**+1.0**
	1.8nm,0.5s,baz=77,slow=8.7,SNR=18						
ILAR	**Eielson Array**	**45.36**	**35**	P	**P**	**10 15 42.6**	**+2.2**
	0.4nm,0.9s,baz=264,slow=5.0,SNR=8.7						
BVAR	**Borovoye Array**	**47.98**	**309**	P	**P**	**10 16 02.5**	**+1.4**
	0.8nm,0.4s,baz=74,slow=9.3,SNR=9.0						
YKA	**Yellowknife Ar**	**59.58**	**32**	P	**P**	**10 17 28.0**	**+2.5**
	0.2nm,0.8s,baz=310,slow=6.8,SNR=3.8						
WRA	**Warramunga Arr**	**61.69**	**188**	P	pP	10 17 52.7	-3.5
	1.0nm,0.6s,baz=6.0,slow=6.8,SNR=14						
FINES	**FINESS Array B**	**65.02**	**332**	P	**P**	**10 18 03.2**	**+1.3**
	2.0nm,0.6s,baz=45,slow=7.1,SNR=9.6						
FINES				pP	**pP**	**10 18 15.4**	**-2.5**
	2.1nm,0.5s,baz=50,slow=8.0,SNR=2.7						
ASAR	**Alice Springs**	**65.42**	**188**	P	pP	10 18 18.3	-2.6
	0.6nm,0.7s,baz=10,slow=9.0,SNR=13						
NOA	**NORSAR Array B**	**70.17**	**337**	P	**P**	**10 18 34.8**	**+0.3**
	0.4nm,0.7s,baz=39,slow=4.9,SNR=4.2						
NOA				pP	**pP**	**10 18 46.7**	**-3.9**
	1.1nm,0.8s,baz=34,slow=6.3,SNR=3.2						
AKASG	**Malin Array Be**	**71.02**	**322**	P	**P**	**10 18 40.9**	**+1.2**
	0.2nm,0.3s,baz=40,slow=6.6,SNR=3.6						
AKASG				pP	**pP**	**10 18 53.0**	**-3.0**
	1.4nm,0.5s,baz=44,slow=5.9,SNR=4.8						

*NAO **30** 10:16:03.6±1.4,67.57N×33.98E,ML2.5*
*HEL **30** 10:16:04.4±0.4,67.62N×33.93E,h0km,ML2.1,Explosion*

CSEM 30 10:16:01.6±1.1,67.79N×34.00E,h2km,ML2.5,Error ellipse: s-maj=20.9km s-min=13.0km az=81.0,Mining explosion.,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.43**	**245**	Pg	Pb	10 16 11.1	-0.8
	baz=94,slow=18						
APA0				Lg	Lg	10 16 16.5	
	baz=80,slow=37						
APA0				Rg	Rg	10 16 18.1	
	baz=80,slow=37						
APA0	**Apatity Array**	**0.43**	**245**	Pg	Pb	10 16 11.1	-0.8
	baz=94,slow=18						
APA0				Lg	Lg	10 16 16.5	
	baz=80,slow=37						
APA0				Rg	Rg	10 16 18.1	
	baz=80,slow=37						
APA0	**Apatity Array**	**0.43**	**245**	Pg	Pb	10 16 11.1	-0.8
	SNR=178						
APA0				Lg	Lg	10 16 16.5	
	SNR=5.5						
VRF	**Varrio**	**1.67**	**271**	*e*PG	Pg	10 16 34.1	+0.4
VRF				MSG	Sg	10 16 55.8	+0.4
	comp=Z,9.7nm,0.2s						
VRF				*e*SG	Sg	10 16 55.8	+0.4
VRF	**Varrio**	**1.67**	**271**	Pg	Pg	10 16 34.0	+0.3
VRF				Sg	Sg	10 16 55.7	+0.4
KU6	**Riekki**	**2.40**	**224**	*e*P	Pn	10 16 43.4	+1.5
KU6				MSG	Sg	10 17 14.0	-4.7
	comp=Z,6.3nm,0.4s						
KU6				*e*SG	Sg	10 17 14.0	-4.7
KU6	**Riekki**	**2.40**	**224**	P	Pn	10 16 43.3	+1.4
MSF	**Maaselka**	**2.72**	**228**	*e*PB	Pb	10 16 49.5	-1.5
MSF				MSG	Sg	10 17 23.1	-5.9
	comp=Z,2.5nm,0.4s						
MSF				*e*SG	Sg	10 17 23.1	-5.9
MSF	**Maaselka**	**2.72**	**228**	Pb	Pb	10 16 49.5	-1.5
SGF	**Sodankyl**	**2.88**	**267**	*e*PG	Pb	10 16 54.6	+0.9
SGF	**Sodankyl**	**2.88**	**267**	Pg	Pb	10 16 54.6	+0.9
KEV	**Kevo**	**3.22**	**311**	*e*P	Pb	10 16 57.5	-2.0
KEV				*e*SG	Sg	10 17 46.5	+1.5
KEV				MSG		10 17 49.7	
	comp=Z,12nm,0.4s						
KEV	**Kevo**	**3.22**	**311**	P	Pb	10 16 57.4	-2.0
KEV				Sg	Sg	10 17 46.4	+1.5
RNF	**Rovaniemi**	**3.33**	**253**	*e*P	Pn	10 16 56.4	+1.8
RNF				MSG		10 17 50.5	
	comp=Z,12nm,0.4s						
RNF				*e*		10 17 50.5	
RNF	**Rovaniemi**	**3.33**	**253**	P	Pn	10 16 56.4	+1.8
ARA0	**ARCESS Array S**	**3.57**	**303**	Pn	Pn	10 17 01.4	+3.5
	baz=121,slow=16						
ARA0				Pg	Pg	10 17 08.8	-1.1
	baz=112,slow=18						
ARA0				Sn	Sn	10 17 43.2	+2.6
	baz=128,slow=28						
ARA0				Lg	Lg	10 17 56.0	
	baz=111,slow=37						
ARA0	**ARCESS Array S**	**3.57**	**303**	Pn	Pn	10 17 01.4	+3.5
	baz=121,slow=16						
ARA0				Pg	Pg	10 17 08.8	-1.1
	baz=112,slow=18						
ARA0				Sn	Sn	10 17 43.2	+2.6
	baz=128,slow=28						
ARA0				Lg	Lg	10 17 56.0	
	baz=111,slow=37						
ARA0	**ARCESS Array S**	**3.57**	**303**	Pn	Pn	10 17 01.4	+3.5
	SNR=50						
ARA0	**ARCESS Array S**	**3.57**	**303**	Pg	Pg	10 17 08.9	-1.0
	SNR=6.0						
ARA0				Sn	Sn	10 17 43.2	+2.6
	SNR=1.6						
ARA0				Lg	Lg	10 17 56.0	
	SNR=92						
FIA0	**FINESS Array S**	**7.22**	**212**	Pn	Pn	10 17 47.5	-0.4
	baz=28,slow=12						
FIA0	**FINESS Array S**	**7.22**	**212**	Pn	Pn	10 17 47.5	-0.4
	baz=28,slow=12						
FIA0	**FINESS Array S**	**7.22**	**212**	Pn	Pn	10 17 47.5	-0.5
	SNR=4.6						
SPA0	**Spitsbergen Ar**	**11.55**	**342**	Pn	Pn	10 18 47.5	+0.3
	baz=147,slow=14						
SPA0	**Spitsbergen Ar**	**11.55**	**342**	Pn	Pn	10 18 47.5	+0.3
	baz=147,slow=14						
SPA0	**Spitsbergen Ar**	**11.55**	**342**	Pn	Pn	10 18 47.5	+0.3
	SNR=5.8						

*DJA **30** 10:38:03.2±0.5,1.1N±5.5×12.3E±.5,h17km±8km,M3.7/6, MLv3.7/6*
*IDC **30** 10:38:07.3±7.2,1.23N×122.94E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.5/22,mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=133.0km s-min=106.3km az=88.0*
*ISCJB **30** 10:38:12.8±1.8,0.6N±0.2×122.2E±0.2,h35km,mb3.5/3, Error ellipse: s-maj=32.8km s-min=14.3km az=30.9*

ISC 30 10:38:13.7±1.8,0.7N±0.2×122.2E±0.2,h35km,n7,σ1910/6, mb3.6/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.34**	**225**	P	**Pn**	**10 38 21.7**	**-0.4**
TOLI	**Toli-Toli**	**1.44**	**286**	P	**Pn**	**10 38 37.3**	**0.0**
APSI	**Ampana**	**1.70**	**198**	P	Pn	10 38 37.1	-3.8
FITZ	**Fitzroy Crossi**	**19.01**	**170**	P	**Pn**	**10 42 35.1**	**+1.6**
	0.3nm,0.3s,baz=359,slow=9.5,SNR=5.3						
WRA	**Warramunga Arr**	**23.74**	**151**	P	**P**	**10 43 22.0**	**-1.0**
	1.3nm,0.6s,baz=331,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.79**	**156**	P	**P**	**10 43 50.5**	**-0.1**
	0.3nm,0.9s,baz=334,slow=8.5,SNR=5.8						
STKA	**Stephens Creek**	**37.27**	**152**	P	**P**	**10 45 22.1**	**-0.2**
	4.5nm,1.3s,baz=336,slow=10.0,SNR=3.6						

IDC 30 10:58:44.2±1.6,2.69S×140.88E,h0km,mb3.4/3, mb1 3.8/4,mb1mx3.6/16,mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=102.8km s-min=26.1km az=116.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.30**	**200**	P	Pn	11 02 59.4	-0.3
	0.2nm,0.3s,baz=20,slow=12,SNR=8.8						
FITZ	**Fitzroy Crossi**	**21.40**	**223**	P	P	11 03 34.3	+0.6
	2.4nm,0.9s,baz=40,slow=7.9,SNR=3.5						
ASAR	**Alice Springs**	**21.92**	**197**	P	P	11 03 38.9	-0.4
	1.7nm,1.0s,baz=26,slow=9.9,SNR=8.3						
ILAR	**Eielson Array**	**84.92**	**24**	P	P	11 11 20.8	-0.1
	0.2nm,0.7s,baz=259,slow=4.6,SNR=2.9						

*IDC **30** 10:59:05.8±0.5,2.44S×140.19E,h0km,mb4.3/13, mb1 4.4/16,mb1mx4.4/21,mbtmp4.3/16,ML3.9/3,MS4.1/4, Ms1 4.1/4,ms1mx3.5/27,Error ellipse: s-maj=11.6km s-min=7.3km az=14.0*
*ISCJB **30** 10:59:08.4±0.3,2.49S±0.03×140.24E±0.04,h25km, mb4.6/31,MS3.8/5,Error ellipse: s-maj=5.7km s-min=4.4km az=139.9*
*NEIC **30** 10:59:10.1±0.3,2.47S×140.15E,mb4.9/7,Error ellipse: s-maj=8.9km s-min=5.2km az=70.0*
NEIC Felt at Aberpura.
*DJA **30** 10:59:11.4±0.8,2.5S±8×14.0E±.5,h14km±8km,M4.9/18, mb4.8/18,mB5.0/4,MLv5.0/5,Mw(mB)4.3/4*
*AUST **30** 10:59:18.0±1.5,2.85S×139.92E,h63km,Error ellipse: s-maj=2.8km s-min=1.2km az=11.0*

ISC 30 10:59:11.5±0.4,2.57S±0.05×140.19E±0.05,h25km, h25km:pP-P,n119,σ290/121,mb4.5/30,MS3.9/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.52**	**84**	P	**Pb**	**10 59 22.6**	**+0.5**
JAY	**Jayapura**	**0.52**	**84**	Pg	Pb	10 59 16.4	-5.7
JAY				Lg	Lg	10 59 22.5	
JAY	**Jayapura**	**0.52**	**84**	Pg	Pb	10 59 16.4	-5.7
	3μm,0.3s,baz=264,slow=8.8,SNR=50						
JAY				Lg	Lg	10 59 22.5	
SRPI	**Serui, Papua**	**4.01**	**280**	P	**Pn**	**11 00 12.1**	**+0.7**
SRPI				S	**Sn**	**11 00 59.1**	**+1.5**
BAKI	**Biak**	**4.30**	**288**	P	**Pn**	**11 00 12.9**	**-2.6**
BAKI				S	**Sn**	**11 01 03.2**	**-1.7**
MWPI	**Manokwari, Pap**	**6.36**	**285**	P	**Pn**	**11 00 45.2**	**+1.5**
	167nm,0.7s,0.6nm						
FAKI	**Fak Fak**	**7.94**	**267**	P	**Pn**	**11 01 04.1**	**-1.4**
	74nm,1.0s,0.2nm						
FAKI	**Fak Fak**	**7.94**	**267**	P	**Pn**	**11 01 07.3**	**+1.8**
	baz=7.7,SNR=10						
SWI	**Sorong**	**9.09**	**281**	P	**Pn**	**11 01 19.4**	**-1.8**
	62nm,0.7s						
PMG	**Port Moresby**	**9.70**	**135**	P	Pn	11 01 33.3	+3.7
	35nm,1.0s						
PMG	**Port Moresby**	**9.70**	**135**	*e*Pn	**Pn**	**11 01 29.4**	**-0.3**
PMG	**Port Moresby**	**9.70**	**135**	Pn	**Pn**	**11 01 29.3**	**-0.3**
	0.8nm,0.3s,baz=302,slow=12,SNR=5.5						
PMG				LR	LR	11 06 15.9	
	comp=Z,16nm,28.6s,baz=298,slow=44						
PMG	**Port Moresby**	**9.70**	**135**	P	Pn	11 01 36.1	+6.5
	baz=9.7,SNR=3.0						
PMG				P	Pn	11 01 36.1	+6.5
	baz=9.7,SNR=3.0						
PMG				P	Pn	11 01 36.1	+6.5
	baz=9.7,SNR=3.0						
COEN	**Coen**	**11.69**	**166**	*e*Pn	**Pn**	**11 01 56.5**	**-0.4**
KDU	**Kakadu**	**12.62**	**217**	P	**Pn**	**11 02 09.1**	**-0.6**
	baz=12,SNR=8.8						
LBMI	**Labuha**	**12.83**	**278**	P	Pn	11 02 17.2	+4.7
MTN	**Manton Dam**	**13.59**	**221**	P	**Pn**	**11 02 24.3**	**+1.6**
	baz=13,SNR=8.9						
KNRA	**Kununurra**	**17.21**	**220**	P	**Pn**	**11 03 10.0**	**-0.5**
	baz=17,SNR=7.1						
GTOI	**Gorontalo**	**17.47**	**280**	P	**Pn**	**11 03 13.8**	**+0.2**
	58nm,0.7s,763nm						
BBSI	**Bau Bau**	**17.81**	**260**	P	P	11 03 26.8	+8.3
QIS	**Mount Isa**	**17.89**	**182**	P	**Pn**	**11 03 19.4**	**+0.6**
	baz=18,SNR=9.4						
WRAB	**Tennant Creek**	**18.18**	**198**	*e*P	**Pn**	**11 03 21.6**	**-0.7**
	36nm,0.9s						
WRA	**Warramunga Arr**	**18.19**	**198**	P	**Pn**	**11 03 20.9**	**-1.5**
WRA				S	Sn	11 06 34.3	-11
WRA	**Warramunga Arr**	**18.19**	**198**	P	**Pn**	**11 03 21.0**	**-1.5**
	1.5nm,0.3s,baz=19,slow=12,SNR=26						
WRA				S	Sn	11 06 34.3	-11
	0.1nm,0.3s,baz=9.8,slow=23,SNR=3.0						
WRA				LR	LR	11 11 00.2	
	comp=Z,578nm,18.3s,baz=15,slow=39						
CTA	**Charters Tower**	**18.39**	**162**	P	**P**	**11 03 25.5**	**+0.6**
**C

baz=31,SNR=3.6
YNG Young 32.48 167 P **P** 11 05 42.4 +2.2
baz=32,SNR=4.6
H11S3 WAKE ISLAND Hy 33.45 50 T T 11 40 45.6
baz=232,slow=75,SNR=186
H11S2 WAKE ISLAND Hy 33.46 50 T T 11 40 45.0
baz=232,slow=75,SNR=90
H11S1 WAKE ISLAND Hy 33.46 50 T T 11 40 46.3
baz=232,slow=75,SNR=121
CNB Canberra Magne 33.68 166 P **P** 11 05 53.4 +2.7
baz=34,SNR=6.3
H11N1 WAKE ISLAND Hy 34.32 49 T T 11 41 54.5
baz=231,slow=76,SNR=42
H11N2 WAKE ISLAND Hy 34.34 49 T T 11 41 56.0
baz=231,slow=76,SNR=49
H11N3 WAKE ISLAND Hy 34.34 49 T T 11 41 54.6
baz=231,slow=76,SNR=40
PMBI Palembang 35.38 269 *e*P **P** 11 06 03.6 -2.0
10μm,1.0s
PMBI *e*PP **PnPn** 11 07 24.4 0.0
PPI Padang Panjang 39.83 272 P **P** 11 06 44.9 +1.6
NJ2 Nanjing 39.95 331 *e*P **P** 11 06 44.3 +0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
KSAR Wonju Array Be 41.42 345 P P 11 06 52.7 -3.3
KSRS Korea Array 41.42 345 P P 11 06 52.7 -3.3
1.2nm,0.7s,baz=162,slow=9.9,SNR=4.5
PSI Prapat 41.59 277 P **P** 11 06 55.6 -2.4
PSI Prapat 41.59 277 P **P** 11 06 55.6 -2.4
3.6nm,0.3s,baz=113,slow=6.2,SNR=4.9
GYA Guiyang 43.38 314 *e*P **P** 11 07 13.0 +0.7
GYA pP **pP** 11 07 23.5 +3.5
GYA PP **PP** 11 08 56.8 +3.3
GYA PcP **PcP** 11 09 01.3 +0.5
GYA ScP **ScP** 11 12 48.0 -2.8
GYA S **S** 11 13 39.8 +0.6
GYA sS sS 11 13 57.5 +5.8
GYA SS **SS** 11 16 47.5 -6.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=N,460nm,17.5s
GYA LR LR
comp=E,410nm,18.0s
GYA LR LR
comp=Z,480nm,17.9s
KMI Kunming 45.56 309 P **P** 11 07 30.0 0.0
KMI pmax pmax
comp=Z,8.0nm,0.6s
CM01 Chiang Mai Arr 45.63 299 *e*P **P** 11 07 29.0 -1.4
CMAR Chiang Mai Arr 45.66 299 P P 11 07 27.4 -3.2
CMAR Chiang Mai Arr 45.66 299 P P 11 07 27.4 -3.2
2.7nm,0.6s,baz=120,slow=5.9,SNR=13
USRK Ussuriysk Arra 47.14 352 P P 11 07 37.1 -4.6
5.5nm,1.1s,baz=160,slow=9.2,SNR=3.8
MDJ Mudanjiang 47.92 350 P **P** 11 07 49.5 +1.7
MDJ pP **pP** 11 07 58.3 +2.8
MDJ sP **sP** 11 08 02.0 +3.5
MDJ pmax pmax
comp=Z,160nm,3.5s
CN2 Changchun 48.02 346 *e*P **P** 11 07 50.5 +1.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 Chengdu 48.08 317 *e*P **P** 11 07 49.3 -0.1
CD2 pP **pP** 11 07 59.0 +1.9
CD2 sP **sP** 11 08 04.0 +3.9
CD2 PP **PP** 11 09 41.3 -0.5
CD2 S **S** 11 14 45.8 -0.9
CD2 sS **sS** 11 15 03.3 +4.0
CD2 SS **SS** 11 18 10.3 -5.8
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,80nm,5.9s
CD2 LR LR
comp=E,120nm,17.8s
CD2 LR LR
comp=Z,90nm,19.0s
HHC Hu-ho-hao-te 50.49 332 *e*P **P** 11 08 08.3 +0.6
HHC S **S** 11 15 19.3 -1.0
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,190nm,6.5s
LZH Lanzhou 51.27 322 *e*P P 11 08 18.3 +4.6
LZH pP pP 11 08 29.0 +7.5
LZH sP sP 11 08 33.3 +8.8
LZH pmax pmax
comp=Z,17nm,1.0s
GTA Gaotai 55.84 323 *e*P **P** 11 08 46.3 -0.9
GTA pP **pP** 11 08 55.5 +0.5
GTA sP **sP** 11 08 59.8 +1.8
GTA pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 58.23 334 P **P** 11 09 01.1 -2.8
SONM Songino Array 58.23 334 P **P** 11 09 01.2 -2.8
0.1nm,0.4s,baz=148,slow=8.5,SNR=2.8
WMQ Urumqi 65.83 321 P **P** 11 09 54.0 -1.0
WMQ pmax pmax
comp=Z,12nm,1.0s
MK01 Makanchi Array 70.57 322 *e*P **P** 11 10 22.9 -1.7
MK31 Makanchi Array 70.59 322 *e*P **P** 11 10 23.1 -1.7
MKAR Makanchi Array 70.59 322 *e*P **P** 11 10 23.3 -1.5
MKAR Makanchi Array 70.59 322 P **P** 11 10 23.4 -1.3
baz=92,slow=10
KSH Kashi 72.07 313 P **P** 11 10 35.0 +1.0
KSH sP **sP** 11 10 49.0 +4.1
KSH PP **PP** 11 13 18.0 +3.7
KSH S **S** 11 19 55.0 +0.3
KSH SKS **SKSac** 11 20 32.0 -4.9
KSH SS **SS** 11 24 35.0 +2.8
KSH pmax pmax
comp=Z,85nm,4.5s
KSH LR LR
comp=N,160nm,4.9s
KSH LR LR
comp=E,150nm,7.6s
KSH LR LR
comp=Z,430nm,18.1s
ZAA0 Zalesovo Array 72.56 329 *e*P P 11 10 33.4 -3.1
ZALV Zalesovo Beam 72.56 329 P **P** 11 10 33.8 -2.7
ZALV Zalesovo Beam 72.56 329 P **P** 11 10 33.8 -2.7
2.4nm,0.7s,baz=106,slow=5.9,SNR=12
AAK Ala-Archa 74.13 316 *e*P **P** 11 10 45.2 -1.0
AAK *e*pP **pP** 11 10 56.2 +2.0
AAK Ala-Archa 74.13 316 P **P** 11 10 45.3 -0.8
0.7nm,0.7s,baz=114,slow=10.0,SNR=3.1
KURK Kurchatov 74.46 325 *e*P **P** 11 10 45.6 -2.0
4.5nm,1.2s
KURBB Kurchatov Arra 74.47 324 P **P** 11 10 46.1 -1.6
1.2nm,0.7s,baz=110,slow=5.3,SNR=9.8
EKS2 Erkin-Say 74.64 315 *e*P P 11 10 46.3 -2.8
2.1nm,0.7s
BVAR Borovoye Array 80.05 325 P **P** 11 11 17.2 -1.8
BVAR Borovoye Array 80.05 325 P **P** 11 11 17.2 -1.8
2.6nm,0.8s,baz=115,slow=5.7,SNR=9.6
BRVK Borovoye 80.12 325 *e*P P 11 11 16.4 -3.0
49nm,2.4s
IL1 Eielson Array 85.10 24 *e*P P 11 11 39.4 -5.7
ILAR Eielson Array 85.10 24 P P 11 11 41.1 -3.9
ILAR Eielson Array 85.10 24 P P 11 11 41.1 -3.9
1.9nm,0.8s,baz=261,slow=4.3,SNR=19
ABKAR Akbulak array 85.57 320 *e*P **P** 11 11 45.5 -2.2
ABKAR *e*pP **PcP** 11 11 51.2 +0.6
QSPA South Pole Qui 87.38 180 *e*P **P** 11 11 54.5 -1.9
61nm,2.1s
DAWY Dawson 88.10 26 *e*P **P** 11 11 57.4 -2.4
HYT Haines Junctio 88.47 29 *e*P **P** 11 11 59.2 -2.5
YKA Yellowknife Ar 99.27 27 P **Pdif** 11 12 48.1 -3.0
YKA Yellowknife Ar 99.27 27 P **Pdif** 11 12 48.1 -3.0
0.2nm,0.8s,baz=286,slow=4.7,SNR=3.6
TORD Torodi Ar. Bea 137.63 287 PKP **PKPdf** 11 18 34.7 +0.2
TORD Torodi Ar. Bea 137.63 287 PKP **PKPdf** 11 18 34.7 +0.2
0.5nm,0.8s,baz=65,slow=3.2,SNR=3.1
KIC Kosan Boka 144.84 277 *e*PKP1 **PKPab** 11 18 45.7 -0.9
22nm,0.9s
DBIC Dimbokro 144.93 278 PKP **PKPab** 11 18 45.6 -1.3
DBIC Dimbokro 144.93 278 PKP **PKPab** 11 18 45.6 -1.3
6.4nm,0.6s,baz=72,slow=3.8,SNR=14
TIC Toumodi 145.10 278 *e*PKP1 **PKPbc** 11 18 46.6 -0.9
5.8nm,0.2s
LIC Lamto 145.14 277 *e*PKP1 **PKPbc** 11 18 46.6 -1.0
35nm,1.1s

LPAZ La Paz 146.32 125 PKPbc **PKPdf** 11 18 51.0 +0.3
LPAZ La Paz 146.32 125 PKPbc **PKPdf** 11 18 51.0 +0.3
3.5nm,0.8s,baz=281,slow=2.6,SNR=6.0
CPUP Villa Florida 146.65 151 PKPbc **PKPdf** 11 18 50.4 +0.1
CPUP Villa Florida 146.65 151 PKPbc **PKPdf** 11 18 50.4 +0.1
2.3nm,0.6s,baz=166,slow=8.3,SNR=3.4

*IDC **30** 11:00:50.1±1.1,36.38N×28.11E,h0km,mb3.6/3, mb1 3.7/9,mb1mx3.5/25,mbtmp3.6/9,ML3.2/5,Error ellipse: s-maj=19.6km s-min=16.5km az=165.0*
*ATH **30** 11:00:50.4,36.61N×28.04E,h26km±4km,MD3.4/11*
*ISK **30** 11:00:50.6,36.70N×27.95E,h6km,MD3.5*
*DDA **30** 11:00:50.6,36.56N×28.06E,h7km,MD3.6*
*ISCJB **30** 11:00:51.1±0.4,36.52N±0.02×28.09E±0.02,h27km±4km, mb3.6/3,Error ellipse: s-maj=3.2km s-min=3.0km az=21.7*
*THE **30** 11:00:51.0,36.61N×28.16E,h6km±3km,ML4.2/1,Error ellipse: s-maj=5.4km s-min=0.7km az=91.0*
*CSEM **30** 11:00:51.6±0.1,36.59N×28.05E,h15km,MD3.4,Error ellipse: s-maj=3.3km s-min=3.1km az=53.0*
*NIC **30** 11:00:52.4±0.4,36.74N×28.50E,h7km,ML3.3*
*HLW **30** 11:00:54.5,36.52N×28.34E,h33km±31km,Md0.0,Ml3.5*

ISC 30 11:00:51.5±1.0,36.56N±0.02×28.09E±0.02,h13km±8km, n170,σ1°32/212,mb3.7/3,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
ARG	**Arkhangelos**	**0.34**	**175**	P		**Pb**	**11**	**00**	**58.6**	**-0.8**
ARG				S		**Sb**	**11**	**01**	**05.4**	**+0.6**
ARG	**Arkhangelos**	**0.34**	**175**	*e*PB		**Pb**	**11**	**00**	**58.9**	**-0.5**
ARG				*e*SB		**Sb**	**11**	**01**	**05.8**	**+1.0**
ARG	**Arkhangelos**	**0.34**	**175**	P		**Pb**	**11**	**00**	**58.6**	**-0.8**
ARG	**Arkhangelos**	**0.34**	**175**	*e*Pb		**Pb**	**11**	**00**	**58.9**	**-0.5**
ARG				S		**Sb**	**11**	**01**	**05.4**	**+0.6**
TURN	**Turunc**	**0.52**	**53**	*i* P		Pg	11	00	55.3	-6.4
TURN				*i* S		Sg	11	00	57.9	-11
DALY	**Dalyan (Mu¨la**	**0.52**	**60**	*e*PG		**Pb**	**11**	**01**	**01.9**	**-0.6**
DALY				*e*SG		**Sb**	**11**	**01**	**10.5**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.52**	**60**	*e*Pg		**Pb**	**11**	**01**	**01.9**	**-0.6**
DALY				*e*Sg		**Sb**	**11**	**01**	**10.5**	**+0.5**
BDRM	**Kayabasi**	**0.72**	**315**	*i* P		**Pg**	**11**	**01**	**04.6**	**-1.0**
BDRM				*i* S		**Sb**	**11**	**01**	**14.7**	**-1.1**
BDRM	**Kayabasi**	**0.72**	**315**	*i* P		**Pg**	**11**	**01**	**04.6**	**-1.0**
BDRM				*i* S		**Sb**	**11**	**01**	**14.7**	**-1.1**
KARP	**Karpathos**	**1.26**	**217**	P		**Pg**	**11**	**01**	**14.8**	**-0.9**
KARP				S		**Sn**	**11**	**01**	**33.1**	**+1.6**
KARP	**Karpathos**	**1.26**	**217**	*e*PN		**Pg**	**11**	**01**	**15.2**	**-0.5**
KARP				*e*SN		**Sn**	**11**	**01**	**31.6**	**+0.1**
KARP	**Karpathos**	**1.26**	**217**	P		**Pg**	**11**	**01**	**14.8**	**-0.9**
KARP	**Karpathos**	**1.26**	**217**	*e*Pn		**Pg**	**11**	**01**	**15.2**	**-0.5**
KARP				*e*Sn		**Sn**	**11**	**01**	**31.6**	**+0.1**
KARP				S		**Sn**	**11**	**01**	**33.1**	**+1.6**
AKAS	**Kas**	**1.27**	**104**	*i* P		**Pg**	**11**	**01**	**15.6**	**-0.3**
AKAS				*i* S		**Sn**	**11**	**01**	**34.7**	**+2.7**
AKAS	**Kas**	**1.27**	**104**	*i* P		**Pg**	**11**	**01**	**15.6**	**-0.3**
AKAS				*i* S		**Sn**	**11**	**01**	**34.7**	**+2.7**
GLHS	**Glhisar (BURDU**	**1.28**	**62**	*e*PN		**Pg**	**11**	**01**	**16.2**	**+0.1**
GLHS				*e*SN		**Sn**	**11**	**01**	**34.7**	**+2.4**
GLHS	**Glhisar (BURDU**	**1.28**	**62**	*e*Pn		**Pg**	**11**	**01**	**16.2**	**+0.1**
GLHS				*e*Sn		**Sn**	**11**	**01**	**34.7**	**+2.4**
GCAM	**G?zelcaml?**	**1.33**	**329**	*i* P		**Pn**	**11**	**01**	**14.2**	**-1.5**
GCAM				*i* S		**Sg**	**11**	**01**	**35.8**	**+1.5**
GCAM	**G?zelcaml?**	**1.33**	**329**	*i* P		**Pg**	**11**	**01**	**14.2**	**-1.5**
GOLH	**Golhisar**	**1.36**	**60**	*i* P		**Pg**	**11**	**01**	**17.3**	**-0.4**
GOLH				*i* S		**Sg**	**11**	**01**	**36.4**	**+0.9**
GOLH	**Golhisar**	**1.36**	**60**	*i* P		**Pg**	**11**	**01**	**17.3**	**-0.4**
GOLH				*i* S		**Sg**	**11**	**01**	**36.4**	**+0.9**
DNZL	**Cakiroluk**	**1.37**	**34**	*i* P		**Pb**	**11**	**01**	**16.2**	**-0.8**
DNZL				*i* S		**Sg**	**11**	**01**	**36.6**	**+1.0**
DNZL	**Cakiroluk**	**1.37**	**34**	*i* P		**Pb**	**11**	**01**	**16.2**	**-0.8**
DNZL				*i* S		**Sg**	**11**	**01**	**36.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.40**	**354**	*e*PN		**Pn**	**11**	**01**	**15.5**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.40**	**354**	*e*Pn		**Pn**	**11**	**01**	**15.5**	**-1.3**
DENT	**Denizli**	**1.41**	**32**	*e*PN		**Pn**	**11**	**01**	**16.7**	**-0.3**
DENT	**Denizli**	**1.41**	**32**	*e*Pn		**Pn**	**11**	**01**	**16.7**	**-0.3**
ELL	**Elmali**	**1.48**	**82**	*e*PN		**Pg**	**11**	**01**	**19.8**	**-0.1**
ELL				*e*SN		**Sg**	**11**	**01**	**41.0**	**+1.9**
ELL	**Elmali**	**1.48**	**82**	*e*Pn		**Pg**	**11**	**01**	**19.8**	**-0.1**
SMG	**Samos**	**1.52**	**319**	P		**Pn**	**11**	**01**	**16.9**	**-1.5**
SMG	**Samos**	**1.52**	**319**	*e*PN		**Pn**	**11**	**01**	**17.1**	**-1.3**
SMG	**Samos**	**1.52**	**319**	*e*Pn		**Pn**	**11**	**01**	**17.1**	**-1.3**
KORT	**Korkueli**	**1.87**	**76**	*i* P		**Pg**	**11**	**01**	**26.2**	**-1.2**
KORT				*i* S		**Sg**	**11**	**01**	**52.3**	**+0.6**
KORT	**Korkueli**	**1.87**	**76**	*i* P		**Pg**	**11**	**01**	**26.2**	**-1.2**
IZM	**Izmir**	**1.95**	**341**	*e*PN		**Pn**	**11**	**01**	**22.7**	**-1.7**
IZM	**Izmir**	**1.95**	**341**	*e*Pn		**Pn**	**11**	**01**	**22.7**	**-1.7**
BLCB	**Balcova**	**2.00**	**336**	*e*PN		**Pn**	**11**	**01**	**23.2**	**-1.8**
BLCB	**Balcova**	**2.00**	**336**	*e*Pn		**Pn**	**11**	**01**	**23.2**	**-1.8**
ZKR	**Zakros**	**2.09**	**227**	P		**Pn**	**11**	**01**	**26.6**	**+0.4**
ZKR				S		**Sn**	**11**	**01**	**53.1**	**+0.9**
ZKR	**Zakros**	**2.09**	**227**	*e*PB		**Pb**	**11**	**01**	**27.3**	**-2.0**
ZKR				*e*SN		**Sn**	**11**	**01**	**51.6**	**-0.6**
ZKR	**Zakros**	**2.09**	**227**	P		**Pn**	**11**	**01**	**26.6**	**+0.4**
ZKR	**Zakros**	**2.09**	**227**	*e*Pb		**Pb**	**11**	**01**	**27.3**	**-2.0**
ZKR				*e*Sn		**Sn**	**11**	**01**	**51.6**	**-0.6**
ZKR				S		**Sn**	**11**	**01**	**53.1**	**+0.9**
APE	**Apeiranthos**	**2.11**	**285**	*e*PN		**Pn**	**11**	**01**	**25.4**	**-1.2**
APE	**Apeiranthos**	**2.11**	**285**	P		**Pn**	**11**	**01**	**25.6**	**-1.0**
APE	**Apeiranthos**	**2.11**	**285**	*e*PN		**Pn**	**11**	**01**	**25.6**	**-1.0**
APE	**Apeiranthos**	**2.11**	**285**	P		**Pn**	**11**	**01**	**25.6**	**-1.0**
KHAL	**Karahalli**	**2.13**	**31**	*i* P		**Pn**	**11**	**01**	**27.2**	**+0.4**
KHAL				*i* S		**Sn**	**11**	**01**	**53.6**	**+0.4**
KHAL	**Karahalli**	**2.13**	**31**	*i* P		**Pn**	**11**	**01**	**27.2**	**+0.4**
KHAL				*i* S		**Sn**	**11**	**01**	**53.6**	**+0.4**
BCK	**Bucak**	**2.20**	**65**	*e*PN		**Pb**	**11**	**01**	**29.3**	**-1.8**
BCK	**Bucak**	**2.20**	**65**	*e*Pn		**Pb**	**11**	**01**	**29.3**	**-1.8**
AKHS	**Akhisar**	**2.33**	**355**	*i* P		**Pn**	**11**	**01**	**27.8**	**-1.7**
AKHS				*i* S		**Sg**	**11**	**02**	**08.3**	**+2.0**
AKHS	**Akhisar**	**2.33**	**355**	*i* P		**Pn**	**11**	**01**	**27.8**	**-1.7**
AKS	**Akhisar**	**2.33**	**355**	*e*PN		**Pn**	**11**	**01**	**27.9**	**-1.6**
AKS	**Akhisar**	**2.33**	**355**	*e*Pn		**Pn**	**11**	**01**	**27.9**	**-1.6**
NPS	**Neapolis**	**2.39**	**238**	*e*PB		**Pn**	**11**	**01**	**30.8**	**+0.5**
NPS	**Neapolis**	**2.39**	**238**	*e*Pb		**Pn**	**11**	**01**	**30.8**	**+0.5**
CHOS	**Chios island**	**2.44**	**319**	*e*PN		**Pn**	**11**	**01**	**29.7**	**-1.3**
CHOS	**Chios island**	**2.44**	**319**	P		**Pn**	**11**	**01**	**29.9**	**-1.2**
CHOS	**Chios island**	**2.44**	**319**	*e*PN		**Pn**	**11**	**01**	**29.9**	**-1.2**
CHOS	**Chios island**	**2.44**	**319**	P		**Pn**	**11**	**01**	**29.9**	**-1.2**
SUTC	**Sutluce-Ispart**	**2.51**	**68**	*e*PN		**Pb**	**11**	**01**	**34.1**	**-2.3**
SUTC	**Sutluce-Ispart**	**2.51**	**68**	*e*Pn		**Pb**	**11**	**01**	**34.1**	**-2.3**
LAST	**Lasithi**	**2.54**	**237**	P		**Pn**	**11**	**01**	**32.7**	**+0.3**
LAST	**Lasithi**	**2.54**	**237**	*e*PN		**Pn**	**11**	**01**	**32.3**	**-0.1**
LAST				*e*SN		**Sn**	**11**	**02**	**02.2**	**-1.0**
LAST	**Lasithi**	**2.54**	**237**	*e*Pn		**Pn**	**11**	**01**	**32.3**	**-0.1**
LAST	**Lasithi**	**2.54**	**237**	P		**Pn**	**11**	**01**	**32.7**	**+0.3**
LAST				*e*Sn		**Sn**	**11**	**02**	**02.2**	**-1.0**
SHUT	**Suhut-Afyon**	**2.79**	**44**	*e*PN		**Pn**	**11**	**01**	**37.0**	**+1.0**
SHUT	**Suhut-Afyon**	**2.79**	**44**	*e*Pn		**Pn**	**11**	**01**	**37.0**	**+1.0**
IDI	**Anoyia**	**2.89**	**245**	*e*PN		**Pn**	**11**	**01**	**38.1**	**+0.9**
IDI	**Anoyia**	**2.89**	**245**	P		**Pn**	**11**	**01**	**37.2**	**0.0**
IDI	**Anoyia**	**2.89**	**245**	*e*PN		**Pn**	**11**	**01**	**37.3**	**0.0**
IDI				*e*SN		**Sn**	**11**	**02**	**11.1**	**-0.7**
IDI	**Anoyia**	**2.89**	**245**	P		**Pn**	**11**	**01**	**37.2**	**0.0**
IDI				*e*Sn		**Sn**	**11**	**02**	**11.1**	**-0.7**
IDI	**Anoyia**	**2.89**	**245**	Pn		**Pn**	**11**	**01**	**37.3**	**0.0**
IDI	3.3nm,0.3s,baz=51,slow=19,SNR=15			Sn		**Sn**	**11**	**02**	**10.6**	**-1.2**
PRK	**Paraskevi**	**3.04**	**332**	*e*PN		**Pn**	**11**	**01**	**38.1**	**-1.2**
PRK	**Paraskevi**	**3.04**	**332**	*e*Pn		**Pn**	**11**	**01**	**38.1**	**-1.2**
BALB	**Balikesir**	**3.08**	**357**	*e*PN		**Pn**	**11**	**01**	**38.9**	**-1.0**
BALB	**Balikesir**	**3.08**	**357**	*e*Pn		**Pn**	**11**	**01**	**38.9**	**-1.0**
TVSB	**Tavsanli**	**3.08**	**20**	*e*PN		**Pn**	**11**	**01**	**40.0**	**0.0**
TVSB	**Tavsanli**	**3.08**	**20**	*e*Pn		**Pn**	**11**	**01**	**40.0**	**0.0**
SIGR	**SIGRI**	**3.18**	**327**	P		**Pn**	**11**	**01**	**40.0**	**-1.2**
SIGR	**SIGRI**	**3.18**	**327**	*e*PN		**Pn**	**11**	**01**	**40.4**	**-0.8**
SIGR	**SIGRI**	**3.18**	**327**	P		**Pn**	**11**	**01**	**40.0**	**-1.2**
SIGR	**SIGRI**	**3.18**	**327**	*e*Pn		**Pn**	**11**	**01**	**40.4**	**-0.8**
GAZI	**Gazipasa**	**3.43**	**94**	*i* P		**Pn**	**11**	**01**	**44.7**	**+0.1**
GAZI				*i* S		**Sn**	**11**	**02**	**22.7**	**-2.4**
GAZI	**Gazipasa**	**3.43**	**94**	*i* P		**Pn**	**11**	**01**	**44.7**	**+0.1**
GAZI				*i* S		**Sn**	**11**	**02**	**22.7**	**-2.4**
GONE	**Gonen-Balikesi**	**3.50**	**355**	*e*PN		**Pn**	**11**	**01**	**44.2**	**-1.4**
GONE	**Gonen-Balikesi**	**3.50**	**355**	*e*Pn		**Pn**	**11**	**01**	**44.2**	**-1.4**
KARN	**Karanos**	**3.57**	**252**	P		**Pn**	**11**	**01**	**46.2**	**-0.4**
KARN	**Karanos**	**3.57**	**252**	*e*PN		**Pn**	**11**	**01**	**46.8**	**+0.2**
KARN	**Karanos**	**3.57**	**252**	P		**Pn**	**11**	**01**	**46.2**	**-0.4**
KARN	**Karanos**	**3.57**	**252**	*e*Pn		**Pn**	**11**	**01**	**46.8**	**+0.2**
KONT	**Konya--Tatoy**	**3.68**	**67**	*e*PN		**Pn**	**11**	**01**	**50.3**	**+2.2**
KONT	**Konya--Tatoy**	**3.68**	**67**	*e*Pn		**Pn**	**11**	**01**	**50.3**	**+2.2**

AKMC Akamas 3.77 113 P **Pn** 11 01 47.3 -2.1
baz=299
AKMC Akamas 3.77 113 P **Pn** 11 01 47.3 -2.1
PPCY Paphos 3.85 114 P **Pn** 11 01 48.7 -1.6
baz=301
PPCY Paphos 3.85 114 P **Pn** 11 01 48.7 -1.6
NAIG Nisos Aigina 3.86 289 *e*PN **Pn** 11 01 49.9 -0.7
NAIG Nisos Aigina 3.86 289 *e*Pn **Pn** 11 01 49.9 -0.7
CAVI Cavuskoy 3.89 20 *e*PN **Pn** 11 01 51.4 +0.4
CAVI Cavuskoy 3.89 20 *e*Pn **Pn** 11 01 51.4 +0.4
ALFC Alevga 3.92 110 P **Pn** 11 01 49.6 -1.8
baz=296
ALFC S **Sn** 11 02 33.3 -4.1
ALFC Alevga 3.92 110 P **Pn** 11 01 49.6 -1.8
ALFC S **Sn** 11 02 33.3 -4.1
ANKY Antikythira Is 3.93 261 P **Pn** 11 01 52.2 +0.7
ANKY Antikythira Is 3.93 261 P **Pn** 11 01 52.2 +0.7
DID Didima 3.99 285 *e*PN **Pn** 11 01 51.3 -1.1
DID Didima 3.99 285 *e*Pn **Pn** 11 01 51.3 -1.1
LIA Limnos Island 4.04 326 P **Pn** 11 01 52.0 -1.0
LIA Limnos Island 4.04 326 *e*PN **Pn** 11 01 52.2 -0.8
LIA Limnos Island 4.04 326 P **Pn** 11 01 52.0 -1.0
VLI Veliai 4.14 274 *e*PN **Pn** 11 01 54.5 0.0
VLI Veliai 4.14 274 *e*Pn **Pn** 11 01 54.5 0.0
MRKA Markates 4.17 302 P **Pn** 11 01 54.5 -0.3
MRKA Markates 4.17 302 *e*PN **Pn** 11 01 54.7 -0.1
MRKA Markates 4.17 302 P **Pn** 11 01 54.5 -0.3
AOS Alonnisos 4.23 309 P **Pn** 11 01 55.2 -0.4
AOS Alonnisos 4.23 309 *e*PN **Pn** 11 01 55.2 -0.4
AOS Alonnisos 4.23 309 P **Pn** 11 01 55.2 -0.4
SZAC Souni-Zanaja 4.30 113 P **Pn** 11 01 55.2 -1.4
baz=300
SZAC S **Sn** 11 02 44.5 -2.1
SZAC Souni-Zanaja 4.30 113 P **Pn** 11 01 55.2 -1.4
SZAC S **Sn** 11 02 44.5 -2.1
SMTH Samothraki Isl 4.39 334 P **Pn** 11 01 56.3 -1.6
SMTH Samothraki Isl 4.39 334 *e*PN **Pn** 11 01 56.6 -1.3
SMTH Samothraki Isl 4.39 334 P **Pn** 11 01 56.3 -1.6
SMTH Samothraki Isl 4.39 334 *e*Pn **Pn** 11 01 56.6 -1.3
SKIA Skiathos 4.49 307 P **Pn** 11 01 59.1 -0.1
SKIA Skiathos 4.49 307 *e*PN **Pn** 11 01 59.3 +0.1
SKIA Skiathos 4.49 307 *e*Pn **Pn** 11 01 59.3 +0.1
CSS Prodhromos 4.55 109 P **Pn** 11 01 58.8 -1.3
baz=295
CSS Prodhromos 4.55 109 P **Pn** 11 01 58.8 -1.3
ALN Alexandroupoli 4.62 340 P **Pn** 11 01 59.3 -1.6
ALN Alexandroupoli 4.62 340 *e*PN **Pn** 11 01 59.7 -1.2
ALN Alexandroupoli 4.62 340 P **Pn** 11 01 59.3 -1.6
ALN Alexandroupoli 4.62 340 *e*Pn **Pn** 11 01 59.7 -1.2
PAIG Paliouri 4.83 315 *e*PN **Pn** 11 02 04.6 +0.7
PAIG Paliouri 4.83 315 *e*Pn **Pn** 11 02 04.6 +0.7
KALE Kalithea 5.07 293 *e*PN **Pn** 11 02 07.6 +0.3
KALE Kalithea 5.07 293 *e*Pn **Pn** 11 02 07.6 +0.3
AGG Agios Georgios 5.18 300 *e*PN **Pn** 11 02 09.6 +0.9
AGG Agios Georgios 5.18 300 *e*Pn **Pn** 11 02 09.6 +0.9
BRTR Keskin Array B 5.40 52 Pn **Pn** 11 02 13.7 +1.9
0.5nm,0.3s,baz=240,slow=14,SNR=17
BRTR Sn **Sn** 11 03 19.8 +5.9
0.2nm,0.3s,baz=220,slow=24,SNR=5.8
HMAT Matruh 5.51 189 P **Pn** 11 02 14.8 +1.6
baz=192
HMAT S **Sn** 11 03 14.4 -2.1
baz=192
HMAT Matruh 5.51 189 P **Pn** 11 02 14.8 +1.6
SLUM 5.59 206 P **Pn** 11 02 16.6 +2.3
baz=209
SLUM AMP 11 03 00.0
comp=E,40μm,0.4s,logA/T=5.0,baz=209
SLUM 5.59 206 P **Pn** 11 02 16.6 +2.3
MMAI Mount Meron Ar 6.98 118 Pn **Pn** 11 02 32.5 -0.9
comp=E,12nm,0.3s,baz=303,slow=12,SNR=23
MMAI Sn **Sn** 11 03 50.1 -2.7
comp=E,11nm,0.3s,baz=297,slow=20,SNR=8.8
AMAG Maghara 7.28 143 P **Pn** 11 02 37.2 -0.4
baz=143
AMAG Maghara 7.28 143 P **Pn** 11 02 37.2 -0.4
RSH 7.29 138 P **Pn** 11 02 37.0 -0.7
baz=139
RSH 7.29 138 P **Pn** 11 02 37.0 -0.7
KOT Kottamia 7.32 154 P **Pn** 11 02 38.5 +0.4
baz=155
KOT Kottamia 7.32 154 P **Pn** 11 02 38.5 +0.4
HHAG Hagoal 7.39 152 P **Pn** 11 02 39.2 +0.1
baz=153
HHAG Hagoal 7.39 152 P **Pn** 11 02 39.2 +0.1
HSAF As Saff 7.51 156 P **Pn** 11 02 40.8 +0.1
baz=157
HSAF As Saff 7.51 156 P **Pn** 11 02 40.8 +0.1
GLL Jalalah 7.59 155 P **Pn** 11 02 41.9 0.0
baz=156
GLL Jalalah 7.59 155 P **Pn** 11 02 41.9 0.0
SWA2 7.62 198 P **Pn** 11 02 43.9 +1.7
baz=200
SWA2 7.62 198 P **Pn** 11 02 43.9 +1.7
SUZ 7.79 148 P **Pn** 11 02 44.8 +0.2
baz=149
SUZ 7.79 148 P **Pn** 11 02 44.8 +0.2
HNKL Nakhl 8.25 142 P **Pn** 11 02 49.8 -1.1
baz=142
HNKL Nakhl 8.25 142 P **Pn** 11 02 49.8 -1.1
ASF Jabal al Asfar 8.49 118 Pn **Pn** 11 02 54.2 -0.1
comp=E,0.7nm,0.3s,baz=257,slow=4.7,SNR=3.5
ASF Sn **Sn** 11 04 28.4 -1.7
comp=E,0.5nm,0.3s,baz=35,slow=23,SNR=1.8
EIL Elat 8.96 138 Pn **Pn** 11 03 00.4 -0.2
comp=E,0.8nm,0.3s,baz=352,slow=16,SNR=9.3
EIL Sn **Sn** 11 04 36.1 -5.2
comp=E,1.4nm,0.3s,baz=55,slow=21,SNR=4.1
MLR Muntele Rosu 9.07 350 Pn Pn 11 03 05.4 +3.2
comp=E,0.0nm,0.3s,baz=228,slow=12,SNR=3.5
FINES FINESS Array B 24.94 358 P **P** 11 06 17.7 +3.6
comp=E,2.4nm,0.9s,baz=168,slow=9.8,SNR=3.4
TORD Torodi Ar. Bea 33.21 232 P **P** 11 07 27.8 -0.5
comp=E,0.5nm,0.5s,baz=39,slow=7.8,SNR=4.7
MKAR Makanchi Array 41.02 58 P **P** 11 08 34.8 +0.5
baz=278,slow=6.9
**SONM Songino

AB31				Sn	Sn	11 19 24.0	+1.7		
	3.0nm,0.6s,SNR=5.2								
AB31				Lg	Lg	11 19 48.6			
	16nm,0.7s,SNR=6.6								
AB31	**Akbulak array**	**5.24**	**195**	Pn	Pn	11 18 20.4	-0.8		
	0.1nm,0.3s,baz=24,slow=13,SNR=15								
AB31				⇑Pg	Pb	11 18 36.6	+2.5		
	1.1nm,0.5s,baz=31,slow=15,SNR=8.2								
AB31				⇑Sn	Sn	11 19 24.0	+1.7		
	3.0nm,0.6s,baz=21,slow=24,SNR=5.2								
AB31				⇑Lg	Lg	11 19 48.6			
	16nm,0.7s,baz=18,slow=25,SNR=6.6								

BJI ***30*** *11:17:42.8,5˚.67N×126˚.51E,h39km,mB5.6/47,mb5.2/66, Ms5.0/72,Ms7 4.9/68*

MAN ***30*** *11:17:47,6˚.35N×126˚.54E,h31km,mb5.4,ML4.4,MS5.5*

MAN Intensity IV - Davao City Intensity III - Koronadal City; Digos and Don Marcelino.

MOS ***30*** *11:17:48.4±1.3,6˚.46N×126˚.21E,h33km,mb5.7/53, MS5.0/13,Error ellipse: s-maj=9.8km s-min=4.5km az=118.0*

IDC ***30*** *11:17:49.6±1.2,6˚.39N×126˚.21E,h33km±8km,mb4.9/36, mb1 5.0/37,mb1mx5.0/38,mbtmp5.1/37,ML4.0/1,MS4.6/30, Ms1 4.6/30,ms1mx4.6/39,Error ellipse: s-maj=11.6km s-min=6.9km az=74.0*

NEIC ***30*** *11:17:49.8±0.1,6˚.52N×126˚.34E,h34km,mb5.5/77, MW5.4,Error ellipse: s-maj=4.8km s-min=4.0km az=65.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}1.31; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-1.67; $M_{r\theta}$0.17; $M_{\theta\phi}$0.86; $M_{\phi r}$0.21; Best double couple: $M_0$1.80000×10^{17} NP1: ϕ_s142.00000°,δ45.00000°,λ64.00000°. NP2: ϕ_s357.00000°,δ50.00000°,λ114.00000°. Principal axes: T 1.3900, Plg71.0000°, Azm332.0000°; N 0.6000, Plg17.0000°, Azm160.0000°; P -1.9900, Plg2.0000°, Azm70.0000°;*

NEIC Felt [IV PIVS] at Davao and Mati; [III PIVS] at Digos, Koronadal, Malita and Talagutong; [II PIVS] at Banga, General Santos, Makilala and Tagum. Also felt at Dipolog, Panabo and Santa Cruz.

ISCJB ***30*** *11:17:50.8±0.3,6˚.47N±0˚.01×126˚.38E±0˚.02,h57km±2km, mb5.4/208,MS4.3/65 Error ellipse: s-maj=3.7km s-min=2.2km az=171.6*

AUST ***30*** *11:17:50.8±0.2,6˚.56N×126˚.54E,h55km,Error ellipse: s-maj=0.8km s-min=0.5km az=43.0*

GCMT ***30*** *11:17:52.2±0.1,6˚.32N×126˚.41E,h33km,MW5.5,Moment Tensor Solution. s107,c172; s31,c32; Moment tensor: Scale 10^{17}Nm; M_{rr}2.11±.04; $M_{\theta\theta}$0.21±.03; $M_{\phi\phi}$-2.32±.03; $M_{r\theta}$0.08±.05; $M_{\theta\phi}$0.34±.02; $M_{\phi r}$1.38±.05; Best double couple: $M_0$2.60000×10^{17} NP1:ϕ_s359.00000°,δ61.00000°, λ97.00000°. NP2:ϕ_s165.00000°,δ30.00000°,λ78.00000°. Principal axes: T 2.5200, Plg73.0000°, Azm285.0000°; N 0.2300, Plg6.0000°, Azm176.0000°; P -2.7500, Plg16.0000°, Azm84.0000°; Data Used: II IU CU CN IC G. Surface waves: sta=107, comp=174, per= 50.*

DJA ***30*** *11:17:54.7±0.6,6˚.N±5˚×12˚.6E±˚,h47km±5km, M5.6/85, mb5.7/85,mB6.0/77,MLv6.3/9,Mw(mB)5.5/77,Mwp5.7/6*

ISC 30 11:17:51.3±0.2,6˚.43N±0˚.02×126˚.30E±0˚.03,h46km±1km, h46km:pP-P,n700,σ1§69/850,mb5.5/203,MS4.7/66, 60C-37D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.52**	**355**	*e*P		**Pn**	**11 18 01.2**	**-1.5**
MATI				*e*S		**Sn**	**11 18 11.0**	**+0.3**
DAV	**Davao City (W)**	**0.96**	**312**	*e*Pn		**Pn**	**11 18 08.3**	**-0.1**
DAV				*e*Sn		**Sn**	**11 18 22.0**	**+1.0**
DAV	**Davao City (W)**	**0.96**	**312**⇓	*e*P		**Pn**	**11 18 08.5**	**0.0**
DMPH	**Davao City--Mi**	**1.02**	**310**⇓	*e*P		**Pn**	**11 18 09.1**	**-0.3**
DMPH				*e*S		**Sn**	**11 18 24.6**	**+2.0**
KCP	**Kidapawan**	**1.34**	**296**⇓	*i*P		**Pn**	**11 18 12.4**	**-1.2**
KCP				*i* S		**Sn**	**11 18 30.2**	**-0.1**
BIPH	**Bislig**	**1.75**	**2**⇑	*e*P		**Pn**	**11 18 19.2**	**0.0**
BIPH				*e*S		**Sn**	**11 18 41.9**	**+1.6**
BUKP	**Musuan**	**1.90**	**320**	*e*P		**Pn**	**11 18 21.5**	**+0.2**
BUKP				*e*S		**Sn**	**11 18 46.8**	**+2.8**
CTBH	**Cotabato--PC H**	**2.19**	**291**⇓	*e*P		**Pn**	**11 18 24.6**	**-0.7**
CGP	**Cagayan de Oro**	**2.57**	**322**⇑	*i*P		**Pn**	**11 18 32.5**	**+2.0**
CGP				*i* S		**Sn**	**11 19 02.6**	**+2.1**
BUTP	**Butuan**	**2.61**	**345**	*e*P		Pn	11 18 34.9	+3.8
SGSI	**Sangihe**	**2.83**	**196**	P		**Pn**	**11 18 34.0**	**-0.1**
SGSI				S		**Sn**	**11 19 08.6**	**+1.6**
PAGZ	**Pagadian**	**3.23**	**296**	*e*P		**Pn**	**11 18 39.3**	**-0.2**
SCPH	**Surigao**	**3.43**	**346**	*e*P		**Pn**	**11 18 43.5**	**+1.2**
SCPH				*i* S		**Sn**	**11 19 25.7**	**+4.0**
IPIL	**Ipil**	**3.94**	**290**	*e*P		**Pn**	**11 18 49.8**	**+0.4**
MSLP	**Maasin**	**3.95**	**339**	*e*P		**Pn**	**11 18 50.2**	**+0.7**
MSLP				*e*S		**Sn**	**11 19 37.9**	**+3.3**
TBP	**Tagbilaran**	**4.04**	**323**	*e*P		**Pn**	**11 18 51.9**	**+1.1**
TBP				*e*S		**Sn**	**11 19 33.7**	**-3.2**
LLP	**Lapu-Lapu**	**4.50**	**329**⇓	*e*P		**Pn**	**11 18 57.9**	**+0.8**
LLP				*e*S		**Sn**	**11 19 48.2**	**0.0**
PLP	**Palo**	**4.89**	**345**⇓	*e*P		**Pn**	**11 19 04.0**	**+1.7**
PLP				*e*S		**Sn**	**11 19 56.7**	**-0.9**
OCLP	**Ormoc**	**4.89**	**340**	*e*P		**Pn**	**11 19 04.2**	**+1.8**
GUIM	**Jordan**	**5.56**	**319**	*e*P		**Pn**	**11 19 13.4**	**+1.9**
TNTI	**Ternate**	**5.72**	**169**	P		**Pn**	**11 19 15.6**	**+1.9**
	3μm,1.1s,61μm16nm							
TNTI	**Ternate**	**5.72**	**169**	*e*Pn		**Pn**	**11 19 15.6**	**+1.9**
RCP	**Roxas**	**6.19**	**326**⇑	*e*P		**Pn**	**11 19 21.9**	**+1.6**
KMSI	**Cibinong**	**6.26**	**202**	P		**Pn**	**11 19 21.7**	**+0.5**
	4μm,0.9s,43μm18μm25nm							
GTOI	**Gorontalo**	**6.62**	**210**	P		**Pn**	**11 19 24.2**	**-2.0**
	4μm,0.8s,30μm12nm							
LBMI	**Labuha**	**7.12**	**170**	P		**Pn**	**11 19 34.9**	**+1.9**
	967nm,0.8s,25μm11nm							
OTRP	**Odiongan**	**7.25**	**325**	*e*P		Pn	11 19 38.7	+3.9
MRSI	**Marisa**	**7.34**	**217**	P		**Pn**	**11 19 35.2**	**-0.8**
	1μm,0.8s,11μm12nm							
PVCP	**Virac**	**7.43**	**344**	*e*P		**Pn**	**11 19 39.6**	**+2.4**
TOLI	**Toli-Toli**	**7.62**	**226**	P		**Pn**	**11 19 37.2**	**-2.6**
	981nm,0.6s,15μm32μm8.2nm							
MYLDM	**Lahad Datu**	**7.86**	**261**	P		**Pn**	**11 19 46.3**	**+3.1**
MYLDM	**Lahad Datu**	**7.86**	**261**	P		**Pn**	**11 19 45.5**	**+2.3**
	649nm,1.2s,9μm117μm2.1nm							
MYLDM	**Lahad Datu**	**7.86**	**261**	*e*Pn		**Pn**	**11 19 45.6**	**+2.4**
SJMP	**San Jose**	**7.88**	**320**	*e*P		Pn	11 19 48.5	+5.1
PALU	**Palau**	**8.16**	**83**	⇓P		Pn	11 19 42.8	-4.5
	baz=7.9,SNR=7.4							
BUSP	**Coron**	**8.19**	**313**	*e*P		**Pn**	**11 19 48.7**	**+1.1**
LUWI	**Luwuk**	**8.21**	**206**	P		**Pn**	**11 19 50.6**	**+2.6**
	3μm,1.0s,22μm							
LUWI	**Luwuk**	**8.21**	**206**	⇑P		**Pn**	**11 19 50.7**	**+2.6**
	baz=8.5,SNR=70							
APSI	**Ampana**	**8.64**	**213**	P		Pn	11 19 57.0	+3.1
	1μm,1.1s,13μm17μm							
TSM	**Tawau**	**8.66**	**256**	P		**Pn**	**11 19 56.6**	**+2.5**
SWI	**Sorong**	**8.77**	**145**	P		Pn	11 19 59.0	+3.4
	279nm,1.2s,3μm1.0nm							
LQP	**Lukban**	**8.96**	**329**⇓	*e*P		Pn	11 20 03.0	+4.6
SDKM	**Sandakan**	**9.09**	**266**	P		Pn	11 20 03.3	+3.2
TGY	**Tagaytay City**	**9.28**	**326**	Pn		Pn	11 20 07.8	+5.2
TGY	**Tagaytay City**	**9.28**	**326**	Pn		Pn	11 20 07.8	+5.2
	13nm,0.3s,baz=219,slow=16,SNR=11							
LUBP	**Lubang**	**9.39**	**321**	*e*P		Pn	11 20 09.4	+5.2
KDM	**Kudat**	**9.42**	**273**	P		Pn	11 20 12.3	+7.8
NLAI	**Namlea**	**9.63**	**175**	P		**Pn**	**11 20 07.5**	**0.0**
	746nm,0.8s,9μm12μm							
MSAI	**Masohi**	**10.06**	**165**	P		**Pn**	**11 20 14.6**	**+1.3**
	99nm,1.2s,1μm							
MWPI	**Manokwari, Pap**	**10.63**	**133**	P		Pn	11 20 25.6	+4.5
	520nm,1.3s,7μm							
FAKI	**Fak Fak**	**11.02**	**147**	P		**Pn**	**11 20 27.7**	**+1.2**
	158nm,1.2s,2μm							
FAKI	**Fak Fak**	**11.02**	**147**	⇓P		**Pn**	**11 20 26.8**	**+0.3**
	baz=11,SNR=21							
TTSI	**Tana Toraja**	**11.42**	**215**	P		**Pn**	**11 20 33.5**	**+1.6**
	361nm,0.9s,4μm							
KKSI	**Kolaka, Sulawe**	**11.51**	**204**	P		**Pn**	**11 20 35.9**	**+2.8**
	316nm,1.2s							
MMSI	**Mamuju**	**11.68**	**219**	P		**Pn**	**11 20 37.1**	**+1.5**
	248nm,1.1s,2μm							
BKB	**Balikpapan**	**12.10**	**231**	P		**Pn**	**11 20 42.6**	**+1.3**
	899nm,1.1s,9μm23μm							
SPSI	**Sidrap Palu**	**12.21**	**212**	P		Pn	11 20 45.8	+3.1
	174nm,1.1s,2μm							
MJSI	**Majene**	**12.32**	**217**	P		**P**	**11 20 53.4**	**-1.8**
BAKI	**Biak**	**12.37**	**127**	P		Pn	11 20 48.6	+3.7
	552nm,1.5s,9μm							
BBSI	**Bau Bau**	**12.41**	**198**	P		**P**	11 20 52.8	-3.4
BNSI	**Bone**	**12.41**	**210**	P		**Pn**	**11 20 47.6**	**+2.2**
	481nm,1.3s,5μm							
SZP	**Santa**	**12.44**	**333**	*e*Pn		**Pn**	**11 20 47.6**	**+1.7**
	425nm,1.2s							
SRPI	**Serui, Papua**	**12.90**	**129**	P		**P**	**11 20 58.8**	**-2.9**
	535nm,1.0s,10μm							
KAPI	**Kappang**	**13.11**	**210**	Pn		**Pn**	**11 20 57.0**	**+1.9**
	1μm,1.0s,SNR=13							
KAPI	**Kappang**	**13.11**	**210**	*e*Pn		**Pn**	**11 20 56.5**	**+1.5**
BKSI	**Bulukumba**	**13.20**	**208**	P		**Pn**	**11 20 58.5**	**+2.2**
	170nm,1.2s,2μm							
MTKI	**Muara Teweh, K**	**13.54**	**238**	P		**P**	**11 21 08.7**	**-0.1**
BTM	**Bintulu**	**13.56**	**257**	P		**Pn**	**11 21 03.5**	**+2.3**
KBKI	**Kotabaru**	**13.99**	**227**	P		**Pn**	**11 21 09.7**	**+2.6**
	208nm,1.3s,3μm							
SBUM	**Sibu**	**14.59**	**255**	P		**Pn**	**11 21 17.6**	**+2.6**
SBUM	**Sibu**	**14.59**	**255**	P		**Pn**	**11 21 17.4**	**+2.4**
	792nm,0.9s,7μm							
SBUM	**Sibu**	**14.59**	**255**	*e*Pn		**Pn**	**11 21 16.7**	**+1.7**
BBKI	**Banjar Baru**	**15.08**	**230**	P		**P**	**11 21 24.5**	**-1.5**
	887nm,1.8s,15μm							
SAUI	**Saumlaki**	**15.16**	**161**	P		**P**	**11 21 26.3**	**-0.5**
	451nm,0.8s,5μm							
STKI	**Sintang**	**16.09**	**247**	P		**P**	**11 21 36.9**	**-0.3**
	458nm,1.4s,29μm							
LBFI	**Labuhan Bajo,**	**16.13**	**203**	P		**P**	**11 21 36.6**	**-1.0**
	392nm,1.2s,4μm							
SOEI	**Soe**	**16.20**	**187**	P		**P**	**11 21 37.9**	**-0.6**
	259nm,1.3s,7μm							
SOEI	**Soe**	**16.20**	**187**	P		**P**	**11 21 38.0**	**-0.6**
	baz=16,SNR=11							
GENI	**Genyem**	**16.49**	**123**	P		P	11 21 47.1	+5.5
KSM	**Kuching**	**16.70**	**254**	P		**P**	**11 21 44.5**	**+0.6**
KSM	**Kuching**	**16.70**	**254**	P		**P**	**11 21 44.3**	**+0.4**
	170nm,1.1s,3μm							
KSM	**Kuching**	**16.70**	**254**	*e*Pn		**P**	**11 21 43.5**	**-0.4**
	180nm,1.1s							
KSM				*e*PcP		**PcP**	**11 26 30.9**	**+1.1**
KSM				*e*ScP		**ScP**	**11 30 01.2**	**+0.3**
KSM	**Kuching**	**16.70**	**254**	⇓P		**P**	**11 21 46.0**	**+2.1**
	baz=17							
JAY	**Jayapura**	**16.90**	**121**	Pn		**P**	**11 21 46.4**	**+0.2**
JAY	**Jayapura**	**16.90**	**121**	Pn		**P**	**11 21 46.4**	**+0.2**
	0.6nm,0.3s,baz=114,slow=22,SNR=6.6							
JAY				LR		LR	11 28 12.0	
	comp=Z,6μm,19.7s,baz=332,slow=37							
PBKI	**Pangkalan Bun**	**17.20**	**239**	P		**P**	**11 21 52.9**	**+3.4**
	582nm,1.1s,5μm							
TPUB	**Ta-pu**	**17.64**	**343**	*e*P		**Pn**	**11 21 53.0**	**-0.9**
	55nm,0.8s							
SSLB	**Suanglung**	**18.01**	**344**	*e*P		**P**	**11 22 00.1**	**+1.7**
	58nm,0.9s							
KHKI	**Kahang-Kahang**	**18.16**	**216**	P		**Pn**	**11 22 02.3**	**+2.1**
	268nm,1.0s,3μm							
SRBI	**Singaraja**	**18.17**	**218**	P		**Pn**	**11 22 03.2**	**+2.9**
	147nm,1.7s,3μm							
KMMI	**Kalianget**	**18.19**	**223**	P		**Pn**	**11 22 03.9**	**+3.4**
	242nm,0.9s,3μm							
BWJI	**Bawean**	**18.28**	**228**	P		Pn	11 22 06.9	+5.2
	425nm,1.2s,4μm							
DLV	**T Lat**	**18.42**	**289**	*e*P		**Pn**	**11 22 05.8**	**+2.3**
	319nm,1.3s							
DLV				*e*S		**S**	**11 25 33.5**	**+2.2**
ABJI	**Asem Bagus**	**18.56**	**221**	P		**Pn**	**11 22 08.1**	**+3.0**
	110nm,1.7s,2μm							
DNP	**Denpasar**	**18.64**	**217**	P		Pn	11 22 12.2	+6.2
	617nm,1.1s,19μm							
NBBI	**Negara**	**18.76**	**219**	P		**Pn**	**11 22 08.7**	**+1.3**
	366nm,0.8s,3μm							
IGBI	**Denpasar**	**18.79**	**216**	P		**Pn**	**11 22 10.5**	**+2.6**
	247nm,1.2s,3μm							
BLJI	**Banyuglugur**	**18.94**	**222**	P		**Pn**	**11 22 12.3**	**+2.6**
	169nm,0.9s,2μm							
JAGI	**Jajag, Banyuwa**	**19.13**	**219**	*e*P		**Pn**	**11 22 11.5**	**-0.4**
	152nm,0.8s							
JAGI	**Jajag, Banyuwa**	**19.13**	**219**	⇓P		**Pn**	**11 22 12.2**	**+0.3**
	baz=20,SNR=19							
GRJI	**Gresik**	**19.13**	**226**	P		Pn	11 22 17.7	+5.8
	270nm,1.3s,3μm							
GMJI	**Gumukmas**	**19.43**	**221**	P		**Pn**	**11 22 17.0**	**+1.4**
	185nm,1.7s,3μm							
HKC	**Hong Kong Obse**	**19.65**	**325**⇑	*i*P		**Pn**	**11 22 20.0**	**+1.9**
MTN	**Manton Dam**	**19.74**	**166**	⇑P		**Pn**	**11 22 18.2**	**-0.9**
	baz=20,SNR=13							
QZH	**Quanzhou**	**19.84**	**339**	P		**P**	**11 22 17.0**	**-1.4**
QZH				pmax		pmax		
	comp=Z,170nm,1.0s							
QZH				pmax		pmax		
	comp=Z,1μm,3.7s							
QZH				LR		LR		
	comp=N,2μm,13.2s							
QZH				LR		LR		
	comp=E,3μm,19.0s							
QZH				LR		LR		
	comp=Z,5μm,22.8s							
UWJI	**Ujung Watu**	**19.94**	**231**	P		**Pn**	**11 22 25.6**	**+4.0**
	621nm,1.5s,7μm							
KDU	**Kakadu**	**19.95**	**162**	⇑P		**P**	**11 22 20.5**	**+0.8**
	baz=20,SNR=68							
KRKI	**Karangkates**	**20.02**	**224**	P		Pn	11 22 24.2	+1.7
	522nm,1.2s							
QIZ	**Qiongzhong**	**20.34**	**310**	P		Pn	11 22 26.0	-0.3
QIZ				pP		pP	11 22 35.0	+0.1
QIZ				sP		sP	11 22 40.5	-0.3
QIZ				S		**S**	**11 26 11.5**	**+2.0**
QIZ				pmax		pmax		
	comp=Z,130nm,1.9s							
QIZ				LR		LR		
	comp=Z,5μm,20.9s							
QIZ	**Qiongzhong**	**20.34**	**310**	*e*P		**P**	**11 22 25.1**	**+1.2**
	379nm,1.7s							
PWJI	**Pagerwojo**	**20.38**	**225**	P		Pn	11 22 26.6	-0.1
	113nm,1.5s,2μm							
JOW	**Kunigami**	**20.38**	**5**	*e*Pn		**P**	**11 22 25.1**	**+0.9**
	42nm,1.0s							
SMRI	**Semarang**	**20.73**	**230**	P		Pn	11 22 32.6	+1.6
	484nm,1.3s,8μm							
SMRI	**Semarang**	**20.73**	**230**	*e*Pn		Pn	11 22 31.4	+0.4
	758nm,1.3s							
SMRI	**Semarang**	**20.73**	**230**	⇑P		Pn	11 22 31.6	+0.6
	baz=21,SNR=9.0							
TPI	**Tanjungpandan**	**20.74**	**244**	P		**P**	**11 22 29.5**	**+1.3**
	227nm,1.1s,2μm							
GZH	**Guangzhou**	**20.74**	**324**	P		Pn	11 22 32.3	+1.3
GZH				S		Sn	11 26 24.5	+0.3
GZH				pmax		pmax		
	comp=Z,5μm,3.6s							
GZH				LR		LR		
	comp=N,5μm,23.3s							
GZH				LR		LR		
	comp=E,5μm,24.7s							
GZH				LR		LR		
	comp=Z,9μm,17.7s							
PCJI	**Pacitan**	**20.94**	**226**	P		Pn	11 22 34.5	+1.0
	168nm,1.6s,2μm							
UGM	**Wanagama**	**21.23**	**228**	P		P	11 22 38.9	+5.3
	376nm,1.6s							
UGM	**Wanagama**	**21.23**	**228**	⇓P		**P**	**11 22 37.1**	**+3.5**
	baz=22,SNR=9.1							
BJII	**Banjamegara**	**21.47**	**231**	P		**P**	**11 22 39.1**	**+2.9**
	630nm,1.5s,7μm							
KPJI	**Karang Pucung**	**22.07**	**232**	P		**P**	**11 22 44.7**	**+2.1**
	400nm,0.9s,4μm							
KNRA	**Kunumurra**	**22.10**	**174**	⇓P		**P**	**11 22 42.4**	**-0.4**
	baz=22,SNR=187							
JCJI	**Jatiwangi**	**22.10**	**235**	P		**P**	**11 22 46.9**	**+4.0**
	785nm,1.4s,12μm							
UBPT	**Khong Chiam**	**22.25**	**295**	P		**P**	**11 22 46.6**	**+2.1**
	196nm,1.0s							
TPRI	**Tanjung Pinang**	**22.40**	**257**	P		**P**	**11 22 48.6**	**+2.4**
	212nm,1.3s,36μm							
CMJI	**Cimerak**	**22.73**	**232**	P		**P**	**11 22 52.8**	**+3.2**
	156nm,1.0s,2μm							
LEM	**Lembang**	**22.82**	**235**	P		**P**	**11 22 52.8**	**+2.0**
	614nm,1.1s,9μm							
LEM	**Lembang**	**22.82**	**235**	⇓P		**P**	**11 22 53.1**	**+2.4**
	baz=23,SNR=9.2							
MYKOM	**Kota Tinggi**	**22.86**	**259**	P		**P**	**11 22 53.0**	**+2.0**
MYKOM	**Kota Tinggi**	**22.86**	**259**	P		**P**	**11 22 52.7**	**+1.7**
	353nm,1.2s,4μm							
MYKOM	**Kota Tinggi**	**22.86**	**259**	*e*P		**P**	**11 22 52.4**	**+1.4**
	288nm,1.0s							
BTDF	**Bukit Timah Da**	**23.03**	**258**	⇑P		**P**	**11 22 54.5**	**+1.8**
	baz=23,SNR=3.4							
BTDF				⇑P		**P**	**11 22 54.5**	**+1.8**
	baz=23,SNR=3.4							
KTGM	**Kuala Trenggan**	**23.07**	**269**	P		**P**	**11 22 54.5**	**+1.3**
CISI	**Cisompet, Garu**	**23.09**	**233**	P		**P**	**11 22 53.2**	**-0.2**
	281nm,1.2s,5μm							
CISI	**Cisompet, Garu**	**23.09**	**233**	*e*P		**P**	**11 22 51.4**	**-2.0**
	215nm,0.9s							
CISI	**Cisompet, Garu**	**23.09**	**233**	⇓P		**P**	**11 22 53.0**	**-0.4**
	baz=23,SNR=5.8							
CBJI	**Citeko**	**23.23**	**237**	P		**P**	**11 22 56.7**	**+2.0**
	1μm,1.1s,24μm							
KGM	**Kluang**	**23.33**	**260**	P		**P**	**11 22 57.2**	**+1.4**
DBJI	**Dramaga**	**23.39**	**237**	P		**P**	**11 22 57.1**	**+0.8**
	407nm,1.0s,7μm							
SKJI	**Sukabumi**	**23.80**	**236**	P		**P**	**11 23 01.6**	**+1.5**
	445nm,1.5s,7μm							
JMBI	**JAMBI**	**24.00**	**251**	P		**P**	**11 23 04.5**	**+2.5**
	2μm,1.0s,12μm							
BLSI	**Bandar Lampung**	**24.07**	**241**	P		**P**	**11 23 06.0**	**+3.4**
	613nm,1.5s,8μm							
KLI	**Kotabumi**	**24.17**	**243**	P		**P**	**11 23 04.8**	**+1.3**
	613nm,1.1s,7μm							
KLSI		**24.20**	**243**	P		**P**	**11 23 04.6**	**+0.8**
	1μm,1.1s,13μm							
CGJI	**Cibinong**	**24.31**	**238**	P		**P**	**11 23 04.9**	**+0.1**
	392nm,1.1s,5μm							
FITZ	**Fitzroy Crossi**	**24.38**	**182**	P		**P**	**11 23 05.0**	**-0.4**
FITZ				S		**S**	**11 27 24.2**	**+2.2**
FITZ				ScS		**ScS**	**11 34 07.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.38**	**182**	P		**P**	**11 23 05.0**	**-0.4**
	88nm,0.8s,baz=11,slow=9.6,SNR=85							
FITZ				S		**S**	**11 27 24.2**	**+2.2**
	46nm,1.2s,baz=30,slow=22,SNR=4.4							
FITZ				ScS		**ScS**	**11 34 07.5**	**+0.7**
	3.9nm,1.1s,baz=270,slow=23,SNR=1.6							
CHBT	**CHBT**	**24.45**	**287**	P		**P**	**11 23 07.0**	**+1.0**
	222nm,1.8s							
MDSI	**Maura Dua**	**24.61**	**244**	P		**P**	**11 23 08.2**	**+0.7**
	295nm,1.0s,3μm							
FRIM	**Kepong**	**24.79**	**264**	P		**P**	**11 23 11.4**	**+2.2**
KASI	**Kota Agung**	**24.79**	**242**	P		**P**	**11 23 10.6**	**+1.4**
	688nm,1.0s,5μm							
LHSI	**Lahat**	**24.92**	**246**	P		**P**	**11 23 11.9**	**+1.5**
	845nm,1.3s,7μm							
LWLI	**Liwa**	**24.95**	**243**	P		**P**	**11 23 12.0**	**+1.3**
	551nm,0.8s,6μm							
SSE	**Sheshan**	**25.00**	**350**	⇑P		**P**	**11 23 13.0**	**+2.1**
SSE				pP		**pP**	**11 23 25.8**	**+2.7**
SSE				sP		**sP**	**11 23 32.3**	**+3.7**
SSE				S		**S**	**11 27 34.0**	**+2.2**
SSE				sS		**sS**	**11 27 55.8**	**+3.6**
SSE				pmax		pmax		
	comp=Z,27nm,0.7s							
SSE				pmax		pmax		
	comp=Z,460nm,3.5s							
SSE				LR		LR		
	comp=N,1μm,18.1s							
SSE				LR		LR		
	comp=E,420nm,17.9s							
SSE				LR		LR		
	comp=Z,1μm,20.8s							
IPM	**Ipoh**	**25.24**	**267**	P		**P**	**11 23 14.1**	**+0.8**
IPM	**Ipoh**	**25.24**	**267**	P		**P**	**11 23 13.8**	**+0.5**
	246nm,1.0s,3μm							
IPM	**Ipoh**	**25.24**	**267**	*e*P		**P**	**11 23 13.5**	**+0.2**
	634nm,1.6s							
CBIJ	**Chichi jima**	**25.51**	**35**	P		**P**	**11 23 14.1**	**-1.4**
	37nm,0.5s							
JCJ	**Chichijima**	**25.51**	**35**	P		**P**	**11 23 14.1**	**-1.4**
	196nm,0.4s,baz=244,slow=6.7,SNR=26							
JCJ				LR		LR	11 33 21.1	
	comp=Z,17nm,28.6s,baz=290,slow=36							
KULM	**Kulim**	**25.54**	**269**	P		**P**	**11 23 17.1**	**+1.1**
KULM	**Kulim**	**25.54**	**269**	*e*P		**P**	**11 23 16.6**	**+0.5**
CHAI	**Chaiyaphum**	**25.62**	**294**	P		**P**	**11 23 17.5**	**+0.8**
	44nm,1.3s,487nm							
MNAI	**Manna**	**25.66**	**246**	P		P	11 23 26.9	+10
MNAI	**Manna**	**25.66**	**246**	P		**P**	**11 23 18.0**	**+1.0**
	baz=26,SNR=4.0							
MASI	**Maura Aman, Be**	**25.84**	**249**	P		**P**	**11 23 22.4**	**+3.7**
	646nm,1.0s							
PATY	**Pattaya**	**25.88**	**286**	P		**P**	**11 23 20.9**	**+1.9**
	19nm,1.0s							
BKNI	**Bangkinang**	**25.93**	**257**	P		**P**	**11 23 21.2**	**+1.7**
	310nm,1.0s							
PMG	**Port Moresby**	**26.06**	**127**	P		**P**	**11 23 23.1**	**+2.4**
	38nm,1.0s,892nm							
**PMG

WRAB pmax pmax
comp=Z,508nm,1.7s
WRA Warramunga Arr 27.37 163 P **P** **11 23 31.6 -0.9**
WRA PcP **PcP** **11 26 51.0 +0.1**
WRA S **S** **11 28 07.5 -1.9**
WRA ScP **ScP** **11 30 29.9 +2.2**
WRA ScS **ScS** **11 34 18.8 -0.7**
WRA *e* 11 56 05.5
WRA Warramunga Arr 27.37 163 P **P** **11 23 31.6 -0.9**
comp=Z,32nm,0.9s,baz=343,slow=10.0,SNR=102
WRA PcP **PcP** **11 26 51.0 +0.1**
comp=Z,15nm,0.9s,baz=340,slow=3.1,SNR=4.9
WRA S **S** **11 28 07.5 -1.9**
comp=Z,82nm,1.4s,baz=338,slow=15,SNR=12
WRA ScP **ScP** **11 30 29.9 +2.2**
comp=Z,11nm,0.9s,baz=346,slow=3.7,SNR=4.9
WRA ScS **ScS** **11 34 18.8 -0.7**
comp=Z,14nm,1.3s,baz=320,slow=4.1,SNR=6.8
WRA LR LR 11 36 29.1
comp=Z,1μm,19.8s,baz=335,slow=41
WRA P3KPbc 11 56 05.5
comp=Z,0.5nm,0.8s,baz=167,slow=3.8,SNR=4.9
SURT Suratani 27.37 277 P **P** **11 23 33.7 +1.2**
comp=Z,33nm,1.0s,comp=Z,556nm
PSI Prapat 27.52 264 P **P** **11 23 34.8 +0.8**
comp=Z,82nm,1.5s,comp=Z,2μm
PSI Prapat 27.52 264 P **P** **11 23 34.0 0.0**
PSI PcP **PcP** **11 26 50.8 -0.7**
PSI S **S** **11 28 12.0 -0.3**
PSI ScP **ScP** **11 30 28.5 0.0**
PSI ScS **ScS** **11 34 17.6 -3.1**
PSI Prapat 27.52 264 P **P** **11 23 34.0 0.0**
comp=Z,37nm,0.9s,baz=125,slow=4.0,SNR=25
PSI PcP **PcP** **11 26 50.8 -0.7**
comp=Z,44nm,1.0s,baz=188,slow=5.0,SNR=7.3
PSI S **S** **11 28 12.0 -0.3**
comp=Z,2.0nm,0.4s,baz=323,slow=21,SNR=1.1
PSI ScP **ScP** **11 30 28.5 0.0**
comp=Z,21nm,0.8s,baz=145,slow=1.4,SNR=7.5
PSI ScS **ScS** **11 34 17.6 -3.1**
comp=Z,3.8nm,0.4s,baz=128,slow=19,SNR=2.2
PSI LR LR 11 35 49.8
comp=Z,17nm,28.6s,baz=67,slow=39
PKDT Phuket 27.79 275 P **P** **11 23 37.0 +0.8**
comp=Z,166nm,0.9s,comp=Z,6μm
SRDT SRDT 27.85 289 P **P** **11 23 39.3 +2.5**
comp=Z,203nm,0.9s,comp=Z,8μm
UTHA Uthaitani 27.85 291 P **P** **11 23 38.6 +1.8**
comp=Z,21nm,1.1s,comp=Z,177nm
KHLT Khaolaem Dam 28.45 289 P **P** **11 23 43.7 +1.5**
comp=Z,25nm,1.3s,comp=Z,493nm
ENH Enshi 28.51 328 *e*P **P** **11 23 42.8 +0.3**
comp=Z,51nm,0.9s
KCSI Kotacane, Aceh 28.57 266 P **P** **11 23 42.6 -0.6**
comp=Z,174nm,1.3s,comp=Z,2μm
LAMP Lampang 28.63 297 P **P** **11 23 45.6 +1.9**
comp=Z,17nm,1.1s,comp=Z,162nm
GSI Gunungsitoli 29.10 261 *e*P **P** **11 23 46.3 -1.7**
comp=Z,206nm,0.9s
TPTI 29.18 265 P P 11 23 58.7 +10
CM31 Chiang Mai Arr 29.22 297 *e*P **P** **11 23 50.9 +1.9**
comp=Z,65nm,1.0s
CM31 *e*ScP **ScP** **11 30 34.7 +1.2**
CMAR Chiang Mai Arr 29.22 297 P **P** **11 23 49.7 +0.7**
CMAR PcP **PcP** **11 26 56.3 +0.8**
CMAR ScP **ScP** **11 30 34.8 +1.2**
CMAR PKiKP **PKiKP** **11 34 28.2 -1.2**
CMAR Chiang Mai Arr 29.22 297 P **P** **11 23 49.7 +0.7**
comp=Z,30nm,0.9s,baz=120,slow=7.2,SNR=160
CMAR PcP **PcP** **11 26 56.3 +0.8**
comp=Z,16nm,1.0s,baz=172,slow=0.4,SNR=12
CMAR ScP **ScP** **11 30 34.8 +1.2**
comp=Z,7.9nm,0.8s,baz=119,slow=1.3,SNR=12
CMAR PKiKP **PKiKP** **11 34 28.2 -1.2**
comp=Z,1.0nm,0.7s,baz=289,slow=1.2,SNR=4.7
CMAR LR LR 11 35 38.2
comp=Z,17nm,28.6s,baz=127,slow=37
KMI Kunming 29.23 312 P **P** **11 23 50.5 +1.3**
KMI pP **pP** **11 24 03.3 +1.9**
KMI PP **PnPn** **11 24 47.0 +3.2**
KMI S **S** **11 28 42.5 +3.5**
KMI sS **sS** **11 29 00.0 +0.4**
KMI SS **SnSn** **11 30 16.0 +8.6**
KMI pmax pmax
comp=Z,30nm,1.1s
KMI pmax pmax
comp=Z,340nm,5.8s
KMI LR LR
comp=Z,2μm,19.8s
KMI LR LR
comp=Z,2μm,19.3s
KMI LR LR
comp=Z,4μm,19.8s
LHMI Lhok Sumawe 29.23 269 P P 11 23 58.6 +10
CMAI Chiengmai2 29.68 299 P **P** **11 23 55.2 +2.0**
comp=Z,97nm,0.9s
QIS Mount Isa 29.83 154 P **P** **11 23 54.3 -0.1**
baz=30,SNR=49
MHMT Maesarieng 30.03 295 P **P** **11 23 57.5 +1.4**
comp=Z,75nm,1.5s,comp=Z,851nm
AS13 Alice Springs 30.80 166 ⇓P **P** **11 24 02.4 -0.5**
baz=31
TIA Tai'an 30.82 345 ⇑P **P** **11 24 05.5 +2.6**
TIA S **S** **11 29 04.0 +0.7**
TIA pmax pmax
comp=Z,60nm,1.2s
TIA LR LR
comp=Z,1μm,18.0s
TIA LR LR
comp=Z,590nm,13.0s
TIA LR LR
comp=Z,2μm,20.2s
AS31 Alice Springs 30.82 166 *e*P **P** **11 24 02.7 -0.3**
AS31 *e*S **S** **11 29 01.1 -2.4**
ASAR Alice Springs 30.82 166 P **P** **11 24 01.7 -1.3**
ASAR PcP **PcP** **11 26 59.6 +0.1**
ASAR S **S** **11 29 03.2 -0.4**
ASAR ScP **ScP** **11 30 41.3 +2.7**
ASAR ScS **ScS** **11 34 33.5 -2.0**
ASAR *e* 11 55 49.1
ASAR Alice Springs 30.82 166 P **P** **11 24 01.7 -1.3**
comp=Z,25nm,0.6s,baz=342,slow=6.2,SNR=182
ASAR PcP **PcP** **11 26 59.6 +0.1**
comp=Z,9.9nm,0.7s,baz=328,slow=2.2,SNR=4.9
ASAR S **S** **11 29 03.2 -0.4**
comp=Z,14nm,1.0s,baz=353,slow=21,SNR=8.5
ASAR ScP **ScP** **11 30 41.3 +2.7**
comp=Z,15nm,0.9s,baz=348,slow=3.3,SNR=9.8
ASAR ScS **ScS** **11 34 33.5 -2.0**
comp=Z,0.9nm,0.8s,baz=302,slow=4.2,SNR=3.6
ASAR P3KPbc 11 55 49.1
comp=Z,1.4nm,0.9s,baz=160,slow=4.7,SNR=7.8
AS01 Alice Springs 30.83 166 ⇓P **P** **11 24 02.6 -0.5**
baz=31
AS17 Alice Springs 30.84 166 ⇓P **P** **11 24 02.5 -0.7**
baz=31
BSI Banda Aceh 30.85 270 ⇑P **P** **11 24 02.8 -0.7**
baz=31
KSAR Wonju Array Be 30.91 2 P **P** **11 24 04.6 +1.0**
KSAR PcP **PcP** **11 27 00.6 +1.2**
KSAR ScP **ScP** **11 30 40.7 +2.1**
KSRS Korea Array 30.92 3 P **P** **11 24 04.6 +0.9**
comp=Z,4.7nm,0.8s,baz=177,slow=11,SNR=8.3
KSRS PcP **PcP** **11 27 00.6 +1.1**
comp=Z,13nm,1.0s,baz=189,slow=5.5,SNR=10
KSRS ScP **ScP** **11 30 40.7 +2.1**
comp=Z,4.7nm,0.8s,baz=190,slow=3.6,SNR=6.5
KSRS LR LR 11 35 37.0
comp=Z,17nm,28.6s,baz=190,slow=34
GIRL Giralia 31.21 202 ⇑P **P** **11 24 07.0 +0.5**
baz=32,SNR=7.5
WRKA Warakurna 31.34 177 P **P** **11 24 07.5 -0.1**
baz=32,SNR=106
XAN Xi'an 31.84 332 P **P** **11 24 12.0 0.0**
XAN S **S** **11 29 22.5 +3.0**
XAN pmax pmax
comp=Z,34nm,1.0s
XAN LR LR
comp=Z,2μm,22.3s
XAN LR LR
comp=Z,650nm,20.4s
XAN LR LR
comp=Z,980nm,23.3s
MAT Matsushiro 31.89 18 P P 11 24 09.2 -3.1
MAT *e*S **S** **11 29 18.0 -2.1**
MJAR Matsushiro Arr 31.89 18 P **P** **11 24 09.8 -2.6**

MJAR PcP **PcP** **11 27 02.5 +0.3**
MJAR ScP **ScP** **11 30 43.8 +1.8**
MJAR *e* 11 55 45.5
MJAR Matsushiro Arr 31.89 18 P **P** **11 24 09.8 -2.6**
comp=Z,2.2nm,0.7s,baz=189,slow=9.7,SNR=6.4
MJAR PcP **PcP** **11 27 02.5 +0.3**
comp=Z,5.2nm,0.9s,baz=191,slow=3.2,SNR=6.0
MJAR ScP **ScP** **11 30 43.8 +1.8**
comp=Z,9.6nm,1.0s,baz=204,slow=4.2,SNR=13
MJAR LR LR 11 35 39.9
comp=Z,17nm,28.6s,baz=200,slow=34
MJAR P3KPbc 11 55 45.5
comp=Z,1.4nm,0.7s,baz=10,slow=4.9,SNR=4.5
CD2 Chengdu 32.25 322 ⇓*i*P **P** **11 24 16.0 +0.4**
CD2 pP **pP** **11 24 29.3 +1.4**
CD2 sP **sP** **11 24 34.8 +1.3**
CD2 PP **PnPn** **11 25 24.8 +1.7**
CD2 PcP **PcP** **11 27 03.3 0.0**
CD2 S **S** **11 29 26.3 +0.4**
CD2 sS **sS** **11 29 46.0 -0.6**
CD2 ScS **ScS** **11 34 39.0 -3.5**
CD2 pmax pmax
comp=Z,120nm,1.2s
CD2 pmax pmax
comp=Z,400nm,7.2s
CD2 LR LR
comp=Z,3μm,15.5s
CD2 LR LR
comp=Z,2μm,16.7s
CD2 LR LR
comp=Z,5μm,16.6s
DL2 Dalian 32.61 353 P **P** **11 24 20.5 +2.0**
DL2 S **S** **11 29 31.5 +0.4**
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 LR LR
comp=Z,650nm,23.2s
DL2 LR LR
comp=Z,660nm,14.9s
DL2 LR LR
comp=Z,730nm,17.3s
CTA Charters Tower 32.85 144 P **P** **11 24 20.4 -0.6**
CTA S **S** **11 29 35.5 +0.1**
CTA ScP **ScP** **11 30 48.2 +2.6**
CTA ScS **ScS** **11 34 49.2 +3.4**
CTA Charters Tower 32.85 144 P **P** **11 24 20.4 -0.6**
comp=Z,11nm,0.7s,baz=327,slow=12,SNR=11
CTA S **S** **11 29 35.5 +0.1**
comp=Z,7.7nm,1.0s,baz=43,slow=21,SNR=1.9
CTA ScP **ScP** **11 30 48.2 +2.6**
comp=Z,9.9nm,0.8s,baz=333,slow=6.5,SNR=4.9
CTA ScS **ScS** **11 34 49.2 +3.4**
comp=Z,6.2nm,1.1s,baz=314,slow=18,SNR=1.8
CTA LR LR 11 38 16.9
comp=Z,2μm,21.2s,baz=322,slow=37
CTAO Charters Tower 32.85 144 *e*P **P** **11 24 22.4 +1.5**
CTAO Charters Tower 32.85 144 *e*P **P** **11 24 22.4 +1.5**
TIY Taiyuan 33.60 340 *e*P **P** **11 24 27.3 -0.1**
TIY S **S** **11 29 46.5 -0.3**
TIY pmax pmax
comp=Z,550nm,4.2s
TIY LR LR
comp=Z,940nm,13.4s
TIY LR LR
comp=Z,430nm,11.8s
TIY LR LR
comp=Z,1μm,16.8s
BJT Baijiatuau 34.66 346 *e*P **P** **11 24 37.6 +1.2**
comp=Z,111nm,0.7s
BJI Beijing 34.68 346 P **P** **11 24 38.0 +1.4**
BJI S **S** **11 30 04.0 +0.8**
BJI pmax pmax
comp=Z,180nm,1.2s
BJI pmax pmax
comp=Z,570nm,3.6s
BJI LR LR
comp=Z,1μm,24.1s
BJI LR LR
comp=Z,590nm,21.0s
BJI LR LR
comp=Z,1μm,21.7s
SNY Shenyang 35.34 356 ⇑P **P** **11 24 43.0 +0.8**
SNY S **S** **11 30 15.3 +2.1**
SNY pmax pmax
comp=Z,48nm,1.0s
SNY LR LR
comp=Z,1μm,21.0s
SNY LR LR
comp=Z,1μm,19.8s
SNY LR LR
comp=Z,1μm,22.2s
LZH Lanzhou 35.99 328 *e*P **P** **11 24 49.8 +1.7**
LZH pP **pP** **11 25 01.0 +0.5**
LZH sP **sP** **11 25 06.5 +0.5**
LZH PP **PP** **11 26 15.5 +4.9**
LZH *e*S **S** **11 30 25.5 +1.7**
LZH sS **sS** **11 30 44.3 -0.3**
LZH pmax pmax
comp=Z,58nm,1.4s
LZH pmax pmax
comp=Z,210nm,4.2s
LZH LR LR
comp=Z,1μm,13.7s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,3μm,18.6s
MORW Morawa 36.65 195 ⇑P **P** **11 24 53.1 -0.5**
baz=37,SNR=19
HHC Hu-ho-hao-te 36.72 341 *e*P **P** **11 24 55.3 +1.1**
HHC pP **pP** **11 25 09.5 +2.8**
HHC sP **sP** **11 25 13.3 +1.1**
HHC S **S** **11 30 37.3 +2.5**
HHC sS **sS** **11 30 56.8 +1.2**
HHC ScP **ScP** **11 30 59.8 +0.6**
HHC ScS **ScS** **11 35 06.5 +0.4**
HHC pmax pmax
comp=Z,180nm,0.9s
HHC pmax pmax
comp=Z,2μm,5.1s
HHC LR LR
comp=Z,2μm,15.2s
HHC LR LR
comp=Z,1μm,15.2s
HHC LR LR
comp=Z,2μm,15.0s
VLA Vladivostok 36.87 7⇑*e*P **P** **11 24 57.1 +1.8**
VLA pmax pmax
comp=Z,301nm,2.5s
BTO Baotou 37.02 339 *e*P P 11 24 52.3 -4.5
FORT Forrest 37.03 177 *e*P **P** **11 24 56.9 +0.1**
comp=Z,193nm,0.6s
FORT Forrest 37.03 177 P **P** **11 24 56.9 +0.1**
baz=37,SNR=44
HNR Honiara 37.04 115 LR LR 11 38 25.9
comp=Z,846nm,21.4s,baz=292,slow=33
QLP Quilpie 37.13 153 ⇑P **P** **11 24 57.5 -0.3**
baz=37,SNR=29
CN2 Changchun 37.23 359 *e*P P 11 25 01.8 +3.4
CN2 *ep*P pP 11 25 14.0 +3.2
CN2 PcP **PcP** **11 27 18.0 +0.6**
CN2 *e*S **S** **11 30 45.5 +3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,600nm,19.0s
KMBL Kambalda 37.82 186 ⇓P **P** **11 25 03.4 0.0**
baz=38,SNR=35
USRK Ussuriysk Arra 37.95 7 P **P** **11 25 04.1 -0.3**
comp=Z,6.7nm,0.6s,baz=186,slow=8.3,SNR=13
BLDU Baliduu 37.96 194 ⇑P **P** **11 25 04.2 -0.5**
baz=38,SNR=15
SHL Shillong 37.98 304 *i* P **P** **11 25 05.0 -0.2**
SHL *i* x x 11 30 52.0
SHL *i* SCS 11 35 13.0
MDJ Mudanjiang 38.15 4 P **P** **11 25 08.0 +1.9**
MDJ pP **pP** **11 25 19.0 +0.4**
MDJ sP **sP** **11 25 24.3 +0.2**
MDJ S **S** **11 30 59.0 +2.9**

MDJ sS **sS** **11 31 19.3 +2.3**
MDJ SS **SS** **11 33 48.5 +3.8**
MDJ pmax pmax
comp=Z,27nm,1.4s
MDJ LR LR
comp=Z,800nm,16.4s
MDJ LR LR
comp=Z,540nm,15.0s
MDJ LR LR
comp=Z,1μm,16.4s
MDJ Mudanjiang 38.15 4 *e*P **P** **11 25 07.1 +1.1**
comp=Z,31nm,0.8s
RMQ Roma 39.30 147 ⇓P **P** **11 25 16.7 +0.6**
baz=39,SNR=6.2
EIDS Eidsvold 39.74 144 *e*P **P** **11 25 20.0 +0.3**
comp=Z,41nm,1.0s
EIDS Eidsvold 39.74 144 ⇑P **P** **11 25 20.0 +0.3**
baz=40,SNR=8.4
NWAO Narrogin (SRO) 40.08 192 P **P** **11 25 22.2 -0.1**
NWAO Narrogin (SRO) 40.08 192 P **P** **11 25 22.2 -0.1**
comp=Z,107nm,0.9s,baz=16,slow=9.7,SNR=17
NWAO LR LR 11 43 53.8
comp=Z,17nm,28.6s,baz=16,slow=39
BBOO Buckleboo 40.11 167 *e*P **P** **11 25 22.2 -0.4**
comp=Z,3μm,0.7s
BBOO Buckleboo 40.11 167 ⇓P **P** **11 25 22.6 0.0**
baz=40,SNR=206
ASAJ Asahikawa 40.16 18 *e*P **P** **11 25 22.7 -0.3**
comp=Z,12nm,0.8s
ASAJ Asahikawa 40.16 18 P **P** **11 25 22.7 -0.3**
comp=Z,9.6nm,0.4s,baz=231,slow=9.4,SNR=51
ASAJ LR LR 11 40 53.0
comp=Z,17nm,28.6s,baz=222,slow=34
LSA Lhasa 40.38 309 P **P** **11 25 26.5 +1.0**
LSA pP **pP** **11 25 33.5 -4.6**
LSA sP **sP** **11 25 44.0 +0.5**
LSA PP **PP** **11 27 01.0 +1.9**
LSA pmax pmax
comp=Z,30nm,1.1s
LSA pmax pmax
comp=Z,210nm,6.0s
LSA LR LR
comp=Z,390nm,20.0s
LSA LR LR
comp=Z,340nm,20.0s
LSA LR LR
comp=Z,1μm,20.0s
LSA Lhasa 40.38 309 *e*P **P** **11 25 25.4 -0.1**
LSA *e* 11 27 29.7
LSA pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 40.38 309 *e*P **P** **11 25 25.4 -0.1**
comp=Z,20nm,0.6s
LSA *e*PcP **PcP** **11 27 29.7 +1.5**
GTA Gaotai 40.59 328 *e*P **P** **11 25 26.8 +0.1**
GTA pP **pP** **11 25 39.5 +0.2**
GTA sP **sP** **11 25 44.3 -0.5**
GTA PcP **PcP** **11 27 28.3 +0.1**
GTA S **S** **11 31 33.0 -0.2**
GTA ScS **ScS** **11 35 27.0 -1.6**
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,610nm,5.0s
GTA LR LR
comp=Z,2μm,21.9s
GTA LR LR
comp=Z,2μm,22.6s
GTA LR LR
comp=Z,3μm,23.5s
STKA Stephens Creek 40.79 160 P **P** **11 25 28.2 0.0**
STKA ScP **ScP** **11 31 16.3 +1.6**
STKA Stephens Creek 40.79 160 P **P** **11 25 28.2 0.0**
comp=Z,86nm,1.0s,baz=336,slow=7.9,SNR=98
STKA ScP **ScP** **11 31 16.3 +1.6**
comp=Z,13nm,0.9s,baz=332,slow=7.7,SNR=4.4
STKA LR LR 11 44 30.5
comp=Z,2μm,20.8s,baz=328,slow=39
STKA Stephens Creek 40.79 160 ⇑P **P** **11 25 28.3 0.0**
baz=41,SNR=93
H11S3 WAKE ISLAND Hy 41.11 69 T T 12 09 37.1
baz=231,slow=68,SNR=556
H11S1 WAKE ISLAND Hy 41.12 69 T T 12 09 33.7
baz=231,slow=68,SNR=286
H11S2 WAKE ISLAND Hy 41.13 69 T T 12 09 30.8
baz=231,slow=68,SNR=368
HTT Hallett 41.41 164 P **P** **11 25 33.7 +0.3**
baz=42,SNR=58
H11N1 WAKE ISLAND Hy 41.56 68 T T 12 10 29.6
baz=270,SNR=345
H11N2 WAKE ISLAND Hy 41.57 67 T T 12 10 31.3
baz=270,SNR=201
H11N3 WAKE ISLAND Hy 41.58 68 T T 12 10 30.7
baz=270,SNR=187
RKGY Rocky Gully 41.76 192 ⇓P **P** **11 25 37.3 +1.1**
baz=42,SNR=40
CMSA Cobar Meteorol 42.05 155 P **P** **11 25 39.2 +0.6**
baz=42,SNR=26
TAPN Taplejung 42.12 304 *e*P **P** **11 25 39.0 -0.7**
comp=Z,105nm,0.8s
TAPN Taplejung 42.12 304 *e*P **P** **11 25 39.0 -0.7**
comp=Z,105nm,0.8s
ODAN Odare 42.20 303 *e*P **P** **11 25 40.1 -0.2**
comp=Z,127nm,0.8s
ODAN Odare 42.20 303 *e*P **P** **11 25 40.1 -0.2**
comp=Z,127nm,0.8s
HABR Khabarovsk 42.55 9 *e*P **P** **11 25 40.1 -2.3**
HABR *SP **sP** **11 25 57.0 -3.5**
HABR *e* 11 27 19.5
HABR *e* 11 27 31.5
HABR *e*S **S** **11 32 01.0 -0.6**
HABR *e**SS **sS** **11 32 20.3 -2.4**
HABR *e*SS **SS** **11 35 13.4 +0.6**
HABR *e* 11 35 37.7
HABR pmax pmax
comp=E,62nm,1.6s
HABR pmax pmax
comp=Z,87nm,1.6s
HABR pmax pmax
comp=N,42nm,1.6s
HABR MLR MLR
comp=Z,685nm,19.0s
YSS Yuzh-Sakhalins 42.78 17 *e*P **P** **11 25 45.0 +0.7**
RAMN Ramite 42.89 303 *e*P **P** **11 25 45.5 -0.4**
comp=Z,176nm,1.1s
RAMN Ramite 42.89 303 *e*P **P** **11 25 45.5 -0.4**
comp=Z,176nm,1.1s
HIA Hailar 43.05 354 *e*P **P** **11 25 43.9 -2.6**
comp=Z,15nm,0.6s
HIA *e*ScP **ScP** **11 31 26.8 +3.3**
JIRN Jiri 43.49 304 *e*P **P** **11 25 50.6 -0.3**
comp=Z,206nm,0.9s
JIRN Jiri 43.49 304 *e*P **P** **11 25 50.6 -0.3**
comp=Z,206nm,0.9s
GUN Gumba 43.84 304 *e*P **P** **11 25 53.2 -0.4**
comp=Z,165nm,0.7s
GUN Gumba 43.84 304 *e*P **P** **11 25 53.2 -0.4**
comp=Z,165nm,0.7s
ARMA Armidale 43.95 148 P **P** **11 25 54.6 +0.5**
baz=44,SNR=30
PKI Pulchoki 44.10 303 *e*P **P** **11 25 55.0 -0.7**
comp=Z,61nm,0.9s
PKI Pulchoki 44.10 303 *e*P **P** **11 25 55.0 -0.7**
comp=Z,61nm,0.9s
PKI pmax pmax
comp=Z,61nm,0.9s
PKI Pulchoki 44.10 303 *e*P **P** **11 25 55.0 -0.7**
comp=Z,61nm,0.9s
PKIN Phulchoki 44.12 303 *e*P **P** **11 25 54.7 -1.1**
KKN Kakani 44.29 304 *e*P **P** **11 25 56.2 -0.9**
comp=Z,102nm,1.0s
KKN Kakani 44.29 304 *e*P **P** **11 25 56.2 -0.9**
KKN pmax pmax
comp=Z,102nm,1.0s
KKN Kakani 44.29 304 *e*P **P** **11 25 56.2 -0.9**
comp=Z,102nm,1.0s
DMN Daman 44.37 303 *e*P **P** **11 25 57.3 -0.5**
comp=Z,110nm,1.0s
DMN Daman 44.37 303 *e*P **P** **11 25 57.3 -0.5**
comp=Z,110nm,1.0s
ULN Ulaanbaatar 44.44 342 *e*P **P** **11 25 57.8 -0.1**
comp=Z,108nm,1.2s
SONM Songino Array 44.62 341 P **P** **11 26 00.1 +0.7**
SONM PcP **PcP** **11 27 42.5 +1.0**
SONM ScP **ScP** **11 31 31.8 +1.6**
SONM Songino Array 44.62 341 P **P** **11 26 00.1 +0.7**
comp=Z,44nm,1.1s,baz=157,slow=6.9,SNR=120

SONM PcP **PcP** **11 27 42.5 +1.0**
comp=Z,16nm,0.9s,baz=159,slow=4.8,SNR=6.5
SONM ScP **ScP** **11 31 31.8 +1.6**
comp=Z,4.3nm,0.9s,baz=161,slow=4.9,SNR=8.6
SONM LR LR 11 48 17.6
comp=Z,17nm,28.6s,baz=151,slow=41
GKN Gorkha 44.90 304 *e*P **P** **11 26 00.9 -1.0**
comp=Z,98nm,1.2s
GKN Gorkha 44.90 304 *e*P **P** **11 26 00.9 -1.0**
comp=Z,98nm,1.2s
PALK Pallekele 45.27 274 *e*P **P** **11 26 06.0 +1.2**
comp=Z,415nm,1.4s
ARPS Mount Arapiles 45.37 162 P **P** **11 26 05.7 +0.6**
baz=46,SNR=59
YNG Young 45.58 154 P **P** **11 26 08.2 +1.3**
baz=46,SNR=10
KOLN Koldanda 45.68 303 *e*P **P** **11 26 07.3 -0.8**
comp=Z,175nm,1.0s
KOLN Koldanda 45.68 303 *e*P **P** **11 26 07.3 -0.8**
comp=Z,175nm,1.0s
DANN Dangsing 45.74 304 *e*P **P** **11 26 07.5 -1.2**
comp=Z,118nm,0.6s
DANN Dangsing 45.74 304 *e*P **P** **11 26 07.5 -1.2**
comp=Z,118nm,0.6s
PYUN Piuthan 46.30 303 *e*P **P** **11 26 12.2 -0.8**
comp=Z,163nm,0.8s
PYUN Piuthan 46.30 303 *e*P **P** **11 26 12.2 -0.8**
comp=Z,163nm,0.8s
CAN Canberra 46.70 154 *e*P **P** **11 26 16.2 +0.4**
CAN pmax pmax
comp=Z,99nm,1.1s
CAN Canberra 46.70 154 *e*P **P** **11 26 16.2 +0.4**
comp=Z,99nm,1.1s
CNB Canberra Magne 46.86 154 P **P** **11 26 18.2 +1.2**
baz=47,SNR=17
TOO Toolangi 47.29 159 ⇑P **P** **11 26 21.8 +1.4**
baz=48,SNR=21
HYB Hyderabad 47.85 288 *i* P **P** **11 26 25.0 -0.1**
ZAK Zakamensk 47.86 340 *e*P **P** **11 26 24.5 -0.2**
ZAK pmax pmax
comp=Z,15nm,1.5s
DZM Mont Dzumac 48.46 127 *e*P **P** **11 26 31.6 +1.9**
comp=Z,121nm,1.2s
DZM *e*S **S** **11 33 31.3 +3.6**
comp=Z,2μm,31.2s
DZM *e*LR LR 11 40 17.2
comp=Z,3μm,24.4s
DZM Mont Dzumac 48.46 127 *e*P **P** **11 26 30.4 +0.7**
comp=Z,44nm,1.0s
DZM Mont Dzumac 48.46 127 P **P** **11 26 30.9 +1.2**
comp=Z,26nm,0.8s,baz=343,slow=8.1,SNR=14
TLY Talaya 48.85 341 P **P** **11 26 33.4 +1.2**
comp=Z,248nm,1.1s,SNR=11
TLY Talaya 48.85 341 *c i*P **P** **11 26 32.7 +0.5**
TLY *e* 11 27 56.0
TLY *e* 11 28 29.9
TLY *e*S **S** **11 33 33.4 +1.1**
TLY *e* 11 36 23.4
TLY pmax pmax
comp=Z,72nm,1.3s
TLY MLR MLR
comp=Z,574nm,15.0s
TRD Trivandrum 48.95 276 *e*S **S** **11 33 35.6 +0.9**
IRK Irkutsk 49.15 342 *e*P **P** **11 26 33.6 -0.8**
IRK pmax pmax
comp=Z,169nm,1.9s
MOY Mondy 49.72 340 *e*P **P** **11 26 39.6 +0.7**
MOY pmax pmax
comp=Z,175nm,2.9s
JOSI Joshimath 49.93 305 *ex* x 11 27 03.8
JOSI AMB AMB 11 27 06.8
comp=Z,382nm,1.2s
CLNS Chul'man 50.29 359 *e*P **P** **11 26 41.4 -1.7**
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=Z,39nm,0.9s
WMQ Urumqi 50.30 324 P **P** **11 26 43.0 -0.4**
WMQ pP **pP** **11 26 56.0 -0.3**
WMQ sP **sP** **11 27 01.0 -0.7**
WMQ PP **PP** **11 28 40.0 +0.8**
WMQ ScP **ScP** **11 31 51.0 -3.0**
WMQ S **S** **11 33 51.0 -1.9**
WMQ sS **sS** **11 34 12.0 -2.4**
WMQ ScS **ScS** **11 36 27.0 -3.8**
WMQ pmax pmax
comp=Z,43nm,1.0s
WMQ pmax pmax
comp=Z,220nm,4.0s
WMQ LR LR
comp=Z,2μm,17.0s
WMQ LR LR
comp=Z,2μm,17.0s
WMQ LR LR
comp=Z,2μm,16.0s
AGRA Agra 50.31 300 *e*P **P** **11 26 42.0 -1.7**
AGRA AMB AMB 11 26 47.1
comp=Z,25nm,0.4s
SONA Sohna 51.32 301 *e*P **P** **11 26 48.8 -2.4**
SONA AMB AMB 11 26 54.9
comp=Z,36nm,1.1s
NDI New Delhi 51.32 302 *e*P P 11 26 48.0 -3.3
AYAN Aya Nagar 51.34 301 *e*P **P** **11 26 49.5 -1.9**
BHGR Bahadurgarh 51.56 302 *e*P **P** **11 26 52.4 -0.7**
BHGR AMB AMB 11 26 54.4
comp=Z,36nm,0.2s
KUDL Kundal 51.80 301 *e*P **P** **11 26 52.9 -1.9**
KAD Karad 51.99 287 *i* P **P** **11 26 55.9 -0.6**
KKR Kurukshetra 52.01 303 *e*P **P** **11 26 55.0 -1.4**
KKR AMB AMB 11 27 00.9
comp=Z,72nm,0.6s
SMLA Simla 52.06 305 *i* P **P** **11 26 55.8 -1.0**
RTK Rohtak 52.09 302 *e*P **P** **11 26 54.6 -2.4**
RTK AMB AMB 11 26 58.1
comp=Z,63nm,0.4s
HVS Khovu-Aksy 52.13 335 *ce*P **P** **11 26 57.3 +0.2**
HVS pmax pmax
comp=Z,308nm,1.7s
KHET Khetri 52.36 301 *e*P **P** **11 26 57.5 -1.6**
KHET AMB AMB 11 27 01.4
comp=Z,31nm,0.0s
PETK Petropavlovsk- 53.12 23 P **P** **11 27 03.8 -0.4**
PETK Petropavlovsk- 53.12 23 P **P** **11 27 03.8 -0.4**
PETK Petropavlovsk- 53.12 23 P **P** **11 27 03.8 -0.4**
comp=Z,7.5nm,0.8s,baz=193,slow=3.3,SNR=16
PETK LR LR 11 49 32.4
comp=Z,280nm,20.8s,baz=217,slow=36
PET Petropavlovsk 53.43 24 *e*P **P** **11 27 07.7 +1.2**
PET *e*S **S** **11 34 38.1 +2.7**
PET pmax pmax
comp=Z,16nm,0.7s
PET MLR MLR
comp=Z,400nm,21.0s
MK31 Makanchi Array 55.12 324 *e*P **P** **11 27 17.7 -1.3**
MK31 Makanchi Array 55.12 324 *e*P **P** **11 27 17.7 -1.3**
MK31 *e*ScP **ScP** **11 32 15.2 +0.3**
MKAR Makanchi Array 55.12 324 ⇑P **P** **11 27 17.7 -1.2**
baz=55
YAK Yakutsk 55.54 2 ⇑*i*P **P** **11 27 20.7 -0.9**
YAK *e* 11 29 42.4
YAK *e*S **S** **11 35 01.0 -2.6**
YAK pmax pmax
comp=Z,123nm,1.4s
YAK pmax pmax
comp=N,64nm,1.4s
YAK pmax pmax
comp=E,14nm,1.4s
YAK MLR MLR
comp=Z,316nm,22.6s
YAK Yakutsk 55.54 2 *e*P **P** **11 27 20.6 -1.0**
comp=Z,109nm,0.8s
KSH Kashi 55.86 314 P **P** **11 27 25.5 +1.0**
KSH sP **sP** **11 27 43.3 +0.4**
KSH PP **PP** **11 29 33.0 +3.5**
KSH PcS **PcS** **11 32 21.0 -2.4**
KSH S **S** **11 35 06.3 -2.6**
KSH pmax pmax
comp=Z,28nm,1.3s
KSH LR LR
comp=Z,410nm,13.4s
KSH LR LR
comp=Z,600nm,11.6s
KSH LR LR
comp=Z,1μm,19.6s

JASL Jaisalmer 56.36 298 *e*P **P** **11 27 27.3 -0.9**
JASL AMB AMB 11 27 30.5
comp=Z,27nm,0.7s
AAA Alma-Ata 56.72 318 *i* P **P** **11 27 33.2 +2.7**
AAA *i* S S 11 35 43.9 +24
AAA pmax pmax
comp=Z,400nm,2.7s
AAA MLR MLR
comp=Z,800nm,9.0s
ULHL Ulahol 56.76 317 *i* P **P** **11 27 30.4 -0.6**
ULHL Ulahol 56.76 317 P **P** **11 27 30.4 -0.6**
SNR=16
KZA Kyzart 57.36 317 *i* P **P** **11 27 35.3 -0.2**
KZA Kyzart 57.36 317 P **P** **11 27 35.4 -0.2**
SNR=26
TKM2 Tokmak 2 57.47 318 *i* P **P** **11 27 34.4 -1.6**
TKM2 Tokmak 2 57.47 318 P **P** **11 27 34.5 -1.6**
SNR=25
TKM2 Tokmak 2 57.47 318 *e*P **P** **11 27 34.2 -1.8**
comp=Z,19nm,0.9s
KBK Karagaybulak 57.80 317 P **P** **11 27 37.7 -0.6**
SNR=14
UCH Uchtor 57.93 316 *i* P **P** **11 27 38.6 -0.9**
UCH Uchtor 57.93 316 P **P** **11 27 38.6 -0.9**
SNR=37
ZAA0 Zalesovo Array 58.01 333 *e*P **P** **11 27 37.2 -2.1**
ZALV Zalesovo Beam 58.01 333 P **P** **11 27 37.6 -1.7**
ZALV Zalesovo Beam 58.01 333 P **P** **11 27 37.6 -1.7**
ZALV ⇑*e* 11 57 28.8
ZALV Zalesovo Beam 58.01 333 P **P** **11 27 37.6 -1.7**
comp=Z,31nm,0.9s,baz=116,slow=6.8,SNR=40
ZALV LR LR 11 54 14.2
comp=Z,17nm,28.6s,baz=136,slow=38
ZALV PKP2bc 11 57 28.8
comp=Z,3.5nm,0.9s,baz=338,slow=3.5,SNR=8.7
CHMS Chumysh 58.07 317 *i* P **P** **11 27 39.9 -0.1**
CHMS Chumysh 58.07 317 P **P** **11 27 40.0 -0.1**
SNR=13
AAK Ala-Archa 58.10 317 P **P** **11 27 40.5 +0.1**
comp=Z,80nm,0.9s,SNR=11
AAK Ala-Archa 58.10 317 *i* P **P** **11 27 40.0 -0.4**
AAK pmax pmax
comp=Z,107nm,2.4s
AAK Ala-Archa 58.10 317 P **P** **11 27 42.6 +2.3**
SNR=11
AAK Ala-Archa 58.10 317 *e*P **P** **11 27 39.9 -0.5**
comp=Z,14nm,0.9s
AAK *e*ScP **ScP** **11 32 31.6 +3.2**
AAK ⇑*e* 11 57 28.8
AAK Ala-Archa 58.10 317 LR LR 11 55 44.8
comp=Z,17nm,28.6s,baz=78,slow=39
AAK PKP2bc 11 57 28.8
comp=Z,2.5nm,1.0s,baz=140,slow=7.2,SNR=5.5
USP Ospenovka 58.34 318 *i* P **P** **11 27 40.7 -1.2**
USP Ospenovka 58.34 318 P **P** **11 27 40.7 -1.2**
SNR=28
AML Almayashu 58.45 316 P **P** **11 27 42.2 -1.0**
SNR=41
EKS2 Erkin-Say 58.60 317 *i* P **P** **11 27 43.3 -0.5**
EKS2 Erkin-Say 58.60 317 P **P** **11 27 43.4 -0.5**
SNR=23
EKS2 Erkin-Say 58.60 317 *e*P **P** **11 27 43.0 -0.8**
comp=Z,211nm,0.8s
KURK Kurchatov 59.26 327 P **P** **11 27 46.7 -1.3**
comp=Z,336nm,1.2s,SNR=71
KURK Kurchatov 59.26 327 *e*P **P** **11 27 46.8 -1.3**
KURK *e* 11 30 01.0
KURK pmax pmax
comp=Z,76nm,1.1s
KURK Kurchatov 59.26 327 *e*P **P** **11 27 46.8 -1.3**
comp=Z,76nm,1.1s
KURK *e*PP **PP** **11 30 01.0 +1.7**
KURK P'P' 11 57 12.7
KURBB Kurchatov Arra 59.26 327 PKPPKP 11 57 12.7
comp=Z,1.1nm,1.0s,baz=268,slow=4.1,SNR=7.2
NVS Novosibirsk 59.29 333 ⇑*i*P **P** **11 27 45.8 -2.4**
NVS *i* 11 28 34.7
NVS *i*S **S** **11 35 51.8 -1.3**
NVS *i* 11 37 32.0
NVS pmax pmax
comp=N,57nm,1.8s
NVS pmax pmax
comp=E,76nm,1.8s
NVS pmax pmax
comp=Z,145nm,1.8s
NVS smax smax
comp=N,40nm,2.5s
NVS smax smax
comp=E,79nm,2.5s
SEY Seymchan 59.52 13 P **P** **11 27 49.9 +0.3**
SEY Seymchan 59.52 13 P **P** **11 27 49.9 +0.3**
SEY Seymchan 59.52 13 P **P** **11 27 49.9 +0.3**
comp=E,7.3nm,1.0s,baz=192,slow=8.1,SNR=7.6
KBL Kabul 59.57 306 *e*P **P** **11 27 49.7 -1.1**
KBL pmax pmax
comp=Z,21nm,0.7s
KBL Kabul 59.57 306 *e*P **P** **11 27 49.7 -1.1**
comp=Z,21nm,0.7s
FX1 Attu Island--F 59.98 31 P **P** **11 27 53.1 +0.1**
FX1 Attu Island--F 59.98 31 P **P** **11 27 53.1 +0.1**
comp=Z,19nm,0.8s,baz=304,slow=7.3,SNR=3.0
KKAR Karatay Array 60.99 316 *e*P **P** **11 27 58.6 -1.5**
KKAR pmax pmax
comp=Z,15nm,0.7s
KKAR Karatay Array 60.99 316 *e*P **P** **11 27 58.6 -1.5**
comp=Z,15nm,0.7s
BVAR Borovoye Array 64.85 326 PKP2bc 11 57 14.9
comp=Z,0.7nm,0.9s,baz=349,slow=3.0,SNR=4.1
BRVK Borovoye 64.92 326 P **P** **11 28 24.8 -1.2**
comp=Z,565nm,1.2s,SNR=59
BRVK Borovoye 64.92 326 *c i*P **P** **11 28 24.8 -1.2**
BRVK pmax pmax
comp=Z,121nm,1.0s
TIXI Tiksi 65.17 1 ⇓*i*P **P** **11 28 26.3 -0.9**
TIXI pmax pmax
comp=Z,42nm,1.0s
TIXI Tiksi 65.17 1 *e*P **P** **11 28 25.9 -1.3**
comp=Z,56nm,1.1s
IMYA Miami 67.08 307 *e*P **P** **11 28 39.8 -0.7**
ISRO Mashad 67.58 307 *e*P **P** **11 28 41.3 -2.2**
IKRD Kardeh 68.41 307 *e*P P 11 28 43.7 -5.2
ABKT Ailbek 68.89 308 P **P** **11 28 51.4 -0.2**
comp=Z,158nm,0.9s,SNR=7.1
ABKAR Akbulak array 69.81 320 *e*P **P** **11 28 54.9 -2.1**
comp=Z,27nm,0.8s
ABKAR Akbulak array 69.81 320 ⇓P **P** **11 28 55.2 -1.8**
baz=70
IBAF Bafgh 70.26 301 *e*P **P** **11 28 58.2 -2.1**
AKTO Aktyubinsk 71.30 321 P **P** **11 29 04.6 -1.5**
AKTO Aktyubinsk 71.30 321 P **P** **11 29 04.6 -1.5**
AKTO Aktyubinsk 71.30 321 P **P** **11 29 04.6 -1.5**
baz=118,slow=6.4
SVE Sverdlovsk 71.46 328 ⇑*i*P **P** **11 29 06.1 -0.8**
SVE pmax pmax
comp=Z,163nm,1.2s
SVE MLR MLR
comp=Z,968nm,21.0s
ISAD Sadrabad 71.88 301 *e*P **P** **11 29 08.2 -2.1**
IANJ Anjilo 71.96 305 *e*P **P** **11 29 09.2 -1.5**
IGLO Ghaloghah 72.12 306 *e*P **P** **11 29 09.2 -2.4**
GAMB Gambell 72.12 24 *e*P **P** **11 29 10.3 -0.4**
comp=Z,34nm,1.1s
ISRV Sarvestan 72.23 299 *e*P **P** **11 29 11.2 -1.3**
IPAR Pars 72.31 299 *e*P **P** **11 29 11.0 -2.0**
ARU Arti 72.45 327 P **P** **11 29 11.3 -1.5**
comp=Z,443nm,1.1s,SNR=6.1
ARU Arti 72.45 327 *d i*P **P** **11 29 10.5 -2.3**
ARU S **S** **11 38 31.2 -2.1**
ARU pmax pmax
comp=Z,76nm,0.8s
ARU MLR MLR
comp=Z,832nm,20.0s
IALA Alasht 72.91 306 *e*P **P** **11 29 16.2 -0.2**
IKAZ Kazeroun 73.36 299 *e*P **P** **11 29 16.9 -2.3**
DRV Dumont d'Urvil 73.58 174 S S 11 38 52.0 +6.4
DRV SS SS 11 43 11.0 -19
DRV L L 11 49 00.0
DRV R 11 53 00.0
IVRN Varamin 73.71 304 *e*P **P** **11 29 19.6 -1.2**
SOKR Solikamsk 74.18 330 *c i*P **P** **11 29 23.6 +0.7**
SOKR pmax pmax
comp=Z,70nm,1.1s
SOKR MLR MLR
comp=Z,1μm,23.0s
IR3 Iran Long-Peri 74.31 305 *e*P **P** **11 29 22.0 -2.4**

IRAZ Razeghan 75.20 305 *e*P **P** **11 29 28.1 -1.6**
RDF Al-Radifah 77.09 298 *e*P **P** **11 29 38.0 -2.3**
RDF AMb AMB 11 29 42.2
comp=Z,67nm,1.5s
NAY Al-Naaiem 77.36 298 *e*P **P** **11 29 39.2 -2.5**
NAY AMb AMB 11 29 43.1
comp=Z,44nm,1.2s
MAK Makhachkala 77.45 312 *e*P **P** **11 29 44.9 +2.9**
MAK *e* 11 29 55.6
MAK *e* 11 32 42.9
MAK *e*PPP PPP 11 34 23.5
MAK *e*S **S** **11 39 32.6 +3.1**
MAK pmax pmax
comp=Z,134nm,2.0s
MAK MLR MLR
comp=Z,964nm,23.0s
RST Umm Al-Ruwaisa 77.57 299 *e*P **P** **11 29 40.7 -2.2**
RST AMb AMB 11 29 42.2
comp=Z,437nm,1.0s
RAYN Ar Rayn 79.05 293 P **P** **11 29 49.2 -2.1**
comp=Z,399nm,0.9s,SNR=21
GNI Garni 79.44 310 *e*P **P** **11 29 51.9 -1.3**
comp=Z,49nm,1.1s
PRGR Permogore 79.94 331 ⇑*i*P **P** **11 29 55.1 -0.2**
PRGR pmax pmax
comp=Z,93nm,1.0s
IM04 Indian Mountai 80.05 24 *e*P **P** **11 29 53.4 -2.5**
ZEI Tsey 80.10 312 *e*P **P** **11 29 54.8 -2.0**
ZEI pmax pmax
comp=Z,40nm,1.0s
PPLA Purkeypile 80.44 27 *e*P **P** **11 29 57.4 -0.8**
comp=Z,42nm,1.0s
KBZ Khabaz 80.83 313 P **P** **11 29 59.3 -1.1**
KBZ Khabaz 80.83 313 P **P** **11 29 59.3 -1.1**
KBZ Khabaz 80.83 313 P **P** **11 29 59.3 -1.1**
comp=Z,18nm,1.0s,baz=230,slow=0.5,SNR=16
KIV Kislovodsk 80.98 313 *d i*P **P** **11 30 00.7 -0.7**
KIV *e* 11 30 07.8
KIV *i* 11 33 00.7
KIV *i*S **S** **11 40 04.7 -2.5**
KIV pmax pmax
comp=Z,45nm,1.0s
KIV Kislovodsk 80.98 313 *e*P **P** **11 30 00.1 -1.3**
comp=Z,23nm,0.8s
KTH Kantishna Hill 81.06 27 *e*P **P** **11 30 01.9 +0.6**
comp=Z,36nm,0.8s
TRF Thorofare Moun 81.34 27 *e*P **P** **11 30 02.3 -0.7**
comp=Z,13nm,1.1s
RC01 Rabbit Creek A 81.49 29 *e*P **P** **11 30 02.9 -0.6**
comp=Z,34nm,0.9s
COLD Coldfoot 81.59 23 *e*P **P** **11 30 03.2 -0.8**
comp=Z,38nm,1.2s
VRHR Novokhopersk 81.70 321 *e*P **P** **11 30 05.4 +0.5**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,50nm,0.9s
OPO Ambohidratompo 81.79 250 P **P** **11 30 04.4 -1.8**
OPO Ambohidratompo 81.79 250 P **P** **11 30 04.4 -1.8**
comp=Z,7.6nm,0.9s,baz=114,slow=6.5,SNR=6.0
PMR Palmer 81.80 29 *e*P **P** **11 30 04.4 -0.7**
PMR pmax pmax
comp=Z,32nm,0.9s
PMR Palmer 81.80 29 *e*P **P** **11 30 04.4 -0.7**
comp=Z,32nm,0.9s
MCK McKinley 81.95 27 *e*P **P** **11 30 04.7 -1.3**
MCK pmax pmax
comp=Z,88nm,1.1s
MCK McKinley 81.95 27 *e*P **P** **11 30 04.7 -1.3**
comp=Z,88nm,1.1s
COLA College 82.45 25 ⇓*e*P **P** **11 30 07.8 -0.7**
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 82.45 25 *e*P **P** **11 30 07.6 -0.9**
comp=Z,10nm,0.8s
ILAR Eielson Array 82.87 26 P **P** **11 30 09.8 -0.9**
ILAR PKKPbc **PKKPbc** **11 48 32.0 -4.5**
ILAR Eielson Array 82.87 26 P **P** **11 30 09.8 -0.9**
comp=Z,2.5nm,0.6s,baz=241,slow=4.7,SNR=39
ILAR PKKPbc **PKKPbc** **11 48 32.0 -4.5**
comp=Z,0.6nm,0.8s,baz=25,slow=1.8,SNR=5.5
ILAR LR LR 12 05 29.1
comp=Z,258nm,22.0s,baz=258,slow=34
SOC Sochi 83.14 313 *e*P P 11 30 09.3 -3.3
SOC *e* 11 33 18.3
SOC *e*S **S** **11 40 25.6 -3.6**
SOC *e*SSS SSS 11 49 23.0
SOC pmax pmax
comp=Z,68nm,1.0s
SOC MLR MLR
comp=Z,606nm,21.0s
VORD Divnogorie 83.17 321 *e*P **P** **11 30 12.6 +0.1**
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 83.24 321 *e*P **P** **11 30 12.1 -0.8**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
DIV Divide 83.41 29 P **P** **11 30 13.8 +0.1**
comp=Z,14nm,1.2s
TMCR Tamitsa 83.50 334 *e*P **P** **11 30 13.1 -0.9**
TMCR *e* 11 33 27.4
TMCR pmax pmax
comp=Z,159nm,1.1s
PAX Paxson 83.51 27 *e*P **P** **11 30 14.3 +0.1**
PAX pmax pmax
comp=Z,50nm,1.4s
PAX Paxson 83.51 27 *e*P **P** **11 30 14.3 +0.1**
comp=Z,50nm,1.4s
BMRM Bremner River 83.99 29 *e*P **P** **11 30 16.3 -0.3**
comp=Z,44nm,1.0s
MOS Moscow 83.99 325 *e*P **P** **11 30 15.4 -1.3**
MOS *e* 11 33 32.4
MOS *e*S **S** **11 40 36.0 -1.2**
MOS pmax pmax
comp=Z,138nm,1.2s
MOS MLR MLR
comp=Z,1μm,20.0s
DOT Dot Lake 84.12 27 *e*P **P** **11 30 16.8 -0.5**
comp=Z,31nm,1.0s
MENT Mentasta 84.31 27 *e*P **P** **11 30 18.1 -0.2**
MALT Malatya 84.40 308 ⇑*i*P **P** **11 30 18.0 -1.3**
OBN Obninsk 84.63 325 ⇑*i*P **P** **11 30 18.9 -1.0**
OBN *i* *PP **pP** **11 30 31.4 -2.2**
OBN *i*S **S** **11 40 39.2 -4.4**
OBN pmax pmax
comp=Z,193nm,1.2s
OBN MLR MLR
comp=Z,1μm,22.0s
OBN Obninsk 84.63 325 *e*P **P** **11 30 19.5 -0.4**
comp=Z,181nm,1.3s
LVZ Lovozero 84.72 338 ⇑*i*P **P** **11 30 21.3 +1.1**
LVZ pmax pmax
comp=Z,108nm,2.5s
ANN Anapa 84.72 314 *e*P **P** **11 30 21.4 +0.8**
ANN *e**PP **pP** **11 30 33.8 -0.5**
ANN *e* 11 33 34.3
ANN *e*S **S** **11 40 42.3 -2.6**
ANN pmax pmax
comp=Z,214nm,1.0s
APA Apatity 85.22 337 ⇓*i*P **P** **11 30 23.6 +1.0**
EGAK Eagle 85.32 25 *e*P **P** **11 30 23.1 -0.1**
comp=Z,21nm,1.1s
MAW Mawson 86.12 200 P **P** **11 30 26.5 -0.5**
MAW Mawson 86.12 200 P **P** **11 30 26.5 -0.5**
comp=Z,29nm,0.8s,baz=31,slow=5.1,SNR=23
MAW LR LR 12 03 53.6
comp=Z,17nm,28.6s,baz=53,slow=32
MAW Mawson 86.12 200 ⇑P **P** **11 30 26.6 -0.5**
baz=86,SNR=14
VNDA Vanda 86.14 173 P **P** **11 30 26.7 -0.3**
comp=Z,11nm,1.1s
VNDA *e*PP **PP** **11 33 44.3 -3.6**
VNDA PP PP 11 33 44.6 -3.2
VNDA PKKPbc **PKKPbc** **11 48 27.2 -2.3**
VNDA Vanda 86.14 173 P **P** **11 30 26.7 -0.3**

comp=Z,14nm,1.0s,baz=315,slow=6.0,SNR=22
VNDA PP **PP** **11 33 44.6 -3.2**
comp=Z,4.8nm,1.1s,baz=297,slow=8.8,SNR=3.6
VNDA PKKPbc **PKKPbc** **11 48 27.2 -2.3**
comp=Z,1.9nm,0.9s,baz=315,slow=4.0,SNR=4.1
VNDA LR LR 12 09 51.9
comp=Z,448nm,20.3s,baz=344,slow=36
PPT2 Papeete2 86.35 108 *e*S **S** **11 41 00.7 -1.4**
comp=Z,1µm,28.8s
PPT2 Papeete2 86.35 108 *e*LR LR 11 57 51.7
JOF Joensuu 86.60 333 *e*P **P** **11 30 28.1 -1.4**
JOF pmax pmax
comp=Z,14nm,0.7s
JOF Joensuu 86.60 333 *e*p **P** **11 30 28.1 -1.4**
comp=Z,14nm,0.7s
SBA Scott Base 87.05 172 *e*P **P** **11 30 31.5 +0.1**
SBA *e* 11 33 54.6
SBA pmax pmax
comp=Z,15nm,0.9s
SBA Scott Base 87.05 172 *e*P **P** **11 30 31.5 +0.1**
comp=Z,15nm,0.9s
SBA *e*PP **PP** **11 33 54.6 -0.6**
SIM Simferopol' **87.06 315** *e*P **P** **11 30 31.0 -1.2**
SIM pmax pmax
comp=Z,25nm,0.9s
KEV Kevo 87.23 340 *e*P **P** **11 30 33.7 +1.2**
KEV Kevo 87.23 340 *e*p **P** **11 30 33.7 +1.2**
comp=Z,1.0nm,0.4s
HYT Haines Junctio 87.45 29 *e*P **P** **11 30 33.1 -0.8**
PUL Pulkovo 87.51 330⇑*e*P **P** **11 30 34.5 +0.5**
PUL pmax pmax
comp=Z,64nm,0.4s
SPA0 Spitsbergen Ar 87.77 349 *e*P **P** **11 30 35.7 +0.8**
SPA0 *e*SKS **SKSac** **11 40 58.9 -0.1**
ARCES ARCESS Array B 87.79 340 P **P** **11 30 34.7 -0.5**
ARCES PKKPbc **PKKPbc** **11 48 22.4 -2.5**
ARCES ARCESS Array B 87.79 340 P **P** **11 30 34.7 -0.5**
comp=Z,14nm,0.7s,baz=83,slow=6.3,SNR=25
ARCES PKKPbc **PKKPbc** **11 48 22.4 -2.5**
comp=Z,4.9nm,1.0s,baz=252,slow=1.9,SNR=5.7
ARCES LR LR 12 15 04.3
comp=Z,17nm,28.6s,baz=89,slow=39
ARE0 ARCESS Array S 87.79 340 *e*P **P** **11 30 35.7 +0.5**
ARE0 *e*SKS **SKSac** **11 40 56.3 -3.1**
ARE0 ARCESS Array S 87.79 340 *e*P **P** **11 30 34.5 -0.7**
ARE0 *e*PP **PP** **11 34 01.9 +0.9**
BR131 Keskin Array S 87.98 310 *e*P **P** **11 30 34.0 -3.0**
comp=Z,7.8nm,0.8s
BRTR Keskin Array B 87.99 310 P **P** **11 30 34.8 -2.2**
BRTR Keskin Array B 87.99 310 P **P** **11 30 34.8 -2.2**
comp=Z,9.4nm,0.9s,baz=104,slow=5.2,SNR=12
BRTR LR LR 12 14 24.3
comp=Z,16nm,28.6s,baz=68,slow=39
KBS Kingsbay 88.29 350 *e*P **P** **11 30 34.8 -2.6**
KAF Kangasniemi 89.03 332 *e*P **P** **11 30 39.4 -1.7**
KAF pmax pmax
comp=Z,10.0nm,0.9s
KAF Kangasniemi 89.03 332 *e*p **P** **11 30 39.4 -1.7**
comp=Z,10nm,0.9s
KMBO Kilima Mbogo 89.18 269 *e*P **P** **11 30 42.2 -1.0**
KMBO Kilima Mbogo 89.18 269 P **P** **11 30 41.8 -1.4**
comp=Z,5.8nm,0.9s,baz=50,slow=6.0,SNR=16
KMBO LR LR 12 12 54.3
comp=Z,202nm,18.1s,baz=94,slow=37
FIA1 FINESS Array S 89.27 332 *e*P **P** **11 30 42.2 -0.1**
FINES FINESS Array B 89.27 332 P **P** **11 30 41.6 -0.7**
FINES FINESS Array B 89.27 332 P **P** **11 30 41.6 -0.7**
comp=Z,15nm,0.8s,baz=77,slow=3.6,SNR=16
FINES LR LR 12 15 16.6
comp=Z,561nm,19.3s,baz=86,slow=39
AKASG Malin Array Be 89.55 321 P **P** **11 30 42.3 -1.6**
AKASG *e* 11 34 11.1
AKASG Malin Array Be 89.55 321 P **P** **11 30 42.2 -1.6**
AKASG PP **PP** **11 34 11.1 -4.5**
AKASG Malin Array Be 89.55 321 P **P** **11 30 42.2 -1.6**
comp=Z,18nm,0.8s,baz=67,slow=5.1,SNR=45
AKASG PP **PP** **11 34 11.1 -4.5**
comp=Z,0.2nm,0.3s,baz=62,slow=7.1,SNR=2.9
AKASG LR LR 12 14 52.9
comp=Z,526nm,19.7s,baz=85,slow=38
VSU Vasula 89.56 329 *de*P **P** **11 30 44.2 +0.5**
KIEV Kiev 89.56 321⇑*i*P **P** **11 30 42.4 -1.5**
KIEV Kiev 89.56 321 *e*P **P** **11 30 42.5 -1.4**
comp=Z,35nm,1.2s
TRO Tromso 89.98 340 *e*P **P** **11 30 47.9 +2.4**
KIS Kishinev 90.43 317 *e*P **P** **11 30 50.0 +1.9**
KIS LRM MLR 12 15 10.0
comp=Z,600nm,20.0s
KIS Kishinev 90.43 317 *e*P **P** **11 30 50.0 +1.9**
KIS *e* 11 41 41.0
KIS MLR MLR
comp=Z,600nm,20.0s
TIRR Tirgusor 91.15 315⇑*i*P **P** **11 30 52.1 +0.7**
CFR Carcaliu 91.22 316⇑*i*P **P** **11 30 52.3 +0.6**
TLB Topalu 91.39 315⇑*i*P **P** **11 30 53.4 +0.9**
PSN Preselentsi 91.45 314⇑*i*P **P** **11 30 54.3 +1.4**
VRI Vrincioaia 92.06 316⇑*i*P **P** **11 30 55.0 -0.7**
PLOR Plostina 92.12 316⇑*i*P **P** **11 30 55.0 -1.0**
SUW Suwalki 92.49 325 *e*P **P** **11 30 55.9 -1.5**
SUW pmax pmax
comp=Z,62nm,0.9s
SUW Suwalki 92.49 325 *e*P **P** **11 30 55.9 -1.5**
comp=Z,62nm,0.9s
MLR Muntele Rosu 92.67 316⇑*i*P **P** **11 30 57.5 -1.2**
MLR Muntele Rosu 92.67 316 P **P** **11 30 57.1 -1.5**
MLR Muntele Rosu 92.67 316 P **P** **11 30 57.1 -1.5**
comp=Z,4.0nm,1.0s,baz=60,slow=1.8,SNR=13
BURAR Bucovina Array 92.72 318⇑*i*P **P** **11 30 58.6 -0.2**
BUR08 Bucovina Ar. S 92.72 318 *e*P **P** **11 30 58.4 -0.4**
VOIR 93.30 316⇑*i*P **P** **11 31 01.4 -0.1**
ARR Arges 93.60 316⇓*i*P **P** **11 31 02.3 -0.6**
KWP Kalwaria Pacla 93.87 321 *e*P **P** **11 31 05.3 +1.4**
KWP pmax pmax
comp=Z,38nm,1.1s
KWP Kalwaria Pacla 93.87 321 *e*P **P** **11 31 05.6 +1.7**
KWP Kalwaria Pacla 93.87 321⇑*i*P **P** **11 31 05.4 +1.4**
KWP Kalwaria Pacla 93.87 321 *e*P **P** **11 31 05.3 +1.4**
comp=Z,38nm,1.1s
LOT Lotru 94.18 316⇑*i*P **P** **11 31 04.5 -1.1**
KOLS Kolonicke sedl 94.32 320 *e*P **P** **11 31 05.4 -0.6**
KOLS Kolonicke sedl 94.32 320 *e*P **P** **11 31 05.4 -0.6**
BBB Bella Bella 94.40 36 LR LR 12 06 06.2
comp=Z,17nm,28.6s,baz=270,slow=31
DAG Danmarks Havn 94.54 352 *i*P **P** **11 31 06.2 -0.2**
DAG pmax pmax
comp=Z,29nm,0.8s
DAG Danmarks Havn 94.54 352 *i*P **P** **11 31 06.2 -0.2**
comp=Z,39nm,0.8s
SYO Syowa Base 94.77 201⇓*e*P **P** **11 31 06.0 -1.5**
CRVS Cervenica-Dubn 94.84 320 *e*P **P** **11 31 09.7 +1.3**
CRVS pmax pmax
comp=Z,19nm,1.0s
CRVS Cervenica-Dubn 94.84 320 *e*P **P** **11 31 09.7 +1.3**
STHS Stebnicka Huta 94.84 321 *e*P **P** **11 31 10.1 +1.7**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 94.84 321 *e*P **P** **11 31 10.1 +1.7**
MMB Musomiste 95.09 313⇓*i*P P 11 31 06.3 -3.5
VTS Vitosha 95.24 314⇑*i*P **P** **11 31 09.2 -1.4**
RES Resolute Bay 95.25 10 LR LR 12 13 24.1
comp=Z,119nm,21.8s,baz=316,slow=35
BZS Buzias 95.60 317⇓*i*P **P** **11 31 10.7 -1.2**
PSZ Piszkesteto 96.12 320⇓*i*P **P** **11 31 11.3 -3.0**
NB2 NORSAR Subarra 96.20 334 P **P** **11 31 13.4 -1.0**
comp=Z,22nm,1.0s,baz=64,slow=4.6
NB2 NORSAR Subarra 96.20 334 P **P** **11 31 13.4 -1.0**
baz=64,slow=4.6
NOA NORSAR Array B 96.20 334 P **P** **11 31 13.1 -1.3**
NOA NORSAR Array B 96.20 334 P **P** **11 31 13.1 -1.3**
comp=Z,15nm,1.0s,baz=65,slow=4.6,SNR=21
NOA LR LR 12 18 27.8
comp=Z,17nm,28.6s,baz=70,slow=38
QSPA South Pole Qui 96.32 180 *e*P **P** **11 31 14.6 -0.2**
comp=Z,19nm,1.2s
QSPA PKKPbc **PKKPbc** **11 48 00.6 -3.3**
QSPA South Pole Qui 96.32 180 P **P** **11 31 14.7 -0.2**
comp=Z,8.2nm,0.8s,baz=134,slow=1.0,SNR=16
QSPA PKKPbc **PKKPbc** **11 48 00.6 -3.3**
comp=Z,1.1nm,0.7s,baz=165,slow=2.5,SNR=3.5
NAO01 NORSAR Array S 96.43 334 *e*P **P** **11 31 14.3 -1.1**
comp=Z,20nm,1.0s
OKC Ostrava-Krasne 96.65 322 *e*P **P** **11 31 18.2 +1.6**
OKC *e* 11 31 25.4
OKC Ostrava-Krasne 96.65 322 *e*P **P** **11 31 18.2 +1.6**
OKC *e*P **pP** **11 31 25.4 -5.1**
MORC Moravsky Berou 97.04 322 P **P** **11 31 16.6 -1.8**
MORC pmax pmax
comp=Z,19nm,1.5s
MORC Moravsky Berou 97.04 322⇑*i*P Pdif 11 31 19.9 +1.4
MORC Moravsky Berou 97.04 322 P **P** **11 31 16.6 -1.8**
comp=Z,19nm,1.5s
YKA Yellowknife Ar 97.23 24 P **P** **11 31 18.2 -0.7**
YKA PKiKP **PKiKP** **11 35 55.0 +0.8**
YKA PKKPbc PKKPbc 11 47 54.5 -5.8
YKA Yellowknife Ar 97.23 24 P **P** **11 31 18.2 -0.7**
comp=Z,1.8nm,0.7s,baz=299,slow=4.1,SNR=16
YKA PKiKP **PKiKP** **11 35 54.9 +0.8**
comp=Z,0.5nm,0.5s,baz=307,slow=1.7,SNR=10.0
YKA PKKPbc PKKPbc 11 47 54.5 -5.8
comp=Z,1.4nm,0.7s,baz=122,slow=2.9,SNR=17
KRLC Kraliky 97.41 322 *e*P Pdif 11 31 21.7 +1.5
KRLC Kraliky 97.41 322 *e*P Pdif 11 31 21.7 +1.5
PKSM Moragy 97.43 318⇓*i*P **P** **11 31 19.0 -1.2**
KSP Ksiaz 97.45 323 *e*P **P** **11 31 20.1 -0.1**
KSP Ksiaz 97.45 323 *e*P Pdif 11 31 20.9 +0.6
DPC Dobruska-Polom 97.59 323 *e*P Pdif 11 31 21.4 +0.4
DPC *e* 11 31 31.8
DPC Dobruska-Polom 97.59 323 *e*P Pdif 11 31 21.4 +0.4
DPC *e*pP pP 11 31 31.8 -3.0
UPC Upice 97.73 323 *e*P **P** **11 31 21.4 -0.1**
UPC Upice 97.73 323 *e*P **P** **11 31 21.4 -0.1**
UPC *ex* x 11 31 27.0
VRAC Vranov 97.78 322⇑*i*P Pdif 11 31 23.9 +2.1
VRAC Vranov 97.78 322 P Pdif 11 31 23.2 +1.4
VRAC Vranov 97.78 322 P Pdif 11 31 23.2 +1.4
comp=Z,8.0nm,1.0s,baz=94,slow=3.8,SNR=8.8
PVCC Panska Ves 98.58 323 *e*P Pdif 11 31 26.5 +1.2
PVCC MLR MLR
comp=Z,800nm,23.5s
PVCC Panska Ves 98.58 323 *e*P Pdif 11 31 26.5 +1.2
PVCC AMS AMS 12 17 50.0
comp=Z,800nm,23.5s
PRU Pruhonice 98.80 323 *e*P **P** **11 31 25.9 -0.4**
PRU *e* 11 31 35.3
PRU MLR MLR
comp=Z,700nm,20.4s
PRU Pruhonice 98.80 323 *e*P **P** **11 31 25.9 -0.4**
PRU *e*pP **pP** **11 31 35.3 -4.8**
PRU AMS AMS 12 18 20.0
comp=Z,700nm,20.4s
BRG Berggiesshubel 98.83 324 *i*P **P** **11 31 26.0 -0.4**
comp=Z,22nm,1.4s
BRG *e* 11 31 36.1
comp=Z,30nm,1.5s
BRG Berggiesshubel 98.83 324 *i*P **P** **11 31 26.0 -0.4**
BRG *e* 11 31 36.2
BRG pmax pmax
comp=Z,22nm,1.4s
BRG Berggiesshubel 98.83 324 *e*Pdiff **P** **11 31 26.3 -0.1**
PRA Prague 98.83 323 P **P** **11 31 26.0 -0.4**
CLL Collm 99.22 324 *e*P **Pdif** **11 31 28.0 -0.1**
CLL *e* 11 31 40.0
CLL *e*S **ScS** **11 42 56.0 -0.2**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL MLR MLR
comp=Z,800nm,19.4s
CLL Collm 99.22 324 *e*Pdiff **Pdif** **11 31 27.8 -0.3**
CLL Collm 99.22 324 *e*Pdif **Pdif** **11 31 28.0 -0.1**
comp=Z,9.0nm,1.2s
CLL *es*Pdif 11 31 40.0
CLL *e*PP PP 11 35 25.0 -5.8
CLL *es*PP 11 35 51.0
CLL *e*Sdif **ScS** **11 42 56.0 -0.2**
CLL *e*PS **PS** **11 44 36.0 +7.7**
CLL *e*PPS PPS 11 45 12.0
CLL Lm MLR 12 23 00.0
comp=N,300nm,21.8s
CLL Lm MLR 12 23 00.0
comp=E,600nm,20.2s
CLL Lm MLR 12 23 00.0
comp=Z,800nm,19.4s
LSZ Lusaka 99.47 256 P **Pdif** **11 31 28.2 -2.0**
LSZ PKiKP **PKiKP** **11 35 59.6 +0.1**
LSZ Lusaka 99.47 256 P **Pdif** **11 31 28.2 -2.0**
comp=Z,1.3nm,0.4s,baz=68,slow=6.9,SNR=4.4
LSZ PKiKP **PKiKP** **11 35 59.6 +0.1**
comp=Z,3.9nm,1.0s,baz=44,slow=8.8,SNR=5.1
SOKA Soboth 99.65 319⇑*i*Pdiff **Pdif** **11 31 28.7 -1.6**
comp=Z,7.5nm,1.1s
KHC Kasperske Hory 99.69 322 *e*P **Pdif** **11 31 31.8 +1.5**
KHC *e* 11 31 40.0
KHC Kasperske Hory 99.69 322 *e*P **Pdif** **11 31 31.8 +1.5**
KHC *e*pP **pP** **11 31 40.0 -4.2**
GERES GERESS Array B 99.72 322 P **Pdif** **11 31 29.6 -0.9**
GERES PP PP 11 35 27.3 -7.5
GERES GERESS Array B 99.72 322 P **Pdif** **11 31 29.6 -0.9**
comp=Z,4.7nm,1.0s,baz=72,slow=4.3,SNR=16
GERES PP PP 11 35 27.3 -7.5
comp=Z,0.3nm,0.4s,baz=198,slow=8.3,SNR=5.5
GERES LR LR 12 22 15.6
comp=Z,309nm,18.2s,baz=72,slow=39
TANN Tannenbergstha 99.88 324 *e*Pdiff **Pdif** **11 31 30.3 -0.9**
NKC Novy Kostel 99.95 323 *e*P **Pdif** **11 31 31.3 -0.2**
NKC Novy Kostel 99.95 323 *e*P **Pdif** **11 31 31.3 -0.2**
NEUB Neuenburg 99.97 324 *e*Pdiff **Pdif** **11 31 31.7 +0.3**
ROTZ Rotzenmuhle 100.28 323 *e*Pdiff **Pdif** **11 31 33.4 +0.5**
SCO Scoresbysund 100.33 350 *i*P **Pdif** **11 31 33.0 +0.4**
SCO pmax pmax
comp=Z,5.0nm,1.0s
SCO Scoresbysund 100.33 350 *i*P **Pdif** **11 31 33.0 +0.4**
comp=Z,4.6nm,1.0s
NRDL Niedersach Rie 100.38 326 *e*Pdiff **Pdif** **11 31 33.6 +0.4**
RKT Rikitea 100.50 112 *e*SKSac **SKSac** **11 42 13.0 +2.9**
comp=Z,414nm,24.2s
RKT Rikitea 100.50 112 *e*LQ LQ 12 00 11.6
comp=Z,353nm,28.2s
RKT *e*LR LR 12 04 30.4
comp=Z,752nm,23.2s
CLZ Clausthal 100.51 325 *e*Pdiff **Pdif** **11 31 34.2 +0.3**
SUMG Summit 100.53 355 *i*P **Pdif** **11 31 35.3 +1.3**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 100.53 355 *i*P **Pdif** **11 31 35.3 +1.3**
comp=Z,11nm,1.0s
KBA Koelnbreinsper 100.59 320⇑*i*Pdiff **Pdif** **11 31 30.9 -3.6**
comp=Z,9.2nm,1.4s
RJOB Jochberg 100.69 321 *e*Pdiff **Pdif** **11 31 35.2 +0.3**
UBBA Unterbreizbach 101.15 325 *e*Pdiff **Pdif** **11 31 38.0 +1.4**
ABTA Abfaltersbach 101.24 320⇑*i*Pdiff **Pdif** **11 31 37.3 0.0**
comp=Z,6.8nm,1.5s
FETA Feichten 102.26 321⇑*i*Pdiff **Pdif** **11 31 40.1 -1.9**
comp=Z,8.8nm,1.4s
DAVOX Davos/Dischmat 102.89 321 P **Pdif** **11 31 44.3 -0.6**
DAVOX Davos/Dischmat 102.89 321 P **Pdif** **11 31 44.3 -0.6**
comp=Z,2.5nm,0.8s,baz=315,slow=4.3,SNR=2.7
LPG La Plagne 105.41 321 *e*P **Pdif** **11 31 54.4 -1.8**
comp=Z,25nm,1.4s
LPG La Plagne 105.41 321 *e*P **Pdif** **11 31 54.4 -1.8**
LPG pmax pmax
comp=Z,25nm,1.4s
LPG La Plagne 105.41 321 *e*P **Pdif** **11 31 54.4 -1.8**
comp=Z,25nm,1.4s
LPL La Plagne 105.41 321 *e*P **Pdif** **11 31 54.6 -1.5**
LPL La Plagne 105.41 321 *e*P **Pdif** **11 31 54.6 -1.5**
LPL La Plagne 105.41 321 *e*P **Pdif** **11 31 54.6 -1.5**
NVAR Mina Array Bea 105.42 47 Pdif **Pdif** **11 31 57.7 +1.4**
NVAR PKiKP **PKiKP** **11 36 11.4 +1.5**
NVAR Mina Array Bea 105.42 47 Pdiff **Pdif** **11 31 57.7 +1.4**
comp=Z,0.4nm,0.6s,baz=310,slow=5.7,SNR=2.9
NVAR PKiKP **PKiKP** **11 36 11.4 +1.5**
comp=Z,0.9nm,0.8s,baz=272,slow=4.2,SNR=3.8
R11A Troy Canyon, C 107.42 47 *e*PKPdf **PKiKP** **11 36 12.2 -1.4**
PDAR Pinedale Array 109.60 40 PKiKP **PKiKP** **11 36 19.3 +1.7**
PDAR PKKPbc **PKKPbc** **11 47 20.4 -2.9**
PDAR PKKP **PKKPab** **11 47 30.5 -4.5**
PDAR Pinedale Array 109.60 40 PKiKP **PKiKP** **11 36 19.3 +1.7**
comp=Z,0.5nm,0.7s,baz=114,slow=2.3,SNR=3.6
PDAR PKKPbc **PKKPbc** **11 47 20.4 -2.9**
comp=Z,2.2nm,1.0s,baz=160,slow=1.8,SNR=9.8
PDAR PKKP **PKKPab** **11 47 30.5 -4.5**
comp=Z,2.0nm,0.9s,baz=143,slow=8.4,SNR=6.5
SRU San Rafael 110.68 44 *e*PKiKP **PKiKP** **11 36 20.2 +0.5**
SRU San Rafael 110.68 44 *e*PKPdf **PKiKP** **11 36 20.2 +0.5**
PV01 Paradox Valley 112.49 44 *e*PKPdf **PKiKP** **11 36 23.8 +0.6**
ULM Lac du Bonnet 112.80 28 PKiKP **PKiKP** **11 36 23.1 -0.1**
ULM Lac du Bonnet 112.80 28 PKiKP **PKiKP** **11 36 23.1 -0.1**
comp=Z,1.8nm,0.5s,baz=281,slow=5.3,SNR=3.6
ESDC Sonseca Array 115.15 319 PKiKP **PKPdf** **11 36 29.6 +1.5**
ESDC PKKPbc **PKKPbc** **11 47 04.9 +0.4**
ESDC Sonseca Array 115.15 319 PKiKP **PKPdf** **11 36 29.6 +1.5**
comp=Z,0.1nm,0.3s,baz=2.9,slow=2.6,SNR=3.8
ESDC PKKPbc **PKKPbc** **11 47 04.9 +0.4**
comp=Z,0.2nm,0.4s,baz=240,slow=3.1,SNR=4.2
ANMO Albuquerque 115.51 46 *e*PKPdf **PKPdf** **11 36 30.1 +1.0**
BNM Barren Site 115.76 47 *e*PKPdf **PKPdf** **11 36 29.4 -0.2**
ECSD EROS Data Cent 116.80 34 *e*PKPdf **PKPdf** **11 36 30.4 -0.7**
SCHQ Schefferville 117.98 9 PKP **PKPdf** **11 36 33.2 +0.3**
SCHQ Schefferville 117.98 9 PKP **PKPdf** **11 36 33.2 +0.3**
comp=Z,11nm,0.8s,baz=18,slow=2.1,SNR=11
MDT Midelt 119.22 313 PKP **PKPdf** **11 36 37.1 +0.9**
MDT Midelt 119.22 313 PKP **PKPdf** **11 36 37.1 +0.9**
comp=Z,5.2nm,1.0s,baz=33,slow=17,SNR=3.2
KSU1 Kansas State U 119.77 38 *e*PKPdf **PKPdf** **11 36 36.6 -0.3**
TXAR Lajitas Array 120.26 51 PKP **PKPdf** **11 36 38.3 +0.1**
TXAR SKP 11 40 10.8
TXAR PKKPbc **PKKPbc** **11 46 46.7 +0.7**
TXAR Lajitas Array 120.26 51 PKP **PKPdf** **11 36 38.3 +0.1**
comp=Z,2.9nm,0.9s,baz=270,slow=1.3,SNR=28
TXAR SKP 11 40 10.8
comp=Z,0.7nm,0.8s,baz=132,slow=1.9,SNR=3.6
TXAR PKKPbc **PKKPbc** **11 46 46.7 +0.7**
comp=Z,1.0nm,0.9s,baz=140,slow=6.0,SNR=5.7
JFWS Jewell Farm 120.73 31 *e*PKIKP **PKPdf** **11 36 37.7 -0.9**
JFWS Jewell Farm 120.73 31 *e*PKPdf **PKPdf** **11 36 37.7 -0.9**
TORD Torodi Ar. Bea 121.65 290 PKP **PKPdf** **11 36 39.9 -1.2**
TORD SKP 11 40 13.1
TORD PKKPbc **PKKPab** **11 46 40.9 -0.6**
TORD Torodi Ar. Bea 121.65 290 PKP **PKPdf** **11 36 39.9 -1.2**
comp=Z,24nm,0.8s,baz=46,slow=1.5
TORD SKP 11 40 13.1
comp=Z,2.8nm,0.8s,baz=74,slow=2.3,SNR=5.1
TORD PKKPbc **PKKPab** **11 46 40.9 -0.6**
comp=Z,1.0nm,0.9s,baz=272,slow=3.4,SNR=4.4
JCT Junction City 122.60 48 *e*PKIKP **PKPdf** **11 36 42.9 +0.3**
JCT Junction City 122.60 48 *e*PKPdf **PKPdf** **11 36 42.9 +0.3**
WHTX Lake Whitney 123.45 45 *e*PKPdf **PKPdf** **11 36 44.6 +0.5**
MIAR Mount Ida 124.53 40 *e*PKIKP **PKPdf** **11 36 46.5 +0.4**
MIAR Mount Ida 124.53 40 *e*PKPdf **PKPdf** **11 36 46.5 +0.4**
BLO Bloomington 125.39 31 *e*PKIKP **PKPdf** **11 36 47.5 -0.2**
BLO Bloomington 125.39 31 *e*PKPdf **PKPdf** **11 36 47.5 -0.2**
WCI Wyandotte Cave 126.22 32 *e*PKIKP **PKPdf** **11 36 49.3 0.0**
WCI Wyandotte Cave 126.22 32 *e*PKPdf **PKPdf** **11 36 49.2 0.0**
ACSO Alum Creek Sta 126.30 28 *e*PKPdf **PKPdf** **11 36 49.3 0.0**
MDV Middlebury 126.81 17 *e*PKPdf **PKPdf** **11 36 50.2 0.0**
WVT Waverly 126.92 35 *e*PKIKP **PKPdf** **11 36 50.6 -0.1**
WVT Waverly 126.92 35 *e*PKPdf **PKPdf** **11 36 50.6 -0.1**
OXF Oxford 127.13 37 *e*PKIKP **PKPdf** **11 36 51.3 +0.2**
OXF Oxford 127.13 37 *e*PKPdf **PKPdf** **11 36 51.3 +0.2**
TKL Tuckaleechee C 129.48 32 PKPpre PKPpre 11 36 42.8
TKL PKP **PKiKP** **11 36 56.5 +0.2**
TKL SKPbc SKPbc 11 40 16.5 +2.7
TKL Tuckaleechee C 129.48 32 PKhKP PKPpre 11 36 42.8
comp=Z,4.4nm,0.8s,baz=51,slow=3.9,SNR=4.3
TKL PKP **PKiKP** **11 36 56.5 +0.2**
comp=Z,14nm,0.8s,baz=126,slow=2.4,SNR=11
TKL SKPbc SKPbc 11 40 16.5 +2.7
comp=Z,6.5nm,0.9s,baz=356,slow=7.9,SNR=3.8
KIC Kosan Boka 129.52 284 *e*PKP1 **PKPdf** **11 36 55.1 -1.1**
comp=Z,110nm,1.0s
KIC Kosan Boka 129.52 284 *e*PKP2 SKPbc 11 40 15.1 +0.6
comp=Z,222nm,1.5s
DBIC Dimbokro 129.56 284 *e*PKPdf **PKPdf** **11 36 55.4 -0.8**
DBIC PKP **PKPdf** **11 36 55.8 -0.5**
DBIC SKPbc SKPab 11 40 14.2 +0.3
DBIC Dimbokro 129.56 284 PKP **PKPdf** **11 36 55.8 -0.5**
comp=Z,28nm,0.9s,baz=59,slow=2.2,SNR=31
DBIC SKPbc SKPab 11 40 14.2 +0.3
comp=Z,42nm,1.2s,baz=71,slow=4.7,SNR=18
LRAL Lakeview Retre 129.60 37 *e*PKPdf **PKPdf** **11 36 57.1 +1.2**
TIC Toumodi 129.72 284 *e*PKP1 **PKPdf** **11 36 55.7 -0.9**
comp=Z,64nm,0.9s
TIC Toumodi 129.72 284 *e*PKP2 SKPbc 11 40 13.4 -1.9
comp=Z,90nm,1.2s
LIC Lamto 129.83 284 *e*PKIKP **PKPdf** **11 36 55.6 -1.2**
comp=Z,102nm,1.0s
LIC Lamto 129.83 284 *e*PKP1 **PKPdf** **11 36 55.8 -1.0**
comp=Z,134nm,1.0s
LIC Lamto 129.83 284 *e*PKP2 SKPbc 11 40 14.3 -1.3
comp=Z,145nm,1.5s
LIC Lamto 129.83 284 *e*PKPdf **PKPdf** **11 36 55.6 -1.2**
PLCA Paso Flores 142.66 159 *e*PKPdf **PKPdf** **11 37 16.1 -3.9**
PLCA PKPpre PKPpre 11 37 16.2
PLCA SKPbc **SKiKP** **11 40 58.0 +2.4**
PLCA Paso Flores 142.66 159 PKhKP PKPpre 11 37 16.2
comp=Z,7.5nm,0.9s,baz=233,slow=3.1,SNR=11
PLCA SKPbc **SKiKP** **11 40 58.0 +2.4**
comp=Z,8.4nm,1.0s,baz=198,slow=7.9,SNR=5.1
JTS JuntasAbangare 144.72 62 *e*PKPdf PKPbc 11 37 23.2 +0.1
GTBY Guantanamo Bay 146.39 38 *e*PKPdf **PKPdf** **11 37 26.7 -0.2**
TRQA Tornquist 147.63 168 *e*PKPdf **PKPdf** **11 37 28.3 +0.5**
TRQA *e*PKPbc **PKPbc** **11 37 31.7 +0.5**
SDDR Presa de Saban 149.37 34 *e*PKPbc **PKPbc** **11 37 36.5 +0.3**
BCIP Isla Barro Col 149.69 60 *e*PKPbc **PKPbc** **11 37 37.2 +0.1**
TLL Tololo Astrono 151.42 148 *i* PKIKP **PKPdf** **11 37 35.7 +0.7**
TLL Tololo Astrono 151.42 148 *i*P **PKPdf** **11 37 35.7 +0.7**
TLL Tololo Astrono 151.42 148 *i*P **PKPdf** **11 37 35.7 +0.7**
LCO Las Campanas 152.38 146 *i*P **PKPdf** **11 37 37.8 +1.3**
LCO Las Campanas 152.38 146 *i*P **PKPdf** **11 37 37.8 +1.3**
OTAV Otavalo 154.42 76 *e*PKPdf **PKPdf** **11 37 40.7 +0.6**
ROSC El Rosal 156.55 62 PKP **PKPdf** **11 37 43.9 +1.0**
ROSC El Rosal 156.55 62 PKP **PKPdf** **11 37 43.9 +1.0**
comp=Z,4.9nm,0.4s,baz=80,slow=1.3,SNR=9.9
SDV Santo Domingo 157.27 48 *e*PKPdf **PKPdf** **11 37 42.4 -1.2**
SDV *e*PKPab **PKPab** **11 38 15.9 +1.3**
LVC Limon Verde 158.22 139 *e*PKPdf **PKPdf** **11 37 45.6 +1.0**
LVC *e*PKPab **PKPab** **11 38 21.9 +3.4**
CPUP Villa Florida 159.91 170 PKP **PKPdf** **11 37 46.1 0.0**
CPUP PKPab **PKPab** **11 38 25.9 +0.7**
CPUP Villa Florida 159.91 170 PKP **PKPdf** **11 37 46.1 0.0**
comp=Z,3.6nm,0.8s,baz=145,slow=3.3,SNR=5.2
CPUP PKPab **PKPab** **11 38 25.9 +0.7**
comp=Z,7.4nm,0.8s,baz=165,slow=4.5,SNR=5.4
LPAZ La Paz 162.80 126 *e*PKPdf **PKPdf** **11 37 51.0 +0.8**
LPAZ PKP **PKPdf** **11 37 51.3 +1.1**
LPAZ PKPab **PKPab** **11 38 41.3 +2.1**
LPAZ PP **PP** **11 42 23.1 -0.5**
LPAZ *e*PP PP 11 42 23.6 +0.1
LPAZ La Paz 162.80 126 PKP **PKPdf** **11 37 51.3 +1.1**
comp=Z,24nm,1.0s,baz=20,slow=2.4,SNR=48
LPAZ PKPab **PKPab** **11 38 41.3 +2.1**
comp=Z,9.2nm,1.0s,baz=16,slow=1.8,SNR=4.3
LPAZ PP **PP** **11 42 23.1 -0.5**
comp=Z,1.4nm,0.6s,baz=227,slow=5.8,SNR=3.6
BDFB Brasilia 169.28 211 PKP **PKPdf** **11 37 54.4 -0.3**
BDFB PKPab **PKPab** **11 39 06.2 -0.7**
BDFB PP PP 11 42 39.3 -16
BDFB Brasilia 169.28 211 PKP **PKPdf** **11 37 54.4 -0.3**
comp=Z,9.6nm,1.0s,baz=182,slow=0.4,SNR=8.3
BDFB PKPab **PKPab** **11 39 06.2 -0.7**
comp=Z,16nm,1.0s,baz=130,slow=5.7,SNR=9.0
BDFB PP PP 11 42 39.3 -16
comp=Z,2.0nm,0.5s,baz=153,slow=11,SNR=3.2
SAML Samuel 170.27 106 *e*PKPdf **PKPdf** **11 37 55.1 -0.1**
SAML *e*PKPab **PKPab** **11 39 11.3 -0.2**

*MAN **30** 11:23:48, 6.˚16N×126.˚50E, h28km, mb5.5, ML4.5, MS4.9*
MAN Intensity III - Don Marcelino Davao del Sur; Intensity II - Davao City.
*MOS **30** 11:23:50.1±1.0, 6.˚42N×126.˚33E, h33km, mb5.1/15, Error ellipse: s-maj=17.5km s-min=8.7km az=108.0*
*BJI **30** 11:23:52.9, 6.˚34N×126.˚15E, h50km, mB5.2/19, mb4.8/34, Ms4.8/15, Ms7 4.6/15*
*IDC **30** 11:23:52.7±2.4, 6.˚44N×126.˚26E, h40km±20km, mb4.3/23, mb1 4.4/23, mb1mx4.3/29, mbtmp4.5/23, Error ellipse: s-maj=18.4km s-min=10.6km az=83.0*
*ISCJB **30** 11:23:52.3±0.5, 6.˚48N±0.˚02×126.˚46E±0.˚03, h48km±4km, mb4.8/77, MS4.7/6, Error ellipse: s-maj=5.6km s-min=3.9km az=167.2*
*NEIC **30** 11:23:54.5±0.9, 6.˚47N×126.˚37E, h56km±9km, mb4.9/16, Error ellipse: s-maj=8.7km s-min=6.3km az=75.0*
NEIC Felt [III PIVS] at Talagutong and [II PIVS] at Davao.
*AUST **30** 11:23:54.2±0.5, 6.˚48N×126.˚56E, h57km, Error ellipse: s-maj=1.0km s-min=0.8km az=23.0*
ISC 30 11:23:53.8±0.4, **6.˚44N**±0.˚04×**126.˚37E**±0.˚05, **h47**km±2km, **n202**, σ1°**51**/245, **mb4.9**/77, **MS4.7**/6, **11C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.51**	**348**	*eP*	**Pn**	**11 24 03.5**	**-1.6**
MATI				*eS*	**Sn**	**11 24 12.4**	**-0.7**
DAV	**Davao City (W)**	**1.00**	**309**	*ePn*	**Pn**	**11 24 10.6**	**-0.9**
DAV				*eSn*	**Sn**	**11 24 22.6**	**-1.9**
DMPH	**Davao City--Mi**	**1.06**	**307↓**	*eP*	**Pn**	**11 24 11.1**	**-1.2**
DMPH				*eS*	**Sn**	**11 24 26.2**	**+0.2**
KCP	**Kidapawan**	**1.39**	**294↑**	*iP*	**Pn**	**11 24 14.4**	**-2.3**
KCP				*i* S	**Sn**	**11 24 31.6**	**-2.4**
BIPH	**Bislig**	**1.73**	**360↑**	*eP*	**Pn**	**11 24 21.4**	**-0.1**
BIPH				*i* S	**Sn**	**11 24 44.6**	**+2.2**
BUKP	**Musuan**	**1.93**	**318**	*eP*	**Pn**	**11 24 23.5**	**-0.7**
BUKP				*eS*	**Sn**	**11 24 49.8**	**+2.6**
CTBH	**Cotabato--PC H**	**2.24**	**290↑**	*iP*	**Pn**	**11 24 27.8**	**-0.6**
CGP	**Cagayan de Oro**	**2.60**	**320↑**	*iP*	**Pn**	**11 24 34.1**	**+0.8**
CGP				*i* S	**Sn**	**11 25 01.9**	**-1.8**
PAGZ	**Pagadian**	**3.27**	**295**	*eP*	**Pn**	**11 24 42.8**	**+0.1**
SCPH	**Surigao**	**3.43**	**345**	*eP*	**Pn**	**11 24 46.5**	**+1.7**
SCPH				*eS*	**Sn**	**11 25 22.4**	**-1.8**
MSLP	**Maasin**	**3.96**	**338**	*eP*	**Pn**	**11 24 54.6**	**+2.5**
MSLP				*eS*	**Sn**	**11 25 35.5**	**-1.7**
TBP	**Tagbilaran**	**4.07**	**323**	*eP*	**Pn**	**11 24 54.0**	**+0.5**
TBP				*eS*	**Sn**	**11 25 36.4**	**-3.7**
PLP	**Palo**	**4.89**	**344↓**	*eP*	**Pn**	**11 25 05.5**	**+0.7**
PLP				*eS*	Sn	11 26 06.8	+6.6
OCLP	**Ormoc**	**4.90**	**339**	*eP*	**Pn**	**11 25 05.8**	**+0.8**
GUIM	**Jordan**	**5.59**	**318**	*eP*	Pn	11 25 18.2	+3.7
TNTI	**Ternate**	**5.72**	**170**	*ePn*	**Pn**	**11 25 17.9**	**+1.7**
RCP	**Roxas**	**6.22**	**325↑**	*eP*	**Pn**	**11 25 24.2**	**+1.2**
PVCP	**Virac**	**7.44**	**343**	*eP*	Pn	11 25 45.5	+5.7
SJMP	**San Jose**	**7.91**	**320**	*eP*	**Pn**	**11 25 46.7**	**+0.5**
MYLDM	**Lahad Datu**	**7.92**	**261**	*eP*	Pn	11 25 56.3	+10
MYLDM	**Lahad Datu**	**7.92**	**261**	*ePn*	**Pn**	**11 25 46.6**	**+0.1**
PALU	**Palau** baz=7.9,SNR=3.7	**8.10**	**83**	P	Pn	11 25 46.3	-2.6
LUWI	**Luwuk** baz=8.4,SNR=7.2	**8.25**	**206**	P	**Pn**	**11 25 53.8**	**+2.8**
TSM	**Tawau**	**8.72**	**256**	P	Pn	11 26 03.3	+5.9
SDKM	**Sandakan**	**9.15**	**266**	P	Pn	11 26 09.7	+6.3
KDM	**Kudat**	**9.48**	**273**	P	**Pn**	**11 26 09.8**	**+2.0**
KAPI	**Kappang**	**13.15**	**210**	*ePn*	**Pn**	**11 26 58.9**	**+0.8**
BTM	**Bintulu**	**13.62**	**257**	P	**P**	**11 27 14.6**	**+2.5**
SBUM	**Sibu**	**14.65**	**255**	P	**P**	**11 27 22.5**	**-1.1**
SBUM	**Sibu** 262nm,0.8s	**14.65**	**255**	P	**P**	**11 27 23.2**	**-0.3**
SBUM	**Sibu**	**14.65**	**255**	*ePn*	**Pn**	**11 27 20.5**	**+2.2**
BBKI	**Banjar Baru** 198nm,1.4s	**15.14**	**230**	P	**P**	**11 27 31.6**	**+2.6**
STKI	**Sintang** 89nm,0.7s	**16.15**	**247**	P	**P**	**11 27 44.3**	**+4.0**
KSM	**Kuching**	**16.76**	**254**	P	**P**	**11 27 48.8**	**+1.8**
KSM	**Kuching** 47nm,1.2s	**16.76**	**254**	P	P	11 27 52.1	+5.1
KSM	**Kuching** 85nm,1.4s	**16.76**	**254**	*ePn*	**P**	**11 27 46.8**	**-0.2**
KSM	**Kuching** baz=17,SNR=6.4	**16.76**	**254**	P	**P**	**11 27 49.9**	**+2.9**
JAGI	**Jajag, Banyuwa** baz=19,SNR=5.0	**19.17**	**220**	P	**Pn**	**11 28 15.3**	**+0.4**
MTN	**Manton Dam** baz=20,SNR=5.5	**19.73**	**166**	P	**Pn**	**11 28 21.5**	**0.0**
KDU	**Kakadu** baz=20,SNR=5.3	**19.95**	**162**	P	**P**	**11 28 22.3**	**+0.3**
JOW	**Kunigami** 118nm,2.2s	**20.36**	**5**	*ePn*	**P**	**11 28 26.4**	**0.0**
QIZ	**Qiongzhong**	**20.38**	**309**	P	**P**	**11 28 27.0**	**+0.3**
QIZ				pP	**pP**	**11 28 37.0**	**-0.8**
QIZ				sP	**sP**	**11 28 42.5**	**-1.3**
QIZ				S	Sn	11 32 15.5	-2.5
QIZ	comp=Z,18nm,1.5s			pmax	pmax		
BJII	**Banjamegara** 161nm,1.0s	**21.52**	**231**	P	**P**	**11 28 42.5**	**+3.3**
KNRA	**Kununurra** baz=22,SNR=9.9	**22.10**	**174**	P	**P**	**11 28 45.4**	**+0.2**
UBPT	**Khong Chiam** 56nm,1.1s	**22.30**	**295**	P	**P**	**11 28 49.6**	**+2.1**
MYKOM	**Kota Tinggi**	**22.92**	**259**	P	**P**	**11 28 55.9**	**+1.9**
MYKOM	**Kota Tinggi** 66nm,1.3s	**22.92**	**259**	P	**P**	**11 28 55.9**	**+1.9**
MYKOM	**Kota Tinggi** 57nm,0.9s	**22.92**	**259**	*eP*	**P**	**11 28 55.5**	**+1.4**
BTDF	**Bukit Timah Da** baz=23,SNR=4.7	**23.09**	**258**	P	**P**	**11 28 57.7**	**+1.9**
BTDF	baz=23,SNR=4.7			P	**P**	**11 28 57.7**	**+1.9**
KTGM	**Kuala Trenggan**	**23.14**	**269**	P	**P**	**11 28 57.2**	**+1.0**
CBJI	**Citeko** 354nm,0.9s	**23.29**	**237**	P	**P**	**11 28 59.8**	**+2.1**
KGM	**Kluang**	**23.39**	**260**	P	**P**	**11 28 59.6**	**+0.9**
JMBI	**JAMBI** 347nm,1.6s,17μm	**24.06**	**251**	P	**P**	**11 29 08.5**	**+3.6**
BLSI	**Bandar Lampung** 253nm,1.0s	**24.12**	**241**	P	**P**	**11 29 08.0**	**+2.5**
KLI	**Kotabumi** 200nm,1.1s	**24.23**	**243**	P	**P**	**11 29 07.5**	**+1.1**
KLSI	242nm,1.1s	**24.26**	**243**	P	**P**	**11 29 08.3**	**+1.5**
CGJI	**Cibinong** 102nm,0.9s	**24.36**	**238**	P	**P**	**11 29 08.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.40**	**182**	P	**P**	**11 29 07.7**	**-0.1**
FITZ	**Fitzroy Crossi** 12nm,0.6s,baz=212,slow=9.7,SNR=9.8	**24.40**	**182**	P	**P**	**11 29 07.7**	**-0.1**
MDSI	**Maura Dua** 81nm,1.0s	**24.67**	**244**	P	**P**	**11 29 11.4**	**+1.0**
FRIM	**Kepong**	**24.85**	**264**	P	**P**	**11 29 12.7**	**+0.6**
KASI	**Kota Agung** 194nm,0.9s	**24.85**	**242**	P	**P**	**11 29 13.8**	**+1.7**
RGRI	**Rengat** 854nm,0.4s,83μm	**24.91**	**255**	P	P	11 29 20.8	+8.1
LHSI	**Lahat** 139nm,1.1s	**24.98**	**247**	P	**P**	**11 29 14.6**	**+1.3**
LWLI	**Liwa** 182nm,1.0s	**25.01**	**243**	P	**P**	**11 29 15.4**	**+1.7**
IPM	**Ipoh**	**25.30**	**267**	P	**P**	**11 29 17.0**	**+0.7**
IPM	**Ipoh** 54nm,1.1s	**25.30**	**267**	P	**P**	**11 29 16.9**	**+0.7**
IPM	**Ipoh** 246nm,2.0s	**25.30**	**267**	*eP*	**P**	**11 29 16.4**	**+0.2**
CBIJ	**Chichi jima**	**25.46**	**34**	P	**P**	**11 29 17.0**	**-0.6**
JCJ	**Chichijima** 64nm,0.4s,baz=305,slow=14,SNR=10	**25.46**	**34**	P	**P**	**11 29 17.0**	**-0.6**
KULM	**Kulim**	**25.61**	**269**	P	**P**	**11 29 20.3**	**+1.3**
KULM	**Kulim** 36nm,1.0s	**25.61**	**269**	*eP*	**P**	**11 29 19.4**	**+0.4**
CHAI	**Chaiyaphum** 16nm,1.0s	**25.67**	**294**	P	**P**	**11 29 21.2**	**+1.7**
PMG	**Port Moresby**	**26.02**	**127**	P	**P**	**11 29 23.5**	**+0.8**
PMG	**Port Moresby** 9.8nm,0.9s,baz=92,slow=6.8,SNR=3.7	**26.02**	**127**	P	**P**	**11 29 23.5**	**+0.8**
COEN	**Coen** baz=26,SNR=5.1	**26.25**	**141**	P	**P**	**11 29 24.5**	**-0.2**
NJ2	**Nanjing**	**26.43**	**346**	*eP*	**P**	**11 29 26.8**	**+0.6**
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax		
PPI	**Padang Panjang** 51nm,1.1s	**26.81**	**256**	P	**P**	**11 29 30.1**	**+0.3**
PBKT	**Sadao Pong** 26nm,1.0s	**26.81**	**294**	P	**P**	**11 29 30.6**	**+0.8**
PDSI	**Padang** 46nm,1.4s	**26.87**	**255**	P	P	11 29 35.4	+5.0
WRAB	**Tennant Creek**	**27.36**	**163↑**	*eP*	**P**	**11 29 34.6**	**-0.1**
WRAB	comp=Z,215nm,1.9s			pmax	pmax		
GYA	**Guiyang**	**27.37**	**319**	*eP*	**P**	**11 29 36.8**	**+1.9**
GYA				pP	**pP**	**11 29 47.0**	**-0.2**
GYA				sP	**sP**	**11 29 53.5**	**+0.6**
GYA				PP	**PnPn**	**11 30 24.5**	**+3.7**
GYA				PcP	**PcP**	**11 32 55.8**	**+2.5**
GYA				S	**S**	**11 34 13.0**	**+1.2**
GYA				sS	**sS**	**11 34 30.3**	**-2.3**
GYA				SS	**SnSn**	**11 35 30.0**	**+5.6**
GYA				ScP	**ScP**	**11 36 31.8**	**+1.7**
GYA				ScS	**ScS**	**11 40 21.5**	**-0.4**
GYA	comp=Z,10.0nm,0.8s			pmax	pmax		
GYA	comp=Z,90nm,4.9s			pmax	pmax		
GYA	comp=Z,550nm,16.8s			LR	LR		
GYA	comp=Z,480nm,17.3s			LR	LR		
GYA	comp=Z,510nm,16.0s			LR	LR		
WRA	**Warramunga Arr**	**27.37**	**164**	P	**P**	**11 29 33.9**	**-0.9**
WRA	**Warramunga Arr** comp=Z,8.7nm,0.7s,baz=340,slow=10,SNR=6.9	**27.37**	**164**	P	**P**	**11 29 33.9**	**-0.9**
PHIT	**Phitsanulok** comp=Z,34nm,0.9s	**27.51**	**295**	P	**P**	**11 29 37.5**	**+1.4**
PSI	**Prapat**	**27.59**	**264**	P	**P**	**11 29 37.3**	**+0.3**
PSI	**Prapat** comp=Z,12nm,0.8s,baz=23,slow=4.3,SNR=4.0	**27.59**	**264**	P	**P**	**11 29 37.3**	**+0.3**
PSI	**Prapat** baz=28,SNR=4.3	**27.59**	**264**	P	**P**	**11 29 37.6**	**+0.6**
UTHA	**Uthaitani**	**27.91**	**291**	P	**P**	**11 29 40.9**	**+1.3**
ENH	**Enshi** comp=Z,8.5nm,0.7s	**28.53**	**328**	*eP*	**P**	**11 29 44.9**	**-0.2**
KCSI	**Kotacane, Aceh**	**28.63**	**266**	P	**P**	**11 29 46.1**	**-0.1**
GSI	**Gunungsitoli** comp=Z,44nm,0.8s	**29.16**	**261**	*eP*	**P**	**11 29 48.7**	**-2.2**
KMI	**Kunming**	**29.26**	**312**	P	**P**	**11 29 53.0**	**+1.1**
KMI				pP	**pP**	**11 30 04.8**	**+0.5**
KMI				sP	**sP**	**11 30 09.3**	**-0.6**
KMI	comp=Z,17nm,0.6s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**29.27**	**297**	P	**P**	**11 29 51.5**	**-0.2**
CMAR				PcP	**PcP**	**11 32 57.3**	**-0.7**
CMAR				ScP	**ScP**	**11 36 36.0**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,7.9nm,0.9s,baz=121,slow=7.4,SNR=17	**29.27**	**297**	P	**P**	**11 29 51.5**	**-0.2**
CMAR	comp=Z,1.4nm,0.9s,baz=81,slow=0.8,SNR=4.1			PcP	**PcP**	**11 32 57.3**	**-0.7**
CMAR	comp=Z,2.8nm,1.1s,baz=103,slow=1.5,SNR=8.1			ScP	**ScP**	**11 36 36.0**	**0.0**
CM31	**Chiang Mai Arr** comp=Z,4.1nm,0.6s	**29.27**	**297**	*eP*	**P**	**11 29 52.4**	**+0.7**
QIS	**Mount Isa** baz=30,SNR=9.8	**29.82**	**154**	P	**P**	**11 29 57.2**	**+0.6**
ASAR	**Alice Springs**	**30.82**	**166**	P	**P**	**11 30 05.0**	**-0.3**
ASAR				PcP	**PcP**	**11 33 01.7**	**-0.2**
ASAR	**Alice Springs** comp=Z,4.7nm,0.4s,baz=343,slow=7.2,SNR=12	**30.82**	**166**	P	**P**	**11 30 05.0**	**-0.3**
ASAR	comp=Z,3.6nm,0.8s,baz=340,slow=2.2,SNR=4.6			PcP	**PcP**	**11 33 01.7**	**-0.2**
KSAR	**Wonju Array Be**	**30.89**	**2**	P	**P**	**11 30 08.2**	**+2.4**
KSAR				PcP	**PcP**	**11 33 02.6**	**+0.8**
KSRS	**Korea Array** comp=Z,2.3nm,0.8s,baz=186,slow=9.7,SNR=4.5	**30.90**	**2**	P	**P**	**11 30 08.3**	**+2.3**
KSRS	comp=Z,2.7nm,0.9s,baz=185,slow=1.7,SNR=4.6			PcP	**PcP**	**11 33 02.6**	**+0.8**
XAN	**Xi'an** comp=Z,7.0nm,0.9s	**31.86**	**332**	P	**P**	**11 30 15.0**	**+0.5**
XAN				pmax	pmax		
CD2	**Chengdu**	**32.28**	**322**	*eP*	**P**	**11 30 19.8**	**+1.6**
CD2	comp=Z,20nm,1.6s			pmax	pmax		
MEEK	**Meekatharra** baz=34,SNR=4.1	**33.73**	**193**	P	**P**	**11 30 30.3**	**-0.6**
BJT	**Baijiatuau** comp=Z,18nm,0.7s	**34.66**	**346**	*eP*	**P**	**11 30 39.4**	**+0.6**
BJI	**Beijing**	**34.69**	**346**	P	**P**	**11 30 39.8**	**+0.8**
BJI	comp=Z,23nm,1.1s			pmax	pmax		
LZH	**Lanzhou**	**36.01**	**328**	*eP*	**P**	**11 30 52.3**	**+1.6**
LZH				pP	**pP**	**11 31 04.5**	**+1.3**
LZH				sP	**sP**	**11 31 09.8**	**+1.0**
LZH	comp=Z,30nm,1.0s			pmax	pmax		
LZH	comp=Z,150nm,5.0s			pmax	pmax		
MORW	**Morawa** baz=37,SNR=4.2	**36.67**	**195**	P	**P**	**11 30 56.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**36.73**	**341**	*eP*	**P**	**11 30 55.8**	**-0.9**
HHC				pP	**pP**	**11 31 09.8**	**+0.5**
HHC				sP	**sP**	**11 31 11.8**	**-3.0**
HHC				PcP	**PcP**	**11 33 14.8**	**-3.7**
HHC				S	**S**	**11 36 37.0**	**-0.2**
HHC				PcS	**PcS**	**11 37 05.5**	**-1.0**
HHC				ScS	**ScS**	**11 41 10.8**	**+2.4**
HHC	comp=Z,49nm,0.8s			pmax	pmax		
HHC	comp=Z,820nm,5.3s			pmax	pmax		
HHC	comp=Z,1μm,13.2s			LR	LR		
HHC	comp=Z,1μm,13.7s			LR	LR		
HHC	comp=Z,1μm,14.3s			LR	LR		
QLP	**Quilpie** baz=37,SNR=6.9	**37.12**	**153**	P	**P**	**11 30 59.6**	**-0.4**
CN2	**Changchun**	**37.22**	**359**	*eP*	P	11 31 04.0	+3.4
CN2				*ep*	pP	11 31 16.0	+2.8
CN2				*es*	sP	11 31 21.5	+2.7
CN2				*eS*	**S**	**11 36 46.8**	**+2.5**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
CN2	comp=Z,200nm,4.0s			pmax	pmax		
CN2	comp=Z,900nm,17.0s			LR	LR		
CN2	comp=Z,600nm,17.0s			LR	LR		
CN2	comp=Z,500nm,18.0s			LR	LR		
USRK	**Ussuriysk Arra** comp=Z,2.2nm,0.8s,baz=206,slow=16,SNR=4.7	**37.93**	**7**	P	**P**	**11 31 05.8**	**-0.8**
MDJ	**Mudanjiang**	**38.13**	**4**	P	**P**	**11 31 09.3**	**+1.0**
MDJ	comp=Z,7.0nm,1.0s			pmax	pmax		
RMQ	**Roma** baz=39,SNR=17	**39.28**	**147**	P	P	11 31 13.3	-4.9
NWAO	**Narrogin (SRO)**	**40.10**	**192**	P	**P**	**11 31 24.0**	**-0.9**
NWAO	**Narrogin (SRO)** comp=Z,19nm,0.9s,baz=25,slow=9.5,SNR=5.7	**40.10**	**192**	P	**P**	**11 31 24.0**	**-0.9**
ASAJ	**Asahikawa**	**40.13**	**18**	P	**P**	**11 31 25.1**	**0.0**
ASAJ	**Asahikawa** comp=Z,4.3nm,0.6s,baz=290,slow=20,SNR=10	**40.13**	**18**	P	**P**	**11 31 25.1**	**0.0**
LSA	**Lhasa**	**40.42**	**309**	*eS*	**P**	**11 31 29.2**	**+1.0**
GTA	**Gaotai**	**40.61**	**328**	*eP*	P	11 31 15.5	-14
GTA				pP	pP	11 31 28.3	-14
GTA				S	S	11 37 13.8	-22
GTA				sS	ScP	11 37 33.8	+17
GTA				SS	SS	11 40 02.8	-35
GTA	comp=Z,10.0nm,1.1s			pmax	pmax		
GTA	comp=Z,140nm,5.7s			pmax	pmax		
GTA	comp=N,490nm,20.4s			LR	LR		
GTA	comp=E,510nm,23.0s			LR	LR		
GTA	comp=Z,440nm,17.8s			LR	LR		
STKA	**Stephens Creek**	**40.78**	**160**	P	**P**	**11 31 30.6**	**0.0**
STKA	**Stephens Creek** comp=Z,9.6nm,0.6s,baz=340,slow=11,SNR=7.9	**40.78**	**160**	P	**P**	**11 31 30.6**	**0.0**
STKA	**Stephens Creek** baz=41,SNR=3.9	**40.78**	**160**	P	**P**	**11 31 32.9**	**+2.4**
H11S3	**WAKE ISLAND Hy** baz=252,slow=51,SNR=11	**41.05**	**69**	T	T	12 15 38.4	
H11S1	**WAKE ISLAND Hy** baz=252,slow=51,SNR=11	**41.06**	**69**	T	T	12 15 33.4	
H11S2	**WAKE ISLAND Hy** baz=252,slow=51,SNR=16	**41.06**	**69**	T	T	12 15 32.2	
H11N1	**WAKE ISLAND Hy** baz=268,slow=75,SNR=7.0	**41.50**	**68**	T	T	12 16 28.7	
H11N2	**WAKE ISLAND Hy** baz=268,slow=75,SNR=3.4	**41.51**	**67**	T	T	12 16 28.0	
H11N3	**WAKE ISLAND Hy** baz=268,slow=75,SNR=5.5	**41.51**	**68**	T	T	12 16 27.5	
RKGY	**Rocky Gully** baz=42,SNR=6.1	**41.78**	**192**	P	**P**	**11 31 39.8**	**+1.1**
ARMA	**Armidale** baz=44,SNR=4.9	**43.93**	**148**	P	**P**	**11 31 57.1**	**+0.8**
SONM	**Songino Array**	**44.63**	**341**	P	**P**	**11 32 01.8**	**0.0**
SONM				PcP	**PcP**	**11 33 43.1**	**-0.8**
SONM				ScP	**ScP**	**11 37 33.1**	**+0.7**
SONM	**Songino Array** comp=Z,4.5nm,1.1s,baz=162,slow=7.9,SNR=7.6	**44.63**	**341**	P	**P**	**11 32 01.8**	**0.0**
SONM	comp=Z,1.7nm,0.6s,baz=149,slow=3.8,SNR=5.2			PcP	**PcP**	**11 33 43.1**	**-0.8**
SONM	comp=Z,0.6nm,0.9s,baz=127,slow=2.2,SNR=3.1			ScP	**ScP**	**11 37 33.2**	**+0.7**
ARPS	**Mount Arapiles** baz=46,SNR=12	**45.36**	**162**	P	**P**	**11 32 08.0**	**+0.5**
TOO	**Toolangi** baz=48,SNR=6.5	**47.28**	**159**	P	**P**	**11 32 23.8**	**+1.2**
HYB	**Hyderabad**	**47.91**	**288**	*i* P	**P**	**11 32 26.5**	**-1.4**
DZM	**Mont Dzumac**	**48.42**	**127**	P	**P**	**11 32 33.7**	**+1.9**
DZM	**Mont Dzumac** comp=Z,5.9nm,0.6s,baz=320,slow=14,SNR=5.1	**48.42**	**127**	P	**P**	**11 32 33.7**	**+1.9**
TLY	**Talaya**	**48.86**	**341**	*eP*	P	11 32 38.3	+3.7
TLY	comp=Z,6.0nm,0.8s			pmax	pmax		
WMQ	**Urumqi**	**50.32**	**324**	P	**P**	**11 32 46.5**	**+0.5**
WMQ				pP	**pP**	**11 32 59.5**	**+0.5**
WMQ				sP	**sP**	**11 33 05.0**	**+0.5**
WMQ				PP	**PP**	**11 34 44.0**	**+2.2**
WMQ				ScP	**ScP**	**11 37 55.0**	**-1.4**
WMQ				S	**S**	**11 39 55.0**	**-0.6**
WMQ				sS	**sS**	**11 40 16.0**	**-1.3**
WMQ				ScS	**ScS**	**11 42 31.0**	**-2.2**
WMQ				SS	**SS**	**11 43 26.0**	**-3.7**
WMQ	comp=Z,12nm,1.0s			pmax	pmax		
WMQ	comp=Z,100nm,4.0s			pmax	pmax		
WMQ	comp=Z,870nm,16.0s			LR	LR		
WMQ	comp=Z,430nm,16.0s			LR	LR		
WMQ	comp=Z,850nm,16.0s			LR	LR		
HVS	**Khovu-Aksy**	**52.15**	**334↑**	*iP*	**P**	**11 32 59.0**	**-0.5**
HVS	comp=Z,37nm,1.0s			pmax	pmax		
PETK	**Petropavlovsk-**	**53.08**	**23**	P	**P**	**11 33 06.9**	**+0.6**
PETK	**Petropavlovsk-**	**53.08**	**23**	P	**P**	**11 33 06.9**	**+0.6**
PETK	**Petropavlovsk-** comp=Z,2.5nm,0.6s,baz=278,slow=3.5,SNR=4.5	**53.08**	**23**	P	**P**	**11 33 06.9**	**+0.6**
KSH	**Kashi**	**55.90**	**314**	P	**P**	**11 33 28.0**	**+0.8**
KSH				sP	**sP**	**11 33 46.0**	**+0.2**
KSH				PP	**PP**	**11 35 35.3**	**+3.1**
KSH				PcS	**PcS**	**11 38 25.0**	**-0.9**
KSH				S	**S**	**11 41 10.8**	**-0.9**
KSH				SS	**SS**	**11 44 58.0**	**-0.1**
KSH	comp=Z,150nm,5.4s			pmax	pmax		
KSH	comp=Z,370nm,10.5s			LR	LR		
KSH	comp=Z,600nm,11.6s			LR	LR		
KSH	comp=Z,1μm,17.0s			LR	LR		
ZALV	**Zalesovo Beam**	**58.03**	**332**	*i* P	**P**	**11 33 41.0**	**-0.8**
ZALV	comp=Z,5.0nm,0.9s			pmax	pmax		
ZALV	**Zalesovo Beam**	**58.03**	**332**	P	**P**	**11 33 39.6**	**-2.1**
ZALV	**Zalesovo Beam** comp=Z,4.8nm,0.9s,baz=116,slow=6.8,SNR=6.2	**58.03**	**332**	P	**P**	**11 33 39.6**	**-2.1**
AAK	**Ala-Archa**	**58.13**	**317↓**	*eP*	**P**	**11 33 43.6**	**+0.6**
AAK	comp=Z,9.0nm,1.2s			pmax	pmax		
EKS2	**Erkin-Say**	**58.63**	**317**	*eP*	**P**	**11 33 44.9**	**-1.5**
EKS2	comp=Z,48nm,1.2s			pmax	pmax		
EKS2	**Erkin-Say** comp=Z,48nm,1.2s	**58.63**	**317**	*eP*	**P**	**11 33 44.9**	**-1.5**
KURK	**Kurchatov**	**59.28**	**327**	*eP*	**P**	**11 33 48.0**	**-2.6**
KURK	comp=Z,9.0nm,0.8s			pmax	pmax		
KURK	**Kurchatov** comp=Z,8.8nm,0.8s	**59.28**	**327**	*eP*	**P**	**11 33 48.0**	**-2.6**
NVS	**Novosibirsk**	**59.31**	**333**	*i* P	**P**	**11 33 48.0**	**-2.7**
NVS	comp=Z,13nm,1.5s			pmax	pmax		
NVS	comp=N,8.0nm,1.4s			pmax	pmax		
NVS	comp=E,9.0nm,1.2s			pmax	pmax		
SEY	**Seymchan**	**59.49**	**13**	P	**P**	**11 33 52.3**	**+0.5**
SEY	**Seymchan**	**59.49**	**13**	P	**P**	**11 33 52.3**	**+0.5**
SEY	**Seymchan** comp=E,0.9nm,0.5s,baz=150,slow=10,SNR=1.9	**59.49**	**13**	P	**P**	**11 33 52.3**	**+0.5**
BRVK	**Borovoye**	**64.94**	**326**	*c iP*	**P**	**11 34 28.1**	**-0.4**
BRVK	comp=Z,27nm,1.7s			pmax	pmax		
BRVK	**Borovoye** comp=Z,12nm,0.8s	**64.94**	**326**	*eP*	**P**	**11 34 28.2**	**-0.4**
TIXI	**Tiksi**	**65.16**	**1↓**	*eP*	**P**	**11 34 28.0**	**-1.5**
TIXI	comp=Z,15nm,1.1s			pmax	pmax		
TIXI	**Tiksi** comp=Z,9.8nm,0.9s	**65.16**	**1**	*eP*	**P**	**11 34 30.6**	**+1.1**
ABKAR	**Akbulak array** comp=Z,4.9nm,0.8s	**69.84**	**320**	*eP*	**P**	**11 34 58.4**	**-1.1**
SVE	**Sverdlovsk**	**71.48**	**328**	*eP*	**P**	**11 35 08.5**	**-0.9**
SVE	comp=Z,22nm,1.2s			pmax	pmax		
ARU	**Arti**	**72.47**	**327**	*eP*	**P**	**11 35 15.8**	**+0.5**
ARU	comp=Z,9.0nm,0.7s			pmax	pmax		
ARU	**Arti** comp=Z,8.7nm,0.7s	**72.47**	**327**	*eP*	**P**	**11 35 15.8**	**+0.5**
MCK	**McKinley**	**81.92**	**27**	*eP*	**P**	**11 36 07.2**	**-1.0**
MCK	comp=Z,9.0nm,0.9s			pmax	pmax		
MCK	**McKinley** comp=Z,8.6nm,0.9s	**81.92**	**27**	*eP*	**P**	**11 36 07.2**	**-1.0**
COLA	**College**	**82.42**	**25↑**	*eP*	**P**	**11 36 09.6**	**-1.1**
COLA	comp=Z,30nm,1.7s			pmax	pmax		
ILAR	**Eielson Array**	**82.83**	**26**	P	**P**	**11 36 12.4**	**-0.5**
ILAR	**Eielson Array** comp=Z,0.6nm,0.7s,baz=238,slow=5.1,SNR=7.2	**82.83**	**26**	P	**P**	**11 36 12.4**	**-0.5**
OBN	**Obninsk**	**84.65**	**325↓**	*iP*	**P**	**11 36 19.4**	**-2.9**
OBN	comp=Z,11nm,0.7s			pmax	pmax		
ANN	**Anapa**	**84.75**	**314**	*eP*	**P**	**11 36 25.6**	**+2.5**
VNDA	**Vanda**	**86.14**	**173**	P	**P**	**11 36 28.7**	**-0.6**
VNDA	**Vanda** comp=Z,1.2nm,0.7s,baz=318,slow=6.9,SNR=4.0	**86.14**	**173**	P	**P**	**11 36 28.7**	**-0.6**
MAW	**Mawson**	**86.16**	**200**	P	**P**	**11 36 28.5**	**-1.0**
MAW	**Mawson** comp=Z,6.9nm,0.8s,baz=247,slow=4.3,SNR=6.4	**86.16**	**200**	P	**P**	**11 36 28.5**	**-1.0**
ARCES	**ARCESS Array B**	**87.80**	**340**	P	**P**	**11 36 36.6**	**-1.0**
ARCES	**ARCESS Array B** comp=Z,7.2nm,0.9s,baz=87,slow=5.1,SNR=10	**87.80**	**340**	P	**P**	**11 36 36.6**	**-1.0**
FINES	**FINESS Array B**	**89.29**	**332**	P	**P**	**11 36 43.9**	**-0.8**
FINES	**FINESS Array B** comp=Z,2.7nm,0.9s,baz=62,slow=6.6,SNR=5.0	**89.29**	**332**	P	**P**	**11 36 43.9**	**-0.8**
AKASG	**Malin Array Be**	**89.57**	**321**	*ceP*	**P**	**11 36 46.5**	**+0.2**
AKASG	comp=Z,1.0nm,0.6s			pmax	pmax		
AKASG	**Malin Array Be**	**89.57**	**321**	P	**P**	**11 36 45.3**	**-1.0**
AKASG	**Malin Array Be** comp=Z,1.4nm,0.7s,baz=66,slow=5.1,SNR=4.6	**89.57**	**321**	P	**P**	**11 36 45.3**	**-1.0**
SYO	**Syowa Base**	**94.81**	**201↓**	*eP*	**P**	**11 37 09.4**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,1.7nm,0.7s,baz=68,slow=4.8	**96.21**	**334**	P	**P**	**11 37 15.7**	**-1.1**
NOA	**NORSAR Array B**	**96.21**	**334**	P	**P**	**11 37 16.2**	**-0.6**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.7s,baz=109,slow=4.2,SNR=3.9	**96.21**	**334**	P	**P**	**11 37 16.2**	**-0.6**
YKA	**Yellowknife Ar**	**97.19**	**24**	P	**P**	**11 37 20.9**	**-0.3**
YKA				PKiKP	**PKiKP**	**11 41 56.6**	**+0.2**
YKA				PKKPbc	**PKKPbc**	**11 53 58.2**	**-4.6**
YKA

MEX 30 11:27:58.5±1.4, 17°.61N×95°.88W, h152km±19km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.97**	**237**	*eP*	Pn	11 28 21.1	-2.4
VHO				*i* S	Sn	11 28 40.6	-1.9
HUIG	**Huatulco**	**1.84**	**187**	*i* P	Pn	11 28 31.4	-0.6
HUIG				*i* S	Sn	11 28 56.1	-1.6
PNIG	**Pinotepa**	**2.46**	**241**	*i* P	Pn	11 28 37.2	-2.1
PNIG				*i* S	Sn	11 29 08.5	-2.3
TLIG	**Tlapa**	**2.56**	**269**	*i* P	Pn	11 28 40.2	-0.4
TLIG				*i* S	Sn	11 29 11.2	-1.8
PCIG		**3.18**	**126**	*i* P	Pn	11 28 42.4	-5.8

*IDC **30** 11:31:05.3±0.8, 6°.39N×126°.24E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/25, mbtmp4.0/10, Error ellipse: s-maj=44.7km s-min=14.7km az=70.0*
*AUST **30** 11:31:06.9, 7°.50N×126°.52E, h100km*
*ISCJB **30** 11:31:14.4±0.5, 6°.48N±0°.05×126°.14E±0°.09, h97km, mb3.9/10, Error ellipse: s-maj=13.7km s-min=5.6km az=162.0*

ISC 30 11:31:15.6±0.7, 6°.50N±0°.07×126°.1E±0°.1, h97km, n23, σ1$57/21, mb4.0/10, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.83**	**314**⇓	*eP*	Pn	11 31 29.6	-4.4
DMPH				*i* S	**Sn**	**11 31 44.7**	**-3.1**
BIPH	**Bislig**	**1.69**	**9**⇑	*i* P	**Pn**	**11 31 42.9**	**-1.3**
BIPH				*e*S	**Sn**	**11 32 04.7**	**-1.0**
CTBH	**Cotabato--PC H**	**1.98**	**291**⇑	*i* P	**Pn**	**11 31 46.1**	**-1.8**
CGP	**Cagayan de Oro**	**2.39**	**324**⇑	*i* P	**Pn**	**11 31 52.1**	**-1.1**
CGP				*e*S	**Sn**	**11 32 22.9**	**+0.9**
WSI	**Waingapu**	**17.08**	**200**	P	**P**	**11 35 09.9**	**+1.2**
	baz=18,SNR=4.3						
KDU	**Kakadu**	**20.09**	**162**	P	**P**	**11 35 38.2**	**-3.4**
	baz=21,SNR=4.4						
KNRA	**Kununurra**	**22.19**	**173**	P	**P**	**11 36 02.9**	**-1.2**
	baz=23,SNR=11						
FITZ	**Fitzroy Crossi**	**24.45**	**181**	P	**P**	**11 36 25.4**	**-0.2**
	4.0nm,0.6s,baz=15,slow=7.9,SNR=12						
WRA	**Warramunga Arr**	**27.50**	**163**	P	**P**	**11 36 52.1**	**-1.0**
	1.8nm,0.5s,baz=345,slow=10,SNR=7.4						
CMAR	**Chiang Mai Arr**	**29.01**	**297**	P	P	11 37 10.7	+4.0
	1.6nm,0.9s,baz=122,slow=7.7,SNR=8.0						
QIS	**Mount Isa**	**29.99**	**154**	P	**P**	**11 37 14.8**	**-0.4**
	baz=31,SNR=4.8						
ASAR	**Alice Springs**	**30.94**	**166**	P	**P**	**11 37 23.0**	**-0.6**
	2.0nm,0.6s,baz=344,slow=7.0,SNR=19						
MEEK	**Meekatharra**	**33.74**	**192**	P	**P**	**11 37 49.0**	**+1.0**
	baz=35,SNR=3.6						
BBOO	**Buckleboo**	**40.23**	**167**	P	**P**	**11 38 43.0**	**+0.2**
	baz=41,SNR=24						
STKA	**Stephens Creek**	**40.93**	**160**	P	**P**	**11 38 48.6**	**0.0**
	4.5nm,0.7s,baz=346,slow=9.0,SNR=9.5						
STKA	**Stephens Creek**	**40.93**	**160**	P	**P**	**11 38 49.0**	**+0.3**
	baz=42,SNR=5.6						
HTT	**Hallett**	**41.54**	**164**	P	**P**	**11 38 54.4**	**+0.7**
	baz=43,SNR=3.4						
SONM	**Songino Array**	**44.49**	**341**	P	P	11 39 20.4	+3.0
	0.7nm,0.9s,baz=161,slow=7.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**57.85**	**333**	P	**P**	**11 40 58.9**	**+1.8**
	0.6nm,0.5s,baz=128,slow=9.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**59.09**	**327**	P	**P**	**11 41 07.6**	**+1.9**
	1.5nm,0.8s,baz=127,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**82.88**	**26**	P	P	11 43 33.4	+4.1
	0.3nm,0.7s,baz=223,slow=4.9,SNR=2.8						
ARCES	**ARCESS Array B**	**87.65**	**340**	P	P	11 43 55.6	+2.6
	2.7nm,0.9s,baz=92,slow=6.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**121.44**	**290**	PKP	**PKPdf**	**11 50 00.5**	**+1.8**
	0.8nm,0.8s,baz=67,slow=1.8,SNR=4.6						

*MOS **30** 11:37:58.4±1.4, 6°.49N×126°.46E, h33km, mb4.7/10, Error ellipse: s-maj=17.7km s-min=8.6km az=115.3*
*BJI **30** 11:37:58.1, 6°.25N×126°.57E, h40km, mB5.4/6, mb4.7/25, Ms4.8/6, Ms7 4.3/6*
*IDC **30** 11:37:59.9±2.6, 6°.43N×126°.12E, h30km±17km, mb4.1/20, mb1 4.2/20, mb1mx4.1/27, mbtmp4.2/20, MS3.7/1, Ms1 3.7/1, ms1mx2.9/40, Error ellipse: s-maj=29.7km s-min=10.8km az=82.0*
*AUST **30** 11:38:00.9±0.4, 6°.69N×126°.57E, h48km, Error ellipse: s-maj=1.2km s-min=0.9km az=42.0*
*ISCJB **30** 11:38:01.2±0.4, 6°.40N±0°.02×126°.35E±0°.04, h54km±3km, mb4.5/59, MS3.3/2, Error ellipse: s-maj=7.2km s-min=3.7km az=165.4*
*NEIC **30** 11:38:02.2±1.0, 6°.51N×126°.49E, h52km±9km, mb4.9/18, Error ellipse: s-maj=8.9km s-min=5.7km az=63.0*
NEIC Felt [III PIVS] at Mati and Talagutong. Also felt at Davao and Dipolog.
*MAN **30** 11:38:03, 6°.55N×126°.07E, h8km, mb5.5, ML4.5, MS4.9*
MAN Intensity III - Mati Davao Oriental; Don Marcelino Davao del Sur.

ISC 30 11:38:01.8±0.5, 6°.43N±0°.04×126°.41E±0°.05, h41km±4km, h41km:pP-P, n179, σ1$38/197, mb4.5/59, 12C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.54**	**344**	*eP*	**Pn**	**11 38 12.3**	**-0.8**
MATI				*e*S	**Sn**	**11 38 23.2**	**+2.1**
DAV	**Davao City (W)**	**1.04**	**308**	*ei*Pn	**Pn**	**11 38 19.5**	**-0.4**
DAV				*e*Sn	**Sn**	**11 38 32.9**	**-0.4**
DMPH	**Davao City--Mi**	**1.10**	**306**⇑	*i* P	**Pn**	**11 38 20.0**	**-0.8**
DMPH				*e*S	**Sn**	**11 38 34.8**	**-0.1**
KCP	**Kidapawan**	**1.43**	**294**⇑	*i* P	**Pn**	**11 38 23.3**	**-2.0**
KCP				*i* S	**Sn**	**11 38 39.4**	**-3.5**
BIPH	**Bislig**	**1.75**	**359**⇑	*i* P	**Pn**	**11 38 30.1**	**+0.5**
BIPH				*e*S	**Sn**	**11 38 51.4**	**+0.7**
BUKP	**Musuan**	**1.96**	**317**	*eP*	**Pn**	**11 38 32.0**	**-0.6**
BUKP				*e*S	**Sn**	**11 38 57.9**	**+1.8**
CTBH	**Cotabato--PC H**	**2.29**	**290**⇑	*i* P	**Pn**	**11 38 36.6**	**-0.4**
CGP	**Cagayan de Oro**	**2.63**	**320**⇑	*i* P	**Pn**	**11 38 41.6**	**-0.2**
CGP				*i* S	**Sn**	**11 39 11.4**	**-1.1**
BUTP	**Butuan**	**2.64**	**343**	*eP*	**Pn**	**11 38 44.7**	**+2.7**
BUTP				*e*S	Sn	11 39 20.8	+8.0
SGSI	**Sangihe**	**2.86**	**198**	P	**Pn**	**11 38 45.1**	**+0.2**
PAGZ	**Pagadian**	**3.32**	**295**	*eP*	**Pn**	**11 38 51.0**	**-0.2**
SCPH	**Surigao**	**3.46**	**345**	*i* P	Pn	11 38 56.8	+3.7
SCPH				*e*S	**Sn**	**11 39 33.4**	**+0.5**
MSLP	**Maasin**	**3.99**	**338**	*eP*	Pn	11 39 04.1	+3.6
MSLP				*e*S	Sn	11 39 53.4	+7.4
LLP	**Lapu-Lapu**	**4.56**	**328**	*i* P	**Pn**	**11 39 09.4**	**+1.1**
LLP				*e*S	**Sn**	**11 40 01.1**	**+1.1**
PLP	**Palo**	**4.92**	**343**⇓	*i* P	**Pn**	**11 39 15.6**	**+2.4**
OCLP	**Ormoc**	**4.93**	**339**	*eP*	Pn	11 39 19.6	+6.3
BESP	**Borongan**	**5.23**	**350**	*eP*	Pn	11 39 29.4	+12
BESP				*e*S	Sn	11 40 26.1	+9.5
GUIM	**Jordan**	**5.63**	**318**	*eP*	Pn	11 39 26.6	+3.7
TNTI	**Ternate**	**5.70**	**170**	P	Pn	11 39 28.1	+4.1
TNTI	**Ternate**	**5.70**	**170**	*e*Pn	**Pn**	**11 39 24.0**	**+0.1**
RCP	**Roxas**	**6.25**	**325**⇑	*i* P	**Pn**	**11 39 33.3**	**+1.7**
KMSI	**Cibinong**	**6.30**	**203**	P	Pn	11 39 28.6	-3.6
GTOI	**Gorontalo**	**6.67**	**211**	P	**Pn**	**11 39 35.2**	**-2.2**
LBMI	**Labuha**	**7.10**	**171**	P	Pn	11 39 47.7	+4.5
MRSI	**Marisa**	**7.40**	**217**	P	**Pn**	**11 39 45.7**	**-1.6**
MYLDM	**Lahad Datu**	**7.96**	**261**	*e*Pn	**Pn**	**11 39 58.0**	**+3.0**
PALU	**Palau**	**8.06**	**83**	P	**Pn**	**11 39 56.0**	**-0.5**
	baz=7.9,SNR=7.1						
LUWI	**Luwuk**	**8.26**	**206**	P	**Pn**	**11 39 56.3**	**-2.8**
	125nm,1.1s,0.8nm						
LUWI	**Luwuk**	**8.26**	**206**	P	Pn	11 40 02.6	+3.5
	baz=8.6,SNR=6.3						
APSI	**Ampana**	**8.70**	**213**	P	**Pn**	**11 40 03.9**	**-1.2**
	74nm,0.8s						
NLAI	**Namlea**	**9.63**	**176**	P	**Pn**	**11 40 17.8**	**-0.1**
	42nm,0.7s						
TTSI	**Tana Toraja**	**11.48**	**215**	P	**Pn**	**11 40 41.6**	**-1.6**
SBUM	**Sibu**	**14.68**	**255**	*e*Pn	**Pn**	**11 41 29.8**	**+2.9**
SOEI	**Soe**	**16.21**	**188**	P	P	11 41 55.9	+6.3
	baz=17,SNR=3.4						
KSM	**Kuching**	**16.79**	**254**	*e*Pn	**P**	**11 41 57.2**	**+1.4**
	23nm,1.1s						
KSM	**Kuching**	**16.79**	**254**	P	**P**	**11 41 58.9**	**+3.1**
	baz=17,SNR=5.3						
JAGI	**Jajag, Banyuwa**	**19.19**	**220**	*eP*	**Pn**	**11 42 25.0**	**+1.6**
	54nm,1.5s						
GUMO	**Guam**	**19.52**	**67**	*eP*	**P**	**11 42 22.4**	**-3.4**
	67nm,0.3s						
MTN	**Manton Dam**	**19.71**	**166**	P	**Pn**	**11 42 34.4**	**+4.8**
	baz=20,SNR=4.0						
KDU	**Kakadu**	**19.92**	**162**	P	**Pn**	**11 42 31.6**	**-0.5**
	baz=20,SNR=5.8						
KNRA	**Kununurra**	**22.08**	**174**	P	**P**	**11 42 53.5**	**0.0**
	baz=22,SNR=9.9						
FITZ	**Fitzroy Crossi**	**24.38**	**182**	P	**P**	**11 43 16.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**24.38**	**182**	P	**P**	**11 43 16.2**	**-0.2**
	5.5nm,0.5s,baz=355,slow=6.9,SNR=20						
CHBT	**CHBT**	**24.54**	**287**	P	**P**	**11 43 19.9**	**+2.0**
	13nm,1.2s,3μm						
IPM	**Ipoh**	**25.34**	**267**	*eP*	**P**	**11 43 24.8**	**-0.4**
	18nm,0.9s						
IPM				*e*PcP	**PcP**	**11 46 55.8**	**-1.6**
JCJ	**Chichijima**	**25.45**	**34**	LR	LR	11 53 29.5	
	comp=Z,16nm,28.6s,baz=70,slow=36						
CHAI	**Chaiyaphum**	**25.71**	**294**	P	**P**	**11 43 29.9**	**+1.4**
	5.9nm,1.0s						
COEN	**Coen**	**26.21**	**141**	P	**P**	**11 43 34.0**	**+1.0**
	baz=26,SNR=4.2						
SLVN	**Son La**	**26.34**	**306**	*eP*	**P**	**11 43 35.3**	**+1.1**
	4.1nm,0.8s						
NJ2	**Nanjing**	**26.45**	**345**	*eP*	**P**	**11 43 36.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
PBKT	**Sadao Pong**	**26.85**	**294**	P	**P**	**11 43 39.0**	**+0.2**
	19nm,0.8s						
WRAB	**Tennant Creek**	**27.34**	**164**⇑	*eP*	**P**	**11 43 41.8**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,35nm,2.5s						
WRA	**Warramunga Arr**	**27.34**	**164**	P	**P**	**11 43 42.2**	**-0.9**
WRA				ScP	**ScP**	**11 50 40.0**	**+0.7**
WRA	**Warramunga Arr**	**27.34**	**164**	P	**P**	**11 43 42.2**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=342,slow=10.0,SNR=12						
WRA				ScP	**ScP**	**11 50 40.0**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=342,slow=3.0,SNR=4.6						
GYA	**Guiyang**	**27.40**	**319**	*eP*	**P**	**11 43 44.3**	**+0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**28.56**	**328**	*eP*	**P**	**11 43 53.8**	**-0.2**
	comp=Z,12nm,1.0s						
LAMP	**Lampang**	**28.72**	**297**	P	**P**	**11 43 56.8**	**+1.3**
	comp=Z,2.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.31**	**297**	P	**P**	**11 44 01.2**	**+0.4**
CMAR				ScP	**ScP**	**11 50 44.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**29.31**	**297**	P	**P**	**11 44 01.2**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=119,slow=7.6,SNR=32						
CMAR				ScP	**ScP**	**11 50 44.7**	**-0.8**
	comp=Z,1.8nm,1.1s,baz=134,slow=1.0,SNR=8.3						
QIS	**Mount Isa**	**29.79**	**154**	P	**P**	**11 44 05.6**	**+0.7**
	baz=30,SNR=5.9						
AS31	**Alice Springs**	**30.79**	**166**	*eP*	**P**	**11 44 13.8**	**+0.1**
ASAR	**Alice Springs**	**30.79**	**166**	P	**P**	**11 44 13.4**	**-0.3**
ASAR				PcP	**PcP**	**11 47 10.0**	**-0.5**
ASAR				ScP	**ScP**	**11 50 50.6**	**+0.4**
ASAR	**Alice Springs**	**30.79**	**166**	P	**P**	**11 44 13.4**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=342,slow=6.8,SNR=25						
ASAR				PcP	**PcP**	**11 47 10.0**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=344,slow=2.3,SNR=7.2						
ASAR				ScP	**ScP**	**11 50 50.6**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=0.0,slow=3.7,SNR=5.1						
WRKA	**Warakurna**	**31.33**	**177**	P	**P**	**11 44 18.5**	**0.0**
	baz=32,SNR=7.2						
XAN	**Xi'an**	**31.89**	**332**	P	**P**	**11 44 24.0**	**+0.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CD2	**Chengdu**	**32.31**	**322**	*eP*	**P**	**11 44 29.0**	**+1.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
MEEK	**Meekatharra**	**33.72**	**193**	P	**P**	**11 44 38.2**	**-1.2**
	baz=34,SNR=6.3						
BJI	**Beijing**	**34.71**	**346**	P	**P**	**11 44 48.5**	**+0.7**
BJI				pmax	pmax		
	comp=Z,18nm,0.7s						
LZH	**Lanzhou**	**36.04**	**328**	*eP*	**P**	**11 45 02.3**	**+2.8**
LZH				pP	**pP**	**11 45 10.3**	**-0.6**
LZH				sP	**sP**	**11 45 14.5**	**-1.3**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	**36.76**	**341**	*eP*	**P**	**11 45 05.5**	**0.0**
HHC				sP	**sP**	**11 45 19.3**	**-2.5**
HHC				PP	**PnPn**	**11 46 32.5**	**+2.5**
HHC				S	**S**	**11 50 45.8**	**-0.9**
HHC				sS	**sS**	**11 51 03.8**	**-1.8**
HHC				PcS	**PcS**	**11 51 15.5**	**+0.2**
HHC				pmax	pmax		
	comp=Z,35nm,0.9s						
HHC				pmax	pmax		
	comp=Z,310nm,6.0s						
HHC				LR	LR		
	comp=Z,290nm,14.1s						
HHC				LR	LR		
	comp=Z,230nm,13.9s						
HHC				LR	LR		
	comp=Z,250nm,14.1s						
QLP	**Quilpie**	**37.09**	**153**	P	P	11 45 12.7	+4.3
	baz=37,SNR=3.7						
CN2	**Changchun**	**37.24**	**359**	*eP*	**P**	**11 45 07.8**	**-1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Arra**	**37.94**	**7**	P	**P**	**11 45 15.6**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=184,slow=13,SNR=2.8						
MDJ	**Mudanjiang**	**38.14**	**4**	P	**P**	**11 45 16.0**	**-1.0**
MDJ				pmax	pmax		
	comp=Z,19nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,400nm,4.4s						
BBOO	**Buckleboo**	**40.09**	**167**	*eP*	**P**	**11 45 33.8**	**+0.3**
	comp=Z,184nm,0.6s						
BBOO	**Buckleboo**	**40.09**	**167**	P	**P**	**11 45 33.7**	**+0.3**
	baz=40,SNR=24						
NWAO	**Narrogin (SRO)**	**40.09**	**192**	P	**P**	**11 45 33.2**	**-0.3**
NWAO	**Narrogin (SRO)**	**40.09**	**192**	P	**P**	**11 45 33.2**	**-0.3**
	comp=Z,14nm,0.8s,baz=6.1,slow=9.8,SNR=8.0						
ASAJ	**Asahikawa**	**40.13**	**18**	P	**P**	**11 45 33.7**	**0.0**
ASAJ	**Asahikawa**	**40.13**	**18**	P	**P**	**11 45 33.7**	**0.0**
	comp=Z,6.1nm,1.0s,baz=185,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**40.75**	**160**	P	**P**	**11 45 39.4**	**+0.4**
STKA	**Stephens Creek**	**40.75**	**160**	P	**P**	**11 45 39.4**	**+0.4**
	comp=Z,6.2nm,0.7s,baz=339,slow=7.1,SNR=17						
STKA	**Stephens Creek**	**40.75**	**160**	P	**P**	**11 45 39.5**	**+0.5**
	baz=41,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**41.02**	**69**	T	T	12 29 49.1	
	SNR=11						
H11S1	**WAKE ISLAND Hy**	**41.03**	**69**	T	T	12 29 43.2	
	SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**41.03**	**69**	T	T	12 29 39.1	
	SNR=6.5						
HTT	**Hallett**	**41.38**	**164**	P	**P**	**11 45 44.8**	**+0.7**
	baz=42,SNR=6.8						
RKGY	**Rocky Gully**	**41.77**	**192**	P	**P**	**11 45 48.0**	**+0.8**
	baz=42,SNR=8.4						
TAPN	**Taplejung**	**42.21**	**304**	*eP*	**P**	**11 45 50.4**	**-1.0**
	comp=Z,18nm,0.9s						
TAPN	**Taplejung**	**42.21**	**304**	*eP*	**P**	**11 45 50.4**	**-1.0**
	comp=Z,18nm,0.9s						
ODAN	**Odare**	**42.29**	**303**	*eP*	**P**	**11 45 51.2**	**-0.8**
	comp=Z,22nm,0.7s						
ODAN	**Odare**	**42.29**	**303**	*eP*	**P**	**11 45 51.2**	**-0.8**
	comp=Z,22nm,0.7s						
RAMN	**Ramite**	**42.98**	**303**	*eP*	**P**	**11 45 57.0**	**-0.6**
	comp=Z,25nm,0.8s						
RAMN	**Ramite**	**42.98**	**303**	*eP*	**P**	**11 45 57.0**	**-0.6**
	comp=Z,25nm,0.8s						
JIRN	**Jiri**	**43.58**	**304**	*eP*	**P**	**11 46 01.3**	**-1.2**
	comp=Z,28nm,0.8s						
JIRN	**Jiri**	**43.58**	**304**	*eP*	**P**	**11 46 01.3**	**-1.2**
	comp=Z,28nm,0.8s						
GUN	**Gumba**	**43.92**	**304**	*eP*	**P**	**11 46 03.8**	**-1.5**
	comp=Z,36nm,0.8s						
GUN	**Gumba**	**43.92**	**304**	*eP*	**P**	**11 46 03.8**	**-1.5**
	comp=Z,36nm,0.8s						
PKI	**Pulchoki**	**44.19**	**303**	*eP*	**P**	**11 46 06.6**	**-0.8**
PKI	**Pulchoki**	**44.19**	**303**	*eP*	**P**	**11 46 06.6**	**-0.8**
PKI	**Pulchoki**	**44.19**	**303**	*eP*	**P**	**11 46 06.6**	**-0.8**
PKIN	**Phulchoki**	**44.20**	**303**	*eP*	**P**	**11 46 06.5**	**-1.0**
	comp=Z,8.1nm,0.7s						
KKN	**Kakani**	**44.37**	**304**	*eP*	**P**	**11 46 08.2**	**-0.6**
KKN	**Kakani**	**44.37**	**304**	*eP*	**P**	**11 46 08.2**	**-0.6**
KKN	**Kakani**	**44.37**	**304**	*eP*	**P**	**11 46 08.2**	**-0.6**
DMN	**Daman**	**44.45**	**303**	*eP*	**P**	**11 46 08.6**	**-0.9**
DMN	**Daman**	**44.45**	**303**	*eP*	**P**	**11 46 08.6**	**-0.9**
ULN	**Ulaanbaatar**	**44.47**	**341**	*eP*	**P**	**11 46 08.6**	**-0.5**
	comp=Z,4.3nm,1.0s						
SONM	**Songino Array**	**44.66**	**341**	P	**P**	**11 46 09.7**	**-0.9**
SONM				PcP	**PcP**	**11 47 52.5**	**-0.3**
SONM				ScP	**ScP**	**11 51 42.6**	**+0.7**
SONM	**Songino Array**	**44.66**	**341**	P	**P**	**11 46 09.7**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=155,slow=9.2,SNR=9.7						
SONM				PcP	**PcP**	**11 47 52.5**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=152,slow=6.8,SNR=2.8						
SONM				ScP	**ScP**	**11 51 42.6**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=145,slow=5.3,SNR=3.7						
GKN	**Gorkha**	**44.98**	**304**	*eP*	**P**	**11 46 12.9**	**-0.6**
GKN	**Gorkha**	**44.98**	**304**	*eP*	**P**	**11 46 12.9**	**-0.6**
ARPS	**Mount Arapiles**	**45.34**	**163**	P	**P**	**11 46 16.9**	**+1.0**
	baz=46,SNR=7.6						
KOLN	**Koldanda**	**45.77**	**303**	*eP*	**P**	**11 46 18.8**	**-1.0**
	comp=Z,32nm,0.8s						
KOLN	**Koldanda**	**45.77**	**303**	*eP*	**P**	**11 46 18.8**	**-1.0**
	comp=Z,32nm,0.8s						
DANN	**Dangsing**	**45.83**	**304**	*eP*	**P**	**11 46 19.0**	**-1.4**
	comp=Z,34nm,0.8s						
DANN	**Dangsing**	**45.83**	**304**	*eP*	**P**	**11 46 19.0**	**-1.4**
	comp=Z,34nm,0.8s						
PYUN	**Piuthan**	**46.38**	**303**	*eP*	**P**	**11 46 23.2**	**-1.5**
	comp=Z,38nm,0.9s						
PYUN	**Piuthan**	**46.38**	**303**	*eP*	**P**	**11 46 23.2**	**-1.5**
	comp=Z,38nm,0.9s						
TLY	**Talaya**	**48.89**	**341**	*eP*	**P**	**11 46 44.4**	**+0.9**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMQ	**Urumqi**	**50.35**	**324**	P	**P**	**11 46 56.0**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HVS	**Khovu-Aksy**	**52.18**	**334**⇑	*eP*	**P**	**11 47 07.8**	**-0.6**
HVS				pmax	pmax		
	comp=Z,14nm,1.0s						
PETK	**Petropavlovsk-**	**53.08**	**23**	P	**P**	**11 47 16.4**	**+1.5**
PETK	**Petropavlovsk-**	**53.08**	**23**	P	**P**	**11 47 16.4**	**+1.5**
PETK	**Petropavlovsk-**	**53.08**	**23**	P	**P**	**11 47 16.4**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=170,slow=7.4,SNR=6.5						
MK31	**Makanchi Array**	**55.18**	**324**	*eP*	**P**	**11 47 28.7**	**-1.7**
MK31	**Makanchi Array**	**55.18**	**324**	*eP*	**P**	**11 47 28.7**	**-1.7**
MKAR	**Makanchi Array**	**55.18**	**324**	*eP*	**P**	**11 47 28.9**	**-1.5**
MKAR	**Makanchi Array**	**55.18**	**324**	*eP*	**P**	**11 47 28.9**	**-1.5**
MKAR	**Makanchi Array**	**55.18**	**324**	P	**P**	**11 47 28.8**	**-1.6**
	baz=120,slow=7.8						
YAK	**Yakutsk**	**55.54**	**2**	*eP*	**P**	**11 47 32.6**	**0.0**
YAK				*e**PP	**pP**	**11 47 47.7**	**+3.2**
YAK	**Yakutsk**	**55.54**	**2**	*eP*	**P**	**11 47 32.6**	**0.0**
	comp=Z,48nm,0.6s						
YAK				*ep*P	**pP**	**11 47 47.7**	**+3.2**
KSH	**Kashi**	**55.94**	**314**	P	P	11 47 40.0	+3.9
KSH				sP	sP	11 47 53.3	+0.5
KSH				PP	PP	11 49 48.0	+6.8
KSH				PcS	**PcS**	**11 52 36.0**	**+1.2**
KSH				S	**S**	**11 55 25.3**	**+3.9**
KSH				SS	**SS**	**11 59 12.0**	**+4.2**
KSH				pmax	pmax		
	comp=Z,95nm,5.8s						
KSH				LR	LR		
	comp=Z,130nm,5.2s						
KSH				LR	LR		
	comp=Z,150nm,5.4s						
KSH				LR	LR		
	comp=Z,170nm,9.5s						
ZAA0	**Zalesovo Array**	**58.06**	**332**	*eP*	**P**	**11 47 50.0**	**-0.7**
ZALV	**Zalesovo Beam**	**58.06**	**332**	P	**P**	**11 47 48.8**	**-1.9**
ZALV	**Zalesovo Beam**	**58.06**	**332**	P	**P**	**11 47 48.8**	**-1.9**
ZALV	**Zalesovo Beam**	**58.06**	**332**	P	**P**	**11 47 48.8**	**-1.9**
	comp=Z,1.7nm,0.7s,baz=114,slow=7.3,SNR=7.7						
KURK	**Kurchatov**	**59.31**	**327**	*eP*	**P**	**11 47 57.8**	**-1.7**
KURK	**Kurchatov**	**59.31**	**327**	*eP*	**P**	**11 47 57.8**	**-1.7**
KURBB	**Kurchatov Arra**	**59.32**	**327**	P	**P**	**11 47 57.4**	**-2.0**
	comp=Z,4.5nm,0.8s,baz=126,slow=6.2,SNR=44						
KKAR	**Karatay Array**	**61.06**	**316**	*eP*	**P**	**11 48 09.7**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**61.06**	**316**	*eP*	**P**	**11 48 09.7**	**-2.0**
	comp=Z,1.7nm,0.6s						
BRVK	**Borovoye**	**64.97**	**326**	*eP*	**P**	**11 48 35.9**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**64.97**	**326**	*eP*	**P**	**11 48 35.9**	**-1.5**
	comp=Z,5.1nm,0.9s						
TIXI	**Tiksi**	**65.17**	**1**⇑	*eP*	**P**	**11 48 36.6**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**65.17**	**1**	*eP*	**P**	**11 48 38.5**	**+0.2**

PFO				*e*Sg		Sb	11 45 55.5	+0.9
NV11	**Mina Array Sit**	**2.53**	**347**	*e*Pn		Pn	11 45 18.9	-1.3
NV11				*e*Pg		Pg	11 45 25.6	-1.1
CMB	**Columbia Colle**	**3.15**	**312**	Pb		Pb	11 45 33.6	-1.2
CMB				*e*Sg		Sb	11 46 15.2	+1.6
BAR	**Barrett**	**3.34**	**169**	*e*Pn		Pn	11 45 30.2	-1.1
BAR				*e*Sg		Sg	11 46 22.4	-3.2
SAO	**San Andreas Ge**	**3.36**	**285**	Pn		Pn	11 45 34.1	+2.7
SAO				*e*Sg		Sg	11 46 26.2	+0.2
BMN	**Battle Mountai**	**4.45**	**2**	*e*Pn		Pn	11 45 46.6	-0.2
214A	**Organ Pipe Nat** 6.4nm,0.7s	**5.53**	**135**	Pn		Pn	11 46 06.5	+5.1
SRU	**San Rafael**	**6.30**	**58**	Pn		Pn	11 46 13.2	+1.0
SRU				*e*Pg		Pg	11 46 35.0	-4.1
SRU				*e*Sg		Sg	11 47 57.0	-3.8
MVCO	**Mesa Verde**	**7.27**	**78**	*e*Pg		Pg	11 46 53.0	-4.6

*ISCJB **30** 12:38:59.7±0.3, 65°.72N±0°.02×28°.31E±0°.04, h0km, Error ellipse: s-maj=2.7km s-min=2.2km az=17.3*
*HEL **30** 12:39:01.8±0.1, 65°.76N×28°.42E, h8km±1km, ML2.2, ML1.7(UPP)*
*CSEM **30** 12:39:01.0±0.1, 65°.75N×28°.36E, h2km, ML2.2, Error ellipse: s-maj=3.6km s-min=2.7km az=99.0, Suspected Mining explosion.*
*IDC **30** 12:39:02.1±1.7, 65°.76N×28°.20E, h0km, mb1 2.9/3, mb1mx2.8/26, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=22.5km s-min=11.0km az=99.0*
*UPP **30** 12:39:06.4, 65°.72N×27°.33E, h0km, ML1.7, Suspected Mining explosion.*

ISC 30 12:39:01.0±0.7, 65°.78N±0°.02×28°.37E±0°.02, h0km, n62, σ1§30/116, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU2	**Taivalkoski**	**0.09**	**222**	*e*P	**Pg**	**12 39 04.8**	**+2.2**
KU2				*e*S	**Sg**	**12 39 07.0**	**+3.3**
KU7	**Kasma**	**0.22**	**94**	*e*P	**Pg**	**12 39 05.8**	**+0.7**
KU7				*e*S	**Sg**	**12 39 08.7**	**+0.7**
MSF	**Maaselka**	**0.31**	**63**	*i* P	**Pg**	**12 39 07.5**	**+0.7**
MSF				*i* S	**Sg**	**12 39 11.3**	**+0.4**
MSF	**Maaselka**	**0.31**	**63**	P	**Pg**	**12 39 07.5**	**+0.7**
MSF				S	**Sg**	**12 39 11.2**	**+0.4**
KU8	**KU8**	**0.31**	**326**	*e*P	**Pg**	**12 39 07.9**	**+1.1**
KU8				*e*S	**Sg**	**12 39 11.7**	**+0.9**
KU1	**Kurvinen**	**0.54**	**113**	*e*P	**Pg**	**12 39 11.1**	**-0.1**
KU1				*e*S	**Sg**	**12 39 17.7**	**-0.4**
KU6	**Riekki**	**0.67**	**67**	*i* P	**Pg**	**12 39 13.5**	**-0.3**
KU6				*i* S	**Sg**	**12 39 22.3**	**-0.3**
KU6	**Riekki**	**0.67**	**67**	P	**Pg**	**12 39 13.5**	**-0.3**
KU6				S	**Sg**	**12 39 22.2**	**-0.3**
KU4	**Liikasenvaara**	**0.77**	**39**	*e*P	**Pg**	**12 39 15.6**	**-0.1**
KU4				*e*S	**Sg**	**12 39 25.1**	**-0.5**
OUL	**Oulu**	**1.25**	**237**	*i* P	**Pg**	**12 39 24.3**	**-0.6**
OUL				*i* S	**Sg**	**12 39 39.7**	**-1.3**
OUL	**Oulu**	**1.25**	**237**	P	**Pg**	**12 39 24.2**	**-0.6**
OUL				S	**Sg**	**12 39 39.6**	**-1.3**
RNF	**Rovaniemi**	**1.27**	**312**	*i* P	**Pg**	**12 39 24.9**	**-0.4**
RNF				*i* S	**Sb**	**12 39 42.1**	**-0.5**
RNF	**Rovaniemi**	**1.27**	**312**	P	**Pg**	**12 39 24.9**	**-0.4**
RNF				S	**Sb**	**12 39 42.1**	**-0.5**
KJN	**Kajaani**	**1.72**	**190**	*e*P	**Pn**	**12 39 31.6**	**-0.5**
KJN				*e*S	**Sn**	**12 39 53.5**	**-1.3**
KJN	**Kajaani**	**1.72**	**190**	P	**Pn**	**12 39 31.6**	**-0.5**
KJN				S	**Sn**	**12 39 53.4**	**-1.3**
SGF	**Sodankyl**	**1.83**	**337**	*e*P	**Pn**	**12 39 34.2**	**+0.6**
SGF				*e*S	**Sn**	**12 39 57.0**	**-0.4**
SGF	**Sodankyl**	**1.83**	**337**	P	**Pn**	**12 39 34.2**	**+0.6**
SGF				S	**Sn**	**12 39 57.0**	**-0.4**
VRF	**Varrio**	**2.04**	**13**	*e*P	**Pn**	**12 39 37.4**	**+0.9**
VRF				*e*S	**Sn**	**12 40 03.4**	**+0.6**
VRF				MSG		12 40 04.8	
	comp=Z,12nm,0.3s						
VRF	**Varrio**	**2.04**	**13**	P	**Pn**	**12 39 37.4**	**+0.9**
VRF				S	**Sn**	**12 40 03.3**	**+0.6**
KALU	**Kalix**	**2.07**	**275**	*e*P	**Pn**	**12 39 36.6**	**-0.2**
KALU	**Kalix**	**2.07**	**275**	P	**Pn**	**12 39 36.6**	**-0.2**
ERTU	**Ertsjaerv**	**2.63**	**290**	*e*P	**Pn**	**12 39 44.8**	**+0.2**
ERTU	**Ertsjaerv**	**2.63**	**290**	P	**Pn**	**12 39 44.8**	**+0.2**
HARU	**Harads**	**3.05**	**281**	*e*P	**Pn**	**12 39 50.5**	**+0.1**
HARU	**Harads**	**3.05**	**281**	P	**Pn**	**12 39 50.5**	**+0.1**
JOF	**Joensuu**	**3.14**	**155**	*e*P	**Pn**	**12 39 50.5**	**-1.2**
JOF				*e*PG	**Pb**	**12 39 57.0**	**-0.6**
JOF				*e*S	**Sn**	**12 40 29.8**	**0.0**
JOF				*e*SG	**Sb**	**12 40 37.3**	**+0.9**
JOF				MSG		12 40 38.0	
	comp=Z,6.8nm,0.3s						
JOF	**Joensuu**	**3.14**	**155**	P	**Pn**	**12 39 50.4**	**-1.2**
JOF				S	**Sn**	**12 40 29.7**	**0.0**
SUF	**Sumiainen**	**3.22**	**199**	*e*P	**Pn**	**12 39 53.6**	**+0.9**
SUF				*e*S	**Sn**	**12 40 30.6**	**-1.1**
SUF				*e*SB	**Sb**	**12 40 36.4**	**-2.2**
SUF				MSG		12 40 41.2	
	comp=Z,3.3nm,0.3s						
SUF	**Sumiainen**	**3.22**	**199**	P	**Pn**	**12 39 53.6**	**+0.9**
SUF				S	**Sn**	**12 40 30.6**	**-1.1**
HEF	**Hetta**	**3.22**	**327**	*e*P	**Pn**	**12 39 53.0**	**+0.2**
HEF				*e*PG	**Pb**	**12 40 00.2**	**+1.3**
HEF				*e*SB	**Sb**	**12 40 37.7**	**-1.0**
HEF				MSG		12 40 42.6	
	comp=Z,9.7nm,0.3s						
HEF	**Hetta**	**3.22**	**327**	P	**Pn**	**12 39 52.9**	**+0.2**
VAF	**Ylistaro**	**3.69**	**225**	*e*P	**Pn**	**12 39 59.2**	**0.0**
VAF				*e*S	**Sn**	**12 40 41.5**	**-1.8**
VAF				*e*SG	**Sb**	**12 40 54.4**	**+2.1**
VAF				MSG		12 40 57.3	
	comp=Z,10nm,0.4s						
VAF	**Ylistaro**	**3.69**	**225**	P	**Pn**	**12 39 59.2**	**0.0**
VAF				S	**Sn**	**12 40 41.5**	**-1.8**
KAF	**Kangasniemi**	**3.79**	**195**	*e*P	**Pn**	**12 40 01.2**	**+0.7**
KAF				*e*PG	**Pb**	**12 40 09.2**	**+0.5**
KAF				*e*S	**Sn**	**12 40 43.9**	**-1.8**
KAF				*e*SG	**Sb**	**12 40 57.9**	**+2.9**
KAF				MSG		12 41 02.0	
	comp=Z,3.7nm,0.3s						
KAF	**Kangasniemi**	**3.79**	**195**	P	**Pn**	**12 40 01.2**	**+0.7**
KAF				S	**Sn**	**12 40 43.9**	**-1.8**
KUA	**Kurravaara**	**3.85**	**308**	*e*P	**Pn**	**12 40 02.4**	**+1.0**
KUA	**Kurravaara**	**3.85**	**308**	P	**Pn**	**12 40 02.4**	**+1.0**
ARCES	**ARCESS Array B**	**3.93**	**345**	Pn	**Pn**	**12 40 03.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=160,slow=12,SNR=1.0						
ARCES				Sn	**Sn**	**12 40 46.7**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=165,slow=24,SNR=2.3						
ARCES				Lg	Lg	12 40 59.9	
	comp=Z,2.2nm,0.3s,baz=161,slow=31,SNR=11						
KEF	**Keuruu**	**3.94**	**205**	*e*P	**Pn**	**12 40 02.7**	**+0.1**
KEF				*e*S	**Sn**	**12 40 47.7**	**-1.7**
KEF				*e*SG	**Sb**	**12 41 01.1**	**+1.8**
KEF				MSG		12 41 06.5	
	comp=Z,4.1nm,0.3s						
KEF	**Keuruu**	**3.94**	**205**	P	**Pn**	**12 40 02.6**	**+0.1**
KEF				S	**Sn**	**12 40 47.6**	**-1.7**
KEV	**Kevo**	**4.03**	**353**	*e*P	**Pn**	**12 40 04.2**	**+0.3**
KEV				*e*S	**Sn**	**12 40 50.2**	**-1.5**
KEV				*e*SG	**Sb**	**12 41 05.0**	**+3.1**
KEV				MSG		12 41 05.9	
	comp=Z,4.9nm,0.3s						
KEV	**Kevo**	**4.03**	**353**	P	**Pn**	**12 40 04.1**	**+0.3**
KEV				S	**Sn**	**12 40 50.2**	**-1.5**
NIKU	**Nikkaluokta**	**4.25**	**304**	*e*P	**Pn**	**12 40 07.9**	**+1.1**
NIKU	**Nikkaluokta**	**4.25**	**304**	P	**Pn**	**12 40 07.9**	**+1.1**
SALU	**Saltoluokta**	**4.25**	**297**	*e*P	**Pn**	**12 40 07.5**	**+0.5**
SALU	**Saltoluokta**	**4.25**	**297**	P	**Pn**	**12 40 07.4**	**+0.5**
KIF	**Kilpisjarvi**	**4.36**	**321**	*e*P	**Pn**	**12 40 08.6**	**+0.2**
KIF				*e*S	**Sn**	**12 40 58.4**	**-1.4**
KIF				*e*SB	**Sb**	**12 41 11.7**	**+0.2**
KIF	**Kilpisjarvi**	**4.36**	**321**	P	**Pn**	**12 40 08.5**	**+0.2**
KIF				S	**Sn**	**12 40 58.4**	**-1.4**
FIA0	**FINESS Array S**	**4.47**	**194**	*e*P	**Pn**	**12 40 11.0**	**+1.2**
FIA0				*e*S	**Sn**	**12 41 01.4**	**-1.1**
FIA0				*e*SG	**Sb**	**12 41 17.0**	**+2.5**
FIA0				MSG		12 41 20.2	
	comp=Z,3.9nm,0.3s						
FIA0	**FINESS Array S**	**4.47**	**194**	P	**Pn**	**12 40 11.0**	**+1.2**
FIA0				S	**Sn**	**12 41 01.3**	**-1.1**
FINES	**FINESS Array B**	**4.47**	**194**	Pn	**Pn**	**12 40 10.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=23,slow=12,SNR=1.0						
FINES				Sn	**Sn**	**12 41 02.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=19,slow=22,SNR=2.1						
FINES				Lg	Lg	12 41 16.9	
	comp=Z,1.9nm,0.3s,baz=26,slow=28,SNR=8.4						
BREU	**Bredtraesk**	**4.59**	**250**	*e*P	**Pn**	**12 40 10.4**	**-1.1**
BREU	**Bredtraesk**	**4.59**	**250**	P	**Pn**	**12 40 10.4**	**-1.1**
HUSU	**Husum**	**4.64**	**242**	*e*P	**Pn**	**12 40 11.7**	**-0.5**
HUSU				*e*S	**Sn**	**12 41 04.4**	**-2.3**
HUSU	**Husum**	**4.64**	**242**	P	**Pn**	**12 40 11.7**	**-0.5**
HUSU				S	**Sn**	**12 41 04.4**	**-2.3**
VJF	**Virojoki**	**5.27**	**184**	*e*P	**Pn**	**12 40 19.8**	**-1.0**
VJF				*e*S	**Sn**	**12 41 20.9**	**-1.3**
VJF	**Virojoki**	**5.27**	**184**	P	**Pn**	**12 40 19.8**	**-1.0**
VJF				S	**Sn**	**12 41 20.9**	**-1.3**
RAF	**Rauma**	**5.62**	**215**	*e*S	**Sn**	**12 41 27.8**	**-2.9**
RAF				*e*SG	**Sb**	**12 41 52.2**	**+4.7**
RAF	**Rauma**	**5.62**	**215**	S	**Sn**	**12 41 27.8**	**-2.9**
MEF	**Metsahovi**	**5.87**	**200**	*e*S	**Sn**	**12 41 35.1**	**-1.7**
MEF				*e*SG	Sb	12 42 01.1	+6.4
MEF	**Metsahovi**	**5.87**	**200**	S	**Sn**	**12 41 35.1**	**-1.7**
NOA	**NORSAR Array B**	**9.02**	**246**	Pn	**Pn**	**12 41 11.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=216,slow=10,SNR=2.4						
NOA				Sn	Sn	12 42 47.1	-7.4
	comp=Z,0.1nm,0.3s,baz=47,slow=22,SNR=1.0						
NOA				Lg	Lg	12 43 40.4	
	comp=Z,0.2nm,0.3s,baz=136,slow=12,SNR=2.6						

*GRAL **30** 12:52:32.8±0.3, 33°.90N×35°.51E, h14km±1km, MD2.9*
*CSEM **30** 12:52:34.3±0.3, 33°.87N×35°.76E, h2km, ML1.7, Error ellipse: s-maj=8.9km s-min=4.7km az=89.0*

NSSC 30 12:52:32.9±1.4, 33°.88N×35°.65E, h4km±10km, MD1.0, ML1.6, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.02**	**5**	*e*P	Pg	12 52 36.0	+2.1
BHL	**Bhannes**	**0.02**	**5**	*e*P	Pg	12 52 36.0	+2.1
RCY	**Rachaya**	**0.41**	**158**	*e*P	Pg	12 52 41.7	+0.6
RCY				*e*S	Sb	12 52 48.3	-1.5
HWQ	**Hawqa**	**0.46**	**32**	*e*P	Pg	12 52 42.4	+0.4
HWQ				*e*S	Sg	12 52 49.6	+1.4
HWQ	**Hawqa**	**0.46**	**32**	*e*P	Pg	12 52 42.4	+0.4
HWQ				*e*S	Sg	12 52 49.6	+1.4
MARH	**Ras Al Marh**	**0.70**	**78**	*e*P	Pg	12 52 46.7	-0.2
MARH				*e*S	Sg	12 52 56.0	-0.4
MARH				AML	AML	12 53 03.1	
	comp=N,82nm,0.3s						
MARH				AML	AML	12 53 03.2	
	comp=E,54nm,0.4s						
MARH	**Ras Al Marh**	**0.70**	**78**	*e*P	Pg	12 52 46.6	-0.3
MARH				*e*S	Sg	12 52 54.1	-2.3
MARH				AML	AML	12 53 03.1	
	comp=N,82nm,0.3s						
MARH				AML	AML	12 53 03.2	
	comp=E,54nm,0.4s						
MARH	**Ras Al Marh** SNR=72	**0.70**	**78**	*e*P	Pg	12 52 46.6	-0.3
MARH				*e*S	Sg	12 52 54.1	-2.2
	comp=E,54nm,0.4s,SNR=97						
ROOS	**tl_alroos**	**1.39**	**78**	*e*P	Pg	12 52 59.9	+0.2
ROOS				*e*S	Sb	12 53 17.3	-0.4
SALA	**Sala**	**1.48**	**142**	*e*P	Pn	12 53 00.3	-0.3
SALA				*e*S	Sn	12 53 19.4	-1.1
SALA				AML	AML	12 53 22.4	
	comp=N,16nm,0.7s						
SALA				AML	AML	12 53 23.4	
	comp=E,2.7nm,0.4s						
SALA	**Sala**	**1.48**	**142**	*e*P	Pb	12 53 01.3	+0.1
SALA				*e*S	Sn	12 53 19.0	-1.5
SALA				AML	AML	12 53 22.4	
	comp=N,16nm,0.7s						
SALA				AML	AML	12 53 23.4	
	comp=E,2.7nm,0.4s						
SALA	**Sala** SNR=61	**1.48**	**142**	*e*P	Pb	12 53 01.3	+0.1
SALA				*e*S	Sn	12 53 19.0	-1.5
	comp=E,2.7nm,0.4s,SNR=62						
ZALF	**Zalf**	**1.70**	**124**	*e*P	Pn	12 53 03.7	+0.3
ZALF				*e*S	Sn	12 53 25.0	-0.7
ZALF				AML	AML	12 53 29.2	
	comp=E,8.4nm,0.4s						
ZALF				AML	AML	12 53 29.6	
	comp=N,7.2nm,0.6s						
ZALF	**Zalf** SNR=61	**1.70**	**124**	*e*P	Pn	12 53 03.7	+0.3
ZALF				*e*S	Sn	12 53 25.0	-0.7
	comp=N,7.2nm,0.6s,SNR=62						
SLNF	**Slenfeh**	**1.77**	**15**	*e*P	Pg	12 53 07.5	+0.4
SLNF				*e*S	Sn	12 53 27.3	-0.4
SLNF				AML	AML	12 53 36.1	
	comp=N,84nm,0.4s						
SLNF				AML	AML	12 53 36.2	
	comp=E,18nm,0.3s						
SLNF	**Slenfeh** SNR=47	**1.77**	**15**	*e*P	Pg	12 53 07.5	+0.4
SLNF				*e*S	Sn	12 53 27.3	-0.4
	comp=E,18nm,0.3s,SNR=49						
BTCH	**Batrach**	**2.25**	**17**	*e*P	Pn	12 53 10.7	-0.3

*BJI **30** 13:00:05.4, 3°.13N×122°.92E, h595km, mB4.7/5, mb4.5/19*
*ISCJB **30** 13:00:11.6±0.2, 3°.76N±0°.03×122°.48E±0°.04, h602km, mb4.2/38, Error ellipse: s-maj=5.4km s-min=3.6km az=142.7*
*IDC **30** 13:00:13.0±0.9, 3°.70N×122°.47E, h608km±12km, mb3.5/25, mb1 3.5/25, mb1mx3.5/28, mbtmp3.5/25, Error ellipse: s-maj=13.5km s-min=6.4km az=70.0*
*AUST **30** 13:00:12.4±0.0, 3°.67N×122°.39E, h593km, Error ellipse: s-maj=1.2km s-min=0.9km az=230.0*
*BKK **30** 13:00:12.7±0.4, 4°N±6°×12°.3E±°, h598km±5km, M4.8/20, mB4.9/4, mb4.5/20, MLv5.1/4, Mw(mB)4.2/4*
*DJA **30** 13:00:13.5±0.4, 4°N±6°×12°.2E±°, h588km±3km, M4.6/29, mb4.5/29, mB5.1/15, MLv5.1/15, Mw(mB)4.4/15*

ISC 30 13:00:12.7±0.4, 3°.70N±0°.06×122°.44E±0°.07, h602km, n115, σ1§22/129, mb4.3/38, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**3.04**	**213**	P	**P**	**13 01 31.6**	**-0.8**
TOLI				S	**S**	**13 02 35.3**	**-1.8**
GTOI	**Gorontalo**	**3.09**	**169**	P	**P**	**13 01 30.9**	**-1.8**
MRSI	**Marisa**	**3.24**	**189**	P	**P**	**13 01 33.1**	**-0.4**
MRSI				S	**S**	**13 02 37.7**	**-1.5**
KMSI	**Cibinong**	**3.46**	**154**	P	**P**	**13 01 34.6**	**-0.3**
KMSI				S	**S**	**13 02 40.3**	**-1.4**
MYLDM	**Lahad Datu**	**4.20**	**291**	P	**P**	**13 01 40.7**	**+1.0**
MYLDM	**Lahad Datu**	**4.20**	**291**	P	**P**	**13 01 40.0**	**+0.2**
TSM	**Tawau**	**4.60**	**278**	P	**P**	**13 01 42.3**	**-0.4**
APSI	**Ampana**	**4.65**	**190**	P	**P**	**13 01 42.0**	**-1.1**
LUWI	**Luwuk**	**4.72**	**176**	P	**P**	**13 01 41.7**	**-1.9**
LUWI				S	**S**	**13 02 54.4**	**-3.3**
LUWI	**Luwuk** baz=4.7,SNR=64	**4.72**	**176**	P	**P**	**13 01 42.1**	**-1.5**
SDKM	**Sandakan**	**5.58**	**290**	P	**P**	**13 01 49.1**	**-1.4**
TNTI	**Ternate** 743nm,1.1s,10µm2.9nm	**5.71**	**120**	P	**P**	**13 01 51.0**	**-0.6**
TNTI				S	S	13 03 01.2	-11
	743nm,1.1s,10µm2.9nm						
SGKI	**Sangatta, Kali** 519nm,0.8s,7µm1.8nm	**6.41**	**229**	P	P	13 01 53.6	-4.0
KDM	**Kudat**	**6.44**	**300**	P	**P**	**13 01 57.7**	**-0.1**
LBMI	**Labuha** 374nm,0.7s,4µm1.5nm	**6.64**	**130**	P	**P**	**13 01 59.1**	**-0.6**
LBMI				S	**S**	**13 03 23.7**	**-3.4**
	374nm,0.7s,4µm1.5nm						
TTSI	**Tana Toraja** 98nm,0.9s,759nm0.3nm	**7.19**	**201**	P	**P**	**13 02 03.7**	**-1.0**
MMSI	**Mamuju** 450nm,0.7s,4µm1.3nm	**7.26**	**209**	P	**P**	**13 02 03.8**	**-1.5**
BKB	**Balikpapan** 765nm,0.7s,6µm2.6nm	**7.42**	**228**	P	**P**	**13 02 07.7**	**+1.0**
KKSI	**Kolaka, Sulawe** 44nm,0.5s,0.3nm	**7.86**	**186**	P	**P**	**13 02 13.1**	**+2.2**
SPSI	**Sidrap Palu** 74nm,0.7s,539nm	**8.07**	**199**	P	**P**	**13 02 12.3**	**-0.5**
NLAI	**Namlea** 198nm,0.9s,2µm	**8.31**	**146**	P	**P**	**13 02 15.5**	**+0.3**
BNSI	**Bone** 39nm,0.8s	**8.38**	**196**	P	**P**	**13 02 14.8**	**-1.0**
MTKI	**Muara Teweh, K** 105nm,0.7s,7µm0.7nm	**8.84**	**239**	P	**P**	**13 02 21.1**	**+0.8**
BTM	**Bintulu**	**9.36**	**267**	P	**P**	**13 02 25.3**	**0.0**
KBKI	**Kotabaru** 63nm,1.1s	**9.36**	**222**	P	**P**	**13 02 23.1**	**-2.2**
MSAI	**Masohi**	**9.54**	**137**	P	**P**	**13 02 25.0**	**-2.1**
	111nm,0.5s,2µm						
SWI	**Sorong** 54nm,0.9s	**9.91**	**117**	P	**P**	**13 02 30.4**	**-0.3**
SBUM	**Sibu**	**10.28**	**263**	P	**P**	**13 02 35.3**	**+0.9**
SBUM	**Sibu** 79nm,0.9s,750nm	**10.28**	**263**	P	**P**	**13 02 35.0**	**+0.6**
BBKI	**Banjar Baru** 74nm,0.8s,2µm	**10.41**	**227**	P	**P**	**13 02 35.0**	**-0.7**
STKI	**Sintang** 34nm,1.0s,6µm	**11.54**	**252**	P	**P**	**13 02 48.0**	**+1.0**
FAKI	**Fak Fak** 32nm,1.1s	**11.80**	**124**	P	**P**	**13 02 48.1**	**-1.5**
FAKI	**Fak Fak** baz=12,SNR=7.4	**11.80**	**124**	P	**P**	**13 02 49.8**	**+0.2**
KSM	**Kuching**	**12.32**	**260**	P	**P**	**13 02 54.7**	**-0.1**
KSM	**Kuching** 33nm,0.7s	**12.32**	**260**	P	**P**	**13 02 54.1**	**-0.7**
KSM	**Kuching** baz=12,SNR=14	**12.32**	**260**	P	**P**	**13 02 54.9**	**+0.1**
LBFI	**Labuhan Bajo,** 81nm,0.7s,1µm	**12.36**	**192**	P	**P**	**13 02 57.8**	**+2.6**
PALU	**Palau** baz=13,SNR=3.7	**12.51**	**73**	P	**P**	**13 02 56.9**	**+0.2**
SRBI	**Singaraja** 28nm,1.0s	**13.75**	**212**	P	**P**	**13 03 09.3**	**+0.1**
BAKI	**Biak** 67nm,0.8s	**14.49**	**109**	P	**P**	**13 03 19.3**	**+3.0**
JAGI	**Jajag, Banyuwa** baz=15,SNR=13	**14.65**	**214**	P	**P**	**13 03 18.7**	**+1.0**
GMJI	**Gumukmas** 33nm,1.1s	**14.90**	**217**	P	**P**	**13 03 20.7**	**+0.7**
MTN	**Manton Dam** baz=19,SNR=4.9	**18.56**	**152**	P	**P**	**13 03 56.6**	**+3.1**
MYKOM	**Kota Tinggi**	**18.67**	**265**	P	**P**	**13 03 55.2**	**+0.7**
MYKOM	**Kota Tinggi** 31nm,0.9s	**18.67**	**265**	P	**P**	**13 03 56.4**	**+1.9**
KDU	**Kakadu** baz=19,SNR=11	**19.09**	**149**	P	**P**	**13 03 58.2**	**0.0**
KGM	**Kluang**	**19.17**	**266**	P	**P**	**13 03 59.6**	**+0.5**
KTGM	**Kuala Trenggan**	**19.32**	**276**	P	**P**	**13 04 00.5**	**+0.1**
KNRA	**Kununurra** baz=20,SNR=4.8	**20.24**	**162**	P	**P**	**13 04 09.3**	**+0.7**
FRIM	**Kepong**	**20.79**	**269**	P	**P**	**13 04 13.7**	**0.0**
IPM	**Ipoh**	**21.38**	**273**	P	**P**	**13 04 18.8**	**-0.1**
KULM	**Kulim**	**21.78**	**275**	P	**P**	**13 04 22.8**	**+0.2**
FITZ	**Fitzroy Crossi** 2.3nm,0.8s,baz=324,slow=4.5,SNR=7.5	**21.89**	**172**	P	**P**	**13 04 22.8**	**-0.6**
FITZ				ScP	**ScP**	**13 10 38.9**	**-0.3**
	2.6nm,0.7s,baz=139,slow=4.7,SNR=5.5						
MNSI	**Mandailing Nat** 27nm,0.7s,1µm	**23.02**	**263**	P	**P**	**13 04 33.3**	**-0.3**
CHAI	**Chaiyaphum** 20nm,0.7s,208nm	**23.49**	**302**	P	**P**	**13 04 37.3**	**-0.4**
PSI	**Prapat** 22nm,1.0s	**23.50**	**269**	P	**P**	**13 04 38.2**	**+0.3**
PSI	**Prapat** 12nm,0.7s,baz=127,slow=2.8,SNR=6.5	**23.50**	**269**	P	**P**	**13 04 37.9**	**-0.1**
PSI	**Prapat** baz=24,SNR=5.3	**23.50**	**269**	P	**P**	**13 04 38.2**	**+0.3**
SURT	**Suratani** 18nm,0.6s	**24.07**	**284**	P	**P**	**13 04 43.3**	**+0.5**
PKDT	**Phuket** 44nm,0.9s	**24.34**	**281**	P	**P**	**13 04 45.9**	**+0.7**
KCSI	**Kotacane, Aceh** 21nm,0.8s	**24.62**	**270**	P	**P**	**13 04 47.5**	**-0.3**
PBKT	**Sadao Pong** 18nm,0.7s	**24.67**	**303**	P	**P**	**13 04 48.4**	**+0.4**
KHLT	**Khaolaem Dam** 16nm,0.8s	**25.96**	**297**	P	**P**	**13 05 00.3**	**+0.8**
WRA	**Warramunga Arr** 9.3nm,0.6s,baz=337,slow=9.5,SNR=104	**26.24**	**154**	P	**P**	**13 05 01.6**	**-0.3**
WRA				S	**S**	**13 08 49.5**	**-3.9**
	3.5nm,0.8s,baz=335,slow=15,SNR=9.6						
WRA				ScP	**ScP**	**13 10 50.6**	**-0.8**
	2.7nm,0.5s,baz=340,slow=3.1,SNR=24						
LAMP	**Lampang** 4.0nm,1.0s	**26.74**	**305**	P	**P**	**13 05 07.8**	**+1.5**
CMAR	**Chiang Mai Arr** 6.6nm,0.9s,baz=130,slow=7.6,SNR=54	**27.27**	**304**	P	**P**	**13 05 11.6**	**+0.6**
CMAR				PcP	**PcP**	**13 08 11.1**	**+0.9**
	0.8nm,0.7s,baz=155,slow=1.3,SNR=5.5						
CMAR				ScP	**ScP**	**13 10 54.8**	**+0.2**
	0.7nm,0.7s,baz=182,slow=2.7,SNR=6.3						
PMG	**Port Moresby** 13nm,1.0s	**27.86**	**118**	P	**P**	**13 05 16.1**	**0.0**
CMAI	**Chiengmai2** 13nm,1.0s	**27.95**	**307**	P	**P**	**13 05 17.1**	**+0.1**
MHMT	**Maesariang** 13nm,0.8s	**27.98**	**303**	P	**P**	**13 05 17.5**	**+0.4**
WRKA	**Warakurna** baz=29,SNR=15	**29.12**	**169**	P	**P**	**13 05 27.6**	**+0.7**
ASAR	**Alice Springs** 4.5nm,0.6s,baz=334,slow=7.0,SNR=98	**29.40**	**158**	P	**P**	**13 05 30.0**	**+0.6**
ASAR				PcP	**PcP**	**13 08 15.7**	**0.0**
	0.6nm,0.6s,baz=350,slow=2.5,SNR=4.8						
ASAR				S	**S**	**13 09 41.0**	**-1.5**
	3.9nm,0.8s,baz=342,slow=18,SNR=18						
ASAR				ScP	**ScP**	**13 11 00.6**	**-0.7**
	3.9nm,0.7s,baz=336,slow=2.6,SNR=24						
QIS	**Mount Isa** baz=30,SNR=25	**29.41**	**146**	P	**P**	**13 05 30.2**	**+0.8**
MEEK	**Meekatharra** baz=30,SNR=6.7	**30.38**	**187**	P	**P**	**13 05 37.9**	**+0.2**
XAN	**Xi'an**	**32.71**	**339**	P	**P**	**13 05 57.3**	**-0.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MORW	**Morawa** baz=33,SNR=6.1	**33.15**	**190**	P	**P**

3.6nm,0.9s,baz=287,slow=1.8,SNR=4.7
VNDA Vanda 83.96 172 P **P** 13 11 40.5 **+0.4**
0.8nm,0.7s,baz=321,slow=7.8,SNR=2.1
KMBO Kilima Mbogo 85.27 269 P **P** 13 11 48.5 **+0.4**
2.9nm,0.8s,baz=248,slow=23,SNR=8.9
BRTR Keskin Array B 86.74 309 P **P** 13 11 53.0 **-1.4**
0.8nm,0.8s,baz=134,slow=7.0,SNR=4.6
ILAR Eielson Array 86.97 25 P **P** 13 11 53.6 **-1.2**
0.5nm,0.6s,baz=249,slow=5.2,SNR=5.2
JOF Joensuu 87.25 333 *ep* **P** 13 11 53.8 **-2.3**
5.8nm,0.7s
ARCES ARCESS Array B 88.99 340 P **P** 13 12 02.8 **-1.3**
3.2nm,0.8s,baz=71,slow=7.8,SNR=8.0
AKASG Malin Array Be 89.21 321 P **P** 13 12 03.5 **-2.0**
0.2nm,0.3s,baz=72,slow=4.1,SNR=5.7
KAF Kangasniemi 89.64 332 *ep* **P** 13 12 04.8 **-2.4**
2.3nm,0.4s
FINES FINESS Array B 89.83 331 P **P** 13 12 06.6 **-1.5**
2.0nm,0.6s,baz=74,slow=5.9,SNR=3.0
TORD Torodi Ar. Bea 118.85 287 PKP **PKPdf** 13 17 53.9 **-0.9**
1.3nm,0.6s,baz=49,slow=1.7,SNR=8.7
DBIC Dimbokro 126.39 281 PKP **PKPdf** 13 18 09.7 **+0.4**
1.1nm,0.6s,baz=15,slow=3.7,SNR=1.8

IDC 30 13:08:39.1±10.0, 12.28S×166.68E, h199km±118km, mb3.0/4, mb1 3.3/5, mb1mx3.1/19, mbtmp3.1/5, Error ellipse: s-maj=102.6km s-min=27.5km az=152.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**9.74**	**181**	P		Pn	13 10 55.0	-0.1
	0.4nm,0.3s,baz=344,slow=6.5,SNR=7.1							
DZM				S		Sn	13 12 27.4	-17
	0.1nm,0.3s,baz=315,slow=23,SNR=1.1							
STKA	**Stephens Creek**	**30.21**	**226**	P		P	13 14 31.4	+0.3
	0.8nm,0.7s,baz=45,slow=10.0,SNR=1.4							
WRA	**Warramunga Arr**	**31.95**	**252**	P		P	13 14 46.5	0.0
	0.2nm,0.4s,baz=84,slow=9.1,SNR=6.8							
ASAR	**Alice Springs**	**33.09**	**245**	P		P	13 14 56.1	-0.3
	0.4nm,0.7s,baz=73,slow=9.8,SNR=5.1							
ILAR	**Eielson Array**	**84.39**	**18**	P		P	13 20 48.6	0.0
	0.4nm,0.6s,baz=238,slow=4.9,SNR=9.7							

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*ISCJB **30** 13:30:35.1±1.1, 23.8N±0.3×94.2E±0.3, h100km, mb3.6/4, Error ellipse: s-maj=61.9km s-min=10.8km az=43.5*
*IDC **30** 13:30:41.4±3.1, 23.57N×94.53E, h183km±31km, mb3.2/4, mb1 3.2/5, mb1mx2.9/27, mbtmp3.1/5, Error ellipse: s-maj=97.6km s-min=14.9km az=55.0*
ISC 30 13:30:36.4±1.3, 23.8N±0.4×94.1E±0.4, h100km, n6, σ1°07/5, mb3.7/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHL	**Shillong**	**2.69**	**311**	*e*PN		**Pn**	**13 31 18.0**	**-0.2**
SHL				*e*SN		**Sn**	**13 31 50.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**6.96**	**139**	P		**Pn**	**13 32 15.7**	**-0.1**
	0.2nm,0.3s,baz=314,slow=13,SNR=3.1							
AAK	**Ala-Archa**	**24.84**	**324**	P		**P**	**13 35 51.1**	**+1.4**
	0.7nm,0.3s,baz=143,slow=15,SNR=5.6							
KURBB	**Kurchatov Arra**	**29.39**	**340**	P		**P**	**13 36 30.0**	**-0.1**
	0.5nm,0.5s,baz=141,slow=10.0,SNR=8.9							
WRA	**Warramunga Arr**	**58.54**	**135**	P		P	13 40 15.8	-6.9
	0.4nm,0.3s,baz=321,slow=7.5,SNR=10.0							
ASAR	**Alice Springs**	**60.97**	**138**	P		P	13 40 32.8	-6.6
	0.4nm,0.4s,baz=317,slow=6.7,SNR=12							

IDC 30 13:33:46.7±3.6, 6.02S×150.97E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.4/16, mbtmp3.4/2, Error ellipse: s-maj=152.1km s-min=46.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.28**	**228**	P		P	13 38 34.8	-0.2
	0.4nm,0.4s,baz=54,slow=10,SNR=4.9							
ASAR	**Alice Springs**	**24.03**	**221**	P		P	13 39 03.6	-0.1
	1.2nm,0.6s,baz=54,slow=8.9,SNR=23							
TORD	**Torodi Ar. Bea**	**148.91**	**285**	PKPbc		PKPbc	13 53 37.2	-0.4
	0.4nm,1.0s,baz=90,slow=1.7,SNR=2.5							

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*IDC **30** 13:46:04.0±0.8, 23.65N×143.78E, h0km, mb4.0/14, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, ML3.6/3, MS3.7/3, Ms1 3.7/3, ms1mx2.9/41, Error ellipse: s-maj=27.9km s-min=16.1km az=86.0*
*ISCJB **30** 13:46:07.0±0.7, 23.69N±0.07×143.7E±0.2, h31km, mb3.9/14, MS4.3/2, Error ellipse: s-maj=23.6km s-min=9.0km az=165.8*
ISC 30 13:46:08.7±0.8, 23.74N±0.09×143.7E±0.2, h31km, n20, σ1°02/19, mb3.9/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**3.63**	**338**	Pn		**Pn**	**13 47 02.3**	**-0.5**
	11nm,0.3s,baz=83,slow=24,SNR=6.0							
JCJ				Sn		**Sn**	**13 47 44.5**	**0.0**
	15nm,0.3s,baz=296,slow=23,SNR=2.7							
JCJ				LR		LR	13 48 22.6	
	comp=Z,133nm,19.7s,baz=310,slow=37							
MJAR	**Matsushiro Arr**	**13.62**	**341**	Pn		**Pn**	**13 49 17.3**	**-2.5**
	0.3nm,0.3s,baz=160,slow=10,SNR=7.5							
KSRS	**Korea Array**	**19.26**	**319**	P		**Pn**	**13 50 32.3**	**+0.5**
	0.1nm,0.3s,baz=136,slow=13,SNR=5.2							
SONM	**Songino Array**	**38.13**	**319**	P		**P**	**13 53 24.9**	**-0.2**
	0.4nm,0.6s,baz=120,slow=5.6,SNR=4.7							
CMAR	**Chiang Mai Arr**	**41.99**	**272**	P		**P**	**13 53 57.6**	**+0.3**
	0.9nm,0.6s,baz=67,slow=7.6,SNR=7.1							
WRA	**Warramunga Arr**	**44.37**	**193**	P		**P**	**13 54 15.4**	**-1.0**
	1.2nm,0.6s,baz=14,slow=8.6,SNR=13							
ASAR	**Alice Springs**	**48.08**	**192**	P		**P**	**13 54 44.6**	**-1.0**
	0.4nm,0.8s,baz=15,slow=9.5,SNR=8.2							
ZALV	**Zalesovo Beam**	**52.95**	**321**	P		**P**	**13 55 23.2**	**+1.2**
	0.4nm,0.3s,baz=79,slow=7.7,SNR=4.4							
STKA	**Stephens Creek**	**55.34**	**182**	P		**P**	**13 55 39.0**	**-0.6**
	1.6nm,0.9s,baz=345,slow=22,SNR=2.8							
AFI	**Afiamalu**	**57.37**	**126**	LR		LR	14 16 06.6	
	comp=Z,67nm,18.9s,baz=84,slow=32							
ILAR	**Eielson Array**	**60.00**	**28**	P		**P**	**13 56 12.1**	**0.0**
	0.9nm,0.9s,baz=258,slow=5.9,SNR=7.3							
BVAR	**Borovoye Array**	**61.47**	**319**	P		**P**	**13 56 23.2**	**+0.9**
	4.5nm,0.7s,baz=91,slow=7.4,SNR=21							
YKA	**Yellowknife Ar**	**74.42**	**28**	P		**P**	**13 57 44.8**	**+1.3**
	0.5nm,0.5s,baz=293,slow=5.8,SNR=11							
ARCES	**ARCESS Array B**	**77.16**	**341**	P		**P**	**13 58 00.2**	**+1.2**
	3.5nm,0.8s,baz=303,slow=7.1,SNR=3.5							
KBZ	**Khabaz**	**81.33**	**314**	P		**P**	**13 58 23.5**	**+1.2**
	1.9nm,0.8s,baz=66,slow=10.0,SNR=3.4							
FINES	**FINESS Array B**	**81.57**	**335**	P		**P**	**13 58 23.5**	**+0.3**
	2.6nm,0.9s,baz=107,slow=6.4,SNR=8.7							
PFO	**Pinyon Flat Ob**	**84.82**	**56**	LR		LR	14 35 44.9	
	comp=Z,361nm,18.6s,baz=8.2,slow=35							
NB2	**NORSAR Subarra**	**87.24**	**339**	P		**P**	**13 58 52.1**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=51,slow=5.1							
NOA	**NORSAR Array B**	**87.24**	**339**	P		**P**	**13 58 51.7**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=48,slow=4.7,SNR=6.1							
BRTR	**Keskin Array B**	**89.32**	**314**	P		**P**	**13 59 02.2**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=90,slow=2.5,SNR=3.8							

TAP 30 13:46:17.0, 21.13N×121.25E, h26km±1km, ML3.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TSEB	**Hengchuen, Pin**	**0.83**	**337**	P		Pn	13 46 33.0	-0.1
	baz=334							
TSEB				S		Sn	13 46 45.4	+0.9
	baz=334							
TWK1	**Hengchun**	**0.91**	**333**	*i* P		Pn	13 46 34.2	+0.1
	baz=333							
TWK1				S		Sn	13 46 46.6	+0.2
	baz=333							
LAY	**Lan-yu**	**0.94**	**17**	*i* P		Pb	13 46 35.1	+0.3
	baz=17							
LAY				*e*S		Sn	13 46 47.8	+0.4
	baz=17							
HEN	**Hengchun**	**0.99**	**331**	P		Pb	13 46 36.0	+0.5
	baz=331							
HEN				*e*S		Sn	13 46 49.5	+1.1
	baz=331							
TAW	**Tawu**	**1.26**	**345**	*e*P		Pn	13 46 39.0	0.0
	baz=345							
TAW				*e*S		Sb	13 46 56.1	+0.2
	baz=345							
EAST	**Anshuo**	**1.30**	**343**	P		Pn	13 46 39.1	-0.4
	baz=343							
EAST				*e*S		Sn	13 46 56.1	-0.1
	baz=343							
ECL	**Taimali**	**1.48**	**349**	*e*P		Pn	13 46 41.2	-0.9
	baz=349							
TWG	**Pinlang**	**1.69**	**355**	*e*P		Pn	13 46 45.3	+0.4
	baz=354							
TWG				*e*S		Sn	13 47 06.9	+1.2
	baz=354							
SSD	**Sandimen**	**1.70**	**341**	*e*P		Pn	13 46 45.2	+0.1
	baz=340							
CHKT	**Chengkung**	**1.96**	**3**	*e*P		Pn	13 46 49.7	+1.1
	baz=3.0							
CHKT				*e*S		Sn	13 47 13.8	+1.5
	baz=3.0							
SGST	**Jiashian**	**2.04**	**343**	*e*P		Pb	13 46 53.0	-0.4
	baz=342							
ELDTW	**Lidau**	**2.06**	**354**	*e*P		Pn	13 46 49.7	-0.4
	baz=354							
STYT	**Tauyuan**	**2.07**	**347**	*e*P		Pn	13 46 50.7	+0.5
	baz=347							
CHN1	**Nanshi**	**2.15**	**342**	*e*P		Pn	13 46 51.9	+0.7
	baz=341							
TWF1	**Yuli**	**2.21**	**1**	*e*P		Pn	13 46 53.4	+1.3
	baz=1.0							
EHY	**Hungye**	**2.36**	**2**	*e*P		Pb	13 46 57.2	-1.7
	baz=1.0							
ALS	**Alishan**	**2.40**	**350**	*e*P		Pn	13 46 56.5	+1.5
	baz=350							
CHN5	**Tsauling**	**2.51**	**348**	*e*P		Pn	13 46 56.6	+0.3
	baz=347							
CHN5				*e*S		Sn	13 47 26.8	+0.7
	baz=347							
TYC	**Yuchr**	**2.78**	**353**	*e*P		Pn	13 47 01.8	+1.9
	baz=352							
WHF	**Hehuan Shan**	**3.00**	**0**	*e*P		Pn	13 47 05.0	+1.6
NNS	**Nan Shan**	**3.29**	**2**	*e*P		Pn	13 47 10.1	+3.0
	baz=2.0							
ENTT	**Nioudou**	**3.50**	**5**	*e*P		Pn	13 47 11.9	+2.0
	baz=4.0							
NSK	**Sanguang**	**3.53**	**2**	*e*P		Pn	13 47 12.1	+1.8
	baz=1.0							

IDC 30 13:56:11.0±25.0, 22.32S×171.68W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/20, mbtmp4.1/4, MS4.1/1, Ms1 4.1/1, ms1mx3.0/25, Error ellipse: s-maj=470.9km s-min=153.9km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**39.19**	**265**	P		P	14 03 41.2	+0.1
	2.7nm,0.3s,baz=98,slow=13,SNR=11							
PMG	**Port Moresby**	**41.48**	**281**	LR		LR	14 16 33.0	
	comp=Z,268nm,21.6s,baz=208,slow=30							
STKA	**Stephens Creek**	**42.40**	**247**	P		P	14 04 05.8	-1.6
	0.9nm,0.4s,baz=97,slow=10,SNR=5.4							
ASAR	**Alice Springs**	**49.85**	**257**	P		P	14 05 06.2	-0.1
	0.5nm,0.3s,baz=90,slow=6.8,SNR=38							
WRA	**Warramunga Arr**	**50.19**	**262**	P		P	14 05 09.5	+0.7
	0.9nm,0.3s,baz=99,slow=7.1,SNR=49							

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*IDC **30** 14:06:54.3±1.2, 16.52N×90.91W, h0km, mb3.9/9, mb1 4.4/11, mb1mx4.1/25, mbtmp4.0/11, ML4.4/2, MS3.8/5, Ms1 3.8/5, ms1mx3.4/33, Error ellipse: s-maj=26.2km s-min=22.3km az=100.0*
*ISCJB **30** 14:06:56.8±0.6, 16.72N±0.05×91.01W±0.06, h18km, mb4.0/9, MS3.9/3, Error ellipse: s-maj=10.0km s-min=4.6km az=135.3*
*MEX **30** 14:07:00.5±0.5, 16.71N×91.00W, h105km±25km, MD4.3*
ISC 30 14:06:57.4±0.8, 16.63N±0.07×90.98W±0.07, h18km, n22, σ1°00/26, mb4.1/9, MS3.8/4, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**2.12**	**216**	*i* P		**Pb**	**14 07 34.9**	**-0.4**
THIG				*i* S		**Sb**	**14 08 00.4**	**-0.8**
SCIG	**Sabancuy**	**2.33**	**355**	*e*P		**Pn**	**14 07 34.6**	**-0.1**
SCIG				*e*S		**Sn**	**14 08 03.5**	**+0.5**
PCIG		**2.34**	**247**	*e*P		**Pn**	**14 07 36.2**	**+1.2**
PCIG				*e*S		**Sn**	**14 08 05.0**	**+1.6**
TEIG	**Tepich**	**4.40**	**35**	Pn		**Pn**	**14 08 03.1**	**-0.1**
	102nm,0.3s,baz=234,slow=9.3,SNR=220							
TEIG				Sn		**Sn**	**14 08 53.3**	**-0.7**
	36nm,0.3s,baz=233,slow=23,SNR=7.9							
TEIG				Lg		Lg	14 09 15.8	
	30nm,0.3s,baz=324,slow=20,SNR=8.7							
HUIG	**Huatulco**	**5.00**	**261**	*i* P		**Pn**	**14 08 12.3**	**+0.7**
HUIG				*i* S		**Sn**	**14 09 08.4**	**-0.6**
VHO	**Vista Hermosa**	**5.53**	**275**	*i* P		**Pn**	**14 08 19.6**	**+0.6**
VHO				*i* S		**Sn**	**14 09 20.5**	**-1.8**
PNIG	**Pinotepa**	**6.86**	**269**	*e*P		**Pn**	**14 08 36.3**	**-0.9**
PNIG				*i* S		**Sn**	**14 09 52.9**	**-2.0**
TXAR	**Lajitas Array**	**17.19**	**320**	P		**P**	**14 10 57.9**	**-0.4**
	0.1nm,0.3s,baz=134,slow=11,SNR=30							
LPIG	**La Paz**	**19.57**	**295**	LR		LR	14 20 11.2	
	comp=Z,165nm,20.4s,baz=291,slow=40							
TKL	**Tuckaleechee C**	**20.01**	**17**	P		Pn	14 11 31.2	+0.3
	4.4nm,0.9s,baz=204,slow=15,SNR=3.6							
TKL				LR		LR	14 20 18.4	
	comp=Z,234nm,18.3s,baz=163,slow=40							
ANMO	**Albuquerque**	**22.90**	**326**	P		**P**	**14 12 01.3**	**+0.9**
	2.3nm,0.9s,baz=156,slow=11,SNR=4.0							
SADO	**Sadowa**	**29.77**	**17**	LR		LR	14 27 04.3	
	comp=Z,226nm,18.3s,baz=182,slow=40							
PDAR	**Pinedale Array**	**30.50**	**332**	P		**P**	**14 13 10.1**	**+0.5**
	0.5nm,1.0s,baz=101,slow=9.3,SNR=2.5							
NVAR	**Mina Array Bea**	**32.33**	**318**	P		**P**	**14 13 27.9**	**+2.1**
	2.4nm,0.9s,baz=128,slow=8.8,SNR=10							
NVAR				LR		LR	14 28 48.1	
	comp=Z,179nm,19.2s,baz=285,slow=41							
YKA	**Yellowknife Ar**	**48.72**	**346**	P		**P**	**14 15 40.0**	**-0.5**
	1.3nm,0.7s,baz=145,slow=7.6,SNR=30							
YKA				PcP		**PcP**	**14 17 05.0**	**-0.4**
	0.3nm,0.8s,baz=151,slow=3.3,SNR=5.2							
PLCA	**Paso Flores**	**60.15**	**162**	P		**P**	**14 17 03.0**	**-1.0**
	3.1nm,1.1s,baz=352,slow=7.8,SNR=3.2							
ILAR	**Eielson Array**	**60.84**	**336**	P		**P**	**14 17 08.6**	**+0.2**
	0.9nm,1.1s,baz=108,slow=5.5,SNR=6.1							
ARCES	**ARCESS Array B**	**83.34**	**18**	P		**P**	**14 19 23.8**	**+0.9**
	3.7nm,0.8s,baz=302,slow=5.6,SNR=4.1							
DBIC	**Dimbokro**	**84.42**	**85**	LR		LR	14 50 20.3	
	comp=Z,78nm,18.8s,baz=255,slow=31							
CLL	**Colm**	**85.64**	**38**	*e*P		**P**	**14 19 35.0**	**+0.1**
BRG	**Berggiesshubel**	**86.35**	**38**	*e*(P)		**P**	**14 19 38.0**	**-0.4**
	3.1nm,1.0s							
GERES	**GERESS Array B**	**86.95**	**40**	P		**P**	**14 19 41.9**	**+0.2**
	0.8nm,0.7s,baz=279,slow=2.6,SNR=6.6							

IDC 30 14:10:59.0±1.5, 49.89S×110.87E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, Error ellipse: s-maj=57.3km s-min=29.7km az=105.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W2	**Cape Leeuwin H**	**15.17**	**10**	T		T	14 30 13.5	
	baz=188,slow=74,SNR=23							
H01W1	**Cape Leeuwin H**	**15.18**	**10**	T		T	14 30 11.5	
	baz=188,slow=74,SNR=22							
H01W3	**Cape Leeuwin H**	**15.19**	**10**	T		T	14 30 12.6	
	baz=188,slow=74,SNR=19							
ASAR	**Alice Springs**	**31.77**	**43**	P		P	14 17 24.7	-0.3
	0.2nm,0.6s,baz=211,slow=8.0,SNR=6.4							
WRA	**Warramunga Arr**	**35.24**	**40**	P		P	14 17 55.5	+0.2
	0.4nm,0.5s,baz=204,slow=10.0,SNR=4.7							
QSPA	**South Pole Qui**	**40.24**	**180**	P		P	14 18 37.1	-0.2
	1.1nm,0.5s,baz=318,slow=4.3,SNR=3.1							
CMAR	**Chiang Mai Arr**	**68.86**	**348**	P		P	14 22 05.3	+0.1
	0.2nm,0.3s,baz=179,slow=4.5,SNR=3.0							

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*ISCJB **30** 14:51:21.9±0.9, 69.76N±0.07×144.1W±0.1, h10km, mb3.4/1, MS4.4/1, Error ellipse: s-maj=10.6km s-min=5.5km az=155.2*
*NEIC **30** 14:51:25.3, 69.57N×144.19W, h3km, ML3.5(AEIC), After AEIC.*
*IDC **30** 14:51:25.2±3.5, 69.73N×144.08W, h0km, mb3.5/1, mb1 3.9/5, mb1mx3.5/27, mbtmp3.6/5, ML3.5/4, MS4.5/1, Ms1 4.5/1, ms1mx2.9/30, Error ellipse: s-maj=47.3km s-min=24.2km az=145.0*
*PGC **30** 14:51:26.7±142.0, 69.66N×143.79W, h1km, ML3.4/1, 185km east of Prudhoe Bay, Ak Alaska*
ISC 30 14:51:24.5±1.3, 69.65N±0.08×144.13W±0.06, h10km, n42, σ1°34/47, 6D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BM3	**Burnt Mountain**	**2.25**	**185**	P		**Pn**	**14 52 02.4**	**+0.6**
BM3				S		**Sb**	**14 52 31.5**	**-1.5**
FYU	**Fort Yukon**	**3.12**	**188**	P		**Pn**	**14 52 15.6**	**+1.9**
FYU				S		**Sn**	**14 52 53.4**	**+2.3**
COLD	**Coldfoot**	**3.31**	**226**	P		**Pn**	**14 52 16.6**	**+0.3**
COLD				S		**Sn**	**14 52 57.5**	**+2.0**
INK	**Inuvik**	**4.05**	**104**	⇓P		**Pn**	**14 52 27.8**	**+1.3**
INK				⇓S		**Sn**	**14 53 13.0**	**-0.9**
INK	**Inuvik**	**4.05**	**104**	Pn		**Pn**	**14 52 28.5**	**+2.0**
INK				Sn		**Sn**	**14 53 15.4**	**+1.5**
INK	**Inuvik**	**4.05**	**104**	Pn		**Pn**	**14 52 28.5**	**+2.0**
	1.6nm,0.3s,baz=318,slow=7.2,SNR=21							
INK				Sn		**Sn**	**14 53 15.4**	**+1.5**
	2.0nm,0.3s,baz=141,slow=31,SNR=7.0							
MDM	**Murphy Dome**	**4.97**	**201**	P		**Pn**	**14 52 39.4**	**+0.2**
COLA	**College**	**5.01**	**198**	P		**Pn**	**14 52 41.1**	**+1.5**
IL1	**Eielson Array**	**5.01**	**194**	P		**Pn**	**14 52 40.9**	**+1.2**
ILAR	**Eielson Array**	**5.01**	**194**	Pn		**Pn**	**14 52 40.8**	**+1.1**
ILAR				Sn		**Sn**	**14 53 38.2**	**+0.6**
ILAR	**Eielson Array**	**5.01**	**194**	Pn		**Pn**	**14 52 40.8**	**+1.1**
	1.0nm,0.3s,baz=6.2,slow=13,SNR=80							
ILAR				Sn		**Sn**	**14 53 38.2**	**+0.6**
	1.7nm,0.3s,baz=13,slow=25,SNR=1.7							
EGAK	**Eagle**	**5.03**	**165**	P		**Pn**	**14 52 40.8**	**+0.9**
IM3	**Indian Mountai**	**5.17**	**229**	P		**Pn**	**14 52 41.6**	**-0.3**
IM04	**Indian Mountai**	**5.19**	**229**	*e*Pn		**Pn**	**14 52 42.0**	**-0.1**
CCB	**Clear Creek Bu**	**5.22**	**198**	P		**Pn**	**14 52 42.9**	**+0.3**
MLY	**Manley**	**5.29**	**212**	P		**Pn**	**14 52 44.2**	**+0.6**
HDA	**Harding Lake**	**5.38**	**193**	P		**Pn**	**14 52 45.1**	**+1.2**
WRH	**Wood River Hil**	**5.42**	**198**	P		**Pn**	**14 52 46.5**	**+1.2**
SCRK	**Sand Creek**	**5.70**	**179**	P		**Pn**	**14 52 50.8**	**+1.6**
DAWY	**Dawson**	**5.91**	**159**	⇓Pn		**Pn**	**14 52 53.4**	**+1.3**
DAWY				⇓Sn		**Sn**	**14 53 57.7**	**-2.1**
DAWY	**Dawson**	**5.91**	**159**	P		**Pn**	**14 52 53.6**	**+1.5**
DOT	**Dot Lake**	**6.03**	**180**	P		**Pn**	**14 52 55.8**	**+2.1**
MCK	**McKinley**	**6.24**	**200**	P		**Pn**	**14 52 57.5**	**+1.0**
RND	**Reindeer**	**6.54**	**199**	P		**Pn**	**14 53 01.9**	**+1.1**
BCA3	**Beaver Creek A**	**6.68**	**171**	P		**Pn**	**14 53 03.6**	**+1.0**
KTH	**Kantishna Hill**	**6.69**	**207**	*e*Pn		**Pn**	**14 53 02.4**	**-0.4**
	4.8nm,0.4s							
TRF	**Thorofare Moun**	**6.69**	**204**	P		**Pn**	**14 53 03.5**	**+0.7**
PAX	**Paxson**	**6.73**	**185**	P		**Pn**	**14 53 04.9**	**+1.6**
MENT	**Mentasta**	**6.74**	**178**	*e*Pn		**Pn**	**14 53 04.2**	**+0.7**
HARP	**HAARP**	**7.29**	**184**	P		**Pn**	**14 53 12.3**	**+1.5**
PPLA	**Purkeypile**	**7.51**	**209**	P		**Pn**	**14 53 14.4**	**+0.3**
RC01	**Rabbit Creek A**	**8.90**	**198**	P		Pn	14 53 35.9	+2.9
HYT	**Haines Junctio**	**9.28**	**159**	⇓Pn		**Pn**	**14 53 40.1**	**+1.8**
WHY	**Whitehorse**	**9.81**	**152**	⇓Pn		**Pn**	**14 53 46.1**	**+0.5**
GALN	**Gameti Lake**	**11.82**	**105**	⇓Pn		**Pn**	**14 54 11.7**	**-1.3**
GALN				⇓Sn		Sn	14 56 15.7	-9.1
YKA	**Yellowknife Ar**	**13.82**	**107**	Pn		**Pn**	**14 54 38.2**	**-1.9**
YKA				Sn		Sn	14 57 03.0	-10
YKA	**Yellowknife Ar**	**13.82**	**107**	Pn		**Pn**	**14 54 38.2**	**-1.9**
	0.2nm,0.3s,baz=313,slow=13,SNR=23							
YKA				Sn		Sn	14 57 03.0	-10
	0.1nm,0.3s,baz=316,slow=23,SNR=5.0							
RES	**Resolute Bay**	**15.46**	**49**	Pn		**Pn**	**14 55 02.7**	**+0.5**
RES				Sn		Sn	14 57 44.4	-8.7
RES	**Resolute Bay**	**15.46**	**49**	Pn		**Pn**	**14 55 02.7**	**+0.5**
	0.7nm,0.3s,baz=249,slow=16,SNR=10							
RES				Sn		Sn	14 57 44.4	-8.7
	0.3nm,0.3s,baz=263,slow=22,SNR=4.6							
ULM	**Lac du Bonnet**	**29.80**	**105**	LR		LR	15 09 11.9	
	comp=Z,957nm,19.3s,baz=74,slow=36							
PDAR	**Pinedale Array**	**32.23**	**128**	P		P	14 57 55.3	+2.4
PDAR	**Pinedale Array**	**32.23**	**128**	P		P	14 57 55.3	+2.4
	0.6nm,0.9s,baz=27,slow=7.0,SNR=5.1							

DJA 30 14:53:55.7±0.9, 11°S±7°×12°2E±°, h10km, M4.1/4, MLv4.1/4, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**2.04**	**61**	P		Pn	14 54 30.1	-0.1
SOEI				S		Sn	14 54 56.4	+0.6
MMRI	**Maumere**	**2.11**	**354**	P		Pn	14 54 30.5	-0.6
MMRI				S		Sn	14 54 58.2	+0.7
WSI	**Waingapu**	**2.38**	**297**	P		Pn	14 54 34.0	-0.9
LBFI	**Labuhan Bajo,**	**3.39**	**311**	P		Pn	14 54 49.6	+0.8

IDC 30 15:06:46.2±66.0, 15.48S×167.48E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=1121.0km s-min=118.9km az=67.0, Vanuatu Islands

| Code | Station Name | Δ° | AZ° | Phase | ID | ISC | Time | Res |
|---|---

mb4.6/9,MS4.3/16,Error ellipse: s-maj=13.7km s-min=7.2km az=22.3

ISC 30 15:29:14.4±0.6,33°20S±0°06×179°09W±0°09,h45km,n82, σ1ˢ73/56,mb4.6/9,MS4.2/16,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**4.06**	**15**	*e*Pn		**Pn**	**15 30 11.2**	**-2.8**
RAO				Sn		**Sn**	**15 31 00.7**	**+0.3**
RAO	**Raoul Island**	**4.06**	**15**	Pn		**Pn**	**15 30 11.1**	**-3.0**
	120nm,0.3s,baz=72,slow=19,SNR=3.5							
RAO				Sn		**Sn**	**15 31 00.6**	**+0.3**
	271nm,0.3s,baz=103,slow=22,SNR=3.7							
URZ	**Urewera**	**5.92**	**210**	*e*Pn		**Pn**	**15 30 36.9**	**-2.6**
URZ				Sn		**Sn**	**15 31 45.1**	**-1.0**
URZ	**Urewera**	**5.92**	**210**	Pn		**Pn**	**15 30 36.5**	**-3.0**
	11nm,0.3s,baz=321,slow=2.3,SNR=70							
URZ				Sn		**Sn**	**15 31 45.1**	**-1.0**
	19nm,0.3s,baz=81,slow=23,SNR=7.7							
OUZ	**Omahuta**	**6.39**	**250**	*e*P		**Pn**	**15 30 47.7**	**+1.8**
	99nm,0.7s							
RPZ	**Rata Peaks**	**13.02**	**213**	*e*P		Pn	15 32 08.1	-8.6
RPZ	**Rata Peaks**	**13.02**	**213**	Pn		Pn	15 32 08.3	-8.4
	1.3nm,0.3s,baz=34,slow=20,SNR=6.8							
ODZ	**Otahua Downs**	**14.25**	**211**	*e*P		Pn	15 32 24.1	-9.3
DZM	**Mont Dzumac**	**16.93**	**307**	*e*P		**P**	**15 33 12.5**	**+2.8**
	110nm,1.2s							
DZM				*e*LR		LR	15 37 13.3	
	3μm,24.6s							
DZM	**Mont Dzumac**	**16.93**	**307**	Pn		**Pn**	**15 33 03.5**	**-4.7**
DZM	**Mont Dzumac**	**16.93**	**307**	Pn		**Pn**	**15 33 03.5**	**-4.7**
	0.3nm,0.3s,baz=89,slow=14,SNR=2.8							
DZM				LR		LR	15 38 17.2	
	comp=Z,2μm,20.5s,baz=360,slow=33							
RAR	**Rarotonga**	**20.88**	**60**	LR		LR	15 39 53.9	
	comp=Z,553nm,19.8s,baz=252,slow=31							
PAE	**Paea**	**30.68**	**67**	*e*T		T	16 06 52.5	
	11nm,0.2s							
PPT2	**Papeete2**	**30.72**	**67**	*e*LR		LR	15 43 18.9	
	1μm,26.8s,baz=234							
PPT2	**Papeete2**	**30.72**	**67**	*e*T		T	16 06 56.4	
	16nm,0.3s							
PPT	**Papeete**	**30.73**	**67**	LR		LR	15 44 03.1	
	comp=Z,580nm,19.3s,baz=205,slow=29							
TVO	**Taravao**	**30.86**	**68**	*e*T		T	16 07 07.3	
	1.4nm,0.3s							
MEH	**Mehetia**	**31.73**	**69**	*e*T		T	16 08 15.2	
	12nm,0.2s							
CTA	**Charters Tower**	**33.46**	**284**	P		**P**	**15 35 51.4**	**+2.0**
CTA	**Charters Tower**	**33.46**	**284**	P		**P**	**15 35 51.4**	**+2.0**
	5.9nm,0.5s,baz=107,slow=11,SNR=8.2							
VAH	**Vaihoa**	**33.62**	**65**	*e*T		T	16 10 29.9	
	35nm,0.2s							
HTT	**Hallett**	**34.92**	**258**	P		**P**	**15 36 03.0**	**+1.1**
	baz=35,SNR=4.3							
QIS	**Mount Isa**	**38.70**	**278**	P		**P**	**15 36 36.3**	**+2.1**
	baz=38,SNR=4.1							
PMG	**Port Moresby**	**39.07**	**300**	LR		LR	15 50 06.3	
	comp=Z,545nm,20.6s,baz=204,slow=32							
COEN	**Coen**	**39.25**	**290**	*e*P		**P**	**15 36 39.8**	**+1.0**
	32nm,0.6s							
COEN	**Coen**	**39.25**	**290**	P		**P**	**15 36 40.3**	**+1.5**
	baz=39,SNR=9.2							
RKT	**Rikitea**	**39.92**	**87**	*e*LR		LR	15 47 34.4	
	1μm,27.2s,baz=244							
RKT	**Rikitea**	**39.92**	**87**	*e*T		T	16 19 03.0	
	2.0nm,0.3s							
AS31	**Alice Springs**	**42.12**	**271**	*e*P		**P**	**15 37 01.8**	**-0.6**
ASAR	**Alice Springs**	**42.12**	**271**	P		**P**	**15 37 01.9**	**-0.6**
ASAR	**Alice Springs**	**42.12**	**271**	P		**P**	**15 37 01.9**	**-0.6**
	2.3nm,0.4s,baz=109,slow=7.5,SNR=80							
ASAR				LR		LR	15 54 56.3	
	comp=Z,271nm,18.2s,baz=115,slow=37							
WRAB	**Tennant Creek**	**43.36**	**276**	*e*P		**P**	**15 37 11.9**	**-0.6**
	7.1nm,0.6s							
WRA	**Warramunga Arr**	**43.36**	**276**	P		**P**	**15 37 12.1**	**-0.4**
WRA	**Warramunga Arr**	**43.36**	**276**	P		**P**	**15 37 12.1**	**-0.4**
	4.7nm,0.6s,baz=115,slow=8.1,SNR=61							
WRA				LR		LR	15 54 11.6	
	comp=Z,210nm,19.7s,baz=130,slow=35							
WRKA	**Warakurna**	**46.28**	**266**	P		**P**	**15 37 34.9**	**-0.9**
	baz=46,SNR=12							
JAY	**Jayapura**	**48.43**	**300**	LR		LR	15 56 19.2	
	comp=Z,199nm,19.3s,baz=250,slow=34							
JAY	**Jayapura**	**48.43**	**300**	P		**P**	**15 37 54.1**	**+1.5**
	baz=48,SNR=3.5							
KDU	**Kakadu**	**48.56**	**283**	P		**P**	**15 37 55.0**	**+1.5**
	baz=48,SNR=4.4							
KNRA	**Kununurra**	**50.06**	**277**	P		**P**	**15 38 04.5**	**-0.5**
	baz=50,SNR=7.9							
FITZ	**Fitzroy Crossi**	**51.49**	**273**	LR		LR	15 59 43.8	
	comp=Z,508nm,18.5s,baz=102,slow=36							
MEEK	**Meekatharra**	**53.71**	**259**	P		**P**	**15 38 29.5**	**-2.6**
	baz=54,SNR=4.0							
QSPA	**South Pole Qui**	**56.92**	**180**	*e*P		**P**	**15 38 56.0**	**+1.3**
QSPA	**South Pole Qui**	**56.92**	**180**	P		**P**	**15 38 55.2**	**+0.5**
	6.3nm,0.7s,baz=354,slow=1.5,SNR=17							
MAW	**Mawson**	**69.37**	**201**	P		**P**	**15 40 17.0**	**0.0**
MAW	**Mawson**	**69.37**	**201**	P		**P**	**15 40 17.0**	**0.0**
	2.7nm,0.8s,baz=105,slow=9.8,SNR=2.4							
SYO	**Syowa Base**	**74.18**	**194**	⇑*e*P		**P**	**15 40 46.8**	**+0.9**
H03N3	**Juan Fernandez**	**79.90**	**123**	T		T	17 09 47.3	
	baz=237,slow=75,SNR=278							
H03N2	**Juan Fernandez**	**79.90**	**123**	T		T	17 09 53.2	
	baz=237,slow=75,SNR=214							
H03N1	**Juan Fernandez**	**79.92**	**123**	T		T	17 09 46.6	
	baz=237,slow=75,SNR=312							
PLCA	**Paso Flores**	**81.28**	**133**	P		**P**	**15 41 27.4**	**+1.3**
PLCA	**Paso Flores**	**81.28**	**133**	P		**P**	**15 41 27.4**	**+1.3**
	12nm,1.2s,baz=233,slow=6.4,SNR=5.5							
PLCA				LR		LR	16 07 33.1	
	comp=Z,164nm,20.6s,baz=280,slow=28							
PSI	**Prapat**	**84.82**	**277**	LR		LR	16 18 15.0	
	comp=Z,149nm,20.1s,baz=187,slow=35							
KSRS	**Korea Array**	**85.89**	**320**	LR		LR	16 17 17.0	
	comp=Z,61nm,20.7s,baz=305,slow=34							
PETK	**Petropavlovsk-**	**88.30**	**346**	LR		LR	16 14 53.6	
	comp=Z,88nm,21.9s,baz=335,slow=31							
USRK	**Ussuriysk Arra**	**88.99**	**327**	LR		LR	16 16 00.5	
	comp=Z,67nm,18.8s,baz=261,slow=32							
NVAR	**Mina Array Bea**	**90.91**	**43**	P		**P**	**15 42 15.3**	**+1.8**
NVAR	**Mina Array Bea**	**90.91**	**43**	P		**P**	**15 42 15.3**	**+1.8**
	1.1nm,0.7s,baz=230,slow=8.1							
CMAR	**Chiang Mai Arr**	**93.46**	**290**	LR		LR	16 19 51.8	
	comp=Z,73nm,19.4s,baz=15,slow=33							
TXAR	**Lajitas Array**	**94.67**	**58**	LR		LR	16 14 13.7	
	comp=Z,178nm,20.8s,baz=0.0,slow=29							
PDAR	**Pinedale Array**	**98.79**	**44**	LR		LR	16 20 32.1	
	comp=Z,194nm,18.5s,baz=251,slow=31							
CPUP	**Villa Florida**	**98.95**	**129**	LR		LR	16 18 32.3	
	comp=Z,312nm,18.4s,baz=182,slow=30							
ARCES	**ARCESS Array B**	**141.10**	**347**	PKPpre		PKPpre	15 48 33.6	
ARCES	**ARCESS Array B**	**141.10**	**347**	PKhKP		PKPpre	15 48 33.6	
	5.1nm,1.0s,baz=6.9,slow=3.1,SNR=5.2							
JOF	**Joensuu**	**144.64**	**336**	*ep*		PKPbc	15 48 44.0	-0.1
	2.1nm,0.5s							
KAF	**Kangasniemi**	**146.84**	**338**	*ep*		**PKPdf**	**15 48 49.0**	**0.0**
	3.6nm,0.5s							
FIA1	**FINESS Array S**	**147.41**	**338**	*e*PKPbc		**PKPbc**	**15 48 51.0**	**-1.5**
FINES	**FINESS Array B**	**147.41**	**338**	PKPbc		**PKPbc**	**15 48 51.8**	**-0.8**
FINES	**FINESS Array B**	**147.41**	**338**	PKPbc		**PKPbc**	**15 48 51.8**	**-0.8**
	6.7nm,0.5s,baz=33,slow=4.0,SNR=37							
NB2	**NORSAR Subarra**	**151.35**	**350**	PKP		**PKPbc**	**15 49 01.5**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=13,slow=2.6							
NOA	**NORSAR Array B**	**151.35**	**350**	PKPbc		**PKPbc**	**15 49 02.0**	**-0.4**
NOA	**NORSAR Array B**	**151.35**	**350**	PKPbc		**PKPbc**	**15 49 02.0**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=13,slow=4.1,SNR=10							
LIC	**Lamto**	**152.60**	**167**	*e*P		**PKPbc**	**15 49 08.1**	**+1.4**
	comp=Z,21nm,0.8s							
KIC	**Kosan Boka**	**152.78**	**168**	*e*P		**PKPbc**	**15 49 07.2**	**+0.1**
	comp=Z,11nm,0.8s							
AKASG	**Malin Array Be**	**152.87**	**319**	PKPbc		**PKPbc**	**15 49 04.5**	**-1.6**
AKASG	**Malin Array Be**	**152.87**	**319**	PKPbc		**PKPbc**	**15 49 04.5**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=59,slow=1.5,SNR=4.2							
BRTR	**Keskin Array B**	**152.99**	**293**	PKPbc		**PKPbc**	**15 49 07.0**	**0.0**
BRTR	**Keskin Array B**	**152.99**	**293**	PKPbc		**PKPbc**	**15 49 07.0**	**0.0**
	comp=Z,0.8nm,0.5s,baz=149,slow=2.6,SNR=6.4							
TIC	**Toumodi**	**153.01**	**167**	*e*P		**PKPbc**	**15 49 09.3**	**+1.7**
	comp=Z,7.8nm,0.2s							
DBIC	**Dimbokro**	**153.06**	**167**	PKPbc		**PKPbc**	**15 49 10.0**	**+2.3**
DBIC	**Dimbokro**	**153.06**	**167**	PKPbc		**PKPbc**	**15 49 10.0**	**+2.3**
	comp=Z,1.0nm,0.4s,baz=282,slow=5.5,SNR=2.0							
TORD	**Torodi Ar. Bea**	**160.03**	**182**	PKPab		**PKPab**	**15 49 49.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**160.03**	**182**	PKPab		**PKPab**	**15 49 49.1**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=182,slow=3.9,SNR=6.4							

*ISCJB **30** 15:32:20.4±0.9,1°49S±0°09×99°34E±0°09,h30km, mb3.7/5, Error ellipse: s-maj=13.3km s-min=11.9km az=44.5*

*DJA **30** 15:32:21.5±2.5,1°Sₓ23°×9°9Eₓ°,h10km,M4.1/4,MLv4.1/4*

*IDC **30** 15:32:37.4±4.0,1°03S×100°06E,h151km±32km, mb3.3/5, mb1 3.3/7,mb1mx3.2/20,mbtmp3.2/7,MS2.9/1,Ms1 2.9/1, ms1mx2.7/14, Error ellipse: s-maj=87.5km s-min=19.5km az=58.0*

ISC 30 15:32:22.6±1.2,1°5S±0°1×99°4E±0°1,h30km,n18, σ1ˢ15/12,mb3.6/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PDSI	**Padang**	**1.16**	**62**	P		**Pn**	**15 32 41.3**	**-1.6**
PDSI				S		**Sn**	**15 32 58.3**	**+0.5**
PPI	**Padang Panjang**	**1.39**	**44**	P		**Pn**	**15 32 44.9**	**-1.0**
MNSI	**Mandailing Nat**	**2.25**	**4**	P		**Pn**	**15 32 57.8**	**0.0**
BKNI	**Bangkinang**	**2.39**	**42**	P		**Pn**	**15 33 01.9**	**+2.1**
PSI	**Prapat**	**4.26**	**353**	P		**Pb**	**15 33 36.9**	**-0.1**
	1.3nm,0.3s,baz=178,slow=18,SNR=4.3							
PSI				LR		LR	15 35 34.4	
	comp=Z,140nm,18.7s,baz=248,slow=46							
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P		**P**	**15 36 50.4**	**-0.4**
	0.1nm,0.3s,baz=186,slow=10,SNR=7.5							
H08S2	**Diego Garcia H**	**27.54**	**256**	T		T	16 06 01.9	
	baz=78,slow=75,SNR=191							
H08S3	**Diego Garcia H**	**27.54**	**256**	T		T	16 06 02.3	
	baz=78,slow=75,SNR=225							
H08S1	**Diego Carcia H**	**27.56**	**256**	T		T	16 06 03.2	
	baz=78,slow=75,SNR=163							
H01W3	**Cape Leeuwin H**	**35.97**	**159**	T		T	16 17 09.7	
	baz=334,slow=76,SNR=22							
H01W2	**Cape Leeuwin H**	**35.98**	**159**	T		T	16 17 11.2	
	baz=334,slow=76,SNR=19							
H01W1	**Cape Leeuwin H**	**35.98**	**159**	T		T	16 17 11.5	
	baz=334,slow=76,SNR=18							
WRA	**Warramunga Arr**	**38.75**	**121**	P		**P**	**15 39 44.0**	**-0.7**
	0.7nm,0.6s,baz=302,slow=9.0,SNR=3.1							
ASAR	**Alice Springs**	**40.02**	**126**	P		**P**	**15 39 55.0**	**-0.3**
	0.4nm,0.6s,baz=302,slow=8.2,SNR=3.0							
SONM	**Songino Array**	**49.47**	**6**	P		**P**	**15 41 10.0**	**-0.3**
	0.3nm,0.6s,baz=186,slow=9.7,SNR=2.9							
STKA	**Stephens Creek**	**49.93**	**132**	P		**P**	**15 41 15.5**	**+1.6**
	1.1nm,0.6s,baz=291,slow=8.6,SNR=2.2							
FINES	**FINESS Array B**	**83.38**	**332**	P		**P**	**15 44 46.2**	**-0.5**
	1.4nm,0.7s,baz=116,slow=8.7,SNR=4.4							
TXAR	**Lajitas Array**	**144.61**	**36**	PKP		PKPbc	15 51 56.5	+0.6
	0.3nm,0.6s,baz=323,slow=0.9,SNR=5.0							

*TRN **30** 16:10:05.8,11°67N×60°17W,h15km,MD3.5*

*ISCJB **30** 16:10:06.2±1.1,11°68N±0°04×60°06W±0°06,h16km±10km, Error ellipse: s-maj=10.7km s-min=5.1km az=21.3*

*FUNV **30** 16:10:07.0,11°71N×59°80W,h105km,MW3.2*

ISC 30 16:10:05.9±1.8,11°63N±0°04×60°04W±0°08,h18km±9km, n23,σ0ˢ93/36,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TOSP	**Speyside**	**0.59**	**236**	*e*P		**Pg**	**16 10 17.5**	**-0.2**
TOSP				*e*S		**Sg**	**16 10 25.3**	**-0.3**
TPR	**Prospect**	**0.85**	**238**	*e*P		**Pb**	**16 10 22.2**	**0.0**
TPR				*e*S		**Sg**	**16 10 34.5**	**+0.7**
TBH	**Brigand Hill**	**1.52**	**222**	*e*P		**Pb**	**16 10 34.0**	**+0.2**
TRN	**Trinidad (W)**	**1.66**	**234**	*e*P		**Pn**	**16 10 35.0**	**+0.8**
TRN				*e*S		**Sn**	**16 10 55.8**	**+0.7**
GRW	**Mount Saint Ca**	**1.67**	**288**	*e*P		**Pn**	**16 10 34.8**	**+0.3**
GRW				*e*S		**Sn**	**16 10 54.6**	**-0.9**
GRHS	**Sauteurs**	**1.68**	**291**	*e*P		**Pn**	**16 10 35.2**	**+0.8**
GRHS				*e*S		**Sn**	**16 10 54.9**	**-0.6**
GRSS	**Sisters**	**1.68**	**293**	*e*P		**Pn**	**16 10 35.3**	**+0.9**
GRSS				*e*S		**Sn**	**16 10 55.2**	**-0.3**
FCV	**Fort Charlotte**	**1.92**	**322**	*e*P		**Pn**	**16 10 38.1**	**+0.3**
FCV				*e*S		**Sn**	**16 11 01.8**	**+0.3**
SVB	**Belmont**	**2.01**	**324**	*e*P		**Pn**	**16 10 39.4**	**+0.3**
SVB				*e*S		**Sn**	**16 11 03.2**	**-0.7**
SSV	**Crater Summit**	**2.02**	**326**	*e*P		**Pn**	**16 10 40.8**	**+1.5**
SVV	**Soufriere Volc**	**2.03**	**326**	*e*P		**Pn**	**16 10 39.7**	**+0.4**
SVV				*e*S		**Sn**	**16 11 04.2**	**-0.1**
MCLT	**Moule a Chique**	**2.24**	**337**	*e*P		**Pn**	**16 10 43.2**	**+0.9**
MCLT				*e*S		**Sn**	**16 11 09.5**	**0.0**
GUIV	**Guiria**	**2.36**	**246**	*e*P		**Pb**	**16 10 46.8**	**-1.2**
GUIV				*e*S		**Sb**	**16 11 16.0**	**-0.7**
SLB	**Belfond**	**2.39**	**336**	*e*P		**Sn**	**16 11 13.6**	**+0.4**
TRMF	**Trois Ilets**	**3.05**	**341**	*e*P		**Pn**	**16 10 53.7**	**+0.4**
TRMF				*e*S		Px	16 10 56.4	
LPMF	**Morne Lapointe**	**3.06**	**343**	*e*P		**Pn**	**16 10 54.0**	**+0.5**
LPMF				*e*S		Px	16 10 56.9	
ZAM	**Aeronautique**	**3.08**	**342**	*e*P		**Pn**	**16 10 54.1**	**+0.4**
ZAM				*e*S		Px	16 10 56.6	
BVM	**Bellevue**	**3.24**	**342**	*e*P		**Pn**	**16 10 56.7**	**+0.7**
BVM				*e*S		Px	16 10 59.9	
CRUV	**Carupano**	**3.28**	**253**	*e*P		**Pn**	**16 11 57.8**	**+1.4**
CRUV				*e*S		**Sn**	**16 11 37.5**	**+2.4**
RIOV	**Rio Grande**	**3.95**	**206**	*e*P		**Pn**	**16 11 07.8**	**+2.0**
RIOV				*e*S		**Sn**	**16 11 50.5**	**-1.2**
CUPV	**Cœpira**	**5.86**	**255**	*e*P		**Pn**	**16 11 32.7**	**+0.7**
LUEV	**Luepa**	**5.92**	**194**	*e*P		**Pn**	**16 11 32.2**	**-0.8**
BAUV	**El Baul**	**8.32**	**252**	*e*P		**Pn**	**16 12 04.4**	**-1.3**

*TRN **30** 16:11:46.5,11°52N×60°06W,h35km,MD3.6*

*ISCJB **30** 16:11:48.0±0.9,11°60N±0°03×60°08W±0°05,h26km±6km, Error ellipse: s-maj=9.1km s-min=5.1km az=14.2*

*FUNV **30** 16:11:48.1±1.81N×60°01W,h93km,MW3.1*

ISC 30 16:11:48.1±1.9,11°63N±0°04×60°13W±0°09,h15km±12km, n20,σ0ˢ61/33,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TOSP	**Speyside**	**0.51**	**231**	*e*P		**Pg**	**16 11 58.6**	**+0.2**
TOSP				*e*S		**Sb**	**16 12 06.3**	**+0.2**
BOT	**Bacolet**	**0.73**	**232**	*e*P		**Pb**	**16 12 01.9**	**-0.7**
BOT				*e*S		**Sb**	**16 12 12.4**	**-0.1**
TPR	**Prospect**	**0.77**	**235**	*e*P		**Pb**	**16 12 02.4**	**-0.8**
TPR				*e*S		**Sb**	**16 12 13.7**	**+0.1**
TRN	**Trinidad (W)**	**1.58**	**232**	*e*P		**Pn**	**16 12 16.3**	**+0.7**
GRW	**Mount Saint Ca**	**1.59**	**290**	*e*P		**Pn**	**16 12 15.6**	**-0.2**
GRW				*e*S		**Sn**	**16 12 35.7**	**-0.4**
GRHS	**Sauteurs**	**1.59**	**292**	*e*P		**Pn**	**16 12 15.9**	**+0.2**
GRHS				*e*S		**Sn**	**16 12 36.0**	**0.0**
GRSS	**Sisters**	**1.60**	**295**	*e*P		**Pn**	**16 12 15.9**	**+0.1**
GRSS				*e*S		**Sn**	**16 12 36.4**	**+0.3**
FCV	**Fort Charlotte**	**1.87**	**325**	*e*P		**Pn**	**16 12 19.2**	**-0.4**
FCV				*e*S		**Sn**	**16 12 43.8**	**+0.8**
SVB	**Belmont**	**1.97**	**326**	*e*P		**Pn**	**16 12 20.4**	**-0.6**
SVB				*e*S		**Sn**	**16 12 43.3**	**-0.1**
SVV	**Soufriere Volc**	**1.99**	**328**	*e*P		**Pn**	**16 12 21.2**	**0.0**
SVV				*e*S		**Sn**	**16 12 46.0**	**+0.2**
MCLT	**Moule a Chique**	**2.22**	**339**	*e*P		**Pn**	**16 12 25.0**	**+0.6**
MCLT				*e*S		**Sn**	**16 12 51.4**	**-0.2**
GUIV	**Guiria**	**2.27**	**245**	*e*P		**Pn**	**16 12 26.4**	**+1.3**
GUIV				*e*S		**Sn**	**16 12 53.9**	**+1.0**
SLB	**Belfond**	**2.36**	**338**	*e*P		**Pn**	**16 12 27.0**	**+0.6**
TRMF	**Trois Ilets**	**3.03**	**343**	*e*P		**Pn**	**16 12 35.7**	**+0.1**
LPMF	**Morne Lapointe**	**3.04**	**345**	*e*P		**Pn**	**16 12 35.9**	**+0.2**
LPMF				*e*S		Px	16 12 38.8	
ZAM	**Aeronautique**	**3.06**	**343**	*e*P		**Pn**	**16 12 36.0**	**+0.2**
ZAM				*e*S		Px	16 12 38.9	
CRUV	**Carupano**	**3.19**	**253**	*e*P		**Pn**	**16 12 38.1**	**+0.4**
CRUV				*e*S		**Sn**	**16 13 14.6**	**-0.9**
BVM	**Bellevue**	**3.22**	**344**	*e*P		**Pn**	**16 12 39.5**	**+1.3**
RIOV	**Rio Grande**	**3.91**	**205**	*e*P		**Pn**	**16 12 48.5**	**+0.8**
RIOV				*e*S		**Sn**	**16 13 32.9**	**-0.3**
LUEV	**Luepa**	**5.89**	**193**	*e*P		**Pn**	**16 13 14.5**	**-0.6**

PRU 30 16:14:50.6,51°42N×16°24E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UPC	**Upice**	**0.93**	**189**	*e*Pg		Pg	16 15 07.3	-1.1
UPC				*e*SG		Sg	16 15 20.4	0.0
DPC	**Dobruska-Polom**	**1.07**	**177**	*e*PG		Pg	16 15 10.5	-0.8
DPC				*e*SG		Sg	16 15 24.5	-0.7
PVCC	**Panska Ves**	**1.38**	**230**	*e*PG		Pg	16 15 16.4	-0.7
PVCC				*e*SG		Sg	16 15 34.7	-0.4
	15nm,0.4s							
BRG	**Berggiesshubel**	**1.55**	**250**	PG		Pn	16 15 19.7	+0.3
BRG				SG		Sn	16 15 39.6	-0.6
	3.1nm,0.5s							

*CSEM **30** 16:15:10.1±0.6,50°36N×18°75E,h2km,Error ellipse: s-maj=9.7km s-min=7.5km az=62.0*

PRU 30 16:15:10.9,50°30N×18°77E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHZP	**Chorzow**	**0.14**	**94**	*e*Pg		Pg	16 15 13.7	0.0
CHZP				*e*Sg		Sg	16 15 15.8	+0.2
OKC	**Ostrava-Krasne**	**0.61**	**221**	*e*PG		Pg	16 15 22.8	+0.1
OKC				*e*SG		Sg	16 15 31.2	+0.6
	8.9nm,0.5s							
OKC	**Ostrava-Krasne**	**0.61**	**221**	Pg		Pg	16 15 22.8	+0.1
OKC				Sg		Sg	16 15 31.2	+0.6
	8.9nm,0.5s							
OJC	**Ojcow**	**0.67**	**97**	*e*Pg		Pg	16 15 23.9	+0.2
OJC				*e*Sg		Sg	16 15 33.1	+0.8
MORC	**Moravsky Berou**	**0.95**	**237**	*e*Pg		Pg	16 15 28.8	-0.4
MORC				*e*Sg		Sg	16 15 41.2	-0.4
KRLC	**Kraliky**	**1.30**	**261**	*e*PG		Pg	16 15 34.8	-1.1
KRLC				*e*SG		Sg	16 15 52.9	+0.1
KRLC	**Kraliky**	**1.30**	**261**	Pg		Pg	16 15 34.8	-1.1
KRLC				Sg		Sg	16 15 52.9	+0.1
DPC	**Dobruska-Polom**	**1.57**	**273**	*e*PG		Pn	16 15 39.6	-0.5
DPC				*e*SG		Sn	16 16 01.2	0.0
DPC	**Dobruska-Polom**	**1.57**	**273**	Pg		Pn	16 15 39.6	-0.5
DPC				Sg		Sn	16 16 01.2	0.0
KSP	**Ksiaz**	**1.67**	**290**	*e*Pg		Pg	16 15 43.0	0.0
KSP				*e*Sg		Sg	16 16 04.9	+0.3
VRAC	**Vranov**	**1.73**	**236**	*e*Pn		Pn	16 15 41.9	-0.3
VRAC				*e*Sg		Sn	16 16 05.3	+0.4
KHC	**Kasperske Hory**	**3.57**	**253**	*e*PN		Pn	16 16 06.5	-1.0
KHC				*e*SG		Sg	16 17 05.5	-0.1

IDC 30 16:41:38.5±1.2,2°47S×59°77W,h0km,mb3.3/3, mb1 3.7/5,mb1mx3.5/20,mbtmp3.5/5,ML3.8/2,Error ellipse: s-maj=37.5km s-min=13.1km az=89.0,Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PTGA	**Pitinga**	**1.74**	**353**	Pg		Pb	16 42 11.5	+0.1
	251nm,0.3s,baz=352,slow=23,SNR=49							
PTGA				Lg		Lg	16 42 33.3	
	504nm,0.3s,baz=87,slow=23,SNR=22							
SIV	**San Ignacio**	**13.50**	**185**	Pn		Pn	16 44 53.1	+1.6
	0.7nm,0.3s,baz=27,slow=14,SNR=1.9							
SIV				Sn		Sn	16 47 13.3	-9.1
	0.7nm,0.3s,baz=112,slow=23,SNR=2.0							
SIV				Lg		Lg	16 48 46.1	
	1.5nm,0.3s,baz=304,slow=18,SNR=3.0							
LPAZ	**La Paz**	**16.01**	**210**	Pn		Pn	16 45 27.6	+1.6
	0.1nm,0.3s,baz=12,slow=14,SNR=2.1							
LPAZ				Lg		Lg	16 50 07.1	
	0.1nm,0.3s,baz=211,slow=12,SNR=3.7							
TXAR	**Lajitas Array**	**52.58**	**310**	P		P	16 50 53.8	-0.6
	0.1nm,0.3s,baz=138,slow=6.9,SNR=2.3							
TORD	**Torodi Ar. Bea**	**62.92**	**74**	P		P	16 52 07.2	-0.1
	0.2nm,0.3s,baz=250,slow=5.7,SNR=2.3							
YKA	**Yellowknife Ar**	**76.75**	**337**	P		P	16 53 31.2	-0.4
	0.1nm,0.7s

ISA	**Isabella**	**4.21**	**321**	*eP*	Pn	17 55 19.8	+3.8
WUAZ	**Wupatki**	**4.41**	**45**	*eP*	**Pn**	**17 55 20.8**	**+2.0**
W18A	**Petrified Fore** comp=N,19nm,0.7s	**5.26**	**58**	*eP*	**Pn**	**17 55 33.0**	**+2.4**
CCUT	**Cedar City** comp=N,27nm,1.0s	**5.31**	**16**	*eP*	Pn	17 55 34.6	+3.4
ARUT	**Antelope Range** comp=N,356nm,0.6s	**5.52**	**15**	*eP*	Pn	17 55 38.8	+4.7
R11A	**Troy Canyon, C** comp=N,12nm,0.6s	**5.90**	**357**	*eP*	Pn	17 55 44.7	+5.4
121A	**Cookes Peak, D** comp=N,9.0nm,0.5s	**6.26**	**87**	*eP*	**Pn**	**17 55 44.2**	**0.0**
MVU	**Marysvale** comp=N,12nm,0.8s	**6.51**	**21**	P	Pn	17 55 52.0	+4.2

*IDC **30** 17:59:53.0±1.7, 6°.33N×123°.53E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/25, mbtmp3.8/5, Error ellipse: s-maj=128.4km s-min=23.2km az=65.0*
*DJA **30** 17:59:56.8±1.8, 7°.N±17°×12°.4E±°, h10km, M4.8/6, mb4.8/6, mB5.5/5, MLv4.8/1, Mw(mB)5.0/5*
*MAN **30** 17:59:56, 6°.48N×123°.79E, h36km, mb5.2, ML4.2, MS4.4*
*ISCJB **30** 17:59:57.4±0.5, 6°.51N±0°.03×123°.80E±0°.05, h53km±10km, mb3.6/5, Error ellipse: s-maj=7.9km s-min=5.7km az=176.1*

ISC 30 17:59:59.4±1.1, **6°.56N**±0°.06×**123°.83E**±0°.06, **h50**km±16km, **n27**, σ1§**71**/32, **mb3.6**/5, **3C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.77**	**32**	⇓*iP*	**Pn**	**18 00 12.4**	**-1.7**
KCP	**Kidapawan**	**1.32**	**70**	⇑*iP*	**Pn**	**18 00 20.7**	**-0.9**
PAGZ	**Pagadian**	**1.35**	**341**	*eP*	**Pn**	**18 00 20.3**	**-1.6**
PAGZ				*eS*	**Sn**	**18 00 38.3**	**-0.4**
DMPH	**Davao City--Mi**	**1.74**	**73**	⇑*iP*	**Pn**	**18 00 27.4**	**+0.2**
DMPH				*eS*	**Sn**	**18 00 48.6**	**+0.3**
IPIL	**Ipil**	**1.75**	**314**	*eP*	**Pn**	**18 00 26.4**	**-0.8**
BUKP	**Musuan**	**1.79**	**43**	*eP*	**Pn**	**18 00 27.4**	**-0.5**
BUKP				*eS*	**Sn**	**18 00 49.5**	**0.0**
CGP	**Cagayan de Oro**	**2.06**	**24**	⇑*iP*	**Pn**	**18 00 31.3**	**-0.3**
CGP				*i* S	**Sn**	**18 00 56.1**	**-0.1**
SGSI	**Sangihe**	**3.32**	**149**	P	**Pn**	**18 00 46.3**	**-2.6**
MSLP	**Maasin**	**3.69**	**16**	*eP*	**Pn**	**18 00 54.0**	**+0.1**
MSLP				*eS*	**Sn**	**18 01 41.1**	**+4.9**
LLP	**Lapu-Lapu**	**3.73**	**2**	⇓*iP*	**Pn**	**18 00 57.1**	**+2.5**
LLP				*eS*	**Sn**	**18 01 35.0**	**-2.2**
GUIM	**Jordan**	**4.22**	**343**	*eP*	**Pn**	**18 01 00.5**	**-0.7**
OCLP	**Ormoc**	**4.53**	**10**	*eP*	**Pn**	**18 01 08.1**	**+2.6**
MYLDM	**Lahad Datu** 59nm,0.7s	**5.48**	**256**	P	**Pn**	**18 01 20.7**	**+2.2**
GTOI	**Gorontalo**	**5.95**	**188**	P	**Pn**	**18 01 22.3**	**-2.6**
KMSI	**Cibinong** 259nm,0.7s,6μm	**5.95**	**179**	P	**Pn**	**18 01 24.5**	**-0.5**
OTRP	**Odiongan**	**6.03**	**343**	*eP*	**Pn**	**18 01 26.5**	**+0.3**
MRSI	**Marisa** 28nm,0.6s,6μm	**6.33**	**197**	P	**Pn**	**18 01 29.8**	**-0.4**
BUSP	**Coron**	**6.49**	**327**	*eP*	**Pn**	**18 01 31.7**	**-0.6**
TNTI	**Ternate** 62nm,0.9s,2μm	**6.75**	**148**	P	**Pn**	**18 01 35.6**	**-0.3**
LUWI	**Luwuk** 110nm,0.8s,6μm	**7.63**	**188**	P	**Pn**	**18 01 50.4**	**+2.4**
APSI	**Ampana**	**7.74**	**196**	P	Pn	18 01 52.8	+3.3
LBMI	**Labuha**	**8.04**	**153**	P	**Pn**	**18 01 53.3**	**-0.3**
FITZ	**Fitzroy Crossi** 1.2nm,0.5s,baz=14,slow=9.0,SNR=7.8	**24.57**	**176**	P	**P**	**18 05 13.3**	**-1.5**
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=336,slow=10,SNR=11	**28.30**	**159**	P	**P**	**18 05 46.8**	**-1.6**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=338,slow=7.1,SNR=9.0	**31.61**	**162**	P	**P**	**18 06 16.8**	**-1.0**
STKA	**Stephens Creek** 4.3nm,0.7s,baz=344,slow=8.3,SNR=13	**41.81**	**157**	P	**P**	**18 07 44.2**	**-0.1**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=123,slow=8.1,SNR=3.9	**53.60**	**326**	P	**P**	**18 09 16.1**	**+0.6**

*ISCJB **30** 18:01:10.5±0.5, 67°.04N±0°.03×20°.93E±0°.10, h0km, Error ellipse: s-maj=5.6km s-min=4.3km az=1.4*
*CSEM **30** 18:01:11.2±0.4, 67°.06N×20°.78E, h2km, ML1.2, Error ellipse: s-maj=9.5km s-min=6.7km az=83.0, Mining explosion.*
*HEL **30** 18:01:11.8±0.2, 67°.06N×20°.76E, h0km, ML1.2(UPP), Explosion*
*UPP **30** 18:01:11.0, 67°.06N×20°.77E, h0km, ML1.2, Mining explosion.*
*IDC **30** 18:01:12.0±1.1, 67°.15N×20°.96E, h0km, mb1 3.0/3, mb1mx2.8/27, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=20.6km s-min=7.8km az=113.0*

ISC 30 18:01:10.7±0.8, **67°.08N**±0°.03×**20°.72E**±0°.04, **h0**km, **n29**, σ1§**04**/41, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.63**	**52**	*iP*	**Pg**	**18 01 22.9**	**+0.1**
MASU	**Masugnsbyn**	**0.63**	**52**	P	**Pg**	**18 01 22.9**	**+0.1**
KUA	**Kurravaara**	**0.89**	**351**	*eP*	**Pg**	**18 01 27.7**	**-0.1**
KUA	**Kurravaara**	**0.89**	**351**	P	**Pg**	**18 01 27.7**	**-0.1**
HARU	**Harads**	**0.92**	**173**	*eP*	**Pg**	**18 01 27.8**	**-0.6**
HARU	**Harads**	**0.92**	**173**	P	**Pg**	**18 01 27.8**	**-0.6**
NIKU	**Nikkaluokta**	**1.02**	**322**	*eP*	**Pb**	**18 01 31.6**	**+0.3**
NIKU	**Nikkaluokta**	**1.02**	**322**	P	**Pb**	**18 01 31.6**	**+0.3**
LANU	**Lannavaara**	**1.09**	**26**	*eP*	**Pg**	**18 01 30.3**	**-1.3**
LANU	**Lannavaara**	**1.09**	**26**	P	**Pg**	**18 01 30.3**	**-1.3**
SJUU	**Sjulsmark**	**1.62**	**167**	*eP*	**Pn**	**18 01 40.3**	**-0.1**
SJUU	**Sjulsmark**	**1.62**	**167**	P	**Pn**	**18 01 40.3**	**-0.1**
HEF	**Hetta**	**1.75**	**39**	*eP*	**Pn**	**18 01 41.9**	**-0.4**
HEF				*eS*	**Sb**	**18 02 06.4**	**+0.4**
HEF	**Hetta**	**1.75**	**39**	P	**Pn**	**18 01 41.8**	**-0.4**
HEF				S	**Sb**	**18 02 06.4**	**+0.4**
KIF	**Kilpisjarvi**	**1.94**	**1**	*eP*	**Pb**	**18 01 46.9**	**0.0**
KIF				*eS*	**Sb**	**18 02 12.6**	**+1.0**
KIF	**Kilpisjarvi**	**1.94**	**1**	P	**Pb**	**18 01 46.8**	**0.0**
KIF				S	**Sb**	**18 02 12.5**	**+1.0**
RNF	**Rovaniemi**	**2.15**	**100**	*eP*	**Pn**	**18 01 47.9**	**+0.1**
RNF				*eSG*	**Sb**	**18 02 17.5**	**-0.1**
RNF	**Rovaniemi**	**2.15**	**100**	P	**Pn**	**18 01 47.8**	**+0.1**
RNF				Sg	**Sb**	**18 02 17.4**	**-0.1**
SGF	**Sodankyl**	**2.29**	**78**	*eP*	**Pn**	**18 01 50.8**	**+1.1**
SGF				*eSG*	**Sb**	**18 02 22.5**	**+0.8**
SGF	**Sodankyl**	**2.29**	**78**	P	**Pn**	**18 01 50.7**	**+1.1**
SGF				Sg	**Sb**	**18 02 22.4**	**+0.8**
ARCES	**ARCESS Array B** 0.6nm,0.3s,baz=211,slow=14,SNR=2.5	**3.04**	**34**	Pn	**Pn**	**18 02 00.7**	**+0.6**
ARCES				Pg	Pb	18 02 02.6	-3.1
ARCES	0.6nm,0.3s,baz=210,slow=14,SNR=2.2			Sn	**Sn**	**18 02 35.3**	**-1.9**
ARCES	0.2nm,0.3s,baz=204,slow=22,SNR=1.3			Lg	Lg	18 02 44.1	
VRF	0.8nm,0.3s,baz=210,slow=27,SNR=2.6 **Varrio**	**3.50**	**75**	*eP*	**Pn**	**18 02 07.4**	**+1.1**
VRF	**Varrio**	**3.50**	**75**	P	**Pn**	**18 02 07.4**	**+1.1**
KJN	**Kajaani**	**4.18**	**133**	*eP*	**Pn**	**18 02 17.2**	**+1.5**
KJN	**Kajaani**	**4.18**	**133**	P	**Pn**	**18 02 17.1**	**+1.5**
FINES	**FINESS Array B** 0.1nm,0.3s,baz=343,slow=13,SNR=1.4	**6.12**	**155**	Pn	**Pn**	**18 02 45.0**	**+2.8**
FINES				Pg	**Pb**	**18 02 56.5**	**-1.4**
FINES	0.1nm,0.3s,baz=354,slow=14,SNR=1.3			Sn	**Sn**	**18 03 53.7**	**+0.9**
FLYU	0.1nm,0.3s,baz=344,slow=24,SNR=1.1 **Flymyra**	**7.09**	**192**	*eP*	**Pn**	**18 02 55.1**	**-0.4**
FLYU	**Flymyra**	**7.09**	**192**	P	**Pn**	**18 02 55.1**	**-0.4**
NOA	**NORSAR Array B** 0.1nm,0.3s,baz=350,slow=18,SNR=1.5	**7.34**	**219**	Pn	**Pn**	**18 03 01.4**	**+2.3**
NOA				Sn	**Sn**	**18 04 21.6**	**-1.5**
	0.0nm,0.3s,baz=69,slow=15,SNR=1.3						

*ISCJB **30** 18:18:37.0±1.3, 17°.0S±0°.6×179°.2W±0°.4, h533km, mb3.1/7, Error ellipse: s-maj=88.2km s-min=16.9km az=149.6*
*IDC **30** 18:18:39.6±6.6, 17°.10S×179°.17W, h556km±76km, mb2.7/7, mb1 3.0/7, mb1mx2.9/19, mbtmp2.7/7, Error ellipse: s-maj=85.8km s-min=26.9km az=151.0*

ISC 30 18:18:37.6±1.4, **17°.0S**±0°.5×**179°.2W**±0°.4, **h533**km, **n9**, σ0§**49**/10, **mb3.2**/7, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 0.4nm,0.4s,baz=118,slow=12,SNR=3.7	**38.42**	**240**	P	**P**	**18 25 13.7**	**0.0**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=96,slow=7.8,SNR=5.8	**44.07**	**259**	P	**P**	**18 25 59.0**	**+0.4**
ASAR	**Alice Springs**	**44.33**	**253**	P	**P**	**18 26 00.9**	**+0.3**
	0.7nm,0.6s,baz=88,slow=7.8,SNR=19						
ASAR				PcP	**PcP**	**18 27 32.6**	**-0.7**
	0.2nm,0.5s,baz=103,slow=4.1,SNR=9.5						
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=224,slow=7.5,SNR=2.5	**79.30**	**44**	P	**P**	**18 29 48.8**	**+0.5**
ILAR	**Eielson Array** 0.7nm,1.1s,baz=229,slow=5.0,SNR=4.4	**85.18**	**13**	P	**P**	**18 30 17.2**	**+0.1**
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=202,slow=6.2,SNR=4.3	**86.15**	**58**	P	**P**	**18 30 23.0**	**+0.2**
PDAR	**Pinedale Array** 0.7nm,0.9s,baz=195,slow=2.8,SNR=3.3	**87.22**	**44**	P	**P**	**18 30 27.4**	**-0.3**
GERES	**GERESS Array B** 0.6nm,0.5s,baz=48,slow=2.0,SNR=6.5	**146.55**	**344**	PKPbc	**PKPbc**	**18 37 18.6**	**-0.8**
DAVOX	**Davos/Dischmat** 2.2nm,0.4s,baz=195,slow=2.5,SNR=5.3	**149.37**	**348**	PKPbc	**PKPbc**	**18 37 26.7**	**-0.1**

*ISCJB **30** 18:36:21.6±0.4, 6°.12S±0°.04×146°.28E±0°.07, h32km, mb4.4/23, MS3.6/4, Error ellipse: s-maj=10.0km s-min=5.9km az=10.9*
*DJA **30** 18:36:30.1±1.3, 6°.S±10°.×14°.6E±1°.2, h96km±10km, M4.8/10, mb4.8/10, mB5.0/4, MLv5.0/1, Mw(mB)4.3/4*
*IDC **30** 18:36:30.6±1.3, 6°.28S×146°.20E, h98km±12km, mb4.1/14, mb1 4.2/17, mb1mx4.2/21, mbtmp4.1/17, MS3.6/7, Ms1 3.5/7, ms1mx3.3/35, Error ellipse: s-maj=13.3km s-min=8.5km az=84.0*
*NEIC **30** 18:36:32.2±1.1, 6°.25S×146°.22E, h115km±9km, mb4.6/11, Error ellipse: s-maj=12.8km s-min=7.4km az=74.0*
*AUST **30** 18:36:32.0, 6°.27S×146°.11E, h100km*

ISC 30 18:36:23.9±0.4, **6°.20S**±0°.04×**146°.09E**±0°.07, **h32**km, **n96**, σ1§**55**/87, **mb4.5**/21, **MS3.5**/4, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.35**	**162**	P	**Pb**	**18 37 21.4**	**-1.4**
PMG	**Port Moresby**	**3.35**	**162**	P	**Pb**	**18 37 21.4**	**-1.4**
PMG				S	**Sn**	**18 37 58.0**	**+5.1**
PMG	**Port Moresby** 58nm,0.3s,baz=43,slow=5.2,SNR=231	**3.35**	**162**	P	**Pb**	**18 37 21.4**	**-1.4**
PMG	130nm,0.3s,baz=336,slow=22,SNR=49			S	**Sn**	**18 37 58.0**	**+5.1**
PMG				LR	LR	18 38 38.6	
MANU	comp=Z,649nm,20.4s,baz=272,slow=39 **Manus Island** baz=4.4,SNR=15	**4.33**	**17**	P	**Pb**	**18 37 40.9**	**+1.6**
RABL	**Rabaul** baz=6.4,SNR=9.4	**6.32**	**72**	P	Pn	18 38 04.9	+9.2
JAY	**Jayapura**	**6.50**	**304**	P	Pn	18 38 07.0	+9.5
JAY				S	Sn	18 39 21.2	+11
JAY	**Jayapura** 2.7nm,0.3s,baz=151,slow=7.8,SNR=17	**6.50**	**304**	P	Pn	18 38 07.0	+9.5
JAY	1.5nm,0.3s,baz=85,slow=15,SNR=1.5			S	Sn	18 39 21.2	+11
JAY				LR	LR	18 40 37.2	
JAY	comp=Z,96nm,19.2s,baz=310,slow=37 **Jayapura** baz=6.6,SNR=7.8	**6.50**	**304**	P	Pb	18 38 08.2	-8.2
GENI	**Genyem** 50nm,1.4s,1μm	**6.91**	**301**	P	Pn	18 38 08.7	+5.7
COEN	**Coen** 996nm,0.7s	**8.22**	**200**	*eP*	Pn	18 38 29.1	+8.0
COEN	**Coen** baz=8.2,SNR=256	**8.22**	**200**	P	Pn	18 38 29.2	+8.1
CTA	**Charters Tower**	**13.80**	**179**	P	**P**	**18 39 46.9**	**+1.3**
CTA	**Charters Tower** 6.0nm,0.3s,baz=360,slow=14,SNR=71	**13.80**	**179**	P	**P**	**18 39 46.9**	**+1.3**
CTAO	**Charters Tower** 34nm,0.7s	**13.80**	**179**	*eP*	**P**	**18 39 44.7**	**-0.9**
HNR	**Honiara**	**14.10**	**104**	P	**P**	**18 39 50.6**	**+1.8**
HNR	**Honiara** 7.6nm,0.3s,baz=194,slow=6.1,SNR=5.8	**14.10**	**104**	P	**P**	**18 39 50.6**	**+1.8**
FAKI	**Fak Fak** baz=14,SNR=8.8	**14.18**	**283**	P	P	18 39 55.1	+5.3
KDU	**Kakadu** baz=15,SNR=66	**14.89**	**243**	P	**P**	**18 39 57.4**	**-0.3**
QIS	**Mount Isa** baz=16,SNR=19	**15.59**	**203**	P	**P**	**18 40 06.1**	**+0.6**
SWI	**Sorong** 51nm,0.9s,647nm	**15.72**	**289**	P	**P**	**18 40 09.1**	**+2.2**
MTN	**Manton Dam** baz=16,SNR=32	**16.15**	**245**	P	**P**	**18 40 12.9**	**+1.2**
WRAB	**Tennant Creek** 12nm,0.6s	**17.79**	**219**	*eP*	**P**	**18 40 31.0**	**+1.2**
WRA	**Warramunga Arr**	**17.80**	**219**	P	**P**	**18 40 31.4**	**+1.4**
WRA				S	**Sn**	**18 43 47.3**	**+0.3**
WRA	**Warramunga Arr** 2.5nm,0.3s,baz=40,slow=11,SNR=146	**17.80**	**219**	P	**P**	**18 40 31.4**	**+1.4**
WRA	0.2nm,0.3s,baz=34,slow=22,SNR=4.5			S	**Sn**	**18 43 47.3**	**+0.3**
WRA				LR	LR	18 48 18.1	
KNRA	comp=Z,216nm,19.6s,baz=45,slow=40 **Kununurra** baz=10,SNR=33	**19.43**	**240**	P	**P**	**18 40 48.6**	**+0.8**
EIDS	**Eidsvold** 19nm,0.8s	**19.65**	**166**	*eP*	**P**	**18 40 51.9**	**+1.8**
EIDS	**Eidsvold** baz=20,SNR=7.1	**19.65**	**166**	P	**P**	**18 40 52.3**	**+2.1**
RMQ	**Roma** baz=20,SNR=17	**20.33**	**173**	P	Pn	18 41 01.1	+1.3
QLP	**Quilpie** baz=20,SNR=31	**20.34**	**185**	P	**P**	**18 40 59.6**	**+1.9**
AS31	**Alice Springs**	**20.95**	**213**	*eP*	**P**	**18 41 05.5**	**+1.1**
ASAR	**Alice Springs**	**20.95**	**213**	P	**P**	**18 41 05.7**	**+1.3**
ASAR				S	**S**	**18 44 56.0**	**-0.3**
ASAR	**Alice Springs** 3.3nm,0.4s,baz=58,slow=8.1,SNR=130	**20.95**	**213**	P	**P**	**18 41 05.7**	**+1.3**
ASAR	4.1nm,0.8s,baz=29,slow=21,SNR=7.4			S	**S**	**18 44 56.0**	**-0.3**
ASAR				LR	LR	18 50 24.8	
SOEI	comp=Z,296nm,19.0s,baz=308,slow=40 **Soe** baz=22,SNR=3.6	**21.89**	**259**	P	**P**	**18 41 14.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.19**	**238**	P	**P**	**18 41 29.2**	**+0.9**
FITZ	**Fitzroy Crossi** 22nm,0.6s,baz=68,slow=8.3,SNR=57	**23.19**	**238**	P	**P**	**18 41 29.2**	**+0.9**
FITZ	comp=Z,71nm,18.4s,baz=316,slow=38			LR	LR	18 51 09.8	
ARMA	**Armidale** baz=25,SNR=8.8	**24.64**	**168**	P	**P**	**18 41 42.8**	**+1.0**
CMSA	**Cobar Meteorol** baz=25,SNR=12	**25.21**	**181**	P	**P**	**18 41 47.8**	**+1.0**
WRKA	**Warakurna** baz=25,SNR=15	**25.32**	**220**	P	**P**	**18 41 48.2**	**+0.2**
STKA	**Stephens Creek**	**25.89**	**189**	P	**P**	**18 41 52.8**	**-0.2**
STKA	**Stephens Creek** 8.8nm,0.5s,baz=352,slow=8.0,SNR=54	**25.89**	**189**	P	**P**	**18 41 52.8**	**-0.2**
STKA	comp=Z,86nm,19.0s,baz=23,slow=36			LR	LR	18 52 09.1	
STKA	**Stephens Creek** baz=26,SNR=30	**25.89**	**189**	P	**P**	**18 41 53.1**	**+0.1**
HTT	**Hallett** baz=28,SNR=10	**27.90**	**193**	P	**P**	**18 42 11.3**	**+0.1**
YNG	**Young** baz=28,SNR=10	**28.04**	**176**	P	**P**	**18 42 13.9**	**+1.6**
BBOO	**Buckleboo** baz=28,SNR=8.5	**28.07**	**198**	P	**P**	**18 42 12.4**	**-0.3**
MEEK	**Meekatharra** baz=33,SNR=7.6	**33.13**	**229**	P	**P**	**18 42 57.9**	**+0.4**
KMBL	**Kambalda** baz=34,SNR=10	**33.77**	**219**	P	**P**	**18 43 03.0**	**0.0**
MORW	**Morawa** baz=36,SNR=6.6	**36.36**	**228**	P	**P**	**18 43 25.6**	**+0.3**
KLBR	**Kellerberrin** baz=37,SNR=9.7	**36.61**	**223**	P	**P**	**18 43 27.0**	**-0.4**
BLDU	**Ballidu** baz=37,SNR=11	**36.75**	**225**	P	**P**	**18 43 28.6**	**0.0**
MJAR	**Matsushiro Arr**	**43.16**	**351**	P	**P**	**18 44 21.2**	**-0.5**
MJAR	**Matsushiro Arr** 2.0nm,0.7s,baz=185,slow=9.2,SNR=10.0	**43.16**	**351**	P	**P**	**18 44 21.2**	**-0.5**
RPZ	**Rata Peaks**	**43.33**	**154**	P	**P**	**18 44 23.7**	**+0.7**
RPZ	**Rata Peaks** 18nm,0.9s,baz=350,slow=11,SNR=2.3	**43.33**	**154**	P	**P**	**18 44 23.7**	**+0.7**
USRK	**Ussuriysk Arra** 1.0nm,0.4s,baz=158,slow=6.4,SNR=8.7	**51.76**	**347**	P	**P**	**18 45 28.6**	**+0.2**
CM31	**Chiang Mai Arr** 3.0nm,0.6s	**52.55**	**299**	*eP*	**P**	**18 45 36.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**52.55**	**299**	P	**P**	**18 45 37.0**	**+2.1**
CMAR				sP	sP	18 46 04.5	+16
CMAR	**Chiang Mai Arr** 4.1nm,0.7s,baz=123,slow=5.9,SNR=50	**52.55**	**299**	P	**P**	**18 45 37.0**	**+2.1**
CMAR	1.1nm,0.5s,baz=123,slow=5.5,SNR=2.8			sP	sP	18 46 04.5	+16
CHTO	**Chiang Mai** 2.0nm,0.7s	**52.69**	**299**	*eP*	**P**	**18 45 37.6**	**+1.8**
PETK	**Petropavlovsk-**	**59.90**	**8**	P	**P**	**18 46 26.4**	**-0.2**
	2.5nm,0.8s,baz=166,slow=6.7,SNR=2.5						
GTA	**Gaotai**	**62.32**	**321**	*eP*	**P**	**18 46 44.5**	**+1.0**
GTA	comp=Z,3.0nm,0.8s			pmax	pmax		
FX1	**Attu Island--F** comp=Z,215nm,21.2s,baz=319,slow=31	**63.19**	**18**	LR	LR	19 08 51.7	
LSA	**Lhasa** 11nm,0.7s	**63.64**	**307**	*eP*	**P**	**18 46 54.5**	**+1.6**
SONM	**Songino Array**	**64.14**	**331**	P	**P**	**18 46 57.0**	**+1.6**
SONM	**Songino Array** 0.5nm,0.7s,baz=141,slow=4.1,SNR=4.2	**64.14**	**331**	P	**P**	**18 46 57.0**	**+1.6**
CASY	**Casey** 3.1nm,0.6s	**64.82**	**195**	*eP*	**P**	**18 46 58.1**	**-1.3**
VNDA	**Vanda**	**71.76**	**176**	P	**P**	**18 47 41.6**	**-1.1**
VNDA	**Vanda** 3.6nm,0.8s,baz=321,slow=6.6,SNR=16	**71.76**	**176**	P	**P**	**18 47 41.6**	**-1.1**
MKAR	**Makanchi Array**	**77.08**	**321**	P	**P**	**18 48 14.1**	**-0.1**
MKAR	**Makanchi Array** 1.4nm,0.6s,baz=96,slow=7.5,SNR=22	**77.08**	**321**	P	**P**	**18 48 14.1**	**-0.1**
ZALV	**Zalesovo Beam**	**78.70**	**328**	P	P	18 48 21.4	-1.6
ZALV	**Zalesovo Beam** 1.5nm,0.6s,baz=116,slow=6.2,SNR=8.0	**78.70**	**328**	P	P	18 48 21.4	-1.6
KURK	**Kurchatov** 1.0nm,0.8s	**80.83**	**324**	*eP*	**P**	**18 48 33.2**	**-1.4**
KBL	**Kabul** 4.9nm,0.7s	**82.91**	**306**	*eP*	**P**	**18 48 45.3**	**-0.9**
QSPA	**South Pole Qui** 1.7nm,0.5s	**83.76**	**180**	*eP*	**P**	**18 48 48.4**	**-1.5**
COLA	**Colleges** 7.5nm,0.8s	**85.69**	**23**	*eP*	P	18 48 56.0	-3.3
ILAR	**Eielson Array**	**86.02**	**23**	P	P	18 48 58.4	-2.6
ILAR				pP	pP	18 49 15.2	+3.9
ILAR	**Eielson Array** 6.3nm,0.6s,baz=251,slow=5.0,SNR=111	**86.02**	**23**	P	P	18 48 58.4	-2.6
ILAR	1.8nm,0.5s,baz=256,slow=4.6,SNR=5.0			pP	pP	18 49 15.2	+3.9
BRVK	**Borovoye**	**86.47**	**324**	*eP*	**P**	**18 49 02.2**	**-1.3**
YKA	**Yellowknife Ar**	**99.77**	**28**	P	**Pdif**	**18 50 01.8**	**-2.9**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=272,slow=5.0,SNR=6.8	**99.77**	**28**	P	**Pdif**	**18 50 01.8**	**-2.9**
GERES	**GERESS Array B**	**121.56**	**325**	PKP	**PKPdf**	**18 55 12.1**	**-2.5**
GERES	**GERESS Array B** 0.8nm,0.6s,baz=76,slow=2.1,SNR=8.4	**121.56**	**325**	PKP	**PKPdf**	**18 55 12.1**	**-2.5**
TOA0	**Torodi Ar. Sit**	**144.26**	**284**	*e*PKPdf	**PKPab**	**18 55 55.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**144.26**	**284**	PKP	**PKPab**	**18 55 55.4**	**-0.3**
TORD	**Torodi Ar. Bea** 5.3nm,0.7s,baz=73,slow=3.0,SNR=27	**144.26**	**284**	PKP	**PKPab**	**18 55 55.4**	**-0.3**
SIV	**San Ignacio**	**145.22**	**130**	PKPbc	**PKPbc**	**18 55 57.0**	**-2.1**
SIV	**San Ignacio** 5.0nm,0.8s,baz=237,slow=2.9,SNR=15	**145.22**	**130**	PKPbc	**PKPbc**	**18 55 57.0**	**-2.1**
CRPR	**Cabo Rojo, PR**	**145.56**	**67**	*e*PKPdf	**PKPdf**	**18 55 57.1**	**-2.8**
KIC	**Kosan Boka** 35nm,1.4s	**151.01**	**272**	*e*PKIKP	**PKPbc**	**18 56 14.1**	**-0.7**
DBIC	**Dimbokro**	**151.13**	**273**	PKPbc	**PKPbc**	**18 56 14.1**	**-1.0**
DBIC	**Dimbokro** 2.4nm,0.4s,baz=55,slow=5.4,SNR=9.5	**151.13**	**273**	PKPbc	**PKPbc**	**18 56 14.1**	**-1.0**
LIC	**Lamto** 15nm,0.6s	**151.29**	**272**	*e*PKIKP	**PKPbc**	**18 56 14.0**	**-1.4**
TIC	**Toumodi** 7.7nm,0.4s	**151.29**	**272**	*e*PKIKP	**PKPbc**	**18 56 14.0**	**-1.5**
BDFB	**Brasilia**	**154.19**	**147**	PKPbc	**PKPbc**	**18 56 20.1**	**-1.8**
BDFB	**Brasilia** 3.1nm,0.6s,baz=334,slow=2.6,SNR=4.4	**154.19**	**147**	PKPbc	**PKPbc**	**18 56 20.1**	**-1.8**

GUC 30 18:41:33.6±0.5, **21°.94S×68°.82W, h126**km±3km, **ML3.7, 9C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.41**	**290**	*eP*	Pn	18 41 52.4	+0.3
PB09				*i* S	Sn	18 42 06.7	+0.8
PB09	comp=E,4μm,0.3s			AML	AML	18 42 07.7	
PB04	**Plate Boundary**	**0.70**	**242**	⇑*iP*	Pn	18 42 00.1	+6.5
PB04				*i* S	Sn	18 42 19.9	+11
PB04	comp=N,712nm,0.4s			AML	AML	18 42 22.4	
MACH	**Maria Elena**	**0.90**	**253**	⇑*iP*	Pn	18 41 56.3	+0.7
MACH				*i* S	Sn	18 42 13.2	+1.0
PB07	**Plate Boundary**	**1.01**	**282**	⇑*iP*	Pn	18 41 57.3	+0.8
PB07				*i* S	Sn	18 42 14.8	+0.9
PB07	comp=N,856nm,0.3s			AML	AML	18 42 15.4	
PB06	**Plate Boundary**	**1.03**	**222**	⇑*iP*	Pn	18 41 57.2	+0.5
PB06				*i* S	Sn	18 42 15.1	+0.9
PB06	comp=E,2μm,0.3s			AML	AML	18 42 15.8	
PB01	**Plate Boundary**	**1.09**	**325**	⇑*iP*	Pn	18 41 57.5	+0.3
PB01				*i* S	Sn	18 42 15.7	+0.6
PB01	comp=E,2μm,0.3s			AML	AML	18 42 17.3	
PATCX	**Punta Patache**	**1.67**	**312**	⇑*iP*	Pn	18 42 03.9	+0.4
PATCX				*i* S	Sn	18 42 27.5	+1.2
PATCX	comp=N,586nm,0.6s			AML	AML	18 42 33.2	
CEN1	**Los Morros**	**1.92**	**221**	⇑*iP*	Pn	18 42 08.6	+2.0
CEN1				*i* S	Sn	18 42 36.3	+4.5
CEN1	comp=E,185nm,0.4s			AML	AML	18 42 39.9	
HMBC	**Humberstone**	**1.93**	**329**	⇑*iP*	Pn	18 42 06

NORM	**Noumea**	**3.84**	**219**	*e*P	**Pn**	**18 47 15.5**	**+0.2**
NORM				*e*S	**Sn**	**18 47 59.4**	**-0.9**
NORM				AMP		18 48 01.7	
	comp=Z,354nm,3.4s						
NOUC	**Port Laguerre**	**3.86**	**222**	*e*P	**Pn**	**18 47 16.3**	**+0.8**
NOUC				*e*S	**Sn**	**18 48 01.4**	**+0.6**
NOUC				AMP		18 48 07.4	
	comp=Z,54nm,1.6s						
CTA	**Charters Tower**	**21.53**	**264**	P	**P**	**18 50 55.6**	**+0.8**
	comp=Z,3.9nm,0.7s,baz=91,slow=15,SNR=6.5						
WRA	**Warramunga Arr**	**32.72**	**263**	P	**P**	**18 52 34.5**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=89,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**33.00**	**256**	P	**P**	**18 52 38.2**	**-0.3**
	comp=Z,3.5nm,0.5s,baz=82,slow=8.7,SNR=104						
FITZ	**Fitzroy Crossi**	**41.11**	**264**	P	**P**	**18 53 47.2**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=122,slow=9.5,SNR=1.8						
SONM	**Songino Array**	**87.16**	**323**	P	**P**	**18 58 46.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=130,slow=5.8,SNR=2.1						

BJI ***30*** *18:48:55.2,32˚.50N×115˚.20W,h6km,mB5.9/24,mb5.6/24, Ms6.1/36,Ms7 5.7/33*

MOS ***30*** *18:48:56.4±1.4,32˚.47N×115˚.19W,h10km,mb5.8/55, MS5.8/50,Error ellipse: s-maj=6.4km s-min=4.3km az=93.7*

ISCJB ***30*** *18:48:56.4±0.1,32˚.42N±0˚.01×115˚.12W±0˚.01,h10km, mb5.4/195,MS5.7/264,Error ellipse: s-maj=1.6km s-min=1.2km az=23.6*

ECX ***30*** *18:48:57.8±0.7,32˚.44N×115˚.17W,h9km,ML6.0,MW5.7*

NEIC ***30*** *18:48:57.7,32˚.44N×115˚.17W,h9km,mb5.7/114, MS5.7/187,MW5.8,MD6.0(ECX),MW5.8(PAS),Moment Tension Solution. s37 Moment tensor: Scale 10¹⁷Nm; Mrr=0.25; Mθθ=5.04; Mφφ=4.79; Mrθ=-1.04; Mθφ=3.48; Mrφ=-0.40; Best double couple: M₀6.10000×10¹⁷ NP1:φ₁=63.00000°, δ=90.00000°,λ=-10.00000°. NP2:φ₂=153.00000°,δ=80.00000°, λ=-180.00000°. Principal axes: T 5.9800, Plg7.0000°, Azm108.0000°; N 0.2800, Plg79.0000°, Azm240.0000°; P -6.2600, Plg7.0000°, Azm17.0000°; After ECX.*

NEIC Some buildings damaged slightly at Mexicali. Cracks occurred in Canal Reforma near Jalapa and ground cracks were observed at Guerrero and Jalapa. Felt [VI] at Mexicali and [V] at Algodones. Felt [IV] at San Luis Rio Colorado, Sonora. Felt [VI] at Heber and Holtville; [V] at Brawley, Calexico, El Centro and Imperial; [IV] at Blythe, Calipatria, Niland, Ocotillo, San Diego, Thermal, Westmorland and Winterhaven, California. Also felt [V] at Somerton and [IV] at Chandler and Yuma, Arizona. Felt in northern Baja California and northwestern Sonora. Felt in much of southern California, southwestern Arizona and at Las Vegas, Nevada.

SZGRF ***30*** *18:48:57.5,31˚.96N×115˚.64W,h47km,mb5.9,MS6.1, Baja California, Mexico*

MEX ***30*** *18:48:58.7±2.1,32˚.48N×115˚.25W,h8km±6km,MD5.7*

IDC ***30*** *18:48:59.3±0.5,32˚.79N×115˚.04W,h0km,mb4.8/26, mb1 4.9/30,mb1mx4.8/32,mbtmp4.8/30,ML4.1/4,MS5.6/48, Ms1 5.6/48,ms1mx5.6/54,Error ellipse: s-maj=12.8km s-min=8.1km az=47.0*

GCMT ***30*** *18:49:01.0±0.1,32˚.46N×115˚.17W,h15km,MW5.9, Moment Tension Solution. s108,c211; s81,c105; Moment tensor: Scale 10¹⁷Nm; Mrr=0.88±.06; Mθθ=6.69±.07; Mφφ=7.57±.07; Mrθ=0.95±.13; Mθφ=3.49±.06; Mrφ=0.50±.12; Best double couple: M₀8.00000×10¹⁷ NP1:φ₁=238.00000°,δ88.00000°,λ=-8.00000°. NP2: φ₂=328.00000°,δ82.00000°,λ=-178.00000°. Principal axes: T 8.4300, Plg4.0000°, Azm283.0000°; N -0.8300, Plg82.0000°, Azm45.0000°; P -7.6000, Plg7.0000°, Azm193.0000°; Data Used: II IU CU IC G CN. Surface waves: sta=131, comp=295, per= 50.*

ISC 30 18:48:58.6±0.4,32˚.50N±0˚.02×115˚.24W±0˚.02,h7km±2km, n1330,σ1=90/1090,mb5.5/199,MS5.8/265,274C-247D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.10**	**213**	↑	*e*P		**Pg**	**18 49 00.8**	**-0.1**
CPBX					*e*S		**Sg**	**18 49 02.7**	**+0.1**
CPBX	**Cerro Prieto**	**0.10**	**213**	↑	*e*P		**Pg**	**18 49 00.8**	**-0.1**
CPBX					*e*S		**Sg**	**18 49 02.7**	**+0.1**
MBIG	**Mexicali**	**0.10**	**160**		*e*P		**Pg**	**18 48 60.0**	**-1.0**
MBIG					*i* S		**Sg**	**18 49 01.8**	**-0.8**
EMSC	**East Mesa**	**0.32**	**42**		*e*Pg		**Pg**	**18 49 04.1**	**-0.8**
ERPC	**Ernies Place**	**0.43**	**304**		*e*Pg		**Pg**	**18 49 06.5**	**-0.4**
SGL	**Mount Signal**	**0.43**	**290**	↑	P		**Pg**	**18 49 06.6**	**-0.5**
WESC	**Westside Schoo**	**0.49**	**302**		*e*Pg		**Pg**	**18 49 07.8**	**-0.3**
BTCC	**Brunts Corner**	**0.51**	**2**		*e*Pg		**Pg**	**18 49 07.7**	**-0.8**
EMX	**El Mayor**	**0.51**	**180**	↓	*e*P		**Pg**	**18 49 05.7**	**-2.8**
EMX	**El Mayor**	**0.51**	**180**	↓	*e*P		**Pg**	**18 49 05.7**	**-2.8**
RUN	**Ruthven**	**0.52**	**25**	↓	*i*P		**Pg**	**18 49 07.3**	**-1.3**
COK	**Cook Ranch**	**0.54**	**310**	↑	*i*P		**Pg**	**18 49 08.5**	**-0.5**
YMD	**Yuma Desert**	**0.59**	**85**	↑	*i*P		**Pg**	**18 49 07.3**	**-2.6**
YUH	**Yuha Desert**	**0.59**	**284**	↑	*i*P		**Pg**	**18 49 09.0**	**-1.1**
YUH	**Yuha Desert**	**0.59**	**284**		*e*Pg		**Pg**	**18 49 09.1**	**-1.1**
SWSC	**Sam W. Stewart**	**0.64**	**313**		*e*Pg		**Pg**	**18 49 08.3**	**-2.7**
SWSC	**Sam W. Stewart** baz=0.7	**0.64**	**313**	↑	P		**Pg**	**18 49 09.6**	**-1.3**
GLA	**Glamis**	**0.65**	**32**		*e*P		**Pg**	**18 49 09.0**	**-2.1**
GLA	**Glamis**	**0.65**	**32**		*e*Pg		**Pg**	**18 49 09.0**	**-2.1**
GLA	**Glamis** baz=0.7	**0.65**	**32**	↓	P		**Pg**	**18 49 09.4**	**-1.8**
GLA				↑	S		**Sg**	**18 49 18.0**	**-1.5**
CLIC	**Calipatria**	**0.68**	**339**		*e*Pg		**Pg**	**18 49 10.5**	**-1.2**
RMX	**La Rumorosa**	**0.72**	**278**	↑	*e*P		**Pg**	**18 49 11.5**	**-0.9**
RMX	**La Rumorosa**	**0.72**	**278**	↑	*e*P		**Pg**	**18 49 11.5**	**-0.9**
CRR	**Carrizo Plain**	**0.72**	**302**		*e*Pg		**Pg**	**18 49 11.1**	**-1.5**
DVTC	**Desert V Tower**	**0.74**	**282**		*e*Pg		**Pg**	**18 49 11.7**	**-1.2**
DVTC	**Desert V Tower** baz=0.8	**0.74**	**282**	↑	P		**Pg**	**18 49 11.7**	**-1.2**
DVTC				↓	S		**Sg**	**18 49 21.7**	**-1.0**
RDX	**Rancho Dawling** baz=0.8	**0.83**	**226**	↓	*e*P		**Pg**	**18 49 12.5**	**-2.0**
RDX					*e*S		**Sg**	**18 49 23.3**	**-2.1**
RDX	**Rancho Dawling**	**0.83**	**226**	↓	*e*P		**Pg**	**18 49 12.5**	**-2.0**
RDX					*e*S		**Sg**	**18 49 23.9**	**-1.4**
CBKC	**Canebrake**	**0.94**	**295**		*e*Pg		**Pg**	**18 49 14.5**	**-2.2**
FRK	**Frink**	**0.96**	**340**		*e*Pg		Pg	18 49 14.0	-3.0
ECBX	**El Chinero**	**1.04**	**171**	↓	*e*P		Pg	18 49 13.6	-5.0
ECBX					*e*S		**Sg**	**18 49 26.6**	**-5.5**
MONP	**Monument Peak** baz=1.2	**1.07**	**291**	↓	P		**Pg**	**18 49 16.4**	**-2.7**
MONP				↑	S		**Sg**	**18 49 30.0**	**-3.0**
BATC	**Bat Cave Butte**	**1.08**	**332**		*e*Pg		Pg	18 49 15.9	-3.4
CBX	**Cerro Bola**	**1.22**	**261**	↑	*e*P		**Pg**	**18 49 19.5**	**-2.5**
CBX					*e*S		**Sg**	**18 49 36.8**	**-1.1**
CBX	comp=E,439μm,0.9s			↑	*e*			18 49 43.5	
CBX	comp=N,456μm,1.0s			↓	*e*			18 49 43.7	
BAR	**Barrett**	**1.22**	**279**		*e*Pg		Pg	18 49 18.8	-3.3
BORC	**Borrego Spring**	**1.25**	**308**		*e*Pg		Pn	18 49 18.5	-4.0
113A	**Mohawk Valley,** baz=1.2	**1.27**	**78**	↓	P		Pn	18 49 17.9	-4.8
113A				↑	S		**Sb**	**18 49 36.1**	**-3.2**
CTW	**Cottonwood Mou**	**1.28**	**336**		*e*Pg		Pn	18 49 18.9	-4.1
CTCC	**Cactus City**	**1.31**	**331**		*e*Pg		Pn	18 49 19.2	-4.2
ZAX	**El Zacaton**	**1.32**	**222**	↓	*e*P		Pn	18 49 20.2	-3.3
Y12C	**Blythe** baz=1.4	**1.38**	**26**	↑	P		Pn	18 49 20.2	-4.1
Y12C				↑	S		**Sb**	**18 49 40.8**	**-1.7**
EML	**El Monte Cty P**	**1.41**	**286**		*e*Pn		Pn	18 49 21.4	-3.3
ECNX	**Esteban Cantu**	**1.43**	**234**	↓	*e*P		**Pn**	**18 49 22.4**	**-2.7**
SPIG	**San Pedro Mart**	**1.47**	**188**		*i* P		Pn	18 49 21.8	-3.9
SPIG					*i* S		**Sn**	**18 49 39.5**	**-5.9**
SPX	**San Pedro Mart**	**1.47**	**188**		*e*P		Pn	18 49 22.0	-3.8
SPX					*e*S		**Sn**	**18 49 41.2**	**-4.2**
PBX	**Punta Banda**	**1.47**	**239**	↑	*e*P		**Pn**	**18 49 23.1**	**-2.4**
PBX	**Punta Banda**	**1.47**	**239**	↑	*e*P		**Pn**	**18 49 23.1**	**-2.4**
PFO	**Pinyon Flat Ob** comp=N,243μm,0.7s	**1.50**	**318**		Pn		Pn	18 49 22.0	-4.1
PFO	**Pinyon Flat Ob**	**1.50**	**318**		*e*Pn		Pn	18 49 21.9	-4.1
PFO						Pg	**Pb**	**18 49 27.1**	**+0.2**
PFO	**Pinyon Flat Ob** baz=1.6	**1.50**	**318**	↑	P		Pn	18 49 22.1	-4.1
PFO	**Pinyon Flat Ob**	**1.50**	**318**		Pn		Pn	18 49 22.6	-3.5
	comp=N,522nm,0.3s,baz=136,slow=12,SNR=2164								
PFO						Pg	**Pb**	**18 49 27.1**	**+0.2**
	comp=N,3μm,0.3s,baz=134,slow=14,SNR=100								
PFO						Lg	Lg	18 49 45.4	
	comp=N,5μm,0.3s,baz=242,slow=15,SNR=10								
FRD	**Ford Ranch**	**1.51**	**311**		*e*Pn		Pn	18 49 22.5	-3.7
DPP	**Dos Picos Cty**	**1.52**	**289**		*e*Pn		Pn	18 49 22.8	-3.4
SNDA	**J Saunders Pla**	**1.56**	**313**		*e*Pn		Pn	18 49 23.3	-3.5
DNR	**Dunn Ranch,Anz**	**1.58**	**313**		*e*Pn		Pn	18 49 23.6	-3.5
PLM	**Palomar**	**1.61**	**302**		*e*P		Pn	18 49 24.1	-3.5
PLM	**Palomar**	**1.61**	**302**		*e*Pn		Pn	18 49 24.1	-3.5
109C	**Camp Elliot, M** baz=1.7	**1.62**	**284**	↑	P		**Pn**	**18 49 24.6**	**-3.0**
109C				↓	S		**Sn**	**18 49 45.4**	**-3.3**
CPE	**Camp Elliot** baz=1.7	**1.62**	**284**		*e*Pn		**Pn**	**18 49 24.6**	**-2.9**
CRY	**Cary Ranch**	**1.65**	**310**		*e*Pn		Pn	18 49 24.4	-3.6
IRM	**Iron Mountain** baz=1.7	**1.65**	**3**	↓	P		Pn	18 49 24.3	-3.8
TPC	**Twentynine Pal**	**1.74**	**337**		*e*Pn		Pn	18 49 25.8	-3.4
BACC	**Bachelor Mtn.**	**1.87**	**307**		*e*Pn		Pn	18 49 27.5	-3.6
DGR	**Domenigoni Val**	**1.88**	**308**		*e*Pn		Pn	18 49 27.7	-3.5
MURC	**Murrieta** baz=2.1	**1.98**	**304**	↑	P		Pn	18 49 29.0	-3.5
PDMCI	**Parker Dam,Lak** baz=2.1	**2.01**	**27**	↓	P		Pn	18 49 29.5	-3.4
PDMCI				↓	Sb		**Sn**	**18 49 59.9**	**+1.5**
BBSC	**Beaumont Base** baz=2.1	**2.03**	**315**		*e*Pn		**Pn**	**18 49 30.4**	**-2.9**
Z14A	**Wintersburg** baz=2.1	**2.11**	**65**	↑	P		Pn	18 49 30.1	-4.2
Z14A				↑	Sb		**Sn**	**18 50 02.2**	**+1.4**
214A	**Organ Pipe Nat**	**2.13**	**104**		*e*Pn		Pn	18 49 29.0	-5.6
214A	**Organ Pipe Nat** baz=2.0	**2.13**	**104**	↓	P		Pn	18 49 28.9	-5.6
DANC	**Danby, Needles**	**2.13**	**357**		*e*Pn		**Pn**	**18 49 31.7**	**-2.9**
SVD	**Seven Oaks Dam**	**2.23**	**316**		*e*Pn		**Pn**	**18 49 33.5**	**-2.5**
BBRC	**Big Bear Solar**	**2.25**	**322**		*e*Pn		**Pn**	**18 49 33.7**	**-2.7**
BBRC	**Big Bear Solar** baz=2.3	**2.25**	**322**	↑	P		**Pn**	**18 49 33.5**	**-2.9**
GMRC	**Granite Mounta**	**2.30**	**351**		*e*Pn		Pn	18 49 31.7	-5.3
GMRC	**Granite Mounta** baz=2.4	**2.30**	**351**	↑	P		Pn	18 49 33.8	-3.2
NEE2	**Needles Airpor** baz=2.4	**2.32**	**13**	↑	P		**Pn**	**18 49 34.1**	**-3.0**
Y14A	**Wickenburg** baz=2.4	**2.36**	**52**	↑	P		Pn	18 49 34.5	-3.2
HEC	**Hector,Ludlow** baz=2.6	**2.49**	**339**	↑	P		Pn	18 49 36.4	-3.3
LDFC	**Landfair**	**2.57**	**2**		*e*Pn		**Pn**	**18 49 38.6**	**-2.1**
BFSC	**Mount Baldy Ra** baz=2.8	**2.66**	**311**	↓	P		**Pn**	**18 49 39.1**	**-2.9**
SSK	**Sunset Peak**	**2.67**	**310**		*e*Pn		**Pn**	**18 49 39.6**	**-2.5**
DSCC	**Desert Studies**	**2.73**	**345**		*e*Pn		Pn	18 49 39.6	-3.2
RRX	**Edison Barstow** baz=2.9	**2.79**	**329**	↑	P		**Pn**	**18 49 40.8**	**-2.9**
CIS	**Catalina Islan** baz=2.9	**2.81**	**290**	↓	P		Pn	18 49 40.4	-3.6
CIS				↑	Sb		**Sb**	**18 50 21.6**	**-2.1**
W13A	**Hualapai Mount** baz=2.9	**2.82**	**23**	↓	P		Pn	18 49 41.0	-3.3
W13A				↑	Sb		**Sb**	**18 50 24.3**	**-0.1**
SCI	**San Clemente I** baz=2.9	**2.83**	**281**	↓	P		**Pn**	**18 49 41.1**	**-3.0**
SCI				↑	Sb		**Sb**	**18 50 23.0**	**-1.2**
FMP	**Fort Macarthur** baz=2.9	**2.83**	**296**	↓	P		Pn	18 49 40.6	-3.6
MWC	**Mount Wilson**	**2.92**	**307**		*e*P		Pn	18 49 42.4	-3.2
MWC	**Mount Wilson**	**2.92**	**307**		*e*Pn		Pn	18 49 42.4	-3.2
PASC	**Pasadena Art C**	**2.98**	**305**		*e*Pn		Pn	18 49 43.1	-3.1
TUQ	**Turquoise Moun**	**2.98**	**349**		*e*Pn		**Pn**	**18 49 43.5**	**-2.9**
TUQ	**Turquoise Moun** baz=3.1	**2.98**	**349**	↑	P		**Pn**	**18 49 43.4**	**-3.0**
BLKC	**Black Mountain**	**3.06**	**328**		*e*Pn		**Pn**	**18 49 44.8**	**-2.6**
GSC	**Goldstone**	**3.08**	**335**		*e*P		**Pn**	**18 49 45.1**	**-2.6**
GSC	**Goldstone**	**3.08**	**335**		*e*Pn		**Pn**	**18 49 45.1**	**-2.6**
GSC	**Goldstone** baz=3.2	**3.08**	**335**	↓	P		**Pn**	**18 49 45.1**	**-2.6**
DECC	**Green Verdugo** baz=3.2	**3.12**	**305**	↑	P		Pn	18 49 45.1	-3.1
EDW2	**Edwards Air Fo** baz=3.4	**3.30**	**317**	↓	P		**Pn**	**18 49 47.8**	**-2.9**
SHOC	**Shoshone** baz=3.6	**3.50**	**346**	↑	P		Pn	18 49 50.2	-3.2
BLG	**Laguna Peak** baz=3.7	**3.58**	**298**	↓	P		Pn	18 49 50.4	-4.1
OSI	**Osito Adit**	**3.59**	**307**		*e*Pn		**Pn**	**18 49 52.8**	**-1.9**
OSI	**Osito Adit** baz=3.7	**3.59**	**307**	↑	P		**Pn**	**18 49 51.9**	**-2.8**
LRMC	**Laurel Mountai** baz=3.7	**3.60**	**326**	↓	P		**Pn**	**18 49 51.8**	**-3.1**
WSHM	**Spangler Hills**	**3.61**	**329**		*e*Pn		**Pn**	**18 49 53.6**	**-1.4**
X16A	**Lo Mia Camp, P** baz=3.7	**3.70**	**58**	↓	P		Pn	18 49 53.4	-3.0
X16A				↓	Sb		**Sb**	**18 50 51.8**	**+2.2**
TUC	**Tucson**	**3.77**	**92**		*e*P		Pn	18 49 51.8	-5.5
TUC	**Tucson**	**3.77**	**92**		*e*Pn		Pn	18 49 51.8	-5.5
BSC	**Santa Cruz Isl** baz=4.1	**3.97**	**293**	↓	P		Pn	18 49 56.5	-3.4
ARVC	**Arvin** baz=4.1	**3.97**	**312**	↓	P		**Pn**	**18 49 57.3**	**-2.6**
SHPR	**Sheep Range**	**3.99**	**1**		*e*Pn		**Pn**	**18 49 57.7**	**-2.6**
MPMC	**Manual Prospec** baz=4.1	**4.01**	**333**	↓	P		**Pn**	**18 49 57.8**	**-2.8**
ISA	**Isabella**	**4.14**	**320**		*e*P		**Pn**	**18 49 59.4**	**-2.9**
ISA	**Isabella**	**4.14**	**320**		*e*Pn		**Pn**	**18 49 59.4**	**-2.9**
ISA	**Isabella** baz=4.2	**4.14**	**320**	↑	P		**Pn**	**18 49 59.3**	**-2.9**
FURC	**Furnace Creek,** baz=4.3	**4.18**	**342**	↑	P		**Pn**	**18 49 60.0**	**-2.7**
SBC	**Santa Barbara** baz=4.3	**4.21**	**299**	↓	P		**Pn**	**18 50 00.2**	**-2.9**
WUAZ	**Wupatki**	**4.40**	**46**		*e*Pn		**Pn**	**18 50 04.1**	**-1.8**
WUAZ	**Wupatki** baz=4.4	**4.40**	**46**	↑	P		**Pn**	**18 50 03.7**	**-2.2**
PKM	**Peak Mountain** baz=4.6	**4.50**	**303**	↓	P		**Pn**	**18 50 04.7**	**-2.6**
TPNV	**Topopah Spring**	**4.51**	**350**		*e*P		**Pn**	**18 50 05.9**	**-1.6**
TPNV	**Topopah Spring**	**4.51**	**350**		*e*Pn		**Pn**	**18 50 05.8**	**-1.6**
TPNV	**Topopah Spring** baz=4.6	**4.51**	**350**	↓	P		**Pn**	**18 50 05.6**	**-1.8**
FIGC	**Figueroa Mtn.**	**4.54**	**301**		*e*Pn		**Pn**	**18 50 05.6**	**-2.2**
CWC	**Cottonwood Cre** baz=4.7	**4.57**	**330**	↑	P		**Pn**	**18 50 06.3**	**-2.0**
U15A	**North Rim** baz=4.6	**4.61**	**31**	↑	P		**Pn**	**18 50 07.0**	**-1.9**
VES	**Vestal, Richgr** baz=4.7	**4.61**	**317**	↓	P		**Pn**	**18 50 06.1**	**-2.5**
ICU	**Indian Springs**	**4.76**	**13**		*e*Pn		**Pn**	**18 50 08.8**	**-2.1**
GRAC	**Grapevine Rang** baz=4.9	**4.82**	**339**	↑	P		**Pn**	**18 50 09.7**	**-1.9**
SMMC	**Simmler** baz=4.9	**4.85**	**307**	↑	P		**Pn**	**18 50 09.5**	**-2.5**
X18A	**Snowflake** baz=4.8	**4.86**	**64**	↑	P		**Pn**	**18 50 09.5**	**-2.7**
KNB	**Kanab**	**4.92**	**23**		*e*P		**Pn**	**18 50 11.5**	**-1.6**
KNB	**Kanab**	**4.92**	**23**		*e*Pn		**Pn**	**18 50 11.5**	**-1.6**
HSIG		**5.07**	**132**		*e*P		**Pn**	**18 50 13.0**	**-2.0**
HSIG					*i* S		**Sn**	**18 51 09.3**	**-4.5**
EKU	**East Kanab**	**5.09**	**26**		*e*Pn		**Pn**	**18 50 13.8**	**-1.6**
TIN	**Tinemaha** baz=5.3	**5.16**	**332**	↑	P		**Pn**	**18 50 14.3**	**-2.1**
319A	**Douglas** baz=5.1	**5.19**	**101**	↑	P		Pn	18 50 12.4	-4.3
CCUT	**Cedar City**	**5.26**	**16**		*e*Pn		**Pn**	**18 50 16.7**	**-1.2**
W18A	**Petrified Fore**	**5.27**	**59**		*e*Pn		**Pn**	**18 50 15.9**	**-2.0**
W18A	**Petrified Fore** baz=5.2	**5.27**	**59**	↓	P		**Pn**	**18 50 15.5**	**-2.4**
BHU	**Blowhard Mount**	**5.44**	**20**		*e*Pn		**Pn**	**18 50 19.6**	**-0.9**
ARUT	**Antelope Range**	**5.47**	**15**		*e*P		**Pn**	**18 50 19.1**	**-1.6**
ARUT	**Antelope Range**	**5.47**	**15**		*e*Pn		**Pn**	**18 50 19.1**	**-1.6**
SRIG	**Santa Rosalia**	**5.78**	**153**		*i* P		**Pn**	**18 50 22.2**	**-2.6**
SRIG					*i* S		**Sn**	**18 51 27.5**	**-3.9**
TPH	**Tonopah**	**5.79**	**344**		*e*P		**Pn**	**18 50 24.6**	**-0.5**
TPH	**Tonopah**	**5.79**	**344**		*e*Pn		**Pn**	**18 50 24.6**	**-0.5**
320A	**Kipp Ranch, An** baz=5.7	**5.82**	**100**	↑	P		Pn	18 50 22.3	-3.2
R11A	**Troy Canyon, C**	**5.84**	**357**		*e*Pn		**Pn**	**18 50 24.1**	**-1.7**
R11A	**Troy Canyon, C** baz=5.9	**5.84**	**357**	↓	P		**Pn**	**18 50 23.5**	**-2.2**
MLAC	**Mammoth Lakes** baz=6.0	**5.90**	**331**	↓	P		**Pn**	**18 50 25.0**	**-1.7**
BTU	**Barney Top**	**5.92**	**27**		*e*Pn		**Pn**	**18 50 26.6**	**-0.4**
121A	**Cookes Peak, D** comp=N,2μm,1.9s	**6.30**	**88**		*e*P		Pn	18 50 28.1	-3.9
121A	**Cookes Peak, D** baz=6.2	**6.30**	**88**	↓	P		Pn	18 50 28.7	-3.4
221A	**Mesquite Ranch** baz=6.3	**6.34**	**92**	↑	P		Pn	18 50 29.3	-3.3
IMU	**Iron Mountain**	**6.35**	**15**		*e*Pn		**Pn**	**18 50 31.5**	**-1.2**
NV11	**Mina Array Sit**	**6.38**	**339**		*e*P		**Pn**	**18 50 32.5**	**-0.6**
NV01	**Mina Array Sit**	**6.42**	**338**		*e*Pn		**Pn**	**18 50 33.1**	**-0.6**
NVAR	**Mina Array Bea**	**6.42**	**338**		Pn		**Pn**	**18 50 32.7**	**-1.0**
NVAR	**Mina Array Bea** comp=N,0.9nm,0.3s,baz=162,slow=15,SNR=27	**6.42**	**338**		Pn		**Pn**	**18 50 32.7**	**-1.0**
NVAR					LR		LR	18 53 16.9	
	comp=N,30μm,21.3s,baz=34,slow=42								
MVU	**Marysvale**	**6.47**	**22**		*e*Pn		**Pn**	**18 50 33.7**	**-0.8**
MMU	**Miners Mountai**	**6.53**	**28**		*e*Pn		**Pn**	**18 50 34.5**	**-0.9**
CGIG		**6.56**	**107**		*e*P		**Pn**	**18 50 33.4**	**-2.2**
CGIG					*i* S		**Sn**	**18 51 47.6**	**-3.2**
SAO	**San Andreas Ge**	**6.65**	**311**		*e*P		**Pn**	**18 50 39.8**	**+3.1**
SAO	**San Andreas Ge**	**6.65**	**311**		*e*Pn		**Pn**	**18 50 39.8**	**+3.1**
WAKR	**Walker**	**6.90**	**331**		*e*Pn		Pn	18 50 44.6	+4.3
222A	**Williams Famil** baz=6.8	**6.90**	**91**	↓	P		Pn	18 50 36.6	-3.6
CMB	**Columbia Colle**	**6.94**	**324**		*e*P		**Pn**	**18 50 39.6**	**-1.1**
CMB	**Columbia Colle**	**6.94**	**324**		*e*Pn		**Pn**	**18 50 39.6**	**-1.1**
Z22A	**Elephant Butte** baz=6.9	**7.00**	**82**	↑	P		**Pn**	**18 50 38.8**	**-2.9**
LAZ	**Ladron**	**7.03**	**72**		*e*Pn		**Pn**	**18 50 40.0**	**-2.1**
LENM	**Lemitar**	**7.11**	**74**		*e*Pn		**Pn**	**18 50 40.7**	**-2.5**
Y22D	**IRIS PASSCAL I** baz=7.1	**7.14**	**75**	↓	P		**Pn**	**18 50 41.0**	**-2.6**
MVCO	**Mesa Verde**	**7.26**	**48**		*e*Pn		**Pn**	**18 50 45.3**	**0.0**
MVCO	**Mesa Verde** baz=7.3	**7.26**	**48**	↓	P		**Pn**	**18 50 44.6**	**-0.7**
BNM	**Barren Site**	**7.39**	**75**		*e*Pn		**Pn**	**18 50 44.3**	**-2.8**
LPM	**Los Pinos Moun**	**7.42**	**74**		*e*Pn		**Pn**	**18 50 45.1**	**-2.3**
223A	**Chaparral, Ant** baz=7.4	**7.48**	**91**	↑	P		**Pn**	**18 50 46.8**	**-1.4**
PV05	**Paradox Valley**	**7.49**	**40**		*e*Pn		**Pn**	**18 50 50.9**	**+2.4**
TMUT	**Trail Mountain**	**7.52**	**25**		*e*Pn		**Pn**	**18 50 49.2**	**+0.2**
123A	**Bell Site, Whi** baz=7.5	**7.58**	**87**	↓	P		Pn	18 50 46.5	-3.0
Z23A	**Rita Site, Whi** baz=7.5	**7.61**	**82**	↓	P		**Pn**	**18 50 47.5**	**-2.6**
SRU	**San Rafael**	**7.62**	**29**		*e*P		**Pn**	**18 50 50.0**	**-0.2**
SRU	**San Rafael**	**7.62**	**29**		*e*Pn		**Pn**	**18 50 50.0**	**-0.2**
V22A	**San Miguel Ran** baz=7.7	**7.69**	**61**	↑	P		**Pn**	**18 50 49.4**	**-1.8**
ANMO	**Albuquerque**	**7.71**	**69**		*e*Pn		**Pn**	**18 50 49.7**	**-1.8**
ANMO					Lg		Lg	18 52 59.5	
ANMO	**Albuquerque** comp=N,1.6nm,0.3s,baz=251,slow=12,SNR=47	**7.71**	**69**		Pn		**Pn**	**18 50 49.3**	**-2.2**
ANMO					Lg		Lg	18 52 59.5	
	comp=N,10nm,0.3s,baz=321,slow=23,SNR=6.7								
PV10	**Paradox Valley**	**7.74**	**39**		*e*Pn		**Pn**	**18 50 51.5**	**-0.4**
SAC	**San Andreas**	**7.76**	**313**		*e*P		Pb	18 51 07.8	-5.7
SAC	**San Andreas**	**7.76**	**313**		*e*Pb		Pb	18 51 07.8	-5.7
PV09	**Paradox Valley**	**7.78**	**38**		*e*Pn		**Pn**	**18 50 52.6**	**+0.1**
PV04	**Paradox Valley**	**7.82**	**40**		*e*Pn		**Pn**	**18 50 53.9**	**+0.9**
PV01	**Paradox Valley**	**7.83**	**42**		*e*Pn		**Pn**	**18 50 53.2**	**+0.2**
Y23A	**Lovelace Mesa,** baz=7.8	**7.83**	**77**	↑	P		Pn	18 50 50.0	-3.0
X23A	**Hourglass Bar** baz=7.

326A	Caldwell Ranch baz=9.6	9.64	94	⇓P		Pn	18 51 16.1	-1.8
Y26A	Elida baz=9.6	9.67	78	⇓P		Pn	18 51 16.7	-1.5
S24A	Houchin Ranch, baz=9.7	9.68	55	⇑P		Pn	18 51 17.1	-1.5
HDU	Hyde Park	9.69	16	*e*Pn		Pn	18 51 19.0	+0.5
426A	McDonald Obser baz=9.6	9.73	98	⇑P		Pn	18 51 16.7	-2.6
U25A	Circle Dot Ran baz=9.7	9.75	64	⇓P		Pn	18 51 17.9	-1.5
X26A	CR and CF Fran baz=9.7	9.76	75	⇑P		Pn	18 51 17.4	-2.0
KCPM	Cahto Peak comp=N,118nm,1.2s	9.84	319	*e*P		Pn	18 51 22.8	+2.2
526A	Mary Lane Ranc baz=9.8	9.85	101	⇑P		Pn	18 51 18.5	-2.3
P22A	Eagle baz=9.9	9.86	42	⇓P		Pn	18 51 20.4	-0.5
KIPM	Iron Peak	9.87	320	*e*Pn		Pn	18 51 25.5	+4.5
W26A	Owens Ranch, T baz=9.8	9.89	72	⇓P		Pn	18 51 19.8	-1.5
SLBS	Sierra La Lagu	9.95	151	*i* P		Pn	18 51 20.6	-1.5
SLBS				*e*S		Sn	18 53 11.1	-3.0
Q23A	Hartsel baz=10.0	9.96	47	⇑P		Pn	18 51 21.5	-0.9
WDC	Whiskeytown Da	9.97	326	*e*P		Pn	18 51 27.5	+5.3
WDC	Whiskeytown Da	9.97	326	*e*Pn		Pn	18 51 27.5	+5.3
626A	Big Bend Ranch baz=9.9	9.97	104	⇑P		Pn	18 51 20.5	-1.9
HPIG		10.00	121	*i* P		Pn	18 51 22.2	-0.7
HPIG				*i* S		Sn	18 53 13.2	-2.2
N20A	Spence Gulch, baz=10	10.02	32	⇑P		Pn	18 51 22.2	-1.0
127A	Arkansas Junct baz=9.9	10.03	86	⇑P		Pn	18 51 20.3	-2.8
T25A	Trinidad baz=10.0	10.03	60	⇑P		Pn	18 51 22.4	-0.8
V26A	Tequesquite Ra baz=10.0	10.04	68	⇑P		Pn	18 51 22.8	-0.6
R24A	Sanders Place, baz=10.0	10.05	53	⇑P		Pn	18 51 22.1	-1.4
227A	Bennet, Jal baz=10.0	10.13	90	⇑P		Pn	18 51 22.1	-2.4
Z27A	Tatum baz=10	10.14	82	⇓P		Pn	18 51 23.1	-1.7
MOD	Modoc	10.21	338	*e*Pn		Pn	18 51 30.9	+5.2
Y27A	Causey baz=10	10.21	79	⇓P		Pn	18 51 23.8	-1.9
527A	Woodward Ranch baz=10	10.22	100	⇓P		Pn	18 51 23.3	-2.5
427A	Hayter Ranch, baz=10	10.22	96	⇓P		Pn	18 51 23.5	-2.3
S25A	Robets Cordova baz=10	10.24	57	⇓P		Pn	18 51 24.9	-1.1
P23A	Jefferson baz=10	10.24	45	⇓P		Pn	18 51 25.2	-1.1
U26A	Atchley Ranch, baz=10	10.25	65	⇓P		Pn	18 51 25.3	-1.0
WVOR	Wild Horse Val	10.27	346	*e*P		Pn	18 51 29.5	+3.0
WVOR				pmax		pmax		
	comp=Z,273nm,0.6s							
WVOR	Wild Horse Val comp=Z,273nm,0.6s	10.27	346	*e*P		Pn	18 51 29.5	+3.0
X27A	F and S Farms, baz=10	10.35	75	⇓P		Pn	18 51 26.0	-1.6
O22A	Kremmling baz=10	10.37	40	⇑P		Pn	18 51 27.1	-0.9
Q24A	Divide baz=10	10.43	49	⇑P		Pn	18 51 27.6	-1.2
TX31	Lajitas Ar. Si	10.43	105	*e*Pn		Pn	18 51 26.1	-2.5
TXAR	Lajitas Array	10.43	105	Pn		Pn	18 51 26.9	-1.8
TXAR				Lg		Lg	18 54 24.1	
TXAR	Lajitas Array comp=Z,7.5nm,0.3s,baz=290,slow=12,SNR=44	10.43	105	Pn		Pn	18 51 26.9	-1.8
TXAR				Lg		Lg	18 54 24.1	
	comp=Z,1.1nm,0.3s,baz=298,slow=19,SNR=4.0							
TXAR				LR		LR	18 55 50.3	
	comp=Z,86µm,18.2s,baz=15,slow=40							
W27A	Bowe Ranch, En baz=10	10.45	73	⇓P		Pn	18 51 27.4	-1.5
MSTX	Muleshoe	10.54	79	*e*Pn		Pn	18 51 29.2	-1.0
MSTX	Muleshoe baz=10	10.54	79	⇓P		Pn	18 51 29.4	-0.9
R25A	Fountain Ranch baz=10	10.57	55	⇑P		Pn	18 51 29.9	-0.7
627A	Terlingua Ranc baz=10	10.62	104	⇑P		Pn	18 51 30.8	-0.4
328A	Wristen Ranch, baz=10	10.62	93	⇓P		Pn	18 51 29.7	-1.6
T26A	Comanche Natio baz=11	10.64	61	⇑P		Pn	18 51 30.8	-0.9
ISCO	Idaho Springs	10.65	44	*e*P		Pn	18 51 33.8	+1.9
ISCO	Idaho Springs	10.65	44	*e*Pn		Pn	18 51 33.8	+1.9
ISCO	Idaho Springs baz=11	10.65	44	⇓P		Pn	18 51 31.6	-0.3
M04C	Macdoel baz=11	10.65	332	⇓P		Pn	18 51 31.2	-0.4
228A	UT Block 9, Go baz=11	10.71	89	⇑P		Pn	18 51 31.0	-1.5
O23A	Lake Granby, G baz=11	10.75	42	⇓P		Pn	18 51 31.7	-1.5
AHID	Auburn Hatcher comp=Z,474nm,0.9s	10.75	17	*e*P		Pn	18 51 35.3	+2.2
M02C	Callahan baz=11	10.76	328	⇑P		Pn	18 51 35.1	+2.1
128A	Castleberry Fa baz=11	10.76	86	⇓P		Pn	18 51 31.2	-2.0
KHMM	Horse Mountain	10.78	323	*e*Pn		Pn	18 51 38.3	+4.9
V27A	Dan Oppiter Fa baz=11	10.78	69	⇑P		Pn	18 51 34.5	+1.1
Z28A	Tucker Farm, M baz=11	10.83	82	⇓P		Pn	18 51 32.7	-1.5
428A	Kincaid Ranch, baz=11	10.85	96	⇓P		Pn	18 51 32.5	-1.9
N22A	Wattenberg Ran baz=11	10.87	38	⇑P		Pn	18 51 33.5	-1.3
P24A	Kohler Place, baz=11	10.90	47	⇓P		Pn	18 51 34.3	-0.8
MFID	Camas Ranch	10.90	358	*e*Pn		Pn	18 51 38.3	+3.2
S26A	Kim baz=11	10.91	59	⇓P		Pn	18 51 34.6	-0.6
U27A	Thompson Grove baz=11	10.97	66	⇓P		Pn	18 51 35.3	-0.7
YBH	Yreka Blue Hor	10.97	329	*e*Pn		Pn	18 51 40.3	+4.3
YBH	Yreka Blue Hor comp=Z,0.4nm,0.3s,baz=121,slow=6.5,SNR=45	10.97	329	Pn		Pn	18 51 39.7	+3.7
YBH				LR		LR	18 55 22.4	
	comp=Z,25µm,18.4s,baz=325,slow=35							
Y28A	McKinney Farm, baz=11	10.97	79	⇑P		Pn	18 51 35.4	-0.7
628A	Black Gap, Mar baz=11	11.02	103	⇓P		Pn	18 51 34.4	-2.3
HLID	Hailey	11.06	3	*e*Pn		Pn	18 51 39.0	+1.7
HLID	Hailey baz=11	11.06	3	⇓P		Pn	18 51 36.4	-0.9
X28A	Dimmitt baz=11	11.07	76	⇑P		Pn	18 51 36.5	-0.9
J08A	Circle Bar Ran	11.13	348	*e*Pn		Pn	18 51 41.5	+3.3
W28A	Vega baz=11	11.18	72	⇑P		Pn	18 51 37.0	-1.9
O24A	Longmont baz=11	11.18	44	⇑P		Pn	18 51 38.3	-0.6
RWWY	Rawlins	11.18	33	*e*Pn		Pn	18 51 34.8	-4.2
BW06	Boulder Array	11.19	22	*e*Pn		Pn	18 51 39.5	+0.4
PDAR	Pinedale Array	11.19	22	Pn		Pn	18 51 39.3	+0.2
PDAR	Pinedale Array comp=Z,0.3nm,0.3s,baz=211,slow=8.3,SNR=41	11.19	22	Pn		Pn	18 51 39.3	+0.2
PDAR				LR		LR	18 56 14.0	
	comp=Z,69µm,19.6s,baz=213,slow=40							
N23A	Red Feather La baz=11	11.21	39	⇓P		Pn	18 51 38.1	-1.3
R26A	Arlington baz=11	11.22	56	⇓P		Pn	18 51 39.3	-0.2
M22A	Cedar Creek Ra baz=11	11.25	35	⇑P		Pn	18 51 39.4	-0.6
T27A	Campo baz=11	11.25	63	⇑P		Pn	18 51 39.8	-0.1
V28A	Channing baz=11	11.26	70	⇓P		Pn	18 51 38.9	-1.1
129A	Stewart Farms, baz=11	11.29	86	⇓P		Pn	18 51 39.7	-0.7
329A	Wagon Wheel Ra baz=11	11.30	92	⇑P		Pn	18 51 38.9	-1.6
S27A	Las Animas baz=11	11.35	60	⇑P		Pn	18 51 40.3	-1.0
KRMB	Red Mountain	11.35	325	*e*P		Pn	18 51 41.0	-0.3
P25A	Willow Gulch B baz=11	11.36	49	⇓P		Pn	18 51 40.7	-0.8
REDW	Red Top Meadow	11.38	16	*e*Pn		Pn	18 51 37.3	-4.4
529A	Stev Forest Ra baz=11	11.38	99	⇓P		Pn	18 51 39.3	-2.4
229A	Bryant Ranch, baz=11	11.38	89	⇑P		Pn	18 51 40.3	-1.4
Z29A	Hungry Hill Ra baz=11	11.40	83	⇑P		Pn	18 51 40.6	-1.4
U28A	Mallet baz=11	11.42	67	⇑P		Pn	18 51 42.8	+0.6
Y29A	Porterfield Fa baz=11	11.45	80	⇓P		Pn	18 51 41.6	-1.0
X29A	Tulia baz=11	11.47	77	⇑P		Pn	18 51 42.0	-0.9
Q26A	Hugo baz=12	11.47	53	⇓P		Pn	18 51 42.5	-0.5
SNOW	Snow King Moun	11.49	17	*e*Pn		Pn	18 51 45.6	+2.2
429A	Davenport Ranc baz=11	11.54	96	⇑P		Pn	18 51 41.8	-2.0
AMTX	Amarillo baz=12	11.54	74	⇓P		Pn	18 51 43.1	-0.7
FXWY	Fox Creek	11.60	15	*e*Pn		Pn	18 51 46.6	+1.9
W29A	Amraillo baz=12	11.60	73	⇑P		Pn	18 51 44.1	-0.6
R27A	Eads baz=12	11.67	57	⇑P		Pn	18 51 45.2	-0.4
LOHW	Long Hollow	11.67	17	*e*Pn		Pn	18 51 46.6	+0.9
T28A	Walsh baz=12	11.73	63	⇓P		Pn	18 51 46.1	-0.3
M23A	Laramie baz=12	11.74	38	⇑P		Pn	18 51 47.5	+0.9
O25A	Wiggins baz=12	11.74	47	⇓P		Pn	18 51 45.7	-0.9
N24A	Carr baz=12	11.74	42	⇑P		Pn	18 51 46.7	0.0
J05D	Fort Rock, OR baz=12	11.75	338	⇑P		Pn	18 51 47.3	+0.5
PHWY	Pilot Hill	11.76	39	*e*Pn		Pn	18 51 40.5	-6.5
PHWY				*e*			18 51 50.3	
MOOW	Moose Ponds	11.77	16	*e*Pn		Pn	18 51 48.6	+1.6
HUMO	Hull Mountain	11.79	331	*e*Pn		Pn	18 51 51.9	+4.7
J19A	Crowheart baz=12	11.80	23	⇓P		Pn	18 51 47.8	+0.4
L22A	Ellis Ranch, M baz=12	11.81	34	⇑P		Pn	18 51 48.2	+0.6
V29A	Stinnett baz=12	11.85	70	⇓P		Pn	18 51 46.3	-1.7
IMW	Indian Meadow	11.86	15	*e*Pn		Pn	18 51 50.2	+1.8
Z30A	Sanderson Ranc baz=12	11.89	82	⇑P		Pn	18 51 48.3	-0.3
P26A	Davis Ranch, A baz=12	11.92	50	⇓P		Pn	18 51 47.1	-2.0
K21A	Alcova baz=12	11.93	30	⇑P		Pn	18 51 47.9	-1.3
I17A	Pilgrim Ck. baz=12	11.97	16	⇓P		Pn	18 51 50.4	+0.6
230A	Sterling City baz=12	11.98	89	⇑P		Pn	18 51 49.1	-0.8
330A	Mertzon baz=12	12.00	91	⇓P		Pn	18 51 48.1	-2.0
I07A	Izee	12.03	345	*e*Pn		Pn	18 51 55.2	+4.6
130A	Snyder baz=12	12.05	86	⇓P		Pn	18 51 49.2	-1.5
S28A	Manter baz=12	12.05	61	⇓P		Pn	18 51 49.9	-0.9
430A	Baggett Ranch, baz=12	12.06	94	⇑P		Pn	18 51 50.2	-0.7
MCID	Moose Creek	12.09	14	*e*Pn		Pn	18 51 53.8	+2.3
Y30A	Stafford Cattl baz=12	12.09	80	⇑P		Pn	18 51 50.6	-0.8
FLWY	Flagg Ranch	12.09	16	*e*Pn		Pn	18 51 53.5	+2.0
MAIG	Mazatlaan	12.12	138	*i* P		Pn	18 51 50.5	-1.1
MAIG				*i* S		Sn	18 54 03.9	-3.1
530A	J-C Ranch, Com baz=12	12.12	98	⇓P		Pn	18 51 49.8	-1.9
KSCO	Kaye Shedlock'	12.12	54	*e*Pn		Pn	18 51 55.2	+3.4
KSCO	Kaye Shedlock' baz=12	12.12	54	⇓P		Pn	18 51 51.5	-0.3
PINOR	Pine Mountain	12.12	340	*e*Pn		Pn	18 51 56.8	+5.1
X30A	Coker Ranch, T baz=12	12.15	77	⇓P		Pn	18 51 50.4	-1.8
U29A	Oasis Ranch, S baz=12	12.18	67	⇑P		Pn	18 51 52.2	-0.4
J20A	Shoshoni baz=12	12.21	25	⇓P		Pn	18 51 53.4	+0.4
M24A	Cheyenne baz=12	12.21	40	⇓P		Pn	18 51 52.1	-0.9
L23A	Garrett baz=12	12.22	36	⇑P		Pn	18 51 52.9	-0.4
K22A	Casper	12.25	32	*e*Pn		Pn	18 51 53.2	-0.4
K22A	Casper baz=12	12.25	32	⇓P		Pn	18 51 52.5	-1.1
O26A	Horse Wrangler baz=12	12.32	48	⇑P		Pn	18 51 53.1	-1.4
T29A	Hugoton baz=12	12.36	64	⇑P		Pn	18 51 55.0	-0.1
R28A	Tribune baz=12	12.40	58	⇑P		Pn	18 51 56.7	+1.1
YFT	Old Faithful comp=Z,811nm,1.6s	12.41	15	*e*P		Pn	18 52 01.2	+5.3
H17A	Grant Village	12.42	16	*e*Pn		Pn	18 51 58.6	+2.6
H17A	Grant Village baz=12	12.42	16	⇑P		Pn	18 51 57.4	+1.4
P27A	Ficken Ranch, baz=12	12.42	52	⇑P		Pn	18 51 57.8	+1.8
J21A	Lysite baz=12	12.44	27	⇓P		Pn	18 51 56.5	+0.2
MCMT	McKenzie Canyo	12.45	8	*e*Pn		Pn	18 51 59.9	+3.6
W30A	Crocket Farms baz=12	12.48	74	⇑P		Pn	18 51 56.4	-0.2
V30A	Spur Ranch, Mi baz=12	12.48	71	⇑P		Pn	18 51 57.5	+0.7
I19A	Meeteetse baz=13	12.51	21	⇑P		Pn	18 51 57.5	+0.4
131A	Roby baz=12	12.53	85	⇑P		Pn	18 51 56.5	-0.8
L24A	Wheatland baz=13	12.56	38	⇓P		Pn	18 51 58.4	+0.6
YMR	Madison River	12.60	14	*e*Pn		Pn	18 52 01.5	+3.1
I04A	Tendick Farm, baz=13	12.60	336	⇑P		Pn	18 52 00.6	+2.4
KEBM	Edson Butte	12.60	328	*e*Pn		Pn	18 52 02.5	+4.2
431A	Sonora baz=12	12.61	94	⇑P		Pn	18 51 57.8	-0.6
M25A	Palm-Egli Farm baz=13	12.62	42	⇓P		Pn	18 51 59.0	+0.5
Y31A	Rekieta Farm, baz=13	12.62	79	⇓P		Pn	18 51 58.3	-0.3
YHB	Horse Butte	12.63	13	*e*Pn		Pn	18 52 01.6	+2.8
S29A	Ulysses baz=13	12.64	62	⇓P		Pn	18 51 59.4	+0.5
331A	San Angelo baz=13	12.64	91	⇓P		Pn	18 51 58.3	-0.6
231A	Bronte baz=13	12.65	89	⇑P		Pn	18 51 57.0	-2.0
QLMT	Earthquake Lak	12.66	12	*e*Pn		Pn	18 52 01.8	+2.6
YMC	Maple Creek	12.67	14	*e*Pn		Pn	18 52 00.9	+1.5
U30A	WK&E Inc. Balk baz=13	12.68	68	⇑P		Pn	18 51 59.8	+0.4
Q28A	Sharon Springs baz=13	12.70	55	⇑P		Pn	18 52 00.6	+1.0
I20A	Worland baz=13	12.71	24	⇑P		Pn	18 52 00.5	+0.7
Z31A	Sharp Cattle R baz=13	12.71	82	⇓P		Pn	18 51 59.8	0.0
N26A	Koester Ranch, baz=13	12.72	46	⇓P		Pn	18 52 00.9	+0.9
YHH	Holmes Hill	12.73	14	*e*Pn		Pn	18 52 02.8	+2.5
K23A	Bowen Ranch, D baz=13	12.75	34	⇓P		Pn	18 51 59.6	-0.8
531A	Rocksprings baz=13	12.78	97	⇓P		Pn	18 52 00.6	-0.1
O27A	Beecher Island baz=13	12.82	50	⇑P		Pn	18 52 01.4	+0.1
J22A	Midwest baz=13	12.89	30	⇑P		Pn	18 52 01.5	-0.8
I21A	Big Trails, Te baz=13	12.90	27	⇓P		Pn	18 52 01.7	-0.8
X31A	McDonald Ranch baz=13	12.90	76	⇑P		Pn	18 52 00.9	-1.5
H18A	Shoshone NF, C baz=13	12.91	18	⇑P		Pn	18 52 02.7	+0.1
T30A	Plains baz=13	12.91	65	⇑P		Pn	18 52 02.3	-0.3
R29A	Marienthal	12.92	59	⇑P		Pn	18 52 02.5	-0.2
631A	Perdido Creek baz=13	12.96	100	⇓P		Pn	18 52 03.1	-0.1
P28A	Saint Francis baz=13	12.98	53	⇓P		Pn	18 52 03.7	+0.1
W31A	Holland Ranch, baz=13	12.99	74	⇓P		Pn	18 52 03.3	-0.3
DLMT	Dillon	13.00	8	*e*Pn		Pn	18 52 07.4	+3.6
H19A	Powell baz=13	13.09	20	⇑P		Pn	18 52 06.8	+1.8
G08A	Pilot Rock	13.09	348	*e*Pn		Pn	18 52 08.5	+3.5
K24A	Anderson Ranch baz=13	13.12	36	⇓P		Pn	18 52 05.8	+0.4
N27A	Anderson Farm, baz=13	13.13	47	⇑P		Pn	18 52 04.6	-0.9
S30A	Montezuma baz=13	13.14	63	⇑P		Pn	18 52 05.4	-0.3
L25A	Engebretsen Ra baz=13	13.15	40	⇓P		Pn	18 52 06.2	+0.4
ABTX	Abilene, Hawle	13.16	85	*e*Pn		Pn	18 52 05.5	-0.4
ABTX	Abilene, Hawle baz=13	13.16	85	⇑P		Pn	18 52 04.4	-1.5
M26A	McRoberts Ranc baz=13	13.16	44	⇓P		Pn	18 52 06.9	+0.9
V31A	Spring Creek L baz=13	13.16	71	⇓P		Pn	18 52 06.7	+0.7
332A	Millersview baz=13	13.21	91	⇑P		Pn	18 52 05.1	-1.5
Q29A	Oakley baz=13	13.22	57	⇓P		Pn	18 52 06.5	-0.3
232A	Coleman baz=13	13.22	88	⇑P		Pn	18 52 05.8	-1.0
H20A	Greybull baz=13	13.23	23	⇑P		Pn	18 52 07.0	+0.1
O28A	Krutsinger Ran baz=13	13.25	51	⇓P		Pn	18 52 07.0	-0.1
432A	Menard baz=13	13.25	93	⇓P		Pn	18 52 05.8	-1.4
Z32A	Haskell baz=13	13.27	82	⇑P		Pn	18 52 06.9	-0.5
U31A	Nine Bar Ranch baz=13	13.27	69	⇓P		Pn	18 52 08.1	+0.6
I22A	9 Mile Ranch, baz=13	13.28	29	⇑P		Pn	18 52 07.3	-0.3
J23A	Dilts Ranch, B baz=13	13.29	32	⇓P		Pn	18 52 07.7	0.0
Y32A	R-V Farms, Ver baz=13	13.31	79	⇑P		Pn	18 52 07.2	-0.8
H04A	Detroit Lake	13.31	338	*e*Pn		Pn	18 52 12.2	+4.3
532A	Rocksprings baz=13	13.32	96	⇓P		Pn	18 52 07.6	-0.6
JCT	Junction City	13.33	95	*e*P		Pn	18 52 08.5	+0.2
JCT	Junction City	13.33	95	*e*Pn		Pn	18 52 08.5	+0.2
JCT	Junction City baz=13	13.33	95	⇓P		Pn	18 52 07.9	-0.3
G06A	Carlson Farm,	13.38	343	*e*Pn		Pn	18 52 13.1	+4.1
BOZ	Bozeman (W)	13.42	11	*e*P		Pn	18 52 12.0	+2.5
BOZ	Bozeman (W)	13.42	11	*e*Pn		Pn	18 52 12.0	+2.5
RLMT	Red Lodge	13.43	18	*e*Pn		Pn	18 52 10.7	+1.1
X32A	Elmer baz=13	13.46	77	⇓P		Pn	18 52 09.2	-0.8
LRM	Limekiln Ridge	13.47	8	*e*Pn		Pn	18 52 13.1	+2.8
R30A	Dighton baz=14	13.49	61	⇓P		Pn	18 52 10.7	+0.2
K25A	Mack Ranch, Ha baz=14	13.52	38	⇑P		Pn	18 52 09.7	-1.1
OGNE	Ogallala comp=Z,178nm,1.0s	13.52	48	*e*P		Pn	18 52 10.8	0.0
OGNE	Ogallala baz=14	13.52	48	⇑P		Pn	18 52 11.2	+0.4
CRMT	Chrome Mountai	13.52	16	*e*Pn		Pn	18 52 13.3	+2.3
F10A	Beach Ranch, E	13.54	354	*e*Pn		Pn	18 52 14.3	+3.2
L26A	Underwood Farm baz=14	13.56	42	⇑P		Pn	18 52 10.8	-0.7
P29A	Atwood baz=14	13.56	55	⇑P		Pn	18 52 11.2	-0.2
T31A	Randall Ranch, baz=14	13.58	66	⇓P		Pn	18 52 11.5	-0.2
COR	Corvallis	13.60	335	*e*P		Pn	18 52 11.0	-0.9
COR				pmax		pmax		
	comp=Z,556nm,1.0s							
COR	Corvallis comp=Z,556nm,1.0s	13.60	335	*e*Pn		Pn	18 52 11.0	-0.9
J24A	Dixon Ranch, L baz=14	13.64	35	⇓P		Pn	18 52 10.9	-1.6
M27A	Reverse DX Ran baz=14	13.64	45	⇓P		Pn	18 52 12.7	+0.1
732A	Laxson Ranch, baz=14	13.68	102	⇓P		Pn	18 52 11.5	-1.4
H21A	Big Horn, Sher baz=14	13.69	25	⇑P		Pn	18 52 12.2	-1.0
N28A	Pribbeno Ranch baz=14	13.69	50	⇑P		Pn	18 52 11.8	-1.4
I23A	Meade Ranch, G baz=14	13.77	31	⇑P		Pn	18 52 14.2	-0.1
133A	Hamilton Ranch baz=14	13.77	85	⇓P		Pn	18 52 12.6	-1.6
Q30A	Quinter baz=14	13.79	58	⇓P		Pn	18 52 14.8	+0.2
V32A	Arapaho baz=14	13.80	72	⇓P		Pn	18 52 13.9	-0.7
G20A	Bridger baz=14	13.82	21	⇓P		Pn	18 52 14.6	-0.4
832A	Faith Ranch, C baz=14	13.83	104	⇑P		Pn	18 52 13.6	-1.4
233A	Rising Star baz=14	13.84	88	⇓P		Pn	18 52 13.1	-2.1
333A	Richland Sprin baz=14	13.86	91	⇑P		Pn	18 52 14.3	-1.2
Z33A	Whitaker Ranch baz=14	13.87	82	⇑P		Pn	18 52 14.1	-1.5
433A	Art baz=14	13.87	93	⇑P		Pn	18 52 14.3	-1.3
S31A	Mullinville baz=14	13.87	64	⇓P		Pn	18 52 15.2	-0.4
O29A	4D Ranch, Culb baz=14	13.90	53	⇑P		Pn	18 52 16.9	+0.9
WMOK	Wichita Mounta	13.90	76	*e*P		Pn	18 52 14.3	-1.7
WMOK	Wichita Mounta	13.90	76	*e*Pn		Pn	18 52 14.3	-1.7
H22A	Clearmont baz=14	13.92	27	⇓P		Pn	18 52 17.0	+0.7
U32A	Winter Ranch, baz=14	13.95	69	⇑P		Pn	18 52 14.7	-1.9
GCMT	Greycliff	13.95	16	*e*Pn		Pn	18 52 19.5	+2.7
K26A	Motz Farm, Whi baz=14	13.95	40	⇓P		Pn	18 52 16.0	-0.7
Y33A	Hilltop Ranch, baz=14	13.98	79	⇑P		Pn	18 52 15.8	-1.4
P30A	Selden baz=14	14.01	56	⇑P		Pn	18 52 17.9	+0.3
L27A	T5 Ranch, Ells baz=14	14.03	43	⇑P		Pn	18 52 18.4	+0.6
R31A	Burdett baz=14	14.05	61	⇓P		Pn	18 52 17.4	-0.6
I24A	Kuemmerle Ranc baz=14	14.06	33	⇓P		Pn	18 52 17.2	-1.1
533A	Kerrville baz=14	14.07	96	⇓P		Pn	18 52 17.1	-1.2
J25A	Sunshine Ranch baz=14	14.11	36	⇑P		Pn	18 52 19.2	+0.3
633A	Saathoff Ranch baz=14	14.11	98	⇓P		Pn	18 52 17.9	-1.0
X33A	Lawton baz=14	14.11	77	⇑P		Pn	18 52 17.0	-1.9
G03D	McMinnville, O baz=14	14.13	336	⇑P		Pn	18 52 19.3	+0.2
G21A	Lodge Grass baz=14	14.15	24	⇓P		Pn	18 52 18.9	-0.6
E09A	Wood Farm, Sta	14.17	352	*e*Pn		Pn	18 52 22.2	+2.6
T32A	Huddler Ranch, baz=14	14.18	66	⇑P		Pn	18 52 20.3	+0.4
M28A	Bar X Bar Ranc baz=14	14.19	47	⇓P		Pn	18 52 20.4

N29A	Votaw Ranch, W	14.35	51	⇑P		Pn	18 52 21.2	-1.1		
	baz=14									
F20A	Billings	14.36	20	⇓P		Pn	18 52 21.5	-0.9		
	baz=14									
Q31A	Ellis	14.40	59	⇑P		Pn	18 52 23.2	+0.4		
	baz=14									
V33A	Lossen Ranch,	14.42	72	⇑P		Pn	18 52 22.4	-0.8		
	baz=14									
O30A	MW Ranch, Wils	14.42	54	⇓P		Pn	18 52 23.5	+0.3		
	baz=14									
J26A	Sides Ranch, S	14.43	38	⇑P		Pn	18 52 22.0	-1.2		
	baz=14									
HRY	Holter Researc	14.43	9	*e*Pn		Pn	18 52 25.6	+2.4		
L28A	Connealy Angus	14.45	45	⇑P		Pn	18 52 22.9	-0.7		
	baz=14									
G22A	Birney	14.47	26	⇓P		Pn	18 52 22.6	-1.2		
	baz=14									
K27A	Flueckinger Fa	14.47	42	⇓P		Pn	18 52 22.3	-1.5		
	baz=14									
CHMT	Chamberlain Mo	14.47	5	*e*Pn		Pn	18 52 25.6	+1.6		
E07A	Sunnyside	14.48	347	*e*Pn		Pn	18 52 26.8	+3.0		
134A	White-Moore Ra	14.48	85	⇓P		Pn	18 52 22.2	-1.7		
	baz=14									
234A	Clairette	14.48	87	⇑P		Pn	18 52 22.0	-2.0		
	baz=14									
334A	Lometa	14.49	90	⇑P		Pn	18 52 22.4	-1.7		
	baz=14									
F04A	Ambcy	14.51	340	*e*Pn		Pn	18 52 26.9	+2.6		
RSSD	Black Hills	14.54	34	*e*P		Pn	18 52 23.1	-1.8		
RSSD	Black Hills	14.54	34	*e*Pn		Pn	18 52 23.1	-1.8		
534A	Blanco	14.55	95	⇑P		Pn	18 52 23.1	-1.9		
	baz=14									
434A	Burnet	14.55	92	⇓P		Pn	18 52 23.0	-2.0		
	baz=14									
Z34A	Collier Ranch,	14.58	82	⇑P		Pn	18 52 22.8	-2.5		
	baz=14									
I25A	Rochford	14.61	35	⇓P		Pn	18 52 24.2	-1.6		
	baz=15									
P31A	Stockton	14.61	57	⇓P		Pn	18 52 24.3	-1.5		
	baz=15									
M29A	Burnside Ranch	14.64	48	⇑P		Pn	18 52 25.7	-0.5		
	baz=15									
U33A	Lingo Farm, Me	14.66	70	⇓P		Pn	18 52 24.2	-2.2		
	baz=15									
X34A	Smith Ranch, M	14.67	77	⇑P		Pn	18 52 25.4	-1.1		
	baz=15									
N30A	Hueftle Ranch,	14.69	51	⇑P		Pn	18 52 27.9	+1.1		
	baz=15									
T33A	Patterson Ranc	14.69	67	⇓P		Pn	18 52 26.9	+0.1		
	baz=15									
R32A	Long Quarter,	14.70	62	⇑P		Pn	18 52 25.8	-1.1		
	baz=15									
F21A	Absaloka Mine,	14.70	23	⇓P		Pn	18 52 25.3	-1.7		
	baz=15									
Y34A	Reagan Ranch,	14.71	80	⇑P		Pn	18 52 25.1	-1.9		
	baz=15									
W34A	Bridge Creek,	14.77	75	⇑P		Pn	18 52 26.0	-1.9		
	baz=15									
SLMT	Seeley Lake	14.78	5	*e*Pn		Pn	18 52 30.0	+1.9		
H24A	Dirks Ranch, A	14.79	31	⇓P		Pn	18 52 26.9	-1.2		
	baz=15									
E19A	Rath Farm, Rou	14.79	18	⇑P		Pn	18 52 27.6	-0.6		
	baz=15									
G23A	Biddle	14.80	28	⇓P		Pn	18 52 27.3	-1.0		
	baz=15									
D08A	Wollman Farm,	14.80	350	*e*Pn		Pn	18 52 30.1	+1.7		
734A	JLa Parita Cre	14.81	100	⇓P		Pn	18 52 27.8	-0.7		
	baz=15									
ZAIG	Zacatecas	14.82	128	*e*P		Pn	18 52 29.0	0.0		
ZAIG				*i* S		Sn	18 55 14.9	+1.2		
F03A	Seaside	14.87	337	*e*Pn		P	18 52 32.2	-2.8		
ANIG	Ahuacatlan	14.88	137	*e*P		Pn	18 52 29.5	0.0		
ANIG				*i* S		Sn	18 55 15.9	+1.3		
O31A	Woolen Ranch,	14.91	55	⇓P		Pn	18 52 28.6	-1.2		
	baz=15									
J27A	Elkhorn Farm,	14.96	40	⇓P		Pn	18 52 29.2	-1.3		
	baz=15									
F22A	Rosebud	14.96	25	⇑P		Pn	18 52 28.6	-1.9		
	baz=15									
K28A	Ten Mile Ranch	14.97	43	⇑P		Pn	18 52 28.3	-2.3		
	baz=15									
S33A	Kaszmaul Farm,	15.00	65	⇑P		Pn	18 52 28.7	-2.3		
	baz=15									
Q32A	Meitler Ranch,	15.00	60	⇑P		Pn	18 52 30.6	-0.4		
	baz=15									
E20A	Meyer Farm, Mu	15.01	19	⇓P		Pn	18 52 30.6	-0.5		
	baz=15									
SWMT	Swartz Lake	15.02	3	*e*Pn		Pn	18 52 32.6	+1.4		
V34A	Guthrie	15.04	72	⇓P		Pn	18 52 29.5	-2.0		
	baz=15									
135A	Vickery Place,	15.04	85	⇑P		Pn	18 52 29.6	-2.0		
	baz=15									
I26A	New Underwood	15.04	37	⇑P		Pn	18 52 30.2	-1.4		
	baz=15									
834A	Tilden	15.06	102	⇑P		Pn	18 52 29.9	-1.9		
	baz=15									
WHTX	Lake Whitney	15.06	87	*e*Pn		Pn	18 52 30.1	-1.7		
WHTX	Lake Whitney	15.06	87	⇓P		Pn	18 52 29.6	-2.2		
	baz=15									
LON	Longmire	15.09	342	*e*P		P	18 52 35.5	-2.1		
LON					pmax	pmax				
	comp=Z,512nm,1.2s									
LON	Longmire	15.09	342	*e*Pn		P	18 52 35.5	-2.1		
	comp=Z,512nm,1.2s									
LON				*e*PcP		PcP	18 57 43.5	+3.7		
L29A	Maesberg Ranch	15.12	47	⇓P		Pn	18 52 32.6	0.0		
	baz=15									
U34A	Anderson Ranch	15.12	70	⇓P		Pn	18 52 30.3	-2.3		
	baz=15									
H25A	Fruitdale	15.12	34	⇑P		Pn	18 52 31.4	-1.2		
	baz=15									
Z35A	Perchaven, San	15.13	82	⇓P		Pn	18 52 30.2	-2.6		
	baz=15									
335A	Moody	15.18	90	⇓P		Pn	18 52 31.2	-2.3		
	baz=15									
P32A	Huiting Farm,	15.20	57	⇓P		Pn	18 52 32.7	-1.0		
	baz=15									
R33A	Olander Ranch,	15.21	63	⇓P		Pn	18 52 31.7	-2.1		
	baz=15									
M30A	Dale-Ortello V	15.21	49	⇑P		Pn	18 52 33.6	-0.3		
	baz=15									
F23A	Volborg	15.23	27	⇓P		Pn	18 52 32.5	-1.5		
	baz=15									
JTMT	Jette	15.24	2	*e*Pn		Pn	18 52 35.4	+1.1		
934A	Benavides	15.28	104	⇓P		Pn	18 52 32.9	-1.8		
	baz=15									
635A	Leesville	15.30	97	⇓P		Pn	18 52 34.0	-1.0		
	baz=15									
G24A	Alzada	15.31	30	⇑P		Pn	18 52 34.1	-1.0		
	baz=15									
535A	Dale	15.31	95	⇓P		Pn	18 52 33.6	-1.5		
	baz=15									
BSMT	Bassoo Peak	15.33	1	*e*Pn		Pn	18 52 36.9	+1.3		
E21A	Keefer Ranch,	15.35	22	⇓P		Pn	18 52 34.6	-1.1		
	baz=15									
YBMT	Yellow Bay	15.37	3	*e*Pn		P	18 52 38.6	-2.1		
E03A	Lebam	15.41	338	*e*Pn		P	18 52 39.6	-1.3		
	comp=Z,2µm,1.3s									
D19A	Cripps Ranch,	15.43	17	⇓P		Pn	18 52 36.8	+0.2		
	baz=16									
735A	Kenedy	15.43	99	⇑P		Pn	18 52 35.5	-1.2		
	baz=15									
C09A	Chrisman Ranch	15.45	352	*e*Pn		Pn	18 52 37.9	+1.0		
	comp=Z,327nm,1.0s									
N31A	Bailey Ranch,	15.46	53	⇑P		Pn	18 52 36.4	-0.8		
	baz=15									
I27A	Quinn	15.48	38	⇑P		Pn	18 52 37.0	-0.4		
	baz=16									
J28A	Allard Ranch,	15.49	41	⇑P		Pn	18 52 37.2	-0.4		
	baz=16									
BLMT	Blacktail Moun	15.50	2	*e*Pn		Pn	18 52 39.0	+1.2		
H26A	Fairpoint	15.51	35	⇓P		Pn	18 52 36.7	-1.0		
	baz=16									
L30A	Spencer Herefo	15.53	48	⇑P		Pn	18 52 37.0	-1.0		
	baz=16									
Q33A	Connelly Farm,	15.54	60	⇓P		Pn	18 52 36.5	-1.6		
	baz=16									
D05A	Enumclaw	15.54	343	*e*Pn		P	18 52 41.6	-0.9		
	comp=Z,2µm,1.4s									
D20A	Manuel Ranch,	15.55	18	⇓P		Pn	18 52 37.9	-0.4		
	baz=16									
835A	Beeville	15.60	101	⇑P		Pn	18 52 38.5	-0.4		
	baz=16									
K29A	Lazy Trails An	15.62	45	⇑P		Pn	18 52 38.7	-0.4		
	baz=16									
E22A	Miles City	15.64	24	⇓P		Pn	18 52 38.3	-1.1		
	baz=16									
G25A	Newell	15.64	32	⇓P		Pn	18 52 38.4	-1.0		
	baz=16									
O32A	Brockman Farm,	15.69	56	⇑P		Pn	18 52 38.8	-1.2		
	baz=16									
M31A	Lambtecht Ranc	15.70	51	⇓P		Pn	18 52 41.4	+1.2		
	baz=16									
F24A	Ekalaka	15.71	29	⇑P		Pn	18 52 39.1	-1.3		
	baz=16									
LAO	LASA Array	15.76	23	*e*Pn		Pn	18 52 39.6	-1.4		
	comp=Z,1µm,1.4s									
LNIG	Linares	15.77	115	*e*P		Pn	18 52 41.5	+0.4		
LNIG				*i* S		Sn	18 55 37.5	+1.3		
P33A	Williams Farm,	15.79	59	⇑P		Pn	18 52 40.9	-0.5		
	baz=16									
NEW	Newport	15.81	355	*e*Pn		Pn	18 52 42.6	+1.0		
	comp=Z,672nm,1.0s									
NEW	Newport	15.81	355	⇓P		Pn	18 52 40.7	-0.9		
	baz=16									
D21A	La Casta Ranch	15.85	21	⇓P		Pn	18 52 41.4	-0.7		
	baz=16									
CJM	Chamela	15.85	142	*i* P		Pn	18 52 43.0	+0.8		
N32A	Stulken Farm,	15.89	54	⇓P		Pn	18 52 42.1	-0.6		
	baz=16									
I28A	Midland	15.91	40	⇓P		Pn	18 52 43.2	+0.3		
	baz=16									
E23A	Ismay	15.92	26	⇓P		Pn	18 52 42.9	-0.2		
	baz=16									
C19A	Slack Wire Ran	15.92	15	⇓P		Pn	18 52 43.9	+0.8		
	baz=16									
K30A	Basset	15.99	46	⇑P		Pn	18 52 42.9	-1.1		
	baz=16									
J29A	Okreek	16.00	43	⇑P		Pn	18 52 42.9	-1.2		
	baz=16									
EGMT	Eagleton	16.05	13	*e*Pn		Pn	18 52 46.5	+1.7		
	comp=Z,420nm,1.2s									
EGMT	Eagleton	16.05	13	⇑P		Pn	18 52 44.8	0.0		
	baz=16									
B08A	Colville Reser	16.14	350	*e*Pn		Pn	18 52 46.8	+1.0		
	comp=Z,487nm,1.3s									
C20A	Veseth Ranch,	16.16	18	⇑P		Pn	18 52 45.6	-0.5		
	baz=16									
D22A	Cohagen	16.18	23	⇓P		Pn	18 52 45.6	-0.8		
	baz=16									
F25A	Bowman	16.19	31	⇑P		Pn	18 52 46.8	+0.3		
	baz=16									
L31A	Butterfield Fa	16.20	49	⇑P		Pn	18 52 46.6	-0.1		
	baz=16									
NLWA	Neilton Lookou	16.26	339	*e*Pn		P	18 52 50.2	-0.3		
	comp=Z,3µm,2.0s									
BGNE	Belgrade	16.27	52	*e*Pn		P	18 52 51.8	+1.1		
BGNE	Belgrade	16.27	52	⇑P		Pn	18 52 47.5	-0.1		
	baz=16									
E24A	Baker	16.35	28	⇓P		Pn	18 52 47.4	-1.2		
	baz=16									
I29A	Vivian Onida	16.40	41	⇓P		Pn	18 52 48.9	-0.2		
	baz=16									
J30A	Dallas	16.44	44	⇑P		Pn	18 52 49.4	-0.3		
	baz=16									
H28A	Mission Ridge	16.44	38	⇓P		Pn	18 52 48.9	-0.8		
	baz=16									
TUL1	Tulsa	16.44	73	*e*Pn		Pn	18 52 48.2	-1.5		
TUL1	Tulsa	16.44	73	⇓P		Pn	18 52 48.0	-1.8		
	baz=16									
KSU1	Kansas State U	16.47	61	*e*Pn		Pn	18 52 49.9	-0.3		
	comp=Z,246nm,1.0s									
KSU1	Kansas State U	16.47	61	⇓P		Pn	18 52 49.5	-0.6		
	baz=16									
G27A	Dupree	16.48	35	⇑P		Pn	18 52 50.7	+0.5		
	baz=16									
F26A	Lodgepole	16.48	32	⇓P		Pn	18 52 49.3	-0.9		
	baz=16									
C21A	Desert Coulee	16.50	20	⇓P		Pn	18 52 50.1	-0.4		
	baz=17									
D23A	Lindsay	16.53	25	⇑P		Pn	18 52 50.3	-0.6		
	baz=17									
WALA	Waterton Lakes	16.57	3	*e*Pn		Pn	18 52 52.7	+1.3		
B19A	Brinkman Farms	16.63	15	⇓P		Pn	18 52 52.5	+0.4		
	baz=17									
E25A	Miller Ranch,	16.67	30	⇓P		Pn	18 52 51.5	-1.2		
	baz=17									
B06A	Marblemount	16.68	345	*e*Pn		P	18 52 56.6	+1.6		
	comp=Z,2µm,2.1s									
G28A	Parade	16.77	37	⇓P		Pn	18 52 53.4	-0.4		
	baz=17									
HKT	Hockley	16.79	94	*e*P		Pn	18 52 55.0	+0.8		
HKT					pmax	pmax				
	comp=Z,2µm,1.8s									
HKT	Hockley	16.79	94	*e*Pn		Pn	18 52 55.0	+0.8		
	comp=Z,2µm,1.8s									
F27A	Lemmon	16.80	34	⇓P		Pn	18 52 53.7	-0.5		
	baz=17									
C22A	Vida	16.80	22	⇓P		Pn	18 52 53.6	-0.7		
	baz=17									
D24A	Glendive	16.80	27	⇓P		Pn	18 52 53.0	-1.4		
	baz=17									
B20A	Solberg Farm,	16.82	17	⇑P		Pn	18 52 54.8	+0.2		
	baz=17									
H29A	Onida	16.84	40	⇓P		Pn	18 52 54.5	-0.3		
	baz=17									
E26A	Carlson Angus	17.05	31	⇑P		Pn	18 52 55.8	-1.6		
	baz=17									
B21A	Ellsworth Farm	17.07	19	⇑P		Pn	18 52 57.5	-0.3		
	baz=17									
C23A	Lambert	17.08	24	⇑P		Pn	18 52 57.1	-0.7		
	baz=17									
C24A	Savage	17.11	26	⇓P		Pn	18 52 57.9	-0.3		
	baz=17									
A19A	Klindworth Far	17.12	15	⇑P		Pn	18 52 57.9	-0.4		
	baz=17									
D25A	Fairfield	17.23	28	⇑P		Pn	18 52 58.5	-1.2		
	baz=17									
B22A	Reddig Ranch S	17.26	21	⇑P		Pn	18 52 59.6	-0.4		
	baz=17									
A20A	Cobblestone Ra	17.26	16	⇑P		Pn	18 53 00.3	+0.2		
	baz=17									
PGC	Sidney	17.27	341	*e*Pn		P	18 53 04.5	+2.8		
G29A	Hoven	17.36	39	⇓P		Pn	18 53 00.4	-0.9		
	baz=17									
F28A	McLaughlin	17.37	36	⇑P		Pn	18 53 00.8	-0.6		
	baz=17									
BRSD	Miller	17.42	42	*e*Pn		P	18 53 04.5	+1.2		
BRSD	Miller	17.42	42	⇑P		Pn	18 53 01.2	-0.8		
	baz=17									
E27A	Carson	17.42	33	⇑P		Pn	18 52 59.7	-2.4		
	baz=17									
D26A	Manning	17.50	30	⇓P		Pn	18 53 02.3	-0.7		
	baz=18									
A21A	Bergtoll Ranch	17.61	18	⇑P		Pn	18 53 03.8	-0.7		
	baz=18									
C25A	Freed Ranch, W	17.71	27	⇓P		Pn	18 53 05.5	-0.2		
	baz=18									
B23A	Brockton	17.72	23	⇑P		Pn	18 53 05.6	-0.1		
	baz=18									
G30A	Faulkton	17.74	40	⇑P		Pn	18 53 05.9	-0.2		
	baz=18									
F29A	Eureka	17.84	37	⇓P		Pn	18 53 06.8	-0.5		
	baz=18									
A22A	Carney Farms,	17.90	20	⇓P		Pn	18 53 07.0	-0.9		
	baz=18									
E28A	Huff	17.94	34	⇑P		Pn	18 53 07.4	-1.1		
	baz=18									
D27A	Center	17.95	32	⇓P		Pn	18 53 08.1	-0.5		
	baz=18									
DGMT	Dagmar	17.99	24	*e*Pn		Pn	18 53 09.3	+0.2		
	comp=Z,718nm,1.1s									
DGMT	Dagmar	17.99	24	⇓P		Pn	18 53 08.7	-0.5		
	baz=18									
MIAR	Mount Ida	18.18	78	*e*P		Pn	18 53 10.2	-1.3		
MIAR					pmax	pmax				
	comp=Z,252nm,1.3s									
MIAR	Mount Ida	18.18	78	*e*Pn		Pn	18 53 10.2	-1.3		
	comp=Z,252nm,1.3s									
A23A	Redstone	18.19	22	⇑P		Pn	18 53 11.0	-0.5		
	baz=18									
B25A	Knox Farm, Ray	18.20	27	⇑P		Pn	18 53 10.5	-1.2		
	baz=18									
F30A	Leola	18.26	39	⇓P		Pn	18 53 10.8	-1.7		
	baz=18									
C26A	Wahner Farm, P	18.26	29	⇓P		Pn	18 53 11.2	-1.3		
	baz=18									
ECSD	EROS Data Cent	18.41	47	*e*Pn		Pn	18 53 15.7	+1.4		
	comp=Z,133nm,1.2s									
ECSD	EROS Data Cent	18.41	47	⇓P		P	18 53 13.8	-0.4		
	baz=18									
C27A	Sayler Ranch,	18.43	30	⇓P		P	18 53 13.9	-0.5		
	baz=18									
E29A	Napoleon	18.44	36	⇑P		P	18 53 13.6	-1.0		
	baz=18									
A24A	Westby	18.45	24	⇑P		P	18 53 14.3	-0.4		
	baz=18									
D28A	Regan	18.45	33	⇑P		P	18 53 13.9	-0.8		
	baz=18									
B26A	Jensen Ranch,	18.65	28	⇑P		P	18 53 16.1	-0.7		
	baz=19									
E30A	Jud	18.77	37	⇓P		P	18 53 17.0	-1.2		
	baz=19									
A25A	Svangstu Ranch	18.77	25	⇓P		P	18 53 18.0	-0.3		
	baz=19									
D29A	Pettibone, Tap	18.81	35	⇑P		P	18 53 17.1	-1.6		
	baz=19									
C28A	Hausauer Farms	18.92	32	⇑P		P	18 53 19.5	-0.3		
	baz=19									
B27A	Peters Farms,	19.07	30	⇓P		P	18 53 20.3	-1.2		
	baz=19									
A26A	Wade Farm, Ken	19.14	27	⇓P		P	18 53 20.7	-1.6		
	baz=19									
UALR	University of	19.19	77	*e*P		P	18 53 22.6	-0.3		
	comp=Z,136nm,1.2s									
D30A	Buchanan	19.26	36	⇑P		P	18 53 21.7	-1.8		
	baz=19									
MDND	Maddock	19.37	33	*e*P		P	18 53 24.8	0.0		
MDND	Maddock	19.37	33	⇓P		P	18 53 23.9	-0.9		
	baz=19									
B28A	Dugan Ranch, T	19.48	31	⇑P		P	18 53 25.5	-0.5		
	baz=20									
C30A	Mose, Pekin	19.80	35	⇑P		P	18 53 28.9	-0.6		
	baz=20									
SCIA	State Center	19.85	56	*e*P		Pn	18 53 32.2	+0.6		
	comp=Z,129nm,0.9s									
A28A	Rude Farm, Bot	19.87	30	⇓P		P	18 53 30.0	-0.3		
	baz=20									
B29A	Wagenman Farm,	19.94	32	⇑P		P	18 53 30.9	-0.1		
	baz=20									
A29A	Manning Farm,	20.33	32	⇑P		P	18 53 34.7	-0.5		
	baz=20									
B30A	Myrvik Farm, E	20.40	34	⇓P		P	18 53 35.1	-0.9		
	baz=20									
EDM	Edmonton	20.75	3	*e*P		P	18 53 38.8	-1.0		
EDM	Edmonton	20.75	3	*e*P		P	18 53 38.8	-1.0		
A30A	Hoffart Farm,	20.76	33	⇑P		P	18 53 39.2	-0.7		
	baz=21									
SLM	Saint Louis	21.21	66	*e*P		P	18 53 44.0	-0.8		
SLM					pmax	pmax				
	comp=Z,404nm,1.1s									
SLM					MLR	MLR				
	comp=Z,30µm,18.9s									
SLM	Saint Louis	21.21	66	*e*P		P	18 53 44.0	-0.8		
	comp=Z,404nm,1.1s									
SLM					LR	LR				
	comp=Z,30µm,18.9s									
PARMO	Parma	21.37	72	*e*P		P	18 53 48.8	+2.3		
PVMO	Portageville	21.39	72		PFAKE		18 54 00.0	+13		
PVMO					LR	LR				
	comp=Z,14µm,18.4s									
AGMN	Agassiz Nation	21.51	37	*e*P		P	18 53 47.2	-0.8		
	comp=Z,2µm,2.3s									
AGMN					LR	LR				
	comp=Z,14µm,19.0s									
AGMN	Agassiz Nation	21.51	37	⇓P		P	18 53 46.7	-1.2		
	baz=22									
SPMN	St. Paul	21.51	47	*e*P		P	18 53 50.2	+2.2		
OXF	Oxford	21.61	78	*e*P		P	18 53 47.5	-1.7		
OXF					pmax	pmax				
	comp=Z,146nm,1.0s									
OXF	Oxford	21.61	78	*e*Pn		P	18 53 47.5	-1.7		
	comp=Z,146nm,1.0s									
HALT	Halls	21.67	74	*e*P		P	18 53 50.2	+0.5		
GLAT	Glass	21.72	73	*e*P		P	18 53 54.0	+3.7		
BBB	Bella Bella	21.79	338	P		P	18 53 51.4	+0.5		
BBB	Bella Bella	21.79	338	P		P	18 53 51.4	+0.5		
	comp=Z,68nm,1.0s,baz=153,slow=8.3,SNR=12									
BBB					LR	LR	19 01 49.5			
	comp=Z,18µm,19.4s,baz=161,slow=36									
SIUC	Southern Illin	21.88	69	*e*P		P	18 53 51.1	-1.0		
	comp=Z,270nm,1.0s									
SIUC					LR	LR				
	comp=Z,2µm,18.8s									
JFWS	Jewell Farm	22.26	55	*e*P		P	18 53 57.6	+1.5		
JFWS					pmax	pmax				
	comp=Z,157nm,1.0s									
JFWS					MLR	MLR				
	comp=Z,28µm,20.0s									
JFWS	Jewell Farm	22.26	55	*e*P		P	18 53 57.6	+1.5		
	comp=Z,157nm,1.0s									
JFWS					LR	LR				
	comp=Z,28µm,20.0s									
HDIL	Hopedale	22.29	62	*e*P		P	18 53 57.2	+0.8		
	comp=Z,254nm,1.3s									
HDIL					LR	LR				
	comp=Z,4µm,19.0s									
ULM	Lac du Bonnet	22.81	33	*e*P		P	18 53 59.6	-2.2		
	comp=Z,127nm,1.1s									
ULM					LR	LR				
	comp=Z,8µm,18.1s									
ULM	Lac du Bonnet	22.81	33	P		P	18 53 59.8	-2.0		
	comp=Z,24nm,1.0s,baz=232,slow=9.9,SNR=14									
WVT	Waverly	22.89	73	*e*P		P	18 54 01.6	-1.3		
WVT					pmax	pmax				
	comp=Z,85nm,1.0s									
WVT					MLR	MLR				
	comp=Z,28µm,21.0s									
WVT	Waverly

WRAK Wrangell Islan 26.70 339 *e*P P 18 54 39.8 +1.6
comp=Z,31µm,19.0s
WRAK comp=Z,235nm,1.3s LR LR

AAM Ann Arbor 26.80 60 *e*P P 18 54 45.6 +6.4
comp=Z,13µm,19.0s
AAM comp=Z,76nm,1.1s pmax pmax

AAM Ann Arbor 26.80 60 *e*P P 18 54 45.6 +6.4
comp=Z,76nm,1.1s

TIGA Tifton 26.82 84 PFAKE 18 54 50.0 +10
TIGA comp=Z,14µm,20.4s LR LR

ACSO Alum Creek Sta 26.99 64 *e*P **P** **18 54 40.0 -0.9**
comp=Z,110nm,1.0s
ACSO comp=Z,12µm,19.0s LR LR

TEIG Tepich 26.99 110 LR LR 19 08 44.0
comp=Z,16µm,18.0s,baz=285,slow=44

DLBC Dease Lake 27.80 343 *e*P **P** **18 54 49.8 +1.6**
DLBC Dease Lake 27.80 343 P **P** **18 54 49.0 +0.9**
comp=Z,46nm,1.1s,baz=174,slow=6.6,SNR=27
DLBC LR LR 19 04 56.7
comp=Z,20µm,20.7s,baz=159,slow=35

SIT Sitka 28.18 337 *e*P P 18 54 57.8 +6.5
SIT comp=Z,173nm,1.4s pmax pmax
SIT comp=Z,13µm,18.1s MLR MLR

SIT Sitka 28.18 337 *e*P P 18 54 57.8 +6.5
comp=Z,173nm,1.4s
SIT LR LR
comp=Z,13µm,18.1s

KMSC Kings Mountain 28.21 75 *e*P P 18 54 55.4 +3.4
comp=Z,247nm,2.3s
KMSC LR LR
comp=Z,48µm,19.6s

KMSC Kings Mountain 28.21 75 ⇓P **P** **18 54 49.9 -2.1**
baz=28

JSC Jenkinsville 28.35 77 *e*P **P** **18 54 51.8 -1.4**
JSC *e**SP **sP** **18 54 57.0 +0.6**
JSC Jenkinsville 28.35 77 *e*P **P** **18 54 51.8 -1.4**
JSC *es*P **sP** **18 54 57.0 +0.6**

BLA Blacksburg 28.85 71 *e*P P 18 55 02.5 +4.8
BLA MLR MLR
comp=Z,28µm,18.0s

BLA Blacksburg 28.85 71 *e*P P 18 55 02.5 +4.8
BLA LR LR
comp=Z,28µm,18.0s

ALLY Alegheny Colle 29.28 62 *e*P **P** **18 54 59.5 -2.0**
comp=Z,112nm,1.2s

NHSC New Hope 29.40 79 PFAKE 18 55 10.0 +7.5
NHSC LR LR
comp=Z,38µm,18.0s

FCC Fort Churchill 29.87 22 *e*P **P** **18 55 06.1 -0.3**
FCC Fort Churchill 29.87 22 *e*P **P** **18 55 06.1 -0.3**
YKA Yellowknife Ar 30.01 1 P **P** **18 55 06.8 -0.7**
YKA PP **PnPn** **18 55 58.2 -5.8**
YKA Yellowknife Ar 30.01 1 P **P** **18 55 06.8 -0.7**
comp=Z,9.9nm,1.1s,baz=181,slow=8.6,SNR=31
YKA PP **PnPn** **18 55 58.2 -5.8**
comp=Z,9.6nm,0.9s,baz=172,slow=11,SNR=6.2

YKB5 Yellowknife Ar 30.01 1 *e*P **P** **18 55 05.8 -1.8**
SKAG Skagway 30.11 340 *e*P **P** **18 55 10.8 +2.2**
comp=Z,99nm,1.3s

SADO Sadowa 30.49 56 P **P** **18 55 12.8 +0.6**
SADO Sadowa 30.49 56 P **P** **18 55 12.8 +0.6**
comp=Z,20nm,1.1s,baz=264,slow=10,SNR=4.0
SADO LR LR 19 08 32.4
comp=Z,8µm,18.1s,baz=102,slow=39

JSRW J. Sargeant Re 30.86 70 *e*P **P** **18 55 14.6 -0.9**
CBN Corbin 31.25 69 PFAKE 18 55 30.0 +11
CBN LR LR
comp=Z,31µm,19.0s

TGUH Tegucigalpa,Un 31.43 119 *e*P **P** **18 55 22.1 +1.5**
comp=Z,938nm,2.1s
TGUH LR LR
comp=Z,36µm,19.0s

YKU2 Yakutat 31.54 336 PFAKE 18 55 30.0 +8.9
YKU2 LR LR
comp=Z,12µm,19.6s

HYT Haines Junctio 31.86 339 *e*P **P** **18 55 26.4 +2.3**
MVL Millersville 32.05 65 PFAKE 18 55 40.0 +14
MVL LR LR
comp=Z,9µm,19.3s

BINY Binghamton 32.42 61 *e*P P 18 55 32.8 +3.6
comp=Z,468nm,2.3s

LUPA Lehigh Univers 32.81 64 *e*P P 18 55 36.6 +4.1
comp=Z,82nm,1.7s
LUPA *e*ScS ScS 19 06 09.2 +7.5
LUPA LR LR
comp=Z,13µm,20.5s

PTN Potsdam (NY) 33.39 57 *e*P P 18 55 41.6 +4.0
PTN pmax pmax
comp=Z,171nm,1.4s
PTN MLR MLR
comp=Z,56µm,19.9s

PTN Potsdam (NY) 33.39 57 *e*P P 18 55 41.6 +4.0
comp=Z,171nm,1.4s
PTN LR LR
comp=Z,56µm,19.9s

ODNJ Ogdensburg 33.40 63 *e*P P 18 55 41.1 +3.4
comp=Z,106nm,1.5s
ODNJ LR LR
comp=Z,9µm,20.0s

BRNJ Basking Ridge 33.42 64 PFAKE 18 55 50.0 +12
BRNJ LR LR
comp=Z,4195µm,19.0s

LONY Lake Ozonia 33.68 57 *e*P **P** **18 55 42.9 +2.8**
comp=Z,82nm,1.6s
LONY LR LR
comp=Z,33µm,21.0s

NCB Newcomb 33.87 58 *e*P P 18 55 45.8 +4.0
comp=Z,319nm,2.3s
NCB LR LR
comp=Z,20µm,18.0s

CPNY Central Park 33.88 64 PFAKE 18 55 50.0 +8.1
CPNY LR LR
comp=Z,17µm,18.2s

PAL Palisades 33.93 64 PFAKE 18 55 50.0 +7.8
PAL LR LR
comp=Z,32µm,18.0s

RAGM Ragged Mountai 33.94 334 *e*P **P** **18 55 44.9 +2.7**
comp=Z,118nm,1.2s
RAGM LR LR
comp=Z,18µm,20.8s

MID Middleton Isla 33.95 332 PFAKE 18 55 50.0 +7.8
MID LR LR
comp=Z,12µm,21.1s

ACCN Adirondack Com 34.22 59 *e*P **P** **18 55 47.2 +2.4**
comp=Z,379nm,2.5s
ACCN LR LR
comp=Z,3µm,20.3s

BMRM Bremner River 34.30 335 *e*P P 18 55 49.2 +3.8
comp=Z,56nm,1.1s
BMRM LR LR
comp=Z,18µm,21.2s

FRNY Flat Rock 34.41 57 PFAKE 18 56 00.0 +14
FRNY LR LR
comp=Z,28µm,21.0s

DIV Divide 34.83 334 *e*P P 18 55 53.4 +3.4
comp=Z,89nm,1.4s
DIV LR LR
comp=Z,17µm,19.7s

DAWY Dawson 34.98 342 *e*P **P** **18 55 52.7 +1.5**
MENT Mentasta 35.38 338 *e*P **P** **18 55 54.2 -0.4**
LBNH Lisbon 35.54 58 PFAKE 18 56 10.0 +14
LBNH LR LR
comp=Z,22µm,19.0s

JTS JuntasAbangare 35.61 122 *e*P **P** **18 55 56.7 -0.4**
comp=Z,49nm,2.6s
JTS LR LR
comp=Z,23µm,22.0s

JTS JuntasAbangare 35.61 122 P **P** **18 55 59.1 +2.0**
comp=Z,12nm,0.8s,baz=281,slow=12,SNR=6.7

SEW Seward 35.62 331 *e*P **P** **18 55 58.6 +2.0**
comp=Z,101nm,1.0s
SEW LR LR
comp=Z,14µm,21.5s

KDAK Kodiak Island 35.76 326 *e*P **P** **18 55 58.6 +0.8**
comp=Z,212nm,1.6s
KDAK LR LR
comp=Z,10µm,20.0s

OHAK Old Harbor 35.84 325 *e*P **P** **18 56 00.5 +2.0**
comp=Z,173nm,1.2s
OHAK LR LR
comp=Z,9µm,18.2s

PAX Paxson 35.98 337 *e*P **P** **18 56 01.5 +1.7**
PAX pmax pmax
comp=Z,67nm,1.3s
PAX MLR MLR
comp=Z,12µm,18.5s

PAX Paxson 35.98 337 *e*P **P** **18 56 01.5 +1.7**
comp=Z,67nm,1.3s
PAX LR LR
comp=Z,12µm,18.5s

DOT Dot Lake 36.01 339 *e*P **P** **18 55 58.3 -1.7**
comp=Z,92nm,1.2s
DOT LR LR
comp=Z,20µm,19.1s

EGAK Eagle 36.02 341 *e*P **P** **18 56 01.5 +1.5**
comp=Z,218nm,1.3s
EGAK LR LR
comp=Z,20µm,21.0s

SML Sawmill 36.21 334 *e*P P 18 55 51.9 -10
SML pmax pmax
comp=Z,65nm,1.5s
SML MLR MLR
comp=Z,3µm,19.4s

SML Sawmill 36.21 334 *e*P P 18 55 51.9 -10
comp=Z,65nm,1.5s
SML LR LR
comp=Z,3µm,19.4s

RC01 Rabbit Creek A 36.31 332 *e*P **P** **18 56 04.1 +1.5**
comp=Z,159nm,1.4s
RC01 LR LR
comp=Z,13µm,19.8s

PMR Palmer 36.38 333 *e*P **P** **18 56 04.7 +1.6**
PMR pmax pmax
comp=Z,247nm,1.3s
PMR MLR MLR
comp=Z,11µm,20.6s

PMR Palmer 36.38 333 *e*P **P** **18 56 04.7 +1.6**
comp=Z,247nm,1.3s
PMR LR LR
comp=Z,11µm,20.6s

MTDJ Mount Denham 36.71 103 PFAKE 18 56 20.0 +13
MTDJ LR LR
comp=Z,8µm,19.0s

RSO Redoubt South 37.19 330 *e*P **P** **18 56 11.6 +1.3**
SPU Mount Spurr 37.29 331 *e*P P 18 56 14.6 +3.6
INK Inuvik 37.37 349 *e*P **P** **18 56 12.5 +1.1**
comp=Z,149nm,1.1s
INK Inuvik 37.37 349 P **P** **18 56 12.1 +0.7**
comp=Z,19nm,0.9s,baz=155,slow=9.8,SNR=24
INK LR LR 19 11 54.4
comp=Z,10µm,19.2s,baz=165,slow=37

PKME Peaks-Kenny Pk 37.48 57 PFAKE 18 56 20.0 +7.3
PKME LR LR
comp=Z,26µm,21.0s

MCK McKinley 37.65 336 *e*P **P** **18 56 15.3 +1.3**
MCK pmax pmax
comp=Z,184nm,1.2s
MCK MLR MLR
comp=Z,16µm,19.3s

MCK McKinley 37.65 336 *e*P **P** **18 56 15.3 +1.3**
comp=Z,184nm,1.2s
MCK LR LR
comp=Z,16µm,19.3s

IL1 Eielson Array 37.68 338 *e*P **P** **18 56 13.9 -0.2**
ILAR Eielson Array 37.68 338 P **P** **18 56 14.9 +0.7**
ILAR Eielson Array 37.68 338 P **P** **18 56 14.9 +0.7**
comp=Z,28nm,1.1s,baz=152,slow=7.4,SNR=90
ILAR LR LR 19 10 31.1
comp=Z,12µm,20.9s,baz=144,slow=34

GTBY Guantanamo Bay 37.90 99 PFAKE 18 56 30.0 +13
GTBY LR LR
comp=Z,4µm,20.0s

TRF Thorofare Moun 37.94 335 *e*P **P** **18 56 17.7 +1.1**
comp=Z,586nm,1.6s
TRF LR LR
comp=Z,18µm,19.8s

COLA College 38.05 338⇑ *e*P **P** **18 56 17.9 +0.7**
COLA pmax pmax
comp=Z,256nm,1.7s
COLA MLR MLR
comp=Z,42µm,13.0s

COLA College 38.05 338 *e*P **P** **18 56 19.3 +2.1**
comp=Z,45nm,1.3s
COLA LR LR
comp=Z,12µm,21.0s

POHA Pohakuloa 38.12 261 PFAKE 18 56 30.0 +11
POHA LR LR
comp=Z,14µm,21.0s

KTH Kantishna Hill 38.23 335 *e*P **P** **18 56 19.8 +0.9**
comp=Z,549nm,1.1s
KTH LR LR
comp=Z,15µm,19.8s

PPLA Purkeypile 38.31 334 *e*P **P** **18 56 20.6 +0.9**
comp=Z,482nm,1.3s
PPLA LR LR
comp=Z,12µm,18.6s

CAST Castle Rocks 38.57 334 *e*P **P** **18 56 22.4 +0.7**
comp=Z,193nm,1.6s
CAST LR LR
comp=Z,9µm,20.3s

SVW2 Sparrevohn 38.71 330 *e*P **P** **18 56 23.7 +0.8**
comp=Z,66nm,1.2s
SVW2 LR LR
comp=Z,8µm,19.1s

SDPT Sand Point 38.85 320 *e*P **P** **18 56 25.6 +1.5**
comp=Z,254nm,1.1s
SDPT LR LR
comp=Z,8µm,18.0s

KIP Kipapa 39.46 265 PFAKE 18 56 40.0 +10
KIP LR LR
comp=Z,11µm,20.0s

BCIP Isla Barro Col 40.12 117 PFAKE 18 56 40.0 +4.8
BCIP LR LR
comp=Z,6µm,19.0s

COLD Coldfoot 40.34 340 *e*P **P** **18 56 38.2 +1.8**
comp=Z,102nm,1.3s
COLD LR LR
comp=Z,14µm,20.0s

FALS False Pass 40.35 318 *es*P **sP** **18 56 43.5 +3.7**
FALS LR LR
comp=Z,8µm,20.2s

SCHQ Schefferville 40.47 42 P **P** **18 56 40.8 +3.1**
SCHQ Schefferville 40.47 42 P **P** **18 56 40.8 +3.1**
comp=Z,24nm,1.0s,baz=266,slow=8.1,SNR=5.4
SCHQ LR LR 19 13 52.8
comp=Z,9µm,18.2s,baz=259,slow=37

GRTK Grand Turk 40.54 94 PFAKE 18 56 50.0 +11
GRTK LR LR
comp=Z,10µm,19.0s

PAYG Puerto Ayora 40.55 140 PFAKE 18 56 50.0 +11
PAYG LR LR
comp=Z,6µm,18.0s

IM04 Indian Mountai 40.67 337 *e*P **P** **18 56 39.4 +0.2**
SDDR Presa de Saban 41.53 98 PFAKE 18 57 00.0 +13
SDDR LR LR
comp=Z,5µm,19.0s

AKUT Akutan 41.54 317 PFAKE 18 57 00.0 +14
AKUT LR LR
comp=Z,8µm,19.1s

UNV Unalaska Valle 41.92 316 *e*P P 18 56 53.0 +3.5
comp=Z,407nm,1.4s
UNV LR LR
comp=Z,9µm,22.0s

RES Resolute Bay 43.44 8 *e*P **P** **18 57 01.7 +0.1**
comp=Z,94nm,1.3s
RES Resolute Bay 43.44 8 LR LR 19 14 52.3
comp=Z,5µm,19.8s,baz=354,slow=36

SPIA Saint Paul Isl 44.57 321 PFAKE 18 57 20.0 +9.1
SPIA LR LR
comp=Z,6µm,18.6s

AGP Aguadilla 45.28 96 PFAKE 18 57 30.0 +13
AGP LR LR
comp=Z,6µm,19.9s

MPR Mayaguez 45.37 96 PFAKE 18 57 30.0 +12
MPR LR LR
comp=Z,3µm,20.0s

CRPR Cabo Rojo, PR 45.49 96 PFAKE 18 57 30.0 +11
CRPR LR LR
comp=Z,9µm,19.2s

DRLN Deer Lake 45.61 51 PFAKE 18 57 30.0 +11
DRLN LR LR
comp=Z,7µm,18.7s

TNA Tin City 45.62 332 *e*P **P** **18 57 19.7 +0.6**
comp=Z,115nm,1.2s
TNA LR LR
comp=Z,7µm,20.5s

OBIP Obispado Ponce 45.90 96 PFAKE 18 57 30.0 +8.0
OBIP LR LR
comp=Z,10µm,18.1s

CELP Cerrillos 45.90 96 *e*P **P** **18 57 20.6 -1.5**
HUMP Col San Antoni 46.49 96 PFAKE 18 57 40.0 +13
HUMP LR LR
comp=Z,7µm,22.0s

GAMB Gambell 46.65 329 *e*P **P** **18 57 27.8 +0.6**
comp=Z,92nm,1.1s
GAMB LR LR
comp=Z,12µm,19.0s

ROSC El Rosal 47.05 117 *e*P P 18 57 36.4 +4.9
ROSC El Rosal 47.05 117 P **P** **18 57 33.4 +1.8**
comp=Z,21nm,1.1s,baz=80,slow=23,SNR=22
ROSC LR LR 19 19 05.5
comp=Z,3µm,18.6s,baz=350,slow=38

OTAV Otavalo 47.24 125 *e*P **P** **18 57 33.3 +0.2**
comp=Z,214nm,1.6s
OTAV LR LR
comp=Z,4µm,21.0s

SDV Santo Domingo 47.43 110 *e*P **P** **18 57 37.2 +3.0**
comp=Z,22nm,1.4s
SDV LR LR
comp=Z,4µm,19.0s

TAOE Nuku Hiva Isla 47.50 214 *e*LQ LQ 19 08 57.6
comp=Z,10µm,24.6s
TAOE *e*LR LR 19 10 54.4
comp=Z,13µm,27.2s

CDVI St. Croix 47.58 95 PFAKE 18 57 50.0 +15
CDVI LR LR
comp=Z,5µm,21.2s

SABA Saba 48.92 95 PFAKE 18 58 00.0 +14
SABA LR LR
comp=Z,7µm,21.2s

XMAS Kiritimati 49.88 241 PFAKE 18 58 00.0 +7.2
XMAS LR LR
comp=Z,4µm,19.0s

ANWB Willy Bob 50.13 94 PFAKE 18 58 00.0 +5.3
ANWB LR LR
comp=Z,3µm,20.0s

SFJD Kangerlussuaq 50.65 27 *i* P P 18 58 01.7 +3.7
comp=Z,18nm,0.8s
SFJD
comp=Z,16µm,16.0s

SFJD Kangerlussuaq 50.65 27 LR LR 19 19 42.5
comp=Z,12µm,21.2s,baz=258,slow=37

FDF Fort de France 52.07 97 PFAKE 18 58 20.0 +11
FDF LR LR
comp=Z,4µm,19.0s

ATAH Atahualpa 52.77 132 P **P** **18 58 16.6 +1.6**
ATAH Atahualpa 52.77 132 P **P** **18 58 16.6 +1.6**
comp=Z,14nm,0.9s,baz=312,slow=4.8,SNR=17
ATAH LR LR 19 19 49.2
comp=Z,5µm,18.0s,baz=105,slow=35

GRGR Grenville 52.97 100 PFAKE 18 58 30.0 +14
GRGR LR LR
comp=Z,5µm,20.0s

MIDW Midway 53.12 283 PFAKE 18 58 30.0 +13
MIDW LR LR
comp=Z,10µm,18.0s

SMY Shemya 53.51 314 PFAKE 18 58 30.0 +11
SMY LR LR
comp=Z,4µm,18.1s

BBGH Gun Hill 54.20 97 PFAKE 18 58 40.0 +15
BBGH LR LR
comp=Z,11µm,19.0s

SUMG Summit 55.38 21 *e*P **P** **18 58 32.7 -0.6**
SUMG pmax pmax
comp=Z,92nm,1.0s
SUMG MLR MLR
comp=Z,22µm,18.0s

SUMG Summit 55.38 21 *i* P **P** **18 58 32.6 -0.7**
comp=Z,59nm,0.9s
SUMG
comp=Z,20µm,16.0s

SUMG Summit 55.38 21 *e*P **P** **18 58 32.7 -0.7**
comp=Z,92nm,1.0s
SUMG LR LR
comp=Z,22µm,18.0s

PMOR Pomariorio Ree 56.64 219 *e*P P 18 58 48.8 +6.3
comp=Z,96nm,1.1s

VAH Vaihoa 56.70 218 *e*P P 18 58 49.1 +6.2
comp=Z,127nm,1.2s

NNA Nana 57.48 134 *e*P P 18 58 52.0 +3.4
comp=Z,135nm,1.7s
NNA LR LR
comp=Z,5µm,19.0s

RKT Rikitea 58.44 201 *e*S **S** **19 07 03.6 +5.1**
comp=Z,7µm,27.5s
RKT *e*LQ LQ 19 13 42.4
comp=Z,3µm,32.5s
RKT *e*LR LR 19 16 07.3
comp=Z,11µm,26.8s,baz=18

MEH Mehetia 59.13 217 *e*P P 18 59 06.3 +6.3
comp=Z,38nm,1.2s

TIAR Tiarei 59.53 218 *e*P P 18 59 08.9 +6.1
comp=Z,31nm,1.2s

RPN Rapa Nui 59.57 174 PFAKE 18 59 10.0 +7.2
RPN LR LR
comp=Z,3µm,18.0s

PPT Papeete 59.66 219 P P 18 59 07.9 +4.3
PPT Papeete 59.66 219 P P 18 59 07.9 +4.3
comp=Z,25nm,0.7s,baz=57,slow=18,SNR=6.7
PPT LR LR 19 17 37.1
comp=Z,3µm,21.1s,baz=29,slow=29

TVO Taravao 59.67 218 *e*P P 18 59 10.0 +6.3
comp=Z,27nm,1.3s

PPT2 Papeete2 59.68 219 *e*P P 18 59 10.1 +6.3
comp=Z,68nm,1.3s
PPT2 *e*S **S** **19 07 20.3 +5.4**
comp=Z,4µm,25.5s
PPT2 *e*LQ LQ 19 14 09.4
comp=Z,6µm,25.2s
PPT2 *e*LR LR 19 16 44.6
comp=Z,9µm,24.2s,baz=24

PAE Paea 59.74 219 *e*P P 18 59 10.3 +6.2
comp=Z,14nm,1.3s

DAG Danmarks Havn 60.12 15 *i* P P 18 59 10.0 +3.9
DAG pmax pmax
comp=Z,15nm,0.9s
DAG MLR MLR
comp=Z,13µm,15.0s

DAG Danmarks Havn 60.12 15 *i* P P 18 59 10.0 +3.9
comp=Z,18nm,0.9s
DAG
comp=Z,13µm,15.0s

SCO Scoresbysund 60.83 23 *i* P **P** **18 59 10.2 -0.8**
SCO *i* 18 59 15.4
SCO MLR MLR
comp=Z,13µm,14.0s

SCO Scoresbysund 60.83 23 *i* P **P** **18 59 10.2 -0.8**
comp=Z,20nm,1.0s
SCO *i* 18 59 15.4
SCO
comp=Z,13µm,14.0s

PTGA Pitinga 61.67 111 *e*P **P** **18 59 14.5 -3.0**
comp=Z,111nm,1.8s

PTGA Pitinga 61.67 111 LR LR 19 30 22.8
comp=Z,5µm,18.4s,baz=300,slow=40

PET Petropavlovsk 62.56 317 *e*P P 18 59 27.8 +4.9
PET *e*S **S** **19 07 51.9 +1.1**
PET pmax pmax
comp=Z,113nm,1.1s
PET MLR MLR
comp=Z,3µm,16.0s

PET Petropavlovsk 62.56 317 P **P** **18 59 22.9 0.0**
comp=Z,110nm,1.2s
PET LR LR
comp=Z,4µm,22.0s

SEY Seymchan 62.65 329 P **P** **18 59 23.5 +0.1**
SEY Seymchan 62.65 329 P **P** **18 59 23.5 +0.1**
SEY Seymchan 62.65 329 P **P** **18 59 23.5 +0.1**
comp=Z,13nm,0.9s,baz=56,slow=7.1,SNR=25

BORG Borgarnes 62.72 29 LR LR 19 25 41.1
comp=Z,4µm,18.3s,baz=90,slow=35

PEA0 Petropavlovsk- 63.08 318 *e*P **P** **18 59 25.9 -0.6**
PEA0B Petropavlovsk- 63.08 318 *e*P **P** **18 59 25.5 -0.9**
PETK Petropavlovsk- 63.08 318 P **P** **18 59 25.9 -0.5**
PETK Petropavlovsk- 63.08 318 P **P** **18 59 25.9 -0.5**
PETK Petropavlovsk- 63.08 318 P **P** **18 59 25.9 -0.5**
comp=Z,23nm,1.0s,baz=82,slow=12,SNR=14
PETK LR LR 19 21 20.8
comp=Z,2µm,20.6s,baz=260,slow=31

TBI Tubuai 64.44 215 *e*S **S** **19 08 20.3 +5.5**
comp=Z,4µm,29.8s
TBI *e*LQ LQ 19 15 59.9
comp=Z,7µm,34.5s
TBI *e*LR LR 19 18 53.3
comp=Z,6µm,27.2s,baz=22

SAML Samuel 64.49 120 *e*P **P 18 59 37.1 +0.9**
comp=Z,87nm,2.0s
SAML LR LR
comp=Z,1µm,20.0s
KBS Kingsbay 64.79 10 PFAKE 18 59 50.0 +13
KBS LR LR
comp=Z,10µm,19.0s
JMIC Jan Mayen 64.82 20 LR LR 19 28 49.2
comp=Z,11µm,18.8s,baz=280,slow=37
LPAZ La Paz 66.22 130 *e*P **P 18 59 51.1 +3.0**
comp=Z,24nm,1.4s
LPAZ LR LR
comp=Z,4µm,19.5s
TIXI Tiksi 67.02 342 *de*P **P 18 59 51.1 -0.6**
TIXI pmax pmax
comp=Z,54nm,2.5s
TIXI MLR MLR
comp=Z,5µm,19.0s
TIXI Tiksi 67.02 342 *e*P **P 18 59 49.9 -1.9**
comp=Z,191nm,1.7s
TIXI LR LR
comp=Z,5µm,20.0s
MNMC Minimini 67.40 133⇑ *i*P **P 18 59 57.5 +2.3**
PSGC Pisagua 67.43 134⇑ *i*P P 18 59 58.5 +3.3
PB11 Plate Boundary 67.84 133⇑ *i*P **P 18 59 57.5 -0.3**
HMBC Humberstone 68.09 134⇑ *i*P P 19 00 02.8 +3.5
RAR Rarotonga 68.31 225 LR LR 19 22 45.9
comp=Z,1µm,18.1s,baz=39,slow=30
PATCX Punta Patache 68.34 135⇑ *i*P P 19 00 04.6 +3.8
PB01 Plate Boundary 68.91 134⇑ *i*P P 19 00 08.4 +4.1
PB07 Plate Boundary 69.19 135 *i* P **P 19 00 08.5 +2.3**
PB09 Plate Boundary 69.63 135⇑ *i*P P 19 00 13.1 +4.2
PB04 Plate Boundary 69.84 135⇑ *i*P **P 19 00 12.1 +2.1**
WAKE Wake Island 70.12 281 PFAKE 19 00 20.0 +8.1
WAKE LR LR
comp=Z,5µm,18.6s
PB06 Plate Boundary 70.12 135 *i*P P 19 00 15.8 +3.9
PB10 Plate Boundary 70.17 137 *i* P P 19 00 15.8 +3.8
LVC Limon Verde 70.44 135 *e*P P 19 00 17.5 +3.5
comp=Z,80nm,1.4s
LVC LR LR
comp=Z,2µm,22.0s
AFI Afiamalu 71.05 239 LR LR 19 25 41.2
comp=Z,1µm,18.1s,baz=43,slow=31
YAK Yakutsk 72.38 333 *e*P **P 19 00 24.1 -0.8**
YAK pmax pmax
comp=Z,83nm,1.4s
YAK MLR MLR
comp=Z,3µm,14.1s
YAK Yakutsk 72.38 333 *e*P **P 19 00 23.9 -1.0**
comp=Z,180nm,1.3s
YAK LR LR
comp=Z,5µm,20.0s
TARA Tarawa 73.99 261 PFAKE 19 00 50.0 +15
TARA LR LR
comp=Z,9µm,22.0s
ARA0 ARCESS Array S 74.31 13 *e*P P 19 00 40.2 +4.0
ARCES ARCESS Array B 74.31 13 P **P 19 00 35.8 -0.4**
ARCES ARCESS Array B 74.31 13 P **P 19 00 35.8 -0.4**
comp=Z,3.3nm,0.8s,baz=40,slow=21,SNR=2.4
ARCES LR LR 19 34 15.5
comp=Z,8µm,21.2s,baz=341,slow=37
LCO Las Campanas 74.36 140 PFAKE 19 00 50.0 +13
LCO LR LR
comp=Z,4µm,19.6s
YSS Yuzh-Sakhalins 74.38 316 *e*P **P 19 00 36.0 -1.0**
YSS *e**SP **sP 19 00 42.0 +1.7**
YSS *e*S **S 19 10 10.0 -1.7**
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=Z,3µm,15.0s
YSS MLR MLR
comp=E,2µm,16.0s
YSS Yuzh-Sakhalins 74.38 316 *e*P **P 19 00 35.8 -1.2**
comp=E,167nm,1.4s
YSS LR LR
comp=Z,978nm,22.0s
KEV Kevo 74.41 13 PFAKE 19 00 50.0 +13
KEV LR LR
comp=Z,6µm,19.0s
KWAJ Kwajalein Atol 74.51 271 PFAKE 19 00 50.0 +12
KWAJ LR LR
comp=Z,5µm,21.9s
EDI Edinburgh 74.72 33 PFAKE 19 00 50.0 +11
EDI LR LR
comp=Z,3µm,19.9s
ESK Eskdalemuir 75.07 33 PFAKE 19 00 50.0 +9.1
ESK LR LR
comp=Z,5µm,19.0s
EKA Eskdalemuir Ar 75.08 33 LR LR 19 32 18.1
comp=Z,4µm,18.4s,baz=295,slow=35
ASAJ Asahikawa 75.95 313 *e*P **P 19 00 44.6 -1.5**
ASAJ LR LR
comp=Z,2µm,19.3s
ERM Erimo 76.70 311⇑ *e*P **P 19 00 47.7 -2.7**
ERM pmax pmax
comp=Z,118nm,1.7s
ERM Erimo 76.70 311 PFAKE 19 01 00.0 +10
ERM LR LR
comp=Z,3µm,19.0s
NBO02 NORSAR Array S 77.00 24 *e*P P 19 00 56.0 +4.3
NB2 NORSAR Subarra 77.12 24 P P 19 00 57.3 +4.8
comp=Z,33nm,1.1s,baz=318,slow=6.2
NB2 NORSAR Subarra 77.12 24 P P 19 00 57.3 +4.8
baz=318,slow=6.2
NOA NORSAR Array B 77.12 24 P **P 19 00 51.8 -0.7**
NOA NORSAR Array B 77.12 24 P **P 19 00 51.8 -0.7**
comp=Z,2.8nm,1.0s,baz=318,slow=5.7,SNR=4.1
NOA LR LR 19 35 56.3
comp=Z,5µm,19.1s,baz=325,slow=37
LVZ Lovozero 77.39 11⇓ *e*P **P 19 00 53.4 -0.4**
LVZ pmax pmax
comp=Z,190nm,2.3s
LVZ MLR MLR
comp=Z,10µm,19.0s
LVZ Lovozero 77.39 11 PFAKE 19 01 00.0 +6.2
LVZ LR LR
comp=Z,9µm,19.0s
APA Apatity 77.47 12⇓ *i*P P 19 00 50.2 -4.1
APA *i* 19 01 06.8
APA MLR MLR
comp=Z,10µm,17.0s
KONO Kongsberg 77.55 25 *e*P P 19 00 59.9 +5.1
KONO pmax pmax
comp=Z,84nm,2.6s
KONO MLR MLR
comp=Z,7µm,20.0s
KONO Kongsberg 77.55 25 *e*P P 19 00 59.9 +5.1
comp=Z,84nm,2.6s
KONO LR LR
comp=Z,7µm,20.0s
DYA Yadsworthy 77.60 38 PFAKE 19 01 10.0 +15
DYA LR LR
comp=Z,8µm,19.3s
CFAA Coronel Fontan 77.71 140 P **P 19 00 55.6 -0.5**
CFAA Coronel Fontan 77.71 140 P **P 19 00 55.6 -0.5**
comp=Z,0.4nm,0.6s,baz=319,slow=5.0,SNR=15
CFAA LR LR 19 30 02.1
comp=Z,347nm,19.3s,baz=17,slow=32
HABR Khabarovsk 77.91 320 *ce*P **P 19 00 59.4 +2.4**
HABR *e* 19 01 04.5
HABR *e* 19 03 50.1
HABR *e*S **S 19 10 48.3 -2.1**
HABR *e* 19 11 13.9
HABR *e*SS **SS 19 15 50.0 -0.1**
HABR *e*SSS SSS 19 19 14.6
HABR MLR MLR
comp=Z,4µm,18.0s
QUIF Quistinic 79.51 39 *e*P **P 19 01 03.1 -2.8**
comp=Z,241nm,1.5s
QUIF Quistinic 79.51 39 *e*P **P 19 01 03.1 -2.8**
QUIF pmax pmax
comp=Z,241nm,1.5s
QUIF Quistinic 79.51 39 *e*P **P 19 01 03.1 -2.8**
comp=Z,241nm,1.5s
MUD Monsted U'grnd 79.65 28 *e*P P 19 01 11.3 +4.9
MUD pmax pmax
comp=Z,14nm,0.9s
MUD MLR MLR
comp=Z,5µm,17.0s
MUD Monsted U'grnd 79.65 28 *i* P P 19 01 11.3 +4.9
comp=Z,14nm,0.8s
MUD
comp=Z,5µm,16.0s
PGAV Gavieira, Arco 80.08 46 *e*LQ LQ 19 22 36.6
PGAV *e*LR LR 19 28 15.2
comp=Z,5µm,16.0s
BDFB Brasilia 80.10 116 *e*P P 19 01 14.1 +4.4
BDFB Brasilia 80.10 116 P **P 19 01 09.3 -0.3**
comp=Z,3.0nm,0.8s,baz=313,slow=15,SNR=2.0
BDFB LR LR 19 39 42.7
comp=Z,4µm,18.8s,baz=304,slow=38
CPUP Villa Florida 80.39 130 *e*P P 19 01 15.4 +4.6
CPUP Villa Florida 80.39 130 P P 19 01 14.6 +3.7
comp=Z,12nm,1.0s,baz=314,slow=6.4,SNR=4.7
CPUP LR LR 19 39 43.0
comp=Z,1µm,19.1s,baz=314,slow=38
GRR Gorron 80.44 38 *e*P **P 19 01 08.2 -2.7**
GRR Gorron 80.44 38 *e*P **P 19 01 08.2 -2.7**
GRR Gorron 80.44 38 *e*P **P 19 01 08.2 -2.7**
POLO Lamas de Olo 80.71 47 *e*P P 19 01 17.5 +4.9
comp=Z,31nm,1.3s
KAF Kangasniemi 80.74 17 *e*P **P 19 01 10.8 -1.5**
KAF pmax pmax
comp=Z,9.0nm,0.8s
KAF Kangasniemi 80.74 17 *ep* **P 19 01 10.8 -1.5**
comp=Z,9.4nm,0.8s
PVIS Viseu 81.02 47 *e*P P 19 01 18.4 +4.1
comp=Z,80nm,1.9s
PBRG Braganca 81.10 46 *e*P P 19 01 19.4 +4.8
comp=Z,53nm,1.8s
JOF Joensuu 81.21 15 *e*P **P 19 01 12.7 -2.0**
JOF Joensuu 81.21 15 *ep* **P 19 01 12.7 -2.0**
comp=Z,5.6nm,0.9s
FINES FINESS Array B 81.25 18 P **P 19 01 14.4 -0.6**
FINES FINESS Array B 81.25 18 P **P 19 01 14.4 -0.6**
comp=Z,11nm,0.8s,baz=338,slow=8.8,SNR=10.0
FINES LR LR 19 40 18.0
comp=Z,8µm,18.7s,baz=332,slow=38
MVO Moncorvo 81.30 47 *e*P P 19 01 20.8 +5.1
comp=Z,73nm,1.8s
MVO Moncorvo 81.30 47 *e*LQ LQ 19 23 05.8
MVO *e*LR LR 19 28 15.4
comp=Z,4µm,18.0s
TMCR Tamitsa 81.37 11 *e*P **P 19 01 15.4 -0.1**
TMCR *e* 19 01 20.6
TMCR *e* 19 04 21.3
TMCR *e*S **S 19 11 31.3 +4.8**
TMCR pmax pmax
comp=Z,24nm,1.1s
MTE Manteigas 81.42 47 *e*P **P 19 01 16.4 0.0**
comp=Z,94nm,1.8s
MTE Manteigas 81.42 47 *e*LR LR 19 28 10.2
comp=Z,5µm,18.0s
MTE Manteigas 81.42 47 PFAKE 19 01 30.0 +14
MTE LR LR
comp=Z,5µm,20.1s
PCBR Castelo Branco 81.79 48 *e*P P 19 01 21.5 +3.2
comp=Z,53nm,1.4s
BAIF Baives 81.89 35 *e*P **P 19 01 16.8 -1.8**
comp=Z,62nm,1.2s
BAIF Baives 81.89 35 *e*P **P 19 01 16.8 -1.8**
BAIF pmax pmax
comp=Z,62nm,1.3s
BAIF Baives 81.89 35 *e*P **P 19 01 16.8 -1.8**
comp=Z,62nm,1.3s
BSEG Bad Segeberg 81.91 29 *e*P **P 19 01 21.0 +2.4**
comp=Z,375nm,2.5s
BSEG *es*P sP 19 01 39.9 +18
MFF Saint Martin d 81.94 39 *e*P **P 19 01 16.4 -2.5**
comp=Z,148nm,1.6s
MFF Saint Martin d 81.94 39 *e*P **P 19 01 16.4 -2.5**
MFF pmax pmax
comp=Z,149nm,1.6s
MFF Saint Martin d 81.94 39 *e*P **P 19 01 16.4 -2.5**
comp=Z,148nm,1.6s
IBBN Ibbenburen 81.98 31 *e*P **P 19 01 21.0 +2.0**
comp=Z,278nm,2.1s
IBBN *es*P sP 19 01 40.1 +18
DOU Dourbes 82.05 34 P P 19 01 23.8 +4.4
comp=Z,47nm,3.2s
PMRV Marv??o 82.08 48 *e*LR LR 19 28 58.7
comp=Z,5µm,20.0s
EVOP Sao Brissos 82.14 49 *e*P P 19 01 16.7 -3.4
EVOP pmax pmax
comp=Z,225nm,1.6s
EVOP Sao Brissos 82.14 49 *e*P P 19 01 16.7 -3.4
comp=Z,225nm,1.6s
GIVF Givet 82.15 34 *e*P **P 19 01 17.7 -2.3**
GIVF Givet 82.15 34 *e*P **P 19 01 17.7 -2.3**
GIVF Givet 82.15 34 *e*P **P 19 01 17.7 -2.3**
USRK Ussuriysk Arra 82.17 318 P **P 19 01 19.3 -0.8**
comp=Z,13nm,1.0s,baz=52,slow=4.8,SNR=8.0
USRK LR LR 19 33 49.5
comp=Z,2µm,21.4s,baz=32,slow=33
EVO Evora 82.21 49 *e*P P 19 01 16.7 -3.8
comp=Z,225nm,1.6s
EVO *e*R
comp=Z,9µm,18.2s
PESTR Estremoz 82.28 49 *e*P P 19 01 25.2 +4.3
comp=Z,55nm,1.4s
MEM Membach 82.36 33 E 19 01 29.1
MEM Membach 82.36 33 PFAKE 19 01 30.0 +8.9
MEM LR LR
comp=Z,8µm,18.6s
BUG Bochum--Univer 82.36 32 *e*P **P 19 01 22.7 +1.7**
comp=Z,517nm,3.0s
BUG *es*P sP 19 01 41.9 +18
PBEJ Beja 82.60 49 *e*P P 19 01 26.8 +4.2
comp=Z,63nm,1.4s
NRDL Niedersach Rie 82.86 30 *e*P **P 19 01 25.5 +2.0**
comp=Z,81nm,1.5s
NRDL *es*P sP 19 01 44.7 +18
MAJO Matsushiro 82.92 309⇑ *e*P **P 19 01 22.0 -2.3**
MAJO MLR MLR
comp=Z,6µm,18.0s
MAJO Matsushiro 82.92 309 *e*P P 19 01 29.4 +5.1
comp=Z,210nm,1.8s
MAJO LR LR
comp=Z,5µm,22.0s
MAT Matsushiro 82.92 309 P **P 19 01 23.8 -0.5**
MAT S **S 19 11 38.6 -5.0**
MJAR Matsushiro Arr 82.92 309 P **P 19 01 23.2 -1.1**
MJAR Matsushiro Arr 82.92 309 P **P 19 01 23.2 -1.1**
comp=Z,2.7nm,0.7s,baz=53,slow=5.3,SNR=10
MJAR LR LR 19 31 50.6
comp=Z,3µm,20.7s,baz=60,slow=31
PVAQ Vaqueiros 83.06 50 *e*P **P 19 01 27.9 +3.0**
comp=Z,99nm,1.5s
PVAQ Vaqueiros 83.06 50 *e*LR LR 19 28 51.4
comp=Z,6µm,18.0s
WLF Walferdange 83.08 34 P P 19 01 30.6 +5.8
comp=Z,58nm,2.6s
WLF Walferdange 83.08 34⇑ *e*P P 19 01 32.6 +7.8
WLF MLR MLR
comp=Z,7µm,19.0s
WLF Walferdange 83.08 34 *e*P **P 19 01 26.7 +1.9**
comp=Z,214nm,2.2s
WLF *es*P sP 19 01 46.1 +18
WLF Walferdange 83.08 34 *e*PcP P 19 01 32.6 +7.8
WLF LR LR
comp=Z,7µm,19.0s
MDJ Mudanjiang 83.24 319 P **P 19 01 24.3 -1.5**
MDJ S **S 19 11 41.3 -5.1**
MDJ SS **SS 19 17 08.3 -1.6**
MDJ pmax pmax
comp=Z,11nm,1.3s
MDJ pmax pmax
comp=Z,240nm,3.7s
MDJ LR LR
comp=Z,2µm,15.3s
MDJ LR LR
comp=Z,2µm,16.4s
MDJ LR LR
comp=Z,4µm,15.1s
MDJ Mudanjiang 83.24 319 PFAKE 19 01 40.0 +14
MDJ LR LR
comp=Z,3µm,20.0s
MEZF Maizieres J'vi 83.34 35 *e*P **P 19 01 23.7 -2.5**
MEZF Maizieres J'vi 83.34 35 *e*P **P 19 01 23.7 -2.5**
TCF Toulx Ste Croi 83.38 38 *e*P **P 19 01 23.8 -2.7**
TCF Toulx Ste Croi 83.38 38 *e*P **P 19 01 23.8 -2.7**
TCF Toulx Ste Croi 83.38 38 *e*P **P 19 01 23.8 -2.7**
CLZ Clausthal 83.44 31 *e*P **P 19 01 28.8 +2.1**
comp=Z,398nm,2.4s
CLZ *es*P sP 19 01 48.0 +18
SACV Santiago Islan 83.45 77 PFAKE 19 01 40.0 +13
SACV LR LR
comp=Z,3µm,20.0s
BGF Bois d'Agland 83.54 38 *e*P **P 19 01 24.6 -2.7**
comp=Z,262nm,1.8s
BGF Bois d'Agland 83.54 38 *e*P **P 19 01 24.6 -2.7**
BGF pmax pmax
comp=Z,262nm,1.8s
SFTF Sexfontaines 83.54 36 *e*P **P 19 01 24.7 -2.5**
comp=Z,248nm,1.9s
SFTF Sexfontaines 83.54 36 *e*P **P 19 01 24.7 -2.5**
comp=Z,248nm,1.9s
SSF Saint Saulge 83.54 37 *e*P **P 19 01 24.7 -2.6**
SSF Saint Saulge 83.54 37 *e*P **P 19 01 24.7 -2.6**
SSF Saint Saulge 83.54 37 *e*P **P 19 01 24.7 -2.6**
LOR Lormes 83.58 37 *e*P **P 19 01 25.0 -2.5**
comp=Z,39nm,0.9s
LOR *e*R
comp=Z,8µm,19.2s
LOR Lormes 83.58 37 *e*P **P 19 01 25.0 -2.5**
comp=Z,39nm,0.9s
PAGF Fort de Pagny 83.64 35 *e*P **P 19 01 25.4 -2.3**
comp=Z,77nm,1.7s
PAGF Fort de Pagny 83.64 35 *e*P **P 19 01 25.4 -2.3**
comp=Z,77nm,1.7s
AVF Avril sur Loir 83.64 37 *e*P **P 19 01 24.9 -2.9**
AVF Avril sur Loir 83.64 37 *e*P **P 19 01 24.9 -2.9**
AVF Avril sur Loir 83.64 37 *e*P **P 19 01 24.9 -2.9**
RJF Les Rejaudoux 83.66 39 *e*P **P 19 01 25.2 -2.7**
comp=Z,190nm,1.6s
RJF *e*R
comp=Z,8µm,19.8s
RJF Les Rejaudoux 83.66 39 *e*P **P 19 01 25.2 -2.7**
RJF pmax pmax
comp=Z,190nm,1.6s
RJF Les Rejaudoux 83.66 39 *e*P **P 19 01 25.2 -2.7**
comp=Z,190nm,1.6s
PLCA Paso Flores 83.75 147 *e*P P 19 01 33.2 +5.0
comp=Z,86nm,1.5s
PLCA Paso Flores 83.75 147 P P 19 01 32.0 +3.8
comp=Z,23nm,1.1s,baz=337,slow=5.7,SNR=11
PLCA LR LR 19 32 26.4
comp=Z,2µm,18.3s,baz=151,slow=31
TNS Taunus Mts 83.75 33 *e*P **P 19 01 29.8 +1.4**
comp=Z,247nm,2.7s
PUL Pulkovo 83.76 17⇑ *e*P **P 19 01 27.3 -0.8**
PUL pmax pmax
comp=Z,39nm,0.4s
PUL MLR MLR
comp=Z,4µm,17.0s
PAB San Pablo 83.91 47 PFAKE 19 01 40.0 +11
PAB LR LR
comp=Z,5µm,19.5s
VSU Vasula 83.97 19⇑ *i*P **P 19 01 27.7 -1.5**
VSU pmax pmax
comp=Z,75nm,1.2s
VSU MLR MLR
comp=Z,17µm,22.0s
THEF They Montfort 83.99 35⇑ *e*P **P 19 01 32.6 +3.1**
SMF Signal de Mont 83.99 37 *e*P **P 19 01 26.8 -2.8**
comp=Z,79nm,1.4s
SMF Signal de Mont 83.99 37 *e*P **P 19 01 26.8 -2.8**
SMF pmax pmax
comp=Z,79nm,1.4s
SMF Signal de Mont 83.99 37 *e*P **P 19 01 26.8 -2.8**
comp=Z,79nm,1.4s
UBBA Unterbreizbach 84.02 31 *e*P **P 19 01 31.1 +1.6**
comp=Z,287nm,2.5s
UBBA *es*P sP 19 01 50.6 +18
ESDC Sonseca Array 84.06 46 P **P 19 01 30.8 +0.7**
ESDC Sonseca Array 84.06 46 P **P 19 01 30.8 +0.7**
comp=Z,6.9nm,1.1s,baz=303,slow=5.8,SNR=9.5
ESDC LR LR 19 36 21.8
comp=Z,4µm,18.6s,baz=305,slow=34
ES19 SONSECA Array 84.09 46 *e*P P 19 01 33.9 +3.7
RCBR Riachuelo 84.17 101 P **P 19 01 32.0 +1.0**
RCBR Riachuelo 84.17 101 P **P 19 01 32.0 +1.0**
comp=Z,7.1nm,1.0s,baz=323,slow=9.5,SNR=4.1
RCBR LR LR 19 41 59.8
comp=Z,3µm,19.0s,baz=296,slow=38
HAU Haudompre 84.32 35 *e*P **P 19 01 28.7 -2.5**
comp=Z,67nm,1.1s
HAU *e*R
comp=Z,9µm,17.0s
HAU Haudompre 84.32 35 *e*P **P 19 01 28.7 -2.5**
HAU pmax pmax
comp=Z,67nm,1.1s
HAU Haudompre 84.32 35 *e*P **P 19 01 28.7 -2.5**
comp=Z,67nm,1.1s
LANF Langenberg 84.33 34⇑ *e*P **P 19 01 32.6 +1.3**
RUE Ruedersdorf 84.39 29 *e*P **P 19 01 32.8 +1.4**
comp=Z,334nm,2.5s
RUE *es*P sP 19 01 52.3 +18
RUE Ruedersdorf 84.39 29 *e*P **P 19 01 34.3 +2.9**
CDF Champ du Feu 84.48 34 *e*P **P 19 01 29.5 -2.6**
CDF Champ du Feu 84.48 34 *e*P **P 19 01 29.5 -2.6**
CDF Champ du Feu 84.48 34 *e*P **P 19 01 29.5 -2.6**
NEUB Neuenburg 84.51 30 *e*P **P 19 01 33.7 +1.6**
comp=Z,264nm,2.2s
NEUB *es*P sP 19 01 53.0 +18
ECH Echery 84.56 35 *e*P P 19 01 35.8 +3.3
HINF Hinteralfeld 84.69 35 *e*P **P 19 01 30.3 -2.9**
HINF Hinteralfeld 84.69 35 *e*P **P 19 01 30.3 -2.9**
HINF Hinteralfeld 84.69 35 *e*P **P 19 01 30.3 -2.9**
MOF Molkenrain 84.80 35 *e*P P 19 01 37.8 +4.0
PRGR Permogore 84.91 9 *e*P **P 19 01 33.6 -0.3**
PRGR pmax pmax
comp=Z,36nm,0.8s
CLL Collm 84.95 30 *e*P **P 19 01 35.0 +0.7**
CLL *e*S **S 19 12 04.0 +0.7**
CLL pmax pmax
comp=Z,178nm,2.5s
CLL MLR MLR
comp=Z,6µm,18.6s
CLL Collm 84.95 30 *e*P **P 19 01 35.6 +1.3**
comp=Z,178nm,2.5s
CLL *es*P sP 19 01 54.9 +17
CLL Collm 84.95 30 *e*P **P 19 01 35.0 +0.7**
comp=Z,178nm,2.5s
CLL *e* 19 01 47.0
CLL *i* 19 01 54.3
comp=Z,29nm,1.3s
CLL *e*PP **PP 19 04 55.0 +4.8**
CLL *e*S **S 19 12 04.0 +0.7**
CLL *e*PS **PnS 19 12 57.0 -0.1**
CLL *e*SS **SS 19 17 36.0 +1.3**
CLL *e*SSS SSS 19 21 06.0
CLL *e*SSSS 19 24 00.0
CLL Lm MLR 19 41 00.0
comp=Z,6µm,18.6s
BFO Black Forest 85.04 34 *e*P **P 19 01 37.3 +2.4**
BFO pmax pmax
comp=Z,254nm,2.6s
BFO MLR MLR
comp=Z,6µm,19.6s
BFO Black Forest 85.04 34 *e*P **P 19 01 35.9 +1.0**
comp=Z,153nm,2.2s
BFO Black Forest 85.04 34 *e*P **P 19 01 37.3 +2.4**
comp=Z,254nm,2.6s
BFO LR LR
comp=Z,6µm,19.6s
HIA Hailar 85.04 327 *e*P **P 19 01 34.2 -0.6**
comp=Z,107nm,1.6s
HIA LR LR
comp=Z,4µm,20.0s
STU Stuttgart 85.13 33 *e*P **P 19 01 36.8 +1.5**
comp=Z,238nm,2.6s
STU Stuttgart 85.13 33 PFAKE 19 01 50.0 +15
STU LR LR
comp=Z,6µm,18.0s
CABF La Chapelle 85.15 36 *e*P **P 19 01 33.1 -2.5**
CABF La Chapelle 85.15 36 *e*P **P 19 01 33.1 -2.5**
CABF La Chapelle 85.15 36 *e*P **P 19 01 33.1 -2.5**
SSB Saint Sauveur 85.27 38 PFAKE 19 01 50.0 +14
SSB LR LR
comp=Z,6µm,19.0s
WERD Werda 85.30 31 *e*P **P 19 01 37.4 +1.3**
comp=Z,64nm,1.8s
WERD *es*P sP 19 01 56.7 +17
MTLF Montolieu 85.33 41 *e*P **P 19 01 33.6 -2.8**
comp=Z,38nm,1.2s
MTLF Montolieu 85.33 41 *e*P **P 19 01 33.6 -2.8**
MTLF pmax pmax
comp=Z,39nm,1.2s
MTLF Montolieu 85.33 41 *e*P **P 19 01 33.6 -2.8**
comp=Z,38nm,1.2s
GUNZ Gunzen 85.37 31 *e*P **P 19 01 37.8 +1.3**
comp=Z,236nm,2.7s
GUNZ *es*P sP 19 01 57.2 +17

GRF **Grafenberg Arr** 85.38 32 *e*P **P** 19 01 38.4 +1.9
comp=Z,232nm,2.2s
GRF *e*L L 19 40 26.4
comp=Z,8μm,18.9s
TANN **Tannenbergstha** 85.39 31 *e*P **P** 19 01 38.0 +1.4
comp=Z,124nm,2.3s
TANN *e*sP sP 19 01 57.3 +17
FBE **Freiberg** 85.39 30 *e*P **P** 19 01 38.2 +1.7
comp=Z,163nm,2.3s
FBE *e*sP sP 19 01 57.4 +18
WERN **Wernitzgruen** 85.44 31 *e*P **P** 19 01 38.3 +1.4
comp=Z,344nm,2.8s
WERN *e*sP sP 19 01 57.8 +18
JCJ **Chichijima** 85.51 299 LR LR 19 35 49.1
comp=Z,1μm,20.3s,baz=235,slow=33
NKC **Novy Kostel** 85.52 31 *e*P P 19 01 42.8 +5.6
NKC *e* 19 01 51.2
NKC *e* 19 12 12.2
NKC MLR MLR
comp=Z,4μm,19.8s
NKC **Novy Kostel** 85.52 31 *e*P P 19 01 42.8 +5.6
NKC *ex* x 19 01 51.2
NKC *ex* x 19 01 57.7
NKC *e*S **S** **19 12 12.2 +3.2**
NKC AMS AMS 19 36 40.0
comp=Z,4μm,19.8s
MANZ **Manzenberg** 85.55 31 *e*P **P** **19 01 38.8 +1.4**
comp=Z,150nm,2.7s
MANZ *e*sP sP 19 01 58.0 +17
CIT **Chita** 85.61 332 *e*P P 19 01 42.4 +4.7
CIT pmax pmax
comp=Z,266nm,2.2s
RTC **Rabat Centre** 85.63 52 PFAKE 19 01 50.0 +12
RTC LR LR
comp=Z,7μm,19.4s
BRG **Berggiesshubel** 85.67 30 *e*P P 19 01 43.5 +5.6
comp=Z,384nm,3.4s
BRG *e* 19 02 00.7
BRG **Berggiesshubel** 85.67 30 S S 19 12 17.0 +6.5
BRG SS SS 19 17 25.0 -20
BRG
comp=Z,5μm,18.2s
BRG
comp=N,3μm,17.9s
BRG
comp=E,5μm,17.9s
BRG **Berggiesshubel** 85.67 30 *e*P P 19 01 43.5 +5.6
BRG pmax pmax
comp=Z,384nm,3.4s
BRG MLR MLR
comp=Z,5μm,18.2s
BRG MLR MLR
comp=N,3μm,17.9s
BRG MLR MLR
comp=E,5μm,17.9s
BRG **Berggiesshubel** 85.67 30 *e*P **P** **19 01 39.4 +1.5**
comp=Z,69nm,1.9s
BRG *e*sP sP 19 01 58.8 +18
ROTZ **Rotzenmuhle** 85.76 31 *e*P **P** **19 01 40.0 +1.6**
comp=Z,123nm,2.5s
ROTZ *e*sP sP 19 01 59.3 +18
SENIN **Lac Senin/Sane** 85.92 36 PFAKE 19 01 50.0 +10
SENIN LR LR
comp=Z,6μm,18.4s
TRQA **Tornquist** 85.94 141 PFAKE 19 01 50.0 +11
TRQA LR LR
comp=Z,5μm,18.9s
CN2 **Changchun** 86.03 321 *e*P **P** **19 01 37.0 -2.8**
CN2 SS SS 19 17 49.5 -1.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,3μm,16.0s
CN2 LR LR
comp=Z,2μm,14.0s
PVCC **Panska Ves** 86.19 29 *e*P P 19 01 45.7 +5.2
PVCC MLR MLR
comp=Z,4μm,16.9s
PVCC **Panska Ves** 86.19 29 *e*P P 19 01 45.7 +5.2
PVCC AMS AMS 19 40 30.0
comp=Z,4μm,16.9s
ISAL **Salakas** 86.26 21 *e*P P 19 01 45.0 +4.2
ISAL AMB AMB 19 01 47.4
comp=Z,20nm,1.5s
IIGN **Ignalina** 86.47 21 *e*P P 19 01 45.6 +3.8
IIGN AMB AMB 19 01 48.2
comp=Z,16nm,1.6s
PRA **Prague** 86.48 30 P **P** **19 01 44.0 +2.0**
BNI **Bardonecchia** 86.53 37 PFAKE 19 01 50.0 +7.5
BNI LR LR
comp=Z,6μm,20.0s
PRU **Pruhonice** 86.59 30 *e*P **P** **19 01 44.0 +1.5**
PRU *e* 19 12 22.7
PRU MLR MLR
comp=Z,4μm,18.0s
PRU **Pruhonice** 86.59 30 *e*P **P** **19 01 44.0 +1.5**
PRU *ex* x 19 01 54.3
PRU *e*S **S** **19 12 22.7 +3.2**
PRU AMS AMS 19 40 40.0
comp=Z,4μm,18.0s
SUW **Suwalki** 86.64 23 *e*P P 19 01 47.7 +5.1
SUW pmax pmax
comp=Z,62nm,1.2s
SUW MLR MLR
comp=Z,7μm,20.8s
SUW **Suwalki** 86.64 23 *e*P P 19 01 47.7 +5.1
comp=Z,62nm,1.2s
SUW LR LR
comp=Z,7μm,20.8s
KSP **Ksiaz** 86.65 28 *e*P **P** **19 01 45.8 +3.0**
KSP *e*S **S** **19 12 18.0 -2.1**
KSP MLR MLR
comp=Z,9μm,18.7s
IDID **Didziasalis** 86.66 21 *e*P P 19 01 47.1 +4.4
IDID AMB AMB 19 01 49.7
comp=Z,16nm,1.5s
RETA **Reutte** 86.78 33 ⇓ *i*sP **P** **19 01 45.9 +2.3**
comp=Z,7.3nm,1.1s
UPC **Upice** 86.80 29 *e*P P 19 01 49.3 +5.8
UPC **Upice** 86.80 29 *e*P P 19 01 49.3 +5.8
UPC *ex* x 19 02 02.4
KHC **Kasperske Hory** 86.83 31 *e*P P 19 01 48.4 +4.7
KHC *e* 19 12 24.8
KHC MLR MLR
comp=Z,6μm,17.4s
KHC **Kasperske Hory** 86.83 31 *e*P P 19 01 48.4 +4.7
KHC *e*S **S** **19 12 24.8 +2.9**
KHC AMS AMS 19 39 20.0
comp=Z,6μm,17.4s
TUE **Stuetta** 86.85 35 *e*PcP **PcP** **19 01 50.9 +4.5**
TUE LR LR
comp=Z,10μm,18.1s
DAVOX **Davos/Dischmat** 86.88 34 LR LR 19 38 15.2
comp=Z,7μm,18.4s,baz=302,slow=34
NACGM **Naroch** 87.03 21 *e*P P 19 01 48.0 +3.5
MOTA **Moosalm** 87.04 33 ⇑ *i*sP P 19 01 48.6 +3.6
comp=Z,7.2nm,1.0s
DPC **Dobruska-Polom** 87.05 29 *e*P **P** **19 01 45.4 +0.6**
DPC *e* 19 12 25.8
DPC **Dobruska-Polom** 87.05 29 *e*P **P** **19 01 45.4 +0.6**
DPC *ex* x 19 01 58.9
DPC *e*S **S** **19 12 25.8 +1.8**
DPC AMS AMS 19 40 00.0
DPC **Dobruska-Polom** 87.05 29 *e*P **P** **19 01 46.3 +1.5**
comp=Z,57nm,1.0s
DPC LR LR
comp=Z,43μm,18.5s
GEC2 **GERESS Array S** 87.10 31 *e*P **P** **19 01 46.5 +1.4**
GERES **GERESS Array B** 87.10 31 P **P** **19 01 44.7 -0.4**
GERES **GERESS Array B** 87.10 31 P **P** **19 01 44.7 -0.4**
comp=Z,1.2nm,0.9s,baz=338,slow=3.2,SNR=5.5
GERES LR LR 19 41 57.7
comp=Z,7μm,18.1s,baz=314,slow=37
FETA **Feichten** 87.11 34 ⇓ *i*sP **P** **19 01 47.8 +2.5**
comp=Z,13nm,1.0s
FUORN **Ofenpass-Fuorn** 87.18 34 *e*P **P** **19 01 48.9 +3.1**
comp=Z,270nm,2.7s
TREC **Trest** 87.52 30 *e*S **S** **19 12 27.9 -0.7**
TREC AMS AMS 19 39 20.0
comp=Z,6μm,17.6s
MNK **Minsk** 87.69 21 *e*P P 19 01 43.0 -4.7
MNK *e*S S 19 12 22.0 -7.9
MNK MLR MLR
comp=E,7μm,16.0s
MNK MLR MLR
comp=N,5μm,17.0s
MNK MLR MLR
comp=Z,15μm,18.0s
MICGM **Minsk** 87.70 21 *e*P P 19 01 43.0 -4.8
VRAC **Vranov** 87.97 29 ⇑ *i*P **P** **19 01 50.9 +1.7**
SOKR **Solikamsk** 88.00 4 ⇑ *i*P **P** **19 01 50.1 +1.0**
SOKR S **S** **19 12 30.8 -1.8**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
OKC **Ostrava-Krasne** 88.18 28 AMS AMS 19 43 40.0
comp=Z,5μm,14.3s
IRK **Irkutsk** 88.80 337 *e*P **P** **19 01 51.8 -1.3**
IRK pmax pmax
comp=Z,229nm,2.2s
KSRS **Korea Array** 88.84 315 LR LR 19 36 07.1
comp=Z,1μm,21.9s,baz=40,slow=32
KS01 **Wonju Array Si** 88.84 315 *e*P **P** **19 01 54.3 +0.7**
VLC **Villacollemand** 89.02 36 PFAKE 19 02 00.0 +5.7
VLC LR LR
comp=Z,5μm,19.0s
OBKA **Obir** 89.24 32 ⇑ *i*pP **P** **19 01 55.2 -0.2**
comp=Z,12nm,1.0s
OBN **Obninsk** 89.44 16 ⇓ *e*P **P** **19 01 54.8 -1.1**
OBN *e* 19 05 24.6
OBN *i* S S 19 12 36.1 -10
OBN *i* SS **SS** **19 18 43.1 +3.4**
OBN pmax pmax
comp=Z,24nm,1.6s
OBN MLR MLR
comp=Z,6μm,17.0s
OBN **Obninsk** 89.44 16 PFAKE 19 02 10.0 +14
OBN LR LR
comp=Z,7μm,19.0s
TLY **Talaya** 89.49 337 P P 19 02 02.5 +6.2
comp=Z,231nm,1.0s,SNR=9.4
TLY **Talaya** 89.49 337 *e*P P 19 02 02.8 +6.5
TLY *e*S **SKSac** **19 12 29.8 +2.8**
TLY *e*PS **PnS** **19 13 50.6 -0.8**
TLY pmax pmax
comp=Z,120nm,1.9s
TLY MLR MLR
comp=Z,4μm,19.0s
INCN **Inchon** 89.59 315 PFAKE 19 02 10.0 +13
INCN LR LR
comp=Z,2μm,20.0s
STHS **Stebnicka Huta** 89.72 27 *e*P **P** **19 02 00.2 +2.7**
STHS **Stebnicka Huta** 89.72 27 *e*P **P** **19 02 00.2 +2.7**
KWP **Kalwaria Pacla** 90.09 26 PFAKE 19 02 10.0 +11
KWP LR LR
comp=Z,7μm,20.0s
CRVS **Cervenica-Dubn** 90.23 27 *e*P **P** **19 02 01.8 +2.0**
CRVS **Cervenica-Dubn** 90.23 27 *e*P **P** **19 02 01.8 +2.0**
MOY **Mondy** 90.35 338 *e*P **P** **19 02 02.7 +2.2**
MOY pmax pmax
comp=Z,174nm,2.3s
PSZ **Piszkesteto** 90.41 28 PFAKE 19 02 10.0 +9.2
PSZ LR LR
comp=Z,5μm,20.0s
LVV **L'vov** 90.42 25 *e*P P 19 02 04.8 +4.1
KOLS **Kolonicke sedl** 90.51 26 *e*P **P** **19 02 01.7 +0.6**
KOLS **Kolonicke sedl** 90.51 26 *e*P **P** **19 02 01.7 +0.6**
HNR **Honiara** 90.67 259 LR LR 19 35 09.3
comp=Z,4μm,20.6s,baz=50,slow=30
ZAK **Zakamensk** 90.71 337 *e*P **P** **19 02 01.5 -0.7**
ZAK pmax pmax
comp=Z,30nm,2.0s
GUMO **Guam** 90.93 287 PFAKE 19 02 10.0 +6.3
GUMO LR LR
comp=Z,3μm,21.0s
SVE **Sverdlovsk** 90.95 2 *e*P P 19 02 08.3 +5.3
SVE *e* 19 05 37.1
SVE *e*S **SKSac** **19 12 36.3 +1.1**
SVE *e*SS **SS** **19 19 02.0 +0.5**
SVE pmax pmax
comp=Z,37nm,2.2s
PKSM **Moragy** 91.25 30 ⇑ *i*P **P** **19 02 03.4 -1.2**
ARU **Arti** 91.26 3 *d i*P **P** **19 02 04.7 +0.3**
ARU 19 05 43.3
ARU S **SKSac** **19 12 37.1 +0.1**
ARU PS **PS** **19 14 09.2 -2.4**
ARU SS **SS** **19 19 08.7 +2.7**
ARU pmax pmax
comp=Z,20nm,2.5s
ARU **Arti** 91.26 3 *e*P **P** **19 02 04.0 -0.4**
comp=Z,108nm,2.0s
ARU LR LR
comp=Z,4μm,19.0s
AKASG **Malin Array Be** 91.41 22 P **P** **19 02 04.4 -0.8**
AKASG **Malin Array Be** 91.41 22 P **P** **19 02 04.4 -0.8**
AKASG **Malin Array Be** 91.41 22 P **P** **19 02 04.4 -0.8**
comp=Z,4.2nm,0.8s,baz=322,slow=4.0,SNR=12
AKASG LR LR 19 44 10.4
comp=Z,6μm,19.9s,baz=335,slow=36
KIEV **Kiev** 91.41 22 ⇓ *e*P **P** **19 02 05.5 +0.3**
KIEV **Kiev** 91.41 22 *e*P **P** **19 02 07.2 +2.0**
comp=Z,133nm,2.4s
KIEV LR LR
comp=Z,6μm,20.0s
AK11 **Malin Array Si** 91.41 22 *e*P **P** **19 02 04.9 -0.4**
ULN **Ulaanbaatar** 91.46 333 *e*P **P** **19 02 08.3 +2.5**
comp=Z,87nm,1.8s
ULN LR LR
comp=Z,4μm,21.0s
NVS **Novosibirsk** 91.57 349 ⇑ *i*P **P** **19 02 05.0 -0.9**
NVS *i* 19 13 08.2
NVS *e*PS **PS** **19 14 13.0 -2.0**
NVS pmax pmax
comp=Z,106nm,2.0s
NVS pmax pmax
comp=N,23nm,2.1s
NVS pmax pmax
comp=E,44nm,2.1s
SONA1 **Songino Array** 91.72 333 *e*P **P** **19 02 07.0 0.0**
SONA1 *e*PP **PP** **19 05 46.7 +2.0**
SONM **Songino Array** 91.74 333 P **P** **19 02 07.5 +0.4**
SONM PP **PP** **19 05 48.1 +3.4**
SONM Songino Array 91.74 333 P **P** **19 02 07.5 +0.4**
comp=E,4.4nm,1.1s,baz=36,slow=2.6,SNR=11
SONM PP **PP** **19 05 48.1 +3.4**
comp=E,1.8nm,0.9s,baz=25,slow=4.1,SNR=4.2
SONM LR LR 19 48 14.9
comp=E,4μm,18.2s,baz=22,slow=39
VSL **Villasalto** 91.87 40 PFAKE 19 02 20.0 +12
VSL LR LR
comp=Z,2μm,19.0s
ZAA0 **Zalesovo Array** 92.17 348 *e*P **P** **19 02 09.6 +0.9**
ZAA0 *e*PP **PP** **19 05 52.8 +5.1**
ZALV **Zalesovo Beam** 92.17 348 P **P** **19 02 09.6 +0.9**
ZALV 19 05 52.9
ZALV **Zalesovo Beam** 92.17 348 P **P** **19 02 09.6 +0.9**
ZALV PP **PP** **19 05 52.9 +5.2**
ZALV **Zalesovo Beam** 92.17 348 P **P** **19 02 09.6 +0.9**
comp=Z,3.1nm,0.8s,baz=345,slow=3.4,SNR=9.8
ZALV PP **PP** **19 05 52.9 +5.2**
comp=Z,4.4nm,0.9s,baz=10,slow=9.0,SNR=4.9
ZALV LR LR 19 47 05.4
comp=Z,4μm,18.8s,baz=15,slow=38
DZM **Mont Dzumac** 92.35 245 *e*SKSac **SKSac** **19 12 46.6 +2.4**
comp=Z,842nm,26.6s
DZM **Mont Dzumac** 92.35 245 *e*PS PS 19 14 32.2 +6.5
comp=Z,420nm,26.6s
DZM **Mont Dzumac** 92.35 245 *e*LR LR 19 31 45.5
comp=Z,2μm,21.9s
DZM **Mont Dzumac** 92.35 245 LR LR 19 39 39.2
comp=Z,1μm,18.3s,baz=41,slow=33
BUR08 **Bucovina Ar. S** 92.67 26 *e*P P 19 02 06.4 -4.8
BUR04 **Bucovina Ar. S** 92.69 26 *e*P **P** **19 02 11.3 -0.1**
BURAR **Bucovina Array** 92.70 26 ⇑ *i*P **P** **19 02 12.3 +0.9**
HVS **Khovu-Aksy** 92.90 342 ⇓ *e*P **P** **19 02 09.9 -2.4**
HVS pmax pmax
comp=Z,18nm,1.2s
BJI **Beijing** 93.55 323 P **P** **19 02 13.8 -1.5**
BJI S **S** **19 13 21.3 -2.9**
BJI SS **SS** **19 19 43.0 +3.1**
BJI pmax pmax
comp=Z,6.0nm,0.5s
BJI pmax pmax
comp=Z,130nm,4.2s
BJI LR LR
comp=Z,1μm,33.0s
BJI LR LR
comp=Z,1μm,28.9s
BJI LR LR
comp=Z,3μm,29.2s
BJT **Baijiatuau** 93.57 323 PFAKE 19 02 30.0 +15
BJT LR LR
comp=Z,3μm,19.0s
DOPR **Dopca** 94.15 26 ⇑ *i*P **P** **19 02 17.3 -0.7**
VRHR **Novokhopersk** 94.30 14 *e*P P 19 02 25.7 +7.2
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR MLR MLR
comp=N,3μm,17.0s
VRHR MLR MLR
comp=E,1μm,17.0s
VRHR MLR MLR
comp=Z,4μm,17.0s
VOIR 94.47 27 ⇓ *i*P **P** **19 02 21.1 +1.5**
KIS **Kishinev** 94.49 24 *e*P **P** **19 02 21.0 +1.5**
KIS *e*SKS SKSac 19 13 04.0 +8.8
KIS *e*S **S** **19 13 30.0 -2.3**
KIS **Kishinev** 94.49 24 *e*PS PS 19 14 44.0 -3.6
KIS LRM MLR 19 45 30.0
comp=Z,4μm,20.0s
KIS **Kishinev** 94.49 24 *e*P **P** **19 02 21.0 +1.5**
KIS *e*S **S** **19 13 30.0 -2.3**
KIS *e*PS **PS** **19 14 44.0 -3.6**
KIS MLR MLR
comp=Z,5μm,17.0s
KIS MLR MLR
comp=E,4μm,18.0s
KIS MLR MLR
comp=Z,4μm,20.0s
KEST **Kesra** 94.55 42 *e*P P 19 02 27.3 +7.1
KEST **Kesra** 94.55 42 P **P** **19 02 22.8 +2.6**
comp=Z,3.6nm,1.1s,baz=74,slow=2.0,SNR=6.0
BRVK **Borovoye** 94.66 357 ⇓ *e*P **P** **19 02 19.3 -0.9**
BRVK MLR MLR
comp=Z,4μm,20.0s
BRVK **Borovoye** 94.66 357 *e*P **P** **19 02 22.0 +1.8**
comp=Z,60nm,1.9s
BRVK LR LR
comp=Z,4μm,20.0s
BVAR **Borovoye Array** 94.69 357 LR LR 19 46 58.0
comp=Z,4μm,21.8s,baz=16,slow=37
MLR **Muntele Rosu** 94.76 26 ⇑ *i*P **P** **19 02 18.2 -2.8**
CUC **Castrocucco** 94.82 36 PFAKE 19 02 30.0 +8.7
CUC LR LR
comp=Z,4μm,20.0s
HHC **Hu-ho-hao-te** 95.18 326 *e*P **P** **19 02 23.5 +0.5**
HHC PP **PP** **19 06 15.3 +3.4**
HHC SKS **SKSac** **19 12 58.8 -0.7**
HHC S **S** **19 13 35.8 -3.0**
HHC SS **SS** **19 20 03.5 +0.2**
HHC pmax pmax
comp=Z,26nm,1.4s
HHC pmax pmax
comp=Z,410nm,8.3s
HHC LR LR
comp=Z,2μm,19.3s
HHC LR LR
comp=Z,5μm,19.4s
HHC LR LR
comp=Z,2μm,19.9s
CLTB **Caltabellotta** 95.32 39 PFAKE 19 02 30.0 +6.3
CLTB LR LR
comp=Z,1μm,21.0s
CFR **Carcaliu** 95.83 25 ⇓ *i*P **P** **19 02 25.0 -0.7**
TIP **Timpagrande** 95.91 36 PFAKE 19 02 40.0 +14
TIP LR LR
comp=Z,4μm,20.0s
CEL **Celeste** 96.19 37 PFAKE 19 02 40.0 +12
CEL LR LR
comp=Z,3μm,20.0s
KURK **Kurchatov** 96.24 351 *e*P P 19 02 31.4 +4.0
KURK pmax pmax
comp=Z,38nm,2.2s
KURK MLR MLR
comp=Z,2μm,19.0s
KURK **Kurchatov** 96.24 351 *e*P P 19 02 31.4 +4.0
comp=Z,38nm,2.2s
KURK LR LR
comp=Z,2μm,19.0s
AKTO **Aktyubinsk** 97.21 4 LR LR 19 49 20.2
comp=Z,6μm,19.3s,baz=0.7,slow=37
SSE **Sheshan** 97.24 314 *e*P P 19 02 29.0 -3.3
SSE S S 19 13 49.5 -7.1
SSE pmax pmax
comp=Z,39nm,0.6s
SSE pmax pmax
comp=Z,110nm,5.3s
SSE LR LR
comp=Z,980nm,21.7s
SSE LR LR
comp=Z,2μm,21.7s
SSE LR LR
comp=Z,2μm,21.9s
WDD **Wield Dalam** 97.30 39 PFAKE 19 02 40.0 +7.4
WDD LR LR
comp=Z,3μm,19.0s
EFI **East Falkland** 97.66 148 PFAKE 19 02 40.0 +6.5
EFI LR LR
comp=Z,2μm,19.0s
SNZO **South Karori** 97.73 226 PFAKE 19 02 40.0 +5.8
SNZO LR LR
comp=Z,1μm,20.0s
NJ2 **Nanjing** 97.95 316 *e*P **P** **19 02 33.5 -2.1**
NJ2 S **S** **19 14 00.0 -2.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,2μm,27.1s
NJ2 LR LR
comp=Z,2μm,22.0s
ABKAR **Akbulak array** 98.49 3 *e*P Pdif 19 02 37.8 +0.2
ANN **Anapa** 99.14 19 *e*P **Pdif** **19 02 33.5 -7.1**
ANN *e**PP pP 19 02 36.9 -6.2
ANN *e* 19 13 16.4
ANN pmax pmax
comp=Z,116nm,1.5s
ANN MLR MLR
comp=E,4μm,18.0s
ANN MLR MLR
comp=Z,8μm,18.0s
ANN MLR MLR
comp=N,2μm,18.0s
MK31 **Makanchi Array** 99.50 348 *e*P **Pdif** **19 02 42.3 0.0**
MK31 **Makanchi Array** 99.50 348 *e*P **Pdif** **19 02 42.3 0.0**
MKAR **Makanchi Array** 99.50 348 *e*P **Pdif** **19 02 44.7 +2.5**
MKAR 19 06 50.5
MKAR **Makanchi Array** 99.50 348 *e*P **Pdif** **19 02 44.7 +2.5**
MKAR PP PP 19 06 50.5 +5.9
MKAR PKKPbc **PKKPdf** **19 19 07.7 +0.3**
MKAR **Makanchi Array** 99.50 348 P **Pdif** **19 02 43.5 +1.3**
comp=N,1.0nm,0.9s,baz=36,slow=6.6,SNR=5.9
MKAR PP PP 19 06 50.5 +5.9
comp=N,1.3nm,0.9s,baz=12,slow=6.6,SNR=5.1
MKAR PKKPbc **PKKPdf** **19 19 07.7 +0.3**
comp=N,1.1nm,1.0s,baz=184,slow=1.9,SNR=5.3
MKAR LR LR 19 49 41.5
comp=N,3μm,21.1s,baz=265,slow=37
MK01 **Makanchi Array** 99.52 348 *e*P **Pdif** **19 02 45.8 +3.5**
MK01 *e*PP PP 19 06 51.4 +6.7
MK01 *e*PKKPdf **PKKPdf** **19 19 08.2 +0.8**
SOC **Sochi** 100.89 18 *e*P **Pdif** **19 02 45.9 -2.5**
SOC *e* 19 06 59.6
SOC *e* 19 13 24.9
SOC *e* 19 16 01.4
SOC *e*SS SS 19 21 13.0 -10
SOC *e*SSS SSS 19 25 04.7
SOC MLR MLR
comp=Z,7μm,21.0s
TAM **Tamanrasset** 101.12 54 PFAKE 19 03 00.0 +10
TAM LR LR
comp=Z,7μm,19.0s
WMQ **Urumqi** 101.20 343 P **Pdif** **19 02 50.0 +0.1**
WMQ PP **PP** **19 07 01.0 +3.4**
WMQ SKS **SKSac** **19 13 29.0 -0.8**
WMQ S **Sdif** **19 14 27.0 -2.7**
WMQ SS **SS** **19 21 30.0 +2.8**
WMQ pmax pmax
comp=Z,13nm,1.1s

WMQ pmax pmax
comp=Z,100nm,8.0s
WMQ LR LR
comp=Z,3μm,25.0s
WMQ LR LR
comp=Z,4μm,24.0s
WMQ LR LR
comp=Z,4μm,24.0s
KIV Kislovodsk 101.28 16 PFAKE 19 03 00.0 +10
KIV LR LR
comp=Z,5μm,20.0s
TATO Taipei 101.31 309 PFAKE 19 03 00.0 +9.3
TATO LR LR
comp=Z,2μm,22.0s
PMG Port Moresby 101.37 266 PFAKE 19 03 00.0 +9.0
PMG LR LR
comp=Z,5μm,20.0s
GTA Gaotai 101.40 333 *e*P **Pdif 19 02 48.8 -2.2**
GTA pP pP 19 02 52.5 -1.1
GTA sP 19 02 55.5
GTA PP **PP 19 06 59.8 +0.4**
GTA SKS **SKSac 19 13 26.5 -4.6**
GTA S **Sdif 19 14 25.5 -6.2**
GTA SS **SS 19 21 26.8 -3.7**
GTA pmax pmax
comp=Z,94nm,4.3s
GTA LR LR
comp=Z,2μm,19.5s
GTA LR LR
comp=Z,3μm,18.8s
GTA LR LR
comp=Z,3μm,20.0s
YHNB Yeheng 101.60 309 PFAKE 19 03 00.0 +7.9
YHNB LR LR
comp=Z,2μm,20.0s
WHN Wuhan 101.66 318 P **Pdif 19 02 43.5 -8.6**
ANTO Ankara 102.14 25 PFAKE 19 03 00.0 +5.8
ANTO LR LR
comp=Z,4μm,21.0s
SANT Santorini 102.24 32 PFAKE 19 03 00.0 +5.4
SANT LR LR
comp=Z,2μm,20.0s
BRTR Keskin Array B 102.56 24 PP PP 19 07 16.1 +8.0
BRTR PKKPbc **PKKPbc 19 18 58.4 +2.3**
BRTR Keskin Array B 102.56 24 PP PP 19 07 16.1 +8.0
comp=Z,0.8nm,0.9s,baz=332,slow=4.9,SNR=3.6
BRTR PKKPbc **PKKPbc 19 18 58.4 +2.3**
comp=Z,0.6nm,0.7s,baz=194,slow=4.5,SNR=4.2
LZH Lanzhou 102.57 328 *e*P **Pdif 19 02 54.0 -2.3**
LZH pP 19 02 59.3
LZH sP 19 03 02.5
LZH SKS **SKSac 19 13 32.5 -4.3**
LZH *e*S **Sdif 19 14 36.0 -5.7**
LZH sS sS 19 14 46.5 +0.3
LZH SS **SS 19 21 45.8 -1.2**
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,81nm,4.0s
LZH LR LR
comp=Z,4μm,20.2s
LZH LR LR
comp=Z,3μm,16.2s
LZH LR LR
comp=Z,5μm,20.7s
ASCN Ascension 103.37 91 PFAKE 19 03 10.0 +10
ASCN LR LR
comp=Z,3μm,19.0s
TKM2 Tokmak 2 104.29 352 PFAKE 19 03 10.0 +6.1
TKM2 LR LR
comp=Z,3μm,19.0s
ENH Enshi 104.54 321 PFAKE 19 03 20.0 +15
ENH LR LR
comp=Z,66nm,19.0s
TORD Torodi Ar. Bea 104.59 64 PP PP 19 07 30.5 +6.2
TORD PKKPbc **PKKPdf 19 18 55.3 -3.2**
TORD Torodi Ar. Bea 104.59 64 PP PP 19 07 30.5 +6.2
comp=Z,1.2nm,0.9s,baz=311,slow=4.7,SNR=4.3
TORD PKKPbc **PKKPdf 19 18 55.3 -3.2**
comp=Z,0.6nm,0.8s,baz=83,slow=2.5,SNR=3.6
AAK Ala-Archa 104.70 353 PFAKE 19 03 20.0 +14
AAK LR LR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 104.74 353 PFAKE 19 03 20.0 +14
EKS2 LR LR
comp=Z,4μm,20.0s
PMSA Palmer Station 104.85 160 PFAKE 19 03 20.0 +15
PMSA LR LR
comp=Z,1μm,19.0s
GNI Garni 105.37 16 PFAKE 19 07 30.0
GNI LR LR
comp=Z,5μm,21.0s
CSS Prodhromos 106.69 27 PFAKE 19 07 40.0
CSS LR LR
comp=Z,720nm,22.0s
CD2 Chengdu 106.92 326 *e*Pdif **Pdif 19 03 14.0 -1.6**
CD2 PP **PP 19 07 42.8 +2.1**
CD2 S **Sdif 19 15 11.5 -6.4**
CD2 SS **SS 19 22 49.0 +2.5**
CD2 AMB AMB
comp=Z,130nm,8.3s
CD2 LR LR
comp=Z,2μm,21.4s
CD2 LR LR
comp=Z,3μm,17.8s
CD2 LR LR
comp=Z,1μm,20.2s
CTAO Charters Tower 107.46 257 PFAKE 19 07 40.0
CTAO LR LR
comp=Z,3μm,21.0s
GYA Guiyang 109.07 321 Pdif **Pdif 19 03 23.0 -2.3**
GYA PKP **PKiKP 19 07 26.5 -3.1**
GYA PKS PKSdf 19 11 01.5 -5.0
GYA SS SS 19 23 14.8 -1.3
GYA AMB AMB
comp=Z,180nm,8.2s
GYA LR LR
comp=Z,550nm,20.8s
GYA LR LR
comp=Z,480nm,21.3s
GYA LR LR
comp=Z,510nm,20.0s
DAV Davao City (W) 110.09 293 PFAKE 19 07 40.0
DAV LR LR
comp=Z,2μm,21.0s
CAN Canberra 112.16 241 PFAKE 19 07 50.0
CAN LR LR
comp=Z,1μm,21.0s
QIZ Qiongzhong 113.02 313 Pdif **Pdif 19 03 41.0 -1.9**
QIZ S **Sdif 19 16 06.3 -2.7**
QIZ LR LR
comp=Z,960nm,25.8s
QIZ LR LR
comp=Z,2μm,25.6s
QIZ Qiongzhong 113.02 313 PFAKE 19 07 50.0
QIZ LR LR
comp=Z,1μm,20.0s
LSA Lhasa 113.26 335 *e*PP PP 19 08 25.8 -1.0
LSA LR LR
comp=Z,2μm,20.0s
SHEL Horse Pasture 114.67 94 PFAKE 19 07 50.0 +10
SHEL LR LR
comp=Z,3μm,20.0s
TAU Tasmania Unive 116.31 234 PFAKE 19 07 50.0 +7.4
TAU LR LR
comp=Z,2μm,19.0s
WRAB Tennant Creek 117.29 263 PFAKE 19 08 00.0 +15
WRAB LR LR
comp=Z,5μm,21.0s
WRA Warramunga Arr 117.30 263 PKP **PKPdf 19 07 47.6 +2.4**
WRA Warramunga Arr 117.30 263 PKP **PKPdf 19 07 47.6 +2.4**
comp=Z,1.1nm,0.7s,baz=62,slow=2.1,SNR=12
SBA Scott Base 119.04 194 PFAKE 19 08 00.0 +13
SBA LR LR
comp=Z,1μm,21.0s
AS01 Alice Springs 119.25 259 *e*PKPdf **PKPdf 19 07 52.8 +3.9**
ASAR Alice Springs 119.30 259 PKP **PKPdf 19 07 51.6 +2.6**
ASAR Alice Springs 119.30 259 PKP **PKPdf 19 07 51.6 +2.6**
comp=Z,1.5nm,0.8s,baz=79,slow=2.0,SNR=12
CHTO Chiang Mai 119.39 322 *e*PKIKP **PKPdf 19 07 48.3 -1.1**
CHTO Chiang Mai 119.39 322 *e*P **PKPdf 19 07 48.3 -1.1**
CM31 Chiang Mai Arr 119.68 322 *e*P **PKPdf 19 07 55.1 +5.2**
CMAR Chiang Mai Arr 119.68 322 PKP **PKPdf 19 07 49.5 -0.5**
CMAR Chiang Mai Arr 119.68 322 PKP **PKPdf 19 07 49.5 -0.5**
comp=Z,0.7nm,0.9s,baz=330,slow=1.6,SNR=7.7
CM01 Chiang Mai Arr 119.71 322 *e*PKPdf **PKPdf 19 07 48.8 -1.2**
VNDA Vanda 119.95 194 *e*PKPdf PKPdf 19 07 54.0 +5.4
VNDA Vanda 119.95 194 PKP **PKPdf 19 07 52.4 +3.7**
comp=Z,2.8nm,1.1s,baz=346,slow=1.5,SNR=4.9
KAPI Kappang 121.96 286 PFAKE 19 08 00.0 +5.6
KAPI LR LR
comp=Z,1μm,21.0s
QSPA South Pole Qui 122.34 180 *e*PKPdf **PKPdf 19 07 58.4 +4.8**
QSPA LR LR
comp=Z,1μm,19.0s
MSKU Masuku 123.04 68 PFAKE 19 08 10.0 +13
MSKU LR LR
comp=Z,1.0nm,19.0s
DRV Dumont d'Urvil 125.19 208 Pdif **Pdif 19 04 27.0 -8.6**
DRV Dumont d'Urvil 125.19 208 SP SP 19 19 22.0 -25
DRV SS **SS 19 26 48.0 +2.0**
KSM Kuching 125.30 299 PFAKE 19 08 10.0 +9.2
KSM LR LR
comp=Z,850nm,21.0s
SNAA Sanae 127.53 158 *e*PKPdf **PKPdf 19 08 07.8 +4.4**
SNAA Sanae 127.53 158 PKP **PKPdf 19 08 07.1 +3.7**
comp=Z,3.9nm,1.0s,baz=177,slow=2.0,SNR=10.0
KULM Kulim 129.25 311 PFAKE 19 08 20.0 +12
KULM LR LR
comp=Z,2μm,21.0s
TSUM Tsumeb 135.86 84 PFAKE 19 08 30.0 +9.2
TSUM LR LR
comp=Z,3μm,21.0s
KMBO Kilima Mbogo 139.44 45 PFAKE 19 08 40.0 +12
KMBO LR LR
comp=Z,4μm,20.0s
LSZ Lusaka 142.65 71 *e*PKPdf **PKPdf 19 08 33.4 +0.2**
LSZ LR LR
comp=Z,3μm,19.0s
SUR Sutherland 143.11 102 PFAKE 19 08 40.0 +6.3
SUR LR LR
comp=Z,2μm,19.0s
COCO West Island 144.32 297 PFAKE 19 08 50.0 +14
COCO LR LR
comp=Z,1μm,19.0s
MAW Mawson 144.84 179 *e*PKPdf PKPbc 19 08 34.7 +0.3
MAW Mawson 144.84 179 PKPbc PKPbc 19 08 34.7 +0.3
comp=Z,82nm,1.0s,baz=199,slow=4.9,SNR=13
LBTB Lobatse 145.01 88 *e*PKPdf **PKPbc 19 08 35.2 -1.3**
MSEY Mahe Island 150.98 19 PFAKE 19 09 00.0 -0.2
MSEY LR LR
comp=Z,2μm,19.0s
DGAR Diego Garcia 154.03 342 PFAKE 19 09 00.0 +0.4
DGAR LR LR
comp=Z,2μm,19.0s
ABPO Ambohimpanom 159.31 54 PFAKE 19 09 10.0 +12
ABPO LR LR
comp=Z,3μm,21.0s

*NEIC **30** 18:53:24.0,32˚.48N×115˚.18W,h8km, ML4.8(PAS), ML4.9(ECX), After ECX.*

ECX 30 18:53:24.0±0.6, 32˚.48N×115˚.20W, h8km, MD4.8, ML4.9, 16C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.11**	**233**	⇑*e*P	Pg	18 53 26.8	+0.2
CPBX				*e*S	Sg	18 53 28.5	+0.2
CPBX	**Cerro Prieto**	**0.11**	**233**	⇓*e*P	Pg	18 53 26.9	+0.4
CPBX				*e*S	Sg	18 53 28.6	+0.3
EMSC	**East Mesa**	**0.31**	**35**	⇑*i*P	Pg	18 53 29.8	-0.4
SLX	**San Luis R˜›o**	**0.42**	**94**	⇑*e*P	Pg	18 53 31.2	-0.9
SLX				*e*S	Sg	18 53 37.7	0.0
ERPC	**Ernies Place**	**0.47**	**304**	⇑*i*P	Pg	18 53 32.8	-0.3
SGL	**Mount Signal**	**0.47**	**291**	⇑*i*P	Pg	18 53 32.3	-0.9
EMX	**El Mayor**	**0.50**	**184**	⇓*e*P	Pg	18 53 32.6	-0.9
EMX				⇑*e*		18 53 53.2	
comp=N,56μm,0.8s							
EMX	**El Mayor**	**0.50**	**184**	⇓*e*P	Pg	18 53 32.6	-0.9
EMX				*e*		18 53 53.2	
WESC	**Westside Schoo**	**0.53**	**302**	⇑*i*P	Pg	18 53 33.5	-0.7
YMD	**Yuma Desert**	**0.56**	**83**	⇓*i*P	Pg	18 53 34.0	-0.8
COK	**Cook Ranch**	**0.57**	**309**	⇑*i*P	Pg	18 53 34.2	-0.9
YUH	**Yuha Desert**	**0.63**	**285**	⇓*i*P	Pg	18 53 35.1	-1.1
GLA	**Glamis**	**0.65**	**29**	*e*Pn	Pg	18 53 34.6	-2.0
RMX	**La Rumorosa**	**0.75**	**279**	⇑*e*P	Pg	18 53 37.2	-1.5
RMX				*e*S	Sg	18 53 47.4	-1.2
RMX	**La Rumorosa**	**0.75**	**279**	⇑*e*P	Pg	18 53 37.2	-1.5
RMX				*e*S	Sg	18 53 47.4	-1.2
CRR	**Carrizo Plain**	**0.76**	**302**	⇓*i*P	Pg	18 53 37.0	-1.7
RDX	**Rancho Dawling**	**0.84**	**229**	⇑*e*P	Pg	18 53 38.8	-1.6
RDX				*e*S	Sg	18 53 50.2	-1.3
RDX				⇓*e*		18 54 14.2	
comp=E,25μm,0.9s							
RDX	**Rancho Dawling**	**0.84**	**229**	⇑*e*P	Pg	18 53 38.8	-1.6
RDX				*e*S	Sg	18 53 50.2	-1.3
ECBX	**El Chinero**	**1.02**	**173**	⇓*e*P	Pg	18 53 42.0	-1.5
ECBX				*e*S	Sg	18 53 56.0	-0.8
ECBX				⇑*e*		18 54 09.7	
comp=N,33μm,1.1s							
CBX	**Cerro Bola**	**1.25**	**263**	⇑*e*P	Pn	18 53 45.2	-2.8
CBX				*e*S	Sb	18 54 02.5	-1.9
BAR	**Barrett**	**1.26**	**279**	*e*Pn	Pn	18 53 44.2	-3.7
ZAX	**El Zacaton**	**1.33**	**224**	⇓*e*P	Pn	18 53 46.7	-2.3
ZAX				*e*S	Sb	18 54 06.3	-0.4
ECNX	**Esteban Cantu**	**1.45**	**236**	⇑*e*P	Pn	18 53 48.6	-2.1
ECNX				*e*S	Sn	18 54 08.5	-1.4
SPX	**San Pedro Mart**	**1.45**	**189**	*e*P	Pn	18 53 49.1	-1.9
SPX				⇑*e*		18 54 30.7	
comp=N,9μm,0.9s							
PBX	**Punta Banda**	**1.49**	**241**	⇑*e*P	Pn	18 53 49.5	-1.7
PBX				*e*S	Sn	18 54 09.7	-1.1
PFO	**Pinyon Flat Ob**	**1.54**	**317**	*e*Pn	Pn	18 53 47.4	-4.6
LDFC	**Landfair**	**2.59**	**2**	*e*Pg	Pg	18 54 14.7	+0.8
MWC	**Mount Wilson**	**2.96**	**307**	*e*P	Pb	18 54 16.5	-0.7
GSC	**Goldstone**	**3.11**	**335**	*e*Pg	Pb	18 54 20.5	+0.8
ISA	**Isabella**	**4.17**	**320**	*e*Pg	Pb	18 54 39.9	+2.0

NEIC 30 18:55:40.2, 32˚.55N×115˚.23W, h6km, ML3.6(PAS), 2C-2D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.28**	**48**	⇓*i*P	Pg	18 55 46.2	+0.6
ERPC	**Ernies Place**	**0.41**	**298**	*e*P	Pg	18 55 48.8	+0.7
SGL	**Mount Signal**	**0.43**	**283**	*e*P	Pg	18 55 48.2	-0.3
BTCC	**Brunts Corner**	**0.46**	**1**	⇓*i*P	Pg	18 55 48.8	-0.2
BTCC				*e*S	Sg	18 55 55.0	-0.1
WESC	**Westside Schoo**	**0.47**	**296**	*e*P	Pg	18 55 48.9	-0.3
COK	**Cook Ranch**	**0.51**	**305**	⇑*i*P	Pg	18 55 50.0	0.0
YMD	**Yuma Desert**	**0.58**	**90**	⇑*i*P	Pg	18 55 50.6	-0.8
YUH	**Yuha Desert**	**0.59**	**279**	*e*P	Pg	18 55 50.7	-0.9
YUH				*e*S	Sg	18 55 59.4	+0.1
GLA	**Glamis**	**0.60**	**34**	*e*Pg	Pg	18 55 50.7	-1.2
GLA				*e*Sg	Sg	18 55 59.0	-0.8
BAR	**Barrett**	**1.22**	**276**	*e*Pn	Pg	18 56 01.6	-2.1
PFO	**Pinyon Flat Ob**	**1.47**	**316**	Pn	Pg	18 56 09.1	+0.5

*IDC **30** 19:02:24.5±1.6, 6˚.47N×126˚.15E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=104.8km s-min=22.5km az=67.0*
*ISCJB **30** 19:02:26.5±0.7, 6˚.31N±0˚.06×126˚.42E±0˚.09, h10km, mb3.6/5, Error ellipse: s-maj=14.4km s-min=6.2km az=151.7*
*MAN **30** 19:02:29, 6˚.34N×126˚.27E, h13km, mb4.8, ML3.7, MS3.8*

ISC 30 19:02:27.7±0.9, 6˚32N±0˚.07×126˚34E±0˚.10, h10km, n12, σ1§30/15, mb3.7/5, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.63**	**353**	*e*P	**Pb**	**19 02 41.3**	**+0.4**
DMPH	**Davao City--Mi**	**1.12**	**313**	⇑*i*P	**Pg**	**19 02 49.1**	**-0.2**
DMPH				*e*S	**Sg**	**19 03 02.6**	**-1.3**
BIPH	**Bislig**	**1.85**	**1**	⇓*i*P	**Pb**	**19 03 03.3**	**+1.5**
BIPH				*i* S	**Sn**	**19 03 20.8**	**-2.3**
BUKP	**Musuan**	**2.00**	**321**	*e*P	**Pn**	**19 03 01.2**	**-0.5**
BUKP				*e*S	**Sn**	**19 03 27.4**	**+0.5**
CTBH	**Cotabato--PC H**	**2.26**	**293**	⇑*i*P	**Pn**	**19 03 05.6**	**+0.3**
PAGZ	**Pagadian**	**3.31**	**298**	*e*P	**Pn**	**19 03 21.4**	**+1.8**
MSLP	**Maasin**	**4.07**	**339**	*e*P	**Pn**	**19 03 31.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**24.27**	**182**	P	**P**	**19 07 45.8**	**+0.4**
comp=N,0.8s,baz=354,slow=10,SNR=4.5							
WRA	**Warramunga Arr**	**27.26**	**163**	P	**P**	**19 08 12.4**	**0.0**
comp=Z,1nm,0.8s,baz=343,slow=10.0,SNR=10							
ASAR	**Alice Springs**	**30.70**	**166**	P	**P**	**19 08 42.2**	**-0.8**
comp=N,0.5nm,0.5s,baz=342,slow=7.1,SNR=10							
ASAR				PcP	**PcP**	**19 11 39.6**	**-1.4**
comp=N,0.6nm,0.9s,baz=350,slow=2.4,SNR=4.1							
STKA	**Stephens Creek**	**40.67**	**160**	P	**P**	**19 10 08.6**	**+0.2**
comp=N,1.5nm,0.7s,baz=351,slow=8.1,SNR=2.9							
MKAR	**Makanchi Array**	**55.23**	**324**	P	P	19 11 57.6	-3.4
comp=N,0.4nm,0.5s,baz=121,slow=7.0,SNR=12							

*IDC **30** 19:07:36.7±2.0, 32˚.03N×115˚.58W, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.4/28, mbtmp3.3/5, ML3.3/4, Error ellipse: s-maj=29.1km s-min=11.1km az=40.0*
*ISCJB **30** 19:07:41.0±0.4, 32˚.49N±0˚.02×115˚.19W±0˚.02, h10km±3km, mb3.0/1, Error ellipse: s-maj=3.9km s-min=3.0km az=44.2*
*ECX **30** 19:07:42.3±0.6, 32˚.51N×115˚.21W, h7km, MD4.0, ML4.2*
*NEIC **30** 19:07:42.3, 32˚.51N×115˚.21W, h7km, ML4.0(PAS), ML4.2(ECX), After ECX.*

ISC 30 19:07:41.7±0.7, 32˚47N±0˚.02×115˚23W±0˚.02, h15km±6km, n63, σ1§21/69, 15C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.09**	**230**	*e*P	**Pg**	**19 07 44.6**	**-0.2**
CPBX				*e*S	**Sg**	**19 07 47.2**	**+0.4**
EMSC	**East Mesa**	**0.34**	**37**	⇓*i*P	**Pg**	**19 07 47.8**	**-0.8**
SLX	**San Luis R˜›o**	**0.44**	**92**	⇑*e*P	**Pg**	**19 07 49.7**	**-0.8**
SLX				*e*S	**Sg**	**19 07 56.2**	**-0.3**
ERPC	**Ernies Place**	**0.46**	**306**	⇑*i*P	**Pg**	**19 07 50.8**	**0.0**
SGL	**Mount Signal**	**0.46**	**293**	⇑*i*P	**Pg**	**19 07 50.3**	**-0.5**
SGL	**Mount Signal**	**0.46**	**293**	⇑*i*P	**Pg**	**19 07 50.3**	**-0.5**
EMX	**El Mayor**	**0.48**	**181**	⇓*e*P	**Pg**	**19 07 50.4**	**-0.9**
EMX				*e*S	**Sg**	**19 07 58.1**	**+0.2**
EMX				⇓*e*		19 07 59.8	
comp=E,12μm,0.8s							
EMX				⇓*e*		19 08 09.6	
comp=N,11μm,0.8s							
EMX	**El Mayor**	**0.48**	**181**	⇓*e*P	**Pg**	**19 07 50.4**	**-0.9**
EMX				*e*S	**Sg**	**19 07 58.1**	**+0.2**
WESC	**Westside Schoo**	**0.51**	**304**	⇑*i*P	**Pg**	**19 07 51.5**	**-0.4**
BTCC	**Brunts Corner**	**0.54**	**1**	⇓*i*P	**Pg**	**19 07 51.4**	**-1.0**
BTCC				*e*S	**Sg**	**19 07 58.9**	**-0.7**
YMD	**Yuma Desert**	**0.58**	**82**	⇑*i*P	**Pg**	**19 07 51.8**	**-1.3**
YMD	**Yuma Desert**	**0.58**	**82**	⇑*i*P	**Pg**	**19 07 51.2**	**-2.0**
YUH	**Yuha Desert**	**0.61**	**287**	⇑*i*P	**Pg**	**19 07 52.8**	**-0.9**
YUH	**Yuha Desert**	**0.61**	**287**	⇑*i*P	**Pg**	**19 07 52.8**	**-0.9**
GLA	**Glamis**	**0.67**	**30**	*e*Pg	**Pg**	**19 07 52.9**	**-1.9**
RMX	**La Rumorosa**	**0.73**	**280**	⇑*e*P	**Pg**	**19 07 55.2**	**-0.8**
RMX				*e*S	**Sg**	**19 08 05.5**	**-0.2**
RMX				⇑*e*		19 08 07.2	
comp=N,6μm,0.8s							
RMX	**La Rumorosa**	**0.73**	**280**	⇑*e*P	**Pg**	**19 07 55.2**	**-0.8**
RMX				*e*S	**Sn**	**19 08 08.5**	**-0.2**
RDX	**Rancho Dawling**	**0.81**	**228**	⇑*e*P	**Pg**	**19 07 56.8**	**-0.8**
RDX				*e*S	**Sg**	**19 08 08.5**	**+0.2**
RDX				⇓*e*		19 08 10.5	
comp=N,14μm,1.1s							
RDX	**Rancho Dawling**	**0.81**	**228**	⇑*e*P	**Pg**	**19 07 56.8**	**-0.8**
ECBX	**El Chinero**	**1.01**	**171**	*e*P	**Pg**	**19 07 59.3**	**-2.0**
ECBX				*e*S	**Sg**	**19 08 13.3**	**-1.1**
ECBX				⇑*e*		19 08 31.8	
comp=E,4μm,1.0s							
CBX	**Cerro Bola**	**1.23**	**263**	*e*P	**Pn**	**19 08 03.7**	**-0.8**
CBX				*e*S	**Sb**	**19 08 20.8**	**+0.4**
BAR	**Barrett**	**1.24**	**280**	*e*Pg	**Pn**	**19 08 02.5**	**-2.1**
ZAX	**El Zacaton**	**1.31**	**223**	*e*P	**Pn**	**19 08 05.6**	**0.0**
ZAX				*e*S	**Sg**	**19 08 24.0**	**+0.1**
ECNX	**Esteban Cantu**	**1.42**	**235**	*e*P	**Pn**	**19 08 07.3**	**+0.2**
ECNX				*e*S	**Sb**	**19 08 26.8**	**+0.8**
SPX	**San Pedro Mart**	**1.44**	**188**	*e*P	**Pn**	**19 08 08.1**	**+0.4**
SPX				⇓*e*		19 08 29.2	
comp=N,1μm,0.8s							
PBX	**Punta Banda**	**1.47**	**241**	*e*P	**Pn**	**19 08 08.0**	**+0.3**
PBX				*e*S	**Sb**	**19 08 28.1**	**+0.9**
PFO	**Pinyon Flat Ob**	**1.53**	**318**	Pn	**Pn**	**19 08 06.5**	**-2.2**
PFO				Pg	**Pb**	**19 08 09.2**	**-0.8**
PFO				Lg	Lg	19 08 33.7	
PFO	**Pinyon Flat Ob**	**1.53**	**318**	Pn	**Pn**	**19 08 06.5**	**-2.2**
comp=N,46nm,0.3s,baz=145,slow=9.8,SNR=50							
PFO				Pg	**Pb**	**19 08 09.2**	**-0.8**
comp=N,46nm,0.3s,baz=137,slow=10,SNR=62							
PFO				Lg	Lg	19 08 33.7	
comp=N,98nm,0.3s,baz=33,slow=22,SNR=12							
214A	**Organ Pipe Nat**	**2.11**	**103**	*e*Pn	Pn	19 08 11.8	-4.8
LDFC	**Landfair**	**2.60**	**2**	*e*Pn	**Pn**	**19 08 25.3**	**+1.9**
MWC	**Mount Wilson**	**2.94**	**307**	*e*Pn	**Pn**	**19 08 29.4**	**+1.2**
PASC	**Pasadena Art C**	**3.00**	**305**	Pn	**Pn**	**19 08 28.7**	**-0.1**
GSC	**Goldstone**	**3.11**	**335**	*e*Pn	**Pn**	**19 08 32.6**	**+2.2**
TUC	**Tucson**	**3.76**	**91**	*e*Pn	**Pn**	**19 08 39.9**	**+0.6**
SHPR	**Sheep Range**	**4.02**	**1**	*e*Pn	**Pn**	**19 08 44.2**	**+1.2**
ISA	**Isabella**	**4.17**	**321**	*e*Pn	**Pn**	**19 08 46.8**	**+1.9**
WUAZ	**Wupatki**	**4.41**	**45**	*e*Pn	**Pn**	**19 08 50.1**	**+1.8**
W18A	**Petrified Fore**	**5.28**	**59**	*e*Pn	**Pn**	**19 09 00.2**	**-0.1**
comp=N,80nm,0.9s							
CCUT	**Cedar City**	**5.29**	**16**	*e*Pn	**Pn**	**19 09 03.0**	**+2.5**
comp=N,81nm,0.9s							
ARUT	**Antelope Range**	**5.50**	**15**	*e*Pn	**Pn**	**19 09 05.9**	**+2.5**
comp=N,1μm,0.6s							
TPH	**Tonopah**	**5.82**	**344**	Pn	**Pn**	**19 09 07.7**	**-0.1**
comp=N,24nm,0.7s							
R11A	**Troy Canyon, C**	**5.87**	**357**	*e*Pn	**Pn**	**19 09 07.8**	**-0.7**
comp=N,16nm,0.9s							
121A	**Cookes Peak, D**	**6.29**	**87**	*e*Pn	**Pn**	**19 09 13.0**	**-1.2**
NV11	**Mina Array Sit**	**6.41**	**339**	Pn	Pn	19 09 09.9	-5.8
NVAR	**Mina Array Bea**	**6.45**	**338**	Pn	**Pn**	**19 09 15.2**	**-1.2**
NVAR				Lg	Lg	19 11 18.6	
NVAR	**Mina Array Bea**	**6.45**	**338**	Pn	**Pn**	**19 09 15.2**	**-1.2**
comp=N,0.1nm,0.3s,baz=150,slow=13,SNR=2.5							
NVAR				Lg	Lg	19 11 18.6	
comp=N,0.4nm,0.3s,baz=250,slow=43,SNR=2.9							
MVU	**Marysvale**	**6.50**	**21**	*e*P	Pn	19 09 23.9	+6.8
comp=N,37nm,0.8s							
WAKR	**Walker**	**6.93**	**331**	*e*Pg	**Pg**	**19 09 55.2**	**+0.9**
comp=N,29nm,1.2s							
CMB	**Columbia Colle**	**6.97**	**324**	Pg	**Pg**	**19 09 55.6**	**+0.4**
comp=N,16nm,1.1s							
MVCO	**Mesa Verde**	**7.27**	**48**	*e*Pn	Pn	19 09 31.7	+4.0
comp=N,34nm,0.7s							
SRU	**San Rafael**	**7.64**	**29**	Pn	**Pn**	**19 09 35.8**	**+3.1**
comp=N,985nm,1.4s							
ANMO	**Albuquerque**	**7.71**	**69**	Pn	Pn	19 09 37.0	+3.3
ANMO				Pg	**Pg**	**19 10 09.3**	**0.0**
ANMO				Lg	Lg	19 11 50.9	
ANMO	**Albuquerque**	**7.71**	**69**	Pn	Pn	19 09 37.0	+3.3
comp=N,0.1nm,0.3s,baz=256,slow=11,SNR=3.9							
ANMO				Pg	**Pg**	**19 10 09.3**	**0.0**
comp=N,0.2nm,0.3s,baz=242,slow=15,SNR=4.7							
ANMO				Lg	Lg	19 11 50.9	
comp=N,0.6nm,0.3s,baz=123,slow=17,SNR=3.5							
PV01	**Paradox Valley**	**7.84**	**42**	*e*Pn	Pn	19 09 26.6	-8.9
comp=N,2μm,0.8s							
ELK	**Elko**	**8.26**	**360**	Pn	Pn	19 09 45.5	+4.3
ELK				Pg	Pb	19 10 12.2	+7.7
ELK				Lg	Lg	19 11 57.1	
ELK	**Elko**	**8.26**	**360**	Pn	Pn	19 09 45.5	+4.3
comp=N,0.1nm,0.3s,baz=193,slow=13,SNR=4.2							
ELK				Pg	Pb	19 10 12.2	+7.7
comp=N,0.6nm,0.3s,baz=179,slow=13,SNR=13							
ELK				Lg	Lg	19 11 57.1	
comp=N,0.4nm,0.3s,baz=164,slow=2.9,SNR=5.3							
MNTX	**Cornudas Mount**	**8.39**	**93**	*e*Pn	**Pn**	**19 09 42.8**	**-0.1**
comp=N,5.2nm,0.8s							
TXAR	**Lajitas Array**	**10.41**	**104**	Pn	**Pn**	**19 10 11.7**	**+1.0**
TXAR				Lg	Lg	19 13 09.9	
TXAR	**Lajitas Array**	**10.41**	**104**	Pn	**Pn**	**19 10 11.7**	**+1.0**
comp=N,0.1nm,0.3s,baz=282,slow=13,SNR=4.0							
TXAR				Lg	Lg	19 13 09.9	
comp=N,0.1nm,0.3s,baz=312,slow=32,SNR=4.7							
PDAR	**Pinedale Array**	**11.21**	**22**	Pn	Pn	19 10 29.2	+7.5
PDAR				Pg		19 11 18.1	
PDAR				Lg	Lg	19 13 47.0	
PDAR	**Pinedale Array**	**11.21**	**22**	Pn	Pn	19 10 29.2	+7.5
comp=N,0.1nm,0.3s,baz=219,slow=9.2,SNR=4.0							
PDAR				Pg		19 11 18.1	
comp=N,0.1nm,0.

*ISCJB **30** 19:10:03.1±0.5,32°.49N±0°.03×115°.17W±0°.03,h18km±6km, Error ellipse: s-maj=5.6km s-min=4.4km az=20.0*
*ECX **30** 19:10:04.1±0.6,32°.48N×115°.17W,h8km,MD3.4,ML3.6*
*NEIC **30** 19:10:04.0,32°.48N×115°.17W,h8km,ML3.4(PAS), ML3.6(ECX),After ECX.*

ISC 30 19:10:03.2±0.9,32°.46N±0°.03×115°.19W±0°.02,h15km±7km, n30,σ0°.54/40,4C-9D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.10**	**244**	*e*P	**Pb**	**19 10 07.2**	**+0.3**
CPBX				*e*S	**Sg**	**19 10 09.1**	**+0.5**
EMSC	**East Mesa**	**0.33**	**33**	*e*P	**Pg**	**19 10 10.2**	**-0.5**
SLX	**San Luis R°›o**	**0.41**	**91**	*i*P	**Pg**	**19 10 10.6**	**-0.9**
SLX				*e*S	**Sg**	**19 10 17.1**	**-0.1**
EMX	**El Mayor**	**0.48**	**185**	*e*P	**Pg**	**19 10 12.8**	**+0.2**
EMX				*e*S	**Sb**	**19 10 19.8**	**-0.3**
EMX				*i e*		19 10 32.1	
	comp=E,2μm,0.6s						
EMX	**El Mayor**	**0.48**	**185**	*e*P	**Pg**	**19 10 12.8**	**+0.2**
EMX				*e*S	**Sb**	**19 10 19.8**	**-0.3**
ERPC	**Ernies Place**	**0.48**	**305**	*i*P	**Pb**	**19 10 13.1**	**-0.3**
SGL	**Mount Signal**	**0.48**	**293**	*i*P	**Pg**	**19 10 12.6**	**-0.2**
SGL	**Mount Signal**	**0.48**	**293**	*i*P	**Pg**	**19 10 12.6**	**-0.2**
WESC	**Westside Schoo**	**0.54**	**303**	*i*P	**Pg**	**19 10 13.7**	**-0.1**
YMD	**Yuma Desert**	**0.56**	**80**	*e*P	**Pg**	**19 10 14.1**	**0.0**
YMD	**Yuma Desert**	**0.56**	**80**	*e*P	**Pg**	**19 10 14.1**	**0.0**
COK	**Cook Ranch**	**0.59**	**311**	*i*P	**Pg**	**19 10 14.7**	**-0.1**
YUH	**Yuha Desert**	**0.64**	**287**	*e*P	**Pg**	**19 10 15.3**	**-0.5**
YUH	**Yuha Desert**	**0.64**	**287**	*e*P	**Pg**	**19 10 15.3**	**-0.5**
GLA	**Glamis**	**0.66**	**28**	*e*Pn	Pg	19 10 11.4	-4.8
RMX	**La Rumorosa**	**0.76**	**281**	*e*P	**Pg**	**19 10 17.5**	**-0.5**
RMX				*e*S	**Sg**	**19 10 28.2**	**+0.1**
RMX				*i e*		19 10 28.6	
	comp=N,2μm,0.1s						
RMX	**La Rumorosa**	**0.76**	**281**	*e*P	**Pg**	**19 10 17.5**	**-0.5**
RMX				*e*S	**Sg**	**19 10 28.2**	**+0.1**
DVTC	**Desert V Tower**	**0.79**	**285**	*e*P	**Pg**	**19 10 17.9**	**-0.6**
DVTC				*e*S	**Sg**	**19 10 28.6**	**-0.4**
RDX	**Rancho Dawling**	**0.83**	**230**	*e*P	**Pb**	**19 10 19.1**	**-0.3**
RDX				*e*S	**Sg**	**19 10 30.6**	**+0.3**
RDX				*i e*		19 10 32.1	
	comp=N,2μm,0.6s						
RDX	**Rancho Dawling**	**0.83**	**230**	*e*P	**Pb**	**19 10 19.1**	**-0.3**
RDX				*e*S	**Sg**	**19 10 30.6**	**+0.3**
ECBX	**El Chinero**	**1.00**	**173**	*e*P	**Pb**	**19 10 22.0**	**-0.1**
ECBX				*e*S	**Sg**	**19 10 35.9**	**+0.4**
ECBX				*e*		19 10 45.2	
	comp=N,974nm,0.6s						
CBX	**Cerro Bola**	**1.25**	**263**	*e*P	**Pn**	**19 10 26.2**	**-0.1**
CBX				*e*S	**Sn**	**19 10 43.1**	**+0.2**
BAR	**Barrett**	**1.27**	**280**	*e*Pn	**Pn**	**19 10 25.3**	**-1.1**
ZAX	**El Zacaton**	**1.32**	**224**	*e*P	**Pn**	**19 10 26.8**	**-0.4**
SPX	**San Pedro Mart**	**1.43**	**189**	*e*P	**Pn**	**19 10 29.1**	**+0.2**
ECNX	**Esteban Cantu**	**1.44**	**236**	*e*P	**Pn**	**19 10 29.3**	**+0.5**
PBX	**Punta Banda**	**1.49**	**241**	*e*P	**Pn**	**19 10 29.8**	**+0.4**
PFO	**Pinyon Flat Ob**	**1.56**	**317**	*e*Pn	**Pn**	**19 10 29.8**	**-0.7**
LDFC	**Landfair**	**2.61**	**2**	*e*Pg	Pg	**19 10 54.9**	**+1.7**
MWC	**Mount Wilson**	**2.97**	**307**	Pg	**Pb**	**19 10 57.1**	**+1.2**

*NEIC **30** 19:21:21.0,32°.45N×115°.17W,h8km,ML3.1(PAS), ML3.3(ECX),After ECX.*

ECX 30 19:21:21.0±0.4,32°.45N×115°.18W,h8km,MD3.1,ML3.3, 11C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.11**	**254**	*e*P	Pg	19 21 23.6	0.0
CPBX				*e*S	Sg	19 21 25.4	+0.1
EMSC	**East Mesa**	**0.34**	**30**	*i*P	Pg	19 21 27.4	-0.2
EMSC				*e*S	Sg	19 21 32.1	0.0
SGL	**Mount Signal**	**0.50**	**294**	*i*P	Pg	19 21 29.8	-0.9
SGL				*e*S	Sg	19 21 36.9	-0.4
SGL	**Mount Signal**	**0.50**	**294**	*i*P	Pg	19 21 29.8	-0.9
SGL				*e*S	Sg	19 21 36.9	-0.4
ERPC	**Ernies Place**	**0.50**	**306**	*e*P	Pg	19 21 30.4	-0.3
YMD	**Yuma Desert**	**0.55**	**79**	*i*P	Pg	19 21 30.5	-1.2
YMD	**Yuma Desert**	**0.55**	**79**	*i*P	Pg	19 21 30.5	-1.2
YMD				*e*S	Sg	19 21 36.2	-2.6
RUN	**Ruthven**	**0.55**	**18**	*i*P	Pg	19 21 30.7	-1.0
WESC	**Westside Schoo**	**0.56**	**304**	*e*P	Pg	19 21 31.1	-0.7
YUH	**Yuha Desert**	**0.66**	**288**	*i*P	Pg	19 21 32.4	-1.3
YUH	**Yuha Desert**	**0.66**	**288**	*i*P	Pg	19 21 32.4	-1.3
GLA	**Glamis**	**0.67**	**26**	*i*P	Pg	19 21 32.5	-1.6
GLA				*e*S	Sg	19 21 42.1	-0.8
RMX	**La Rumorosa**	**0.77**	**282**	*e*P	Pg	19 21 34.5	-1.6
RMX				*e*S	Sg	19 21 45.4	-1.0
RMX				*i e*		19 21 46.3	
	comp=N,876nm,0.2s						
RMX	**La Rumorosa**	**0.77**	**282**	*e*P	Pg	19 21 34.5	-1.6
RMX				*e*S	Sg	19 21 45.4	-1.0
CRR	**Carrizo Plain**	**0.80**	**304**	*i*P	Pg	19 21 34.8	-1.5
DVTC	**Desert V Tower**	**0.80**	**285**	*e*P	Pg	19 21 34.9	-1.7
DVTC				*e*S	Sg	19 21 46.2	-1.0
RDX	**Rancho Dawling**	**0.83**	**231**	*e*P	Pg	19 21 35.4	-1.8
RDX				*e*S	Sg	19 21 46.7	-1.4
RDX				*i e*		19 21 48.8	
	comp=E,1μm,0.5s						
RDX				*e*		19 21 49.3	
	comp=N,474nm,0.7s						
RDX	**Rancho Dawling**	**0.83**	**231**	*e*P	Pg	19 21 35.4	-1.8
RDX				*e*S	Sg	19 21 46.7	-1.4
CBX	**Cerro Bola**	**1.26**	**264**	*e*P	Pn	19 21 42.9	-2.3
CBX				*e*S	Sb	19 22 00.1	-1.7
BAR	**Barrett**	**1.28**	**281**	*e*Pn	Pn	19 21 43.5	-1.7
ZAX	**El Zacaton**	**1.31**	**225**	*e*P	Pn	19 21 43.9	-1.9
SPX	**San Pedro Mart**	**1.42**	**190**	*e*P	Pn	19 21 46.1	-1.4
ECNX	**Esteban Cantu**	**1.44**	**237**	*e*P	Pn	19 21 45.3	-2.2
PBX	**Punta Banda**	**1.49**	**242**	*e*P	Pn	19 21 46.1	-2.0
PBX	**Punta Banda**	**1.49**	**242**	*e*P	Pn	19 21 46.1	-2.0
PFO	**Pinyon Flat Ob**	**1.58**	**318**	*e*Pn	Pn	19 21 49.1	-0.4
214A	**Organ Pipe Nat**	**2.07**	**103**	*e*Pn	Pn	19 21 57.0	+0.9
LDFC	**Landfair**	**2.62**	**1**	*e*Pg	Pg	19 22 11.8	+0.3
MWC	**Mount Wilson**	**2.99**	**307**	*e*Pg	Pg	19 22 17.7	-0.9
TUC	**Tucson**	**3.72**	**91**	*e*Pg	Pg	19 22 30.9	-1.6

*ISCJB **30** 19:31:42.6±0.3,50°.10N±0°.03×18°.37E±0°.02,h0km, Error ellipse: s-maj=3.9km s-min=2.1km az=2.9*
*CSEM **30** 19:31:43.6±0.2,50°.08N×18°.38E,h2km,ML3.3/9, Error ellipse: s-maj=6.3km s-min=3.0km az=9.0*
*IPEC **30** 19:31:43.7±0.2,50°.06N×18°.49E,h1km±2km,ML2.5/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
*PRU **30** 19:31:44.9,50°.06N×18°.35E,h0km*
*WAR **30** 19:31:44.1,50°.06N×18°.45E*
*VIE **30** 19:31:45.5±0.8,49°.77N×18°.43E,h0km,mb2.1/3,ML2.8/3, Error ellipse: s-maj=6.9km s-min=5.8km az=179.0 15 km ESE of Ostrava Suspected Mining induced.*
*IDC **30** 19:31:45.6±0.8,49°.98N×18°.23E,h0km,mb1 3.2/5, mb1mx3.0/26,mbtmp3.0/5,ML2.7/5, Error ellipse: s-maj=17.5km s-min=7.2km az=159.0*

ISC 30 19:31:44.1±0.7,50°.05N±0°.03×18°.43E±0°.02,h0km,n65, σ1s04/108,7C-10D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.16**	**283**	*i*Pg	**Pg**	**19 31 48.2**	**+1.1**
RAC				*e*Sg	**Sg**	**19 31 51.4**	**+2.2**
OKC	**Ostrava-Krasne**	**0.28**	**221**	*e*PG	**Pg**	**19 31 50.3**	**+0.8**
OKC				*e*SG	**Sg**	**19 31 54.5**	**+1.4**
	516nm,0.5s						
OKC	**Ostrava-Krasne**	**0.28**	**221**	Pg	**Pg**	**19 31 50.3**	**+0.8**
OKC				Sg	**Sg**	**19 31 54.5**	**+1.4**
	516nm,0.5s						
CHZP	**Chorzow**	**0.43**	**56**	*e*Pg	**Pg**	**19 31 52.3**	**-0.1**
CHZP				*e*		19 31 52.8	
CHZP				*e*Sg	**Sg**	**19 31 58.7**	**+0.6**
MORC	**Moravsky Berou**	**0.64**	**245**	*i*P	**Pg**	**19 31 56.5**	**+0.1**
MORC				S	**Sg**	**19 32 05.8**	**+1.2**
MORC	**Moravsky Berou**	**0.64**	**245**	*e*Pg	**Pg**	**19 31 56.4**	**+0.1**
	baz=65						
MORC				*e*Sg	**Sg**	**19 32 04.7**	**+0.1**
	86nm,0.3s,baz=65						
MORC				S	**Sg**	**19 32 05.8**	**+1.2**
OJC	**Ojcow**	**0.90**	**79**	*e*Pg	**Pg**	**19 32 00.6**	**-0.7**
OJC				*e*Sg	**Sg**	**19 32 13.1**	**+0.2**
OJC	**Ojcow**	**0.90**	**79**	*e*Pg	**Pg**	**19 32 00.6**	**-0.7**
OJC				*e*Sg	**Sg**	**19 32 13.1**	**+0.2**
KRLC	**Kraliky**	**1.06**	**272**	*e*PG	**Pg**	**19 32 03.5**	**-1.0**
KRLC				*e*SG	**Sg**	**19 32 17.3**	**-1.0**
KRLC	**Kraliky**	**1.06**	**272**	Pg	**Pg**	**19 32 03.5**	**-1.0**
KRLC				Sg	**Sg**	**19 32 17.3**	**-1.0**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pg**	**19 32 10.3**	**-0.2**
NIE				*e*Sg	**Sn**	**19 32 30.1**	**+0.6**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pg**	**19 32 10.3**	**-0.2**
NIE				*e*Sg	**Sn**	**19 32 30.1**	**+0.6**
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*PG	**Pg**	**19 32 10.0**	**-0.7**
DPC				*e*SG	**Sg**	**19 32 28.4**	**-0.3**
DPC	**Dobruska-Polom**	**1.39**	**283**	Pg	**Pg**	**19 32 10.0**	**-0.7**
DPC				Sg	**Sg**	**19 32 28.4**	**-0.3**
VRAC	**Vranov**	**1.41**	**239**	*i*P	**Pn**	**19 32 10.0**	**-1.0**
VRAC	**Vranov**	**1.41**	**239**	*i*P	**Pn**	**19 32 10.0**	**-1.0**
VRAC				*e*Sg	**Sg**	**19 32 28.9**	**-0.4**
	52nm,0.4s,baz=58						
VRAC				S	**Sb**	**19 32 29.7**	**0.0**
VRAC	**Vranov**	**1.41**	**239**	Pn	**Pn**	**19 32 09.9**	**-1.0**
	11nm,0.3s,baz=57,slow=13,SNR=50						
VRAC				Sn	**Sg**	**19 32 29.2**	**-0.1**
	16nm,0.3s,baz=136,slow=22,SNR=16						
KSP	**Ksiaz**	**1.58**	**301**	*e*Pn	**Pn**	**19 32 12.3**	**-1.2**
KSP				*e*Pg	**Sg**	**19 32 15.7**	**+1.3**
KSP				*e*Sn	**Sn**	**19 32 34.4**	**-0.2**
KSP				*e*Sg	**Sg**	**19 32 38.4**	**+3.5**
KSP	**Ksiaz**	**1.58**	**301**	*e*Pn	**Pn**	**19 32 12.2**	**-1.2**
KSP	**Ksiaz**	**1.58**	**301**	*e*Pg	**Pg**	**19 32 15.5**	**+1.1**
KSP				*e*Sg	**Sn**	**19 32 34.2**	**-0.4**
UPC	**Upice**	**1.62**	**287**	*e*PG	**Pn**	**19 32 13.6**	**-0.3**
UPC				*e*SG	**Sn**	**19 32 35.5**	**0.0**
UPC	**Upice**	**1.62**	**287**	Pg	**Pn**	**19 32 13.6**	**-0.3**
UPC				Sg	**Sn**	**19 32 35.5**	**0.0**
KRUC	**Moravsky**	**1.65**	**234**	*e*Pn	**Pn**	**19 32 14.0**	**-0.4**
	baz=53						
KRUC				*e*Sg	**Sn**	**19 32 36.6**	**+0.2**
	47nm,0.4s,baz=53						
STHS	**Stebnicka Huta**	**1.93**	**108**	*e*PG	**Pg**	**19 32 21.2**	**+0.1**
STHS	**Stebnicka Huta**	**1.93**	**108**	*e*Pg	**Pg**	**19 32 21.2**	**+0.1**
TREC	**Trest**	**2.06**	**250**	*e*PG	**Pn**	**19 32 21.2**	**+1.2**
TREC				*e*SG	**Sb**	**19 32 48.2**	**-0.3**
	36nm,0.5s						
TREC	**Trest**	**2.06**	**250**	Pg	**Pn**	**19 32 21.2**	**+1.2**
TREC				Sg	**Sb**	**19 32 48.2**	**-0.3**
	36nm,0.5s						
CRVS	**Cervenica-Dubn**	**2.29**	**119**	*e*PN	**Pb**	**19 32 25.0**	**-1.2**
CRVS				*e*SN	**Sg**	**19 32 57.6**	**+0.1**
CRVS	**Cervenica-Dubn**	**2.29**	**119**	*e*Pn	**Pb**	**19 32 25.0**	**-1.2**
PSZ	**Piszkesteto**	**2.34**	**155**	*i*P	**Pn**	**19 32 23.5**	**-0.5**
PSZ	**Piszkesteto**	**2.34**	**155**	S	**Sg**	**19 32 59.5**	**+0.2**
PSZ	**Piszkesteto**	**2.34**	**155**	*i*P	**Pn**	**19 32 23.5**	**-0.5**
PSZ	**Piszkesteto**	**2.34**	**155**	*i e*	**Pn**	**19 32 23.4**	**-0.5**
PSZ				*e*		19 32 57.6	
PRU	**Pruhonice**	**2.51**	**270**	*e*PN	**Pn**	**19 32 24.4**	**-1.8**
PRU				*e*PG	**Pb**	**19 32 29.1**	**-1.0**
PRU				*e*SG	**Sb**	**19 33 01.9**	**+0.4**
	18nm,0.4s						
PRU	**Pruhonice**	**2.51**	**270**	Pn	**Pn**	**19 32 24.4**	**-1.8**
PRU	**Pruhonice**	**2.51**	**270**	Pg	**Pb**	**19 32 29.1**	**-1.0**
PRU				Sg	**Sb**	**19 33 01.9**	**+0.4**
	18nm,0.4s						
PVCC	**Panska Ves**	**2.52**	**282**	*e*PN	**Pn**	**19 32 25.6**	**-0.8**
PVCC				*e*PG	**Pb**	**19 32 30.8**	**+0.5**
PVCC				*e*SG	**Sg**	**19 33 04.0**	**-1.2**
	48nm,0.3s						
PVCC	**Panska Ves**	**2.52**	**282**	Pn	**Pn**	**19 32 25.6**	**-0.8**
PVCC	**Panska Ves**	**2.52**	**282**	Pg	**Pb**	**19 32 30.8**	**+0.5**
PVCC				Sg	**Sg**	**19 33 04.0**	**-1.2**
	48nm,0.3s						
PKSG		**2.66**	**181**	*i e*	**Pn**	**19 32 28.2**	**0.0**
PKSG				*e*		19 33 00.2	
CONA	**Conrad Observa**	**2.71**	**220**	*i*Pn	**Pn**	**19 32 27.9**	**-1.2**
CONA	**Conrad Observa**	**2.71**	**220**	Pn	**Pn**	**19 32 27.9**	**-1.2**
KOLS	**Kolonicke sedl**	**2.74**	**113**	*e*PG	**Pg**	**19 32 36.7**	**0.0**
KOLS	**Kolonicke sedl**	**2.74**	**113**	*e*Pg	**Pg**	**19 32 36.7**	**0.0**
KWP	**Kalwaria Pacla**	**2.80**	**97**	*i*P	**Pb**	**19 32 35.5**	**+0.5**
BRG	**Berggiesshubel**	**2.98**	**288**	PG	**Pb**	**19 32 38.8**	**+0.7**
BRG				SG	**Sg**	**19 33 17.9**	**-2.1**
	23nm,0.7s						
KHC	**Kasperske Hory**	**3.29**	**256**	*e*PN	**Pn**	**19 32 35.7**	**-1.2**
KHC				*e*PG	**Pb**	**19 32 44.2**	**+0.8**
KHC				*e*SG	**Sg**	**19 33 27.6**	**-2.1**
	17nm,0.3s						
KHC	**Kasperske Hory**	**3.29**	**256**	Pn	**Pn**	**19 32 35.7**	**-1.2**
KHC	**Kasperske Hory**	**3.29**	**256**	Pg	**Pb**	**19 32 44.2**	**+0.8**
KHC				Sg	**Sg**	**19 33 27.6**	**-2.1**
	17nm,0.3s						
GERES	**GERESS Array B**	**3.31**	**250**	Pn	**Pn**	**19 32 36.0**	**-1.3**
	0.3nm,0.3s,baz=64,slow=15,SNR=10						
GERES				Pg	**Pb**	**19 32 43.3**	**-0.5**
	1.7nm,0.3s,baz=68,slow=17,SNR=24						
GERES				Lg	Lg	19 33 28.1	
	3.9nm,0.3s,baz=65,slow=24,SNR=6.7						
CLL	**Collm**	**3.68**	**292**	*e*Pn	**Pn**	**19 32 43.0**	**+0.8**
CLL				*e*Pg	**Pg**	**19 32 54.0**	**-0.5**
CLL				*e*Sg	**Sg**	**19 33 41.0**	**-1.2**
	comp=Z,15nm,0.5s						
PKSM	**Moragy**	**3.84**	**178**	*i*P	**Pn**	**19 32 43.9**	**-0.6**
PKSM	**Moragy**	**3.84**	**178**	*i*P	**Pn**	**19 32 43.9**	**-0.6**
PKSM	**Moragy**	**3.84**	**178**	*i e*	**Pn**	**19 32 43.6**	**-0.9**
PKSM				*e*		19 33 26.2	
NKC	**Novy Kostel**	**3.85**	**275**	*e*PN	**Pn**	**19 32 44.0**	**-0.7**
NKC				*e*PG	**Pb**	**19 32 54.6**	**+1.6**
NKC				*e*SG	**Sg**	**19 33 45.4**	**-2.5**
	comp=Z,12nm,0.5s						
NKC	**Novy Kostel**	**3.85**	**275**	Pn	**Pn**	**19 32 44.0**	**-0.7**
NKC	**Novy Kostel**	**3.85**	**275**	Pg	**Pb**	**19 32 54.6**	**+1.6**
NKC				Sg	**Sg**	**19 33 45.4**	**-2.5**
	comp=Z,12nm,0.5s						
BZS	**Buzias**	**4.93**	**153**	*i*P	**Pn**	**19 32 59.4**	**0.0**
BZS	**Buzias**	**4.93**	**153**	*i*P	**Pn**	**19 32 59.4**	**0.0**
BURAR	**Bucovina Array**	**5.10**	**116**	*i*P	**Pn**	**19 33 02.1**	**+0.2**
BURAR	**Bucovina Array**	**5.10**	**116**	*i*P	**Pn**	**19 33 02.1**	**+0.2**
DAVOX	**Davos/Dischmat**	**6.56**	**243**	Pn	**Pn**	**19 33 23.3**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=54,slow=8.7,SNR=8.6						
DAVOX				Lg	Lg	19 35 11.0	
	comp=Z,0.2nm,0.3s,baz=176,slow=22,SNR=2.6						
MLR	**Muntele Rosu**	**6.81**	**129**	Pn	**Pn**	**19 33 26.3**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=220,slow=20,SNR=3.1						
AKASG	**Malin Array Be**	**6.94**	**80**	Pn	**Pn**	**19 33 28.3**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=273,slow=12,SNR=3.9						
AKASG				Pg	Pb	19 33 49.3	+3.9
	comp=Z,0.6nm,0.3s,baz=273,slow=14,SNR=5.1						
AKASG				Lg	Lg	19 35 30.6	
	comp=Z,0.4nm,0.3s,baz=266,slow=28,SNR=4.1						
FINES	**FINESS Array B**	**12.19**	**18**	Pn	Pn	19 34 35.0	-3.9
	comp=Z,0.2nm,0.3s,baz=200,slow=10,SNR=8.6						

*NEIC **30** 19:35:30.2,32°.50N×115°.22W,h8km,ML2.9(PAS), ML3.0(ECX),After ECX.*

ECX 30 19:35:30.2±0.5,32°.50N×115°.22W,h8km,MD2.9,ML3.0, 5C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.32**	**40**	*i*P	Pg	19 35 35.9	-0.5
SGL	**Mount Signal**	**0.45**	**290**	*i*P	Pg	19 35 38.4	-0.6
SGL	**Mount Signal**	**0.45**	**290**	*i*P	Pg	19 35 38.4	-0.6
WESC	**Westside Schoo**	**0.50**	**302**	*e*P	Pg	19 35 39.5	-0.4
BTCC	**Brunts Corner**	**0.52**	**0**	*i*P	Pg	19 35 39.4	-0.8
COK	**Cook Ranch**	**0.55**	**310**	*e*P	Pg	19 35 40.2	-0.7
YMD	**Yuma Desert**	**0.58**	**84**	*i*P	Pg	19 35 40.0	-1.4
YMD	**Yuma Desert**	**0.58**	**84**	*i*P	Pg	19 35 40.0	-1.4
YMD				*e*S	Sg	19 35 47.2	-1.6
YUH	**Yuha Desert**	**0.61**	**285**	*i*P	Pg	19 35 41.0	-1.0
YUH	**Yuha Desert**	**0.61**	**285**	*i*P	Pg	19 35 41.0	-1.0
GLA	**Glamis**	**0.65**	**31**	*e*Pn	Pg	19 35 40.6	-2.2
GLA				*e*Sn	Sg	19 35 49.7	-1.7
DVTC	**Desert V Tower**	**0.76**	**283**	*e*P	Pg	19 35 43.7	-1.3
DVTC				*e*S	Sg	19 35 54.2	-0.7
RDX	**Rancho Dawling**	**0.83**	**227**	*e*P	Pg	19 35 45.0	-1.5
RDX				*i e*		19 36 08.1	
	comp=E,363nm,0.4s						
RDX	**Rancho Dawling**	**0.83**	**227**	*e*P	Pg	19 35 45.0	-1.5
CBX	**Cerro Bola**	**1.23**	**262**	*e*P	Pn	19 35 51.3	-2.7
CBX				*e*S	Sb	19 36 07.9	-2.2
BAR	**Barrett**	**1.24**	**279**	*e*Pg	Pn	19 35 51.0	-2.9
ECNX	**Esteban Cantu**	**1.44**	**235**	*e*S	Sn	19 36 14.0	-1.8
SPX	**San Pedro Mart**	**1.46**	**188**	*e*P	Pn	19 35 55.6	-1.8
SPX				*e*S	Sn	19 36 15.5	-1.5
SPX	**San Pedro Mart**	**1.46**	**188**	*e*P	Pn	19 35 55.6	-1.8
SPX				*e*S	Sn	19 36 15.5	-1.5
PFO	**Pinyon Flat Ob**	**1.52**	**317**	*e*Pn	Pn	19 35 54.1	-3.7
MWC	**Mount Wilson**	**2.93**	**307**	*e*Pg	Pg	19 36 25.2	-1.4
GSC	**Goldstone**	**3.09**	**335**	*e*Pg	Pg	19 36 29.4	-0.3
ISA	**Isabella**	**4.15**	**320**	*e*Pg	Pg	19 36 48.2	-1.7

MAN 30 19:53:12,15°.44N×119°.91E,h22km,mb4.6,ML3.5,MS3.4, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.33**	**0**	*e*P	Pn	19 53 21.4	-0.2
SCZP				*e*S	Sn	19 53 28.8	+1.1
BOLP	**Bolinao**	**0.94**	**0**	*e*P	Pb	19 53 29.2	-0.4
BOLP				*e*S	Sb	19 53 42.0	+0.5
PCPH	**Palayan**	**1.15**	**84**	*i*P	Pn	19 53 32.2	-0.5
PCPH				*i* S	Sb	19 53 46.0	-1.6
BALP	**Baler**	**1.63**	**79**	*e*P	Pn	19 53 39.7	+0.3
BALP				*e*S	Sb	19 54 00.8	-0.8
LUBP	**Lubang**	**1.73**	**169**	*e*P	Pn	19 53 41.3	+0.6
ABRA	**Dolores**	**2.33**	**19**	*e*P	Pn	19 53 49.8	+0.8
ABRA				*e*S	Sn	19 54 19.0	+2.1
CAUP	**Cauayan**	**2.37**	**51**	*e*P	Pn	19 53 50.6	+1.1
APYP	**Conner**	**2.73**	**28**	*e*P	Pn	19 53 56.3	+1.8
APYP				*e*S	Sn	19 54 29.3	+2.5

*NEIC **30** 19:59:02.7,32°.49N×115°.20W,h7km,ML3.3(PAS), ML3.6(ECX),After ECX.*

ECX 30 19:59:02.7±0.6,32°.49N×115°.21W,h7km,MD3.4,ML3.6, 13C-9D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.11**	**228**	*e*P	Pg	19 59 05.5	+0.4
CPBX				*e*S	Sg	19 59 07.4	+0.5
EMSC	**East Mesa**	**0.31**	**37**	*i*P	Pg	19 59 08.6	-0.2
ERPC	**Ernies Place**	**0.46**	**303**	*i*P	Pg	19 59 10.4	-1.2
SGL	**Mount Signal**	**0.47**	**290**	*i*P	Pg	19 59 11.0	-0.7
SGL	**Mount Signal**	**0.47**	**290**	*i*P	Pg	19 59 11.0	-0.7
EMX	**El Mayor**	**0.50**	**183**	*e*P	Pg	19 59 11.3	-1.1
EMX				*e*S	Sg	19 59 18.7	-0.3
EMX				*i e*		19 59 22.0	
	comp=E,2μm,0.5s						
EMX	**El Mayor**	**0.50**	**183**	*e*P	Pg	19 59 11.3	-1.1
EMX				*e*S	Sg	19 59 18.7	-0.3
WESC	**Westside Schoo**	**0.52**	**301**	*i*P	Pg	19 59 12.2	-0.5
BTCC	**Brunts Corner**	**0.52**	**359**	*i*P	Pg	19 59 12.1	-0.7
YMD	**Yuma Desert**	**0.56**	**83**	*i*P	Pg	19 59 12.6	-0.9
YMD	**Yuma Desert**	**0.56**	**83**	*i*P	Pg	19 59 12.6	-0.9
COK	**Cook Ranch**	**0.57**	**309**	*i*P	Pg	19 59 13.2	-0.4
YUH	**Yuha Desert**	**0.62**	**285**	*i*P	Pg	19 59 13.6	-1.2
YUH	**Yuha Desert**	**0.62**	**285**	*i*P	Pg	19 59 13.6	-1.2
GLA	**Glamis**	**0.65**	**30**	*e*Pg	Pg	19 59 13.7	-1.5
GLA				*e*Sg	Sg	19 59 22.1	-1.6
RMX	**La Rumorosa**	**0.74**	**279**	*e*P	Pg	19 59 15.8	-1.5
RMX				*e*S	Sg	19 59 26.2	-0.9
RMX				*i e*		19 59 27.7	
	comp=E,2μm,0.4s						
RMX	**La Rumorosa**	**0.74**	**279**	*e*P	Pg	19 59 15.8	-1.5
RMX				*e*S	Sg	19 59 26.2	-0.9
RDX	**Rancho Dawling**	**0.84**	**228**	*e*P	Pg	19 59 17.4	-1.7
RDX				*e*S	Sg	19 59 28.6	-1.6
RDX				*i e

WUAZ	**Wupatki**	**4.38**	**46**	*e*Pn	Pn	20 08 01.4	-0.6
W18A	**Petrified Fore**	**5.25**	**59**	*e*Pn	Pn	20 08 12.3	-1.7
	comp=N,9,3nm,0.6s						
CCUT	**Cedar City**	**5.26**	**16**	*e*Pn	Pn	20 08 13.8	-0.3
	comp=N,18nm,0.9s						
ARUT	**Antelope Range**	**5.47**	**15**	*e*Pn	Pn	20 08 19.2	+2.3
	comp=N,307nm,0.5s						
R11A	**Troy Canyon, C**	**5.84**	**357**	*e*Pn	Pn	20 08 16.5	-5.6
	comp=N,14nm,0.6s						
121A	**Cookes Peak, D**	**6.27**	**88**	*e*Pn	Pn	20 08 25.3	-2.7
	comp=N,13nm,0.6s						
MVU	**Marysvale**	**6.46**	**21**	Pn	Pn	20 08 29.8	-0.9
	comp=N,6.8nm,0.5s						

IDC 30 20:08:38.8±7.3, 3°72'S×125°95'E, h170km±70km, mb3.0/3, mb1 3.1/5, mb1mx2.9/22, mbtmp2.9/5, Error ellipse: s-maj=102.7km s-min=27.4km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.30**	**181**	P	P	20 11 55.3	-0.5
	0.3nm,0.3s,baz=12,slow=12,SNR=16						
WRA	**Warramunga Arr**	**18.08**	**154**	P	P	20 12 38.2	+0.5
	0.1nm,0.3s,baz=328,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**21.27**	**160**	P	P	20 13 10.5	-1.4
	0.1nm,0.3s,baz=337,slow=9.3,SNR=8.3						
MKAR	**Makanchi Array**	**63.31**	**328**	P	P	20 18 49.4	-0.1
	0.2nm,0.5s,baz=131,slow=8.2,SNR=6.6						
VNDA	**Vanda**	**76.19**	**172**	P	P	20 20 08.3	+0.6
	2.3nm,1.1s,baz=333,slow=4.9,SNR=3.8						

*IDC **30** 20:10:28.9±1.4, 10°.22S×120°.69E, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML3.4/3, MS4.3/2, Ms1 4.3/2, ms1mx3.6/39, Error ellipse: s-maj=108.2km s-min=21.0km az=54.0*

*ISCJB **30** 20:10:30.7±0.8, 10°.62S±0°.08×120°.3E±0°.1, h31km, mb4.0/5, MS4.4/2, Error ellipse: s-maj=20.0km s-min=6.7km az=151.6*

*DJA **30** 20:10:39.7±1.4, 10°S±14°×12°.1E±°, h10km, M3.9/3, mb4.1/1, MLv3.8/3*

ISC 30 20:10:32.4±0.8, 10°.6S±0°.1×120°.5E±0°.1, h31km, n16, σ2s26/16, mb4.1/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.94**	**348**	P	**Pn**	**20 10 47.8**	**-1.7**
LBFI	**Labuhan Bajo,**	**2.18**	**344**	P	**Pn**	**20 11 06.4**	**-0.3**
MMRI	**Maumere**	**2.59**	**42**	P	**Pn**	**20 11 13.1**	**+0.8**
SOEI	**Soe**	**3.80**	**78**	P	Pb	20 11 35.8	-3.2
BKSI	**Bulukumba**	**5.25**	**356**	P	**Pn**	**20 11 49.5**	**+0.6**
BNSI	**Bone**	**6.17**	**356**	P	**Pn**	**20 12 02.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**8.97**	**147**	Pn	**Pn**	**20 12 42.4**	**+2.5**
	0.5nm,0.3s,baz=6.8,slow=8.0,SNR=21						
FITZ				Sn	**Sn**	**20 14 17.7**	**-2.3**
	0.9nm,0.3s,baz=183,slow=16,SNR=6.7						
WRA	**Warramunga Arr**	**16.26**	**126**	Pn	**Pn**	**20 14 19.7**	**+1.0**
	0.1nm,0.3s,baz=301,slow=14,SNR=6.4						
WRA				Sn	**Sn**	**20 17 12.6**	**-5.6**
	0.1nm,0.3s,baz=292,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**18.23**	**137**	P	**P**	**20 14 46.1**	**+2.8**
	0.2nm,0.3s,baz=307,slow=12,SNR=21						
ASAR				S	**Sn**	**20 18 04.3**	**-1.8**
	0.1nm,0.3s,baz=315,slow=24,SNR=4.4						
CMAR	**Chiang Mai Arr**	**35.86**	**323**	P	**P**	**20 17 30.9**	**+1.2**
	0.5nm,0.5s,baz=156,slow=6.9,SNR=5.2						
ASAJ	**Asahikawa**	**58.03**	**19**	LR	LR	20 42 26.3	
	comp=Z,241nm,20.0s,baz=282,slow=33						
SONM	**Songino Array**	**59.50**	**349**	P	**P**	**20 20 32.3**	**-0.4**
	1.3nm,0.6s,baz=165,slow=8.2,SNR=15						
MKAR	**Makanchi Array**	**66.54**	**332**	P	**P**	**20 21 18.7**	**-0.8**
	1.1nm,0.7s,baz=150,slow=7.4,SNR=12						
AAK	**Ala-Archa**	**67.62**	**325**	P	**P**	**20 21 26.2**	**-0.4**
	1.0nm,0.6s,baz=169,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**71.05**	**339**	P	**P**	**20 21 45.8**	**-1.5**
	1.0nm,0.6s,baz=122,slow=5.4,SNR=5.1						
AKTO	**Aktyubinsk**	**81.37**	**325**	LR	LR	21 03 00.0	
	comp=Z,204nm,19.4s,baz=11,slow=39						

*NEIC **30** 20:24:51.2, 32°.55N×115°.25W, h9km, ML3.9(PAS), ML4.0(ECX), After ECX.*

NEIC Felt [V] at Imperial and [IV] at El Centro, California. Also felt at Blythe, Calexico, Chula Vista, Earp, Imperial Beach, La Jolla, La Quinta, Palm Springs, Poway and San Diego. Felt [V] at Somerton and [IV] at Yuma, Arizona. Also felt at Goodyear and Wellton.

ECX 30 20:24:51.2±0.8, 32°.55N×115°.25W, h9km, MD3.9, ML4.0, 12C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**199**	⇓*e*P	Pg	20 24 54.3	0.0
CPBX				*e*S	Sg	20 24 56.9	+0.4
EMSC	**East Mesa**	**0.29**	**50**	⇓*i*P	Pg	20 24 56.6	-0.4
ERPC	**Ernies Place**	**0.40**	**299**	⇑*i*P	Pg	20 24 58.0	0.0
SGL	**Mount Signal**	**0.41**	**284**	⇑*i*P	Pg	20 24 58.7	-0.6
SGL	**Mount Signal**	**0.41**	**284**	⇑*i*P	Pg	20 24 58.7	-0.6
WESC	**Westside Schoo**	**0.46**	**297**	⇑*i*P	Pg	20 24 59.7	-0.4
SLX	**San Luis R˜o**	**0.47**	**102**	⇑*e*P	Pg	20 24 59.5	-0.8
SLX				*e*S	Sg	20 25 06.7	+0.1
RUN	**Ruthven**	**0.48**	**29**	⇓*i*P	Pg	20 24 59.4	-1.2
COK	**Cook Ranch**	**0.50**	**307**	⇑*i*P	Pg	20 25 00.5	-0.4
YUH	**Yuha Desert**	**0.57**	**280**	⇑*i*P	Pg	20 25 01.2	-1.2
YUH	**Yuha Desert**	**0.57**	**280**	⇑*i*P	Pg	20 25 01.2	-1.2
YMD	**Yuma Desert**	**0.60**	**90**	⇑*i*P	Pg	20 25 01.3	-1.5
YMD	**Yuma Desert**	**0.60**	**90**	⇑*i*P	Pg	20 25 01.3	-1.5
GLA	**Glamis**	**0.61**	**35**	*e*Pg	Pg	20 25 01.2	-2.0
GLA				*e*Sg	Sg	20 25 08.8	-2.5
RMX	**La Rumorosa**	**0.70**	**274**	⇑*e*P	Pg	20 25 03.6	-1.4
RMX				*e*S	Sg	20 25 13.3	-1.0
RMX				⇑*e*		20 25 14.7	
	comp=E,9μm,0.5s						
RMX	**La Rumorosa**	**0.70**	**274**	*e*P	Pg	20 25 03.6	-1.4
RMX				*e*S	Sg	20 25 13.3	-1.0
RDX	**Rancho Dawling**	**0.85**	**223**	⇓*e*P	Pg	20 25 06.0	-1.9
RDX				*e*S	Sg	20 25 17.9	-1.4
RDX				⇓*e*		20 25 18.7	
	comp=N,6μm,0.6s						
RDX	**Rancho Dawling**	**0.85**	**223**	*e*P	Pg	20 25 06.0	-1.9
RDX				*e*S	Sg	20 25 17.9	-1.4
BAR	**Barrett**	**1.21**	**276**	*e*Pn	Pb	20 25 10.9	-3.4
CBX	**Cerro Bola**	**1.22**	**259**	*e*P	Pn	20 25 12.2	-2.5
CBX				*e*S	Sb	20 25 28.8	-1.8
ZAX	**El Zacaton**	**1.35**	**220**	⇓*e*P	Pn	20 25 13.9	-2.5
ZAX				*e*S	Sb	20 25 33.4	-0.9
ECNX	**Esteban Cantu**	**1.45**	**232**	⇓*e*P	Pn	20 25 15.7	-2.1
ECNX				*e*S	Sn	20 25 36.1	-0.9
PFO	**Pinyon Flat Ob**	**1.46**	**317**	*e*Pn	Pn	20 25 13.6	-4.4
PFO				*e*Pg	Pb	20 25 18.4	-0.4
PBX	**Punta Banda**	**1.49**	**238**	⇓*e*P	Pn	20 25 16.2	-2.0
PBX				*e*S	Sn	20 25 37.2	-0.6
PBX	**Punta Banda**	**1.49**	**238**	⇓*e*P	Pn	20 25 16.2	-2.0
PBX				*e*S	Sn	20 25 37.2	-0.6
SPX	**San Pedro Mart**	**1.51**	**187**	*e*P	Pn	20 25 15.8	-3.1
SPX				⇓*e*		20 25 40.0	
	comp=N,696nm,0.6s						
SPX	**San Pedro Mart**	**1.51**	**187**	*e*P	Pn	20 25 15.8	-3.1
214A	**Organ Pipe Nat**	**2.15**	**105**	*e*Pn	Pn	20 25 22.8	-4.5
LDFC	**Landfair**	**2.52**	**3**	*e*Pn	Pn	20 25 33.9	+1.4
LDFC				*e*Sg	Sg	20 26 10.4	-2.2
MWC	**Mount Wilson**	**2.88**	**306**	*e*Pn	Pn	20 25 40.2	+2.6
MWC				*e*Sg	Sb	20 26 20.2	+1.7
PASC	**Pasadena Art C**	**2.94**	**304**	*e*Pn	Pn	20 25 37.1	-1.0
PASC				*e*Sg	Sb	20 26 22.0	+2.1
GSC	**Goldstone**	**3.03**	**335**	*e*Pn	Pn	20 25 40.3	+0.8
GSC				*e*Sg	Sg	20 26 31.6	+2.7
TUC	**Tucson**	**3.78**	**92**	*e*Pn	Pn	20 25 45.4	-4.5
TUC				*e*Sg	Sb	20 26 46.7	+2.4
SHPR	**Sheep Range**	**3.94**	**1**	*e*Pn	Pn	20 25 51.2	-1.0
SHPR				*e*Sn	Sb	20 26 53.1	+3.9
WUAZ	**Wupatki**	**4.37**	**46**	*e*Pn	Pn	20 25 56.4	-1.6
ARUT	**Antelope Range**	**5.43**	**15**	*e*Pn	Pn	20 26 08.3	-4.3
TPH	**Tonopah**	**5.74**	**344**	Pn	Pn	20 26 14.7	-2.2
	comp=N,2.5nm,0.6s						
TPH				*e*Pg	Pg	20 26 42.2	+0.7
R11A	**Troy Canyon, C**	**5.79**	**357**	*e*Pn	Pn	20 26 17.5	0.0
	comp=N,26nm,0.5s						
R11A				*e*Pg	Pg	20 26 38.6	-3.7
121A	**Cookes Peak, D**	**6.30**	**88**	*e*Pn	Pn	20 26 22.2	-2.4
	comp=N,38nm,0.4s						
NV11	**Mina Array Sit**	**6.33**	**339**	Pn	Pn	20 26 27.4	+2.6
MVU	**Marysvale**	**6.43**	**22**	*e*Pn	Pn	20 26 25.5	-1.0
	comp=N,22nm,0.4s						
LENM	**Lemitar**	**7.11**	**75**	*e*Pn	Pn	20 26 33.6	-2.1
	comp=N,11nm,0.5s						
MVCO	**Mesa Verde**	**7.24**	**48**	*e*Pn	Pn	20 26 37.3	-0.2
	comp=N,24nm,0.5s						
BNM	**Barren Site**	**7.39**	**75**	*e*Pn	Pn	20 26 37.6	-2.0
	comp=N,6.1nm,0.5s						
LPM	**Los Pinos Moun**	**7.42**	**74**	*e*Pn	Pn	20 26 37.4	-2.5
	comp=N,7.6nm,0.6s						
TMUT	**Trail Mountain**	**7.49**	**25**	*e*Pg	Pg	20 27 14.1	-0.9
	comp=N,17nm,0.7s						
SRU	**San Rafael**	**7.59**	**29**	*e*Pn	Pn	20 26 43.7	+1.5
	comp=N,21nm,0.7s						
PV04	**Paradox Valley**	**7.79**	**40**	*e*Pn	Pn	20 26 45.4	+0.3
PV01	**Paradox Valley**	**7.80**	**43**	Pn	Pn	20 26 45.2	+0.1
	comp=N,976nm,0.5s						
MNTX	**Cornudas Mount**	**8.41**	**93**	*e*Pn	Pn	20 26 50.7	-2.6
	comp=N,3.7nm,0.4s						

*NEIC **30** 20:30:17.7, 32°.50N×115°.21W, h8km, ML3.6(PAS), ML3.8(ECX), After ECX.*

NEIC Felt at Yuma, Arizona and at Blythe, Calexico and Calipatria, California.

ECX 30 20:30:17.7±0.6, 32°.50N×115°.21W, h8km, MD3.6, ML3.8, 20C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.11**	**224**	*e*P	Pg	20 30 20.4	+0.1
CPBX				*e*S	Sg	20 30 22.3	+0.2
EMSC	**East Mesa**	**0.30**	**39**	⇑*i*P	Pg	20 30 23.6	-0.2
SLX	**San Luis R˜o**	**0.43**	**96**	⇑*e*P	Pg	20 30 25.1	-1.0
SLX				*e*S	Sg	20 30 31.7	0.0
ERPC	**Ernies Place**	**0.45**	**303**	⇑*i*P	Pg	20 30 25.5	-1.0
SGL	**Mount Signal**	**0.46**	**289**	⇑*i*P	Pg	20 30 26.0	-0.7
SGL	**Mount Signal**	**0.46**	**289**	⇑*i*P	Pg	20 30 26.0	-0.7
EMX	**El Mayor**	**0.51**	**183**	⇓*e*P	Pg	20 30 26.1	-1.5
EMX				*e*S	Sg	20 30 33.5	-0.8
EMX				⇑*e*		20 30 36.0	
	comp=N,4μm,0.5s						
EMX	**El Mayor**	**0.51**	**183**	⇓*e*P	Pg	20 30 26.2	-1.4
EMX				*e*S	Sg	20 30 33.5	-0.8
RUN	**Ruthven**	**0.51**	**23**	⇑*i*P	Pg	20 30 26.7	-0.9
COK	**Cook Ranch**	**0.56**	**309**	⇑*i*P	Pg	20 30 27.9	-0.6
COK	**Cook Ranch**	**0.56**	**309**	⇑*i*P	Pg	20 30 27.9	-0.6
YMD	**Yuma Desert**	**0.56**	**84**	⇑*i*P	Pg	20 30 27.5	-1.1
YMD	**Yuma Desert**	**0.56**	**84**	⇑*i*P	Pg	20 30 27.5	-1.1
YUH	**Yuha Desert**	**0.62**	**284**	⇑*i*P	Pg	20 30 28.5	-1.2
YUH	**Yuha Desert**	**0.62**	**284**	⇑*i*P	Pg	20 30 28.5	-1.2
GLA	**Glamis**	**0.64**	**30**	*e*Pg	Pg	20 30 28.5	-1.6
GLA				*e*Sg	Sg	20 30 37.3	-1.2
RMX	**La Rumorosa**	**0.74**	**278**	⇑*e*P	Pg	20 30 30.7	-1.5
RMX				*e*S	Sg	20 30 41.1	-0.8
RMX	**La Rumorosa**	**0.74**	**278**	⇑*e*P	Pg	20 30 30.7	-1.5
RDX	**Rancho Dawling**	**0.84**	**228**	⇓*e*P	Pg	20 30 32.4	-1.8
RDX				*e*S	Sg	20 30 44.1	-1.3
RDX	**Rancho Dawling**	**0.84**	**228**	⇓*e*P	Pg	20 30 32.4	-1.8
RDX				*e*S	Sg	20 30 44.1	-1.3
ECBX	**El Chinero**	**1.03**	**172**	⇓*e*P	Pg	20 30 33.8	-3.7
ECBX				*e*S	Sg	20 30 47.9	-3.0
ECBX				⇑*e*		20 30 58.5	
	comp=E,2μm,0.6s						
ECBX				⇓*e*		20 31 02.0	
	comp=N,2μm,1.0s						
CBX	**Cerro Bola**	**1.24**	**262**	*e*P	Pn	20 30 38.8	-2.8
CBX				*e*S	Sb	20 30 56.1	-1.8
BAR	**Barrett**	**1.25**	**279**	*e*Pg	Pn	20 30 37.9	-3.6
BAR				*e*Sn	Sb	20 30 55.5	-2.3
ZAX	**El Zacaton**	**1.33**	**223**	*e*P	Pn	20 30 40.1	-2.7
ECNX	**Esteban Cantu**	**1.45**	**235**	⇓*e*P	Pn	20 30 42.3	-2.0
ECNX				*e*S	Sn	20 31 02.0	-1.6
SPX	**San Pedro Mart**	**1.47**	**189**	*e*P	Pn	20 30 41.7	-3.3
PBX	**Punta Banda**	**1.49**	**240**	⇓*e*P	Pn	20 30 43.3	-1.6
PBX	**Punta Banda**	**1.49**	**240**	⇓*e*P	Pn	20 30 43.3	-1.6
PFO	**Pinyon Flat Ob**	**1.52**	**317**	*e*Pn	Pn	20 30 40.7	-4.7
214A	**Organ Pipe Nat**	**2.10**	**104**	*e*Pn	Pn	20 30 48.3	-4.5
LDFC	**Landfair**	**2.57**	**2**	*e*Pn	Pn	20 30 57.5	-2.4
LDFC				*e*Pg	Pb	20 31 05.1	+0.8
MWC	**Mount Wilson**	**2.94**	**307**	*e*Pn	Pn	20 31 07.7	+2.7
PASC	**Pasadena Art C**	**3.00**	**305**	Pn	Pn	20 31 05.6	+0.1
GSC	**Goldstone**	**3.09**	**335**	*e*Pn	Pb	20 31 10.1	-3.0
TUC	**Tucson**	**3.75**	**92**	*e*Pn	Pn	20 31 13.6	-2.4
SHPR	**Sheep Range**	**4.00**	**1**	*e*Pn	Pn	20 31 17.5	-2.0
ISA	**Isabella**	**4.16**	**320**	*e*Pg	Pb	20 31 33.2	+1.9
WUAZ	**Wupatki**	**4.38**	**46**	*e*Pn	Pn	20 31 23.6	-1.2
ARUT	**Antelope Range**	**5.47**	**15**	Pn	Pn	20 31 38.2	-1.6
TPH	**Tonopah**	**5.80**	**344**	*e*Pg	Pg	20 32 12.0	+2.9
R11A	**Troy Canyon, C**	**5.84**	**357**	*e*Pg	Pg	20 32 08.7	-1.3
121A	**Cookes Peak, D**	**6.27**	**88**	*e*Pn	Pn	20 31 47.7	-3.1
MVU	**Marysvale**	**6.47**	**21**	*e*Pn	Pn	20 31 59.6	+6.1
MVCO	**Mesa Verde**	**7.25**	**48**	*e*Pn	Pn	20 32 03.1	-1.2
	comp=N,53nm,0.8s						
SRU	**San Rafael**	**7.62**	**29**	*e*Pg	Pg	20 32 37.9	-5.9
	comp=N,12nm,0.7s						
PV01	**Paradox Valley**	**7.81**	**42**	*e*Pg	Pg	20 32 40.9	-6.8
	comp=N,997nm,0.8s						
PV04	**Paradox Valley**	**7.81**	**39**	*e*Pn	Pn	20 32 12.7	+0.8
BW06	**Boulder Array**	**11.18**	**22**	*e*Pn	Pn	20 32 54.8	-3.4
	comp=N,4.0nm,0.6s						

*NEIC **30** 20:32:37.9, 32°.53N×115°.22W, h9km, ML3.2(PAS), ML3.6(ECX), After ECX.*

ECX 30 20:32:38.1±0.6, 32°.54N×115°.24W, h9km, MD3.2, ML3.4, 11C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**205**	*e*P	Pg	20 32 41.5	+0.4
CPBX				*e*S	Sg	20 32 43.5	+0.2
EMSC	**East Mesa**	**0.29**	**47**	⇑*i*P	Pg	20 32 43.6	-0.2
SGL	**Mount Signal**	**0.43**	**285**	⇑*i*P	Pg	20 32 45.8	-0.7
SGL	**Mount Signal**	**0.43**	**285**	⇑*i*P	Pg	20 32 45.8	-0.7
SLX	**San Luis R˜o**	**0.46**	**101**	*e*P	Pg	20 32 46.6	-0.4
SLX				*e*S	Sg	20 32 52.3	-0.7
BTCC	**Brunts Corner**	**0.47**	**2**	⇓*i*P	Pg	20 32 46.6	-0.7
WESC	**Westside Schoo**	**0.47**	**297**	*e*P	Pg	20 32 46.8	-0.5
RUN	**Ruthven**	**0.48**	**27**	⇓*i*P	Pg	20 32 46.5	-1.0
COK	**Cook Ranch**	**0.52**	**307**	⇑*i*P	Pg	20 32 47.5	-0.6
EMX	**El Mayor**	**0.55**	**181**	⇓*e*P	Pg	20 32 47.6	-1.2
EMX				*e*S	Sg	20 32 55.6	-0.4
EMX				*e*		20 32 58.3	
	comp=E,1μm,0.5s						
EMX	**El Mayor**	**0.55**	**181**	⇓*e*P	Pg	20 32 47.5	-1.3
EMX				*e*S	Sg	20 32 55.6	-0.4
YMD	**Yuma Desert**	**0.58**	**89**	⇑*i*P	Pg	20 32 48.3	-1.1
YMD	**Yuma Desert**	**0.58**	**89**	⇑*i*P	Pg	20 32 48.3	-1.1
YUH	**Yuha Desert**	**0.59**	**280**	⇑*i*P	Pg	20 32 48.4	-1.2
YUH	**Yuha Desert**	**0.59**	**280**	⇑*i*P	Pg	20 32 48.4	-1.2
GLA	**Glamis**	**0.61**	**34**	*e*Pg	Pg	20 32 48.5	-1.6
GLA				*e*Sg	Sg	20 32 56.3	-1.9
RMX	**La Rumorosa**	**0.71**	**275**	⇑*e*P	Pg	20 32 50.6	-1.5
RMX				*e*S	Sg	20 33 00.7	-0.9
RMX	**La Rumorosa**	**0.71**	**275**	⇑*e*P	Pg	20 32 50.6	-1.5
RMX				*e*S	Sg	20 33 00.7	-0.9
RDX	**Rancho Dawling**	**0.86**	**225**	*e*P	Pg	20 32 53.2	-1.7
RDX				*e*S	Sg	20 33 04.5	-1.7
RDX				*e*		20 33 08.8	
	comp=N,1μm,0.4s						
ECBX	**El Chinero**	**1.08**	**172**	⇓*e*P	Pg	20 32 56.9	-1.9
ECBX				*e*S	Sg	20 33 11.5	-1.3
BAR	**Barrett**	**1.22**	**277**	*e*Pg	Pn	20 32 59.4	-2.1
CBX	**Cerro Bola**	**1.23**	**260**	⇓*e*P	Pn	20 32 59.0	-2.7
CBX				*e*S	Sb	20 33 16.0	-1.8
ZAX	**El Zacaton**	**1.35**	**221**	*e*P	Pn	20 33 01.0	-2.3
ZAX				*e*S	Sb	20 33 19.9	-1.4
ECNX	**Esteban Cantu**	**1.46**	**233**	*e*P	Pn	20 33 02.9	-1.8
ECNX				*e*S	Sn	20 33 22.7	-1.3
PFO	**Pinyon Flat Ob**	**1.48**	**316**	*e*Pn	Pn	20 33 01.1	-4.0
PBX	**Punta Banda**	**1.50**	**238**	*e*P	Pn	20 33 03.4	-1.8
SPX	**San Pedro Mart**	**1.50**	**187**	*e*P	Pn	20 33 03.7	-2.0
SPX	**San Pedro Mart**	**1.50**	**187**	*e*P	Pn	20 33 03.7	-2.0
LDFC	**Landfair**	**2.53**	**2**	*e*Pg	Pg	20 33 27.9	+1.0
MWC	**Mount Wilson**	**2.90**	**306**	*e*Pg	Pg	20 33 32.2	-1.7
GSC	**Goldstone**	**3.05**	**335**	Pg	Pg	20 33 37.6	+0.9

IDC 30 20:43:25.2±3.2, 19°.63S×177°.67W, h575km±38km, mb3.3/6, mb1 3.6/6, mb1mx3.2/19, mbtmp3.3/6, Error ellipse: s-maj=48.9km s-min=16.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.45**	**243**	P	P	20 49 58.9	0.0
	2.9nm,0.5s,baz=86,slow=9.2,SNR=16						
ASAR	**Alice Springs**	**45.02**	**256**	P	P	20 50 50.6	-0.2
	7.3nm,0.5s,baz=89,slow=7.9,SNR=164						
ASAR				PcP	PcP	20 52 19.7	+0.4
	0.4nm,0.7s,baz=99,slow=5.7,SNR=2.9						
ASAR				S	S	20 56 49.0	+0.4
	1.4nm,1.1s,baz=87,slow=16,SNR=6.7						
WRA	**Warramunga Arr**	**45.03**	**261**	P	P	20 50 50.4	-0.5
	2.7nm,0.3s,baz=98,slow=7.4,SNR=98						
MJAR	**Matsushiro Arr**	**69.70**	**323**	P	P	20 53 38.3	+0.1
	0.7nm,0.5s,baz=158,slow=6.3,SNR=5.9						
TXAR	**Lajitas Array**	**86.33**	**57**	P	P	20 55 07.6	+0.1
	0.2nm,0.7s,baz=235,slow=4.4,SNR=4.1						
PDAR	**Pinedale Array**	**88.12**	**43**	P	P	20 55 15.8	+0.1
	0.3nm,0.6s,baz=221,slow=7.8,SNR=2.8						
AKASG	**Malin Array Be**	**142.40**	**332**	PKP	PKPdf	21 01 50.0	-3.0
	0.2nm,0.4s,baz=38,slow=4.1,SNR=4.2						

*ISCJB **30** 20:46:06.7±0.4, 45°.73N±0°.07×143°.7E±0°.1, h343km±5km, mb3.2/9, Error ellipse: s-maj=11.7km s-min=9.9km az=34.4*

*JMA **30** 20:46:07.7±0.2, 45°.77N×143°.66E, h337km, M3.6*

*IDC **30** 20:46:08.0±0.6, 45°.96N×143°.57E, h336km±7km, mb3.0/9, mb1 3.3/13, mb1mx3.1/28, mbtmp3.0/13, Error ellipse: s-maj=16.5km s-min=11.6km az=123.0*

ISC 30 20:46:07.2±0.7, 45°.66N±0°.07×143°.68E±0°.08, h343km±7km, n33, σ1s60/40, mb3.5/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.04**	**228**	P	**Pn**	**20 46 53.0**	**+0.6**
JWK2	**Keihoku**	**1.30**	**255**	P	**Pn**	**20 46 53.6**	**+0.1**
JWK2				*e*S	**S**	**20 47 29.2**	**-1.5**
JMP	**Maruseppu**	**1.67**	**188**	P	**Pn**	**20 46 56.6**	**+0.8**
JTKR	**Abashiri--Toko**	**1.70**	**174**	P	**Pn**	**20 46 57.1**	**+1.2**
ASAJ	**Asahikawa**	**1.72**	**207**	P	**Pn**	**20 46 57.2**	**+1.2**
ASAJ	**Asahikawa**	**1.72**	**207**	P	**Pn**	**20 46 57.3**	**+1.2**
	16nm,0.3s,baz=24,slow=5.4,SNR=103						
ASAJ				S	**S**	**20 47 38.0**	**+2.8**
	baz=252,slow=30,SNR=1.6						
JKK2	**Kamakawa 2**	**1.91**	**201**	P	**Pn**	**20 46 58.4**	**+1.1**
JAR	**Ashorobuto**	**2.37**	**178**	P	**Pn**	**20 47 02.0**	**+1.3**
JAR				*e*S	**S**	**20 47 44.5**	**+0.9**
JHR	**Hokuryu**	**2.37**	**217**	P	**Pn**	**20 47 01.7**	**+1.0**
JFR	**Furan**	**2.61**	**198**	P	**Pn**	**20 47 04.4**	**+1.6**
NEM2	**Nemuro 2**	**2.73**	**146**	*e*S	**S**	**20 47 46.3**	**-2.7**
JAK	**Akkeshi**	**2.76**	**164**	P	**Pn**	**20 47 04.4**	**+0.4**
JAK				*e*S	**S**	**20 47 48.5**	**-1.1**
JCH	**Churui**	**3.05**	**184**	P	**Pn**	**20 47 06.8**	**+0.2**
JCH				*e*S	**S**	**20 47 51.7**	**-2.6**
JEW	**Eniwo**	**3.24**	**210**	P	**Pn**	**20 47 10.1**	**+1.8**
JSK	**Shakotan**	**3.25**	**226**	P	**Pn**	**20 47 09.5**	**+1.1**
JNBK	**Urakawa-nobuka**	**3.44**	**191**	P	**Pn**	**20 47 10.8**	**+0.5**
JKB	**Kayabe**	**4.23**	**208**	P	**Pn**	**20 47 18.6**	**+0.4**
JKB				*e*S	**S**	**20 48 13.2**	**-2.3**
JOT	**Ohata**	**4.68**	**205**	P	**Pn**	**20 47 23.7**	**+0.6**
JOT				*e*S	**S**	**20 48 20.9**	**-3.4**
JOSM	**Okushiri

RER	**Riviere de l'E**	**10.87**	**266**	Pn		**Pn**	**21 29 14.8**	**-0.1**
H08S1	**Diego Carcia H**	**13.95**	**21**	T		T	21 43 31.2	
	baz=200,slow=76,SNR=85							
H08S2	**Diego Garcia H**	**13.96**	**22**	T		T	21 43 26.4	
	baz=200,slow=76,SNR=204							
H08S3	**Diego Garcia H**	**13.97**	**21**	T		T	21 43 32.1	
	baz=200,slow=76,SNR=88							
H08N3	**Diego Garcia H**	**14.76**	**14**	T		T	21 44 42.2	
	baz=331,slow=75,SNR=11							
H08N1	**Diego Garcia H**	**14.77**	**14**	T		T	21 44 42.3	
	baz=192,slow=75,SNR=17							
H08N2	**Diego Garcia H**	**14.78**	**14**	T		T	21 44 33.7	
	SNR=18							
OPO	**Ambohidratompo**	**19.13**	**273**	LR		LR	21 36 35.8	
	comp=Z,168nm,18.7s,baz=5.9,slow=31							
CM31	**Chiang Mai Arr**	**49.77**	**41**	*eP*		**P**	**21 35 31.0**	**-1.2**
CMAR	**Chiang Mai Arr**	**49.77**	**41**	P		**P**	**21 35 32.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**49.77**	**41**	P		**P**	**21 35 32.1**	**-0.1**
	1.2nm,0.8s,baz=236,slow=8.7,SNR=13							
CMAR				LR		LR	21 53 22.5	
	comp=Z,37nm,18.8s,baz=330,slow=32							
ASAR	**Alice Springs**	**61.16**	**106**	P		**P**	**21 36 55.5**	**+1.2**
ASAR	**Alice Springs**	**61.16**	**106**	P		**P**	**21 36 55.5**	**+1.2**
	0.8nm,0.9s,baz=264,slow=7.5,SNR=6.2							
WRA	**Warramunga Arr**	**62.36**	**102**	P		**P**	**21 37 02.6**	**+0.2**
WRA	**Warramunga Arr**	**62.36**	**102**	P		**P**	**21 37 02.6**	**+0.2**
	0.4nm,1.0s,baz=256,slow=6.0,SNR=4.5							
WRAB	**Tennant Creek**	**62.37**	**102**	*eP*		**P**	**21 37 01.2**	**-1.3**
	2.3nm,0.8s							
STKA	**Stephens Creek**	**66.32**	**117**	P		**P**	**21 37 27.6**	**-0.6**
	2.1nm,0.9s,baz=336,slow=16,SNR=2.8							
MKAR	**Makanchi Array**	**68.58**	**11**	P		**P**	**21 37 42.5**	**+0.5**
MKAR	**Makanchi Array**	**68.58**	**11**	P		**P**	**21 37 42.5**	**+0.5**
	0.8nm,0.8s,baz=189,slow=6.1,SNR=7.7							
KURBB	**Kurchatov Arra**	**71.76**	**7**	P		**P**	**21 38 02.3**	**+0.9**
	0.4nm,0.4s,baz=201,slow=6.2,SNR=5.4							
KURK	**Kurchatov**	**71.86**	**8**	*eP*		**P**	**21 38 01.0**	**-1.0**
	1.1nm,1.0s							
BVAR	**Borovoye Array**	**73.53**	**2**	P		**P**	**21 38 12.7**	**+0.9**
BVAR	**Borovoye Array**	**73.53**	**2**	P		**P**	**21 38 12.7**	**+0.9**
	0.6nm,0.8s,baz=188,slow=6.0,SNR=5.0							
ZALV	**Zalesovo Beam**	**75.92**	**11**	P		**P**	**21 38 25.7**	**+0.1**
ZALV	**Zalesovo Beam**	**75.92**	**11**	P		**P**	**21 38 25.7**	**+0.1**
	1.0nm,0.5s,baz=194,slow=5.5,SNR=6.1							

NIED ***30*** *21:32:00,42.30N×142.60E,h47km,Mw3.8 Best double couple: M₀6.48000×10¹⁴ NP1:φs155.00000°,δ60.00000°, λ109.00000°. NP2:φs301.00000°,δ35.00000°,λ61.00000°.*

ISCJB ***30*** *21:32:48.8±0.3,42.24N±0.03×142.61E±0.04,h51km±3km, mb3.8/19,Error ellipse: s-maj=6.0km s-min=3.9km az=151.5*

JMA ***30*** *21:32:49.8±0.1,42.30N×142.63E,h37km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φs298.00000°,δ76.00000°,λ66.00000°. NP2: φs179.00000°,δ27.00000°,λ148.00000°. Principal axes: T Plg53.0000°, Azm180.0000°; N Plg23.0000°, Azm304.0000°; P Plg27.0000°, Azm47.0000°;*

JMA Felt I J1.

SKHL ***30*** *21:32:49.2±0.6,42.18N×142.49E,h37km±6km,mb5.0/2*

MOS ***30*** *21:32:50.4±1.0,42.27N×142.68E,h72km,mb4.3/10,Error ellipse: s-maj=14.9km s-min=9.6km az=71.1*

IDC ***30*** *21:32:51.7±1.8,42.29N×142.66E,h63km±14km,mb3.5/17, mb1 3.7/21,mb1mx3.6/32,mbtmp3.5/21,Error ellipse: s-maj=16.8km s-min=11.1km az=126.0*

ISC 30 21:32:50.1±0.8, 42.30N±0.04×142.62E±0.03, h44km±8km, n57, σ0°88/59, mb3.7/19, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JNBK	**Urakawa-nobuka**	**0.10**	**102**	⇑P			Pn	21 32 55.6	-1.6
JNBK				*eS*			Sn	21 33 01.0	-1.3
JEM	**Erimo**	**0.49**	**125**	⇑P			**Pn**	**21 33 00.0**	**-0.9**
MYR	**Moyori**	**0.50**	**91**	*eP*			**Pn**	**21 33 00.3**	**-0.6**
MYR				*eS*			**Sn**	**21 33 08.7**	**0.0**
JBT2	**Biratori 2**	**0.51**	**339**	⇑P			**Pn**	**21 33 00.2**	**-1.0**
JBT2				*eS*			**Sn**	**21 33 09.3**	**+0.3**
JCH	**Churui**	**0.63**	**60**	⇓P			**Pn**	**21 33 02.1**	**-0.6**
JCH				*eS*			**Sn**	**21 33 12.0**	**+0.2**
JFR	**Furan**	**0.86**	**359**	P			**Pn**	**21 33 05.4**	**-0.4**
JEW	**Eniwo**	**1.01**	**302**	P			**Pn**	**21 33 07.7**	**-0.2**
JEW				*eS*			**Sn**	**21 33 22.0**	**+1.0**
JOB	**Onbets**	**1.08**	**56**	⇓P			**Pn**	**21 33 09.1**	**+0.3**
JOB				*eS*			**Sn**	**21 33 23.9**	**+1.3**
JNB	**Noboribetsu**	**1.18**	**279**	P			**Pn**	**21 33 09.0**	**-1.1**
JNB				*eS*			**Sn**	**21 33 24.2**	**-0.8**
HRK	**Horoka**	**1.22**	**18**	*eP*			**Pn**	**21 33 11.2**	**+0.4**
HRK				*eS*			**Sn**	**21 33 27.0**	**+0.8**
JAB	**Ashibetsu**	**1.24**	**347**	P			**Pn**	**21 33 11.5**	**+0.6**
JKB	**Kayabe**	**1.25**	**251**	P			**Pn**	**21 33 10.2**	**-0.8**
JKB				*eS*			**Sn**	**21 33 26.7**	**0.0**
JAR	**Ashorobuto**	**1.31**	**40**	⇓P			**Pn**	**21 33 11.6**	**-0.3**
JAR				*eS*			**Sn**	**21 33 27.6**	**-0.6**
ASAJ	**Asahikawa**	**1.81**	**360**	P			**Pn**	**21 33 20.1**	**+1.2**
	25nm,0.3s,baz=214,slow=10,SNR=106								
ASAJ				S			**Sn**	**21 33 43.5**	**+2.9**
	21nm,0.3s,baz=63,slow=24,SNR=7.4								
YUK	**Yuzh-Kuril'sk**	**2.94**	**53**	*c i*	PN		**Pn**	**21 33 35.3**	**+1.1**
YUK								21 34 08.2	
YUK					pmax	pmax			
	comp=N,143nm,0.3s								
YUK					pmax	pmax			
	comp=E,177nm,0.3s								
YUK					pmax	pmax			
	comp=Z,314nm,0.3s								
YUK					smax	smax			
	comp=N,980nm,0.6s								
YUK					smax	smax			
	comp=E,456nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**2.94**	**53**	*eP*			**Pn**	**21 33 35.3**	**+1.1**
YUK					AMB	AMB		21 33 38.1	
	comp=E,314nm,0.3s								
YUK				*eS*			**Sn**	**21 34 10.1**	**+1.9**
YUK				A		A		21 34 17.5	
	comp=E,456nm,0.6s								
YUK				A		A		21 34 17.5	
	comp=E,980nm,0.6s								
KUR	**Kuril'sk**	**4.80**	**51**	PN			Pn	21 34 03.2	+3.4
KUR				*eS*			Sn	21 34 59.0	+4.9
KUR					pmax	pmax			
	comp=Z,110nm,0.8s								
KUR					smax	smax			
	comp=N,190nm,0.8s								
KUR	**Kuril'sk**	**4.80**	**51**	*eP*			Pn	21 34 03.2	+3.4
KUR					AMB	AMB		21 34 05.0	
	comp=N,110nm,0.8s								
KUR				*eS*			Sn	21 34 59.0	+4.9
KUR				A		A		21 35 01.8	
	comp=N,190nm,0.8s								
MAT	**Matsushiro**	**6.69**	**212**	P			**Pn**	**21 34 26.2**	**+0.5**
MAT				*eS*			**Sn**	**21 35 41.2**	**+0.6**
MJAR	**Matsushiro Arr**	**6.69**	**212**	P			**Pn**	**21 34 27.1**	**+1.4**
	comp=N,1.2nm,0.3s,baz=47,slow=20,SNR=16								
USRK	**Ussuriysk Arra**	**7.99**	**287**	P			**Pn**	**21 34 44.9**	**+1.4**
	comp=N,0.1nm,0.3s,baz=135,slow=14,SNR=3.6								
KSRS	**Korea Array**	**12.28**	**252**	P			Pn	21 35 46.4	+4.2
	comp=N,0.8nm,0.3s,baz=64,slow=14,SNR=9.4								
PETK	**Petropavlovsk-**	**14.80**	**38**	P			**Pn**	**21 36 16.6**	**+0.3**
PETK	**Petropavlovsk-**	**14.80**	**38**	P			**Pn**	**21 36 16.6**	**+0.3**
	comp=N,0.2nm,0.3s,baz=201,slow=8.6,SNR=4.9								
SEY	**Seymchan**	**21.45**	**12**	P			**P**	**21 37 33.8**	**-0.4**
SEY					pmax	pmax			
	comp=Z,1.0nm,0.4s								
SEY	**Seymchan**	**21.45**	**12**	P			**P**	**21 37 33.8**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=11,slow=23,SNR=4.8								
SONM	**Songino Array**	**26.01**	**295**	P			**P**	**21 38 19.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=72,slow=8.5,SNR=7.6								
H11N2	**WAKE ISLAND Hy**	**30.45**	**130**	T			T	22 10 33.7	
	baz=326,slow=76,SNR=86								
H11N1	**WAKE ISLAND Hy**	**30.46**	**130**	T			T	22 10 36.2	
	baz=326,slow=76,SNR=106								
H11N3	**WAKE ISLAND Hy**	**30.47**	**130**	T			T	22 10 41.1	
	baz=326,slow=76,SNR=99								
H11S1	**WAKE ISLAND Hy**	**31.32**	**132**	T			T	22 11 37.3	
	baz=328,slow=76,SNR=84								
H11S3	**WAKE ISLAND Hy**	**31.33**	**132**	T			T	22 11 42.7	
	baz=328,slow=76,SNR=79								
H11S2	**WAKE ISLAND Hy**	**31.34**	**132**	T			T	22 11 43.3	
	baz=328,slow=76,SNR=89								
ZALV	**Zalesovo Beam**	**39.23**	**308**	P			**P**	**21 40 14.5**	**+0.7**
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**39.23**	**308**	P			**P**	**21 40 14.5**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=95,slow=7.4,SNR=4.9								
MKAR	**Makanchi Array**	**42.31**	**298**	P			**P**	**21 40 39.1**	**-0.2**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**42.31**	**298**	P			**P**	**21 40 39.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=81,slow=9.8,SNR=10								
KURK	**Kurchatov**	**43.58**	**304**	P			**P**	**21 40 50.0**	**+0.5**
KURK					pmax	pmax			
	comp=Z,2.0nm,0.4s								
KURBB	**Kurchatov Arra**	**43.66**	**304**	P			**P**	**21 40 50.0**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=78,slow=9.1,SNR=14								
CMAR	**Chiang Mai Arr**	**43.92**	**251**	P			**P**	**21 40 52.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=35,slow=8.1,SNR=2.7								
ILAR	**Eielson Array**	**44.60**	**35**	P			**P**	**21 40 57.5**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=272,slow=7.6,SNR=12								
BVAR	**Borovoye Array**	**47.84**	**309**	P			**P**	**21 41 23.3**	**+0.2**
BVAR					pmax	pmax			
	comp=Z,2.0nm,0.4s								
BVAR	**Borovoye Array**	**47.84**	**309**	P			**P**	**21 41 23.3**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=78,slow=9.1,SNR=46								
AAK	**Ala-Archa**	**48.96**	**295**	P			**P**	**21 41 32.1**	**0.0**
AAK					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AAK	**Ala-Archa**	**48.96**	**295**	P			**P**	**21 41 32.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=114,slow=6.2,SNR=6.3								
YKA	**Yellowknife Ar**	**58.82**	**32**	P			**P**	**21 42 43.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=301,slow=6.4,SNR=4.3								
JOF	**Joensuu**	**61.78**	**331**	*eP*			**P**	**21 43 02.3**	**-1.4**
JOF					pmax	pmax			
	comp=Z,1.0nm,0.3s								
JOF	**Joensuu**	**61.78**	**331**	*ep*			**P**	**21 43 02.3**	**-1.4**
	comp=Z,0.6nm,0.3s								
WRA	**Warramunga Arr**	**62.40**	**189**	P			**P**	**21 43 07.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=6.2,slow=6.8,SNR=3.3								
FINES	**FINESS Array B**	**64.61**	**332**	P			**P**	**21 43 21.6**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=47,slow=7.2,SNR=21								
NB2	**NORSAR Subarra**	**69.70**	**337**	P			**P**	**21 43 54.1**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=36,slow=6.2								
NOA	**NORSAR Array B**	**69.70**	**337**	P			**P**	**21 43 54.1**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=37,slow=6.1,SNR=9.7								
AKASG	**Malin Array Be**	**70.72**	**322**	P			**P**	**21 44 00.8**	**-0.3**
AKASG	**Malin Array Be**	**70.72**	**322**	P			**P**	**21 44 00.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=42,slow=6.0,SNR=4.5								
NVAR	**Mina Array Bea**	**71.15**	**55**	P			**P**	**21 44 05.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=294,slow=7.8,SNR=3.0								
PDAR	**Pinedale Array**	**73.36**	**47**	P			**P**	**21 44 16.6**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=159,slow=1.2,SNR=3.9								
TXAR	**Lajitas Array**	**86.20**	**53**	P			**P**	**21 45 25.3**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=280,slow=2.3,SNR=3.4								

MAN 30 21:58:57,9.28N×125.49E,h1km,mb4.7,ML3.6,MS3.6, 1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BUTP	**Butuan**	**0.34**	**157**	*eP*			Pg	21 59 03.8	+0.2
MSLP	**Maasin**	**1.05**	**324**	*eP*			Pg	21 59 17.1	0.0
MSLP				*eS*			Sn	21 59 33.8	-0.4
CGP	**Cagayan de Oro**	**1.14**	**224**	⇑*i*	P		Pg	21 59 18.4	-0.4
CGP				*i*	S		Sb	21 59 35.2	+0.5
BUKP	**Musuan**	**1.46**	**197**	*eP*			Pn	21 59 24.1	-0.4
BUKP				*eS*			Sn	21 59 49.1	+4.8
PLP	**Palo**	**1.94**	**345**	⇓*i*	P		Pn	21 59 31.6	+0.5
PLP				*eS*			Sb	21 59 58.4	+0.6
OCLP	**Ormoc**	**1.96**	**334**	*eP*			Pn	21 59 31.4	0.0
OCLP				*eS*			Sg	22 00 03.3	+3.3
CTBH	**Cotabato--PC H**	**2.39**	**211**	⇓*i*	P		Pb	21 59 39.9	-1.0
PAGZ	**Pagadian**	**2.52**	**236**	*eP*			Pn	21 59 39.9	+0.7
PAGZ				*eS*			Sb	22 00 12.7	-2.0
GUIM	**Jordan**	**3.15**	**295**	*eP*			Pn	21 59 48.0	+0.2

NIED ***30*** *22:05:00,39.10N×142.20E,h35km,Mw3.9 Best double couple: M₀7.28000×10¹⁴ NP1:φs26.00000°,δ70.00000°, λ95.00000°. NP2:φs192.00000°,δ21.00000°,λ77.00000°.*

ISCJB ***30*** *22:05:38.4±1.0,39.04N±0.05×142.2E±0.1,h52km±6km, mb3.8/13,Error ellipse: s-maj=16.4km s-min=5.6km az=23.6*

JMA ***30*** *22:05:39.4±0.1,39.10N×142.21E,h43km±1km,M3.8*

JMA Felt I J1.

IDC ***30*** *22:05:41.1±2.1,39.02N×142.16E,h59km±17km,mb3.6/13, mb1 3.7/16,mb1mx3.6/30,mbtmp3.6/16,MS2.8/1, Ms1 2.8/1,ms1mx2.5/33,Error ellipse: s-maj=21.2km s-min=10.4km az=108.0*

ISC 30 22:05:39.4±1.6, 39.05N±0.06×142.2E±0.1, h42km±12km, n33, σ1°04/34, mb3.9/13, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
OFUJ	**Ofunato**	**0.41**	**274**	⇓P			**Pn**	**22 05 49.3**	**+0.1**
OFUJ				*eS*			**Sn**	**22 05 56.1**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.60**	**331**	⇓P			**Pn**	**22 05 50.9**	**-0.7**
MIYJ				S			**Sn**	**22 05 58.8**	**-1.4**
JMK	**Ichinoseki**	**0.77**	**263**	⇓P			**Pn**	**22 05 54.1**	**+0.2**
JMK				S			**Sn**	**22 06 04.4**	**+0.1**
JOM	**Ohasama**	**0.82**	**301**	⇓P			**Pn**	**22 05 54.4**	**-0.1**
JIO	**Ouri**	**0.90**	**228**	⇓P			**Pn**	**22 05 55.6**	**+0.1**
JIO				S			**Sn**	**22 06 06.8**	**-0.5**
JTH	**Tanohata**	**0.92**	**344**	⇓P			**Pn**	**22 05 55.1**	**-0.8**
JRG	**Rokugo**	**1.26**	**286**	P			**Pn**	**22 06 02.8**	**+0.2**
JOU	**Okura**	**1.38**	**241**	P			**Pn**	**22 06 02.6**	**+0.3**
JANG	**Nango**	**1.42**	**338**	⇓P			**Pn**	**22 06 02.2**	**-0.6**
JYK	**Kaneyama**	**1.44**	**265**	⇓P			**Pn**	**22 06 03.6**	**+0.6**
MJAR	**Matsushiro Arr**	**4.03**	**233**	P			**Pn**	**22 06 40.5**	**+1.8**
	3.0nm,0.3s,baz=40,slow=11,SNR=69								
MJAR				S			**Sn**	**22 07 25.1**	**+0.4**
	1.2nm,0.3s,baz=30,slow=15,SNR=4.4								
MAT	**Matsushiro**	**4.04**	**233**	P			**Pn**	**22 06 39.0**	**+0.3**
MAT				S			**Sn**	**22 07 25.5**	**+0.8**
ASAJ	**Asahikawa**	**5.07**	**3**	P			**Pn**	**22 06 53.5**	**+0.7**
	2.0nm,0.3s,baz=308,slow=29,SNR=10								
ASAJ				S			**Sn**	**22 07 53.1**	**+3.1**
	0.8nm,0.3s,baz=111,slow=27,SNR=2.1								
ASAJ				LR			LR	22 09 19.0	
	comp=Z,92nm,18.2s,baz=153,slow=43								
USRK	**Ussuriysk Arra**	**9.21**	**307**	P			**Pn**	**22 07 52.8**	**+3.2**
	0.2nm,0.3s,baz=116,slow=14,SNR=5.4								
SONM	**Songino Array**	**27.23**	**301**	P			**P**	**22 11 20.0**	**+0.6**
	0.5nm,0.8s,baz=98,slow=10,SNR=2.7								
H11N2	**WAKE ISLAND Hy**	**28.72**	**125**	T			T	22 41 57.6	
	baz=320,slow=76,SNR=1019								
H11N1	**WAKE ISLAND Hy**	**28.73**	**125**	T			T	22 41 59.7	
	baz=320,slow=76,SNR=1109								
H11N3	**WAKE ISLAND Hy**	**28.74**	**125**	T			T	22 41 59.0	
	baz=320,slow=76,SNR=1165								
H11S1	**WAKE ISLAND Hy**	**29.50**	**127**	T			T	22 42 55.6	
	baz=322,slow=74,SNR=108								
H11S3	**WAKE ISLAND Hy**	**29.51**	**127**	T			T	22 42 55.3	
	baz=322,slow=74,SNR=127								
H11S2	**WAKE ISLAND Hy**	**29.52**	**127**	T			T	22 42 56.0	
	baz=322,slow=74,SNR=103								
ZALV	**Zalesovo Beam**	**41.04**	**311**	P			**P**	**22 13 18.2**	**-0.2**
	1.1nm,0.5s,baz=88,slow=7.2,SNR=5.8								
CMAR	**Chiang Mai Arr**	**42.63**	**254**	P			**P**	**22 13 31.5**	**-0.4**
	0.3nm,0.7s,baz=66,slow=4.9,SNR=3.5								
MKAR	**Makanchi Array**	**43.60**	**300**	P			**P**	**22 13 39.3**	**-0.1**
	1.7nm,0.7s,baz=85,slow=10.0,SNR=25								
KURBB	**Kurchatov Arra**	**45.27**	**307**	P			**P**	**22 13 52.3**	**-0.4**
	3.7nm,0.6s,baz=80,slow=8.4,SNR=41								
ILAR	**Eielson Array**	**47.46**	**33**	P			**P**	**22 14 10.2**	**+0.5**
	0.5nm,0.7s,baz=258,slow=5.8,SNR=6.3								
BVAR	**Borovoye Array**	**49.69**	**311**	P			**P**	**22 14 26.8**	**-0.1**
	1.3nm,0.5s,baz=71,slow=7.8,SNR=17								
AKTO	**Aktyubinsk**	**57.80**	**311**	P			**P**	**22 15 25.0**	**-1.3**
	1.5nm,0.6s,baz=66,slow=13,SNR=6.4								
WRA	**Warramunga Arr**	**59.15**	**189**	P			**P**	**22 15 34.9**	**-1.0**
	0.4nm,0.4s,baz=6.8,slow=7.0,SNR=14								
ASAR	**Alice Springs**	**62.87**	**189**	P			**P**	**22 16 01.3**	**+0.2**
	0.3nm,0.7s,baz=20,slow=9.1,SNR=3.4								
FINES	**FINESS Array B**	**67.32**	**332**	P			**P**	**22 16 29.2**	**-0.3**
	1.9nm,0.9s,baz=39,slow=12,SNR=6.3								
KBZ	**Khabaz**	**70.06**	**310**	P			**P**	**22 16 47.3**	**+0.4**
	0.7nm,0.5s,baz=319,slow=13,SNR=3.6								
AKASG	**Malin Array Be**	**73.08**	**322**	P			**P**	**22 17 04.5**	**-0.5**
	1.1nm,0.5s,baz=46,slow=6.1,SNR=7.7								

NNC ***30*** *22:12:54.1±6.9,37.60N×71.85E,h193km,mb2.3,mpv3.4, Error ellipse: s-maj=54.8km s-min=43.0km az=168.0*

IDC ***30*** *22:12:57.1±8.7,37.65N×72.27E,h217km±53km,mb2.6/1, mb1 2.7/6,mb1mx2.6/31,mbtmp2.7/6,Error ellipse: s-maj=80.8km s-min=55.7km az=33.0*

ISC 30 22:12:47.4±2.7, 37.1N±0.2×72.0E±0.2, h142km, n9, σ1°68/12, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AAK	**Ala-Archa**	**5.82**	**19**	P			Pn	22 14 15.0	+3.3
	1.0nm,0.3s,baz=180,slow=6.0,SNR=6.4								
AAK				S			**Sn**	**22 15 17.7**	**+0.1**
	1.4nm,0.3s,baz=314,slow=22,SNR=8.2								
AAK	**Ala-Archa**	**5.82**	**19**	⇑P			**Pn**	**22 14 13.8**	**+2.0**
	2.6nm,0.5s								
AAK				⇓S			**Sn**	**22 15 17.3**	**-0.3**
	8.9nm,1.1s								
KK31	**Karatay Array**	**6.06**	**350**	⇑P			**Pn**	**22 14 17.2**	**+2.4**
	1.4nm,0.4s,baz=163,slow=11,SNR=5.3								
KK31				⇑S			**Sn**	**22 15 21.1**	**-2.0**
	2.9nm,0.5s,baz=174,slow=24,SNR=13								
TKM2	**Tokmak 2**	**6.41**	**25**	⇑P			**Pn**	**22 14 21.1**	**+1.4**
	4.1nm,1.1s								
TKM2				⇓S			**Sn**	**22 15 30.8**	**-1.0**
	1.5nm,0.6s								
MKAR	**Makanchi Array**	**12.32**	**35**	P			**Pn**	**22 15 39.5**	**+1.5**
	0.1nm,0.3s,baz=212,slow=11,SNR=4.7								
KURBB	**Kurchatov Arra**	**14.28**	**17**	P			**Pn**	**22 16 04.0**	**+1.0**
	0.1nm,0.3s,baz=206,slow=11,SNR=5.2								
BVAR	**Borovoye Array**	**15.93**	**357**	P			**Pn**	**22 16 23.2**	**-0.2**
	0.2nm,0.3s,baz=160,slow=9.2,SNR=5.9								
ZALV	**Zalesovo Beam**	**19.02**	**24**	P			**P**	**22 16 56.2**	**-1.8**
	1.3nm,0.3s,baz=208,slow=10,SNR=19								
SONM	**Songino Array**	**27.34**	**56**	P			**P**	**22 18 17.5**	**-1.5**
	0.2nm,0.5s,baz=275,slow=9.1,SNR=3.0								

IDC 30 22:27:05.8±2.8, 13.01N×124.13E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/24, mbtmp3.3/3, Error ellipse: s-maj=214.1km s-min=27.8km az=64.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**34.25**	**163**	P		P		22 33 53.6	-0.1
	0.2nm,0.5s,baz=343,slow=11,SNR=5.3								
ASAR	**Alice Springs**	**37.69**	**165**	P		P		22 34 23.1	0.0
	0.2nm,0.5s,baz=341,slow=7.2,SNR=4.4								
MKAR	**Makanchi Array**	**48.59**	**322**	P		P		22 35 51.0	-0.2
	0.2nm,0.5s,baz=105,slow=7.6,SNR=5.6								

MEX 30 22:40:38.2±0.8, 16.93N×98.42W, h24km±16km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PNIG	**Pinotepa**	**0.60**	**153**	*eP*			Pb	22 40 47.5	-2.7
PNIG				*i*	S		Sb	22 40 56.9	-1.5
TLIG	**Tlapa**	**0.64**	**347**	*eP*			Pb	22 40 48.3	-2.7
TLIG				*eS*			Sb	22 40 57.6	-2.1
ACX	**Acapulco**	**1.38**	**268**	*i*	P		Pn	22 40 59.6	-2.4
ACP2	**Acapulco**	**1.41**	**268**	*i*	P		Pn	22 41 00.4	-2.0
ACP2				*i*	S		Sn	22 41 16.8	-3.4
VHO	**Vista Hermosa**	**1.62**	**85**	*eP*			Pn	22 41 02.9	-2.6
VHO				*i*	S		Sn	22 41 21.9	-3.9
YAIG	**Yautepec**	**2.02**	**342**	*i*	P		Pn	22 41 08.8	-2.2
YAIG				*i*	S		Sn	22 41 32.0	-3.6
ARIG	**Puente Sto Nin**	**2.28**	**306**	*eP*			Pn	22 41 12.7	-1.7
ARIG				*i*	S		Sn	22 41 38.8	-3.0
HUIG	**Huatulco**	**2.50**	**117**	*i*	P		Pn	22 41 15.2	-2.2
HUIG				*i*	S		Sn	22 41 44.1	-3.0

**MAN 30 22:40:49,7.71N×122.92E,h1km,mb4.2,ML3.0,MS2.7, 1D,M

MKAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**35.72**	**260**	P		**P**	**22 53 22.9**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=41,slow=7.3,SNR=24							
YKA	**Yellowknife Ar**	**38.20**	**46**	P		**P**	**22 53 43.8**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=331,slow=8.1,SNR=3.4							
FINES	**FINESS Array B**	**40.73**	**317**	P		**P**	**22 54 05.5**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=32,slow=8.5,SNR=11							
NB2	**NORSAR Subarra**	**44.26**	**327**	P		**P**	**22 54 33.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=24,slow=7.9							
NOA	**NORSAR Array B**	**44.26**	**327**	P		**P**	**22 54 33.9**	**0.0**
	comp=Z,1.8nm,0.8s,baz=23,slow=7.9,SNR=5.6							
NOA				LR		LR	23 18 35.7	
	comp=Z,42nm,18.0s,baz=325,slow=44							
AKASG	**Malin Array Be**	**49.52**	**308**	P		**P**	**22 55 14.5**	**-0.4**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**49.52**	**308**	P		**P**	**22 55 14.5**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=26,slow=8.5,SNR=4.6							

IGQ 30 22:58:59.6, 2°.26S×80°.61W, h12km±146km, Mb4.1, Ms3.9, 6D, Error ellipse: s-maj=22.2km s-min=6.7km az=23.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.11**	**69**	S	Sb	23 00 04.3	-0.9
IGUA	**Igualata**	**2.11**	**69**	P	Pn	22 59 36.7	+1.2
BMAS	**Trigal station**	**2.25**	**71**	P	Pn	22 59 38.6	+1.4
ARRY	**Arrayan**	**2.27**	**71**	P	Pn	22 59 38.7	+1.2
JUI6	**Juive**	**2.29**	**69**	P	Pb	22 59 39.9	-1.4
PAT1	**Patacocha**	**2.29**	**71**	P	Pb	22 59 39.7	-1.8
BPAT	**Tungurahua Vol**	**2.30**	**71**	P	Pn	22 59 39.7	+1.8
RUN5	**Runtun**	**2.33**	**69**	P	Pb	22 59 40.4	-1.7
BRUN	**Tungurahua Vol**	**2.34**	**69**	⇓S	Sb	23 00 11.4	-0.1
BRUN	**Tungurahua Vol**	**2.34**	**69**	⇓P	Pn	22 59 40.3	+1.9
PAST	**Pastocalle**	**2.50**	**52**	P	Pb	22 59 45.1	0.0
PISA	**Pisayambo**	**2.52**	**62**	P	Pb	22 59 44.0	-1.5
CAMI	**Rancho Maria**	**2.62**	**53**	P	Pb	22 59 45.6	-1.6
BMOR	**Cotopaxi Volca**	**2.63**	**55**	P	Pb	22 59 45.2	-2.2
BNAS	**Cotopaxi Volca**	**2.64**	**53**	⇓P	Pb	22 59 45.4	-2.2
BVC2	**Cotopaxi Volca**	**2.71**	**54**	P	Pn	22 59 46.1	+2.4
BTAM	**Cotopaxi Volca**	**2.71**	**55**	⇓P	Pb	22 59 46.4	-2.4
VC1	**Cotopaxi 1**	**2.72**	**54**	P	Pn	22 59 46.2	+2.3
COV1	**Cotopaxi Volc**	**2.76**	**55**	P	Pn	22 59 47.1	+2.5
JUA2	**San Juan 2**	**2.85**	**45**	P	Pn	22 59 47.8	+2.3
GGP	**Refugio Guagua**	**2.88**	**44**	P	Pn	22 59 47.5	+1.4
PINO	**Pino**	**2.89**	**44**	P	Pn	22 59 47.5	+1.2
ANTI	**Antisana**	**3.03**	**54**	⇓P	Pb	22 59 51.6	-2.7
OTAV	**Otavalo**	**3.28**	**41**	⇓P	Pn	22 59 52.4	+0.9
CAYR	**Refugio Cayamb**	**3.44**	**49**	P	Pb	22 59 58.5	-2.8
CAYA	**Cayambe**	**3.49**	**49**	P	Pn	22 59 58.0	+3.5

*BYKL **30** 23:03:21.0±0.3, 57°.45N×120°.80E, h1km±9km*
*MOS **30** 23:03:22.5±1.5, 57°.40N×120°.70E, h10km, mb4.2/1, Error ellipse: s-maj=41.7km s-min=33.9km az=50.1*
ISC 30 23:03:19.0±1.2, 57°.47N±0°.03×120°.59E±0°.02, h1km±10km, n27, σ1°91/51, 2C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.65**	**211**	⇑*i*Pg	**Pb**	**23 03 33.7**	**+0.6**
KHNR				*e*Sg	**Sg**	**23 03 42.1**	**+2.4**
YKLR	**Yuktali**	**1.06**	**146**	⇑*i*Pg	**Pg**	**23 03 39.4**	**+0.2**
YKLR				*e*Sg	**Sg**	**23 03 52.2**	**-0.8**
CRS	**Chara**	**1.39**	**246**	*e*P	**Pb**	**23 03 48.6**	**+2.8**
CRS				*e*		23 04 05.7	
CRS				pmax	pmax		
	comp=Z,208nm,0.4s						
CRS				smax	smax		
	comp=E,313nm,0.6s						
CRS	**Chara**	**1.39**	**246**	*e*Pg	**Pb**	**23 03 48.3**	**+2.5**
CRS				*e*Sg	**Sn**	**23 04 06.8**	**+2.2**
CRS				Pmax			
	comp=E,40nm,0.3s						
CRS				Smax			
	comp=E,294nm,0.3s						
CLNS	**Chul'man**	**2.43**	**103**	*e*P	**Pn**	**23 04 01.6**	**+1.7**
CLNS				*e*		23 04 33.4	
CLNS				pmax	pmax		
	comp=Z,33nm,0.3s						
CLNS				pmax	pmax		
	comp=N,12nm,0.3s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.3s						
CLNS				smax	smax		
	comp=E,199nm,0.3s						
CLNS				smax	smax		
	comp=Z,127nm,0.4s						
CLNS				smax	smax		
	comp=N,433nm,0.4s						
CLNS	**Chul'man**	**2.43**	**103**	*e*Pg	**Pn**	**23 04 01.6**	**+1.7**
CLNS				*e*Sg	**Sn**	**23 04 31.1**	**+0.8**
IENR	**Iengra**	**2.66**	**116**	*e*Pn	**Pn**	**23 04 04.0**	**+1.0**
IENR				*e*Pg	**Pb**	**23 04 08.0**	**+0.6**
IENR				*e*PgPg	**PbPb**	**23 04 12.4**	**+1.9**
IENR				*e*Sg	**Sb**	**23 04 40.4**	**-0.1**
IENR				*e*SgSg	**SnSn**	**23 04 47.2**	**+0.8**
ALDR	**Aldan**	**2.81**	**64**	*e*Pn	**Pn**	**23 04 05.9**	**+0.9**
ALDR				*e*Pg	**Pb**	**23 04 09.2**	**-0.7**
ALDR				*e*Sg	**Sb**	**23 04 44.7**	**0.0**
NLYR	**Nelyaty**	**2.85**	**252**	*e*P	**Pb**	**23 04 09.6**	**-1.0**
NLYR				*e*		23 04 49.9	
NLYR				pmax	pmax		
	comp=Z,88nm,0.9s						
NLYR				smax	smax		
	comp=N,271nm,1.0s						
NLYR	**Nelyaty**	**2.85**	**252**	*e*Pn	**Pb**	**23 04 09.7**	**-0.9**
NLYR				*e*Pg	**Pg**	**23 04 14.8**	**+1.3**
NLYR				*e*Sg	**Sg**	**23 04 51.3**	**+0.8**
NLYR				Pmax			
	comp=N,55nm,0.5s						
NLYR				Smax			
	comp=N,249nm,0.9s						
TUP	**Tupik**	**3.08**	**187**	*e*P	**Pn**	**23 04 09.8**	**+1.0**
TUP				*e*S	**Sn**	**23 04 45.3**	**-0.9**
TUP				pmax	pmax		
	comp=Z,107nm,0.4s						
TUP				smax	smax		
	comp=E,423nm,0.7s						
TUP	**Tupik**	**3.08**	**187**	⇓*i*Pn	**Pn**	**23 04 10.5**	**+1.7**
TUP				*e*Pg	**Pb**	**23 04 15.0**	**+0.5**
TUP				*e*PgPg	**PbPb**	**23 04 18.1**	**+0.4**
TUP				*e*Sg	**Sb**	**23 04 54.2**	**+1.6**
TUP				*e*SgSg	**Sg**	**23 05 01.5**	**+3.7**
TUP				max			
	comp=E,106nm,0.4s						
TUP				max			
	comp=E,423nm,0.7s						
TNDR	**Tynda**	**3.28**	**134**	*e*Pn	**Pn**	**23 04 12.4**	**+0.9**
TNDR				*e*Pg	**Pb**	**23 04 17.9**	**0.0**
TNDR				*e*Sn	**Sn**	**23 04 49.9**	**-1.2**
TNDR				*e*Sg	**Sb**	**23 04 58.4**	**+0.1**
BOD	**Bodaibo**	**3.56**	**278**	*e*P	**Pn**	**23 04 18.0**	**+2.7**
BOD				*e*		23 05 12.7	
BOD				pmax	pmax		
	comp=Z,19nm,0.6s						
BOD				smax	smax		
	comp=N,225nm,0.9s						
BOD	**Bodaibo**	**3.56**	**278**	*e*Pn	Pn	23 04 19.1	+3.8
BOD				*e*Pg	**Pg**	**23 04 26.9**	**-0.2**
BOD				*e*Sn	**Sn**	**23 05 00.7**	**+2.8**
BOD				*e*Sg	**Sg**	**23 05 13.5**	**+0.4**
BOD				Pmax			
	comp=N,17nm,0.4s						
BOD				Smax			
	comp=N,147nm,0.4s						
UKT	**Uakit**	**4.34**	**246**	*e*Pn	**Pn**	**23 04 29.3**	**+3.1**
UKT				*e*Pg	**Pg**	**23 04 41.1**	**-1.0**
UKT				*e*Sg	**Sg**	**23 05 37.2**	**-1.2**
UKT				Pmax			
	comp=N,17nm,0.6s						
UKT				Smax			
	comp=N,41nm,0.8s						
VTMR	**Vitim**	**4.66**	**298**	*e*Sg	**Sg**	**23 05 48.9**	**+0.4**
ZEA	**Zeya**	**5.32**	**132**	*e*Pg	**Pb**	**23 04 55.8**	**+3.2**
ZEA				*e*Sn	**Sn**	**23 05 38.4**	**-2.9**
ZEA				*e*Sg	Sb	23 06 03.4	+6.5
ZEA				Pmax			
	comp=N,19nm,0.5s						
ZEA				Smax			
	comp=N,320nm,1.0s						

KMO	**Kumora**	**5.42**	**257**	*e*Pn	**Pn**	**23 04 43.9**	**+3.1**
KMO				*e*Pg	Pb	23 04 59.7	+5.4
KMO				*e*Sg	**Sg**	**23 06 11.3**	**-1.5**
KMO				Pmax			
	comp=N,10.0nm,0.5s						
KMO				Smax			
	comp=N,106nm,1.0s						
YLYR	**Ulyunkhan**	**5.87**	**248**	*e*Pn	Pn	23 04 51.2	+4.0
YLYR				*e*		23 05 05.4	
YLYR				*e*Sg	**Sg**	**23 06 25.3**	**-2.2**
YLYR				Smax			
	comp=N,77nm,1.9s						
NIZ	**Nizh Angarsk**	**6.33**	**259**	*e*	Pg	23 06 11.5	+51
NIZ				*e*Sg	**Sg**	**23 06 39.9**	**-2.2**
NIZ				Smax			
	comp=N,40nm,0.9s						
SYVR	**Suvo**	**7.12**	**242**	*e*	Pg	23 06 28.6	+53
SYVR				*e*Sg	**Sg**	**23 07 04.3**	**-3.0**
SYVR				Smax			
	comp=N,54nm,1.1s						
MXMB	**Maximikha**	**7.96**	**243**	*e*Sg	**Sg**	**23 07 30.7**	**-3.5**
MXMB				Smax			
	comp=N,86nm,1.0s						
OGRR	**Ongureny**	**8.30**	**248**	*e*Sn	**Sn**	**23 06 53.2**	**-1.6**
OGRR				*e*Sg	Sg	23 07 40.6	-4.7
OGRR				Smax			
	comp=N,20nm,1.0s						
KPC	**Khapcheranga**	**9.18**	**216**	*e*Sg	Sn	23 08 06.0	+49
KPC				Smax			
	comp=N,35nm,1.0s						
TRG	**Tyrgan**	**9.42**	**246**	*e*Sn	**Sn**	**23 07 18.7**	**-3.6**
TRG				*e*Sg		23 08 16.3	
HRMR	**Khuramsha**	**9.84**	**239**	*e*Sg	Sn	23 08 27.8	+55
HRMR				Smax			
	comp=N,98nm,1.1s						

*IDC **30** 23:12:15.4±5.9, 29°.76N×130°.99E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.3/26, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=119.5km s-min=46.2km az=112.0*
*ISCJB **30** 23:12:22.1±1.1, 29°.94N±0°.06×130°.82E±0°.09, h28km, mb3.4/3, Error ellipse: s-maj=12.8km s-min=7.3km az=30.9*
*JMA **30** 23:12:23.6±0.1, 30°.02N×130°.78E, h33km±2km, MS3.1*
ISC 30 23:12:20.5±1.4, 29°.86N±0°.07×130°.92E±0°.10, h28km, n11, σ0°90/14, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.80**	**4**	P	**Pn**	**23 12 36.3**	**+0.4**
JTN				*e*S	**Sb**	**23 12 46.0**	**-0.3**
JKC	**Kuchinoerabu**	**0.87**	**314**	P	**Pn**	**23 12 36.7**	**-0.2**
JKC				*e*S	**Sb**	**23 12 46.5**	**-1.8**
JNN	**Nakanoshima**	**0.91**	**269**	P	**Pb**	**23 12 38.7**	**+1.0**
JTSR	**Tashiro 2**	**1.31**	**0**	P	**Pb**	**23 12 44.3**	**-0.2**
JSU	**Suzuyama**	**1.69**	**346**	P	**Pn**	**23 12 48.6**	**+0.3**
JNAR	**Kushima--Naru**	**1.69**	**10**	P	**Pb**	**23 12 50.5**	**-0.5**
JAMN	**Amaminishikomi**	**2.22**	**224**	P	**Pb**	**23 12 59.5**	**-0.4**
JNU	**Nakatsue**	**3.26**	**359**	Pn	**Pn**	**23 13 10.3**	**+0.6**
	1.9nm,0.3s,baz=163,slow=14,SNR=12						
JNU				Sn	**Sn**	**23 13 49.2**	**+1.6**
	1.3nm,0.3s,baz=148,slow=18,SNR=2.6						
SONM	**Songino Array**	**26.04**	**320**	P	**P**	**23 17 50.8**	**-0.6**
	0.3nm,0.7s,baz=137,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**41.03**	**308**	P	**P**	**23 20 01.7**	**+0.4**
	0.4nm,0.5s,baz=92,slow=10,SNR=10						
FINES	**FINESS Array B**	**70.89**	**331**	P	**P**	**23 23 34.3**	**-0.4**
	1.9nm,0.8s,baz=49,slow=4.4,SNR=4.7						

*ATH **30** 23:54:42.4, 41°.04N×20°.08E, h29km±4km, MD3.5/27*
*BEO **30** 23:54:42.1±0.8, 40°.93N×20°.16E, h8km±4km, ML2.6/6*
*SKO **30** 23:54:42.4, 41°.02N×20°.03E, h15km, M2.6, ML3.0*
*PDG **30** 23:54:42.7±0.3, 40°.96N×20°.14E, h24km, ML3.0/10, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*ISCJB **30** 23:54:42.5±0.3, 41°.00N±0°.01×20°.16E±0°.02, h8km±2km, Error ellipse: s-maj=2.6km s-min=1.7km az=157.7*
*CSEM **30** 23:54:43.5±0.1, 41°.01N×20°.13E, h15km, ML3.3, Error ellipse: s-maj=2.6km s-min=1.6km az=65.0*
*TIR **30** 23:54:43.2±1.0, 41°.00N×20°.17E, h20km±11km, ML3.3*
*THE **30** 23:54:44.6, 41°.03N×20°.18E, h16km, ML2.8/7, Error ellipse: s-maj=0.9km s-min=0.4km az=137.0*
ISC 30 23:54:43.0±1.0, 41°.01N±0°.01×20°.14E±0°.02, h17km±8km, n176, σ0°97/292, 22C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.63**	**128**	*e*PG	**Pb**	**23 54 56.0**	**+0.4**
KBN				*e*SG	**Sn**	**23 55 06.2**	**-0.7**
KBN	**Korca**	**0.63**	**128**	P	**Pb**	**23 54 56.3**	**+0.7**
KBN				S	**Sn**	**23 55 06.0**	**-1.0**
KBN	**Korca**	**0.63**	**128**	*e*Pg	**Pb**	**23 54 56.0**	**+0.4**
	SNR=115						
KBN	**Korca**	**0.63**	**128**	P	**Pb**	**23 54 56.3**	**+0.7**
KBN				S	**Sn**	**23 55 06.0**	**-1.0**
PHP	**Peshkopia**	**0.71**	**19**	*e*PG	**Pb**	**23 54 57.1**	**+0.1**
PHP				*e*SG	**Sn**	**23 55 09.4**	**+0.5**
PHP	**Peshkopia**	**0.71**	**19**	P	**Pb**	**23 54 57.2**	**+0.2**
PHP				S	**Sn**	**23 55 08.2**	**-0.7**
PHP	**Peshkopia**	**0.71**	**19**	P	**Pb**	**23 54 57.2**	**+0.2**
PHP				S	**Sn**	**23 55 08.2**	**-0.7**
PHP				*e*Sg	**Sn**	**23 55 09.4**	**+0.5**
	SNR=110						
VLO	**Vlora**	**0.73**	**222**	*e*SG	**Sn**	**23 55 10.1**	**+0.7**
VLO	**Vlora**	**0.73**	**222**	P	**Pn**	**23 54 59.2**	**+0.7**
VLO				S	**Sn**	**23 55 10.0**	**+0.7**
VLO	**Vlora**	**0.73**	**222**	P	**Pn**	**23 54 59.2**	**+0.7**
VLO				S	**Sn**	**23 55 10.0**	**+0.7**
BIA	**Bitola**	**0.90**	**89**	P	**Pg**	**23 55 00.5**	**0.0**
BIA				S	**Sn**	**23 55 12.9**	**-0.7**
BIA	**Bitola**	**0.90**	**89**	*i* Pg	**Pb**	**23 55 00.0**	**-0.2**
BIA				*i* Sg	**Sn**	**23 55 13.1**	**-0.5**
BIA	**Bitola**	**0.90**	**89**	*i* Pg	**Pb**	**23 55 00.0**	**-0.2**
BIA	**Bitola**	**0.90**	**89**	P	**Pg**	**23 55 00.5**	**0.0**
BIA				S	**Sn**	**23 55 12.9**	**-0.7**
NEST	**Nestorio**	**0.92**	**130**	P	**Pn**	**23 55 01.2**	**0.0**
NEST				S	**Sn**	**23 55 14.9**	**+0.8**
NEST	**Nestorio**	**0.92**	**130**	P	**Pn**	**23 55 01.2**	**0.0**
NEST				S	**Sn**	**23 55 14.9**	**+0.8**
FNA	**Florina**	**0.97**	**103**	P	**Pn**	**23 55 02.0**	**+0.1**
FNA				S	**Sn**	**23 55 15.9**	**+0.6**
FNA	**Florina**	**0.97**	**103**	*e*PN	**Pn**	**23 55 02.1**	**+0.1**
FNA				*e*SN	**Sn**	**23 55 16.1**	**+0.8**
FNA	**Florina**	**0.97**	**103**	P	**Pn**	**23 55 02.0**	**+0.1**
FNA				*e*Sn	**Sn**	**23 55 16.1**	**+0.8**
PUK	**Puka**	**1.04**	**350**	*e*PG	**Pn**	**23 55 03.6**	**+0.6**
PUK				*e*SG	**Sn**	**23 55 19.5**	**+2.3**
PUK	**Puka**	**1.04**	**350**	*e*Pg	**Pn**	**23 55 03.6**	**+0.6**
	SNR=101						
PUK				*e*Sg	**Sn**	**23 55 19.5**	**+2.3**
	SNR=101						
SRN	**Sarande**	**1.14**	**185**	*e*PG	**Pg**	**23 55 04.7**	**-0.3**
SRN				*e*SG	**Sg**	**23 55 20.9**	**+1.1**
SRN	**Sarande**	**1.14**	**185**	P	**Pg**	**23 55 05.0**	**0.0**
SRN				S	**Sg**	**23 55 21.4**	**+1.6**
SRN	**Sarande**	**1.14**	**185**	*e*Pg	**Pg**	**23 55 04.7**	**-0.3**
	SNR=100						
SRN	**Sarande**	**1.14**	**185**	P	**Pg**	**23 55 05.0**	**0.0**
SRN				*e*Sg	**Sg**	**23 55 20.9**	**+1.1**
	SNR=100						
SRN				S	**Sg**	**23 55 21.4**	**+1.6**
ULC	**Ulcinj**	**1.16**	**325**	⇑*i*Pg	**Pb**	**23 55 05.0**	**+0.3**
ULC				*e*Sg	**Sg**	**23 55 22.6**	**+2.0**
ULC	**Ulcinj**	**1.16**	**325**	⇑*i*Pg	**Pb**	**23 55 05.0**	**+0.3**
ULC				*e*Sg	**Sg**	**23 55 22.6**	**+2.0**
KEK	**Kerkira**	**1.32**	**191**	P	**Pg**	**23 55 08.1**	**-0.4**
KEK				S	**Sg**	**23 55 26.2**	**+0.4**
KEK	**Kerkira**	**1.32**	**191**	*e*PN	**Pn**	**23 55 06.7**	**-0.1**
KEK				*e*SN	**Sb**	**23 55 25.0**	**+0.9**
KEK	**Kerkira**	**1.32**	**191**	*e*Pn	**Pn**	**23 55 06.7**	**-0.1**
KEK	**Kerkira**	**1.32**	**191**	P	**Pg**	**23 55 08.1**	**-0.4**
KEK				*e*Sn	**Sb**	**23 55 25.0**	**+0.9**
KEK				S	**Sg**	**23 55 26.2**	**+0.4**
BCI	**Bajram Curri**	**1.35**	**358**	*e*PG	**Pg**	**23 55 09.2**	**+0.1**
BCI				*e*SG	**Sg**	**23 55 28.6**	**+1.9**
BCI	**Bajram Curri**	**1.35**	**358**	*e*Pg	**Pg**	**23 55 09.2**	**+0.1**
	SNR=97						
SKO	**Skopje**	**1.37**	**45**	P	**Pb**	**23 55 08.1**	**-0.1**
SKO				S	**Sg**	**23 55 26.8**	**-0.5**
SKO	**Skopje**	**1.37**	**45**	⇑*i*Pg	**Pb**	**23 55 07.9**	**-0.3**

SKO	**Skopje**	**1.37**	**45**	*e*Pg	**Pb**	**23 55 07.8**	**-0.3**
SKO				*e*Sg	**Sg**	**23 55 26.5**	**-0.7**
SKO				*e*Lg	Lg	23 55 27.2	
	comp=N,501nm,0.5s						
SKO				*e*Lg	Lg	23 55 27.4	
	comp=E,389nm,0.9s						
SKO	**Skopje**	**1.37**	**45**	P	**Pb**	**23 55 08.1**	**-0.1**
SKO				S	**Sg**	**23 55 26.8**	**-0.5**
SKO				*e*Lg	Lg	23 55 27.8	
	comp=E,389nm,0.9s						
DRME	**Dracevica, Mon**	**1.37**	**329**	⇑*i*Pg	**Pb**	**23 55 08.7**	**+0.5**
DRME				*e*Sg	**Sg**	**23 55 28.0**	**+0.7**
DRME	**Dracevica, Mon**	**1.37**	**329**	⇑*i*Pg	**Pb**	**23 55 08.7**	**+0.5**
DRME				*e*Sg	**Sg**	**23 55 28.0**	**+0.7**
KZN	**Kozani**	**1.43**	**119**	P	**Pb**	**23 55 09.3**	**0.0**
KZN				S	**Sg**	**23 55 28.5**	**-0.7**
KZN	**Kozani**	**1.43**	**119**	*e*PN	**Pg**	**23 55 09.9**	**-0.7**
KZN				*e*SN	**Sg**	**23 55 29.4**	**+0.2**
KZN	**Kozani**	**1.43**	**119**	P	**Pb**	**23 55 09.3**	**0.0**
KZN	**Kozani**	**1.43**	**119**	*e*Pn	**Pg**	**23 55 09.9**	**-0.7**
KZN				S	**Sg**	**23 55 28.5**	**-0.7**
KZN				*e*Sn	**Sg**	**23 55 29.4**	**+0.2**
JAN	**Janina**	**1.46**	**158**	P	**Pb**	**23 55 10.1**	**+0.3**
JAN				S	**Sg**	**23 55 29.2**	**-0.9**
JAN	**Janina**	**1.46**	**158**	*e*PN	**Pg**	**23 55 10.6**	**-0.5**
JAN				*e*SN	**Sg**	**23 55 29.3**	**-0.9**
JAN	**Janina**	**1.46**	**158**	P	**Pb**	**23 55 10.1**	**+0.3**
JAN	**Janina**	**1.46**	**158**	*e*Pn	**Pg**	**23 55 10.6**	**-0.5**
JAN				*e*Sn	**Sg**	**23 55 29.3**	**-0.9**
IGT	**Igoumenitsa**	**1.49**	**174**	P	**Pb**	**23 55 09.9**	**-0.3**
IGT				S	**Sb**	**23 55 29.7**	**+0.9**
IGT	**Igoumenitsa**	**1.49**	**174**	*e*PN	**Pb**	**23 55 09.8**	**-0.4**
IGT				*e*SN	**Sb**	**23 55 29.5**	**+0.7**
IGT	**Igoumenitsa**	**1.49**	**174**	P	**Pb**	**23 55 09.9**	**-0.3**
IGT				*e*Sn	**Sb**	**23 55 29.5**	**+0.7**
PDG	**Podgorica**	**1.56**	**335**	P	**Pb**	**23 55 11.1**	**-0.3**
PDG				S	**Sb**	**23 55 31.6**	**+0.7**
PDG	**Podgorica**	**1.56**	**335**	*e*Pn	**Pn**	**23 55 10.8**	**+0.8**
PDG				*i* Sg	**Sg**	**23 55 33.7**	**+0.4**
PDG	**Podgorica**	**1.56**	**335**	*e*Pn	**Pn**	**23 55 10.8**	**+0.8**
PDG	**Podgorica**	**1.56**	**335**	P	**Pb**	**23 55 11.1**	**-0.3**
PDG				S	**Sb**	**23 55 31.6**	**+0.7**
PDG				*e*Sn	**Sg**	**23 55 32.8**	**-0.5**
PDG				*i* Sg	**Sg**	**23 55 33.7**	**+0.4**
TTG	**Podgorica**	**1.56**	**335**	⇓*i*Pn	**Pb**	**23 55 11.1**	**-0.3**
TTG				*e*Sn	**Sg**	**23 55 32.8**	**-0.5**
PVY	**Plav**	**1.58**	**355**	⇑*i*Pn	**Pb**	**23 55 11.5**	**-0.4**
PVY				*e*Sn	**Sg**	**23 55 34.1**	**0.0**
PVY	**Plav**	**1.58**	**355**	⇑*i*Pn	**Pb**	**23 55 11.5**	**-0.4**
PVY				*e*Sn	**Sg**	**23 55 34.1**	**0.0**
BUM	**Brajici-Budva**	**1.59**	**325**	⇑*i*Pn	**Pn**	**23 55 10.9**	**+0.5**
BUM				*e*Sn	**Sg**	**23 55 33.5**	**-0.7**
BUM	**Brajici-Budva**	**1.59**	**325**	⇑*i*Pn	**Pn**	**23 55 10.9**	**+0.5**
BUM				*e*Sn	**Sg**	**23 55 33.5**	**-0.7**
GRG	**Griva**	**1.72**	**91**	P	**Pn**	**23 55 12.9**	**+0.7**
GRG				S	**Sn**	**23 55 34.4**	**+0.7**
GRG	**Griva**	**1.72**	**91**	*e*PN	**Pn**	**23 55 12.9**	**+0.7**
GRG				*e*SN	**Sb**	**23 55 35.8**	**+0.4**
GRG	**Griva**	**1.72**	**91**	P	**Pn**	**23 55 12.9**	**+0.7**
GRG				S	**Sn**	**23 55 34.4**	**+0.7**
GRG				*e*Sn	**Sb**	**23 55 35.8**	**+0.4**
VAY	**Valandovo**	**1.86**	**80**	P	**Pn**	**23 55 14.2**	**+0.1**
VAY				S	**Sn**	**23 55 38.4**	**+1.1**
VAY	**Valandovo**	**1.86**	**80**	⇓*i*Pn	**Pn**	**23 55 14.0**	**-0.1**
VAY				*e*Sn	**Sn**	**23 55 37.4**	**+0.1**
VAY	**Valandovo**	**1.86**	**80**	*i* Pn	**Pn**	**23 55 14.0**	**-0.1**
VAY				*i* Sg	**Sg**	**23 55 44.2**	**+1.2**
VAY				*e*Lg	Lg	23 55 44.6	
	comp=N,62nm,0.6s						
VAY				*e*Lg	Lg	23 55 45.2	
	comp=E,50nm,0.7s						
VAY	**Valandovo**	**1.86**	**80**	P	**Pn**	**23 55 14.2**	**+0.1**
VAY	**Valandovo**	**1.86**	**80**	*i* Pn	**Pn**	**23 55 14.5**	**+0.4**
VAY				*e*Sn	**Sn**	**23 55 37.4**	**+0.1**
VAY				S	**Sn**	**23 55 38.4**	**+1.1**
VAY				*e*Lg	Lg	23 55 45.7	
	comp=E,50nm,0.7s						
BEY	**Berane**	**1.86**	**355**	⇑*i*Pn	**Pb**	**23 55 15.8**	**-0.9**
BEY				*e*Sn	**Sb**	**23 55 40.2**	**+0.4**
IVA	**Berane**	**1.86**	**355**	⇑*i*Pn	**Pb**	**23 55 15.8**	**-0.9**
IVA				*e*Sn	**Sb**	**23 55 40.2**	**+0.4**
HCY	**Herceg Novi**	**1.89**	**320**	⇓*i*Pn	**Pn**	**23 55 14.5**	**0.0**
HCY				*e*Sn	**Sb**	**23 55 39.9**	**-0.4**
HCY	**Herceg Novi**	**1.89**	**320**	⇓*i*Pn	**Pn**	**23 55 14.5**	**0.0**
HCY				*e*Sn	**Sb**	**23 55 39.9**	**-0.4**
NKME	**Niksic**	**1.96**	**334**	*e*Pn	**Pn**	**23 55 16.3**	**+0.7**
NKME				*e*Sn	**Sb**	**23 55 42.2**	**-0.3**
NKME	**Niksic**	**1.96**	**334**	*e*Pn	**Pn**	**23 55 16.3**	**+0.7**
NKME				*e*Sn	**Sb**	**23 55 42.2**	**-0.3**
NKY	**Niksic**	**1.99**	**335**	⇓*i*Pn	**Pn**	**23 55 16.4

VTS					*e*Sn		**Sn**	**23 56 00.6 +0.3**
VTS					S		**Sn**	**23 56 01.4 +1.1**
NVR	**Nevrokopi**	**2.83**	**82**		*e*Pn		**Pn**	**23 55 28.3 +0.8**
NVR	**Nevrokopi**	**2.83**	**82**		*e*Pn		**Pn**	**23 55 28.3 +0.8**
VLS	**Valsamata**	**2.85**	**173**		*e*PN		**Pn**	**23 55 27.1 -0.7**
VLS	**Valsamata**	**2.85**	**173**		*e*Pn		**Pn**	**23 55 27.1 -0.7**
XOR	**Xorichti**	**2.86**	**124**		P		**Pn**	**23 55 29.1 +1.2**
XOR					S		**Sn**	**23 56 03.3 +1.3**
XOR	**Xorichti**	**2.86**	**124**		*e*PN		**Pn**	**23 55 28.6 +0.7**
XOR	**Xorichti**	**2.86**	**124**		*e*Pn		**Pn**	**23 55 28.6 +0.7**
XOR	**Xorichti**	**2.86**	**124**		P		**Pn**	**23 55 29.1 +1.2**
XOR					S		**Sn**	**23 56 03.3 +1.3**
GRUS	**Gruza**	**2.91**	**8**	⇑	*i*Pn		**Pn**	**23 55 29.9 +1.4**
GRUS	**Gruza**	**2.91**	**8**	⇑	*i*Pn		**Pn**	**23 55 29.9 +1.4**
PAIG	**Paliouri**	**2.91**	**111**		*e*PN		**Pn**	**23 55 28.8 +0.2**
PAIG					*e*SN		**Sn**	**23 56 03.0 -0.2**
PAIG	**Paliouri**	**2.91**	**111**		*e*Pn		**Pn**	**23 55 28.8 +0.2**
PAIG					*e*Sn		**Sn**	**23 56 03.0 -0.2**
NEO	**Neokhori**	**2.92**	**125**		*e*PN		**Pn**	**23 55 29.0 +0.3**
NEO					*e*SN		**Sn**	**23 56 03.9 +0.6**
NEO	**Neokhori**	**2.92**	**125**		*e*Pn		**Pn**	**23 55 29.0 +0.3**
NEO					*e*Sn		**Sn**	**23 56 03.9 +0.6**
EFP	**Efpalio**	**2.92**	**152**		*e*PN		**Pn**	**23 55 30.8 +2.1**
EFP	**Efpalio**	**2.92**	**152**		*e*Pn		**Pn**	**23 55 30.8 +2.1**
ZAPS	**Zavoj**	**2.92**	**39**	⇑	*i*Pn		**Pn**	**23 55 30.6 +1.8**
ZAPS					*e*Sn		**Sn**	**23 56 05.4 +1.9**
OUR	**Ouranopolis**	**3.00**	**102**		*e*PN		**Pn**	**23 55 30.5 +0.7**
OUR	**Ouranopolis**	**3.00**	**102**		*e*Pn		**Pn**	**23 55 30.5 +0.7**
KALE	**Kalithea**	**3.04**	**149**		*e*Pn		**Pn**	**23 55 31.9 +1.5**
KALE	**Kalithea**	**3.04**	**149**		*e*Pn		**Pn**	**23 55 31.9 +1.5**
DIVS	**Divibare**	**3.08**	**358**	⇑	*i*Pn		**Pn**	**23 55 32.2 +1.2**
DIVS	**Divibare**	**3.08**	**358**	⇑	*i*Pn		**Pn**	**23 55 32.2 +1.2**
LAKA	**Lakka**	**3.11**	**152**		*e*PN		**Pn**	**23 55 32.6 +1.2**
LAKA	**Lakka**	**3.11**	**152**		*e*Pn		**Pn**	**23 55 32.6 +1.2**
BOLS	**Boljevac**	**3.12**	**25**	⇑	*i*Pn		**Pn**	**23 55 31.5 +0.1**
BOLS	**Boljevac**	**3.12**	**25**	⇑	*i*Pn		**Pn**	**23 55 31.5 +0.1**
RLS	**Riolos of Patr**	**3.13**	**160**		*e*PN		**Pn**	**23 55 31.7 +0.2**
RLS					*e*SN		**Sn**	**23 56 08.6 +0.1**
RLS	**Riolos of Patr**	**3.13**	**160**		*e*Pn		**Pn**	**23 55 31.7 +0.2**
RLS					*e*Sn		**Sn**	**23 56 08.6 +0.1**
SKIA	**Skiathos**	**3.15**	**125**		*e*PN		**Pn**	**23 55 32.5 +0.6**
SKIA	**Skiathos**	**3.15**	**125**		*e*Pn		**Pn**	**23 55 32.5 +0.6**
DSF	**Desfina**	**3.19**	**144**		*e*PN		**Pn**	**23 55 34.0 +1.6**
DSF	**Desfina**	**3.19**	**144**		*e*Pn		**Pn**	**23 55 34.0 +1.6**
TRUS	**Trudelj**	**3.21**	**3**		*e*PN		**Pn**	**23 55 33.5 +0.8**
TRUS	**Trudelj**	**3.21**	**3**		*e*Pn		**Pn**	**23 55 33.5 +0.8**
LKR	**Lokris**	**3.23**	**136**		*e*PN		**Pn**	**23 55 34.9 +2.0**
LKR	**Lokris**	**3.23**	**136**		*e*Pn		**Pn**	**23 55 34.9 +2.0**
DRO	**Drossia**	**3.29**	**158**		*e*PN		**Pn**	**23 55 34.7 +0.9**
DRO	**Drossia**	**3.29**	**158**		*e*Pn		**Pn**	**23 55 34.7 +0.9**
KAVA	**Kavala**	**3.31**	**89**		*e*PN		**Pn**	**23 55 34.5 +0.4**
KAVA	**Kavala**	**3.31**	**89**		*e*Pn		**Pn**	**23 55 34.5 +0.4**
SVIS	**Svilajnac**	**3.35**	**13**		*e*Pn		**Pn**	**23 55 36.0 +1.5**
KLV	**Kalavryta, Ach**	**3.35**	**152**		*e*PN		**Pn**	**23 55 36.2 +1.5**
KLV	**Kalavryta, Ach**	**3.35**	**152**		*e*Pn		**Pn**	**23 55 36.2 +1.5**
GUR	**Goura**	**3.52**	**150**		*e*PN		**Pn**	**23 55 37.7 +0.7**
GUR	**Goura**	**3.52**	**150**		*e*Pn		**Pn**	**23 55 37.7 +0.7**
MRKA	**Markates**	**3.52**	**130**		*e*PN		**Pn**	**23 55 38.8 +1.9**
MRKA	**Markates**	**3.52**	**130**		*e*Pn		**Pn**	**23 55 38.8 +1.9**
AMT	**Artemida-Makis**	**3.69**	**160**		*e*PN		**Pn**	**23 55 39.9 +0.7**
AMT	**Artemida-Makis**	**3.69**	**160**		*e*Pn		**Pn**	**23 55 39.9 +0.7**
LTK	**Loutraki**	**3.70**	**143**		*e*PN		**Pn**	**23 55 38.5 -1.0**
LTK	**Loutraki**	**3.70**	**143**		*e*Pn		**Pn**	**23 55 38.5 -1.0**
RDO	**Rodhopi**	**4.08**	**86**		*e*PN		**Pn**	**23 55 45.2 +0.5**
RDO	**Rodhopi**	**4.08**	**86**		*e*Pn		**Pn**	**23 55 45.2 +0.5**
PYL	**PYLOS**	**4.30**	**163**		*e*PN		**Pn**	**23 55 46.9 -0.7**
PYL					*e*SN		**Sn**	**23 56 37.4 0.0**
PYL	**PYLOS**	**4.30**	**163**		*e*Pn		**Pn**	**23 55 46.9 -0.7**
PYL					*e*Sn		**Sn**	**23 56 37.4 0.0**
UDBI	**Udbina**	**4.76**	**319**		*e*Pn		**Pn**	**23 55 53.7 -0.4**
UDBI					Sn		**Sn**	**23 56 48.2 -0.7**
UDBI	**Udbina**	**4.76**	**319**		*e*Pn		**Pn**	**23 55 53.6 -0.4**
UDBI					Sn		**Sn**	**23 56 48.2 -0.7**
VLI	**Veliai**	**4.81**	**152**		*e*PN		**Pn**	**23 55 55.9 +1.2**
VLI	**Veliai**	**4.81**	**152**		*e*Pn		**Pn**	**23 55 55.9 +1.2**
NVLJ	**Novalja**	**5.25**	**314**		*e*Pn		**Pn**	**23 55 59.9 -0.8**
NVLJ					Sn		**Sn**	**23 56 56.7 -4.2**
NVLJ	**Novalja**	**5.25**	**314**		*e*Pn		**Pn**	**23 55 59.9 -0.8**

*ISCJB **30** 23:58:06.1±0.9, 65°.99N±0°.10×53°.2W±0°.2, h10km, Error ellipse: s-maj=16.8km s-min=5.2km az=143.2*
*OTT **30** 23:58:09.9±0.5, 65°.98N×52°.69W, h18km, ML3.7/2, West coast of Greenland. 529km east from Qikiqtarjuaq, Nu*
ISC 30 23:58:08.6±1.3, **66°.1N**±0°.1×**53°.18W**±0°.08, **h10**km, **n8**, σ2§**18**/13, **Western Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**1.39**	**46**	*i* P		**Pn**	**23 58 34.0**	**0.0**
SFJD				*i* S		**Sn**	**23 58 50.7**	**-1.7**
SFJD	**Kangerlussuaq**	**1.39**	**46**	PG		**Pn**	**23 58 34.0**	**0.0**
SFJD				SG		**Sn**	**23 58 51.2**	**-1.2**
SFJD				Trac			23 58 51.7	
	comp=Z,466nm,0.2s							
ILULI	**Ilulissat**	**3.27**	**13**	*i* P		Pn	23 59 03.2	+3.5
ILULI				*e*S		**Sn**	**23 59 40.0**	**+1.4**
FRB	**Frobisher Bay**	**6.93**	**258**	PN		**Pn**	**23 59 49.0**	**-1.1**
FRB				SN		**Sn**	**00 01 07.9**	**-1.0**
FRB				Trac			00 01 10.3	
	comp=Z,162nm,2.0s							
SUMG	**Summit**	**8.34**	**32**	*i* P		**Pn**	**00 00 12.0**	**+2.3**
SUMG				*i* S		**Sn**	**00 01 40.7**	**-3.2**
ILON	**Igloolik, Nuna**	**11.30**	**300**	PN		**Pn**	**00 00 52.7**	**+2.9**
ILON				SN		**Sn**	**00 02 52.3**	**-3.7**
ILON				Trac			00 03 43.9	
	comp=Z,59nm,1.1s							
AKVQ	**Akulivik**	**12.31**	**256**	PN		**Pn**	**00 01 02.4**	**-1.3**
SCHQ	**Schefferville**	**13.08**	**217**	PN		**Pn**	**00 01 14.8**	**+0.5**
SCHQ				SN		Sn	00 03 32.1	-7.5
SCHQ				Trac			00 03 47.0	
	comp=Z,4μm,5.4s							

*IDC **31** 00:12:37.5±0.9, 34°.19N×25°.30E, h0km, mb3.8/12, mb1 3.9/23, mb1mx3.8/35, mbtmp3.8/23, ML3.4/8, Error ellipse: s-maj=18.0km s-min=13.5km az=20.0*
*ISCJB **31** 00:12:39.7±0.8, 34°.18N±0°.02×25°.38E±0°.02, h29km±7km, mb3.8/17, Error ellipse: s-maj=3.4km s-min=2.4km az=142.8*
*ATH **31** 00:12:41.3, 34°.19N×25°.18E, h36km±2km, MD3.8/12, ML3.6*
*ISK **31** 00:12:41.4, 34°.37N×25°.52E, h19km, MD4.3*
*CSEM **31** 00:12:42.0±0.1, 34°.20N×25°.34E, h30km, mb4.2/4, Error ellipse: s-maj=2.8km s-min=1.9km az=43.0*
*HLW **31** 00:12:43.7, 34°.17N×25°.57E, h31km±2km, Md0.0, Ml3.8*
*THE **31** 00:12:45.7, 34°.47N×25°.23E, h16km±1km, ML3.8/3, Error ellipse: s-maj=2.2km s-min=0.8km az=208.0*
*NIC **31** 00:12:48.6±0.2, 34°.89N×25°.81E, h25km, mb4.5, ML4.0*
ISC 31 00:12:40.6±1.1, **34°.17N**±0°.02×**25°.35E**±0°.03, **h24**km±9km, **n315**, σ1§**23**/344, **mb4.0**/17, **1D**, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.96**	**332**	*e*PG		**Pb**	**00 12 58.5**	**-0.1**
SIVA				*e*SG		**Sn**	**00 13 11.5**	**0.0**
SIVA	**Sivas**	**0.96**	**332**	P		**Pb**	**00 12 58.5**	**-0.1**
SIVA				S		**Sb**	**00 13 07.8**	**-3.0**
SIVA	**Sivas**	**0.96**	**332**	*e*PN		**Pb**	**00 12 58.5**	**-0.1**
SIVA				*e*SN		**Sb**	**00 13 10.7**	**-0.1**
SIVA	**Sivas**	**0.96**	**332**	P		**Pb**	**00 12 58.5**	**-0.1**
SIVA				*e*Sn		**Sb**	**00 13 10.7**	**-0.1**
SIVA				*e*Sg		**Sn**	**00 13 11.5**	**0.0**
LAST	**Lasithi**	**1.00**	**6**	P		**Pb**	**00 12 59.9**	**+0.6**
LAST				S		**Sb**	**00 13 10.2**	**-1.8**
LAST	**Lasithi**	**1.00**	**6**	P		**Pb**	**00 12 59.9**	**+0.6**
LAST				S		**Sb**	**00 13 10.2**	**-1.8**
NPS	**Neapolis**	**1.11**	**11**	P		**Pb**	**00 13 02.0**	**+0.8**
NPS				S		**Sb**	**00 13 14.0**	**-1.3**
NPS	**Neapolis**	**1.11**	**11**	*e*PN		**Pb**	**00 13 02.1**	**+0.8**
NPS				*e*SN		**Sn**	**00 13 17.0**	**+1.7**
NPS	**Neapolis**	**1.11**	**11**	P		**Pb**	**00 13 02.0**	**+0.8**
NPS				S		**Sb**	**00 13 14.0**	**-1.3**
NPS				*e*Sn		**Sn**	**00 13 17.0**	**+1.7**
IDI	**Anoyia**	**1.18**	**341**	*e*PG		**Pb**	**00 13 02.2**	**-0.2**
IDI				*e*SG		**Sn**	**00 13 16.3**	**-0.8**
IDI	**Anoyia**	**1.18**	**341**	P		**Pb**	**00 13 02.2**	**-0.2**
IDI				S		**Sn**	**00 13 13.8**	**-3.3**
IDI	**Anoyia**	**1.18**	**341**	*e*PN		**Pb**	**00 13 02.2**	**-0.2**
IDI				*e*SN		**Sb**	**00 13 17.9**	**+0.6**
IDI	**Anoyia**	**1.18**	**341**	P		**Pb**	**00 13 02.2**	**-0.2**
IDI				*e*Sg		**Sn**	**00 13 16.3**	**-0.8**
IDI				*e*Sn		**Sb**	**00 13 17.9**	**+0.6**
IDI	**Anoyia**	**1.18**	**341**	Pn		**Pb**	**00 13 02.2**	**-0.2**
	74nm,0.3s,baz=165,slow=17,SNR=559							
IDI				Sn		**Sb**	**00 13 17.4**	**+0.2**
	170nm,0.3s,baz=292,slow=19,SNR=23							
ZKR	**Zakros**	**1.18**	**37**	*e*PG		**Pn**	**00 13 00.3**	**-1.4**
ZKR	**Zakros**	**1.18**	**37**	P		**Pb**	**00 13 04.2**	**+1.9**
ZKR	**Zakros**	**1.18**	**37**	*e*PN		**Pb**	**00 13 04.3**	**+1.9**
ZKR	**Zakros**	**1.18**	**37**	*e*Pg		**Pn**	**00 13 00.3**	**-1.4**
ZKR	**Zakros**	**1.18**	**37**	*e*Pn		**Pb**	**00 13 04.3**	**+1.9**
VAM	**Vamos**	**1.56**	**323**	P		**Pn**	**00 13 07.4**	**+0.6**
VAM				S		**Sn**	**00 13 25.2**	**-1.1**
VAM	**Vamos**	**1.56**	**323**	*e*PN		**Pn**	**00 13 07.5**	**+0.6**
VAM	**Vamos**	**1.56**	**323**	P		**Pn**	**00 13 07.4**	**+0.6**
VAM				S		**Sn**	**00 13 25.2**	**-1.1**
KARN	**Karanos**	**1.71**	**317**	P		**Pn**	**00 13 09.7**	**+0.8**
KARN	**Karanos**	**1.71**	**317**	*e*PB		**Pn**	**00 13 09.3**	**+0.4**
KARN	**Karanos**	**1.71**	**317**	*e*Pb		**Pn**	**00 13 09.3**	**+0.4**
KARN	**Karanos**	**1.71**	**317**	P		**Pn**	**00 13 09.7**	**+0.8**
KARP	**Karpathos**	**2.03**	**47**	P		**Pb**	**00 13 16.7**	**-0.1**
KARP				S		**Sb**	**00 13 40.7**	**-0.9**
KARP	**Karpathos**	**2.03**	**47**	*e*PN		**Pb**	**00 13 16.7**	**-0.1**
KARP	**Karpathos**	**2.03**	**47**	*e*Pn		**Pb**	**00 13 16.7**	**-0.1**
SANT	**Santorini**	**2.20**	**2**	*e*PN		**Pn**	**00 13 15.8**	**+0.1**
SANT	**Santorini**	**2.20**	**2**	P		**Pn**	**00 13 16.9**	**+1.2**
SANT				S		**Sn**	**00 13 39.7**	**-2.5**
SANT	**Santorini**	**2.20**	**2**	*e*PN		**Pn**	**00 13 17.2**	**+1.5**
SANT	**Santorini**	**2.20**	**2**	*e*Pn		**Pn**	**00 13 15.8**	**+0.1**
SANT	**Santorini**	**2.20**	**2**	P		**Pn**	**00 13 16.9**	**+1.2**
SANT				S		**Sn**	**00 13 39.7**	**-2.5**
ANKY	**Antikythira Is**	**2.39**	**316**	P		**Pn**	**00 13 19.7**	**+1.4**
ANKY	**Antikythira Is**	**2.39**	**316**	*e*PN		**Pn**	**00 13 19.0**	**+0.7**
ANKY	**Antikythira Is**	**2.39**	**316**	*e*Pn		**Pn**	**00 13 19.0**	**+0.7**
ANKY	**Antikythira Is**	**2.39**	**316**	P		**Pn**	**00 13 19.7**	**+1.4**
LTBQ	**Tobruq**	**2.42**	**210**	*i* P		**Pb**	**00 13 21.7**	**-1.9**
	SNR=76							
LTBQ				*e*S		**Sn**	**00 13 48.3**	**+0.6**
	167nm,0.3s,SNR=76							
SLUM		**2.67**	**183**	S		**Sn**	**00 13 55.0**	**+1.2**
	baz=187							
SLUM				AMP			00 13 00.0	
	comp=E,420μm,0.4s,logA/T=6.0,baz=187							
SLUM		**2.67**	**183**	P		**Pn**	**00 13 24.6**	**+2.4**
SLUM				S		**Sn**	**00 13 55.0**	**+1.2**
KYTH	**Kithira**	**2.83**	**319**	P		**Pn**	**00 13 24.9**	**+0.5**
KYTH	**Kithira**	**2.83**	**319**	*e*PN		**Pn**	**00 13 25.0**	**+0.5**
KYTH	**Kithira**	**2.83**	**319**	*e*Pn		**Pn**	**00 13 25.0**	**+0.5**
APE	**Apeiranthos**	**2.90**	**3**	*e*PN		**Pn**	**00 13 25.3**	**0.0**
APE	**Apeiranthos**	**2.90**	**3**	P		**Pn**	**00 13 25.8**	**+0.5**
APE				S		**Sn**	**00 13 57.7**	**-1.7**
APE	**Apeiranthos**	**2.90**	**3**	*e*Pn		**Pn**	**00 13 25.3**	**0.0**
APE	**Apeiranthos**	**2.90**	**3**	P		**Pn**	**00 13 25.8**	**+0.5**
APE				S		**Sn**	**00 13 57.7**	**-1.7**
ARG	**Arkhangelos**	**3.06**	**47**	P		**Pn**	**00 13 30.1**	**+2.7**
ARG				S		**Sn**	**00 14 05.5**	**+2.3**
ARG	**Arkhangelos**	**3.06**	**47**	*e*PN		**Pn**	**00 13 30.5**	**+3.1**
ARG	**Arkhangelos**	**3.06**	**47**	P		**Pn**	**00 13 30.1**	**+2.7**
ARG	**Arkhangelos**	**3.06**	**47**	*e*Pn		**Pn**	**00 13 30.5**	**+3.1**
ARG				S		**Sn**	**00 14 05.5**	**+2.3**
VLI	**Veliai**	**3.22**	**323**	P		**Pn**	**00 13 29.3**	**-0.4**
VLI	**Veliai**	**3.22**	**323**	*e*PN		**Pn**	**00 13 29.5**	**-0.2**
VLI	**Veliai**	**3.22**	**323**	*e*Pn		**Pn**	**00 13 29.5**	**-0.2**
MATC	**Matruh**	**3.23**	**150**	P		**Pn**	**00 13 31.6**	**+1.8**
	baz=153							
MATC	**Matruh**	**3.23**	**150**	P		**Pn**	**00 13 31.6**	**+1.8**
BODT	**Bodrum**	**3.30**	**28**	*e*PN		**Pn**	**00 13 30.2**	**-0.6**
BODT	**Bodrum**	**3.30**	**28**	*e*Pn		**Pn**	**00 13 30.2**	**-0.6**
HMAT	**Matruh**	**3.40**	**154**	P		**Pn**	**00 13 34.2**	**+2.0**
	baz=156							
HMAT	**Matruh**	**3.40**	**154**	P		**Pn**	**00 13 34.2**	**+2.0**
SMG	**Samos**	**3.73**	**18**	P		**Pn**	**00 13 37.6**	**+0.8**
SMG				S		**Sn**	**00 14 19.2**	**-0.8**
SMG	**Samos**	**3.73**	**18**	*e*PN		**Pn**	**00 13 38.9**	**+2.1**
SMG	**Samos**	**3.73**	**18**	P		**Pn**	**00 13 37.6**	**+0.8**
SMG	**Samos**	**3.73**	**18**	*e*Pn		**Pn**	**00 13 38.9**	**+2.1**
SMG				S		**Sn**	**00 14 19.2**	**-0.8**
DID	**Didima**	**3.75**	**333**	P		**Pn**	**00 13 36.3**	**-0.7**
DID	**Didima**	**3.75**	**333**	*e*PN		**Pn**	**00 13 37.7**	**+0.7**
DID	**Didima**	**3.75**	**333**	P		**Pn**	**00 13 36.3**	**-0.7**
DID	**Didima**	**3.75**	**333**	*e*Pn		**Pn**	**00 13 37.7**	**+0.7**
DALY	**Dalyan (Mu˘la**	**3.77**	**45**	*e*PN		**Pn**	**00 13 37.2**	**-0.1**
DALY	**Dalyan (Mu˘la**	**3.77**	**45**	*e*Pn		**Pn**	**00 13 37.2**	**-0.1**
NAIG	**Nisos Aigina**	**3.89**	**338**	*e*PN		**Pn**	**00 13 39.9**	**+1.0**
NAIG	**Nisos Aigina**	**3.89**	**338**	*e*Pn		**Pn**	**00 13 39.9**	**+1.0**
FETY	**Fethiye**	**3.92**	**50**	*e*PN		**Pn**	**00 13 39.4**	**+0.1**
FETY	**Fethiye**	**3.92**	**50**	*e*Pn		**Pn**	**00 13 39.4**	**+0.1**
ATHU	**Athens Univers**	**4.00**	**342**	P		**Pn**	**00 13 40.5**	**+0.1**
ATHU	**Athens Univers**	**4.00**	**342**	P		**Pn**	**00 13 40.5**	**+0.1**
ATH	**Athens Observa**	**4.02**	**341**	*e*PN		**Pn**	**00 13 41.7**	**+1.0**
ATH	**Athens Observa**	**4.02**	**341**	*e*Pn		**Pn**	**00 13 41.7**	**+1.0**
PTL	**Penteli**	**4.05**	**343**	P		**Pn**	**00 13 41.4**	**+0.2**
PTL	**Penteli**	**4.05**	**343**	*e*PN		**Pn**	**00 13 42.4**	**+1.2**
PTL	**Penteli**	**4.05**	**343**	P		**Pn**	**00 13 41.4**	**+0.2**
PTL	**Penteli**	**4.05**	**343**	*e*Pn		**Pn**	**00 13 42.4**	**+1.2**
ITM	**Ithomi**	**4.10**	**318**	P		**Pn**	**00 13 41.0**	**-0.8**
ITM	**Ithomi**	**4.10**	**318**	*e*PN		**Pn**	**00 13 42.4**	**+0.6**
ITM	**Ithomi**	**4.10**	**318**	P		**Pn**	**00 13 41.0**	**-0.8**
ITM	**Ithomi**	**4.10**	**318**	*e*Pn		**Pn**	**00 13 42.4**	**+0.6**
CHOS	**Chios island**	**4.25**	**7**	*e*PN		**Pn**	**00 13 43.8**	**-0.1**
CHOS	**Chios island**	**4.25**	**7**	P		**Pn**	**00 13 45.0**	**+1.1**
CHOS	**Chios island**	**4.25**	**7**	*e*Pn		**Pn**	**00 13 43.8**	**-0.1**
CHOS	**Chios island**	**4.25**	**7**	P		**Pn**	**00 13 45.0**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**4.29**	**28**	*e*PN		**Pn**	**00 13 43.8**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**4.29**	**28**	*e*Pn		**Pn**	**00 13 43.8**	**-0.8**
LTK	**Loutraki**	**4.30**	**334**	P		**Pn**	**00 13 44.0**	**-0.6**
LTK	**Loutraki**	**4.30**	**334**	*e*PN		**Pn**	**00 13 45.5**	**+0.9**
LTK	**Loutraki**	**4.30**	**334**	P		**Pn**	**00 13 44.0**	**-0.6**
LTK	**Loutraki**	**4.30**	**334**	*e*Pn		**Pn**	**00 13 45.5**	**+0.9**
BLCB	**Balcova**	**4.42**	**17**	*e*PN		**Pn**	**00 13 45.6**	**-0.6**
BLCB	**Balcova**	**4.42**	**17**	*e*Pn		**Pn**	**00 13 45.6**	**-0.6**
ERET	**Eretria**	**4.44**	**344**	P		**Pn**	**00 13 46.8**	**+0.2**
ERET	**Eretria**	**4.44**	**344**	P		**Pn**	**00 13 46.8**	**+0.2**
AMT	**Artemida-Makis**	**4.47**	**320**	P		**Pn**	**00 13 46.7**	**-0.3**
AMT	**Artemida-Makis**	**4.47**	**320**	P		**Pn**	**00 13 46.7**	**-0.3**
GUR	**Goura**	**4.48**	**328**	P		**Pn**	**00 13 46.6**	**-0.5**
GUR	**Goura**	**4.48**	**328**	*e*PN		**Pn**	**00 13 47.7**	**+0.6**
GUR	**Goura**	**4.48**	**328**	P		**Pn**	**00 13 46.6**	**-0.5**
GUR	**Goura**	**4.48**	**328**	*e*Pn		**Pn**	**00 13 47.7**	**+0.6**
GLHS	**Glhisar (BURDU**	**4.50**	**47**	*e*PN		**Pn**	**00 13 46.8**	**-0.6**
GLHS	**Glhisar (BURDU**	**4.50**	**47**	*e*Pn		**Pn**	**00 13 46.8**	**-0.6**
ELL	**Elmali**	**4.52**	**54**	*e*PN		**Pn**	**00 13 48.6**	**+0.9**
ELL	**Elmali**	**4.52**	**54**	*e*Pn		**Pn**	**00 13 48.6**	**+0.9**
KLV	**Kalavryta, Ach**	**4.66**	**327**	P		**Pn**	**00 13 49.1**	**-0.4**
KLV	**Kalavryta, Ach**	**4.66**	**327**	*e*PN		**Pn**	**00 13 50.3**	**+0.8**
KLV	**Kalavryta, Ach**	**4.66**	**327**	P		**Pn**	**00 13 49.1**	**-0.4**
KLV	**Kalavryta, Ach**	**4.66**	**327**	*e*Pn		**Pn**	**00 13 50.3**	**+0.8**
MRKA	**Markates**	**4.75**	**343**	P		**Pn**	**00 13 50.7**	**0.0**
MRKA	**Markates**	**4.75**	**343**	P		**Pn**	**00 13 50.7**	**0.0**
DRO	**Drossia**	**4.79**	**323**	P		**Pn**	**00 13 51.3**	**0.0**
DRO	**Drossia**	**4.79**	**323**	P		**Pn**	**00 13 51.3**	**0.0**
LKR	**Lokris**	**4.86**	**338**	P		**Pn**	**00 13 52.1**	**-0.1**
LKR	**Lokris**	**4.86**	**338**	*e*PN		**Pn**	**00 13 53.3**	**+1.1**
LKR	**Lokris**	**4.86**	**338**	P		**Pn**	**00 13 52.1**	**-0.1**
LKR	**Lokris**	**4.86**	**338**	*e*Pn		**Pn**	**00 13 53.3**	**+1.1**
SWA2		**4.91**	**179**	P		**Pn**	**00 13 54.6**	**+1.7**
	baz=182							
SWA2				S		**Sn**	**00 14 48.5**	**-0.6**
	baz=182							
SWA2		**4.91**	**179**	P		**Pn**	**00 13 54.6**	**+1.7**
SWA2				S		**Sn**	**00 14 48.4**	**-0.6**
RLS	**Riolos of Patr**	**5.00**	**322**	P		**Pn**	**00 13 54.7**	**+0.6**
RLS	**Riolos of Patr**	**5.00**	**322**	P		**Pn**	**00 13 54.7**	**+0.6**
SMIA	**Simia**	**5.01**	**340**	P		**Pn**	**00 13 54.8**	**+0.5**
SMIA	**Simia**	**5.01**	**340**	P		**Pn**	**00 13 54.8**	**+0.5**
KULA	**Kula-Manisa**	**5.09**	**31**	*e*PN		**Pn**	**00 13 55.7**	**+0.2**
KULA	**Kula-Manisa**	**5.09**	**31**	*e*Pn		**Pn**	**00 13 55.7**	**+0.2**
AKS	**Akhisar**	**5.10**	**22**	*e*PN		**Pn**	**00 13 55.1**	**-0.5**
AKS	**Akhisar**	**5.10**	**22**	*e*Pn		**Pn**	**00 13 55.1**	**-0.5**
ANTB	**Antalya**	**5.11**	**56**	*e*PN		**Pn**	**00 13 56.7**	**+1.0**
ANTB	**Antalya**	**5.11**	**56**	*e*Pn		**Pn**	**00 13 56.7**	**+1.0**
PRK	**Paraskevi**	**5.12**	**8**	P		**Pn**	**00 13 56.4**	**+0.6**
PRK	**Paraskevi**	**5.12**	**8**	P		**Pn**	**00 13 56.4**	**+0.6**
HBRG	**Burj al ʿArab**	**5.22**	**132**	P		**Pn**	**00 13 58.0**	**+0.8**
	baz=133							
KHL	**Karahalli**	**5.34**	**38**	*e*PN		**Pn**	**00 13 58.7**	**-0.3**
KHL	**Karahalli**	**5.34**	**38**	*e*Pn		**Pn**	**00 13 58.7**	**-0.3**
BCK	**Bucak**	**5.38**	**51**	*e*PN		**Pn**	**00 14 00.2**	**+0.8**
BCK	**Bucak**	**5.38**	**51**	*e*Pn		**Pn**	**00 14 00.2**	**+0.8**
KFL	**Anninata**	**5.39**	**318**	P		**Pn**	**00 14 00.4**	**+0.8**
KFL	**Anninata**	**5.39**	**318**	P		**Pn**	**00 14 00.4**	**+0.8**
LJBD	**Adjabya**	**5.43**	**235**	*i* P		**Pn**	**00 14 01.6**	**+1.5**
	SNR=76							
PDO	**Prodromos**	**5.55**	**324**	P		**Pn**	**00 14 02.3**	**+0.5**
PDO	**Prodromos**	**5.55**	**324**	P		**Pn**	**00 14 02.3**	**+0.5**
PPCY	**Paphos**	**5.82**	**81**	P		**Pn**	**00 14 06.4**	**+1.0**
	baz=271							
PPCY	**Paphos**	**5.82**	**81**	P		**Pn**	**00 14 06.4**	**+1.0**
AKMC	**Akamas**	**5.82**	**80**	P		**Pn**	**00 14 06.1**	**+0.7**
	baz=270							
AKMC	**Akamas**	**5.82**	**80**	P		**Pn**	**00 14 06.1**	**+0.7**
PAIG	**Paliouri**	**5.90**	**347**	P		**Pn**	**00 14 06.7**	**+0.2**
PAIG	**Paliouri**	**5.90**	**347**	P		**Pn**	**00 14 06.7**	**+0.2**
ALFC	**Alevga**	**6.05**	**79**	P		**Pn**	**00 14 09.3**	**+0

comp=E,31nm,1.1s
GERES **GERESS Array B** 17.03 333 Pn **Pn** 00 16 36.3 -0.9
comp=E,0.1nm,0.3s,baz=147,slow=13,SNR=4.6
DAVOX **Davos/Dischmat** 17.20 322 P **Pn** 00 16 37.0 -2.4
comp=E,0.1nm,0.3s,baz=144,slow=19,SNR=2.1
RETA **Reutte** 17.25 325 𝄩 *i* Pn **Pn** 00 16 38.2 -1.7
RETA **Reutte** 17.25 325 Pn **Pn** 00 16 38.2 -1.7
LMR **La Mourre** 17.28 308 *e*P **Pn** 00 16 35.7 -4.6
KHC **Kasperske Hory** 17.31 333 *e*P **Pn** 00 16 41.0 +0.4
MBDF **Montbardon** 17.77 312 *e*P **P** 00 16 46.9 -0.2
comp=E,20nm,1.1s
MBDF **Montbardon** 17.77 312 *e*P **P** 00 16 46.9 -0.2
comp=E,10.0nm,1.1s
CABF **La Chapelle** 19.17 316 *e*P **P** 00 17 01.6 -0.8
comp=E,26nm,1.2s
CABF **La Chapelle** 19.17 316 *e*P **P** 00 17 01.6 -0.8
comp=E,13nm,1.2s
LASF **Ste Croix** 19.34 307 *e*P **P** 00 17 04.7 +0.5
LASF **Ste Croix** 19.34 307 *e*P **P** 00 17 04.7 +0.5
HINF **Hinteralfeld** 19.45 320 *e*P **Pn** 00 17 06.7 0.0
HINF **Hinteralfeld** 19.45 320 *e*P **Pn** 00 17 06.7 0.0
CDF **Champ du Feu** 19.60 322 *e*P **P** 00 17 06.8 -0.3
comp=E,8.9nm,0.8s
CDF **Champ du Feu** 19.60 322 *e*P **P** 00 17 06.8 -0.3
comp=E,4.4nm,0.8s
HAU **Haudompre** 19.83 320 *e*P **Pn** 00 17 11.0 -0.3
comp=E,6.2nm,0.6s
HAU **Haudompre** 19.83 320 *e*P **Pn** 00 17 11.0 -0.3
comp=E,3.1nm,0.6s
PAGF **Fort de Pagny** 20.50 320 *e*P Pn 00 17 18.0 -1.0
PAGF **Fort de Pagny** 20.50 320 *e*P Pn 00 17 18.0 -1.0
SMF **Signal de Mont** 20.50 314 *e*P Pn 00 17 18.1 -1.0
SMF **Signal de Mont** 20.50 314 *e*P Pn 00 17 18.1 -1.0
SFTF **Sexfontaines** 20.66 319 *e*P **P** 00 17 19.3 +0.8
SFTF **Sexfontaines** 20.66 319 *e*P **P** 00 17 19.3 +0.8
LOR **Lormes** 20.81 315 *e*P **P** 00 17 21.3 +1.1
LOR **Lormes** 20.81 315 *e*P **P** 00 17 21.3 +1.1
MEZF **Maizieres J'vi** 20.82 320 *e*P Pn 00 17 22.8 0.0
MEZF **Maizieres J'vi** 20.82 320 *e*P Pn 00 17 22.8 0.0
SSF **Saint Saulge** 20.91 315 *e*P Pn 00 17 23.0 -0.9
SSF **Saint Saulge** 20.91 315 *e*P Pn 00 17 23.0 -0.9
BGF **Bois d'Agland** 21.06 313 *e*P **P** 00 17 24.0 +1.1
comp=E,11nm,0.6s
BGF **Bois d'Agland** 21.06 313 *e*P **P** 00 17 24.0 +1.1
comp=E,5.6nm,0.6s
RJF **Les Rejaudoux** 21.36 308 *e*P **P** 00 17 27.1 +1.0
comp=E,27nm,1.0s
RJF **Les Rejaudoux** 21.36 308 *e*P **P** 00 17 27.1 +1.0
comp=E,13nm,1.0s
BAIF **Baives** 22.20 322 *e*P **P** 00 17 35.2 +0.1
comp=E,8.0nm,0.7s
BAIF **Baives** 22.20 322 *e*P **P** 00 17 35.2 +0.1
comp=E,4.0nm,0.7s
LDF **La Druitiere** 23.79 315 *e*P **P** 00 17 50.6 -0.8
LDF **La Druitiere** 23.79 315 *e*P **P** 00 17 50.6 -0.8
ESDC **Sonseca Array** 24.01 292 P **P** 00 17 53.0 -0.7
comp=E,0.4nm,0.4s,baz=83,slow=8.5,SNR=5.5
FLN **La Foliniere** 24.08 315 *e*P **P** 00 17 53.2 -0.9
FLN **La Foliniere** 24.08 315 *e*P **P** 00 17 53.2 -0.9
QUIF **Quistinic** 25.35 311 *e*P **P** 00 18 04.7 -0.9
comp=E,10nm,0.5s
QUIF **Quistinic** 25.35 311 *e*P **P** 00 18 04.7 -0.9
comp=E,5.2nm,0.5s
FINES **FINESS Array B** 27.30 1 P **P** 00 18 20.7 -2.3
comp=E,2.2nm,1.0s,baz=171,slow=9.7,SNR=5.4
NOA **NORSAR Array B** 28.40 346 P **P** 00 18 34.6 +1.6
comp=E,0.4nm,0.6s,baz=147,slow=9.1,SNR=3.2
EKA **Eskdalemuir Ar** 28.94 326 P **P** 00 18 38.4 +0.6
comp=E,3.5nm,0.9s,baz=125,slow=9.6,SNR=4.0
TORD **Torodi Ar. Bea** 29.98 231 P **P** 00 18 48.5 +1.1
comp=E,0.8nm,0.4s,baz=36,slow=8.4,SNR=11
BVAR **Borovoye Array** 36.92 45 P **P** 00 19 48.2 +0.8
comp=E,0.5nm,0.8s,baz=287,slow=5.9,SNR=3.4
MKAR **Makanchi Array** 44.19 56 P **P** 00 20 48.7 +1.0
comp=E,1.2nm,0.5s,baz=269,slow=7.9,SNR=36
ZALV **Zalesovo Beam** 45.58 45 P **P** 00 20 58.4 -0.1
comp=E,0.9nm,0.4s,baz=273,slow=8.9,SNR=6.3
SONM **Songino Array** 59.99 50 P **P** 00 22 46.6 +1.3
comp=E,0.7nm,0.4s,baz=287,slow=8.1,SNR=16
SCHQ **Schefferville** 64.04 320 P **P** 00 23 11.9 -0.3
comp=E,3.8nm,0.9s,baz=66,slow=12,SNR=3.6
USRK **Ussuriysk Arra** 77.43 45 P **P** 00 24 33.8 0.0
comp=E,2.3nm,0.8s,baz=270,slow=6.6,SNR=3.4
YKA **Yellowknife Ar** 78.44 342 P **P** 00 24 38.6 -0.5
comp=E,0.2nm,0.6s,baz=30,slow=5.7,SNR=3.7
ILAR **Eielson Array** 81.20 357 P **P** 00 24 54.6 +0.6
comp=E,0.4nm,0.9s,baz=350,slow=4.6,SNR=3.2

ISK ***31*** *00:18:30.5,34˚.06N×25˚.44E,h14km,MD4.5*
IDC ***31*** *00:18:30.4±0.9,34˚.18N×25˚.31E,h0km,mb3.9/18, mb1 4.0/29,mb1mx3.9/39,mbtmp3.9/29,ML3.9/7,MS2.9/4, Ms1 3.0/4,ms1mx2.7/51,Error ellipse: s-maj=17.8km s-min=12.6km az=20.0*
CSEM ***31*** *00:18:32.6±0.1,34˚.17N×25˚.31E,h10km,ML4.2,Error ellipse: s-maj=2.9km s-min=1.7km az=41.0*
ATH ***31*** *00:18:32.4,34˚.12N×25˚.16E,h25km±1km,MD3.9/10, ML3.5*
ISCJB ***31*** *00:18:33.0±0.8,34˚.16N±0˚.02×25˚.41E±0˚.02,h33km±7km, mb3.8/20,MS2.8/1, Error ellipse: s-maj=3.9km s-min=2.5km az=136.5*
HLW ***31*** *00:18:34.9,34˚.30N×25˚.49E,h31km±46km,Md0.0,Ml3.8*
THE ***31*** *00:18:34.5,34˚.20N×25˚.22E,h6km±2km,ML4.2/1,Error ellipse: s-maj=2.7km s-min=0.9km az=262.0*
ISC 31 00:18:33.6±0.9,34˚.14N±0˚.03×25˚.29E±0˚.03,h23km±7km, n331,σ1$09/361,mb3.9/20,1C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.96**	**336**	*e*Pn	**Pb**		**00 18 51.7**	**+0.1**
SIVA				*e*Sn	**Sn**		00 19 07.1	+2.5
SIVA	**Sivas**	**0.96**	**336**	P	**Pb**		**00 18 51.4**	**-0.2**
SIVA				S	**Sn**		00 19 04.8	+0.2
SIVA	**Sivas**	**0.96**	**336**	*e*PN	**Pb**		**00 18 51.1**	**-0.5**
SIVA				*e*SN	**Sb**		00 19 03.4	-0.4
SIVA	**Sivas**	**0.96**	**336**	P	**Pb**		**00 18 51.4**	**-0.2**
SIVA	**Sivas**	**0.96**	**336**	*e*Pn	**Pb**		**00 18 51.7**	**+0.1**
SIVA				*e*Sn	**Sb**		00 19 03.4	-0.4
SIVA				S	**Sn**		00 19 04.8	+0.2
LAST	**Lasithi**	**1.03**	**9**	P	**Pn**		**00 18 52.8**	**+0.1**
LAST				S	**Sn**		00 19 08.0	+1.5
LAST	**Lasithi**	**1.03**	**9**	*e*PN	**Pn**		**00 18 52.9**	**+0.2**
LAST				*e*SN	**Sn**		00 19 07.8	+1.3
LAST	**Lasithi**	**1.03**	**9**	*e*Pn	**Pn**		**00 18 52.9**	**+0.2**
LAST				*e*Sn	**Sn**		00 19 07.8	+1.3
NPS	**Neapolis**	**1.15**	**13**	P	**Pn**		**00 18 54.8**	**+0.5**
NPS				S	**Sn**		00 19 10.8	+1.4
NPS	**Neapolis**	**1.15**	**13**	*e*PN	**Pb**		**00 18 55.0**	**+0.1**
NPS				*e*SN	**Sn**		00 19 11.7	+2.3
NPS	**Neapolis**	**1.15**	**13**	*e*Pn	**Pb**		**00 18 55.0**	**+0.1**
NPS				S	**Sn**		00 19 10.8	+1.4
NPS				*e*Sn	**Sn**		00 19 11.7	+2.3
IDI	**Anoyia**	**1.19**	**344**	*e*PN	**Pn**		**00 18 54.9**	**0.0**
IDI	**Anoyia**	**1.19**	**344**	P	**Pn**		**00 18 55.1**	**+0.2**
IDI				S	**Sb**		00 19 11.1	+0.6
IDI	**Anoyia**	**1.19**	**344**	*e*PN	**Pn**		**00 18 55.2**	**+0.3**
IDI	**Anoyia**	**1.19**	**344**	*e*Pn	**Pn**		**00 18 55.2**	**+0.3**
IDI				S	**Sb**		00 19 11.1	+0.6
IDI	**Anoyia**	**1.19**	**344**	Pn	**Pn**		**00 18 55.0**	**+0.1**
	34nm,0.3s,baz=158,slow=18,SNR=71							
IDI				Sn	**Sb**		00 19 11.2	+0.6
	74nm,0.3s,baz=209,slow=19,SNR=15							
ZKR	**Zakros**	**1.24**	**38**	*e*PN	**Pn**		**00 18 54.5**	**-1.0**
ZKR	**Zakros**	**1.24**	**38**	P	**Pb**		**00 18 57.0**	**+0.7**
ZKR				S	**Sb**		00 19 14.4	+2.5
ZKR	**Zakros**	**1.24**	**38**	*e*PN	**Pb**		**00 18 57.1**	**+0.8**
ZKR				*e*SN	**Sb**		00 19 15.2	+3.3
ZKR	**Zakros**	**1.24**	**38**	*e*Pn	**Pn**		**00 18 54.5**	**-1.0**
ZKR	**Zakros**	**1.24**	**38**	P	**Pb**		**00 18 57.0**	**+0.7**
ZKR				*e*Sn	**Sb**		00 19 15.2	+3.3
VAM	**Vamos**	**1.55**	**325**	P	**Pn**		**00 19 00.8**	**+1.0**
VAM	**Vamos**	**1.55**	**325**	*e*PN	**Pn**		**00 19 00.5**	**+0.7**
VAM				*e*SN	**Sn**		00 19 20.2	+1.1
VAM	**Vamos**	**1.55**	**325**	*e*Pn	**Pn**		**00 19 00.5**	**+0.7**
VAM	**Vamos**	**1.55**	**325**	P	**Pn**		**00 19 00.8**	**+1.0**
VAM				*e*Sn	**Sn**		00 19 20.2	+1.1
KARN	**Karanos**	**1.69**	**319**	P	**Pn**		**00 19 02.7**	**+1.0**
KARN	**Karanos**	**1.69**	**319**	*e*PN	**Pn**		**00 19 02.3**	**+0.6**
KARN	**Karanos**	**1.69**	**319**	*e*Pn	**Pn**		**00 19 02.3**	**+0.6**
KARN	**Karanos**	**1.69**	**319**	P	**Pn**		**00 19 02.7**	**+1.0**
KARP	**Karpathos**	**2.08**	**47**	P	**Pb**		**00 19 09.5**	**-1.3**
KARP				S	**Sb**		**00 19 35.0**	**-1.3**
KARP	**Karpathos**	**2.08**	**47**	*e*PB	**Pb**		**00 19 09.5**	**-1.3**
KARP	**Karpathos**	**2.08**	**47**	*e*Pb	**Pb**		**00 19 09.5**	**-1.3**
SANT	**Santorini**	**2.23**	**4**	*e*PN	**Pn**		**00 19 09.4**	**+0.2**
SANT	**Santorini**	**2.23**	**4**	P	**Pn**		**00 19 09.7**	**+0.5**
SANT	**Santorini**	**2.23**	**4**	*e*PN	**Pn**		**00 19 10.0**	**+0.8**
SANT	**Santorini**	**2.23**	**4**	*e*Pn	**Pn**		**00 19 09.4**	**+0.2**
SANT	**Santorini**	**2.23**	**4**	P	**Pn**		**00 19 09.7**	**+0.5**
ANKY	**Antikythira Is**	**2.37**	**317**	P	**Pn**		**00 19 11.6**	**+0.5**
ANKY	**Antikythira Is**	**2.37**	**317**	P	**Pn**		**00 19 11.6**	**+0.5**
LTBQ	**Tobruq**	**2.38**	**209**	*i* P	**Pb**		**00 19 14.8**	**-0.9**
	SNR=50							
LTBQ				*e*S	**Sn**		**00 19 41.6**	**+2.0**
	180nm,0.5s,SNR=50							
SLUM		**2.64**	**181**	S	**Sn**		**00 19 48.7**	**+2.5**
	baz=185							
SLUM				AMP			00 19 00.0	
	comp=N,260μm,0.2s,logA/T=6.1,baz=185							
SLUM		**2.64**	**181**	P	**Pn**		**00 19 17.4**	**+2.6**
SLUM				S	**Sn**		**00 19 48.7**	**+2.5**
KYTH	**Kithira**	**2.82**	**320**	P	**Pn**		**00 19 18.3**	**+1.0**
KYTH	**Kithira**	**2.82**	**320**	*e*PN	**Pn**		**00 19 18.1**	**+0.8**
KYTH	**Kithira**	**2.82**	**320**	*e*Pn	**Pn**		**00 19 18.1**	**+0.8**
APE	**Apeiranthos**	**2.93**	**4**	*e*PN	**Pn**		**00 19 19.1**	**+0.2**
APE	**Apeiranthos**	**2.93**	**4**	P	**Pn**		**00 19 19.0**	**+0.2**
APE	**Apeiranthos**	**2.93**	**4**	P	**Pn**		**00 19 19.0**	**+0.2**
ARG	**Arkhangelos**	**3.11**	**48**	P	**Pn**		**00 19 23.0**	**+1.7**
ARG				S	**Sn**		**00 20 00.6**	**+2.8**
ARG	**Arkhangelos**	**3.11**	**48**	*e*PN	**Pn**		**00 19 23.3**	**+2.0**
ARG	**Arkhangelos**	**3.11**	**48**	P	**Pn**		**00 19 23.0**	**+1.7**
ARG	**Arkhangelos**	**3.11**	**48**	*e*Pn	**Pn**		**00 19 23.3**	**+2.0**
VLI	**Veliai**	**3.21**	**324**	P	**Pn**		**00 19 22.5**	**-0.1**
VLI	**Veliai**	**3.21**	**324**	*e*PN	**Pn**		**00 19 23.0**	**+0.4**
VLI	**Veliai**	**3.21**	**324**	P	**Pn**		**00 19 22.5**	**-0.1**
VLI	**Veliai**	**3.21**	**324**	*e*Pn	**Pn**		**00 19 23.0**	**+0.4**
MATC	**Matruh**	**3.23**	**149**	P	**Pn**		**00 19 24.6**	**+1.7**
	baz=153							
MATC	**Matruh**	**3.23**	**149**	P	**Pn**		**00 19 24.6**	**+1.7**
BODT	**Bodrum**	**3.35**	**29**	*e*PN	**Pn**		**00 19 24.2**	**-0.4**
BODT	**Bodrum**	**3.35**	**29**	*e*Pn	**Pn**		**00 19 24.2**	**-0.4**
HMAT	**Matruh**	**3.40**	**153**	AMP			00 20 00.0	
	comp=E,260μm,0.4s,logA/T=5.9,baz=156							
DID	**Didima**	**3.75**	**334**	P	**Pn**		**00 19 29.6**	**-0.5**
DID	**Didima**	**3.75**	**334**	*e*PN	**Pn**		**00 19 30.7**	**+0.6**
DID	**Didima**	**3.75**	**334**	P	**Pn**		**00 19 29.6**	**-0.5**
DID	**Didima**	**3.75**	**334**	*e*Pn	**Pn**		**00 19 30.7**	**+0.6**
SMG	**Samos**	**3.77**	**19**	P	**Pn**		**00 19 30.6**	**+0.2**
SMG	**Samos**	**3.77**	**19**	*e*PN	**Pn**		**00 19 32.3**	**+1.9**
SMG	**Samos**	**3.77**	**19**	P	**Pn**		**00 19 30.6**	**+0.2**
SMG	**Samos**	**3.77**	**19**	*e*Pn	**Pn**		**00 19 32.3**	**+1.9**
DALY	**Dalyan (Mu˘la**	**3.83**	**45**	*e*PN	**Pn**		**00 19 30.3**	**-0.9**
DALY	**Dalyan (Mu˘la**	**3.83**	**45**	*e*Pn	**Pn**		**00 19 30.3**	**-0.9**
NAIG	**Nisos Aigina**	**3.89**	**339**	*e*PN	**Pn**		**00 19 32.8**	**+0.8**
NAIG	**Nisos Aigina**	**3.89**	**339**	*e*Pn	**Pn**		**00 19 32.8**	**+0.8**
FETY	**Fethiye**	**3.98**	**50**	*e*PN	**Pn**		**00 19 32.2**	**-1.0**
FETY	**Fethiye**	**3.98**	**50**	*e*Pn	**Pn**		**00 19 32.2**	**-1.0**
MRMA	**Marmari**	**3.98**	**350**	P	**Pn**		**00 19 33.1**	**-0.1**
MRMA	**Marmari**	**3.98**	**350**	P	**Pn**		**00 19 33.1**	**-0.1**
PYL	**PYLOS**	**3.99**	**315**	P	**Pn**		**00 19 32.1**	**-1.2**
PYL	**PYLOS**	**3.99**	**315**	P	**Pn**		**00 19 32.1**	**-1.2**
ATHU	**Athens Univers**	**4.01**	**343**	P	**Pn**		**00 19 33.3**	**-0.3**
ATHU	**Athens Univers**	**4.01**	**343**	P	**Pn**		**00 19 33.3**	**-0.3**
ATH	**Athens Observa**	**4.03**	**342**	P	**Pn**		**00 19 33.9**	**0.0**
ATH	**Athens Observa**	**4.03**	**342**	*e*PN	**Pn**		**00 19 34.7**	**+0.8**
ATH	**Athens Observa**	**4.03**	**342**	P	**Pn**		**00 19 33.9**	**0.0**
ATH	**Athens Observa**	**4.03**	**342**	*e*Pn	**Pn**		**00 19 34.7**	**+0.8**
PTL	**Penteli**	**4.07**	**344**	P	**Pn**		**00 19 34.0**	**-0.4**
PTL	**Penteli**	**4.07**	**344**	*e*PN	**Pn**		**00 19 35.3**	**+0.9**
PTL	**Penteli**	**4.07**	**344**	P	**Pn**		**00 19 34.0**	**-0.4**
PTL	**Penteli**	**4.07**	**344**	*e*Pn	**Pn**		**00 19 35.3**	**+0.9**
ITM	**Ithomi**	**4.08**	**319**	P	**Pn**		**00 19 34.2**	**-0.5**
ITM	**Ithomi**	**4.08**	**319**	*e*PN	**Pn**		**00 19 35.3**	**+0.6**
ITM	**Ithomi**	**4.08**	**319**	P	**Pn**		**00 19 34.2**	**-0.5**
ITM	**Ithomi**	**4.08**	**319**	*e*Pn	**Pn**		**00 19 35.3**	**+0.6**
CHOS	**Chios Island**	**4.28**	**8**	*e*PN	**Pn**		**00 19 37.8**	**+0.4**
CHOS	**Chios Island**	**4.28**	**8**	*e*Pn	**Pn**		**00 19 37.8**	**+0.4**
LTK	**Loutraki**	**4.30**	**335**	P	**Pn**		**00 19 37.5**	**-0.2**
LTK	**Loutraki**	**4.30**	**335**	*e*PN	**Pn**		**00 19 38.3**	**+0.6**
LTK	**Loutraki**	**4.30**	**335**	P	**Pn**		**00 19 37.5**	**-0.2**
LTK	**Loutraki**	**4.30**	**335**	*e*Pn	**Pn**		**00 19 38.3**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**4.34**	**28**	*e*PN	**Pn**		**00 19 38.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**4.34**	**28**	*e*Pn	**Pn**		**00 19 38.4**	**+0.1**
ERET	**Eretria**	**4.46**	**345**	P	**Pn**		**00 19 39.5**	**-0.3**
ERET	**Eretria**	**4.46**	**345**	P	**Pn**		**00 19 39.5**	**-0.3**
AMT	**Artemida-Makis**	**4.46**	**320**	P	**Pn**		**00 19 39.1**	**-0.7**
AMT	**Artemida-Makis**	**4.46**	**320**	P	**Pn**		**00 19 39.1**	**-0.7**
BLCB	**Balcova**	**4.47**	**18**	*e*PN	**Pn**		**00 19 40.0**	**+0.1**
BLCB	**Balcova**	**4.47**	**18**	*e*Pn	**Pn**		**00 19 40.0**	**+0.1**
GUR	**Goura**	**4.47**	**329**	*e*PN	**Pn**		**00 19 40.3**	**+0.2**
GUR	**Goura**	**4.47**	**329**	*e*Pn	**Pn**		**00 19 40.3**	**+0.2**
GLHS	**Glhisar (BURDU**	**4.56**	**48**	*e*PN	**Pn**		**00 19 41.2**	**-0.1**
GLHS	**Glhisar (BURDU**	**4.56**	**48**	*e*Pn	**Pn**		**00 19 41.2**	**-0.1**
ELL	**Elmali**	**4.58**	**54**	*e*PN	**Pn**		**00 19 40.6**	**-1.0**
ELL	**Elmali**	**4.58**	**54**	*e*Pn	**Pn**		**00 19 40.6**	**-1.0**
KLV	**Kalavryta, Ach**	**4.65**	**328**	P	**Pn**		**00 19 41.6**	**-0.9**
KLV	**Kalavryta, Ach**	**4.65**	**328**	*e*PN	**Pn**		**00 19 42.8**	**+0.3**
KLV	**Kalavryta, Ach**	**4.65**	**328**	P	**Pn**		**00 19 41.6**	**-0.9**
KLV	**Kalavryta, Ach**	**4.65**	**328**	*e*Pn	**Pn**		**00 19 42.8**	**+0.3**
MRKA	**Markates**	**4.76**	**344**	P	**Pn**		**00 19 44.2**	**+0.3**
MRKA	**Markates**	**4.76**	**344**	P	**Pn**		**00 19 44.2**	**+0.3**
DRO	**Drossia**	**4.78**	**324**	P	**Pn**		**00 19 44.7**	**+0.5**
DRO	**Drossia**	**4.78**	**324**	P	**Pn**		**00 19 44.7**	**+0.5**
LKR	**Lokris**	**4.86**	**338**	P	**Pn**		**00 19 45.1**	**-0.2**
LKR	**Lokris**	**4.86**	**338**	*e*PN	**Pn**		**00 19 46.5**	**+1.2**
LKR	**Lokris**	**4.86**	**338**	P	**Pn**		**00 19 45.1**	**-0.2**
LKR	**Lokris**	**4.86**	**338**	*e*Pn	**Pn**		**00 19 46.5**	**+1.2**
LAKA	**Lakka**	**4.89**	**328**	P	**Pn**		**00 19 45.1**	**-0.6**
LAKA	**Lakka**	**4.89**	**328**	P	**Pn**		**00 19 45.1**	**-0.6**
SWA2		**4.89**	**178**	P	**Pn**		**00 19 47.9**	**+2.2**
	baz=181							
SWA2				S	**Sn**		**00 20 42.5**	**+1.0**
	baz=181							
SWA2		**4.89**	**178**	P	**Pn**		**00 19 47.9**	**+2.2**
SWA2				S	**Sn**		**00 20 42.5**	**+1.0**
RLS	**Riolos of Patr**	**4.98**	**323**	P	**Pn**		**00 19 47.6**	**+0.6**
RLS	**Riolos of Patr**	**4.98**	**323**	P	**Pn**		**00 19 47.6**	**+0.6**
AOS	**Alonnisos**	**5.14**	**348**	*e*PN	**Pn**		**00 19 51.5**	**+2.3**
AOS	**Alonnisos**	**5.14**	**348**	*e*Pn	**Pn**		**00 19 51.5**	**+2.3**
KULA	**Kula-Manisa**	**5.14**	**31**	*e*PN	**Pn**		**00 19 50.1**	**+0.8**
KULA	**Kula-Manisa**	**5.14**	**31**	*e*Pn	**Pn**		**00 19 50.1**	**+0.8**
AKS	**Akhisar**	**5.15**	**23**	*e*PN	**Pn**		**00 19 49.5**	**+0.2**
AKS	**Akhisar**	**5.15**	**23**	*e*Pn	**Pn**		**00 19 49.5**	**+0.2**
PRK	**Paraskevi**	**5.16**	**9**	P	**Pn**		**00 19 49.2**	**-0.2**
PRK	**Paraskevi**	**5.16**	**9**	P	**Pn**		**00 19 49.2**	**-0.2**
ANTB	**Antalya**	**5.17**	**56**	*e*PN	**Pn**		**00 19 49.5**	**-0.1**
ANTB	**Antalya**	**5.17**	**56**	*e*Pn	**Pn**		**00 19 49.5**	**-0.1**
HBRG	**Burj al 'Arab**	**5.24**	**131**	P	**Pn**		**00 19 50.5**	**-0.1**
	baz=134							
KHL	**Karahalli**	**5.40**	**38**	*e*PN	**Pn**		**00 19 52.9**	**+0.1**
KHL	**Karahalli**	**5.40**	**38**	*e*Pn	**Pn**		**00 19 52.9**	**+0.1**
NEO	**Neokhori**	**5.41**	**343**	P	**Pn**		**00 19 53.3**	**+0.3**
NEO	**Neokhori**	**5.41**	**343**	P	**Pn**		**00 19 53.3**	**+0.3**
AGG	**Agios Georgios**	**5.42**	**335**	P	**Pn**		**00 19 53.0**	**0.0**
AGG	**Agios Georgios**	**5.42**	**335**	P	**Pn**		**00 19 53.0**	**0.0**
BCK	**Bucak**	**5.43**	**51**	*e*PN	**Pn**		**00 19 53.0**	**-0.2**
BCK	**Bucak**	**5.43**	**51**	*e*Pn	**Pn**		**00 19 53.1**	**-0.2**
PDO	**Prodromos**	**5.54**	**325**	P	**Pn**		**00 19 55.7**	**+1.0**
PDO	**Prodromos**	**5.54**	**325**	P	**Pn**		**00 19 55.7**	**+1.0**
SUTC	**Sutluce-Ispart**	**5.71**	**53**	*e*PN	**Pn**		**00 19 57.2**	**+0.1**
SUTC	**Sutluce-Ispart**	**5.71**	**53**	*e*Pn	**Pn**		**00 19 57.2**	**+0.1**
LUJL	**Ujela**	**6.05**	**215**	*i* P	**Pn**		**00 20 04.0**	**+2.3**
	SNR=46							
SHUT	**Suhut-Afyon**	**6.12**	**42**	*e*PN	**Pn**		**00 20 03.8**	**+1.1**
SHUT	**Suhut-Afyon**	**6.12**	**42**	*e*Pn	**Pn**		**00 20 03.8**	**+1.1**
GONE	**Gonen-Balikesi**	**6.20**	**17**	*e*PN	**Pn**		**00 20 04.9**	**+1.2**
GONE	**Gonen-Balikesi**	**6.20**	**17**	*e*Pn	**Pn**		**00 20 04.9**	**+1.2**
TVSB	**Tavsanli**	**6.27**	**31**	*e*PN	**Pn**		**00 20 05.5**	**+0.8**
TVSB	**Tavsanli**	**6.27**	**31**	*e*Pn	**Pn**		**00 20 05.5**	**+0.8**
OUR	**Ouranopolis**	**6.27**	**351**	*e*PN	**Pn**		**00 20 06.5**	**+1.9**
OUR	**Ouranopolis**	**6.27**	**351**	*e*Pn	**Pn**		**00 20 06.5**	**+1.9**
LEF	**Lefka**	**6.34**	**79**	*e*PN	**Pn**		**00 20 04.3**	**-1.4**
LEF	**Lefka**	**6.34**	**79**	*e*Pn	**Pn**		**00 20 04.3**	**-1.4**
HMYD	**Mayadein**	**6.38**	**131**	P	**Pn**		**00 20 07.3**	**+1.0**
	baz=133							
HMYD	**Mayadein**	**6.38**	**131**	P	**Pn**		**00 20 07.3**	**+1.0**
AYT	**Al 'Ayyat**	**6.67**	**130**	P	**Pn**		**00 20 11.1**	**+0.9**
	baz=132							
AYT	**Al 'Ayyat**	**6.67**	**130**	P	**Pn**		**00 20 11.1**	**+0.9**
CSS	**Prodhromos**	**6.69**	**81**	*e*PN	**Pn**		**00 20 10.7**	**+0.2**
CSS	**Prodhromos**	**6.69**	**81**	Pn	**Pn**		**00 20 10.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**6.84**	**24**	*e*Pn	**Pn**		**00 20 13.3**	**+0.7**
MDNY	**Mudanya-Bursa**	**6.84**	**24**	*e*Pn	**Pn**		**00 20 13.3**	**+0.7**
KONT	**Konya--Tatoy**	**6.87**	**54**	*e*PN	**Pn**		**00 20 13.0**	**0.0**
KONT	**Konya--Tatoy**	**6.87**	**54**	*e*Pn	**Pn**		**00 20 13.0**	**0.0**
LFK	**Lefkose**	**6.88**	**78**	*e*PN	**Pn**		**00 20 12.8**	**-0.4**
LFK	**Lefkose**	**6.88**	**78**	*e*Pn	**Pn**		**00 20 12.8**	**-0.4**
KOT	**Kottamia**	**6.96**	**125**	P	**Pn**		**00 20 14.8**	**+0.5**
	baz=127							
KOT	**Kottamia**	**6.96**	**125**	P	**Pn**		**00 20 14.8**	**+0.5**
HSAF	**As Saff**	**6.98**	**129**	P	**Pn**		**00 20 15.6**	**+1.1**
	baz=130							
HSAF	**As Saff**	**6.98**	**129**	P	**Pn**		**00 20 15.6**	**+1.1**
LADK	**Ladik-KONYA**	**7.01**	**53**	*e*PN	**Pn**		**00 20 14.9**	**-0.1**
LADK	**Ladik-KONYA**	**7.01**	**53**	*e*Pn	**Pn**		**00 20 14.9**	**-0.1**
GLL	**Jalalah**	**7.11**	**128**	P	**Pn**		**00 20 17.2**	**+1.0**
	baz=130							
GLL	**Jalalah**	**7.11**	**128**	P	**Pn**		**00 20 17.2**	**+1.0**
HHAG	**Hagoal**	**7.13**	**124**	P	**Pn**		**00 20 16.8**	**+0.2**
	baz=125							
HHAG	**Hagoal**	**7.13**	**124**	P	**Pn**		**00 20 16.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**7.28**	**42**	*e*PN	**Pn**		**00 20 19.2**	**+0.5**
SVRH	**Sivrihisar-ESK**	**7.28**	**42**	*e*Pn	**Pn**		**00 20 19.2**	**+0.5**
VAY	**Valandovo**	**7.48**	**344**	*i* Pn	**Pn**		**00 20 20.0**	**-1.3**
GULT	**Gulveren**	**7.53**	**32**	*e*PN	**Pn**		**00 20 22.2**	**+0.1**
GULT	**Gulveren**	**7.53**	**32**	*e*Pn	**Pn**		**00 20 22.2**	**+0.1**
AMAG	**Maghara**	**7.55**	**115**	P	**Pn**		**00 20 22.7**	**+0.3**
	baz=117							
AMAG	**Maghara**	**7.55**	**115**	P	**Pn**		**00 20 22.7**	**+0.3**
SUZ		**7.71**	**122**	P	**Pn**		**00 20 24.6**	**+0.1**
	baz=123							
SUZ		**7.71**	**122**	P	**Pn**		**00 20 24.6**	**+0.1**
SULT	**Sultanhani-AKS**	**7.79**	**56**	*e*PN	**Pn**		**00 20 25.2**	**-0.4**
SULT	**Sultanhani-AKS**	**7.

	comp=E,6.0nm,0.8s							
SFTF	**Sexfontaines**	**20.64**	**319**	*eP*	**P**	**00**	**23**	**12.4 +0.9**
SFTF	**Sexfontaines**	**20.64**	**319**	*eP*	**P**	**00**	**23**	**12.4 +0.9**
LOR	**Lormes**	**20.79**	**316**	*eP*	**P**	**00**	**23**	**13.8 +0.7**
LOR	**Lormes**	**20.79**	**316**	*eP*	**P**	**00**	**23**	**13.8 +0.7**
MEZF	**Maizieres J'vi**	**20.81**	**320**	*eP*	**P**	**00**	**23**	**14.5 +1.3**
	comp=E,25nm,0.9s							
MEZF	**Maizieres J'vi**	**20.81**	**320**	*eP*	**P**	**00**	**23**	**14.5 +1.3**
	comp=E,12nm,0.9s							
AVF	**Avril sur Loir**	**20.85**	**314**	*eP*	**P**	**00**	**23**	**14.4 +0.7**
AVF	**Avril sur Loir**	**20.85**	**314**	*eP*	**P**	**00**	**23**	**14.4 +0.7**
SSF	**Saint Saulge**	**20.89**	**315**	*eP*	**P**	**00**	**23**	**15.7 +1.5**
SSF	**Saint Saulge**	**20.89**	**315**	*eP*	**P**	**00**	**23**	**15.7 +1.5**
BGF	**Bois d'Agland**	**21.04**	**313**	*eP*	**P**	**00**	**23**	**17.1 +1.3**
	comp=E,24nm,1.0s							
BGF	**Bois d'Agland**	**21.04**	**313**	*eP*	**P**	**00**	**23**	**17.1 +1.3**
	comp=E,12nm,1.0s							
RJF	**Les Rejaudoux**	**21.33**	**309**	*eP*	**P**	**00**	**23**	**21.1 +2.2**
	comp=E,16nm,0.8s							
RJF	**Les Rejaudoux**	**21.33**	**309**	*eP*	**P**	**00**	**23**	**21.1 +2.2**
	comp=E,8.1nm,0.8s							
GIVF	**Givet**	**21.91**	**323**	*eP*	**P**	**00**	**23**	**25.5 +0.5**
GIVF	**Givet**	**21.91**	**323**	*eP*	**P**	**00**	**23**	**25.5 +0.5**
BAIF	**Baives**	**22.19**	**322**	*eP*	**P**	**00**	**23**	**27.4 -0.6**
BAIF	**Baives**	**22.19**	**322**	*eP*	**P**	**00**	**23**	**27.4 -0.6**
SJPF	**Ste Jean**	**22.49**	**301**	*eP*	**P**	**00**	**23**	**31.9 +0.5**
SJPF	**Ste Jean**	**22.49**	**301**	*eP*	**P**	**00**	**23**	**31.9 +0.5**
MFF	**Saint Martin d**	**22.91**	**310**	*eP*	**P**	**00**	**23**	**34.8 -1.0**
MFF	**Saint Martin d**	**22.91**	**310**	*eP*	**P**	**00**	**23**	**34.8 -1.0**
LDF	**La Druitiere**	**23.77**	**315**	*eP*	**P**	**00**	**23**	**43.5 -0.8**
LDF	**La Druitiere**	**23.77**	**315**	*eP*	**P**	**00**	**23**	**43.5 -0.8**
ESDC	**Sonseca Array**	**23.97**	**292**	P	**P**	**00**	**23**	**46.9 +0.6**
	comp=E,0.8nm,0.6s,baz=83,slow=9.2,SNR=5.9							
FLN	**La Foliniere**	**24.06**	**315**	*eP*	**P**	**00**	**23**	**46.6 -0.4**
FLN	**La Foliniere**	**24.06**	**315**	*eP*	**P**	**00**	**23**	**46.6 -0.4**
GRR	**Gorron**	**24.11**	**314**	*eP*	**P**	**00**	**23**	**44.6 -2.9**
QUIF	**Quistinic**	**25.32**	**311**	*eP*	**P**	**00**	**23**	**58.9 +0.4**
QUIF	**Quistinic**	**25.32**	**311**	*eP*	**P**	**00**	**23**	**58.9 +0.4**
ROSF	**Rostrenen**	**25.55**	**312**	*eP*	**P**	**00**	**24**	**01.0 +0.4**
ROSF	**Rostrenen**	**25.55**	**312**	*eP*	**P**	**00**	**24**	**01.0 +0.4**
FINES	**FINESS Array B**	**27.32**	**1**	P	**P**	**00**	**24**	**15.9 -0.5**
	comp=E,1.5nm,0.8s,baz=185,slow=9.8,SNR=3.6							
NOA	**NORSAR Array B**	**28.41**	**346**	P	**P**	**00**	**24**	**24.5 -1.7**
	comp=E,0.4nm,0.5s,baz=147,slow=9.1,SNR=3.4							
NOA				LR	LR	00	36	18.6
	comp=E,24nm,20.4s,baz=285,slow=38							
AKTO	**Aktyubinsk**	**28.88**	**46**	P	**P**	**00**	**24**	**29.5 -0.9**
	comp=E,0.6nm,0.6s,baz=243,slow=11,SNR=2.3							
EKA	**Eskdalemuir Ar**	**28.93**	**326**	P	**P**	**00**	**24**	**31.0 +0.2**
	comp=E,2.4nm,0.9s,baz=118,slow=9.0,SNR=3.4							
JOF	**Joensuu**	**29.05**	**6**	*ep*	**P**	**00**	**24**	**32.0 +0.3**
TORD	**Torodi Ar. Bea**	**29.93**	**231**	P	**P**	**00**	**24**	**41.3 +1.3**
	comp=E,1.0nm,0.7s,baz=35,slow=8.6,SNR=8.7							
ARCES	**ARCESS Array B**	**35.45**	**0**	P	**P**	**00**	**25**	**27.2 -0.5**
	comp=E,2.3nm,0.9s,baz=185,slow=9.8,SNR=6.6							
BVAR	**Borovoye Array**	**36.98**	**45**	P	**P**	**00**	**25**	**41.2 +0.2**
	comp=E,0.6nm,0.7s,baz=242,slow=6.4,SNR=3.8							
AAK	**Ala-Archa**	**39.02**	**63**	P	**P**	**00**	**25**	**59.2 +0.5**
	comp=E,1.2nm,0.7s,baz=216,slow=9.9,SNR=5.2							
KURBB	**Kurchatov Array**	**41.69**	**50**	P	**P**	**00**	**26**	**20.3 0.0**
	comp=E,0.9nm,0.5s,baz=267,slow=8.2,SNR=8.1							
MKAR	**Makanchi Array**	**44.25**	**56**	P	**P**	**00**	**26**	**41.3 +0.1**
	comp=E,2.9nm,0.8s,baz=278,slow=6.1,SNR=34							
ZALV	**Zalesovo Beam**	**45.64**	**45**	P	**P**	**00**	**26**	**51.5 -0.6**
	comp=E,1.3nm,0.5s,baz=268,slow=9.3,SNR=7.6							
SONM	**Songino Array**	**60.05**	**50**	P	**P**	**00**	**28**	**39.4 +0.6**
	comp=E,1.5nm,0.7s,baz=285,slow=7.9,SNR=22							
SCHQ	**Schefferville**	**64.03**	**320**	P	**P**	**00**	**29**	**05.0 -0.2**
	comp=E,3.7nm,0.8s,baz=67,slow=13,SNR=3.5							
USRK	**Ussuriysk Arra**	**77.49**	**45**	P	**P**	**00**	**30**	**27.0 -0.2**
	comp=E,2.0nm,0.8s,baz=276,slow=4.2,SNR=4.3							
YKA	**Yellowknife Ar**	**78.45**	**342**	P	**P**	**00**	**30**	**31.9 -0.3**
	comp=E,0.2nm,0.5s,baz=30,slow=5.4,SNR=4.2							
KSRS	**Korea Array**	**78.82**	**52**	P	**P**	**00**	**30**	**34.7 -0.1**
	comp=E,3.4nm,1.0s,baz=296,slow=6.3,SNR=4.1							
ILAR	**Eielson Array**	**81.22**	**357**	P	**P**	**00**	**30**	**47.2 0.0**
	comp=E,0.3nm,0.9s,baz=353,slow=4.5,SNR=3.0							

KRSC 31 00:51:25.4±3.5,**55.88N**×**163.26E, h21**km±21km**, ML3.7, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
KBTR	**Krutoberegovo**	**0.41**	**323**	*eP*	Pn	00	51	36.0 -0.1
KBTR				*eS*	Sn	00	51	43.0 -0.1
KBG	**Krutoberegovo**	**0.49**	**321**	*eP*	Pn	00	51	37.4 +0.3
KBG				*eS*	Sn	00	51	45.7 +0.7
SMKR	**Semkarok**	**1.22**	**306**	*eP*	Pb	00	51	50.0 +2.1
SMKR				*eS*	Sn	00	52	05.9 +2.6
BDR	**Baidarnaya**	**1.34**	**302**	*eP*	Pb	00	51	50.9 +1.0
BDR				*eS*	Sb	00	52	09.4 +2.8
SRKR	**Sorokina**	**1.40**	**304**	*eP*	Pb	00	51	52.5 +1.6
SRKR				*eS*	Sb	00	52	10.7 +2.3
KLY	**Klyuchi**	**1.52**	**288**	*eP*	Pn	00	51	52.0 +0.6
KLY				*eS*	Sn	00	52	10.9 +0.4
KRSR	**Krestovskiy**	**1.55**	**284**	P	Pb	00	51	54.4 +0.9
BZWR	**Bezymyannyi-We**	**1.56**	**274**	*eS*	Sb	00	52	14.0 +0.8
MKZ	**Mys Kozlova**	**1.59**	**214**	*eP*	Pb	00	51	54.4 +0.4
MKZ				*eS*	Sb	00	52	13.4 -0.2
KIRR	**Kirishev**	**1.64**	**274**	*eS*	Sb	00	52	16.8 +1.2
BKI	**Bering**	**1.68**	**113**	*eP*	Pb	00	51	57.4 +1.8
BKI				*eS*	Sb	00	52	18.5 +2.2
KMNR	**Kamenistaya**	**1.71**	**267**	*eP*	Pb	00	51	57.0 +0.8
KMNR				*eS*	Sb	00	52	18.1 +0.7
KPT	**Kopyto**	**1.71**	**274**	*eS*	Sb	00	52	18.8 +1.4
KZV	**Kizimen**	**1.85**	**247**	*eP*	Pb	00	51	58.2 -0.6
KZV				S	Sb	00	52	22.2 +0.6
TUMR	**Tumrok**	**1.87**	**253**	*eP*	Pb	00	51	58.9 0.0
TUMR				S	Sb	00	52	23.1 +1.2
KOZ	**Kozyrevsk**	**1.91**	**277**	*eP*	Pb	00	52	00.2 +0.6
KOZ				S	Sb	00	52	23.9 +0.9
SRDR	**Sredinnyy**	**2.03**	**284**	*eP*	Pb	00	52	01.7 0.0
SRDR				S	Sb	00	52	25.3 -1.3
SDLR	**Sedlovina**	**3.64**	**226**	P	Pn	00	52	23.7 +3.0
SDLR				S	Sn	00	53	06.6 +3.5
SMAR	**Somma**	**3.69**	**227**	*eP*	Pn	00	52	24.8 +3.4
AVH	**Avacha**	**3.71**	**227**	*eP*	Pn	00	52	25.6 +4.0
UGLR	**Uglovaya**	**3.72**	**226**	*eP*	Pn	00	52	25.4 +3.7
GNL	**Ganaly**	**3.78**	**237**	*eP*	Pn	00	52	25.6 +3.1

*ISCJB **31** 01:03:02.4±0.3,50°.35N±0°.02×18°.81E±0°.02,h0km, Error ellipse: s-maj=3.6km s-min=1.9km az=11.4*
*CSEM **31** 01:03:04.4±0.1,50°.28N×18°.81E,h2km,ML3.6/7, Error ellipse: s-maj=3.9km s-min=2.2km az=11.0*
*IPEC **31** 01:03:04.7±0.2,50°.30N×18°.82E,h2km±1km,ML2.7/2, Error ellipse: s-maj=2.4km s-min=1.1km az=168.0*
*BGR **31** 01:03:05.6±0.3,50°.32N×18°.82E,h1km,ML3.1/11, Error ellipse: s-maj=6.7km s-min=3.3km az=7.0*
*PRU **31** 01:03:05.2,50°.25N×18°.79E,h0km*
*VIE **31** 01:03:08.6±0.9,49°.76N×18°.77E,h0km,mb2.4/3,ML3.0/3, Error ellipse: s-maj=8.2km s-min=5.9km az=5.0 39 km ESE of Ostrava Suspected Mining induced.*
*IDC **31** 01:03:08.7±0.8,50°.48N×18°.15E,h0km,mb1 3.4/6, mb1mx3.2/26,mbtmp3.2/6,ML3.0/6, Error ellipse: s-maj=15.3km s-min=7.2km az=137.0*

ISC 31 01:03:03.9±0.6,**50°.29N**±0°.03×**18°.81E**±0°.01**,h0**km**,n91,** σ1**9**1**4**/134**,7C-14D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CHZP	**Chorzow**	**0.12**	**90**	*i* Pg	**Pg**	**01**	**03**	**07.5 +1.4**
CHZP				*eSg*	**Sg**	**01**	**03**	**09.4 +1.8**
RAC	**Raciborz**	**0.45**	**243**	*eSg*	**Sb**	**01**	**03**	**21.6 -0.3**
OKC	**Ostrava-Krasne**	**0.62**	**224**	*ePg*	**Pg**	**01**	**03**	**17.4 +1.6**
OKC				*eSg*	**Sb**	**01**	**03**	**26.8 -0.1**
OKC	**Ostrava-Krasne**	**0.62**	**224**	*ePG*	**Pg**	**01**	**03**	**17.4 +1.6**
OKC				*eSG*	**Sg**	**01**	**03**	**24.4 +0.5**
	96nm,0.4s							
OKC	**Ostrava-Krasne**	**0.62**	**224**	Pg	**Pg**	**01**	**03**	**17.4 +1.6**
OKC				Sg	**Sg**	**01**	**03**	**24.4 +0.5**
	96nm,0.4s							
OJC	**Ojcow**	**0.64**	**96**	*ePg*	**Pg**	**01**	**03**	**17.1 +1.0**
OJC				*eSg*	**Sg**	**01**	**03**	**25.4 +1.1**
OJC	**Ojcow**	**0.64**	**96**	*ePg*	**Pg**	**01**	**03**	**17.1 +1.0**
OJC				*eSg*	**Sg**	**01**	**03**	**25.6 +1.3**
OJC	**Ojcow**	**0.64**	**96**	*ePg*	**Pg**	**01**	**03**	**17.1 +1.0**
OJC				Sg	**Sg**	**01**	**03**	**25.4 +1.1**
MORC	**Moravsky Berou**	**0.97**	**238**	*ePg*	**Pg**	**01**	**03**	**23.4 +1.0**
MORC				*eSg*	**Sg**	**01**	**03**	**36.3 +1.4**
MORC	**Moravsky Berou**	**0.97**	**238**	*i* P	**Pg**	**01**	**03**	**23.2 +0.8**
MORC	**Moravsky Berou**	**0.97**	**238**	*i* P	**Pg**	**01**	**03**	**23.2 +0.8**
MORC				*eSg*	**Sg**	**01**	**03**	**35.2 +0.3**
MORC				S	**Sb**	**01**	**03**	**36.2 -0.7**
NIE	**Niedzica**	**1.31**	**131**	*ePg*	**Pg**	**01**	**03**	**29.1 +0.2**
NIE				*eSg*	**Sb**	**01**	**03**	**47.7 +1.1**
NIE	**Niedzica**	**1.31**	**131**	*ePg*	**Pg**	**01**	**03**	**29.1 +0.2**
NIE				*eSg*	**Sb**	**01**	**03**	**47.7 +1.1**
DPC	**Dobruska-Polom**	**1.60**	**273**	*ePg*	**Pn**	**01**	**03**	**34.2 +0.8**
DPC				*eSg*	**Sg**	**01**	**03**	**55.8 +0.6**
DPC	**Dobruska-Polom**	**1.60**	**273**	*ePG*	**Pn**	**01**	**03**	**34.0 +0.6**
DPC				*eSG*	**Sb**	**01**	**03**	**55.6 +0.6**
DPC	**Dobruska-Polom**	**1.60**	**273**	Pg	**Pn**	**01**	**03**	**34.2 +0.8**
DPC				Sg	**Sg**	**01**	**03**	**55.8 +0.6**
KSP	**Ksiaz**	**1.70**	**290**	*ePn*	**Pn**	**01**	**03**	**35.6 +0.8**
KSP				*ePg*	**Pg**	**01**	**03**	**37.6 +1.1**
KSP	**Ksiaz**	**1.70**	**290**	*ePn*	**Pn**	**01**	**03**	**35.2 +0.4**
KSP				*ePg*	**Pg**	**01**	**03**	**37.5 +1.1**
KSP				*eSn*	**Sg**	**01**	**04**	**00.3 +1.9**
KSP	**Ksiaz**	**1.70**	**290**	*ePn*	**Pn**	**01**	**03**	**35.6 +0.8**
KSP	**Ksiaz**	**1.70**	**290**	*i* Pg	**Pg**	**01**	**03**	**37.5 +1.1**
KSP				*eSg*	**Sg**	**01**	**04**	**00.0 +1.6**
VRAC	**Vranov**	**1.74**	**236**	*i* P	**Pn**	**01**	**03**	**35.9 +0.5**
VRAC	**Vranov**	**1.74**	**236**	*ePn*	**Pn**	**01**	**03**	**35.8 +0.4**
VRAC				*eSg*	**Sn**	**01**	**03**	**59.3 +1.0**
	98nm,0.3s,baz=55							
VRAC				S	**Sb**	**01**	**03**	**59.7 +0.5**
VRAC	**Vranov**	**1.74**	**236**	Pn	**Pn**	**01**	**03**	**36.3 +0.9**
	18nm,0.3s,baz=46,slow=13,SNR=126							
VRAC				Sn	**Sb**	**01**	**03**	**59.6 +0.5**
	31nm,0.3s,baz=120,slow=20,SNR=33							
STHS	**Stebnicka Huta**	**1.80**	**118**	*ePG*	**Pb**	**01**	**03**	**38.4 +0.7**
STHS				*eSG*	**Sb**	**01**	**04**	**01.7 +0.9**
UPC	**Upice**	**1.81**	**278**	*ePG*	**Pn**	**01**	**03**	**37.5 +1.2**
UPC				*eSG*	**Sg**	**01**	**04**	**02.0 +0.2**
	27nm,0.4s							
UPC	**Upice**	**1.81**	**278**	Pg	**Pn**	**01**	**03**	**37.5 +1.2**
UPC				Sg	**Sg**	**01**	**04**	**02.0 +0.2**
	27nm,0.4s							
KRUC	**Moravsky**	**2.00**	**233**	*ePn*	**Pn**	**01**	**03**	**39.3 +0.5**
	baz=51							
KRUC				*eSn*	**Sn**	**01**	**04**	**06.1 +1.6**
	29nm,0.2s,baz=51							
SMOL	**Smolenice**	**2.00**	**207**	*ePG*	**Pn**	**01**	**03**	**39.5 +0.6**
SMOL	**Smolenice**	**2.00**	**207**	*ePG*	**Pn**	**01**	**03**	**39.5 +0.6**
CRVS	**Cervenica-Dubn**	**2.21**	**128**	*ePG*	**Pb**	**01**	**03**	**45.8 +1.0**
CRVS				*eSG*	**Sg**	**01**	**04**	**15.6 +0.6**
CRVS	**Cervenica-Dubn**	**2.21**	**128**	*ePg*	**Pb**	**01**	**03**	**45.9 +1.1**
CRVS				*eSg*	**Sg**	**01**	**04**	**15.6 +0.6**
TREC	**Trest**	**2.37**	**246**	*ePG*	**Pb**	**01**	**03**	**47.4 -0.1**
TREC				*eSG*	**Sb**	**01**	**04**	**18.5 +1.2**
	52nm,0.5s							
TREC	**Trest**	**2.37**	**246**	Sg	**Sb**	**01**	**04**	**18.5 +1.2**
	52nm,0.5s							
PSZ	**Piszkesteto**	**2.48**	**163**	*i* P	**Pn**	**01**	**03**	**45.6 0.0**
PSZ	**Piszkesteto**	**2.48**	**163**	*i* P	**Pn**	**01**	**03**	**45.6 0.0**
PSZ	**Piszkesteto**	**2.48**	**163**	*epn*	**Pn**	**01**	**03**	**45.8 +0.2**
KWP	**Kalwaria Pacla**	**2.60**	**103**	*ePn*	**Pn**	**01**	**03**	**47.6 +0.4**
KWP				*ePg*	**Pg**	**01**	**03**	**55.0 +1.3**
KWP				*eSn*	**Sg**	**01**	**04**	**26.8 -0.6**
KWP	**Kalwaria Pacla**	**2.60**	**103**	*i* P	**Pn**	**01**	**03**	**47.6 +0.4**
KWP	**Kalwaria Pacla**	**2.60**	**103**	*ePn*	**Pn**	**01**	**03**	**47.7 +0.5**
KOLS	**Kolonicke sedl**	**2.63**	**120**	*ePG*	**Pb**	**01**	**03**	**53.1 +1.2**
KOLS	**Kolonicke sedl**	**2.63**	**120**	*ePg*	**Pb**	**01**	**03**	**53.1 +1.2**
PVCC	**Panska Ves**	**2.73**	**277**	*eSG*	**Sg**	**01**	**04**	**31.9 +0.5**
	49nm,0.2s							
PVCC	**Panska Ves**	**2.73**	**277**	Sg	**Sg**	**01**	**04**	**31.9 +0.5**
	49nm,0.2s							
PRU	**Pruhonice**	**2.76**	**265**	*ePN*	**Pn**	**01**	**03**	**49.0 -0.4**
PRU				*ePG*	**Pb**	**01**	**03**	**54.5 +0.4**
PRU				*eSG*	**Sb**	**01**	**04**	**30.5 +2.0**
	24nm,0.5s							
PRU	**Pruhonice**	**2.76**	**265**	Pn	**Pn**	**01**	**03**	**49.0 -0.4**
PKSG		**2.92**	**186**	*epn*	**Pn**	**01**	**03**	**52.7 +1.2**
SOP	**Sopron**	**3.00**	**210**	*epn*	Pn	01	03	49.7 -3.0
CONA	**Conrad Observa**	**3.06**	**220**	*i* Pn	**Pn**	**01**	**03**	**53.2 -0.3**
CONA	**Conrad Observa**	**3.06**	**220**	Pn	**Pn**	**01**	**03**	**53.2 -0.3**
PKST	**T˜˜s**	**3.08**	**190**	*epn*	**Pn**	**01**	**03**	**53.7 -0.1**
BRG	**Berggiesshubel**	**3.16**	**283**	PG	**Pg**	**01**	**04**	**04.0 -0.4**
BRG				SG	**Sg**	**01**	**04**	**45.6 +0.3**
	27nm,0.5s							
BRG	**Berggiesshubel**	**3.16**	**283**	*ePn*	**Pn**	**01**	**03**	**57.0 +2.2**
BRG				*eSg*	**Sg**	**01**	**04**	**45.1 -0.2**
BRG	**Berggiesshubel**	**3.16**	**283**	Pn	**Pn**	**01**	**03**	**57.0 +2.2**
BRG				Sg	**Sg**	**01**	**04**	**45.1 -0.2**
FBE	**Freiberg**	**3.53**	**282**	*eSg*	**Sg**	**01**	**04**	**57.3 0.0**
FBE	**Freiberg**	**3.53**	**282**	Sg	**Sg**	**01**	**04**	**57.3 0.0**
KHC	**Kasperske Hory**	**3.59**	**253**	*ePN*	**Pn**	**01**	**04**	**01.1 +0.3**
KHC				*ePG*	**Pb**	**01**	**04**	**10.0 +1.8**
KHC				*eSG*	**Sg**	**01**	**04**	**58.2 -1.0**
	41nm,0.4s							
KHC	**Kasperske Hory**	**3.59**	**253**	Pn	**Pn**	**01**	**04**	**01.1 +0.3**
KHC				Sg	**Sg**	**01**	**04**	**58.2 -1.0**
	41nm,0.4s							
GEC2	**GERESS Array S**	**3.63**	**248**	*ePn*	**Pn**	**01**	**04**	**02.9 +1.5**
GEC2	**GERESS Array S**	**3.63**	**248**	Pn	**Pn**	**01**	**04**	**02.9 +1.5**
GERES	**GERESS Array B**	**3.63**	**248**	Pn	**Pn**	**01**	**04**	**02.9 +1.5**
	0.5nm,0.3s,baz=60,slow=14,SNR=16							
GERES				Pg	**Pb**	**01**	**04**	**08.1 -0.8**
	2.0nm,0.3s,baz=63,slow=16,SNR=19							
GERES				Lg	Lg	01	04	56.6
	4.5nm,0.3s,baz=62,slow=29,SNR=5.3							
CLL	**Collm**	**3.82**	**288**	*eSg*	**Sg**	**01**	**05**	**06.6 -0.1**
CLL	**Collm**	**3.82**	**288**	*ePg*	**Pg**	**01**	**04**	**19.0 +1.9**
CLL				*eSg*	**Sg**	**01**	**05**	**09.0 +2.4**
	comp=Z,20nm,0.8s							
CLL	**Collm**	**3.82**	**288**	Sg	**Sg**	**01**	**05**	**06.6 -0.1**
BMR	**Baia Mare**	**4.05**	**129**	*i* P	**Pn**	**01**	**04**	**07.2 +0.2**
BMR	**Baia Mare**	**4.05**	**129**	*i* P	**Pn**	**01**	**04**	**07.2 +0.2**
BMR				S	**Sn**	**01**	**04**	**53.6 -1.5**
TANN	**Tannenbergstha**	**4.07**	**274**	*ePn*	**Pn**	**01**	**04**	**08.1 +0.7**
TANN	**Tannenbergstha**	**4.07**	**274**	Pn	**Pn**	**01**	**04**	**08.1 +0.7**
PKSM	**Moragy**	**4.08**	**182**	*i* P	**Pn**	**01**	**04**	**07.6 +0.1**
PKSM	**Moragy**	**4.08**	**182**	*i* P	**Pn**	**01**	**04**	**07.6 +0.1**
PKSM	**Moragy**	**4.08**	**182**	*epn*	**Pn**	**01**	**04**	**07.6 +0.1**
PKSM				*esn*	**Sn**	**01**	**04**	**52.7 -3.3**
WERD	**Werda**	**4.17**	**275**	*eSg*	**Sg**	**01**	**05**	**16.2 -1.5**
WERD	**Werda**	**4.17**	**275**	Sg	**Sg**	**01**	**05**	**16.2 -1.5**
DRGR		**4.36**	**142**	*i* P	**Pn**	**01**	**04**	**11.9 +0.5**
DRGR		**4.36**	**142**	*i* P	**Pn**	**01**	**04**	**11.9 +0.5**
DRGR				S	**Sn**	**01**	**05**	**01.2 -1.6**
SUW	**Suwalki**	**4.60**	**34**	*eS*	**Sn**	**01**	**05**	**09.0 +0.4**
	comp=Z,37nm,0.6s,SNR=16							
CJR	**Cluj-Napoca**	**4.79**	**137**	*i* P	**Pn**	**01**	**04**	**17.4 +0.1**
CJR	**Cluj-Napoca**	**4.79**	**137**	*i* P	**Pn**	**01**	**04**	**17.4 +0.1**
BURAR	**Bucovina Array**	**5.00**	**120**	*i* P	**Pn**	**01**	**04**	**21.0 +0.8**
BURAR	**Bucovina Array**	**5.00**	**120**	*i* P	**Pn**	**01**	**04**	**21.0 +0.8**
BZS	**Buzias**	**5.04**	**157**	*i* P	**Pn**	**01**	**04**	**21.3 +0.6**
BZS	**Buzias**	**5.04**	**157**	*i* P	**Pn**	**01**	**04**	**21.3 +0.6**
BSD	**Bornholm Skovb**	**5.38**	**335**	*i* P	**Pn**	**01**	**04**	**25.7 +0.4**
BSD				*i* S	**Sn**	**01**	**05**	**22.8 -5.1**
BSD	**Bornholm Skovb**	**5.38**	**335**	*i* P	**Pn**	**01**	**04**	**25.7 +0.4**
AKASG	**Malin Array Be**	**6.66**	**82**	Pn	Pn	01	04	50.5 +7.7
	comp=Z,0.4nm,0.3s,baz=269,slow=12,SNR=2.7							
AKASG				Pg	**Pg**	**01**	**05**	**09.6 -1.8**
	comp=Z,0.7nm,0.3s,baz=272,slow=14,SNR=5.9							
AKASG				Sn	Sn	01	05	53.3 -6.1
	comp=Z,1.3nm,0.3s,baz=262,slow=23,SNR=4.3							
AKASG				Lg	Lg	01	06	24.9
	comp=Z,1.0nm,0.3s,baz=268,slow=24,SNR=5.1							
DAVOX	**Davos/Dischmat**	**6.89**	**243**	Pn	**Pn**	**01**	**04**	**48.0 +1.7**
	comp=Z,0.3nm,0.3s,baz=53,slow=9.7,SNR=5.0							
DAVOX				Lg	Lg	01	06	42.6
	comp=Z,0.5nm,0.3s,baz=198,slow=20,SNR=4.1							
SLIT	**Slitere, Latvi**	**7.63**	**14**	*eP*	**Pn**	**01**	**04**	**58.5 +2.3**
	SNR=16							
MTSE	**Matsula**	**8.93**	**17**	*eP*	**Pn**	**01**	**05**	**13.8 -0.1**
	SNR=16							
RAF	**Rauma**	**10.88**	**8**	*eP*	**Pn**	**01**	**05**	**39.8 -0.9**
	SNR=16							
NOA	**NORSAR Array B**	**11.59**	**341**	Pn	Pn	01	05	47.4 -3.0
	comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=2.6							
FINES	**FINESS Array B**	**11.89**	**17**	Pn	**Pn**	**01**	**05**	**52.2 -2.3**
	comp=Z,0.2nm,0.3s,baz=199,slow=11,SNR=14							
ARCES	**ARCESS Array B**	**19.57**	**7**	Pn	**P**	**01**	**07**	**31.6 -1.4**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=7.8							

*IDC **31** 01:09:25.1±7.5,16°.48N×99°.88W,h0km,mb3.7/2, mb1 3.8/4,mb1mx3.6/24,mbtmp3.4/4,ML2.9/1, Error ellipse: s-maj=130.7km s-min=117.7km az=71.0*
*ISCJB **31** 01:09:34.5±1.0,17°.19N±0°.06×100°.99W±0°.04,h17km±8km, mb3.6/2, Error ellipse: s-maj=10.1km s-min=5.6km az=22.2*
*MEX **31** 01:09:37.5±0.7,17°.18N×101°.06W,h17km±46km,MD4.0*

ISC 31 01:09:34.9±1.7,**17°.20N**±0°.07×**101°.01W**±0°.05**, h16**km±11km**,n12,** σ1**9**5**6**/17**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
ZIIG	**Zihuatanejo**	**0.59**	**313**	*eP*	**Pg**	**01**	**09**	**46.4 -0.3**
ZIIG				*i* S	**Sg**	**01**	**09**	**54.9 +0.3**
ACX	**Acapulco**	**1.15**	**107**	*i* P	Pn	01	09	55.3 -1.2
ACX				*i* S	**Sb**	**01**	**10**	**08.8 -2.4**
ARIG	**Puente Sto Nin**	**1.24**	**30**	*eP*	**Pn**	**01**	**09**	**57.2 -0.6**
ARIG				*i* S	**Sb**	**01**	**10**	**12.2 -1.7**
PLIG	**Platanillo**	**1.86**	**50**	*eP*	**Pn**	**01**	**10**	**06.7 +0.4**
PLIG				*i* S	**Sn**	**01**	**10**	**29.1 -0.5**
TLIG	**Tlapa**	**2.36**	**81**	*eP*	**Pn**	**01**	**10**	**13.6 +0.4**
YAIG	**Yautepec**	**2.48**	**48**	*i* P	**Pn**	**01**	**10**	**14.6 -0.3**
YAIG				*i* S	**Sn**	**01**	**10**	**44.3 -0.6**
MMIG	**Aquila**	**2.48**	**296**	*eP*	**Pn**	**01**	**10**	**14.4 -0.3**
MMIG				*i* S	**Sn**	**01**	**10**	**42.0 -2.6**
PNIG	**Pinotepa**	**2.87**	**106**	*i* P	**Pn**	**01**	**10**	**20.0 -0.3**
PNIG				*i* S	**Sn**	**01**	**10**	**54.4 -0.1**
TXAR	**Lajitas Array**	**12.32**	**349**	Pn	Pn	01	12	38.0 +8.1
	0.0nm,0.3s,baz=163,slow=10,SNR=2.7							
TXAR				Lg	Lg	01	16	13.4
	0.0nm,

Sibulan Negros Oriental.
*NEIC **31** 01:45:44.8±2.1,8.75N×123.37E,h38km±23km,mb4.2/3, Error ellipse: s-maj=21.6km s-min=14.0km az=58.0*
NEIC Felt [III PIVS] at Dipolog and [II PIVS] at Manucan. Felt [I PIVS] at Bayawan, Dumaguete, Sibulan, Valencia and Zamboanguita, Negros.

ISC 31 01:45:40.3±1.8,8.82N±0.03×123.19E±0.04,h9km±11km, n46,σ1906/47,mb4.0/12,MS3.4/4,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.99**	**169**	*eP*	**Pb**	**01 45 58.4**	**-1.2**
PAGZ				*eS*	**Sn**	**01 46 15.5**	**+1.0**
TBP	**Tagbilaran**	**1.09**	**38**	*i P*	**Pb**	**01 46 01.0**	**-0.8**
TBP				*i S*	**Sb**	**01 46 15.4**	**-0.2**
CGP	**Cagayan de Oro**	**1.53**	**104**	*iP*	**Pn**	**01 46 07.1**	**-0.7**
CGP				*i S*	**Sn**	**01 46 27.1**	**-0.8**
LLP	**Lapu-Lapu**	**1.67**	**27**	*eP*	**Pn**	**01 46 09.8**	**0.0**
LLP				*eS*	**Sb**	**01 46 31.9**	**-0.5**
GUIM	**Jordan**	**1.89**	**342**	*eP*	**Pn**	**01 46 12.3**	**-0.4**
GUIM				*eS*	**Sb**	**01 46 38.6**	**-0.1**
CTBH	**Cotabato--PC H**	**1.91**	**147**	*i P*	**Pb**	**01 46 13.9**	**-1.4**
BUKP	**Musuan**	**2.08**	**117**	*eP*	**Pn**	**01 46 16.1**	**+0.7**
MSLP	**Maasin**	**2.10**	**52**	*eP*	**Pn**	**01 46 16.4**	**+0.8**
BUTP	**Butuan**	**2.41**	**86**	*eP*	**Pn**	**01 46 21.2**	**+1.3**
SCPH	**Surigao**	**2.46**	**67**	*eP*	**Pn**	**01 46 20.2**	**-0.5**
SCPH				*eS*	**Sn**	**01 46 49.0**	**-1.9**
OCLP	**Ormoc**	**2.62**	**32**	*eP*	**Pn**	**01 46 22.5**	**-0.3**
RCP	**Roxas**	**2.75**	**351**	*eP*	**Pn**	**01 46 25.6**	**+0.8**
RCP				*eS*	**Sb**	**01 47 02.5**	**-1.2**
PLP	**Palo**	**2.92**	**37**	*eP*	**Pn**	**01 46 27.0**	**0.0**
PLP				*eS*	**Sn**	**01 47 01.2**	**-1.0**
DAV	**Davao City (W)**	**2.94**	**126**	*ePn*	**Pn**	**01 46 26.7**	**-0.5**
DAV				*ePg*	**Pb**	**01 46 33.1**	**+0.2**
DAV				S	**Sb**	**01 47 11.1**	**+2.1**
CUYO	**Cuyo Island**	**2.94**	**313**	*eP*	**Pn**	**01 46 27.2**	**-0.1**
KALP	**Kalibo**	**2.96**	**344**	*eP*	**Sg**	**01 47 17.6**	**+2.3**
OTRP	**Odiongan**	**3.70**	**342**	*eP*	Pn	01 46 39.6	+1.9
BUSP	**Coron**	**4.32**	**317**	*eP*	**Pn**	**01 46 46.9**	**+0.7**
ENPP	**El Nido**	**4.40**	**303**	*eP*	**Pn**	**01 46 46.9**	**-0.5**
BATP	**Bataraza**	**5.33**	**270**	*eP*	**Pn**	**01 46 58.9**	**-1.2**
KAPI	**Kappang** 12nm,0.4s	**14.17**	**194**	Pn	Pn	01 49 02.8	+1.5
CM31	**Chiang Mai Arr** 0.9nm,0.4s	**25.40**	**295**	P	P	01 51 11.3	+2.9
CMAR	**Chiang Mai Arr**	**25.40**	**295**	P	**P**	**01 51 10.1**	**+1.7**
CMAR	**Chiang Mai Arr** 1.2nm,0.8s,baz=122,slow=8.6,SNR=7.9	**25.40**	**295**	P	**P**	**01 51 10.1**	**+1.7**
CMAR				LR	LR	02 00 18.1	
	comp=Z,98nm,18.5s,baz=323,slow=34						
PMG	**Port Moresby** comp=Z,49nm,20.8s,baz=226,slow=34	**29.96**	**127**	LR	LR	02 02 19.4	
WRA	**Warramunga Arr**	**30.62**	**159**	P	**P**	**01 51 53.3**	**-1.8**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=342,slow=9.3,SNR=3.2	**30.62**	**159**	P	**P**	**01 51 53.3**	**-1.8**
ASAR	**Alice Springs**	**33.95**	**162**	P	**P**	**01 52 24.3**	**+0.1**
ASAR	**Alice Springs** 1.0nm,0.4s,baz=340,slow=6.8,SNR=15	**33.95**	**162**	P	**P**	**01 52 24.3**	**+0.1**
SONM	**Songino Array**	**41.40**	**343**	P	P	01 53 29.8	+2.6
SONM				ScP	**ScP**	**01 59 17.1**	**+1.4**
SONM	**Songino Array** 2.8nm,1.1s,baz=164,slow=7.9,SNR=11	**41.40**	**343**	P	P	01 53 29.8	+2.6
SONM				ScP	**ScP**	**01 59 17.1**	**+1.4**
	0.7nm,0.7s,baz=179,slow=3.5,SNR=7.0						
NWAO	**Narrogin (SRO)** comp=Z,47nm,19.9s,baz=281,slow=38	**41.90**	**188**	LR	LR	02 12 00.2	
STKA	**Stephens Creek**	**44.13**	**157**	P	**P**	**01 53 49.0**	**-0.4**
STKA	**Stephens Creek** 3.6nm,0.6s,baz=327,slow=8.0,SNR=6.5	**44.13**	**157**	P	**P**	**01 53 49.0**	**-0.4**
MK31	**Makanchi Array**	**51.39**	**325**	*eP*	**P**	**01 54 45.5**	**0.0**
MKAR	**Makanchi Array**	**51.39**	**325**	P	**P**	**01 54 45.7**	**+0.1**
MKAR	**Makanchi Array** 1.0nm,0.9s,baz=130,slow=9.0,SNR=8.3	**51.39**	**325**	P	**P**	**01 54 45.7**	**+0.1**
PETK	**Petropavlovsk-**	**52.22**	**26**	P	**P**	**01 54 51.0**	**-0.7**
PETK	**Petropavlovsk-** 1.2nm,0.7s,baz=229,slow=7.0,SNR=6.9	**52.22**	**26**	P	**P**	**01 54 51.0**	**-0.7**
ZALV	**Zalesovo Beam**	**54.48**	**333**	P	**P**	**01 55 09.4**	**+1.2**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=132,slow=7.0,SNR=5.8	**54.48**	**333**	P	**P**	**01 55 09.4**	**+1.2**
KURK	**Kurchatov** 1.4nm,0.5s	**55.58**	**327**	*eP*	**P**	**01 55 16.6**	**+0.4**
BRVK	**Borovoye** 7.0nm,1.4s	**61.23**	**327**	*eP*	P	01 55 59.8	+4.1
OPO	**Ambohidratompo** comp=Z,104nm,19.2s,baz=354,slow=33	**79.72**	**249**	LR	LR	02 29 34.3	
ARCES	**ARCESS Array B**	**84.48**	**340**	P	P	01 58 15.7	+2.4
ARCES	**ARCESS Array B** 4.6nm,1.0s,baz=82,slow=6.5,SNR=3.6	**84.48**	**340**	P	P	01 58 15.7	+2.4

*NEIC **31** 01:45:54.6,63.11N×150.85W,h129km,MG3.3(AEIC), After AEIC.*
*IDC **31** 01:45:56.5±3.8,63.43N×150.68W,h144km±31km,mb3.2/6, mb1 3.4/8,mb1mx3.2/26,mbtmp3.1/8,Error ellipse: s-maj=46.6km s-min=16.4km az=43.0*

ISC 31 01:45:54.6±0.7,63.12N±0.03×150.83W±0.03, h133km±5km,n89,σ1813/106,mb3.5/6,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.42**	**36**	P	**Pn**	**01 46 13.6**	**-0.2**
TRF				S	**Sn**	**01 46 28.1**	**-0.3**
KTH	**Kantishna Hill**	**0.44**	**354**	*ePn*	**Pn**	**01 46 13.6**	**-0.3**
KTH				*eS*	**Sn**	**01 46 27.6**	**-0.8**
CAST	**Castle Rocks**	**0.65**	**299**	P	**Pn**	**01 46 14.2**	**-0.7**
CAST				S	**Sn**	**01 46 28.9**	**-1.5**
PPLA	**Purkeypile**	**0.66**	**251**	*ePn*	**Pn**	**01 46 14.9**	**-0.3**
PPLA				*eS*	**Sn**	**01 46 29.6**	**-1.2**
PPLA				S		01 46 30.0	
RND	**Reindeer**	**0.94**	**71**	P	**Pn**	**01 46 17.1**	**-0.2**
RND				S	**Sn**	**01 46 34.4**	**-0.1**
CHUM	**Lake Minchumin**	**1.02**	**320**	P	**Pn**	**01 46 17.6**	**-0.3**
CHUM				S	**Sn**	**01 46 34.5**	**-1.2**
MCK	**McKinley**	**1.05**	**53**	P	**Pn**	**01 46 18.2**	**-0.1**
SKT	**Skwentna**	**1.19**	**196**	P	**Pn**	**01 46 19.2**	**-0.4**
SKT				S	**Sn**	**01 46 38.1**	**-0.5**
BWN	**Browne**	**1.22**	**29**	P	**Pn**	**01 46 20.2**	**+0.3**
DHY	**Denali Highway**	**1.57**	**90**	P	**Pn**	**01 46 24.0**	**+0.1**
DHY				S	**Sn**	**01 46 46.7**	**+0.6**
SUA	**Susitna One**	**1.66**	**179**	P	**Pn**	**01 46 24.4**	**-0.4**
STLK	**Strandline Lak**	**1.69**	**197**	P	**Pn**	**01 46 24.7**	**-0.4**
PMR	**Palmer**	**1.72**	**152**	*ePn*	**Pn**	**01 46 24.8**	**-0.6**
PMR				*eS*	**Sn**	**01 46 48.4**	**-0.4**
WRH	**Wood River Hil**	**1.82**	**41**	P	**Pn**	**01 46 26.2**	**-0.4**
CGLM	**Capps Glacier**	**1.90**	**197**	P	**Pn**	**01 46 27.4**	**-0.1**
MLY	**Manley**	**1.92**	**1**	P	**Pn**	**01 46 27.3**	**-0.6**
FIB	**Fire Island**	**1.98**	**171**	P	**Pn**	**01 46 29.0**	**+0.6**
BGL	**Barrier Glacie**	**2.00**	**202**	P	**Pn**	**01 46 29.0**	**+0.2**
SPBG	**Spurr Blockage**	**2.00**	**202**	P	**Pn**	**01 46 28.9**	**+0.1**
CCB	**Clear Creek Bu**	**2.04**	**40**	P	**Pn**	**01 46 28.7**	**-0.4**
CKL	**Chakachamna La**	**2.05**	**201**	P	**Pn**	**01 46 29.2**	**-0.3**
SCM	**Sheep Creek Mo**	**2.07**	**127**	P	**Pn**	**01 46 28.9**	**-0.7**
RC01	**Rabbit Creek A**	**2.10**	**165**	*ePn*	**Pn**	**01 46 29.1**	**-0.8**
RC01				*eS*	**Sn**	**01 46 56.0**	**-0.9**
HDA	**Harding Lake**	**2.15**	**51**	P	**Pn**	**01 46 30.4**	**-0.2**
MDM	**Murphy Dome**	**2.18**	**31**	P	**Pn**	**01 46 30.4**	**-0.4**
COLA	**College**	**2.20**	**35**	*ePn*	**Pn**	**01 46 30.9**	**-0.2**
COLA				*eS*	**Sn**	**01 46 58.0**	**-1.1**
TT01	**Tatalina**	**2.38**	**267**	P	**Pn**	**01 46 32.5**	**-0.8**
IL1	**Eielson Array**	**2.41**	**45**	P	**Pn**	**01 46 33.2**	**-0.5**
ILAR	**Eielson Array**	**2.41**	**45**	P	**Pn**	**01 46 33.2**	**-0.5**
ILAR				S	**Sn**	**01 47 01.1**	**-2.6**
ILAR	**Eielson Array** 3.4nm,0.3s,baz=228,slow=12,SNR=205	**2.41**	**45**	P	**Pn**	**01 46 33.2**	**-0.5**
ILAR				S	**Sn**	**01 47 01.1**	**-2.6**
	2.6nm,0.3s,baz=166,slow=20,SNR=17						
ILB	**Eielson Array**	**2.41**	**45**	P	**Pn**	**01 46 33.2**	**-0.5**
GLM	**Gilmore Dome**	**2.41**	**37**	P	**Pn**	**01 46 33.7**	**-0.1**
PAX	**Paxson**	**2.44**	**91**	P	**Pn**	**01 46 34.2**	**-0.1**
PWL	**Port Wells**	**2.55**	**151**	P	**Pn**	**01 46 34.8**	**-0.7**
DFR	**Drift River**	**2.68**	**200**	P	**Pn**	**01 46 37.4**	**+0.1**
HARP	**HAARP**	**2.70**	**103**	P	**Pn**	**01 46 37.6**	**+0.3**
NCT	**North Crescent**	**2.75**	**202**	P	**Pn**	**01 46 38.4**	**+0.2**
RSO	**Redoubt South**	**2.81**	**200**	*ePn*	**Pn**	**01 46 38.8**	**-0.3**
RSO				*eS*	**Sn**	**01 47 13.9**	**+0.6**
GLI	**Glacier Island**	**2.85**	**140**	P	**Pn**	**01 46 38.5**	**-0.9**
JPK	**Jack Peak**	**2.87**	**134**	P	**Pn**	**01 46 38.5**	**-1.1**
VLZ	**Valdez**	**2.90**	**131**	P	**Pn**	**01 46 38.7**	**-1.2**
SVW2	**Sparrevohn**	**3.02**	**230**	P	**Pn**	**01 46 40.9**	**-0.6**
DOT	**Dot Lake**	**3.09**	**77**	*ePn*	**Pn**	**01 46 41.9**	**-0.6**
DOT				*eS*	**Sn**	**01 47 14.7**	**-4.7**
SEW	**Seward**	**3.09**	**167**	*ePn*	**Pn**	**01 46 41.8**	**-0.6**
SEW				*eS*	**Sn**	**01 47 17.2**	**-2.1**
DIV	**Divide**	**3.10**	**128**	*ePn*	**Pn**	**01 46 41.6**	**-1.0**
DIV				*eS*	**Sn**	**01 47 18.1**	**-1.6**
IM04	**Indian Mountai**	**3.14**	**337**	*ePn*	**Pn**	**01 46 42.4**	**-0.7**
IM3	**Indian Mountai**	**3.15**	**338**	P	**Pn**	**01 46 42.5**	**-0.7**
SCRK	**Sand Creek**	**3.18**	**71**	P	**Pn**	**01 46 43.2**	**-0.6**
MENT	**Mentasta**	**3.24**	**90**	*ePn*	**Pn**	**01 46 44.1**	**-0.4**
MENT				*eS*	Sn	01 47 16.7	-6.3
BRLK	**Bradley Lake**	**3.36**	**181**	P	**Pn**	**01 46 45.6**	**-0.4**
HIN	**Hinchinbrook I**	**3.42**	**141**	P	**Pn**	**01 46 46.0**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.52**	**135**	P	**Pn**	**01 46 47.7**	**-0.4**
BMRM	**Bremner River**	**3.64**	**124**	*ePn*	**Pn**	**01 46 48.5**	**-1.1**
BMRM				*eS*	**Sn**	**01 47 31.1**	**-1.2**
GLB	**Gilahina Butte**	**3.68**	**114**	P	**Pn**	**01 46 49.9**	**-0.3**
SGAM	**Sherman Glacie**	**3.74**	**132**	P	**Pn**	**01 46 50.1**	**-0.9**
GOAT	**Goat Mountain**	**3.85**	**129**	P	**Pn**	**01 46 51.5**	**-0.9**
VRDI	**Verde Repeater**	**3.94**	**115**	P	**Pn**	**01 46 53.1**	**-0.7**
MCARA	**McCarthy VSAT**	**4.04**	**112**	P	**Pn**	**01 46 55.1**	**+0.2**
BCA3	**Beaver Creek A**	**4.11**	**87**	P	**Pn**	**01 46 55.0**	**-0.8**
COLD	**Coldfoot**	**4.14**	**3**	*ePn*	**Pn**	**01 46 55.8**	**-0.3**
BERG	**Berg Lake**	**4.35**	**126**	P	**Pn**	**01 46 59.1**	**+0.1**
PTPK	**Patty Peak**	**4.37**	**112**	P	**Pn**	**01 46 59.5**	**0.0**
KHIT	**Khitrov Hills**	**4.49**	**123**	P	**Pn**	**01 47 01.1**	**+0.2**
BALM	**Baldy**	**4.50**	**114**	P	**Pn**	**01 47 00.6**	**-0.6**
KIAG	**Kiagna River**	**4.55**	**115**	P	**Pn**	**01 47 01.0**	**-0.9**
EGAK	**Eagle**	**4.58**	**64**	P	**Pn**	**01 47 01.5**	**-0.5**
ISLE	**Juniper Island**	**4.74**	**118**	P	**Pn**	**01 47 04.3**	**-0.1**
BARN	**Barnard Glacie**	**4.78**	**111**	P	**Pn**	**01 47 05.2**	**+0.3**
BARK	**Barkley Ridge**	**4.80**	**121**	P	**Pn**	**01 47 05.4**	**+0.3**
GRNC	**Granite Creek**	**4.91**	**115**	P	**Pn**	**01 47 05.9**	**-0.7**
BM3	**Burnt Mountain**	**5.05**	**126**	P	**Pn**	**01 47 07.9**	**-0.4**
LOGN	**Logan Glacier**	**5.17**	**112**	P	**Pn**	**01 47 09.6**	**-0.5**
DAWY	**Dawson**	**5.20**	**74**	P	**Pn**	**01 47 09.8**	**-0.5**
KDAK	**Kodiak Island**	**5.42**	**190**	*ePn*	**Pn**	**01 47 10.5**	**-2.8**
KDAK				*eS*	**Sn**	**01 48 09.0**	**-5.6**
CHX	**Chaix Hills**	**5.55**	**119**	P	**Pn**	**01 47 14.9**	**-0.2**
YKA	**Yellowknife Ar**	**16.43**	**76**	P	**Pn**	**01 49 37.0**	**-0.2**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=286,slow=11,SNR=7.7	**16.43**	**76**	P	**Pn**	**01 49 36.9**	**-0.2**
PDAR	**Pinedale Array**	**31.33**	**111**	P	**P**	**01 52 03.7**	**+1.4**
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=335,slow=8.3,SNR=3.9	**31.33**	**111**	P	**P**	**01 52 03.7**	**+1.4**
NVAR	**Mina Array Bea**	**31.53**	**126**	P	**P**	**01 52 05.9**	**+1.8**
NVAR	**Mina Array Bea** 0.6nm,0.6s,baz=316,slow=9.0,SNR=5.9	**31.53**	**126**	P	**P**	**01 52 05.9**	**+1.8**
TXAR	**Lajitas Array**	**45.25**	**116**	P	**P**	**01 53 59.9**	**+1.4**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=322,slow=3.8,SNR=4.1	**45.25**	**116**	P	**P**	**01 53 59.9**	**+1.4**
SONM	**Songino Array**	**53.81**	**306**	P	**P**	**01 55 03.8**	**+0.5**
SONM	**Songino Array** 0.5nm,0.7s,baz=36,slow=5.9,SNR=4.2	**53.81**	**306**	P	**P**	**01 55 03.8**	**+0.5**
MKAR	**Makanchi Array**	**62.63**	**322**	P	P	01 56 03.0	-1.3
MKAR	**Makanchi Array** 0.8nm,0.5s,baz=40,slow=6.6,SNR=13	**62.63**	**322**	P	P	01 56 03.0	-1.3
AKASG	**Malin Array Be**	**66.53**	**360**	P	**P**	**01 56 28.6**	**-0.9**
AKASG	**Malin Array Be** 0.8nm,0.5s,baz=359,slow=5.9,SNR=6.3	**66.53**	**360**	P	**P**	**01 56 28.6**	**-0.9**

*ISCJB **31** 01:46:06.2±1.0,34.07N±0.02×25.23E±0.03,h12km±8km, Error ellipse: s-maj=5.1km s-min=3.2km az=153.8*
*CSEM **31** 01:46:07.6±0.1,34.16N×25.24E,h10km,ML2.9,Error ellipse: s-maj=4.9km s-min=2.6km az=58.0*
*ATH **31** 01:46:08.3,34.15N×25.20E,h35km±3km, MD3.7/20, ML3.1*
*THE **31** 01:46:09.4,34.24N×25.25E,h1km±1km,ML2.9/1,Error ellipse: s-maj=2.2km s-min=0.8km az=194.0*
*HLW **31** 01:46:11.2,34.19N×25.52E,h32km±36km,Md0.0,Ml3.3*

ISC 31 01:46:07.6±1.4,34.17N±0.03×25.26E±0.03,h13km±11km, n99,σ0984/130,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.93**	**337**	P	**Pb**	**01 46 26.1**	**+0.6**
SIVA				S	**Sn**	**01 46 39.5**	**+0.1**
SIVA	**Sivas**	**0.93**	**337**	*ePN*	**Pn**	**01 46 26.3**	**0.0**
SIVA				*eSN*	**Sn**	**01 46 39.6**	**+0.1**
SIVA	**Sivas**	**0.93**	**337**	*ePn*	**Pn**	**01 46 26.3**	**0.0**
SIVA				*eSn*	**Sn**	**01 46 39.6**	**+0.1**
LAST	**Lasithi**	**1.01**	**10**	P	**Pb**	**01 46 27.4**	**+0.4**
LAST				S	**Sn**	**01 46 41.6**	**-0.1**
LAST	**Lasithi**	**1.01**	**10**	*ePN*	**Pn**	**01 46 27.7**	**+0.1**
LAST				*eSN*	**Sn**	**01 46 41.8**	**+0.1**
LAST	**Lasithi**	**1.01**	**10**	P	**Pb**	**01 46 27.4**	**+0.4**
LAST	**Lasithi**	**1.01**	**10**	*ePn*	**Pn**	**01 46 27.7**	**+0.1**
LAST				*eSn*	**Sn**	**01 46 41.8**	**+0.1**
NPS	**Neapolis**	**1.13**	**15**	P	**Pn**	**01 46 29.7**	**+0.5**
NPS				S	**Sn**	**01 46 45.5**	**+0.9**
NPS	**Neapolis**	**1.13**	**15**	*ePN*	**Pn**	**01 46 29.9**	**+0.7**
NPS				*eSN*	**Sn**	**01 46 44.9**	**+0.3**
NPS	**Neapolis**	**1.13**	**15**	*ePn*	**Pn**	**01 46 29.9**	**+0.7**
NPS				*eSn*	**Sn**	**01 46 44.9**	**+0.3**
NPS				S	**Sn**	**01 46 45.5**	**+0.9**
IDI	**Anoyia**	**1.16**	**345**	P	**Pn**	**01 46 29.9**	**+0.3**
IDI				S	**Sn**	**01 46 46.1**	**+0.8**
IDI	**Anoyia**	**1.16**	**345**	*ePN*	**Pn**	**01 46 30.1**	**+0.5**
IDI				*eSN*	**Sn**	**01 46 45.8**	**+0.5**
IDI	**Anoyia**	**1.16**	**345**	P	**Pn**	**01 46 29.9**	**+0.3**
IDI				*eSn*	**Sn**	**01 46 45.8**	**+0.5**
IDI				S	**Sn**	**01 46 46.1**	**+0.8**
ZKR	**Zakros**	**1.23**	**40**	P	**Pg**	**01 46 32.0**	**+0.6**
ZKR				S	**Sn**	**01 46 48.4**	**+1.3**
ZKR	**Zakros**	**1.23**	**40**	*ePN*	**Pg**	**01 46 31.8**	**+0.4**
ZKR				*eSN*	**Sn**	**01 46 48.3**	**+1.2**
ZKR	**Zakros**	**1.23**	**40**	*ePn*	**Pg**	**01 46 31.8**	**+0.4**
ZKR				*eSn*	**Sn**	**01 46 48.3**	**+1.2**
VAM	**Vamos**	**1.51**	**325**	P	**Pb**	**01 46 35.3**	**-0.2**
VAM				S	**Sg**	**01 46 56.2**	**-0.2**
VAM	**Vamos**	**1.51**	**325**	*ePN*	**Pb**	**01 46 35.5**	**0.0**
VAM				*eSN*	**Sb**	**01 46 55.0**	**+0.4**
VAM	**Vamos**	**1.51**	**325**	P	**Pb**	**01 46 35.3**	**-0.2**
VAM				*eSn*	**Sb**	**01 46 55.0**	**+0.4**
KARN	**Karanos**	**1.65**	**319**	P	**Pb**	**01 46 37.4**	**-0.5**
KARN	**Karanos**	**1.65**	**319**	*ePB*	**Pb**	**01 46 37.5**	**-0.5**
KARN	**Karanos**	**1.65**	**319**	*ePb*	**Pb**	**01 46 37.5**	**-0.5**
KARP	**Karpathos**	**2.09**	**48**	P	**Pb**	**01 46 44.3**	**-1.1**
KARP				S	**Sb**	**01 47 10.3**	**-0.9**
KARP	**Karpathos**	**2.09**	**48**	*ePB*	**Pb**	**01 46 44.5**	**-0.9**
KARP				*eSN*	**Sn**	**01 47 09.9**	**+1.7**
KARP	**Karpathos**	**2.09**	**48**	P	**Pb**	**01 46 44.3**	**-1.1**
KARP				*eSn*	**Sn**	**01 47 09.9**	**+1.7**
KARP				S	**Sb**	**01 47 10.3**	**-0.9**
SANT	**Santorini**	**2.21**	**4**	*ePN*	**Pn**	**01 46 44.6**	**+0.6**
SANT	**Santorini**	**2.21**	**4**	*ePn*	**Pn**	**01 46 44.6**	**+0.6**
ANKY	**Antikythira Is**	**2.33**	**317**	*ePN*	**Pn**	**01 46 45.5**	**-0.2**
ANKY	**Antikythira Is**	**2.33**	**317**	*ePn*	**Pn**	**01 46 45.5**	**-0.2**
SLUM		**2.67**	**181**	P	**Pn**	**01 46 52.4**	**+2.1**
SLUM				S	**Sn**	**01 47 23.2**	**+0.8**
KYTH	**Kithira**	**2.78**	**320**	P	**Pn**	**01 46 52.6**	**+0.7**
KYTH	**Kithira**	**2.78**	**320**	*ePN*	**Pn**	**01 46 52.8**	**+0.9**
KYTH	**Kithira**	**2.78**	**320**	P	**Pn**	**01 46 52.6**	**+0.7**
APE	**Apeiranthos**	**2.91**	**4**	P	**Pn**	**01 46 53.7**	**+0.1**
APE	**Apeiranthos**	**2.91**	**4**	*ePN*	**Pn**	**01 46 53.2**	**-0.4**
APE	**Apeiranthos**	**2.91**	**4**	*ePn*	**Pn**	**01 46 53.2**	**-0.4**
APE	**Apeiranthos**	**2.91**	**4**	P	**Pn**	**01 46 53.7**	**+0.1**
ARG	**Arkhangelos**	**3.12**	**48**	P	**Pn**	**01 46 58.0**	**+1.6**
ARG				S	**Sn**	**01 47 35.8**	**+2.3**
ARG	**Arkhangelos**	**3.12**	**48**	*ePN*	**Pn**	**01 46 58.0**	**+1.6**
ARG				*eSB*	**Sn**	**01 47 33.2**	**-0.3**
ARG	**Arkhangelos**	**3.12**	**48**	P	**Pn**	**01 46 58.0**	**+1.6**
ARG				*eSb*	**Sn**	**01 47 33.2**	**-0.3**
ARG				S	**Sn**	**01 47 35.8**	**+2.3**
VLI	**Veliai**	**3.17**	**324**	P	**Pn**	**01 46 57.0**	**-0.2**
VLI	**Veliai**	**3.17**	**324**	*ePN*	**Pn**	**01 46 57.1**	**-0.2**
VLI	**Veliai**	**3.17**	**324**	*ePn*	**Pn**	**01 46 57.1**	**-0.2**
MATC	**Matruh** baz=152	**3.27**	**149**	P	**Pn**	**01 46 59.0**	**+0.5**
MATC	**Matruh**	**3.27**	**149**	P	**Pn**	**01 46 59.0**	**+0.5**
HMAT	**Matruh** baz=156	**3.44**	**153**	P	**Pn**	**01 47 01.5**	**+0.7**
HMAT	**Matruh**	**3.44**	**153**	P	**Pn**	**01 47 01.5**	**+0.7**
DID	**Didima**	**3.71**	**334**	P	**Pn**	**01 47 04.0**	**-0.6**
DID	**Didima**	**3.71**	**334**	*ePN*	**Pn**	**01 47 04.1**	**-0.6**
DID	**Didima**	**3.71**	**334**	*ePn*	**Pn**	**01 47 04.1**	**-0.6**
NAIG	**Nisos Aigina**	**3.86**	**339**	*ePN*	**Pn**	**01 47 06.5**	**-0.2**
NAIG	**Nisos Aigina**	**3.86**	**339**	*ePn*	**Pn**	**01 47 06.5**	**-0.2**
PYL	**PYLOS**	**3.95**	**315**	*ePN*	**Pn**	**01 47 09.6**	**+1.7**
PYL	**PYLOS**	**3.95**	**315**	*ePn*	**Pn**	**01 47 09.6**	**+1.7**
ATH	**Athens Observa**	**4.00**	**342**	*ePN*	**Pn**	**01 47 08.8**	**+0.3**
ATH	**Athens Observa**	**4.00**	**342**	*ePn*	**Pn**	**01 47 08.8**	**+0.3**
PTL	**Penteli**	**4.04**	**344**	P	**Pn**	**01 47 08.7**	**-0.4**
PTL	**Penteli**	**4.04**	**344**	*ePN*	**Pn**	**01 47 08.9**	**-0.2**
PTL	**Penteli**	**4.04**	**344**	*ePn*	**Pn**	**01 47 08.9**	**-0.2**
ITM	**Ithomi**	**4.05**	**319**	*ePN*	**Pn**	**01 47 09.3**	**0.0**
ITM	**Ithomi**	**4.05**	**319**	*ePn*	**Pn**	**01 47 09.3**	**0.0**
LTK	**Loutraki**	**4.27**	**335**	P	**Pn**	**01 47 11.9**	**-0.4**
LTK	**Loutraki**	**4.27**	**335**	P	**Pn**	**01 47 11.9**	**-0.4**
AMT	**Artemida-Makis**	**4.42**	**320**	*ePN*	**Pn**	**01 47 15.5**	**+1.0**
AMT	**Artemida-Makis**	**4.42**	**320**	*ePn*	**Pn**	**01 47 15.5**	**+1.0**
GUR	**Goura**	**4.44**	**329**	P	**Pn**	**01 47 14.5**	**-0.3**
GUR	**Goura**	**4.44**	**329**	*ePN*	**Pn**	**01 47 14.8**	**0.0**
GUR	**Goura**	**4.44**	**329**	P	**Pn**	**01 47 14.5**	**-0.3**
GUR	**Goura**	**4.44**	**329**	*ePn*	**Pn**	**01 47 14.8**	**0.0**
KLV	**Kalavryta, Ach**	**4.61**	**328**	P	**Pn**	**01 47 17.5**	**+0.4**
KLV	**Kalavryta, Ach**	**4.61**	**328**	P	**Pn**	**01 47 17.5**	**+0.4**
DRO	**Drossia**	**4.75**	**324**	P	**Pn**	**01 47 19.4**	**+0.5**
DRO	**Drossia**	**4.75**	**324**	*ePN*	**Pn**	**01 47 19.4**	**+0.5**
DRO	**Drossia**	**4.75**	**324**	P	**Pn**	**01 47 19.4**	**+0.5**
DSF	**Desfina**	**4.78**	**333**	*ePN*	**Pn**	**01 47 19.1**	**-0.2**
DSF	**Desfina**	**4.78**	**333**	*ePn*	**Pn**	**01 47 19.1**	**-0.2**
KALE	**Kalithea**	**4.91**	**330**	P	**Pn**	**01 47 21.5**	**+0.3**
KALE	**Kalithea**	**4.91**	**330**	P	**Pn**	**01 47 21.5**	**+0.3**
SWA2	baz=181	**4.91**	**178**	P	**Pn**	**01 47 22.6**	**+1.5**
SWA2				AMP		01 48 00.0	
	comp=E,40μm,0.1s,logA/T=5.5,baz=181						
SWA2				S	**Sn**	**01 48 16.5**	**-1.3**
	baz=181						
SWA2		**4.91**	**178**	P	**Pn**	**01 47 22.6**	**+1.5**
SWA2				S	**Sn**	**01 48 16.5**	**-1.3**
RLS	**Riolos of Patr**	**4.95**	**323**	*ePN*	**Pn**	**01 47 24.4**	**+2.8**
RLS	**Riolos of Patr**	**4.95**	**323**	*ePn*	**Pn**	**01 47 24.4**	**+2.8**
KOT	**Kottamia** baz=126	**7.00**	**125**	P	**Pn**	**01 47 50.3**	**+0.4**
KOT	**Kottamia**	**7.00**	**125**	P	**Pn**	**01 47 50.3**	**+0.4**
HSAF	**As Saff** baz=130	**7.02**	**129**	P	**Pn**	**01 47 50.4**	**+0.3**
HSAF	**As Saff**	**7.02**

CMJI Cimerak 9.40 280 P **Pn** 02 19 26.3 -1.7
31nm,0.8s
APSI Ampana 9.43 24 P Pn 02 19 35.0 +6.6
45nm,0.9s,1µm
CISI Cisompet, Garu 10.06 281 P Pn 02 19 51.5 +14
NLAI Namlea 11.19 56 P Pn 02 20 00.4 +8.0
30nm,0.7s
GTOI Gorontalo 11.40 27 P Pn 02 20 03.9 +8.6
CGJI Cibinong 12.33 283 P P 02 20 26.8 +10
SDKM Sandakan 15.13 358 P **P** **02 20 50.7 +2.9**
LHSI Lahat 15.27 291 P **P** **02 20 49.6 +0.4**
52nm,0.8s
SWI Sorong 15.96 58 P **P** **02 20 58.6 +1.7**
20nm,1.0s,1µm
WRA Warramunga Arr 19.02 125 P **P** **02 21 30.6 -0.1**
WRA S S 02 24 50.4 -12
WRA Warramunga Arr 19.02 125 P **P** **02 21 30.6 -0.1**
1.0nm,0.3s,baz=299,slow=14,SNR=37
WRA S S 02 24 50.4 -12
0.9nm,0.3s,baz=292,slow=22,SNR=6.1
WRA LR LR 02 28 45.4
comp=Z,89nm,21.3s,baz=295,slow=36
WRAB Tennant Creek 19.02 125 *e*P **P** **02 21 31.4 +0.7**
5.4nm,0.6s
WRAB *e*S S 02 24 47.6 -15
ASAR Alice Springs 20.82 134 P **P** **02 21 51.2 +1.0**
ASAR S **S** **02 25 34.2 -3.7**
ASAR ScP **ScP** **02 29 28.1 +2.8**
ASAR Alice Springs 20.82 134 P **P** **02 21 51.2 +1.0**
5.9nm,0.7s,baz=310,slow=10,SNR=50
ASAR S **S** **02 25 34.2 -3.7**
3.3nm,0.6s,baz=308,slow=23,SNR=8.1
ASAR ScP **ScP** **02 29 28.1 +2.8**
1.4nm,0.8s,baz=320,slow=2.8,SNR=4.8
ASAR LR LR 02 29 50.1
comp=Z,110nm,18.9s,baz=318,slow=36
AS31 Alice Springs 20.82 134 *e*P **P** **02 21 51.2 +1.0**
AS31 *e*S **S** **02 25 33.9 -4.0**
MNSI Mandailing Nat 20.85 299 P **P** **02 21 51.5 +1.0**
24nm,0.8s,6µm
PSI Prapat 22.45 302 P **P** **02 22 07.5 -0.3**
14nm,0.9s
FORT Forrest 23.17 157 *e*P **P** **02 22 15.1 +0.4**
NWAO Narrogin (SRO) 23.24 181 P **P** **02 22 15.3 -0.1**
NWAO S **S** **02 26 22.9 +2.0**
NWAO Narrogin (SRO) 23.24 181 P **P** **02 22 15.3 -0.1**
16nm,0.8s,baz=2.2,slow=10,SNR=7.4
NWAO S **S** **02 26 22.9 +2.0**
6.7nm,0.4s,baz=150,slow=20,SNR=3.9
NWAO LR LR 02 31 30.6
comp=Z,165nm,18.1s,baz=360,slow=37
KCSI Kotacane, Aceh 23.81 302 P **P** **02 22 19.8 -0.9**
32nm,0.7s
TPTI 24.17 301 P **P** **02 22 23.5 -0.4**
872nm,1.1s,29µm
COEN Coen 25.23 102 *e*P **P** **02 22 32.7 -0.9**
45nm,0.7s
STKA Stephens Creek 31.30 139 P **P** **02 23 28.7 +1.2**
STKA Stephens Creek 31.30 139 P **P** **02 23 28.7 +1.2**
2.9nm,0.5s,baz=320,slow=10,SNR=15
STKA LR LR 02 36 48.5
comp=Z,94nm,18.3s,baz=19,slow=37
CMAR Chiang Mai Arr 33.49 326 P **P** **02 23 46.2 -0.5**
CMAR PcP **PcP** **02 26 27.4 +1.2**
CMAR Chiang Mai Arr 33.49 326 P **P** **02 23 46.2 -0.5**
3.3nm,0.8s,baz=153,slow=7.8,SNR=21
CMAR PcP **PcP** **02 26 27.4 +1.2**
1.4nm,0.7s,baz=177,slow=3.6,SNR=7.1
H08S2 Diego Garcia H 44.80 269 T T 03 13 36.4
baz=95,slow=76,SNR=11
H08S3 Diego Garcia H 44.81 269 T T 03 13 35.4
baz=95,slow=76,SNR=9.9
H08S1 Diego Garcia H 44.82 269 T T 03 13 34.8
baz=95,slow=76,SNR=10
KSAR Wonju Array Be 47.72 11 P **P** **02 25 44.1 +0.5**
KSRS Korea Array 47.74 11 P **P** **02 25 44.1 +0.4**
9.9nm,0.9s,baz=188,slow=7.2,SNR=15
MJAR Matsushiro Arr 49.73 22 P **P** **02 25 57.4 -1.7**
MJAR Matsushiro Arr 49.73 22 P **P** **02 25 57.4 -1.7**
6.9nm,0.8s,baz=194,slow=8.1,SNR=15
MJAR LR LR 02 43 28.5
comp=Z,50nm,21.6s,baz=80,slow=32
GTA Gaotai 51.52 342 *e*P **P** **02 26 12.5 -0.1**
GTA pmax pmax
comp=Z,4.0nm,0.8s
MDJ Mudanjiang 54.99 10 *e*P **P** **02 26 37.1 -0.6**
16nm,0.8s
USRK Ussuriysk Arra 55.05 12 P **P** **02 26 37.5 -0.8**
13nm,0.7s,baz=192,slow=6.6,SNR=40
USRK LR LR 02 52 33.1
comp=Z,79nm,21.7s,baz=224,slow=39
ULN Ulaanbaatar 57.98 351 *e*P **P** **02 26 58.3 -0.8**
4.1nm,0.8s
SONM Songino Array 58.04 351 P **P** **02 26 58.4 -1.2**
SONM Songino Array 58.04 351 P **P** **02 26 58.4 -1.2**
8.2nm,0.8s,baz=167,slow=8.5,SNR=63
KBL Kabul 63.66 316 *e*P **P** **02 27 36.0 -2.1**
6.4nm,0.8s
MK31 Makanchi Array 64.43 334 *e*P **P** **02 27 40.9 -1.7**
MKAR Makanchi Array 64.43 334 P **P** **02 27 41.0 -1.6**
MKAR Makanchi Array 64.43 334 P **P** **02 27 41.0 -1.6**
2.7nm,0.5s,baz=151,slow=7.0,SNR=57
KZA Kyzart 64.49 326 P **P** **02 27 42.2 -1.4**
SNR=6.8
TKM2 Tokmak 2 64.87 327 P **P** **02 27 44.4 -1.4**
SNR=5.9
TKM2 Tokmak 2 64.87 327 *e*P **P** **02 27 44.3 -1.5**
2.6nm,0.5s
KBK Karagaybulak 65.04 326 P **P** **02 27 46.0 -0.9**
SNR=7.6
AAK Ala-Archa 65.28 326 P **P** **02 27 47.9 -0.6**
SNR=7.8
AAK Ala-Archa 65.28 326 P **P** **02 27 47.1 -1.3**
AAK Ala-Archa 65.28 326 P **P** **02 27 47.1 -1.3**
4.4nm,0.7s,baz=145,slow=7.0,SNR=22
AML Almayashu 65.39 325 P **P** **02 27 48.6 -0.8**
SNR=8.2
EKS2 Erkin-Say 65.69 326 P **P** **02 27 49.8 -1.3**
SNR=9.4
EKS2 Erkin-Say 65.69 326 *e*P **P** **02 27 49.4 -1.6**
7.3nm,0.9s
KKAR Karatay Array 67.81 324 *e*P **P** **02 28 02.7 -1.7**
1.6nm,0.6s
KURK Kurchatov 68.99 335 *e*P **P** **02 28 09.8 -1.7**
1.9nm,0.9s
ZAA0 Zalesovo Array 69.16 340 *e*P **P** **02 28 10.2 -2.2**
ZALV Zalesovo Beam 69.16 340 P **P** **02 28 10.1 -2.4**
ZALV Zalesovo Beam 69.16 340 P **P** **02 28 10.1 -2.4**
5.1nm,0.4s,baz=141,slow=5.3,SNR=33
PETK Petropavlovsk- 71.08 24 P **P** **02 28 24.0 -0.3**
PETK Petropavlovsk- 71.08 24 P **P** **02 28 24.0 -0.3**
3.5nm,0.8s,baz=204,slow=3.3,SNR=4.2
BRVK Borovoye 74.31 332 *e*P **P** **02 28 42.1 -1.3**
7.5nm,1.2s
ABKAR Akbulak array 77.34 325 *e*P **P** **02 28 59.1 -1.6**
5.4nm,0.6s
KMBO Kilima Mbogo 80.48 270 *e*P **P** **02 29 20.5 +1.5**
2.0nm,0.8s
KMBO Kilima Mbogo 80.48 270 P **P** **02 29 20.5 +1.5**
0.4nm,0.3s,baz=58,slow=10.0,SNR=8.6
TIXI Tiksi 81.39 4 *e*P **P** **02 29 20.6 -1.6**
14nm,0.9s
BOSA Boshof 87.68 242 LR LR 02 59 46.6
comp=Z,101nm,21.1s,baz=165,slow=29
BRTR Keskin Array B 91.58 310 P **P** **02 30 12.2 -1.0**
BRTR Keskin Array B 91.58 310 P **P** **02 30 12.2 -1.0**
1.1nm,0.8s,baz=127,slow=5.1,SNR=6.3
YKA Yellowknife Ar 115.20 24 PKP **PKPdf** **02 35 47.0 +0.4**
YKA Yellowknife Ar 115.20 24 PKP **PKPdf** **02 35 46.9 +0.4**
1.0nm,0.4s,baz=303,slow=1.9,SNR=28
TORD Torodi Ar. Bea 117.38 280 PKP **PKPdf** **02 35 52.5 +0.4**
TORD Torodi Ar. Bea 117.38 280 PKP **PKPdf** **02 35 52.5 +0.4**
0.4nm,0.5s,baz=65,slow=2.2,SNR=11
NVAR Mina Array Bea 122.31 50 PKP **PKPdf** **02 36 02.9 +1.6**
NVAR Mina Array Bea 122.31 50 PKP **PKPdf** **02 36 02.9 +1.6**
1.0nm,0.7s,baz=298,slow=1.9,SNR=9.7
DBIC Dimbokro 123.19 272 PKP **PKPdf** **02 36 04.1 +0.8**
DBIC Dimbokro 123.19 272 PKP **PKPdf** **02 36 04.1 +0.8**
2.4nm,0.9s,baz=80,slow=2.4,SNR=5.2
PDAR Pinedale Array 127.15 43 PKP **PKPdf** **02 36 11.3 +0.9**
PDAR Pinedale Array 127.15 43 PKP **PKPdf** **02 36 11.3 +0.9**
0.4nm,0.5s,baz=118,slow=0.9,SNR=8.2
TXAR Lajitas Array 136.56 57 PKPpre PKPpre 02 36 19.5
TXAR Lajitas Array 136.56 57 PKhKP PKPpre 02 36 19.5
0.1nm,0.5s,baz=271,slow=4.1,SNR=3.5

OXF Oxford 144.85 41 *e*PKPdf **PKPdf** **02 36 42.8 -0.2**
LPAZ La Paz 153.64 167 PKPbc **PKPbc** **02 37 08.9 +2.8**
LPAZ La Paz 153.64 167 PKPbc **PKPbc** **02 37 08.9 +2.8**
0.9nm,0.6s,baz=225,slow=4.3,SNR=4.6

*IDC **31** 02:40:36.5±0.7, 17.33S×172.98W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4. 1/22, mbtmp4.0/9, MS3.5/2, Ms1 3.5/2, ms1mx3.0/25, Error ellipse: s-maj=34.4km s-min=19.1km az=138.0*

ISC 31 02:40:40.9±0.8, 17°0S±0.1×172°6W±0.3, h17km, n31, σ1s03/25, mb3.9/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.13**	**15**	Pn		**Pn**		**02 41 29.3**	**-0.3**
	11nm,0.3s,baz=119,slow=15,SNR=5.6								
AFI				Sn		**Sn**		**02 42 06.2**	**-0.4**
	21nm,0.3s,baz=0.0,slow=20,SNR=4.6								
AFI				T		T		02 45 25.0	
	12nm,0.3s,baz=217,slow=7.2,SNR=6.1								
RAR	**Rarotonga**	**12.85**	**111**	Pn		Pn		02 43 33.8	-9.1
	2.0nm,0.3s,baz=270,slow=5.9,SNR=5.9								
RAR				LR		LR		02 47 00.1	
	comp=Z,327nm,20.6s,baz=270,slow=29								
PPT2	**Papeete2**	**22.00**	**95**	*e*LQ		LQ		02 49 32.0	
	352nm,26.5s								
PPT2				*e*LR		LR		02 50 24.0	
	236nm,26.8s								
URZ	**Urewera**	**23.07**	**201**	P		P		02 45 37.6	-8.0
	12nm,0.5s,baz=36,slow=8.7,SNR=6.2								
HNR	**Honiara**	**27.72**	**282**	LR		LR		02 55 53.2	
	comp=Z,53nm,18.7s,baz=127,slow=33								
WRA	**Warramunga Arr**	**50.25**	**258**	P		P		02 49 30.4	-6.3
	0.5nm,0.4s,baz=96,slow=7.2,SNR=18								
ASAR	**Alice Springs**	**50.37**	**253**	P		P		02 49 31.4	-6.2
	5.4nm,0.7s,baz=89,slow=8.6,SNR=54								
PETK	**Petropavlovsk-**	**74.33**	**342**	P		**P**		**02 52 17.8**	**+0.5**
	3.0nm,0.9s,baz=148,slow=8.5,SNR=4.0								
NVAR	**Mina Array Bea**	**74.97**	**41**	P		**P**		**02 52 22.1**	**+0.4**
	0.7nm,0.8s,baz=234,slow=7.7,SNR=4.7								
H02S1	**DAWSON INLET T**	**77.95**	**23**	T		T		04 18 49.2	
	SNR=31								
TXAR	**Lajitas Array**	**80.85**	**56**	P		**P**		**02 52 54.4**	**0.0**
	0.5nm,1.0s,baz=206,slow=5.6,SNR=3.2								
PDAR	**Pinedale Array**	**82.91**	**41**	P		**P**		**02 53 05.0**	**-0.2**
	0.9nm,0.9s,baz=238,slow=2.8,SNR=5.7								
ILAR	**Eielson Array**	**83.82**	**11**	P		**P**		**02 53 08.8**	**-0.2**
	0.8nm,0.8s,baz=226,slow=6.5,SNR=14								
YKA	**Yellowknife Ar**	**91.21**	**23**	P		**P**		**02 53 44.6**	**-0.1**
	0.1nm,0.6s,baz=232,slow=4.6,SNR=2.9								
MKAR	**Makanchi Array**	**112.45**	**314**	PKiKP		**PKiKP**		**02 59 15.1**	**-1.1**
	0.1nm,0.6s,baz=87,slow=1.5,SNR=2.3								
CLL	**Collm**	**145.43**	**354**	*i* P		**PKPbc**		**03 00 17.8**	**-0.1**
	comp=Z,7.0nm,1.0s								
CLL				*i*				03 00 27.4	
	comp=Z,14nm,1.1s								
KMBO	**Kilima Mbogo**	**145.51**	**242**	PKPbc		**PKPbc**		**03 00 17.0**	**-2.6**
	comp=Z,2.2nm,0.9s,baz=149,slow=5.4,SNR=3.9								
BRG	**Bergqiesshubel**	**145.76**	**353**	*e*P		**PKPdf**		**03 00 18.7**	**+0.1**
	comp=Z,2.2nm,0.9s								
BRG				*e*				03 00 28.5	
	comp=Z,9.2nm,1.3s								
UPC	**Upice**	**145.82**	**350**	*e*P		**PKPdf**		**03 00 19.5**	**+0.8**
UPC				*ex*		x		03 00 29.4	
DPC	**Dobruska-Polom**	**145.92**	**350**	*e*P		**PKPdf**		**03 00 19.6**	**+0.7**
DPC				*ex*		x		03 00 28.5	
PVCC	**Panska Ves**	**146.01**	**352**	*e*P		**PKPbc**		**03 00 21.0**	**+1.2**
PVCC				*ex*		x		03 00 29.1	
OKC	**Ostrava-Krasne**	**146.06**	**348**	*e*P		**PKPdf**		**03 00 19.9**	**+0.8**
OKC				*ex*		x		03 00 29.1	
PRU	**Pruhonice**	**146.54**	**352**	*e*P		**PKPdf**		**03 00 21.6**	**+1.7**
PRU				*ex*		x		03 00 30.0	
KHC	**Kasperske Hory**	**147.51**	**352**	*e*P		**PKPbc**		**03 00 24.3**	**+0.1**
KHC				*ex*		x		03 00 34.0	
MLR	**Muntele Rosu**	**147.59**	**335**	PKPbc		**PKPdf**		**03 00 24.0**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=198,slow=15,SNR=2.5								
GERES	**GERESS Array B**	**147.78**	**352**	PKPbc		**PKPbc**		**03 00 24.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=358,slow=3.0,SNR=7.7								
BRTR	**Keskin Array B**	**147.83**	**320**	PKPbc		**PKPdf**		**03 00 24.6**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=102,slow=2.4,SNR=8.0								
CSNA	**Conrad Observa**	**148.34**	**349**	P		**PKPbc**		**03 00 26.9**	**+0.4**
	comp=Z,4.6nm,1.0s								
ABTA	**Abfaltersbach**	**149.99**	**353**	P		**PKPbc**		**03 00 30.1**	**-0.5**
	comp=Z,10nm,1.2s								
DAVOX	**Davos/Dischmat**	**150.19**	**357**	PKPbc		**PKPbc**		**03 00 31.2**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=294,slow=17,SNR=4.1								
TORD	**Torodi Ar. Bea**	**173.32**	**124**	PKPab		**PKPab**		**03 02 18.2**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=252,slow=3.9,SNR=3.1								

DJA 31 03:09:27.9±0.8, 8°S±4°×107°E±°, h24km±7km, M3.9/13, MLv3.9/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.80**	**40**	P		P	Pb	03 09 43.1	-0.1
CISI				S		Sb		03 09 53.5	-0.1
CISI	**Cisompet, Garu**	**0.80**	**40**	P		Pb		03 09 42.8	-0.4
CISI				S		Sb		03 09 53.3	-0.3
CMJI	**Cimerak**	**1.20**	**71**	P		Pn		03 09 49.2	0.0
CMJI				S		Sn		03 10 03.5	-1.2
CMJI	**Cimerak**	**1.20**	**71**	P		Pn		03 09 49.0	-0.2
CMJI				S		Sn		03 10 04.6	-0.1
LEM	**Lembang**	**1.37**	**13**	P		Pb		03 09 54.6	+1.5
LEM				S		Sb		03 10 11.2	+0.8
LEM	**Lembang**	**1.37**	**13**	P		Pn		03 09 51.8	0.0
LEM				S		Sn		03 10 09.5	+0.2
SKJI	**Sukabumi**	**1.37**	**327**	P		Pn		03 09 51.6	0.0
SKJI				S		Sn		03 10 07.6	-1.4
SKJI	**Sukabumi**	**1.37**	**327**	P		Pn		03 09 50.5	-1.1
DBJI	**Dramaga**	**1.70**	**341**	P		Pn		03 09 56.4	+0.3
DBJI				S		Sn		03 10 17.3	+0.3
DBJI	**Dramaga**	**1.70**	**341**	P		Pn		03 09 55.9	-0.2
CLJI	**Cilicap**	**1.76**	**75**	P		Pn		03 09 55.8	-1.1
KPJI	**Karang Pucung**	**1.82**	**63**	P		Pb		03 10 00.6	+0.1
KPJI	**Karang Pucung**	**1.82**	**63**	P		Pn		03 09 58.7	+1.0
JCJI	**Jatiwangi**	**1.93**	**30**	P		Pn		03 09 58.2	-1.0
JCJI				S		Sn		03 10 20.5	-2.2
CGJI	**Cibinong**	**2.22**	**314**	P		Pn		03 10 02.8	-0.4
CGJI				S		Sn		03 10 28.8	-1.1
CGJI	**Cibinong**	**2.22**	**314**	P		Pn		03 10 02.2	-1.0
SBJI	**Serang**	**2.34**	**330**	P		Pn		03 10 05.0	0.0
BJII	**Banjamegara**	**2.53**	**71**	P		Pb		03 10 11.8	-0.9
BJII	**Banjamegara**	**2.53**	**71**	P		Pn		03 10 07.1	-0.5
UGM	**Wanagama**	**3.20**	**86**	P		Pn		03 10 16.4	-0.4
PCJI	**Pacitan**	**3.84**	**91**	P		Pn		03 10 28.7	+3.2
KLSI		**4.30**	**323**	P		Pn		03 10 34.8	+2.9
KLSI		**4.30**	**323**	P		Pn		03 10 32.8	+0.9
PWJI	**Pagerwojo**	**4.46**	**88**	P		Pn		03 10 37.4	+3.3
PWJI	**Pagerwojo**	**4.46**	**88**	P		Pn		03 10 33.9	-0.2
MDSI	**Maura Dua**	**4.80**	**320**	P		Pn		03 10 39.7	+1.0
MDSI	**Maura Dua**	**4.80**	**320**	P		Pn		03 10 39.3	+0.6
GENI	**Genyem**	**33.17**	**82**	P		P		03 16 09.4	+6.4

*ISCJB **31** 03:10:37.8±0.4, 28.77S±0.07×178.35W±0.08, h200km, mb4.6/37, Error ellipse: s-maj=9.7km s-min=8.9km az=41.8*

*IDC **31** 03:10:39.2±0.4, 28.76S×178.31W, h202km±4km, mb4.0/13, mb1 4.2/14, mb1mx4. 1/18, mbtmp4.5/14, MS3.4/2, Ms1 3.6/2, ms1mx2.8/26, Error ellipse: s-maj=16.9km s-min=14.1km az=117.0*

*NEIC **31** 03:10:40.3±0.8, 28.85S×178.17W, h218km±7km, mb4.9/14, Error ellipse: s-maj=10.8km s-min=8.8km az=155.0*

ISC 31 03:10:39.1±0.4, 28.79S±0.08×178.26W±0.09, h200km, n116, σ1s32/116, mb4.7/37, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.55**	**147**	*e*Pn		**Pn**		**03 11 08.6**	**+2.1**
RAO				*e*Sn		**Sn**		**03 11 28.9**	**+1.2**
RAO	**Raoul Island**	**0.55**	**147**	P		**Pn**		**03 11 08.5**	**+2.1**
	2µm,0.3s,baz=91,slow=2.2,SNR=133								
RAO				S		**Sn**		**03 11 29.1**	**+1.5**
	1µm,0.3s,baz=60,slow=22,SNR=10.0								
URZ	**Urewera**	**10.20**	**201**	*e*Pn		**Pn**		**03 13 02.0**	**+1.2**
URZ				*e*Sn		Sn		03 14 45.0	-10
URZ	**Urewera**	**10.20**	**201**	P		**Pn**		**03 12 59.5**	**-1.4**
	0.9nm,0.3s,baz=225,slow=4.3,SNR=4.6								
URZ				S		Sn		03 14 42.9	-12
	5.6nm,0.3s,baz=276,slow=18,SNR=14								
SNZO	**South Karori**	**13.74**	**203**	*e*Pn		**Pn**		**03 13 44.9**	**-0.9**

DZM Mont Dzumac 15.35 292 *e*Pn **P** **03 14 08.8 +2.8**
44nm,0.8s
DZM Mont Dzumac 15.35 292 *e*P **Pn** **03 14 07.6 +1.9**
NOUC Port Laguerre 15.45 292 *e*P **P** **03 14 09.9 +2.9**
ARMA Armidale 26.20 259 *e*P **P** **03 15 58.1 +2.5**
EIDS Eidsvold 27.47 270 *e*P **P** **03 16 07.4 +0.6**
5.9nm,0.9s
CAN Canberra 28.41 248 *e*P **P** **03 16 15.6 +0.4**
5.4nm,0.8s
PPT Papeete 28.56 73 LR LR 03 26 13.5
comp=Z,15nm,28.6s,baz=349,slow=33
CTAO Charters Tower 33.35 277 *e*P **P** **03 17 00.2 +1.7**
STKA Stephens Creek 34.65 255 *e*P **P** **03 17 09.8 +0.2**
1.8nm,0.7s
STKA Stephens Creek 34.65 255 P **P** **03 17 09.9 +0.3**
7.8nm,0.6s,baz=92,slow=9.9,SNR=18
COEN Coen 38.63 284 *e*P **P** **03 17 44.1 +0.7**
77nm,0.7s
BBOO Buckleboo 39.21 252 *e*P **P** **03 17 47.3 -0.7**
70nm,0.6s
AS01 Alice Springs 42.95 265 *e*P **P** **03 18 17.9 -0.7**
ASAR Alice Springs 42.99 265 P **P** **03 18 18.1 -0.9**
ASAR Alice Springs 42.99 265 P **P** **03 18 18.1 -0.9**
5.2nm,0.5s,baz=98,slow=6.5,SNR=109
WRAB Tennant Creek 43.82 271 *e*P **P** **03 18 24.8 -0.8**
17nm,1.1s
WRA Warramunga Arr 43.83 271 P **P** **03 18 24.6 -1.1**
WRA Warramunga Arr 43.83 271 P **P** **03 18 24.6 -1.1**
4.2nm,0.3s,baz=106,slow=7.9,SNR=134
FORT Forrest 46.26 254 *e*P **P** **03 18 43.6 -1.1**
20nm,0.6s
SBA Scott Base 49.62 184 *e*P **P** **03 19 12.6 +3.0**
VNDA Vanda 49.67 186 *e*P **P** **03 19 11.2 +1.2**
2.3nm,0.6s
VNDA Vanda 49.67 186 P **P** **03 19 11.2 +1.2**
2.5nm,0.7s,baz=1.6,slow=9.3,SNR=15
QSPA South Pole Qui 61.31 180 *e*P **P** **03 20 33.7 +0.5**
13nm,0.8s
LBFI Labuhan Bajo, 61.33 276 P **P** **03 20 32.9 -1.1**
169nm,0.8s,1µm
MTNI Mataram 64.50 274 P **P** **03 20 54.8 -0.1**
35nm,0.9s
KHKI Kahang-Kahang 65.12 274 P **P** **03 20 58.0 -0.9**
36nm,1.0s
IGBI Denpasar 65.32 273 P **P** **03 21 00.1 -0.1**
122nm,0.9s
SRBI Singaraja 65.60 274 P **P** **03 21 01.2 -0.8**
45nm,0.8s
NBBI Negara 65.98 274 P P 03 21 01.9 -2.5
50nm,1.1s
JAGI Jajag, Banyuwa 66.35 273 *e*P P 03 21 04.9 -1.9
48nm,0.9s
GMJI Gumukmas 67.06 273 P **P** **03 21 10.6 -0.7**
36nm,1.2s
PCJI Pacitan 69.08 272 P **P** **03 21 23.9 0.0**
91nm,1.1s
DBJI Dramaga 73.73 271 P **P** **03 21 51.4 -0.3**
80nm,0.9s
MAW Mawson 73.73 200 P **P** **03 21 50.8 +0.1**
MAW Mawson 73.73 200 P **P** **03 21 50.8 +0.1**
9.5nm,0.7s,baz=130,slow=6.1,SNR=4.8
CGJI Cibinong 74.63 271 P **P** **03 21 55.7 -1.2**
KLSI 76.37 272 P **P** **03 22 05.1 -1.7**
MJAR Matsushiro Arr 76.80 325 P **P** **03 22 07.8 -0.8**
MJAR Matsushiro Arr 76.80 325 P **P** **03 22 07.8 -0.8**
7.4nm,0.8s,baz=159,slow=5.3,SNR=15
MAJO Matsushiro 76.80 325 *e*P **P** **03 22 08.5 -0.2**
13nm,0.9s
MAT Matsushiro 76.80 325 P **P** **03 22 08.0 -0.6**
MDSI Maura Dua 76.95 272 P **P** **03 22 08.2 -1.8**
SYO Syowa Base 78.62 193 *e*P P 03 22 14.8 -3.5
SNAA Sanae 79.76 179 *e*P **P** **03 22 23.4 -1.1**
KSRS Korea Array 82.98 320 P **P** **03 22 42.0 +0.3**
3.4nm,0.8s,baz=138,slow=5.7,SNR=6.5
KSAR Wonju Array Be 82.99 320 P **P** **03 22 42.0 +0.2**
KS01 Wonju Array Si 83.01 320 *e*P **P** **03 22 41.3 -0.6**
IPM Ipoh 84.03 278 *e*P **P** **03 22 46.8 -0.9**
26nm,0.7s
PETK Petropavlovsk- 84.20 346 P **P** **03 22 48.9 +1.4**
PETK Petropavlovsk- 84.20 346 P **P** **03 22 48.9 +1.4**
4.4nm,0.7s,baz=126,slow=7.5,SNR=7.1
KULM Kulim 84.75 279 *e*P **P** **03 22 50.7 -0.6**
38nm,1.4s
BORC Borrego Spring 85.10 48 *e*P **P** **03 22 51.9 -0.7**
BBSC Beaumont Base 85.15 47 *e*P **P** **03 22 50.8 -2.1**
USRK Ussuriysk Arra 85.70 327 P **P** **03 22 55.6 +0.4**
3.4nm,0.8s,baz=135,slow=4.0,SNR=6.5
NV01 Mina Array Sit 87.22 43 *e*P **P** **03 23 03.5 +0.4**
NV01 *e*pP **pP** **03 23 54.5 +2.2**
NVAR Mina Array Bea 87.22 43 P **P** **03 23 02.8 -0.2**
NVAR pP **pP** **03 23 53.8 +1.6**
NVAR Mina Array Bea 87.22 43 P **P** **03 23 02.8 -0.2**
2.3nm,1.0s,baz=235,slow=7.5,SNR=10
NVAR pP **pP** **03 23 53.8 +1.6**
1.7nm,1.0s,baz=224,slow=7.6,SNR=5.1
CHAI Chaiyaphum 88.87 289 P **P** **03 23 11.9 +0.9**
8.2nm,0.8s,254nm
WUAZ Wupatki 89.77 49 *e*P **P** **03 23 13.3 -1.8**
12nm,0.8s
PBKT Sadao Pong 90.04 289 P **P** **03 23 18.7 +2.2**
12nm,1.2s
TXAR Lajitas Array 91.72 57 P **P** **03 23 23.4 -0.8**
TXAR Lajitas Array 91.72 57 P **P** **03 23 23.4 -0.8**
0.5nm,1.0s,baz=225,slow=6.9,SNR=3.9
CM01 Chiang Mai Arr 92.62 289 *e*P **P** **03 23 29.3 +0.8**
CMAR Chiang Mai Arr 92.65 289 P **P** **03 23 29.5 +0.9**
CMAR PP **PP** **03 27 10.8 -2.7**
CMAR Chiang Mai Arr 92.65 289 P **P** **03 23 29.5 +0.9**
1.2nm,0.6s,baz=151,slow=3.1,SNR=10
CMAR PP **PP** **03 27 10.8 -2.7**
0.4nm,0.3s,baz=124,slow=4.4,SNR=4.0
CMAI Chiengmai2 93.29 291 P **P** **03 23 33.4 +1.7**
8.4nm,0.7s
ILAR Eielson Array 96.42 13 P **P** **03 23 45.8 +1.1**
ILAR Eielson Array 96.42 13 P **P** **03 23 45.8 +1.1**
0.8nm,1.1s,baz=210,slow=5.0,SNR=4.2
LPAZ La Paz 99.01 114 LR LR 04 03 23.1
comp=Z,16nm,28.6s,baz=88,slow=32
YKA Yellowknife Ar 104.10 25 PKKPbc PKKPbc 03 40 05.8 -3.2
YKA Yellowknife Ar 104.10 25 PKKPbc PKKPbc 03 40 05.8 -3.2
0.5nm,0.9s,baz=40,slow=3.3,SNR=5.3
MK01 Makanchi Array 116.55 311 *e*PKPdf **PKPdf** **03 28 56.7 -2.3**
MK31 Makanchi Array 116.56 311 *e*PKPdf **PKPdf** **03 28 57.5 -1.5**
MKAR Makanchi Array 116.56 311 *e*PKPdf **PKPdf** **03 28 57.4 -1.6**
MKAR Makanchi Array 116.56 311 PKP **PKPdf** **03 28 57.4 -1.6**
1.1nm,0.7s,baz=96,slow=2.0,SNR=18
ZALV Zalesovo Beam 116.68 319 PKP **PKPdf** **03 28 57.2 -1.8**
ZALV Zalesovo Beam 116.68 319 PKP **PKPdf** **03 28 57.2 -1.8**
0.5nm,0.4s,baz=114,slow=1.7,SNR=4.5
KURK Kurchatov 119.77 314 *e*PKPdf **PKPdf** **03 29 03.3 -1.7**
KKAR Karatay Array 123.99 305 *e*PKPdf **PKPdf** **03 29 12.3 -1.1**
ARU Arti 131.70 321 PKPdf **PKPdf** **03 29 27.1 -0.5**
ARCES ARCESS Array B 136.98 348 PKPpre PKPpre 03 29 31.5
ARCES ARCESS Array B 136.98 348 PKhKP PKPpre 03 29 31.5
2.4nm,0.8s,baz=52,slow=1.5,SNR=7.2
JOF Joensuu 140.84 339 *ep* **PKPdf** **03 29 40.6 -3.8**
FINES FINESS Array B 143.56 341 PKPpre PKPpre 03 29 46.0
FINES FINESS Array B 143.56 341 PKhKP PKPpre 03 29 46.0
6.3nm,0.5s,baz=36,slow=3.2,SNR=34
KBZ Khabaz 144.01 306 PKP **PKPab** **03 29 48.1 -0.4**
KBZ Khabaz 144.01 306 PKP **PKPab** **03 29 48.1 -0.4**
3.8nm,1.0s,baz=63,slow=2.

CLL	**Collm**	**155.97**	**342**	*e*PKPab	**PKPab**	**03 30 38.0**	**+0.9**
GERES	**GERESS Array B**	**157.97**	**339**	PKPab	**PKPab**	**03 30 46.9**	**+0.9**
GERES	**GERESS Array B**	**157.97**	**339**	PKPab	**PKPab**	**03 30 46.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=36,slow=3.9,SNR=5.1						
TOA0	**Torodi Ar. Sit**	**164.43**	**180**	*e*PKPdf	**PKPdf**	**03 30 18.8**	**-0.7**
TOA0				*e*PKPab	**PKPab**	**03 31 14.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**164.43**	**180**	PKP	**PKPdf**	**03 30 18.3**	**-1.1**
TORD				PKPab	**PKPab**	**03 31 13.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**164.43**	**180**	PKP	**PKPdf**	**03 30 18.3**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=163,slow=0.8,SNR=5.0						
TORD				PKPab	**PKPab**	**03 31 13.9**	**-0.9**
	comp=Z,4.5nm,1.0s,baz=171,slow=3.6,SNR=16						

*ISCJB **31** 03:53:19.2±0.5,23°.92S±0'.04×66°.63W±0'.04,h198km±3km, mb4.5/78,Error ellipse: s-maj=7.0km s-min=5.2km az=147.1*

*IDC **31** 03:53:20.6±1.1,23°.93S×66°.58W,h200km±8km,mb4.0/14, mb1 4.2/20,mb1mx4.1/24,mbtmp4.5/20,MS2.1/1, Ms1 2.1/1,ms1mx2.1/27,Error ellipse: s-maj=12.8km s-min=10.0km az=77.0*

*NEIC **31** 03:53:21.5±2.5,23°.93S×66°.59W,h204km±5km,mb4.7/74, Error ellipse: s-maj=14.9km s-min=10.6km az=99.0*

*GUC **31** 03:53:22.9±0.5,23°.87S×67°.06W,h205km,ML5.6*

ISC 31 03:53:20.1±0.5,23°.93S±0'.04×66°.64W±0'.05,h197km±4km, n551,σ1§04/574,mb4.7/80,213C-180D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.46**	**302**	*e*Pn	**Pn**	**03 54 05.5**	**+1.7**
LVC				*e*Sn	**Sn**	**03 54 39.1**	**+1.5**
PB06	**Plate Boundary**	**2.96**	**294**	⇑*i*P	**Pn**	**03 54 10.3**	**+1.0**
PB06				*i* S	**Sn**	**03 54 45.8**	**-1.8**
PB06				AML	AML	03 54 48.6	
	comp=N,15μm,0.1s						
PB04	**Plate Boundary**	**3.10**	**302**	⇑*i*P	Pn	03 54 17.2	+6.4
PB04				*i* S	Sn	03 54 59.4	+8.9
PB09	**Plate Boundary**	**3.20**	**311**	⇑*i*P	**Pn**	**03 54 13.6**	**+1.3**
PB09				*i* S	**Sn**	**03 54 51.9**	**-1.1**
PB09				AML	AML	03 54 53.8	
	comp=E,9μm,0.5s						
CEN1	**Los Morros**	**3.31**	**279**	⇓*i*P	**Pn**	**03 54 15.0**	**+1.5**
CEN1				*i* S	**Sn**	**03 54 54.4**	**-0.8**
CEN1				AML	AML	03 54 58.2	
	comp=E,4μm,0.4s						
MACH	**Maria Elena**	**3.35**	**300**	⇑*i*P	**Pn**	**03 54 14.7**	**+0.6**
MACH				*i* S	**Sn**	**03 54 54.4**	**-1.8**
ANCH	**Antofagasta**	**3.46**	**273**	⇑*i*P	**Pn**	**03 54 15.1**	**-0.1**
ANCH				*i* S	**Sn**	**03 54 55.1**	**-3.1**
ANCH				AML	AML	03 54 58.7	
	comp=E,11μm,0.8s						
PB10	**Plate Boundary**	**3.61**	**276**	⇑*i*P	**Pn**	**03 54 17.1**	**+0.1**
PB10				*i* S	**Sn**	**03 54 58.6**	**-2.9**
PB07	**Plate Boundary**	**3.71**	**306**	⇑*i*P	**Pn**	**03 54 18.6**	**+0.1**
PB07				*i* S	**Sn**	**03 55 01.4**	**-2.7**
PB01	**Plate Boundary**	**3.89**	**317**	⇑*i*P	**Pn**	**03 54 20.8**	**+0.1**
PB01				*i* S	**Sn**	**03 55 06.1**	**-2.0**
LCO	**Las Campanas**	**6.24**	**215**	*e*Pn	**Pn**	**03 54 49.2**	**-1.4**
LCO				*e*Sn	Sn	03 55 50.1	-12
LPAZ	**La Paz**	**7.73**	**349**	*e*Pn	**Pn**	**03 55 11.2**	**+0.7**
LPAZ				*e*Sn	**Sn**	**03 56 35.6**	**-2.5**
LPAZ	**La Paz**	**7.73**	**349**	P	**Pn**	**03 55 11.2**	**+0.7**
	comp=E,10.0nm,0.3s,baz=165,slow=7.8,SNR=184						
LPAZ				S	**Sn**	**03 56 36.8**	**-1.3**
	comp=E,3.8nm,0.3s,baz=301,slow=16,SNR=8.6						
CFAA	**Coronel Fontan**	**7.78**	**190**	*e*Pn	**Pn**	**03 55 09.7**	**-0.8**
CFAA				*e*Sn	Sn	03 56 31.9	-6.5
CFAA	**Coronel Fontan**	**7.78**	**190**	P	**Pn**	**03 55 09.7**	**-0.8**
	baz=18,slow=13						
CFAA				S	Sn	03 56 31.9	-6.5
	comp=E,7.0nm,0.3s,baz=150,slow=20,SNR=25						
CFAA				LR	LR	03 58 15.1	
	comp=E,16nm,20.8s,baz=342,slow=38						
CPUP	**Villa Florida**	**8.77**	**108**	*e*Pn	**Pn**	**03 55 23.8**	**+0.3**
CPUP	**Villa Florida**	**8.77**	**108**	P	**Pn**	**03 55 24.1**	**+0.7**
	comp=E,2.8nm,0.3s,baz=269,slow=10,SNR=41						
SIV	**San Ignacio**	**9.47**	**35**	*e*Pn	**Pn**	**03 55 32.1**	**-0.6**
SIV	**San Ignacio**	**9.47**	**35**	P	**Pn**	**03 55 32.1**	**-0.6**
	comp=E,4.3nm,0.3s,baz=229,slow=14,SNR=100						
TRQA	**Tornquist**	**14.64**	**165**	*e*Pn	**Pn**	**03 56 37.6**	**-0.3**
SAML	**Samuel**	**15.26**	**13**	*e*Pn	**Pn**	**03 56 45.5**	**-0.2**
	comp=E,52nm,0.8s						
SAML				*e*S	**S**	**03 59 32.9**	**-2.5**
NNA	**Nana**	**15.32**	**319**	*e*Pn	**P**	**03 56 47.9**	**+1.0**
	comp=E,32nm,1.0s						
PLCA	**Paso Flores**	**17.08**	**190**	*e*P	**P**	**03 57 06.3**	**+0.3**
	comp=E,39nm,0.6s						
PLCA	**Paso Flores**	**17.08**	**190**	P	**P**	**03 57 06.6**	**+0.6**
	comp=E,1.7nm,0.3s,baz=17,slow=12,SNR=32						
BDFB	**Brasilia**	**19.35**	**68**	*e*P	**P**	**03 57 31.5**	**+0.5**
BDFB	**Brasilia**	**19.35**	**68**	P	**P**	**03 57 31.3**	**+0.3**
	comp=E,4.5nm,0.3s,baz=241,slow=11,SNR=57						
ATAH	**Atahualpa**	**20.15**	**324**	P	**P**	**03 57 42.2**	**+2.4**
	comp=E,11nm,0.7s,baz=162,slow=1.1,SNR=7.7						
PTGA	**Pitinga**	**23.95**	**17**	*e*P	**P**	**03 58 16.1**	**-0.3**
PTGA	**Pitinga**	**23.95**	**17**	P	**P**	**03 58 16.1**	**-0.3**
	comp=E,10nm,0.3s,baz=345,slow=22,SNR=34						
OTAV	**Otavalo**	**26.61**	**333**	*e*P	**P**	**03 58 42.3**	**+1.3**
	comp=E,10nm,1.1s						
USHA	**Ushuaia**	**30.90**	**182**	*e*P	**P**	**03 59 18.2**	**+0.3**
USHA	**Ushuaia**	**30.90**	**182**	P	**P**	**03 59 18.2**	**+0.3**
	comp=E,9.3nm,0.7s,baz=349,slow=9.2,SNR=11						
SDV	**Santo Domingo**	**32.84**	**353**	*e*P	**P**	**03 59 34.0**	**-1.6**
	comp=E,4.7nm,1.0s						
RCBR	**Riachuelo**	**34.59**	**64**	*e*P	**P**	**03 59 50.9**	**+0.3**
RCBR	**Riachuelo**	**34.59**	**64**	P	**P**	**03 59 50.9**	**+0.3**
	comp=E,3.9nm,0.5s,baz=234,slow=12,SNR=7.3						
CELP	**Cerrillos**	**41.74**	**0**	*e*P	**P**	**04 00 48.4**	**-1.7**
TGUH	**Tegucigalpa,Un**	**42.80**	**330**	*e*P	**P**	**04 00 59.8**	**+1.2**
	comp=E,26nm,0.9s						
TEIG	**Tepich**	**48.69**	**333**	*e*P	**P**	**04 01 44.2**	**-0.3**
	comp=E,50nm,1.3s						
SNAA	**Sanae**	**59.31**	**161**	*e*P	**P**	**04 03 01.8**	**+0.9**
	comp=E,14nm,0.7s						
JSC	**Jenkinsville**	**59.53**	**346**	*e*P	**P**	**04 03 03.3**	**+0.6**
835A	**Beeville**	**59.98**	**328**	⇓P	**P**	**04 03 06.9**	**+1.0**
	baz=60						
834A	**Tilden**	**60.20**	**327**	⇓P	**P**	**04 03 08.0**	**+0.6**
	baz=60						
KMSC	**Kings Mountain**	**60.37**	**346**	⇑P	**P**	**04 03 08.8**	**+0.3**
	baz=61						
HKT	**Hockley**	**60.46**	**331**	*e*P	**P**	**04 03 09.2**	**+0.1**
	comp=E,29nm,1.7s						
833A	**Chaparral WMA,**	**60.78**	**327**	⇓P	**P**	**04 03 11.9**	**+0.6**
	baz=61,SNR=29						
734A	**JLa Parita Cre**	**60.80**	**328**	⇓P	**P**	**04 03 12.3**	**+0.8**
	baz=61,SNR=5.2						
635A	**Leesville**	**60.88**	**329**	⇓P	**P**	**04 03 12.1**	**+0.2**
	baz=61						
832A	**Faith Ranch, C**	**61.04**	**326**	⇓P	**P**	**04 03 13.7**	**+0.6**
	baz=61,SNR=12						
733A	**Divot King Ran**	**61.06**	**327**	⇑P	**P**	**04 03 13.6**	**+0.5**
	baz=61						
535A	**Dale**	**61.32**	**329**	⇑P	**P**	**04 03 15.4**	**+0.5**
	baz=62						
732A	**Laxson Ranch,**	**61.40**	**327**	⇓P	**P**	**04 03 16.0**	**+0.5**
	baz=62,SNR=10						
SWET	**Sewanee**	**61.60**	**342**	*e*P	**P**	**04 03 16.2**	**-0.5**
	comp=E,19nm,0.8s						
633A	**Saathoff Ranch**	**61.61**	**328**	⇓P	**P**	**04 03 17.0**	**+0.1**
	baz=62						
534A	**Blanco**	**61.74**	**329**	⇑P	**P**	**04 03 17.4**	**-0.4**
	baz=62						
632A	**Uvalde**	**61.95**	**327**	⇓P	**P**	**04 03 19.8**	**+0.7**
	baz=62,SNR=6.2						
533A	**Kerrville**	**62.05**	**328**	⇑P	**P**	**04 03 19.9**	**0.0**
	baz=62						
631A	**Perdido Creek**	**62.27**	**327**	⇑P	**P**	**04 03 21.3**	**0.0**
	baz=62,SNR=9.7						
434A	**Burnet**	**62.30**	**329**	⇑P	**P**	**04 03 21.5**	**0.0**
	baz=63						
335A	**Moody**	**62.31**	**330**	⇓P	**P**	**04 03 21.3**	**-0.2**
	baz=63						
532A	**Rocksprings**	**62.52**	**328**	⇑P	**P**	**04 03 23.2**	**+0.2**
	baz=63,SNR=7.4						
433A	**Art**	**62.64**	**329**	⇓P	**P**	**04 03 23.9**	**+0.2**
	baz=63,SNR=14						
334A	**Lometa**	**62.73**	**330**	⇓P	**P**	**04 03 24.1**	**-0.2**
	baz=63						
JCT	**Junction City**	**62.76**	**328**	*e*P	**P**	**04 03 24.5**	**0.0**
	comp=E,15nm,0.7s						
JCT	**Junction City**	**62.76**	**328**	⇓P	**P**	**04 03 24.9**	**+0.4**
	baz=63,SNR=9.7						
531A	**Rocksprings**	**62.86**	**327**	⇑P	**P**	**04 03 25.9**	**+0.6**
	baz=63,SNR=10						
WVT	**Waverly**	**63.00**	**341**	*e*P	**P**	**04 03 24.9**	**-1.0**
	comp=E,30nm,0.9s						
333A	**Richland Sprin**	**63.07**	**329**	⇓P	**P**	**04 03 26.5**	**0.0**
	baz=63,SNR=10						
432A	**Menard**	**63.08**	**328**	⇑P	**P**	**04 03 26.9**	**+0.3**
	baz=63,SNR=8.2						
234A	**Clairette**	**63.24**	**330**	⇑P	**P**	**04 03 28.1**	**+0.4**
	baz=64,SNR=12						
530A	**J-C Ranch, Com**	**63.25**	**326**	⇑P	**P**	**04 03 28.5**	**+0.7**
	baz=64,SNR=8.7						
431A	**Sonora**	**63.32**	**327**	⇓P	**P**	**04 03 28.3**	**+0.1**
	baz=64,SNR=5.8						
135A	**Vickery Place,**	**63.38**	**331**	⇓P	**P**	**04 03 28.7**	**+0.2**
	baz=64						
332A	**Millersview**	**63.47**	**329**	⇑P	**P**	**04 03 29.3**	**+0.1**
	baz=64,SNR=13						
628A	**Black Gap, Mar**	**63.52**	**325**	⇓P	**P**	**04 03 30.4**	**+0.9**
	baz=64,SNR=13						
MIAR	**Mount Ida**	**63.53**	**335**	*e*P	**P**	**04 03 29.3**	**-0.1**
	comp=E,22nm,1.2s						
GLAT	**Glass**	**63.58**	**340**	*e*P	**P**	**04 03 29.9**	**+0.2**
233A	**Rising Star**	**63.60**	**330**	⇑P	**P**	**04 03 30.3**	**+0.3**
	baz=64,SNR=8.6						
529A	**Stev Forest Ra**	**63.68**	**326**	⇓P	**P**	**04 03 31.2**	**+0.6**
	baz=64,SNR=18						
134A	**White-Moore Ra**	**63.70**	**331**	⇑P	**P**	**04 03 30.8**	**+0.2**
	baz=64						
430A	**Baggett Ranch,**	**63.71**	**327**	⇓P	**P**	**04 03 31.1**	**+0.2**
	baz=64,SNR=9.3						
331A	**San Angelo**	**63.74**	**328**	⇓P	**P**	**04 03 31.2**	**+0.2**
	baz=64,SNR=11						
627A	**Terlingua Ranc**	**63.76**	**324**	⇓P	**P**	**04 03 31.8**	**+0.6**
	baz=64,SNR=8.8						
TXAR	**Lajitas Array**	**63.81**	**324**	P	**P**	**04 03 31.6**	**0.0**
	comp=E,1.2nm,0.5s,baz=150,slow=7.5,SNR=32						
LTX	**Lajitas**	**63.81**	**324**	*e*P	**P**	**04 03 31.6**	**0.0**
TX31	**Lajitas Ar. Si**	**63.81**	**324**	*e*P	**P**	**04 03 31.6**	**0.0**
232A	**Coleman**	**63.85**	**329**	⇑P	**P**	**04 03 32.1**	**+0.4**
	baz=64,SNR=7.3						
429A	**Davenport Ranc**	**63.91**	**326**	⇑P	**P**	**04 03 32.6**	**+0.4**
	baz=64,SNR=10						
Z35A	**Perchaven, San**	**63.97**	**332**	⇓P	**P**	**04 03 32.8**	**+0.4**
	baz=64,SNR=6.2						
PARMO	**Parma**	**64.09**	**339**	*e*P	**P**	**04 03 33.2**	**+0.2**
133A	**Hamilton Ranch**	**64.11**	**330**	⇓P	**P**	**04 03 33.6**	**+0.3**
	baz=64						
330A	**Mertzon**	**64.19**	**327**	⇑P	**P**	**04 03 33.9**	**-0.1**
	baz=64,SNR=5.1						
231A	**Bronte**	**64.20**	**328**	⇓P	**P**	**04 03 33.8**	**-0.2**
	baz=64						
626A	**Big Bend Ranch**	**64.23**	**324**	⇓P	**P**	**04 03 35.3**	**+1.0**
	baz=64,SNR=33						
Z34A	**Collier Ranch,**	**64.30**	**331**	⇓P	**P**	**04 03 35.1**	**+0.6**
	baz=65						
428A	**Kincaid Ranch,**	**64.40**	**326**	⇑P	**P**	**04 03 36.0**	**+0.6**
	baz=65						
527A	**Woodward Ranch**	**64.42**	**325**	⇓P	**P**	**04 03 36.0**	**+0.5**
	baz=65,SNR=12						
ABTX	**Abilene, Hawle**	**64.45**	**329**	*e*P	**P**	**04 03 36.1**	**+0.5**
	comp=E,28nm,1.4s						
ABTX	**Abilene, Hawle**	**64.45**	**329**	⇑P	**P**	**04 03 36.2**	**+0.6**
	baz=65,SNR=5.2						
230A	**Sterling City**	**64.55**	**328**	⇑P	**P**	**04 03 36.5**	**+0.2**
	baz=65						
Z33A	**Whitaker Ranch**	**64.61**	**330**	⇑P	**P**	**04 03 36.9**	**+0.4**
	baz=65,SNR=8.7						
526A	**Mary Lane Ranc**	**64.61**	**324**	⇓P	**P**	**04 03 37.6**	**+0.9**
	baz=65,SNR=16						
329A	**Wagon Wheel Ra**	**64.65**	**327**	⇓P	**P**	**04 03 37.2**	**+0.3**
	baz=65,SNR=11						
Y34A	**Reagan Ranch,**	**64.73**	**332**	⇓P	**P**	**04 03 37.6**	**+0.3**
	baz=65,SNR=7.0						
131A	**Roby**	**64.85**	**329**	⇓P	**P**	**04 03 38.3**	**+0.1**
	baz=65						
427A	**Hayter Ranch,**	**64.87**	**325**	⇓P	**P**	**04 03 38.8**	**+0.5**
	baz=65,SNR=6.2						
Z32A	**Haskell**	**64.95**	**330**	⇑P	**P**	**04 03 38.5**	**-0.2**
	baz=65						
229A	**Bryant Ranch,**	**64.96**	**327**	⇓P	**P**	**04 03 39.0**	**+0.1**
	baz=65						
328A	**Wristen Ranch,**	**64.99**	**326**	⇑P	**P**	**04 03 39.4**	**+0.3**
	baz=65,SNR=12						
426A	**McDonald Obser**	**65.05**	**325**	⇑P	**P**	**04 03 40.4**	**+0.7**
	baz=65,SNR=9.9						
130A	**Snyder**	**65.06**	**328**	⇓P	**P**	**04 03 39.9**	**+0.4**
	baz=65,SNR=5.9						
Z31A	**Sharp Cattle R**	**65.27**	**329**	⇑P	**P**	**04 03 41.2**	**+0.4**
	baz=66,SNR=9.0						
X34A	**Smith Ranch, M**	**65.31**	**332**	⇑P	**P**	**04 03 41.3**	**+0.3**
	baz=66						
228A	**UT Block 9, Go**	**65.47**	**327**	⇓P	**P**	**04 03 42.3**	**+0.1**
	baz=66						
Y32A	**R-V Farms, Ver**	**65.51**	**330**	⇑P	**P**	**04 03 42.6**	**+0.3**
	baz=66,SNR=7.7						
129A	**Stewart Farms,**	**65.52**	**328**	⇓P	**P**	**04 03 42.5**	**0.0**
	baz=66,SNR=7.1						
326A	**Caldwell Ranch**	**65.54**	**325**	⇑P	**P**	**04 03 43.3**	**+0.6**
	baz=66,SNR=8.1						
X33A	**Lawton**	**65.55**	**331**	⇓P	**P**	**04 03 42.4**	**-0.2**
	baz=66						
TUL1	**Tulsa**	**65.59**	**334**	*e*P	**P**	**04 03 42.8**	**0.0**
	comp=E,25nm,1.3s						
TUL1	**Tulsa**	**65.59**	**334**	⇓P	**P**	**04 03 43.0**	**+0.2**
	baz=66						
425A	**Indio Mountain**	**65.66**	**324**	⇓P	**P**	**04 03 43.9**	**+0.4**
	baz=66,SNR=14						
Z30A	**Sanderson Ranc**	**65.70**	**329**	⇑P	**P**	**04 03 43.5**	**-0.1**
	baz=66,SNR=8.9						
227A	**Bennet, Jal**	**65.74**	**326**	⇑P	**P**	**04 03 44.4**	**+0.5**
	baz=66,SNR=5.2						
X32A	**Elmer**	**65.79**	**331**	⇓P	**P**	**04 03 44.3**	**+0.1**
	baz=66						
128A	**Castleberry Fa**	**65.82**	**327**	⇑P	**P**	**04 03 44.3**	**-0.2**
	baz=66,SNR=6.5						
W34A	**Bridge Creek,**	**65.82**	**332**	⇓P	**P**	**04 03 44.4**	**+0.1**
	baz=66						
Y31A	**Rekieta Farm,**	**65.85**	**330**	⇓P	**P**	**04 03 44.9**	**+0.3**
	baz=66,SNR=7.0						
Z29A	**Hungry Hill Ra**	**65.96**	**328**	⇑P	**P**	**04 03 45.4**	**+0.1**
	baz=66						
W33A	**Caddo, Fort Co**	**66.05**	**332**	⇑P	**P**	**04 03 46.5**	**+0.7**
	baz=66,SNR=14						
325A	**Bean Ranch, Si**	**66.10**	**325**	⇑P	**P**	**04 03 46.8**	**+0.4**
	baz=66,SNR=20						
226B	**Tecolote Peak,**	**66.24**	**326**	⇓P	**P**	**04 03 48.1**	**+0.9**
	baz=66,SNR=8.4						
QSPA	**South Pole Qui**	**66.28**	**180**	*e*P	**P**	**04 03 48.1**	**+1.1**
	comp=E,19nm,0.6s						
X31A	**McDonald Ranch**	**66.28**	**330**	⇓P	**P**	**04 03 47.4**	**+0.1**
	baz=67,SNR=11						
127A	**Arkansas Junct**	**66.30**	**327**	⇓P	**P**	**04 03 47.3**	**-0.2**
	baz=67						
Z28A	**Tucker Farm, M**	**66.31**	**328**	⇓P	**P**	**04 03 47.2**	**-0.3**
	baz=67,SNR=5.7						
Y29A	**Porterfield Fa**	**66.43**	**329**	⇑P	**P**	**04 03 48.3**	**0.0**
	baz=67,SNR=6.4						
324A	**Meleey Ranch,**	**66.43**	**324**	⇑P	**P**	**04 03 48.1**	**-0.3**
	baz=67,SNR=11						
X30A	**Coker Ranch, T**	**66.54**	**330**	⇑P	**P**	**04 03 49.0**	**+0.1**
	baz=67,SNR=6.3						
V33A	**Lossen Ranch,**	**66.54**	**332**	⇓P	**P**	**04 03 48.9**	**0.0**
	baz=67,SNR=7.8						
MNTX	**Cornudas Mount**	**66.58**	**324**	*e*P	**P**	**04 03 48.9**	**-0.3**
	comp=E,6.6nm,0.9s						
126A	**Clayton Basin,**	**66.61**	**326**	⇓P	**P**	**04 03 49.9**	**+0.4**
	baz=67,SNR=5.6						
W31A	**Holland Ranch,**	**66.73**	**331**	⇑P	**P**	**04 03 50.0**	**-0.1**
	baz=67						
Z27A	**Tatum**	**66.74**	**327**	⇓P	**P**	**04 03 50.4**	**0.0**
	baz=67,SNR=8.3						
Y28A	**McKinney Farm,**	**66.75**	**328**	⇑P	**P**	**04 03 50.1**	**-0.2**
	baz=67						
U34A	**Anderson Ranch**	**66.75**	**333**	⇑P	**P**	**04 03 50.3**	**+0.2**
	baz=67						
SFIN	**Scholer Farm**	**66.75**	**343**	⇑P	**P**	**04 03 48.9**	**-1.1**
	baz=67						
V32A	**Arapaho**	**66.78**	**332**	⇓P	**P**	**04 03 50.7**	**+0.3**
	baz=67						
X29A	**Tulia**	**66.92**	**329**	⇑P	**P**	**04 03 51.5**	**0.0**
	baz=67,SNR=5.3						
224A	**Cornudas Mount**	**66.95**	**325**	⇑P	**P**	**04 03 51.7**	**0.0**
	baz=67,SNR=18						
125A	**Gardner Draw,**	**66.95**	**326**	⇓P	**P**	**04 03 51.5**	**-0.1**
	baz=67,SNR=5.7						
MSTX	**Muleshoe**	**67.05**	**328**	*e*P	**P**	**04 03 52.5**	**+0.3**
	comp=E,32nm,1.1s						
MSTX	**Muleshoe**	**67.05**	**328**	⇑P	**P**	**04 03 52.5**	**+0.3**
	baz=67,SNR=9.3						
Z26A	**Caprock**	**67.09**	**327**	⇑P	**P**	**04 03 52.9**	**+0.4**
	baz=67,SNR=11						
LIC	**Lamto**	**67.10**	**72**	*e*PKIKP	**P**	**04 03 53.2**	**+0.3**
	comp=E,8.7nm,0.6s						
Y27A	**Causey**	**67.17**	**328**	⇑P	**P**	**04 03 53.1**	**+0.1**
	baz=68						
V31A	**Spring Creek L**	**67.17**	**331**	⇑P	**P**	**04 03 53.4**	**+0.5**
	baz=68						
X28A	**Dimmitt**	**67.22**	**329**	⇓P	**P**	**04 03 53.7**	**+0.4**
	baz=68						
AMTX	**Amarillo**	**67.27**	**329**	⇑P	**P**	**04 03 53.7**	**+0.1**
	baz=68						
TIC	**Toumodi**	**67.31**	**71**	*e*PKIKP	**P**	**04 03 53.6**	**-0.6**
	comp=E,2.9nm,0.2s						
U32A	**Winter Ranch,**	**67.32**	**332**	⇑P	**P**	**04 03 54.4**	**+0.7**
	baz=68						
KIC	**Kosan Boka**	**67.42**	**72**	*e*PKIKP	**P**	**04 03 53.8**	**-1.1**
	comp=E,8.6nm,0.6s						
W29A	**Amraillo**	**67.45**	**329**	⇑P	**P**	**04 03 54.8**	**+0.1**
	baz=68						
DBIC	**Dimbokro**	**67.47**	**71**	*e*P	**P**	**04 03 54.5**	**-0.6**
	comp=E,33nm,1.8s						
DBIC	**Dimbokro**	**67.47**	**71**	P	**P**	**04 03 54.2**	**-0.9**
	comp=E,3.0nm,0.7s,baz=210,slow=7.9,SNR=9.7						
Z25A	**Roswell**	**67.47**	**326**	⇑P	**P**	**04 03 55.0**	**+0.1**
	baz=68,SNR=6.1						
V30A	**Spur Ranch, Mi**	**67.54**	**330**	⇑P	**P**	**04 03 56.2**	**+0.9**
	baz=68,SNR=5.9						
T33A	**Patterson Ranc**	**67.60**	**333**	⇓P	**P**	**04 03 56.0**	**+0.6**
	baz=68						
222A	**Williams Famil**	**67.82**	**324**	⇓P	**P**	**04 03 58.5**	**+1.4**
	baz=68,SNR=9.9						
W28A	**Vega**	**67.83**	**329**	⇓P	**P**	**04 03 58.0**	**+0.9**
	baz=68						
Z24A	**Sheeppen Canyo**	**67.84**	**326**	⇓P	**P**	**04 03 57.8**	**+0.5**
	baz=68,SNR=11						
S33A	**Kaszmaul Farm,**	**67.93**	**334**	⇑P	**P**	**04 03 58.2**	**+0.6**
	baz=68						
T32A	**Huddler Ranch,**	**67.96**	**333**	⇑P	**P**	**04 03 58.8**	**+1.0**
	baz=68						
Y25A	**Mesa, Roswell**	**67.97**	**326**	⇑P	**P**	**04 03 58.1**	**+0.1**
	baz=68,SNR=8.5						
320A	**Kipp Ranch, An**	**68.03**	**322**	⇑P	**P**	**04 03 59.7**	**+1.3**
	baz=68,SNR=5.6						
X26A	**CR and CF Fran**	**68.03**	**327**	⇑P	**P**	**04 03 59.2**	**+0.8**
	baz=68						
W27A	**Bowe Ranch, En**	**68.08**	**328**	⇑P	**P**	**04 03 59.1**	**+0.4**
	baz=68						
U30A	**WK&E Inc. Balk**	**68.16**	**331**	⇑P	**P**	**04 03 59.9**	**+0.8**
	baz=68						
T31A	**Randall Ranch,**	**68.21**	**332**	⇑P	**P**	**04 04 00.0**	**+0.7**
	baz=68						
V28A	**Channing**	**68.24**	**329**	⇑P	**P**	**04 04 00.9**	**+1.3**
	baz=68						
Z23A	**Rita Site, Whi**	**68.24**	**325**	⇓P	**P**	**04 04 00.9**	**+1.2**
	baz=68,SNR=8.1						
Y24A	**Capitan**	**68.35**	**326**	⇓P	**P**	**04 04 01.3**	**+0.9**
	baz=69						
U29A	**Oasis Ranch, S**	**68.38**	**330**	⇑P	**P**	**04 04 01.4**	**+1.0**
	baz=69						
S32A	**Newby Ranch, P**	**68.41**	**333**	⇓P	**P**	**04 04 01.4**	**+0.9**
	baz=69						
X25A	**Clemmons Ranch**	**68.43**	**327**	⇓P	**P**	**04 04 01.4**	**+0.5**
	baz=69						
W26A	**Owens Ranch, T**	**68.44**	**328**	⇑P	**P**	**04 04 01.5**	**+0.6**
	baz=69,SNR=7.3						
319A	**Douglas**	**68.48**	**321**	⇑P	**P**	**04 04 02.5**	**+1.3**
	baz=69,SNR=6.7						
121A	**Cookes Peak, D**	**68.52**	**323**	⇓P	**P**	**04 04 02.9**	**+1.4**
	baz=69,SNR=7.3						
V27A	**Dan Oppiter Fa**	**68.53**	**329**	⇓P	**P**	**04 04 02.0**	**+0.5**
	baz=69						
R33A	**Olander Ranch,**	**68.54**	**334**	⇑P	**P**	**04 04 02.0**	**+0.7**
	baz=69						
S31A	**Mullinville**	**68.57**	**332**	⇓P	**P**	**04 04 02.5**	**+0.9**
	baz=69						
Z22A	**Elephant Butte**	**68.63**	**324**	⇑P	**P**	**04 04 03.8**	**+1.

T24B **San Luis** 70.80 328 ⇓P P 04 04 17.2 +1.7
baz=71,SNR=7.7
S25A **Robets Cordova** 70.82 329 ⇑P P 04 04 16.7 +1.2
baz=71,SNR=7.5
R26A **Arlington** 70.88 330 ⇑P P 04 04 16.7 +0.9
baz=71,SNR=5.5
214A **Organ Pipe Nat** 70.96 320 ⇑P P 04 04 17.5 +1.2
baz=71
O30A **MW Ranch, Wils** 70.97 333 ⇓P P 04 04 17.1 +0.9
baz=71,SNR=6.4
U22A **Llaves** 70.99 327 ⇓P P 04 04 17.6 +1.0
baz=71
N31A **Bailey Ranch,** 71.08 335 ⇑P P 04 04 17.4 +0.6
baz=71
KSCO **Kaye Shedlock'** 71.09 331 eP P 04 04 18.2 +1.1
comp=E,18nm,1.0s
KSCO **Kaye Shedlock'** 71.09 331 ⇓P P 04 04 18.1 +1.1
baz=71
T23A **Casias Ranch,** 71.10 328 ⇑P P 04 04 18.0 +0.7
baz=71
R25A **Fountain Ranch** 71.14 329 ⇓P P 04 04 18.3 +0.9
baz=71
S24A **Houchin Ranch,** 71.17 328 ⇓P P 04 04 19.2 +1.4
baz=72,SNR=6.7
P28A **Saint Francis** 71.18 332 ⇑P P 04 04 18.4 +0.9
baz=72
X18A **Snowflake** 71.20 323 ⇑P P 04 04 19.5 +1.6
baz=72
O29A **4D Ranch, Culb** 71.23 333 ⇓P P 04 04 18.9 +1.2
baz=72
BGNE **Belgrade** 71.27 335 eP P 04 04 18.1 +0.2
BGNE **Belgrade** 71.27 335 ⇑P P 04 04 18.6 +0.6
baz=72,SNR=16
SDCO **Great Sand Dun** 71.40 328 eP P 04 04 20.2 +1.1
comp=E,158nm,3.0s
Q26A **Hugo** 71.42 330 ⇑P P 04 04 20.2 +1.2
baz=72
N30A **Hueftle Ranch,** 71.51 334 ⇓P P 04 04 20.7 +1.3
baz=72
P27A **Ficken Ranch,** 71.52 331 ⇑P P 04 04 20.7 +1.1
baz=72
M31A **Lambtecht Ranc** 71.53 335 ⇓P P 04 04 20.7 +1.2
baz=72
R24A **Sanders Place,** 71.60 329 ⇓P P 04 04 21.4 +1.3
baz=72
O28A **Krutsinger Ran** 71.64 332 ⇓P P 04 04 21.3 +1.1
baz=72,SNR=6.5
N29A **Votaw Ranch, W** 71.74 333 ⇓P P 04 04 21.9 +1.1
baz=72,SNR=5.3
Q25A **Bedland, Calha** 71.74 330 ⇑P P 04 04 21.6 +0.5
baz=72
P26A **Davis Ranch, A** 71.86 331 ⇑P P 04 04 22.5 +0.9
baz=72
R23A **Moffat** 71.91 328 ⇑P P 04 04 23.3 +1.2
baz=72
X16A **Lo Mia Camp, P** 71.95 322 ⇓P P 04 04 23.9 +1.6
baz=72,SNR=12
O27A **Beecher Island** 72.00 332 ⇑P P 04 04 23.9 +1.5
baz=72,SNR=6.3
N28A **Pribbeno Ranch** 72.01 333 ⇑P P 04 04 23.5 +1.1
baz=72
S22A **4UR Ranch, Cre** 72.04 327 ⇓P P 04 04 23.7 +0.8
baz=72
Z14A **Wintersburg** 72.04 320 ⇓P P 04 04 24.0 +1.3
baz=72
M30A **Dale-Ortello V** 72.05 334 ⇓P P 04 04 23.8 +1.2
baz=72
L31A **Butterfield Fa** 72.19 335 ⇑P P 04 04 24.3 +0.9
baz=72,SNR=8.7
P25A **Willow Gulch B** 72.19 330 ⇑P P 04 04 25.3 +1.6
baz=72,SNR=5.1
Q24A **Divide** 72.20 329 ⇓P P 04 04 24.9 +1.1
baz=72
M29A **Burnside Ranch** 72.30 334 ⇓P P 04 04 25.2 +1.1
baz=73,SNR=5.6
L30A **Spencer Herefo** 72.34 335 ⇑P P 04 04 25.0 +0.8
baz=73,SNR=5.2
O26A **Horse Wrangler** 72.41 331 ⇓P P 04 04 26.1 +1.3
baz=73
MVCO **Mesa Verde** 72.47 326 eP P 04 04 26.3 +0.9
comp=E,44nm,1.8s
MVCO **Mesa Verde** 72.47 326 ⇑P P 04 04 26.4 +1.1
baz=73,SNR=8.0
Y14A **Wickenburg** 72.49 321 ⇓P P 04 04 26.5 +1.1
baz=73
P24A **Kohler Place,** 72.53 330 ⇓P P 04 04 26.9 +1.2
baz=73
N27A **Anderson Farm,** 72.53 332 ⇓P P 04 04 26.7 +1.1
baz=73
M28A **Bar X Bar Ranc** 72.53 333 ⇑P P 04 04 27.2 +1.7
baz=73
WUAZ **Wupatki** 72.72 323 ⇓P P 04 04 27.9 +1.1
baz=73
ECSD **EROS Data Cent** 72.73 338 eP P 04 04 26.5 -0.1
comp=E,22nm,1.0s
ECSD **EROS Data Cent** 72.73 338 ⇓P P 04 04 26.7 +0.2
baz=73,SNR=12
SPMN **St. Paul** 72.84 341 eP P 04 04 26.7 -0.4
comp=E,26nm,1.2s
SPMN **St. Paul** 72.84 341 ⇑P P 04 04 26.7 -0.4
baz=73
K30A **Basset** 72.92 335 ⇓P P 04 04 28.7 +1.0
baz=73,SNR=6.9
ISCO **Idaho Springs** 73.08 330 eP P 04 04 30.0 +0.9
comp=E,40nm,2.3s
ISCO **Idaho Springs** 73.08 330 ⇑P P 04 04 30.1 +0.9
baz=73,SNR=5.8
SMCO **Snowmass** 73.23 328 eP P 04 04 31.8 +1.7
comp=E,26nm,1.4s
Y12C **Blythe** 73.24 320 ⇑P P 04 04 31.1 +1.4
baz=74
K29A **Lazy Trails An** 73.26 335 ⇑P P 04 04 30.5 +0.8
baz=74,SNR=14
PDMCI **Parker Dam,Lak** 73.41 320 ⇓P P 04 04 31.5 +0.8
baz=74
J30A **Dallas** 73.42 336 ⇑P P 04 04 31.3 +0.7
baz=74
P22A **Eagle** 73.46 329 ⇓P P 04 04 32.4 +1.2
baz=74,SNR=5.7
SYO **Syowa Base** 73.50 159⇓eP P 04 04 30.4 -0.3
SYO **Syowa Base** 73.50 159⇓ePcP PcP 04 04 43.7 -2.0
O23A **Lake Granby, G** 73.55 330 ⇑P P 04 04 33.1 +1.3
baz=74
N24A **Carr** 73.58 331 ⇑P P 04 04 33.0 +1.3
baz=74
K28A **Ten Mile Ranch** 73.64 334 ⇑P P 04 04 33.3 +1.3
baz=74,SNR=6.5
L26A **Underwood Farm** 73.78 333 ⇑P P 04 04 34.5 +1.7
baz=74
MONP **Monument Peak** 73.79 318 ⇑P P 04 04 34.3 +1.1
baz=74
BAR **Barrett** 73.80 318 eP P 04 04 33.9 +0.9
comp=E,9.7nm,0.9s
O22A **Kremmling** 73.81 329 ⇓P P 04 04 34.2 +0.9
baz=74,SNR=6.7
J29A **Okreek** 73.81 335 ⇑P P 04 04 33.4 +0.6
baz=74,SNR=10
W13A **Hualapai Mount** 73.83 321 ⇑P P 04 04 34.6 +1.2
baz=74
U15A **North Rim** 73.89 323 ⇓P P 04 04 35.5 +1.7
baz=74,SNR=8.2
IRM **Iron Mountain** 73.90 320 ⇑P P 04 04 35.0 +1.4
baz=74
K27A **Flueckinger Fa** 73.98 333 ⇑P P 04 04 35.2 +1.3
baz=74,SNR=8.8
BORC **Borrego Spring** 74.05 318 eP P 04 04 35.8 +1.3
M24A **Cheyenne** 74.07 331 ⇑P P 04 04 36.0 +1.4
baz=74,SNR=8.0
N23A **Red Feather La** 74.11 330 ⇓P P 04 04 36.2 +1.2
baz=74,SNR=5.4
J28A **Allard Ranch,** 74.18 335 ⇑P P 04 04 36.0 +1.0
baz=74,SNR=9.7
PHWY **Pilot Hill** 74.22 331 eP P 04 04 36.9 +1.3
comp=E,12nm,1.3s
N22A **Wattenberg Ran** 74.27 330 ⇑P P 04 04 37.4 +1.5
baz=75,SNR=5.4
PFO **Pinyon Flat Ob** 74.30 319 ⇑P P 04 04 37.4 +1.3
baz=75
I29A **Vivian Onida** 74.33 335 ⇑P P 04 04 35.9 +0.1
baz=75,SNR=7.2
J27A **Elkhorn Farm,** 74.34 334 ⇑P P 04 04 37.5 +1.4
baz=75,SNR=16
K26A **Motz Farm, Whi** 74.37 333 ⇓P P 04 04 37.4 +1.3
baz=75
M23A **Laramie** 74.47 331 ⇓P P 04 04 38.1 +1.2
baz=75
L24A **Wheatland** 74.58 331 ⇓P P 04 04 38.9 +1.4
baz=75
O20A **White River Ci** 74.59 328 eP P 04 04 39.4 +1.7
comp=E,15nm,1.0s
O20A **White River Ci** 74.59 328 ⇑P P 04 04 39.0 +1.4
baz=75,SNR=6.2
KNB **Kanab** 74.61 323 eP P 04 04 39.8 +2.0
comp=E,21nm,1.1s
GMRC **Granite Mounta** 74.64 320 ⇑P P 04 04 39.6 +1.6
baz=75,SNR=6.5
I28A **Midland** 74.64 335 ⇓P P 04 04 38.4 +0.8
baz=75,SNR=5.9
H29A **Onida** 74.81 336 ⇑P P 04 04 38.7 +0.2
baz=75,SNR=7.2
M22A **Cedar Creek Ra** 74.81 330 ⇓P P 04 04 40.1 +1.1
baz=75
J26A **Sides Ranch, S** 74.83 333 ⇓P P 04 04 40.3 +1.5
baz=75,SNR=8.1
VNDA **Vanda** 74.83 190 eP P 04 04 39.0 +0.7
VNDA **Vanda** 74.83 190 P P 04 04 39.0 +0.7
comp=E,3.2nm,1.0s,baz=125,slow=5.0,SNR=5.6
G30A **Faulkton** 74.84 337 ⇓P P 04 04 39.6 +0.9
baz=75
SRU **San Rafael** 74.94 326 eP P 04 04 40.9 +1.2
comp=E,6.9nm,0.8s
L23A **Garrett** 74.98 331 ⇑P P 04 04 41.1 +1.2
baz=75
I27A **Quinn** 75.04 334 ⇑P P 04 04 41.0 +1.0
baz=75,SNR=5.1
HEC **Hector,Ludlow** 75.07 320 ⇓P P 04 04 41.9 +1.5
baz=75
N20A **Spence Gulch,** 75.15 329 ⇑P P 04 04 42.0 +1.1
baz=75
H28A **Mission Ridge** 75.15 335 ⇓P P 04 04 41.3 +0.7
baz=76,SNR=8.5
J25A **Sunshine Ranch** 75.19 333 ⇓P P 04 04 42.3 +1.4
baz=76,SNR=6.7
L22A **Ellis Ranch, M** 75.24 330 ⇑P P 04 04 44.1 +2.8
baz=76
CCUT **Cedar City** 75.30 323 eP P 04 04 43.9 +2.1
comp=E,11nm,0.9s
I26A **New Underwood** 75.33 334 ⇑P P 04 04 42.8 +1.1
baz=76
MVU **Marysvale** 75.37 325 eP P 04 04 43.6 +1.3
comp=E,8.9nm,1.0s
G28A **Parade** 75.45 336 ⇑P P 04 04 43.0 +0.8
baz=76,SNR=5.0
K23A **Bowen Ranch, D** 75.46 331 ⇑P P 04 04 43.9 +1.4
baz=76,SNR=9.1
J24A **Dixon Ranch, L** 75.51 332 ⇑P P 04 04 44.5 +1.8
baz=76,SNR=5.8
ARUT **Antelope Range** 75.51 323 eP P 04 04 45.1 +2.1
H27A **Howes** 75.53 335 ⇑P P 04 04 43.2 +0.5
baz=76,SNR=13
GSC **Goldstone** 75.67 320 eP P 04 04 45.5 +1.7
comp=E,53nm,1.3s
GSC **Goldstone** 75.67 320 ⇓P P 04 04 45.2 +1.4
baz=76
I25A **Rochford** 75.68 333 ⇑P P 04 04 44.8 +1.0
baz=76
F29A **Eureka** 75.69 337 ⇑P P 04 04 44.0 +0.4
baz=76,SNR=6.2
K22A **Casper** 75.77 331 eP P 04 04 44.9 +0.6
comp=E,25nm,1.3s
K22A **Casper** 75.77 331 ⇑P P 04 04 45.4 +1.1
baz=76
SHOC **Shoshone** 75.78 320 ⇓P P 04 04 45.0 +0.7
baz=76
RSSD **Black Hills** 75.89 333 eP P 04 04 45.9 +0.9
comp=E,8.0nm,0.9s
I24A **Kuemmerle Ranc** 75.92 333 ⇑P P 04 04 46.1 +1.0
baz=76
E30A **Jud** 75.94 338 ⇑P P 04 04 45.4 +0.4
baz=76
J23A **Dilts Ranch, B** 75.95 332 ⇑P P 04 04 46.5 +1.2
baz=76
F28A **McLaughlin** 76.06 336 ⇓P P 04 04 46.5 +0.8
baz=76
K21A **Alcova** 76.08 330 ⇓P P 04 04 47.3 +1.2
baz=76,SNR=15
G27A **Dupree** 76.09 335 ⇑P P 04 04 46.4 +0.5
baz=76,SNR=5.8
EDW2 **Edwards Air Fo** 76.10 319 ⇑P P 04 04 46.9 +0.7
baz=76
H25A **Fruitdale** 76.12 334 ⇓P P 04 04 46.8 +0.7
baz=76
MPU **Maple Canyon** 76.19 326 eP P 04 04 48.1 +1.4
comp=E,11nm,1.2s
TOA0 **Torodi Ar. Sit** 76.23 69 eP P 04 04 46.9 -0.4
TOA0 ePP pP 04 05 31.8 -2.8
TORD **Torodi Ar. Bea** 76.23 69 P P 04 04 46.6 -0.7
comp=E,2.4nm,0.5s,baz=259,slow=5.8,SNR=63
TORD pP pP 04 05 31.8 -2.8
comp=E,0.4nm,0.4s,baz=258,slow=5.4,SNR=0.8
E29A **Napoleon** 76.26 337 ⇑P P 04 04 47.5 +0.7
baz=77
LRMC **Laurel Mountai** 76.32 319 ⇓P P 04 04 48.1 +0.6
baz=77
J22A **Midwest** 76.36 331 ⇑P P 04 04 48.2 +0.7
baz=77,SNR=10
D30A **Buchanan** 76.42 338 ⇑P P 04 04 48.3 +0.6
baz=77,SNR=11
TPNV **Topopah Spring** 76.49 321 eP P 04 04 50.4 +1.9
TPNV **Topopah Spring** 76.49 321 ⇓P P 04 04 50.2 +1.7
baz=77,SNR=5.0
FURC **Furnace Creek,** 76.51 320 ⇓P P 04 04 49.9 +1.6
baz=77
AGMN **Agassiz Nation** 76.52 340 eP P 04 04 48.1 -0.1
comp=E,17nm,1.0s
AGMN **Agassiz Nation** 76.52 340 ⇑P P 04 04 48.4 +0.2
baz=77
G25A **Newell** 76.52 334 ⇑P P 04 04 49.1 +0.8
baz=77,SNR=6.4
F27A **Lemmon** 76.54 335 ⇓P P 04 04 49.1 +0.7
baz=77,SNR=8.7
MPMC **Manual Prospec** 76.60 320 ⇑P P 04 04 50.0 +0.9
baz=77,SNR=5.0
H24A **Dirks Ranch, A** 76.61 333 ⇓P P 04 04 49.6 +0.7
baz=77,SNR=12
E28A **Huff** 76.64 337 ⇓P P 04 04 49.9 +1.0
baz=77,SNR=5.1
D29A **Pettibone, Tap** 76.67 338 ⇑P P 04 04 49.9 +0.9
baz=77
J21A **Lysite** 76.73 331 ⇑P P 04 04 50.6 +0.9
baz=77,SNR=5.2
I22A **9 Mile Ranch,** 76.74 332 ⇑P P 04 04 50.6 +0.9
baz=77,SNR=9.8
F26A **Lodgepole** 76.77 335 ⇑P P 04 04 50.6 +0.9
baz=77,SNR=13
C30A **Mose, Pekin** 76.84 339 ⇑P P 04 04 50.9 +0.9
baz=77
E27A **Carson** 76.84 336 ⇑P P 04 04 50.8 +0.7
baz=77
ISA **Isabella** 76.92 319 eP P 04 04 51.9 +1.2
comp=E,12nm,1.1s
ISA **Isabella** 76.92 319 ⇑P P 04 04 52.2 +1.4
baz=77,SNR=5.5
DUG **Dugway** 76.93 325 eP P 04 04 52.2 +1.3
comp=E,75nm,2.6s
DUG **Dugway** 76.93 325 ⇑P P 04 04 52.1 +1.3
baz=77,SNR=5.7
J20A **Shoshoni** 77.03 330 ⇑P P 04 04 52.6 +1.3
baz=77
G24A **Alzada** 77.03 334 ⇓P P 04 04 51.7 +0.5
baz=77
I21A **Big Trails, Te** 77.03 331 ⇓P P 04 04 52.4 +1.0
baz=77,SNR=17
R11A **Troy Canyon, C** 77.09 323 eP P 04 04 53.9 +2.1
R11A **Troy Canyon, C** 77.09 323 ⇓P P 04 04 53.2 +1.3
baz=77,SNR=9.3
D28A **Regan** 77.12 337 ⇑P P 04 04 52.7 +1.1
baz=77
F25A **Bowman** 77.14 335 ⇑P P 04 04 52.8 +1.0
baz=78
CWC **Cottonwood Cre** 77.21 320 ⇓P P 04 04 53.8 +1.3
baz=78
E26A **Carlson Angus** 77.21 335 ⇓P P 04 04 53.1 +0.9
baz=78
PKM **Peak Mountain** 77.22 318 ⇓P P 04 04 54.0 +1.4
baz=78
H22A **Clearmont** 77.25 332 ⇓P P 04 04 53.1 +0.6
baz=78,SNR=6.4
BW06 **Boulder Array** 77.25 329 eP P 04 04 52.6 -0.1
PD31 **Pinedale Array** 77.25 329 eP P 04 04 53.4 +0.6
PDAR **Pinedale Array** 77.25 329 P P 04 04 53.2 +0.5
comp=E,1.5nm,0.5s,baz=129,slow=7.2,SNR=11
G23A **Biddle** 77.33 333 ⇓P P 04 04 53.7 +0.8
baz=78,SNR=11
MDND **Maddock** 77.34 338 eP P 04 04 53.8 +0.9
MDND **Maddock** 77.34 338 ⇓P P 04 04 53.7 +0.9
baz=78,SNR=7.5
J19A **Crowheart** 77.40 330 ⇑P P 04 04 54.5 +1.0
baz=78,SNR=12
VES **Vestal, Richgr** 77.40 319 ⇓P P 04 04 54.3 +1.0
baz=78
B30A **Myrvik Farm, E** 77.44 339 ⇓P P 04 04 53.7 +0.4
baz=78,SNR=6.6
F24A **Ekalaka** 77.47 334 ⇓P P 04 04 54.3 +0.6
baz=78,SNR=5.0
I20A **Worland** 77.52 331 ⇓P P 04 04 54.8 +0.8
baz=78
SPUT **South Promonto** 77.56 326 eP P 04 04 55.3 +0.9
comp=E,35nm,1.6s
H21A **Big Horn, Sher** 77.57 332 ⇑P P 04 04 54.9 +0.6
baz=78,SNR=5.6
BGU **Big Grassy Mou** 77.58 326 eP P 04 04 55.8 +1.4
comp=E,5.1nm,1.4s
E25A **Miller Ranch,** 77.60 335 ⇓P P 04 04 55.3 +1.1
baz=78
SMMC **Simmler** 77.61 318 ⇓P P 04 04 55.9 +1.3
baz=78
D26A **Manning** 77.67 336 ⇓P P 04 04 55.7 +1.0
baz=78
G22A **Birney** 77.72 333 ⇑P P 04 04 55.6 +0.5
baz=78
F23A **Volborg** 77.76 333 ⇑P P 04 04 55.9 +0.7
baz=78,SNR=11
B29A **Wagenman Farm,** 77.79 338 ⇓P P 04 04 56.2 +1.0
baz=78
TPH **Tonopah** 77.83 321 eP P 04 04 57.2 +1.3
comp=E,7.4nm,1.2s
A30A **Hoffart Farm,** 77.86 339 ⇓P P 04 04 56.1 +0.5
baz=78
H20A **Greybull** 77.88 331 ⇑P P 04 04 56.6 +0.6
baz=78,SNR=6.5
C27A **Sayler Ranch,** 77.90 337 ⇑P P 04 04 56.7 +0.8
baz=78
I19A **Meeteetse** 77.97 330 ⇑P P 04 04 57.8 +1.2
baz=78,SNR=6.5
E24A **Baker** 78.00 334 ⇓P P 04 04 57.8 +1.3
baz=78,SNR=8.0
D25A **Fairfield** 78.10 335 ⇑P P 04 04 58.4 +1.3
baz=78,SNR=6.0
G21A **Lodge Grass** 78.12 332 ⇓P P 04 04 58.0 +0.7
baz=78
B28A **Dugan Ranch, T** 78.12 338 ⇓P P 04 04 57.9 +0.8
baz=78,SNR=6.2
A29A **Manning Farm,** 78.15 339 ⇓P P 04 04 57.6 +0.4
baz=78,SNR=8.9
F22A **Rosebud** 78.16 333 ⇑P P 04 04 58.1 +0.7
baz=78,SNR=9.6
C26A **Wahner Farm, P** 78.21 336 ⇑P P 04 04 58.3 +0.7
baz=78
ULM **Lac du Bonnet** 78.26 341 eP P 04 04 57.7 -0.1
comp=E,12nm,0.8s
ULM **Lac du Bonnet** 78.26 341 P P 04 04 57.8 +0.1
comp=E,8.6nm,0.7s,baz=145,slow=6.3,SNR=9.8
REDW **Red Top Meadow** 78.32 329 eP P 04 04 59.5 +0.9
comp=E,12nm,1.0s
E23A **Ismay** 78.35 334 ⇑P P 04 04 58.9 +0.5
baz=79,SNR=5.4
SNOW **Snow King Moun** 78.35 329 eP P 04 04 59.8 +1.1
comp=E,7.5nm,0.9s
LOHW **Long Hollow** 78.39 329 eP P 04 05 00.2 +1.3
comp=E,6.9nm,0.9s
B27A **Peters Farms,** 78.40 337 ⇓P P 04 04 59.4 +0.8
baz=79
SCHQ **Schefferville** 78.43 360 eP P 04 04 58.6 0.0
comp=E,618nm,2.9s
SCHQ **Schefferville** 78.43 360 P P 04 04 58.4 -0.2
comp=E,4.6nm,0.7s,baz=193,slow=4.5,SNR=7.9
D24A **Glendive** 78.46 335 ⇑P P 04 05 00.1 +1.1
baz=79,SNR=5.6
H19A **Powell** 78.46 331 ⇑P P 04 04 59.9 +0.7
baz=79
A28A **Rude Farm, Bot** 78.48 338 ⇓P P 04 04 59.6 +0.6
baz=79
C25A **Freed Ranch, W** 78.55 336 ⇓P P 04 05 00.5 +1.0
baz=79
G20A **Bridger** 78.55 331 ⇑P P 04 05 00.2 +0.6
baz=79,SNR=15
F21A **Absaloka Mine,** 78.56 332 ⇓P P 04 05 00.6 +0.9
baz=79
E22A **Miles City** 78.56 333 ⇑P P 04 05 00.4 +0.8
baz=79
MOOW **Moose Ponds** 78.56 329 eP P 04 05 00.6 +0.7
comp=E,25nm,1.8s
ELK **Elko** 78.60 324 eP P 04 05 01.4 +1.2
comp=E,4.7nm,1.0s
FXWY **Fox Creek** 78.61 329 eP P 04 05 01.3 +1.2
comp=E,8nm,1.4s
I17A **Pilgrim Ck.** 78.61 329 ⇓P P 04 05 01.8 +1.6
baz=79,SNR=7.4
NV01 **Mina Array Sit** 78.69 321 eP P 04 05 01.4 +0.7
NVAR **Mina Array Bea** 78.69 321 P P 04 05 01.2 +0.6
comp=E,1.3nm,0.6s,baz=157,slow=5.9,SNR=13
B26A **Jensen Ranch,** 78.72 337 ⇑P P 04 05 01.5 +1.1
baz=79
H18A **Shoshone NF, C** 78.77 330 ⇑P P 04 05 02.0 +0.9
baz=79,SNR=11
FLWY **Flagg Ranch** 78.80 329 eP P 04 05 02.4 +1.2
comp=E,18nm,1.1s
C24A **Savage** 78.84 335 ⇑P P 04 05 02.1 +1.1
baz=79
D23A **Lindsay** 78.86 334 ⇑P P 04 05 02.4 +1.2
baz=79,SNR=8.0
LAO **LASA Array** 78.87 333 eP P 04 05 02.0 +0.7
comp=E,31nm,1.1s
RLMT **Red Lodge** 78.94 331 eP P 04 05 03.1 +1.2
comp=E,54nm,2.4s
B25A **Knox Farm, Ray** 78.97 336 ⇑P P 04 05 03.1 +1.3
baz=79,SNR=5.7
H17A **Grant Village** 78.98 330 eP P 04 05 04.7 +2.5
comp=E,66nm,2.5s
H17A **Grant Village** 78.98 330 ⇑P P 04 05 04.2 +2.1
baz=79
F20A **Billings** 78.98 332 ⇑P P 04 05 02.6 +0.7
baz=79
A26A **Wade Farm, Ken** 79.09 337 ⇓P P 04 05 03.1 +0.7
baz=79
E21A **Keefer Ranch,** 79.11 333 ⇓P P 04 05 03.5 +1.0
baz=79
D22A **Cohagen** 79.23 334 ⇑P P 04 05 04.4 +1.2
baz=80,SNR=6.3
C23A **Lambert** 79.36 335 ⇑P P 04 05 05.0 +1.1
baz=80
F19A **Roth Farm, Mol** 79.36 331 ⇑P P 04 05 04.9 +0.9
baz=80,SNR=11
YMR **Madison River** 79.36 330 eP P 04 05 05.8 +1.6
comp=E,22nm,1.0s
D21A **La Casta Ranch** 79.49 333 ⇓P P 04 05 05.6 +1.0
baz=80,SNR=9.8
A25A **Svangstu Ranch** 79.51 337 ⇑P P 04 05 05.8 +1.2
baz=80
E20A **Meyer Farm, Mu** 79.52 332 ⇓P P 04 05 05.7 +0.9
baz=80,SNR=12
DGMT **Dagmar** 79.53 336 eP P 04 05 05.8 +1.1
comp=E,40nm,0.9s
DGMT **Dagmar** 79.53 336 ⇑P P 04 05 06.0 +1.2
baz=80,SNR=8.2
C22A **Vida** 79.59 334 ⇑P P 04 05 05.6 +0.5
baz=80
E19A **Rath Farm, Rou** 79.77 332 ⇓P P 04 05 07.1 +0.9
baz=80,SNR=14
B23A **Brockton** 79.83 335 ⇑P P 04 05 07.2 +0.8
baz=80
A24A **Westby** 79.83 336 ⇑P P 04 05 07.5 +1.2
baz=80
D20A **Manuel Ranch,** 79.99 333 ⇑P P 04 05 07.9 +0.6
baz=80,SNR=11
B22A **Reddig Ranch S** 80.08 335 ⇑P P 04 05 08.9 +1.1
baz=80
PAHR **Pah Rah Range** 80.17 321 eP P 04 05 10.1 +1.5
comp=E,18nm,1.0s
A23A **Redstone** 80.19 336 ⇓P P 04 05 09.3 +1.0
baz=80
HLID **Hailey** 80.21 327 eP P 04 05 10.3 +1.6
comp=E,14nm,0.9s
HLID **Hailey** 80.21 327 ⇓P P 04 05 10.3 +1.6
baz=80,SNR=18
D19A **Cripps Ranch,** 80.36 332 ⇓P P 04 05 10.0 +0.7
baz=81,SNR=9.1
MCMT **McKenzie Canyo** 80.37 329 eP P 04 05 11.2 +1.6
C20A **Veseth Ranch,** 80.42 333 ⇓P P 04 05 09.9 +0.3
baz=81
A22A **Carney Farms,** 80.61 335 ⇑P P 04 05 11.4 +0.8
baz=81,SNR=8.0
DLMT **Dillon** 80.65 329 eP P 04 05 12.2 +1.2

	comp=E,21nm,1.4s								
BEKR	**Beckworth**	**80.83**	**321**	*e*P		**P**	**04 05 12.9**	**+0.8**
	comp=E,4.9nm,1.2s								
C19A	**Slack Wire Ran**	**80.88**	**333**	⇓P		**P**	**04 05 12.6**	**+0.5**
	baz=81,SNR=6.5								
LRM	**Limekiln Ridge**	**80.92**	**329**	*e*P		**P**	**04 05 13.9**	**+1.3**
B20A	**Solberg Farm,**	**81.00**	**334**	⇑P		**P**	**04 05 13.4**	**+0.8**
	baz=81								
A21A	**Bergtoll Ranch**	**81.00**	**334**	⇑P		**P**	**04 05 13.2**	**+0.6**
	baz=81								
HRY	**Holter Researc**	**81.31**	**330**	*e*P		**P**	**04 05 15.7**	**+1.3**
A20A	**Cobblestone Ra**	**81.31**	**334**	⇑P		**P**	**04 05 14.8**	**+0.5**
	baz=82,SNR=13								
B19A	**Brinkman Farms**	**81.40**	**333**	⇓P		**P**	**04 05 15.5**	**+0.8**
	baz=82								
EGMT	**Eagleton**	**81.40**	**332**	*e*P		**P**	**04 05 14.7**	**-0.1**
	comp=E,17nm,1.0s								
EGMT	**Eagleton**	**81.40**	**332**	⇓P		**P**	**04 05 15.3**	**+0.5**
	baz=82								
A19A	**Klindworth Far**	**81.69**	**333**	⇓P		**P**	**04 05 17.0**	**+0.7**
	baz=82								
LBTB	**Lobatse**	**82.11**	**114**	*e*P		**P**	**04 05 19.7**	**+0.5**
	comp=E,200nm,3.0s								
J08A	**Circle Bar Ran**	**82.15**	**325**	*e*P		**P**	**04 05 19.7**	**+0.9**
	comp=E,9.2nm,0.8s								
MOD	**Modoc**	**82.16**	**323**	*e*P		**P**	**04 05 19.8**	**+0.8**
	comp=E,5.4nm,1.0s								
MSO	**Missoula**	**82.36**	**329**	⇓P		**P**	**04 05 21.0**	**+1.1**
	baz=83								
M04C	**Macdoel**	**82.94**	**322**	⇓P		**P**	**04 05 23.7**	**+0.7**
	baz=83								
YBMT	**Yellow Bay**	**83.16**	**330**	*e*P		**P**	**04 05 24.9**	**+0.9**
K04D	**Chiloquin, OR**	**83.44**	**322**	⇑P		**P**	**04 05 26.4**	**+0.9**
	baz=84								
J05D	**Fort Rock, OR**	**83.59**	**323**	⇓P		**P**	**04 05 27.3**	**+0.9**
	baz=84								
I05D	**Terrebonne, OR**	**84.34**	**324**	⇓P		**P**	**04 05 31.4**	**+1.4**
	baz=85								
HAWA	**Hanford**	**84.78**	**326**	*e*P		**P**	**04 05 33.1**	**+1.1**
	comp=E,13nm,1.0s								
NEW	**Newport**	**84.89**	**329**	⇓P		**P**	**04 05 34.2**	**+1.5**
	baz=85								
D08A	**Wollman Farm,**	**84.92**	**327**	*e*P		**P**	**04 05 33.5**	**+0.8**
	comp=E,123nm,2.8s								
G05D	**Wamic, OR**	**84.93**	**325**	⇑P		**P**	**04 05 34.3**	**+1.4**
	baz=85								
FCC	**Fort Churchill**	**85.47**	**346**	*e*P		**P**	**04 05 35.7**	**+0.6**
ESDC	**Sonseca Array**	**86.11**	**43**	*e*P		**P**	**04 05 39.5**	**+0.7**
ESDC	**Sonseca Array**	**86.11**	**43**	P		**P**	**04 05 39.5**	**+0.7**
	comp=E,0.3nm,0.4s,baz=235,slow=4.5,SNR=3.6								
EDM	**Edmonton**	**86.84**	**334**	*e*P		**P**	**04 05 41.7**	**-0.4**
YKA	**Yellowknife Ar**	**94.17**	**340**	*e*P		**P**	**04 06 15.7**	**-0.2**
	comp=E,2.0nm,0.6s,baz=132,slow=4.5,SNR=46								
YKB5	**Yellowknife Ar**	**94.17**	**340**	*e*P		**P**	**04 06 16.4**	**+0.6**
AS01	**Alice Springs**	**128.64**	**204**	*e*PKPdf		**PKPdf**	**04 12 04.3**	**-0.2**
AS12	**Alice Springs**	**128.66**	**204**	*e*PKPdf		**PKPdf**	**04 12 04.2**	**-0.3**
ASAR	**Alice Springs**	**128.66**	**204**	PKP		**PKPdf**	**04 12 04.2**	**-0.3**
	comp=E,2.9nm,0.8s,baz=147,slow=2.4,SNR=29								
AKTO	**Aktyubinsk**	**130.00**	**43**	SKPbc	SKPab		04 15 10.2	+0.1	
	comp=E,2.8nm,0.8s,baz=294,slow=3.3,SNR=10								
WRA	**Warramunga Arr**	**131.84**	**207**	*e*PKPpre		PKPpre	04 12 04.8		
WRA				*e*PKPdf		**PKPdf**	**04 12 10.4**	**-0.1**	
WRA				*e*SKPbc		**SKPbc**	**04 15 16.7**	**-1.3**	
WRA	**Warramunga Arr**	**131.84**	**207**	PKhKP		PKPpre	04 12 04.8		
	comp=E,0.2nm,0.5s,baz=150,slow=1.7,SNR=7.1								
WRA				PKP		**PKPdf**	**04 12 10.4**	**-0.1**	
	comp=E,1.1nm,0.5s,baz=158,slow=1.7,SNR=29								
WRA				SKPbc		**SKPbc**	**04 15 16.7**	**-1.3**	
	comp=E,6.4nm,1.1s,baz=153,slow=3.6,SNR=16								
PETK	**Petropavlovsk-**	**135.75**	**323**	PKhKP		PKPpre	04 12 09.6		
	comp=E,2.2nm,0.9s,baz=88,slow=3.1,SNR=4.3								
PETK				PKP		**PKPdf**	**04 12 17.3**	**+0.5**	
	comp=E,1.6nm,0.9s,baz=150,slow=3.2,SNR=4.6								
PETK				SKPbc		**SKPbc**	**04 15 28.6**	**-1.1**	
	comp=E,3.6nm,1.1s,baz=66,slow=1.7,SNR=4.3								
KURBB	**Kurchatov Arra**	**142.12**	**36**	PKhKP		PKPpre	04 12 25.5		
	comp=E,0.3nm,0.4s,baz=304,slow=2.9,SNR=3.7								
KURBB				PKP		**PKPdf**	**04 12 29.0**	**+0.5**	
	comp=E,0.3nm,0.5s,baz=300,slow=2.8,SNR=5.1								
KURBB				SKPbc		**SKPbc**	**04 15 45.6**	**-1.8**	
	comp=E,0.5nm,0.5s,baz=304,slow=3.1,SNR=6.0								
KURK	**Kurchatov**	**142.12**	**36**	*e*PKPpre		PKPpre	04 12 25.5		
KURK				*e*PKPdf		**PKPdf**	**04 12 29.0**	**+0.5**	
KURK				*e*SKPbc		**SKPbc**	**04 15 45.6**	**-1.8**	
AAK	**Ala-Archa**	**142.93**	**50**	*e*SKPbc		**SKiKP**	**04 15 50.6**	**-0.5**	
AAK	**Ala-Archa**	**142.93**	**50**	SKPbc		**SKiKP**	**04 15 50.6**	**-0.5**	
	comp=E,3.5nm,0.9s,baz=199,slow=1.8,SNR=7.5								
ZAA0	**Zalesovo Array**	**143.17**	**28**	*e*PKPdf		PKPbc	04 12 28.7	+0.9	
ZALV	**Zalesovo Beam**	**143.17**	**28**	PKP		PKPbc	04 12 28.0	+0.1	
	comp=E,1.4nm,0.4s,baz=309,slow=2.2,SNR=13								
KSH	**Kashi**	**144.88**	**55**	PKP		PKPbc	04 12 32.0	-1.5	
KSH				pPKP		pPKPdf	04 13 28.0	+2.8	
KSH				sPKP			04 13 52.0		
KSH				PKS		PKSdf	04 16 03.5	-6.0	
KSH				SKS		SKSdf	04 19 16.0	-8.6	
KSH				AMB		AMB			
	comp=E,120nm,4.8s								
KSH				LR		LR			
	comp=E,120nm,5.1s								
KSH				LR		LR			
	comp=E,150nm,5.4s								
KSH				LR		LR			
	comp=E,130nm,6.3s								
MK32	**Makanchi Array**	**146.26**	**40**	*e*PKPdf		**PKPdf**	**04 12 36.6**	**+0.7**	
MK32				*e*SKPbc		**SKPbc**	**04 15 56.8**	**-0.6**	
MKAR	**Makanchi Array**	**146.26**	**40**	*e*PKPdf		**PKPdf**	**04 12 36.6**	**+0.7**	
MKAR	**Makanchi Array**	**146.26**	**40**	PKPbc		**PKPdf**	**04 12 36.6**	**+0.7**	
	comp=E,2.7nm,0.4s,baz=330,slow=2.4,SNR=52								
MKAR				SKPbc		**SKPbc**	**04 15 56.8**	**-0.6**	
	comp=E,1.2nm,0.9s,baz=299,slow=3.0,SNR=5.2								
MK01	**Makanchi Array**	**146.28**	**40**	*e*PKPdf		**PKPdf**	**04 12 36.4**	**+0.5**	
WMQ	**Urumqi**	**151.07**	**40**	*e*PKPbc		**PKPdf**	**04 12 41.0**	**-2.8**	
SONA1	**Songino Array**	**155.49**	**11**	*e*PKPdf		**PKPdf**	**04 12 49.5**	**-0.6**	
SONM	**Songino Array**	**155.50**	**11**	PKPab		**PKPab**	**04 13 17.0**	**+0.2**	
	comp=E,1.1nm,0.8s,baz=327,slow=4.7,SNR=7.8								
ULN	**Ulaanbaatar**	**155.59**	**10**	*e*PKP		**PKPdf**	**04 12 47.4**	**-2.9**	
HHC	**Hu-ho-hao-te**	**163.06**	**5**	*e*PKP		**PKPdf**	**04 12 57.3**	**-1.7**	
HHC				pPKP		**pPKPdf**	**04 13 55.0**	**+4.4**	
HHC				PKS		**PKSdf**	**04 16 29.3**	**-2.8**	
HHC				PP		**PP**	**04 17 38.8**	**+4.6**	
HHC				SS		SS	04 37 38.3	-3.3	
HHC				AMB		AMB			
	comp=E,120nm,10.1s								
HHC				LR		LR			
	comp=E,200nm,22.0s								
HHC				LR		LR			
	comp=E,220nm,21.6s								
HHC				LR		LR			
	comp=E,120nm,21.6s								
CM01	**Chiang Mai Arr**	**165.50**	**109**	*e*PKPdf		**PKPdf**	**04 13 02.2**	**+0.5**	
CMAR	**Chiang Mai Arr**	**165.50**	**109**	PKPab		**PKPab**	**04 14 01.7**	**+0.5**	
	comp=E,2.1nm,0.7s,baz=256,slow=5.3,SNR=14								
CD2	**Chengdu**	**169.00**	**49**	*e*PKP		**PKPdf**	**04 13 02.8**	**-1.2**	
NJ2	**Nanjing**	**170.56**	**330**	*e*PKP		**PKPdf**	**04 13 05.0**	**+0.3**	
GYA	**Guiyang**	**173.43**	**66**	*e*PKP		**PKPdf**	**04 13 06.0**	**-0.4**	
GYA				pPKP		**pPKPdf**	**04 13 58.8**	**+0.7**	
GYA				sPKP			04 14 20.5		
GYA				PKPab		**PKPab**	**04 14 37.3**	**+0.9**	
GYA				PKS		**PKSdf**	**04 16 37.8**	**-1.1**	
GYA				PP		**PP**	**04 18 30.5**	**+1.8**	
GYA				AMB		AMB			
	comp=E,90nm,8.2s								

*PGC **31** 04:17:10.0±6.3,57°.10N×141°.82W,h15km,ML3.1/2, 279km southwest of Yakutat, Ak Off Coast Of Southeastern Alaska*
*NEIC **31** 04:17:12.1,57°.24N×142°.30W,h4km,ML2.8(AEIC), After AEIC.*

ISC 31 04:17:03.9±1.3, 57°.07N±0°.07×142°.09W±0°.07, h10km, n33, σ2s34/44, 7D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHX	**Chaix Hills**	**3.04**	**9**	P	**Pn**	**04 17 54.5**	**+2.3**
SUCK	**Suckling Hills**	**3.14**	**344**	P	**Pn**	**04 17 55.2**	**+1.9**
SUCK				S	**Sn**	**04 18 29.0**	**-1.9**
KULT	**Kultieth River**	**3.20**	**354**	P	**Pn**	**04 17 55.8**	**+1.4**
KULT				S	**Sn**	**04 18 29.7**	**-2.9**
NICHA	**Nichawak Mount**	**3.32**	**344**	P	**Pn**	**04 17 57.2**	**+1.3**
NICHA				S	**Sn**	**04 18 33.0**	**-2.4**
BARK	**Barkley Ridge**	**3.35**	**357**	P	**Pn**	**04 17 57.9**	**+1.5**
KHIT	**Khitrov Hills**	**3.44**	**350**	P	**Pn**	**04 17 58.9**	**+1.3**
KHIT				S	**Sn**	**04 18 35.2**	**-3.1**
ISLE	**Juniper Island**	**3.54**	**358**	P	**Pn**	**04 18 00.7**	**+1.6**
GRNC	**Granite Creek**	**3.67**	**3**	P	**Pn**	**04 18 02.9**	**+1.9**
SIT	**Sitka**	**3.69**	**87**	*e*Pn	**Pb**	**04 18 09.5**	**+0.3**
SGAM	**Sherman Glacie**	**3.80**	**336**	P	**Pn**	**04 18 04.0**	**+1.5**
LOGN	**Logan Glacier**	**3.81**	**8**	P	**Pn**	**04 18 04.5**	**+1.8**
KIAG	**Kiagna River**	**3.87**	**358**	P	**Pn**	**04 18 05.3**	**+1.8**
CTGM	**Chitina Glacie**	**3.92**	**5**	P	**Pn**	**04 18 06.3**	**+2.0**
BALM	**Baldy**	**3.98**	**358**	P	**Pn**	**04 18 06.5**	**+1.4**
HIN	**Hinchinbrook I**	**4.05**	**327**	P	**Pn**	**04 18 06.5**	**+0.6**
BMRM	**Bremner River**	**4.12**	**343**	P	**Pn**	**04 18 08.1**	**+1.2**
PTPK	**Patty Peak**	**4.13**	**357**	P	**Pn**	**04 18 09.3**	**+2.1**
VRDI	**Verde Repeater**	**4.23**	**351**	P	**Pn**	**04 18 10.0**	**+1.5**
MCARA	**McCarthy VSAT**	**4.35**	**354**	P	**Pn**	**04 18 11.3**	**+1.3**
HYT	**Haines Junctio**	**4.45**	**30**	⇑Pn	**Pn**	**04 18 14.4**	**+2.9**
HYT				⇓Sn	**Sn**	**04 19 01.3**	**-2.0**
HYT	**Haines Junctio**	**4.45**	**30**	*e*Pn	**Pn**	**04 18 14.4**	**+2.9**
HYT				*e*S	**Sn**	**04 19 02.5**	**-0.9**
WHY	**Whitehorse**	**5.19**	**43**	⇓Pn	**Pn**	**04 18 24.8**	**+3.1**
WHY				⇑Sn	**Sn**	**04 19 19.2**	**-2.4**
WHY	**Whitehorse**	**5.19**	**43**	P	**Pn**	**04 18 24.7**	**+3.1**
BRLK	**Bradley Lake**	**5.35**	**304**	P	**Pn**	**04 18 25.3**	**+1.5**
RC01	**Rabbit Creek A**	**5.63**	**319**	P	**Pn**	**04 18 28.8**	**+1.1**
KDAK	**Kodiak Island**	**5.72**	**282**	P	**Pn**	**04 18 29.8**	**+1.0**
NDB	**Naden**	**6.06**	**117**	⇓Pn	**Pn**	**04 18 36.2**	**+2.7**
NDB				⇑Sn	**Sn**	**04 19 40.4**	**-2.6**
DLBC	**Dease Lake**	**6.60**	**73**	⇑Pn	**Pn**	**04 18 43.5**	**+2.5**
DIB	**Dawson Inlet,**	**6.74**	**121**	⇑Pn	**Pn**	**04 18 45.4**	**+2.6**
DIB				⇑Sn	**Sn**	**04 19 55.8**	**-3.7**
MOBC	**Moresby Island**	**7.01**	**120**	⇓Pn	**Pn**	**04 18 49.2**	**+2.6**
MOBC				⇓Sn	**Sn**	**04 20 03.0**	**-3.4**
DAWY	**Dawson**	**7.14**	**10**	⇓Pn	**Pn**	**04 18 51.5**	**+3.1**
DAWY				⇓Sn	**Sn**	**04 20 05.0**	**-4.4**
DAWY	**Dawson**	**7.14**	**10**	P	**Pn**	**04 18 50.6**	**+2.3**
BNB	**Barry Inlet**	**7.48**	**123**	⇑Pn	**Pn**	**04 18 55.5**	**+2.6**

*IDC **31** 04:26:46.2±7.8,37°.70N×71°.35E,h104km±56km,mb3.8/1, mb1 3.5/5,mb1mx3.0/30,mbtmp3.4/5,Error ellipse: s-maj=72.6km s-min=49.6km az=157.0*
*NNC **31** 04:26:47.8±1.8,38°.02N×70°.98E,h177km±27km,mb2.8, mpv3.7,Error ellipse: s-maj=19.6km s-min=9.4km az=30.0*

ISC 31 04:26:40.9±2.2, 37°.7N±0°.2×70°.7E±0°.1, h40km, n19, σ1s69/22, 2C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.02**	**26**	P	**Pn**	**04 27 55.9**	**+1.8**
	SNR=68						
UCH	**Uchtor**	**5.42**	**32**	P	**Pn**	**04 27 59.0**	**-0.5**
	SNR=13						
KK31	**Karatay Array**	**5.43**	**359**	⇓P	Pn	04 28 02.7	+3.3
	5.4nm,0.2s,baz=181,slow=12,SNR=387						
KK31				⇓S	**Sn**	**04 29 02.5**	**+1.9**
	4.6nm,0.5s						
EKS2	**Erkin-Say**	**5.52**	**24**	P	Pn	04 28 04.1	+3.4
	SNR=41						
KZA	**Kyzart**	**5.63**	**37**	P	**Pn**	**04 28 03.4**	**+1.0**
	SNR=8.2						
AAK	**Ala-Archa**	**5.75**	**29**	P	**Pn**	**04 28 06.1**	**+2.3**
	SNR=11						
AAK	**Ala-Archa**	**5.75**	**29**	P	**Pn**	**04 28 06.1**	**+2.3**
	2.8nm,0.3s,baz=155,slow=2.7,SNR=33						
AAK				S	**Sn**	**04 29 08.3**	**-0.4**
	0.5nm,0.3s,baz=342,slow=20,SNR=3.6						
AAK	**Ala-Archa**	**5.75**	**29**	⇓P	**Pn**	**04 28 05.9**	**+2.0**
	4.1nm,0.5s						
AAK				⇑S	**Sn**	**04 29 08.0**	**-0.6**
	5.6nm,0.7s						
CHMS	**Chumysh**	**6.16**	**29**	P	**Pn**	**04 28 11.2**	**+1.9**
	SNR=11						
ULHL	**Ulahol**	**6.25**	**41**	P	**Pn**	**04 28 11.8**	**+1.0**
	SNR=11						
USP	**Ospenovka**	**6.30**	**26**	P	**Pn**	**04 28 13.0**	**+1.7**
	SNR=16						
TKM2	**Tokmak 2**	**6.45**	**34**	P	**Pn**	**04 28 15.5**	**+2.1**
	SNR=8.3						
TKM2	**Tokmak 2**	**6.45**	**34**	⇓P	**Pn**	**04 28 15.3**	**+1.8**
	2.7nm,0.4s						
MKAR	**Makanchi Array**	**12.52**	**40**	P	**Pn**	**04 29 35.8**	**-0.6**
	0.1nm,0.3s,baz=219,slow=14,SNR=6.6						
AB31	**Akbulak array**	**13.95**	**330**	P	**Pn**	**04 29 55.8**	**-0.1**
	0.2nm,0.3s,baz=143,slow=14,SNR=12						
AB31				⇓S	**Sn**	**04 32 27.4**	**-2.0**
	1.0nm,0.6s,baz=150,slow=22,SNR=6.6						
AKTO	**Aktyubinsk**	**15.66**	**329**	P	**P**	**04 30 23.3**	**+1.2**
	0.4nm,0.3s,baz=142,slow=10,SNR=7.8						
AKTO	**Aktyubinsk**	**15.66**	**329**	⇓P	**Pn**	**04 30 17.8**	**-0.7**
	5.9nm,1.3s						
AKTO				⇑S	**Sn**	**04 33 08.8**	**-2.0**
	1.4nm,0.9s						
ZALV	**Zalesovo Beam**	**18.97**	**26**	P	**P**	**04 30 56.2**	**-2.4**
	0.2nm,0.3s,baz=214,slow=10,SNR=7.4						
ARCES	**ARCESS Array B**	**39.98**	**337**	P	**P**	**04 34 11.6**	**+0.4**
	3.1nm,0.9s,baz=112,slow=9.1,SNR=3.6						

IDC 31 04:35:18.0±3.1, 3°.47S×135°.24E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=132.8km s-min=27.7km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.40**	**183**	Pn	Pn	04 39 04.8	-4.9
	0.2nm,0.3s,baz=2.8,slow=13,SNR=8.5						
WRA				Sn	Sn	04 41 59.2	-13
	0.1nm,0.3s,baz=6.4,slow=23,SNR=4.3						
FITZ	**Fitzroy Crossi**	**17.32**	**212**	P	Pn	04 39 21.0	-0.3
	baz=38,slow=12						
FITZ				S	Sn	04 42 21.6	-13
	baz=270,slow=16						
ASAR	**Alice Springs**	**20.12**	**184**	P	P	04 39 53.8	+0.1
	8.1nm,0.8s,baz=9.3,slow=11,SNR=67						
MKAR	**Makanchi Array**	**68.31**	**324**	P	P	04 46 21.1	0.0
	0.2nm,0.5s,baz=105,slow=7.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**70.88**	**331**	P	P	04 46 36.7	0.0
	0.4nm,0.4s,baz=139,slow=5.6,SNR=2.9						

IDC 31 04:51:59.8±1.8, 49°.85S×110°.65E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.9/14, mbtmp3.9/3, MS3.8/2, Ms1 3.8/2, ms1mx3.2/21, Error ellipse: s-maj=57.5km s-min=46.4km az=121.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.16**	**11**	T	T	05 11 13.4	
	baz=188,slow=74,SNR=31						
H01W1	**Cape Leeuwin H**	**15.17**	**11**	T	T	05 11 09.5	
	baz=188,slow=74,SNR=26						
H01W3	**Cape Leeuwin H**	**15.18**	**11**	T	T	05 11 16.8	
	baz=188,slow=74,SNR=20						
ASAR	**Alice Springs**	**31.84**	**43**	P	P	04 58 26.1	-0.3
	0.9nm,0.7s,baz=209,slow=7.5,SNR=9.4						
VNDA	**Vanda**	**33.67**	**162**	LR	LR	05 10 43.1	
	comp=Z,82nm,18.2s,baz=121,slow=33						
FITZ	**Fitzroy Crossi**	**33.89**	**26**	LR	LR	05 11 11.0	
	comp=Z,34nm,20.0s,baz=296,slow=34						
WRA	**Warramunga Arr**	**35.30**	**41**	P	P	04 58 56.5	0.0
	1.7nm,0.7s,baz=204,slow=10,SNR=14						
OPO	**Ambohidratompo**	**58.96**	**278**	LR	LR	05 20 03.7	
	comp=Z,130nm,19.7s,baz=172,slow=29						
CMAR	**Chiang Mai Arr**	**68.79**	**348**	P	P	05 03 05.5	-0.1
	0.6nm,0.5s,baz=180,slow=6.3,SNR=5.8						
TXAR	**Lajitas Array**	**146.96**	**115**	PKPbc	PKPbc	05 11 43.7	-0.5
	0.4nm,0.8s,baz=213,slow=5.7,SNR=5.8						
YKA	**Yellowknife Ar**	**152.46**	**45**	PKPbc	PKPbc	05 11 55.3	-1.2
	0.1nm,0.3s,baz=336,slow=1.4,SNR=3.3						
YKA				PKPab	PKPab	05 12 07.8	+0.9
	0.4nm,0.8s,baz=272,slow=3.8,SNR=6.2						

*CSEM **31** 05:00:42.9±0.2,34°.58N×25°.18E,h10km,ML3.3,Error ellipse: s-maj=6.8km s-min=4.1km az=60.0*
*ISCJB **31** 05:00:43.2±0.8,34°.57N±0°.04×25°.15E±0°.04,h26km±8km, mb3.6/4,Error ellipse: s-maj=6.4km s-min=5.8km az=142.1*
*IDC **31** 05:00:44.3±3.9,34°.77N×25°.31E,h35km±27km,mb3.6/4, mb1 3.6/5,mb1mx3.3/25,mbtmp3.4/5,ML3.4/1,Error ellipse: s-maj=44.3km s-min=23.3km az=124.0*
*HLW **31** 05:00:45.3,34°.70N×25°.50E,h31km±33km,Md0.0,Ml3.5*
*THE **31** 05:00:45.2,34°.69N×25°.12E,h9km±1km,ML3.3/1,Error ellipse: s-maj=2.2km s-min=0.7km az=5.0*

ISC 31 05:00:44.2±1.0, 34°.66N±0°.04×25°.16E±0°.03, h31km±9km, n43, σ1s30/59, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.46**	**321**	P	**Pb**	**05 00 53.7**	**-0.4**
SIVA				S	**Sb**	**05 01 00.0**	**-0.8**
SIVA	**Sivas**	**0.46**	**321**	P	**Pb**	**05 00 53.7**	**-0.4**
SIVA				S	**Sb**	**05 01 00.0**	**-0.8**
LAST	**Lasithi**	**0.57**	**28**	P	**Pb**	**05 00 55.9**	**0.0**
LAST				S	**Sb**	**05 01 04.1**	**+0.3**
LAST	**Lasithi**	**0.57**	**28**	P	**Pb**	**05 00 55.9**	**0.0**
LAST				S	**Sb**	**05 01 04.1**	**+0.3**
IDI	**Anoyia**	**0.66**	**341**	P	**Pb**	**05 00 57.2**	**-0.3**
IDI				S	**Sb**	**05 01 06.8**	**+0.3**
IDI	**Anoyia**	**0.66**	**341**	P	**Pb**	**05 00 57.2**	**-0.3**
IDI				S	**Sb**	**05 01 06.8**	**+0.3**
IDI	**Anoyia**	**0.66**	**341**	Pg	**Pb**	**05 00 57.2**	**-0.3**
	54nm,0.3s,baz=328,slow=23,SNR=253						
IDI				Lg		05 01 06.7	
	225nm,0.3s,baz=300,slow=18,SNR=52						
ZKR	**Zakros**	**0.98**	**62**	P	**Pb**	**05 01 03.4**	**+0.6**
ZKR				S	**Sb**	**05 01 19.0**	**+3.6**
ZKR	**Zakros**	**0.98**	**62**	P	**Pb**	**05 01 03.4**	**+0.6**
ZKR				S	**Sb**	**05 01 19.0**	**+3.6**
VAM	**Vamos**	**1.08**	**314**	P	**Pb**	**05 01 04.7**	**+0.3**
VAM				S	**Sb**	**05 01 18.9**	**+0.7**
VAM	**Vamos**	**1.08**	**314**	P	**Pb**	**05 01 04.7**	**+0.3**
VAM				S	**Sb**	**05 01 18.9**	**+0.7**
KARN	**Karanos**	**1.26**	**306**	P	**Pb**	**05 01 07.4**	**0.0**
KARN				S	**Sb**	**05 01 24.3**	**+1.1**
KARN	**Karanos**	**1.26**	**306**	P	**Pb**	**05 01 07.4**	**0.0**
KARN				S	**Sb**	**05 01 24.3**	**+1.1**
KARP	**Karpathos**	**1.87**	**61**	P	**Pb**	**05 01 16.0**	**-1.7**
KARP				S	**Sb**	**05 01 40.6**	**-0.1**
KARP	**Karpathos**	**1.87**	**61**	P	**Pb**	**05 01 16.0**	**-1.7**
KARP				S	**Sb**	**05 01 40.6**	**-0.1**
APE	**Apeiranthos**	**2.42**	**7**	P	**Pn**	**05 01 22.7**	**+1.0**
APE	**Apeiranthos**	**2.42**	**7**	P	**Pn**	**05 01 22.7**	**+1.0**
VLI	**Veliai**	**2.73**	**319**	P	**Pn**	**05 01 27.5**	**+1.5**
VLI	**Veliai**	**2.73**	**319**	P	**Pn**	**05 01 27.5**	**+1.5**
ARG	**Arkhangelos**	**2.88**	**57**	P	**Pn**	**05 01 30.1**	**+2.2**
ARG	**Arkhangelos**	**2.88**	**57**	P	**Pn**	**05 01 30.1**	**+2.2**
SLUM		**3.16**	**179**	P	**Pn**	**05 01 33.7**	**+1.9**
SLUM				S	**Sn**	**05 02 09.4**	**+1.0**
MATC	**Matruh**	**3.74**	**152**	P	**Pn**	**05 01 38.6**	**-1.1**
	baz=156						
MATC	**Matruh**	**3.74**	**152**	P	**Pn**	**05 01 38.6**	**-1.1**
HMAT	**Matruh**	**3.91**	**155**	P	**Pn**	**05 01 42.0**	**-0.2**
	baz=159						
HMAT	**Matruh**	**3.91**	**155**	P	**Pn**	**05 01 42.0**	**-0.2**
GUR	**Goura**	**3.98**	**326**	P	**Pn**	**05 01 44.6**	**+1.4**
GUR	**Goura**	**3.98**	**326**	P	**Pn**	**05 01 44.6**	**+1.4**
SWA2		**5.41**	**177**	P	**Pn**	**05 02 04.0**	**+1.2**
	baz=181						
SWA2				AMP		05 03 00.0	
	comp=N,50μm,0.4s,logA/T=5.1,baz=181						
SWA2				S	**Sn**	**05 03 03.4**	**-0.5**
	baz=181						
SWA2		**5.41**	**177**	P	**Pn**	**05 02 03.9**	**+1.2**
SWA2				S	**Sn**	**05 03 03.4**	**-0.5**
KOT	**Kottamia**	**7.36**	**128**	P	**Pn**	**05 02 28.5**	**-1.0**
	baz=129						
KOT	**Kottamia**	**7.36**	**128**	P	**Pn**	**05 02 28.5**	**-1.0**
GLL	**Jalalah**	**7.52**	**131**	P	**Pn**	**05 02 31.4**	**-0.4**
	baz=132						
GLL	**Jalalah**	**7.52**	**131**	P	**Pn**	**05 02 31.4**	**-0.4**
AMAG	**Maghara**	**7.88**	**118**	P	**Pn**	**05 02

baz=329,slow=76,SNR=49
H11N3 WAKE ISLAND Hy 29.53 134 T T 05 53 11.8
baz=329,slow=76,SNR=47
H11S1 WAKE ISLAND Hy 30.42 135 T T 05 54 25.0
baz=331,slow=77,SNR=49
H11S3 WAKE ISLAND Hy 30.42 135 T T 05 54 22.1
baz=331,slow=77,SNR=32
H11S2 WAKE ISLAND Hy 30.43 135 T T 05 54 23.0
baz=331,slow=77,SNR=28
ZALV Zalesovo Beam 40.26 308 P **P** **05 23 24.5 -0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 40.26 308 P **P** **05 23 24.5 -0.1**
comp=Z,0.8nm,0.5s,baz=93,slow=8.9,SNR=4.9
ILAR Eielson Array 43.56 35 P **P** **05 23 52.1 +0.7**
comp=Z,0.6nm,0.8s,baz=256,slow=5.5,SNR=7.9
RES Resolute Bay 56.65 16 P **P** **05 25 29.9 -0.4**
comp=Z,1.2nm,0.6s,baz=301,slow=9.7,SNR=6.4
YKA Yellowknife Ar 57.83 33 P **P** **05 25 39.3 +0.5**
comp=Z,0.1nm,0.6s,baz=303,slow=6.7,SNR=3.1
ARCES ARCESS Array B 59.72 339 P **P** **05 25 51.2 -0.6**
comp=Z,4.2nm,0.9s,baz=51,slow=7.1,SNR=2.7
WRA Warramunga Arr 62.89 191 P **P** **05 26 14.1 +0.4**
comp=Z,0.6nm,0.9s,baz=7.3,slow=6.5,SNR=3.1
FINES FINESS Array B 65.09 332 P **P** **05 26 27.1 -0.7**
comp=Z,2.0nm,0.6s,baz=46,slow=6.7,SNR=13
NVAR Mina Array Bea 69.80 56 P **P** **05 26 59.8 +1.6**
comp=Z,0.3nm,0.6s,baz=300,slow=6.1,SNR=2.7
NOA NORSAR Array B 70.04 338 P **P** **05 26 58.5 -0.5**
comp=Z,1.2nm,0.8s,baz=34,slow=6.4,SNR=4.8
GERES GERESS Array B 79.28 329 P **P** **05 27 52.7 -0.1**
comp=Z,0.1nm,0.4s,baz=40,slow=7.7,SNR=3.6

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*ISCJB **31** 05:19:35.0±0.7,24.°30S±0.°05×67.°04W±0.°06,h171km±7km, mb3.6/7,Error ellipse: s-maj=9.2km s-min=8.3km az=39.1*
*IDC **31** 05:19:35.8±1.8,24.°24S×66.°98W,h165km±16km,mb3.5/7, mb1 3.6/11,mb1mx3.6/19,mbtmp3.9/11,Error ellipse: s-maj=19.6km s-min=13.4km az=75.0*
*GUC **31** 05:19:39.2±0.5,24.°16S×67.°52W,h195km±29km,ML4.8*
ISC 31 05:19:35.7±1.2,24.°29S±0.°08×67.°02W±0.°09, h165km±11km,n24,σ1§17/29,mb3.4/7,4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PB06	**Plate Boundary**	**2.82**	**303**	⇑*iP*		**Pn**	**05 20 23.3**	**+1.7**
PB06				*i*S		**Sn**	**05 20 56.5**	**-0.7**
PB06				AML		AML	05 20 59.4	
	comp=N,3μm,0.3s							
PB04	**Plate Boundary**	**3.03**	**311**	⇑*iP*		Pn	05 20 30.4	+6.4
PB04				*i*S		Sn	05 21 09.7	+8.1
PB04				AML		AML	05 21 12.9	
	comp=N,1μm,0.3s							
CEN1	**Los Morros**	**3.04**	**286**	⇓*iP*		**Pn**	**05 20 25.7**	**+1.4**
CEN1				*i*S		**Sn**	**05 21 01.1**	**-0.9**
CEN1				AML		AML	05 21 04.1	
	comp=E,1μm,0.6s							
ANCH	**Antofagasta**	**3.16**	**280**	*e*P		**Pn**	**05 20 26.4**	**+0.8**
ANCH				*e*S		**Sn**	**05 21 02.3**	**-2.0**
ANCH				AML		AML	05 21 05.7	
	comp=E,2μm,0.1s							
PB09	**Plate Boundary**	**3.21**	**320**	⇑*iP*		**Pn**	**05 20 28.5**	**+2.0**
PB09				*i*S		**Sn**	**05 21 06.1**	**+0.1**
PB09				AML		AML	05 21 07.7	
	comp=N,2μm,0.4s							
MACH	**Maria Elena**	**3.27**	**309**	*e*P		**Pn**	**05 20 28.7**	**+1.5**
MACH				*i*S		**Sn**	**05 21 06.6**	**-0.6**
PB10	**Plate Boundary**	**3.32**	**283**	⇑*iP*		**Pn**	**05 20 28.6**	**+0.9**
PB10				*i*S		**Sn**	**05 21 06.0**	**-2.1**
PB10				AML		AML	05 21 12.4	
	comp=N,3μm,0.2s							
CFAA	**Coronel Fontan**	**7.37**	**188**	P		**Pn**	**05 21 20.9**	**+0.3**
	comp=N,0.1nm,0.3s,baz=4.6,slow=12,SNR=24							
CFAA				S		Sn	05 22 38.9	-4.5
	comp=N,0.1nm,0.3s,baz=134,slow=17,SNR=8.6							
LPAZ	**La Paz**	**8.03**	**352**	P		**Pn**	**05 21 30.8**	**+0.7**
	comp=N,0.8nm,0.3s,baz=164,slow=9.0,SNR=19							
LPAZ				S		**Sn**	**05 22 58.5**	**-1.6**
	comp=N,0.3nm,0.3s,baz=344,slow=19,SNR=6.6							
CPUP	**Villa Florida**	**9.01**	**105**	P		Pn	05 21 41.2	-1.1
	comp=N,0.4nm,0.3s,baz=245,slow=11,SNR=4.6							
SIV	**San Ignacio**	**9.97**	**35**	P		**Pn**	**05 21 54.7**	**-0.4**
	comp=N,0.8nm,0.3s,baz=234,slow=14,SNR=9.3							
SIV				S		**Sn**	**05 23 44.7**	**-1.2**
	comp=N,0.1nm,0.3s,baz=345,slow=20,SNR=2.1							
BDFB	**Brasilia**	**19.81**	**68**	P		**P**	**05 23 54.4**	**+0.6**
	comp=N,0.6nm,0.3s,baz=223,slow=6.9,SNR=6.9							
SNAA	**Sanae**	**59.09**	**161**	P		**P**	**05 29 18.8**	**+0.6**
	comp=N,0.4nm,0.6s,baz=293,slow=13,SNR=5.1							
TXAR	**Lajitas Array**	**63.90**	**325**	P		**P**	**05 29 51.5**	**+0.4**
	comp=N,0.5nm,0.8s,baz=149,slow=7.5,SNR=4.8							
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P		**P**	**05 31 08.6**	**-0.3**
	comp=N,2.1nm,0.5s,baz=258,slow=5.5,SNR=37							
PDAR	**Pinedale Array**	**77.38**	**329**	P		**P**	**05 31 11.8**	**-0.7**
	comp=N,0.3nm,0.4s,baz=146,slow=7.4,SNR=3.2							
ULM	**Lac du Bonnet**	**78.49**	**342**	P		**P**	**05 31 17.9**	**-0.3**
	comp=N,2.3nm,0.6s,baz=162,slow=6.4,SNR=3.8							
NVAR	**Mina Array Bea**	**78.75**	**321**	P		**P**	**05 31 21.3**	**+1.1**
	comp=N,0.4nm,0.7s,baz=168,slow=7.4,SNR=4.0							
YKA	**Yellowknife Ar**	**94.39**	**340**	P		**P**	**05 32 36.2**	**+0.1**
	comp=N,0.7nm,0.6s,baz=132,slow=4.7,SNR=17							
ASAR	**Alice Springs**	**128.19**	**205**	PKP		**PKPdf**	**05 38 22.2**	**-0.8**
	comp=N,0.4nm,0.5s,baz=130,slow=1.8,SNR=6.1							
WRA	**Warramunga Arr**	**131.36**	**207**	PKP		**PKPdf**	**05 38 29.2**	**+0.1**
	comp=N,0.4nm,0.5s,baz=155,slow=1.8,SNR=12							
SEY	**Seymchan**	**133.34**	**336**	PKP		**PKPdf**	**05 38 32.1**	**+0.7**
	comp=N,0.6nm,0.5s,baz=135,slow=18,SNR=2.9							
ZALV	**Zalesovo Beam**	**143.66**	**28**	PKP		PKPbc	05 38 48.6	+0.1
	comp=N,1.9nm,0.5s,baz=296,slow=4.1,SNR=12							
SONM	**Songino Array**	**155.93**	**11**	PKPab		**PKPab**	**05 39 36.5**	**-1.4**
	comp=N,0.2nm,0.5s,baz=335,slow=3.2,SNR=4.0							

MEX 31 05:30:55.9±0.7,17.°86N×101.°51W,h70km±18km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.26**	**169**	*e*P		Pn	05 31 04.9	-1.9
ZIIG				*i*S		Sn	05 31 13.3	-1.5
ARIG	**Puente Sto Nin**	**1.19**	**69**	*e*P		Pn	05 31 15.7	-1.1
ARIG				*i*S		Sn	05 31 30.0	-2.5
PLIG	**Platanillo**	**1.98**	**74**	*i*P		Pn	05 31 26.4	-1.1
PLIG				*i*S		Sn	05 31 49.5	-2.0

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*NIED **31** 05:38:00,23.°70N×121.°70E,h38km,Mw4.1 Best double couple: Mo1.51000×10¹⁵ NP1:φ≈5.00000°, δ≈48.00000°, λ≈64.00000°. NP2:φ≈222.00000°, δ≈48.00000°, λ≈116.00000°.*
*NEIC **31** 05:38:39.3±0.9,23.°70N×121.°73E,h10km,mb4.1/2, ML4.6(TAP),Error ellipse: s-maj=12.3km s-min=5.5km az=124.0*
NEIC Recorded [3 TAP] in Hua-lien, [2 TAP] in I-lan and [1 TAP] in Chang-hua, T'ai-chung, T'ai-tung, T'ao-yuan and Yun-lin.
*JMA **31** 05:38:40.6±0.1,23.°75N×121.°67E,h31km±3km,M4.3*
*ISCJB **31** 05:38:41.7±0.2,23.°78N±0.°01×121.°67E±0.°02,h44km±2km, mb3.8/18,MS3.2/2,Error ellipse: s-maj=2.6km s-min=1.7km az=37.0*
*BJI **31** 05:38:41.0,23.°90N×121.°48E,h15km,mb3.8/2,ML4.0/4*
*TAP **31** 05:38:41.8,23.°79N×121.°62E,h33km,ML4.6,B*
*IDC **31** 05:38:47.6±4.6,23.°78N×121.°69E,h94km±43km,mb3.5/16, mb1 3.7/17,mb1mx3.6/27,mbtmp3.5/17,MS3.2/3, Ms1 3.3/3,ms1mx2.9/26,Error ellipse: s-maj=21.4km s-min=12.9km az=71.0*
ISC 31 05:38:41.4±0.7,23.°77N±0.°02×121.°64E±0.°02,h33km±2km, n114,σ1§01/184,mb3.9/18,19C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.11**	**235**	P		**Pb**	**05 38 48.8**	**+1.5**
	baz=222							
TEGC				*e*S		**Sb**	**05 38 53.5**	**+2.2**
	baz=222							
ESF	**Shoufeng Towns**	**0.16**	**309**	*e*P		**Pb**	**05 38 48.6**	**+0.9**
	baz=297							
ESF				*e*S		**Sb**	**05 38 52.9**	**+1.0**
	baz=297							
ESL	**Shilin**	**0.19**	**282**	⇑*iP*		**Pn**	**05 38 48.0**	**+1.0**
	baz=279							
HWA	**Hwalien**	**0.20**	**351**	⇓*iP*		**Pb**	**05 38 48.4**	**+0.3**
	baz=4.0							
HWA				*e*S		**Sb**	**05 38 53.5**	**+0.8**
	baz=4.0							
TWD	**Chiawan**	**0.31**	**352**	⇓*iP*		**Pb**	**05 38 49.4**	**+0.1**
	baz=347							
TWD				S		**Sb**	**05 38 55.4**	**+0.7**
	baz=347							
EHY	**Hungye**	**0.40**	**228**	⇑*iP*		**Pb**	**05 38 50.3**	**-0.2**
	baz=224							
EHY				*e*S		**Sb**	**05 38 56.4**	**-0.3**
	baz=224							
NACB	**Ninganchiao**	**0.40**	**354**	*e*Pg		**Pb**	**05 38 50.4**	**-0.2**
NACB				*e*Sg		**Sn**	**05 38 57.8**	**+0.6**
YULB	**Yu-li**	**0.49**	**220**	*e*Sg		**Sb**	**05 38 56.1**	**-3.1**
WHF	**Hehuan Shan**	**0.51**	**317**	⇑*iP*		**Pb**	**05 38 52.0**	**-0.4**
	baz=318							
TWF1	**Yuli**	**0.52**	**217**	⇑*iP*		**Pb**	**05 38 52.2**	**-0.2**
	baz=225							
TWF1				*e*S		**Sb**	**05 38 59.4**	**-0.6**
	baz=225							
EHP	**Heping Village**	**0.54**	**10**	*e*P		**Pb**	**05 38 53.0**	**+0.2**
	baz=18							
EHP				*e*S		**Sn**	**05 39 01.1**	**+0.3**
	baz=18							
SSLB	**Suanglung**	**0.63**	**271**	*e*Pg		**Pn**	**05 38 53.6**	**-0.4**
SSLB				*e*Sg		**Sb**	**05 39 02.5**	**-0.4**
TWT	**Tachien**	**0.64**	**318**	⇑*iP*		**Pn**	**05 38 54.5**	**+0.3**
	baz=312							
TWT				S		**Sb**	**05 39 02.8**	**-0.5**
	baz=312							
ENA	**Nanau**	**0.66**	**8**	⇑P		**Pn**	**05 38 54.5**	**+0.2**
	baz=355							
ENA				*e*S		**Sb**	**05 39 03.4**	**-0.2**
	baz=355							
SMLT	**Sun Moon Lake**	**0.69**	**279**	⇑*iP*		**Pn**	**05 38 55.1**	**+0.2**
	baz=280							
SMLT				S		**Sn**	**05 39 04.0**	**-0.4**
	baz=280							
YUS	**Yu-Shan**	**0.69**	**246**	⇑*iP*		**Pn**	**05 38 55.8**	**+0.5**
	baz=245							
YUS				S		**Sn**	**05 39 04.7**	**-0.5**
	baz=245							
NNS	**Nan Shan**	**0.71**	**340**	⇑P		**Pn**	**05 38 55.1**	**-0.1**
	baz=340							
NNS				*e*S		**Sn**	**05 39 04.3**	**-0.7**
	baz=340							
CHKT	**Chengkung**	**0.72**	**201**	*e*P		**Pn**	**05 38 55.3**	**+0.1**
	baz=187							
CHKT				*e*S		**Sb**	**05 39 06.3**	**+1.2**
	baz=187							
TYC	**Yuchr**	**0.73**	**280**	⇑*iP*		**Pn**	**05 38 55.6**	**+0.2**
	baz=284							
TYC				*i*S		**Sn**	**05 39 05.3**	**-0.1**
	baz=284							
ALS	**Alishan**	**0.81**	**251**	⇑P		**Pb**	**05 38 57.5**	**+0.1**
	baz=250							
ALS				*e*S		**Sn**	**05 39 08.1**	**+0.4**
	baz=250							
ELDTW	**Lidau**	**0.82**	**225**	⇑*e*P		**Pn**	**05 38 56.4**	**-0.3**
	baz=220							
ELDTW				*e*S		**Sn**	**05 39 07.8**	**+0.1**
	baz=220							
TWC	**Suao**	**0.85**	**13**	*e*P		**Pn**	**05 38 57.5**	**+0.4**
	baz=22							
TWC				*e*S		**Sb**	**05 39 09.2**	**+0.1**
	baz=22							
ENTT	**Nioudou**	**0.87**	**356**	P		**Pn**	**05 38 57.5**	**+0.2**
	baz=346							
ENTT				*e*S		**Sn**	**05 39 08.6**	**-0.2**
	baz=346							
WNT	**Mingjian**	**0.88**	**277**	⇑*iP*		**Pb**	**05 38 58.9**	**+0.6**
	baz=276							
WNT				*e*S		**Sb**	**05 39 10.7**	**+0.8**
	baz=276							
CHN5	**Tsauling**	**0.90**	**259**	⇑*iP*		**Pb**	**05 38 59.1**	**+0.4**
	baz=258							
CHN5				*e*S		**Sb**	**05 39 11.1**	**+0.7**
	baz=258							
YHNB	**Yeheng**	**0.93**	**345**	*e*Pg		**Pn**	**05 38 58.4**	**+0.3**
YHNB				*e*Sg		**Sn**	**05 39 09.6**	**-0.7**
NSK	**Sanguang**	**0.94**	**344**	⇑*iP*		**Pn**	**05 38 58.9**	**+0.6**
	baz=352							
NSK				S		**Sn**	**05 39 10.2**	**-0.3**
	baz=352							
TWE	**Neicheng**	**0.94**	**1**	*e*P		**Pn**	**05 38 58.6**	**+0.2**
	baz=354							
TWE				*e*S		**Sn**	**05 39 10.9**	**+0.2**
	baz=354							
TCU	**Taichung**	**0.96**	**293**	⇑P		**Pb**	**05 39 00.2**	**+0.6**
	baz=291							
TCU				*e*S		**Sb**	**05 39 12.4**	**+0.4**
	baz=291							
TWQ1	**Liyutan**	**0.98**	**306**	⇑*iP*		**Pb**	**05 39 00.6**	**+0.6**
	baz=304							
TWQ1				*e*S		**Sn**	**05 39 12.5**	**+1.0**
	baz=304							
WGK	**Gukeng**	**0.99**	**265**	*e*P		**Pn**	**05 38 59.8**	**+0.8**
	baz=264							
WGK				*e*S		**Sb**	**05 39 13.3**	**+0.4**
	baz=264							
ILA	**Ilan**	**0.99**	**6**	*e*P		**Pb**	**05 39 00.3**	**+0.1**
	baz=355							
STYT	**Tauyuan**	**1.01**	**233**	*e*P		**Pn**	**05 39 00.2**	**+0.9**
	baz=227							
STYT				*e*S		**Sn**	**05 39 13.0**	**+0.5**
	baz=227							
NSY	**Sanyi**	**1.03**	**309**	⇑*iP*		**Pb**	**05 39 01.4**	**+0.6**
	baz=307							
NSY				*e*S		**Sb**	**05 39 14.4**	**+0.4**
	baz=307							
NSTT	**Nanjuang**	**1.03**	**326**	⇑*iP*		**Pb**	**05 39 01.1**	**+0.2**
	baz=324							
NSTT				S		**Sn**	**05 39 13.7**	**+0.8**
	baz=324							
TPUB	**Ta-pu**	**1.04**	**243**	*e*Pg		**Pb**	**05 39 01.0**	**+0.1**
TPUB				*e*Sg		**Sb**	**05 39 15.4**	**+1.1**
TWG	**Pinlang**	**1.08**	**209**	P		**Pn**	**05 38 59.6**	**-0.7**
	baz=210							
TWG				*e*S		**Sn**	**05 39 13.2**	**-0.9**
	baz=210							
TWG	**Pinlang**	**1.08**	**209**	*e*Pg		**Pn**	**05 38 59.4**	**-0.8**
TWG				*e*Sg		**Sn**	**05 39 13.0**	**-1.1**
EGS		**1.10**	**14**	*e*P		**Pb**	**05 39 01.7**	**-0.2**
	baz=22							
EGS				*e*S		**Sn**	**05 39 15.1**	**+0.6**
	baz=22							
TTN	**Taitung**	**1.11**	**204**	*e*P		**Pn**	**05 39 00.5**	**-0.2**
	baz=204							
CHY	**Chiayi**	**1.15**	**256**	*e*P		**Pn**	**05 39 02.3**	**+1.2**
	baz=256							
CHY				*e*S		**Sb**	**05 39 17.8**	**+0.4**
	baz=256							
TWK	**Hsinying**	**1.17**	**245**	*e*P		**Pb**	**05 39 03.0**	**-0.2**
	baz=245							
TWK				*e*S		**Sb**	**05 39 18.6**	**+0.5**
	baz=245							
SGST	**Jiashian**	**1.19**	**235**	*e*P		**Pb**	**05 39 03.6**	**+0.1**
	baz=228							
SGST				*e*S		**Sb**	**05 39 19.0**	**+0.4**
	baz=228							
HSN	**Hsinchu**	**1.19**	**329**	*e*P		**Pb**	**05 39 03.6**	**0.0**
	baz=316							
HSN				*e*S		**Sb**	**05 39 19.9**	**+1.2**
	baz=316							
TWA	**Mucha**	**1.20**	**358**	*e*P		**Pb**	**05 39 03.3**	**-0.5**
	baz=355							
TWA				*e*S		**Sn**	**05 39 17.6**	**+0.5**
	baz=355							
TATO	**Taipei**	**1.21**	**353**	*e*Pn		**Pn**	**05 39 03.1**	**+1.2**
TATO				*e*Sn		**Sb**	**05 39 19.6**	**+0.6**
WTCT	**Ta-ch'eng**	**1.25**	**274**	*e*P		**Pb**	**05 39 03.9**	**-0.5**
	baz=273							
WTCT				*e*S		**Sb**	**05 39 20.3**	**+0.1**
	baz=273							
NCU	**National Centr**	**1.26**	**341**	*e*P		**Pn**	**05 39 04.0**	**+1.2**
	baz=338							
NCU				*e*S		**Sn**	**05 39 19.2**	**+0.7**
	baz=338							
TAP1	**Taipei**	**1.27**	**355**	*e*P		**Pn**	**05 39 03.5**	**+0.8**
	baz=352							
TAP1				*e*S		**Sn**	**05 39 19.8**	**+1.3**
	baz=352							
TWB1	**Santiao Chiao**	**1.27**	**14**	*e*P		**Pb**	**05 39 04.6**	**-0.3**
	baz=11							
TWB1				*e*S		**Sb**	**05 39 21.1**	**+0.2**
	baz=11							
NWF	**Wu-fen Shan**	**1.30**	**6**	*e*P		**Pn**	**05 39 04.5**	**+1.2**
	baz=351							
NWF				*e*S		**Sn**	**05 39 20.6**	**+1.0**
	baz=351							
WSF	**Szhu**	**1.31**	**264**	*e*P		**Pb**	**05 39 04.8**	**-0.7**
	baz=264							
WSF				*e*S		**Sb**	**05 39 21.2**	**-0.7**
	baz=264							
ECL	**Taimali**	**1.33**	**208**	*e*P		**Pn**	**05 39 04.2**	**+0.6**
	baz=201							
ECL				*e*S		**Sn**	**05 39 21.6**	**+1.4**
	baz=201							
TWS1	**Kuangyinshan**	**1.34**	**351**	*e*P		**Pb**	**05 39 05.3**	**-0.7**
	baz=357							
TWS1				*e*S		**Sn**	**05 39 21.5**	**+1.1**
	baz=357							
CHN8	**Yiju**	**1.38**	**252**	*e*P		**Pn**	**05 39 05.4**	**+1.1**
	baz=252							
CHN8				*e*S		**Sb**	**05 39 23.5**	**-0.5**
	baz=252							
SSD	**Sandimen**	**1.38**	**222**	*e*P		**Pn**	**05 39 05.8**	**+1.4**
	baz=224							
SSD				*e*S		**Sb**	**05 39 24.1**	**+0.1**
	baz=224							
YOJ	**Yonaguni jima**	**1.43**	**61**	P		**Pn**	**05 39 06.0**	**+1.0**
YOJ				S		**Sn**	**05 39 23.9**	**+1.3**
YOJ	**Yonaguni jima**	**1.43**	**61**	⇓*iP*		**Pn**	**05 39 06.1**	**+1.1**
	baz=65							
YOJ				S		**Sn**	**05 39 23.9**	**+1.3**
	baz=65							
YOJ	**Yonaguni jima**	**1.43**	**61**	*e*Pn		**Pn**	**05 39 06.0**	**+1.0**
YOJ				*e*Sn		**Sb**	**05 39 24.6**	**-0.7**
SCLT	**Jiali**	**1.46**	**246**	*e*P		**Pb**	**05 39 07.2**	**-0.7**
	baz=247							
SCLT				*e*S		**Sn**	**05 39 24.6**	**+1.4**
	baz=247							
TWM1	**Shoushan**	**1.47**	**230**	*e*P		**Pb**	**05 39 08.6**	**+0.5**
	baz=231							
SGLT	**Jiouru**	**1.48**	**226**	*e*P		**Pb**	**05 39 09.2**	**+0.8**
	baz=217							
SGLT				*e*S		**Sb**	**05 39 27.2**	**+0.2**
	baz=217							
TAI1	**Yung-k'ang**	**1.49**	**241**	*e*P		**Pb**	**05 39 07.8**	**-0.7**
	baz=254							
TAI1				*e*S		**Sn**	**05 39 25.8**	**+1.8**
	baz=254							
TWY	**Chenhua**	**1.50**	**359**	*e*P		**Pb**	**05 39 07.9**	**-0.7**
	baz=354							
TWY				*e*S		**Sn**	**05 39 24.9**	**+0.5**
	baz=354							
EAST	**Anshuo**	**1.56**	**208**	*e*P		**Pn**	**05 39 06.6**	**-0.3**
	baz=200							
TAW	**Tawu**	**1.57**	**206**	*e*P		**Pb**	**05 39 08.8**	**-1.1**
	baz=199							
TAW				*e*S		**Sn**	**05 39 27.8**	**+1.8**
	baz=199							
SCZT	**Fangliau**	**1.68**	**214**	*e*P		**Pn**	**05 39 10.3**	**+1.8**
	baz=218							
SCZT				*e*S		**Sn**	**05 39 30.1**	**+1.3**
	baz=218							
LAY	**Lan-yu**	**1.73**	**183**	*e*P		**Pn**	**05 39 08.4**	**-0.8**
	baz=173							
LAY				*e*S		**Sn**	**05 39 31.4**	**+1.3**
	baz=173							
WDGT	**Dungji**	**1.89**	**255**	*e*P		**Pn**	**05 39 12.2**	**+0.9**
	baz=255							
WDGT				*e*S		**Sn**	**05 39 34.2**	**+0.2**
	baz=255							
HEN	**Hengchun**	**1.95**	**205**	*e*P		**Pn**	**05 39 13.4**	**+1.3**
	baz=192							
HEN				*e*S		**Sn**	**05 39 37.8**	**+2.4**
	baz=192							
TWK1	**Hengchun**	**1.98**	**203**	*e*P		**Pn**	**05 39 14.6**	**+2.0**
	baz=191							
TWK1				*e*S		**Sn**	**05 39 38.5**	**+2.3**
	baz=191							
TSEB	**Hengchuen, Pin**	**1.98**	**200**	*e*P		**Pn**	**05 39 14.6**	**+1.9**
	baz=206							
TSEB				*e*S		**Sn**	**05 39 39.0**	**+2.6**
	baz=206							
IRIF	**Iriomote-Funau**	**1.99**	**73**	P		**Pn**	**05 39 13.9**	**+1.2**
IRIF				S		**Sn**	**05 39 38.0**	**+1.5**
HATJ	**Hateruma jima**	**2.00**	**81**	P		**Pn**	**05 39 14.0**	**+1.1**
HATJ				S		**Sn**	**05 39 37.9**	**+1.1**
JKRS	**Kuro-shima**	**2.21**	**77**	P		**Pn**	**05 39 17.2**	**+1.4**
JKRS				S		**Sn**	**05 39 43.8**	**+1.7**
JIJ	**Ishigaki jima**	**2.36**	**75**	P		**Pn**	**05 39 18.7**	**+0.9**
JIJ				S		**Sn**	**05 39 45.9**	**+0.2**
JTJ	**Tarama**	**2.93**	**72**	P		**Pn**	**05 39 26.8**	**+1.2**
JTJ				S		**Sn**	**05 40 00.1**	**+0.5**
KNM	**Kinmen**	**3.00**	**283**	*e*P		**Pn**	**05 39 28.8**	**+2.2**
	baz=280							
KNM				*e*S		**Sn**	**05 40 03.0**	**+1.6**
	baz=280							
QZH	**Quanzhou**	**3.01**	**293**	Pn		Pn	05 39 23.3	-3.5
QZH				Sn		Sn	05 39 55.0	-6.8
QZH				smax		smax		
	comp=N,2μm,0.3s							
QZH				smax		smax		
	comp=E,1μm,0.4s							
JMJ	**Miyako jima 2**	**3.49**	**72**	P		**Pn**	**05 39 34.9**	**+1.5**
JMJ				S		**Sn**	**05 40 14.7**	**+1.1**
JOGS	**Gusukube**	**3.58**	**73**	P		**Pn**	**05 39 36.2**	**+1.7**
JOGS				S		**Sn**	**05 40 17.4**	**+1.8**
JKE	**Kume jima 2**	**5.31**	**60**	P		**Pn**	**05 39 59.1**	**+0.7**
JKE				S		**Sn**	**05 40 58.5**	**0.0**
JIH	**Iheya**	**6.58**	**59**	P		**Pn**	**05 40 16.1**	**+0.3**
JIH				S		**Sn**	**05 41 26.8**	**-2.9**
JOW	**Kunigami**	**6.73**	**62**	P		**Pn**	**05 40 17.5**	**-0.4**
JOW				S		**Sn**	**05 41 31.0**	**-2.5**
JOW	**Kunigami**	**6.73**	**62**	*e*P		**Pn**	**05 40 17.6**	**-0.4**
	baz=64							
JTK	**Tokunoshima**	**7.71**	**57**	P		**Pn**	**05 40 30.4**	**-0.9**
JAM	**Amami Oshima**	**8.52**	**55**	P		**Pn**	**05 40 41.1**	**-1.3**
KSRS	**Korea Array**	**14.66**	**20**	P		**P**	**05 42 11.0**	**-1.3**
	0.6nm,0.3s,baz=202,slow=11,SNR=8.7							
KSRS						LR	05 48 29.6	
	comp=Z,63nm,18.4s,baz=328,slow=40							
CMAR	**Chiang Mai Arr**	**21.81**	**260**	P		**P**	**05 43 33.2**	**+2.3**
	0.8nm,0.5s,baz=66,slow=8.4,SNR=8.0							
CMAR						LR	05 52 48.3	
	comp=Z,61nm,18.8s,baz=153,slow=38							
USRK	**Ussuriysk Arra**	**22.07**	**20**	P		**P**	**05 43 33.7**	**+0.3**
	1.5nm,0.7s,baz=212,slow=7.8,SNR=4.3							
SONM	**Songino Array**	**26.91**	**337**	P		**P**	**05 44 20.3**	**+0.8**
	0.7nm,

0.8nm,0.5s,baz=310,slow=4.9,SNR=23
GERES GERESS Array B 83.42 321 P **P** **05 51 04.7 -0.9**
0.8nm,0.7s,baz=60,slow=7.9,SNR=7.6

IDC ***31*** *06:26:07.7±0.4, 1.°93S×137.°44E, h0km, mb4.7/23, mb1 4.8/25, mb1mx4.8/28, mbtmp4.7/25, ML4.3/2, MS4.8/9, Ms1 4.8/9, ms1mx4.5/25, Error ellipse: s-maj=19.1km s-min=10.9km az=74.0*

ISCJB ***31*** *06:26:09.2±1.0, 1.°99S±0.°03×137.°53E±0.°03, h23km±7km, mb5.2/132, MS4.8/29, Error ellipse: s-maj=5.4km s-min=4.1km az=43.0*

NEIC ***31*** *06:26:10.4±0.2, 2.°01S×137.°45E, h19km, mb5.3/45, MW5.6, Error ellipse: s-maj=5.5km s-min=3.7km az=66.0, Moment Tensor Solution. s15 Moment tensor: Scale 10¹⁷Nm; Mrr=0.33; Mθθ0.40; Mϕϕ-0.07; Mrθ-0.01; Mθϕ2.73; Mϕr-0.03; Best double couple: M₀2.70000×10¹⁷ NP1: ϕs182.00000°, δ90.00000°, λ179.00000°. NP2: ϕs272.00000°, δ89.00000°, λ0.00000°. Principal axes: T 2.9000, Plg0.0000°, Azm137.0000°; N -0.3300, Plg89.0000°, Azm351.0000°; P -2.5800, Plg0.0000°, Azm227.0000°;*

NEIC Felt [III] at Biak and Serui.

MOS ***31*** *06:26:10.9±0.9, 1.°93S×137.°38E, h33km, mb5.4/35, MS4.7/7 Error ellipse: s-maj=12.9km s-min=6.4km az=112.8*

DJA ***31*** *06:26:11.4±0.2, 2.°5±4.°×13.°7E±.°, h10km, M5.5/63, mb5.4/63, mB5.9/52, MLv5.8/7, Mw(mB)5.5/52, Mwp5.5/2*

BJI ***31*** *06:26:13.9, 2.°00S×137.°40E, h35km, mB5.4/43, mb4.9/47, Ms5.0/48, Ms7 4.8/46*

GCMT ***31*** *06:26:14.5±0.1, 1.°78S×137.°42E, h15km, MW5.5, Moment Tensor Solution. s88,c144; s54,c62; Moment tensor: Scale 10¹⁷Nm; Mrr-0.14±.03; Mθθ0.58±.03; Mϕϕ-0.44±.03; Mrθ0.09±.06; Mθϕ2.53±.03; Mrϕ0.39±.07; Best double couple: M₀2.60000×10¹⁷ NP1:ϕs6.00000°, δ90.00000°, λ171.00000°. NP2:ϕs96.00000°, δ81.00000°, λ0.00000°. Principal axes: T 2.6900, Plg6.0000°, Azm320.0000°; N -0.1500, Plg81.0000°, Azm183.0000°; P -2.5300, Plg6.0000°, Azm51.0000°; Data Used: II IU CU CN IC G. Surface waves: sta=113, comp=217, per= 50.*

ISC 31 06:26:12.1±0.3, 2.°05S±0.°03×137.°50E±0.°04, h32km±1km, h32km:pP-P, n339, σ1§58/382, mb5.3/130, MS4.8/33, 11C-2D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.27**	**278**	P	**Pn**	**06 26 31.8**	**-1.8**
SRPI				S	**Sn**	**06 26 49.5**	**-0.1**
BAKI	**Biak**	**1.63**	**302**	P	**Pn**	**06 26 36.0**	**-2.6**
BAKI				S	**Sn**	**06 26 56.7**	**-1.8**
GENI	**Genyem**	**2.72**	**101**	P	**Pn**	**06 26 54.9**	**+1.3**
GENI				S	**Sb**	**06 27 31.8**	**-1.3**
MWPI	**Manokwari, Pap**	**3.63**	**288**	P	**Pn**	**06 27 04.4**	**-1.7**
FAKI	**Fak Fak**	**5.32**	**261**	P	**Pn**	**06 27 28.7**	**-0.6**
	358nm,0.7s,5µm3.0nm						
SWI	**Sorong**	**6.35**	**281**	P	**Pn**	**06 27 41.7**	**-1.8**
	179nm,0.7s,4µm2.3nm						
MSAI	**Masohi**	**8.66**	**261**	P	**Pn**	**06 28 16.1**	**+0.9**
	71nm,0.6s,691nm						
GAMI	**Galela, Maluku**	**10.45**	**292**	P	**Pn**	**06 28 42.4**	**+2.6**
	293nm,0.9s						
NLAI	**Namlea**	**10.45**	**263**	P	**Pn**	**06 28 40.9**	**+1.0**
	125nm,0.9s,2µm						
PMG	**Port Moresby**	**12.07**	**128**	P	**Pn**	**06 29 02.9**	**+0.9**
	507nm,1.2s,6µm						
PMG	**Port Moresby**	**12.07**	**128**	Pn	**Pn**	**06 29 02.8**	**+0.9**
PMG				Sn	**Sn**	**06 31 12.0**	**-3.6**
PMG	**Port Moresby**	**12.07**	**128**	Pn	**Pn**	**06 29 02.8**	**+0.9**
	5.6nm,0.3s,baz=337,slow=5.1,SNR=16						
PMG				Sn	**Sn**	**06 31 12.0**	**-3.6**
	0.2nm,0.3s,baz=18,slow=20,SNR=1.5						
COEN	**Coen**	**13.09**	**155**	*e*Pn	**Pn**	**06 29 15.0**	**-1.0**
COEN				*e*Sn	Sn	06 31 34.2	-6.4
KMSI	**Cibinong**	**13.76**	**281**	P	P	06 29 40.6	+7.3
MATI	**Mati**	**14.34**	**309**	*e*P	**Pn**	**06 29 33.2**	**+0.1**
GTOI	**Gorontalo**	**14.73**	**280**	P	**P**	**06 29 41.4**	**-2.6**
	94nm,1.4s,3µm						
LUWI	**Luwuk**	**14.76**	**274**	P	**Pn**	**06 29 39.2**	**+0.5**
	387nm,1.5s,5µm						
DAV	**Davao City (W)**	**14.95**	**307**	*e*Pn	**Pn**	**06 29 42.3**	**+1.0**
BBSI	**Bau Bau**	**15.28**	**257**	P	P	06 29 55.0	+4.9
MRSI	**Marisa**	**15.76**	**279**	P	**P**	**06 29 57.1**	**+1.7**
APSI	**Ampana**	**15.88**	**274**	P	**Pn**	**06 29 53.0**	**-0.5**
	572nm,1.3s,7µm						
BUTP	**Butuan**	**16.12**	**313**	*e*P	**Pn**	**06 29 56.5**	**0.0**
MMRI	**Maumere**	**16.54**	**246**	P	P	06 30 09.6	+5.5
PAGZ	**Pagadian**	**17.17**	**305**	*e*P	**P**	**06 30 11.2**	**+0.1**
BNSI	**Bone**	**17.52**	**262**	P	**P**	**06 30 18.7**	**+3.7**
BKSI	**Bulukumba**	**17.64**	**259**	P	**P**	**06 30 17.9**	**+1.6**
	128nm,1.6s,2µm						
TTSI	**Tana Toraja**	**17.69**	**266**	P	**P**	**06 30 20.0**	**+3.1**
SPSI	**Sidrap Palu**	**17.81**	**263**	P	**P**	**06 30 19.6**	**+1.4**
	151nm,1.7s,5µm						
KAPI	**Kappang**	**17.95**	**260**	P	**P**	**06 30 21.9**	**+2.1**
	199nm,0.9s,SNR=10						
KAPI	**Kappang**	**17.95**	**260**	*e*P	**Pn**	**06 30 19.3**	**-0.1**
	502nm,0.9s						
KAPI				*e*S	Sn	06 33 22.0	-17
WRAB	**Tennant Creek**	**18.04**	**190**	Pn	**Pn**	**06 30 18.2**	**-2.3**
	726nm,0.7s,SNR=48						
WRAB	**Tennant Creek**	**18.04**	**190**	*e*P	**Pn**	**06 30 18.1**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,379nm,1.2s						
WRAB	**Tennant Creek**	**18.04**	**190**	*e*P	**Pn**	**06 30 18.8**	**-1.6**
	comp=Z,284nm,1.2s						
WRAB				*e*Sn	Sn	06 33 21.5	-19
WRA	**Warramunga Arr**	**18.05**	**190**	P	**Pn**	**06 30 18.8**	**-1.8**
WRA				S	Sn	06 33 28.3	-13
WRA	**Warramunga Arr**	**18.05**	**190**	P	**Pn**	**06 30 18.8**	**-1.8**
	comp=Z,3.7nm,0.3s,baz=15,slow=12,SNR=87						
WRA				S	Sn	06 33 28.3	-13
	comp=Z,2.8nm,0.3s,baz=11,slow=22,SNR=7.6						
OCLP	**Ormoc**	**18.27**	**316**	*e*P	Pn	06 30 29.5	+6.1
MMSI	**Mamuju**	**18.58**	**268**	P	**Pn**	**06 30 28.9**	**+1.7**
	comp=Z,264nm,0.8s,comp=Z,5µm						
LBFI	**Labuhan Bajo,**	**18.65**	**249**	P	**Pn**	**06 30 29.7**	**+1.7**
	comp=Z,250nm,1.7s,comp=Z,6µm						
GUIM	**Jordan**	**19.46**	**311**	*e*P	**P**	**06 30 35.1**	**-1.2**
CTA	**Charters Tower**	**19.86**	**155**	P	**P**	**06 30 40.4**	**-0.3**
CTA				S	**S**	**06 34 21.1**	**-1.8**
CTA	**Charters Tower**	**19.86**	**155**	P	**P**	**06 30 40.4**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=330,slow=14,SNR=7.7						
CTA				S	**S**	**06 34 21.1**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=248,slow=19,SNR=2.2						
CTAO	**Charters Tower**	**19.86**	**155**	*e*P	**Pn**	**06 30 42.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,48nm,0.7s						
CTAO	**Charters Tower**	**19.86**	**155**	*e*Pn	**Pn**	**06 30 42.8**	**+0.3**
	comp=Z,48nm,0.7s						
RCP	**Roxas**	**19.95**	**313**	*e*P	**P**	**06 30 42.5**	**+0.9**
MYLDM	**Lahad Datu**	**20.29**	**291**	P	Pn	06 30 48.3	+0.8
MYLDM	**Lahad Datu**	**20.29**	**291**	P	Pn	06 30 48.1	+0.5
	comp=Z,387nm,2.4s,comp=Z,13µmcomp=Z,14µm						
MYLDM	**Lahad Datu**	**20.29**	**291**	*e*Pn	Pn	06 30 47.8	+0.3
	comp=Z,7µm,3.0s						
PVCP	**Virac**	**20.42**	**320**	*e*P	**P**	**06 30 47.0**	**+0.3**
TSM	**Tawau**	**20.60**	**288**	P	Pn	06 30 51.4	+0.3
BKB	**Balikpapan**	**20.61**	**272**	P	Pn	06 30 52.3	+1.0
	comp=Z,384nm,2.2s,comp=Z,8µm						
OTRP	**Odiongan**	**21.01**	**313**	*e*P	**P**	**06 30 53.1**	**-0.1**
SDKM	**Sandakan**	**21.67**	**291**	P	**P**	**06 31 01.8**	**+1.4**
SJMP	**San Jose**	**21.74**	**312**	*e*P	**P**	**06 31 03.1**	**+2.2**
AS31	**Alice Springs**	**21.77**	**189**	*e*P	**P**	**06 31 01.9**	**+0.6**
AS31				*e*S	S	06 34 49.7	-11
ASAR	**Alice Springs**	**21.77**	**189**	P	**P**	**06 31 01.9**	**+0.6**
ASAR				S	**S**	**06 34 57.8**	**-2.8**
ASAR	**Alice Springs**	**21.77**	**189**	P	**P**	**06 31 01.9**	**+0.6**
	comp=Z,63nm,0.7s,baz=17,slow=11,SNR=457						
ASAR				S	**S**	**06 34 57.8**	**-2.8**
	comp=Z,87nm,1.1s,baz=9.6,slow=26,SNR=7.2						
BUSP	**Coron**	**22.15**	**309**	*e*P	**P**	**06 31 06.0**	**+0.7**
MTNI	**Mataram**	**22.21**	**252**	P	**P**	**06 31 05.7**	**-0.4**
	comp=Z,270nm,0.8s,comp=Z,3µm						
ENPP	**El Nido**	**22.28**	**307**	*e*P	**P**	**06 31 05.3**	**-1.5**
BATP	**Bataraza**	**22.40**	**299**	*e*P	**P**	**06 31 08.9**	**+0.8**
BBKI	**Banjar Baru**	**22.67**	**266**	P	**P**	**06 31 12.9**	**+1.8**
	comp=Z,873nm,1.1s,comp=Z,15µm						
KHKI	**Kahang-Kahang**	**22.67**	**253**	P	**P**	**06 31 10.2**	**-0.9**
	comp=Z,183nm,1.0s,comp=Z,3µm						
SRBI	**Singaraja**	**22.98**	**254**	P	**P**	**06 31 14.3**	**0.0**
	comp=Z,185nm,1.1s,comp=Z,3µm						
DNP	**Denpasar**	**23.13**	**253**	P	**P**	**06 31 17.0**	**+1.2**
	comp=Z,466nm,1.5s						
BALP	**Baler**	**23.67**	**319**	*e*P	P	06 31 26.1	+5.1
ABJI	**Asem Bagus**	**23.86**	**255**	P	**P**	**06 31 23.8**	**+0.9**
	comp=Z,189nm,1.4s,comp=Z,3µm						
KMMI	**Kalianget**	**23.97**	**257**	P	**P**	**06 31 26.2**	**+2.3**
	comp=Z,915nm,1.6s,comp=Z,12µm						
JAGI	**Jajag, Banyuwa**	**24.09**	**254**	*e*P	**P**	**06 31 22.8**	**-2.3**
	comp=Z,340nm,1.6s						
PALP	**Palanan**	**24.12**	**323**	*e*P	P	06 31 32.1	+6.9
CAUP	**Cauayan**	**24.40**	**321**	*e*P	P	06 31 33.1	+5.3
BLJI	**Banyuglugur**	**24.47**	**256**	P	**P**	**06 31 28.6**	**+0.1**
	comp=Z,284nm,1.0s,comp=Z,4µm						
GMJI	**Gumukmas**	**24.73**	**255**	P	**P**	**06 31 30.7**	**-0.2**
	comp=Z,97nm,1.0s						
BTM	**Bintulu**	**24.96**	**282**	P	**P**	**06 31 35.1**	**+2.2**
SGCP	**Mt. Cagua**	**25.26**	**324**	*e*P	**P**	**06 31 36.7**	**+1.1**
GRJI	**Gresik**	**25.40**	**258**	P	**P**	**06 31 39.4**	**+2.5**
	comp=Z,309nm,1.2s,comp=Z,3µm						
APYP	**Conner**	**25.46**	**322**	*e*P	P	06 31 44.9	+7.6
ABRA	**Dolores**	**25.63**	**320**	*e*P	P	06 31 43.8	+4.9
KRKI	**Karangkates**	**25.66**	**255**	P	P	06 31 49.6	+10
SBUM	**Sibu**	**25.66**	**280**	P	**P**	**06 31 41.3**	**+1.9**
SBUM	**Sibu**	**25.66**	**280**	P	**P**	**06 31 41.4**	**+2.1**
	comp=Z,76nm,1.7s,comp=Z,2µm						
SBUM	**Sibu**	**25.66**	**280**	*e*P	**P**	**06 31 40.6**	**+1.2**
PWJI	**Pagerwojo**	**26.26**	**256**	P	**P**	**06 31 43.2**	**-1.6**
	comp=Z,101nm,1.2s,comp=Z,2µm						
NGJI	**Ngawi**	**26.47**	**258**	P	P	06 31 59.0	+12
EIDS	**Eidsvold**	**26.62**	**152**	*e*P	**P**	**06 31 50.8**	**+2.9**
PCJI	**Pacitan**	**26.90**	**256**	P	**P**	**06 31 49.5**	**-1.1**
	comp=Z,119nm,1.4s,comp=Z,2µm						
KSM	**Kuching**	**27.41**	**277**	P	**P**	**06 31 55.9**	**+0.8**
KSM	**Kuching**	**27.41**	**277**	P	**P**	**06 31 56.7**	**+1.6**
	comp=Z,74nm,2.1s,comp=Z,2µm						
KSM	**Kuching**	**27.41**	**277**	*e*P	**P**	**06 31 55.0**	**-0.1**
	comp=Z,31nm,1.3s						
SMRI	**Semarang**	**27.42**	**259**	P	**P**	**06 31 59.9**	**+4.7**
	comp=Z,376nm,2.4s,comp=Z,6µm						
SMRI	**Semarang**	**27.42**	**259**	*e*P	**P**	**06 31 58.9**	**+3.7**
	comp=Z,593nm,1.3s						
BJII	**Banjamegara**	**28.18**	**258**	P	P	06 32 08.3	+6.2
TGJI	**Tegal**	**28.68**	**259**	P	P	06 32 11.6	+5.1
	comp=Z,61nm,1.6s,comp=Z,2µm						
KPJI	**Karang Pucung**	**28.94**	**259**	P	**P**	**06 32 08.9**	**+0.1**
	comp=Z,83nm,1.3s,comp=Z,2µm						
TPI	**Tanjungpandan**	**29.83**	**268**	P	**P**	**06 32 18.3**	**+1.7**
	comp=Z,52nm,2.0s,comp=Z,1µm						
STKA	**Stephens Creek**	**29.92**	**173**	P	**P**	**06 32 17.8**	**+0.6**
STKA	**Stephens Creek**	**29.92**	**173**	P	**P**	**06 32 17.8**	**+0.6**
	comp=Z,19nm,0.6s,baz=341,slow=8.8,SNR=58						
FORT	**Forrest**	**29.94**	**196**	*e*P	**P**	**06 32 17.8**	**+0.4**
	comp=Z,118nm,0.8s						
NACB	**Ninganchiao**	**30.31**	**330**	*e*P	**P**	**06 32 20.8**	**+0.1**
	comp=Z,25nm,0.9s						
BBOO	**Buckleboo**	**30.63**	**182**	*e*P	**P**	**06 32 23.6**	**+0.1**
ARMA	**Armidale**	**31.23**	**156**	*e*P	**P**	**06 32 30.8**	**+1.8**
CGJI	**Cibinong**	**32.03**	**261**	P	P	06 32 42.9	+6.8
KLSI		**32.81**	**265**	P	P	06 32 53.5	+11
MDSI	**Maura Dua**	**33.35**	**265**	P	**P**	**06 32 47.9**	**+0.3**
	comp=Z,68nm,2.0s,comp=Z,1µm						
MYKOM	**Kota Tinggi**	**33.86**	**276**	P	**P**	**06 32 51.9**	**-0.2**
MYKOM	**Kota Tinggi**	**33.86**	**276**	P	**P**	**06 32 54.7**	**+2.6**
	comp=Z,52nm,2.1s,comp=Z,2µm						
LHSI	**Lahat**	**33.97**	**266**	P	**P**	**06 32 54.1**	**+1.0**
	comp=Z,199nm,1.9s,comp=Z,4µm						
QIZ	**Qiongzhong**	**34.32**	**309**	P	**P**	**06 32 57.5**	**+1.5**
QIZ				S	**S**	**06 38 23.5**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,140nm,4.7s						
QIZ				LR	LR		
	comp=Z,690nm,24.2s						
QIZ				LR	LR		
	comp=Z,2µm,36.2s						
KGM	**Kluang**	**34.41**	**277**	P	**P**	**06 32 57.2**	**+0.3**
DZM	**Mont Dzumac**	**34.46**	**128**	*e*LR	LR	06 42 12.3	
	comp=Z,4µm,30.4s						
DZM	**Mont Dzumac**	**34.46**	**128**	P	**P**	**06 32 57.5**	**+0.2**
DZM	**Mont Dzumac**	**34.46**	**128**	P	**P**	**06 32 57.5**	**+0.2**
	comp=Z,10nm,0.9s,baz=356,slow=19,SNR=3.0						
CAN	**Canberra**	**34.79**	**163**	*e*P	**P**	**06 33 00.7**	**+0.8**
CAN				pmax	pmax		
	comp=Z,170nm,1.5s						
CAN				MLR	MLR		
	comp=Z,3µm,19.0s						
CAN	**Canberra**	**34.79**	**163**	*e*P	**P**	**06 33 00.7**	**+0.8**
	comp=Z,170nm,1.5s						
CAN				LR	LR		
	comp=Z,3µm,19.0s						
KTGM	**Kuala Trenggan**	**35.10**	**282**	P	**P**	**06 33 02.5**	**-0.4**
MASI	**Maura Aman, Be**	**35.24**	**267**	P	**P**	**06 33 05.6**	**+1.5**
	comp=Z,316nm,1.6s,comp=Z,6µm						
JNU	**Nakatsue**	**35.54**	**350**	P	**P**	**06 33 05.2**	**-1.1**
JNU	**Nakatsue**	**35.54**	**350**	P	**P**	**06 33 05.2**	**-1.1**
	comp=Z,11nm,0.8s,baz=86,slow=9.3,SNR=4.9						
NWAO	**Narrogin (SRO)**	**36.13**	**210**	P	**P**	**06 33 12.4**	**+1.0**
NWAO				PcP	**PcP**	**06 35 38.1**	**+1.2**
NWAO	**Narrogin (SRO)**	**36.13**	**210**	P	**P**	**06 33 12.4**	**+1.0**
	comp=Z,14nm,0.9s,baz=45,slow=10,SNR=5.6						
NWAO				PcP	**PcP**	**06 35 38.1**	**+1.2**
	comp=Z,16nm,0.8s,baz=73,slow=11,SNR=3.1						
FRIM	**Kepong**	**36.24**	**278**	P	**P**	**06 33 13.1**	**+0.5**
SSE	**Sheshan**	**36.44**	**336**	P	P	06 33 17.3	+3.3
SSE				S	**S**	**06 38 54.3**	**+0.6**
SSE				pmax	pmax		
	comp=Z,26nm,0.7s						
SSE				pmax	pmax		
	comp=Z,360nm,4.3s						
SSE				LR	LR		
	comp=Z,850nm,19.0s						
SSE				LR	LR		
	comp=Z,2µm,19.1s						
SSE				LR	LR		
	comp=Z,810nm,18.9s						
BKNI	**Bangkinang**	**36.53**	**273**	P	**P**	**06 33 17.2**	**+2.1**
	comp=Z,103nm,1.7s						
IPM	**Ipoh**	**37.02**	**280**	P	**P**	**06 33 19.3**	**+0.1**
IPM	**Ipoh**	**37.02**	**280**	P	**P**	**06 33 20.1**	**+0.8**
	comp=Z,52nm,2.3s,comp=Z,2µm						
IPM	**Ipoh**	**37.02**	**280**	*e*P	**P**	**06 33 18.7**	**-0.6**
	comp=Z,46nm,1.2s						
IPM				*e*pP	**pP**	**06 33 26.8**	**-1.9**
PDSI	**Padang**	**37.04**	**271**	P	**P**	**06 33 18.9**	**-0.6**
	comp=Z,75nm,1.5s,comp=Z,9µm						
PPI	**Padang Panjang**	**37.12**	**272**	P	**P**	**06 33 20.2**	**0.0**
	comp=Z,94nm,1.9s,comp=Z,2µm						
KULM	**Kulim**	**37.52**	**281**	P	**P**	**06 33 23.7**	**+0.1**
KULM	**Kulim**	**37.52**	**281**	P	**P**	**06 33 24.2**	**+0.7**
	comp=Z,54nm,2.0s,comp=Z,1µm						
KULM	**Kulim**	**37.52**	**281**	*e*P	**P**	**06 33 22.6**	**-1.0**
	comp=Z,241nm,1.8s						
KULM				*e*pP	**pP**	**06 33 32.7**	**-0.2**
MNSI	**Mandailing Nat**	**38.02**	**274**	P	**P**	**06 33 30.1**	**+2.4**
	comp=Z,30nm,2.1s,comp=Z,17µm						
NJ2	**Nanjing**	**38.25**	**334**	*e*P	P	06 33 36.5	+7.1
NJ2				pP	pP	06 33 44.0	+5.2
NJ2				S	**S**	**06 39 24.5**	**+3.2**
NJ2				sS	sS	06 39 40.0	+3.2
NJ2				pmax	pmax		
	comp=Z,50nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,310nm,5.5s						
NJ2				LR	LR		
	comp=Z,1µm,28.7s						
NJ2				LR	LR		
	comp=Z,1µm,24.8s						
NJ2				LR	LR		
	comp=Z,2µm,25.6s						
MJAR	**Matsushiro Arr**	**38.40**	**1**	P	**P**	**06 33 29.3**	**-1.3**
MJAR	**Matsushiro Arr**	**38.40**	**1**	P	**P**	**06 33 29.3**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=198,slow=4.4,SNR=3.8						
PSI	**Prapat**	**38.86**	**277**	P	**P**	**06 33 34.2**	**-0.8**
	comp=Z,75nm,1.9s,comp=Z,2µm						
PSI	**Prapat**	**38.86**	**277**	P	**P**	**06 33 34.1**	**-0.9**
PSI	**Prapat**	**38.86**	**277**	P	**P**	**06 33 34.1**	**-0.9**
	comp=Z,45nm,1.1s,baz=108,slow=3.9,SNR=22						
WHN	**Wuhan**	**39.21**	**328**	P	P	06 33 45.5	+8.0
WHN				S	**S**	**06 39 39.3**	**+3.4**
WHN				LR	LR		
	comp=N,1µm,4.6s						
WHN				LR	LR		
	comp=E,2µm,13.1s						
WHN				LR	LR		
	comp=Z,2µm,19.9s						
CHAI	**Chaiyaphum**	**39.37**	**298**	P	**P**	**06 33 39.0**	**0.0**
	comp=Z,4.6nm,0.8s,comp=Z,680nm						
GSI	**Gunungsitoli**	**40.05**	**274**	P	**P**	**06 33 44.8**	**0.0**
	comp=Z,67nm,2.0s						
KCSI	**Kotacane, Aceh**	**40.09**	**278**	P	**P**	**06 33 44.1**	**-1.0**
	comp=Z,124nm,1.4s,comp=Z,2µm						
KSAR	**Wonju Array Be**	**40.29**	**348**	P	**P**	**06 33 45.5**	**-0.9**
KSAR				PcP	**PcP**	**06 35 51.3**	**+1.6**
KSRS	**Korea Array**	**40.30**	**348**	P	**P**	**06 33 45.5**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=156,slow=6.8,SNR=3.4						
KSRS				PcP	**PcP**	**06 35 51.3**	**+1.6**
	comp=Z,3.8nm,0.9s,baz=187,slow=3.8,SNR=5.0						
GYA	**Guiyang**	**41.10**	**316**	i*e*P	**P**	**06 33 55.0**	**+1.6**
GYA				pP	**pP**	**06 34 04.8**	**+1.9**
GYA				sP	**sP**	**06 34 10.3**	**+3.5**
GYA				PP	**PnPn**	**06 35 33.5**	**+0.3**
GYA				PcP	**PcP**	**06 35 55.0**	**+2.3**
GYA				ScP	**ScP**	**06 39 40.5**	**+0.1**
GYA				sS	**sS**	**06 40 23.3**	**+3.1**
GYA				SS	**SS**	**06 43 03.0**	**-5.0**
GYA				pmax	pmax		
	comp=Z,40nm,0.9s						
GYA				pmax	pmax		
	comp=Z,160nm,5.0s						
GYA				LR	LR		
	comp=Z,850nm,20.8s						
GYA				LR	LR		
	comp=Z,680nm,21.3s						
GYA				LR	LR		
	comp=Z,810nm,20.0s						
LHMI	**Lhok Sumawe**	**41.15**	**280**	P	**P**	**06 33 55.4**	**+1.6**
	comp=Z,216nm,1.8s,comp=Z,4µm						
SRDT	**SRDT**	**41.36**	**294**	P	**P**	**06 33 55.7**	**+0.2**
	comp=Z,79nm,1.0s,comp=Z,12µm						
COCO	**West Island**	**41.53**	**254**	*e*P	**P**	**06 33 57.5**	**+0.6**
COCO				pmax	pmax		
	comp=Z,134nm,1.0s						
COCO	**West Island**	**41.53**	**254**	*e*P	**P**	**06 33 57.5**	**+0.6**
	comp=Z,134nm,1.0s						
TAU	**Tasmania Unive**	**41.62**	**169**	*e*P	**P**	**06 33 59.4**	**+2.2**
TAU				pmax	pmax		
	comp=Z,114nm,1.4s						
TAU	**Tasmania Unive**	**41.62**	**169**	*e*P	**P**	**06 33 59.4**	**+2.2**
	comp=Z,114nm,1.4s						
ENH	**Enshi**	**41.80**	**322**	*e*P	**P**	**06 33 57.7**	**-1.2**
	comp=Z,3.5nm,0.5s						
ENH				LR	LR		
	comp=Z,37nm,20.0s						
KHLT	**Khaolaem Dam**	**42.00**	**295**	P	P	06 34 08.9	+8.2
LAMP	**Lampang**	**42.49**	**300**	P	**P**	**06 34 05.0**	**+0.2**
	comp=Z,8.1nm,1.0s,comp=Z,102nm						
CM31	**Chiang Mai Arr**	**43.06**	**300**	*e*P	**P**	**06 34 09.3**	**-0.1**
	comp=Z,18nm,1.0s						
CM31				*e*pP	**pP**	**06 34 17.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**43.06**	**300**	P	**P**	**06 34 08.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**43.06**	**300**	P	**P**	**06 34 08.9**	**-0.4**
	comp=Z,12nm,1.0s,baz=122,slow=6.8,SNR=51						
KMI	**Kunming**	**43.17**	**311**	P	P	06 34 15.3	+4.8
KMI				S	**S**	**06 40 30.5**	**-4.9**
KMI				pmax	pmax		
	comp=Z,26nm,1.8s						
KMI				pmax	pmax		
	comp=Z,330nm,5.5s						
KMI				LR	LR		
	comp=Z,780nm,25.0s						
KMI				LR	LR		
	comp=Z,580nm,30.3s						
KMI				LR	LR		
	comp=Z,2µm,34.6s						
DL2	**Dalian**	**43.30**	**342**	*e*P	P	06 34 16.0	+5.1
DL2				S	S	06 40 42.5	+6.2
DL2				LR	LR		
	comp=Z,640nm,15.0s						
DL2				LR	LR		
	comp=Z,650nm,31.3s						
CMAI	**Chiengmai2**	**43.59**	**302**	P	P	06 34 10.6	-3.2
XAN	**Xi'an**	**44.85**	**326**	P	**P**	**06 34 21.8**	**-1.7**
XAN				S	**S**	**06 40 58.0**	**-1.2**
XAN				pmax	pmax		
	comp=Z,6.0nm,2.1s						
XAN				pmax	pmax		
	comp=Z,47nm,5.8s						
XAN				LR	LR		
	comp=Z,850nm,23.4s						
XAN				LR	LR		
	comp=Z,190nm,24.0s						
XAN				LR	LR		
	comp=Z,360nm,28.4s						
VLA	**Vladivostok**	**45.25**	**354**	P	**P**	**06 34 24.8**	**-1.7**
VLA				S	**S**	**06 41 04.6**	**+0.1**
VLA				pmax	pmax		
	comp=Z,34nm,0.8s						
CD2	**Chengdu**	**45.88**	**318**	P	**P**	**06 34 31.5**	**-0.3**
CD2				pP	**pP**	**06 34 41.8**	**+0.4**
CD2				sP	**sP**	**06 34 46.0**	**+0.8**
CD2				PcP	**PcP**	**06 36 08.3**	**-0.4**
CD2				PP	**PP**	**06 36 19.3**	**-0.5**
CD2				S	**S**	**06 41 13.3**	**-1.0**
CD2				sS	**sS**	**06 41 30.3**	**+0.2**
CD2				ScS	**ScS**	**06 44 21.

comp=Z,2μm,16.7s
LZH Lanzhou 49.23 324 *e*P P 06 35 01.8 +3.9
LZH pP pP 06 35 09.5 +2.0
LZH sP sP 06 35 14.0 +2.7
LZH PcP **PcP** **06 36 22.0 +1.3**
LZH *e*S **S** **06 42 05.5 +3.5**
LZH sS sS 06 42 20.3 +2.5
LZH SS **SS** **06 45 31.5 -2.3**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.3s
LZH LR LR
comp=Z,520nm,14.0s
LZH LR LR
comp=Z,750nm,17.6s
LZH LR LR
comp=Z,1μm,18.8s
HABR Khabarovsk 50.36 358 *c*e P P 06 35 14.2 +8.2
HABR *e* 06 37 00.4
HABR *e*S **S** **06 42 16.2 -0.7**
HABR *e*'SS sS 06 42 33.0 +0.2
HABR *e*SS **SS** **06 45 51.9 +0.8**
HABR *e*SSS SSS 06 47 20.9
HABR MLR MLR
comp=Z,410nm,20.0s
RPZ Rata Peaks 51.07 149 *e*P **P** **06 35 11.8 +0.3**
comp=Z,190nm,1.1s
SHL Shillong 51.97 305 *ex* **P** **06 35 18.0 -0.7**
HIA Hailar 53.37 346 *e*P **P** **06 35 30.4 +1.9**
comp=Z,58nm,1.9s
GTA Gaotai 53.83 324 *e*P **P** **06 35 32.0 -0.2**
GTA sP **sP** **06 35 45.5 -0.2**
GTA S **S** **06 43 02.8 -2.3**
GTA sS **sS** **06 43 20.0 -1.1**
GTA SS **SKiKP** **06 46 43.3 -0.7**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,250nm,6.6s
GTA LR LR
comp=Z,420nm,16.6s
GTA LR LR
comp=Z,690nm,19.5s
GTA LR LR
comp=Z,720nm,22.3s
LSA Lhasa 54.36 309 *e*P P 06 35 30.0 -6.7
LSA Lhasa 54.36 309 *e*P **P** **06 35 37.0 +0.4**
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa 54.36 309 *e*P **P** **06 35 37.0 +0.4**
comp=Z,23nm,0.8s
TAPN Taplejung 56.11 305 *e*P **P** **06 35 48.8 -0.3**
comp=Z,656nm,2.2s
TAPN Taplejung 56.11 305 *e*P **P** **06 35 48.8 -0.3**
comp=Z,656nm,2.2s
ODAN Odare 56.18 304 *e*P **P** **06 35 49.2 -0.3**
comp=Z,138nm,1.2s
ODAN Odare 56.18 304 *e*P **P** **06 35 49.2 -0.3**
comp=Z,138nm,1.2s
ULN Ulaanbaatar 56.37 336 *e*P **P** **06 35 49.9 -0.5**
comp=Z,56nm,1.8s
ULN *e*pP **pP** **06 35 58.6 -1.6**
ULN LR LR
comp=Z,1μm,21.0s
SONM Songino Array 56.62 335 P P **06 35 51.6 -0.5**
SONM Songino Array 56.62 335 P **P** **06 35 51.6 -0.5**
comp=Z,2.1nm,0.8s,baz=154,slow=7.7,SNR=12
SONM LR LR 06 59 04.3
comp=Z,1μm,21.5s,baz=154,slow=35
RAMN Ramite 56.87 304 *e*P **P** **06 35 54.2 -0.2**
comp=Z,805nm,2.2s
RAMN Ramite 56.87 304 *e*P **P** **06 35 54.2 -0.2**
comp=Z,805nm,2.2s
PALK Pallekele 57.42 280 P P **06 35 57.4 -0.9**
comp=Z,1μm,2.7s
PALK *e*pP **pP** **06 36 07.7 -0.4**
JIRN Jiri 57.47 305 *e*P **P** **06 35 58.9 0.0**
comp=Z,504nm,2.1s
JIRN Jiri 57.47 305 *e*P **P** **06 35 58.9 0.0**
comp=Z,504nm,2.1s
PETK Petropavlovsk- 57.51 14 P P **06 35 58.8 +0.6**
PETK Petropavlovsk- 57.51 14 P P **06 35 58.8 +0.6**
PETK Petropavlovsk- 57.51 14 P P **06 35 58.8 +0.6**
comp=Z,2.8nm,0.6s,baz=158,slow=5.4,SNR=8.4
PETK LR LR 06 57 58.3
comp=Z,344nm,21.9s,baz=203,slow=33
PET Petropavlovsk 57.68 15 *e*P **P** **06 36 00.3 +1.0**
PET *e*S **S** **06 43 56.6 +1.0**
GUN Gumba 57.82 305 *e*P **P** **06 36 01.3 0.0**
comp=Z,1μm,2.3s
GUN Gumba 57.82 305 *e*P **P** **06 36 01.3 0.0**
comp=Z,1μm,2.3s
PKI Pulchoki 58.08 304 *e*P **P** **06 36 02.3 -0.8**
comp=Z,281nm,2.0s
PKI Pulchoki 58.08 304 *e*P **P** **06 36 02.3 -0.8**
PKI Pulchoki 58.08 304 *e*P **P** **06 36 02.3 -0.8**
comp=Z,281nm,2.0s
PKIN Phulchoki 58.09 304 *e*P **P** **06 36 02.2 -0.9**
comp=Z,213nm,2.0s
KKN Kakani 58.27 305 *e*P **P** **06 36 03.7 -0.6**
KKN Kakani 58.27 305 *e*P **P** **06 36 03.7 -0.6**
KKN Kakani 58.27 305 *e*P **P** **06 36 03.7 -0.6**
DMN Daman 58.34 304 *e*P **P** **06 36 04.6 -0.3**
DMN Daman 58.34 304 *e*P **P** **06 36 04.6 -0.3**
GKN Gorkha 58.87 305 *e*P **P** **06 36 08.0 -0.4**
comp=Z,859nm,2.1s
GKN Gorkha 58.87 305 *e*P **P** **06 36 08.0 -0.4**
comp=Z,859nm,2.1s
ZAK Zakamensk 59.88 335 *e*P **P** **06 36 13.1 -1.8**
ZAK pmax pmax
comp=Z,29nm,1.6s
TLY Talaya 60.73 337 *e*P P 06 36 28.6 +8.0
TLY *e* 06 46 01.1
TLY pmax pmax
comp=Z,31nm,1.5s
TLY MLR MLR
comp=Z,710nm,19.0s
TLY Talaya 60.73 337 *e*P **P** **06 36 20.9 +0.4**
comp=Z,2.4nm,0.5s
IRK Irkutsk 60.92 337 *e*P **P** **06 36 22.1 +0.3**
IRK pmax pmax
comp=Z,94nm,2.2s
HYB Hyderabad 61.21 291 *i* P **P** **06 36 24.0 -0.5**
HYB *e*pP **pP** **06 36 31.0 -3.3**
MOY Mondy 61.80 335 *e*P **P** **06 36 28.4 +0.5**
MOY pmax pmax
comp=Z,110nm,2.4s
WMQ Urumqi 63.75 322 P **P** **06 36 40.0 -1.0**
WMQ pP **pP** **06 36 50.0 -0.9**
WMQ sP **sP** **06 36 54.0 -0.6**
WMQ PcP **PcP** **06 37 16.0 -0.9**
WMQ PP **PP** **06 39 02.0 +0.5**
WMQ ScP 06 41 14.0
WMQ S **S** **06 45 11.0 -2.7**
WMQ ScS **SKSac** **06 46 27.0 -5.4**
WMQ SS **SS** **06 49 21.0 -1.2**
WMQ pmax pmax
comp=Z,29nm,1.0s
WMQ pmax pmax
comp=Z,210nm,5.0s
WMQ LR LR
comp=Z,600nm,18.0s
WMQ LR LR
comp=Z,480nm,18.0s
WMQ LR LR
comp=Z,610nm,18.0s
YAK Yakutsk 64.19 356 *e*P **P** **06 36 42.8 -0.6**
YAK *e* 06 37 15.2
YAK *e*PPP PPP 06 40 34.0
YAK *e*S **S** **06 45 12.6 -5.7**
YAK *e*'SS sS 06 45 48.1 +13
YAK *e* 06 46 38.3
YAK *e*SS **SS** **06 49 22.3 -5.8**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK smax smax
comp=E,109nm,3.4s
YAK smax smax
comp=N,47nm,3.7s
YAK Yakutsk 64.19 356 *e*P **P** **06 36 43.4 0.0**
comp=N,22nm,0.7s
HVS Khovu-Aksy 64.73 331 *c*e P **P** **06 36 47.1 -0.2**
HVS pmax pmax
comp=Z,107nm,1.2s

NDI New Delhi 65.27 303 *ex* P 06 36 56.0 +4.8
MK31 Makanchi Array 68.53 323 *e*P **P** **06 37 11.0 -0.6**
MK31 pmax pmax
comp=Z,47nm,1.4s
MK31 Makanchi Array 68.53 323 *e*P **P** **06 37 11.1 -0.6**
MK31 Makanchi Array 68.53 323 *e*P **P** **06 37 11.1 -0.5**
KSH Kashi 69.75 314 P **P** **06 37 21.0 +1.5**
KSH sP **sP** **06 37 35.3 +2.1**
KSH PP **PP** **06 39 58.0 +3.9**
KSH S **S** **06 46 27.3 +0.6**
KSH SKS **SKSac** **06 47 15.0 -3.3**
KSH SS **SS** **06 51 00.0 +4.3**
KSH pmax pmax
comp=Z,49nm,1.6s
KSH pmax pmax
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,160nm,5.9s
KSH LR LR
comp=Z,160nm,5.4s
KSH LR LR
comp=Z,240nm,5.5s
ZAA0 Zalesovo Array 70.76 330 *e*P **P** **06 37 23.8 -1.3**
ZALV Zalesovo Beam 70.76 330 P **P** **06 37 23.9 -1.2**
ZALV Zalesovo Beam 70.76 330 P **P** **06 37 23.9 -1.2**
ZALV Zalesovo Beam 70.76 330 P **P** **06 37 23.9 -1.2**
comp=Z,7.1nm,0.7s,baz=115,slow=5.6,SNR=19
ZALV LR LR 07 10 11.1
comp=Z,312nm,21.9s,baz=253,slow=37
TKM2 Tokmak 2 71.24 317 *e*P **P** **06 37 28.4 -0.2**
TKM2 pmax pmax
comp=Z,61nm,1.8s
TKM2 Tokmak 2 71.24 317 *e*P **P** **06 37 28.4 -0.2**
comp=Z,61nm,1.8s
FRU Bishkek 71.88 316 *e*P P 06 37 38.5 +6.3
FRU pmax pmax
comp=Z,120nm,2.5s
AAK Ala-Archa 71.89 316 *ce*P **P** **06 37 33.5 +1.0**
AAK pmax pmax
comp=Z,14nm,1.7s
AAK Ala-Archa 71.89 316 P **P** **06 37 33.0 +0.5**
AAK Ala-Archa 71.89 316 P **P** **06 37 33.0 +0.5**
comp=Z,0.5nm,0.3s,baz=125,slow=6.2,SNR=4.6
NVS Novosibirsk 72.02 330⇑ *i*P **P** **06 37 30.3 -2.4**
NVS *e*PPP PPP 06 41 54.1
NVS pmax pmax
comp=N,38nm,1.9s
NVS pmax pmax
comp=E,53nm,1.9s
NVS pmax pmax
comp=Z,92nm,1.9s
EKS2 Erkin-Say 72.40 316 *e*P **P** **06 37 35.7 +0.3**
EKS2 pmax pmax
comp=Z,60nm,1.8s
EKS2 Erkin-Say 72.40 316 *e*P **P** **06 37 35.7 +0.3**
comp=Z,60nm,1.8s
KURK Kurchatov 72.49 325 P **P** **06 37 35.6 0.0**
comp=Z,99nm,1.3s,SNR=7.8
KURK Kurchatov 72.49 325 *e*P **P** **06 37 35.1 -0.5**
KURK MLR MLR
comp=Z,224nm,20.0s
KURK Kurchatov 72.49 325 *e*P **P** **06 37 35.1 -0.5**
KURK LR LR
comp=Z,224nm,20.0s
KURBB Kurchatov Arra 72.50 325 P **P** **06 37 34.9 -0.8**
comp=Z,2.9nm,0.7s,baz=114,slow=4.4,SNR=4.6
PPT2 Papeete2 73.11 108 *e*S **S** **06 47 07.7 +1.6**
comp=Z,337nm,26.8s
PPT2 *e*LQ LQ 06 57 07.2
comp=Z,3μm,36.2s
PPT2 *e*LR LR 07 00 09.8
KBL Kabul 73.57 307 P **P** **06 37 41.7 -0.9**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 73.57 307 P **P** **06 37 41.7 -0.9**
comp=Z,8.5nm,0.9s
TIXI Tiksi 73.78 357⇑ *e*P **P** **06 37 41.6 -1.2**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 73.78 357 *e*P **P** **06 37 41.9 -0.9**
comp=Z,20nm,1.3s
TIXI *e*pP **pP** **06 37 52.4 -0.5**
KK31 Karatay Array 74.81 316 P **P** **06 37 48.7 -0.8**
KK31 pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 74.81 316 *e*P **P** **06 37 48.4 -1.1**
KKAR pmax pmax
comp=Z,59nm,1.7s
KKAR Karatay Array 74.81 316 *e*P **P** **06 37 48.4 -1.1**
comp=Z,59nm,1.7s
VNDA Vanda 76.54 175 *e*P **P** **06 38 00.7 +2.0**
comp=Z,14nm,0.8s
VNDA Vanda 76.54 175 P **P** **06 38 00.7 +2.0**
comp=Z,15nm,0.7s,baz=324,slow=6.3,SNR=66
VNDA LR LR 07 13 56.6
comp=Z,5μm,18.7s,baz=351,slow=37
TNA Tin City 77.96 20 *e*P **P** **06 38 07.3 +0.5**
comp=Z,2.7nm,0.3s
BVA0 Borovoye Array 78.08 325 *i* P **P** **06 38 07.3 -0.5**
BVA0 pmax pmax
comp=Z,61nm,1.3s
BVAR Borovoye Array 78.08 325 P **P** **06 38 07.6 -0.2**
BVAR Borovoye Array 78.08 325 P **P** **06 38 07.6 -0.2**
BVAR Borovoye Array 78.08 325 P **P** **06 38 07.6 -0.2**
comp=Z,17nm,0.8s,baz=116,slow=5.7,SNR=51
BRVK Borovoye 78.16 325 P **P** **06 38 08.9 +0.7**
comp=Z,203nm,1.2s,SNR=18
BRVK Borovoye 78.16 325⇑ *e*P **P** **06 38 07.6 -0.6**
BRVK *i* *PP **PcP** **06 38 17.1 -0.5**
BRVK pmax pmax
comp=Z,22nm,0.8s
BRVK Borovoye 78.16 325 *e*P **P** **06 38 07.8 -0.3**
comp=Z,29nm,0.9s
KDAK Kodak Island 81.15 31 *e*P **P** **06 38 25.1 +0.8**
comp=Z,18nm,0.7s
MAW Mawson 82.28 202 LR LR 07 14 55.2
comp=Z,1μm,18.5s,baz=70,slow=36
IM04 Indian Mountai 83.33 23 *e*P **P** **06 38 35.7 +0.1**
SEW Seward 83.39 29 *e*P **P** **06 38 36.4 +0.4**
comp=Z,34nm,1.2s
AB31 Akbulak array 83.44 320 *i* P **P** **06 38 35.8 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 83.44 320 *e*P **P** **06 38 35.8 -0.7**
comp=Z,22nm,1.2s
RC01 Rabbit Creek A 83.52 28 *e*P **P** **06 38 36.6 -0.1**
comp=Z,17nm,0.8s
KTH Kantishna Hill 83.71 25 *e*P **P** **06 38 37.3 -0.3**
comp=Z,19nm,1.2s
KTH *e*pP **pP** **06 38 48.2 +0.3**
KTH *e*sP **sP** **06 38 52.4 +0.9**
PMR Palmer 83.94 27 *e*P **P** **06 38 38.7 0.0**
PMR pmax pmax
comp=Z,23nm,1.1s
PMR Palmer 83.94 27 *e*P **P** **06 38 38.7 0.0**
comp=Z,24nm,1.1s
SVE Sverdlovsk 84.54 327⇓ *e*P **P** **06 38 42.3 +0.4**
SVE *e*S S 06 48 56.0 -10
SVE pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 84.61 25 *e*P **P** **06 38 41.8 -0.4**
MCK pmax pmax
comp=Z,20nm,1.2s
MCK McKinley 84.61 25 *e*P **P** **06 38 41.8 -0.4**
comp=Z,20nm,1.2s
AKTO Aktyubinsk 84.87 321 P **P** **06 38 42.9 -0.9**
AKTO Aktyubinsk 84.87 321 P **P** **06 38 42.9 -0.9**
AKTO Aktyubinsk 84.87 321 P **P** **06 38 42.9 -0.9**
comp=Z,5.4nm,0.8s,baz=110,slow=4.2,SNR=18
COLD Coldfoot 85.09 22 *e*P **P** **06 38 45.7 +1.2**
comp=Z,40nm,1.4s
COLD *e*pP **pP** **06 38 56.6 +1.9**
COLA College 85.36 24 *e*P **P** **06 38 45.1 -0.8**
COLA pmax pmax
comp=Z,4.0nm,0.7s
COLA College 85.36 24 *e*P **P** **06 38 45.1 -0.8**
comp=Z,4.3nm,0.7s
DIV Divide 85.40 28 *e*P **P** **06 38 46.9 +0.7**
comp=Z,21nm,0.7s
ARU Arti 85.58 327 *c i*P **P** **06 38 46.3 -0.9**
ARU S S 06 49 08.2 -8.6
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 85.58 327 *e*P **P** **06 38 46.2 -1.0**
comp=Z,21nm,0.8s

ILAR Eielson Array 85.74 25 P **P** **06 38 47.0 -0.8**
ILAR Eielson Array 85.74 25 P **P** **06 38 47.0 -0.8**
comp=Z,3.6nm,0.6s,baz=267,slow=4.3,SNR=69
ILAR LR LR 07 13 27.7
comp=Z,355nm,20.4s,baz=275,slow=33
BMRM Bremner River 85.92 29 *e*P **P** **06 38 49.0 +0.2**
comp=Z,28nm,1.2s
DOT Dot Lake 86.70 26 *e*P P 06 38 48.3 -4.2
comp=Z,11nm,0.9s
MENT Mentasta 86.71 27 *e*P **P** **06 38 53.6 +1.0**
RKT Rikitea 86.93 113 *e*S **S** **06 49 31.1 -0.2**
comp=Z,350nm,26.8s
RKT Rikitea 86.93 113 *e*LQ LQ 07 02 56.0
comp=Z,1μm,40.2s
RKT *e*LR LR 07 06 35.7
comp=Z,1μm,38.2s
SOKR Solikamsk 87.05 330⇑ *i*P P 06 39 01.9 +7.7
SOKR pmax pmax
comp=Z,20nm,1.3s
SOKR MLR MLR
comp=Z,400nm,23.0s
EGAK Eagle 88.15 25 *e*P **P** **06 39 00.4 +1.0**
comp=Z,23nm,1.1s
EGAK *e*pP **pP** **06 39 10.8 +1.1**
DAWY Dawson 88.81 26 *e*P **P** **06 39 04.0 +1.3**
HYT Haines Junctio 89.33 29 *e*P **P** **06 39 06.7 +1.4**
INK Inuvik 91.51 22 P **P** **06 39 14.0 -1.1**
INK Inuvik 91.51 22 P **P** **06 39 14.0 -1.1**
comp=Z,3.3nm,0.8s,baz=289,slow=3.3,SNR=13
PRGR Permogore 92.68 331 P **P** **06 39 18.8 -1.9**
PRGR pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 94.74 314 LR LR 07 22 30.9
comp=Z,313nm,21.5s,baz=228,slow=36
VRHR Novokhopersk 95.28 321 *e*P **P** **06 39 31.1 -1.8**
VRHR pmax pmax
comp=N,5.0nm,0.8s
VRHR pmax pmax
comp=E,6.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 96.82 321 *e*P **P** **06 39 36.8 -3.0**
VSR pmax pmax
comp=N,2.0nm,0.7s
VSR pmax pmax
comp=E,2.0nm,0.7s
VSR pmax pmax
comp=Z,5.0nm,0.7s
SOC Sochi 97.05 313 *e*P **P** **06 39 39.4 -1.7**
SOC *e* 06 50 13.6
SOC *e*SS SS 06 57 47.9 +9.0
SOC MLR MLR
comp=Z,279nm,15.0s
APA Apatity 97.25 338⇓ *i*P P 06 39 37.0 -4.4
APA MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 97.93 325 P **P** **06 39 43.0 -1.7**
OBN *e*'SP **sP** **06 39 54.7 -4.0**
OBN 06 43 43.0
OBN pmax pmax
comp=Z,27nm,2.2s
ARCES ARCESS Array B 99.49 341 P **Pdif** **06 39 50.8 -0.7**
ARCES ARCESS Array B 99.49 341 P **Pdif** **06 39 50.8 -0.7**
comp=Z,2.8nm,0.8s,baz=62,slow=5.6,SNR=4.2
ARCES LR LR 07 31 45.0
comp=Z,410nm,20.5s,baz=286,slow=40
YKA Yellowknife Ar 100.02 27 P **Pdif** **06 39 53.9 -0.1**
YKA Yellowknife Ar 100.02 27 P **Pdif** **06 39 53.9 -0.1**
comp=Z,1.5nm,0.9s,baz=290,slow=4.8,SNR=13
KMBO Kilima Mbogo 100.20 268 *e*Pdif **Pdif** **06 39 51.8 -4.4**
RES Resolute Bay 101.32 12 P **Pdif** **06 39 59.8 +0.3**
RES Resolute Bay 101.32 12 P **Pdif** **06 39 59.8 +0.3**
comp=Z,2.4nm,0.9s,baz=337,slow=7.6,SNR=4.9
NVAR Mina Array Bea 102.39 51 P **Pdif** **06 40 06.5 +1.2**
NVAR Mina Array Bea 102.39 51 P **Pdif** **06 40 06.5 +1.2**
comp=Z,0.5nm,0.3s,baz=262,slow=6.3,SNR=3.2
AKASG Malin Array Be 103.10 322 P **Pdif** **06 40 05.9 -2.0**
AKASG Malin Array Be 103.10 322 P **Pdif** **06 40 05.9 -2.0**
AKASG Malin Array Be 103.10 322 P **Pdif** **06 40 05.9 -2.0**
comp=Z,1.5nm,0.8s,baz=65,slow=4.1,SNR=8.2
CLL Collm 112.52 326 *e*PKiKP **PKiKP** **06 44 45.0 -0.2**
CLL *e*PP PP 06 45 42.0 +11
CLL *e*(SKSac) 06 51 24.0
CLL *e*PS **PS** **06 55 06.0 -0.1**
CLL *e*SS SS 07 01 18.0 +8.2
CLL *e* 07 06 12.0
CLL *e* 07 09 54.0
CLL LmV 07 39 00.0
comp=N,200nm,20.5s
CLL LmV 07 39 00.0
comp=E,300nm,19.2s
CLL LmV 07 39 00.0
comp=Z,400nm,19.9s
GERES GERESS Array B 113.20 323 PKiKP **PKiKP** **06 44 47.2 +0.6**
GERES GERESS Array B 113.20 323 PKiKP **PKiKP** **06 44 47.2 +0.6**
comp=Z,0.6nm,0.8s,baz=66,slow=1.6,SNR=5.1
TXAR Lajitas Array 115.99 58 PKP **PKPdf** **06 44 53.4 +0.8**
TXAR PKKPbc **PKKPbc** **06 55 26.1 +2.1**
TXAR Lajitas Array 115.99 58 PKP **PKPdf** **06 44 53.4 +0.8**
comp=Z,0.5nm,0.8s,baz=22,slow=1.3,SNR=5.4
TXAR PKKPbc **PKKPbc** **06 55 26.1 +2.1**
comp=Z,0.5nm,0.7s,baz=114,slow=4.2,SNR=3.9
DAVOX Davos/Dischmat 116.43 323 PKP **PKPdf** **06 44 55.3 +2.2**
DAVOX Davos/Dischmat 116.43 323 PKP **PKPdf** **06 44 55.3 +2.2**
comp=Z,0.5nm,0.3s,baz=165,slow=2.0,SNR=4.6
SSF Saint Saulge 120.03 325 *e*PKIKP **PKPdf** **06 44 58.2 -1.6**
comp=Z,20nm,1.2s
SSF Saint Saulge 120.03 325 *e*PKIKP **PKPdf** **06 44 58.2 -1.6**
SSF Saint Saulge 120.03 325 *e*PKPdf **PKPdf** **06 44 58.2 -1.6**
PLCA Paso Flores 130.33 152 *e*PKPdf **PKPdf** **06 45 19.9 +0.1**
PLCA PKP **PKPdf** **06 45 22.1 +2.3**
PLCA Paso Flores 130.33 152 PKP **PKPdf** **06 45 22.1 +2.3**
comp=Z,4.6nm,1.0s,baz=217,slow=1.6,SNR=8.5
TOA0 Torodi Ar. Sit 134.91 286 *e*PKPdf **PKPdf** **06 45 28.7 -0.3**
TORD Torodi Ar. Bea 134.91 286 PKP **PKPdf** **06 45 30.4 +1.4**
TORD Torodi Ar. Bea 134.91 286 PKP **PKPdf** **06 45 30.4 +1.4**
comp=Z,1.3nm,0.8s,baz=75,slow=2.3,SNR=6.7
DBIC Dimbokro 142.20 278 *e*PKPdf **PKPdf** **06 45 42.6 +0.2**
OTAV Otavalo 144.01 92 *e*PKPdf **PKPdf** **06 45 45.7 -0.5**
LVC Limon Verde 144.44 135 *e*PKPdf **PKPdf** **06 45 47.5 +1.0**
ROSC El Rosal 148.11 84 *e*PKPdf **PKPdf** **06 45 52.9 -0.2**
ROSC *e*PKPbc **PKPbc** **06 45 57.4 +1.2**
ROSC El Rosal 148.11 84 PKPbc **PKPbc** **06 45 57.4 +1.2**
comp=Z,8.3nm,0.5s,baz=114,slow=20,SNR=5.0
CPUP Villa Florida 148.36 154 *e*PKPbc **PKPab** **06 45 57.7 -1.5**
CPUP Villa Florida 148.36 154 PKPbc **PKPab** **06 45 58.2 -0.9**
comp=Z,12nm,0.8s,baz=208,slow=1.2,SNR=14
LPAZ La Paz 148.81 127 PKPdf **PKPdf** **06 45 54.2 -0.1**
LPAZ PKPbc **PKPbc** **06 45 57.5 -0.7**
LPAZ La Paz 148.81 127 PKPbc **PKPbc** **06 45 57.5 -0.7**
comp=Z,4.7nm,0.7s,baz=276,slow=1.2,SNR=12
CRPR Cabo Rojo, PR 151.11 55 *e*PKPbc **PKPbc** **06 46 02.6 -0.4**
SDV Santo Domingo 151.20 75 *e*PKPdf **PKPdf** **06 45 58.8 +1.1**
SDV *e*PKPbc **PKiKP** **06 46 04.8 +0.7**

NNC 31 06:49:51.7±2.1,36°86N×70°42E,h169km±44km,mb2.6, mpv3.5,2C-3D,Error ellipse: s-maj=23.0km s-min=11.8km az=28.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.24**	**1**	⇓P		Pn 06 51 21.6	-0.1
	0.6nm,0.2s,baz=17,slow=5.6,SNR=36						
KK31				⇑S		Sn 06 52 32.9	+0.4
	0.3nm,0.3s,baz=182,slow=14,SNR=4.1						
AAK	**Ala-Archa**	**6.56**	**27**	⇓P		Pn 06 51 26.5	+0.2
	1.7nm,0.6s						
AAK				⇑S		Sn 06 52 40.9	+0.3
	2.8nm,0.7s						
TKM2	**Tokmak 2**	**7.24**	**32**	⇓P		Pn 06 51 34.9	-0.3
	4.4nm,0.5s						
AB31	**Akbulak array**	**14.54**	**332**	P		Pn 06 53 09.5	0.0
	0.2nm,0.3s,baz=152,slow=13,SNR=20						

IDC 31 07:09:51.4±4.0,30°31S×138°51E,h0km,mb1 3.0/3, mb1mx3.0/13,mbtmp2.7/3,ML2.5/3,Error ellipse: s-maj=107.7km s-min=18.0km az=42.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.07**	**121**	Pn	Pn	07 10 40.3	-0.9
	0.3nm,0.3s,baz=305,slow=18,SNR=7.6						
STKA				Sn	Sn	07 11 17.7	-0.9

1.0nm,0.3s,baz=37,slow=20,SNR=5.8
STKA Lg Lg 07 11 30.5
1.7nm,0.3s,baz=198,slow=22,SNR=5.0
ASAR Alice Springs 7.79 327 Pn Pn 07 11 46.7 +0.6
0.1nm,0.3s,baz=146,slow=12,SNR=5.6
ASAR Sn Sn 07 13 12.1 -3.0
0.1nm,0.3s,baz=145,slow=22,SNR=3.2
WRA Warramunga Arr 10.99 339 Pn Pn 07 12 29.8 -0.1
0.1nm,0.3s,baz=159,slow=13,SNR=3.5

DJA 31 07:34:09.9±0.6, 6°S±6°×10°5E±°, h10km, M4.0/12, MLv4.0/12, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.85**	**109**	P	Pg	07 34 24.4	-1.9
KASI	**Kota Agung**	**0.90**	**335**	P	Pg	07 34 25.7	-1.5
BLSI	**Bandar Lampung**	**1.03**	**21**	P	Pg	07 34 27.0	-2.8
SBJI	**Serang**	**1.26**	**80**	P	Pn	07 34 31.8	-1.8
KLI	**Kotabumi**	**1.47**	**359**	P	Pn	07 34 36.2	-0.2
LWLI	**Liwa**	**1.55**	**328**	P	Pn	07 34 37.0	-0.7
KLSI		**1.65**	**355**	P	Pn	07 34 38.3	-0.6
SKJI	**Sukabumi**	**1.79**	**112**	P	Sb	07 35 04.0	-1.4
DBJI	**Dramaga**	**1.87**	**97**	P	Pn	07 34 41.2	-0.8
CBJI	**Citeko**	**1.96**	**92**	P	Pg	07 34 50.2	+2.7
MDSI	**Maura Dua**	**1.97**	**339**	P	Pn	07 34 43.3	-0.1
MNAI	**Manna**	**2.75**	**316**	P	Pn	07 34 53.7	-0.4
LHSI	**Lahat**	**2.84**	**332**	P	Pg	07 35 03.0	-1.4
CISI	**Cisompet, Garu**	**3.15**	**113**	P	Pn	07 34 58.1	-1.7
CMJI	**Cimerak**	**3.82**	**112**	P	Pn	07 35 07.3	-1.5

*ATH **31** 07:36:17.5, 40°.45N×23°.56E, h14km±1km, MD3.6/39*
*CSEM **31** 07:36:17.9±0.1, 40°.46N×23°.58E, h10km, MD3.6, Error ellipse: s-maj=2.7km s-min=2.1km az=87.0*
*ISCJB **31** 07:36:17.3±0.3, 40°.47N±0°.01×23°.58E±0°.02, h6km±2km, Error ellipse: s-maj=2.7km s-min=2.1km az=175.5*
*THE **31** 07:36:17.8, 40°.47N×23°.59E, h10km, ML2.9/15, Error ellipse: s-maj=0.6km s-min=0.3km az=337.0*
*BEO **31** 07:36:19.2±1.0, 40°.42N×23°.48E, h12km±4km, ML2.8/6*
*SKO **31** 07:36:20.2, 40°.58N×23°.42E, h18km, M2.0, ML2.5*

ISC 31 07:36:17.8±0.8, 40°.45N±0°.01×23°.56E±0°.01, h14km±5km, n132, σ0°.78/201, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.12**	**228**	P	**Pg**	**07 36 21.2**	**0.0**
PLG				S	**Sg**	**07 36 23.4**	**-0.2**
PLG	**Polygyros**	**0.12**	**228**	*e*PG	**Pg**	**07 36 21.3**	**0.0**
PLG				*e*SG	**Sg**	**07 36 23.2**	**-0.4**
PLG	**Polygyros**	**0.12**	**228**	P	**Pg**	**07 36 21.2**	**0.0**
PLG				S	**Sg**	**07 36 23.4**	**-0.2**
OUR	**Ouranopolis**	**0.34**	**110**	P	**Pg**	**07 36 24.5**	**-0.3**
OUR				S	**Sg**	**07 36 29.1**	**-0.4**
OUR	**Ouranopolis**	**0.34**	**110**	*e*PB	**Pg**	**07 36 24.6**	**-0.3**
OUR				*e*SB	**Sg**	**07 36 29.1**	**-0.4**
OUR	**Ouranopolis**	**0.34**	**110**	P	**Pg**	**07 36 24.5**	**-0.3**
OUR				S	**Sg**	**07 36 29.1**	**-0.4**
HORT	**Hortiatis**	**0.38**	**292**	P	**Pg**	**07 36 25.4**	**-0.1**
HORT				S	**Sg**	**07 36 30.9**	**+0.1**
HORT	**Hortiatis**	**0.38**	**292**	*e*PB	**Pg**	**07 36 25.5**	**-0.1**
HORT				*e*SB	**Sg**	**07 36 30.3**	**-0.5**
HORT	**Hortiatis**	**0.38**	**292**	P	**Pg**	**07 36 25.4**	**-0.1**
HORT				*e*Sb	**Sg**	**07 36 30.3**	**-0.5**
SOH	**Sokhos**	**0.40**	**337**	P	**Pg**	**07 36 25.6**	**-0.3**
SOH				S	**Sg**	**07 36 31.0**	**-0.4**
SOH	**Sokhos**	**0.40**	**337**	*e*PB	**Pg**	**07 36 25.6**	**-0.3**
SOH				*e*SB	**Sg**	**07 36 31.3**	**-0.1**
SOH	**Sokhos**	**0.40**	**337**	P	**Pg**	**07 36 25.6**	**-0.3**
SOH				*e*Sb	**Sg**	**07 36 31.3**	**-0.1**
THE	**Thessaloniki**	**0.49**	**291**	P	**Pg**	**07 36 27.3**	**-0.2**
THE				S	**Sb**	**07 36 34.9**	**-0.3**
THE	**Thessaloniki**	**0.49**	**291**	*e*PB	**Pg**	**07 36 27.1**	**-0.4**
THE				*e*SB	**Sg**	**07 36 34.0**	**-0.1**
THE	**Thessaloniki**	**0.49**	**291**	P	**Pg**	**07 36 27.3**	**-0.2**
THE				*e*Sb	**Sg**	**07 36 34.0**	**-0.1**
PAIG	**Paliouri**	**0.53**	**170**	P	**Pg**	**07 36 28.1**	**-0.2**
PAIG				S	**Sg**	**07 36 35.4**	**-0.1**
PAIG	**Paliouri**	**0.53**	**170**	*e*PB	**Pg**	**07 36 28.1**	**-0.2**
PAIG	**Paliouri**	**0.53**	**170**	P	**Pg**	**07 36 28.1**	**-0.2**
PAIG				S	**Sg**	**07 36 35.4**	**-0.1**
SRS	**Serrai**	**0.66**	**2**	P	**Pg**	**07 36 30.1**	**-0.7**
SRS				S	**Sg**	**07 36 39.0**	**-0.6**
SRS	**Serrai**	**0.66**	**2**	*e*PG	**Pg**	**07 36 30.1**	**-0.7**
SRS				*e*SB	**Sg**	**07 36 39.7**	**+0.1**
SRS	**Serrai**	**0.66**	**2**	P	**Pg**	**07 36 30.1**	**-0.7**
SRS				S	**Sg**	**07 36 39.0**	**-0.6**
KNT	**Kendrikon**	**0.87**	**325**	P	**Pg**	**07 36 33.9**	**-0.7**
KNT				S	**Sb**	**07 36 47.2**	**+1.0**
KNT	**Kendrikon**	**0.87**	**325**	*e*PG	**Pg**	**07 36 34.0**	**-0.7**
KNT	**Kendrikon**	**0.87**	**325**	*e*Pg	**Pg**	**07 36 34.0**	**-0.7**
KNT				S	**Sb**	**07 36 47.2**	**+1.0**
LIT	**Litokhoron**	**0.89**	**247**	P	**Pb**	**07 36 35.2**	**+0.1**
LIT				S	**Sn**	**07 36 48.4**	**-0.3**
LIT	**Litokhoron**	**0.89**	**247**	*e*PB	**Pb**	**07 36 35.1**	**0.0**
LIT	**Litokhoron**	**0.89**	**247**	P	**Pb**	**07 36 35.2**	**+0.1**
LIT				S	**Sn**	**07 36 48.4**	**-0.3**
KAVA	**Kavala**	**0.90**	**53**	P	**Pg**	**07 36 34.2**	**-1.1**
KAVA				S	**Sb**	**07 36 47.4**	**+0.3**
KAVA	**Kavala**	**0.90**	**53**	*e*PG	**Pg**	**07 36 34.5**	**-0.8**
KAVA	**Kavala**	**0.90**	**53**	P	**Pg**	**07 36 34.2**	**-1.1**
KAVA	**Kavala**	**0.90**	**53**	*e*Pg	**Pg**	**07 36 34.5**	**-0.8**
NVR	**Nevrokopi**	**0.92**	**14**	P	**Pg**	**07 36 34.6**	**-1.1**
NVR				S	**Sb**	**07 36 48.1**	**+0.3**
NVR	**Nevrokopi**	**0.92**	**14**	*e*PG	**Pg**	**07 36 34.9**	**-0.8**
NVR				*e*SB	**Sb**	**07 36 48.1**	**+0.3**
NVR	**Nevrokopi**	**0.92**	**14**	P	**Pg**	**07 36 34.6**	**-1.1**
NVR	**Nevrokopi**	**0.92**	**14**	*e*Pg	**Pg**	**07 36 34.9**	**-0.8**
NVR				S	**Sb**	**07 36 48.1**	**+0.3**
GRG	**Griva**	**1.02**	**300**	P	**Pn**	**07 36 37.4**	**-0.3**
GRG				S	**Sn**	**07 36 52.0**	**+0.2**
GRG	**Griva**	**1.02**	**300**	*e*PN	**Pn**	**07 36 37.5**	**-0.3**
GRG				*e*SB	**Sb**	**07 36 51.1**	**+0.7**
GRG	**Griva**	**1.02**	**300**	P	**Pn**	**07 36 37.4**	**-0.3**
GRG				*e*Sb	**Sb**	**07 36 51.1**	**+0.7**
GRG				S	**Sn**	**07 36 52.0**	**+0.2**
XOR	**Xorichti**	**1.12**	**195**	P	**Pg**	**07 36 38.6**	**-0.9**
XOR				S	**Sn**	**07 36 55.1**	**+0.7**
XOR	**Xorichti**	**1.12**	**195**	*e*PB	**Pg**	**07 36 38.9**	**-0.6**
XOR				*e*SB	**Sb**	**07 36 54.1**	**+0.6**
XOR	**Xorichti**	**1.12**	**195**	P	**Pg**	**07 36 38.6**	**-0.9**
XOR	**Xorichti**	**1.12**	**195**	*e*Pb	**Pg**	**07 36 38.9**	**-0.6**
XOR				*e*Sb	**Sb**	**07 36 54.1**	**+0.6**
XOR				S	**Sn**	**07 36 55.1**	**+0.7**
VAY	**Valandovo**	**1.15**	**319**	P	**Pb**	**07 36 39.0**	**-0.4**
VAY				S	**Sn**	**07 36 55.0**	**0.0**
VAY	**Valandovo**	**1.15**	**319**	*e*Pg	**Pn**	**07 36 39.1**	**-0.4**
VAY				*i* Sg	**Sn**	**07 36 55.7**	**+0.7**
VAY	**Valandovo**	**1.15**	**319**	*i* Pg	**Pb**	**07 36 39.2**	**-0.3**
VAY				*i* Sg	**Sg**	**07 36 52.3**	**-2.6**
VAY				*e*Lg	Lg	07 36 55.2	
	comp=N,67nm,0.3s						
VAY				*e*Lg	Lg	07 36 57.1	
	comp=E,102nm,0.4s						
VAY	**Valandovo**	**1.15**	**319**	P	**Pb**	**07 36 39.0**	**-0.4**
VAY	**Valandovo**	**1.15**	**319**	*i* Pg	**Pn**	**07 36 39.6**	**+0.1**
VAY				S	**Sn**	**07 36 55.0**	**0.0**
VAY				*e*Lg	Lg	07 36 55.6	
	comp=E,67nm,0.3s						
FYTO	**Fytoko, Volos**	**1.15**	**205**	P	**Pb**	**07 36 39.3**	**-0.2**
FYTO				S	**Sn**	**07 36 55.5**	**+0.5**
FYTO	**Fytoko, Volos**	**1.15**	**205**	P	**Pb**	**07 36 39.3**	**-0.2**
FYTO				S	**Sn**	**07 36 55.5**	**+0.5**
NEO	**Neokhori**	**1.18**	**193**	*e*PB	**Pb**	**07 36 39.8**	**-0.1**
NEO				*e*SB	**Sg**	**07 36 55.2**	**-0.6**
NEO	**Neokhori**	**1.18**	**193**	*e*Pb	**Pb**	**07 36 39.8**	**-0.1**
NEO				*e*Sb	**Sg**	**07 36 55.2**	**-0.6**
SKIA	**Skiathos**	**1.29**	**183**	P	**Pn**	**07 36 41.5**	**+0.1**
SKIA				S	**Sb**	**07 36 58.2**	**0.0**
SKIA	**Skiathos**	**1.29**	**183**	*e*PB	**Pn**	**07 36 41.5**	**+0.1**
SKIA				*e*SB	**Sb**	**07 36 57.9**	**-0.3**
SKIA	**Skiathos**	**1.29**	**183**	P	**Pn**	**07 36 41.5**	**+0.1**
SKIA				*e*Sb	**Sb**	**07 36 57.9**	**-0.3**
SKIA				S	**Sb**	**07 36 58.2**	**0.0**
AOS	**Alonnisos**	**1.31**	**169**	P	**Pn**	**07 36 41.5**	**-0.1**
AOS	**Alonnisos**	**1.31**	**169**	*e*PG	**Pn**	**07 36 41.5**	**-0.1**
AOS	**Alonnisos**	**1.31**	**169**	P	**Pn**	**07 36 41.5**	**-0.1**
LIA	**Limnos Island**	**1.36**	**114**	*e*PB	**Pg**	**07 36 44.0**	**0.0**
LIA	**Limnos Island**	**1.36**	**114**	*e*Pb	**Pg**	**07 36 44.0**	**0.0**
KZN	**Kozani**	**1.38**	**264**	P	**Pn**	**07 36 42.7**	**0.0**
KZN				S	**Sg**	**07 37 01.8**	**-0.4**
KZN	**Kozani**	**1.38**	**264**	*e*PB	**Pg**	**07 36 43.8**	**-0.5**
KZN				*e*SB	**Sg**	**07 37 02.3**	**+0.1**
KZN	**Kozani**	**1.38**	**264**	P	**Pn**	**07 36 42.7**	**0.0**
KZN	**Kozani**	**1.38**	**264**	*e*Pb	**Pg**	**07 36 43.8**	**-0.5**
KZN				S	**Sg**	**07 37 01.8**	**-0.4**
KZN				*e*Sb	**Sg**	**07 37 02.3**	**+0.1**
THL	**Klokotos Trika**	**1.48**	**234**	*e*PG	**Pb**	**07 36 44.8**	**-0.4**
THL	**Klokotos Trika**	**1.48**	**234**	*e*Pg	**Pb**	**07 36 44.8**	**-0.4**
SMTH	**Samothraki Isl**	**1.50**	**89**	*e*PB	**Pg**	**07 36 46.2**	**-0.5**
SMTH	**Samothraki Isl**	**1.50**	**89**	*e*Pb	**Pg**	**07 36 46.2**	**-0.5**
SMIA	**Simia**	**1.60**	**190**	*e*PB	**Pg**	**07 36 48.0**	**-0.5**
SMIA	**Simia**	**1.60**	**190**	*e*Pb	**Pg**	**07 36 48.0**	**-0.5**
RDO	**Rodhopi**	**1.65**	**65**	P	**Pn**	**07 36 45.6**	**-0.8**
RDO	**Rodhopi**	**1.65**	**65**	*e*PG	**Pb**	**07 36 48.4**	**+0.4**
RDO	**Rodhopi**	**1.65**	**65**	P	**Pn**	**07 36 45.6**	**-0.8**
RDO	**Rodhopi**	**1.65**	**65**	*e*Pg	**Pb**	**07 36 48.4**	**+0.4**
FNA	**Florina**	**1.70**	**282**	*e*PN	**Pb**	**07 36 48.7**	**-0.1**
FNA	**Florina**	**1.70**	**282**	*e*Pb	**Pb**	**07 36 48.7**	**-0.1**
AGG	**Agios Georgios**	**1.72**	**214**	P	**Pn**	**07 36 48.0**	**+0.7**
AGG	**Agios Georgios**	**1.72**	**214**	*e*PN	**Pn**	**07 36 48.1**	**+0.7**
AGG	**Agios Georgios**	**1.72**	**214**	*e*Pn	**Pn**	**07 36 48.1**	**+0.7**
MRKA	**Markates**	**1.75**	**179**	P	**Pn**	**07 36 47.8**	**+0.1**
MRKA				S	**Sn**	**07 37 10.5**	**+0.7**
MRKA	**Markates**	**1.75**	**179**	*e*PN	**Pb**	**07 36 48.9**	**-0.8**
MRKA	**Markates**	**1.75**	**179**	P	**Pn**	**07 36 47.8**	**+0.1**
MRKA	**Markates**	**1.75**	**179**	*e*Pn	**Pb**	**07 36 48.9**	**-0.8**
MRKA				S	**Sn**	**07 37 10.5**	**+0.7**
BIA	**Bitola**	**1.79**	**289**	*i* Pg	**Pn**	**07 36 49.0**	**+0.5**
BIA	**Bitola**	**1.79**	**289**	*i* Pg	**Pn**	**07 36 48.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.81**	**218**	*e*PN	**Pb**	**07 36 50.2**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.81**	**218**	*e*Pn	**Pb**	**07 36 50.2**	**-0.6**
LKR	**Lokris**	**1.85**	**194**	*e*PN	**Pb**	**07 36 51.2**	**-0.3**
LKR	**Lokris**	**1.85**	**194**	*e*Pn	**Pb**	**07 36 51.2**	**-0.3**
PLD	**Plovdiv**	**1.86**	**27**	*e*Pn	**Pb**	**07 36 51.9**	**+0.3**
PLD				*e*Sn	**Sb**	**07 37 15.3**	**+0.6**
PLD	**Plovdiv**	**1.86**	**27**	*e*Pn	**Pb**	**07 36 51.9**	**+0.3**
PLD				*e*Sn	**Sb**	**07 37 15.3**	**+0.6**
ALN	**Alexandroupoli**	**1.94**	**76**	P	**Pn**	**07 36 49.6**	**-0.7**
ALN				S	**Sn**	**07 37 14.9**	**+0.4**
ALN	**Alexandroupoli**	**1.94**	**76**	*e*PN	**Pb**	**07 36 52.6**	**-0.3**
ALN	**Alexandroupoli**	**1.94**	**76**	P	**Pn**	**07 36 49.6**	**-0.7**
ALN	**Alexandroupoli**	**1.94**	**76**	*e*Pn	**Pb**	**07 36 52.6**	**-0.3**
EVR	**Evrytania**	**2.05**	**222**	*e*PB	**Pn**	**07 36 52.8**	**+0.9**
EVR				*e*SN	**Sb**	**07 37 19.2**	**-1.0**
VTS	**Vitosha**	**2.15**	**353**	P	**Pn**	**07 36 53.5**	**+0.1**
VTS				S	**Sn**	**07 37 21.4**	**+1.4**
VTS	**Vitosha**	**2.15**	**353**	*e*Pn	**Pb**	**07 36 55.3**	**-1.4**
VTS				*e*Sn	**Sn**	**07 37 21.6**	**+1.6**
VTS	**Vitosha**	**2.15**	**353**	P	**Pn**	**07 36 53.5**	**+0.1**
VTS	**Vitosha**	**2.15**	**353**	*e*Pn	**Pb**	**07 36 55.3**	**-1.4**
VTS				S	**Sn**	**07 37 21.4**	**+1.4**
DSF	**Desfina**	**2.19**	**202**	P	**Pn**	**07 36 54.3**	**+0.4**
DSF	**Desfina**	**2.19**	**202**	*e*PB	**Pn**	**07 36 54.9**	**+1.0**
DSF	**Desfina**	**2.19**	**202**	P	**Pn**	**07 36 54.3**	**+0.4**
SKO	**Skopje**	**2.21**	**314**	*i* Pg	**Pb**	**07 36 58.1**	**+0.7**
SKO				*i* Sg	**Sb**	**07 37 24.3**	**-0.4**
SKO				*e*Lg	Lg	07 37 25.2	
	comp=N,17nm,0.4s						
SKO				*e*Lg	Lg	07 37 25.3	
	comp=E,10nm,0.8s						
SKO	**Skopje**	**2.21**	**314**	*i* Pg	**Pg**	**07 36 58.6**	**-1.5**
SKO				*i* Sg	**Sb**	**07 37 24.7**	**0.0**
SKO				*e*Lg	Lg	07 37 25.7	
	comp=E,10nm,0.8s						
JAN	**Janina**	**2.23**	**250**	*e*PN	**Pb**	**07 36 57.2**	**-0.7**
JAN	**Janina**	**2.23**	**250**	*e*Pn	**Pb**	**07 36 57.2**	**-0.7**
KALE	**Kalithea**	**2.34**	**209**	P	**Pn**	**07 36 56.6**	**+0.7**
KALE	**Kalithea**	**2.34**	**209**	*e*PB	**Pn**	**07 36 56.5**	**+0.7**
KALE	**Kalithea**	**2.34**	**209**	P	**Pn**	**07 36 56.6**	**+0.7**
LTK	**Loutraki**	**2.47**	**191**	*e*PN	**Pn**	**07 36 59.6**	**+1.9**
LTK	**Loutraki**	**2.47**	**191**	*e*Pn	**Pn**	**07 36 59.6**	**+1.9**
LAKA	**Lakka**	**2.53**	**210**	*e*PN	**Pn**	**07 37 00.3**	**+1.8**
LAKA	**Lakka**	**2.53**	**210**	*e*Pn	**Pn**	**07 37 00.3**	**+1.8**
PDO	**Prodromos**	**2.61**	**226**	*e*PN	**Pb**	**07 37 02.7**	**-1.7**
PDO	**Prodromos**	**2.61**	**226**	*e*Pn	**Pb**	**07 37 02.7**	**-1.7**
KLV	**Kalavryta, Ach**	**2.65**	**205**	P	**Pn**	**07 37 00.6**	**+0.5**
KLV	**Kalavryta, Ach**	**2.65**	**205**	*e*PN	**Pn**	**07 37 00.9**	**+0.8**
KLV	**Kalavryta, Ach**	**2.65**	**205**	P	**Pn**	**07 37 00.6**	**+0.5**
KLV	**Kalavryta, Ach**	**2.65**	**205**	*e*Pn	**Pn**	**07 37 00.9**	**+0.8**
IGT	**Igoumenitsa**	**2.65**	**251**	*e*PN	**Pb**	**07 37 03.5**	**-1.5**
GUR	**Goura**	**2.69**	**201**	P	**Pn**	**07 37 01.4**	**+0.7**
GUR	**Goura**	**2.69**	**201**	*e*PN	**Pn**	**07 37 01.7**	**+1.0**
GUR	**Goura**	**2.69**	**201**	P	**Pn**	**07 37 01.4**	**+0.7**
GUR	**Goura**	**2.69**	**201**	*e*Pn	**Pn**	**07 37 01.7**	**+1.0**
ZAPS	**Zavoj**	**2.90**	**346**	*e*Pn	**Pn**	**07 37 06.2**	**+2.6**
ZAPS				*e*Sn	**Sn**	**07 37 41.2**	**+2.9**
DID	**Didima**	**2.96**	**185**	*e*PN	**Pn**	**07 37 05.8**	**+1.5**
DID	**Didima**	**2.96**	**185**	*e*Pn	**Pn**	**07 37 05.8**	**+1.5**
SELS	**Selova**	**3.31**	**327**	*e*Pn	**Pn**	**07 37 10.4**	**+1.2**
SELS				*e*Sn	**Sn**	**07 37 50.0**	**+1.6**
GRUS	**Gruza**	**4.03**	**329**	*e*Pn	**Pn**	**07 37 20.3**	**+1.2**
GRUS				*e*Sn	**Sn**	**07 38 06.5**	**+0.4**
GRUS	**Gruza**	**4.03**	**329**	*e*Pn	**Pn**	**07 37 20.3**	**+1.2**
GRUS				*e*Sn	**Sn**	**07 38 06.5**	**+0.4**
DIVS	**Divibare**	**4.50**	**325**	*e*Pn	**Pn**	**07 37 27.1**	**+1.4**
DIVS				*e*Sn	**Sn**	**07 38 17.0**	**-0.9**
DIVS	**Divibare**	**4.50**	**325**	*e*Pn	**Pn**	**07 37 27.1**	**+1.4**
DIVS				*e*Sn	**Sn**	**07 38 17.0**	**-0.9**

IDC 31 07:40:35.6±1.3, 27°.69S×178°.56W, h325km±24km, mb3.2/5, mb1 3.4/5, mb1mx3.2/18, mbtmp3.2/5, Error ellipse: s-maj=64.3km s-min=22.6km az=165.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.65**	**160**	P	Pn	07 41 23.4	+1.3
	370nm,0.3s,baz=84,slow=8.0,SNR=27						
RAO				S	S	07 41 59.3	0.0
	110nm,0.3s,baz=72,slow=20,SNR=3.2						
DZM	**Mont Dzumac**	**14.71**	**289**	P	Pn	07 43 53.0	+3.0
	0.8nm,0.3s,baz=152,slow=15,SNR=8.2						
CTA	**Charters Tower**	**32.97**	**276**	P	P	07 46 42.0	+1.0
	1.0nm,0.3s,baz=100,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**42.83**	**264**	P	P	07 48 02.4	-0.4
	0.4nm,0.5s,baz=96,slow=6.7,SNR=14						
WRA	**Warramunga Arr**	**43.56**	**270**	P	P	07 48 07.9	-0.7
	0.9nm,0.4s,baz=107,slow=6.2,SNR=24						
MJAR	**Matsushiro Arr**	**75.74**	**325**	P	P	07 51 45.4	-0.6
	1.1nm,0.6s,baz=178,slow=5.1,SNR=4.6						
PETK	**Petropavlovsk-**	**83.08**	**346**	P	P	07 52 24.7	-0.1
	2.2nm,1.0s,baz=114,slow=9.2,SNR=4.3						
ARCES	**ARCESS Array B**	**135.85**	**348**	PKP	PKPdf	07 59 17.2	+0.3
	2.3nm,0.9s,baz=1.9,slow=3.6,SNR=5.5						
FINES	**FINESS Array B**	**142.44**	**341**	PKhKP	PKPpre	07 59 24.8	
	1.6nm,0.7s,baz=68,slow=2.5,SNR=4.9						
NOA	**NORSAR Array B**	**146.01**	**352**	PKPbc	PKPdf	07 59 35.7	+0.3
	0.6nm,0.6s,baz=14,slow=4.5,SNR=3.1						
AKASG	**Malin Array Be**	**148.83**	**325**	PKPbc	PKPbc	07 59 44.1	-0.5
	0.8nm,0.5s,baz=42,slow=3.5,SNR=5.6						
BRTR	**Keskin Array B**	**150.80**	**303**	PKPbc	PKPbc	07 59 50.2	+0.3
	0.4nm,0.5s,baz=93,slow=2.9,SNR=2.5						

*DJA **31** 07:52:56.3±0.6, 6°S±4°×10°5E±°, h14km±4km, M4.7/18, mb4.6/1, mB5.1/1, MLv4.8/18, Mw(mB)4.4/1*
*NEIC **31** 07:52:56.0±0.3, 5°.99S×105°.10E, h35km, mb4.7/5, Error ellipse: s-maj=13.8km s-min=6.0km az=46.0*
NEIC Felt [III] at Labuan.
*IDC **31** 07:52:57.1±2.7, 6°.01S×105°.15E, h43km±23km, mb4.1/18, mb1 4.2/18, mb1mx4.1/25, mbtmp4.3/18, MS3.6/2, Ms1 3.5/2, ms1mx3.1/26, Error ellipse: s-maj=22.4km s-min=10.5km az=48.0*

ISC 31 07:52:57.3±1.1, 6°.21S±0°.07×105°.02E±0°.07, h50km±9km, n172, σ1°.17/157, mb4.4/24, 31C-46D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.78**	**121**	P	Pn	07 53 09.2	-2.9
CGJI				S	**Sn**	**07 53 21.9**	**-0.9**
KASI	**Kota Agung**	**0.86**	**323**	P	**Pn**	**07 53 11.3**	**-1.9**
BLSI	**Bandar Lampung**	**0.87**	**15**	P	**Pn**	**07 53 12.7**	**-0.6**
SBJI	**Serang**	**1.11**	**85**	P	**Pn**	**07 53 16.7**	**+0.2**
KLI	**Kotabumi**	**1.35**	**353**	P	**Pn**	**07 53 21.1**	**+1.3**
KLI				S	**Sn**	**07 53 41.4**	**+4.8**
LWLI	**Liwa**	**1.52**	**321**	P	**Pn**	**07 53 22.7**	**+0.4**
LWLI				S	**Sn**	**07 53 44.2**	**+3.1**
KLSI		**1.54**	**349**	P	**Pn**	**07 53 22.8**	**+0.4**
KLSI				S	Sn	07 53 47.4	+6.1
TNG	**Tangerang**	**1.62**	**89**	P	**Pn**	**07 53 25.1**	**+1.6**
SKJI	**Sukabumi**	**1.72**	**117**	P	**Pn**	**07 53 25.1**	**+0.3**
DBJI	**Dramaga**	**1.75**	**101**	P	**Pn**	**07 53 25.2**	**-0.1**
CBJI	**Citeko**	**1.83**	**97**	P	**Pn**	**07 53 29.2**	**+2.8**
MDSI	**Maura Dua**	**1.91**	**334**	P	**Pn**	**07 53 27.8**	**+0.3**
LEM	**Lembang**	**2.65**	**103**	P	Pn	07 53 41.3	+3.5
MNAI	**Manna**	**2.76**	**312**	P	Pn	07 53 48.6	+9.5
LHSI	**Lahat**	**2.80**	**328**	P	**Pn**	**07 53 42.0**	**+2.3**
CISI	**Cisompet, Garu**	**3.08**	**116**	P	**Pn**	**07 53 43.7**	**+0.1**
CISI				S	**Sn**	**07 54 20.0**	**+0.8**
JCJI	**Jatiwangi**	**3.24**	**95**	P	Pn	07 53 56.3	+11
CMJI	**Cimerak**	**3.75**	**115**	P	**Pn**	**07 53 53.0**	**+0.4**
CMJI				S	**Sn**	**07 54 36.3**	**+0.8**
KPJI	**Karang Pucung**	**4.04**	**106**	P	Pn	07 54 04.1	+7.4
MASI	**Maura Aman, Be**	**4.12**	**318**	P	Pn	07 54 02.0	+4.1
TGJI	**Tegal**	**4.13**	**99**	P	Pn	07 54 16.4	+19
TPI	**Tanjungpandan**	**4.32**	**38**	P	Pn	07 54 26.3	+26
BJII	**Banjamegara**	**4.79**	**104**	P	Pn	07 54 24.1	+17
PWJI	**Pagerwojo**	**6.97**	**105**	P	Pn	07 54 43.2	+6.3
CMAR	**Chiang Mai Arr**	**25.24**	**346**	P	P	**07 58 16.8**	**-2.0**
CMAR				PcP	**PcP**	**08 01 52.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**25.24**	**346**	P	P	**07 58 16.8**	**-2.0**
	0.6nm,0.6s,baz=176,slow=10.0,SNR=5.0						
CMAR				PcP	**PcP**	**08 01 52.0**	**+0.5**
	0.5nm,0.4s,baz=145,slow=1.0,SNR=4.5						
NWAO	**Narrogin (SRO)**	**28.91**	**158**	LR	LR	08 10 59.0	
	comp=Z,88nm,18.2s,baz=32,slow=37						
H01W3	**Cape Leeuwin H**	**29.75**	**165**	T	T	08 29 48.2	
	baz=345,slow=76,SNR=91						
H01W1	**Cape Leeuwin H**	**29.76**	**165**	T	T	08 29 41.0	
	baz=345,slow=76,SNR=74						
H01W2	**Cape Leeuwin H**	**29.76**	**165**	T	T	08 29 29.6	
	baz=345,slow=76,SNR=98						
WRA	**Warramunga Arr**	**31.57**	**118**	P	**P**	**07 59 15.7**	**+0.2**
WRA	**Warramunga Arr**	**31.57**	**118**	P	**P**	**07 59 15.7**	**+0.2**
	4.1nm,0.7s,baz=289,slow=10,SNR=24						
WRAB	**Tennant Creek**	**31.58**	**118**	*e*P	**P**	**07 59 16.1**	**+0.6**
	3.5nm,0.4s						
H08S2	**Diego Garcia H**	**32.31**	**266**	T	T	08 32 58.1	
	baz=89,slow=75,SNR=190						
H08S3	**Diego Garcia H**	**32.31**	**266**	T	T	08 33 00.6	
	baz=89,slow=75,SNR=148						
H08S1	**Diego Garcia H**	**32.33**	**266**	T	T	08 32 58.6	
	baz=89,slow=75,SNR=143						
AS31	**Alice Springs**	**32.75**	**125**	*e*P	**P**	**07 59 26.4**	**+0.7**
ASAR	**Alice Springs**	**32.75**	**125**	P	**P**	**07 59 26.3

328A	**Wristen Ranch,** baz=144	**143.87**	**43**	⇑P		PKPbc	08 12 26.6	+0.9
W33A	**Caddo, Fort Co** baz=144,SNR=9.3	**143.98**	**34**	⇑P		PKPbc	08 12 26.7	+0.8
V34A	**Guthrie** baz=144,SNR=8.6	**143.98**	**32**	⇓P		PKPbc	08 12 26.2	+0.4
626A	**Big Bend Ranch** baz=144	**144.03**	**46**	⇑P		**PKPdf**	**08 12 27.8**	**-0.5**
X32A	**Elmer** baz=144,SNR=9.1	**144.05**	**35**	⇓P		PKPbc	08 12 26.4	+0.3
Y32A	**R-V Farms, Ver** baz=144,SNR=6.4	**144.26**	**36**	⇓P		PKPbc	08 12 27.0	+0.3
130A	**Snyder** baz=144	**144.30**	**39**	⇓P		PKPbc	08 12 27.7	+0.7
W34A	**Bridge Creek,** baz=144	**144.30**	**33**	⇑P		PKPbc	08 12 27.5	+0.6
Z31A	**Sharp Cattle R** baz=144,SNR=24	**144.32**	**38**	⇑P		**PKPdf**	**08 12 27.7**	**-0.9**
428A	**Kincaid Ranch,** baz=144,SNR=6.4	**144.36**	**43**	⇓P		**PKPdf**	**08 12 28.4**	**-0.4**
329A	**Wagon Wheel Ra** baz=144,SNR=10	**144.36**	**42**	⇓P		PKPbc	08 12 27.9	+0.7
X33A	**Lawton** baz=144,SNR=7.1	**144.41**	**34**	⇓P		PKPbc	08 12 27.0	-0.2
TXAR	**Lajitas Array**	**144.49**	**46**	PKP		**PKPdf**	**08 12 28.9**	**-0.2**
TXAR	**Lajitas Array** 6.6nm,0.7s,baz=295,slow=2.0,SNR=105	**144.49**	**46**	PKP		**PKPdf**	**08 12 28.9**	**-0.2**
131A	**Roby** baz=144	**144.60**	**39**	⇑P		**PKPdf**	**08 12 28.7**	**-0.5**
627A	**Terlingua Ranc** baz=144,SNR=10	**144.62**	**46**	⇑P		**PKPdf**	**08 12 29.4**	**0.0**
230A	**Sterling City** baz=144,SNR=17	**144.67**	**40**	⇓P		**PKPdf**	**08 12 29.3**	**0.0**
Z32A	**Haskell** baz=144,SNR=32	**144.72**	**37**	⇑P		**PKPdf**	**08 12 29.1**	**-0.2**
Y33A	**Hilltop Ranch,** baz=144	**144.73**	**35**	⇑P		PKPbc	08 12 28.6	+0.4
X34A	**Smith Ranch, M** baz=144	**144.74**	**34**	⇓P		**PKPdf**	**08 12 28.8**	**-0.5**
TUL1	**Tulsa** baz=144,SNR=9.6	**144.81**	**30**	⇓P		PKPbc	08 12 28.7	+0.3
330A	**Mertzon** baz=145,SNR=17	**144.94**	**41**	⇑P		**PKPdf**	**08 12 29.4**	**-0.3**
628A	**Black Gap, Mar** baz=145,SNR=11	**144.95**	**45**	⇓P		**PKPdf**	**08 12 30.0**	**+0.1**
429A	**Davenport Ranc** baz=145,SNR=7.0	**144.96**	**43**	⇓P		**PKPdf**	**08 12 29.9**	**0.0**
529A	**Stev Forest Ra** baz=145,SNR=6.7	**145.04**	**44**	⇑P		**PKPdf**	**08 12 30.2**	**+0.2**
ABTX	**Abilene, Hawle** baz=145,SNR=7.7	**145.10**	**38**	⇓P		**PKPdf**	**08 12 30.2**	**+0.2**
231A	**Bronte** baz=145,SNR=9.5	**145.15**	**40**	⇑P		**PKPdf**	**08 12 30.1**	**0.0**
Z33A	**Whitaker Ranch** baz=145,SNR=7.8	**145.16**	**36**	⇓P		**PKPdf**	**08 12 30.2**	**+0.1**
Y34A	**Reagan Ranch,** baz=145,SNR=13	**145.26**	**34**	⇑P		**PKPdf**	**08 12 30.5**	**+0.3**
430A	**Baggett Ranch,** baz=145,SNR=8.5	**145.29**	**42**	⇑P		**PKPdf**	**08 12 30.7**	**+0.3**
331A	**San Angelo** baz=145,SNR=14	**145.49**	**40**	⇓P		**PKPab**	**08 12 31.7**	**+0.7**
133A	**Hamilton Ranch** baz=145,SNR=32	**145.55**	**37**	⇑P		**PKPab**	**08 12 32.1**	**+0.9**
BDFB	**Brasilia**	**145.58**	**231**		PKPbc	**PKPab**	**08 12 32.1**	**+0.3**
BDFB	**Brasilia** 5.3nm,0.8s,baz=170,slow=0.7,SNR=7.6	**145.58**	**231**		PKPbc	**PKPab**	**08 12 32.1**	**+0.3**
Z34A	**Collier Ranch,** baz=145	**145.59**	**35**	⇓P		**PKPab**	**08 12 31.4**	**+0.1**
232A	**Coleman** baz=145,SNR=17	**145.60**	**39**	⇓P		**PKPab**	**08 12 32.2**	**+0.8**
530A	**J-C Ranch, Com** baz=145,SNR=76	**145.63**	**43**	⇑P		**PKPab**	**08 12 32.7**	**+1.2**
431A	**Sonora** baz=146,SNR=14	**145.78**	**41**	⇑P		**PKPab**	**08 12 32.6**	**+0.4**
332A	**Millersview** baz=146,SNR=36	**145.88**	**40**	⇓P		**PKPab**	**08 12 33.0**	**+0.5**
233A	**Rising Star** baz=146,SNR=13	**145.97**	**38**	⇓P		**PKPab**	**08 12 33.2**	**+0.4**
Z35A	**Perchaven, San** baz=146	**146.00**	**35**	⇓P		**PKPab**	**08 12 32.8**	**0.0**
134A	**White-Moore Ra** baz=146,SNR=13	**146.07**	**36**	⇑P		**PKPab**	**08 12 33.3**	**+0.2**
531A	**Rocksprings** baz=146,SNR=13	**146.15**	**42**	⇓P		**PKPab**	**08 12 33.7**	**+0.1**
432A	**Menard** baz=146,SNR=9.1	**146.18**	**40**	⇓P		**PKPab**	**08 12 33.4**	**-0.2**
333A	**Richland Sprin** baz=146,SNR=12	**146.39**	**39**	⇓P		**PKPab**	**08 12 33.9**	**-0.5**
JCT	**Junction City**	**146.44**	**41**	*e*PKPbc		**PKPbc**	**08 12 33.6**	**-0.1**
JCT	**Junction City** baz=146,SNR=44	**146.44**	**41**	⇓P		**PKPab**	**08 12 34.7**	**+0.1**
234A	**Clairette** baz=146,SNR=16	**146.44**	**37**	⇑P		**PKPab**	**08 12 34.6**	**0.0**
135A	**Vickery Place,** baz=146	**146.48**	**36**	⇓P		**PKPab**	**08 12 34.6**	**-0.1**
WCI	**Wyandotte Cave**	**146.52**	**16**	*e*PKPbc		**PKPbc**	**08 12 33.6**	**-0.1**
532A	**Rocksprings** baz=146,SNR=7.9	**146.60**	**42**	⇑P		**PKPab**	**08 12 34.9**	**-0.4**
631A	**Perdido Creek** baz=146,SNR=6.0	**146.60**	**43**	⇑P		**PKPbc**	**08 12 34.1**	**0.0**
433A	**Art** baz=146,SNR=7.1	**146.71**	**40**	⇑P		**PKPbc**	**08 12 34.3**	**-0.1**
PARMO	**Parma**	**146.82**	**22**	*e*PKPbc		**PKPbc**	**08 12 34.7**	**+0.2**
334A	**Lometa** baz=146	**146.85**	**38**	⇑P		**PKPbc**	**08 12 35.0**	**+0.2**
WHTX	**Lake Whitney**	**146.86**	**36**	*e*PKPbc		**PKPab**	**08 12 35.6**	**-0.5**
WHTX	**Lake Whitney** baz=146,SNR=6.7	**146.86**	**36**	⇑P		**PKPbc**	**08 12 35.2**	**+0.4**
632A	**Uvalde** baz=147,SNR=6.7	**147.07**	**42**	⇑P		**PKPbc**	**08 12 36.1**	**+0.5**
434A	**Burnet** baz=147	**147.19**	**39**	⇓P		**PKPbc**	**08 12 35.9**	**+0.1**
533A	**Kerrville** baz=147	**147.20**	**41**	⇑P		**PKPbc**	**08 12 36.6**	**+0.7**
335A	**Moody** baz=147	**147.38**	**37**	⇑P		**PKPbc**	**08 12 37.0**	**+0.7**
732A	**Laxson Ranch,** baz=147	**147.44**	**44**	⇓P		**PKPab**	**08 12 37.7**	**-0.9**
633A	**Saathoff Ranch** baz=147	**147.51**	**42**	⇑P		**PKPab**	**08 12 37.7**	**-1.1**
534A	**Blanco** baz=147	**147.59**	**40**	⇓P		**PKPbc**	**08 12 37.5**	**+0.6**
832A	**Faith Ranch, C** baz=147	**147.71**	**44**	⇓P		**PKPbc**	**08 12 38.1**	**+0.8**
733A	**Divot King Ran** baz=148	**147.91**	**43**	⇑P		**PKPab**	**08 12 39.1**	**-1.3**
WVT	**Waverly**	**147.98**	**20**	*e*PKPbc		**PKPbc**	**08 12 37.8**	**+0.1**
WVT				*e*PKPab		**PKPab**	**08 12 40.3**	**-0.1**
833A	**Chaparral WMA,** baz=148	**148.09**	**44**	⇓P		**PKPab**	**08 12 39.7**	**-1.5**
734A	**JLa Parita Cre** baz=148	**148.32**	**42**	⇓P		**PKPbc**	**08 12 40.3**	**+1.4**
635A	**Leesville** baz=148	**148.47**	**40**	⇓P		**PKPbc**	**08 12 40.6**	**+1.3**
934A	**Benavides** baz=149	**149.14**	**44**	⇑P		**PKPab**	**08 12 43.5**	**-1.9**
835A	**Beeville** baz=149	**149.17**	**42**	⇓P		**PKPab**	**08 12 43.5**	**-2.0**
SWET	**Sewanee**	**149.42**	**18**	*e*PKPdf		**PKPdf**	**08 12 36.3**	**-0.8**
SWET				*e*PKPbc		**PKPbc**	**08 12 41.3**	**-0.3**
SWET				*e*PKPab		**PKPab**	**08 12 45.4**	**-0.9**

IDC 31 07:56:11.8±7.7,15°45S×173°09W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.7/21,mbtmp3.9/2,Error ellipse: s-maj=378.3km s-min=26.0km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 84nm,0.3s,baz=59,slow=22,SNR=210	**1.98**	**40**	Pn	Pn		07 56 45.5	-1.3
AFI	449nm,0.3s,baz=337,slow=17,SNR=12				Sn	Sn	07 57 03.9	-8.5
H11S2	**WAKE ISLAND Hy** baz=150,slow=76,SNR=6.7	**39.16**	**329**	T	T	T	08 44 24.5	
H11S3	**WAKE ISLAND Hy** baz=150,slow=76,SNR=8.5	**39.17**	**329**	T	T	T	08 44 04.6	
H11S1	**WAKE ISLAND Hy** baz=150,slow=76,SNR=9.0	**39.18**	**329**	T	T	T	08 44 27.1	
H11N3	**WAKE ISLAND Hy** baz=149,slow=77,SNR=5.9	**40.11**	**330**	T	T	T	08 45 33.4	
H11N1	**WAKE ISLAND Hy** baz=149,slow=77,SNR=6.0	**40.11**	**330**	T	T	T	08 45 29.0	
H11N2	**WAKE ISLAND Hy** baz=149,slow=77,SNR=4.5	**40.12**	**330**	T	T	T	08 45 34.8	
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=91,slow=7.0,SNR=11	**50.13**	**257**	P	P	P	08 05 08.2	-1.1
ASAR	**Alice Springs**	**50.38**	**252**	P	P	P	08 05 10.7	-0.5
	2.8nm,0.9s,baz=88,slow=7.7,SNR=19							
BRTR	**Keskin Array B** 1.4nm,0.8s,baz=77,slow=2.7,SNR=6.4	**146.38**	**321**	PKPbc	PKPab		08 15 56.8	+0.8

*ISCJB **31** 07:59:19.0±0.4,55.69S±0.08×27.2W±0.1,h10km, mb4.6/20,MS3.9/7,Error ellipse: s-maj=12.6km s-min=8.8km az=38.2*

*BJI **31** 07:59:19.5,55.60S×27.10W,h10km,mB5.3/7,Ms5.2/3, Ms7 4.7/5*

*NEIC **31** 07:59:20.3±0.2,55.69S×27.21W,h10km,mb4.9/11,Error ellipse: s-maj=8.5km s-min=5.9km az=212.0*

*IDC **31** 07:59:25.5±4.3,55.73S×27.28W,h46km±40km,mb4.4/13, mb1 4.4/14,mb1mx4.2/20,mbtmp4.3/14,ML3.7/1,MS3.7/7, Ms1 3.7/7,ms1mx3.6/22,Error ellipse: s-maj=20.0km s-min=14.2km az=56.0*

ISC 31 07:59:21.1±0.3,55.65S±0.09×27.32W±0.07,h10km,n101, σ1§73/126,mb4.7/19,MS3.9/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.46**	**281**	*e*Pn	**Pn**		**08 00 43.1**	**+0.8**
SNAA	**Sanae** 14nm,0.8s	**19.14**	**156**	*e*P	**P**		**08 03 43.1**	**-1.0**
SNAA				*e*S	S		08 07 30.0	+9.2
SNAA	**Sanae** 0.2nm,0.3s,baz=309,slow=10.0,SNR=16	**19.14**	**156**	P	**P**		**08 03 43.3**	**-0.8**
SNAA	comp=Z,99nm,18.7s,baz=31,slow=32			LR	LR		08 09 40.7	
USHA	**Ushuaia**	**23.22**	**255**	P	**P**		**08 04 26.8**	**-1.1**
USHA	**Ushuaia** 9.0nm,0.8s,baz=81,slow=9.8,SNR=6.2	**23.22**	**255**	P	**P**		**08 04 26.8**	**-1.1**
USHA	comp=Z,434nm,18.4s,baz=73,slow=32			LR	LR		08 11 37.1	
TRQA	**Tornquist** 17nm,0.9s	**29.10**	**293**	*e*P	**P**		**08 05 22.1**	**+0.5**
PLCA	**Paso Flores** comp=Z,138nm,18.4s,baz=269,slow=36	**31.86**	**280**	LR	LR		08 18 40.3	
QSPA	**South Pole Qui** 6.5nm,0.6s	**34.61**	**180**	*e*P	**P**		**08 06 09.4**	**-0.5**
QSPA	**South Pole Qui** 6.9nm,0.6s,baz=218,slow=3.4,SNR=12	**34.61**	**180**	P	**P**		**08 06 09.4**	**-0.5**
CPUP	**Villa Florida** 1.4nm,0.8s	**36.49**	**311**	*e*P	**P**		**08 06 26.3**	**0.0**
CPUP	**Villa Florida** 19nm,0.9s,baz=133,slow=8.0,SNR=12	**36.49**	**311**	P	**P**		**08 06 26.2**	**0.0**
CPUP	comp=Z,200nm,21.7s,baz=79,slow=33			LR	LR		08 19 44.0	
CFAA	**Coronel Fontan** comp=Z,24nm,18.5s,baz=100,slow=35	**37.34**	**293**	LR	LR		08 21 05.2	
MAW	**Mawson**	**40.52**	**144**	P	**P**		**08 06 59.2**	**-0.4**
MAW				*e*ScS	ScS		08 16 57.7	-7.0
MAW	**Mawson** 6.3nm,0.8s,baz=235,slow=9.0,SNR=3.6	**40.52**	**144**	P	**P**		**08 06 59.2**	**-0.4**
MAW	comp=Z,120nm,19.0s,baz=242,slow=34			LR	LR		08 22 02.5	
SUR	**Sutherland**	**40.60**	**75**	P	**P**		**08 07 00.9**	**-0.1**
SUR	**Sutherland** 6.0nm,0.8s,baz=201,slow=13,SNR=3.2	**40.60**	**75**	P	**P**		**08 07 00.9**	**-0.1**
LCO	**Las Campanas** 21nm,1.1s	**40.68**	**293**	*e*P	**P**		**08 07 01.4**	**-0.3**
BDFB	**Brasilia**	**42.98**	**330**	P	**P**		**08 07 19.4**	**-1.0**
BDFB	**Brasilia** 3.0nm,1.0s,baz=154,slow=10,SNR=3.8	**42.98**	**330**	P	**P**		**08 07 19.4**	**-1.0**
LVC	**Limon Verde** 25nm,0.7s	**45.03**	**300**	*e*P	**P**		**08 07 38.1**	**+1.0**
VNDA	**Vanda** 8.9nm,0.8s	**46.98**	**183**	*e*P	**P**		**08 07 51.3**	**-0.1**
VNDA	**Vanda** 9.8nm,0.8s,baz=188,slow=6.3,SNR=23	**46.98**	**183**	P	**P**		**08 07 50.4**	**-1.0**
H10S2	**ASCENSION HYDR** baz=190,slow=75,SNR=145	**47.63**	**17**	T	T		08 59 17.5	
H10S3	**ASCENSION HYDR** baz=190,slow=75,SNR=147	**47.64**	**17**	T	T		08 59 17.7	
H10S1	**ASCENSION HYDR** baz=190,slow=75,SNR=122	**47.65**	**17**	T	T		08 59 18.7	
H10N1	**ASCENSION HYDR** baz=188,slow=75,SNR=21	**48.75**	**17**	T	T		09 00 45.6	
H10N3	**ASCENSION HYDR** baz=188,slow=75,SNR=64	**48.75**	**17**	T	T		09 00 44.8	
H10N2	**ASCENSION HYDR** baz=188,slow=75,SNR=44	**48.77**	**17**	T	T		09 00 48.1	
LBTB	**Lobatse** 14nm,1.0s	**48.96**	**74**	*e*P	**P**		**08 08 06.2**	**-1.4**
LPAZ	**La Paz** 22nm,0.8s	**50.08**	**305**	*e*P	**P**		**08 08 16.9**	**+0.2**
LPAZ	**La Paz** 16nm,0.7s,baz=157,slow=6.1,SNR=77	**50.08**	**305**	P	**P**		**08 08 17.4**	**+0.7**
RCBR	**Riachuelo** comp=Z,187nm,19.4s,baz=79,slow=33	**50.15**	**349**	LR	LR		08 26 44.9	
SAML	**Samuel** 17nm,0.8s	**54.47**	**315**	*e*P	**P**		**08 08 48.1**	**-0.5**
ATAH	**Atahualpa**	**62.93**	**300**	P	**P**		**08 09 49.6**	**+1.6**
ATAH	**Atahualpa** 5.7nm,0.7s,baz=150,slow=0.7,SNR=3.9	**62.93**	**300**	P	**P**		**08 09 49.6**	**+1.6**
DBIC	**Dimbokro**	**64.83**	**25**	P	**P**		**08 10 01.4**	**+1.5**
DBIC	**Dimbokro** 3.4nm,0.9s,baz=179,slow=8.0,SNR=3.2	**64.83**	**25**	P	**P**		**08 10 01.4**	**+1.5**
OTAV	**Otavalo** 9.3nm,1.2s	**69.37**	**304**	*e*P	**P**		**08 10 30.2**	**+0.8**
TOA0	**Torodi Ar. Sit**	**72.74**	**30**	*e*P	**P**		**08 10 48.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**72.74**	**30**	P	**P**		**08 10 48.6**	**-0.6**
TORD	**Torodi Ar. Bea** 3.7nm,0.6s,baz=199,slow=6.4,SNR=24	**72.74**	**30**	P	**P**		**08 10 48.6**	**-0.6**
SDV	**Santo Domingo** 3.0nm,0.9s	**73.67**	**315**	*e*P	**P**		**08 10 54.6**	**-0.4**
H08N3	**Diego Garcia H** baz=217,slow=76,SNR=52	**89.48**	**100**	T	T		09 51 35.4	
H08N1	**Diego Carcia H** baz=217,slow=76,SNR=24	**89.50**	**100**	T	T		09 51 37.4	
H08N2	**Diego Garcia H** baz=217,slow=76,SNR=122	**89.50**	**100**	T	T		09 51 35.0	
STKA	**Stephens Creek**	**92.31**	**171**	P	**P**		**08 12 30.5**	**-0.8**
STKA	**Stephens Creek** 2.0nm,0.7s,baz=324,slow=14,SNR=4.4	**92.31**	**171**	P	**P**		**08 12 30.5**	**-0.8**
ASAR	**Alice Springs**	**99.40**	**163**	P	**Pdif**		**08 13 01.6**	**-2.1**
ASAR				PP	**PP**		**08 17 08.0**	**+2.0**
ASAR				PKKPbc	**PKKPbc**		**08 29 25.1**	**+0.7**
ASAR	**Alice Springs** 0.8nm,0.6s,baz=185,slow=3.3,SNR=13	**99.40**	**163**	P	**Pdif**		**08 13 01.6**	**-2.1**
ASAR	0.6nm,0.8s,baz=184,slow=8.3,SNR=4.8			PP	**PP**		**08 17 08.0**	**+2.0**
ASAR	0.3nm,0.6s,baz=11,slow=2.8,SNR=5.1			PKKPbc	**PKKPbc**		**08 29 25.1**	**+0.7**
WRA	**Warramunga Arr**	**103.11**	**162**	Pdif	**Pdif**		**08 13 18.1**	**-2.1**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=199,slow=4.4,SNR=3.1	**103.11**	**162**	Pdiff	**Pdif**		**08 13 18.1**	**-2.1**
NOA	**NORSAR Array B**	**120.25**	**21**	PKP	**PKPdf**		**08 18 09.9**	**-1.0**
NOA	**NORSAR Array B** 0.7nm,0.6s,baz=201,slow=2.3,SNR=3.3	**120.25**	**21**	PKP	**PKPdf**		**08 18 09.9**	**-1.0**
NVAR	**Mina Array Bea**	**121.17**	**293**	PKP	**PKPdf**		**08 18 12.5**	**-1.1**
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=174,slow=2.7,SNR=2.3	**121.17**	**293**	PKP	**PKPdf**		**08 18 12.5**	**-1.1**
FINES	**FINESS Array B**	**124.06**	**28**	PKP	**PKPdf**		**08 18 16.4**	**-1.7**
FINES	**FINESS Array B** 3.5nm,0.7s,baz=198,slow=0.6,SNR=14	**124.06**	**28**	PKP	**PKPdf**		**08 18 16.4**	**-1.7**
CM01	**Chiang Mai Arr**	**125.25**	**110**	*e*PKPdf	**PKPdf**		**08 18 20.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**125.28**	**110**	PKP	**PKPdf**		**08 18 20.4**	**-1.4**
CMAR	**Chiang Mai Arr** 1.2nm,0.7s,baz=225,slow=3.8,SNR=7.6	**125.28**	**110**	PKP	**PKPdf**		**08 18 20.4**	**-1.4**
G08A	**Pilot Rock**	**126.51**	**299**	*e*PKPdf	**PKPdf**		**08 18 24.1**	**+0.6**
ABKAR	**Akbulak array**	**127.20**	**55**	*e*PKPdf	**PKPdf**		**08 18 23.4**	**-1.1**
KSH	**Kashi**	**128.53**	**74**	PKP	**PKPdf**		**08 18 26.0**	**-1.6**
KSH				PP	PP		**08 20 34.3**	**+0.6**
KSH				PKS	PKSdf		08 22 00.5	-3.6
KSH				SKS	**SKSdf**		**08 25 36.0**	**-3.0**
KSH				SKKS	**SKKSac**		**08 27 25.0**	**-5.1**
KSH				SS	**SS**		**08 37 46.0**	**-4.3**
KSH	comp=Z,110nm,5.2s			AMB	AMB			
KSH	comp=Z,190nm,5.1s			LR	LR			
EKS2	**Erkin-Say**	**129.54**	**70**	*e*PKPdf	**PKPdf**		**08 18 28.8**	**-0.7**
ARCES	**ARCESS Array B**	**130.59**	**22**	PKP	**PKPdf**		**08 18 28.5**	**-1.9**
ARCES	**ARCESS Array B** 2.1nm,0.5s,baz=202,slow=1.3,SNR=16	**130.59**	**22**	PKP	**PKPdf**		**08 18 28.5**	**-1.9**
YKA	**Yellowknife Ar**	**135.82**	**318**	PKP	**PKPdf**		**08 18 40.7**	**+0.3**
YKA				PP	**PP**		**08 21 18.8**	**-1.2**
YKA	**Yellowknife Ar** 0.9nm,0.7s,baz=131,slow=2.1,SNR=6.6	**135.82**	**318**	PKP	**PKPdf**		**08 18 40.7**	**+0.3**
YKA	0.6nm,0.9s,baz=120,slow=6.9,SNR=5.1			PP	**PP**		**08 21 18.7**	**-1.2**
YKB5	**Yellowknife Ar**	**135.82**	**318**	*e*PKPdf	**PKPdf**		**08 18 38.3**	**-2.1**
GYA	**Guiyang**	**135.89**	**112**	*e*Pdif	**Pdif**		**08 15 44.5**	**-1.3**
GYA				PKP	**PKPdf**		**08 18 41.0**	**-0.9**
GYA				PP	**PP**		**08 21 24.5**	**+3.8**
GYA	comp=Z,90nm,7.6s			AMB	AMB			
CD2	**Chengdu**	**137.84**	**105**	*e*PKP	**PKPdf**		**08 18 45.0**	**-0.2**
CD2				PP	**PP**		**08 21 36.0**	**+3.1**
CD2				SKKS			08 28 25.0	
CD2				SS	**SS**		**08 39 43.0**	**+0.3**
CD2	comp=Z,190nm,7.2s			AMB	AMB			
CD2	comp=E,220nm,11.8s			LR	LR			
CD2	comp=Z,120nm,17.8s			LR	LR			
WMQ	**Urumqi**	**137.89**	**78**	PKP	**PKPdf**		**08 18 44.8**	**-0.1**
ZALV	**Zalesovo Beam**	**142.25**	**63**	PKPpre	PKPpre		08 18 48.3	
ZALV				PKP	**PKPdf**		**08 18 53.0**	**+0.6**
ZALV	**Zalesovo Beam** 0.7nm,0.6s,baz=202,slow=5.9,SNR=3.4	**142.25**	**63**	PKhKP	PKPpre		08 18 48.3	
ZALV	1.2nm,0.6s,baz=245,slow=2.5,SNR=6.2			PKP	**PKPdf**		**08 18 53.0**	**+0.6**
HYT	**Haines Junctio**	**144.49**	**308**	*e*PKPdf	**PKPab**		**08 18 54.9**	**+0.2**
INK	**Inuvik**	**145.44**	**321**	*e*PKPbc	**PKPdf**		**08 18 56.8**	**-0.7**
DAWY	**Dawson**	**146.47**	**312**	*e*PKPbc	**PKPdf**		**08 19 00.0**	**+0.5**
NJ2	**Nanjing**	**146.61**	**121**	*e*PKPbc	**PKPdf**		**08 19 00.8**	**+0.1**
EGAK	**Eagle**	**147.41**	**313**	*e*PKPdf	**PKPdf**		**08 19 00.4**	**-0.6**
EGAK				*e*PKPbc	**PKPbc**		**08 19 02.3**	**-1.2**
EGAK				*e*PKPab	**PKPab**		**08 19 05.6**	**+0.1**
BMRM	**Bremner River**	**147.77**	**306**	*e*PKPdf	**PKPdf**		**08 19 00.8**	**-0.9**
BMRM				*e*PKPbc	**PKPbc**		**08 19 05.0**	**+0.3**
MENT	**Mentasta**	**147.98**	**309**	*e*PKPdf	**PKPdf**		**08 19 00.8**	**-1.2**
MENT				*e*PKPbc	**PKPbc**		**08 19 04.5**	**-0.7**
DOT	**Dot Lake**	**148.33**	**311**	*e*PKPdf	**PKPdf**		**08 19 02.5**	**-0.1**
DOT				*e*PKPbc	**PKPbc**		**08 19 05.8**	**-0.2**
DOT				*e*PKPab	**PKiKP**		**08 19 09.0**	**+1.3**
DIV	**Divide**	**148.36**	**306**	*e*PKPdf	**PKPdf**		**08 19 01.9**	**-0.9**
DIV				*e*PKPbc	**PKPbc**		**08 19 05.8**	**-0.5**
DIV				*e*PKPab	**PKiKP**		**08 19 09.4**	**+1.5**
PAX	**Paxson**	**148.76**	**309**	*e*PKPbc	**PKPdf**		**08 19 06.7**	**+0.3**
HHC	**Hu-ho-hao-te**	**149.40**	**101**	*e*PKPbc	**PKPdf**		**08 19 05.5**	**+0.3**
HHC				PKS	**PKSdf**		**08 22 38.8**	**-1.3**
HHC				PP	**PP**		**08 22 45.0**	**+2.5**
HHC				SKS	**SKSdf**		**08 26 13.3**	**+0.3**
HHC				SKKS	**SKKSac**		**08 29 34.5**	**+1.4**
HHC				SS	**SS**		**08 41 57.5**	**+1.5**
HHC	comp=Z,140nm,9.4s			AMB	AMB			
HHC	comp=N,190nm,21.8s			LR	LR			
HHC	comp=E,190nm,21.2s			LR	LR			
HHC	comp=Z,130nm,22.0s			LR	LR			
IL1	**Eielson Array**	**149.79**	**312**	*e*PKPbc	**PKPdf**		**08 19 08.3**	**+3.4**
ILAR	**Eielson Array**	**149.79**	**312**	PKPbc	**PKPdf**		**08 19 08.2**	**+3.3**
ILAR	**Eielson Array** 8.7nm,0.9s,baz=124,slow=1.6,SNR=73	**149.79**	**312**	PKPbc	**PKPdf**		**08 19 08.2**	**+3.3**
COLA	**College**	**150.22**	**312**	*e*PKPbc	**PKPdf**		**08 19 09.4**	**+3.9**
COLA				*e*PKPab	**PKPab**		**08 19 16.8**	**-0.1**
MCK	**McKinley**	**150.46**	**310**	*e*PKPbc	**PKPbc**		**08 19 10.9**	**-0.4**
KDAK	**Kodiak Island**	**150.57**	**297**	*e*PKPbc	**PKPbc**		**08 19 11.2**	**-0.5**
SONM	**Songino Array**	**150.77**	**86**	PKPbc	**PKPdf**		**08 19 11.4**	**+4.3**
SONM				PKPab	**PKiKP**		**08 19 17.4**	**+4.1**
SONM	**Songino Array** 10.0nm,0.9s,baz=220,slow=3.3,SNR=55	**150.77**	**86**	PKPbc	**PKPdf**		**08 19 11.4**	**+4.3**
SONM	5.9nm,0.7s,baz=212,slow=2.3,SNR=13			PKPab	**PKiKP**		**08 19 17.4**	**+4.1**
SONA1	**Songino Array**	**150.78**	**86**	*e*PKPbc	**PKPdf**		**08 19 11.4**	**+4.3**
TRF	**Thorofare Moun**	**150.99**	**309**	*e*PKPbc	**PKPbc**		**08 19 12.0**	**-0.8**
ULN	**Ulaanbaatar**	**151.16**	**86**	*e*PKPbc	**PKPdf**		**08 19 12.1**	**+4.4**
KTH	**Kantishna Hill**	**151.29**	**309**	*e*PKPbc	**PKPbc**		**08 19 12.4**	**-0.9**
KTH				*e*PKPab	**PKPab**		**08 19 20.6**	**-0.9**
RSO	**Redoubt South**	**151.45**	**302**	*e*PKPbc	**PKPbc**		**08 19 14.1**	**+0.1**
RSO				*e*PKPab	**PKPab**		**08 19 22.5**	**0.0**
COLD	**Coldfoot**	**151.48**	**317**	*e*PKPbc	**PKPbc**		**08 19 13.6**	**0.0**
COLD				*e*PKPab	**PKPab**		**08 19 23.1**	**+1.0**
PPLA	**Purkeypile**	**151.73**	**307**	*e*PKPdf	**PKPdf**		**08 19 07.3**	**-0.8**
PPLA				*e*PKPbc	**PKPbc**		**08 19 13.3**	**-1.2**
PPLA				*e*PKPbc	**PKiKP**		**08 19 14.7**	**-0.1**
PPLA				*e*PKPab	**PKPab**		**08 19 22.7**	**-0.8**
PPLA				*e*PKPab	PKPab		08 19 23.4	-0.1
IM04	**Indian Mountai**	**152.81**	**314**	*e*PKPbc	**PKPbc**		**08 19 15.8**	**-0.8**
IM04				*e*PKPab	**PKPab**		**08 19 27.0**	**-0.8**

*ISCJB **31** 08:11:35.2±0.7,10.42S±0.07×78.8W±0.1,h40km, mb3.8/11,Error ellipse: s-maj=16.7km s-min=8.4km az=160.9*

*IDC **31** 08:11:37.4±0.7,10.36S×78.70W,h45km±5km,mb3.7/10, mb1 4.0/12,mb1mx3.9/21,mbtmp4.0/12,ML4.0/2,Error ellipse: s-maj=20.

SONM pPKP pPKPdf 08 31 18.1 -0.6
0.4nm,0.7s,baz=270,slow=1.5,SNR=3.3
KSRS Korea Array 143.90 323 PKP PKPab 08 31 05.8 0.0
1.4nm,0.7s,baz=47,slow=4.1,SNR=3.9

*NEIC **31** 09:00:09.8, 36°.59S×177°.31E, h196km, MG4.1(WEL), After WEL.*
WEL 31 09:00:09.2±0.6, 36°.53S×177°.27E, h196km±5km, ML4.1/6, 2C-1D, Error ellipse: s-maj=6.8km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.33**	**141**	PN	Pn	09 00 40.8	-0.2
MXZ				SN	Sn	09 01 05.0	-0.8
MXZ				AML	AML	09 01 13.3	
MXZ				AML	AML	09 01 15.7	
MXZ				AML	AML	09 01 15.7	
MXZ	**Matakaoa Point**	**1.33**	**141**	Pn	Pn	09 00 40.8	-0.2
MXZ				Sn	Sn	09 01 05.0	-0.8
URZ	**Urewera**	**1.73**	**184**	Pn	Pn	09 00 45.1	+0.4
URZ				SN	Sn	09 01 12.2	-0.3
URZ				AML	AML	09 01 20.3	
URZ	**Urewera**	**1.73**	**184**	Pn	Pn	09 00 45.1	+0.5
URZ				Sn	Sn	09 01 12.2	-0.3
MWZ	**Matawai**	**1.82**	**174**	PN	Pn	09 00 46.0	+0.5
MWZ				SN	Sn	09 01 13.7	-0.3
MWZ				AML	AML	09 01 15.2	
MWZ				AML	AML	09 01 15.2	
MWZ				AML	AML	09 01 18.3	
MWZ	**Matawai**	**1.82**	**174**	Pn	Pn	09 00 46.0	+0.5
MWZ				Sn	Sn	09 01 13.7	-0.3
CNGZ	**Carnagh Statio**	**2.09**	**159**	⇑PN	Pn	09 00 48.7	+0.4
CNGZ				SN	Sn	09 01 18.9	0.0
CNGZ	**Carnagh Statio**	**2.09**	**159**	Pn	Pn	09 00 48.7	+0.4
RIGZ	**Rimuhau**	**2.21**	**170**	⇑PN	Pn	09 00 49.7	+0.1
SNGZ	**Shannon Statio**	**2.25**	**179**	PN	Pn	09 00 50.2	+0.1
RAHZ	**Arahi**	**2.39**	**183**	PN	Pn	09 00 51.9	+0.3
RAHZ	**Arahi**	**2.39**	**183**	Pn	Pn	09 00 51.9	+0.3
PRGZ	**Paritu Road**	**2.44**	**169**	PN	Pn	09 00 51.8	-0.3
PRGZ	**Paritu Road**	**2.44**	**169**	Pn	Pn	09 00 51.8	-0.3
KNZ	**Kokohu**	**2.51**	**173**	PN	Pn	09 00 52.5	-0.4
KNZ	**Kokohu**	**2.51**	**173**	Pn	Pn	09 00 52.5	-0.4
WHHZ	**Waihua**	**2.54**	**181**	PN	Pn	09 00 53.5	+0.2
NMHZ	**Naumai**	**2.59**	**188**	PN	Pn	09 00 54.3	+0.4
NMHZ	**Naumai**	**2.59**	**188**	Pn	Pn	09 00 54.3	+0.4
MHGZ	**Mahia Peninsul**	**2.67**	**169**	PN	Pn	09 00 54.3	-0.4
MHGZ	**Mahia Peninsul**	**2.67**	**169**	Pn	Pn	09 00 54.3	-0.4
BKZ	**Black Stump Fm**	**2.71**	**193**	PN	Pn	09 00 54.8	-0.4
BKZ				SN	Sn	09 01 30.0	-1.3
BKZ				AML	AML	09 01 41.3	
BKZ	**Black Stump Fm**	**2.71**	**193**	Pn	Pn	09 00 54.8	-0.4
BKZ				Sn	Sn	09 01 30.0	-1.3
MCHZ	**McNeill Hill**	**2.95**	**189**	PN	Pn	09 00 57.9	0.0
MCHZ	**McNeill Hill**	**2.95**	**189**	Pn	Pn	09 00 57.9	0.0
WNVZ	**Wahianoa**	**3.09**	**205**	PN	Pn	09 00 60.0	+0.1
WNVZ	**Wahianoa**	**3.09**	**205**	Pn	Pn	09 00 60.0	+0.1
BHHZ	**Black Hill Sta**	**3.11**	**197**	PN	Pn	09 00 59.2	-0.7
BHHZ	**Black Hill Sta**	**3.11**	**197**	Pn	Pn	09 00 59.2	-0.7
CKHZ	**Cape Kidnapper**	**3.13**	**183**	PN	Pn	09 00 59.4	-0.7
CKHZ	**Cape Kidnapper**	**3.13**	**183**	Pn	Pn	09 00 59.4	-0.6
KAHZ	**Kahuranaki**	**3.28**	**185**	PN	Pn	09 01 01.2	-0.7
KAHZ	**Kahuranaki**	**3.28**	**185**	Pn	Pn	09 01 01.2	-0.7
PNHZ	**Pukenui**	**3.48**	**194**	PN	Pn	09 01 03.2	-1.3
PNHZ	**Pukenui**	**3.48**	**194**	Pn	Pn	09 01 03.2	-1.3
PXZ	**Pawanui**	**3.51**	**185**	⇓PN	Pn	09 01 03.3	-1.4
PXZ				AML	AML	09 01 47.8	
PXZ				AML	AML	09 01 47.8	
PXZ				AML	AML	09 01 49.3	
PXZ				AML	AML	09 01 49.3	
PXZ	**Pawanui**	**3.51**	**185**	Pn	Pn	09 01 03.3	-1.4
WPHZ	**Waipukurau**	**3.59**	**190**	PN	Pn	09 01 04.3	-1.4
WPHZ	**Waipukurau**	**3.59**	**190**	Pn	Pn	09 01 04.3	-1.4
TSZ	**Takapari Road**	**3.67**	**196**	PN	Pn	09 01 05.2	-1.5
TSZ	**Takapari Road**	**3.67**	**196**	Pn	Pn	09 01 05.2	-1.5
PRHZ	**Porangahau**	**3.77**	**187**	Pn	Pn	09 00 59.0	-8.9
DVHZ	**Dannevirke**	**3.87**	**193**	PN	Pn	09 01 07.1	-2.0
DVHZ	**Dannevirke**	**3.87**	**193**	Pn	Pn	09 01 07.1	-2.0
ANWZ	**Angora Road**	**3.98**	**189**	PN	Pn	09 01 08.8	-1.6
BFZ	**Birch Farm**	**4.22**	**191**	PN	Pn	09 01 11.6	-2.0
BFZ	**Birch Farm**	**4.22**	**191**	Pn	Pn	09 01 11.6	-2.0
MRZ	**Mangatainoka R**	**4.33**	**197**	PN	Pn	09 01 12.6	-2.4
MRZ	**Mangatainoka R**	**4.33**	**197**	Pn	Pn	09 01 12.6	-2.4
TIWZ	**Tintock**	**4.38**	**194**	PN	Pn	09 01 13.3	-2.2
TIWZ				AML	AML	09 02 07.1	
TIWZ	**Tintock**	**4.38**	**194**	Pn	Pn	09 01 13.3	-2.2
HOWZ	**Holdsworth Sta**	**4.57**	**197**	PN	Pn	09 01 15.2	-2.8
HOWZ	**Holdsworth Sta**	**4.57**	**197**	Pn	Pn	09 01 15.2	-2.8
OGWZ	**Otaki Gorge**	**4.59**	**200**	PN	Pn	09 01 15.8	-2.3
OGWZ	**Otaki Gorge**	**4.59**	**200**	Pn	Pn	09 01 15.8	-2.3
TMWZ	**Te Maipa**	**4.70**	**193**	PN	Pn	09 01 16.9	-2.7
TMWZ	**Te Maipa**	**4.70**	**193**	Pn	Pn	09 01 16.9	-2.7
KIW	**Kapiti Island**	**4.70**	**202**	PN	Pn	09 01 16.8	-2.9
KIW	**Kapiti Island**	**4.70**	**202**	Pn	Pn	09 01 16.8	-2.9
MTW	**Mount Morrison**	**4.83**	**196**	PN	Pn	09 01 17.9	-3.3
MTW	**Mount Morrison**	**4.83**	**196**	Pn	Pn	09 01 17.9	-3.3
CAW	**Cannon Point**	**4.89**	**200**	PN	Pn	09 01 18.9	-3.0
CAW	**Cannon Point**	**4.89**	**200**	Pn	Pn	09 01 18.9	-3.0
TCW	**Tory Channel**	**5.23**	**206**	PN	Pn	09 01 23.1	-3.2
TCW	**Tory Channel**	**5.23**	**206**	Pn	Pn	09 01 23.1	-3.2
PLWZ	**Palliser**	**5.27**	**197**	PN	Pn	09 01 23.3	-3.7
PLWZ	**Palliser**	**5.27**	**197**	Pn	Pn	09 01 23.3	-3.7
TUWZ	**Tuamarina**	**5.54**	**207**	PN	Pn	09 01 27.0	-3.3
TUWZ	**Tuamarina**	**5.54**	**207**	Pn	Pn	09 01 27.0	-3.3

*BJI **31** 09:05:52.8, 8°.38S×128°.27E, h177km, mB5.0/20, mb4.7/36*
*MOS **31** 09:05:53.1±1.2, 7°.43S×127°.93E, h114km, mb5.0/24, Error ellipse: s-maj=16.2km s-min=6.1km az=118.2*
*IDC **31** 09:05:59.3±2.4, 7°.47S×127°.88E, h153km±21km, mb4.3/18, mb1 4.4/18, mb1mx4.3/20, mbtmp4.7/18, MS3.4/2, Ms1 3.4/2, ms1mx3.0/25, Error ellipse: s-maj=16.0km s-min=8.6km az=73.0*
*ISCJB **31** 09:05:60.0±0.4, 7°.64S±0°.03×128°.03E±0°.03, h187km±4km, mb4.8/85, Error ellipse: s-maj=5.2km s-min=4.8km az=144.0*
*NEIC **31** 09:06:01.2±0.7, 7°.50S×127°.93E, h176km±6km, mb5.1/38, Error ellipse: s-maj=6.7km s-min=3.9km az=51.0*
*DJA **31** 09:06:01.8±0.3, 8°.S±3°×12°.8E±°, h100km±7km, M4.8/33, mb5.0/33, mB5.3/18, MLv5.3/15, Mw(mB)4.7/18*
ISC 31 09:06:01.6±0.4, 7°.64S±0°.04×127°.89E±0°.05, h179km±2km, n541, σ1♀25/573, mb4.8/85, 153C-129D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.40**	**96**	P	**Pn**	**09 06 52.3**	**-2.8**
BNDI	**Bandanaira**	**3.69**	**33**	P	**Pn**	**09 06 57.0**	**-1.8**
SOEI	**Soe**	**4.15**	**239**	P	**Pn**	**09 07 04.4**	**-0.4**
MSAI	**Masohi**	**4.39**	**14**	P	**Pn**	**09 07 06.5**	**-1.3**
NLAI	**Namlea**	**4.45**	**350**	P	**Pn**	**09 07 08.4**	**-0.1**
MMRI	**Maumere** 174nm,1.0s,4μm1.9nm	**5.68**	**260**	P	**Pn**	**09 07 24.6**	**+0.1**
FAKI	**Fak Fak** 218nm,0.9s,2μm0.7nm	**6.39**	**43**	P	Pn	09 07 29.6	-4.2
LBMI	**Labuha** 228nm,1.2s,2μm0.7nm	**6.97**	**357**	P	**Pn**	**09 07 41.2**	**-0.2**
SWI	**Sorong** 245nm,1.0s,3μm0.9nm	**7.53**	**27**	P	**Pn**	**09 07 45.9**	**-2.9**
WSI	**Waingapu** 1μm,0.5s,22μm	**7.77**	**254**	P	**Pn**	**09 07 50.3**	**-1.7**
LBFI	**Labuhan Bajo,** 196nm,0.8s,2μm1.4nm	**7.96**	**263**	P	**Pn**	**09 07 57.0**	**+2.5**
BKSI	**Bulukumba** 90nm,1.1s,1μm0.3nm	**8.05**	**286**	P	**Pn**	**09 07 56.4**	**+0.7**
LUWI	**Luwuk** 131nm,0.9s,0.4nm	**8.31**	**322**	P	**Pn**	**09 08 02.0**	**+3.0**
TNTI	**Ternate** 207nm,1.1s,0.7nm	**8.38**	**356**	P	**Pn**	**09 07 59.9**	**0.0**
TNTI	**Ternate**	**8.38**	**356**	*e*Pn	**Pn**	**09 07 59.0**	**-1.0**
BNSI	**Bone** 77nm,1.4s,868nm0.3nm	**8.38**	**292**	P	**Pn**	**09 08 00.5**	**+0.5**
KAPI	**Kappang**	**8.50**	**287**	*e*Pn	**Pn**	**09 08 01.5**	**-0.1**
SPSI	**Sidrap Palu** 38nm,0.9s,634nm	**8.87**	**294**	P	**Pn**	**09 08 07.8**	**+1.4**
KMSI	**Cibinong** 191nm,0.5s	**9.05**	**334**	P	Pn	09 08 15.2	+6.4
MWPI	**Manokwari, Pap** 366nm,0.8s,3μm	**9.06**	**43**	P	**Pn**	**09 08 06.9**	**-2.0**
APSI	**Ampana**	**9.13**	**317**	P	Pn	09 08 13.7	+3.8
	53nm,1.1s,818nm						
TTSI	**Tana Toraja** 36nm,0.9s,511nm	**9.24**	**299**	P	**Pn**	**09 08 13.9**	**+2.6**
GAMI	**Galela, Maluku** 73nm,0.7s,4μm	**9.42**	**359**	P	Pn	09 08 17.4	+3.7
GTOI	**Gorontalo** 77nm,0.7s,896nm	**9.56**	**329**	P	Pn	09 08 21.1	+5.7
MRSI	**Marisa** 34nm,0.7s	**10.01**	**323**	P	Pn	09 08 26.2	+4.8
BAKI	**Biak** 95nm,0.8s	**10.40**	**52**	P	**Pn**	**09 08 24.6**	**-1.9**
MTNI	**Mataram** 34nm,0.5s,815nm	**11.64**	**264**	P	**P**	**09 08 46.9**	**-1.8**
BKB	**Balikpapan** 259nm,0.9s,2μm	**12.66**	**300**	P	P	09 09 04.5	+4.6
JAGI	**Jajag, Banyuwa**	**13.63**	**266**	*e*Pn	**Pn**	**09 09 08.4**	**+0.6**
WRAB	**Tennant Creek**	**13.73**	**154**	*ce*P	Pn	09 09 04.3	-4.8
WRAB	comp=Z,701nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek**	**13.73**	**154**	*e*Pn	Pn	09 09 05.3	-3.8
WRAB				*e*Sn	Sn	09 11 28.1	-14
WRA	**Warramunga Arr**	**13.73**	**154**	P	Pn	09 09 04.2	-4.9
WRA				S	Sn	09 11 27.9	-14
WRA	**Warramunga Arr**	**13.73**	**154**	P	Pn	09 09 04.2	-4.9
WRA	comp=Z,23nm,0.3s,baz=325,slow=14,SNR=244			S	Sn	09 11 27.9	-14
WRA	comp=Z,30nm,0.3s,baz=327,slow=24,SNR=9.1			LR	LR	09 15 05.2	
BLJI	**Banyuglugur**	**14.17**	**269**	P	**P**	**09 09 18.4**	**+1.7**
KRKI	comp=Z,123nm,0.6s,comp=Z,5μm **Karangkates**	**15.30**	**267**	P	**P**	**09 09 32.6**	**+3.3**
MYLDM	comp=Z,284nm,0.3s **Lahad Datu**	**15.81**	**323**	P	**P**	**09 09 38.3**	**+3.4**
MYLDM	**Lahad Datu**	**15.81**	**323**	P	**P**	**09 09 38.8**	**+3.9**
MYLDM	comp=Z,66nm,1.0s **Lahad Datu**	**15.81**	**323**	*e*Pn	**P**	**09 09 38.1**	**+3.1**
PWJI	comp=Z,51nm,0.8s **Pagerwojo**	**15.94**	**268**	P	**Pn**	**09 09 35.5**	**-0.8**
COEN	**Coen**	**16.27**	**114**	*e*Pn	**P**	**09 09 38.9**	**-1.1**
COEN	comp=Z,179nm,0.8s			*e*Sn	S	09 12 27.0	-13
PCJI	**Pacitan**	**16.56**	**267**	P	**P**	**09 09 42.1**	**-1.1**
AS31	**Alice Springs**	**16.94**	**161**	*e*P	**P**	**09 09 47.5**	**+0.1**
AS31				*e*S	**S**	**09 12 49.4**	**-5.6**
ASAR	**Alice Springs**	**16.95**	**161**	P	**P**	**09 09 47.7**	**+0.3**
ASAR				S	S	09 12 46.5	-8.4
ASAR	**Alice Springs**	**16.95**	**161**	P	**P**	**09 09 47.7**	**+0.3**
ASAR	comp=Z,21nm,0.3s,baz=336,slow=8.9,SNR=816			S	S	09 12 46.5	-8.4
SDKM	comp=Z,4.2nm,0.3s,baz=334,slow=18,SNR=4.6 **Sandakan**	**16.97**	**321**	P	**Pn**	**09 09 50.5**	**+1.7**
BJII	**Banjamegara** comp=Z,50nm,1.4s	**18.03**	**270**	P	Pn	09 10 08.0	+6.7
BTM	**Bintulu**	**18.28**	**306**	P	**Pn**	**09 10 04.6**	**+0.4**
SBUM	**Sibu**	**18.57**	**302**	P	**Pn**	**09 10 07.4**	**-0.2**
SBUM	**Sibu**	**18.57**	**302**	P	**Pn**	**09 10 07.8**	**+0.1**
SBUM	**Sibu**	**18.57**	**302**	P	**Pn**	**09 10 07.3**	**-0.3**
SBUM	**Sibu**	**18.57**	**302**	*e*Pn	**Pn**	**09 10 06.8**	**-0.8**
KPJI	comp=Z,95nm,0.7s **Karang Pucung**	**18.80**	**270**	P	**P**	**09 10 06.2**	**-1.5**
PMG	**Port Moresby** comp=Z,32nm,1.0s	**19.14**	**97**	P	**Pn**	**09 10 18.5**	**+4.2**
PMG	**Port Moresby**	**19.14**	**97**	*e*P	**Pn**	**09 10 15.6**	**+1.3**
PMG				S	**S**	**09 13 38.7**	**-0.1**
PMG	**Port Moresby**	**19.14**	**97**	P	**Pn**	**09 10 14.8**	**+0.5**
PMG	comp=Z,1.3nm,0.3s,baz=261,slow=7.7,SNR=5.9			S	**S**	**09 13 38.7**	**-0.1**
CMJI	comp=Z,0.9nm,0.3s,baz=199,slow=23,SNR=7.4 **Cimerak**	**19.27**	**268**	P	**P**	**09 10 14.3**	**+1.6**
KSM	**Kuching**	**19.74**	**297**	P	**P**	**09 10 18.4**	**+0.6**
KSM	**Kuching**	**19.74**	**297**	P	**Pn**	**09 10 21.2**	**-0.3**
KSM	**Kuching**	**19.74**	**297**	P	**P**	**09 10 18.8**	**+1.0**
KSM	**Kuching**	**19.74**	**297**	*e*P	**P**	**09 10 17.8**	**0.0**
CISI	**Cisompet, Garu**	**19.90**	**269**	P	**Pn**	**09 10 21.8**	**-1.6**
CISI	**Cisompet, Garu** comp=Z,99nm,0.9s	**19.90**	**269**	*e*P	**P**	**09 10 19.4**	**-0.2**
TPI	**Tanjungpandan**	**20.72**	**282**	P	**P**	**09 10 29.1**	**+0.7**
CBJI	**Citeko**	**20.92**	**272**	P	**P**	**09 10 27.5**	**-2.9**
DBJI	**Dramaga**	**21.01**	**272**	P	**P**	**09 10 29.6**	**-1.8**
CTA	**Charters Tower**	**21.67**	**127**	P	**P**	**09 10 39.0**	**+0.7**
CTA	**Charters Tower** comp=Z,15nm,0.9s,baz=302,slow=11,SNR=7.8	**21.67**	**127**	P	**P**	**09 10 39.0**	**+0.7**
CTAO	**Charters Tower**	**21.67**	**127**	*e*P	**P**	**09 10 38.2**	**-0.1**
CTAO	comp=Z,34nm,1.2s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,34nm,1.2s	**21.67**	**127**	*e*P	**P**	**09 10 38.2**	**-0.1**
CGJI	**Cibinong**	**22.05**	**271**	P	**P**	**09 10 40.1**	**-2.1**
TGY	**Tagaytay City**	**22.68**	**342**	P	**P**	**09 10 47.8**	**-0.3**
TGY	**Tagaytay City** comp=Z,204nm,0.4s,baz=113,slow=9.3,SNR=6.3	**22.68**	**342**	P	**P**	**09 10 47.8**	**-0.3**
FORT	**Forrest** comp=Z,126nm,0.8s	**23.02**	**180**	*e*P	**P**	**09 10 52.6**	**+1.7**
KASI	**Kota Agung**	**23.33**	**274**	P	**P**	**09 10 52.1**	**-1.9**
MDSI	**Maura Dua**	**23.78**	**276**	P	**P**	**09 10 56.9**	**-1.2**
LHSI	**Lahat**	**24.53**	**278**	P	**P**	**09 11 06.2**	**+1.3**
TPRI	**Tanjung Pinang**	**24.80**	**289**	P	**P**	**09 11 08.2**	**+0.8**
MYKOM	**Kota Tinggi**	**25.75**	**290**	P	**P**	**09 11 16.8**	**+0.9**
KGM	**Kluang**	**26.32**	**290**	P	**P**	**09 11 29.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**27.03**	**200**	P	**P**	**09 11 28.4**	**+1.2**
NWAO	**Narrogin (SRO)** comp=Z,6.7nm,0.7s,baz=6.8,slow=6.8,SNR=6.5	**27.03**	**200**	P	**P**	**09 11 28.4**	**+1.2**
NWAO	comp=Z,172nm,19.2s,baz=40,slow=40			LR	LR	09 24 09.4	
STKA	**Stephens Creek**	**27.29**	**154**	P	**P**	**09 11 30.3**	**+0.9**
STKA	**Stephens Creek** comp=Z,14nm,0.5s,baz=335,slow=9.9,SNR=23	**27.29**	**154**	P	**P**	**09 11 30.3**	**+0.9**
PPI	**Padang Panjang**	**28.32**	**283**	P	**P**	**09 11 39.0**	**+0.1**
IPM	**Ipoh**	**29.39**	**293**	P	**P**	**09 11 48.0**	**-0.3**
IPM	**Ipoh** comp=Z,25nm,0.6s	**29.39**	**293**	*e*P	**P**	**09 11 47.8**	**-0.5**
KULM	**Kulim**	**30.06**	**295**	P	**P**	**09 11 54.2**	**-0.1**
KULM	**Kulim** comp=Z,21nm,0.6s	**30.06**	**295**	*e*P	**P**	**09 11 53.8**	**-0.4**
PSI	**Prapat**	**30.70**	**289**	P	**P**	**09 11 59.2**	**-0.9**
PSI	**Prapat** comp=Z,118nm,0.8s,baz=113,slow=5.5,SNR=50	**30.70**	**289**	P	**P**	**09 11 59.2**	**-0.9**
CHBT	**CHBT** comp=Z,37nm,0.7s	**32.49**	**308**	P	**P**	**09 12 18.0**	**+2.5**
SURT	**Suratani** comp=Z,14nm,0.9s,comp=Z,263nm	**33.35**	**299**	P	**P**	**09 12 24.3**	**+1.3**
PATY	**Pattaya** comp=Z,11nm,0.8s	**33.74**	**307**	P	P	09 12 29.6	+3.2
PBKT	**Sadao Pong** comp=Z,9.2nm,0.9s,comp=Z,1μm	**35.89**	**312**	P	**P**	**09 12 46.6**	**+1.8**
KHLT	**Khaolaem Dam** comp=Z,8.6nm,1.1s	**36.62**	**307**	P	**P**	**09 12 53.1**	**+2.1**
SLVN	**Son La**	**37.20**	**321**	*e*P	**P**	**09 12 56.0**	**+0.2**
LAMP	**Lampang** comp=Z,7.4nm,0.6s,comp=Z,71nm	**38.12**	**313**	P	**P**	**09 13 04.6**	**+1.0**
CM31	**Chng Mai Arr** comp=Z,7.8nm,0.6s	**38.58**	**313**	*e*P	**P**	**09 13 06.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**38.58**	**313**	P	**P**	**09 13 07.3**	**-0.1**
CMAR				PcP	**PcP**	**09 15 17.6**	**+1.3**
CMAR				ScP	**S**	**09 18 50.7**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,8.8nm,0.6s,baz=139,slow=7.0,SNR=60	**38.58**	**313**	P	**P**	**09 13 07.3**	**-0.1**
CMAR	comp=Z,4.3nm,0.8s,baz=163,slow=3.0,SNR=8.8			PcP	**PcP**	**09 15 17.6**	**+1.3**
CMAR	comp=Z,1.0nm,0.9s,baz=165,slow=3.4,SNR=5.2			ScP	**S**	**09 18 50.7**	**+0.4**
CHTO	**Chiang Mai**	**38.81**	**313**	*e*P	**P**	**09 13 08.9**	**-0.4**
CHTO	comp=Z,12nm,0.7s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,12nm,0.7s	**38.81**	**313**	*e*P	**P**	**09 13 08.9**	**-0.4**
CMAI	**Chiengmai2** comp=Z,48nm,1.1s	**39.46**	**314**	P	**P**	**09 13 16.5**	**+1.6**
GYA	**Guiyang**	**39.67**	**329**	P	**P**	**09 13 18.0**	**+1.5**
GYA				pP	**pP**	**09 13 55.3**	**+0.4**
GYA				sP	**sP**	**09 14 17.0**	**+1.7**
GYA				PP	**PnPn**	**09 14 55.5**	**-1.0**
GYA				PcP	**PcP**	**09 15 20.8**	**+1.1**
GYA				ScP	**ScP**	**09 18 51.5**	**-0.2**
GYA				S	**S**	**09 19 07.0**	**+0.4**
GYA				sS	**sS**	**09 20 15.5**	**+1.4**
GYA				ScS	**ScS**	**09 23 01.3**	**-3.8**
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,110nm,4.8s			pmax	pmax		
DZM	**Mont Dzumac**	**39.79**	**115**	P	**P**	**09 13 19.1**	**+1.5**
DZM	**Mont Dzumac** comp=Z,5.0nm,0.7s,baz=281,slow=14,SNR=3.4	**39.79**	**115**	P	**P**	**09 13 19.1**	**+1.5**
WHN	**Wuhan**	**40.13**	**342**	P	**P**	**09 13 20.3**	**+0.3**
JNU	**Nakatsue**	**40.64**	**4**	P	**P**	**09 13 23.6**	**-0.7**
JNU	**Nakatsue** comp=Z,14nm,0.8s,baz=53,slow=11,SNR=4.8	**40.64**	**4**	P	**P**	**09 13 23.6**	**-0.7**
KMI	**Kunming**	**40.75**	**324**	P	**P**	**09 13 26.0**	**+0.5**
KMI	comp=Z,26nm,0.9s			pmax	pmax		
ENH	**Enshi**	**41.63**	**336**	*e*P	**P**	**09 13 31.1**	**-1.3**
CD2	**Chengdu**	**44.77**	**330**	P	**P**	**09 13 56.5**	**-1.0**
CD2				pP	**pP**	**09 14 35.5**	**-1.3**
CD2				sP	**sP**	**09 14 55.5**	**-1.4**
CD2				PP	**PP**	**09 15 44.8**	**-1.2**
CD2				S	**S**	**09 20 20.0**	**-1.1**
CD2				sS	**sS**	**09 21 28.8**	**-1.0**
CD2	comp=Z,30nm,1.0s			pmax	pmax		
CD2	comp=Z,120nm,6.2s			pmax	pmax		
KSAR	**Wonju Array Be**	**44.85**	**360**	P	**P**	**09 13 57.7**	**-0.3**
KSAR				PcP	**PcP**	**09 15 35.1**	**-1.5**
KSRS	**Korea Array** comp=Z,7.8nm,0.8s,baz=179,slow=9.4,SNR=24	**44.86**	**0**	P	**P**	**09 13 57.7**	**-0.3**
KSRS	comp=Z,1.5nm,0.6s,baz=178,slow=3.1,SNR=4.0			PcP	**PcP**	**09 15 35.1**	**-1.5**
MAT	**Matsushiro**	**45.01**	**12**	P	**P**	**09 13 56.3**	**-3.0**
MJAR	**Matsushiro Arr**	**45.01**	**12**	P	**P**	**09 13 56.7**	**-2.6**
MJAR	**Matsushiro Arr** comp=Z,7.5nm,0.8s,baz=187,slow=9.0,SNR=7.4	**45.01**	**12**	P	**P**	**09 13 56.7**	**-2.6**
XAN	**Xi'an**	**45.19**	**338**	P	**P**	**09 13 59.5**	**-1.3**
XAN	comp=Z,6.0nm,0.9s			pmax	pmax		
BJI	**Beijing**	**48.66**	**348**	P	**P**	**09 14 25.8**	**-1.7**
BJI	comp=Z,18nm,1.1s			pmax	pmax		
BJI	comp=Z,130nm,3.9s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**50.54**	**344**	*e*P	**P**	**09 14 43.5**	**+1.6**
HHC				pP	**pP**	**09 15 20.5**	**-1.5**
HHC				sP	**sP**	**09 15 45.5**	**+3.6**
HHC				PP	**PP**	**09 16 42.5**	**+2.9**
HHC				S	**S**	**09 21 44.3**	**+2.0**
HHC				sS	**sS**	**09 22 54.3**	**+2.0**
HHC	comp=Z,31nm,1.0s			pmax	pmax		
HHC	comp=Z,230nm,6.3s			pmax	pmax		
LSA	**Lhasa**	**51.25**	**318**	*e*P	**P**	**09 14 47.4**	**-0.3**
LSA	comp=Z,18nm,0.6s			pmax	pmax		
LSA	**Lhasa** comp=Z,18nm,0.6s	**51.25**	**318**	*e*P	**P**	**09 14 47.4**	**-0.3**
CN2	**Changchun**	**51.25**	**358**	*e*P	**P**	**09 14 47.0**	**+0.1**
USRK	**Ussuriysk Arra** comp=Z,6.5nm,0.6s,baz=187,slow=7.0,SNR=34	**51.73**	**4**	P	**P**	**09 14 49.5**	**-1.0**
ODAN	**Odare** comp=Z,64nm,0.5s	**52.12**	**313**	*e*P	**P**	**09 14 53.2**	**-0.8**
ODAN	**Odare** comp=Z,64nm,0.5s	**52.12**	**313**	*e*P	**P**	**09 14 53.2**	**-0.8**
TAPN	**Taplejung** comp=Z,45nm,0.4s	**52.18**	**313**	*e*P	**P**	**09 14 53.6**	**-0.9**
TAPN	**Taplejung** comp=Z,45nm,0.4s	**52.18**	**313**	*e*P	**P**	**09 14 53.6**	**-0.9**
RAMN	**Ramite** comp=Z,170nm,0.6s	**52.75**	**312**	*e*P	**P**	**09 14 58.2**	**-0.5**
RAMN	**Ramite** comp=Z,170nm,0.6s	**52.75**	**312**	*e*P	**P**	**09 14 58.2**	**-0.5**
JIRN	**Jiri** comp=Z,50nm,0.6s	**53.46**	**313**	*e*P	**P**	**09 15 03.3**	**-0.7**
JIRN	**Jiri** comp=Z,50nm,0.6s	**53.46**	**313**	*e*P	**P**	**09 15 03.3**	**-0.7**
GTA	**Gaotai**	**53.56**	**333**	*e*P	**P**	**09 15 04.0**	**-0.2**
GTA				pP	**pP**	**09 15 44.0**	**-0.8**
GTA				sP	**sP**	**09 16 04.3**	**-0.3**
GTA	comp=Z,16nm,0.8s			pmax	pmax		
GUN	**Gumba** comp=Z,126nm,0.5s	**53.82**	**313**	*e*P	**P**	**09 15 06.0**	**-0.6**
GUN	**Gumba** comp=Z,126nm,0.5s	**53.82**	**313**	*e*P	**P**	**09 15 06.0**	**-0.6**
PKI	**Pulchoki** comp=Z,61nm,0.5s	**53.98**	**312**	*e*P	**P**	**09 15 06.7**	**-1.0**
PKI	**Pulchoki** comp=Z,21nm,0.4s	**53.98**	**312**	*e*P	**P**	**09 15 07.2**	**-0.5**
PKI				pmax	pmax		
PKI	**Pulchoki** comp=Z,21nm,0.4s	**53.98**	**312**	*e*P	**P**	**09 15 07.2**	**-0.5**
PKIN	**Phulchoki** comp=Z,21nm,0.4s	**53.99**	**312**	*e*P	**P**	**09 15 07.2**	**-0.5**
KKN	**Kakani** comp=Z,55nm,0.5s	**54.19**	**312**	*e*P	**P**	**09 15 08.6**	**-0.5**
KKN	**Kakani** comp=Z,55nm,0.5s	**54.19**	**312**	*e*

KSH LR LR
comp=Z,140nm,5.5s

KSH LR LR
comp=Z,160nm,6.9s

MK31 **Makanchi Array** 67.64 328 *e*P P 09 16 38.6 -0.6
MK31 pmax pmax
comp=Z,210nm,6.3s

MK31 **Makanchi Array** 67.64 328 *e*P P 09 16 38.5 -0.7
KZA **Kyzart** 68.93 321 *i* P P 09 16 48.1 +0.3
KZA **Kyzart** 68.93 321 P P 09 16 48.2 +0.3
SNR=6.7

TKM2 **Tokmak 2** 69.17 322 *i* P P 09 16 48.6 -0.4
TKM2 **Tokmak 2** 69.17 322 P P 09 16 48.8 -0.2
SNR=5.4

TKM2 **Tokmak 2** 69.17 322 *e*P P 09 16 48.4 -0.6
comp=Z,7.9nm,1.1s

UCH **Uchtor** 69.47 320 *i* P P 09 16 51.8 +0.6
UCH **Uchtor** 69.47 320 P P 09 16 51.8 +0.6
SNR=5.7

YAK **Yakutsk** 69.48 1 *e*P P 09 16 48.6 -1.6
YAK *e* 09 17 11.0
YAK *e**PP PcP 09 17 14.4 +2.2
YAK *e*PPP PPP 09 21 02.7
YAK *e*S S 09 25 47.5 +4.7
YAK *e**SS SKSac 09 26 28.0 -4.9
YAK *e* 09 26 40.2
YAK *e*SS SS 09 30 15.6 +1.4
YAK pmax pmax
comp=Z,19nm,0.9s

YAK smax smax
comp=N,210nm,4.9s

YAK smax smax
comp=E,245nm,4.4s

YAK **Yakutsk** 69.48 1 *e*P P 09 16 48.3 -1.8
comp=E,19nm,0.7s

KBL **Kabul** 69.59 311 *e*P P 09 16 51.0 -0.8
KBL pmax pmax
comp=Z,7.0nm,0.7s

KBL **Kabul** 69.59 311 *e*P P 09 16 51.0 -0.8
comp=Z,6.7nm,0.7s

AAK **Ala-Archa** 69.69 321⇑ *i*P P 09 16 51.9 -0.3
AAK pmax pmax
comp=Z,26nm,1.1s

AAK **Ala-Archa** 69.69 321 P P 09 16 52.8 +0.6
SNR=8.9

AAK **Ala-Archa** 69.69 321 *e*P P 09 16 51.7 -0.5
comp=Z,16nm,1.2s

AML **Almayashu** 69.94 320 P P 09 16 54.1 +0.1
SNR=11

USP **Ospenovka** 70.03 321 *i* P P 09 16 53.8 -0.2
USP **Ospenovka** 70.03 321 P P 09 16 53.9 -0.2
SNR=11

EKS2 **Erkin-Say** 70.16 321 *i* P P 09 16 55.3 +0.3
EKS2 **Erkin-Say** 70.16 321 P P 09 16 55.3 +0.3
SNR=11

EKS2 **Erkin-Say** 70.16 321 *e*P P 09 16 54.8 -0.1
comp=Z,14nm,1.2s

ZAA0 **Zalesovo Array** 71.25 335 *e*P P 09 16 59.7 -1.5
ZALV **Zalesovo Beam** 71.25 335 P P 09 17 00.0 -1.1
ZALV **Zalesovo Beam** 71.25 335 P P 09 17 00.0 -1.1
ZALV **Zalesovo Beam** 71.25 335 P P 09 17 00.0 -1.1
comp=Z,5.9nm,0.4s,baz=136,slow=5.5,SNR=35

KURK **Kurchatov** 71.99 330 *e*P P 09 17 04.7 -0.9
KURK pmax pmax
comp=Z,18nm,1.0s

KURK **Kurchatov** 71.99 330 *e*P P 09 17 04.7 -0.9
comp=Z,18nm,1.0s

VNDA **Vanda** 72.07 173 P P 09 17 07.3 +1.6
VNDA **Vanda** 72.07 173 P P 09 17 07.3 +1.6
comp=Z,1.6nm,0.6s,baz=309,slow=8.7,SNR=10

KK31 **Karatay Array** 72.46 320 *i* P P 09 17 08.7 +0.1
KK31 pmax pmax
comp=Z,1.0nm,0.5s

KKAR **Karatay Array** 72.46 320 *e*P P 09 17 08.4 -0.2
KKAR pmax pmax
comp=Z,5.0nm,0.9s

KKAR **Karatay Array** 72.46 320 *e*P P 09 17 08.4 -0.2
comp=Z,4.7nm,0.9s

NVS **Novosibirsk** 72.54 335⇑ *i*P P 09 17 06.5 -2.2
NVS pmax pmax
comp=Z,21nm,1.4s

NVS pmax pmax
comp=N,10.0nm,1.6s

NVS pmax pmax
comp=E,16nm,1.6s

MAW **Mawson** 73.59 201 P P 09 17 17.2 +2.4
MAW **Mawson** 73.59 201 P P 09 17 17.2 +2.4
comp=E,8.6nm,0.6s,baz=53,slow=8.3,SNR=11

BVA0 **Borovoye Array** 77.50 329 *i* P P 09 17 36.5 -0.8
BVA0 pmax pmax
comp=Z,17nm,1.2s

BVAR **Borovoye Array** 77.50 329 P P 09 17 36.6 -0.6
BVAR **Borovoye Array** 77.50 329 P P 09 17 36.6 -0.6
BVAR **Borovoye Array** 77.50 329 P P 09 17 36.6 -0.6
comp=Z,2.9nm,0.4s,baz=137,slow=7.6,SNR=32

BRVK **Borovoye** 77.58 329⇑ *i*P P 09 17 37.3 -0.3
BRVK pmax pmax
comp=Z,18nm,1.1s

BRVK **Borovoye** 77.58 329 *e*P P 09 17 36.8 -0.9
comp=Z,19nm,1.1s

TIXI **Tiksi** 79.13 0⇓ *i*P P 09 17 44.1 -1.7
TIXI pmax pmax
comp=Z,13nm,0.6s

TIXI **Tiksi** 79.13 0 *e*P P 09 17 44.1 -1.7
comp=Z,18nm,0.6s

AB31 **Akbulak array** 81.72 322 *i* P P 09 17 59.2 -0.9
AB31 pmax pmax
comp=Z,5.0nm,0.6s

ABKAR **Akbulak array** 81.72 322 *e*P P 09 17 58.8 -1.3
comp=Z,4.4nm,0.7s

QSPA **South Pole Qui** 82.34 180 *e*P P 09 18 04.1 +1.0
comp=Z,7.5nm,0.7s

QSPA **South Pole Qui** 82.34 180 P P 09 18 04.2 +1.0
comp=Z,9.2nm,0.7s,baz=300,slow=1.5,SNR=19

AKTO **Aktyubinsk** 83.31 323 P P 09 18 07.5 -0.8
AKTO pmax pmax
comp=Z,16nm,0.8s

SVE **Sverdlovsk** 84.24 329⇑ *e*P P 09 18 12.6 -0.2
SVE pmax pmax
comp=Z,38nm,1.5s

ARU **Arti** 85.15 329 *c i*P P 09 18 16.2 -1.2
ARU 09 21 32.3
ARU S S 09 28 30.7 -1.2
ARU pmax pmax
comp=Z,23nm,1.2s

ARU **Arti** 85.15 329 *e*P P 09 18 15.8 -1.6
comp=Z,24nm,1.1s

NAY **Al-Naaiem** 85.61 300 *e*P P 09 18 19.4 -0.9
NAY AMb AMB 09 18 20.4
comp=Z,45nm,0.8s

RST **Umm Al-Ruwaisa** 85.87 300 *e*P P 09 18 20.6 -1.0
RST AMb AMB 09 18 21.6
comp=Z,467nm,0.8s

ZEI **Tsey** 90.75 313 *e*P P 09 18 43.7 -1.0
ZEI pmax pmax
comp=Z,9.0nm,1.0s

KBZ **Khabaz** 91.62 314 P P 09 18 47.9 -0.5
KBZ **Khabaz** 91.62 314 P P 09 18 47.9 -0.5
KBZ **Khabaz** 91.62 314 P P 09 18 47.9 -0.5
comp=Z,3.0nm,0.8s,baz=121,slow=4.2,SNR=5.8

RC01 **Rabbit Creek A** 92.96 29 *e*P P 09 18 52.1 -2.1
comp=Z,4.0nm,0.6s

VRHR **Novokhopersk** 93.55 321 *e*P P 09 18 54.6 -2.5
VRHR pmax pmax
comp=N,10.0nm,0.7s

VRHR pmax pmax
comp=E,2.0nm,0.7s

VRHR pmax pmax
comp=Z,10.0nm,0.7s

SNAA **Sanae** 94.55 194 *e*P P 09 19 01.4 0.0
comp=Z,5.2nm,0.8s

ILAR **Eielson Array** 94.82 25 P P 09 18 59.6 -3.1
ILAR **Eielson Array** 94.82 25 P P 09 18 59.6 -3.1
comp=Z,0.8nm,0.6s,baz=257,slow=4.3,SNR=14

VSR **Storozhevoye** 95.10 321 *e*P P 09 19 01.7 -2.5
VSR pmax pmax
comp=N,2.0nm,0.6s

VSR pmax pmax
comp=E,2.0nm,0.6s

VSR pmax pmax
comp=Z,8.0nm,0.6s

BRTR **Keskin Array B** 98.09 309 P P 09 19 16.4 -1.9
BRTR **Keskin Array B** 98.09 309 P P 09 19 16.4 -1.9
comp=Z,1.0nm,0.7s,baz=150,slow=5.1,SNR=4.5

INK **Inuvik** 100.24 22 P Pdif 09 19 22.7 -4.2
comp=Z,1.5nm,0.9s,baz=7.2,slow=5.1,SNR=8.3

AKASG **Malin Array Be** 101.36 320 P Pdif 09 19 30.3 -2.0
AKASG **Malin Array Be** 101.36 320 P Pdif 09 19 30.3 -2.0
AKASG **Malin Array Be** 101.36 320 P Pdif 09 19 30.3 -2.0
comp=Z,0.5nm,0.5s,baz=76,slow=4.2,SNR=5.5

ARCES **ARCESS Array B** 101.45 339 P Pdif 09 19 31.5 -0.8
ARCES **ARCESS Array B** 101.45 339 P Pdif 09 19 31.5 -0.8
comp=Z,2.4nm,0.8s,baz=66,slow=6.0,SNR=3.7

YKA **Yellowknife Ar** 109.24 26 PKiKP PKiKP 09 24 09.6 -0.4
YKA PKKPbc PKKPbc 09 35 17.3 -1.8
YKA **Yellowknife Ar** 109.24 26 PKiKP PKiKP 09 24 09.5 -0.4
comp=Z,0.9nm,0.7s,baz=290,slow=1.5,SNR=14

YKA PKKPbc PKKPbc 09 35 17.3 -1.8
comp=Z,0.3nm,0.5s,baz=106,slow=3.2,SNR=4.6

J05D **Fort Rock, OR** 110.38 47⇑ P PKiKP 09 24 12.9 0.0
baz=110

GERES **GERESS Array B** 111.56 320 PKiKP PKiKP 09 24 14.5 -0.4
GERES **GERESS Array B** 111.56 320 PKiKP PKiKP 09 24 14.5 -0.4
comp=Z,0.6nm,0.6s,baz=42,slow=2.2,SNR=7.1

VES **Vestal, Richgr** 113.08 54⇓ P PKiKP 09 24 18.0 0.0
baz=113

NVAR **Mina Array Bea** 113.33 51 PKiKP PKiKP 09 24 19.5 +0.8
NVAR **Mina Array Bea** 113.33 51 PKiKP PKiKP 09 24 19.5 +0.8
comp=Z,0.8nm,0.8s,baz=259,slow=2.1,SNR=5.8

ISA **Isabella** 113.60 54⇑ P PKiKP 09 24 19.1 0.0
baz=114

EDW2 **Edwards Air Fo** 114.09 55⇓ P PKiKP 09 24 20.6 +0.5
baz=114

LRMC **Laurel Mountai** 114.26 55⇑ P PKPdf 09 24 20.9 +0.4
baz=114

MPMC **Manual Prospec** 114.33 54⇑ P PKPdf 09 24 21.0 +0.3
baz=114

FURC **Furnace Creek,** 114.77 53⇑ P PKPdf 09 24 22.2 +1.0
baz=115

GSC **Goldstone** 115.00 55⇓ P PKPdf 09 24 22.4 +0.6
baz=115

TPNV **Topopah Spring** 115.18 53⇓ P PKPdf 09 24 22.9 +0.6
baz=115

HLID **Hailey** 115.19 45⇓ P PKPdf 09 24 23.4 +1.3
baz=115

R11A **Troy Canyon, C** 115.45 51⇓ P PKPdf 09 24 23.7 +1.0
baz=115

PFO **Pinyon Flat Ob** 115.53 56⇓ P PKPdf 09 24 23.7 +0.7
baz=115

GMRC **Granite Mounta** 116.01 55⇑ P PKPdf 09 24 24.6 +0.7
baz=116

IRM **Iron Mountain** 116.52 56⇑ P PKPdf 09 24 25.3 +0.6
baz=116

DUG **Dugway** 117.16 49⇑ P PKPdf 09 24 26.9 +1.0
baz=117

A19A **Klindworth Far** 117.31 38⇓ P PKPdf 09 24 26.2 +0.3
baz=117

C19A **Slack Wire Ran** 117.55 40⇑ P PKPdf 09 24 25.3 -1.1
baz=117

A20A **Cobblestone Ra** 117.83 38⇓ P PKPdf 09 24 26.4 -0.5
baz=118

C20A **Veseth Ranch,** 118.22 39⇑ P PKPdf 09 24 28.3 +0.6
baz=118

F19A **Roth Farm, Mol** 118.26 42⇑ P PKPdf 09 24 27.7 -0.1
baz=118

Y14A **Wickenburg** 118.31 56⇓ P PKPdf 09 24 29.2 +0.9
baz=118

D20A **Manuel Ranch,** 118.36 40⇑ P PKPdf 09 24 28.3 +0.3
baz=118

A21A **Bergtoll Ranch** 118.40 38⇓ P PKPdf 09 24 27.6 -0.3
baz=118

U15A **North Rim** 118.40 53⇑ P PKPdf 09 24 28.9 +0.3
baz=118

TMUT **Trail Mountain** 118.58 49 *e*PKPdf PKPdf 09 24 29.4 +0.5
PDAR **Pinedale Array** 118.83 45 PKP PKPdf 09 24 29.4 +0.2
PDAR PKKPbc PKKPbc 09 34 46.1 -0.1
PDAR **Pinedale Array** 118.83 45 PKP PKPdf 09 24 29.4 +0.2
comp=Z,1.9nm,0.7s,baz=243,slow=0.9,SNR=14

PDAR PKKPbc PKKPbc 09 34 46.1 -0.1
comp=Z,0.9nm,0.8s,baz=101,slow=6.2,SNR=6.2

G20A **Bridger** 118.96 42⇑ P PKPdf 09 24 29.7 +0.5
baz=119

A22A **Carney Farms,** 119.01 37⇑ P PKPdf 09 24 29.9 +0.8
baz=119

J19A **Crowheart** 119.03 44⇑ P PKPdf 09 24 29.3 -0.2
baz=119

E21A **Keefer Ranch,** 119.23 40⇑ P PKPdf 09 24 30.0 +0.3
baz=119

WUAZ **Wupatki** 119.32 54⇑ P PKPdf 09 24 30.9 +0.7
baz=119

I20A **Worland** 119.44 43⇓ P PKPdf 09 24 31.1 +0.9
baz=119

X16A **Lo Mia Camp, P** 119.49 55⇑ P PKPdf 09 24 31.5 +0.9
baz=119

C22A **Vida** 119.53 39⇑ P PKPdf 09 24 30.6 +0.5
baz=119

D22A **Cohagen** 119.58 39⇑ P PKPdf 09 24 31.4 +1.1
baz=119

J20A **Shoshoni** 119.67 44⇑ P PKPdf 09 24 31.4 +0.7
baz=120

B23A **Brockton** 119.79 38⇓ P PKPdf 09 24 31.0 +0.4
baz=120

C23A **Lambert** 119.94 38⇓ P PKPdf 09 24 31.8 +0.9
baz=120

H21A **Big Horn, Sher** 119.94 42⇓ P PKPdf 09 24 31.1 -0.1
baz=120

E22A **Miles City** 120.00 40⇓ P PKPdf 09 24 31.7 +0.6
baz=120

F22A **Roosebud** 120.05 41⇑ P PKPdf 09 24 31.6 +0.4
baz=120

I21A **Big Trails, Te** 120.06 43⇑ P PKPdf 09 24 31.2 -0.2
baz=120

J21A **Lysite** 120.11 44⇑ P PKPdf 09 24 32.2 +0.6
baz=120

D23A **Lindsay** 120.18 39⇓ P PKPdf 09 24 32.4 +0.9
baz=120

A24A **Westby** 120.19 37⇓ P PKPdf 09 24 31.9 +0.5
baz=120

N20A **Spence Gulch,** 120.33 47⇓ P PKPdf 09 24 33.3 +1.1
baz=120

E23A **Ismay** 120.38 40⇑ P PKPdf 09 24 32.5 +0.7
baz=120

H22A **Clearmont** 120.42 42⇓ P PKPdf 09 24 32.1 +0.1
baz=120

K21A **Alcova** 120.48 45⇓ P PKPdf 09 24 32.5 +0.1
baz=120

C24A **Savage** 120.52 39⇑ P PKPdf 09 24 32.8 +0.8
baz=120

O20A **White River Ci** 120.55 48⇓ P PKPdf 09 24 33.7 +1.1
baz=120

I22A **9 Mile Ranch,** 120.58 43⇑ P PKPdf 09 24 32.3 -0.1
baz=120

F23A **Volborg** 120.62 41⇓ P PKPdf 09 24 32.6 +0.3
baz=120

D24A **Glendive** 120.75 39⇓ P PKPdf 09 24 31.8 -0.7
baz=121

J22A **Midwest** 120.75 44⇑ P PKPdf 09 24 32.4 -0.4
baz=121

K22A **Casper** 120.98 44⇑ P PKPdf 09 24 33.3 0.0
baz=121

C25A **Freed Ranch, W** 121.16 38⇑ P PKPdf 09 24 33.7 +0.5
baz=121

MVCO **Mesa Verde** 121.17 51⇓ P PKPdf 09 24 34.1 +0.2
baz=121

M22A **Cedar Creek Ra** 121.35 46⇓ P PKPdf 09 24 34.0 -0.1
baz=121

D25A **Fairfield** 121.36 39⇑ P PKPdf 09 24 34.0 +0.3
baz=121

G24A **Alzada** 121.41 41⇑ P PKPdf 09 24 33.6 -0.3
baz=121

H24A **Dirks Ranch, A** 121.55 42⇑ P PKPdf 09 24 34.4 +0.2
baz=121

N22A **Wattenberg Ran** 121.64 46⇑ P PKPdf 09 24 35.8 +1.1
baz=122

O22A **Kremmling** 121.78 47⇑ P PKPdf 09 24 35.6 +0.5
baz=122

F25A **Bowman** 121.79 40⇑ P PKPdf 09 24 34.9 +0.3
baz=122

P22A **Eagle** 121.80 48⇑ P PKPdf 09 24 36.1 +1.1
baz=122

C26A **Wahner Farm, P** 121.81 37⇓ P PKPdf 09 24 35.2 +0.7
baz=122

319A **Douglas** 121.88 58⇑ P PKPdf 09 24 35.7 +0.5
baz=122

M23A **Laramie** 121.94 45⇑ P PKPdf 09 24 35.3 0.0
baz=122

N23A **Red Feather La** 121.98 46⇓ P PKPdf 09 24 35.7 +0.3
baz=122

J24A **Dixon Ranch, L** 122.02 43⇓ P PKPdf 09 24 35.0 -0.1
baz=122

G25A **Newell** 122.11 41⇑ P PKPdf 09 24 35.2 0.0
baz=122

E26A **Carlson Angus** 122.18 39⇓ P PKPdf 09 24 35.6 +0.3
baz=122

O23A **Lake Granby, G** 122.22 47⇓ P PKPdf 09 24 36.2 +0.3
baz=122

H25A **Fruitdale** 122.23 41⇑ P PKPdf 09 24 35.2 -0.3
baz=122

S22A **4UR Ranch, Cre** 122.30 50⇑ P PKPdf 09 24 37.5 +1.3
baz=122

F26A **Lodgepole** 122.32 40⇑ P PKPdf 09 24 35.3 -0.2
baz=122

I25A **Rochford** 122.38 42⇓ P PKPdf 09 24 35.9 0.0
baz=122

320A **Kipp Ranch, An** 122.52 58⇓ P PKPdf 09 24 37.9 +1.3
baz=122

B28A **Dugan Ranch, T** 122.55 36⇓ P PKPdf 09 24 36.3 +0.4
baz=122

J25A **Sunshine Ranch** 122.57 43⇑ P PKPdf 09 24 36.1 -0.2
baz=122

ISCO **Idaho Springs** 122.58 47⇑ P PKPdf 09 24 37.0 +0.4
baz=122

M24A **Cheyenne** 122.58 45⇓ P PKPdf 09 24 37.0 +0.6
baz=122

U22A **Llaves** 122.67 52⇑ P PKPdf 09 24 38.8 +2.0
baz=122

F27A **Lemmon** 122.72 39⇑ P PKPdf 09 24 36.9 +0.6
baz=122

V22A **San Miguel Ran** 122.75 52⇑ P PKPdf 09 24 38.4 +1.5
baz=123

E27A **Carson** 122.76 39⇓ P PKPdf 09 24 37.2 +0.8
baz=123

121A **Cookes Peak, D** 122.88 56⇓ P PKPdf 09 24 38.6 +1.4
baz=123

R23A **Moffat** 122.93 49⇑ P PKPdf 09 24 39.1 +1.8
baz=123

I26A **New Underwood** 122.95 42⇓ P PKPdf 09 24 37.2 +0.3
baz=123

A29A **Manning Farm,** 122.97 35⇑ P PKPdf 09 24 36.9 +0.3
baz=123

G27A **Dupree** 122.99 40⇑ P PKPdf 09 24 36.9 0.0
baz=123

J26A **Sides Ranch, S** 123.09 43⇑ P PKPdf 09 24 37.5 +0.4
baz=123

T23A **Casias Ranch,** 123.11 51⇓ P PKPdf 09 24 39.4 +1.7
baz=123

U23A **El Rito** 123.20 51⇑ P PKPdf 09 24 37.6 -0.2
baz=123

H27A **Howes** 123.21 41⇓ P PKPdf 09 24 37.1 -0.2
baz=123

E28A **Huff** 123.23 38⇑ P PKPdf 09 24 37.1 -0.2
baz=123

MDND **Maddock** 123.28 36⇑ P PKPdf 09 24 37.5 +0.2
baz=123

V23A **Ortiz Mt. (NFS** 123.37 52⇓ P PKPdf 09 24 39.6 +1.5
baz=123

Z22A **Elephant Butte** 123.39 55⇓ P PKPdf 09 24 38.8 +0.7
baz=123

R24A **Sanders Place,** 123.45 49⇓ P PKPdf 09 24 39.1 +0.9
baz=123

I27A **Quinn** 123.46 41⇑ P PKPdf 09 24 38.0 +0.1
baz=123

A30A **Hoffart Farm,** 123.49 35⇑ P PKPdf 09 24 37.7 0.0
baz=123

F28A **McLaughlin** 123.50 39⇑ P PKPdf 09 24 37.9 +0.1
baz=123

222A **Williams Famil** 123.54 57⇑ P PKPdf 09 24 39.6 +1.1
baz=123

W23A **Werner Place,** 123.55 53⇓ P PKPdf 09 24 39.3 +0.8
baz=123

S24A **Houchin Ranch,** 123.56 50⇓ P PKPdf 09 24 39.2 +0.7
baz=123

T24B **San Luis** 123.61 50⇑ P PKPdf 09 24 39.7 +1.1
baz=124

P25A **Willow Gulch B** 123.73 47⇓ P PKPdf 09 24 40.0 +1.4
baz=124

G28A **Parade** 123.77 40⇑ P PKPdf 09 24 38.6 +0.3
baz=124

J27A **Elkhorn Farm,** 123.83 42⇑ P PKPdf 09 24 39.9 +1.3
baz=124

Q25A **Bedland, Calha** 123.87 48⇓ P PKPdf 09 24 39.8 +0.8
baz=124

H28A **Mission Ridge** 123.88 40⇓ P PKPdf 09 24 38.9 +0.3
baz=124

Y23A **Lovelace Mesa,** 123.95 54⇑ P PKPdf 09 24 40.3 +1.0
baz=124

Z23A **Rita Site, Whi** 123.98 55⇓ P PKPdf 09 24 40.2 +0.9
baz=124

C30A **Mose, Pekin** 124.02 36⇑ P PKPdf 09 24 38.8 +0.1
baz=124

I28A **Midland** 124.07 41⇓ P PKPdf 09 24 39.2 +0.3
baz=124

V24A **Rampart Ranch,** 124.08 52⇑ P PKPdf 09 24 41.4 +1.8
baz=124

O26A **Horse Wrangler** 124.09 46⇑ P PKPdf 09 24 39.5 +0.3
baz=124

R25A **Fountain Ranch** 124.09 49⇓ P PKPdf 09 24 40.2 +0.9
baz=124

ULM **Lac du Bonnet** 124.12 32 PKP PKPdf 09 24 37.4 -1.4
ULM **Lac du Bonnet** 124.12 32 PKP PKPdf 09 24 37.4 -1.4
comp=Z,2.7nm,0.6s,baz=318,slow=4.9,SNR=4.8

W24A **Lazy 6 Ranch,** 124.12 52⇑ P PKPdf 09 24 40.9 +1.3
baz=124

S25A **Robets Cordova** 124.14 49⇓ P PKPdf 09 24 40.7 +1.2
baz=124

D30A **Buchanan** 124.15 37⇑ P PKPdf 09 24 39.0 +0.1
baz=124

J28A **Allard Ranch,** 124.27 42⇑ P PKPdf 09 24 39.9 +0.5
baz=124

P26A **Davis Ranch, A** 124.31 47⇓ P PKPdf 09 24 40.9 +1.1
baz=124

T25A **Trinidad** 124.32 50⇓ P PKPdf 09 24 40.8 +0.8
baz=124

N27A **Anderson Farm,** 124.43 45⇑ P PKPdf 09 24 40.4 +0.6
baz=124

Y24A **Capitan** 124.45 54⇓ P PKPdf 09 24 41.7 +1.4
baz=124

K28A **Ten Mile Ranch** 124.48 43⇓ P PKPdf 09 24 39.7 -0.2
baz=124

U25A **Circle Dot Ran** 124.55 51⇑ P PKPdf 09 24 42.1 +1.7
baz=124

V25A **Rancho No Teng** 124.56 52⇓ P PKPdf 09 24 41.9 +1.5
baz=124

I29A **Vivian Onida** 124.62 41⇑ P PKPdf 09 24 40.3 +0.3
baz=124

Z24A **Sheeppen Canyo** 124.66 55⇑ P PKPdf 09 24 42.4 +1.7
baz=124

R26A **Arlington** 124.67 48⇑ P PKPdf 09 24 41.6 +1.2
baz=124

O27A **Beecher Island** 124.70 46⇓ P PKPdf 09 24 41.3 +0.9
baz=124

224A **Cornudas Mount** 124.85 56⇓ P PKPdf 09 24 41.2 +0.2
baz=125

G30A **Faulkton** 124.86 39⇓ P PKPdf 09 24 40.5 +0.1
baz=125

P27A **Ficken Ranch,** 124.86 47⇑ P PKPdf 09 24 41.2 +0.5
baz=125

W25A **X Bar L Ranch,** 124.86 52⇑ P PKPdf 09 24 41.7 +0.8
baz=125

S26A **Kim** 124.88 49⇑ P PKPdf 09 24 41.6 +0.7
baz=125

J29A **Okreek** 124.88 41⇑ P PKPdf 09 24 40.5 -0.1
baz=125

T26A **Comanche Natio** 124.93 50⇑ P PKPdf 09 24 41.8 +0.8
baz=125

KSCO **Kaye Shedlock'** 125.02 47⇓ P PKPdf 09 24 41.5 +0.4
baz=125

324A **Moseley Ranch,** 125.03 57⇑ P PKPdf 09 24 42.5 +1.2
baz=125

Y25A **Mesa, Roswell** 125.05 54⇑ P PKPdf 09 24 42.7 +1.4
baz=125

U26A **Atchley Ranch,** 125.06 51⇓ P PKPdf 09 24 42.3 +0.9
baz=125

R27A **Eads** 125.15 48⇑ P PKPdf 09 24 42.5 +1.1
baz=125

K29A **Lazy Trails An** 125.16 42⇑ P PKPdf 09 24 41.0 -0.1
baz=125

N28A **Pribbeno Ranch** 125.17 45⇓ P PKPdf 09 24 41.9 +0.6
baz=125

Z25A **Roswell** 125.20 55⇑ P PKPdf 09 24 42.8 +1.2
baz=125

V26A **Tequesquite Ra** 125.22 51⇑ P PKPdf 09 24 42.5 +0.9
baz=125

125A **Gardner Draw,** 125.41 55⇓ P PKPdf 09 24 42.9 +0.9
baz=125

W26A **Owens Ranch, T** 125.44 52⇑ P PKPdf 09 24 43.2 +1.2
baz=125

P28A **Saint Francis** 125.45 46⇓ P PKPdf 09 24 42.1 +0.3
baz=125

J30A **Dallas** 125.46 41⇑ P PKPdf 09 24 41.1 -0.5

baz=125
325A **Bean Ranch, Si** 125.47 57 ⇓P PKPdf 09 24 42.9 +0.6
baz=125
Q28A **Sharon Springs** 125.58 47 ⇓P PKPdf 09 24 43.2 +1.1
baz=125
425A **Indio Mountain** 125.60 58 ⇓P PKPdf 09 24 43.6 +1.1
baz=126
T27A **Campo** 125.62 50 ⇑P PKPdf 09 24 43.2 +0.9
baz=126
K30A **Basset** 125.67 42 ⇓P PKPdf 09 24 42.6 +0.5
baz=126
U27A **Thompson Grove** 125.76 50 ⇑P PKPdf 09 24 43.4 +0.9
baz=126
O29A **4D Ranch, Culb** 125.92 45 ⇓P PKPdf 09 24 42.9 +0.3
baz=126
126A **Clayton Basin,** 125.93 55 ⇑P PKPdf 09 24 43.5 +0.6
baz=126
V27A **Dan Oppiter Fa** 125.96 51 ⇓P PKPdf 09 24 43.9 +0.9
baz=126
226B **Tecolote Peak,** 125.96 56 ⇓P PKPdf 09 24 44.1 +1.1
baz=126
W27A **Bowe Ranch, En** 126.00 52 ⇑P PKPdf 09 24 44.7 +1.6
baz=126
T28A **Walsh** 126.06 49 ⇓P PKPdf 09 24 44.2 +1.1
baz=126
Y27A **Causey** 126.28 53 ⇑P PKPdf 09 24 44.6 +1.0
baz=126
R29A **Marienthal** 126.32 47 ⇓P PKPdf 09 24 44.3 +0.8
baz=126
Z27A **Tatum** 126.40 54 ⇑P PKPdf 09 24 44.8 +1.0
baz=126
L31A **Butterfield Fa** 126.40 42 ⇓P PKPdf 09 24 43.4 -0.1
baz=126
V28A **Channing** 126.44 51 ⇑P PKPdf 09 24 44.8 +1.0
baz=126
526A **Mary Lane Ranc** 126.53 58 ⇓P PKPdf 09 24 45.3 +1.1
baz=126
P30A **Selden** 126.53 46 ⇑P PKPdf 09 24 44.7 +0.9
baz=126
MSTX **Muleshoe** 126.56 53 ⇑P PKPdf 09 24 44.8 +0.7
baz=126
626A **Big Bend Ranch** 126.61 59 ⇑P PKPdf 09 24 44.7 +0.4
baz=126
W28A **Vega** 126.61 51 ⇓P PKPdf 09 24 45.4 +1.2
baz=126
S29A **Ulysses** 126.63 48 ⇑P PKPdf 09 24 44.8 +0.7
baz=126
T29A **Hugoton** 126.66 49 ⇑P PKPdf 09 24 45.2 +1.0
baz=126
M31A **Lambtecht Ranc** 126.67 43 ⇓P PKPdf 09 24 43.9 -0.2
baz=126
Q30A **Quinter** 126.77 46 ⇓P PKPdf 09 24 45.2 +0.8
baz=127
X28A **Dimmitt** 126.85 52 ⇓P PKPdf 09 24 45.5 +0.8
baz=127
TOA0 **Torodi Ar. Sit** 126.88 281 *e*PKPdf PKPdf 09 24 44.9 -0.1
TORD **Torodi Ar. Bea** 126.88 281 PKP PKPdf 09 24 44.9 -0.2
TORD **Torodi Ar. Bea** 126.88 281 PKP PKPdf 09 24 44.9 -0.2
comp=Z,4.3nm,0.7s,baz=55,slow=1.9,SNR=32
527A **Woodward Ranch** 126.91 58 ⇓P PKPdf 09 24 46.3 +1.4
baz=127
427A **Hayter Ranch,** 126.91 57 ⇓P PKPdf 09 24 46.5 +1.6
baz=127
V29A **Stinnett** 126.93 50 ⇑P PKPdf 09 24 45.5 +0.8
baz=127
Y28A **McKinney Farm,** 127.00 53 ⇑P PKPdf 09 24 45.6 +0.7
baz=127
R30A **Dighton** 127.00 47 ⇓P PKPdf 09 24 45.9 +1.1
baz=127
TXAR **Lajitas Array** 127.05 59 PKP PKPdf 09 24 45.8 +0.6
TXAR **Lajitas Array** 127.05 59 PKP PKPdf 09 24 45.8 +0.6
comp=Z,0.9nm,0.5s,baz=209,slow=2.6,SNR=24
S30A **Montezuma** 127.10 48 ⇓P PKPdf 09 24 45.7 +0.7
baz=127
ECSD **EROS Data Cent** 127.12 40 ⇓P PKPdf 09 24 44.9 +0.1
baz=127
AMTX **Amarillo** 127.14 52 ⇓P PKPdf 09 24 45.8 +0.6
baz=127
P31A **Stockton** 127.16 45 ⇑P PKPdf 09 24 45.3 +0.3
baz=127
128A **Castleberry Fa** 127.18 55 ⇑P PKPdf 09 24 45.5 +0.2
baz=127
BGNE **Belgrade** 127.20 43 ⇓P PKPdf 09 24 45.7 +0.6
baz=127
627A **Terlingua Ranc** 127.26 59 ⇓P PKPdf 09 24 46.6 +0.9
baz=127
X29A **Tulia** 127.26 52 ⇓P PKPdf 09 24 46.3 +0.8
baz=127
328A **Wristen Ranch,** 127.26 56 ⇓P PKPdf 09 24 46.3 +0.8
baz=127
Q31A **Ellis** 127.35 46 ⇓P PKPdf 09 24 45.9 +0.5
baz=127
U30A **WK&E Inc. Balk** 127.37 49 ⇓P PKPdf 09 24 46.5 +0.9
baz=127
Y29A **Porterfield Fa** 127.47 53 ⇓P PKPdf 09 24 47.3 +1.5
baz=127
428A **Kincaid Ranch,** 127.54 57 ⇑P PKPdf 09 24 47.5 +1.4
baz=127
R31A **Burdett** 127.54 47 ⇓P PKPdf 09 24 46.9 +1.1
baz=127
V30A **Spur Ranch, Mi** 127.61 50 ⇑P PKPdf 09 24 47.3 +1.2
baz=128
Z29A **Hungry Hill Ra** 127.62 54 ⇑P PKPdf 09 24 47.0 +0.8
baz=128
P32A **Huiting Farm,** 127.66 45 ⇓P PKPdf 09 24 46.3 +0.4
baz=128
628A **Black Gap, Mar** 127.68 59 ⇑P PKPdf 09 24 47.8 +1.5
baz=128
129A **Stewart Farms,** 127.68 54 ⇑P PKPdf 09 24 47.0 +0.8
baz=128
S31A **Mullinville** 127.83 48 ⇓P PKPdf 09 24 47.1 +0.7
baz=128
T31A **Randall Ranch,** 127.89 48 ⇑P PKPdf 09 24 47.4 +1.0
baz=128
X30A **Coker Ranch, T** 127.91 52 ⇑P PKPdf 09 24 47.5 +0.9
baz=128
329A **Wagon Wheel Ra** 127.91 56 ⇓P PKPdf 09 24 47.6 +0.8
baz=128
229A **Bryant Ranch,** 127.92 55 ⇑P PKPdf 09 24 47.3 +0.5
baz=129
Q32A **Meitler Ranch,** 127.95 46 ⇑P PKPdf 09 24 47.5 +1.0
baz=128
Y30A **Stafford Cattl** 128.07 53 ⇓P PKPdf 09 24 47.9 +0.9
baz=128
Z30A **Sanderson Ranc** 128.08 53 ⇓P PKPdf 09 24 47.3 +0.3
baz=128
R32A **Long Quarter,** 128.08 46 ⇓P PKPdf 09 24 47.6 +0.8
baz=128
529A **Stev Forest Ra** 128.08 58 ⇑P PKPdf 09 24 48.3 +1.2
baz=128
S32A **Newby Ranch, P** 128.20 47 ⇑P PKPdf 09 24 48.1 +1.1
baz=128
429A **Davenport Ranc** 128.22 57 ⇑P PKPdf 09 24 48.6 +1.2
baz=128
V31A **Spring Creek L** 128.25 50 ⇑P PKPdf 09 24 48.8 +1.6
baz=128
W31A **Holland Ranch,** 128.38 51 ⇑P PKPdf 09 24 48.9 +1.4
baz=128
T32A **Huddler Ranch,** 128.41 48 ⇑P PKPdf 09 24 48.0 +0.6
baz=128
130A **Snyder** 128.42 54 ⇓P PKPdf 09 24 47.8 +0.2
baz=128
Q33A **Connelly Farm,** 128.47 45 ⇑P PKPdf 09 24 48.1 +0.6
baz=128
230A **Sterling City** 128.51 55 ⇑P PKPdf 09 24 48.6 +0.8
baz=128
X31A **McDonald Ranch** 128.54 51 ⇑P PKPdf 09 24 48.3 +0.5
baz=128
Y31A **Rekieta Farm,** 128.54 52 ⇑P PKPdf 09 24 48.6 +0.7
baz=128
330A **Mertzon** 128.60 56 ⇑P PKPdf 09 24 48.8 +0.8
baz=128
R33A **Olander Ranch,** 128.65 46 ⇑P PKPdf 09 24 48.6 +0.7
baz=128
430A **Baggett Ranch,** 128.72 57 ⇓P PKPdf 09 24 48.9 +0.6
baz=129
530A **J-C Ranch, Com** 128.81 57 ⇑P PKPdf 09 24 49.3 +0.9
baz=129
Z31A **Sharp Cattle R** 128.85 53 ⇑P PKPdf 09 24 49.3 +0.8
baz=129
131A **Roby** 128.86 54 ⇓P PKPdf 09 24 48.9 +0.4
baz=129
V32A **Arapaho** 128.87 50 ⇑P PKPdf 09 24 50.2 +1.8
baz=129
PLCA **Paso Flores** 128.95 162 PKP PKPdf 09 24 49.6 +1.1
PLCA **Paso Flores** 128.95 162 PKP PKPdf 09 24 49.6 +1.1
comp=Z,0.7nm,0.7s,baz=241,slow=1.0,SNR=4.3
231A **Bronte** 129.14 55 ⇓P PKPdf 09 24 50.0 +1.0
baz=129
331A **San Angelo** 129.24 56 ⇓P PKPdf 09 24 49.7 +0.5
baz=129
431A **Sonora** 129.27 56 ⇓P PKPdf 09 24 50.1 +0.8
baz=129
KSU1 **Kansas State U** 129.28 45 ⇑P PKPdf 09 24 49.8 +0.8
baz=129
U33A **Lingo Farm, Me** 129.30 49 ⇑P PKPdf 09 24 50.1 +0.9
baz=129
Z32A **Haskell** 129.38 53 ⇑P PKPdf 09 24 50.6 +1.2
baz=129
V33A **Lossen Ranch,** 129.41 49 ⇑P PKPdf 09 24 50.9 +1.5
baz=129
531A **Rocksprings** 129.47 57 ⇓P PKPdf 09 24 51.4 +1.6
baz=129
ABTX **Abilene, Hawle** 129.47 54 ⇑P PKPdf 09 24 50.3 +0.7
baz=129
631A **Perdido Creek** 129.65 58 ⇑P PKPdf 09 24 50.8 +0.8
baz=130
232A **Coleman** 129.70 55 ⇓P PKPdf 09 24 51.7 +1.6
baz=130
X33A **Lawton** 129.72 51 ⇓P PKPdf 09 24 50.8 +0.8
baz=130
U34A **Anderson Ranch** 129.73 48 ⇑P PKPdf 09 24 51.3 +1.3
baz=130
332A **Millersview** 129.78 55 ⇓P PKPdf 09 24 51.2 +1.0
baz=130
432A **Menard** 129.88 56 ⇑P PKPdf 09 24 50.9 +0.4
baz=130
Z33A **Whitaker Ranch** 129.95 53 ⇓P PKPdf 09 24 51.4 +0.9
baz=130
V34A **Guthrie** 129.98 49 ⇑P PKPdf 09 24 51.5 +1.0
baz=130
JCT **Junction City** 129.99 56 ⇓P PKPdf 09 24 52.0 +1.3
baz=130
532A **Rocksprings** 130.01 57 ⇓P PKPdf 09 24 51.2 +0.5
baz=130
W34A **Bridge Creek,** 130.01 50 ⇓P PKPdf 09 24 51.2 +0.6
baz=130
133A **Hamilton Ranch** 130.05 54 ⇓P PKPdf 09 24 52.3 +1.6
baz=130
X34A **Smith Ranch, M** 130.21 51 ⇑P PKPdf 09 24 52.4 +1.5
baz=130
233A **Rising Star** 130.26 54 ⇓P PKPdf 09 24 52.9 +1.8
baz=130
632A **Uvalde** 130.28 58 ⇓P PKPdf 09 24 53.0 +1.8
baz=130
732A **Laxson Ranch,** 130.34 59 ⇑P PKPdf 09 24 53.0 +1.6
baz=130
333A **Richland Sprin** 130.41 55 ⇓P PKPdf 09 24 52.4 +1.0
baz=130
832A **Faith Ranch, C** 130.45 59 ⇓P PKPdf 09 24 53.8 +2.2
baz=130
433A **Art** 130.50 56 ⇓P PKPdf 09 24 52.6 +1.0
baz=130
Y34A **Reagan Ranch,** 130.50 51 ⇑P PKPdf 09 24 52.9 +1.4
baz=130
134A **White-Moore Ra** 130.73 53 ⇓P PKPdf 09 24 53.6 +1.6
baz=131
234A **Clairette** 130.88 54 ⇑P PKPdf 09 24 53.5 +1.2
baz=131
733A **Divot King Ran** 130.91 58 ⇓P PKPdf 09 24 54.2 +1.8
baz=131
833A **Chaparral WMA,** 130.93 59 ⇓P PKPdf 09 24 54.3 +1.8
baz=131
334A **Lometa** 131.01 55 ⇑P PKPdf 09 24 53.6 +1.0
baz=131
434A **Burnet** 131.15 55 ⇑P PKPdf 09 24 54.3 +1.4
baz=131
TUL1 **Tulsa** 131.23 48 ⇓P PKPdf 09 24 54.5 +1.7
baz=131
135A **Vickery Place,** 131.27 53 ⇑P PKPdf 09 24 54.6 +1.6
baz=131
SCHQ **Schefferville** 131.49 11 PKP PKPdf 09 24 53.6 +0.9
SCHQ **Schefferville** 131.49 11 PKP PKPdf 09 24 53.6 +0.9
comp=Z,1.7nm,0.4s,baz=328,slow=8.8,SNR=9.8
934A **Benavides** 131.87 60 ⇓P PKPdf 09 24 57.0 +2.7
baz=132
535A **Dale** 131.97 56 ⇓P PKPdf 09 24 56.2 +1.9
baz=132
635A **Leesville** 132.00 57 ⇑P PKPdf 09 24 56.5 +2.0
baz=132
735A **Kenedy** 132.12 58 ⇑P PKPdf 09 24 56.7 +2.0
baz=132
DBIC **Dimbokro** 133.12 272 PKP PKPdf 09 24 57.0 0.0
DBIC **Dimbokro** 133.12 272 PKP PKPdf 09 24 57.0 0.0
comp=Z,3.4nm,0.6s,baz=125,slow=5.4,SNR=4.9
SFIN **Scholer Farm** 134.88 38 ⇑P PKPdf 09 25 01.6 +2.1
baz=135
KMSC **Kings Mountain** 141.69 40 ⇓P PKPdf 09 25 14.1 +1.9
baz=142
TGUH **Tegucigalpa,Un** 144.91 76 *e*PKPbc PKPdf 09 25 18.5 +0.1
CPUP **Villa Florida** 145.85 172 *e*PKPdf PKPab 09 25 21.3 +0.1
CPUP PKPbc PKPab 09 25 21.9 +0.8
CPUP **Villa Florida** 145.85 172 PKPbc PKPab 09 25 21.9 +0.8
comp=Z,5.8nm,0.5s,baz=188,slow=3.0,SNR=16
JTS **JuntasAbangare** 147.46 83 *e*PKPbc PKPbc 09 25 25.9 +0.3
LPAZ **La Paz** 151.42 146 *e*PKPdf PKPdf 09 25 31.9 +2.2
LPAZ PKPbc PKPbc 09 25 36.9 +0.9
LPAZ PKPab PKPab 09 25 47.4 +2.7
LPAZ **La Paz** 151.42 146 PKPbc PKPbc 09 25 36.9 +0.9
comp=Z,6.9nm,0.8s,baz=252,slow=4.1,SNR=3.9
LPAZ PKPab PKPab 09 25 47.4 +2.7
comp=Z,4.4nm,0.7s,baz=57,slow=14,SNR=3.6

*IDC **31** 09:23:22.3±0.5,59.˚43S×151.˚10W,h0km,mb4.7/11, mb1 4.8/11,mb1mx4.7/15,mbtmp4.7/11,MS5.7/15, Ms1 5.7/15,ms1mx5.6/20,Error ellipse: s-maj=26.9km s-min=14.8km az=15.0*

*ISCJB **31** 09:23:23.2±0.4,59.˚68S±0.˚08×151.˚1W±0.˚1,h10km, mb5.1/24,MS5.8/166,Error ellipse: s-maj=12.4km s-min=8.9km az=14.8*

*MOS **31** 09:23:23.0±1.2,59.˚44S×151.˚00W,h10km,mb5.5/8, MS5.7/5,Error ellipse: s-maj=26.5km s-min=18.5km az=89.1*

*NEIC **31** 09:23:24.0±0.3,59.˚40S×150.˚98W,h10km,mb5.5/14, MS5.8/143,MW5.9,MW6.0,Error ellipse: s-maj=16.0km s-min=11.0km az=193.0,Moment Tensor Solution. s25 Moment tensor: Scale 10**17**Nm; Mrr-1.77; Mθθ8.03; Mφφ-6.25; Mrθ-3.17; Mθφ3.90; Mφr0.12; Best double couple: M08.90000×10**17** NP1:φs301.00000°,δ87.00000°, λ18.00000°. NP2:φs210.00000°,δ72.00000°,λ177.00000°. Principal axes: T 9.8300, Plg14.0000°, Azm166.0000°; N -2.4100, Plg72.0000°, Azm310.0000°; P -7.4100, Plg10.0000°, Azm73.0000°;*

*GCMT **31** 09:23:30.1±0.1,59.˚78S×150.˚90W,h16km,MW6.0, Moment Tensor Solution. s120,c236; s95,c134; Moment tensor: Scale 10**18**Nm; Mrr-0.04±.01; Mθθ1.04±.01; Mφφ-1.00±.01; Mrθ0.00±.02; Mθφ0.55±.01; Mφr0.17±.03; Best double couple: M01.20000×10**18** NP1:φs211.00000°,δ86.00000°,λ-173.00000°. NP2: φs120.00000°,δ83.00000°,λ-4.00000°. Principal axes: T 1.1800, Plg2.0000°, Azm346.0000°; N -0.0200, Plg81.0000°, Azm242.0000°; P -1.1600, Plg8.0000°, Azm76.0000°; Data Used: ll IU CN CU IC G. Surface waves: sta=126, comp=251, per= 50.*

*NEIC **31** 09:23:45.5±0.0,60.˚09S×151.˚09W,h10km Best double couple: NP1:φs121.00000°,δ86.00000°,λ-4.00000°. NP2:φs212.00000°,δ85.00000°,λ-175.00000°. Principal axes: T 1.1000, Plg0.0000°, Azm166.0000°; N 0.0400, Plg83.0000°, Azm261.0000°; P -1.1400, Plg6.0000°, Azm76.0000°;*

ISC 31 09:23:24.8±0.3,59.˚64S±0.˚08×150.˚81W±0.˚07,h10km, n305,σ1s93/147,mb5.2/24,MS5.8/167,3C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**22.89**	**202**	*e*P	P	P	**09 28 30.8**	**+2.8**
SBA					pmax	pmax		
	comp=Z,317nm,1.6s							
SBA					MLR	MLR		
	comp=Z,12μm,19.0s							
SBA	**Scott Base**	**22.89**	**202**	*e*P	P	P	**09 28 30.8**	**+2.8**
	comp=Z,318nm,1.6s							
SBA					LR	LR		
	comp=Z,12μm,19.0s							
VNDA	**Vanda**	**23.70**	**203**	*e*P	P	P	**09 28 39.0**	**+2.8**
	comp=Z,93nm,1.5s							
VNDA	**Vanda**	**23.70**	**203**	P	P	P	**09 28 37.1**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=65,slow=6.2,SNR=5.6							
RPZ	**Rata Peaks**	**28.01**	**288**	*e*P	P		09 29 22.9	+7.3
	comp=Z,127nm,1.4s							
SNZO	**South Karori**	**28.13**	**295**	PFAKE			09 29 30.0	+13
SNZO				LR	LR			
	comp=Z,5μm,20.0s							
BKZ	**Black Stump Fm**	**29.06**	**300**	*e*P	P		09 29 29.9	+4.9
	comp=Z,39nm,1.3s							
URZ	**Urewera**	**29.54**	**302**	LR	LR		09 37 51.8	
	comp=Z,10μm,20.2s,baz=153,slow=30							
DRV	**Dumont d'Urvil**	**30.46**	**227**	P	P		09 29 30.0	-7.1
DRV				S	**S**		**09 34 33.0**	**-4.6**
DRV				L	L		09 36 00.0	
DRV				R			09 38 00.0	
QSPA	**South Pole Qui**	**30.50**	**180**	P	**P**		**09 29 38.1**	**+0.5**
QSPA	**South Pole Qui**	**30.50**	**180**	P	**P**		**09 29 38.1**	**+0.5**
	comp=Z,36nm,0.9s,baz=62,slow=4.8,SNR=26							
QSPA				LR	LR		09 39 37.0	
	comp=Z,22μm,21.8s,baz=61,slow=32							
RAO	**Raoul Island**	**35.52**	**317**	PFAKE			09 30 30.0	+8.4
RAO				LR	LR			
	comp=Z,6μm,20.0s							
PMSA	**Palmer Station**	**37.76**	**136**	PFAKE			09 30 50.0	+10
PMSA				LR	LR			
	comp=Z,8μm,22.0s							
RKT	**Rikitea**	**38.17**	**24**	*e*S	**S**		**09 36 37.9**	**+0.7**
	comp=Z,4μm,31.0s							
RKT				*e*LQ	LQ		09 39 24.0	
	comp=Z,24μm,33.0s							
RKT				*e*LR	LR		09 41 08.8	
	comp=Z,22μm,27.5s,baz=188							
RKT	**Rikitea**	**38.17**	**24**	*e*T	T		10 11 02.1	
	comp=Z,18nm,0.3s							
RAR	**Rarotonga**	**38.92**	**347**	PFAKE			09 31 00.0	+10
RAR				LR	LR			
	comp=Z,17μm,21.0s							
TAU	**Tasmania Unive**	**40.51**	**266**	PFAKE			09 31 10.0	+6.5
TAU				LR	LR			
	comp=Z,19μm,21.0s							
MEH	**Mehetia**	**41.76**	**4**	*e*T	T		10 15 27.7	
	comp=Z,39nm,0.2s							
TVO	**Taravao**	**41.82**	**2**	*e*T	T		10 15 32.0	
	comp=Z,7.3nm,0.4s							
PAE	**Paea**	**41.93**	**2**	*e*T	T		10 15 40.3	
	comp=Z,6.6nm,0.3s							
PPT2	**Papeete2**	**42.00**	**2**	*e*S	**S**		**09 37 34.9**	**+0.1**
	comp=Z,4μm,23.9s							
PPT2				*e*LQ	LQ		09 40 51.2	
	comp=Z,23μm,29.5s							
PPT2				*e*LR	LR		09 42 53.3	
	comp=Z,43μm,25.0s,baz=184							
PPT2	**Papeete2**	**42.00**	**2**	*e*T	T		10 15 45.8	
	comp=Z,16nm,0.4s							
TIAR	**Tiarei**	**42.04**	**2**	*e*T	T		10 15 45.7	
	comp=Z,5.2nm,0.3s							
USHA	**Ushuaia**	**42.13**	**121**	P	**P**		**09 31 18.8**	**+2.1**
USHA	**Ushuaia**	**42.13**	**121**	P	**P**		**09 31 18.8**	**+2.1**
	comp=Z,12nm,1.1s,baz=225,slow=2.9,SNR=1.9							
RPN	**Rapa Nui**	**43.12**	**60**	PFAKE			09 31 40.0	+15
RPN				LR	LR			
	comp=Z,15μm,19.0s							
VAH	**Vaihoa**	**44.40**	**4**	*e*T	T		10 18 45.1	
	comp=Z,440nm,0.3s							
PMOR	**Pomariorio Ree**	**44.62**	**4**	*e*T	T		10 19 02.0	
	comp=Z,13nm,0.4s							
CAN	**Canberra**	**45.39**	**275**	PFAKE			09 31 50.0	+6.7
CAN				LR	LR			
	comp=Z,15μm,22.0s							
SNAA	**Sanae**	**47.09**	**167**	*e*P	**P**		**09 31 55.4**	**-0.7**
	comp=Z,119nm,1.7s							
ARMA	**Armidale**	**47.99**	**281**	*e*P	**P**		**09 32 05.8**	**+2.1**
	comp=Z,39nm,1.5s							
DZM	**Mont Dzumac**	**48.10**	**302**	*e*S	**S**		**09 39 04.0**	**+0.9**
	comp=Z,4μm,29.6s							
DZM				*e*LQ	LQ		09 43 38.8	
	comp=Z,29μm,29.4s							
DZM				*e*LR	LR		09 45 44.4	
	comp=Z,11μm,25.8s							
DZM	**Mont Dzumac**	**48.10**	**302**	P	**P**		**09 32 02.3**	**-2.3**
DZM	**Mont Dzumac**	**48.10**	**302**	P	**P**		**09 32 02.3**	**-2.3**
	comp=Z,9.9nm,1.1s,baz=212,slow=19,SNR=2.0							
AFI	**Afiamalu**	**48.22**	**332**	LR	LR		09 48 51.2	
	comp=Z,10μm,19.4s,baz=170,slow=32							
EFI	**East Falkland**	**48.78**	**124**	PFAKE			09 32 20.0	+11
EFI				LR	LR			
	comp=Z,3μm,21.0s							
NVL	**N'lazarevskaya**	**49.30**	**173**	⇑*i*P	P		09 32 07.7	-5.5
NVL				pmax	pmax			
	comp=Z,16nm,0.7s							
NVL				MLR	MLR			
	comp=Z,16μm,18.0s							
MAW	**Mawson**	**50.68**	**196**	LR	LR		09 51 22.3	
	comp=Z,9μm,21.7s,baz=153,slow=33							
PLCA	**Paso Flores**	**51.30**	**106**	P	**P**		**09 32 28.6**	**-0.2**
PLCA	**Paso Flores**	**51.30**	**106**	P	**P**		**09 32 28.6**	**-0.2**
	comp=Z,9.0nm,1.1s,baz=218,slow=7.7,SNR=8.1							
PLCA				LR	LR		09 49 06.7	
	comp=Z,6μm,19.2s,baz=220,slow=30							
STKA	**Stephens Creek**	**51.88**	**271**	*e*P	**P**		**09 32 32.6**	**-0.5**
	comp=Z,6.4nm,1.1s							
STKA	**Stephens Creek**	**51.88**	**271**	P	**P**		**09 32 32.6**	**-0.5**
	comp=Z,17nm,1.0s,baz=140,slow=7.9,SNR=13							
STKA				LR	LR		09 51 26.3	
	comp=Z,12μm,18.6s,baz=130,slow=33							
EIDS	**Eidsvold**	**52.43**	**284**	*e*P	**P**		**09 32 37.1**	**-0.2**
	comp=Z,62nm,1.4s							
H03N3	**Juan Fernandez**	**52.79**	**94**	T	T		10 29 52.3	
	baz=216,slow=73,SNR=566							
H03N2	**Juan Fernandez**	**52.80**	**94**	T	T		10 29 42.1	
	baz=216,slow=73,SNR=1261							
H03N1	**Juan Fernandez**	**52.81**	**94**	T	T		10 29 53.6	
	baz=216,slow=73,SNR=454							
TRQA	**Tornquist**	**57.52**	**111**	*e*P	**P**		**09 33 16.5**	**+2.5**
	comp=Z,79nm,1.6s							
TRQA				LR	LR			
	comp=Z,3μm,20.0s							
CTA	**Charters Tower**	**59.25**	**283**	LR	LR		09 54 42.4	
	comp=Z,5μm,20.9s,baz=146,slow=32							
CTAO	**Charters Tower**	**59.25**	**283**	*e*P	**P**		**09 33 26.8**	**+0.6**
CTAO				pmax	pmax			
	comp=Z,53nm,1.2s							
CTAO				MLR	MLR			
	comp=Z,5μm,21.0s							
CTAO	**Charters Tower**	**59.25**	**283**	*e*P	**P**		**09 33 26.8**	**+0.6**
	comp=Z,53nm,1.2s							
CTAO				LR	LR			
	comp=Z,5μm,21.0s							
LCO	**Las Campanas**	**60.52**	**98**	PFAKE			09 33 50.0	+15
LCO				LR	LR			
	comp=Z,7μm,22.0s							
XMAS	**Kiritimati**	**61.73**	**352**	PFAKE			09 33 50.0	+6.9
XMAS				LR	LR			
	comp=Z,14μm,21.0s							
HNR	**Honiara**	**62.13**	**302**	PFAKE			09 34 00.0	+14
HNR				LR	LR			
	comp=Z,153nm,20.0s							
AS31	**Alice Springs**	**62.48**	**270**	*e*P	**P**		**09 33 46.5**	**-1.7**
ASAR	**Alice Springs**	**62.48**	**270**	P	**P**		**09 33 45.6**	**-2.6**
ASAR	**Alice Springs**	**62.48**	**270**	P	**P**		**09 33 45.6**	**-2.6**
	comp=Z,19nm,0.9s,baz=144,slow=6.6,SNR=63							
ASAR				LR	LR		09 57 36.0	
	comp=Z,13μm,18.5s,baz=150,slow=33							
H01W1	**Cape Leeuwin H**	**63.01**	**247**	T	T		10 42 41.6	
	baz=145,slow=76,SNR=76							
H01W2	**Cape Leeuwin H**	**63.02**	**247**	T	T		10 42 43.4	
	baz=145,slow=76,SNR=72							
H01W3	**Cape Leeuwin H**	**63.03**	**247**	T	T		10 42 45.5	
	baz=145,slow=76,SNR=53							
WRA	**Warramunga Arr**	**65.36**	**272**	P	**P**		**09 34 05.2**	**-2.0**
WRA	**Warramunga Arr**	**65.36**	**272**	P	**P**		**09 34 05.2**	**-2.0**
	comp=Z,15nm,1.1s,baz=154,slow=5.8,SNR=37							
WRA				LR	LR		09 58 32.1	
	comp=Z,6μm,21.4s,baz=145,slow=32							
WRAB	**Tennant Creek**	**65.36**	**273**	*i* P	**P**		**09 34 05.3**	**-1.9**
WRAB				pmax	pmax			
	comp=Z,80nm,1.7s							
WRAB	**Tennant Creek**	**65.36**	**273**	*e*P	**P**		**09 34 05.6**	**-1.6**
	comp=Z,68nm,1.7s							
WRAB				LR	LR			
	comp=Z,7μm,22.0s							
COEN	**Coen**	**65.99**	**284**	*e*P	**P**		**09 34 12.9**	**+1.7**
	comp=Z,205nm,1.4s							
PAF	**Port-aux-Franc**	**66.36**	**208**	PFAKE			09 34 30.0	+17
PAF				LR	LR			
	comp=Z,12μm,22.0s							
LVC	**Limon Verde**	**66.70**	**95**	*e*P	**P**		**09 34 17.2**	**+1.1**
	comp=Z,28nm,1.0s							

LVC LR LR

comp=Z,4µm,22.0s
TARA Tarawa 67.10 320 PFAKE 09 34 30.0 +12
TARA LR LR

comp=Z,2µm,20.0s
PMG Port Moresby 67.98 290 *e*P **P 09 34 26.1 +2.2**
PMG Port Moresby 67.98 290 LR LR 09 58 15.3

comp=Z,5µm,21.8s,baz=346,slow=31
CPUP Villa Florida 69.37 107 P **P 09 34 31.9 -0.6**
CPUP Villa Florida 69.37 107 P **P 09 34 31.9 -0.6**

comp=Z,8.8nm,1.0s,baz=212,slow=8.2,SNR=6.1
CPUP LR LR 10 00 37.1

comp=Z,4µm,19.6s,baz=193,slow=32
NNA Nana 71.64 82 PFAKE 09 35 00.0 +14
NNA LR LR

comp=Z,7µm,20.0s
LPAZ La Paz 72.40 92 *e*P **P 09 34 53.1 +1.3**

comp=Z,66nm,1.5s
LPAZ La Paz 72.40 92 P **P 09 34 53.3 +1.5**

comp=Z,2.4nm,0.4s,baz=150,slow=1.4,SNR=10
LPAZ LR LR 09 59 09.6

comp=Z,3µm,19.8s,baz=195,slow=30
PAYG Puerto Ayora 74.93 64 PFAKE 09 35 20.0 +14
PAYG LR LR

comp=Z,9µm,20.0s
TRIS Tristan da Cun 77.72 147 PFAKE 09 35 30.0 +8.6
TRIS LR LR

comp=Z,4µm,19.0s
POHA Pohakuloa 79.20 355 PFAKE 09 35 40.0 +10
POHA LR LR

comp=Z,9µm,20.0s
KIP Kipapa 80.98 353 PFAKE 09 35 50.0 +11
KIP LR LR

comp=Z,11µm,20.0s
SAML Samuel 81.14 93 *e*P **P 09 35 40.0 -0.4**

comp=Z,28nm,1.4s
SAML LR LR

comp=Z,3µm,22.0s
OTAV Otavalo 81.35 75 *e*P **P 09 35 43.4 +1.4**
OTAV LR LR

comp=Z,4µm,21.0s
BDFB Brasilia 82.97 109 P **P 09 35 50.2 +0.1**
BDFB Brasilia 82.97 109 P **P 09 35 50.2 +0.1**

comp=Z,4.4nm,0.8s,baz=170,slow=5.6,SNR=4.7
BDFB LR LR 10 08 49.9

comp=Z,6µm,20.4s,baz=197,slow=33
KAPI Kappang 85.43 268 PFAKE 09 36 10.0 +7.5
KAPI LR LR

comp=Z,7µm,21.0s
WAKE Wake Island 85.94 320 PFAKE 09 36 10.0 +5.3
WAKE LR LR

comp=Z,3µm,20.0s
JTS JuntasAbangare 87.04 64 PFAKE 09 36 20.0 +10
JTS LR LR

comp=Z,7µm,20.0s
ROSC El Rosal 87.37 76 LR LR 10 07 29.9

comp=Z,4µm,21.8s,baz=193,slow=30
SUR Sutherland 88.06 173 PFAKE 09 36 30.0 +15
SUR LR LR

comp=Z,5µm,21.0s
BCIP Isla Barro Col 88.44 69 PFAKE 09 36 30.0 +13
BCIP LR LR

comp=Z,4µm,19.0s
GUMO Guam 89.26 299 PFAKE 09 36 30.0 +9.2
GUMO LR LR

comp=Z,2µm,22.0s
TGUH Tegucigalpa,Un 89.32 60 PFAKE 09 36 30.0 +8.9
TGUH LR LR

comp=Z,3µm,21.0s
PTGA Pitinga 89.80 91 PFAKE 09 36 30.0 +6.5
PTGA LR LR

comp=Z,3µm,22.0s
MIDW Midway 90.24 337 PFAKE 09 36 30.0 +5.0
MIDW LR LR

comp=Z,6µm,20.0s
COCO West Island 90.47 245 PFAKE 09 36 40.0 +13
COCO LR LR

comp=Z,3µm,22.0s
SDV Santo Domingo 92.67 77 PFAKE 09 36 50.0 +13
SDV LR LR

comp=Z,1µm,20.0s
DAV Davao City (W) 92.82 279 PFAKE 09 36 50.0 +13
DAV LR LR

comp=Z,2µm,19.0s
TEIG Tepich 94.36 57 LR LR 10 10 53.0

comp=Z,3µm,21.8s,baz=359,slow=30
KSM Kuching 95.77 263 PFAKE 09 37 00.0 +9.0
KSM LR LR

comp=Z,2µm,19.0s
RER Riviere de l'E 96.61 205 PFAKE 09 37 10.0 +15
RER LR LR

comp=Z,3µm,19.0s
PFO Pinyon Flat Ob 97.16 28 PFAKE 09 37 10.0 +13
PFO LR LR

comp=Z,5µm,19.0s
RCBR Riachuelo 97.23 115 PFAKE 09 37 10.0 +12
RCBR LR LR

comp=Z,2µm,20.0s
TUC Tucson 97.40 33 PFAKE 09 37 10.0 +12
TUC LR LR

comp=Z,3µm,19.0s
MTDJ Mount Denham 97.40 67 PFAKE 09 37 10.0 +12
MTDJ LR LR

comp=Z,2µm,19.0s
MNTX Cornudas Mount 98.42 38 PFAKE 09 37 10.0 +7.4
MNTX LR LR

comp=Z,2µm,22.0s
JCT Junction City 99.14 43 PFAKE 09 37 20.0 +14
JCT LR LR

comp=Z,2µm,19.0s
SHEL Horse Pasture 99.51 146 PFAKE 09 37 20.0 +12
SHEL LR LR

comp=Z,3µm,22.0s
GRGR Grenville 99.93 83 PFAKE 09 37 20.0 +10
GRGR LR LR

comp=Z,2µm,22.0s
GTBY Guantanamo Bay 100.00 68 PFAKE 09 37 20.0 +10
GTBY LR LR

comp=Z,2µm,20.0s
ABPO Ambohimpanom 100.25 197 PFAKE 09 37 20.0 +8.6
ABPO LR LR

comp=Z,4µm,22.0s
WUAZ Wupatki 100.26 32 PFAKE 09 37 20.0 +9.2
WUAZ LR LR

comp=Z,3µm,20.0s
TSUM Tsumeb 100.87 169 PFAKE 09 37 30.0 +16
TSUM LR LR

comp=Z,5µm,20.0s
SDDR Presa de Saban 101.01 71 PFAKE 09 37 30.0 +16
SDDR LR LR

comp=Z,2µm,19.0s
ANMO Albuquerque 101.11 36 PFAKE 09 37 20.0 +5.3
ANMO LR LR

comp=Z,3µm,20.0s
BBGH Gun Hill 101.85 84 PFAKE 09 37 30.0 +12
BBGH LR LR

comp=Z,4µm,21.0s
NATX Nacogdoches 102.13 46 PFAKE 09 37 30.0 +11
NATX LR LR

comp=Z,3µm,21.0s
FDF Fort de France 102.40 82 PFAKE 09 37 30.0 +9.3
FDF LR LR

comp=Z,4µm,19.0s
MVCO Mesa Verde 102.64 33 PFAKE 09 37 30.0 +8.5
MVCO LR LR

comp=Z,3µm,20.0s
GRTK Grand Turk 103.25 70 PFAKE 09 37 30.0 +5.8
GRTK LR LR

comp=Z,2µm,19.0s
WMOK Wichita Mounta 103.37 42 PFAKE 09 37 30.0 +5.5
WMOK LR LR

comp=Z,2µm,20.0s
KULM Kulim 103.87 257 PFAKE 09 37 40.0 +13
KULM LR LR

comp=Z,2µm,19.0s
SDCO Great Sand Dun 104.00 36 PFAKE 09 37 40.0 +12
SDCO LR LR

comp=Z,3µm,20.0s
ASCN Ascension 104.27 135 PFAKE 09 37 40.0 +11
ASCN LR LR

comp=Z,2µm,22.0s
DUG Dugway 104.31 29 PFAKE 09 37 40.0 +11
DUG LR LR

comp=Z,3µm,21.0s
ANWB Willy Bob 104.57 80 PFAKE 09 37 40.0 +10
ANWB LR LR

comp=Z,2µm,22.0s
DGAR Diego Garcia 104.86 225 PFAKE 09 37 40.0 +8.3
DGAR LR LR

comp=Z,3µm,19.0s
MIAR Mount Ida 105.03 46 PFAKE 09 37 40.0 +8.2
MIAR LR LR

comp=Z,2µm,19.0s
WVOR Wild Horse Val 105.11 24 PFAKE 09 37 40.0 +7.8
WVOR LR LR

comp=Z,3µm,20.0s
LSZ Lusaka 105.34 179 PFAKE 09 42 00.0
LSZ LR LR

comp=Z,13µm,20.0s
ISCO Idaho Springs 105.87 35 PFAKE 09 42 00.0
ISCO LR LR

comp=Z,3µm,20.0s
HLID Hailey 107.11 27 PFAKE 09 42 00.0
HLID LR LR

comp=Z,4µm,20.0s
AHID Auburn Hatcher 107.16 29 PFAKE 09 42 00.0
AHID LR LR

comp=Z,3µm,19.0s
BW06 Boulder Array 107.55 31 PFAKE 09 42 00.0
BW06 LR LR

comp=Z,4µm,20.0s
GOGA Godfrey 107.96 54 PFAKE 09 42 00.0
GOGA LR LR

comp=Z,3µm,20.0s
OGNE Ogallala 107.98 37 PFAKE 09 42 00.0
OGNE LR LR

comp=Z,3µm,19.0s
KSU1 Kansas State U 108.05 42 PFAKE 09 42 00.0
KSU1 LR LR

comp=Z,2µm,19.0s
HAWA Hanford 108.74 22 PFAKE 09 42 00.0
HAWA LR LR

comp=Z,6µm,20.0s
NLWA Neilton Lookou 108.92 19 PFAKE 09 42 00.0
NLWA LR LR

comp=Z,4µm,21.0s
NHSC New Hope 109.08 57 PFAKE 09 42 00.0
NHSC LR LR

comp=Z,3µm,19.0s
BOZ Bozeman (W) 109.73 28 PFAKE 09 42 10.0
BOZ LR LR

comp=Z,3µm,20.0s
RLMT Red Lodge 109.83 30 PFAKE 09 42 10.0
RLMT LR LR

comp=Z,3µm,20.0s
YHNB Yeheng 109.87 285 PFAKE 09 42 10.0
YHNB LR LR

comp=Z,2µm,20.0s
TATO Taipei 110.08 285 PFAKE 09 42 10.0
TATO LR LR

comp=Z,2µm,21.0s
QIZ Qiongzhong 110.93 272 Pdif **Pdif 09 38 00.3 +1.8**
QIZ S **Sdif 09 50 16.8 +1.3**
QIZ LR LR

comp=Z,1µm,22.8s
QIZ LR LR

comp=Z,2µm,26.9s
QIZ Qiongzhong 110.93 272 PFAKE 09 42 10.0
QIZ LR LR

comp=Z,1µm,20.0s
NEW Newport 111.00 23 PFAKE 09 42 10.0
NEW LR LR

comp=Z,4µm,21.0s
SCIA State Center 111.71 43 PFAKE 09 42 10.0
SCIA LR LR

comp=Z,2µm,19.0s
LAO LASA Array 112.07 31 PFAKE 09 42 10.0
LAO LR LR

comp=Z,4µm,22.0s
MAJO Matsushiro 112.17 305 PFAKE 09 42 10.0
MAJO LR LR

comp=Z,2µm,21.0s
ECSD EROS Data Cent 112.21 39 PFAKE 09 42 10.0
ECSD LR LR

comp=Z,4µm,19.0s
EGMT Eagleton 112.41 28 PFAKE 09 42 10.0
EGMT LR LR

comp=Z,4µm,20.0s
BLA Blacksburg 112.49 54 PFAKE 09 42 10.0
BLA LR LR

comp=Z,3µm,20.0s
MSEY Mahe Island 112.60 209 PFAKE 09 42 10.0
MSEY LR LR

comp=Z,3µm,19.0s
JFWS Jewell Farm 113.64 44 PFAKE 09 42 10.0
JFWS LR LR

comp=Z,2µm,19.0s
DGMT Dagmar 114.25 32 PFAKE 09 42 10.0 +6.7
DGMT LR LR

comp=Z,4µm,19.0s
CBN Corbin 114.61 56 PFAKE 09 42 20.0 +16
CBN LR LR

comp=Z,5µm,20.0s
ERM Erimo 114.88 311 PFAKE 09 42 20.0 +15
ERM LR LR

comp=Z,4µm,20.0s
SSE Sheshan 115.31 288 *e*PKP **PKPdf 09 42 09.3 +3.4**
SSE SS SS 09 59 09.3 +4.3
SSE LR LR

comp=Z,1µm,25.8s
SSE LR LR

comp=Z,740nm,26.4s
SSE LR LR

comp=Z,1µm,25.2s
BBSR BB Station 115.45 69 PFAKE 09 42 20.0 +14
BBSR LR LR

comp=Z,1µm,19.0s
AAM Ann Arbor 115.55 49 PFAKE 09 42 20.0 +14
AAM LR LR

comp=Z,3µm,21.0s
CMAR Chiang Mai Arr 115.97 262 PKP **PKPdf 09 42 05.1 -2.4**
CMAR Chiang Mai Arr 115.97 262 PKP **PKPdf 09 42 05.1 -2.4**

comp=Z,0.3nm,0.4s,baz=238,slow=1.7,SNR=3.6
CHTO Chiang Mai 116.27 262 PFAKE 09 42 20.0 +12
CHTO LR LR

comp=Z,3µm,20.0s
AGMN Agassiz Nation 116.51 38 PFAKE 09 42 20.0 +12
AGMN LR LR

comp=Z,4µm,19.0s
WRAK Wrangell Islan 116.64 11 PFAKE 09 42 20.0 +12
WRAK LR LR

comp=Z,4µm,19.0s
ERPA Erie 116.83 52 PFAKE 09 42 20.0 +12
ERPA LR LR

comp=Z,3µm,21.0s
KDAK Kodiak Island 117.09 359 PFAKE 09 42 20.0 +12
KDAK LR LR

comp=Z,7µm,22.0s
NJ2 Nanjing 117.22 287 *e*PKP **PKPdf 09 42 12.0 +2.5**
EYMN Ely 117.60 41 PFAKE 09 42 20.0 +10
EYMN LR LR

comp=Z,5µm,19.0s
INCN Inchon 118.01 297 PFAKE 09 42 20.0 +9.1
INCN LR LR

comp=Z,1µm,19.0s
BINY Binghamton 118.53 55 PFAKE 09 42 20.0 +8.2
BINY LR LR

comp=Z,4µm,22.0s
GYA Guiyang 118.72 274 *e*Pdif **Pdif 09 38 34.8 +1.7**
GYA PKP **PKiKP 09 42 13.3 +0.5**
GYA PP PP 09 43 37.5 +6.3
GYA PKS **PKSdf 09 45 49.5 -0.1**
GYA SKKS 09 50 27.8
GYA SS **SS 09 59 52.0 +2.3**
GYA AMB AMB

comp=Z,130nm,7.8s
GYA LR LR

comp=Z,150nm,21.8s
GYA LR LR

comp=Z,120nm,23.3s
GYA LR LR

comp=Z,160nm,22.0s
KMBO Kilima Mbogo 119.08 189 PFAKE 09 42 30.0 +16
KMBO LR LR

comp=Z,5µm,20.0s
PET Petropavlovsk 119.44 328 PFAKE 09 42 20.0 +7.0
PET LR LR

comp=Z,3µm,20.0s
PETK Petropavlovsk- 119.77 327 PKIKP **PKPdf 09 42 10.9 -2.9**
PETK Petropavlovsk- 119.77 327 PKP **PKPdf 09 42 10.9 -2.9**
PETK Petropavlovsk- 119.77 327 PKP **PKPdf 09 42 10.9 -2.9**

comp=Z,1.9nm,0.9s,baz=144,slow=5.4,SNR=2.5
ENH Enshi 120.41 279 PFAKE 09 42 30.0 +14
ENH LR LR

comp=Z,62nm,22.0s
FFC Flin Flon 120.51 30 PFAKE 09 42 30.0 +15
FFC LR LR

comp=Z,4µm,21.0s
NCB Newcomb 120.72 55 PFAKE 09 42 30.0 +14
NCB LR LR

comp=Z,3µm,21.0s
PMR Palmer 120.91 1 *e*PKIKP **PKPdf 09 42 14.9 -0.7**
PMR Palmer 120.91 1 *e*PKPdf **PKPdf 09 42 14.8 -0.7**
LONY Lake Ozonia 121.10 54 PFAKE 09 42 30.0 +13
LONY LR LR

comp=Z,3µm,20.0s
SACV Santiago Islan 121.19 116 PFAKE 09 42 30.0 +12
SACV LR LR

comp=Z,2µm,21.0s
MDJ Mudanjiang 122.51 304 PFAKE 09 42 30.0 +11
MDJ LR LR

comp=Z,2µm,20.0s
TRF Thorofare Moun 122.77 0 *e*PKPdf **PKPdf 09 42 17.4 -2.0**
CN2 Changchun 123.65 300 *e*PKP **PKPdf 09 42 23.5 +2.0**
DAWY Dawson 123.69 6 *e*PKPdf **PKPdf 09 42 20.5 -0.5**
CD2 Chengdu 123.81 274 *e*PKP **PKPdf 09 42 22.8 +0.5**
CD2 PP **PP 09 44 06.8 +0.9**
CD2 PKS **PKSdf 09 45 55.8 -3.2**
CD2 SKS **SKSdf 09 49 34.5 +0.5**
CD2 SKKS **SKKSac 09 51 03.0 -1.0**
CD2 SS **SS 10 00 55.0 +0.3**
CD2 AMB AMB

comp=Z,290nm,9.6s
CD2 LR LR

comp=Z,1µm,23.8s
CD2 LR LR

comp=Z,1µm,21.4s
CD2 LR LR

comp=Z,2µm,22.6s
ILAR Eielson Array 124.13 2 PKP **PKPdf 09 42 19.9 -1.8**
ILAR Eielson Array 124.13 2 PKP **PKPdf 09 42 19.9 -1.8**

comp=Z,6.6nm,1.1s,baz=234,slow=1.9,SNR=22
COLA College 124.22 2 *e*PKIKP **PKPdf 09 42 20.3 -1.6**
COLA MLR MLR

comp=Z,4µm,19.0s
COLA College 124.22 2 *e*PKPdf **PKPdf 09 42 20.3 -1.6**
COLA LR LR

comp=Z,4µm,19.0s
EGAK Eagle 124.31 5 PFAKE 09 42 30.0 +7.9
EGAK LR LR

comp=Z,7µm,20.0s
BJT Baijiatuau 124.91 291 PFAKE 09 42 30.0 +6.0
BJT LR LR

comp=Z,1µm,21.0s
YKA Yellowknife Ar 124.93 20 PKP **PKPdf 09 42 22.7 -0.6**
YKA Yellowknife Ar 124.93 20 PKP **PKPdf 09 42 22.7 -0.6**

comp=Z,0.6nm,0.7s,baz=198,slow=2.3,SNR=8.6
IM04 Indian Mountai 125.32 359 *e*PKPdf **PKPdf 09 42 23.6 -0.4**
HHC Hu-ho-hao-te 127.76 288 *e*PKP **PKPdf 09 42 31.8 +2.2**
HHC PP PP 09 44 39.0 +6.8
HHC PKS **PKSdf 09 46 05.8 -0.4**
HHC SKS **SKSdf 09 49 40.5 -0.5**
HHC SKKS **SKKSac 09 51 27.0 -1.8**
HHC SS **SS 10 01 48.5 +4.2**
HHC AMB AMB

comp=Z,160nm,8.7s
HHC LR LR

comp=Z,540nm,21.9s
HHC LR LR

comp=Z,500nm,21.3s
HHC LR LR

comp=Z,310nm,21.4s
LZH Lanzhou 127.88 278 *e*PKP **PKPdf 09 42 29.8 -0.3**
LZH LR LR

comp=Z,750nm,15.6s
LZH LR LR

comp=Z,540nm,13.9s
LZH LR LR

comp=Z,2µm,21.0s
LSA Lhasa 129.23 262 PFAKE 09 42 40.0 +6.7
LSA LR LR

comp=Z,1µm,20.0s
TORD Torodi Ar. Bea 129.32 144 PKP **PKPdf 09 42 33.0 -0.3**
TORD Torodi Ar. Bea 129.32 144 PKP **PKPdf 09 42 33.0 -0.3**

comp=Z,0.8nm,0.9s,baz=233,slow=1.3,SNR=4.2
HIA Hailar 130.37 301 PFAKE 09 42 40.0 +5.8
HIA LR LR

comp=Z,2µm,22.0s
ULN Ulaanbaatar 135.14 291 PFAKE 09 42 50.0 +6.6
ULN LR LR

comp=Z,1µm,19.0s
SONM Songino Array 135.43 291 PKP **PKPdf 09 42 42.6 -1.3**
SONM PP **PP 09 45 25.4 +3.8**
SONM Songino Array 135.43 291 PKP **PKPdf 09 42 42.6 -1.3**

comp=Z,0.6nm,0.9s,baz=113,slow=1.3,SNR=2.1
SONM PP **PP 09 45 25.4 +3.8**

comp=Z,2.8nm,1.3s,baz=137,slow=5.2,SNR=4.7
YAK Yakutsk 135.73 318 PFAKE 09 42 50.0 +6.2
YAK LR LR

comp=Z,2µm,21.0s
ZAK Zakamensk 138.67 291 *e*PKIKP **PKPdf 09 42 44.6 -5.2**
TLY Talaya 139.36 293 *e*PKIKP **PKPdf 09 42 50.5 -0.4**
TLY *e* 09 45 47.2
TLY *e*PPS PPS 09 57 54.4
TLY *e*SS SS 10 04 03.8 -0.5
TLY pmax pmax

comp=Z,4.0nm,1.0s
TLY Talaya 139.36 293 PFAKE 09 43 00.0 +9.1
TLY LR LR

comp=Z,1µm,21.0s
TAM Tamanrasset 139.56 145 PFAKE 09 43 00.0 +7.6
TAM LR LR

comp=Z,2µm,19.0s
WMQ Urumqi 141.85 272 PKP **PKPdf 09 42 57.5 +1.7**
WMQ PP **PP 09 46 06.0 +4.7**
WMQ PKS **PKSdf 09 46 32.0 +0.5**
WMQ SKS **SKSdf 09 50 05.5 +0.2**
WMQ SKKS **SKKSac 09 52 58.0 +4.3**
WMQ SS **SS 10 04 38.0 +4.4**
WMQ AMB AMB

comp=Z,150nm,10.0s
WMQ LR LR

comp=Z,1µm,28.0s
WMQ LR LR

comp=Z,2µm,28.0s
WMQ LR LR

comp=Z,1µm,26.0s
TIXI Tiksi 142.19 329 *i* PKIKP **PKPdf 09 42 54.1 -1.2**
TIXI Tiksi 142.19 329 *e*PKPdf **PKPdf 09 42 55.4 0.0**
TIXI LR LR

comp=Z,2µm,22.0s
KSH Kashi 144.59 257 PKP **PKPdf 09 43 01.0 +0.2**
KSH PP **PP 09 46 16.8 -1.0**
KSH PKS **PKSdf 09 46 35.0 -1.4**
KSH SKS **SKSdf 09 50 07.0 -2.9**
KSH SKKS **SKKSac 09 53 10.0 +0.3**
KSH AMB AMB

comp=Z,220nm,5.7s
KSH LR LR

comp=Z,320nm,10.9s
KSH LR LR

comp=Z,300nm,9.3s
KSH LR LR

comp=Z,2µm,20.6s
RTC Rabat Centre 145.14 121 PFAKE 09 43 10.0 +8.3
RTC LR LR

comp=Z,2µm,21.0s
SFJD Kangerlussuaq 145.83 44 PFAKE 09 43 10.0 +7.1
SFJD LR LR

comp=Z,4µm,20.0s
ULHL Ulahol 146.51 260 P **PKPbc 09 43 05.9 +0.3**

SNR=37
MK31 Makanchi Array 146.66 271 *i* PKIKP **PKPdf 09 43 02.5 -1.5**
MK31 pmax pmax

comp=Z,50nm,1.1s
KZA Kyzart 146.88 259 P **PKPbc 09 43 06.6 -0.3**

SNR=13
TKM2 Tokmak 2 147.33 260 PKP2 **PKPbc 09 43 07.0 -0.9**
TKM2 pmax pmax

comp=Z,5.0nm,1.0s
TKM2 Tokmak 2 147.33 260 P **PKPbc 09 43 07.2 -0.6**

SNR=9.0
TKM2 Tokmak 2 147.33 260 PFAKE 09 43 20.0 +10
TKM2 LR LR

comp=Z,2µm,22.0s
UCH Uchtor 147.36 258 P **PKPdf 09 43 06.1 +0.3**

SNR=15
AAK Ala-Archa 147.67 259⇑ *i*PKP2 PKPbc 09 43 07.4 -1.4
AAK Ala-Archa 147.67 259 *e*PKPdf PKPbc 09 43 07.6 -1.2
AAK LR LR
comp=Z,1μm,20.0s
AML Almayashu 147.69 257 P PKPdf 09 43 05.9 -0.4
SNR=16
FRU Bishkek 147.75 259 *e*PKP2 PKPab 09 43 11.0 -0.3
FRU pmax pmax
comp=Z,100nm,2.2s
EKS2 Erkin-Say 148.05 258 PFAKE 09 43 20.0 +7.5
EKS2 LR LR
comp=Z,1μm,22.0s
ZALV Zalesovo Beam 149.81 284 PKPbc PKPbc 09 43 11.3 -2.3
ZALV Zalesovo Beam 149.81 284 PKPbc PKPbc 09 43 11.3 -2.3
comp=Z,4.5nm,0.8s,baz=116,slow=3.4,SNR=12
KK31 Karatay Array 149.99 255 *i* PKP2 PKPbc 09 43 14.6 +0.1
KK31 pmax pmax
comp=Z,10.0nm,0.8s
MTE Manteigas 150.11 114 PFAKE 09 43 20.0 -0.9
MTE LR LR
comp=Z,2μm,21.0s
PAB San Pablo 150.88 119 PFAKE 09 43 20.0 +3.2
PAB LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 151.04 274 PFAKE 09 43 20.0 +3.4
KURK LR LR
comp=Z,1μm,21.0s
NVS Novosibirsk 151.07 285⇑ *i*PKIKP PKPdf 09 43 13.4 +2.7
NVS pmax pmax
comp=Z,20nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.3s
ESDC Sonseca Array 151.16 119 PKPbc PKPbc 09 43 17.1 -0.3
ESDC Sonseca Array 151.16 119 PKPbc PKPbc 09 43 17.1 -0.3
comp=E,3.4nm,0.8s,baz=226,slow=1.7,SNR=12
SUMG Summit 151.59 36 *i* PKIKP PKPbc 09 43 17.7 -0.1
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 151.59 36 *i* P PKPbc 09 43 17.7 -0.1
comp=Z,22nm,1.0s
SUMG Summit 151.59 36 *e*PKPbc PKPbc 09 43 17.4 -0.4
WDD Wield Dalam 154.37 152 PFAKE 09 43 30.0 +5.5
WDD LR LR
comp=Z,3μm,22.0s
SJPF Ste Jean 155.14 118 *e*PKIKP PKPdf 09 43 14.9 -2.2
comp=Z,43nm,1.3s
SJPF Ste Jean 155.14 118 *e*PKIKP PKPdf 09 43 14.9 -2.2
SJPF Ste Jean 155.14 118 *e*PKPdf PKPdf 09 43 14.9 -2.2
CSS Prodhromos 155.16 188 PFAKE 09 43 30.0 -12
CSS LR LR
comp=Z,748nm,21.0s
CLTB Caltabellotta 155.65 148 PFAKE 09 43 30.0 +12
CLTB LR LR
comp=Z,1μm,20.0s
VSL Villasalto 156.27 139 PFAKE 09 43 30.0 +11
VSL LR LR
comp=Z,2μm,21.0s
BORG Borgarnes 156.44 56 PFAKE 09 43 30.0 +12
BORG LR LR
comp=Z,2μm,20.0s
SANT Santorini 156.59 172 PFAKE 09 43 30.0 +11
SANT LR LR
comp=Z,2μm,20.0s
BRVK Borovoye 156.62 272 PFAKE 09 43 30.0 +11
BRVK LR LR
comp=Z,3μm,21.0s
CEL Celeste 156.97 152 PFAKE 09 43 30.0 +10
CEL LR LR
comp=Z,3μm,19.0s
TIP Timpagrande 158.05 153 PFAKE 09 43 30.0 +8.9
TIP LR LR
comp=Z,2μm,21.0s
ISP Isparta 158.15 183 PFAKE 09 43 30.0 +8.7
ISP LR LR
comp=Z,2μm,21.0s
GNI Garni 158.18 214 PFAKE 09 43 30.0 +8.7
GNI LR LR
comp=Z,3μm,21.0s
CUC Castrocucco 158.60 151 PFAKE 09 43 30.0 +8.3
CUC LR LR
comp=Z,2μm,21.0s
PGF Pioggiola 158.85 135 *e*PKIKP PKPdf 09 43 20.2 -1.8
comp=Z,197nm,1.7s
PGF Pioggiola 158.85 135 *e*PKIKP PKPdf 09 43 20.2 -1.8
PGF Pioggiola 158.85 135 *e*PKPdf PKPdf 09 43 20.2 -1.8
TCF Toulx Ste Croi 159.15 118 *e*PKIKP PKPdf 09 43 20.1 -2.0
comp=Z,53nm,1.5s
TCF Toulx Ste Croi 159.15 118 *e*PKIKP PKPdf 09 43 20.1 -2.0
TCF Toulx Ste Croi 159.15 118 *e*PKPdf PKPdf 09 43 20.1 -2.0
SSB Saint Sauveur 159.38 123 PFAKE 09 43 30.0 +7.6
SSB LR LR
comp=Z,2μm,20.0s
AB31 Akbulak array 159.51 253 PKP2 PKPab 09 43 58.1 -2.5
KBS Kingsbay 159.87 10 PFAKE 09 43 30.0 +8.1
KBS LR LR
comp=Z,3μm,19.0s
ANTO Ankara 160.08 188 PFAKE 09 43 30.0 +6.6
ANTO LR LR
comp=Z,2μm,20.0s
BNI Bardonecchia 160.09 127 PFAKE 09 43 30.0 +6.7
BNI LR LR
comp=Z,4μm,20.0s
SSF Saint Saulge 160.32 118 *e*PKIKP PKPdf 09 43 22.0 -1.4
SSF Saint Saulge 160.32 118 *e*PKIKP PKPdf 09 43 22.0 -1.4
SSF Saint Saulge 160.32 118 *e*PKPdf PKPdf 09 43 22.0 -1.4
LPG La Plagne 160.48 127 *e*PKIKP PKPdf 09 43 21.6 -2.4
comp=Z,76nm,1.8s
LPG La Plagne 160.48 127 *e*PKIKP PKPdf 09 43 21.6 -2.4
LPG La Plagne 160.48 127 *e*PKPdf PKPdf 09 43 21.6 -2.4
VLC Villacollemand 160.75 135 PFAKE 09 43 30.0 +6.0
VLC LR LR
comp=Z,2μm,20.0s
CABF La Chapelle 161.10 123 *e*PKIKP PKPdf 09 43 21.8 -2.5
comp=Z,113nm,1.8s
CABF La Chapelle 161.10 123 *e*PKIKP PKPdf 09 43 21.8 -2.5
CABF La Chapelle 161.10 123 *e*PKPdf PKPdf 09 43 21.8 -2.5
ESK Eskdalemuir 162.16 90 PFAKE 09 43 40.0 +15
ESK LR LR
comp=Z,3μm,21.0s
KIV Kislovodsk 162.28 214 PFAKE 09 43 40.0 +14
KIV LR LR
comp=Z,2μm,22.0s
TUE Stuetta 162.32 129 PFAKE 09 43 40.0 +14
TUE LR LR
comp=Z,2μm,20.0s
BAIF Baives 162.81 113 *e*PKIKP PKPdf 09 43 23.9 -1.9
comp=Z,53nm,1.4s
BAIF Baives 162.81 113 *e*PKIKP PKPdf 09 43 23.9 -1.9
BAIF Baives 162.81 113 *e*PKPdf PKPdf 09 43 23.9 -1.9
BFO Black Forest 163.39 124 PFAKE 09 43 40.0 +13
BFO LR LR
comp=Z,3μm,20.0s
WLF Walferdange 163.43 117 PFAKE 09 43 40.0 +14
WLF LR LR
comp=Z,3μm,20.0s
ARU Arti 164.19 271 PFAKE 09 43 40.0 +13
ARU LR LR
comp=Z,3μm,21.0s
KHC Kasperske Hory 166.13 132 *e*SS SS 10 08 52.6 -4.7
KHC *ex* x 10 15 07.8
KHC AMS AMS 11 02 50.0
comp=Z,4μm,21.1s
NKC Novy Kostel 166.57 127 AMS AMS 11 05 50.0
comp=Z,1μm,17.4s
TREC Trest 166.96 137 AMS AMS 11 04 10.0
comp=Z,2μm,18.6s
PSZ Piszkesteto 167.05 151 PFAKE 09 43 40.0 +10
PSZ LR LR
comp=Z,3μm,22.0s
PRU Pruhonice 167.19 133 *ex* x 10 08 56.8
PRU AMS AMS 11 07 00.0
comp=Z,2μm,22.7s
CLL Collm 167.62 125 *e*PKP2 PKPab 09 44 39.0 +2.9
CLL MLR MLR
comp=Z,2μm,20.1s
CLL Collm 167.62 125 *e*PKPab PKPab 09 44 39.0 +2.9
CLL *e*SS SS 10 09 14.0 +1.6
CLL *e*PSPS 10 10 59.0
CLL *e*(SSS) 10 15 42.0
CLL *e*SSSS 10 20 24.0
CLL Lm MLR 11 05 00.0
comp=Z,2μm,20.1s

PVCC Panska Ves 167.64 131 AMS AMS 11 06 30.0
comp=Z,4μm,19.1s
DPC Dobruska-Polom 168.14 136 *e*SS SS 10 09 22.0 +4.5
DPC *ex* x 10 15 18.6
DPC AMS AMS 11 13 00.0
OKC Ostrava-Krasne 168.31 142 *ex* x 10 16 13.6
OKC AMS AMS 11 04 20.0
comp=Z,2μm,24.0s
CRVS Cervenica-Dubn 168.34 154 *e*PKP2 PKPab 09 44 41.0 +1.6
CRVS Cervenica-Dubn 168.34 154 *e*PKP PKPab 09 44 41.0 +1.6
VRHR Novokhopersk 168.91 225 *e*PKP2 PKPab 09 44 39.8 -2.0
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,5.0nm,0.8s
KWP Kalwaria Pacla 169.30 157 PFAKE 09 43 40.0 +9.0
KWP LR LR
comp=Z,3μm,22.0s
KEV Kevo 169.80 4 PFAKE 09 43 40.0 +9.3
KEV LR LR
comp=Z,2μm,20.0s
VSR Storozhevoye 169.84 218 *e*PKP2 PKPab 09 44 45.5 -0.5
VSR pmax pmax
comp=N,3.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.9s
VSR pmax pmax
comp=Z,5.0nm,0.9s
KONO Kongsberg 170.08 81 PFAKE 09 43 40.0 +8.9
KONO LR LR
comp=Z,3μm,22.0s
KIEV Kiev 171.03 180 PFAKE 09 43 40.0 +8.1
KIEV LR LR
comp=Z,2μm,21.0s
LVZ Lovozero 171.37 346 PFAKE 09 43 40.0 +8.3
LVZ LR LR
comp=Z,5μm,22.0s
OBN Obninsk 173.96 224 PFAKE 09 43 40.0 +7.0
OBN LR LR
comp=Z,3μm,22.0s

IDC 31 09:25:09.8±1.9, 17°60S×178°14W, h609km±32km, mb3.3/5, mb1 3.5/6, mb1mx3.1/21, mbtmp3.4/6, Error ellipse: s-maj=96.5km s-min=18.3km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.14**	**60**	P	P	09 27 01.6	0.0
	4.1nm,0.3s,baz=357,slow=18,SNR=6.2						
CTA	**Charters Tower**	**33.76**	**260**	P	P	09 31 03.0	-0.1
	3.3nm,0.5s,baz=112,slow=7.4,SNR=7.2						
STKA	**Stephens Creek**	**39.01**	**241**	P	P	09 31 45.9	0.0
	3.6nm,0.7s,baz=92,slow=11,SNR=9.3						
WRA	**Warramunga Arr**	**44.95**	**259**	P	P	09 32 32.3	-0.2
	3.0nm,0.4s,baz=95,slow=7.0,SNR=148						
ASAR	**Alice Springs**	**45.13**	**254**	P	P	09 32 33.8	-0.1
	6.9nm,0.5s,baz=91,slow=8.1,SNR=204						
ILAR	**Eielson Array**	**85.53**	**13**	P	P	09 36 44.1	-0.1
	0.2nm,0.4s,baz=219,slow=4.9,SNR=6.5						
GERES	**GERESS Array B**	**147.38**	**345**	PKPbc	PKPbc	09 43 45.9	-0.5
	0.3nm,0.4s,baz=46,slow=3.9,SNR=4.7						

WEL 31 09:28:32.1±0.7, 46°19S×166°01E, h12km, ML3.9/12, 1C, Error ellipse: s-maj=7.7km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**88**	P*	Pb	09 28 41.9	-0.3
PYZ				S*	Sg	09 28 47.1	-0.4
DCZ	**Deep Cove**	**1.07**	**49**	⇑P*	Pb	09 28 50.1	-2.4
DCZ				AML	AML	09 29 02.6	
DCZ				AML	AML	09 29 02.6	
DCZ				AML	AML	09 29 02.7	
DCZ				AML	AML	09 29 02.7	
WHZ	**Wether Hill Ro**	**1.38**	**79**	PN	Pn	09 28 55.8	-1.3
WHZ				AML	AML	09 29 17.6	
WHZ				AML	AML	09 29 17.7	
APZ	**The Paps**	**1.51**	**116**	PN	Pn	09 28 58.2	-0.9
APZ				AML	AML	09 29 18.3	
APZ				AML	AML	09 29 22.5	
MLZ	**Mavora Lakes**	**1.73**	**62**	PN	Pn	09 29 01.0	-1.0
MLZ				AML	AML	09 29 27.9	
MLZ				AML	AML	09 29 31.7	
MSZ	**Milford Sound**	**2.03**	**42**	PN	Pn	09 29 04.9	-1.1
MSZ				AML	AML	09 29 41.6	
MSZ				AML	AML	09 29 47.0	
SYZ	**Scrubby Hill**	**2.19**	**100**	PN	Pn	09 29 07.9	-0.4
SYZ				AML	AML	09 29 35.5	
SYZ				AML	AML	09 29 37.3	
SYZ				AML	AML	09 29 42.5	
SYZ				AML	AML	09 29 43.4	
EAZ	**Earnscleugh**	**2.50**	**69**	PN	Pn	09 29 13.2	+0.7
EAZ				AML	AML	09 29 44.9	
EAZ				AML	AML	09 29 50.2	
EAZ				AML	AML	09 29 51.0	
EAZ				AML	AML	09 29 53.0	
WKZ	**Wanaka**	**2.51**	**58**	PN	Pn	09 29 14.3	+1.5
WKZ				AML	AML	09 29 49.5	
WKZ				AML	AML	09 29 55.2	
TUZ	**Tuapeka**	**2.53**	**86**	PN	Pn	09 29 13.2	+0.2
TUZ				AML	AML	09 29 43.2	
TUZ				AML	AML	09 29 51.8	
JCZ	**Jackson Bay**	**2.87**	**44**	PN	Pn	09 29 19.3	+1.5
JCZ				AML	AML	09 30 07.7	
JCZ				AML	AML	09 30 10.2	
ODZ	**Otahua Downs**	**3.44**	**72**	PN	Pn	09 29 24.3	-1.2
LBZ	**Lake Benmore**	**3.45**	**60**	PN	Pn	09 29 25.9	+0.3
LBZ				SN	Sn	09 30 04.4	-2.1
LBZ				AML	AML	09 30 06.9	
FOZ	**Fox Glacier**	**3.70**	**46**	*e*PN	Pn	09 29 30.2	+1.2
RPZ	**Rata Peaks**	**4.35**	**57**	*e*PN	Pn	09 29 37.1	-0.9
RPZ				AML	AML	09 31 03.3	
OXZ	**Oxford**	**5.16**	**58**	*e*PN	Pn	09 29 47.3	-1.7
DSZ	**Denniston Nort**	**6.09**	**45**	*e*PN	Pn	09 30 02.0	0.0

*ISCJB **31** 09:29:42.8±0.5, 59°3S±0.1°×151°1W±0.2, h10km, mb4.9/16, MS5.7/149, Error ellipse: s-maj=17.8km s-min=11.6km az=14.1*
*IDC **31** 09:29:42.7±0.7, 59°30S×151°18W, h0km, mb4.5/8, mb1 4.7/8, mb1mx4.5/13, mbtmp4.5/8, Error ellipse: s-maj=30.6km s-min=18.3km az=7.0*
*NEIC **31** 09:29:44.9±0.4, 59°40S×151°03W, h10km, mb5.5/8, MS5.8/145, Error ellipse: s-maj=18.3km s-min=13.5km az=190.0*
*GCMT **31** 09:29:49.3±0.2, 59°76S×151°05W, h25km±1km, MW5.6, Moment Tensor Solution. s33,c37; s9,c9; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19±.12; $M_{\theta\theta}$2.94±.11; $M_{\phi\phi}$-2.75±.10; $M_{r\theta}$-0.45±.24; $M_{\theta\phi}$1.26±.07; $M_{\phi r}$1.17±.25; Best double couple: $M_0$3.40000×10^{17} NP1:ϕ_e121.00000°, δ78.00000°, λ-17.00000°. NP2:ϕ_n215.00000°, δ73.00000°, λ-168.00000°. Principal axes: T 3.2200, Plg4.0000°, Azm169.0000°; N 0.2600, Plg69.0000°, Azm268.0000°; P -3.4800, Plg21.0000°, Azm77.0000°; Data Used: II CU IU CN G IC. Surface waves: sta= 96, comp=155, per= 50.*

ISC 31 09:29:44.7±0.5, 59.4S±0.1×151.0W±0.1, h10km, n206, σ1§18/45, mb4.9/16, MS5.8/149, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**23.09**	**201**	*e*P	P	**09 34 51.1**	**+1.1**
	721nm,2.3s						
SBA				LR	LR		
	comp=Z,5μm,19.0s						
VNDA	**Vanda**	**23.89**	**203**	P	P	**09 34 58.8**	**+0.8**
VNDA	**Vanda**	**23.89**	**203**	P	P	**09 34 58.8**	**+0.8**
	comp=Z,6.3nm,1.1s,baz=56,slow=9.2,SNR=5.7						
SNZO	**South Karori**	**27.95**	**295**	PFAKE		09 35 50.0	+15
SNZO				LR	LR		
	comp=Z,3μm,20.0s						
QSPA	**South Pole Qui**	**30.74**	**180**	P	P	**09 36 00.0**	**+0.3**
QSPA	**South Pole Qui**	**30.74**	**180**	P	P	**09 36 00.0**	**+0.3**
	comp=Z,7.5nm,0.9s,baz=79,slow=4.2,SNR=8.4						
RAO	**Raoul Island**	**35.29**	**317**	PFAKE		09 36 50.0	+11
RAO				LR	LR		

comp=Z,6μm,19.0s
RKT Rikitea 37.98 24 *e*LQ LQ 09 45 42.0
comp=Z,5μm,33.2s
RKT *e*LR LR 09 47 27.1
comp=Z,5μm,27.5s,baz=189
PMSA Palmer Station 37.99 136 PFAKE 09 37 10.0 +7.8
PMSA LR LR
comp=Z,3μm,19.0s
RAR Rarotonga 38.66 347 PFAKE 09 37 20.0 +12
RAR LR LR
comp=Z,9μm,21.0s
PPT2 Papeete2 41.76 2 *e*LQ LQ 09 47 10.2
comp=Z,5μm,28.8s
PPT2 *e*LR LR 09 49 10.3
comp=Z,10μm,25.2s,baz=182
RPN Rapa Nui 43.08 60 PFAKE 09 38 00.0 +15
RPN LR LR
comp=Z,2μm,19.0s
CAN Canberra 45.28 275 PFAKE 09 38 10.0 +7.7
CAN LR LR
comp=Z,4μm,20.0s
SNAA Sanae 47.34 167 *e*P P 09 38 17.0 -1.1
comp=Z,75nm,1.8s
AFI Afiamalu 47.96 332 PFAKE 09 38 40.0 +17
AFI LR LR
comp=Z,5μm,19.0s
EFI East Falkland 49.00 125 PFAKE 09 38 40.0 +9.1
EFI LR LR
comp=Z,1μm,20.0s
PLCA Paso Flores 51.45 107 P P 09 38 49.9 0.0
PLCA Paso Flores 51.45 107 P P 09 38 49.9 0.0
comp=Z,8.0nm,1.2s,baz=230,slow=10.0,SNR=4.2
STKA Stephens Creek 51.78 271 P P 09 38 52.7 +0.4
STKA Stephens Creek 51.78 271 P P 09 38 52.7 +0.4
comp=Z,7.3nm,0.9s,baz=157,slow=3.8,SNR=7.4
H03N3 Juan Fernandez 52.90 94 T T 10 36 14.4
baz=218,slow=75,SNR=110
H03N2 Juan Fernandez 52.91 94 T T 10 36 16.2
baz=218,slow=75,SNR=148
H03N1 Juan Fernandez 52.91 94 T T 10 36 17.5
baz=218,slow=75,SNR=75
TRQA Tornquist 57.69 111 PFAKE 09 39 50.0 +15
TRQA LR LR
comp=Z,2μm,19.0s
CTAO Charters Tower 59.11 283 *e*P P 09 39 46.0 +0.8
comp=Z,33nm,1.1s
CTAO LR LR
comp=Z,4μm,19.0s
LCO Las Campanas 60.64 98 PFAKE 09 40 10.0 +14
LCO LR LR
comp=Z,2μm,20.0s
XMAS Kiritimati 61.47 353 PFAKE 09 40 10.0 +8.7
XMAS LR LR
comp=Z,8μm,19.0s
HNR Honiara 61.93 302 PFAKE 09 40 20.0 +16
HNR LR LR
comp=Z,153nm,20.0s
AS01 Alice Springs 62.37 270 *e*P P 09 40 05.9 -1.5
ASAR Alice Springs 62.39 270 P P 09 40 05.8 -1.8
ASAR Alice Springs 62.39 270 P P 09 40 05.8 -1.8
comp=Z,8.3nm,1.0s,baz=144,slow=6.9,SNR=30
H01W1 Cape Leeuwin H 63.02 247 T T 10 48 53.4
baz=145,slow=76,SNR=42
H01W2 Cape Leeuwin H 63.03 247 T T 10 48 53.8
baz=145,slow=76,SNR=45
H01W3 Cape Leeuwin H 63.04 247 T T 10 48 54.6
baz=145,slow=76,SNR=44
WRA Warramunga Arr 65.26 273 P P 09 40 24.6 -1.9
WRA Warramunga Arr 65.26 273 P P 09 40 24.6 -1.9
comp=Z,5.7nm,1.0s,baz=152,slow=5.8,SNR=18
WRAB Tennant Creek 65.26 273 *e*P P 09 40 25.7 -0.8
comp=Z,62nm,1.9s
WRAB LR LR
comp=Z,6μm,21.0s
COEN Coen 65.85 284 *e*P P 09 40 30.6 +0.4
comp=Z,179nm,1.5s
PAF Port-aux-Franc 66.53 208 PFAKE 09 40 50.0 +16
PAF LR LR
comp=Z,12μm,22.0s
LVC Limon Verde 66.81 95 *e*P P 09 40 37.0 +0.3
comp=Z,12nm,0.3s
LVC LR LR
comp=Z,1μm,20.0s
TARA Tarawa 66.85 320 PFAKE 09 40 50.0 +13
TARA LR LR
comp=Z,2μm,20.0s
PMG Port Moresby 67.82 290 *e*P P 09 40 44.0 +1.2
comp=Z,50nm,1.3s
PMG LR LR
comp=Z,3μm,19.0s
CPUP Villa Florida 69.52 107 P P 09 40 53.1 -0.2
CPUP Villa Florida 69.52 107 P P 09 40 53.1 -0.2
comp=Z,4.3nm,0.9s,baz=198,slow=9.1,SNR=3.6
NNA Nana 71.69 82 PFAKE 09 41 20.0 +13
NNA LR LR
comp=Z,2μm,19.0s
LPAZ La Paz 72.50 92 P P 09 41 13.9 +1.7
LPAZ La Paz 72.50 92 P P 09 41 13.9 +1.7
comp=Z,1.7nm,0.4s,baz=189,slow=4.5,SNR=6.1
PAYG Puerto Ayora 74.90 65 PFAKE 09 41 40.0 +14
PAYG LR LR
comp=Z,2μm,20.0s
TRIS Tristan da Cun 77.97 147 PFAKE 09 41 50.0 +7.3
TRIS LR LR
comp=Z,4μm,19.0s
POHA Pohakuloa 78.95 356 PFAKE 09 42 00.0 +12
POHA LR LR
comp=Z,9μm,19.0s
KIP Kipapa 80.73 353 PFAKE 09 42 10.0 +12
KIP LR LR
comp=Z,7μm,19.0s
SAML Samuel 81.24 93 *e*P P 09 42 01.2 +0.4
comp=Z,24nm,1.6s
SAML LR LR
comp=Z,2μm,20.0s
OTAV Otavalo 81.37 75 PFAKE 09 42 10.0 +8.0
OTAV LR LR
comp=Z,1μm,19.0s
KAPI Kappang 85.35 268 PFAKE 09 42 30.0 +8.0
KAPI LR LR
comp=Z,7μm,21.0s
WAKE Wake Island 85.70 320 PFAKE 09 42 30.0 +6.6
WAKE LR LR
comp=Z,3μm,19.0s
JTS JuntasAbangare 87.02 64 PFAKE 09 42 40.0 +10
JTS LR LR
comp=Z,3μm,22.0s
SUR Sutherland 88.31 173 PFAKE 09 42 50.0 +13
SUR LR LR
comp=Z,5μm,21.0s
BCIP Isla Barro Col 88.44 69 PFAKE 09 42 50.0 +13
BCIP LR LR
comp=Z,1μm,19.0s
GUMO Guam 89.07 299 PFAKE 09 42 50.0 +10
GUMO LR LR
comp=Z,1μm,20.0s
TGUH Tegucigalpa,Un 89.28 60 PFAKE 09 42 50.0 +9.2
TGUH LR LR
comp=Z,807nm,22.0s
PTGA Pitinga 89.89 91 PFAKE 09 43 00.0 +16
PTGA LR LR
comp=Z,3μm,22.0s
MIDW Midway 89.98 337 PFAKE 09 43 00.0 +16
MIDW LR LR
comp=Z,6μm,20.0s
COCO West Island 90.49 245 PFAKE 09 43 00.0 +13
COCO LR LR
comp=Z,2μm,20.0s
DAV Davao City (W) 92.70 279 PFAKE 09 43 10.0 +13
DAV LR LR
comp=Z,2μm,19.0s
SDV Santo Domingo 92.70 77 PFAKE 09 43 10.0 +13
SDV LR LR
comp=Z,1μm,20.0s
TEIG Tepich 94.30 57 PFAKE 09 43 20.0 +16
TEIG LR LR
comp=Z,740nm,20.0s
KSM Kuching 95.71 263 PFAKE 09 43 20.0 +9.3
KSM LR LR
comp=Z,2μm,19.0s
RER Riviere de l'E 96.79 205 PFAKE 09 43 30.0 +14
RER LR LR
comp=Z,3μm,19.0s
PFO Pinyon Flat Ob 96.98 28 PFAKE 09 43 30.0 +14
PFO LR LR
comp=Z,2μm,19.0s

TUC	**Tucson**	**97.25**	**33**	PFAKE		09 43 30.0	+13		
TUC				LR	LR				
	comp=Z,2μm,20.0s								
MTDJ	**Mount Denham**	**97.39**	**67**	PFAKE		09 43 30.0	+12		
MTDJ				LR	LR				
	comp=Z,956nm,22.0s								
RCBR	**Riachuelo**	**97.42**	**115**	PFAKE		09 43 30.0	+11		
RCBR				LR	LR				
	comp=Z,2μm,20.0s								
MNTX	**Cornudas Mount**	**98.29**	**38**	PFAKE		09 43 30.0	+8.1		
MNTX				LR	LR				
	comp=Z,2μm,20.0s								
JCT	**Junction City**	**99.02**	**43**	PFAKE		09 43 40.0	+15		
JCT				LR	LR				
	comp=Z,2μm,19.0s								
SHEL	**Horse Pasture**	**99.76**	**146**	PFAKE		09 43 40.0	+11		
SHEL				LR	LR				
	comp=Z,3μm,21.0s								
GRGR	**Grenville**	**99.99**	**83**	PFAKE		09 43 40.0	+10		
GRGR				LR	LR				
	comp=Z,2μm,22.0s								
GTBY	**Guantanamo Bay**	**100.00**	**68**	PFAKE		09 43 40.0	+10		
GTBY				LR	LR				
	comp=Z,2μm,19.0s								
WUAZ	**Wupatki**	**100.10**	**32**	PFAKE		09 43 40.0	+10		
WUAZ				LR	LR				
	comp=Z,3μm,19.0s								
ABPO	**Ambohimpanom**	**100.46**	**197**	PFAKE		09 43 40.0	+7.8		
ABPO				LR	LR				
	comp=Z,4μm,22.0s								
ANMO	**Albuquerque**	**100.97**	**36**	PFAKE		09 43 50.0	+16		
ANMO				LR	LR				
	comp=Z,3μm,19.0s								
SDDR	**Presa de Saban**	**101.02**	**72**	PFAKE		09 43 50.0	+16		
SDDR				LR	LR				
	comp=Z,2μm,19.0s								
TSUM	**Tsumeb**	**101.13**	**169**	PFAKE		09 43 50.0	+15		
TSUM				LR	LR				
	comp=Z,5μm,20.0s								
BBGH	**Gun Hill**	**101.92**	**84**	PFAKE		09 43 50.0	+12		
BBGH				LR	LR				
	comp=Z,4μm,21.0s								
NATX	**Nacogdoches**	**102.03**	**46**	PFAKE		09 43 50.0	+12		
NATX				LR	LR				
	comp=Z,3μm,21.0s								
FDF	**Fort de France**	**102.45**	**82**	PFAKE		09 43 50.0	+9.2		
FDF				LR	LR				
	comp=Z,4μm,19.0s								
MVCO	**Mesa Verde**	**102.48**	**34**	PFAKE		09 43 50.0	+9.3		
MVCO				LR	LR				
	comp=Z,2μm,19.0s								
WMOK	**Wichita Mounta**	**103.25**	**42**	PFAKE		09 44 00.0	+16		
WMOK				LR	LR				
	comp=Z,2μm,20.0s								
GRTK	**Grand Turk**	**103.25**	**70**	PFAKE		09 44 00.0	+16		
GRTK				LR	LR				
	comp=Z,2μm,19.0s								
KULM	**Kulim**	**103.84**	**257**	PFAKE		09 44 00.0	+13		
KULM				LR	LR				
	comp=Z,2μm,21.0s								
SDCO	**Great Sand Dun**	**103.85**	**36**	PFAKE		09 44 00.0	+13		
SDCO				LR	LR				
	comp=Z,3μm,20.0s								
DUG	**Dugway**	**104.14**	**29**	PFAKE		09 44 00.0	+12		
DUG				LR	LR				
	comp=Z,2μm,20.0s								
ASCN	**Ascension**	**104.51**	**135**	PFAKE		09 44 00.0	+10		
ASCN				LR	LR				
	comp=Z,2μm,22.0s								
ANWB	**Willy Bob**	**104.61**	**80**	PFAKE		09 44 00.0	+10		
ANWB				LR	LR				
	comp=Z,2μm,22.0s								
MIAR	**Mount Ida**	**104.92**	**46**	PFAKE		09 44 00.0	+8.7		
MIAR				LR	LR				
	comp=Z,2μm,19.0s								
WVOR	**Wild Horse Val**	**104.93**	**24**	PFAKE		09 44 00.0	+8.7		
WVOR				LR	LR				
	comp=Z,3μm,20.0s								
DGAR	**Diego Garcia**	**104.97**	**225**	PFAKE		09 44 00.0	+7.9		
DGAR				LR	LR				
	comp=Z,3μm,19.0s								
LSZ	**Lusaka**	**105.59**	**179**	PFAKE		09 48 20.0			
LSZ				LR	LR				
	comp=Z,13μm,20.0s								
ISCO	**Idaho Springs**	**105.72**	**35**	PFAKE		09 48 20.0			
ISCO				LR	LR				
	comp=Z,3μm,19.0s								
HLID	**Hailey**	**106.94**	**27**	PFAKE		09 48 20.0			
HLID				LR	LR				
	comp=Z,4μm,20.0s								
AHID	**Auburn Hatcher**	**106.99**	**30**	PFAKE		09 48 20.0			
AHID				LR	LR				
	comp=Z,3μm,19.0s								
BW06	**Boulder Array**	**107.39**	**31**	PFAKE		09 48 20.0			
BW06				LR	LR				
	comp=Z,3μm,20.0s								
OGNE	**Ogallala**	**107.84**	**37**	PFAKE		09 48 20.0			
OGNE				LR	LR				
	comp=Z,3μm,19.0s								
GOGA	**Godfrey**	**107.89**	**54**	PFAKE		09 48 20.0			
GOGA				LR	LR				
	comp=Z,2μm,19.0s								
KSU1	**Kansas State U**	**107.93**	**42**	PFAKE		09 48 20.0			
KSU1				LR	LR				
	comp=Z,2μm,19.0s								
HAWA	**Hanford**	**108.55**	**22**	PFAKE		09 48 20.0			
HAWA				LR	LR				
	comp=Z,5μm,19.0s								
NLWA	**Neilton Lookou**	**108.72**	**19**	PFAKE		09 48 20.0			
NLWA				LR	LR				
	comp=Z,3μm,19.0s								
NHSC	**New Hope**	**109.02**	**57**	PFAKE		09 48 30.0			
NHSC				LR	LR				
	comp=Z,3μm,19.0s								
BOZ	**Bozeman (W)**	**109.56**	**28**	PFAKE		09 48 30.0			
BOZ				LR	LR				
	comp=Z,3μm,20.0s								
RLMT	**Red Lodge**	**109.66**	**30**	PFAKE		09 48 30.0			
RLMT				LR	LR				
	comp=Z,3μm,20.0s								
YHNB	**Yeheng**	**109.73**	**285**	PFAKE		09 48 30.0			
YHNB				LR	LR				
	comp=Z,2μm,21.0s								
TATO	**Taipei**	**109.93**	**285**	PFAKE		09 48 30.0			
TATO				LR	LR				
	comp=Z,2μm,20.0s								
NEW	**Newport**	**110.82**	**23**	PFAKE		09 48 30.0			
NEW				LR	LR				
	comp=Z,3μm,20.0s								
QIZ	**Qiongzhong**	**110.83**	**272**	PFAKE		09 48 30.0			
QIZ				LR	LR				
	comp=Z,1μm,20.0s								
SCIA	**State Center**	**111.59**	**43**	PFAKE		09 48 30.0			
SCIA				LR	LR				
	comp=Z,2μm,19.0s								
LAO	**LASA Array**	**111.91**	**31**	PFAKE		09 48 30.0			
LAO				LR	LR				
	comp=Z,4μm,22.0s								
MAJO	**Matsushiro**	**111.96**	**305**	PFAKE		09 48 30.0			
MAJO				LR	LR				
	comp=Z,2μm,21.0s								
ECSD	**EROS Data Cent**	**112.08**	**39**	PFAKE		09 48 30.0			
ECSD				LR	LR				
	comp=Z,4μm,19.0s								
EGMT	**Eagleton**	**112.24**	**29**	PFAKE		09 48 30.0			
EGMT				LR	LR				
	comp=Z,4μm,20.0s								
BLA	**Blacksburg**	**112.42**	**55**	PFAKE		09 48 30.0			
BLA				LR	LR				
	comp=Z,3μm,20.0s								
MSEY	**Mahe Island**	**112.77**	**209**	PFAKE		09 48 30.0			
MSEY				LR	LR				
	comp=Z,3μm,19.0s								
JFWS	**Jewell Farm**	**113.53**	**44**	PFAKE		09 48 30.0			
JFWS				LR	LR				
	comp=Z,2μm,19.0s								
ACSO	**Alum Creek Sta**	**113.96**	**51**	PFAKE		09 48 30.0			
ACSO				LR	LR				
	comp=Z,1μm,19.0s								
DGMT	**Dagmar**	**114.09**	**32**	PFAKE		09 48 30.0	+7.1		
DGMT				LR	LR				
	comp=Z,4μm,19.0s								
CBN	**Corbin**	**114.55**	**56**	PFAKE		09 48 40.0	+16		
CBN				LR	LR				
	comp=Z,5μm,20.0s								
ERM	**Erimo**	**114.65**	**312**	PFAKE		09 48 40.0	+16		
ERM				LR	LR				
	comp=Z,2μm,21.0s								
BBSR	**BB Station**	**115.45**	**69**	PFAKE		09 48 40.0	+14		
BBSR				LR	LR				
	comp=Z,1μm,19.0s								
AAM	**Ann Arbor**	**115.46**	**49**	PFAKE		09 48 40.0	+14		
AAM				LR	LR				
	comp=Z,3μm,21.0s								
CHTO	**Chiang Mai**	**116.22**	**263**	PFAKE		09 48 40.0	+12		
CHTO				LR	LR				
	comp=Z,3μm,20.0s								
AGMN	**Agassiz Nation**	**116.37**	**38**	PFAKE		09 48 40.0	+13		
AGMN				LR	LR				
	comp=Z,4μm,19.0s								
WRAK	**Wrangell Islan**	**116.42**	**11**	PFAKE		09 48 40.0	+13		
WRAK				LR	LR				
	comp=Z,4μm,21.0s								
ERPA	**Erie**	**116.75**	**52**	PFAKE		09 48 40.0	+12		
ERPA				LR	LR				
	comp=Z,3μm,21.0s								
KDAK	**Kodiak Island**	**116.84**	**359**	PFAKE		09 48 40.0	+12		
KDAK				LR	LR				
	comp=Z,5μm,20.0s								
EYMN	**Ely**	**117.48**	**41**	PFAKE		09 48 40.0	+11		
EYMN				LR	LR				
	comp=Z,5μm,19.0s								
INCN	**Inchon**	**117.82**	**297**	PFAKE		09 48 40.0	+10		
INCN				LR	LR				
	comp=Z,1μm,19.0s								
MSKU	**Masuku**	**117.93**	**163**	PFAKE		09 48 40.0	+8.5		
MSKU				LR	LR				
	comp=Z,2.0nm,22.0s								
BINY	**Binghamton**	**118.46**	**55**	PFAKE		09 48 40.0	+8.4		
BINY				LR	LR				
	comp=Z,4μm,22.0s								
PET	**Petropavlovsk**	**119.18**	**328**	PFAKE		09 48 40.0	+7.5		
PET				LR	LR				
	comp=Z,3μm,20.0s								
KMBO	**Kilima Mbogo**	**119.31**	**189**	PFAKE		09 48 50.0	+16		
KMBO				LR	LR				
	comp=Z,5μm,20.0s								
ENH	**Enshi**	**120.28**	**279**	PFAKE		09 48 50.0	+15		
ENH				LR	LR				
	comp=Z,62nm,22.0s								
FFC	**Flin Flon**	**120.34**	**30**	PFAKE		09 48 50.0	+15		
FFC				LR	LR				
	comp=Z,4μm,21.0s								
NCB	**Newcomb**	**120.65**	**55**	PFAKE		09 48 50.0	+14		
NCB				LR	LR				
	comp=Z,3μm,21.0s								
LONY	**Lake Ozonia**	**121.03**	**54**	PFAKE		09 48 50.0	+14		
LONY				LR	LR				
	comp=Z,3μm,20.0s								
SACV	**Santiago Islan**	**121.38**	**116**	PFAKE		09 48 50.0	+12		
SACV				LR	LR				
	comp=Z,2μm,21.0s								
MDJ	**Mudanjiang**	**122.30**	**304**	PFAKE		09 48 50.0	+11		
MDJ				LR	LR				
	comp=Z,2μm,20.0s								
IL1	**Eielson Array**	**123.89**	**2**	*e*PKPpre	PKPpre	09 48 39.3			
ILAR	**Eielson Array**	**123.89**	**2**	PKP	**PKPdf**	**09 48 40.9**	**-0.4**		
ILAR	**Eielson Array**	**123.89**	**2**	PKP	**PKPdf**	**09 48 40.9**	**-0.4**		
	comp=Z,1.0nm,0.9s,baz=214,slow=3.0,SNR=8.4								
COLA	**College**	**123.98**	**2**	PFAKE		09 48 50.0	+8.7		
COLA				LR	LR				
	comp=Z,4μm,19.0s								
EGAK	**Eagle**	**124.08**	**5**	PFAKE		09 48 50.0	+8.4		
EGAK				LR	LR				
	comp=Z,7μm,20.0s								
YKA	**Yellowknife Ar**	**124.73**	**20**	PKP	**PKPdf**	**09 48 42.7**	**-0.2**		
YKA	**Yellowknife Ar**	**124.73**	**20**	PKP	**PKPdf**	**09 48 42.7**	**-0.2**		
	comp=Z,1.8nm,1.2s,baz=202,slow=2.8,SNR=7.1								
YKB5	**Yellowknife Ar**	**124.73**	**20**	*e*PKPdf	**PKPdf**	**09 48 45.8**	**+2.9**		
BJT	**Baijiatuau**	**124.74**	**291**	PFAKE		09 49 00.0	+16		
BJT				LR	LR				
	comp=Z,1μm,21.0s								
LSA	**Lhasa**	**129.17**	**263**	PFAKE		09 49 00.0	+6.9		
LSA				LR	LR				
	comp=Z,1μm,20.0s								
HIA	**Hailar**	**130.16**	**301**	PFAKE		09 49 10.0	+16		
HIA				LR	LR				
	comp=Z,2μm,22.0s								
ULN	**Ulaanbaatar**	**134.97**	**291**	PFAKE		09 49 10.0	+7.0		
ULN				LR	LR				
	comp=Z,1μm,19.0s								
YAK	**Yakutsk**	**135.49**	**319**	PFAKE		09 49 20.0	+17		
YAK				LR	LR				
	comp=Z,2μm,21.0s								
TLY	**Talaya**	**139.19**	**293**	PFAKE		09 49 20.0	+9.5		
TLY				LR	LR				
	comp=Z,1μm,21.0s								
TAM	**Tamanrasset**	**139.81**	**145**	PFAKE		09 49 20.0	+7.2		
TAM				LR	LR				
	comp=Z,2μm,19.0s								
TIXI	**Tiksi**	**141.93**	**330**	PFAKE		09 49 30.0	+15		
TIXI				LR	LR				
	comp=Z,2μm,22.0s								
RTC	**Rabat Centre**	**145.34**	**121**	PFAKE		09 49 30.0	+8.0		
RTC				LR	LR				
	comp=Z,2μm,21.0s								
SFJD	**Kangerlussuaq**	**145.71**	**43**	PFAKE		09 49 30.0	+7.6		
SFJD				LR	LR				
	comp=Z,4μm,20.0s								
MK01	**Makanchi Array**	**146.55**	**272**	*e*PKPdf	**PKPdf**	**09 49 23.9**	**+0.2**		
TKM2	**Tokmak 2**	**147.28**	**261**	*e*PKPdf	**PKPbc**	**09 49 27.9**	**+0.2**		
TKM2				LR	LR				
	comp=Z,2μm,22.0s								
AAK	**Ala-Archa**	**147.63**	**259**	*e*PKPdf	**PKPab**	**09 49 31.0**	**+0.2**		
AAK				*e*PKPdf	**PKiKP**	**09 49 31.2**	**+0.5**		
AAK				LR	LR				
	comp=Z,1μm,20.0s								
EKS2	**Erkin-Say**	**148.01**	**259**	*e*PKPab	**PKPab**	**09 49 33.8**	**+1.5**		
EKS2				LR	LR				
	comp=Z,1μm,22.0s								
ZAA0	**Zalesovo Array**	**149.66**	**285**	*e*PKPdf	**PKPdf**	**09 49 30.2**	**+1.8**		
ZALV	**Zalesovo Beam**	**149.66**	**285**	PKPbc	**PKPbc**	**09 49 32.0**	**-1.1**		
ZALV	**Zalesovo Beam**	**149.66**	**285**	PKPbc	**PKPbc**	**09 49 32.1**	**-1.1**		
	comp=Z,0.5nm,0.5s,baz=287,slow=0.7,SNR=3.6								
MTE	**Manteigas**	**150.29**	**113**	PFAKE		09 49 40.0	-1.6		
MTE				LR	LR				
	comp=Z,2μm,21.0s								
KURK	**Kurchatov**	**150.93**	**275**	*e*pPKPdf	**PKPbc**	**09 49 35.3**	**-1.0**		
KURK				LR	LR				
	comp=Z,1μm,21.0s								
PAB	**San Pablo**	**151.07**	**118**	PFAKE		09 49 40.0	+2.8		
PAB				LR	LR				
	comp=Z,2μm,21.0s								
ESDC	**Sonseca Array**	**151.35**	**119**	PKPbc	**PKPbc**	**09 49 35.4**	**-2.4**		
ESDC				PKPab	**PKPab**	**09 49 46.2**	**+0.2**		
ESDC	**Sonseca Array**	**151.35**	**119**	PKPbc	**PKPbc**	**09 49 35.4**	**-2.4**		
	comp=Z,2.0nm,0.8s,baz=260,slow=2.6,SNR=5.7								
ESDC				PKPab	**PKPab**	**09 49 46.2**	**+0.2**		
	comp=Z,1.3nm,0.7s,baz=233,slow=2.2,SNR=4.8								
SUMG	**Summit**	**151.44**	**36**	*i* P	**PKPbc**	**09 49 37.7**	**+0.3**		
	comp=Z,6.1nm,0.9s								
SUMG	**Summit**	**151.44**	**36**	*e*PKPbc	**PKPbc**	**09 49 37.8**	**+0.3**		
WDD	**Wield Dalam**	**154.62**	**152**	PFAKE		09 49 50.0	+5.0		
WDD				LR	LR				
	comp=Z,3μm,22.0s								
CSS	**Prodhromos**	**155.39**	**189**	PFAKE		09 49 50.0	+12		
CSS				LR	LR				
	comp=Z,748nm,21.0s								
CLTB	**Caltabellotta**	**155.91**	**148**	PFAKE		09 49 50.0	+12		
CLTB				LR	LR				
	comp=Z,1μm,20.0s								
BORG	**Borgarnes**	**156.38**	**56**	PFAKE		09 49 50.0	+12		
BORG				LR	LR				
	comp=Z,2μm,20.0s								
VSL	**Villasalto**	**156.51**	**139**	PFAKE		09 49 50.0	+11		
VSL				LR	LR				
	comp=Z,2μm,21.0s								
BRVK	**Borovoye**	**156.52**	**273**	PFAKE		09 49 50.0	+12		
BRVK				LR	LR				
	comp=Z,3μm,21.0s								
SANT	**Santorini**	**156.84**	**173**	PFAKE		09 49 50.0	+10		
SANT				LR	LR				
	comp=Z,2μm,20.0s								
CEL	**Celeste**	**157.23**	**152**	PFAKE		09 49 50.0	+10		
CEL				LR	LR				
	comp=Z,3μm,19.0s								
TIP	**Timpagrande**	**158.31**	**153**	PFAKE		09 49 50.0	+8.7		
TIP				LR	LR				
	comp=Z,2μm,21.0s								
GNI	**Garni**	**158.33**	**214**	PFAKE		09 49 50.0	+8.6		
GNI				LR	LR				
	comp=Z,3μm,21.0s								
ISP	**Isparta**	**158.39**	**183**	PFAKE		09 49 50.0	+8.5		
ISP				LR	LR				
	comp=Z,2μm,21.0s								
CUC	**Castrocucco**	**158.86**	**151**	PFAKE		09 49 50.0	+8.1		
CUC				LR	LR				
	comp=Z,2μm,21.0s								
SSB	**Saint Sauveur**	**159.59**	**123**	PFAKE		09 49 50.0	+7.4		
SSB				LR	LR				
	comp=Z,2μm,20.0s								
KBS	**Kingsbay**	**159.65**	**9**	PFAKE		09 49 50.0	+8.4		
KBS				LR	LR				
	comp=Z,3μm,19.0s								
BNI	**Bardonecchia**	**160.30**	**127**	PFAKE		09 49 50.0	+6.5		
BNI				LR	LR				
	comp=Z,4μm,20.0s								
ANTO	**Ankara**	**160.31**	**189**	PFAKE		09 49 50.0	+6.4		
ANTO				LR	LR				
	comp=Z,2μm,20.0s								
VLC	**Villacollemand**	**160.98**	**135**	PFAKE		09 50 00.0	+16		
VLC				LR	LR				
	comp=Z,2μm,20.0s								
ESK	**Eskdalemuir**	**162.25**	**89**	PFAKE		09 50 00.0	+15		
ESK				LR	LR				
	comp=Z,3μm,21.0s								
KIV	**Kislovodsk**	**162.43**	**214**	PFAKE		09 50 00.0	+14		
KIV				LR	LR				
	comp=Z,2μm,22.0s								
TUE	**Stuetta**	**162.54**	**129**	PFAKE		09 50 00.0	+14		
TUE				LR	LR				
	comp=Z,2μm,20.0s								
BFO	**Black Forest**	**163.60**	**123**	PFAKE		09 50 00.0	+13		
BFO				LR	LR				
	comp=Z,3μm,20.0s								
WLF	**Walferdange**	**163.62**	**116**	PFAKE		09 50 00.0	+13		
WLF				LR	LR				
	comp=Z,3μm,20.0s								
ARU	**Arti**	**164.09**	**272**	PFAKE		09 50 00.0	+13		
ARU				LR	LR				
	comp=Z,3μm,21.0s								
PSZ	**Piszkesteto**	**167.31**	**151**	PFAKE		09 50 00.0	+10		
PSZ				LR	LR				
	comp=Z,3μm,22.0s								
KWP	**Kalwaria Pacla**	**169.55**	**157**	PFAKE		09 50 00.0	+8.9		
KWP				LR	LR				
	comp=Z,3μm,22.0s								
KEV	**Kevo**	**169.56**	**4**	PFAKE		09 50 00.0	+10		
KEV				LR	LR				
	comp=Z,2μm,20.0s								
KONO	**Kongsberg**	**170.13**	**80**	PFAKE		09 50 00.0	+8.9		
KONO				LR	LR				
	comp=Z,3μm,22.0s								
LVZ	**Lovozero**	**171.11**	**346**	PFAKE		09 50 00.0	+8.5		
LVZ				LR	LR				
	comp=Z,5μm,22.0s								
KIEV	**Kiev**	**171.28**	**181**	PFAKE		09 50 00.0	+8.0		
KIEV				LR	LR				
	comp=Z,2μm,21.0s								
OBN	**Obninsk**	**174.07**	**227**	PFAKE		09 50 00.0	+7.0		
OBN				LR	LR				
	comp=Z,3μm,22.0s								

IDC ***31*** *09:45:48.4±2.1,20˚.15S×168˚.91E,h0km,mb4.1/5, mb1 4.3/6,mb1mx4.0/19,mbtmp4.1/6,ML3.5/1,Error ellipse: s-maj=71.4km s-min=27.0km az=141.0*

ISCJB ***31*** *09:45:52.9±1.7,20˚.1S±0˚.2×168˚.7E±0˚.3,h35km,mb4.0/5, Error ellipse: s-maj=47.2km s-min=9.7km az=36.6*

ISC 31 09:45:53.8±2.0,20˚.2S±0˚.3×168˚.8E±0˚.3,h35km,n9, σ0§99/12,mb3.9/5,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.93**	**230**	Pn	**Pn**	**09 46 37.5**	**-0.5**
	7.1nm,0.3s,baz=52,slow=19,SNR=84						
DZM				Sn	**Sn**	**09 47 11.8**	**-0.2**
	66nm,0.3s,baz=321,slow=22,SNR=9.0						
NORM	**Noumea**	**3.00**	**227**	*e*P	**Pn**	**09 46 39.0**	**+0.1**
NORM				*e*S	**Sn**	**09 47 13.3**	**-0.4**
NOUC	**Port Laguerre**	**3.05**	**231**	*e*P	**Pn**	**09 46 39.5**	**0.0**
NOUC				*e*S	**Sn**	**09 47 14.6**	**-0.2**
CTA	**Charters Tower**	**21.21**	**266**	P	**P**	**09 50 38.3**	**+1.6**
	3.5nm,0.6s,baz=73,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**27.04**	**239**	P	**P**	**09 51 34.4**	**+1.5**
	1.7nm,0.6s,baz=76,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	**32.38**	**264**	P	**P**	**09 52 18.7**	**-1.7**
	0.9nm,0.5s,baz=97,slow=8.5,SNR=28						
ASAR	**Alice Springs**	**32.55**	**257**	P	**P**	**09 52 21.6**	**-0.3**
	6.5nm,0.6s,baz=90,slow=8.7,SNR=156						
ILAR	**Eielson Array**	**91.23**	**17**	P	**P**	**09 58 55.1**	**+0.1**
	0.3nm,0.7s,baz=227,slow=5.8,SNR=5.4						
GERES	**GERESS Array B**	**145.13**	**331**	PKPbc	**PKPbc**	**10 05 26.5**	**-0.7**
	0.3nm,0.6s,baz=20,slow=3.1,SNR=3.3						

ISCJB ***31*** *09:56:03.2±0.6,59˚.5S±0˚.1×151˚.3W±0˚.2,h10km,mb4.6/10, MS5.1/18,Error ellipse: s-maj=21.2km s-min=12.2km az=12.2*

NEIC ***31*** *09:56:05.9±0.5,59˚.64S×151˚.21W,h10km,mb5.1/6,Error ellipse: s-maj=21.1km s-min=12.9km az=15.0*

IDC ***31*** *09:56:05.3±0.8,59˚.41S×151˚.00W,h0km,mb4.4/6, mb1 4.6/6,mb1mx4.3/13,mbtmp4.4/6,MS5.1/18, Ms1 5.1/18,ms1mx5.0/22,Error ellipse: s-maj=31.0km s-min=21.6km az=6.0*

GCMT ***31*** *09:56:12.1±0.2,59˚.84S×150˚.72W,h12km,MW5.4, Moment Tensor Solution. s49,c69; s30,c30; Moment tensor: Scale 10^{17}Nm; M_{rr}0.02±.04; $M_{\theta\theta}$1.48±.04; $M_{\phi\phi}$-1.50±.03; $M_{r\theta}$-0.64±.10; $M_{\theta\phi}$0.77±.03; $M_{r\phi}$0.28±.09; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s302.00000˚, δ87.00000˚,λ22.00000˚. NP2:ϕ_s211.00000˚,δ68.00000˚, λ177.00000˚. Principal axes: T 1.8400, Plg17.0000˚, Azm168.0000˚; N -0.0500, Plg68.0000˚, Azm308.0000˚; P -1.7900, Plg14.0000˚, Azm74.0000˚; Data Used: lI IU CU G IC CN. Surface waves: sta= 98, comp=160, per= 50.*

ISC 31 09:56:06.3±0.6,59˚.6S±0˚.1×151˚.2W±0˚.1,h10km,n52, σ1§69/35,mb4.6/10,MS5.1/18,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**22.84**	**201**	*e*P	**P**	**10 01 08.0**	**-1.0**
	546nm,2.3s						
VNDA	**Vanda**	**23.65**	**203**	*e*P	**P**	**10 01 21.2**	**+4.1**
VNDA	**Vanda**	**23.65**	**203**	P	**P**	**10 01 21.1**	**+3.9**
	6.5nm,1.1s,baz=83,slow=6.8,SNR=7.6						
VNDA				LR	LR	10 07 18.3	
	comp=Z,867nm,21.6s,baz=74,slow=28						
RPZ	**Rata Peaks**	**27.82**	**288**	LR	LR	10 11 42.2	
	comp=Z,3μm,18.1s,baz=133,slow=34						
URZ	**Urewera**	**29.36**	**302**	LR	LR	10 11 31.0	
	comp=Z,2μm,18.5s,baz=337,slow=32						
QSPA	**South Pole Qui**	**30.52**	**180**	*e*P	**P**	**10 02 20.7**	**+1.4**
	44nm,1.2s						
QSPA	**South Pole Qui**	**30.52**	**180**	P	**P**	**10 02 21.2**	**+1.9**
	18nm,0.9s,baz=56,slow=5.4,SNR=11						
QSPA				LR	LR	10 12 17.8	

2.9nm,1.1s,baz=8.4,slow=15,SNR=3.0
PLCA LR LR 10 21 36.7
comp=Z,2µm,18.2s,baz=331,slow=30
STKA Stephens Creek 51.68 271 *e*P **P 10 05 11.0 -2.1**
STKA Stephens Creek 51.68 271 LR LR 10 25 31.9
comp=Z,3µm,18.5s,baz=152,slow=34
H03N3 Juan Fernandez 52.99 94 T T 11 02 30.4
baz=218,slow=75,SNR=120
H03N2 Juan Fernandez 53.00 94 T T 11 02 37.0
baz=218,slow=75,SNR=213
H03N1 Juan Fernandez 53.01 94 T T 11 02 31.6
baz=218,slow=75,SNR=109
TRQA Tornquist 57.71 111 *e*P **P 10 05 57.2 +0.4**
ASAR Alice Springs 62.28 270 P **P 10 06 28.2 -0.2**
ASAR Alice Springs 62.28 270 P **P 10 06 28.2 -0.2**
4.1nm,1.1s,baz=148,slow=7.1,SNR=14
ASAR LR LR 10 29 43.9
comp=Z,3µm,18.7s,baz=155,slow=32
AS31 Alice Springs 62.28 270 *e*P **P 10 06 26.6 -1.8**
H01W1 Cape Leeuwin H 62.84 247 T T 11 15 28.3
baz=145,slow=76,SNR=18
H01W2 Cape Leeuwin H 62.84 247 T T 11 15 28.7
baz=145,slow=76,SNR=22
H01W3 Cape Leeuwin H 62.85 247 T T 11 15 29.6
baz=145,slow=76,SNR=23
WRA Warramunga Arr 65.16 273 P **P 10 06 49.5 +2.1**
WRA Warramunga Arr 65.16 273 P **P 10 06 49.5 +2.1**
2.5nm,1.0s,baz=151,slow=6.0,SNR=7.8
WRA LR LR 10 31 08.0
comp=Z,2µm,19.6s,baz=130,slow=32
WRAB Tennant Creek 65.17 273 *e*P **P 10 06 45.0 -2.4**
COEN Coen 65.79 284 P **P 10 06 50.1 -1.4**
LVC Limon Verde 66.90 95 *e*P **P 10 06 57.5 -1.3**
8.5nm,0.9s
LPAZ La Paz 72.60 93 P **P 10 07 34.4 -0.1**
LPAZ La Paz 72.60 93 P **P 10 07 34.4 -0.1**
4.5nm,1.2s,baz=179,slow=6.7,SNR=7.9
LPAZ LR LR 10 31 27.5
comp=Z,928nm,19.8s,baz=154,slow=29
ATAH Atahualpa 75.20 79 LR LR 10 32 52.7
comp=Z,2µm,20.2s,baz=44,slow=29
SAML Samuel 81.34 93 P **P 10 08 21.5 -1.5**
7.0nm,1.3s
BDFB Brasilia 83.16 109 LR LR 10 41 38.6
comp=Z,1µm,18.2s,baz=26,slow=33
ROSC El Rosal 87.55 76 LR LR 10 41 52.5
comp=Z,735nm,18.5s,baz=201,slow=31
LPIG La Paz 89.92 37 LR LR 10 38 32.6
comp=Z,1µm,20.7s,baz=130,slow=28
ILAR Eielson Array 124.12 2 PKP **PKPdf 10 15 04.5 +1.3**
ILAR Eielson Array 124.12 2 PKP **PKPdf 10 15 04.5 +1.3**
3.0nm,1.2s,baz=230,slow=1.6,SNR=6.1
MK31 Makanchi Array 146.46 272 *e*PKPdf **PKPdf 10 15 45.5 +0.3**
AAK Ala-Archa 147.48 259 *e*PKPbc **PKPbc 10 15 48.9 -0.9**
ZALV Zalesovo Beam 149.61 284 PKPbc **PKPbc 10 15 55.5 +0.9**
ZALV Zalesovo Beam 149.61 284 PKPbc **PKPbc 10 15 55.5 +0.9**
1.7nm,0.8s,baz=126,slow=3.8,SNR=4.8
KURBB Kurchatov Arra 150.83 274 PKPbc **PKPbc 10 15 58.3 +0.6**
2.8nm,0.7s,baz=121,slow=1.8,SNR=14
KURK Kurchatov 150.84 275 PKPbc **PKPbc 10 15 58.3 +0.6**
ESDC Sonseca Array 151.34 119 PKPbc **PKPbc 10 15 59.4 0.0**
ESDC PKPab **PKPab 10 16 09.2 +1.7**
ESDC Sonseca Array 151.34 119 PKPbc **PKPbc 10 15 59.4 0.0**
3.0nm,0.8s,baz=294,slow=1.1,SNR=10.0
ESDC PKPab **PKPab 10 16 09.2 +1.7**
3.3nm,0.9s,baz=231,slow=4.9,SNR=7.6

BJI ***31*** *09:57:26.4, 27.10N×91.46E, h6km, mB5.4/38, mb5.3/57, ML5.4/2, Ms5.2/68, Ms7 5.1/59*

MOS ***31*** *09:57:28.1±0.9, 27.21N×91.52E, h17km, mb5.5/116, MS5.0/40, Error ellipse: s-maj=6.5km s-min=3.3km az=123.1*

DMN ***31*** *09:57:28.7±0.9, 27.53N×91.89E, h10km, Ml6.0/3, Error ellipse: s-maj=41.6km s-min=16.6km az=11.0*

ISCJB ***31*** *09:57:28.7±0.7, 27.32N±0.02×91.46E±0.02, h15km±4km, mb5.3/247, MS5.1/147, Error ellipse: s-maj=3.5km s-min=2.3km az=19.4*

NEIC ***31*** *09:57:29.7±0.1, 27.32N×91.51E, h10km, mb5.5/118, MS5.2/114, Error ellipse: s-maj=3.8km s-min=2.5km az=205.0*

NEIC Two people injured in the Dametsi area and about 700 buildings damaged in Trashigang, many of which were damaged by previous events in September and October. Felt [II] at Thimphu. Also felt at Bondey, Dekiling and Trashigang. Felt in Assam and Meghalaya, India.

TEH ***31*** *09:57:30.0, 27.33N×91.41E, h10km, ML5.5*

IDC ***31*** *09:57:31.6±1.7, 27.25N×91.49E, h24km±10km, mb4.9/36, mb1 5.0/37, mb1mx5.0/38, mbtmp4.9/37, ML4.8/1, MS4.7/7, Ms1 4.7/7, ms1mx4.3/36, Error ellipse: s-maj=12.5km s-min=8.8km az=41.0*

BKK ***31*** *09:57:32.2±0.2, 27.N±5°×9°1E±°, h10km, M5.2/37, mB5.6/22, mb5.4/37, Mw(mB)5.1/22*

LDG ***31*** *09:57:32.2±0.6, 27.82N×90.78E, h10km, Mb5.4/37, Ms4.2/2, Error ellipse: s-maj=32.6km s-min=10.9km az=92.0*

SZGRF ***31*** *09:57:34.3, 27.28N×91.59E, h23km, mb5.6, MS5.3, Bhutan*

DJA ***31*** *09:57:35.6±1.5, 27°N±31'×9°1E±3'3, h10km, M5.6/16, mb5.6/16, mB6.0/14, Mw(mB)5.6/14*

BGS ***31*** *09:57:35.3±2.3, 27.56N×90.42E, h10km, mb5.1*

ISC 31 09:57:31.0±0.3, 27.33N±0.03×91.48E±0.03, h18km±1km, h18km:pP-P, n947, σ1§31/962, mb5.4/248, MS5.2/148, 114C-66D, Bhutan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.79**	**168**	*i* P		**Pn**	**09 58 01.0**	**-0.2**
SHL				*e*S		**Sn**	**09 58 23.8**	**+0.2**
LSA	**Lhasa**	**2.38**	**353**	Pg		**Pb**	**09 58 14.0**	**+0.5**
LSA				Sn		**Sg**	**09 58 46.8**	**-0.8**
LSA				LR	LR			
	comp=N,34µm,7.0s							
LSA				LR	LR			
	comp=E,21µm,7.0s							
LSA				LR	LR			
	comp=Z,100µm,9.0s							
LSA	**Lhasa**	**2.38**	**353**	⇑ *i* P		**Pb**	**09 58 13.6**	**+0.1**
LSA	**Lhasa**	**2.38**	**353**	⇑ *i* Pn		**Pb**	**09 58 13.6**	**+0.1**
TAPN	**Taplejung**	**3.35**	**271**	*e*Pn		**Pn**	**09 58 24.5**	**+1.8**
TAPN	**Taplejung**	**3.35**	**271**	*e*Pn		**Pn**	**09 58 24.5**	**+1.8**
ODAN	**Odare**	**3.68**	**264**	*e*Pn		**Pn**	**09 58 28.6**	**+1.5**
ODAN	**Odare**	**3.68**	**264**	*e*Pn		**Pn**	**09 58 28.6**	**+1.5**
RAMN	**Ramite**	**4.37**	**266**	*e*Pn		**Pn**	**09 58 38.5**	**+1.9**
RAMN	**Ramite**	**4.37**	**266**	*e*Pn		**Pn**	**09 58 38.5**	**+1.9**
JIRN	**Jiri**	**4.71**	**275**	*e*Pn		**Pn**	**09 58 43.6**	**+2.1**
JIRN	**Jiri**	**4.71**	**275**	*e*Pn		**Pn**	**09 58 43.6**	**+2.1**
GUN	**Gumba**	**5.00**	**278**	*e*Pn		**Pn**	**09 58 47.7**	**+2.2**
GUN	**Gumba**	**5.00**	**278**	*e*Pn		**Pn**	**09 58 47.7**	**+2.2**
PKI	**Pulchoki**	**5.40**	**274**	*e*Pn		**Pn**	**09 58 51.9**	**+1.0**
PKI	**Pulchoki**	**5.40**	**274**	*e*P		**Pn**	**09 58 51.9**	**+1.0**
PKI	**Pulchoki**	**5.40**	**274**	*e*Pn		**Pn**	**09 58 51.9**	**+1.0**
PKIN	**Phulchoki**	**5.41**	**274**	*e*Pn		**Pn**	**09 58 51.8**	**+0.8**
PKIN				*e*Sn		**Sn**	**09 59 54.9**	**+1.9**
KKN	**Kakani**	**5.52**	**276**	*e*Pn		**Pn**	**09 58 53.9**	**+1.4**
KKN				*e*Sn		**Sn**	**09 59 57.4**	**+1.8**
	4µm,0.7s							
KKN	**Kakani**	**5.52**	**276**	*e*P		**Pn**	**09 58 53.9**	**+1.4**
KKN				*e*			09 59 57.4	
KKN	**Kakani**	**5.52**	**276**	*e*Pn		**Pn**	**09 58 53.9**	**+1.4**
KKN				*e*Sn		**Sn**	**09 59 57.4**	**+1.8**
DMN	**Daman**	**5.67**	**274**	*e*Pn		**Pn**	**09 58 56.2**	**+1.6**
DMN	**Daman**	**5.67**	**274**	*e*Pn		**Pn**	**09 58 56.2**	**+1.6**
GKN	**Gorkha**	**6.11**	**278**	*e*Pn		**Pn**	**09 59 01.8**	**+1.4**
GKN				*e*Sn		**Sn**	**10 00 11.3**	**+1.4**
	2µm,0.3s							
GKN	**Gorkha**	**6.11**	**278**	*e*Pn		**Pn**	**09 59 01.8**	**+1.4**
GKN				*e*Sn		**Sn**	**10 00 11.3**	**+1.4**
BOK	**Bokaro**	**6.16**	**236**	*e*P		**Pn**	**09 59 01.5**	**+0.5**
BOK				*e*S3			10 00 11.7	
DANN	**Dangsing**	**6.91**	**280**	*e*Pn		**Pn**	**09 59 11.6**	**0.0**
DANN				*e*Sn		**Sn**	**10 00 28.3**	**-1.6**
	2µm,0.4s							
DANN	**Dangsing**	**6.91**	**280**	*e*Pn		**Pn**	**09 59 11.6**	**0.0**
DANN				*e*Sn		**Sn**	**10 00 28.3**	**-1.6**
KOLN	**Koldanda**	**7.01**	**275**	*e*Pn		**Pn**	**09 59 13.4**	**+0.5**
KOLN	**Koldanda**	**7.01**	**275**	*e*Pn		**Pn**	**09 59 13.4**	**+0.5**
PYUN	**Piuthan**	**7.56**	**278**	*e*Pn		**Pn**	**09 59 20.9**	**+0.4**
PYUN	**Piuthan**	**7.56**	**278**	*e*Pn		**Pn**	**09 59 20.9**	**+0.4**
BWNR	**Bhubaneshwar**	**8.72**	**218**	*e*		Pn	09 59 23.0	-13
BWNR				*e*			10 01 00.0	
CMAI	**Chiengmai2**	**10.11**	**135**	P		**Pn**	**09 59 54.3**	**-1.2**
	121nm,0.8s,2µm							
LGTI	**Lohaghat**	**10.12**	**285**	*ex*		Pn	09 59 58.3	+3.0
LGTI				*e*		**Sn**	**10 01 50.8**	**+2.5**
PTH	**Pithoragarh**	**10.16**	**285**	*ex*		Pn	09 59 48.9	-7.2
PTH				*ex*		x	10 01 39.9	
KMI	**Kunming**	**10.35**	**100**	P		Pn	10 00 03.0	+4.3
KMI				S		Sn	10 02 02.3	+8.0
KMI				pmax		pmax		
	comp=Z,52nm,0.7s							
KMI				LR		LR		
	comp=N,3µm,9.2s							
KMI				LR		LR		
	comp=E,3µm,12.0s							
KMI				LR		LR		
	comp=Z,3µm,14.0s							
MHMT	**Maesarieng**	**10.88**	**146**	P		**Pn**	**10 00 04.3**	**-1.5**
	214nm,0.8s,2µm							
CHTO	**Chiang Mai**	**10.91**	**139**	*e*P		**Pn**	**10 00 04.0**	**-2.2**
CHTO				pmax		pmax		
	comp=Z,75nm,0.8s							
CHTO	**Chiang Mai**	**10.91**	**139**	*e*Pn		**Pn**	**10 00 04.0**	**-2.2**
	comp=Z,75nm,0.8s							
PAYA	**Payao**	**11.06**	**134**	P		Pn	10 00 11.6	+3.3
	comp=Z,128nm,0.8s							
CM31	**Chiang Mai Arr**	**11.19**	**141**	*e*Pn		**Pn**	**10 00 09.1**	**-1.0**
	comp=Z,34nm,0.6s							
CMAR	**Chiang Mai Arr**	**11.19**	**141**	Pn		**Pn**	**10 00 07.7**	**-2.5**
CMAR				Sn		Sn	10 02 27.6	+13
CMAR	**Chiang Mai Arr**	**11.19**	**141**	Pn		**Pn**	**10 00 07.7**	**-2.5**
	comp=Z,2.2nm,0.3s,baz=312,slow=12,SNR=143							
CMAR				Sn		Sn	10 02 27.6	+13
	baz=323,slow=22,SNR=2.1							
CMAR				LR		LR	10 04 56.6	
	comp=Z,2µm,18.9s,baz=161,slow=40							
CD2	**Chengdu**	**11.31**	**69**	⇑ *i* P		**Pn**	**10 00 14.0**	**+2.3**
CD2				sP			10 00 17.3	
CD2				PP		**PnPn**	**10 00 23.3**	**+3.8**
CD2				S		**Sn**	**10 02 22.5**	**+4.8**
CD2				sS			10 02 27.5	
CD2				SS		**SnSn**	**10 02 36.5**	**+6.9**
CD2				pmax		pmax		
	comp=Z,730nm,6.4s							
CD2				LR		LR		
	comp=Z,9µm,7.7s							
CD2				LR		LR		
	comp=Z,8µm,7.1s							
CD2				LR		LR		
	comp=Z,10µm,9.5s							
LAMP	**Lampang**	**11.54**	**138**	P		**Pn**	**10 00 13.9**	**-1.0**
	comp=Z,54nm,0.8s,comp=Z,437nm							
DDI	**Dehra Dun**	**12.14**	**287**	*e*P		**Pn**	**10 00 21.6**	**-1.6**
DDI				AMB		AMB	10 00 30.7	
	comp=Z,257nm,0.6s							
VIS	**Vishakhapatnam**	**12.17**	**220**	*e*P		**Pn**	**10 00 22.7**	**-0.8**
VIS				AMB		AMB	10 00 23.3	
	comp=Z,372nm,2.4s							
NDI	**New Delhi**	**12.68**	**279**	*e*P		**Pn**	**10 00 28.8**	**-1.6**
NDI				AMB		AMB	10 00 30.5	
	comp=Z,70nm,1.0s							
NDI				*ex*		x	10 02 42.9	
SLVN	**Son La**	**12.80**	**115**	*e*Pn		**Pn**	**10 00 31.3**	**-0.8**
	comp=Z,61nm,1.3s							
NGP	**Nagpur**	**12.90**	**244**	*ex*		**Pn**	**10 00 30.3**	**-3.2**
NGP				AMB		AMB	10 00 31.5	
	comp=Z,206nm,1.2s							
NGP				*e*			10 02 47.2	
SMLA	**Simla**	**13.06**	**290**	*i* P		**Pn**	**10 00 33.3**	**-2.3**
SMLA				AMB		AMB	10 00 44.5	
	comp=Z,125nm,1.5s							
SMLA				*i* x		x	10 02 53.6	
SDNR	**Sundarnagar**	**13.31**	**292**	*e*P		**Pn**	**10 00 37.0**	**-2.1**
SDNR				*ex*		x	10 03 22.6	
BHPL	**Bhopal**	**13.35**	**255**	*e*P		**Pn**	**10 00 37.5**	**-2.1**
BHPL				AMB		AMB	10 00 38.0	
	comp=Z,281nm,0.9s							
GYA	**Guiyang**	**13.58**	**90**	⇓ *i* P		**Pn**	**10 00 43.3**	**+0.5**
GYA				PP		P	10 00 55.8	+4.0
GYA				S		Sn	10 03 21.0	+7.7
GYA				SS		**S**	**10 03 33.5**	**-2.9**
GYA				pmax		pmax		
	comp=Z,60nm,0.9s							
GYA				pmax		pmax		
	comp=Z,150nm,4.6s							
GYA				LR		LR		
	comp=Z,3µm,15.0s							
GYA				LR		LR		
	comp=Z,3µm,15.3s							
GYA				LR		LR		
	comp=Z,3µm,14.0s							
LZH	**Lanzhou**	**13.66**	**47**	*e*P		**Pn**	**10 00 43.8**	**-0.1**
LZH				pP		P	10 00 46.8	-5.9
LZH				sP			10 00 49.5	
LZH				PP		**PnPn**	**10 00 53.5**	**+1.6**
LZH				*e*S		**Sn**	**10 03 13.0**	**-2.3**
LZH				pmax		pmax		
	comp=Z,170nm,1.0s							
LZH				pmax		pmax		
	comp=Z,520nm,5.3s							
LZH				LR		LR		
	comp=Z,9µm,9.7s							
LZH				LR		LR		
	comp=Z,12µm,11.1s							
LZH				LR		LR		
	comp=Z,15µm,11.6s							
BHK	**Bhakra**	**13.75**	**291**	*ex*		**Pn**	**10 00 46.0**	**+1.0**
BHK				*ex*		x	10 01 16.0	
PBKT	**Sadao Pong**	**13.86**	**139**	P		**Pn**	**10 00 44.8**	**-1.7**
	comp=Z,236nm,1.2s,comp=Z,2µm							
GTA	**Gaotai**	**13.90**	**28**	P		**Pn**	**10 00 45.0**	**-2.2**
GTA				pP		P	10 00 49.8	-5.5
GTA				sP			10 00 53.0	
GTA				S		**Sn**	**10 03 18.0**	**-3.1**
GTA				pmax		pmax		
	comp=Z,68nm,1.5s							
GTA				pmax		pmax		
	comp=Z,440nm,5.2s							
GTA				LR		LR		
	comp=Z,4µm,13.8s							
GTA				LR		LR		
	comp=Z,5µm,14.7s							
GTA				LR		LR		
	comp=Z,7µm,12.4s							
DHRM	**DHARAMSHALA**	**14.06**	**294**	*e*P		**Pn**	**10 00 46.8**	**-2.7**
DHRM				AMB		AMB	10 00 51.3	
	comp=Z,112nm,2.2s							
DHRM				*ex*		x	10 03 18.0	
DHRM				AML		AML	10 05 34.5	
	comp=N,118nm,1.0s							
DHRM				AML		AML	10 05 35.1	
	comp=E,157nm,0.3s							
KHLT	**Khaolaem Dam**	**14.12**	**151**	P		Pn	10 00 45.8	-4.4
	comp=E,67nm,1.3s,comp=E,776nm							
DGPR	**DIGLIPUR**	**14.15**	**174**	*e*P		Pn	10 00 46.8	-3.7
DGPR				AMB		AMB	10 00 51.6	
	comp=Z,740nm,1.3s							
SRDT	**SRDT**	**14.75**	**150**	P		Pn	10 00 54.3	-4.5
	comp=Z,551nm,1.1s							
CHAI	**Chaiyaphum**	**14.98**	**137**	P		**Pn**	**10 01 01.4**	**-0.5**
	comp=Z,102nm,1.0s,comp=Z,847nm							
HYB	**Hyderabad**	**15.49**	**233**	⇓ *i* P		Pn	10 01 03.5	-5.1
	comp=Z,157nm,0.5s							
HYB				*e*S		S	10 04 08.0	-7.5
HYB	**Hyderabad**	**15.49**	**233**	*ex*		**Pn**	**10 01 05.0**	**-3.6**
HYB				AMB		AMB	10 01 07.7	
	comp=Z,174nm,0.2s							
PBA	**Port Blair**	**15.64**	**175**	*e*P		**Pn**	**10 01 11.0**	**+0.5**
PBA				AMB		AMB	10 01 22.7	
	comp=Z,366nm,1.2s							
ENH	**Enshi**	**16.05**	**75**	*e*Pn		**Pn**	**10 01 14.0**	**-1.9**
	comp=Z,180nm,0.8s							
ENH				*e*Sn		**Sn**	**10 04 14.0**	**+0.6**
XAN	**Xi'an**	**16.41**	**62**	P		**Pn**	**10 01 17.0**	**-3.5**
XAN				S		**Sn**	**10 04 18.3**	**-3.9**
XAN				LR		LR		
	comp=Z,1µm,8.8s							
XAN				LR		LR		
	comp=Z,2µm,11.4s							
XAN				LR		LR		
	comp=Z,2µm,9.4s							
WMQ	**Urumqi**	**16.73**	**350**	P		**Pn**	**10 01 26.0**	**+1.5**
WMQ				sP		**sP**	**10 01 33.0**	**-1.3**
WMQ				PP		**PnPn**	**10 01 41.0**	**+7.0**
WMQ				S		**Sn**	**10 04 32.0**	**+2.1**
WMQ				sS		**S**	**10 04 37.0**	**-3.7**
WMQ				SS		**SnSn**	**10 04 52.0**	**+8.7**
WMQ				PcP		**PcP**	**10 06 14.0**	**+1.2**
WMQ				pmax		pmax		
	comp=Z,230nm,0.8s							
WMQ				LR		LR		
	comp=Z,7µm,7.0s							
WMQ				LR		LR		
	comp=Z,3µm,6.0s							
WMQ				LR		LR		
	comp=Z,7µm,7.0s							
PATY	**Pattaya**	**16.81**	**147**	P		**Pn**	**10 01 23.8**	**-1.7**
	comp=Z,85nm,1.1s,comp=Z,1µm							
CHCP	**Chirah Chowk**	**16.91**	**296**	P		**Pn**	**10 01 22.5**	**-4.2**
SARP	**Sargodha**	**16.98**	**290**	P		**Pn**	**10 01 23.0**	**-4.5**
KSH	**Kashi**	**17.72**	**317**	P		**Pn**	**10 01 36.0**	**-0.9**
KSH				sP		**sP**	**10 01 42.0**	**-3.3**
KSH				PP		**PnPn**	**10 01 50.3**	**+2.7**
KSH				S		**Sn**	**10 04 49.3**	**-4.7**
KSH				sS		**S**	**10 05 00.0**	**-1.0**
KSH				pmax		pmax		
	comp=Z,160nm,1.0s							
KSH				LR		LR		
	comp=Z,2µm,12.1s							
KSH				LR		LR		
	comp=Z,2µm,9.8s							
KSH				LR		LR		
	comp=Z,4µm,12.1s							
THW	**Thamme Wali**	**17.92**	**292**	P		**Pn**	**10 01 35.5**	**-3.8**
CEP	**Cherat**	**18.04**	**296**	P		Pn	10 01 36.1	-4.8
CEP				S		Sn	10 04 46.0	-16
POO	**Poona**	**18.43**	**245**	⇑ *ix*		**P**	**10 01 42.0**	**-3.6**
	comp=Z,227nm,1.2s							
POO				*e*P		**Pn**	**10 01 43.8**	**-1.9**
POO				AMB		AMB	10 01 48.5	
	comp=Z,101nm,3.7s							
QIZ	**Qiongzhong**	**18.78**	**112**	P		**Pn**	**10 01 50.5**	**+0.7**
QIZ				S		**Sn**	**10 05 21.5**	**+1.9**
QIZ				pmax		pmax		
	comp=Z,39nm,1.4s							
QIZ				LR		LR		
	comp=Z,1µm,13.2s							
QIZ	**Qiongzhong**	**18.78**	**112**	*e*P		**Pn**	**10 01 50.1**	**+0.3**
	comp=Z,138nm,1.3s							
ULHL	**Ulahol**	**19.40**	**324**	*i* P		**Pn**	**10 01 58.7**	**+1.4**
ULHL	**Ulahol**	**19.40**	**324**	P		**Pn**	**10 01 58.7**	**+1.4**
	SNR=128							
SURT	**Suratani**	**19.54**	**158**	P		**Pn**	**10 01 58.6**	**-0.4**
	comp=Z,170nm,1.1s,comp=Z,2µm							
AAA	**Alma-Ata**	**19.79**	**327**	*i* P		**Pn**	**10 02 02.7**	**+0.8**
AAA				*i* S		**S**	**10 05 37.4**	**-5.2**
AAA				pmax		pmax		
	comp=Z,3µm,3.6s							
AAA				smax		smax		
	comp=E,2µm,8.6s							
AAA				MLR		MLR		
	comp=Z,3µm,13.0s							
KZA	**Kyzart**	**19.81**	**322**	*i* P		**Pn**	**10 02 03.1**	**+0.6**
KZA	**Kyzart**	**19.81**	**322**	P		**Pn**	**10 02 03.1**	**+0.6**
	SNR=97							
BHJ	**Bhuj**	**20.14**	**263**	*ex*		**P**	**10 02 06.8**	**+2.6**
BHJ				AMB		AMB	10 02 15.8	
	comp=Z,88nm,1.0s							
TKM2	**Tokmak 2**	**20.21**	**324**	*i* P		Pn	10 02 06.7	-0.4
TKM2				pmax		pmax		
	comp=Z,165nm,0.8s							
TKM2	**Tokmak 2**	**20.21**	**324**	P		Pn	10 02 07.4	+0.3
	SNR=404							
TKM2	**Tokmak 2**	**20.21**	**324**	*e*Pn		Pn	10 02 06.7	-0.4
	comp=Z,203nm,0.7s							
TKM2				LR		LR		
	comp=Z,1µm,19.0s							
BTO	**Baotou**	**20.24**	**44**	*e*P		**P**	**10 02 05.3**	**+0.1**
BTO				pmax		pmax		
	comp=Z,200nm,0.8s							
WHN	**Wuhan**	**20.26**	**75**	⇓ *i* P		**P**	**10 02 06.0**	**+0.5**
WHN				S		**S**	**10 05 49.0**	**-3.0**
WHN				LR		LR		
	comp=Z,5µm,9.7s							
WHN				LR		LR		
	comp=Z,3µm,8.6s							
WHN				LR		LR		
	comp=Z,5µm,12.8s							
UCH	**Uchtor**	**20.32**	**321**	*i* P		Pn	10 02 08.5	-0.1
UCH	**Uchtor**	**20.32**	**321**	P		Pn	10 02 08.6	-0.1
	SNR=110							
CMBY	**CAMPBELL BAY**	**20.34**	**173**	AMB		AMB	10 02 05.9	
	comp=Z,428nm,0.6s							
KBK	**Karagaybulak**	**20.37**	**323**	P		Pn	10 02 09.4	+0.5
	SNR=72							
PKDT	**Phuket**	**20.40**	**160**	P		**P**	**10 02 07.3**	**+0.3**
	comp=Z,279nm,1.2s							
TIY	**Taiyuan**	**20.43**	**54**	*e*P		**P**	**10 02 07.8**	**+0.4**
TIY				PP		**PnPn**	**10 02 30.0**	**+5.3**
TIY				S		**S**	**10 05 54.3**	**-1.2**
TIY				LR		LR		
	comp=Z,3µm,9.6s							
TIY				LR		LR		
	comp=Z,4µm,10.7s							
TIY				LR		LR		
	comp=Z,6µm,11.6s							
KBL	**Kabul**	**20.52**	**296**	*e*P		**P**	**10 02 09.3**	**+0.8**
KBL				pmax		pmax		
	comp=Z,178nm,0.9s							
KBL	**Kabul**	**20.52**	**296**	*e*P		**P**	**10 02 09.3**	**+0.8**
	comp=Z,178nm,0.9s							
AAK	**Ala-Archa**	**20.60**	**322**	Pn		Pn	10 02 11.3	-0.2
	comp=Z,710nm,1.3s							
AAK	**Ala-Archa**	**20.60**	**322**	*c* P		Pn	10 02 11.5	0.0
AAK				pmax		pmax		
	comp=Z,473nm,1.2s							
AAK	**Ala-Archa**	**20.60**	**322**	P		Pn	10 02 11.5	0.0
	SNR=142							
AAK	**Ala-Archa**	**20.60**	**322**	*e*P		Pn	10 02 11.3	-0.2
AAK				S		Sn	10 06 05.4	+1.8
AAK				ScP		**ScP**	**10 09 55.7**	**+0.4**
AAK	**Ala-Archa**	**20.60**	**322**	P		Pn	10 02 11.0	-0.6
	comp=Z,143nm,1.2s,baz=130,slow=8.8,SNR=140							
AAK				S		Sn	10 06 05.4	+1.8
	comp=Z,3.3nm,0.9s,baz=307,slow=20,SNR=1.6							
AAK				ScP		**ScP**	**10 09 55.7**	**+0.4**
	comp=Z,6.4nm,0.9s,baz=168,slow=5.2,SNR=3.7							
AAK				LR		LR	10 11 25.6	
	comp=Z,2µm,18.1s,baz=318,slow=40							
FRU	**Bishkek**	**20.67**	**323**	⇑ *i* P		Pn	10 02 12.0	-0.2
FRU				pmax		pmax		
	comp=Z,250nm,1.8s							
CHMS	**Chumysh**	**20.71**	**323**	*i* P		**P**	**10 02 11.7**	**+1.5**
CHMS	**Chumysh**	**20.71**	**323**	P		Pn	10 02 11.8	-0.9
	SNR=57							
AML	**Almayashu**	**20.71**	**320**	*i* P		Pn	10 02 12.9	-0.3
AML	**Almayashu**	**20.71**	**320**	P		Pn	10 02 12.9	-0.3
	SNR=220							
MK31	**Makanchi Array**	**20.73**	**342**	*e*P		**P**	**10 02 10.8**	**+0.3**
MK31				pmax		pmax		
	comp=Z,219nm,0.9s							
MK31	**Makanchi Array**	**20.73**	**342**	*e*P		**P**	**10 02 11.1**	**+0.6**
EKS2	**Erkin-Say**	**21.01**	**321**	*i* P		**P**	**10 02 15.8**	**+2.2**
EKS2	**Erkin-Say**	**21.01**	**321**	P		**P**	**10 02 15.9**	**+2.2**
	SNR=132							
EKS2	**

comp=Z,148nm,0.9s
PALK Pallekele 22.42 209 P P 10 02 29.5 +0.6
comp=Z,559nm,1.3s,SNR=14
PALK Pallekele 22.42 209 eP P 10 02 29.4 +0.6
comp=Z,1μm,1.4s
LHMI Lhok Sumawe 22.59 166 P P 10 02 33.5 +2.9
comp=Z,500nm,0.9s,comp=Z,7μm
KK31 Karatay Array 23.17 318 *i* P P **10 02 37.5 +1.1**
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 23.17 318 eP P 10 02 37.9 +1.5
KKAR pmax pmax
comp=Z,20nm,0.7s
KKAR Karatay Array 23.17 318 eP P 10 02 37.9 +1.5
comp=Z,20nm,0.7s
TRD Trivandrum 23.23 219 eP P 10 02 37.3 +0.1
TIA Tai'an 23.48 61 ⇑P P **10 02 38.8 -0.8**
TIA S S **10 06 56.3 +3.9**
TIA pmax pmax
comp=Z,160nm,1.2s
TIA pmax pmax
comp=Z,530nm,4.5s
TIA LR LR
comp=Z,1μm,14.6s
TIA LR LR
comp=Z,1μm,9.5s
TIA LR LR
comp=Z,2μm,25.6s
SONM Songino Array 23.55 26 P P 10 02 40.2 -0.2
SONM S S **10 06 58.8 +5.1**
SONM ScP **ScP 10 10 02.1 -0.6**
SONM Songino Array 23.55 26 P P 10 02 40.2 -0.2
comp=Z,41nm,0.8s,baz=209,slow=9.9,SNR=167
SONM S S **10 06 58.8 +5.1**
comp=Z,3.1nm,1.1s,baz=204,slow=16,SNR=2.4
SONM ScP **ScP 10 10 02.1 -0.6**
comp=Z,5.4nm,1.1s,baz=198,slow=4.5,SNR=8.4
LASI Langsa, Aceh 23.58 164 P P 10 02 49.0 +8.3
KULM Kulim 23.60 157 P P **10 02 40.5 -0.3**
KULM Kulim 23.60 157 P P **10 02 40.6 -0.3**
comp=Z,268nm,1.2s,comp=Z,4μm
KULM Kulim 23.60 157 eP P 10 02 40.0 -0.9
comp=Z,339nm,1.2s
KULM LR LR
comp=Z,2μm,19.0s
HVS Khovu-Aksy 23.83 3 *i* P P **10 02 43.8 +0.8**
HVS pmax pmax
comp=Z,2μm,2.0s
ULN Ulaanbaatar 23.84 27 eP P 10 02 42.9 -0.3
comp=Z,756nm,2.5s
ULN LR LR
comp=Z,3μm,20.0s
BJT Baijiatuau 24.04 52 eP P 10 02 45.0 +0.1
comp=Z,140nm,1.1s
BJT LR LR
comp=Z,4μm,22.0s
BJI Beijing 24.05 52 P P **10 02 45.5 +0.5**
BJI S S **10 07 04.8 +3.4**
BJI pmax pmax
comp=Z,98nm,1.1s
BJI pmax pmax
comp=Z,650nm,4.2s
BJI LR LR
comp=Z,7μm,10.8s
BJI LR LR
comp=Z,10μm,11.2s
BJI LR LR
comp=Z,3μm,12.9s
NJ2 Nanjing 24.21 72 eP P 10 02 46.3 -0.3
NJ2 pP **pP 10 02 50.3 -1.9**
NJ2 sP **sP 10 02 51.5 -3.0**
NJ2 S S **10 07 08.0 +3.9**
NJ2 sS **sS 10 07 14.0 +0.7**
NJ2 pmax pmax
comp=Z,100nm,0.8s
NJ2 pmax pmax
comp=Z,420nm,4.9s
NJ2 LR LR
comp=Z,2μm,23.2s
NJ2 LR LR
comp=Z,1μm,25.9s
NJ2 LR LR
comp=Z,2μm,22.3s
KCSI Kotacane, Aceh 24.43 165 P P **10 02 46.5 -2.2**
comp=Z,151nm,1.1s,comp=Z,2μm
IPM Ipoh 24.48 156 P P **10 02 47.8 -1.4**
IPM Ipoh 24.48 156 P P **10 02 47.8 -1.4**
comp=Z,307nm,1.0s,comp=Z,3μm
IPM Ipoh 24.48 156 eP P 10 02 47.2 -2.0
comp=Z,301nm,1.0s
KTGM Kuala Trenggan 24.54 151 P P **10 02 50.9 +1.3**
TPTI 24.55 166 P P **10 02 48.1 -1.7**
comp=Z,192nm,0.9s,comp=Z,16μm
TSI Tuntungan 24.65 163 P P **10 02 51.0 +0.4**
comp=Z,344nm,1.0s,comp=Z,4μm
ZAK Zakamensk 24.72 18 eP P 10 02 50.0 -1.2
ZAK pmax pmax
comp=Z,45nm,1.0s
SNSI Sinabang, Aceh 25.21 169 P P **10 02 55.6 -0.2**
comp=Z,380nm,0.8s
KURBB Kurchatov Arra 25.27 340 P P **10 02 56.4 +0.4**
comp=Z,59nm,1.0s,baz=122,slow=24,SNR=301
KURBB P3KPbc 10 36 00.6
comp=Z,1.0nm,0.8s,baz=331,slow=5.4,SNR=7.9
KURK Kurchatov 25.32 341 P P **10 02 56.0 -0.5**
comp=Z,223nm,0.9s,SNR=76
KURK Kurchatov 25.32 341 P P **10 02 56.4 -0.1**
KURK pmax pmax
comp=Z,59nm,1.0s
KURK Kurchatov 25.32 341 eP P 10 02 56.7 +0.3
comp=Z,65nm,1.2s
KURK *e* 10 36 00.6
KURK LR LR
comp=Z,2μm,20.0s
MOY Mondy 25.34 14 eP P 10 02 58.6 +1.8
MOY pmax pmax
comp=Z,153nm,2.4s
PSI Prapat 25.41 162 P P **10 02 57.1 -0.6**
comp=Z,122nm,1.1s,comp=Z,1μm
PSI Prapat 25.41 162 P P **10 02 57.2 -0.5**
PSI Prapat 25.41 162 P P **10 02 57.2 -0.5**
comp=Z,99nm,1.0s,baz=305,slow=7.1,SNR=31
FRIM Kepong 25.85 156 P P **10 03 02.5 +1.0**
TLY Talaya 25.99 17 P P **10 03 05.1 +2.5**
comp=Z,178nm,1.1s,SNR=10
TLY Talaya 25.99 17 eP P 10 03 04.1 +1.5
TLY pmax pmax
comp=Z,59nm,1.4s
TLY MLR MLR
comp=Z,4μm,11.0s
TLY Talaya 25.99 17 eP P 10 03 05.0 +2.4
TLY LR LR
comp=Z,5μm,22.0s
GSI Gunungsitoli 26.53 166 P P **10 03 08.3 +0.6**
comp=Z,209nm,1.0s,comp=Z,3μm
GSI Gunungsitoli 26.53 166 eP P 10 03 07.6 -0.1
comp=Z,171nm,0.9s
TPUB Ta-pu 26.62 92 eP P 10 03 10.5 +1.9
comp=Z,60nm,1.0s
IRK Irkutsk 26.67 18 eP P 10 03 10.2 +1.5
IRK pmax pmax
comp=Z,263nm,2.2s
SSLB Suanglung 26.79 91 eP P 10 03 11.8 +1.7
comp=Z,58nm,0.8s
YHNB Yeheng 26.97 89 eP P 10 03 11.5 -0.3
comp=Z,111nm,0.9s
YHNB LR LR
comp=Z,2μm,20.0s
TATO Taipei 27.01 88 PFAKE 10 03 20.0 +8.0
TATO LR LR
comp=Z,2μm,21.0s
ZAA0 Zalesovo Array 27.04 351 eP P 10 03 12.2 +0.2
ZALV Zalesovo Beam 27.04 351 P P **10 03 12.4 +0.4**
ZALV pmax pmax
comp=Z,51nm,0.8s
ZALV MLR MLR
comp=Z,1μm,20.0s
ZALV Zalesovo Beam 27.04 351 P P **10 03 12.4 +0.4**
ZALV ScP **ScP 10 10 12.4 +0.1**
ZALV *e* 10 35 51.9
ZALV Zalesovo Beam 27.04 351 P P **10 03 12.4 +0.4**
comp=Z,50nm,0.8s,baz=176,slow=8.1,SNR=181
ZALV ScP **ScP 10 10 12.4 +0.1**
comp=Z,2.9nm,0.9s,baz=183,slow=5.9,SNR=3.5
ZALV LR LR 10 15 14.9
comp=Z,1μm,20.0s,baz=342,slow=39
ZALV P3KPbc 10 35 51.9
comp=Z,1.4nm,0.9s,baz=352,slow=6.0,SNR=4.9
TWG Pinlang 27.14 93 eP P 10 03 14.0 +0.7
comp=Z,411nm,0.9s
YULB Yu-li 27.20 92 eP P 10 03 14.1 +0.4
comp=Z,84nm,1.0s
NACB Ninganchiao 27.27 90 eP P 10 03 15.8 +1.3
comp=Z,128nm,0.8s
MNSI Mandailing Nat 27.51 162 P P **10 03 15.9 -0.6**
comp=Z,189nm,0.9s,comp=Z,3μm
KGM Kluang 27.61 154 P P 10 03 22.4 +5.0
DL2 Dalian 27.64 58 P P **10 03 17.0 -0.5**
DL2 S S **10 07 58.5 0.0**
DL2 pmax pmax
comp=Z,100nm,1.0s
DL2 pmax pmax
comp=Z,680nm,4.5s
DL2 LR LR
comp=Z,1μm,12.1s
DL2 LR LR
comp=Z,1μm,11.6s
IDAH Dahanechah 27.83 289 eP P 10 03 20.5 +0.9
IMON Monand 28.02 290 eP P 10 03 22.8 +1.4
MYKOM Kota Tinggi 28.03 153 P P 10 03 25.8 +4.7
MYKOM Kota Tinggi 28.03 153 P P 10 03 26.1 +5.0
MYKOM Kota Tinggi 28.03 153 eP P 10 03 21.6 +0.4
comp=Z,146nm,1.1s
IMYA Miami 28.03 297 eP P 10 03 21.4 +0.1
NVS Novosibirsk 28.14 350 ⇓*i*P **P 10 03 20.8 -1.0**
NVS *eS* S 10 07 57.0 -8.9
NVS pmax pmax
comp=N,66nm,1.2s
NVS pmax pmax
comp=E,32nm,1.2s
NVS pmax pmax
comp=Z,104nm,1.2s
NVS smax smax
comp=N,30nm,2.5s
NVS smax smax
comp=E,58nm,2.1s
BKNI Bangkinang 28.38 160 P P 10 03 29.3 +5.0
comp=E,107nm,1.3s,comp=E,5μm
SZP Santa 28.43 104 P P **10 03 26.4 +1.6**
comp=E,98nm,0.9s
ISRO Mashad 28.53 296 eP P 10 03 25.5 -0.2
IKOO Kooshah 28.55 288 eP P 10 03 25.0 -1.0
PPI Padang Panjang 28.93 161 P P **10 03 28.5 -0.7**
comp=E,59nm,1.1s,comp=E,1μm
PDSI Padang 29.38 161 P P **10 03 33.3 +0.1**
comp=E,58nm,1.2s,comp=E,17μm
RGRI Rengat 29.43 157 P P **10 03 35.5 +1.8**
comp=E,250nm,1.1s
ABKT Ailbek 29.88 299 P P **10 03 39.4 +1.9**
comp=E,217nm,0.7s,SNR=12
SNY Shenyang 29.92 53 ⇓P P **10 03 38.5 +0.7**
SNY S S **10 08 31.5 -2.8**
SNY pmax pmax
comp=E,40nm,0.7s
SNY pmax pmax
comp=E,450nm,3.1s
SNY LR LR
comp=E,2μm,12.2s
SNY LR LR
comp=E,3μm,11.9s
SNY LR LR
comp=E,3μm,12.2s
BVA0 Borovoye Array 30.08 334 P P **10 03 39.5 +0.4**
BVA0 pmax pmax
comp=Z,22nm,0.9s
BVAR Borovoye Array 30.08 334 P P **10 03 39.5 +0.5**
BVAR 10 06 40.6
BVAR 10 10 20.8
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR MLR MLR
comp=Z,3μm,19.9s
BVAR Borovoye Array 30.08 334 P P **10 03 39.5 +0.5**
BVAR PcP **PcP 10 06 40.6 +0.1**
BVAR ScP **ScP 10 10 20.8 -1.1**
BVAR *e* 10 35 40.4
BVAR Borovoye Array 30.08 334 P P **10 03 39.5 +0.5**
comp=Z,9.1nm,0.6s,baz=133,slow=11,SNR=69
BVAR PcP **PcP 10 06 40.6 +0.1**
comp=Z,3.2nm,0.7s,baz=102,slow=3.5,SNR=3.3
BVAR ScP **ScP 10 10 20.8 -1.1**
comp=Z,4.5nm,0.7s,baz=151,slow=3.9,SNR=10.0
BVAR LR LR 10 17 29.6
comp=Z,3μm,19.9s,baz=322,slow=40
BVAR P3KPbc 10 35 40.4
comp=Z,0.5nm,0.5s,baz=334,slow=5.1,SNR=4.1
BRVK Borovoye 30.14 334 P P **10 03 40.9 +1.3**
comp=Z,165nm,0.9s,SNR=14
BRVK Borovoye 30.14 334*c i*P P **10 03 40.0 +0.4**
BRVK pmax pmax
comp=Z,28nm,0.8s
BRVK Borovoye 30.14 334 eP P 10 03 39.1 -0.6
comp=Z,29nm,1.0s
BRVK LR LR
comp=Z,4μm,22.0s
HIA Hailar 30.87 37 eP P 10 03 46.7 +0.6
comp=Z,36nm,1.3s
HIA LR LR
comp=Z,3μm,19.0s
JMBI JAMBI 31.09 156 P P 10 03 54.0 +5.7
INCN Inchon 31.20 62 PFAKE 10 04 00.0 +11
INCN LR LR
comp=Z,953nm,22.0s
KSM Kuching 31.42 142 P P 10 03 55.9 +4.7
KSM Kuching 31.42 142 eP P 10 03 53.2 +2.0
KSM LR LR
comp=Z,2μm,19.0s
SBUM Sibu 31.72 138 P P 10 03 58.6 +4.7
SBUM Sibu 31.72 138 eP P 10 03 54.2 +0.3
comp=Z,93nm,1.6s
CN2 Changchun 31.87 50 eP P 10 03 56.0 +1.0
CN2 *e*PP **PnPn 10 05 01.5 +1.8**
CN2 *e*S **S 10 09 03.5 -1.3**
CN2 *e*SS **SnSn 10 10 55.0 +1.8**
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,4μm,11.0s
CN2 LR LR
comp=Z,4μm,11.0s
CN2 LR LR
comp=Z,1μm,11.0s
KSAR Wonju Array Be 32.18 62 P P **10 03 57.1 -0.7**
KSAR PcP **PcP 10 06 46.4 0.0**
KSRS Korea Array 32.21 62 P P **10 03 57.1 -0.9**
comp=Z,4.1nm,0.5s,baz=253,slow=8.3,SNR=21
KSRS PcP **PcP 10 06 46.4 -0.1**
comp=Z,3.1nm,1.0s,baz=232,slow=3.6,SNR=4.7
SDKM Sandakan 32.62 127 P P 10 04 06.1 +4.2
AB31 Akbulak array 32.67 321 P P **10 04 02.6 +0.7**
AB31 pmax pmax
comp=Z,20nm,0.5s
ABKAR Akbulak array 32.67 321 eP P 10 04 02.8 +0.9
comp=Z,22nm,0.5s
IANJ Anjilo 32.92 294 eP P 10 04 05.3 +0.7
IGLO Ghaloghah 33.07 296 eP P 10 04 07.0 +1.2
ILAS Lasjerd 33.70 293 eP P 10 04 12.2 +0.8
ISRV Sarvestan 33.73 283 eP P 10 04 10.9 -0.9
IPAR Pars 33.74 283 eP P 10 04 12.7 +0.8
MYLDM Lahad Datu 33.87 126 P P 10 04 14.6 +1.9
MYLDM Lahad Datu 33.87 126 P P 10 04 18.8 +6.0
MYLDM Lahad Datu 33.87 126 eP P 10 04 14.5 +1.7
comp=Z,152nm,0.9s
IFIR Firoozkooh 33.88 294 eP P 10 04 14.1 +1.1
TSM Tawau 34.04 128 P P 10 04 18.4 +4.2
TSM Tawau 34.04 128 P P 10 04 18.5 +4.3
IPRN Peran 34.25 295 eP P 10 04 17.7 +1.7
AKTO Aktyubinsk 34.34 321 P P **10 04 17.1 +0.7**
AKTO pmax pmax
comp=Z,36nm,1.0s
AKTO MLR MLR
comp=Z,316nm,21.0s
AKTO Aktyubinsk 34.34 321 P P **10 04 17.1 +0.7**
AKTO ScP **ScP 10 10 34.6 -1.8**
AKTO *e* 10 35 20.8
AKTO Aktyubinsk 34.34 321 P P **10 04 17.1 +0.7**
comp=Z,36nm,0.9s,baz=118,slow=8.3,SNR=109
AKTO ScP **ScP 10 10 34.6 -1.8**
comp=Z,9.7nm,0.9s,baz=98,slow=4.0,SNR=8.5
AKTO LR LR 10 18 60.0
comp=Z,316nm,21.0s,baz=290,slow=37
AKTO P3KPbc 10 35 20.8
comp=Z,0.4nm,0.5s,baz=323,slow=3.2,SNR=5.6
JNU Nakatsue 34.38 71 eP P 10 04 17.1 0.0
comp=Z,52nm,1.4s
JNU Nakatsue 34.38 71 P P **10 04 17.9 +0.7**
comp=Z,40nm,0.9s,baz=162,slow=3.0,SNR=6.9
IVRN Varamin 34.69 293 eP P 10 04 21.0 +1.2
IKAZ Kazeroun 34.79 284 eP P 10 04 21.0 0.0
MDJ Mudanjiang 34.96 50 P P **10 04 22.3 +0.4**
MDJ pP **pP 10 04 25.3 -2.3**
MDJ sP **sP 10 04 26.5 -3.4**
MDJ PP **PP 10 05 41.0 -0.2**
MDJ S S **10 09 54.5 +1.8**
MDJ sS **sS 10 10 01.8 -0.2**
MDJ ScP **ScP 10 10 39.3 +0.5**
MDJ PcS **PcS 10 10 41.0 +0.3**
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,230nm,4.8s
MDJ LR LR
comp=Z,750nm,8.3s
MDJ LR LR
comp=Z,940nm,7.0s
MDJ LR LR
comp=Z,1μm,7.0s
IR3 Iran Long-Peri 35.28 294 eP P 10 04 25.2 +0.3
IRAZ Razeghan 36.17 293 eP P 10 04 33.7 +1.0
VLA Vladivostok 36.19 53⇑*eP* **P 10 04 30.6 -1.8**
VLA S S **10 10 08.2 -3.4**
VLA pmax pmax
comp=Z,111nm,1.0s
USRK Ussuriysk Arra 36.51 52 P P **10 04 36.0 +0.8**
comp=Z,14nm,0.7s,baz=254,slow=8.9,SNR=39
SVE Sverdlovsk 36.74 332⇓*eP* **P 10 04 38.1 +1.2**
SVE *eS* S **10 10 21.2 +1.6**
SVE pmax pmax
comp=Z,172nm,1.3s
SVE MLR MLR
comp=Z,2μm,15.0s
ARU Arti 37.38 330 P P **10 04 43.4 +1.0**
comp=Z,301nm,1.0s,SNR=11
ARU Arti 37.38 330*c i*P P **10 04 42.9 +0.5**
ARU 10 06 09.6
ARU PPP PPP 10 06 28.9
ARU S S **10 10 30.6 +1.2**
ARU SS SnSn **10 12 59.9 -6.4**
ARU pmax pmax
comp=Z,102nm,1.7s
ARU MLR MLR
comp=Z,2μm,16.0s
ARU Arti 37.38 330 eP P 10 04 43.0 +0.5
comp=Z,53nm,1.0s
ARU LR LR
comp=Z,2μm,21.0s
CLNS Chul'man 37.84 30 eP P 10 04 46.6 +0.2
CLNS pmax pmax
comp=Z,19nm,1.0s
CLNS pmax pmax
comp=N,13nm,1.2s
CLNS pmax pmax
comp=E,17nm,1.1s
CLNS MLR MLR
comp=N,811nm,11.0s
CLNS MLR MLR
comp=E,2μm,11.0s
CLNS MLR MLR
comp=Z,2μm,12.0s
ISRB Sarab 38.07 297 eP P 10 04 50.2 +1.4
DAV Davao City (W) 38.10 116 PFAKE 10 05 00.0 +11
DAV LR LR
comp=Z,2μm,19.0s
MAK Makhachkala 38.73 305 eP P 10 05 01.3 +7.3
SMRI Semarang 38.80 149 eP P 10 04 56.1 +1.3
comp=Z,1μm,1.7s
DGAR Diego Garcia 39.15 211 PFAKE 10 05 10.0 +12
DGAR LR LR
comp=Z,3μm,19.0s
IAZR Azarshahr 39.40 297 eP P 10 05 01.5 +1.5
COCO West Island 39.63 172 eP P 10 05 01.8 +0.2
COCO pmax pmax
comp=Z,270nm,0.9s
COCO MLR MLR
comp=Z,2μm,19.0s
COCO West Island 39.63 172 eP P 10 05 01.8 +0.2
comp=Z,270nm,0.9s
COCO LR LR
comp=Z,2μm,19.0s
HABR Khabarovsk 39.66 46 eP P 10 04 59.8 -1.9
HABR *e**PP **pP 10 05 09.0 +1.6**
HABR *e* 10 06 30.8
HABR *e*PPP PPP 10 06 54.3
HABR *e* 10 07 05.9
HABR *e*S **S 10 11 01.6 -2.4**
HABR *e*SS **SS 10 13 57.9 -1.5**
HABR *e* 10 15 04.4
HABR pmax pmax
comp=N,20nm,1.5s
HABR pmax pmax
comp=Z,28nm,1.5s
HABR pmax pmax
comp=E,26nm,1.5s
HABR MLR MLR
comp=Z,4μm,15.0s
SOKR Solikamsk 40.07 333*d i*P P **10 05 06.3 +1.4**
SOKR pmax pmax
comp=Z,90nm,1.2s
SOKR MLR MLR
comp=Z,3μm,17.0s
DGRG David-gareji 40.11 303 P P **10 05 07.6 +2.1**
MAJO Matsushiro 40.37 65⇓*i*P P **10 05 07.4 -0.4**
MAJO Matsushiro 40.37 65 eP P 10 05 07.5 -0.3
comp=Z,124nm,0.9s
MAJO LR LR
comp=Z,2μm,21.0s
MAT Matsushiro 40.37 65 P P **10 05 06.8 -1.0**
MJAR Matsushiro Arr 40.37 65 P P **10 05 08.2 +0.4**
MJAR PcP **PcP 10 07 10.9 0.0**
MJAR S S **10 11 10.4 -4.7**
MJAR Matsushiro Arr 40.37 65 P P **10 05 08.2 +0.4**
comp=Z,65nm,0.9s,baz=272,slow=9.7,SNR=91
MJAR PcP **PcP 10 07 10.9 0.0**
comp=Z,5.9nm,0.8s,baz=264,slow=2.4,SNR=2.8
MJAR S S **10 11 10.4 -4.7**
comp=Z,0.6nm,0.3s,baz=291,slow=14,SNR=7.0
GNI Garni 40.48 301 eP P 10 05 10.3 +1.4
comp=Z,86nm,1.2s
GNI LR LR
comp=Z,422nm,22.0s
TBLG Delisi 40.61 303 P P **10 05 10.6 +0.9**
DUS Dusheti 40.67 304 P P **10 05 11.9 +1.6**
GUDG Gudauri 40.88 304 P P **10 05 14.9 +2.7**
ZEI Tsey 41.33 305 eP P 10 05 15.5 -0.4
ZEI pmax pmax
comp=Z,82nm,1.3s
AKH Akhalkalaki 41.51 303 P P **10 05 19.6 +2.2**
ONI Oni 41.64 304 P P **10 05 20.1 +1.8**
JAGI Jajag, Banyuwa 41.82 145 eP P 10 05 21.3 +1.4
comp=Z,50nm,1.0s
KBZ Khabaz 42.16 306 P P **10 05 23.2 +0.8**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 42.16 306 P P **10 05 23.2 +0.8**
KBZ ScP **ScP 10 11 05.0 -1.2**
KBZ Khabaz 42.16 306 P P **10 05 23.2 +0.8**
comp=Z,8.7nm,0.9s,baz=148,slow=10,SNR=6.8
KBZ ScP **ScP 10 11 05.0 -1.2**
comp=Z,4.7nm,0.9s,baz=117,slow=5.6,SNR=5.1
KAPI Kappang 42.19 135 PFAKE 10 05 30.0 +7.1
KAPI LR LR
comp=Z,3μm,19.0s
GOF Gofitskoye 42.23 308⇓*iP* **P 10 05 24.7 +1.8**
GOF pmax pmax
comp=Z,86nm,1.3s
KIV Kislovodsk 42.34 306 P P **10 05 25.1 +1.1**
comp=Z,210nm,1.0s,SNR=5.9
KIV Kislovodsk 42.34 306*ceP* **P 10 05 24.7 +0.7**
KIV *e* 10 05 30.1
KIV *e*SS SS 10 14 43.5 -10
KIV *e*SSS SSS 10 15 29.3
KIV pmax pmax
comp=Z,47nm,1.0s
KIV MLR MLR

comp=Z,800nm,19.0s
KIV Kislovodsk 42.34 306 *e*P P 10 05 25.4 +1.4
comp=Z,36nm,0.8s
KIV LR LR
comp=Z,919nm,22.0s
YAK Yakutsk 42.91 25 *e*P P 10 05 28.0 -0.2
YAK *e**PP **pP 10 05 36.9 +2.9**
YAK *e* 10 07 08.2
YAK *e* 10 07 17.6
YAK *e*PPP PPP 10 07 41.9
YAK *e*S **S 10 11 51.3 -0.7**
YAK *e*SS SS 10 14 55.1 -8.4
YAK *e* 10 15 26.7
YAK *e*SSS SSS 10 15 40.3
YAK pmax pmax
comp=Z,39nm,1.1s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,30nm,1.4s
YAK pmax pmax
comp=Z,154nm,3.3s
YAK pmax pmax
comp=N,120nm,2.8s
YAK pmax pmax
comp=E,82nm,3.9s
YAK smax smax
comp=N,116nm,3.2s
YAK smax smax
comp=E,161nm,4.0s
YAK MLR MLR
comp=Z,2µm,13.0s
YAK MLR MLR
comp=E,1µm,11.0s
YAK MLR MLR
comp=N,977nm,12.0s
YAK Yakutsk 42.91 25 *e*P P 10 05 28.7 +0.5
comp=N,40nm,0.9s
YAK LR LR
comp=Z,3µm,21.0s
TNTI Ternate 43.38 121 *e*P P 10 05 36.0 +3.4
comp=Z,132nm,1.1s
ASAJ Asahikawa 44.02 54 *e*P **P 10 05 37.7 +0.3**
comp=Z,25nm,1.0s
ASAJ Asahikawa 44.02 54 P **P 10 05 38.5 +1.0**
comp=Z,24nm,0.8s,baz=268,slow=14,SNR=11
VRHR Novokhopersk 44.26 316 *e*P **P 10 05 37.6 -1.6**
VRHR *e*S **S 10 12 10.4 -1.6**
VRHR pmax pmax
comp=E,70nm,1.0s
VRHR pmax pmax
comp=Z,90nm,1.0s
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR smax smax
comp=N,170nm,1.8s
VRHR smax smax
comp=E,150nm,1.8s
VRHR smax smax
comp=Z,40nm,1.6s
VRHR MLR MLR
comp=N,600nm,19.0s
VRHR MLR MLR
comp=E,670nm,19.0s
VRHR MLR MLR
comp=Z,1µm,19.0s
ERM Érimo 44.30 57 PFAKE 10 05 50.0 +10
ERM LR LR
comp=Z,4µm,20.0s
YSS Yuzh-Sakhalins 44.44 50 *i*P **P 10 05 41.2 +0.5**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS Yuzh-Sakhalins 44.44 50 *e*P **P 10 05 39.8 -0.9**
SOC Sochi 44.45 305 *e*P **P 10 05 39.0 -1.9**
SOC *e*S **S 10 12 14.5 -0.5**
SOC pmax pmax
comp=Z,46nm,0.9s
SOC MLR MLR
comp=Z,610nm,14.0s
VORD Divnogorie 45.68 316 *e*P **P 10 05 48.3 -2.2**
VORD *e*S **S 10 12 29.6 -2.9**
VORD pmax pmax
comp=N,20nm,1.1s
VORD pmax pmax
comp=E,40nm,1.1s
VORD pmax pmax
comp=Z,50nm,1.1s
VORD smax smax
comp=N,100nm,1.8s
VORD smax smax
comp=E,80nm,1.8s
VORD smax smax
comp=Z,20nm,1.8s
VORD MLR MLR
comp=N,390nm,19.0s
VORD MLR MLR
comp=E,1µm,19.0s
VORD MLR MLR
comp=Z,2µm,19.0s
PRGR Permogore 45.80 331 *e*P **P 10 05 50.8 -0.5**
PRGR pmax pmax
comp=Z,78nm,1.0s
VSR Storozhevoye 45.80 316 *e*P **P 10 05 50.1 -1.4**
VSR *e* 10 07 37.3
VSR *e*PPP PPP 10 08 20.9
VSR *e*S **S 10 12 32.0 -2.3**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,30nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,20nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR smax smax
comp=N,90nm,1.4s
VSR smax smax
comp=E,20nm,1.4s
VSR smax smax
comp=Z,3.0nm,1.5s
VSR MLR MLR
comp=N,460nm,16.0s
VSR MLR MLR
comp=E,870nm,16.0s
VSR MLR MLR
comp=Z,1µm,16.0s
VOR Voronezh 45.88 317 *e*P **P 10 05 51.0 -1.1**
VOR pmax pmax
comp=Z,280nm,1.0s
ANN Anapa 46.17 307 *e*P **P 10 05 54.1 -0.3**
ANN *e*S **S 10 12 39.9 +0.2**
ANN pmax pmax
comp=Z,187nm,1.3s
ANN MLR MLR
comp=Z,864nm,18.0s
MSEY Mahe Island 47.13 233 PFAKE 10 06 10.0 +7.6
MSEY LR LR
comp=Z,3µm,19.0s
MOS Moscow 47.67 322 *e*P **P 10 06 05.5 -0.5**
MOS *e* 10 06 16.7
MOS *e*S **S 10 12 58.3 -2.5**
MOS pmax pmax
comp=Z,252nm,1.3s
MOS MLR MLR
comp=Z,1µm,13.0s
OBN Obninsk 48.12 321 P **P 10 06 10.5 +1.0**
comp=Z,481nm,0.6s,SNR=5.4
OBN Obninsk 48.12 321 *c**e*P **P 10 06 09.5 0.0**
OBN *e* 10 06 15.1
OBN *e* 10 06 21.3
OBN *i*S **S 10 13 06.9 -0.3**
OBN SS **SS 10 16 36.0 -0.1**
OBN pmax pmax
comp=Z,201nm,1.7s
OBN MLR MLR
comp=Z,600nm,14.0s
OBN Obninsk 48.12 321 *e*P **P 10 06 09.6 +0.1**
comp=Z,170nm,1.3s
OBN LR LR
comp=Z,721nm,19.0s
TIXI Tiksi 48.92 15 *c i*P **P 10 06 15.4 -0.1**
TIXI pmax pmax
comp=Z,119nm,1.4s
TIXI Tiksi 48.92 15 *e*P **P 10 06 15.0 -0.4**
comp=Z,61nm,0.9s
TIXI LR LR
comp=Z,755nm,22.0s
BR131 Keskin Array S 49.01 300 *e*P **P 10 06 17.0 +0.1**
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 49.01 300 P **P 10 06 17.2 +0.4**
BRTR ScP **ScP 10 11 32.5 -2.4**
BRTR Keskin Array B 49.01 300 P **P 10 06 17.2 +0.4**
comp=Z,9.2nm,0.7s,baz=112,slow=7.5,SNR=38
BRTR ScP **ScP 10 11 32.5 -2.4**
comp=Z,1.0nm,0.9s,baz=132,slow=5.5,SNR=3.5
ANTO Ankara 49.65 300 *e*P **P 10 06 21.9 +0.2**
ANTO pmax pmax
comp=Z,24nm,1.0s
ANTO MLR MLR
comp=Z,376nm,22.0s
ANTO Ankara 49.65 300 *e*P **P 10 06 21.9 +0.2**
comp=Z,24nm,1.0s
ANTO LR LR
comp=Z,376nm,22.0s
CSS Prodhromos 49.75 294 PFAKE 10 06 30.0 +7.6
CSS LR LR
comp=Z,143nm,22.0s
TMCR Tamitsa 50.01 333 *e*P **P 10 06 22.6 -1.2**
TMCR *e* 10 07 43.7
TMCR pmax pmax
comp=Z,100nm,1.0s
GUMO Guam 51.50 94 PFAKE 10 06 50.0 +14
GUMO LR LR
comp=Z,901nm,20.0s
ISP Isparta 51.62 298 PFAKE 10 06 50.0 +13
ISP LR LR
comp=Z,387nm,21.0s
AKASG Malin Array Be 51.99 314 P **P 10 06 38.4 -0.6**
AKASG S **S 10 13 59.5 -1.9**
AKASG pmax pmax
comp=Z,53nm,0.6s
AKASG smax smax
comp=N,1.0nm,0.7s
AKASG MLR MLR
comp=Z,1µm,20.7s
AKASG Malin Array Be 51.99 314 P **P 10 06 38.4 -0.6**
AKASG ScP **ScP 10 11 45.5 -1.7**
AKASG S **S 10 13 59.5 -1.9**
AKASG Malin Array Be 51.99 314 P **P 10 06 38.4 -0.6**
comp=Z,53nm,0.6s,baz=80,slow=6.8,SNR=248
AKASG ScP **ScP 10 11 45.5 -1.7**
comp=Z,0.6nm,0.7s,baz=81,slow=4.3,SNR=4.0
AKASG S **S 10 13 59.5 -1.9**
comp=Z,1.2nm,0.7s,baz=88,slow=13,SNR=8.2
AKASG LR LR 10 32 06.4
comp=Z,1µm,20.7s,baz=105,slow=40
AKBB Malin Array Si 51.99 314 *e*P **P 10 06 38.3 -0.7**
AKBB Malin Array Si 51.99 314 *e*P **P 10 06 38.2 -0.7**
AK01 Malin Array Si 51.99 314 *e*P **P 10 06 38.5 -0.6**
AK02 Malin Array Si 52.00 314 *e*P **P 10 06 38.5 -0.5**
KIEV Kiev 52.00 314 *c i*P **P 10 06 38.4 -0.6**
KIEV Kiev 52.00 314 *e*P **P 10 06 38.4 -0.6**
comp=Z,58nm,0.7s
KIEV LR LR
comp=Z,688nm,20.0s
KIS Kishinev 52.22 310 *e*P **P 10 06 41.0 +0.2**
KIS XM 10 06 41.5
comp=Z,100nm,1.5s
TLCR 52.28 307 *i*P **P 10 06 41.5 +0.3**
JOF Joensuu 52.51 330 *e*P **P 10 06 41.9 -0.7**
JOF pmax pmax
comp=Z,38nm,0.6s
JOF Joensuu 52.51 330 *e*p **P 10 06 41.9 -0.7**
comp=Z,38nm,0.6s
TIRR Tirgusor 52.60 307 *i*P **P 10 06 45.1 +1.5**
LVZ Lovozero 52.63 337 *c**e*P **P 10 06 42.9 -0.6**
LVZ pmax pmax
comp=Z,61nm,0.8s
LVZ Lovozero 52.63 337 *e*P **P 10 06 43.9 +0.3**
LVZ LR LR
comp=Z,2µm,21.0s
CFR Carcaliu 52.76 307 *i*P **P 10 06 45.0 +0.2**
PSN Preselentsi 52.82 306 *i*P **P 10 06 46.3 +1.1**
SEY Seymchan 52.84 30 P **P 10 06 45.5 +0.4**
SEY pmax pmax
comp=Z,16nm,1.0s
SEY Seymchan 52.84 30 P **P 10 06 45.5 +0.4**
SEY Seymchan 52.84 30 P **P 10 06 45.5 +0.4**
comp=Z,16nm,1.0s,baz=259,slow=8.6,SNR=33
SEY LR LR 10 28 13.4
comp=Z,3µm,19.4s,baz=151,slow=35
TLB Topalu 52.86 307 *i*P **P 10 06 45.9 +0.4**
APA Apatity 52.97 336 *i*P **P 10 06 46.0 0.0**
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,2µm,18.0s
MICGM Minsk 53.01 319 *e*P **P 10 06 45.0 -1.5**
MNK Minsk 53.04 319 *e*P **P 10 06 45.0 -1.7**
MNK pmax pmax
comp=Z,350nm,1.0s
NACGM Naroch 53.67 320 *e*P **P 10 06 49.0 -2.3**
VRI Vrincioaia 53.71 308 *i*P **P 10 06 52.7 +0.9**
IDID Didziasalis 53.72 320 *e*P **P 10 06 52.5 +0.8**
IDID AMB AMB 10 06 54.1
comp=Z,27nm,1.0s
PLOR Plostina 53.77 308 *i*P **P 10 06 53.7 +1.4**
VSU Vasula 53.98 324 *c i*P **P 10 06 54.0 +0.5**
VSU pmax pmax
comp=Z,340nm,1.1s
IIGN Ignalina 54.02 320 *e*P **P 10 06 54.0 +0.1**
IIGN AMB AMB 10 06 55.9
comp=Z,58nm,1.1s
ISAL Salakas 54.08 320 *e*P **P 10 06 55.0 +0.6**
ISAL AMB AMB 10 06 56.8
comp=Z,47nm,1.0s
JMB Yambol 54.09 304 *i*P **P 10 06 56.0 +1.4**
MLR Muntele Rosu 54.28 308 *i*P **P 10 06 57.7 +1.5**
PEA0B Petropavlovsk- 54.50 43 *e*P **P 10 06 57.1 -0.4**
PETK Petropavlovsk- 54.50 43 P **P 10 06 57.1 -0.4**
PETK pmax pmax
comp=Z,11nm,0.9s
PETK Petropavlovsk- 54.50 43 P **P 10 06 57.0 -0.4**
PETK Petropavlovsk- 54.50 43 P **P 10 06 57.0 -0.4**
comp=Z,11nm,0.9s,baz=238,slow=6.8,SNR=15
SMG Samos 54.53 298 *e*P **P 10 06 57.7 -0.2**
DOPR Dopca 54.64 309 *i*P **P 10 06 59.1 +0.5**
KARP Karpathos 54.64 296 *e*P **P 10 06 58.3 -0.5**
KAF Kangasniemi 54.64 328 *e*P **P 10 06 57.4 -0.9**
KAF pmax pmax
comp=Z,16nm,0.7s
KAF Kangasniemi 54.64 328 *e*p **P 10 06 57.4 -0.9**
comp=Z,16nm,0.7s,baz=98,slow=7.3
BURAR Bucovina Array 54.65 311 *i*P **P 10 06 58.8 +0.1**
FIA1 FINESS Array S 54.66 328 *e*P **P 10 06 58.4 0.0**
BUR08 Bucovina Ar. S 54.66 311 *e*P **P 10 06 58.9 +0.1**
FINES FINESS Array B 54.66 328 P **P 10 06 58.4 0.0**
FINES FINESS Array B 54.66 328 P **P 10 06 58.4 0.0**
comp=Z,38nm,0.6s,baz=102,slow=8.4,SNR=173
ALN Alexandroupoli 54.67 302 *e*P **P 10 06 58.3 -0.6**
VOIR 54.92 308 *i*P **P 10 07 01.2 +0.5**
RDO Rodhopi 55.02 303 P **P 10 07 01.4 0.0**
RDO Rodhopi 55.02 303 *e*P **P 10 07 02.1 +0.7**
RDO Rodhopi 55.02 303 P **P 10 07 01.4 0.0**
CHOS Chios island 55.03 299 *e*P **P 10 07 03.7 +2.1**
KDZ Kurdzhali 55.05 303 *i*P **P 10 07 02.9 +1.3**
PET Petropavlovsk 55.08 43 *e*P **P 10 07 01.8 +0.2**
PET MLR MLR
comp=Z,2µm,17.0s
PET Petropavlovsk 55.08 43 *e*P **P 10 07 00.6 -1.0**
PET LR LR
comp=Z,3µm,20.0s
SMTH Samothraki Isl 55.12 302 *e*P **P 10 07 02.5 +0.3**
ARR Arges 55.21 308 *i*P **P 10 07 03.1 +0.3**
LVV L'vov 55.32 313 *e*P **P 10 07 02.7 -0.7**
LVV *e*S **S 10 14 42.7 -3.9**
ZKR Zakros 55.48 295 *e*P **P 10 07 04.1 -0.7**
APE Apeiranthos 55.66 298 *e*P **P 10 07 04.5 -1.6**
APE Apeiranthos 55.66 298 *i*P **P 10 07 05.5 -0.6**
SUW Suwalki 55.75 318 *e*P **P 10 07 06.2 -0.2**
SUW pmax pmax
comp=Z,220nm,1.0s
SUW Suwalki 55.75 318 *e*P **P 10 07 06.7 +0.3**
SUW Suwalki 55.75 318 *e*P **P 10 07 06.2 -0.2**
comp=Z,220nm,1.0s
KAVA Kavala 55.81 303 P **P 10 07 06.9 -0.2**
KAVA Kavala 55.81 303 *e*P **P 10 07 07.8 +0.7**
KAVA Kavala 55.81 303 P **P 10 07 06.9 -0.2**
CJR Cluj-Napoca 55.81 310 *i*P **P 10 07 08.7 +1.6**
KEV Kevo 55.83 338 *e*P **P 10 07 06.2 -0.6**
KEV pmax pmax
comp=Z,32nm,0.7s
KEV Kevo 55.83 338 *e*p **P 10 07 06.2 -0.6**
comp=Z,32nm,0.7s
KEV Kevo 55.83 338 PFAKE 10 07 20.0 +13
KEV LR LR
comp=Z,622nm,22.0s
SANT Santorini 55.84 297 *e*P **P 10 07 06.8 -0.7**
SANT Santorini 55.84 297 *e*P **P 10 07 06.8 -0.7**
comp=Z,64nm,0.6s
SANT LR LR
comp=Z,245nm,20.0s
NPS Neapolis 55.94 296 *e*P **P 10 07 07.8 -0.3**
LAST Lasithi 56.06 296 *e*P **P 10 07 09.2 +0.1**
KWP Kalwaria Pacla 56.19 313 *e*P **P 10 07 09.9 +0.2**
KWP pmax pmax
comp=Z,158nm,1.0s
KWP MLR MLR
comp=Z,2µm,21.0s
KWP Kalwaria Pacla 56.19 313 *e*P **P 10 07 10.5 +0.8**
KWP Kalwaria Pacla 56.19 313 *i*P **P 10 07 10.9 +1.2**
KWP Kalwaria Pacla 56.19 313 *e*P **P 10 07 09.9 +0.2**
comp=Z,158nm,1.0s
KWP LR LR
comp=Z,2µm,21.0s
NVR Nevrokopi 56.25 303 *e*P **P 10 07 09.9 -0.4**
ARCES ARCESS Array B 56.29 337 P **P 10 07 10.4 +0.3**
ARCES ARCESS Array B 56.29 337 P **P 10 07 10.4 +0.3**
comp=Z,20nm,0.7s,baz=98,slow=7.2,SNR=56
ARE0 ARCESS Array S 56.29 337 *e*P **P 10 07 10.3 +0.2**
ARE0 ARCESS Array S 56.29 337 *e*P **P 10 07 10.6 +0.5**
OUR Ouranopolis 56.31 302 P **P 10 07 10.7 +0.1**
OUR Ouranopolis 56.31 302 P **P 10 07 10.7 +0.1**
OUR Ouranopolis 56.31 302 *e*P **P 10 07 10.7 +0.1**
OUR Ouranopolis 56.31 302 P **P 10 07 10.7 +0.1**
MMB Musomiste 56.31 303 *i*P **P 10 07 10.9 +0.2**
TRPA Tarpa 56.41 311 *e*P **P 10 07 11.7 +0.5**
SRS Serrai 56.48 303 *e*P **P 10 07 11.9 0.0**
IDI Anoyia 56.51 296 *e*P **P 10 07 11.3 -1.0**
IDI Anoyia 56.51 296 *e*P **P 10 07 11.8 -0.5**
comp=Z,41nm,1.1s
KOLS Kolonicke sedl 56.52 312 *e*P **P 10 07 12.6 +0.5**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 56.52 312 *e*P **P 10 07 12.6 +0.5**
VTS Vitosha 56.55 305 P **P 10 07 12.8 +0.2**
VTS Vitosha 56.55 305 P **P 10 07 12.8 +0.2**
VTS Vitosha 56.55 305 *i*P **P 10 07 12.6 0.0**
VTS Vitosha 56.55 305 P **P 10 07 12.8 +0.2**
AOS Alonnisos 56.58 301 *e*P **P 10 07 11.3 -1.3**
PAIG Paliouri 56.60 301 P **P 10 07 12.8 0.0**
PAIG Paliouri 56.60 301 P **P 10 07 12.8 0.0**
PAIG Paliouri 56.60 301 *e*P **P 10 07 13.4 +0.6**
PAIG Paliouri 56.60 301 P **P 10 07 12.8 0.0**
SIVA Sivas 56.63 296 *e*P **P 10 07 10.7 -2.3**
PLG Polygyros 56.71 302 *e*P **P 10 07 13.6 0.0**
MRKA Markates 56.88 300 P **P 10 07 14.3 -0.5**
MRKA Markates 56.88 300 *e*P **P 10 07 14.3 -0.5**
SKIA Skiathos 56.89 301 *e*P P 10 07 11.6 -3.3
HORT Hortiatis 56.93 302 *e*P **P 10 07 14.8 -0.4**
KTK1 Kautokeino 56.99 336 *e*P **P 10 07 15.8 +0.8**
KNT Kendrikon 56.99 303 *e*P **P 10 07 15.2 -0.3**
THE Thessaloniki 57.03 302 *e*P **P 10 07 15.4 -0.4**
VAM Vamos 57.04 296 *e*P **P 10 07 15.8 -0.1**
CRVS Cervenica-Dubn 57.06 312 *e*P **P 10 07 16.7 +0.8**
CRVS pmax pmax
comp=Z,25nm,1.3s
CRVS Cervenica-Dubn 57.06 312 *e*P **P 10 07 16.7 +0.8**
XOR Xorichti 57.07 301 *e*P **P 10 07 15.4 -0.7**
NAIG Nisos Aigina 57.13 299 *e*P **P 10 07 14.6 -2.0**
SMIA Simia 57.14 300 P **P 10 07 15.7 -0.9**
SMIA Simia 57.14 300 *e*P **P 10 07 16.6 0.0**
STHS Stebnicka Huta 57.16 313 *e*P **P 10 07 16.8 +0.2**
STHS pmax pmax
comp=Z,12nm,0.8s
STHS Stebnicka Huta 57.16 313 *e*P **P 10 07 16.8 +0.2**
SIRR Siria 57.19 309 *i*P **P 10 07 17.6 +0.7**
VAY Valandovo 57.21 303 *i* P **P 10 07 15.8 -1.3**
KARN Karanos 57.26 296 *e*P **P 10 07 17.4 -0.2**
BEL Belsk 57.27 316 *e*P **P 10 07 18.1 +0.8**
BEL Belsk 57.27 316 *e*P **P 10 07 18.1 +0.8**
BZS Buzias 57.30 308 *i*P **P 10 07 17.7 +0.1**
LKR Lokris 57.34 300 *e*P **P 10 07 17.1 -0.9**
DID Didima 57.38 299 *e*P P 10 07 14.1 -4.2
GRG Griva 57.40 303 P **P 10 07 17.9 -0.5**
GRG Griva 57.40 303 P **P 10 07 17.9 -0.5**
GRG Griva 57.40 303 *e*P **P 10 07 18.5 +0.1**
GRG Griva 57.40 303 P **P 10 07 17.9 -0.5**
LIT Litokhoron 57.47 302 *e*P **P 10 07 18.7 -0.3**
LTK Loutraki 57.49 299 *e*P P 10 07 17.6 -1.5
DSF Desfina 57.75 300 *e*P P 10 07 17.8 -3.2
NIE Niedzica 57.76 313 *e*P **P 10 07 21.8 +0.9**
NIE Niedzica 57.76 313 *e*P **P 10 07 21.8 +0.9**
VLI Veliai 57.77 298 *e*P **P 10 07 18.9 -2.2**
KYTH Kithira 57.78 297 *e*P **P 10 07 19.5 -1.7**
AGG Agios Georgios 57.79 301 *e*P **P 10 07 19.7 -1.5**
THL Klokotos Trika 57.93 301 *e*P **P 10 07 21.0 -1.1**
MAKR Makrakomi, Fth 57.94 301 *e*P **P 10 07 21.1 -1.2**
KZN Kozani 57.98 302 *e*P **P 10 07 22.4 -0.2**
GUR Goura 57.99 299 *e*P **P 10 07 20.1 -2.6**
OJC Ojcow 58.02 314 *e*P **P 10 07 22.0 -0.6**
OJC Ojcow 58.02 314 *e*P **P 10 07 22.0 -0.6**
VLX Vlachokerasia 58.07 299 *e*P **P 10 07 21.9 -1.4**
KLV Kalavryta, Ach 58.12 300 *e*P **P 10 07 21.6 -2.0**
PSZ Piszkesteto 58.20 311 *e*P **P 10 07 24.3 +0.3**
PSZ pmax pmax
comp=Z,74nm,1.5s
PSZ MLR MLR
comp=Z,560nm,20.0s
PSZ Piszkesteto 58.20 311 *i*P **P 10 07 24.1 +0.1**
PSZ Piszkesteto 58.20 311 *e*P **P 10 07 24.3 +0.3**
comp=Z,74nm,1.5s
PSZ LR LR
comp=Z,560nm,20.0s
PSZ Piszkesteto 58.20 311 *e*P **P 10 07 24.2 +0.3**
EVR Evrytania 58.21 301 *e*P **P 10 07 23.2 -1.1**
LAKA Lakka 58.21 300 *e*P **P 10 07 22.3 -1.9**
ITM Ithomi 58.46 299 *e*P **P 10 07 23.5 -2.5**
DRO Drossia 58.47 300 *e*P **P 10 07 23.6 -2.4**
AMT Artemida-Makis 58.56 299 *e*P P 10 07 23.6 -3.0
TRO Tromso 58.59 337 *e*P **P 10 07 29.1 +2.9**
RLS Riolos of Patr 58.64 300 *e*P P 10 07 23.3 -3.8
PYL PYLOS 58.67 298 *e*P P 10 07 24.4 -3.0
PDO Prodromos 58.75 300 *e*P **P 10 07 26.7 -1.2**
OKC Ostrava-Krasne 59.12 314 *i* P **P 10 07 30.7 +0.4**
OKC *e**PP **pP 10 07 38.2 +2.0**
OKC MLR MLR
comp=Z,2µm,24.0s
OKC Ostrava-Krasne 59.12 314 *i* P **P 10 07 30.7 +0.4**
OKC *ex* x 10 07 38.2
IGT Igoumenitsa 59.21 302 *e*P **P 10 07 29.0 -2.1**
KMBO Kilima Mbogo 59.27 251 *e*P **P 10 07 32.4 +0.3**
comp=Z,12nm,0.9s
KMBO LR LR
comp=Z,5µm,20.0s
KMBO Kilima Mbogo 59.27 251 P **P 10 07 32.9 +0.8**
comp=Z,8.9nm,0.9s,baz=50,slow=12,SNR=12
PKSG 59.27 311 *e*P **P 10 07 31.7 +0.3**
PKSM Moragy 59.27 309 *i*P **P 10 07 31.5 +0.1**
PKSM Moragy 59.27 309 *e*P **P 10 07 32.2 +0.8**
VLS Valsamata 59.29 300 *e*P P 10 07 28.0 -3.7
GKP Gorka Klasztor 59.32 318 *e*P **P 10 07 32.1 +0.5**
GKP Gorka Klasztor 59.32 318 *e*P **P 10 07 32.1 +0.5**
MORC Moravsky Berou 59.52 314 *e*P **P 10 07 33.2 +0.1**
MORC pmax pmax
comp=Z,29nm,0.8s
MORC Moravsky Berou 59.52 314 *i*P **P 10 07 33.6 +0.5**
MORC Moravsky Berou 59.52 314 *e*P **P 10 07 33.2 +0.1**
comp=Z,29nm,0.8s
PKST T''s 59.53 311 *e*P **P 10 07 33.5 +0.3**
MOR8 Moi Rana 60.11 333 *e*P **P 10 07 36.3 -0.5**
MOR8 IAmb IAmb 10 07 36.8
comp=Z,42nm,1.0s
KSP Ksiaz 60.17 315 *e*P **P 10 07 37.8 +0.3**
KSP Ksiaz 60.17 315 *e*P **P 10 07 38.0 +0.5**
VRAC Vranov 60.19 313 *i*P **P 10 07 38.2 +0.5**
DPC Dobruska-Polom 60.22 314 *e*P **P 10 07 38.4 +0.5**
DPC *e**PP **pP 10 07 45.3 +1.4**

DPC **Dobruska-Polom** 60.22 314 *e*P P 10 07 38.4 +0.5
DPC *e*pP pP 10 07 45.3 +1.4
SPA0 **Spitsbergen Ar** 60.39 347 *e*P P 10 07 37.5 -1.1
SPITS **Spitsbergen Ar** 60.39 347 P P 10 07 38.6 -0.1
SPITS **Spitsbergen Ar** 60.39 347 P P 10 07 38.6 -0.1
comp=Z,18nm,1.0s,baz=84,slow=14,SNR=7.7
UPC **Upice** 60.40 315 *e*P P 10 07 39.6 +0.5
UPC **Upice** 60.40 315 *e*P P 10 07 39.6 +0.5
LOF **Lofoten** 60.45 335 *e*P P 10 07 38.5 -0.6
SOP **Sopron** 60.46 311⇓*e*P P 10 07 40.4 +0.9
KONS **Konsvik** 60.64 333 *e*P P 10 07 39.6 -0.8
STOK **Stokkvaagen** 60.68 333 *e*P P 10 07 42.9 +2.2
KOGS **Kog** 60.87 310 *e*P P 10 07 42.6 +0.2
CONA **Conrad Observa** 60.88 312 *i* P P 10 07 42.8 +0.3
comp=Z,53nm,0.9s,SNR=19
TREC **Trest** 60.91 313 *e*P P 10 07 43.6 +1.0
TREC **Trest** 60.91 313 *e*P P 10 07 43.6 +1.0
NSS **Namsos** 61.20 331 *e*P P 10 07 44.4 +0.2
ARSA **Arzberg** 61.22 311⇓*i*P P 10 07 45.0 +0.2
comp=Z,15nm,0.7s,SNR=6.7
PVCC **Panska Ves** 61.30 315 *e*P P 10 07 46.3 +1.1
PVCC **Panska Ves** 61.30 315 *e*P P 10 07 46.3 +1.1
KBS **Kingsbay** 61.36 347 PFAKE 10 08 00.0 +15
KBS LR LR
comp=Z,2μm,21.0s
PRU **Pruhonice** 61.41 314 *e*P P 10 07 46.2 +0.3
PRU *e*PP pP 10 07 53.4 +1.5
PRU MLR MLR
comp=Z,2μm,22.7s
PRU **Pruhonice** 61.41 314 *e*P P 10 07 46.2 +0.3
PRU *e*pP pP 10 07 53.4 +1.5
PRA **Prague** 61.46 314 P P 10 07 47.0 +0.7
RUE **Ruedersdorf** 61.49 317 *e*P P 10 07 47.3 +0.9
comp=Z,86nm,1.4s
RUE *e*pP pP 10 07 53.7 +1.3
RUE **Ruedersdorf** 61.49 317 *e*P P 10 07 46.6 +0.2
comp=Z,19nm,0.4s
PERS **Pernice** 61.61 310 *i* P P 10 07 47.8 +0.4
BRG **Berggiesshubel** 61.64 315 *i* P P 10 07 48.4 +0.9
comp=Z,41nm,1.3s
BRG *e* 10 07 54.7
comp=Z,29nm,1.1s
BRG *e* 10 07 59.9
comp=Z,28nm,1.1s
BRG
comp=Z,3μm,20.6s
BRG
comp=N,3μm,19.2s
BRG
comp=E,1μm,19.2s
BRG **Berggiesshubel** 61.64 315 *i* P P 10 07 48.4 +0.9
BRG *e* 10 07 54.7
BRG pmax pmax
comp=Z,41nm,1.3s
BRG MLR MLR
comp=Z,3μm,20.6s
BRG MLR MLR
comp=N,3μm,19.2s
BRG MLR MLR
comp=E,1μm,19.2s
BRG **Berggiesshubel** 61.64 315 *e*P P 10 07 48.5 +1.0
comp=Z,41nm,1.3s
BRG *e*pP pP 10 07 55.0 +1.5
SOKA **Soboth** 61.66 310⇓*i*P P 10 07 48.3 +0.5
comp=Z,18nm,0.7s,SNR=10
NC602 **NORSAR Array S** 61.70 327 *e*P P 10 07 47.6 -0.1
NB2 **NORSAR Subarra** 61.82 327 P P 10 07 47.9 -0.7
comp=Z,30nm,0.8s,baz=83,slow=6.5
NB2 **NORSAR Subarra** 61.82 327 P P 10 07 47.9 -0.7
baz=83,slow=6.5
NOA **NORSAR Array B** 61.82 327 P P 10 07 47.9 -0.7
NOA **NORSAR Array B** 61.82 327 P P 10 07 47.9 -0.7
comp=Z,27nm,0.8s,baz=85,slow=6.9,SNR=68
TIP **Timpagrande** 61.99 302 PFAKE 10 08 00.0 +10
TIP LR LR
comp=Z,496nm,22.0s
FBE **Freiberg** 62.00 315 *e*P P 10 07 51.2 +1.3
comp=Z,61nm,1.2s
FBE *e*pP pP 10 07 57.7 +1.8
NAO01 **NORSAR Array S** 62.00 327 *e*P P 10 07 48.8 -1.0
comp=Z,31nm,0.9s
LJU **Ljubljana** 62.12 310 *e*P P 10 07 51.3 +0.4
GEC2 **GERESS Array S** 62.14 313 *e*P P 10 07 52.2 +1.2
comp=Z,56nm,0.9s
GERES **GERESS Array B** 62.14 313 P P 10 07 51.2 +0.2
GERES **GERESS Array B** 62.14 313 P P 10 07 51.2 +0.2
comp=Z,28nm,0.7s,baz=80,slow=5.9,SNR=171
CLL **Collm** 62.16 316⇑*i*P P 10 07 50.6 -0.3
CLL *i* 10 07 57.2
CLL pmax pmax
comp=Z,22nm,1.2s
CLL **Collm** 62.16 316 *e*P P 10 07 51.4 +0.5
comp=Z,22nm,1.2s
CLL *e*pP pP 10 07 58.2 +1.3
CLL **Collm** 62.16 316⇑*i*P P 10 07 50.6 -0.3
comp=Z,22nm,1.2s
CLL *i* 10 07 57.2
CLL *i* 10 08 02.7
CLL *e*PP PP 10 10 10.0 +2.5
CLL LmV 10 37 00.0
comp=Z,700nm,19.3s
KHC **Kasperske Hory** 62.17 313 *e*P P 10 07 51.4 +0.2
KHC *e**PP pP 10 07 58.1 +1.0
KHC MLR MLR
comp=Z,4μm,21.1s
KHC **Kasperske Hory** 62.17 313 *e*P P 10 07 51.4 +0.2
KHC *e*pP pP 10 07 58.1 +1.0
KHC **Kasperske Hory** 62.17 313 *e*P P 10 07 51.2 +0.1
comp=Z,72nm,1.6s
OSL **Oslo** 62.19 326 *e*P P 10 07 51.8 +0.8
JAVS **Javornik** 62.47 310 *i* P P 10 07 52.9 -0.4
CUC **Castrocucco** 62.51 303 *e*P P 10 07 52.8 -0.8
comp=Z,30nm,1.0s
CUC LR LR
comp=Z,449nm,20.0s
VOY **Vojsko** 62.56 310 *e*P P 10 07 53.9 0.0
VOY *e* 10 08 00.3
MYKA **Terra Mystica** 62.61 311⇓*i*P P 10 07 54.2 0.0
comp=Z,11nm,0.8s
TANN **Tannenbergstha** 62.65 315 *e*P P 10 07 55.3 +0.9
comp=Z,22nm,0.9s
TANN *e*pP pP 10 08 02.0 +1.7
NKC **Novy Kostel** 62.69 315 *e*P P 10 07 55.5 +0.9
NKC *e**PP pP 10 08 01.8 +1.2
NKC **Novy Kostel** 62.69 315 *e*P P 10 07 55.5 +0.9
NKC *e*pP pP 10 08 01.8 +1.2
WRA **Warramunga Arr** 62.70 134 P P 10 07 54.5 -0.5
WRA ⇑*e* 10 37 05.7
WRA **Warramunga Arr** 62.70 134 P P 10 07 54.5 -0.5
comp=Z,11nm,0.6s,baz=323,slow=7.1,SNR=23
WRA PKP2bc 10 37 05.7
comp=Z,1.7nm,0.9s,baz=130,slow=2.5,SNR=4.9
WRAB **Tennant Creek** 62.70 134 P P 10 07 54.2 -0.8
comp=Z,192nm,0.6s,SNR=16
WRAB **Tennant Creek** 62.70 134⇓*i*P P 10 07 53.2 -1.8
WRAB pmax pmax
comp=Z,169nm,1.7s
WRAB **Tennant Creek** 62.70 134 *e*P P 10 07 54.5 -0.5
comp=Z,20nm,0.6s
WRAB LR LR
comp=Z,2μm,20.0s
KBA **Koelnbreinsper** 62.72 311⇓*i*P P 10 07 54.9 -0.1
comp=Z,12nm,0.7s,SNR=6.6
WERN **Wernitzgruen** 62.73 315 *e*P P 10 07 55.9 +1.1
comp=Z,32nm,1.2s
GUNZ **Gunzen** 62.74 315 *e*P P 10 07 55.9 +1.0
comp=Z,48nm,1.2s
GUNZ *e*pP pP 10 08 02.7 +1.8
WERD **Werda** 62.74 315 *e*P P 10 07 55.8 +0.9
comp=Z,41nm,1.4s
WERD *e*pP pP 10 08 02.5 +1.6
KONO **Kongsberg** 62.79 326 *e*P P 10 07 55.0 -0.1
KONO IAMS 10 54 40.6
comp=Z,3μm,22.3s
KONO **Kongsberg** 62.79 326 *e*P P 10 07 55.0 -0.1
KONO pmax pmax
comp=Z,39nm,1.2s
KONO MLR MLR
comp=Z,1μm,20.0s
KONO **Kongsberg** 62.79 326 *e*P P 10 07 55.0 -0.1
comp=Z,39nm,1.2s
KONO LR LR
comp=Z,1μm,20.0s
PLN **Plauen** 62.83 315 *e*pP pP 10 08 03.1 +1.7
CEL **Celeste** 62.87 301 *e*P P 10 07 55.4 -0.6
comp=Z,90nm,1.0s
CEL LR LR
comp=Z,586nm,19.0s
NEUB **Neuenburg** 62.93 316 *e*P P 10 07 57.1 +1.0
comp=Z,62nm,1.2s
NEUB *e*pP pP 10 08 03.7 +1.6
ROTZ **Rotzenmuhle** 62.93 314 *e*P P 10 07 57.8 +1.6
comp=Z,70nm,1.2s
ROTZ *e*pP pP 10 08 04.5 +2.3
ABPO **Ambohimpanom** 62.94 228 PFAKE 10 08 10.0 +13
ABPO LR LR
comp=Z,580nm,19.0s
RJOB **Jochberg** 62.95 312 *e*P P 10 07 57.1 +0.7
comp=Z,27nm,1.2s
MANZ **Manzenberg** 62.95 315 *e*P P 10 07 57.6 +1.2
comp=Z,70nm,1.5s
MANZ *e*pP pP 10 08 04.4 +2.1
BSEG **Bad Segeberg** 63.31 319 *e*P P 10 07 59.8 +1.2
comp=Z,85nm,1.5s
BSEG *e*pP pP 10 08 06.3 +1.8
MUD **Monsted U'grnd** 63.51 322 *e*P P 10 08 00.9 +1.0
MUD pmax pmax
comp=Z,13nm,0.9s
MUD **Monsted U'grnd** 63.51 322 *i* P P 10 08 00.9 +1.0
comp=Z,13nm,0.9s
HOMB **Homborsund** 63.56 324 *e*P P 10 08 00.4 +0.3
GRF **Grafenberg Arr** 63.57 314 *e*P P 10 08 01.8 +1.4
comp=Z,83nm,1.4s
GRF *e*L L 11 04 54.4
comp=Z,2μm,20.1s
CLZ **Clausthal** 63.67 317 *e*P P 10 08 02.2 +1.1
comp=Z,58nm,1.0s
CLZ *e*pP pP 10 08 08.8 +1.7
NRDL **Niedersach Rie** 63.70 318 *e*P P 10 08 02.5 +1.4
comp=Z,99nm,1.3s
NRDL *e*pP pP 10 08 09.5 +2.4
WTTA **Wattenberg** 63.82 312⇑*i*P P 10 08 02.1 -0.2
comp=Z,42nm,0.9s,SNR=10.0
WATA **Walderalm** 63.84 312⇓*i*P P 10 08 02.1 -0.3
comp=Z,22nm,0.8s,SNR=12
FUR **Furstenfeldbru** 63.86 313 *e*P P 10 08 03.5 +1.1
comp=Z,84nm,1.1s
FUR *e*pP pP 10 08 10.1 +1.8
UBBA **Unterbreizbach** 64.11 316 *e*P P 10 08 04.5 +0.7
comp=Z,49nm,1.6s
MOTA **Moosalm** 64.15 312⇓*i*P P 10 08 04.1 -0.4
comp=Z,30nm,0.7s,SNR=25
SNART **Snartemo** 64.22 324 *e*P P 10 08 05.3 +0.8
ODD1 **Odda** 64.23 326 *e*P P 10 08 05.0 +0.4
RETA **Reutte** 64.35 312⇑*i*P P 10 08 05.7 +0.1
comp=Z,34nm,0.8s,SNR=12
BLS5 **Blasjo** 64.41 326 *e*P P 10 08 06.0 +0.2
FETA **Feichten** 64.47 312⇓*i*P P 10 08 06.2 -0.5
comp=Z,32nm,1.0s,SNR=8.7
WDD **Wield Dalam** 64.56 299 PFAKE 10 08 20.0 +13
WDD LR LR
comp=Z,763nm,21.0s
NWAO **Narrogin (SRO)** 64.74 156 P P 10 08 07.0 -1.1
NWAO **Narrogin (SRO)** 64.74 156 P P 10 08 07.0 -1.1
comp=Z,26nm,0.8s,baz=313,slow=10,SNR=6.6
RUND **Rundemannen** 64.76 327 *e*P P 10 08 07.7 -0.3
DAVA **Damuels** 64.97 312 *i* P P 10 08 10.0 +0.1
comp=Z,50nm,0.8s,SNR=9.5
KMY **Karmoy** 65.06 326 *e*P P 10 08 10.7 +0.8
STU **Stuttgart** 65.07 314 *e*P P 10 08 10.8 +0.6
STU pmax pmax
comp=Z,47nm,0.9s
STU **Stuttgart** 65.07 314 *e*P P 10 08 11.1 +0.8
comp=Z,76nm,1.1s
STU **Stuttgart** 65.07 314 *e*P P 10 08 10.8 +0.6
comp=Z,47nm,0.9s
PMG **Port Moresby** 65.12 116 P P 10 08 10.0 -1.0
PMG LR LR
comp=Z,2μm,19.0s
PMG **Port Moresby** 65.12 116 P P 10 08 10.0 -1.0
comp=Z,12nm,0.9s,baz=292,slow=9.0,SNR=3.0
IBBN **Ibbenburen** 65.15 318 *e*P P 10 08 11.7 +1.0
comp=Z,57nm,1.4s
IBBN *e*pP pP 10 08 16.6 -0.1
AS31 **Alice Springs** 65.18 137 *e*P P 10 08 12.4 +1.1
ASAR **Alice Springs** 65.18 137 P P 10 08 10.4 -0.8
ASAR ⇑*e* 10 36 58.4
ASAR **Alice Springs** 65.18 137 P P 10 08 10.4 -0.8
comp=Z,6.1nm,0.5s,baz=316,slow=5.8,SNR=32
ASAR PKP2bc 10 36 58.4
comp=Z,1.3nm,1.0s,baz=150,slow=5.1,SNR=4.8
TNS **Taunus Mts** 65.21 315 *e*P P 10 08 12.1 +0.9
comp=Z,35nm,1.1s
VLC **Villacollemand** 65.41 309 PFAKE 10 08 20.0 +7.4
VLC LR LR
comp=Z,890nm,19.0s
TUE **Stuetta** 65.53 311 *e*P P 10 08 13.3 -0.2
comp=Z,22nm,0.8s
TUE LR LR
comp=Z,1μm,20.0s
BUG **Bochum--Univer** 65.65 317 *e*P P 10 08 14.8 +0.9
comp=Z,43nm,1.3s
BFO **Black Forest** 65.74 313 *e*P P 10 08 14.4 -0.2
BFO MLR MLR
comp=Z,1μm,19.0s
BFO **Black Forest** 65.74 313 *e*P P 10 08 14.4 -0.2
BFO LR LR
comp=Z,1μm,19.0s
LANF **Langenberg** 65.91 314⇑*e*P P 10 08 15.8 +0.1
FELD **Feldberg im Sc** 66.06 313 *e*P P 10 08 17.0 +0.1
CDF **Champ du Feu** 66.39 314 *e*P P 10 08 18.6 -0.3
comp=Z,48nm,0.9s
CDF **Champ du Feu** 66.39 314 *e*P P 10 08 18.6 -0.3
CDF pmax pmax
comp=Z,48nm,0.9s
CDF **Champ du Feu** 66.39 314 *e*P P 10 08 18.6 -0.3
comp=Z,48nm,0.9s
ECH **Echery** 66.52 313 *e*P P 10 08 19.0 -0.7
MEM **Membach** 66.62 316 P P 10 08 20.8 +0.6
MOF **Molkenrain** 66.63 313⇑*e*P P 10 08 20.1 -0.4
WLF **Walferdange** 66.78 315 P P 10 08 22.7 +1.4
comp=Z,54nm,1.7s
WLF **Walferdange** 66.78 315 *e*P P 10 08 22.2 +0.9
WLF pmax pmax
comp=Z,74nm,1.1s
WLF MLR MLR
comp=Z,1μm,22.0s
WLF **Walferdange** 66.78 315 *e*P P 10 08 22.7 +1.4
comp=Z,100nm,1.3s
WLF **Walferdange** 66.78 315 *e*P P 10 08 22.1 +0.9
comp=Z,74nm,1.1s
WLF LR LR
comp=Z,1μm,22.0s
PGF **Pioggiola** 66.81 307⇑*i*P P 10 08 21.2 -0.5
comp=Z,111nm,1.0s
PGF **Pioggiola** 66.81 307⇑*i*P P 10 08 21.2 -0.5
PGF pmax pmax
comp=Z,111nm,1.0s
PGF **Pioggiola** 66.81 307⇑*i*P P 10 08 21.2 -0.5
comp=Z,111nm,1.0s
HINF **Hinteralfeld** 66.83 313⇑*i*P P 10 08 21.4 -0.2
HINF **Hinteralfeld** 66.83 313⇑*i*P P 10 08 21.4 -0.2
HINF **Hinteralfeld** 66.83 313⇑*i*P P 10 08 21.4 -0.2
HAU **Haudompre** 67.10 313 *e*P P 10 08 23.1 -0.3
HAU **Haudompre** 67.10 313 *e*P P 10 08 23.1 -0.3
HAU **Haudompre** 67.10 313 *e*P P 10 08 23.1 -0.3
BCLA **Clavier** 67.11 316 P P 10 08 23.4 +0.1
comp=Z,35nm,2.6s
PAGF **Fort de Pagny** 67.35 314 *e*P P 10 08 25.0 +0.1
comp=Z,8.6nm,0.8s
PAGF **Fort de Pagny** 67.35 314 *e*P P 10 08 25.0 +0.1
comp=Z,8.6nm,0.8s
SAOF **Saorge** 67.42 309 *e*P P 10 08 25.2 -0.2
VSL **Villasalto** 67.42 304 PFAKE 10 08 40.0 +14
VSL LR LR
comp=Z,1μm,20.0s
GIVF **Givet** 67.49 316 *e*P P 10 08 25.7 0.0
GIVF **Givet** 67.49 316 *e*P P 10 08 25.7 0.0
GIVF **Givet** 67.49 316 *e*P P 10 08 25.7 0.0
AUTN **L'Aution** 67.50 309 *e*P P 10 08 27.5 +1.3
LPG **La Plagne** 67.53 311 *e*P P 10 08 26.5 0.0
comp=Z,51nm,0.7s
LPG **La Plagne** 67.53 311 *e*P P 10 08 26.5 0.0
LPG pmax pmax
comp=Z,51nm,0.7s
LPG **La Plagne** 67.53 311 *e*P P 10 08 26.5 0.0
comp=Z,51nm,0.7s
SBF **Sospel** 67.53 309 *e*P P 10 08 25.9 -0.3
comp=Z,106nm,1.0s
SBF **Sospel** 67.53 309 *e*P P 10 08 25.9 -0.3
SBF pmax pmax
comp=Z,106nm,1.0s
SBF **Sospel** 67.53 309 *e*P P 10 08 25.9 -0.3
comp=Z,106nm,1.0s
LPL **La Plagne** 67.54 311⇑*i*P P 10 08 26.5 +0.1
comp=Z,117nm,1.1s
LPL **La Plagne** 67.54 311⇑*i*P P 10 08 26.5 +0.1
LPL pmax pmax
comp=Z,117nm,1.1s
LPL **La Plagne** 67.54 311⇑*i*P P 10 08 26.5 +0.1
comp=Z,117nm,1.1s
REVF **Revere** 67.62 309 *e*P P 10 08 25.9 -0.8
TOUF **Mont Tournerai** 67.62 309 *e*P P 10 08 27.0 +0.1
CABF **La Chapelle** 67.66 312⇑*i*P P 10 08 26.8 -0.2
comp=Z,80nm,1.2s
CABF **La Chapelle** 67.66 312⇑*i*P P 10 08 26.8 -0.2
CABF pmax pmax
comp=Z,80nm,1.2s
CABF **La Chapelle** 67.66 312⇑*i*P P 10 08 26.8 -0.2
comp=Z,80nm,1.2s
BNI **Bardonecchia** 67.71 310 *e*P P 10 08 26.6 -0.8
BNI pmax pmax
comp=Z,15nm,0.8s
BNI MLR MLR
comp=Z,2μm,21.0s
BNI **Bardonecchia** 67.71 310 *e*P P 10 08 26.6 -0.8
comp=Z,15nm,0.8s
BNI LR LR
comp=Z,2μm,21.0s
SNF **Seneffe** 67.71 316 P P 10 08 27.6 +0.5
MBDF **Montbardon** 67.74 310 *e*P P 10 08 26.7 -0.9
comp=Z,47nm,1.0s
MBDF **Montbardon** 67.74 310 *e*P P 10 08 26.7 -0.9
MBDF pmax pmax
comp=Z,47nm,1.0s
MBDF **Montbardon** 67.74 310 *e*P P 10 08 26.7 -0.9
comp=Z,47nm,1.0s
MEZF **Maizieres J'vi** 67.80 314⇑*i*P P 10 08 27.7 0.0
comp=Z,43nm,0.7s
MEZF **Maizieres J'vi** 67.80 314⇑*i*P P 10 08 27.7 0.0
comp=Z,43nm,0.7s
BAIF **Baives** 67.88 316 *e*P P 10 08 28.2 0.0
comp=Z,13nm,0.8s
BAIF **Baives** 67.88 316 *e*P P 10 08 28.2 0.0
BAIF pmax pmax
comp=Z,13nm,0.8s
BAIF **Baives** 67.88 316 *e*P P 10 08 28.2 0.0
comp=Z,13nm,0.8s
SFTF **Sexfontaines** 67.89 314⇑*i*P P 10 08 28.0 -0.3
comp=Z,54nm,0.8s
SFTF **Sexfontaines** 67.89 314⇑*i*P P 10 08 28.0 -0.3
comp=Z,54nm,0.8s
CALN **Calern** 67.94 309 *e*P P 10 08 29.0 +0.1
ORIF **Oris-en-Rattie** 68.29 310 *e*P P 10 08 31.2 +0.2
comp=Z,27nm,0.8s
ORIF **Oris-en-Rattie** 68.29 310 *e*P P 10 08 31.2 +0.2
ORIF pmax pmax
comp=Z,27nm,0.8s
ORIF **Oris-en-Rattie** 68.29 310 *e*P P 10 08 31.2 +0.2
comp=Z,27nm,0.8s
LMR **La Mourre** 68.33 309 *e*P P 10 08 30.8 -0.4
comp=Z,126nm,1.3s
LMR **La Mourre** 68.33 309 *e*P P 10 08 30.8 -0.4
LMR pmax pmax
comp=Z,126nm,1.3s
LMR **La Mourre** 68.33 309 *e*P P 10 08 30.8 -0.4
comp=Z,126nm,1.3s
KEST **Kesra** 68.62 300 *e*P P 10 08 33.5 +0.3
KEST **Kesra** 68.62 300 P P 10 08 33.1 -0.1
comp=Z,18nm,1.0s,baz=326,slow=1.8,SNR=33
GAMB **Gambell** 68.76 28 *e*P P 10 08 33.7 +0.3
comp=Z,38nm,1.4s
SMRF **Simiane la Rot** 68.78 309 *e*P P 10 08 34.0 0.0
comp=Z,50nm,1.0s
SMRF **Simiane la Rot** 68.78 309 *e*P P 10 08 34.0 0.0
comp=Z,50nm,1.0s
LOR **Lormes** 68.93 313⇑*i*P P 10 08 34.1 -0.7
comp=Z,93nm,1.4s
LOR **Lormes** 68.93 313⇑*i*P P 10 08 34.1 -0.7
comp=Z,93nm,1.4s
SSB **Saint Sauveur** 69.08 311 *e*P P 10 08 35.7 -0.2
SSB pmax pmax
comp=Z,20nm,1.0s
SSB MLR MLR
comp=Z,2μm,19.0s
SSB **Saint Sauveur** 69.08 311 *e*P P 10 08 35.7 -0.2
comp=Z,20nm,1.0s
SSB LR LR
comp=Z,2μm,19.0s
SMF **Signal de Mont** 69.13 313⇑*i*P P 10 08 35.6 -0.5
comp=Z,38nm,0.6s
SMF **Signal de Mont** 69.13 313⇑*i*P P 10 08 35.6 -0.5
SMF pmax pmax
comp=Z,38nm,0.6s
SMF **Signal de Mont** 69.13 313⇑*i*P P 10 08 35.6 -0.5
comp=Z,38nm,0.6s
VIVF **Saint-Julien-I** 69.13 311 *e*P P 10 08 35.8 -0.3
comp=Z,57nm,1.1s
VIVF **Saint-Julien-I** 69.13 311 *e*P P 10 08 35.8 -0.3
VIVF pmax pmax
comp=Z,57nm,1.1s
VIVF **Saint-Julien-I** 69.13 311 *e*P P 10 08 35.8 -0.3
comp=Z,57nm,1.1s
SSF **Saint Saulge** 69.22 313⇑*i*P P 10 08 36.2 -0.4
comp=Z,50nm,0.7s
SSF **Saint Saulge** 69.22 313⇑*i*P P 10 08 36.2 -0.4
SSF pmax pmax
comp=Z,50nm,0.7s
SSF **Saint Saulge** 69.22 313⇑*i*P P 10 08 36.2 -0.4
comp=Z,50nm,0.7s
AVF **Avril sur Loir** 69.40 313⇑*i*P P 10 08 37.3 -0.4
comp=Z,57nm,0.9s
AVF **Avril sur Loir** 69.40 313⇑*i*P P 10 08 37.3 -0.4
AVF pmax pmax
comp=Z,57nm,0.9s
AVF **Avril sur Loir** 69.40 313⇑*i*P P 10 08 37.3 -0.4
comp=Z,57nm,0.9s
ALE **Alert** 69.64 356 P P 10 08 38.5 -0.2
comp=Z,203nm,0.6s,SNR=9.2
TNA **Tin City** 69.68 26 *e*P P 10 08 39.6 +0.6
comp=Z,27nm,1.2s
HYF **Humbligny** 69.72 313 *e*P P 10 08 39.9 +0.2
HYF **Humbligny** 69.72 313 *e*P P 10 08 39.9 +0.2
AGO **Saint Agoulin** 69.78 312 *e*P P 10 08 41.3 +1.2
MCD **Coleburn Disti** 69.80 325 *e*P P 10 08 40.4 +0.4
BGF **Bois d'Agland** 69.81 313 *e*P P 10 08 39.9 -0.4
comp=Z,16nm,0.5s
BGF **Bois d'Agland** 69.81 313 *e*P P 10 08 39.9 -0.4
BGF pmax pmax
comp=Z,16nm,0.5s
BGF **Bois d'Agland** 69.81 313 *e*P P 10 08 39.9 -0.4
comp=Z,16nm,0.5s
LASF **Ste Croix** 69.93 310⇑*i*P P 10 08 41.0 -0.1
comp=Z,95nm,1.1s
LASF **Ste Croix** 69.93 310⇑*i*P P 10 08 41.0 -0.1
comp=Z,95nm,1.1s
PYM **Petit Puy Mans** 69.96 312⇑*e*P P 10 08 42.0 +0.7
LBL **Lubilhac** 69.97 311 *e*P P 10 08 42.6 +1.2
ESY **Stoneypath** 70.02 323 *e*P P 10 08 41.8 +0.4
TCF **Toulx Ste Croi** 70.31 313⇑*i*P P 10 08 43.4 0.0
comp=Z,46nm,0.7s
TCF **Toulx Ste Croi** 70.31 313⇑*i*P P 10 08 43.4 0.0
TCF pmax pmax
comp=Z,46nm,0.7s
TCF **Toulx Ste Croi** 70.31 313⇑*i*P P 10 08 43.4 0.0
comp=Z,46nm,0.7s
ESK **Eskdalemuir** 70.54 323 *e*P P 10 08 44.3 -0.3
ESK AMB AMB 10 08 44.6
comp=Z,105nm,5.0s
ESK **Eskdalemuir** 70.54 323 PFAKE 10 09 00.0 +15
ESK LR LR
comp=Z,2μm,19.0s
EAB **Aberfoyle** 70.84 324 *e*P P 10 08 47.1 +0.7
CAF **Calviac** 70.86 311 *e*P P 10 08 46.9 +0.1
comp=Z,23nm,0.6s
CAF **Calviac** 70.86 311 *e*P P 10 08 46.9 +0.1
CAF pmax pmax
comp=Z,23nm,0.6s
CAF **Calviac** 70.86 311 *e*P P 10 08 46.9 +0.1
comp=Z,23nm,0.6s
CTA **Charters Tower** 70.95 126 P P 10 08 47.8 +0.2
CTA **Charters Tower** 70.95 126 P P 10 08 47.8 +0.2
comp=Z,18nm,1.0s,baz=305,slow=12,SNR=3.7
CTAO **Charters Tower** 70.95 126 *e*P P 10 08 49.5 +1.9
CTAO pmax pmax
comp=Z,13nm,0.8s
CTAO MLR MLR
comp=Z,1μm,19.0s

CTAO Charters Tower 70.95 126 *eP* P 10 08 49.5 +1.9
comp=Z,13nm,0.8s
CTAO LR LR
comp=Z,1μm,19.0s
LDF La Druitiere 71.03 315 *eP* P 10 08 47.2 -0.5
comp=Z,36nm,0.9s
LDF La Druitiere 71.03 315 *eP* P 10 08 47.2 -0.5
LDF pmax pmax
comp=Z,36nm,0.9s
LDF La Druitiere 71.03 315 *eP* P 10 08 47.2 -0.5
comp=Z,36nm,0.9s
RJF Les Rejaudoux 71.10 312⇑ *iP* P 10 08 48.5 +0.3
comp=Z,34nm,0.6s
RJF Les Rejaudoux 71.10 312⇑ *iP* P 10 08 48.5 +0.3
RJF pmax pmax
comp=Z,34nm,0.6s
RJF Les Rejaudoux 71.10 312⇑ *iP* P 10 08 48.5 +0.3
comp=Z,34nm,0.6s
FLN La Foliniere 71.20 316 *eP* P 10 08 48.0 -0.7
FLN La Foliniere 71.20 316 *eP* P 10 08 48.0 -0.7
FLN La Foliniere 71.20 316 *eP* P 10 08 48.0 -0.7
MTLF Montolieu 71.30 310 *eP* P 10 08 49.2 -0.2
comp=Z,73nm,1.2s
MTLF Montolieu 71.30 310 *eP* P 10 08 49.2 -0.2
MTLF pmax pmax
comp=Z,73nm,1.2s
MTLF Montolieu 71.30 310 *eP* P 10 08 49.2 -0.2
comp=Z,73nm,1.2s
FOEL Foel Wylfa 71.38 320 *eP* P 10 08 50.2 +0.5
FOEL AMB AMB 10 08 58.4
comp=Z,122nm,4.4s
GRR Gorron 71.56 315 *eP* P 10 08 50.4 -0.5
comp=Z,17nm,0.6s
GRR Gorron 71.56 315 *eP* P 10 08 50.4 -0.5
GRR pmax pmax
comp=Z,17nm,0.6s
GRR Gorron 71.56 315 *eP* P 10 08 50.4 -0.5
comp=Z,17nm,0.6s
MFF Saint Martin d 71.74 313 *eP* P 10 08 51.5 -0.5
MFF Saint Martin d 71.74 313 *eP* P 10 08 51.5 -0.5
MFF Saint Martin d 71.74 313 *eP* P 10 08 51.5 -0.5
LFF La Frestale 71.74 312 *eP* P 10 08 52.3 +0.3
LFF La Frestale 71.74 312 *eP* P 10 08 52.3 +0.3
LFF La Frestale 71.74 312 *eP* P 10 08 52.3 +0.3
SCO Scoresbysund 71.86 341 *iP* P 10 08 53.4 +1.1
SCO pmax pmax
comp=Z,10.0nm,1.0s
SCO MLR MLR
comp=Z,3μm,21.0s
SCO Scoresbysund 71.86 341 *iP* P 10 08 53.4 +1.1
comp=Z,10nm,1.0s
SCO
comp=Z,3μm,20.0s
YRC Rhoscolyn 72.02 321 *eP* P 10 08 54.0 +0.5
YRE Yr Eifl 72.04 321 *eP* P 10 08 53.9 +0.2
SGMF Saint Gilles 72.67 316 *eP* P 10 08 57.4 -0.1
SGMF Saint Gilles 72.67 316 *eP* P 10 08 57.4 -0.1
SGMF Saint Gilles 72.67 316 *eP* P 10 08 57.4 -0.1
ROSF Rostrenen 73.08 316 *eP* P 10 08 59.8 -0.2
comp=Z,73nm,0.8s
ROSF Rostrenen 73.08 316 *eP* P 10 08 59.8 -0.2
ROSF pmax pmax
comp=Z,73nm,0.8s
ROSF Rostrenen 73.08 316 *eP* P 10 08 59.8 -0.2
comp=Z,73nm,0.8s
QUIF Quistinic 73.17 316 *eP* P 10 09 00.0 -0.5
comp=Z,26nm,0.8s
QUIF Quistinic 73.17 316 *eP* P 10 09 00.0 -0.5
comp=Z,26nm,0.8s
ETSF Etsaut 73.35 310⇑ *iP* P 10 09 01.9 +0.1
comp=Z,35nm,0.7s
ETSF Etsaut 73.35 310⇑ *iP* P 10 09 01.9 +0.1
ETSF pmax pmax
comp=Z,35nm,0.7s
ETSF Etsaut 73.35 310⇑ *iP* P 10 09 01.9 +0.1
comp=Z,35nm,0.7s
SJPF Ste Jean 73.72 310⇑ *iP* P 10 09 04.2 +0.3
comp=Z,16nm,0.7s
SJPF Ste Jean 73.72 310⇑ *iP* P 10 09 04.2 +0.3
SJPF pmax pmax
comp=Z,16nm,0.7s
SJPF Ste Jean 73.72 310⇑ *iP* P 10 09 04.2 +0.3
comp=Z,16nm,0.7s
LSZ Lusaka 74.56 243 *eP* P 10 09 09.2 0.0
comp=Z,25nm,0.9s
LSZ LR LR
comp=Z,3μm,20.0s
BORG Borgarnes 74.65 336 PFAKE 10 09 20.0 +11
BORG LR LR
comp=Z,2μm,20.0s
IM04 Indian Mountai 74.68 23 *eP* P 10 09 09.4 +0.4
SUMG Summit 74.72 346 *eP* P 10 09 09.3 -0.4
SUMG pmax pmax
comp=Z,34nm,0.9s
SUMG Summit 74.72 346 *iP* P 10 09 09.7 0.0
comp=Z,31nm,0.9s
SUMG Summit 74.72 346 *eP* P 10 09 09.3 -0.4
comp=Z,34nm,0.9s
COLD Coldfoot 75.14 21 *eP* P 10 09 12.4 +0.7
comp=Z,56nm,1.2s
STKA Stephens Creek 75.80 138 P P 10 09 15.0 -0.9
STKA Stephens Creek 75.80 138 P P 10 09 15.0 -0.9
comp=Z,4.9nm,0.8s,baz=319,slow=5.6,SNR=6.1
KULLO Kullorsuaq 76.31 352 *iP* P 10 09 18.6 +0.4
KULLO pmax pmax
comp=Z,58nm,0.9s
KULLO MLR MLR
comp=Z,2μm,20.0s
KULLO Kullorsuaq 76.31 352 *iP* P 10 09 18.6 +0.4
comp=Z,58nm,0.8s
KULLO
comp=Z,2μm,20.0s
TAM Tamanrasset 76.48 289 *eP* P 10 09 20.0 -0.3
TAM MLR MLR
comp=Z,2μm,19.0s
TAM Tamanrasset 76.48 289 *eP* P 10 09 20.0 -0.3
comp=Z,2.6nm,0.5s
TAM LR LR
comp=Z,2μm,19.0s
ESDC Sonseca Array 76.98 308 P P 10 09 23.2 +0.5
ESDC Sonseca Array 76.98 308 P P 10 09 23.2 +0.5
comp=Z,9.1nm,0.9s,baz=55,slow=6.5,SNR=20
PPLA Purkeypile 76.98 25 *eP* P 10 09 23.2 +0.8
comp=Z,156nm,1.6s
KTH Kantishna Hill 77.06 24 *eP* P 10 09 23.3 +0.5
comp=Z,38nm,1.3s
PAB San Pablo 77.30 308 PFAKE 10 09 40.0 +15
PAB LR LR
comp=Z,2μm,20.0s
COLA College 77.33 22⇑ *iP* P 10 09 23.9 -0.2
COLA College 77.33 22 *eP* P 10 09 24.4 +0.3
comp=Z,67nm,1.0s
COLA LR LR
comp=Z,4μm,19.0s
TRF Thorofare Moun 77.36 24 *eP* P 10 09 24.8 +0.2
comp=Z,16nm,0.9s
MCK McKinley 77.67 23 *eP* P 10 09 26.5 +0.4
MCK pmax pmax
comp=Z,18nm,0.6s
MCK McKinley 77.67 23 *eP* P 10 09 26.5 +0.4
comp=Z,18nm,0.6s
ILAR Eielson Array 77.72 22 P P 10 09 26.2 -0.1
ILAR PP PP 10 12 21.4 +0.3
ILAR Eielson Array 77.72 22 P P 10 09 26.2 -0.1
comp=Z,18nm,0.9s,baz=299,slow=4.6,SNR=150
ILAR PP PP 10 12 21.4 +0.3
comp=Z,6.5nm,1.1s,baz=300,slow=7.0,SNR=5.8
EIDS Eidsvold 77.72 127 *eP* P 10 09 30.0 +3.1
comp=Z,20nm,1.1s
RES Resolute Bay 78.15 2 P P 10 09 29.1 +0.6
RES Resolute Bay 78.15 2 P P 10 09 29.1 +0.6
comp=Z,20nm,1.0s,baz=9.2,slow=7.9,SNR=27
RSO Redoubt South 78.17 27 *eP* P 10 09 29.3 +0.1
comp=Z,27nm,0.9s
MVO Moncorvo 78.46 310 *eP* P 10 09 32.0 +1.0
comp=Z,50nm,1.6s
PMR Palmer 78.91 25 *eP* P 10 09 32.9 0.0
PMR pmax pmax
comp=Z,24nm,1.0s
PMR Palmer 78.91 25 *eP* P 10 09 32.9 0.0
comp=Z,24nm,1.0s
RC01 Rabbit Creek A 78.99 26 *eP* P 10 09 33.6 +0.2
comp=Z,44nm,1.2s
INK Inuvik 79.04 16 *eP* P 10 09 33.7 +0.1
comp=Z,43nm,1.1s
MTE Manteigas 79.15 310 *eP* P 10 09 36.2 +1.4
comp=Z,47nm,1.6s
MTE Manteigas 79.15 310 PFAKE 10 09 50.0 +15
MTE LR LR
comp=Z,2μm,19.0s
PVIS Viseu 79.24 310 *eP* P 10 09 34.8 -0.5
comp=Z,75nm,2.0s
PCBR Castelo Branco 79.35 309 *eP* P 10 09 37.4 +1.6
comp=Z,49nm,2.0s
PAX Paxson 79.36 23 *eP* P 10 09 35.8 +0.3
PAX pmax pmax
comp=Z,36nm,1.3s
PAX Paxson 79.36 23 *eP* P 10 09 35.8 +0.3
comp=Z,36nm,1.3s
DOT Dot Lake 79.39 22 *eP* P 10 09 35.6 0.0
comp=Z,7.6nm,0.6s
EGAK Eagle 79.55 20 *eP* P 10 09 36.7 +0.3
comp=Z,23nm,1.0s
EGAK LR LR
comp=Z,2μm,19.0s
KDAK Kodiak Island 79.79 29 PFAKE 10 09 50.0 +12
KDAK LR LR
comp=Z,2μm,19.0s
MENT Mentasta 79.98 22 *eP* P 10 09 38.7 -0.1
MSKU Masuku 79.99 263 PFAKE 10 09 50.0 +10
MSKU LR LR
comp=Z,2.0nm,22.0s
PTOM Tomar 80.09 309 *eP* P 10 09 41.1 +1.3
EVO Evora 80.31 308 *eP* P 10 09 42.1 +1.0
comp=Z,62nm,1.4s
DIV Divide 80.46 24 *eP* P 10 09 42.6 +1.1
comp=Z,17nm,0.7s
DAWY Dawson 80.60 20 *eP* P 10 09 42.2 0.0
BMRM Bremner River 80.99 24 *eP* P 10 09 44.8 +0.5
comp=Z,86nm,1.0s
RTC Rabat Centre 81.55 304 PFAKE 10 10 00.0 +12
RTC LR LR
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 81.72 346 *iP* P 10 09 47.4 -0.5
comp=Z,99nm,0.8s
SFJD Kangerlussuaq 81.72 346 *eP* P 10 09 47.8 -0.2
comp=Z,321nm,1.9s
SFJD LR LR
comp=Z,4μm,20.0s
SFJD Kangerlussuaq 81.72 346 P P 10 09 47.5 -0.4
baz=49,slow=6.1
TARA Tarawa 81.78 93 PFAKE 10 10 00.0 +11
TARA LR LR
comp=Z,3μm,21.0s
LBTB Lobatse 82.08 237 *eP* P 10 09 50.4 -0.3
comp=Z,28nm,0.9s
CAN Canberra 82.66 136 PFAKE 10 10 00.0 +6.6
CAN LR LR
comp=Z,719nm,19.0s
HYT Haines Junctio 83.56 22 *eP* P 10 09 58.8 +0.9
TOA0 Torodi Ar. Sit 83.89 282 *eP* P 10 09 59.9 -0.3
TORD Torodi Ar. Bea 83.89 282 P P 10 10 00.2 0.0
TORD Torodi Ar. Bea 83.89 282 P P 10 10 00.2 0.0
comp=Z,3.7nm,0.8s,baz=72,slow=4.5,SNR=24
TSUM Tsumeb 85.19 246 PFAKE 10 10 20.0 +13
TSUM LR LR
comp=Z,1μm,20.0s
YKW3 Yellowknife Ar 88.01 12 *eP* P 10 10 18.8 -1.0
comp=Z,0.4nm,0.9s
YKA Yellowknife Ar 88.08 12 P P 10 10 19.5 -0.5
YKA PKKPbc PKKPbc 10 28 06.0 +0.1
YKA Yellowknife Ar 88.08 12 P P 10 10 19.5 -0.5
comp=Z,9.9nm,0.8s,baz=331,slow=4.7,SNR=110
YKA PKKPbc PKKPbc 10 28 06.0 +0.1
comp=Z,0.3nm,0.7s,baz=151,slow=2.6,SNR=5.2
WRAK Wrangell Islan 88.68 23 PFAKE 10 10 40.0 +17
WRAK LR LR
comp=Z,1μm,19.0s
SUR Sutherland 89.67 233 PFAKE 10 10 40.0 +12
SUR LR LR
comp=Z,2μm,20.0s
DBIC Dimbokro 92.57 279 P P 10 10 46.0 +4.1
DBIC Dimbokro 92.57 279 P P 10 10 46.0 +4.1
comp=Z,8.8nm,1.0s,baz=16,slow=5.3,SNR=8.1
KIC Kosan Boka 92.61 278 *eP* P 10 10 42.6 +0.5
comp=Z,23nm,0.9s
TIC Toumodi 92.72 279 *eP* P 10 10 47.0 +4.4
comp=Z,6.8nm,0.2s
LIC Lamto 92.93 278 *eP* P 10 10 41.5 -2.0
comp=Z,26nm,1.1s
LIC Lamto 92.93 278 *eP* P 10 10 41.6 -2.0
comp=Z,32nm,1.1s
LIC Lamto 92.93 278 *eP* P 10 10 41.5 -2.0
comp=Z,26nm,1.1s
SCHQ Schefferville 96.07 348 P P 10 10 57.1 -0.1
SCHQ Schefferville 96.07 348 P P 10 10 57.1 -0.1
comp=Z,11nm,1.0s,baz=61,slow=6.9,SNR=5.0
FFC Flin Flon 97.46 8 PFAKE 10 11 10.0 +6.4
FFC LR LR
comp=Z,1μm,19.0s
NLWA Neilton Lookou 99.08 23 PFAKE 10 11 20.0 +9.0
NLWA LR LR
comp=Z,1μm,22.0s
NEW Newport 100.49 19 PFAKE 10 11 30.0 +13
NEW LR LR
comp=Z,966nm,20.0s
AFI Afiamalu 102.15 99 PFAKE 10 11 40.0 +15
AFI LR LR
comp=Z,764nm,19.0s
EGMT Eagleton 102.60 14 PFAKE 10 11 40.0 +13
EGMT LR LR
comp=Z,779nm,19.0s
SNZO South Karori 102.78 130 PFAKE 10 11 40.0 +13
SNZO LR LR
comp=Z,542nm,20.0s
SHEL Horse Pasture 103.44 259 PFAKE 10 11 40.0 +9.1
SHEL LR LR
comp=Z,788nm,19.0s
SACV Santiago Islan 104.32 295 PFAKE 10 11 50.0 +15
SACV LR LR
comp=Z,939nm,20.0s
BOZ Bozeman (W) 104.39 17 PFAKE 10 11 50.0 +15
BOZ LR LR
comp=Z,1μm,19.0s
LAO LASA Array 104.60 12 PFAKE 10 11 50.0 +14
LAO LR LR
comp=Z,830nm,19.0s
EYMN Ely 105.02 2 PFAKE 10 16 00.0
EYMN LR LR
comp=Z,971nm,19.0s
WVOR Wild Horse Val 105.23 23 PFAKE 10 16 00.0
WVOR LR LR
comp=Z,1μm,19.0s
HLID Hailey 105.55 19 PFAKE 10 16 00.0
HLID LR LR
comp=Z,1μm,19.0s
AHID Auburn Hatcher 107.21 17 PFAKE 10 16 10.0
AHID LR LR
comp=Z,626nm,19.0s
ECSD EROS Data Cent 108.89 6 PFAKE 10 16 10.0
ECSD LR LR
comp=Z,1μm,19.0s
DUG Dugway 109.12 19 PFAKE 10 16 10.0
DUG LR LR
comp=Z,1μm,19.0s
AAM Ann Arbor 110.57 356 PFAKE 10 16 10.0
AAM LR LR
comp=Z,658nm,19.0s
ISCO Idaho Springs 111.34 14 PFAKE 10 16 20.0
ISCO LR LR
comp=Z,1μm,19.0s
ACSO Alum Creek Sta 112.58 355 PFAKE 10 16 20.0
ACSO LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 113.11 17 PFAKE 10 16 20.0
MVCO LR LR
comp=Z,668nm,22.0s
SBA Scott Base 113.48 167 PFAKE 10 16 20.0
SBA LR LR
comp=Z,372nm,19.0s
PFO Pinyon Flat Ob 113.85 25 PFAKE 10 16 20.0
PFO LR LR
comp=Z,854nm,20.0s
WUAZ Wupatki 113.87 20 PFAKE 10 16 20.0
WUAZ LR LR
comp=Z,990nm,19.0s
CBN Corbin 113.97 350 PFAKE 10 16 20.0
CBN LR LR
comp=Z,1μm,20.0s
V24A Rampart Ranch, 115.32 15 ⇑PKiKP **PKPdf** 10 16 12.6 +0.6
baz=115
113A Mohawk Valley, 115.59 23 ⇑PKiKP **PKPdf** 10 16 13.5 +1.2
baz=115
W27A Bowe Ranch, En 116.44 13 ⇓PKiKP **PKiKP** 10 16 14.4 +0.3
baz=116
BBSR BB Station 116.44 338 PFAKE 10 16 30.0 +16
BBSR LR LR
comp=Z,548nm,19.0s
V34A Guthrie 116.60 8 ⇓PKiKP **PKPdf** 10 16 14.3 0.0
baz=116
Y23A Lovelace Mesa, 116.84 16 ⇓PKiKP **PKPdf** 10 16 14.9 -0.1
baz=116
W31A Holland Ranch, 116.89 10 ⇓PKiKP **PKPdf** 10 16 14.6 -0.3
baz=117
Y24A Capitan 117.00 16 ⇑PKiKP **PKPdf** 10 16 15.2 -0.1
baz=117
QSPA South Pole Qui 117.13 180 PFAKE 10 16 30.0 +16
QSPA LR LR
comp=Z,711nm,20.0s
Y25A Mesa, Roswell 117.18 15 ⇑PKiKP **PKPdf** 10 16 15.0 -0.6
baz=117
Z22A Elephant Butte 117.25 17 ⇑PKiKP **PKPdf** 10 16 15.8 +0.1
baz=117
X31A McDonald Ranch 117.42 11 ⇑PKiKP **PKPdf** 10 16 15.6 -0.3
baz=117
WMOK Wichita Mounta 117.51 10 PFAKE 10 16 30.0 +14
WMOK LR LR
comp=Z,533nm,19.0s
MSTX Muleshoe 117.55 13 ⇑PKiKP **PKPdf** 10 16 16.4 +0.1
baz=117
Z24A Sheeppen Canyo 117.58 16 ⇓PKiKP **PKPdf** 10 16 16.7 +0.3
baz=117
Y28A McKinney Farm, 117.72 13 ⇑PKiKP **PKPdf** 10 16 16.6 0.0
baz=117
X32A Elmer 117.74 10 ⇑PKiKP **PKPdf** 10 16 16.5 0.0
baz=117
X34A Smith Ranch, M 117.78 9 ⇓PKiKP **PKPdf** 10 16 16.8 +0.3
baz=118
Z25A Roswell 117.79 15 ⇓PKiKP **PKPdf** 10 16 16.8 +0.1
baz=118
Z26A Caprock 117.97 15 ⇑PKiKP **PKPdf** 10 16 16.4 -0.7
baz=118
Z27A Tatum 118.09 14 ⇓PKiKP **PKPdf** 10 16 17.2 -0.2
baz=118
Y33A Hilltop Ranch, 118.25 10 ⇓PKiKP **PKPdf** 10 16 17.4 0.0
baz=118
Z28A Tucker Farm, M 118.29 13 ⇑PKiKP **PKPdf** 10 16 17.5 -0.1
baz=118
319A Douglas 118.35 20 ⇑PKiKP **PKPdf** 10 16 17.2 -0.7
baz=118
125A Gardner Draw, 118.40 15 ⇑PKiKP **PKPdf** 10 16 17.8 -0.2
baz=118
Z29A Hungry Hill Ra 118.45 13 ⇑PKiKP **PKPdf** 10 16 17.6 -0.4
baz=118
Z30A Sanderson Ranc 118.54 12 ⇑PKiKP **PKPdf** 10 16 18.1 0.0
baz=118
Z31A Sharp Cattle R 118.68 11 ⇑PKiKP **PKPdf** 10 16 18.0 -0.3
baz=118
Z32A Haskell 118.80 10 ⇓PKiKP **PKPdf** 10 16 18.5 0.0
baz=118
226B Tecolote Peak, 119.07 15 ⇓PKiKP **PKPdf** 10 16 19.0 -0.2
baz=119
131A Roby 119.27 11 ⇑PKiKP **PKPdf** 10 16 19.4 -0.1
baz=119
227A Bennet, Jal 119.33 14 ⇑PKiKP **PKPdf** 10 16 18.4 -1.3
baz=119
NHSC New Hope 119.37 352 PFAKE 10 16 30.0 +10
NHSC LR LR
comp=Z,867nm,20.0s
GOGA Godfrey 119.40 355 PFAKE 10 16 30.0 +10
GOGA LR LR
comp=Z,404nm,19.0s
ABTX Abilene, Hawle 119.44 11 ⇑PKiKP **PKPdf** 10 16 19.1 -0.7
baz=119
325A Bean Ranch, Si 119.55 16 ⇓PKiKP **PKPdf** 10 16 20.0 -0.3
baz=119
133A Hamilton Ranch 119.58 10 ⇓PKiKP **PKPdf** 10 16 19.7 -0.3
baz=119
229A Bryant Ranch, 119.69 13 ⇓PKiKP **PKPdf** 10 16 20.2 -0.1
baz=119
134A White-Moore Ra 119.73 9 ⇓PKiKP **PKPdf** 10 16 20.2 -0.2
baz=119
230A Sterling City 119.90 12 ⇓PKiKP **PKPdf** 10 16 20.2 -0.5
baz=120
231A Bronte 120.00 12 ⇓PKiKP **PKPdf** 10 16 20.4 -0.5
baz=120
328A Wristen Ranch, 120.04 14 ⇑PKiKP **PKPdf** 10 16 20.8 -0.3
baz=120
425A Indio Mountain 120.11 16 ⇑PKiKP **PKPdf** 10 16 20.8 -0.5
baz=120
233A Rising Star 120.16 10 ⇓PKiKP **PKPdf** 10 16 20.8 -0.4
baz=120
232A Coleman 120.16 11 ⇓PKiKP **PKPdf** 10 16 20.7 -0.5
baz=120
234A Clairette 120.29 9 ⇑PKiKP **PKPdf** 10 16 21.3 -0.1
baz=120
330A Mertzon 120.35 13 ⇓PKiKP **PKPdf** 10 16 21.4 -0.3
baz=120
427A Hayter Ranch, 120.42 15 ⇑PKiKP **PKPdf** 10 16 21.9 +0.1
baz=120
331A San Angelo 120.59 12 ⇓PKiKP **PKPdf** 10 16 21.8 -0.3
baz=120
332A Millersview 120.64 11 ⇑PKiKP **PKPdf** 10 16 22.0 -0.1
baz=120
428A Kincaid Ranch, 120.70 14 ⇓PKiKP **PKPdf** 10 16 22.4 +0.1
baz=120
333A Richland Sprin 120.82 10 ⇑PKiKP **PKPdf** 10 16 22.1 -0.4
baz=120
334A Lometa 120.93 10 ⇓PKiKP **PKPdf** 10 16 22.6 -0.1
baz=121
430A Baggett Ranch, 120.94 13 ⇑PKiKP **PKPdf** 10 16 22.2 -0.6
baz=121
NATX Nacogdoches 120.95 6 PFAKE 10 16 30.0 +7.3
NATX LR LR
comp=Z,1μm,20.0s
429A Davenport Ranc 120.97 13 ⇑PKiKP **PKPdf** 10 16 22.5 -0.3
baz=121
526A Mary Lane Ranc 121.02 16 ⇓PKiKP **PKPdf** 10 16 22.8 -0.3
baz=121
527A Woodward Ranch 121.05 15 ⇑PKiKP **PKPdf** 10 16 22.8 -0.3
baz=121
432A Menard 121.12 11 ⇓PKiKP **PKPdf** 10 16 22.6 -0.6
baz=121
431A Sonora 121.17 12 ⇑PKiKP **PKPdf** 10 16 22.9 -0.3
baz=121
529A Stev Forest Ra 121.38 14 ⇓PKiKP **PKPdf** 10 16 23.3 -0.3
baz=121
JCT Junction City 121.51 11 PFAKE 10 16 40.0 +16
JCT LR LR
comp=Z,511nm,20.0s
JCT Junction City 121.51 11 ⇑PKiKP **PKPdf** 10 16 23.7 -0.2
baz=121
530A J-C Ranch, Com 121.54 13 ⇓PKiKP **PKPdf** 10 16 23.8 -0.2
baz=121
531A Rocksprings 121.68 12 ⇑PKiKP **PKPdf** 10 16 23.8 -0.4
baz=121
627A Terlingua Ranc 121.77 15 ⇓PKiKP **PKPdf** 10 16 24.3 -0.1
baz=122
TXAR Lajitas Array 121.82 16 PKP **PKPdf** 10 16 24.7 +0.1
TXAR Lajitas Array 121.82 16 PKP **PKPdf** 10 16 24.7 +0.1
comp=Z,2.2nm,1.0s,baz=253,slow=1.3,SNR=16
628A Black Gap, Mar 121.85 15 ⇓PKiKP **PKPdf** 10 16 24.5 -0.1
baz=122
RCBR Riachuelo 125.69 283 PFAKE 10 16 40.0 +7.8
RCBR LR LR
comp=Z,580nm,19.0s
FDF Fort de France 130.46 324 PFAKE 10 16 50.0 +8.7
FDF LR LR
comp=Z,310nm,19.0s
SDDR Presa de Saban 131.02 338 PFAKE 10 16 50.0 +7.7
SDDR LR LR
comp=Z,733nm,21.0s
TEIG Tepich 132.72 360 PFAKE 10 17 00.0 +15
TEIG LR LR
comp=Z,596nm,19.0s
GRGR Grenville 132.90 323 PFAKE 10 17 00.0 +14
GRGR LR LR
comp=Z,669nm,20.0s
TGUH Tegucigalpa,Un 138.84 358 PFAKE 10 17 10.0 +13
TGUH LR LR
comp=Z,497nm,20.0s
PMSA Palmer Station 139.43 196 PFAKE 10 17 10.0 +14
PMSA LR LR
comp=Z,456nm,19.0s
SDV Santo Domingo 140.04 332 PFAKE 10 17 10.0 +11
SDV LR LR
comp=Z,295nm,21.0s
PTGA Pitinga 141.92 309 PFAKE 10 17 10.0 +7.5
PTGA LR LR
comp=Z,454nm,20.0s

JTS	**JuntasAbangare**	**142.44**	**354**	PFAKE		10 17 20.0	+17	
JTS				LR	LR			
	comp=Z,444nm,19.0s							
ROSC	**El Rosal**	**145.19**	**335**	*e*PKPbc	**PKPdf**	**10 17 09.2**	**+0.4**	
ROSC	**El Rosal**	**145.19**	**335**	PKPbc	**PKPdf**	**10 17 09.2**	**+0.4**	
	comp=Z,131nm,0.9s,baz=71,slow=2.1,SNR=34							
SAML	**Samuel**	**149.88**	**303**	*e*PKPdf	**PKPdf**	**10 17 16.6**	**+0.7**	
SAML				*e*PKPbc	**PKPbc**	**10 17 21.0**	**+0.2**	
SAML				*e*PKPab	**PKPab**	**10 17 25.7**	**-0.6**	
SAML				LR	LR			
	comp=Z,404nm,19.0s							
OTAV	**Otavalo**	**150.93**	**339**	*e*PKPbc	**PKPbc**	**10 17 23.9**	**0.0**	
OTAV				LR	LR			
	comp=Z,294nm,19.0s							
SIV	**San Ignacio**	**152.17**	**288**	PKP	**PKPdf**	**10 17 18.8**	**-0.7**	
SIV				PKPbc	**PKPbc**	**10 17 25.0**	**-1.2**	
SIV	**San Ignacio**	**152.17**	**288**	PKP	**PKPdf**	**10 17 18.8**	**-0.7**	
	comp=Z,4.0nm,1.0s,baz=73,slow=1.3,SNR=5.6							
SIV				PKPbc	**PKPbc**	**10 17 25.0**	**-1.2**	
	comp=Z,14nm,1.0s,baz=107,slow=3.1,SNR=20							
CPUP	**Villa Florida**	**152.18**	**265**	*e*PKPbc	**PKPbc**	**10 17 24.1**	**-1.7**	
CPUP	**Villa Florida**	**152.18**	**265**	PKPbc	**PKPbc**	**10 17 24.8**	**-1.0**	
	comp=Z,5.9nm,0.5s,baz=51,slow=3.4,SNR=13							
TRQA	**Tornquist**	**155.32**	**238**	PFAKE		10 17 30.0	+6.7	
TRQA				LR	LR			
	comp=Z,492nm,21.0s							
ATAH	**Atahualpa**	**157.73**	**333**	PKPab	**PKPab**	**10 18 01.5**	**+1.6**	
	comp=Z,12nm,0.9s,baz=334,slow=4.4,SNR=5.8							
LPAZ	**La Paz**	**158.15**	**296**	PKP	**PKPdf**	**10 17 28.1**	**-0.2**	
LPAZ				PKPab	**PKPab**	**10 18 00.8**	**-1.2**	
LPAZ	**La Paz**	**158.15**	**296**	PKP	**PKPdf**	**10 17 28.1**	**-0.2**	
	comp=Z,1.2nm,0.4s,baz=104,slow=4.2,SNR=5.6							
LPAZ				PKPab	**PKPab**	**10 18 00.8**	**-1.2**	
	comp=Z,4.2nm,0.9s,baz=101,slow=3.6,SNR=7.2							
NNA	**Nana**	**161.21**	**322**	PFAKE		10 17 40.0	+8.8	
NNA				LR	LR			
	comp=Z,340nm,20.0s							
LVC	**Limon Verde**	**161.62**	**280**	PFAKE		10 17 40.0	+8.3	
LVC				LR	LR			
	comp=Z,497nm,19.0s							
LCO	**Las Campanas**	**164.19**	**260**	PFAKE		10 17 40.0	+6.0	
LCO				LR	LR			
	comp=Z,462nm,20.0s							

IDC ***31*** *10:12:03.6±0.8, 15°.98N×87°.65W, h0km, mb4.0/12, mb1 4.2/17, mb1mx4.1/28, mbtmp4.0/17, ML4.0/4, Error ellipse: s-maj=23.9km s-min=14.7km az=73.0*

NEIC ***31*** *10:12:06.2±0.6, 16°.00N×87°.40W, h10km, mb4.8/25, MS4.5/18, Error ellipse: s-maj=15.4km s-min=8.5km az=74.0*

NEIC Felt [II] at San Pedro Sula. Also felt at Puerto Cortes, Tela and Utila. Felt [II] at Dangriga, Belize. Also felt at Belize City and San Ignacio.

CASC ***31*** *10:12:07.4±3.8, 16°.53N×87°.86W, h20km±999km, MD4.8, ML5.1, mb4.8(NEIC)*

BJI ***31*** *10:12:16.3, 16°.60N×87°.30W, h43km, mB5.5/2, Ms5.5/1, Ms7 5.1/1*

ISC 31 10:12:06.4±0.4, 16°.01N±0°.03×87°.53W±0°.06, h10km, n221, σ1°25/211, mb4.4/29, MS4.5/19, 12C-16D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TGUH	**Tegucigalpa,Un**	**1.95**	**173**	*i* P	**Pg**	**10 12 43.4**	**-0.5**
TGUH				*e*S	**Sg**	**10 13 11.7**	**+2.5**
TGUH	**Tegucigalpa,Un**	**1.95**	**173**	*e*Pn	**Pb**	**10 12 40.8**	**-1.3**
MRL	**Marmol**	**2.28**	**246**	*e*P	Pn	10 12 42.2	-2.1
MRL				*e*S	**Sn**	**10 13 11.6**	**-0.9**
CAHU	**Cacacuatique**	**2.32**	**197**	*i* P	**Pb**	**10 12 49.0**	**+0.6**
BLLM	**Bellamira**	**2.64**	**195**	*e*P	**Pb**	**10 12 54.8**	**+1.0**
VSM	**San Miguel**	**2.66**	**196**	*i* P	**Pb**	**10 12 54.6**	**+0.3**
LBRS	**Las Brisas**	**2.69**	**213**	*i* P	**Pb**	**10 12 54.6**	**0.0**
LFU	**La Fuente**	**2.72**	**215**	*e*P	**Pb**	**10 12 54.7**	**-0.4**
CNCH	**Conchagua**	**2.73**	**186**	↓*i*P	**Pb**	**10 12 55.9**	**+0.6**
LFRS	**El Faro**	**2.79**	**212**	↑*i*P	**Pb**	**10 12 56.4**	**0.0**
RBDL	**Robledal**	**2.81**	**228**	*e*P	**Pn**	**10 12 54.6**	**+3.1**
SNET	**Serv Nac Est T**	**2.83**	**216**	*i* P	**Pb**	**10 12 56.9**	**-0.2**
SNET				*e*S	**Sb**	**10 13 34.6**	**+2.7**
SNET				AML	AML	10 13 45.7	
	comp=Z,12μm,0.6s						
SNJE	**San Jose**	**2.92**	**224**	*i* P	**Pb**	**10 12 57.9**	**-0.8**
RTR	**El Retiro**	**2.93**	**225**	*e*P	**Pb**	**10 12 58.0**	**-0.8**
SBLS	**San Blas**	**2.95**	**223**	*e*P	**Pb**	**10 12 58.8**	**-0.5**
APG	**El Apazote**	**3.00**	**251**	Pn	Pn	10 12 49.3	-4.9
APG				Lg	Lg	10 13 38.2	
APG	**El Apazote**	**3.00**	**251**	Pn	Pn	10 12 49.3	-4.9
	comp=Z,21nm,0.3s,baz=78,slow=9.5,SNR=264						
APG				Pg	**Pb**	**10 12 59.3**	**-0.7**
	comp=Z,64nm,0.3s,baz=73,slow=15,SNR=34						
APG				Lg	Lg	10 13 38.2	
	comp=Z,200nm,0.3s,baz=102,slow=13,SNR=6.5						
NBG	**Las Nubes**	**3.06**	**243**	*e*P	**Pn**	**10 12 53.8**	**-1.3**
HUEN		**3.88**	**160**	*e*P	Pg	10 13 16.9	-3.8
COPN	**Copaltepe**	**3.91**	**166**	*i* P	**Pg**	**10 13 20.6**	**-0.8**
TEIG	**Tepich**	**4.26**	**351**	*e*Pn	Pn	10 13 07.7	-3.7
TEIG				Pg	**Pb**	**10 13 24.0**	**+2.6**
TEIG				Sn	Sn	10 13 53.7	-7.4
TEIG				Lg	Lg	10 14 17.7	
TEIG	**Tepich**	**4.26**	**351**	Pn	**Pn**	**10 13 08.3**	**-3.0**
	comp=Z,14nm,0.3s,baz=182,slow=3.9,SNR=32						
TEIG				Pg	**Pb**	**10 13 24.0**	**+2.6**
	comp=Z,61nm,0.3s,baz=170,slow=18,SNR=13						
TEIG				Sn	Sn	10 13 53.7	-7.4
	comp=Z,123nm,0.3s,baz=358,slow=22,SNR=13						
TEIG				Lg	Lg	10 14 17.7	
	comp=Z,108nm,0.3s,baz=65,slow=21,SNR=5.9						
JAT	**Jato**	**4.30**	**248**	*e*P	**Pn**	**10 13 12.2**	**+0.3**
JTS	**JuntasAbangare**	**6.21**	**156**	Pn	**Pn**	**10 13 36.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=317,slow=19,SNR=2.6						
JTS				Pg	**Pb**	**10 13 54.0**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=321,slow=20,SNR=6.1						
JTS				Lg	Lg	10 15 25.2	
	comp=Z,4.1nm,0.3s,baz=177,slow=21,SNR=6.4						
HKT	**Hockley**	**15.84**	**333**	*e*Pn	**Pn**	**10 15 50.8**	**+1.4**
	comp=Z,11nm,1.0s						
635A	**Leesville**	**16.32**	**326**	⇑P	**Pn**	**10 15 57.6**	**+1.9**
	baz=16						
734A	**JLa Parita Cre**	**16.33**	**323**	⇓P	**Pn**	**10 15 57.0**	**+1.1**
	baz=16						
LRAL	**Lakeview Retre**	**16.96**	**2**	*e*Pn	**Pn**	**10 16 03.4**	**-0.5**
	comp=Z,58nm,1.8s						
534A	**Blanco**	**17.20**	**326**	⇓P	**P**	**10 16 08.3**	**-0.1**
	baz=17						
632A	**Uvalde**	**17.54**	**322**	⇑P	**P**	**10 16 12.4**	**+0.2**
	baz=18						
335A	**Moody**	**17.69**	**331**	⇓P	**P**	**10 16 13.8**	**0.0**
	baz=18						
434A	**Burnet**	**17.71**	**328**	⇑P	**P**	**10 16 15.4**	**+1.3**
	baz=18						
SDV	**Santo Domingo**	**17.94**	**111**	*e*Pn	**P**	**10 16 20.0**	**+3.1**
	comp=Z,4.3nm,1.1s						
532A	**Rocksprings**	**18.07**	**323**	P	**P**	**10 16 18.6**	**+0.5**
	baz=18						
433A	**Art**	**18.09**	**326**	P	**Pn**	**10 16 18.5**	**+0.5**
	baz=18						
334A	**Lometa**	**18.12**	**329**	⇓P	**P**	**10 16 20.7**	**+2.1**
	baz=18						
JCT	**Junction City**	**18.27**	**324**	*e*P	**P**	**10 16 22.1**	**+1.8**
	comp=Z,18nm,0.8s						
WHTX	**Lake Whitney**	**18.30**	**332**	*e*Pn	**P**	**10 16 22.5**	**+1.9**
WHTX	**Lake Whitney**	**18.30**	**332**	⇑P	**P**	**10 16 22.2**	**+1.7**
	baz=18						
OXF	**Oxford**	**18.51**	**355**	*e*P	**P**	**10 16 22.3**	**-0.5**
	comp=Z,44nm,1.0s						
UALR	**University of**	**19.18**	**348**	*e*Pn	**Pn**	**10 16 32.2**	**+1.1**
	comp=Z,253nm,2.7s						
SWET	**Sewanee**	**19.19**	**4**	*e*Pn	**Pn**	**10 16 30.6**	**-0.7**
	comp=Z,126nm,2.1s						
MIAR	**Mount Ida**	**19.25**	**345**	*e*Pn	**Pn**	**10 16 33.7**	**+1.8**
	comp=Z,177nm,2.4s						
133A	**Hamilton Ranch**	**19.49**	**330**	P	**P**	**10 16 34.5**	**+0.9**
	baz=20						
CPCT	**Cooper Cave**	**19.55**	**7**	*e*P	**Pn**	**10 16 34.8**	**-0.7**
429A	**Davenport Ranc**	**19.61**	**320**	P	**P**	**10 16 35.9**	**+0.8**
	baz=20						
231A	**Bronte**	**19.67**	**326**	P	**P**	**10 16 36.8**	**+1.1**
	baz=20						
627A	**Terlingua Ranc**	**19.80**	**315**	P	**P**	**10 16 37.9**	**+0.8**
	baz=20						
TKL	**Tuckaleechee C**	**19.86**	**9**	*e*Pn	**Pn**	**10 16 40.9**	**+1.6**
TKL	**Tuckaleechee C**	**19.86**	**9**	P	**P**	**10 16 36.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=180,slow=11,SNR=2.3						
ABTX	**Abilene, Hawle**	**19.86**	**329**	*e*Pn	**Pn**	**10 16 40.8**	**+1.5**
ABTX	**Abilene, Hawle**	**19.86**	**329**	P	**P**	**10 16 38.6**	**+0.9**
	baz=20						
TXAR	**Lajitas Array**	**19.91**	**315**	P	**P**	**10 16 35.7**	**-2.7**
TXAR	**Lajitas Array**	**19.91**	**315**	P	**P**	**10 16 35.7**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=138,slow=9.6,SNR=12						
Z33A	**Whitaker Ranch**	**19.98**	**331**	P	**P**	**10 16 39.4**	**+0.3**
	baz=20						
WVT	**Waverly**	**20.05**	**359**	*e*P	**P**	**10 16 40.2**	**+0.5**
	comp=Z,17nm,1.0s						
Y34A	**Reagan Ranch,**	**20.11**	**335**	P	**P**	**10 16 41.3**	**+0.9**
	baz=20						
626A	**Big Bend Ranch**	**20.37**	**314**	P	**P**	**10 16 43.7**	**+0.4**
	baz=20						
527A	**Woodward Ranch**	**20.38**	**316**	P	**P**	**10 16 43.1**	**-0.4**
	baz=20						
Y33A	**Hilltop Ranch,**	**20.52**	**333**	P	**P**	**10 16 45.7**	**+0.8**
	baz=21						
526A	**Mary Lane Ranc**	**20.65**	**316**	P	**P**	**10 16 46.9**	**+0.4**
	baz=21						
Z31A	**Sharp Cattle R**	**20.67**	**329**	P	**P**	**10 16 47.0**	**+0.5**
	baz=21						
328A	**Wristen Ranch,**	**20.70**	**320**	P	**P**	**10 16 47.7**	**+0.8**
	baz=21						
X34A	**Smith Ranch, M**	**20.70**	**335**	P	**P**	**10 16 47.8**	**+0.9**
	baz=21						
TZTN	**Tazewell**	**20.76**	**9**	PFAKE		10 17 00.0	+10
TZTN				LR	LR		
	comp=Z,2μm,19.6s						
HUMP	**Col San Antoni**	**20.83**	**81**	PFAKE		10 17 00.0	+9.2
HUMP				LR	LR		
	comp=Z,2μm,20.1s						
PBMO	**Poplar Bluff**	**20.85**	**353**	*e*P	**P**	**10 16 49.0**	**+0.6**
	comp=Z,65nm,1.2s						
Y32A	**R-V Farms, Ver**	**20.89**	**331**	P	**P**	**10 16 49.2**	**+0.3**
	baz=21						
X33A	**Lawton**	**20.93**	**334**	P	Pn	10 16 51.3	-0.5
	baz=21						
TUL1	**Tulsa**	**21.15**	**341**	*e*P	**P**	**10 16 53.1**	**+1.5**
TUL1				LR	LR		
	comp=Z,2μm,20.6s						
TUL1	**Tulsa**	**21.15**	**341**	P	**P**	**10 16 52.4**	**+0.7**
	baz=21						
X32A	**Elmer**	**21.17**	**332**	P	**P**	**10 16 53.2**	**+1.3**
	baz=21						
WMOK	**Wichita Mounta**	**21.21**	**334**	PFAKE		10 17 10.0	+18
WMOK				LR	LR		
	comp=Z,1μm,18.0s						
Y31A	**Rekieta Farm,**	**21.24**	**330**	P	**P**	**10 16 53.3**	**+0.6**
	baz=21						
326A	**Caldwell Ranch**	**21.39**	**318**	P	**P**	**10 16 54.6**	**+0.2**
	baz=22						
W33A	**Caddo, Fort Co**	**21.44**	**335**	P	**P**	**10 16 56.0**	**+1.2**
	baz=22						
Y30A	**Stafford Cattl**	**21.49**	**328**	P	**P**	**10 16 55.5**	**+0.1**
	baz=22						
X31A	**Mcdonald Ranch**	**21.66**	**331**	P	**P**	**10 16 56.5**	**-0.6**
	baz=22						
V34A	**Guthrie**	**21.67**	**338**	P	**P**	**10 16 56.8**	**-0.4**
	baz=22						
SIUC	**Southern Illin**	**21.68**	**356**	*e*P	**P**	**10 16 57.2**	**0.0**
	comp=Z,317nm,2.5s						
SIUC				LR	LR		
	comp=Z,2μm,19.4s						
425A	**Indio Mountain**	**21.71**	**316**	P	**P**	**10 16 57.3**	**-0.6**
	baz=22						
Z28A	**Tucker Farm, M**	**21.83**	**325**	P	**P**	**10 16 57.6**	**-1.4**
	baz=22						
CDVI	**St. Croix**	**21.85**	**82**	PFAKE		10 17 10.0	+11
CDVI				LR	LR		
	comp=Z,2μm,20.9s						
USIN	**University of**	**21.88**	**360**	*e*P	**P**	**10 16 59.0**	**-0.4**
	comp=Z,71nm,0.9s						
USIN				LR	LR		
	comp=Z,1μm,19.5s						
Y29A	**Porterfield Fa**	**21.88**	**327**	P	**P**	**10 16 58.8**	**-0.8**
	baz=22						
X30A	**Coker Ranch, T**	**21.93**	**329**	P	**P**	**10 16 59.2**	**-0.9**
	baz=22						
127A	**Arkansas Junct**	**21.94**	**322**	P	**P**	**10 16 58.7**	**-1.6**
	baz=22						
BLA	**Blacksburg**	**22.04**	**15**	PFAKE		10 17 10.0	+8.7
BLA				LR	LR		
	comp=Z,2μm,20.0s						
325A	**Bean Ranch, Si**	**22.07**	**317**	P	**P**	**10 17 01.1**	**-0.7**
	baz=22						
WCI	**Wyandotte Cave**	**22.17**	**3**	*e*P	**P**	**10 17 01.7**	**-0.9**
	comp=Z,532nm,3.0s						
Y28A	**McKinney Farm,**	**22.22**	**326**	P	**P**	**10 17 01.6**	**-1.7**
	baz=22						
126A	**Clayton Basin,**	**22.32**	**321**	P	**P**	**10 17 03.5**	**-0.8**
	baz=22						
Z27A	**Tatum**	**22.32**	**323**	P	**P**	**10 17 02.6**	**-1.8**
	baz=22						
X29A	**Tulia**	**22.35**	**328**	P	**P**	**10 17 03.7**	**-1.0**
	baz=22						
324A	**Moseley Ranch,**	**22.45**	**316**	P	**P**	**10 17 04.5**	**-1.4**
	baz=23						
225A	**Deer Hill, Car**	**22.45**	**319**	P	**P**	**10 17 05.2**	**-0.7**
	baz=23						
MNTX	**Cornudas Mount**	**22.54**	**317**	PFAKE		10 17 20.0	+13
MNTX				LR	LR		
	comp=Z,2μm,18.5s						
V31A	**Spring Creek L**	**22.55**	**333**	P	**P**	**10 17 06.1**	**-0.6**
	baz=23						
MSTX	**Muleshoe**	**22.55**	**325**	*e*P	**P**	**10 17 06.7**	**-0.1**
	comp=Z,50nm,1.3s						
MSTX				LR	LR		
	comp=Z,600nm,20.3s						
MSTX	**Muleshoe**	**22.55**	**325**	P	**P**	**10 17 06.2**	**-0.7**
	baz=23						
X28A	**Dimmitt**	**22.66**	**327**	P	**P**	**10 17 07.1**	**-1.0**
	baz=23						
AMTX	**Amarillo**	**22.68**	**329**	PFAKE		10 17 20.0	+12
AMTX				LR	LR		
	comp=Z,600nm,18.0s						
125A	**Gardner Draw,**	**22.71**	**320**	P	**P**	**10 17 08.6**	**0.0**
	baz=23						
BLO	**Bloomington**	**23.10**	**2**	*e*P	**P**	**10 17 11.8**	**-0.6**
X27A	**F and S Farms,**	**23.24**	**326**	P	**P**	**10 17 13.6**	**-0.4**
	baz=23						
Z24A	**Sheeppen Canyo**	**23.61**	**320**	P	**P**	**10 17 18.3**	**+0.5**
	baz=24						
Y25A	**Mesa, Roswell**	**23.61**	**322**	P	**P**	**10 17 17.9**	**+0.1**
	baz=24						
CBN	**Corbin**	**23.86**	**20**	PFAKE		10 17 30.0	+10
CBN				LR	LR		
	comp=Z,4μm,20.1s						
W26A	**Owens Ranch, T**	**23.93**	**326**	P	**P**	**10 17 19.5**	**-1.3**
	baz=24						
222A	**Williams Famil**	**23.94**	**316**	P	**P**	**10 17 20.1**	**-0.8**
	baz=24						
S31A	**Mullinville**	**23.98**	**336**	P	**P**	**10 17 21.1**	**-0.1**
	baz=24						
X25A	**Clemmons Ranch**	**24.02**	**323**	P	**P**	**10 17 21.8**	**0.0**
	baz=24						
R33A	**Olander Ranch,**	**24.05**	**339**	P	**P**	**10 17 21.0**	**-0.8**
	baz=24						
Y24A	**Capitan**	**24.05**	**321**	P	**P**	**10 17 21.8**	**-0.3**
	baz=24						
Z23A	**Rita Site, Whi**	**24.10**	**319**	P	**P**	**10 17 22.6**	**+0.1**
	baz=24						
SFIN	**Scholer Farm**	**24.29**	**1**	PFAKE		10 17 30.0	+6.1
SFIN				LR	LR		
	comp=Z,2μm,19.6s						
T29A	**Hugoton**	**24.34**	**333**	P	**P**	**10 17 24.4**	**-0.2**
	baz=24						
KSU1	**Kansas State U**	**24.35**	**343**	*e*P	**P**	**10 17 26.6**	**+2.1**
	comp=Z,204nm,2.6s						
KSU1	**Kansas State U**	**24.35**	**343**	⇓P	**P**	**10 17 24.7**	**+0.2**
	baz=24						
S30A	**Montezuma**	**24.39**	**335**	P	**P**	**10 17 24.8**	**-0.2**
	baz=24						
W25A	**X Bar L Ranch,**	**24.41**	**325**	P	**P**	**10 17 24.7**	**-0.6**
	baz=24						
Y23A	**Lovelace Mesa,**	**24.43**	**320**	P	**P**	**10 17 25.8**	**+0.2**
	baz=25						
V26A	**Tequesquite Ra**	**24.47**	**327**	P	**P**	**10 17 25.8**	**0.0**
	baz=25						
320A	**Kipp Ranch, An**	**24.48**	**312**	P	**P**	**10 17 25.8**	**-0.2**
	baz=25						
Z22A	**Elephant Butte**	**24.57**	**318**	P	**P**	**10 17 26.7**	**0.0**
	baz=25						
R31A	**Burdett**	**24.58**	**337**	⇑P	**P**	**10 17 27.3**	**+0.6**
	baz=25						
Q33A	**Connelly Farm,**	**24.62**	**340**	⇓P	**P**	**10 17 28.0**	**+0.9**
	baz=25						
121A	**Cookes Peak, D**	**24.66**	**315**	P	**P**	**10 17 27.6**	**-0.1**
	baz=25						
ANWB	**Willy Bob**	**24.69**	**82**	PFAKE		10 17 40.0	+12
ANWB				LR	LR		
	comp=Z,2μm,19.9s						
ATAH	**Atahualpa**	**24.71**	**158**	P	**P**	**10 17 27.2**	**-1.1**
ATAH	**Atahualpa**	**24.71**	**158**	P	**P**	**10 17 27.2**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=297,slow=18,SNR=2.2						
R30A	**Dighton**	**24.87**	**336**	⇓P	**P**	**10 17 29.5**	**+0.2**
	baz=25						
U26A	**Atchley Ranch,**	**24.91**	**328**	P	**P**	**10 17 30.1**	**+0.3**
	baz=25						
BNM	**Barren Site**	**24.93**	**320**	*e*P	**P**	**10 17 29.7**	**-0.4**
	comp=Z,8.6nm,1.1s						
W24A	**Lazy 6 Ranch,**	**24.94**	**323**	P	**P**	**10 17 30.4**	**+0.3**
	baz=25						
V25A	**Rancho No Teng**	**24.95**	**326**	P	**P**	**10 17 31.2**	**+1.0**
	baz=25						
319A	**Douglas**	**25.04**	**312**	P	**P**	**10 17 30.6**	**-0.5**
	baz=25						
Y22D	**IRIS PASSCAL I**	**25.07**	**319**	P	**P**	**10 17 32.4**	**+1.2**
	baz=25						
SDMD	**Soldier's Deli**	**25.12**	**20**	PFAKE		10 17 40.0	+8.5
SDMD				LR	LR		
	comp=Z,4μm,19.8s						
LENM	**Lemitar**	**25.16**	**320**	*e*P	**P**	**10 17 33.2**	**+1.1**
Q31A	**Ellis**	**25.16**	**338**	P	**P**	**10 17 32.4**	**+0.4**
	baz=25						
V24A	**Rampart Ranch,**	**25.23**	**324**	P	**P**	**10 17 33.0**	**+0.2**
	baz=25						
U25A	**Circle Dot Ran**	**25.26**	**327**	P	**P**	**10 17 33.3**	**+0.3**
	baz=25						
W23A	**Werner Place,**	**25.33**	**322**	P	**P**	**10 17 34.0**	**+0.3**
	baz=26						
R29A	**Marienthal**	**25.34**	**334**	P	**P**	**10 17 34.2**	**+0.6**
	baz=26						
ANMO	**Albuquerque**	**25.37**	**322**	P	**P**	**10 17 32.8**	**-1.2**
ANMO	**Albuquerque**	**25.37**	**322**	P	**P**	**10 17 32.8**	**-1.2**
	comp=Z,2.5nm,1.0s,baz=149,slow=12,SNR=3.7						
GRGR	**Grenville**	**25.39**	**95**	PFAKE		10 17 40.0	+5.9
GRGR				LR	LR		
	comp=Z,2μm,19.4s						
LAZ	**Ladron**	**25.42**	**320**	*e*P	**P**	**10 17 34.7**	**+0.2**
	comp=Z,12nm,1.4s						
P32A	**Huiting Farm,**	**25.44**	**340**	⇑P	**P**	**10 17 35.0**	**+0.6**
	baz=26						
Q30A	**Quinter**	**25.45**	**337**	⇑P	**P**	**10 17 34.8**	**+0.3**
	baz=26						
R28A	**Tribune**	**25.56**	**333**	⇓P	**P**	**10 17 36.5**	**+0.9**
	baz=26						
S26A	**Kim**	**25.73**	**330**	⇓P	**P**	**10 17 37.7**	**+0.5**
	baz=26						
U24A	**Moreno Valley**	**25.73**	**326**	P	**P**	**10 17 37.9**	**+0.4**
	baz=26						
V23A	**Ortiz Mt. (NFS**	**25.76**	**323**	P	**P**	**10 17 37.9**	**+0.2**
	baz=26						
R27A	**Eads**	**25.95**	**332**	P	**P**	**10 17 39.8**	**+0.6**
	baz=26						
Q28A	**Sharon Springs**	**26.17**	**334**	P	**P**	**10 17 42.0**	**+0.9**
	baz=26						
U23A	**El Rito**	**26.18**	**324**	P	**P**	**10 17 42.1**	**+0.7**
	baz=26						
S25A	**Robets Cordova**	**26.24**	**329**	P	**P**	**10 17 42.6**	**+0.8**
	baz=26						
R26A	**Arlington**	**26.26**	**331**	P	**P**	**10 17 43.0**	**+1.0**
	baz=26						
T24B	**San Luis**	**26.27**	**326**	P	**P**	**10 17 42.8**	**+0.4**
	baz=26						
SCIA	**State Center**	**26.27**	**350**	PFAKE		10 17 50.0	+8.1
SCIA				LR	LR		
	comp=Z,2μm,19.8s						
V22A	**San Miguel Ran**	**26.30**	**323**	P	**P**	**10 17 43.1**	**+0.5**
	baz=26						
AAM	**Ann Arbor**	**26.42**	**6**	PFAKE		10 17 50.0	+6.8
AAM				LR	LR		
	comp=Z,2μm,20.6s						
KSCO	**Kaye Shedlock'**	**26.47**	**333**	*e*P	**P**	**10 17 44.4**	**+0.5**
	comp=Z,47nm,1.5s						
KSCO	**Kaye Shedlock'**	**26.47**	**333**	P	**P**	**10 17 44.3**	**+0.5**
	baz=27						
U22A	**Llaves**	**26.59**	**323**	P	**P**	**10 17 45.3**	**+0.1**
	baz=27						
SDCO	**Great Sand Dun**	**26.85**	**327**	*e*P	**P**	**10 17 50.0**	**+2.5**
	comp=Z,12nm,1.3s						
SDCO				*e*pP	pP	10 17 59.5	+8.9
M31A	**Lambtecht Ranc**	**27.12**	**341**	P	**P**	**10 17 49.4**	**-0.3**
	baz=27						
X18A	**Snowflake**	**27.30**	**317**	P	**P**	**10 17 51.8**	**+0.3**
	baz=27						
S22A	**4UR Ranch, Cre**	**27.55**	**326**	P	**P**	**10 17 53.9**	**+0.1**
	baz=28						
SMCO	**Snowmass**	**28.68**	**327**	*e*P	P	10 18 07.8	+3.8
	comp=Z,21nm,1.6s						
FRNY	**Flat Rock**	**31.06**	**19**	*e*P	**P**	**10 18 25.5**	**+1.0**
	comp=Z,337nm,3.0s						
ARUT	**Antelope Range**	**31.51**	**319**	*e*P	**P**	**10 18 29.3**	**+0.5**
	comp=Z,65nm,0.8s						
BGU	**Big Grassy Mou**	**33.22**	**323**	*e*P	**P**	**10 18 45.6**	**+1.8**
	comp=Z,7.2nm,1.6s						
REDW	**Red Top Meadow**	**33.74**	**329**	*e*P	P	10 18 53.4	+5.1
	comp=Z,26nm,1.4s						
ULM	**Lac du Bonnet**	**34.82**	**351**	P	**P**	**10 18 55.0**	**-2.3**
ULM	**Lac du Bonnet**	**34.82**	**351**	P	**P**	**10 18 55.0**	**-2.3**
	comp=Z,1.5nm,0.5s,baz=151,slow=8.8,SNR=2.6						
E20A	**Meyer Farm, Mu**	**34.92**	**335**	P	**P**	**10 18 58.1**	**-0.3**
	baz=35						
NVAR	**Mina Array Bea**	**35.05**	**316**	P	**P**	**10 18 59.7**	**-0.1**
NVAR	**Mina Array Bea**	**35.05**	**316**	P	**P**	**10 18 59.7**	**-0.1**
	com

HHC				AMB	AMB			
	comp=Z,640nm,9.2s							
HHC				LR	LR			
	comp=Z,350nm,20.5s							
HHC				LR	LR			
	comp=Z,560nm,20.5s							
HHC				LR	LR			
	comp=Z,490nm,20.9s							
CD2	**Chengdu**	**132.11**	**347**	*e*PKP	**PKPdf**	**10 31 23.8**	**+2.7**	
GYA	**Guiyang**	**135.59**	**342**	*e*Pdif	**Pdif**	**10 28 31.3**	**+0.4**	
GYA				PKP	**PKiKP**	**10 31 31.0**	**+1.5**	
GYA				sPKP		10 31 49.0		
GYA				PP	**PP**	**10 34 08.5**	**+4.9**	
GYA				AMB	AMB			
	comp=Z,90nm,7.8s							
WRA	**Warramunga Arr**	**140.05**	**258**	PKPpre	PKPpre	10 31 27.9		
WRA				PKP	**PKPdf**	**10 31 34.9**	**-1.1**	
WRA	**Warramunga Arr**	**140.05**	**258**	PKhKP	PKPpre	10 31 27.9		
	comp=Z,0.7nm,1.1s,baz=84,slow=1.2,SNR=3.2							
WRA				PKP	**PKPdf**	**10 31 34.9**	**-1.1**	
	comp=Z,1.0nm,1.1s,baz=84,slow=3.7,SNR=3.6							
ASAR	**Alice Springs**	**140.40**	**252**	PKPpre	PKPpre	10 31 29.2		
ASAR				PKP	**PKPdf**	**10 31 35.4**	**-1.3**	
ASAR	**Alice Springs**	**140.40**	**252**	PKhKP	PKPpre	10 31 29.2		
	comp=Z,0.5nm,1.1s,baz=100,slow=2.8,SNR=2.3							
ASAR				PKP	**PKPdf**	**10 31 35.4**	**-1.3**	
	comp=Z,0.8nm,0.9s,baz=98,slow=2.8,SNR=5.5							
CMAR	**Chiang Mai Arr**	**145.17**	**349**	PKPbc	**PKPbc**	**10 31 44.4**	**-0.3**	
CMAR	**Chiang Mai Arr**	**145.17**	**349**	PKPbc	**PKPbc**	**10 31 44.4**	**-0.3**	
	comp=Z,0.9nm,0.9s,baz=348,slow=3.8,SNR=2.9							

*IDC **31** 10:20:29.8±0.8,39°.34N×73°.94E,h0km,mb3.7/13, mb1 3.9/17,mb1mx3.8/30,mbtmp3.7/17,ML3.5/5,Error ellipse: s-maj=16.8km s-min=14.0km az=96.0*
*NNC **31** 10:20:31.0±1.9,39°.66N×74°.30E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=14.5km s-min=9.2km az=170.0*
*ISCJB **31** 10:20:33.2±0.4,39°.69N±0°.04×74°.27E±0°.06,h28km, mb3.6/13,Error ellipse: s-maj=6.6km s-min=4.9km az=156.8*

ISC 31 10:20:35.4±0.6,39°.69N±0°.05×74°.26E±0°.06,h28km,n35, σ1§62/37,mb3.7/13,8C-10D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KSH	**Kashi**	**1.34**	**97**	Pg	Pn	10 20 55.3		-3.0
KSH				Sg	**Sn**	**10 21 12.3**		**-2.9**
KSH				smax	smax			
	comp=N,480nm,1.0s							
KSH				smax	smax			
	comp=E,630nm,0.8s							
AAK	**Ala-Archa**	**2.95**	**3**	Pn	**Pb**	**10 21 25.6**		**-1.7**
	comp=E,6.0nm,0.3s,baz=175,slow=6.7,SNR=11							
AAK				Sn	Sb	10 22 09.8		+6.8
	comp=E,10nm,0.3s,baz=330,slow=17,SNR=11							
AAK	**Ala-Archa**	**2.95**	**3**	⇓Pg	**Pb**	**10 21 25.6**		**-1.7**
	comp=E,60nm,0.6s							
AAK				⇑Lg	Lg	10 22 05.3		
	comp=E,185nm,0.9s							
TKM2	**Tokmak 2**	**3.38**	**17**	⇓Pg	Pb	10 21 32.0		-2.7
	comp=E,36nm,0.7s							
TKM2				⇓Lg	Lg	10 22 19.1		
	comp=E,138nm,1.1s							
KK31	**Karatay Array**	**4.42**	**322**	⇓Pn	**Pn**	**10 21 40.5**		**-0.1**
	comp=E,2.3nm,0.3s,baz=133,slow=14,SNR=7.2							
KK31				⇑Pg	**Pb**	**10 21 52.0**		**-0.4**
	comp=E,14nm,0.4s,baz=132,slow=14,SNR=4.2							
KK31				⇑Sn	**Sn**	**10 22 34.5**		**+3.3**
	comp=E,29nm,0.5s							
KK31				⇑Lg	Lg	10 22 52.9		
	comp=E,80nm,0.8s,baz=153,slow=27,SNR=3.5							
CHCP	**Chirah Chowk**	**6.07**	**188**	P	**Pn**	**10 22 04.2**		**+0.9**
CEP	**Cherat**	**6.15**	**199**	P	**Pn**	**10 22 05.8**		**+1.3**
CEP				S	**Sn**	**10 23 15.0**		**+1.1**
THW	**Thamme Wali**	**7.17**	**197**	P	**Pn**	**10 22 19.0**		**+0.6**
SARP	**Sargodha**	**7.86**	**190**	P	**Pn**	**10 22 25.7**		**-2.1**
MK31	**Makanchi Array**	**9.20**	**37**	⇓Pn	**Pn**	**10 22 46.6**		**+0.4**
	comp=E,1.6nm,0.6s,baz=203,slow=11,SNR=3.8							
MK31				⇑Lg	Lg	10 25 23.8		
	comp=E,10nm,1.2s,baz=222,slow=26,SNR=4.4							
KURBB	**Kurchatov Arra**	**11.34**	**14**	Pn	**Pn**	**10 23 17.9**		**+2.5**
	comp=E,0.1nm,0.3s,baz=205,slow=12,SNR=3.8							
KURBB				Lg	Lg	10 26 37.3		
	comp=E,0.1nm,0.3s,baz=202,slow=30,SNR=9.7							
KURBB	**Kurchatov Arra**	**11.34**	**14**	⇓Lg	Lg	10 26 32.3		
	comp=E,25nm,1.1s							
KURK	**Kurchatov**	**11.45**	**14**	⇓Lg	Lg	10 26 37.2		
	comp=E,13nm,1.4s							
BVA0	**Borovoye Array**	**13.60**	**350**	⇓Pn	**Pn**	**10 23 43.6**		**-2.7**
	comp=E,3.3nm,0.7s							
BVAR	**Borovoye Array**	**13.60**	**350**	Pn	**Pn**	**10 23 46.0**		**-0.3**
	comp=E,0.2nm,0.3s,baz=162,slow=14,SNR=7.5							
BRVK	**Borovoye**	**13.65**	**350**	⇑Pn	**Pn**	**10 23 46.0**		**-0.9**
	comp=E,8.1nm,0.8s							
AB31	**Akbulak array**	**13.97**	**318**	⇑Pn	**Pn**	**10 23 48.7**		**-2.7**
	comp=E,1.9nm,0.6s							
AB31				⇓Sn	**Sn**	**10 26 23.9**		**-1.5**
	comp=E,2.0nm,0.7s,baz=124,slow=26,SNR=3.7							
AKTO	**Aktyubinsk**	**15.68**	**319**	Pn	**Pn**	**10 24 12.1**		**-2.2**
	comp=E,0.3nm,0.3s,baz=122,slow=17,SNR=7.5							
AKTO	**Aktyubinsk**	**15.68**	**319**	⇑Pn	**Pn**	**10 24 13.2**		**-1.0**
	comp=E,4.0nm,0.8s							
AKTO				⇓Sn	**Sn**	**10 27 08.3**		**+1.3**
	comp=E,3.6nm,1.0s							
ZALV	**Zalesovo Beam**	**15.96**	**23**	Pn	**P**	**10 24 22.2**		**+1.1**
	comp=E,0.2nm,0.3s,baz=213,slow=11,SNR=5.9							
GTA	**Gaotai**	**19.70**	**83**	*e*P	**Pn**	**10 25 06.5**		**+2.4**
GTA				pP	**pP**	**10 25 11.0**		**+0.9**
GTA				sP	**sP**	**10 25 14.5**		**+0.9**
GTA				pmax	pmax			
	comp=Z,4.0nm,1.2s							
KBZ	**Khabaz**	**23.68**	**290**	P	**P**	**10 25 42.1**		**-2.4**
	comp=Z,0.5nm,0.5s,baz=78,slow=14,SNR=2.5							
SONM	**Songino Array**	**24.46**	**60**	P	**P**	**10 25 54.5**		**+2.6**
	comp=Z,0.6nm,0.7s,baz=269,slow=10,SNR=6.0							
BRTR	**Keskin Array B**	**31.06**	**283**	P	P	10 26 47.0		-4.0
	comp=Z,0.7nm,0.9s,baz=78,slow=9.1,SNR=2.9							
AKASG	**Malin Array Be**	**33.10**	**305**	P	**P**	**10 27 07.7**		**-0.9**
	comp=Z,0.1nm,0.3s,baz=79,slow=6.7,SNR=3.3							
FINES	**FINESS Array B**	**36.38**	**323**	P	**P**	**10 27 37.0**		**+0.1**
	comp=Z,0.9nm,0.5s,baz=116,slow=9.8,SNR=7.1							
ARCES	**ARCESS Array B**	**39.25**	**335**	P	**P**	**10 28 01.6**		**+0.6**
	comp=Z,1.6nm,0.7s,baz=106,slow=9.5,SNR=4.6							
GERES	**GERESS Array B**	**43.27**	**303**	P	**P**	**10 28 34.4**		**0.0**
	comp=Z,0.6nm,0.7s,baz=57,slow=6.1,SNR=3.4							
NB2	**NORSAR Subarra**	**43.45**	**321**	P	**P**	**10 28 35.0**		**-0.6**
	comp=Z,0.6nm,0.6s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**43.45**	**321**	P	**P**	**10 28 35.2**		**-0.4**
	comp=Z,1.1nm,0.7s,baz=91,slow=8.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**68.34**	**269**	P	P	10 31 31.0		-3.4
	comp=Z,0.9nm,0.6s,baz=53,slow=5.5,SNR=7.9							
ILAR	**Eielson Array**	**71.00**	**17**	P	**P**	**10 31 49.6**		**-0.4**
	comp=Z,0.6nm,0.7s,baz=313,slow=4.7,SNR=8.3							
YKA	**Yellowknife Ar**	**77.91**	**4**	P	**P**	**10 32 31.0**		**+0.8**
	comp=Z,0.5nm,0.7s,baz=348,slow=5.6,SNR=6.3							
WRA	**Warramunga Arr**	**81.58**	**124**	P	**P**	**10 32 50.3**		**-0.4**
	comp=Z,1.5nm,0.9s,baz=325,slow=5.0,SNR=8.3							
ASAR	**Alice Springs**	**84.05**	**127**	P	**P**	**10 33 03.1**		**-0.4**
	comp=Z,0.7nm,0.7s,baz=318,slow=4.8,SNR=7.9							

*IDC **31** 10:44:51.7±1.9,22°.85S×175°.02W,h0km,mb4.0/7, mb1 4.2/7,mb1mx4.0/19,mbtmp4.0/7,Error ellipse: s-maj=85.3km s-min=26.0km az=156.0*
*ISCJB **31** 10:44:54.9±1.6,22°.9S±0°.4×175°.1W±0°.3,h30km,mb3.9/7, Error ellipse: s-maj=69.5km s-min=22.7km az=156.4*

ISC 31 10:44:56.4±1.8,22°.9S±0°.5×175°.0W±0°.3,h30km,n11, σ0§95/8,mb3.9/7,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ASAR	**Alice Springs**	**46.72**	**258**	P	**P**	**10 53 22.6**		**-0.3**
	0.6nm,0.6s,baz=90,slow=7.1,SNR=8.2							
WRA	**Warramunga Arr**	**47.05**	**264**	P	**P**	**10 53 24.7**		**-0.9**
	0.4nm,0.5s,baz=102,slow=8.6,SNR=8.9							
PETK	**Petropavlovsk-**	**79.27**	**344**	P	**P**	**10 56 58.8**		**+0.2**
	2.3nm,0.9s,baz=172,slow=12,SNR=2.8							
NVAR	**Mina Array Bea**	**80.88**	**42**	P	**P**	**10 57 07.8**		**-0.1**
	0.9nm,0.7s,baz=232,slow=10,SNR=7.3							
USRK	**Ussuriysk Arra**	**82.47**	**325**	P	**P**	**10 57 15.1**		**-0.7**
	3.0nm,0.9s,baz=150,slow=6.7,SNR=3.5							
H03N2	**Juan Fernandez**	**82.53**	**123**	T	T	12 29 08.2		
	baz=247							
H03N3	**Juan Fernandez**	**82.53**	**123**	T	T	12 29 07.0		
	baz=247,slow=75							
H03N1	**Juan Fernandez**	**82.55**	**123**	T	T	12 29 02.9		
	baz=247,slow=75							
TXAR	**Lajitas Array**	**86.03**	**56**	P	**P**	**10 57 34.4**		**-0.1**
	0.5nm,0.9s,baz=256,slow=7.3,SNR=4.8							
CMAR	**Chiang Mai Arr**	**93.49**	**288**	P	**P**	**10 58 11.4**		**+1.7**
	0.5nm,0.4s,baz=118,slow=3.2,SNR=8.0							
AKASG	**Malin Array Be**	**146.39**	**332**	PKPbc	**PKPbc**	**11 04 33.7**		**-0.4**
	0.5nm,0.5s,baz=41,slow=4.5,SNR=6.2							

*VIE **31** 10:49:36.0±0.2,46°.16N×7°.73E,h8km±1km,mb2.5/1, ML3.3/3,Error ellipse: s-maj=2.6km s-min=0.9km az=142.0 21 km SE of Sierre*
*GEN **31** 10:49:36.7,46°.17N×7°.65E,h0km,ML2.5*
*ZUR **31** 10:49:36.3,46°.22N×7°.67E,h6km±1km,ML2.7/17*
*ROM **31** 10:49:36.1±0.2,46°.18N×7°.67E,h8km±2km,Md2.7/12, Ml2.6/8,Error ellipse: s-maj=3.7km s-min=1.9km az=170.0*
*LDG **31** 10:49:36.6±0.1,46°.23N×7°.65E,h6km,Md3.2/3,Ml3.2/36, Error ellipse: s-maj=1.5km s-min=1.1km az=103.0*
*CSEM **31** 10:49:36.2±0.1,46°.23N×7°.64E,h10km,ML3.3/33,Error ellipse: s-maj=2.3km s-min=1.8km az=98.0*
*STR **31** 10:49:37.9±0.1,46°.23N×7°.57E,h5km,Ml3.1,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **31** 10:49:44.9,46°.65N×7°.68E,h30km*

ISC 31 10:49:35.5±0.3,46°.231N±0°.009×7°.603E±0°.010, h15km±1km,n240,σ1§69/354,36C-8D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
LKBD2	**Leukerbad 2**	**0.15**	**11**	⇑*i*Pg	**Pg**	**10 49 39.6**		**0.0**
LKBD2	**Leukerbad 2**	**0.15**	**11**	⇑*i*Pg	**Pg**	**10 49 39.6**		**0.0**
LKBD	**Leukerbad**	**0.16**	**6**	⇑*i*Pg	**Pg**	**10 49 39.8**		**+0.1**
	973nm,0.6s							
LKBD	**Leukerbad**	**0.16**	**6**	⇑*i*Pg	**Pg**	**10 49 39.8**		**+0.1**
	973nm,0.6s							
DIX	**Grande Dixence**	**0.20**	**222**	⇑*i*Pg	**Pg**	**10 49 41.2**		**+0.8**
	4μm,0.2s							
DIX				⇑*i*Sg	**Sg**	**10 49 44.1**		**+0.4**
	4μm,0.2s							
DIX	**Grande Dixence**	**0.20**	**222**	Pg	**Pg**	**10 49 41.2**		**+0.8**
DIX				Sg	**Sg**	**10 49 44.1**		**+0.4**
DIX	**Grande Dixence**	**0.20**	**222**	⇑*i*Pg	**Pg**	**10 49 41.2**		**+0.8**
	4μm,0.2s							
DIX				⇑*i*Sg	**Sg**	**10 49 44.1**		**+0.4**
	4μm,0.2s							
SENIN	**Lac Senin/Sane**	**0.25**	**302**	⇑*i*Pg	**Pg**	**10 49 42.0**		**+0.9**
	2μm,0.5s							
SENIN				*i* Sg	**Sg**	**10 49 45.5**		**+0.6**
	2μm,0.5s							
SENIN	**Lac Senin/Sane**	**0.25**	**302**	⇑*i*Pg	**Pg**	**10 49 42.0**		**+0.9**
	2μm,0.5s							
SENIN				*i* Sg	**Sg**	**10 49 45.5**		**+0.6**
	2μm,0.5s							
MMK	**Mattmark**	**0.31**	**126**	⇑*i*Pg	**Pg**	**10 49 42.0**		**-0.1**
	3μm,0.3s							
MMK				*i* Sg	**Sg**	**10 49 46.0**		**-0.6**
	3μm,0.3s							
MMK	**Mattmark**	**0.31**	**126**	Pg	**Pg**	**10 49 42.1**		**-0.1**
MMK				Sg	**Sg**	**10 49 45.4**		**-1.2**
MMK	**Mattmark**	**0.31**	**126**	⇑*i*Pg	**Pg**	**10 49 42.0**		**-0.1**
	3μm,0.3s							
MMK				*i* Sg	**Sg**	**10 49 46.0**		**-0.6**
	3μm,0.3s							
GRYON	**Gryon**	**0.34**	**274**	⇓*i*Pg	**Pg**	**10 49 43.9**		**+1.3**
	317nm,0.1s							
GRYON	**Gryon**	**0.34**	**274**	⇓*i*Pg	**Pg**	**10 49 43.9**		**+1.3**
	317nm,0.1s							
SATI	**Passo dei Sala**	**0.40**	**152**	P	**Pg**	**10 49 44.0**		**+0.2**
SATI				S	**Sg**	**10 49 48.8**		**-0.5**
WIMIS	**Wimmis**	**0.43**	**2**	⇑*i*Pg	**Pg**	**10 49 45.0**		**+0.7**
	611nm,0.5s							
WIMIS	**Wimmis**	**0.43**	**2**	⇑*i*Pg	**Pg**	**10 49 45.0**		**+0.7**
	611nm,0.5s							
SALAN	**Lac Salanfe**	**0.45**	**259**	⇑*i*Pg	**Pg**	**10 49 46.0**		**+1.5**
	196nm,0.4s							
SALAN	**Lac Salanfe**	**0.45**	**259**	⇑*i*Pg	**Pg**	**10 49 46.0**		**+1.5**
	196nm,0.4s							
EMV	**Vieux Emosson**	**0.52**	**251**	⇑*i*Pg	**Pg**	**10 49 47.2**		**+1.3**
	446nm,0.1s							
EMV	**Vieux Emosson**	**0.52**	**251**	⇑*i*Pg	**Pg**	**10 49 47.2**		**+1.3**
	446nm,0.1s							
CIRO	**Champorcher**	**0.63**	**182**	P	**Pg**	**10 49 47.9**		**-0.1**
CIRO				S	**Sg**	**10 49 55.8**		**-0.5**
OG01	**Vacheresse**	**0.65**	**279**	Pg	**Pb**	**10 49 50.6**		**+2.0**
OG01				Sg	**Sg**	**10 49 58.8**		**+2.0**
OG01	**Vacheresse**	**0.65**	**279**	Pg	**Pb**	**10 49 50.6**		**+2.0**
OG01				Sg	**Sg**	**10 49 58.8**		**+2.0**
HASLI	**Hasliberg/Brie**	**0.65**	**36**	⇑*i*Pg	**Pg**	**10 49 48.4**		**+0.1**
	705nm,0.5s							
HASLI	**Hasliberg/Brie**	**0.65**	**36**	⇑*i*Pg	**Pg**	**10 49 48.4**		**+0.1**
	705nm,0.5s							
TORNY	**Torny/Romont**	**0.70**	**321**	⇓*i*Pg	**Pg**	**10 49 51.0**		**+1.7**
	1μm,0.4s							
TORNY	**Torny/Romont**	**0.70**	**321**	⇓*i*Pg	**Pg**	**10 49 51.0**		**+1.7**
	1μm,0.4s							
TRAV	**Traversella**	**0.72**	**172**	Pg	**Pg**	**10 49 49.6**		**-0.1**
	219nm,0.2s							
TRAV	**Traversella**	**0.72**	**172**	Pg	**Pg**	**10 49 49.6**		**-0.1**
	219nm,0.2s							
TRAV				S	**Sg**	**10 49 58.4**		**-0.9**
FUSIO	**Fusio**	**0.77**	**73**	⇑*i*Pg	**Pg**	**10 49 50.3**		**-0.2**
	192nm,0.4s							
FUSIO	**Fusio**	**0.77**	**73**	Pg	**Pg**	**10 49 50.3**		**-0.2**
FUSIO				Sg	**Sg**	**10 49 59.9**		**-0.8**
FUSIO	**Fusio**	**0.77**	**73**	⇑*i*Pg	**Pg**	**10 49 50.3**		**-0.2**
	192nm,0.4s							
FUSIO				Sg	**Sg**	**10 49 59.9**		**-0.8**
LSD	**Lago del Serru**	**0.84**	**203**	Pg	**Pg**	**10 49 51.9**		**0.0**
LSD				Sg	**Sg**	**10 50 02.8**		**-0.1**
	152nm,0.2s							
LSD	**Lago del Serru**	**0.84**	**203**	P	**Pg**	**10 49 51.9**		**0.0**
LSD				Sg	**Sg**	**10 50 02.8**		**-0.1**
	152nm,0.2s							
BNALP	**Bannalp**	**0.85**	**41**	⇑*i*Pg	**Pg**	**10 49 52.3**		**+0.1**
	437nm,0.5s							
BNALP	**Bannalp**	**0.85**	**41**	Pg	**Pg**	**10 49 52.3**		**+0.1**
BNALP	**Bannalp**	**0.85**	**41**	⇑*i*Pg	**Pg**	**10 49 52.3**		**+0.1**
	437nm,0.5s							
RSL	**Roselend**	**0.87**	**232**	Pg	**Pg**	**10 49 53.4**		**+0.9**
RSL				Sg	**Sg**	**10 50 05.6**		**+1.7**
RSL	**Roselend**	**0.87**	**232**	Pg	**Pg**	**10 49 53.4**		**+0.9**
RSL				Sg	**Sg**	**10 50 05.6**		**+1.7**
VARE	**Varese**	**0.89**	**114**	Pg	**Pg**	**10 49 52.7**		**-0.1**
VARE	**Varese**	**0.89**	**114**	Pg	**Pg**	**10 49 52.7**		**-0.1**
LPL	**La Plagne**	**0.94**	**221**	*e*Pg	**Pg**	**10 49 54.3**		**+0.6**
LPL				*e*Sg	**Sg**	**10 50 08.6**		**+2.5**
	117nm,0.3s							
LPL	**La Plagne**	**0.94**	**221**	*e*Pg	**Pg**	**10 49 54.3**		**+0.6**
LPL				*e*Sg	**Sg**	**10 50 08.6**		**+2.5**
	58nm,0.3s							
LPG	**La Plagne**	**0.94**	**219**	*e*Pg	**Pg**	**10 49 54.4**		**+0.5**
LPG				*e*Sg	**Sg**	**10 50 08.7**		**+2.4**
	186nm,0.4s							
LPG	**La Plagne**	**0.94**	**219**	*e*Pg	**Pg**	**10 49 54.4**		**+0.5**
LPG				*e*Sg	**Sg**	**10 50 08.7**		**+2.4**
	93nm,0.4s							
GIMEL	**St. Georges /**	**0.97**	**289**	Pg	**Pb**	**10 49 56.9**		**+2.7**
	157nm,0.2s							
GIMEL	**St. Georges /**	**0.97**	**289**	Pg	**Pb**	**10 49 56.9**		**+2.7**
	157nm,0.2s							
MUGIO	**Muggio**	**1.05**	**107**	Pg	**Pg**	**10 49 55.5**		**-0.3**
MUGIO	**Muggio**	**1.05**	**107**	Pg	**Pg**	**10 49 55.5**		**-0.3**
BALST	**Balsthal**	**1.11**	**3**	⇑*i*Pn	**Pg**	**10 49 57.4**		**+0.5**
	888nm,0.7s							
BALST	**Balsthal**	**1.11**	**3**	⇑*i*Pn	**Pg**	**10 49 57.4**		**+0.5**
	888nm,0.7s							
RSP	**Reno Superiore**	**1.11**	**192**	Pg	**Pg**	**10 49 56.5**		**-0.4**
	166nm,0.6s							
RSP	**Reno Superiore**	**1.11**	**192**	P	**Pg**	**10 49 56.7**		**-0.2**
CABF	**La Chapelle**	**1.12**	**290**	*e*Pg	**Pg**	**10 49 58.0**		**+0.9**
CABF	**La Chapelle**	**1.12**	**290**	*e*P	**Pn**	**10 49 59.3**		**+2.6**
CABF				*e*Sn	**Sg**	**10 50 12.5**		**+0.8**
CABF				*e*Sg	**Sb**	**10 50 13.1**		**+2.1**
	109nm,0.3s							
CABF	**La Chapelle**	**1.12**	**290**	*e*Pg	**Pg**	**10 49 58.0**		**+0.9**
CABF	**La Chapelle**	**1.12**	**290**	*e*P	**Pn**	**10 49 59.3**		**+2.6**
CABF				*e*Sn	**Sg**	**10 50 12.5**		**+0.8**
CABF				*e*Sg	**Sb**	**10 50 13.1**		**+2.1**
	55nm,0.3s							
LLS	**Linth-Limmern**	**1.15**	**57**	⇑*i*Pg	**Pg**	**10 49 57.9**		**+0.2**
	272nm,0.6s							
LLS	**Linth-Limmern**	**1.15**	**57**	⇑*i*Pg	**Pg**	**10 49 57.9**		**+0.2**
	272nm,0.6s							
TUE	**Stuetta**	**1.23**	**78**	Pg	**Pb**	**10 49 59.1**		**+0.4**
	72nm,0.5s							
TUE	**Stuetta**	**1.23**	**78**	Pg	**Pb**	**10 49 59.1**		**+0.4**
	72nm,0.5s							
BBS	**Basel-Blauen**	**1.24**	**357**	Pg	**Pg**	**10 50 01.4**		**+2.0**
BBS				Sg	**Sn**	**10 50 18.5**		**+3.7**
LOMF	**Lomont**	**1.24**	**335**	Pn	**Pb**	**10 50 00.9**		**+2.2**
LOMF	**Lomont**	**1.24**	**335**	Pg	**Pb**	**10 50 01.0**		**+2.2**
LOMF				Sg	**Sn**	**10 50 18.5**		**+3.5**
LOMF	**Lomont**	**1.24**	**335**	Pg	**Pb**	**10 50 01.0**		**+2.2**
LOMF				Sg	**Sn**	**10 50 18.5**		**+3.5**
SULZ	**Cheisacher**	**1.34**	**15**	⇑*i*Pn	**Pn**	**10 50 01.7**		**+1.9**
	2μm,0.5s							
SULZ	**Cheisacher**	**1.34**	**15**	⇑*i*Pn	**Pn**	**10 50 01.7**		**+1.9**
	2μm,0.5s							
BNI	**Bardonecchia**	**1.34**	**209**	Pg	**Pn**	**10 50 01.4**		**+1.5**
	36nm,0.4s							
BNI	**Bardonecchia**	**1.34**	**209**	Pg	**Pn**	**10 50 01.4**		**+1.5**
	36nm,0.4s							
BHB	**Bricherasio**	**1.41**	**190**	P	**Pn**	**10 50 01.5**		**+0.8**
BHB				S	**Sb**	**10 50 18.4**		**-1.0**
PLONS	**Plons/SG**	**1.47**	**56**	⇑*i*P	**Pn**	**10 50 03.4**		**+1.7**
	268nm,0.4s							
PLONS	**Plons/SG**	**1.47**	**56**	⇑*i*P	**Pn**	**10 50 03.4**		**+1.7**
	268nm,0.4s							
OG22	**Abries**	**1.48**	**198**	Pg	**Pb**	**10 50 05.0**		**+2.1**
OG22				Sg	**Sg**	**10 50 25.5**		**+2.2**
OG22	**Abries**	**1.48**	**198**	Pg	**Pb**	**10 50 05.0**		**+2.1**
OG22				Sg	**Sg**	**10 50 25.5**		**+2.2**
MBDF	**Montbardon**	**1.61**	**202**	*e*P	**Pn**	**10 50 06.1**		**+2.5**
MBDF	**Montbardon**	**1.61**	**202**	*e*Pg	**Pb**	**10 50 06.9**		**+1.8**
MBDF				*e*Sg	**Sb**	**10 50 27.9**		**+2.5**
	81nm,0.5s							
MBDF	**Montbardon**	**1.61**	**202**	*e*P	**Pn**	**10 50 06.1**		**+2.5**
MBDF	**Montbardon**	**1.61**	**202**	*e*Pg	**Pb**	**10 50 06.9**		**+1.8**
MBDF				*e*Sg	**Sb**	**10 50 27.9**		**+2.5**
	40nm,0.5s							
SLE	**Schleitheim**	**1.65**	**21**	⇑*i*Pn	**Pn**	**10 50 05.4**		**+1.3**
	611nm,0.4s							
SLE	**Schleitheim**	**1.65**	**21**	⇑*i*Pn	**Pn**	**10 50 05.4**		**+1.3**
	611nm,0.4s							
MOF	**Molkenrain**	**1.65**	**349**	Pn	**Pn**	**10 50 05.9**		**+1.8**
MOF	**Molkenrain**	**1.65**	**349**	Pg	**Pb**	**10 50 08.5**		**+1.2**
MOF	**Molkenrain**	**1.65**	**349**	Pn	**Pn**	**10 50 05.9**		**+1.8**
MOF	**Molkenrain**	**1.65**	**349**	Pg	**Pb**	**10 50 08.5**		**+1.2**
HINF	**Hinteralfeld**	**1.67**	**342**	*e*Pn	**Pn**	**10 50 04.6**		**+0.3**
HINF	**Hinteralfeld**	**1.67**	**342**	*e*P	**Pn**	**10 50 06.4**		**+2.1**
HINF	**Hinteralfeld**	**1.67**	**342**	*e*Pg	**Pb**	**10 50 08.0**		**+2.0**
HINF				*e*Sn	**Sn**	**10 50 25.1**		**-0.4**
HINF				*e*Sg	**Sb**	**10 50 29.8**		**+3.0**
	101nm,0.3s							
HINF	**Hinteralfeld**	**1.67**	**342**	*e*Pn	**Pn**	**10 50 04.6**		**+0.3**
HINF	**Hinteralfeld**	**1.67**	**342**	*e*P	**Pn**	**10 50 06.4**		**+2.1**
HINF	**Hinteralfeld**	**1.67**	**342**	*e*Pg	**Pb**	**10 50 08.0**		**+2.0**
HINF				*e*Sn	**Sn**	**10 50 25.1**		**-0.4**
HINF				*e*Sg	**Sb**	**10 50 29.8**		**+3.0**
	50nm,0.3s							
FELD	**Feldberg im Sc**	**1.67**	**9**	Pn	**Pn**	**10 50 05.7**		**+1.3**
FELD	**Feldberg im Sc**	**1.67**	**9**	Pg	**Pg**	**10 50 09.1**		**+1.5**
FELD	**Feldberg im Sc**	**1.67**	**

VIVF				*e*Sn	**Sn**	**10 50 45.2**	**-0.2**	
VIVF				*e*Sg	**Sg**	**10 50 55.6**	**+0.5**	
	14nm,0.3s							
REVF	**Revere**	**2.50**	**184**	Pg	**Pg**	**10 50 25.2**	**+1.8**	
REVF				Sg	**Sg**	**10 50 59.8**	**+4.1**	
REVF	**Revere**	**2.50**	**184**	Pg	**Pg**	**10 50 25.2**	**+1.8**	
REVF				Sg	**Sg**	**10 50 59.8**	**+4.1**	
CALN	**Calern**	**2.53**	**192**	Pn	**Pn**	**10 50 18.0**	**+1.8**	
CALN	**Calern**	**2.53**	**192**	Pn	**Pn**	**10 50 18.0**	**+1.8**	
SMF	**Signal de Mont**	**2.63**	**280**	*e*Pn	**Pn**	**10 50 18.2**	**+0.7**	
SMF	**Signal de Mont**	**2.63**	**280**	*e*P	Pn	10 50 20.7	+3.2	
SMF				*e*Sn	**Sn**	**10 50 48.8**	**-0.5**	
SMF				*e*Sg	**Sg**	**10 51 00.4**	**+0.2**	
	25nm,0.2s							
SMF	**Signal de Mont**	**2.63**	**280**	*e*Pn	**Pn**	**10 50 18.2**	**+0.7**	
SMF	**Signal de Mont**	**2.63**	**280**	*e*P	Pn	10 50 20.7	+3.2	
SMF				*e*Sn	**Sn**	**10 50 48.8**	**-0.5**	
SMF				*e*Sg	**Sg**	**10 51 00.4**	**+0.2**	
	12nm,0.2s							
SFTF	**Sexfontaines**	**2.64**	**319**	*e*Pn	**Pn**	**10 50 18.5**	**+0.9**	
SFTF	**Sexfontaines** baz=142	**2.64**	**319**	*e*Pg	Pb	10 50 25.9	+3.4	
SFTF				*e*Sn	**Sn**	**10 50 48.6**	**-0.7**	
SFTF				*e*Sg	**Sg**	**10 51 00.3**	**0.0**	
	78nm,0.4s,baz=138							
SFTF	**Sexfontaines**	**2.64**	**319**	*e*Pn	**Pn**	**10 50 18.5**	**+0.9**	
SFTF	**Sexfontaines**	**2.64**	**319**	*e*Pg	Pb	10 50 25.9	+3.4	
SFTF				*e*Sn	**Sn**	**10 50 48.6**	**-0.7**	
SFTF				*e*Sg	**Sg**	**10 51 00.3**	**0.0**	
	39nm,0.4s							
PAGF	**Fort de Pagny**	**2.65**	**332**	*e*Pn	**Pn**	**10 50 18.4**	**+0.6**	
PAGF				*e*Sn	**Sn**	**10 50 48.8**	**-0.9**	
PAGF				*e*Sg	**Sg**	**10 51 00.4**	**-0.3**	
	9.2nm,0.4s,baz=150							
PAGF	**Fort de Pagny**	**2.65**	**332**	*e*Pn	**Pn**	**10 50 18.4**	**+0.6**	
PAGF				*e*Sn	**Sn**	**10 50 48.8**	**-0.9**	
PAGF				*e*Sg	**Sg**	**10 51 00.4**	**-0.3**	
	4.6nm,0.4s							
SMRF	**Simiane la Rot**	**2.67**	**213**	*e*Pn	**Pn**	**10 50 18.5**	**+0.4**	
SMRF	**Simiane la Rot**	**2.67**	**213**	*e*P	Pn	10 50 22.0	+3.9	
SMRF	**Simiane la Rot**	**2.67**	**213**	*e*Pg	**Pg**	**10 50 27.2**	**+0.4**	
SMRF				*e*Sn	**Sn**	**10 50 49.4**	**-0.8**	
	10.0nm,0.4s							
SMRF	**Simiane la Rot**	**2.67**	**213**	*e*Pn	**Pn**	**10 50 18.5**	**+0.4**	
SMRF	**Simiane la Rot**	**2.67**	**213**	*e*P	Pn	10 50 22.0	+3.9	
SMRF	**Simiane la Rot**	**2.67**	**213**	*e*Pg	**Pg**	**10 50 27.2**	**+0.4**	
SMRF				*e*Sn	**Sn**	**10 50 49.4**	**-0.8**	
	5.0nm,0.4s							
LOR	**Lormes** baz=121	**2.78**	**293**	*e*Pn	**Pn**	**10 50 22.1**	**+2.6**	
LOR	**Lormes** baz=117	**2.78**	**293**	*e*Pg	**Pg**	**10 50 29.9**	**+1.2**	
LOR				*e*Sn	**Sn**	**10 50 52.2**	**-0.5**	
LOR				*e*Sg	**Sg**	**10 51 05.0**	**+0.3**	
	27nm,0.2s,baz=120							
LOR	**Lormes**	**2.78**	**293**	*e*Pn	**Pn**	**10 50 22.1**	**+2.6**	
LOR	**Lormes**	**2.78**	**293**	*e*Pg	**Pg**	**10 50 29.9**	**+1.2**	
LOR				*e*Sn	**Sn**	**10 50 52.2**	**-0.5**	
LOR				*e*Sg	**Sg**	**10 51 05.0**	**+0.3**	
	14nm,0.2s							
MEZF	**Maizieres J'vi**	**2.86**	**324**	*e*Pn	**Pn**	**10 50 21.4**	**+0.8**	
MEZF	**Maizieres J'vi** baz=136	**2.86**	**324**	*e*Pg	**Pg**	**10 50 30.4**	**+0.1**	
MEZF				*e*Sn	**Sn**	**10 50 53.7**	**-1.0**	
MEZF				*e*Sg	**Sg**	**10 51 07.4**	**+0.1**	
	37nm,0.4s,baz=145							
MEZF	**Maizieres J'vi**	**2.86**	**324**	*e*Pn	**Pn**	**10 50 21.4**	**+0.8**	
MEZF	**Maizieres J'vi**	**2.86**	**324**	*e*Pg	**Pg**	**10 50 30.4**	**+0.1**	
MEZF				*e*Sn	**Sn**	**10 50 53.7**	**-1.0**	
MEZF				*e*Sg	**Sg**	**10 51 07.4**	**+0.1**	
	18nm,0.4s							
SSF	**Saint Saulge**	**2.94**	**288**	*e*Pn	**Pn**	**10 50 22.4**	**+0.6**	
SSF	**Saint Saulge**	**2.94**	**288**	*e*P	Pn	10 50 25.0	+3.2	
SSF	**Saint Saulge**	**2.94**	**288**	*e*Pg	Pb	10 50 31.7	+4.0	
SSF				*e*Sg	**Sg**	**10 51 10.3**	**+0.3**	
	15nm,0.3s							
SSF	**Saint Saulge**	**2.94**	**288**	*e*Pn	**Pn**	**10 50 22.4**	**+0.6**	
SSF	**Saint Saulge**	**2.94**	**288**	*e*P	Pn	10 50 25.0	+3.2	
SSF	**Saint Saulge**	**2.94**	**288**	*e*Pg	Pb	10 50 31.7	+4.0	
SSF				*e*Sg	**Sg**	**10 51 10.3**	**+0.3**	
	7.6nm,0.3s							
CGRP	**Cima Grappa**	**2.94**	**95**	*e*Pn	**Pb**	**10 50 26.7**	**-1.1**	
CGRP	**Cima Grappa**	**2.94**	**95**	*e*Pn	**Pb**	**10 50 26.7**	**-1.1**	
AVF	**Avril sur Loir**	**2.99**	**282**	*e*P	**Pn**	**10 50 25.5**	**+3.1**	
AVF				*e*Sn	**Sn**	**10 50 58.2**	**+0.3**	
AVF				*e*Sg	**Sg**	**10 51 11.7**	**+0.2**	
	8.9nm,0.2s							
AVF	**Avril sur Loir**	**2.99**	**282**	*e*P	**Pn**	**10 50 25.5**	**+3.1**	
AVF				*e*Sn	**Sn**	**10 50 58.2**	**+0.3**	
AVF				*e*Sg	**Sg**	**10 51 11.7**	**+0.2**	
	4.4nm,0.2s							
LMR	**La Mourre**	**3.00**	**195**	*e*Pn	**Pn**	**10 50 23.1**	**+0.6**	
LMR	**La Mourre**	**3.00**	**195**	*e*P	**Pn**	**10 50 25.4**	**+2.9**	
LMR	**La Mourre**	**3.00**	**195**	*e*Pg	Pb	10 50 32.1	+3.5	
LMR				*e*Sg	**Sg**	**10 51 10.7**	**-1.2**	
	14nm,0.5s							
LMR	**La Mourre**	**3.00**	**195**	*e*Pn	**Pn**	**10 50 23.1**	**+0.6**	
LMR	**La Mourre**	**3.00**	**195**	*e*P	**Pn**	**10 50 25.4**	**+2.9**	
LMR	**La Mourre**	**3.00**	**195**	*e*Pg	Pb	10 50 32.1	+3.5	
LMR				*e*Sg	**Sg**	**10 51 10.7**	**-1.2**	
	7.2nm,0.5s							
AGO	**Saint Agoulin**	**3.11**	**268**	Pn	**Pn**	**10 50 26.6**	**+2.5**	
AGO	**Saint Agoulin**	**3.11**	**268**	Pn	**Pn**	**10 50 26.6**	**+2.5**	
LBL	**Lubilhac**	**3.21**	**253**	Pn	**Pn**	**10 50 27.8**	**+2.3**	
LBL	**Lubilhac**	**3.21**	**253**	Pg	**Pg**	**10 50 38.0**	**+1.0**	
LBL	**Lubilhac**	**3.21**	**253**	Pn	**Pn**	**10 50 27.8**	**+2.3**	
LBL	**Lubilhac**	**3.21**	**253**	Pg	**Pg**	**10 50 38.0**	**+1.0**	
BGF	**Bois d'Agland**	**3.31**	**277**	*e*P	**Pn**	**10 50 29.6**	**+2.8**	
BGF				*e*Sn	**Sn**	**10 51 04.9**	**-0.9**	
BGF				*e*Sg	**Sg**	**10 51 21.5**	**-0.3**	
	26nm,0.3s							
BGF	**Bois d'Agland**	**3.31**	**277**	*e*P	**Pn**	**10 50 29.6**	**+2.8**	
BGF				*e*Sn	**Sn**	**10 51 04.9**	**-0.9**	
BGF				*e*Sg	**Sg**	**10 51 21.5**	**-0.3**	
	13nm,0.3s							
LASF	**Ste Croix**	**3.42**	**232**	*e*P	Pn	10 50 31.5	+3.2	
LASF				*e*Sn	**Sn**	**10 51 07.3**	**-1.2**	
LASF				*e*Sg	**Sg**	**10 51 24.5**	**-0.7**	
	13nm,0.4s							
LASF	**Ste Croix**	**3.42**	**232**	*e*P	Pn	10 50 31.5	+3.2	
LASF				*e*Sn	**Sn**	**10 51 07.3**	**-1.2**	
LASF				*e*Sg	**Sg**	**10 51 24.5**	**-0.7**	
	6.3nm,0.4s							
HYF	**Humbligny**	**3.57**	**289**	*e*P	Pn	10 50 34.0	+3.6	
HYF				*e*Sg	**Sg**	**10 51 29.0**	**-1.0**	
HYF	**Humbligny**	**3.57**	**289**	*e*P	Pn	10 50 34.0	+3.6	
HYF				*e*Sg	**Sg**	**10 51 29.0**	**-1.0**	
TCF	**Toulx Ste Croi**	**3.74**	**273**	*e*Pn	**Pn**	**10 50 33.5**	**+0.7**	
TCF	**Toulx Ste Croi**	**3.74**	**273**	*e*P	Pn	10 50 36.6	+3.8	
TCF				*e*Sn	**Sn**	**10 51 15.4**	**-1.2**	
TCF				*e*Sg	**Sg**	**10 51 35.1**	**-0.6**	
	7.4nm,0.4s							
TCF	**Toulx Ste Croi**	**3.74**	**273**	*e*Pn	**Pn**	**10 50 33.5**	**+0.7**	
TCF	**Toulx Ste Croi**	**3.74**	**273**	*e*P	Pn	10 50 36.6	+3.8	
TCF				*e*Sn	**Sn**	**10 51 15.4**	**-1.2**	
TCF				*e*Sg	**Sg**	**10 51 35.1**	**-0.6**	
	3.7nm,0.4s							
CAF	**Calviac**	**4.10**	**253**	*e*P	**Pn**	**10 50 40.8**	**+3.1**	
CAF				*e*Sg	**Sg**	**10 51 46.2**	**-1.0**	
	6.9nm,0.3s							
CAF	**Calviac**	**4.10**	**253**	*e*P	**Pn**	**10 50 40.8**	**+3.1**	
CAF				*e*Sg	**Sg**	**10 51 46.2**	**-1.0**	
	3.5nm,0.3s							
GIVF	**Givet**	**4.30**	**335**	*e*Pn	**Pn**	**10 50 41.7**	**+1.3**	
GIVF				*e*Sn	**Sn**	**10 51 28.7**	**-1.5**	
GIVF				*e*Sg	**Sg**	**10 51 52.2**	**-1.2**	
	14nm,0.5s							
GIVF	**Givet**	**4.30**	**335**	*e*Pn	**Pn**	**10 50 41.7**	**+1.3**	
GIVF				*e*Sn	**Sn**	**10 51 28.7**	**-1.5**	
GIVF				*e*Sg	**Sg**	**10 51 52.2**	**-1.2**	
	7.1nm,0.5s							
RJF	**Les Rejaudoux**	**4.36**	**260**	*e*P	Pn	10 50 45.1	+3.9	
RJF				*e*Sg	**Sg**	**10 51 54.2**	**-1.2**	
	11nm,0.5s							
RJF	**Les Rejaudoux**	**4.36**	**260**	*e*P	Pn	10 50 45.1	+3.9	
RJF				*e*Sg	**Sg**	**10 51 54.2**	**-1.2**	
	5.6nm,0.5s							
BAIF	**Baives**	**4.45**	**331**	*e*Pn	**Pn**	**10 50 42.1**	**-0.4**	
BAIF	**Baives**	**4.45**	**331**	*e*P	Pn	10 50 45.9	+3.4	
BAIF				*e*Sn	**Sn**	**10 51 32.0**	**-2.1**	
BAIF				*e*Sg	**Sg**	**10 51 57.3**	**-1.2**	
	3.2nm,0.3s							
BAIF	**Baives**	**4.45**	**331**	*e*Pn	**Pn**	**10 50 42.1**	**-0.4**	
BAIF				*e*P	Pn	10 50 45.9	+3.4	
BAIF				*e*Sn	**Sn**	**10 51 32.0**	**-2.1**	
BAIF				*e*Sg	**Sg**	**10 51 57.3**	**-1.2**	
	1.6nm,0.3s							
MTLF	**Montolieu**	**4.80**	**235**	*e*P	Pn	10 50 50.7	+3.4	
MTLF				*e*Sg	**Sg**	**10 52 07.6**	**-2.0**	
	4.1nm,0.4s							
MTLF	**Montolieu**	**4.80**	**235**	*e*P	Pn	10 50 50.7	+3.4	
MTLF				*e*Sg	**Sg**	**10 52 07.6**	**-2.0**	
	2.0nm,0.4s							
KHC	**Kasperske Hory**	**4.97**	**52**	*e*PN	**Pn**	**10 50 51.9**	**+2.2**	
KHC				*e*PG	**Pg**	**10 51 09.0**	**-1.7**	
KHC				*e*SN	**Sn**	**10 51 45.7**	**-1.2**	
KHC				*e*SG	**Sg**	**10 52 12.0**	**-3.0**	
	4.5nm,0.4s							
KHC	**Kasperske Hory**	**4.97**	**52**	Pn	**Pn**	**10 50 51.9**	**+2.2**	
LFF	**La Frestale**	**4.99**	**257**	*e*P	Pn	10 50 54.6	+4.7	
LFF				*e*Sg	**Sg**	**10 52 13.8**	**-1.8**	
	4.3nm,0.3s							
LFF	**La Frestale**	**4.99**	**257**	*e*P	Pn	10 50 54.6	+4.7	
LFF				*e*Sg	**Sg**	**10 52 13.8**	**-1.8**	
	2.2nm,0.3s							
NKC	**Novy Kostel**	**5.15**	**37**	*e*SG	**Sg**	**10 52 18.1**	**-2.6**	
	3.5nm,0.4s							
NKC	**Novy Kostel**	**5.15**	**37**	Sg	**Sg**	**10 52 18.1**	**-2.6**	
	3.5nm,0.4s							
MFF	**Saint Martin d**	**5.37**	**277**	*e*Pn	**Pn**	**10 50 57.9**	**+2.8**	
MFF				*e*Sg	**Sg**	**10 52 25.9**	**-2.0**	
	1.4nm,0.3s							
MFF	**Saint Martin d**	**5.37**	**277**	*e*Pn	**Pn**	**10 50 57.9**	**+2.8**	
MFF				*e*Sg	**Sg**	**10 52 25.9**	**-2.0**	
	0.7nm,0.3s							
LDF	**La Druitiere**	**5.75**	**297**	*e*Sg	**Sg**	**10 52 37.7**	**-2.3**	
	6.4nm,0.4s							
PRU	**Pruhonice**	**5.98**	**48**	*e*SG	**Sg**	**10 52 43.5**	**-3.7**	
FLN	**La Foliniere**	**6.04**	**298**	*e*Sg	**Sg**	**10 52 46.5**	**-2.6**	
	8.1nm,0.4s							
EPF	**Esparros**	**6.09**	**241**	*e*Sg	**Sg**	**10 52 49.8**	**-1.1**	
	3.8nm,0.5s							
EPF	**Esparros**	**6.09**	**241**	*e*Sg	**Sg**	**10 52 49.8**	**-1.1**	
	1.9nm,0.5s							
GRR	**Gorron**	**6.14**	**294**	*e*Pn	**Pn**	**10 51 06.1**	**+0.4**	
GRR	**Gorron**	**6.14**	**294**	*e*P	Pn	10 51 10.5	+4.8	
GRR				*e*Sg	**Sg**	**10 52 50.0**	**-2.7**	
	8.8nm,0.6s							
GRR	**Gorron**	**6.14**	**294**	*e*Pn	**Pn**	**10 51 06.1**	**+0.4**	
CLL	**Collm**	**6.21**	**33**	*e*Pg	**Pg**	**10 51 36.0**	**+1.7**	
CLL				*e*Sn	Sn	10 52 09.0	-8.3	
CLL				*e*Sg	**Sg**	**10 52 55.0**	**+0.4**	
	comp=Z,9.0nm,1.2s							
BRG	**Berggiesshubel**	**6.27**	**40**	PG	**Pg**	**10 51 35.6**	**+0.2**	
BRG				SG	**Sg**	**10 52 54.1**	**-2.4**	
	comp=Z,3.9nm,0.7s							
ETSF	**Etsaut**	**6.71**	**243**	*e*Sg	**Sg**	**10 53 09.4**	**-1.5**	
	comp=Z,0.7nm,0.2s							
ETSF	**Etsaut**	**6.71**	**243**	*e*Sg	**Sg**	**10 53 09.4**	**-1.5**	
	comp=Z,0.3nm,0.2s							
DPC	**Dobruska-Polom**	**7.13**	**52**	*ex*	**Sg**	**10 53 22.2**	**-1.9**	
DPC	**Dobruska-Polom**	**7.13**	**52**	Sg	**Sg**	**10 53 22.2**	**-1.9**	

*ISCJB **31** 10:50:30.7±0.6,9.64N±0.03×70.06W±0.03,h11km±4km, mb3.9/13,Error ellipse: s-maj=4.9km s-min=3.9km az=146.7*
*NEIC **31** 10:50:32.4,9.68N×70.02W,h5km,mb4.3/3,MW4.4(CAR), After CAR.*
NEIC Felt in parts of Lara, Merida, Tachira and Trujillo.
*FUNV **31** 10:50:32.3,9.68N×70.02W,h5km,MW4.4*
*IDC **31** 10:50:39.2×3.9,9.56N×70.14W,h75km×36km,mb3.7/15, mb1 3.9/16,mb1mx3.8/26,mbtmp4.1/16,ML3.4/1,Error ellipse: s-maj=24.4km s-min=15.1km az=64.0*

ISC 31 10:50:31.1±1.0,9.65N±0.02×70.05W±0.02,h7km±7km,n63, σ1s14/74,mb4.1/13,5C-4D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CURV	**Curarigua**	**0.38**	**13⇑**	*e*P	**Pg**	**10 50 38.3**	**-0.2**
CURV				*e*S	**Sg**	**10 50 43.3**	**-0.1**
CURV	**Curarigua**	**0.38**	**13**	*e*P	**Pg**	**10 50 38.3**	**-0.2**
CURV				*e*S	**Sg**	**10 50 43.3**	**-0.1**
SANV	**Sanarito**	**0.53**	**106⇓**	*e*P	**Pg**	**10 50 41.8**	**+0.5**
SANV				*e*S	**Sg**	**10 50 48.8**	**+0.6**
SANV	**Sanarito**	**0.53**	**106⇓**	*e*P	**Pg**	**10 50 41.8**	**+0.5**
SANV				*e*S	**Sg**	**10 50 48.8**	**+0.6**
QARV	**Quebrada Arrib**	**0.73**	**320**	*e*P	**Pb**	**10 50 46.0**	**-0.1**
QARV				*e*S	**Sg**	**10 50 55.7**	**+1.1**
QARV	**Quebrada Arrib**	**0.73**	**320**	*e*P	**Pb**	**10 50 46.0**	**-0.1**
QARV				*e*S	**Sg**	**10 50 55.7**	**+1.1**
TEPV	**Terepaima**	**0.90**	**69⇓**	*i*P	**Pg**	**10 50 48.3**	**-0.2**
TEPV				*e*S	**Sg**	**10 51 00.1**	**-0.1**
TEPV	**Terepaima**	**0.90**	**69⇓**	*i*P	**Pg**	**10 50 48.3**	**-0.2**
TEPV				*e*S	**Sg**	**10 51 00.1**	**-0.1**
SDV	**Santo Domingo**	**0.95**	**217**	*e*Pg	**Pg**	**10 50 49.2**	**-0.2**
SDV				*e*Sg	**Sg**	**10 51 01.5**	**-0.2**
DABV	**Dabajuro**	**1.39**	**336**	*e*P	**Pg**	**10 50 58.3**	**+0.4**
DABV	**Dabajuro**	**1.39**	**336**	*e*P	**Pg**	**10 50 58.3**	**+0.4**
SOCV	**Socops**	**1.57**	**211⇑**	*i*P	**Pb**	**10 51 00.5**	**0.0**
SOCV				*e*S	**Sg**	**10 51 22.1**	**+0.4**
SOCV	**Socops**	**1.57**	**211⇑**	*i*P	**Pb**	**10 51 00.5**	**0.0**
SOCV				*e*S	**Sg**	**10 51 22.1**	**+0.4**
MAPV	**Macapo**	**1.58**	**83**	*e*P	**Pb**	**10 51 00.6**	**0.0**
MAPV				*e*S	**Sb**	**10 51 20.8**	**0.0**
JACV	**Jacura**	**1.87**	**40**	*e*P	**Pb**	**10 51 04.7**	**-0.9**
JACV	**Jacura**	**1.87**	**40**	*e*P	**Pb**	**10 51 04.7**	**-0.9**
TURV	**Turiamo**	**2.32**	**70**	*e*P	**Pn**	**10 51 09.8**	**+0.1**
TURV	**Turiamo**	**2.32**	**70**	*e*P	**Pn**	**10 51 09.8**	**+0.1**
ELOV	**Elorza**	**2.69**	**168⇑**	*i*P	**Pn**	**10 51 15.8**	**+1.0**
ELOV	**Elorza**	**2.69**	**168⇑**	*i*P	**Pn**	**10 51 15.8**	**+1.0**
CAPV	**Capacho**	**2.85**	**232**	*e*P	**Pn**	**10 51 18.7**	**+1.4**
CAPV	**Capacho**	**2.85**	**232**	*e*P	**Pn**	**10 51 15.8**	**-1.5**
FUNV	**FUNVISIS**	**3.29**	**75**	*e*P	**Pn**	**10 51 23.7**	**+0.6**
LLAV	**El Llanito**	**3.29**	**75**	*e*P	**Pn**	**10 51 24.3**	**+1.1**
PCRV	**Puerto La Cruz**	**5.36**	**84**	*e*P	**Pn**	**10 51 52.2**	**+0.7**
PCRV	**Puerto La Cruz**	**5.36**	**84**	*e*P	**Pn**	**10 51 52.2**	**+0.7**
PRGV	**PARIAGUAN**	**5.41**	**99**	*e*P	**Pn**	**10 51 52.4**	**+0.2**
PRGV	**PARIAGUAN**	**5.41**	**99**	*e*P	**Pn**	**10 51 52.4**	**+0.2**
ROSC	**El Rosal**	**6.38**	**222**	*e*Pn	Pn	10 52 09.2	+3.4
ROSC				*e*Sn	**Sn**	**10 53 21.8**	**+2.6**
ROSC	**El Rosal**	**6.38**	**222**	P	Pn	10 52 09.9	+4.0
	17nm,0.3s,baz=92,slow=10,SNR=41						
RIOV	**Rio Grande**	**8.29**	**100**	*e*P	**Pn**	**10 52 30.9**	**-0.8**
RIOV	**Rio Grande**	**8.29**	**100**	*e*P	**Pn**	**10 52 30.9**	**-0.8**
GRGR	**Grenville**	**8.61**	**73**	*e*Pn	**Pn**	**10 52 38.1**	**+1.9**
CRPR	**Cabo Rojo, PR**	**8.79**	**19**	*e*Pn	**Pn**	**10 52 36.4**	**-2.2**
CELP	**Cerrillos**	**9.03**	**22**	*e*Pn	**Pn**	**10 52 40.5**	**-1.5**
LUEV	**Luepa**	**9.31**	**113**	*e*P	**Pn**	**10 52 44.3**	**-1.7**
LUEV	**Luepa**	**9.31**	**113**	*e*P	**Pn**	**10 52 44.3**	**-1.7**
SDDR	**Presa de Saban**	**9.36**	**353**	*e*Pn	**Pn**	**10 52 49.5**	**+3.0**
BCIP	**Isla Barro Col**	**9.67**	**268**	*e*Pn	**Pn**	**10 52 48.0**	**-2.8**
OTAV	**Otavalo**	**12.54**	**222**	*e*Pn	**Pn**	**10 53 31.4**	**+0.9**
SAML	**Samuel**	**19.70**	**159**	*e*P	**P**	**10 55 00.9**	**-0.2**
	6.7nm,0.8s						
TEIG	**Tepich**	**20.49**	**303**	*e*P	**P**	**10 55 09.3**	**-0.4**
	8.7nm,0.6s						
TEIG	**Tepich**	**20.49**	**303**	P	**P**	**10 55 09.6**	**-0.1**
	9.0nm,0.7s,baz=139,slow=8.5,SNR=5.7						
APG	**El Apazote**	**20.64**	**287**	P	**P**	**10 55 11.2**	**-0.4**
	7.8nm,0.7s,baz=129,slow=5.9,SNR=11						
LPAZ	**La Paz**	**25.84**	**176**	*e*P	**P**	**10 56 06.6**	**+2.6**
	4.1nm,0.9s						
LPAZ	**La Paz**	**25.84**	**176**	P	**P**	**10 56 04.5**	**+0.5**
	3.5nm,0.7s,baz=351,slow=8.7,SNR=11						
TXAR	**Lajitas Array**	**37.05**	**307**	P	**P**	**10 57 42.4**	**+0.3**
	0.3nm,0.7s,baz=132,slow=7.4,SNR=4.6						
SCHQ	**Schefferville**	**45.14**	**3**	P	**P**	**10 58 48.7**	**+0.5**
	2.9nm,0.7s,baz=178,slow=8.6,SNR=5.3						
ULM	**Lac du Bonnet**	**45.78**	**337**	P	**P**	**10 58 54.3**	**+1.1**
	1.8nm,0.6s,baz=180,slow=2.0,SNR=3.5						
PDAR	**Pinedale Array**	**47.71**	**321**	P	**P**	**10 59 09.3**	**+0.5**
	0.7nm,0.4s,baz=119,slow=10,SNR=3.6						
PLCA	**Paso Flores**	**50.13**	**180**	P	**P**	**10 59 26.1**	**-0.9**
	0.8nm,0.5s,baz=351,slow=12,SNR=3.5						
NVAR	**Mina Array Bea**	**51.78**	**312**	P	**P**	**10 59 39.6**	**-0.3**
	0.5nm,0.7s,baz=98,slow=6.5,SNR=4.6						
YKA	**Yellowknife Ar**	**61.73**	**338**	P	**P**	**11 00 49.4**	**-0.4**
	2.2nm,0.7s,baz=123,slow=6.8,SNR=25						
TORD	**Torodi Ar. Bea**	**70.21**	**79**	P	**P**	**11 01 44.4**	**-1.0**
	0.8nm,0.5s,baz=288,slow=6.6,SNR=11						
ILAR	**Eielson Array**	**75.72**	**334**	P	**P**	**11 02 16.6**	**-0.5**
	0.3nm,0.6s,baz=97,slow=5.1,SNR=7.1						
GERES	**GERESS Array B**	**78.70**	**42**	P	**P**	**11 02 34.5**	**+0.2**
	0.6nm,0.6s,baz=284,slow=6.0,SNR=5.4						
ARCES	**ARCESS Array B**	**82.98**	**21**	P	**P**	**11 02 56.6**	**0.0**
	2.8nm,0.9s,baz=55,slow=23,SNR=2.6						
FINES	**FINESS Array B**	**84.52**	**29**	P	**P**	**11 03 05.4**	**+0.7**
	2.7nm,0.9s,baz=255,slow=5.5,SNR=2.9						
HHC	**Hu-ho-hao-te**	**129.74**	**358**	*e*PKP	**PKPdf**	**11 09 41.3**	**-0.4**
HHC				PP	**PP**	**11 11 54.5**	**+3.6**
HHC	**Hu-ho-hao-te**	**129.74**	**358**	SS	SS	11 29 13.0	-1.0
HHC				AMB	AMB		
	comp=Z,500nm,8.7s						
CMAR	**Chiang Mai Arr**	**150.04**	**21**	PKPbc	**PKPbc**	**11 10 22.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=354,slow=2.7,SNR=3.1						
ASAR	**Alice Springs**	**153.21**	**236**	PKPbc	**PKPbc**	**11 10 28.7**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=117,slow=3.0,SNR=4.1						
WRA	**Warramunga Arr**	**154.33**	**244**	PKPbc	**PKPbc**	**11 10 31.2**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=107,slow=2.7,SNR=18						

IDC 31 11:15:11.3±1.9,50.72N×153.50E,h259km±19km, mb3.1/13,mb1 3.3/14,mb1mx3.2/25,mbtmp3.7/14,Error ellipse: s-maj=22.3km s-min=13.6km az=156.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**3.53**	**46**	P	Pn	11 16 09.1	-0.9
	0.3nm,0.3s,baz=211,slow=11,SNR=14						
MJAR	**Matsushiro Arr**	**17.93**	**224**	P	P	11 19 03.6	+1.1
	0.1nm,0.3s,baz=20,slow=12,SNR=5.7						
SONM	**Songino Array**	**30.46**	**283**	P	P	11 21 00.7	+0.6
	0.2nm,0.5s,baz=70,slow=8.4,SNR=3.7						
ILAR	**Eielson Array**	**33.35**	**42**	P	P	11 21 25.1	+0.2
	1.1nm,0.9s,baz=269,slow=9.9,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**33.81**	**157**	T	T	11 55 50.5	
	baz=346						
H11S3	**WAKE ISLAND Hy**	**33.83**	**157**	T	T	11 55 45.7	
	baz=346						
H11S2	**WAKE ISLAND Hy**	**33.83**	**157**	T	T	11 55 41.7	
	baz=346						
ZALV	**Zalesovo Beam**	**40.60**	**302**	P	P	11 22 25.9	+0.3
	1.0nm,0.6s,baz=66,slow=6.2,SNR=5.7						
YKA	**Yellowknife Ar**	**47.63**	**39**	P	P	11 23 21.7	+0.7
	0.4nm,0.5s,baz=300,slow=7.5,SNR=7.4						
ARCES	**ARCESS Array B**	**54.20**	**340**	P	P	11 24 09.3	-0.4
	3.1nm,1.0s,baz=57,slow=6.6,SNR=2.5						
NVAR	**Mina Array Bea**	**60.42**	**65**	P	P	11 24 54.1	+0.3
	0.3nm,0.6s,baz=314,slow=6.4,SNR=2.4						
FINES	**FINESS Array B**	**60.57**	**334**	P	P	11 24 53.7	-0.3
	2.3n

YUK	**Yuzh-Kuril'sk**	**1.53**	**280**	*e*P		**Pn**	**12 08 18.9**	**+1.1**
YUK				AMB		AMB	12 08 20.2		
	744nm,0.2s								
YUK				*e*S		**Sn**	**12 08 34.0**	**-2.9**
YUK				A		A	12 08 36.1		
	797nm,0.2s								
NEM2	**Nemuro 2**	**1.65**	**256**	P		**Pn**	**12 08 19.7**	**+0.2**
NEM2				*e*S		**Sn**	**12 08 35.6**	**-4.3**
JRA	**Rausu**	**2.05**	**275**	P		**Pn**	**12 08 26.4**	**+1.7**
JNK	**Nakash**	**2.35**	**266**	P		**Pn**	**12 08 30.4**	**+1.6**
JNK				*e*S		**Sn**	**12 08 54.9**	**-1.7**
JAK	**Akkeshi**	**2.49**	**253**	P		**Pn**	**12 08 31.8**	**+1.0**
JTKR	**Abashiri--Toko**	**2.92**	**275**	P		**Pn**	**12 08 39.5**	**+2.9**
JTKR				*e*S		**Sn**	**12 09 11.9**	**+1.3**
JAR	**Ashorobuto**	**3.07**	**262**	P		**Pn**	**12 08 41.2**	**+2.5**
JAR				*e*S		**Sn**	**12 09 13.6**	**-0.7**
JOB	**Onbets**	**3.12**	**255**	P		**Pn**	**12 08 41.9**	**+2.6**
JMP	**Maruseppu**	**3.32**	**275**	P		Pn	12 08 45.7	+3.6
HRK	**Horoka**	**3.51**	**267**	*e*P		Pn	12 08 48.4	+3.7
JCH	**Churui**	**3.55**	**252**	*e*S		**Sn**	**12 09 22.9**	**-2.9**

DJA ***31*** *12:22:22.2±1.8,20˚N±20˚×12˚3E±1˚0,h10km,M4.7/20, mb5.0/20,mB5.2/8,Mw(mB)4.5/8*
BKK ***31*** *12:22:24.7±0.5,20˚N±5˚×12˚3E±˚,h10km,M4.5/24, mB5.0/8,mb4.8/24,Mw(mB)4.3/8*
BJI ***31*** *12:22:26.1,19˚38N×122˚80E,h31km,mB4.9/34,mb4.5/44, Ms4.4/37,Ms7 4.1/36*
ISCJB ***31*** *12:22:27.5±0.5,19˚46N±0˚02×122˚77E±0˚03,h39km±4km, mb4.8/110,MS3.8/33,Error ellipse: s-maj=4.5km s-min=3.4km az=4.9*
MAN ***31*** *12:22:27,19˚42N×122˚73E,h67km,mb5.5,ML4.5,MS4.8*
IDC ***31*** *12:22:28.7±0.8,19˚45N×122˚75E,h44km±7km,mb4.3/22, mb1 4.4/23,mb1mx4.4/27,mbtmp4.5/23,ML3.6/1,MS3.8/15, Ms1 3.8/15,ms1mx3.6/45,Error ellipse: s-maj=13.0km s-min=2.9km az=132.0*
MOS ***31*** *12:22:28.4±1.3,19˚43N×122˚81E,h58km,mb5.0/37, MS4.0/4,Error ellipse: s-maj=9.5km s-min=5.4km az=116.5*
NEIC ***31*** *12:22:29.6±0.6,19˚41N×122˚77E,h47km±5km,mb5.0/50, Error ellipse: s-maj=5.6km s-min=4.3km az=125.0*
ISC 31 12:22:28.6±0.3,19˚44N±0˚03×122˚83E±0˚04,h41km±2km, h41km:pP-P,n299,σ1s73/339,mb4.9/109,MS3.9/33,6C-8D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.40**	**212**	*e*P		**Pn**	**12 22 50.3**	**-1.4**
SGCP				*e*S		**Sn**	**12 23 07.5**	**-1.4**
APYP	**Conner**	**2.17**	**224**	*e*P		**Pn**	**12 23 01.2**	**-1.1**
APYP				*e*S		**Sn**	**12 23 26.6**	**-1.3**
PIP	**Pasuquin**	**2.37**	**243**	⇓*i*P		**Pn**	**12 23 02.6**	**-2.3**
PIP				*e*S		**Sn**	**12 23 30.3**	**-2.4**
PALP	**Palanan**	**2.39**	**189**	*e*P		**Pn**	**12 23 04.9**	**-0.4**
PALP				*e*S		**Sn**	**12 23 34.1**	**+0.7**
CAUP	**Cauayan**	**2.66**	**201**	*e*P		**Pn**	**12 23 10.2**	**+1.2**
CAUP				*e*S		Sn	12 23 44.6	+4.6
ABRA	**Dolores**	**2.68**	**229**	*e*P		**Pn**	**12 23 08.5**	**-0.7**
ABRA				*e*S		**Sn**	**12 23 40.2**	**-0.3**
SIPP	**Brgy, Tapao**	**2.71**	**237**	⇓*i*P		Pn	12 23 01.6	-8.0
SIPP				*e*S		Sn	12 23 29.3	-12
SZP	**Santa**	**2.93**	**231**	*e*Pn		**Pn**	**12 23 12.9**	**+0.3**
BALP	**Baler**	**3.87**	**198**	*e*P		**Pn**	**12 23 26.8**	**+1.2**
BALP				*e*S		**Sn**	**12 24 11.0**	**+1.3**
BOLP	**Bolinao**	**4.12**	**223**	*e*P		**Pn**	**12 23 29.7**	**+0.7**
BOLP				*e*S		**Sn**	**12 24 16.7**	**+0.7**
PCPH	**Palayan**	**4.19**	**203**	⇓*e*P		**Pn**	**12 23 31.4**	**+1.3**
PCPH				*e*S		**Sn**	**12 24 19.0**	**+1.2**
SCZP	**Santa Cruz**	**4.58**	**218**	*e*P		**Pn**	**12 23 35.0**	**-0.4**
SCZP				*e*S		**Sn**	**12 24 27.4**	**0.0**
SSLB	**Suanglung**	**4.67**	**338**	*e*Pn		**Pn**	**12 23 36.2**	**-0.4**
POLP	**Polilio Island**	**4.76**	**190**	*e*P		**Pn**	**12 23 38.2**	**+0.4**
POLP				*e*S		**Sn**	**12 24 32.1**	**+0.3**
YOJ	**Yonaguni jima**	**5.00**	**2**	*e*P		**Pn**	**12 23 42.3**	**+1.1**
YOJ	**Yonaguni jima**	**5.00**	**2**	*e*Pn		**Pn**	**12 23 42.3**	**+1.1**
GQP	**Guinayangan**	**5.51**	**184**	*e*S		**Sn**	**12 24 49.2**	**-1.1**
TGY	**Tagaytay City**	**5.61**	**199**	P		**Pn**	**12 23 51.4**	**+1.9**
TGY				S		Sn	12 24 58.7	+5.9
TGY	**Tagaytay City**	**5.61**	**199**	⇓*e*P		Pn	12 23 51.6	+2.0
TGY	**Tagaytay City**	**5.61**	**199**	P		**Pn**	**12 23 51.4**	**+1.9**
	218nm,0.3s,baz=30,slow=3.6,SNR=16							
TGY				S		Sn	12 24 58.7	+5.9
	177nm,0.3s,baz=90,slow=20,SNR=2.4							
PVCP	**Virac**	**5.95**	**167**	*e*P		**Pn**	**12 23 56.2**	**+2.1**
PVCP				*e*S		**Sn**	**12 24 57.9**	**-3.2**
PVCP	**Virac**	**5.95**	**167**	*e*P		Pn	12 23 56.8	+2.7
PVCP				*e*S		**Sn**	**12 24 58.7**	**-2.3**
OTRP	**Odiongan**	**7.08**	**186**	*e*P		**Pn**	**12 24 10.8**	**+1.1**
SJMP	**San Jose**	**7.13**	**194**	*e*P		Pn	12 24 12.6	+2.2
JOW	**Kunigami**	**8.90**	**33**	*e*Pn		**Pn**	**12 24 34.6**	**-0.1**
QIZ	**Qiongzhong**	**12.27**	**270**	P		**Pn**	**12 25 20.3**	**-0.6**
QIZ				S		**Sn**	**12 27 35.5**	**-0.9**
QIZ				pmax		pmax		
	comp=Z,23nm,1.9s							
QIZ				pmax		pmax		
	comp=Z,100nm,5.7s							
QIZ				LR		LR		
	comp=N,430nm,16.7s							
QIZ				LR		LR		
	comp=Z,640nm,14.2s							
NJ2	**Nanjing**	**13.06**	**345**	*e*P		**Pn**	**12 25 33.3**	**+1.7**
NJ2				S		**Sn**	**12 27 57.5**	**+2.0**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,340nm,4.6s							
NJ2				LR		LR		
	comp=N,390nm,17.0s							
NJ2				LR		LR		
	comp=E,700nm,18.1s							
NJ2				LR		LR		
	comp=Z,490nm,14.0s							
WHN	**Wuhan**	**13.46**	**327**	P		P	12 25 42.3	-3.2
WHN				S		S	12 28 17.3	-10
WHN				LR		LR		
	comp=Z,1μm,13.2s							
KDM	**Kudat**	**13.74**	**206**	P		**P**	**12 25 48.3**	**-0.4**
SDKM	**Sandakan**	**14.77**	**203**	P		**P**	**12 26 01.3**	**+1.1**
MYLDM	**Lahad Datu**	**14.79**	**197**	P		**P**	**12 26 02.0**	**+1.7**
MYLDM	**Lahad Datu**	**14.79**	**197**	P		P	12 26 10.6	+10
MYLDM	**Lahad Datu**	**14.79**	**197**	*e*Pn		**P**	**12 26 01.0**	**+0.7**
JNU	**Nakatsue**	**15.41**	**26**	LR		LR	12 31 54.7	
	comp=Z,16nm,28.6s,baz=210,slow=37							
TSM	**Tawau**	**15.81**	**198**	P		**P**	**12 26 12.3**	**+0.6**
ENH	**Enshi**	**16.20**	**314**	*e*P		**Pn**	**12 26 14.1**	**+0.7**
	23nm,0.9s							
GYA	**Guiyang**	**16.44**	**298**	⇑*i*P		**Pn**	**12 26 16.8**	**+0.3**
GYA				pP		**pP**	**12 26 24.3**	**-4.5**
GYA				S		**Sn**	**12 29 15.8**	**-2.2**
GYA				sS		**S**	**12 29 28.5**	**-0.3**
GYA				SS		**SnSn**	**12 29 35.0**	**+3.6**
GYA				pmax		pmax		
	comp=Z,30nm,0.8s							
GYA				pmax		pmax		
	comp=Z,130nm,4.7s							
GYA				LR		LR		
	comp=N,650nm,15.4s							
GYA				LR		LR		
	comp=E,520nm,15.8s							
GYA				LR		LR		
	comp=Z,560nm,14.6s							
SLVN	**Son La**	**17.84**	**279**	*e*Pn		**P**	**12 26 34.6**	**+0.3**
	11nm,0.8s							
GAMI	**Galela, Maluku**	**18.15**	**164**	P		**Pn**	**12 26 40.3**	**+2.6**
	81nm,0.8s							
KSAR	**Wonju Array Be**	**18.48**	**13**	P		**Pn**	**12 26 42.5**	**+1.1**
KSRS	**Korea Array**	**18.50**	**13**	P		**Pn**	**12 26 42.5**	**+0.9**
	0.2nm,0.3s,baz=201,slow=11,SNR=10							
KSRS				LR		LR	12 34 35.8	
	comp=Z,295nm,18.9s,baz=192,slow=39							
GTOI	**Gorontalo**	**18.68**	**179**	P		**P**	**12 26 43.7**	**+0.2**
	93nm,1.3s,881nm							
BTM	**Bintulu**	**18.74**	**212**	P		Pn	12 26 51.5	+6.7
MRSI	**Marisa**	**18.86**	**183**	P		**Pn**	**12 26 48.0**	**+1.7**
	36nm,0.7s							
XAN	**Xi'an**	**19.09**	**322**	P		**Pn**	**12 26 50.0**	**+1.0**
JCJ	**Chichijima**	**19.33**	**63**	LR		LR	12 32 42.0	
	comp=Z,249nm,22.0s,baz=168,slow=32							
KMI	**Kunming**	**19.43**	**291**	P		**Pn**	**12 26 56.0**	**+2.8**
KMI				S		**Sn**	**12 30 32.5**	**+2.1**
KMI				pmax		pmax		
	comp=Z,16nm,1.2s							
KMI				LR		LR		
	comp=N,260nm,12.5s							
KMI				LR		LR		
	comp=E,330nm,13.2s							
KMI				LR		LR		
	comp=Z,430nm,14.6s							
SBUM	**Sibu**	**19.82**	**213**	P		**Pn**	**12 26 57.7**	**0.0**
SBUM	**Sibu**	**19.82**	**213**	P		**P**	**12 26 56.8**	**+0.9**
	97nm,1.2s							
SBUM	**Sibu**	**19.82**	**213**	*e*P		**P**	**12 26 55.9**	**0.0**
	106nm,1.2s							
CHAI	**Chaiyaphum**	**20.17**	**263**	P		Pn	12 27 01.3	-0.5
	9.4nm,1.0s,127nm							
APSI	**Ampana**	**20.25**	**183**	P		Pn	12 27 03.0	+0.2
	73nm,1.1s,672nm							
LUWI	**Luwuk**	**20.35**	**180**	P		Pn	12 27 05.7	+1.8
	117nm,1.2s							
LBMI	**Labuha**	**20.47**	**167**	P		**P**	**12 27 04.6**	**+1.6**
	81nm,0.8s							
CD2	**Chengdu**	**20.66**	**307**	⇓*i*P		**P**	**12 27 05.8**	**+0.8**
CD2				pP		**pP**	**12 27 15.0**	**-0.2**
CD2				sP		**sP**	**12 27 19.0**	**-1.4**
CD2				PP		**PnPn**	**12 27 27.5**	**+3.6**
CD2				S		**S**	**12 30 49.3**	**-4.5**
CD2				sS		Sn	12 31 02.8	+2.9
CD2				SS		**SnSn**	**12 31 20.3**	**+5.3**
CD2				pmax		pmax		
	comp=Z,60nm,0.8s							
CD2				pmax		pmax		
	comp=Z,100nm,4.8s							
CD2				LR		LR		
	comp=N,640nm,15.5s							
CD2				LR		LR		
	comp=E,490nm,11.8s							
CD2				LR		LR		
	comp=Z,460nm,11.6s							
CHBT	**CHBT**	**20.77**	**254**	P		**P**	**12 27 07.7**	**+1.4**
	29nm,0.9s							
PBKT	**Sadao Pong**	**20.98**	**266**	P		Pn	12 27 10.3	-1.0
	42nm,1.2s,2μm							
BJI	**Beijing**	**21.32**	**346**	P		**P**	**12 27 12.8**	**+0.9**
BJI				S		**S**	**12 31 08.5**	**+2.1**
BJI				pmax		pmax		
	comp=Z,9.0nm,0.8s							
BJI				LR		LR		
	comp=N,520nm,15.5s							
BJI				LR		LR		
	comp=E,470nm,20.7s							
BJI				LR		LR		
	comp=Z,110nm,18.9s							
PHIT	**Phitsanulok**	**21.39**	**268**	P		**P**	**12 27 14.9**	**+2.0**
	50nm,1.2s							
KSM	**Kuching**	**21.66**	**216**	P		**P**	**12 27 18.5**	**+2.8**
KSM	**Kuching**	**21.66**	**216**	P		**P**	**12 27 18.3**	**+2.6**
	75nm,1.2s							
KSM	**Kuching**	**21.66**	**216**	*e*P		**P**	**12 27 15.6**	**-0.1**
	61nm,0.9s							
KSM				LR		LR		
	comp=Z,200nm,21.5s							
MAJO	**Matsushiro**	**21.74**	**35**	*e*P		pP	12 27 29.4	+2.6
MAJO	**Matsushiro**	**21.74**	**35**	*e*pP		pP	12 27 29.4	+2.6
MAT	**Matsushiro**	**21.74**	**35**	P		**P**	**12 27 18.3**	**+1.8**
MJAR	**Matsushiro Arr**	**21.74**	**35**	P		**P**	**12 27 18.4**	**+1.8**
MJAR	**Matsushiro Arr**	**21.74**	**35**	P		**P**	**12 27 18.4**	**+1.8**
	comp=Z,6.2nm,1.2s,baz=226,slow=15,SNR=4.7							
MJAR				LR		LR	12 35 47.2	
	comp=Z,16nm,28.6s,baz=225,slow=37							
SWI	**Sorong**	**21.80**	**157**	P		**P**	**12 27 18.9**	**+1.6**
	comp=Z,92nm,0.9s,comp=Z,1μm							
LAMP	**Lampang**	**21.95**	**271**	P		**P**	**12 27 21.2**	**+2.2**
	comp=Z,5.5nm,1.1s,comp=Z,56nm							
STKI	**Sintang**	**22.24**	**211**	P		**P**	**12 27 23.7**	**+1.7**
	comp=Z,33nm,0.7s							
MMSI	**Mamuju**	**22.32**	**190**	P		**P**	**12 27 23.9**	**+1.0**
	comp=Z,89nm,0.8s							
CMAI	**Chiengmai2**	**22.40**	**275**	P		**P**	**12 27 26.0**	**+2.1**
	comp=Z,60nm,1.2s,comp=Z,8μm							
TTSI	**Tana Toraja**	**22.54**	**188**	P		P	12 27 29.2	+4.0
	comp=Z,26nm,0.9s,comp=Z,421nm							
CHTO	**Chiang Mai**	**22.57**	**272**	*e*P		**P**	**12 27 25.3**	**-0.3**
CHTO				pmax		pmax		
	comp=Z,57nm,1.5s							
CHTO	**Chiang Mai**	**22.57**	**272**	*e*P		**P**	**12 27 25.3**	**-0.3**
	comp=Z,57nm,1.5s							
CM31	**Chiang Mai Arr**	**22.61**	**271**	*e*P		**P**	**12 27 26.8**	**+0.8**
	comp=Z,18nm,1.0s							
CMAR	**Chiang Mai Arr**	**22.61**	**271**	P		**P**	**12 27 27.0**	**+1.0**
CMAR				PcP		**PcP**	**12 31 17.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**22.61**	**271**	P		**P**	**12 27 27.0**	**+1.0**
	comp=Z,5.4nm,0.7s,baz=75,slow=8.0,SNR=51							
CMAR				PcP		**PcP**	**12 31 17.7**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=59,slow=0.4,SNR=15							
CMAR				LR		LR	12 36 05.5	
	comp=Z,16nm,28.6s,baz=116,slow=36							
SRDT	**SRDT**	**23.23**	**261**	P		P	12 27 43.8	+11
HHC	**Hu-ho-hao-te**	**23.42**	**338**	*e*P		**P**	**12 27 33.0**	**-1.1**
HHC				sP		sP	12 27 44.0	-5.8
HHC				PP		**PnPn**	**12 28 05.3**	**+3.7**
HHC				S		**S**	**12 31 38.5**	**-6.0**
HHC				sS		sS	12 31 56.5	-6.6
HHC				SS		**SnSn**	**12 32 28.8**	**+6.2**
HHC				pmax		pmax		
	comp=Z,43nm,0.7s							
HHC				pmax		pmax		
	comp=Z,370nm,4.8s							
HHC				LR		LR		
	comp=Z,940nm,10.4s							
HHC				LR		LR		
	comp=Z,1μm,11.6s							
HHC				LR		LR		
	comp=Z,670nm,10.6s							
LZH	**Lanzhou**	**23.54**	**319**	*e*P		**P**	**12 27 37.0**	**+1.6**
LZH				pP		**pP**	**12 27 46.8**	**+0.7**
LZH				sP		**sP**	**12 27 52.8**	**+1.7**
LZH				*e*S		**S**	**12 31 43.5**	**-3.2**
LZH				sS		sS	12 31 59.3	-5.9
LZH				SS		**SnSn**	**12 32 33.0**	**+7.4**
LZH				pmax		pmax		
	comp=Z,45nm,1.3s							
LZH				pmax		pmax		
	comp=Z,180nm,4.4s							
LZH				LR		LR		
	comp=Z,1μm,15.0s							
LZH				LR		LR		
	comp=Z,1μm,16.3s							
LZH				LR		LR		
	comp=Z,2μm,17.7s							
MHMT	**Maesarieng**	**23.60**	**271**	P		**P**	**12 27 36.6**	**+0.7**
	comp=Z,14nm,1.0s							
KTGM	**Kuala Trenggan**	**23.76**	**236**	P		**P**	**12 27 37.9**	**+0.5**
BNSI	**Bone**	**23.84**	**187**	P		**P**	**12 27 41.8**	**+3.7**
	comp=Z,32nm,0.7s,comp=Z,828nm							
FAKI	**Fak Fak**	**24.07**	**156**	P		**P**	**12 27 40.4**	**+0.1**
	comp=Z,40nm,1.0s,comp=Z,601nm							
BBKI	**Banjar Baru**	**24.07**	**200**	P		**P**	**12 27 41.3**	**+1.0**
	comp=Z,43nm,0.9s							
CN2	**Changchun**	**24.39**	**5**	*e*P		**P**	**12 27 44.5**	**+1.5**
CN2				*e*PP		**PnPn**	**12 28 20.3**	**+5.5**
CN2				*e*S		**S**	**12 31 59.3**	**-0.6**
CN2				*e*SS		**SnSn**	**12 32 54.0**	**+7.8**
CN2				pmax		pmax		
	comp=Z,20nm,1.0s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=Z,200nm,16.0s							
CN2				LR		LR		
	comp=Z,400nm,16.0s							
CN2				LR		LR		
	comp=Z,200nm,17.0s							
SURT	**Suratani**	**25.49**	**249**	P		**P**	**12 27 55.1**	**+1.9**
	comp=Z,11nm,1.3s							
MYKOM	**Kota Tinggi**	**25.55**	**229**	P		**P**	**12 27 55.4**	**+1.7**
MYKOM	**Kota Tinggi**	**25.55**	**229**	P		**P**	**12 27 55.4**	**+1.7**
	comp=Z,69nm,1.1s							
MYKOM	**Kota Tinggi**	**25.55**	**229**	*e*P		**P**	**12 27 54.4**	**+0.6**
	comp=Z,81nm,1.1s							
MYKOM				LR		LR		
	comp=Z,200nm,20.0s							
MDJ	**Mudanjiang**	**25.73**	**11**	P		**P**	**12 27 56.5**	**+1.3**
MDJ				pP		**pP**	**12 28 05.5**	**-0.8**
MDJ				sP		**sP**	**12 28 08.0**	**-3.2**
MDJ				pmax		pmax		
	comp=Z,24nm,1.9s							
MDJ				pmax		pmax		
	comp=Z,350nm,4.2s							
MDJ				LR		LR		
	comp=Z,730nm,5.1s							
MDJ				LR		LR		
	comp=Z,320nm,5.6s							
MDJ				LR		LR		
	comp=Z,770nm,5.1s							
KGM	**Kluang**	**25.77**	**230**	P		**P**	**12 27 56.7**	**+0.9**
KULM	**Kulim**	**25.78**	**240**	P		**P**	**12 27 58.4**	**+2.5**
KULM	**Kulim**	**25.78**	**240**	*e*P		**P**	**12 27 56.5**	**+0.7**
	comp=Z,22nm,0.7s							
USRK	**Ussuriysk Arra**	**25.85**	**15**	P		**P**	**12 27 58.0**	**+1.8**
	comp=Z,4.2nm,0.7s,baz=202,slow=9.5,SNR=10							
IPM	**Ipoh**	**25.94**	**238**	P		**P**	**12 27 59.2**	**+1.8**
IPM	**Ipoh**	**25.94**	**238**	P		**P**	**12 27 58.3**	**+0.9**
	comp=Z,35nm,0.9s							
IPM	**Ipoh**	**25.94**	**238**	*e*P		**P**	**12 27 57.4**	**0.0**
	comp=Z,20nm,0.7s							
IPM				LR		LR		
	comp=Z,300nm,18.0s							
FRIM	**Kepong**	**26.23**	**235**	P		**P**	**12 28 02.4**	**+2.4**
TPI	**Tanjungpandan**	**26.62**	**216**	P		**P**	**12 28 06.1**	**+2.6**
	comp=Z,57nm,1.0s,comp=Z,595nm							
GTA	**Gaotai**	**28.11**	**320**	*e*P		**P**	**12 28 17.0**	**+0.2**
GTA				pP		**pP**	**12 28 26.3**	**-1.6**
GTA				sP		**sP**	**12 28 30.3**	**-2.6**
GTA				PcP		**PcP**	**12 31 31.3**	**+0.9**
GTA				S		**S**	**12 32 58.0**	**-1.1**
GTA				SS		**SnSn**	**12 34 21.8**	**+4.7**
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,130nm,4.3s							
GTA				LR		LR		
	comp=Z,220nm,11.4s							
GTA				LR		LR		
	comp=Z,210nm,11.4s							
GTA				LR		LR		
	comp=Z,200nm,10.0s							
PSI	**Prapat**	**28.62**	**238**	P		**P**	**12 28 22.4**	**+0.8**
PSI	**Prapat**	**28.62**	**238**	P		**P**	**12 28 22.4**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=15,slow=1.9,SNR=3.6							
PSI				LR		LR	12 39 40.5	
	comp=Z,167nm,21.2s,baz=22,slow=36							
ASAJ	**Asahikawa**	**29.64**	**30**	LR		LR	12 39 40.7	
	comp=Z,195nm,21.7s,baz=146,slow=35							
KLSI		**29.87**	**218**	P		**P**	**12 28 33.7**	**+1.3**
LSA	**Lhasa**	**30.48**	**296**	*e*P		**P**	**12 28 40.2**	**+1.9**
LSA				pmax		pmax		
	comp=Z,36nm,0.9s							
LSA	**Lhasa**	**30.48**	**296**	*e*P		**P**	**12 28 40.2**	**+1.9**
	comp=Z,36nm,0.9s							
ULN	**Ulaanbaatar**	**31.12**	**339**	*e*P		**P**	**12 28 42.8**	**-0.6**
	comp=Z,7.9nm,0.7s							
ULN				LR		LR		
	comp=Z,100nm,19.0s							
SONM	**Songino Array**	**31.32**	**338**	P		**P**	**12 28 44.3**	**-0.8**
SONM				PcP		**PcP**	**12 31 38.6**	**+0.2**
SONM	**Songino Array**	**31.32**	**338**	P		**P**	**12 28 44.3**	**-0.8**
	comp=Z,4.8nm,0.7s,baz=158,slow=9.6,SNR=52							
SONM				PcP		**PcP**	**12 31 38.6**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=167,slow=3.8,SNR=6.9							
SONM				LR		LR	12 42 48.5	
	comp=Z,208nm,18.1s,baz=88,slow=39							
TAPN	**Taplejung**	**33.10**	**290**	*e*P		**P**	**12 29 02.0**	**+0.9**
	comp=Z,68nm,1.0s							
TAPN	**Taplejung**	**33.10**	**290**	*e*P		**P**	**12 29 02.0**	**+0.9**
	comp=Z,68nm,1.0s							
ODAN	**Odare**	**33.33**	**289**	*e*P		**P**	**12 29 03.8**	**+0.7**
	comp=Z,82nm,1.0s							
ODAN	**Odare**	**33.33**	**289**	*e*P		**P**	**12 29 03.8**	**+0.7**
	comp=Z,82nm,1.0s							
RAMN	**Ramite**	**34.04**	**290**	*e*P		**P**	**12 29 09.9**	**+0.6**
	comp=Z,84nm,0.9s							
RAMN	**Ramite**	**34.04**	**290**	*e*P		**P**	**12 29 09.9**	**+0.6**
	comp=Z,84nm,0.9s							
JIRN	**Jiri**	**34.47**	**291**	*e*P		**P**	**12 29 13.8**	**+0.6**
	comp=Z,78nm,0.8s							
JIRN	**Jiri**	**34.47**	**291**	*e*P		**P**	**12 29 13.8**	**+0.6**
	comp=Z,78nm,0.8s							
ZAK	**Zakamensk**	**34.57**	**338**	*e*P		**P**	**12 29 10.9**	**-2.5**
ZAK				*e*			12 31 47.0	
ZAK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
GUN	**Gumba**	**34.77**	**291**	*e*P		**P**	**12 29 16.4**	**+0.7**
	comp=Z,117nm,0.8s							
GUN	**Gumba**	**34.77**	**291**	*e*P		**P**	**12 29 16.4**	**+0.7**
	comp=Z,117nm,0.8s							
PKI	**Pulchoki**	**35.15**	**290**	*e*P		**P**	**12 29 19.1**	**+0.1**
	comp=Z,23nm,0.7s							
PKI	**Pulchoki**	**35.15**	**290**	*e*P		**P**	**12 29 19.2**	**+0.2**
PKI				pmax		pmax		
	comp=Z,17nm,0.7s							
PKI	**Pulchoki**	**35.15**	**290**	*e*P		**P**	**12 29 19.2**	**+0.2**
	comp=Z,17nm,0.7s							
PKIN	**Phulchoki**	**35.16**	**290**	*e*P		**P**	**12 29 19.2**	**+0.2**
	comp=Z,17nm,0.7s							
KKN	**Kakani**	**35.29**	**291**	*e*P		**P**	**12 29 20.2**	**+0.2**
	comp=Z,56nm,0.9s							
KKN	**Kakani**	**35.29**	**291**	*e*P		**P**	**12 29 20.2**	**+0.2**
KKN				pmax		pmax		
	comp=Z,56nm,0.9s							
KKN	**Kakani**	**35.29**	**291**	*e*P		**P**	**12 29 20.2**	**+0.2**
	comp=Z,56nm,0.9s							
DMN	**Daman**	**35.42**	**290**	*e*P		**P**	**12 29 21.5**	**+0.2**
	comp=Z,58nm,0.9s							
DMN	**Daman**	**35.42**	**290**	*e*P		**P**	**12 29 21.5**	**+0.2**
	comp=Z,58nm,0.9s							
TLY	**Talaya**	**35.53**	**339**	*e*P		**P**	**12 29 21.4**	**-0.2**
TLY				pmax		pmax		
	comp=Z,7.0nm,1.0s							
TLY				MLR		MLR		
	comp=Z,156nm,15.0s							
TLY	**Talaya**	**35.53**	**339**	*e*P		**P**	**12 29 21.0**	**-0.6**
	comp=Z,4.7nm,0.8s							
TLY				LR		LR

baz=280,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 41.45 82 T T 13 15 27.0
baz=280,slow=75,SNR=11
HYB Hyderabad 41.97 275 *i* P **P** **12 30 18.0 +2.0**
YAK Yakutsk 42.82 5 *eP* **P** **12 30 21.0 -1.2**
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=Z,12nm,1.0s
YAK Yakutsk 42.82 5 *eP* **P** **12 30 22.2 0.0**
comp=Z,18nm,0.7s
YAK LR LR
comp=Z,200nm,18.1s
MK31 Makanchi Array 42.85 319 *eP* **P** **12 30 22.8 0.0**
MK31 Makanchi Array 42.85 319 *eP* **P** **12 30 22.8 0.0**
MKAR Makanchi Array 42.85 319 *eP* **P** **12 30 23.1 +0.3**
MKAR Makanchi Array 42.85 319 *eP* **P** **12 30 23.1 +0.3**
PEA0B Petropavlovsk- 43.05 30 P P **12 30 25.5 +1.2**
PETK Petropavlovsk- 43.05 30 P P **12 30 25.3 +1.0**
PETK *PP **pP** **12 30 35.4 -0.4**
PETK 12 32 13.9
PETK Petropavlovsk- 43.05 30 P P **12 30 25.2 +1.0**
PETK pP **pP** **12 30 35.4 -0.4**
PETK PcP **PcP** **12 32 13.9 +0.1**
PETK Petropavlovsk- 43.05 30 P P **12 30 25.2 +1.0**
comp=Z,3.8nm,0.7s,baz=209,slow=5.1,SNR=10
PETK pP **pP** **12 30 35.4 -0.4**
comp=Z,9.4nm,0.7s,baz=219,slow=5.3,SNR=9.6
PETK PcP **PcP** **12 32 13.9 +0.1**
comp=Z,4.0nm,1.0s,baz=207,slow=2.9,SNR=2.9
PETK LR LR 12 47 48.0
comp=Z,78nm,20.6s,baz=248,slow=35
AS31 Alice Springs 44.18 165 *eP* **P** **12 30 33.3 -0.4**
ASAR Alice Springs 44.18 165 P P **12 30 33.3 -0.4**
ASAR Alice Springs 44.18 165 P P **12 30 33.3 -0.4**
comp=Z,26nm,0.7s,baz=343,slow=6.9,SNR=359
KSH Kashi 44.86 307 P P 12 30 42.3 +3.1
KSH sP sP 12 30 56.0 +0.4
KSH PP **PP** **12 32 28.0 +3.6**
KSH PcS **PcS** **12 36 16.0 +1.9**
KSH S **S** **12 37 18.0 +3.8**
KSH SS **ScS** **12 40 31.0 -2.5**
KSH pmax pmax
comp=Z,20nm,1.2s
KSH pmax pmax
comp=Z,52nm,2.8s
KSH LR LR
comp=Z,190nm,7.0s
KSH LR LR
comp=Z,160nm,4.8s
KSH LR LR
comp=Z,290nm,5.6s
ZAA0 Zalesovo Array 45.06 329 *eP* **P** **12 30 39.2 -1.1**
ZALV Zalesovo Beam 45.06 329 *i* P **P** **12 30 39.7 -0.7**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 45.06 329 P P **12 30 39.3 -1.1**
ZALV PcP **PcP** **12 32 19.6 -1.0**
ZALV Zalesovo Beam 45.06 329 P P **12 30 39.3 -1.1**
comp=Z,5.6nm,0.7s,baz=114,slow=7.7,SNR=29
ZALV PcP **PcP** **12 32 19.6 -1.0**
comp=Z,1.7nm,0.6s,baz=108,slow=4.1,SNR=3.9
ZALV LR LR 12 50 00.1
comp=Z,15nm,28.6s,baz=70,slow=37
ULHL Ulahol 45.32 311 *i* P **P** **12 30 43.8 +0.9**
ULHL Ulahol 45.32 311 P P **12 30 43.9 +0.9**
SNR=11
TKM2 Tokmak 2 45.96 311 *i* P **P** **12 30 49.2 +1.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 45.96 311 *eP* **P** **12 30 48.8 +0.9**
comp=Z,5.2nm,0.8s
TKM2 LR LR
comp=Z,200nm,19.4s
KZA Kyzart 45.99 310 *i* P **P** **12 30 49.8 +1.4**
KZA Kyzart 45.99 310 P P **12 30 49.9 +1.4**
SNR=8.9
NVS Novosibirsk 46.33 329 *eP* P 12 30 44.6 -5.8
KBK Karagaybulak 46.35 311 P P **12 30 52.2 +1.3**
SNR=7.5
UCH Uchtor 46.56 310 *i* P **P** **12 30 54.2 +1.3**
UCH Uchtor 46.56 310 P P **12 30 54.3 +1.3**
SNR=14
CHMS Chumysh 46.58 311 *i* P **P** **12 30 53.5 +0.9**
CHMS Chumysh 46.58 311 P P **12 30 53.5 +0.9**
SNR=6.5
AAK Ala-Archa 46.67 311 *eP* **P** **12 30 53.9 +0.4**
AAK pmax pmax
comp=Z,29nm,2.0s
AAK MLR MLR
comp=Z,200nm,18.3s
AAK Ala-Archa 46.67 311 *eP* **P** **12 30 53.9 +0.4**
comp=Z,29nm,2.0s
AAK LR LR
comp=Z,200nm,18.3s
KURK Kurchatov 46.74 323 P P **12 30 53.6 0.0**
comp=Z,37nm,1.0s,SNR=8.9
KURK Kurchatov 46.74 323 *eP* **P** **12 30 52.9 -0.7**
KURK pmax pmax
comp=Z,10.0nm,1.2s
KURK Kurchatov 46.74 323 *eP* **P** **12 30 52.9 -0.7**
comp=Z,9.7nm,1.2s
AML Almayashu 47.13 310 *i* P **P** **12 30 58.7 +1.4**
AML Almayashu 47.13 310 P P **12 30 58.6 +1.4**
SNR=9.8
EKS2 Erkin-Say 47.19 311 *i* P **P** **12 30 58.4 +0.9**
EKS2 Erkin-Say 47.19 311 P P **12 30 58.4 +0.9**
SNR=5.1
EKS2 Erkin-Say 47.19 311 *eP* **P** **12 30 58.6 +1.1**
comp=Z,4.0nm,0.8s
EKS2 LR LR
comp=Z,200nm,20.2s
KK31 Karatay Array 49.63 310 *i* P **P** **12 31 16.5 +0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 49.63 310 *eP* **P** **12 31 16.2 +0.1**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 49.63 310 *eP* **P** **12 31 16.2 +0.1**
comp=Z,7.9nm,0.9s
KBL Kabul 49.69 299 *eP* **P** **12 31 17.5 +0.6**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL MLR MLR
comp=Z,100nm,21.4s
KBL Kabul 49.69 299 *eP* **P** **12 31 17.5 +0.6**
comp=Z,16nm,0.8s
KBL LR LR
comp=Z,100nm,21.4s
FORT Forrest 50.18 174 *eP* **P** **12 31 19.5 -0.7**
comp=Z,45nm,0.7s
FORT LR LR
comp=Z,500nm,18.5s
BVA0 Borovoye Array 52.33 323 *i* P **P** **12 31 36.2 0.0**
BVA0 pmax pmax
comp=Z,14nm,1.5s
BVAR Borovoye Array 52.33 323 LR LR 12 55 20.6
comp=Z,16nm,28.6s,baz=72,slow=38
TIXI Tiksi 52.34 2 *ceP* **P** **12 31 34.4 -1.5**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 52.34 2 *eP* **P** **12 31 35.1 -0.9**
comp=Z,8.5nm,0.6s
TIXI LR LR
comp=Z,300nm,19.0s
NWAO Narrogin (SRO) 52.34 186 P P **12 31 35.0 -1.4**
NWAO Narrogin (SRO) 52.34 186 P P **12 31 35.0 -1.4**
comp=Z,6.2nm,0.7s,baz=2.9,slow=8.1,SNR=5.1
BRVK Borovoye 52.40 323 *ci* P **P** **12 31 36.8 +0.1**
BRVK pmax pmax
comp=Z,15nm,0.7s
STKA Stephens Creek 54.10 160 P P **12 31 48.5 -0.9**
STKA Stephens Creek 54.10 160 P P **12 31 48.5 -0.9**
comp=Z,4.1nm,0.8s,baz=329,slow=5.8,SNR=7.7
AB31 Akbulak array 57.88 316 *i* P **P** **12 32 15.9 -0.4**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 57.88 316 *eP* **P** **12 32 16.0 -0.3**
ABKT Ailbek 58.58 303 P P **12 32 22.4 +0.9**
comp=Z,76nm,0.8s,SNR=5.6
SVE Sverdlovsk 58.78 325‖ *eP* **P** **12 32 22.2 -0.3**
SVE pmax pmax
comp=Z,28nm,1.1s
AKTO Aktyubinsk 59.26 318 P P **12 32 24.1 -1.8**
AKTO pmax pmax
comp=Z,5.0nm,1.0s

ARU Arti 59.82 325 *di* P **P** **12 32 28.3 -1.4**
ARU 12 34 38.2
ARU S **S** **12 40 37.8 -0.3**
ARU SS **SS** **12 44 30.6 -3.8**
ARU pmax pmax
comp=Z,31nm,1.7s
ARU Arti 59.82 325 *eP* **P** **12 32 28.7 -1.0**
comp=Z,40nm,1.5s
PRGR Permogore 67.02 330 P P **12 33 15.0 -2.1**
PRGR pmax pmax
comp=Z,8.0nm,0.7s
ZEI Tsey 69.07 309 *eP* **P** **12 33 29.1 -1.5**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
VRHR Novokhopersk 69.65 318 *eP* **P** **12 33 31.6 -2.2**
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.5s
VRHR pmax pmax
comp=Z,9.0nm,0.5s
KBZ Khabaz 69.67 310 P P **12 33 32.8 -1.2**
KBZ Khabaz 69.67 310 P P **12 33 32.8 -1.2**
KBZ Khabaz 69.67 310 P P **12 33 32.8 -1.2**
comp=Z,7.3nm,0.9s,baz=73,slow=3.0,SNR=15
IM04 Indian Mountai 69.74 26 *eP* **P** **12 33 35.1 +1.0**
KIV Kislovodsk 69.79 311 *ceP* **P** **12 33 34.7 -0.2**
KIV *e*PP **pP** **12 33 46.9 -0.2**
KIV 12 33 54.0
KIV pmax pmax
comp=Z,18nm,0.8s
KIV Kislovodsk 69.79 311 *eP* **P** **12 33 35.2 +0.2**
comp=Z,16nm,0.7s
NEY Neytrino 69.86 310 *i* P **P** **12 33 35.1 -0.4**
RSO Redoubt South 70.56 32 *eP* **P** **12 33 41.5 +2.0**
PPLA Purkeypile 70.62 29 *eP* **P** **12 33 41.9 +2.2**
comp=Z,15nm,1.0s
CAST Castle Rocks 70.62 28 *eP* **P** **12 33 42.0 +2.4**
comp=Z,22nm,0.8s
COLD Coldfoot 71.09 24 *eP* **P** **12 33 44.6 +2.3**
comp=Z,9.3nm,1.0s
COLD *e*pP **pP** **12 33 52.0 -2.5**
VORD Divnogorie 71.13 318 *eP* **P** **12 33 40.1 -2.7**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,8.0nm,0.8s
VORD pmax pmax
comp=Z,4.0nm,0.8s
KTH Kantishna Hill 71.13 28 *eP* **P** **12 33 44.5 +1.8**
comp=Z,59nm,0.9s
VSR Storozhevoye 71.17 319 *eP* **P** **12 33 40.9 -2.2**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 71.26 289 P P **12 33 43.7 -0.5**
comp=Z,84nm,0.8s,SNR=5.0
TRF Thorofare Moun 71.42 28 *eP* **P** **12 33 46.4 +1.7**
comp=Z,14nm,0.8s
MCK McKinley 71.99 28 *eP* **P** **12 33 49.2 +1.3**
MCK pmax pmax
comp=Z,23nm,0.7s
MCK McKinley 71.99 28 *eP* **P** **12 33 49.2 +1.3**
comp=Z,23nm,0.7s
APA Apatity 72.00 336 *eP* P 12 33 52.0 +4.3
APA MLR MLR
comp=Z,1μm,23.0s
OBN Obninsk 72.18 323‖ *eP* **P** **12 33 47.5 -1.5**
OBN 12 34 05.0
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,12.0s
PMR Palmer 72.19 30 *eP* **P** **12 33 49.5 +0.5**
PMR pmax pmax
comp=Z,14nm,0.7s
PMR Palmer 72.19 30 *eP* **P** **12 33 49.5 +0.5**
comp=Z,14nm,0.7s
COLA College 72.31 27 *eP* **P** **12 33 50.4 +0.8**
COLA *e*PP **pP** **12 34 01.6 -0.3**
COLA pmax pmax
comp=Z,3.0nm,1.3s
COLA College 72.31 27 *eP* **P** **12 33 50.4 +0.8**
comp=Z,3.5nm,1.3s
COLA *ep*P **pP** **12 34 01.6 -0.3**
ILAR Eielson Array 72.73 27 P P **12 33 51.6 -0.6**
ILAR pP **pP** **12 34 04.2 -0.3**
ILAR Eielson Array 72.73 27 P P **12 33 51.6 -0.6**
comp=Z,2.8nm,0.9s,baz=271,slow=4.6,SNR=20
ILAR pP **pP** **12 34 04.2 -0.3**
comp=Z,3.2nm,0.7s,baz=258,slow=4.5,SNR=13
JOF Joensuu 73.58 332 *eP* **P** **12 33 55.5 -1.7**
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 73.58 332 *ep* **P** **12 33 55.5 -1.7**
comp=Z,5.6nm,0.7s
PAX Paxson 73.65 28 *eP* **P** **12 33 59.1 +1.3**
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 73.65 28 *eP* **P** **12 33 59.1 +1.3**
comp=Z,9.1nm,0.8s
DIV Divide 73.86 30 *eP* **P** **12 34 00.9 +1.9**
comp=Z,19nm,0.9s
DOT Dot Lake 74.15 28 *eP* **P** **12 34 01.8 +1.2**
comp=Z,11nm,0.7s
SPITS Spitsbergen Ar 74.42 348 LR LR 13 11 35.0
comp=Z,119nm,18.4s,baz=125,slow=40
BMRM Bremner River 74.45 30 *eP* **P** **12 34 04.1 +1.7**
comp=Z,22nm,1.0s
ARCES ARCESS Array B 74.49 339 P P **12 34 01.7 -0.8**
ARCES ARCESS Array B 74.49 339 P P **12 34 01.7 -0.8**
comp=Z,2.0nm,0.6s,baz=87,slow=8.6,SNR=7.4
EGAK Eagle 75.14 26 *eP* **P** **12 34 07.7 +1.4**
comp=Z,10nm,0.7s
KAF Kangasniemi 76.02 331 *eP* **P** **12 34 09.2 -2.2**
KAF Kangasniemi 76.02 331 *ep* **P** **12 34 09.2 -2.2**
DAWY Dawson 76.06 27 *eP* **P** **12 34 13.0 +1.4**
FINES FINESS Array B 76.30 331 P P **12 34 12.0 -0.9**
FINES FINESS Array B 76.30 331 P P **12 34 12.0 -0.9**
comp=Z,7.5nm,0.8s,baz=103,slow=6.8,SNR=17
ASF Jabal al Asfar 76.58 300 LR LR 13 11 11.0
comp=Z,209nm,19.4s,baz=237,slow=38
BRTR Keskin Array B 77.24 308 P P **12 34 17.8 -1.2**
BRTR Keskin Array B 77.24 308 P P **12 34 17.8 -1.2**
comp=Z,1.3nm,0.9s,baz=70,slow=11,SNR=5.6
AKASG Malin Array Be 77.44 319 P P **12 34 17.8 -1.8**
AKASG Malin Array Be 77.44 319 P P **12 34 17.8 -1.8**
AKASG Malin Array Be 77.44 319 P P **12 34 17.8 -1.8**
comp=Z,1.6nm,0.5s,baz=62,slow=6.1,SNR=8.1
KIEV Kiev 77.45 319 *i* P **P** **12 34 17.8 -1.8**
HYT Haines Junctio 77.84 30 *eP* **P** **12 34 24.1 +2.3**
AYDB Zeytinkoy-Aydi 82.05 307 *ePG* 12 51 58.5
NB2 NORSAR Subarra 83.12 333 P P **12 34 48.6 -1.4**
comp=Z,19nm,1.4s,baz=56,slow=5.6
NOA NORSAR Array B 83.12 333 P P **12 34 48.6 -1.4**
NOA NORSAR Array B 83.12 333 P P **12 34 48.6 -1.4**
comp=Z,3.2nm,0.8s,baz=63,slow=4.7,SNR=8.2
NOA LR LR 13 16 29.8
comp=Z,16nm,28.6s,baz=35,slow=39
KSP Ksiaz 85.09 322 *eP* **P** **12 34 59.6 -0.6**
KMBO Kilima Mbogo 86.20 267 *eP* **P** **12 35 07.5 +0.8**
KMBO Kilima Mbogo 86.20 267 P P **12 35 07.3 +0.6**
comp=Z,13nm,0.9s,baz=46,slow=8.1,SNR=24
MUD Monsted U'grnd 86.28 329 *eP* **P** **12 35 05.6 -0.3**
MUD pmax pmax
comp=Z,10.0nm,1.0s
MUD Monsted U'grnd 86.28 329 *i* P **P** **12 35 05.6 -0.3**
comp=Z,10nm,0.9s
YKW3 Yellowknife Ar 86.68 23 *eP* **P** **12 35 08.3 +0.5**
comp=Z,0.1nm,0.8s
YKA Yellowknife Ar 86.73 23 P P **12 35 08.8 +0.8**
YKA Yellowknife Ar 86.73 23 P P **12 35 08.8 +0.8**
comp=Z,4.4nm,0.8s,baz=308,slow=4.7,SNR=75
SCO Scoresbysund 86.99 349 *eP* **P** **12 35 08.4 -0.8**
SCO pmax pmax
comp=Z,3.0nm,0.9s
SCO Scoresbysund 86.99 349 *i* P **P** **12 35 08.4 -0.8**
comp=Z,2.5nm,0.9s
SUMG Summit 87.36 354 *i* P **P** **12 35 11.7 +0.3**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 87.36 354 *i* P **P** **12 35 11.7 +0.3**
comp=Z,11nm,1.0s
SUMG Summit 87.36 354 *eP* **P** **12 35 11.6 +0.2**
comp=Z,15nm,1.0s
GERES GERESS Array B 87.47 321 S **S** **12 40 37.8 -0.3**
GERES GERESS Array B 87.47 321 P P **12 35 11.3 -0.7**
comp=Z,0.7nm,0.6s,baz=57,slow=4.9,SNR=7.5
PPT Papeete 93.52 107 LR LR 13 13 30.5
comp=Z,16nm,28.6s,baz=176,slow=33
MOD Modoc 95.64 42 *eP* **P** **12 35 52.3 +2.1**
comp=Z,6.9nm,1.1s
J08A Circle Bar Ran 95.98 40 *eP* **P** **12 35 51.3 -0.5**
comp=Z,7.4nm,0.9s
NVAR Mina Array Bea 98.81 44 P Pdif 12 36 05.8 +1.1
NVAR Mina Array Bea 98.81 44 P Pdif 12 36 05.8 +1.1
comp=Z,0.9nm,0.7s,baz=312,slow=6.7,SNR=6.8
TORD Torodi Ar. Bea 113.61 294 PKiKP **PKiKP** **12 41 02.4 -1.0**
TORD Torodi Ar. Bea 113.61 294 PKiKP **PKiKP** **12 41 02.4 -1.0**
comp=Z,0.3nm,0.7s,baz=41,slow=1.7,SNR=4.4
TXAR Lajitas Array 113.96 44 PKiKP **PKiKP** **12 41 03.9 0.0**
TXAR pP **pPKiKP** **12 41 15.4 -1.4**
TXAR Lajitas Array 113.96 44 PKiKP **PKiKP** **12 41 03.9 0.0**
comp=Z,0.7nm,0.7s,baz=297,slow=1.2,SNR=12
TXAR pP **pPKiKP** **12 41 15.4 -1.4**
comp=Z,0.6nm,0.7s,baz=159,slow=0.5,SNR=5.6
JCT Junction City 115.62 40 *e*PKiKP **PKPdf** **12 41 07.4 +0.4**
JCT Junction City 115.62 40 *e*PKPdf **PKPdf** **12 41 07.4 +0.4**
SDV Santo Domingo 148.89 26 *e*PKPdf **PKPdf** **12 42 09.8 +0.6**

IDC 31 12:48:37.1±45.0, **15°21S**×**172°45W**, **h0**km, **mb4.4**/3, **mb1 4.6**/3, **mb1mx3.7**/21, **mbtmp4.4**/3, **Error ellipse: s-maj=869.6km s-min=173.2km az=78.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.93**	**240**	P	P	12 56 53.8	-0.2
	4.2nm,1.0s,baz=82,slow=12,SNR=6.6						
WRA	**Warramunga Arr**	**50.78**	**257**	P	P	12 57 39.5	-0.1
	1.2nm,0.5s,baz=93,slow=7.0,SNR=41						
ASAR	**Alice Springs**	**51.05**	**252**	P	P	12 57 41.5	-0.1
	8.2nm,0.5s,baz=88,slow=8.1,SNR=193						

*ISCJB **31** 13:01:36.8±0.2,36°.17N±0°.02×27°.62E±0°.02,h88km±3km, mb4.0/7, Error ellipse: s-maj=2.6km s-min=2.2km az=9.8*
*IDC **31** 13:01:37.4±1.1,36°.27N×27°.55E,h67km±16km,mb3.8/7, mb1 4.0/12,mb1mx3.6/29,mbtmp4.2/12, Error ellipse: s-maj=21.2km s-min=9.3km az=158.0*
*ISK **31** 13:01:37.8,36°.29N×27°.52E,h85km,MD3.5,ML3.9*
*NSSC **31** 13:01:38.4±2.3,36°.20N×28°.01E,h0km±192km,ML3.6*
*CSEM **31** 13:01:38.4±0.1,36°.16N×27°.62E,h80km,ML3.4, Error ellipse: s-maj=2.5km s-min=1.9km az=32.0*
*ATH **31** 13:01:39.1,36°.30N×27°.44E,h52km±4km,ML3.4*
*HLW **31** 13:01:40.9,35°.89N×27°.69E,h31km±46km,Md0.0,Ml4.3*
*DDA **31** 13:01:41.1,36°.52N×27°.79E,h39km,MD3.6*
*THE **31** 13:01:41.0,36°.29N×27°.43E,h41km±3km,ML3.7/2, Error ellipse: s-maj=4.0km s-min=0.6km az=120.0*
*NIC **31** 13:01:41.3±0.3,36°.61N×28°.16E,h56km,mb4.4,ML4.0*
ISC 31 13:01:37.7±0.5, **36°23N**±0°.02×**27°.61E**±0°.02, **h76**km±5km, **n249**,σ1**s49**/320, **mb4.0**/7, **2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.42**	**92**	P	**Pn**	**13 01 52.0**	**+1.7**
ARG				S	**Sn**	**13 02 00.7**	**+1.1**
ARG	**Arkhangelos**	**0.42**	**92**	*eP*	**Pn**	**13 01 52.0**	**+1.7**
ARG				*eS*	**Sn**	**13 02 01.2**	**+1.6**
ARG	**Arkhangelos**	**0.42**	**92**	*eP*	**Pn**	**13 01 52.0**	**+1.7**
ARG				S	**Sn**	**13 02 00.7**	**+1.1**
KARP	**Karpathos**	**0.77**	**208**	P	**Pn**	**13 01 54.9**	**+1.1**
KARP				S	**Sn**	**13 02 06.2**	**+0.4**
KARP	**Karpathos**	**0.77**	**208**	*eP*	**Pn**	**13 01 55.0**	**+1.1**
KARP				*eS*	**Sn**	**13 02 06.3**	**+0.4**
KARP	**Karpathos**	**0.77**	**208**	P	**Pn**	**13 01 54.9**	**+1.1**
KARP				*eS*	**Sn**	**13 02 06.3**	**+0.4**
BDRM	**Kayabasi**	**0.84**	**351**	*i* P	**Pn**	**13 01 55.4**	**+0.8**
BDRM				*i* S	**Sn**	**13 02 07.4**	**+0.1**
BDRM	**Kayabasi**	**0.84**	**351**	*i* P	**Pn**	**13 01 55.4**	**+0.8**
BDRM				*i* S	**Sn**	**13 02 07.4**	**+0.1**
BODT	**Bodrum**	**0.86**	**344**	*e*PG	**Pn**	**13 01 55.2**	**+0.3**
BODT				*e*SG	**Sn**	**13 02 08.0**	**+0.3**
BODT	**Bodrum**	**0.86**	**344**	*e*Pg	**Pn**	**13 01 55.2**	**+0.3**
BODT				*e*Sg	**Sn**	**13 02 08.0**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.02**	**55**	*e*PG	**Pn**	**13 01 59.1**	**+2.4**
DALY				*e*SG	**Sn**	**13 02 13.6**	**+2.7**
DALY	**Dalyan (Mu¨la**	**1.02**	**55**	*e*Pg	**Pn**	**13 01 59.1**	**+2.4**
DALY				*e*Sg	**Sn**	**13 02 13.6**	**+2.7**
TURN	**Turunc**	**1.02**	**51**	*i* P	**Pn**	**13 01 54.8**	**-1.9**
TURN				*i* S	Sn	13 02 06.1	-4.9
TURN	**Turunc**	**1.02**	**51**	*i* P	**Pn**	**13 01 54.8**	**-1.9**
FETY	**Fethiye**	**1.25**	**71**	*e*PN	**Pn**	**13 02 01.5**	**+1.8**
FETY	**Fethiye**	**1.25**	**71**	*e*Pn	**Pn**	**13 02 01.5**	**+1.8**
AYDN	**Tasoluk**	**1.44**	**8**	*i* P	**Pn**	**13 02 01.3**	**-0.8**
AYDN				*i* S	**Sn**	**13 02 18.1**	**-2.5**
AYDN	**Tasoluk**	**1.44**	**8**	*i* P	**Pn**	**13 02 01.3**	**-0.8**
AYDN				*i* S	**Sn**	**13 02 18.1**	**-2.5**
GCAM	**G?zelcaml?**	**1.50**	**348**	*i* P	**Pn**	**13 02 03.9**	**+1.1**
GCAM				*i* S	**Sn**	**13 02 21.8**	**+0.1**
GCAM	**G?zelcaml?**	**1.50**	**348**	*i* P	**Pn**	**13 02 03.9**	**+1.1**
GCAM				*i* S	**Sn**	**13 02 21.8**	**+0.1**
ZKR	**Zakros**	**1.59**	**226**	P	**Pn**	**13 02 05.2**	**+1.2**
ZKR				S	**Sn**	**13 02 24.9**	**+1.0**
ZKR	**Zakros**	**1.59**	**226**	*eP*	**Pn**	**13 02 05.4**	**+1.4**
ZKR				*eS*	**Sn**	**13 02 24.6**	**+0.7**
ZKR	**Zakros**	**1.59**	**226**	P	**Pn**	**13 02 05.2**	**+1.2**
ZKR				*eS*	**Sn**	**13 02 24.6**	**+0.7**
SMG	**Samos**	**1.60**	**337**	P	**Pn**	**13 02 04.9**	**+0.7**
SMG				S	**Sn**	**13 02 23.2**	**-1.0**
SMG	**Samos**	**1.60**	**337**	*eP*	**Pn**	**13 02 04.7**	**+0.5**
SMG	**Samos**	**1.60**	**337**	P	**Pn**	**13 02 04.9**	**+0.7**
SMG				S	**Sn**	**13 02 23.2**	**-1.0**
AKAS	**Kas**	**1.61**	**89**	*i* P	**Pn**	**13 02 06.5**	**+2.1**
AKAS				*i* S	**Sn**	**13 02 25.6**	**+1.0**
AKAS	**Kas**	**1.61**	**89**	*i* P	**Pn**	**13 02 06.5**	**+2.1**
AKAS				*i* S	**Sn**	**13 02 25.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.73**	**7**	*e*PN	**Pn**	**13 02 06.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.73**	**7**	*e*Pn	**Pn**	**13 02 06.8**	**+0.8**
SANT	**Santorini**	**1.75**	**275**	*e*PN	**Pn**	**13 02 06.9**	**+0.8**
SANT	**Santorini**	**1.75**	**275**	P	**Pn**	**13 02 06.6**	**+0.5**
SANT				S	**Sn**	**13 02 26.3**	**-1.3**
SANT	**Santorini**	**1.75**	**275**	*e*P	**Pn**	**13 02 06.8**	**+0.8**
SANT				*e*S	**Sn**	**13 02 27.0**	**-0.6**
SANT	**Santorini**	**1.75**	**275**	*e*Pn	**Pn**	**13 02 06.9**	**+0.8**
SANT				*e*S	**Sn**	**13 02 27.0**	**-0.6**
GLHS	**Glhisar (BURDU**	**1.78**	**58**	*e*PN	**Pn**	**13 02 08.7**	**+2.2**
GLHS	**Glhisar (BURDU**	**1.78**	**58**	*e*Pn	**Pn**	**13 02 08.7**	**+2.2**
DNZL	**Cakiroluk**	**1.86**	**38**	*i* P	**Pn**	**13 02 09.3**	**+1.6**
DNZL				*i* S	**Sn**	**13 02 28.0**	**-2.5**
DNZL	**Cakiroluk**	**1.86**	**38**	*i* P	**Pn**	**13 02 09.3**	**+1.6**
DNZL				*i* S	**Sn**	**13 02 28.0**	**-2.5**
GOLH	**Golhisar**	**1.86**	**57**	*i* P	**Pn**	**13 02 10.2**	**+2.5**
GOLH				*i* S	**Sn**	**13 02 34.1**	**+3.6**
GOLH	**Golhisar**	**1.86**	**57**	*i* P	**Pn**	**13 02 10.2**	**+2.5**
GOLH				*i* S	**Sn**	**13 02 34.1**	**+3.6**
APE	**Apeiranthos**	**1.87**	**297**	*e*PN	**Pn**	**13 02 08.6**	**+0.9**
APE	**Apeiranthos**	**1.87**	**297**	P	**Pn**	**13 02 08.6**	**+0.9**
APE				S	**Sn**	**13 02 28.9**	**-1.7**
APE	**Apeiranthos**	**1.87**	**297**	*e*P	**Pn**	**13 02 08.7**	**+0.9**
APE	**Apeiranthos**	**1.87**	**297**	*e*P	**Pn**	**13 02 08.7**	**+0.9**
APE				S	**Sn**	**13 02 28.9**	**-1.7**
NPS	**Neapolis**	**1.89**	**240**	*e*P	**Pn**	**13 02 08.8**	**+0.8**
NPS				*e*S	**Sn**	**13 02 30.3**	**-0.8**
NPS	**Neapolis**	**1.89**	**240**	*e*P	**Pn**	**13 02 08.8**	**+0.8**
NPS				*e*S	**Sn**	**13 02 30.3**	**-0.8**
ELL	**Elmali**	**1.92**	**74**	*e*PN	**Pn**	**13 02 10.8**	**+2.3**
ELL	**Elmali**	**1.92**	**74**	*e*Pn	**Pn**	**13 02 10.8**	**+2.3**
LAST	**Lasithi**	**2.04**	**239**	P	**Pn**	**13 02 10.8**	**+0.8**
LAST				S	**Sn**	**13 02 34.3**	**-0.4**
LAST	**Lasithi**	**2.04**	**239**	*e*P	**Pn**	**13 02 10.9**	**+0.9**
LAST				*e*S	**Sn**	**13 02 34.6**	**-0.1**
LAST	**Lasithi**	**2.04**	**239**	P	**Pn**	**13 02 10.8**	**+0.8**
LAST				*e*S	**Sn**	**13 02 34.6**	**-0.1**
IZM	**Izmir**	**2.18**	**353**	*e*PN	**Pn**	**13 02 12.7**	**+0.8**
IZM	**Izmir**	**2.18**	**353**	*e*Pn	**Pn**	**13 02 12.7**	**+0.8**
BLCB	**Balcova**	**2.20**	**348**	*e*PN	**Pn**	**13 02 12.7**	**+0.6**
BLCB	**Balcova**	**2.20**	**348**	*e*Pn	**Pn**	**13 02 12.7**	**+0.6**
KORT	**Korkueli**	**2.33**	**70**	*i* P	**Pn**	**13 02 16.8**	**+2.8**
KORT				*i* S	**Sn**	**13 02 43.1**	**+1.3**
KORT	**Korkueli**	**2.33**	**70**	*i* P	**Pn**	**13 02 16.8**	**+2.8**
KORT				*i* S	**Sn**	**13 02 43.1**	**+1.3**

MANT	**Manisa**	**2.38**	**18**	*i* P	**Pn**	**13 02 16.0**	**+1.2**
MANT				*i* S	**Sn**	**13 02 42.2**	**-0.9**
MANT	**Manisa**	**2.38**	**18**	*i* P	**Pn**	**13 02 16.0**	**+1.2**
MANT				*i* S	**Sn**	**13 02 42.2**	**-0.9**
IDI	**Anoyia**	**2.41**	**248**	*e*PN	**Pn**	**13 02 15.2**	**+0.3**
IDI	**Anoyia**	**2.41**	**248**	P	**Pn**	**13 02 15.2**	**+0.3**
IDI				S	**Sn**	**13 02 42.3**	**-1.2**
IDI	**Anoyia**	**2.41**	**248**	*e*P	**Pn**	**13 02 15.3**	**+0.3**
IDI				*e*S	**Sn**	**13 02 42.4**	**-1.1**
IDI	**Anoyia**	**2.41**	**248**	*e*P	**Pn**	**13 02 15.3**	**+0.3**
IDI				*e*S	**Sn**	**13 02 42.4**	**-1.1**
IDI	**Anoyia**	**2.41**	**248**	P	**Pn**	**13 02 15.3**	**+0.3**
	51nm,0.3s,baz=60,slow=16,SNR=106						
IDI				S	**Sn**	**13 02 42.6**	**-0.8**
	78nm,0.3s,baz=263,slow=17,SNR=9.2						
KULA	**Kula-Manisa**	**2.43**	**20**	*e*PN	**Pn**	**13 02 16.7**	**+1.4**
KULA	**Kula-Manisa**	**2.43**	**20**	*e*Pn	**Pn**	**13 02 16.7**	**+1.4**
CHOS	**Chios island**	**2.48**	**331**	*e*PN	**Pn**	**13 02 17.0**	**+1.0**
CHOS	**Chios island**	**2.48**	**331**	P	**Pn**	**13 02 17.1**	**+1.0**
CHOS				S	**Sn**	**13 02 44.5**	**-0.9**
CHOS	**Chios island**	**2.48**	**331**	*e*P	**Pn**	**13 02 16.9**	**+0.9**
CHOS	**Chios island**	**2.48**	**331**	P	**Pn**	**13 02 17.1**	**+1.0**
CHOS				S	**Sn**	**13 02 44.5**	**-0.9**
ANTB	**Antalya**	**2.54**	**74**	*e*PN	Pn	13 02 20.2	+3.5
ANTB	**Antalya**	**2.54**	**74**	*e*Pn	Pn	13 02 20.2	+3.5
SIVA	**Sivas**	**2.58**	**243**	P	**Pn**	**13 02 18.8**	**+1.5**
SIVA	**Sivas**	**2.58**	**243**	*e*P	**Pn**	**13 02 18.9**	**+1.6**
SIVA				*e*S	**Sn**	**13 02 48.6**	**+0.9**
SIVA	**Sivas**	**2.58**	**243**	P	**Pn**	**13 02 18.8**	**+1.5**
SIVA				*e*S	**Sn**	**13 02 48.6**	**+0.9**
KHL	**Karahalli**	**2.59**	**36**	*e*PN	**Pn**	**13 02 18.8**	**+1.4**
KHL	**Karahalli**	**2.59**	**36**	*e*Pn	**Pn**	**13 02 18.8**	**+1.4**
AKS	**Akhisar**	**2.65**	**3**	*e*PN	**Pn**	**13 02 19.1**	**+0.9**
AKS	**Akhisar**	**2.65**	**3**	*e*Pn	**Pn**	**13 02 19.1**	**+0.9**
BCK	**Bucak**	**2.69**	**62**	*e*PN	**Pn**	**13 02 21.1**	**+2.4**
BCK	**Bucak**	**2.69**	**62**	*e*Pn	**Pn**	**13 02 21.1**	**+2.4**
ISP	**Isparta**	**2.82**	**55**	*e*PN	**Pn**	**13 02 22.1**	**+1.4**
ISP	**Isparta**	**2.82**	**55**	P	**Pn**	**13 02 22.0**	**+1.4**
ISP	**Isparta**	**2.82**	**55**	P	**Pn**	**13 02 22.0**	**+1.4**
VAM	**Vamos**	**2.89**	**255**	P	**Pn**	**13 02 21.9**	**+0.4**
VAM				S	**Sn**	**13 02 54.3**	**-0.9**
VAM	**Vamos**	**2.89**	**255**	*e*P	**Pn**	**13 02 22.6**	**+1.1**
VAM	**Vamos**	**2.89**	**255**	*e*P	**Pn**	**13 02 22.6**	**+1.1**
VAM				S	**Sn**	**13 02 54.3**	**-0.9**
DEMI	**Demirci**	**2.94**	**17**	*i* P	**Pn**	**13 02 23.6**	**+1.4**
DEMI				*i* S	**Sn**	**13 02 56.0**	**-0.5**
DEMI	**Demirci**	**2.94**	**17**	*i* P	**Pn**	**13 02 23.6**	**+1.4**
DEMI				*i* S	**Sn**	**13 02 56.0**	**-0.5**
SUTC	**Sutluce-Ispart**	**2.99**	**64**	*e*PN	**Pn**	**13 02 25.2**	**+2.3**
SUTC	**Sutluce-Ispart**	**2.99**	**64**	*e*Pn	**Pn**	**13 02 25.2**	**+2.3**
KARN	**Karanos**	**3.11**	**256**	P	**Pn**	**13 02 25.4**	**+0.9**
KARN				S	**Sn**	**13 03 00.3**	**-0.3**
KARN	**Karanos**	**3.11**	**256**	*e*P	**Pn**	**13 02 25.5**	**+0.9**
KARN	**Karanos**	**3.11**	**256**	P	**Pn**	**13 02 25.4**	**+0.9**
KARN				S	**Sn**	**13 03 00.3**	**-0.3**
PRK	**Paraskevi**	**3.19**	**341**	P	**Pn**	**13 02 26.8**	**+1.3**
PRK	**Paraskevi**	**3.19**	**341**	*e*P	**Pn**	**13 02 26.5**	**+1.0**
PRK	**Paraskevi**	**3.19**	**341**	P	**Pn**	**13 02 26.8**	**+1.3**
SIGR	**SIGRI**	**3.29**	**335**	P	**Pn**	**13 02 28.1**	**+1.3**
SIGR				S	**Sn**	**13 03 04.3**	**-0.4**
SIGR	**SIGRI**	**3.29**	**335**	P	**Pn**	**13 02 28.1**	**+1.3**
SIGR				S	**Sn**	**13 03 04.3**	**-0.4**
SHUT	**Suhut-Afyon**	**3.29**	**44**	*e*PN	**Pn**	**13 02 28.6**	**+1.6**
SHUT	**Suhut-Afyon**	**3.29**	**44**	*e*Pn	**Pn**	**13 02 28.6**	**+1.6**
BALB	**Balikesir**	**3.41**	**3**	*e*PN	**Pn**	**13 02 30.0**	**+1.5**
BALB	**Balikesir**	**3.41**	**3**	*e*Pn	**Pn**	**13 02 30.0**	**+1.5**
PTL	**Penteli**	**3.50**	**302**	*e*P	**Pn**	**13 02 30.6**	**+0.8**
PTL	**Penteli**	**3.50**	**302**	*e*P	**Pn**	**13 02 30.6**	**+0.8**
ANKY	**Antikythira Is**	**3.51**	**265**	P	**Pn**	**13 02 30.9**	**+1.0**
ANKY				S	**Sn**	**13 03 09.6**	**-0.7**
ANKY	**Antikythira Is**	**3.51**	**265**	*e*P	**Pn**	**13 02 31.2**	**+1.3**
ANKY	**Antikythira Is**	**3.51**	**265**	P	**Pn**	**13 02 30.9**	**+1.0**
ANKY				S	**Sn**	**13 03 09.6**	**-0.7**
TVSB	**Tavsanli**	**3.53**	**24**	*e*PN	**Pn**	**13 02 31.4**	**+1.2**
TVSB	**Tavsanli**	**3.53**	**24**	*e*Pn	**Pn**	**13 02 31.4**	**+1.2**
ATH	**Athens Observa**	**3.57**	**300**	*e*P	**Pn**	**13 02 31.9**	**+1.3**
ATH	**Athens Observa**	**3.57**	**300**	*e*P	**Pn**	**13 02 31.9**	**+1.3**
NAIG	**Nisos Aigina**	**3.64**	**296**	*e*P	**Pn**	**13 02 33.3**	**+1.7**
NAIG	**Nisos Aigina**	**3.64**	**296**	*e*P	**Pn**	**13 02 33.3**	**+1.7**
KYTH	**Kithira**	**3.70**	**272**	*e*P	**Pn**	**13 02 33.8**	**+1.4**
KYTH	**Kithira**	**3.70**	**272**	*e*P	**Pn**	**13 02 33.8**	**+1.4**
DID	**Didima**	**3.73**	**291**	P	**Pn**	**13 02 34.4**	**+1.5**
DID	**Didima**	**3.73**	**291**	*e*P	**Pn**	**13 02 34.2**	**+1.3**
DID	**Didima**	**3.73**	**291**	*e*P	**Pn**	**13 02 34.2**	**+1.3**
VLI	**Veliai**	**3.80**	**279**	P	**Pn**	**13 02 35.0**	**+1.2**
VLI				S	**Sn**	**13 03 16.2**	**-1.1**
VLI	**Veliai**	**3.80**	**279**	*e*P	**Pn**	**13 02 35.5**	**+1.7**
VLI	**Veliai**	**3.80**	**279**	P	**Pn**	**13 02 35.0**	**+1.2**
VLI				S	**Sn**	**13 03 16.2**	**-1.1**
GONE	**Gonen-Balikesi**	**3.81**	**1**	*e*PN	**Pn**	**13 02 34.9**	**+1.0**
GONE	**Gonen-Balikesi**	**3.81**	**1**	*e*Pn	**Pn**	**13 02 34.9**	**+1.0**
AKMC	**Akamas**	**4.03**	**106**	P	**Pn**	**13 02 37.0**	**+0.1**
	baz=296						
AKMC	**Akamas**	**4.03**	**106**	P	**Pn**	**13 02 37.0**	**+0.1**
MRKA	**Markates**	**4.04**	**309**	P	**Pn**	**13 02 38.4**	**+1.3**
MRKA	**Markates**	**4.04**	**309**	*e*P	**Pn**	**13 02 39.0**	**+1.9**
MRKA	**Markates**	**4.04**	**309**	*e*P	**Pn**	**13 02 39.0**	**+1.9**
KCTX	**Karacabey (Bur**	**4.07**	**8**	*e*PN	**Pn**	**13 02 38.2**	**+0.7**
KCTX	**Karacabey (Bur**	**4.07**	**8**	*e*Pn	**Pn**	**13 02 38.2**	**+0.7**
PPCY	**Paphos**	**4.08**	**108**	P	**Pn**	**13 02 38.5**	**+0.8**
	baz=297						
PPCY	**Paphos**	**4.08**	**108**	P	**Pn**	**13 02 38.5**	**+0.8**
LTK	**Loutraki**	**4.12**	**297**	*e*P	**Pn**	**13 02 40.4**	**+2.2**
LTK	**Loutraki**	**4.12**	**297**	*e*P	**Pn**	**13 02 40.4**	**+2.2**
LIA	**Limnos Island**	**4.13**	**333**	P	**Pn**	**13 02 40.1**	**+1.8**
LIA	**Limnos Island**	**4.13**	**333**	P	**Pn**	**13 02 40.1**	**+1.8**
KRBG	**Karabiga-Canak**	**4.16**	**357**	*e*PN	**Pn**	**13 02 39.5**	**+0.7**
KRBG	**Karabiga-Canak**	**4.16**	**357**	*e*Pn	**Pn**	**13 02 39.5**	**+0.7**
AOS	**Alonnisos**	**4.17**	**316**	P	**Pn**	**13 02 40.3**	**+1.5**
AOS	**Alonnisos**	**4.17**	**316**	P	**Pn**	**13 02 40.3**	**+1.5**
LPK	**Lapseki**	**4.19**	**351**	*e*PN	**Pn**	**13 02 40.4**	**+1.3**
LPK	**Lapseki**	**4.19**	**351**	*e*Pn	**Pn**	**13 02 40.4**	**+1.3**
ALFC	**Alevga**	**4.20**	**103**	P	**Pn**	**13 02 39.0**	**-0.3**
	baz=293						
ALFC				S	**Sn**	**13 03 25.3**	**-1.8**
ALFC	**Alevga**	**4.20**	**103**	P	**Pn**	**13 02 39.0**	**-0.3**
ALFC				S	**Sn**	**13 03 25.3**	**-1.8**
SKIA	**Skiathos**	**4.41**	**313**	P	**Pn**	**13 02 43.8**	**+1.8**
SKIA	**Skiathos**	**4.41**	**313**	*e*P	**Pn**	**13 02 44.0**	**+2.0**
SKIA	**Skiathos**	**4.41**	**313**	P	**Pn**	**13 02 43.8**	**+1.8**
SMTH	**Samothraki Isl**	**4.54**	**340**	P	**Pn**	**13 02 44.7**	**+0.8**
SMTH	**Samothraki Isl**	**4.54**	**340**	P	**Pn**	**13 02 44.7**	**+0.8**
GUR	**Goura**	**4.54**	**294**	*e*P	**Pn**	**13 02 45.8**	**+1.8**
GUR	**Goura**	**4.54**	**294**	*e*P	**Pn**	**13 02 45.8**	**+1.8**
SZAC	**Souni-Zanaja**	**4.54**	**107**	P	**Pn**	**13 02 45.0**	**+1.0**
	baz=297						
SZAC				S	**Sn**	**13 03 33.8**	**-1.8**
SZAC	**Souni-Zanaja**	**4.54**	**107**	P	**Pn**	**13 02 45.0**	**+1.0**
SZAC				S	**Sn**	**13 03 33.8**	**-1.8**
DSF	**Desfina**	**4.60**	**300**	*e*P	**Pn**	**13 02 47.0**	**+2.2**
DSF	**Desfina**	**4.60**	**300**	*e*P	**Pn**	**13 02 47.0**	**+2.2**
ITM	**Ithomi**	**4.67**	**283**	*e*P	**Pn**	**13 02 48.2**	**+2.6**
ITM	**Ithomi**	**4.67**	**283**	*e*P	**Pn**	**13 02 48.2**	**+2.6**
KLV	**Kalavryta, Ach**	**4.72**	**294**	P	**Pn**	**13 02 46.8**	**+0.4**
KLV	**Kalavryta, Ach**	**4.72**	**294**	*e*P	**Pn**	**13 02 49.0**	**+2.6**
KLV	**Kalavryta, Ach**	**4.72**	**294**	*e*P	**Pn**	**13 02 49.0**	**+2.6**
PYL	**PYLOS**	**4.77**	**280**	P	**Pn**	**13 02 47.9**	**+0.9**
PYL				S	**Sn**	**13 03 39.8**	**-1.2**
PYL	**PYLOS**	**4.77**	**280**	*e*P	**Pn**	**13 02 48.3**	**+1.3**
PYL	**PYLOS**	**4.77**	**280**	*e*P	**Pn**	**13 02 48.3**	**+1.3**
PYL				S	**Sn**	**13 03 39.8**	**-1.2**
ALN	**Alexandroupoli**	**4.82**	**346**	P	**Pn**	**13 02 49.4**	**+1.7**
ALN	**Alexandroupoli**	**4.82**	**346**	P	**Pn**	**13 02 49.4**	**+1.7**
CSS	**Prodhromos**	**4.83**	**104**	P	**Pn**	**13 02 47.7**	**-0.1**
	baz=292						
CSS	**Prodhromos**	**4.83**	**104**	P	**Pn**	**13 02 48.2**	**+0.4**
CSS	**Prodhromos**	**4.83**	**104**	P	**Pn**	**13 02 48.2**	**+0.4**
CSS	**Prodhromos**	**4.83**	**104**	Pn	**Pn**	**13 02 48.7**	**+0.9**
MATC	**Matruh**	**4.88**	**184**	P	**Pn**	**13 02 47.9**	**-0.7**
OUR	**Ouranopolis**	**5.00**	**326**	P	**Pn**	**13 02 51.6**	**+1.6**
OUR	**Ouranopolis**	**5.00**	**326**	P	**Pn**	**13 02 51.6**	**+1.6**
SLUM		**5.13**	**204**	P	**Pn**	**13 02 51.8**	**-0.2**
MAKR	**Makrakomi, Fth**	**5.16**	**304**	*e*P	**Pn**	**13 02 54.7**	**+2.3**
MAKR	**Makrakomi, Fth**	**5.16**	**304**	*e*P	**Pn**	**13 02 54.7**	**+2.3**
LTBQ	**Tobruq**	**5.17**	**217**	*i* P	**Pn**	**13 02 53.0**	**+0.5**
	SNR=45						
KAVA	**Kavala**	**5.34**	**334**	P	**Pn**	**13 02 56.6**	**+1.8**
KAVA	**Kavala**	**5.34**	**334**	P	**Pn**	**13 02 56.6**	**+1.8**
PHNC	**Paralimni**	**5.37**	**101**	⇓P	**Pn**	**13 02 56.8**	**+1.6**
PHNC				S	**Sn**	**13 03 55.7**	**0.0**
THL	**Klokotos Trika**	**5.54**	**309**	*e*P	**Pn**	**13 02 59.2**	**+1.7**
THL	**Klokotos Trika**	**5.54**	**309**	*e*P	**Pn**	**13 02 59.2**	**+1.7**
PDO	**Prodromos**	**5.64**	**297**	P	**Pn**	**13 02 59.0**	**+0.2**
PDO	**Prodromos**	**5.64**	**297**	*e*P	**Pn**	**13 03 00.2**	**+1.4**
PDO	**Prodromos**	**5.64**	**297**	*e*P	**Pn**	**13 03 00.2**	**+1.4**
SRS	**Serrai**	**5.80**	**328**	P	**Pn**	**13 03 03.0**	**+1.9**
SRS	**Serrai**	**5.80**	**328**	P	**Pn**	**13 03 03.0**	**+1.9**
BRTR	**Keskin Array B**	**5.90**	**52**	P	**Pn**	**13 03 04.6**	**+2.0**
	3.5nm,0.3s,baz=220,slow=14,SNR=98						
BRTR				S	**Sn**	**13 04 10.3**	**+1.4**
	0.5nm,0.3s,baz=221,slow=23,SNR=3.0						
VLS	**Valsamata**	**5.93**	**291**	*e*P	Pn	13 03 06.1	+3.2
VLS	**Valsamata**	**5.93**	**291**	*e*P	Pn	13 03 06.1	+3.2
HBRG	**Burj al 'Arab**	**5.94**	**161**	P	**Pn**	**13 03 02.6**	**-0.4**
ARNB	**Al Arnab**	**6.78**	**91**	*e*P	**Pn**	**13 03 14.8**	**+0.2**
ARNB				*e*S	**Sn**	**13 04 26.6**	**-3.8**
ARNB				AML	AML	13 04 33.9	
	comp=N,31nm,0.5s						
ARNB				AML	AML	13 04 36.7	
	comp=E,70nm,0.6s						
ARNB	**Al Arnab**	**6.78**	**91**	*e*P	**Pn**	**13 03 14.8**	**+0.2**
	SNR=45						
HMYD	**Mayadein**	**6.95**	**156**	P	**Pn**	**13 03 16.8**	**-0.1**
SQR		**7.01**	**154**	P	**Pn**	**13 03 17.6**	**0.0**
HWQ	**Hawqa**	**7.09**	**104**	*e*P	**Pn**	**13 03 19.1**	**+0.3**
HWQ	**Hawqa**	**7.09**	**104**	*e*P	**Pn**	**13 03 19.1**	**+0.3**
FYM	**Al Fayyum**	**7.13**	**155**	P	**Pn**	**13 03 19.1**	**-0.2**
AYT	**Al 'Ayyat**	**7.15**	**154**	P	**Pn**	**13 03 19.7**	**+0.1**
BTCH	**Batrach**	**7.16**	**89**	*e*P	**Pn**	**13 03 21.6**	**+1.9**
BTCH				*e*S	**Sn**	**13 04 35.6**	**-4.0**
BTCH				AML	AML	13 04 42.9	
	comp=E,89nm,0.6s						
BTCH				AML	AML	13 04 43.2	
	comp=N,90nm,0.5s						
BTCH	**Batrach**	**7.16**	**89**	*e*P	**Pn**	**13 03 21.6**	**+1.9**
	SNR=45						
MMC7	**Mount Meron ar**	**7.17**	**114**	Pn	**Pn**	**13 03 19.8**	**0.0**
MMAI	**Mount Meron Ar**	**7.18**	**114**	P	**Pn**	**13 03 19.1**	**-0.9**
	comp=N,16nm,0.3s,baz=310,slow=12,SNR=20						
MMAI				S	**Sn**	**13 04 35.4**	**-4.7**
	comp=N,28nm,0.3s,baz=305,slow=26,SNR=16						
BIDA	**Albida**	**7.20**	**97**	*e*P	**Pn**	**13 03 20.4**	**+0.2**
BIDA				*e*S	**Sn**	**13 04 35.5**	**-5.0**
BIDA				AML	AML	13 04 39.5	
	comp=N,321nm,0.4s						
BIDA				AML	AML	13 04 42.0	
	comp=E,232nm,0.4s						
BIDA	**Albida**	**7.20**	**97**	*e*P	**Pn**	**13 03 20.5**	**+0.2**
	SNR=45						
SWA2		**7.20**	**195**	P	**Pn**	**13 03 20.2**	**0.0**
VTS	**Vitosha**	**7.21**	**333**	P	**Pn**	**13 03 22.1**	**+1.7**
VTS	**Vitosha**	**7.21**	**333**	P	**Pn**	**13 03 22.1**	**+1.7**
VTS	**Vitosha**	**7.21**	**333**	*e*Pn	**Pn**	**13 03 23.4**	**+3.0**
KOT	**Kottamia**	**7.21**	**149**	P	**Pn**	**13 03 20.1**	**-0.3**
RCY	**Rachaya**	**7.29**	**110**	*e*P	**Pn**	**13 03 21.3**	**-0.3**
RCY	**Rachaya**	**7.29**	**110**	*e*P	**Pn**	**13 03 21.3**	**-0.3**
HHAG	**Hagoal**	**7.30**	**148**	P	**Pn**	**13 03 21.2**	**-0.5**
RSH		**7.32**	**134**	P	**Pn**	**13 03 21.0**	**-0.9**
HSAF	**As Saff**	**7.38**	**152**	P	**Pn**	**13 03 22.5**	**-0.2**
HAWK	**Haweek**	**7.38**	**101**	*e*P	**Pn**	**13 03 22.9**	**+0.1**
HAWK				*e*S	Sn	13 04 39.5	-5.6
HAWK				AML	AML	13 04 41.9	
	comp=N,166nm,0.6s						
HAWK				AML	AML	13 04 42.2	
	comp=E,43nm,0.5s						
HAWK	**Haweek**	**7.38**	**101**	*e*P	**Pn**	**13 03 22.9**	**+0.1**
	SNR=45						
BRBR	**Barbar**	**7.41**	**110**	*e*P	**Pn**	**13 03 23.9**	**+0.6**
BRBR				*e*S	Sn	13 04 40.2	-5.7
BRBR				AML	AML	13 04 43.5	
	comp=E,76nm,0.4s						
BRBR				AML	AML	13 04 47.1	
	comp=N,115nm,0.6s						
BRBR	**Barbar**	**7.41**	**110**	*e*P	**Pn**	**13 03 23.9**	**+0.6**
	SNR=45						
GLL	**Jalalah**	**7.47**	**151**	P	**Pn**	**13 03 23.4**	**-0.6**
MMLI	**Mount Malkishu**	**7.49**	**118**	Pn	**Pn**	**13 03 23.9**	**-0.2**
MARH	**Ras Al Marh**	**7.59**	**104**	*e*P	**Pn**	**13 03 28.0**	**+2.1**
MARH				*e*S	**Sn**	**13 04 46.2**	**-4.4**
MARH				AML	AML	13 04 50.4	
	comp=E,36nm,0.4s						
MARH				AML	AML	13 04 54.3	
	comp=N,88nm,0.7s						
MARH	**Ras Al Marh**	**7.59**	**104**	*e*P	**Pn**	**13 03 28.0**	**+2.1**
	SNR=45						
HMDT	**Nahal Hemdat**	**7.66**	**119**	Pn	**Pn**	**13 03 26.8**	**+0.3**
SUZ		**7.73**	**144**	P	**Pn**	**13 03 27.0**	**-0.5**
KZIT	**Kziot**	**7.76**	**131**	Pn	**Pn**	**13 03 27.3**	**-0.6**
TCHB	**Talchebab**	**7.76**	**115**	*e*P	Pn	13 03 31.4	+3.5
TCHB				*e*S	**Sn**	**13 04 50.2**	**-4.1**
TCHB				AML	AML	13 04 59.0	
	comp=N,142nm,0.4s						
TCHB				AML	AML	13 04 59.3	
	comp=E,121nm,0.6s						
MZDA	**Masada**	**8.11**	**125**	Pn	**Pn**	**13 03 32.5**	**0.0**
ZNM		**8.14**	**146**	P	**Pn**	**13 03 32.6**	**-0.5**
LJBD	**Adjabya**	**8.15**	**232**	*i* P	**Pn**	**13 03 32.5**	**-0.6**
	SNR=43						
ROOS	**tl_alroos**	**8.18**	**102**	*e*P	**Pn**	**13 03 35.6**	**+1.9**
ROOS				*e*S	**Sn**	**13 05 00.6**	**-4.1**
RMNI	**Mount Ramon**	**8.20**	**131**	Pn	**Pn**	**13 03 33.7**	**-0.3**
ZFRI	**Zfri**	**8.49**	**130**	Pn	**Pn**	**13 03 37.1**	**-0.7**
PRNI	**Paran**	**8.52**	**131**	Pn	**Pn**	**13 03 38.0**	**-0.3**
KRMI	**Paran Flat**	**8.52**	**134**	Pn	**Pn**	**13 03 37.4**	**-1.0**
ASF	**Jabal al Asfar**	**8.69**	**115**	P	**Pn**	**13 03 41.0**	**+0.3**
	comp=E,0.6nm,0.3s,baz=270,slow=6.1,SNR=3.6						
ASF				S	**Sn**	**13 05 13.8**	**-3.3**
	comp=E,1.8nm,0.3s,baz=314,slow=14,SNR=3.9						
HRFI	**Mount Harif**	**8.77**	**133**	Pn	**Pn**	**13 03 41.0**	**-0.7**
MBRI	**Mt Berech**	**8.87**	**134**	Pn	**Pn**	**13 03 42.7**	**-0.5**
EIL	**Elat**	**8.99**	**135**	Pn	**Pn**	**13 03 43.7**	**-0.9**
EIL	**Elat**	**8.99**	**135**	P	**Pn**	**13 03 43.9**	**-0.7**
	comp=E,6.5nm,0.3s,baz=321,slow=9.8,SNR=27						
EIL				S	Sn	13 05 17.7	-6.5
	comp=E,7.2nm,0.3s,baz=295,slow=19,SNR=7.1						
GRB	**Gharib**	**9.06**	**150**	P	**Pn**	**13 03 45.2**	**-0.5**
DIVS	**Divibare**	**9.78**	**326**	⇓*i* Pn	Pn	13 03 58.9	+3.4
FINES	**FINESS Array B**	**25.25**	**358**	P	**Pn**	**13 06 55.9**	**-0.5**
	comp=E,2.3nm,0.9s,baz=156,slow=10.0,SNR=7.1						
AKTO	**Aktyubinsk**	**26.06**	**47**	P	**P**	**13 07 04.2**	**+0.4**
	comp=E,1.5nm,0.6s,baz=243,slow=7.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**32.71**	**232**	P	**P**	**13 08 04.0**	**+0.9**
	comp=E,0.7nm,0.3s,baz=34,slow=8.9,SNR=15						
ARCES	**ARCESS Array B**	**33.38**	**359**	P	**P**	**13 08 08.0**	**-0.4**
	comp=E,5.4nm,1.0s,baz=173,slow=8.4,SNR=11						
SPITS	**Spitsbergen Ar**	**42.33**	**357**	P	**P**	**13 09 23.1**	**-0.4**
	comp=E,13nm,0.9s,baz=147,slow=8.6,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.82**	**47**	P	**P**	**13 09 28.5**	**+0.7**
	comp=E,1.2nm,0.5s,baz=270,slow=7.3,SNR=9.2						
SONM	**Songino Array**	**57.26**	**52**	P	**P**	**13 11 19.0**	**+1.6**
	comp=E,0.5nm,0.5s,baz=285,slow=7.9,SNR=8.0						

*IDC **31** 13:50:47.5±0.8, 0.°40S×132.°37E, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/25, mbtmp4.0/13, ML4.0/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/31, Error ellipse: s-maj=31.2km s-min=12.1km az=74.0*

*ISCJB **31** 13:50:50.8±0.5, 0.°33S×0.°06×132.°48E±0.°05, h33km, mb4.0/13, MS3.0/7, Error ellipse: s-maj=8.5km s-min=7.0km az=0.3*

*DJA **31** 13:50:50.7±0.5, 0.°S±6.°×13.°2E±.°, h10km, M4.7/7, mb5.0/4, MLv4.6/7*

ISC 31 13:50:52.7±0.6, **0.°48S**±0.°07×**132.°44E**±0.°05, **h33**km, **n35**, σ1§**75**/26, **mb4.0**/13, **MS3.0**/7, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.24**	**252**	P		P	**Pn**	**13 51 12.9**	**-0.8**
SWI				S		S	**Sb**	**13 51 32.6**	**+1.4**
MWPI	**Manokwari, Pap**	**1.66**	**106**	P		P	**Pn**	**13 51 19.1**	**-0.4**
MWPI				S		S	**Sb**	**13 51 45.2**	**+1.9**
FAKI	**Fak Fak**	**2.43**	**184**	P		P	**Pb**	**13 51 33.2**	**-2.6**
BAKI	**Biak**	**3.73**	**101**	P		P	**Pn**	**13 51 46.1**	**-1.9**
MSAI	**Masohi**	**4.52**	**231**	P		P	Pn	13 52 01.8	+3.0
BNDI	**Bandanaira**	**4.75**	**212**	P		P	**Pn**	**13 52 01.7**	**-0.3**
LBMI	**Labuha**	**4.94**	**268**	P		P	**Pn**	**13 52 04.5**	**-0.1**
NLAI	**Namlea**	**6.00**	**243**	P		P	**Pn**	**13 52 20.7**	**+1.5**
	44nm,0.6s								
GTOI	**Gorontalo**	**9.49**	**277**	P		P	Pn	13 53 11.0	+3.8
	45nm,0.8s								
MRSI	**Marisa**	**10.54**	**275**	P		P	Pn	13 53 37.6	+16
APSI	**Ampana**	**10.80**	**268**	P		P	**Pn**	**13 53 25.1**	**+0.1**
	60nm,0.7s								
PMG	**Port Moresby**	**17.13**	**122**	LR		LR	LR	14 02 27.2	
	comp=Z,112nm,19.7s,baz=301,slow=41								
FITZ	**Fitzroy Crossi**	**18.74**	**201**	LR		LR	LR	14 02 36.5	
	comp=Z,15nm,28.6s,baz=34,slow=38								
WRA	**Warramunga Arr**	**19.43**	**175**	P		P	**Pn**	**13 55 17.4**	**-0.5**
	0.5nm,0.3s,baz=354,slow=12,SNR=35								
WRA				S		S		13 58 45.9	-8.6
	0.5nm,0.3s,baz=354,slow=23,SNR=7.4								
ASAR	**Alice Springs**	**23.09**	**177**	P		P	**P**	**13 55 57.0**	**+1.2**
	11nm,0.9s,baz=347,slow=9.8,SNR=62								
ASAR				S		S	**S**	**14 00 09.1**	**+4.2**
	4.3nm,1.0s,baz=357,slow=27,SNR=7.1								
CTA	**Charters Tower**	**23.72**	**146**	P		P	**P**	**13 56 03.1**	**+1.2**
	5.2nm,1.0s,baz=347,slow=14,SNR=2.7								
STKA	**Stephens Creek**	**32.41**	**165**	P		P	**P**	**13 57 20.6**	**+1.0**
	2.8nm,0.9s,baz=340,slow=12,SNR=4.2								
STKA				LR		LR	LR	14 13 04.0	
	comp=Z,74nm,21.0s,baz=18,slow=41								
JNU	**Nakatsue**	**33.45**	**358**	LR		LR	LR	14 12 08.8	
	comp=Z,15nm,28.6s,baz=96,slow=38								
PSI	**Prapat**	**33.66**	**276**	P		P	**P**	**13 57 29.6**	**-1.4**
	4.6nm,0.6s,baz=61,slow=5.2,SNR=5.8								
NWAO	**Narrogin (SRO)**	**35.31**	**202**	LR		LR	LR	14 13 00.1	
	comp=Z,42nm,18.1s,baz=19,slow=38								
MJAR	**Matsushiro Arr**	**37.22**	**8**	LR		LR	LR	14 10 16.7	
	comp=Z,53nm,21.6s,baz=70,slow=32								
CMAR	**Chiang Mai Arr**	**37.92**	**302**	P		P	**P**	**13 58 05.9**	**-1.3**
	1.0nm,1.0s,baz=133,slow=7.0,SNR=9.9								
KSRS	**Korea Array**	**37.98**	**354**	LR		LR	LR	14 14 26.5	
	comp=Z,15nm,28.6s,baz=20,slow=38								
H11N1	**WAKE ISL

ZRHB					Pmax			
	comp=N,65nm,0.8s							
ZRHB					Smax			
	comp=N,446nm,0.9s							
OGRR	**Ongureny**	**3.77**	**56**	*e*Pn		**Pn**	**14 02 26.7**	**+1.1**
OGRR				*e*			14 02 35.1	
OGRR				*e*S		**Sn**	**14 03 09.1**	**-1.1**
OGRR				*e*			14 03 21.7	
OGRR				pmax	pmax			
	comp=Z,29nm,0.4s							
OGRR				smax	smax			
	comp=E,80nm,0.4s							
OGRR	**Ongureny**	**3.77**	**56**	*e*Pn		**Pn**	**14 02 26.8**	**+1.1**
OGRR				*e*Pg		**Pb**	**14 02 35.6**	**+1.5**
OGRR				*e*Sn		**Sn**	**14 03 09.4**	**-0.8**
OGRR				*e*Sg		**Sb**	**14 03 23.4**	**+3.5**
OGRR				Pmax				
	comp=E,28nm,0.4s							
OGRR				Smax				
	comp=E,82nm,0.2s							
SYVR	**Suvo**	**5.08**	**64**	*e*Pn		**Pn**	**14 02 45.9**	**+2.3**
SYVR				*e*Pg		**Pb**	**14 02 59.5**	**+3.2**
SYVR				*e*			14 03 16.7	
SYVR				*e*Sg		**Sg**	**14 04 05.4**	**-4.9**
SYVR				max				
	comp=E,8.0nm,0.5s							
SYVR				Smax				
	comp=E,19nm,0.8s							
NIZ	**Nizh Angarsk**	**5.94**	**43**	*e*Pn		**Pn**	**14 02 57.1**	**+1.7**
NIZ				*e*			14 03 15.4	
NIZ				*e*S		**Sn**	**14 04 01.9**	**-1.7**
NIZ				*e*			14 04 30.7	
NIZ				pmax	pmax			
	comp=Z,5.0nm,0.3s							
NIZ				smax	smax			
	comp=N,30nm,0.4s							
NIZ	**Nizh Angarsk**	**5.94**	**43**	*e*Pn		**Pn**	**14 02 57.2**	**+1.8**
NIZ				*e*Sn		**Sn**	**14 04 01.5**	**-2.1**
NIZ				*e*Sg		**Sg**	**14 04 32.3**	**-5.5**
NIZ				Smax				
	comp=N,37nm,0.4s							
YLYR	**Ulyunkhan**	**6.20**	**55**	*e*Pn		**Pn**	**14 03 01.3**	**+2.3**
YLYR				*e*Sn		**Sn**	**14 04 07.5**	**-2.5**
YLYR				*e*Sg		Sg	14 04 40.0	-6.1
YLYR				Smax				
	comp=N,25nm,1.0s							
KPC	**Khapcheranga**	**6.69**	**103**	*e*Pn		**Pn**	**14 03 05.4**	**-0.4**
KPC				*e*Pg		Pb	14 03 28.9	+5.1
KPC				*e*Sn		**Sn**	**14 04 17.5**	**-4.6**
KPC				*e*Sg		Sg	14 04 55.7	-6.1
KPC				Pmax				
	comp=N,10.0nm,0.7s							
KPC				Smax				
	comp=N,30nm,1.1s							
KMO	**Kumora**	**6.75**	**48**	*e*Pn		**Pn**	**14 03 07.5**	**+1.0**
KMO				*e*			14 03 15.4	
KMO				*e*Sn		**Sn**	**14 04 21.4**	**-2.1**
KMO				*e*Sg		Sg	14 04 56.8	-6.9
KMO				Smax				
	comp=N,38nm,1.5s							
UKT	**Uakit**	**7.74**	**56**	*e*Pn		**Pn**	**14 03 21.7**	**+1.5**
UKT				*e*Sg		Sg	14 05 28.3	-7.2
UKT				Smax				
	comp=N,22nm,1.5s							
NLYR	**Nelyaty**	**9.22**	**53**	*e*Sg		Sn	14 06 14.2	+50
NLYR				Smax				
	comp=N,14nm,1.0s							
TUP	**Tupik**	**10.97**	**69**	*e*Sg			14 07 08.0	

WEL 31 14:10:32.4±0.4,38°69S×175°65E,h145km±3km, ML3.6/16, 8C-3D, Error ellipse: s-maj=2.1km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.41**	**181**	PN	Pn	14 10 52.6	-0.2
KRVZ				SN	Sn	14 11 08.8	+0.3
NGZ	**Ngauruhoe**	**0.49**	**184**	PN	Pn	14 10 53.1	-0.1
NGZ				SN	Sn	14 11 08.8	-0.4
COVZ	**Chateau Observ**	**0.52**	**189**	⇑PN	Pn	14 10 53.2	-0.2
COVZ				SN	Sn	14 11 08.6	-0.7
WPVZ	**Whakapapa**	**0.52**	**189**	⇑PN	Pn	14 10 53.3	-0.1
FWVZ	**Far West T-bar**	**0.57**	**187**	⇑PN	Pn	14 10 53.6	-0.2
FWVZ				SN	Sn	14 11 09.1	-1.0
TUVZ	**Tukino**	**0.58**	**180**	PN	Pn	14 10 53.7	0.0
TRVZ	**Turoa**	**0.61**	**187**	PN	Pn	14 10 54.0	-0.1
WNVZ	**Wahianoa**	**0.64**	**183**	PN	Pn	14 10 54.0	-0.1
PKVZ	**Pokaka**	**0.64**	**201**	⇑PN	Pn	14 10 53.9	-0.2
HIZ	**Hauiti**	**0.65**	**286**	⇑PN	Pn	14 10 53.9	-0.1
MTVZ	**Mangateitei**	**0.71**	**191**	PN	Pn	14 10 54.4	0.0
MOVZ	**Moawhango**	**0.72**	**174**	⇑PN	Pn	14 10 54.1	-0.4
BKZ	**Black Stump Fm**	**0.81**	**126**	⇓PN	Pn	14 10 54.8	-0.4
VRZ	**Vera Road**	**0.82**	**238**	PN	Pn	14 10 55.1	-0.1
BHHZ	**Black Hill Sta**	**0.86**	**158**	PN	Pn	14 10 55.2	-0.4
NMHZ	**Naumai**	**0.99**	**115**	PN	Pn	14 10 57.1	+0.5
MCHZ	**McNeill Hill**	**1.11**	**133**	⇓PN	Pn	14 10 58.4	+0.7
RAHZ	**Arahi**	**1.15**	**102**	PN	Pn	14 10 58.3	+0.3
WAZ	**Wanganui**	**1.18**	**206**	PN	Pn	14 10 58.2	-0.1
URZ	**Urewera**	**1.23**	**70**	PN	Pn	14 10 57.9	-0.8
URZ				SN	Sn	14 11 16.3	-2.5
PNHZ	**Pukenui**	**1.30**	**161**	PN	Pn	14 10 59.4	-0.1
WHHZ	**Waihua**	**1.30**	**108**	PN	Pn	14 10 59.6	+0.2
SNGZ	**Shannon Statio**	**1.33**	**94**	PN	Pn	14 10 59.9	+0.1
NEZ	**North Egmont**	**1.34**	**244**	PN	Pn	14 11 00.4	+0.5
TSZ	**Takapari Road**	**1.39**	**170**	PN	Pn	14 11 00.0	-0.4
KAHZ	**Kahuranaki**	**1.46**	**140**	PN	Pn	14 11 01.2	0.0
MWZ	**Matawai**	**1.52**	**77**	PN	Pn	14 11 01.5	-0.3
KNZ	**Kokohu**	**1.62**	**102**	PN	Pn	14 11 02.4	-0.3
PXZ	**Pawanui**	**1.64**	**145**	⇓PN	Pn	14 11 02.6	-0.4
RIGZ	**Rimuhau**	**1.66**	**91**	PN	Pn	14 11 03.0	-0.2
DVHZ	**Dannevirke**	**1.66**	**166**	PN	Pn	14 11 02.7	-0.6
PRHZ	**Porangahau**	**1.75**	**154**	PN	Pn	14 11 03.9	-0.4
MHGZ	**Mahia Peninsul**	**1.82**	**105**	PN	Pn	14 11 05.0	-0.2
ANWZ	**Angora Road**	**1.88**	**160**	PN	Pn	14 11 05.3	-0.5
PRWZ	**Pori Road**	**1.88**	**172**	PN	Pn	14 11 05.1	-0.6
MRZ	**Mangatainoka R**	**1.97**	**182**	⇑PN	Pn	14 11 05.6	-1.3
MRZ				AML	AML	14 11 30.7	
MRZ				AML	AML	14 11 31.0	
CNGZ	**Carnagh Statio**	**2.02**	**85**	PN	Pn	14 11 07.2	-0.2
PUZ	**Puketiti**	**2.14**	**74**	AML	AML	14 11 36.9	
HOWZ	**Holdsworth Sta**	**2.21**	**183**	PN	Pn	14 11 08.1	-1.6
KIW	**Kapiti Island**	**2.24**	**194**	PN	Pn	14 11 08.4	-1.7
MXZ	**Matakaoa Point**	**2.38**	**63**	PN	Pn	14 11 11.3	-0.4
TMWZ	**Te Maipa**	**2.42**	**176**	PN	Pn	14 11 10.6	-1.7
CAW	**Cannon Point**	**2.46**	**190**	PN	Pn	14 11 11.0	-1.7
MTW	**Mount Morrison**	**2.47**	**183**	⇑PN	Pn	14 11 10.8	-2.0
DUWZ	**D'Urville Isla**	**2.50**	**212**	PN	Pn	14 11 11.5	-1.7
WEL	**Wellington**	**2.68**	**194**	PN	Pn	14 11 13.3	-2.1
PAWZ	**Paruwai Farm**	**2.69**	**184**	PN	Pn	14 11 13.5	-2.1
SNZO	**South Karori**	**2.71**	**195**	PN	Pn	14 11 13.6	-2.3
TCW	**Tory Channel**	**2.73**	**202**	PN	Pn	14 11 14.1	-2.0
MSWZ	**Moikau Station**	**2.74**	**186**	PN	Pn	14 11 14.0	-2.2
PLWZ	**Palliser**	**2.89**	**186**	PN	Pn	14 11 15.7	-2.5
TUWZ	**Tuamarina**	**3.03**	**205**	PN	Pn	14 11 17.4	-2.5
NNZ	**Nelson**	**3.07**	**214**	PN	Pn	14 11 17.9	-2.4
BSWZ	**Blackbirch Sta**	**3.31**	**204**	PN	Pn	14 11 21.2	-2.3
THZ	**Tophouse**	**3.72**	**214**	PN	Pn	14 11 26.2	-2.6
KHZ	**Kahutara**	**4.05**	**203**	AML	AML	14 12 03.3	

*IDC **31** 14:44:03.2±0.5, 1°.24N×126°.89E, h0km, mb4.3/17, mb1 4.5/17, mb1mx4.4/24, mbtmp4.3/17, MS3.0/4, Ms1 3.1/4, ms1mx2.7/32, Error ellipse: s-maj=26.9km s-min=11.5km az=78.0*

*NEIC **31** 14:44:09.7±1.9, 1°.22N×126°.86E, h52km±18km, mb4.6/9, Error ellipse: s-maj=14.5km s-min=6.0km az=61.0*

*ISCJB **31** 14:44:11.9±0.4, 1°.28N±0°.03×126°.90E±0°.03, h87km±4km, mb4.3/24, Error ellipse: s-maj=5.8km s-min=4.5km az=140.8*

*DJA **31** 14:44:13.2±0.5, 1°N±2°×12°7E±°, h25km±6km, M4.7/15, mb4.9/14, mB5.1/7, MLv4.8/15, Mw(mB)4.5/7*

ISC 31 14:44:13.2±0.8,1°.28N±0°.04×126°.93E±0°.05,h80km±7km, n90,σ1°31/96,mb4.4/24,1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.67**	**139**	P	**Pn**	**14 44 28.2**	**-0.4**
TNTI				S	**Sn**	**14 44 38.5**	**-1.4**
GAMI	**Galela, Maluku**	**1.02**	**57**	P	**Pn**	**14 44 31.9**	**-0.6**
LBMI	**Labuha**	**1.99**	**163**	P	**Pn**	**14 44 45.4**	**+0.4**
LBMI				S	**Sn**	**14 45 10.7**	**+1.5**
SGSI	**Sangihe**	**2.77**	**330**	P	**Pn**	**14 44 54.6**	**-0.9**
SGSI				S	**Sn**	**14 45 26.7**	**-1.2**
KMSI	**Cibinong**	**3.03**	**257**	P	**Pn**	**14 44 58.5**	**-0.5**
KMSI				S	**Sn**	**14 45 33.1**	**-1.2**
GTOI	**Gorontalo**	**3.97**	**261**	P	**Pn**	**14 45 12.7**	**+0.9**
NLAI	**Namlea**	**4.49**	**178**	P	**Pn**	**14 45 19.6**	**+0.7**
NLAI				S	**Sn**	**14 46 07.7**	**-2.3**
LUWI	**Luwuk**	**4.75**	**241**	P	**Pn**	**14 45 22.5**	**0.0**
LUWI				S	**Sn**	**14 46 16.7**	**+0.4**
SWI	**Sorong**	**4.83**	**116**	P	**Pn**	**14 45 24.4**	**+0.9**
MSAI	**Masohi**	**5.01**	**156**	P	**Pn**	**14 45 28.1**	**+2.1**
	26nm,0.6s,0.1nm						
MRSI	**Marisa**	**5.05**	**261**	P	**Pn**	**14 45 26.0**	**-0.5**
GSPH	**General Santos**	**5.17**	**338**	*e*P	**Pn**	**14 45 27.1**	**-1.1**
GSPH				*e*S	Sn	14 46 56.1	+29
APSI	**Ampana**	**5.71**	**248**	P	**Pn**	**14 45 35.0**	**-0.5**
	216nm,0.6s,3µm1.1nm						
CTBH	**Cotabato--PC H**	**6.48**	**336**	⇓*i*P	**Pn**	**14 45 45.7**	**-0.3**
FAKI	**Fak Fak**	**6.76**	**128**	P	**Pn**	**14 45 52.5**	**+2.6**
	89nm,1.0s,704nm0.3nm						
MWPI	**Manokwari, Pap**	**7.44**	**107**	P	Pn	14 46 03.6	+4.4
	79nm,1.0s,0.3nm						
KKSI	**Kolaka, Sulawe**	**7.56**	**224**	P	Pn	14 46 09.2	+8.4
TTSI	**Tana Toraja**	**8.30**	**239**	P	**Pn**	**14 46 09.8**	**-1.2**
	60nm,0.6s,935nm						
BNSI	**Bone**	**8.85**	**230**	P	**Pn**	**14 46 17.7**	**-0.7**
	49nm,0.8s						
SPSI	**Sidrap Palu**	**8.85**	**234**	P	**Pn**	**14 46 18.1**	**-0.3**
	62nm,0.6s,899nm						
MMSI	**Mamuju**	**8.93**	**244**	P	**Pn**	**14 46 18.8**	**-0.8**
	29nm,0.7s						
MYLDM	**Lahad Datu**	**9.26**	**295**	P	**Pn**	**14 46 26.2**	**+2.2**
MYLDM	**Lahad Datu**	**9.26**	**295**	P	**Pn**	**14 46 26.2**	**+2.2**
	137nm,1.3s,1µm						
BKSI	**Bulukumba**	**9.45**	**226**	P	**Pn**	**14 46 27.5**	**+0.9**
	102nm,0.5s,961nm						
BAKI	**Biak**	**9.50**	**105**	P	Pn	14 46 37.7	+10
KAPI	**Kappang**	**9.51**	**229**	*e*Pn	Pn	14 46 22.8	-4.6
	127nm,0.4s						
KAPI				*e*Sn	**Sn**	**14 48 08.6**	**-4.2**
TSM	**Tawau**	**9.53**	**288**	P	**Pn**	**14 46 26.8**	**-0.8**
SDKM	**Sandakan**	**10.63**	**294**	P	**Pn**	**14 46 43.7**	**+0.8**
SBUM	**Sibu**	**14.75**	**275**	P	**P**	**14 47 42.6**	**+0.8**
SBUM	**Sibu**	**14.75**	**275**	P	**P**	**14 47 41.6**	**-0.1**
KHKI	**Kahang-Kahang**	**14.80**	**229**	P	P	14 47 56.4	+14
KMMI	**Kalianget**	**15.30**	**237**	P	P	14 47 55.6	+7.1
BLJI	**Banyuglugur**	**16.04**	**236**	P	**P**	**14 47 59.4**	**+3.3**
KSM	**Kuching**	**16.62**	**271**	P	**P**	**14 48 02.9**	**+0.4**
PWJI	**Pagerwojo**	**17.69**	**238**	P	**Pn**	**14 48 16.7**	**+2.2**
	39nm,1.1s						
BJII	**Banjamegara**	**19.19**	**243**	P	**Pn**	**14 48 35.0**	**+2.4**
	27nm,1.4s						
KPJI	**Karang Pucung**	**19.89**	**244**	P	**Pn**	**14 48 44.0**	**+3.3**
WRAB	**Tennant Creek**	**22.30**	**161**	*e*P	**P**	**14 49 01.9**	**-2.4**
	16nm,0.5s						
WRA	**Warramunga Arr**	**22.31**	**161**	P	**P**	**14 49 03.0**	**-1.4**
WRA	**Warramunga Arr**	**22.31**	**161**	P	**P**	**14 49 03.0**	**-1.4**
	9.2nm,0.3s,baz=340,slow=11,SNR=216						
AS31	**Alice Springs**	**25.71**	**165**	*e*P	**P**	**14 49 34.7**	**-1.5**
ASAR	**Alice Springs**	**25.71**	**165**	P	**P**	**14 49 36.0**	**-0.2**
ASAR				PcP	**PcP**	**14 53 04.9**	**+0.1**
ASAR	**Alice Springs**	**25.71**	**165**	P	**P**	**14 49 36.0**	**-0.2**
	9.3nm,0.3s,baz=347,slow=12,SNR=134						
ASAR				PcP	**PcP**	**14 53 04.9**	**+0.1**
	1.0nm,0.5s,baz=347,slow=2.7,SNR=5.1						
CTA	**Charters Tower**	**28.46**	**139**	P	**P**	**14 50 00.1**	**-0.9**
CTA	**Charters Tower**	**28.46**	**139**	P	**P**	**14 50 00.1**	**-0.9**
	6.5nm,1.0s,baz=330,slow=8.1,SNR=3.1						
CTAO	**Charters Tower**	**28.46**	**139**	*e*P	**P**	**14 49 59.4**	**-1.6**
FORT	**Forrest**	**31.90**	**178**	*e*P	**P**	**14 50 30.2**	**-1.0**
	36nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.33**	**304**	P	**P**	**14 50 33.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**32.33**	**304**	P	**P**	**14 50 33.8**	**-1.4**
	1.2nm,0.9s,baz=120,slow=6.0,SNR=12						
CMAR				LR	LR	15 04 39.1	
	comp=Z,33nm,18.2s,baz=130,slow=38						
CHTO	**Chiang Mai**	**32.50**	**304**	*e*P	**P**	**14 50 33.9**	**-2.7**
	2.2nm,0.7s						
HNR	**Honiara**	**34.56**	**109**	LR	LR	15 04 31.6	
	comp=Z,32nm,18.1s,baz=40,slow=36						
NWAO	**Narrogin (SRO)**	**35.23**	**194**	P	**P**	**14 50 59.8**	**-0.3**
NWAO	**Narrogin (SRO)**	**35.23**	**194**	P	**P**	**14 50 59.8**	**-0.3**
	3.8nm,0.4s,baz=9.0,slow=9.2,SNR=11						
EIDS	**Eidsvold**	**35.33**	**140**	*e*P	**P**	**14 50 59.7**	**-1.4**
STKA	**Stephens Creek**	**35.79**	**158**	*e*P	**P**	**14 51 03.7**	**-1.2**
	1.3nm,0.6s						
STKA	**Stephens Creek**	**35.79**	**158**	P	**P**	**14 51 03.8**	**-1.2**
	5.3nm,0.4s,baz=324,slow=9.5,SNR=20						
STKA				LR	LR	15 07 35.4	
	comp=Z,15nm,28.6s,baz=20,slow=40						
KSAR	**Wonju Array Be**	**35.99**	**1**	P	**P**	**14 51 06.0**	**-0.5**
KSRS	**Korea Array**	**36.01**	**1**	P	**P**	**14 51 06.0**	**-0.6**
	1.7nm,0.9s,baz=179,slow=10,SNR=3.9						
KSRS				LR	LR	15 03 56.9	
	comp=Z,15nm,28.6s,baz=10.0,slow=33						
MJAR	**Matsushiro Arr**	**36.61**	**15**	P	**P**	**14 51 11.2**	**-0.7**
MJAR	**Matsushiro Arr**	**36.61**	**15**	P	**P**	**14 51 11.2**	**-0.7**
	1.2nm,0.4s,baz=189,slow=8.8,SNR=160						
ARMA	**Armidale**	**39.34**	**145**	*e*P	**P**	**14 51 34.3**	**-0.7**
CAN	**Canberra**	**41.85**	**153**	*e*P	**P**	**14 51 54.7**	**-0.9**
USRK	**Ussuriysk Arra**	**42.97**	**5**	P	**P**	**14 52 05.9**	**+1.4**
	1.5nm,0.7s,baz=177,slow=7.4,SNR=6.5						
SONM	**Songino Array**	**49.67**	**342**	P	**P**	**14 52 58.7**	**+1.6**
SONM				PcP	**PcP**	**14 54 18.1**	**+0.8**
SONM	**Songino Array**	**49.67**	**342**	P	**P**	**14 52 58.7**	**+1.6**
	1.7nm,0.8s,baz=154,slow=9.3,SNR=17						
SONM				PcP	**PcP**	**14 54 18.1**	**+0.8**
	0.8nm,0.8s,baz=154,slow=4.3,SNR=2.9						
PETK	**Petropavlovsk-**	**57.62**	**21**	P	**P**	**14 53 56.2**	**+1.3**
PETK				PcP	**PcP**	**14 54 48.3**	**+1.0**
PETK	**Petropavlovsk-**	**57.62**	**21**	P	**P**	**14 53 56.2**	**+1.3**
	2.2nm,0.5s,baz=204,slow=7.6,SNR=25						
PETK				PcP	**PcP**	**14 54 48.3**	**+1.0**
	1.4nm,0.6s,baz=212,slow=5.1,SNR=3.6						
MK31	**Makanchi Array**	**59.67**	**326**	*e*P	**P**	**14 54 10.2**	**+0.8**
AAK	**Ala-Archa**	**62.30**	**319**	P	**P**	**14 54 27.7**	**+0.3**
AAK	**Ala-Archa**	**62.30**	**319**	P	**P**	**14 54 27.7**	**+0.3**
	0.7nm,0.5s,baz=170,slow=6.1,SNR=3.7						
ZAA0	**Zalesovo Array**	**62.85**	**334**	*e*P	**P**	**14 54 28.8**	**-1.7**
ZALV	**Zalesovo Beam**	**62.85**	**334**	P	**P**	**14 54 30.1**	**-0.4**
ZALV	**Zalesovo Beam**	**62.85**	**334**	P	**P**	**14 54 30.1**	**-0.4**
	0.9nm,0.5s,baz=119,slow=5.3,SNR=7.6						
KURBB	**Kurtuzhov Arra**	**63.90**	**328**	P	**P**	**14 54 38.7**	**+1.1**
	9.0nm,0.7s,baz=131,slow=6.2,SNR=127						
KURK	**Kurchatov**	**63.90**	**328**	*e*P	**P**	**14 54 37.9**	**+0.3**
	7.4nm,0.6s						
BRVK	**Borovoye**	**69.54**	**327**	*e*P	**P**	**14 55 12.6**	**-0.9**
	6.2nm,1.2s						
ABKAR	**Akbulak array**	**74.16**	**321**	*e*P	**P**	**14 55 40.7**	**-0.5**
	1.8nm,0.6s						
VNDA	**Vanda**	**80.99**	**173**	*e*P	**P**	**14 56 16.7**	**-2.0**
	5.0nm,0.9s						
VNDA	**Vanda**	**80.99**	**173**	P	**P**	**14 56 18.6**	**-0.1**
	3.0nm,0.5s,baz=315,slow=6.2,SNR=22						
COLD	**Coldfoot**	**86.06**	**23**	*e*P	**P**	**14 56 44.6**	**-0.2**
	3.6nm,0.8s						
ILAR	**Eielson Array**	**87.22**	**25**	P	**P**	**14 56 49.6**	**-1.0**
ILAR	**Eielson Array**	**87.22**	**25**	P	**P**	**14 56 49.6**	**-1.0**
	0.6nm,0.6s,baz=246,slow=5.0,SNR=12						
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**14 57 16.4**	**-0.1**
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**14 57 16.4**	**-0.1**
	3.8nm,1.0s,baz=81,slow=5.7,SNR=3.6						
YKA	**Yellowknife Ar**	**101.63**	**25**	P	**Pdif**	**14 57 57.1**	**+0.6**
YKA	**Yellowknife Ar**	**101.63**	**25**	P	**Pdif**	**14 57 57.1**	**+0.6**
	0.2nm,0.5s,baz=291,slow=4.2,SNR=4.0						
TXAR	**Lajitas Array**	**122.91**	**53**	PKP	**PKPdf**	**15 03 01.8**	**+0.7**
TXAR	**Lajitas Array**	**122.91**	**53**	PKP	**PKPdf**	**15 03 01.8**	**+0.7**
	0.3nm,0.5s,baz=270,slow=0.9,SNR=2.3						
TORD	**Torodi Ar. Bea**	**123.84**	**287**	PKP	**PKPdf**	**15 03 02.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**123.84**	**287**	PKP	**PKPdf**	**15 03 02.6**	**-0.5**
	1.1nm,0.9s,baz=60,slow=1.6,SNR=9.2						

*ISCJB **31** 15:02:25.3±0.9, 24°.3S±0°.2×179°.8E±0°.2, h517km, mb3.6/5, Error ellipse: s-maj=21.7km s-min=19.0km az=10.7*

*IDC **31** 15:02:29.0±3.1, 24°.74S×179°.97E, h567km±47km, mb3.1/5, mb1 3.4/6, mb1mx3.1/19, mbtmp4.1/6, Error ellipse: s-maj=73.5km s-min=17.4km az=174.0*

ISC 31 15:02:25.3±0.9,24°.4S±0°.2×180°.0E±0°.2,h517km,n9, σ1°04/8,mb3.7/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.16**	**159**	P	P	15 03 58.2	+3.7
	113nm,0.3s,baz=29,slow=19,SNR=4.6						
URZ	**Urewera**	**14.01**	**189**	P	**P**	**15 05 24.6**	**0.0**
	1.5nm,0.3s,baz=36,slow=3.1,SNR=13						
CTA	**Charters Tower**	**31.48**	**271**	P	**P**	**15 08 05.2**	**+0.8**
	5.1nm,0.4s,baz=98,slow=12,SNR=13						
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**15 09 30.7**	**-0.1**
	0.5nm,0.6s,baz=96,slow=7.1,SNR=19						
WRA	**Warramunga Arr**	**42.37**	**267**	P	**P**	**15 09 33.8**	**-0.3**
	2.0nm,0.7s,baz=104,slow=8.2,SNR=30						
NVAR	**Mina Array Bea**	**85.13**	**44**	P	**P**	**15 14 06.9**	**0.0**
	0.1nm,0.3s,baz=236,slow=6.4,SNR=2.6						
TXAR	**Lajitas Array**	**90.71**	**58**	P	**P**	**15 14 34.1**	**+1.1**
	0.7nm,0.7s,baz=224,slow=6.6,SNR=11						
AKASG	**Malin Array Be**	**145.41**	**327**	PKPbc	**PKPdf**	**15 21 02.9**	**-1.0**
	0.5nm,0.5s,baz=34,slow=3.2,SNR=4.9						
EKA	**Eskdalemuir Ar**	**149.04**	**4**	PKPbc	**PKPbc**	**15 21 12.9**	**-1.6**
	1.6nm,0.9s,baz=351,slow=2.8,SNR=4.6						

IDC 31 15:04:26.8±64.0,21°.79S×179°.95E,h672km±268km, mb3.1/4,mb1 3.2/5,mb1mx2.9/20,mbtmp4.3/5,Error ellipse: s-maj=839.2km s-min=90.2km az=77.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.54**	**266**	P	P	15 07 11.8	+1.4
	0.3nm,0.3s,baz=256,slow=23,SNR=3.1						
CTA	**Charters Tower**	**31.48**	**267**	P	P	15 09 57.6	-0.2
	4.4nm,0.8s,baz=83,slow=12,SNR=5.1						
STKA	**Stephens Creek**	**35.51**	**245**	P	P	15 10 30.7	-0.4
	5.2nm,0.8s,baz=93,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**42.37**	**258**	P	P	15 11 26.2	+0.3
	3.2nm,0.8s,baz=100,slow=7.8,SNR=26						
WRA	**Warramunga Arr**	**42.54**	**264**	P	P	15 11 27.3	0.0
	0.9nm,0.4s,baz=95,slow=8.2,SNR=30						

IDC 31 15:43:13.6±6.0,15°.73S×172°.82W,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.6/22,mbtmp3.6/4,ML1.5/1,MS4.1/1, Ms1 4.1/1,ms1mx2.8/29,Error ellipse: s-maj=236.8km s-min=21.8km az=134.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.07**	**29**	Pn	Pn	15 43 49.0	-0.8
	9.7nm,0.3s,baz=187,slow=8.1,SNR=9.0						
AFI				Sn	Sn	15 44 16.5	0.0
	14nm,0.3s,baz=54,slow=19,SNR=11						
RPZ	**Rata Peaks**	**31.09**	**203**	LR	LR	16 01 54.4	
	comp=Z,16nm,28.6s,baz=10,slow=36						
WRA	**Warramunga Arr**	**50.31**	**257**	P	P	15 52 12.4	-0.1
	0.6nm,1.1s,baz=95,slow=6.6,SNR=3.8						
ASAR	**Alice Springs**	**50.54**	**252**	P	P	15 52 13.8	-0.4
	1.7nm,0.8s,baz=90,slow=8.5,SNR=24						
ILAR	**Eielson Array**	**82.66**	**11**	P	P	15 55 39.5	+1.0
	0.3nm,0.8s,baz=214,slow=6.3,SNR=3.5						

*ISCJB **31** 15:55:52.0±1.0, 32°.81S±0°.03×72°.05W±0°.05, h10km±6km, mb3.7/5, MS3.8/1, Error ellipse: s-maj=8.0km s-min=4.4km az=150.5*

*GUC **31** 15:55:53.4±0.5, 32°.82S×71°.98W, h9km±1km, MD3.9, ML3.9*

*IDC **31** 15:55:57.7±5.6, 32°.76S×71°.88W, h33km±40km, mb3.6/5, mb1 3.8/9, mb1mx3.7/18, mbtmp3.7/9, ML4.1/2, MS3.2/4, Ms1 3.2/4, ms1mx3.0/26, Error ellipse: s-maj=35.2km s-min=23.2km az=94.0*

ISC 31 15:55:53.4±1.8,32°.81S±0°.05×71°.96W±0°.07,h9km±10km, n35,σ0°92/41,mb3.7/5,3C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.34**	**130**	⇑*i*P	**Pg**	**15 56 00.7**	**+0.5**

comp=E,1.0nm,0.7s,baz=214,slow=3.6,SNR=6.3
KURBB Kurchatov Arra 151.95 42 PKPbc **PKPbc 16 15 48.7 +0.3**
comp=E,0.9nm,0.7s,baz=298,slow=2.9,SNR=16
ZALV Zalesovo Beam 153.18 31 PKPbc **PKPbc 16 15 51.1 +0.1**
comp=E,1.0nm,0.7s,baz=307,slow=2.9,SNR=6.2

WEL 31 15:57:38.0±0.6, 34°.84S×178°.31E, h33km, ML3.8/5, Error ellipse: s-maj=11.1km s-min=4.3km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.71**	**180**	P*	Pn	15 58 19.5	+0.1
MXZ				S*	Sn	15 58 49.8	-1.2
PUZ	**Puketiti**	**3.22**	**181**	PN	Pn	15 58 26.7	+0.3
PUZ				SN	Sn	15 59 01.8	-1.9
MWZ	**Matawai**	**3.54**	**190**	P*	Pn	15 58 30.4	-0.3
MWZ				S*	Sn	15 59 10.0	-1.5
URZ	**Urewera**	**3.54**	**195**	P*	Pn	15 58 30.6	-0.1
URZ				S*	Sn	15 59 11.4	0.0
CNGZ	**Carnagh Statio**	**3.63**	**181**	*e*PN	Pn	15 58 30.5	-1.4
RIGZ	**Rimuhau**	**3.88**	**186**	PN	Pn	15 58 33.8	-1.6
BKZ	**Black Stump Fm**	**4.55**	**198**	P*	Pn	15 58 43.3	-1.4

*ISCJB **31** 16:04:00.4±0.8, 30°.25S±0°.06×178°.0W±0°.2, h46km, mb4.3/8, MS4.5/1, Error ellipse: s-maj=19.9km s-min=8.3km az=11.5*
*IDC **31** 16:04:01.9±2.1, 30°.16S×177°.81W, h54km±17km, mb3.9/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, ML3.2/1, MS3.8/2, Ms1 3.8/2, ms1mx2.8/27, Error ellipse: s-maj=32.7km s-min=19.8km az=105.0*
*NEIC **31** 16:04:01.4±1.4, 30°.14S×177°.82W, h49km±12km, mb4.5/4, Error ellipse: s-maj=18.7km s-min=13.5km az=92.0*
ISC 31 16:04:01.4±0.8, 30°.27S±0°.07×177°.9W±0°.2, h46km, n28, σ1§75/29, mb4.3/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.01**	**0**	*e*Pn	**Pn**	**16 04 17.9**	**-1.3**
RAO				S	**Sn**	**16 04 31.5**	**-0.7**
RAO				*e*Sn	Sn	16 04 31.7	-0.5
RAO	**Raoul Island**	**1.01**	**0**	P	**Pn**	**16 04 18.0**	**-1.1**
	181nm,0.3s,baz=224,slow=23,SNR=12						
RAO				S	**Sn**	**16 04 31.5**	**-0.7**
	643nm,0.3s,baz=96,slow=23,SNR=19						
URZ	**Urewera**	**8.97**	**206**	P	**Pn**	**16 06 09.7**	**+1.4**
URZ				S	**Sn**	**16 07 43.5**	**-4.5**
URZ	**Urewera**	**8.97**	**206**	P	**Pn**	**16 06 09.7**	**+1.4**
	0.3nm,0.3s,baz=354,slow=19,SNR=3.9						
URZ				S	**Sn**	**16 07 43.5**	**-4.5**
	0.7nm,0.3s,baz=157,slow=19,SNR=7.2						
RPZ	**Rata Peaks**	**16.04**	**210**	LR	LR	16 13 12.6	
	comp=Z,66nm,19.7s,baz=116,slow=34						
CTA	**Charters Tower**	**33.84**	**279**	P	**P**	**16 10 41.5**	**+2.0**
CTA	**Charters Tower**	**33.84**	**279**	P	**P**	**16 10 41.5**	**+2.0**
	3.6nm,0.9s,baz=94,slow=11,SNR=5.4						
CTAO	**Charters Tower**	**33.84**	**279**	*e*P	**P**	**16 10 41.7**	**+2.1**
	2.3nm,0.5s						
STKA	**Stephens Creek**	**34.58**	**257**	P	**P**	**16 10 47.1**	**+1.4**
STKA	**Stephens Creek**	**34.58**	**257**	P	**P**	**16 10 47.1**	**+1.4**
	4.0nm,1.1s,baz=110,slow=15,SNR=5.7						
AS31	**Alice Springs**	**43.18**	**267**	*e*P	**P**	**16 11 58.2**	**+0.2**
ASAR	**Alice Springs**	**43.18**	**267**	P	**P**	**16 11 57.6**	**-0.3**
ASAR	**Alice Springs**	**43.18**	**267**	P	**P**	**16 11 57.6**	**-0.3**
	0.4nm,0.5s,baz=104,slow=7.4,SNR=15						
WRAB	**Tennant Creek**	**44.15**	**272**	*e*P	**P**	**16 12 05.2**	**-0.6**
	20nm,1.7s						
WRA	**Warramunga Arr**	**44.16**	**272**	P	**P**	**16 12 05.2**	**-0.6**
WRA	**Warramunga Arr**	**44.16**	**272**	P	**P**	**16 12 05.3**	**-0.6**
	0.6nm,0.4s,baz=110,slow=8.1,SNR=33						
QSPA	**South Pole Qui**	**59.84**	**180**	P	P	16 14 08.7	+6.7
PMSA	**Palmer Station**	**72.36**	**156**	*e*P	**P**	**16 15 23.7**	**+1.7**
	28nm,1.1s						
MAW	**Mawson**	**72.46**	**201**	P	**P**	**16 15 24.0**	**+1.5**
MAW	**Mawson**	**72.46**	**201**	P	**P**	**16 15 24.0**	**+1.5**
	9.1nm,0.7s,baz=162,slow=6.4,SNR=7.7						
SNAA	**Sanae**	**78.29**	**178**	*e*P	**P**	**16 15 55.7**	**-0.4**
	4.6nm,1.2s						
YBH	**Yreka Blue Hor**	**87.88**	**38**	LR	LR	16 50 37.9	
	comp=Z,177nm,18.1s,baz=249,slow=32						
BVAR	**Borovoye Array**	**126.36**	**316**	PKP	**PKPdf**	**16 22 58.0**	**-0.6**
BVAR	**Borovoye Array**	**126.36**	**316**	PKP	**PKPdf**	**16 22 58.0**	**-0.6**
	0.3nm,0.5s,baz=101,slow=2.9,SNR=2.7						
FINES	**FINESS Array B**	**145.04**	**340**	PKP	**PKPbc**	**16 23 31.0**	**-1.3**
FINES	**FINESS Array B**	**145.04**	**340**	PKP	**PKPbc**	**16 23 31.0**	**-1.3**
	1.7nm,0.6s,baz=52,slow=4.7,SNR=12						
AKASG	**Malin Array Be**	**151.23**	**323**	PKPbc	**PKPbc**	**16 23 48.0**	**-1.2**
AKASG	**Malin Array Be**	**151.23**	**323**	PKPbc	**PKPbc**	**16 23 48.0**	**-1.2**
	0.5nm,0.5s,baz=46,slow=3.6,SNR=5.0						

*ISCJB **31** 16:14:24.7±0.6, 26°.97N±0°.05×53°.58E±0°.07, h10km, mb3.8/17, Error ellipse: s-maj=9.9km s-min=6.6km az=149.6*
*CSEM **31** 16:14:24.7±1.5, 26°.87N×53°.58E, h2km, ML3.5, Error ellipse: s-maj=39.0km s-min=12.3km az=40.0*
*IDC **31** 16:14:25.4±0.9, 27°.17N×53°.73E, h0km, mb3.8/17, mb1 4.0/19, mb1mx3.8/30, mbtmp3.8/19, ML1.1/1, Error ellipse: s-maj=21.5km s-min=18.4km az=178.0*
*THR **31** 16:14:28.1±0.3, 27°.05N×53°.62E, h41km±3km, ML3.6*
*TEH **31** 16:14:30.3, 26°.93N×53°.71E, h34km, ML3.5*
ISC 31 16:14:26.3±0.7, 26°.99N±0°.07×53°.69E±0°.07, h10km, n41, σ1§44/46, mb3.8/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.43**	**334**	*e*Pg	**Pb**	**16 14 53.0**	**-0.1**
GHIR				*e*Sg	**Sn**	**16 15 11.2**	**-0.2**
GHIR				AML	AML	16 15 18.6	
	comp=N,908nm,0.8s						
GHIR				AML	AML	16 15 19.9	
	comp=E,824nm,0.5s						
GHIR	**Ghir-Karzin**	**1.43**	**334**	*e*Pg	**Pb**	**16 14 53.0**	**-0.1**
GHIR				*e*Sg	**Sn**	**16 15 11.2**	**-0.2**
ISRV	**Sarvestan**	**2.43**	**348**	*e*Sg	**Sg**	**16 15 48.9**	**+4.3**
ISRV				*e*Pn	**Pb**	**16 15 08.6**	**-1.8**
ISRV				*e*		16 15 57.2	
	comp=Z,3μm,0.3s						
IBND	**Bandar-abas**	**2.58**	**79**	*e*Pn	**Pn**	**16 15 09.3**	**+1.1**
IBND				*e*		16 16 17.0	
	comp=Z,7μm,0.5s						
IBND	**Bandar-abas**	**2.58**	**79**	*e*Pn	**Pn**	**16 15 09.3**	**+1.1**
IPAR	**Pars**	**2.89**	**349**	*e*Pn	**Pn**	**16 15 14.8**	**+2.0**
IPAR				*e*		16 16 15.7	
	comp=Z,2μm,0.4s						
IPAR	**Pars**	**2.89**	**349**	*e*Pn	**Pn**	**16 15 14.8**	**+2.0**
KRBR	**Kerman**	**4.03**	**42**	*e*Pn	**Pn**	**16 15 29.2**	**+0.8**
KRBR				AML	AML	16 16 48.2	
	comp=E,76nm,0.7s						
KRBR	**Kerman**	**4.03**	**42**	*e*Pn	**Pn**	**16 15 29.2**	**+0.8**
IMEH	**Mehriz**	**4.46**	**10**	*e*Pn	**Pn**	**16 15 35.6**	**+1.4**
IMEH				*e*	**Sn**	**16 16 27.4**	**+1.1**
	comp=Z,438nm,0.3s						
IMEH	**Mehriz**	**4.46**	**10**	*e*Pn	**Pn**	**16 15 35.6**	**+1.4**
IBAF	**Bafgh**	**4.87**	**19**	*e*Pn	**Pn**	**16 15 40.4**	**+0.6**
IBAF				*e*	Sn	16 16 29.4	-6.9
	comp=Z,242nm,0.3s						
IBAF	**Bafgh**	**4.87**	**19**	*e*Pn	**Pn**	**16 15 40.4**	**+0.6**
ISAD	**Sadrabad**	**4.90**	**0**	*e*Pn	**Pn**	**16 15 41.9**	**+1.5**
ISAD	**Sadrabad**	**4.90**	**0**	*e*Pn	**Pn**	**16 15 41.9**	**+1.5**
ICHK	**Chekchek**	**5.27**	**7**	*e*Pn	**Pn**	**16 15 47.2**	**+1.8**
ICHK				*e*		16 17 03.7	
	comp=Z,311nm,0.2s						
ICHK	**Chekchek**	**5.27**	**7**	*e*Pn	**Pn**	**16 15 47.2**	**+1.8**
NASN	**Na'in**	**5.84**	**353**	*e*Pn	**Pn**	**16 15 53.4**	**+0.1**
NASN				Sn	**Sn**	**16 16 55.6**	**-4.8**
NASN	**Na'in**	**5.84**	**353**	*e*Pn	**Pn**	**16 15 53.3**	**+0.1**
IZEF	**Zefreh**	**6.00**	**349**	*e*Pn	**Pn**	**16 15 55.0**	**-0.4**
IZEF				*e*		16 16 30.6	
	comp=Z,126nm,0.3s						
IZEF	**Zefreh**	**6.00**	**349**	*e*Pn	**Pn**	**16 15 55.0**	**-0.4**
GNI	**Garni**	**15.08**	**333**	Pn	**Pn**	**16 17 59.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=180,slow=19,SNR=2.4						
KBZ	**Khabaz**	**18.84**	**335**	P	**P**	**16 18 45.1**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=146,slow=7.3,SNR=3.0						
BRTR	**Keskin Array B**	**20.96**	**312**	P	**P**	**16 19 09.6**	**0.0**
	comp=Z,1.8nm,0.8s,baz=131,slow=12,SNR=9.4						
AAK	**Ala-Archa**	**23.05**	**42**	P	**P**	**16 19 33.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=2.8						
AKTO	**Aktyubinsk**	**23.64**	**7**	P	**P**	**16 19 36.9**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=172,slow=11,SNR=10						
BVAR	**Borovoye Array**	**28.83**	**21**	P	**P**	**16 20 23.0**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=209,slow=8.5,SNR=6.9						
AKASG	**Malin Array Be**	**30.13**	**328**	P	**P**	**16 20 35.3**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=138,slow=8.4,SNR=5.9						
KURBB	**Kurchatov Arra**	**30.26**	**32**	P	**P**	**16 20 36.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=233,slow=8.9,SNR=7.4						
ZALV	**Zalesovo Beam**	**35.35**	**32**	P	**P**	**16 21 21.3**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=239,slow=9.4,SNR=15						
GERES	**GERESS Array B**	**37.76**	**316**	P	**P**	**16 21 42.3**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=107,slow=9.3,SNR=2.6						
FINES	**FINESS Array B**	**39.12**	**339**	P	**P**	**16 21 52.4**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=152,slow=9.1,SNR=8.0						
NOA	**NORSAR Array B**	**44.38**	**332**	P	**P**	**16 22 36.0**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=121,slow=7.4,SNR=3.3						
ARCES	**ARCESS Array B**	**45.63**	**347**	P	**P**	**16 22 45.9**	**-0.7**
	comp=Z,4.9nm,1.1s,baz=135,slow=9.0,SNR=3.3						
SONM	**Songino Array**	**45.75**	**48**	P	**P**	**16 22 48.1**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=264,slow=6.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**50.41**	**265**	P	**P**	**16 23 25.3**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=61,slow=7.6,SNR=6.5						
DBIC	**Dimbokro**	**59.02**	**261**	P	**P**	**16 24 28.6**	**+1.7**
	comp=Z,3.2nm,0.7s,baz=52,slow=7.4,SNR=5.7						
ILAR	**Eielson Array**	**87.14**	**9**	P	**P**	**16 27 11.9**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=321,slow=4.0,SNR=7.1						
YKA	**Yellowknife Ar**	**90.33**	**355**	P	**P**	**16 27 26.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=6.7,slow=5.1,SNR=8.2						
WRA	**Warramunga Arr**	**90.96**	**112**	P	**P**	**16 27 31.8**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=310,slow=4.3,SNR=2.3						
ASAR	**Alice Springs**	**92.36**	**115**	P	**P**	**16 27 37.5**	**0.0**
	comp=Z,0.5nm,0.9s,baz=298,slow=5.3,SNR=3.4						

IDC 31 16:22:11.7±8.0, 20°.21S×173°.77E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/19, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=144.9km s-min=121.1km az=133.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.09**	**254**	Pn	Pn	16 23 56.6	-0.4
	1.2nm,0.3s,baz=90,slow=19,SNR=38						
DZM				Sn	Sn	16 25 01.9	-16
	1.8nm,0.3s,baz=85,slow=14,SNR=3.7						
DZM	**Mont Dzumac**	**7.09**	**254**	*e*P	Pn	16 23 55.7	-1.2
DZM				*e*S	Sn	16 25 02.2	-16
STKA	**Stephens Creek**	**31.05**	**241**	P	P	16 28 31.2	-0.3
	2.0nm,0.8s,baz=90,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**36.98**	**263**	P	P	16 29 23.3	+0.1
	0.4nm,0.4s,baz=96,slow=8.5,SNR=19						
ASAR	**Alice Springs**	**37.06**	**257**	P	P	16 29 23.8	-0.1
	0.3nm,0.5s,baz=85,slow=8.7,SNR=10						

IDC 31 16:40:53.0±44.0, 16°.61S×172°.78W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/21, mbtmp3.9/3, Error ellipse: s-maj=848.7km s-min=176.2km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.96**	**241**	P	P	16 49 02.0	-0.1
	2.2nm,0.9s,baz=93,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**50.16**	**258**	P	P	16 49 50.4	-0.3
	0.1nm,0.3s,baz=95,slow=7.2,SNR=9.0						
ASAR	**Alice Springs**	**50.31**	**253**	P	P	16 49 51.8	-0.1
	2.6nm,0.5s,baz=88,slow=8.1,SNR=73						

IDC 31 17:11:39.3±60.0, 20°.78S×177°.37W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=1112.0km s-min=171.6km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.20**	**245**	P	P	17 18 59.8	-1.2
	1.7nm,0.8s,baz=105,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**45.03**	**257**	P	P	17 19 57.2	+0.1
	0.7nm,0.7s,baz=93,slow=8.3,SNR=7.0						
WRA	**Warramunga Arr**	**45.15**	**262**	P	P	17 19 58.4	+0.3
	0.2nm,0.3s,baz=95,slow=8.1,SNR=13						

*ISCJB **31** 17:24:49.3±2.1, 21°.02S±0°.3×68°.8E±0°.4, h10km, mb3.7/7, MS3.7/4, Error ellipse: s-maj=64.5km s-min=26.1km az=137.6*
*IDC **31** 17:24:49.4±2.6, 21°.02S×68°.76E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/24, mbtmp3.7/7, MS3.7/4, Ms1 3.7/4, ms1mx3.2/44, Error ellipse: s-maj=78.6km s-min=29.2km az=48.0*
ISC 31 17:24:51.1±2.6, 21°.00S±0°.4×68°.8E±0°.4, h10km, n13, σ0§30/7, mb3.9/7, MS3.8/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.77**	**16**	T	T	17 42 09.2	
	baz=197,slow=75,SNR=136						
H08S2	**Diego Garcia H**	**13.77**	**16**	T	T	17 42 09.8	
	baz=197,slow=75,SNR=356						
H08S3	**Diego Garcia H**	**13.78**	**16**	T	T	17 42 10.9	
	baz=197,slow=75,SNR=120						
CMAR	**Chiang Mai Arr**	**49.11**	**39**	P	**P**	**17 33 39.0**	**-0.1**
	1.2nm,1.1s,baz=232,slow=8.1,SNR=6.0						
CMAR				LR	LR	17 50 58.6	
	comp=Z,40nm,21.6s,baz=282,slow=32						
ASAR	**Alice Springs**	**59.81**	**106**	P	**P**	**17 34 56.9**	**-0.3**
	0.7nm,0.8s,baz=269,slow=6.6,SNR=5.7						
WRA	**Warramunga Arr**	**61.01**	**102**	P	**P**	**17 35 05.5**	**+0.2**
	2.4nm,1.1s,baz=253,slow=7.4,SNR=5.9						
AAK	**Ala-Archa**	**63.55**	**5**	LR	LR	18 00 35.9	
	comp=Z,50nm,19.0s,baz=270,slow=34						
STKA	**Stephens Creek**	**65.02**	**116**	LR	LR	18 00 16.9	
	comp=Z,92nm,20.0s,baz=168,slow=33						
MKAR	**Makanchi Array**	**68.59**	**10**	P	**P**	**17 35 53.7**	**-0.4**
	1.2nm,0.9s,baz=191,slow=5.9,SNR=11						
ZALV	**Zalesovo Beam**	**75.93**	**10**	P	**P**	**17 36 37.8**	**+0.1**
	0.7nm,0.7s,baz=196,slow=3.7,SNR=5.5						
SONM	**Songino Array**	**76.40**	**25**	P	**P**	**17 36 41.1**	**+0.3**
	0.4nm,0.8s,baz=248,slow=4.0,SNR=4.0						
AKASG	**Malin Array Be**	**79.47**	**336**	P	**P**	**17 36 57.6**	**0.0**
	0.2nm,0.5s,baz=137,slow=4.6,SNR=4.1						
JNU	**Nakatsue**	**80.03**	**49**	LR	LR	18 12 29.2	
	comp=Z,50nm,18.8s,slow=36						

*ISCJB **31** 17:42:11.8±0.8, 19°.73S±0°.04×177°.83W±0°.03, h356km±8km, mb5.1/197, Error ellipse: s-maj=6.7km s-min=3.6km az=164.2*
*MOS **31** 17:42:12.7±0.9, 19°.73S×177°.67W, h366km, mb5.2/27, Error ellipse: s-maj=7.7km s-min=6.3km az=127.7*
*DJA **31** 17:42:14.8±0.5, 20°.S±7°×17°.8W±°, h410km±9km, M5.2/81, mb5.4/81, mB5.6/50, MLv6.5/1, Mw(mB)5.1/50*
*NEIC **31** 17:42:16.0±0.1, 19°.75S×177°.75W, mb5.0/87, Error ellipse: s-maj=5.9km s-min=3.8km az=139.0*
*IDC **31** 17:42:15.8±0.4, 19°.74S×177°.70W, h387km±4km, mb4.5/30, mb1 4.6/33, mb1mx4.6/34, mbtmp5.2/33, Error ellipse: s-maj=9.3km s-min=7.9km az=132.0*
*SZGRF **31** 17:42:17.5, 19°.62S×177°.86W, h396km, Fiji Islands region*
*GCMT **31** 17:42:19.0±0.3, 19°.76S×177°.68W, h413km±1km, MW5.4 Best double couple: NP1:φ=291.00000°, δ76.00000°, λ114.00000°. NP2:φ=49.00000°, δ28.00000°, λ32.00000°. Principal axes: T 1.3300, Plg53.0000°, Azm230.0000°; N 0.0700, Plg24.0000°, Azm104.0000°; P -1.4000, Plg27.0000°, Azm2.0000°; Data Used: II IU CN IC G.*
ISC 31 17:42:15.1±0.3, 19°.84S±0°.04×177°.70W±0°.04, h384km±2km, h384km:pP-P, n874, σ1§26/1015, mb5.1/197, 207C-176D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.18**	**45**	P	Pn	17 44 07.7	-4.4
AFI				S	S	17 45 34.9	-13
AFI	**Afiamalu**	**8.18**	**45**	P	Pn	17 44 07.7	-4.4
	68nm,0.3s,baz=186,slow=1.2,SNR=61						
AFI				S	S	17 45 34.9	-13
	47nm,0.3s,baz=215,slow=23,SNR=9.1						
RAO	**Raoul Island**	**9.38**	**181**	P	**Pn**	**17 44 25.6**	**-0.1**
RAO				S	**S**	**17 46 09.4**	**-3.6**
RAO	**Raoul Island**	**9.38**	**181**	P	**Pn**	**17 44 25.6**	**-0.1**
	120nm,0.3s,baz=294,slow=21,SNR=6.9						
RAO				S	**S**	**17 46 09.4**	**-3.6**
	320nm,0.3s,baz=270,slow=22,SNR=9.1						
DZM	**Mont Dzumac**	**14.98**	**259**	*e*P	**Pn**	**17 45 30.0**	**-0.9**
DZM				*e*LR	LR	17 47 58.3	
	644nm,24.9s						
DZM	**Mont Dzumac**	**14.98**	**259**	*e*P	**Pn**	**17 45 30.2**	**-0.7**
	355nm,1.0s						
DZM				S	**S**	**17 48 09.6**	**+1.6**
DZM	**Mont Dzumac**	**14.98**	**259**	P	**P**	**17 45 29.3**	**+1.1**
	4.1nm,0.3s,baz=84,slow=16,SNR=60						
DZM				S	**S**	**17 48 09.6**	**+1.6**
	0.2nm,0.3s,baz=90,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**14.98**	**259**	*e*P	**P**	**17 45 29.3**	**+1.1**
NOUC	**Port Laguerre**	**15.11**	**259**	*e*P	**P**	**17 45 29.7**	**+0.3**
RAR	**Rarotonga**	**16.85**	**98**	P	**P**	**17 45 48.5**	**+0.2**
RAR	**Rarotonga**	**16.85**	**98**	P	**P**	**17 45 48.4**	**+0.2**
	0.8nm,0.3s,baz=35,slow=0.0,SNR=6.7						
OUZ	**Omahuta**	**17.14**	**205**	*e*P	**Pn**	**17 45 54.5**	**-0.6**
	113nm,0.9s						
URZ	**Urewera**	**18.90**	**193**	*e*P	**P**	**17 46 08.5**	**-1.3**
	65nm,0.6s						
URZ				S	**S**	**17 49 19.0**	**-4.2**
URZ				ScP	**ScP**	**17 53 14.5**	**-0.8**
URZ	**Urewera**	**18.90**	**193**	P	**P**	**17 46 09.6**	**-0.2**
	13nm,0.3s,baz=358,slow=3.4,SNR=67						
URZ				S	**S**	**17 49 19.0**	**-4.2**
	4.1nm,0.3s,baz=204,slow=20,SNR=7.1						
URZ				ScP	**ScP**	**17 53 14.5**	**-0.8**
	1.2nm,0.3s,baz=28,slow=4.0,SNR=7.0						
KHZ	**Kahutara**	**23.70**	**196**	*e*P	**P**	**17 46 53.1**	**-1.0**
	31nm,0.7s						
HNR	**Honiara**	**23.94**	**292**	P	**P**	**17 46 57.6**	**+0.9**
HNR	**Honiara**	**23.94**	**292**	P	**P**	**17 46 57.6**	**+0.9**
	50nm,0.7s,baz=213,slow=1.8,SNR=3.7						
RPZ	**Rata Peaks**	**25.61**	**199**	*e*P	**P**	**17 47 10.8**	**-0.4**
	35nm,0.7s						
RPZ				ScP	**ScP**	**17 53 32.1**	**-0.5**
RPZ	**Rata Peaks**	**25.61**	**199**	P	**P**	**17 47 13.0**	**+1.8**
	24nm,0.7s,baz=6.4,slow=3.7,SNR=16						
RPZ				ScP	**ScP**	**17 53 32.1**	**-0.5**
	25nm,0.9s,baz=180,slow=1.0,SNR=4.1						
PPT2	**Papeete2**	**26.72**	**90**	*e*LR	LR	17 53 42.2	
	539nm,25.8s						
PPT	**Papeete**	**26.72**	**90**	P	**P**	**17 47 21.4**	**-0.1**
PPT	**Papeete**	**26.72**	**90**	P	**P**	**17 47 21.4**	**-0.1**
	25nm,0.6s,baz=270,slow=7.1,SNR=3.4						
WHZ	**Wether Hill Ro**	**28.55**	**201**	*e*P	**P**	**17 47 38.6**	**+1.4**
	168nm,0.9s						
EIDS	**Eidsvold**	**29.30**	**253**	*e*P	**P**	**17 47 44.7**	**+0.6**
	205nm,1.1s						
ARMA	**Armidale**	**29.61**	**243**	*e*P	**P**	**17 47 48.4**	**+1.5**
	96nm,0.9s						
CAN	**Canberra**	**33.11**	**235**	*e*P	**P**	**17 48 18.2**	**+1.1**
CAN				pmax	pmax		
	comp=Z,281nm,1.2s						
CAN	**Canberra**	**33.11**	**235**	*e*P	**P**	**17 48 18.1**	**+1.1**
	comp=Z,281nm,1.2s						
CTA	**Charters Tower**	**33.84**	**263**	P	**P**	**17 48 24.0**	**+0.6**
CTA				S	**S**	**17 53 17.6**	**-1.4**
CTA	**Charters Tower**	**33.84**	**263**	P	**P**	**17 48 24.0**	**+0.6**
	comp=Z,272nm,0.8s,baz=87,slow=11,SNR=199						
CTA				S	**S**	**17 53 17.6**	**-1.4**
	comp=Z,6.2nm,0.9s,baz=202,slow=19,SNR=4.3						
CTAO	**Charters Tower**	**33.84**	**263**	*e*P	**P**	**17 48 23.7**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,323nm,0.8s						
CTAO	**Charters Tower**	**33.84**	**263**	*e*P	**P**	**17 48 23.7**	**+0.3**
	comp=Z,324nm,0.8s						
PMG	**Port Moresby**	**35.47**	**282**	P	**P**	**17 48 36.8**	**-0.4**
	comp=Z,167nm,1.0s,comp=Z,1μm						
PMG	**Port Moresby**	**35.47**	**282**	*e*P	**P**	**17 48 36.9**	**-0.4**
	comp=Z,145nm,0.9s						
PMG	**Port Moresby**	**35.47**	**282**	P	**P**	**17 48 37.6**	**+0.4**
	comp=Z,128nm,0.9s,baz=94,slow=7.5,SNR=41						
COEN	**Coen**	**37.83**	**273**	*e*P	**P**	**17 48 56.8**	**-0.1**
	comp=Z,620nm,1.0s						
STKA	**Stephens Creek**	**38.33**	**243**	*e*P	**P**	**17 49 01.8**	**+0.9**
	comp=Z,60nm,1.1s						
STKA				*e*ScP	**ScP**	**17 54 17.4**	**+1.1**
STKA				ScP	**ScP**	**17 54 18.1**	**+1.8**
STKA	**Stephens Creek**	**38.33**	**243**	P	**P**	**17 49 01.8**	**+0.9**
	comp=Z,191nm,0.9s,baz=85,slow=8.4,SNR=227						
STKA				ScP	**ScP**	**17 54 18.1**	**+1.8**
	comp=Z,12nm,1.0s,baz=9.6,slow=4.3,SNR=6.4						
MCQ	**Macquarie Isla**	**38.91**	**202**	*e*P	**P**	**17 49 07.0**	**+1.8**
MCQ	**Macquarie Isla**	**38.91**	**202**	*e*P	**P**	**17 49 07.0**	**+1.8**
	comp=Z,63μm,1.5s						
WAKE	**Wake Island**	**41.79**	**338**	P	**P**	**17 49 28.5**	**-0.5**
	comp=Z,140nm,0.9s						
BBOO	**Buckleboo**	**43.09**	**243**	*i*P	**P**	**17 49 39.6**	**+0.3**
	comp=Z,5μm,0.8s						
GENI	**Genyem**	**44.55**	**287**	P	**P**	**17 49 50.2**	**-0.8

BNSI **Bone** 62.38 276 P P 17 51 59.5 +0.5
comp=Z,172nm,1.2s,comp=Z,2µm
MRSI **Marisa** 62.43 281 P P 17 51 57.4 -2.0
comp=Z,70nm,1.2s,comp=Z,737nm
KAPI **Kappang** 62.51 275 eP P 17 51 59.5 -0.4
comp=Z,331nm,1.1s
SPSI **Sidrap Palu** 62.84 276 P P 17 52 00.3 -1.8
comp=Z,66nm,1.1s,comp=Z,584nm
TTSI **Tana Toraja** 63.12 277 P P 17 52 03.2 -0.6
comp=Z,44nm,1.1s
CTBH **Cotabato--PC H** 63.12 289⇑ iP P 17 52 04.0 +0.2
KHKI **Kahang-Kahang** 65.33 270 P P 17 52 15.9 -2.2
comp=Z,78nm,1.2s,comp=Z,906nm
DNP **Denpasar** 65.61 269 P P 17 52 21.2 +1.4
comp=Z,268nm,0.9s
SRBI **Singaraja** 65.79 270 P P 17 52 18.3 -2.7
comp=Z,158nm,1.0s,comp=Z,2µm
ABJI **Asem Bagus** 65.80 270 P P 17 52 27.8 +0.5
comp=Z,139nm,1.1s,comp=Z,1µm
GMJI **Gumukmas** 67.40 269 P P 17 52 27.4 -3.6
comp=Z,86nm,1.0s,comp=Z,1µm
BLJI **Banyuglugur** 67.42 270 P P 17 52 27.0 -4.2
comp=Z,159nm,0.9s,comp=Z,2µm
MYLDM **Lahad Datu** 67.44 285 P P 17 52 34.1 +2.8
MYLDM **Lahad Datu** 67.44 285 P P 17 52 33.9 +2.7
comp=Z,79nm,1.1s,comp=Z,1µm
BBKI **Banjar Baru** 67.64 275 P P 17 52 32.7 +0.2
comp=Z,124nm,1.7s,comp=Z,2µm
TSM **Tawau** 67.66 283 P P 17 52 33.9 +1.3
KRKI **Karangkates** 68.37 269 P P 17 52 37.2 +0.2
comp=Z,211nm,0.6s,comp=Z,9µm
GRJI **Gresik** 68.73 270 P P 17 52 37.6 -1.6
comp=Z,88nm,0.7s,comp=Z,765nm
SDKM **Sandakan** 68.81 284 P P 17 52 40.0 +0.2
PWJI **Pagerwojo** 69.02 269 P P 17 52 39.7 -1.3
comp=Z,74nm,1.4s
NGJI **Ngawi** 69.55 269 P P 17 52 47.4 +3.2
comp=Z,68nm,0.8s
PCJI **Pacitan** 69.56 268 P P 17 52 41.3 -2.9
comp=Z,234nm,1.1s,comp=Z,2µm
MJAR **Matsushiro Arr** 69.84 323 P P 17 52 44.9 -0.6
MJAR **Matsushiro Arr** 69.84 323 P P 17 52 44.9 -0.6
comp=Z,24nm,0.7s,baz=158,slow=6.1,SNR=44
MAJO **Matsushiro** 69.85 323 eP P 17 52 44.9 -0.6
MAJO pmax pmax
comp=Z,166nm,0.8s
MAJO **Matsushiro** 69.85 323 eP P 17 52 44.6 -0.9
comp=Z,32nm,0.8s
QSPA **South Pole Qui** 70.23 180 eP P 17 52 48.8 +1.3
comp=Z,148nm,1.0s
UGM **Wanagama** 70.26 269 P P 17 52 45.8 -2.7
comp=Z,142nm,0.7s
SMRI **Semarang** 70.61 269 P P 17 52 49.5 -1.1
comp=Z,102nm,1.0s
PBKI **Pangkalan Bun** 70.87 274 P P 17 52 50.7 -1.4
comp=Z,231nm,1.1s,comp=Z,2µm
BJII **Banjarnegara** 71.20 269 P P 17 52 55.2 +1.0
comp=Z,40nm,2.1s
BTM **Bintulu** 71.65 280 P P 17 52 58.0 +1.3
CLJI **Cilicap** 71.74 268 P P 17 52 54.8 -2.5
comp=Z,93nm,1.0s
TGJI **Tegal** 71.91 269 P P 17 52 54.4 -3.9
comp=Z,88nm,1.2s
KPJI **Karang Pucung** 71.94 269 P P 17 52 58.9 +0.5
comp=Z,81nm,0.9s
JNU **Nakatsue** 71.99 316 P P 17 52 57.2 -1.1
JNU **Nakatsue** 71.99 316 P P 17 52 57.2 -1.1
comp=Z,17nm,1.0s,baz=135,slow=4.3
SBUM **Sibu** 72.17 279 P P 17 53 00.8 +1.0
SBUM **Sibu** 72.17 279 P P 17 52 58.5 -1.3
comp=Z,52nm,1.6s,comp=Z,728nm
CMJI **Cimerak** 72.25 268 P P 17 52 58.5 -1.8
comp=Z,72nm,1.2s
JCJI **Jatiwangi** 72.83 269 P P 17 52 58.1 -5.5
comp=Z,176nm,1.3s
FX1 **Attu Island--F** 72.84 354 P P 17 53 02.0 -0.8
FX1 **Attu Island--F** 72.84 354 P P 17 53 02.0 -0.8
comp=Z,20nm,0.8s,baz=288,slow=6.4,SNR=5.1
CISI **Cisompet, Garu** 72.92 268 P P 17 53 02.2 -2.1
comp=Z,123nm,1.5s,comp=Z,1µm
ASAJ **Asahikawa** 73.28 331 P P 17 53 06.5 +0.9
ASAJ **Asahikawa** 73.28 331 P P 17 53 06.5 +0.9
comp=Z,56nm,1.1s,baz=200,slow=6.8,SNR=9.4
LEM **Lembang** 73.33 269 P P 17 53 05.9 -0.9
comp=Z,250nm,0.9s,comp=Z,2µm
KSM **Kuching** 73.60 278 P P 17 53 09.1 +0.9
KSM **Kuching** 73.60 278 P P 17 53 09.2 +1.1
comp=Z,132nm,1.1s,comp=Z,1µm
UNV **Unalaska Valle** 74.01 7 eP P 17 53 06.8 -2.7
comp=Z,69nm,1.2s
CBJI **Citeko** 74.19 269 P P 17 53 10.4 -1.1
comp=Z,280nm,0.9s
DBJI **Dramaga** 74.24 269 P P 17 53 10.4 -1.4
comp=Z,200nm,1.3s
SKJI **Sukabumi** 74.28 268 P P 17 53 11.6 -0.4
comp=Z,208nm,1.1s
CGJI **Cibinong** 75.21 268 P P 17 53 15.7 -1.6
comp=Z,153nm,1.5s,comp=Z,2µm
YSS **Yuzh-Sakhalins** 75.43 333⇑ eP P 17 53 19.0 +1.3
YSS pmax pmax
comp=Z,60nm,1.0s
YSS **Yuzh-Sakhalins** 75.43 333 eP P 17 53 18.9 +1.1
PEA0B **Petropavlovsk-** 75.70 345 eP P 17 53 18.9 -0.3
PETK **Petropavlovsk-** 75.70 345 P P 17 53 19.0 -0.2
PETK **Petropavlovsk-** 75.70 345 P P 17 53 18.9 -0.2
PETK **Petropavlovsk-** 75.70 345 P P 17 53 18.9 -0.2
comp=Z,29nm,1.0s,baz=128,slow=6.5,SNR=27
BLSI **Bandar Lampung** 76.03 269 P P 17 53 18.6 -3.4
comp=Z,127nm,1.0s,comp=Z,1µm
KSRS **Korea Array** 76.58 318 P P 17 53 24.8 +0.4
comp=Z,3.1nm,0.8s,baz=126,slow=5.7,SNR=9.4
KSAR **Wonju Array Be** 76.60 318 P P 17 53 24.8 +0.3
KASI **Kota Agung** 76.69 269 P P 17 53 23.1 -2.5
comp=Z,197nm,1.1s
BSC **Santa Cruz Isl** 76.94 46 ⇑P P 17 53 28.0 +1.5
baz=77
SCI **San Clemente I** 77.12 48 ⇓P P 17 53 28.6 +1.1
baz=77
SBC **Santa Barbara** 77.14 46 ⇓P P 17 53 29.0 +1.4
baz=77
LWLI **Liwa** 77.26 269 P P 17 53 24.3 -4.6
comp=Z,111nm,1.0s,comp=Z,2µm
MDSI **Maura Dua** 77.33 270 P P 17 53 23.9 -5.2
comp=Z,78nm,1.0s
PKM **Peak Mountain** 77.33 46 ⇑P P 17 53 29.7 +0.8
baz=78,SNR=12
SAO **San Andreas Ge** 77.36 43 eP P 17 53 29.6 +0.9
SAO pmax pmax
comp=Z,39nm,1.0s
SAO **San Andreas Ge** 77.36 43 eP P 17 53 29.6 +0.9
comp=Z,39nm,1.0s
SMMC **Simmler** 77.45 45 ⇓P P 17 53 30.7 +1.4
baz=78
CIS **Catalina Islan** 77.46 47 ⇑P P 17 53 29.9 +0.5
baz=78
DECC **Green Verdugo** 77.98 47 ⇑P P 17 53 33.1 +0.8
baz=78
PASC **Pasadena Art C** 78.03 47 eP P 17 53 33.1 +0.6
comp=Z,19nm,0.9s
109C **Camp Elliot, M** 78.08 49 ⇑P P 17 53 33.6 +0.8
baz=78
ARVC **Arvin** 78.13 46 ⇓P P 17 53 33.6 +0.7
baz=78,SNR=5.9
MWC **Mount Wilson** 78.15 47 eP P 17 53 34.0 +0.6
MWC pmax pmax
comp=Z,45nm,0.9s
MWC **Mount Wilson** 78.15 47 eP P 17 53 34.0 +0.6
comp=Z,45nm,0.9s
BAR **Barrett** 78.27 49 eP P 17 53 34.3 +0.4
comp=Z,15nm,1.0s
VES **Vestal, Richgr** 78.36 45 ⇑P P 17 53 34.4 +0.2
baz=78,SNR=14
MURC **Murrieta** 78.40 48 ⇑P P 17 53 35.2 +0.7
baz=79,SNR=10
BFSC **Mount Baldy Ra** 78.43 47 ⇑P P 17 53 35.0 +0.2
baz=79,SNR=13
EDW2 **Edwards Air Fo** 78.56 46 ⇑P P 17 53 36.1 +0.7
baz=79,SNR=39
MONP **Monument Peak** 78.56 49 ⇑P P 17 53 36.6 +0.9
baz=79,SNR=31
USRK **Ussuriysk Arra** 78.58 326 P P 17 53 35.7 +0.5
comp=Z,14nm,1.0s,baz=132,slow=4.1,SNR=15
DVTC **Desert V Tower** 78.67 49 ⇑P P 17 53 37.0 +1.0
baz=79,SNR=8.7
ISA **Isabella** 78.67 46 eP P 17 53 36.6 +0.6
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA **Isabella** 78.67 46 eP P 17 53 36.6 +0.6
comp=Z,8.6nm,0.9s
ISA **Isabella** 78.67 46 ⇑P P 17 53 36.8 +0.8
baz=79,SNR=28
CMB **Columbia Colle** 78.79 43 eP P 17 53 36.7 +0.1
CMB pmax pmax
comp=Z,34nm,1.1s
CMB **Columbia Colle** 78.79 43 eP P 17 53 36.7 +0.1
comp=Z,34nm,1.1s
PFO **Pinyon Flat Ob** 78.93 48 P P 17 53 38.2 +0.7
comp=Z,135nm,1.0s,SNR=8.0
PFO **Pinyon Flat Ob** 78.93 48 eP P 17 53 37.9 +0.4
comp=Z,32nm,1.1s
PFO **Pinyon Flat Ob** 78.93 48 ⇑P P 17 53 37.9 +0.4
baz=79,SNR=12
SWSC **Sam W. Stewart** 79.03 49 ⇑P P 17 53 38.6 +0.7
baz=79,SNR=6.1
LRMC **Laurel Mountai** 79.10 46 ⇑P P 17 53 39.3 +0.9
baz=79,SNR=14
M02C **Callahan** 79.30 39 ⇓P P 17 53 40.7 +1.4
baz=80
CWC **Cottonwood Cre** 79.37 45 ⇑P P 17 53 40.2 +0.3
baz=80,SNR=12
OHAK **Old Harbor** 79.44 13 eP P 17 53 38.5 -1.0
comp=Z,47nm,1.2s
MPMC **Manual Prospec** 79.56 46 ⇑P P 17 53 41.4 +0.5
baz=80,SNR=16
YBH **Yreka Blue Hor** 79.60 39 P P 17 53 41.4 +0.6
YBH **Yreka Blue Hor** 79.60 39 P P 17 53 41.4 +0.6
comp=Z,14nm,0.9s,baz=236,slow=2.8,SNR=15
GSC **Goldstone** 79.60 47 eP P 17 53 41.8 +0.7
GSC pmax pmax
comp=Z,43nm,1.6s
GSC **Goldstone** 79.60 47 eP P 17 53 41.8 +0.7
comp=Z,43nm,1.6s
GSC **Goldstone** 79.60 47 ⇓P P 17 53 41.7 +0.6
baz=80,SNR=9.8
TIN **Tinemha** 79.62 44 ⇑P P 17 53 41.9 +0.8
baz=80,SNR=6.2
WAKR **Walker** 79.67 43 eP P 17 53 41.9 +0.4
comp=Z,36nm,1.0s
HEC **Hector,Ludlow** 79.67 47 ⇑P P 17 53 41.8 +0.3
baz=80,SNR=9.4
NJ2 **Nanjing** 79.67 309 eP P 17 53 43.0 +1.7
NJ2 pmax pmax
comp=Z,20nm,0.6s
MYKOM **Kota Tinggi** 79.75 276 P P 17 53 42.7 +0.5
MYKOM **Kota Tinggi** 79.75 276 P P 17 53 41.5 -0.7
comp=Z,79nm,1.1s,comp=Z,809nm
GLA **Glamis** 79.78 49 eP P 17 53 43.5 +1.5
GLA pmax pmax
comp=Z,5.0nm,0.9s
GLA **Glamis** 79.78 49 eP P 17 53 43.5 +1.5
comp=Z,5.2nm,0.9s
GLA **Glamis** 79.78 49 ⇓P P 17 53 43.3 +1.3
baz=80,SNR=7.5
BEKR **Beckworth** 79.89 41 eP P 17 53 42.2 -0.3
comp=Z,33nm,1.7s
HABR **Khabarovsk** 80.01 330 eP P 17 53 42.2 -0.5
HABR e 17 53 47.2
HABR e 17 56 49.2
HABR PPP PPP 17 58 41.7
HABR eS S 18 03 07.2 -6.7
HABR e 18 03 22.2
HABR eSSS SSS 18 11 57.1
HABR pmax pmax
comp=Z,32nm,1.7s
HABR MLR MLR
comp=Z,116nm,20.0s
GMRC **Granite Mounta** 80.11 48 ⇑P P 17 53 44.3 +0.5
baz=80,SNR=13
IRM **Iron Mountain** 80.14 48 ⇑P P 17 53 44.7 +0.9
baz=80,SNR=20
MDJ **Mudanjiang** 80.14 325 P P 17 53 45.0 +1.5
MDJ pP pP 17 55 07.0 -3.5
MDJ sP sP 17 55 47.0 -3.8
MDJ PP PP 17 56 54.0 +1.6
MDJ S S 18 03 16.5 +1.0
MDJ ScS ScS 18 03 33.3 +0.6
MDJ sS sS 18 05 48.5 -1.5
MDJ pmax pmax
comp=Z,36nm,1.1s
MDJ pmax pmax
comp=Z,490nm,4.7s
M04C **Macdoel** 80.14 39 ⇓P P 17 53 44.9 +1.1
baz=80
FURC **Furnace Creek,** 80.21 46 ⇑P P 17 53 45.0 +0.9
baz=80
TUQ **Turquoise Moun** 80.28 47 ⇑P P 17 53 45.1 +0.4
baz=80,SNR=15
SHOC **Shoshone** 80.29 46 ⇓P P 17 53 45.7 +1.1
baz=80
KGM **Kluang** 80.32 276 P P 17 53 46.4 +1.1
NVAR **Mina Array Bea** 80.35 43 P P 17 53 45.4 +0.3
NVAR pP pP 17 55 13.4 +1.3
NVAR PKKPbc PKKPbc 18 12 26.2 +0.3
NVAR **Mina Array Bea** 80.35 43 P P 17 53 45.4 +0.3
comp=Z,13nm,0.8s,baz=228,slow=8.4,SNR=75
NVAR pP pP 17 55 13.4 +1.3
comp=Z,8.4nm,1.1s,baz=230,slow=5.6,SNR=5.5
NVAR PKKPbc PKKPbc 18 12 26.2 +0.3
comp=Z,1.2nm,0.8s,baz=53,slow=2.5,SNR=7.6
Y12C **Blythe** 80.36 49 ⇓P P 17 53 45.9 +0.9
baz=80,SNR=8.6
113A **Mohawk Valley,** 80.40 50 ⇑P P 17 53 46.2 +1.0
baz=80
PAHR **Pah Rah Range** 80.40 42 eP P 17 53 45.1 -0.2
comp=Z,62nm,1.6s
NV11 **Mina Array Sit** 80.45 43 eP P 17 53 45.8 +0.3
LDFC **Landfair** 80.65 48 eP P 17 53 48.0 +1.4
comp=Z,90nm,1.1s
214A **Organ Pipe Nat** 80.68 51 eP P 17 53 48.2 +1.4
comp=Z,44nm,1.3s
214A **Organ Pipe Nat** 80.68 51 ⇑P P 17 53 47.7 +0.9
baz=81,SNR=11
TPH **Tonopah** 80.86 44 eP P 17 53 48.3 +0.5
TPH pmax pmax
comp=Z,30nm,1.3s
TPH **Tonopah** 80.86 44 eP P 17 53 48.2 +0.5
comp=Z,30nm,1.3s
TPNV **Topopah Spring** 80.88 45 ⇓P P 17 53 48.6 +0.8
baz=81,SNR=10.0
J04D **Umpqua Nationa** 80.88 38 ⇓P P 17 53 48.9 +1.2
baz=81
PDMCI **Parker Dam,Lak** 80.92 49 ⇓P P 17 53 49.0 +1.1
baz=81,SNR=11
I04A **Tendick Farm,** 81.05 37 ⇑P P 17 53 48.9 +0.5
baz=81
MOD **Modoc** 81.13 40 eP P 17 53 49.2 +0.2
comp=Z,54nm,1.3s
MOD epP pP 17 55 17.9 +1.7
Z14A **Wintersburg** 81.30 50 ⇑P P 17 53 51.1 +1.2
baz=81,SNR=9.3
SHPR **Sheep Range** 81.38 46 eP P 17 53 50.8 +0.4
comp=Z,36nm,1.5s
SHPR epP pP 17 55 17.4 -0.3
J05D **Fort Rock, OR** 81.41 38 ⇑P P 17 53 51.5 +1.1
baz=82
G03D **McMinnville, O** 81.47 36 ⇓P P 17 53 51.7 +1.2
baz=82
W13A **Hualapai Mount** 81.52 48 ⇑P P 17 53 52.1 +0.9
baz=82
Y14A **Wickenburg** 81.54 49 ⇑P P 17 53 52.0 +0.8
baz=82,SNR=12
KTGM **Kuala Trenggan** 81.66 279 P P 17 53 53.9 +1.7
PMSA **Palmer Station** 81.78 157 eP P 17 53 52.4 +0.6
comp=Z,27nm,0.9s
CN2 **Changchun** 81.95 322 eP P 17 53 55.0 +2.0
CN2 eSP sP 17 56 01.5 +1.0
CN2 ePP PP 17 57 10.8 +3.6
CN2 SKS S 18 03 34.8 +0.8
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
R11A **Troy Canyon, C** 82.08 45 ⇓P P 17 53 54.7 +0.6
baz=82
BMN **Battle Mountai** 82.17 42 eP P 17 53 54.9 +0.4
BMN e*PP pP 17 55 22.9 +1.0
BMN pmax pmax
comp=Z,38nm,1.2s
BMN **Battle Mountai** 82.17 42 eP P 17 53 54.9 +0.4
comp=Z,38nm,1.2s
BMN epP pP 17 55 22.9 +1.0
MAW **Mawson** 82.28 200 P P 17 53 55.4 +1.1
MAW **Mawson** 82.28 200 P P 17 53 55.4 +1.1
comp=Z,59nm,1.0s,baz=129,slow=6.4,SNR=23
FRIM **Kepong** 82.33 276 P P 17 53 56.6 +0.9
TUC **Tucson** 82.35 52 eP P 17 53 56.6 +1.2
TUC e*PP pP 17 55 25.1 +2.1
TUC pmax pmax
comp=Z,39nm,0.9s
TUC **Tucson** 82.35 52 eP P 17 53 56.6 +1.2
comp=Z,39nm,0.9s
TUC epP pP 17 55 25.1 +2.1
WVOR **Wild Horse Val** 82.44 40 eP P 17 53 55.5 -0.2
WVOR e*PP pP 17 55 24.4 +1.1
WVOR pmax pmax
comp=Z,27nm,1.0s
WVOR **Wild Horse Val** 82.44 40 eP P 17 53 55.5 -0.2
comp=Z,27nm,1.0s
WVOR epP pP 17 55 24.4 +1.1
RSO **Redoubt South** 82.53 12 eP P 17 53 54.0 -1.9
comp=Z,36nm,0.9s
TDL **Tradedollar La** 82.75 35 P P 17 53 58.1 +0.9
X16A **Lo Mia Camp, P** 82.91 50 ⇑P P 17 53 59.5 +1.1
baz=83,SNR=29
VTHM **Trough** 82.95 37 P P 17 53 58.8 +0.7
319A **Douglas** 83.03 53 ⇑P P 17 54 00.6 +1.6
baz=83,SNR=33
CCUT **Cedar City** 83.15 46 eP P 17 54 00.3 +0.7
comp=Z,22nm,1.0s
CCUT epP pP 17 55 24.4 -2.8
UBPT **Khong Chiam** 83.18 289 P P 17 54 01.2 +1.3
comp=Z,32nm,1.9s
ARUT **Antelope Range** 83.22 46 eP P 17 54 00.2 +0.3
ARUT pmax pmax
comp=Z,63nm,1.1s
ARUT **Antelope Range** 83.22 46 eP P 17 54 00.2 +0.3
comp=Z,63nm,1.1s
U15A **North Rim** 83.31 48 ⇓P P 17 54 01.4 +0.9
baz=84
IPM **Ipoh** 83.33 277 P P 17 54 01.9 +1.1
IPM **Ipoh** 83.33 277 P P 17 53 59.2 -1.5
comp=Z,87nm,1.1s,comp=Z,750nm
IPM **Ipoh** 83.33 277 eP P 17 54 01.3 +0.5
comp=Z,175nm,1.4s
WPW **White Pass** 83.33 35 P P 17 54 00.6 +0.5
MNSI **Mandailing Nat** 83.42 273 P P 17 53 59.6 -1.6
comp=Z,39nm,1.1s
WUAZ **Wupatki** 83.50 49 eP P 17 54 02.1 +0.8
comp=Z,27nm,1.2s
WUAZ epP pP 17 55 31.7 +2.7
WUAZ **Wupatki** 83.50 49 ⇓P P 17 54 02.5 +1.2
baz=84
320A **Kipp Ranch, An** 83.58 54 ⇓P P 17 54 03.6 +1.8
baz=84,SNR=48
TRW **Toppenish Ridg** 83.63 36 P P 17 54 02.0 +0.5
RC01 **Rabbit Creek A** 83.73 13 eP P 17 53 59.6 -2.0
comp=Z,34nm,1.2s
RC01 epP pP 17 55 30.0 +0.6
KULM **Kulim** 83.96 278 P P 17 54 05.2 +1.3
KULM **Kulim** 83.96 278 P P 17 54 02.4 -1.5
comp=Z,52nm,1.2s,comp=Z,734nm
KULM **Kulim** 83.96 278 eP P 17 54 04.2 +0.3
comp=Z,22nm,0.8s
EBG **Ellensburg** 83.99 35 P P 17 54 04.0 +0.6
X18A **Snowflake** 84.03 50 ⇓P P 17 54 05.4 +1.3
baz=84
HAWA **Hanford** 84.25 36 eP P 17 54 04.5 -0.1
comp=Z,44nm,1.5s
HAWA epP pP 17 55 33.2 +0.7
PMR **Palmer** 84.31 13 eP P 17 54 02.5 -2.0
PMR e*PP pP 17 55 31.5 -1.0
PMR pmax pmax
comp=Z,42nm,1.4s
PMR **Palmer** 84.31 13 eP P 17 54 02.5 -2.0
comp=Z,42nm,1.4s
PMR epP pP 17 55 31.4 -1.0
MVU **Marysvale** 84.42 46 eP P 17 54 06.6 +0.6
comp=Z,21nm,1.3s
221A **Mesquite Ranch** 84.46 53 ⇑P P 17 54 07.6 +1.5
baz=85,SNR=7.6
W18A **Petrified Fore** 84.47 50 ⇑P P 17 54 07.2 +1.0
baz=85
DIV **Divide** 84.67 15 eP P 17 54 05.5 -1.0
comp=Z,34nm,1.1s
DIV epP pP 17 55 36.1 +1.6
121A **Cookes Peak, D** 84.69 53 eP P 17 54 08.6 +1.2
comp=Z,25nm,1.0s
121A **Cookes Peak, D** 84.69 53 ⇓P P 17 54 08.7 +1.4
baz=85,SNR=19
PSI **Prapat** 84.71 275 P P 17 54 05.3 -2.5
comp=Z,52nm,1.1s,comp=Z,602nm
PSI **Prapat** 84.71 275 P P 17 54 07.4 -0.4
PSI **Prapat** 84.71 275 P P 17 54 07.4 -0.4
comp=Z,34nm,0.9s,baz=158,slow=3.2,SNR=20
WTV **Waterville** 84.80 35 P P 17 54 07.4 +0.1
BMRM **Bremner River** 84.82 16 eP P 17 54 06.0 -1.1
comp=Z,33nm,1.1s
DUG **Dugway** 84.89 44 ⇑P P 17 54 09.0 +0.9
baz=85
CHBT **CHBT** 85.07 285 P P 17 54 10.4 +1.1
comp=Z,31nm,1.2s
SAW **Saint Andrews** 85.10 35 P P 17 54 09.1 +0.2
OD2 **Odessa Site #2** 85.30 36 P P 17 54 10.2 +0.4
TNA **Tin City** 85.46 4 eP P 17 54 09.0 -1.0
comp=Z,9.3nm,0.9s
TNA epP pP 17 55 39.0 +0.7
BJI **Beijing** 85.62 315 P P 17 54 11.5 +0.1
BJI pP pP 17 55 38.5 -1.2
BJI S S 18 04 16.0 +5.6
BJI SS SS 18 09 56.0 -1.4
BJI pmax pmax
comp=Z,17nm,1.2s
Z22A **Elephant Butte** 85.64 52 ⇓P P 17 54 13.2 +1.3
baz=86,SNR=14
HLID **Hailey** 85.64 41 eP P 17 54 12.1 +0.4
comp=Z,9.3nm,0.9s
HLID epP pP 17 55 41.1 +1.1
HLID **Hailey** 85.64 41 ⇓P P 17 54 12.7 +0.9
baz=86
KTH **Kantishna Hill** 85.72 12 eP P 17 54 09.6 -1.9
comp=Z,16nm,0.9s
KTH epP pP 17 55 38.2 -1.6
TRF **Thorofare Moun** 85.75 12 eP P 17 54 09.8 -1.9
comp=Z,24nm,0.9s
TRF epP pP 17 55 39.8 -0.3
SEY **Seymchan** 85.80 347 P P 17 54 11.5 -0.3
SEY **Seymchan** 85.80 347 P P 17 54 11.5 -0.3
SEY **Seymchan** 85.80 347 P P 17 54 11.5 -0.3
comp=Z,27nm,1.0s,baz=154,slow=5.9,SNR=45
SRU **San Rafael** 85.86 46 eP P 17 54 13.1 +0.2
SRU pmax pmax
comp=Z,7.0nm,0.6s
SRU **San Rafael** 85.86 46 eP P 17 54 13.1 +0.2
comp=Z,6.7nm,0.6s
324A **Moseley Ranch,** 85.95 55 ⇑P P 17 54 14.4 +0.9
baz=86,SNR=20
LAZ **Ladron** 86.03 51 eP P 17 54 14.9 +1.1
comp=Z,3.3nm,1.0s
LENM **Lemitar** 86.04 52 eP P 17 54 14.7 +0.8
comp=Z,10nm,1.2s
KCSI **Kotacane, Aceh** 86.04 275 P P 17 54 13.9 -0.3
comp=Z,22nm,1.0s
425A **Indio Mountain** 86.05 55 ⇓P P 17 54 15.3 +1.4
baz=86,SNR=17
MNTX **Cornudas Mount** 86.14 54 eP P 17 54 14.9 +0.7
comp=Z,16nm,0.9s
MNTX epP pP 17 55 42.2 -0.4
Z23A **Rita Site, Whi** 86.19 53 ⇓P P 17 54 15.7 +1.2
baz=86
626A **Big Bend Ranch** 86.19 57 ⇓P P 17 54 16.1 +1.5
baz=86,SNR=14
224A **Cornudas Mount** 86.20 54 ⇑P P 17 54 15.9 +1.2
baz=86,SNR=8.3
MCK **McKinley** 86.27 12 eP P 17 54 12.6 -1.5
MCK pmax pmax
comp=Z,37nm,1.0s
MCK **McKinley** 86.27 12 eP P 17 54 12.6 -1.5
comp=Z,37nm,1.0s
MCK epP pP 17 55 44.1 +1.6
BNM **Barren Site** 86.29 52 eP P 17 54 15.7 +0.5
comp=Z,16nm,1.3s
BNM epP pP 17 55 47.2 +3.7
325A **Bean Ranch, Si** 86.31 55 ⇓P P 17 54 16.2 +0.9
baz=86,SNR=19
PAX **Paxson** 86.34 14 eP P 17 54 13.2 -1.4
PAX pmax pmax
comp=Z,8.0nm,1.0s
PAX **Paxson** 86.34 14 eP P 17 54 13.2 -1.4
comp=Z,8.0nm,1.0s

PAX epP pP 17 55 44.2 +1.2
LPM Los Pinos Moun 86.36 52 eP P 17 54 16.0 +0.5
comp=Z,9.7nm,1.0s
LPM epP pP 17 55 47.5 +3.7
526A Mary Lane Ranc 86.44 56 ⇓P P 17 54 17.0 +1.2
baz=87,SNR=12
TXAR Lajitas Array 86.46 57 P P 17 54 16.3 +0.4
TXAR pP pP 17 55 46.3 +1.9
TXAR PKKPbc **PKKPbc 18 12 11.2 +0.3**
TXAR Lajitas Array 86.46 57 P P 17 54 16.3 +0.4
comp=Z,8.1nm,0.8s,baz=217,slow=6.0,SNR=30
TXAR pP pP 17 55 46.3 +1.9
comp=Z,7.5nm,1.1s,baz=207,slow=5.3,SNR=3.4
TXAR PKKPbc **PKKPbc 18 12 11.2 +0.3**
comp=Z,1.3nm,0.9s,baz=124,slow=4.5,SNR=3.9
CHAI Chaiyaphum 86.53 288 P P 17 54 17.3 +0.9
comp=Z,6.6nm,1.0s
GYA Guiyang 86.57 300⇑ eP P 17 54 17.0 +0.5
GYA pP pP 17 55 43.5 -1.5
GYA sP sP 17 56 23.0 -1.9
GYA PP PP 17 57 46.5 +1.5
GYA SKS **SKSac 18 04 05.8 -0.3**
GYA S S 18 04 19.8 -0.6
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
Y23A Lovelace Mesa, 86.62 52 ⇑P P 17 54 17.3 +0.6
baz=87,SNR=6.4
NEW Newport 86.67 36 ⇓P P 17 54 16.4 0.0
baz=87
PV01 Paradox Valley 86.73 48 eP P 17 54 16.8 -0.4
comp=Z,892nm,1.0s
627A Terlingua Ranc 86.73 57 ⇑P P 17 54 18.1 +0.8
baz=87
426A McDonald Obser 86.74 56 ⇑P P 17 54 18.1 +0.7
baz=87,SNR=12
ANMO Albuquerque 86.77 51 eP P 17 54 17.8 +0.4
comp=Z,12nm,0.9s
ANMO pP pP 17 55 47.8 +1.8
ANMO epP pP 17 55 48.3 +2.3
ANMO Albuquerque 86.77 51 P P 17 54 17.6 +0.2
comp=Z,11nm,0.9s,baz=229,slow=4.4,SNR=24
ANMO pP pP 17 55 47.8 +1.8
comp=Z,4.4nm,1.0s,baz=226,slow=5.3,SNR=3.9
527A Woodward Ranch 86.85 57 ⇓P P 17 54 18.7 +0.9
baz=87
Z24A Sheeppen Canyo 86.87 53 ⇑P P 17 54 18.8 +0.9
baz=87,SNR=6.4
V22A San Miguel Ran 86.88 50 ⇓P P 17 54 18.9 +1.0
baz=87
SURT Suratani 86.96 281 P P 17 54 20.3 +1.8
comp=Z,26nm,1.2s,comp=Z,309nm
326A Caldwell Ranch 87.06 55 ⇑P P 17 54 19.6 +0.9
baz=87
Y24A Capitan 87.08 52 ⇓P P 17 54 19.6 +0.7
baz=87,SNR=27
W23A Werner Place, 87.09 51 ⇓P P 17 54 19.9 +1.0
baz=87
125A Gardner Draw, 87.11 54 ⇓P P 17 54 19.9 +0.9
baz=87
U22A Llaves 87.13 50 ⇓P P 17 54 19.7 +0.6
baz=87
226B Tecolote Peak, 87.24 55 ⇑P P 17 54 20.2 +0.7
baz=87,SNR=12
DOT Dot Lake 87.25 14 eP P 17 54 18.1 -0.7
comp=Z,14nm,1.3s
DOT epP pP 17 55 49.5 +2.1
MCMT McKenzie Canyo 87.27 40 eP P 17 54 19.8 +0.2
comp=Z,11nm,1.0s
MCMT epP pP 17 55 50.9 +2.6
427A Hayter Ranch, 87.31 56 ⇓P P 17 54 20.8 +0.9
baz=87,SNR=19
V23A Ortiz Mt. (NFS 87.33 51 ⇓P P 17 54 20.9 +0.8
baz=88,SNR=7.6
Z25A Roswell 87.33 53 ⇓P P 17 54 21.0 +1.0
baz=88
SYO Syowa Base 87.43 193 ⇓*i*P P 17 54 18.0 -1.6
SYO Syowa Base 87.43 193 ⇓*i*PcP PcP 17 54 21.1 -0.1
IM04 Indian Mountai 87.44 10 eP P 17 54 18.2 -1.4
IM04 epP pP 17 55 50.4 +2.1
COLA College 87.50 12*d i*P P 17 54 18.7 -1.1
COLA pmax pmax
comp=Z,87nm,1.1s
COLA College 87.50 12 eP P 17 54 18.6 -1.3
comp=Z,21nm,1.0s
COLA epP pP 17 55 48.7 +0.2
U23A El Rito 87.59 50 ⇑P P 17 54 22.3 +1.1
baz=88
126A Clayton Basin, 87.59 54 ⇑P P 17 54 22.0 +0.8
baz=88
ILAR Eielson Array 87.61 13 P P 17 54 19.0 -1.4
ILAR pP pP 17 55 49.4 +0.3
ILAR PP PP 17 57 48.8 -3.5
ILAR PKKPbc **PKKPdf 18 12 05.9 +2.2**
ILAR Eielson Array 87.61 13 P P 17 54 19.0 -1.4
comp=Z,4.6nm,0.8s,baz=227,slow=5.2,SNR=30
ILAR pP pP 17 55 49.4 +0.3
comp=Z,14nm,1.0s,baz=226,slow=5.4,SNR=15
ILAR PP PP 17 57 48.8 -3.5
comp=Z,2.0nm,1.0s,baz=219,slow=8.1,SNR=3.7
ILAR PKKPbc **PKKPdf 18 12 05.9 +2.2**
comp=Z,0.3nm,0.9s,baz=46,slow=4.4,SNR=5.2
Y25A Mesa, Roswell 87.63 53 ⇑P P 17 54 21.9 +0.5
baz=88,SNR=8.1
W24A Lazy 6 Ranch, 87.66 51 ⇓P P 17 54 22.2 +0.6
baz=88,SNR=5.1
MSO Missoula 87.68 38 ⇓P P 17 54 21.7 +0.4
baz=88
PBKT Sadao Pong 87.68 288 P P 17 54 23.3 +1.5
comp=Z,24nm,1.3s,comp=Z,2μm
BSMT Bassoo Peak 87.74 37 eP P 17 54 21.3 -0.4
comp=Z,5.0nm,1.0s
S22A 4UR Ranch, Cre 87.77 49 ⇑P P 17 54 22.8 +0.7
baz=88,SNR=15
428A Kincaid Ranch, 87.82 56 ⇑P P 17 54 22.7 +0.4
baz=88
Z26A Caprock 87.89 54 ⇑P P 17 54 23.1 +0.5
baz=88,SNR=5.9
X25A Clemmons Ranch 87.91 52 ⇑P P 17 54 23.5 +0.8
baz=88
XAN Xi'an 87.95 307 P P 17 54 23.5 +0.7
XAN pP pP 17 55 56.5 +4.9
XAN pmax pmax
comp=Z,8.0nm,1.2s
V24A Rampart Ranch, 87.99 51 ⇑P P 17 54 23.7 +0.5
baz=88
328A Wristen Ranch, 87.99 56 ⇑P P 17 54 23.7 +0.7
baz=88,SNR=7.7
LRM Limekiln Ridge 88.03 39 eP P 17 54 23.0 -0.1
comp=Z,71nm,0.9s
127A Arkansas Junct 88.11 54 ⇑P P 17 54 24.4 +0.8
baz=88
CHMT Chamberlain Mo 88.12 38 eP P 17 54 22.7 -0.8
comp=Z,5.4nm,1.0s
CHMT epP pP 17 55 54.7 +2.3
QLMT Earthquake Lak 88.14 41 eP P 17 54 24.6 +1.0
comp=Z,4.4nm,1.1s
QLMT epP pP 17 55 55.8 +3.3
I17A Pilgrim Ck. 88.21 42 ⇑P P 17 54 24.9 +0.9
baz=88,SNR=9.3
N20A Spence Gulch, 88.22 45 ⇑P P 17 54 24.5 +0.4
baz=88,SNR=5.5
PDAR Pinedale Array 88.29 43 P P 17 54 24.4 0.0
PDAR pP pP 17 55 54.0 +0.7
PDAR PP PP 17 57 55.0 -3.5
PDAR PKKPbc **PKKPbc 18 12 05.3 -2.1**
PDAR Pinedale Array 88.29 43 P P 17 54 24.4 0.0
comp=Z,5.5nm,0.8s,baz=211,slow=3.0,SNR=37
PDAR pP pP 17 55 54.0 +0.7
comp=Z,2.3nm,1.1s,baz=220,slow=3.9,SNR=4.4
PDAR PP PP 17 57 55.0 -3.5
comp=Z,1.5nm,1.0s,baz=229,slow=8.2,SNR=3.9
PDAR PKKPbc **PKKPbc 18 12 05.3 -2.1**
comp=Z,2.4nm,0.8s,baz=90,slow=4.6,SNR=14
W25A X Bar L Ranch, 88.36 52 ⇓P P 17 54 25.1 +0.3
baz=88,SNR=11
429A Davenport Ranc 88.40 57 ⇑P P 17 54 25.7 +0.8
baz=88
H17A Grant Village 88.44 41 ⇑P P 17 54 26.4 +1.2
baz=89,SNR=8.3
228A UT Block 9, Go 88.47 55 ⇓P P 17 54 26.1 +0.8
baz=89
Z27A Tatum 88.49 54 ⇑P P 17 54 26.2 +0.8
baz=89,SNR=12
T24B San Luis 88.50 50 ⇑P P 17 54 26.3 +0.7
baz=89
V25A Rancho No Teng 88.52 51 ⇓P P 17 54 25.7 +0.1
baz=89
SRDT SRDT 88.55 286 P P 17 54 27.7 +1.8
comp=Z,106nm,1.3s,comp=Z,6μm
P22A Eagle 88.66 47 ⇓P P 17 54 26.7 +0.5
baz=89
SNAA Sanae 88.66 178 eP P 17 54 24.8 -0.7
comp=Z,32nm,1.1s
R23A Moffat 88.68 49 ⇓P P 17 54 26.9 +0.5
baz=89,SNR=6.2
329A Wagon Wheel Ra 88.68 56 ⇓P P 17 54 26.7 +0.4
baz=89,SNR=9.7
128A Castleberry Fa 88.75 55 ⇑P P 17 54 27.3 +0.7
baz=89,SNR=7.5
Y27A Causey 88.76 53 ⇑P P 17 54 27.0 +0.3
baz=89,SNR=11
W26A Owens Ranch, T 88.82 52 ⇓P P 17 54 27.4 +0.4
baz=89
HRY Holter Researc 88.85 39 eP P 17 54 27.4 +0.6
comp=Z,3.7nm,0.5s
HRY epP pP 17 55 58.2 +2.4
J19A Crowheart 88.85 43 ⇑P P 17 54 27.3 +0.3
baz=89,SNR=13
S24A Houchin Ranch, 88.87 49 ⇑P P 17 54 28.0 +0.6
baz=89
EGAK Eagle 88.89 15 eP P 17 54 26.0 -0.4
comp=Z,16nm,1.1s
EGAK epP pP 17 55 57.0 +1.6
U25A Circle Dot Ran 88.91 51 ⇓P P 17 54 27.6 +0.2
baz=89
430A Baggett Ranch, 88.98 57 ⇓P P 17 54 27.8 +0.1
baz=89
229A Bryant Ranch, 89.01 56 ⇓P P 17 54 28.0 +0.2
baz=89
O22A Kremmling 89.06 46 ⇑P P 17 54 28.4 +0.2
baz=89,SNR=9.2
HHC Hu-ho-hao-te 89.09 314 eP P 17 54 28.8 +0.8
HHC sP sP 17 56 34.5 -2.3
HHC PP PP 17 58 04.5 -0.3
HHC SKS **SKSac 18 04 22.3 +1.8**
HHC S S 18 04 43.3 -0.1
HHC SS SS 18 10 51.5 +3.5
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,280nm,7.6s
HHC LR LR
comp=Z,270nm,17.4s
HHC LR LR
comp=Z,410nm,17.8s
HHC LR LR
comp=Z,220nm,17.9s
MSTX Muleshoe 89.09 53 eP P 17 54 28.3 +0.1
comp=Z,17nm,0.9s
MSTX Muleshoe 89.09 53 ⇓P P 17 54 28.6 +0.4
baz=89
H18A Shoshone NF, C 89.15 41 ⇓P P 17 54 28.9 +0.5
baz=89
COLD Coldfoot 89.18 10 eP P 17 54 26.8 -0.9
comp=Z,12nm,1.0s
KHLT Khaolaem Dam 89.19 286 P P 17 54 30.9 +2.0
comp=Z,11nm,1.2s
P23A Jefferson 89.20 47 ⇑P P 17 54 29.4 +0.5
baz=89
R24A Sanders Place, 89.20 49 ⇓P P 17 54 29.0 +0.2
baz=89
T25A Trinidad 89.23 50 ⇑P P 17 54 29.1 +0.2
baz=89
I19A Meeteetse 89.26 42 ⇑P P 17 54 29.3 +0.4
baz=89,SNR=10
330A Mertzon 89.28 56 ⇓P P 17 54 29.5 +0.4
baz=89
KMI Kunming 89.30 297 P P 17 54 31.0 +1.5
KMI pmax pmax
comp=Z,24nm,1.1s
W27A Bowe Ranch, En 89.33 52 ⇑P P 17 54 29.4 0.0
baz=90,SNR=8.0
U26A Atchley Ranch, 89.39 51 ⇑P P 17 54 29.9 +0.2
baz=90
NVL N'lazarevskaya 89.39 183 eP P 17 54 28.5 -0.3
NVL pmax pmax
comp=Z,75nm,0.8s
N22A Wattenberg Ran 89.42 46 ⇓P P 17 54 30.1 +0.4
baz=90,SNR=9.7
S25A Robets Cordova 89.43 49 ⇓P P 17 54 30.6 +0.8
baz=90
Q24A Divide 89.50 48 ⇓P P 17 54 30.9 +0.6
baz=90
O23A Lake Granby, G 89.52 47 ⇓P P 17 54 30.8 +0.6
baz=90
J20A Shoshoni 89.52 43 ⇓P P 17 54 30.5 +0.5
baz=90,SNR=10
230A Sterling City 89.52 56 ⇑P P 17 54 31.0 +0.8
baz=90
PLCA Paso Flores 89.52 133 P P 17 54 31.1 +1.0
PLCA Paso Flores 89.52 133 P P 17 54 31.1 +1.0
comp=Z,5.0nm,1.0s,baz=228,slow=8.0,SNR=5.3
ISCO Idaho Springs 89.54 47 ⇓P P 17 54 31.1 +0.7
baz=90
LAMP Lampang 89.57 290 P P 17 54 32.2 +1.6
comp=Z,13nm,0.9s,comp=Z,96nm
H19A Powell 89.57 42 ⇑P P 17 54 31.0 +0.7
baz=90,SNR=8.3
M22A Cedar Creek Ra 89.59 45 ⇓P P 17 54 30.9 +0.4
baz=90
Z29A Hungry Hill Ra 89.61 54 ⇑P P 17 54 31.2 +0.5
baz=90,SNR=5.4
GCMT Greycliff 89.69 40 eP P 17 54 30.6 -0.2
comp=Z,12nm,1.3s
K21A Alcova 89.72 44 ⇑P P 17 54 31.3 +0.2
baz=90,SNR=6.8
R25A Fountain Ranch 89.75 49 ⇓P P 17 54 31.8 +0.6
baz=90
X28A Dimmitt 89.75 53 ⇑P P 17 54 31.6 +0.3
baz=90
I20A Worland 89.77 43 ⇓P P 17 54 31.5 +0.4
baz=90,SNR=8.3
532A Rocksprings 89.78 58 ⇑P P 17 54 32.1 +0.7
baz=90
N23A Red Feather La 89.81 46 ⇓P P 17 54 32.4 +0.8
baz=90,SNR=6.1
Y29A Porterfield Fa 89.88 54 ⇑P P 17 54 32.3 +0.4
baz=90,SNR=7.9
J21A Lysite 89.93 43 ⇑P P 17 54 32.4 +0.4
baz=90,SNR=15
L22A Ellis Ranch, M 89.99 45 ⇑P P 17 54 33.1 +0.8
baz=90
O24A Longmont 90.06 47 ⇑P P 17 54 33.5 +0.8
baz=90
Z30A Sanderson Ranc 90.07 55 ⇑P P 17 54 33.4 +0.7
baz=90
U27A Thompson Grove 90.08 51 ⇑P P 17 54 33.2 +0.4
baz=90
633A Saathoff Ranch 90.10 59 ⇓P P 17 54 33.6 +0.8
baz=90
X29A Tulia 90.10 53 ⇑P P 17 54 33.4 +0.5
baz=90
H20A Greybull 90.11 42 ⇓P P 17 54 32.9 +0.3
baz=90,SNR=6.2
S26A Kim 90.11 50 ⇓P P 17 54 33.7 +0.8
baz=90
432A Menard 90.16 57 ⇑P P 17 54 33.8 +0.6
baz=90
CM31 Chiang Mai Arr 90.16 289 eP P 17 54 34.5 +1.2
comp=Z,22nm,1.0s
CMAR Chiang Mai Arr 90.16 289 P P 17 54 34.4 +1.0
CMAR Chiang Mai Arr 90.16 289 P P 17 54 34.4 +1.0
comp=Z,18nm,0.9s,baz=114,slow=2.9,SNR=90
231A Bronte 90.16 56 ⇓P P 17 54 33.4 +0.3
baz=90,SNR=6.7
F19A Roth Farm, Mol 90.17 41 ⇑P P 17 54 33.6 +0.7
baz=90
K22A Casper 90.21 44 ⇑P P 17 54 34.0 +0.8
baz=90
M23A Laramie 90.21 46 ⇓P P 17 54 34.0 +0.7
baz=90
V28A Channing 90.24 52 ⇑P P 17 54 34.4 +0.9
baz=90
I21A Big Trails, Te 90.24 43 ⇑P P 17 54 33.6 +0.2
baz=90,SNR=16
AMTX Amarillo 90.29 53 ⇓P P 17 54 34.4 +0.7
baz=90
G20A Bridger 90.31 41 ⇑P P 17 54 34.5 +0.9
baz=90
131A Roby 90.39 55 ⇑P P 17 54 34.9 +0.7
baz=90
332A Millersview 90.39 57 ⇑P P 17 54 34.9 +0.7
baz=90
W29A Amraillo 90.41 53 ⇓P P 17 54 35.0 +0.7
baz=90
R26A Arlington 90.41 49 ⇑P P 17 54 34.4 +0.1
baz=91,SNR=7.5
533A Kerrville 90.45 58 ⇑P P 17 54 35.3 +0.7
baz=91
N24A Carr 90.50 46 ⇓P P 17 54 35.6 +1.0
baz=91
L23A Garrett 90.51 45 ⇓P P 17 54 35.2 +0.4
baz=91,SNR=7.1
E19A Rath Farm, Rou 90.55 40 ⇓P P 17 54 35.5 +0.8
baz=91,SNR=6.0
J22A Midwest 90.58 44 ⇓P P 17 54 35.3 +0.3
baz=91,SNR=9.8
CMAI Chiengmai2 90.59 291 P P 17 54 37.0 +1.5
comp=Z,37nm,0.8s,comp=Z,4μm
F20A Billings 90.63 41 ⇑P P 17 54 36.1 +1.0
baz=91
232A Coleman 90.66 56 ⇑P P 17 54 36.0 +0.5
baz=91,SNR=7.4
433A Art 90.67 58 ⇑P P 17 54 36.3 +0.8
baz=91
CD2 Chengdu 90.67 303 eP P 17 54 36.3 +0.8
CD2 pP pP 17 56 04.3 -0.4
CD2 sP sP 17 56 42.3 -2.1
CD2 PP PP 17 58 19.8 +2.5
CD2 SKS **SKSac 18 04 30.0 +0.1**
CD2 S S 18 04 57.0 -1.0
CD2 sS sS 18 07 32.0 -4.9
CD2 SS SS 18 11 12.8 +1.9
CD2 pmax pmax
comp=Z,10.0nm,1.1s
CD2 pmax pmax
comp=Z,140nm,6.8s
X30A Coker Ranch, T 90.72 54 ⇓P P 17 54 36.0 +0.3
baz=91
835A Beeville 90.75 60 ⇑P P 17 54 36.8 +0.9
baz=91
H21A Big Horn, Sher 90.78 42 ⇓P P 17 54 36.5 +0.7
baz=91
I22A 9 Mile Ranch, 90.80 43 ⇑P P 17 54 36.4 +0.4
baz=91,SNR=9.7
M24A Cheyenne 90.81 46 ⇓P P 17 54 37.1 +0.9
baz=91
D19A Cripps Ranch, 90.83 40 ⇓P P 17 54 36.8 +0.8
baz=91,SNR=7.6
Z31A Sharp Cattle R 90.84 55 ⇑P P 17 54 36.7 +0.4
baz=91,SNR=6.0
K23A Bowen Ranch, D 90.85 44 ⇓P P 17 54 36.7 +0.5
baz=91
R27A Eads 90.87 49 ⇑P P 17 54 37.2 +0.8
baz=91
534A Blanco 90.88 58 ⇑P P 17 54 37.0 +0.5
baz=91
T28A Walsh 90.88 51 ⇓P P 17 54 36.9 +0.4
baz=91
G21A Lodge Grass 90.95 42 ⇓P P 17 54 37.5 +1.0
baz=91
ABTX Abilene, Hawle 90.95 56 eP P 17 54 37.3 +0.5
comp=Z,31nm,1.1s
ABTX Abilene, Hawle 90.95 56 ⇑P P 17 54 37.5 +0.7
baz=91,SNR=5.6
MHMT Maesarieng 90.96 289 P P 17 54 38.9 +1.9
comp=Z,9.3nm,1.4s,comp=Z,325nm
333A Richland Sprin 90.97 57 ⇑P P 17 54 37.5 +0.7
baz=91
E20A Meyer Farm, Mu 90.97 40 ⇑P P 17 54 37.8 +1.2
baz=91
L24A Wheatland 90.99 45 ⇑P P 17 54 38.3 +1.4
baz=91
Y31A Rekieta Farm, 91.00 54 ⇑P P 17 54 37.9 +1.0
baz=91
C19A Slack Wire Ran 91.00 39 ⇓P P 17 54 37.6 +0.9
baz=91,SNR=8.6
635A Leesville 91.20 59 ⇓P P 17 54 39.0 +1.0
baz=91
S28A Manter 91.23 50 ⇑P P 17 54 38.7 +0.7
baz=91
D20A Manuel Ranch, 91.25 40 ⇑P P 17 54 38.4 +0.6
baz=91,SNR=7.7
F21A Absaloka Mine, 91.28 41 ⇑P P 17 54 39.2 +1.2
baz=91
KSCO Kaye Shedlock' 91.29 49 ⇑P P 17 54 39.8 +1.4
baz=91
233A Rising Star 91.30 56 ⇓P P 17 54 39.3 +0.9
baz=91
M25A Palm-Egli Farm 91.32 46 ⇑P P 17 54 39.5 +1.1
baz=92
434A Burnet 91.34 58 ⇑P P 17 54 39.5 +0.9
baz=92
Z32A Haskell 91.34 55 ⇑P P 17 54 39.3 +0.7
baz=92,SNR=6.6
V30A Spur Ranch, Mi 91.39 52 ⇓P P 17 54 39.2 +0.4
baz=92
X31A McDonald Ranch 91.48 54 ⇑P P 17 54 40.0 +0.8
baz=92
133A Hamilton Ranch 91.51 56 ⇑P P 17 54 40.3 +0.9
baz=92
334A Lometa 91.56 57 ⇑P P 17 54 40.6 +1.0
baz=92
R28A Tribune 91.60 50 ⇑P P 17 54 40.3 +0.6
baz=92,SNR=14
C20A Veseth Ranch, 91.62 39 ⇑P P 17 54 40.7 +1.2
baz=92
E21A Keefer Ranch, 91.63 41 ⇓P P 17 54 40.8 +1.2
baz=92
Y32A R-V Farms, Ver 91.64 54 ⇑P P 17 54 40.9 +1.0
baz=92
L25A Engebretsen Ra 91.69 46 ⇓P P 17 54 41.0 +0.9
baz=92
U30A WK&E Inc. Balk 91.72 52 ⇑P P 17 54 41.1 +0.8
baz=92
W31A Holland Ranch, 91.72 53 ⇓P P 17 54 41.1 +0.8
baz=92
J24A Dixon Ranch, L 91.73 44 ⇓P P 17 54 41.3 +1.0
baz=92
A19A Klindworth Far 91.76 38 ⇑P P 17 54 40.5 +0.4
baz=92,SNR=5.8
Q28A Sharon Springs 91.88 49 ⇑P P 17 54 42.2 +1.2
baz=92
Z33A Whitaker Ranch 91.89 55 ⇑P P 17 54 41.6 +0.6
baz=92
234A Clairette 91.89 57 ⇑P P 17 54 42.0 +0.9
baz=92
X32A Elmer 91.92 54 ⇓P P 17 54 41.8 +0.6
baz=92
D21A La Casta Ranch 91.92 40 ⇓P P 17 54 42.1 +1.2
baz=92,SNR=7.0
B20A Solberg Farm, 91.95 39 ⇑P P 17 54 42.2 +1.2
baz=92
K25A Mack Ranch, Ha 91.95 45 ⇑P P 17 54 42.4 +1.1
baz=92
V31A Spring Creek L 92.02 53 ⇓P P 17 54 42.6 +0.9
baz=92,SNR=6.2
G23A Biddle 92.08 42 ⇓P P 17 54 42.4 +0.6
baz=92
R29A Marienthal 92.12 50 ⇓P P 17 54 43.1 +1.0
baz=92
P28A Saint Francis 92.14 49 ⇑P P 17 54 42.8 +0.6
baz=92
134A White-Moore Ra 92.15 56 ⇑P P 17 54 42.8 +0.6
baz=92
A20A Cobblestone Ra 92.21 38 ⇑P P 17 54 42.7 +0.5
baz=92,SNR=8.4
Y33A Hilltop Ranch, 92.27 55 ⇓P P 17 54 43.6 +0.8
baz=92
E22A Miles City 92.28 41 ⇓P P 17 54 43.2 +0.6
baz=92
F23A Volborg 92.30 42 ⇑P P 17 54 43.3 +0.5
baz=92,SNR=5.3
H24A Dirks Ranch, A 92.42 43 ⇓P P 17 54 43.7 +0.3
baz=93,SNR=8.5
Q29A Oakley 92.42 49 ⇑P P 17 54 43.9 +0.5
baz=93
WHTX Lake Whitney 92.43 57 ⇓P P 17 54 44.0 +0.4
baz=92
K26A Motz Farm, Whi 92.45 45 ⇓P P 17 54 43.8 +0.3
baz=93,SNR=6.4
D22A Cohagen 92.46 40 ⇓P P 17 54 44.1 +0.7
baz=93
APG El Apazote 92.46 75 P P 17 54 44.1 -0.2
APG El Apazote 92.46 75 P P 17 54 44.1 -0.2
comp=Z,4.5nm,0.8s,baz=258,slow=6.0,SNR=4.0
RSSD Black Hills 92.48 44 eP P 17 54 43.3 -0.5
RSSD e*PP pP 17 56 13.9 +0.8
RSSD pmax pmax
comp=Z,15nm,1.0s
RSSD Black Hills 92.48 44 eP P 17 54 43.3 -0.5

RSSD ep **pP** 17 56 13.8 +0.8
LZH Lanzhou 92.59 307 eP **P** 17 54 46.3 +1.9
LZH pP **pP** 17 56 18.0 +4.3
LZH sP **sP** 17 56 52.8 -0.6
LZH PP **PP** 17 58 30.0 -2.4
LZH SKS **SKSac** 18 04 41.0 +0.4
LZH S **ScS** 18 05 16.0 -0.5
LZH sS **sS** 18 07 53.5 -1.2
LZH SS **SS** 18 11 43.5 +5.2
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,99nm,4.6s
I25A Rochford 92.64 44 ⇑P **P** 17 54 44.8 +0.3
baz=93,SNR=9.2
T31A Randall Ranch, 92.66 52 ⇑P **P** 17 54 45.0 +0.5
baz=93
R30A Dighton 92.68 50 ⇓P **P** 17 54 45.3 +0.6
baz=93
P29A Atwood 92.73 49 ⇑P **P** 17 54 45.9 +1.0
baz=93
J26A Sides Ranch, S 92.78 45 ⇓P **P** 17 54 45.7 +0.7
baz=93
A21A Bergtoll Ranch 92.85 39 ⇓P **P** 17 54 45.6 +0.5
baz=93,SNR=6.7
F24A Ekalaka 92.96 42 ⇓P **P** 17 54 46.6 +0.8
baz=93
H25A Fruitdale 92.98 43 ⇑P **P** 17 54 46.7 +0.8
baz=93
Q30A Quinter 93.00 50 ⇓P **P** 17 54 46.9 +0.9
baz=93,SNR=9.0
S31A Mullinville 93.00 51 ⇓P **P** 17 54 47.0 +0.8
baz=93
D23A Lindsay 93.06 41 ⇓P **P** 17 54 47.1 +0.9
baz=93
B22A Reddig Ranch S 93.08 39 ⇑P **P** 17 54 46.9 +0.7
baz=93,SNR=5.0
X34A Smith Ranch, M 93.10 54 ⇑P **P** 17 54 47.7 +1.1
baz=93
P30A Selden 93.20 49 ⇓P **P** 17 54 47.9 +0.9
baz=93,SNR=7.9
R31A Burdett 93.23 50 ⇑P **P** 17 54 47.9 +0.7
baz=93
C23A Lambert 93.35 40 ⇑P **P** 17 54 48.4 +0.9
baz=94
S32A Newby Ranch, P 93.44 51 ⇑P **P** 17 54 48.9 +0.8
baz=94
A22A Carney Farms, 93.44 39 ⇑P **P** 17 54 48.6 +0.7
baz=94
J27A Elkhorn Farm, 93.46 45 ⇓P **P** 17 54 48.9 +0.8
baz=94,SNR=6.9
INK Inuvik 93.56 15 P **P** 17 54 46.8 -1.1
INK pP **pP** 17 56 17.4 +0.2
INK Inuvik 93.56 15 P **P** 17 54 46.8 -1.1
comp=Z,7.8nm,0.9s,baz=212,slow=5.4,SNR=18
INK pP **pP** 17 56 17.4 +0.2
comp=Z,6.1nm,1.2s,baz=217,slow=5.1,SNR=4.9
D24A Glendive 93.58 41 ⇑P **P** 17 54 49.7 +1.2
baz=94
Q31A Ellis 93.60 50 ⇑P **P** 17 54 49.8 +1.0
baz=94
F25A Bowman 93.62 42 ⇓P **P** 17 54 49.8 +1.0
baz=94
B23A Brockton 93.76 40 ⇓P **P** 17 54 50.2 +0.9
baz=94,SNR=9.3
P31A Stockton 93.81 49 ⇑P **P** 17 54 50.4 +0.6
baz=94
R32A Long Quarter, 93.87 51 ⇑P **P** 17 54 50.6 +0.5
baz=94,SNR=6.1
J28A Allard Ranch, 94.05 45 ⇓P **P** 17 54 52.1 +1.3
baz=94
Q32A Meitler Ranch, 94.20 50 ⇑P **P** 17 54 52.0 +0.5
baz=94,SNR=6.4
D25A Fairfield 94.22 41 ⇓P **P** 17 54 52.2 +0.7
baz=94
DGMT Dagmar 94.24 40 eP **P** 17 54 51.8 +0.3
comp=Z,28nm,0.9s
DGMT ep **pP** 17 56 24.0 +3.2
DGMT Dagmar 94.24 40 ⇓P **P** 17 54 52.3 +0.8
baz=94,SNR=5.2
I28A Midland 94.32 45 ⇑P **P** 17 54 53.0 +1.1
baz=94
R33A Olander Ranch, 94.36 51 ⇓P **P** 17 54 53.3 +1.0
baz=94
P32A Huiting Farm, 94.40 50 ⇑P **P** 17 54 53.3 +0.9
baz=94
A24A Westby 94.55 39 ⇓P **P** 17 54 53.7 +0.8
baz=95
J29A Okreek 94.65 46 ⇑P **P** 17 54 54.0 +0.5
baz=95
D26A Manning 94.72 42 ⇓P **P** 17 54 54.6 +0.9
baz=95
Q33A Connelly Farm, 94.73 50 ⇓P **P** 17 54 54.8 +0.8
baz=95
B25A Knox Farm, Ray 94.78 40 ⇓P **P** 17 54 55.0 +1.0
baz=95
M31A Lambtecht Ranc 94.78 48 ⇓P **P** 17 54 55.0 +0.8
baz=95
K30A Basset 94.85 46 ⇑P **P** 17 54 55.3 +0.9
baz=95
O32A Brockman Farm, 94.87 49 ⇓P **P** 17 54 55.3 +0.7
baz=95
P33A Williams Farm, 94.99 50 ⇓P **P** 17 54 56.3 +1.2
baz=95
A25A Svangstu Ranch 95.09 40 ⇑P **P** 17 54 56.5 +1.2
baz=95
BGNE Belgrade 95.39 48 ⇓P **P** 17 54 58.2 +1.3
baz=96
SONM Songino Array 95.44 319 P **P** 17 54 56.4 -0.7
SONM pP **pP** 17 56 27.7 +1.2
SONM PP **PP** 17 58 49.4 -4.7
SONM PKKPbc **PKKPbc** 18 11 47.1 -2.0
SONM Songino Array 95.44 319 P **P** 17 54 56.4 -0.7
comp=Z,0.8nm,0.8s,baz=129,slow=4.5,SNR=9.0
SONM pP **pP** 17 56 27.7 +1.2
comp=Z,0.8nm,0.9s,baz=116,slow=3.4,SNR=2.5
SONM PP **PP** 17 58 49.4 -4.7
comp=Z,1.1nm,0.9s,baz=116,slow=4.7,SNR=3.6
SONM PKKPbc **PKKPbc** 18 11 47.1 -2.0
comp=Z,0.6nm,0.9s,baz=268,slow=4.5,SNR=4.3
KSU1 Kansas State U 95.65 51 ⇑Pdiff **P** 17 54 59.3 +1.2
baz=96
A26A Wade Farm, Ken 95.72 40 ⇑Pdiff **P** 17 54 59.2 +1.0
baz=96
YKA Yellowknife Ar 95.80 25 P **P** 17 54 57.2 -0.9
YKA pP **pP** 17 56 27.6 0.0
YKA PP PP 17 58 48.2 -8.0
YKA PKKPbc PKKPbc 18 11 43.0 -5.6
YKA Yellowknife Ar 95.80 25 P **P** 17 54 57.2 -0.9
comp=Z,2.0nm,0.8s,baz=243,slow=4.4,SNR=27
YKA pP **pP** 17 56 27.6 0.0
comp=Z,0.3nm,0.6s,baz=243,slow=4.1,SNR=2.0
YKA PP PP 17 58 48.2 -8.0
comp=Z,1.2nm,1.0s,baz=242,slow=7.3,SNR=4.9
YKA PKKPbc PKKPbc 18 11 43.0 -5.6
comp=Z,0.5nm,0.6s,baz=40,slow=2.5,SNR=6.5
GTA Gaotai 96.77 309 eP **P** 17 55 04.0 +0.7
GTA pmax pmax
comp=Z,3.0nm,1.1s
D30A Buchanan 97.07 42 ⇑Pdiff Pdif 17 55 04.6 +0.2
baz=97
ECSD EROS Data Cent 97.28 46 ⇓Pdiff Pdif 17 55 05.9 +0.5
baz=97
A29A Manning Farm, 97.44 41 ⇓Pdiff Pdif 17 55 06.1 +0.1
baz=98
A30A Hoffart Farm, 98.02 41 ⇑Pdiff Pdif 17 55 09.4 +0.9
baz=98
TIXI Tiksi 98.18 345 ⇑*i*P Pdif 17 55 07.5 -1.2
TIXI pmax pmax
comp=Z,3.0nm,1.2s
ZALV Zalesovo Beam 110.15 321 PKiKP **PKiKP** 18 00 00.3 -1.2
ZALV PP **PP** 18 00 39.8 -2.9
ZALV Zalesovo Beam 110.15 321 PKiKP **PKiKP** 18 00 00.3 -1.2
comp=Z,2.2nm,0.6s,baz=157,slow=1.4,SNR=9.4
ZALV PP **PP** 18 00 39.8 -2.9
comp=Z,0.6nm,0.7s,baz=98,slow=6.0,SNR=3.7
MK31 Makanchi Array 110.95 314 ePKIKP **PKiKP** 18 00 01.5 -1.8
MK31 Makanchi Array 110.95 314 ePKiKP **PKiKP** 18 00 01.5 -1.8
MKAR Makanchi Array 110.95 314 PKIKP **PKiKP** 18 00 02.1 -1.2
MKAR Makanchi Array 110.95 314 PKiKP **PKiKP** 18 00 02.1 -1.2
MKAR Makanchi Array 110.95 314 PKiKP **PKiKP** 18 00 02.1 -1.2
comp=Z,3.3nm,0.8s,baz=90,slow=1.0,SNR=30
NVS Novosibirsk 111.16 322 ePKIKP PKiKP 17 59 57.8 -5.6
NVS *e* 18 06 05.5
KURK Kurchatov 113.70 318 PKIKP **PKiKP** 18 00 07.7 -0.7
KURK 18 10 52.4
KURK Kurchatov 113.70 318 PKiKP **PKiKP** 18 00 07.7 -0.7
KURK PP PP 18 01 00.9 -7.0
KURK PKKPbc **PKKPbc** 18 10 52.4 -1.7
KURBB Kurchatov Arra 113.75 317 PKiKP **PKiKP** 18 00 07.6 -0.8
comp=Z,5.4nm,0.8s,baz=102,slow=2.1,SNR=57
KURBB PP PP 18 01 00.9 -7.3
comp=Z,0.9nm,1.0s,baz=86,slow=7.0,SNR=3.6
KURBB PKKPbc **PKKPbc** 18 10 52.4 -1.5
comp=Z,0.7nm,0.8s,baz=268,slow=3.8,SNR=8.3
TKM2 Tokmak 2 115.32 309 PKiP **PKPdf** 18 00 08.0 -4.1
TKM2 pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 116.11 309 *d* iPKiKP **PKPdf** 18 00 11.6 -1.9
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 116.11 309 PKP **PKPdf** 18 00 12.8 -0.7
AAK Ala-Archa 116.11 309 PKP **PKPdf** 18 00 12.8 -0.7
comp=Z,2.6nm,0.8s,baz=78,slow=3.3,SNR=4.2
BVA0 Borovoye Array 118.75 320 *i* PKiKP **PKPdf** 18 00 17.2 -0.9
BVA0 pmax pmax
comp=Z,14nm,0.9s
BVAR Borovoye Array 118.75 320 PKiKP **PKPdf** 18 00 17.2 -0.8
BVAR Borovoye Array 118.75 320 PKP **PKPdf** 18 00 17.2 -0.8
BVAR Borovoye Array 118.75 320 PKP **PKPdf** 18 00 17.2 -0.8
comp=Z,9.6nm,0.8s,baz=90,slow=1.6,SNR=51
BRVK Borovoye 118.81 320 *d* iPKiKP **PKPdf** 18 00 17.6 -0.6
BRVK pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 118.81 320 *e*PKPdf **PKPdf** 18 00 16.7 -1.5
KKAR Karatay Array 119.05 309 *e*PKiKP **PKPdf** 18 00 18.0 -1.0
KKAR Karatay Array 119.05 309 *e*PKPdf **PKPdf** 18 00 18.0 -1.0
BDFB Brasilia 119.26 122 PKP **PKPdf** 18 00 20.0 -0.3
BDFB Brasilia 119.26 122 PKP **PKPdf** 18 00 20.0 -0.3
comp=Z,3.3nm,0.8s,baz=169,slow=5.2,SNR=3.7
KBL Kabul 119.81 299 *e*PKiKP **PKPdf** 18 00 20.6 -0.4
KBL Kabul 119.81 299 *e*PKPdf **PKPdf** 18 00 20.6 -0.4
SPITS Spitsbergen Ar 121.22 357 PKP **PKPdf** 18 00 22.2 0.0
SPITS Spitsbergen Ar 121.22 357 PKP **PKPdf** 18 00 22.2 0.0
comp=Z,15nm,0.8s,baz=45,slow=4.5,SNR=14
OPO Ambohidratompo 121.73 232 PKP **PKPdf** 18 00 25.5 +0.4
OPO Ambohidratompo 121.73 232 PKP **PKPdf** 18 00 25.5 +0.4
comp=Z,13nm,0.9s,baz=146,slow=3.4,SNR=9.9
SUMG Summit 122.45 13 *i* PKiKP **PKPdf** 18 00 24.9 -0.2
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 122.45 13 *i* P **PKPdf** 18 00 24.9 -0.2
comp=Z,4.6nm,0.8s
SUMG Summit 122.45 13 *i* P **PKKPbc** 18 10 22.4 -1.5
comp=Z,7.7nm,1.0s
SVE Sverdlovsk 123.60 326 *e*PKiKP **PKPdf** 18 00 27.0 -0.2
SVE pmax pmax
comp=Z,19nm,1.0s
ARU Arti 124.81 326 *i* PKiKP **PKPdf** 18 00 28.8 -0.8
ARU 18 02 21.5
ARU Arti 124.81 326 *e*PKPdf **PKPdf** 18 00 28.7 -0.8
SUR Sutherland 125.14 199 *e*PKPdf **PKPdf** 18 00 31.6 +0.3
AB31 Akbulak array 125.80 317 *i* PKiKP **PKPdf** 18 00 31.2 -0.5
AB31 pmax pmax
comp=Z,14nm,1.0s
ABKAR Akbulak array 125.80 317 *e*PKPdf **PKPdf** 18 00 31.0 -0.7
AKTO Aktyubinsk 126.76 319 PKiKP **PKPdf** 18 00 33.5 0.0
AKTO Aktyubinsk 126.76 319 PKP **PKPdf** 18 00 33.5 0.0
AKTO Aktyubinsk 126.76 319 PKP **PKPdf** 18 00 33.5 0.0
comp=Z,9.1nm,0.9s,baz=72,slow=2.0,SNR=18
SCO Scoresbysund 127.31 10 *i* PKiKP **PKPdf** 18 00 33.9 -0.1
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO Scoresbysund 127.31 10 *i* P **PKPdf** 18 00 33.9 -0.1
comp=Z,4.5nm,0.9s
ARCES ARCESS Array B 128.32 350 PKP **PKPdf** 18 00 35.4 -0.6
ARCES ARCESS Array B 128.32 350 PKP **PKPdf** 18 00 35.4 -0.6
comp=Z,10nm,0.9s,baz=38,slow=2.1,SNR=12
KAF Kangasniemi 134.59 344 *ep* **SKPbc** 18 03 40.4 -0.8
comp=Z,3.9nm,0.8s
FINES FINESS Array B 135.22 344 PKPpre PKPpre 18 00 41.4
FINES PKP **PKPdf** 18 00 48.8 -0.3
FINES SKPbc **SKPbc** 18 03 42.0 -1.1
FINES FINESS Array B 135.22 344 PKhKP PKPpre 18 00 41.4
comp=Z,3.0nm,0.9s,baz=31,slow=2.0,SNR=7.4
FINES PKP **PKPdf** 18 00 48.8 -0.3
comp=Z,7.9nm,0.9s,baz=42,slow=3.1,SNR=11
FINES SKPbc **SKPbc** 18 03 42.0 -1.1
comp=Z,6.2nm,0.9s,baz=110,slow=2.2,SNR=6.5
MOS Moscow 135.44 332 *e*PKiKP PKPdf 18 00 55.4 +5.7
VRHR Novokhopersk 136.14 325 *e*PKiKP **PKPdf** 18 00 50.3 -0.9
VRHR *e* 18 03 44.9
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 136.31 332 ⇓*i* PKiKP **PKPdf** 18 00 50.7 -0.6
OBN *i* 18 03 46.3
OBN pmax pmax
comp=Z,51nm,2.5s
VSR Storozhevoye 137.38 326 *e*PKiKP **PKPdf** 18 00 51.8 -1.7
VSR *e* 18 03 49.8
VSR pmax pmax
comp=N,1.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSU Vasula 137.51 341 *i* PKiKP **PKPdf** 18 00 53.4 -0.1
ZEI Tsey 138.29 313 *i* PKiKP **PKPdf** 18 00 56.7 +1.0
ZEI pmax pmax
comp=Z,9.0nm,1.0s
NB2 NORSAR Subarra 138.36 353 PKP PKPpre 18 00 47.6
comp=Z,5.5nm,0.9s,baz=18,slow=4.0
NB2 NORSAR Subarra 138.36 353 PKP **SKPbc** 18 03 52.7 +0.1
comp=Z,18nm,1.1s,baz=9.7,slow=3.0
NOA NORSAR Array B 138.36 353 PKPpre PKPpre 18 00 45.3
NOA PKP **PKPdf** 18 00 53.9 -1.2
NOA SKPbc **SKPbc** 18 03 52.1 -0.4
NOA NORSAR Array B 138.36 353 PKhKP PKPpre 18 00 45.3
comp=Z,4.2nm,0.9s,baz=15,slow=5.0,SNR=11
NOA PKP **PKPdf** 18 00 53.9 -1.2
comp=Z,2.2nm,0.8s,baz=43,slow=2.4,SNR=9.5
NOA SKPbc **SKPbc** 18 03 52.1 -0.4
comp=Z,6.7nm,0.9s,baz=16,slow=4.5,SNR=9.5
KBZ Khabaz 138.63 314 PKiKP **PKPdf** 18 00 55.4 -0.6
KBZ Khabaz 138.63 314 PKP **PKPdf** 18 00 55.4 -0.6
KBZ Khabaz 138.63 314 PKP **PKPdf** 18 00 55.4 -0.6
comp=Z,4.4nm,1.0s,baz=105,slow=2.4,SNR=3.5
KIV Kislovodsk 138.69 315 ⇓*i* PKiKP **PKPdf** 18 00 56.1 -0.2
KIV *i* 18 03 54.3
KIV pmax pmax
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 139.89 243 PKPpre PKPpre 18 00 53.8
KMBO *e*PKPpre PKPpre 18 00 54.0
KMBO SKPbc **SKPbc** 18 03 58.8 +0.3
KMBO Kilima Mbogo 139.89 243 PKhKP PKPpre 18 00 53.8
comp=Z,1.6nm,0.4s,baz=36,slow=1.5,SNR=6.6
KMBO SKPbc **SKPbc** 18 03 58.8 +0.3
comp=Z,2.5nm,0.3s,baz=70,slow=2.2,SNR=20
ANN Anapa 141.72 319 *i* PKiKP **PKPdf** 18 01 01.5 0.0
ANN pmax pmax
comp=Z,212nm,1.1s
BAYT Ayd¨–ntepe-Bay 141.77 311 *e*P **PKPdf** 18 01 04.9 +2.8
BNGB Bing¶ll 141.86 308 *e*P PKPdf 18 00 56.7 -5.4
SUW Suwalki 142.32 340 *e*PKiKP **PKPdf** 18 00 59.1 -3.2
SUW Suwalki 142.32 340 *e*PKP **PKPdf** 18 00 59.5 -2.8
SUW Suwalki 142.32 340 *e*PKPpre PKPpre 18 00 59.1
AKASG Malin Array Be 142.57 332 PKHKP PKPpre 18 00 58.0
AKASG Malin Array Be 142.57 332 PKPpre PKPpre 18 00 58.0
AKASG SKPbc **SKPbc** 18 04 03.9 +0.1
AKASG Malin Array Be 142.57 332 PKhKP PKPpre 18 00 58.0
comp=Z,2.6nm,0.3s,baz=42,slow=4.3,SNR=72
AKASG SKPbc **SKPbc** 18 04 03.9 +0.1
comp=Z,8.0nm,0.9s,baz=37,slow=3.1,SNR=14
AKBB Malin Array Si 142.57 332 *e*PKHKP PKPpre 18 00 58.3
AKBB Malin Array Si 142.57 332 *e*PKPpre PKPpre 18 00 58.3
KIEV Kiev 142.58 332 *i* PKiKP **PKPdf** 18 01 04.8 +1.9
KIEV Kiev 142.58 332 *e*PKPpre PKPpre 18 00 58.1
AK02 Malin Array Si 142.61 332 *e*PKPpre PKPpre 18 00 57.7
PTK Pertek 142.84 309 *e*P **PKPdf** 18 01 00.8 -3.2
SHEL Horse Pasture 143.56 167 *e*PKiKP **PKPdf** 18 01 05.3 -0.4
SHEL Horse Pasture 143.56 167 *e*PKPdf **PKPdf** 18 01 05.3 -0.4
URFA Urfa 143.74 307 *e*P PKPab 18 01 03.0 -0.7
MALT Malatya 143.75 308 *e*P PKPbc 18 01 04.5 +0.5
MALT Malatya 143.75 308 ⇑PKiKP PKPbc 18 01 04.3 +0.3
MALT Malatya 143.75 308 ⇑*i*P PKPbc 18 01 04.3 +0.3
RSDY Resadiye-TOKAT 143.75 312 *e*P PKPab 18 01 02.5 -1.1
SVSK Karacayir 144.18 312 *e*P **PKPab** 18 01 04.8 -0.3
EKA Eskdalemuir Ar 144.32 5 PKP PKPbc 18 01 04.2 -0.9
EKA SKPbc **SKPbc** 18 04 08.1 +0.3
EKA Eskdalemuir Ar 144.32 5 PKP PKPbc 18 01 04.2 -0.9
comp=Z,6.9nm,0.5s,baz=334,slow=2.9,SNR=42
EKA SKPbc **SKPbc** 18 04 08.1 +0.3
comp=Z,6.8nm,0.9s,baz=316,slow=2.3,SNR=6.8
GKP Gorka Klasztor 144.69 344 *e*PKiKP **PKPdf** 18 01 06.4 -0.1
GKP Gorka Klasztor 144.69 344 *e*PKP **PKPdf** 18 01 06.4 -0.1
BEL Belsk 144.93 340 *e*PKiKP **PKPab** 18 01 07.4 -0.1
BEL Belsk 144.93 340 *e*PKP PKPbc 18 01 07.3 +0.2
KIS Kishinev 145.33 327 XM **PKPab** 18 01 09.0 -0.3
comp=Z,100nm,1.4s
KIS Kishinev 145.33 327 *e*P PKPab 18 01 18.0 +8.7
BSEG Bad Segeberg 145.41 352 *e*PKPbc **PKPab** 18 01 09.0 -0.3
CORM Corum 145.71 313 *e*P **PKPdf** 18 01 07.0 -1.9
KOZT Kozan 145.96 308 *e*P PKPdf 18 01 03.0 -6.2
LEOM Leova 145.98 327 ⇓PKP2 **PKPbc** 18 01 10.7 +0.3
LEOM Leova 145.98 327 ⇓*i*P **PKPbc** 18 01 10.7 +0.3
TAHT Tahtakopru-Hat 146.09 306 *e*P **PKPdf** 18 01 09.4 0.0
KWP Kalwaria Pacla 146.09 336 *e*PKiKP **PKPdf** 18 01 09.2 +0.2
KWP Kalwaria Pacla 146.09 336 *e*PKP **PKPdf** 18 01 09.1 +0.1
KWP Kalwaria Pacla 146.09 336 ⇓*i*P **PKPbc** 18 01 11.0 +0.3
SAFT Safranbolu 146.50 316 *e*P **PKPdf** 18 01 09.1 -0.9
TLCR 146.53 325 ⇓PKP2 **PKPbc** 18 01 12.4 +0.4
TLCR 146.53 325 ⇓*i*P **PKPbc** 18 01 12.4 +0.4
BR131 Keskin Array S 146.60 313 *e*PKPdf **PKPdf** 18 01 09.8 +0.6
BRTR Keskin Array B 146.60 313 PKP **PKPdf** 18 01 09.5 -0.9
BRTR PKPbc **PKPbc** 18 01 11.9 -0.7
BRTR pPKPbc pPKPbc 18 02 45.6 +0.1
BRTR Keskin Array B 146.60 313 PKP **PKPdf** 18 01 09.5 -0.9
comp=Z,24nm,1.0s,baz=106,slow=1.4,SNR=64
BRTR PKPbc **PKPbc** 18 01 11.9 -0.7
comp=Z,23nm,0.9s,baz=141,slow=3.2,SNR=68
BRTR pPKPbc pPKPbc 18 02 45.6 +0.1
comp=Z,2.9nm,1.1s,baz=2.9,slow=2.9,SNR=0.9
NIG Nigde 146.61 310 *e*P **PKPbc** 18 01 11.9 -0.9
KARA Karaisali 146.62 308 *e*P **PKPdf** 18 01 07.9 -2.4
BURAR Bucovina Array 146.62 331 ⇑PKP2 **PKPbc** 18 01 12.5 +0.1
BURAR Bucovina Array 146.62 331 ⇑*i*P **PKPbc** 18 01 12.5 -0.3
BURAR Bucovina Array 146.62 331 ⇑*i*P **PKPbc** 18 01 12.5 +0.1
OJC Ojcow 146.64 339 *e*PKP2 **PKPbc** 18 01 11.8 -0.4
KAMT Kaman 146.71 313 *e*P **PKPbc** 18 01 12.3 -0.6
STHS Stebnicka Huta 146.82 337 *e*PKP2 **PKPbc** 18 01 12.8 +0.1
STHS Stebnicka Huta 146.82 337 *e*PKP **PKPbc** 18 01 12.8 +0.1
KOLS Kolonicke sedl 146.83 336 *e*PKiKP **PKPdf** 18 01 10.7 +0.4
KOLS Kolonicke sedl 146.83 336 *e*PKP **PKPdf** 18 01 10.7 +0.4
NRDL Niedersach Rie 146.84 351 *e*PKPbc **PKPbc** 18 01 12.8 +0.3
NRDL *ep*PKPbc pPKPbc 18 02 48.5 +3.0
CFR Carcaliu 146.90 326 ⇓PKP2 **PKPbc** 18 01 13.6 +0.6
CFR Carcaliu 146.90 326 ⇓*i*P **PKPbc** 18 01 13.6 +0.6
PETR Petresti 147.01 327 ⇓*i*P **PKPbc** 18 01 14.2 +0.9
ANTO Ankara 147.10 314 *e*PKiKP **PKPdf** 18 01 11.3 +0.2
ANTO Ankara 147.10 314 ⇑*i*P **PKPbc** 18 01 13.8 -0.1
ANTO Ankara 147.10 314 *e*PKPdf **PKPdf** 18 01 11.3 +0.2
KSP Ksiaz 147.14 344 *e*PKiKP **PKPdf** 18 01 11.2 +0.5
KSP Ksiaz 147.14 344 *e*PKP **PKPdf** 18 01 11.2 +0.5
NIE Niedzica 147.15 338 *e*PKP2 **PKPbc** 18 01 14.0 +0.3
VRI Vrincioaia 147.16 328 ⇓PKP2 **PKPbc** 18 01 13.8 0.0
VRI Vrincioaia 147.16 328 ⇓*i*P **PKPbc** 18 01 13.8 0.0
CRVS Cervenica-Dubn 147.16 336 *e*PKP2 **PKPbc** 18 01 14.5 +0.8
CRVS Cervenica-Dubn 147.16 336 *e*PKP **PKPbc** 18 01 14.5 +0.8
PLOR Plostina 147.21 328 ⇓PKiKP **PKPdf** 18 01 12.2 +1.1
PLOR Plostina 147.21 328 ⇓*i*P **PKPdf** 18 01 12.2 +1.1
IBBN Ibbenburen 147.31 354 *ep*PKPbc pPKPbc 18 02 50.1 +3.1
BMR Baia Mare 147.33 333 ⇓PKP2 **PKPbc** 18 01 14.5 +0.4
BMR Baia Mare 147.33 333 ⇓*i*P **PKPbc** 18 01 14.5 +0.4
HARR Harsova 147.33 325 ⇓PKP2 **PKPbc** 18 01 14.9 +0.7
HARR Harsova 147.33 325 ⇓*i*P **PKPbc** 18 01 14.9 +0.7
TLB Topalu 147.34 325 ⇑PKP2 **PKPbc** 18 01 14.7 +0.5
TLB Topalu 147.34 325 ⇑*i*P **PKPbc** 18 01 14.6 +0.4
TRPA Tarpa 147.37 335 ⇑*e* **PKPbc** 18 01 14.1 -0.1
CLZ Clausthal 147.44 351 *ep*PKPbc pPKPbc 18 02 50.6 +3.1
CLL Collm 147.48 347 ⇓*e*PKiKP **PKPdf** 18 01 11.0 -0.3
CLL *i* 18 01 16.6
CLL pmax pmax
comp=Z,13nm,1.4s
CLL Collm 147.48 347 *e*PKPbc **PKPbc** 18 01 14.8 +0.4
CLL *ep*PKPbc **pPKPbc** 18 02 50.5 +2.9
CLL Collm 147.48 347 *e*PKPdf **PKPdf** 18 01 11.0 -0.3
comp=Z,13nm,1.4s
CLL ⇓⇓*i*PKPbc **PKPbc** 18 01 14.6 +0.2
comp=Z,26nm,0.9s
CLL *i* PKPab **PKiKP** 18 01 16.6 +0.4
CLL *e* 18 01 22.0
CLL *ep*PKPab **pPKPab** 18 02 50.0 +1.5
CLL *i* SKPbc **SKiKP** 18 04 16.6 +1.4
comp=Z,19nm,1.1s
CLL *e*PP **PP** 18 04 40.0 -3.5
OKC Ostrava-Krasne 147.50 341 *e*PKiKP **PKPdf** 18 01 12.9 +1.5
OKC *e* 18 01 18.3
OKC Ostrava-Krasne 147.50 341 ⇑*e*PKP **PKPdf** 18 01 12.9 +1.5
OKC *e*PKPAB **PKPab** 18 01 18.3 +0.6
OKC *ex* x 18 02 53.1
UPC Upice 147.52 344 *e*PKP2 **PKPbc** 18 01 15.1 +0.5
UPC Upice 147.52 344 ⇑*e*PKP **PKPbc** 18 01 15.1 +0.5
UPC *e*PKPAB **PKPab** 18 01 18.9 +1.1
UPC *ep*PKP **pPKPdf** 18 02 50.8 +5.0
DPC Dobruska-Polom 147.58 343 *e*PKiKP **PKPdf** 18 01 11.2 -0.3
DPC *e* 18 01 15.2
DPC Dobruska-Polom 147.58 343 *e*PKPDF **PKPdf** 18 01 11.2 -0.3
DPC ⇑*e*PKP **PKPbc** 18 01 15.2 +0.4
DPC *e*PKPAB **PKPab** 18 01 19.0 +0.9
DPC *ep*PKP **pPKPdf** 18 02 50.8 +4.8
BRG Berggiesshubel 147.69 346 *i* PKP **PKPdf** 18 01 12.5 +0.9
comp=Z,15nm,1.4s
BRG *e* 18 01 12.5
comp=Z,27nm,1.1s
BRG *i* SKP 18 04 15.8
comp=Z,21nm,1.3s
BRG Berggiesshubel 147.69 346 *i* PKiKP **PKPdf** 18 01 12.5 +0.9
BRG *e* 18 01 12.5
BRG pmax pmax
comp=Z,15nm,1.4s
BRG Berggiesshubel 147.69 346 *e*PKPbc **PKPbc** 18 01 15.6 +0.6
KRLC Kraliky 147.70 342 *e*PKP2 **PKPbc** 18 01 15.2 +0.1
KRLC Kraliky 147.70 342 ⇑*e*PKP **PKPbc** 18 01 15.2 +0.1
MORC Moravsky Berou 147.74 341 ⇑PKiKP **PKPdf** 18 01 12.4 +0.6
MORC Moravsky Berou 147.74 341 ⇑*i*P **PKPdf** 18 01 12.4 +0.6
DOPR Dopca 147.75 329 ⇑*i*P **PKPbc** 18 01 16.1 +0.8
FBE Freiberg 147.77 347 *e*PKPbc **PKPbc** 18 01 16.1 +0.9
ISR Istrita 147.77 327 ⇑PKP2 **PKPbc** 18 01 16.1 +0.6
ISR Istrita 147.77 327 ⇑*i*P **PKPbc** 18 01 16.1 +0.6
MSAB Monastry St. A 147.78 324 ⇓*i*P **PKPbc** 18 01 15.8 +0.4
NEUB Neuenburg 147.81 349 *e*PKPbc **PKPbc** 18 01 15.8 +0.5
MLR Muntele Rosu 147.82 328 ⇓*i*P **PKPbc** 18 01 15.5 -0.2
PSN Preselentsi 147.84 323 ⇑PKP2 **PKPbc** 18 01 15.7 +0.1
PSN Preselentsi 147.84 323 ⇑*i*P **PKPbc** 18 01 15.7 +0.1
PVCC Panska Ves 147.86 345 *e*PKP2 **PKPbc** 18 01 15.9 +0.5
PVCC Panska Ves 147.86 345 ⇑*e*PKP **PKPbc** 18 01 15.9 +0.5
CJR Cluj-Napoca 148.03 332 ⇓PKP2 **PKPbc** 18 01 16.6 +0.5
CJR Cluj-Napoca 148.03 332 ⇓*i*P **PKPbc** 18 01 16.6 +0.5
SECR 148.07 327 ⇓*i*P **PKPbc** 18 01 16.4 +0.2
SULR 148.22 327 ⇓*i*P **PKPbc** 18 01 16.9 +0.4
VOIR 148.30 329 ⇑PKP2 **PKPbc** 18 01 17.6 +0.8
VOIR 148.30 329 ⇑*i*P **PKPbc** 18 01 17.6 +0.8
PRA Prague 148.32 345 PKPDF **PKPdf** 18 01 13.0 +0.3
PRA ⇑PKP **PKPbc** 18 01 17.0 +0.4
PRA PKPAB **PKPab** 18 01 21.0 0.0
PRA *ep*PKP **pPKPdf** 18 02 54.0 +6.8
DRGR 148.35 333 ⇑PKP2 **PKPbc** 18 01 16.9 0.0
DRGR 148.35 333 ⇑*i*P **PKPbc** 18 01 16.9 0.0
PRU Pruhonice 148.37 345 *e*PKPDF **PKPdf** 18 01 12.5 -0.3
PRU ⇑*e*PKP **PKPbc** 18 01 16.6 -0.1
PRU *e*PKPAB **PKPab** 18 01 21.1 -0.1
PRU *ep*PKP **pPKPdf** 18 02 53.6 +6.3
TANN Tannenbergstha 148.44 348 *e*PKPbc **PKPbc** 18 01 17.5 +0.6
WERD Werda 148.44 348 *e*PKPbc **PKPbc** 18 01 17.6 +0.6
VRAC Vranov 148.44 342 ⇑*i*P **PKPbc** 18 01 17.5 +0.5
VRAC Vranov 148.44 342 PKPbc **PKPbc** 18 01 16.9 -0.1
VRAC Vranov 148.44 342 PKPbc **PKPbc** 18 01 16.9 -0.1
baz=19,slow=2.6
GUNZ Gunzen 148.51 348 *e*PKPbc **PKPbc** 18 01 17.9 +0.7
ARR Arges 148.55 329 ⇓*i*P **PKPbc** 18 01 18.3 +0.8
PSZ Piszkesteto 148.56 337 ⇑*i*P **PKPbc** 18 01 17.3 -0.1
PSZ Piszkesteto 148.56 337 *e*PKPbc **PKPbc** 18 01 16.8 -0.6
PSZ Piszkesteto 148.56 337 ⇑*e* **PKPbc** 18 01 17.4 0.0
WERN Wernitzgruen 148.58 348 *e*PKPbc **PKPbc** 18 01 18.1 +0.8
NKC Novy Kostel 148.61 347 *e*PKiKP **PKPdf** 18 01 12.4 -0.8
NKC Novy Kostel 148.61 347 *e*PKPDF **PKPdf** 18 01 12.4 -0.8
NKC ⇑*e*PKP **PKPbc** 18 01 17.3 -0.1

NKC				*e*PKP		pPKPdf	18 02 55.7	+8.0
CSS	**Prodhromos**	**148.75**	**305**	*e*PKPbc		**PKPbc**	**18 01 17.4**	**-0.9**
TREC	**Trest**	**148.76**	**343**	*e*PKP2		**PKPbc**	**18 01 18.3**	**+0.5**
TREC	**Trest**	**148.76**	**343**⇑	*e*PKP		**PKPbc**	**18 01 18.3**	**+0.5**
LOT	**Lotru**	**148.90**	**330**⇓	*i*P		**PKPbc**	**18 01 17.9**	**-0.5**
MANZ	**Manzenberg**	**148.92**	**348**	*e*PKPbc		**PKPbc**	**18 01 18.9**	**+0.7**
HUMR	**Humele**	**148.98**	**328**⇓	*i*P		**PKPbc**	**18 01 18.0**	**-0.4**
ROTZ	**Rotzenmuhle**	**149.10**	**347**	*e*PKPbc		**PKPbc**	**18 01 19.5**	**+0.9**
MEM	**Membach**	**149.15**	**355**	PKPbc		**PKPbc**	**18 01 18.8**	**+0.2**
SIRR	**Siria**	**149.21**	**333**⇑	*i*P		**PKPbc**	**18 01 19.4**	**+0.4**
BUD	**Budapest**	**149.25**	**338**⇓	*e*		**PKPbc**	**18 01 19.6**	**+0.6**
SHUT	**Suhut-Afyon**	**149.26**	**313**	*e*P		**PKPbc**	**18 01 17.7**	**-1.8**
TNS	**Taunus Mts**	**149.29**	**352**	*e*PKPbc		**PKPbc**	**18 01 19.8**	**+0.7**
SNF	**Seneffe**	**149.35**	**358**	PKPbc		**PKPbc**	**18 01 19.6**	**+0.4**
BCLA	**Clavier**	**149.39**	**356**	PKP		**PKPdf**	**18 01 16.4**	**+2.1**
KHC	**Kasperske Hory**	**149.40**	**345**	*e*PKPDF		**PKPdf**	**18 01 14.4**	**-0.1**
KHC				⇑*e*PKP		**PKPbc**	**18 01 19.6**	**+0.2**
KHC				*e*PKPAB		**PKPab**	**18 01 26.2**	**+0.6**
KHC				*e*pPKP		**pPKPdf**	**18 02 55.6**	**+6.6**
GZR	**Gura Zlata**	**149.40**	**331**	⇓PKIKP		**PKPbc**	**18 01 19.5**	**0.0**
GZR	**Gura Zlata**	**149.40**	**331**⇓	*i*P		**PKPbc**	**18 01 19.5**	**0.0**
PKSN	**Nyarlorinc**	**149.43**	**336**⇑	*e*		**PKPbc**	**18 01 20.5**	**+1.1**
JMB	**Yambol**	**149.52**	**323**	⇑PKP2		**PKPbc**	**18 01 20.7**	**+0.9**
JMB	**Yambol**	**149.52**	**323**⇑	*i*P		**PKPbc**	**18 01 20.7**	**+0.9**
PKSG		**149.55**	**338**⇓	*e*		**PKPbc**	**18 01 19.7**	**0.0**
ISP	**Isparta**	**149.64**	**312**	P		**PKPbc**	**18 01 19.2**	**-1.2**
ISP	**Isparta**	**149.64**	**312**⇑	*i*P		**PKPbc**	**18 01 19.2**	**-1.2**
ISP	**Isparta**	**149.64**	**312**	*e*PKPbc		**PKPbc**	**18 01 19.1**	**-1.2**
GEC2	**GERESS Array S**	**149.64**	**345**	*e*PKPbc		**PKPbc**	**18 01 20.4**	**+0.4**
GERES	**GERESS Array B**	**149.64**	**345**	PKP		**PKPdf**	**18 01 14.9**	**-0.1**
GERES				PKPbc		**PKPbc**	**18 01 19.9**	**-0.2**
GERES				pPKPbc		**pPKPbc**	**18 02 53.7**	**+0.1**
GERES	**GERESS Array B**	**149.64**	**345**	PKP		**PKPdf**	**18 01 14.9**	**-0.1**
	comp=Z,3.2nm,1.0s,baz=90,slow=1.0,SNR=13							
GERES				PKPbc		**PKPbc**	**18 01 19.9**	**-0.2**
	comp=Z,24nm,0.9s,baz=40,slow=1.7,SNR=56							
GERES				pPKPbc		**pPKPbc**	**18 02 53.7**	**+0.1**
	comp=Z,3.4nm,1.2s,baz=97,slow=2.4,SNR=2.6							
CRLT	**Corlu**	**149.68**	**320**	*e*P		**PKPdf**	**18 01 17.5**	**+2.4**
BZS	**Buzias**	**149.75**	**333**⇓	*i*P		**PKPbc**	**18 01 20.3**	**0.0**
DOU	**Dourbes**	**149.75**	**357**	PKPbc		**PKPbc**	**18 01 20.3**	**+0.2**
SRE	**Strehaia**	**149.75**	**330**⇓	*i*P		**PKPbc**	**18 01 20.8**	**+0.5**
PKST	**T¨s**	**149.79**	**338**⇓	*e*		**PKPbc**	**18 01 20.2**	**-0.1**
EDRB	**Edirne**	**149.83**	**322**	*e*P		**PKPbc**	**18 01 19.5**	**-1.1**
CONA	**Conrad Observa**	**149.89**	**342**	*i*PKiKP		**PKPbc**	**18 01 20.9**	**+0.3**
	comp=Z,59nm,1.0s,SNR=21							
SOP	**Sopron**	**149.90**	**341**⇑	*e*		**PKPbc**	**18 01 20.8**	**+0.2**
KHL	**Karahalli**	**150.08**	**314**	*e*P		**PKPdf**	**18 01 18.2**	**+2.2**
WLF	**Walferdange**	**150.08**	**355**	PKPbc		**PKPbc**	**18 01 20.1**	**-0.8**
WLF	**Walferdange**	**150.08**	**355**	*e*PKPbc		**PKPbc**	**18 01 22.2**	**+1.3**
PKS9	**Tamasi**	**150.28**	**337**⇓	*e*		**PKPbc**	**18 01 21.3**	**-0.2**
PKSM	**Moragy**	**150.46**	**337**	⇓PKIKP		**PKPbc**	**18 01 21.8**	**-0.1**
PKSM	**Moragy**	**150.46**	**337**⇓	*i*P		**PKPbc**	**18 01 21.8**	**-0.1**
PKSM	**Moragy**	**150.46**	**337**⇑	*e*		**PKPbc**	**18 01 21.6**	**-0.3**
KULA	**Kula-Manisa**	**150.56**	**315**	*e*P		**PKPbc**	**18 01 20.9**	**-1.6**
ELL	**Elmali**	**150.57**	**311**	*e*P		**PKPbc**	**18 01 21.5**	**-1.2**
STU	**Stuttgart**	**150.60**	**351**	*e*PKIKP		**PKPbc**	**18 01 22.7**	**+0.5**
STU	**Stuttgart**	**150.60**	**351**	*e*PKPbc		**PKPbc**	**18 01 22.9**	**+0.7**
STU	**Stuttgart**	**150.60**	**351**	*e*PKPbc		**PKPbc**	**18 01 22.7**	**+0.5**
KDZ	**Kurdzhali**	**150.71**	**323**	⇑PKIKP		**PKPbc**	**18 01 22.7**	**0.0**
KDZ	**Kurdzhali**	**150.71**	**323**⇑	*i*P		**PKPbc**	**18 01 22.7**	**0.0**
LPK	**Lapseki**	**150.73**	**320**	*e*P		**PKPbc**	**18 01 21.5**	**-1.2**
FUR	**Furstenfeldbru**	**150.82**	**348**	*e*PKPbc		**PKPbc**	**18 01 23.2**	**+0.5**
GELI	**Tayfur-Gelibol**	**150.88**	**320**	*e*P		**PKPbc**	**18 01 21.8**	**-1.3**
RJOB	**Jochberg**	**150.89**	**345**	*e*PKPbc		**PKPbc**	**18 01 23.1**	**+0.1**
BEHE	**Becsehely**	**150.90**	**339**	*e*		**PKPbc**	**18 01 22.8**	**-0.1**
KOGS	**Kog**	**151.09**	**340**	*i* PKPbc		**PKPbc**	**18 01 22.7**	**-0.7**
BFO	**Black Forest**	**151.16**	**352**	*e*PKIKP		**PKPbc**	**18 01 23.4**	**-0.1**
BFO	**Black Forest**	**151.16**	**352**	*e*PKPbc		**PKPbc**	**18 01 23.9**	**+0.4**
BFO	**Black Forest**	**151.16**	**352**	*e*PKPbc		**PKPbc**	**18 01 23.4**	**-0.1**
FETY	**Fethiye**	**151.21**	**311**	*e*P		**PKPdf**	**18 01 19.5**	**+1.8**
VTS	**Vitosha**	**151.26**	**327**	P		**PKPbc**	**18 01 23.8**	**-0.3**
VTS	**Vitosha**	**151.26**	**327**	⇓PKIKP		**PKPbc**	**18 01 24.2**	**+0.1**
VTS	**Vitosha**	**151.26**	**327**⇓	*i*P		**PKPbc**	**18 01 24.2**	**+0.1**
SOKA	**Soboth**	**151.27**	**342**	*i* PKPbc		**PKPbc**	**18 01 23.1**	**-0.8**
	comp=Z,32nm,0.9s,SNR=11							
EZN	**Ezine**	**151.32**	**319**	*e*P		**PKPdf**	**18 01 18.2**	**+0.5**
KBA	**Koelnbreinsper**	**151.37**	**344**⇓	*i*PKPbc		**PKPbc**	**18 01 22.6**	**-1.7**
	comp=Z,29nm,0.8s,SNR=9.9							
AYDB	**Zeytinkoy-Aydi**	**151.38**	**315**	*e*P		**PKPbc**	**18 01 23.8**	**-0.7**
DALY	**Dalyan (Mu¨la**	**151.43**	**312**	*e*P		**PKPbc**	**18 01 22.1**	**-2.3**
WATA	**Walderalm**	**151.55**	**347**⇑	*i*PKiKP		**PKPbc**	**18 01 24.2**	**-0.4**
	comp=Z,29nm,0.9s,SNR=10							
IZM	**Izmir**	**151.55**	**316**	*e*P		**PKPbc**	**18 01 23.5**	**-1.3**
MOTA	**Moosalm**	**151.64**	**347**⇑	*i*PKPdf		**PKPdf**	**18 01 18.1**	**-0.1**
	comp=Z,7.9nm,1.0s							
MOTA				*i* PKiKP		**PKPbc**	**18 01 24.6**	**-0.2**
	comp=Z,26nm,0.8s,SNR=12							
KAVA	**Kavala**	**151.66**	**323**	P		**PKPbc**	**18 01 24.1**	**-0.7**
MMB	**Musomiste**	**151.69**	**325**	⇓PKIKP		**PKPbc**	**18 01 24.7**	**-0.3**
MMB	**Musomiste**	**151.69**	**325**⇓	*i*P		**PKPbc**	**18 01 24.7**	**-0.3**
MYKA	**Terra Mystica**	**151.70**	**343**	*i* PKPbc		**PKPbc**	**18 01 24.0**	**-0.9**
	comp=Z,25nm,0.8s,SNR=7.5							
NVR	**Nevrokopi**	**151.78**	**324**	P		**PKPbc**	**18 01 24.4**	**-0.8**
MOZS	**Mozjanca**	**151.79**	**342**	*i* PKPbc		**PKPbc**	**18 01 24.7**	**-0.3**
ABTA	**Abfaltersbach**	**151.88**	**345**⇑	*i*PKPdf		**PKPdf**	**18 01 17.3**	**-1.1**
	comp=Z,12nm,0.9s							
ABTA				⇓*i*PKPbc		**PKPbc**	**18 01 24.8**	**-0.5**
	comp=Z,60nm,0.9s,SNR=10							
DAVA	**Damuels**	**151.93**	**349**	*i* PKiKP		**PKiKP**	**18 01 26.2**	**+0.5**
	comp=Z,30nm,0.9s,SNR=6.8							
LJU	**Ljubljana**	**151.99**	**342**	*i* PKPbc		**PKPbc**	**18 01 24.9**	**-0.5**
FETA	**Feichten**	**152.02**	**348**⇓	*i*PKPdf		**PKPdf**	**18 01 18.8**	**0.0**
	comp=Z,11nm,0.9s							
FETA				*i* PKiKP		**PKPbc**	**18 01 25.8**	**+0.1**
	comp=Z,33nm,0.9s,SNR=7.2							
CRNS	**Crni Vrh**	**152.03**	**342**	*i* PKPbc		**PKPbc**	**18 01 24.8**	**-0.8**
VOY	**Vojsko**	**152.18**	**343**	*e*PKPdf		**PKPdf**	**18 01 18.7**	**-0.2**
VOY				*e*PKPbc		**PKPbc**	**18 01 25.2**	**-0.8**
VOY				*e*PKPab		**PKPab**	**18 01 32.3**	**-5.0**
DAVOX	**Davos/Dischmat**	**152.42**	**349**	PKP		**PKPdf**	**18 01 19.6**	**+0.2**
DAVOX				PKPbc		**PKiKP**	**18 01 26.8**	**0.0**
DAVOX	**Davos/Dischmat**	**152.42**	**349**	PKP		**PKPdf**	**18 01 19.6**	**+0.2**
	comp=Z,6.2nm,0.9s,baz=56,slow=3.6,SNR=1.9							
DAVOX				PKPbc		**PKiKP**	**18 01 26.8**	**0.0**
	comp=Z,22nm,0.7s,baz=245,slow=2.9,SNR=10							
KEST	**Kesra**	**162.99**	**340**	PKPab		**PKPab**	**18 02 24.4**	**+0.1**
KEST	**Kesra**	**162.99**	**340**	PKPab		**PKPab**	**18 02 24.4**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=11,slow=4.3,SNR=5.0							
LIC	**Lamto**	**164.71**	**151**	*e*PKIKP		**PKPdf**	**18 01 34.1**	**-0.5**
	comp=Z,55nm,1.0s							
KIC	**Kosan Boka**	**164.96**	**152**	*e*PKIKP		**PKPdf**	**18 01 34.3**	**-0.5**
	comp=Z,48nm,1.0s							
TIC	**Toumodi**	**165.09**	**151**	*e*PKIKP		**PKPdf**	**18 01 34.3**	**-0.6**
	comp=Z,10nm,0.2s							
DBIC	**Dimbokro**	**165.18**	**151**	PKP		**PKPdf**	**18 01 34.1**	**-0.9**
DBIC				PKPab		**PKPab**	**18 02 35.0**	**+0.7**
DBIC	**Dimbokro**	**165.18**	**151**	PKP		**PKPdf**	**18 01 34.1**	**-0.9**
	comp=Z,9.5nm,1.0s,baz=170,slow=2.5,SNR=11							
DBIC				PKPab		**PKPab**	**18 02 35.0**	**+0.7**
	comp=Z,9.1nm,0.9s,baz=184,slow=5.0,SNR=9.9							
MDT	**Midelt**	**165.67**	**24**	PKPab		**PKPab**	**18 02 36.1**	**-0.2**
MDT	**Midelt**	**165.67**	**24**	PKPab		**PKPab**	**18 02 36.1**	**-0.2**
	comp=Z,6.7nm,0.9s,baz=245,slow=8.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**173.32**	**175**	PKP		**PKPdf**	**18 01 39.4**	**-0.5**
TORD				PKPab		**PKPab**	**18 03 10.8**	**+0.6**
TORD				PP		**PP**	**18 07 01.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**173.32**	**175**	PKP		**PKPdf**	**18 01 39.4**	**-0.5**
	comp=Z,9.2nm,1.0s,baz=253,slow=0.5,SNR=34							
TORD				PKPab		**PKPab**	**18 03 10.8**	**+0.6**
	comp=Z,8.9nm,0.8s,baz=170,slow=4.1,SNR=27							
TORD				PP		**PP**	**18 07 01.3**	**+0.3**
	comp=Z,8.4nm,1.1s,baz=174,slow=3.8,SNR=13							

KRSC 31 17:44:06.6±5.9, 53.84N×156.44E, h391km±50km, ML4.2, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**0.90**	**99**	P	Pn	17 44 56.3	-0.2
APC	**Apacha**	**1.01**	**155**	P	Pn	17 44 55.6	-1.2
KRX	**Arik**	**1.40**	**109**	P	Pn	17 44 59.4	+0.8
KOK	**Koryaka**	**1.42**	**112**	P	Pn	17 44 59.1	+0.5
KRER	**Koryakskii**	**1.48**	**110**	P	Pn	17 44 59.8	+0.8
AVH	**Avacha**	**1.49**	**112**	P	Pn	17 44 59.9	+1.0
SMAR	**Somma**	**1.52**	**111**	P	Pn	17 44 59.7	+0.5
UGLR	**Uglovaya**	**1.56**	**113**	P	Pn	17 45 00.3	+1.0
SDLR	**Sedlovina**	**1.56**	**110**	P	Pn	17 44 59.6	+0.3
MIPR	**Malaya Ipel'ka**	**1.58**	**173**	P	Pn	17 44 57.8	-1.5
GRL	**Gorelyy**	**1.62**	**142**	P	Pn	17 45 01.4	+1.7
ASAK	**Asacha**	**1.70**	**148**	P	Pn	17 45 00.0	-0.1
MTVR	**Mutnovka**	**1.72**	**142**	P	Pn	17 45 00.9	+0.7
MTVR				S	S	17 45 46.3	+2.8
RUS	**Russkaya**	**1.88**	**138**	P	Pn	17 45 00.0	-1.0
RUS				S	S	17 45 45.4	+0.5
SPN	**Mys Shipunski**	**2.27**	**108**	S	S	17 45 47.9	-1.5
ESO	**Esso**	**2.46**	**31**	P	Pn	17 45 04.8	0.0
KZV	**Kizimen**	**2.58**	**59**	P	Pn	17 45 06.3	+0.4
TUMR	**Tumrok**	**2.60**	**55**	P	Pn	17 45 06.8	+0.9
MKZ	**Mys Kozlova**	**3.19**	**75**	P	Pn	17 45 10.1	-0.4
MKZ				S	S	17 46 02.5	+0.1
KBG	**Krutoberegovo**	**4.34**	**54**	S	S	17 46 22.6	+0.7
KBTR	**Krutoberegovo**	**4.37**	**55**	P	Pn	17 45 20.1	-1.5
KBTR				S	S	17 46 20.7	-1.8
BKI	**Bering**	**5.72**	**72**	S	S	17 46 51.0	+2.9
OSSR	**Ossora**	**6.54**	**31**	P	Pn	17 45 44.9	+0.3

*IDC **31** 17:54:24.7±5.9, 36.47N×71.28E, h77km±54km, mb3.6/4, mb1 3.6/9, mb1mx3.3/30, mbtmp3.5/9, ML3.8/3, MS3.1/2, Ms1 3.2/2, ms1mx2.6/45, Error ellipse: s-maj=56.9km s-min=38.3km az=126.0*

*ISCJB **31** 17:54:25.9±0.6, 36.50N±0.04×71.39E±0.09, h114km, mb3.9/4, Error ellipse: s-maj=10.9km s-min=5.3km az=158.7*

*NNC **31** 17:54:27.8±2.6, 36.90N×71.27E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=24.3km s-min=20.3km az=75.0*

ISC 31 17:54:27.1±0.9, 36.51N±0.08×71.5E±0.1, h114km, n30, σ1§23/33, mb3.9/4, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.87**	**17**	P	**Pn**	**17 55 52.9**	**+0.8**
	SNR=35						
UCH	**Uchtor**	**6.18**	**22**	P	**Pn**	**17 55 57.4**	**+1.1**
	SNR=8.5						
KZA	**Kyzart**	**6.29**	**27**	P	**Pn**	**17 55 58.7**	**+1.0**
	SNR=7.9						
EKS2	**Erkin-Say**	**6.40**	**16**	P	**Pn**	**17 56 00.1**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**6.55**	**20**	P	**Pn**	**17 56 02.3**	**+1.3**
	SNR=17						
AAK	**Ala-Archa**	**6.55**	**20**	P	**Pn**	**17 56 00.7**	**-0.2**
	3.3nm,0.3s,baz=196,slow=13,SNR=44						
AAK				S	**Sn**	**17 57 14.6**	**+0.3**
	0.4nm,0.3s,baz=332,slow=23,SNR=3.7						
AAK	**Ala-Archa**	**6.55**	**20**	⇓P	**Pn**	**17 56 01.8**	**+0.8**
	8.1nm,0.5s						
AAK				⇓S	**Sn**	**17 57 14.3**	**+0.1**
	5.5nm,0.8s						
KK31	**Karatay Array**	**6.62**	**354**	⇑P	**Pn**	**17 56 00.5**	**-1.4**
	6.6nm,0.7s,baz=177,slow=13,SNR=82						
KK31				⇓S	**Sn**	**17 57 14.2**	**-1.7**
	1.7nm,0.5s						
KBK	**Karagaybulak**	**6.70**	**23**	P	**Pn**	**17 56 04.7**	**+1.6**
	SNR=6.7						
CHMS	**Chumysh**	**6.96**	**20**	P	**Pn**	**17 56 07.4**	**+1.0**
	SNR=12						
USP	**Ospenovka**	**7.14**	**18**	P	**Pn**	**17 56 10.2**	**+1.3**
	SNR=14						
TKM2	**Tokmak 2**	**7.15**	**25**	P	**Pn**	**17 56 10.3**	**+1.1**
	SNR=12						
TKM2	**Tokmak 2**	**7.15**	**25**	⇓P	**Pn**	**17 56 09.8**	**+0.6**
	4.5nm,0.5s						
MKAR	**Makanchi Array**	**13.07**	**35**	P	**Pn**	**17 57 28.5**	**+0.1**
	0.0nm,0.3s,baz=225,slow=14,SNR=3.7						
DANN	**Dangsing**	**13.19**	**125**	*e*P	**Pn**	**17 57 28.7**	**-1.6**
	1.8nm,0.2s						
GKN	**Gorkha**	**14.00**	**124**	*e*P	**Pn**	**17 57 39.4**	**-1.3**
	2.5nm,0.3s						
KKN	**Kakani**	**14.57**	**123**	*e*P	**Pn**	**17 57 47.9**	**-0.2**
PKI	**Pulchoki**	**14.80**	**123**	*e*P	**Pn**	**17 57 50.3**	**-0.8**
GUN	**Gumba**	**14.91**	**121**	*e*P	**Pn**	**17 57 52.8**	**+0.4**
KURBB	**Kurchatov Arra**	**14.99**	**18**	P	**Pn**	**17 57 49.1**	**-3.8**
	0.1nm,0.3s,baz=203,slow=11,SNR=9.0						
RAMN	**Ramite**	**16.01**	**122**	*e*P	**Pn**	**17 58 05.7**	**-0.4**
BVAR	**Borovoye Array**	**16.53**	**358**	P	**Pn**	**17 58 10.8**	**-1.2**
	0.2nm,0.3s,baz=162,slow=12,SNR=5.7						
TAPN	**Taplejung**	**16.53**	**119**	*e*P	**P**	**17 58 13.4**	**+0.3**
	2.4nm,0.3s						
ODAN	**Odare**	**16.61**	**121**	*e*P	**P**	**17 58 14.0**	**+0.1**
AKTO	**Aktyubinsk**	**16.95**	**329**	P	**Pn**	**17 58 16.0**	**-1.2**
	0.3nm,0.3s,baz=152,slow=12,SNR=13						
AKTO				LR	LR	18 04 28.9	
	comp=Z,34nm,18.9s,baz=220,slow=36						
ZALV	**Zalesovo Beam**	**19.75**	**24**	P	**Pn**	**17 58 49.1**	**-1.3**
	0.5nm,0.3s,baz=215,slow=11,SNR=13						
FINES	**FINESS Array B**	**37.68**	**326**	P	**P**	**18 01 32.0**	**+1.1**
	3.9nm,1.0s,baz=108,slow=8.9,SNR=2.8						
ARCES	**ARCESS Array B**	**41.27**	**337**	P	**P**	**18 02 01.9**	**+1.2**
	4.6nm,1.0s,baz=108,slow=8.6,SNR=5.1						
NOA	**NORSAR Array B**	**44.59**	**323**	P	**P**	**18 02 28.3**	**+0.7**
	0.6nm,0.5s,baz=100,slow=8.1,SNR=3.2						
NOA				LR	LR	18 22 15.0	
	comp=Z,44nm,18.1s,baz=100,slow=38						
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**18 05 02.7**	**+0.5**
	0.3nm,0.4s,baz=50,slow=5.4,SNR=2.8						

*ISCJB **31** 18:28:57.0±1.0, 41.77N×0.07×143.0E±0.1, h48km, mb3.6/3, Error ellipse: s-maj=13.8km s-min=8.3km az=35.3*

*JMA **31** 18:28:59.3±0.2, 41.93N×142.94E, h42km±1km, M3.0*

*IDC **31** 18:28:59.8±3.5, 41.92N×143.27E, h67km±29km, mb3.4/3, mb1 3.4/5, mb1mx3.1/25, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=52.0km s-min=24.7km az=87.0*

ISC 31 18:28:58.4±1.2, 41.82N±0.09×143.03E±0.08, h48km, n18, σ1§13/15, mb3.5/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.22**	**25**	P	**Pn**	**18 29 06.5**	**-0.2**
JEM				*e*S	**Sn**	**18 29 11.9**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.51**	**336**	P	**Pn**	**18 29 08.5**	**-1.1**
JCH	**Churui**	**0.83**	**17**	P	**Pn**	**18 29 13.6**	**-0.2**
JCH				*e*S	**Sn**	**18 29 24.3**	**-0.8**
JBT2	**Biratori 2**	**1.08**	**333**	P	**Pn**	**18 29 16.3**	**-0.9**
JOB	**Onbets**	**1.24**	**28**	P	**Pn**	**18 29 20.3**	**+1.0**
JKB	**Kayabe**	**1.50**	**273**	P	**Pn**	**18 29 21.9**	**-0.9**
JEW	**Eniwo**	**1.56**	**312**	P	**Pn**	**18 29 23.1**	**-0.5**
ASAJ	**Asahikawa**	**2.32**	**352**	P	**Pn**	**18 29 35.1**	**+1.0**
	3.0nm,0.3s,baz=188,slow=18,SNR=38						
ASAJ				S	**Sn**	**18 30 02.1**	**+0.7**
	1.4nm,0.3s,baz=143,slow=20,SNR=4.5						
USRK	**Ussuriysk Arra**	**8.44**	**290**	P	**Pn**	**18 31 00.7**	**+2.8**
	0.1nm,0.3s,baz=102,slow=15,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**29.90**	**130**	T	T	19 06 24.8	
	baz=326,slow=76,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**29.91**	**130**	T	T	19 06 23.9	
	baz=326,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**29.92**	**130**	T	T	19 06 25.6	
	baz=326,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**30.77**	**132**	T	T	19 07 27.7	
	baz=328,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**30.77**	**132**	T	T	19 07 30.3	
	baz=328,slow=76,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**30.79**	**132**	T	T	19 07 28.9	
	baz=328,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**39.78**	**308**	P	**P**	**18 36 26.5**	**+0.2**
	0.2nm,0.4s,baz=98,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**61.97**	**189**	P	**P**	**18 39 13.6**	**+0.2**
	0.3nm,0.7s,baz=7.1,slow=6.8,SNR=5.2						
FINES	**FINESS Array B**	**65.18**	**332**	P	**P**	**18 39 33.2**	**-1.0**
	3.1nm,1.1s,baz=302,slow=6.4,SNR=4.4						

IDC 31 19:18:22.5±1.0, 19.25N×144.76E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/24, mbtmp3.8/5, MS3.7/1, Ms1 3.7/1, ms1mx2.6/40, Error ellipse: s-maj=69.6km s-min=22.9km az=108.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.27**	**195**	P	P	19 26 02.1	+0.6
	0.5nm,0.5s,baz=14,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**43.95**	**194**	P	P	19 26 30.7	-0.8
	0.4nm,0.5s,baz=13,slow=6.7,SNR=15						
AFI	**Afiamalu**	**54.01**	**124**	LR	LR	19 45 25.2	
	comp=Z,65nm,20.5s,baz=120,slow=30						
YKA	**Yellowknife Ar**	**77.92**	**28**	P	P	19 30 22.7	+0.6
	0.4nm,0.5s,baz=288,slow=5.2,SNR=6.1						
NVAR	**Mina Array Bea**	**83.50**	**52**	P	P	19 30 52.1	-0.7
	0.7nm,0.6s,baz=278,slow=5.6,SNR=6.3						
FINES	**FINESS Array B**	**86.01**	**335**	P	P	19 31 04.7	0.0
	1.1nm,0.8s,baz=92,slow=4.2,SNR=3.3						

*ISCJB **31** 19:19:08.2±0.7, 31.32S±0.04×69.22W±0.06, h117km±8km, mb3.4/1, Error ellipse: s-maj=8.8km s-min=6.2km az=0.4*

*GUC **31** 19:19:08.5±0.5, 31.32S×69.53W, h145km±21km, MD3.3, ML3.4*

*IDC **31** 19:19:09.0±2.1, 31.37S×69.04W, h119km±13km, mb3.2/1, mb1 3.4/2, mb1mx3.2/15, mbtmp3.3/2, Error ellipse: s-maj=50.7km s-min=41.2km az=102.0*

ISC 31 19:19:08.2±0.9, 31.30S±0.05×69.22W±0.06, h118km±8km, n12, σ0§71/20, 1C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.89**	**110**	P	**Pn**	**19 19 29.6**	**+0.5**
	3.5nm,0.3s,baz=291,slow=7.3,SNR=903						
CFAA				S	**Sn**	**19 19 44.2**	**-0.7**
	1.9nm,0.3s,baz=256,slow=4.0,SNR=19						
CMCH	**Combarbala**	**1.53**	**274**⇓	*i*P	**Pn**	**19 19 35.7**	**-0.2**
CMCH				*i* S	**Sn**	**19 19 56.3**	**-0.8**
CMCH				AML	AML	19 19 58.1	
	comp=E,2μm,0.5s						
TLL	**Tololo Astrono**	**1.77**	**309**	*e*P	**Pn**	**19 19 39.8**	**+0.8**
TLL				*i* S	**Sn**	**19 20 03.1**	**+0.6**
TLL				AML	AML	19 20 05.7	
	comp=N,178nm,0.2s						
PEL	**Peldehue**	**2.22**	**214**⇓	*i*P	**Pn**	**19 19 44.7**	**+0.3**
PEL				*i* S	**Sn**	**19 20 12.0**	**-0.1**
PEL				AML	AML	19 20 15.8	
	comp=N,208nm,0.4s						
ROCH	**El Roble**	**2.25**	**222**	*i* P	**Pn**	**19 19 44.7**	**-0.3**
ROCH				*i* S	**Sn**	**19 20 12.5**	**-0.7**
ROCH				AML	AML	19 20 15.9	
	comp=N,139nm,0.4s						
CLCH	**Cerro Calan**	**2.37**	**208**⇑	*i*P	**Pn**	**19 19 47.0**	**+0.7**
CLCH				*i* S	**Sn**	**19 20 16.0**	**+0.5**
CLCH				AML	AML	19 20 19.0	
	comp=E,174nm,0.5s

KAKN	**Katmai Knife C**	**4.98**	**224**	P		**Pn**	**19 29 17.2**	**-0.4**
KABR	**Katmai Barrier**	**5.08**	**223**	P		**Pn**	**19 29 18.7**	**-0.2**
COLD	**Coldfoot**	**5.29**	**353**	*e*Pn		**Pn**	**19 29 21.5**	**-0.3**
	4.4nm,0.5s							
HYT	**Haines Junctio**	**5.39**	**98**	P		**Pn**	**19 29 23.6**	**+0.4**
BM3	**Burnt Mountain**	**5.67**	**15**	P		**Pn**	**19 29 28.1**	**+0.9**
INK	**Inuvik**	**8.89**	**38**	P		**Pn**	**19 30 10.5**	**-0.5**
INK				S		**Sn**	**19 31 48.3**	**-1.7**
INK	**Inuvik**	**8.89**	**38**	P		**Pn**	**19 30 10.5**	**-0.5**
	0.2nm,0.3s,baz=238,slow=12,SNR=4.0							
INK				S		**Sn**	**19 31 48.3**	**-1.7**
	0.2nm,0.3s,baz=240,slow=15,SNR=9.0							
TNA	**Tin City**	**9.31**	**301**	*e*Pn		**Pn**	**19 30 17.7**	**+0.9**
	6.0nm,0.9s							
DLBC	**Dease Lake**	**9.83**	**103**	P		**Pn**	**19 30 26.6**	**+2.5**
DLBC	**Dease Lake**	**9.83**	**103**	P		**Pn**	**19 30 26.6**	**+2.5**
	0.6nm,0.3s,baz=307,slow=22,SNR=11							
YKA	**Yellowknife Ar**	**15.67**	**73**	P		**Pn**	**19 31 42.9**	**-0.3**
YKA	**Yellowknife Ar**	**15.67**	**73**	P		**Pn**	**19 31 42.9**	**-0.3**
	0.1nm,0.3s,baz=279,slow=11,SNR=5.8							
TXAR	**Lajitas Array**	**43.77**	**117**	P		P	19 36 00.1	-7.5
TXAR	**Lajitas Array**	**43.77**	**117**	P		P	19 36 00.1	-7.5
	0.3nm,0.4s,baz=316,slow=9.0,SNR=3.3							

NNC 31 19:52:15.2±2.2, 36°.73N×70°.87E, *h*108km±38km, mb3.0, mpv3.5, 1C-6D, Error ellipse: s-maj=18.0km s-min=16.2km az=143.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.37**	**358**	P		Pn	19 53 46.3	-0.3
	1.2nm,0.4s,baz=177,slow=12,SNR=35							
KK31				⇓S		Sn	19 54 58.7	+0.9
	0.8nm,0.4s,baz=189,slow=24,SNR=5.3							
AAK	**Ala-Archa**	**6.52**	**24**	⇑P		Pn	19 53 48.2	-0.6
	1.6nm,0.5s							
AAK				⇓S		Sn	19 55 01.6	-0.3
	7.3nm,0.7s							
TKM2	**Tokmak 2**	**7.17**	**29**	⇓P		Pn	19 53 58.5	+0.8
	6.0nm,1.1s							
TKM2				⇓S		Sn	19 55 18.6	+0.9
	2.1nm,0.8s							
AB31	**Akbulak array**	**14.83**	**331**	⇓P		Pn	19 55 39.4	+0.2
	0.2nm,0.5s,baz=160,slow=12,SNR=11							
BVA0	**Borovoye Array**	**16.29**	**359**	P		P	19 55 58.3	-0.2
	baz=161,slow=12,SNR=4.1							
AKTO	**Aktyubinsk**	**16.52**	**330**	⇓P		Pn	19 55 59.8	-0.6
	2.3nm,1.0s							

*IDC **31** 20:17:12.6±1.5, 38°.67S×174°.10E, h141km±25km, mb2.9/2, mb1 3.2/4, mb1mx3.1/16, mbtmp3.0/4, Error ellipse: s-maj=40.5km s-min=12.0km az=139.0*
*ISCJB **31** 20:17:14.2±0.5, 39°.08S±0°.05×174°.79E±0°.06, h236km±4km, mb2.9/2, Error ellipse: s-maj=9.9km s-min=6.0km az=137.4*
*WEL **31** 20:17:15.9±0.3, 39°.06S×174°.93E, h231km±2km, ML4.1/16, Error ellipse: s-maj=2.4km s-min=2.0km az=90.0*
*NEIC **31** 20:17:16.3, 39°.07S×174°.93E, h228km, MG4.0(WEL), After WEL.*

ISC 31 20:17:13.8±1.0, 39°.07S±0°.06×174°.87E±0°.06, h242km±6km, n155, σ1§09/164, 27C-2D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VRZ	**Vera Road**	**0.10**	**236**	PN		**Pn**	**20 17 45.2**	**+0.3**
VRZ				SN		**S**	**20 18 08.1**	**-1.3**
VRZ	**Vera Road**	**0.10**	**236**	Pn		**Pn**	**20 17 45.2**	**+0.3**
PKVZ	**Pokaka**	**0.43**	**121**	⇑PN		**Pn**	**20 17 46.1**	**+0.6**
PKVZ				SN		**S**	**20 18 10.4**	**-0.2**
PKVZ	**Pokaka**	**0.43**	**121**	Pn		**Pn**	**20 17 46.1**	**+0.6**
TWVZ	**Taurewa**	**0.44**	**91**	⇑PN		**Pn**	**20 17 46.1**	**+0.4**
TWVZ				SN		**S**	**20 18 08.1**	**-2.5**
TWVZ	**Taurewa**	**0.44**	**91**	Pn		**Pn**	**20 17 46.1**	**+0.4**
DREZ	**Durham Road**	**0.54**	**256**	PN		**Pn**	**20 17 46.8**	**+1.0**
DREZ	**Durham Road**	**0.54**	**256**	Pn		**Pn**	**20 17 46.8**	**+1.0**
WPVZ	**Whakapapa**	**0.54**	**105**	PN		**Pn**	**20 17 46.5**	**+0.6**
WPVZ	**Whakapapa**	**0.54**	**105**	Pn		**Pn**	**20 17 46.5**	**+0.6**
HIZ	**Hauiti**	**0.55**	**359**	PN		**Pn**	**20 17 46.1**	**+0.2**
HIZ				SN		**S**	**20 18 09.5**	**-1.6**
HIZ	**Hauiti**	**0.55**	**359**	Pn		**Pn**	**20 17 46.1**	**+0.2**
HIZ				Sn		**S**	**20 18 09.5**	**-1.6**
FWVZ	**Far West T-bar**	**0.56**	**110**	⇑PN		**Pn**	**20 17 46.7**	**+0.6**
FWVZ				SN		**S**	**20 18 10.4**	**-1.2**
FWVZ	**Far West T-bar**	**0.56**	**110**	Pn		**Pn**	**20 17 46.7**	**+0.6**
MTVZ	**Mangateitei**	**0.56**	**125**	PN		**Pn**	**20 17 46.6**	**+0.6**
MTVZ				SN		**S**	**20 18 10.5**	**-0.8**
MTVZ	**Mangateitei**	**0.56**	**125**	Pn		**Pn**	**20 17 46.6**	**+0.6**
TRVZ	**Turoa**	**0.58**	**114**	PN		**Pn**	**20 17 46.8**	**+0.5**
TRVZ	**Turoa**	**0.58**	**114**	Pn		**Pn**	**20 17 46.8**	**+0.5**
NGZ	**Ngauruhoe**	**0.58**	**101**	PN		**Pn**	**20 17 46.6**	**+0.4**
NGZ				SN		**S**	**20 18 09.7**	**-1.8**
NGZ	**Ngauruhoe**	**0.58**	**101**	Pn		**Pn**	**20 17 46.6**	**+0.4**
WHVZ	**Whangaehu Hut**	**0.60**	**111**	⇑PN		**Pn**	**20 17 46.9**	**+0.6**
KRVZ	**Karewarewa**	**0.60**	**93**	⇑PN		**Pn**	**20 17 46.7**	**+0.5**
KRVZ	**Karewarewa**	**0.60**	**93**	Pn		**Pn**	**20 17 46.7**	**+0.5**
WNVZ	**Wahianoa**	**0.62**	**115**	PN		**Pn**	**20 17 47.0**	**+0.7**
WNVZ	**Wahianoa**	**0.62**	**115**	Pn		**Pn**	**20 17 47.0**	**+0.7**
OTVZ	**Oturere**	**0.63**	**99**	PN		**Pn**	**20 17 46.9**	**+0.6**
OTVZ	**Oturere**	**0.63**	**99**	Pn		**Pn**	**20 17 47.0**	**+0.6**
TUVZ	**Tukino**	**0.64**	**109**	⇑PN		**Pn**	**20 17 47.1**	**+0.7**
TUVZ	**Tukino**	**0.64**	**109**	Pn		**Pn**	**20 17 47.1**	**+0.7**
KATZ	**Kakaramea**	**0.65**	**82**	PN		**Pn**	**20 17 46.7**	**+0.3**
KATZ	**Kakaramea**	**0.65**	**82**	Pn		**Pn**	**20 17 46.7**	**+0.3**
WAZ	**Wanganui**	**0.69**	**173**	⇑PN		**Pn**	**20 17 47.6**	**+1.2**
WAZ	**Wanganui**	**0.69**	**173**	Pn		**Pn**	**20 17 47.6**	**+1.2**
KHEZ	**Kahui Hut**	**0.70**	**251**	PN		**Pn**	**20 17 47.6**	**+1.1**
WATZ	**Wairara**	**0.76**	**62**	⇑PN		**Pn**	**20 17 47.3**	**+0.6**
WATZ	**Wairara**	**0.76**	**62**	Pn		**Pn**	**20 17 47.3**	**+0.6**
MOVZ	**Moawhango**	**0.77**	**117**	⇑PN		**Pn**	**20 17 47.1**	**+0.3**
MOVZ				SN		**S**	**20 18 09.3**	**-3.3**
MOVZ	**Moawhango**	**0.77**	**117**	Pn		**Pn**	**20 17 47.1**	**+0.3**
MOVZ				Sn		**S**	**20 18 09.3**	**-3.3**
WHTZ	**Whakaora**	**0.94**	**65**	Pn		**Pn**	**20 17 48.1**	**+0.4**
BHHZ	**Black Hill Sta**	**1.02**	**115**	⇑PN		**Pn**	**20 17 48.5**	**+0.4**
BHHZ	**Black Hill Sta**	**1.02**	**115**	Pn		**Pn**	**20 17 48.5**	**+0.4**
ALRZ	**Allen Road**	**1.26**	**67**	PN		**Pn**	**20 17 49.5**	**0.0**
ALRZ	**Allen Road**	**1.26**	**67**	Pn		**Pn**	**20 17 49.5**	**0.0**
BKZ	**Black Stump Fm**	**1.27**	**95**	⇑PN		**Pn**	**20 17 49.9**	**+0.3**
BKZ				AML		AML	20 18 14.6	
BKZ				AML		AML	20 18 16.4	
BKZ	**Black Stump Fm**	**1.27**	**95**	Pn		**Pn**	**20 17 49.9**	**+0.3**
TSZ	**Takapari Road**	**1.30**	**140**	PN		**Pn**	**20 17 50.8**	**+1.0**
TSZ				AML		AML	20 18 16.8	
TSZ				AML		AML	20 18 18.1	
TSZ	**Takapari Road**	**1.30**	**140**	Pn		**Pn**	**20 17 50.8**	**+1.0**
PNHZ	**Pukenui**	**1.33**	**130**	⇑PN		**Pn**	**20 17 50.9**	**+0.9**
PNHZ	**Pukenui**	**1.33**	**130**	Pn		**Pn**	**20 17 50.9**	**+0.9**
MCHZ	**McNeill Hill**	**1.47**	**105**	⇑PN		**Pn**	**20 17 52.3**	**+1.3**
MCHZ	**McNeill Hill**	**1.47**	**105**	Pn		**Pn**	**20 17 52.3**	**+1.3**
POWZ	**Post Office Ro**	**1.50**	**153**	PN		**Pn**	**20 17 52.0**	**+0.8**
POWZ	**Post Office Ro**	**1.50**	**153**	Pn		**Pn**	**20 17 52.0**	**+0.8**
NMHZ	**Naumai**	**1.51**	**92**	⇑PN		**Pn**	**20 17 52.6**	**+1.2**
NMHZ	**Naumai**	**1.51**	**92**	Pn		**Pn**	**20 17 52.6**	**+1.2**
WPHZ	**Waipukurau**	**1.57**	**130**	⇑PN		**Pn**	**20 17 52.8**	**+1.0**
WPHZ	**Waipukurau**	**1.57**	**130**	Pn		**Pn**	**20 17 52.8**	**+1.0**
DVHZ	**Dannevirke**	**1.59**	**141**	PN		**Pn**	**20 17 52.7**	**+0.7**
DVHZ	**Dannevirke**	**1.59**	**141**	Pn		**Pn**	**20 17 52.7**	**+0.7**
PRWZ	**Pori Road**	**1.71**	**151**	PN		**Pn**	**20 17 53.9**	**+0.9**
KAHZ	**Kahuranaki**	**1.72**	**116**	⇑PN		**Pn**	**20 17 54.3**	**+1.3**
KAHZ	**Kahuranaki**	**1.72**	**116**	Pn		**Pn**	**20 17 54.3**	**+1.3**
RAHZ	**Arahi**	**1.73**	**86**	⇑PN		**Pn**	**20 17 53.8**	**+0.7**
RAHZ	**Arahi**	**1.73**	**86**	Pn		**Pn**	**20 17 53.9**	**+0.7**
OGWZ	**Otaki Gorge**	**1.76**	**173**	⇑PN		**Pn**	**20 17 54.4**	**+1.0**
OGWZ	**Otaki Gorge**	**1.76**	**173**	Pn		**Pn**	**20 17 54.4**	**+1.0**
KIW	**Kapiti Island**	**1.79**	**179**	PN		**Pn**	**20 17 54.5**	**+0.8**
KIW				AML		AML	20 18 23.6	
KIW				AML		AML	20 18 24.1	
KIW	**Kapiti Island**	**1.79**	**179**	Pn		**Pn**	**20 17 54.5**	**+0.8**
CKHZ	**Cape Kidnapper**	**1.81**	**110**	PN		**Pn**	**20 17 55.0**	**+1.2**
CKHZ	**Cape Kidnapper**	**1.81**	**110**	Pn		**Pn**	**20 17 55.0**	**+1.2**
PRHZ	**Porangahau**	**1.81**	**132**	⇑PN		**Pn**	**20 17 54.8**	**+1.0**
PRHZ	**Porangahau**	**1.81**	**132**	Pn		**Pn**	**20 17 54.8**	**+1.0**
PXZ	**Pawanui**	**1.82**	**123**	⇑PN		**Pn**	**20 17 54.7**	**+0.9**
PXZ				AML		AML	20 18 26.4	
PXZ				AML		AML	20 18 26.4	
PXZ				AML		AML	20 18 26.5	
PXZ				AML		AML	20 18 26.5	
PXZ	**Pawanui**	**1.82**	**123**	Pn		**Pn**	**20 17 54.7**	**+0.9**
WHHZ	**Waihua**	**1.84**	**91**	Pn		**Pn**	**20 17 54.8**	**+0.7**
ANWZ	**Angora Road**	**1.86**	**139**	PN		**Pn**	**20 17 55.3**	**+1.1**
TIWZ	**Tintock**	**1.88**	**156**	PN		**Pn**	**20 17 55.1**	**+0.7**
TIWZ				AML		AML	20 18 26.2	
TIWZ				AML		AML	20 18 27.1	
TIWZ	**Tintock**	**1.88**	**156**	Pn		**Pn**	**20 17 55.1**	**+0.7**
DUWZ	**D'Urville Isla**	**1.88**	**203**	PN		**Pn**	**20 17 55.3**	**+0.9**
DUWZ	**D'Urville Isla**	**1.88**	**203**	Pn		**Pn**	**20 17 55.4**	**+0.9**
HOWZ	**Holdsworth Sta**	**1.90**	**165**	⇑PN		**Pn**	**20 17 55.1**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.90**	**165**	Pn		**Pn**	**20 17 55.1**	**+0.6**
BFZ	**Birch Farm**	**1.93**	**147**	⇓PN		**Pn**	**20 17 55.4**	**+0.6**
BFZ	**Birch Farm**	**1.93**	**147**	Pn		**Pn**	**20 17 55.4**	**+0.6**
URZ	**Urewera**	**1.93**	**66**	Pn		**Pn**	**20 17 54.2**	**-0.6**
URZ				AML		AML	20 18 24.4	
URZ				AML		AML	20 18 24.8	
URZ	**Urewera**	**1.93**	**66**	Pn		**Pn**	**20 17 54.2**	**-0.6**
URZ	**Urewera**	**1.93**	**66**	P		**Pn**	**20 17 53.7**	**-1.1**
	5.4nm,0.3s,baz=246,slow=4.9,SNR=37							
URZ				S		**S**	**20 18 22.4**	**-4.8**
	31nm,0.3s,baz=138,slow=23,SNR=51							
SNGZ	**Shannon Statio**	**1.95**	**82**	⇑PN		**Pn**	**20 17 55.5**	**+0.4**
CAW	**Cannon Point**	**2.04**	**176**	PN		**Pn**	**20 17 56.7**	**+0.8**
CAW				AML		AML	20 18 29.1	
CAW				AML		AML	20 18 29.2	
CAW	**Cannon Point**	**2.04**	**176**	Pn		**Pn**	**20 17 56.7**	**+0.8**
MTW	**Mount Morrison**	**2.15**	**167**	PN		**Pn**	**20 17 57.3**	**+0.5**
MTW				AML		AML	20 18 30.3	
MTW				AML		AML	20 18 30.5	
MTW	**Mount Morrison**	**2.15**	**167**	Pn		**Pn**	**20 17 57.3**	**+0.5**
KNZ	**Kokohu**	**2.18**	**90**	PN		**Pn**	**20 17 57.8**	**+0.6**
KNZ	**Kokohu**	**2.18**	**90**	Pn		**Pn**	**20 17 57.8**	**+0.6**
TMWZ	**Te Maipa**	**2.18**	**159**	PN		**Pn**	**20 17 57.8**	**+0.6**
TMWZ	**Te Maipa**	**2.18**	**159**	Pn		**Pn**	**20 17 57.8**	**+0.6**
TCW	**Tory Channel**	**2.19**	**192**	PN		**Pn**	**20 17 58.4**	**+1.2**
TCW				AML		AML	20 18 30.4	
TCW				AML		AML	20 18 32.0	
TCW	**Tory Channel**	**2.19**	**192**	Pn		**Pn**	**20 17 58.4**	**+1.2**
MWZ	**Matawai**	**2.20**	**71**	PN		**Pn**	**20 17 57.2**	**-0.3**
MWZ				AML		AML	20 18 28.1	
MWZ				AML		AML	20 18 28.3	
MWZ	**Matawai**	**2.20**	**71**	Pn		**Pn**	**20 17 57.2**	**-0.3**
WEL	**Wellington**	**2.22**	**182**	PN		**Pn**	**20 17 58.5**	**+1.0**
WEL	**Wellington**	**2.22**	**182**	Pn		**Pn**	**20 17 58.5**	**+1.0**
RIGZ	**Rimuhau**	**2.29**	**82**	⇓PN		**Pn**	**20 17 58.7**	**+0.5**
PAWZ	**Paruwai Farm**	**2.35**	**170**	PN		**Pn**	**20 17 59.5**	**+0.7**
PAWZ				AML		AML	20 18 34.2	
PAWZ				AML		AML	20 18 34.4	
PAWZ	**Paruwai Farm**	**2.35**	**170**	Pn		**Pn**	**20 17 59.5**	**+0.7**
PRGZ	**Paritu Road**	**2.35**	**87**	PN		**Pn**	**20 17 59.5**	**+0.6**
PRGZ	**Paritu Road**	**2.35**	**87**	Pn		**Pn**	**20 17 59.5**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.36**	**93**	PN		**Pn**	**20 17 59.8**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.36**	**93**	Pn		**Pn**	**20 17 59.8**	**+0.8**
MSWZ	**Moikau Station**	**2.36**	**173**	PN		**Pn**	**20 17 59.5**	**+0.5**
MSWZ				AML		AML	20 18 33.3	
MSWZ				AML		AML	20 18 34.3	
MSWZ	**Moikau Station**	**2.36**	**173**	Pn		**Pn**	**20 17 59.5**	**+0.5**
TRWZ	**Traveller**	**2.41**	**165**	PN		**Pn**	**20 18 00.3**	**+0.8**
TRWZ				AML		AML	20 18 35.0	
TRWZ				AML		AML	20 18 35.9	
TRWZ	**Traveller**	**2.41**	**165**	Pn		**Pn**	**20 18 00.3**	**+0.8**
NNZ	**Nelson**	**2.43**	**208**	PN		**Pn**	**20 18 00.5**	**+0.8**
NNZ	**Nelson**	**2.43**	**208**	Pn		**Pn**	**20 18 00.5**	**+0.8**
TUWZ	**Tuamarina**	**2.47**	**196**	PN		**Pn**	**20 18 01.1**	**+1.1**
TUWZ				AML		AML	20 18 35.3	
TUWZ				AML		AML	20 18 35.5	
TUWZ	**Tuamarina**	**2.47**	**196**	Pn		**Pn**	**20 18 01.1**	**+1.1**
QRZ	**Quartz Range**	**2.52**	**225**	PN		**Pn**	**20 18 00.7**	**+0.3**
QRZ	**Quartz Range**	**2.52**	**225**	Pn		**Pn**	**20 18 00.8**	**+0.3**
PLWZ	**Palliser**	**2.52**	**173**	PN		**Pn**	**20 18 01.1**	**+0.5**
PLWZ	**Palliser**	**2.52**	**173**	Pn		**Pn**	**20 18 01.1**	**+0.5**
CNGZ	**Carnagh Statio**	**2.67**	**78**	PN		**Pn**	**20 18 03.0**	**+0.8**
CNGZ	**Carnagh Statio**	**2.67**	**78**	Pn		**Pn**	**20 18 03.0**	**+0.8**
BSWZ	**Blackbirch Sta**	**2.75**	**196**	PN		**Pn**	**20 18 04.1**	**+1.1**
BSWZ				AML		AML	20 18 43.3	
BSWZ	**Blackbirch Sta**	**2.75**	**196**	Pn		**Pn**	**20 18 04.1**	**+1.1**
PUZ	**Puketiti**	**2.83**	**71**	AML		AML	20 18 41.8	
THZ	**Tophouse**	**3.08**	**208**	PN		**Pn**	**20 18 07.2**	**+0.6**
THZ	**Tophouse**	**3.08**	**208**	Pn		**Pn**	**20 18 07.2**	**+0.6**
MXZ	**Matakaoa Point**	**3.09**	**62**	Pn		Pn	20 17 58.4	-8.4
DSZ	**Denniston Nort**	**3.56**	**220**	⇑PN		**Pn**	**20 18 12.1**	**+0.1**
DSZ	**Denniston Nort**	**3.56**	**220**	Pn		**Pn**	**20 18 12.1**	**+0.1**
LTZ	**Lake Taylor**	**4.20**	**207**	PN		**Pn**	**20 18 19.9**	**+0.4**
LTZ	**Lake Taylor**	**4.20**	**207**	Pn		**Pn**	**20 18 19.9**	**+0.4**
OXZ	**Oxford**	**4.76**	**206**	PN		**Pn**	**20 18 25.8**	**-0.4**
CRLZ	**Canterbury Las**	**4.81**	**200**	PN		**Pn**	**20 18 26.4**	**-0.4**
CRLZ	**Canterbury Las**	**4.81**	**200**	Pn		**Pn**	**20 18 26.4**	**-0.4**
MQZ	**McQueen's Vall**	**4.93**	**199**	⇑PN		**Pn**	**20 18 27.5**	**-0.7**
MQZ	**McQueen's Vall**	**4.93**	**199**	Pn		**Pn**	**20 18 27.6**	**-0.7**
WVZ	**Waitaha Valley**	**5.08**	**217**	⇑PN		**Pn**	**20 18 29.9**	**-0.2**
WVZ	**Waitaha Valley**	**5.08**	**217**	Pn		**Pn**	**20 18 29.9**	**-0.2**
RPZ	**Rata Peaks**	**5.46**	**210**	⇑PN		**Pn**	**20 18 34.7**	**-0.2**
RPZ	**Rata Peaks**	**5.46**	**210**	Pn		**Pn**	**20 18 34.7**	**-0.2**
RPZ	**Rata Peaks**	**5.46**	**210**	P		**Pn**	**20 18 34.7**	**-0.2**
	3.6nm,0.3s,baz=356,slow=1.0,SNR=20							
RPZ				S		**S**	**20 19 34.8**	**-4.8**
	3.8nm,0.3s,baz=56,slow=19,SNR=18							
FOZ	**Fox Glacier**	**5.95**	**219**	PN		**Pn**	**20 18 39.1**	**-1.9**
FOZ	**Fox Glacier**	**5.95**	**219**	Pn		**Pn**	**20 18 39.1**	**-1.9**
LBZ	**Lake Benmore**	**6.37**	**212**	PN		**Pn**	**20 18 45.8**	**-0.4**
LBZ	**Lake Benmore**	**6.37**	**212**	Pn		**Pn**	**20 18 45.8**	**-0.4**
ODZ	**Otahua Downs**	**6.75**	**206**	⇑PN		**Pn**	**20 18 51.5**	**+0.5**
ODZ	**Otahua Downs**	**6.75**	**206**	Pn		**Pn**	**20 18 51.5**	**+0.5**
JCZ	**Jackson Bay**	**6.78**	**221**	Pn		**Pn**	**20 18 50.5**	**-1.0**
WKZ	**Wanaka**	**7.22**	**215**	Pn		**Pn**	**20 18 54.7**	**-2.4**
ASAR	**Alice Springs**	**37.86**	**282**	P		**P**	**20 24 10.1**	**+2.5**
	0.3nm,0.8s,baz=124,slow=10,SNR=3.8							
WRA	**Warramunga Arr**	**39.70**	**287**	P		**P**	**20 24 25.1**	**+2.3**
	0.2nm,0.4s,baz=122,slow=7.8,SNR=5.3							
BVAR	**Borovoye Array**	**128.16**	**312**	PKP		PKPdf	20 35 59.4	+9.0
	0.2nm,0.2s,baz=104,slow=6.1,SNR=5.3							
FINES	**FINESS Array B**	**150.50**	**330**	PKPbc		**PKPab**	**20 36 44.6**	**+1.2**
	6.2nm,1.2s,baz=79,slow=3.0,SNR=5.2							

*IDC **31** 20:51:13.7±2.7, 36°.34N×71°.47E, h75km±24km, mb3.5/11, mb1 3.7/16, mb1mx3.6/30, mbtmp3.6/16, Error ellipse: s-maj=17.3km s-min=12.9km az=145.0*
*ISCJB **31** 20:51:16.4±0.3, 36°.50N±0°.02×71°.66E±0°.06, h114km, mb3.7/12, Error ellipse: s-maj=6.7km s-min=3.0km az=162.7*
*NNC **31** 20:51:20.7±2.7, 36°.87N×71°.04E, h112km±36km, mb3.8, mpv4.6, Error ellipse: s-maj=20.6km s-min=15.3km az=19.0*

ISC 31 20:51:17.4±0.6, 36°.56N±0°.05×71°.61E±0°.07, h114km, n61, σ1§64/70, mb3.7/12, 9C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.74**	**175**	P		**Pn**	**20 52 00.8**	**+0.5**
CEP				S		**Sn**	**20 52 34.0**	**+0.8**
CHCP	**Chirah Chowk**	**3.20**	**154**	P		**Pn**	**20 52 07.9**	**+1.7**
THW	**Thamme Wali**	**3.76**	**178**	P		**Pn**	**20 52 13.3**	**-0.4**
DHRM	**DHARAMSHALA**	**5.79**	**137**	*e*P		**Pn**	**20 52 41.6**	**+0.5**
DHRM				*e*S		**Sn**	**20 53 45.0**	**-1.4**
DHRM				AML		AML	20 53 48.0	
	comp=N,369nm,0.7s							
DHRM				AML		AML	20 53 50.5	
	comp=E,520nm,0.3s							
AML	**Almayashu**	**5.79**	**16**	P		**Pn**	**20 52 42.5**	**+1.2**
	SNR=142							
UCH	**Uchtor**	**6.09**	**21**	P		**Pn**	**20 52 46.6**	**+1.2**
	SNR=28							
KZA	**Kyzart**	**6.19**	**26**	P		**Pn**	**20 52 48.7**	**+2.0**
	SNR=26							
EKS2	**Erkin-Say**	**6.32**	**15**	P		**Pn**	**20 52 49.6**	**+1.4**
	SNR=55							
AAK	**Ala-Archa**	**6.46**	**19**	P		**Pn**	**20 52 51.8**	**+1.7**
	SNR=60							
AAK	**Ala-Archa**	**6.46**	**19**	P		**Pn**	**20 52 51.4**	**+1.2**
	comp=E,5.4nm,0.3s,baz=190,slow=10,SNR=190							
AAK				S		**Sn**	**20 54 04.0**	**+1.4**
	comp=E,1.4nm,0.3s,baz=281,slow=23,SNR=9.6							
AAK	**Ala-Archa**	**6.46**	**19**	⇑P		**Pn**	**20 52 51.7**	**+1.5**
	comp=E,27nm,0.6s							
AAK				⇓S		**Sn**	**20 54 03.2**	**+0.6**
	comp=E,32nm,0.7s							
KK31	**Karatay Array**	**6.59**	**353**	⇓P		**Pn**	**20 52 51.0**	**-0.8**
	comp=E,26nm,0.5s,baz=183,slow=13,SNR=776							
KK31				⇑S		**Sn**	**20 54 01.7**	**-3.8**
	comp=E,5.5nm,0.3s,baz=186,slow=22,SNR=6.0							
KBK	**Karagaybulak**	**6.61**	**22**	P		**Pn**	**20 52 54.2**	**+2.0**
	SNR=21							
SDNR	**Sundarnagar**	**6.73**	**137**	*e*		**Pn**	**20 52 53.0**	**-0.7**
SDNR				*e*S		**Sn**	**20 54 07.0**	**-1.9**
CHMS	**Chumysh**	**6.87**	**20**	P		**Pn**	**20 52 57.0**	**+1.5**
	SNR=37							
TKM2	**Tokmak 2**	**7.06**	**25**	P		**Pn**	**20 53 00.1**	**+1.9**
	SNR=45							
TKM2	**Tokmak 2**	**7.06**	**25**	⇑P		**Pn**	**20 52 59.9**	**+1.6**
	comp=E,33nm,0.9s							
TKM2				⇑S		**Sn**	**20 54 18.4**	**+1.4**
	comp=E,13nm,1.4s							
USP	**Ospenovka**	**7.06**	**17**	P		**Pn**	**20 52 59.8**	**+1.7**
	SNR=6.3							
SMLA	**Simla**	**7.12**	**138**	*i* P		**Pn**	**20 52 59.1**	**+0.2**
SMLA				*i* S		**Sn**	**20 54 16.6**	**-1.8**
SMLA				*i* S		**Sn**	**20 54 16.6**	**-1.8**
SMLA				AML		AML	20 54 17.6	
	comp=E,168nm,0.5s							
SMLA				AML		AML	20 54 19.3	
	comp=N,157nm,0.5s							
DDI	**Dehra Dun**	**8.22**	**137**	*e*P		**Pn**	**20 53 14.9**	**+0.9**
DDI				*e*			20 54 39.0	
DDI				AML		AML	20 54 47.8	
	comp=N,124nm,0.4s							
DDI				AML		AML	20 54 50.1	
	comp=E,168nm,0.3s							
JOSI	**Joshimath**	**8.93**	**130**	*e*P9		x	20 53 47.8	
JOSI				*e*S		Sn	20 55 20.8	+18
JOSI				AML		AML	20 55 28.5	
	comp=N,158nm,0.6s							
JOSI				AML		AML	20 55 28.6	
	comp=E,152nm,0.6s							
KHET	**Khetri**	**9.17**	**156**	*e*P		**Pn**	**20 53 23.8**	**-3.0**
KHET				*e*S		Sn	20 54 58.7	-10
KHET				AML		AML	20 55 02.5	
	comp=N,110nm,0.2s							
KHET				AML		AML	20 55 03.0	
	comp=E,133nm,0.2s							
KUDL	**Kundal**	**9.35**	**152**	*e*P		Pn	20 53 25.2	-3.9
KUDL				*e*S		Sn	20 55

MKAR	**Makanchi Array**	**39.14 315**	P		**P**		**21 37 12.1**	**+0.2**
	0.2nm,0.5s,baz=96,slow=8.9,SNR=5.3							
ZALV	**Zalesovo Beam**	**40.70 326**	P		**P**		**21 37 23.4**	**-1.3**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=3.2							
WRA	**Warramunga Arr**	**45.80 165**	P		**P**		**21 38 05.9**	**-0.2**
	1.4nm,1.0s,baz=348,slow=8.6,SNR=9.9							
ASAR	**Alice Springs**	**49.31 167**	P		**P**		**21 38 33.9**	**+0.7**
	0.5nm,0.3s,baz=351,slow=10,SNR=33							
YKA	**Yellowknife Ar**	**81.70 23**	P		**P**		**21 42 01.2**	**0.0**
	0.2nm,0.6s,baz=306,slow=5.3,SNR=3.8							

GUC ***31*** *21:30:01.5±0.4,31.47S×69.31W,h150km,MD3.9,ML4.1*
ISCJB ***31*** *21:30:02.0±0.4,31.49S±0.03×69.04W±0.05,h112km±5km, mb3.6/4,Error ellipse: s-maj=7.5km s-min=4.8km az=11.2*
IDC ***31*** *21:30:02.0±1.2,31.56S×69.07W,h103km±10km,mb3.5/4, mb1 3.6/8,mb1mx3.5/19,mbtmp3.4/8,Error ellipse: s-maj=30.1km s-min=19.2km az=100.0*

ISC 31 21:30:02.7±0.7,31.48S±0.04×69.06W±0.05,h108km±6km, n30,σ0.975/42,mb3.4/4,5C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.72 101**		P	**Pn**	**21 30 20.8**	**-0.3**
	16nm,0.3s,baz=299,slow=5.4,SNR=1061						
CFAA				S	**Sn**	**21 30 34.3**	**-0.6**
	108nm,0.3s,baz=138,slow=19,SNR=232						
CMCH	**Combarbala**	**1.69 280**		i/P	**Pn**	**21 30 31.2**	**-0.5**
CMCH				*i* S	**Sn**	**21 30 53.7**	**-0.1**
CMCH				AML	AML	21 30 55.1	
	comp=E,7μm,0.9s						
JACH	**Jahuel**	**1.77 227**		i/P	**Pn**	**21 30 33.1**	**+0.3**
JACH				*i* S	**Sn**	**21 30 57.1**	**+1.3**
TLL	**Tololo Astrono**	**1.99 311**		i/P	**Pn**	**21 30 35.9**	**+0.2**
TLL				*i* S	**Sn**	**21 31 01.7**	**+0.8**
TLL				AML	AML	21 31 09.1	
	comp=E,600nm,0.5s						
PEL	**Peldehue**	**2.16 219**		i/P	**Pn**	**21 30 37.2**	**-0.5**
PEL				*i* S	**Sn**	**21 31 05.0**	**+0.6**
PEL				AML	AML	21 31 06.0	
	comp=E,2μm,0.3s						
ROCH	**El Roble**	**2.23 227**		*i* P	**Pn**	**21 30 37.8**	**-0.9**
ROCH				*i* S	**Sn**	**21 31 05.9**	**-0.3**
ROCH				AML	AML	21 31 09.2	
	comp=E,2μm,0.6s						
CLCH	**Cerro Calan**	**2.29 213**		i/P	**Pn**	**21 30 39.4**	**0.0**
CLCH				*i* S	**Sn**	**21 31 08.3**	**+0.8**
CLCH				AML	AML	21 31 10.0	
	comp=E,1μm,0.5s						
SAN	**Santiago**	**2.39 214**		*e*P	**Pn**	**21 30 40.3**	**-0.4**
SAN				AML	AML	21 31 14.2	
	comp=N,531nm,0.3s						
PCH	**Pirque**	**2.47 209**		*i* P	**Pn**	**21 30 41.8**	**0.0**
PCH				*i* S	**Sn**	**21 31 12.5**	**+0.8**
ANTU	**Antumapu**	**2.48 212**		AML	AML	21 31 15.0	
	comp=N,839nm,0.4s						
LMEL	**Las Melosas**	**2.55 202**		*i* P	**Pn**	**21 30 43.6**	**+0.6**
LMEL				*i* S	**Sn**	**21 31 14.9**	**+1.1**
LMEL				AML	AML	21 31 25.1	
	comp=N,332nm,0.2s						
TACH	**Talagante**	**2.69 216**		*i* P	**Pn**	**21 30 43.6**	**-1.0**
TACH				*i* S	**Sn**	**21 31 15.9**	**-0.8**
CHCH	**Chadas Angostu**	**2.79 208**		i/P	**Pn**	**21 30 45.7**	**-0.3**
CHCH				*i* S	**Sn**	**21 31 19.5**	**+0.2**
LCO	**Las Campanas**	**2.84 330**		i/P	**Pn**	**21 30 46.7**	**-0.1**
LCO				*i* S	**Sn**	**21 31 20.7**	**+0.1**
LCO				AML	AML	21 31 26.4	
	comp=N,420nm,0.2s						
CACH	**El Canelo**	**2.94 206**		i/P	**Pn**	**21 30 48.0**	**+0.1**
CACH				*i* S	**Sn**	**21 31 23.9**	**+1.2**
H03N1	**Juan Fernandez**	**8.55 254**		T	T	21 39 01.1	
	baz=83,slow=73,SNR=76						
H03N3	**Juan Fernandez**	**8.56 254**		T	T	21 39 08.6	
	baz=83,slow=73,SNR=74						
H03N2	**Juan Fernandez**	**8.57 254**		T	T	21 39 02.3	
	baz=83,slow=73,SNR=69						
PLCA	**Paso Flores**	**9.32 187**		P	**Pn**	**21 32 12.7**	**-1.4**
	comp=N,0.1nm,0.3s,baz=237,slow=23,SNR=3.1						
CPUP	**Villa Florida**	**11.48 66**		P	**Pn**	**21 32 43.8**	**+0.4**
	comp=N,0.4nm,0.3s,baz=212,slow=15,SNR=2.7						
LPAZ	**La Paz**	**15.14 3**		P	**P**	**21 33 32.9**	**-1.3**
	comp=N,0.1nm,0.3s,baz=157,slow=3.1,SNR=6.5						
SIV	**San Ignacio**	**17.05 27**		P	**P**	**21 33 55.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=212,slow=10,SNR=3.7						
USHA	**Ushuaia**	**23.35 179**		P	**P**	**21 35 01.3**	**+0.1**
	comp=N,12nm,0.7s,baz=343,slow=7.3,SNR=8.7						
TXAR	**Lajitas Array**	**68.85 328**		P	**P**	**21 40 56.9**	**+1.2**
	comp=N,0.3nm,0.5s,baz=148,slow=8.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**80.97 69**		P	**P**	**21 42 06.1**	**+0.5**
	comp=N,0.7nm,1.0s,baz=246,slow=3.3,SNR=6.3						
TORD				pP	**pP**	**21 42 33.5**	**0.0**
	comp=N,1.0nm,1.1s,baz=253,slow=5.5,SNR=7.7						
PDAR	**Pinedale Array**	**82.71 331**		P	**P**	**21 42 13.9**	**-0.6**
	comp=N,0.2nm,0.5s,baz=138,slow=8.4,SNR=2.1						
ASAR	**Alice Springs**	**120.93 205**		PKP	**PKPdf**	**21 48 41.6**	**-1.3**
	comp=N,0.1nm,0.7s,baz=144,slow=1.6,SNR=3.0						
WRA	**Warramunga Arr**	**124.16 207**		PKP	**PKPdf**	**21 48 47.9**	**-1.3**
	comp=N,0.2nm,0.3s,baz=153,slow=1.8,SNR=8.1						
ZALV	**Zalesovo Beam**	**150.76 32**		PKPbc	**PKPbc**	**21 49 42.0**	**+0.2**
	comp=N,1.3nm,0.4s,baz=298,slow=1.9,SNR=11						
ZALV				pPKPbc	**pPKPbc**	**21 50 10.8**	**-0.4**
	comp=N,0.9nm,0.6s,baz=314,slow=3.3,SNR=4.6						
MKAR	**Makanchi Array**	**153.22 47**		PKPbc	**PKPbc**	**21 49 47.1**	**-0.6**
	comp=N,0.4nm,0.8s,baz=303,slow=1.3,SNR=4.1						
MKAR				PKPab	**PKPab**	**21 50 00.5**	**+0.6**
	comp=N,0.3nm,0.6s,baz=314,slow=2.1,SNR=3.3						

IDC ***31*** *21:32:59.0±1.5,11.00S×165.15E,h0km,mb4.0/5, mb1 4.2/7,mb1mx3.9/21,mbtmp4.1/7,ML4.4/2,MS3.3/5, Ms1 3.3/5,ms1mx3.0/25,Error ellipse: s-maj=37.9km s-min=27.7km az=121.0*
ISCJB ***31*** *21:33:01.4±1.1,11.1S±0.1×165.3E±0.1,h31km,mb4.0/5, MS2.9/2,Error ellipse: s-maj=19.9km s-min=11.2km az=36.6*

ISC 31 21:33:03.3±1.2,11.1S±0.1×165.3E±0.1,h31km,n9, σ1.931/9,mb4.0/5,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.51 287**		Pn	**Pn**	**21 34 22.1**	**-1.1**
	16nm,0.3s,baz=134,slow=23,SNR=8.6						
HNR				Sn	**Sn**	**21 35 27.6**	**+2.1**
	10.0nm,0.3s,baz=270,slow=18,SNR=3.9						
HNR				LR	LR	21 36 43.6	
	comp=Z,249nm,18.9s,baz=117,slow=42						
DZM	**Mont Dzumac**	**10.99 174**		Pn	**Pn**	**21 35 39.1**	**+0.6**
	1.9nm,0.3s,baz=70,slow=2.8,SNR=18						
DZM				LR	LR	21 39 09.3	
	comp=Z,15nm,28.6s,baz=12,slow=33						
PMG	**Port Moresby**	**17.92 274**		LR	LR	21 43 49.0	
	comp=Z,15nm,28.6s,baz=97,slow=37						
CTA	**Charters Tower**	**20.39 242**		P	Pn	21 37 40.9	+0.9
	6.1nm,1.0s,baz=102,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**30.12 223**		P	**P**	**21 39 10.5**	**+0.2**
	2.7nm,0.9s,baz=20,slow=13,SNR=3.8						
STKA				LR	LR	21 50 17.4	
	comp=Z,15nm,28.6s,baz=25,slow=34						
WRA	**Warramunga Arr**	**31.05 250**		P	**P**	**21 39 17.1**	**-1.7**
	2.0nm,0.9s,baz=80,slow=9.0,SNR=12						
WRA				LR	LR	21 50 44.0	
	comp=Z,81nm,21.1s,baz=240,slow=34						
ASAR	**Alice Springs**	**32.38 243**		P	**P**	**21 39 29.5**	**-0.9**
	2.0nm,0.7s,baz=65,slow=9.8,SNR=34						
ASAR				PcP	**PcP**	**21 42 18.6**	**+0.9**
	0.4nm,0.9s,baz=67,slow=2.6,SNR=4.7						
ILAR	**Eielson Array**	**83.68 19**		P	**P**	**21 45 28.8**	**+0.1**
	0.5nm,0.7s,baz=234,slow=4.9,SNR=5.0						
MKAR	**Makanchi Array**	**93.24 317**		P	**P**	**21 46 15.0**	**+0.1**
	0.5nm,0.8s,baz=108,slow=4.0,SNR=5.3						

NEIC 31 21:39:01.0,21.36N×156.36W,h19km,ML3.7(HVO), After HVO.,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HON	**Honolulu**	**1.53 269**		*e*Pn	Pn	21 39 23.1	-4.2
HON				*e*Sn	Sn	21 39 43.8	-2.9
KIP	**Kipapa**	**1.54 273**		*e*Pn	Pn	21 39 23.2	-4.3
KIP				*e*Sn	Sn	21 39 39.9	-7.1
POHA	**Pohakuloa**	**1.77 154**		*e*Pn	Pn	21 39 26.8	-4.2
POHA				*e*Sn	Sn	21 39 46.8	-6.5
UWE	**Uwekahuna**	**2.17 152**		Pn	Pn	21 39 33.1	-3.3
UWE				Sn	Sn	21 39 56.5	-6.5
PUH	**Pauahi**	**2.25 151**		*e*Pn	Pn	21 39 33.2	-4.2
PUH				*e*Sn	Sn	21 39 58.9	-5.9
STCH	**Steam Cracks**	**2.28 149**		*e*Pn	Pn	21 39 33.7	-4.1
STCH				*e*Sn	Sn	21 39 58.1	-7.4

IDC 31 21:55:29.6±7.2,2.30N×95.52E,h0km,mb3.1/2,mb1 3.1/4, mb1mx3.0/26,mbtmp3.0/4,ML3.1/2,Error ellipse: s-maj=136.1km s-min=41.7km az=24.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.43 82**		Pn	Pn	21 56 24.6	0.0
	0.7nm,0.3s,baz=312,slow=17,SNR=3.9						
CMAR	**Chiang Mai Arr**	**16.40 12**		Pn	Pn	21 59 21.9	+0.5
	0.0nm,0.3s,baz=199,slow=12,SNR=3.0						
H08S2	**Diego Garcia H**	**25.01 247**		T	T	22 27 13.6	
	baz=67,slow=75,SNR=33						
H08S3	**Diego Garcia H**	**25.01 247**		T	T	22 27 13.7	
	baz=67,slow=75,SNR=26						
H08S1	**Diego Garcia H**	**25.03 247**		T	T	22 27 14.8	
	baz=67,slow=75,SNR=34						
MKAR	**Makanchi Array**	**45.79 347**		P	P	22 03 53.3	+0.2
	0.1nm,0.3s,baz=168,slow=7.8,SNR=6.4						
SONM	**Songino Array**	**46.32 10**		P	P	22 03 56.8	-0.6
	0.1nm,0.5s,baz=190,slow=6.7,SNR=2.3						

MEX 31 22:28:38.4±0.4,15.24N×92.61W,h224km±5km,MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.74 308**		*i* P	Pn	22 29 07.5	-1.7
PCIG				*i* S	S	22 29 30.8	-2.5
HUIG	**Huatulco**	**3.41 279**		*i* P	Pn	22 29 33.2	-0.9
HUIG				*i* S	S	22 30 15.3	-2.4
VHO	**Vista Hermosa**	**4.36 295**		*i* P	Pn	22 29 44.7	-1.1
VHO				*i* S	S	22 30 36.2	-2.5
PNIG	**Pinotepa**	**5.43 283**		*i* P	Pn	22 29 58.3	-0.7
PNIG				*i* S	S	22 31 00.8	-1.9
TLIG	**Tlapa**	**6.17 293**		*e*P	Pn	22 30 08.4	+0.1
TLIG				*i* S	S	22 31 17.0	-2.8

ISCJB ***31*** *22:41:30.7±0.8,6.5N±0.2×60.4E±0.1,h10km,mb3.7/10, MS3.5/10,Error ellipse: s-maj=22.2km s-min=16.3km az=1.0*
IDC ***31*** *22:41:30.6±0.9,6.43N×60.38E,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.8/24,mbtmp3.7/10,MS3.6/10, Ms1 3.6/10,ms1mx3.4/34,Error ellipse: s-maj=27.2km s-min=19.8km az=17.0*

ISC 31 22:41:32.3±1.0,6.5N±0.2×60.4E±0.1,h10km,n20, σ0.881/10,mb3.8/10,MS3.5/10,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**16.56 140**		T	T	23 02 22.4	
	baz=320,slow=76,SNR=100						
H08N3	**Diego Garcia H**	**16.57 140**		T	T	23 02 27.7	
	baz=320,slow=76,SNR=96						
H08N1	**Diego Garcia H**	**16.59 140**		T	T	23 02 24.5	
	baz=320,slow=76,SNR=108						
KMBO	**Kilima Mbogo**	**24.27 253**		P	**P**	**22 46 51.3**	**+0.9**
	0.4nm,0.3s,baz=50,slow=14,SNR=4.5						
KMBO				LR	LR	22 55 55.1	
	comp=Z,168nm,20.4s,baz=78,slow=36						
OPO	**Ambohidratompo**	**28.08 207**		LR	LR	22 56 03.4	
	comp=Z,127nm,18.6s,baz=351,slow=31						
AAK	**Ala-Archa**	**38.12 17**		LR	LR	23 04 24.2	
	comp=Z,75nm,21.3s,baz=219,slow=36						
LSZ	**Lusaka**	**38.52 236**		LR	LR	23 02 38.6	
	comp=Z,78nm,19.2s,baz=25,slow=33						
CMAR	**Chiang Mai Arr**	**39.41 69**		P	**P**	**22 49 03.8**	**+1.0**
	0.7nm,0.8s,baz=251,slow=7.9,SNR=7.0						
CMAR				LR	LR	23 02 48.0	
	comp=Z,36nm,21.1s,baz=338,slow=32						
KBZ	**Khabaz**	**40.15 340**		LR	LR	23 04 50.4	
	comp=Z,41nm,18.4s,baz=255,slow=35						
BRTR	**Keskin Array B**	**40.90 328**		P	**P**	**22 49 15.2**	**+0.2**
	0.6nm,0.9s,baz=172,slow=9.9,SNR=4.2						
BVAR	**Borovoye Array**	**47.13 8**		LR	LR	23 10 56.9	
	comp=Z,109nm,19.9s,baz=268,slow=37						
AKASG	**Malin Array Be**	**51.15 335**		P	**P**	**22 50 35.1**	**-0.3**
	0.9nm,0.7s,baz=132,slow=6.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**51.31 18**		P	**P**	**22 50 36.8**	**+0.1**
	1.0nm,0.8s,baz=218,slow=6.8,SNR=7.8						
ZALV				LR	LR	23 11 09.5	
	comp=Z,54nm,18.3s,baz=253,slow=35						
SONM	**Songino Array**	**56.80 35**		P	**P**	**22 51 17.2**	**+0.2**
	0.5nm,0.7s,baz=238,slow=6.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**58.09 281**		P	**P**	**22 51 26.4**	**0.0**
	0.9nm,1.0s,baz=91,slow=4.6,SNR=5.4						
FINES	**FINESS Array B**	**60.48 342**		P	**P**	**22 51 41.3**	**-0.8**
	2.6nm,1.0s,baz=114,slow=2.3,SNR=4.7						
DBIC	**Dimbokro**	**64.75 274**		LR	LR	23 18 53.9	
	comp=Z,62nm,21.2s,baz=341,slow=35						
KSRS	**Korea Array**	**68.30 52**		LR	LR	23 24 33.1	
	comp=Z,47nm,19.2s,baz=26,slow=38						
WRA	**Warramunga Arr**	**77.29 112**		P	**P**	**22 53 26.4**	**-1.3**
	1.0nm,0.9s,baz=295,slow=4.5,SNR=5.8						
ASAR	**Alice Springs**	**77.68 116**		P	**P**	**22 53 29.4**	**-0.4**
	1.2nm,0.8s,baz=289,slow=5.8,SNR=12						

IDC 31 22:50:19.4±2.9,12.43S×14.69W,h0km,mb3.8/5, mb1 3.8/5,mb1mx3.6/22,mbtmp3.8/5,MS3.4/4,Ms1 3.4/4, ms1mx3.1/34,Error ellipse: s-maj=196.2km s-min=57.2km az=113.0,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**3.45 1**		T	T	22 54 35.9	
	baz=182,slow=74,SNR=24						
H10S3	**ASCENSION HYDR**	**3.45 0**		T	T	22 54 33.1	
	baz=182,slow=74,SNR=44						
H10S1	**ASCENSION HYDR**	**3.46 1**		T	T	22 54 33.9	
	baz=182,slow=74,SNR=38						
H10N1	**ASCENSION HYDR**	**4.56 3**		T	T	22 55 57.3	
	baz=180,slow=72,SNR=13						
H10N3	**ASCENSION HYDR**	**4.56 2**		T	T	22 55 53.6	
	baz=180,slow=72,SNR=26						
H10N2	**ASCENSION HYDR**	**4.57 2**		T	T	22 55 59.2	
	baz=180,slow=72,SNR=15						
LIC	**Lamto**	**20.87 28**		*e*PKP1	Pn	22 55 06.3	+0.6
	34nm,1.6s						
KIC	**Kosan Boka**	**21.12 28**		*e*PKP1	P	22 55 06.1	+0.1
	13nm,0.9s						
TIC	**Toumodi**	**21.25 27**		*e*PKP1	P	22 55 07.4	+0.1
	9.4nm,0.5s						
DBIC	**Dimbokro**	**21.34 28**		P	P	22 55 09.6	+1.3
	4.1nm,1.0s,baz=196,slow=11,SNR=3.5						
DBIC				LR	LR	23 01 41.3	
	comp=Z,84nm,18.0s,baz=212,slow=32						
RCBR	**Riachuelo**	**21.93 285**		LR	LR	23 01 42.5	
	comp=Z,78nm,20.5s,baz=284,slow=31						
TORD	**Torodi Ar. Bea**	**30.16 33**		P	P	22 56 30.0	-1.5
	0.6nm,1.0s,baz=219,slow=9.9,SNR=5.0						
BDFB	**Brasilia**	**32.47 260**		LR	LR	23 08 01.2	
	comp=Z,105nm,22.0s,baz=235,slow=33						
CPUP	**Villa Florida**	**42.34 245**		LR	LR	23 12 15.7	
	comp=Z,63nm,19.4s,baz=6.0,slow=31						
BRTR	**Keskin Array B**	**66.60 38**		P	P	23 01 25.7	+1.1
	1.0nm,1.0s,baz=168,slow=8.8,SNR=3.7						
AKASG	**Malin Array Be**	**73.59 27**		P	P	23 01 53.7	-0.7
	0.8nm,0.8s,baz=227,slow=6.8,SNR=5.0						
FINES	**FINESS Array B**	**80.33 19**		P	P	23 02 32.4	+0.3
	1.5nm,0.9s,baz=184,slow=5.7,SNR=4.0						
WRA	**Warramunga Arr**	**135.68 136**		PKP	PKPdf	23 09 42.3	-0.5
	0.3nm,0.8s,baz=250,slow=2.3,SNR=3.5						

ISCJB ***31*** *23:11:07.0±1.0,16.1S±0.1×74.18W±0.09,h54km,mb3.4/3, Error ellipse: s-maj=21.2km s-min=11.6km az=14.3*
IDC ***31*** *23:11:14.5±3.1,16.18S×73.72W,h113km±26km,mb3.1/3, mb1 3.4/7,mb1mx3.3/21,mbtmp3.6/7,MS2.9/1,Ms1 2.9/1, ms1mx2.4/11,Error ellipse: s-maj=50.2km s-min=22.4km az=37.0*

ISC 31 23:11:07.7±1.2,16.2S±0.2×74.2W±0.1,h54km,n11, σ1.958/9,mb3.5/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.82 91**		P	**Pn**	**23 12 32.8**	**+0.8**
	2.6nm,0.3s,baz=285,slow=8.7,SNR=39						
LPAZ				S	**Sn**	**23 13 39.8**	**+2.0**
	0.2nm,0.3s,baz=350,slow=19,SNR=3.9						
ATAH	**Atahualpa**	**9.93 335**		P	Pn	23 13 37.9	+10
	0.9nm,0.3s,baz=141,slow=14,SNR=4.0						
SIV	**San Ignacio**	**12.61 91**		P	**Pn**	**23 14 02.7**	**-1.8**
	0.5nm,0.3s,baz=277,slow=12,SNR=6.7						
CFAA	**Coronel Fontan**	**16.24 162**		P	**P**	**23 14 55.2**	**+0.7**
	0.0nm,0.3s,baz=326,slow=11,SNR=5.9						
H03N1	**Juan Fernandez**	**17.66 193**		T	T	23 33 33.9	
	baz=17,slow=75,SNR=1377						
H03N2	**Juan Fernandez**	**17.66 193**		T	T	23 33 34.1	
	baz=17,slow=75,SNR=1565						
H03N3	**Juan Fernandez**	**17.68 193**		T	T	23 33 35.1	
	baz=17,slow=75,SNR=1419						
CPUP	**Villa Florida**	**18.63 125**		LR	LR	23 22 31.2	
	comp=Z,15nm,28.6s,baz=228,slow=37						
TXAR	**Lajitas Array**	**53.50 328**		P	**P**	**23 20 24.3**	**+1.4**
	0.2nm,0.4s,baz=150,slow=13,SNR=4.1						
TORD	**Torodi Ar. Bea**	**80.48 73**		P	**P**	**23 23 12.6**	**-1.9**
	0.4nm,0.5s,baz=261,slow=6.0,SNR=11						
TORD				pP	**pP**	**23 23 30.2**	**+0.4**
	1.0nm,0.8s,baz=270,slow=5.5,SNR=3.1						
TORD				sP	**sP**	**23 23 34.8**	**-1.0**
	1.2nm,0.9s,baz=240,slow=5.1,SNR=4.9						
YKA	**Yellowknife Ar**	**84.63 342**		P	**P**	**23 23 35.1**	**+0.1**
	0.1nm,0.4s,baz=142,slow=5.2,SNR=5.9						

DJA 31 23:12:07.9±1.5,7.7S±21.10.5E±.,h127km±18km,M3.5/8, MLv3.5/8,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.62 20**		P	Pn	23 12 30.3	+2.9
CGJI				S	Sn	23 12 44.0	+1.9
SKJI	**Sukabumi**	**1.09 80**		P	Pn	23 12 34.8	+3.4
DBJI	**Dramaga**	**1.42 63**		P	Pn	23 12 35.5	+0.6
DBJI				S	Sn	23 12 54.1	-1.3
CBJI	**Citeko**	**1.57 60**		P	Pn	23 12 34.3	-2.2
LEM	**Lembang**	**2.15 80**		P	Pn	23 12 44.8	+1.0
LEM				S	Sn	23 13 15.6	+4.3
CISI	**Cisompet, Garu**	**2.34 99**		P	Pn	23 12 42.7	-3.4
CMJI	**Cimerak**	**3.00 101**		P	Pn	23 12 54.5	+0.1
KPJI	**Karang Pucung**	**3.43 92**		P	Pn	23 12 59.9	-0.1

ISCJB ***31*** *23:13:44.7±0.6,4.16N±0.04×125.91E±0.06,h107km, mb3.8/3,Error ellipse: s-maj=9.6km s-min=5.4km az=157.2*
DJA ***31*** *23:13:51.8±1.1,4.1N±8.1×12.6E±.,h72km±6km,M4.6/9, mb4.8/5,mB5.0/4,MLv4.6/9,Mw(mB)4.3/4*
IDC ***31*** *23:13:51.2±1.2,2.28N×126.77E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/21,mbtmp3.7/5,Error ellipse: s-maj=137.6km s-min=18.7km az=69.0*

ISC 31 23:13:45.3±1.1,4.19N±0.06×125.91E±0.07,h107km,n25, σ1.949/25,mb3.6/5,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.62 217**		P	**Pn**	**23 14 03.0**	**+0.3**
SGSI				S	**Sn**	**23 14 15.4**	**-0.4**
SGSI	**Sangihe**	**0.62 217**		P	**Pn**	**23 14 05.8**	**+3.1**
GSPH	**General Santos**	**2.12 333**		*e*P	**Pn**	**23 14 19.4**	**-0.3**
GSPH				*e*S	**Sn**	**23 14 46.2**	**+0.2**
GAMI	**Galela, Maluku**	**3.00 141**		P	**Pn**	**23 14 32.0**	**+0.8**
CTBH	**Cotabato--PC H**	**3.44 331**		i/P	**Pn**	**23 14 38.5**	**+1.4**
TNTI	**Ternate**	**3.69 157**		P	**Pn**	**23 14 39.0**	**-1.5**
TNTI				S	**Sn**	**23 15 22.4**	**-0.8**
TNTI	**Ternate**	**3.69 157**		P	Pn	23 14 45.2	+4.7
KMSI	**Cibinong**	**4.07 208**		P	**Pn**	**23 14 45.5**	**0.0**
KMSI	**Cibinong**	**4.07 208**		P	**Pn**	**23 14 44.7**	**-0.8**
GTOI	**Gorontalo**	**4.56 219**		P	**Pn**	**23 14 51.9**	**-0.2**
LBMI	**Labuha**	**5.05 162**		P	**Pn**	**23 15 00.3**	**+1.5**
LBMI				S	**Sn**	**23 15 57.5**	**+1.5**
LBMI	**Labuha**	**5.05 162**		P	**Pn**	**23 15 01.1**	**+2.3**
MRSI	**Marisa**	**5.41 227**		P	**Pn**	**23 15 04.2**	**+0.6**
	88nm,0.6s,1μm0.3nm						
MRSI				S	**Sn**	**23 16 03.0**	**-1.7**
	88nm,0.6s,1μm0.3nm						
MRSI	**Marisa**	**5.41 227**		P	**Pn**	**23 15 04.3**	**+0.6**
LUWI	**Luwuk**	**6.06 211**		P	Pn	23 15 15.8	+3.3
	157nm,1.1s,1μm0.5nm						
LUWI	**Luwuk**	**6.06 211**		P	**Pn**	**23 15 15.2**	**+2.7**
APSI	**Ampana**	**6.61 220**		P	**Pn**	**23 15 22.8**	**+2.9**
	76nm,1.1s,1μm0.2nm						
NLAI	**Namlea**	**7.47 171**		P	Pn	23 15 37.5	+5.9
	55nm,0.4s,2μm0.6nm						
TTSI	**Tana Toraja**	**9.41 220**		P	**Pn**	**23 15 59.3**	**+1.3**
BLSI	**Bandar Lampung**	**22.71 245**		P	**P**	**23 18 38.0**	**-0.3**
WRA	**Warramunga Arr**	**25.37 161**		P	**P**	**23 19 01.8**	**-0.8**
	2.3nm,0.5s,baz=340,slow=10,SNR=31						
ASAR	**Alice Springs**	**28.76 165**		P	**P**	**23 19 32.0**	**-1.0**
	0.6nm,0.5s,baz=340,slow=7.0,SNR=23						
STKA	**Stephens Cre

	comp=Z,12µm,0.2s								
IMOG	**Moghan**	**2.18**	**159**	*e*Pn		**Pn**	**23**	**17**	**15.1 +0.6**
IMYA	**Miami**	**2.27**	**142**	*e*Pn		**Pn**	**23**	**17**	**16.8 +1.2**
IMYA				*e*			23	17	53.6
	comp=Z,11µm,0.1s								
IMYA	**Miami**	**2.27**	**142**	*e*Pn		**Pn**	**23**	**17**	**16.8 +1.2**
SHRO	**Shahrood**	**2.88**	**222**	*e*P		**Pn**	**23**	**17**	**25.5 +1.5**
SHRO	**Shahrood**	**2.88**	**222**	*e*P		**Pn**	**23**	**17**	**25.5 +1.5**
IGLO	**Ghaloghah**	**3.99**	**247**	*e*Pn		**Pn**	**23**	**17**	**38.8 -0.5**
IGLO				*e*			23	18	52.3
	comp=Z,2µm,0.2s								
IKIA	**Kiasar**	**4.23**	**244**	*e*Pn		**Pn**	**23**	**17**	**43.7 +1.0**
IKIA				*e*			23	18	18.0
	comp=Z,545nm,0.3s								
IKIA	**Kiasar**	**4.23**	**244**	*e*Pn		**Pn**	**23**	**17**	**43.7 +1.0**
IANJ	**Anjilo**	**4.48**	**235**	*e*Pn		**Pn**	**23**	**17**	**46.6 +0.5**
IANJ				*e*			23	19	03.0
	comp=Z,412nm,0.4s								
IANJ	**Anjilo**	**4.48**	**235**	*e*Pn		**Pn**	**23**	**17**	**46.6 +0.5**
TABS	**Tabas**	**4.61**	**193**	*e*P		**Pn**	**23**	**17**	**48.3 +0.5**
TABS				Sn		**Sn**	**23**	**18**	**40.3 -1.3**
TABS	**Tabas**	**4.61**	**193**	*e*P		**Pn**	**23**	**17**	**48.3 +0.5**
ISHM	**Shahmirzad**	**4.71**	**242**	*e*Pn		**Pn**	**23**	**17**	**50.4 +1.2**
ISHM				*e*			23	19	23.9
	comp=Z,688nm,0.2s								
ISHM	**Shahmirzad**	**4.71**	**242**	*e*Pn		**Pn**	**23**	**17**	**50.4 +1.2**
SHRT	**Shahrakht**	**4.76**	**161**	*e*P		**Pn**	**23**	**17**	**50.4 +0.7**
SHRT	**Shahrakht**	**4.76**	**161**	*e*P		**Pn**	**23**	**17**	**50.4 +0.7**
IALA	**Alasht**	**4.92**	**247**	*e*Pn		**Pn**	**23**	**17**	**52.6 +0.5**
IALA				*e*			23	19	00.6
	comp=Z,947nm,0.2s								
IALA	**Alasht**	**4.92**	**247**	*e*Pn		**Pn**	**23**	**17**	**52.6 +0.5**
ILAS	**Lasjerd**	**5.16**	**239**	*e*Pn		**Pn**	**23**	**17**	**55.9 +0.4**
ILAS				*e*			23	19	44.6
	comp=Z,577nm,0.4s								
ILAS	**Lasjerd**	**5.16**	**239**	*e*Pn		**Pn**	**23**	**17**	**55.9 +0.4**
IPRN	**Peran**	**5.20**	**250**	*e*Pn		**Pn**	**23**	**17**	**55.9 +0.1**
IPRN				*e*			23	19	40.5
	comp=Z,704nm,0.2s								
ITEG	**Tejag**	**5.25**	**177**	*e*Pn		**Pn**	**23**	**17**	**56.8 +0.1**
ITEG				*e*			23	18	44.0
	comp=Z,213nm,0.2s								
ITEG	**Tejag**	**5.25**	**177**	*e*Pn		**Pn**	**23**	**17**	**56.8 +0.1**
IDAH	**Dahanechah**	**5.54**	**167**	*e*Pn		**Pn**	**23**	**18**	**01.2 +0.6**
IDAH				*e*			23	19	07.8
	comp=Z,298nm,0.2s								
IDAH	**Dahanechah**	**5.54**	**167**	*e*Pn		**Pn**	**23**	**18**	**01.2 +0.6**
IZEF	**Zefreh**	**7.21**	**225**	*e*Pn		**Pn**	**23**	**18**	**23.1 -0.5**
IZEF				*e*			23	19	19.9
	comp=Z,62nm,0.2s								
IZEF	**Zefreh**	**7.21**	**225**	*e*Pn		**Pn**	**23**	**18**	**23.1 -0.5**
IKLH	**Kolahrood**	**7.34**	**231**	*e*Pn		**Pn**	**23**	**18**	**25.6 +0.1**
IKLH				*e*			23	19	00.1
	comp=Z,92nm,0.2s								
IKLH	**Kolahrood**	**7.34**	**231**	*e*Pn		**Pn**	**23**	**18**	**25.6 +0.1**
KK31	**Karatay Array**	**10.45**	**58**	Pn		**Pn**	**23**	**19**	**07.5 -0.3**
	comp=Z,1.6nm,0.4s,baz=239								
KK31	**Karatay Array**	**10.45**	**58**	⇑Pn		**Pn**	**23**	**19**	**07.5 -0.3**
	comp=Z,1.6nm,0.4s,baz=239,slow=17								
KK31				⇓Sn		Sn	23	20	58.0 -7.1
	comp=Z,8.5nm,0.7s,baz=236,slow=26								
DGRG	**David-gareji**	**10.54**	**292**	P		**Pn**	**23**	**19**	**08.4 -0.6**
DGRG				S		Sn	23	21	01.5 -5.9
GNI	**Garni**	**10.79**	**285**	Pn		**Pn**	**23**	**19**	**12.1 -0.4**
	comp=Z,2.0nm,0.3s,baz=324,slow=5.3,SNR=9.6								
GNI				Sn		**Sn**	**23**	**21**	**12.8 -0.8**
	comp=Z,0.4nm,0.3s,baz=101,slow=16,SNR=2.4								
AB31	**Akbulak array**	**11.15**	**5**	Pn		Pn	23	19	16.3 -1.0
	comp=Z,1.2nm,0.3s								
AB31	**Akbulak array**	**11.15**	**5**	⇓Pn		Pn	23	19	16.3 -1.0
	comp=Z,1.2nm,0.3s								
AB31				⇓Sn		Sn	23	21	17.4 -4.8
	comp=Z,2.2nm,0.3s								
DUS	**Dusheti**	**11.19**	**295**	P		**Pn**	**23**	**19**	**18.1 +0.1**
DUS				S		Sn	23	21	17.8 -5.5
AKTO	**Aktyubinsk**	**12.28**	**359**	Pn		Pn	23	19	32.1 -0.7
	comp=Z,24nm,1.2s								
AKTO	**Aktyubinsk**	**12.28**	**359**	Pn		Pn	23	19	32.1 -0.7
	comp=Z,2.7nm,0.3s,baz=174,slow=12,SNR=29								
AKTO				Sn		Sn	23	21	45.2 -4.5
	comp=Z,1.3nm,0.3s,baz=298,slow=17,SNR=3.6								
AKTO	**Aktyubinsk**	**12.28**	**359**	⇑Pn		Pn	23	19	32.1 -0.7
	comp=Z,24nm,1.2s								
AKTO				⇑Sn		Sn	23	21	45.5 -4.3
	comp=Z,6.3nm,0.6s								
KBZ	**Khabaz**	**12.96**	**300**	Pn		Pn	23	19	39.3 -2.8
	comp=Z,0.3nm,0.3s,baz=185,slow=3.1,SNR=8.9								
KBZ				Sn		Sn	23	22	00.3 -6.2
	comp=Z,0.4nm,0.3s,baz=286,slow=13,SNR=4.1								
AAK	**Ala-Archa**	**13.06**	**65**	Pn		**Pn**	**23**	**19**	**44.5 +0.9**
	comp=Z,4.6nm,0.9s								
AAK	**Ala-Archa**	**13.06**	**65**	Pn		**Pn**	**23**	**19**	**43.5 -0.1**
	comp=Z,0.3nm,0.3s,baz=223,slow=7.1,SNR=7.9								
AAK				Sn		**Sn**	**23**	**22**	**06.3 -2.9**
	comp=Z,0.2nm,0.3s,baz=196,slow=18,SNR=2.4								
AAK	**Ala-Archa**	**13.06**	**65**	⇑Pn		**Pn**	**23**	**19**	**44.5 +0.9**
	comp=Z,4.6nm,0.9s								
TKM2	**Tokmak 2**	**13.92**	**65**	Pn		Pn	23	19	54.2 -1.2
	comp=Z,3.3nm,1.1s								
TKM2	**Tokmak 2**	**13.92**	**65**	⇑Pn		Pn	23	19	54.2 -1.2
	comp=Z,3.3nm,1.1s								
BRVK	**Borovoye**	**17.03**	**25**	Pn		**Pn**	**23**	**20**	**34.5 -1.5**
	comp=Z,16nm,1.2s								
BRVK	**Borovoye**	**17.03**	**25**	⇑Pn		**Pn**	**23**	**20**	**34.5 -1.5**
	comp=Z,16nm,1.2s								
BRVK				⇓Sn		Sn	23	23	35.1 -10
	comp=Z,5.9nm,1.0s								
BVA0	**Borovoye Array**	**17.04**	**25**	Pn		**Pn**	**23**	**20**	**35.3 -0.9**
	comp=Z,4.2nm,0.5s,baz=211,SNR=44								
BVA0	**Borovoye Array**	**17.04**	**25**	Pn		**Pn**	**23**	**20**	**35.3 -0.9**
	comp=Z,4.2nm,0.5s,baz=211,slow=8.8,SNR=44								
BVA0				⇑Sn		Sn	23	23	37.8 -7.9
	comp=Z,4.4nm,0.9s								
BVAR	**Borovoye Array**	**17.04**	**25**	P		**Pn**	**23**	**20**	**35.4 -0.8**
	comp=Z,1.6nm,0.3s,baz=214,slow=10.0,SNR=43								
KURBB	**Kurchatov Arra**	**18.96**	**42**	Pn		**P**	**23**	**21**	**00.3 +1.1**
	comp=Z,3.9nm,1.1s								
KURBB	**Kurchatov Arra**	**18.96**	**42**	P		**P**	**23**	**21**	**00.0 +0.8**
	comp=Z,0.1nm,0.3s,baz=240,slow=12,SNR=6.3								
KURBB	**Kurchatov Arra**	**18.96**	**42**	⇑Pn		**P**	**23**	**21**	**00.3 +1.1**
	comp=Z,3.9nm,1.1s								
KURK	**Kurchatov**	**19.06**	**42**	Pn		**P**	**23**	**20**	**59.6 -0.7**
	comp=Z,2.4nm,1.3s								
KURK	**Kurchatov**	**19.06**	**42**	⇑Pn		**P**	**23**	**20**	**59.6 -0.7**
	comp=Z,2.4nm,1.3s								
BRTR	**Keskin Array B**	**19.30**	**282**	P		**P**	**23**	**21**	**03.7 +0.4**
	comp=Z,0.1nm,0.3s,baz=284,slow=26,SNR=4.2								
EIL	**Elat**	**21.17**	**253**	P		**P**	**23**	**21**	**23.4 -0.1**
	comp=Z,2.3nm,0.7s,baz=260,slow=19,SNR=3.8								
ZALV	**Zalesovo Beam**	**24.00**	**40**	P		**P**	**23**	**21**	**54.4 +1.7**
	comp=Z,0.7nm,0.5s,baz=267,slow=7.1,SNR=4.7								
ZALV				LR		LR	23	33	10.4
	comp=Z,15nm,28.6s,baz=258,slow=41								
AKASG	**Malin Array Be**	**24.14**	**311**	P		**P**	**23**	**21**	**53.7 -0.2**
	comp=Z,0.3nm,0.5s,baz=105,slow=9.5,SNR=2.9								
FINES	**FINESS Array B**	**30.72**	**330**	P		**P**	**23**	**22**	**53.9 +1.1**
	comp=Z,3.4nm,1.1s,baz=119,slow=11,SNR=2.4								
GERES	**GERESS Array B**	**33.68**	**303**	P		**P**	**23**	**23**	**19.6 +0.5**
	comp=Z,0.1nm,0.3s,baz=93,slow=7.9,SNR=2.7								
NOA	**NORSAR Array B**	**37.04**	**324**	P		**P**	**23**	**23**	**47.0 -0.7**
	comp=Z,2.0nm,1.1s,baz=109,slow=8.2,SNR=2.4								
CMAR	**Chiang Mai Arr**	**40.34**	**108**	P		**P**	**23**	**24**	**16.9 +1.0**
	comp=Z,0.2nm,0.4s,baz=229,slow=24,SNR=5.4								
TORD	**Torodi Ar. Bea**	**55.89**	**260**	P		**P**	**23**	**26**	**14.9 -1.3**
	comp=Z,0.7nm,0.4s,baz=46,slow=7.1,SNR=28								
PETK	**Petropavlovsk-**	**65.55**	**41**	LR		LR	23	57	35.4
	comp=Z,15nm,28.6s,baz=223,slow=38								
JCJ	**Chichijima**	**69.22**	**71**	LR		LR	23	59	15.4
	comp=Z,16nm,28.6s,baz=116,slow=37								
ILAR	**Eielson Array**	**75.50**	**11**	P		**P**	**23**	**28**	**24.2 +2.2**
	comp=Z,0.2nm,0.8s,baz=336,slow=6.1,SNR=3.5								

IDC 31 23:26:30.6±5.5, 17°.69S×173°.76W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/22, mbtmp4.0/5, ML1.7/1, Error ellipse: s-maj=190.2km s-min=32.7km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.21**	**27**	Pn	Pn	23 27 36.2	0.0
	2.7nm,0.3s,baz=278,slow=1.8,SNR=3.0						
AFI				Sn	Sn	23 27 59.3	-27
	18nm,0.3s,baz=66,slow=21,SNR=6.3						
CTA	**Charters Tower**	**37.85**	**260**	P	P	23 33 49.8	+0.3
	4.6nm,1.1s,baz=94,slow=14,SNR=2.8						
STKA	**Stephens Creek**	**42.63**	**242**	P	P	23 34 29.3	+0.3
	1.6nm,0.8s,baz=99,slow=13,SNR=5.6						
WRA	**Warramunga Arr**	**49.02**	**259**	P	P	23 35 18.8	-0.9
	0.7nm,0.4s,baz=97,slow=8.1,SNR=4.8						
ASAR	**Alice Springs**	**49.11**	**254**	P	P	23 35 20.1	-0.2
	1.1nm,0.4s,baz=89,slow=8.3,SNR=12						

IDC 31 23:27:41.9±2.0, 8°.32S×129°.59E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/15, Error ellipse: s-maj=71.3km s-min=28.0km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.46**	**201**	Pn	Pn	23 30 11.8	-1.4
	baz=270,slow=20						
WRA	**Warramunga Arr**	**12.44**	**159**	Pn	Pn	23 30 41.2	+0.8
	0.2nm,0.3s,baz=340,slow=13,SNR=11						
WRA				Sn	Sn	23 32 54.9	-5.0
	0.5nm,0.3s,baz=329,slow=22,SNR=10						
ASAR	**Alice Springs**	**15.81**	**165**	Pn	Pn	23 31 26.6	+0.4
	0.1nm,0.3s,baz=336,slow=11,SNR=3.9						
ASAR				Sn	Sn	23 34 19.3	-2.9
	0.1nm,0.3s,baz=323,slow=15,SNR=5.9						
KSRS	**Korea Array**	**45.56**	**358**	LR	LR	23 58 17.0	
	comp=Z,30nm,18.3s,baz=328,slow=40						
MKAR	**Makanchi Array**	**69.10**	**327**	P	P	23 38 50.0	+0.1
	0.2nm,0.5s,baz=118,slow=7.5,SNR=4.6						

IDC 31 23:30:36.5±20.0, 10°.72S×115°.46W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.8/3, MS4.0/2, Ms1 4.0/2, ms1mx3.0/47, Error ellipse: s-maj=872.2km s-min=116.6km az=148.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**29.20**	**36**	P	P	23 36 40.0	0.0
	0.5nm,1.0s,baz=215,slow=9.6,SNR=2.8						
PTGA	**Pitinga**	**45.31**	**280**	LR	LR	23 56 12.1	
	comp=Z,75nm,20.6s,baz=282,slow=34						
AKASG	**Malin Array Be**	**72.44**	**28**	P	P	23 42 04.7	+0.1
	1.0nm,0.7s,baz=227,slow=6.0,SNR=5.4						
FINES	**FINESS Array B**	**78.97**	**19**	P	P	23 42 41.8	0.0
	3.1nm,1.0s,baz=208,slow=5.5,SNR=5.6						
FRB	**Frobisher Bay**	**84.44**	**339**	LR	LR	00 15 09.5	
	comp=Z,188nm,18.2s,baz=252,slow=32						

IDC ***31*** *23:35:57.8±2.3, 8°.54S×118°.19E, h131km±19km, mb3.7/11, mb1 3.8/12, mb1mx3.7/22, mbtmp3.7/12, MS3.2/1, Ms1 3.2/1, ms1mx2.5/26, Error ellipse: s-maj=27.5km s-min=9.8km az=63.0*

ISCJB ***31*** *23:35:58.5±0.4, 8°.51S±0°.07×118°.35E±0°.05, h152km, mb3.9/11, Error ellipse: s-maj=10.0km s-min=5.7km az=20.0*

DJA ***31*** *23:36:00.3±0.3, 9°.S±4°×11°.8E±°, h107km±6km, M4.4/16, mb4.7/5, mB4.9/1, MLv4.3/16, Mw(mB)4.2/1*

ISC 31 23:35:59.9±0.6, 8°.61S±0°.07×118°.37E±0°.06, h152km, n29, σ1°46/30, mb4.0/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.51**	**85**	P	**Pn**	**23 36 26.8**	**-2.9**
WSI	**Waingapu**	**2.17**	**119**	P	**Pn**	**23 36 37.8**	**+0.6**
WSI				S	**Sn**	**23 37 03.1**	**-2.8**
KHKI	**Kahang-Kahang**	**2.75**	**275**	P	**Pn**	**23 36 42.0**	**-2.2**
DNP	**Denpasar**	**3.13**	**269**	P	**Pn**	**23 36 49.0**	**0.0**
DNP				S	Sn	23 37 02.2	-25
SRBI	**Singaraja**	**3.17**	**279**	P	**Pn**	**23 36 46.5**	**-3.0**
BKSI	**Bulukumba**	**3.70**	**28**	P	**Pn**	**23 36 55.6**	**-0.8**
MMRI	**Maumere**	**3.82**	**91**	P	**Pn**	**23 36 57.4**	**-0.5**
ABJI	**Asem Bagus**	**4.18**	**281**	P	Pn	23 36 55.9	-6.6
BNSI	**Bone**	**4.52**	**22**	P	Pn	23 37 12.1	+5.0
KMMI	**Kalianget**	**4.63**	**289**	P	**Pn**	**23 37 08.0**	**-0.5**
BLJI	**Banyuglugur**	**4.81**	**280**	P	**Pn**	**23 37 10.7**	**-0.1**
GMJI	**Gumukmas**	**4.89**	**274**	P	**Pn**	**23 37 10.7**	**-1.2**
TTSI	**Tana Toraja**	**5.71**	**15**	P	**Pn**	**23 37 25.0**	**+2.1**
	38nm,1.1s,0.1nm						
SOEI	**Soe**	**5.93**	**102**	P	**Pn**	**23 37 26.8**	**+0.9**
	102nm,0.7s,1µm0.4nm						
PWJI	**Pagerwojo**	**6.53**	**275**	P	**Pn**	**23 37 35.5**	**+1.8**
	26nm,0.6s,0.2nm						
WRA	**Warramunga Arr**	**19.12**	**128**	P	**P**	**23 40 11.0**	**-0.4**
	1.3nm,0.3s,baz=302,slow=12,SNR=81						
WRA				S	**S**	**23 43 39.1**	**-1.1**
	0.6nm,0.3s,baz=301,slow=24,SNR=6.5						
WRA				ScP	**ScP**	**23 47 52.1**	**+1.1**
	0.1nm,0.3s,baz=324,slow=2.1,SNR=6.7						
ASAR	**Alice Springs**	**21.10**	**137**	P	**P**	**23 40 33.2**	**+0.6**
	4.7nm,0.4s,baz=312,slow=9.2,SNR=144						
ASAR				S	S	23 44 25.7	+6.8
	2.5nm,0.7s,baz=312,slow=22,SNR=6.9						
ASAR				ScP	**ScP**	**23 47 57.4**	**+1.7**
	0.5nm,0.6s,baz=319,slow=1.9,SNR=5.0						
NWAO	**Narrogin (SRO)**	**24.22**	**182**	P	**P**	**23 41 03.3**	**+0.7**
	11nm,1.1s,baz=331,slow=6.8,SNR=6.0						
NWAO				LR	LR	23 50 35.9	
	comp=Z,55nm,18.7s,baz=4.6,slow=36						
STKA	**Stephens Creek**	**31.64**	**140**	P	**P**	**23 42 09.7**	**+0.9**
	2.2nm,0.5s,baz=309,slow=10,SNR=14						
CMAR	**Chiang Mai Arr**	**33.03**	**325**	P	**P**	**23 42 21.1**	**+0.1**
	0.4nm,0.6s,baz=152,slow=6.7,SNR=5.6						
KSRS	**Korea Array**	**46.69**	**10**	P	**P**	**23 44 14.2**	**+0.9**
	3.3nm,0.9s,baz=192,slow=8.6,SNR=5.8						
USRK	**Ussuriysk Arra**	**53.99**	**12**	P	**P**	**23 45 07.9**	**-0.3**
	0.9nm,0.4s,baz=191,slow=6.1,SNR=9.5						
SONM	**Songino Array**	**57.19**	**350**	P	**P**	**23 45 30.7**	**-0.4**
	0.7nm,0.5s,baz=172,slow=8.5,SNR=12						
KURBB	**Kurchatov Arra**	**68.35**	**334**	P	**P**	**23 46 43.7**	**-1.0**
	0.4nm,0.4s,baz=141,slow=5.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**68.46**	**339**	P	**P**	**23 46 43.4**	**-2.0**
	0.7nm,0.4s,baz=141,slow=5.1,SNR=8.4						
PETK	**Petropavlovsk-**	**69.97**	**24**	P	**P**	**23 46 55.1**	**+0.5**
	2.4nm,0.9s,baz=238,slow=4.2,SNR=6.0						
VNDA	**Vanda**	**72.47**	**171**	P	**P**	**23 47 11.0**	**+1.7**
	1.1nm,0.5s,baz=337,slow=3.3,SNR=5.1						
YKA	**Yellowknife Ar**	**114.09**	**24**	PKP	PKPdf	23 54 20.7	0.0
	0.1nm,0.3s,baz=282,slow=1.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**117.78**	**280**	PKP	**PKPdf**	**23 54 29.0**	**-0.2**
	0.3nm,0.4s,baz=53,slow=2.5,SNR=9.8						

IDC ***31*** *23:39:47.0±2.4, 12°.38S×14°.79W, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.9/23, mbtmp3.8/11, MS3.8/16, Ms1 3.8/16, ms1mx3.6/40, Error ellipse: s-maj=113.6km s-min=19.4km az=140.0*

ISCJB ***31*** *23:39:47.5±0.6, 12°.34S±0°.08×14°.9W±0°.1, h15km, mb4.0/16, MS3.8/16, Error ellipse: s-maj=17.1km s-min=9.3km az=25.4*

NEIC ***31*** *23:39:48.5±0.6, 12°.32S×14°.90W, h10km, mb4.5/5, Error ellipse: s-maj=24.1km s-min=10.6km az=142.0*

ISC 31 23:39:49.4±0.8, 12°.3S±0°.1×14°.9W±0°.2, h15km, n50, σ0°86/38, mb4.1/16, MS3.8/16, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.37**	**4**	Pn	**Pn**	**23 40 41.0**	**-0.3**
H10S2				T	T	23 44 13.8	
	baz=184,slow=74,SNR=233						
H10S3	**ASCENSION HYDR**	**3.37**	**4**	Pn	**Pn**	**23 40 41.1**	**-0.3**
H10S3				T	T	23 44 13.7	
	baz=184,slow=74,SNR=247						
H10S1	**ASCENSION HYDR**	**3.39**	**4**	Pn	**Pn**	**23 40 41.2**	**-0.3**
H10S1				T	T	23 44 19.0	
	baz=184,slow=74,SNR=103						
H10N1	**ASCENSION HYDR**	**4.48**	**5**	Pn	**Pn**	**23 40 56.3**	**-0.3**
H10N1				T	T	23 45 36.4	
	baz=178,SNR=32						
H10N3	**ASCENSION HYDR**	**4.49**	**5**	Pn	**Pn**	**23 40 56.4**	**-0.3**
H10N3				T	T	23 45 47.7	
	baz=178,SNR=78						
H10N2	**ASCENSION HYDR**	**4.50**	**5**	Pn	**Pn**	**23 40 56.5**	**-0.3**
H10N2				T	T	23 45 47.2	
	baz=178,SNR=32						
LIC	**Lamto**	**20.89**	**29**	*e*PKP1	Pn	23 44 37.1	+3.2
	42nm,1.1s						
KIC	**Kosan Boka**	**21.15**	**29**	*e*PKP1	**P**	**23 44 36.2**	**+2.1**
	24nm,0.9s						
TIC	**Toumodi**	**21.27**	**28**	*e*PKP1	**P**	**23 44 36.5**	**+1.1**
	46nm,0.8s						
DBIC	**Dimbokro**	**21.36**	**28**	*e*P	**P**	**23 44 35.5**	**-0.9**
	23nm,1.1s						
DBIC	**Dimbokro**	**21.36**	**28**	P	**P**	**23 44 35.4**	**-1.0**
	8.7nm,0.9s,baz=194,slow=10,SNR=3.3						
DBIC				LR	LR	23 51 01.4	
	comp=Z,189nm,19.8s,baz=189,slow=32						
RCBR	**Riachuelo**	**21.71**	**285**	*e*P	**P**	**23 44 39.1**	**-1.1**
RCBR	**Riachuelo**	**21.71**	**285**	LR	LR	23 51 15.0	
	comp=Z,306nm,19.7s,baz=95,slow=32						
TOA0	**Torodi Ar. Sit**	**30.20**	**34**	*e*P	**P**	**23 45 58.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**30.20**	**34**	P	**P**	**23 45 59.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**30.20**	**34**	P	**P**	**23 45 59.0**	**-0.6**
	0.4nm,0.5s,baz=212,slow=9.3,SNR=11						
TORD				LR	LR	23 55 45.6	
	comp=Z,155nm,22.0s,baz=245,slow=32						
BDFB	**Brasilia**	**32.28**	**260**	LR	LR	23 56 49.9	
	comp=Z,204nm,20.2s,baz=37,slow=32						
CPUP	**Villa Florida**	**42.18**	**244**	LR	LR	00 01 55.3	
	comp=Z,146nm,21.1s,baz=257,slow=31						
LPAZ	**La Paz**	**51.61**	**259**	P	**P**	**23 48 57.6**	**+1.1**
LPAZ	**La Paz**	**51.61**	**259**	P	**P**	**23 48 57.6**	**+1.1**
	0.5nm,0.6s,baz=100,slow=12,SNR=2.8						
LPAZ				LR	LR	00 09 42.2	
	comp=Z,90nm,20.3s,baz=233,slow=35						
CFAA	**Coronel Fontan**	**52.51**	**240**	P	**P**	**23 49 02.5**	**+0.2**
CFAA	**Coronel Fontan**	**52.51**	**240**	P	**P**	**23 49 02.5**	**+0.2**
	0.5nm,1.1s,baz=77,slow=8.2,SNR=4.4						
KEST	**Kesra**	**53.02**	**25**	P	**P**	**23 49 06.3**	**+0.3**
KEST	**Kesra**	**53.02**	**25**	P	**P**	**23 49 06.3**	**+0.3**
	1.1nm,0.9s,baz=212,slow=10,SNR=2.1						
KEST				LR	LR	00 10 50.8	
	comp=Z,55nm,19.4s,baz=284,slow=35						
PLCA	**Paso Flores**	**56.15**	**229**	LR	LR	00 11 38.8	
	comp=Z,66nm,19.3s,baz=70,slow=34						
ROSC	**El Rosal**	**61.48**	**282**	LR	LR	00 13 59.7	
	comp=Z,149nm,19.8s,baz=52,slow=33						
EIL	**Elat**	**63.66**	**48**	LR	LR	00 16 51.0	
	comp=Z,78nm,19.9s,baz=84,slow=35						
MMAI	**Mount Meron Ar**	**65.84**	**45**	LR	LR	00 21 45.3	
	comp=Z,23nm,18.2s,baz=255,slow=38						
GERES	**GERESS Array B**	**65.96**	**20**	P	**P**	**23 50 35.1**	**0.0**
GERES	**GERESS Array B**	**65.96**	**20**	P	**P**	**23 50 35.1**	**0.0**
	1.3nm,1.0s,baz=216,slow=8.2,SNR=6.0						
GERES				LR	LR	00 18 30.3	
	comp=Z,83nm,20.8s,baz=285,slow=35						
BR131	**Keskin Array S**	**68.67**	**38**	*e*P	**P**	**23 50 54.5**	**+2.0**
	2.2nm,0.9s						
BRTR	**Keskin Array B**	**68.67**	**38**	P	**P**	**23 50 53.1**	**+0.6**
BRTR	**Keskin Array B**	**68.67**	**38**	P	**P**	**23 50 53.1**	**+0.6**
	0.8nm,1.0s,baz=186,slow=2.5,SNR=3.6						
BRTR				LR	LR	00 21 59.3	
	comp=Z,35nm,18.2s,baz=44,slow=37						
JTS	**JuntasAbangare**	**73.11**	**285**	LR	LR	00 21 22.0	
	comp=Z,63nm,21.2s,baz=329,slow=34						
AK02	**Malin Array Si**	**73.57**	**28**	*e*P	**P**	**23 51 21.9**	**+0.2**
AK01	**Malin Array Si**	**73.60**	**27**	*e*P	**P**	**23 51 21.5**	**-0.5**
KIEV	**Kiev**	**73.60**	**27**	*e*P	**P**	**23 51 20.3**	**-1.7**
	7.0nm,1.0s						
AKASG	**Malin Array Be**	**73.61**	**27**	P	**P**	**23 51 21.1**	**-1.0**
AKASG	**Malin Array Be**	**73.61**	**27**	P	**P**	**23 51 21.1**	**-1.0**
	1.2nm,0.7

ISC Computed Locations for December 2009

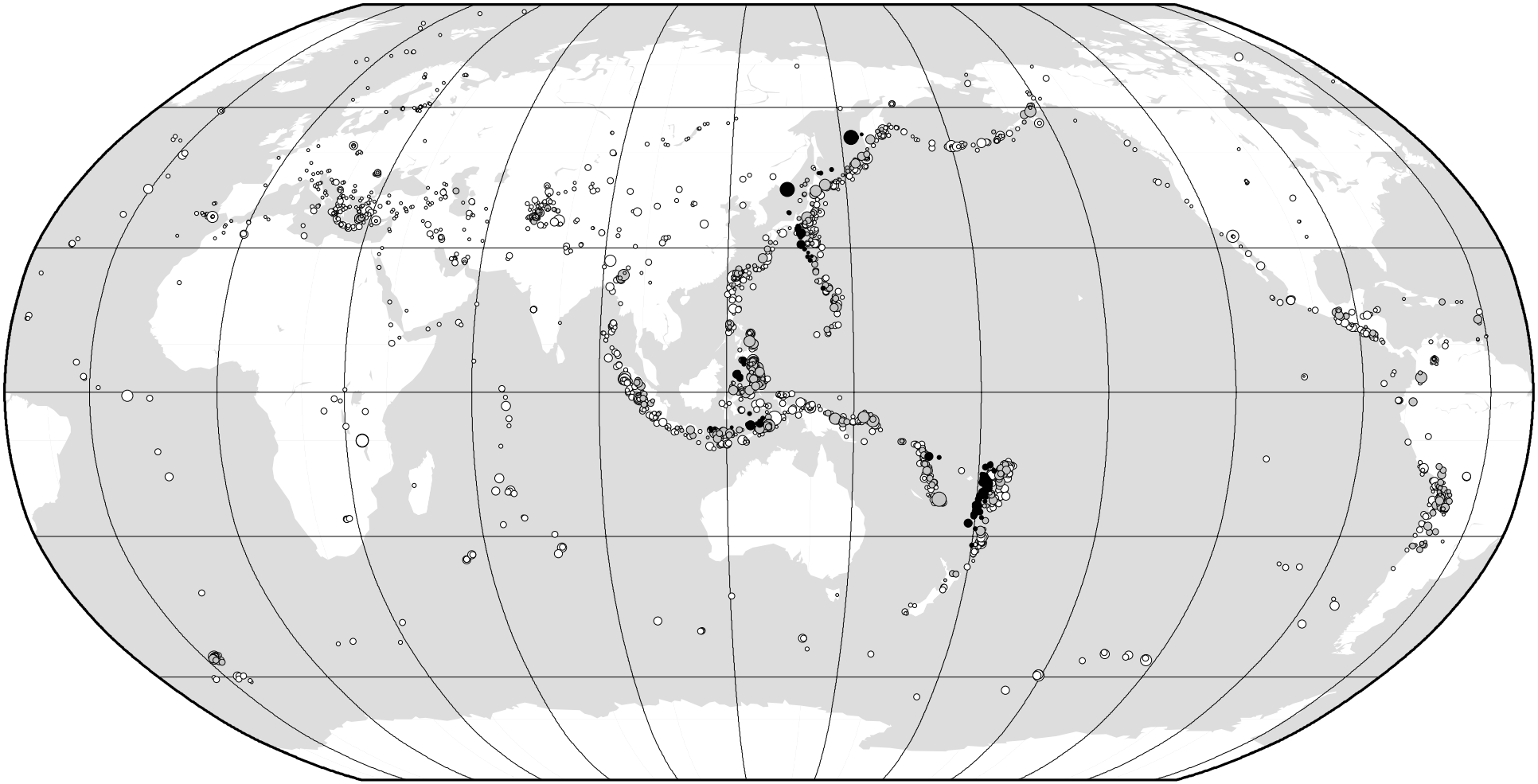

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2296 Events